



MEASUREMENT REPORT

FCC PART 15.407/ WLAN 802.11a/n/ac

FCC ID: P27ME221
Application: Sercomm Corporation

Application Type: Class III Permissive Change
Product: Subscriber End Equipment HGW
Model No.: AME-4221SR
Brand Name: Airtel
FCC Classification: Unlicensed National Information Infrastructure (NII)
FCC Rule Part(s): Part15 Subpart E (Section 15.407)
Test Date: August 16~November 18, 2020

Reviewed By:

Oscar Shi

(Oscar Shi)

Approved By:

Robin Wu

(Robin Wu)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 789033 D02v02r01. Test results reported here in relate only to the item(s) tested.

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Revision History

Report No.	Version	Description	Issue Date	Note
2008RSU023-U5	Rev. 01	Initial Report	11-26-2020	Valid

Note: This is C3PC Report for adding beamforming function, just assessment Output Power, Power Spectral Density, Radiated Emission in this Report.

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2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	Subscriber End Equipment HGW
Model No.:	AME-4221SR
Wi-Fi Specification:	802.11a/b/g/n/ac
Serial Number:	Conducted Sample: SRMEGA000044 Radiated Sample: SRMEGA000001
Accessories	
Adapter:	Model No.: MSA-C2000IS12.0-24W-IN Input Power: 90 - 270V ~ 50/60Hz, 0.7A max Output Power: 12Vdc 2.0A

2.2. Product Specification Subjective to this Report

Frequency Range:	For 802.11a/n-HT20/ac-VHT20: 5180~5240MHz, 5745~5825MHz For 802.11n-HT40/ac-VHT40: 5190~5230MHz, 5755~5795MHz For 802.11ac-VHT80: 5210MHz, 5775MHz
Type of Modulation:	802.11a/n/ac: OFDM
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.6Mbps
Maximum Average Output Power:	802.11a: 29.90dBm 802.11n-HT20: 29.78dBm 802.11n-HT40: 29.88dBm 802.11ac-VHT20: 29.76dBm 802.11ac-VHT40: 29.89dBm 802.11ac-VHT80:29.86dBm

Note: For other features of this EUT, test report will be issued separately.

2.3. Description of Available Antennas

Antenna Type	Frequency Band(GHz)	Antenna Gain (dBi)		CDD Directional Gain (dBi)		Beamforming Directional Gain (dBi)
		Ant 0	Ant 1	For Power	For PSD	
PIFA Antenna	2.4 ~ 2.5	3.30	2.70	3.30	6.31	N/A
	5.15 ~ 5.25	3.40	3.40	3.40	6.41	6.41
	5.725 ~ 5.85					

Note 1: The EUT supports Cyclic Delay Diversity (CDD) technology for 802.11a/b/g/n/ac mode and beamforming technology for 802.11n/ac.

Note 2: The EUT supports Cyclic Delay Diversity (CDD) mode and beamforming mode, and CDD and beamforming signals are correlated.

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS})$ dB = 3.01;
- For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;

If antenna gains are not equal, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Note 3: The antenna gain is declared by manufacture.

2.4. Working Frequencies for this Report

802.11a/n-HT20/ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	149	5745 MHz	153	5765 MHz
157	5785 MHz	161	5805 MHz	165	5825 MHz

802.11n-HT40/ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz
159	5795 MHz	--	--	--	--

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	155	5775 MHz	--	--

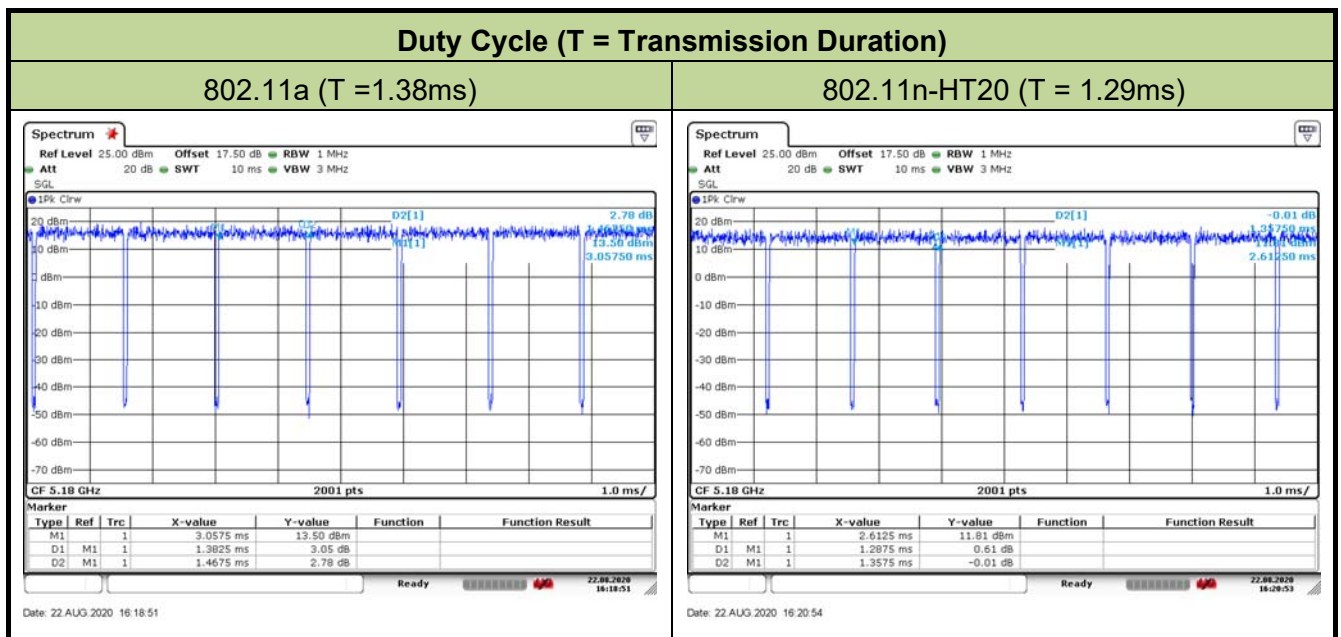
2.5. Test Mode

Test Mode	Mode 1: Transmit by 802.11n-HT20 (MCS0) (Beam-Forming mode)
	Mode 2: Transmit by 802.11n-HT40 (MCS0) (Beam-Forming mode)
	Mode 3: Transmit by 802.11ac-VHT20 (MCS0) (Beam-Forming mode)
	Mode 4: Transmit by 802.11ac-VHT40 (MCS0) (Beam-Forming mode)
	Mode 5: Transmit by 802.11ac-VHT80 (MCS0) (Beam-Forming mode)

2.6. Duty Cycle

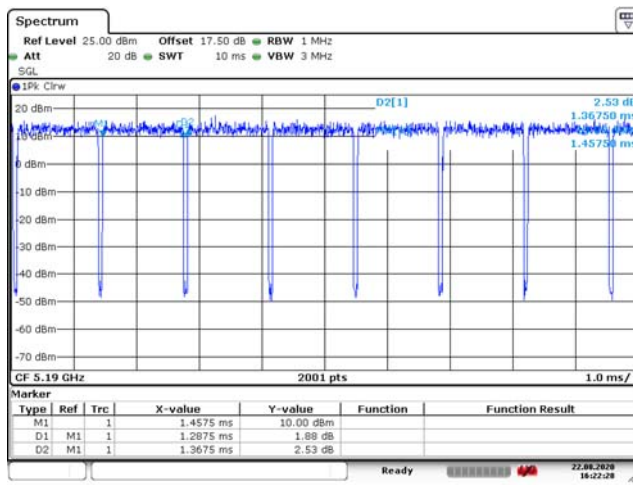
5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
802.11a	94.21%
802.11n-HT20	94.84%
802.11n-HT40	90.29%
802.11ac-VHT20	90.60%
802.11ac-VHT40	77.48%
802.11ac-VHT80	62.65%



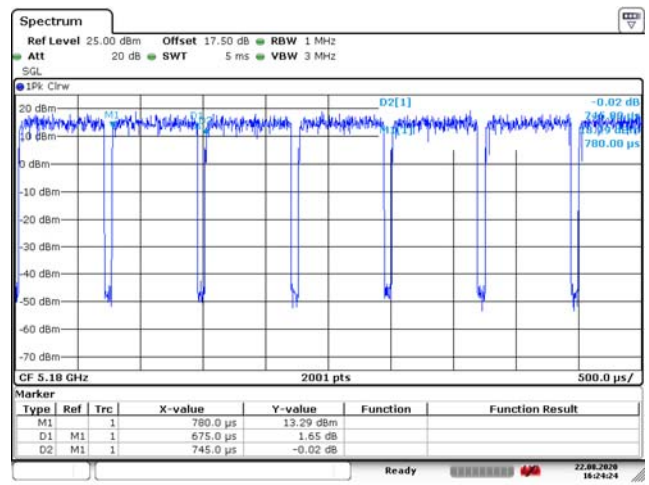
Duty Cycle (T = Transmission Duration)

802.11n-HT40 (T = 1.29ms)



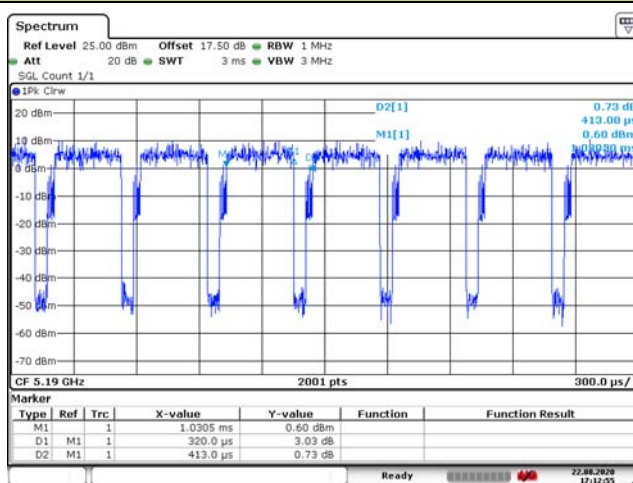
Date: 22 AUG 2020 16:22:29

802.11ac-VHT20 (T = 675.0µs)



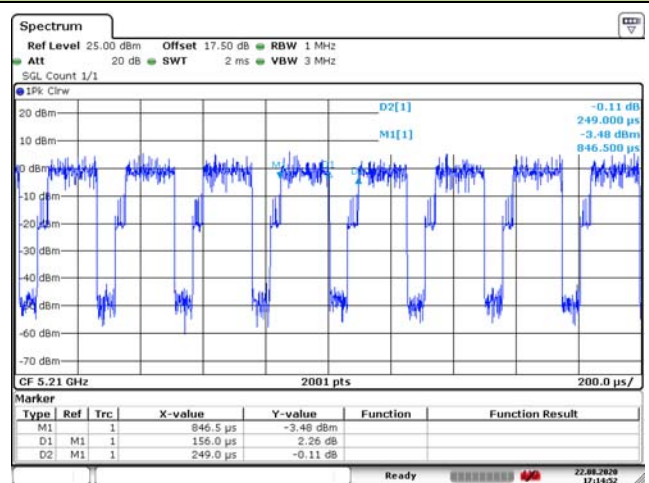
Date: 22 AUG 2020 16:24:24

802.11ac-VHT40 (T = 320.0µs)



Date: 22 AUG 2020 17:12:56

802.11ac-VHT80 (T = 156.0µs)



Date: 22 AUG 2020 17:14:52

2.7. Description of Test Software

The test utility software used during testing was "QATool_Dbg.exe", and the version was v5.02. Power parameter value refers to operation description.

2.8. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.9. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

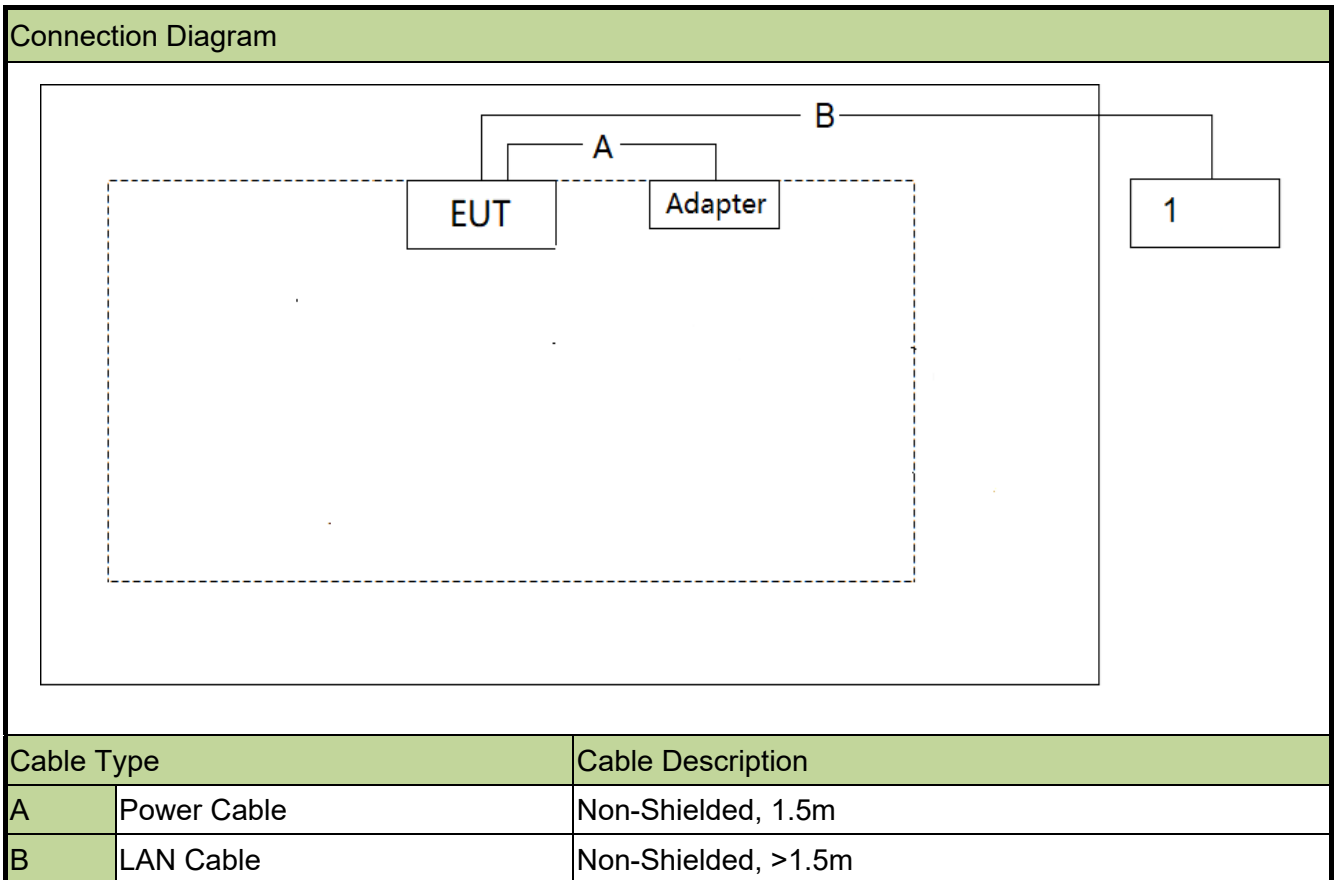
However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

2.10. Test Environment Condition

Ambient Temperature	15°C ~ 35°C
Relative Humidity	20%RH ~75%RH

2.11. Description of Test Configuration

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.



2.12. Test System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	E495	N/A	Non-Shielded, 1.8m

3. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device is **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. TEST EQUIPMENT CALIBRATION DATE

Conducted Emission - WZ-SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2021/01/18
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2021/09/09
Thermal Hygrometer	testo	608-H1	MRTSUE06404	1 year	2021/07/26
Shielding Room	MIX-BEP	Chamber-SR2	MRTSUE06215	N/A	N/A

Conducted Emission - SIP-SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2021/09/09
Thermal Hygrometer	testo	608-H1	MRTSUE06621	1 year	2020/12/29

Radiated Emission - WZ-AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2021/01/18
PXA Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2021/08/30
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/10/22
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2021/08/08
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/09/27
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2020/12/17
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/10/22
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Thermal Hygrometer	testo	608-H1	MRTSUE06403	1 year	2021/07/26
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2021/04/30

Radiated Emission - WZ-AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Keysight	N9038A	MRTSUE06125	1 year	2021/07/02
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/10/22
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2021/05/26
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2021/10/22
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2020/12/17
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/14
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Thermal Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2020/12/15
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2021/04/30

Radiated Emission - SIP-AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/10/22
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06645	1 year	2021/08/30
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2021/08/30
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2021/11/12
Thermal Hygrometer	testo	608-H1	MRTSUE06620	1 year	2020/12/29
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2020/12/25

Radiated Emission - SIP-AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
MXA Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2021/09/26
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/10/22
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2020/12/17
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06599	1 year	2020/12/17
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/12
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2021/10/12
Thermal Hygrometer	testo	608-H1	MRTSUE06624	1 year	2020/12/29
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2020/12/25

Radiated Emission - SIP-SIP-AC3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/10/22
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06647	1 year	2021/08/08
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2021/09/13
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06598	1 year	2020/12/17
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2021/01/16
Preamplifier	EMCI	EMC184045SE	MRTSUE06641	1 year	2021/01/16
Thermal Hygrometer	testo	608-H1	MRTSUE06622	1 year	2020/12/29
Anechoic Chamber	RIKEN	SIP-SIP-AC3	MRTSUE06782	1 year	2020/12/25

Conducted Test Equipment - WZ-TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2021/04/14
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2021/01/08
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2021/04/14
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/10/22
USB wideband power sensor	Keysight	U2021XA	MRTSUE06446	1 year	2021/08/30
USB wideband power sensor	Keysight	U2021XA	MRTSUE06447	1 year	2021/08/08
Bluetooth Test Set	Anritsu	MT8852B-042	MRTSUE06389	1 year	2021/06/11
Audio Analyzer	Agilent	U8903B	MRTSUE06143	1 year	2021/06/11
Modulation Analyzer	HP	HP8901A	MRTSUE06098	1 year	2021/09/26
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/10/20
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2021/10/22
Thermal Hygrometer	testo	608-H1	MRTSUE06401	1 year	2021/07/26
Attenuator	MVE	6dB	MRTSUE06534	1 year	2020/12/12
Attenuator	MVE	10dB	MRTSUE06543	1 year	2020/12/12

Conducted Test Equipment - SIP-SR5

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2021/04/14
PXA Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2021/08/30
USB wideband power sensor	Agilent	U2021XA	MRTSUE06595	1 year	2021/09/26
USB wideband power sensor	Agilent	U2021XA	MRTSUE06596	1 year	2021/09/26
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/10/20
Bluetooth Test Set	Anritsu	MT8852B-042	MRTSUE06389	1 year	2021/06/11
Temperature Chamber	BAOYT	BYG-408CS	MRTSUE06847	1 year	2021/03/31
Thermal Hygrometer	testo	622	MRTSUE06629	1 year	2020/12/30

Software	Version	Function
EMI Software	V3	EMI Test Software

5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.13dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.15dB

6. TEST RESULT

6.1. Summary

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)(1)(ii), (3)	Maximum Conducted Output Power	U-NII-1: $\leq 1W$ U-NII-3: $\leq 1W$	Conducted	Pass	Section 6.2
15.407(a)(1)(ii), (3)	Power Spectral Density	Refer to Section 6.6		Pass	Section 6.3
15.407(b)(1), (4)(i),(7)(8)(9)	Undesirable Emissions	Refer to Section 6.9	Radiated	Pass	Section 6.4 Section 6.5
15.205, 15.209 15.407(b)(b)(1), (4)(i)	General Field Strength (Restricted Bands and Radiated Emission)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass	

Notes:

The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

6.2. Output Power Measurement

6.2.1. Test Limit

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

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

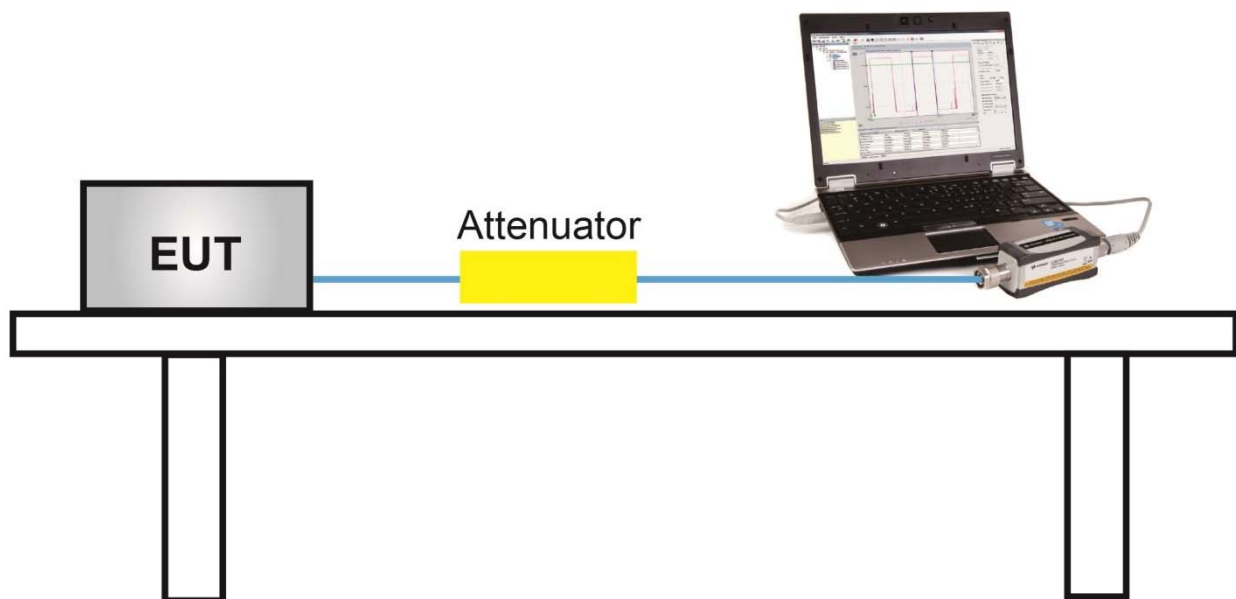
6.2.2. Test Procedure Used

KDB 789033D02v02r01- Section E)3)b) Method PM-G

6.2.3. Test Setting

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

6.2.4. Test Setup



6.2.5. Test Result

Output power test was verified over all data rates of each mode shown as below table, and then choose the maximum output power (gray marker) for final test of each channel.

Output power at various data rates for Ant 0 / Ant 0+1 port:

Test Mode	Bandwidth	Channel No.	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11n	20	36	5180	MCS0	21.03
				MCS4	20.27
				MCS8	20.03
802.11n	40	38	5190	MCS0	19.35
				MCS4	19.32
				MCS9	19.11
802.11ac	20	36	5180	MCS0	21.53
				MCS4	21.05
				MCS8	20.88
802.11ac	40	38	5190	MCS0	19.86
				MCS4	19.05
				MCS9	19.83
802.11ac	80	42	5210	MCS0	17.35
				MCS4	17.02
				MCS9	17.34

Product	Subscriber End Equipment HGW	Test Engineer	Alisa Deng
Test Site	SIP-SR5	Test Date	2020/11/16 ~ 2020/11/18
Test Mode	Beamforming Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1			
802.11n-HT20	MCS0	36	5180	21.13	20.89	24.02	≤ 29.59	Pass
802.11n-HT20	MCS0	44	5220	23.01	22.67	25.85	≤ 29.59	Pass
802.11n-HT20	MCS0	48	5240	23.05	22.84	25.96	≤ 29.59	Pass
802.11n-HT20	MCS0	149	5745	25.70	25.51	28.62	≤ 29.59	Pass
802.11n-HT20	MCS0	157	5785	25.48	25.43	28.47	≤ 29.59	Pass
802.11n-HT20	MCS0	165	5825	25.62	26.06	28.86	≤ 29.59	Pass
802.11n-HT40	MCS0	38	5190	19.35	18.76	22.08	≤ 29.59	Pass
802.11n-HT40	MCS0	46	5230	24.82	24.16	27.51	≤ 29.59	Pass
802.11n-HT40	MCS0	151	5755	25.52	25.23	28.39	≤ 29.59	Pass
802.11n-HT40	MCS0	159	5795	25.32	24.98	28.16	≤ 29.59	Pass
802.11ac-VHT20	MCS0	36	5180	21.53	21.15	24.35	≤ 29.59	Pass
802.11ac-VHT20	MCS0	44	5220	23.41	23.11	26.27	≤ 29.59	Pass
802.11ac-VHT20	MCS0	48	5240	22.90	22.54	25.73	≤ 29.59	Pass
802.11ac-VHT20	MCS0	149	5745	26.10	25.92	29.02	≤ 29.59	Pass
802.11ac-VHT20	MCS0	157	5785	25.21	25.05	28.14	≤ 29.59	Pass
802.11ac-VHT20	MCS0	165	5825	24.25	24.43	27.35	≤ 29.59	Pass
802.11ac-VHT40	MCS0	38	5190	19.86	19.54	22.71	≤ 29.59	Pass
802.11ac-VHT40	MCS0	46	5230	24.70	24.24	27.49	≤ 29.59	Pass
802.11ac-VHT40	MCS0	151	5755	25.17	24.74	27.97	≤ 29.59	Pass
802.11ac-VHT40	MCS0	159	5795	24.87	24.51	27.70	≤ 29.59	Pass
802.11ac-VHT80	MCS0	42	5210	17.35	17.07	20.22	≤ 29.59	Pass
802.11ac-VHT80	MCS0	155	5775	25.14	25.04	28.10	≤ 29.59	Pass

Note 1: Total Average Power (dBm) = $10 \cdot \log\{10^{(\text{ANT 0 Average Power} / 10)} + 10^{(\text{ANT 1 Average Power} / 10)}\}$ (dBm).

Note 2: Average Power Limit (dBm) = $30 - (6.41 - 6) = 29.59\text{dBm}$.

6.3. Power Spectral Density Measurement

6.3.1. Test Limit

For the band 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

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

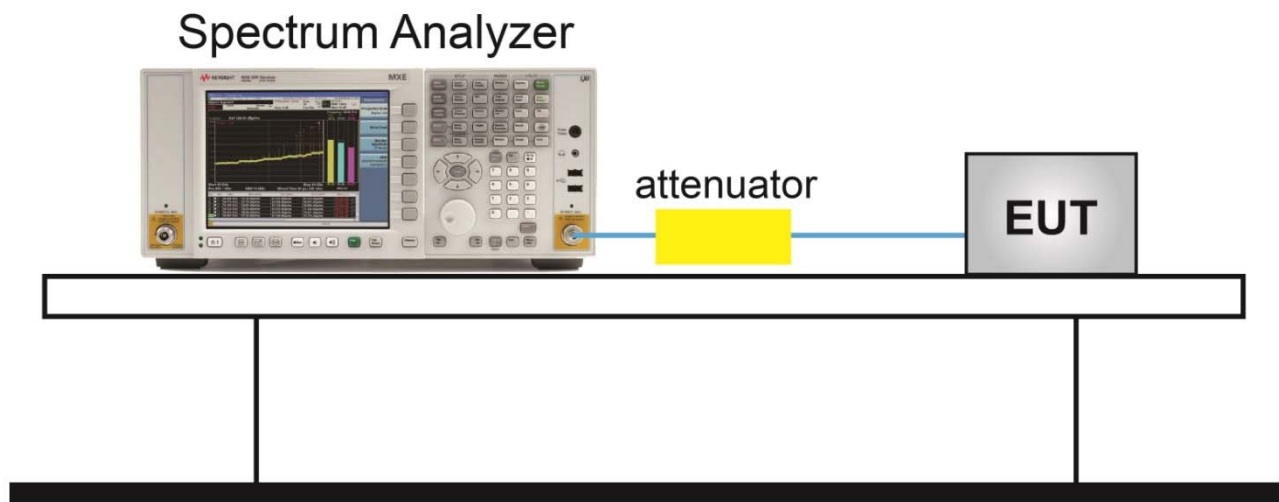
6.3.2. Test Procedure Used

KDB 789033 D02v02r01 - Section F

6.3.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz
If measurement bandwidth of Maximum PSD is specified in 500 kHz, RBW = 510kHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = Power averaging (Average)
7. Trace average at least 100 traces in power averaging (rms) mode
8. Sweep time = Auto
9. Trigger = Free run
10. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
11. Add $10 \cdot \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \cdot \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

6.3.4. Test Setup



6.3.5. Test Result

Product	Subscriber End Equipment HGW	Test Engineer	Alisa Deng
Test Site	SIP-SR5	Test Date	2020/11/18
Test Item	Power Spectral Density (UNII-Band 1) Beamforming Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ MHz)		Duty Cycle (%)	Final PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
				Ant 0	Ant 1				
11n-HT20	MCS0	36	5180	10.56	10.50	94.84	13.77	≤16.59	Pass
11n-HT20	MCS0	44	5220	12.79	12.35	94.84	15.82	≤16.59	Pass
11n-HT20	MCS0	48	5240	12.65	12.17	94.84	15.66	≤16.59	Pass
11n-HT40	MCS0	38	5190	5.46	5.25	90.29	8.81	≤16.59	Pass
11n-HT40	MCS0	46	5230	11.11	10.92	90.29	14.47	≤16.59	Pass
11ac-VHT20	MCS0	36	5180	11.18	10.65	90.60	14.36	≤16.59	Pass
11ac-VHT20	MCS0	44	5220	12.77	12.99	90.60	16.32	≤16.59	Pass
11ac-VHT20	MCS0	48	5240	12.40	12.19	90.60	15.74	≤16.59	Pass
11ac-VHT40	MCS0	38	5190	6.30	6.36	77.48	10.45	≤16.59	Pass
11ac-VHT40	MCS0	46	5230	11.43	11.26	77.48	15.47	≤16.59	Pass
11ac-VHT80	MCS0	42	5210	0.76	0.43	62.65	5.64	≤16.59	Pass

Note 1:

When EUT duty cycle > 98%, Final PSD (dBm / MHz) = $10 \cdot \log \{10^{(\text{Ant 0 AVGPSD}/10)} + 10^{(\text{Ant 1 AVGPSD}/10)}\}$.

When EUT duty cycle < 98%, Final PSD (dBm / MHz) = $10 \cdot \log \{10^{(\text{Ant 0 AVGPSD}/10)} + 10^{(\text{Ant 1 AVGPSD}/10)}\} + 10 \cdot \log(1/\text{Duty cycle})$.

Note 2: PSD Limit Calculation as below:

For 5150-5250MHz: PSD Limit = 17 - (6.41 - 6) = 16.59dBm/MHz;

Product	Subscriber End Equipment HGW	Test Engineer	Alisa Deng
Test Site	SIP-SR5	Test Date	2020/11/18
Test Item	Power Spectral Density (UNII-Band 3) Beamforming Mode		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ 510kHz)		Duty Cycle (%)	Final PSD (dBm/ 510kHz)	Limit (dBm/ 500kHz)	Result
				Ant 0	Ant 1				
11n-HT20	MCS0	149	5745	12.26	12.36	94.84	15.55	≤29.59	Pass
11n-HT20	MCS0	157	5785	12.08	11.97	94.84	15.26	≤29.59	Pass
11n-HT20	MCS0	165	5825	11.98	12.55	94.84	15.52	≤29.59	Pass
11n-HT40	MCS0	151	5755	9.39	9.02	90.29	12.67	≤29.59	Pass
11n-HT40	MCS0	159	5795	9.23	9.00	90.29	12.57	≤29.59	Pass
11ac-VHT20	MCS0	149	5745	12.51	12.49	90.60	15.94	≤29.59	Pass
11ac-VHT20	MCS0	157	5785	12.09	11.52	90.60	15.25	≤29.59	Pass
11ac-VHT20	MCS0	165	5825	10.92	11.80	90.60	14.82	≤29.59	Pass
11ac-VHT40	MCS0	151	5755	8.80	8.55	77.48	12.79	≤29.59	Pass
11ac-VHT40	MCS0	159	5795	8.83	8.44	77.48	12.76	≤29.59	Pass
11ac-VHT80	MCS0	155	5775	5.97	5.88	62.65	10.97	≤29.59	Pass

Note 1:

When EUT duty cycle > 98%, Final PSD (dBm / 510kHz) = $10 \cdot \log \{10^{(\text{Ant 0 AVGPSD}/10)} + 10^{(\text{Ant 1 AVGPSD}/10)}\}$.

When EUT duty cycle < 98%, Final PSD (dBm / 510kHz) = $10 \cdot \log \{10^{(\text{Ant 0 AVGPSD}/10)} + 10^{(\text{Ant 1 AVGPSD}/10)}\} + 10 \cdot \log (1/\text{Duty cycle})$.

Note 2: PSD Limit Calculation as below:

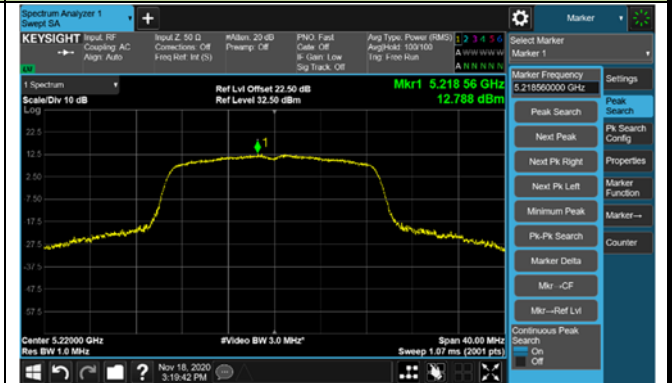
For 5725-5850MHz: PSD Limit = 30 - (6.41 - 6) = 29.59dBm/MHz;

802.11n-HT20 Power Spectral Density - Ant 0 / Ant 0 + 1

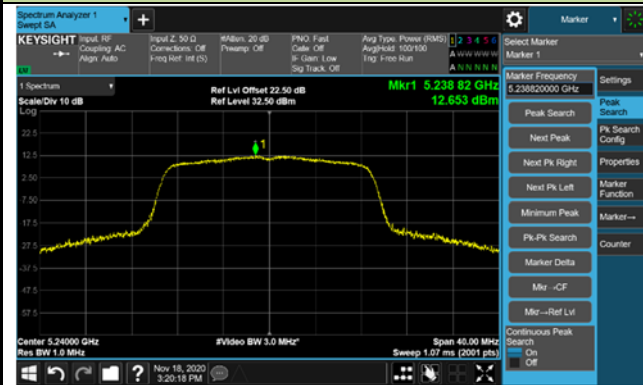
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)

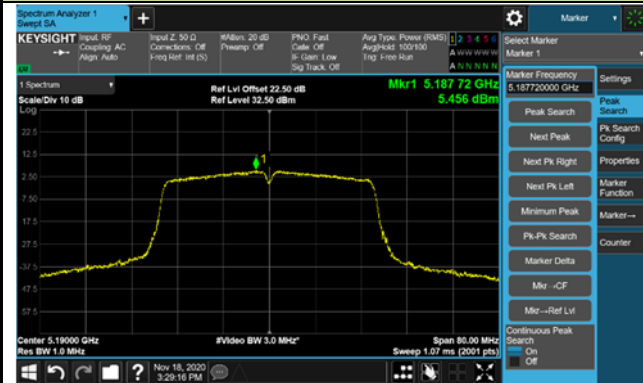


Channel 165 (5825MHz)

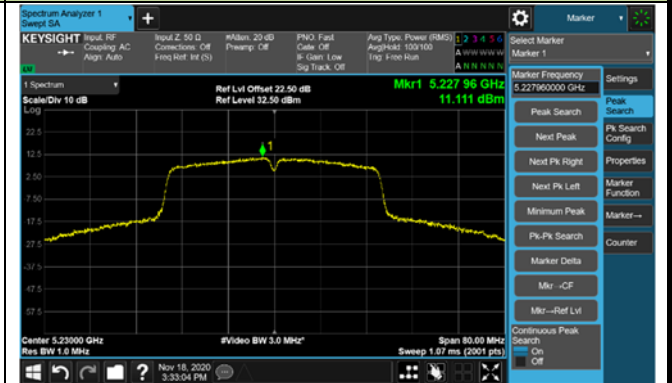


802.11n-HT40 Power Spectral Density - Ant 0 / Ant 0 + 1

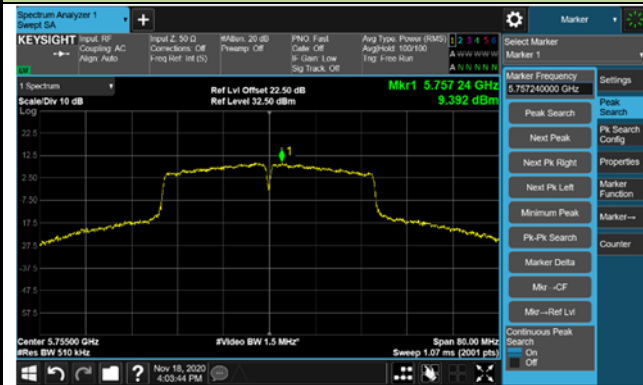
Channel 38 (5190MHz)



Channel 46 (5230MHz)



Channel 151 (5755MHz)

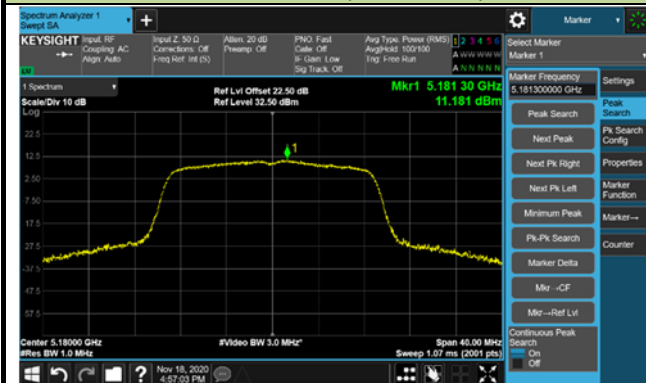


Channel 159 (5795MHz)



802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1

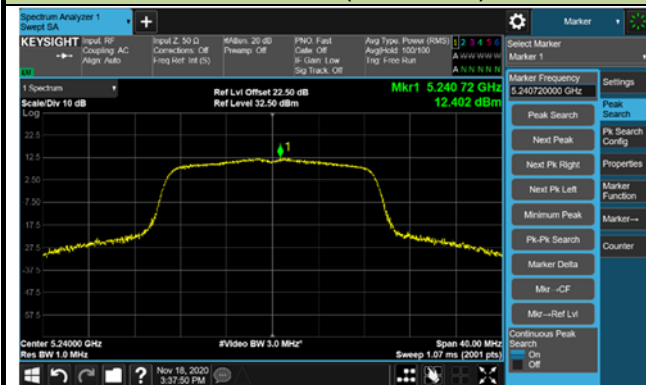
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)

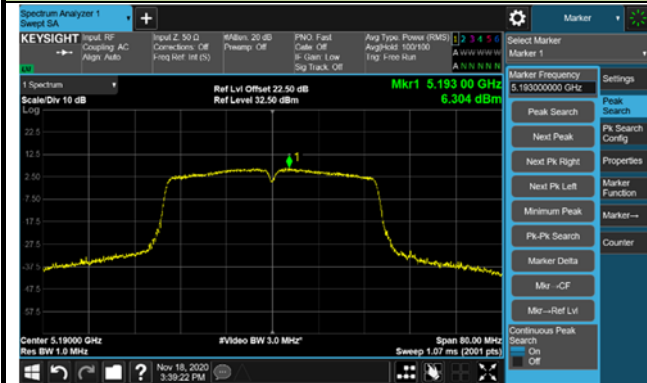


Channel 165 (5825MHz)

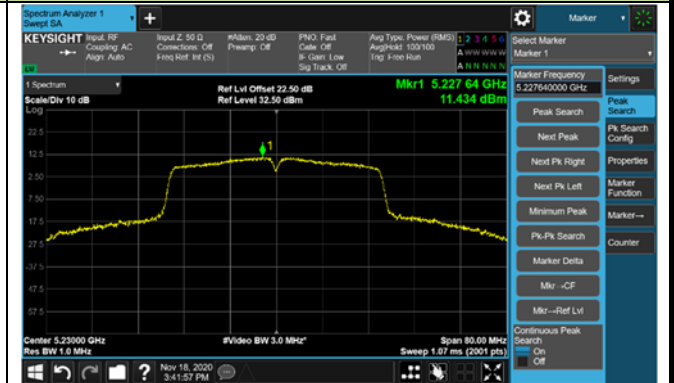


802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1

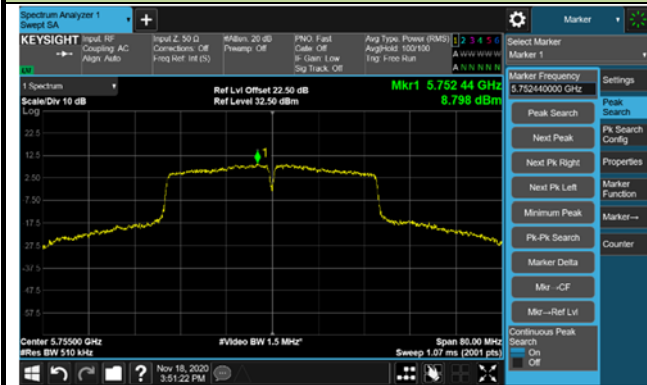
Channel 38 (5190MHz)



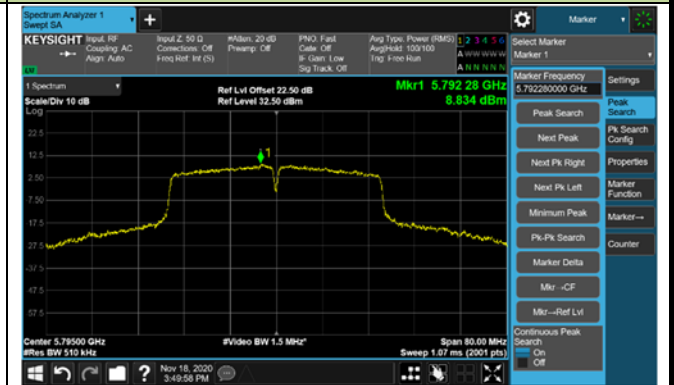
Channel 46 (5230MHz)



Channel 151 (5755MHz)

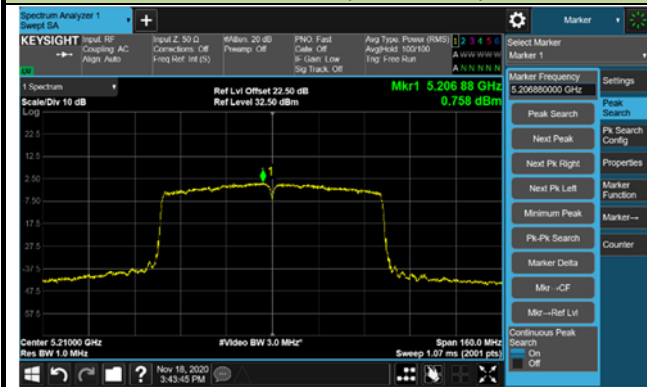


Channel 159 (5795MHz)

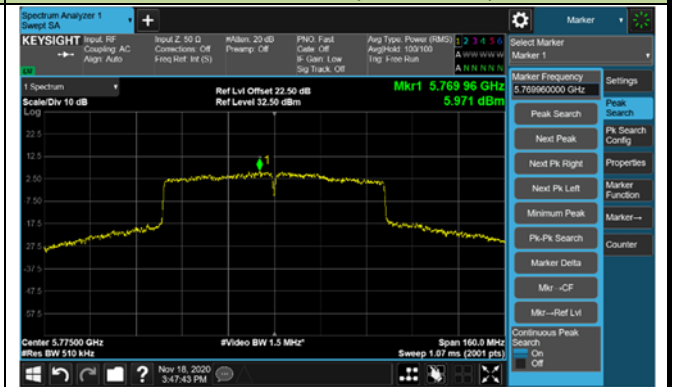


802.11ac-VHT80 Power Spectral Density - Ant 0 / Ant 0 + 1

Channel 42 (5210MHz)

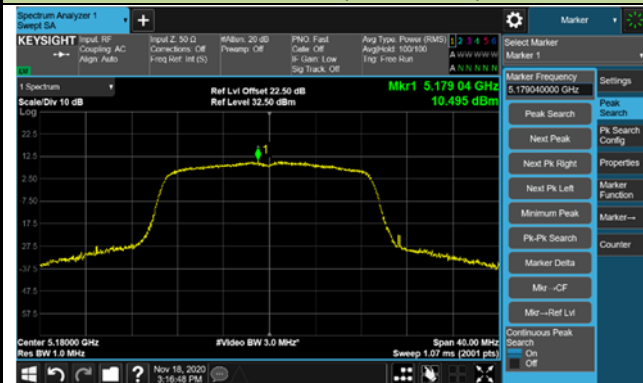


Channel 155 (5775MHz)

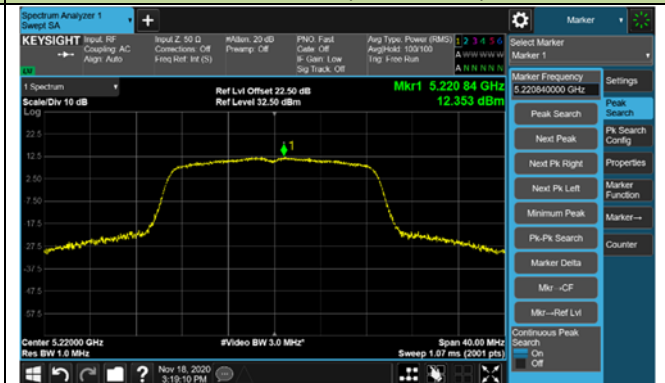


802.11n-HT20 Power Spectral Density - Ant 1 / Ant 0 + 1

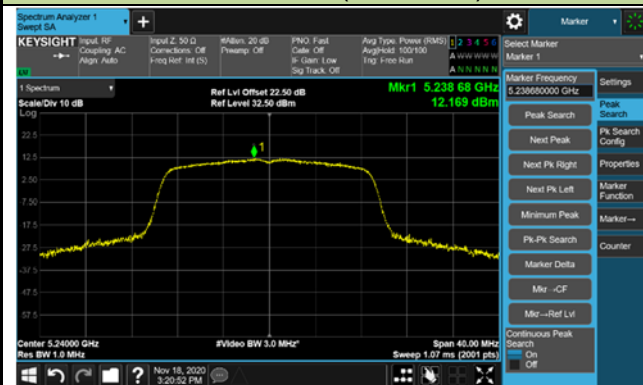
Channel 36 (5180MHz)



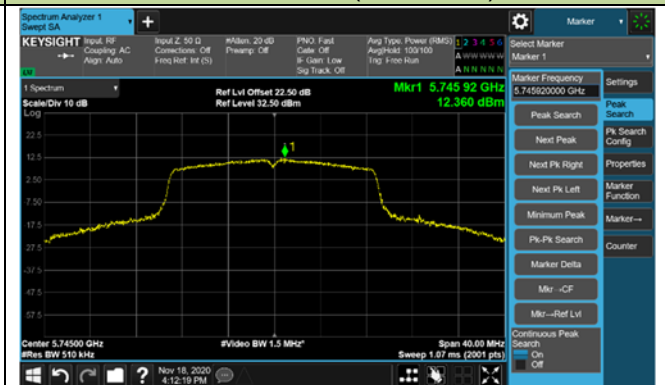
Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)

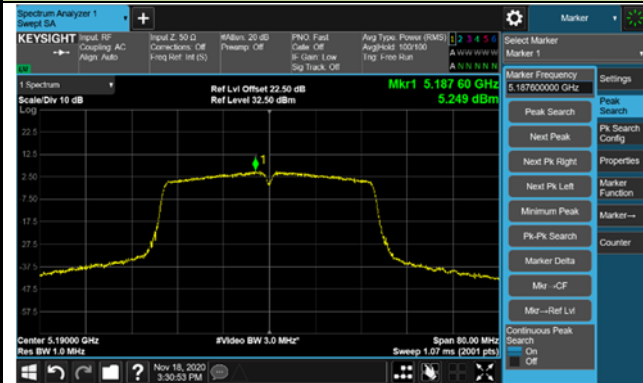


Channel 165 (5825MHz)



802.11n-HT40 Power Spectral Density - Ant 1 / Ant 0 + 1

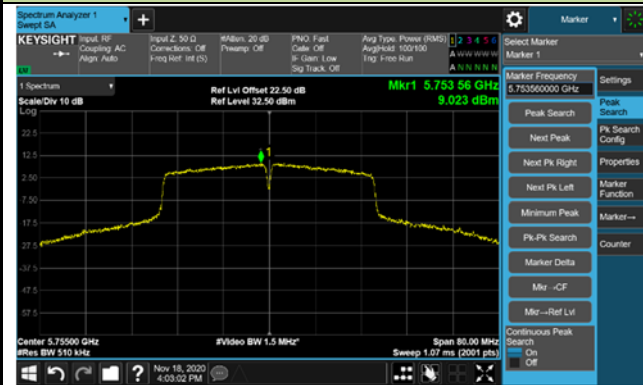
Channel 38 (5190MHz)



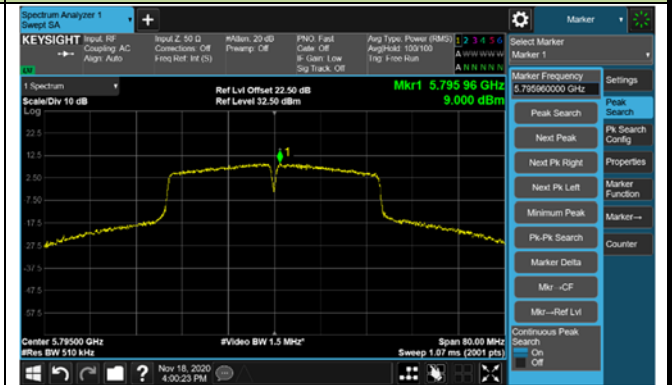
Channel 46 (5230MHz)



Channel 151 (5755MHz)

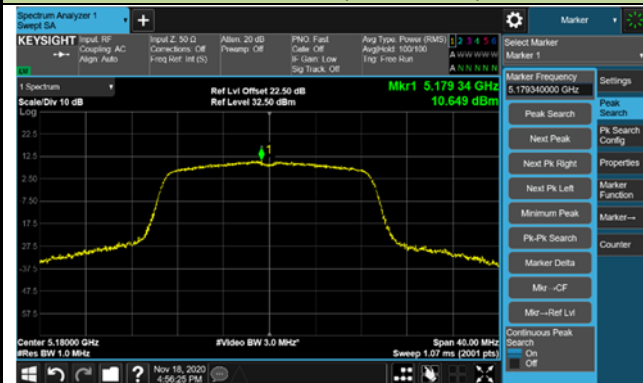


Channel 159 (5795MHz)



802.11ac-VHT20 Power Spectral Density - Ant 1 / Ant 0 + 1

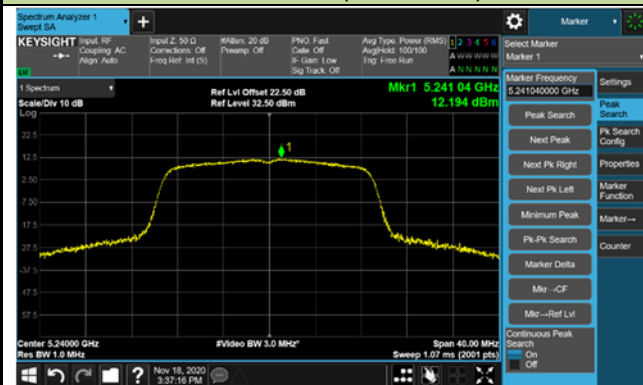
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)

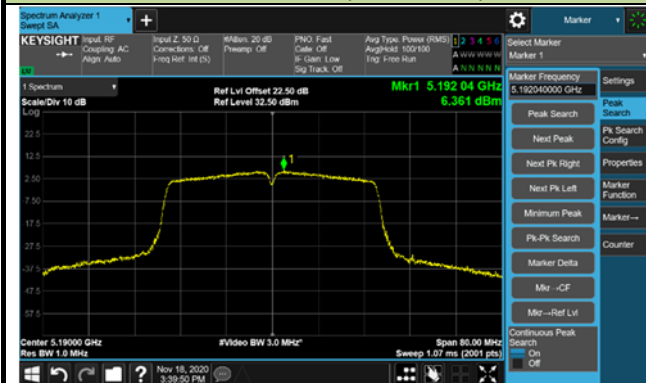


Channel 165 (5825MHz)



802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 0 + 1

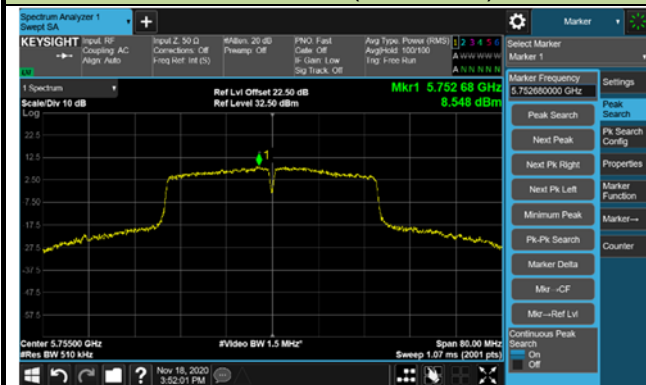
Channel 38 (5190MHz)



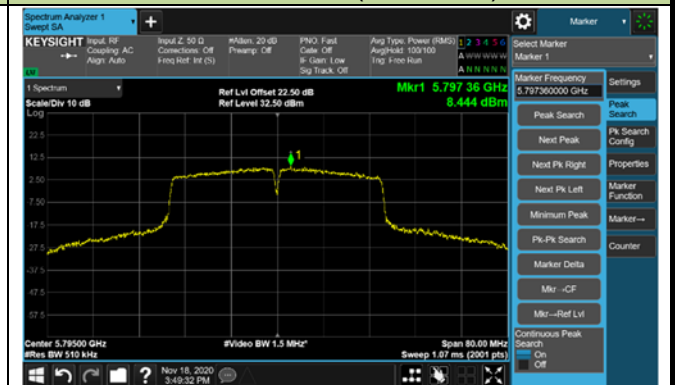
Channel 46 (5230MHz)



Channel 151 (5755MHz)

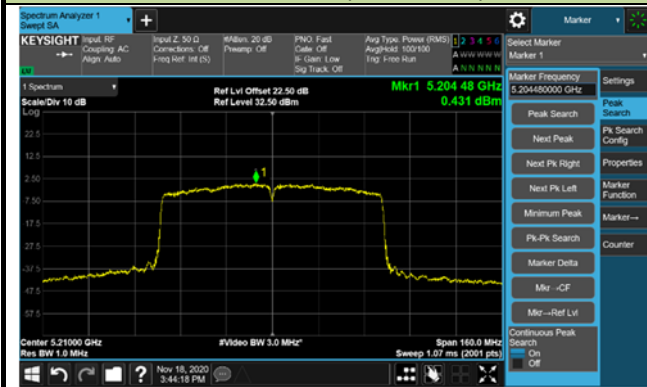


Channel 159 (5795MHz)

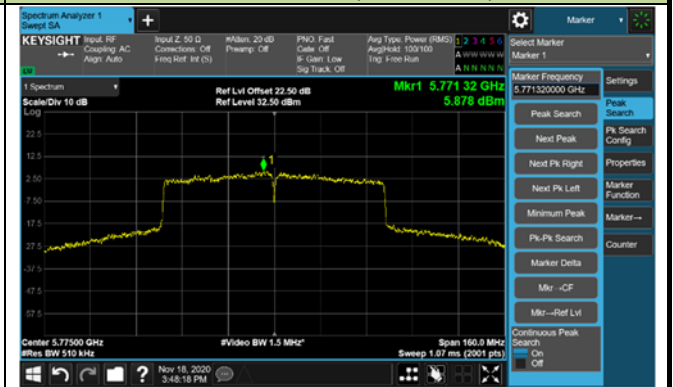


802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 0 + 1

Channel 42 (5210MHz)



Channel 155 (5775MHz)



6.4. Radiated Spurious Emission Measurement

6.4.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measured Distance (m)
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

6.4.2. Test Procedure Used

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6.4.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

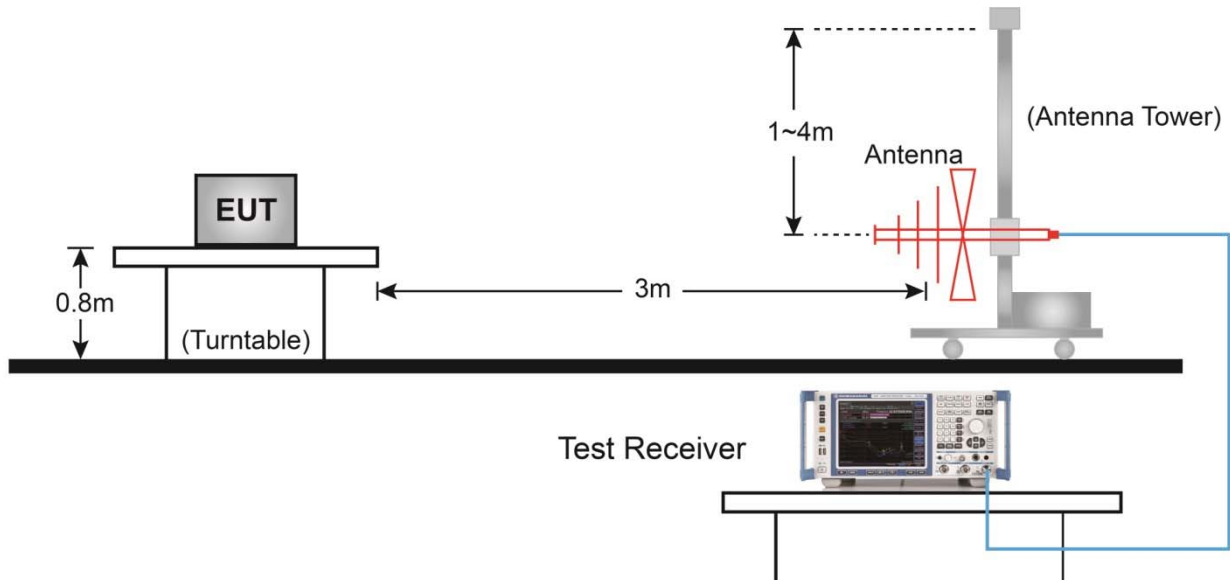
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

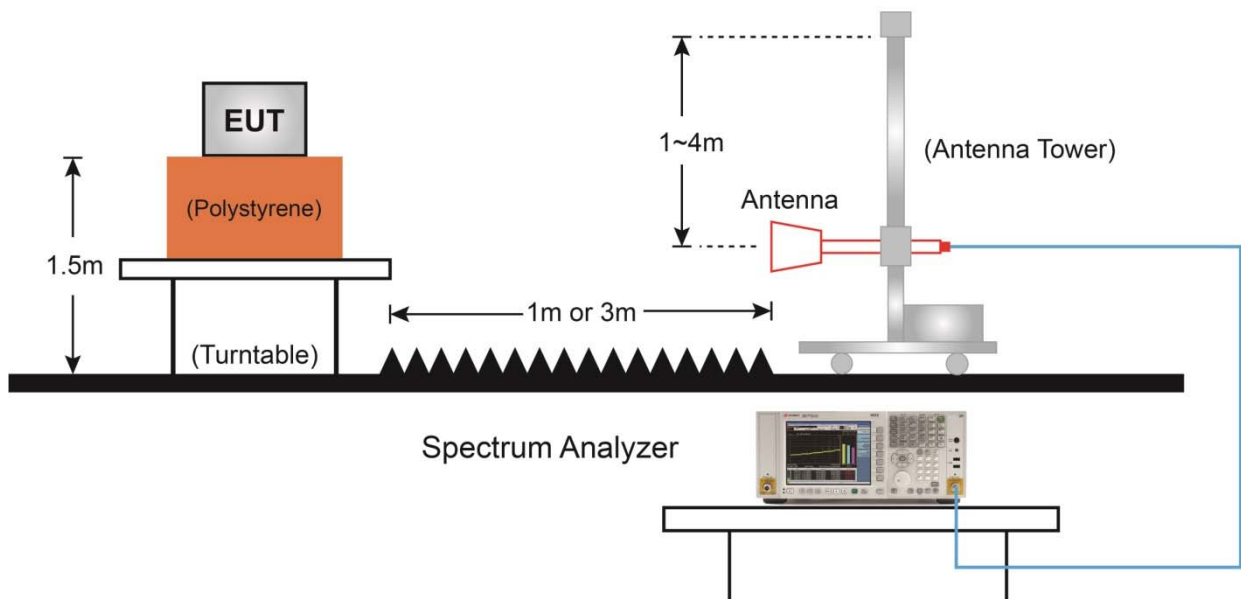
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10Hz
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.4.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.4.5. Test Result

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20(Beamforming Mode)	Test Channel	36
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	9763.5	50.0	-3.4	46.6	68.2	-21.6	Peak	Horizontal
*	10358.5	59.9	-3.3	56.6	68.2	-11.6	Peak	Horizontal
	12118.0	51.0	-3.0	48.0	74.0	-26.0	Peak	Horizontal
	15531.7	36.9	2.6	39.5	54.0	-14.5	Average	Horizontal
	15531.7	51.1	2.9	54.0	74.0	-20.0	Peak	Horizontal
	7613.0	56.4	-6.0	50.4	74.0	-23.6	Peak	Vertical
*	7919.0	55.1	-6.2	48.9	68.2	-19.3	Peak	Vertical
*	10367.0	68.2	-3.2	65.0	68.2	-3.2	Peak	Vertical
	15538.5	39.8	2.6	42.4	54.0	-11.6	Average	Vertical
	15538.5	54.4	2.7	57.1	74.0	-16.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20 (Beamforming Mode)	Test Channel	44
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7655.5	55.8	-6.0	49.8	74.0	-24.2	Peak	Horizontal
*	8004.0	53.3	-5.7	47.6	68.2	-20.6	Peak	Horizontal
*	10443.5	58.9	-3.3	55.6	68.2	-12.6	Peak	Horizontal
	15654.2	52.9	2.7	55.6	74.0	-18.4	Peak	Horizontal
	15654.2	40.2	2.7	42.9	54.0	-11.1	Average	Horizontal
*	7995.5	58.1	-6.0	52.1	68.2	-16.1	Peak	Vertical
	8352.5	54.3	-5.0	49.3	74.0	-24.7	Peak	Vertical
*	10443.5	69.3	-3.3	66.0	68.2	-2.2	Peak	Vertical
	15654.3	55.2	2.7	57.9	74.0	-16.1	Peak	Vertical
	15654.3	45.3	2.7	48.0	54.0	-6.0	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20 (Beamforming Mode)	Test Channel	48
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7672.5	56.5	-5.9	50.6	74.0	-23.4	Peak	Horizontal
*	9967.5	50.6	-3.2	47.4	68.2	-20.8	Peak	Horizontal
*	10477.5	60.7	-3.5	57.2	68.2	-11.0	Peak	Horizontal
	15730.5	49.4	3.4	52.8	74.0	-21.2	Peak	Horizontal
	7680.3	43.2	-5.9	37.3	54.0	-16.7	Average	Vertical
	7680.3	61.8	-5.9	55.9	74.0	-18.1	Peak	Vertical
*	9984.5	49.9	-3.0	46.9	68.2	-21.3	Peak	Vertical
*	10477.5	67.7	-3.5	64.2	68.2	-4.0	Peak	Vertical
	15722.4	52.3	3.1	55.4	74.0	-18.6	Peak	Vertical
	15722.4	42.2	3.1	45.3	54.0	-8.7	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20(Beamforming Mode)	Test Channel	149
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8182.5	55.8	-5.3	50.5	74.0	-23.5	Peak	Horizontal
	11489.0	54.3	-3.1	51.2	74.0	-22.8	Peak	Horizontal
*	13614.0	49.9	-0.8	49.1	68.2	-19.1	Peak	Horizontal
*	14829.5	48.2	2.4	50.6	68.2	-17.6	Peak	Horizontal
	8182.5	56.7	-5.3	51.4	74.0	-22.6	Peak	Vertical
	11489.3	59.4	-3.1	56.3	74.0	-17.7	Peak	Vertical
	11489.3	52.2	-3.1	49.1	54.0	-4.9	Average	Vertical
*	14642.5	48.7	1.8	50.5	68.2	-17.7	Peak	Vertical
*	17235.0	54.1	3.9	58.0	68.2	-10.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20 (Beamforming Mode)	Test Channel	157
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8225.0	58.4	-5.1	53.3	74.0	-20.7	Peak	Horizontal
	11574.0	52.7	-3.7	49.0	74.0	-25.0	Peak	Horizontal
*	13911.5	49.1	0.4	49.5	68.2	-18.7	Peak	Horizontal
*	14940.0	47.9	2.5	50.4	68.2	-17.8	Peak	Horizontal
	8225.0	56.6	-5.1	51.5	74.0	-22.5	Peak	Vertical
	11565.5	49.1	-3.7	45.4	54.0	-8.6	Average	Vertical
	11565.5	58.4	-3.7	54.7	74.0	-19.3	Peak	Vertical
*	13818.0	49.1	0.2	49.3	68.2	-18.9	Peak	Vertical
*	14923.0	48.1	2.7	50.8	68.2	-17.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT20 (Beamforming Mode)	Test Channel	165
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8259.0	54.8	-5.1	49.7	74.0	-24.3	Peak	Horizontal
	11642.0	52.8	-3.9	48.9	74.0	-25.1	Peak	Horizontal
*	13758.5	49.1	0.0	49.1	68.2	-19.1	Peak	Horizontal
*	14821.0	47.1	2.5	49.6	68.2	-18.6	Peak	Horizontal
	8259.3	59.8	-5.1	54.7	74.0	-19.3	Peak	Vertical
	8259.3	45.4	-5.1	40.3	54.0	-13.7	Average	Vertical
	11644.9	46.0	-3.7	42.3	54.0	-11.7	Average	Vertical
	11644.9	61.6	-3.5	58.1	74.0	-15.9	Peak	Vertical
*	14056.0	49.4	0.9	50.3	68.2	-17.9	Peak	Vertical
*	14914.5	47.8	2.5	50.3	68.2	-17.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT40 (Beamforming Mode)	Test Channel	38
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7443.0	51.9	-6.7	45.2	74.0	-28.8	Peak	Horizontal
	8344.0	51.1	-4.9	46.2	74.0	-27.8	Peak	Horizontal
*	10188.5	49.9	-3.1	46.8	68.2	-21.4	Peak	Horizontal
*	12985.0	50.6	-2.6	48.0	68.2	-20.2	Peak	Horizontal
	7655.5	52.1	-6.0	46.1	74.0	-27.9	Peak	Vertical
	8301.5	53.6	-5.1	48.5	74.0	-25.5	Peak	Vertical
*	13767.0	49.2	0.0	49.2	68.2	-19.0	Peak	Vertical
*	15280.0	48.7	2.8	51.5	68.2	-16.7	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT40 (Beamforming Mode)	Test Channel	46
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7664.0	50.9	-5.9	45.0	74.0	-29.0	Peak	Horizontal
	8242.0	50.9	-5.0	45.9	74.0	-28.1	Peak	Horizontal
*	9814.5	48.6	-3.5	45.1	68.2	-23.1	Peak	Horizontal
*	10214.0	48.1	-3.3	44.8	68.2	-23.4	Peak	Horizontal
	7528.0	50.7	-6.4	44.3	74.0	-29.7	Peak	Vertical
	8369.5	54.8	-5.0	49.8	74.0	-24.2	Peak	Vertical
*	9780.5	49.4	-3.3	46.1	68.2	-22.1	Peak	Vertical
*	10290.5	49.1	-3.0	46.1	68.2	-22.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT40 (Beamforming Mode)	Test Channel	151
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7375.0	51.1	-6.8	44.3	74.0	-29.7	Peak	Horizontal
	8191.0	54.2	-5.6	48.6	74.0	-25.4	Peak	Horizontal
*	9772.0	48.3	-3.2	45.1	68.2	-23.1	Peak	Horizontal
*	10265.0	48.3	-3.5	44.8	68.2	-23.4	Peak	Horizontal
	7596.0	51.2	-6.3	44.9	74.0	-29.1	Peak	Vertical
	8182.5	55.0	-5.3	49.7	74.0	-24.3	Peak	Vertical
*	9959.0	49.9	-3.4	46.5	68.2	-21.7	Peak	Vertical
*	10401.0	49.2	-2.8	46.4	68.2	-21.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11n-HT40 (Beamforming Mode)	Test Channel	159
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7604.5	50.7	-6.2	44.5	74.0	-29.5	Peak	Horizontal
	8242.0	52.3	-5.0	47.3	74.0	-26.7	Peak	Horizontal
*	9950.5	50.0	-3.2	46.8	68.2	-21.4	Peak	Horizontal
*	10443.5	50.1	-3.3	46.8	68.2	-21.4	Peak	Horizontal
	8233.5	55.6	-5.0	50.6	74.0	-23.4	Peak	Vertical
	11582.5	55.4	-3.7	51.7	74.0	-22.3	Peak	Vertical
*	13231.5	49.6	-1.7	47.9	68.2	-20.3	Peak	Vertical
*	14464.0	48.5	1.9	50.4	68.2	-17.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	36
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	9772.0	49.6	-3.2	46.4	68.2	-21.8	Peak	Horizontal
*	10358.5	60.6	-3.3	57.3	68.2	-10.9	Peak	Horizontal
	15526.3	46.2	2.6	48.8	54.0	-5.2	Average	Horizontal
	15526.3	52.0	2.6	54.6	74.0	-19.4	Peak	Horizontal
	15960.0	47.7	3.5	51.2	74.0	-22.8	Peak	Horizontal
	7613.5	62.4	-6.0	56.4	74.0	-17.6	Peak	Vertical
	7613.5	52.2	-6.0	46.2	54.0	-7.8	Average	Vertical
*	9712.5	50.0	-3.6	46.4	68.2	-21.8	Peak	Vertical
*	10358.5	67.4	-3.3	64.1	68.2	-4.1	Peak	Vertical
	15535.6	56.6	2.6	59.2	74.0	-14.8	Peak	Vertical
	15535.6	46.4	2.6	49.0	54.0	-5.0	Average	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	44
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7502.5	51.2	-6.5	44.7	74.0	-29.3	Peak	Horizontal
	8437.5	51.0	-5.1	45.9	74.0	-28.1	Peak	Horizontal
*	9789.0	50.1	-3.4	46.7	68.2	-21.5	Peak	Horizontal
*	9959.0	49.9	-3.4	46.5	68.2	-21.7	Peak	Horizontal
	7655.5	51.1	-6.0	45.1	74.0	-28.9	Peak	Vertical
	8352.5	54.4	-5.0	49.4	74.0	-24.6	Peak	Vertical
*	10095.0	49.9	-3.4	46.5	68.2	-21.7	Peak	Vertical
*	10494.5	49.1	-3.2	45.9	68.2	-22.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	48
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7519.5	51.1	-6.4	44.7	74.0	-29.3	Peak	Horizontal
	8293.0	50.8	-4.9	45.9	74.0	-28.1	Peak	Horizontal
*	9772.0	49.3	-3.2	46.1	68.2	-22.1	Peak	Horizontal
*	10401.0	49.7	-2.8	46.9	68.2	-21.3	Peak	Horizontal
	7664.0	51.5	-5.9	45.6	74.0	-28.4	Peak	Vertical
	8386.5	53.8	-5.0	48.8	74.0	-25.2	Peak	Vertical
*	9636.0	50.0	-3.5	46.5	68.2	-21.7	Peak	Vertical
*	10265.0	49.5	-3.5	46.0	68.2	-22.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	149
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8777.5	50.6	-4.3	46.3	68.2	-21.9	Peak	Horizontal
*	10333.0	50.6	-3.0	47.6	68.2	-20.6	Peak	Horizontal
	11319.0	50.0	-3.2	46.8	74.0	-27.2	Peak	Horizontal
	12322.0	49.8	-3.2	46.6	74.0	-27.4	Peak	Horizontal
	7579.0	51.2	-6.2	45.0	74.0	-29.0	Peak	Vertical
	8463.0	50.6	-4.7	45.9	74.0	-28.1	Peak	Vertical
*	9695.5	49.9	-3.5	46.4	68.2	-21.8	Peak	Vertical
*	10256.5	50.4	-3.5	46.9	68.2	-21.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	157
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7630.0	50.5	-6.0	44.5	74.0	-29.5	Peak	Horizontal
	8395.0	51.4	-5.1	46.3	74.0	-27.7	Peak	Horizontal
*	9882.5	49.6	-3.2	46.4	68.2	-21.8	Peak	Horizontal
*	10392.5	49.8	-3.0	46.8	68.2	-21.4	Peak	Horizontal
	7689.5	51.1	-6.1	45.0	74.0	-29.0	Peak	Vertical
	8276.0	49.8	-5.2	44.6	74.0	-29.4	Peak	Vertical
*	9585.0	50.2	-3.4	46.8	68.2	-21.4	Peak	Vertical
*	10129.0	49.8	-3.7	46.1	68.2	-22.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT20 (Beamforming Mode)	Test Channel	165
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7655.5	51.0	-6.0	45.0	74.0	-29.0	Peak	Horizontal
	8378.0	50.5	-5.0	45.5	74.0	-28.5	Peak	Horizontal
*	9627.5	50.4	-3.5	46.9	68.2	-21.3	Peak	Horizontal
*	10299.0	50.1	-3.3	46.8	68.2	-21.4	Peak	Horizontal
	8216.5	50.6	-5.3	45.3	74.0	-28.7	Peak	Vertical
	9321.5	51.5	-3.9	47.6	74.0	-26.4	Peak	Vertical
*	9636.0	48.8	-3.5	45.3	68.2	-22.9	Peak	Vertical
*	10205.5	49.8	-3.1	46.7	68.2	-21.5	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT40 (Beamforming Mode)	Test Channel	38
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	11149.0	50.1	-3.4	46.7	74.0	-27.3	Peak	Horizontal
	11897.0	50.0	-3.3	46.7	74.0	-27.3	Peak	Horizontal
*	13809.5	49.2	0.0	49.2	68.2	-19.0	Peak	Horizontal
*	16776.0	47.0	5.1	52.1	68.2	-16.1	Peak	Horizontal
	10698.5	50.3	-3.4	46.9	74.0	-27.1	Peak	Vertical
	11888.5	51.7	-3.6	48.1	74.0	-25.9	Peak	Vertical
*	13996.5	49.0	0.6	49.6	68.2	-18.6	Peak	Vertical
*	17201.0	47.7	5.0	52.7	68.2	-15.5	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT40 (Beamforming Mode)	Test Channel	46
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7647.0	51.1	-6.1	45.0	74.0	-29.0	Peak	Horizontal
	8284.5	50.2	-5.1	45.1	74.0	-28.9	Peak	Horizontal
*	9636.0	50.6	-3.5	47.1	68.2	-21.1	Peak	Horizontal
*	10197.0	49.2	-2.9	46.3	68.2	-21.9	Peak	Horizontal
	7698.0	51.0	-6.2	44.8	74.0	-29.2	Peak	Vertical
	8369.5	54.2	-5.0	49.2	74.0	-24.8	Peak	Vertical
*	10018.5	50.6	-3.2	47.4	68.2	-20.8	Peak	Vertical
*	10392.5	49.8	-3.0	46.8	68.2	-21.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT40 (Beamforming Mode)	Test Channel	151
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7638.5	50.9	-6.0	44.9	74.0	-29.1	Peak	Horizontal
	8191.0	56.8	-5.6	51.2	74.0	-22.8	Peak	Horizontal
*	9976.0	49.8	-3.0	46.8	68.2	-21.4	Peak	Horizontal
*	10401.0	49.0	-2.8	46.2	68.2	-22.0	Peak	Horizontal
	8191.0	57.1	-5.6	51.5	74.0	-22.5	Peak	Vertical
	11514.5	55.8	-4.1	51.7	74.0	-22.3	Peak	Vertical
*	13010.5	48.5	-2.2	46.3	68.2	-21.9	Peak	Vertical
*	14090.0	49.3	0.8	50.1	68.2	-18.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT40 (Beamforming Mode)	Test Channel	159
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7366.5	51.6	-6.8	44.8	74.0	-29.2	Peak	Horizontal
	8225.0	55.7	-5.1	50.6	74.0	-23.4	Peak	Horizontal
*	9636.0	49.9	-3.5	46.4	68.2	-21.8	Peak	Horizontal
*	10358.5	50.3	-3.3	47.0	68.2	-21.2	Peak	Horizontal
	11081.0	51.4	-3.2	48.2	74.0	-25.8	Peak	Vertical
	11599.5	54.8	-3.6	51.2	74.0	-22.8	Peak	Vertical
*	13852.0	48.0	0.4	48.4	68.2	-19.8	Peak	Vertical
*	14302.5	48.2	1.6	49.8	68.2	-18.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT80 (Beamforming Mode)	Test Channel	42
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7562.0	51.5	-6.2	45.3	74.0	-28.7	Peak	Horizontal
	8429.0	50.4	-5.0	45.4	74.0	-28.6	Peak	Horizontal
*	9984.5	50.3	-3.0	47.3	68.2	-20.9	Peak	Horizontal
*	10409.5	49.8	-3.0	46.8	68.2	-21.4	Peak	Horizontal
	7630.0	50.8	-6.0	44.8	74.0	-29.2	Peak	Vertical
	8335.5	54.5	-5.1	49.4	74.0	-24.6	Peak	Vertical
*	9670.0	50.1	-3.5	46.6	68.2	-21.6	Peak	Vertical
*	10239.5	50.3	-3.3	47.0	68.2	-21.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Subscriber End Equipment HGW	Test Engineer	Allen Zou
Test Site	SIP-AC3	Test Date	2020/11/14
Test Mode	802.11ac-VHT80 (Beamforming Mode)	Test Channel	155
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7689.5	51.2	-6.1	45.1	74.0	-28.9	Peak	Horizontal
	8225.0	52.8	-5.1	47.7	74.0	-26.3	Peak	Horizontal
*	9891.0	49.7	-3.1	46.6	68.2	-21.6	Peak	Horizontal
*	10452.0	49.6	-3.0	46.6	68.2	-21.6	Peak	Horizontal
	7451.5	51.5	-6.6	44.9	74.0	-29.1	Peak	Vertical
	8208.0	54.7	-5.4	49.3	74.0	-24.7	Peak	Vertical
*	9780.5	49.6	-3.3	46.3	68.2	-21.9	Peak	Vertical
*	10409.5	50.0	-3.0	47.0	68.2	-21.2	Peak	Vertical

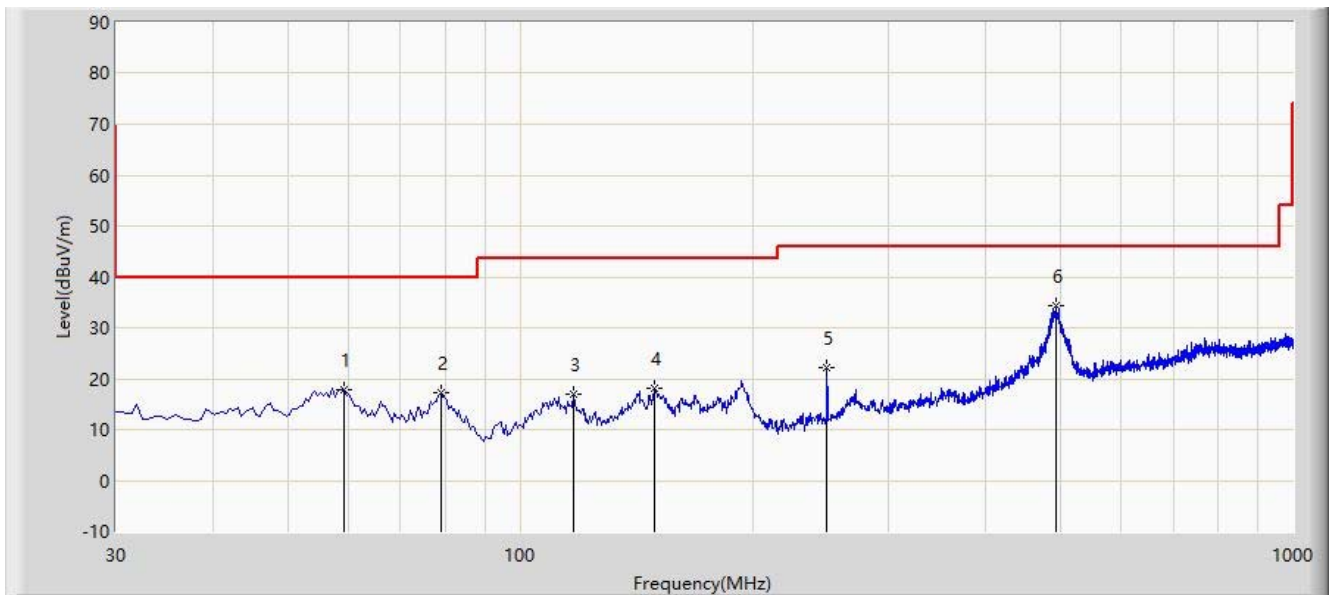
Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Worst Case of Radiated Emission below 1GHz:

Site: WZ-AC1	Time: 2020/08/16 - 13:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Antony Yang
Probe: AC1_VULB 9168 _30-1000MHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11n-HT40 at Channel 5190MHz	



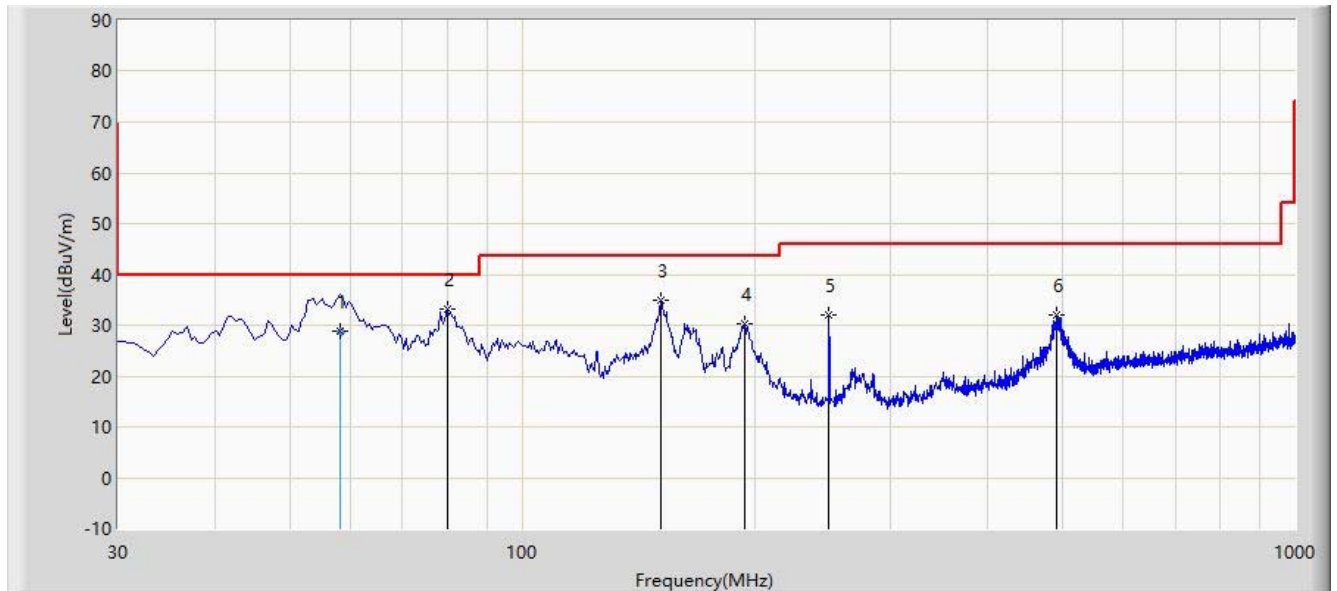
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			59.100	17.910	4.018	-22.090	40.000	13.892	PK
2			78.985	17.335	6.941	-22.665	40.000	10.393	PK
3			117.300	17.038	5.249	-26.462	43.500	11.789	PK
4			149.310	18.196	3.840	-25.304	43.500	14.356	PK
5			249.705	22.064	9.059	-23.936	46.000	13.005	PK
6		*	493.660	34.247	14.717	-11.753	46.000	19.530	PK

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The amplitude of radiated emissions (frequency range from 9kHz ~ 30MHz, 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site: WZ-AC1	Time: 2020/08/16 - 13:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Antony Yang
Probe: AC1_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11n-HT40 at Channel 5190MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			58.130	28.741	14.680	-11.259	40.000	14.061	QP
2		*	79.955	33.238	23.153	-6.762	40.000	10.084	PK
3			151.250	34.959	20.514	-8.541	43.500	14.445	PK
4			194.415	30.356	19.008	-13.144	43.500	11.348	PK
5			249.705	31.911	18.906	-14.089	46.000	13.005	PK
6			491.235	32.066	12.624	-13.934	46.000	19.442	PK

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The amplitude of radiated emissions (frequency range from 9kHz ~ 30MHz, 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

6.5. Radiated Restricted Band Edge Measurement

6.5.1. Test Limit

For 15.205 Requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42-16.423	399.9 - 410	4.5-5.15
¹ 0.495 - 0.505	16.69475-16.69525	608 - 614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960 - 1240	7.25-7.75
4.125-4.128	25.5 -25.67	1300 - 1427	8.025 - 8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660 - 1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123 - 138	2200 - 2300	14.47-14.5
8.291-8.294	149.9-150.05	2310–2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5 - 2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690 - 2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260 - 3267	23.6-24.0
12.29-12.293	167.72-173.2	3332 - 3339	31.2-31.8
12.51975-12.52025	240 - 285	3345.8 - 3358	36.43-36.5
12.57675-12.57725	322-335.4	3600 - 4400	(²)
13.36-13.41	--	--	--

For 15.407(b) Requirement:

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.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Refer to KDB 789033 D02v02r01 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz

that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Field Strength (μ V/m)	Measured Distance (m)
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

6.5.2.Test Procedure Used

KDB 789033 D02v02r01 - Section G

6.5.3. Test Setting

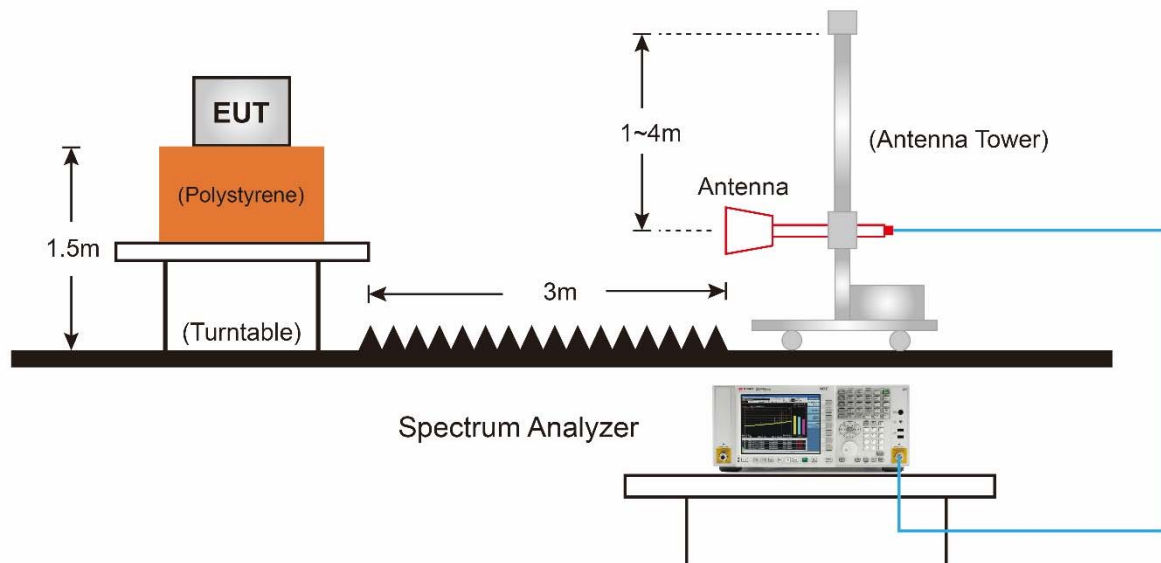
Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

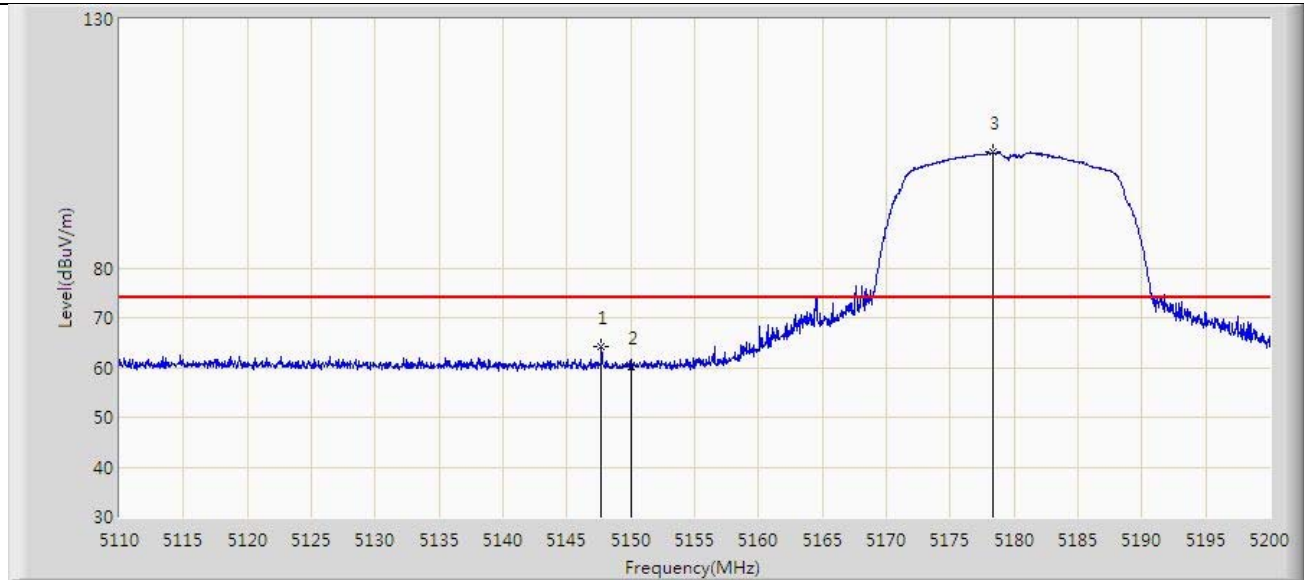
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; if the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10Hz
4. If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

6.5.4. Test Setup



6.5.5.Test Result

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz (Beamforming Mode)	

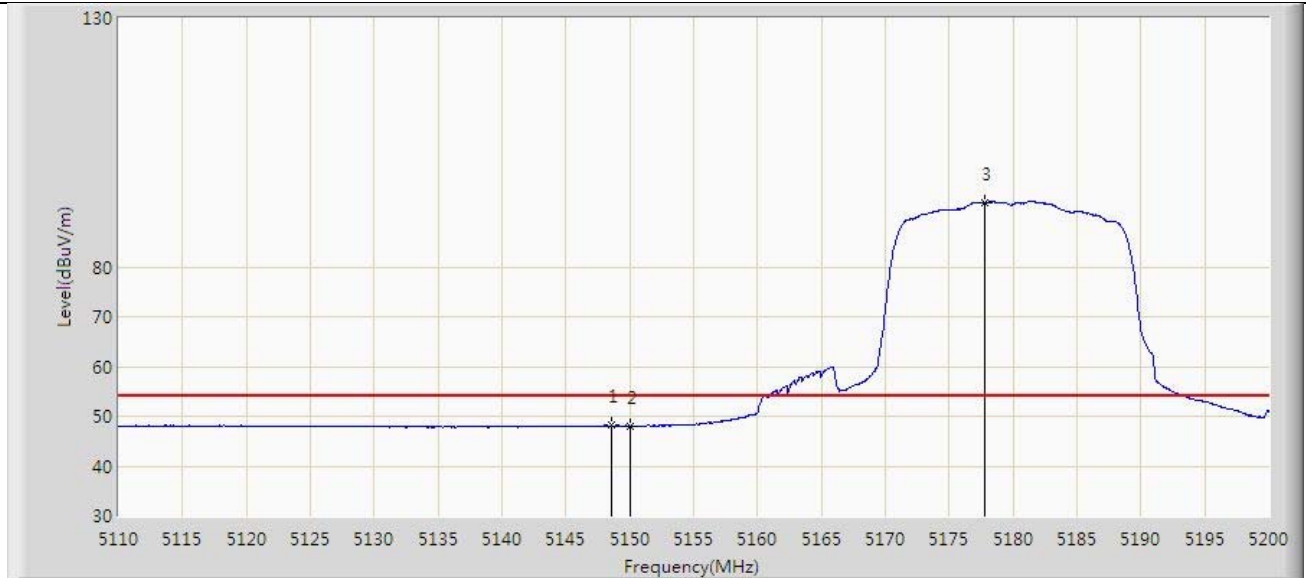


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5147.710	64.082	73.609	-9.918	74.000	-9.527	PK
2			5150.000	60.095	69.622	-13.905	74.000	-9.527	PK
3		*	5178.355	103.212	112.751	N/A	N/A	-9.539	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz (Beamforming Mode)	

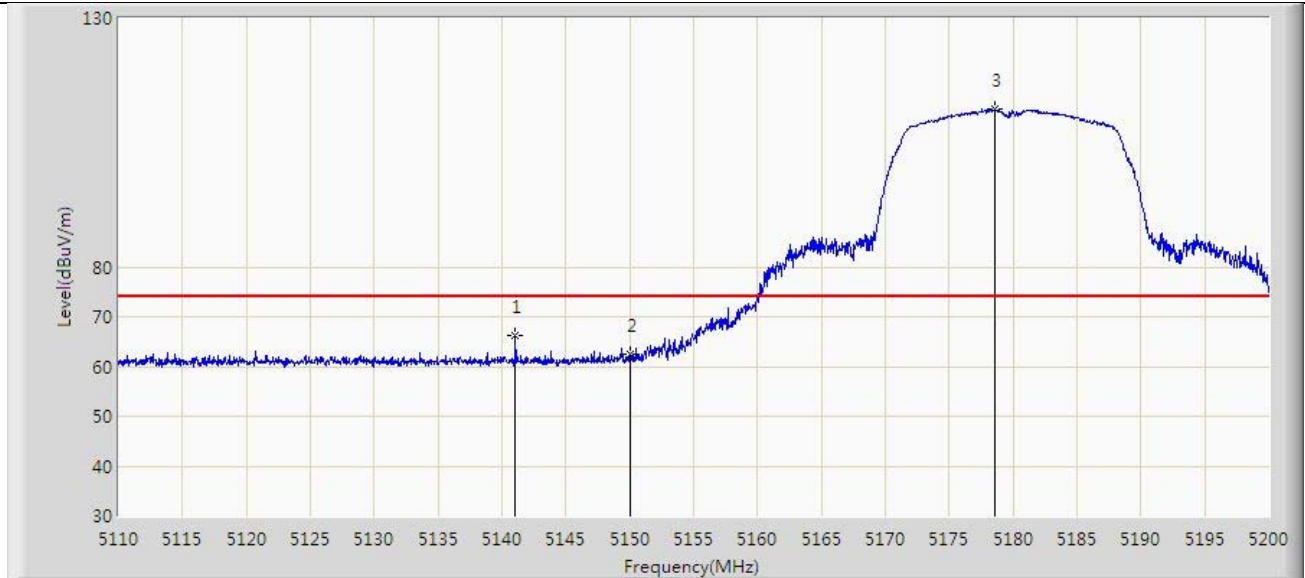


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5148.520	48.196	57.723	-5.804	54.000	-9.527	AV
2			5150.000	48.097	57.624	-5.903	54.000	-9.527	AV
3		*	5177.815	92.905	102.443	N/A	N/A	-9.539	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5141.050	66.190	75.721	-7.810	74.000	-9.531	PK
2			5150.000	62.553	72.080	-11.447	74.000	-9.527	PK
3		*	5178.625	111.705	121.244	N/A	N/A	-9.539	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz (Beamforming Mode)	

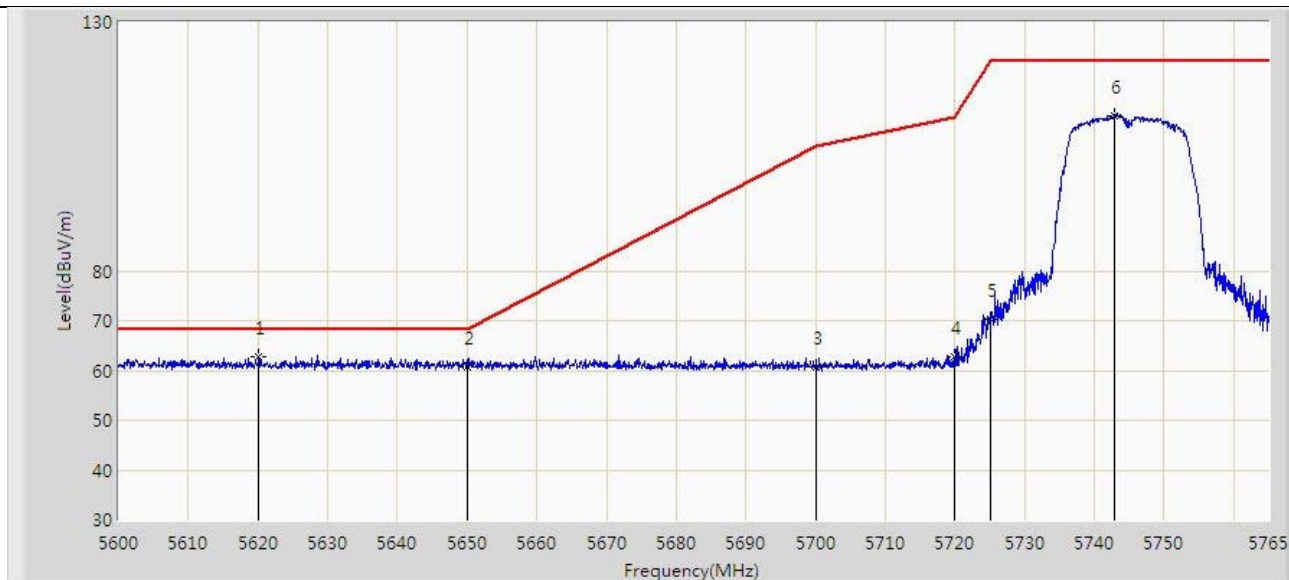


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	48.832	58.359	-5.168	54.000	-9.527	AV
2		*	5180.425	100.981	110.522	N/A	N/A	-9.541	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz (Beamforming Mode)	

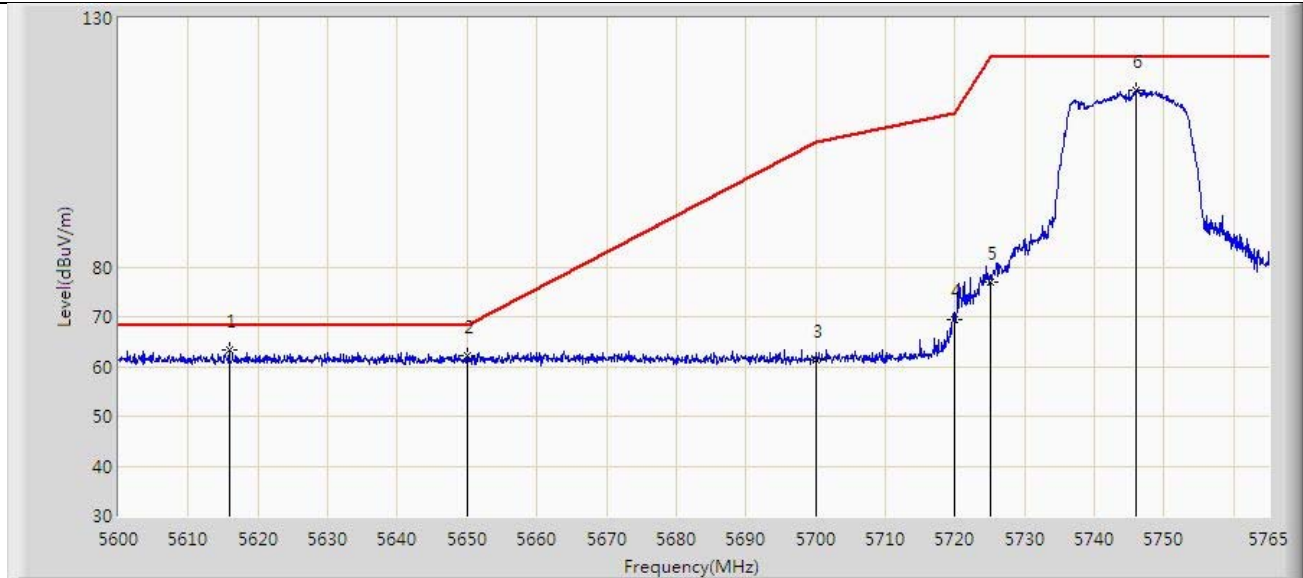


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5620.130	62.845	71.932	-5.355	68.200	-9.087	PK
2			5650.000	60.793	69.922	-7.407	68.200	-9.129	PK
3			5700.000	60.661	69.926	-44.539	105.200	-9.266	PK
4			5720.000	62.886	72.049	-47.914	110.800	-9.163	PK
5			5725.000	70.255	79.362	-51.945	122.200	-9.107	PK
6			5742.808	111.241	120.620	N/A	N/A	-9.379	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5615.840	63.222	72.301	-4.978	68.200	-9.080	PK
2			5650.000	62.117	71.246	-6.083	68.200	-9.129	PK
3			5700.000	61.228	70.493	-43.972	105.200	-9.266	PK
4			5720.000	69.322	78.485	-41.478	110.800	-9.163	PK
5			5725.000	76.962	86.069	-45.238	122.200	-9.107	PK
6			5746.025	115.623	125.003	N/A	N/A	-9.380	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5828.595	113.801	122.944	N/A	N/A	-9.144	PK
2			5850.000	68.040	77.093	-54.160	122.200	-9.053	PK
3			5855.000	60.344	69.392	-50.456	110.800	-9.049	PK
4			5875.000	60.094	69.114	-45.106	105.200	-9.020	PK
5			5925.000	60.386	69.149	-7.814	68.200	-8.762	PK
6		*	5949.397	61.558	70.264	-6.642	68.200	-8.706	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz (Beamforming Mode)	

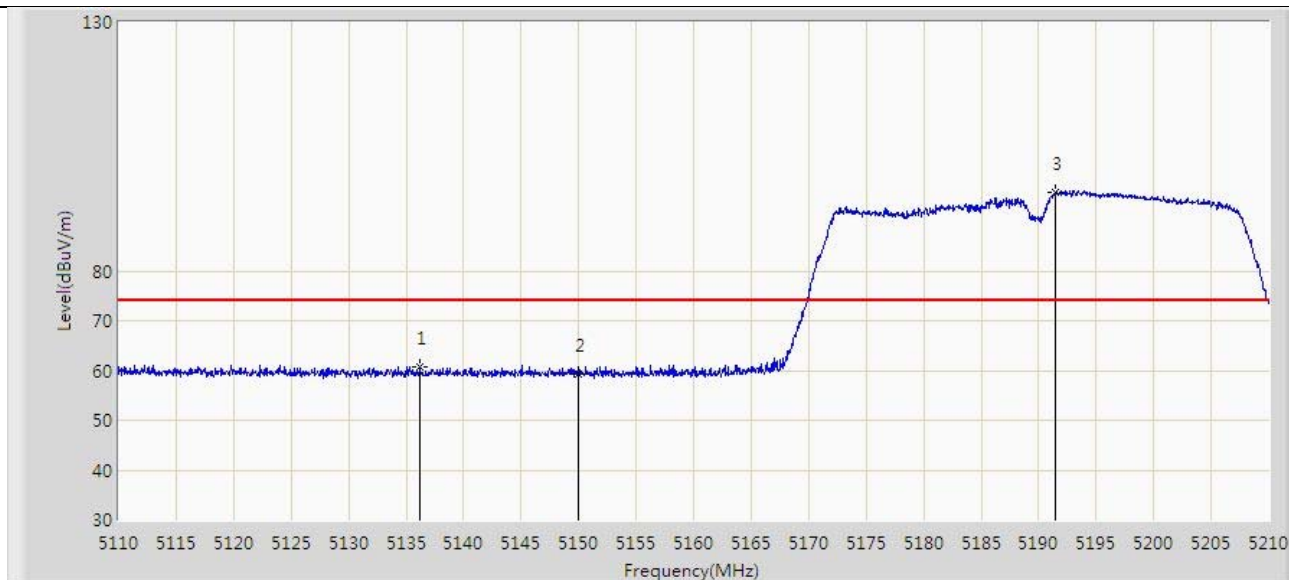


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5823.623	115.292	124.489	N/A	N/A	-9.197	PK
2			5850.000	70.691	79.744	-51.509	122.200	-9.053	PK
3			5855.000	62.941	71.989	-47.859	110.800	-9.049	PK
4			5875.000	61.176	70.196	-44.024	105.200	-9.020	PK
5			5925.000	60.190	68.953	-8.010	68.200	-8.762	PK
6		*	5933.310	62.321	71.039	-5.879	68.200	-8.718	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5136.200	60.604	70.138	-13.396	74.000	-9.534	PK
2			5150.000	59.247	68.774	-14.753	74.000	-9.527	PK
3		*	5191.450	95.732	105.237	N/A	N/A	-9.505	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz (Beamforming Mode)	

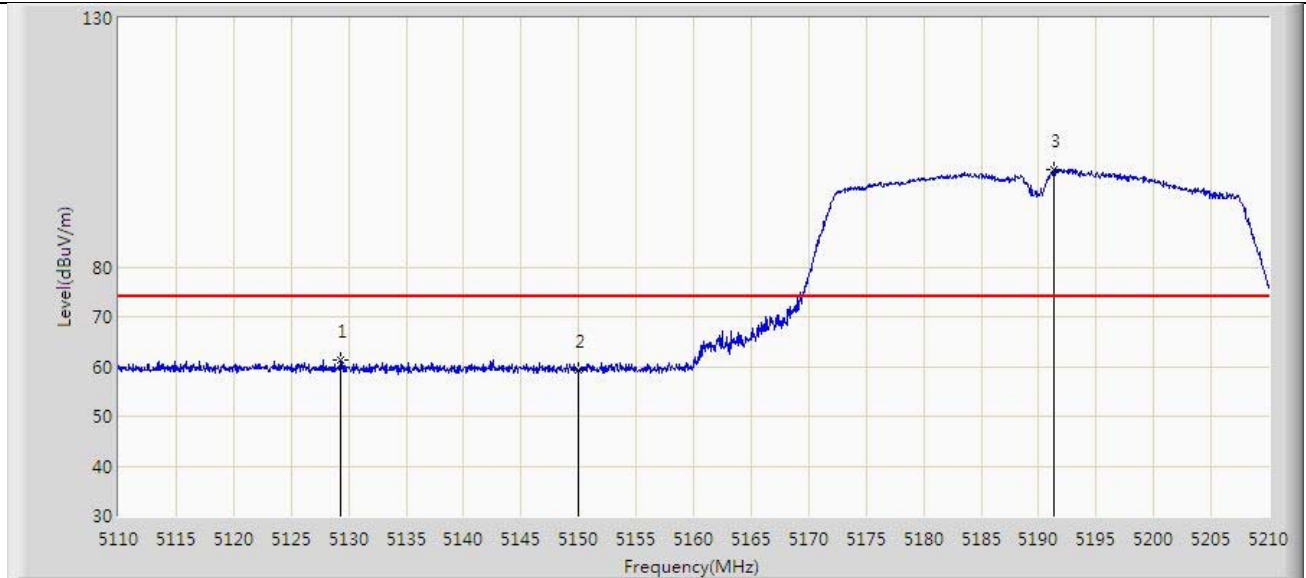


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5142.250	47.239	56.769	-6.761	54.000	-9.530	AV
2			5150.000	47.154	56.681	-6.846	54.000	-9.527	AV
3		*	5188.000	86.679	96.198	N/A	N/A	-9.519	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5129.250	61.355	70.871	-12.645	74.000	-9.516	PK
2			5150.000	59.394	68.921	-14.606	74.000	-9.527	PK
3		*	5191.350	99.569	109.074	N/A	N/A	-9.504	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz (Beamforming Mode)	

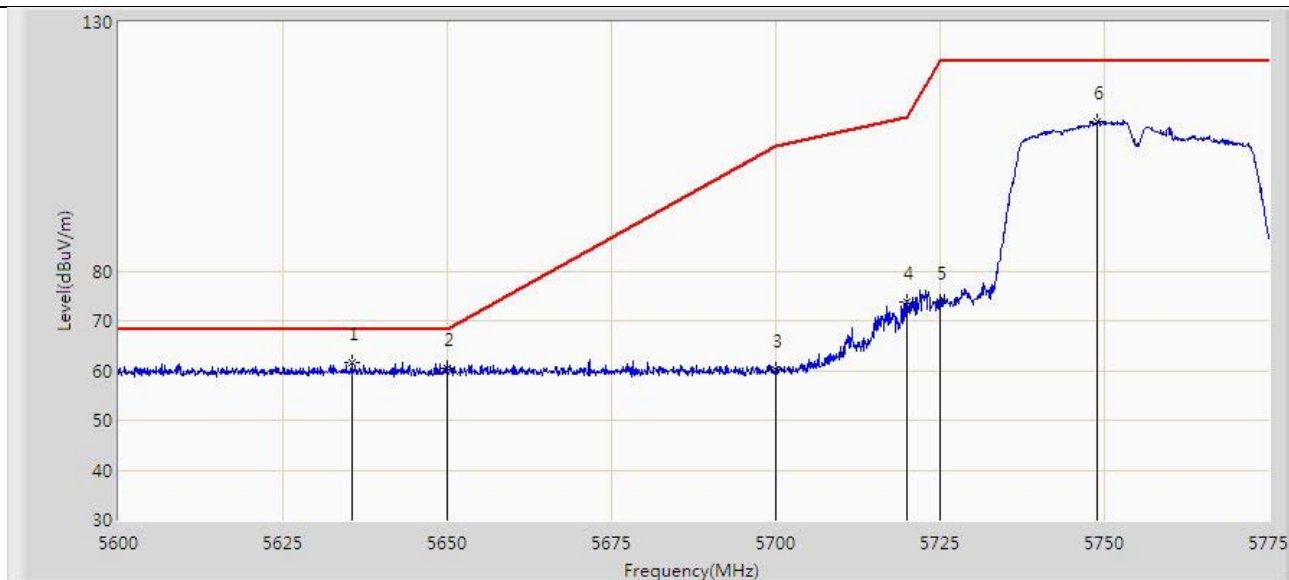


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	47.365	56.892	-6.635	54.000	-9.527	AV
2		*	5188.550	89.202	98.718	N/A	N/A	-9.516	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz (Beamforming Mode)	

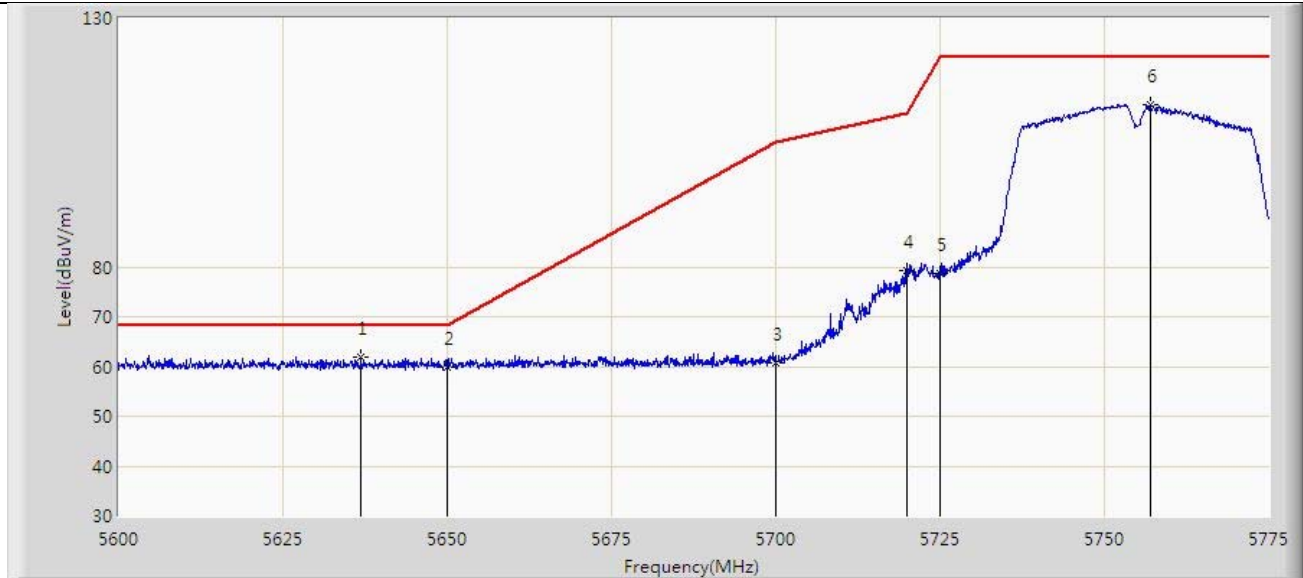


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5635.437	61.588	70.712	-6.612	68.200	-9.123	PK
2			5650.000	60.422	69.551	-7.778	68.200	-9.129	PK
3			5700.000	60.130	69.395	-45.070	105.200	-9.266	PK
4			5720.000	73.763	82.926	-37.037	110.800	-9.163	PK
5			5725.000	73.749	82.856	-48.451	122.200	-9.107	PK
6			5748.925	110.030	119.408	N/A	N/A	-9.377	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz (Beamforming Mode)	

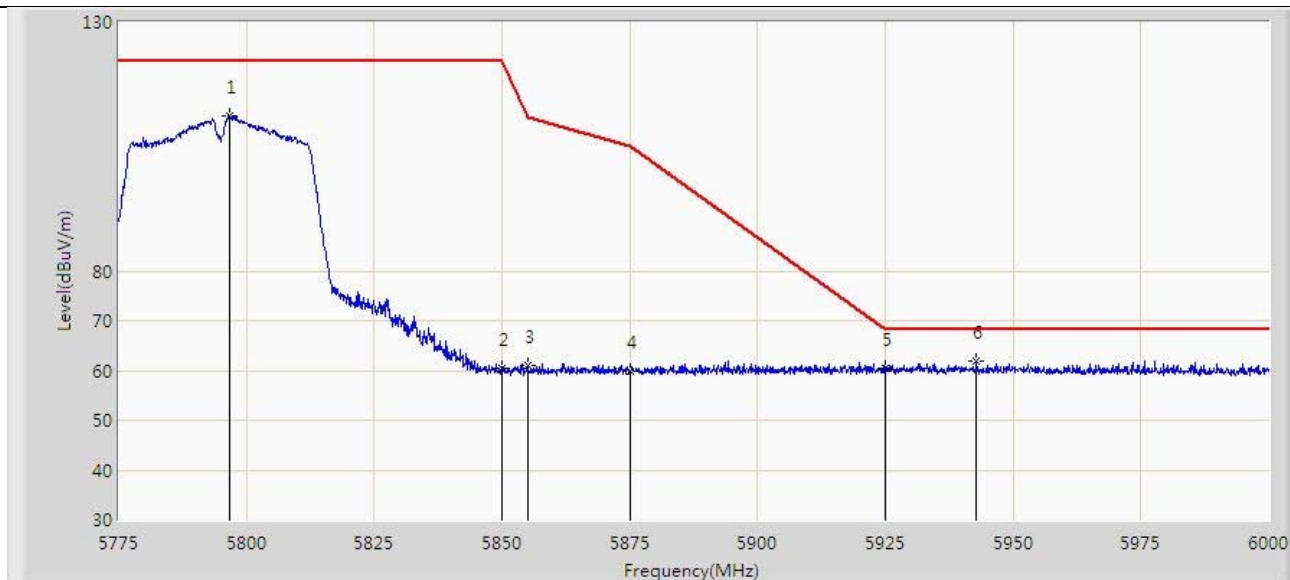


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5636.925	61.900	71.028	-6.300	68.200	-9.129	PK
2			5650.000	59.774	68.903	-8.426	68.200	-9.129	PK
3			5700.000	60.591	69.856	-44.609	105.200	-9.266	PK
4			5720.000	79.362	88.525	-31.438	110.800	-9.163	PK
5			5725.000	78.581	87.688	-43.619	122.200	-9.107	PK
6			5756.975	112.504	121.876	N/A	N/A	-9.372	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz (Beamforming Mode)	

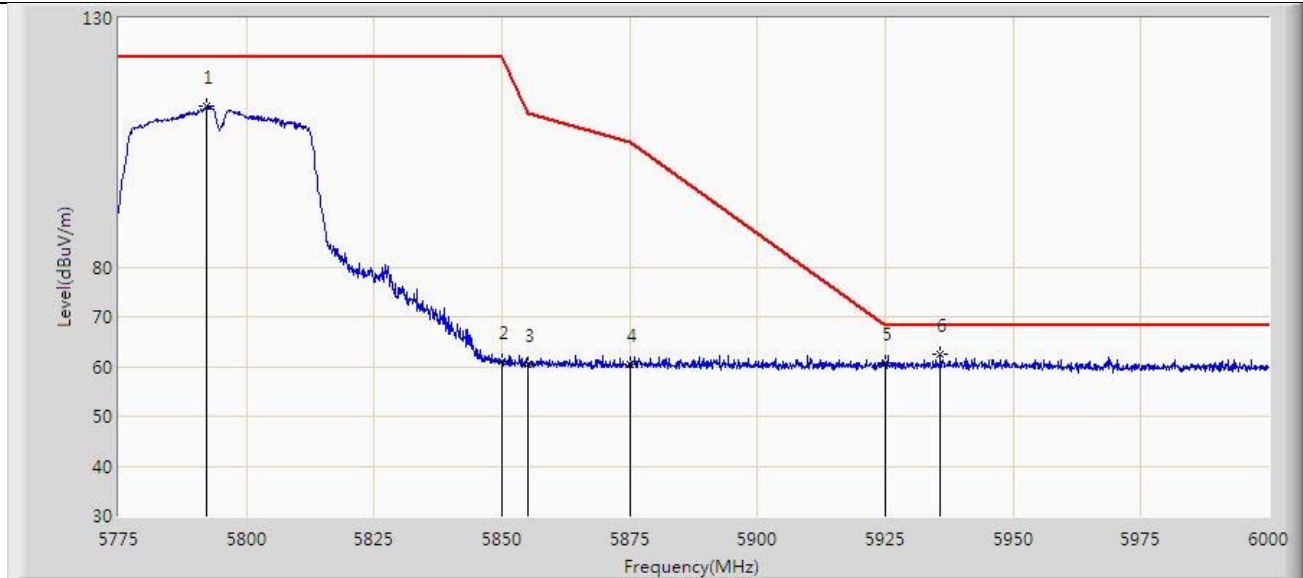


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5796.600	111.212	120.552	N/A	N/A	-9.341	PK
2			5850.000	60.552	69.605	-61.648	122.200	-9.053	PK
3			5855.000	61.034	70.082	-49.766	110.800	-9.049	PK
4			5875.000	59.818	68.838	-45.382	105.200	-9.020	PK
5			5925.000	60.351	69.114	-7.849	68.200	-8.762	PK
6		*	5942.850	61.869	70.560	-6.331	68.200	-8.690	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz (Beamforming Mode)	

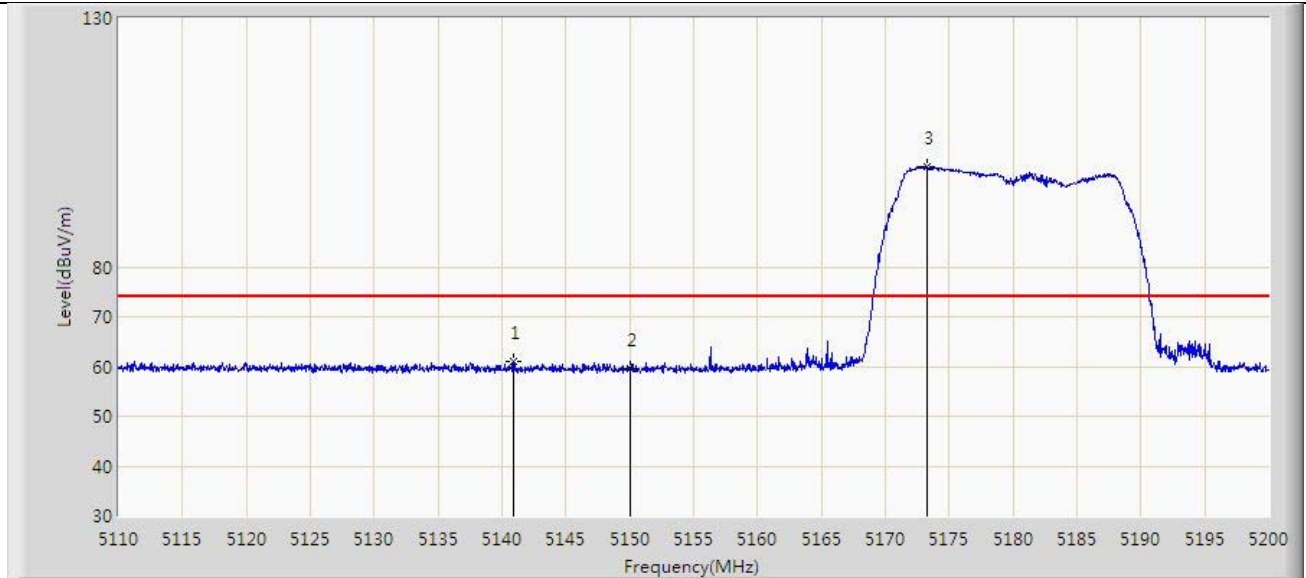


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5792.325	112.223	121.547	N/A	N/A	-9.324	PK
2			5850.000	61.137	70.190	-61.063	122.200	-9.053	PK
3			5855.000	60.487	69.535	-50.313	110.800	-9.049	PK
4			5875.000	60.448	69.468	-44.752	105.200	-9.020	PK
5			5925.000	60.718	69.481	-7.482	68.200	-8.762	PK
6		*	5935.763	62.335	71.046	-5.865	68.200	-8.711	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5180MHz (Beamforming Mode)	

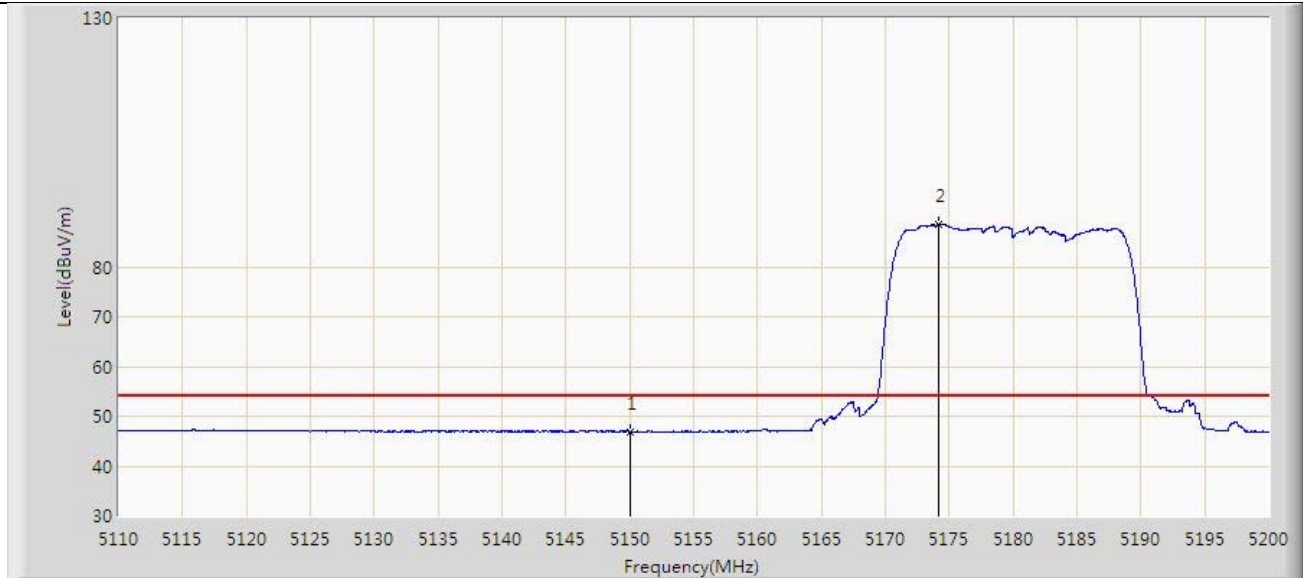


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5140.870	61.041	70.572	-12.959	74.000	-9.531	PK
2			5150.000	59.675	69.202	-14.325	74.000	-9.527	PK
3		*	5173.225	100.255	109.788	N/A	N/A	-9.533	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5180MHz (Beamforming Mode)	

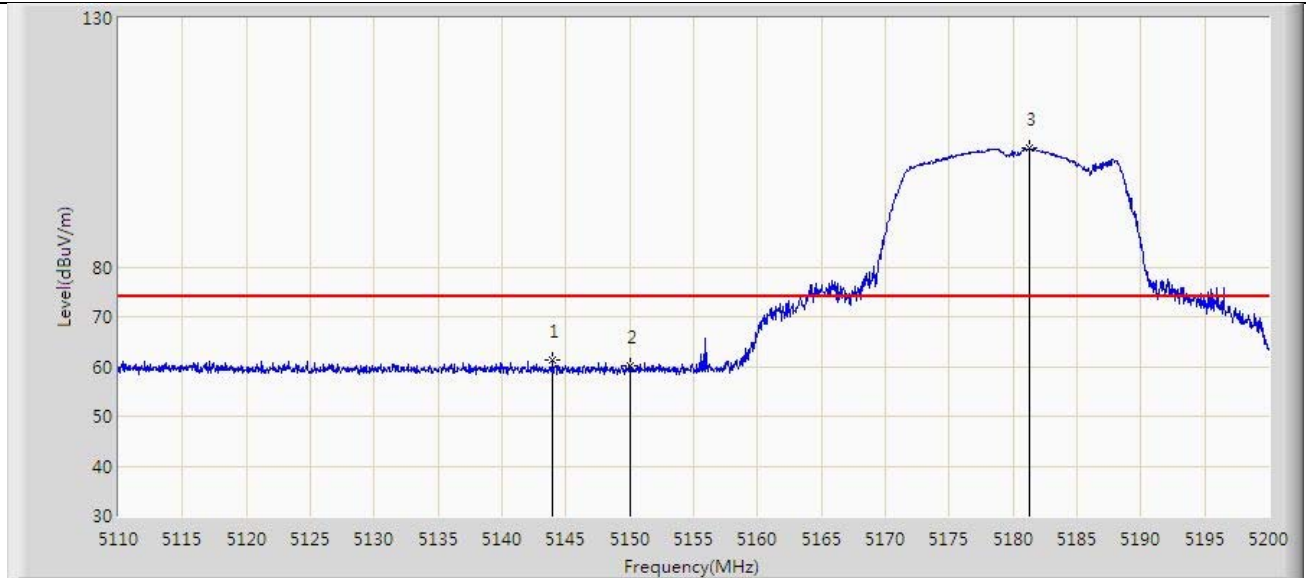


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.947	56.474	-7.053	54.000	-9.527	AV
2		*	5174.170	88.553	98.087	N/A	N/A	-9.533	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5180MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5143.975	61.255	70.784	-12.745	74.000	-9.529	PK
2			5150.000	60.131	69.658	-13.869	74.000	-9.527	PK
3		*	5181.325	103.955	113.497	N/A	N/A	-9.543	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/13
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5180MHz (Beamforming Mode)	

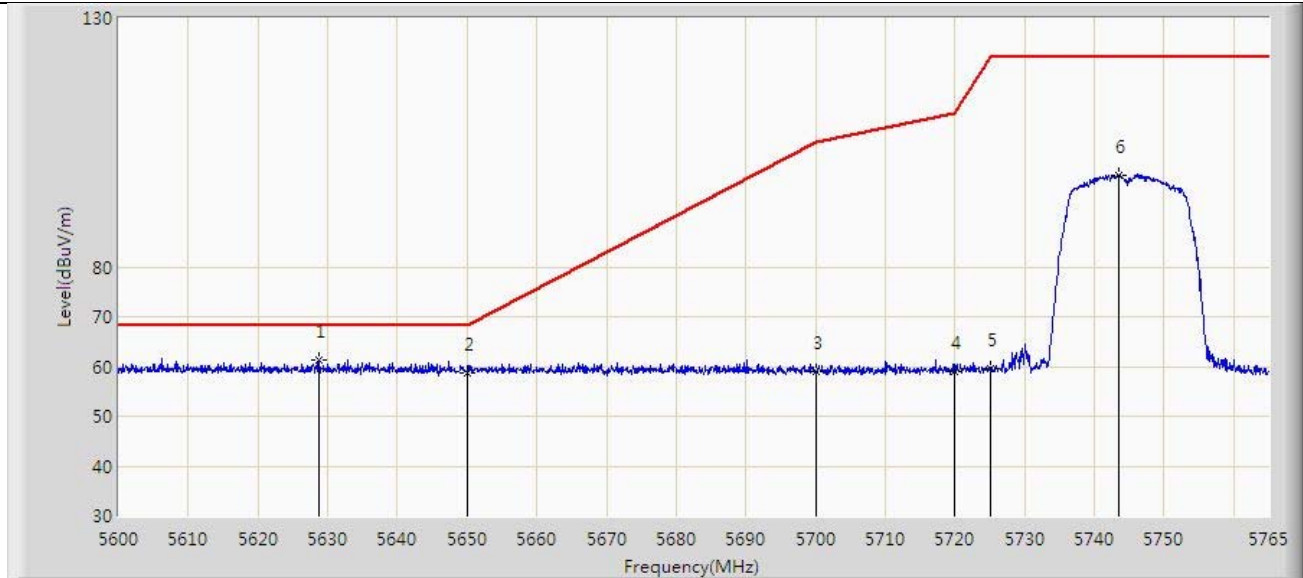


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.995	56.522	-7.005	54.000	-9.527	AV
2		*	5178.220	93.586	103.125	N/A	N/A	-9.538	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5745MHz (Beamforming Mode)	

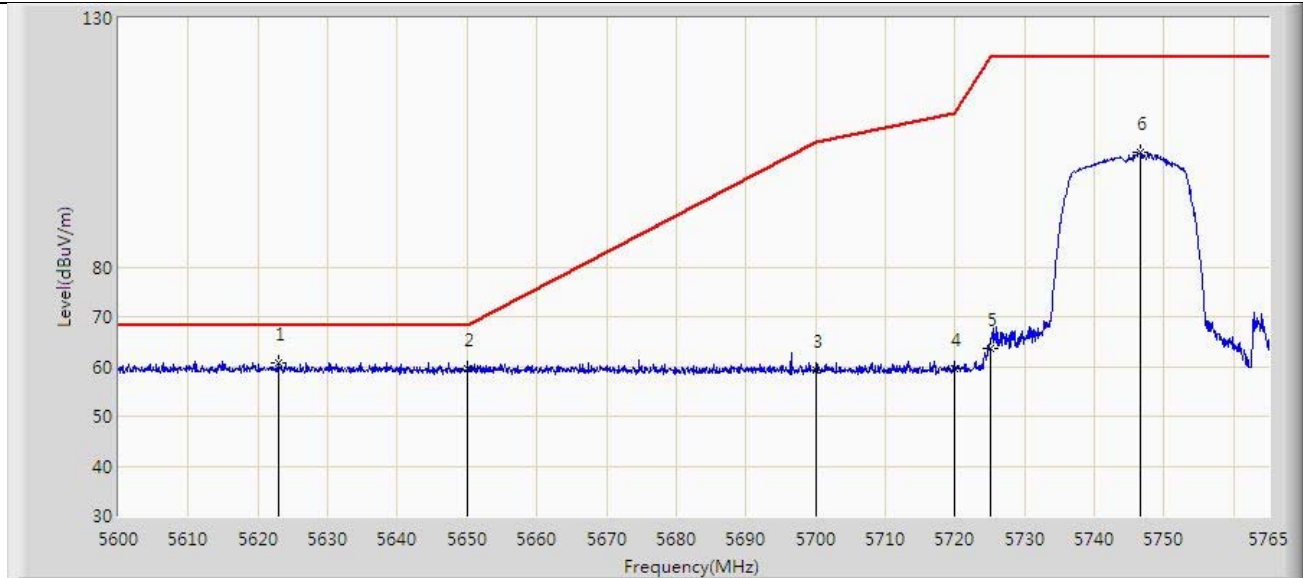


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5628.792	61.207	70.314	-6.993	68.200	-9.108	PK
2			5650.000	58.730	67.859	-9.470	68.200	-9.129	PK
3			5700.000	58.891	68.156	-46.309	105.200	-9.266	PK
4			5720.000	59.048	68.211	-51.752	110.800	-9.163	PK
5			5725.000	59.607	68.714	-62.593	122.200	-9.107	PK
6			5743.550	98.497	107.879	N/A	N/A	-9.381	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5745MHz (Beamforming Mode)	

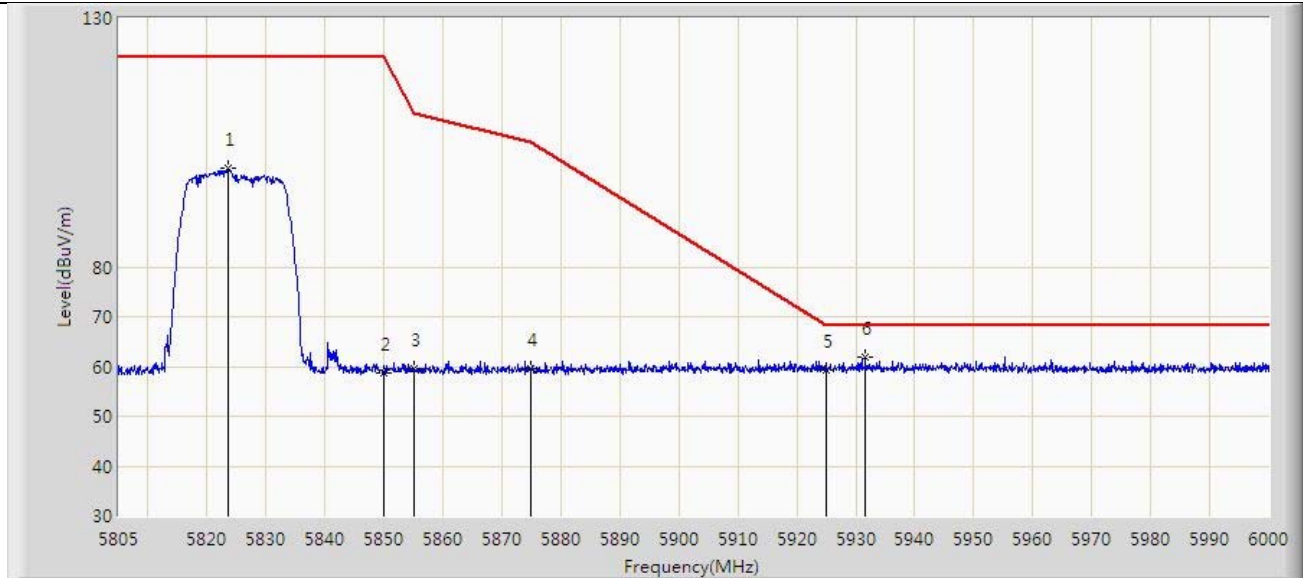


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5623.018	60.617	69.710	-7.583	68.200	-9.094	PK
2			5650.000	59.438	68.567	-8.762	68.200	-9.129	PK
3			5700.000	59.230	68.495	-45.970	105.200	-9.266	PK
4			5720.000	59.655	68.818	-51.145	110.800	-9.163	PK
5			5725.000	63.569	72.676	-58.631	122.200	-9.107	PK
6			5746.520	103.056	112.436	N/A	N/A	-9.379	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5825MHz (Beamforming Mode)	

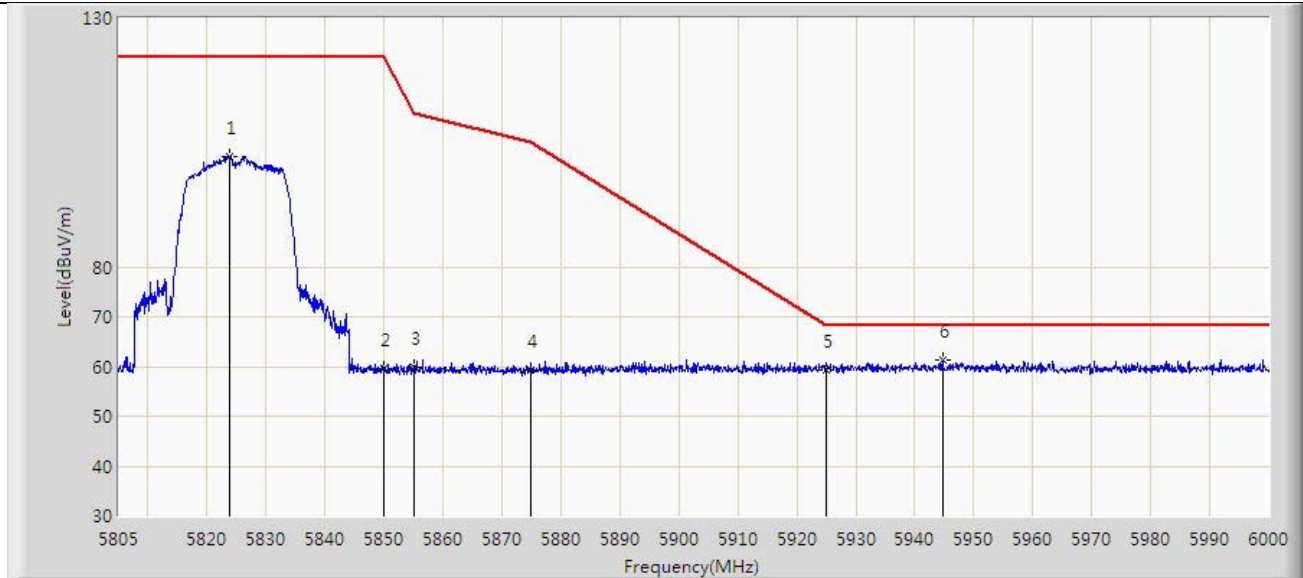


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5823.525	99.778	108.976	N/A	N/A	-9.198	PK
2			5850.000	58.729	67.782	-63.471	122.200	-9.053	PK
3			5855.000	59.441	68.489	-51.359	110.800	-9.049	PK
4			5875.000	59.564	68.584	-45.636	105.200	-9.020	PK
5			5925.000	59.254	68.017	-8.946	68.200	-8.762	PK
6		*	5931.555	61.740	70.464	-6.460	68.200	-8.724	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT20 at channel 5825MHz (Beamforming Mode)	

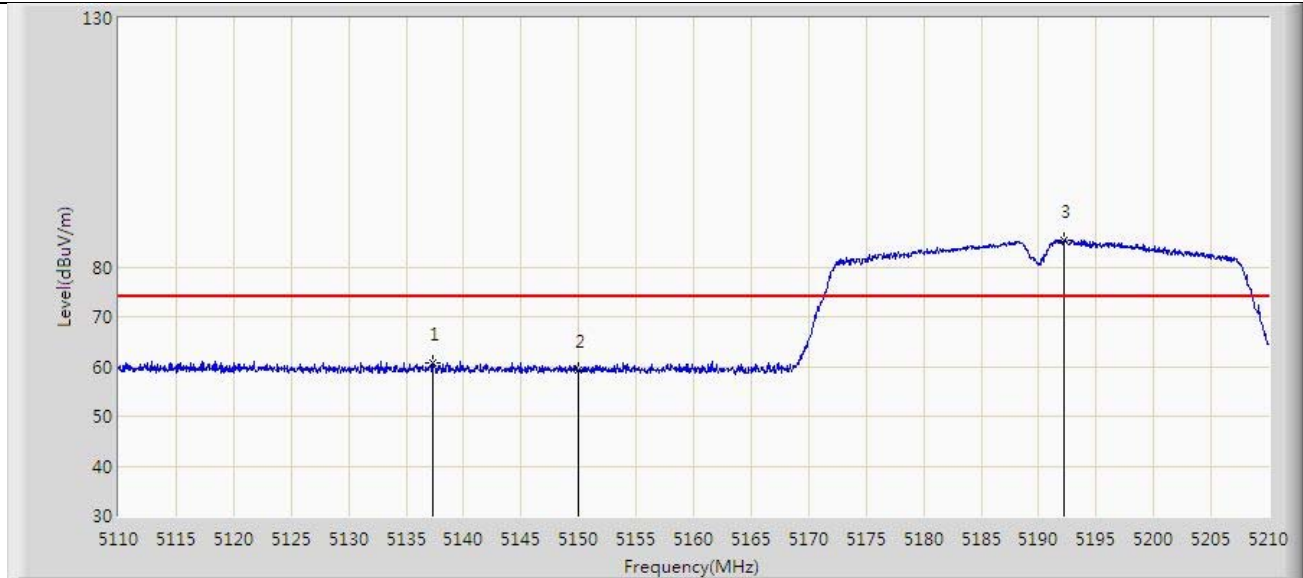


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5823.720	102.268	111.464	N/A	N/A	-9.195	PK
2			5850.000	59.627	68.680	-62.573	122.200	-9.053	PK
3			5855.000	59.960	69.008	-50.840	110.800	-9.049	PK
4			5875.000	59.132	68.152	-46.068	105.200	-9.020	PK
5			5925.000	59.375	68.138	-8.825	68.200	-8.762	PK
6		*	5944.717	61.162	69.848	-7.038	68.200	-8.686	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/16
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5190MHz (Beamforming Mode)	

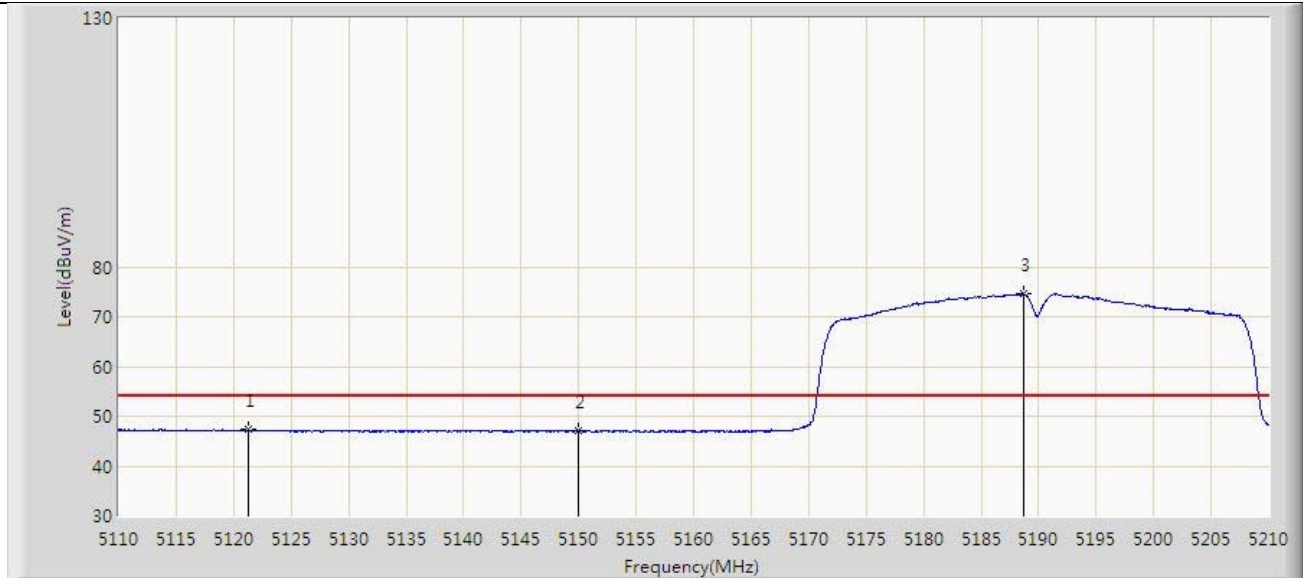


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5137.300	60.869	70.402	-13.131	74.000	-9.533	PK
2			5150.000	59.221	68.748	-14.779	74.000	-9.527	PK
3		*	5192.250	85.489	94.990	N/A	N/A	-9.501	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/16
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5190MHz (Beamforming Mode)	

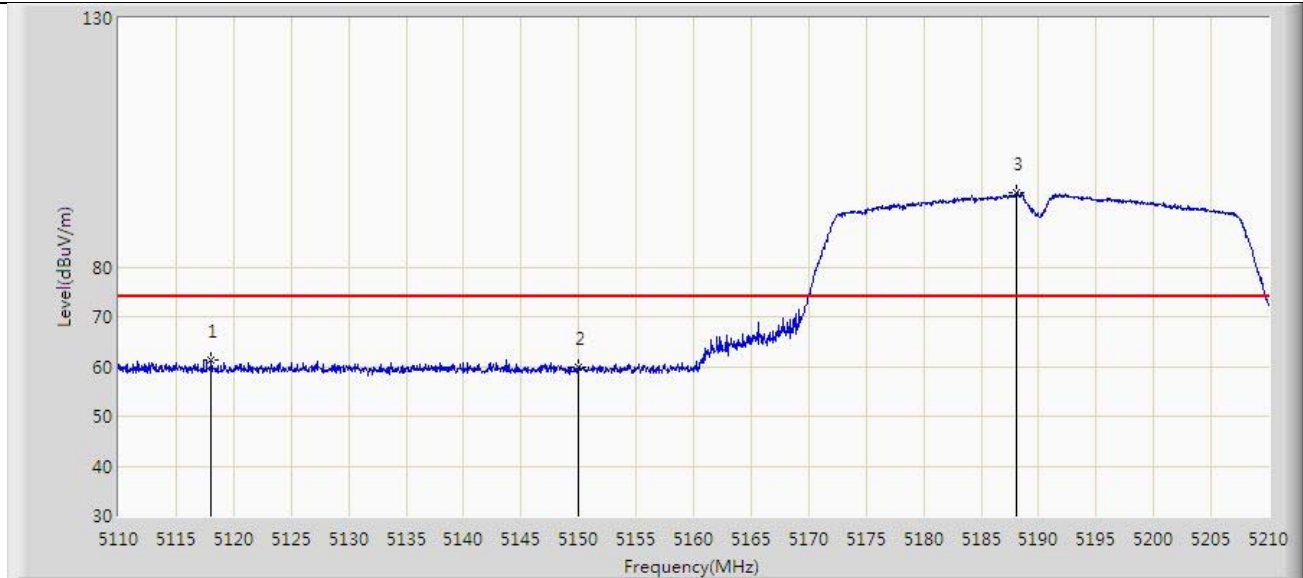


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5121.300	47.322	56.743	-6.678	54.000	-9.421	AV
2			5150.000	47.037	56.564	-6.963	54.000	-9.527	AV
3		*	5188.650	74.666	84.182	N/A	N/A	-9.516	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/16
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5190MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5118.050	61.285	70.667	-12.715	74.000	-9.383	PK
2			5150.000	59.865	69.392	-14.135	74.000	-9.527	PK
3		*	5188.100	95.036	104.554	N/A	N/A	-9.518	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/16
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5190MHz (Beamforming Mode)	

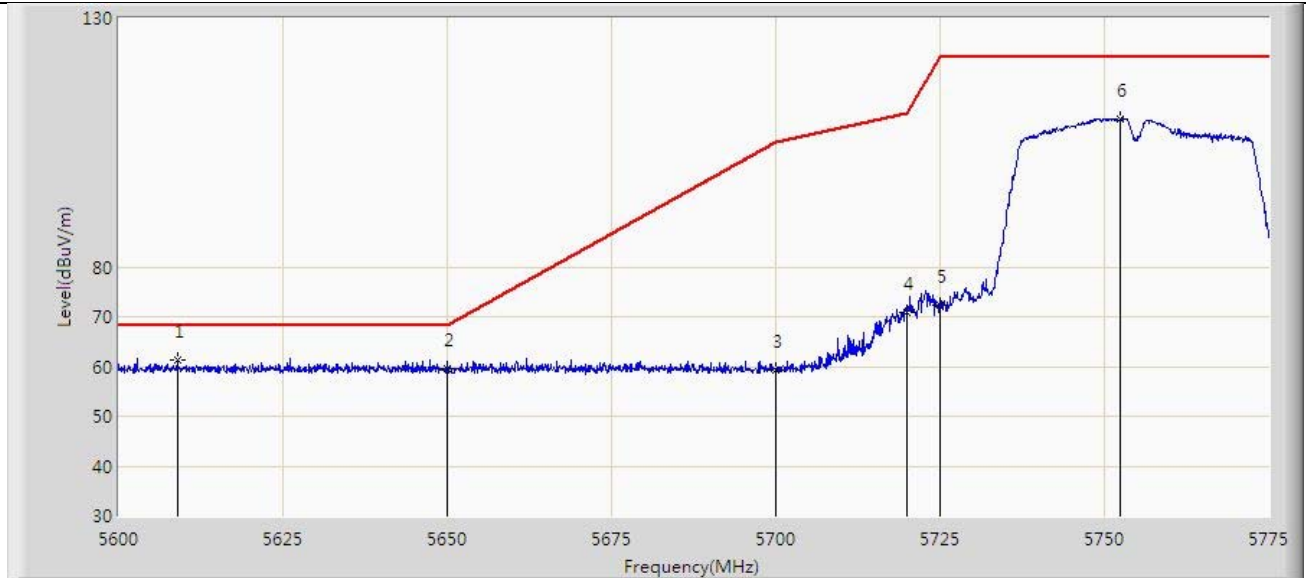


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5138.400	47.298	56.831	-6.702	54.000	-9.533	AV
2			5150.000	47.110	56.637	-6.890	54.000	-9.527	AV
3		*	5188.550	84.514	94.030	N/A	N/A	-9.516	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5755MHz (Beamforming Mode)	

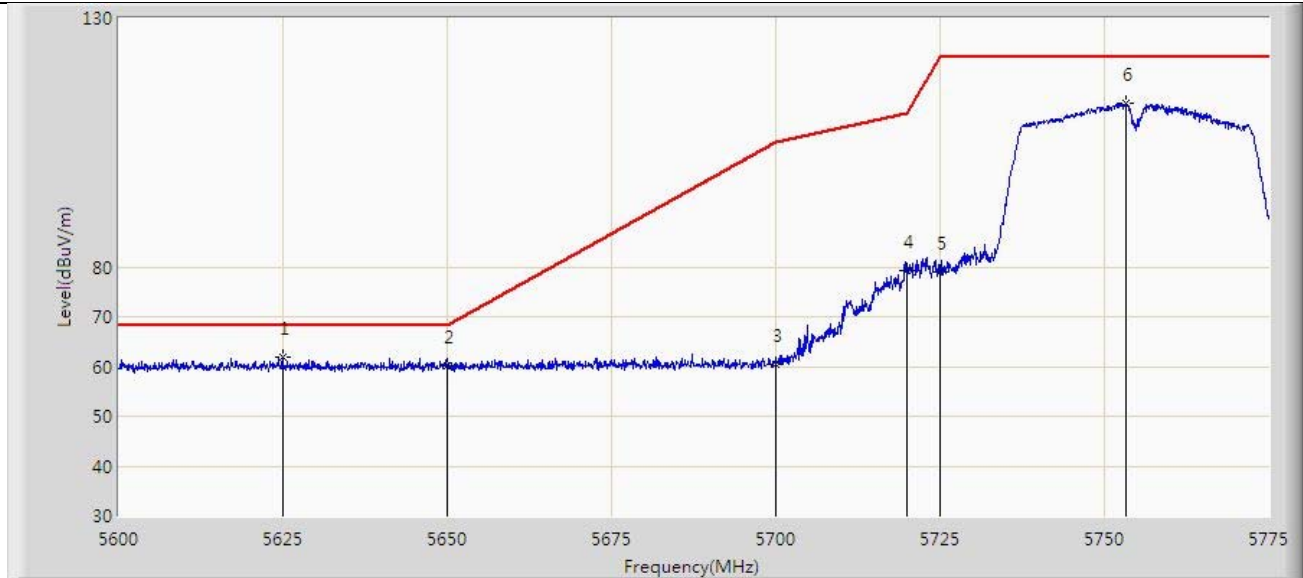


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5608.925	61.401	70.467	-6.799	68.200	-9.066	PK
2			5650.000	59.530	68.659	-8.670	68.200	-9.129	PK
3			5700.000	59.374	68.639	-45.826	105.200	-9.266	PK
4			5720.000	70.966	80.129	-39.834	110.800	-9.163	PK
5			5725.000	72.371	81.478	-49.829	122.200	-9.107	PK
6			5752.337	109.783	119.158	N/A	N/A	-9.376	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5755MHz (Beamforming Mode)	

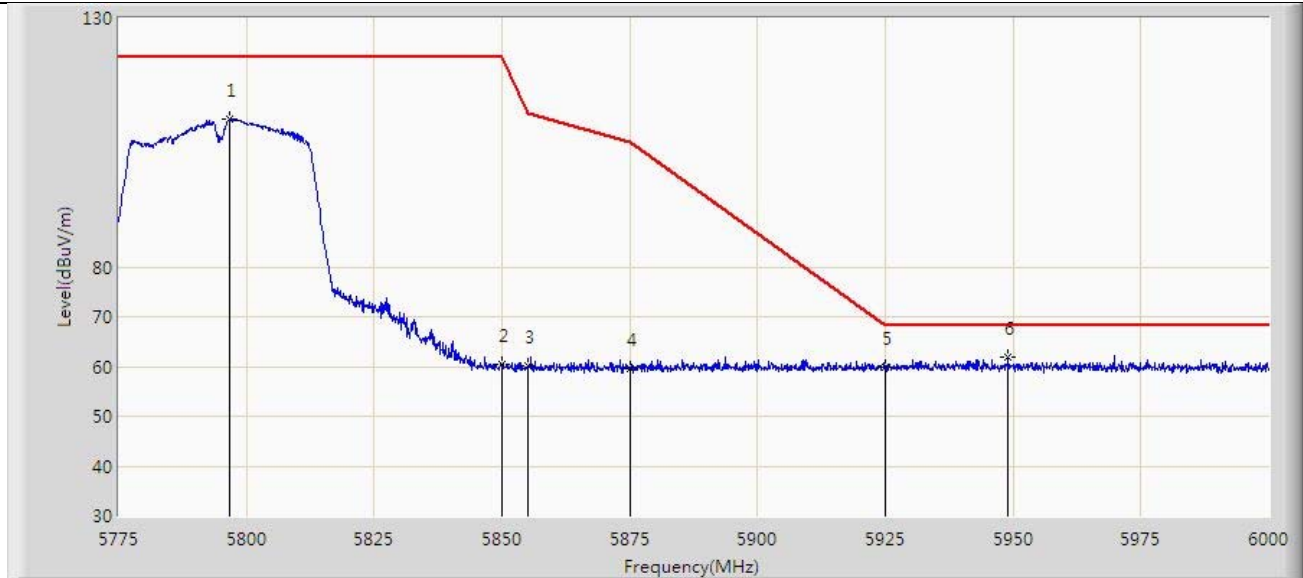


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5624.937	62.003	71.100	-6.197	68.200	-9.097	PK
2			5650.000	60.198	69.327	-8.002	68.200	-9.129	PK
3			5700.000	60.563	69.828	-44.637	105.200	-9.266	PK
4			5720.000	79.215	88.378	-31.585	110.800	-9.163	PK
5			5725.000	78.948	88.055	-43.252	122.200	-9.107	PK
6			5753.212	112.929	122.304	N/A	N/A	-9.375	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5795MHz (Beamforming Mode)	

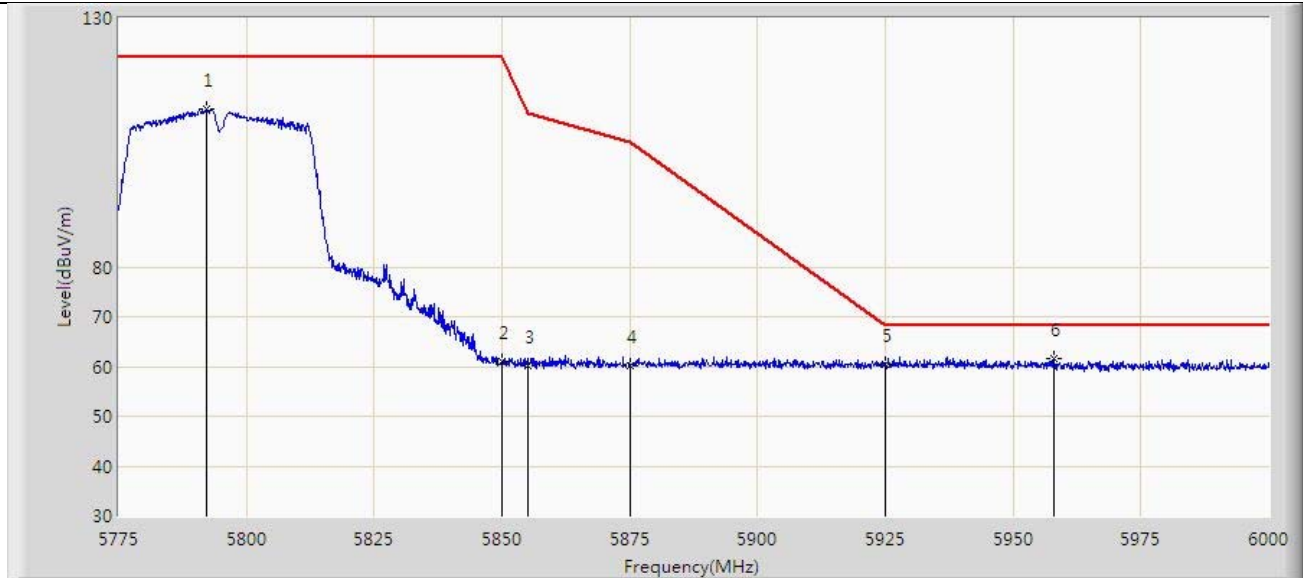


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5796.600	109.666	119.006	N/A	N/A	-9.341	PK
2			5850.000	60.302	69.355	-61.898	122.200	-9.053	PK
3			5855.000	60.138	69.186	-50.662	110.800	-9.049	PK
4			5875.000	59.561	68.581	-45.639	105.200	-9.020	PK
5			5925.000	59.881	68.644	-8.319	68.200	-8.762	PK
6		*	5949.038	61.956	70.658	-6.244	68.200	-8.701	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT40 at channel 5795MHz (Beamforming Mode)	

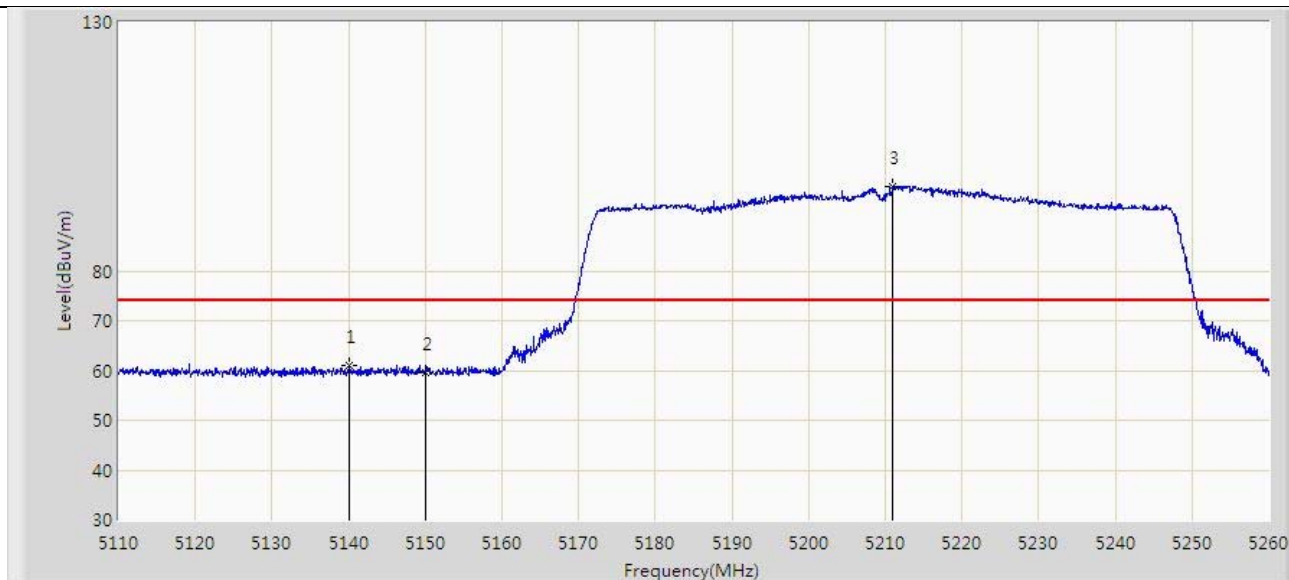


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5792.100	111.768	121.090	N/A	N/A	-9.322	PK
2			5850.000	60.983	70.036	-61.217	122.200	-9.053	PK
3			5855.000	60.261	69.309	-50.539	110.800	-9.049	PK
4			5875.000	60.076	69.096	-45.124	105.200	-9.020	PK
5			5925.000	60.550	69.313	-7.650	68.200	-8.762	PK
6		*	5958.038	61.549	70.351	-6.651	68.200	-8.802	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5210MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5140.150	61.018	70.550	-12.982	74.000	-9.531	PK
2			5150.000	59.621	69.148	-14.379	74.000	-9.527	PK
3		*	5210.950	97.090	106.577	N/A	N/A	-9.487	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5210MHz (Beamforming Mode)	

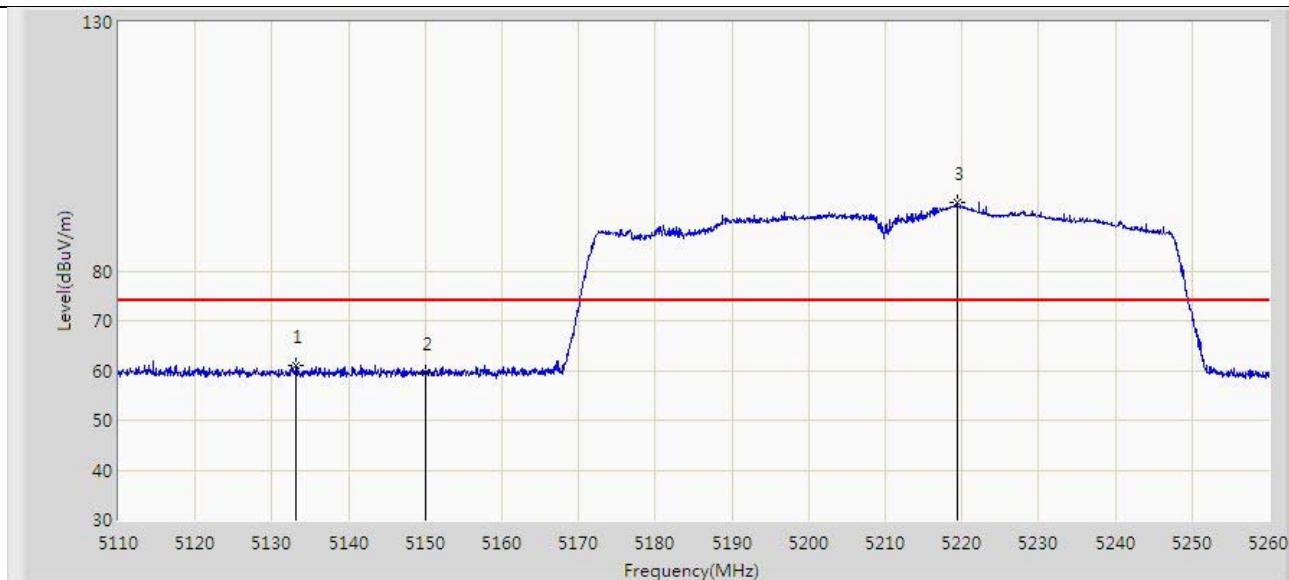


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	47.469	56.996	-6.531	54.000	-9.527	AV
2		*	5211.625	86.445	95.932	N/A	N/A	-9.488	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5210MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5133.175	60.949	70.485	-13.051	74.000	-9.535	PK
2			5150.000	59.469	68.996	-14.531	74.000	-9.527	PK
3		*	5219.350	93.673	103.139	N/A	N/A	-9.466	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5210MHz (Beamforming Mode)	

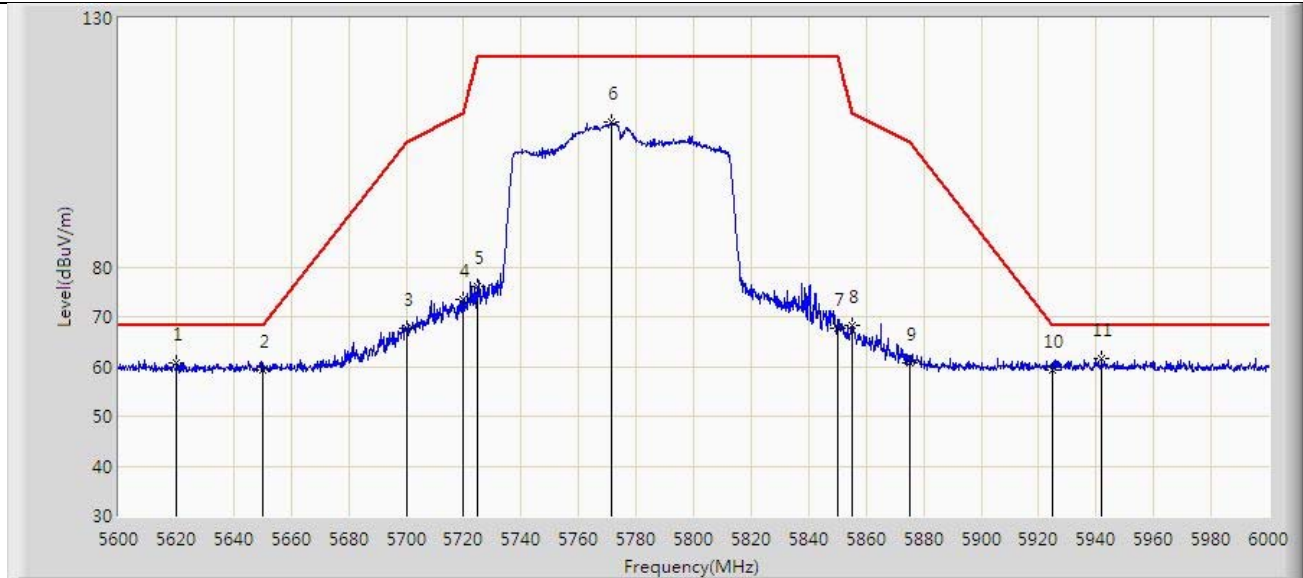


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	47.275	56.802	-6.725	54.000	-9.527	AV
2		*	5219.575	83.076	92.540	N/A	N/A	-9.464	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5775MHz (Beamforming Mode)	

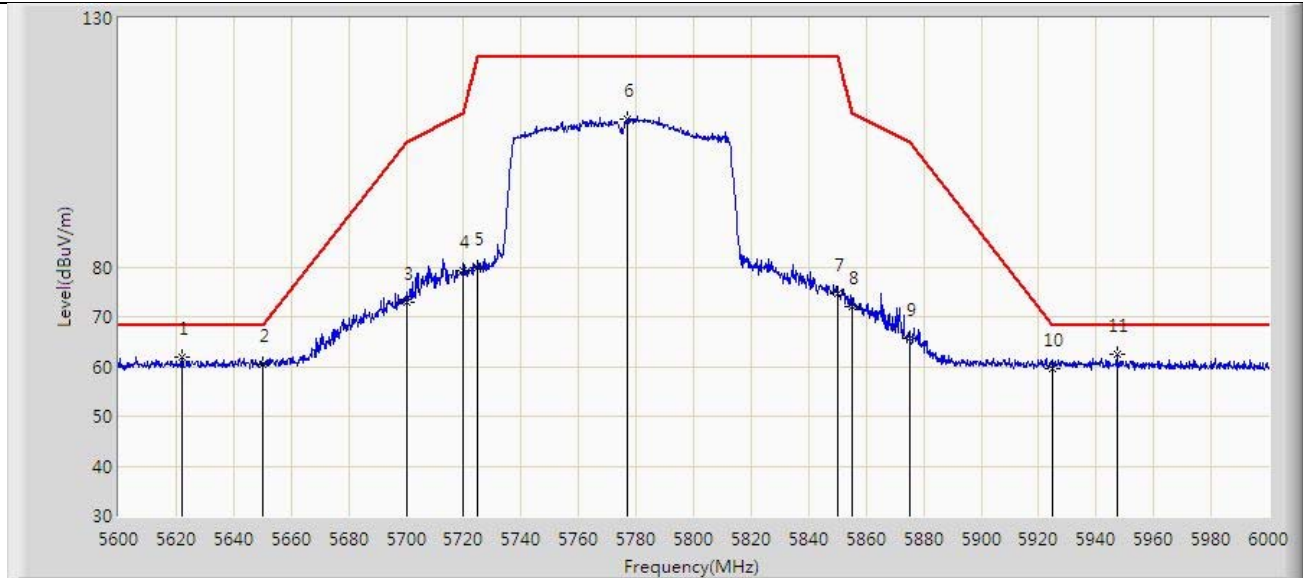


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5620.000	60.820	69.907	-7.380	68.200	-9.087	PK
2			5650.000	59.309	68.438	-8.891	68.200	-9.129	PK
3			5700.000	67.694	76.959	-37.506	105.200	-9.266	PK
4			5720.000	73.485	82.648	-37.315	110.800	-9.163	PK
5			5725.000	75.954	85.061	-46.246	122.200	-9.107	PK
6			5771.400	109.154	118.397	N/A	N/A	-9.243	PK
7			5850.000	67.543	76.596	-54.657	122.200	-9.053	PK
8			5855.000	68.390	77.438	-42.410	110.800	-9.049	PK
9			5875.000	60.788	69.808	-44.412	105.200	-9.020	PK
10			5925.000	59.240	68.003	-8.960	68.200	-8.762	PK
11		*	5942.000	61.718	70.411	-6.482	68.200	-8.694	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Site: SIP-AC3	Time: 2020/11/14
Limit: FCC_Part15.209_RE(3m)	Engineer: White Wang
Probe: SIP-AC3_HF907_102861_1-18GHz	Polarity: Vertical
EUT: Subscriber End Equipment HGW	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11ac-VHT80 at channel 5775MHz (Beamforming Mode)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5622.200	61.836	70.928	-6.364	68.200	-9.091	PK
2			5650.000	60.418	69.547	-7.782	68.200	-9.129	PK
3			5700.000	72.877	82.142	-32.323	105.200	-9.266	PK
4			5720.000	79.342	88.505	-31.458	110.800	-9.163	PK
5			5725.000	79.918	89.025	-42.282	122.200	-9.107	PK
6			5776.800	109.801	118.984	N/A	N/A	-9.183	PK
7			5850.000	74.688	83.741	-47.512	122.200	-9.053	PK
8			5855.000	72.040	81.088	-38.760	110.800	-9.049	PK
9			5875.000	65.797	74.817	-39.403	105.200	-9.020	PK
10			5925.000	59.643	68.406	-8.557	68.200	-8.762	PK
11		*	5947.200	62.325	71.006	-5.875	68.200	-8.682	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

7. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with Part 15E of the FCC rules.

The End

Appendix A - Test Setup Photograph

Refer to "2008RSU023-UT" file.

Appendix B - EUT Photograph

Refer to "2008RSU023-UE" file.