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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART E AND INDUSTRY CANADA RSS 247 REQUIREMENT

OF

FCC Applicant: Huawei Technologies Co., Ltd.

> Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, China

IC Applicant: Huawei Technologies Co., Ltd.

> Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, China

(Peoples Republic Of)

Product Name: Notebook Computer **Brand Name:** HUAWEI, HONOR

FCC Model No.: HBL-W19, HBL-W09, HBL-W29, HBL-WXXXXX (X Can be 0-9,

A-Z, a-z, blank or symbol "-")

IC Model No.: HBL-W19, HBL-W09, HBL-W29

Model Difference: For the marketing purpose, only different model designations on

the marking plate for different markets. No RF concern.

Report Number: T190226W02-RP4 FCC ID: QISHBL-WX9 IC: 6369A-HBLWX9 **FCC Rule Part:** §15.407, Cat: NII

IC Rule: RSS-247 issue 2 Feb 2017

Apr. 10, 2019 **Issue Date:**

Mar. 07, 2019 ~ Mar. 15, 2019 Date of Test:

Date of EUT Received: Feb. 27, 2019

Compliance Certification Services Inc.Wugu Lab. Issued by

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Tai-

wan. (R.O.C.) service@ccsrf.com

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory).

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Tested By:

Henry Chiang / Engineer

Approved By:

Kevin Tsai / Deputy Manager





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Revision History

| Report Number | Revision | Description | Effected Page | Issue Date | Revised By |
|----------------|----------|--|---------------------------|---------------|------------|
| T190226W02-RP4 | Rev.00 | Initial creation of document | All | Apr. 03, 2019 | Elle Chang |
| T190226W02-RP4 | Rev.01 | Updated IC Model number and measurement data | 5,7,32,64,65, 72,77,78 | Apr. 10, 2019 | Elle Chang |

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GENERAL INFORMATION

1.1 Product Description

| Product Name: | Notebook | Computer | |
|------------------------------|---|---|--|
| Brand Name: | HUAWEI, HONOR | | |
| FCC Model No.: | | , HBL-W09, HBL-W29, HBL-WXXXXX (X Can be a-z, blank or symbol "-") | |
| IC Model No.: | HBL-W19 | , HBL-W09, HBL-W29 | |
| Model Difference: | For the marketing purpose, only different model designations on the marking plate for different markets. No RF concern. | | |
| Product SW/HW version: | 1809 (OS | Build 17763.253) / C3A | |
| Radio SW/HW version: | Wi-Fi Component: 20 / Wi-Fi Component: 9560 | | |
| Test SW Version: | N/A | | |
| RF power setting in TEST SW: | N/A | | |
| | 15.28Vdc from Rechargeable Li-ion Battery or 5Vdc / 9Vdc / 12Vdc / 15Vdc / 20Vdc from AC/DC Adapter. | | |
| Power Supply: | Battery: | Model No.: HB6081V1ECW-41, Supplier: HUAWEI | |
| | Adapter: | Model No.: HW-200325YYY (Y=0-9,A-Z or blank), Supplier: HUAWEI | |

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FCC WLAN 5GHz:

| AN 5GHZ: | | | | |
|---------------|-----------------|---|--|--------------------------|
| Wi-Fi | Frequency Range | Channels | Avg. Power (dBm) | Modulation Technology |
| | 5150~5250 | 4 | 14.99 | |
| 44 - 00 | 5250~5350 | 4 | 14.98 | OFDM |
| 11a_20 | 5470~5725 | 12 | 13.97 | OFDM |
| | 5725~5850 | 5 | 14.00 | |
| | 5150~5250 | 4 | HT: 14.98 | |
| 11n_HT / | 5250~5350 | 4 | HT: 14.98 | OFDM |
| ac_VHT 20M | 5470~5725 | 12 | HT: 13.95 | OFDM |
| 20111 | 5725~5850 | 5 | HT: 13.97 | |
| | 5150~5250 | 2 | HT: 14.96 | |
| 11n_HT / | 5250~5350 | 2 | HT: 14.95 | OFDM |
| ac_VHT 40M | 5470~5725 | 6 | HT: 13.99 | OFDM |
| 10 | 5725~5850 | 2 | HT: 13.98 | |
| | 5150~5250 | 1 | 10.98 | |
| 11ac | 5250~5350 | 1 | 10.94 | OFDM |
| VHT80M | 5470~5725 | 3 | 12.95 | |
| | 5725~5850 | 1 | 12.99 | |
| 11ac | 5150~5350 | 1 | 10.99 | OFDM |
| VHT160M | 5470~5850 | 1 | 10.95 | OFDIVI |
| Antenr | na Designation: | 5250~5350M 5470~5725M 5725~5850M Aux Antenna 5150~5250M 5250~5350M 5470~5725M | a: Hz Peak Gain: 1dBi Hz Peak Gain: 1dBi Hz Peak Gain: 0.99dl Hz Peak Gain: 0.99dl | 3i 3i 3i |

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IC WLAN 5GHz:

| N 5GHz: Wi-Fi | Frequency | Channels | Avg. | Rated | Modulation |
|-------------------------|-----------|---|--|--|------------|
| VVI-FI | Range | Channels | or EIRP | Power(dBm) | Technology |
| | 5180~5240 | 4 | EIRP | 18.87 | |
| | 5260~5320 | 4 | Avg. | 14.98 | |
| 11a | 5500~5580 | 5 | Avg. | 13.97 | OFDM |
| | 5660~5700 | 3 | Avg. | 12.96 | |
| | 5745~5825 | 5 | Avg. | 14.00 | |
| | 5180~5240 | 4 | EIRP | HT: 18.93 | |
| 11n_HT / | 5260~5320 | 4 | Avg. | HT: 14.98 | |
| ac_VHT | 5500~5580 | 5 | Avg. | HT: 13.95 | OFDM |
| 20M | 5660~5720 | 4 | Avg. | HT: 12.98 | |
| | 5745~5825 | 5 | Avg. | HT: 13.97 | |
| | 5190~5230 | 2 | EIRP | HT: 18.90 | |
| 11n_HT / | 5270~5310 | 2 | Avg. | HT: 14.95 | OFDM |
| ac_VHT | 5510~5550 | 2 | Avg. | HT: 13.95 | |
| 40M | 5670~5710 | 2 | Avg. | HT: 13.99 | |
| | 5755~5795 | 2 | Avg. | HT: 13.98 | |
| | 5210~5210 | 1 | EIRP | 14.93 | |
| 4.4 | 5290~5290 | 1 | Avg. | 10.94 | |
| 11ac VHT80M | 5530~5530 | 1 | Avg. | 10.95 | OFDM |
| VIIIOOW | 5690~5690 | 1 | Avg. | 11.87 | |
| | 5775~5775 | 1 | Avg. | 12.99 | |
| 11ac | 5150~5350 | 1 | EIRP | 14.91 | OFDM |
| VHT160M | 5470~5850 | 1 | Avg. | 10.99 | OFDM |
| Modulation type | | 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only | | | |
| Transition Rate: | | 802.11 n_ 802.11 n_ 802.11 ac 802.11 ac | _20MHz: 6. _40MHz: 1; c_20MHz: 6 c_40MHz: 6 | 24/36/48/54 Mbps .5 – 144.4Mbps 3.5 - 300.0Mbps 6.5 –144.4Mbps 13.5 -300.0Mbps 29.3 – 650Mbps | 5 |

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1.2 Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407

FCC KDB 789033 D02 General UNII Test Procedures New Rules

KDB 789033 D02 v01r04 General UNII Test Procedures New Rules

KDB 644545 D03 v01 Guidance for IEEE 802.11ac

RSS-247 issue 2 Feb. 2017

RSS-Gen. issue 5 Apr. 2018

ANSI C63.10:2013

Note: All test items have been performed and record as per the above standards.

1.3 Test Facility

Compliance Certification Services Inc. Wugu Lab. No.11, Wugong 6th Rd.,

Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.) (TAF code 1309)

FCC Designation number: TW1309

Canada Registration number: 2324G

1.4 Special Accessories

There are no special accessories used while test was conducted.

1.5 Equipment Modifications

There was no modification incorporated into the EUT.

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SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on a table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz. The CISPR Quasi-Peak and Average detector mode is employed according to §15.207. The two LISNs provide 50uH/50 ohm of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

2.3.2 Conducted Test (RF)

The active antenna port of the unlicensed wireless device is connected to the spectrum analyzer with attenuator to protect the instrumentation. If a second antenna port is available, it is tested at one operating frequency, with other port(s) appropriately terminated, to verify it has similar output characteristics as the fully tested port.

2.3.3 Radiated Emissions

The EUT is a placed on a turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

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2.4 Measurement Results Explanation

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

2.5 Configuration of Tested System

Fig. 2-1 Radiated Emission Configuration



Fig.2-3 Conducted Emission (Antenna Port) Configuration



Fig. 2-2 Conducted Emission (AC Power Line) Configuration

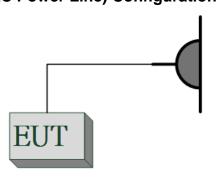


Table 2-1 Equipment Used in Tested System

| lt | em | Equipment | Mfr/Brand | Model/Type No. | Series No. | Data Cable | Power Cord |
|----|----|-----------------------|-----------|----------------|------------|------------|------------|
| | 1. | WLAN Test Software | N/A | N/A | N/A | N/A | N/A |

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SUMMARY OF TEST RESULT

| FCC Rules | IC Rules | Description Of Test | Result |
|----------------------------------|---------------------------------------|--|-----------|
| §15.207 | RSS-Gen §8.8 | AC Power Line Conducted Emission | Compliant |
| §15.403(i) §15.407(e) | RSS-247 §6.2.1~ 4 (1) RSS-Gen §6.7 | 26 dB & 6dB & 99% Emission Bandwidth | Compliant |
| §15.407(a) | RSS-247 §6.2.1~ 4 (1) | Maximum Conducted Output Power | Compliant |
| §15.407(a) | RSS-247 §6.2.1~ 4 (1) | Power Spectral Density | Compliant |
| §15.205 §15.209 §15.407(b) | RSS-247 §6.2.1~ 4 (2) | Undesirable Radiated Emissions | Compliant |
| §15.407(c) | RSS-247 §6.4 | Transmission in case of Absence of Information | Compliant |
| §15.407(g) | RSS-Gen §6.11 | Frequency Stability | Compliant |
| §15.203 §15.407(a) | RSS- Gen §6.8 | Antenna Requirement | Compliant |

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DESCRIPTION OF TEST MODES

4.1 Operated in U-NII Bands

Operated band in 5150 MHz ~5250 MHz:

4 channels are provided for 802.11a, 802.11n_HT20, 802.11ac_VHT20

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 36 | 5180 MHz | 44 | 5220 MHz |
| 40 | 5200 MHz | 48 | 5240 MHz |

2 channels are provided for 802.11n_HT40, 802.11ac_VHT40

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 38 | 5190 MHz | 46 | 5230 MHz |

1 channel is provided for 802.11ac VHT80

| CHANNEL | FREQUENCY |
|---------|-----------|
| 42 | 5210 MHz |

Operated band in 5250 MHz ~5350 MHz:

4 channels are provided for 802.11a, 802.11n_HT20, 802.11ac_VHT20

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 52 | 5260 MHz | 60 | 5300 MHz |
| 56 | 5280 MHz | 64 | 5320 MHz |

2 channels are provided for 802.11n_HT40, 802.11ac_VHT40

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 54 | 5270 MHz | 62 | 5310 MHz |

1 channel is provided for 802.11ac_VHT80

| CHANNEL | FREQUENCY | |
|---------|-----------|--|
| 58 | 5290 MHz | |

Operated band in 5150 MHz ~5350 MHz:

1 channel is provided for 802.11ac_VHT160

| CHANNEL | FREQUENCY | | |
|---------|-----------|--|--|
| 50 | 5250 MHz | | |

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Operated band in 5470 MHz ~5725 MHz:

11 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 100 | 5500 MHz | 124 | 5620 MHz |
| 104 | 5520 MHz | 128 | 5640 MHz |
| 108 | 5540 MHz | 132 | 5660 MHz |
| 112 | 5560 MHz | 136 | 5680 MHz |
| 116 | 5580 MHz | 140 | 5700 MHz |
| 120 | 5600 MHz | 144 | 5720 MHz |

5 channels are provided for 802.11n_HT40, 802.11ac_VHT40

| CHANNEL FREQUENCY | | CHANNEL | FREQUENCY |
|-------------------|----------|---------|-----------|
| 102 | 5510 MHz | 126 | 5630 MHz |
| 110 | 5550 MHz | 134 | 5670 MHz |
| 118 | 5590 MHz | 142 | 5710 MHz |

3 channels are provided for 802.11ac_VHT80

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 106 | 5530 MHz | 138 | 5690 MHz |
| 122 | 5610 MHz | | |

Operated band in 5725 MHz ~5850 MHz:

5 channels are provided for 802.11a, 802.11n_HT20, 802.11ac_VHT20

| CHANNEL FREQUENCY | | CHANNEL | FREQUENCY |
|-------------------|----------|---------|-----------|
| 149 | 5745 MHz | 161 | 5805 MHz |
| 153 | 5765 MHz | 165 | 5825 MHz |
| 157 | 5785 MHz | | |

2 channels are provided for 802.11n_HT40, 802.11ac_VHT40

| CHANNEL FREQUENCY | | CHANNEL | FREQUENCY |
|-------------------|----------|---------|-----------|
| 151 | 5755 MHz | 159 | 5795 MHz |

1 channel is provided for 802.11ac_VHT80

| CHANNEL | FREQUENCY | |
|---------|-----------|--|
| 155 | 5775 MHz | |

Operated band in 5470 MHz ~5850 MHz:

1 channel is provided for 802.11ac_VHT160

| CHANNEL | FREQUENCY | |
|---------|-----------|--|
| 114 | 5570 MHz | |

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4.2 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Test program used to control the EUT for staying in continuous transmitting mode is programmed.
- 3. Investigation has been done on all the possible configurations for searching the worst case.
- 4. The given UE is pre-scanned among 802.11n and ac modes, and 802.11n yields the highest reading that generates the highest emission.
- 5. The given UE is pre-scanned among SISO Main, SISO Aux and MIMO modes, and SISO Aux mode yields the highest reading that generates the highest emission. Therefore, 802.11ac+SISO Aux as the mode of radiated test configuration is chosen to carry out the relevantly mandatory test items.

AC POWER LINE CONDUCTED EMISSION TEST:

| Test Condition | AC Power line conducted emission for line and neutral | |
|----------------|---|--|
| Worst Case | Operation in normal mode | |

| RADIATED EMISS | ADIATED EMISSION TEST: | | | | | | |
|-------------------------|--------------------------------------|----------------------|-------------------|--------------|---------------------|-----------------|--|
| | RADIATED EMISSION TEST (BELOW 1 GHz) | | | | | | |
| MODE | FREQUENCY BAND (MHz) | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION | DATA RATE (Mbps) | ANTENNA PORT | |
| 802.11a | 5180~5240 | 36 to 48 | 44 | OFDM | 6 | AUX | |
| 802.11a | 5260~5320 | 52 to 64 | 60 | OFDM | 6 | AUX | |
| 802.11a | 5500~5700 | 100 to 140 | 116 | OFDM | 6 | AUX | |
| 802.11a | 5745~5825 | 149 to 165 | 157 | OFDM | 6 | AUX | |
| 802.11acVHT160 | 5250 | 50 | 50 | OFDM | MCS0 | AUX | |
| 802.11acVHT160 | 5570 | 114 | 114 | OFDM | MCS0 | AUX | |
| | RADI | ATED EMISS | ION TEST (A | BOVE 1 GHz) | | | |
| MODE | FREQUENCY BAND (MHz) | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION | DATA RATE (Mbps) | ANTENNA PORT | |
| 802.11a 802.11n_HT20 | 5180~5240 | 36 to 48 | 36,44,48 | OFDM OFDM | 6 MCS8 | AUX AUX | |
| 802.11n_HT40 | 5190~5230 | 38 to 46 | 38,46 | OFDM | MCS8 | AUX | |
| 802.11ac_VHT80 | 5210 | 42 | 42 | OFDM | MCS0 | AUX | |
| 802.11acVHT160 | 5250 | 50 | 50 | OFDM | MCS0 | AUX | |
| 802.11a | 5260~5320 | 52 to 64 | 52,60,64 | OFDM | 6 | AUX | |
| 802.11n_HT20 | 3200~3320 | 32 10 04 | 32,00,04 | OFDM | MCS8 | AUX | |
| 802.11n_HT40 | 5270~5310 | 54 to 62 | 54,62 | OFDM | MCS8 | AUX | |
| 802.11ac_VHT80 | 5290 | 58 | 58 | OFDM | MCS0 | AUX | |

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| MODE | FREQUENCY BAND (MHz) | | TESTED CHANNEL | MODULATION | DATA RATE (Mbps) | ANTENNA PORT |
|----------------|-------------------------|------------|-------------------|------------|------------------------|-----------------|
| 802.11a | 5500~5700 | 100 to 140 | 100,116,140 | OFDM | 6 | AUX |
| 802.11n_HT20 | 5500~5720 | 100 to 144 | 100,116,140,144 | OFDM | MCS8 | AUX |
| 802.11n_HT40 | 5510~5710 | 102 to 142 | 102,110,134,142 | OFDM | MCS8 | AUX |
| 802.11ac_VHT80 | 5530~5690 | 106 to 138 | 106,122,138 | OFDM | MCS0 | AUX |
| 802.11acVHT160 | 5570 | 114 | 114 | OFDM | MCS0 | AUX |
| 802.11a | 5745~5825 | 149 to 165 | 149,157,165 | OFDM | 6 | AUX |
| 802.11n_HT20 | 3740~3625 | 149 (0 105 | 149,107,100 | OFDM | MCS8 | AUX |
| 802.11n_HT40 | 5755~5795 | 151 to 159 | 151,159 | OFDM | MCS8 | AUX |
| 802.11ac_VHT80 | 5775 | 155 | 155 | OFDM | MCS0 | AUX |

Note:

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11a/n/ac WLAN Transmitter for channel Low, Mid and High, the worst case H position was reported.

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ANTENNA PORT CONDUCTED MEASUREMENT:

| EDEOLIENOV | CON | DUCTED TEST | | | | | | | | |
|------------|---|--|---|---|--|--|--|--|--|--|
| | | | | | | | | | | |
| · | AVAILABLE | TESTED | MODULATION | DATA RATE | | | | | | |
| BAND (MHz) | CHANNEL | CHANNEL | | (Mbps) | PORT | | | | | |
| | | | OFDM | 6 | AUX | | | | | |
| 5180~5240 | 36 to 48 | 36,44,48 | OFDM | MCS8 | AUX | | | | | |
| | | | OI DIVI | 101000 | | | | | | |
| 5100-5230 | 38 to 46 | 38.46 | OEDM | MCS8 | AUX | | | | | |
| 3190~3230 | 30 10 40 | 30,40 | OI DIVI | | | | | | | |
| 5210 | 42 | 42 | OFDM | MCS0 | AUX | | | | | |
| 5250 | 50 | 50 | OFDM | MCS0 | AUX | | | | | |
| | | | OFDM | 6 | AUX | | | | | |
| 5260~5320 | 52 to 64 | 52,60,64 | OEDM | MCCO | AUX | | | | | |
| | | | OFDIVI | IVICSO | | | | | | |
| E070 E010 | E4 to 60 | E4 60 | OEDM | MCCO | AUX | | | | | |
| 5270~5310 | 54 10 62 | 34,62 | OFDIVI | IVICSO | | | | | | |
| 5290 | 58 | 58 | OFDM | MCS0 | AUX | | | | | |
| 5500~5700 | 100 to 140 | 100,116,140 | OFDM | 6 | AUX | | | | | |
| 5500 5700 | 100 to 111 | 100 116 140 144 | OEDM | MCCO | AUX | | | | | |
| 5500~5720 | 100 10 144 | 100,116,140,144 | OFDIVI | IVICSO | | | | | | |
| 5510 5710 | 102 to 142 | 102 110 124 142 | OEDM | MCCO | AUX | | | | | |
| 5510~5710 | 102 10 142 | 102,110,134,142 | OFDIVI | IVICSO | | | | | | |
| 5530~5690 | 106 to 138 | 106,122,138 | OFDM | MCS0 | AUX | | | | | |
| 5570 | 114 | 114 | OFDM | MCS0 | AUX | | | | | |
| | | | OFDM | 6 | AUX | | | | | |
| 5745~5825 | 149 to 165 | 149,157,165 | OEDM | MCCO | AUX | | | | | |
| | | | OFDIVI | IVICS8 | | | | | | |
| F7FF F70F | 454 to 450 | 454.450 | OFDM | MCCO | AUX | | | | | |
| 5/55~5/95 | 151 to 159 | 151,159 | OFDINI | MCS8 | | | | | | |
| 5775 | 155 | 155 | OFDM | MCS0 | AUX | | | | | |
| | 5180~5240 5190~5230 5210 5250 5260~5320 5270~5310 5290 5500~5700 5530~5720 5530~5690 5570 5745~5825 5755~5795 | 5180~5240 36 to 48 5190~5230 38 to 46 5210 42 5250 50 5260~5320 52 to 64 5270~5310 54 to 62 5290 58 5500~5700 100 to 140 5500~5720 100 to 144 5510~5710 102 to 142 5530~5690 106 to 138 5570 114 5745~5825 149 to 165 5755~5795 151 to 159 | 5180~5240 36 to 48 36,44,48 5190~5230 38 to 46 38,46 5210 42 42 5250 50 50 5260~5320 52 to 64 52,60,64 5270~5310 54 to 62 54,62 5290 58 58 5500~5700 100 to 140 100,116,140 5500~5720 100 to 144 100,116,140,144 5510~5710 102 to 142 102,110,134,142 5530~5690 106 to 138 106,122,138 5570 114 114 5745~5825 149 to 165 149,157,165 5755~5795 151 to 159 151,159 | BAND (MHZ) CHANNEL CHANNEL OFDM 5180~5240 36 to 48 36,44,48 OFDM 5190~5230 38 to 46 38,46 OFDM 5210 42 42 OFDM 5250 50 50 OFDM 5260~5320 52 to 64 52,60,64 OFDM 5270~5310 54 to 62 54,62 OFDM 5290 58 58 OFDM 5500~5700 100 to 140 100,116,140 OFDM 5500~5720 100 to 144 100,116,140,144 OFDM 5510~5710 102 to 142 102,110,134,142 OFDM 5530~5690 106 to 138 106,122,138 OFDM 5745~5825 149 to 165 149,157,165 OFDM 5755~5795 151 to 159 151,159 OFDM | BAND (MHZ) CHANNEL CHANNEL CHANNEL (Mbps) 5180~5240 36 to 48 36,44,48 OFDM 6 5190~5230 38 to 46 38,46 OFDM MCS8 5210 42 42 OFDM MCS0 5250 50 50 OFDM MCS0 5260~5320 52 to 64 52,60,64 OFDM MCS8 5270~5310 54 to 62 54,62 OFDM MCS8 5290 58 58 OFDM MCS0 5500~5700 100 to 140 100,116,140 OFDM 6 5500~5720 100 to 144 100,116,140,144 OFDM MCS8 5510~5710 102 to 142 102,110,134,142 OFDM MCS8 5530~5690 106 to 138 106,122,138 OFDM MCS0 5745~5825 149 to 165 149,157,165 OFDM MCS8 5755~5795 151 to 159 151,159 OFDM MCS8 | | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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MEASUREMENT UNCERTAINTY

| PARAMETER | UNCERTAINTY |
|---------------------------------------|----------------|
| AC Powerline Conducted Emission | +/- 1.2575 dB |
| 26dB & 6dB Emission Bandwidth | +/- 147.256 Hz |
| The Maximum Output Power | +/- 1.924 dB |
| Peak Power Spectral Density | +/- 2.038 dB |
| Frequency Stability | +/- 147.256 Hz |
| 3M Semi Anechoic Chamber / 30M~200M | +/- 4.12 dB |
| 3M Semi Anechoic Chamber / 200M~1000M | +/- 4.68 dB |
| 3M Semi Anechoic Chamber / 1G~8G | +/- 5.18 dB |
| 3M Semi Anechoic Chamber / 8G~18G | +/- 5.47 dB |
| 3M Semi Anechoic Chamber / 18G~26G | +/- 3.81 dB |
| 3M Semi Anechoic Chamber / 26G~40G | +/- 3.87 dB |

Note:

- 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.
- 3. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

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CONDUCTED EMISSION TEST

6.1 Standard Applicable

Frequency range within 150 kHz to 30 MHz shall not exceed the Limit table as below.

| Frequency range | Limits dB(uV) | | | | |
|-----------------|--------------------|----------|--|--|--|
| MHz | Quasi-peak Average | | | | |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 | | | |
| 0.50 to 5 | 56 | 46 | | | |
| 5 to 30 | 60 | 50 | | | |

Note

6.2 Measurement Equipment Used

| | Conducted Emission Test Site | | | | | | | | | | |
|-------------------|------------------------------|--------------------|----------|------------|------------|--|--|--|--|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | | | |
| CABLE | EMCI | CFD300-NL | CERF | 2018/06/29 | 2019/06/28 | | | | | | |
| EMI Test Receiver | R&S | ESCI | 100064 | 2018/07/24 | 2019/07/23 | | | | | | |
| LISN | SCHWARZBECK | NSLK 8127 | 8127-541 | 2019/01/31 | 2020/01/30 | | | | | | |
| LISN | SCHAFFNER | NNB 41 | 03/10013 | 2019/02/13 | 2020/02/12 | | | | | | |
| Software | | EZ-EMC(CCS-3A1-CE) | | | | | | | | | |

6.3 EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 120Vac/60Hz power source.

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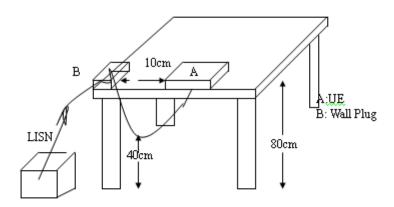
^{1.} The lower limit shall apply at the transition frequencies

^{2.} The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50



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6.4 Test SET-UP



6.5 Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all phases of power being supplied by given UE are completed.

6.6 Measurement Result

Note: Refer to next page for measurement data and plots.

Note2: The * reveals the worst-case results that closet to the limit.

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Job No.: T190226W02-RP1~4 Date: 2019/3/12

Company: **HUAWEI** AM 08:54:00 Time:

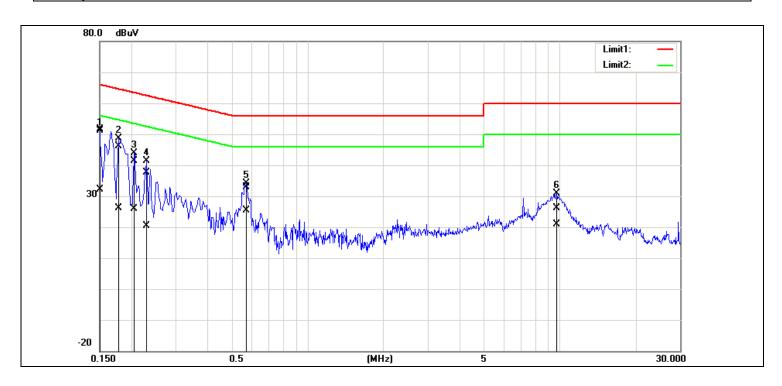
Temp.(°C)/Hum.(%): 23(°C)/60% Standard: NCC/FCC/IC QP

Test item: **Conduction test** Test By: Henry

L1 Test Voltage: AC 120V/60Hz Line:

Model: **H97**

Description:



| No. | Frequency | QuasiPeak reading | Average reading | Correction | QuasiPeak result | Average result | QuasiPeak limit | Average limit | QuasiPeak margin | Average margin | Remark |
|-----|-----------|----------------------|-----------------|------------|---------------------|----------------|--------------------|------------------|---------------------|-------------------|--------|
| | (MHz) | (dBuV) | (dBuV) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dBuV) | (dB) | (dB) | |
| 1* | 0.1500 | 51.42 | 31.90 | 0.16 | 51.58 | 32.06 | 65.99 | 56.00 | -14.41 | -23.94 | Pass |
| 2 | 0.1785 | 45.95 | 26.01 | 0.15 | 46.10 | 26.16 | 64.55 | 54.56 | -18.45 | -28.40 | Pass |
| 3 | 0.2060 | 41.25 | 25.81 | 0.15 | 41.40 | 25.96 | 63.36 | 53.37 | -21.96 | -27.41 | Pass |
| 4 | 0.2300 | 37.44 | 20.33 | 0.15 | 37.59 | 20.48 | 62.45 | 52.45 | -24.86 | -31.97 | Pass |
| 5 | 0.5740 | 32.65 | 25.29 | 0.16 | 32.81 | 25.45 | 56.00 | 46.00 | -23.19 | -20.55 | Pass |
| 6 | 9.7299 | 25.79 | 20.41 | 0.45 | 26.24 | 20.86 | 60.00 | 50.00 | -33.76 | -29.14 | Pass |

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Job No.: T190226W02-RP1~4 Date: 2019/3/12

Company: **HUAWEI** Time: AM 08:57:33

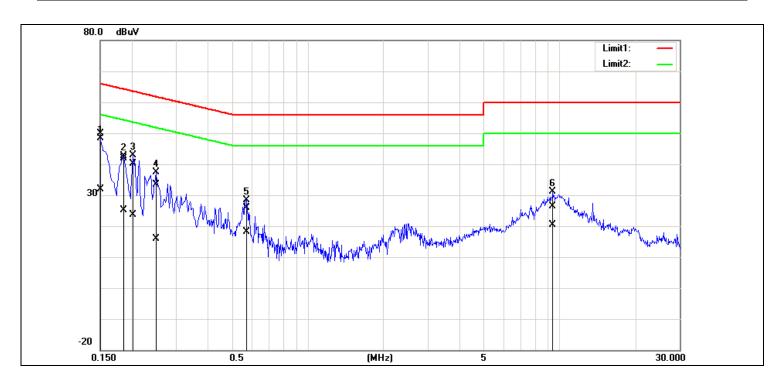
Temp.(°C)/Hum.(%): 23(°C)/60% Standard: NCC/FCC/IC QP

Test item: **Conduction test** Test By: Henry

Line: Ν Test Voltage: AC 120V/60Hz

Model: **H97**

Description:



| No. | Frequency | QuasiPeak reading | Average reading | Correction | QuasiPeak result | Average result | QuasiPeak limit | Average limit | QuasiPeak margin | Average margin | Remark |
|-----|-----------|----------------------|-----------------|------------|---------------------|----------------|--------------------|------------------|---------------------|-------------------|--------|
| | (MHz) | (dBuV) | (dBuV) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dBuV) | (dB) | (dB) | |
| 1* | 0.1500 | 49.79 | 31.63 | 0.16 | 49.95 | 31.79 | 65.99 | 56.00 | -16.04 | -24.21 | Pass |
| 2 | 0.1860 | 41.75 | 25.00 | 0.15 | 41.90 | 25.15 | 64.21 | 54.21 | -22.31 | -29.06 | Pass |
| 3 | 0.2020 | 39.91 | 23.41 | 0.15 | 40.06 | 23.56 | 63.52 | 53.53 | -23.46 | -29.97 | Pass |
| 4 | 0.2500 | 33.26 | 15.85 | 0.15 | 33.41 | 16.00 | 61.75 | 51.76 | -28.34 | -35.76 | Pass |
| 5 | 0.5740 | 25.78 | 18.09 | 0.16 | 25.94 | 18.25 | 56.00 | 46.00 | -30.06 | -27.75 | Pass |
| 6 | 9.4100 | 25.82 | 19.96 | 0.44 | 26.26 | 20.40 | 60.00 | 50.00 | -33.74 | -29.60 | Pass |

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7 DUTY CYCLE TEST SIGNAL

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

Formula:

Duty Cycle = Ton / (Ton+Toff)

Measurement Procedure:

- 1. Set span = Zero
- 2. RBW = 8MHz
- 3. VBW = 8MHz.
- 4. Detector = Peak

Duty Cycle:

| Mode | Duty Cycle (%) | Duty Factor (dB) =10*log (1/Duty Cycle) | 1/T (kHz) | VBW setting (kHz) |
|--------------|-------------------|---|--------------|-------------------------|
| 802.11a | 84.86 | 0.71 | 0.49 | 1.00 |
| 802.11n_20 | 84.30 | 0.74 | 1.02 | 2.00 |
| 802.11ac_20 | 84.41 | 0.74 | 1.02 | 2.00 |
| 802.11n_40 | 83.81 | 0.77 | 2.03 | 3.00 |
| 802.11ac_40 | 83.46 | 0.79 | 2.02 | 3.00 |
| 802.11ac_80 | 82.69 | 0.83 | 3.91 | 4.00 |
| 802.11ac_160 | 74.70 | 1.27 | 6.61 | 7.00 |

Duty Cycle Factor: 10 * log(1/0.8486) = 0.71

Duty Cycle Factor: $10 * \log(1/0.843) = 0.74$

Duty Cycle Factor: $10 * \log(1/0.8441) = 0.74$

Duty Cycle Factor: $10 * \log(1/0.8381) = 0.77$

Duty Cycle Factor: $10 * \log(1/0.8346) = 0.79$

Duty Cycle Factor: $10 * \log(1/0.8269) = 0.83$

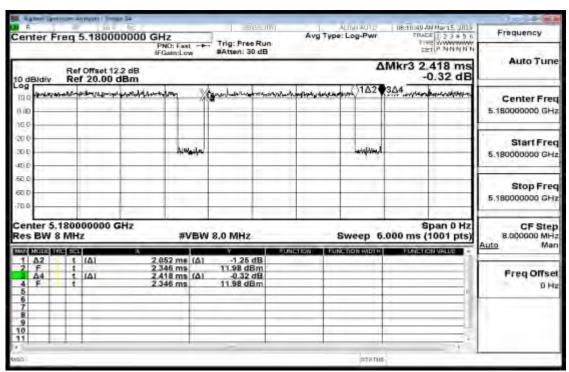
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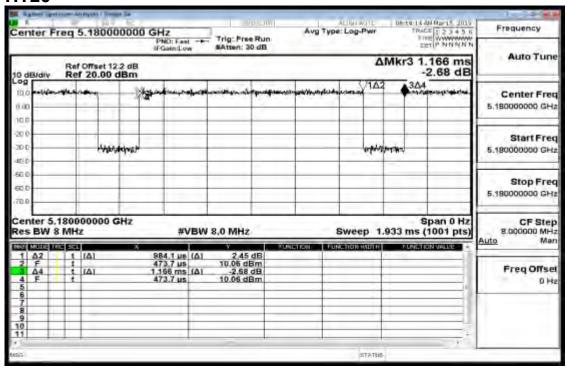


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DUTY CYCLE TEST SIGNAL Measurement Result 802.11a



802.11n HT20



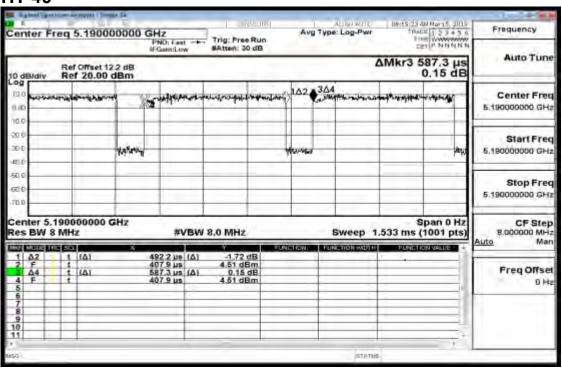
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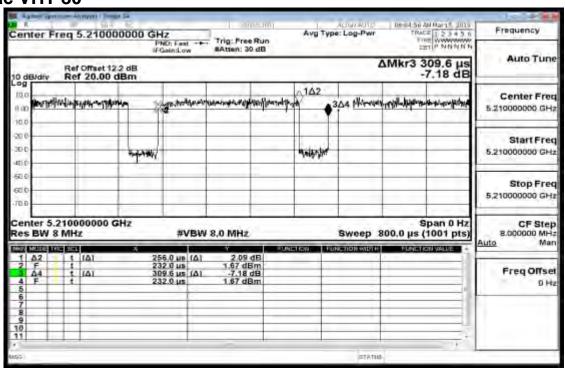


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802.11n HT 40



802.11 ac VHT 80



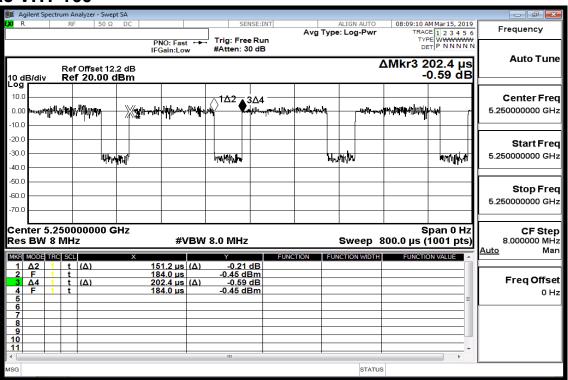
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802.11 ac VHT 160



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26DB & 6DB EMISSION BANDWIDTH MEASUREMENT

8.1 Standard Applicable

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

8.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the Antenna port to the spectrum analyzer.
 - a. 26dB Band width Measurement: Set the spectrum analyzer as 1% of emission BW Sweep=auto, Detector = Peak, Trace Mode = Max Hold, Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measurement.
 - b. Mark the peak frequency and –26dB (upper and lower) frequency.
- 4. Repeat the procedures as list above until all test default channels (low, middle, and high) are completed.
- 5. Minimum Emission Bandwidth for the band 5.725-5.850GHz.
 - a. Set the spectrum analyzer as RBW = 100 kHz, VBW = 3*RBW, Span = 30M/50MHz, Detector=Peak,
 - Sweep=auto
 - b. Mark the peak frequency and -6dB (upper and lower) frequency.
- 6. Repeat above procedures until all test default channel measured were complete.

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8.3 Measurement Equipment Used

| SGS Conducted Room | | | | | | | | | |
|--------------------|------------|-----------------|------------------|--------------|------------|--|--|--|--|
| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. | | | | |
| Spectrum Analyzer | Agilent | N9010A | MY53400256 | 2018/11/21 | 2019/11/20 | | | | |
| DC Power Supply | Agilent | E3640A | KR93300208 | 2018/08/15 | 2019/08/14 | | | | |
| DC Block | PASTERNACK | PE8210 | RF29 | 2019/02/26 | 2020/02/25 | | | | |
| Attenuator | Marvelous | MVE2213-10 | RF80 | 2019/02/26 | 2020/02/25 | | | | |

8.4 Test Set-up



8.5 Measurement Result

26dB and 6dB Bandwidth

802.11a_Ch0

802.11a Ch1

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| 5180 | 23.25 | 13.664 | 5180 | 23.53 | 13.716 |
| 5220 | 24.25 | 13.847 | 5220 | 23.74 | 13.755 |
| 5240 | 23.33 | 13.679 | 5240 | 29.93 | 14.761 |
| 5260 | 23.68 | 13.744 | 5260 | 24.49 | 13.890 |
| 5300 | 23.68 | 13.744 | 5300 | 23.95 | 13.793 |
| 5320 | 24.82 | 13.948 | 5320 | 22.26 | 13.475 |
| 5500 | 22.97 | 13.612 | 5500 | 23.43 | 13.698 |
| 5580 | 23.78 | 13.762 | 5580 | 23.55 | 13.720 |
| 5700 | 23.06 | 13.629 | 5700 | 23.55 | 13.720 |

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802.11a Ch0

802.11a Ch1

| Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5745 | 16.34 | 12.133 | 5745 | 16.31 | 12.125 |
| 5785 | 16.35 | 12.135 | 5785 | 16.36 | 12.138 |
| 5825 | 16.36 | 12.138 | 5825 | 16.33 | 12.130 |

802.11n_HT20_Ch0

802.11n_HT20_Ch1

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| 5180 | 24.32 | 13.860 | 5180 | 22.85 | 13.589 |
| 5220 | 25.43 | 14.053 | 5220 | 23.09 | 13.634 |
| 5240 | 20.96 | 13.214 | 5240 | 23.76 | 13.758 |
| 5260 | 23.99 | 13.800 | 5260 | 24.36 | 13.867 |
| 5300 | 23.66 | 13.740 | 5300 | 24.11 | 13.822 |
| 5320 | 23.53 | 13.716 | 5320 | 24.06 | 13.813 |
| 5500 | 23.47 | 13.705 | 5500 | 23.78 | 13.762 |
| 5580 | 23.42 | 13.696 | 5580 | 23.26 | 13.666 |
| 5700 | 27.03 | 14.318 | 5700 | 23.42 | 13.696 |
| 5720(U-NII 2C) | 16.48 | 12.170 | 5720(U-NII 2C) | 19.92 | 12.993 |
| 5720 (U-NII 3) | 7.16 | 8.549 | 5720 (U-NII 3) | 6.88 | 8.376 |

802.11n HT20 Ch0

802.11n HT20 Ch1

| Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5745 | 17.56 | 12.445 | 5745 | 17.60 | 12.455 |
| 5785 | 17.57 | 12.448 | 5785 | 17.58 | 12.450 |
| 5825 | 17.62 | 12.460 | 5825 | 17.58 | 12.450 |

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802.11n _HT40_Ch0

802.11n _HT40_Ch1

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| 5190 | 43.93 | 16.428 | 5190 | 43.58 | 16.393 |
| 5230 | 44.17 | 16.451 | 5230 | 44.42 | 16.476 |
| 5270 | 41.38 | 16.168 | 5270 | 43.25 | 16.360 |
| 5310 | 44.86 | 16.519 | 5310 | 43.69 | 16.404 |
| 5510 | 45.18 | 16.549 | 5510 | 45.46 | 16.576 |
| 5550 | 43.41 | 16.376 | 5550 | 50.00 | 16.990 |
| 5670 | 45.06 | 16.538 | 5670 | 44.19 | 16.453 |
| 5710 (U-NII 2C) | 36.12 | 15.577 | 5710 (U-NII 2C) | 36.52 | 15.625 |
| 5710 (U-NII 3) | 6.28 | 7.980 | 5710 (U-NII 3) | 6.60 | 8.195 |

802.11n_HT40_Ch0

802.11n_HT40_Ch1

| Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5755 | 35.74 | 15.532 | 5755 | 36.33 | 15.603 |
| 5795 | 36.34 | 15.604 | 5795 | 36.32 | 15.601 |

802.11ac _VHT80_Ch0

802.11ac _VHT80_Ch1

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| 5210 | 82.47 | 19.163 | 5210 | 81.95 | 19.135 |
| 5290 | 87.53 | 19.422 | 5290 | 92.08 | 19.642 |
| 5530 | 83.19 | 19.201 | 5530 | 100.00 | 20.000 |
| 5610 | 100.00 | 20.000 | 5610 | 100.00 | 20.000 |
| 5690 (U-NII 2C) | 77.40 | 18.887 | 5690 (U-NII 2C) | 77.72 | 18.905 |
| 5690 (U-NII 3) | 8.52 | 9.304 | 5690 (U-NII 3) | 7.24 | 8.597 |

802.11ac VHT80 Ch0

802.11ac VHT80 Ch1

| Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 6dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5775 | 75.12 | 18.758 | 5775 | 73.89 | 18.686 |

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802.11ac _VHT160_Ch0

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|
| 5250 | 163.20 | 22.127 |
| 5570 | 160.70 | 22.060 |

802.11ac _VHT160_Ch1

| Frequency (MHz) | 26dB BW (MHz) | 10 Log (B) (dB) |
|--------------------|---------------------|--------------------|
| 5250 | 161.20 | 22.074 |
| 5570 | 163.50 | 22.135 |

99% Bandwidth

802.11a Ch0

802.11a_Ch1

| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5180 | 16.860 | 12.269 | 5180 | 16.867 | 12.270 |
| 5220 | 16.952 | 12.292 | 5220 | 16.980 | 12.299 |
| 5240 | 16.894 | 12.277 | 5240 | 16.946 | 12.291 |
| 5260 | 16.926 | 12.286 | 5260 | 16.985 | 12.301 |
| 5300 | 16.928 | 12.286 | 5300 | 16.894 | 12.277 |
| 5320 | 16.910 | 12.281 | 5320 | 16.840 | 12.263 |
| 5500 | 16.799 | 12.253 | 5500 | 16.911 | 12.282 |
| 5580 | 16.870 | 12.271 | 5580 | 16.959 | 12.294 |
| 5700 | 16.843 | 12.264 | 5700 | 16.935 | 12.288 |

802.11a_Ch0

802.11a_Ch1

| Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) | Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) |
|--------------------|--------------------------------|-------------|--------------------|--------------------------------|-------------|
| 5240 | 5248.46 | < 5250 | 5240 | 5248.61 | < 5250 |
| 5745 | 5736.75 | > 5725 | 5745 | 5736.69 | > 5725 |

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802.11n HT20 Ch0

802.11n HT20 Ch1

| ••= | | | | | |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) |
| 5180 | 18.017 | 12.557 | 5180 | 18.008 | 12.555 |
| 5220 | 17.999 | 12.552 | 5220 | 17.993 | 12.551 |
| 5240 | 18.056 | 12.566 | 5240 | 18.006 | 12.554 |
| 5260 | 18.065 | 12.568 | 5260 | 18.133 | 12.585 |
| 5300 | 17.992 | 12.551 | 5300 | 18.101 | 12.577 |
| 5320 | 18.044 | 12.563 | 5320 | 18.060 | 12.567 |
| 5500 | 17.981 | 12.548 | 5500 | 18.147 | 12.588 |
| 5580 | 17.958 | 12.543 | 5580 | 18.012 | 12.556 |
| 5700 | 18.074 | 12.571 | 5700 | 18.086 | 12.573 |
| 5720(U-NII 2C) | 14.029 | 11.470 | 5720(U-NII 2C) | 14.032 | 11.471 |
| 5720 (U-NII 3) | 4.029 | 6.052 | 5720 (U-NII 3) | 4.032 | 6.055 |

802.11n_HT20_Ch0

802.11n_HT20_Ch1

| Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) |
|--------------------|--------------------------------|-------------|
| 5240 | 5249.03 | < 5250 |
| 5745 | 5736.09 | > 5725 |

| Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) |
|--------------------|--------------------------------|-------------|
| 5240 | 5249.00 | < 5250 |
| 5745 | 5736.12 | > 5725 |

802.11n _HT40_Ch0

802.11n _HT40_Ch1

| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|
| 5190 | 36.268 | 15.595 |
| 5230 | 36.269 | 15.595 |
| 5270 | 36.221 | 15.590 |
| 5310 | 36.299 | 15.599 |
| 5510 | 36.261 | 15.594 |
| 5550 | 36.266 | 15.595 |
| 5670 | 36.294 | 15.598 |
| 5710(U-NII 2C) | 33.150 | 15.205 |
| 5710 (U-NII 3) | 3.150 | 4.983 |

| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|
| 5190 | 36.345 | 15.604 |
| 5230 | 36.272 | 15.596 |
| 5270 | 36.207 | 15.588 |
| 5310 | 36.263 | 15.595 |
| 5510 | 36.305 | 15.600 |
| 5550 | 36.265 | 15.595 |
| 5670 | 36.213 | 15.589 |
| 5710(U-NII 2C) | 33.123 | 15.201 |
| 5710 (U-NII 3) | 3.123 | 4.946 |

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802.11n _HT40_Ch0

802.11n _HT40_Ch1

| Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) | Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) |
|--------------------|--------------------------------|-------------|--------------------|--------------------------------|-------------|
| 5230 | 5248.25 | < 5250 | 5230 | 5248.20 | < 5250 |
| 5755 | 5736.90 | > 5725 | 5755 | 5736.85 | > 5725 |

802.11ac VHT80 Ch0

802.11ac VHT80 Ch1

| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) | |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|
| 5210 | 75.008 | 18.751 | 5210 | 74.388 | 18.715 | |
| 5290 | 75.068 | 18.755 | 5290 | 75.358 | 18.771 | |
| 5530 | 75.033 | 18.753 | 5530 | 75.465 | 18.777 | |
| 5690(U-NII 2C) | 72.543 | 18.606 | 5690(U-NII 2C) | 72.307 | 18.592 | |
| 5690 (U-NII 3) | 2.543 | 4.053 | 5690 (U-NII 3) | 2.307 | 3.630 | |

802.11ac _VHT80_Ch0

802.11n _VHT80_Ch1

| Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) | Frequency (MHz) | Measured Frequency (MHz) | Limit (MHz) |
|--------------------|--------------------------------|-------------|--------------------|--------------------------------|-------------|
| 5210 | 5247.70 | < 5250 | 5210 | 5247.60 | < 5250 |
| 5775 | 5737.30 | > 5725 | 5775 | 5737.40 | > 5725 |

802.11ac _VHT160_Ch0

802.11ac _VHT160_Ch1

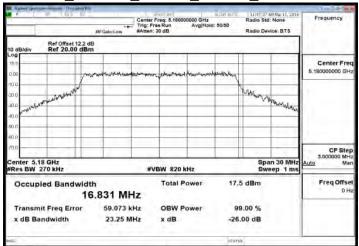
| Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) | Frequency (MHz) | 99% BW (MHz) | 10 Log (B) (dB) |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 5250 | 153.360 | 21.857 | 5250 | 150.420 | 21.773 |
| 5570 | 128.030 | 21.073 | 5570 | 153.200 | 21.853 |

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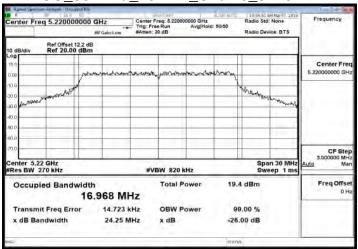


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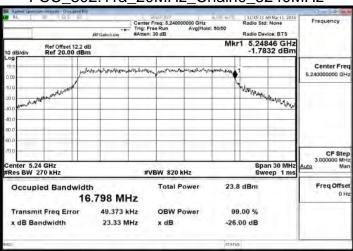
FCC 802.11a 20MHz Chain0 5180MHz



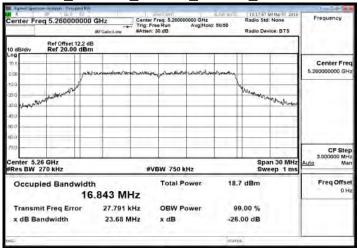
FCC 802.11a 20MHz Chain0 5220MHz



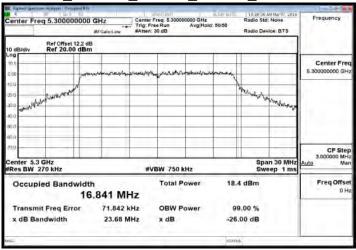
FCC 802.11a 20MHz_Chain0_5240MHz



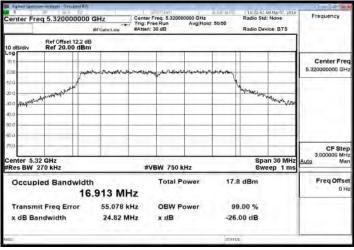
FCC 802.11a 20MHz Chain0 5260MHz



FCC 802.11a 20MHz Chain0 5300MHz



FCC 802.11a 20MHz Chain0 5320MHz



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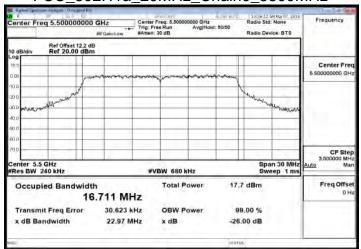
SGS Compliance Certification Services Inc.

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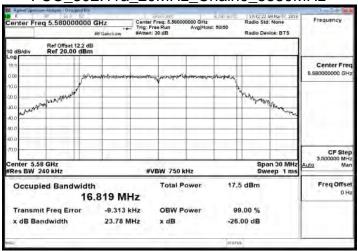


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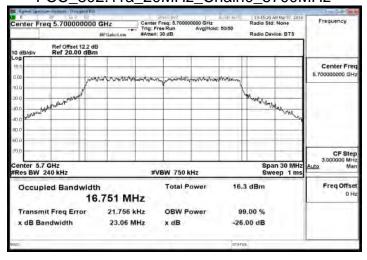
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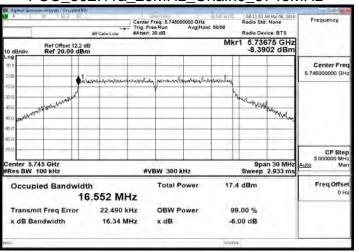
FCC 802.11a 20MHz Chain0 5580MHz



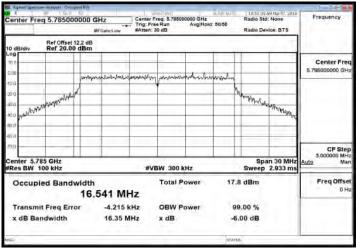
FCC 802.11a 20MHz Chain0 5700MHz



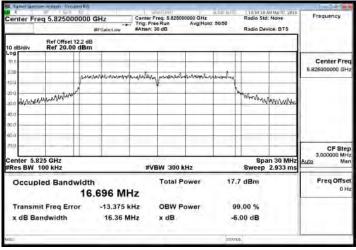
FCC 802.11a 20MHz Chain0 5745MHz



FCC 802.11a 20MHz Chain0 5785MHz



FCC 802.11a 20MHz Chain0 5825MHz



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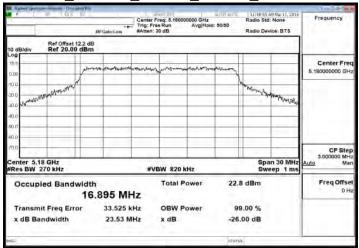
SGS Compliance Certification Services Inc.

程智科技股份有限公司

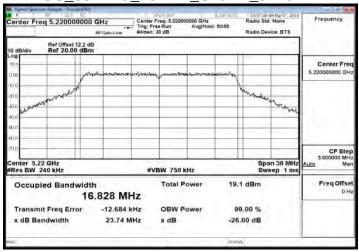


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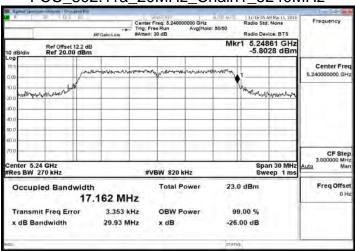
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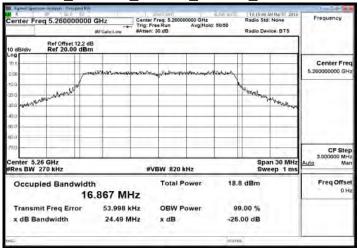
FCC 802.11a 20MHz Chain1 5220MHz



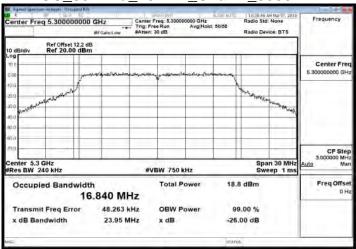
FCC 802.11a_20MHz_Chain1_ 5240MHz



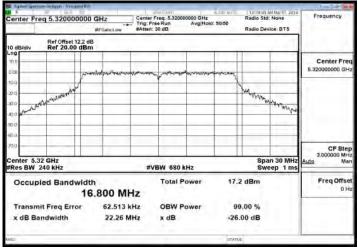
FCC 802.11a 20MHz Chain1 5260MHz



FCC 802.11a 20MHz Chain1 5300MHz



FCC 802.11a 20MHz Chain1 5320MHz



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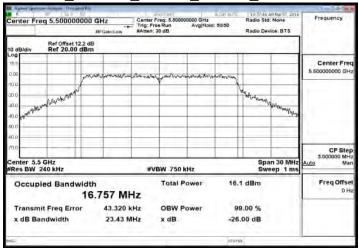
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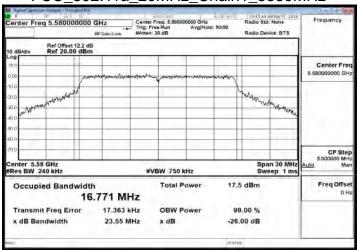


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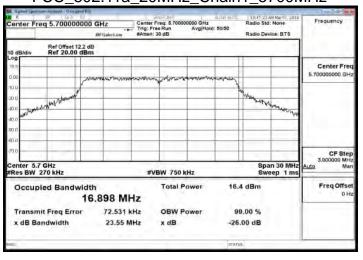
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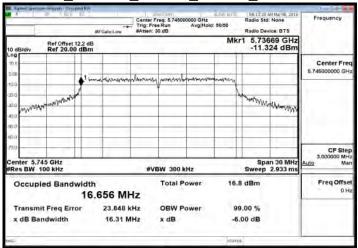
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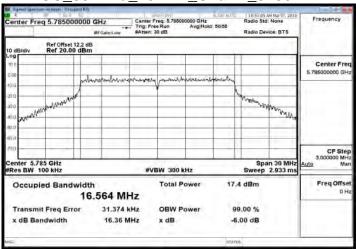
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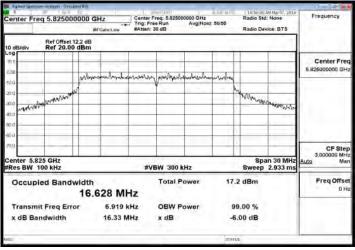
FCC 802.11a 20MHz Chain1 5745MHz



FCC 802.11a 20MHz Chain1 5785MHz



FCC 802.11a 20MHz Chain1 5825MHz



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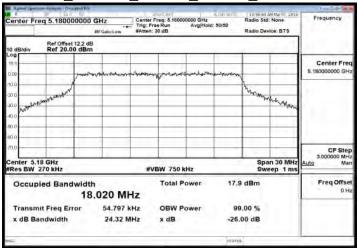
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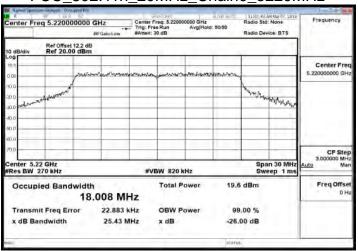


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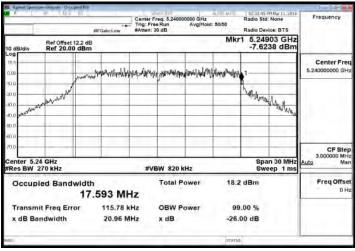
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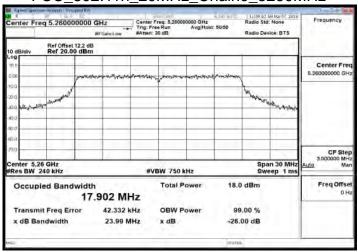
FCC 802.11n 20MHz Chain0 5220MHz



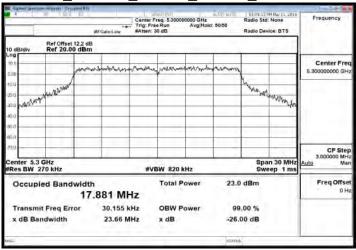
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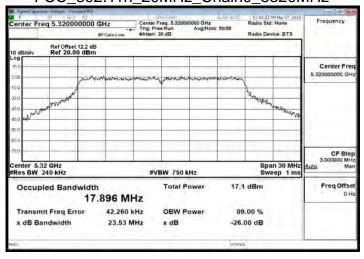
FCC 802.11n 20MHz Chain0 5260MHz



FCC 802.11n 20MHz Chain0 5300MHz



FCC 802.11n 20MHz Chain0 5320MHz



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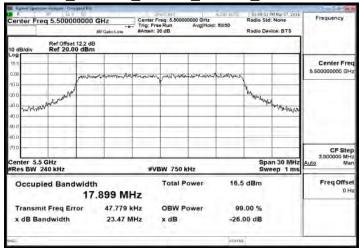
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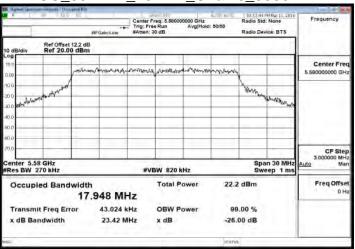


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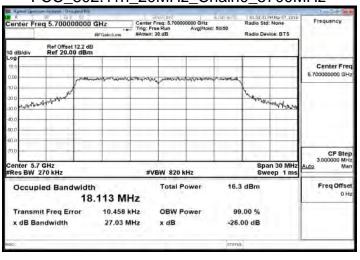
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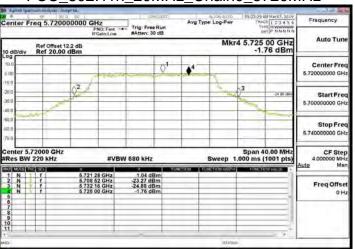
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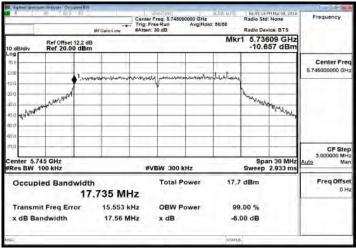
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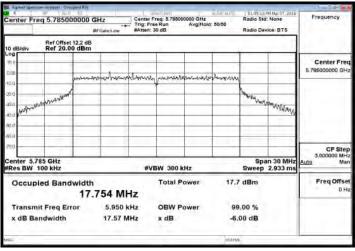
FCC 802.11n 20MHz Chain0 5720MHz



FCC 802.11n 20MHz Chain0 5745MHz



FCC 802.11n 20MHz Chain0 5785MHz



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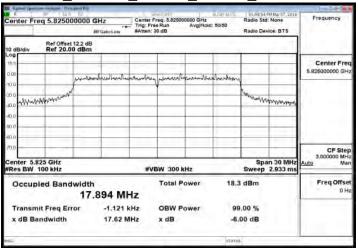
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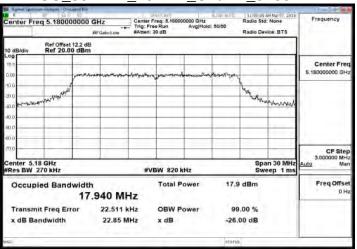


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FCC 802.11n 20MHz_Chain0_5825MHz



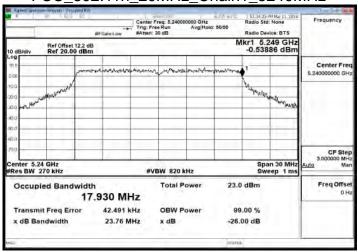
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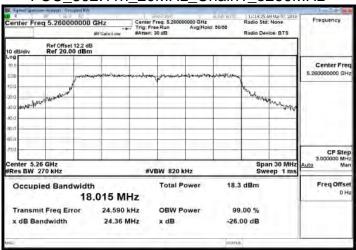
FCC 802.11n 20MHz Chain1 5220MHz



FCC 802.11n 20MHz Chain1 5240MHz



FCC 802.11n 20MHz Chain1 5260MHz



FCC 802.11n 20MHz Chain1 5300MHz



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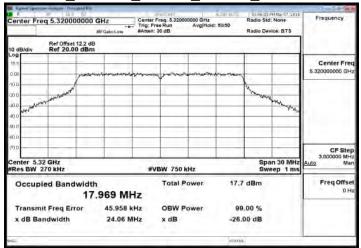
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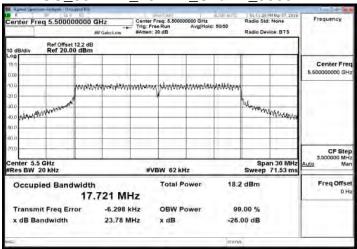


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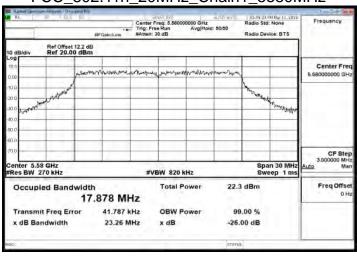
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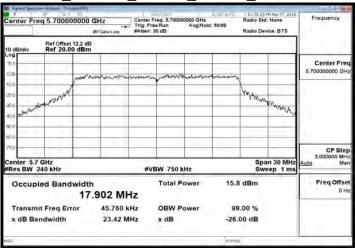
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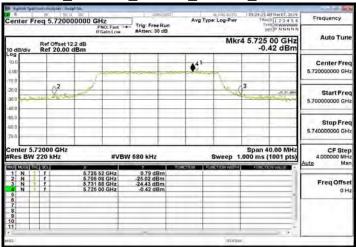
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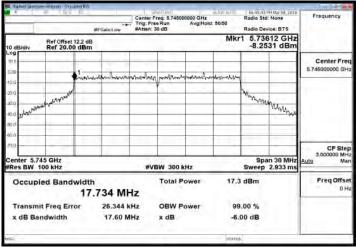
FCC 802.11n 20MHz Chain1 5700MHz



FCC 802.11n 20MHz Chain1 5720MHz



FCC 802.11n 20MHz Chain1 5745MHz



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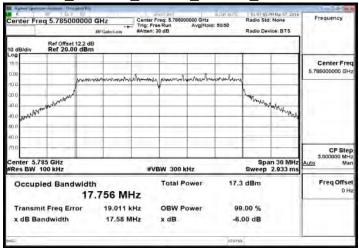
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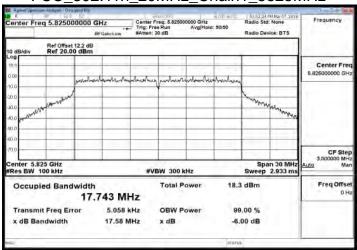


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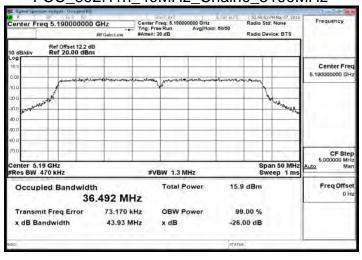
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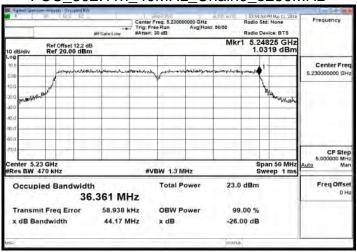
FCC 802.11n 20MHz Chain1 5825MHz



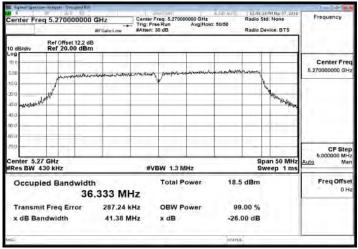
FCC 802.11n 40MHz Chain0 5190MHz



FCC 802.11n 40MHz Chain0 5230MHz



FCC 802.11n 40MHz Chain0 5270MHz



FCC 802.11n 40MHz Chain0 5310MHz



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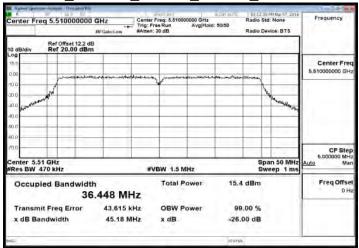
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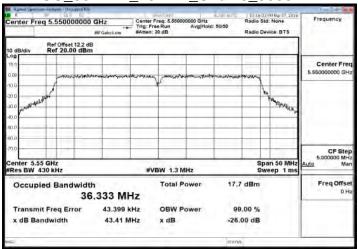


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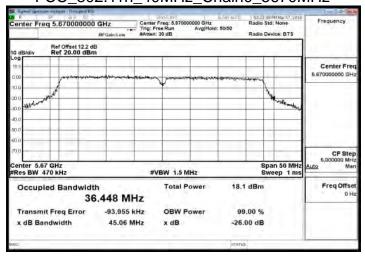
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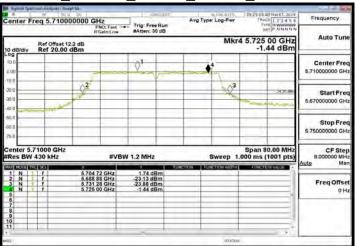
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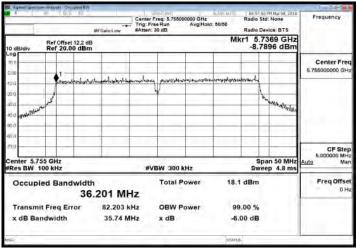
FCC 802.11n 40MHz Chain0 5670MHz



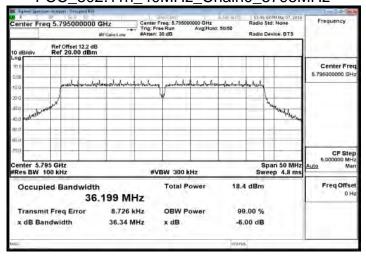
FCC 802.11n 40MHz Chain0 5710MHz



FCC 802.11n 40MHz Chain0 5755MHz



FCC 802.11n 40MHz Chain0 5795MHz



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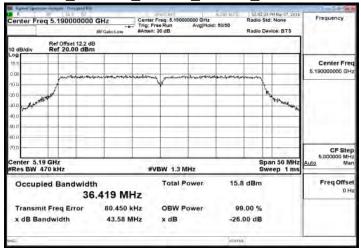
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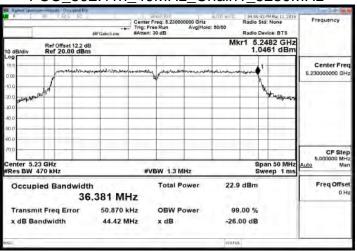


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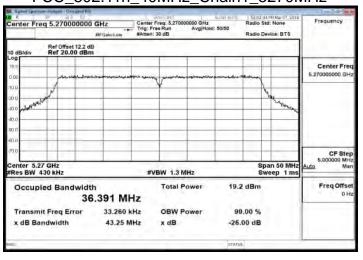
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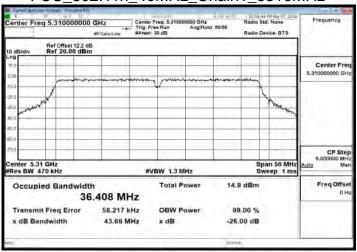
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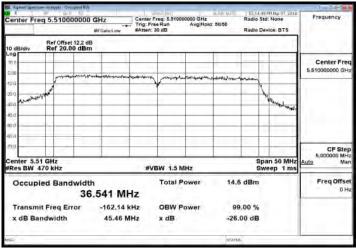
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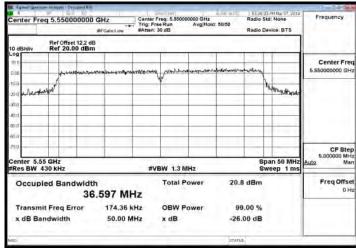
FCC 802.11n 40MHz Chain1 5310MHz



FCC 802.11n 40MHz Chain1 5510MHz



FCC 802.11n 40MHz Chain1 5550MHz



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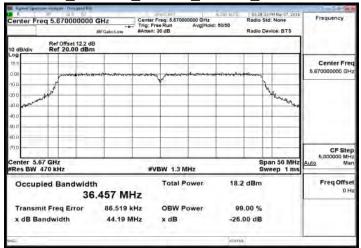
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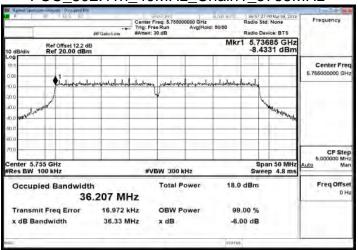


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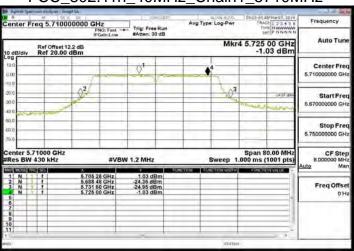
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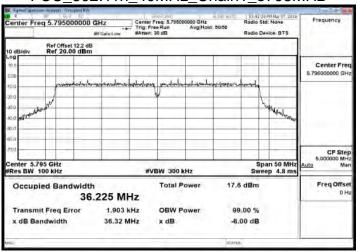
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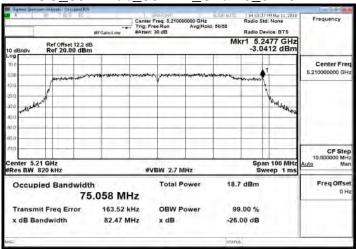
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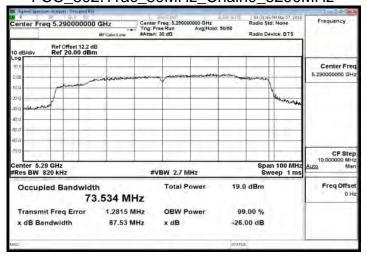
FCC 802.11n 40MHz Chain1 5795MHz



FCC 802.11ac 80MHz Chain0 5210MHz



FCC 802.11ac 80MHz Chain0 5290MHz



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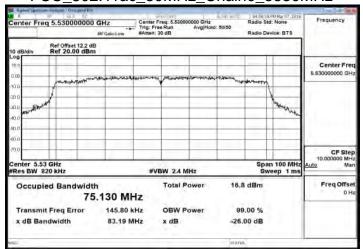
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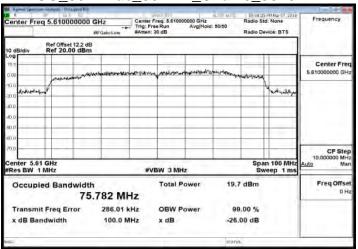


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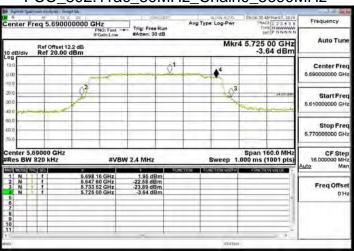
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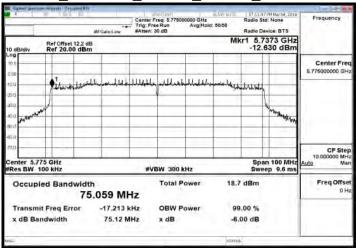
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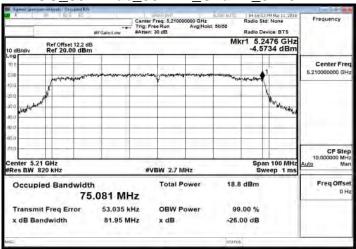
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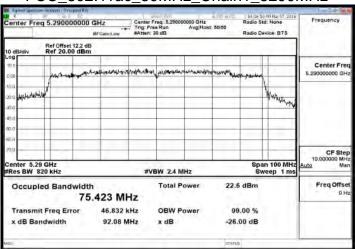
FCC 802.11ac 80MHz Chain0 5775MHz



FCC 802.11ac 80MHz Chain1 5210MHz



FCC 802.11ac 80MHz Chain1 5290MHz



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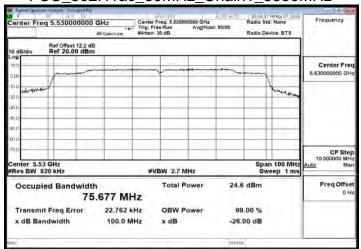
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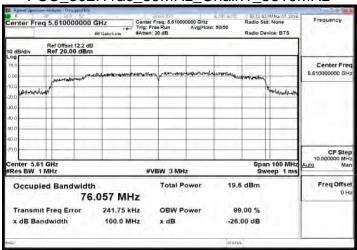


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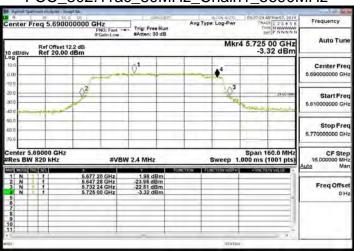
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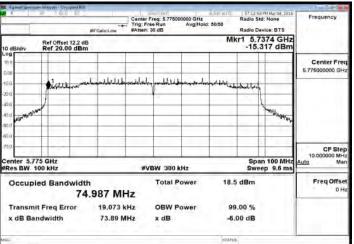
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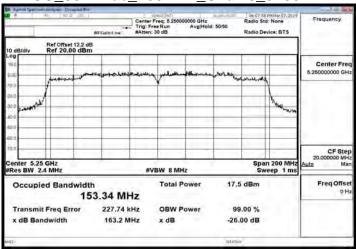
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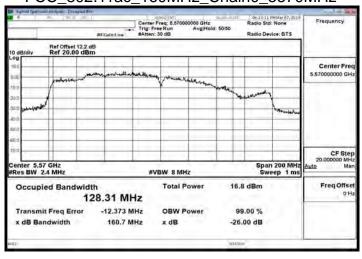
FCC 802.11ac 80MHz Chain1 5775MHz



FCC 802.11ac 160MHz Chain0 5250MHz



FCC 802.11ac_160MHz_Chain0_5570MHz



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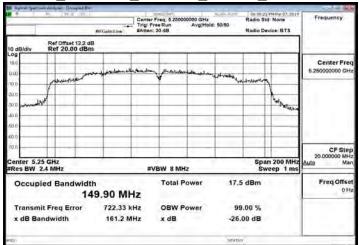
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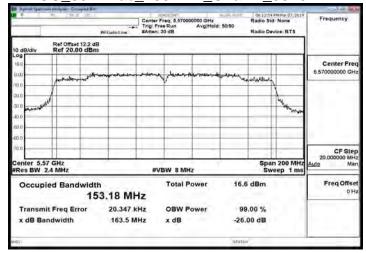


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FCC_802.11ac_160MHz_Chain1_5250MHz



FCC_802.11ac_160MHz_Chain1_5570MHz



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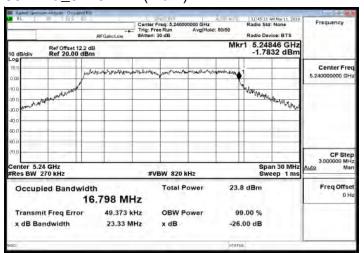
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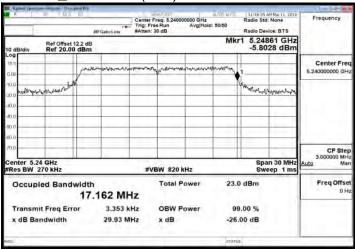
Page: 48 of 261

99% BW to prove that all signals in band I is no over band U-NII-1

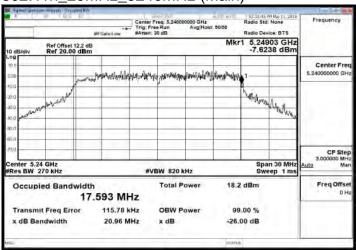
802.11a 5240MHz (Main)



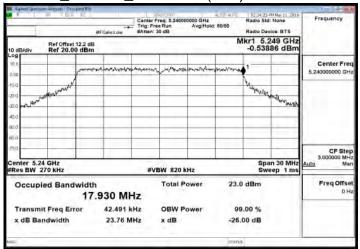
802.11a_5240MHz (Aux)



802.11n_20MHz_5240MHz (Main)



802.11n 20MHz 5240MHz (Aux)



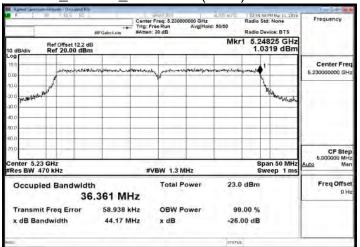
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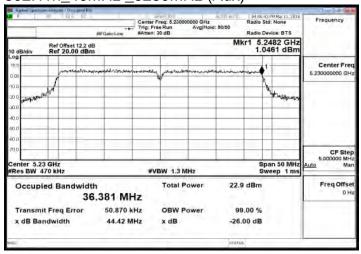


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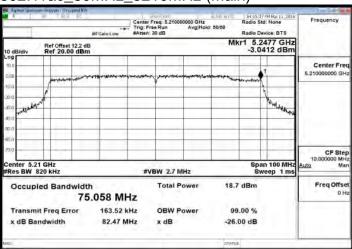
802.11n_40MHz_5230MHz (Main)



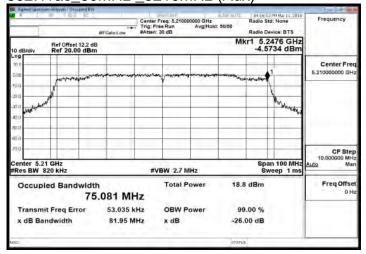
802.11n_40MHz 5230MHz (Aux)



802.11ac_80MHz_5210MHz (Main)



802.11ac_80MHz 5210MHz (Aux)



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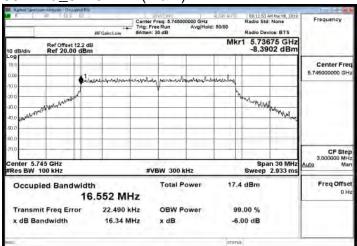
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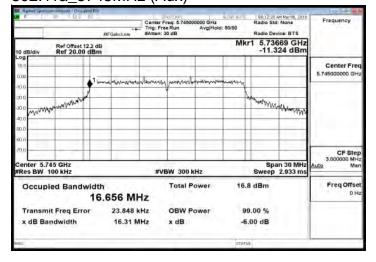
Page: 50 of 261

99% BW to prove that all signals in band I is no over band U-NII-3

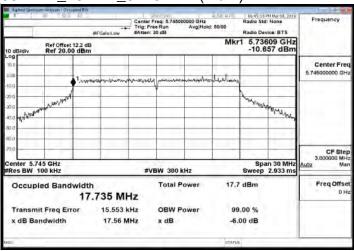
802.11a 5745MHz (Main)



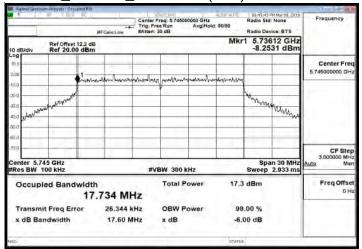
802.11a_5745MHz (Aux)



802.11n 20MHz 5745MHz (Main)



802.11n 20MHz 5745MHz (Aux)



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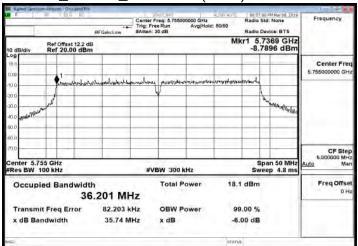
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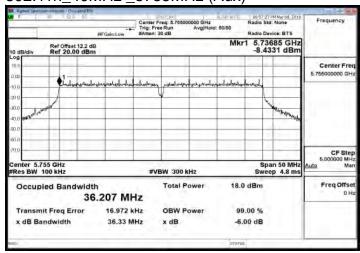


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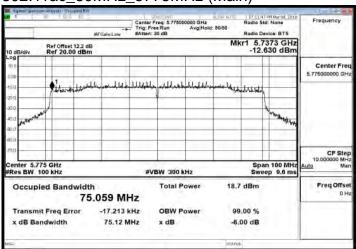
802.11n_40MHz_5755MHz (Main)



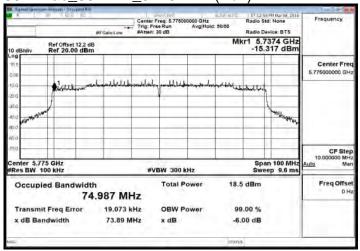
802.11n 40MHz 5755MHz (Aux)



802.11ac 80MHz 5775MHz (Main)



802.11ac 80MHz 5775MHz (Aux)



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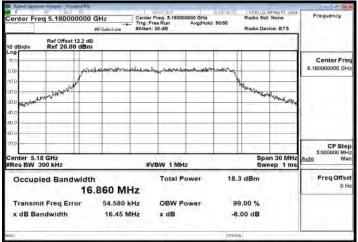
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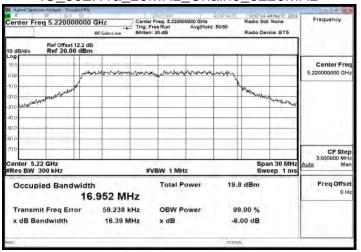


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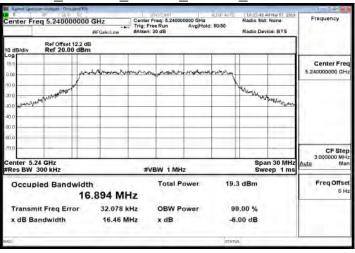
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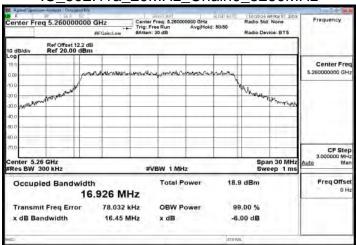
IC 802.11a 20MHz Chain0 5220MHz



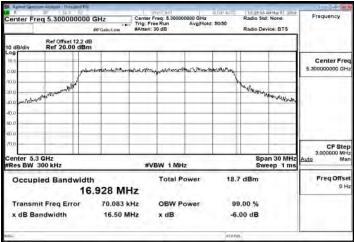
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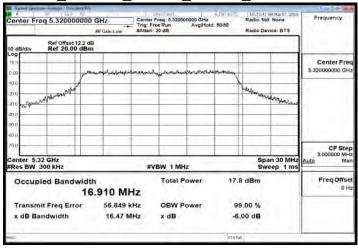
IC 802.11a 20MHz Chain0 5260MHz



IC 802.11a 20MHz Chain0 5300MHz



IC 802.11a 20MHz Chain0 5320MHz



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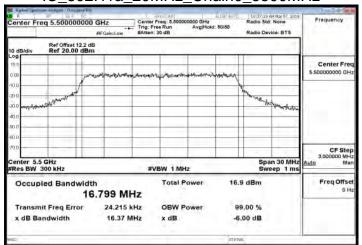
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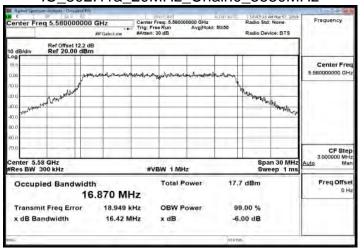


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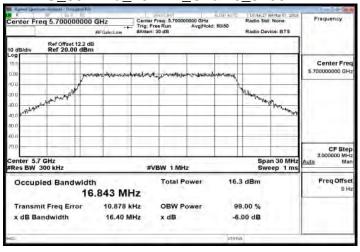
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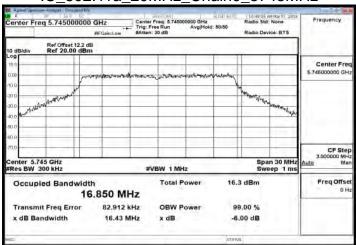
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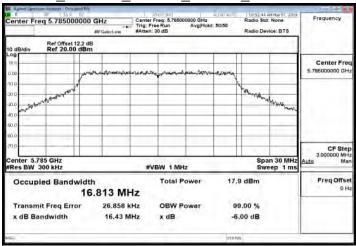
IC 802.11a 20MHz Chain0 5700MHz



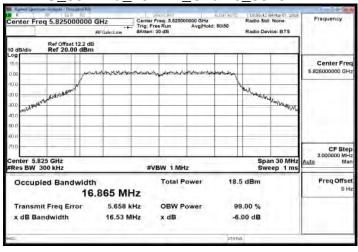
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IC 802.11a 20MHz Chain0 5785MHz



IC 802.11a 20MHz Chain0 5825MHz

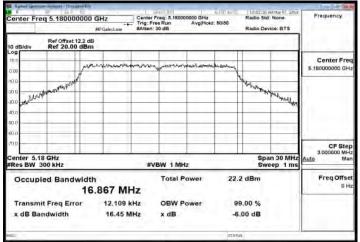


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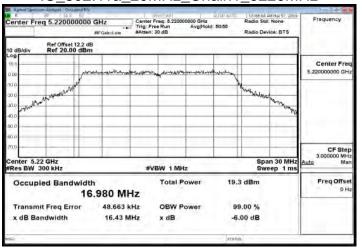


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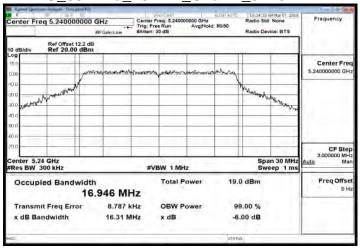
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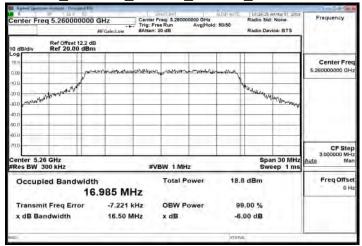
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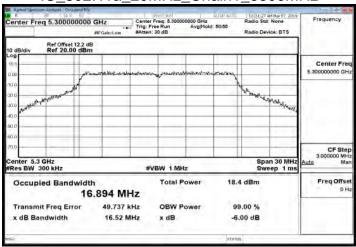
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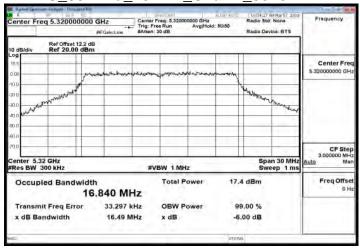
IC 802.11a 20MHz Chain1 5260MHz



IC 802.11a 20MHz Chain1 5300MHz



IC 802.11a 20MHz Chain1 5320MHz



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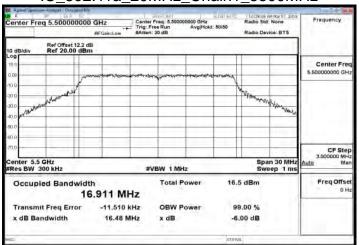
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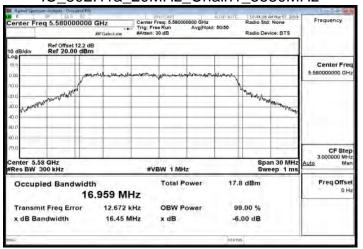


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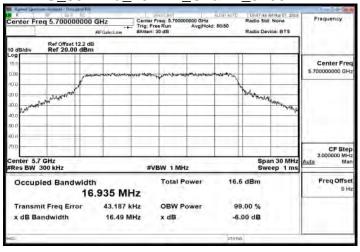
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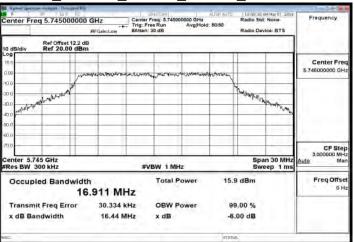
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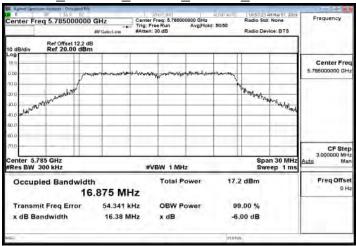
IC 802.11a 20MHz Chain1 5700MHz



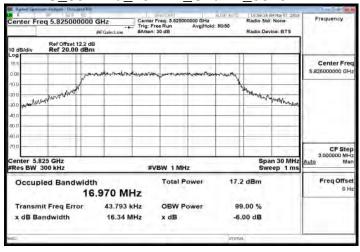
IC 802.11a 20MHz Chain1 5745MHz



IC 802.11a 20MHz Chain1 5785MHz



IC 802.11a 20MHz Chain1 5825MHz



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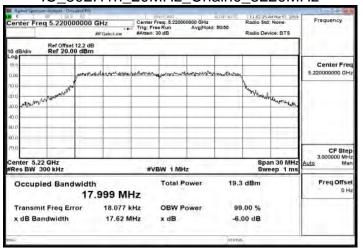


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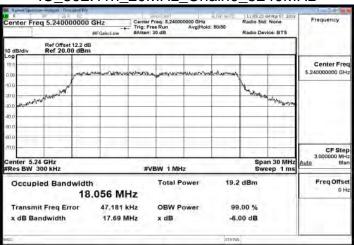
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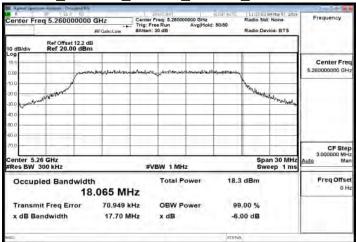
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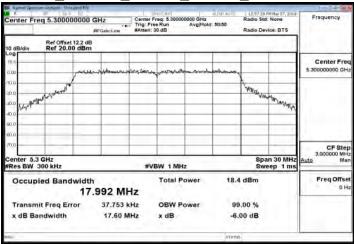
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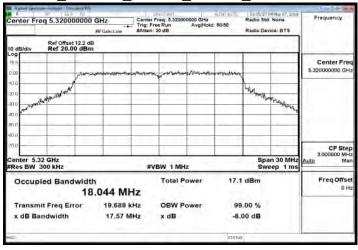
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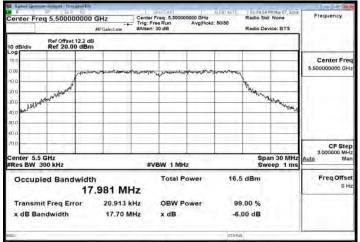


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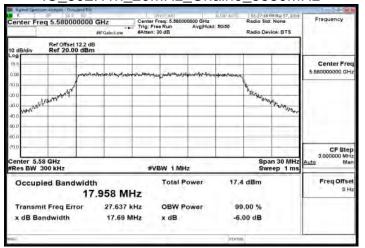


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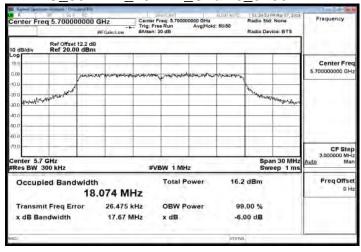
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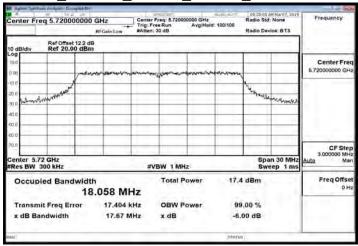
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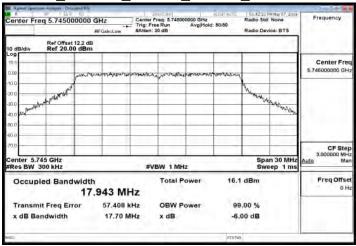
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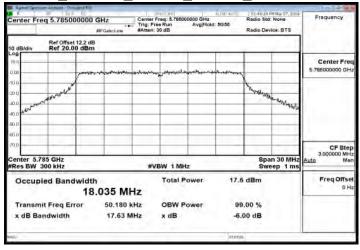
IC 802.11n 20MHz Chain0 5720MHz



IC 802.11n 20MHz Chain0 5745MHz



IC_802.11n_20MHz_Chain0_ 5785MHz



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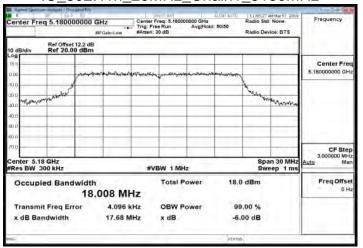


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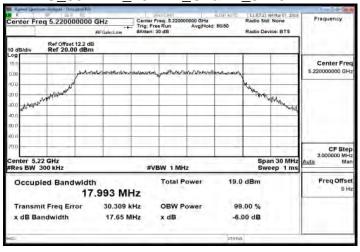
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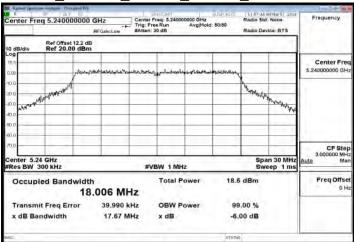
IC 802.11n 20MHz Chain1 5180MHz



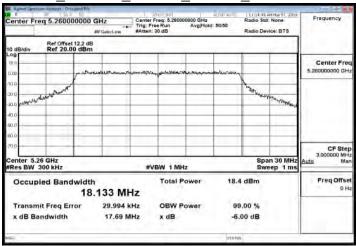
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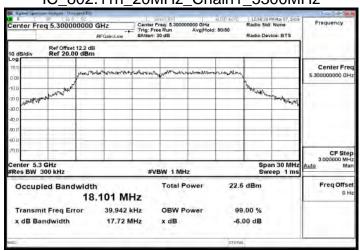
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IC 802.11n 20MHz Chain1 5260MHz



IC 802.11n 20MHz Chain1 5300MHz

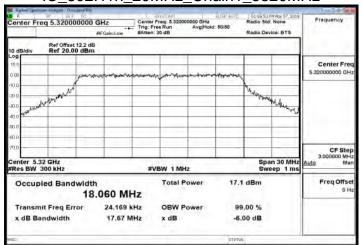


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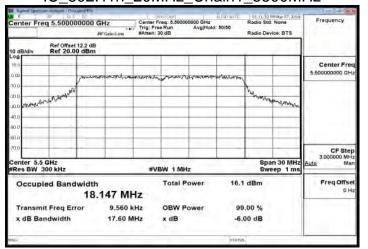


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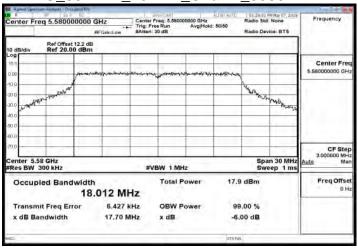
IC 802.11n 20MHz Chain1 5320MHz



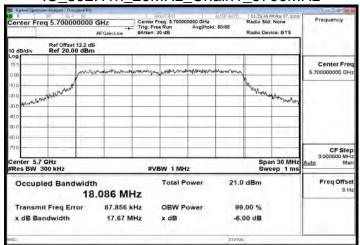
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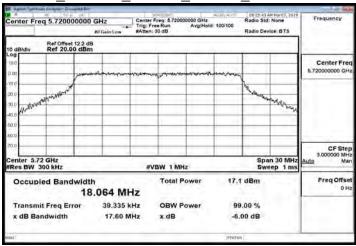
IC 802.11n 20MHz Chain1 5580MHz



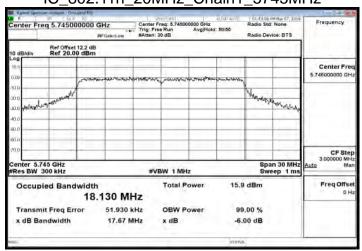
IC 802.11n 20MHz Chain1 5700MHz



IC 802.11n 20MHz Chain1 5720MHz



IC_802.11n_20MHz_Chain1 5745MHz



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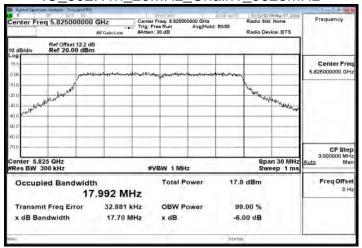


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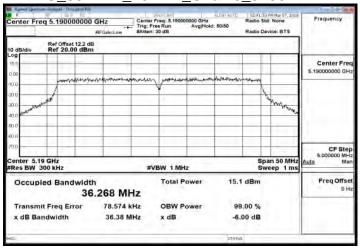
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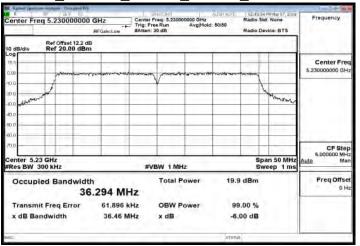
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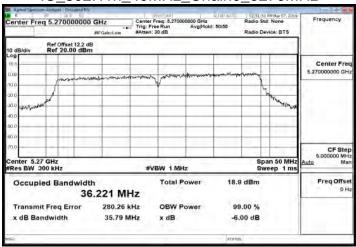
IC 802.11n 40MHz Chain0 5190MHz



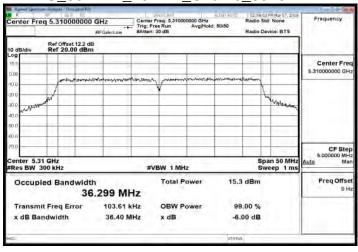
IC 802.11n 40MHz Chain0 5230MHz



IC 802.11n 40MHz Chain0 5270MHz



IC 802.11n 40MHz Chain0 5310MHz

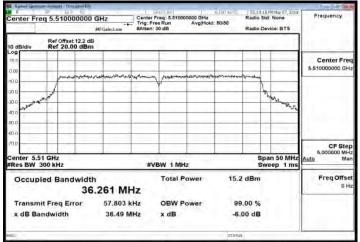


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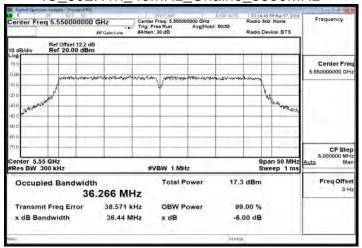


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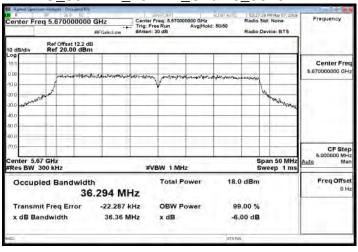
IC 802.11n 40MHz Chain0 5510MHz



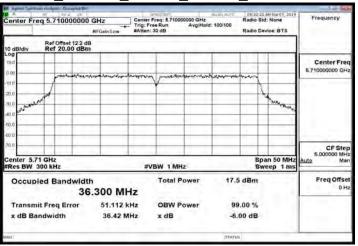
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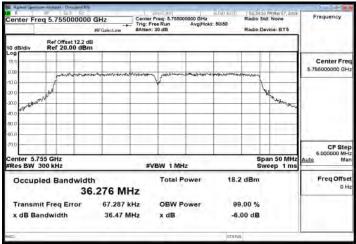
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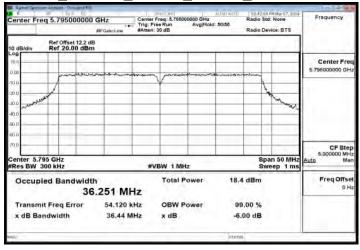
IC 802.11n 40MHz Chain0 5710MHz



IC 802.11n 40MHz_Chain0_5755MHz



IC_802.11n_40MHz_Chain0 5795MHz



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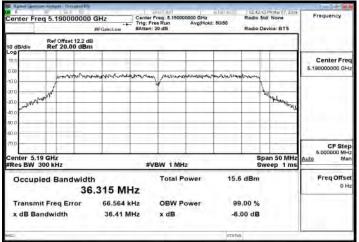
程智科技股份有限公司

SGS Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan / 新北市五股區五工六路 11 號 t:(886-2) 2299-9720 f:(886-2) 2298-1882 www.sgs.tw www.ccsrf.com

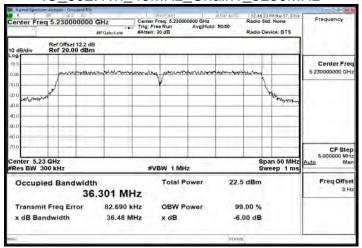


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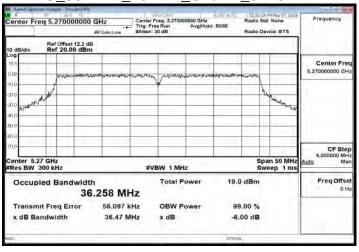
IC 802.11n 40MHz Chain1 5190MHz



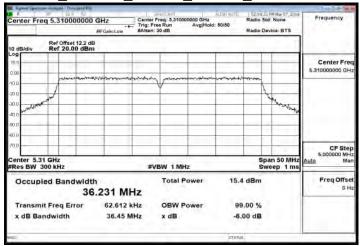
IC 802.11n 40MHz Chain1 5230MHz



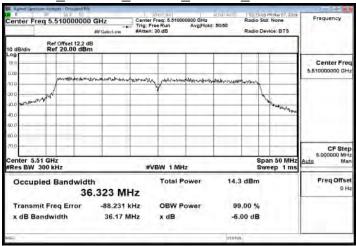
IC 802.11n 40MHz Chain1 5270MHz



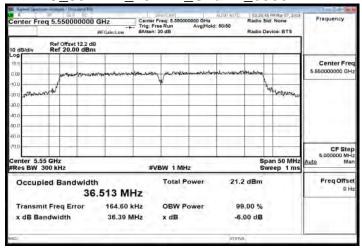
IC 802.11n 40MHz Chain1 5310MHz



IC 802.11n 40MHz Chain1 5510MHz



IC 802.11n 40MHz Chain1 5550MHz



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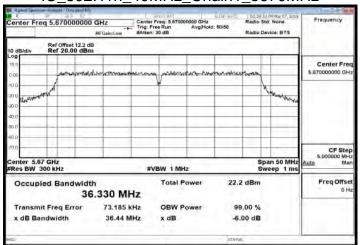
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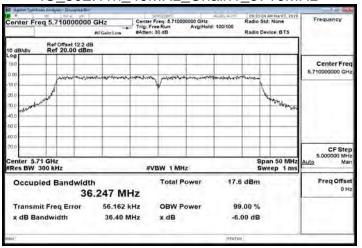


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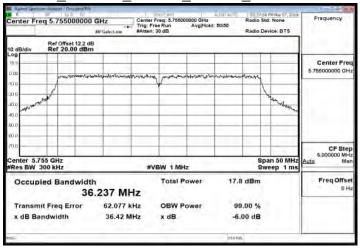
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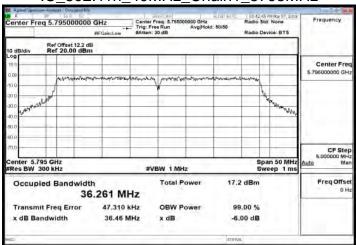
IC 802.11n 40MHz Chain1 5710MHz



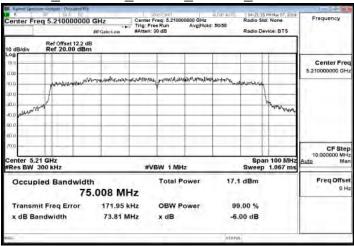
IC_802.11n_40MHz_Chain1 5755MHz



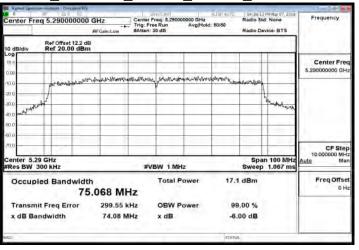
IC 802.11n 40MHz Chain1 5795MHz



IC 802.11ac 80MHz Chain0 5210MHz



IC_802.11ac_80MHz_Chain0_5290MHz



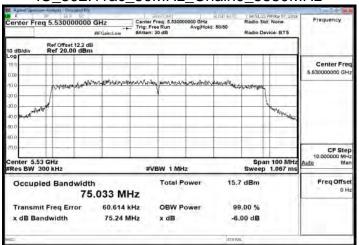
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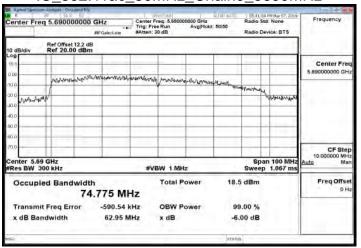


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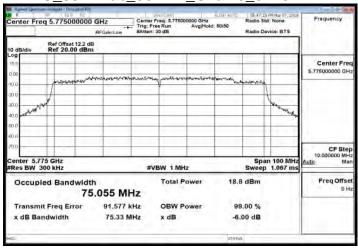
IC 802.11ac 80MHz Chain0 5530MHz



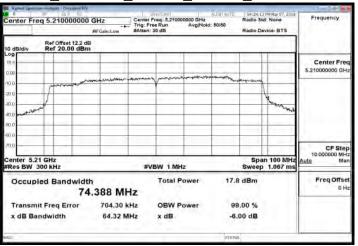
IC 802.11ac 80MHz Chain0 5690MHz



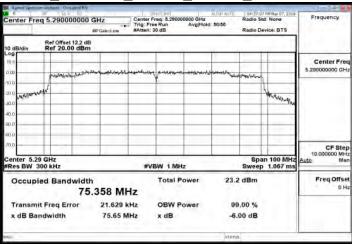
IC_802.11ac_80MHz_Chain0_5775MHz



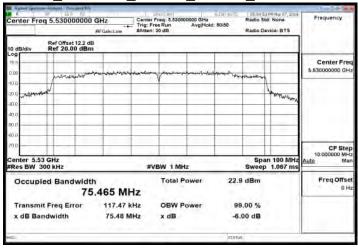
IC 802.11ac 80MHz Chain1 5210MHz



IC 802.11ac 80MHz Chain1 5290MHz



IC_802.11ac_80MHz_Chain1_ 5530MHz

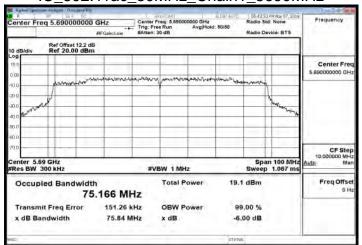


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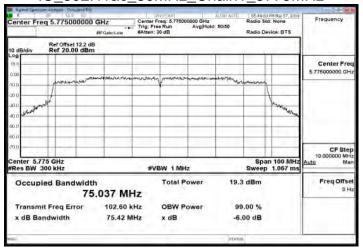


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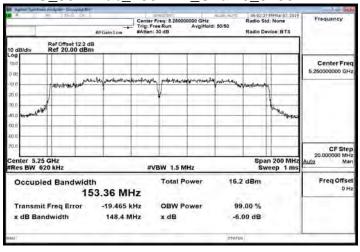
IC 802.11ac 80MHz Chain1 5690MHz



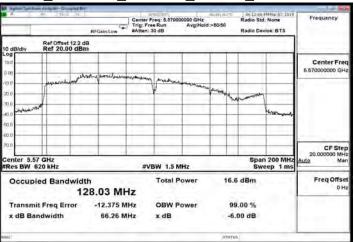
IC 802.11ac 80MHz Chain1 5775MHz



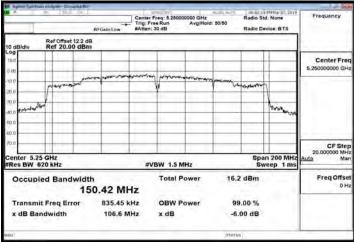
IC_802.11ac_160MHz_Chain0_5250MHz



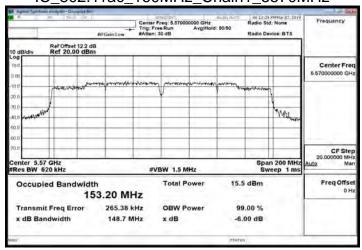
IC 802.11ac 160MHz Chain0 5570MHz



IC 802.11ac 160MHz Chain1 5250MHz



IC_802.11ac_160MHz_Chain1_



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MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

9.1 Standard Applicable

FCC

| OPERZTION Band | | EUT CATEGORY | LIMIT |
|-------------------|---|-----------------------------------|-----------------------------------|
| U-NII-1 | | Access Point (Mater device) | 1 Watt(30dBm) |
| | | Fixed point-to-point Acess Ponit | 1 Watt(30dBm) |
| | V | Mobile and portable clinet device | 250mW(23.98dBm) |
| U-NII-2A | | | 250mW(23.98dBm) or 11dBm+10 log B |
| U-NII-2C | | | 250mW(23.98dBm) or 11dBm+10 log B |
| U-NII-3 | V | | 1 Watt(30dBm) |

If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum transmit power shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.

ISED

| OPERZTION FREQUENCY BAND | LIMIT |
|-----------------------------|--|
| 5150~5250 MHz | EIRP shall not exceed 200 mW or 10 + 10 log ₁₀ B, dBm |
| 5250~5350 MHz | Conducted output power shall not exceed 250 mW or 11 +10 log10B EIRP shall not exceed 1.0 W or 17 + 10 log10B, dBm |
| 5470-5600 MHz and | Conducted output power shall not exceed 250 mW or 11 +10 log ₁₀ B |
| 5650-5725 MHz | EIRP shall not exceed 1.0 W or 17 + 10 log ₁₀ B, dBm |
| 5725~5850 MHz | Conducted output power shall not exceed 1 W |

For equipment operating in the band **5725-5850** MHz, If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum transmit power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note:

As per FCC KDB 662911 D01

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi.

- (i) If transmit signals are correlated, then Directional gain
- = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N_{ANT}] dBi$

[Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

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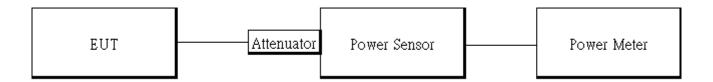
9.2 Measurement Procedure

- Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
- Power Meter is used as the auxiliary test equipment to conduct the output power measurement.
- Record the max. reading and add 10 log(1/duty cycle).
- Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

9.3 Measurement Equipment Used

| | SGS Conducted Room | | | | | | | | | | | | |
|-------------------|--------------------|-----------------|------------------|--------------|------------|--|--|--|--|--|--|--|--|
| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. | | | | | | | | |
| Power Meter | Anritsu | ML2496A | 1242004 | 2018/10/23 | 2019/10/22 | | | | | | | | |
| Power Sensor | Anritsu | MA2411B | 1207365 | 2018/10/23 | 2019/10/22 | | | | | | | | |
| Power Sensor | Anritsu | MA2411B | 1207368 | 2018/10/24 | 2019/10/23 | | | | | | | | |
| Attenuator | Marvelous | MVE2213-10 | RF80 | 2019/02/26 | 2020/02/25 | | | | | | | | |
| DC Power Supply | Agilent | E3640A | KR93300208 | 2018/08/15 | 2019/08/14 | | | | | | | | |

9.4 Test Set-up



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9.5 Measurement Result

Conducted output power (FCC)

802 11a Ch0

| 602.11a_ | | Data | TOTAL | TOTAL | | REQUIRED | | |
|----------|--------------------|--------------|-------|--------|-------|------------------|-------|--------|
| СН | Frequency (MHz) | Data Rate | POWER | POWER | | LIMIT | | RESULT |
| | (1411 12) | Nate | (dBm) | (mW) | | (dBm) | | |
| 36 | 5180 | 6 | 13.93 | 24.734 | | 23.98 | | PASS |
| 44 | 5220 | 6 | 14.86 | 30.641 | | 23.98 | | PASS |
| 48 | 5240 | 6 | 14.90 | 30.924 | | 23.98 | | PASS |
| 52 | 5260 | 6 | 13.91 | 24.621 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 60 | 5300 | 6 | 14.91 | 30.995 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 64 | 5320 | 6 | 13.88 | 24.451 | 23.98 | or 11+10log(B) = | 24.95 | PASS |
| 100 | 5500 | 6 | 12.87 | 19.377 | 23.98 | or 11+10log(B) = | 24.61 | PASS |
| 116 | 5580 | 6 | 13.89 | 24.507 | 23.98 | or 11+10log(B) = | 24.76 | PASS |
| 140 | 5700 | 6 | 12.87 | 19.377 | 23.98 | or 11+10log(B) = | 24.63 | PASS |
| 149 | 5745 | 6 | 12.85 | 19.288 | | 30 | | PASS |
| 157 | 5785 | 6 | 13.92 | 24.677 | | 30 | - | PASS |
| 165 | 5825 | 6 | 13.91 | 24.621 | | 30 | | PASS |

202 11a Ch1

| 802.11a_ | | | TOTAL | TOTAL | 1 | REQUIRED | | 1 |
|----------|--------------------|--------------|----------------|---------------|-------|------------------|-------|--------|
| СН | Frequency (MHz) | Data Rate | POWER (dBm) | POWER (mW) | | LIMIT (dBm) | | RESULT |
| 36 | 5180 | 6 | 13.98 | 25.021 | | 23.98 | | PASS |
| 44 | 5220 | 6 | 14.99 | 31.572 | | 23.98 | | PASS |
| 48 | 5240 | 6 | 14.95 | 31.282 | | 23.98 | | PASS |
| 52 | 5260 | 6 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 24.89 | PASS |
| 60 | 5300 | 6 | 14.98 | 31.499 | 23.98 | or 11+10log(B) = | 24.79 | PASS |
| 64 | 5320 | 6 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 24.48 | PASS |
| 100 | 5500 | 6 | 12.96 | 19.783 | 23.98 | or 11+10log(B) = | 24.70 | PASS |
| 116 | 5580 | 6 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 24.72 | PASS |
| 140 | 5700 | 6 | 12.96 | 19.783 | 23.98 | or 11+10log(B) = | 24.72 | PASS |
| 149 | 5745 | 6 | 12.99 | 19.920 | | 30 | | PASS |
| 157 | 5785 | 6 | 14.00 | 25.136 | | 30 | | PASS |
| 165 | 5825 | 6 | 13.98 | 25.021 | | 30 | | PASS |

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802.11a_2Tx

| | Frequency | Data | rg. POV | VER (dB | TOTAL | TOTAL | | REQUIRED | | |
|-----|-----------|------|---------|---------|----------------|---------------|-------|------------------|-------|--------|
| СН | (MHz) | Rate | CH 0 | CH 1 | POWER (dBm) | POWER (mW) | | LIMIT (dBm) | | RESULT |
| 36 | 5180 | 6 | 9.62 | 10.6 | 13.86 | 24.296 | | 23.98 | | PASS |
| 44 | 5220 | 6 | 10.9 | 11.4 | 14.86 | 30.652 | | 23.98 | | PASS |
| 48 | 5240 | 6 | 10.9 | 11.3 | 14.82 | 30.338 | | 23.98 | | PASS |
| 52 | 5260 | 6 | 9.67 | 10.7 | 13.91 | 24.609 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 60 | 5300 | 6 | 10.8 | 11.4 | 14.81 | 30.299 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 64 | 5320 | 6 | 9.62 | 10.7 | 13.91 | 24.578 | 23.98 | or 11+10log(B) = | 24.48 | PASS |
| 100 | 5500 | 6 | 8.82 | 9.51 | 12.90 | 19.507 | 23.98 | or 11+10log(B) = | 24.61 | PASS |
| 116 | 5580 | 6 | 9.77 | 10.5 | 13.86 | 24.307 | 23.98 | or 11+10log(B) = | 24.72 | PASS |
| 140 | 5700 | 6 | 8.65 | 9.64 | 12.90 | 19.482 | 23.98 | or 11+10log(B) = | 24.63 | PASS |
| 149 | 5745 | 6 | 8.8 | 9.54 | 12.91 | 19.539 | | 30 | | PASS |
| 157 | 5785 | 6 | 9.71 | 10.5 | 13.84 | 24.215 | | 30 | | PASS |
| 165 | 5825 | 6 | 9.85 | 10.5 | 13.88 | 24.455 | | 30 | | PASS |

802.11n HT20 Ch0

| СН | Frequency (MHz) | Data Rate | TOTAL POWER | TOTAL POWER | | REQUIRED LIMIT | | RESULT |
|-----|--------------------|--------------|----------------|----------------|-------|-------------------|-------|--------|
| | (| 110.00 | (dBm) | (mW) | | (dBm) | | |
| 36 | 5180 | MCS0 | 13.92 | 24.670 | | 23.98 | | PASS |
| 44 | 5220 | MCS0 | 14.88 | 30.773 | | 23.98 | | PASS |
| 48 | 5240 | MCS0 | 14.94 | 31.201 | | 23.98 | | PASS |
| 52 | 5260 | MCS0 | 13.91 | 24.613 | 23.98 | or 11+10log(B) = | 24.80 | PASS |
| 60 | 5300 | MCS0 | 14.92 | 31.058 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 64 | 5320 | MCS0 | 13.88 | 24.444 | 23.98 | or 11+10log(B) = | 24.72 | PASS |
| 100 | 5500 | MCS0 | 12.91 | 19.551 | 23.98 | or 11+10log(B) = | 24.71 | PASS |
| 116 | 5580 | MCS0 | 13.88 | 24.444 | 23.98 | or 11+10log(B) = | 24.70 | PASS |
| 140 | 5700 | MCS0 | 12.91 | 19.551 | 23.98 | or 11+10log(B) = | 25.32 | PASS |
| 144 | 5720(U-NII 2C) | MCS0 | 9.72 | 9.374 | 23.98 | or 11+10log(B) = | 23.17 | PASS |
| 144 | 5720 (U-NII 3) | MCS0 | 4.22 | 2.644 | | 30 | | PASS |
| 149 | 5745 | MCS0 | 12.89 | 19.461 | | 30 | | PASS |
| 157 | 5785 | MCS0 | 13.91 | 24.613 | | 30 | | PASS |
| 165 | 5825 | MCS0 | 13.93 | 24.727 | | 30 | | PASS |

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802.11n HT20 Ch1

| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 36 | 5180 | MCS0 | 13.96 | 24.898 | | 23.98 | | PASS |
| 44 | 5220 | MCS0 | 14.98 | 31.490 | | 23.98 | | PASS |
| 48 | 5240 | MCS0 | 14.97 | 31.418 | | 23.98 | | PASS |
| 52 | 5260 | MCS0 | 13.96 | 24.898 | 23.98 | or 11+10log(B) = | 24.87 | PASS |
| 60 | 5300 | MCS0 | 14.98 | 31.490 | 23.98 | or 11+10log(B) = | 24.82 | PASS |
| 64 | 5320 | MCS0 | 13.98 | 25.013 | 23.98 | or 11+10log(B) = | 24.81 | PASS |
| 100 | 5500 | MCS0 | 12.96 | 19.778 | 23.98 | or 11+10log(B) = | 24.76 | PASS |
| 116 | 5580 | MCS0 | 13.95 | 24.841 | 23.98 | or 11+10log(B) = | 24.67 | PASS |
| 140 | 5700 | MCS0 | 12.98 | 19.869 | 23.98 | or 11+10log(B) = | 24.70 | PASS |
| 144 | 5720(U-NII 2C) | MCS0 | 10.38 | 10.927 | 23.98 | or 11+10log(B) = | 23.99 | PASS |
| 144 | 5720 (U-NII 3) | MCS0 | 3.59 | 2.284 | | 30 | | PASS |
| 149 | 5745 | MCS0 | 12.96 | 19.778 | | 30 | | PASS |
| 157 | 5785 | MCS0 | 13.97 | 24.956 | | 30 | | PASS |
| 165 | 5825 | MCS0 | 13.96 | 24.898 | | 30 | | PASS |

802.11n HT20 MIMO

| | Frequency | Data | g. POV | VER (dB | | TOTAL | | REQUIRED | | |
|-----|----------------|------|--------|---------|----------------|---------------|-------|------------------|-------|--------|
| СН | (MHz) | Rate | CH 0 | CH 1 | POWER (dBm) | POWER (mW) | | LIMIT (dBm) | | RESULT |
| 36 | 5180 | MCS8 | 9.72 | 10.6 | 13.92 | 24.648 | | 23.98 | | PASS |
| 44 | 5220 | MCS8 | 10.9 | 11.4 | 14.92 | 31.074 | | 23.98 | | PASS |
| 48 | 5240 | MCS8 | 10.9 | 11.4 | 14.92 | 31.044 | | 23.98 | | PASS |
| 52 | 5260 | MCS8 | 9.82 | 10.5 | 13.93 | 24.721 | 23.98 | or 11+10log(B) = | 24.80 | PASS |
| 60 | 5300 | MCS8 | 10.8 | 11.5 | 14.94 | 31.194 | 23.98 | or 11+10log(B) = | 24.74 | PASS |
| 64 | 5320 | MCS8 | 9.84 | 10.5 | 13.94 | 24.774 | 23.98 | or 11+10log(B) = | 24.72 | PASS |
| 100 | 5500 | MCS8 | 8.76 | 9.55 | 12.92 | 19.611 | 23.98 | or 11+10log(B) = | 24.71 | PASS |
| 116 | 5580 | MCS8 | 9.65 | 10.6 | 13.88 | 24.439 | 23.98 | or 11+10log(B) = | 24.67 | PASS |
| 140 | 5700 | MCS8 | 8.69 | 9.59 | 12.92 | 19.567 | 23.98 | or 11+10log(B) = | 24.70 | PASS |
| 144 | 5720(U-NII 2C) | MCS8 | 6.78 | 7.78 | 9.66 | 9.256 | 23.98 | or 11+10log(B) = | 23.17 | PASS |
| 144 | 5720 (U-NII 3) | MCS8 | 2.94 | 2.69 | 4.20 | 2.630 | | 30 | | PASS |
| 149 | 5745 | MCS8 | 8.78 | 9.53 | 12.92 | 19.603 | | 30 | | PASS |
| 157 | 5785 | MCS8 | 9.74 | 10.5 | 13.89 | 24.514 | | 30 | _ | PASS |
| 165 | 5825 | MCS8 | 9.71 | 10.6 | 13.92 | 24.685 | | 30 | | PASS |

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802.11n HT40 Ch0

| 002.1111_ | | | | | | | | |
|-----------|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|------|
| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | |
| 38 | 5190 | MCS0 | 10.92 | 12.351 | | 23.98 | | PASS |
| 46 | 5230 | MCS0 | 14.78 | 30.040 | | 23.98 | | PASS |
| 54 | 5270 | MCS0 | 14.82 | 30.318 | 23.98 | or 11+10log(B) = | 27.17 | PASS |
| 62 | 5310 | MCS0 | 10.91 | 12.323 | 23.98 | or 11+10log(B) = | 27.52 | PASS |
| 102 | 5510 | MCS0 | 10.59 | 11.447 | 23.98 | or 11+10log(B) = | 27.55 | PASS |
| 110 | 5550 | MCS0 | 13.81 | 24.027 | 23.98 | or 11+10log(B) = | 27.38 | PASS |
| 134 | 5670 | MCS0 | 13.84 | 24.194 | 23.98 | or 11+10log(B) = | 27.54 | PASS |
| 142 | 5710(U-NII 2C) | MCS0 | 11.71 | 14.828 | 23.98 | or 11+10log(B) = | 26.58 | PASS |
| 142 | 5710 (U-NII 3) | MCS0 | 2.04 | 1.598 | | 30 | | PASS |
| 151 | 5755 | MCS0 | 13.70 | 23.426 | | 30 | | PASS |
| 159 | 5795 | MCS0 | 13.72 | 23.534 | | 30 | | PASS |

802.11n HT40 Ch1

| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 38 | 5190 | MCS0 | 10.97 | 12.494 | | 23.98 | | PASS |
| 46 | 5230 | MCS0 | 14.96 | 31.312 | | 23.98 | | PASS |
| 54 | 5270 | MCS0 | 14.95 | 31.240 | 23.98 | or 11+10log(B) = | 27.36 | PASS |
| 62 | 5310 | MCS0 | 10.96 | 12.465 | 23.98 | or 11+10log(B) = | 27.40 | PASS |
| 102 | 5510 | MCS0 | 10.97 | 12.494 | 23.98 | or 11+10log(B) = | 27.58 | PASS |
| 110 | 5550 | MCS0 | 13.95 | 24.814 | 23.98 | or 11+10log(B) = | 27.99 | PASS |
| 134 | 5670 | MCS0 | 13.99 | 25.044 | 23.98 | or 11+10log(B) = | 27.45 | PASS |
| 142 | 5710(U-NII 2C) | MCS0 | 11.83 | 15.238 | 23.98 | or 11+10log(B) = | 26.63 | PASS |
| 142 | 5710 (U-NII 3) | MCS0 | 2.14 | 1.636 | | 23.98 | | PASS |
| 151 | 5755 | MCS0 | 13.98 | 24.986 | | 23.98 | | PASS |
| 159 | 5795 | MCS0 | 13.96 | 24.872 | | 30 | | PASS |

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802.11n HT40 MIMO

| CII | Frequency | Data | rg. POW | VER (dB | | TOTAL | | REQUIRED | | DECLU T |
|-----|----------------|------|---------|---------|----------------|---------------|-------|------------------|-------|---------|
| СН | (MHz) | Rate | CH 0 | CH 1 | POWER (dBm) | POWER (mW) | | LIMIT (dBm) | | RESULT |
| 38 | 5190 | MCS8 | 6.92 | 7.31 | 10.90 | 12.293 | | 23.98 | | PASS |
| 46 | 5230 | MCS8 | 10.9 | 11.4 | 14.90 | 30.868 | | 23.98 | | PASS |
| 54 | 5270 | MCS8 | 10.7 | 11.5 | 14.88 | 30.737 | 23.98 | or 11+10log(B) = | 27.17 | PASS |
| 62 | 5310 | MCS8 | 6.86 | 7.45 | 10.94 | 12.423 | 23.98 | or 11+10log(B) = | 27.40 | PASS |
| 102 | 5510 | MCS8 | 6.86 | 7.26 | 10.84 | 12.139 | 23.98 | or 11+10log(B) = | 27.55 | PASS |
| 110 | 5550 | MCS8 | 9.6 | 10.5 | 13.83 | 24.177 | 23.98 | or 11+10log(B) = | 27.38 | PASS |
| 134 | 5670 | MCS8 | 9.68 | 10.4 | 13.82 | 24.107 | 23.98 | or 11+10log(B) = | 27.45 | PASS |
| 142 | 5710(U-NII 2C) | MCS8 | 8.14 | 8.92 | 11.80 | 15.129 | 23.98 | or 11+10log(B) = | 26.58 | PASS |
| 142 | 5710 (U-NII 3) | MCS8 | 1.42 | 1.61 | 2.05 | 1.604 | | 30 | | PASS |
| 151 | 5755 | MCS8 | 9.63 | 10.5 | 13.88 | 24.407 | | 30 | | PASS |
| 159 | 5795 | MCS8 | 9.65 | 10.5 | 13.86 | 24.303 | | 30 | | PASS |

802.11ac VHT80 Ch0

| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 42 | 5210 | MCS0 | 10.92 | 12.347 | | 23.98 | | PASS |
| 58 | 5290 | MCS0 | 10.77 | 11.927 | 23.98 | or 11+10log(B) = | 30.42 | PASS |
| 106 | 5530 | MCS0 | 10.76 | 11.900 | 23.98 | or 11+10log(B) = | 30.20 | PASS |
| 122 | 5610 | MCS0 | 12.74 | 18.774 | 23.98 | or 11+10log(B) = | 31.00 | PASS |
| 138 | 5690(U-NII 2C) | MCS0 | 11.59 | 14.420 | 23.98 | or 11+10log(B) = | 29.89 | PASS |
| 138 | 5690 (U-NII 3) | MCS0 | 1.28 | 1.341 | | 30 | | PASS |
| 155 | 5775 | MCS0 | 12.75 | 18.817 | | 30 | | PASS |

802.11ac VHT80 Ch1

| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 42 | 5210 | MCS0 | 10.98 | 12.518 | | 23.98 | | PASS |
| 58 | 5290 | MCS0 | 10.94 | 12.404 | 23.98 | or 11+10log(B) = | 30.64 | PASS |
| 106 | 5530 | MCS0 | 10.95 | 12.432 | 23.98 | or 11+10log(B) = | 31.00 | PASS |
| 122 | 5610 | MCS0 | 12.95 | 19.704 | 23.98 | or 11+10log(B) = | 31.00 | PASS |
| 138 | 5690(U-NII 2C) | MCS0 | 11.87 | 15.381 | 23.98 | or 11+10log(B) = | 29.91 | PASS |
| 138 | 5690 (U-NII 3) | MCS0 | 1.11 | 1.290 | | 23.98 | | PASS |
| 155 | 5775 | MCS0 | 12.99 | 19.886 | | 23.98 | | PASS |

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802.11ac_VHT80_MIMO

| <u> </u> | Frequency | Data | Data 'g. POWER (dB | | | TOTAL | | REQUIRED | | 550111.5 |
|----------|----------------|------|--------------------|------|----------------|---------------|----------------|------------------|--------|----------|
| СН | (MHz) | Rate | CH 0 | CH 1 | POWER (dBm) | POWER (mW) | LIMIT (dBm) | | RESULT | |
| 42 | 5210 | MCS0 | 6.85 | 7.32 | 10.93 | 12.380 | | 23.98 | | PASS |
| 58 | 5290 | MCS0 | 6.75 | 7.28 | 10.86 | 12.187 | 23.98 | or 11+10log(B) = | 30.42 | PASS |
| 106 | 5530 | MCS0 | 6.7 | 7.32 | 10.86 | 12.181 | 23.98 | or 11+10log(B) = | 30.20 | PASS |
| 122 | 5610 | MCS0 | 8.55 | 9.29 | 12.77 | 18.930 | 23.98 | or 11+10log(B) = | 31.00 | PASS |
| 138 | 5690(U-NII 2C) | MCS0 | 8.07 | 8.22 | 11.54 | 14.258 | 23.98 | or 11+10log(B) = | 29.89 | PASS |
| 138 | 5690 (U-NII 3) | MCS0 | 0.89 | 0.77 | 1.27 | 1.340 | | 30 | | PASS |
| 155 | 5775 | MCS0 | 8.85 | 9.12 | 12.82 | 19.155 | | 30 | | PASS |

802.11ac_VHT160_Ch0

| | СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|---|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| | 50 | 5250 | MCS0 | 10.92 | 12.368 | 23.98 | or 11+10log(B) = | 33.13 | PASS |
| ſ | 114 | 5570 | MCS0 | 10.88 | 12.260 | 23.98 | or 11+10log(B) = | 33.06 | PASS |

802.11ac_VHT160_Ch1

| СН | Frequency (MHz) | Data Rate | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|--------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 50 | 5250 | MCS0 | 10.99 | 12.551 | 23.98 | or 11+10log(B) = | 33.07 | PASS |
| 114 | 5570 | MCS0 | 10.95 | 12.436 | 23.98 | or 11+10log(B) = | 33.14 | PASS |

802.11ac_VHT160_MIMO

| СН | Frequency | Data | Avg. POW | /ER (dBm) | TOTAL | TOTAL POWER | REQUIRED LIMIT | RESULT |
|-----|-----------|------|----------|-----------|-------|----------------|------------------------------|--------|
| СП | (MHz) | Rate | CH 0 | CH 1 | (dBm) | _ | (dBm) | KESULI |
| 50 | 5250 | MCS0 | 6.56 | 6.73 | 10.92 | 12.368 | 23.98 or 11+10log(B) = 11.00 | PASS |
| 114 | 5570 | MCS0 | 6.45 | 6.76 | 10.88 | 12.260 | 23.98 or 11+10log(B) = 33.07 | PASS |

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Conducted output power (IC)

802.11a Ch0

| 002.11a_ | _0110 | | | | | | |
|----------|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
| 52 | 5260 | 13.91 | 24.621 | 23.98 | or 11+10log(B) = | 23.29 | PASS |
| 60 | 5300 | 14.91 | 30.995 | 23.98 | or 11+10log(B) = | 23.29 | PASS |
| 64 | 5320 | 13.88 | 24.451 | 23.98 | or 11+10log(B) = | 23.28 | PASS |
| 100 | 5500 | 12.87 | 19.377 | 23.98 | or 11+10log(B) = | 23.25 | PASS |
| 116 | 5580 | 13.89 | 24.507 | 23.98 | or 11+10log(B) = | 23.27 | PASS |
| 140 | 5700 | 12.87 | 19.377 | 23.98 | or 11+10log(B) = | 23.26 | PASS |
| 149 | 5745 | 12.85 | 19.288 | | 30 | | PASS |
| 157 | 5785 | 13.92 | 24.677 | | 30 | | PASS |
| 165 | 5825 | 13.91 | 24.621 | | 30 | | PASS |

802.11a Ch1

| OUZ.TTA_ | | | | | | | |
|----------|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
| 52 | 5260 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 23.30 | PASS |
| 60 | 5300 | 14.98 | 31.499 | 23.98 | or 11+10log(B) = | 23.28 | PASS |
| 64 | 5320 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 23.26 | PASS |
| 100 | 5500 | 12.96 | 19.783 | 23.98 | or 11+10log(B) = | 23.28 | PASS |
| 116 | 5580 | 13.97 | 24.963 | 23.98 | or 11+10log(B) = | 23.29 | PASS |
| 140 | 5700 | 12.96 | 19.783 | 23.98 | or 11+10log(B) = | 23.29 | PASS |
| 149 | 5745 | 12.99 | 19.920 | | 30 | | PASS |
| 157 | 5785 | 14.00 | 25.136 | | 30 | | PASS |
| 165 | 5825 | 13.98 | 25.021 | | 30 | | PASS |

802.11a 2Tx

| 002.11a_21x | | | | | | | | | | | |
|-------------|--------------------|-------|-------------|--|--------|-------|---------------------|-------|------|--|--|
| СН | Frequency (MHz) | POV | RAGE NER | TOTAL TOTAL REQUIRED POWER POWER LIMIT | | | RESULT | | | | |
| | (141112) | CH 0 | CH 1 | (dBm) | (mW) | | (dBm) | | | | |
| 52 | 5260 | 9.67 | 10.65 | 13.91 | 24.609 | 23.98 | or 11+10log(B) = | 23.29 | PASS | | |
| 60 | 5300 | 10.77 | 11.39 | 14.81 | 30.299 | 23.98 | or 11+10log(B) = | 23.28 | PASS | | |
| 64 | 5320 | 9.62 | 10.68 | 13.91 | 24.578 | 23.98 | or $11+10\log(B) =$ | 23.26 | PASS | | |
| 100 | 5500 | 8.82 | 9.51 | 12.90 | 19.507 | 23.98 | or 11+10log(B) = | 23.25 | PASS | | |
| 116 | 5580 | 9.77 | 10.47 | 13.86 | 24.307 | 23.98 | or 11+10log(B) = | 23.27 | PASS | | |
| 140 | 5700 | 8.65 | 9.64 | 12.90 | 19.482 | 23.98 | or 11+10log(B) = | 23.26 | PASS | | |
| 149 | 5745 | 8.8 | 9.54 | 12.91 | 19.539 | | 30 | | PASS | | |
| 157 | 5785 | 9.71 | 10.49 | 13.84 | 24.215 | | 30 | | PASS | | |
| 165 | 5825 | 9.85 | 10.45 | 13.88 | 24.455 | | 30 | | PASS | | |

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802 11n HT20 Ch0

| <u>002.1111</u> | _H12U_CNU | | | | | | |
|-----------------|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
| 52 | 5260 | 13.91 | 24.613 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 60 | 5300 | 14.92 | 31.058 | 23.98 | or 11+10log(B) = | 23.55 | PASS |
| 64 | 5320 | 13.88 | 24.444 | 23.98 | or 11+10log(B) = | 23.56 | PASS |
| 100 | 5500 | 12.91 | 19.551 | 23.98 | or 11+10log(B) = | 23.55 | PASS |
| 116 | 5580 | 13.88 | 24.444 | 23.98 | or 11+10log(B) = | 23.54 | PASS |
| 140 | 5700 | 12.91 | 19.551 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 144 | 5720(U-NII 2C) | 9.72 | 9.374 | 23.98 | or 11+11log(B) = | 22.47 | PASS |
| 144 | 5720 (U-NII 3) | 4.22 | 2.644 | | 30 | | PASS |
| 149 | 5745 | 12.89 | 19.461 | | 30 | | PASS |
| 157 | 5785 | 13.91 | 24.613 | | 30 | | PASS |
| 165 | 5825 | 13.93 | 24.727 | | 30 | | PASS |

802.11n_HT20_Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 52 | 5260 | 13.96 | 24.898 | 23.98 | or 11+10log(B) = | 23.58 | PASS |
| 60 | 5300 | 14.98 | 31.490 | 23.98 | or 11+10log(B) = | 23.58 | PASS |
| 64 | 5320 | 13.98 | 25.013 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 100 | 5500 | 12.96 | 19.778 | 23.98 | or $11+10\log(B) =$ | 23.59 | PASS |
| 116 | 5580 | 13.95 | 24.841 | 23.98 | or 11+10log(B) = | 23.56 | PASS |
| 140 | 5700 | 12.98 | 19.869 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 144 | 5720(U-NII 2C) | 10.38 | 10.927 | 23.98 | or 11+10log(B) = | 22.47 | PASS |
| 144 | 5720 (U-NII 3) | 3.59 | 2.284 | | 30 | | PASS |
| 149 | 5745 | 12.96 | 19.778 | | 30 | | PASS |
| 157 | 5785 | 13.97 | 24.956 | | 30 | | PASS |
| 165 | 5825 | 13.96 | 24.898 | | 30 | | PASS |

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802.11n HT20 MIMO

| СН | Frequency | AVERAGE POWER | | TOTAL POWER | • | | | RESULT | |
|-----|----------------|------------------|-------|----------------|---|-------|------------------|--------|------|
| | (MHz) | CH 0 | CH 1 | (dBm) | (mW) | | (dBm) | | |
| 52 | 5260 | 9.82 | 10.51 | 13.93 | 24.721 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 60 | 5300 | 10.83 | 11.52 | 14.94 | 31.194 | 23.98 | or 11+10log(B) = | 23.55 | PASS |
| 64 | 5320 | 9.84 | 10.51 | 13.94 | 24.774 | 23.98 | or 11+10log(B) = | 23.56 | PASS |
| 100 | 5500 | 8.76 | 9.55 | 12.92 | 19.611 | 23.98 | or 11+10log(B) = | 23.55 | PASS |
| 116 | 5580 | 9.65 | 10.56 | 13.88 | 24.439 | 23.98 | or 11+10log(B) = | 23.54 | PASS |
| 140 | 5700 | 8.69 | 9.59 | 12.92 | 19.567 | 23.98 | or 11+10log(B) = | 23.57 | PASS |
| 144 | 5720(U-NII 2C) | 6.776 | 7.782 | 9.66 | 9.256 | 23.98 | or 11+10log(B) = | 22.47 | PASS |
| 144 | 5720 (U-NII 3) | 2.944 | 2.688 | 4.20 | 2.630 | | 30 | | PASS |
| 149 | 5745 | 8.78 | 9.53 | 12.92 | 19.603 | | 30 | | PASS |
| 157 | 5785 | 9.74 | 10.51 | 13.89 | 24.514 | | 30 | | PASS |
| 165 | 5825 | 9.71 | 10.59 | 13.92 | 24.685 | | 30 | | PASS |

802.11n_HT40_Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 54 | 5270 | 14.82 | 30.318 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 62 | 5310 | 10.91 | 12.323 | 23.98 | or 11+10log(B) = | 26.60 | PASS |
| 102 | 5510 | 10.59 | 11.447 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 110 | 5550 | 13.81 | 24.027 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 134 | 5670 | 13.84 | 24.194 | 23.98 | or 11+10log(B) = | 26.60 | PASS |
| 142 | 5710(U-NII 2C) | 11.71 | 14.828 | 23.98 | or 11+11log(B) = | 26.20 | PASS |
| 142 | 5710 (U-NII 3) | 2.04 | 1.598 | | 30 | | PASS |
| 151 | 5755 | 13.70 | 23.426 | | 30 | | PASS |
| 159 | 5795 | 13.72 | 23.534 | | 30 | | PASS |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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802.11n HT40 Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|------------------------|-------|----------------------------|-------|--------|
| 54 | 5270 | 14.95 | 31.240 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 62 | 5310 | 10.96 | 12.465 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 102 | 5510 | 10.97 | 12.494 | 23.98 | or 11+10log(B) = | 26.60 | PASS |
| 110 | 5550 | 13.95 | 24.814 | 23.98 | or 11+10log(B) = | 26.62 | PASS |
| 134 | 5670 | 13.99 | 25.044 | 23.98 | or 11+10log(B) = | 26.60 | PASS |
| 142 | 5710(U-NII 2C) | 11.83 | 15.238 | 23.98 | or 11+10log(B) = | 26.20 | PASS |
| 142 | 5710 (U-NII 3) | 2.14 | 1.636 | | 30 | | PASS |
| 151 | 5755 | 13.98 | 24.986 | | 30 | | PASS |
| 159 | 5795 | 13.96 | 24.872 | | 30 | | PASS |

802.11n HT40 MIMO

| СН | Frequency (MHz) | | RAGE VER CH 1 | TOTAL POWER (dBm) | TOTAL POWER (mW) | REQUIRED LIMIT (dBm) | | | RESULT |
|-----|--------------------|-------|---------------------|-------------------------|------------------------|----------------------------|---------------------|-------|---------|
| | 5070 | | | ` ' | • • | 22.22 | | | D.4.0.0 |
| 54 | 5270 | 10.67 | 11.49 | 14.88 | 30.737 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 62 | 5310 | 6.86 | 7.45 | 10.94 | 12.423 | 23.98 | or $11+10\log(B) =$ | 26.59 | PASS |
| 102 | 5510 | 6.86 | 7.26 | 10.84 | 12.139 | 23.98 | or $11+10\log(B) =$ | 26.59 | PASS |
| 110 | 5550 | 9.6 | 10.47 | 13.83 | 24.177 | 23.98 | or 11+10log(B) = | 26.59 | PASS |
| 134 | 5670 | 9.68 | 10.38 | 13.82 | 24.107 | 23.98 | or 11+10log(B) = | 26.60 | PASS |
| 142 | 5710(U-NII 2C) | 8.144 | 8.918 | 11.80 | 15.129 | 23.98 | or 11+10log(B) = | 26.20 | PASS |
| 142 | 5710 (U-NII 3) | 1.416 | 1.612 | 2.05 | 1.604 | | 30 | | PASS |
| 151 | 5755 | 9.63 | 10.52 | 13.88 | 24.407 | | 30 | | PASS |
| 159 | 5795 | 9.65 | 10.47 | 13.86 | 24.303 | | 30 | | PASS |

802.11ac VHT80 Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | |
|-----|--------------------|-------------------------|------------------------|-------|----------------------------|-------|------|
| 58 | 5290 | 10.77 | 11.927 | 23.98 | or 11+10log(B) = | 29.75 | PASS |
| 106 | 5530 | 10.76 | 11.900 | 23.98 | or 11+10log(B) = | 29.75 | PASS |
| 138 | 5690(U-NII 2C) | 11.59 | 14.420 | 23.98 | or 11+12log(B) = | 29.61 | PASS |
| 138 | 5690 (U-NII 3) | 1.28 | 1.341 | | 30 | | PASS |
| 155 | 5775 | 12.75 | 18.817 | | PASS | | |

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802 11ac VHT80 Ch1

| 002:11ac_v11100_0111 | | | | | | | | | | |
|----------------------|--------------------|-------------------------|------------------------|-------|----------------------------|-------|------|--|--|--|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | | | | |
| 58 | 5290 | 10.94 | 12.404 | 23.98 | or 11+10log(B) = | 29.77 | PASS | | | |
| 106 | 5530 | 10.95 | 12.432 | 23.98 | or 11+10log(B) = | 29.78 | PASS | | | |
| 138 | 5690(U-NII 2C) | 11.87 | 15.381 | 23.98 | or 11+10log(B) = | 29.59 | PASS | | | |
| 138 | 5690 (U-NII 3) | 1.11 | 1.290 | | 30 | | PASS | | | |
| 155 | 5775 | 12.99 | 19.886 | | 30 | | PASS | | | |

802.11ac VHT80 MIMO

| СН | Frequency | | RAGE VER | TOTAL POWER | TOTAL POWER | | REQUIRED LIMIT | | RESULT |
|-----|----------------|-------|-------------|----------------|----------------|-------|-------------------|-------|--------|
| | (MHz) | CH 0 | CH 1 | (dBm) | (mW) | | (dBm) | | |
| 58 | 5290 | 6.75 | 7.28 | 10.86 | 12.187 | 23.98 | or 11+10log(B) = | 29.75 | PASS |
| 106 | 5530 | 6.7 | 7.32 | 10.86 | 12.181 | 23.98 | or 11+10log(B) = | 29.75 | PASS |
| 138 | 5690(U-NII 2C) | 8.072 | 8.224 | 11.54 | 14.258 | 23.98 | or 11+10log(B) = | 29.59 | PASS |
| 138 | 5690 (U-NII 3) | 0.888 | 0.766 | 1.27 | 1.340 | | 30 | • | PASS |
| 155 | 5775 | 8.85 | 9.12 | 12.82 | 19.155 | | 30 | • | PASS |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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802.11ac_VHT160_Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | REQUIRED LIMIT (dBm) | | | RESULT |
|-----|--------------------|-------------------------|------------------------|----------------------------|------------------|-------|--------|
| 50 | 5250 | 10.92 | 12.368 | 23.98 | or 11+10log(B) = | 32.86 | PASS |
| 114 | 5570 | 10.88 | 12.260 | 23.98 | or 11+10log(B) = | 32.07 | PASS |

802.11ac_VHT160_Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | TOTAL POWER (mW) | | REQUIRED LIMIT (dBm) | | |
|-----|--------------------|-------------------------|------------------------|-------|----------------------------|-------|------|
| 50 | 5250 | 10.99 | 12.551 | 23.98 | or 11+10log(B) = | 32.77 | PASS |
| 114 | 5570 | 10.95 | 12.436 | 23.98 | or 11+10log(B) = | 32.85 | PASS |

802.11ac_VHT160_MIMO

| CH Frequency | | AVERAGE POWER (dBm) | | TOTAL TOTAL POWER | | | REQUIRED LIMIT | | | |
|--------------|-------|------------------------|------|-------------------|--------|--------|-------------------|-------|------|--|
| | (MHz) | 1H7\ | | (dBm) | (mW) | RESULT | | | | |
| 50 | 5250 | 6.56 | 6.73 | 10.92 | 12.368 | 23.98 | or 11+10log(B) = | 11.00 | PASS | |
| 114 | 5570 | 6.45 | 6.76 | 10.88 | 12.260 | 23.98 | or 11+10log(B) = | 11.00 | PASS | |

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Phis April 2019 may be prosecuted to the fullest extent of the law.



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EIRP

802.11a Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 36 | 5180 | 13.93 | 1.000 | 14.93 | 31.138 | 23.01 | or 10+10log(B)= | 22.27 | PASS |
| 44 | 5220 | 14.86 | 1.000 | 15.86 | 38.574 | 23.01 | or 10+10log(B)= | 22.29 | PASS |
| 48 | 5240 | 14.90 | 1.000 | 15.90 | 38.931 | 23.01 | or 10+10log(B)= | 22.28 | PASS |
| 52 | 5260 | 13.91 | 0.980 | 14.89 | 30.853 | 30 | or 17+10log(B)= | 29.29 | PASS |
| 60 | 5300 | 14.91 | 0.980 | 15.89 | 38.842 | 30 | or 17+10log(B)= | 29.29 | PASS |
| 64 | 5320 | 13.88 | 0.980 | 14.86 | 30.641 | 30 | or 17+10log(B)= | 29.28 | PASS |
| 100 | 5500 | 12.87 | 0.990 | 13.86 | 24.339 | 30 | or 17+10log(B)= | 29.25 | PASS |
| 116 | 5580 | 13.89 | 0.990 | 14.88 | 30.782 | 30 | or 17+10log(B)= | 29.27 | PASS |
| 140 | 5700 | 12.87 | 0.990 | 13.86 | 24.339 | 30 | or 17+10log(B)= | 29.26 | PASS |

802.11a Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 36 | 5180 | 13.98 | 0.990 | 14.97 | 31.427 | 23.01 | or 10+10log(B)= | 22.27 | PASS |
| 44 | 5220 | 14.99 | 0.990 | 15.98 | 39.655 | 23.01 | or 10+10log(B)= | 22.30 | PASS |
| 48 | 5240 | 14.95 | 0.990 | 15.94 | 39.291 | 23.01 | or 10+10log(B)= | 22.29 | PASS |
| 52 | 5260 | 13.97 | 0.980 | 14.95 | 31.282 | 30 | or 17+10log(B)= | 29.30 | PASS |
| 60 | 5300 | 14.98 | 0.980 | 15.96 | 39.473 | 30 | or 17+10log(B)= | 29.28 | PASS |
| 64 | 5320 | 13.97 | 0.980 | 14.95 | 31.282 | 30 | or 17+10log(B)= | 29.26 | PASS |
| 100 | 5500 | 12.96 | 1.000 | 13.96 | 24.906 | 30 | or 17+10log(B)= | 29.28 | PASS |
| 116 | 5580 | 13.97 | 1.000 | 14.97 | 31.427 | 30 | or 17+10log(B)= | 29.29 | PASS |
| 140 | 5700 | 12.96 | 1.000 | 13.96 | 24.906 | 30 | or 17+10log(B)= | 29.29 | PASS |

802 11a 2Tv

| 602.11a_ | | | | | | | | | |
|----------|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
| 36 | 5180 | 13.86 | 4.005 | 17.86 | 61.103 | 23.01 | or 10+10log(B)= | 22.27 | PASS |
| 44 | 5220 | 14.86 | 4.005 | 18.87 | 77.089 | 23.01 | or 10+10log(B)= | 22.29 | PASS |
| 48 | 5240 | 14.82 | 4.005 | 18.83 | 76.299 | 23.01 | or 10+10log(B)= | 22.28 | PASS |
| 52 | 5260 | 13.91 | 3.990 | 17.90 | 61.676 | 30 | or 17+10log(B)= | 29.29 | PASS |
| 60 | 5300 | 14.81 | 3.990 | 18.80 | 75.939 | 30 | or 17+10log(B)= | 29.28 | PASS |
| 64 | 5320 | 13.91 | 3.990 | 17.90 | 61.600 | 30 | or 17+10log(B)= | 29.26 | PASS |
| 100 | 5500 | 12.90 | 4.005 | 16.91 | 49.060 | 30 | or 17+10log(B)= | 29.25 | PASS |
| 116 | 5580 | 13.86 | 4.005 | 17.86 | 61.132 | 30 | or 17+10log(B)= | 29.27 | PASS |
| 140 | 5700 | 12.90 | 4.005 | 16.90 | 48.997 | 30 | or 17+10log(B)= | 29.26 | PASS |

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802.11n_HT20_Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 36 | 5180 | 13.92 | 1.000 | 14.92 | 31.058 | 23.01 | or 10+10log(B)= | 22.56 | PASS |
| 44 | 5220 | 14.88 | 1.000 | 15.88 | 38.741 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 48 | 5240 | 14.94 | 1.000 | 15.94 | 39.280 | 23.01 | or 10+10log(B)= | 22.57 | PASS |
| 52 | 5260 | 13.91 | 0.980 | 14.89 | 30.844 | 30 | or 17+10log(B)= | 29.57 | PASS |
| 60 | 5300 | 14.92 | 0.980 | 15.90 | 38.920 | 30 | or 17+10log(B)= | 29.55 | PASS |
| 64 | 5320 | 13.88 | 0.980 | 14.86 | 30.632 | 30 | or 17+10log(B)= | 29.56 | PASS |
| 100 | 5500 | 12.91 | 0.990 | 13.90 | 24.557 | 30 | or 17+10log(B)= | 29.55 | PASS |
| 116 | 5580 | 13.88 | 0.990 | 14.87 | 30.702 | 30 | or 17+10log(B)= | 29.54 | PASS |
| 140 | 5700 | 12.91 | 0.990 | 13.90 | 24.557 | 30 | or 17+10log(B)= | 29.57 | PASS |

802.11n HT20 Ch1

| <u> </u> | _11120_0111 | | | | | | | | |
|----------|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
| 36 | 5180 | 13.96 | 0.990 | 14.95 | 31.273 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 44 | 5220 | 14.98 | 0.990 | 15.97 | 39.552 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 48 | 5240 | 14.97 | 0.990 | 15.96 | 39.461 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 52 | 5260 | 13.96 | 0.980 | 14.94 | 31.201 | 30 | or 17+10log(B)= | 29.58 | PASS |
| 60 | 5300 | 14.98 | 0.980 | 15.96 | 39.461 | 30 | or 17+10log(B)= | 29.58 | PASS |
| 64 | 5320 | 13.98 | 0.980 | 14.96 | 31.345 | 30 | or 17+10log(B)= | 29.57 | PASS |
| 100 | 5500 | 12.96 | 1.000 | 13.96 | 24.898 | 30 | or 17+10log(B)= | 29.59 | PASS |
| 116 | 5580 | 13.95 | 1.000 | 14.95 | 31.273 | 30 | or 17+10log(B)= | 29.56 | PASS |
| 140 | 5700 | 12.98 | 1.000 | 13.98 | 25.013 | 30 | or 17+10log(B)= | 29.57 | PASS |

802.11n HT20 MIMO

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 36 | 5180 | 13.92 | 4.005 | 17.92 | 61.988 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 44 | 5220 | 14.92 | 4.005 | 18.93 | 78.149 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 48 | 5240 | 14.92 | 4.005 | 18.93 | 78.075 | 23.01 | or 10+10log(B)= | 22.55 | PASS |
| 52 | 5260 | 13.93 | 3.990 | 17.92 | 61.959 | 30 | or 17+10log(B)= | 29.57 | PASS |
| 60 | 5300 | 14.94 | 3.990 | 18.93 | 78.181 | 30 | or 17+10log(B)= | 29.55 | PASS |
| 64 | 5320 | 13.94 | 3.990 | 17.93 | 62.090 | 30 | or 17+10log(B)= | 29.56 | PASS |
| 100 | 5500 | 12.92 | 4.005 | 16.93 | 49.320 | 30 | or 17+10log(B)= | 29.55 | PASS |
| 116 | 5580 | 13.88 | 4.005 | 17.89 | 61.463 | 30 | or 17+10log(B)= | 29.54 | PASS |
| 140 | 5700 | 12.92 | 4.005 | 16.92 | 49.211 | 30 | or 17+10log(B)= | 29.57 | PASS |

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802.11n_HT40_Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 38 | 5190 | 10.92 | 1.000 | 11.92 | 15.549 | 23.01 | or 10+10log(B)= | 25.60 | PASS |
| 46 | 5230 | 14.78 | 1.000 | 15.78 | 37.818 | 23.01 | or 10+10log(B)= | 25.60 | PASS |
| 54 | 5270 | 14.82 | 0.980 | 15.80 | 37.993 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 62 | 5310 | 10.91 | 0.980 | 11.89 | 15.442 | 30 | or 17+10log(B)= | 32.60 | PASS |
| 102 | 5510 | 10.59 | 0.990 | 11.58 | 14.378 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 110 | 5550 | 13.81 | 0.990 | 14.80 | 30.179 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 134 | 5670 | 13.84 | 0.990 | 14.83 | 30.388 | 30 | or 17+10log(B)= | 32.60 | PASS |

802 11n HT40 Ch1

| CH | Frequency (MHz) | TOTAL POWER | Antenna Gain | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT | | RESULT |
|-----|--------------------|----------------|-----------------|---------------|--------------|-------|--------------------------|-------|--------|
| 38 | 5190 | (dBm) 10.97 | (dBi) 0.990 | 11.96 | 15.693 | 23.01 | (dBm) or 10+10log(B)= | 25.60 | PASS |
| 46 | 5230 | 14.96 | 0.990 | 15.95 | 39.328 | 23.01 | or 10+10log(B)= | 25.60 | PASS |
| 54 | 5270 | 14.95 | 0.980 | 15.93 | 39.148 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 62 | 5310 | 10.96 | 0.980 | 11.94 | 15.621 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 102 | 5510 | 10.97 | 1.000 | 11.97 | 15.729 | 30 | or 17+10log(B)= | 32.60 | PASS |
| 110 | 5550 | 13.95 | 1.000 | 14.95 | 31.240 | 30 | or 17+10log(B)= | 32.62 | PASS |
| 134 | 5670 | 13.99 | 1.000 | 14.99 | 31.529 | 30 | or 17+10log(B)= | 32.60 | PASS |

802.11n HT40 MIMO

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 38 | 5190 | 10.90 | 4.005 | 14.90 | 30.917 | 23.01 | or 10+10log(B)= | 25.60 | PASS |
| 46 | 5230 | 14.90 | 4.005 | 18.90 | 77.632 | 23.01 | or 10+10log(B)= | 25.60 | PASS |
| 54 | 5270 | 14.88 | 3.990 | 18.87 | 77.037 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 62 | 5310 | 10.94 | 3.990 | 14.93 | 31.136 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 102 | 5510 | 10.84 | 4.005 | 14.85 | 30.530 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 110 | 5550 | 13.83 | 4.005 | 17.84 | 60.805 | 30 | or 17+10log(B)= | 32.59 | PASS |
| 134 | 5670 | 13.82 | 4.005 | 17.83 | 60.628 | 30 | or 17+10log(B)= | 32.60 | PASS |

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802.11ac_VHT80_Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 42 | 5210 | 10.92 | 1.000 | 11.92 | 15.543 | 23.01 | or 10+10log(B)= | 28.75 | PASS |
| 58 | 5290 | 10.77 | 0.980 | 11.75 | 14.947 | 30 | or 17+10log(B)= | 35.75 | PASS |
| 106 | 5530 | 10.76 | 0.990 | 11.75 | 14.947 | 30 | or 17+10log(B)= | 35.75 | PASS |

802.11ac VHT80 Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 42 | 5210 | 10.98 | 0.990 | 11.97 | 15.723 | 23.01 | or 10+10log(B)= | 28.72 | PASS |
| 58 | 5290 | 10.94 | 0.980 | 11.92 | 15.543 | 30 | or 17+10log(B)= | 35.77 | PASS |
| 106 | 5530 | 10.95 | 1.000 | 11.95 | 15.651 | 30 | or 17+10log(B)= | 35.78 | PASS |

802.11ac_VHT80_MIMO

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|-------|----------------------------|-------|--------|
| 42 | 5210 | 10.93 | 4.005 | 14.93 | 31.135 | 23.01 | or 10+10log(B)= | 28.72 | PASS |
| 58 | 5290 | 10.86 | 3.990 | 14.85 | 30.543 | 30 | or 17+10log(B)= | 35.75 | PASS |
| 106 | 5530 | 10.86 | 4.005 | 14.86 | 30.635 | 30 | or 17+10log(B)= | 35.75 | PASS |

802.11ac VHT160 Ch0

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|----|----------------------------|-------|--------|
| 50 | 5250 | 10.92 | 0.980 | 11.90 | 15.499 | 30 | or 17+10log(B)= | 38.86 | PASS |
| 114 | 5570 | 10.88 | 0.990 | 11.87 | 15.399 | 30 | or 17+10log(B)= | 38.07 | PASS |

802.11ac_VHT160_Ch1

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|----|----------------------------|-------|--------|
| 50 | 5250 | 10.99 | 0.980 | 11.97 | 15.728 | 30 | or 17+10log(B)= | 38.77 | PASS |
| 114 | 5570 | 10.95 | 1.000 | 11.95 | 15.656 | 30 | or 17+10log(B)= | 38.85 | PASS |

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802.11ac_VHT160_MIMO

| СН | Frequency (MHz) | TOTAL POWER (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP (mW) | | REQUIRED LIMIT (dBm) | | RESULT |
|-----|--------------------|-------------------------|--------------------------|---------------|--------------|----|----------------------------|-------|--------|
| 50 | 5250 | 10.92 | 3.990 | 14.91 | 30.997 | 30 | or 17+10log(B)= | 38.77 | PASS |
| 114 | 5570 | 10.88 | 4.005 | 14.89 | 30.833 | 30 | or 17+10log(B)= | 38.07 | PASS |

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10 MAXIMUM POWER SPECTRAL DENSITY

Standard Applicable 10.1

FCC

| OPERZTION Band | EUT CATEGORY | LIMIT |
|-------------------|---------------------------------------|-------------------|
| | Access Point (Master device) | 17dBm/ MHz |
| U-NII-1 | Fixed point-to-point Access Ponit | 17 dBilly lvii iz |
| | Mobile and portable client device | 11dBm/ MHz |
| U-NII-2A | | 11dBm/ MHz |
| U-NII-2C | | 11dBm/ MHz |
| U-NII-3 | | 30dBm/ 500kHz |

If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

ISED

| OPERZTION FREQUENCY BAND | LIMIT |
|---------------------------------|------------------------------------|
| 5150~5250 MHz | EIRP spectral density 10 dBm / MHz |
| 5250~5350 MHz | 11dBm / MHz |
| 5470-5600 MHz and 5650-5725 MHz | 11dBm / MHz |
| 5725~5850 MHz | 30dBm / 500 kHz |

For equipment operating in the band 5725-5850 MHz, If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note:

As per FCC KDB 662911 D01

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi.

- (i) If transmit signals are correlated, then Directional gain
- = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N_{ANT}] dBi$

[Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

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| | Effective Legacy Gain (dBi) | PSD Limit | | |
|----------|--------------------------------|---------------|-------------|--|
| UNII-1 | 1.00 | 11.00 | dBm/MHz | |
| UNII-2A | 0.98 | 11.00 | dBm/MHz | |
| U-NII-2C | 1.00 | 11.00 dBm/MHz | | |
| U-NII-3 | 0.99 | 30.00 | dBm/500 kHz | |

10.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 4. For U-NII1, U-NII-2A, U-NII-2C Band:

Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

For U-NII-3 Band:

Set RBW=500 kHz, VBW≥ 3RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

- 5. User the cursor on spectrum to peak search the highest level of trace
- 6. Record the max. reading and add 10 log(1/duty cycle).
- 7. Repeat above procedures until all default test channel (low, middle, and high) was complete.

Note: For the test of PSD at MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported on this report after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome

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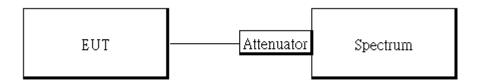


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Measurement Equipment Used 10.3

| SGS Conducted Room | | | | | | | | |
|--------------------|------------|------------|------------------|--------------|------------|--|--|--|
| EQUIPMENT TYPE | | | SERIAL NUMBER | LAST CAL. | CAL DUE. | | | |
| Spectrum Analyzer | Agilent | N9010A | MY53400256 | 2018/11/21 | 2019/11/20 | | | |
| DC Power Supply | Agilent | E3640A | KR93300208 | 2018/08/15 | 2019/08/14 | | | |
| DC Block | PASTERNACK | PE8210 | RF29 | 2019/02/26 | 2020/02/25 | | | |
| Attenuator | Marvelous | MVE2213-10 | RF80 | 2019/02/26 | 2020/02/25 | | | |

Test Set-up 10.4



Measurement Result 10.5

| | POWER DENSITY 802.11a MODE | | | | | | | |
|--------------------|---------------------------------|----------------|----------------------------------|----------------|----------------|--|--|--|
| Frequency (MHz) | PSD W/O Duty Factor (dBm) | Duty Factor | PSD With Duty Factor (dBm) | Limit (dBm) | Margin (dB) | | | |
| 5180 | -6.45 | 0.71 | -5.74 | 11 | -16.74 | | | |
| 5220 | -3.85 | 0.71 | -3.14 | 11 | -14.14 | | | |
| 5240 | -4.66 | 0.71 | -3.95 | 11 | -14.95 | | | |
| 5260 | -6.83 | 0.71 | -6.12 | 11 | -17.12 | | | |
| 5300 | -7.86 | 0.71 | -7.15 | 11 | -18.15 | | | |
| 5320 | -6.74 | 0.71 | -6.03 | 11 | -17.03 | | | |
| 5500 | -8.80 | 0.71 | -8.09 | 11 | -19.09 | | | |
| 5580 | -6.91 | 0.71 | -6.20 | 11 | -17.20 | | | |
| 5700 | -8.51 | 0.71 | -7.80 | 11 | -18.80 | | | |
| 5745 | 5.31 | - | 5.31 | 30 | -24.69 | | | |
| 5785 | 4.52 | - | 4.52 | 30 | -25.48 | | | |
| 5825 | 4.55 | - | 4.55 | 30 | -25.45 | | | |

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| | POWER DENSITY 802.11n HT20 MODE | | | | | | | |
|--------------------|---------------------------------|----------------|----------------------------------|----------------|----------------|--|--|--|
| Frequency (MHz) | PSD W/O Duty Factor (dBm) | Duty Factor | PSD With Duty Factor (dBm) | Limit (dBm) | Margin (dB) | | | |
| 5180 | -7.45 | 0.74 | -6.71 | 11 | -17.71 | | | |
| 5220 | -5.35 | 0.74 | -4.61 | 11 | -15.61 | | | |
| 5240 | -4.43 | 0.74 | -3.69 | 11 | -14.69 | | | |
| 5260 | -6.70 | 0.74 | -5.96 | 11 | -16.96 | | | |
| 5300 | -6.26 | 0.74 | -5.52 | 11 | -16.52 | | | |
| 5320 | -8.85 | 0.74 | -8.11 | 11 | -19.11 | | | |
| 5500 | -6.62 | 0.74 | -5.88 | 11 | -16.88 | | | |
| 5580 | -7.67 | 0.74 | -6.93 | 11 | -17.93 | | | |
| 5700 | -2.89 | 0.74 | -2.15 | 11 | -13.15 | | | |
| 5720 (U-NII 2C) | -13.82 | 0.74 | -13.08 | 11 | -24.08 | | | |
| 5720 (U-NII 3) | -16.20 | 0.74 | -15.46 | 30 | -45.46 | | | |
| 5745 | 2.19 | - | 2.19 | 30 | -27.81 | | | |
| 5785 | 4.23 | - | 4.23 | 30 | -25.77 | | | |
| 5825 | 4.38 | - | 4.38 | 30 | -25.62 | | | |

| | POWER DENSITY 802.11n HT40 MODE | | | | | | | | |
|--------------------|---------------------------------|----------------|----------------------------------|----------------|----------------|--|--|--|--|
| Frequency (MHz) | PSD W/O Duty Factor (dBm) | Duty Factor | PSD With Duty Factor (dBm) | Limit (dBm) | Margin (dB) | | | | |
| 5190 | -13 | 0.77 | -12.23 | 11 | -23.23 | | | | |
| 5230 | -8.72 | 0.77 | -7.95 | 11 | -18.95 | | | | |
| 5270 | -6.56 | 0.77 | -5.79 | 11 | -16.79 | | | | |
| 5310 | -12.15 | 0.77 | -11.38 | 11 | -22.38 | | | | |
| 5510 | -11.16 | 0.77 | -10.39 | 11 | -21.39 | | | | |
| 5550 | -8.53 | 0.77 | -7.76 | 11 | -18.76 | | | | |
| 5670 | -8.35 | 0.77 | -7.58 | 11 | -18.58 | | | | |
| 5710 (U-NII 2C) | -10.82 | 0.77 | -10.05 | 11 | -21.05 | | | | |
| 5710 (U-NII 3) | -11.76 | 0.77 | -10.99 | 30 | -40.99 | | | | |
| 5755 | 1.41 | - | 1.41 | 30 | -28.59 | | | | |
| 5795 | 1.11 | - | 1.11 | 30 | -28.89 | | | | |

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| | POWER DENSITY 802.11ac VHT80 MODE | | | | | | | |
|--------------------|-----------------------------------|----------------|----------------------------------|----------------|----------------|--|--|--|
| Frequency (MHz) | PSD W/O Duty Factor (dBm) | Duty Factor | PSD With Duty Factor (dBm) | Limit (dBm) | Margin (dB) | | | |
| 5210 | -10.50 | 0.83 | -9.67 | 11 | -20.67 | | | |
| 5290 | -12.22 | 0.83 | -11.39 | 11 | -22.39 | | | |
| 5530 | -11.13 | 0.83 | -10.30 | 11 | -21.30 | | | |
| 5610 | -6.51 | 0.83 | -5.68 | 11 | -16.68 | | | |
| 5690 (U-NII 2C) | -114.00 | 0.83 | -113.17 | 11 | -124.17 | | | |
| 5690 (U-NII 3) | -15.43 | 0.83 | -14.60 | 30 | -44.60 | | | |
| 5775 | -0.06 | - | -0.06 | 30 | -30.06 | | | |

| POWER DENSITY 802.11ac VHT160 MODE | | | | | | | |
|------------------------------------|------------------------------|------------------------------|--|--|----------------|--|--|
| Frequency (MHz) | | | | | Margin (dB) | | |
| 5250 | -15.14 1.27 -13.87 11 -24.87 | | | | | | |
| 5570 | -16.80 | -16.80 1.27 -15.53 11 -26.53 | | | | | |

| | EIRP spectral density 802.11a MODE | | | | EIR | P spectra | al densi | ty 802.11 | n HT20 N | IODE | |
|----------------|------------------------------------|-----------------------|---------------------|----------------|----------------|----------------|--------------|-----------------------|---------------------|----------------|----------------|
| Freq. (MHz) | PSD (dBm) | Ant. Gain (dBi) | EIRP SD (dBm) | Limit (dBm) | Margin (dB) | Freq. (MHz) | PSD (dBm) | Ant. Gain (dBi) | EIRP SD (dBm) | Limit (dBm) | Margin (dB) |
| 5180 | -5.74 | 1.00 | -4.74 | 10 | -14.74 | 5180 | -6.71 | 1.00 | -5.71 | 10 | -15.71 |
| 5220 | -3.14 | 1.00 | -2.14 | 10 | -12.14 | 5220 | -4.61 | 1.00 | -3.61 | 10 | -13.61 |
| 5240 | -3.95 | 1.00 | -2.95 | 10 | -12.95 | 5240 | -3.69 | 1.00 | -2.69 | 10 | -12.69 |

| EIR | EIRP spectral density 802.11n HT40 MODE | | | | | | | | | | |
|----------------|---|-----------------------|-------------|----------------|----------------|----------------|--------------|-----------------------|---------------------|----------------|----------------|
| | | _ | | | | EIRP | spectral | density | 802.11a | c VHT80 | MODE |
| Freq. (MHz) | PSD (dBm) | Ant. Gain (dBi) | SD (dBm) | Limit (dBm) | Margin (dB) | Freq. (MHz) | PSD (dBm) | Ant. Gain (dBi) | EIRP SD (dBm) | Limit (dBm) | Margin (dB) |
| 5180 | -12.23 | 1.00 | -11.23 | 10 | -21.23 | | | () | , | | |
| 5220 | -7.95 | 1.00 | -6.95 | 10 | -16.95 | 5210 | -9.67 | 1.00 | -8.67 | 10 | -18.67 |

| EIR | EIRP spectral density 802.11ac VHT80 MODE | | | | | | |
|----------------|---|-----------------------|----------------|----------------|--------|--|--|
| Freq. (MHz) | PSD (dBm) | Ant. Gain (dBi) | Limit (dBm) | Margin (dB) | | | |
| 5250 | -13.87 | 1.00 | -12.87 | 10 | -22.87 | | |

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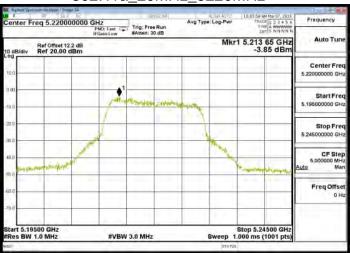


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802.11a_20MHz_5180MHz



802.11a_20MHz_5220MHz



802.11a_20MHz_5240MHz



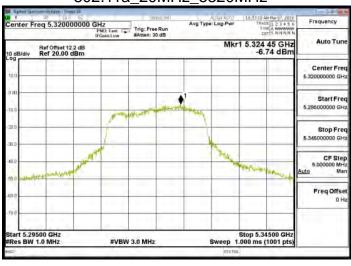
802.11a_20MHz_5260MHz



802.11a_20MHz_5300MHz



802.11a_20MHz_5320MHz



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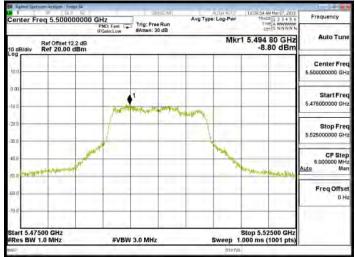
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802.11a_20MHz_5500MHz



802.11a 20MHz 5580MHz



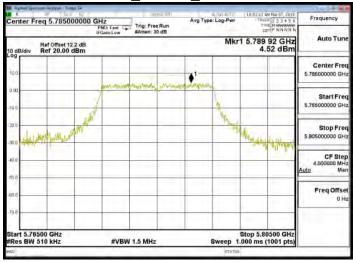
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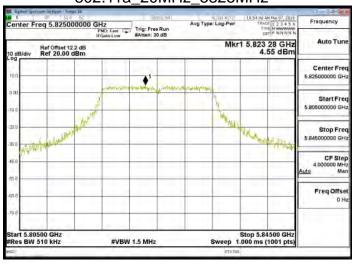
802.11a_20MHz_5745MHz



802.11a 20MHz 5785MHz



802.11a_20MHz_5825MHz



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802.11n_20MHz_5180MHz



802.11n 20MHz 5220MHz



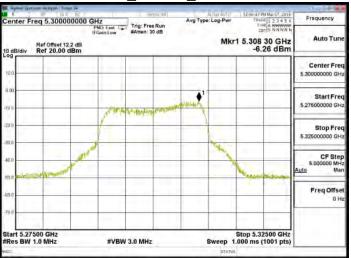
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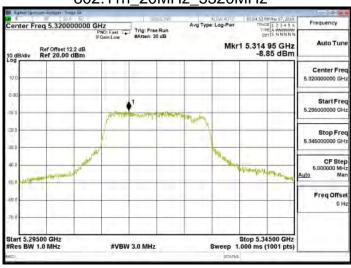
802.11n_20MHz_5260MHz



802.11n 20MHz 5300MHz



802.11n_20MHz_5320MHz



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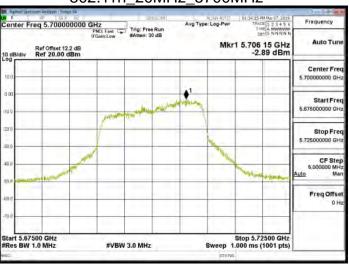
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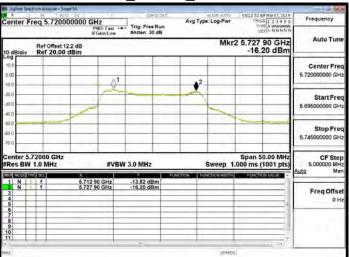
802.11n 20MHz 5580MHz



802.11n_20MHz_5700MHz



802.11n_20MHz_5720MHz



802.11n 20MHz 5745MHz



802.11n_20MHz_5785MHz



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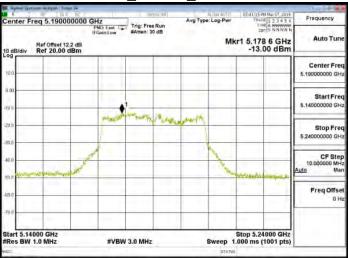


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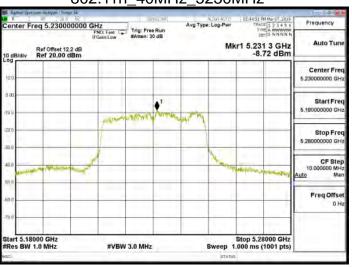
802.11n_20MHz_5825MHz



802.11n 40MHz 5190MHz



802.11n_40MHz_5230MHz



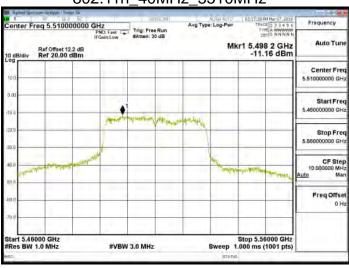
802.11n_40MHz_5270MHz



802.11n 40MHz 5310MHz



802.11n_40MHz_5510MHz



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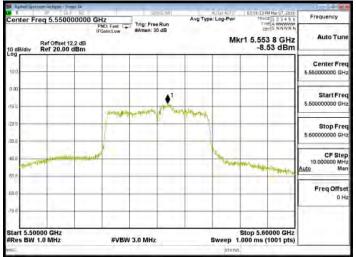
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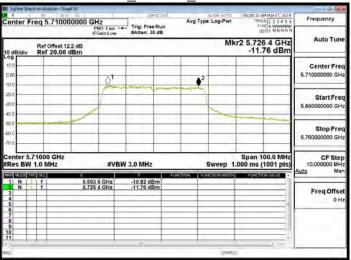
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802.11n 40MHz 5670MHz



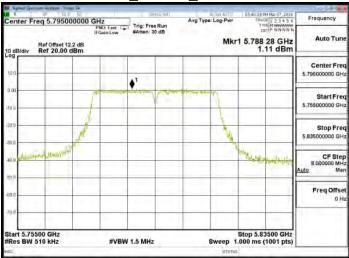
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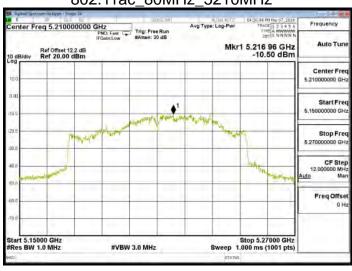
802.11n_40MHz_5755MHz



802.11n 40MHz 5795MHz



802.11ac_80MHz_5210MHz



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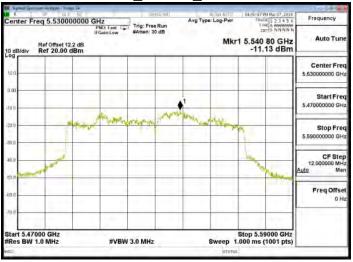


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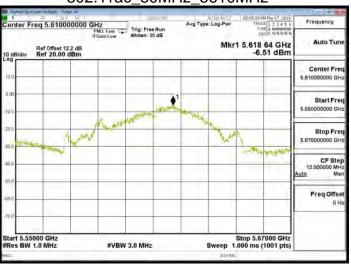
802.11ac_80MHz_5290MHz



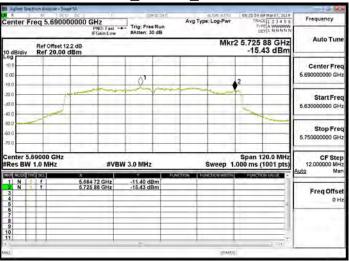
802.11ac 80MHz 5530MHz



802.11ac_80MHz_5610MHz



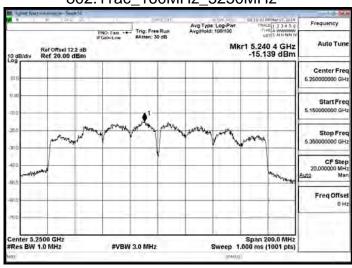
802.11ac_80MHz_5690MHz



802.11ac_80MHz 5775MHz



802.11ac_160MHz_5250MHz



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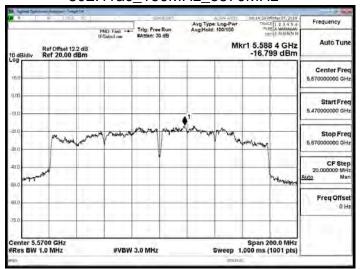
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802.11ac_160MHz_5570MHz



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11 UNDESIRABLE RADIATED EMISSION MEASUREMENT

11.1 Standard Applicable

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- 1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- 2. For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

| APPLICABLE TO | LI | MIT |
|---|---|---|
| FCC KDB 789033 D02 General UNII Test Procedures New Rules | FIELD STRE | ENGTH AT 3m |
| | PK: 74 (dBμV/m) | AV 54 (dBµV/m) |
| APPLICABLE TO | EIRP LIMIT | FIELD STRENGTH AT 3m |
| 15.407(b)(1) RSS-247 6.2.1.2 15.407(b)(2) RSS-247 6.2.2.2 15.407(b)(3) RSS-247 6.2.3.2 | PK: -27 (dBm/MHz) | PK: 68.3 (dBμV/m) |
| 15.407(b)(4)(i) RSS-247 6.2.4.2 | PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4 | PK: 68.2(dBµV/m) *1 PK:105.2 (dBµV/m) *2 PK: 110.8(dBµV/m) *3 PK:122.2 (dBµV/m) *4 |

^{*1} beyond 75 MHz or more above of the bandedge.

EIRP = $((E*d)^2) / 30$, where E is the field in V/m, d is the measurement distance (3m), EIRP is the equivalent isotropically radiated power in Watts.

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^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



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Unwanted spurious emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

| Frequency (MHz) | Field strength (microvolts/meter) | Distance (meters) |
|--------------------|-----------------------------------|----------------------|
| 0.009-0.490 | 2400/F(KHz) | 300 |
| 0.490-1.705 | 24000/F(KHz) | 30 |
| 1.705-30 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

Note:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level $(dB\mu V/m) = 20 \log Emission level (dB\mu V/m)$



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11.2 **Measurement Equipment Used**

| SGS SAC-III | | | | | | | | |
|-------------------------------------|-------------------|---------------------|------------------|--------------|------------|--|--|--|
| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. | | | |
| Bilog Antenna | Sunol Sciences | JB3 | A030105 | 2018/07/13 | 2019/07/12 | | | |
| Cable | HUBER SU- HNER | SUCOFLEX 104PEA | 25157 | 2019/02/26 | 2020/02/25 | | | |
| Cable | HUBER SU- HNER | SUCOFLEX 104PEA | 20995 | 2019/02/26 | 2020/02/25 | | | |
| Digital Ther- mo-Hygro Meter | WISEWIND | 1206 | D07 | 2019/01/30 | 2020/01/29 | | | |
| double Ridged Guide Horn Antenna | ETC | MCTD 1209 | DRH13M02003 | 2018/08/20 | 2019/08/19 | | | |
| High Pass Filter | WI | WHKX7.0/18G-8SS | 45 | 2019/02/26 | 2020/02/25 | | | |
| Horn Antenna | ETS LINDGREN | 3116 | 00026370 | 2018/12/26 | 2019/12/25 | | | |
| Loop Antenna | ETS.LINDGREN | 6502 | 148045 | 2018/10/08 | 2019/10/07 | | | |
| Pre-Amplifier | EMEC | EM330 | 060609 | 2019/02/26 | 2020/02/25 | | | |
| Pre-Amplifier | MITEQ | AMF-6F-260400-40-8P | 985646 | 2019/02/26 | 2020/02/25 | | | |
| Pre-Amplifier | HP | 8449B | 3008A00965 | 2019/02/26 | 2020/02/25 | | | |
| PSA Series Spec- trum Analyzer | Agilent | E4446A | MY46180323 | 2018/05/31 | 2019/05/30 | | | |
| Antenna Tower | CCS | CC-A-1F | N/A | N.C.R | N.C.R | | | |
| Controller | CCS | CC-C-1F | N/A | N.C.R | N.C.R | | | |
| Turn Table | CCS | CC-T-1F | N/A | N.C.R | N.C.R | | | |
| Software | e3 V6.11-20180413 | | | | | | | |

NOTE: N.C.R refers to Not Calibrated Required.

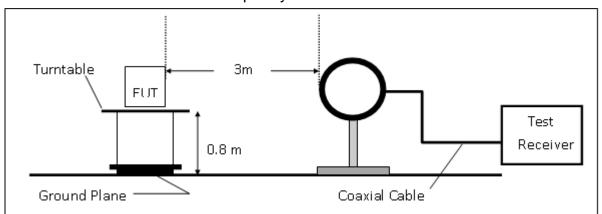
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



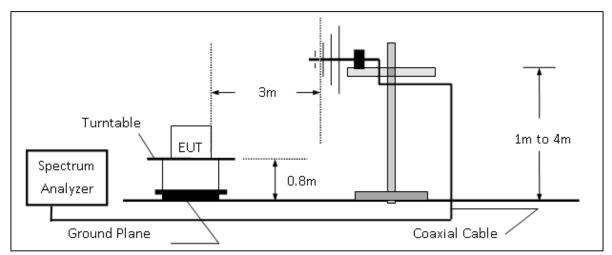
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11.3 Test SET-UP

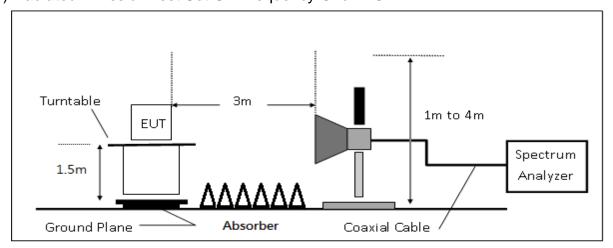
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



(B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz



(C) Radiated Emission Test Set-UP Frequency Over 1 GHz



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11.4 **Measurement Procedure**

- The EUT was placed on a turn table which is 0.8m above ground plane. 1.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 3. 1GHz above ground plane.
- The turn table shall rotate 360 degrees to determine the position of maximum emission level. 4.
- 5. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 6. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T 8. (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 11. Repeat above procedures until all frequency measured were complete.

11.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

| Where | FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
|-------|------------------------|--|
| | RA = Reading Amplitude | AG = Amplifier Gain |
| | AF = Antenna Factor | |

Actual FS(dB μ V/m) = SPA. Reading level(dB μ V) + Factor(dB)

Factor(dB) = Antenna Factor(dBµV/m) + Cable Loss(dB) - Pre Amplifier Gain(dB)

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11.6 Test Results of Radiated Spurious Emissions form 9 KHz to 30 MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit per 15.31(o) & RSS-GEN §6.13.2 was not reported.

Pre-scanned was done at frequency 5.47 GHz and 5.85 GHz for bandedge measurement of straddle channels 138, 142 and 144 which was 20dB lower than the limit per 15.31(o) & RSS-GEN §6.13.2 was not reported.

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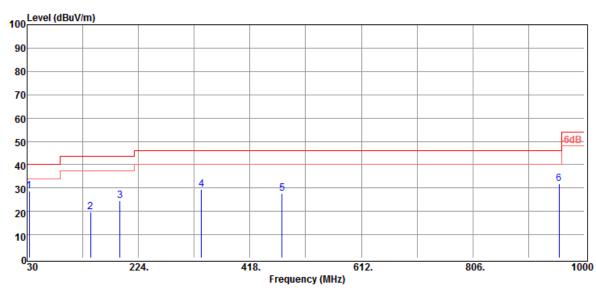
11.7 **Measurement Result**

Radiated Spurious Emission Measurement Result

Below 1GHz Worst-Case Data:

802.11a 5150~5250 MHz

Operation Mode :802.11a / Band 1 **Test Date** :2019-03-13 Test Mode :TX CH MID Temp./Humi. :22/57 **EUT Pol** :H Plan Antenna Pol. :VERTICAL **Test Channel** Engineer :5220 MHz :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 33.88 | Peak | 32.80 | -4.13 | 28.67 | 40.00 | -11.33 |
| 140.58 | Peak | 29.04 | -9.18 | 19.86 | 43.50 | -23.64 |
| 191.99 | Peak | 34.48 | -9.93 | 24.55 | 43.50 | -18.95 |
| 333.61 | Peak | 35.75 | -6.43 | 29.32 | 46.00 | -16.68 |
| 474.26 | Peak | 29.97 | -2.19 | 27.78 | 46.00 | -18.22 |
| 956.35 | Peak | 25.96 | 5.80 | 31.76 | 46.00 | -14.24 |

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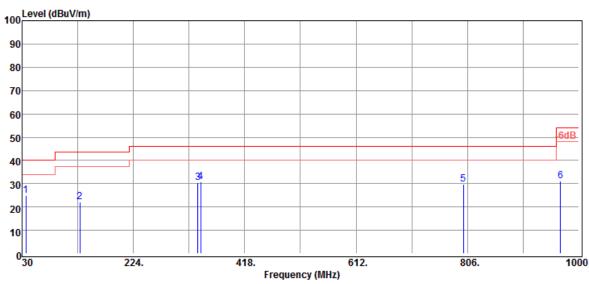
Operation Mode Test Mode

:802.11a / Band 1 :TX CH MID

EUT Pol :H Plan Test Channel :5220 MHz **Test Date** :2019-03-13 Temp./Humi. :22/57

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 36.79 | Peak | 31.17 | -6.42 | 24.75 | 40.00 | -15.25 |
| 130.88 | Peak | 30.63 | -8.52 | 22.11 | 43.50 | -21.39 |
| 336.52 | Peak | 37.02 | -6.48 | 30.54 | 46.00 | -15.46 |
| 341.37 | Peak | 37.32 | -6.44 | 30.88 | 46.00 | -15.12 |
| 799.21 | Peak | 26.97 | 2.87 | 29.84 | 46.00 | -16.16 |
| 967.99 | Peak | 24.77 | 6.46 | 31.23 | 54.00 | -22.77 |

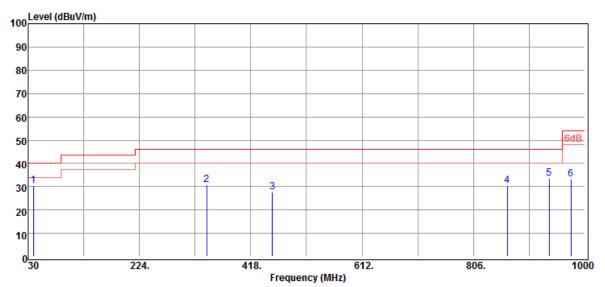
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802.11a 5250~5350 MHz

Operation Mode :802.11a / Band 2 **Test Date** :2019-03-13 Test Mode :TX CH MID Temp./Humi. :24/59 **EUT Pol** Antenna Pol. :H Plan :VERTICAL Test Channel :5300 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 39.70 | Peak | 38.91 | -8.62 | 30.29 | 40.00 | -9.71 |
| 341.37 | Peak | 37.15 | -6.44 | 30.71 | 46.00 | -15.29 |
| 455.83 | Peak | 30.60 | -2.86 | 27.74 | 46.00 | -18.26 |
| 865.17 | Peak | 26.32 | 4.00 | 30.32 | 46.00 | -15.68 |
| 937.92 | Peak | 28.64 | 5.06 | 33.70 | 46.00 | -12.30 |
| 975.75 | Peak | 26.59 | 6.64 | 33.23 | 54.00 | -20.77 |

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Operation Mode Test Mode **EUT Pol**

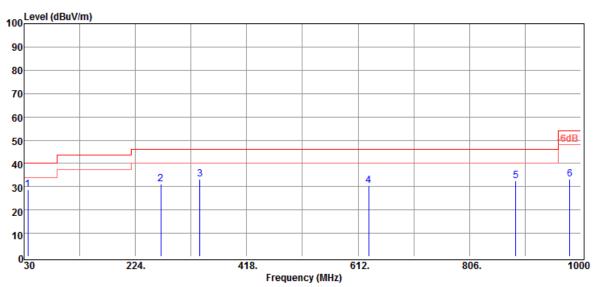
Test Channel

:802.11a / Band 2 :TX CH MID

:H Plan :5300 MHz **Test Date** :2019-03-13 Temp./Humi. :22/57

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | _ |
| 36.79 | Peak | 35.23 | -6.42 | 28.81 | 40.00 | -11.19 |
| 268.62 | Peak | 39.06 | -7.95 | 31.11 | 46.00 | -14.89 |
| 336.52 | Peak | 39.86 | -6.48 | 33.38 | 46.00 | -12.62 |
| 630.43 | Peak | 29.42 | 0.86 | 30.28 | 46.00 | -15.72 |
| 886.51 | Peak | 28.24 | 4.43 | 32.67 | 46.00 | -13.33 |
| 980.60 | Peak | 26.49 | 6.60 | 33.09 | 54.00 | -20.91 |

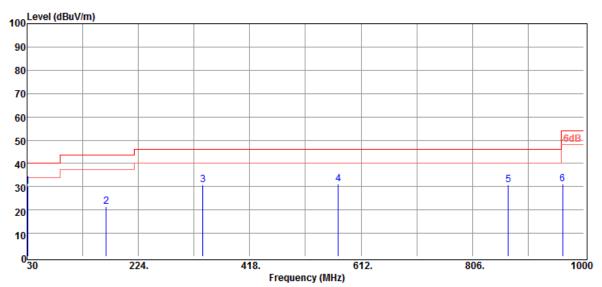
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802.11a, 5470~5725 MHz

Operation Mode :802.11a / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH MID Temp./Humi. :22/57 **EUT Pol** Antenna Pol. :H Plan :VERTICAL Test Channel :5580 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 30.97 | Peak | 32.26 | -2.00 | 30.26 | 40.00 | -9.74 |
| 167.74 | Peak | 31.45 | -9.90 | 21.55 | 43.50 | -21.95 |
| 336.52 | Peak | 37.15 | -6.48 | 30.67 | 46.00 | -15.33 |
| 572.23 | Peak | 32.44 | -1.38 | 31.06 | 46.00 | -14.94 |
| 868.08 | Peak | 26.84 | 3.94 | 30.78 | 46.00 | -15.22 |
| 963.14 | Peak | 25.08 | 6.05 | 31.13 | 54.00 | -22.87 |

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:2019-03-13

:22/57

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Operation Mode Test Mode **EUT Pol**

Test Channel

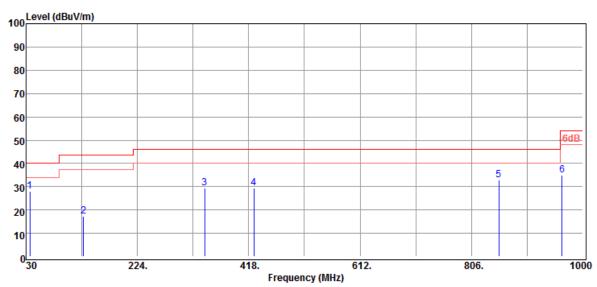
:802.11a / Band 3

:TX CH MID

:H Plan :5580 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 36.79 | Peak | 34.53 | -6.42 | 28.11 | 40.00 | -11.89 |
| 129.91 | Peak | 25.78 | -8.45 | 17.33 | 43.50 | -26.17 |
| 341.37 | Peak | 35.84 | -6.44 | 29.40 | 46.00 | -16.60 |
| 426.73 | Peak | 33.29 | -4.04 | 29.25 | 46.00 | -16.75 |
| 853.53 | Peak | 28.60 | 4.10 | 32.70 | 46.00 | -13.30 |
| 964.11 | Peak | 29.01 | 6.10 | 35.11 | 54.00 | -18.89 |

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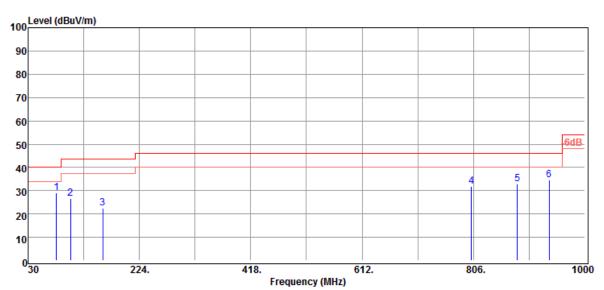
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802.11a, 5725~5850 MHz

Operation Mode :802.11a / Band 4 **Test Date** :2019-03-13 Test Mode :TX CH MID Temp./Humi. :22/57 **EUT Pol** Antenna Pol. :H Plan :VERTICAL Test Channel :5785 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 79.47 | Peak | 43.53 | -14.63 | 28.90 | 40.00 | -11.10 |
| 103.72 | Peak | 37.57 | -11.06 | 26.51 | 43.50 | -16.99 |
| 159.98 | Peak | 31.86 | -9.45 | 22.41 | 43.50 | -21.09 |
| 802.12 | Peak | 28.81 | 3.02 | 31.83 | 46.00 | -14.17 |
| 882.63 | Peak | 28.55 | 4.29 | 32.84 | 46.00 | -13.16 |
| 937.92 | Peak | 29.63 | 5.06 | 34.69 | 46.00 | -11.31 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

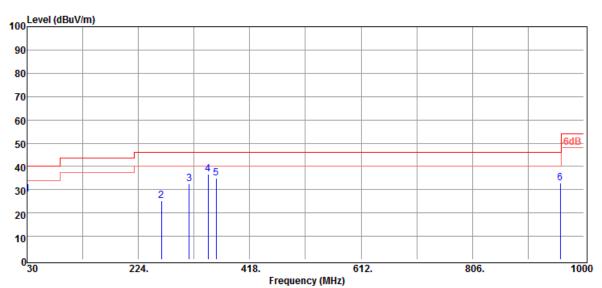
Test Channel

:802.11a / Band 4 :TX CH MID

:H Plan :5785 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13 :22/57

:HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | |
| 30.00 | Peak | 29.40 | -1.51 | 27.89 | 40.00 | -12.11 |
| 263.77 | Peak | 33.73 | -8.42 | 25.31 | 46.00 | -20.69 |
| 312.27 | Peak | 39.48 | -7.08 | 32.40 | 46.00 | -13.60 |
| 345.25 | Peak | 42.88 | -6.37 | 36.51 | 46.00 | -9.49 |
| 359.80 | Peak | 40.67 | -5.79 | 34.88 | 46.00 | -11.12 |
| 959.26 | Peak | 27.19 | 5.85 | 33.04 | 46.00 | -12.96 |

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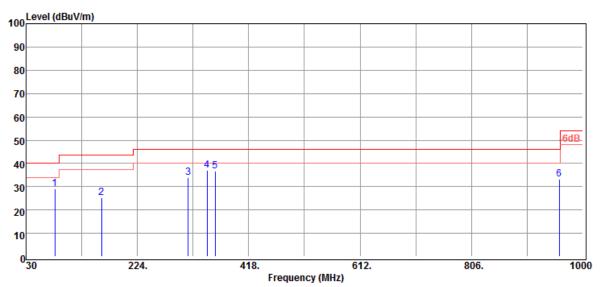
802.11ac VHT160, 5150~5350 MHz

Operation Mode :802.11ac160 / Band 1

Test Mode :TX CH MID **EUT Pol** :H Plan Test Channel :5250 MHz

Test Date :2019-03-13 Temp./Humi. :22/57 Antenna Pol. :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBμV/m | dB |
| | | | | | | _ |
| 80.44 | Peak | 43.99 | -14.76 | 29.23 | 40.00 | -10.77 |
| 161.92 | Peak | 34.96 | -9.57 | 25.39 | 43.50 | -18.11 |
| 312.27 | Peak | 41.10 | -7.08 | 34.02 | 46.00 | -11.98 |
| 345.25 | Peak | 43.33 | -6.37 | 36.96 | 46.00 | -9.04 |
| 359.80 | Peak | 42.43 | -5.79 | 36.64 | 46.00 | -9.36 |
| 959.26 | Peak | 27.32 | 5.85 | 33.17 | 46.00 | -12.83 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11ac160 / Band 1

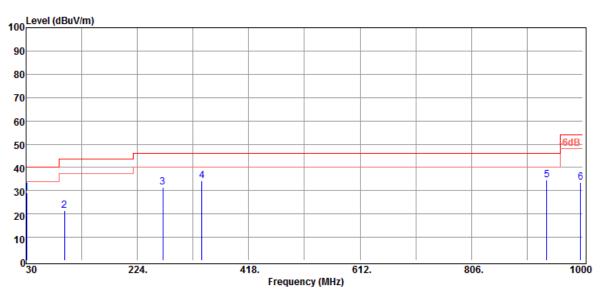
:TX CH MID

EUT Pol :H Plan Test Channel :5250 MHz **Test Date** Temp./Humi.

:22/57 Antenna Pol. :HORIZONTAL

:2019-03-13

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 30.97 | Peak | 30.97 | -2.00 | 28.97 | 40.00 | -11.03 |
| 96.93 | Peak | 34.36 | -12.90 | 21.46 | 43.50 | -22.04 |
| 268.62 | Peak | 39.30 | -7.95 | 31.35 | 46.00 | -14.65 |
| 336.52 | Peak | 40.61 | -6.48 | 34.13 | 46.00 | -11.87 |
| 936.95 | Peak | 29.40 | 5.06 | 34.46 | 46.00 | -11.54 |
| 996.12 | Peak | 27.17 | 6.31 | 33.48 | 54.00 | -20.52 |

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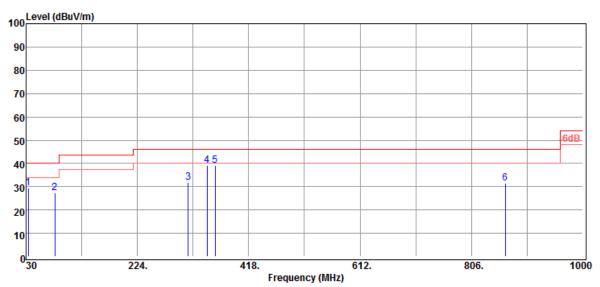
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802.11ac VHT160, 5470~5850 MHz

Operation Mode :802.11ac160 / Band 3 **Test Date**

:2019-03-13 Test Mode :TX CH MID Temp./Humi. :24/59 **EUT Pol** Antenna Pol. :H Plan :VERTICAL

Test Channel :5570 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBµV/m | dB |
| | | | | | | _ |
| 33.88 | Peak | 33.58 | -4.13 | 29.45 | 40.00 | -10.55 |
| 80.44 | Peak | 42.09 | -14.76 | 27.33 | 40.00 | -12.67 |
| 312.27 | Peak | 38.90 | -7.08 | 31.82 | 46.00 | -14.18 |
| 345.25 | Peak | 45.31 | -6.37 | 38.94 | 46.00 | -7.06 |
| 359.80 | Peak | 44.98 | -5.79 | 39.19 | 46.00 | -6.81 |
| 865.17 | Peak | 27.58 | 4.00 | 31.58 | 46.00 | -14.42 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11ac160 / Band 3

:TX CH MID

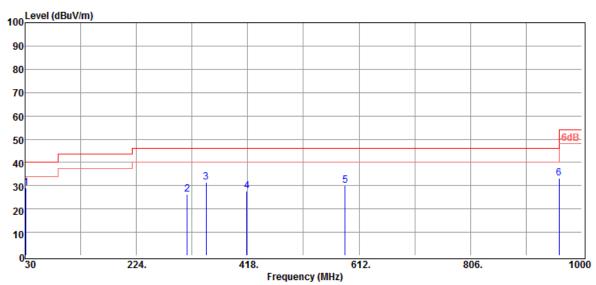
EUT Pol :H Plan Test Channel :5570 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:22/57

:HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμ̈V | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 31.94 | Peak | 31.71 | -2.75 | 28.96 | 40.00 | -11.04 |
| 312.27 | Peak | 33.41 | -7.08 | 26.33 | 46.00 | -19.67 |
| 345.25 | Peak | 37.99 | -6.37 | 31.62 | 46.00 | -14.38 |
| 416.06 | Peak | 31.96 | -4.29 | 27.67 | 46.00 | -18.33 |
| 587.75 | Peak | 31.58 | -1.36 | 30.22 | 46.00 | -15.78 |
| 960.23 | Peak | 27.21 | 5.87 | 33.08 | 54.00 | -20.92 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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:2019-03-13

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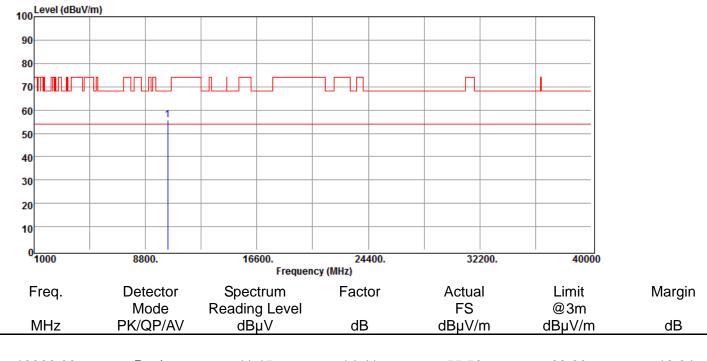
Above 1GHz Worst-Case Data:

Radiated Spurious Emission Measurement Result 802.11a, 5150~5250 MHz

:802.11a / Band 1 **Operation Mode** Test Date

Test Mode :TX CH LOW Temp./Humi. :21/62 **EUT Pol** :H Plan Antenna Pol. :VERTICAL

Test Channel :5180 MHz Engineer :Jerry



| гтец. | Mode | Reading Level | racioi | FS | @3m | Margin |
|----------|----------|---------------|--------|--------|--------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 10360.00 | Peak | 41.15 | 14.41 | 55.56 | 68.20 | -12.64 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



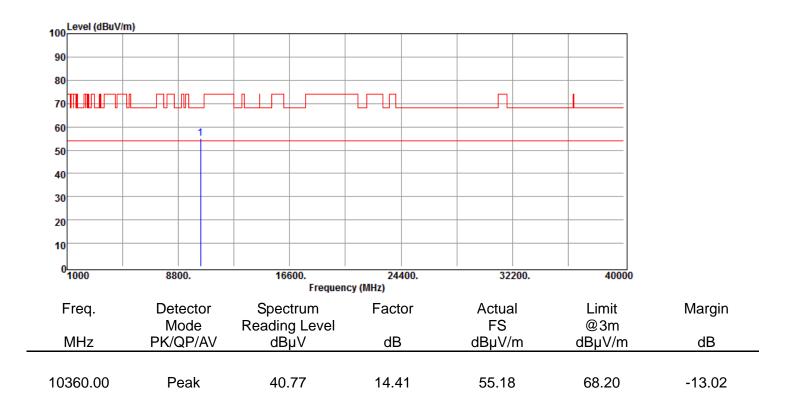
Page: 117 of 261

Operation Mode :802.11a / Band 1 Test Mode :TX CH LOW

EUT Pol :H Plan Test Channel :5180 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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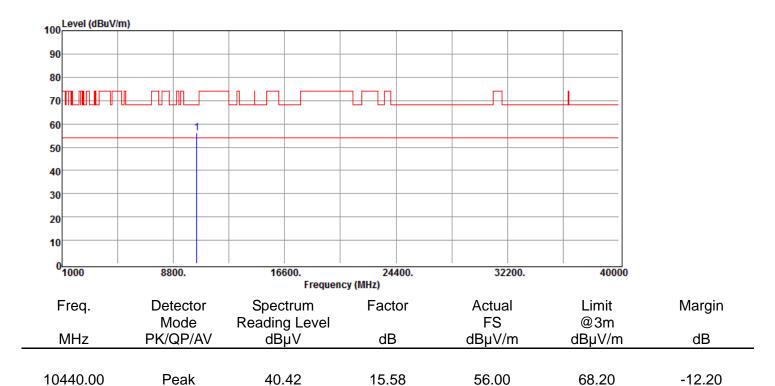
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 1 :TX CH MID

:H Plan :5220 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:21/62 :VERTICAL

Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Test Channel

Report No.: T190226W02-RP4

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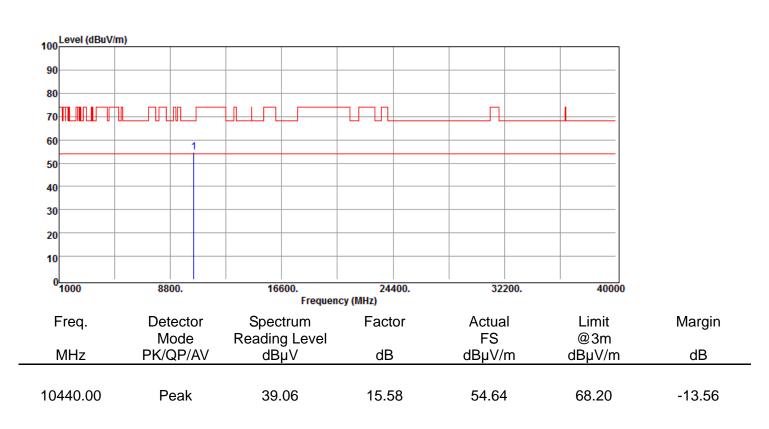
Operation Mode :802.11a / Band 1 Test Mode :TX CH MID **EUT Pol** :H Plan

:5220 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13 :21/62

:HORIZONTAL

Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

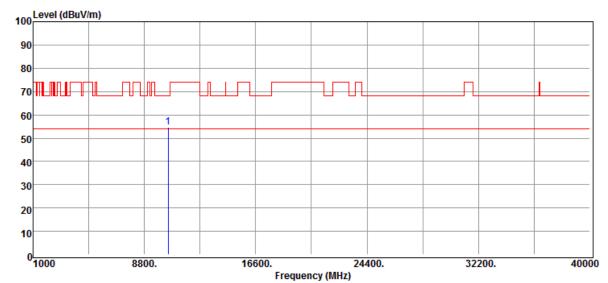
:802.11a / Band 1 :TX CH HIGH :H Plan

:5240 MHz

Test Date Temp./Humi. Antenna Pol. Engineer

:2019-03-13 :21/62

:VERTICAL :Jerry



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBµV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 10480.00 | Peak | 38.19 | 16.48 | 54.67 | 68.20 | -13.53 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

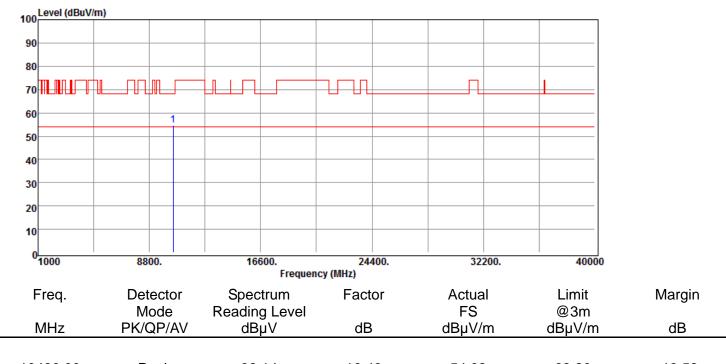


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Operation Mode :802.11a / Band 1 **Test Date** :2019-03-13 Test Mode

:TX CH HIGH Temp./Humi. :21/62 **EUT Pol** Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5240 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | iviargin |
|----------|------------------|------------------------|--------|--------------|--------------|----------|
| MHz | PK/QP/AV | dBµV | dB | dBμV/m | dBμV/m | dB |
| | | | | | | |
| 10480.00 | Peak | 38.14 | 16.48 | 54.62 | 68.20 | -13.58 |

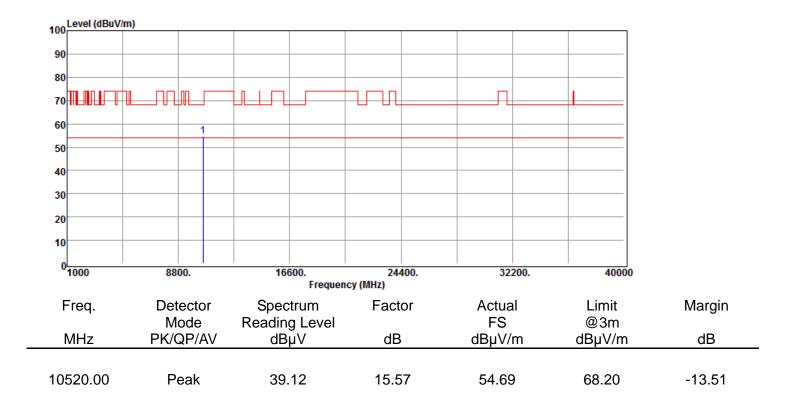
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11a, 5250MHz-5350MHz

Operation Mode :802.11a / Band 2 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :21/62 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5260 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

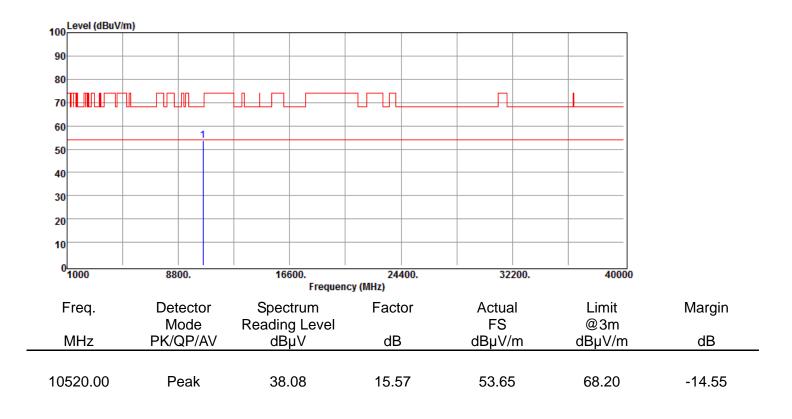
Offices other wines stated the estates and south in this test report reter only to the sample(s) destated and south sample(s) desta Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



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Operation Mode :802.11a / Band 2 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :21/62

EUT Pol Antenna Pol. :H Plan :HORIZONTAL Test Channel :5260 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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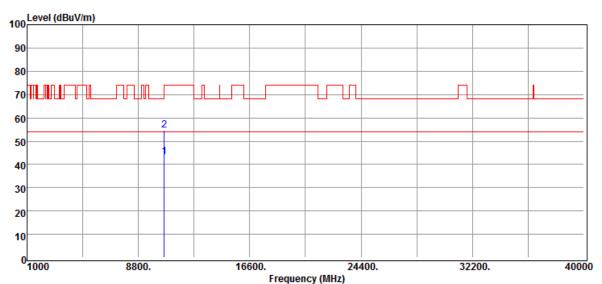
Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11a / Band 2 :TX CH MID

:H Plan :5300 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62 Antenna Pol. :VERTICAL

Engineer :Jerry



| · ····· | | | | | | | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | |
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB | | | |
| | | | | | | | | | |
| 10600.00 | Average | 27.84 | 15.47 | 43.31 | 54.00 | -10.69 | | | |
| 10600.00 | Peak | 39.31 | 15.47 | 54.78 | 68.20 | -13.42 | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

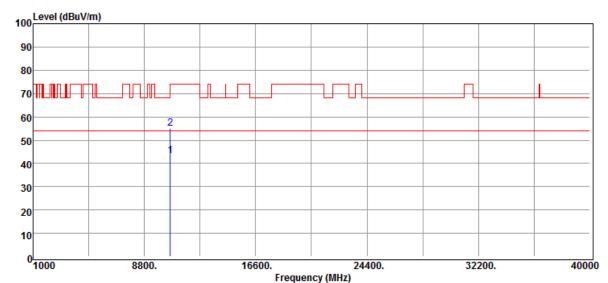


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Operation Mode :802.11a / Band 2 **Test Date** :2019-03-13 Test Mode

:TX CH MID Temp./Humi. :21/62 **EUT Pol** Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5300 MHz Engineer :Jerry



| • • • • | | | | | | | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | |
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB | | | |
| | | | | | | | | | |
| 10600.00 | Average | 27.70 | 15.47 | 43.17 | 54.00 | -10.83 | | | |
| 10600.00 | Peak | 39.52 | 15.47 | 54.99 | 68.20 | -13.21 | | | |

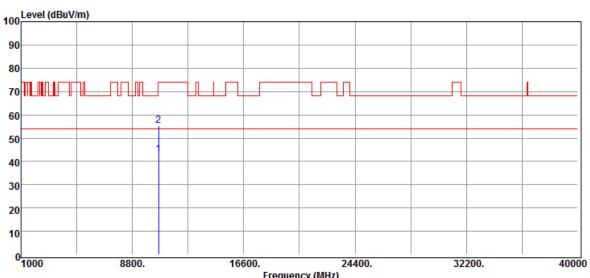
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode :802.11a / Band 2 Test Mode :TX CH HIGH **EUT Pol** :H Plan Test Channel :5320 MHz

Test Date :2019-03-13 Temp./Humi. :21/62 Antenna Pol. :VERTICAL Engineer :Jerry



| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|--|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | <u>.</u> | | - | - | | |
| | 10640.00 | Average | 26.71 | 16.12 | 42.83 | 54.00 | -11.17 | |
| | 10640.00 | Peak | 39.41 | 16.12 | 55.53 | 74.00 | -18.47 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

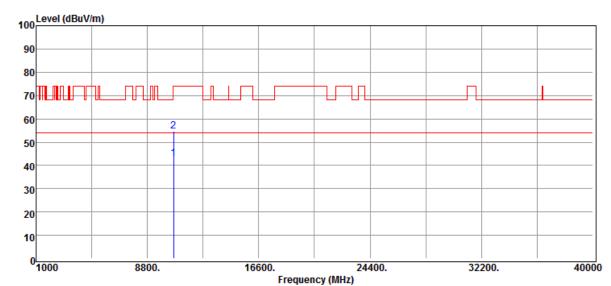


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Operation Mode :802.11a / Band 2 **Test Date** :2019-03-13 Test Mode :TX CH HIGH Temp./Humi. :21/62

EUT Pol Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5320 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | |
| 10640.00 | Average | 26.86 | 16.12 | 42.98 | 54.00 | -11.02 |
| 10640.00 | Peak | 38.46 | 16.12 | 54.58 | 74.00 | -19.42 |

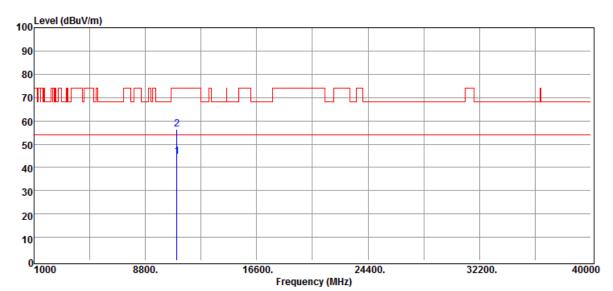
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11a, 5470~5725 MHz

Operation Mode :802.11a / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :21/62 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5500 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11000.00 | Average | 26.94 | 17.75 | 44.69 | 54.00 | -9.31 |
| 11000.00 | Peak | 38.79 | 17.75 | 56.54 | 74.00 | -17.46 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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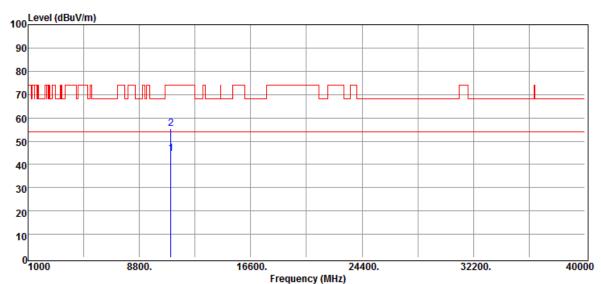
Operation Mode Test Mode

:802.11a / Band 3 :TX CH LOW

EUT Pol :H Plan Test Channel :5500 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| · ····· | | | | | | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|------|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | |
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB | | |
| | | | | | | | | |
| 11000.00 | Average | 26.93 | 17.75 | 44.68 | 54.00 | -9.32 | | |
| 11000.00 | Peak | 37.53 | 17.75 | 55.28 | 74.00 | -18.72 | | |
| 11000.00 | • | 37.53 | 17.75 | 55.28 | 74.00 | -1 | 8.72 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



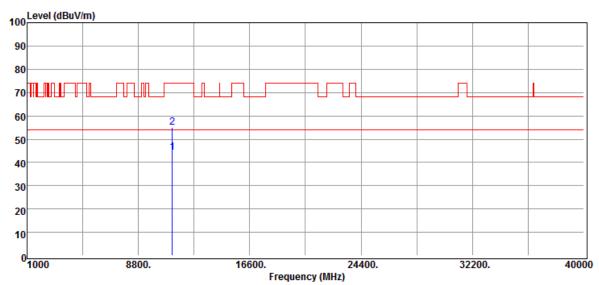
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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11a / Band 3 :TX CH MID :H Plan :5580 MHz

Test Date :2019-03-13 Temp./Humi. :21/62 Antenna Pol. :VERTICAL Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11160.00 | Average | 27.68 | 16.53 | 44.21 | 54.00 | -9.79 |
| 11160.00 | Peak | 38.59 | 16.53 | 55.12 | 74.00 | -18.88 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



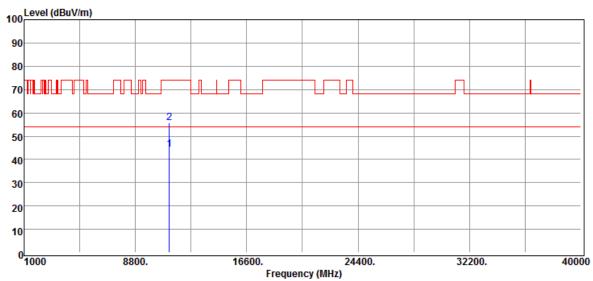
Page: 131 of 261

Operation Mode :802.11a / Band 3 Test Mode :TX CH MID

EUT Pol :H Plan Test Channel :5580 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11160.00 | Average | 27.67 | 16.53 | 44.20 | 54.00 | -9.80 |
| 11160.00 | Peak | 39.20 | 16.53 | 55.73 | 74.00 | -18.27 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

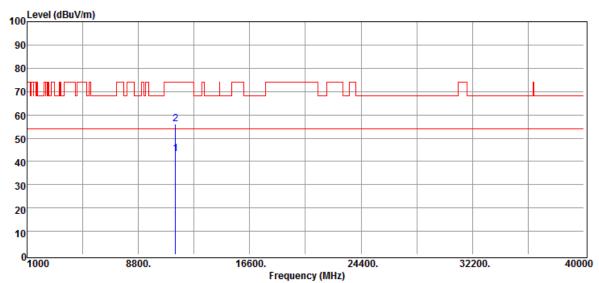
:802.11a / Band 3 :TX CH HIGH :H Plan

:5700 MHz

Test Date Temp./Humi. Antenna Pol. Engineer

:2019-03-13 :21/62 :VERTICAL

:Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dΒμV/m | dB |
| | | | | | | |
| 11400.00 | Average | 26.71 | 16.48 | 43.19 | 54.00 | -10.81 |
| 11400.00 | Peak | 39.71 | 16.48 | 56.19 | 74.00 | -17.81 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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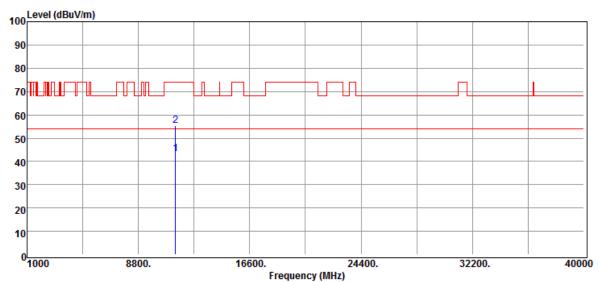
Operation Mode Test Mode

:802.11a / Band 3 :TX CH HIGH

EUT Pol :H Plan Test Channel :5700 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | |
| 11400.00 | Average | 26.78 | 16.48 | 43.26 | 54.00 | -10.74 |
| 11400.00 | Peak | 39.04 | 16.48 | 55.52 | 74.00 | -18.48 |

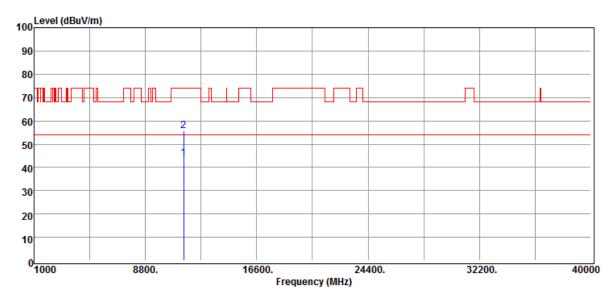
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11a, 5725~5850 MHz

Operation Mode :802.11a / Band 4 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :21/62 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5745 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11490.00 | Average | 27.97 | 15.85 | 43.82 | 54.00 | -10.18 |
| 11490.00 | Peak | 39.87 | 15.85 | 55.72 | 74.00 | -18.28 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



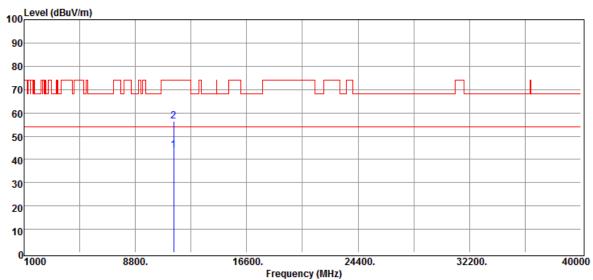
Page: 135 of 261

Operation Mode :802.11a / Band 4 Test Mode :TX CH LOW

EUT Pol :H Plan Test Channel :5745 MHz **Test Date** :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11490.00 | Average | 28.15 | 15.85 | 44.00 | 54.00 | -10.00 |
| 11490.00 | Peak | 40.43 | 15.85 | 56.28 | 74.00 | -17.72 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

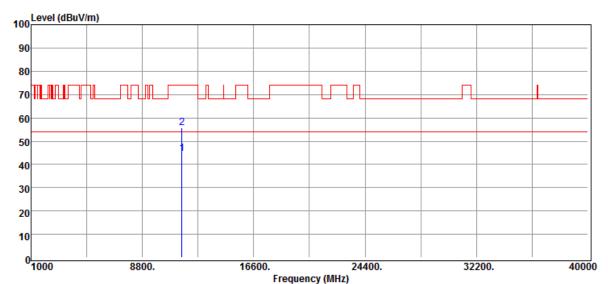
Test Channel

:802.11a / Band 4 :TX CH MID

:H Plan :5785 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:21/62 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|----------|------------------|---------------------------|--|---|---|--|---|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB | |
| | | | | | | | |
| 11570.00 | Average | 28.51 | 16.29 | 44.80 | 54.00 | -9.20 | |
| 11570.00 | Peak | 39.41 | 16.29 | 55.70 | 74.00 | -18.30 | |
| | MHz 11570.00 | MHz Mode PK/QP/AV | Mode Reading Level MHz PK/QP/AV dBμV 11570.00 Average 28.51 | Mode Reading Level MHz PK/QP/AV dBμV dB 11570.00 Average 28.51 16.29 | Mode PK/QP/AV Reading Level ABμV FS ABμV/m 11570.00 Average 28.51 16.29 44.80 | Mode PK/QP/AV Reading Level dBμV FS dBμV/m @3m dBμV/m 11570.00 Average 28.51 16.29 44.80 54.00 | Mode PK/QP/AV Reading Level dB μV FS dB μV/m @3m dB μV/m 11570.00 Average 28.51 16.29 44.80 54.00 -9.20 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

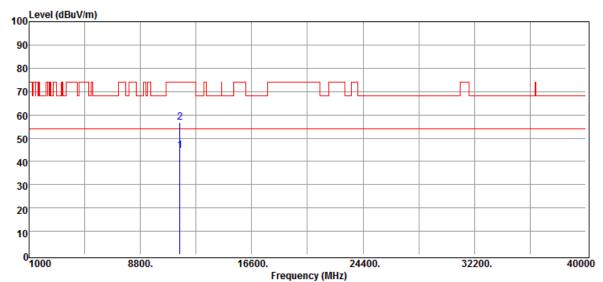
:802.11a / Band 4

EUT Pol Test Channel

:TX CH MID :H Plan :5785 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13 :21/62 :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11570.00 | Average | 28.28 | 16.29 | 44.57 | 54.00 | -9.43 |
| 11570.00 | Peak | 40.46 | 16.29 | 56.75 | 74.00 | -17.25 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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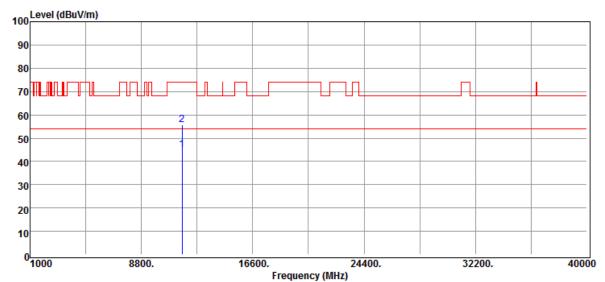
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 4 :TX CH HIGH :H Plan :5825 MHz

Test Date Temp./Humi. Antenna Pol. Engineer

:2019-03-13 :21/62 :VERTICAL

:Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11650.00 | Average | 28.32 | 16.61 | 44.93 | 54.00 | -9.07 |
| 11650.00 | Peak | 39.20 | 16.61 | 55.81 | 74.00 | -18.19 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

EUT Pol

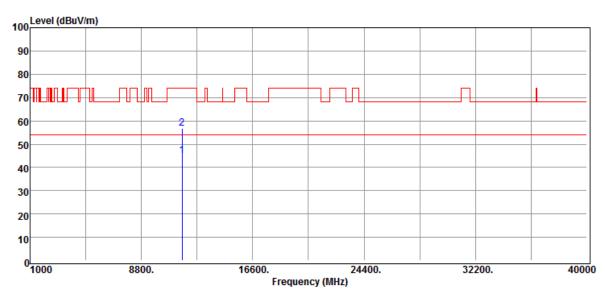
Test Channel

:802.11a / Band 4 :TX CH HIGH :H Plan :5825 MHz

Test Date :2019-03-13 Temp./Humi. :21/62

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11650.00 | Average | 28.31 | 16.61 | 44.92 | 54.00 | -9.08 |
| 11650.00 | Peak | 40.10 | 16.61 | 56.71 | 74.00 | -17.29 |

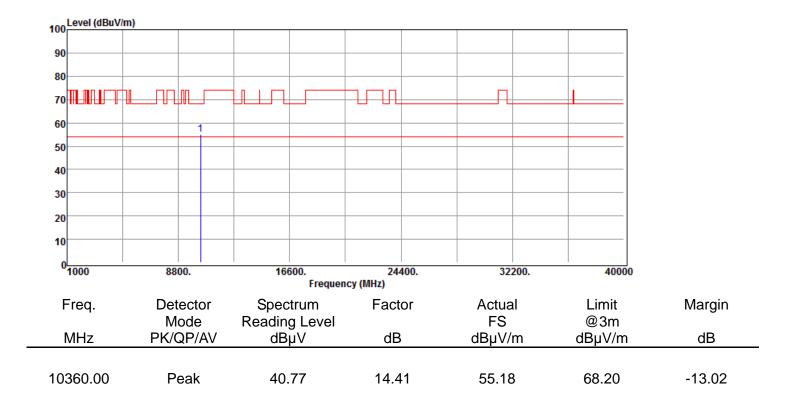
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT20, 5150~5250 MHz

Operation Mode :802.11n20 / Band 1 Test Date :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/55 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5180 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Offices other wines stated the estates and south in this test report reter only to the sample(s) destated and south sample(s) desta Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



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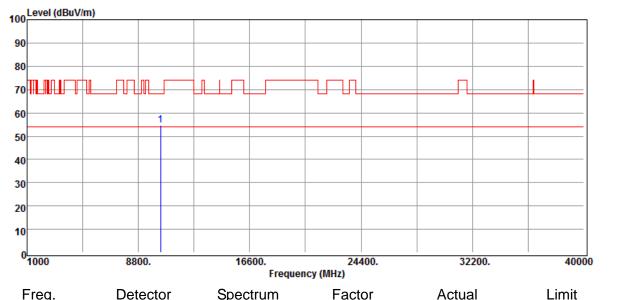
Operation Mode :802.11n20 / Band 1 Test Mode

:TX CH LOW

EUT Pol :H Plan Test Channel :5180 MHz **Test Date** :2019-03-13

Temp./Humi. :23/55 Antenna Pol. :HORIZONTAL

Engineer :Jerry



| | | riequenc | y (WIT12) | | | |
|----------|------------------|---------------------------|-----------|--------------|--------------|--------|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dΒμV/m | dB |
| 10360.00 | Peak | 40.37 | 14.41 | 54.78 | 68.20 | -13.42 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



:2019-03-13

:VERTICAL

:23/55

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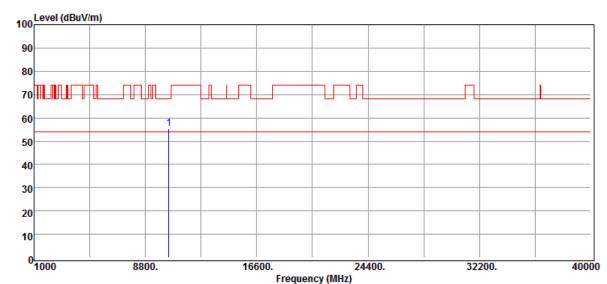
Operation Mode Test Mode **EUT Pol**

:802.11n20 / Band 1

:TX CH MID :H Plan

Test Channel :5220 MHz **Test Date** Temp./Humi. Antenna Pol.

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | |
| 10440.00 | Peak | 39.63 | 15.58 | 55.21 | 68.20 | -12.99 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 90 days only.
Phys Apt Retail Retai may be prosecuted to the fullest extent of the law.

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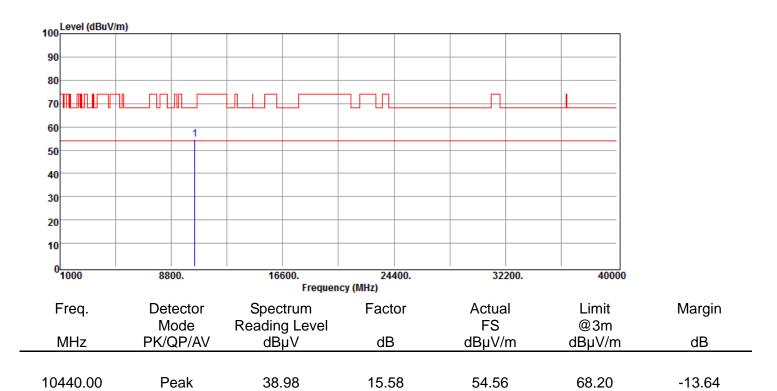
Operation Mode :802.11n20 / Band 1 Test Mode

:TX CH MID

EUT Pol :H Plan Test Channel :5220 MHz **Test Date** :2019-03-13 Temp./Humi. :23/55

Antenna Pol. :HORIZONTAL

Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



:2019-03-13

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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 1

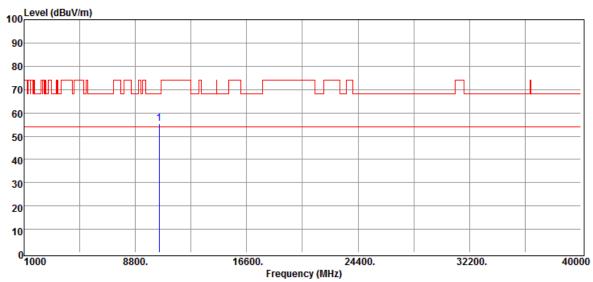
:TX CH HIGH :H Plan

:5240 MHz

Test Date Temp./Humi.

:23/55 Antenna Pol. :VERTICAL

Engineer :Jerry



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBµV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 10480.00 | Peak | 38.99 | 16.48 | 55.47 | 68.20 | -12.73 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



:2019-03-13

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Operation Mode Test Mode

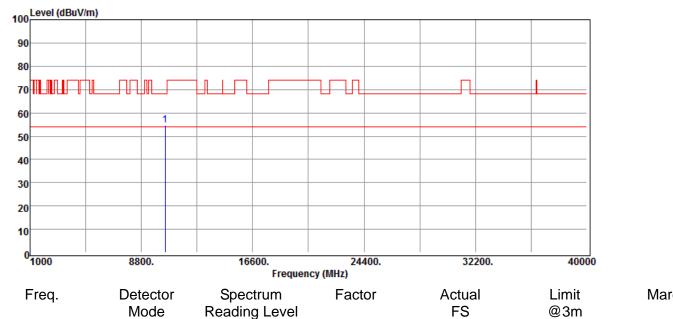
:802.11n20 / Band 1

:TX CH HIGH

EUT Pol Test Channel :H Plan :5240 MHz **Test Date** Temp./Humi.

:23/55 Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| 10480.00 | Peak | 38.19 | 16.48 | 54.67 | 68.20 | -13.53 |

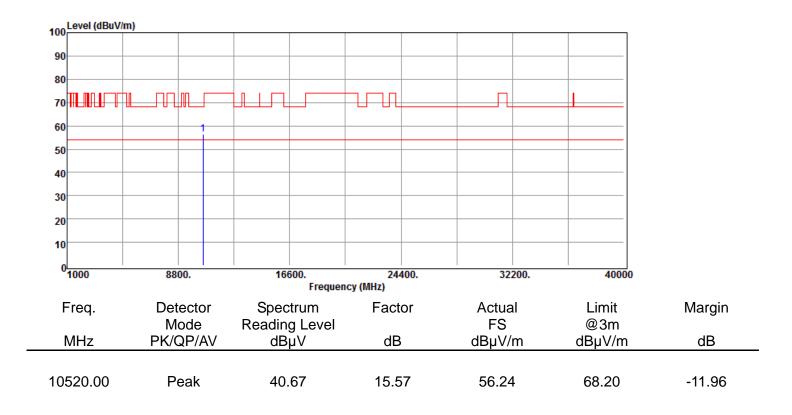
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT20, 5250~5350 MHz

Operation Mode :802.11n20 / Band 2 Test Date :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/55 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5260 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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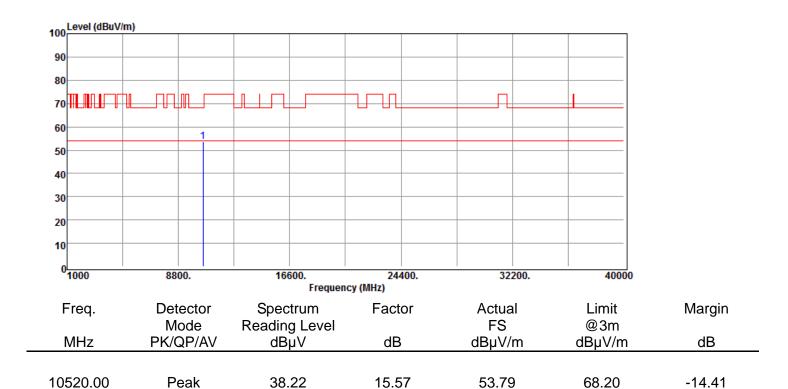


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Operation Mode :802.11n20 / Band 2 **Test Date** :2019-03-13

Test Mode :TX CH LOW Temp./Humi. :23/55 **EUT Pol** Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5260 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 30 days only.

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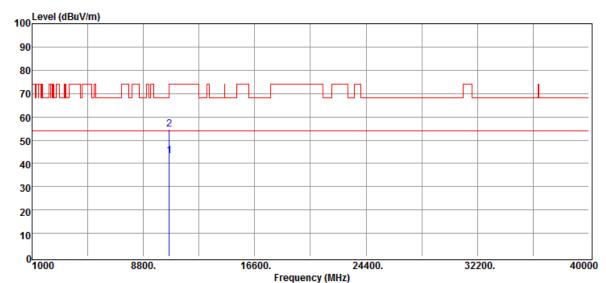
Operation Mode Test Mode **EUT Pol**

:802.11n20 / Band 2

:TX CH MID :H Plan

Test Channel :5300 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13 :23/54 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|--|--|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | | | | |
| | | | | | | | | | | |
| 10600.00 | Average | 27.82 | 15.47 | 43.29 | 54.00 | -10.71 | | | | |
| 10600.00 | Peak | 39.22 | 15.47 | 54.69 | 68.20 | -13.51 | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



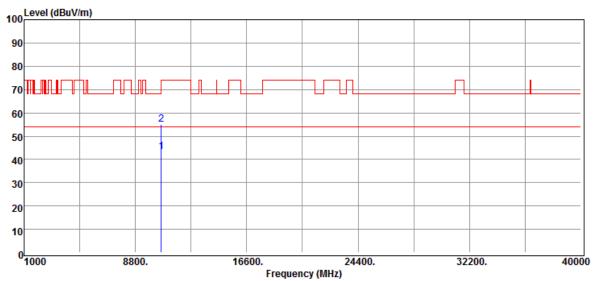
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Operation Mode :802.11n20 / Band 2 Test Mode :TX CH MID

EUT Pol :H Plan Test Channel :5300 MHz **Test Date** :2019-03-13 Temp./Humi. :23/54

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 10600.00 | Average | 27.83 | 15.47 | 43.30 | 54.00 | -10.70 |
| 10600.00 | Peak | 39.47 | 15.47 | 54.94 | 68.20 | -13.26 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 2

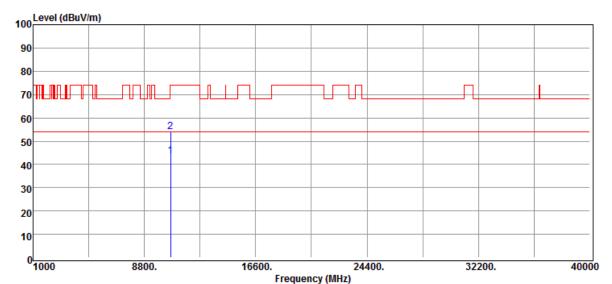
:TX CH HIGH :H Plan

:5320 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/54 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|----------|------------------|--|--|---|---|--|---|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB | |
| | | | | | | | |
| 10640.00 | Average | 27.51 | 16.12 | 43.63 | 54.00 | -10.37 | |
| 10640.00 | Peak | 37.77 | 16.12 | 53.89 | 74.00 | -20.11 | |
| | MHz 10640.00 | MHz Mode PK/QP/AV 10640.00 Average | Mode Reading Level MHz PK/QP/AV dBμV 10640.00 Average 27.51 | Mode Reading Level MHz PK/QP/AV dBμV dB 10640.00 Average 27.51 16.12 | Mode Pk/QP/AV Reading Level ABμV FS ABμV/m 10640.00 Average 27.51 16.12 43.63 | Mode PK/QP/AV Reading Level dBμV FS dBμV/m @3m dBμV/m 10640.00 Average 27.51 16.12 43.63 54.00 | MHz Mode PK/QP/AV Reading Level dBμV FS dBμV/m @3m dBμV/m dBμV/m dB 10640.00 Average 27.51 16.12 43.63 54.00 -10.37 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

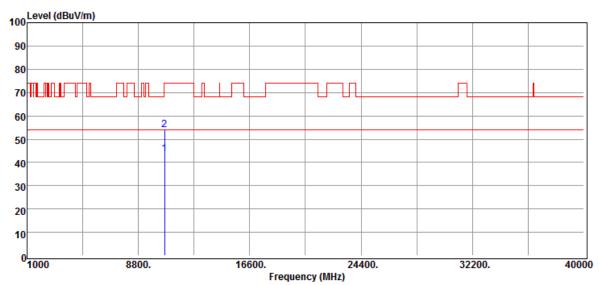
:802.11n20 / Band 2

:TX CH HIGH

:H Plan :5320 MHz **Test Date** :2019-03-13 Temp./Humi. :23/54

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 10640.00 | Average | 27.34 | 16.12 | 43.46 | 54.00 | -10.54 |
| 10640.00 | Peak | 38.00 | 16.12 | 54.12 | 74.00 | -19.88 |

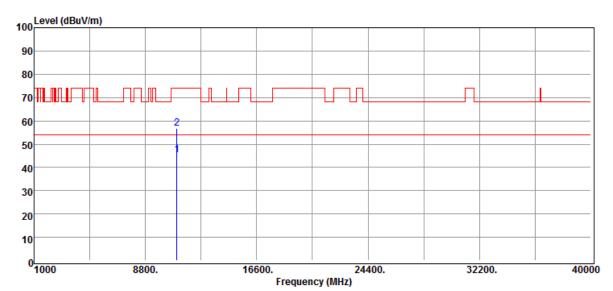
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT20, 5470~5725 MHz

Operation Mode :802.11n20 / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/54 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5500 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11000.00 | Average | 27.54 | 17.75 | 45.29 | 54.00 | -8.71 |
| 11000.00 | Peak | 38.87 | 17.75 | 56.62 | 74.00 | -17.38 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 30 days only.

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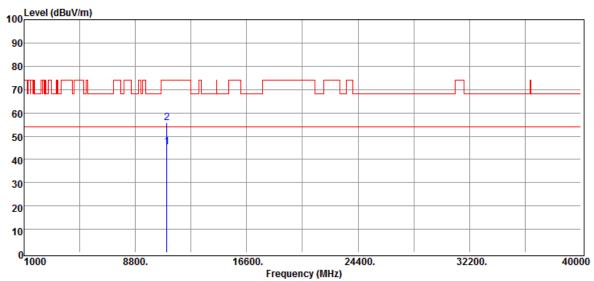
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Operation Mode :802.11n20 / Band 3 Test Mode :TX CH LOW

EUT Pol :H Plan Test Channel :5500 MHz **Test Date** :2019-03-13 Temp./Humi. :23/54

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| 44000.00 | A | 07.40 | 47.75 | 45.04 | 54.00 | 0.70 |
| 11000.00 | Average | 27.46 | 17.75 | 45.21 | 54.00 | -8.79 |
| 11000.00 | Peak | 37.82 | 17.75 | 55.57 | 74.00 | -18.43 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 3

:TX CH MID :H Plan

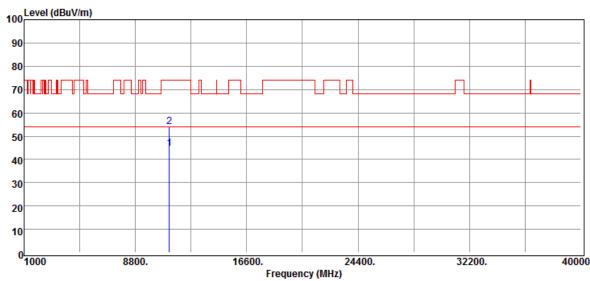
:5580 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/53

:VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB |
| | | | | | | |
| 11160.00 | Average | 28.09 | 16.53 | 44.62 | 54.00 | -9.38 |
| 11160.00 | Peak | 37.38 | 16.53 | 53.91 | 74.00 | -20.09 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



:2019-03-13

:23/53

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Operation Mode Test Mode **EUT Pol**

Test Channel

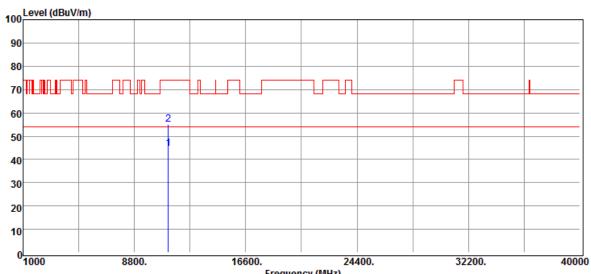
:802.11n20 / Band 3

:TX CH MID

:H Plan :5580 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| | Frequency (WHZ) | | | | | | | | | | |
|---|-----------------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|--|--|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | | |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | | | | |
| - | | | | | | | | | | | |
| | 11160.00 | Average | 27.98 | 16.53 | 44.51 | 54.00 | -9.49 | | | | |
| | 11160.00 | Peak | 38.35 | 16.53 | 54.88 | 74.00 | -19.12 | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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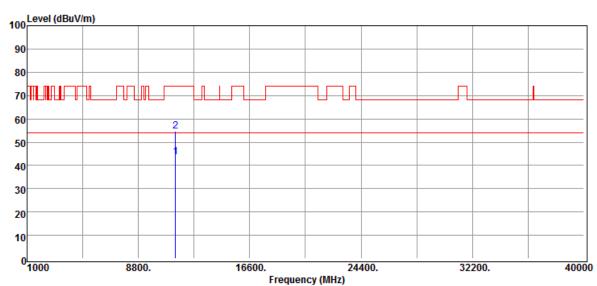
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 3 :TX CH HIGH

:H Plan :5700 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11400.00 | Average | 27.24 | 16.48 | 43.72 | 54.00 | -10.28 |
| 11400.00 | Peak | 38.08 | 16.48 | 54.56 | 74.00 | -19.44 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

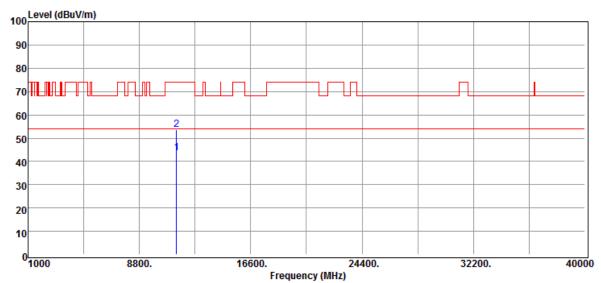
:802.11n20 / Band 3 :TX CH HIGH

:H Plan

EUT Pol Test Channel :5700 MHz **Test Date** :2019-03-13 Temp./Humi. :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11400.00 | Average | 27.04 | 16.48 | 43.52 | 54.00 | -10.48 |
| 11400.00 | Peak | 37.19 | 16.48 | 53.67 | 74.00 | -20.33 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n20 / Band 3-4

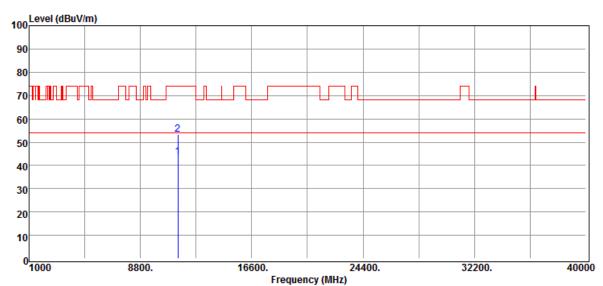
EUT Pol Test Channel

:TX CH 144 :H Plan :5720 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11440.00 | Average | 26.44 | 17.09 | 43.53 | 54.00 | -10.47 |
| 11440.00 | Peak | 36.12 | 17.09 | 53.21 | 74.00 | -20.79 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n20 / Band 3-4

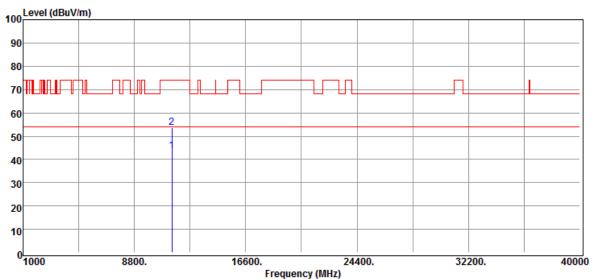
:TX CH 144

EUT Pol Test Channel :H Plan :5720 MHz **Test Date** Temp./Humi.

:2019-03-13 :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| · · · · | | | | | | | | |
|---------|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | | | | | | |
| | 11440.00 | Average | 26.63 | 17.09 | 43.72 | 54.00 | -10.28 | |
| | 11440.00 | Peak | 36.61 | 17.09 | 53.70 | 74.00 | -20.30 | |

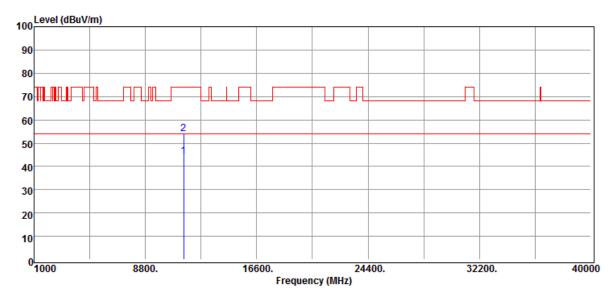
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT20, 5725~5850 MHz

Operation Mode :802.11n20 / Band 4 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5745 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11490.00 | Average | 28.36 | 15.85 | 44.21 | 54.00 | -9.79 |
| 11490.00 | Peak | 38.28 | 15.85 | 54.13 | 74.00 | -19.87 |

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:2019-03-13

:23/53

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Operation Mode

:802.11n20 / Band 4

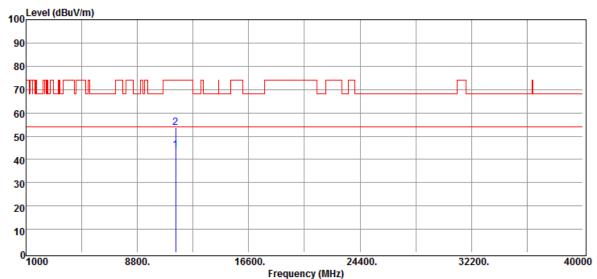
Test Mode

:TX CH LOW

EUT Pol Test Channel :H Plan :5745 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | |
| 11490.00 | Average | 28.15 | 15.85 | 44.00 | 54.00 | -10.00 |
| 11490.00 | Peak | 37.67 | 15.85 | 53.52 | 74.00 | -20.48 |
| | | | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 4

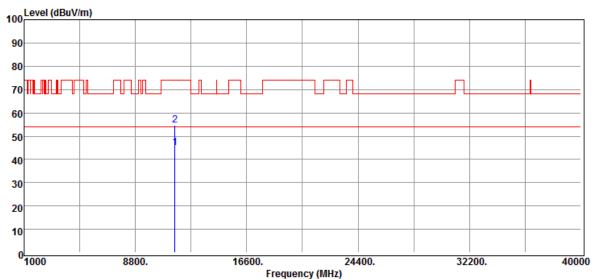
:TX CH MID

:H Plan :5785 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53

:VERTICAL

Engineer :Jerry



| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| | 11570.00 | Average | 28.86 | 16.29 | 45.15 | 54.00 | -8.85 |
| | 11570.00 | Peak | 38.51 | 16.29 | 54.80 | 74.00 | -19.20 |

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Operation Mode

:802.11n20 / Band 4

Test Date Temp./Humi.

Test Mode **EUT Pol**

:TX CH MID :H Plan

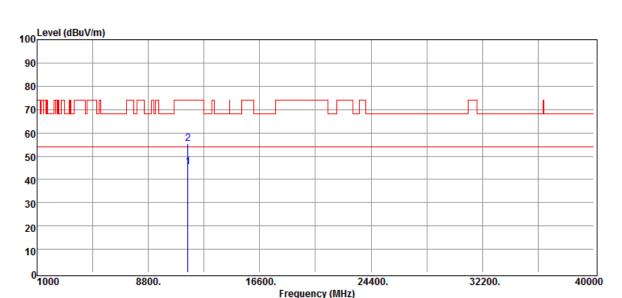
:23/53 Antenna Pol. :HORIZONTAL

:2019-03-13

Test Channel

:5785 MHz

Engineer :Jerry



| • • • • | | | | | | | |
|---------|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | | |
| | 11570.00 | Average | 28.90 | 16.29 | 45.19 | 54.00 | -8.81 |
| | 11570.00 | Peak | 38.92 | 16.29 | 55.21 | 74.00 | -18.79 |

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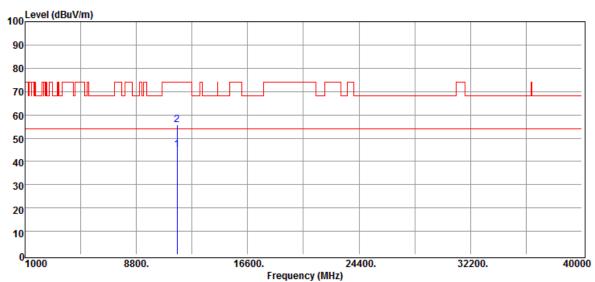
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 4 :TX CH HIGH

:H Plan :5825 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11650.00 | Average | 28.47 | 16.61 | 45.08 | 54.00 | -8.92 |
| 11650.00 | Peak | 39.01 | 16.61 | 55.62 | 74.00 | -18.38 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Test Channel

Report No.: T190226W02-RP4

:2019-03-13

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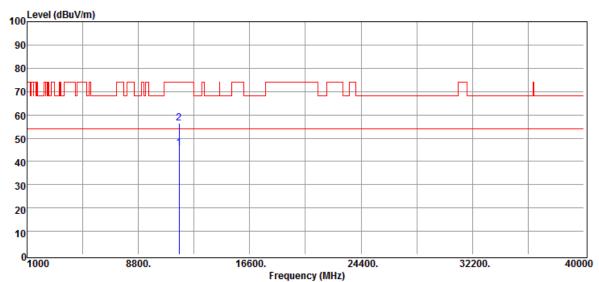
Operation Mode :802.11n20 / Band 4 Test Mode :TX CH HIGH **EUT Pol** :H Plan

:5825 MHz

Test Date Temp./Humi. Antenna Pol.

:23/53 :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11650.00 | Average | 28.92 | 16.61 | 45.53 | 54.00 | -8.47 |
| 11650.00 | Peak | 39.95 | 16.61 | 56.56 | 74.00 | -17.44 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT40, 5150~5250 MHz

Operation Mode :802.11n40 / Band 1 Test Date :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5190 MHz Engineer :Jerry



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:2019-03-13

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Operation Mode Test Mode

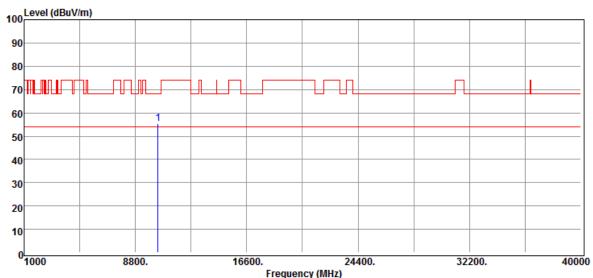
:802.11n40 / Band 1

:TX CH LOW

EUT Pol Test Channel :H Plan :5190 MHz **Test Date** Temp./Humi.

:23/53 Antenna Pol. :HORIZONTAL

Engineer :Jerry



| | Freg Detector Spe | Frequenc | y (IVITIZ) | | | | |
|----------|-------------------|---------------------------|------------|--------------|--------------|--------|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB | |
| 10380.00 | Peak | 40.94 | 14.58 | 55.52 | 68.20 | -12.68 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n40 / Band 1 :TX CH HIGH

:H Plan :5230 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



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Operation Mode Test Mode

:802.11n40 / Band 1 :TX CH HIGH :H Plan

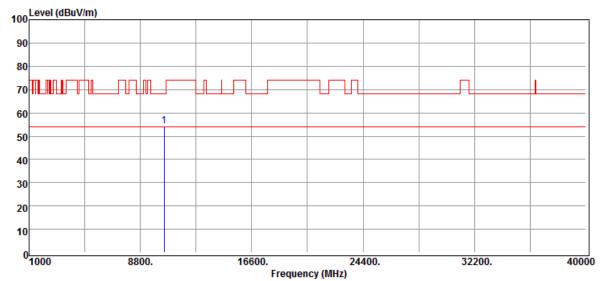
:5230 MHz

EUT Pol Test Channel **Test Date** Temp./Humi. Antenna Pol.

:2019-03-13 :23/53

:HORIZONTAL

Engineer :Jerry



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBµV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 10460.00 | Peak | 38.37 | 15.97 | 54.34 | 68.20 | -13.86 |

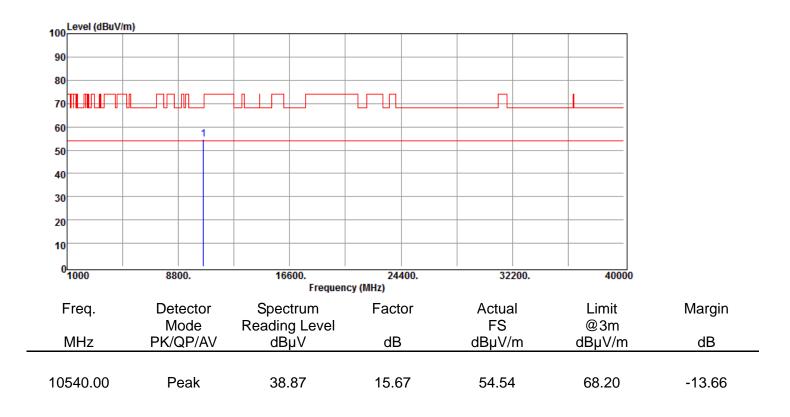
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT40, 5250~5350 MHz

Operation Mode :802.11n40 / Band 2 Test Date :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5270 MHz Engineer :Jerry



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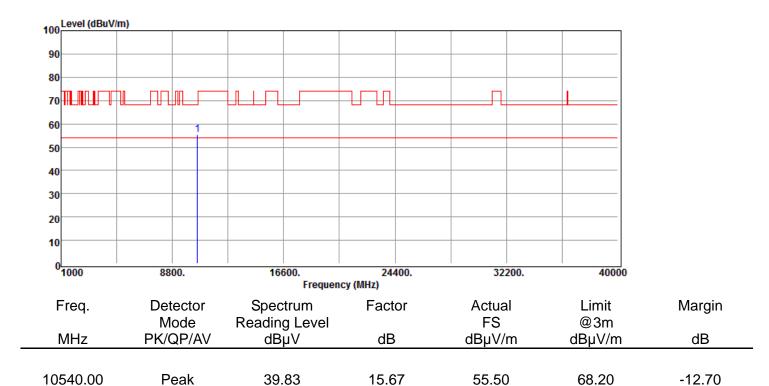
Operation Mode Test Mode

:802.11n40 / Band 2 :TX CH LOW

EUT Pol :H Plan Test Channel :5270 MHz **Test Date** :2019-03-13 Temp./Humi. :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



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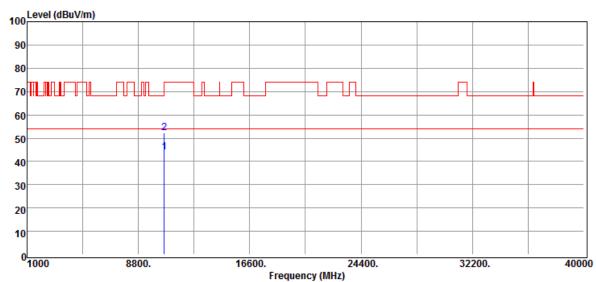
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 2 :TX CH HIGH

:H Plan :5310 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB |
| | | | | | | |
| 10620.00 | Average | 28.13 | 15.78 | 43.91 | 54.00 | -10.09 |
| 10620.00 | Peak | 36.35 | 15.78 | 52.13 | 74.00 | -21.87 |

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Operation Mode Test Mode

Test Channel

EUT Pol

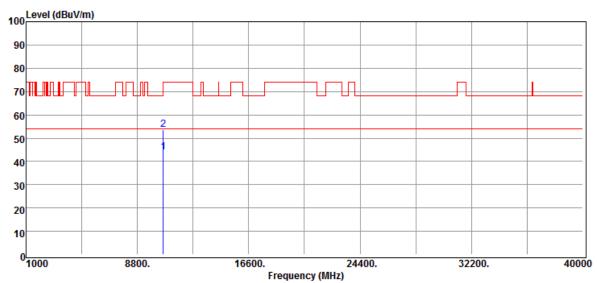
:802.11n40 / Band 2

:TX CH HIGH

:H Plan :5310 MHz **Test Date** :2019-03-13 Temp./Humi. :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|------------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 10620.00 | Average | 28.06 | 15.78 | 43.84 | 54.00 | -10.16 |
| 10620.00 | Peak | 37.96 | 15.78 | 53.74 | 74.00 | -20.26 |

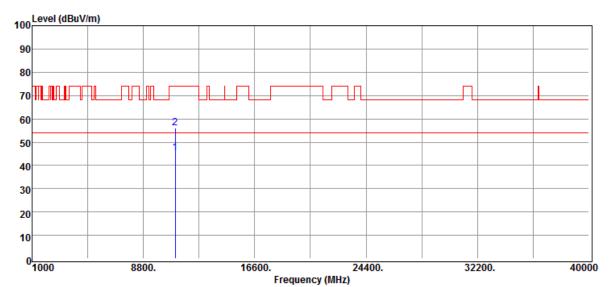
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Radiated Spurious Emission Measurement Result 802.11n HT40, 5470~5725 MHz

Operation Mode :802.11n40 / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5510 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11020.00 | Average | 27.59 | 17.87 | 45.46 | 54.00 | -8.54 |
| 11020.00 | Peak | 38.01 | 17.87 | 55.88 | 74.00 | -18.12 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 30 days only.

Fix 月 有规则,此概告结果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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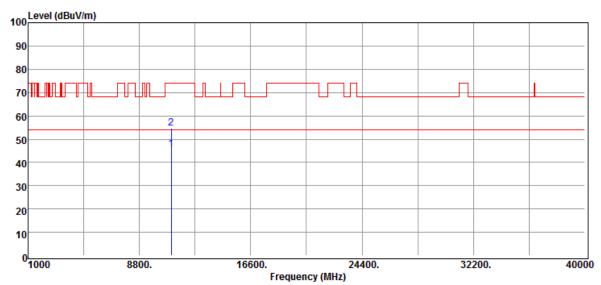
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Operation Mode :802.11n40 / Band 3 Test Mode :TX CH LOW

EUT Pol :H Plan Test Channel :5510 MHz **Test Date** :2019-03-13 Temp./Humi. :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11020.00 | Average | 27.63 | 17.87 | 45.50 | 54.00 | -8.50 |
| 11020.00 | Peak | 36.74 | 17.87 | 54.61 | 74.00 | -19.39 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

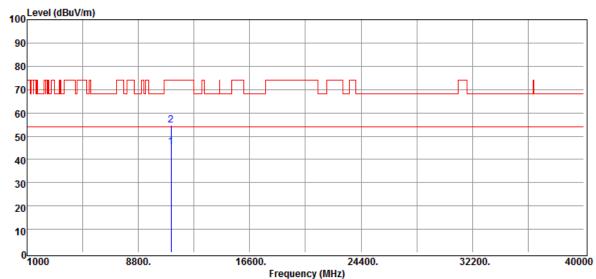
Test Channel

:802.11n40 / Band 3 :TX CH MID

:H Plan :5550 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/53 :VERTICAL

Engineer :Jerry



| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB |
| | | | | | | | |
| | 11100.00 | Average | 28.24 | 17.25 | 45.49 | 54.00 | -8.51 |
| | 11100.00 | Peak | 37.57 | 17.25 | 54.82 | 74.00 | -19.18 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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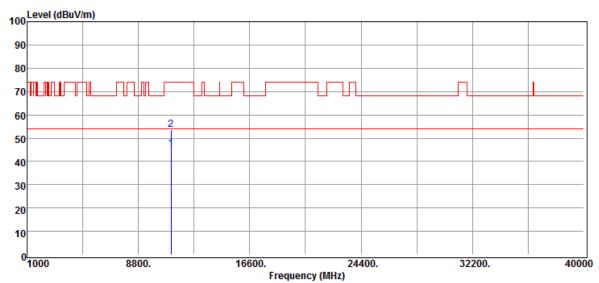
Operation Mode :802.11n40 / Band 3 Test Mode

:TX CH MID

EUT Pol :H Plan Test Channel :5550 MHz **Test Date** :2019-03-13 Temp./Humi. :23/53

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11100.00 | Average | 28.14 | 17.25 | 45.39 | 54.00 | -8.61 |
| 11100.00 | Peak | 36.25 | 17.25 | 53.50 | 74.00 | -20.50 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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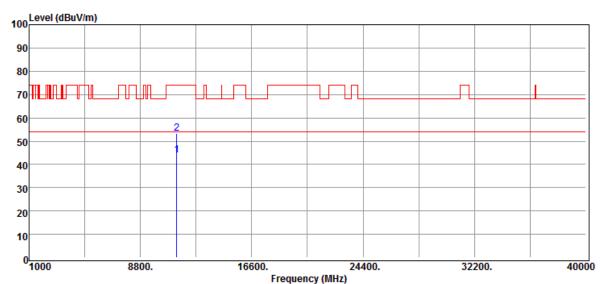
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 3 :TX CH HIGH

:H Plan :5670 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/54 :VERTICAL

Engineer :Jerry



| · ···· | | | | | | | |
|--------|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| | 11340.00 | Average | 27.49 | 16.36 | 43.85 | 54.00 | -10.15 |
| | 11340.00 | Peak | 36.89 | 16.36 | 53.25 | 74.00 | -20.75 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

Test Channel

EUT Pol

:802.11n40 / Band 3

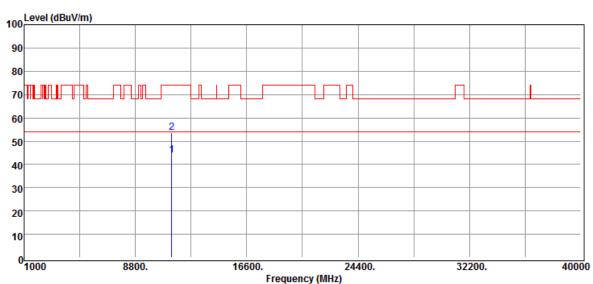
:TX CH HIGH

:H Plan :5670 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/54

:HORIZONTAL

Engineer :Jerry



| · ···· | | | | | | | |
|----------|------------------|--|--|---|---|---|---|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | | | | | |
| 11340.00 | Average | 27.49 | 16.36 | 43.85 | 54.00 | -10.15 | |
| 11340.00 | Peak | 37.27 | 16.36 | 53.63 | 74.00 | -20.37 | |
| | MHz 11340.00 | MHz Mode PK/QP/AV 11340.00 Average | Mode Reading Level MHz PK/QP/AV dBμV 11340.00 Average 27.49 | Mode Reading Level MHz PK/QP/AV dBμV dB 11340.00 Average 27.49 16.36 | Mode Pk/QP/AV Reading Level ABμV FS ABμV/m 11340.00 Average 27.49 16.36 43.85 | Mode PK/QP/AV Reading Level dB μV FS dB μV/m @3m dB μV/m 11340.00 Average 27.49 16.36 43.85 54.00 | MHz Mode PK/QP/AV Reading Level dB μV FS dB μV/m @3m dB μV/m dB 11340.00 Average 27.49 16.36 43.85 54.00 -10.15 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n40 / Band 3-4

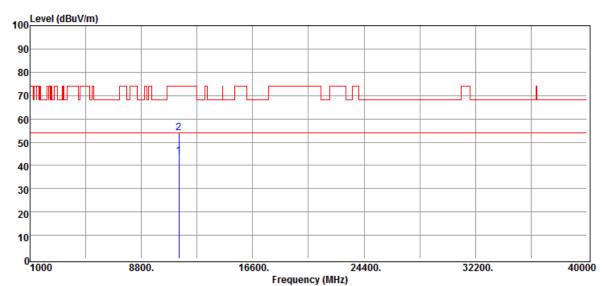
EUT Pol Test Channel

:TX CH 142 :H Plan :5710 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/54 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB |
| | | | | | | |
| 11420.00 | Average | 27.23 | 16.87 | 44.10 | 54.00 | -9.90 |
| 11420.00 | Peak | 37.15 | 16.87 | 54.02 | 74.00 | -19.98 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



:2019-03-13

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Operation Mode

:802.11n40 / Band 3-4

Test Mode **EUT Pol**

Test Channel

:H Plan

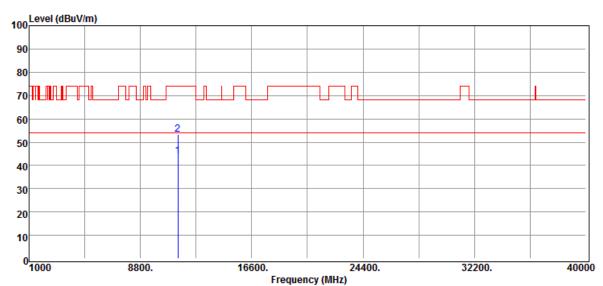
:TX CH 142

:5710 MHz

Test Date Temp./Humi.

:23/54 Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11420.00 | Average | 26.91 | 16.87 | 43.78 | 54.00 | -10.22 |
| 11420.00 | Peak | 36.27 | 16.87 | 53.14 | 74.00 | -20.86 |

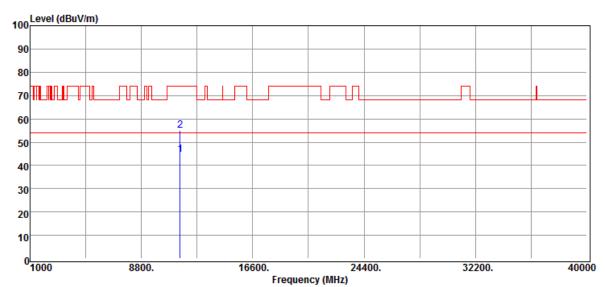
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11n HT40, 5725~5850 MHz

Operation Mode :802.11n40 / Band 4 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/54 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5755 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11510.00 | Average | 29.25 | 15.41 | 44.66 | 54.00 | -9.34 |
| 11510.00 | Peak | 39.75 | 15.41 | 55.16 | 74.00 | -18.84 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n40 / Band 4

EUT Pol Test Channel

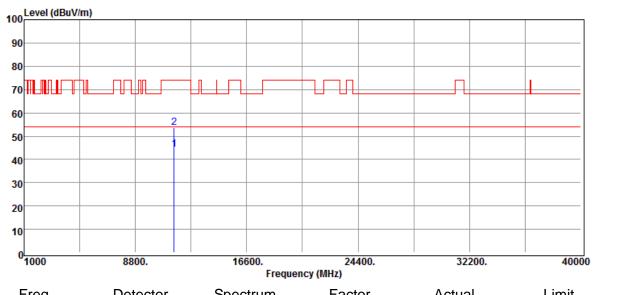
:TX CH LOW :H Plan :5755 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/54

:HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBμV/m | dB | |
| | | | | | | | |
| 11510.00 | Average | 29.02 | 15.41 | 44.43 | 54.00 | -9.57 | |
| 11510.00 | Peak | 38.27 | 15.41 | 53.68 | 74.00 | -20.32 | |
| | | | | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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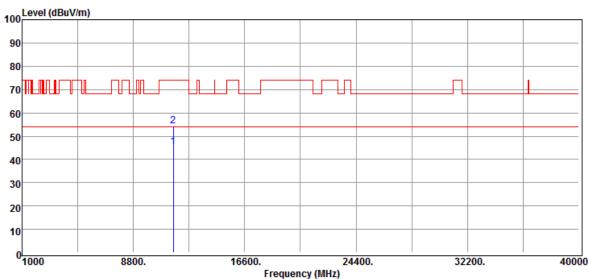
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 4 :TX CH HIGH

:H Plan :5795 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:23/54 :VERTICAL

Engineer :Jerry



| | | Trequenc | y (mi 12) | | | | |
|----------|------------------|---------------------------|-----------|--------------|--------------|--------|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | · | | | <u>.</u> | | |
| 11590.00 | Average | 28.64 | 16.81 | 45.45 | 54.00 | -8.55 | |
| 11590.00 | Peak | 37.65 | 16.81 | 54.46 | 74.00 | -19.54 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n40 / Band 4

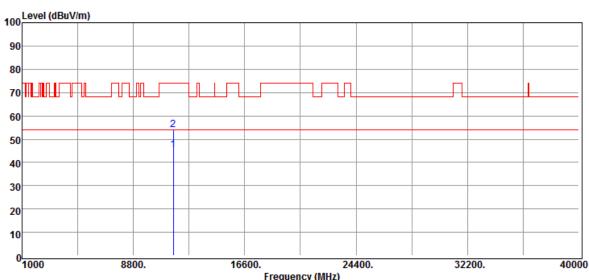
:TX CH HIGH

EUT Pol :H Plan Test Channel :5795 MHz **Test Date** Temp./Humi. Antenna Pol.

:2019-03-13 :23/54

:HORIZONTAL

Engineer :Jerry



| rrequency (winz) | | | | | | | | | |
|------------------|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | | |
| | | | | | | | | | |
| | 11590.00 | Average | 28.61 | 16.81 | 45.42 | 54.00 | -8.58 | | |
| | 11590.00 | Peak | 37.20 | 16.81 | 54.01 | 74.00 | -19.99 | | |

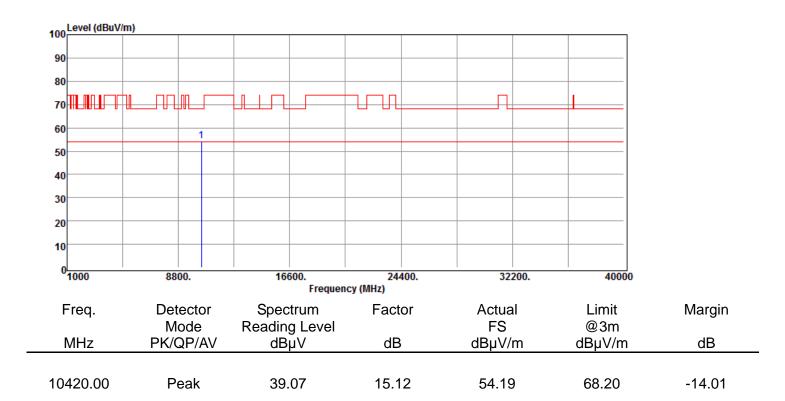
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5150~5250 MHz

Operation Mode :802.11ac80 / Band 1 Test Date :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/54 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5210 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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:2019-03-13

:23/54

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Operation Mode

:802.11ac80 / Band 1

Test Mode

:TX CH LOW :H Plan

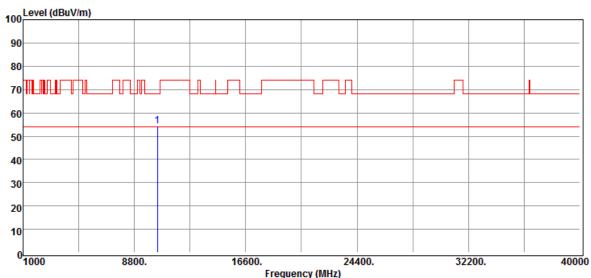
EUT Pol Test Channel

:5210 MHz

Test Date Temp./Humi.

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| | | | , , , | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 10420.00 | Peak | 39.21 | 15.12 | 54.33 | 68.20 | -13.87 |

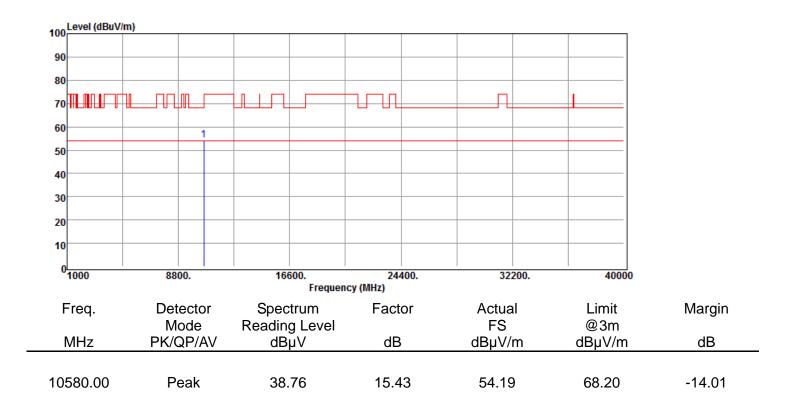
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5250~5350 MHz

Operation Mode :802.11ac80 / Band 2 **Test Date** :2019-03-13 Test Mode :TX CH HIGH Temp./Humi. :23/54 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5290 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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:2019-03-13

:23/54

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Operation Mode

Test Channel

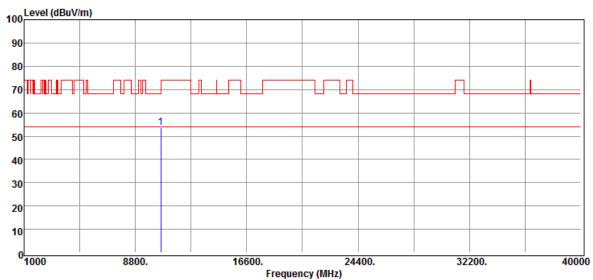
:802.11ac80 / Band 2

Test Mode :TX CH HIGH **EUT Pol**

:H Plan :5290 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| rrequency (Min2) | | | | | | | | | |
|------------------|------------------|---------------------------|--------|--------------|--------------|--------|---|--|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | |
| MHz | PK/QP/AV | dΒμ̈V | dB | dBμV/m | dBμV/m | dB | | | |
| 10580.00 | Peak | 38.08 | 15.43 | 53.51 | 68.20 | -14.69 | - | | |

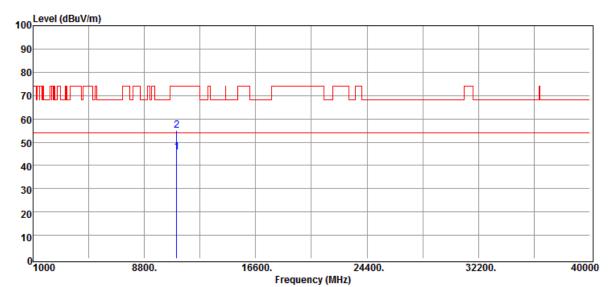
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5470~5725 MHz

Operation Mode :802.11ac80 / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/54 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5530 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11060.00 | Average | 28.02 | 17.50 | 45.52 | 54.00 | -8.48 |
| 11060.00 | Peak | 37.47 | 17.50 | 54.97 | 74.00 | -19.03 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode

:802.11ac80 / Band 3

Test Mode

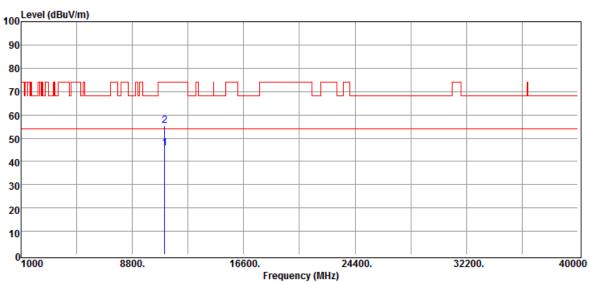
:TX CH LOW

EUT Pol Test Channel :H Plan :5530 MHz **Test Date** Temp./Humi. :2019-03-13 :23/54

Antenna Pol.

:HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11060.00 | Average | 28.05 | 17.50 | 45.55 | 54.00 | -8.45 |
| 11060.00 | Peak | 37.79 | 17.50 | 55.29 | 74.00 | -18.71 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 3

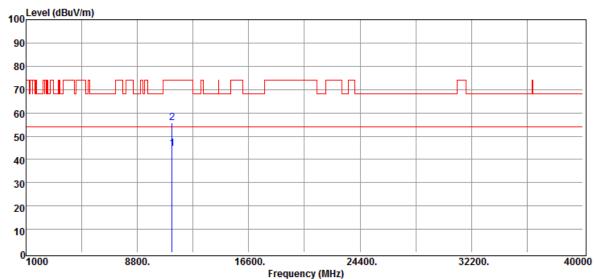
:TX CH MID :H Plan

:5610 MHz

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:23/54 :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | | | | | |
| 11220.00 | Average | 28.20 | 16.53 | 44.73 | 54.00 | -9.27 | |
| 11220.00 | Peak | 39.24 | 16.53 | 55.77 | 74.00 | -18.23 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode

:802.11ac80 / Band 3

Test Mode **EUT Pol**

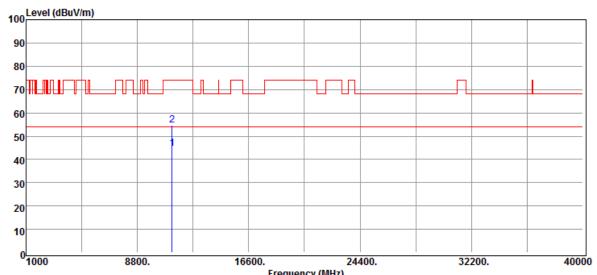
Test Channel

:TX CH MID :H Plan :5610 MHz

Test Date Temp./Humi. Antenna Pol.

:2019-03-13 :23/54 :HORIZONTAL

Engineer :Jerry



| Frequency (win2) | | | | | | | | | |
|------------------|----------|------------------|---------------------------|--------|--------------|--------------|--------|---|--|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | |
| | MHz | PK/QP/AV | dΒμ̈V | dB | dBµV/m | dBµV/m | dB | | |
| _ | | | | | | | | • | |
| | 11220.00 | Average | 28.00 | 16.53 | 44.53 | 54.00 | -9.47 | | |
| | 11220.00 | Peak | 38.06 | 16.53 | 54.59 | 74.00 | -19.41 | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 3

:TX CH HIGH :H Plan

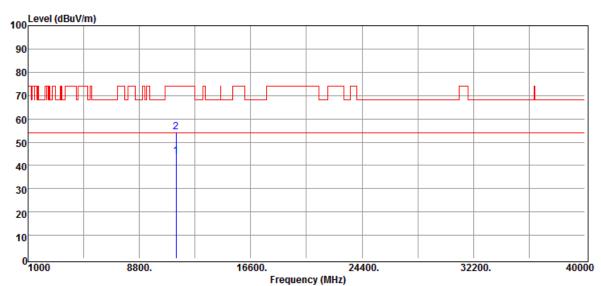
:5690 MHz

Test Date Temp./Humi. Antenna Pol.

Engineer

:2019-03-13 :23/54

:VERTICAL :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11380.00 | Average | 27.55 | 16.48 | 44.03 | 54.00 | -9.97 |
| 11380.00 | Peak | 37.71 | 16.48 | 54.19 | 74.00 | -19.81 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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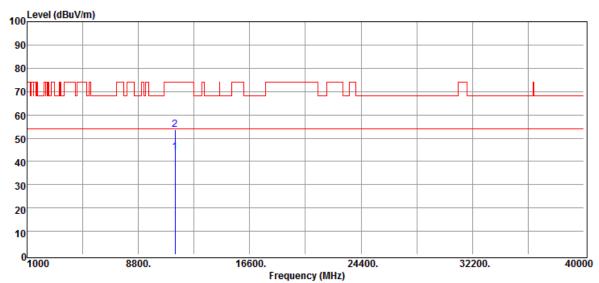
Operation Mode :802.11ac80 / Band 3 Test Mode

:TX CH HIGH

EUT Pol :H Plan Test Channel :5690 MHz **Test Date** :2019-03-13 Temp./Humi. :23/54

Antenna Pol. :HORIZONTAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11380.00 | Average | 27.56 | 16.48 | 44.04 | 54.00 | -9.96 |
| 11380.00 | Peak | 37.06 | 16.48 | 53.54 | 74.00 | -20.46 |

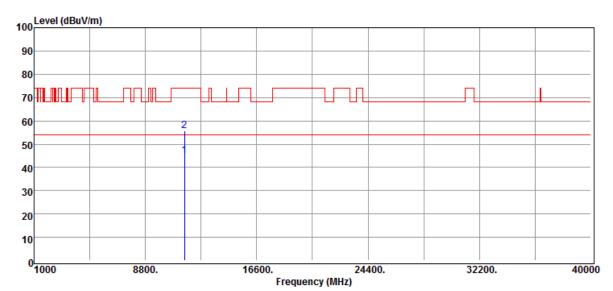
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5725~5850 MHz

Operation Mode :802.11ac80 / Band 4 **Test Date** :2019-03-13 Test Mode :TX CH LOW Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5775 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11550.00 | Average | 29.20 | 15.82 | 45.02 | 54.00 | -8.98 |
| 11550.00 | Peak | 39.82 | 15.82 | 55.64 | 74.00 | -18.36 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11ac80 / Band 4

EUT Pol Test Channel :TX CH LOW

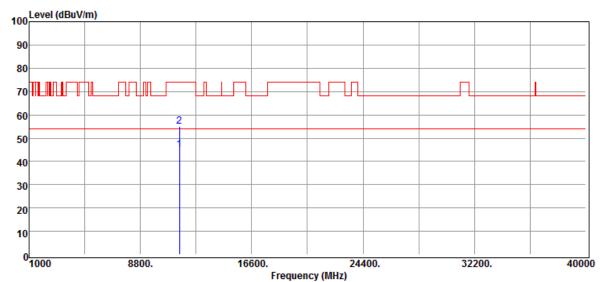
:H Plan :5775 MHz **Test Date** Temp./Humi.

Antenna Pol.

:23/53 :HORIZONTAL

:2019-03-13

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 11550.00 | Average | 29.14 | 15.82 | 44.96 | 54.00 | -9.04 |
| 11550.00 | Peak | 39.32 | 15.82 | 55.14 | 74.00 | -18.86 |

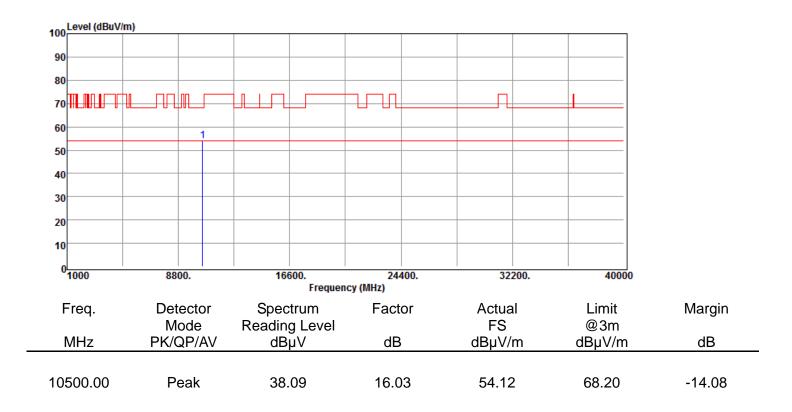
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT160, 5150~5350 MHz

Operation Mode :802.11ac160 / Band 1 Test Date :2019-03-13 Test Mode :TX CH MID Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5250 MHz Engineer :Jerry



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Offices other wines stated the estates and south in this test report reter only to the sample(s) destated and south sample(s) desta Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

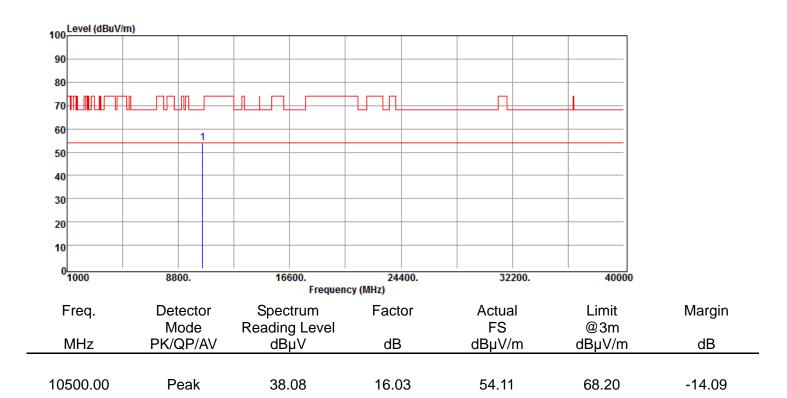


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Operation Mode :802.11ac160 / Band 1 **Test Date** :2019-03-13

Test Mode :TX CH MID Temp./Humi. :23/53 **EUT Pol** Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5250 MHz Engineer :Jerry



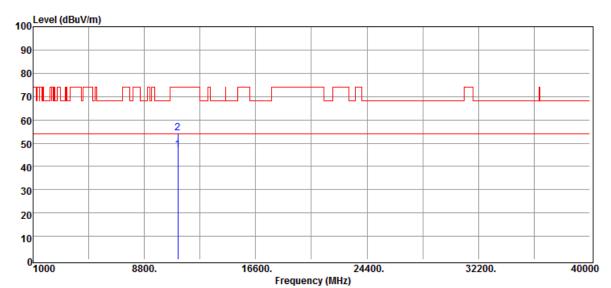
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Radiated Spurious Emission Measurement Result 802.11ac VHT160, 5470~5850 MHz

Operation Mode :802.11ac160 / Band 3 **Test Date** :2019-03-13 Test Mode :TX CH MID Temp./Humi. :23/53 **EUT Pol** :H Plan Antenna Pol. :VERTICAL Test Channel :5570 MHz Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 11140.00 | Average | 30.58 | 16.56 | 47.14 | 54.00 | -6.86 |
| 11140.00 | Peak | 37.92 | 16.56 | 54.48 | 74.00 | -19.52 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

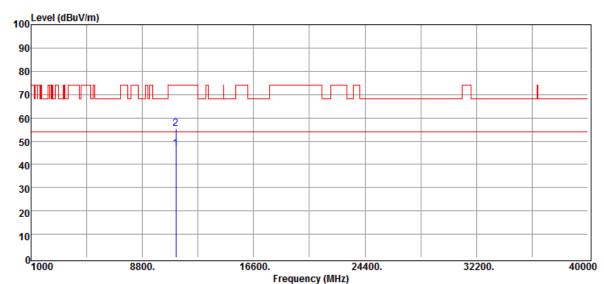


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Operation Mode :802.11ac160 / Band 3 **Test Date** :2019-03-13

Test Mode :TX CH MID Temp./Humi. :23/53 **EUT Pol** Antenna Pol. :H Plan :HORIZONTAL

Test Channel :5570 MHz Engineer :Jerry



| · ···· | | | | | | | | | |
|----------|------------------|---------------------------|--------|--------------|--------------|--------|--|--|--|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | | | |
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB | | | |
| | | | | | | | | | |
| 11140.00 | Average | 30.17 | 16.56 | 46.73 | 54.00 | -7.27 | | | |
| 11140.00 | Peak | 38.76 | 16.56 | 55.32 | 74.00 | -18.68 | | | |
| | | | | | | | | | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Band edge falling to restricted band

802.11a mode

:802.11a / Band 1 **Operation Mode**

:BE CH LOW Test Mode :H Plan **EUT Pol**

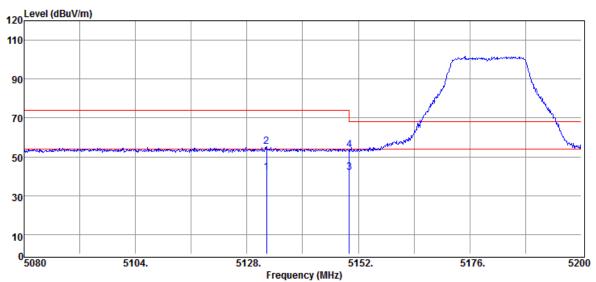
:5180 MHz Test Channel

Test Date :2019-03-13

:25/60 Temp./Humi.

Antenna Pol. :VERTICAL

Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5132.20 | Average | 37.19 | 4.63 | 41.82 | 54.00 | -12.18 |
| 5132.20 | Peak | 50.44 | 4.63 | 55.07 | 74.00 | -18.93 |
| 5150.00 | Average | 37.49 | 4.55 | 42.04 | 54.00 | -11.96 |
| 5150.00 | Peak | 49.09 | 4.55 | 53.64 | 68.20 | -14.56 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

5150.00

Peak

:802.11a / Band 1

:BE CH LOW

:H Plan

:5180 MHz Test Channel

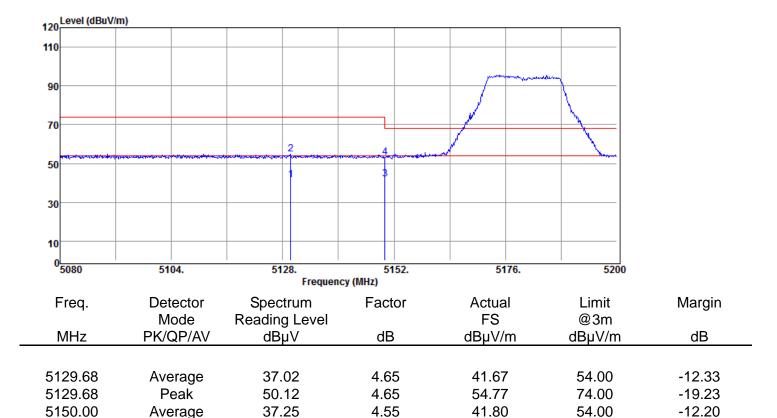
Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

68.20

-14.95

:Jerry Engineer



4.55

53.25

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

48.70

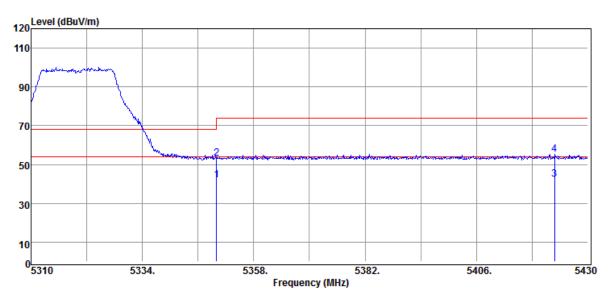


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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 2 :BE CH HIGH

:H Plan :5320 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60 Antenna Pol. :VERTICAL :Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 36.80 | 5.19 | 41.99 | 54.00 | -12.01 |
| 5350.00 | Peak | 47.94 | 5.19 | 53.13 | 68.20 | -15.07 |
| 5422.80 | Average | 36.68 | 5.62 | 42.30 | 54.00 | -11.70 |
| 5422.80 | Peak | 49.45 | 5.62 | 55.07 | 74.00 | -18.93 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

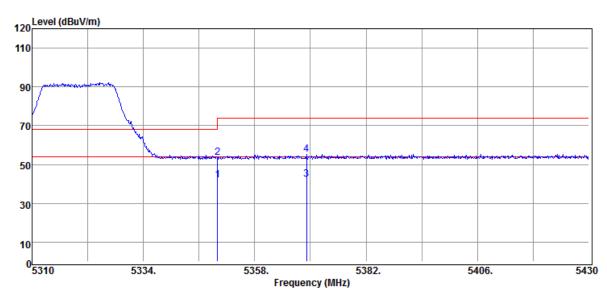
Test Channel

:802.11a / Band 2 :BE CH HIGH

:H Plan :5320 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 36.75 | 5.19 | 41.94 | 54.00 | -12.06 |
| 5350.00 | Peak | 48.37 | 5.19 | 53.56 | 68.20 | -14.64 |
| 5369.16 | Average | 36.95 | 5.30 | 42.25 | 54.00 | -11.75 |
| 5369.16 | Peak | 50.03 | 5.30 | 55.33 | 74.00 | -18.67 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 3 :BE CH LOW

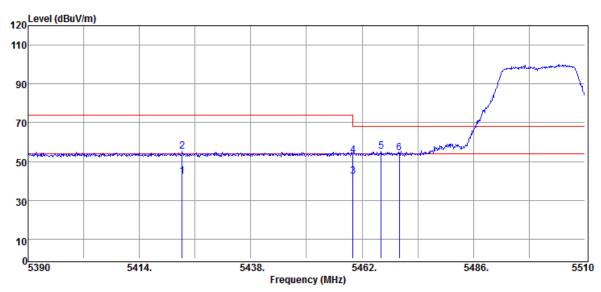
:H Plan :5500 MHz **Test Date** Temp./Humi. Antenna Pol. Engineer

:2019-03-13

:25/60

:VERTICAL

:Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5423.24 | Average | 36.65 | 5.62 | 42.27 | 54.00 | -11.73 |
| 5423.24 | Peak | 49.68 | 5.62 | 55.30 | 74.00 | -18.70 |
| 5460.00 | Average | 37.00 | 5.54 | 42.54 | 54.00 | -11.46 |
| 5460.00 | Peak | 47.80 | 5.54 | 53.34 | 68.20 | -14.86 |
| 5466.08 | Peak | 49.66 | 5.53 | 55.19 | 68.20 | -13.01 |
| 5470.00 | Peak | 48.80 | 5.52 | 54.32 | 68.20 | -13.88 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11a / Band 3

:BE CH LOW

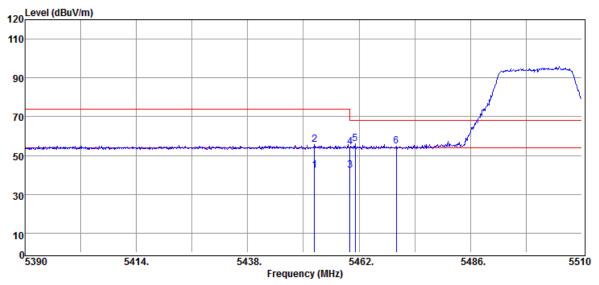
:H Plan

:5500 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 101112 | 110 01 770 | αυμν | u.b | αυμν/ιιι | 42p v//// | u D |
| 5452.40 | Average | 36.80 | 5.55 | 42.35 | 54.00 | -11.65 |
| 5452.40 | Peak | 50.12 | 5.55 | 55.67 | 74.00 | -18.33 |
| 5460.00 | Average | 37.00 | 5.54 | 42.54 | 54.00 | -11.46 |
| 5460.00 | Peak | 48.87 | 5.54 | 54.41 | 68.20 | -13.79 |
| 5461.16 | Peak | 50.47 | 5.54 | 56.01 | 68.20 | -12.19 |
| 5470.00 | Peak | 49.35 | 5.52 | 54.87 | 68.20 | -13.33 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 3 :BE CH HIGH

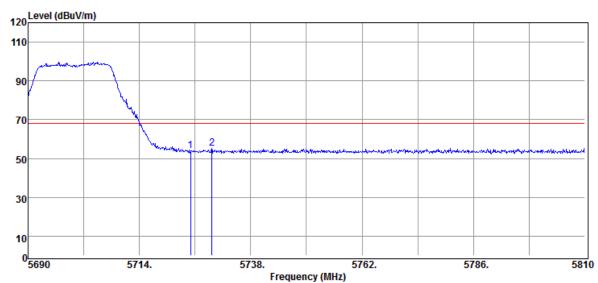
:H Plan

:5700 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

:Jerry Engineer



| | | • | | | | |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5725.00 | Peak | 47.35 | 6.55 | 53.90 | 68.20 | -14.30 |
| 5729.60 | Peak | 48.65 | 6.53 | 55.18 | 68.20 | -13.02 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11a / Band 3 :BE CH HIGH

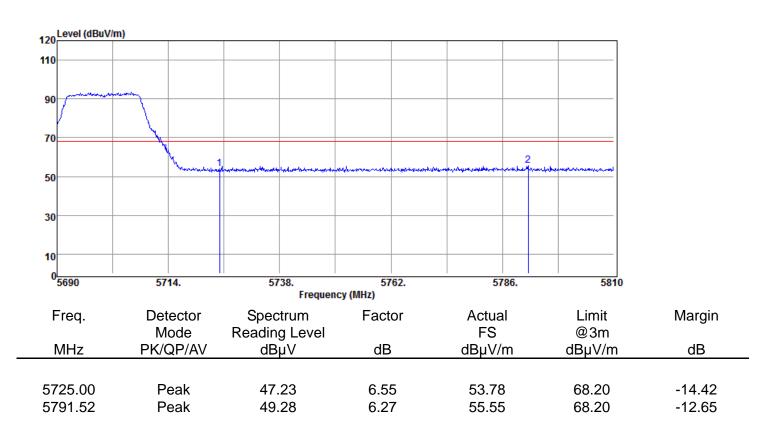
:H Plan

:5700 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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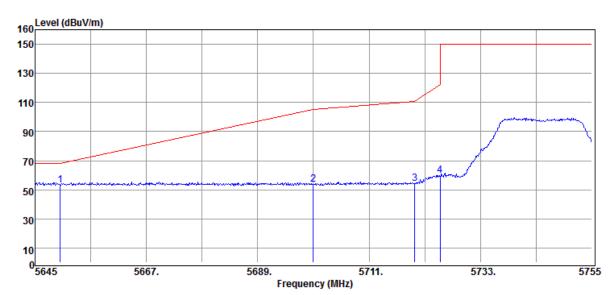
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 4 :BE CH LOW

:H Plan :5745 MHz **Test Date** Temp./Humi. Antenna Pol. Engineer

:2019-03-13 :25/60

:VERTICAL :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 47.48 | 5.91 | 53.39 | 68.20 | -14.81 |
| 5700.00 | Peak | 47.22 | 6.43 | 53.65 | 105.20 | -51.55 |
| 5720.00 | Peak | 47.90 | 6.55 | 54.45 | 110.80 | -56.35 |
| 5725.00 | Peak | 53.34 | 6.55 | 59.89 | 122.20 | -62.31 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

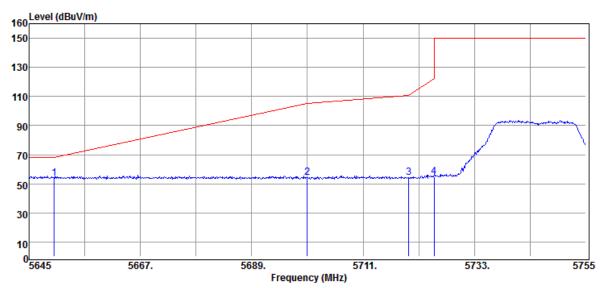
:802.11a / Band 4

:BE CH LOW

:H Plan :5745 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 47.95 | 5.91 | 53.86 | 68.20 | -14.34 |
| 5700.00 | Peak | 47.70 | 6.43 | 54.13 | 105.20 | -51.07 |
| 5720.00 | Peak | 47.80 | 6.55 | 54.35 | 110.80 | -56.45 |
| 5725.00 | Peak | 48.45 | 6.55 | 55.00 | 122.20 | -67.20 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11a / Band 4 :BE CH HIGH

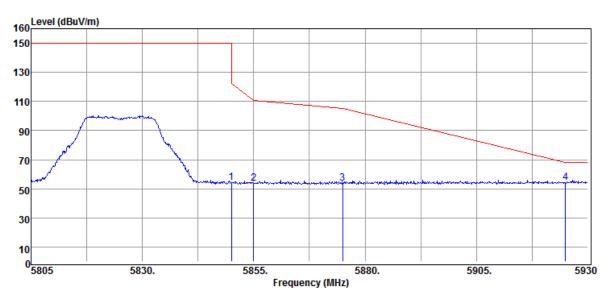
:H Plan :5825 MHz **Test Date** Temp./Humi. Antenna Pol.

Engineer

:VERTICAL :Jerry

:25/60

:2019-03-13



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 48.09 | 6.41 | 54.50 | 122.20 | -67.70 |
| 5855.00 | Peak | 47.52 | 6.43 | 53.95 | 110.80 | -56.85 |
| 5875.00 | Peak | 47.09 | 6.49 | 53.58 | 105.20 | -51.62 |
| 5925.00 | Peak | 48.00 | 6.44 | 54.44 | 68.20 | -13.76 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

:802.11a / Band 4 :BE CH HIGH

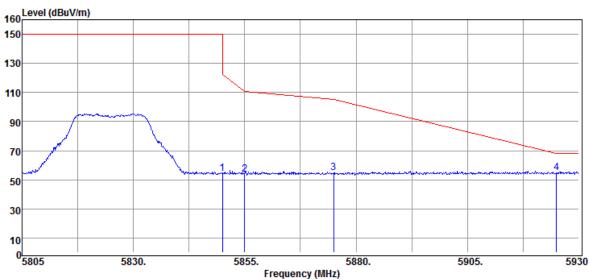
:H Plan

:5825 MHz Test Channel

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 47.80 | 6.41 | 54.21 | 122.20 | -67.99 |
| 5855.00 | Peak | 47.37 | 6.43 | 53.80 | 110.80 | -57.00 |
| 5875.00 | Peak | 48.34 | 6.49 | 54.83 | 105.20 | -50.37 |
| 5925.00 | Peak | 48.52 | 6.44 | 54.96 | 68.20 | -13.24 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

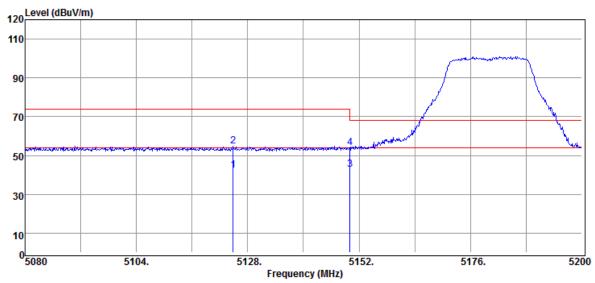


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802.11n20 mode

:802.11n20 / Band 1 **Operation Mode** Test Mode :BE CH LOW **EUT Pol** :H Plan :5180 MHz Test Channel

Test Date :2019-03-13 :25/60 Temp./Humi. Antenna Pol. :VERTICAL Engineer :Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5124.88 | Average | 37.80 | 4.70 | 42.50 | 54.00 | -11.50 |
| 5124.88 | Peak | 50.31 | 4.70 | 55.01 | 74.00 | -18.99 |
| 5150.00 | Average | 38.40 | 4.55 | 42.95 | 54.00 | -11.05 |
| 5150.00 | Peak | 49.47 | 4.55 | 54.02 | 68.20 | -14.18 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 1

:BE CH LOW

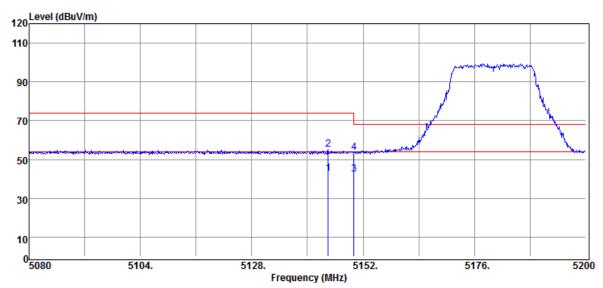
:H Plan

:5180 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5144.44 | Average | 38.08 | 4.55 | 42.63 | 54.00 | -11.37 |
| 5144.44 | Peak | 50.62 | 4.55 | 55.17 | 74.00 | -18.83 |
| 5150.00 | Average | 37.80 | 4.55 | 42.35 | 54.00 | -11.65 |
| 5150.00 | Peak | 49.11 | 4.55 | 53.66 | 68.20 | -14.54 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 2

:BE CH HIGH

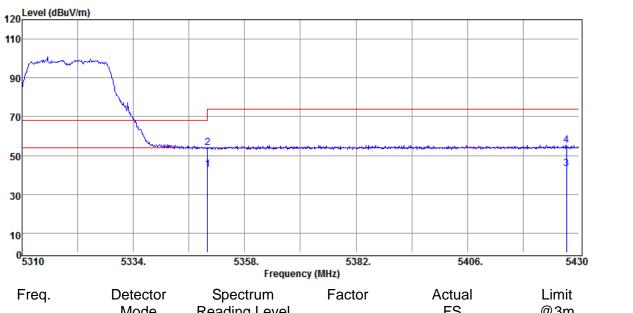
:H Plan

:5320 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Avorago | 37.49 | 5.19 | 42.68 | 54.00 | -11.32 |
| | Average | | | | | |
| 5350.00 | Peak | 48.75 | 5.19 | 53.94 | 68.20 | -14.26 |
| 5427.36 | Average | 37.44 | 5.61 | 43.05 | 54.00 | -10.95 |
| 5427.36 | Peak | 49.73 | 5.61 | 55.34 | 74.00 | -18.66 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 2

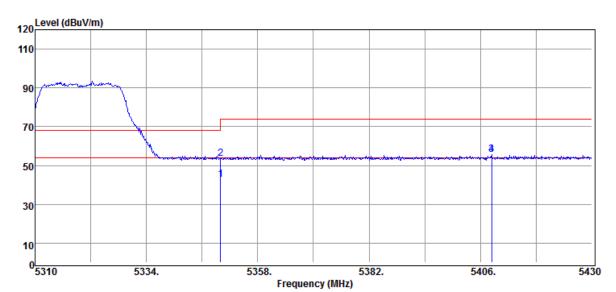
:BE CH HIGH

:H Plan :5320 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBuV/m | Limit @3m dBuV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| IVII IZ | FIVQF/AV | αБμν | ub | αυμ ν/π | αυμ ν/π | ub_ |
| | | | | | | |
| 5350.00 | Average | 37.47 | 5.19 | 42.66 | 54.00 | -11.34 |
| 5350.00 | Peak | 48.57 | 5.19 | 53.76 | 68.20 | -14.44 |
| 5408.40 | Peak | 50.01 | 5.64 | 55.65 | 74.00 | -18.35 |
| 5408.40 | Peak | 50.01 | 5.64 | 55.65 | 74.00 | -18.35 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 3

:BE CH LOW

:H Plan

:5500 MHz

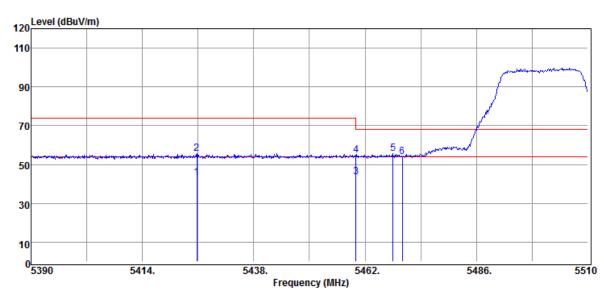
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 101112 | 11001770 | αυμν | u.b | αυμν/ιιι | αυμνγιιι | <u> </u> |
| 5425.76 | Average | 37.48 | 5.61 | 43.09 | 54.00 | -10.91 |
| 5425.76 | Peak | 49.91 | 5.61 | 55.52 | 74.00 | -18.48 |
| 5460.00 | Average | 38.09 | 5.54 | 43.63 | 54.00 | -10.37 |
| 5460.00 | Peak | 49.27 | 5.54 | 54.81 | 68.20 | -13.39 |
| 5468.00 | Peak | 49.92 | 5.52 | 55.44 | 68.20 | -12.76 |
| 5470.00 | Peak | 48.61 | 5.52 | 54.13 | 68.20 | -14.07 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 3

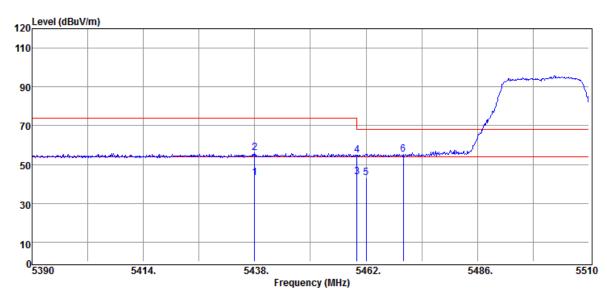
:BE CH LOW

:H Plan :5500 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBuV/m | Limit @3m dBuV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 1711 12 | 11001770 | αυμν | ub_ | αυμν/ιιι | аврулп | <u>ub</u> |
| 5438.00 | Average | 37.61 | 5.61 | 43.22 | 54.00 | -10.78 |
| 5438.00 | Peak | 50.35 | 5.61 | 55.96 | 74.00 | -18.04 |
| 5460.00 | Average | 37.94 | 5.54 | 43.48 | 54.00 | -10.52 |
| 5460.00 | Peak | 49.21 | 5.54 | 54.75 | 68.20 | -13.45 |
| 5462.00 | Average | 37.73 | 5.54 | 43.27 | 54.00 | -10.73 |
| 5470.00 | Peak | 49.60 | 5.52 | 55.12 | 68.20 | -13.08 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 3

:BE CH HIGH

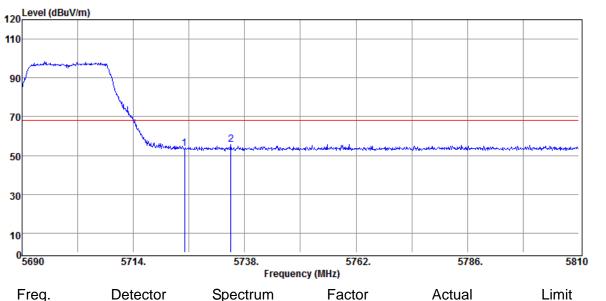
:H Plan

:5700 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5725.00 | Peak | 47.10 | 6.55 | 53.65 | 68.20 | -14.55 |
| 5735.00 | Peak | 49.20 | 6.53 | 55.73 | 68.20 | -12.47 |

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Operation Mode Test Mode **EUT Pol**

:802.11n20 / Band 3

:BE CH HIGH

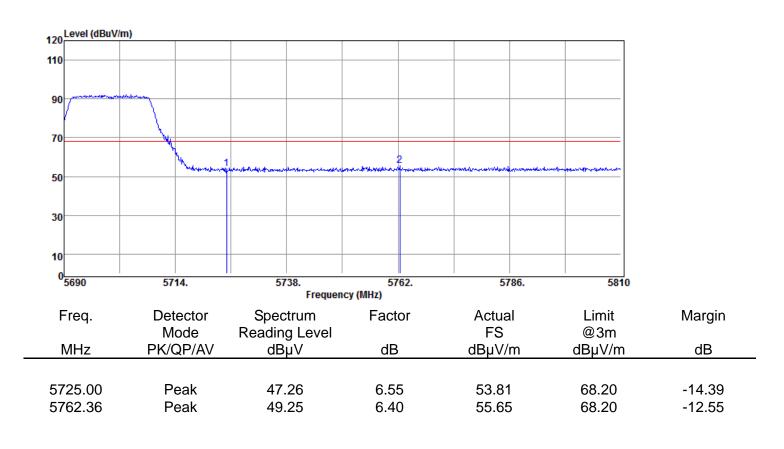
:H Plan

:5700 MHz Test Channel

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 4

:BE CH LOW

:H Plan

:5745 MHz

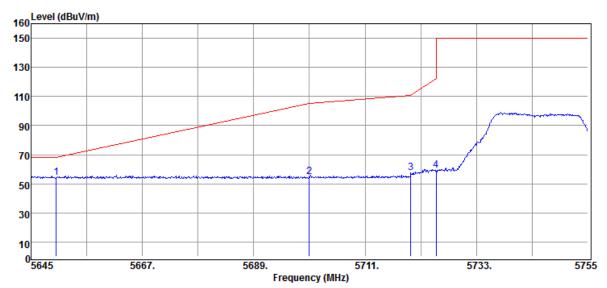
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 48.09 | 5.91 | 54.00 | 68.20 | -14.20 |
| 5700.00 | Peak | 48.40 | 6.43 | 54.83 | 105.20 | -50.37 |
| 5720.00 | Peak | 51.21 | 6.55 | 57.76 | 110.80 | -53.04 |
| 5725.00 | Peak | 52.95 | 6.55 | 59.50 | 122.20 | -62.70 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n20 / Band 4

:BE CH LOW

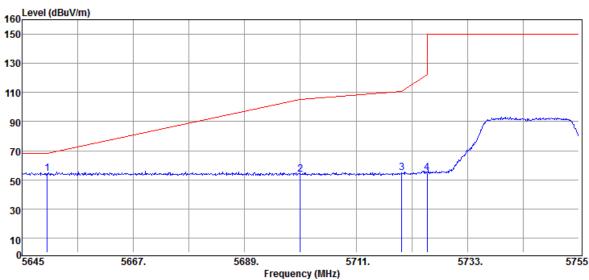
:H Plan

:5745 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
|--|---------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | | | | | | |
| | 5650.00 | Peak | 48.09 | 5.91 | 54.00 | 68.20 | -14.20 | |
| | 5700.00 | Peak | 47.20 | 6.43 | 53.63 | 105.20 | -51.57 | |
| | 5720.00 | Peak | 48.32 | 6.55 | 54.87 | 110.80 | -55.93 | |
| | 5725.00 | Peak | 48.22 | 6.55 | 54.77 | 122.20 | -67.43 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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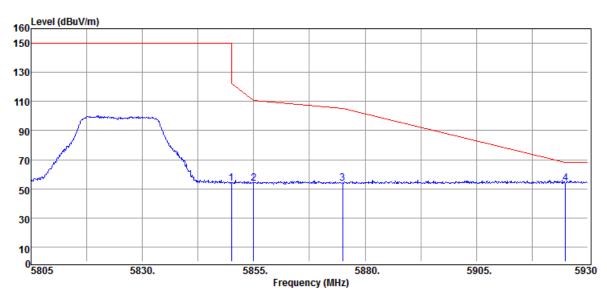
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n20 / Band 4

:BE CH HIGH

:H Plan :5825 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60 Antenna Pol. :VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 47.41 | 6.41 | 53.82 | 122.20 | -68.38 |
| 5855.00 | Peak | 47.51 | 6.43 | 53.94 | 110.80 | -56.86 |
| 5875.00 | Peak | 47.24 | 6.49 | 53.73 | 105.20 | -51.47 |
| 5925.00 | Peak | 47.51 | 6.44 | 53.95 | 68.20 | -14.25 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11n20 / Band 4 :BE CH HIGH

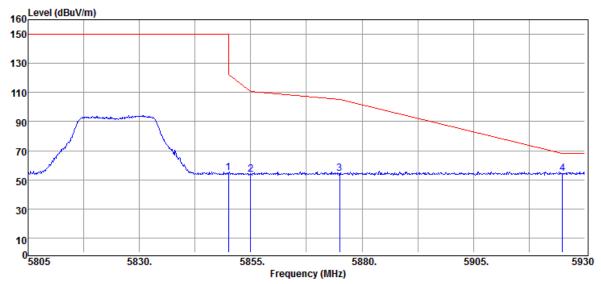
:H Plan

EUT Pol :5825 MHz Test Channel

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 48.45 | 6.41 | 54.86 | 122.20 | -67.34 |
| 5855.00 | Peak | 47.34 | 6.43 | 53.77 | 110.80 | -57.03 |
| 5875.00 | Peak | 47.57 | 6.49 | 54.06 | 105.20 | -51.14 |
| 5925.00 | Peak | 47.82 | 6.44 | 54.26 | 68.20 | -13.94 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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802.11n40 mode

Operation Mode Test Mode **EUT Pol**

:802.11n40 / Band 1

:BE CH LOW :H Plan

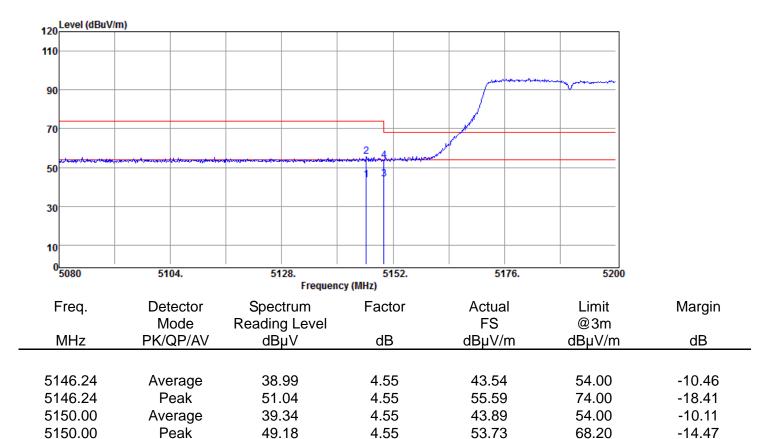
:5190 MHz Test Channel

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n40 / Band 1

:BE CH LOW

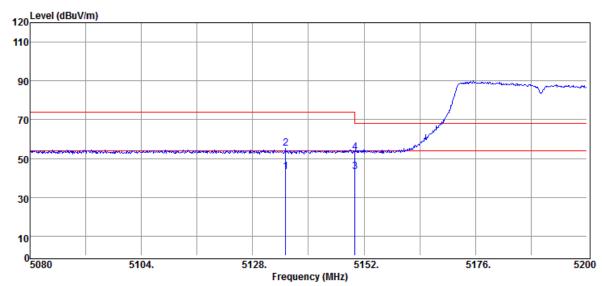
:H Plan

:5190 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5135.08 | Average | 38.72 | 4.61 | 43.33 | 54.00 | -10.67 |
| 5135.08 | Peak | 50.41 | 4.61 | 55.02 | 74.00 | -18.98 |
| 5150.00 | Average | 38.66 | 4.55 | 43.21 | 54.00 | -10.79 |
| 5150.00 | Peak | 48.46 | 4.55 | 53.01 | 68.20 | -15.19 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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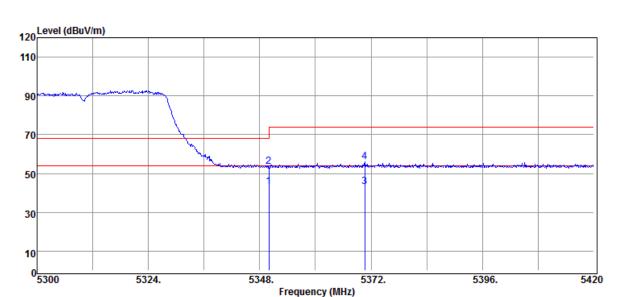
Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 2

:BE CH HIGH :H Plan

:5310 MHz

Test Date :2019-03-13 Temp./Humi. :25/60 Antenna Pol. :VERTICAL :Jerry Engineer



| · ···· | | | | | | | | |
|--------|---------|------------------|---------------------------|--------|--------------|--------------|--------|--|
| | Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin | |
| | MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB | |
| | | | | | | | | |
| | 5350.00 | Average | 37.99 | 5.19 | 43.18 | 54.00 | -10.82 | |
| | 5350.00 | Peak | 48.42 | 5.19 | 53.61 | 68.20 | -14.59 | |
| | 5370.68 | Average | 37.81 | 5.31 | 43.12 | 54.00 | -10.88 | |
| | 5370.68 | Peak | 50.90 | 5.31 | 56.21 | 74.00 | -17.79 | |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

Test Channel

EUT Pol

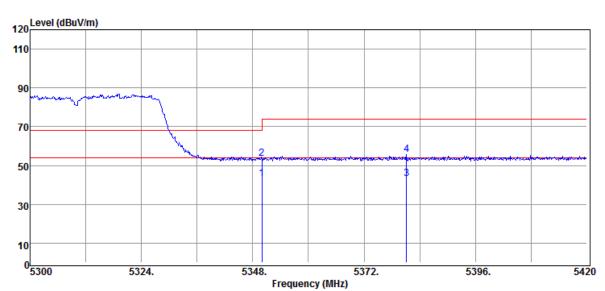
:802.11n40 / Band 2

:BE CH HIGH

:H Plan :5310 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 38.13 | 5.19 | 43.32 | 54.00 | -10.68 |
| 5350.00 | Peak | 48.45 | 5.19 | 53.64 | 68.20 | -14.56 |
| 5381.12 | Average | 37.96 | 5.42 | 43.38 | 54.00 | -10.62 |
| 5381.12 | Peak | 50.10 | 5.42 | 55.52 | 74.00 | -18.48 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 3

:BE CH LOW

:H Plan

:5510 MHz

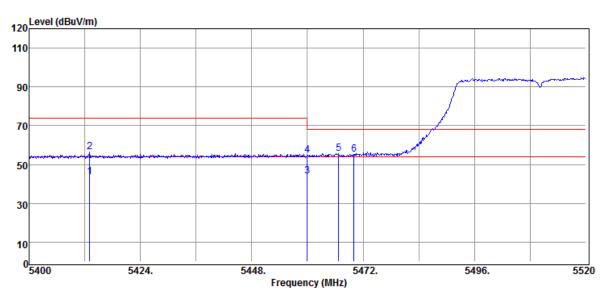
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| | · | • | | • | . | |
| 5413.08 | Average | 37.90 | 5.64 | 43.54 | 54.00 | -10.46 |
| 5413.08 | Peak | 50.99 | 5.64 | 56.63 | 74.00 | -17.37 |
| 5460.00 | Average | 38.48 | 5.54 | 44.02 | 54.00 | -9.98 |
| 5460.00 | Peak | 49.47 | 5.54 | 55.01 | 68.20 | -13.19 |
| 5466.72 | Peak | 50.19 | 5.53 | 55.72 | 68.20 | -12.48 |
| 5470.00 | Peak | 49.86 | 5.52 | 55.38 | 68.20 | -12.82 |

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:2019-03-13

:25/60

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Operation Mode Test Mode **EUT Pol**

Test Channel

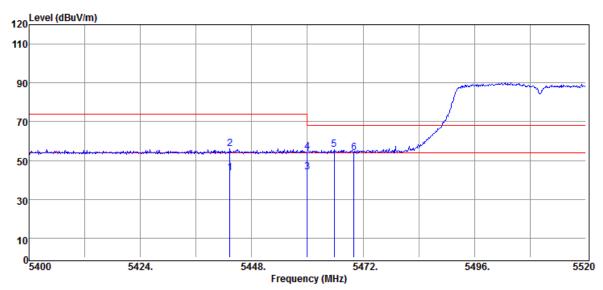
:802.11n40 / Band 3

:BE CH LOW

:H Plan :5510 MHz **Test Date** Temp./Humi.

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| 1711 12 | 11001710 | αυμν | ub_ | αυμν/ιιι | авр ү/ш | GD_ |
| 5443.32 | Average | 38.12 | 5.59 | 43.71 | 54.00 | -10.29 |
| 5443.32 | Peak | 50.53 | 5.59 | 56.12 | 74.00 | -17.88 |
| 5460.00 | Average | 38.51 | 5.54 | 44.05 | 54.00 | -9.95 |
| 5460.00 | Peak | 48.77 | 5.54 | 54.31 | 68.20 | -13.89 |
| 5465.76 | Peak | 50.22 | 5.52 | 55.74 | 68.20 | -12.46 |
| 5470.00 | Peak | 48.56 | 5.52 | 54.08 | 68.20 | -14.12 |

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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 3

:BE CH HIGH

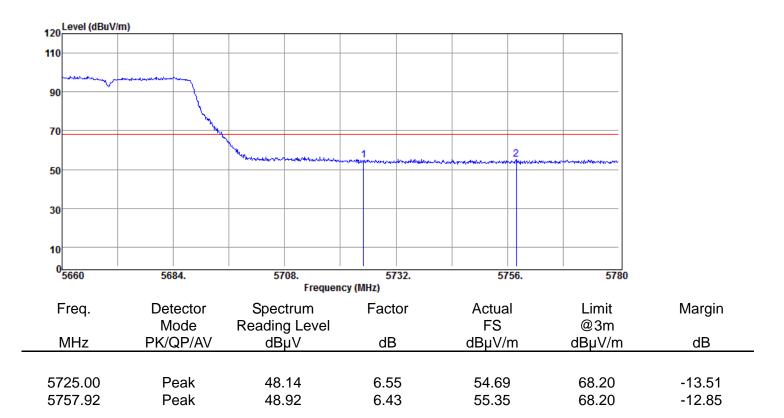
:H Plan

:5670 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL





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Operation Mode Test Mode **EUT Pol**

Test Channel

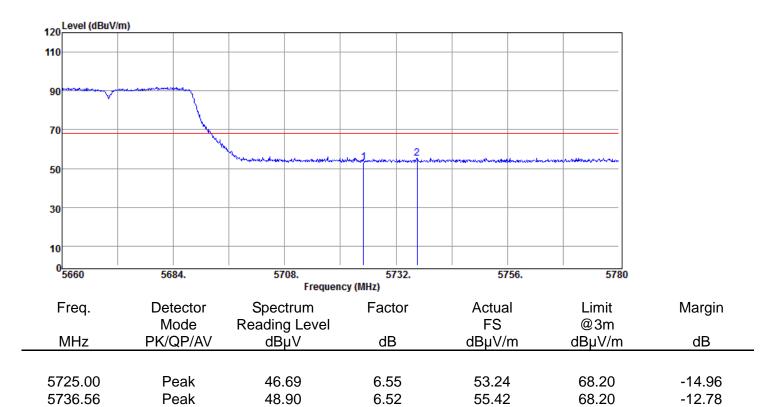
:802.11n40 / Band 3

:BE CH HIGH

:H Plan :5670 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 4

:BE CH LOW

:H Plan

:5755 MHz

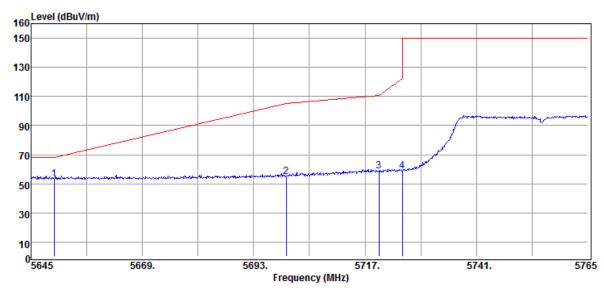
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 47.47 | 5.91 | 53.38 | 68.20 | -14.82 |
| 5700.00 | Peak | 48.54 | 6.43 | 54.97 | 105.20 | -50.23 |
| 5720.00 | Peak | 51.97 | 6.55 | 58.52 | 110.80 | -52.28 |
| 5725.00 | Peak | 52.40 | 6.55 | 58.95 | 122.20 | -63.25 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n40 / Band 4

:BE CH LOW

:H Plan

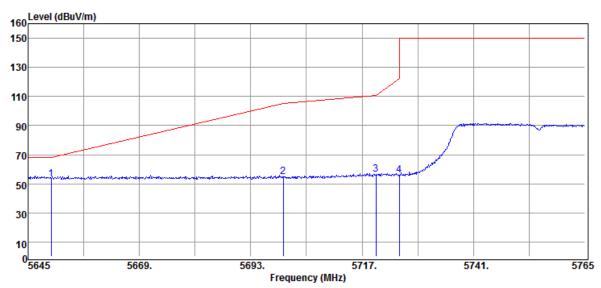
:5755 MHz

Test Date Temp./Humi. Antenna Pol.

:2019-03-13 :25/60

:HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 47.47 | 5.91 | 53.38 | 68.20 | -14.82 |
| 5700.00 | Peak | 48.26 | 6.43 | 54.69 | 105.20 | -50.51 |
| 5720.00 | Peak | 49.70 | 6.55 | 56.25 | 110.80 | -54.55 |
| 5725.00 | Peak | 49.32 | 6.55 | 55.87 | 122.20 | -66.33 |

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:2019-03-13

:VERTICAL

:25/60

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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11n40 / Band 4

:BE CH HIGH

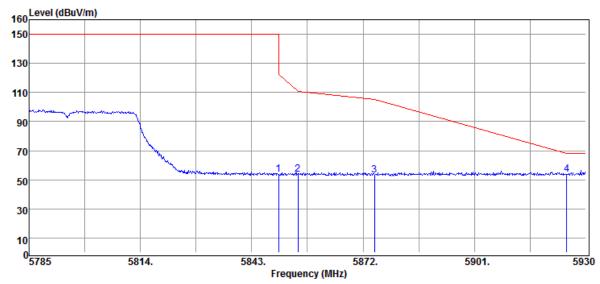
:H Plan

:5795 MHz

Test Date Temp./Humi. Antenna Pol.

:Jerry

Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 47.28 | 6.41 | 53.69 | 122.20 | -68.51 |
| 5855.00 | Peak | 47.53 | 6.43 | 53.96 | 110.80 | -56.84 |
| 5875.00 | Peak | 46.60 | 6.49 | 53.09 | 105.20 | -52.11 |
| 5925.00 | Peak | 47.40 | 6.44 | 53.84 | 68.20 | -14.36 |

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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11n40 / Band 4

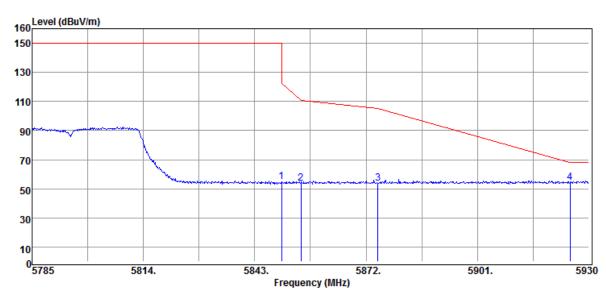
:BE CH HIGH

:H Plan :5795 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5849.96 | Peak | 48.22 | 6.41 | 54.63 | 150.00 | -95.37 |
| 5855.04 | Peak | 47.31 | 6.43 | 53.74 | 110.79 | -57.05 |
| 5875.05 | Peak | 47.26 | 6.49 | 53.75 | 105.17 | -51.42 |
| 5925.07 | Peak | 47.78 | 6.44 | 54.22 | 68.20 | -13.98 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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802.11ac80 mode

Test Channel

:802.11ac80 / Band 1 **Operation Mode** Test Mode :BE CH LOW **EUT Pol** :H Plan

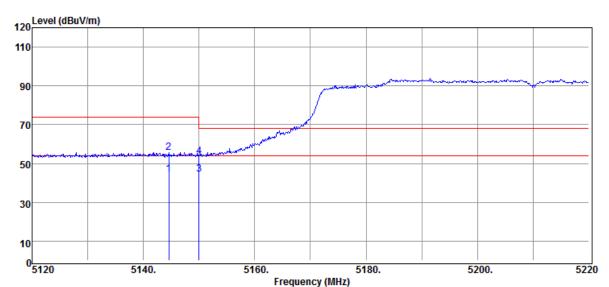
:5210 MHz

Test Date Temp./Humi. Antenna Pol. Engineer

:2019-03-13 :25/60

:VERTICAL

:Jerry



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5144.60 | Average | 39.88 | 4.55 | 44.43 | 54.00 | -9.57 |
| 5144.60 | Peak | 51.14 | 4.55 | 55.69 | 74.00 | -18.31 |
| 5150.00 | Average | 39.95 | 4.55 | 44.50 | 54.00 | -9.50 |
| 5150.00 | Peak | 49.08 | 4.55 | 53.63 | 68.20 | -14.57 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

Test Channel

EUT Pol

:802.11ac80 / Band 1

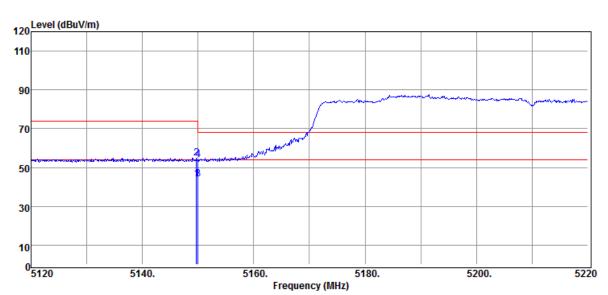
:BE CH LOW

:H Plan :5210 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:HORIZONTAL

:25/60

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------------------|------------------------------|---------------------------|--------------|----------------|----------------|------------------|
| IVIHZ | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| 5149.70 | Average | 39.31 | 4.55 | 43.86 | 54.00 | -10.14 |
| 5149.70 | Peak | 50.41 | 4.55 | 54.96 | 74.00 | -19.04 |
| 5150.00 5150.00 | Average Peak | 39.37 49.26 | 4.55 4.55 | 43.92 53.81 | 54.00 68.20 | -10.08 -14.39 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 2

:BE CH HIGH

:H Plan

:5290 MHz

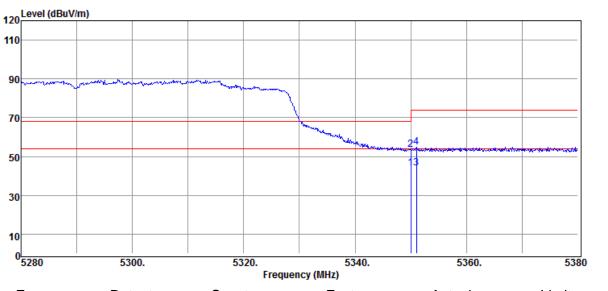
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 38.85 | 5.19 | 44.04 | 54.00 | -9.96 |
| 5350.00 | Peak | 48.52 | 5.19 | 53.71 | 68.20 | -14.49 |
| 5351.00 | Average | 38.71 | 5.20 | 43.91 | 54.00 | -10.09 |
| 5351.00 | Peak | 49.74 | 5.20 | 54.94 | 74.00 | -19.06 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode

:802.11ac80 / Band 2 :BE CH HIGH

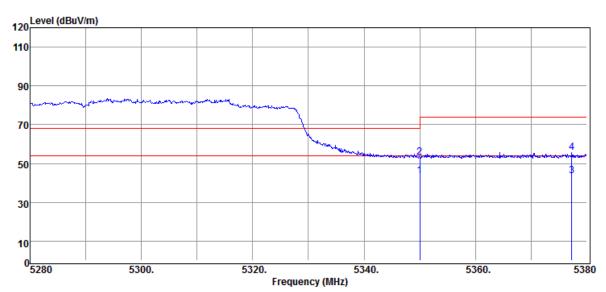
EUT Pol :H Plan :5290 MHz Test Channel

Test Date Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------------------|------------------|---------------------------|--------------|----------------|----------------|------------------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 5350.00 | Average Peak | 38.53 47.93 | 5.19 5.19 | 43.72 53.12 | 54.00 68.20 | -10.28 -15.08 |
| 5377.30 | Average | 38.40 | 5.38 | 43.78 | 54.00 | -10.22 |
| 5377.30 | Peak | 50.37 | 5.38 | 55.75 | 74.00 | -18.25 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11ac80 / Band 3

:BE CH LOW

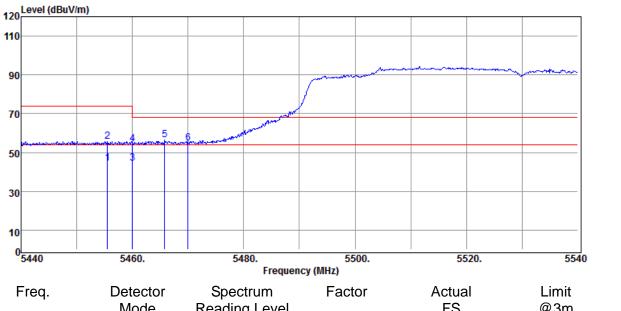
:H Plan

:5530 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5455.50 | Average | 38.88 | 5.54 | 44.42 | 54.00 | -9.58 |
| 5455.50 | Peak | 50.30 | 5.54 | 55.84 | 74.00 | -18.16 |
| 5460.00 | Average | 39.04 | 5.54 | 44.58 | 54.00 | -9.42 |
| 5460.00 | Peak | 48.67 | 5.54 | 54.21 | 68.20 | -13.99 |
| 5465.80 | Peak | 50.89 | 5.52 | 56.41 | 68.20 | -11.79 |
| 5470.00 | Peak | 49.14 | 5.52 | 54.66 | 68.20 | -13.54 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11ac80 / Band 3

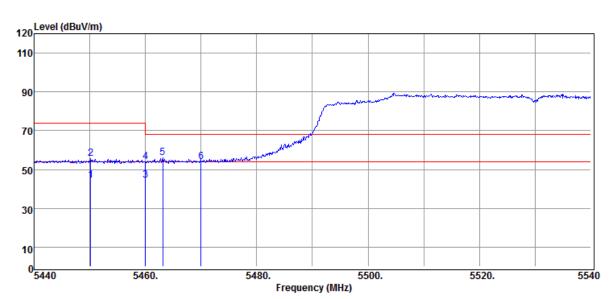
:BE CH LOW

:H Plan :5530 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. MHz | Detector Mode PK/QP/AV | Spectrum Reading Level dBuV | Factor dB | Actual FS dBµV/m | Limit @3m dBµV/m | Margin dB |
|--------------|------------------------------|-----------------------------------|--------------|------------------------|------------------------|--------------|
| IVII IZ | 11001710 | αυμν | <u>ub</u> | αυμν/π | αυμν/π | <u>ub</u> |
| 5450.20 | Average | 38.71 | 5.55 | 44.26 | 54.00 | -9.74 |
| 5450.20 | Peak | 49.97 | 5.55 | 55.52 | 74.00 | -18.48 |
| 5460.00 | Average | 38.99 | 5.54 | 44.53 | 54.00 | -9.47 |
| 5460.00 | Peak | 48.61 | 5.54 | 54.15 | 68.20 | -14.05 |
| 5463.10 | Peak | 50.38 | 5.53 | 55.91 | 68.20 | -12.29 |
| 5470.00 | Peak | 48.36 | 5.52 | 53.88 | 68.20 | -14.32 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 4

:BE CH LOW

:H Plan

:5775 MHz

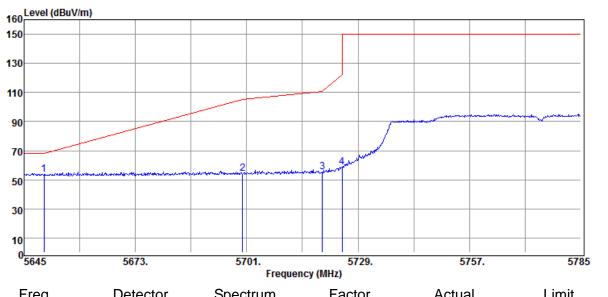
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBμV/m | dB |
| | | | | | | |
| 5650.00 | Peak | 47.90 | 5.91 | 53.81 | 68.20 | -14.39 |
| 5700.00 | Peak | 47.81 | 6.43 | 54.24 | 105.20 | -50.96 |
| 5720.00 | Peak | 48.59 | 6.55 | 55.14 | 110.80 | -55.66 |
| 5725.00 | Peak | 52.20 | 6.55 | 58.75 | 122.20 | -63.45 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

:802.11ac80 / Band 4

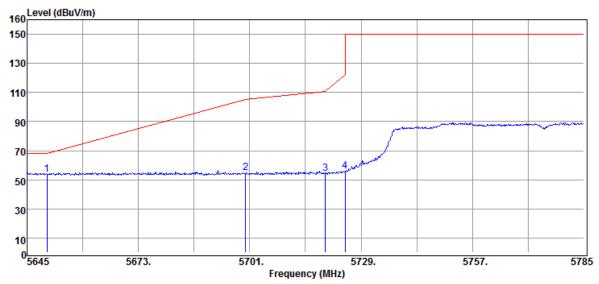
:BE CH LOW

:H Plan

Test Channel :5775 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|--------------------|------------------|---------------------------|--------------|----------------|------------------|------------------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| 5650.00 | Peak | 47.53 | 5.91 | 53.44 | 68.20 | -14.76 |
| 5700.00 | Peak | 48.19 | 6.43 | 54.62 | 105.20 | -50.58 |
| 5720.00 5725.00 | Peak Peak | 47.72 49.51 | 6.55 6.55 | 54.27 56.06 | 110.80 122.20 | -56.53 -66.14 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac80 / Band 4

:BE CH HIGH

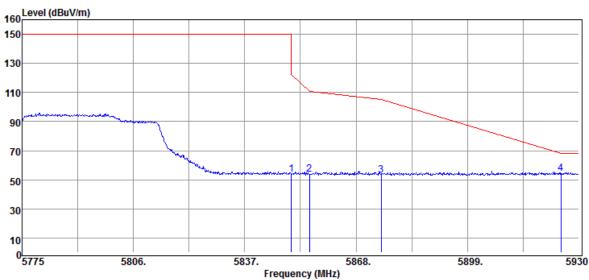
:H Plan

:5775 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 47.40 | 6.41 | 53.81 | 122.20 | -68.39 |
| 5855.00 | Peak | 47.44 | 6.43 | 53.87 | 110.80 | -56.93 |
| 5875.00 | Peak | 46.57 | 6.49 | 53.06 | 105.20 | -52.14 |
| 5925.00 | Peak | 47.54 | 6.44 | 53.98 | 68.20 | -14.22 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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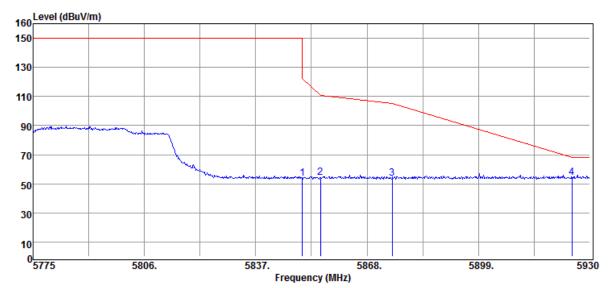
Operation Mode Test Mode

:802.11ac80 / Band 4 :BE CH HIGH

EUT Pol :H Plan Test Channel :5775 MHz **Test Date** :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5850.00 | Peak | 47.29 | 6.41 | 53.70 | 122.20 | -68.50 |
| 5855.00 | Peak | 47.88 | 6.43 | 54.31 | 110.80 | -56.49 |
| 5875.00 | Peak | 47.29 | 6.49 | 53.78 | 105.20 | -51.42 |
| 5925.00 | Peak | 47.55 | 6.44 | 53.99 | 68.20 | -14.21 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



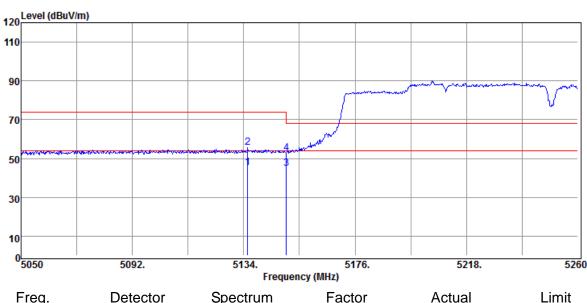
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802.11ac160 mode

:802.11ac160 / Band 1 **Operation Mode** Test Mode :BE CH LOW

EUT Pol :H Plan :5250 MHz Test Channel

Test Date :2019-03-13 Temp./Humi. :25/60 Antenna Pol. :VERTICAL :Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5135.47 | Average | 40.82 | 4.60 | 45.42 | 54.00 | -8.58 |
| 5135.47 | Peak | 51.01 | 4.60 | 55.61 | 74.00 | -18.39 |
| 5150.00 | Average | 40.40 | 4.55 | 44.95 | 54.00 | -9.05 |
| 5150.00 | Peak | 48.19 | 4.55 | 52.74 | 68.20 | -15.46 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

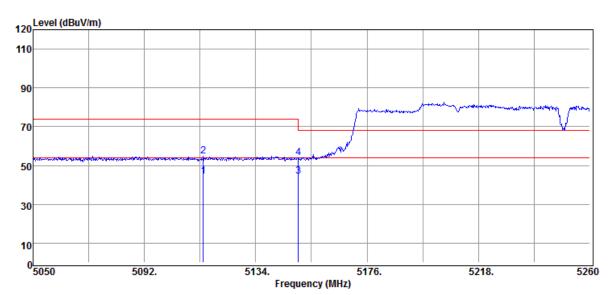
:802.11ac160 / Band 1

:BE CH LOW

:H Plan :5250 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60 :HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5114.26 | Average | 39.88 | 4.75 | 44.63 | 54.00 | -9.37 |
| 5114.26 | Peak | 50.12 | 4.75 | 54.87 | 74.00 | -19.13 |
| 5150.00 | Average | 39.82 | 4.55 | 44.37 | 54.00 | -9.63 |
| 5150.00 | Peak | 49.55 | 4.55 | 54.10 | 68.20 | -14.10 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac160 / Band 2

:BE CH HIGH

:H Plan

:5250 MHz

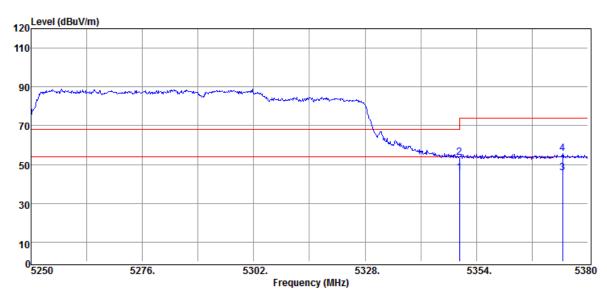
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 40.40 | 5.19 | 45.59 | 54.00 | -8.41 |
| 5350.00 | Peak | 48.39 | 5.19 | 53.58 | 68.20 | -14.62 |
| 5374.15 | Average | 40.21 | 5.35 | 45.56 | 54.00 | -8.44 |
| 5374.15 | Peak | 50.11 | 5.35 | 55.46 | 74.00 | -18.54 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11ac160 / Band 2

:BE CH HIGH

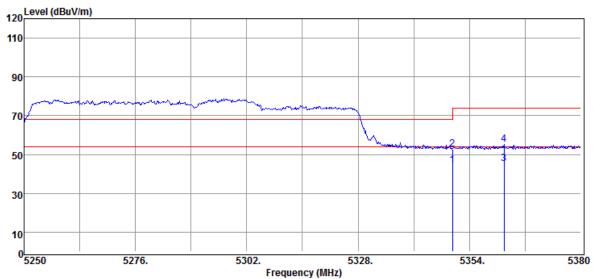
:H Plan

:5250 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



| | | | , , , | | | |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5350.00 | Average | 39.33 | 5.19 | 44.52 | 54.00 | -9.48 |
| 5350.00 | Peak | 47.75 | 5.19 | 52.94 | 68.20 | -15.26 |
| 5362.06 | Average | 39.93 | 5.23 | 45.16 | 54.00 | -8.84 |
| 5362.06 | Peak | 50.00 | 5.23 | 55.23 | 74.00 | -18.77 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac160 / Band 3

:BE CH LOW

:H Plan

:5570 MHz

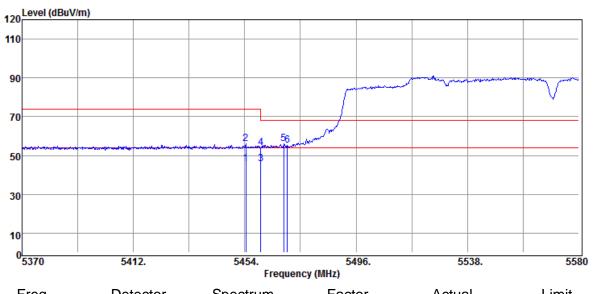
Test Date Temp./Humi. Antenna Pol.

:2019-03-13

:25/60

:VERTICAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBμV/m | dBµV/m | dB |
| | | | | | | |
| 5454.42 | Average | 40.31 | 5.55 | 45.86 | 54.00 | -8.14 |
| 5454.42 | Peak | 50.37 | 5.55 | 55.92 | 74.00 | -18.08 |
| 5460.00 | Average | 39.98 | 5.54 | 45.52 | 54.00 | -8.48 |
| 5460.00 | Peak | 48.58 | 5.54 | 54.12 | 68.20 | -14.08 |
| 5468.70 | Peak | 50.54 | 5.53 | 56.07 | 68.20 | -12.13 |
| 5470.00 | Peak | 49.71 | 5.52 | 55.23 | 68.20 | -12.97 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11ac160 / Band 3

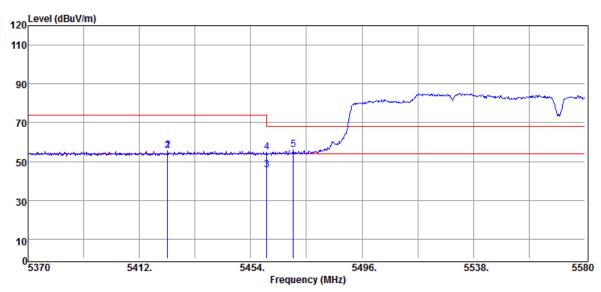
:BE CH LOW

:H Plan :5570 MHz **Test Date** Temp./Humi. Antenna Pol. :2019-03-13

:25/60

:HORIZONTAL

:Jerry Engineer



| Freq. | Detector Mode | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|---------|------------------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | dΒμV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | |
| 5422.71 | Peak | 49.90 | 5.62 | 55.52 | 74.00 | -18.48 |
| 5422.71 | Peak | 49.90 | 5.62 | 55.52 | 74.00 | -18.48 |
| 5460.00 | Average | 39.97 | 5.54 | 45.51 | 54.00 | -8.49 |
| 5460.00 | Peak | 49.43 | 5.54 | 54.97 | 68.20 | -13.23 |
| 5470.00 | Peak | 50.47 | 5.52 | 55.99 | 68.20 | -12.21 |

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Operation Mode Test Mode **EUT Pol** Test Channel

:802.11ac160 / Band 3

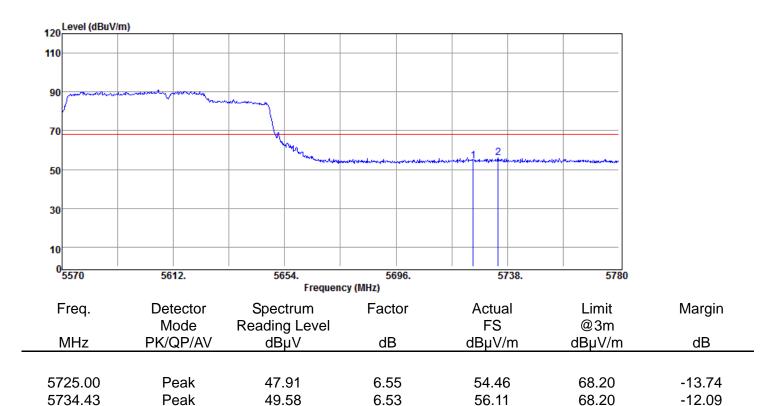
:BE CH HIGH

:H Plan

:5570 MHz

Test Date :2019-03-13 Temp./Humi. :25/60 Antenna Pol.

:VERTICAL :Jerry Engineer



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 30 days only.

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Operation Mode Test Mode **EUT Pol**

Test Channel

:802.11ac160 / Band 3

:BE CH HIGH

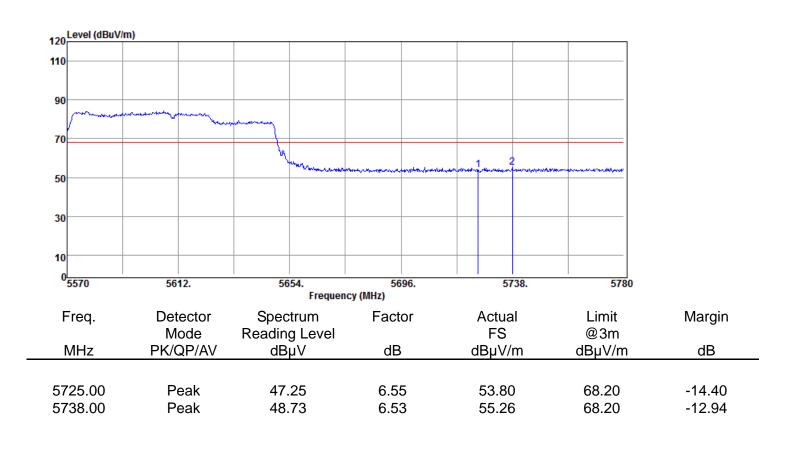
:H Plan

:5570 MHz

Test Date :2019-03-13 Temp./Humi. :25/60

Antenna Pol. :HORIZONTAL

:Jerry Engineer



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Onless otherwise stated the results shown in this test report reter only to the sample(s) tested and such sample(s) are retained for 30 days only.

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12 TRANSMISSION IN THE ABSENCE OF DATA

Standard Applicable 12.1

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

12.2 Result

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

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13 FREQUENCY STABILITY

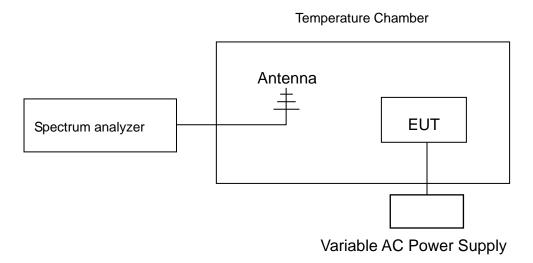
Standard Applicable 13.1

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

13.2 Measurement Procedure

- 1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
- 2. Set EUT as normal operation.
- 3. Turn the EUT on and couple its output to spectrum.
- 4. Turn the EUT off and set the chamber to the highest temperature specified.
- 5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
- 6. Repeat step with the temperature chamber set to the lowest temperature.

Test SET-UP 13.3



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13.4 **Measurement Equipment Used:**

| SGS Conducted Room | | | | | | | |
|--------------------|------------|-----------------|------------------|--------------|------------|--|--|
| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. | | |
| Spectrum Analyzer | Agilent | N9010A | MY53400256 | 2018/11/21 | 2019/11/20 | | |
| DC Power Supply | Agilent | E3640A | KR93300208 | 2018/08/15 | 2019/08/14 | | |
| DC Block | PASTERNACK | PE8210 | RF29 | 2019/02/26 | 2020/02/25 | | |
| Attenuator | Marvelous | MVE2213-10 | RF80 | 2019/02/26 | 2020/02/25 | | |

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13.5 **Measurement Result**

Startup:

| Operation Mode | 802.11 a | Test Date | 2019.03.13 |
|----------------|----------|-----------|------------|
| Temperature | : 24°C | Test By | Henry |
| Humidity | : 62% | | |

| Test Temp.(°C) | Test Voltage(V) | Channel | Measured Frequency (MHz) | Spectrum Frequency (MHz) | Δ Frequency (MHz) |
|----------------|-----------------|---------|--------------------------------|--------------------------------|--------------------------|
| 0 | 17.57 | 36 | 5180 | 5,179.99202 | 0.00000154 |
| 0 | 13.75 | 36 | 5180 | 5,179.99175 | 0.00000159 |
| 25 | 15.28 | 36 | 5180 | 5,179.99236 | 0.00000147 |
| 25 | 17.57 | 36 | 5180 | 5,179.99162 | 0.00000162 |
| 35 | 13.75 | 36 | 5180 | 5,179.99165 | 0.00000161 |

2 Minutes:

| Operation Mode | 802.11 a | Test Date | 2019.03.13 |
|----------------|----------|-----------|------------|
| Temperature | : 24°C | Test By | Henry |
| Humidity | : 62% | | |

| Test Temp.(℃) | Test Voltage(V) | Channel | Measured Frequency (MHz) | Spectrum Frequency (MHz) | Δ Frequency (MHz) |
|---------------|-----------------|---------|--------------------------------|--------------------------------|--------------------------|
| 0 | 17.57 | 36 | 5180 | 5,179.99184 | 0.00000158 |
| 0 | 13.75 | 36 | 5180 | 5,179.99196 | 0.00000155 |
| 25 | 15.28 | 36 | 5180 | 5,179.99182 | 0.00000158 |
| 25 | 17.57 | 36 | 5180 | 5,179.99165 | 0.00000161 |
| 35 | 13.75 | 36 | 5180 | 5,179.99208 | 0.00000153 |

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5 Minutes:

| Operation Mode | 802.11 a | Test Date | 2019.03.13 |
|----------------|----------|-----------|------------|
| Temperature | : 24°C | Test By | Henry |
| Humidity | : 62% | | |

| Test Temp.(℃) | Test Voltage(V) | Channel | Measured Frequency (MHz) | Spectrum Frequency (MHz) | Δ Frequency (MHz) |
|---------------|-----------------|---------|--------------------------------|--------------------------------|--------------------------|
| 0 | 17.57 | 36 | 5180 | 5,179.99209 | 0.00000153 |
| | 13.75 | 36 | 5180 | 5,179.99231 | 0.00000148 |
| 25 | 15.28 | 36 | 5180 | 5,179.99181 | 0.00000158 |
| 35 | 17.57 | 36 | 5180 | 5,179.99192 | 0.00000156 |
| | 13.75 | 36 | 5180 | 5,179.99218 | 0.00000151 |

10 Minutes:

| Operation Mode | 802.11 a | Test Date | 2019.03.13 |
|----------------|----------|-----------|------------|
| Temperature | : 24°C | Test By | Henry |
| Humidity | : 62% | • | |

| Test Temp.(℃) | Test Voltage(V) | Channel | Measured Frequency (MHz) | Spectrum Frequency (MHz) | Δ Frequency (MHz) |
|---------------|-----------------|---------|--------------------------------|--------------------------------|--------------------------|
| 0 | 17.57 | 36 | 5180 | 5,179.99210 | 0.00000153 |
| | 13.75 | 36 | 5180 | 5,179.99224 | 0.00000150 |
| 25 | 15.28 | 36 | 5180 | 5,179.99235 | 0.00000148 |
| 35 | 17.57 | 36 | 5180 | 5,179.99174 | 0.00000159 |
| | 13.75 | 36 | 5180 | 5,179.99179 | 0.00000158 |

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14 ANTENNA REQUIREMENT

Standard Applicable 14.1

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

According to §15.407, If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

14.2 **Antenna Connected Construction**

The antenna is designed as permanently attached and no consideration of replacement. Please see EUT photo for details.

~ End of Report ~

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