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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

Applicant: Murata Manufacturing Co., Ltd.

1-10-1, Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan

Communication Module **Product Name:**

Brand Name: muRata

Model No.: LBEE6ZZ2AJ

Model Difference: N/A

ER/2020/B0046 **Report Number:**

FCC ID VPYLB2AJ

IC: 772C-LB2AJ

FCC Rule Part: §15.247, Cat: DTS

IC RSS: RSS-247 issue 2 Feb 2017

Issue Date: Feb. 08, 2021

Nov. 19, 2020 ~ Jan. 12, 2021 Date of Test:

Date of EUT Received: Nov. 19, 2020

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

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

Approved By:

Jim Chang / Manager



Member of SGS Group



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Revision History							
Report Number Revision Description Issue Date Remark							
ER/2020/B0046	Rev.00	Original.	Feb. 08, 2021	Revised By: Yuri Tsai			

Note:

1 · Disclaimer

Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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GENERAL INFORMATION

1.1 Product description

Product Name:	Communication Module
Brand Name:	muRata
Model No.:	LBEE6ZZ2AJ
Model Difference:	N/A
Hardware Version:	1.0
Software Version:	1.0
EUT Series No.:	2AJ-1
Power Supply:	3.85Vdc

Wi-Fi 802.11	Frequency Range	Channels	Rated Power (dBm)		Modulation Technology
b				DSSS,	
g	2412-2462	11		25.74	
n_HT20 ax_HE20			HE:	28.92 (MIMO)	OFDM, OFDMA
n_HT40 ax_HE40	2422-2452	7	HE:	28.50 (MIMO)	
Modulation	CCK, DQPSK, DBPSK for DSSS in 802.11b 64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11g 64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11n 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OF in 802.11ax				or OFDMA
802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n_20MHz: 6.5-144.4Mbps 802.11n_40MHz: 13.5-300.0Mbps 802.11ax_20MHz: 0.4-286.8Mbps 802.11ax_40MHz: 0.4-573.5Mbps					

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1.2 Antenna Designation

Antenna Type	Supplier	Port	Antenna Part No.	Freq. (MHz)	Peak An- tenna Gain (dBi)	Worst Antenna Gain
Patch	TE	Port-WLAN2	955-011-901	2412-2462	-1.9	V
Palcii	TE	Port-WLAN1	955-011-901	2412-2462	-3.3	

Note: Investigation has been done to determine the worst case scenario for the above antennas demonstrated with measurements in this report.

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1.3 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

RSS-247 issue 2 Feb. 2017

RSS-Gen. issue 5, Amendment 1, March 2019

ANSI C63.10:2013

1.4 Test Facility

SGS Taiwan Ltd. Central RF Lab (TAF code 3702)

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803

FCC Designation number: TW0027

ISED CAB identifier: TW3702

1.5 Special Accessories

There are no special accessories used while test was conducted.

1.6 Equipment Modifications

There was no modification incorporated into the EUT.

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SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

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

2.3 Test Procedure

2.3.1 Conducted Emissions

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

2.3.2 Conducted Test (RF)

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

2.3.3 Radiated Emissions

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

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2.4 Measurement Results Explanation Example

2.4.1 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m*9m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

2.4.2 For all conducted test items:

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

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2.5 Configuration of Tested System

Fig. 2-1 Radiated Emission configuration



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



Fig. 2-3 Conducted (AC powerline) Emission Configuration

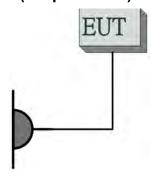


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1	WLAN Test Software	N/A	N/A	N/A	N/A	N/A
2	Notebook	Lenovo	L430	R9-XFG0X	N/A	N/A
3	DC Power Sup- ply	Agilent	E3640A	MY52410006	N/A	N/A
4	DC Power Supply	Agilent	E3640A	KR93300208	N/A	N/A

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SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§15.207(a)	RSS-Gen §8.8	AC Power Line Conducted Emission	Compliant
§15.247(b) (3)	RSS-247 §5.4 d	Peak Output Power	Compliant
§15.247(a)(2)	RSS-247 §5.2 a RSS-Gen §6.7	6dB & 99% Emission Bandwidth	Compliant
§15.205 §15.209 §15.247(d)	RSS-247 §5.5 RSS-Gen §8.9 RSS-Gen §8.10 RSS-Gen §6.13	Radiated & Conducted Band Edge and Spurious Emission	Compliant
§15.247(e)	RSS-247 §5.2 b	Power Spectral Density	Compliant
§15.203 §15.247(b)	N/A	Antenna Requirement	Compliant

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DESCRIPTION OF TEST MODES

4.1 Operated in 2400 ~ 2483.5MHz Band

11 channels are provided for 802.11b/g/n/ax 20M.

OLIANINIEI	FREQUENCY
CHANNEL	(MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

9 channels are provided for 802.11n/ax 40M

CHANNEL	FREQUENCY (MHz)
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452

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4.2 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
- 3. Investigation has been done on all the possible configurations for searching the worst case. The gevin UE is pre-scanned among below modes.

Modulation	Transmission Chain	Single Transmission Spatial	Multiple Transmission Spatial
⊠ 802.11 b	⊠ Ch0 ⊠ Ch1 □ Ch2 □ Ch3	□ 1TX	□ 2TX
⊠ 802.11 g	⊠ Ch0 ⊠ Ch1 □ Ch2 □ Ch3	□ 1TX	□ 2TX
⊠ 802.11 n	⊠ Ch0 ⊠ Ch1 □ Ch2 □ Ch3	□ SISO	⊠ MIMO
⊠ 802.11 ax	☑ Ch0 ☑ Ch1 ☐ Ch2 ☐ Ch3	□ SISO	⊠ MIMO

4. Therefore, below summary is the modes of test configuration that yield the highest reading and generate the highest emission chosen to carry out the relevantly mandatory test items.

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4.3 Radiated Emission Test:

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
	RADIAT	ED EMISSIO	N TEST (BELOV	V 1 GHz)	
802.11g	1 to 11	6	OFDM	6	Ch0
802.11ax 40M	3 to 9	6	OFDM	MCS 0	MIMO
	RADIAT	ED EMISSIC	N TEST (ABOVE	E 1 GHz)	
802.11b	1 to 11	1, 6, 11	DSSS	1	Ch0
802.11g	1 to 11	1, 6, 11	OFDM	6	Ch0
802.11n 20M	1 to 11	1, 6, 11	OFDM	MCS 8	MIMO
802.11ax 20M	1 to 11	1, 6, 11	OFDMA	MCS 0	MIMO
802.11n 40M	3 to 9	3, 6, 9	OFDM	MCS 8	MIMO
802.11n/ax 40M	3 to 9	3, 6, 9	OFDMA	MCS 0	MIMO

Note:

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

4.4 Antenna Port Conducted Mesurement:

	CONDUCTED TEST							
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT			
802.11b	1 to 11	1, 6, 11	DSSS	1	Ch0			
802.11g	1 to 11	1, 6, 11	OFDM	6	Ch0			
802.11n 20M	1 to 11	1, 6, 11	OFDM	MCS 8	MIMO			
802.11n 40M	3 to 9	3, 6, 9	OFDM	MCS 8	MIMO			

	CONDUCTED TEST							
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODU- LATION	RU CONFIGURATION	DATA RATE (Mbps)	ANTENNA PORT		
802.11ax 20M	1 to 11	1, 6, 11	OFDMA	Full, 26/0, 52/37, 106/53	MCS 0	МІМО		
802.11ax 40M	3 to 9	3, 6, 9	MA	Full, 242/61, 242/62	MCS 0	МІМО		

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MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	
AC Power Line Conducted Emission	+/- 2.34 dB	
Peak Output Power	+/- 1 dB	
6dB Bandwidth	+/- 1.54 Hz	
100 KHz Bandwidth Of Frequency Band Edges	+/- 1.69 dB	
Peak Power Density	+/- 1.54 dB	
Temperature	+/- 0.4 °C	
Humidity	+/- 3.5 %	
DC / AC Power Source	DC= +/- 1%, AC= +/- 1%	

Radiated Spurious Emission Measurement Uncertainty						
	+/-	2.64	dB	9kHz~30MHz: +-2.3dB		
Polorization: Vartical	+/-	4.93	dB	30MHz - 1000MHz: +/- 3.37dB		
Polarization: Vertical	+/-	4.81	dB	1GHz - 18GHz: +/- 4.04dB		
	+/-	4.52	dB	18GHz - 40GHz: +/- 4.04dB		
	+/-	2.64	dB	9kHz~30MHz: +-2.3dB		
Polarization: Horizontal	+/-	4.45	dB	30MHz - 1000MHz: +/- 4.22dB		
Polarization: nonzontal	+/-	4.81	dB	1GHz - 18GHz: +/- 4.08dB		
	+/-	4.52	dB	18GHz - 40GHz: +/- 4.08dB		

Note:

- 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

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6 CONDUCTED EMISSION TEST

6.1 Standard Applicable

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

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

Note

- 1. The lower limit shall apply at the transition frequencies
- 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

6.2 Measurement Equipment Used

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
EMI Test Receiver	R&S	ESCI 7	100759	07/13/2020	07/12/2021		
LION	SCHWARZ-	NOLK 0407	0407.405	0.4/0.0/0.00	04/00/0004		
LISN	BECK	NSLK 8127	8127-465	04/09/2020	04/08/2021		
Coaxial Cables	N/A	Coaxial Cable	161207	12/07/2020	12/06/2021		
To all O affections		- 0	Ver. 6.11-	NOD	NOD		
Test Software	audix e3		20180413	N.C.R	N.C.R		

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

6.3 EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI 63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
- 3. The LISN was connected with 120Vac/60Hz power source.

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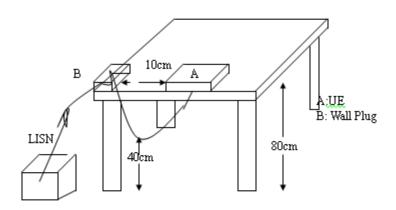
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6.4 Test SET-UP (Block Diagram of Configuration)



6.5 Measurement Procedure

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

6.6 Measurement Result

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

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

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number :ER-2020-B0046

Test Mode :WLAN 2.4G

Power :AC 120V/60Hz

Probe :L

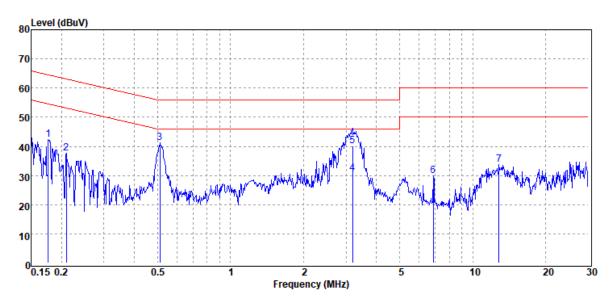
Note: :

Test Site :Conduction 6F

Test Date :2021-01-12

Temp./Humi. :19.0/49

Engineer :Ricky



Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV	dBµV	dB
0.18	Peak	42.20	0.04	42.24	64.64	-22.40
0.21	Peak	37.51	0.04	37.55	63.23	-25.68
0.51	Peak	40.98	0.16	41.14	56.00	-14.86
3.19	Average	30.42	0.39	30.81	46.00	-15.19
3.19	QP	39.62	0.39	40.01	56.00	-15.99
6.88	Peak	29.21	0.67	29.88	60.00	-30.12
12.85	Peak	32.83	0.96	33.79	60.00	-26.21

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Test Site :Conduction 6F

Test Date :2021-01-12

Temp./Humi. :19.0/49

Engineer :Ricky

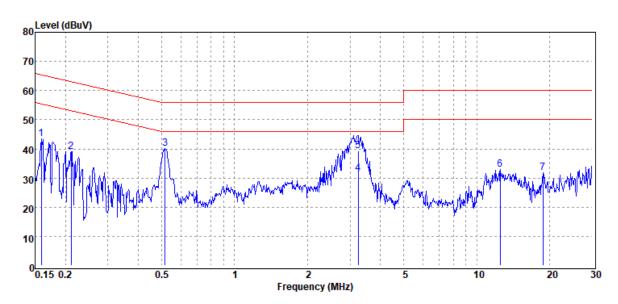
Report Number :ER-2020-B0046 Test Mode :WLAN 2.4G

:AC 120V/60Hz

Probe :N

Power

Note:



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS		
MHz	PK/QP/AV	dΒμV	dB	dΒμV	dΒμV	dB
0.16	Peak	43.46	0.00	43.46	65.52	-22.06
0.21	Peak	39.09	0.00	39.09	63.14	-24.05
0.52	Peak	40.13	0.10	40.23	56.00	-15.77
3.24	Average	31.43	0.10	31.53	46.00	-14.47
3.24	QP	39.21	0.10	39.31	56.00	-16.69
12.52	Peak	32.81	0.13	32.94	60.00	-27.06
18.72	Peak	31.76	0.19	31.95	60.00	-28.05

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DUTY CYCLE OF TEST SIGNAL

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

7.1 Measurement Procedure:

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

7.2 Duty Cycle:

	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11b	98.08	0.00	0.00	0.01
802.11g	99.15	0.00	0.00	0.01
802.11n_20	99.69	0.00	0.00	0.01
802.11n_40	99.71	0.00	0.00	0.01
802.11ax_20	99.69	0.00	0.00	0.01
802.11ax_40	99.71	0.00	0.00	0.01

b = 98.08%, g = 99.15%, $n_ht_20 = 99.69\%$ $n_ht_40 = 99.71\%$

Duty Cycle Factor: $10 * \log(1/0.9808) = 0.08$ Duty Cycle Factor: $10 * \log(1/0.9915) = 0.04$ Duty Cycle Factor: $10 * \log(1/0.9969) = 0.01$ Duty Cycle Factor: $10 * \log(1/0.9971) = 0.01$

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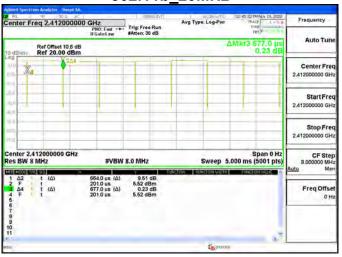
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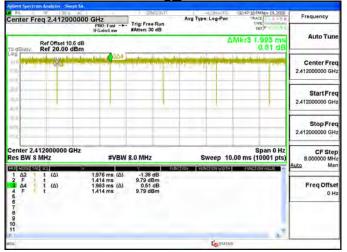
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7.3 Duty Cycle test plots

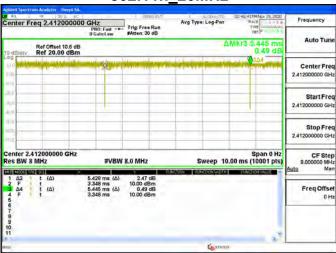
802.11b 20MHz



802.11g_20MHz



802.11n 20MHz



802.11n 40MHz



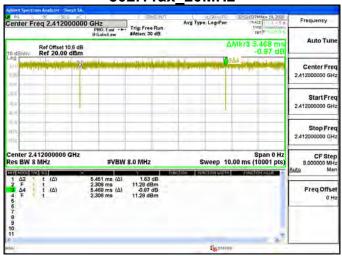
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802.11ax 20MHz



802.11ax_40MHz



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PEAK OUTPUT POWER MEASUREMENT

8.1 Standard Applicable

For systems using digital modulation in the 2400-2483.5 MHz bands, the limit for peak output power is 1Watt and the e.i.r.p. shall not exceed 4 W.

If the transmitting antenna of directional gain greater than 6dBi are used the peak output power form the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6dBi.

In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of Antenna exceeds 6dBi.

Note:

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

• Directional Gain =
$$10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^{2}}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

 $g_{j,k} = /20$ 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The antenna gain is not grater than 6 dBi. Therefore, reduction of power is not required.

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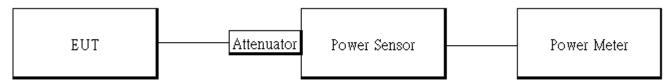
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8.2 Measurement Equipment Used

Conducted Emission Test Site							
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.		
Power Meter	Anritsu	ML2496A	1804001	02/20/2020	02/19/2021		
Power Sensor	Anritsu	MA2411B	1726104	02/20/2020	02/19/2021		
Power Sensor	Anritsu	MA2411B	1726107	02/20/2020	02/19/2021		
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021		
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021		
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021		

8.3 Test Set-up

Power Meter:



8.4 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

Power Meter:

It is used as the auxiliary test equipment to conduct the output power measurement.

Record the max. Reading as observed from Spectrum or Power Meter.

* Note: The duty cycle factor is compensated to obtain the maximum value of measurement in average.

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8.5 Measurement Result

802.1	1b Ch0							
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT			
1	2412	1	21.66	30.00	PASS			
6	2437	1	21.71	30.00	PASS			
11	2462	1	21.38	30.00	PASS			
802.1	802.11b Ch0							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT			
1	2412	1	18.97	30.00	PASS			
6	2437	1	18.83	30.00	PASS			
11	2462	1	18.99	30.00	PASS			

802.1	1b Ch1							
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT			
1	2412	1	21.34	30.00	PASS			
6	2437	1	21.26	30.00	PASS			
11	2462	1	21.13	30.00	PASS			
802.1	802.11b Ch1							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT			
1	2412	1	18.84	30.00	PASS			
6	2437	1	18.74	30.00	PASS			
11	2462	1	18.94	30.00	PASS			

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802.1	1g Ch0							
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT			
1	2412	6	25.59	30.00	PASS			
6	2437	6	25.74	30.00	PASS			
11	2462	6	25.67	30.00	PASS			
802.1	802.11g Ch0							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT			
1	2412	6	18.96	30.00	PASS			
6	2437	6	18.78	30.00	PASS			
11	2462	6	18.94	30.00	PASS			

802.1	1g Ch1							
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT			
1	2412	6	25.49	30.00	PASS			
6	2437	6	25.56	30.00	PASS			
11	2462	6	25.62	30.00	PASS			
802.1	802.11g Ch1							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT			
1	2412	6	18.85	30.00	PASS			
6	2437	6	18.76	30.00	PASS			
11	2462	6	18.80	30.00	PASS			

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802.1	802.11n_HT20M Ch0								
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT				
1	2412	MCS0	25.88	30.00	PASS				
6	2437	MCS0	25.88	30.00	PASS				
11	2462	MCS0	25.55	30.00	PASS				
802.1	1n_HT20	VI Ch0							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT				
1	2412	MCS0	18.97	30.00	PASS				
6	2437	MCS0	18.83	30.00	PASS				
11	2462	MCS0	18.99	30.00	PASS				

802.1	1n_HT20/	M Ch1			
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	25.81	30.00	PASS
6	2437	MCS0	25.72	30.00	PASS
11	2462	MCS0	25.48	30.00	PASS
802.1	1n_HT20I	VI Ch1		_	
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	18.82	30.00	PASS
6	2437	MCS0	18.73	30.00	PASS
11	2462	MCS0	18.87	30.00	PASS

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802.1	802.11n_HT20M MIMO								
СН	Freq. (MHz)	Data Rate		Output wer	Total Peak Output Power	Limit (dBm)	RESULT		
	(101112)	Kate	CH 0	CH 1	(dBm)	(dbiii)			
1	2412	MCS8	25.72	25.62	28.68	30.00	PASS		
6	2437	MCS8	25.81	25.74	28.79	30.00	PASS		
11	2462	MCS8	25.54	25.38	28.47	30.00	PASS		
802.1	1n_HT20l	M MIMO							
			Avg. C	Output	Max. Avg. Output				
СН	Freq.	Data	Po	wer	include tune up	Limit	RESULT		
CII	(MHz)	Rate	(dE	3m)	tolerance Power	(dBm)	KLJULI		
			CH 0	CH 1	(dBm)				
1	2412	MCS8	18.96	18.72	21.87	30.00	PASS		
6	2437	MCS8	18.71	18.56	21.66	30.00	PASS		
11	2462	MCS8	18.95	18.66	21.83	30.00	PASS		

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802.1	1ax_HE20	OM Ch0				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
			full	24.80	30.00	PASS
1	2412 N	MCS0	26/0	26.13	30.00	PASS
'	2412	IVICSO	52/37	25.76	30.00	PASS
			106/53	25.83	30.00	PASS
6	2437	MCS0	full	24.88	30.00	PASS
		2462 MCS0	full	24.91	30.00	PASS
11	2462		26/8	25.84	30.00	PASS
11	11 2402		52/40	25.77	30.00	PASS
			106/54	25.54	30.00	PASS
802.1	1ax_HE20	M Ch0				
				Max. Avg. Output		
СН	Freq.	Data	RU	include tune up	Limit	DESIII T
СН	Freq. (MHz)	Data Rate	RU Config	include tune up tolerance Power	Limit (dBm)	RESULT
СН				•		
СН				tolerance Power		RESULT PASS
	(MHz)	Rate	Config	tolerance Power (dBm)	(dBm)	
1 CH			Config full	tolerance Power (dBm) 16.93	(dBm) 30.00	PASS
	(MHz)	Rate	Config full 26/0	tolerance Power (dBm) 16.93 16.89	(dBm) 30.00 30.00	PASS PASS
	(MHz)	Rate	full 26/0 52/37	tolerance Power (dBm) 16.93 16.89 16.92	(dBm) 30.00 30.00 30.00	PASS PASS PASS
1	(MHz)	Rate MCS0	full 26/0 52/37 106/53	tolerance Power (dBm) 16.93 16.89 16.92 16.99	(dBm) 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS
1 6	(MHz) 2412 2437	MCS0	full 26/0 52/37 106/53 full	tolerance Power (dBm) 16.93 16.89 16.92 16.99 16.62	30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS
1	(MHz)	Rate MCS0	full 26/0 52/37 106/53 full full	tolerance Power (dBm) 16.93 16.89 16.92 16.99 16.62 16.85	(dBm) 30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS

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ĮŏUZ. I	1ax_HE20	M Ch1					
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT	
			full	24.72	30.00	PASS	
1	2412	MCS0	26/0	26.26	30.00	PASS	
'	2412	IVICOU	52/37	25.79	30.00	PASS	
			106/53	25.81	30.00	PASS	
6	2437	MCS0	full	24.63	30.00	PASS	
			full	24.33	30.00	PASS	
11	11 2462	2462	2462 MCS0	26/8	25.59	30.00	PASS
' '			52/40	25.52	30.00	PASS	
			106/54	25.56	30.00	PASS	
802.1	1ax_HE20	M Ch1				•	
				Max. Avg. Output			
				3 - 1			
СН	Freq.	Data	RU	include tune up	Limit	DESIII T	
СН	Freq. (MHz)	Data Rate	RU Config	9 .	Limit (dBm)	RESULT	
СН	•			include tune up		RESULT	
СН	•			include tune up tolerance Power		RESULT PASS	
	(MHz)	Rate	Config	include tune up tolerance Power (dBm)	(dBm)		
CH 1	•		Config full	include tune up tolerance Power (dBm) 16.58	(dBm) 30.00	PASS	
	(MHz)	Rate	Config full 26/0	include tune up tolerance Power (dBm) 16.58 16.98	(dBm) 30.00 30.00	PASS PASS	
	(MHz)	Rate	full 26/0 52/37	include tune up tolerance Power (dBm) 16.58 16.98	(dBm) 30.00 30.00 30.00	PASS PASS PASS PASS PASS	
1	(MHz)	Rate MCS0	full 26/0 52/37 106/53	include tune up tolerance Power (dBm) 16.58 16.98 16.72 16.76	(dBm) 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS	
1 6	(MHz) 2412 2437	MCS0	full 26/0 52/37 106/53 full	include tune up tolerance Power (dBm) 16.58 16.98 16.72 16.76 16.52	30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS PASS	
1	(MHz)	Rate MCS0	full 26/0 52/37 106/53 full full	include tune up tolerance Power (dBm) 16.58 16.98 16.72 16.76 16.52 16.57	(dBm) 30.00 30.00 30.00 30.00 30.00 30.00	PASS PASS PASS PASS PASS PASS	

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802.1	1ax_HE20	M MIMC)						
СН	Freq. (MHz)	Data Rate	RU Config	Peak (Output wer	Total Peak Output Power	Limit (dBm)	RESULT	
	(IVITIZ)	Rate	Coning	CH 0	CH 1	(dBm)	(ubili)		
			full	25.12	25.07	28.11	30.00	PASS	
1	2412	MCS0	26/0	26.03	25.79	28.92	30.00	PASS	
'	2412	IVICSO	52/37	25.76	25.61	28.70	30.00	PASS	
			106/53	25.74	25.67	28.72	30.00	PASS	
6	2437	MCS0	full	24.88	24.46	27.69	30.00	PASS	
			full	24.69	24.48	27.60	30.00	PASS	
11	2462 MG	MCS0	26/8	25.76	25.32	28.56	30.00	PASS	
11	2402	IVICSO	52/40	25.88	25.41	28.66	30.00	PASS	
			106/54	25.84	25.35	28.61	30.00	PASS	
802.1	1ax_HE20	M MIMC)					•	
				Avg. C	utput	Max. Avg. Output			
СН	Freq.	Data	RU	Pov	wer	include tune up	Limit	RESULT	
CII	(MHz)	Rate	Config	(dE	Bm)	tolerance Power	(dBm)	KESULI	
				CH 0	CH 1	(dBm)			
			full	16.91	16.48	19.72	30.00	PASS	
1	2412	MCS0	26/0	17.18	16.51	19.88	30.00	PASS	
	2412	IVICSO	52/37	17.27	16.63	19.99	30.00	PASS	
				106/53	16.91	16.28	19.63	30.00	PASS
6	2437	MCS0	full	17.28	16.61	19.98	30.00	PASS	
6	2437	MCS0	full full	17.28 16.87	16.61 16.52	19.98 19.72	30.00	PASS PASS	
6	2437 2462	MCS0	full	16.87	16.52	19.72	30.00	PASS	

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802.1	802.11n_HT40M Ch0								
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	24.86	30.00	PASS				
6	2437	MCS0	25.11	30.00	PASS				
9	2452	MCS0	24.99	30.00	PASS				
802.1	1n_HT40	VI Ch0							
СН	Freq. (MHz)	Data Rate	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT				
3	2422	MCS0	17.90	30.00	PASS				
6	2437	MCS0	17.74	30.00	PASS				
9	2452	MCS0	17.98	30.00	PASS				

802.1	1n_HT40I	M Ch1			
СН	Freq. (MHz)	Data Rate	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	24.83	30.00	PASS
6	2437	MCS0	24.60	30.00	PASS
9	2452	MCS0	24.93	30.00	PASS
802.1	1n_HT40I	VI Ch1			
	Freq.	Data	Max. Avg. Output include tune up	Limit	
СН	(MHz)	Rate	tolerance Power	(dBm)	RESULT
			(dBm)		
3	2422	MCS0	17.60	30.00	PASS
6	2437	MCS0	17.52	30.00	PASS
9	2452	MCS0	17.92	30.00	PASS

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802.1	1n_HT40l	M MIMO					
СН	Freq. (MHz)	·		Output wer	Total Peak Output Power	Limit (dBm)	RESULT
	(IVITIZ)	Kale	CH 0	CH 1	(dBm)	(ubili)	
3	2422	MCS8	24.94	24.78	27.87	30.00	PASS
6	2437	MCS8	25.03	24.63	27.84	30.00	PASS
9	2452	MCS8	24.91	24.89	27.91	30.00	PASS
802.1	1n_HT40I	M MIMO					
			Avg. Output		Max. Avg. Output		
СН	Freq.	Data	Po	wer	include tune up	Limit	RESULT
CII	(MHz)	Rate	(dE	3m)	tolerance Power	(dBm)	KLJULI
			CH 0	CH 1	(dBm)		
3	2422	MCS8	17.91	17.39	20.68	30.00	PASS
6	2437	MCS8	17.75	17.54	20.67	30.00	PASS
	2452	MCS8		17.81	20.92		PASS

802.1	1ax_HE40	M Ch0				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	24.94	30.00	PASS
	2122	WOOO	242/61	25.31	30.00	PASS
6	2437	MCS0	full	24.89	30.00	PASS
Q	9 2452 [MCS0	full	24.69	30.00	PASS
			242/62	25.32	30.00	PASS
802.1	1ax_HE40	M Ch0				
СН	Freq. (MHz)	Data Rate	RU Config	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
	2422	14000	full	16.98	30.00	PASS
3	2422	MCS0	242/61	15.88	30.00	PASS
6	2437	MCS0	full	16.89	30.00	PASS
9	2452	MCS0	full	16.93	30.00	PASS
7	2432	IVICOU	242/62	15.98	30.00	PASS

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802.1	1ax_HE40	M Ch1				
СН	Freq. (MHz)	Data Rate	RU Config	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	24.63	30.00	PASS
	3 2422	IVICOU	242/61	25.42	30.00	PASS
6	2437	MCS0	full	24.64	30.00	PASS
g	9 2452	MCS0	full	24.57	30.00	PASS
_ ′			242/62	25.14	30.00	PASS
802.1	1ax_HE40	M Ch1	•			
СН	Freq. (MHz)	Data Rate	RU Config	Max. Avg. Output include tune up tolerance Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	16.83	30.00	PASS
	2722	IVICOU	242/61	15.99	30.00	PASS
6	2437	MCS0	full	16.73	30.00	PASS
9	2452	MCS0	full	16.76	30.00	PASS
_ ′	2732	101030	242/62	15.95	30.00	PASS

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802.11ax_HE40M MIMO										
СН	Freq. (MHz)	Data	RU Config	Peak Output Power		Total Peak Output Power	Limit (dBm)	RESULT		
	(IVITIZ)	Rate	Coming	CH 0	CH1	(dBm)	(ubili)			
3	2422	MCS0	full	24.90	24.75	27.84	30.00	PASS		
J	2722	IVIOSO	242/6	25.62	25.36	28.50	30.00	PASS		
6	2437	MCS0	full	24.69	24.53	27.62	30.00	PASS		
9	2452 M	2452 MCS0		452 MCS0	full	24.83	24.79	27.82	30.00	PASS
′	2432	IVICOU	242/6	25.29	24.68	28.01	30.00	PASS		
802.1	1ax_HE40	M MIMC)		<u></u>			-		
				Avg. C	Output	Max. Avg. Output				
СН	Freq.	Data	RU	Pov	wer	include tune up	Limit	RESULT		
	(MHz)	Rate	Config	nfig (dBm)		tolerance Power	(dBm)	KLJULI		
				CH 0	CH 1	(dBm)				
3	2422	MCS0	full	16.97	16.88	19.95	30.00	PASS		
	2722	101030	242/6	16.28	15.64	18.99	30.00	PASS		
6	2437	MCS0	full	16.85	16.75	19.82	30.00	PASS		
9	2452	MCS0	full	16.95	16.71	19.85	30.00	PASS		
	2732	101030	242/6	15.94	15.47	18.73	30.00	PASS		

^{*} Note: The duty cycle factor is compensated to obtain the maximum value of measurement in average.

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EIRP

802.11	802.11b Ch0										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	1	18.97	-1.90	17.07	36	PASS				
6	2437	1	18.83	-1.90	16.93	36	PASS				
11	2462	1	18.99	-1.90	17.09	36	PASS				

802.11	802.11b Ch1										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	1	18.84	-3.30	15.54	36	PASS				
6	2437	1	18.74	-3.30	15.44	36	PASS				
11	2462	1	18.94	-3.30	15.64	36	PASS				

802.11	802.11g Ch0										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	6	18.96	-1.90	17.06	36	PASS				
6	2437	6	18.78	-1.90	16.88	36	PASS				
11	2462	6	18.94	-1.90	17.04	36	PASS				

802.11	802.11g Ch1										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	6	18.85	-3.30	15.55	36	PASS				
6	2437	6	18.76	-3.30	15.46	36	PASS				
11	2462	6	18.80	-3.30	15.50	36	PASS				

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802.11	802.11n_HT20M Ch0										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	MCS0	18.97	-1.90	17.07	36	PASS				
6	2437	MCS0	18.83	-1.90	16.93	36	PASS				
11	2462	MCS0	18.99	-1.90	17.09	36	PASS				

802.11	802.11n_HT20M Ch1										
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT				
1	2412	MCS0	18.82	-3.30	15.52	36	PASS				
6	2437	MCS0	18.73	-3.30	15.43	36	PASS				
11	2462	MCS0	18.87	-3.30	15.57	36	PASS				

802.11n_HT20M MIMO										
СН	Freq. (MHz)	Data Rate	Pov	Output wer Bm)	Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT	
			CH 0	CH 1	(ubili)	(аы)				
1	2412	MCS8	25.72	25.62	21.87	0.44	22.31	36	PASS	
6	2437	MCS8	25.81	25.74	21.66	0.44	22.10	36	PASS	
11	2462	MCS8	25.54	25.38	21.83	0.44	22.27	36	PASS	

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802.11	802.11n_HT40M Ch0									
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
3	2422	MCS0	17.90	-1.90	16.00	36	PASS			
6	2437	MCS0	17.74	-1.90	15.84	36	PASS			
9	2452	MCS0	17.98	-1.90	16.08	36	PASS			

802.11	802.11n_HT40M Ch1									
СН	Freq. (MHz)	Data Rate	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT			
3	2422	MCS0	17.60	-3.30	14.30	36	PASS			
6	2437	MCS0	17.52	-3.30	14.22	36	PASS			
9	2452	MCS0	17.92	-3.30	14.62	36	PASS			

802.11	802.11n_HT40M MIMO								
СН	Freq. (MHz)	Data Rate	Pov	Output wer Bm)	Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	RESULT
			CH 0	CH 1		, ,			
3	2422	MCS8	17.91	17.39	20.68	0.44	21.12	36	PASS
6	2437	MCS8	17.75	17.54	20.67	0.44	21.11	36	PASS
9	2452	MCS8	17.98	17.81	20.92	0.44	21.36	36	PASS

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802.11	802.11ax_HE20M Ch0																		
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT											
			full	16.93	-1.90	15.03	36	PASS											
1	2412	MCS0	26/0	16.89	-1.90	14.99	36	PASS											
'	2412		WICOU	WICOU	WOOO	WOOO	WOOO	52/37	16.92	-1.90	15.02	36	PASS						
			106/53	16.99	-1.90	15.09	36	PASS											
6	2437	MCS0	full	16.62	-1.90	14.72	36	PASS											
			full	16.85	-1.90	14.95	36	PASS											
11	2462	MCSO	MCSO	MCSU	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCS0	26/8	16.62	-1.90	14.72	36	PASS
''	2702	IVICOU	52/40	16.71	-1.90	14.81	36	PASS											
			106/54	16.79	-1.90	14.89	36	PASS											

802.11	lax_HE20l	M Ch1																										
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT																				
			full	16.58	-3.30	13.28	36	PASS																				
1	2412	12 MCS0	MCSO	MCS0	26/0	16.98	-3.30	13.68	36	PASS																		
'	2712	WICOU	52/37	16.72	-3.30	13.42	36	PASS																				
			106/53	16.76	-3.30	13.46	36	PASS																				
6	2437	MCS0	full	16.52	-3.30	13.22	36	PASS																				
			full	16.57	-3.30	13.27	36	PASS																				
11	2462 MCS	2 MCS0	MCS0	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	MCSO	26/8	16.90	-3.30	13.60	36	PASS
''				52/40	16.88	-3.30	13.58	36	PASS																			
			106/54	16.98	-3.30	13.68	36	PASS																				

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802.11	ax_HE20	M MIMO								
CH Freq. (MHz)		Data Rate	RU Config	Pov	Output wer Bm)	Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
				CH 0	CH 1	(42)	(4.5.)			
			full	16.91	16.48	19.72	0.44	20.16	36	PASS
1	2412	MCS0	26/0	17.18	16.51	19.88	0.44	20.32	36	PASS
'	2412	IVICSO	52/37	17.27	16.63	19.99	0.44	20.43	36	PASS
			106/53	16.91	16.28	19.63	0.44	20.07	36	PASS
6	2437	MCS0	full	17.28	16.61	19.98	0.44	20.42	36	PASS
			full	16.87	16.52	19.72	0.44	20.16	36	PASS
11	2462	MCS0	26/8	17.30	16.24	19.83	0.44	20.27	36	PASS
11	2402	IVICOU	52/40	17.25	16.34	19.84	0.44	20.28	36	PASS
			106/54	17.43	16.38	19.96	0.44	20.40	36	PASS

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802.11	802.11ax_HE40M Ch0									
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT		
3	2422	MCS0	full	16.98	-1.90	15.08	36	PASS		
3	2422	IVICSO	242/61	15.88	-1.90	13.98	36	PASS		
6	2437	MCS0	full	16.89	-1.90	14.99	36	PASS		
9	2452	MCS0	full	16.93	-1.90	15.03	36	PASS		
′	2732	IVICOU	242/62	15.98	-1.90	14.08	36	PASS		

802.11	802.11ax_HE40M Ch1									
СН	Freq. (MHz)	Data Rate	RU Config	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT		
3	2422	MCS0	full	16.83	-3.30	13.53	36	PASS		
3	2722	WOO	242/61	15.99	-3.30	12.69	36	PASS		
6	2437	MCS0	full	16.73	-3.30	13.43	36	PASS		
9	2452	MCS0	full	16.76	-3.30	13.46	36	PASS		
7	2432	MCSO	242/62	15.95	-3.30	12.65	36	PASS		

802.11	802.11ax_HE40M MIMO									
СН	Freq. (MHz)	Data Rate	RU Config	Pov	Output wer Bm)	Total Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit	RESULT
				CH 0	CH 1					
3	2422	MCS0	full	16.97	16.88	19.95	0.44	20.39	36	PASS
	2722	IVICOU	242/61	16.28	15.64	18.99	0.44	19.43	36	PASS
6	2437	MCS0	full	16.85	16.75	19.82	0.44	20.26	36	PASS
9	2452	MCS0	full	16.95	16.71	19.85	0.44	20.29	36	PASS
,	2432	WCSO	242/62	15.94	15.47	18.73	0.44	19.17	36	PASS

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6DB & 99% BANDWIDTH MEASUREMENT

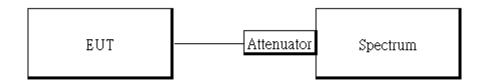
9.1 Standard Applicable

The minimum 6 dB bandwidth shall be at least 500 kHz.

9.2 Measurement Equipment Used

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021					
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021					
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021					
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021					
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021					

9.3 Test Set-up



9.4 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 4. Set the spectrum analyzer as

RBW = 100kHz,

VBW = 3 X RBW

Span= 2 to 5 times of the OBW,

Sweep=auto,

Detector = Peak, and Max hold for -6dB Bandwidth test.

5. Set the spectrum analyzer as

RBW= 1 % to 5% of 99% Bandwidth.

 $VBW \ge 3 X RBW$,

Span= large enough to capture all products of the modulation process,

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Sweep=auto,

Detector = Peak, and Max hold for 99% Bandwidth test.

- 6. Turn on the 99% bandwidth function, max reading.
- 7. Repeat above procedures until all test default channel is completed

9.5 6dB Bandwidth

802.11b Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	8106.00	> 500	PASS
2437	8103.00	> 500	PASS
2462	7120.00	> 500	PASS

802.11g Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Resuit
2412	16280.00	> 500	PASS
2437	16270.00	> 500	PASS
2462	16310.00	> 500	PASS

802.11_n_HT20 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Nesuit
2412	17290.00	> 500	PASS
2437	16930.00	> 500	PASS
2462	17550.00	> 500	PASS

802.11 n HT20 Ch1

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Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	17310.00	> 500	PASS
2437	17170.00	> 500	PASS
2462	17150.00	> 500	PASS

802.11 ax HE20 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	18710.00	> 500	PASS
2437	18520.00	> 500	PASS
2462	18810.00	> 500	PASS

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802.11 ax HE20 Ch1

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Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2412	18450.00	> 500	PASS
2437	18490.00	> 500	PASS
2462	18700.00	> 500	PASS

802.11_n_HT40 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Kesuit
2422	35590.00	> 500	PASS
2437	35450.00	> 500	PASS
2452	35680.00	> 500	PASS

802.11_n_HT40 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	35890.00	> 500	PASS
2437	35550.00	> 500	PASS
2452	35940.00	> 500	PASS

802.11_ax_HE40 Ch0

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Result
2422	37600.00	> 500	PASS
2437	37580.00	> 500	PASS
2452	37670.00	> 500	PASS

802.11 ax HE40 Ch1

Freq.	6dB BW	Limit	Result
(MHz)	(kHz)	(kHz)	Resuit
2422	35980.00	> 500	PASS
2437	36970.00	> 500	PASS
2452	36460.00	> 500	PASS

*Refer to next page for plots

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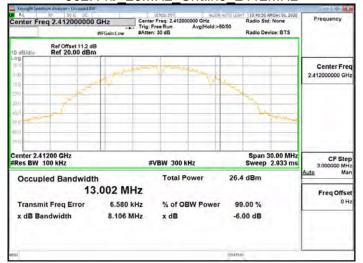
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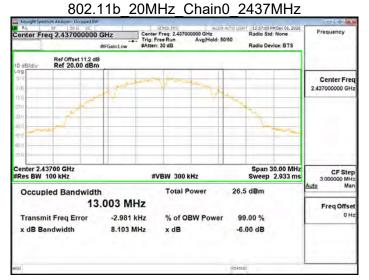
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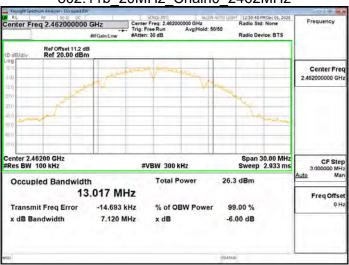
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802.11b 20MHz Chain0 2412MHz

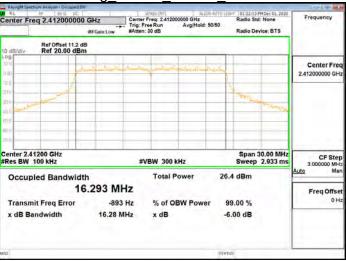




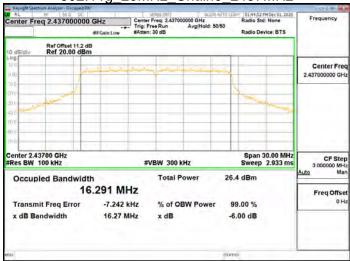
802.11b 20MHz Chain0 2462MHz



802.11g 20MHz Chain0 2412MHz



802.11g 20MHz Chain0 2437MHz



802.11g 20MHz Chain0 2462MHz



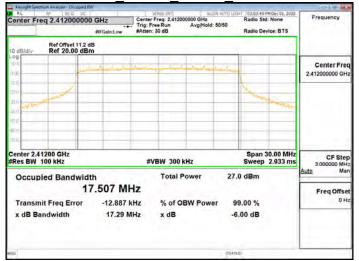
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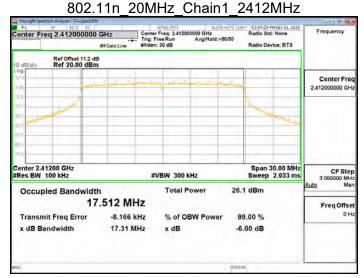
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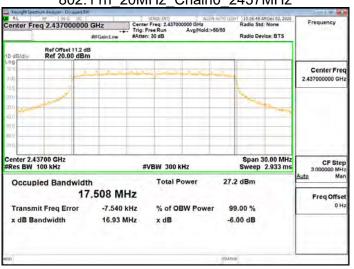
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802.11n 20MHz Chain0 2412MHz

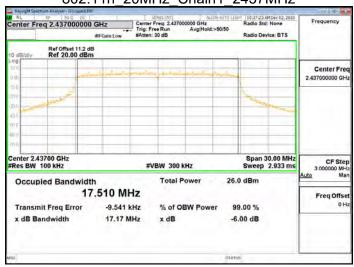




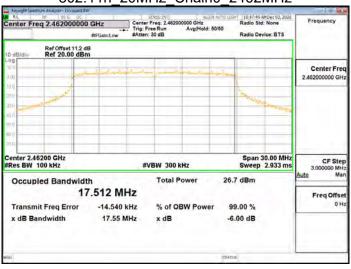
802.11n 20MHz Chain0 2437MHz



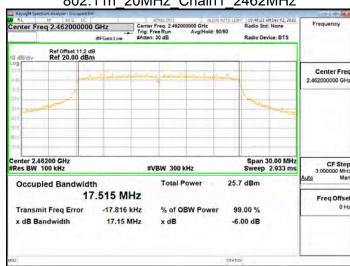
802.11n 20MHz Chain1 2437MHz



802.11n 20MHz Chain0_2462MHz



802.11n 20MHz Chain1 2462MHz



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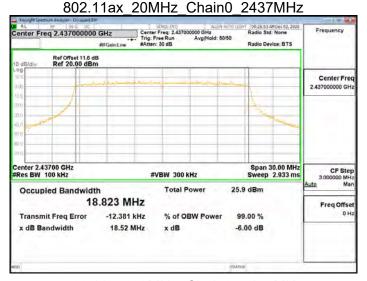
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802.11ax 20MHz Chain0 2412MHz

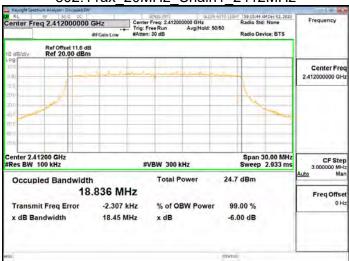




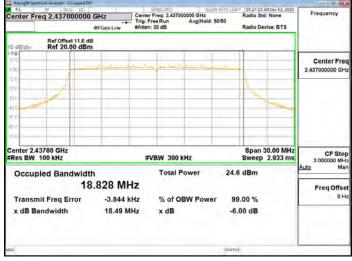
802.11ax 20MHz Chain0 2462MHz



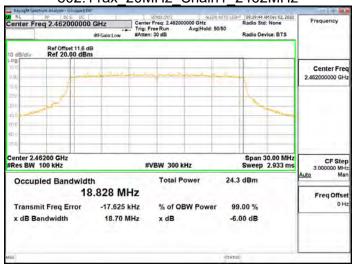
802.11ax 20MHz Chain1 2412MHz



802.11ax 20MHz Chain1 2437MHz



802.11ax 20MHz Chain1 2462MHz



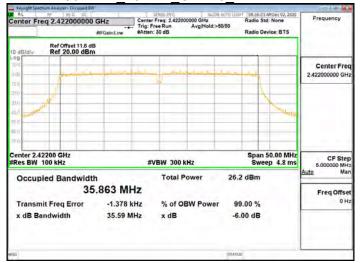
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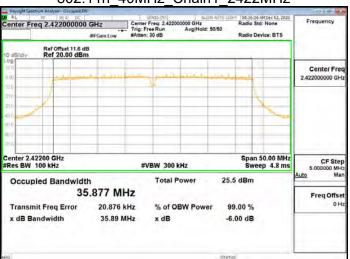


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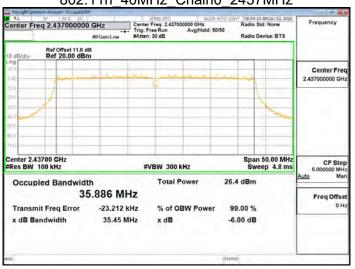
802.11n 40MHz Chain0 2422MHz



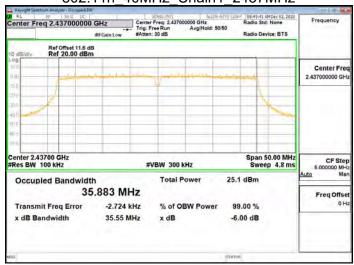
802.11n 40MHz Chain1 2422MHz



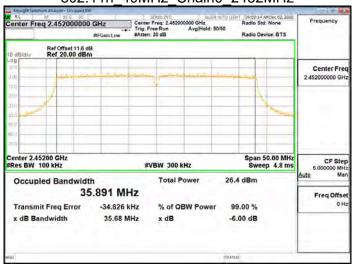
802.11n 40MHz Chain0 2437MHz



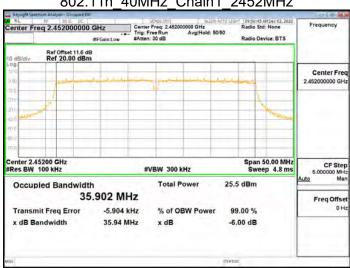
802.11n 40MHz Chain1 2437MHz



802.11n 40MHz Chain0_2452MHz



802.11n 40MHz Chain1 2452MHz



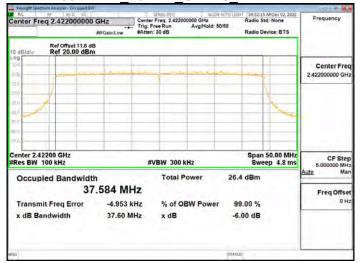
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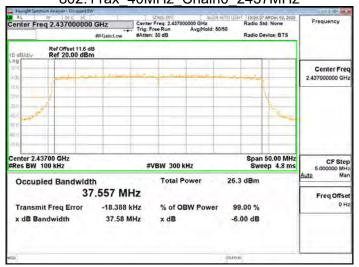


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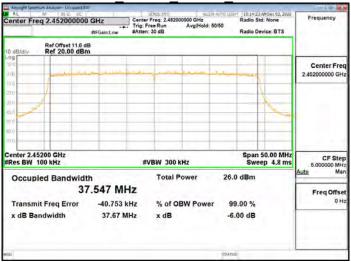
802.11ax 40MHz Chain0 2422MHz



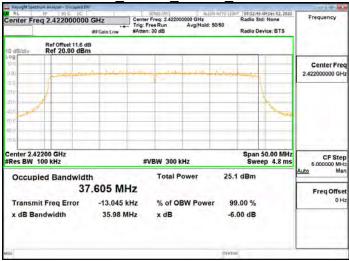
802.11ax 40MHz Chain0 2437MHz



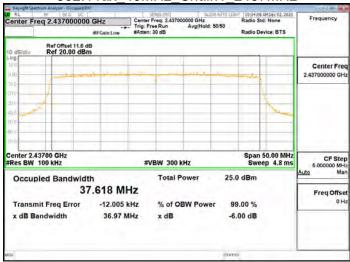
802.11ax 40MHz Chain0 2452MHz



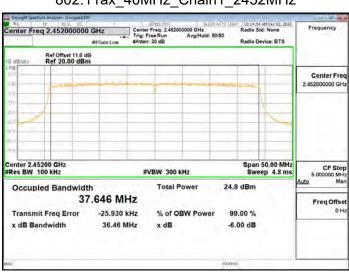
802.11ax 40MHz Chain1 2422MHz



802.11ax 40MHz Chain1 2437MHz



802.11ax_40MHz_Chain1_2452MHz



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9.6 99% Bandwidth

802.11b Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2412	13.029	
2437	13.029	
2462	13.05	

802.11g Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2412	16.348	
2437	16.35	
2462	16.351	

802.11n_HT20M Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2412	17.508	
2437	17.511	
2462	17.519	

802.11n_HT20M Ch1		
Freq. 99% BW		
(MHz)	(MHz)	
2412	17.529	
2437	17.524	
2462	17.525	

802.11ax_HE20M Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2412	18.865	
2437	18.861	
2462	18.863	

802.11ax_HE20M Ch1		
Freq. 99% BW		
(MHz)	(MHz)	
2412	18.885	
2437	18.879	
2462	18.879	

802.11n_HT40M Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2422	36.015	
2437	35.975	
2452	35.997	

802.11n_HT40M Ch1		
Freq. 99% BW		
(MHz)	(MHz)	
2422	35.963	
2437	35.984	
2452	35.982	

802.11ax_HE40M Ch0		
Freq. 99% BW		
(MHz)	(MHz)	
2422	37.64	
2437	37.621	
2452	37.627	

802.11ax_HE40M Ch1		
Freq. 99% BW		
(MHz)	(MHz)	
2422	37.607	
2437	37.593	
2452	37.641	

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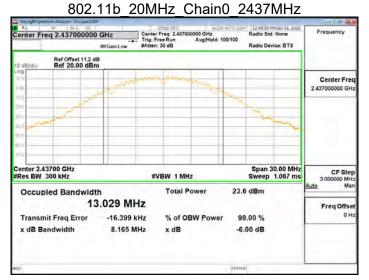
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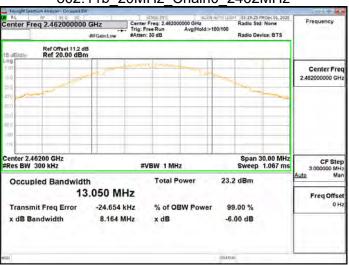
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802.11b 20MHz Chain0 2412MHz

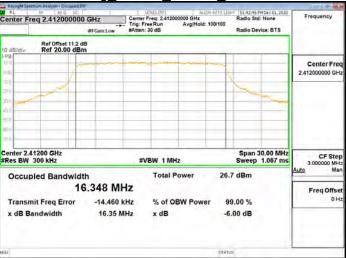




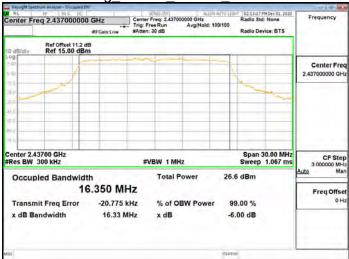
802.11b 20MHz Chain0 2462MHz



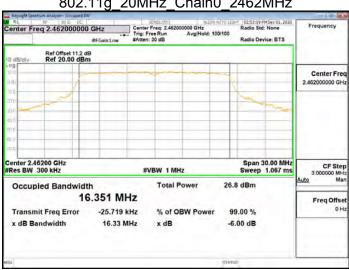
802.11g 20MHz Chain0 2412MHz



802.11g 20MHz Chain0 2437MHz



802.11g 20MHz Chain0 2462MHz



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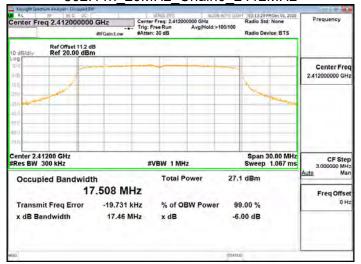
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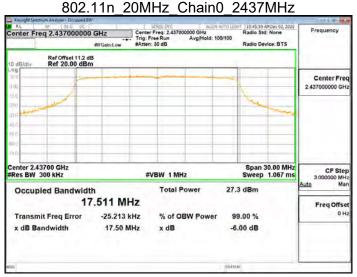
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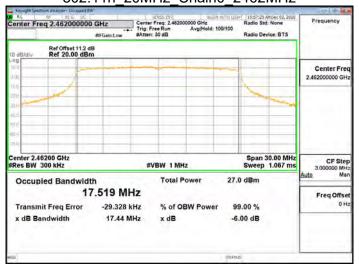
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802.11n 20MHz Chain0 2412MHz

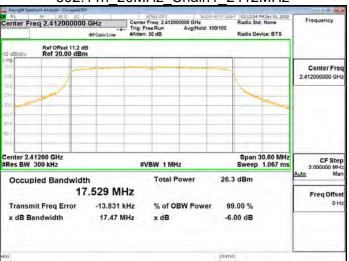




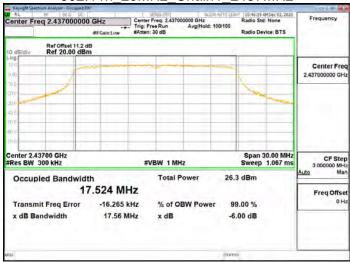
802.11n 20MHz Chain0 2462MHz



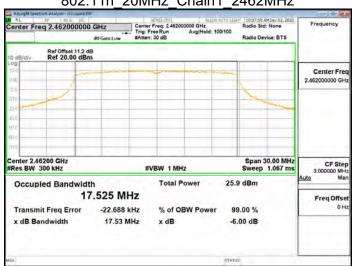
802.11n 20MHz Chain1 2412MHz



802.11n 20MHz Chain1 2437MHz



802.11n 20MHz Chain1 2462MHz



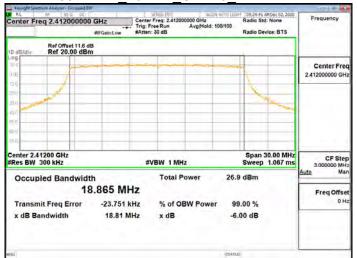
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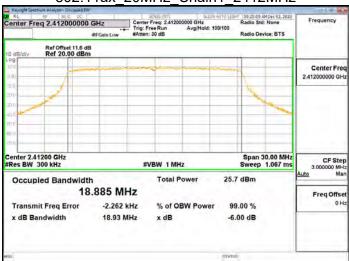


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802.11ax 20MHz Chain0 2412MHz



802.11ax 20MHz Chain1 2412MHz



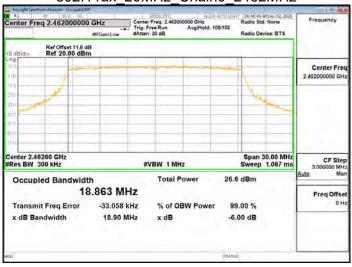
802.11ax 20MHz Chain0 2437MHz



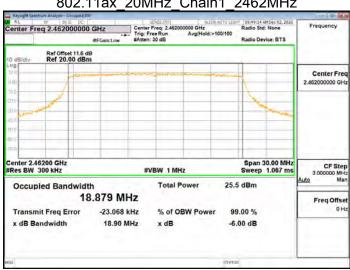




802.11ax 20MHz Chain0_2462MHz



802.11ax 20MHz Chain1 2462MHz



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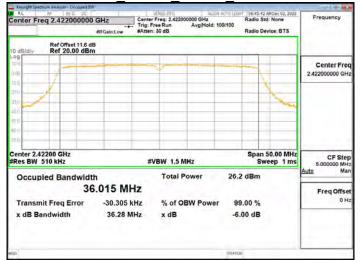
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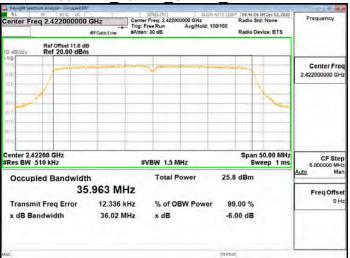


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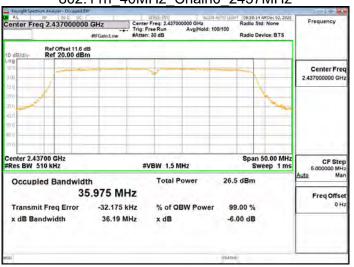
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802.11n 40MHz Chain1 2422MHz



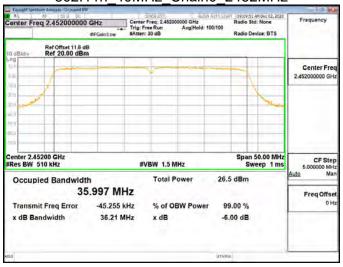
802.11n 40MHz Chain0 2437MHz



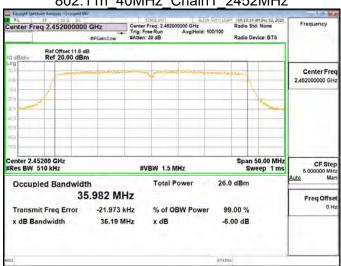
802.11n 40MHz Chain1 2437MHz



802.11n 40MHz Chain0 2452MHz



802.11n 40MHz Chain1_2452MHz



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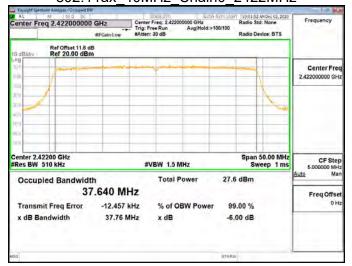
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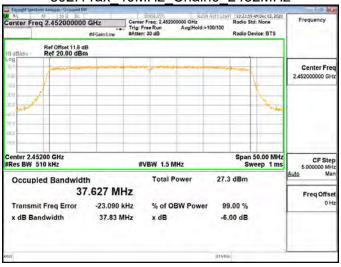
802.11ax 40MHz Chain0 2422MHz



802.11ax 40MHz Chain0 2437MHz



802.11ax 40MHz Chain0 2452MHz



802.11ax 40MHz Chain1 2422MHz



802.11ax 40MHz Chain1 2437MHz



802.11ax_40MHz_Chain1_2452MHz



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10 CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT

10.1 Standard Applicable

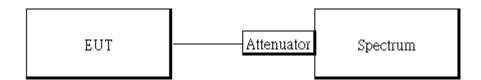
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a) & RSS-Gen §8.10, must also comply with the radiated emission limits specified in §15.209(a) & RSS-Gen §8.9.

10.2 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021

10.3 Test SET-UP



10.4 Measurement Procedure

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Reference Level of Emission Limit:

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- Set the RBW = 100kHz & VBW = 300 kHz.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + $10 \log (N)$, where N is number of transmitting antenna.

Conducted Band Edge:

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 4. Set start to edge frequency, and stop frequency of spectrum analyzer so as to encompass the spectrum to be examined.
- 5. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Detector = Peak, Sweep = auto
- 6. Mark the highest reading of the emission as the reference level measurement.
- 7. Set DL as the limit = reading on marker of reference level measurement 20dBm
- 8. Mark the highest readings of the emissions outside of 2400MHz~2483.5MHz.
- 9. Repeat above procedures until all default test channel (low, middle, and high) was complete.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

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Conducted Spurious Emission:

- 1. To connect Antenna Port of EUT to Spectrum
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Set RBW = 100 kHz & VBW= 300 kHz, Detector = Peak, Sweep = Auto.
- 4. Allow trace to fully stabilize.
- 5. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- Repeat above procedures until all default test channel measured were complete.
- 7. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

Note:

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

10.5 Measurement Result

Reference Level of Limit 802.11b mode		
Freq.	PSD Reference Level of Lim	
(MHz)	(dBm)	(dBm)
2412	10.70	-9.30
2437	10.79	-9.21
2462	11.30	-8.70

Reference Level of Limit 802.11g mode		
Freq.	PSD	Reference Level of Limit
(MHz)	(dBm)	(dBm)
2412	8.68	-11.32
2437	8.70	-11.30
2462	8.86	-11.14

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Reference Level of Limit 802.11n20 mode			
Freq.	PSD	Reference Level of Limit	
(MHz)	(dBm)	(dBm)	
2412	12.10	-7.90	
2437	11.94	-8.06	
2462	11.85	-8.15	

Reference Level of Limit 802.11ax20 mode		
Freq.	PSD	Reference Level of Limit
(MHz)	(dBm)	(dBm)
2412	10.30	-9.70
2437	10.03	-9.97
2462	9.83	-10.17

Reference Level of Limit 802.11n40 MODE		
Freq.	PSD	Reference Level of Limit
(MHz)	(dBm)	(dBm)
2422	7.93	-12.07
2437	8.29	-11.71
2452	8.25	-11.75

Reference Level of Limit 802.11ax40 MODE					
Freq.	PSD	Reference Level of Limit			
(MHz)	(dBm)	(dBm)			
2422	7.71	-12.29			
2437	7.43	-12.57			
2452	7.35	-12.65			

Note

Cable Loss: 11.20 dB

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802.11b_20MHz_Chain0_2437MHz



802.11b_20MHz_Chain0_2462MHz



802.11g_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2437MHz



802.11g_20MHz_Chain0_2462MHz



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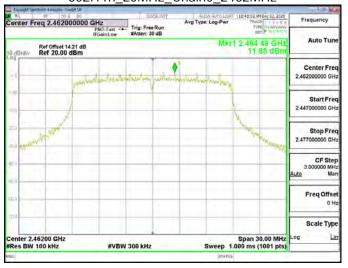
802.11n_20MHz_Chain0_2412MHz



802.11n_20MHz_Chain0_2437MHz



802.11n_20MHz_Chain0_2462MHz



802.11ax_20MHz_Chain0_2412MHz



802.11ax 20MHz Chain0 2437MHz



802.11ax 20MHz Chain0 2462MHz



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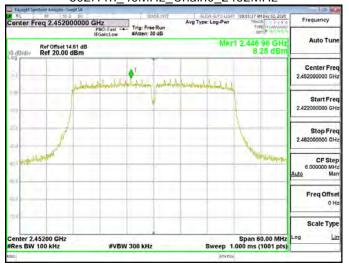




802.11n 40MHz Chain0 2437MHz



802.11n_40MHz_Chain0_2452MHz



802.11ax_40MHz_Chain0_2422MHz



802.11ax 40MHz Chain0 2437MHz



802.11ax_40MHz_Chain0_2452MHz



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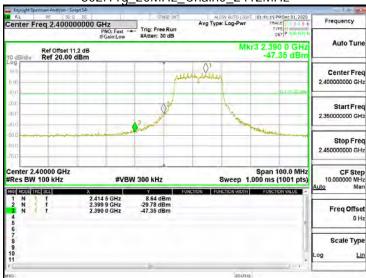


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802.11b 20MHz Chain0 2412MHz

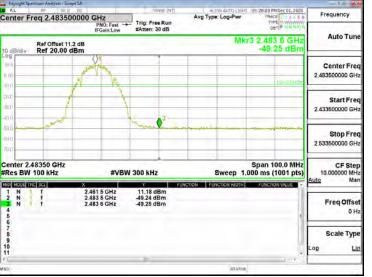
802.11g 20MHz Chain0 2412MHz

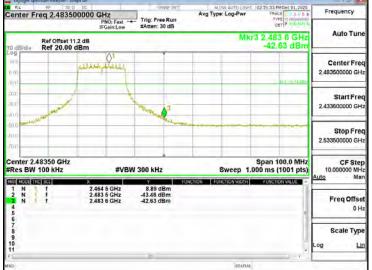




802.11b_20MHz_Chain0_2462MHz







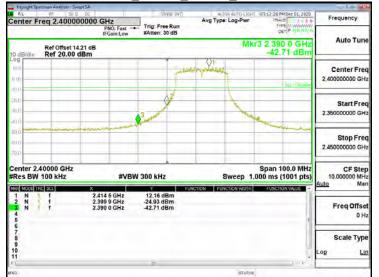
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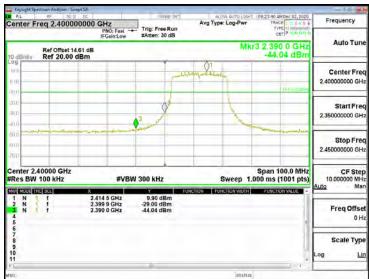
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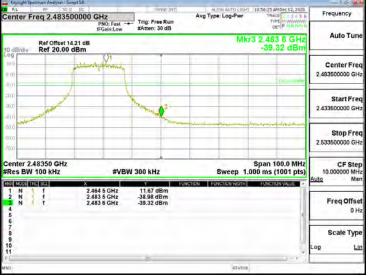
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802.11n_20MHz_Chain0_2412MHz

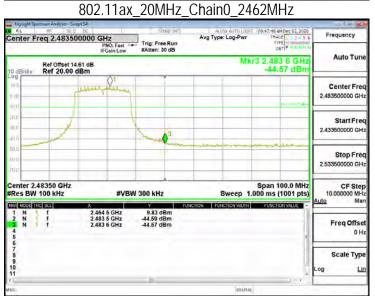




802.11n_20MHz_Chain0_2462MHz



802.11ax_20MHz_Chain0_2412MHz



802.11n_40MHz_Chain0_2422MHz

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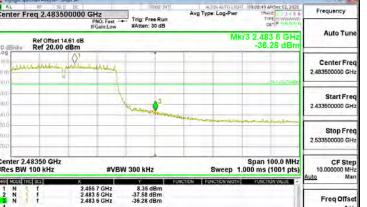
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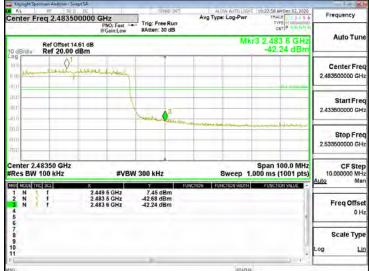
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802.11ax 40MHz Chain0 2452MHz



802.11ax_40MHz_Chain0_2422MHz

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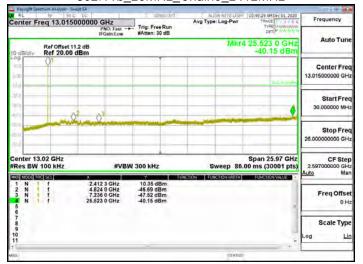
Scale Typ

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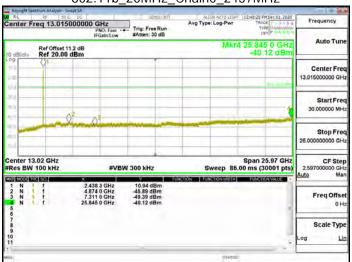


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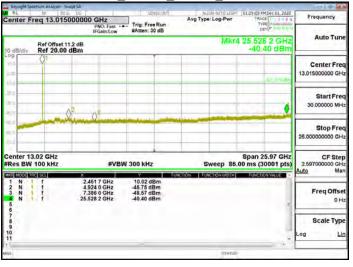
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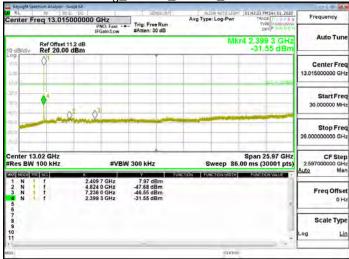
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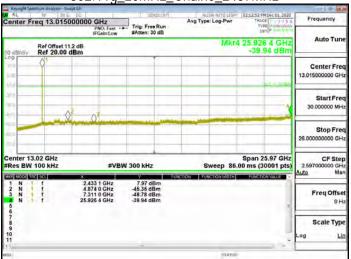
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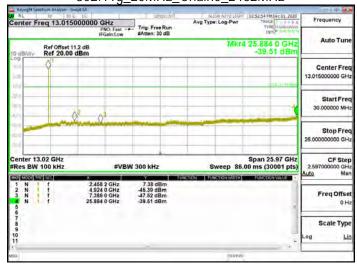
802.11g_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2437MHz



802.11g_20MHz_Chain0_2462MHz



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www.sgs.com.tw

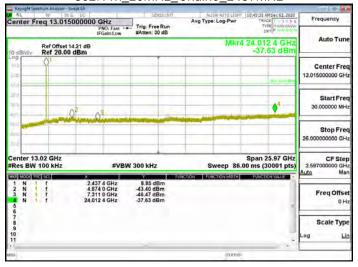


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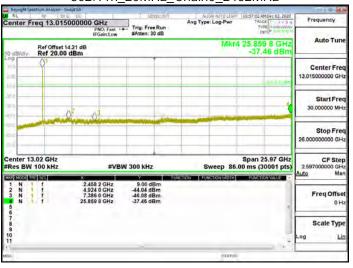
802.11n_20MHz_Chain0_2412MHz



802.11n_20MHz_Chain0_2437MHz



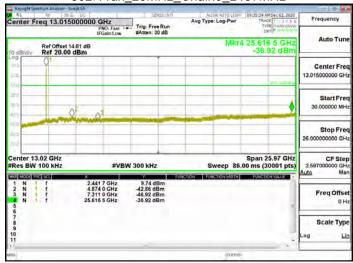
802.11n 20MHz Chain0 2462MHz



802.11ax 20MHz Chain0 2412MHz



802.11ax_20MHz_Chain0_2437MHz



802.11ax_20MHz_Chain0_2462MHz



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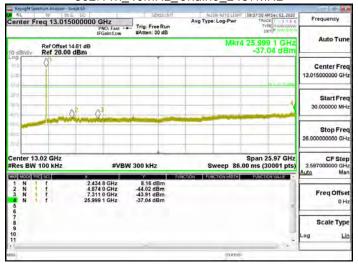


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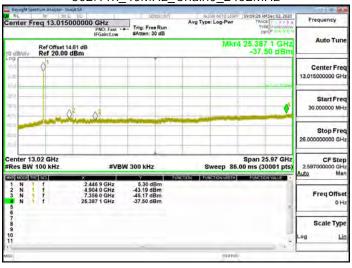
802.11n_40MHz_Chain0_2422MHz



802.11n_40MHz_Chain0_2437MHz



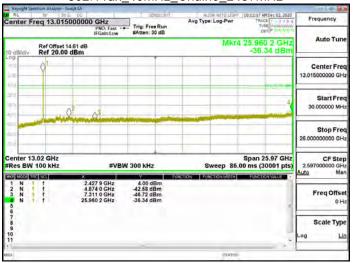
802.11n 40MHz Chain0 2452MHz



802.11ax 40MHz Chain0 2422MHz



802.11ax_40MHz_Chain0_2437MHz



802.11ax_40MHz_Chain0_2452MHz



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11 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

11.1 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands must also comply with the §15.209 and RSS-Gen §8.9 Table 5 and 6 limit as below. And according to §15.33(a) (1) & RSS-Gen §6.13.2.a, for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

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

Note:

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

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11.2 Measurement Equipment Used:

966 Chamber								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.			
Horn Antenna	Schwarzbeck	BBHA9170	184	12/11/2020	12/10/2021			
Horn Antenna	Schwarzbeck	BBHA9120D	1441	10/16/2020	10/15/2021			
Bi-log Antenna	SCHWAZBECK	VULB9168	378	08/06/2020	08/05/2021			
Loop Antenna	ETS.LINDGREN	6502	148045	10/19/2020	10/18/2021			
PXA Spectrum An- alyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021			
EMI Test Receiver	R&S	ESCI 7	100759	07/13/2020	07/12/2021			
Pre-Amplifier	HP	8449B	3008A00578	12/16/2020	12/15/2021			
Pre-Amplifier	EMC Instruments	EMC184045B	980135	12/16/2020	12/15/2021			
Pre-Amplifier	HP	8447D	2944A07676	12/16/2020	12/15/2021			
Attenuator	Mini-Circuit	BW-S10W2+	4	12/16/2020	12/15/2021			
Filter 2400-2483.5 MHz	EWT	EWT-14-0166	M1	12/16/2020	12/15/2021			
High Pass Filter	WI	WHKX4.0/18G- 10SS	22	12/16/2020	12/15/2021			
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2636/2	12/16/2020	12/15/2021			
Coaxial Cable	Huber Suhner	SUCOFLEX 104	340057/4	12/16/2020	12/15/2021			
Coaxial Cable	Huber Suhner	SUCOFLEX 104PEA	800052/2	12/16/2020	12/15/2021			
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2621/2	12/16/2020	12/15/2021			
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2617/2	12/16/2020	12/15/2021			
Test Software	audix	e3	Ver. 6.11- 20180413	N.C.R	N.C.R			
Site Cal	SGS	SAC III chamber	N/A	01/01/2021	12/31/2021			
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021			
DC Power Supply	Agilent	E3640A	MY40005907	10/29/2020	10/28/2021			

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

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Content

Content

Proceed New Terms

Proced New Terms

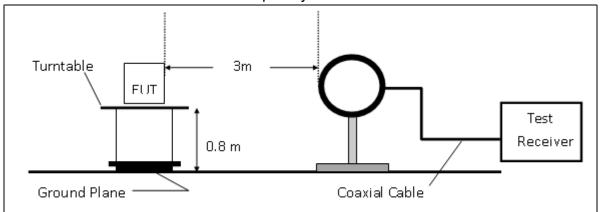
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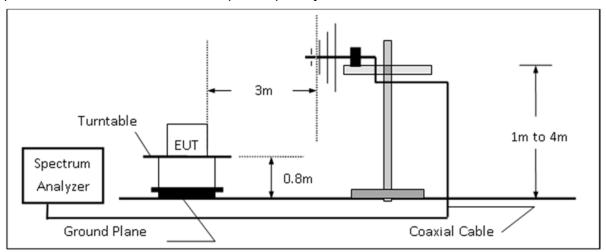
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11.3 Test SET-UP

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



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



(C) Radiated Emission Test Set-UP Frequency Over 1 GHz Turntable Зт 1m to 4m **EUT** Spectrum 1.5m Analyzer Ground Plane Absorber Coaxial Cable

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11.4 Measurement Procedure

- 1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plane.
- 3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 5. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.
- 6. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasipeak (QP) at frequency below 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- 8. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- 9. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- 10. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 11. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
- 12. Repeat above procedures until all default test channel measured were complete.

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11.5 Field Strength Calculation

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

FS = RA + AF + CL - AG

Where FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = *Reading Amplitude*

AG = Amplifier Gain

AF = Antenna Factor

The limit of the emission level is expressed in dBuV/m, which converts 20*log(uV/m)

Actual $FS(dB\mu V/m) = SPA$. Reading level $(dB\mu V) + Factor(dB)$

 $Factor(dB) = Antenna\ Factor(dB\mu V/m) + Cable\ Loss(dB) - Pre_Amplifier\ Gain(dB)$

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

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

11.7 Measurement Result

Note:

- 1. Refer to next page spectrum analyzer data chart and tabular data sheets.
- Measurements are completed at peak and average level, the mark of average is the highest emission in restricted bands

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11.7.1 Radiated Band Edge Measurement Result

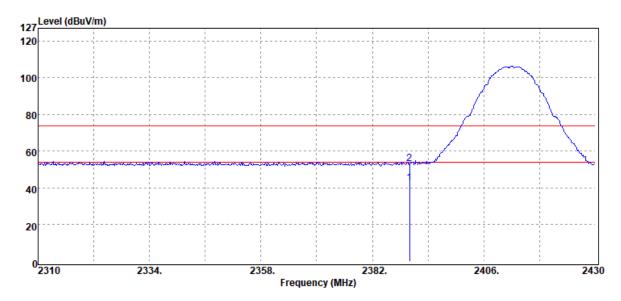
Test Site Report Number :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11b **Test Date** :2020-12-03

Temp./Humi. **Test Frequency** :2412 MHz :23.0/58

Test Mode Antenna Pol. :VERTICAL :Bandedge CH Low

EUT Pol :H Plane Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
2390.00	Average	41.85	0.92	42.77	54.00	-11.23
2390.00	Peak	52.33	0.92	53.25	74.00	-20.75

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

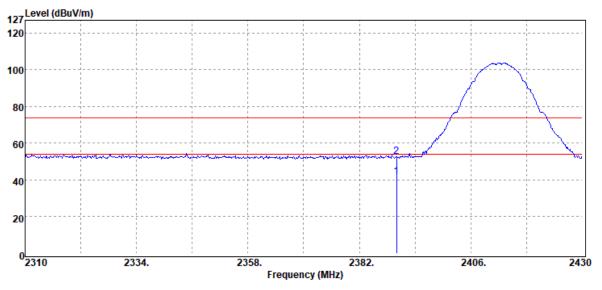
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2390.00	Average	40.68	0.92	41.60	54.00	-12.40
2390.00	Peak	51.75	0.92	52.67	74.00	-21.33

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

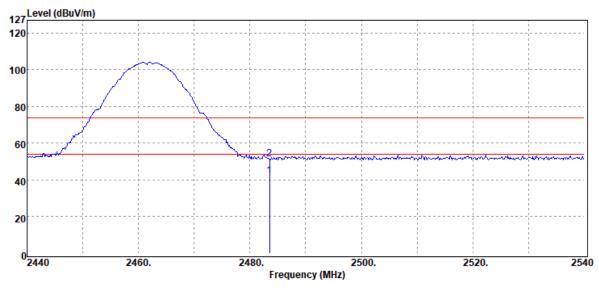
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	41.57	0.67	42.24	54.00	-11.76
2483.50	Peak	50.66	0.67	51.33	74.00	-22.67

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

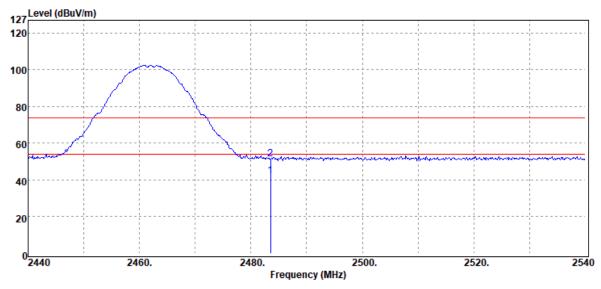
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	41.46	0.67	42.13	54.00	-11.87
2483.50	Peak	50.71	0.67	51.38	74.00	-22.62

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

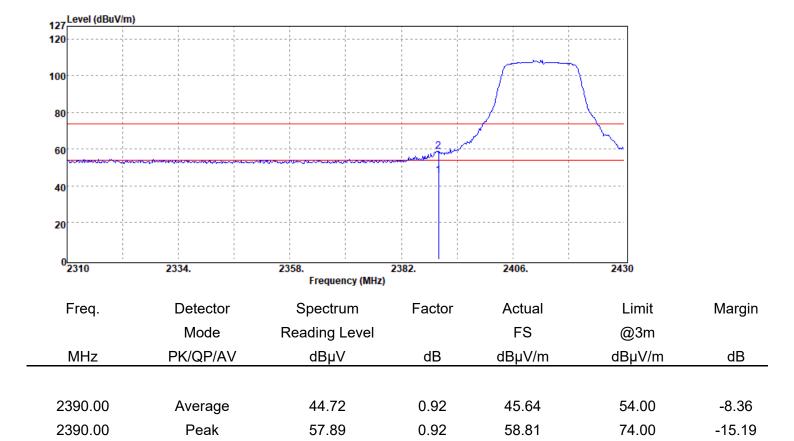
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

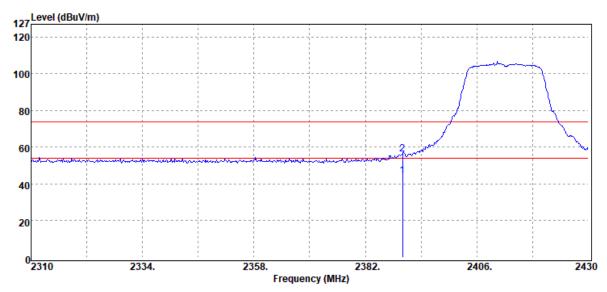
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2390.00	Average	43.44	0.92	44.36	54.00	-9.64
2390.00	Peak	55.35	0.92	56.27	74.00	-17.73

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

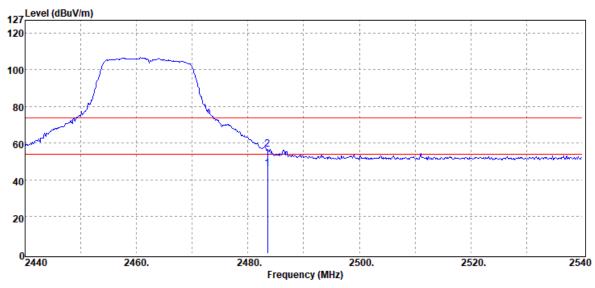
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	45.28	0.67	45.95	54.00	-8.05
2483.50	Peak	55.89	0.67	56.56	74.00	-17.44

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

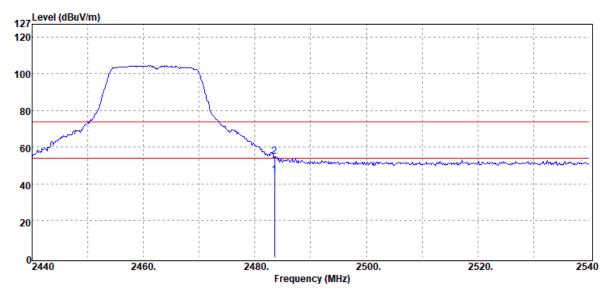
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	44.19	0.67	44.86	54.00	-9.14
2483.50	Peak	54.12	0.67	54.79	74.00	-19.21

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



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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

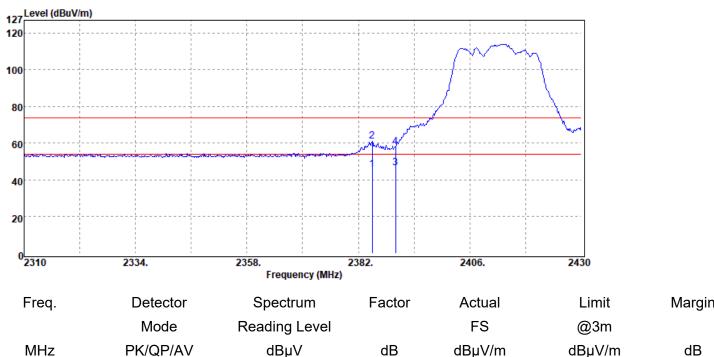
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



rieq.	Detector	Spectrum	racioi	Actual	LIIIII	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2385.00	Average	44.72	0.93	45.65	54.00	-8.35
2385.00	Peak	60.10	0.93	61.03	74.00	-12.97
2390.00	Average	45.87	0.92	46.79	54.00	-7.21
2390.00	Peak	57.17	0.92	58.09	74.00	-15.91

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



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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

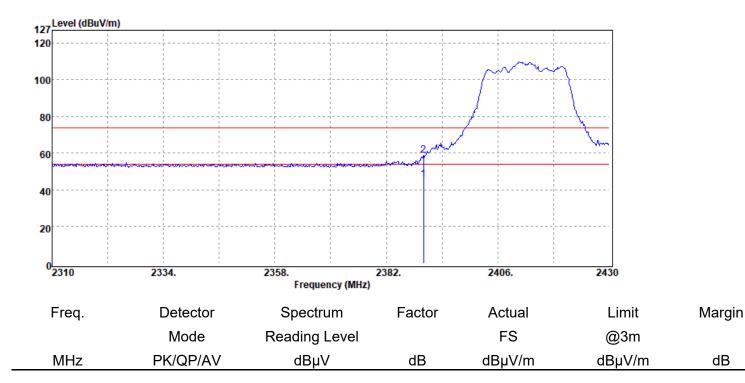
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



2390.00	Average	44.88	0.92	45.80	54.00	-8.20
2390.00	Peak	57.76	0.92	58.68	74.00	-15.32

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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

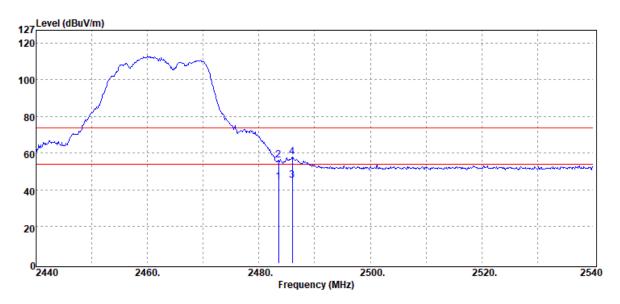
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	43.67	0.67	44.34	54.00	-9.66
2483.50	Peak	55.47	0.67	56.14	74.00	-17.86
2486.00	Average	44.63	0.66	45.29	54.00	-8.71
2486.00	Peak	57.22	0.66	57.88	74.00	-16.12

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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

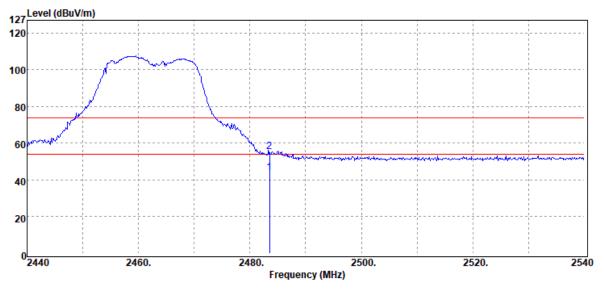
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	43.36	0.67	44.03	54.00	-9.97
2483.50	Peak	54.65	0.67	55.32	74.00	-18.68

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



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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

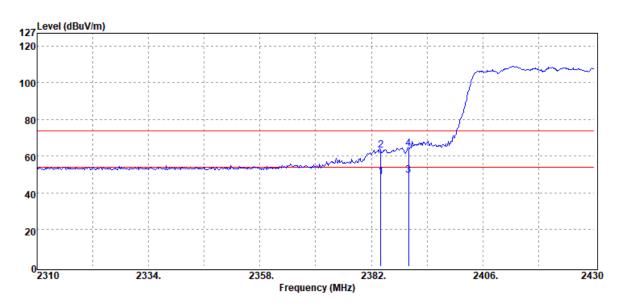
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2384.00	Average	48.01	0.92	48.93	54.00	-5.07
2384.00	Peak	62.31	0.92	63.23	74.00	-10.77
2390.00	Average	48.54	0.92	49.46	54.00	-4.54
2390.00	Peak	63.08	0.92	64.00	74.00	-10.00

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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

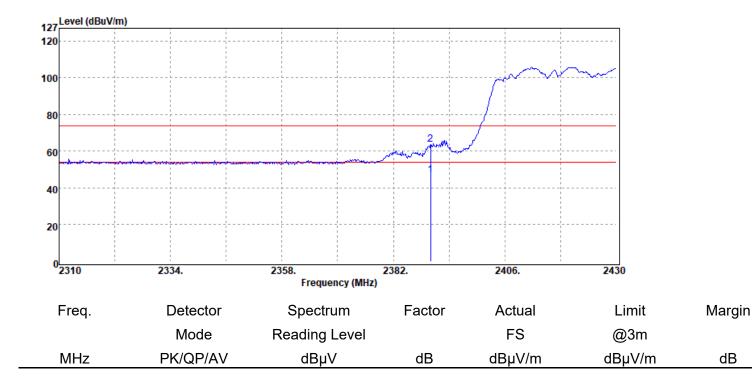
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



46.17

62.70

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0.92

0.92

47.09

63.62

54.00

74.00

-6.91

-10.38

2390.00

2390.00

Average

Peak



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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

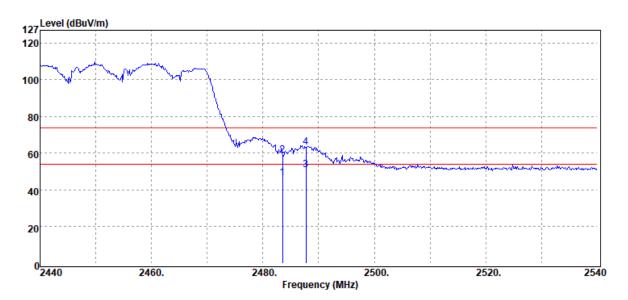
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	45.97	0.67	46.64	54.00	-7.36
2483.50	Peak	58.20	0.67	58.87	74.00	-15.13
2487.70	Average	50.18	0.65	50.83	54.00	-3.17
2487.70	Peak	62.75	0.65	63.40	74.00	-10.60

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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

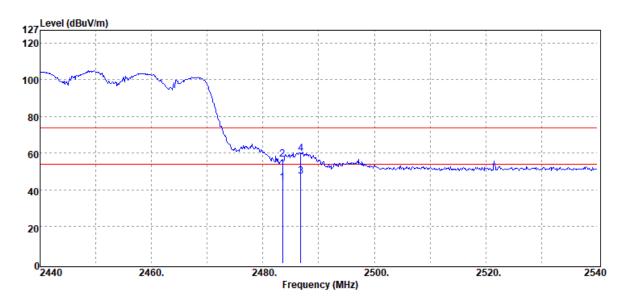
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	43.35	0.67	44.02	54.00	-9.98
2483.50	Peak	56.00	0.67	56.67	74.00	-17.33
2486.80	Average	46.82	0.65	47.47	54.00	-6.53
2486.80	Peak	59.08	0.65	59.73	74.00	-14.27

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU full

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

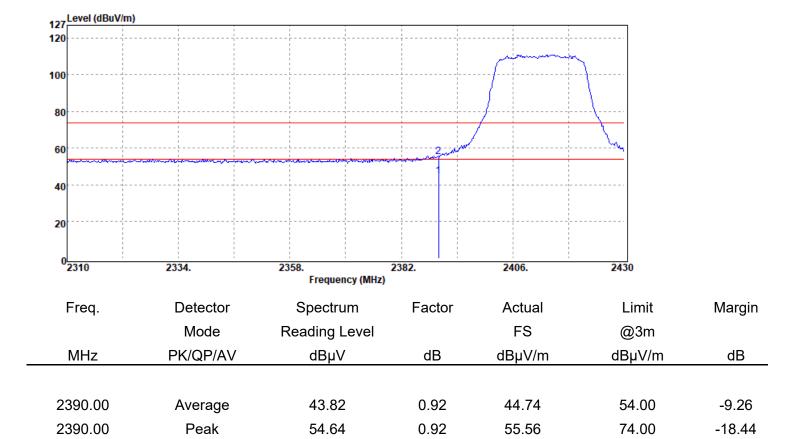
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



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



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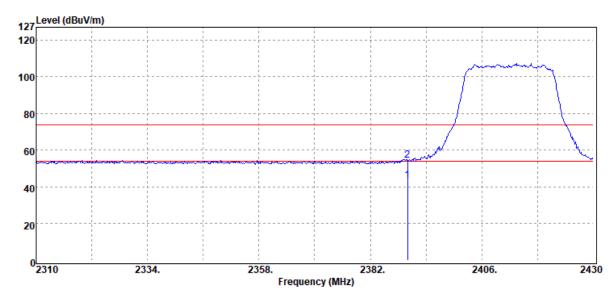
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-03

Test Frequency :2412 MHz Temp./Humi. :23.0/58

Test Mode :Bandedge CH Low Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2390.00	Average	42.47	0.92	43.39	54.00	-10.61
2390.00	Peak	53.37	0.92	54.29	74.00	-19.71

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 26/0

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

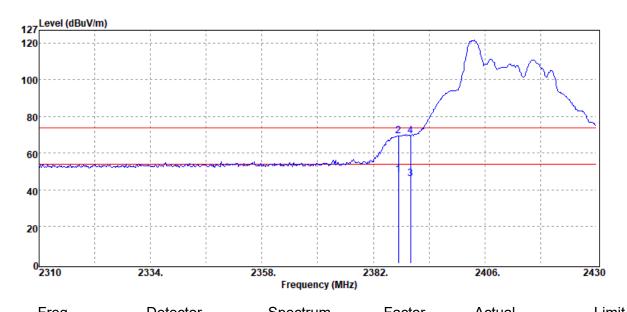
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dΒμV/m	dBµV/m	dB
2387.40	Average	47.26	0.92	48.18	54.00	-5.82
2387.40	Peak	68.64	0.92	69.56	74.00	-4.44
2390.00	Average	45.42	0.92	46.34	54.00	-7.66
2390.00	Peak	68.47	0.92	69.39	74.00	-4.61

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 26/0

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

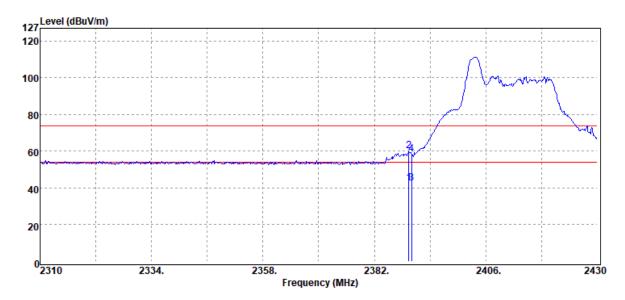
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2389.44	Average	41.69	0.91	42.60	54.00	-11.40
2389.44	Peak	59.22	0.91	60.13	74.00	-13.87
2390.00	Average	41.75	0.92	42.67	54.00	-11.33
2390.00	Peak	57.49	0.92	58.41	74.00	-15.59

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 52/37

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

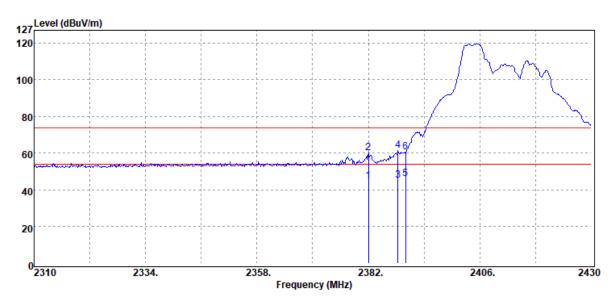
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2382.00	Average	43.93	0.93	44.86	54.00	-9.14
2382.00	Peak	59.14	0.93	60.07	74.00	-13.93
2388.36	Average	44.52	0.92	45.44	54.00	-8.56
2388.36	Peak	60.40	0.92	61.32	74.00	-12.68
2390.00	Average	45.27	0.92	46.19	54.00	-7.81
2390.00	Peak	59.92	0.92	60.84	74.00	-13.16

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 52/37

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

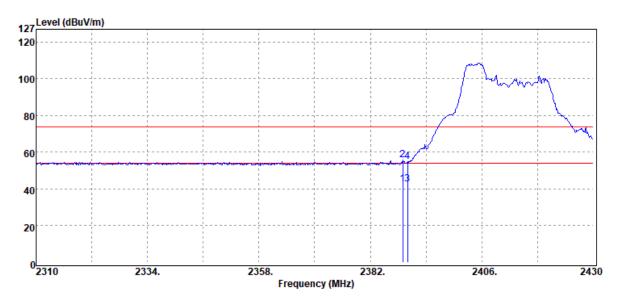
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2388.96	Average	41.60	0.91	42.51	54.00	-11.49
2388.96	Peak	54.95	0.91	55.86	74.00	-18.14
2390.00	Average	41.67	0.92	42.59	54.00	-11.41
2390.00	Peak	53.98	0.92	54.90	74.00	-19.10

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 106/53

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

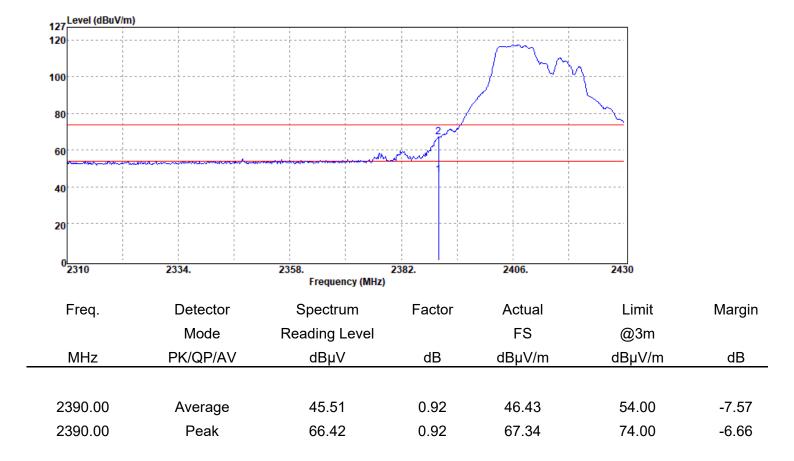
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 106/53

Test Frequency :2412 MHz

Test Mode :Bandedge CH Low

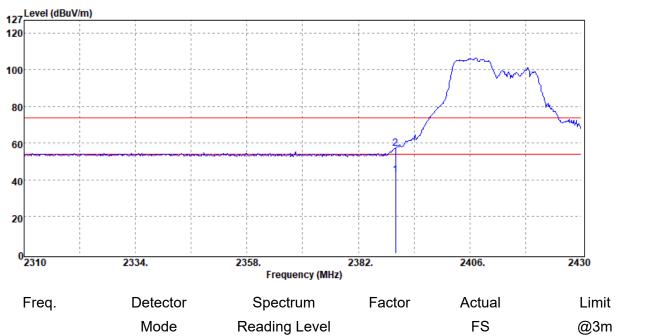
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2390.00	Average	41.79	0.92	42.71	54.00	-11.29
2390.00	Peak	56.15	0.92	57.07	74.00	-16.93

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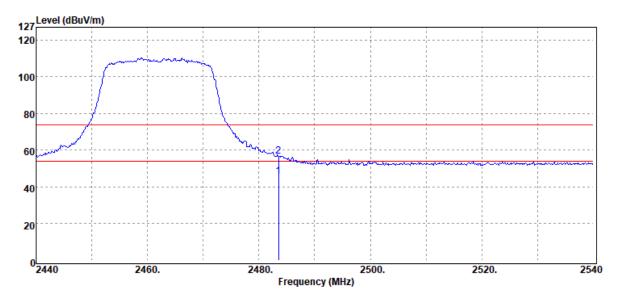
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-03

Test Frequency :2462 MHz Temp./Humi. :23.0/58

Test Mode :Bandedge CH High Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	45.16	0.67	45.83	54.00	-8.17
2483.50	Peak	56.06	0.67	56.73	74.00	-17.27

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU full

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

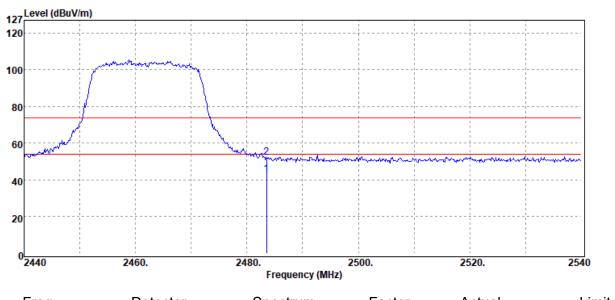
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	42.61	0.67	43.28	54.00	-10.72
2483.50	Peak	51.52	0.67	52.19	74.00	-21.81

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 26/8

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

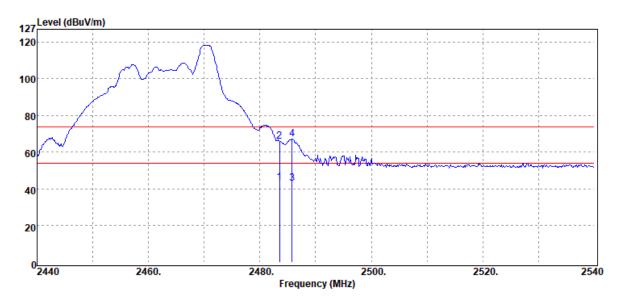
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	42.65	0.67	43.32	54.00	-10.68
2483.50	Peak	65.27	0.67	65.94	74.00	-8.06
2485.80	Average	42.49	0.66	43.15	54.00	-10.85
2485.80	Peak	66.59	0.66	67.25	74.00	-6.75

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 26/8

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

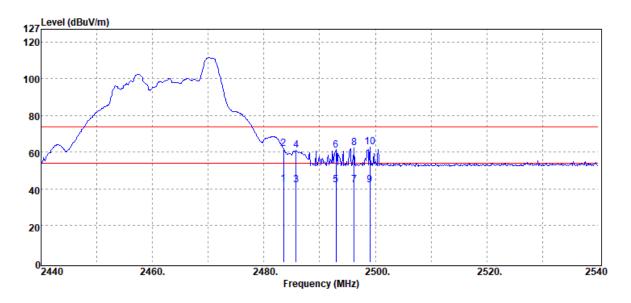
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Detector	Spectrum	Factor	Actual	Limit	Margin
Mode	Reading Level		FS	@3m	
PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
Average	41.75	0.67	42.42	54.00	-11.58
Peak	61.48	0.67	62.15	74.00	-11.85
Average	41.59	0.66	42.25	54.00	-11.75
Peak	60.54	0.66	61.20	74.00	-12.80
Average	41.49	0.63	42.12	54.00	-11.88
Peak	60.39	0.63	61.02	74.00	-12.98
Average	41.49	0.62	42.11	54.00	-11.89
Peak	61.93	0.62	62.55	74.00	-11.45
Average	41.40	0.60	42.00	54.00	-12.00
Peak	62.17	0.60	62.77	74.00	-11.23
	Mode PK/QP/AV Average Peak Average Peak Average Peak Average Peak Average Peak Average	Mode PK/QP/AV Reading Level dBμV Average 41.75 Peak 61.48 Average 41.59 Peak 60.54 Average 41.49 Peak 60.39 Average 41.49 Peak 61.93 Average 41.40	Mode Reading Level PK/QP/AV dBμV dB Average 41.75 0.67 Peak 61.48 0.67 Average 41.59 0.66 Peak 60.54 0.66 Average 41.49 0.63 Peak 60.39 0.63 Average 41.49 0.62 Peak 61.93 0.62 Average 41.40 0.60	Mode PK/QP/AVReading Level dBμVFS dB μV/mAverage41.750.6742.42Peak61.480.6762.15Average41.590.6642.25Peak60.540.6661.20Average41.490.6342.12Peak60.390.6361.02Average41.490.6242.11Peak61.930.6262.55Average41.400.6042.00	Mode PK/QP/AVReading Level dBμVFS@3m dBμV/mAverage41.750.6742.4254.00Peak61.480.6762.1574.00Average41.590.6642.2554.00Peak60.540.6661.2074.00Average41.490.6342.1254.00Peak60.390.6361.0274.00Average41.490.6242.1154.00Peak61.930.6262.5574.00Average41.400.6042.0054.00

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 52/40

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

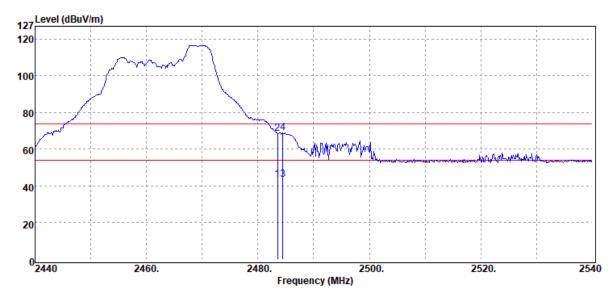
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	42.96	0.67	43.63	54.00	-10.37
2483.50	Peak	67.85	0.67	68.52	74.00	-5.48
2484.50	Average	42.83	0.66	43.49	54.00	-10.51
2484.50	Peak	68.30	0.66	68.96	74.00	-5.04

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 52/40

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

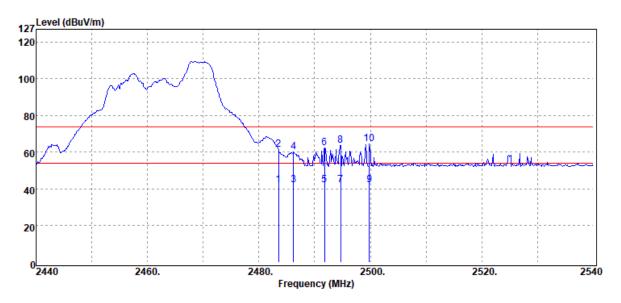
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	41.67	0.67	42.34	54.00	-11.66
2483.50	Peak	60.94	0.67	61.61	74.00	-12.39
2486.20	Average	41.57	0.65	42.22	54.00	-11.78
2486.20	Peak	59.54	0.65	60.19	74.00	-13.81
2491.80	Average	41.54	0.63	42.17	54.00	-11.83
2491.80	Peak	61.96	0.63	62.59	74.00	-11.41
2494.70	Average	41.47	0.62	42.09	54.00	-11.91
2494.70	Peak	63.02	0.62	63.64	74.00	-10.36
2499.80	Average	41.43	0.60	42.03	54.00	-11.97
2499.80	Peak	63.79	0.60	64.39	74.00	-9.61

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 106/54

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

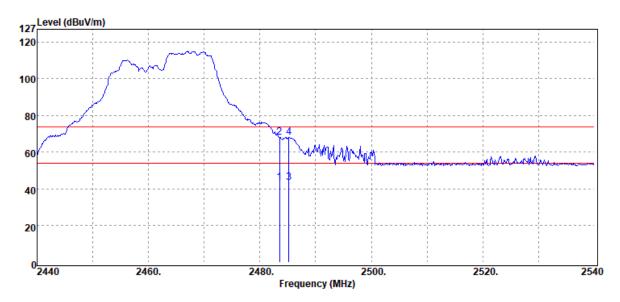
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2483.50	Average	42.88	0.67	43.55	54.00	-10.45
2483.50	Peak	67.34	0.67	68.01	74.00	-5.99
2485.20	Average	42.69	0.66	43.35	54.00	-10.65
2485.20	Peak	67.37	0.66	68.03	74.00	-5.97

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU 106/54

Test Frequency :2462 MHz

Test Mode :Bandedge CH High

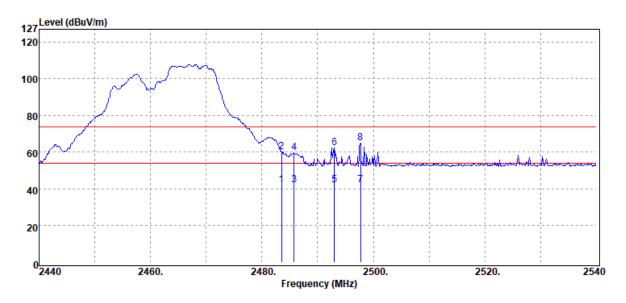
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dΒμV/m	dB
2483.50	Average	41.69	0.67	42.36	54.00	-11.64
2483.50	Peak	59.72	0.67	60.39	74.00	-13.61
2485.80	Average	41.55	0.66	42.21	54.00	-11.79
2485.80	Peak	58.91	0.66	59.57	74.00	-14.43
2493.00	Average	41.43	0.63	42.06	54.00	-11.94
2493.00	Peak	61.94	0.63	62.57	74.00	-11.43
2497.70	Average	41.39	0.61	42.00	54.00	-12.00
2497.70	Peak	64.43	0.61	65.04	74.00	-8.96

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU full

Test Frequency :2422 MHz

Test Mode :Bandedge CH Low

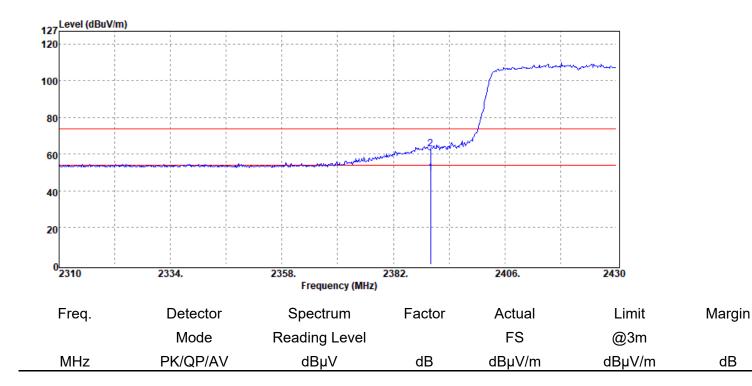
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



48.70

61.78

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0.92

0.92

49.62

62.70

54.00

74.00

-4.38

-11.30

2390.00

2390.00

Average

Peak



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU full

Test Frequency :2422 MHz

Test Mode :Bandedge CH Low

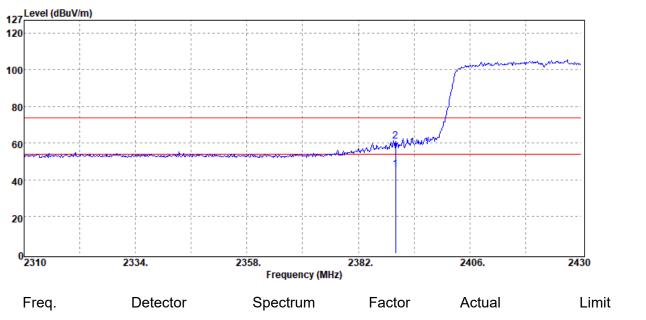
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2390.00	Average	44.61	0.92	45.53	54.00	-8.47
2390.00	Peak	60.29	0.92	61.21	74.00	-12.79

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU 242/61

Test Frequency :2422 MHz

Test Mode :Bandedge CH Low

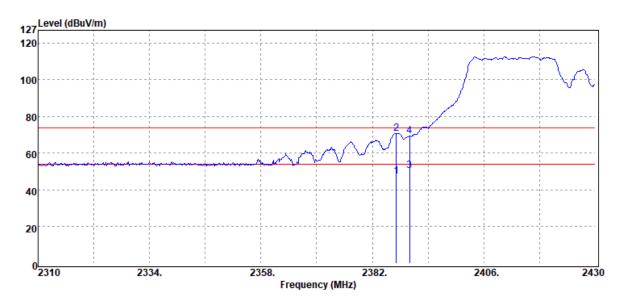
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin	
	MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB	
	2387.16	Average	46.73	0.92	47.65	54.00	-6.35	
	2387.16	Peak	70.01	0.92	70.93	74.00	-3.07	
	2390.00	Average	49.55	0.92	50.47	54.00	-3.53	
	2390.00	Peak	68.50	0.92	69.42	74.00	-4.58	

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU 242/61

Test Frequency :2422 MHz

Test Mode :Bandedge CH Low

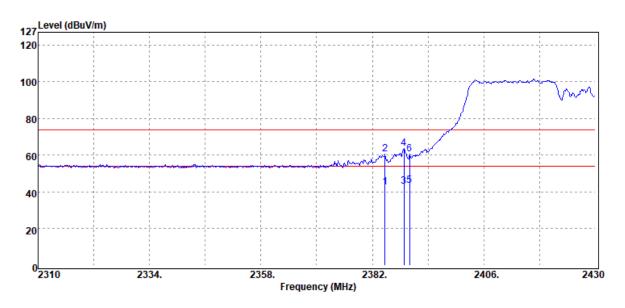
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
2384.76	Average	41.56	0.93	42.49	54.00	-11.51
2384.76	Peak	59.79	0.93	60.72	74.00	-13.28
2388.84	Average	42.12	0.91	43.03	54.00	-10.97
2388.84	Peak	62.64	0.91	63.55	74.00	-10.45
2390.00	Average	42.39	0.92	43.31	54.00	-10.69
2390.00	Peak	59.86	0.92	60.78	74.00	-13.22

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



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU full

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

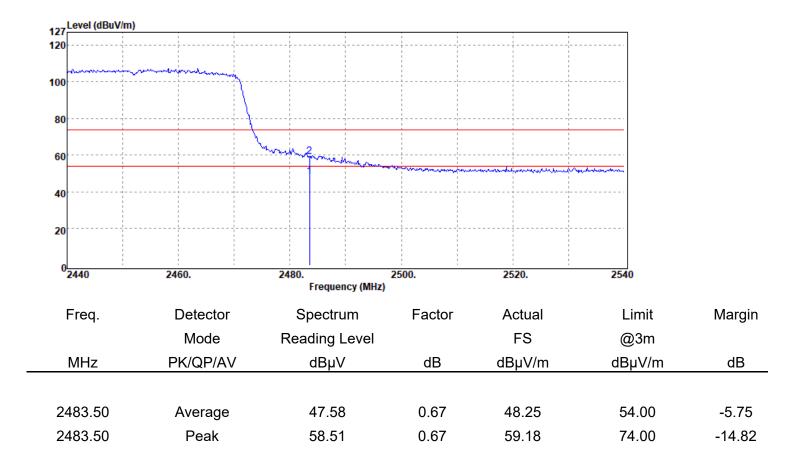
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :VERTICAL

Engineer :Nick



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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU full

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

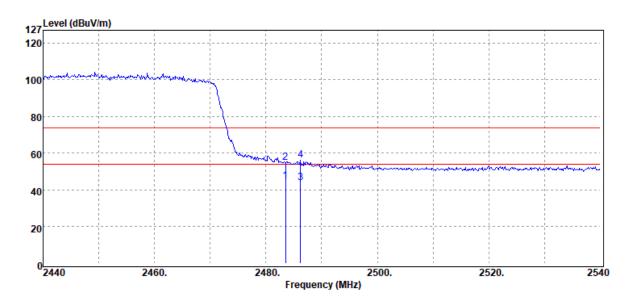
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-03

Temp./Humi. :23.0/58

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	43.94	0.67	44.61	54.00	-9.39
2483.50	Peak	54.10	0.67	54.77	74.00	-19.23
2486.20	Average	43.37	0.65	44.02	54.00	-9.98
2486.20	Peak	55.41	0.65	56.06	74.00	-17.94

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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU 242/62

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

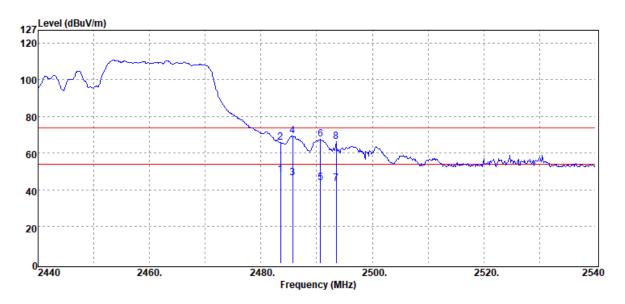
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dΒμV/m	dBμV/m	dB
2483.50	Average	47.72	0.67	48.39	54.00	-5.61
2483.50	Peak	65.22	0.67	65.89	74.00	-8.11
2485.70	Average	45.76	0.66	46.42	54.00	-7.58
2485.70	Peak	68.79	0.66	69.45	74.00	-4.55
2490.70	Average	43.15	0.64	43.79	54.00	-10.21
2490.70	Peak	66.91	0.64	67.55	74.00	-6.45
2493.50	Average	42.69	0.63	43.32	54.00	-10.68
2493.50	Peak	65.88	0.63	66.51	74.00	-7.49

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Report Number :ER-2020-B0046

Operation Mode :802.11ax40 RU 242/62

Test Frequency :2452 MHz

Test Mode :Bandedge CH High

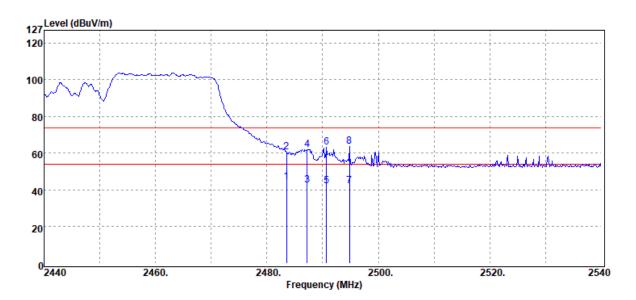
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-07

Temp./Humi. :21.1/56

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
2483.50	Average	43.66	0.67	44.33	54.00	-9.67
2483.50	Peak	59.89	0.67	60.56	74.00	-13.44
2487.20	Average	42.06	0.65	42.71	54.00	-11.29
2487.20	Peak	61.51	0.65	62.16	74.00	-11.84
2490.70	Average	41.61	0.64	42.25	54.00	-11.75
2490.70	Peak	62.73	0.64	63.37	74.00	-10.63
2494.80	Average	41.57	0.62	42.19	54.00	-11.81
2494.80	Peak	63.17	0.62	63.79	74.00	-10.21

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Test Mode

Report No.: ER/2020/B0046

:VERTICAL

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Antenna Pol.

11.7.2 Below 1GHz Worst-Case Emission:

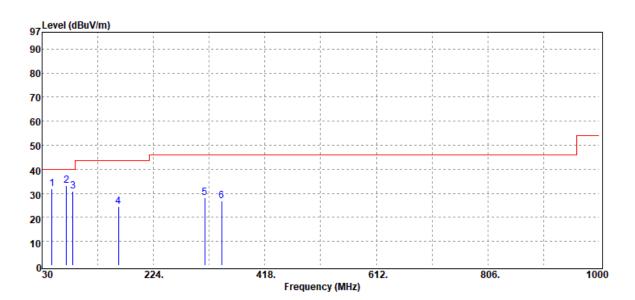
:Tx CH Mid

Test Site Report Number :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11g **Test Date** :2021-01-12

Test Frequency :2437 MHz Temp./Humi. :21.0/39

EUT Pol :H Plane Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
47.46	Peak	40.12	-8.12	32.00	40.00	-8.00
72.68	Peak	43.91	-10.79	33.12	40.00	-6.88
83.35	Peak	43.97	-12.95	31.02	40.00	-8.98
162.89	Peak	31.91	-7.29	24.62	43.50	-18.88
313.24	Peak	34.04	-5.89	28.15	46.00	-17.85
342.34	Peak	31.64	-4.95	26.69	46.00	-19.31

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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

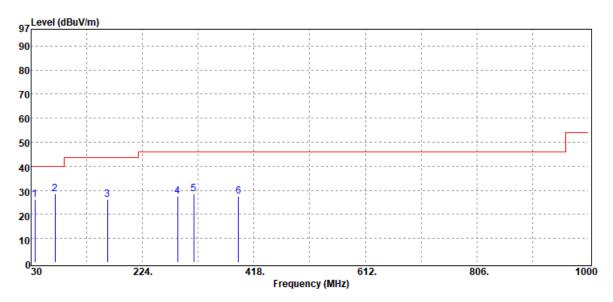
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2021-01-12

Temp./Humi. :21.0/39

Antenna Pol. :HORIZONTAL

Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
36.79	Peak	35.18	-8.93	26.25	40.00	-13.75
71.71	Peak	39.18	-10.62	28.56	40.00	-11.44
162.89	Peak	33.47	-7.29	26.18	43.50	-17.32
285.11	Peak	34.05	-6.41	27.64	46.00	-18.36
313.24	Peak	34.31	-5.89	28.42	46.00	-17.58
390.84	Peak	31.92	-4.43	27.49	46.00	-18.51

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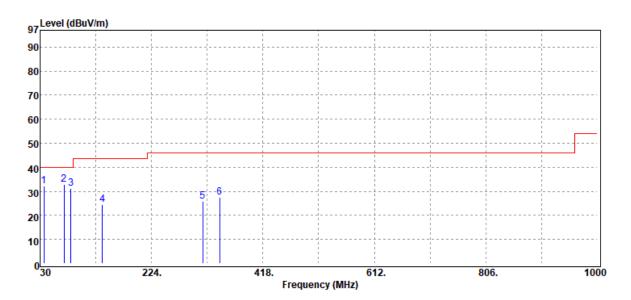
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 **Test Date** :2021-01-12

Test Frequency :2437 MHz Temp./Humi. :21.0/39

Test Mode :Tx CH Mid Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Nick



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dΒμV/m	dBμV/m	dB
36.79	Peak	41.23	-8.93	32.30	40.00	-7.70
71.71	Peak	43.64	-10.62	33.02	40.00	-6.98
83.35	Peak	44.16	-12.95	31.21	40.00	-8.79
138.64	Peak	32.29	-7.71	24.58	43.50	-18.92
313.24	Peak	31.83	-5.89	25.94	46.00	-20.06
342.34	Peak	32.53	-4.95	27.58	46.00	-18.42

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:H Plane

224.

EUT Pol

Report No.: ER/2020/B0046

:Nick

1000

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Engineer

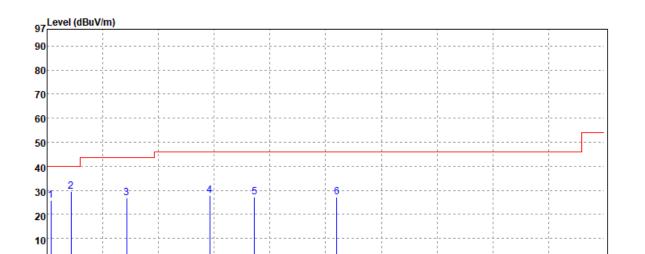
806.

Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 **Test Date** :2021-01-12

Test Frequency :2437 MHz Temp./Humi. :21.0/39

Test Mode :Tx CH Mid Antenna Pol. :HORIZONTAL



Frequency (MHz)

418.

Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
36.79	Peak	34.66	-8.93	25.73	40.00	-14.27
71.71	Peak	40.02	-10.62	29.40	40.00	-10.60
168.71	Peak	34.39	-7.64	26.75	43.50	-16.75
313.24	Peak	33.83	-5.89	27.94	46.00	-18.06
390.84	Peak	31.65	-4.43	27.22	46.00	-18.78
534.40	Peak	29.69	-2.40	27.29	46.00	-18.71

612.

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



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11.7.3 Above 1GHz Emission:

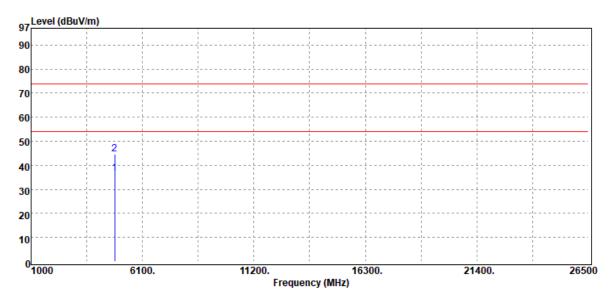
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11b **Test Date** :2021-01-12

Test Frequency :2412 MHz Temp./Humi. :22.5/60

Test Mode Antenna Pol. :VERTICAL :Tx CH Low

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4824.00	Average	29.44	7.13	36.57	54.00	-17.43
4824.00	Peak	37.59	7.13	44.72	74.00	-29.28

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2412 MHz

Test Mode :Tx CH Low

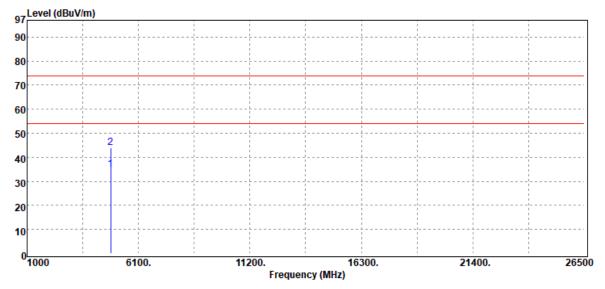
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4824.00	Average	27.72	7.13	34.85	54.00	-19.15
4824.00	Peak	36.78	7.13	43.91	74.00	-30.09

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

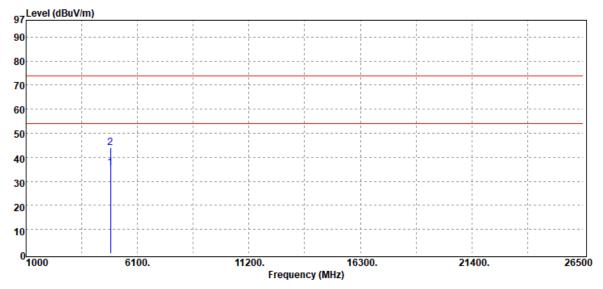
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBµV/m	dB
4874.00	Average	27.95	7.51	35.46	54.00	-18.54
4874.00	Peak	36.59	7.51	44.10	74.00	-29.90

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

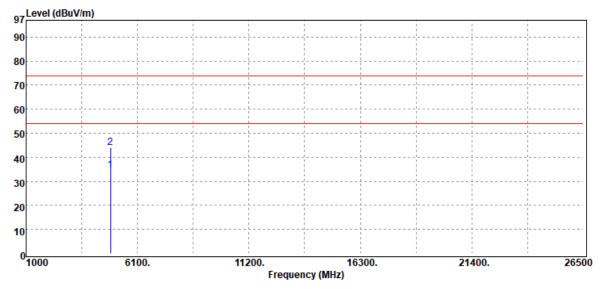
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4874.00	Average	27.12	7.51	34.63	54.00	-19.37
4874.00	Peak	36.30	7.51	43.81	74.00	-30.19

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



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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2462 MHz

Test Mode :Tx CH High

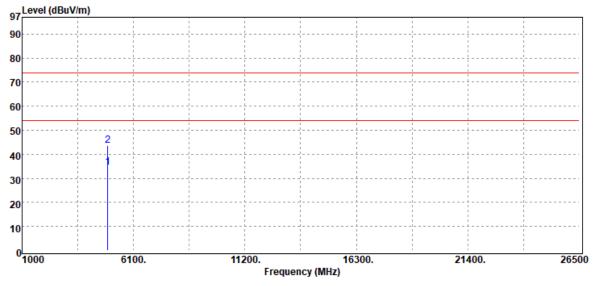
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4924.00	Average	26.86	7.84	34.70	54.00	-19.30
4924.00	Peak	35.80	7.84	43.64	74.00	-30.36

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Report Number :ER-2020-B0046

Operation Mode :802.11b

Test Frequency :2462 MHz

Test Mode :Tx CH High

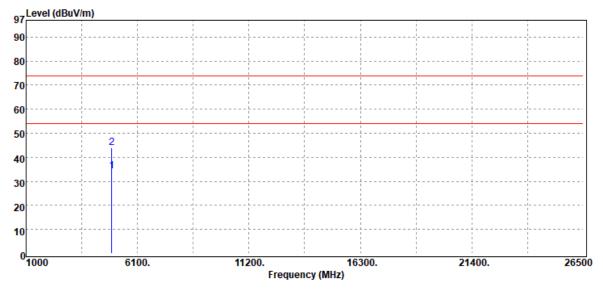
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4924.00	Average	26.29	7.84	34.13	54.00	-19.87
4924.00	Peak	35.97	7.84	43.81	74.00	-30.19

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2412 MHz

Test Mode :Tx CH Low

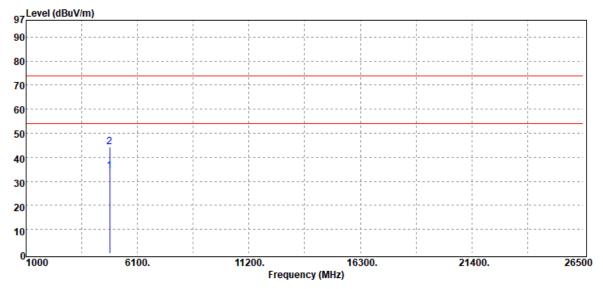
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4824.00	Average	26.94	7.13	34.07	54.00	-19.93
4824.00	Peak	37.08	7.13	44.21	74.00	-29.79

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2412 MHz

Test Mode :Tx CH Low

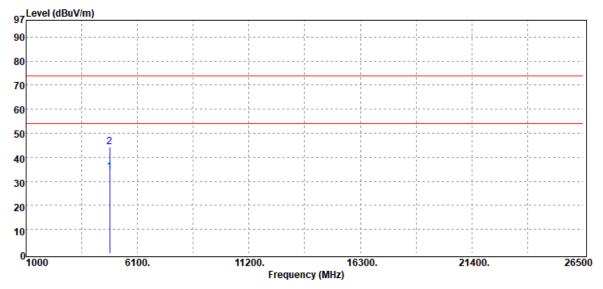
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4824.00	Average	26.93	7.13	34.06	54.00	-19.94
4824.00	Peak	37.07	7.13	44.20	74.00	-29.80

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

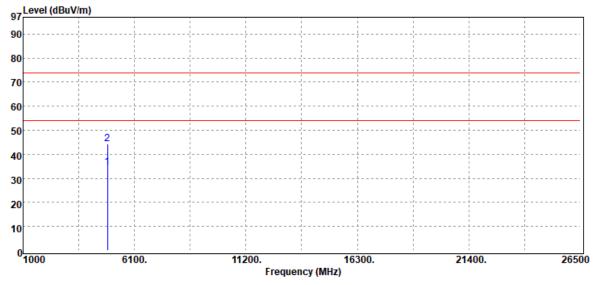
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	26.93	7.51	34.44	54.00	-19.56
4874.00	Peak	36.79	7.51	44.30	74.00	-29.70

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



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

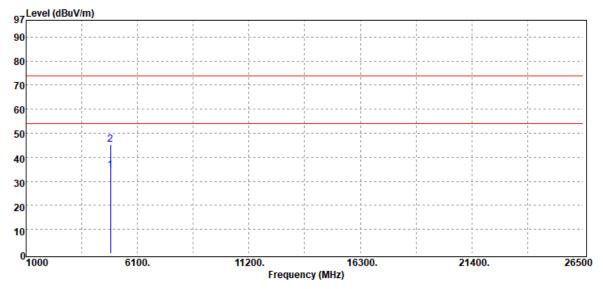
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	26.89	7.51	34.40	54.00	-19.60
4874.00	Peak	37.85	7.51	45.36	74.00	-28.64

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



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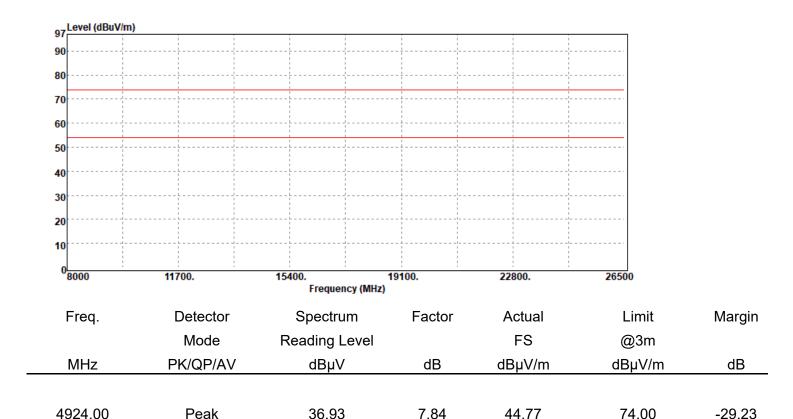
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Test Date :2020-12-04 **Operation Mode** :802.11g

Test Frequency :2462 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH High Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



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Report Number :ER-2020-B0046

Operation Mode :802.11g

Test Frequency :2462 MHz

Test Mode :Tx CH High

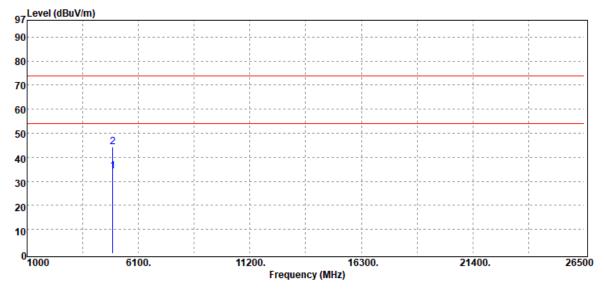
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4924.00	Average	26.27	7.84	34.11	54.00	-19.89
4924.00	Peak	36.45	7.84	44.29	74.00	-29.71

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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2412 MHz

Test Mode :Tx CH Low

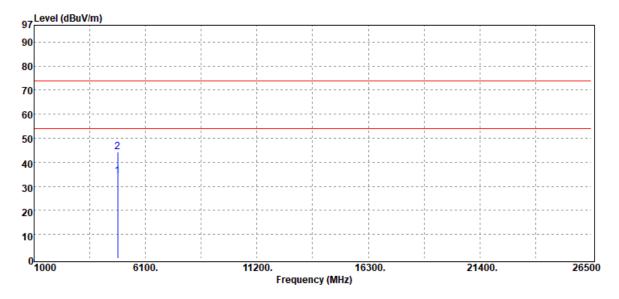
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
4824.00	Average	27.05	7.13	34.18	54.00	-19.82
4824.00	Peak	37.21	7.13	44.34	74.00	-29.66

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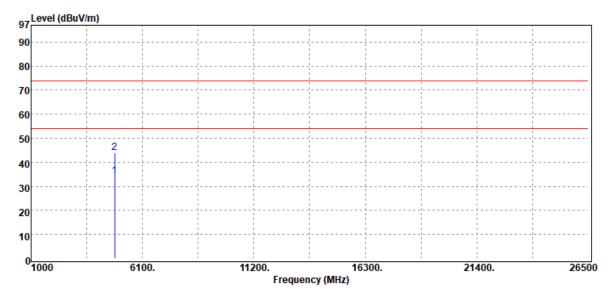
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n20 **Test Date** :2020-12-04

Test Frequency :2412 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH Low Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4824.00	Average	26.99	7.13	34.12	54.00	-19.88
4824.00	Peak	36.87	7.13	44.00	74.00	-30.00

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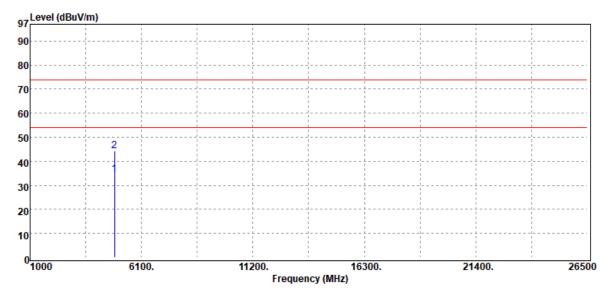
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n20 **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH Mid Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	27.04	7.51	34.55	54.00	-19.45
4874.00	Peak	36.71	7.51	44.22	74.00	-29.78

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Report Number :ER-2020-B0046

Operation Mode :802.11n20

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

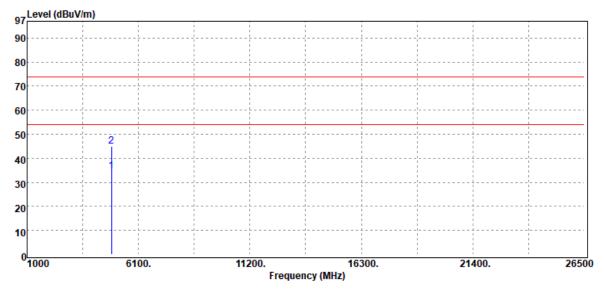
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	27.03	7.51	34.54	54.00	-19.46
4874.00	Peak	37.56	7.51	45.07	74.00	-28.93

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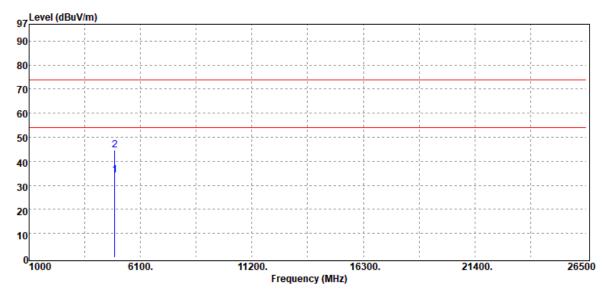
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n20 **Test Date** :2020-12-04

Test Frequency :2462 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH High Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4924.00	Average	26.41	7.84	34.25	54.00	-19.75
4924.00	Peak	36.85	7.84	44.69	74.00	-29.31

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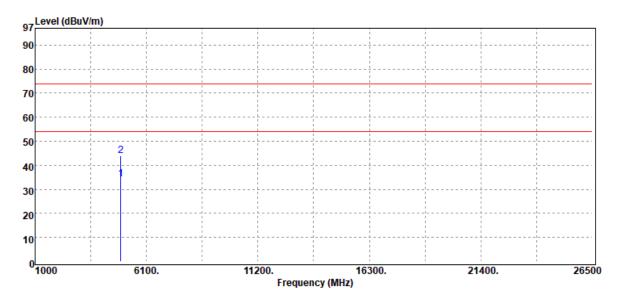
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n20 **Test Date** :2020-12-04

Test Frequency :2462 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH High Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
4924.00	Average	26.33	7.84	34.17	54.00	-19.83
4924.00	Peak	36.22	7.84	44.06	74.00	-29.94

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:SAC III Chamber

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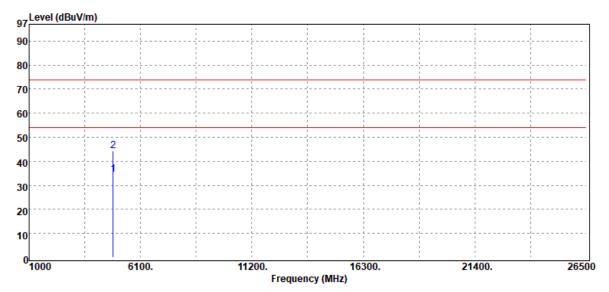
Report Number Test Site :ER-2020-B0046

Operation Mode :802.11n40 **Test Date** :2020-12-04

Test Frequency :2422 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4844.00	Average	27.51	7.12	34.63	54.00	-19.37
4844.00	Peak	37.14	7.12	44.26	74.00	-29.74

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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2422 MHz

Test Mode :Tx CH Low

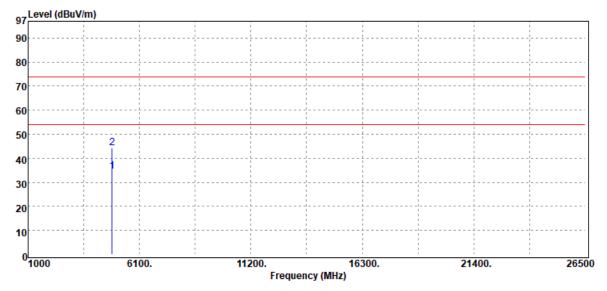
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4844.00	Average	27.38	7.12	34.50	54.00	-19.50
4844.00	Peak	37.20	7.12	44.32	74.00	-29.68

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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2437 MHz

Test Mode :Tx CH Mid

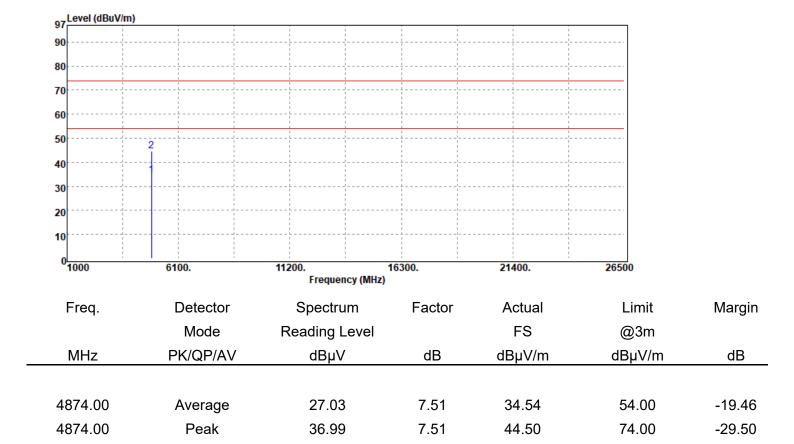
EUT Pol :H Plane Test Site :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :VERTICAL

Engineer :Ricky



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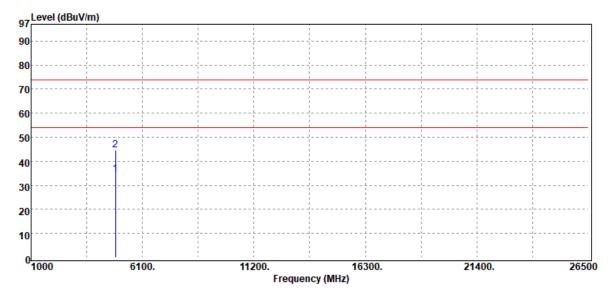
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n40 **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH Mid Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4874.00	Average	26.91	7.51	34.42	54.00	-19.58
4874.00	Peak	36.96	7.51	44.47	74.00	-29.53

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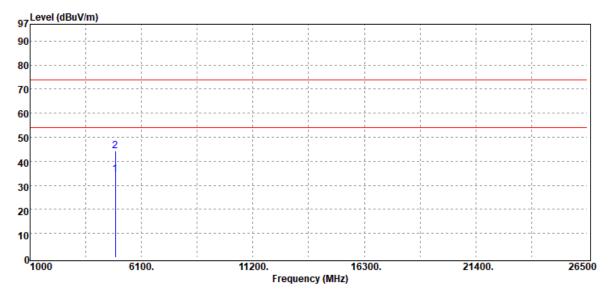
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11n40 **Test Date** :2020-12-04

Test Frequency :2452 MHz Temp./Humi. :22.5/60

Test Mode :Tx CH High Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4904.00	Average	26.56	7.93	34.49	54.00	-19.51
4904.00	Peak	36.31	7.93	44.24	74.00	-29.76

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Report Number :ER-2020-B0046

Operation Mode :802.11n40

Test Frequency :2452 MHz

Test Mode :Tx CH High

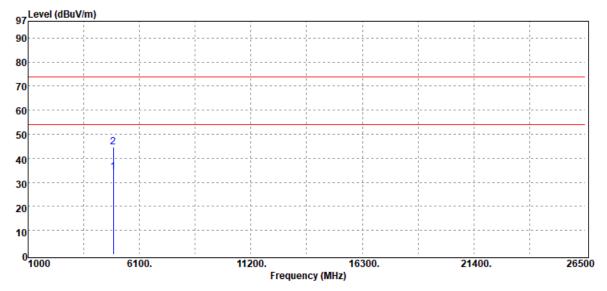
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :22.5/60

Antenna Pol. :HORIZONTAL

Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBµV/m	dB
4904.00	Average	26.46	7.93	34.39	54.00	-19.61
4904.00	Peak	36.71	7.93	44.64	74.00	-29.36

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Report Number :ER-2020-B0046

Operation Mode :802.11ax20 RU full

Test Frequency :2412 MHz

Test Mode :Tx CH Low

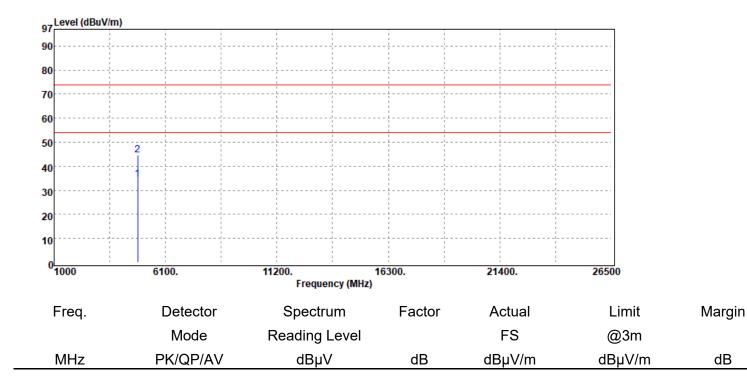
EUT Pol :H Plane **Test Site** :SAC III Chamber

Test Date :2020-12-04

Temp./Humi. :24.2/68

Antenna Pol. :VERTICAL

Engineer :Ricky



27.31

37.37

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7.13

7.13

34.44

44.50

54.00

74.00

-19.56

-29.50

4824.00

4824.00

Average

Peak



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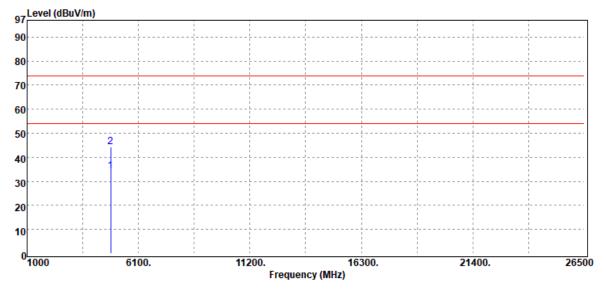
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-04

Test Frequency :2412 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Low Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4824.00	Average	27.04	7.13	34.17	54.00	-19.83
4824.00	Peak	37.09	7.13	44.22	74.00	-29.78

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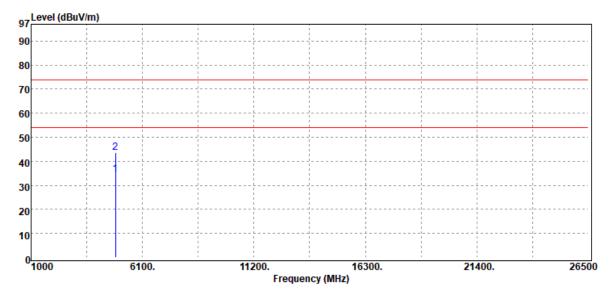
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Mid Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	27.14	7.51	34.65	54.00	-19.35
4874.00	Peak	36.19	7.51	43.70	74.00	-30.30

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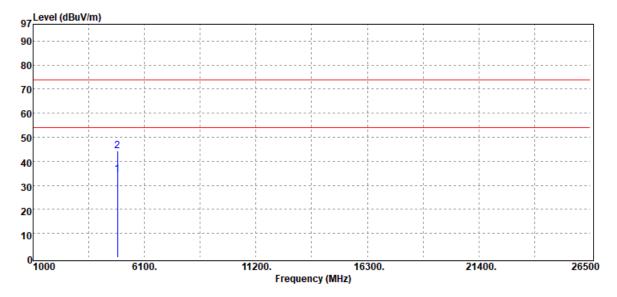
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Mid Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4874.00	Average	26.93	7.51	34.44	54.00	-19.56
4874.00	Peak	36.73	7.51	44.24	74.00	-29.76

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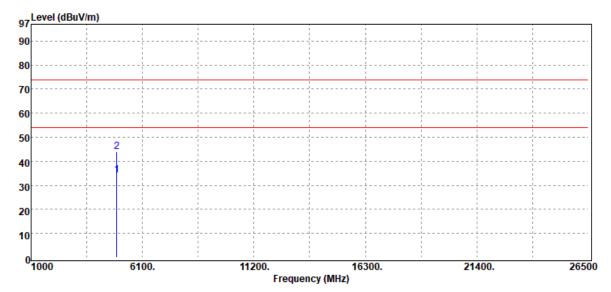
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-04

Test Frequency :2462 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH High Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4924.00	Average	26.42	7.84	34.26	54.00	-19.74
4924.00	Peak	36.14	7.84	43.98	74.00	-30.02

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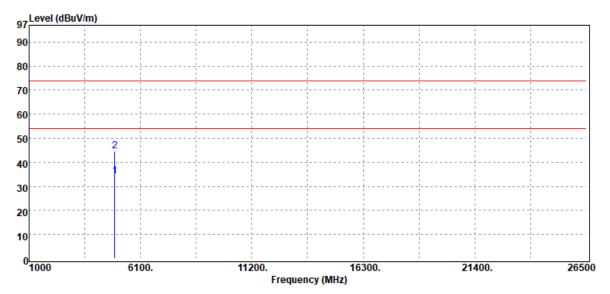
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax20 RU full **Test Date** :2020-12-04

Test Frequency :2462 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH High Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4924.00	Average	26.28	7.84	34.12	54.00	-19.88
4924.00	Peak	36.81	7.84	44.65	74.00	-29.35

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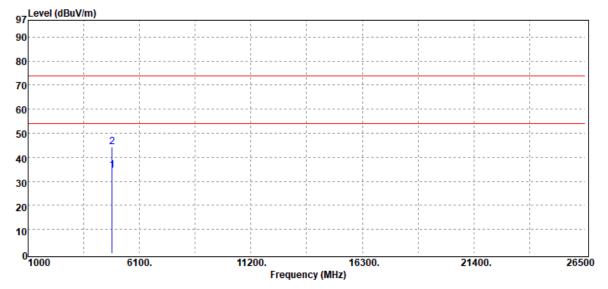
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2422 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4844.00	Average	27.47	7.12	34.59	54.00	-19.41
4844.00	Peak	37.19	7.12	44.31	74.00	-29.69

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Content

Content

Proceed New Terms

Proced New Terms

**Proc



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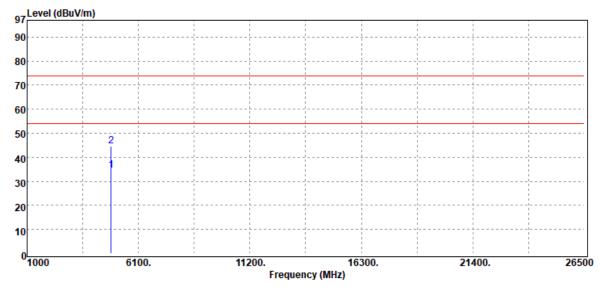
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2422 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Low Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4844.00	Average	27.46	7.12	34.58	54.00	-19.42
4844.00	Peak	37.60	7.12	44.72	74.00	-29.28

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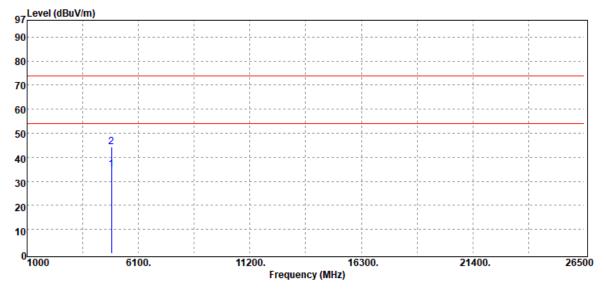
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Mid Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBµV/m	dBμV/m	dB
4874.00	Average	27.23	7.51	34.74	54.00	-19.26
4874.00	Peak	36.78	7.51	44.29	74.00	-29.71

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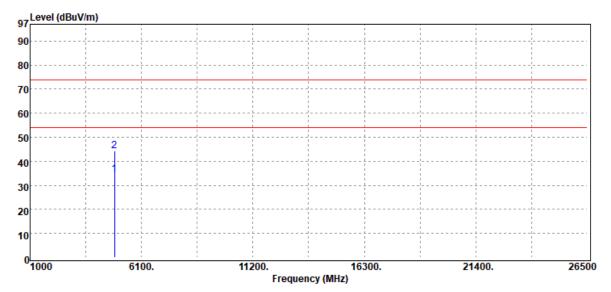
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2437 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH Mid Antenna Pol. :HORIZONTAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4874.00	Average	27.09	7.51	34.60	54.00	-19.40
4874.00	Peak	36.79	7.51	44.30	74.00	-29.70

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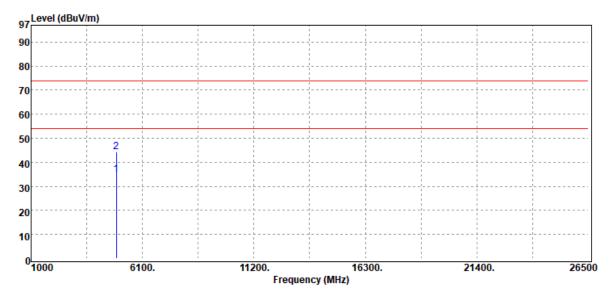
Report Number Test Site :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2452 MHz Temp./Humi. :24.2/68

Test Mode :Tx CH High Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Ricky



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4904.00	Average	26.81	7.93	34.74	54.00	-19.26
4904.00	Peak	36.44	7.93	44.37	74.00	-29.63

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Test Mode

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:HORIZONTAL

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Antenna Pol.

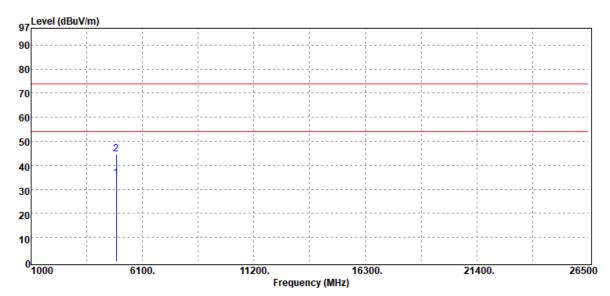
Report Number **Test Site** :SAC III Chamber :ER-2020-B0046

Operation Mode :802.11ax40 RU full **Test Date** :2020-12-04

Test Frequency :2452 MHz Temp./Humi. :24.2/68

EUT Pol :H Plane Engineer :Ricky

:Tx CH High



Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
4904.00	Average	26.65	7.93	34.58	54.00	-19.42
4904.00	Peak	36.87	7.93	44.80	74.00	-29.20

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12 POWER SPECTRAL DENSITY

12.1 Standard Applicable

Per Part 15.247 (e)

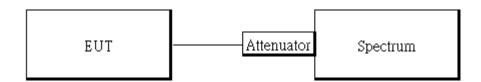
The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

12.2 Measurement Equipment Used

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021		
DC Power Supply	Agilent	E3640A	MY52410006	12/17/2020	12/16/2021		
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021		
Attenuator	Mini-Circuit	BW-S10W2+	2	12/16/2020	12/15/2021		
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021		

12.3 Test Set-up



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12.4 Measurement Procedure

- 1. Set analyzer center frequency to DTS channel center frequency.
- The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- Set the RBW = 3 kHz & VBW = 10 kHz.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to measure the PSD for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

Note:

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

12.5 As per FCC KDB 662911 D01

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

• Directional Gain =
$$10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^{2}}{N_{ANT}} \right]$$

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where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

 $g_{j,k} = /20$ 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not; G_k is the gain in dBi of the kth antenna.

The antenna gain is not grater than 6 dBi. Therefore, reduction of power is not required.



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12.6 Power spectral density

	POWER DENSITY 802.11b						
Freq.	Ch0	PSD	Limit	Result			
(MHz)	PSD	(dBm/3kHz)	(dBm/3kHz)	Resuit			
2412	-3.13	-3.13	8.00	PASS			
2437	-3.05	-3.05	8.00	PASS			
2462	-3.89	-3.89	8.00	PASS			

	POWER DENSITY 802.11g						
Freq.	Ch0	PSD	Limit	Result			
(MHz)	PSD	(dBm/3kHz)	(dBm/3kHz)	Resuit			
2412	-5.65	-5.65	8.00	PASS			
2437	-5.8	-5.80	8.00	PASS			
2462	-4.63	-4.63	8.00	PASS			

POWER DENSITY 802.11n HT20							
Freq.	Ch0	Ch1	PSD	Limit	Result		
(MHz)	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Result		
2412	-4.65	-4.75	-1.69	8.00	PASS		
2437	-3.62	-4.67	-1.10	8.00	PASS		
2462	-4.1	-5.54	-1.75	8.00	PASS		

POWER DENSITY 802.11ax HE20							
Freq.	RU	Ch0	Ch1	PSD	Limit	Result	
(MHz)	Config	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)		
2412	full	-7.05	-8.35	-4.64	8.00	PASS	
	26/0	-0.09	-0.94	2.52	8.00	PASS	
	52/37	-2.08	-3.14	0.43	8.00	PASS	
	106/53	-4.54	-5.37	-1.92	8.00	PASS	
2437	full	-6.76	-7.69	-4.19	8.00	PASS	
2462	full	-6.58	-8.64	-4.48	8.00	PASS	
	26/8	-0.3	-1.17	2.30	8.00	PASS	
	52/40	-1.81	-3.53	0.42	8.00	PASS	
	106/54	-4.27	-5.55	-1.85	8.00	PASS	

POWER DENSITY 802.11n HT40							
Freq.	Ch0	Ch1	PSD	Limit	Result		
(MHz)	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)	Result		
2422	-7.36	-8.52	-4.89	8.00	PASS		
2437	-6.86	-8.4	-4.55	8.00	PASS		
2452	-7.42	-8.36	-4.85	8.00	PASS		

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POWER DENSITY 802.11ax HE40								
Freq.	RU	Ch0	Ch1	PSD	Limit	Result		
(MHz)	Config	PSD	PSD	(dBm/3kHz)	(dBm/3kHz)			
2422	full	-8.23	-10.15	-6.07	8.00	PASS		
	242/61	-10.66	-11.89	-8.22	8.00	PASS		
2437	full	-9.06	-10.29	-6.62	8.00	PASS		
2452	full	-8.5	-10.37	-6.32	8.00	PASS		
	242/62	-9.93	-10.51	-7.20	8.00	PASS		

Note

Cable Loss: 11.20 dB

*Refer to next page for plots

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802.11b 20MHz Chain0 2412MHz







802.11b 20MHz Chain0 2462MHz



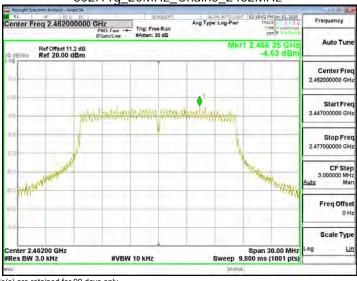
802.11g_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2437MHz



802.11g_20MHz_Chain0_2462MHz



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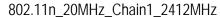
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802.11n 20MHz Chain0 2412MHz

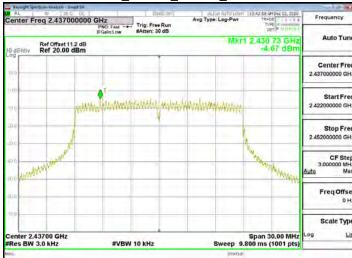
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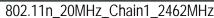
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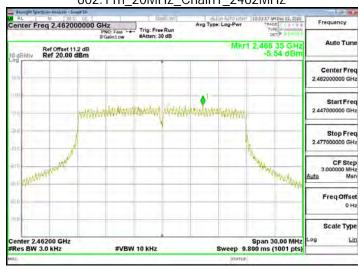


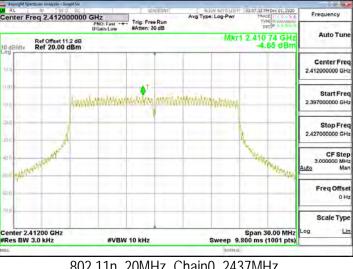


802.11n 20MHz Chain1 2437MHz





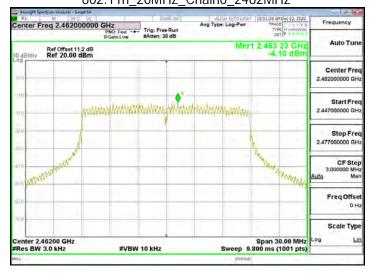




802.11n 20MHz Chain0 2437MHz



802.11n 20MHz Chain0 2462MHz



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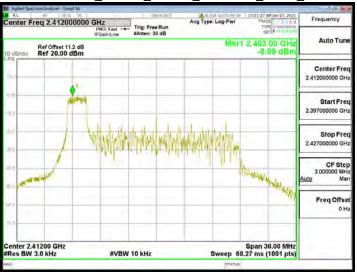
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802.11ax_20MHz_Chain0_2412MHz



802.11ax 20MHz Chain0 2412MHz RU26 0



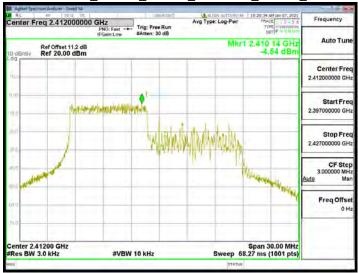
802.11ax 20MHz Chain0 2412MHz RU52 37



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802.11ax 20MHz Chain0 2412MHz RU106 53



802.11ax 20MHz Chain0 2437MHz



802.11ax 20MHz Chain0 2462MHz



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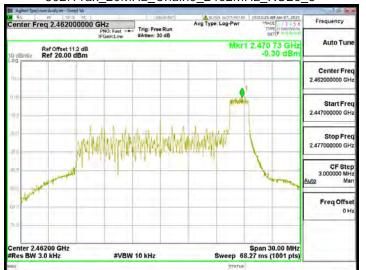
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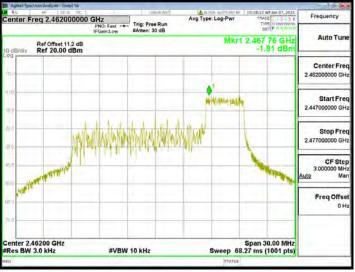
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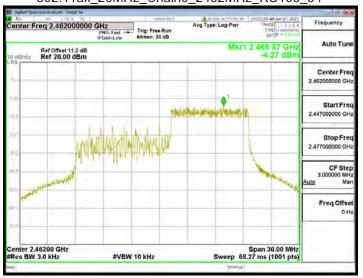
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802.11ax 20MHz Chain0 2462MHz RU52 40



802.11ax 20MHz Chain0 2462MHz RU106 54



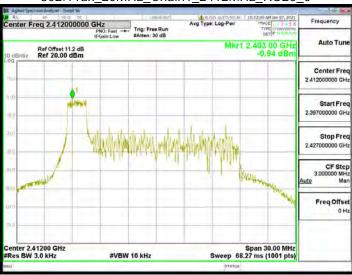
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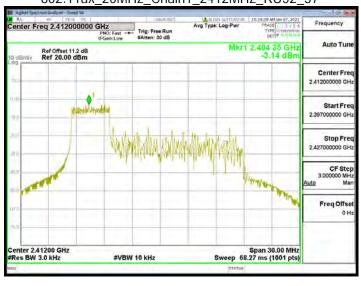
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802.11ax 20MHz Chain1 2412MHz RU26 0



802.11ax_20MHz_Chain1_2412MHz RU52 37



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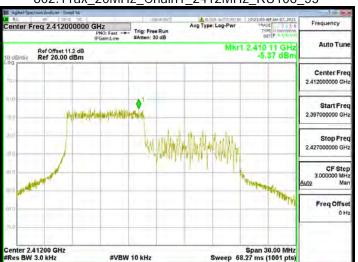
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802.11ax_20MHz_Chain1_2412MHz_RU106_53



802.11ax 20MHz Chain1 2437MHz



802.11ax 20MHz Chain1 2462MHz



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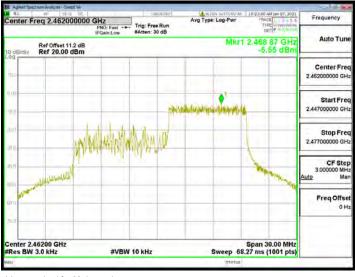
802.11ax_20MHz_Chain1_2462MHz_RU26_8



802.11ax 20MHz Chain1 2462MHz RU52 40



802.11ax 20MHz Chain1 2462MHz RU106 54



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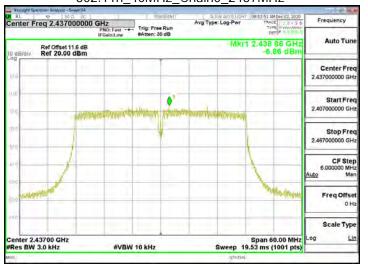


802.11n_40MHz_Chain0_2422MHz

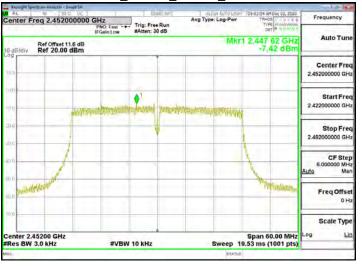
ter Freq 2.422000000 GHz
PNO: Fast -- Trig: Free Run
Akten: 30 dB Auto Tur Mkr1 2.426 98 GH: -7.36 dBn Ref Offset 11.6 dB Ref 20.00 dBm Center Fre Start Fre ٠ Stop Fre CF Ster Freq Offs Scale Typ r 2.42200 GHz Span 60.00 MHz Sweep 19.53 ms (1001 pts)

802.11n_40MHz_Chain0_2437MHz

#VBW 10 kHz



802.11n 40MHz Chain0 2452MHz



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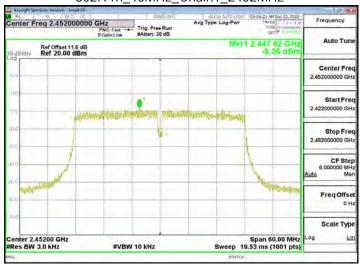
802.11n 40MHz Chain1 2422MHz



802.11n 40MHz Chain1 2437MHz



802.11n_40MHz_Chain1_2452MHz



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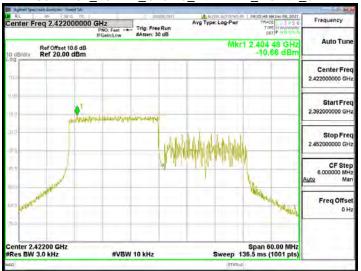
802.11ax_40MHz_Chain0_2422MHz



802.11ax 40MHz Chain0 2422MHz RU242 61

#VBW 10 kHz

Span 60.00 MHz Sweep 19.53 ms (1001 pts)



802.11ax 40MHz Chain0 2437MHz



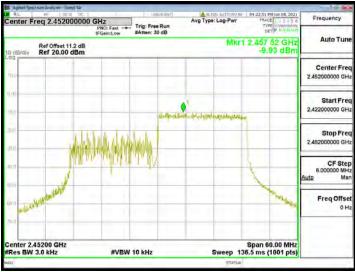
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802.11ax_40MHz_Chain0_2452MHz



802.11ax 40MHz Chain0 2452MHz RU242 62



802.11ax 40MHz Chain1 2422MHz

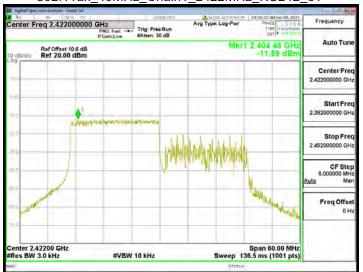


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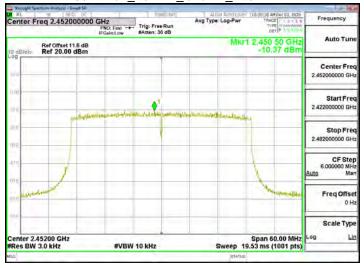
802.11ax_40MHz_Chain1_2422MHz_RU242_61



802.11ax 40MHz Chain1 2437MHz



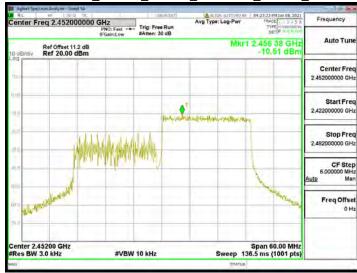
802.11ax 40MHz Chain1 2452MHz



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802.11ax_40MHz_Chain1_2452MHz_RU242_62



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13 ANTENNA REQUIREMENT

13.1 Standard Applicable

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

If the transmitting antenna is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

13.2 Antenna Connected Construction

The antenna is designed with unique RF connector and no consideration of replacement. Please see EUT photo for details.

~ End of Report ~

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