

TEST REPORT

FCC UNII Test for LGSWCAX71
Certification

APPLICANT

LG Electronics Inc.

REPORT NO.

HCT-RF-2609-FC004-R1

DATE OF ISSUE

September 11, 2026

Tested by

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Accredited by KOLAS, Republic of KOREA

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Applicant

LG Electronics Inc.

222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709, Republic of Korea

Product Name

RF Module

Model Name

LGSWCAX71

FCC ID

2B03LLGSWCAX71

Date of Test

July 07, 2026 ~ September 04, 2026

FCC Classification

Unlicensed National Information Infrastructure(NII)

Test Standard Used

FCC Rule Part(s): Part 15.407

Test Results

PASS

Location of Test

■ Permanent Testing Lab □ On Site Testing Lab
(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

Brand

LG

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	September 04, 2026	Initial Release
1	September 11, 2026	Added RBW adjustment note on Page 17.

Notice

Content
Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance. The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***. The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s). When confirmation of authenticity of this test report is required, please contact www.hct.co.kr This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA. (KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

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1. GENERAL INFORMATION

EUT DESCRIPTION

Model	LGSWCAX71	
Additional Model	-	
EUT Type	RF Module	
Power Supply	DC 3.30 V	
Modulation Type	OFDM : 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80)	
Frequency Range (MHz)	U-NII-1	20 MHz BW : 5180 - 5240 40 MHz BW : 5190 - 5230 80 MHz BW : 5210
	U-NII-2A	20 MHz BW : 5260 - 5320 40 MHz BW : 5270 - 5310 80 MHz BW : 5290
	U-NII-2C	20 MHz BW : 5500 - 5720 40 MHz BW : 5510 - 5710 80 MHz BW : 5530 - 5690
	U-NII-3	20 MHz BW : 5745 - 5825 40 MHz BW : 5755 - 5795 80 MHz BW : 5775
Straddle channel	Supported	
TDWR Band	Supported	
Dynamic Frequency Selection	Slave without radar detection	
Antenna Information	Please refer to the Antenna Specification document.	
Serial number	Conducted : 8C2AC169F090	
	Radiated : 8C2AC169EFCA	

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		MIMO	
	Ant.1	Ant.2	CDD	SDM
802.11a	O	O	O	X
802.11n(HT20/40)	O	O	O	O
802.11ac(VHT20/40/80)	O	O	O	O

Note:

- (1) O = Support, X = Not Support
- (2) SISO = Single Input Single Output
- (3) SDM = Spatial Diversity Multiplexing
- (4) CDD = Cyclic Delay Diversity

2.This device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the 2.4 GHz and 5 GHz or 6GHz Bands simultaneously on each antenna.

Simultaneous transmission Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth	Test Case
Bluetooth + 2.4 GHz WiFi MIMO	on	on	-	-	-	-	on	Scenario 1
Bluetooth + 5 GHz WiFi MIMO	-	-	on	on	-	-	on	Scenario 2
Bluetooth + 6 GHz WiFi MIMO	-	-	-	-	on	on	on	-
2.4 GHz WiFi SISO + 5 GHz WiFi SISO	-	on	on	-	-	-	-	-
2.4 GHz WiFi SISO + 6 GHz WiFi SISO	-	on	-	-	on	-	-	-
Bluetooth + 2.4 GHz WiFi SISO + 5 GHz WiFi SISO	-	on	on	-	-	-	on	Scenario 3
Bluetooth + 2.4 GHz WiFi SISO + 6 GHz WiFi SISO	-	on	-	-	on	-	on	-

3. Directional Gain Calculation

According to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) e) (iii), f) ii)

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

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT}/N_{SS})$$

Band	Ant Gain (dBi)		N _{ANT} / N _{SS}	Directional Gain (dBi)	
	ANT1	ANT2		CDD	SDM
UNII 1	1.36	0.59	2 / 2	3.99	1.36
UNII 2A	1.63	1.00		4.33	1.63
UNII 2C	1.65	0.66		4.18	1.65
UNII 3	1.78	1.59		4.70	1.78

Note

According to Ansi C63.10-2020 section 14.6.3, the directional gain is calculated using the formula, where GN is the gain of the nth antenna and NANT is the total number of antennas used.

$$\text{Directional gain(CDD)} = 10 \cdot \log \left(\left(10^{(\text{ANT1 Gain}/20)} + 10^{(\text{ANT2 Gain}/20)} \right)^2 / 2 \right) \text{ dBi}$$

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT}/N_{SS})$$

Sample Calculation (Conducted Power, MIMO):

Ex) Ant 1 : 11.58 dBm Ant 2 : 12.08 dBm

$$\text{Ant1} + \text{Ant 2} = \text{MIMO}$$

$$(11.58 \text{ dBm} + 12.08 \text{ dBm}) = (14.387 \text{ mW} + 16.143 \text{ mW}) = 30.53 \text{ mW} = 14.88 \text{ dBm}$$

Sample Calculation (E.I.R.P & E.I.R.P Spectral Density, MIMO):

Ex) ANT1 : 15.35 dBm , ANT2 : 15.12 dBm, Directional Gain : 3 dBi

$$\text{Conducted Power} = (15.35 \text{ dBm} + 15.12 \text{ dBm}) = (34.276 \text{ mW} + 32.508 \text{ mW}) = 66.784 \text{ mW} = 18.25 \text{ dBm}$$

$$\text{E.I.R.P} = 18.25 \text{ dBm} + 3 \text{ dBi} = 21.25 \text{ dBm}$$

2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Band	Mode	MIMO_CDD(Ant.1+ Ant.2)					
		Ant.1 Power		Ant.2 Power		Ant.1 + Ant.2 Power	
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
UNII1	802.11a	12.62	0.018	13.22	0.021	15.94	0.039
	802.11n (HT20)	12.93	0.020	13.17	0.021	16.06	0.040
	802.11n (HT40)	12.93	0.020	13.57	0.023	16.27	0.042
	802.11ac (VHT20)	12.96	0.020	12.96	0.020	15.97	0.040
	802.11ac (VHT40)	13.08	0.020	13.02	0.020	16.06	0.040
	802.11ac (VHT80)	12.04	0.016	12.36	0.017	15.21	0.033
UNII2A	802.11a	12.90	0.019	13.98	0.025	16.48	0.045
	802.11n (HT20)	12.91	0.020	14.11	0.026	16.56	0.045
	802.11n (HT40)	12.64	0.018	13.83	0.024	16.29	0.043
	802.11ac (VHT20)	12.85	0.019	13.98	0.025	16.46	0.044
	802.11ac (VHT40)	12.54	0.018	13.70	0.023	16.17	0.041
	802.11ac (VHT80)	12.02	0.016	12.61	0.018	15.34	0.034
UNII2C	802.11a	13.75	0.024	14.09	0.026	16.93	0.049
	802.11n (HT20)	13.84	0.024	14.11	0.026	16.99	0.050
	802.11n (HT40)	13.47	0.022	13.68	0.023	16.59	0.046
	802.11ac (VHT20)	13.81	0.024	13.82	0.024	16.83	0.048
	802.11ac (VHT40)	13.41	0.022	13.57	0.023	16.50	0.045
	802.11ac (VHT80)	13.87	0.024	13.31	0.021	16.61	0.046
UNII3	802.11a	13.44	0.022	13.63	0.023	16.55	0.045
	802.11n (HT20)	13.46	0.022	13.53	0.023	16.51	0.045
	802.11n (HT40)	13.44	0.022	13.45	0.022	16.46	0.044
	802.11ac (VHT20)	13.49	0.022	13.33	0.022	16.42	0.044
	802.11ac (VHT40)	13.48	0.022	13.47	0.022	16.49	0.045
	802.11ac (VHT80)	13.33	0.022	13.01	0.020	16.18	0.042

3. TEST METHODOLOGY

Unlicensed wireless device were tested using the following measurement procedure.

[1] KDB 789033 D02 15.407 Meas Guidance v02r01.

[2] ANSI C63.10-2020 + Cor. 1-2023

Note : Here in after, ANSI C63.10-2020 + Cor. 1-2023 will be referred to as ANSI C63.10-2020

EUT CONFIGURATION

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

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10-2020 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

According to the requirements in Section 6.3 ~ Section 6.6 of ANSI C63.10-2020

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m 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 hand-held transmitter (EUT) was rotated through three orthogonal axes.

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. This test facility has completed the evaluation in compliance with the standards and evaluation period required for chamber validity verification. ANSI C63.4-2014 + C63.4a-2017 and ANSI C63.25.1-2018

Detailed description of test facility was submitted to the Commission and accepted dated February 26,2026 (Registration Number: KR0032).

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203, §15.407:

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

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

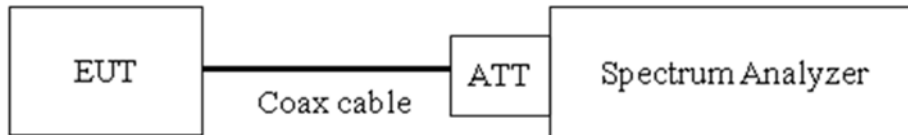
Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.16 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.73 (Confidence level about 95 %, $k=2$)
Power Spectral Density	0.98 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.54 (Confidence level about 95 %, $k = 2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k = 2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.80 (Confidence level about 95 %, $k = 2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.86 (Confidence level about 95 %, $k = 2$)
Radiated Disturbance (Above 40 GHz)	5.44 (Confidence level about 95 %, $k=2$)

8. DESCRIPTION OF TESTS

Test Item	Test Procedure
Duty Cycle	- KDB 789033 D02 – Section B.2
6 dB Bandwidth & 26dB Bandwidth	- KDB 789033 D02 - Section C
Output Power	- KDB 789033 D02 - Section E
Power Spectral Density	- KDB 789033 D02 - Section F
Frequency Stability	- ANSI C63.10-2020 - Section 6.8
AC Power line Conducted Emissions	- ANSI C63.10-2020– Section 6.2
Radiated Test	- KDB 789033 D02 – Section II.G - ANSI C63.10-2020 – Section 6.4 (Below 30 MHz) - ANSI C63.10-2020 – Section 6.5 (30 MHz to 1000 MHz) - ANSI C63.10-2020 – Section 6.6 (1 GHz to 40 GHz) - ANSI C63.10-2020 – Section 6.10 & 12.7 (Unwanted emissions)

8.1. Duty Cycle

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

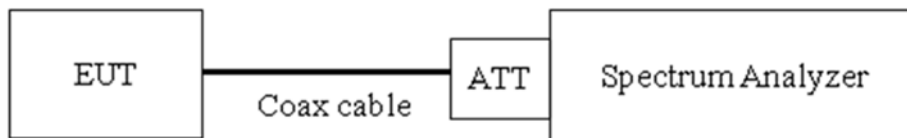
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$

8.2. 6 dB Bandwidth & 26 dB Bandwidth

Limit

Within the 5.725-5.85 GHz(NII-3)band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Configuration



Test Procedure (26 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

1. RBW = approximately 1 % of the emission bandwidth
2. VBW > RBW
3. Detector = Peak
4. Trace mode = max hold
5. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Test Procedure (6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

1. RBW = 100 kHz
2. VBW $\geq 3 \times$ RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points(upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note:

1. We tested X dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.
2. DFS test channels should be defined. So, we performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.
3. The 26 dB bandwidth is used to determine the conducted power limits.

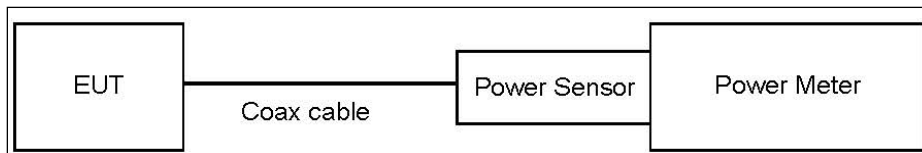
8.3. Output Power Measurement

Limit

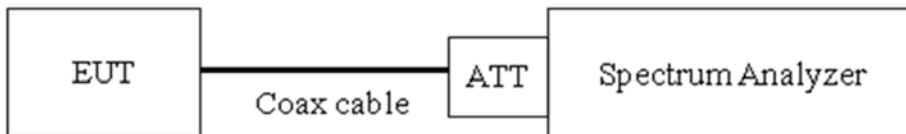
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)

Test Configuration

Power Meter



Spectrum Analyzer(Only Straddle Channel)



Test Procedure(Power Meter)

The transmitter output is connected to the Power Meter.

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test Procedure (Spectrum Analyzer)

We use the spectrum analyzer's integrated band power measurement function

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW $\geq$ 3 MHz.
5. Number of points in sweep $\geq 2 \times \text{span/RBW}$.
6. Sweep time = auto.
7. Measurement Type or = RMS.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging(RMS) mode
10. Integrated bandwidth = OBW
11. Add $10\log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

Total Power(dBm) = Measured Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.

The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	20.84
UNII 2A	20.84
UNII 2C	20.84
UNII 3	20.84

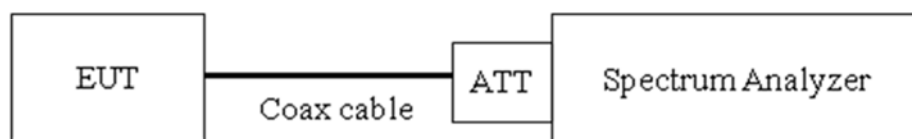
(Actual value of loss for the attenuator and cable combination)

8.4. Power Spectral Density

Limit

Band	Limit
UNII 1	11 dBm/MHz
UNII 2A, 2C	11 dBm/MHz
UNII 3	30 dBm/500 kHz

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
→ For portion within the NII-3 be used RBW 510kHz
3. VBW $\geq$ 3 MHz
4. Number of points in sweep $\geq$ 2 x span/RBW.
5. Sweep time = auto.
6. Measurement Type or = RMS(i.e., power averaging), if available. Otherwise, use sample Measurement Type or mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.

Note:

The RBW was automatically adjusted from 500 kHz to 510 kHz by the Spectrum Analyzer. As the 510 kHz measurement resulted in a Worst value, the 510 kHz measurement result is reported.

Sample Calculation

Total PSD(dBm) = Measured Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.

The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	20.84
UNII 2A	20.84
UNII 2C	20.84
UNII 3	20.84

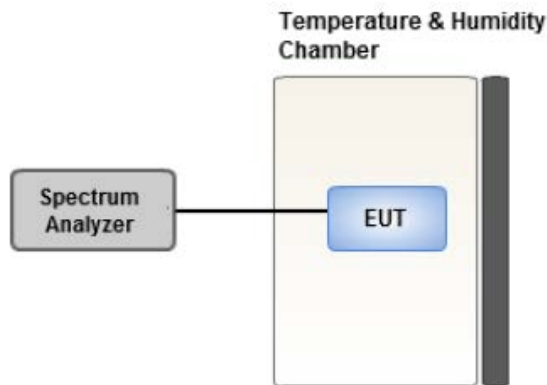
(Actual value of loss for the attenuator and cable combination)

8.5. Frequency Stability

Limit

Maintained within the band

Test Configuration



Test Procedure

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 °C and 50 °C.
2. The temperature was incremented by 10 °C intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.
3. The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

8.6. AC Power line Conducted Emissions

Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56 ^(a)	56 to 46 ^(a)
0.50 to 5	56	46
5 to 30	60	50

^(a)Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

8.7. Radiated Test

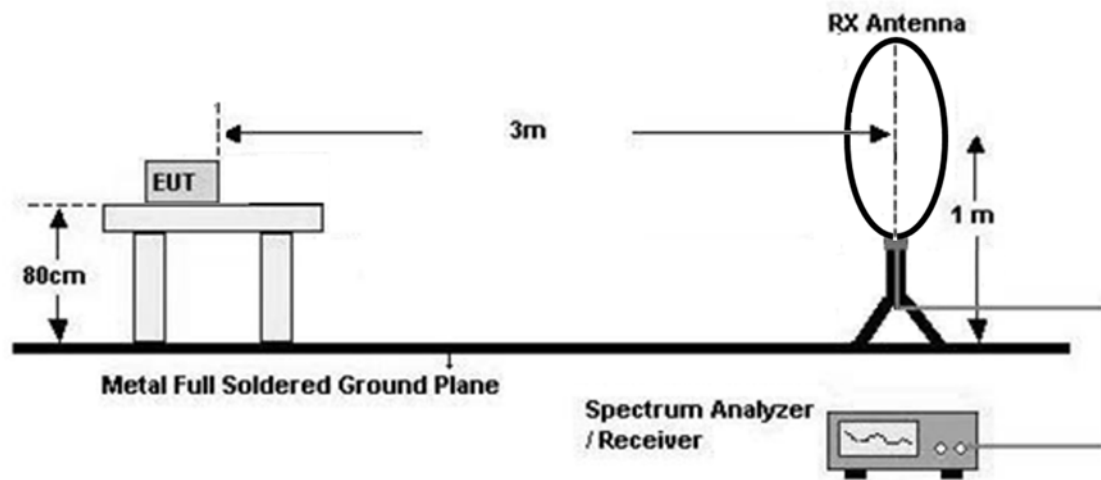
Limit

1. UNII 1 : All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
2. UNII 2A : All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
3. UNII 2C : All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
4. UNII 3: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
5. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Section 15.209.

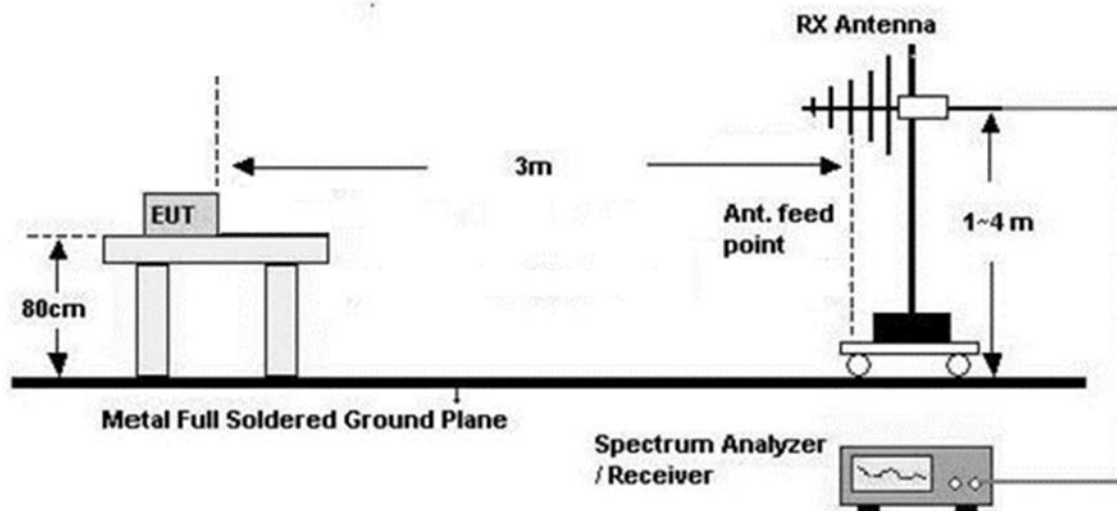
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

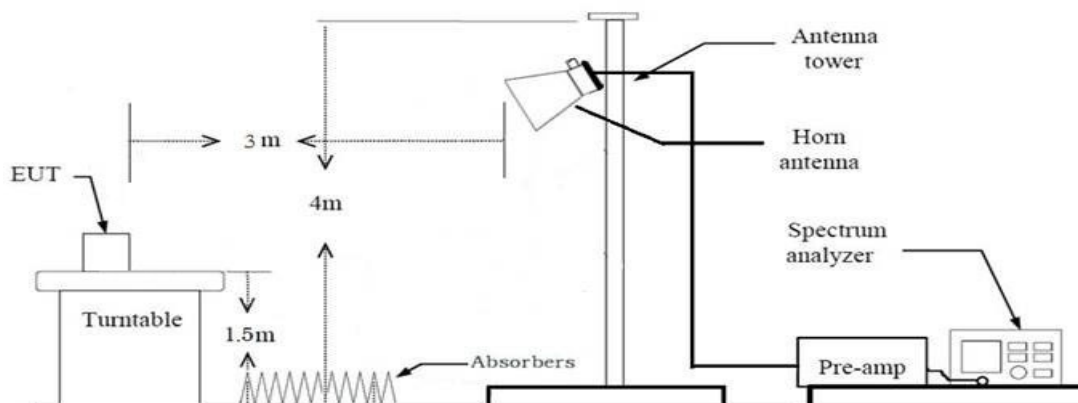
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions (Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = $40\log(3\text{ m}/300\text{ m}) = -80\text{ dB}$
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3\text{ m}/30\text{ m}) = -40\text{ dB}$
Measurement Distance : 3 m
8. Spectrum Analyzer Setting
Measurement Type(Peak) :
 - Frequency Range = 9 kHz ~ 30 MHz
 - Detector = Peak
 - Trace = Max Hold
 - RBW = 9 kHz
 - VBW $\geq 3 \times$ RBW
9. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions (Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Analyzer Setting
 - (1) Measurement Type(Peak) :
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Peak
 - Trace = Max Hold
 - RBW = 100 kHz
 - VBW $\geq 3 \times$ RBW
 - (2) Measurement Type(Quasi-peak) :
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Quasi-Peak
 - RBW = 120 kHz
- ※In general, (1) is used mainly
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Test Procedure of Radiated spurious emissions (Above 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

7. Spectrum Analyzer Setting**(1) Measurement Type (Peak) :**

- RBW = 1 MHz
- VBW $\geq$ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = Max Hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

(2) Measurement Type (Average) :

- RBW = 1 MHz
- VBW(Duty cycle $\geq$ 98 percent) = VBW $\leq$ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = VBW $\geq$ $1/T$, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = Max Hold.
- Allow Max Hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle.

8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor
9. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency
10. Distance extrapolation factor = $20\log(\text{test distance} / \text{specific distance})$ (dB)
11. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G)
+ Distance Factor(D.F)

Test Procedure of Radiated Restricted Band Edge

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

7. Spectrum Analyzer Setting**(1) Measurement Type (Peak) :**

- RBW = 1 MHz
- VBW $\geq$ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = Max Hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

(2) Measurement Type (Average) :

- RBW = 1 MHz
- VBW(Duty cycle $\geq$ 98 percent) = $VBW \leq RBW/100$ (i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is $<$ 98 percent) = $VBW \geq 1/T$, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = Max Hold.
- Allow Max Hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle.

8. Measured Frequency Range :

- 4 500 MHz ~ 5 150 MHz
- 5 350 MHz ~ 5 460 MHz
- 5 460 MHz ~ 5 470 MHz
- (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz

9. Distance extrapolation factor = $20\log(\text{test distance} / \text{specific distance})$ (dB)

10. Total

(1)Measurement(Peak)

= Measured Value(Peak)

(2)Measurement(Avg)

= Measured Value (Avg)

- We apply to the offset in the range 1 GHz - 18 GHz.

- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F) – Amp. Gain(A.G) +
Attenuator (ATT)

Mode	Data Rate (Mbps)	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)	The actual setting value of VBW (Hz)
802.11a	6M	-	-	-	-	1 000
802.11n(HT20)	MCS0	-	-	-	-	1 000
802.11n(HT40)	MCS0	-	-	-	-	1 000
802.11ac(VHT20)	MCS0	-	-	-	-	1 000
802.11ac(VHT40)	MCS0	-	-	-	-	1 000
802.11ac(VHT80)	MCS0	-	-	-	-	1 000

Note:

All tests were performed with a continuous signal

8.8. Worst case configuration and mode

Conducted test

1. All datarate of operation were investigated and the worst case datarate results are reported.
2. All tests were performed with a continuous signal.(Duty Cycle $\geq$ 98%)

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone
2. All Antennas of operation were investigated and the worst case results are reported
 - Antenna Operation Type : SISO, MIMO_CDD(Ant.1+Ant.2), MIMO_SDM(Ant.1+Ant.2)
 - Worstcase : MIMO_CDD(Ant.1+Ant.2)
3. EUT Axis
 - Radiated Spurious Emissions : Y
 - Radiated Restricted Band Edge : X
4. All datarate of operation were investigated and the worst case datarate results are reported.
 - 802.11a : 6 Mbps
 - 802.11n(HT20/40) : MCS0
 - 802.11ac(VHT20/40/80) : MCS0
5. Radiated Spurious Emission
 - All modulations of operation were investigated and the worst case modulation results are reported.
 - Worst-case : 802.11a
6. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
 - Position: Horizontal, Vertical, Parallel to the ground plane
7. All tests were performed with a continuous signal.(Duty Cycle $\geq$ 98%)

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + Notebook Computer
 - Worstcase : Stand alone + Notebook Computer

Radiated test(Simultaneous transmission Scenario)

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone
2. EUT Axis
 - Radiated Spurious Emissions : Y
3. All of Simultaneous transmission Scenario were investigated and the worst case configuration results are reported.

Simultaneous transmission Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	Bluetooth	Test Case
Bluetooth + 2.4 GHz WiFi MIMO	on	on	-	-	-	-	on	Scenario 1
Bluetooth + 5 GHz WiFi MIMO	-	-	on	on	-	-	on	Scenario 2
Bluetooth + 6 GHz WiFi MIMO	-	-	-	-	on	on	on	-
2.4 GHz WiFi SISO + 5 GHz WiFi SISO	-	on	on	-	-	-	-	-
2.4 GHz WiFi SISO + 6 GHz WiFi SISO	-	on	-	-	on	-	-	-
Bluetooth + 2.4 GHz WiFi SISO + 5 GHz WiFi SISO	-	on	on	-	-	-	on	Scenario 3
Bluetooth + 2.4 GHz WiFi SISO + 6 GHz WiFi SISO	-	on	-	-	on	-	on	-

4. The Simultaneous transmission Scenario mode test investigated both intermodulation and radiated spurious emissions.
 - Worst result: Radiated spurious emissions
 - Intermodulation: No signals are generated.

5. The following tables show the worst cases configurations determined during testing.

(Worst case: The lowest margin condition the channels and modes were selected for test.)

Scenario 2	Description	BT Emission	5 GHz Emission
5 GHz WiFi MIMO + BT ANT	Antenna	BT ANT	ANT ALL
	Channel	0	62
	Data Rate	1 Mbps	MCS 0
	Mode	BTLE 1M 37 Bytes	802.11ax[HE40] 26T RU9

Note : Please refer to the [BT LE], [UNII ax] Test Report

Scenario 3	Description	BT Emission	2.4 GHz Emission	5 GHz Emission
2.4 GHz WiFi SISO ANT2 + 5 GHz WiFi SISO ANT1 + BT ANT	Antenna	BT ANT	ANT 2	ANT 1
	Channel	0	11	165
	Data Rate	1 Mbps	1 Mbps	6 Mbps
	Mode	BTLE 1M 37 Bytes	802.11b	802.11a

Note : BT LE Simultaneous transmission Data refer to [BT LE] Test Report

Note : DTS Simultaneous transmission Data refer to [DTS] Test Report

9. SUMMARY OF TEST RESULTS

Test Item	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26 dB Bandwidth	§15.407 (for Power Measurement)	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)(UNII-3)		PASS
Maximum Conducted Output Power	§15.407(a)(1),(2),(3)	< 250 mW(5150-5250 MHz), < 250 mW or 11+10log ₁₀ (BW) dBm (5250-5350 MHz), < 250 mW or 11+10log ₁₀ (BW) dBm (5470-5725 MHz), <1 W (5725-5850 MHz)		PASS
Maximum Power Spectral Density	§15.407(a)(1),(2),(3)	<11 dBm/ MHz (5150-5250 MHz), <11 dBm/ MHz (5250-5350 MHz), <11 dBm/ MHz (5470-5725 MHz), <30 dBm/500 kHz(5725-5850 MHz)		PASS
Frequency Stability	§15.407(g) §2.1055	Maintained within the band		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207 15.407(b)(9)	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b) (1),(2),(3),(4) §15.35(b)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 8.7 (UNII 3)	Radiated	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(9),(10)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

Note:

1. UNII 2A, 2C: TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.
2. The decision rule applies 'simple acceptance'

10. TEST RESULT

10.1 DUTY CYCLE

Mode	Data Rate (Mbps)	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11a	6M	-	-	-	-
802.11n(HT20)	MCS0	-	-	-	-
802.11n(HT40)	MCS0	-	-	-	-
802.11ac(VHT20)	MCS0	-	-	-	-
802.11ac(VHT40)	MCS0	-	-	-	-
802.11ac(VHT80)	MCS0	-	-	-	-

Note:

All tests were performed with a continuous signal

10.2 26 dB Bandwidth & 99% BANDWIDTH

Note:

Straddle channel data in the table below are for reporting purposes only. Straddle channel data were added in section 10.7

[Ant.1]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	25.81	17.265
	5200	40	26.92	17.243
	5240	48	20.34	16.640
UNII2A	5260	52	26.24	17.213
	5300	60	26.78	17.272
	5320	64	25.55	17.255
UNII2C	5500	100	25.32	17.250
	5600	120	24.36	17.205
	5720	144	24.60	17.206
UNII3	5745	149	26.15	17.203
	5785	157	26.31	17.211
	5825	165	26.36	17.258

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	28.18	18.360
	5200	40	29.08	18.370
	5240	48	20.36	17.629
UNII2A	5260	52	26.92	18.360
	5300	60	25.80	18.307
	5320	64	25.73	18.268
UNII2C	5500	100	29.94	18.308
	5600	120	26.48	18.269
	5720	144	25.99	18.321
UNII3	5745	149	26.11	18.314
	5785	157	26.29	18.320
	5825	165	26.35	18.400

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	26.46	18.302
	5200	40	29.07	18.315
	5240	48	20.33	17.650
UNII2A	5260	52	27.24	18.326
	5300	60	27.73	18.328
	5320	64	26.72	18.297
UNII2C	5500	100	27.50	18.401
	5600	120	26.24	18.327
	5720	144	29.30	18.350
UNII3	5745	149	27.04	18.366
	5785	157	27.51	18.366
	5825	165	26.56	18.269

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.34	36.049
	5230	46	40.54	35.919
UNII2A	5270	54	40.61	36.060
	5310	62	40.57	35.908
UNII2C	5510	102	40.28	35.944
	5590	118	40.70	35.943
	5710	142	40.37	35.936
UNII3	5755	151	40.71	35.929
	5795	159	40.47	35.983

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.22	35.930
	5230	46	40.50	36.015
UNII2A	5270	54	40.72	35.930
	5310	62	40.57	35.977
UNII2C	5510	102	40.84	35.962
	5590	118	40.54	36.019
	5710	142	40.44	35.888
UNII3	5755	151	40.61	35.998
	5795	159	40.35	35.906

Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5210	42	79.96	74.990
UNII2A	5290	58	80.06	75.031
UNII2C	5530	106	80.00	74.948
	5610	122	80.27	75.100
	5690	138	79.95	75.036
UNII3	5775	155	79.90	74.981

[Ant.2]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	26.43	17.284
	5200	40	29.28	17.427
	5240	48	20.10	16.627
UNII2A	5260	52	27.46	17.334
	5300	60	24.98	17.342
	5320	64	27.99	17.304
UNII2C	5500	100	27.23	17.333
	5600	120	26.32	17.242
	5720	144	24.50	17.252
UNII3	5745	149	26.64	17.322
	5785	157	26.35	17.246
	5825	165	27.88	17.278

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	26.71	18.380
	5200	40	27.44	18.413
	5240	48	20.50	17.678
UNII2A	5260	52	27.61	18.361
	5300	60	25.98	18.359
	5320	64	25.99	18.352
UNII2C	5500	100	28.57	18.405
	5600	120	26.09	18.382
	5720	144	26.08	18.391
UNII3	5745	149	28.43	18.337
	5785	157	27.08	18.360
	5825	165	26.39	18.446

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5180	36	26.56	18.412
	5200	40	25.74	18.434
	5240	48	20.31	17.689
UNII2A	5260	52	27.75	18.300
	5300	60	26.31	18.223
	5320	64	26.87	18.452
UNII2C	5500	100	27.34	18.404
	5600	120	27.80	18.329
	5720	144	26.81	18.343
UNII3	5745	149	27.84	18.455
	5785	157	26.07	18.404
	5825	165	27.62	18.364

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.71	36.016
	5230	46	40.12	35.985
UNII2A	5270	54	40.59	35.956
	5310	62	40.40	36.027
UNII2C	5510	102	39.91	35.992
	5590	118	40.83	35.986
	5710	142	40.68	35.961
UNII3	5755	151	40.51	36.020
	5795	159	40.88	35.992

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5190	38	40.41	36.003
	5230	46	40.28	35.959
UNII2A	5270	54	40.59	36.012
	5310	62	40.61	35.975
UNII2C	5510	102	40.50	36.008
	5590	118	40.74	35.991
	5710	142	40.49	36.041
UNII3	5755	151	40.52	35.970
	5795	159	40.62	36.024

Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	26 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]
UNII1	5210	42	80.18	74.995
UNII2A	5290	58	80.17	74.990
UNII2C	5530	106	80.12	74.998
	5610	122	80.41	74.996
	5690	138	79.92	74.991
UNII3	5775	155	79.90	74.967

Test Plots

Note: In order to simplify the report, attached plots were only the widest channel per channel bandwidth.

[ANT. 1]

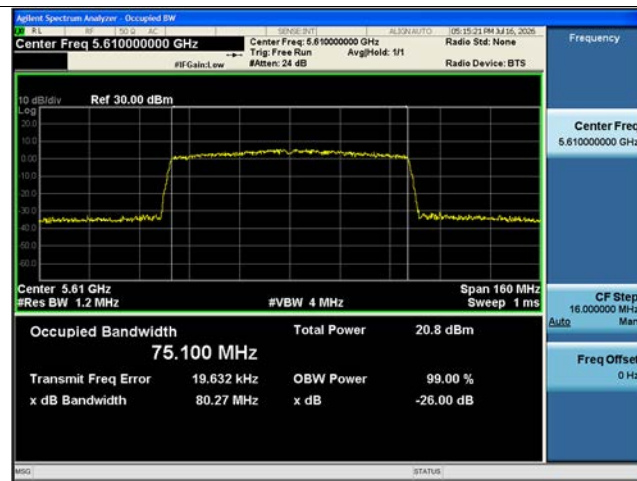
Bandwidth 20M, 802.11n(HT20) Ch.100



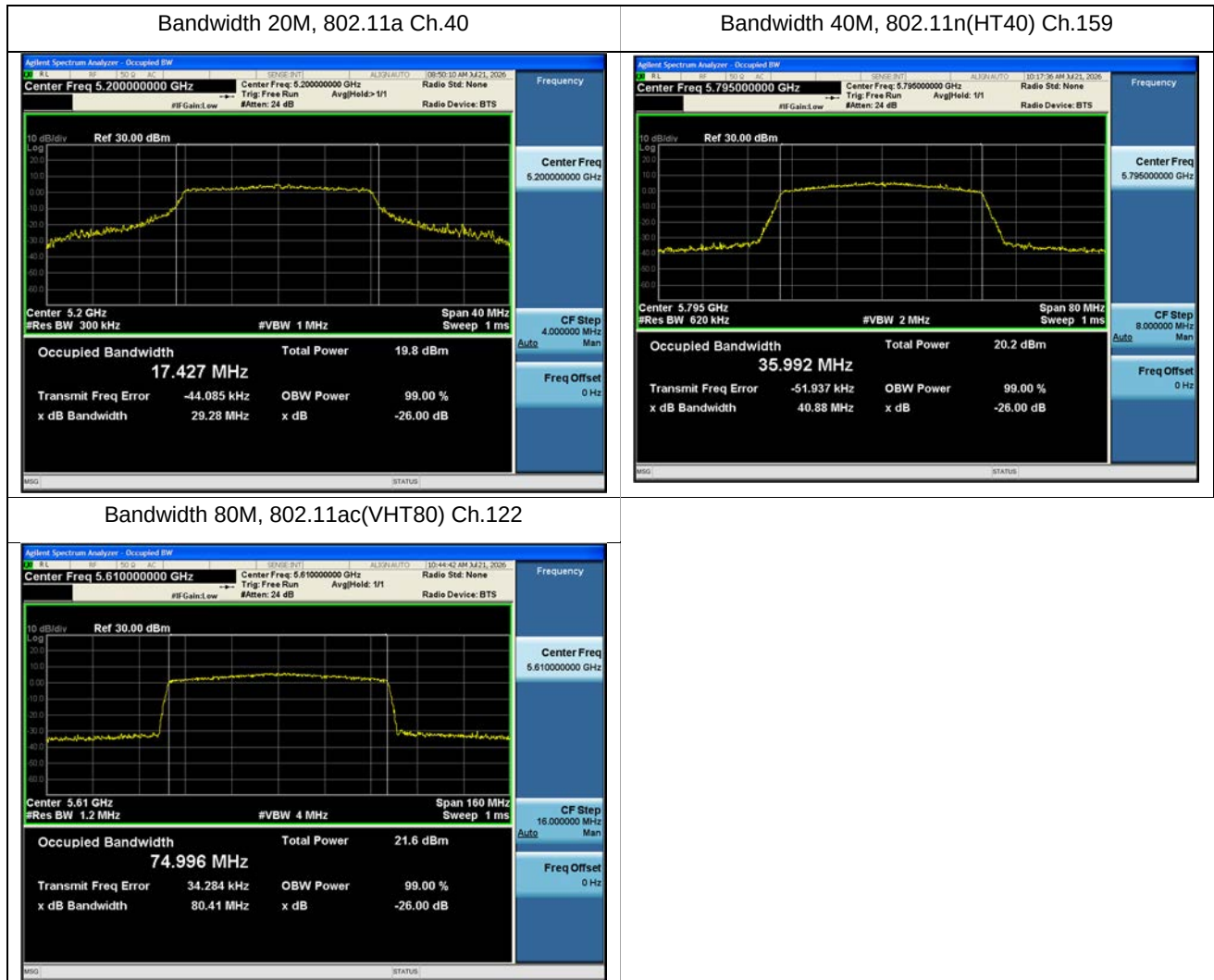
Bandwidth 40M, 802.11ac(VHT40) Ch.102



Bandwidth 80M, 802.11ac(VHT80) Ch.122



[ANT. 2]



10.3 6 dB BANDWIDTH

[Ant.1]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	16.52	> 0.5
	5785	157	16.50	> 0.5
	5825	165	16.55	> 0.5

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.76	> 0.5
	5785	157	17.73	> 0.5
	5825	165	17.71	> 0.5

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.76	> 0.5
	5785	157	17.73	> 0.5
	5825	165	17.78	> 0.5

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.46	> 0.5
	5795	159	35.05	> 0.5

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	35.64	> 0.5
	5795	159	35.07	> 0.5

Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5775	155	72.03	> 0.5

[Ant.2]

Mode : 802.11a				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	16.47	> 0.5
	5785	157	16.52	> 0.5
	5825	165	16.52	> 0.5

Mode : 802.11n(HT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.79	> 0.5
	5785	157	17.77	> 0.5
	5825	165	17.76	> 0.5

Mode : 802.11ac(VHT20)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5745	149	17.71	> 0.5
	5785	157	17.70	> 0.5
	5825	165	17.62	> 0.5

Mode : 802.11n(HT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	30.69	> 0.5
	5795	159	28.45	> 0.5

Mode : 802.11ac(VHT40)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5755	151	30.01	> 0.5
	5795	159	29.68	> 0.5

Mode : 802.11ac(VHT80)				
BAND	Freq. [MHz]	CH.	6 dB Bandwidth [MHz]	Limit [MHz]
UNII3	5775	155	60.30	> 0.5

Test Plots

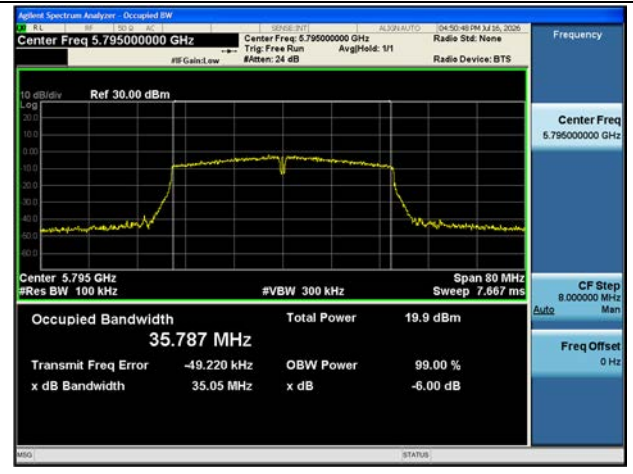
Note: In order to simplify the report, attached plots were only the narrowest channel.

[ANT. 1]

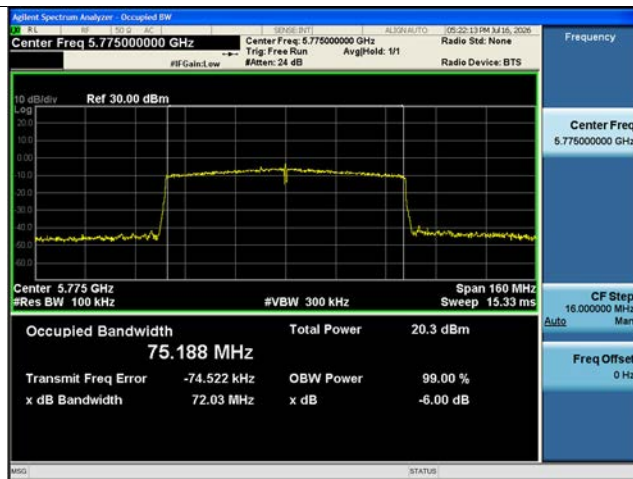
Bandwidth 20M, 802.11a Ch.157



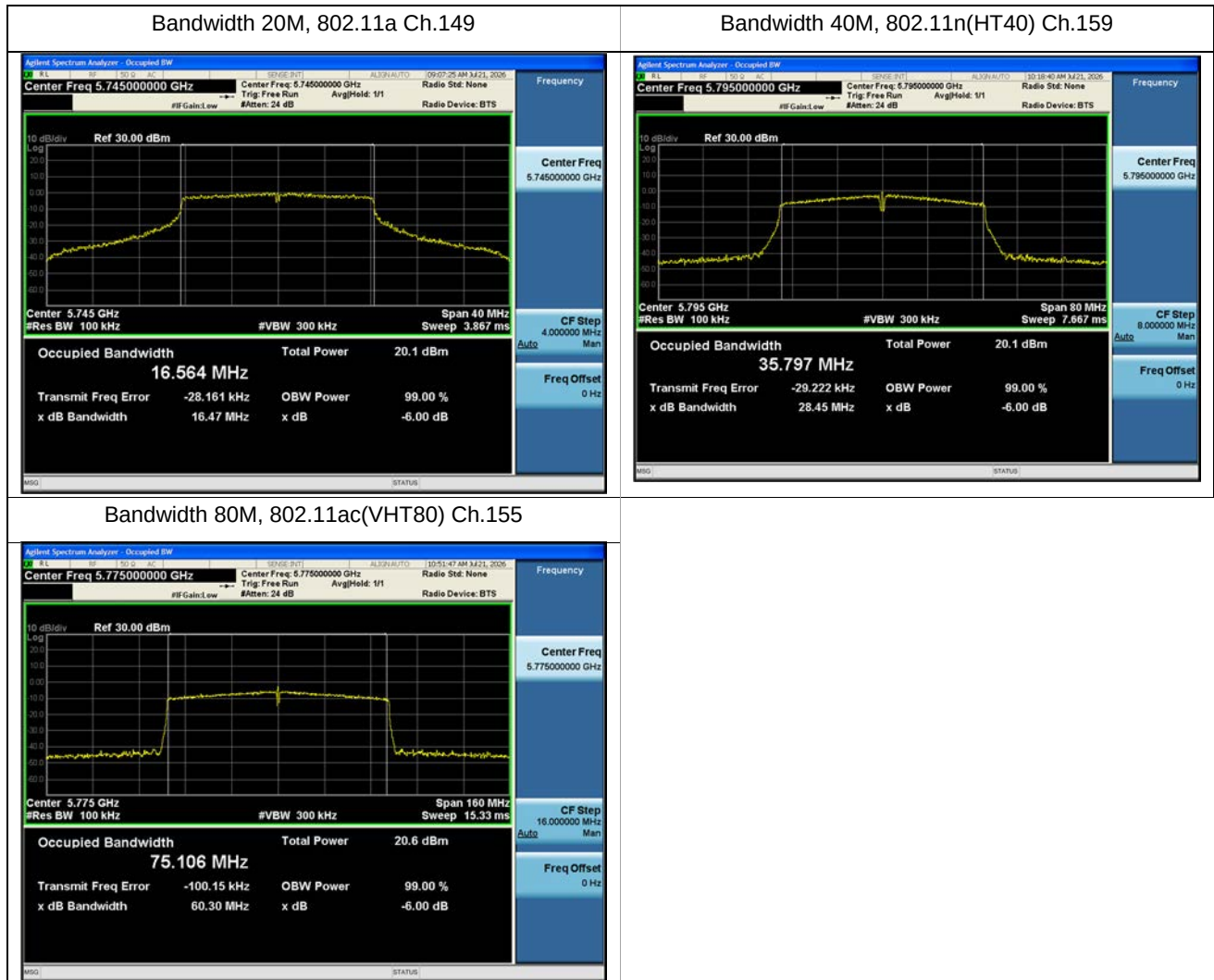
Bandwidth 40M, 802.11n(HT40) Ch.159



Bandwidth 80M, 802.11ac(VHT80) Ch.155



[ANT. 2]



10.4 OUTPUT POWER MEASUREMENT

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.7

Note:

1. Limit

- UNII 1 : 23.98 dBm
- UNII 2A, 2C : 23.98 dBm or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz
- UNII 3 : 30.00 dBm

2. MIMO Total Power [dBm] = Ant.1 Total Power [dBm] + Ant.2 Total Power [dBm]

10.4.1 MIMO_CDD(Ant.1+Ant.2)

Mode : 802.11a							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5180	36	6M	12.68	12.82	15.76	23.98
	5200	40	6M	12.78	13.07	15.94	23.98
	5240	48	6M	12.62	13.22	15.94	23.98
UNII2A	5260	52	6M	13.04	13.84	16.47	23.98
	5300	60	6M	12.94	13.61	16.30	23.98
	5320	64	6M	12.90	13.98	16.48	23.98
UNII2C	5500	100	6M	12.79	13.83	16.35	23.98
	5600	120	6M	12.86	13.34	16.12	23.98
	5720	144	6M	13.75	14.09	16.93	23.98
UNII3	5745	149	6M	13.44	13.63	16.55	30.00
	5785	157	6M	13.14	13.39	16.28	30.00
	5825	165	6M	12.81	13.28	16.06	30.00

Mode : 802.11n(HT20)							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5180	36	MCS0	12.51	13.04	15.79	23.98
	5200	40	MCS0	12.70	13.03	15.88	23.98
	5240	48	MCS0	12.93	13.17	16.06	23.98
UNII2A	5260	52	MCS0	13.03	13.72	16.40	23.98
	5300	60	MCS0	12.91	14.11	16.56	23.98
	5320	64	MCS0	12.85	13.60	16.25	23.98
UNII2C	5500	100	MCS0	12.71	13.67	16.23	23.98
	5600	120	MCS0	12.89	13.19	16.05	23.98
	5720	144	MCS0	13.84	14.11	16.99	23.98
UNII3	5745	149	MCS0	13.46	13.53	16.51	30.00
	5785	157	MCS0	13.01	13.30	16.17	30.00
	5825	165	MCS0	12.82	13.11	15.98	30.00

Mode : 802.11ac(VHT20)							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5180	36	MCS0	12.65	12.75	15.71	23.98
	5200	40	MCS0	12.60	12.77	15.70	23.98
	5240	48	MCS0	12.96	12.96	15.97	23.98
UNII2A	5260	52	MCS0	12.96	13.71	16.36	23.98
	5300	60	MCS0	12.93	13.85	16.42	23.98
	5320	64	MCS0	12.85	13.98	16.46	23.98
UNII2C	5500	100	MCS0	12.62	13.43	16.05	23.98
	5600	120	MCS0	12.70	13.09	15.91	23.98
	5720	144	MCS0	13.81	13.82	16.83	23.98
UNII3	5745	149	MCS0	13.49	13.33	16.42	30.00
	5785	157	MCS0	13.06	13.12	16.10	30.00
	5825	165	MCS0	12.76	12.95	15.87	30.00

Mode : 802.11n(HT40)							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5190	38	MCS0	12.79	13.18	16.00	23.98
	5230	46	MCS0	12.93	13.57	16.27	23.98
UNII2A	5270	54	MCS0	12.57	13.42	16.03	23.98
	5310	62	MCS0	12.64	13.83	16.29	23.98
UNII2C	5510	102	MCS0	12.48	13.26	15.90	23.98
	5590	118	MCS0	12.46	12.80	15.64	23.98
	5710	142	MCS0	13.47	13.68	16.59	23.98
UNII3	5755	151	MCS0	13.44	13.45	16.46	30.00
	5795	159	MCS0	13.10	13.18	16.15	30.00

Mode : 802.11ac(VHT40)							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5190	38	MCS0	12.65	13.10	15.89	23.98
	5230	46	MCS0	13.08	13.02	16.06	23.98
UNII2A	5270	54	MCS0	12.55	13.58	16.11	23.98
	5310	62	MCS0	12.54	13.70	16.17	23.98
UNII2C	5510	102	MCS0	12.36	13.24	15.83	23.98
	5590	118	MCS0	12.45	12.71	15.59	23.98
	5710	142	MCS0	13.41	13.57	16.50	23.98
UNII3	5755	151	MCS0	13.48	13.47	16.49	30.00
	5795	159	MCS0	13.07	13.03	16.06	30.00

Mode : 802.11ac(VHT80)							
BAND	Freq. [MHz]	CH.	Datarate	Total Average Power [dBm]			Limit
				ANT1	ANT2	MIMO	[dBm]
UNII1	5210	42	MCS0	12.04	12.36	15.21	23.98
UNII2A	5290	58	MCS0	12.02	12.61	15.34	23.98
UNII2C	5530	106	MCS0	12.48	13.53	16.05	23.98
	5610	122	MCS0	12.68	12.89	15.80	23.98
	5690	138	MCS0	13.87	13.31	16.61	23.98
UNII3	5775	155	MCS0	13.33	13.01	16.18	30.00

10.5 POWER SPECTRAL DENSITY

Note :

1. U-NII 3 Measured PSD, Total PSD Unit : [dBm/500kHz]
2. MIMO Total PSD [dBm/MHz] = Ant.1 Total PSD [dBm/MHz] + Ant.2 Total PSD [dBm/MHz]
3. Limit
 - UNII 1, 2A, 2C : 11 dBm/MHz
 - UNII 3 : 30 dBm / 500kHz

10.5.1 MIMO_CDD(Ant.1+Ant.2)

Mode : 802.11a							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit [dBm/MHz]
				ANT1	ANT2	MIMO	
UNII1	5180	36	6M	2.033	1.642	4.852	11.00
	5200	40	6M	1.802	1.851	4.837	11.00
	5240	48	6M	1.659	2.106	4.899	11.00
UNII2A	5260	52	6M	2.211	3.287	5.793	11.00
	5300	60	6M	2.137	3.035	5.619	11.00
	5320	64	6M	2.241	3.171	5.741	11.00
UNII2C	5500	100	6M	1.862	2.989	5.472	11.00
	5600	120	6M	2.090	2.678	5.404	11.00
	5720	144	6M	2.579	3.402	6.020	11.00
UNII3	5745	149	6M	-0.435	-0.118	2.737	30 dBm/500kHz
	5785	157	6M	-0.874	-0.254	2.457	30 dBm/500kHz
	5825	165	6M	-0.972	0.025	2.565	30 dBm/500kHz

Mode : 802.11n(HT20)							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit [dBm/MHz]
				ANT1	ANT2	MIMO	
UNII1	5180	36	MCS0	1.303	2.282	4.830	11.00
	5200	40	MCS0	1.534	2.294	4.941	11.00
	5240	48	MCS0	1.967	1.982	4.985	11.00
UNII2A	5260	52	MCS0	1.827	2.507	5.191	11.00
	5300	60	MCS0	1.900	2.965	5.475	11.00
	5320	64	MCS0	1.859	2.535	5.220	11.00
UNII2C	5500	100	MCS0	1.591	2.477	5.067	11.00
	5600	120	MCS0	1.914	2.213	5.076	11.00
	5720	144	MCS0	2.668	3.111	5.905	11.00
UNII3	5745	149	MCS0	-0.447	0.240	2.920	30 dBm/500kHz
	5785	157	MCS0	-0.768	0.148	2.724	30 dBm/500kHz
	5825	165	MCS0	-1.034	-0.209	2.408	30 dBm/500kHz

Mode : 802.11ac(VHT20)							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit
				ANT1	ANT2	MIMO	[dBm/MHz]
UNII1	5180	36	MCS0	1.446	1.447	4.457	11.00
	5200	40	MCS0	1.435	1.967	4.719	11.00
	5240	48	MCS0	1.852	2.091	4.983	11.00
UNII2A	5260	52	MCS0	1.679	2.798	5.285	11.00
	5300	60	MCS0	1.730	2.754	5.282	11.00
	5320	64	MCS0	1.564	2.781	5.225	11.00
UNII2C	5500	100	MCS0	1.386	2.390	4.927	11.00
	5600	120	MCS0	1.904	2.052	4.989	11.00
	5720	144	MCS0	2.783	2.711	5.757	11.00
UNII3	5745	149	MCS0	-0.399	-0.695	2.466	30 dBm/500kHz
	5785	157	MCS0	-0.778	-1.000	2.123	30 dBm/500kHz
	5825	165	MCS0	-1.014	-1.249	1.880	30 dBm/500kHz

Mode : 802.11n(HT40)							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit
				ANT1	ANT2	MIMO	[dBm/MHz]
UNII1	5190	38	MCS0	-0.609	-0.461	2.476	11.00
	5230	46	MCS0	0.137	0.048	3.103	11.00
UNII2A	5270	54	MCS0	-0.973	-0.003	2.549	11.00
	5310	62	MCS0	-0.851	0.226	2.731	11.00
UNII2C	5510	102	MCS0	-0.946	-0.356	2.369	11.00
	5590	118	MCS0	-0.644	-0.521	2.428	11.00
	5710	142	MCS0	0.305	0.141	3.234	11.00
UNII3	5755	151	MCS0	-2.679	-1.819	0.783	30 dBm/500kHz
	5795	159	MCS0	-3.003	-2.984	0.017	30 dBm/500kHz

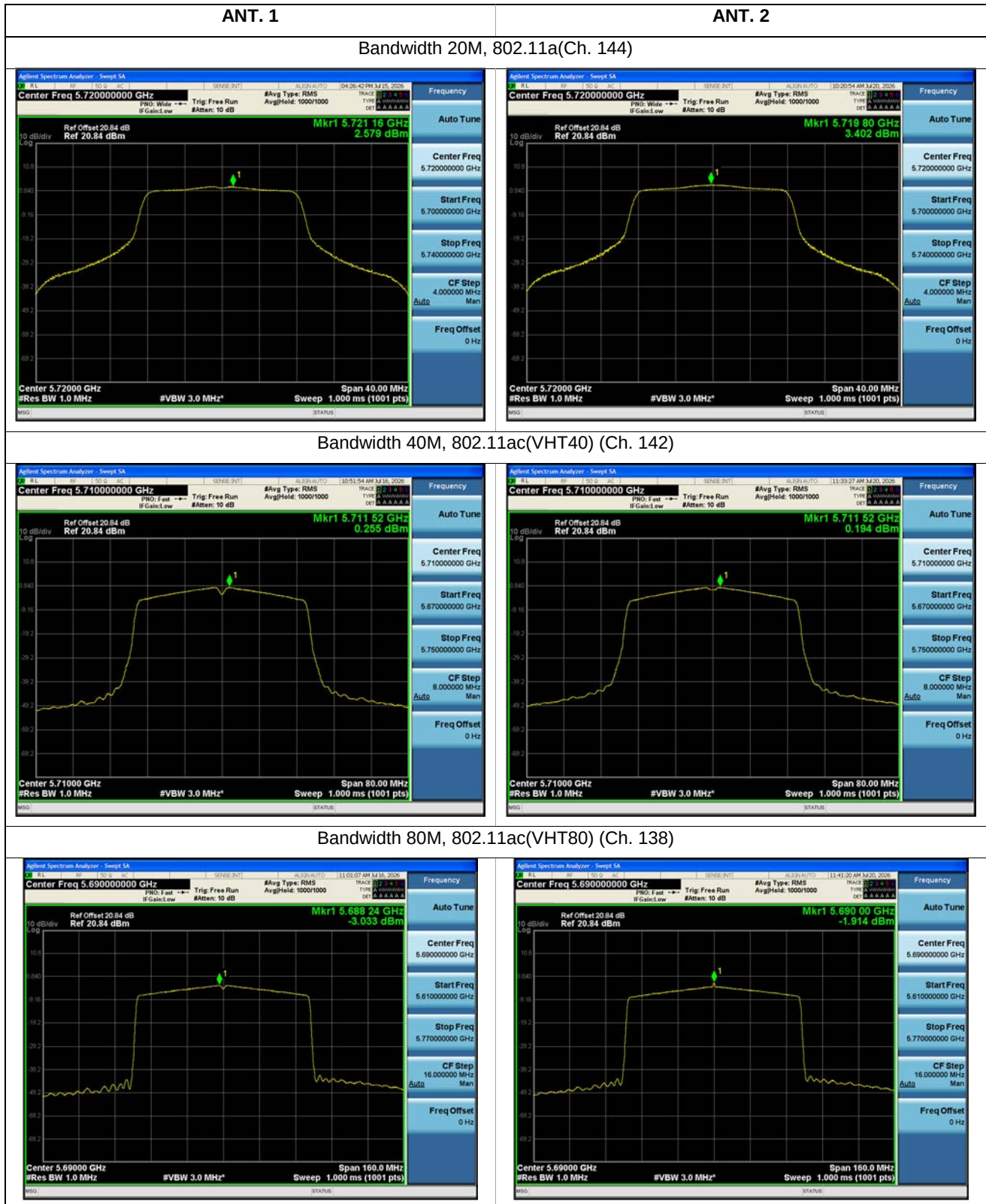
Mode : 802.11ac(VHT40)							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit
				ANT1	ANT2	MIMO	[dBm/MHz]
UNII1	5190	38	MCS0	-0.617	-0.319	2.545	11.00
	5230	46	MCS0	-0.312	-0.423	2.643	11.00
UNII2A	5270	54	MCS0	-0.658	-0.080	2.651	11.00
	5310	62	MCS0	-0.588	0.185	2.826	11.00
UNII2C	5510	102	MCS0	-0.908	-0.217	2.462	11.00
	5590	118	MCS0	-0.595	-0.425	2.501	11.00
	5710	142	MCS0	0.255	0.194	3.235	11.00
UNII3	5755	151	MCS0	-2.688	-2.059	0.648	30 dBm/500kHz
	5795	159	MCS0	-2.921	-2.928	0.086	30 dBm/500kHz

Mode : 802.11ac(VHT80)							
BAND	Freq. [MHz]	CH.	Datarate	Total Power Spectral Density [dBm/MHz] Note.1			Limit
				ANT1	ANT2	MIMO	[dBm/MHz]
UNII1	5210	42	MCS0	-4.841	-4.421	-1.616	11.00
UNII2A	5290	58	MCS0	-5.183	-2.440	-0.588	11.00
UNII2C	5530	106	MCS0	-4.248	-2.766	-0.434	11.00
	5610	122	MCS0	-4.176	-2.175	-0.051	11.00
	5690	138	MCS0	-3.033	-1.914	0.573	11.00
UNII3	5775	155	MCS0	-6.214	-4.759	-2.416	30 dBm/500kHz

Test Plots

Note: In order to simplify the report, attached plots were only channel of the highest PSD.

[MIMO_CDD(Ant.1+ Ant.2)]



10.6 FREQUENCY STABILITY

Note:

1. All modes of operation were investigated and the worst case configuration results are reported.
2. Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

10.6.1 802.11ac 80 MHz BW

REFERENCE VOLTAGE: 3.30 VDC

Startup after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100 %	3.30	+20	5210024.72	24.72	5290025.01	25.01	5530023.45	23.45
100 %		-30	5210007.28	7.28	5290008.41	8.41	5530011.01	11.01
100 %		-20	5210013.06	13.06	5290014.29	14.29	5530012.49	12.49
100 %		-10	5210019.17	19.17	5290010.23	10.23	5530019.34	19.34
100 %		0	5210021.29	21.29	5290027.26	27.26	5530024.20	24.20
100 %		+10	5210033.53	33.53	5290030.96	30.96	5530032.83	32.83
100 %		+30	5210043.48	43.48	5290046.79	46.79	5530040.48	40.48
100 %		+40	5210041.38	41.38	5290045.42	45.42	5530045.32	45.32
100 %		+50	5210054.50	54.50	5290052.29	52.29	5530058.62	58.62
High	3.60	+20	5210054.06	54.06	5290053.78	53.78	5530059.77	59.77
Low	3.135	+20	5210053.84	53.84	5290057.53	57.53	5530051.19	51.19

OPERATING BAND:			UNII Band 3	
OPERATING FREQUENCY:			5,775,000,000 Hz	
CHANNEL:			155	
Voltage	Power	Temp.	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)
100 %	3.30	+20	5775027.97	27.97
100 %		-30	5775012.73	12.73
100 %		-20	5775013.53	13.53
100 %		-10	5775011.53	11.53
100 %		0	5775029.23	29.23
100 %		+10	5775038.12	38.12
100 %		+30	5775044.89	44.89
100 %		+40	5775042.69	42.69
100 %		+50	5775051.37	51.37
High	3.60	+20	5775057.00	57.00
Low	3.135	+20	5775058.85	58.85

2 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100 %	3.30	+20	5210029.22	29.22	5290027.19	27.19	5530029.71	29.71
100 %		-30	5210014.81	14.81	5290012.70	12.70	5530013.81	13.81
100 %		-20	5210014.54	14.54	5290014.32	14.32	5530013.35	13.35
100 %		-10	5210011.58	11.58	5290011.70	11.70	5530011.58	11.58
100 %		0	5210029.05	29.05	5290028.12	28.12	5530020.45	20.45
100 %		+10	5210036.19	36.19	5290031.83	31.83	5530039.69	39.69
100 %		+30	5210045.47	45.47	5290049.42	49.42	5530040.84	40.84
100 %		+40	5210048.02	48.02	5290045.23	45.23	5530046.81	46.81
100 %		+50	5210052.51	52.51	5290058.41	58.41	5530050.34	50.34
High	3.60	+20	5210059.43	59.43	5290053.38	53.38	5530057.53	57.53
Low	3.135	+20	5210056.50	56.50	5290052.65	52.65	5530050.18	50.18

OPERATING BAND:			UNII Band 3	
OPERATING FREQUENCY:			5,775,000,000 Hz	
CHANNEL:			155	
Voltage	Power	Temp.	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)
100 %	3.30	+20	5775021.77	21.77
100 %		-30	5775007.80	7.80
100 %		-20	5775012.30	12.30
100 %		-10	5775017.90	17.90
100 %		0	5775026.29	26.29
100 %		+10	5775032.45	32.45
100 %		+30	5775048.41	48.41
100 %		+40	5775046.04	46.04
100 %		+50	5775050.94	50.94
High	3.60	+20	5775051.64	51.64
Low	3.135	+20	5775055.43	55.43

5 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100 %	3.30	+20	5210027.90	27.90	5290023.30	23.30	5530027.07	27.07
100 %		-30	5210007.81	7.81	5290011.75	11.75	5530009.13	9.13
100 %		-20	5210014.29	14.29	5290013.50	13.50	5530012.60	12.60
100 %		-10	5210011.73	11.73	5290012.35	12.35	5530016.46	16.46
100 %		0	5210029.59	29.59	5290023.56	23.56	5530025.61	25.61
100 %		+10	5210039.96	39.96	5290034.45	34.45	5530034.44	34.44
100 %		+30	5210047.99	47.99	5290048.69	48.69	5530047.20	47.20
100 %		+40	5210044.83	44.83	5290041.57	41.57	5530048.75	48.75
100 %		+50	5210059.83	59.83	5290057.93	57.93	5530050.60	50.60
High	3.60	+20	5210056.35	56.35	5290057.19	57.19	5530052.18	52.18
Low	3.135	+20	5210059.46	59.46	5290055.16	55.16	5530053.88	53.88

OPERATING BAND:			UNII Band 3	
OPERATING FREQUENCY:			5,775,000,000 Hz	
CHANNEL:			155	
Voltage	Power	Temp.	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)
100 %	3.30	+20	5775028.85	28.85
100 %		-30	5775008.19	8.19
100 %		-20	5775013.73	13.73
100 %		-10	5775013.76	13.76
100 %		0	5775024.76	24.76
100 %		+10	5775036.12	36.12
100 %		+30	5775049.78	49.78
100 %		+40	5775048.96	48.96
100 %		+50	5775053.94	53.94
High	3.60	+20	5775057.24	57.24
Low	3.135	+20	5775057.76	57.76

10 minutes after the EUT is energized

OPERATING BAND:			UNII Band 1		UNII Band 2A		UNII Band 2C	
OPERATING FREQUENCY:			5,210,000,000 Hz		5,290,000,000 Hz		5,530,000,000 Hz	
CHANNEL:			42		58		106	
Voltage	Power	Temp.	Frequency	Frequency Error	Frequency	Frequency Error	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)	(kHz)
100 %	3.30	+20	5210020.58	20.58	5290020.80	20.80	5530021.76	21.76
100 %		-30	5210009.52	9.52	5290009.59	9.59	5530011.06	11.06
100 %		-20	5210010.41	10.41	5290014.38	14.38	5530010.94	10.94
100 %		-10	5210013.94	13.94	5290017.28	17.28	5530015.32	15.32
100 %		0	5210029.58	29.58	5290029.10	29.10	5530020.39	20.39
100 %		+10	5210039.75	39.75	5290031.98	31.98	5530034.11	34.11
100 %		+30	5210045.02	45.02	5290049.33	49.33	5530042.19	42.19
100 %		+40	5210043.73	43.73	5290045.31	45.31	5530047.96	47.96
100 %		+50	5210055.13	55.13	5290058.69	58.69	5530052.50	52.50
High	3.60	+20	5210055.06	55.06	5290050.48	50.48	5530055.22	55.22
Low	3.135	+20	5210055.54	55.54	5290056.81	56.81	5530059.93	59.93

OPERATING BAND:			UNII Band 3	
OPERATING FREQUENCY:			5,775,000,000 Hz	
CHANNEL:			155	
Voltage	Power	Temp.	Frequency	Frequency Error
(%)	(VDC)	(°C)	(kHz)	(kHz)
100 %	3.30	+20	5775024.12	24.12
100 %		-30	5775009.22	9.22
100 %		-20	5775011.95	11.95
100 %		-10	5775016.06	16.06
100 %		0	5775026.35	26.35
100 %		+10	5775031.53	31.53
100 %		+30	5775047.25	47.25
100 %		+40	5775046.04	46.04
100 %		+50	5775059.79	59.79
High	3.60	+20	5775054.71	54.71
Low	3.135	+20	5775059.96	59.96

10.7 STRADDLE CHANNEL

Test Description	Note
26 dB Bandwidth	1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz] 2. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz
Output Power	1. Limit(UNII2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.) 2. Limit(UNII 3) : 30.00 dBm
Power Spectral Density	1. Limit(UNII 2C) : 11.0 dBm/MHz 2. Limit(UNII 3) : 30.0 dBm/500kHz

[ANT. 1]

Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11a	UNII2C	5720	144	17.68	13.29	23.47	3.535	11
802.11n(HT20)				18.20	13.23	23.60	3.241	11
802.11ac(VHT20)				18.16	13.11	23.59	3.138	11
802.11a	UNII3	5720	144	7.48	6.34	30.00	-0.918	30 dBm/500kHz
802.11n(HT20)				7.60	6.86	30.00	-1.261	30 dBm/500kHz
802.11ac(VHT20)				8.72	6.70	30.00	-1.173	30 dBm/500kHz

Mode	Band	Freq. [MHz]	Channel	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11n(HT40)	UNII2C	5710	142	35.24	13.43	23.98	0.592	11
802.11ac(VHT40)				35.48	13.23	23.98	0.549	11
802.11n(HT40)	UNII3	5710	142	5.00	0.34	30.00	-6.732	30 dBm/500kHz
802.11ac(VHT40)				5.08	0.18	30.00	-6.861	30 dBm/500kHz

Mode	Band	Freq. [MHz]	Channel	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11ac(VHT80)	UNII2C	5690	138	75.00	13.56	23.98	-2.798	11
802.11ac(VHT80)	UNII3	5690	138	5.00	-2.22	30.00	-9.752	30 dBm/500kHz

[ANT. 2]

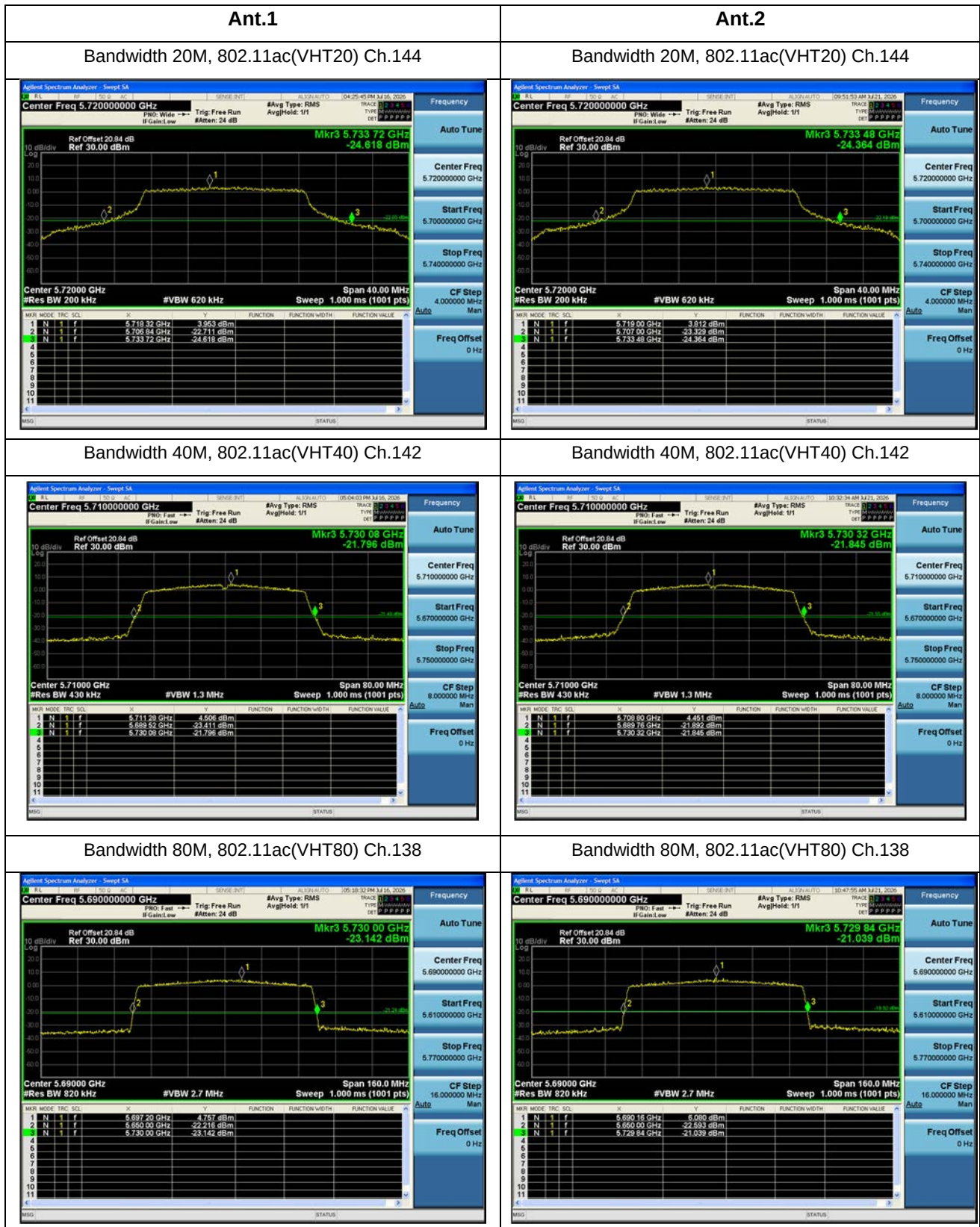
Mode	Band	Freq. [MHz]	CH.	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11a	UNII2C	5720	144	18.08	13.14	23.57	3.315	11
802.11n(HT20)				17.68	13.00	23.47	3.093	11
802.11ac(VHT20)				18.00	13.07	23.55	3.289	11
802.11a	UNII3	5720	144	8.12	6.21	30.00	-1.075	30 dBm/500kHz
802.11n(HT20)				7.72	6.65	30.00	-1.201	30 dBm/500kHz
802.11ac(VHT20)				8.48	6.69	30.00	-1.259	30 dBm/500kHz

Mode	Band	Freq. [MHz]	Channel	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11n(HT40)	UNII2C	5710	142	35.16	13.48	23.98	0.644	11
802.11ac(VHT40)				35.24	13.41	23.98	0.619	11
802.11n(HT40)	UNII3	5710	142	5.08	0.44	30.00	-6.782	30 dBm/500kHz
802.11ac(VHT40)				5.32	0.34	30.00	-6.856	30 dBm/500kHz

Mode	Band	Freq. [MHz]	Channel	26dB BW [MHz]	Total Power [dBm]	Limit [dBm]	Total PSD [dBm]	Limit [dBm/MHz]
802.11ac(VHT80)	UNII2C	5690	138	75.00	13.62	23.98	-1.995	11
802.11ac(VHT80)	UNII3	5690	138	4.84	-2.10	30.00	-9.458	30 dBm/500kHz

Test Plots (26 dB Bandwidth)

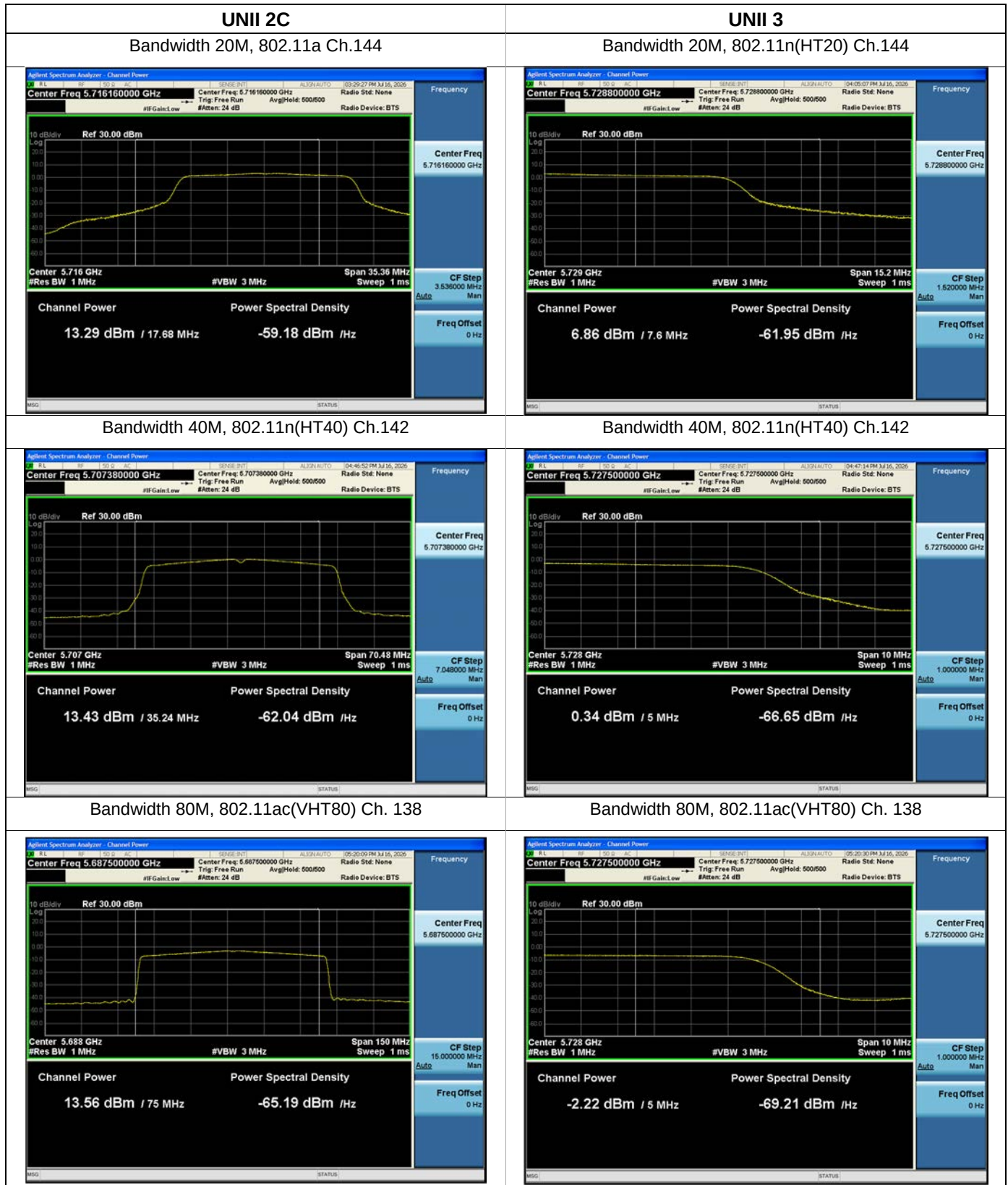
Note: In order to simplify the report, attached plots were only the widest channel.



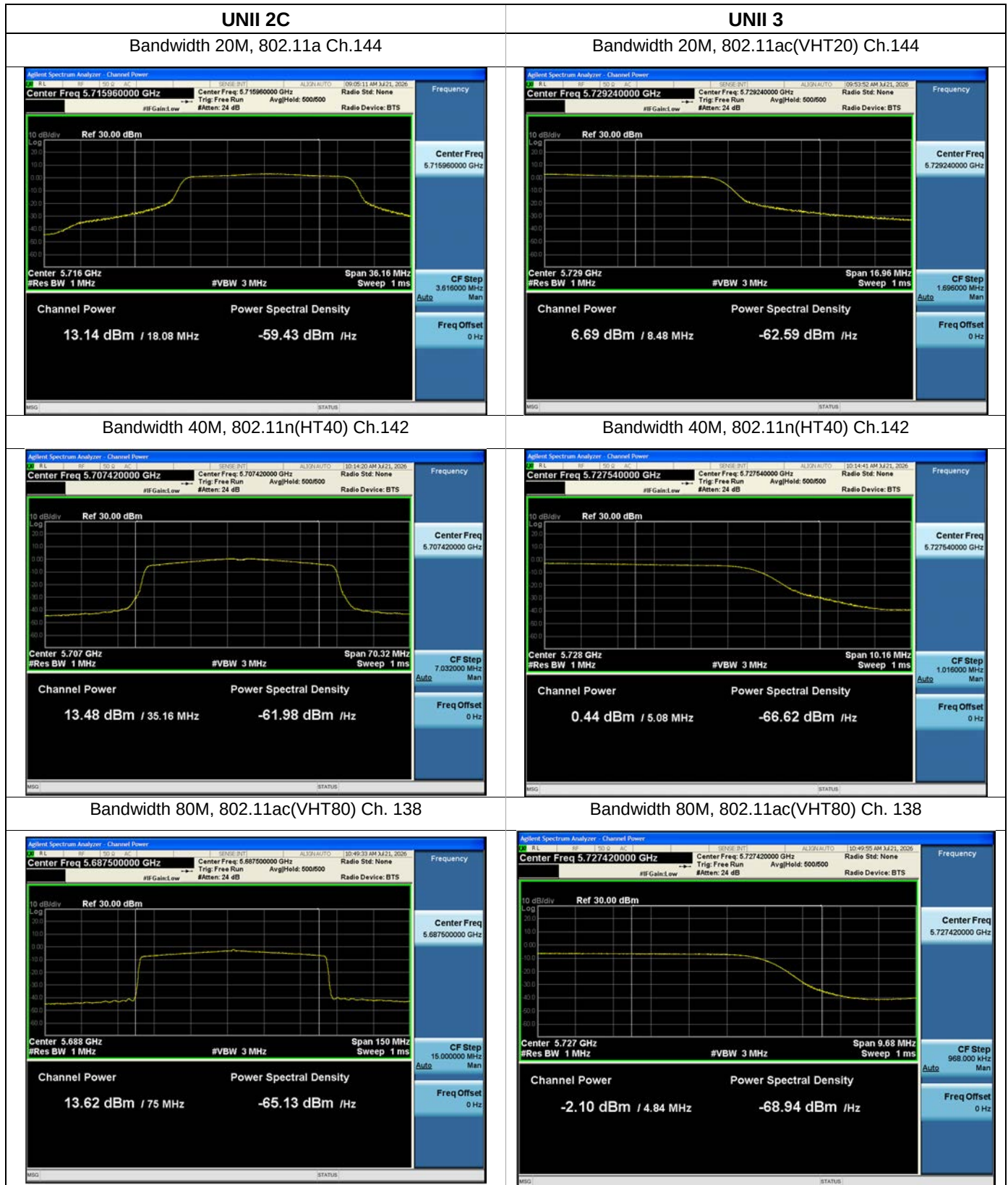
Test Plots(Output Power)

Note: In order to simplify the report, attached plots were only channel of highest Power.

[ANT. 1]



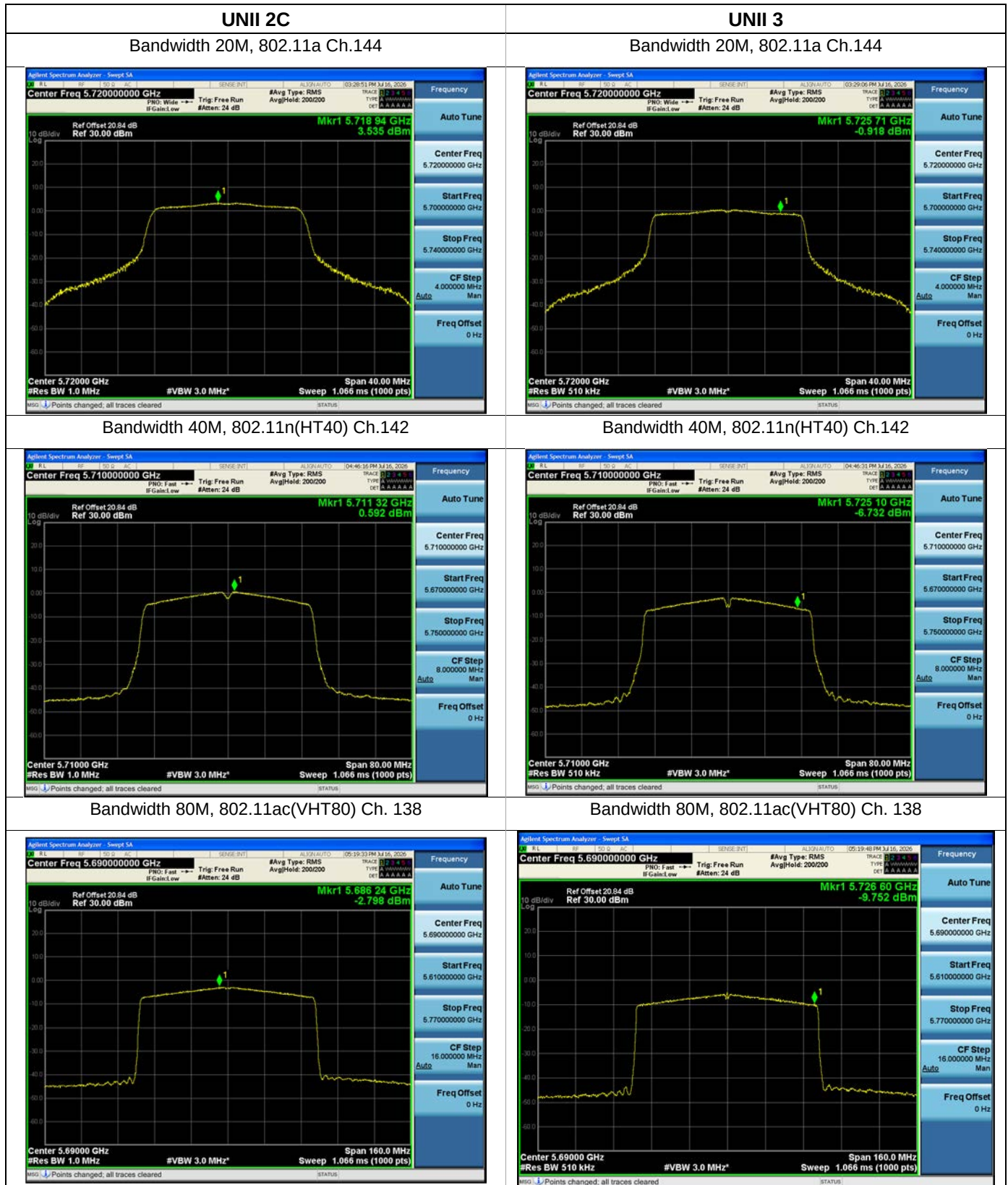
[ANT. 2]



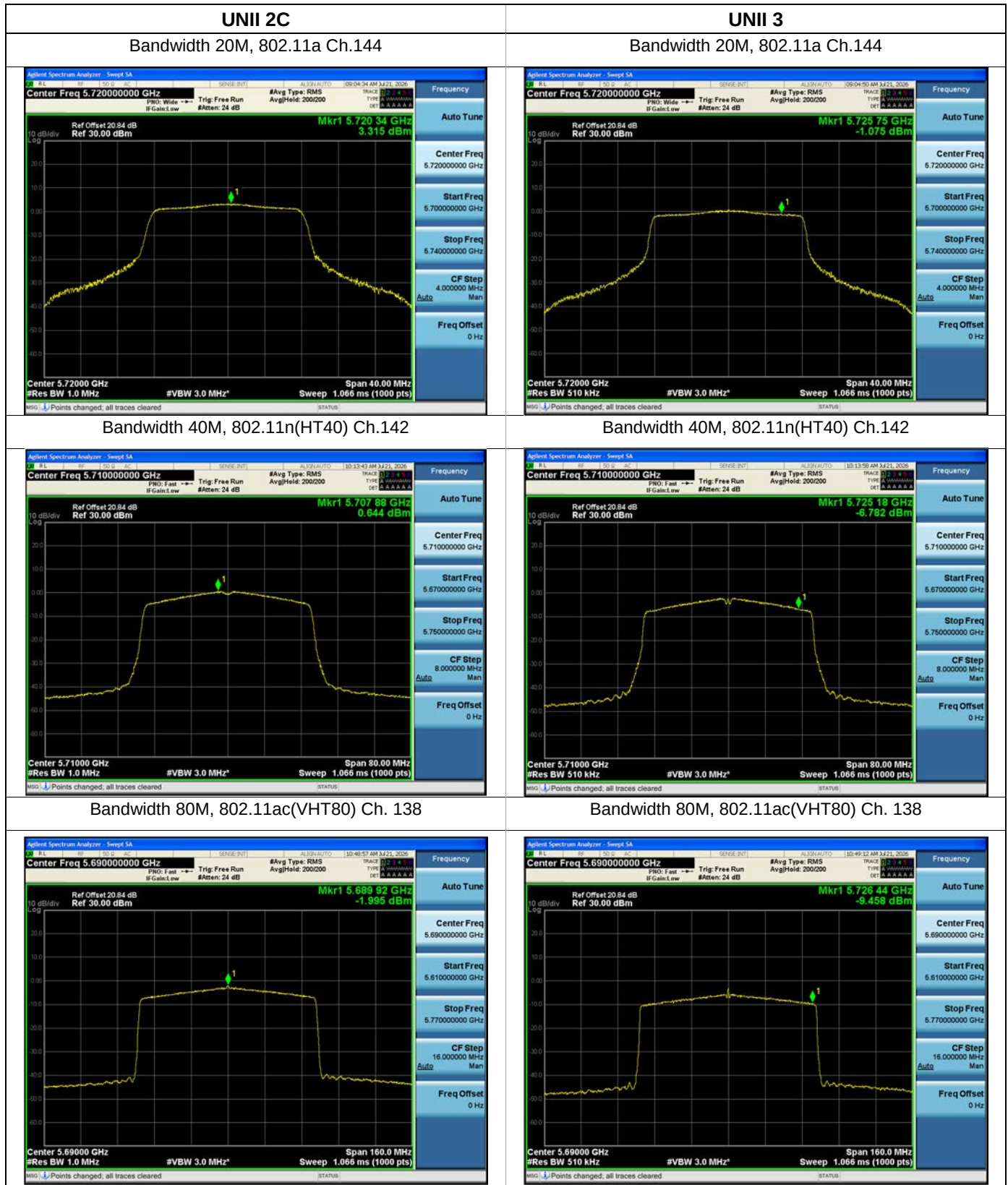
Test Plots(Power Spectral Density)

Note: In order to simplify the report, attached plots were only channel of highest PSD.

[ANT. 1]



[ANT. 2]



10.8 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]
No Critical peaks found						

Note:

1. The Measured Value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBμV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	ANT. POL	Total	Limit	Margin
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]
No Critical peaks found						

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

Frequency Range : Above 1 GHz

[MIMO_CDD(Ant1+Ant2)]

[802.11a]

Band : UNII 1			Operation Mode : 802.11a				
CH.36 5180MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10360	51.49	6.00	V	57.49	68.20	10.71	PK
15540	47.75	6.02	V	53.77	73.98	20.21	PK
15540	34.05	6.02	V	40.07	53.98	13.91	AV
10360	51.67	6.00	H	57.67	68.20	10.53	PK
15540	47.80	6.02	H	53.82	73.98	20.16	PK
15540	34.16	6.02	H	40.18	53.98	13.80	AV

Band : UNII 1			Operation Mode : 802.11a				
CH.40 5200MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10400	51.70	5.64	V	57.34	68.20	10.86	PK
15600	46.87	5.84	V	52.71	73.98	21.27	PK
15600	33.71	5.84	V	39.55	53.98	14.43	AV
10400	51.85	5.64	H	57.49	68.20	10.71	PK
15600	47.06	5.84	H	52.90	73.98	21.08	PK
15600	33.76	5.84	H	39.60	53.98	14.38	AV

Band : UNII 1			Operation Mode : 802.11a				
CH.48 5240MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10480	51.77	6.33	V	58.10	68.20	10.10	PK
15720	46.91	5.43	V	52.34	73.98	21.64	PK
15720	34.09	5.43	V	39.52	53.98	14.46	AV
10480	51.86	6.33	H	58.19	68.20	10.01	PK
15720	47.04	5.43	H	52.47	73.98	21.51	PK
15720	34.28	5.43	H	39.71	53.98	14.27	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.52 5260MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10520	52.35	6.08	V	58.43	68.20	9.77	PK
15780	47.35	5.75	V	53.10	73.98	20.88	PK
15780	34.29	5.75	V	40.04	53.98	13.94	AV
10520	52.43	6.08	H	58.51	68.20	9.69	PK
15780	47.47	5.75	H	53.22	73.98	20.76	PK
15780	34.47	5.75	H	40.22	53.98	13.76	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.60 5300MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10600	51.58	5.91	V	57.49	73.98	16.49	PK
10600	38.52	5.91	V	44.43	53.98	9.55	AV
15900	48.25	6.61	V	54.86	73.98	19.12	PK
15900	34.48	6.61	V	41.09	53.98	12.89	AV
10600	51.68	5.91	H	57.59	73.98	16.39	PK
10600	38.56	5.91	H	44.47	53.98	9.51	AV
15900	48.41	6.61	H	55.02	73.98	18.96	PK
15900	34.63	6.61	H	41.24	53.98	12.74	AV

Band : UNII 2A			Operation Mode : 802.11a				
CH.64 5320MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
10640	50.98	6.48	V	57.46	73.98	16.52	PK
10640	38.02	6.48	V	44.50	53.98	9.48	AV
15960	47.71	6.23	V	53.94	73.98	20.04	PK
15960	34.54	6.23	V	40.77	53.98	13.21	AV
10640	51.06	6.48	H	57.54	73.98	16.44	PK
10640	38.14	6.48	H	44.62	53.98	9.36	AV
15960	47.85	6.23	H	54.08	73.98	19.90	PK
15960	34.62	6.23	H	40.85	53.98	13.13	AV

Band : UNII 2C			Operation Mode : 802.11a				
CH.100 5500MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11000	49.60	6.53	V	56.13	73.98	17.85	PK
11000	36.62	6.53	V	43.15	53.98	10.83	AV
16500	47.58	8.45	V	56.03	68.20	12.17	PK
11000	49.63	6.53	H	56.16	73.98	17.82	PK
11000	36.68	6.53	H	43.21	53.98	10.77	AV
16500	47.80	8.45	H	56.25	68.20	11.95	PK

Band : UNII 2C			Operation Mode : 802.11a				
CH.120 5600MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11200	48.92	6.16	V	55.08	73.98	18.90	PK
11200	35.92	6.16	V	42.08	53.98	11.90	AV
16800	47.29	10.20	V	57.49	68.20	10.71	PK
11200	48.96	6.16	H	55.12	73.98	18.86	PK
11200	36.02	6.16	H	42.18	53.98	11.80	AV
16800	47.35	10.20	H	57.55	68.20	10.65	PK

Band : UNII 2C			Operation Mode : 802.11a				
CH.144 5720MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11440	48.57	5.95	V	54.52	73.98	19.46	PK
11440	35.30	5.95	V	41.25	53.98	12.73	AV
17160	46.78	10.26	V	57.04	68.20	11.16	PK
11440	48.72	5.95	H	54.67	73.98	19.31	PK
11440	35.40	5.95	H	41.35	53.98	12.63	AV
17160	46.87	10.26	H	57.13	68.20	11.07	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.149 5745MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11490	48.59	5.72	V	54.31	73.98	19.67	PK
11490	35.56	5.72	V	41.28	53.98	12.70	AV
17235	46.76	10.73	V	57.49	68.20	10.71	PK
11490	48.62	5.72	H	54.34	73.98	19.64	PK
11490	35.57	5.72	H	41.29	53.98	12.69	AV
17235	46.83	10.73	H	57.56	68.20	10.64	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.157 5785MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11570	48.71	6.04	V	54.75	73.98	19.23	PK
11570	35.54	6.04	V	41.58	53.98	12.40	AV
17355	46.28	12.03	V	58.31	68.20	9.89	PK
11570	48.75	6.04	H	54.79	73.98	19.19	PK
11570	35.70	6.04	H	41.74	53.98	12.24	AV
17355	46.36	12.03	H	58.39	68.20	9.81	PK

Band : UNII 3			Operation Mode : 802.11a				
CH.165 5825MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11650	48.61	5.86	V	54.47	73.98	19.51	PK
11650	35.46	5.86	V	41.32	53.98	12.66	AV
17475	47.73	12.53	V	60.26	68.20	7.94	PK
11650	48.77	5.86	H	54.63	73.98	19.35	PK
11650	35.49	5.86	H	41.35	53.98	12.63	AV
17475	47.89	12.53	H	60.42	68.20	7.78	PK

[Simultaneous transmission Scenario]

Scenario 3

BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN SISO ANT2 802.11b Ch. 11 1Mbps + 5G WLAN SISO ANT1 802.11a Ch. 165 6 Mbps

[SISO ANT1]

[802.11a]

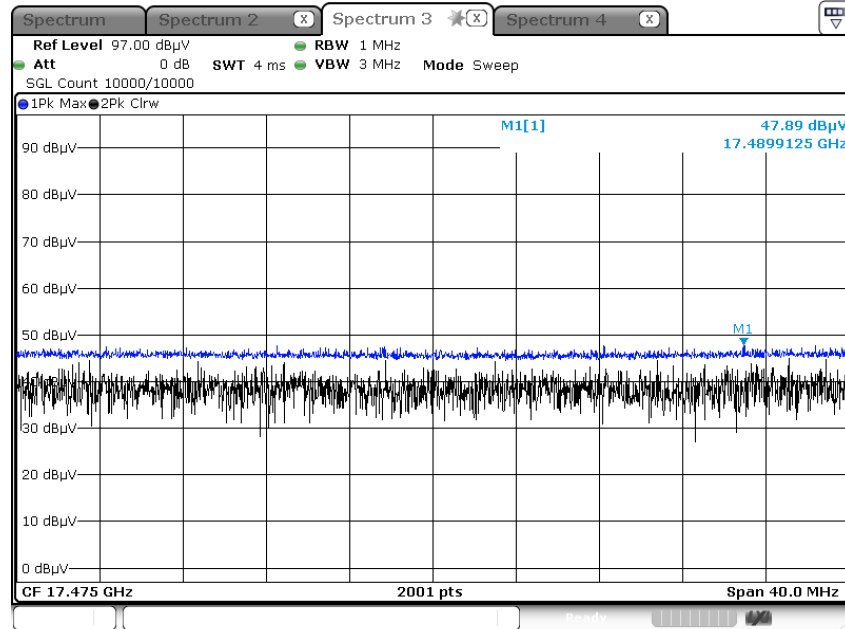
Band : UNII 3			Operation Mode : 802.11a				
CH.165 5825MHz			Transfer Rate : 6 Mbps				
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11650	48.11	5.86	V	53.97	73.98	20.01	PK
11650	35.06	5.86	V	40.92	53.98	13.06	AV
17475	47.69	12.53	V	60.22	68.20	7.98	PK
11650	48.29	5.86	H	54.15	73.98	19.83	PK
11650	35.36	5.86	H	41.22	53.98	12.76	AV
17475	47.79	12.53	H	60.32	68.20	7.88	PK

Test Plots

Note: Only the worst case plot for Radiated Spurious Emissions.

[MIMO_CDD(Ant1+Ant2)]

Radiated Spurious Emissions plot – Peak Result (802.11a, Ch.165 Spurious Emissions, Y-H)



Date: 20.JUL.2026 18:44:08

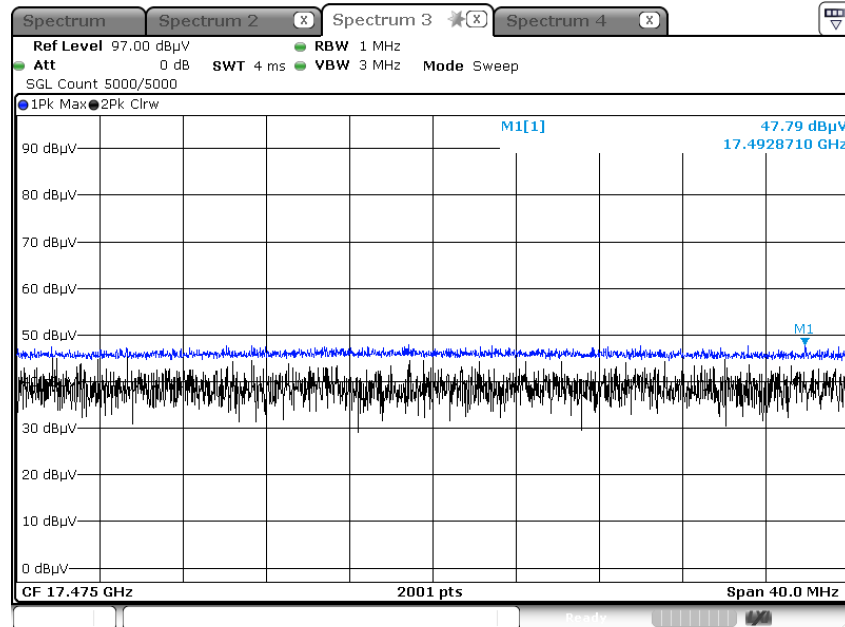
[Simultaneous transmission Scenario]

Scenario 3

BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN SISO ANT2 802.11b Ch. 11 1Mbps + 5G WLAN SISO ANT1 802.11a Ch. 165 6 Mbps

[SISO Ant1]

Radiated Spurious Emissions plot – Peak Result (802.11a, Ch.165 Spurious Emissions, Y-H)



Date: 25.AUG.2026 23:43:08

10.9 RADIATED RESTRICTED BAND EDGE

[MIMO_CDD(Ant1+Ant2)]

[UNII 1 Lower Edge]

[802.11a]

Operation Mode : 802.11a Tone & RU Index : N/A Transfer Rate : 6M
Channel No. : 36 Frequency : 5180 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	63.20	H	63.20	73.98	10.78	PK
4500 - 5150	49.96	H	49.96	53.98	4.02	AV

[802.11n(HT20)]

Operation Mode : 802.11n_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 36 Frequency : 5180 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	61.67	H	61.67	73.98	12.31	PK
4500 - 5150	50.10	H	50.10	53.98	3.88	AV

[802.11ac(VHT20)]

Operation Mode : 802.11ac_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 36 Frequency : 5180 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	61.80	H	61.80	73.98	12.18	PK
4500 - 5150	50.10	H	50.10	53.98	3.88	AV

[802.11n(HT40)]

Operation Mode : 802.11n_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 38 Frequency : 5190 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	62.43	H	62.43	73.98	11.55	PK
4500 - 5150	50.51	H	50.51	53.98	3.47	AV

[802.11ac(VHT40)]

Operation Mode : 802.11ac_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 38 Frequency : 5190 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	61.90	H	61.90	73.98	12.08	PK
4500 - 5150	50.71	H	50.71	53.98	3.27	AV

[802.11ac(VHT80)]

Operation Mode : 802.11ac_80 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 42 Frequency : 5210 MHz Band : UNII-1

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4500 - 5150	62.51	H	62.51	73.98	11.47	PK
4500 - 5150	50.90	H	50.90	53.98	3.08	AV

[UNII 2A Upper Edge]

[802.11a]

Operation Mode : 802.11a Tone & RU Index : N/A Transfer Rate : 6M
Channel No. : 64 Frequency : 5320 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	59.04	H	59.04	73.98	14.94	PK
5350 - 5460	46.75	H	46.75	53.98	7.23	AV

[802.11n(HT20)]

Operation Mode : 802.11n_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 64 Frequency : 5320 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	59.13	H	59.13	73.98	14.85	PK
5350 - 5460	48.12	H	48.12	53.98	5.86	AV

[802.11ac(VHT20)]

Operation Mode : 802.11ac_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 64 Frequency : 5320 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	59.36	H	59.36	73.98	14.62	PK
5350 - 5460	47.36	H	47.36	53.98	6.62	AV

[802.11n(HT40)]

Operation Mode : 802.11n_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 62 Frequency : 5310 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	60.66	H	60.66	73.98	13.32	PK
5350 - 5460	48.49	H	48.49	53.98	5.49	AV

[802.11ac(VHT40)]

Operation Mode : 802.11ac_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 62 Frequency : 5310 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	60.68	H	60.68	73.98	13.30	PK
5350 - 5460	48.09	H	48.09	53.98	5.89	AV

[802.11ac(VHT80)]

Operation Mode : 802.11ac_80 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 58 Frequency : 5290 MHz Band : UNII-2A

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	63.89	H	63.89	73.98	10.09	PK
5350 - 5460	50.95	H	50.95	53.98	3.03	AV

[UNII 2C Lower Edge]

[802.11a]

Operation Mode : 802.11a Tone & RU Index : N/A Transfer Rate : 6M
Channel No. : 100 Frequency : 5500 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	60.94	H	60.94	73.98	13.04	PK
5350 - 5460	49.06	H	49.06	53.98	4.92	AV
5460 - 5470	61.15	H	61.15	68.20	7.05	PK

[802.11n(HT20)]

Operation Mode : 802.11n_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 100 Frequency : 5500 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	61.15	H	61.15	73.98	12.83	PK
5350 - 5460	48.19	H	48.19	53.98	5.79	AV
5460 - 5470	61.86	H	61.86	68.20	6.34	PK

[802.11ac(VHT20)]

Operation Mode : 802.11ac_20 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 100 Frequency : 5500 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	60.91	H	60.91	73.98	13.07	PK
5350 - 5460	48.86	H	48.86	53.98	5.12	AV
5460 - 5470	61.08	H	61.08	68.20	7.12	PK

[802.11n(HT40)]

Operation Mode : 802.11n_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 102 Frequency : 5510 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	60.23	H	60.23	73.98	13.75	PK
5350 - 5460	47.89	H	47.89	53.98	6.09	AV
5460 - 5470	60.64	H	60.64	68.20	7.56	PK

[802.11ac(VHT40)]

Operation Mode : 802.11ac_40 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 102 Frequency : 5510 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	61.47	H	61.47	73.98	12.51	PK
5350 - 5460	47.97	H	47.97	53.98	6.01	AV
5460 - 5470	60.60	H	60.60	68.20	7.60	PK

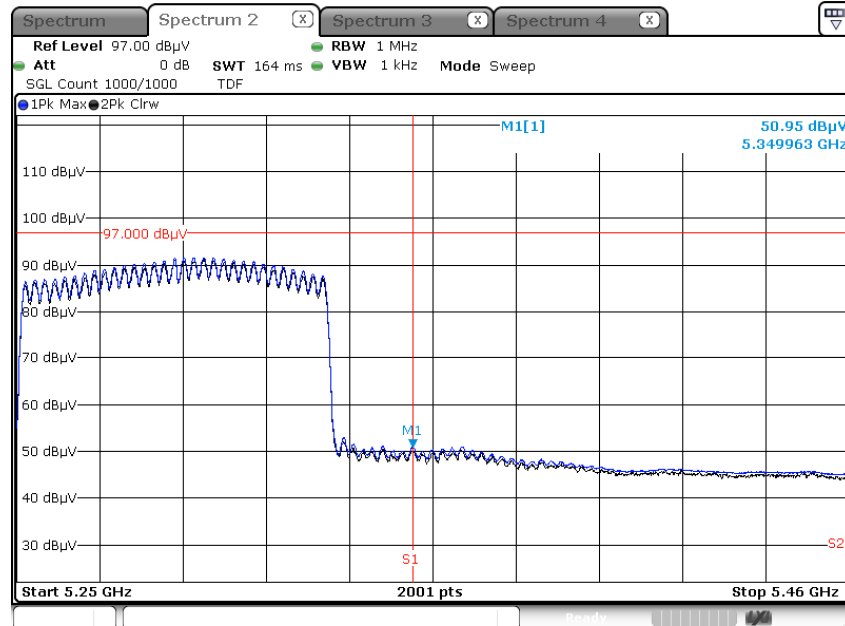
[802.11ac(VHT80)]

Operation Mode : 802.11ac_80 Tone & RU Index : N/A MCS index : MCS0
Channel No. : 106 Frequency : 5530 MHz Band : UNII-2C

Frequency [MHz]	Measured Value [dBμV]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
5350 - 5460	62.81	H	62.81	73.98	11.17	PK
5350 - 5460	49.79	H	49.79	53.98	4.19	AV
5460 - 5470	62.63	H	62.63	68.20	5.57	PK

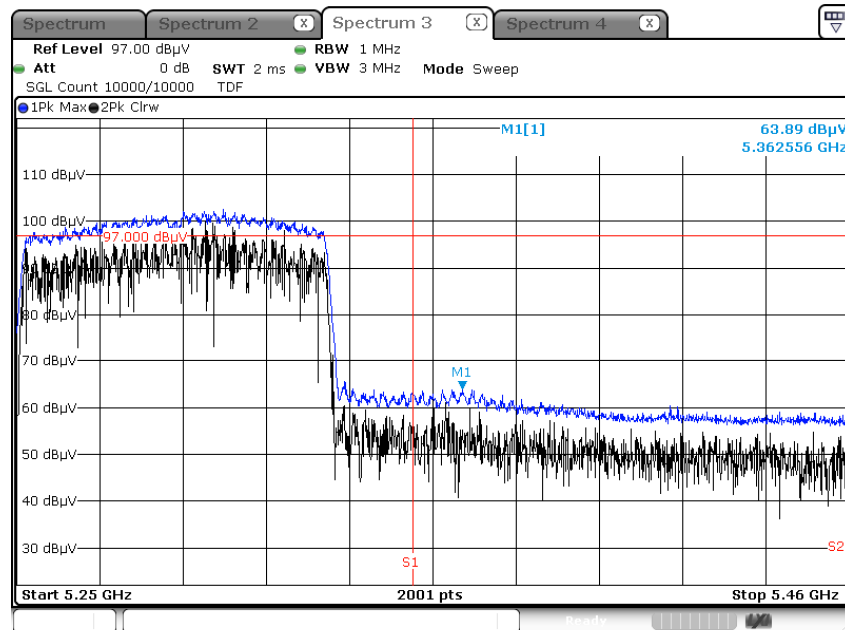
Test Plots(UNII 1, 2A, 2C)
[MIMO_CDD(Ant1+Ant2)]

Average Result (802.11ac80_ MCS0, Ch. 58, X-H)



Date: 30.JUL.2026 03:05:04

Peak Result (802.11ac80_ MCS0, Ch. 58, X-H)

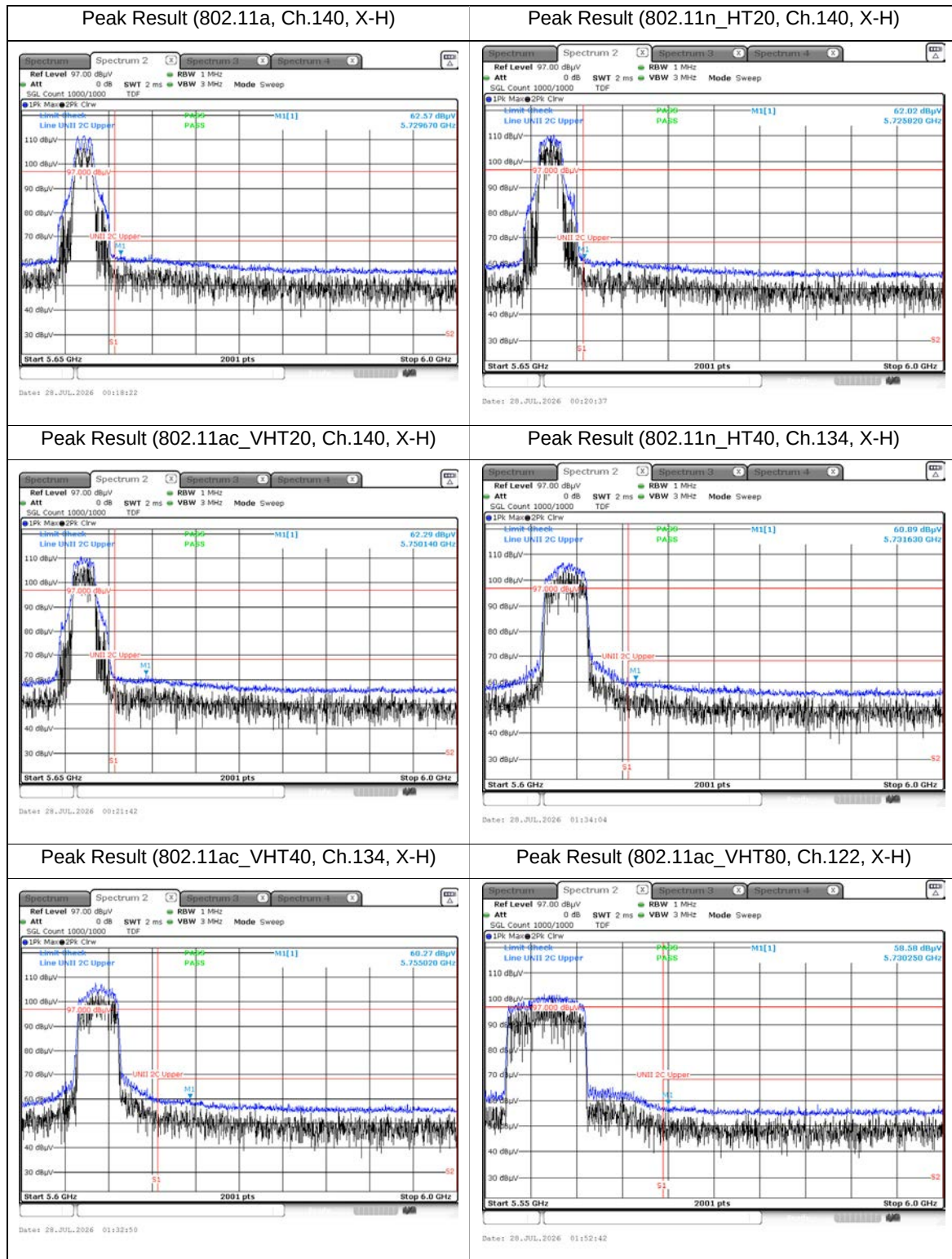


Date: 30.JUL.2026 02:54:59

Note: Only the worst case plots for Radiated Restricted Band Edge.

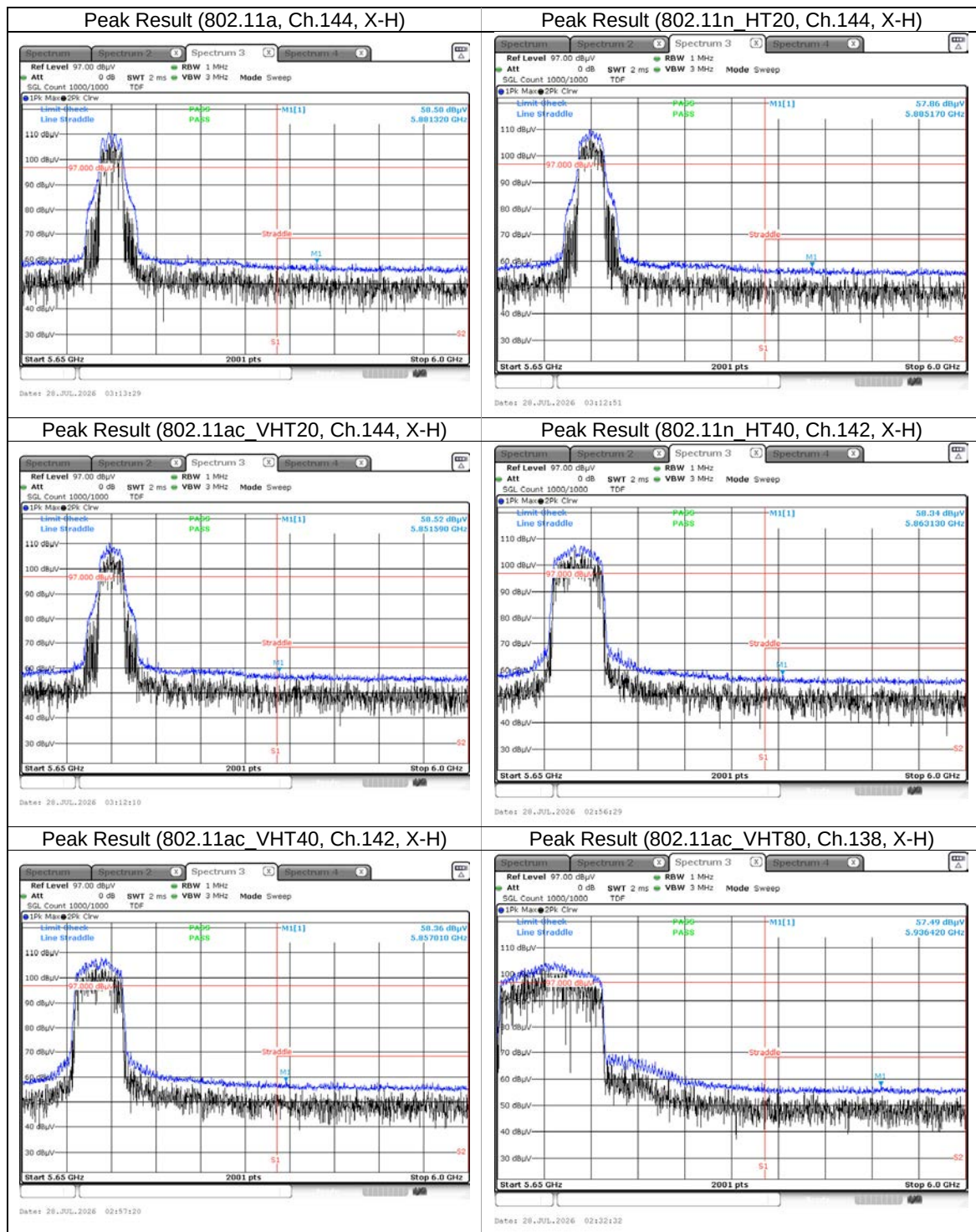
Test Plots(UNII2C_Upper Edge)

[MIMO_CDD(Ant.1+ Ant.2)]



Test Plots(Straddle Channel Upper edge)

[MIMO_CDD(Ant.1+ Ant.2)]



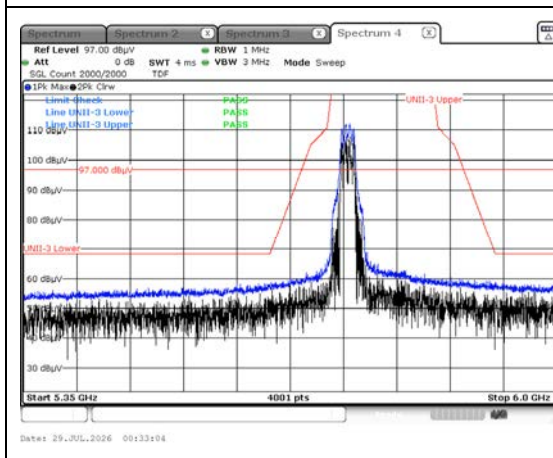
Note :

1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz

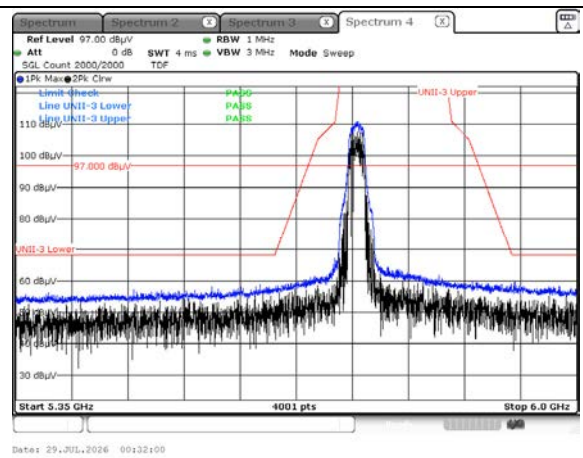
Test Plots(UNII 3 Lower Edge)

[MIMO_CDD(Ant.1+ Ant.2)]

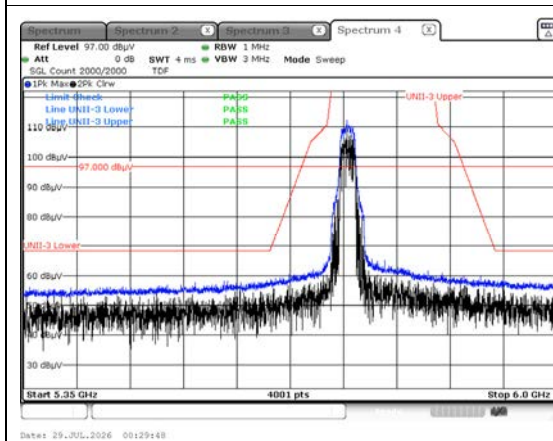
Peak Result (802.11a, Ch.149, X-H)



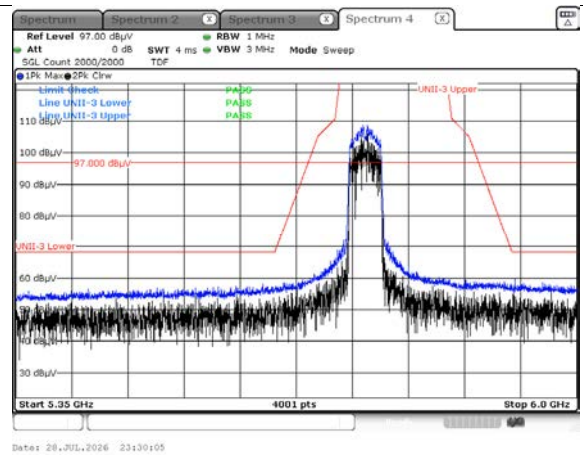
Peak Result (802.11n_HT20, Ch.149, X-H)



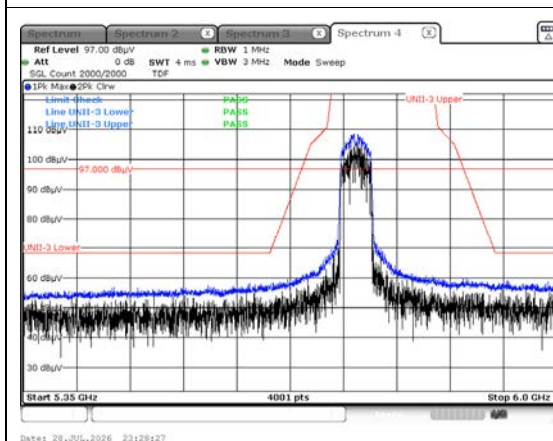
Peak Result (802.11ac_VHT20, Ch.149, X-H)



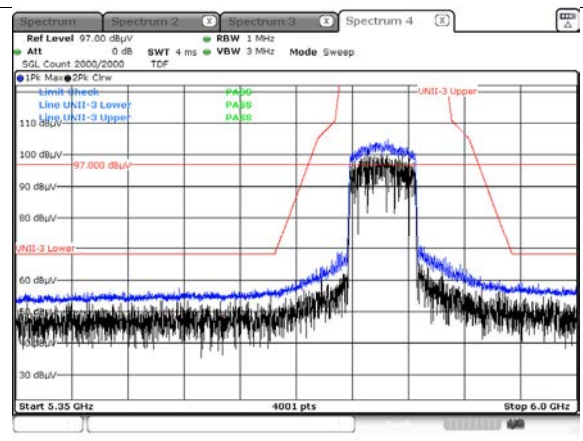
Peak Result (802.11n_HT40, Ch.151, X-H)



Peak Result (802.11ac_VHT40, Ch.151, X-H)



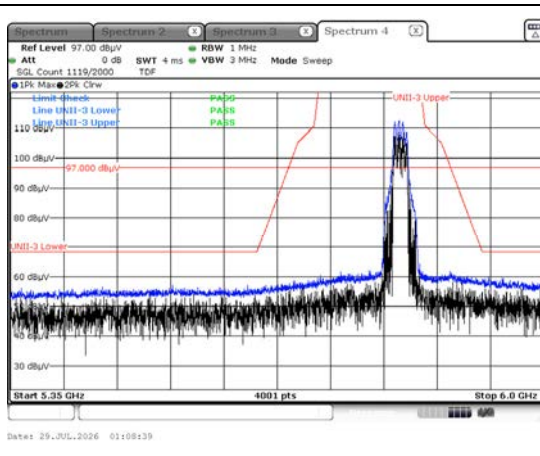
Peak Result (802.11ac_VHT80, Ch.155, X-H)



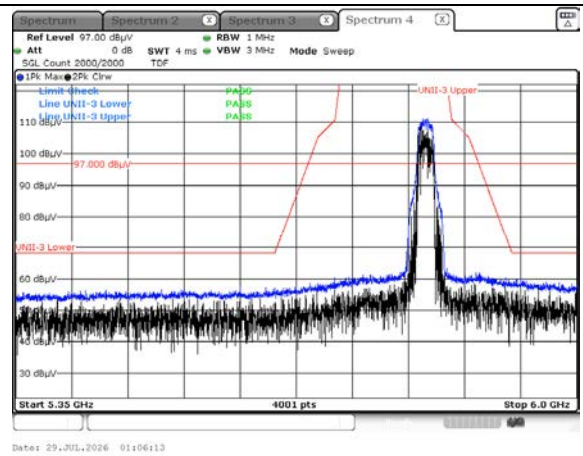
Test Plots(UNII 3 Upper Edge)

[MIMO_CDD(Ant.1+ Ant.2)]

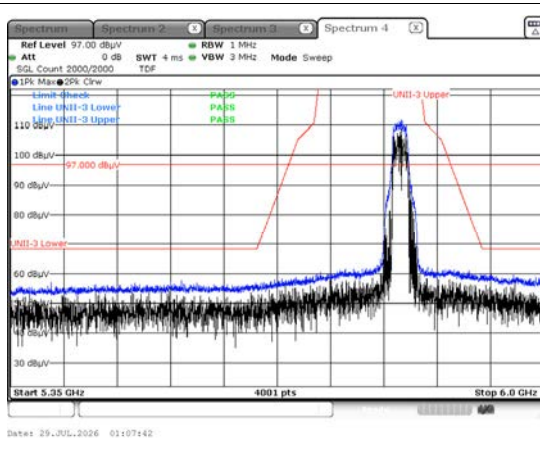
Peak Result (802.11a, Ch.165, X-H)



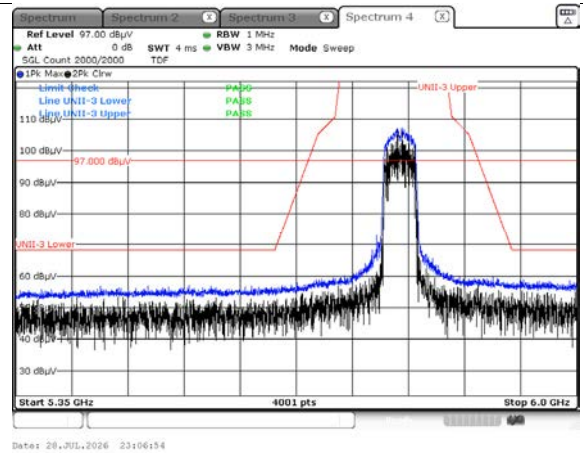
Peak Result (802.11n_HT20, Ch.165, X-H)



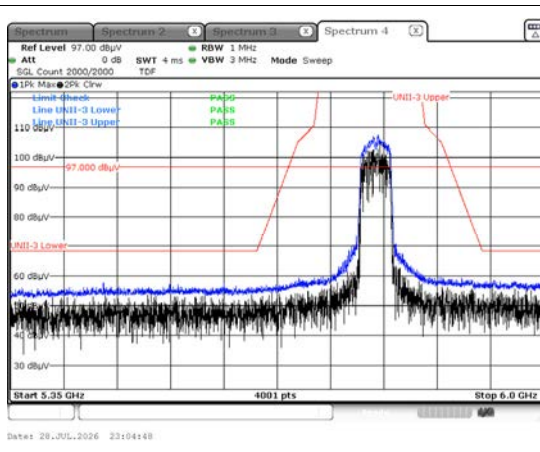
Peak Result (802.11ac_VHT20, Ch. 165, X-H)



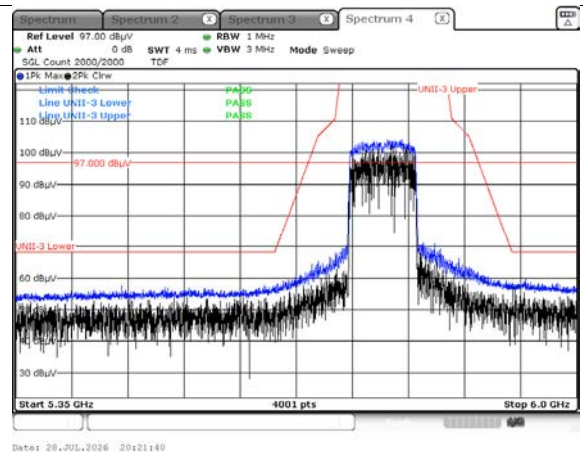
Peak Result (802.11n_HT40, Ch.159, X-H)



Peak Result (802.11ac_VHT40, Ch.159, X-H)



Peak Result (802.11ac_VHT80, Ch.155, X-H)



Note :

1. Only the worst case plots for U-NII-3 Out of Band e.i.r.p Emission.
2. U-NII-3 Lower & Upper Band Edge Red Line is Final Test Limit about factor value compensation.

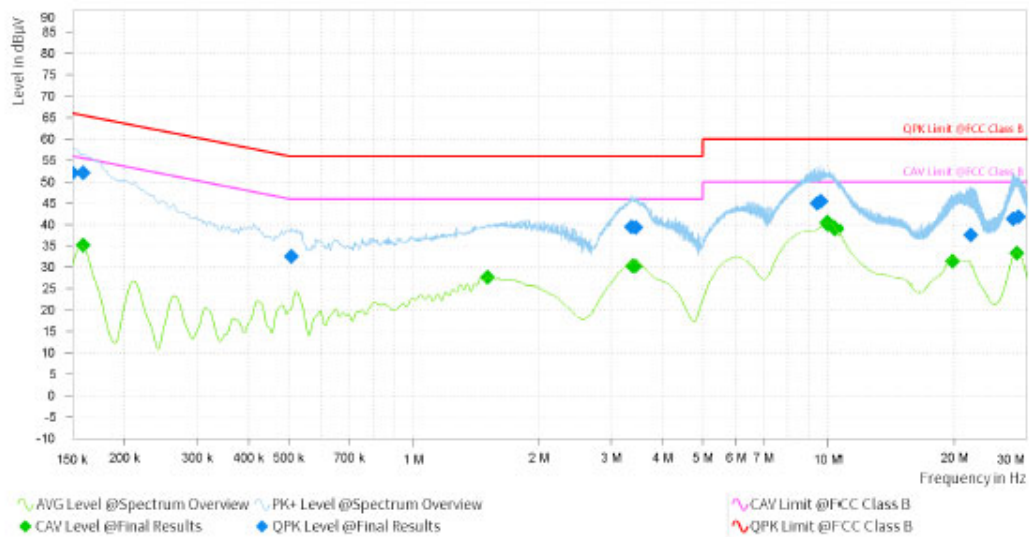
10.10 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

EMI Test Report

Test Information

EUT LGSWCAX71
Operating Condition 5G WLAN Mode
Comment



EMI Final Results

Frequency [MHz]	QPK Level [dBuV]	QPK Limit [dBuV]	QPK Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
0.150	52.07	66.00	13.93	9.56	L1	9.000
0.159	52.06	66.52	13.45	9.56	L1	9.000
0.508	32.51	56.00	23.49	9.57	L1	9.000
3.365	39.44	56.00	16.56	9.64	L1	9.000
3.446	39.34	56.00	16.66	9.64	N	9.000
9.452	44.92	60.00	15.08	9.75	L1	9.000
9.641	45.39	60.00	14.61	9.76	L1	9.000
21.973	37.53	60.00	22.47	9.86	L1	9.000
27.805	41.30	60.00	18.70	9.87	L1	9.000
28.565	41.76	60.00	18.24	9.88	L1	9.000

EMI Final Results

Frequency [MHz]	CAV Level [dBuV]	CAV Limit [dBuV]	CAV Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
0.159	35.13	55.52	20.39	9.56	L1	9.000
1.507	27.67	46.00	18.33	9.60	L1	9.000
3.379	30.27	46.00	15.73	9.64	N	9.000
3.431	30.34	46.00	15.66	9.64	N	9.000
10.001	40.06	50.00	9.94	9.76	N	9.000
10.005	40.51	50.00	9.49	9.76	L1	9.000
10.399	39.35	50.00	10.65	9.77	L1	9.000
10.408	38.91	50.00	11.09	9.77	N	9.000
19.858	31.41	50.00	18.59	9.87	N	9.000
28.356	33.33	50.00	16.67	9.88	L1	9.000

11. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/10/2027	Annual
EMI Test Receiver	EPL1000	Rohde & Schwarz	101127	05/15/2027	Annual
Chamber	SU-642	ESPEC	93008124	06/17/2027	Annual
PXA Signal Analyzer	N9030A	Agilent	MY49432108	02/09/2027	Annual
Open Switch and Control Platform	OSP 150	Rohde & Schwarz	100894	05/06/2027	Annual
Power Meter	N1911A	Agilent	MY45100523	02/13/2027	Annual
WIDEBAND POWER SENSOR	N1921A	Keysight	MY57820067	01/26/2027	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/14/2026	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/15/2027	Annual
DC Power Supply	E3632A	Hewlett Packard	KR40010370	12/12/2026	Annual
Attenuator	8493C-010	Keysight	07560	04/29/2027	Annual
Attenuator	8493C-010	HP	08285	05/08/2027	Annual
Attenuator	18N-20dB	Rohde & Schwarz	8	02/09/2027	Annual
Software	ELEKTRA	Rohde & Schwarz	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/22/2026	Annual
Automation Software	FCC WLAN Conducted	HCT CO., LTD	N/A	N/A	N/A
Automation Software	FCC Bluetooth Conducted	HCT CO., LTD	N/A	N/A	N/A

Note:

- Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.
All reported measurements were performed using equipment within valid calibration.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Antenna Mast Controller	CO3000	Innco system GmbH	CO3000/842/35030115/L	N/A	N/A
Antenna Mast	MA4640-XP-ET	Innco system GmbH	S3AM	07/01/2027	Annual
Turn Table	DS1500-S-1t	Innco system GmbH	6290425	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck Mess-Elektronik OHG	1513-175	06/24/2027	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck Mess-Elektronik OHG	9168-1135	08/12/2028	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck Mess-Elektronik OHG	9120D-1191	10/21/2027	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck Mess-Elektronik OHG	BBHA9170124	03/23/2027	Biennial
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments GmbH	2	12/11/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	5	03/19/2027	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	6	03/19/2027	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments GmbH	1	01/07/2027	Annual
RF Switching System	FBSR-03A (3G HPF+LNA)	T&M SYSTEM	S3L1	10/20/2026	Annual
RF Switching System	FBSR-03A (10dB ATT+LNA)	T&M SYSTEM	S3L2	10/20/2026	Annual
RF Switching System	FBSR-03A (7G HPF+LNA)	T&M SYSTEM	S3L3	10/20/2026	Annual
RF Switching System	FBSR-03A (3dB ATT+LNA)	T&M SYSTEM	S3L4	10/20/2026	Annual
RF Switching System	FBSR-03A (Thru)	T&M SYSTEM	S3L5	10/20/2026	Annual
DC Power Supply	E3632A	Hewlett Packard	KR75305528	12/12/2026	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD.	-	-	-
Broadband LNA	CBL18265035	CERNEX	22966	10/21/2026	Annual
Broadband LNA	CBL26405040	CERNEX	25956	02/09/2027	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/03/2027	Annual
Spectrum Analyzer	FSV40	Rohde & Schwarz	100900	04/14/2027	Annual

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.

All reported measurements were performed using equipment within valid calibration.

2. Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

12. ANNEX A_TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2609-FC004-P