HCT CO.,LTD.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
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FCC UNII REPORT

Cetification

Applicant Name:
SAMSUNG Electronics Co.,Ltd.

Address:
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:
January 05, 2017
Test Site/Location:
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-RF-1801-FC001

FCC ID : A3LSLS-BU10G

APPLICANT : SAMSUNG Electronics Co.,Ltd.

Model: SLS-BU10G
EUT Type: 4G LTE Network Extender 2 for Enterprise
Modulation type OFDM
FCC Classification: Unlicensed National Information Infrastructure(UNII)
FCC Rule Part(s): Part 15.407

Band	Mode	Channel Bandwidth (MHz)	Frequency Range (MHz)	Port 2 Power (dBm)	Port 3 Power (dBm)	Port 2 + Port 3 Power (dBm)
UNII1 46a	QPSK	20	5160 - 5240	23.95	23.78	26.88
	16QAM			23.89	23.75	26.83
	64QAM			23.95	23.68	26.83
UNII3 46d	QPSK		5745 - 5825	23.99	23.64	26.83
	16QAM			23.98	23.77	26.89
	64QAM			23.98	23.66	26.83
UNII1 46a	QPSK	40 (20 x 2 Carrier)	5170 - 5230	26.74	26.74	29.75
	16QAM			26.52	26.62	29.58
	64QAM			26.64	26.67	29.67
UNII3 46d	QPSK		5755 - 5815	26.34	26.37	29.37
	16QAM			26.77	26.27	29.53
	64QAM			26.46	26.41	29.45

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.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by : Kyung Soo Kang
Engineer of Telecommunication testing center

Approved by : Jong Seok Lee
Manager of Telecommunication testing center

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1711-F009	November 16, 2017	- First Approval Report
HCT-R-1711-F009-1	December 07, 2017	- Revised the antenna gain. - Revised the duty cycle factor results. - Revised the conducted output power results. - Revised the power spectral density results. - Removed -30℃ to -10℃ datas in the frequency stability table.
HCT-R-1711-F009-2	December 22, 2017	- Revised the table In section 8. - Added the 99% Occupied Bandwidth test results in section 9.2. - Revised the test procedures in section 9.3.
HCT-RF-1801-FC001	January 05, 2018	- Revised the original report - (Original Report No.: HCT-R-1711-F009-2) - Revised some operating modes from LTE-U to LAA. (p.5, 77)

Table of Contents

1. GENERAL INFORMATION

Applicant:	Samsung Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSLS-BU10G
EUT Type:	4G LTE Network Extender 2 for Enterprise
Model (s):	SLS-BU10G
Date(s) of Tests:	October 27, 2016 ~ November 14, 2017
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

2. EUT DESCRIPTION

<table>
<tr><td>Model</td><td>SLS-BU10G</td></tr>
<tr><td>EUT Type</td><td>4G LTE Network Extender 2 for Enterprise</td></tr>
<tr><td>Power Supply</td><td>AC [90 ~ 264] VAC
PoE : 48 VDC</td></tr>
<tr><td>Frequency Range</td><td>UNII 1 : 5 160 ~ 5 240 MHz
UNII 3 : 5 745 ~ 5 825 MHz</td></tr>
<tr><td>Modulation Type</td><td>QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Antenna Specification</td><td>Manufacturer: ETHERTRONICS INC.
Antenna type: INTERNAL ANTENNA
Peak Gain :
<table>
<tr><td rowspan="2">Frequency [MHz]</td><td colspan="2">Gain [dBi]</td></tr>
<tr><td>Port 2</td><td>Port 3</td></tr>
<tr><td>5150 ~ 5850</td><td>6.0</td><td>6.0</td></tr>
</table>
</td></tr>
</table>

2.1 EUT OPERATING MODE

▣ Operating mode

Mode	Operating Mode	Operating Ant.
LAA	SISO	Port 2
		Port 3
	MIMO(SDM Only)	Port 2 & 3

Note : In case of radiation test, we have done all test case. Worst case is MIMO.
So, we attached the results of only worst case.

3. TEST METHODOLOGY

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 dated May 02, 2017 entitled " Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E" and ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices' were used in the measurement.
KDB 662911 D1 v02r01 were used for multiple outputs in the same band.

3.1 EUT CONFIGURATION

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

3.2 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.

3.3 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. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m 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 according to the requirements in Section 8 of ANSI C63.10. (Version: 2013)

Conducted Antenna Terminal

See Section from 8.1 to 8.4.(KDB 789033 D02 v01r04)

3.4 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.
Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

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 equipments, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2006).

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, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 07, 2015 (Registration Number: 90661)

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 CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

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.”

* The antennas of this E.U.T are permanently attached.

* The E.U.T Complies with the requirement of §15.203, §15.407

▣ Directional Gain Calculations

▪ If all transmit signals are completely uncorrelated with each other (SDM)

Directional gain = $10*\log[(10^{G1/10} + 10^{G2/10}+\ldots+10^{GN/10})/N]$ dBi

▣ Antenna Gain

5GHz Band (UNII 1)

Antenna Gain	Port 2	6.0 dBi
	Port 3	6.0 dBi
Directional Antenna Gain	Port 2 & 3	6.0 dBi

5GHz Band (UNII 3)

Antenna Gain	Port 2	6.0 dBi
	Port 3	6.0 dBi
Directional Antenna Gain	Port 2 & 3	6.0 dBi

Note : This EUT is supported SDM. So, we applied the SDM mode for antenna gain.

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

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 (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	6.07

8. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26dB Bandwidth	§15.407 (for Power Measurement)	N/A	CONDUCTED	N/A
99% Occupied Bandwidth	§2.1049	N/A		N/A
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)		PASS
Maximum Conducted Output Power	§15.407(a)(1)(ii)	< 1 W (5150-5250 MHz) <1 W (5725-5850 MHz)		PASS
Peak Power Spectral Density	§15.407(a)(1)(ii),(5)	<17 dBm/ MHz (5150-5250 MHz) <30 dBm/500 kHz(5725-5850 MHz)		PASS
Frequency Stability	§15.407(g)	N/A		N/A
AC Conducted Emissions 150 kHz-30 MHz	15.207	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b), (4)	<-27 dBm/MHz EIRP (UNII1) Cf.) Page 71 (UNII 3)	RADIATED	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(5), (6)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

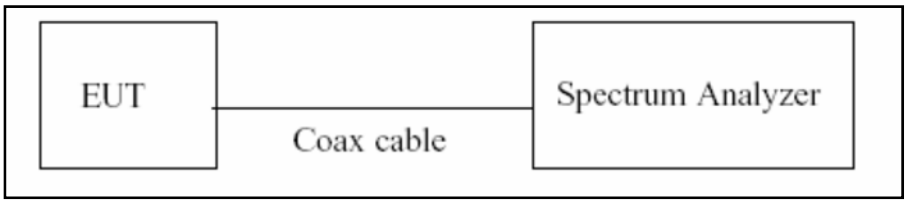
* Note: The EUT is supported power supply both of the AC/DC Adapter and PoE. Test results are only attached worst case(Adapter).

9. TEST RESULT

9.1 DUTY CYCLE

The zero-span mode on a spectrum analyzer or EMI receiver ,if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/*T*, where *T* is defined in section B)1)a), and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if *T* ≤ 16.7 microseconds.)

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We tested according to the zero-span measurement method, (B.2 in KDB 789033 D02 v01r04)

The largest availble value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if T ≤ 6.25 microseconds. (50/6.25 = 8)

The zero-span method was used becaure all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/*T*.

1. RBW = 8 MHz (the largest availble value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
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/Duty Cycle)

▣ Duty Cycle Factor

Mode	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
Band 46a/46d	**-**	**-**	**1**	**0**

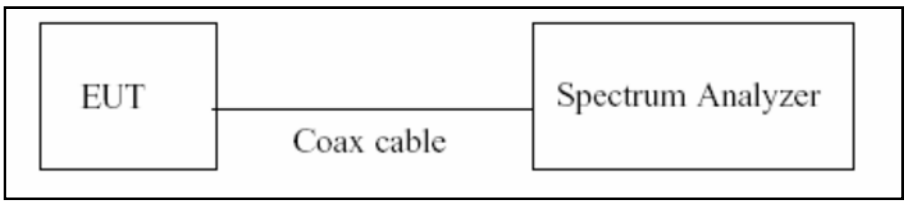
9.2 EMISSION BANDWIDTH AND MINIMUM EMISSION BANDWIDTH MEASUREMENT

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033 D02 v01r04, at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE (26dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.
The Spectrum Analyzer is set to(C.1 in KDB 789033 D02 v01r04)

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 %.

Note : We tested 26 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 26 dB.

1. In order to simplify the report, attached plots were only the most wide channel.

▣ TEST PROCEDURE (for the band 5.725-5.85 GHz, 6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to(C.2 in KDB 789033 D02 v01r04)

1. RBW = 100 kHz
2. VBW ≥ 3*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 lever measured in the fundamental emission.

Note : We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

▣ TEST RESULTS for Port 2_ QPSK

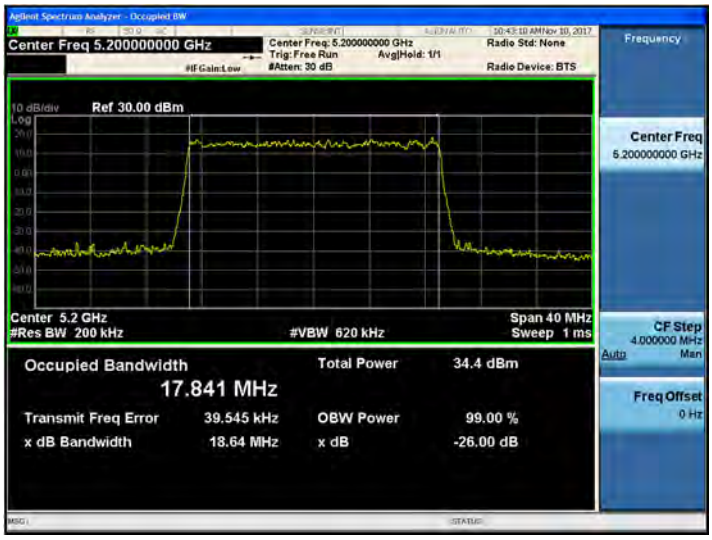
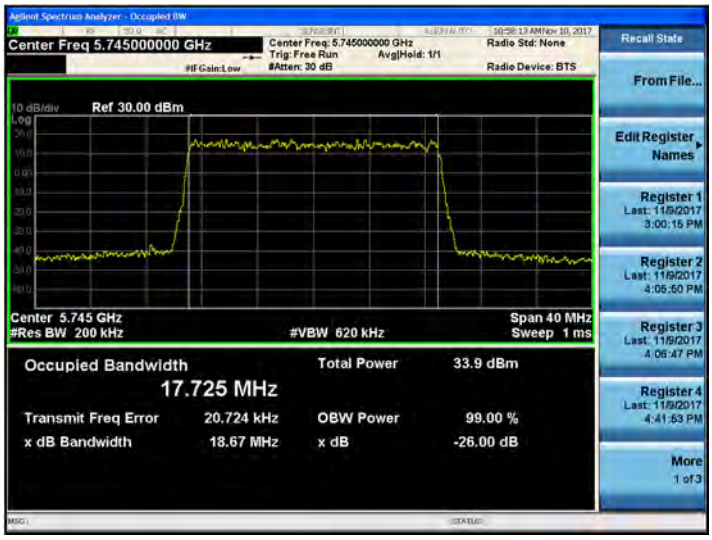
Conducted 26 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.61	N/A	Pass	17.797
5200	18.64	N/A	Pass	17.841
5240	18.59	N/A	Pass	17.779

Conducted 26 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.67	N/A	Pass	17.725
5785	18.64	N/A	Pass	17.748
5825	18.63	N/A	Pass	17.866

▣ TEST Plot for Port 2_ QPSK 20 MHz BW

QPSK UNII 1 BAND 26dB Bandwidth	QPSK UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ QPSK

Conducted 26 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.55	N/A	Pass	17.733
5200	18.66	N/A	Pass	17.800
5240	18.62	N/A	Pass	17.861

Conducted 26 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.68	N/A	Pass	17.824
5785	18.69	N/A	Pass	17.835
5825	18.63	N/A	Pass	17.798

▣ TEST Plot for Port 3_ QPSK 20 MHz BW

QPSK UNII 1 BAND 26dB Bandwidth	QPSK UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 2_ 16QAM

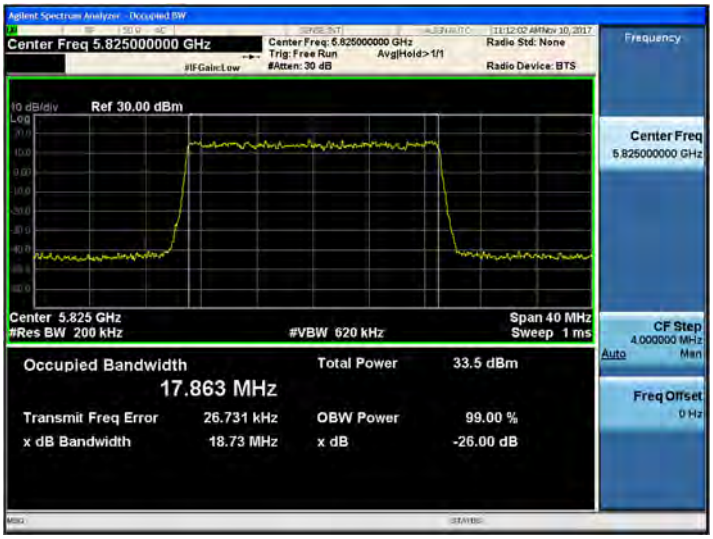
Conducted 26 dB Bandwidth Measurements for 16QAM 20 MHz BW

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.69	N/A	Pass	17.765
5200	18.67	N/A	Pass	17.899
5240	18.63	N/A	Pass	17.807

Conducted 26 dB Bandwidth Measurements for 16QAM 20 MHz BW

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.69	N/A	Pass	17.825
5785	18.63	N/A	Pass	17.838
5825	18.73	N/A	Pass	17.863

▣ TEST Plot for Port 2_ 16QAM 20 MHz BW

16QAM UNII 1 BAND 26dB Bandwidth	16QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ 16QAM

Conducted 26 dB Bandwidth Measurements for 16QAM 20 MHz BW

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.69	N/A	Pass	17.779
5200	18.75	N/A	Pass	17.873
5240	18.55	N/A	Pass	17.877

Conducted 26 dB Bandwidth Measurements for 16QAM 20 MHz BW

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.58	N/A	Pass	17.824
5785	18.64	N/A	Pass	17.835
5825	18.61	N/A	Pass	17.798

▣ TEST Plot for Port 3_ 16QAM 20 MHz BW

16QAM UNII 1 BAND 26dB Bandwidth	16QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 2_ 64QAM

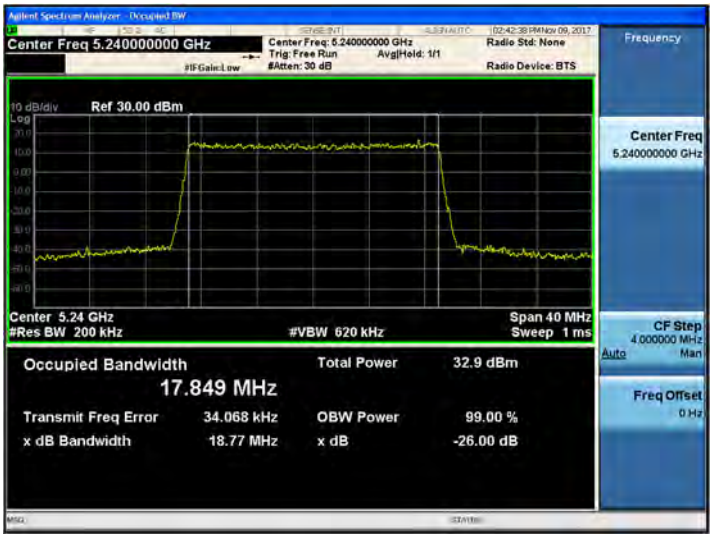
Conducted 26 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.66	N/A	Pass	17.714
5200	18.70	N/A	Pass	17.859
5240	18.77	N/A	Pass	17.849

Conducted 26 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.77	N/A	Pass	17.844
5785	18.75	N/A	Pass	17.836
5825	18.76	N/A	Pass	17.818

▣ TEST Plot for Port 2_ 64QAM 20 MHz BW

64QAM UNII 1 BAND 26dB Bandwidth	64QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ 64QAM

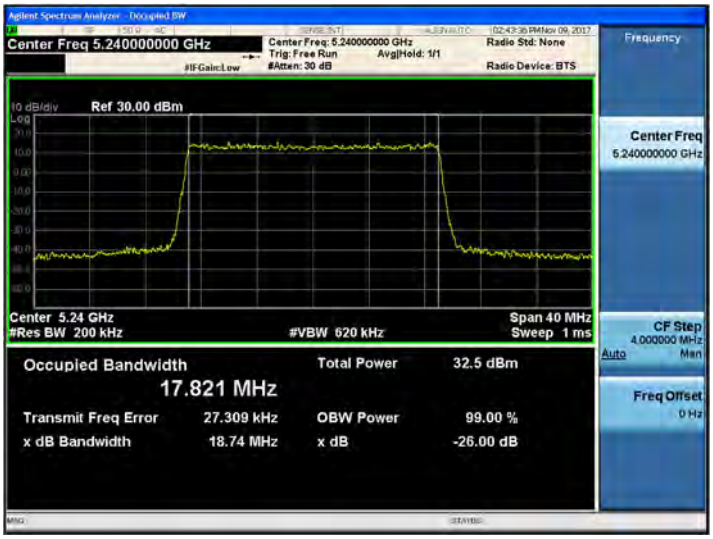
Conducted 26 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5160	18.66	N/A	Pass	17.750
5200	18.66	N/A	Pass	17.835
5240	18.74	N/A	Pass	17.821

Conducted 26 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5745	18.80	N/A	Pass	17.838
5785	18.80	N/A	Pass	17.815
5825	18.82	N/A	Pass	17.820

▣ TEST Plot for Port 3_ 64QAM 20 MHz BW

64QAM UNII 1 BAND 26dB Bandwidth	64QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 2_ QPSK

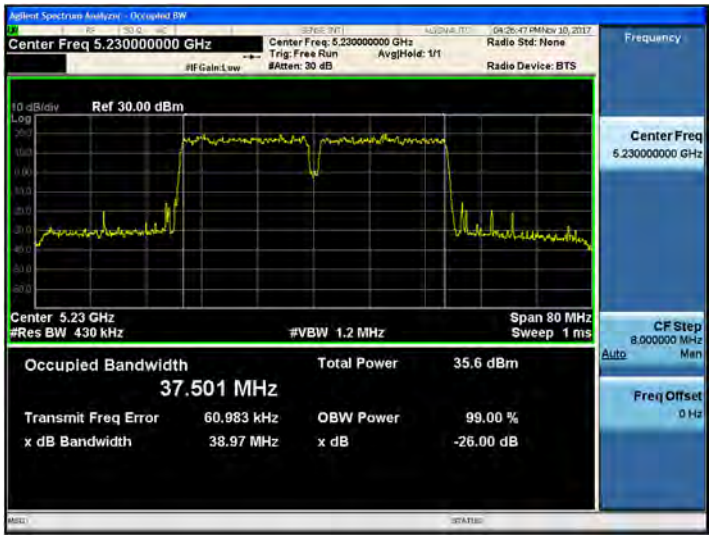
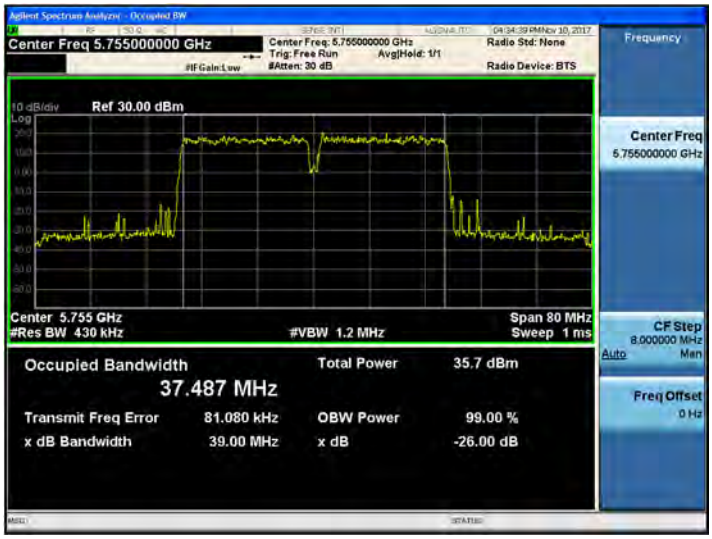
Conducted 26 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.87	N/A	Pass	37.411
5210	38.96	N/A	Pass	37.490
5230	38.97	N/A	Pass	37.501

Conducted 26 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	39.00	N/A	Pass	37.487
5795	38.93	N/A	Pass	37.453
5815	38.94	N/A	Pass	37.458

▣ TEST Plot for Port 2_ QPSK 20MHz BW x 2 Carrier

QPSK UNII 1 BAND 26dB Bandwidth	QPSK UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ QPSK

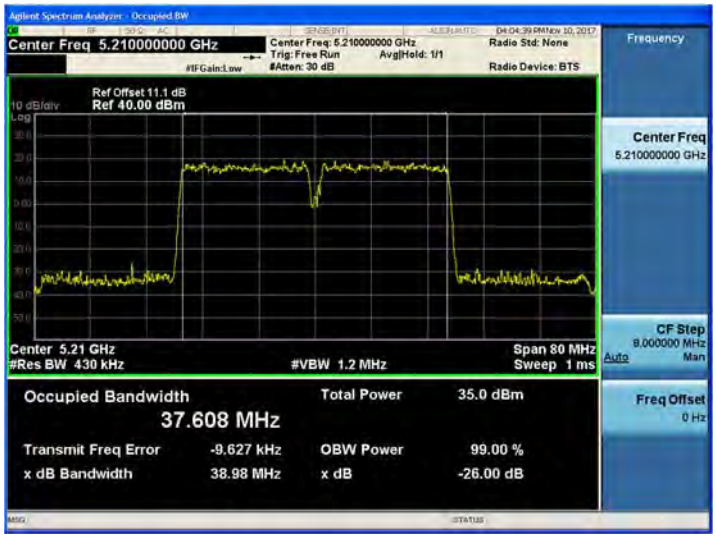
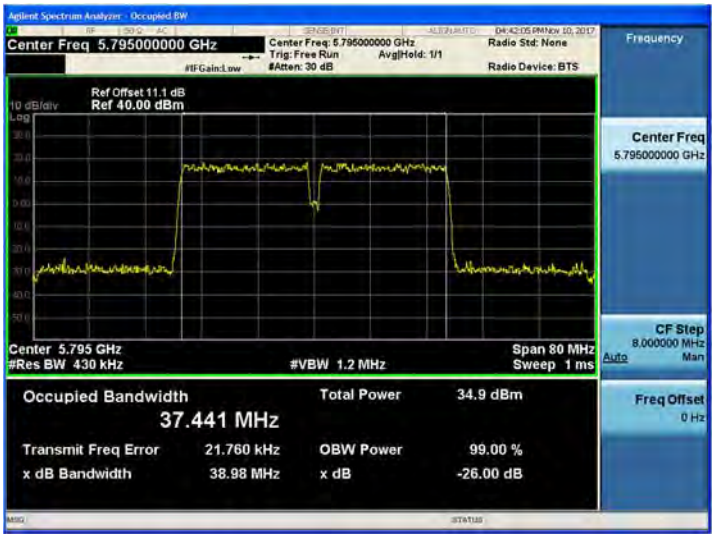
Conducted 26 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.87	N/A	Pass	37.289
5210	38.98	N/A	Pass	37.608
5230	38.91	N/A	Pass	37.606

Conducted 26 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	38.94	N/A	Pass	37.476
5795	38.98	N/A	Pass	37.441
5815	38.92	N/A	Pass	37.472

▣ TEST Plot for Port 3_ QPSK 20MHz BW x 2 Carrier

QPSK UNII 1 BAND 26dB Bandwidth	QPSK UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 2_ 16QAM

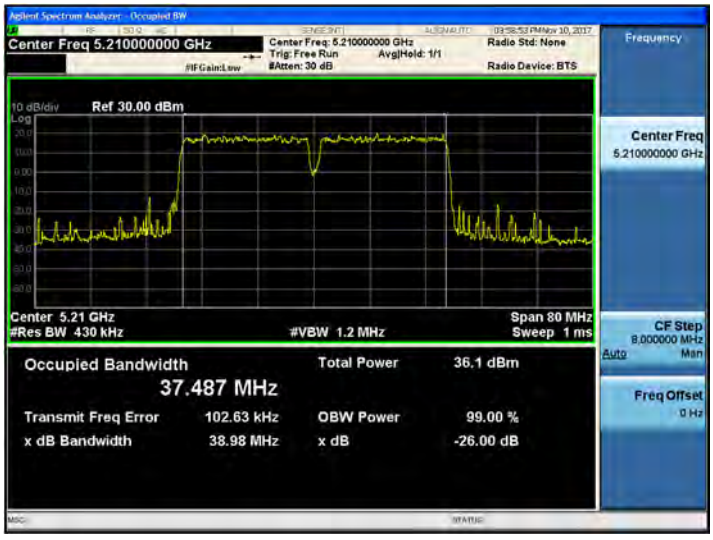
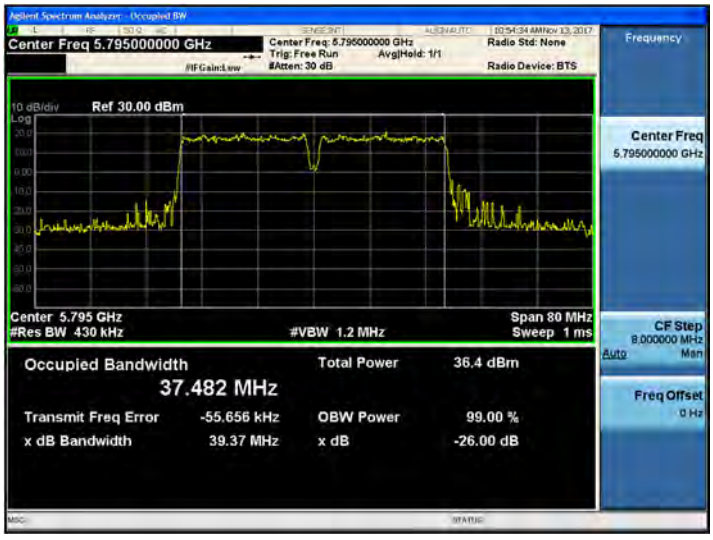
Conducted 26 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.83	N/A	Pass	37.213
5210	38.98	N/A	Pass	37.487
5230	38.90	N/A	Pass	37.447

Conducted 26 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	38.93	N/A	Pass	37.483
5795	39.37	N/A	Pass	37.482
5815	38.92	N/A	Pass	37.470

▣ TEST Plot for Port 2_ 16QAM 20MHz BW x 2 Carrier

16QAM UNII 1 BAND 26dB Bandwidth	16QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ 16QAM

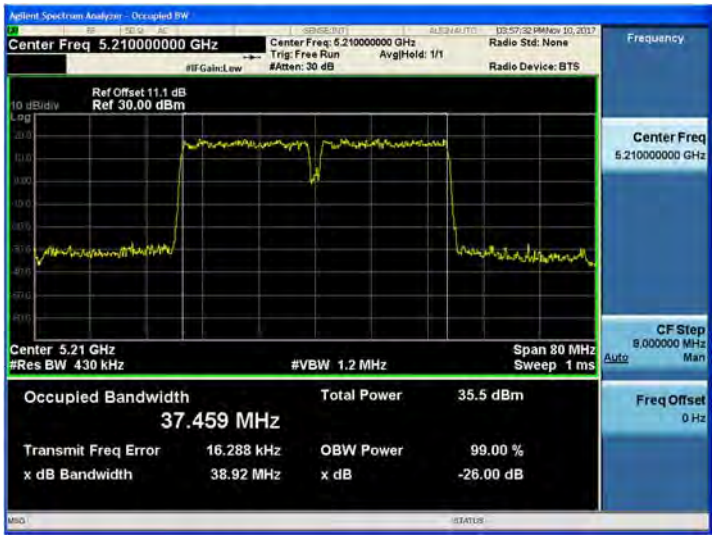
Conducted 26 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.85	N/A	Pass	37.358
5210	38.92	N/A	Pass	37.459
5230	38.87	N/A	Pass	37.515

Conducted 26 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	38.93	N/A	Pass	37.506
5795	38.95	N/A	Pass	37.438
5815	38.94	N/A	Pass	37.507

▣ TEST Plot for Port 3_ 16QAM 20MHz BW x 2 Carrier

16QAM UNII 1 BAND 26dB Bandwidth	16QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 2_ 64QAM

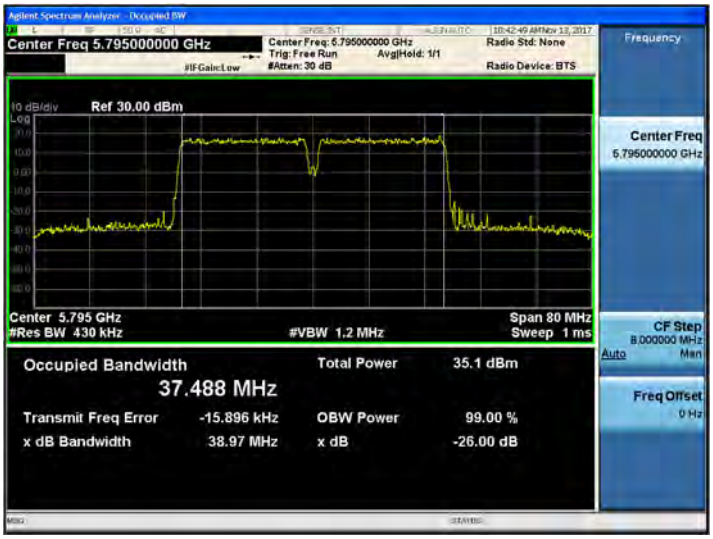
Conducted 26 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.86	N/A	Pass	37.321
5210	38.95	N/A	Pass	37.499
5230	38.98	N/A	Pass	37.484

Conducted 26 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	38.94	N/A	Pass	37.501
5795	38.97	N/A	Pass	37.488
5815	38.94	N/A	Pass	37.435

▣ TEST Plot for Port 2_ 64QAM 20MHz BW x 2 Carrier

64QAM UNII 1 BAND 26dB Bandwidth	64QAM UNII 3 BAND 26dB Bandwidth
	

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

▣ TEST RESULTS for Port 3_ 64QAM

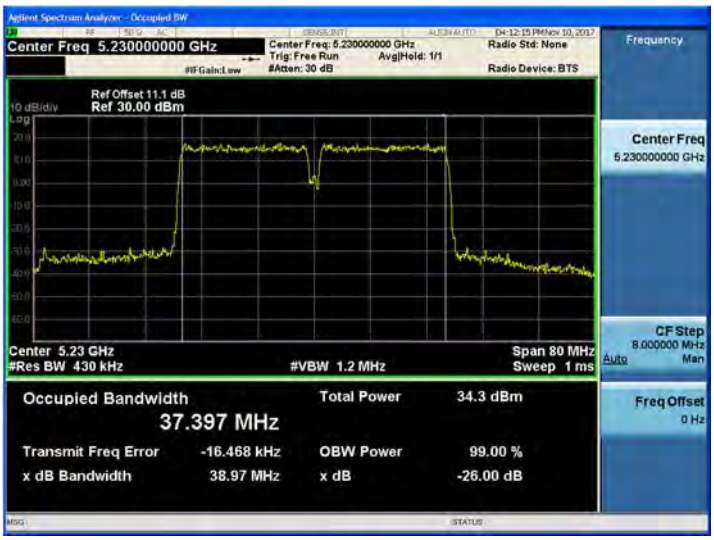
Conducted 26 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5170	38.91	N/A	Pass	37.339
5210	38.91	N/A	Pass	37.466
5230	38.97	N/A	Pass	37.397

Conducted 26 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail	99% OBW Measured Bandwidth [MHz]
5755	38.97	N/A	Pass	37.461
5795	38.93	N/A	Pass	37.500
5815	38.91	N/A	Pass	37.442

▣ TEST Plot for Port 3_ 64QAM 20MHz BW x 2 Carrier

64QAM UNII 1 BAND 26dB Bandwidth	64QAM UNII 3 BAND 26dB Bandwidth
	

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

Conducted 6 dB Bandwidth

▣ TEST RESULTS for Port 2

Conducted 6 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	17.91	0.5	Pass
5785	18.00	0.5	Pass
5825	18.01	0.5	Pass

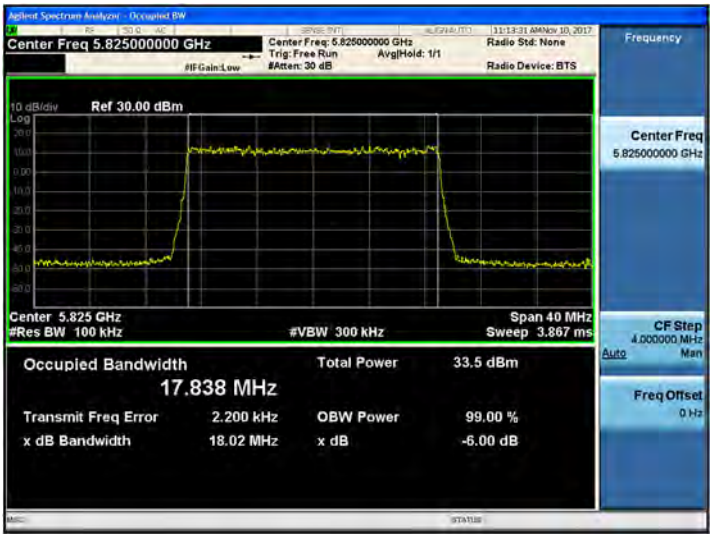
Conducted 6 dB Bandwidth Measurements for 16QAM 20 MHz BW

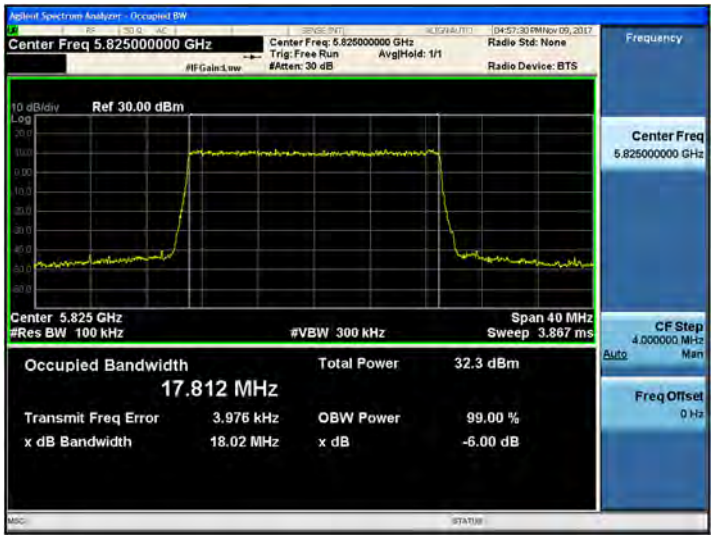
16QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	17.63	0.5	Pass
5785	18.01	0.5	Pass
5825	18.02	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	18.02	0.5	Pass
5785	18.01	0.5	Pass
5825	18.02	0.5	Pass

▣ TEST PlotS for Port 2 20 MHz BW

QPSK UNII 3 BAND 6dB Bandwidth	16QAM UNII 3 BAND 6dB Bandwidth
	

64QAM UNII 3 BAND 6dB Bandwidth


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

▣ TEST RESULTS for Port 3

Conducted 6 dB Bandwidth Measurements for QPSK 20 MHz BW

QPSK Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	18.01	0.5	Pass
5785	18.00	0.5	Pass
5825	18.00	0.5	Pass

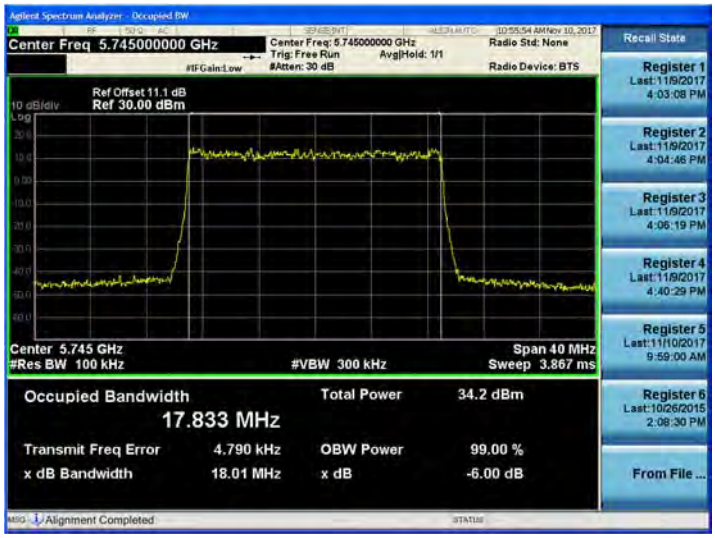
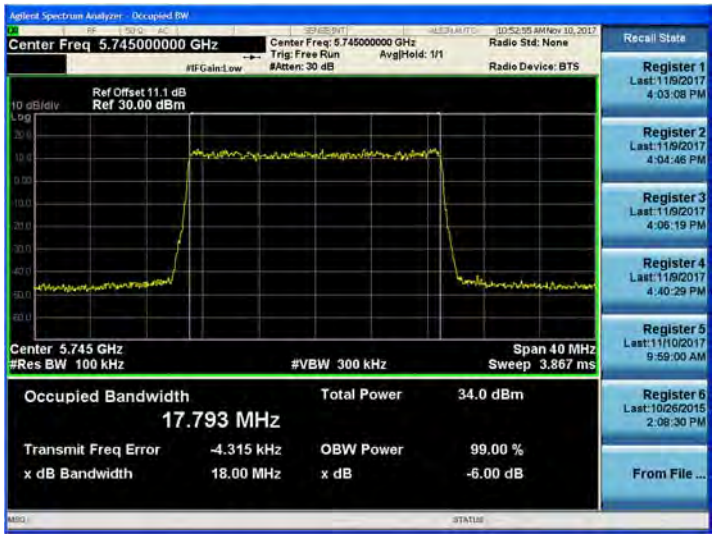
Conducted 6 dB Bandwidth Measurements for 16QAM 20 MHz BW

16QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	18.00	0.5	Pass
5785	17.99	0.5	Pass
5825	18.00	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 64QAM 20 MHz BW

64QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5745	18.04	0.5	Pass
5785	18.01	0.5	Pass
5825	18.01	0.5	Pass

▣ TEST PlotS for Port 3 20 MHz BW

QPSK UNII 3 BAND 6dB Bandwidth	16QAM UNII 3 BAND 6dB Bandwidth
	

64QAM UNII 3 BAND 6dB Bandwidth


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

Conducted 6 dB Bandwidth

▣ TEST RESULTS for Port 2

Conducted 6 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	38.00	0.5	Pass
5795	37.97	0.5	Pass
5815	37.73	0.5	Pass

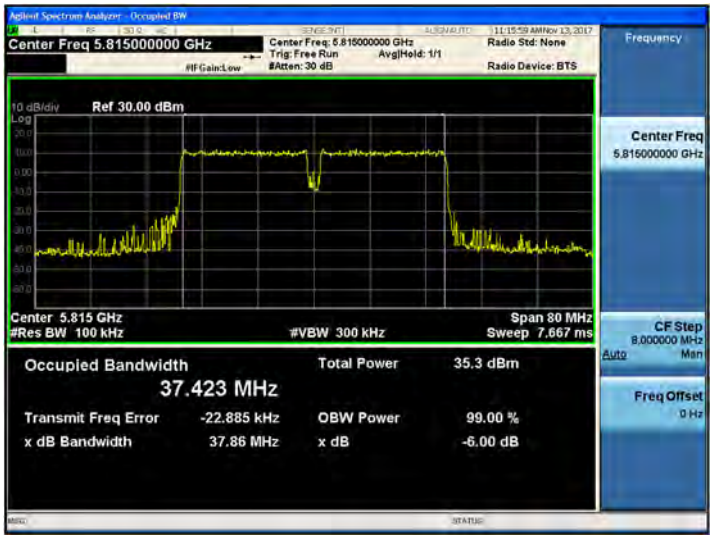
Conducted 6 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	37.83	0.5	Pass
5795	37.75	0.5	Pass
5815	37.82	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode / Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	37.83	0.5	Pass
5795	37.83	0.5	Pass
5815	37.86	0.5	Pass

▣ TEST PlotS for Port 2 20MHz BW x 2 Carrier

QPSK UNII 3 BAND 6dB Bandwidth	16QAM UNII 3 BAND 6dB Bandwidth
	
64QAM UNII 3 BAND 6dB Bandwidth	
	

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

▣ TEST RESULTS for Port 3

Conducted 6 dB Bandwidth Measurements for QPSK 20MHz BW x 2 Carrier

QPSK Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	37.84	0.5	Pass
5795	37.73	0.5	Pass
5815	37.88	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 16QAM 20MHz BW x 2 Carrier

16QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	37.95	0.5	Pass
5795	37.97	0.5	Pass
5815	37.82	0.5	Pass

Conducted 6 dB Bandwidth Measurements for 64QAM 20MHz BW x 2 Carrier

64QAM Mode Frequency [MHz]	Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
5755	37.89	0.5	Pass
5795	37.89	0.5	Pass
5815	38.82	0.5	Pass

▣ TEST PlotS for Port 3 20MHz BW x 2 Carrier

QPSK UNII 3 BAND 6dB Bandwidth	16QAM UNII 3 BAND 6dB Bandwidth
	
64QAM UNII 3 BAND 6dB Bandwidth	
	

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

9.3 OUTPUT POWER MEASUREMENT

Test Requirements and limit, §15.407(a)(1)

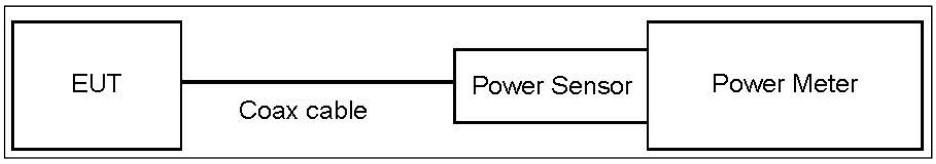
A transmitter antenna terminal of EUT is connected to the input of a Power meter or Spectrum Analyzer .Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

▣ Limit

Operating Mode	Band	Operating Ant.	Ant. Gain (dBi)	Limit (dBm)
SISO	UNII 1	Port 2	6.0	30.0
		Port 3	6.0	30.0
	UNII 3	Port 2	6.0	30.0
		Port 3	6.0	30.0
MIMO(SDM)	UNII 1	Port 2 & 3	6.0	30.0
	UNII 3		6.0	30.0

Note : 1. Limit is calculated by antenna gain.

▣ TEST CONFIGURATION(20 MHz BW)



▣ TEST PROCEDURE(20 MHz BW)

▪ Average Power (Procedure E.3.a in KDB 789033 D02 v01r04).

1. The EUT transmits continuously.
2. Measure the average power of the transmitter.

Note :

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

▣ TEST PROCEDURE(40 MHz BW)

▪ Average Power

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function. We tested according to Method SA-1 in KDB 789033 D02 v01r04.

The Spectrum Analyzer is set to

1. The EUT transmits continuously.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW ≥ 3 MHz.
5. Number of points in sweep ≥ 2*span/RBW.
6. Sweep time = auto.
7. Detector = 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

Band	Loss(dB)
UNII 1, 3	11.1

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

QPSK (UNII 1)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5160~5240)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.88	30.0
5200	23.95	30.0
5240	23.92	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5160~5240)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.62	30.0
5200	23.78	30.0
5240	23.66	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5160~5240)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	26.76	30.0
5200	26.88	30.0
5240	26.80	30.0

QPSK (UNII 3)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5745~5825)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.99	30.0
5785	23.81	30.0
5825	23.78	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5745~5825)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.54	30.0
5785	23.56	30.0
5825	23.64	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (QPSK Mode: 5745~5825)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	26.78	30.0
5785	26.70	30.0
5825	26.72	30.0

16QAM (UNII 1)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5160~5240)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.89	30.0
5200	23.73	30.0
5240	23.79	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5160~5240)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.73	30.0
5200	23.75	30.0
5240	23.43	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5160~5240)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	26.82	30.0
5200	26.75	30.0
5240	26.62	30.0

16QAM (UNII 3)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5745~5825)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.98	30.0
5785	23.91	30.0
5825	23.53	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5745~5825)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.03	30.0
5785	23.72	30.0
5825	23.77	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (16QAM Mode: 5745~5825)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	26.53	30.0
5785	26.83	30.0
5825	26.66	30.0

64QAM (UNII 1)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5160~5240)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.95	30.0
5200	23.65	30.0
5240	23.92	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5160~5240)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	23.56	30.0
5200	23.35	30.0
5240	23.68	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5160~5240)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5160	26.77	30.0
5200	26.51	30.0
5240	26.81	30.0

64QAM (UNII 3)

▣ TEST RESULTS for Port 2_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5745~5825)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.98	30.0
5785	23.89	30.0
5825	23.75	30.0

▣ TEST RESULTS for Port 3_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5745~5825)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	23.14	30.0
5785	23.46	30.0
5825	23.66	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20 MHz BW

Conducted Output Power Measurements (64QAM Mode: 5745~5825)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5745	26.58	30.0
5785	26.69	30.0
5825	26.72	30.0

QPSK (UNII 1)

▣ TEST RESULTS for Port 2_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5170~5230)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.22	30.0
5210	26.38	30.0
5230	26.74	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5170~5230)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.55	30.0
5210	26.63	30.0
5230	26.74	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5170~5230)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	29.40	30.0
5210	29.52	30.0
5230	29.75	30.0

QPSK (UNII 3)

▣ TEST RESULTS for Port 2_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5755~5815)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.23	30.0
5795	26.22	30.0
5815	26.34	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5755~5815)

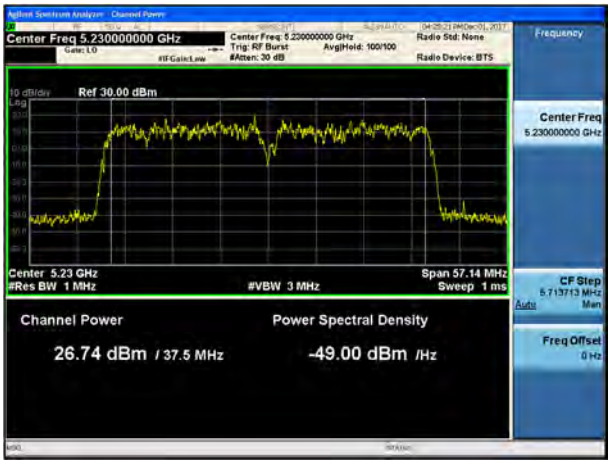
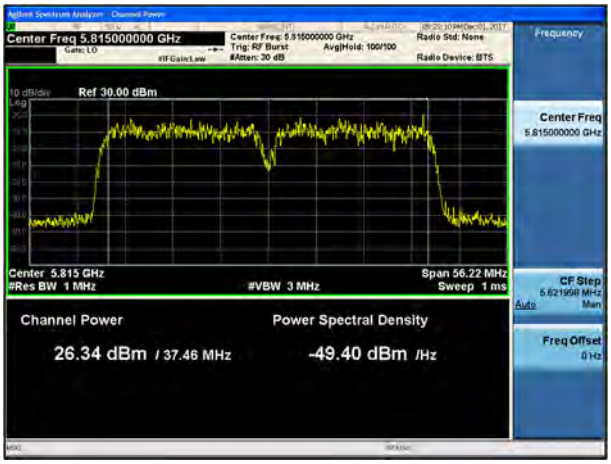
QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.26	30.0
5795	26.28	30.0
5815	26.37	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (QPSK Mode: 5755~5815)

QPSK Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	29.26	30.0
5795	29.26	30.0
5815	29.37	30.0

▣ TEST Plots for Port 2_ 20MHz BW x 2 Carrier

QPSK UNII 1 BAND Conducted Output Power (5230 MHz)	QPSK UNII 3 BAND Conducted Output Power (5815 MHz)
	

▣ TEST Plots for Port 3_ 20MHz BW x 2 Carrier

QPSK UNII 1 BAND Conducted Output Power (5230 MHz)	QPSK UNII 3 BAND Conducted Output Power (5815 MHz)
	

16QAM (UNII 1)

▣ TEST RESULTS for Port 2_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5170~5230)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.46	30.0
5210	26.33	30.0
5230	26.52	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5170~5230)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.62	30.0
5210	26.61	30.0
5230	26.57	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5170~5230)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	29.55	30.0
5210	29.48	30.0
5230	29.56	30.0

16QAM (UNII 3)

▣ TEST RESULTS for Port 2_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5755~5815)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.15	30.0
5795	26.75	30.0
5815	26.77	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5755~5815)

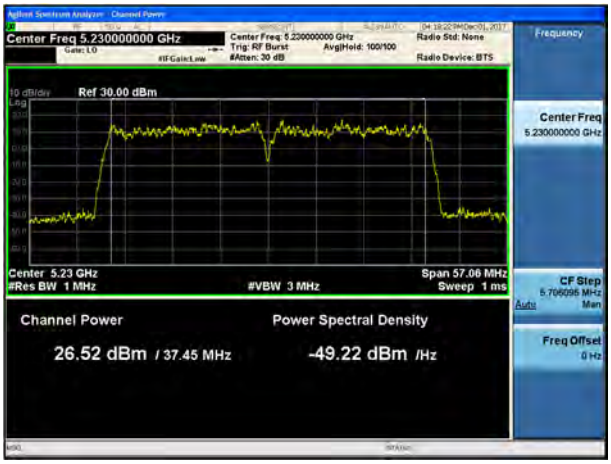
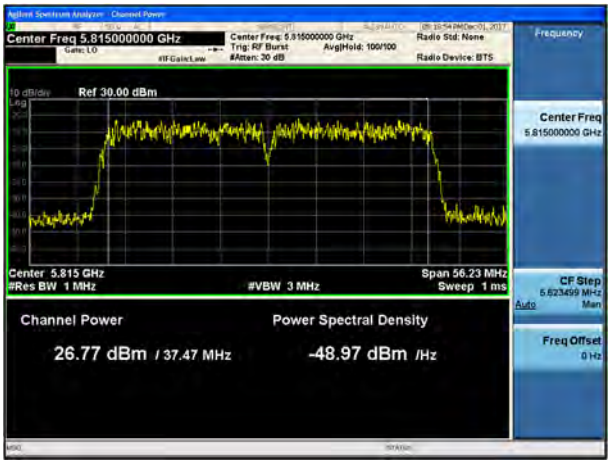
16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.18	30.0
5795	26.23	30.0
5815	26.27	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (16QAM Mode: 5755~5815)

16QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	29.18	30.0
5795	29.50	30.0
5815	29.53	30.0

▣ TEST Plots for Port 2_ 20MHz BW x 2 Carrier

16QAM UNII 1 BAND Conducted Output Power (5230 MHz)	16QAM UNII 3 BAND Conducted Output Power (5815 MHz)
	

▣ TEST Plots for Port 3_ 20MHz BW x 2 Carrier

16QAM UNII 1 BAND Conducted Output Power (5170 MHz)	16QAM UNII 3 BAND Conducted Output Power (5815 MHz)
	

64QAM (UNII 1)

▣ TEST RESULTS for Port 2_20MHz BW x 2 Carrier

Conducted Output Power Measureme (64QAM Mode: 5170~5230)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.26	30.0
5210	26.46	30.0
5230	26.64	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (64QAM Mode: 5170~5230)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	26.41	30.0
5210	26.67	30.0
5230	26.66	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (64QAM Mode: 5170~5230)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5170	29.35	30.0
5210	29.58	30.0
5230	29.66	30.0

64QAM (UNII 3)

▣ TEST RESULTS for Port 2_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (64QAM Mode: 5755~5815)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.18	30.0
5795	26.42	30.0
5815	26.46	30.0

▣ TEST RESULTS for Port 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (64QAM Mode: 5755~5815)

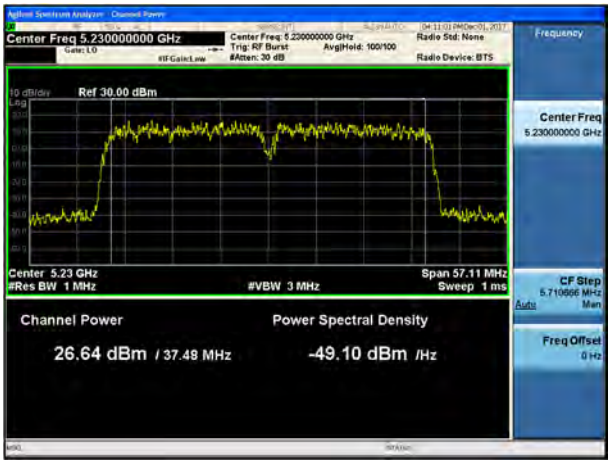
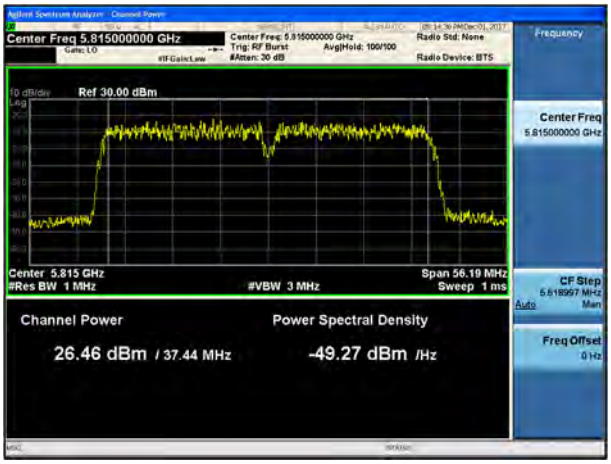
64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	26.12	30.0
5795	26.26	30.0
5815	26.41	30.0

▣ TEST RESULTS_Sum Data of Port 2 & 3_ 20MHz BW x 2 Carrier

Conducted Output Power Measurements (64QAM Mode: 5755~5815)

64QAM Mode Frequency [MHz]	Measured Power (dBm)	Limit (dBm)
5755	29.16	30.0
5795	29.35	30.0
5815	29.45	30.0

▣ TEST Plots for Port 2_ 20MHz BW x 2 Carrier

64QAM UNII 1 BAND Conducted Output Power (5230 MHz)	64QAM UNII 3 BAND Conducted Output Power (5815 MHz)
	

▣ TEST Plots for Port 3_ 20MHz BW x 2 Carrier

64QAM UNII 1 BAND Conducted Output Power (5210 MHz)	64QAM UNII 3 BAND Conducted Output Power (5815 MHz)
	

9.4 POWER SPECTRAL DENSITY

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 17 dBm/ MHz for UNII 1 and 30 dBm/500 kHz for UNII 3.

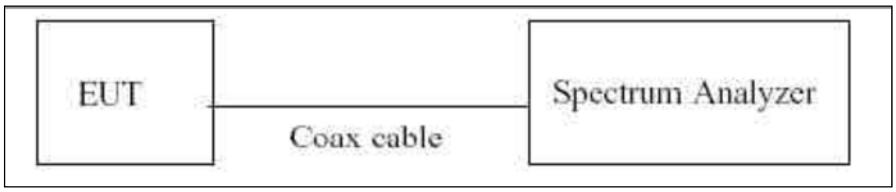
▣ Limit

Power Spectral Density

Operating Mode	Band	Operating Ant.	Ant. Gain (dBi)	Limit
SISO	UNII 1	Port 2	6.0	17.0 dBm/MHz
		Port 3	6.0	17.0 dBm/MHz
	UNII 3	Port 2	6.0	30.0 dBm/500 kHz
		Port 3	6.0	30.0 dBm/500 kHz
MIMO(SDM)	UNII 1	Pat 2 & 3	6.0	17.0 dBm/MHz
	UNII 3		6.0	30.0 dBm/500 kHz

Note : 1. Limit is calculated by antenna gain.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

We tested according to Method in KDB 789033 D02 v01r04.

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)
3. VBW ≥ 3 MHz
4. Number of points in sweep ≥ 2*span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector 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.

▣ Sample Calculation

PSD = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Output Power = -5 dBm + 10 dB + 0.8 dB + 0.21 dB = 16.01 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1, 3	11.1

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

QPSK

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.638	17.0	Pass
5200	12.619		Pass
5240	12.800		Pass
5745	9.753	30.0	Pass
5785	10.426		Pass
5825	10.200		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20 MHz BW

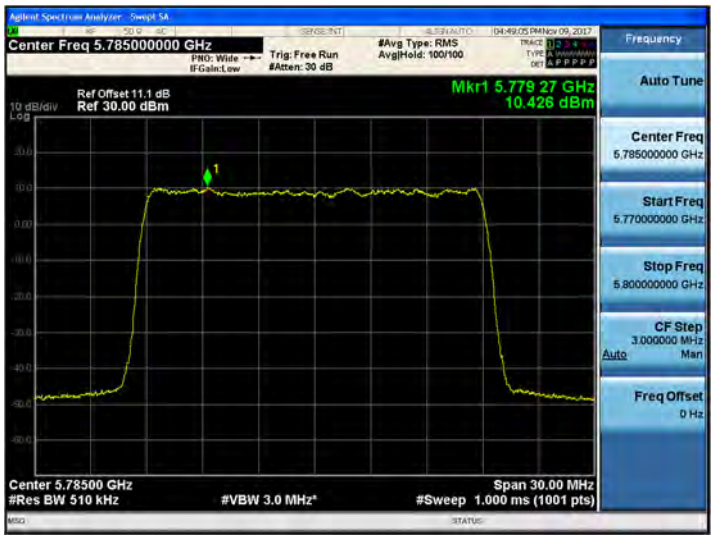
Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.974	17.0	Pass
5200	12.340		Pass
5240	12.682		Pass
5745	10.312	30.0	Pass
5785	10.654		Pass
5825	10.439		Pass

▣ Sum Data of Port 2 & 3

Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	15.818	17.0	Pass
5200	15.491		Pass
5240	15.752		Pass
5745	13.047	30.0	Pass
5785	13.551		Pass
5825	13.331		Pass

▣ TEST Plot for QPSK_Port 2 20 MHz BW

QPSK UNII 1 BAND PSD_5240 MHz	QPSK UNII 3 BAND PSD_5785 MHz
	

▣ TEST Plot for QPSK_Port 3 20 MHz BW

QPSK UNII 1 BAND PSD_5160 MHz	QPSK UNII 3 BAND PSD_5785 MHz
	

16QAM

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.506	17.0	Pass
5200	12.681		Pass
5240	12.820		Pass
5745	10.176	30.0	Pass
5785	10.514		Pass
5825	10.177		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20 MHz BW

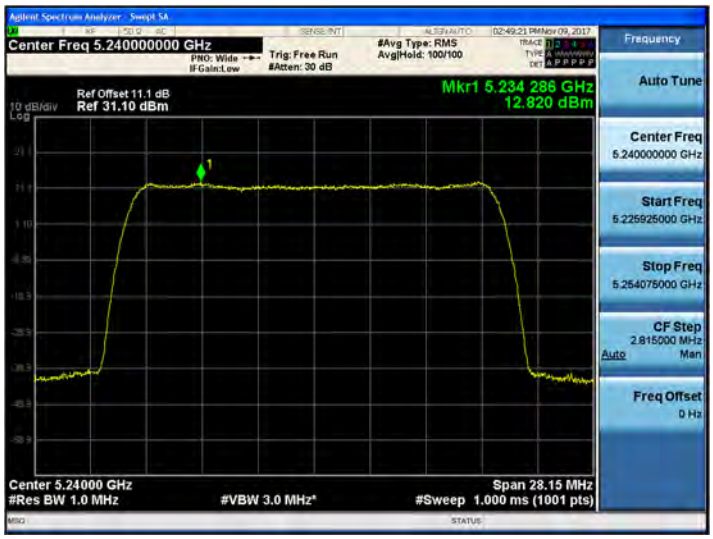
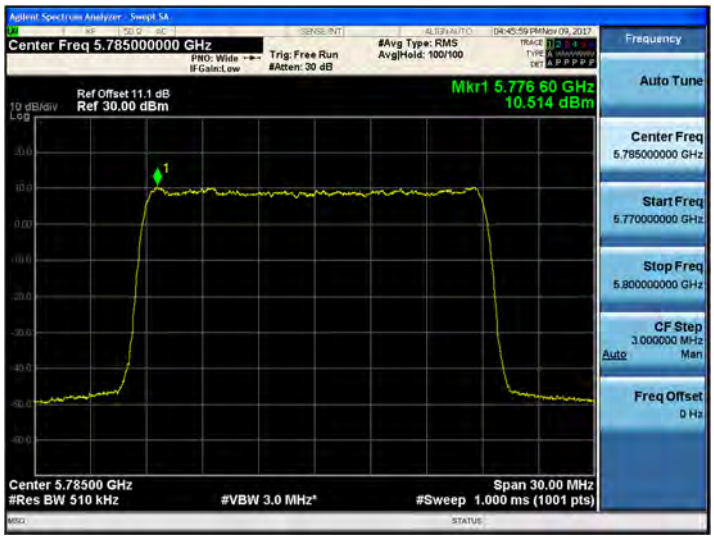
Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.978	17.0	Pass
5200	12.743		Pass
5240	12.836		Pass
5745	10.204	30.0	Pass
5785	10.091		Pass
5825	10.601		Pass

▣ Sum Data of Port 2 & 3

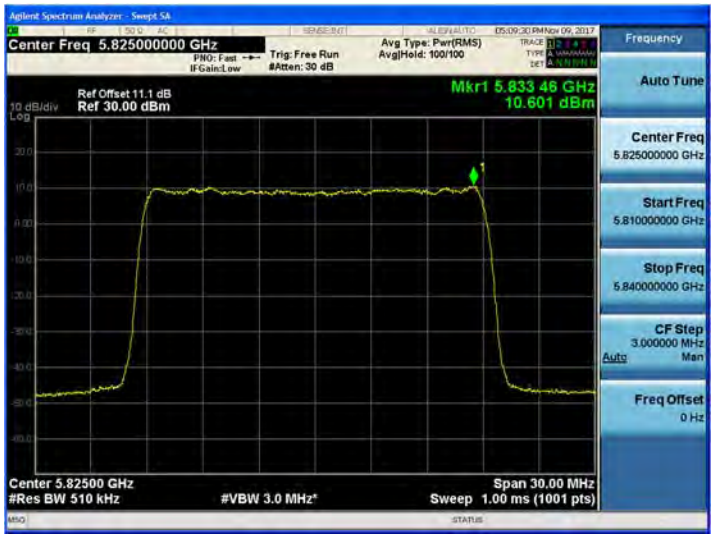
Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	15.756	17.0	Pass
5200	15.722		Pass
5240	15.838		Pass
5745	13.200	30.0	Pass
5785	13.315		Pass
5825	13.402		Pass

▣ TEST Plot for 16QAM _Port 2 20 MHz BW

16QAM UNII 1 BAND PSD_5240 MHz	16QAM UNII 3 BAND PSD_5785 MHz
	

▣ TEST Plot for 16QAM _Port 3 20 MHz BW

16QAM UNII 1 BAND PSD_5160 MHz	16QAM UNII 3 BAND PSD_5825 MHz
	

64QAM

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.371	17.0	Pass
5200	12.036		Pass
5240	12.492		Pass
5745	10.058	30.0	Pass
5785	10.003		Pass
5825	9.649		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	12.723	17.0	Pass
5200	12.312		Pass
5240	12.403		Pass
5745	9.971	30.0	Pass
5785	9.906		Pass
5825	10.053		Pass

▣ Sum Data of Port 2 & 3

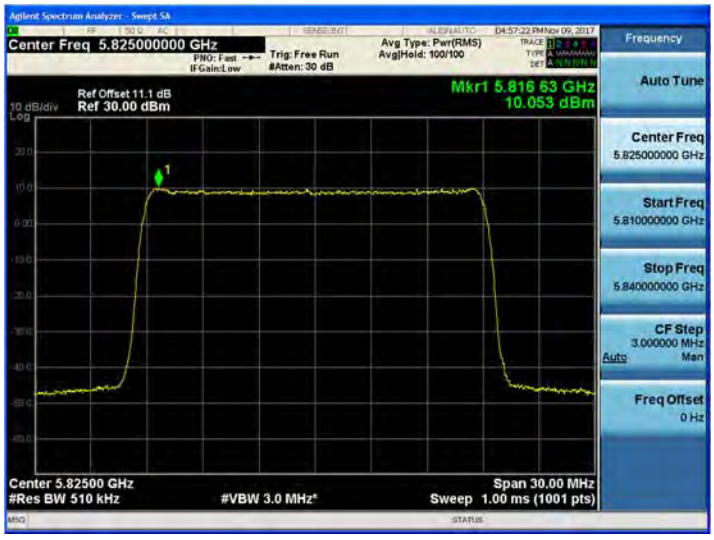
Conducted Power Density Measurements 20 MHz BW

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5160	15.559	17.0	Pass
5200	15.185		Pass
5240	15.458		Pass
5745	13.025	30.0	Pass
5785	12.965		Pass
5825	12.864		Pass

▣ TEST Plot for 64QAM _Port 2 20 MHz BW

64QAM UNII 1 BAND PSD_5240 MHz	64QAM UNII 3 BAND PSD_5745 MHz
	

▣ TEST Plot for 16QAM _Port 3 20 MHz BW

64QAM UNII 1 BAND PSD_5160 MHz	64QAM UNII 3 BAND PSD_5825 MHz
	

QPSK

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	12.138	17.0	Pass
5210	11.750		Pass
5230	12.150		Pass
5755	9.573	30.0	Pass
5795	9.934		Pass
5815	9.339		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20MHz BW x 2 Carrier

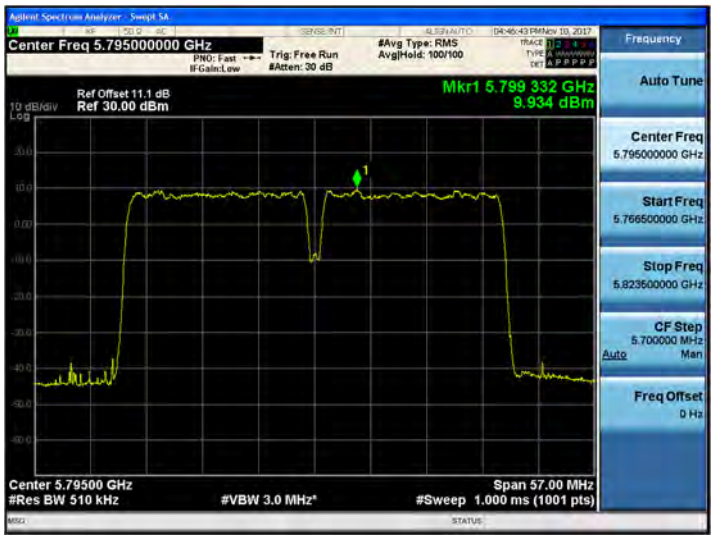
Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	10.745	17.0	Pass
5210	10.584		Pass
5230	11.054		Pass
5755	9.250	30.0	Pass
5795	8.692		Pass
5815	8.638		Pass

▣ Sum Data of Port 2 & 3

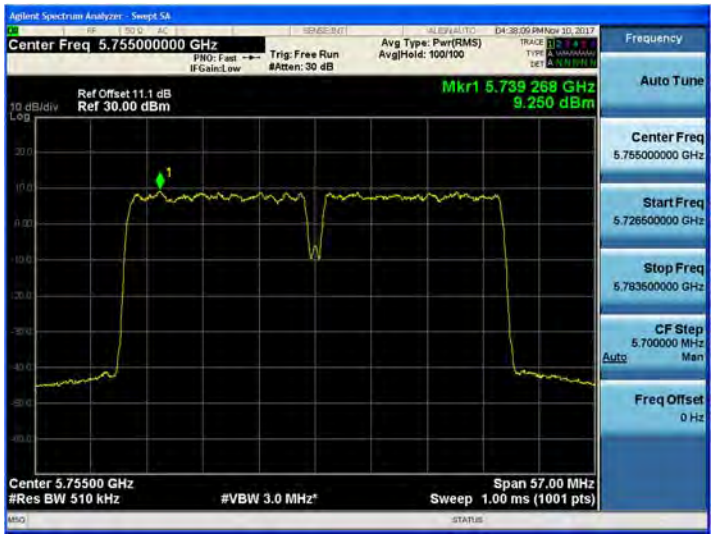
Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	14.480	17.0	Pass
5210	14.197		Pass
5230	14.630		Pass
5755	12.423	30.0	Pass
5795	12.345		Pass
5815	12.006		Pass

▣ TEST Plot for QPSK_Port 2 20MHz BW x 2 Carrier

QPSK UNII 1 BAND PSD_5230 MHz	QPSK UNII 3 BAND PSD_5795 MHz
	

▣ TEST Plot for QPSK_Port 3 20MHz BW x 2 Carrier

QPSK UNII 1 BAND PSD_5230 MHz	QPSK UNII 3 BAND PSD_5755 MHz
	

16QAM

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	11.739	17.0	Pass
5210	12.038		Pass
5230	12.153		Pass
5755	9.240	30.0	Pass
5795	9.285		Pass
5815	9.057		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20MHz BW x 2 Carrier

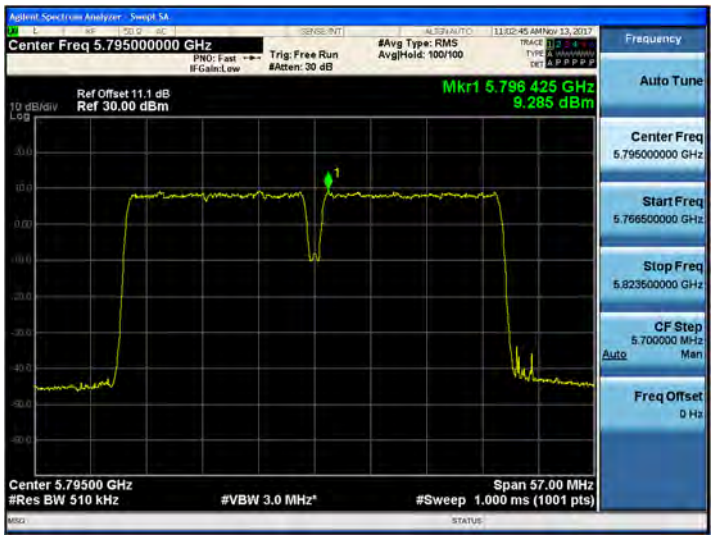
Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	10.701	17.0	Pass
5210	10.921		Pass
5230	10.892		Pass
5755	8.443	30.0	Pass
5795	9.027		Pass
5815	8.347		Pass

▣ Sum Data of Port 2 & 3

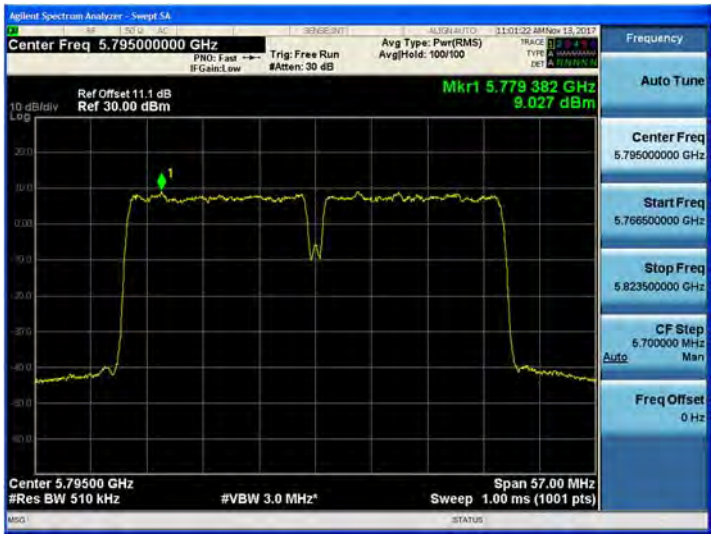
Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	14.246	17.0	Pass
5210	14.508		Pass
5230	14.556		Pass
5755	11.861	30.0	Pass
5795	12.167		Pass
5815	11.720		Pass

▣ TEST Plot for 16QAM _Port 2 20MHz BW x 2 Carrier

16QAM UNII 1 BAND PSD_5230 MHz	16QAM UNII 3 BAND PSD_5795 MHz
	

▣ TEST Plot for 16QAM _Port 3 20MHz BW x 2 Carrier

16QAM UNII 1 BAND PSD_5210 MHz	16QAM UNII 3 BAND PSD_5795 MHz
	

64QAM

▣ TEST RESULTS for Port 2

Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	11.443	17.0	Pass
5210	11.973		Pass
5230	11.886		Pass
5755	9.398	30.0	Pass
5795	9.444		Pass
5815	9.398		Pass

▣ TEST RESULTS for Port 3

Conducted Power Density Measurements 20MHz BW x 2 Carrier

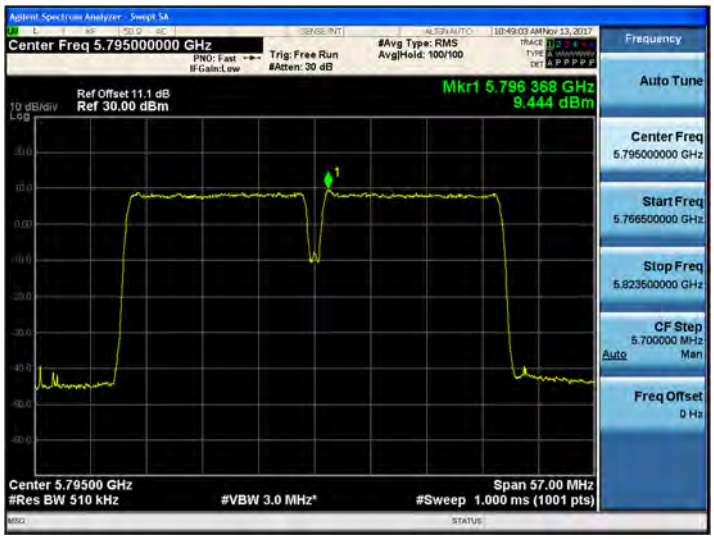
Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	10.427	17.0	Pass
5210	10.709		Pass
5230	10.830		Pass
5755	9.051	30.0	Pass
5795	8.305		Pass
5815	8.403		Pass

▣ Sum Data of Port 2 & 3

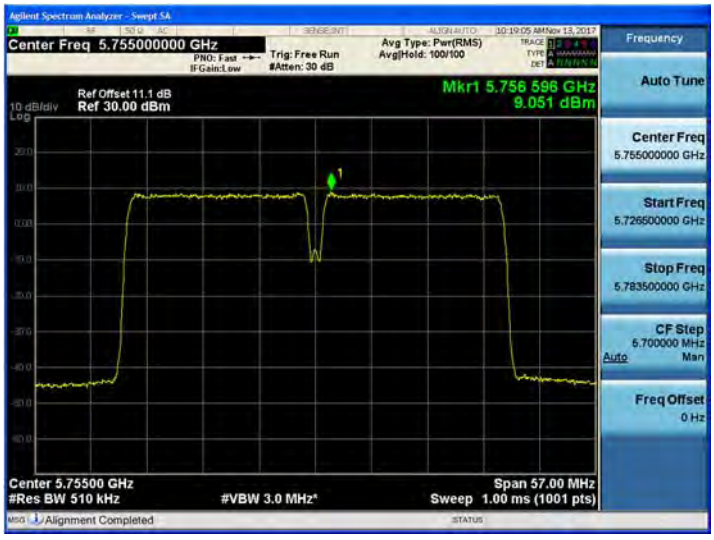
Conducted Power Density Measurements 20MHz BW x 2 Carrier

Frequency (MHz)	Test Result		
	Measured Power Density (dBm)	Limit (dBm)	Pass/Fail
5170	13.960	17.0	Pass
5210	14.374		Pass
5230	14.384		Pass
5755	12.237	30.0	Pass
5795	11.903		Pass
5815	11.925		Pass

▣ TEST Plot for 64QAM _Port 2 20MHz BW x 2 Carrier

64QAM UNII 1 BAND PSD_5210 MHz	64QAM UNII 3 BAND PSD_5795 MHz
	

▣ TEST Plot for 16QAM _Port 3 20MHz BW x 2 Carrier

64QAM UNII 1 BAND PSD_5230 MHz	64QAM UNII 3 BAND PSD_5755 MHz
	

9.5 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 ℃ and 80 ℃. The temperature was incremented by 10 ℃ 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.

Port 2

20 MHz BW

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,160,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5160020.65	20.65
100%		0	5160008.55	8.55
100%		+10	5160014.10	14.10
100%		+30	5160028.53	28.53
100%		+40	5160034.55	34.55
100%		+50	5160041.14	41.14
110%	13.20	+20	5160015.08	15.08
90%	10.80	+20	5160010.86	10.86

Note:

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.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5745019.85	19.85
100%		0	5745007.40	7.4
100%		+10	5745012.61	12.61
100%		+30	5745027.58	27.58
100%		+40	5745033.51	33.51
100%		+50	5745038.92	38.92
110%	13.20	+20	5745014.69	14.69
90%	10.80	+20	5745009.97	9.97

Note:

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.

20MHz BW x 2 Carrier

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,170,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5170020.35	20.35
100%		0	5170007.89	7.89
100%		+10	5170014.65	14.65
100%		+30	5170027.62	27.62
100%		+40	5170035.55	35.55
100%		+50	5170040.51	40.51
110%	13.20	+20	5170015.78	15.78
90%	10.80	+20	5170010.59	10.59

Note:

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.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5755021.57	21.57
100%		0	5755010.81	10.81
100%		+10	5755015.66	15.66
100%		+30	5755027.50	27.5
100%		+40	5755032.58	32.58
100%		+50	5755040.66	40.66
110%	13.20	+20	5755013.63	13.63
90%	10.80	+20	5755008.80	8.8

Note:

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.

Port 3

20 MHz BW

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,160,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5160020.96	20.96
100%		0	5160007.37	7.37
100%		+10	5160015.28	15.28
100%		+30	5160028.21	28.21
100%		+40	5160034.74	34.74
100%		+50	5160040.14	40.14
110%	13.20	+20	5160014.65	14.65
90%	10.80	+20	5160008.31	8.31

Note:

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.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,745,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5745021.04	21.04
100%		0	5745011.40	11.4
100%		+10	5745016.38	16.38
100%		+30	5745026.95	26.95
100%		+40	5745034.74	34.74
100%		+50	5745040.88	40.88
110%	13.20	+20	5745013.94	13.94
90%	10.80	+20	5745010.21	10.21

Note:

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.

20MHz BW x 2 Carrier

OPERATING BAND: UNII Band 1

OPERATING FREQUENCY: 5,170,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5170020.99	20.99
100%		0	5170007.14	7.14
100%		+10	5170013.19	13.19
100%		+30	5170028.13	28.13
100%		+40	5170032.81	32.81
100%		+50	5170036.95	36.95
110%	13.20	+20	5170013.79	13.79
90%	10.80	+20	5170007.08	7.08

Note:

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.

OPERATING BAND: UNII Band 3

OPERATING FREQUENCY: 5,755,000,000 Hz

REFERENCE VOLTAGE: 12.0 VDC

Voltage	Power (VAC)	Temp. (℃)	Frequency (kHz)	Frequency Error (kHz)
100%	12.00	+20(Ref)	5755019.85	19.85
100%		0	5755005.98	5.98
100%		+10	5755013.62	13.62
100%		+30	5755024.21	24.21
100%		+40	5755031.59	31.59
100%		+50	5755036.95	36.95
110%	13.20	+20	5755012.64	12.64
90%	10.80	+20	5755003.13	3.13

Note:

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.

9.6 RADIATED MEASUREMENT

9.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

Frequency (MHz)	Field Strength (uV/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

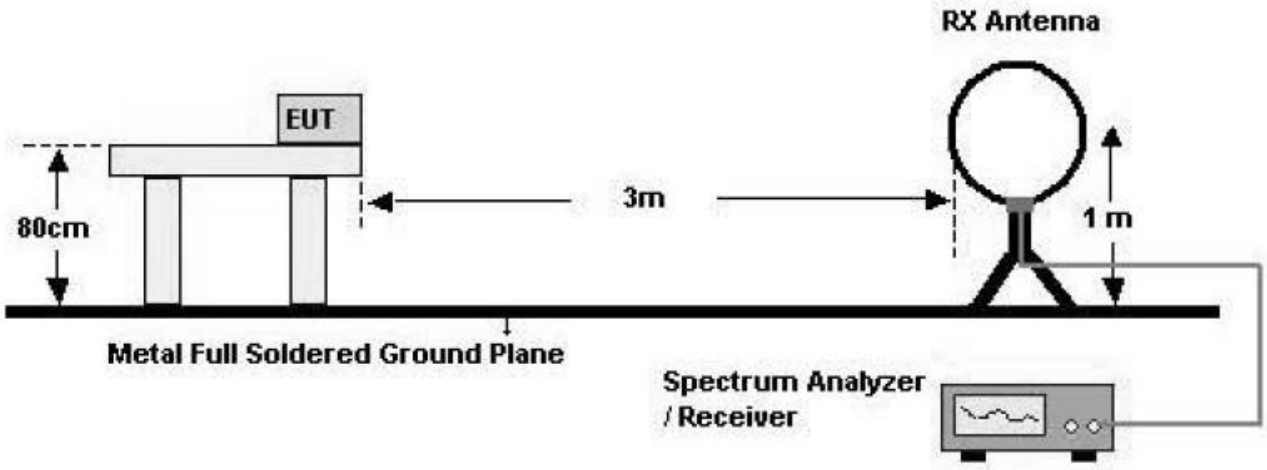
▣ §15.407, KDB 789033 D02

All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBμV/m.

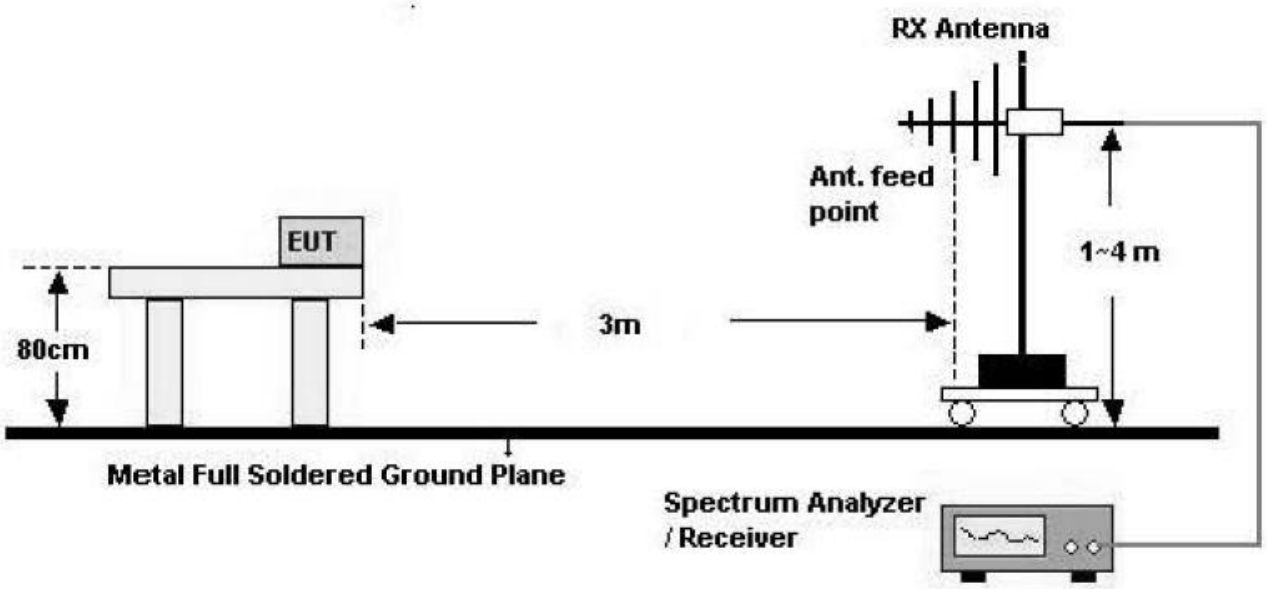
Espectally, for transmitter operating in the 5725 Mhz – 5850 MHz : All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing 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.

Test Configuration

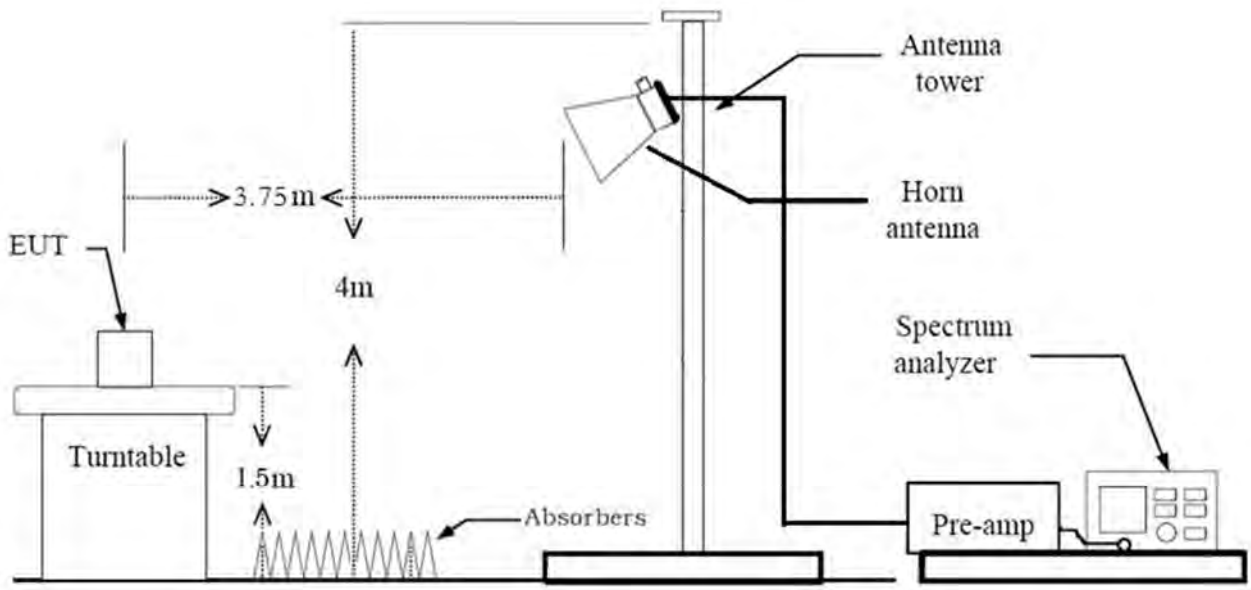
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.10:2013

Method G)5) in KDB 789033 D02 v01r04 (Peak)

Method G)6)d) in KDB 789033 D02 v01r04 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = Peak
4. Sweep Time = auto
5. Trace mode = max hold
6. Allow sweeps to continue until the trace stabilizes.
7. 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.

- Average (Method VB :Averaging using reduced video bandwidth)

1. RBW = 1 MHz
2. VBW
   2.1. If the EUT is configured to transmit with duty cycle ≥ 98 percent, set VBW ≤ RBW/100(i.e., 10 kHz) but not less than 10 Hz.
   2.2. If the EUT duty cycle is < 98 percent, set VBW ≥ 1/T, where T is the minimum transmission duration.
3. The analyzer is set to linear detector mode.
4. Detector = Peak.
5. Sweep time = auto.
6. Trace mode = max hold.
7. 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 minimym number of traces by a factor of 1/x, where x is the duty cycle.

Note :

1. We used the Method VB for LAA mode to perform the average filed strength measurements.
2. According to SVSWR requirement in ANSI 63.4-2014, We performed the radiated test at 3.75 m distance from center of turn table. So, we applied the distance factor(reference distance : 3 m).
3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dB㎶	dB /m	dB	(H/V)	dB㎶/m	dB㎶/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
㎒	dB㎶	dB /m	dB	(H/V)	dB㎶/m	dB㎶/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Band :	UNII 1
Operation Mode:	QPSK
Operating Frequency	5160 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10320	60.24	-2.75	V	57.49	68.20	10.71	PK
15480	54.84	-1.23	V	53.61	73.98	20.37	PK
15480	40.64	-1.23	V	39.41	53.98	14.57	AV
10320	62.31	-2.75	H	59.56	68.20	8.64	PK
15480	53.73	-1.23	H	52.50	73.98	21.48	PK
15480	40.15	-1.23	H	38.92	53.98	15.06	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	QPSK
Operating Frequency	5200 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	61.54	-2.60	V	58.94	68.20	9.26	PK
15600	55.25	-2.26	V	52.99	73.98	20.99	PK
15600	40.48	-2.26	V	38.22	53.98	15.76	AV
10400	62.03	-2.60	H	59.43	68.20	8.77	PK
15600	54.88	-2.26	H	52.62	73.98	21.36	PK
15600	40.13	-2.26	H	37.87	53.98	16.11	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: QPSK

Operating Frequency 5240 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	63.99	-3.54	V	60.45	68.20	7.75	PK
15720	53.43	-2.64	V	50.79	73.98	23.19	PK
15720	39.82	-2.64	V	37.18	53.98	16.80	AV
10480	64.67	-3.54	H	61.13	68.20	7.07	PK
15720	53.21	-2.64	H	50.57	73.98	23.41	PK
15720	39.75	-2.64	H	37.11	53.98	16.87	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 16QAM

Operating Frequency 5160 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
15480	54.66	-1.23	V	53.43	73.98	20.55	PK
15480	40.72	-1.23	V	39.49	53.98	14.49	AV
10320	61.94	-2.75	H	59.19	68.20	9.01	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 16QAM

Operating Frequency 5200 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
15600	53.49	-2.26	V	51.23	73.98	22.75	PK
15600	40.33	-2.26	V	38.07	53.98	15.91	AV
10400	61.54	-2.60	H	58.94	68.20	9.26	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	16QAM
Operating Frequency	5240 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
15720	52.61	-2.64	V	49.97	73.98	24.01	PK
15720	39.63	-2.64	V	36.99	53.98	16.99	AV
10480	64.34	-3.54	H	60.80	68.20	7.40	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5160 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10320	58.05	-2.75	V	55.30	68.20	12.90	PK
15480	54.08	-1.23	V	52.85	73.98	21.13	PK
15480	40.28	-1.23	V	39.05	53.98	14.93	AV
10320	58.73	-2.75	H	55.98	68.20	12.22	PK
15480	53.88	-1.23	H	52.65	73.98	21.33	PK
15480	40.01	-1.23	H	38.78	53.98	15.20	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5200 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	60.45	-2.60	V	57.85	68.20	10.35	PK
15600	53.84	-2.26	V	51.58	73.98	22.40	PK
15600	40.09	-2.26	V	37.83	53.98	16.15	AV
10400	61.11	-2.60	H	58.51	68.20	9.69	PK
15600	53.71	-2.26	H	51.45	73.98	22.53	PK
15600	39.97	-2.26	H	37.71	53.98	16.27	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5240 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	63.91	-3.54	V	60.37	68.20	7.83	PK
15720	52.50	-2.64	V	49.86	73.98	24.12	PK
15720	39.35	-2.64	V	36.71	53.98	17.27	AV
10480	64.44	-3.54	H	60.90	68.20	7.30	PK
15720	52.43	-2.64	H	49.79	73.98	24.19	PK
15720	39.31	-2.64	H	36.67	53.98	17.31	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	QPSK
Operating Frequency	5170 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10340	64.09	-2.75	V	61.34	68.20	6.86	PK
15510	52.70	-1.23	V	51.47	73.98	22.51	PK
15510	39.29	-1.23	V	38.06	53.98	15.92	AV
10340	62.27	-2.75	H	59.52	68.20	8.68	PK
15510	52.53	-1.23	H	51.30	73.98	22.68	PK
15510	39.19	-1.23	H	37.96	53.98	16.02	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 1
Operation Mode:	QPSK
Operating Frequency	5210 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10420	54.09	-2.60	V	51.49	68.20	16.71	PK
15630	52.73	-2.26	V	50.47	73.98	23.51	PK
15630	39.27	-2.26	V	37.01	53.98	16.97	AV
10420	53.83	-2.60	H	51.23	68.20	16.97	PK
15630	52.66	-2.26	H	50.40	73.98	23.58	PK
15630	39.22	-2.26	H	36.96	53.98	17.02	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: QPSK

Operating Frequency 5230 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	59.08	-3.54	V	55.54	68.20	12.66	PK
15690	52.71	-2.64	V	50.07	73.98	23.91	PK
15690	39.23	-2.64	V	36.59	53.98	17.39	AV
10460	57.95	-3.54	H	54.41	68.20	13.79	PK
15690	52.55	-2.64	H	49.91	73.98	24.07	PK
15690	39.19	-2.64	H	36.55	53.98	17.43	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 16QAM

Operating Frequency 5170 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10340	64.12	-2.75	V	61.37	68.20	6.83	PK
15510	52.72	-1.23	V	51.49	73.98	22.49	PK
15510	39.31	-1.23	V	38.08	53.98	15.90	AV
10340	62.59	-2.75	H	59.84	68.20	8.36	PK
15510	52.63	-1.23	H	51.40	73.98	22.58	PK
15510	39.25	-1.23	H	38.02	53.98	15.96	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 16QAM

Operating Frequency 5230 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	60.92	-3.54	V	57.38	68.20	10.82	PK
15690	52.68	-2.64	V	50.04	73.98	23.94	PK
15690	39.28	-2.64	V	36.64	53.98	17.34	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5170 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10340	63.03	-2.75	V	60.28	68.20	7.92	PK
15510	52.86	-1.23	V	51.63	73.98	22.35	PK
15510	39.51	-1.23	V	38.28	53.98	15.70	AV
10340	62.23	-2.75	H	59.48	68.20	8.72	PK
15510	52.75	-1.23	H	51.52	73.98	22.46	PK
15510	39.44	-1.23	H	38.21	53.98	15.77	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5210 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10420	57.76	-2.60	V	55.16	68.20	13.04	PK
15630	52.96	-2.26	V	50.70	73.98	23.28	PK
15630	39.45	-2.26	V	37.19	53.98	16.79	AV
10420	57.02	-2.60	H	54.42	68.20	13.78	PK
15630	52.83	-2.26	H	50.57	73.98	23.41	PK
15630	39.40	-2.26	H	37.14	53.98	16.84	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 1

Operation Mode: 64QAM

Operating Frequency 5230 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10460	57.52	-3.54	V	53.98	68.20	14.22	PK
15690	53.48	-2.64	V	50.84	73.98	23.14	PK
15690	40.25	-2.64	V	37.61	53.98	16.37	AV
10460	56.55	-3.54	H	53.01	68.20	15.19	PK
15690	53.29	-2.64	H	50.65	73.98	23.33	PK
15690	40.11	-2.64	H	37.47	53.98	16.51	AV

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: QPSK

Operating Frequency 5745MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	54.02	-2.50	V	51.52	73.98	22.46	PK
11490	40.01	-2.50	V	37.51	53.98	16.47	AV
17235	51.16	3.09	V	54.25	68.20	13.95	PK
11490	53.85	-2.50	H	51.35	73.98	22.63	PK
11490	39.87	-2.50	H	37.37	53.98	16.61	AV
17235	51.11	3.09	H	54.20	68.20	14.00	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	QPSK
Operating Frequency	5785 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	53.71	-2.87	V	50.84	73.98	23.14	PK
11570	39.86	-2.87	V	36.99	53.98	16.99	AV
17355	51.13	3.45	V	54.58	68.20	13.62	PK
11570	53.68	-2.87	H	50.81	73.98	23.17	PK
11570	39.71	-2.87	H	36.84	53.98	17.14	AV
17355	51.08	3.45	H	54.53	68.20	13.67	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: QPSK

Operating Frequency 5825 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	56.34	-2.84	V	53.50	73.98	20.48	PK
11650	42.44	-2.84	V	39.60	53.98	14.38	AV
17475	51.10	5.68	V	56.78	68.20	11.42	PK
11650	55.13	-2.84	H	52.29	73.98	21.69	PK
11650	41.37	-2.84	H	38.53	53.98	15.45	AV
17475	51.05	5.68	H	56.73	68.20	11.47	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5745 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	55.09	-2.50	V	52.59	73.98	21.39	PK
11490	41.58	-2.50	V	39.08	53.98	14.90	AV
17235	50.89	3.09	V	53.98	68.20	14.22	PK
11490	54.37	-2.50	H	51.87	73.98	22.11	PK
11490	41.01	-2.50	H	38.51	53.98	15.47	AV
17235	50.87	3.09	H	53.96	68.20	14.24	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5785 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	54.05	-2.87	V	51.18	73.98	22.80	PK
11570	40.30	-2.87	V	37.43	53.98	16.55	AV
17355	50.86	3.45	V	54.31	68.20	13.89	PK
11570	53.89	-2.87	H	51.02	73.98	22.96	PK
11570	40.10	-2.87	H	37.23	53.98	16.75	AV
17355	50.71	3.45	H	54.16	68.20	14.04	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5825 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	53.42	-2.84	V	50.58	73.98	23.40	PK
11650	39.88	-2.84	V	37.04	53.98	16.94	AV
17475	50.76	5.68	V	56.44	68.20	11.76	PK
11650	53.83	-2.84	H	50.99	73.98	22.99	PK
11650	39.78	-2.84	H	36.94	53.98	17.04	AV
17475	50.71	5.68	H	56.39	68.20	11.81	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5745 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	55.98	-2.50	V	53.48	73.98	20.50	PK
11490	41.54	-2.50	V	39.04	53.98	14.94	AV
17235	51.49	3.09	V	54.58	68.20	13.62	PK
11490	55.17	-2.50	H	52.67	73.98	21.31	PK
11490	40.96	-2.50	H	38.46	53.98	15.52	AV
17235	51.37	3.09	H	54.46	68.20	13.74	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5785 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	54.04	-2.87	V	51.17	73.98	22.81	PK
11570	40.58	-2.87	V	37.71	53.98	16.27	AV
17355	50.33	3.45	V	53.78	68.20	14.42	PK
11570	53.71	-2.87	H	50.84	73.98	23.14	PK
11570	40.18	-2.87	H	37.31	53.98	16.67	AV
17355	50.21	3.45	H	53.66	68.20	14.54	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5825 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	52.83	-2.84	V	49.99	73.98	23.99	PK
11650	39.57	-2.84	V	36.73	53.98	17.25	AV
17475	50.27	5.68	V	55.95	68.20	12.25	PK
11650	53.83	-2.84	H	50.99	73.98	22.99	PK
11650	39.78	-2.84	H	36.94	53.98	17.04	AV
17475	50.13	5.68	H	55.81	68.20	12.39	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: QPSK

Operating Frequency 5755MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	52.17	-2.50	V	49.67	73.98	24.31	PK
11510	39.53	-2.50	V	37.03	53.98	16.95	AV
17235	50.53	3.09	V	53.62	68.20	14.58	PK
11510	53.67	-2.50	H	51.17	73.98	22.81	PK
11510	40.49	-2.50	H	37.99	53.98	15.99	AV
17235	50.68	3.09	H	53.77	68.20	14.43	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	QPSK
Operating Frequency	5795 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	57.53	-2.87	V	54.66	73.98	19.32	PK
11590	44.36	-2.87	V	41.49	53.98	12.49	AV
17355	50.58	3.45	V	54.03	68.20	14.17	PK
11590	58.23	-2.87	H	55.36	73.98	18.62	PK
11590	45.18	-2.87	H	42.31	53.98	11.67	AV
17355	50.65	3.45	H	54.10	68.20	14.10	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band :	UNII 3
Operation Mode:	QPSK
Operating Frequency	5815 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11630	60.23	-2.84	V	57.39	73.98	16.59	PK
11630	46.90	-2.84	V	44.06	53.98	9.92	AV
17475	50.57	5.68	V	56.25	68.20	11.95	PK
11630	61.22	-2.84	H	58.38	73.98	15.60	PK
11630	48.16	-2.84	H	45.32	53.98	8.66	AV
17475	50.74	5.68	H	56.42	68.20	11.78	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5755MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	53.69	-2.50	V	51.19	73.98	22.79	PK
11510	40.38	-2.50	V	37.88	53.98	16.10	AV
17235	50.91	3.09	V	54.00	68.20	14.20	PK
11510	53.87	-2.50	H	51.37	73.98	22.61	PK
11510	40.42	-2.50	H	37.92	53.98	16.06	AV
17235	50.98	3.09	H	54.07	68.20	14.13	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5795 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	56.98	-2.87	V	54.11	73.98	19.87	PK
11590	43.82	-2.87	V	40.95	53.98	13.03	AV
17355	50.93	3.45	V	54.38	68.20	13.82	PK
11590	57.47	-2.87	H	54.60	73.98	19.38	PK
11590	44.25	-2.87	H	41.38	53.98	12.60	AV
17355	50.99	3.45	H	54.44	68.20	13.76	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 16QAM

Operating Frequency 5815 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11630	60.85	-2.84	V	58.01	73.98	15.97	PK
11630	47.25	-2.84	V	44.41	53.98	9.57	AV
17475	51.38	5.68	V	57.06	68.20	11.14	PK
11630	61.41	-2.84	H	58.57	73.98	15.41	PK
11630	48.08	-2.84	H	45.24	53.98	8.74	AV
17475	51.68	5.68	H	57.36	68.20	10.84	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5755MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11510	54.75	-2.50	V	52.25	73.98	21.73	PK
11510	40.44	-2.50	V	37.94	53.98	16.04	AV
17235	51.55	3.09	V	54.64	68.20	13.56	PK
11510	54.85	-2.50	H	52.35	73.98	21.63	PK
11510	40.61	-2.50	H	38.11	53.98	15.87	AV
17235	52.01	3.09	H	55.10	68.20	13.10	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5795 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11590	57.71	-2.87	V	54.84	73.98	19.14	PK
11590	44.53	-2.87	V	41.66	53.98	12.32	AV
17355	50.92	3.45	V	54.37	68.20	13.83	PK
11590	59.00	-2.87	H	56.13	73.98	17.85	PK
11590	45.04	-2.87	H	42.17	53.98	11.81	AV
17355	50.98	3.45	H	54.43	68.20	13.77	PK

*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Band : UNII 3

Operation Mode: 64QAM

Operating Frequency 5815 MHz

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G.+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11630	61.15	-2.84	V	58.31	73.98	15.67	PK
11630	47.93	-2.84	V	45.09	53.98	8.89	AV
17475	50.57	5.68	V	56.25	68.20	11.95	PK
11630	62.14	-2.84	H	59.30	73.98	14.68	PK
11630	48.70	-2.84	H	45.86	53.98	8.12	AV
17475	50.74	5.68	H	56.42	68.20	11.78	PK

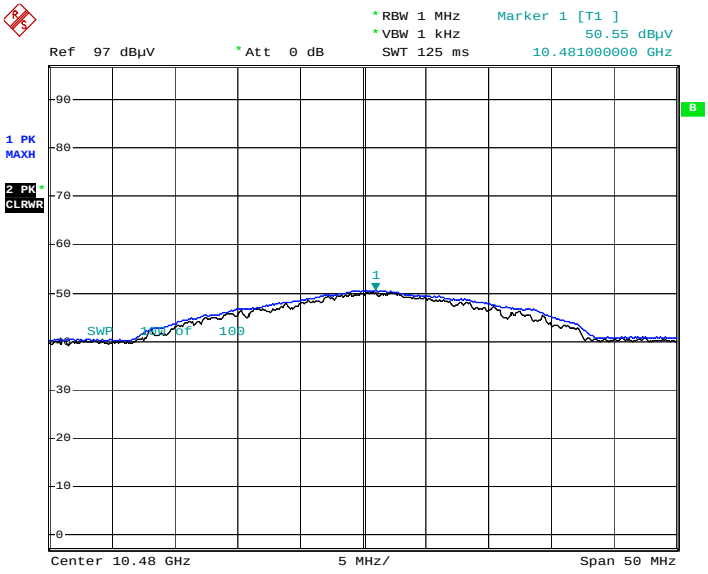
*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show 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.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
6. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

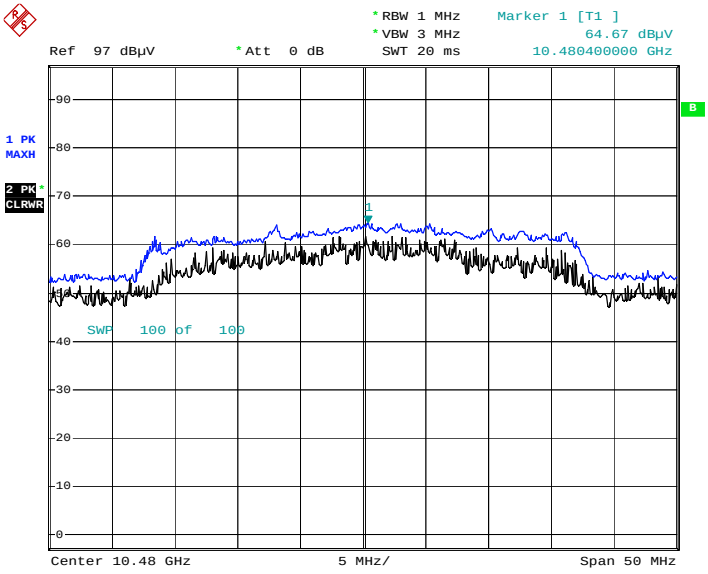
▣ RESULT PLOTS

Radiated Spurious Emissions plot –Average Reading (QPSK, 2rd Harmonic, X-H, 5240 MHz)



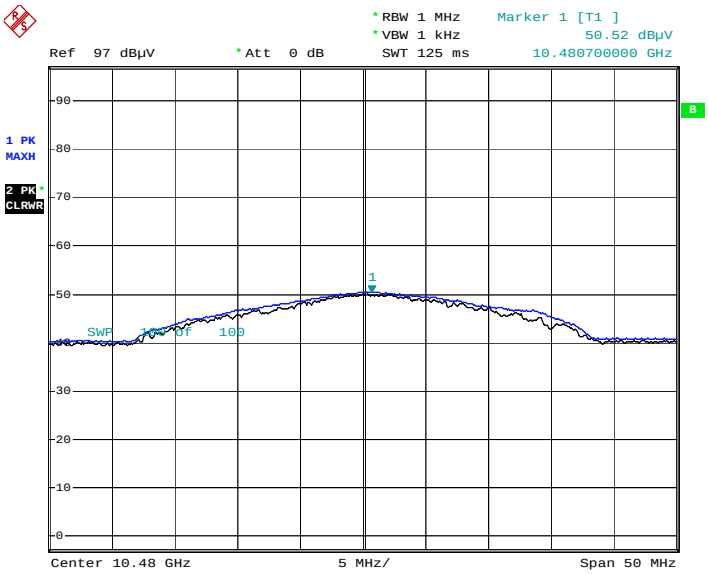
Date: 31.OCT.2017 14:56:34

Radiated Spurious Emissions plot –Peak Reading (QPSK, 2rd Harmonic, X-H, 5240 MHz)



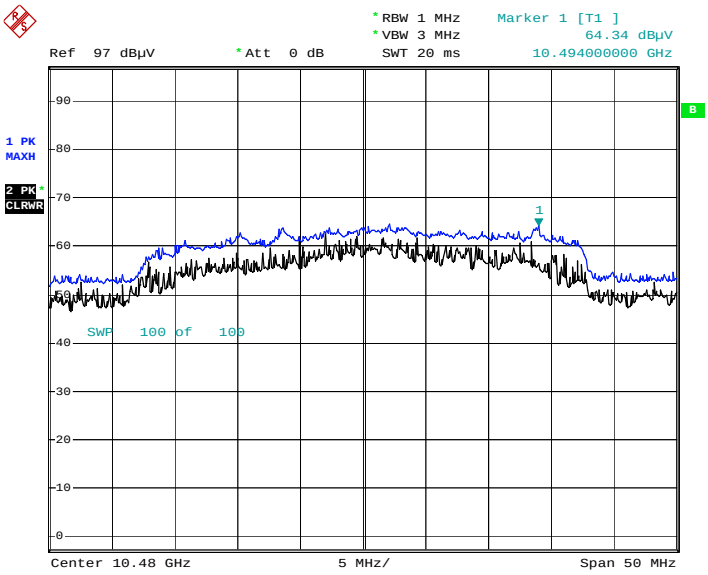
Date: 31.OCT.2017 14:55:51

Radiated Spurious Emissions plot – Average Reading (16QAM, 2rd Harmonic, X-H, 5240 MHz)



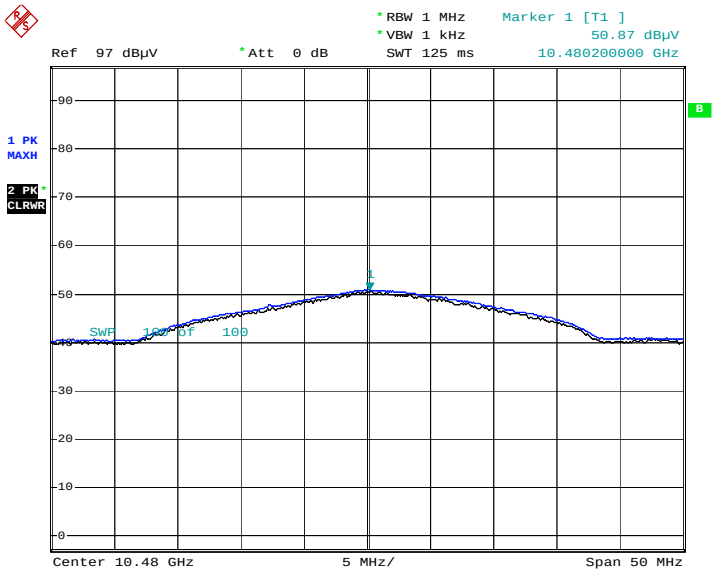
Date: 31.OCT.2017 14:40:15

Radiated Spurious Emissions plot –Peak Reading (16QAM, 2rd Harmonic, X-H, 5240 MHz)



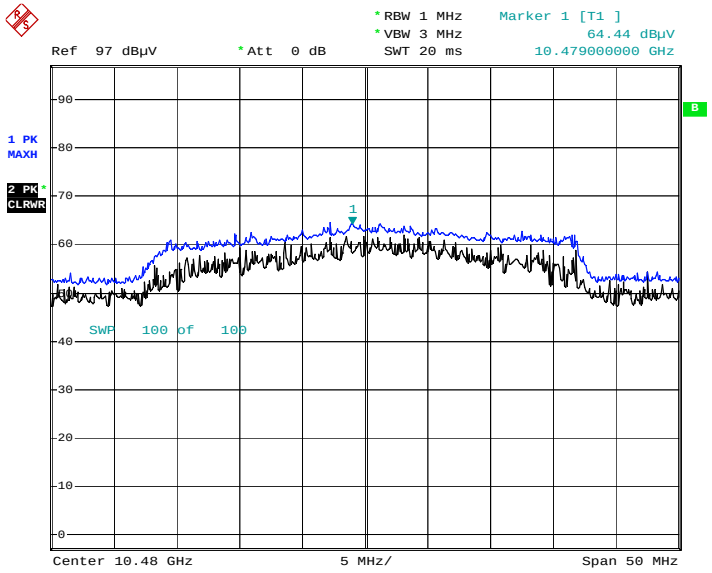
Date: 31.OCT.2017 14:42:11

Radiated Spurious Emissions plot – Average Reading (64QAM, 2rd Harmonic, X-H, 5240 MHz)



Date: 31.OCT.2017 16:14:33

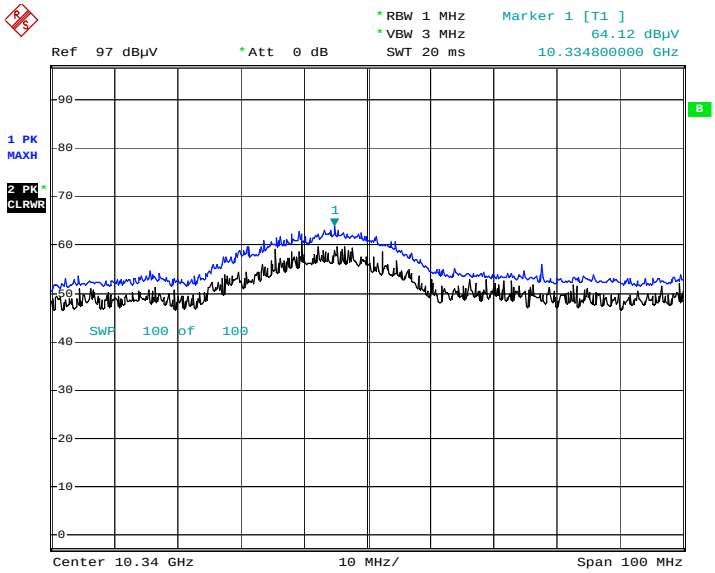
Radiated Spurious Emissions plot –Peak Reading (64QAM, 2rd Harmonic, X-H, 5240 MHz)



Date: 31.OCT.2017 16:15:20

Radiated Spurious Emissions plot –

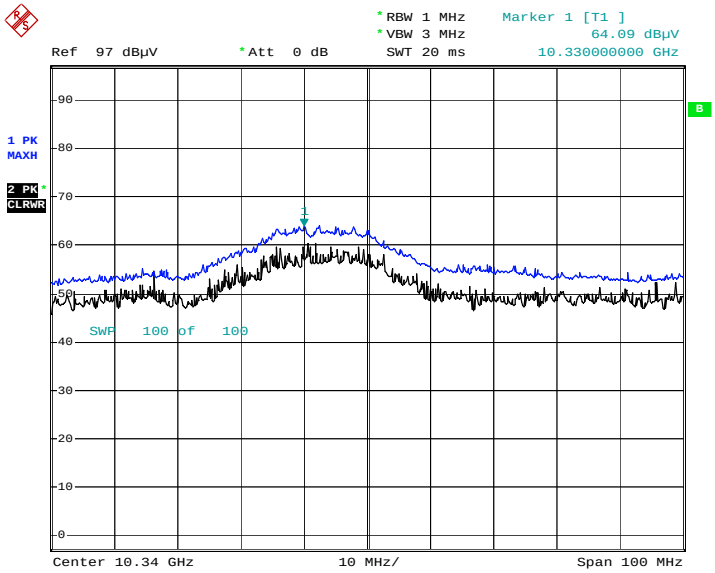
Peak Reading (QPSK, 2rd Harmonic, X-V, 5160 MHz ~5180 MHz)



Date: 10.NOV.2017 08:48:42

Radiated Spurious Emissions plot –

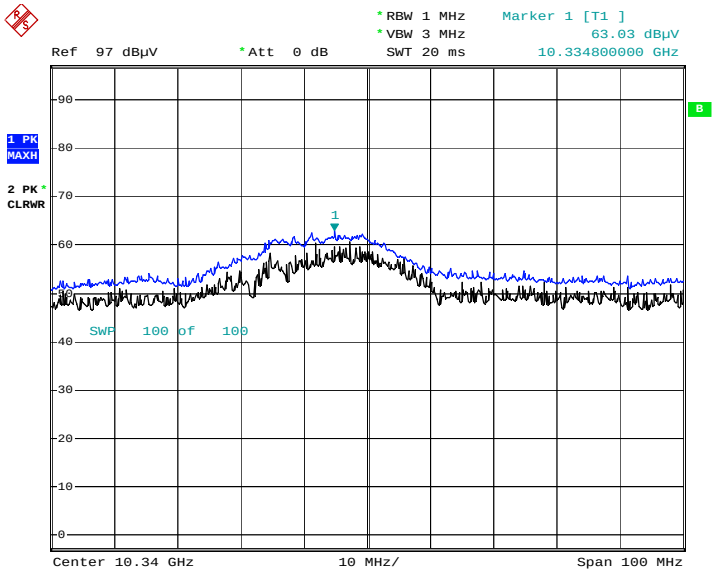
Peak Reading (16QAM, 2rd Harmonic, X-V, 5160 MHz ~5180 MHz)



Date: 10.NOV.2017 08:41:22

Radiated Spurious Emissions plot –

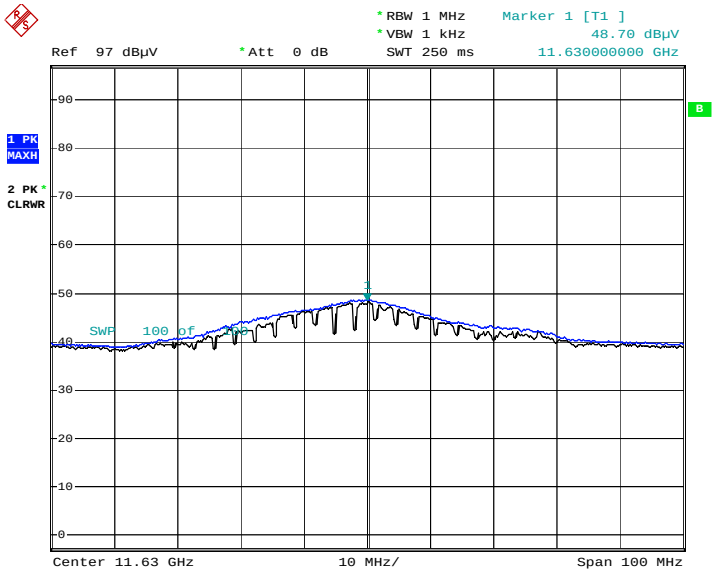
Peak Reading (64QAM, 2rd Harmonic, X-V, 5160 MHz ~5180 MHz)



Date: 10.NOV.2017 09:40:06

Radiated Spurious Emissions plot –

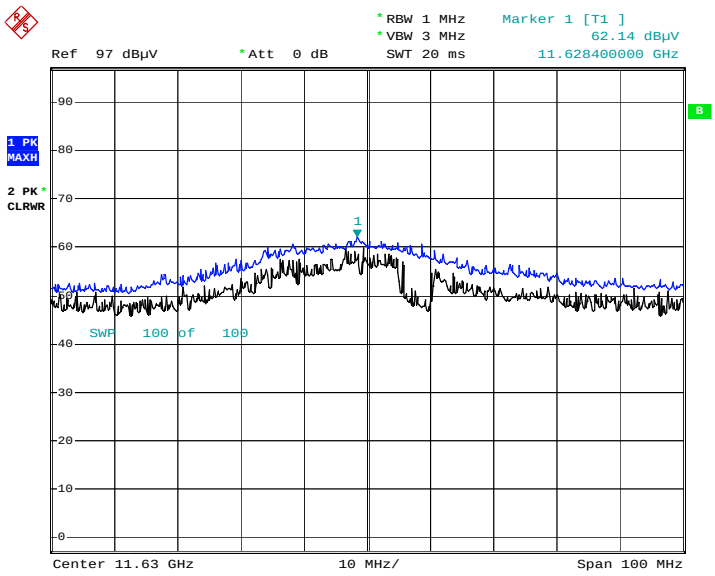
Average Reading (64QAM, 2rd Harmonic, X-H, 5808 MHz ~ 5825 MHz)



Date: 10.NOV.2017 09:32:13

Radiated Spurious Emissions plot –

Peak Reading (64QAM, 2rd Harmonic, X-H, 5808 MHz ~ 5825 MHz)



Date: 10.NOV.2017 09:30:34

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

9.7 BAND EDGE EMISSIONS

Test Requirements and limit, §15.407, §15.205, §15.209

Undesirable emission limits. Except as shown in paragraph (1) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz

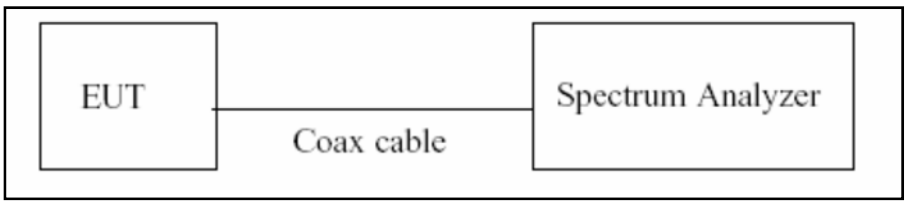
All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits

(1)The provisions of §15.205 apply to intentional radiators operating under this section.

Test Configuration

▣ TEST CONFIGURATION



TEST PROCEDURE

Method G)1)d) in KDB 789033 D02 v01r04(Conducted Measurement)

Method G)5) in KDB 789033 D02 v01r04 (Peak)

Method E)2)b) in KDB 789033 D02 v01r04 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = Peak
4. Sweep Time = auto
5. Trace mode = max hold
6. Allow sweeps to continue until the trace stabilizes.
7. 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.

- Average

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Number of points in sweep ≥ 2 × span / RBW
4. Detector = power averaging (rms)
5. Sweep time = auto.
6. Trace mode = Trace average at least 100 traces in power averaging (rms) mode
7. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

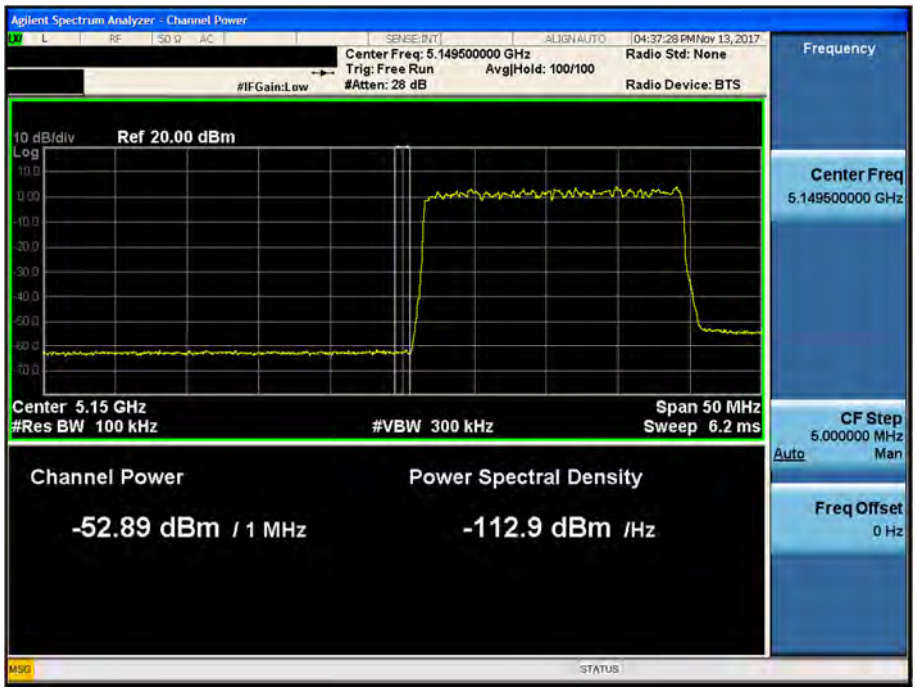
Limit Calculation:

Per 15.209 and 15.35(b), the average and peak radiated limits in a restricted band are 53.98dBuV/m and 73.98dBuV/m, respectively. Combined with the maximum known antenna MIMO gain of 6.0dBi.
with the conversion factor from a field strength at 3 meters to a conducted power, the revised limits are as follows:

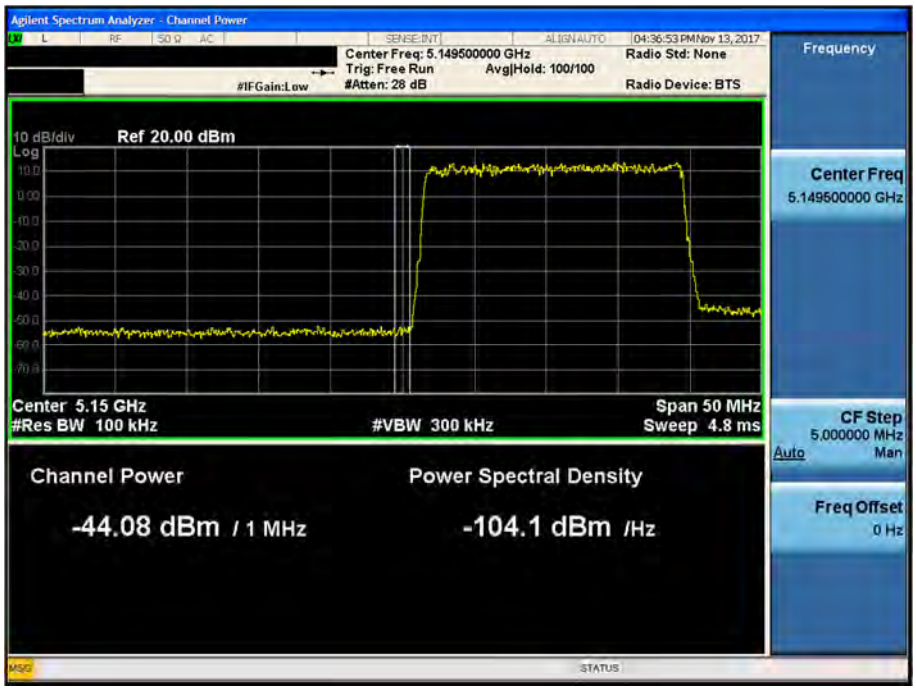
Average (Restricted) : 53.98 dBuV/m – 95.2 dB – 6.0 dBi = -47.22 dBm
Peak (Restricted) : 73.98 dBuV/m – 95.2 dB – 6.0 dBi = -27.22 dBm
Peak (Non-Restricted) : -27 dBm – 6 dBi = -33 dBm

▣ RESULT PLOTS _Port 2 20 MHz BW

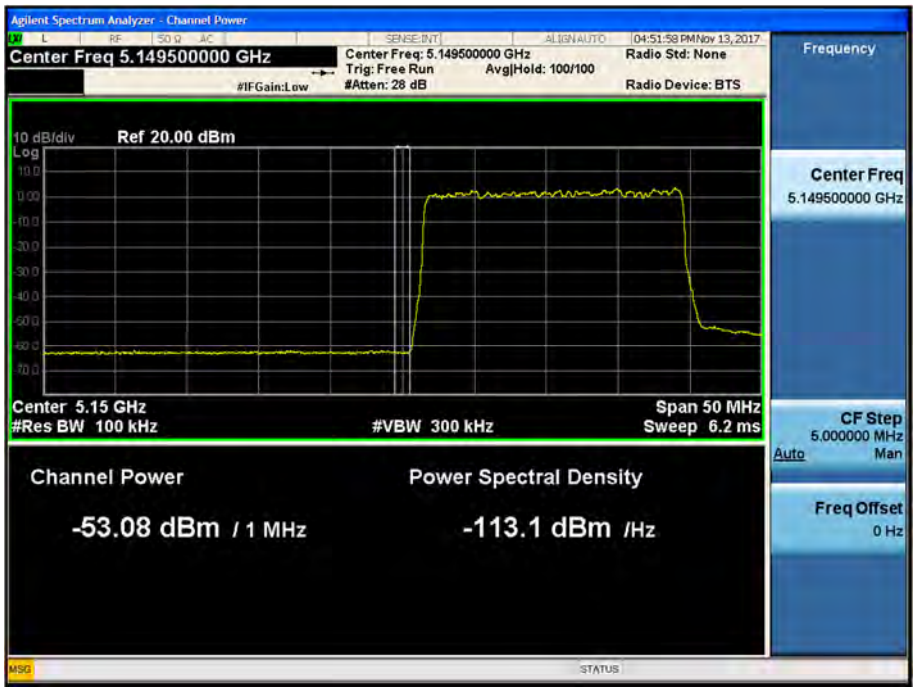
Conducted Band Edge plot – Average Reading (QPSK, 5160 MHz)



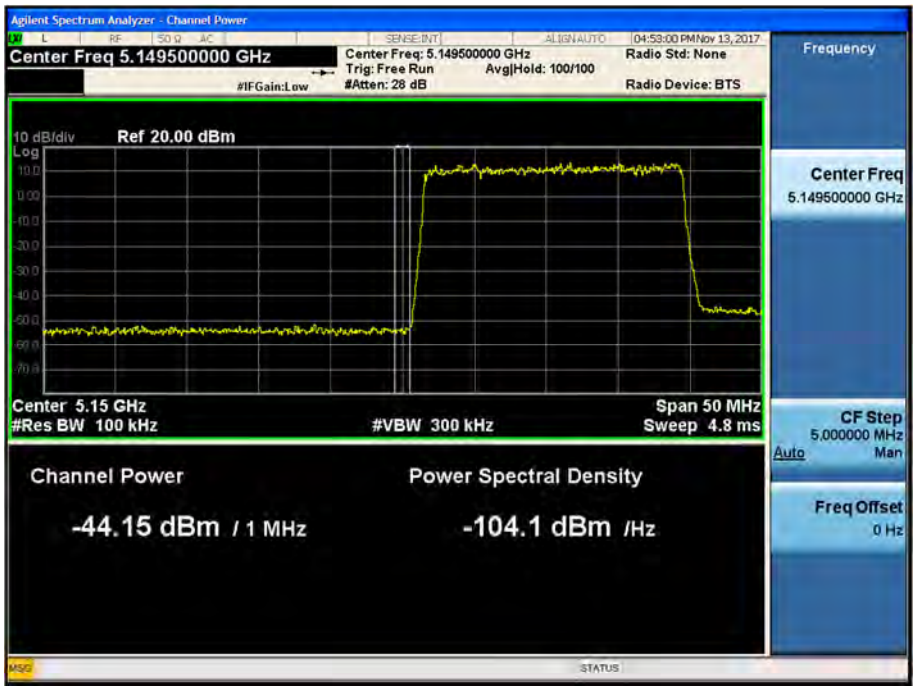
Conducted Band Edge plot – Peak Reading (QPSK, 5160 MHz)



Conducted Band Edge plot – Average Reading (16QAM, 5160 MHz)

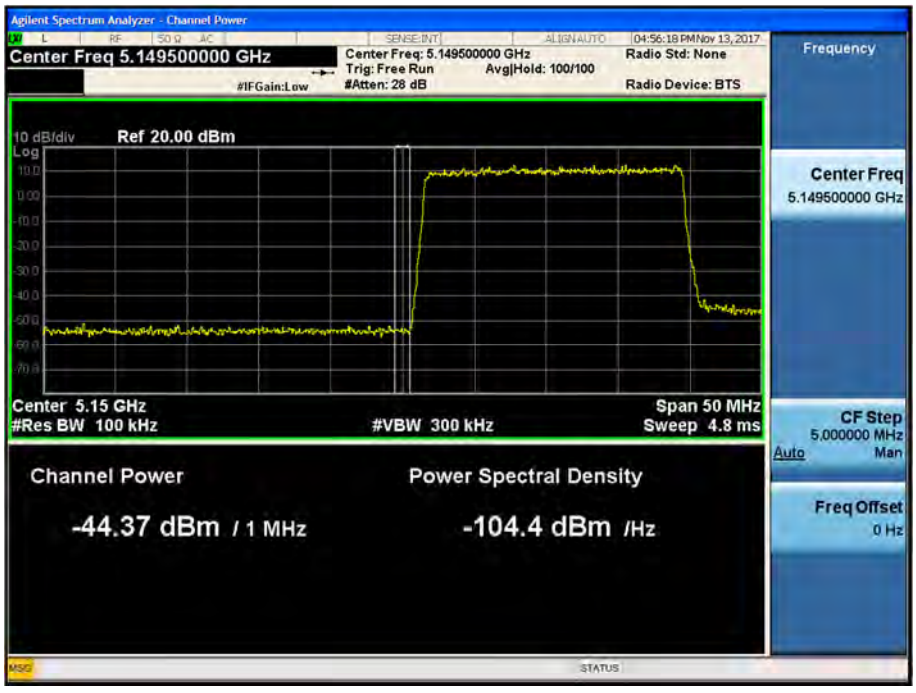


Conducted Band Edge plot – Peak Reading (16QAM, 5160 MHz)



Conducted Band Edge plot – Average Reading (64QAM, 5160 MHz)

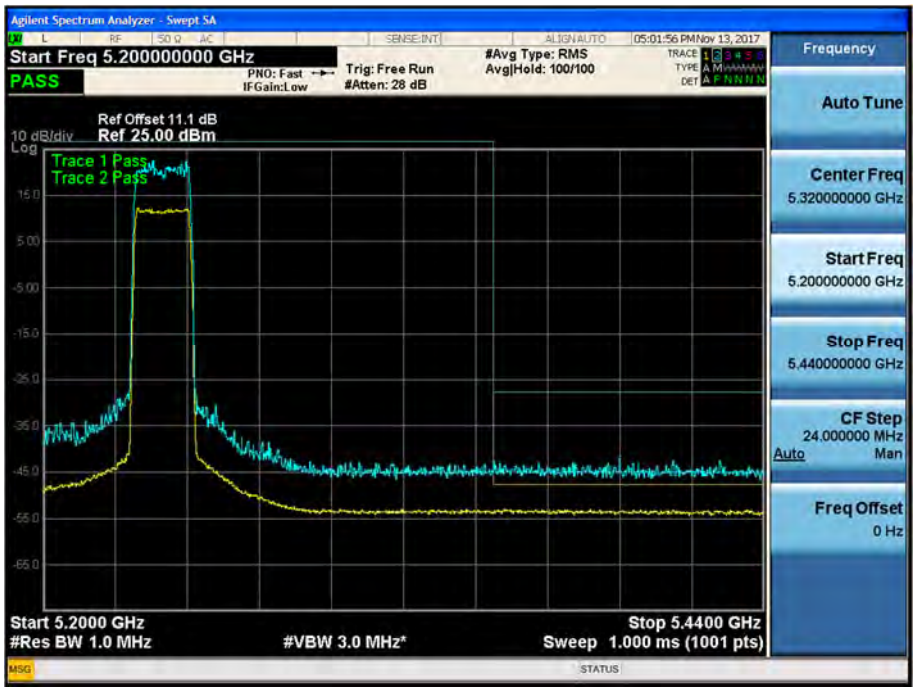
Conducted Band Edge plot – Peak Reading (64QAM, 5160 MHz)



Conducted Band Edge plot – Average & Peak Reading (QPSK, 5240 MHz)

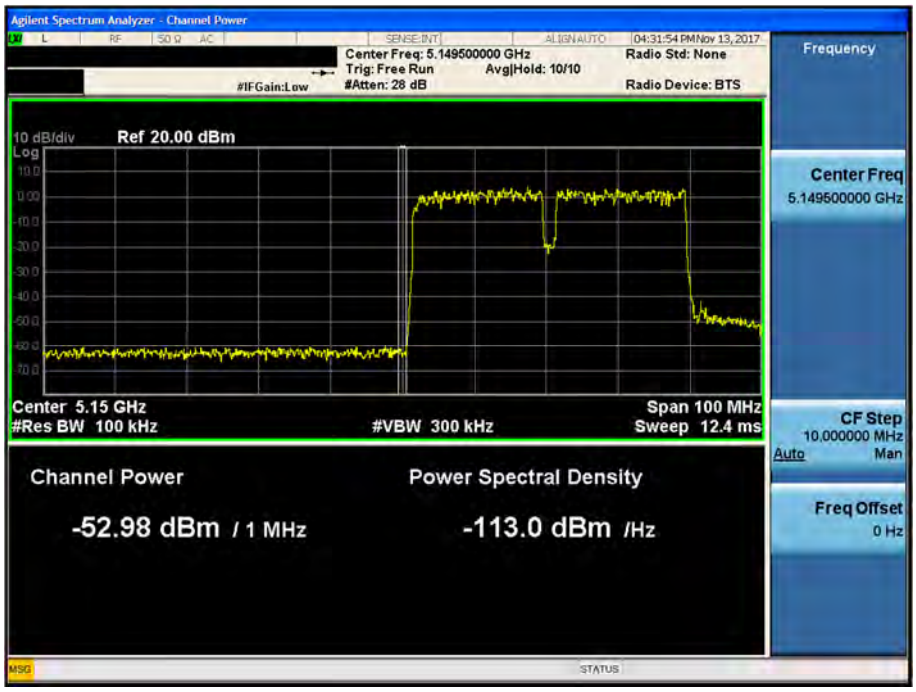
Conducted Band Edge plot – Average & Peak Reading (16QAM, 5240 MHz)

Conducted Band Edge plot – Average & Peak Reading (64QAM, 5240 MHz)

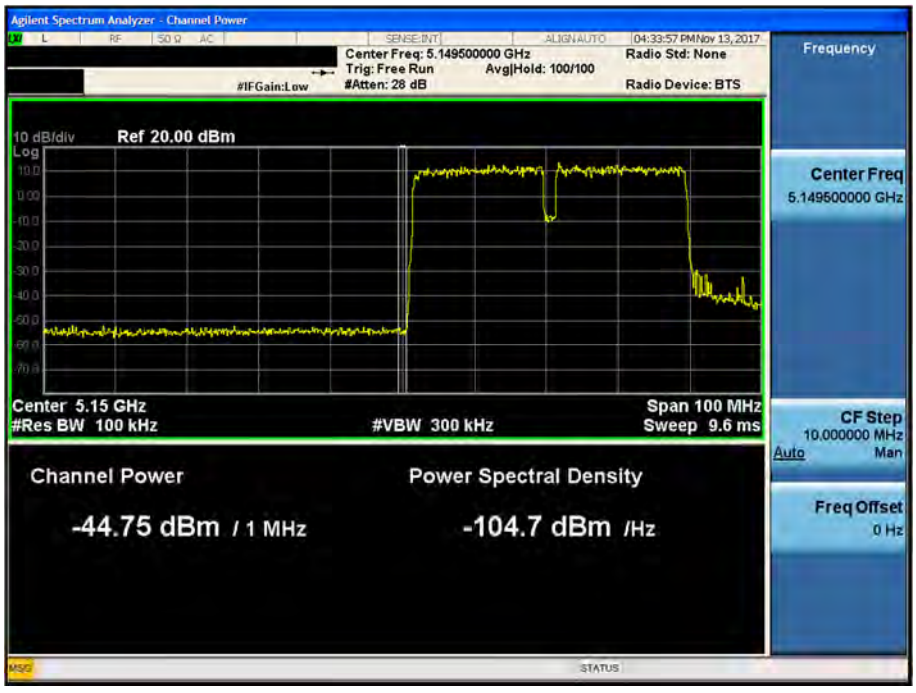


▣ RESULT PLOTS _Port 2 20MHz BW x 2 Carrier

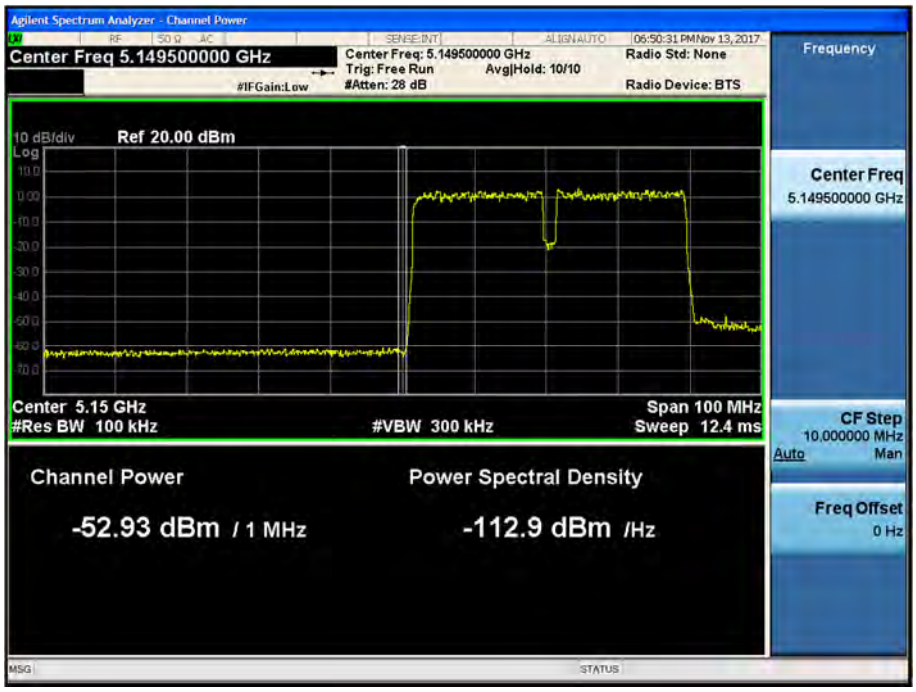
Conducted Band Edge plot – Average Reading (QPSK, 5170 MHz)



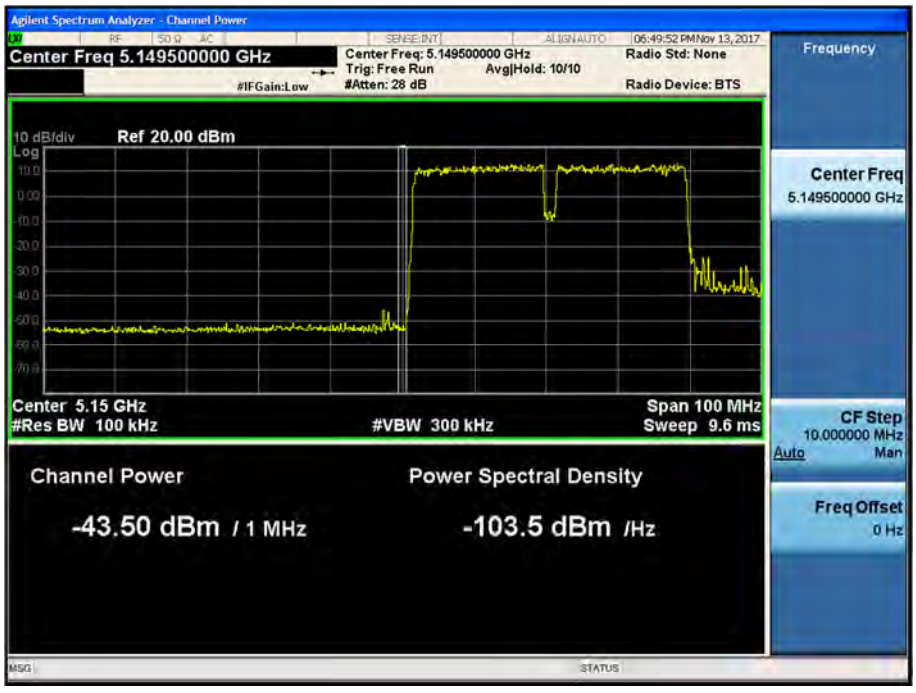
Conducted Band Edge plot – Peak Reading (QPSK, 5170 MHz)



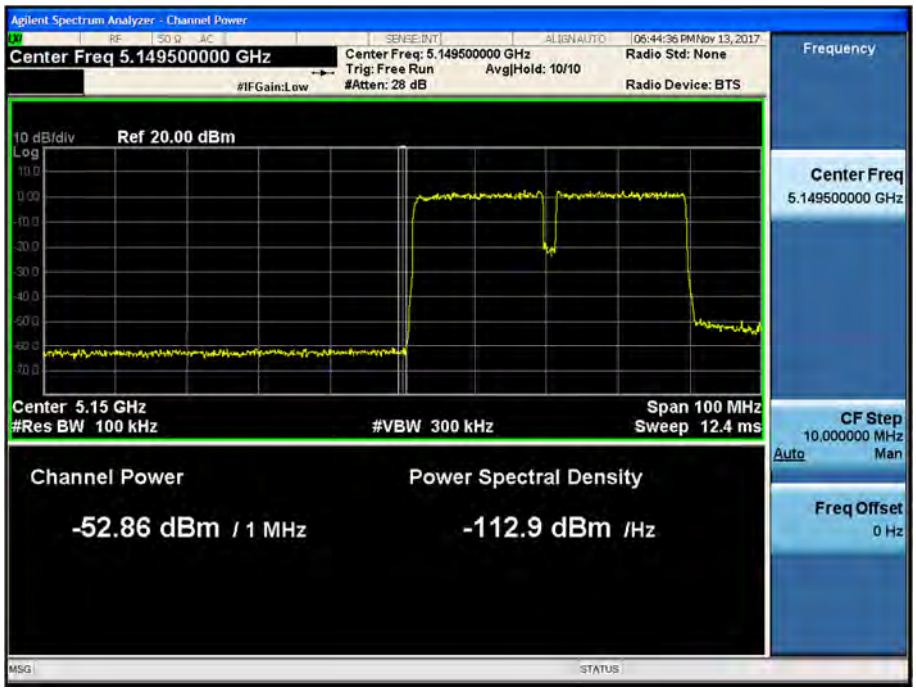
Conducted Band Edge plot – Average Reading (16QAM, 5170 MHz)



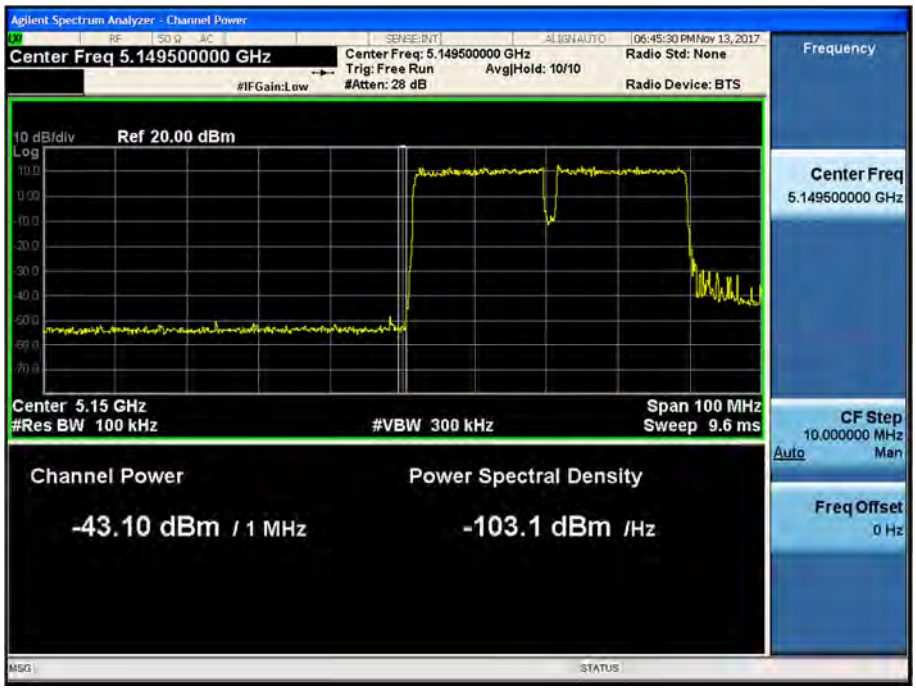
Conducted Band Edge plot – Peak Reading (16QAM, 5170 MHz)



Conducted Band Edge plot – Average Reading (64QAM, 5170 MHz)



Conducted Band Edge plot – Peak Reading (64QAM, 5170 MHz)



Conducted Band Edge plot – Average & Peak Reading (QPSK, 5230 MHz)

Conducted Band Edge plot – Average & Peak Reading (16QAM, 5230 MHz)

Conducted Band Edge plot – Average & Peak Reading (64QAM, 5230 MHz)

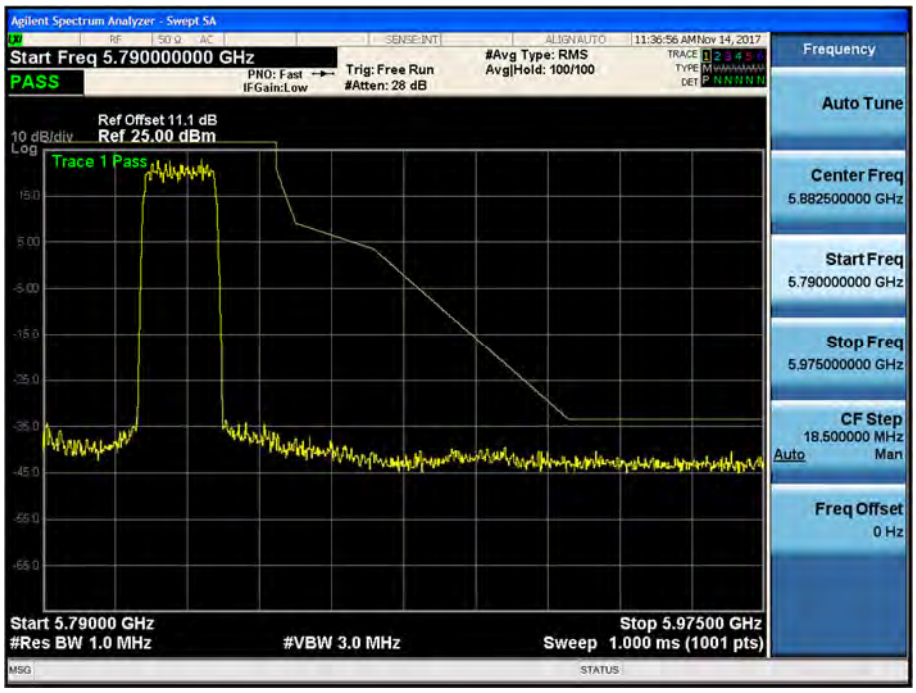
▣ RESULT PLOTS (UNII 3) _Port 2 20 MHz BW

Conducted Band Edge plot – Peak Reading (QPSK, 5745 MHz)

Conducted Band Edge plot – Peak Reading (16QAM, 5745 MHz)

Conducted Band Edge plot – Peak Reading (64QAM, 5745 MHz)

Conducted Band Edge plot –Peak Reading (QPSK, 5825 MHz)



Conducted Band Edge plot –Peak Reading (16QAM, 5825 MHz)

Conducted Band Edge plot –Peak Reading (64QAM, 5825 MHz)

▣ RESULT PLOTS _Port 2 20MHz BW x 2 Carrier

Conducted Band Edge plot – Peak Reading (QPSK, 5755 MHz)

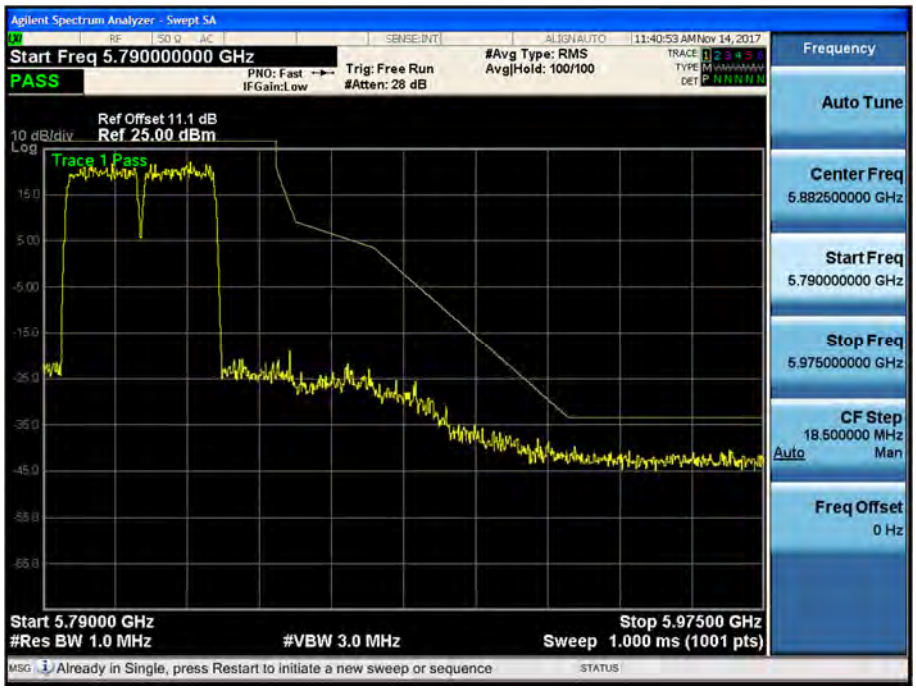
Conducted Band Edge plot – Peak Reading (16QAM, 5755 MHz)

Conducted Band Edge plot – Peak Reading (64QAM, 5755 MHz)

Conducted Band Edge plot –Peak Reading (QPSK, 5815 MHz)

Conducted Band Edge plot –Peak Reading (16QAM, 5815 MHz)

Conducted Band Edge plot –Peak Reading (64QAM, 5815 MHz)



▣ RESULT PLOTS _Port 3 20 MHz BW

Conducted Band Edge plot – Average Reading (QPSK, 5160 MHz)

Conducted Band Edge plot – Peak Reading (QPSK, 5160 MHz)

Conducted Band Edge plot – Average Reading (16QAM, 5160 MHz)

Conducted Band Edge plot – Peak Reading (16QAM, 5160 MHz)

Conducted Band Edge plot – Average Reading (64QAM, 5160 MHz)

Conducted Band Edge plot – Peak Reading (64QAM, 5160 MHz)

Conducted Band Edge plot – Average & Peak Reading (QPSK, 5240 MHz)

Conducted Band Edge plot – Average & Peak Reading (16QAM, 5240 MHz)

Conducted Band Edge plot – Average & Peak Reading (64QAM, 5240 MHz)

▣ RESULT PLOTS _Port 3 20MHz BW x 2 Carrier

Conducted Band Edge plot – Average Reading (QPSK, 5170 MHz)

Conducted Band Edge plot – Peak Reading (QPSK, 5170 MHz)

Conducted Band Edge plot – Average Reading (16QAM, 5170 MHz)

Conducted Band Edge plot – Peak Reading (16QAM, 5170 MHz)

Conducted Band Edge plot – Average Reading (64QAM, 5170 MHz)

Conducted Band Edge plot – Peak Reading (64QAM, 5170 MHz)

Conducted Band Edge plot – Average & Peak Reading (QPSK, 5230 MHz)

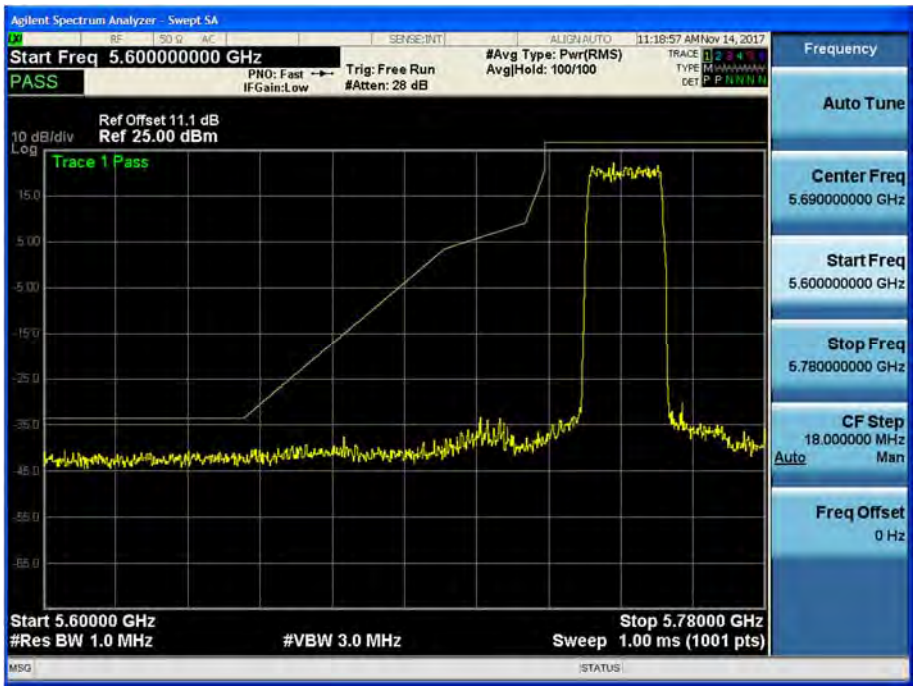
Conducted Band Edge plot – Average & Peak Reading (16QAM, 5230 MHz)

Conducted Band Edge plot – Average & Peak Reading (64QAM, 5230 MHz)

▣ RESULT PLOTS (UNII 3) _Port 3 20 MHz BW

Conducted Band Edge plot – Peak Reading (QPSK, 5745 MHz)

Conducted Band Edge plot – Peak Reading (16QAM, 5745 MHz)

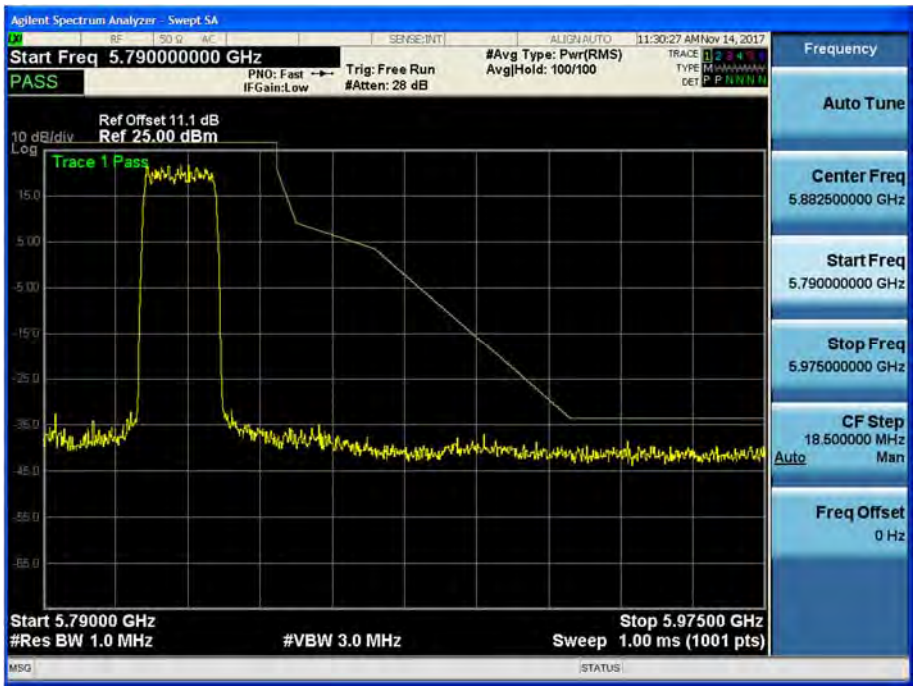


Conducted Band Edge plot – Peak Reading (64QAM, 5745 MHz)

Conducted Band Edge plot –Peak Reading (QPSK, 5825 MHz)

Conducted Band Edge plot –Peak Reading (16QAM, 5825 MHz)

Conducted Band Edge plot –Peak Reading (64QAM, 5825 MHz)



▣ RESULT PLOTS _Port 3 20MHz BW x 2 Carrier

Conducted Band Edge plot – Peak Reading (QPSK, 5755 MHz)

Conducted Band Edge plot – Peak Reading (16QAM, 5755 MHz)

Conducted Band Edge plot – Peak Reading (64QAM, 5755 MHz)

Conducted Band Edge plot –Peak Reading (QPSK, 5815 MHz)

Conducted Band Edge plot –Peak Reading (16QAM, 5815 MHz)

Conducted Band Edge plot –Peak Reading (64QAM, 5815 MHz)

9.8 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	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

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 Appendix 1 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 groundplane.
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) = Reading Value + Correction Factor

▣ RESULT PLOTS (Adaptor)

Conducted Emissions (Line 1)

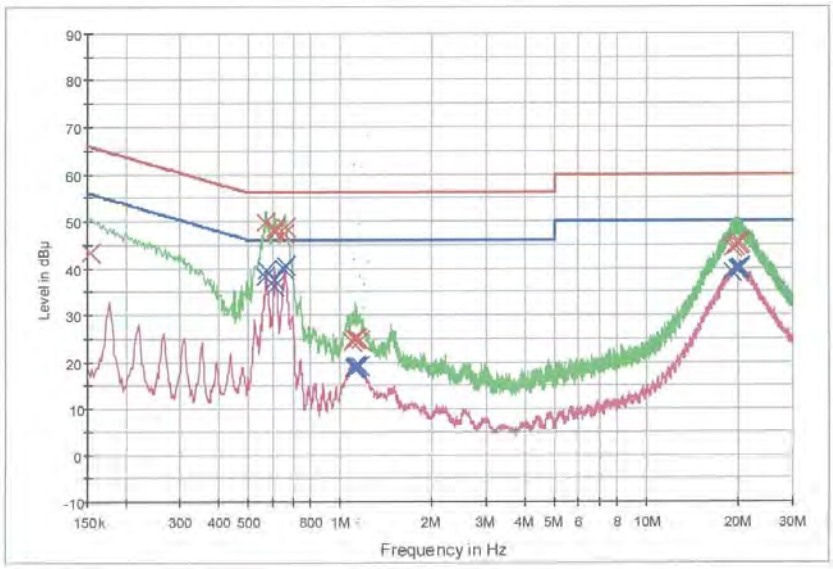
EMI Auto Test(16) 1 / 2

HCT TEST Report

Common Information

EUT:	SLS-BU10G
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	LAA MODE

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	43.3	9.000	Off	L1	9.7	22.5	65.8
0.572000	49.6	9.000	Off	L1	9.8	6.4	56.0
0.610000	47.5	9.000	Off	L1	9.8	8.5	56.0
0.614000	48.3	9.000	Off	L1	9.8	7.7	56.0
0.654000	47.2	9.000	Off	L1	9.8	8.8	56.0
0.660000	48.8	9.000	Off	L1	9.8	7.2	56.0
1.090000	24.3	9.000	Off	L1	9.8	31.7	56.0
1.102000	25.0	9.000	Off	L1	9.8	31.0	56.0
1.126000	24.9	9.000	Off	L1	9.8	31.1	56.0
1.130000	25.0	9.000	Off	L1	9.8	31.0	56.0
1.134000	24.8	9.000	Off	L1	9.8	31.2	56.0
1.156000	24.6	9.000	Off	L1	9.8	31.4	56.0
19.054000	44.2	9.000	Off	L1	10.7	15.8	60.0
19.432000	44.7	9.000	Off	L1	10.8	15.3	60.0
19.644000	45.1	9.000	Off	L1	10.8	14.9	60.0
19.854000	45.0	9.000	Off	L1	10.8	15.0	60.0
19.974000	45.0	9.000	Off	L1	10.8	15.0	60.0
20.084000	45.1	9.000	Off	L1	10.8	14.9	60.0

Final Result 2

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EMI Auto Test(16) 2 / 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.570000	38.3	9.000	Off	L1	9.8	7.7	46.0
0.574000	39.5	9.000	Off	L1	9.8	6.5	46.0
0.610000	36.2	9.000	Off	L1	9.8	9.8	46.0
0.614000	37.4	9.000	Off	L1	9.8	8.6	46.0
0.658000	39.8	9.000	Off	L1	9.8	6.2	46.0
0.662000	40.4	9.000	Off	L1	9.8	5.6	46.0
1.102000	19.0	9.000	Off	L1	9.8	27.0	46.0
1.116000	19.0	9.000	Off	L1	9.8	27.0	46.0
1.120000	18.7	9.000	Off	L1	9.8	27.3	46.0
1.130000	18.7	9.000	Off	L1	9.8	27.3	46.0
1.134000	19.1	9.000	Off	L1	9.8	26.9	46.0
1.156000	19.0	9.000	Off	L1	9.8	27.0	46.0
19.054000	39.2	9.000	Off	L1	10.7	10.8	50.0
19.644000	39.9	9.000	Off	L1	10.8	10.1	50.0
19.854000	39.9	9.000	Off	L1	10.8	10.1	50.0
20.078000	40.0	9.000	Off	L1	10.8	10.0	50.0
20.082000	40.0	9.000	Off	L1	10.8	10.0	50.0
20.086000	40.0	9.000	Off	L1	10.8	10.0	50.0

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Conducted Emissions (Line 2)

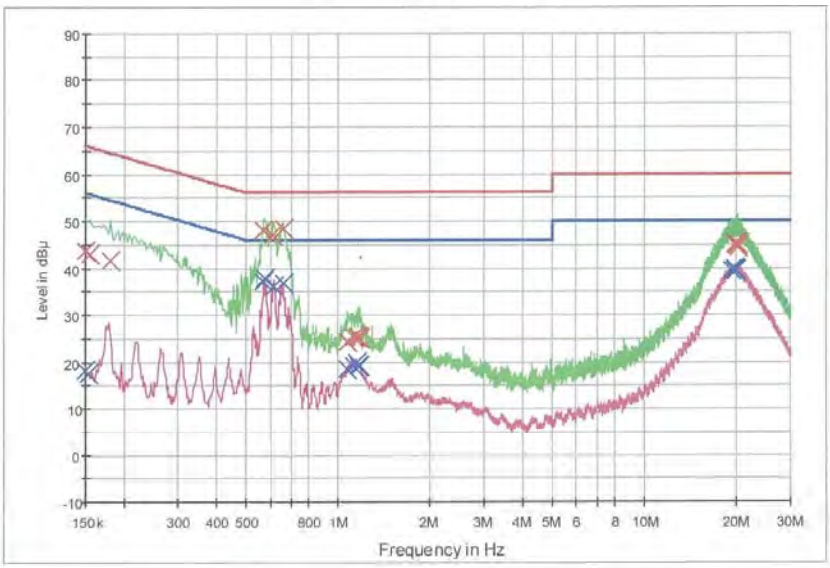
EMI Auto Test(16) 1 / 2

HCT TEST Report

Common Information

EUT:	SLS-BU10G
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	LAA MODE

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	43.7	9.000	Off	N	9.7	22.3	66.0
0.156000	42.9	9.000	Off	N	9.7	22.7	65.7
0.180000	41.4	9.000	Off	N	9.7	23.1	64.5
0.572000	48.0	9.000	Off	N	9.7	8.0	56.0
0.614000	46.8	9.000	Off	N	9.7	9.2	56.0
0.664000	48.3	9.000	Off	N	9.7	7.7	56.0
1.076000	24.2	9.000	Off	N	9.8	31.8	56.0
1.124000	25.4	9.000	Off	N	9.8	30.6	56.0
1.146000	25.3	9.000	Off	N	9.8	30.7	56.0
1.164000	25.4	9.000	Off	N	9.8	30.6	56.0
1.172000	24.9	9.000	Off	N	9.8	31.1	56.0
1.176000	25.0	9.000	Off	N	9.8	31.0	56.0
19.696000	44.8	9.000	Off	N	10.8	15.2	60.0
19.726000	44.8	9.000	Off	N	10.8	15.2	60.0
19.830000	44.7	9.000	Off	N	10.8	15.3	60.0
20.032000	44.9	9.000	Off	N	10.8	15.1	60.0
20.078000	44.8	9.000	Off	N	10.8	15.2	60.0
20.220000	44.3	9.000	Off	N	10.8	15.7	60.0

Final Result 2

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EMI Auto Test(16) 2 / 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	18.2	9.000	Off	N	9.7	37.8	56.0
0.154000	17.4	9.000	Off	N	9.7	38.4	55.8
0.572000	37.1	9.000	Off	N	9.7	8.9	46.0
0.576000	37.7	9.000	Off	N	9.7	8.3	46.0
0.616000	36.1	9.000	Off	N	9.7	9.9	46.0
0.664000	36.7	9.000	Off	N	9.7	9.3	46.0
1.076000	18.6	9.000	Off	N	9.8	27.4	46.0
1.124000	19.2	9.000	Off	N	9.8	26.8	46.0
1.146000	19.7	9.000	Off	N	9.8	26.3	46.0
1.160000	19.1	9.000	Off	N	9.8	26.9	46.0
1.164000	19.3	9.000	Off	N	9.8	26.7	46.0
1.172000	19.1	9.000	Off	N	9.8	26.9	46.0
19.186000	39.4	9.000	Off	N	10.8	10.6	50.0
19.212000	39.4	9.000	Off	N	10.8	10.6	50.0
19.696000	39.6	9.000	Off	N	10.8	10.4	50.0
19.752000	39.8	9.000	Off	N	10.8	10.2	50.0
19.768000	39.6	9.000	Off	N	10.8	10.4	50.0
19.830000	39.5	9.000	Off	N	10.8	10.5	50.0

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10. LIST OF TEST EQUIPMENT

10.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	12/23/2016	Annual	100073
Rohde & Schwarz	ESCI / Test Receiver	12/23/2016	Annual	100584
Agilent	N9020A / Signal Analyzer	06/13/2017	Annual	MY51110085
Agilent	N9030A / Signal Analyzer	11/30/2016	Annual	MY49431210
Agilent	N1911A / Power Meter	04/17/2017	Annual	MY45100523
Agilent	N1921A / Power Sensor	04/17/2017	Annual	MY52260025
Agilent	87300B / Directional Coupler	11/23/2016	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	06/12/2017	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	06/30/2017	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	07/10/2017	Annual	07560
Rohde & Schwarz	EMC32 / Software	-	-	-

10.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Audix	AM4000 / Antenna Position Tower	N/A	N/A	N/A
Audix	Turn Table	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Rohde & Schwarz	Loop Antenna	04/19/2017	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/06/2017	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	08/25/2016	Biennial	1300
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	04/25/2017	Biennial	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	09/06/2017	Annual	100688
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/27/2017	Annual	101068-SZ
Wainwright Instruments	WHKX10-2700-3000-18000-40SS / High Pass Filter	07/20/2017	Annual	4
Wainwright Instruments	WHKX8-6090-7000-18000-40SS / High Pass Filter	07/11/2017	Annual	5
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	06/30/2017	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/24/2017	Annual	2
Hewlett Packard	8493C / Attenuator(10 dB)	07/10/2017	Annual	07560
CERNEX	CBLU1183540 / Power Amplifier	01/25/2017	Annual	24614
CERNEX	CBL06185030 / Power Amplifier	01/25/2017	Annual	24615
CERNEX	CBL18265035 / Power Amplifier	01/23/2017	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	06/30/2017	Annual	25956