FCC Test Report

Product Name	4G/LTE Broadband Router with PoE
Model No	MX-210NP-R17AF
FCC ID.	QI3BIL-210NPR17AF

Applicant	Billion Electric Co., Ltd.
Address	8F., No.192, Sec. 2, Zhongxing Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Date of Receipt	Jan. 07, 2019
Issue Date	Jan. 19, 2019
Report No.	1910066R-RFUSP26V00
Report Version	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
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Test Report

Issue Date: Jan. 19, 2019
Report No.: 1910066R-RFUSP26V00

Product Name	4G/LTE Broadband Router with PoE
Applicant	Billion Electric Co., Ltd.
Address	8F., No.192, Sec. 2, Zhongxing Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)
Manufacturer	Billion Electric Co., Ltd.
Model No.	MX-210NP-R17AF
FCC ID.	QI3BIL-210NPR17AF
EUT Rated Voltage	DC 12V (Power by Adapter) or DC 12V (Power by PoE)
EUT Test Voltage	DC 12V (Power by Adapter)
Trade Name	BEC, Billion
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 15.247 Meas Guidance v05
Test Result	Complied

Documented By : Ida Tung

(Adm. Assistant / Ida Tung)

Tested By : Ivan Chuang

(Senior Engineer / Ivan Chuang)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	4G/LTE Broadband Router with PoE
Trade Name	BEC, Billion
Model No.	MX-210NP-R17AF
FCC ID.	QI3BIL-210NPR17AF
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 300Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	PCB Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter	MFR: BILLION, M/N: BA018-120120AXU Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 12V, 1.2A Cable Out: Non-shielded, 1.5m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Grand-Tek Technology	N/A	PCB Antenna	2.5dBi for 2.4 GHz

Note:

1. The antenna of EUT is conforming to FCC 15.203.
2. The EUT transmission signals in MIMO mode are completely uncorrelated.

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz	Channel 06:	2437 MHz
Channel 07:	2442 MHz	Channel 08:	2447 MHz	Channel 09:	2452 MHz		

Note:

1. The EUT is a 4G/LTE Broadband Router with PoE with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
4. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11b is chain B, 802.11g is chain B)
5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

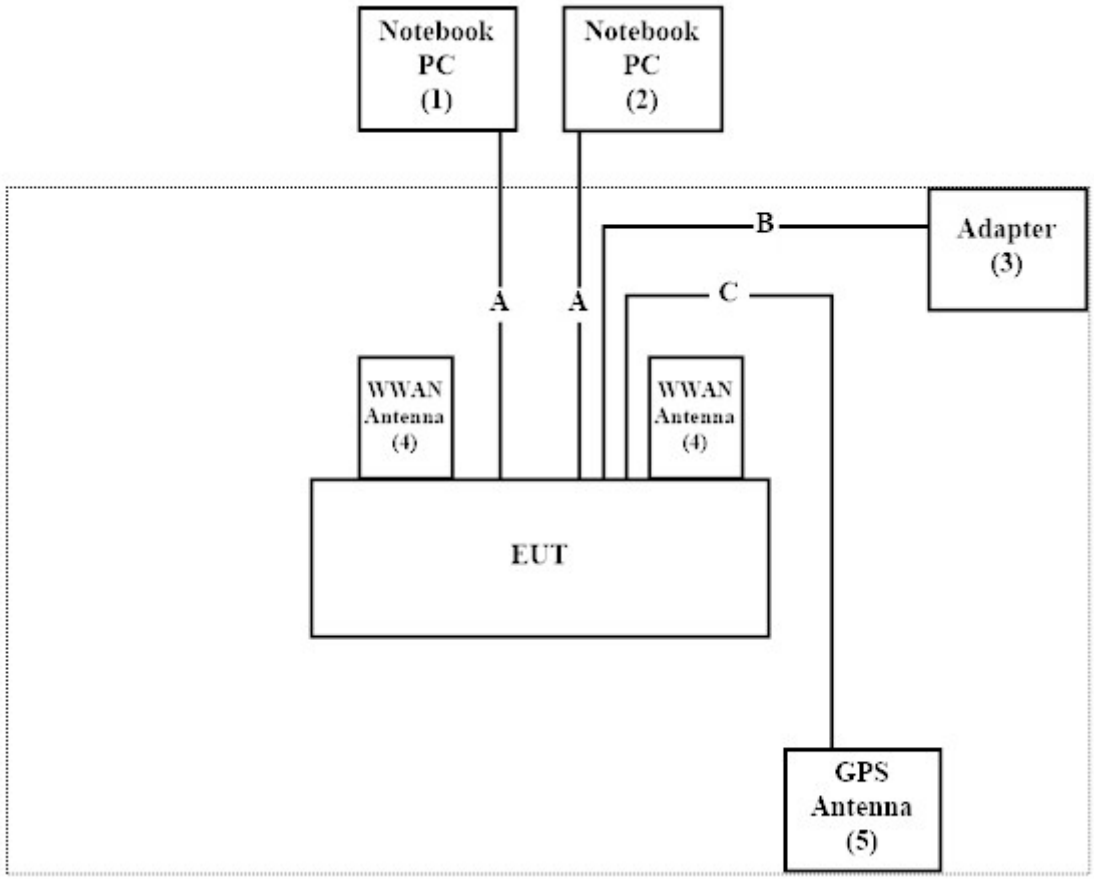
1.3. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Inspiron 15 3000	GT5JPJ2	N/A
2	Notebook PC	DELL	Inspiron 15 3000	4V5JPJ2	N/A
3	Adapter	BILLION	BA018-120120AXU	N/A	N/A
4	WWAN Antenna	N/A	N/A	N/A	N/A
5	GPS Antenna	N/A	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 3.0m, two PCS.
B	Adapter Cable	Non-shielded, 1.5m
C	GPS Antenna Cable	Non-shielded, 5.0m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “MT7603 QA V0.0.0.60” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd.
Site Address: No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
New Taipei City 24457, Taiwan.
TEL: 886-2-2602-7968 / FAX : 866-2-2602-3286
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW0023

1.7. List of Test Item and Equipment

For Conduction measurements /ASR1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101601	2018.02.08	2019.02.07
X	Two-Line V-Network	R&S	ENV216	101306	2018.03.09	2019.03.08
X	Two-Line V-Network	R&S	ENV216	101307	2018.03.20	2019.03.19
X	Coaxial Cable	Quietek	RG400_BNC	RF001	2018.05.24	2019.05.23

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : QuieTek EMI 2.0 V2.1.113

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103464	2018.01.23	2019.01.22
X	Power Meter	Anritsu	ML2496A	1548003	2018.12.19	2019.12.18
X	Power Sensor	Anritsu	MA2411B	1531024	2018.12.19	2019.12.18
X	Power Sensor	Anritsu	MA2411B	1531025	2018.12.19	2019.12.18

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Conduction Test System V9.0.1

For Radiated measurements /ACB1

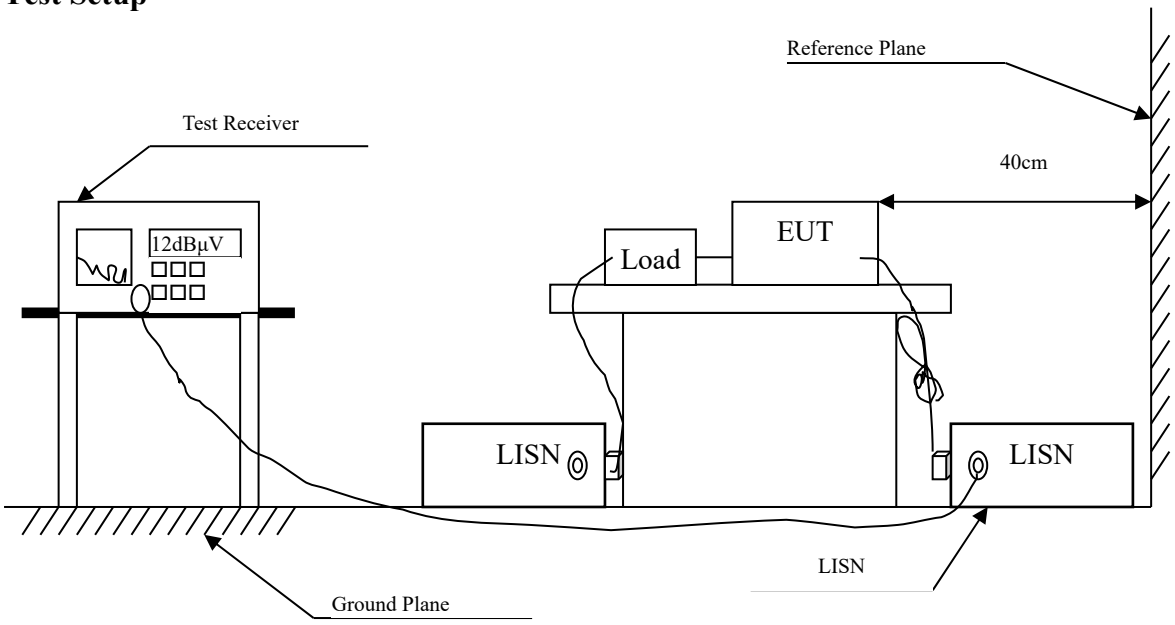
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	49611	2018.01.26	2019.01.25
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-674	2018.04.02	2019.04.01
X	Horn Antenna	ETS-Lindgren	3117	00203800	2018.12.11	2019.12.10
X	Horn Antenna	Com-Power	AH-840	101087	2018.06.01	2019.05.31
X	Pre-Amplifier	EMCI	EMC001330	980316	2018.06.01	2019.05.31
X	Pre-Amplifier	EMCI	EMC051835SE	980311	2018.06.04	2019.06.03
X	Pre-Amplifier	EMCI	EMC05820SE	980310	2018.06.04	2019.06.03
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2018.05.16	2019.05.15
X	Filter	MICRO TRONICS	BRM50702	G251	2018.09.04	2019.09.03
	Filter	MICRO TRONICS	BRM50716	G188	2018.09.04	2019.09.03
X	EMI Test Receiver	R&S	ESR7	101602	2018.12.17	2019.12.16
X	Spectrum Analyzer	R&S	FSV40	101148	2018.02.08	2019.02.07
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2018.05.25	2019.05.24
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2018.05.16	2019.05.15

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : QuieTek EMI 2.0 V2.1.113

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

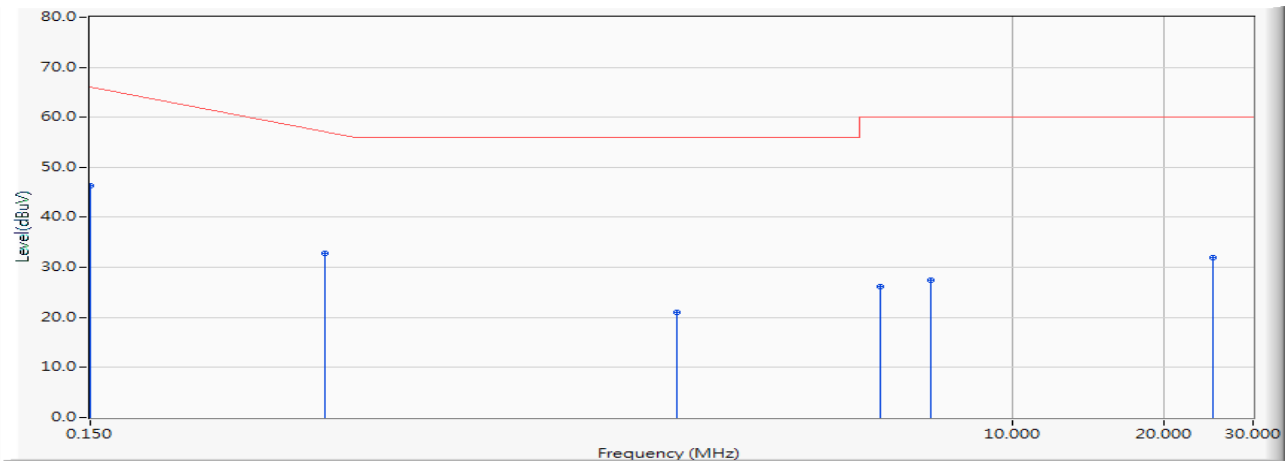
2.4. Uncertainty

± 2.35 dB

2.5. Test Result of Conducted Emission

Product : 4G/LTE Broadband Router with PoE
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437MHz)
Test Date : 2019/01/16

Line 1



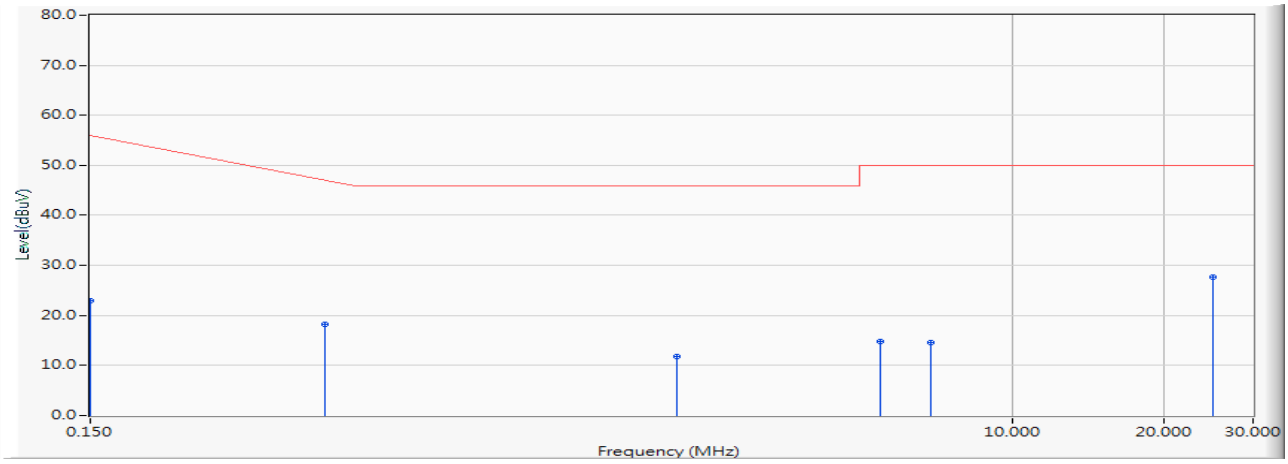
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	9.611	36.719	46.331	-19.669	66.000	QUASIPEAK
2		0.438	9.626	23.161	32.787	-24.984	57.771	QUASIPEAK
3		2.166	9.662	11.337	20.999	-35.001	56.000	QUASIPEAK
4		5.500	9.755	16.514	26.269	-33.731	60.000	QUASIPEAK
5		6.900	9.779	17.603	27.382	-32.618	60.000	QUASIPEAK
6		25.000	10.010	22.039	32.049	-27.951	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437MHz)
Test Date	:	2019/01/16

Line 1



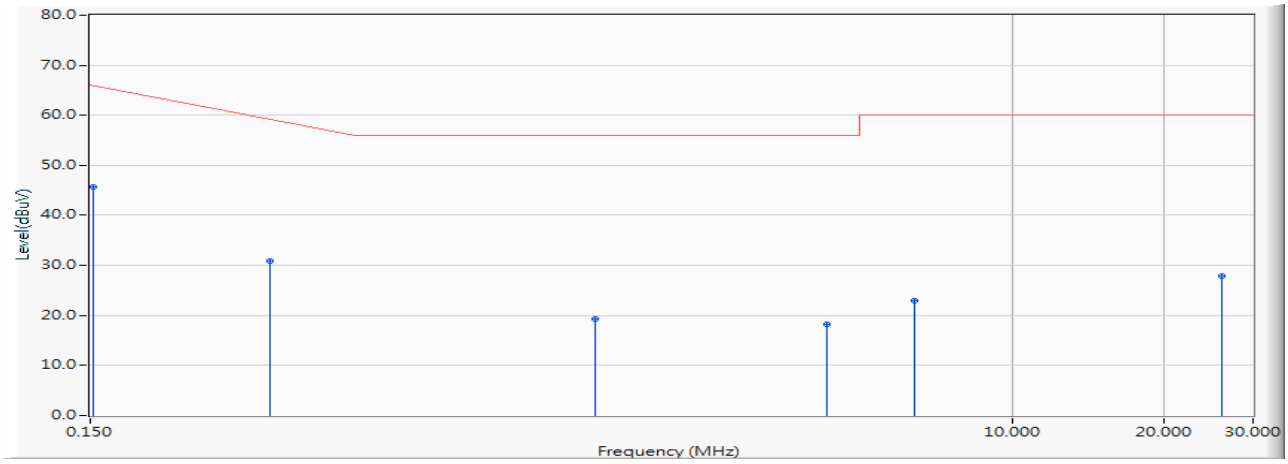
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	9.611	13.318	22.929	-33.071	56.000	AVERAGE
2		0.438	9.626	8.676	18.301	-29.470	47.771	AVERAGE
3		2.166	9.662	2.145	11.807	-34.193	46.000	AVERAGE
4		5.500	9.755	5.150	14.905	-35.095	50.000	AVERAGE
5		6.900	9.779	4.883	14.662	-35.338	50.000	AVERAGE
6	*	25.000	10.010	17.590	27.600	-22.400	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 4G/LTE Broadband Router with PoE
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437MHz)
Test Date : 2019/01/16

Line 2



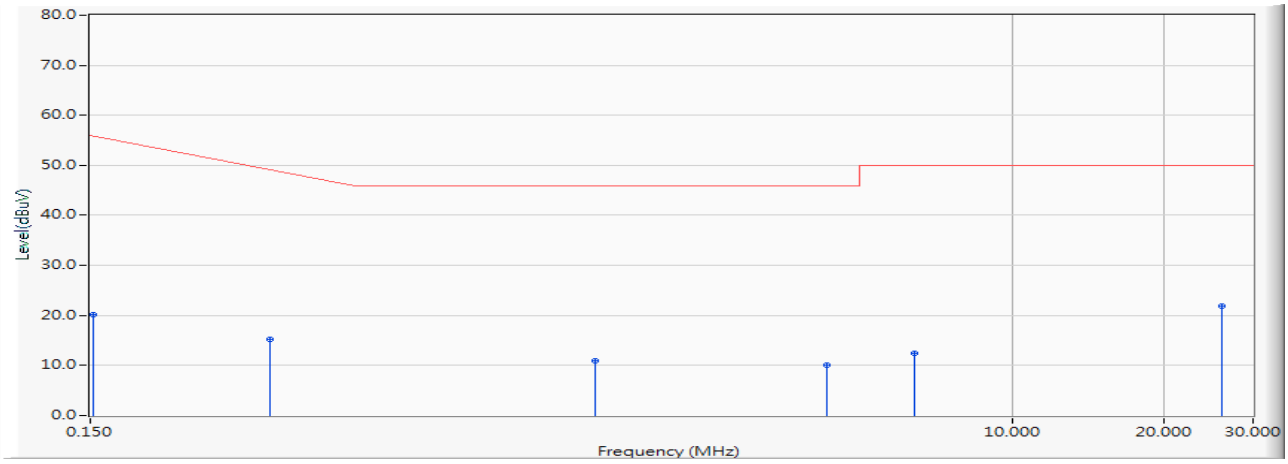
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.152	9.602	35.988	45.589	-20.354	65.943	QUASIPEAK
2		0.340	9.615	21.231	30.846	-29.725	60.571	QUASIPEAK
3		1.500	9.650	9.617	19.267	-36.733	56.000	QUASIPEAK
4		4.300	9.723	8.491	18.214	-37.786	56.000	QUASIPEAK
5		6.400	9.774	13.182	22.956	-37.044	60.000	QUASIPEAK
6		26.000	10.065	17.794	27.859	-32.141	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437MHz)
Test Date	:	2019/01/16

Line 2



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.602	10.542	20.143	-35.800	55.943	AVERAGE
2		0.340	9.615	5.647	15.262	-35.309	50.571	AVERAGE
3		1.500	9.650	1.257	10.907	-35.093	46.000	AVERAGE
4		4.300	9.723	0.366	10.089	-35.911	46.000	AVERAGE
5		6.400	9.774	2.563	12.337	-37.663	50.000	AVERAGE
6	*	26.000	10.065	11.871	21.936	-28.064	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

3.1. Test Setup

3.2. Limits

The maximum peak power shall be less 1 Watt.

3.3. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 8.3.1.3 PKPM1 Peak power meter method. The maximum average conducted output power using KDB 558074 section 8.3.2.3 Method (Measurement using a gated RF average-reading power meter)

3.4. Uncertainty

±0.86 dB

3.5. Test Result of Peak Power Output

Product : 4G/LTE Broadband Router with PoE
Test Item : Peak Power Output Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)
Test Date : 2019/01/10

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	15.63	--	--	--	17.45	<30dBm	Pass
06	2437	15.62	15.59	15.55	15.51	17.48	<30dBm	Pass
11	2462	16.02	--	--	--	17.85	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	15.74	--	--	--	17.59	<30dBm	Pass
06	2437	15.70	15.68	15.65	15.62	17.54	<30dBm	Pass
11	2462	16.11	--	--	--	17.97	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Product : 4G/LTE Broadband Router with PoE
Test Item : Peak Power Output Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)
Test Date : 2019/01/10

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	16.63	--	--	--	--	--	--	--	23.02	<30dBm	Pass
06	2437	18.01	17.99	17.95	17.92	17.88	17.85	17.82	17.79	23.61	<30dBm	Pass
11	2462	16.65	--	--	--	--	--	--	--	23.00	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	16.75	--	--	--	--	--	--	--	23.17	<30dBm	Pass
06	2437	18.12	18.09	18.05	18.01	17.98	17.96	17.92	17.88	23.75	<30dBm	Pass
11	2462	16.71	--	--	--	--	--	--	--	23.01	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Product : 4G/LTE Broadband Router with PoE
Test Item : Peak Power Output Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date : 2019/01/10

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
		Measurement Level (dBm)										
01	2412	13.33	--	--	--	--	--	--	--	20.73	<30dBm	Pass
06	2437	17.22	17.19	17.16	17.13	17.08	17.05	17.02	16.99	23.37	<30dBm	Pass
11	2462	14.71	--	--	--	--	--	--	--	21.64	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4		
		Measurement Level (dBm)										
01	2412	12.45	--	--	--	--	--	--	--	19.62	<30dBm	Pass
06	2437	17.15	17.11	17.07	17.05	17.02	16.99	16.96	16.93	23.02	<30dBm	Pass
11	2462	15.13	--	--	--	--	--	--	--	21.86	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain A+B

Channel No	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
01	2412	14.4	20.73	19.62	23.22	<30dBm	Pass
06	2437	14.4	23.37	23.02	26.21	<30dBm	Pass
11	2462	14.4	21.64	21.86	24.76	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : 4G/LTE Broadband Router with PoE
Test Item : Peak Power Output Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date : 2019/01/10

Chain A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		30	60	90	120	180	240	270	300	30		
		Measurement Level (dBm)										
03	2422	12.09	--	--	--	--	--	--	--	20.10	<30dBm	Pass
06	2437	14.06	14.03	13.99	13.97	13.94	13.88	13.85	13.82	21.61	<30dBm	Pass
09	2452	13.23	--	--	--	--	--	--	--	20.96	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		30	60	90	120	180	240	270	300	30		
		Measurement Level (dBm)										
03	2422	11.03	--	--	--	--	--	--	--	19.12	<30dBm	Pass
06	2437	14.13	14.11	14.08	14.06	14.03	13.98	13.95	13.91	21.35	<30dBm	Pass
09	2452	13.09	--	--	--	--	--	--	--	20.73	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Chain A+B

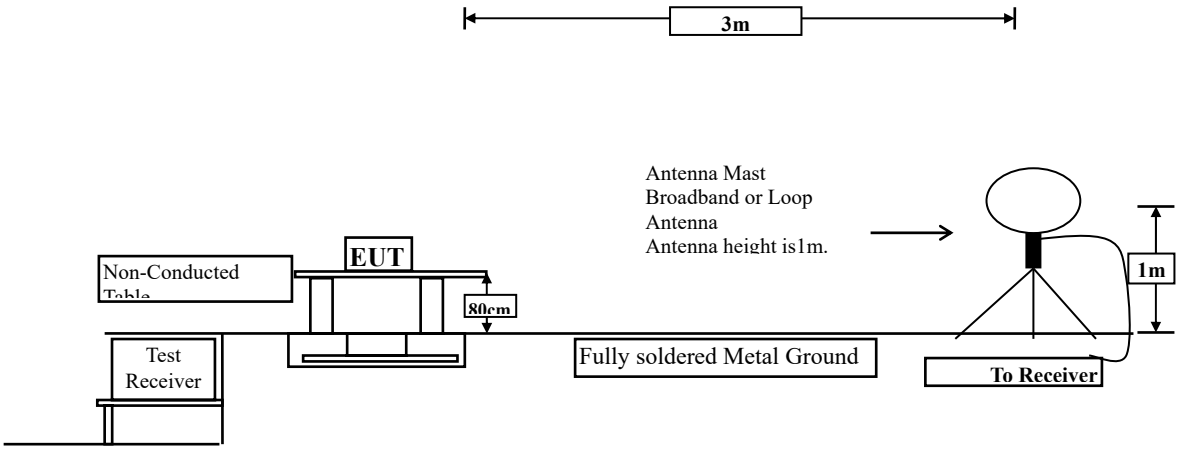
Channel No	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
03	2422	30	20.10	19.12	22.65	<30dBm	Pass
06	2437	30	21.61	21.35	24.49	<30dBm	Pass
09	2452	30	20.96	20.73	23.86	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

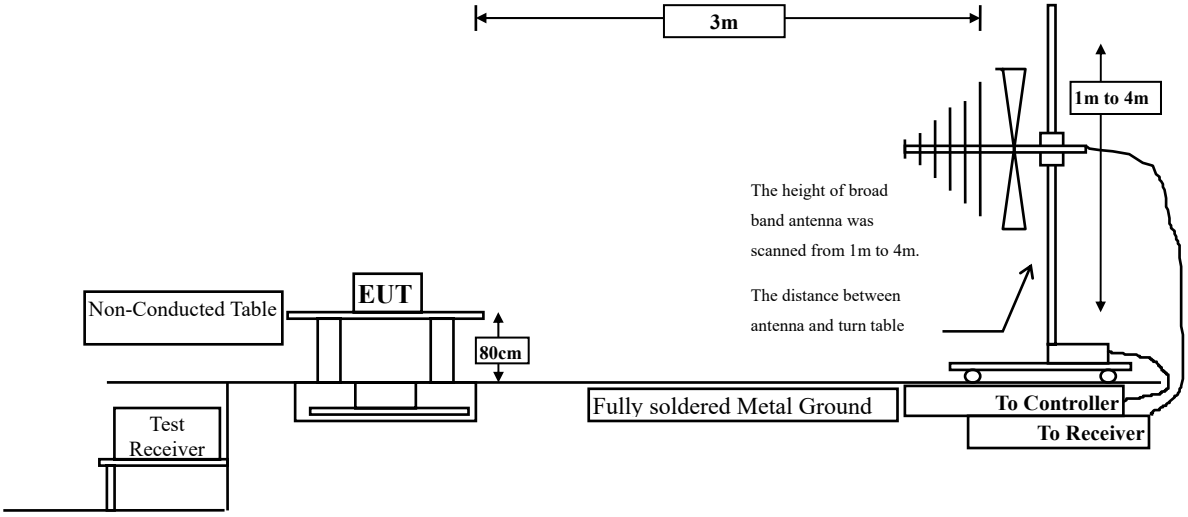
4. Radiated Emission

4.1. Test Setup

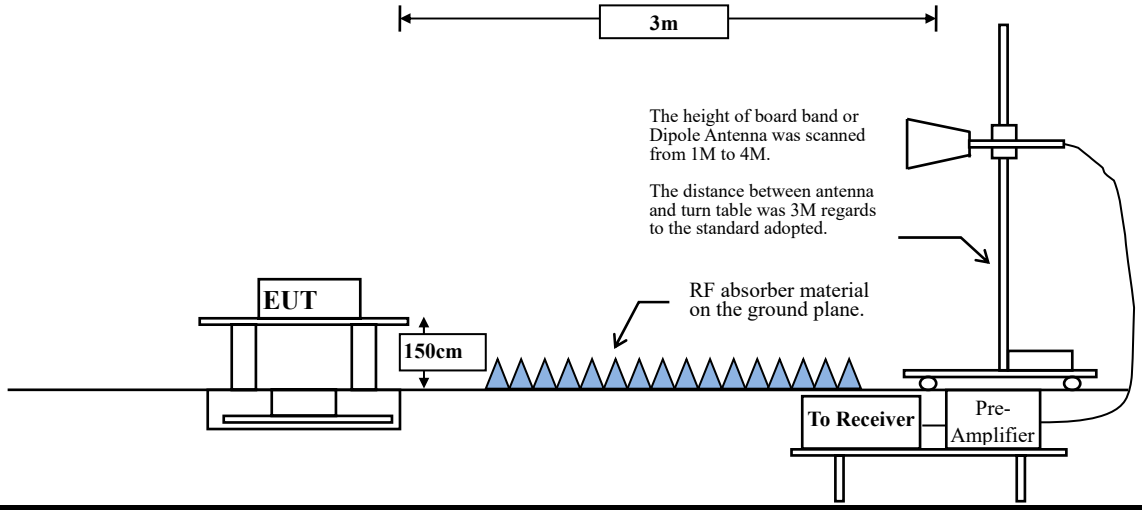
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.2. Limits

➢ **General Radiated Emission Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
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

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.
The turn table is rotated 360 degrees to determine the position of the maximum emission level.
The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level.
This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.
The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.
Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.
The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.64	--	--	10
802.11g	96.48	1.3913	719	1k
802.11n20	81.66	0.6710	1490	2k
802.11n40	69.07	0.3173	3152	5k

Note: Duty Cycle Refer to Section 9

4.4. Uncertainty

Horizontal polarization：

30-300MHz: ±4.08dB；300M-1GHz: ±3.86dB；1-18GHz: ±3.77dB；18-40GHz: ±3.98dB

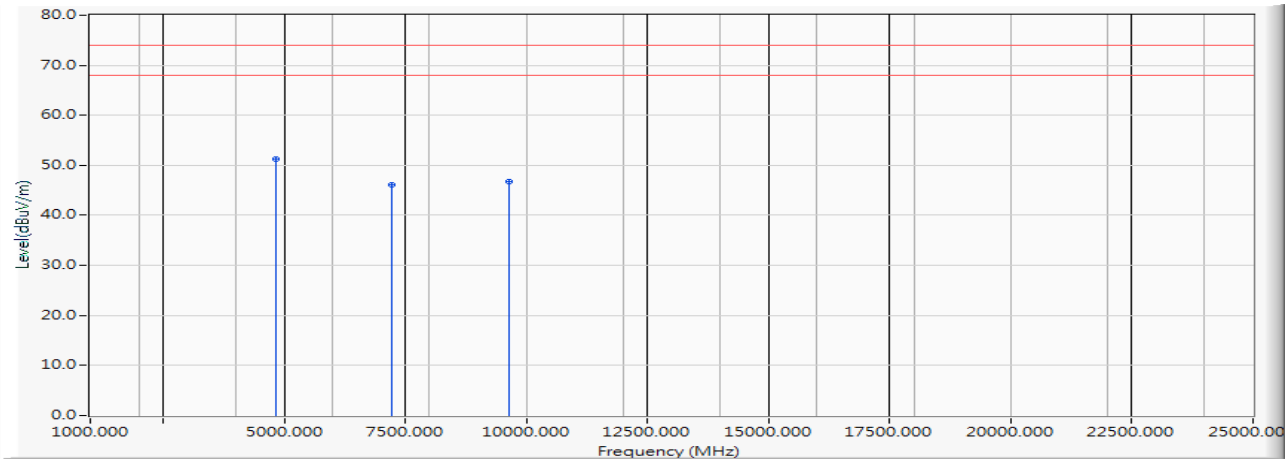
Vertical polarization：

30-300MHz: ±4.81dB；300M-1GHz: ±3.87dB；1-18GHz：±3.83dB；18-40GHz: ±3.98dB

4.5. Test Result of Radiated Emission

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/15

Horizontal



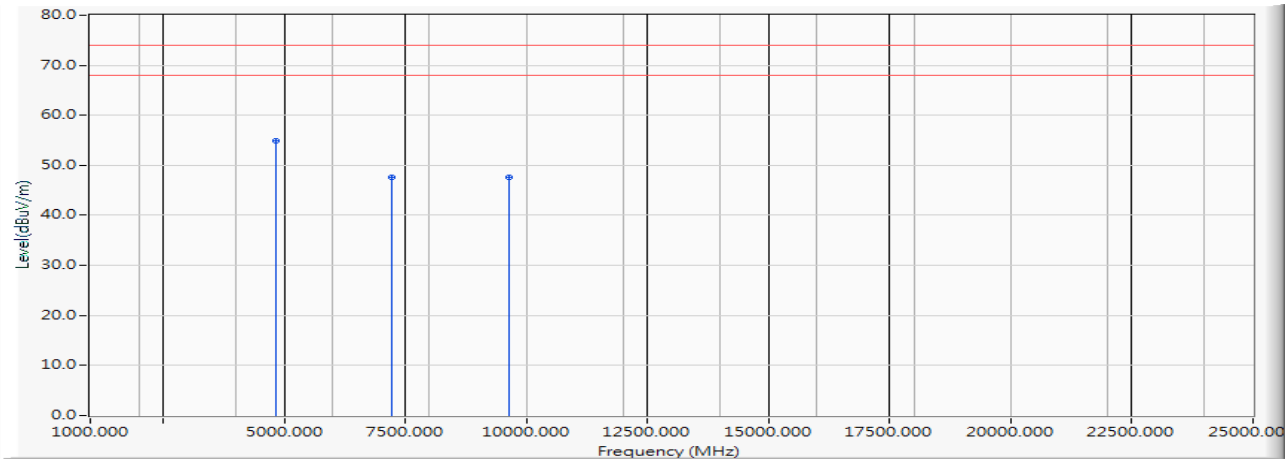
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	54.720	51.301	-22.699	74.000	PEAK
2		7236.000	-0.467	46.600	46.134	-27.866	74.000	PEAK
3		9648.000	2.091	44.650	46.740	-27.260	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/15

Vertical



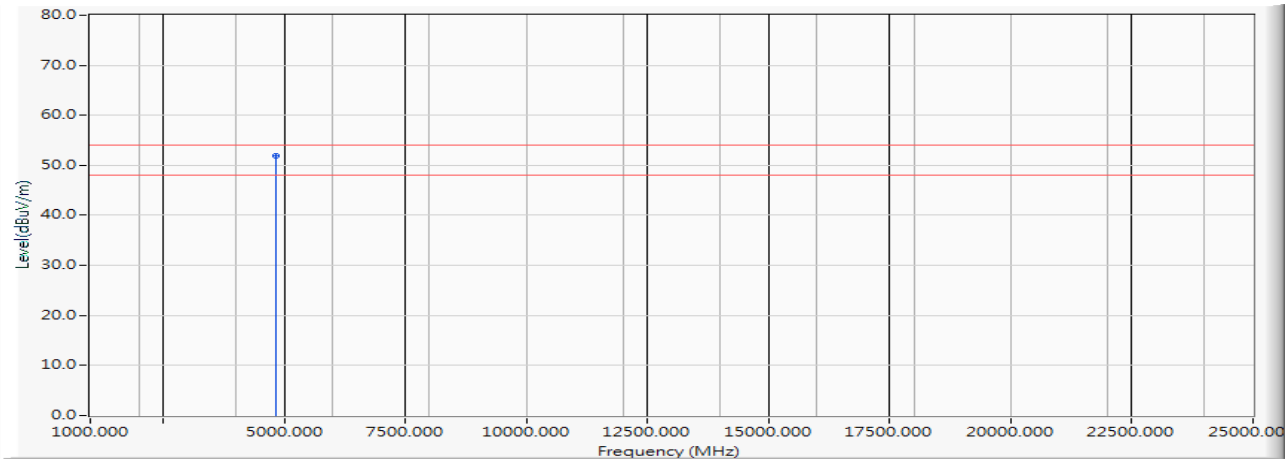
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	58.320	54.901	-19.099	74.000	PEAK
2		7236.000	-0.467	48.170	47.704	-26.296	74.000	PEAK
3		9648.000	2.091	45.430	47.520	-26.480	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/15

Vertical



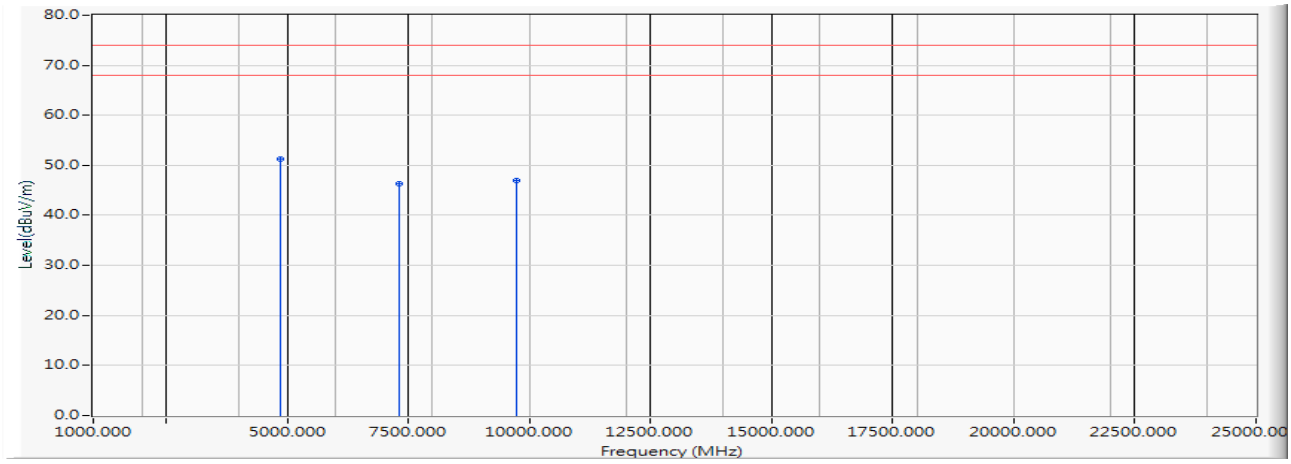
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	55.390	51.971	-2.029	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



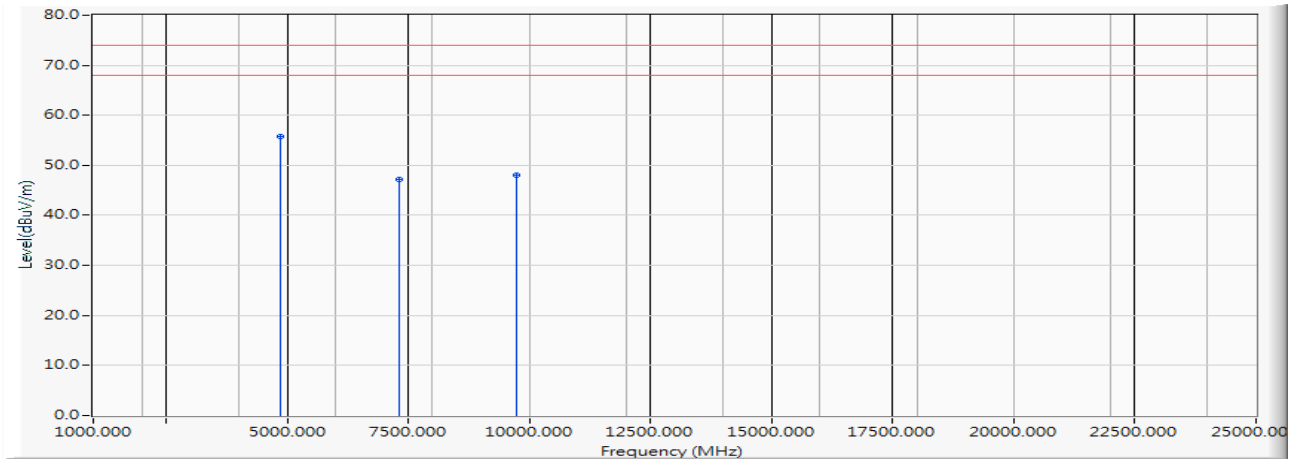
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	54.610	51.222	-22.778	74.000	PEAK
2		7311.000	-0.419	46.790	46.371	-27.629	74.000	PEAK
3		9748.000	2.249	44.750	46.998	-27.002	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)
Test Date	:	2019/01/15

Vertical



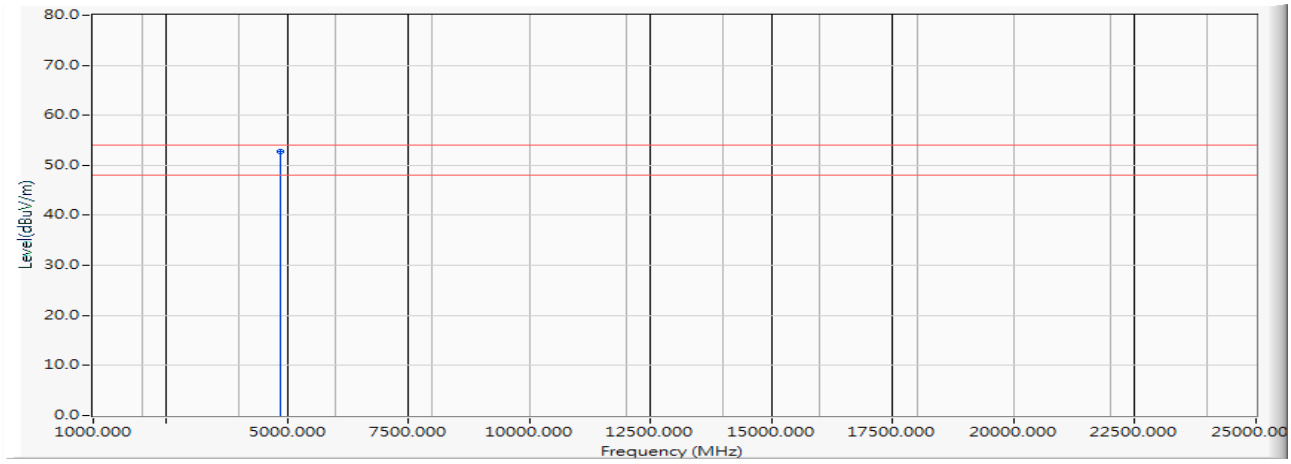
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	59.060	55.672	-18.328	74.000	PEAK
2		7311.000	-0.419	47.650	47.231	-26.769	74.000	PEAK
3		9748.000	2.249	45.770	48.018	-25.982	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)
Test Date	:	2019/01/15

Vertical



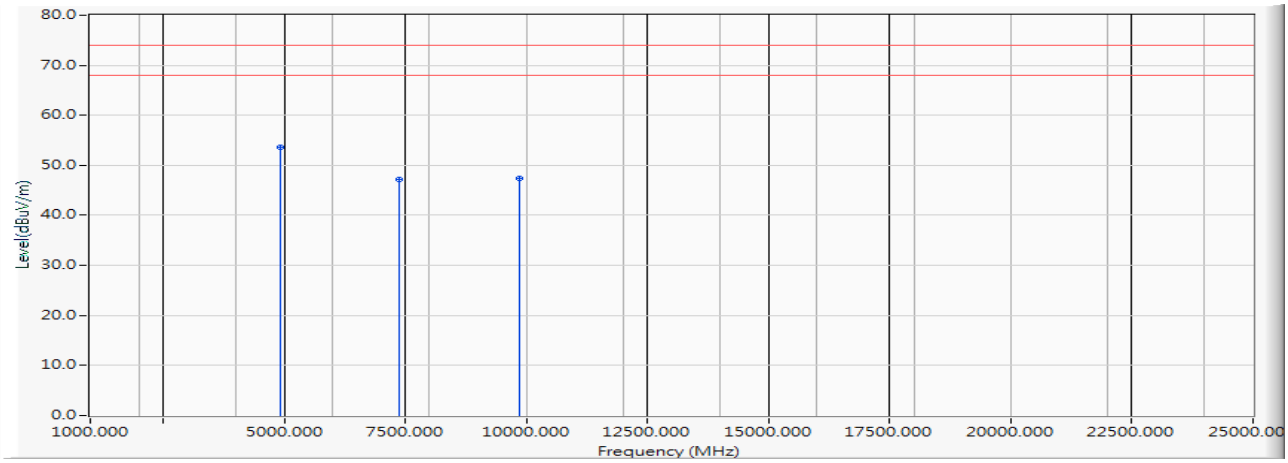
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	56.250	52.862	-1.138	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date : 2019/01/15

Horizontal



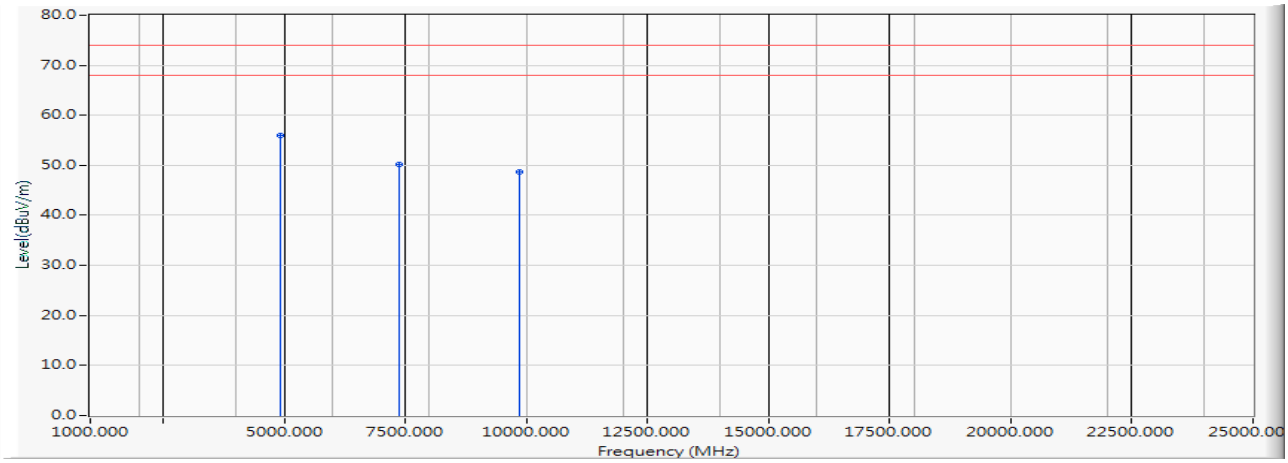
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	57.050	53.678	-20.322	74.000	PEAK
2		7386.000	-0.315	47.510	47.194	-26.806	74.000	PEAK
3		9848.000	2.331	45.050	47.382	-26.618	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date : 2019/01/15

Vertical



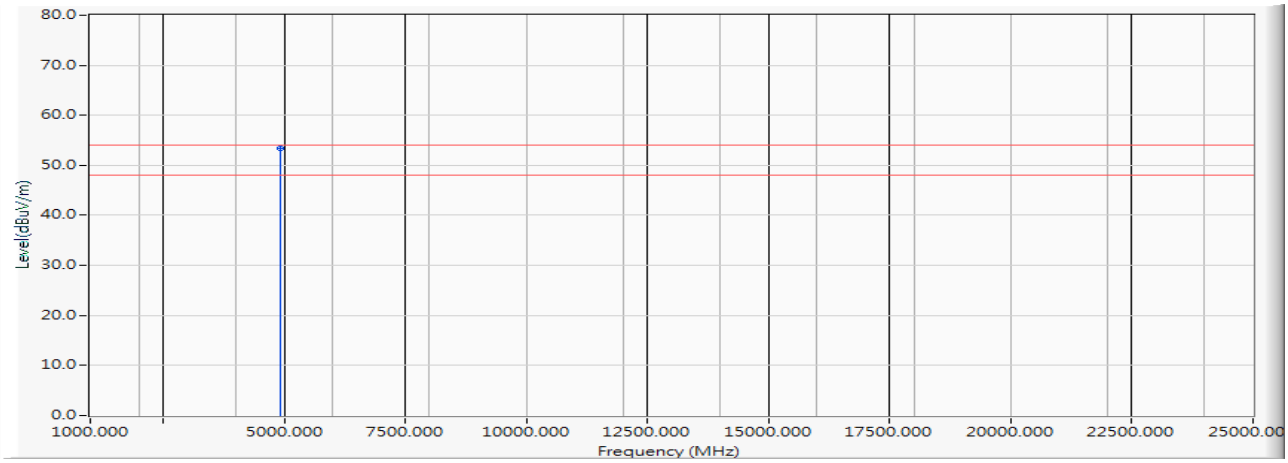
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	59.260	55.888	-18.112	74.000	PEAK
2		7386.000	-0.315	50.510	50.194	-23.806	74.000	PEAK
3		9848.000	2.331	46.360	48.692	-25.308	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date : 2019/01/15

Vertical



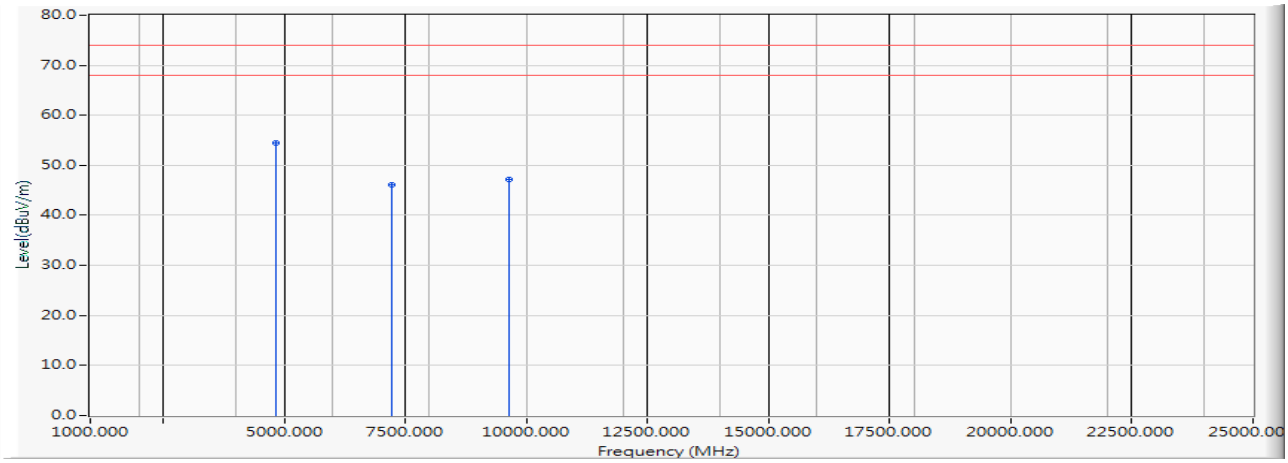
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	56.850	53.478	-0.522	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/15

Horizontal



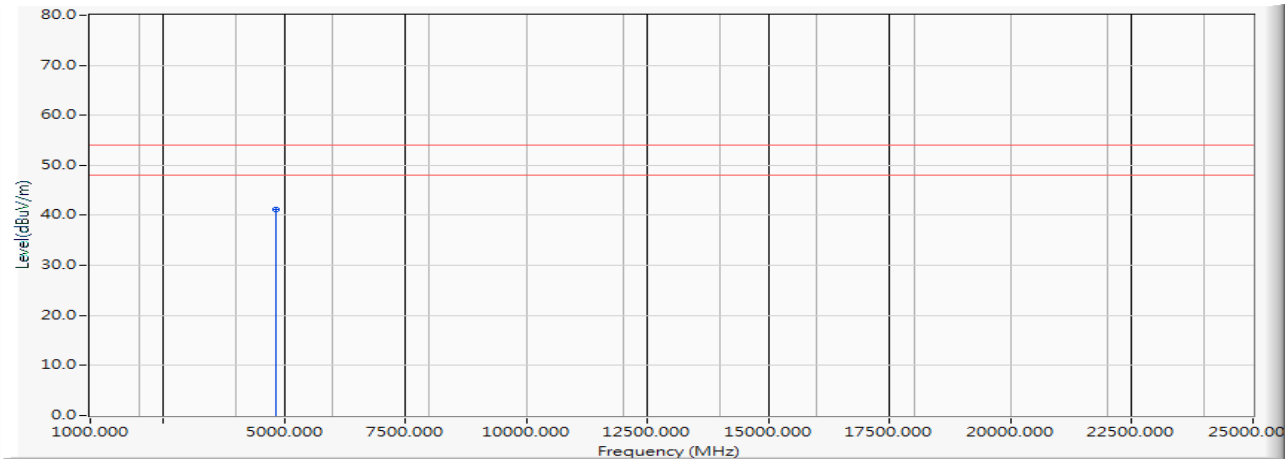
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	57.870	54.451	-19.549	74.000	PEAK
2		7236.000	-0.467	46.520	46.054	-27.946	74.000	PEAK
3		9648.000	2.091	45.020	47.110	-26.890	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/15

Horizontal



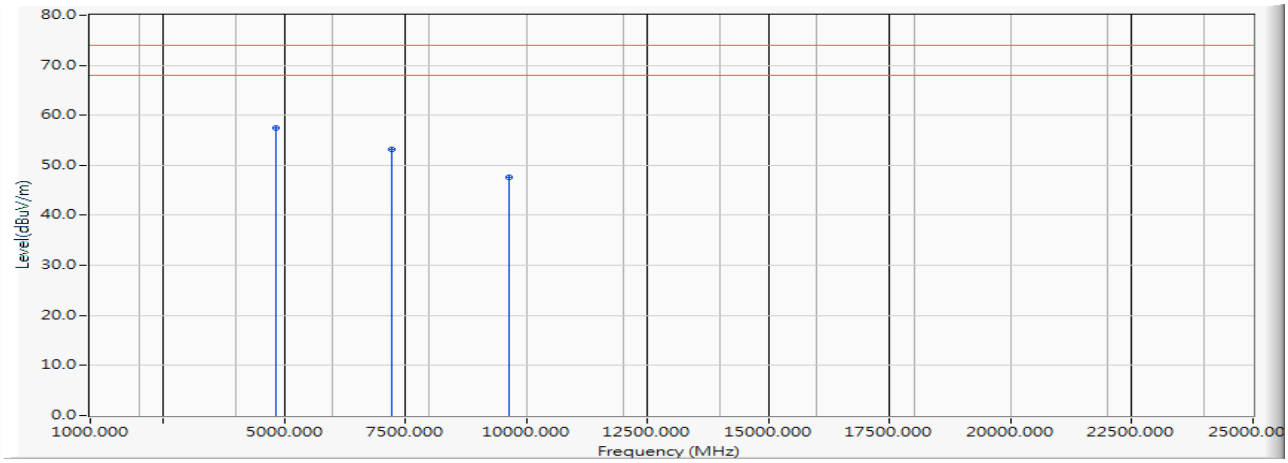
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	44.580	41.161	-12.839	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/15

Vertical



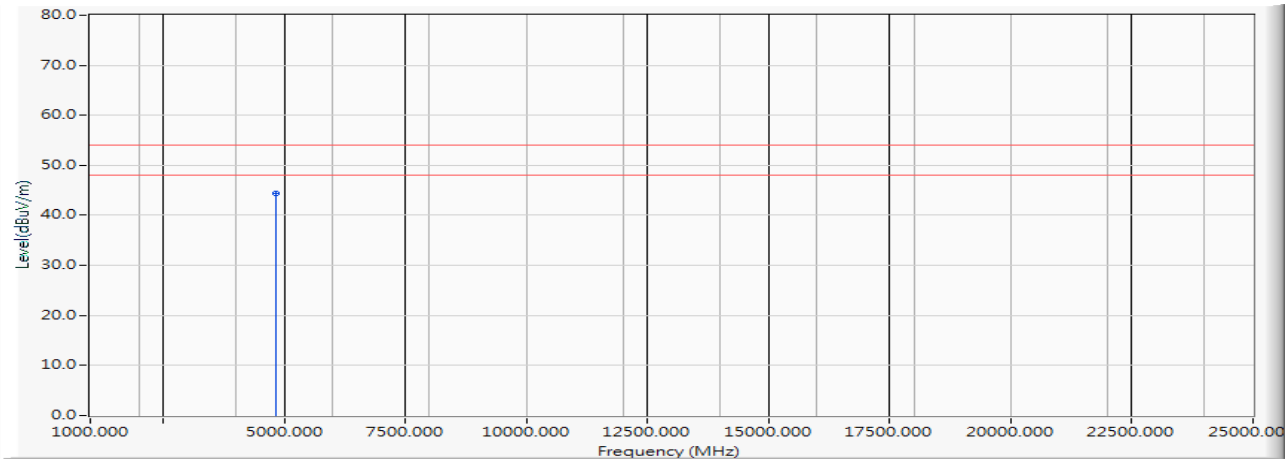
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	60.850	57.431	-16.569	74.000	PEAK
2		7236.000	-0.467	53.620	53.154	-20.846	74.000	PEAK
3		9648.000	2.091	45.630	47.720	-26.280	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/15

Vertical



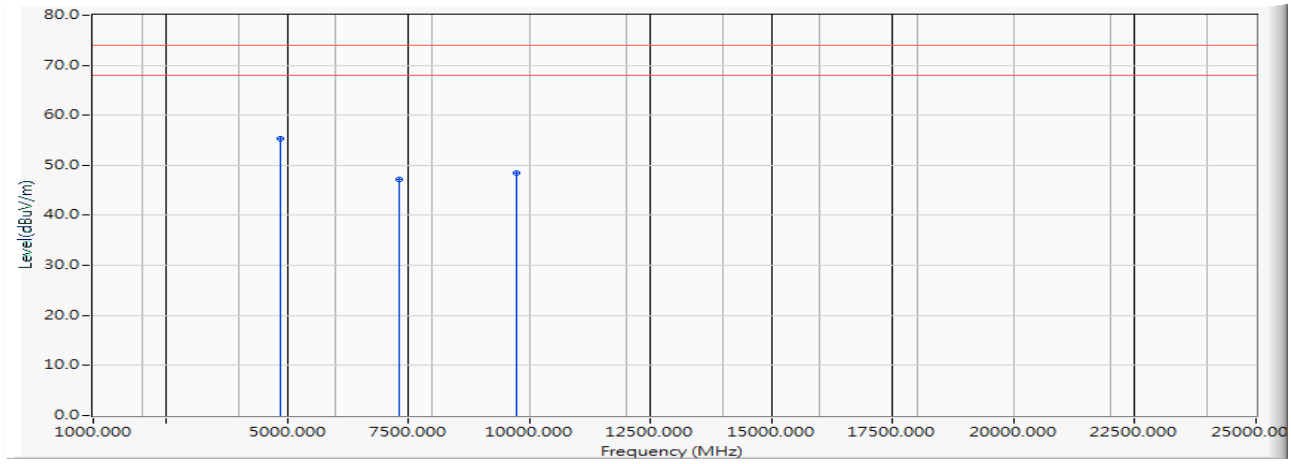
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-3.420	47.830	44.411	-9.589	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



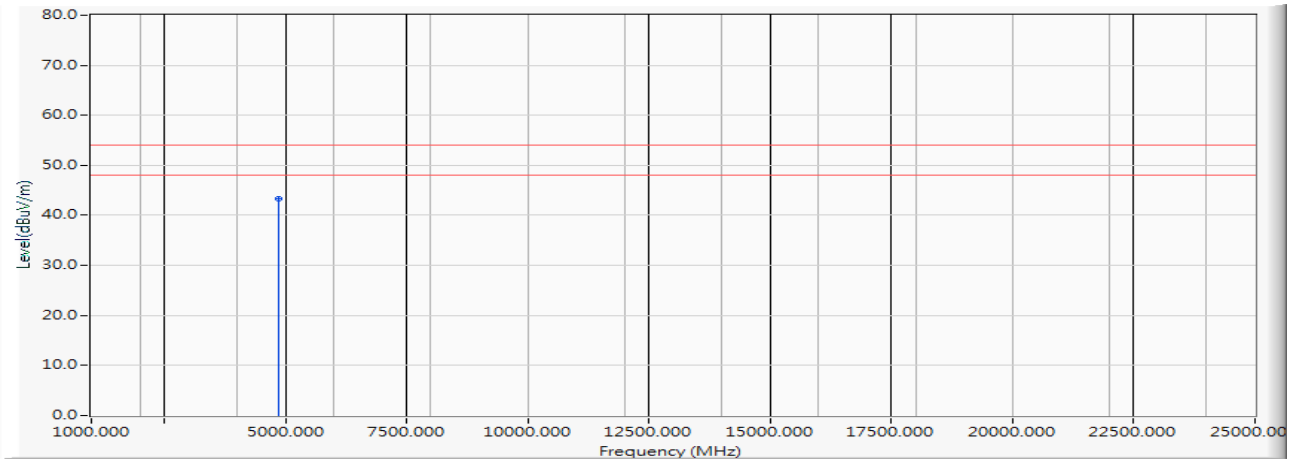
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	58.750	55.362	-18.638	74.000	PEAK
2		7311.000	-0.419	47.520	47.101	-26.899	74.000	PEAK
3		9748.000	2.249	46.320	48.568	-25.432	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



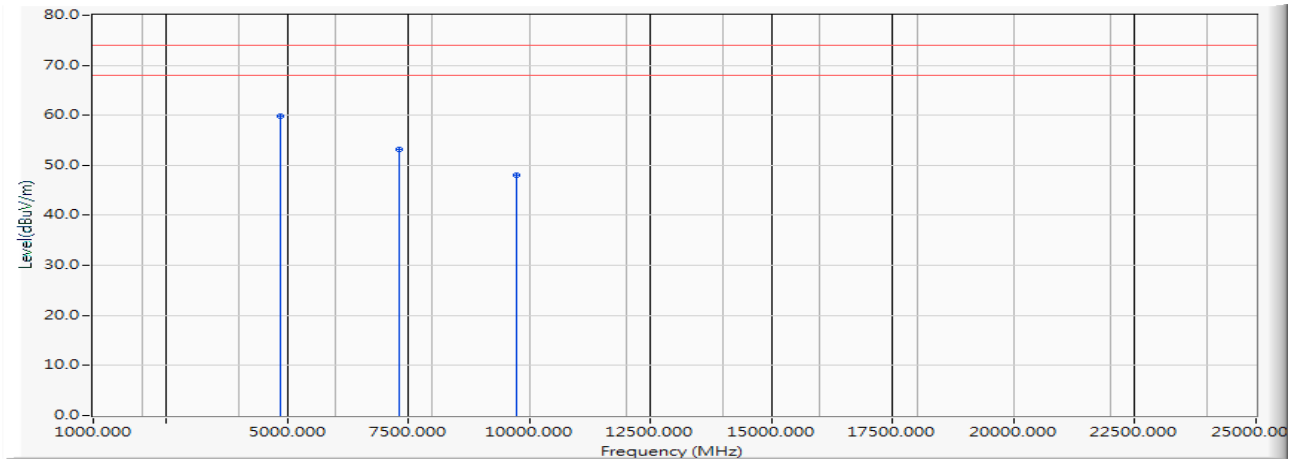
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	46.720	43.332	-10.668	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)
Test Date	:	2019/01/15

Vertical



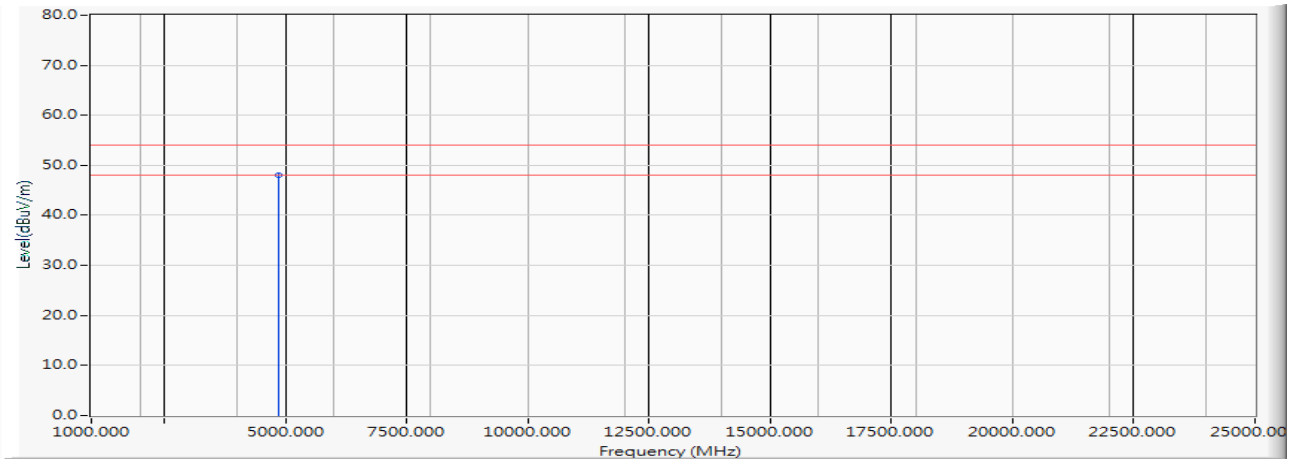
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	63.300	59.912	-14.088	74.000	PEAK
2		7311.000	-0.419	53.560	53.141	-20.859	74.000	PEAK
3		9748.000	2.249	45.850	48.098	-25.902	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)
Test Date	:	2019/01/15

Vertical



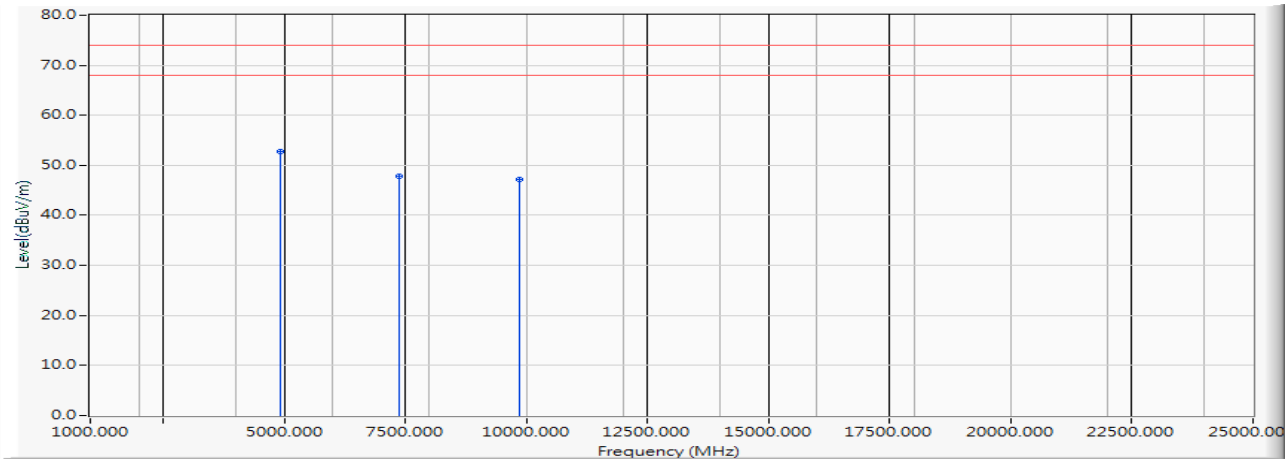
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-3.388	51.450	48.062	-5.938	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)
Test Date : 2019/01/15

Horizontal



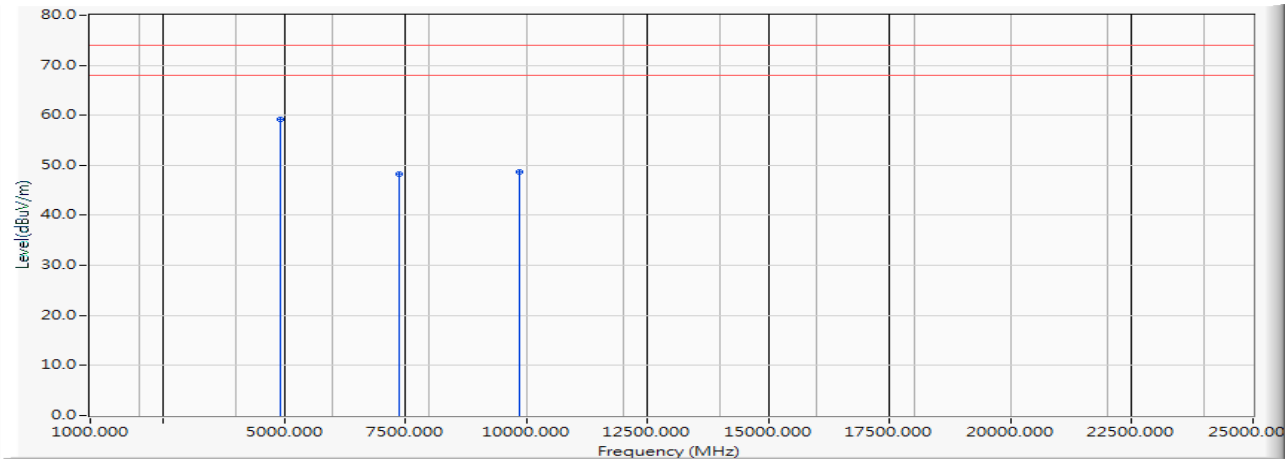
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	56.120	52.748	-21.252	74.000	PEAK
2		7386.000	-0.315	48.250	47.934	-26.066	74.000	PEAK
3		9848.000	2.331	44.820	47.152	-26.848	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)
Test Date : 2019/01/15

Vertical



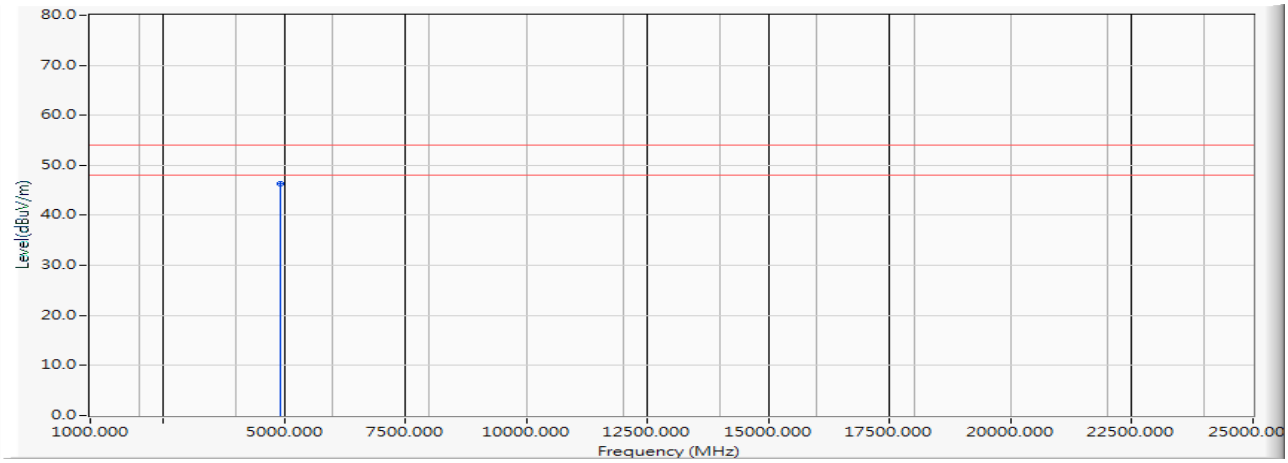
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	62.500	59.128	-14.872	74.000	PEAK
2		7386.000	-0.315	48.660	48.344	-25.656	74.000	PEAK
3		9848.000	2.331	46.330	48.662	-25.338	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)
Test Date : 2019/01/15

Vertical



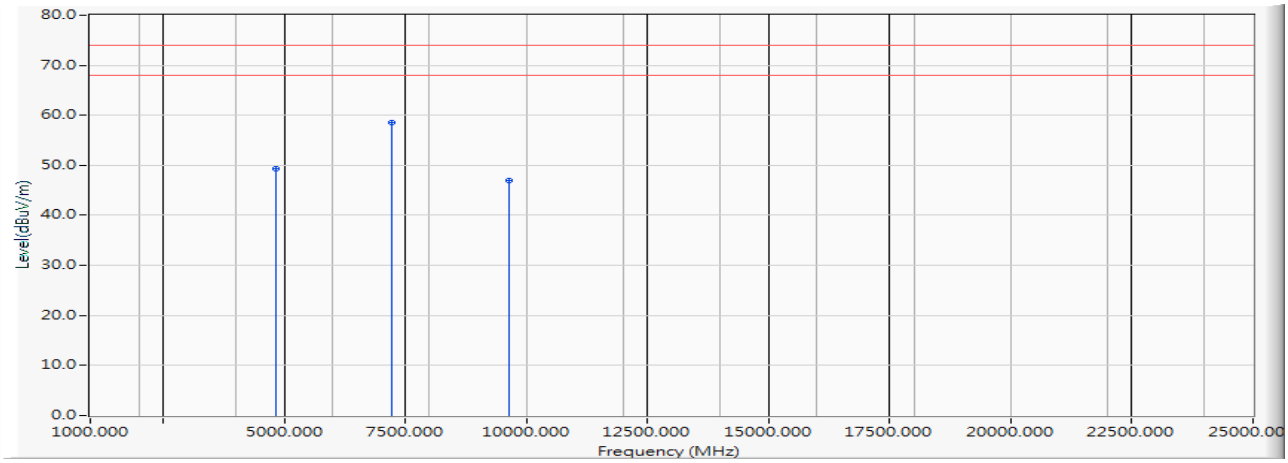
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-3.372	49.800	46.428	-7.572	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2412MHz)
Test Date : 2019/01/15

Horizontal



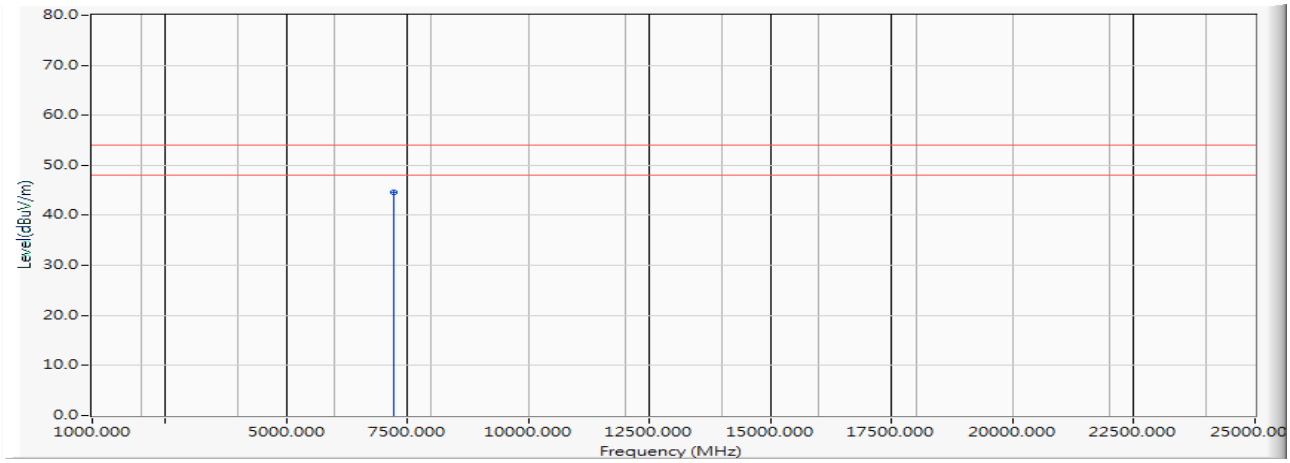
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	-3.420	52.810	49.391	-24.609	74.000	PEAK
2	*	7236.000	-0.467	59.010	58.544	-15.456	74.000	PEAK
3		9648.000	2.091	44.850	46.940	-27.060	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2412MHz)
Test Date : 2019/01/15

Horizontal



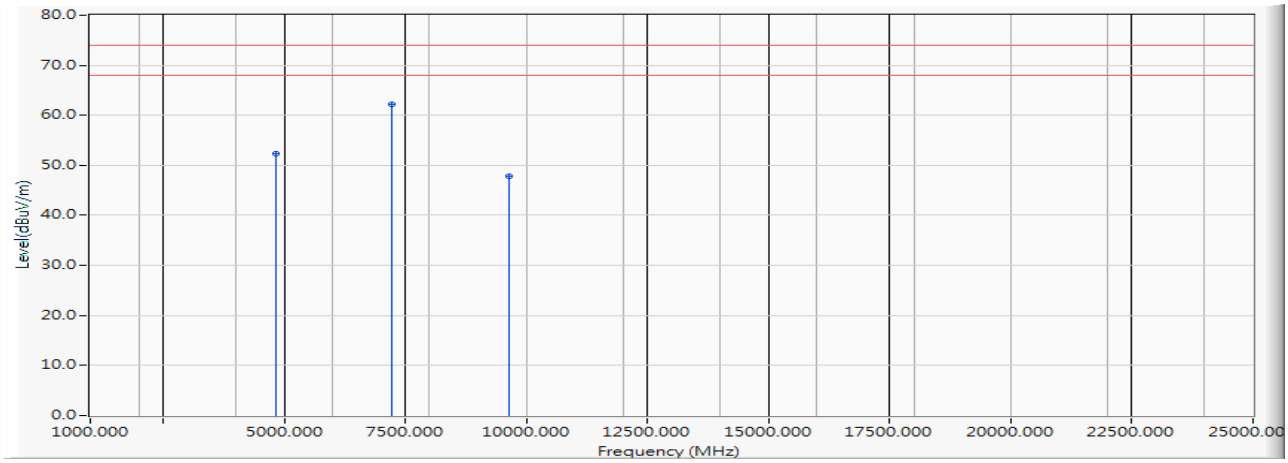
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7236.000	-0.467	45.150	44.684	-9.316	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2412MHz)
Test Date : 2019/01/15

Vertical



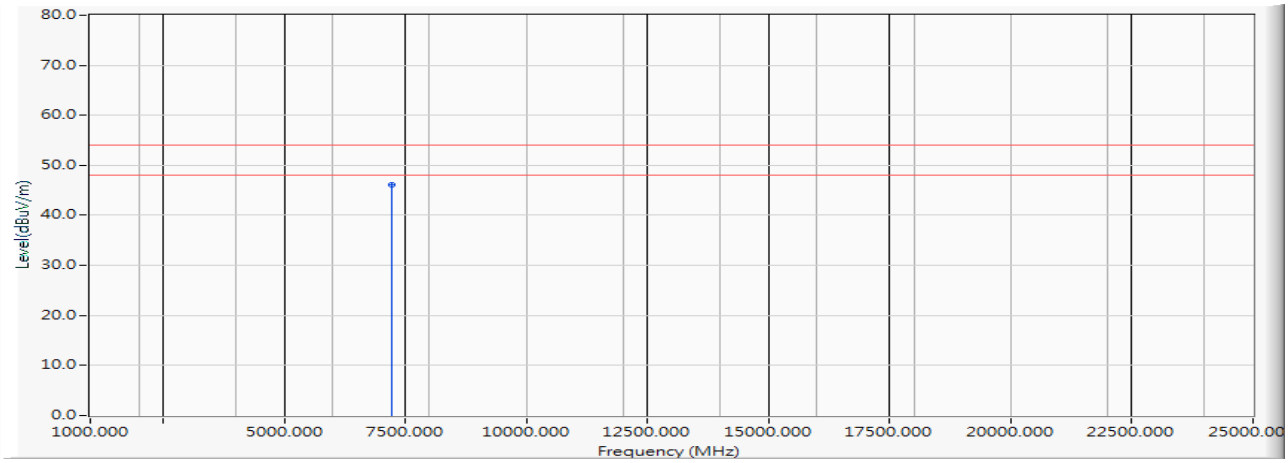
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	-3.420	55.760	52.341	-21.659	74.000	PEAK
2	*	7236.000	-0.467	62.770	62.304	-11.696	74.000	PEAK
3		9648.000	2.091	45.810	47.900	-26.100	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2412MHz)
Test Date : 2019/01/15

Vertical



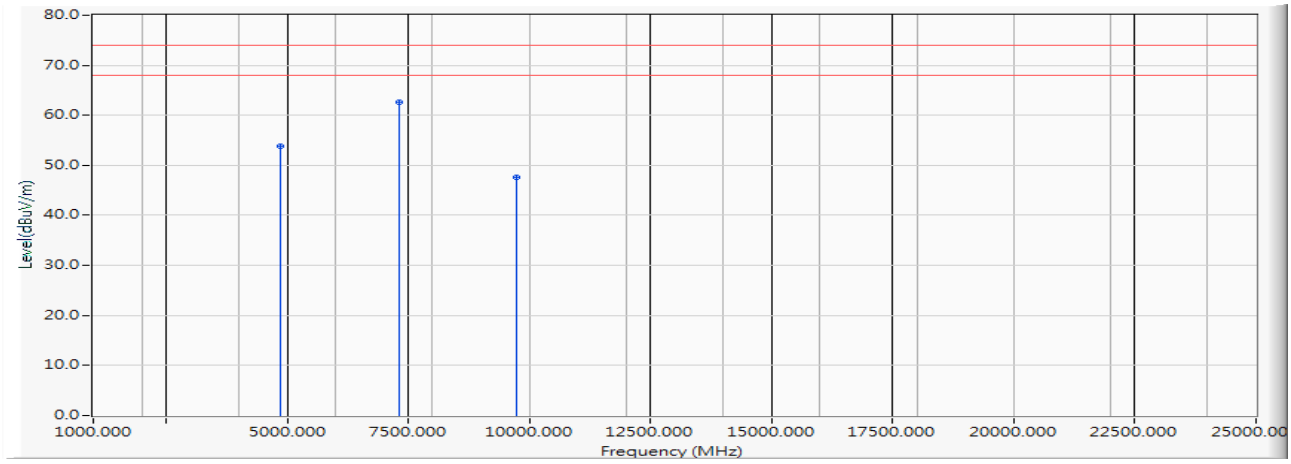
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7236.000	-0.467	46.650	46.184	-7.816	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



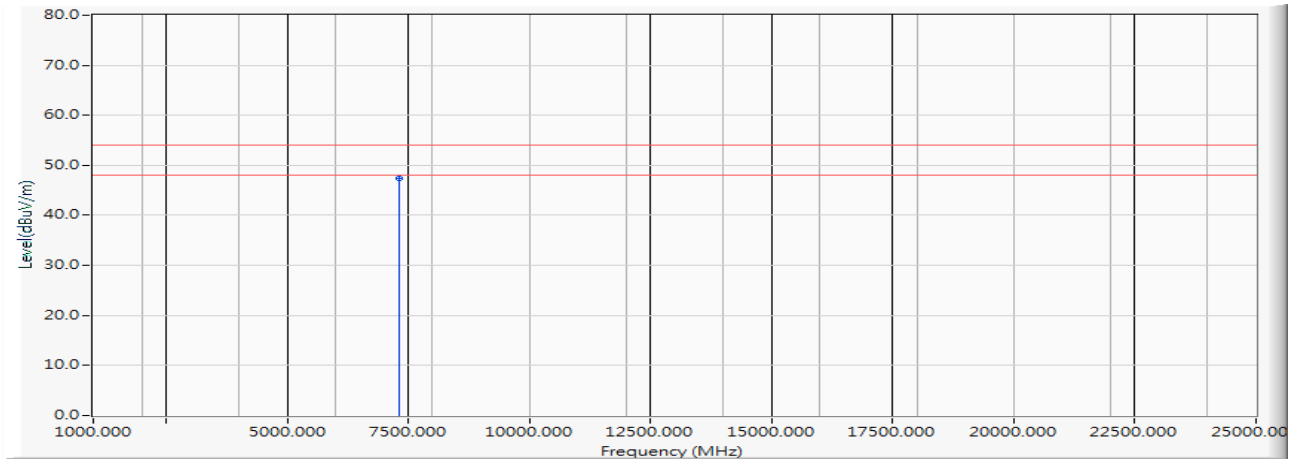
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-3.388	57.260	53.872	-20.128	74.000	PEAK
2	*	7311.000	-0.419	63.050	62.631	-11.369	74.000	PEAK
3		9748.000	2.249	45.310	47.558	-26.442	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



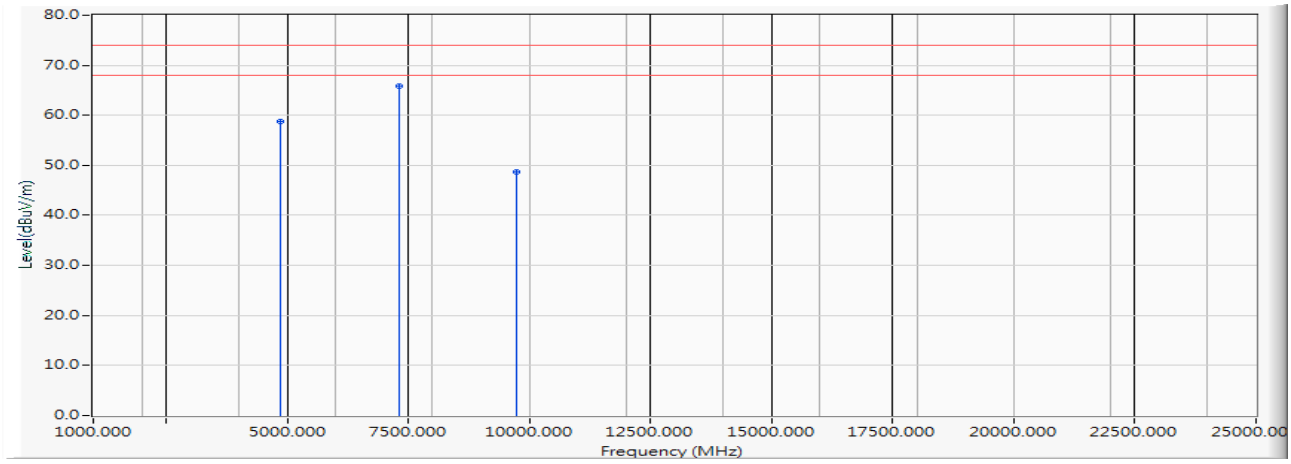
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7311.000	-0.419	47.820	47.401	-6.599	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2437 MHz)
Test Date	:	2019/01/15

Vertical



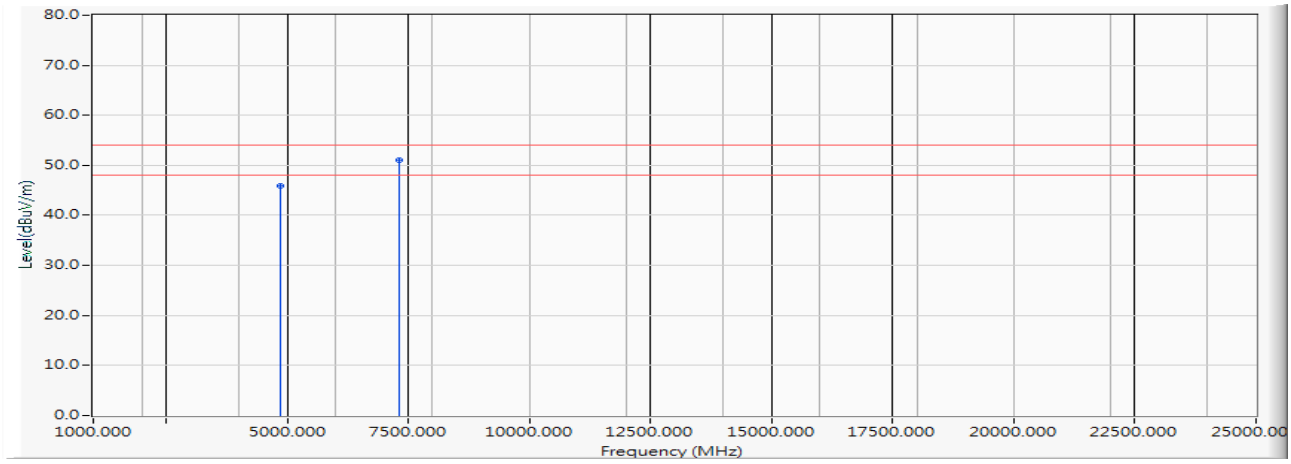
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-3.388	62.050	58.662	-15.338	74.000	PEAK
2	*	7311.000	-0.419	66.350	65.931	-8.069	74.000	PEAK
3		9748.000	2.249	46.510	48.758	-25.242	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2437 MHz)
Test Date	:	2019/01/15

Vertical



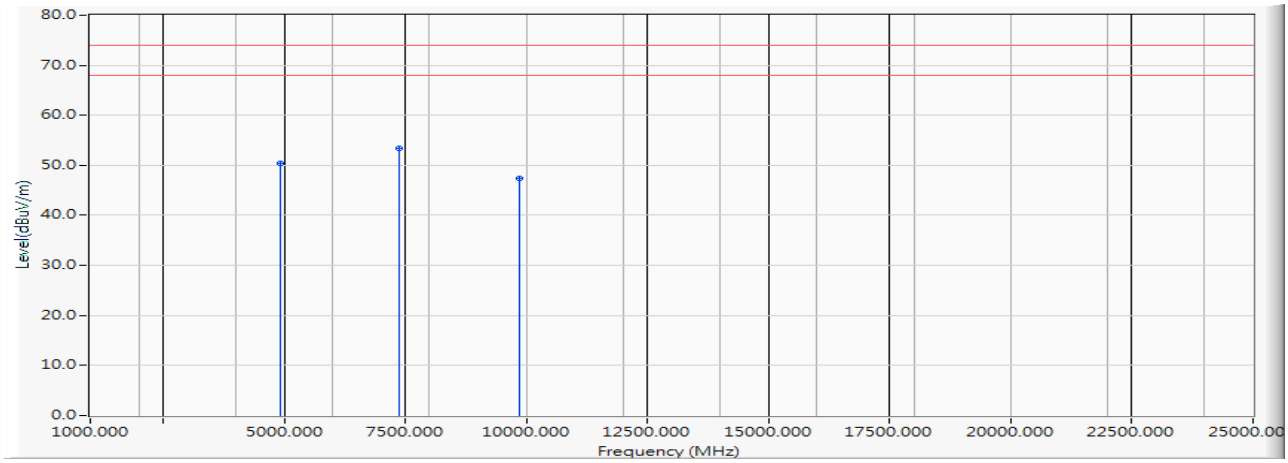
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-3.388	49.380	45.992	-8.008	54.000	AVERAGE
2	*	7311.000	-0.419	51.460	51.041	-2.959	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)
Test Date : 2019/01/15

Horizontal



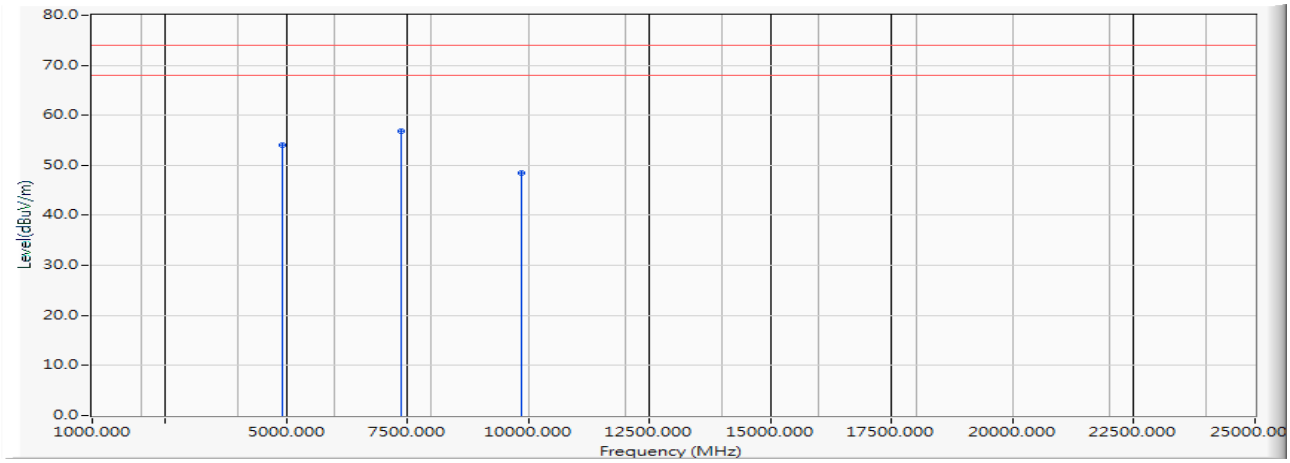
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	-3.372	53.870	50.498	-23.502	74.000	PEAK
2	*	7386.000	-0.315	53.660	53.344	-20.656	74.000	PEAK
3		9848.000	2.331	45.020	47.352	-26.648	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)
Test Date : 2019/01/15

Vertical



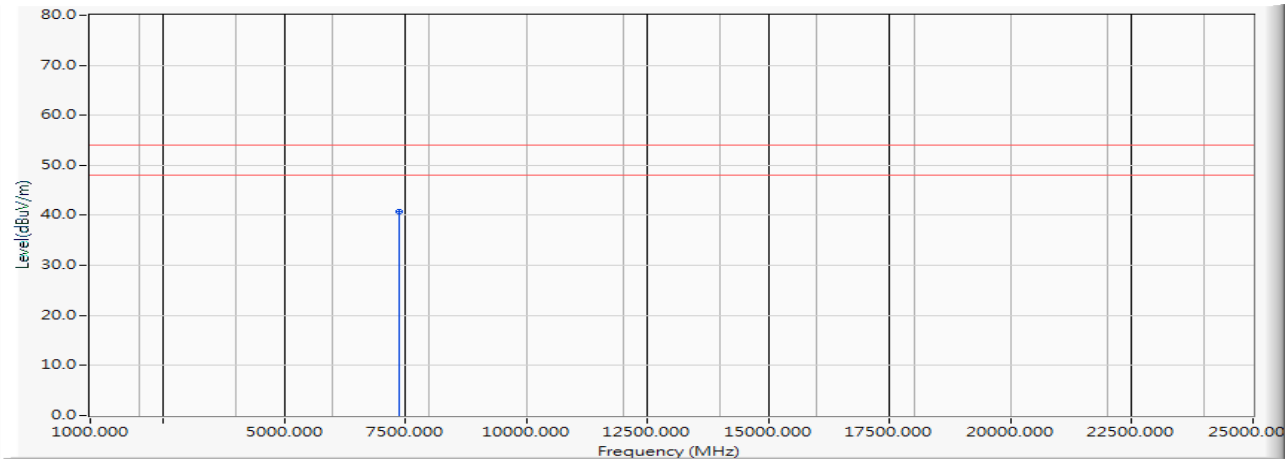
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	-3.372	57.360	53.988	-20.012	74.000	PEAK
2	*	7386.000	-0.315	57.110	56.794	-17.206	74.000	PEAK
3		9848.000	2.331	46.220	48.552	-25.448	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)
Test Date : 2019/01/15

Vertical



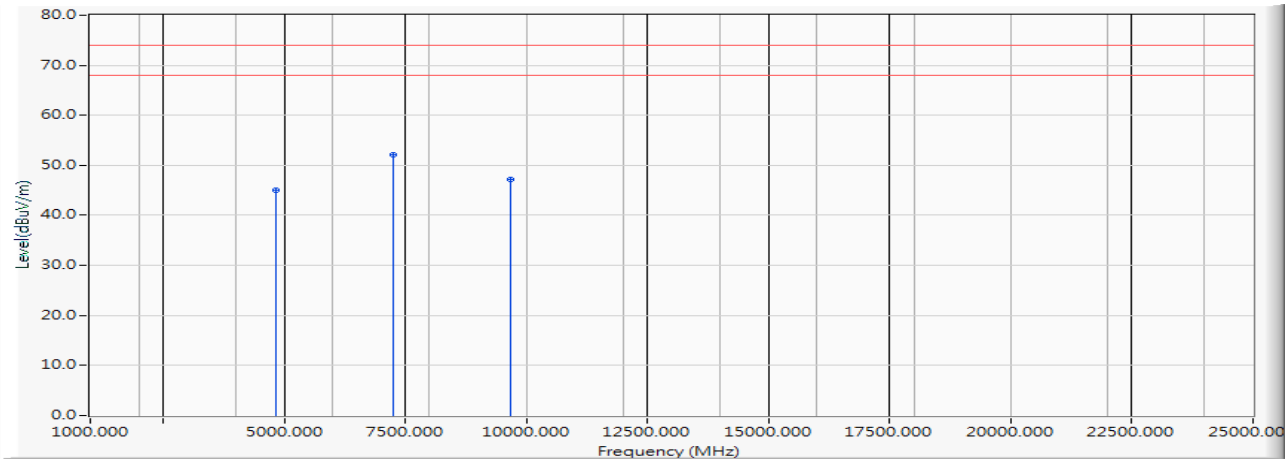
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7386.000	-0.315	40.960	40.644	-13.356	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2422MHz)
Test Date : 2019/01/15

Horizontal



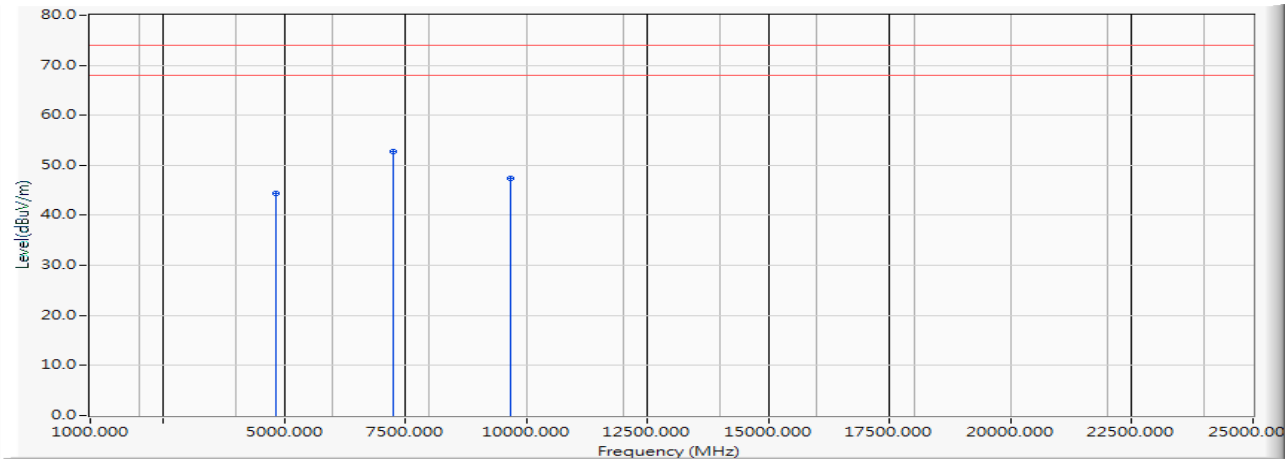
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4844.000	-3.408	48.410	45.001	-28.999	74.000	PEAK
2	*	7266.000	-0.463	52.480	52.017	-21.983	74.000	PEAK
3		9688.000	2.145	45.100	47.245	-26.755	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2422MHz)
Test Date : 2019/01/15

Vertical



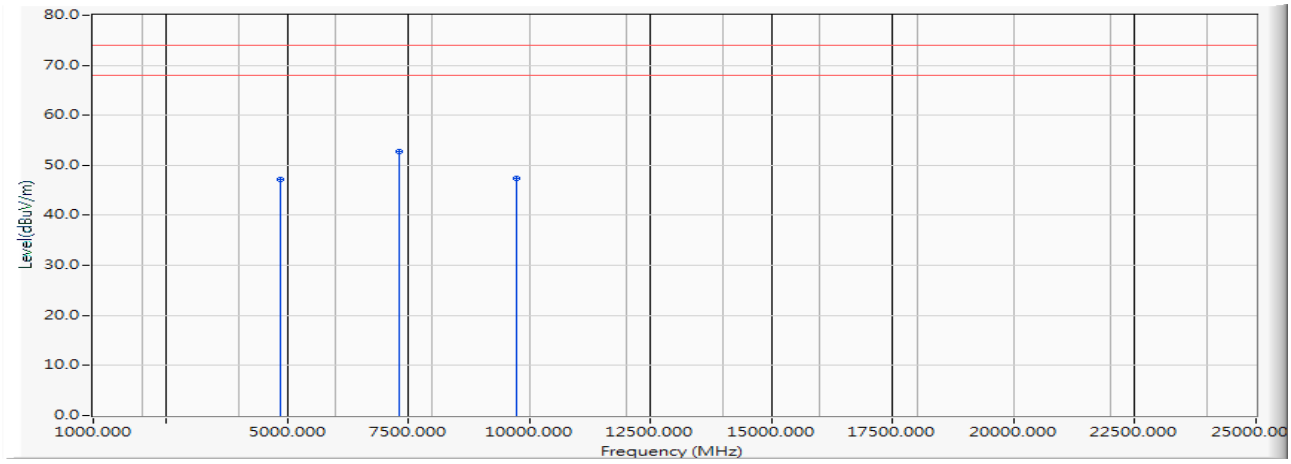
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4844.000	-3.408	47.840	44.431	-29.569	74.000	PEAK
2	*	7266.000	-0.463	53.260	52.797	-21.203	74.000	PEAK
3		9688.000	2.145	45.310	47.455	-26.545	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437 MHz)
Test Date	:	2019/01/15

Horizontal



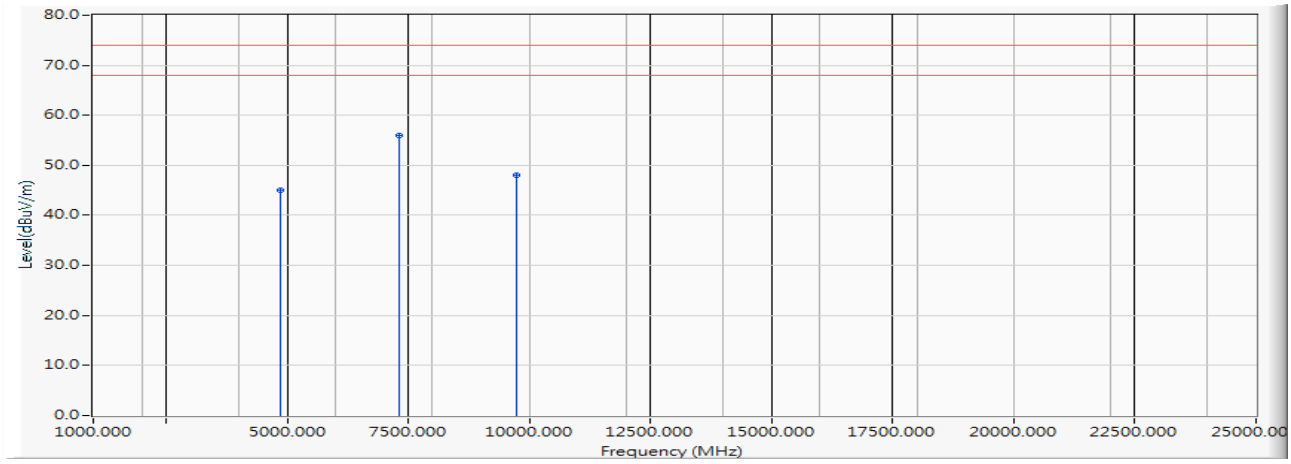
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-3.388	50.570	47.182	-26.818	74.000	PEAK
2	*	7311.000	-0.419	53.150	52.731	-21.269	74.000	PEAK
3		9748.000	2.249	45.130	47.378	-26.622	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437 MHz)
Test Date	:	2019/01/15

Vertical



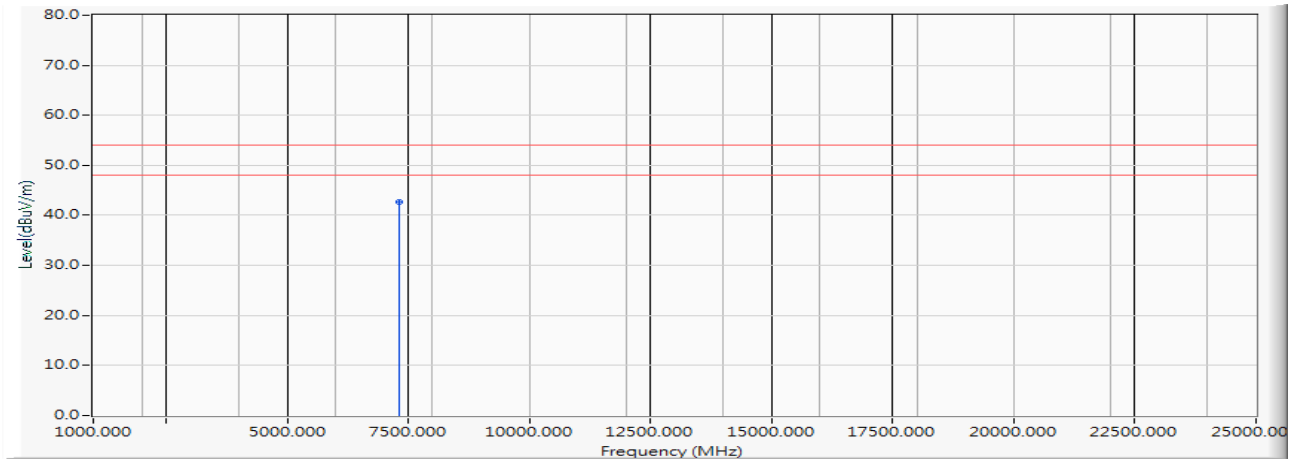
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-3.388	48.510	45.122	-28.878	74.000	PEAK
2	*	7311.000	-0.419	56.310	55.891	-18.109	74.000	PEAK
3		9748.000	2.249	45.810	48.058	-25.942	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2437 MHz)
Test Date	:	2019/01/15

Vertical



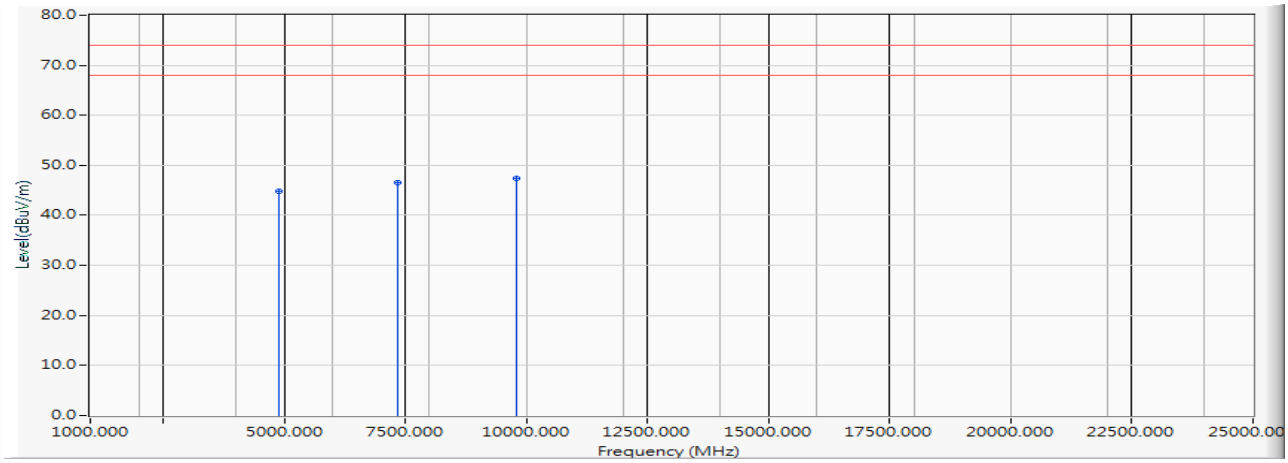
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7311.000	-0.419	43.150	42.731	-11.269	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452 MHz)
Test Date : 2019/01/15

Horizontal



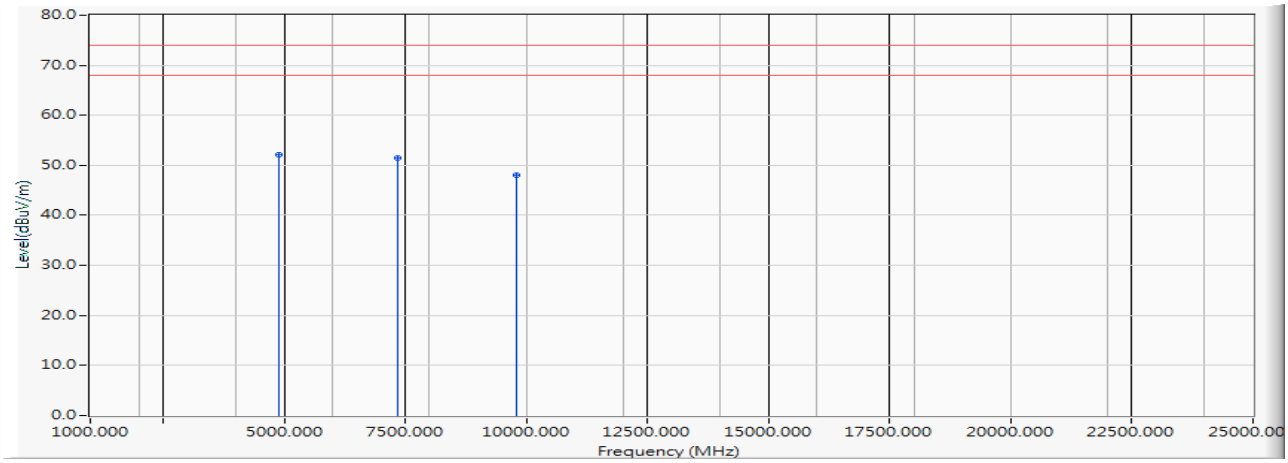
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4904.000	-3.400	48.210	44.810	-29.190	74.000	PEAK
2		7356.000	-0.361	46.810	46.450	-27.550	74.000	PEAK
3	*	9808.000	2.293	45.010	47.304	-26.696	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : Harmonic Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452 MHz)
Test Date : 2019/01/15

Vertical



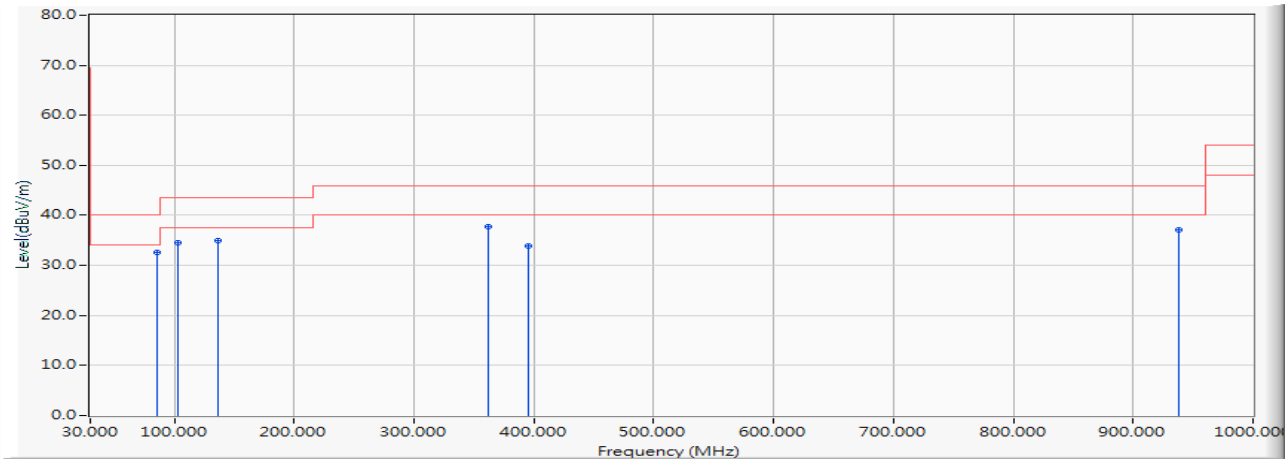
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4904.000	-3.400	55.520	52.120	-21.880	74.000	PEAK
2		7356.000	-0.361	51.790	51.430	-22.570	74.000	PEAK
3		9808.000	2.293	45.810	48.104	-25.896	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)
Test Date : 2019/01/14

Horizontal



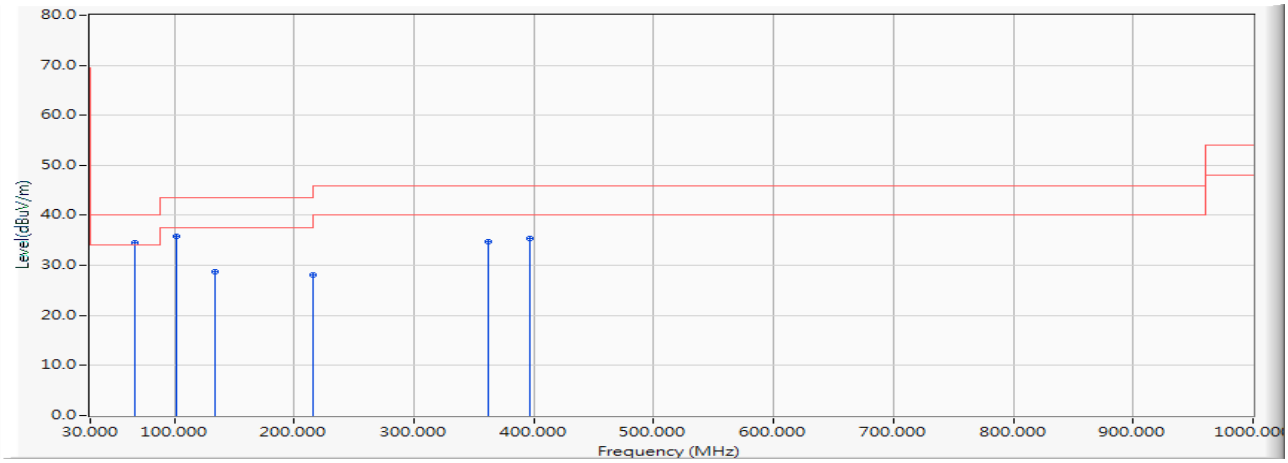
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	86.232	-16.861	49.468	32.607	-7.393	40.000	QUASIPEAK
2		103.101	-15.606	50.171	34.565	-8.935	43.500	QUASIPEAK
3		136.841	-11.730	46.742	35.011	-8.489	43.500	QUASIPEAK
4		361.768	-8.911	46.624	37.713	-8.287	46.000	QUASIPEAK
5		395.507	-8.139	42.062	33.924	-12.076	46.000	QUASIPEAK
6		938.145	0.219	36.919	37.138	-8.862	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)
Test Date : 2019/01/14

Vertical



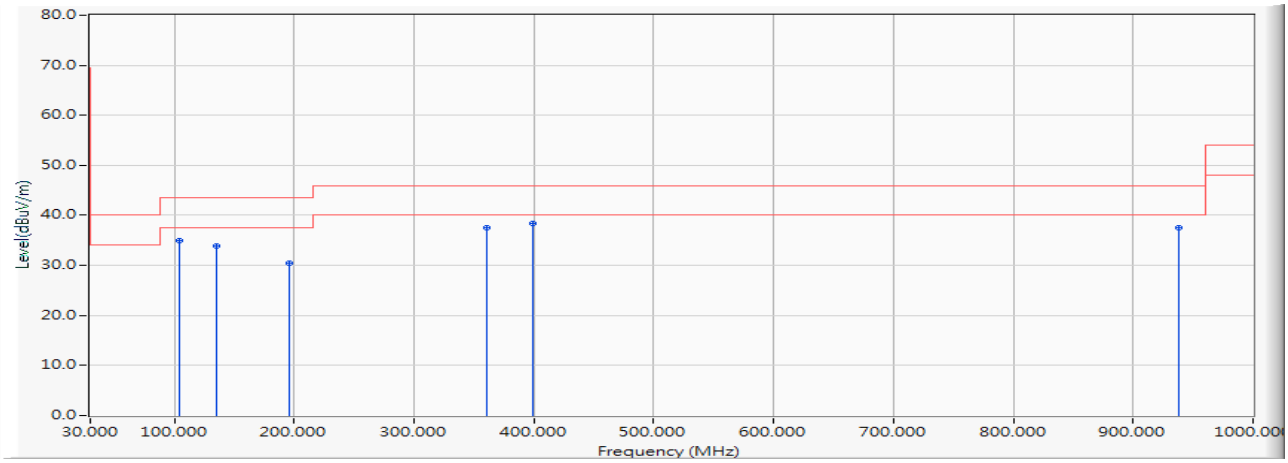
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	66.551	-13.101	47.735	34.634	-5.366	40.000	QUASIPEAK
2		101.696	-15.852	51.645	35.793	-7.707	43.500	QUASIPEAK
3		134.029	-11.999	40.671	28.673	-14.827	43.500	QUASIPEAK
4		215.565	-13.372	41.554	28.182	-15.318	43.500	QUASIPEAK
5		361.768	-8.911	43.653	34.742	-11.258	46.000	QUASIPEAK
6		396.913	-8.106	43.452	35.346	-10.654	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)
Test Date : 2019/01/14

Horizontal



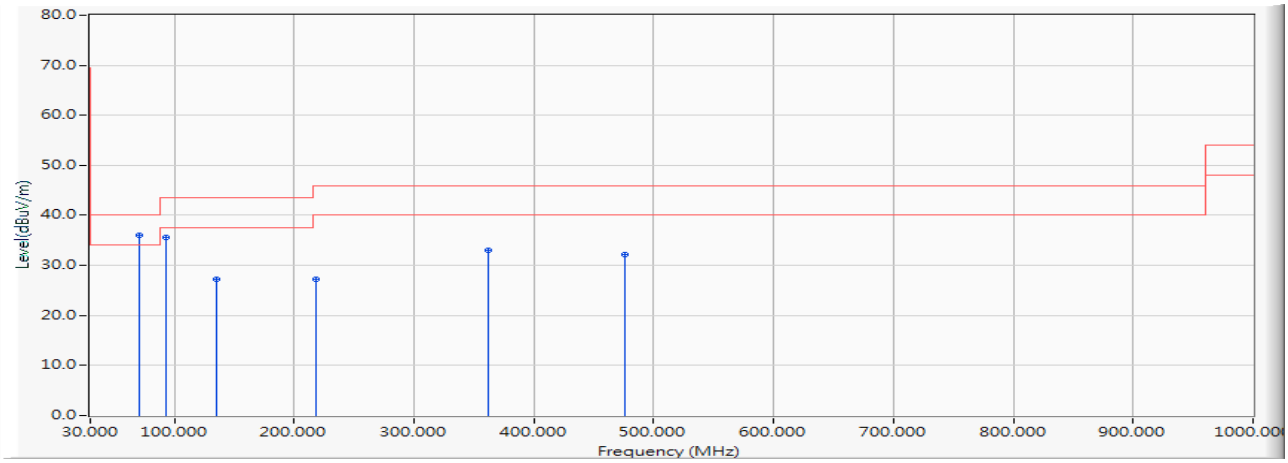
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		104.507	-15.358	50.291	34.933	-8.567	43.500	QUASIPEAK
2		135.435	-11.864	45.727	33.863	-9.637	43.500	QUASIPEAK
3		195.884	-13.667	44.151	30.484	-13.016	43.500	QUASIPEAK
4		360.362	-8.943	46.559	37.617	-8.383	46.000	QUASIPEAK
5	*	399.725	-8.042	46.470	38.428	-7.572	46.000	QUASIPEAK
6		938.145	0.219	37.210	37.429	-8.571	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)
Test Date : 2019/01/14

Vertical



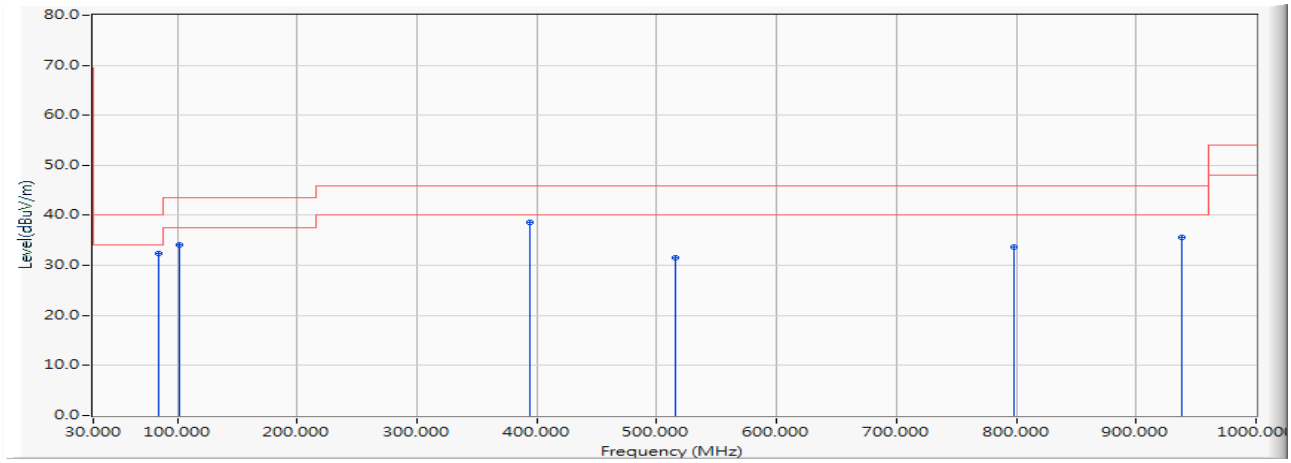
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	70.768	-13.756	49.722	35.965	-4.035	40.000	QUASIPEAK
2		93.261	-17.125	52.795	35.670	-7.830	43.500	QUASIPEAK
3		135.435	-11.864	39.117	27.253	-16.247	43.500	QUASIPEAK
4		218.377	-13.307	40.490	27.183	-18.817	46.000	QUASIPEAK
5		361.768	-8.911	42.024	33.113	-12.887	46.000	QUASIPEAK
6		475.638	-6.363	38.552	32.189	-13.811	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2437 MHz)
Test Date : 2019/01/14

Horizontal



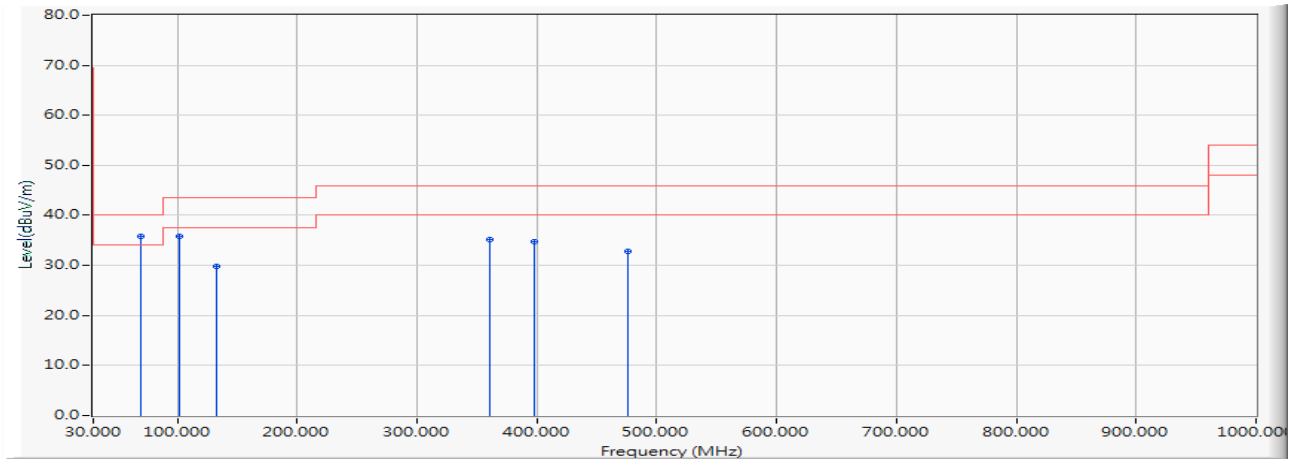
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		84.826	-16.586	49.033	32.447	-7.553	40.000	QUASIPEAK
2		101.696	-15.852	50.059	34.207	-9.293	43.500	QUASIPEAK
3	*	394.101	-8.170	46.864	38.694	-7.306	46.000	QUASIPEAK
4		515.000	-5.723	37.263	31.540	-14.460	46.000	QUASIPEAK
5		797.565	-1.676	35.382	33.706	-12.294	46.000	QUASIPEAK
6		938.145	0.219	35.379	35.598	-10.402	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)(2437 MHz)
Test Date : 2019/01/14

Vertical



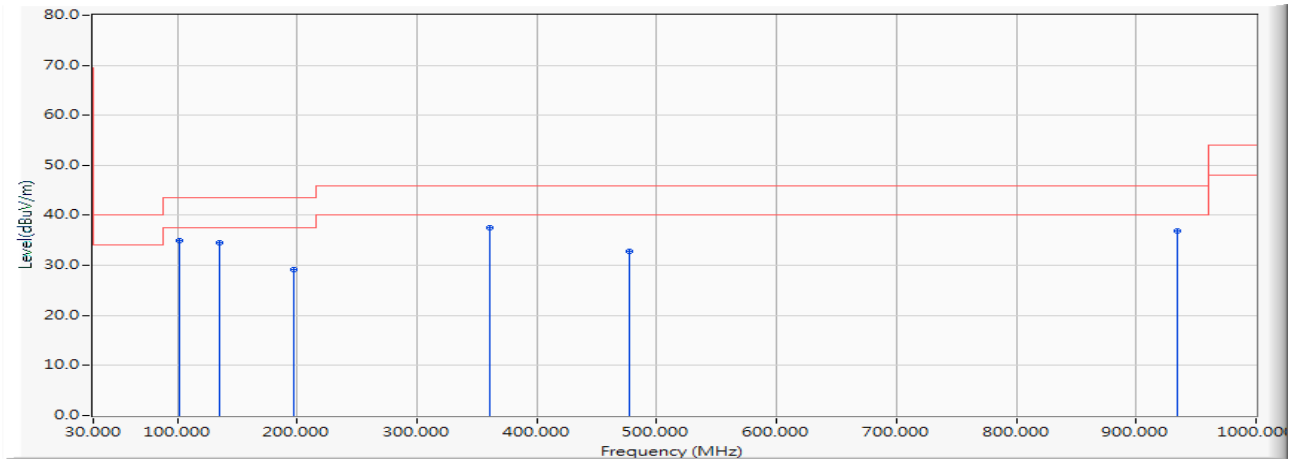
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	69.362	-13.507	49.321	35.814	-4.186	40.000	QUASIPEAK
2		101.696	-15.852	51.574	35.722	-7.778	43.500	QUASIPEAK
3		132.623	-12.132	41.884	29.752	-13.748	43.500	QUASIPEAK
4		360.362	-8.943	44.057	35.115	-10.885	46.000	QUASIPEAK
5		398.319	-8.074	42.725	34.651	-11.349	46.000	QUASIPEAK
6		475.638	-6.363	39.224	32.861	-13.139	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2437 MHz)
Test Date : 2019/01/14

Horizontal



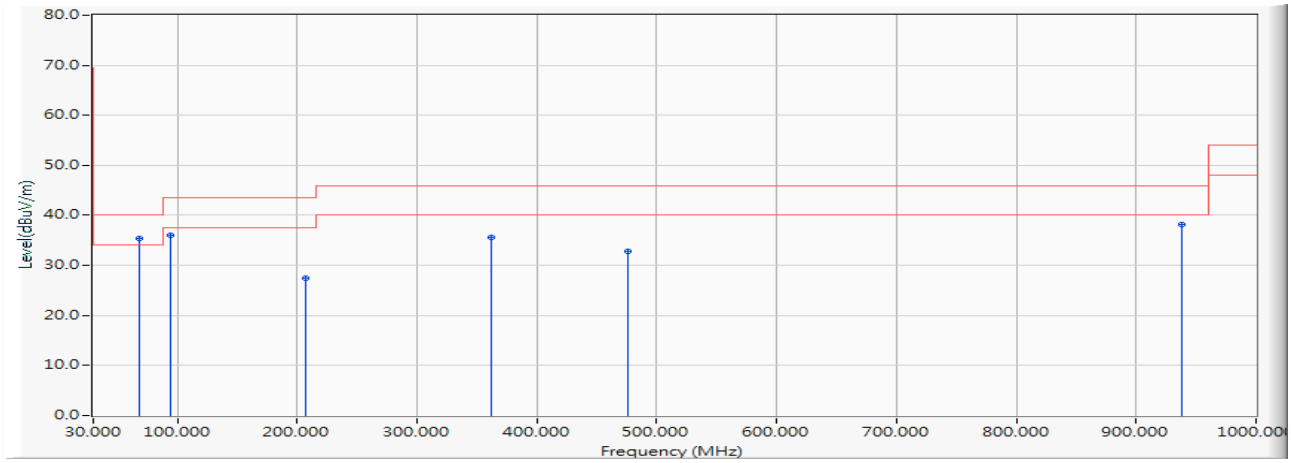
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		101.696	-15.852	50.752	34.900	-8.600	43.500	QUASIPEAK
2		135.435	-11.864	46.307	34.443	-9.057	43.500	QUASIPEAK
3		197.290	-13.689	42.772	29.084	-14.416	43.500	QUASIPEAK
4	*	360.362	-8.943	46.470	37.528	-8.472	46.000	QUASIPEAK
5		477.043	-6.340	39.214	32.874	-13.126	46.000	QUASIPEAK
6		933.928	0.173	36.809	36.982	-9.018	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 4G/LTE Broadband Router with PoE
Test Item : General Radiated Emission Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)(2437 MHz)
Test Date : 2019/01/14

Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	67.957	-13.304	48.716	35.412	-4.588	40.000	QUASIPEAK
2		94.667	-16.920	53.039	36.118	-7.382	43.500	QUASIPEAK
3		207.130	-13.566	40.913	27.347	-16.153	43.500	QUASIPEAK
4		361.768	-8.911	44.481	35.570	-10.430	46.000	QUASIPEAK
5		475.638	-6.363	39.233	32.870	-13.130	46.000	QUASIPEAK
6		938.145	0.219	37.891	38.110	-7.890	46.000	QUASIPEAK

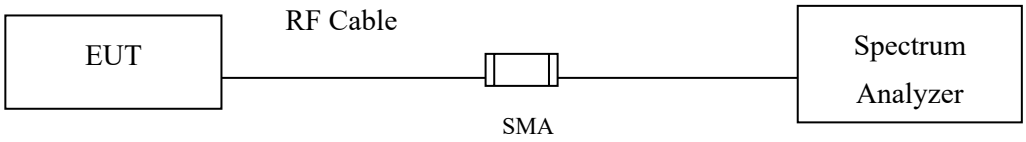
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

5. RF antenna conducted test

5.1. Test Setup

RF antenna Conducted Measurement:



5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.5 DTS emissions in non-restricted frequency bands for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

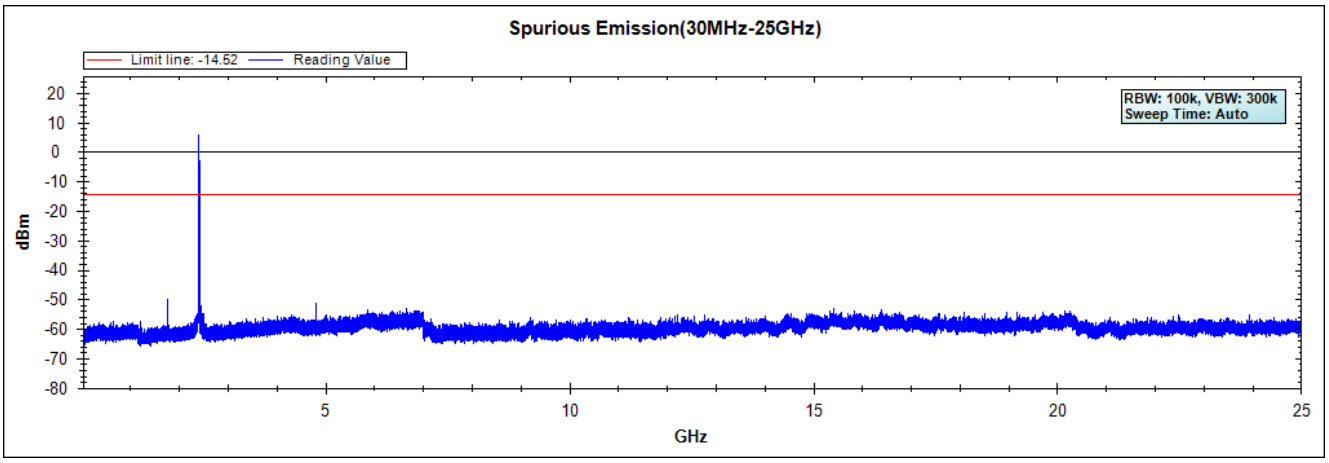
5.4. Uncertainty

±1.23dB

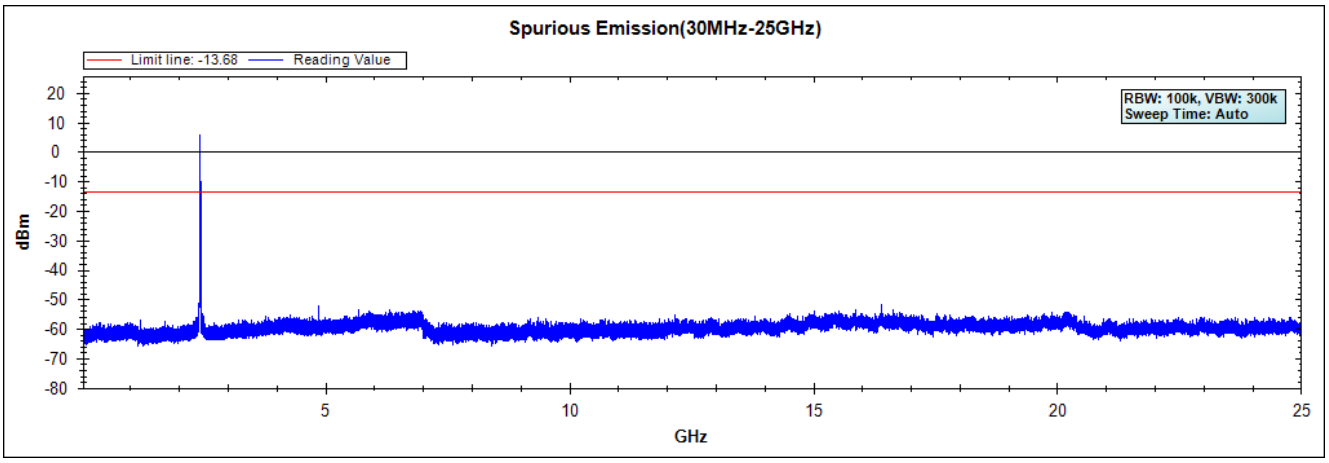
5.5. Test Result of RF antenna conducted test

Product : 4G/LTE Broadband Router with PoE
Test Item : RF antenna conducted test
Test Mode : Mode 1: Transmit (802.11b 1Mbps)
Test Date : 2019/01/10

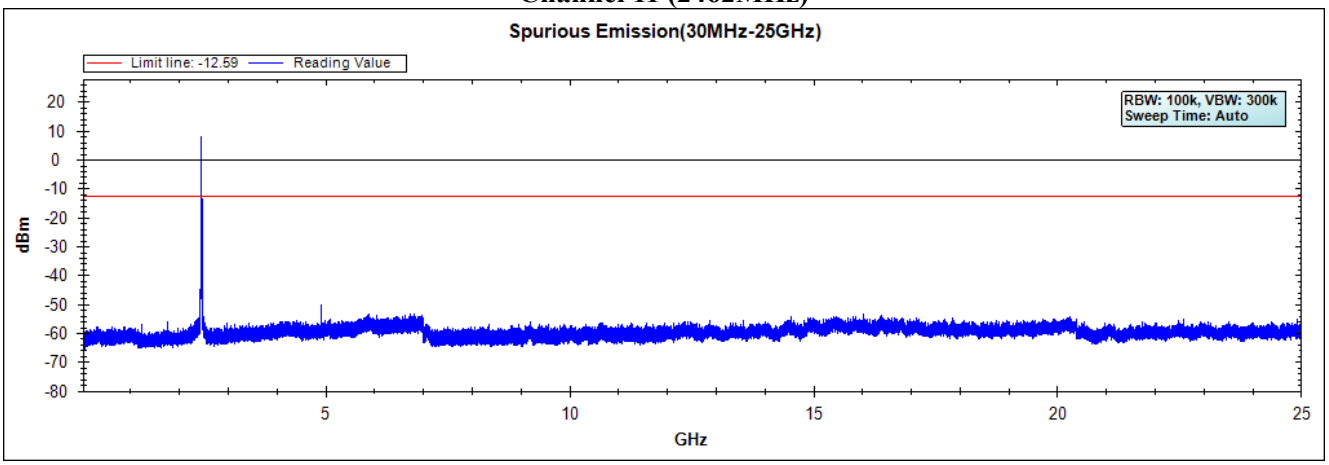
Channel 01 (2412MHz)



Channel 06 (2437MHz)



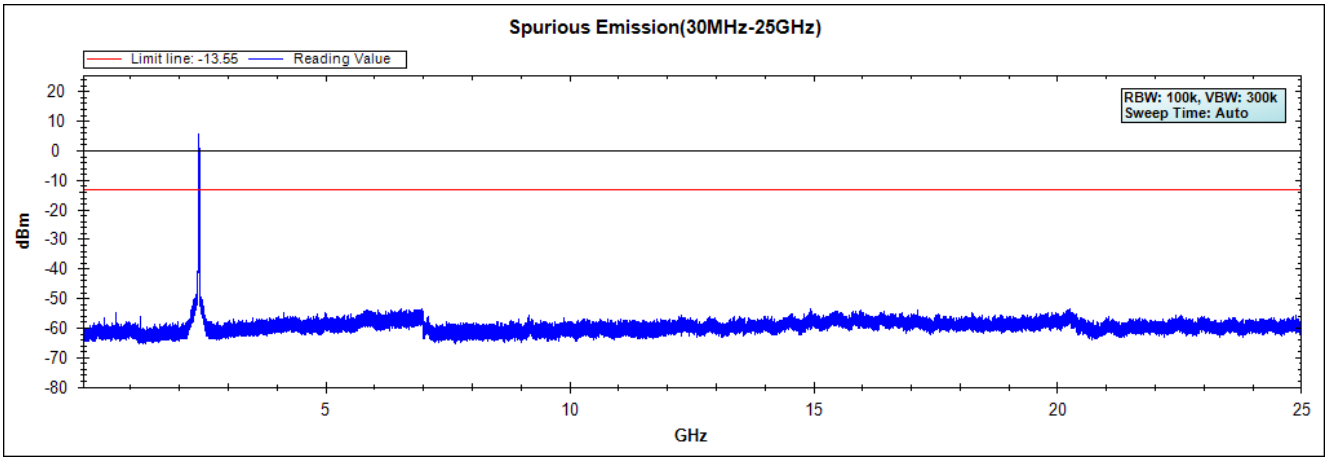
Channel 11 (2462MHz)



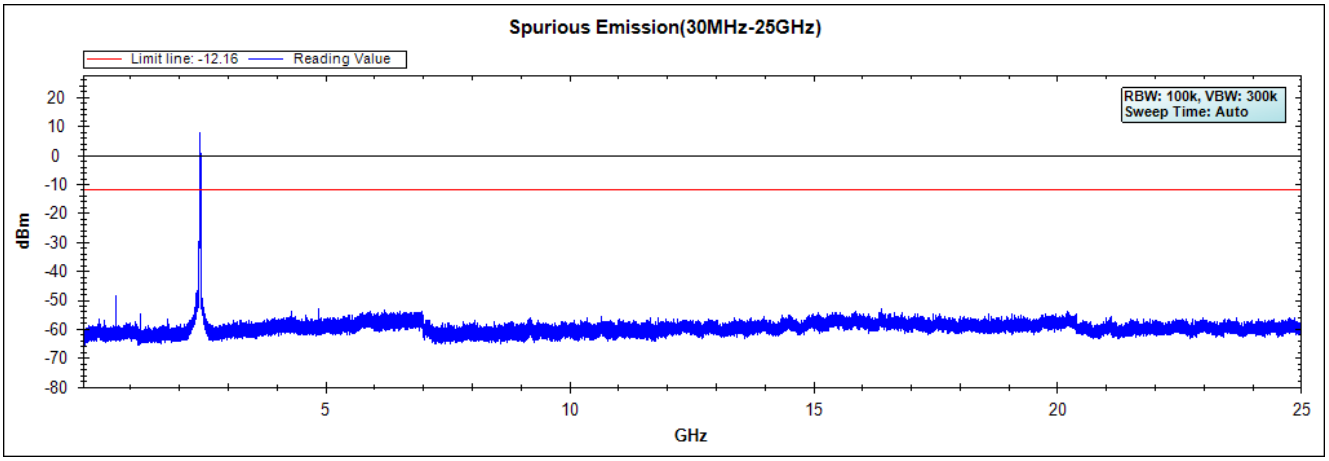
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)
Test Date	:	2019/01/10

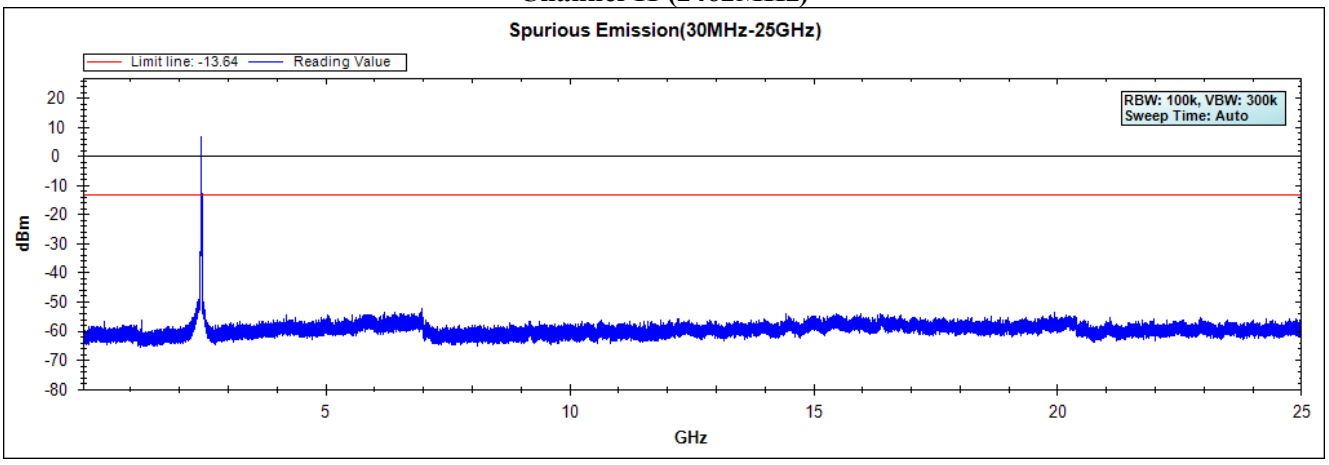
Channel 01 (2412MHz)



Channel 06 (2437MHz)



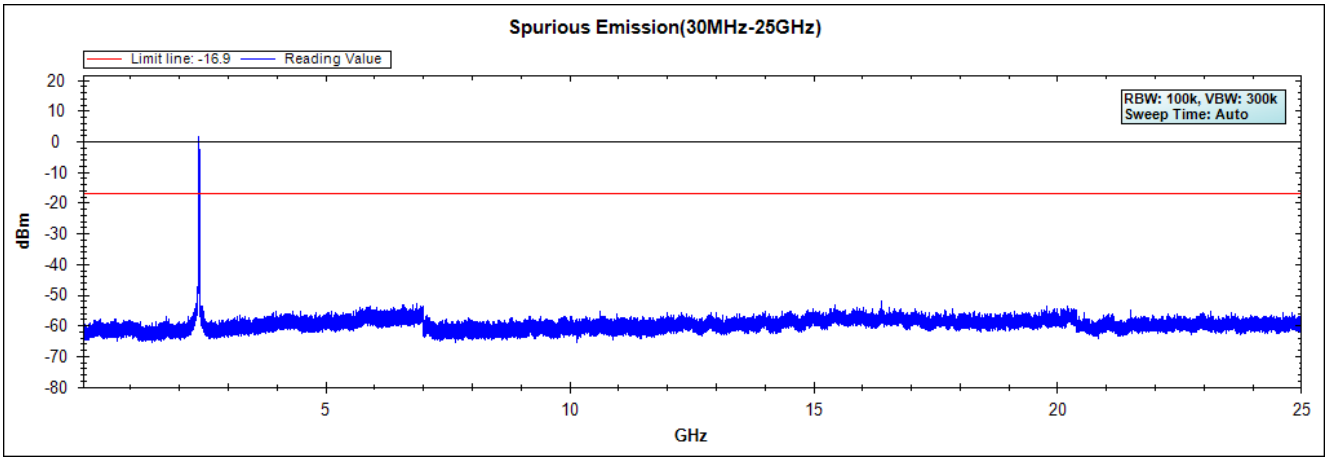
Channel 11 (2462MHz)



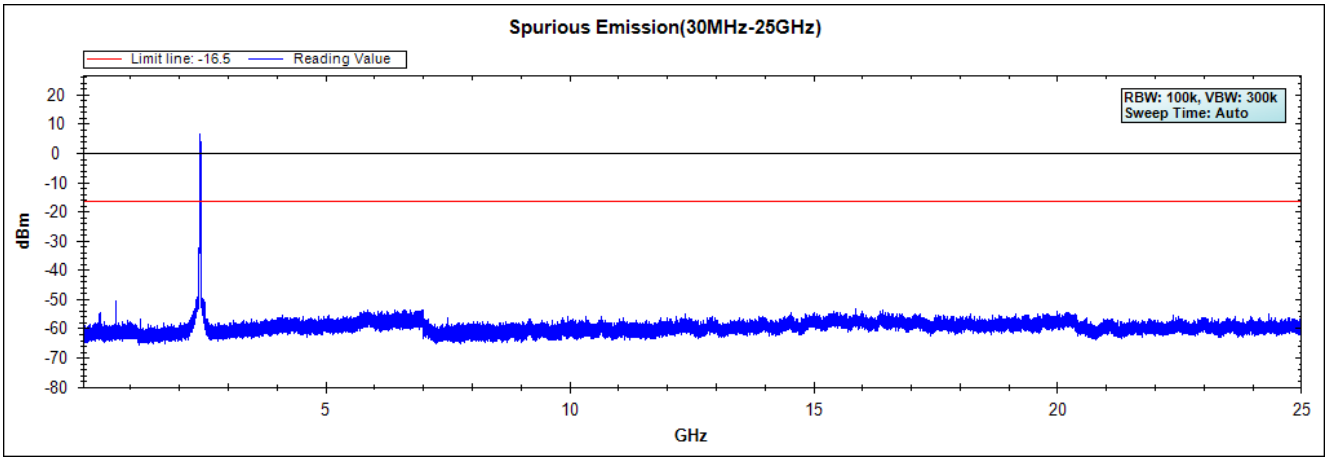
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date	:	2019/01/10

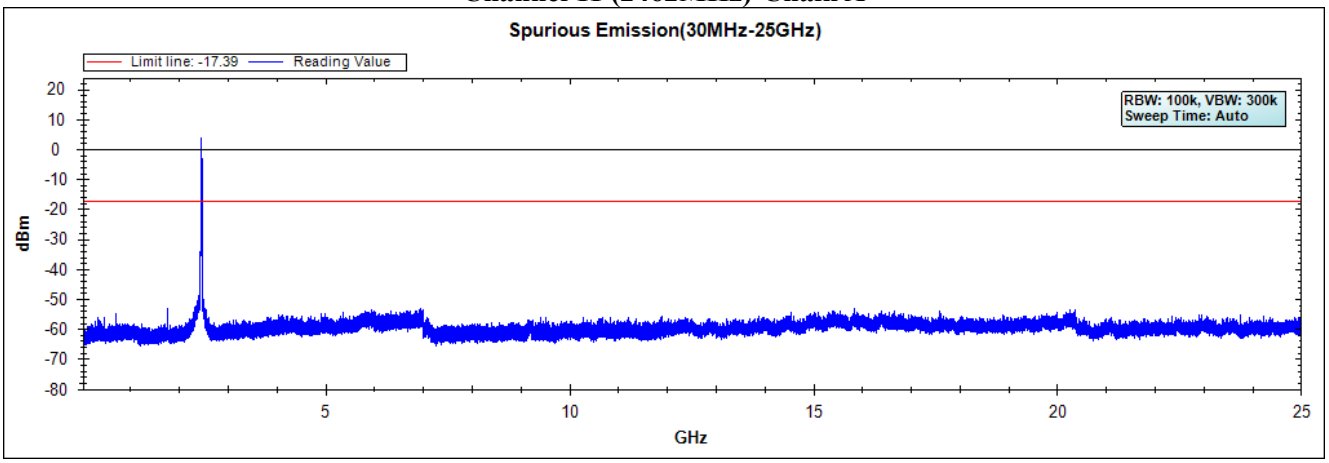
Channel 01 (2412MHz)-Chain A



Channel 06 (2437MHz)-Chain A



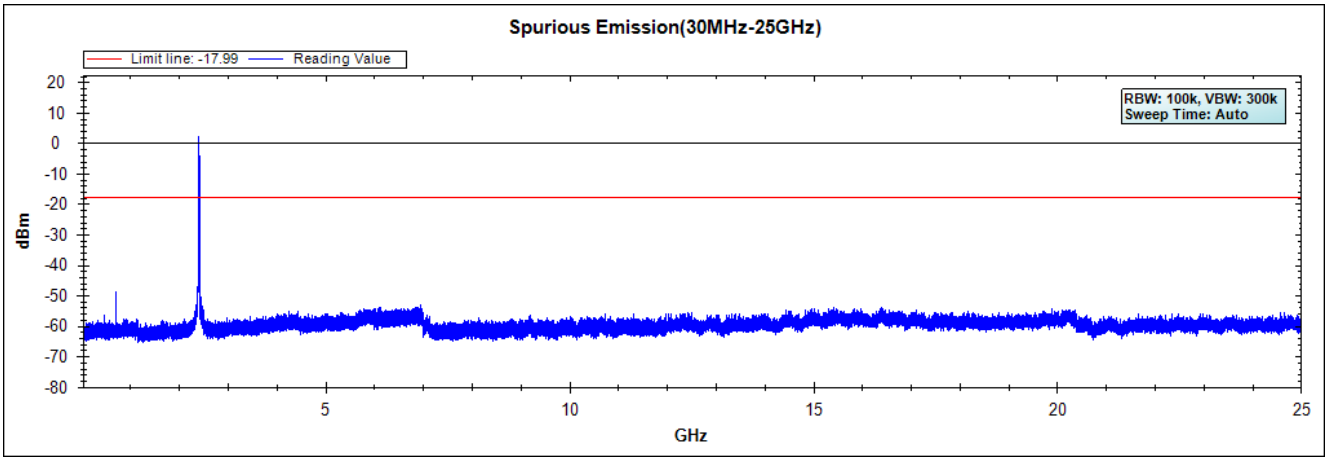
Channel 11 (2462MHz)-Chain A



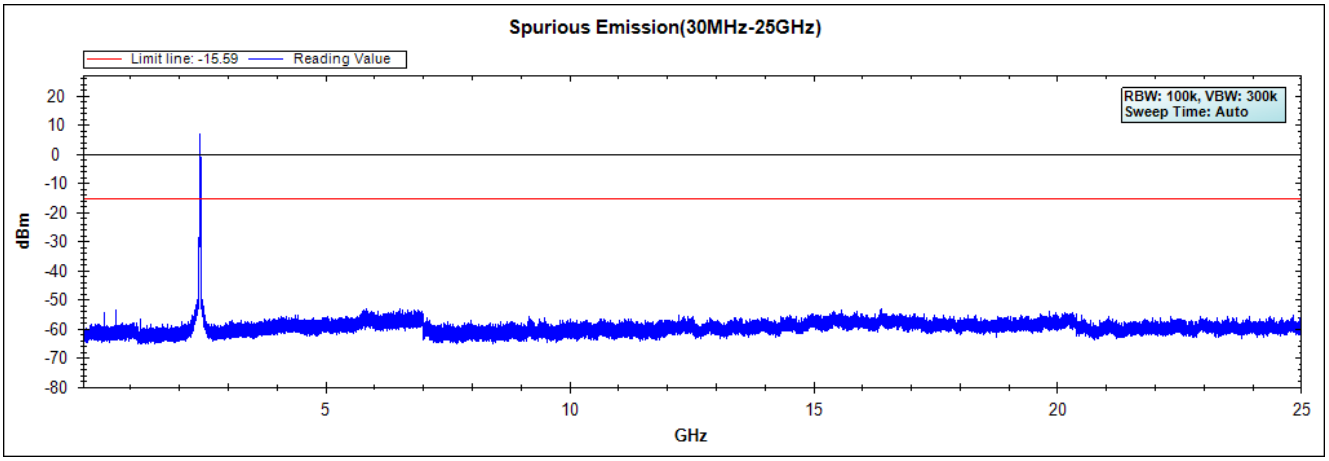
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : 4G/LTE Broadband Router with PoE
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)
Test Date : 2019/01/10

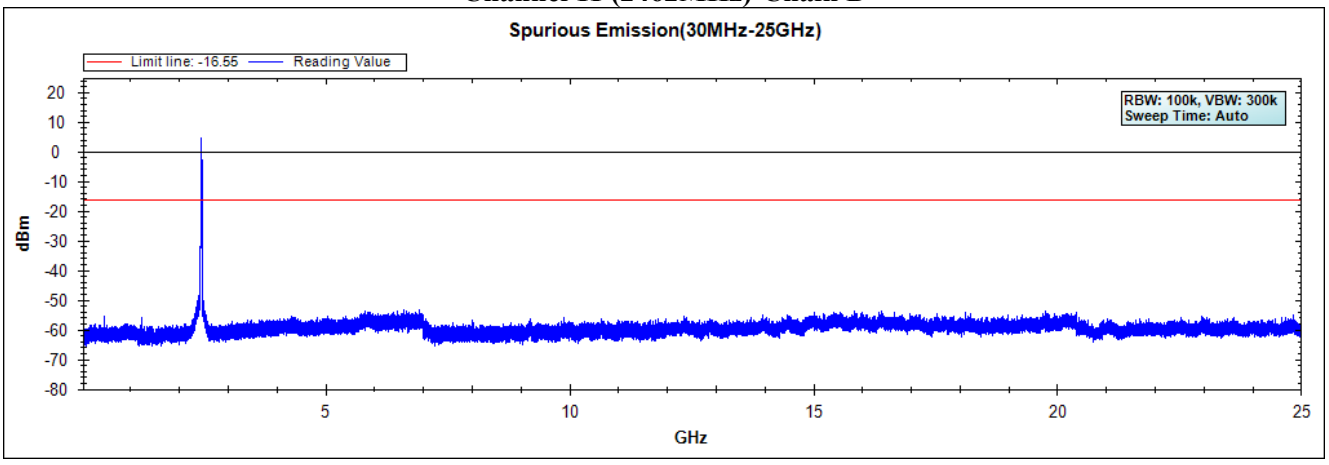
Channel 01 (2412MHz)-Chain B



Channel 06 (2437MHz)-Chain B



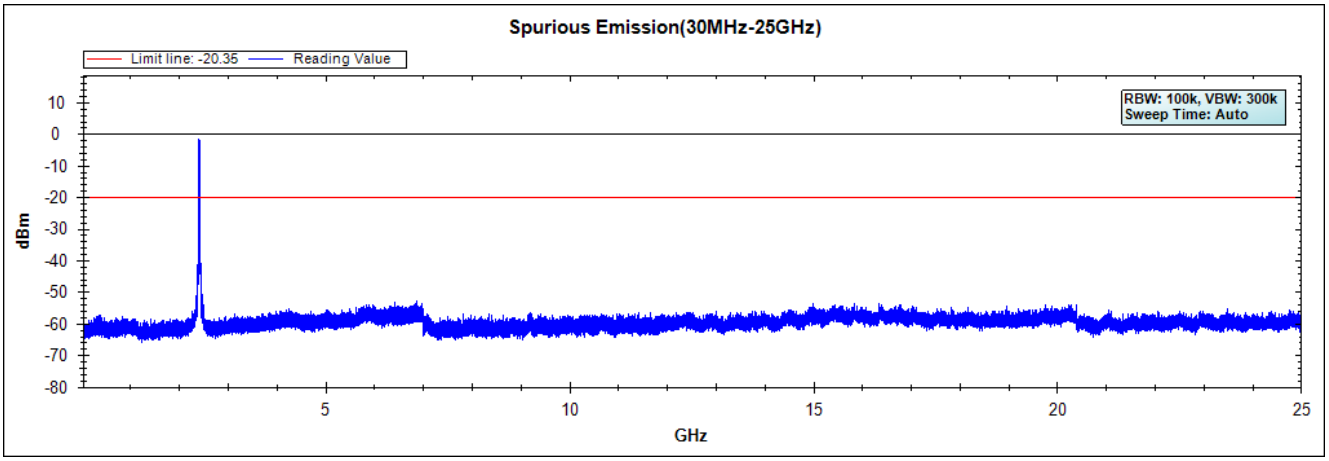
Channel 11 (2462MHz)-Chain B



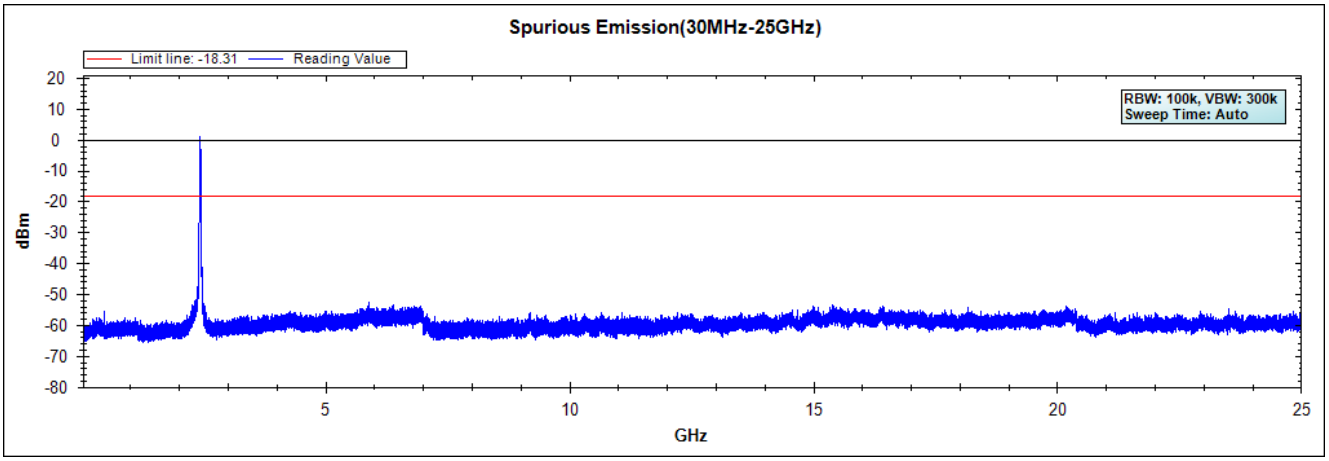
Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date	:	2019/01/10

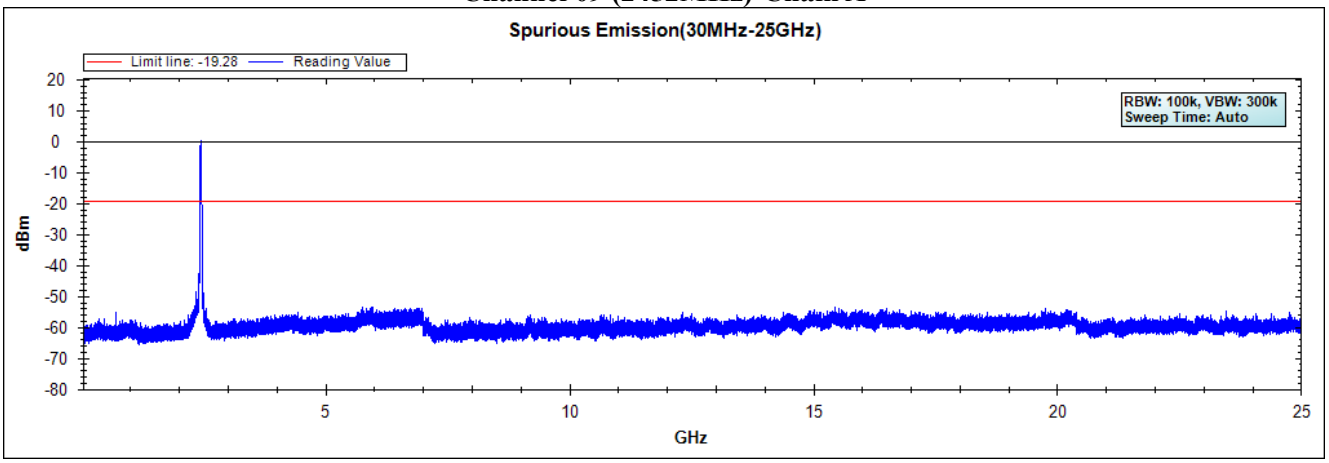
Channel 03 (2422MHz)-Chain A



Channel 06 (2437MHz)-Chain A



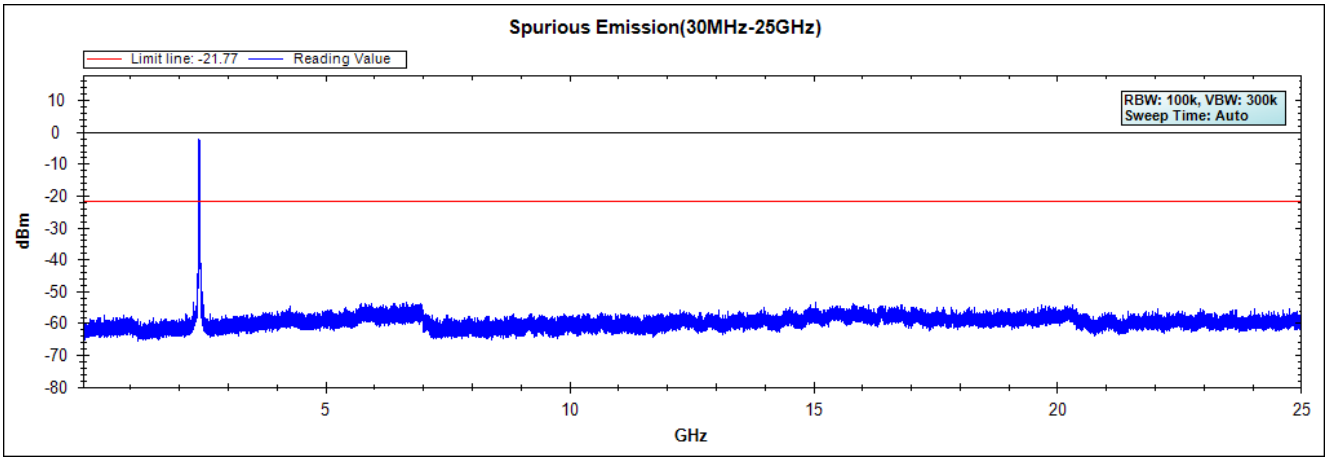
Channel 09 (2452MHz)-Chain A



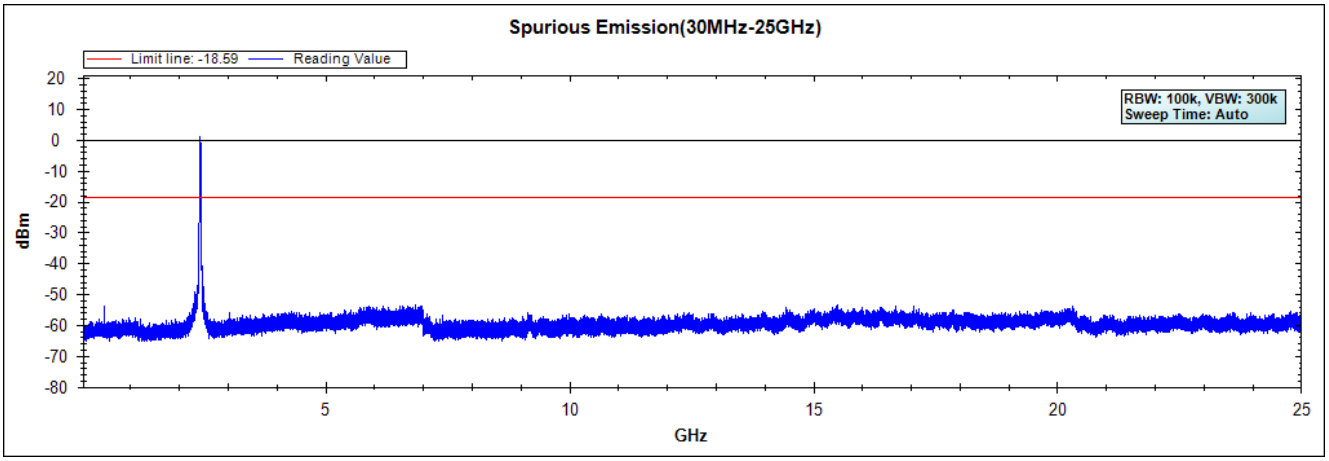
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : 4G/LTE Broadband Router with PoE
Test Item : RF Antenna Conducted Spurious
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)
Test Date : 2019/01/10

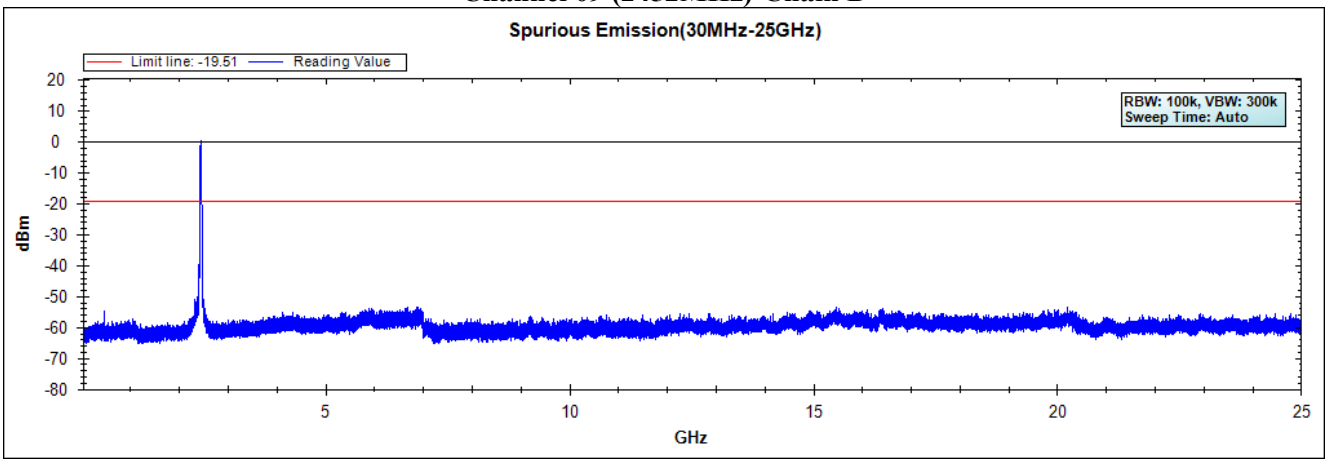
Channel 03 (2422MHz)-Chain B



Channel 06 (2437MHz)-Chain B



Channel 09 (2452MHz)-Chain B

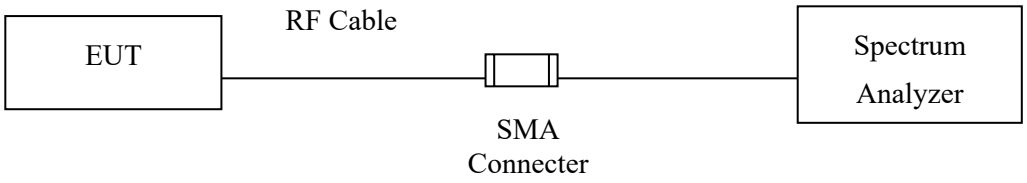


Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

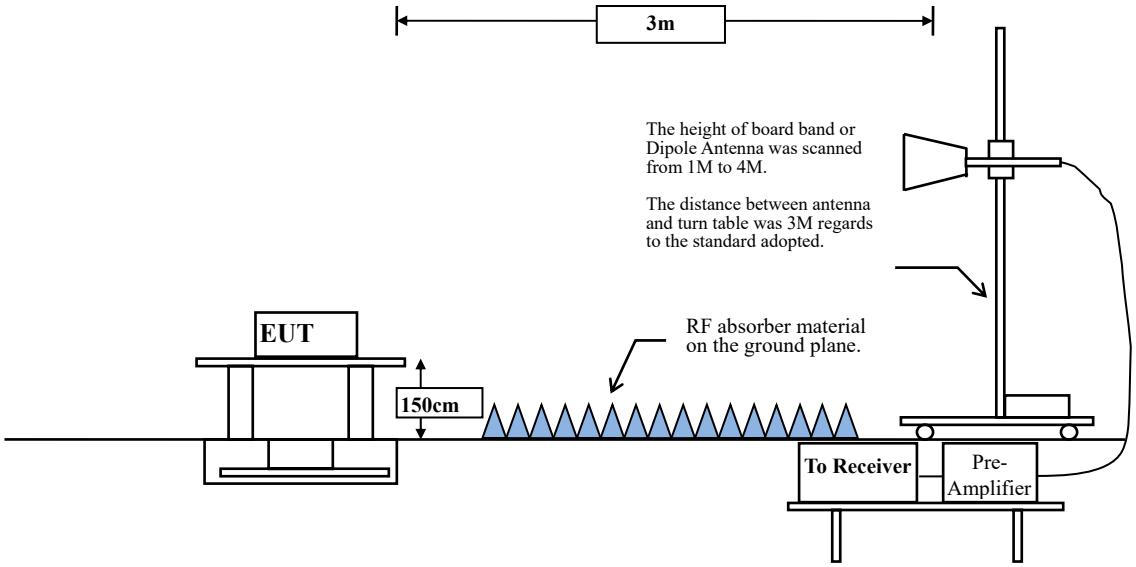
6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



6.2. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

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

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	98.64	--	--	10
802.11g	96.48	1.3913	719	1k
802.11n20	81.66	0.6710	1490	2k
802.11n40	69.07	0.3173	3152	5k

Note: Duty Cycle Refer to Section 9

6.4. Uncertainty

Conducted: ±1.23dB

Radiated:

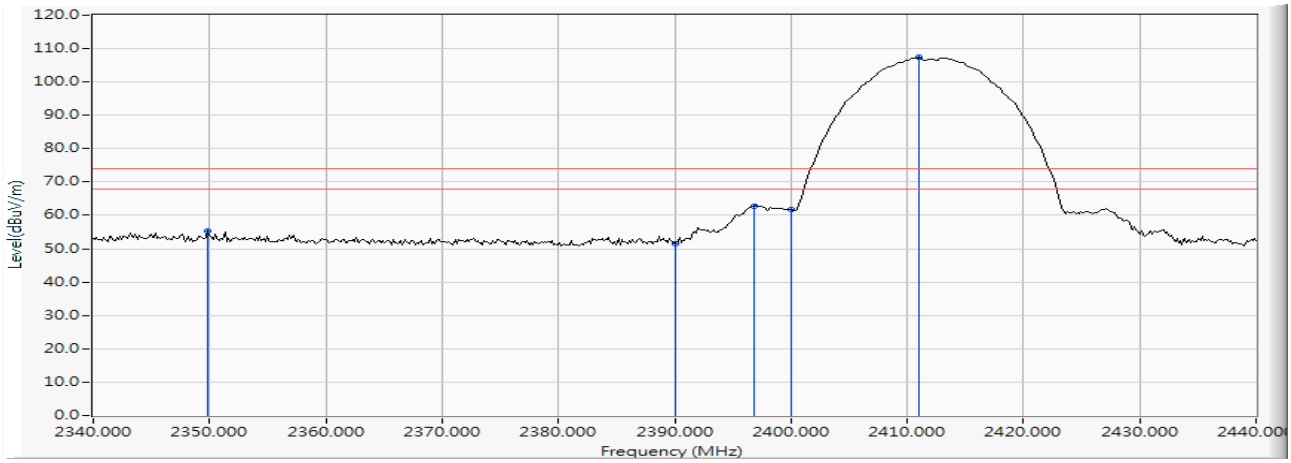
Horizontal polarization：1-18GHz: ±3.77dB

Vertical polarization：1-18GHz : ±3.83dB

6.5. Test Result of Band Edge

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/14

Horizontal



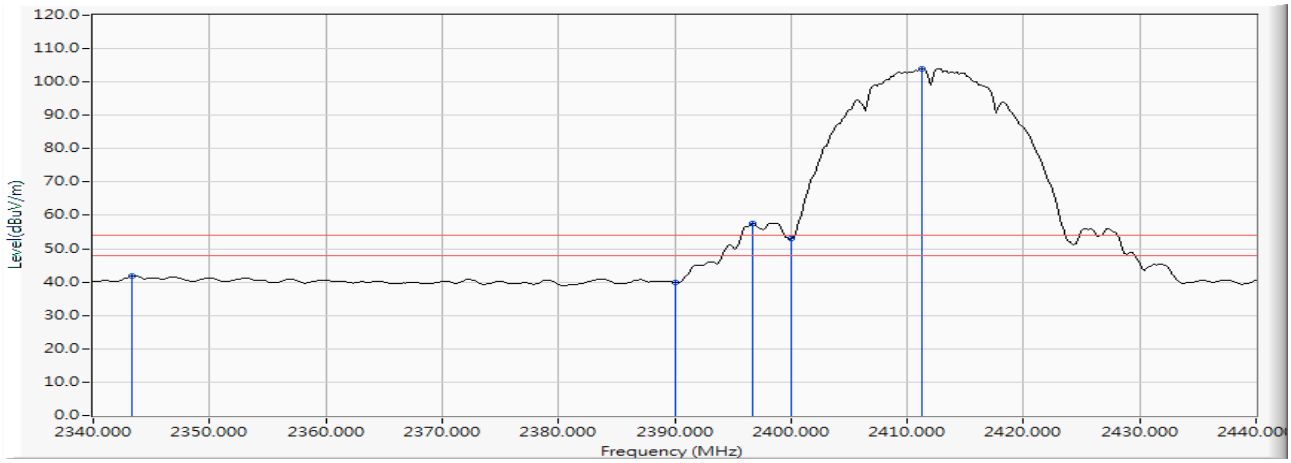
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2349.855	10.095	45.115	55.210	-18.790	74.000	PEAK
2		2390.000	10.262	41.259	51.521	-22.479	74.000	PEAK
3		2396.812	10.290	52.506	62.796	--	--	PEAK
4		2400.000	10.304	51.347	61.650	--	--	PEAK
5	*	2411.014	10.348	96.964	107.312	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/14

Horizontal



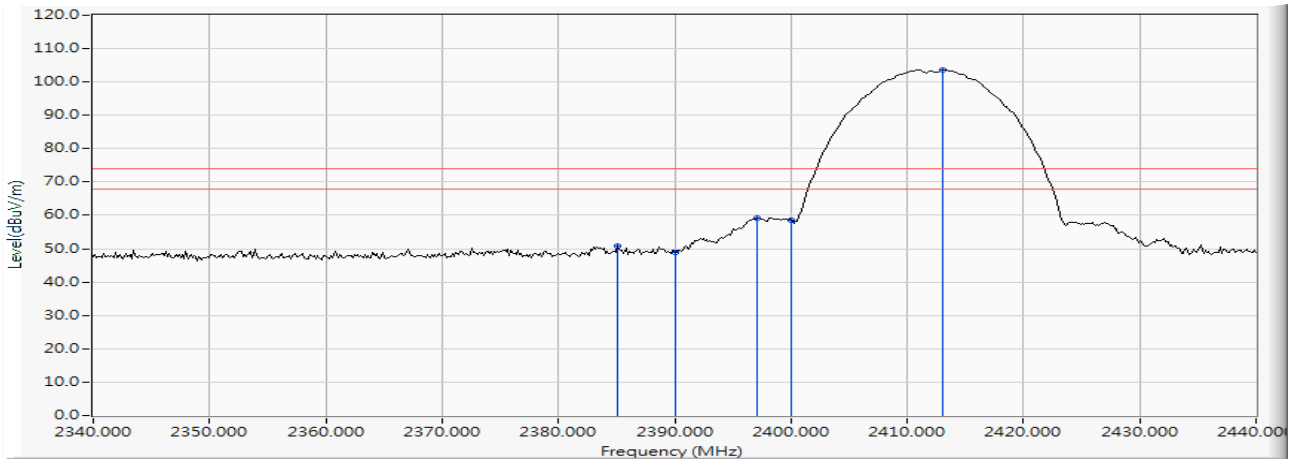
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2343.333	10.069	31.777	41.846	-12.154	54.000	AVERAGE
2		2390.000	10.262	29.564	39.826	-14.174	54.000	AVERAGE
3		2396.667	10.289	47.154	57.444	--	--	AVERAGE
4		2400.000	10.304	42.768	53.071	--	--	AVERAGE
5	*	2411.304	10.350	93.722	104.071	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/14

Vertical



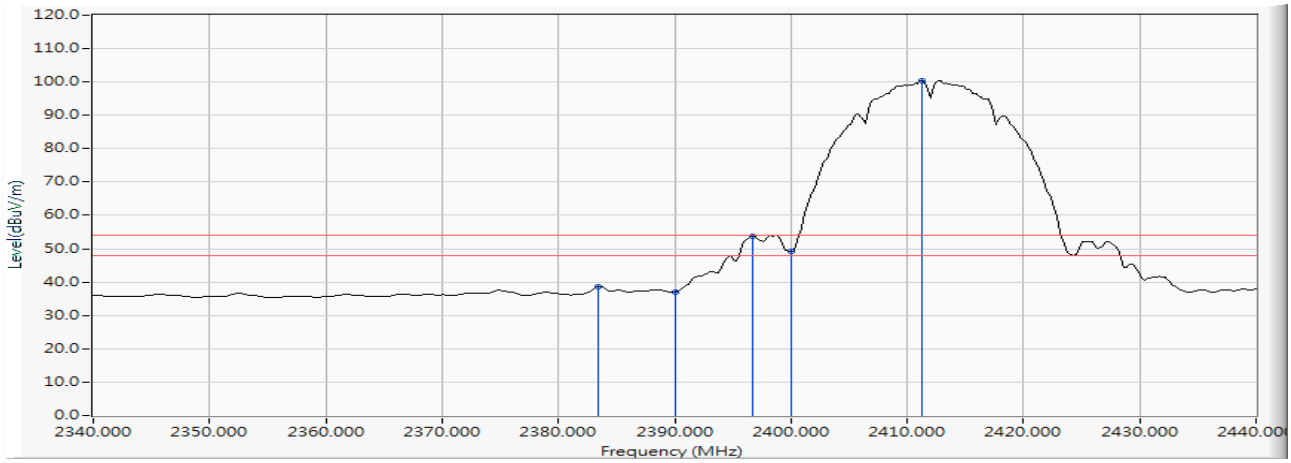
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2385.072	10.242	40.540	50.781	-23.219	74.000	PEAK
2		2390.000	10.262	38.629	48.891	-25.109	74.000	PEAK
3		2397.101	10.291	49.004	59.295	--	--	PEAK
4		2400.000	10.304	48.126	58.429	--	--	PEAK
5	*	2413.043	10.357	93.361	103.717	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date : 2019/01/14

Vertical



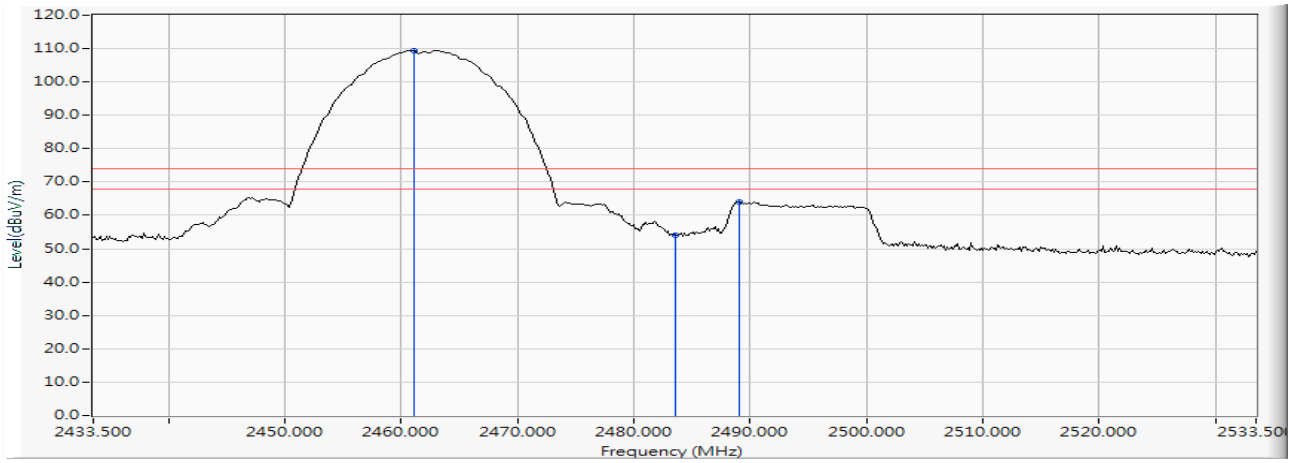
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2383.478	10.234	28.382	38.617	-15.383	54.000	AVERAGE
2		2390.000	10.262	26.777	37.039	-16.961	54.000	AVERAGE
3		2396.667	10.289	43.517	53.807	--	--	AVERAGE
4		2400.000	10.304	38.847	49.150	--	--	AVERAGE
5	*	2411.304	10.350	90.047	100.396	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2019/01/14

Horizontal



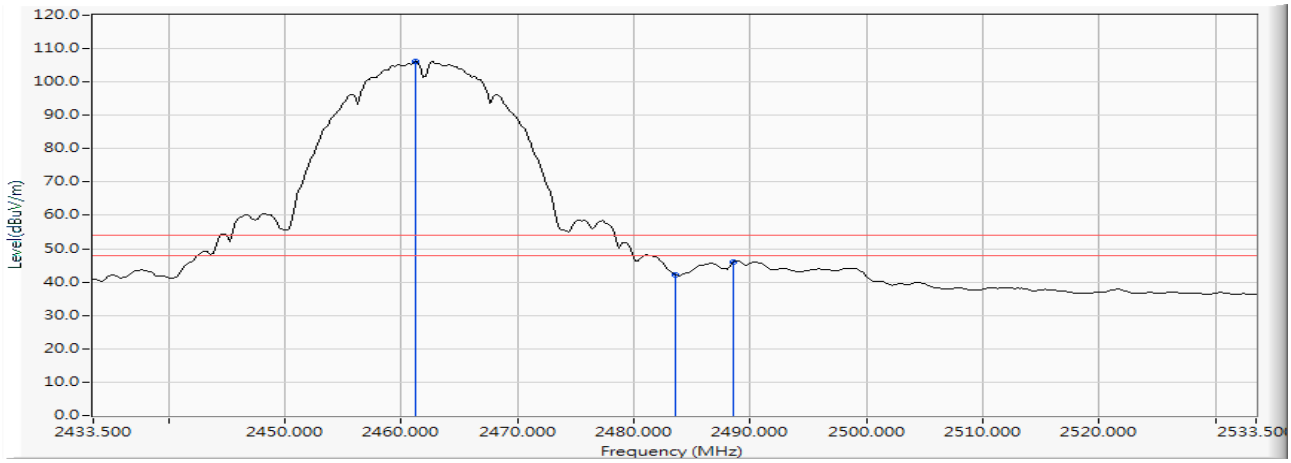
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.036	10.545	98.938	109.483	--	--	PEAK
2		2483.500	10.640	43.533	54.174	-19.826	74.000	PEAK
3		2489.007	10.662	53.363	64.025	-9.975	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2019/01/14

Horizontal



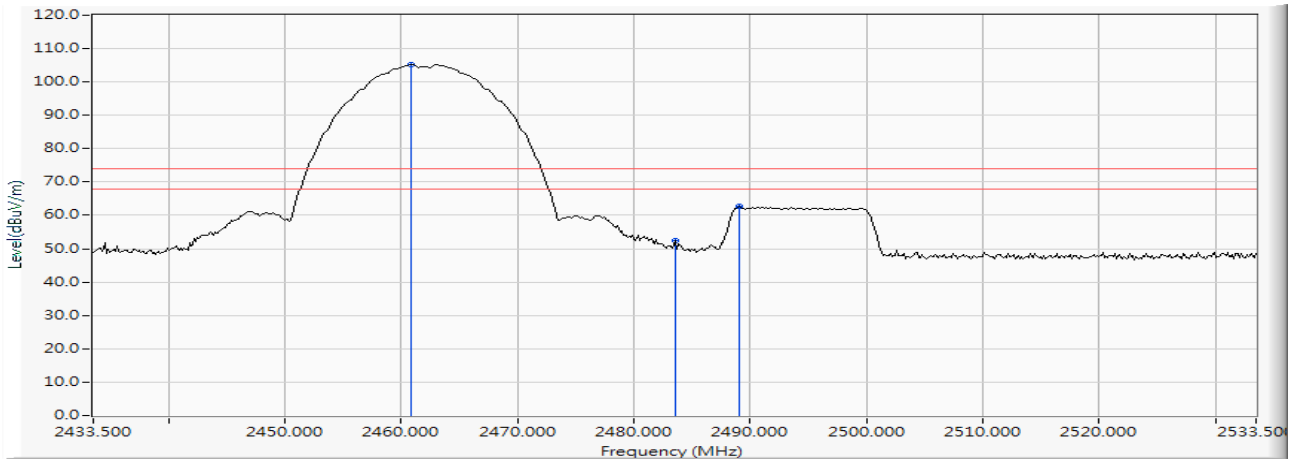
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.181	10.545	95.678	106.224	--	--	AVERAGE
2		2483.500	10.640	31.579	42.220	-11.780	54.000	AVERAGE
3		2488.572	10.660	35.234	45.895	-8.105	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2019/01/14

Vertical



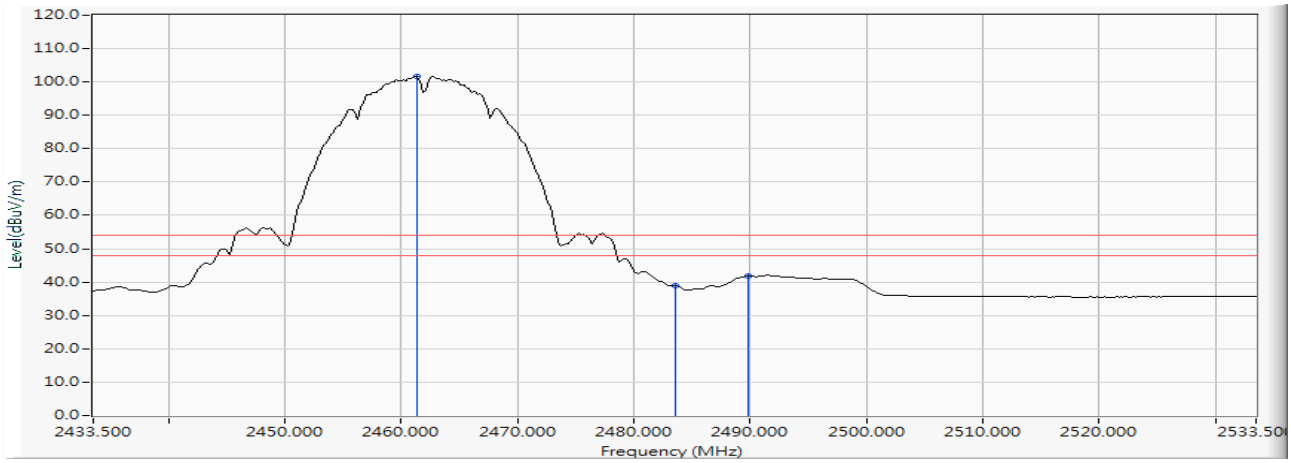
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.891	10.544	94.593	105.138	--	--	PEAK
2		2483.500	10.640	41.794	52.435	-21.565	74.000	PEAK
3		2489.007	10.662	51.917	62.579	-11.421	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date : 2019/01/14

Vertical



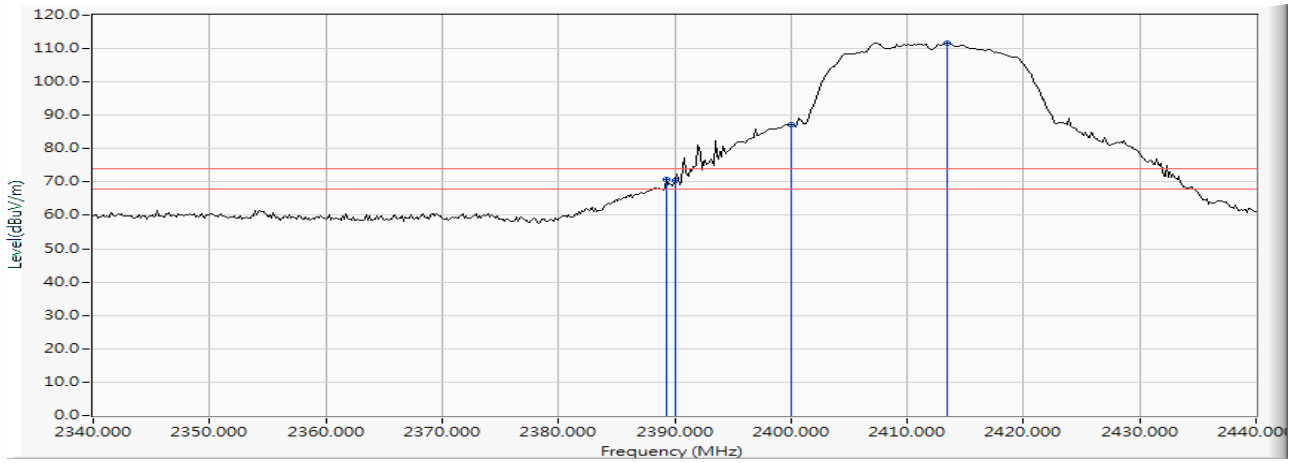
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.326	10.547	91.081	101.628	--	--	AVERAGE
2		2483.500	10.640	28.244	38.885	-15.115	54.000	AVERAGE
3		2489.877	10.667	31.095	41.761	-12.239	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/14

Horizontal



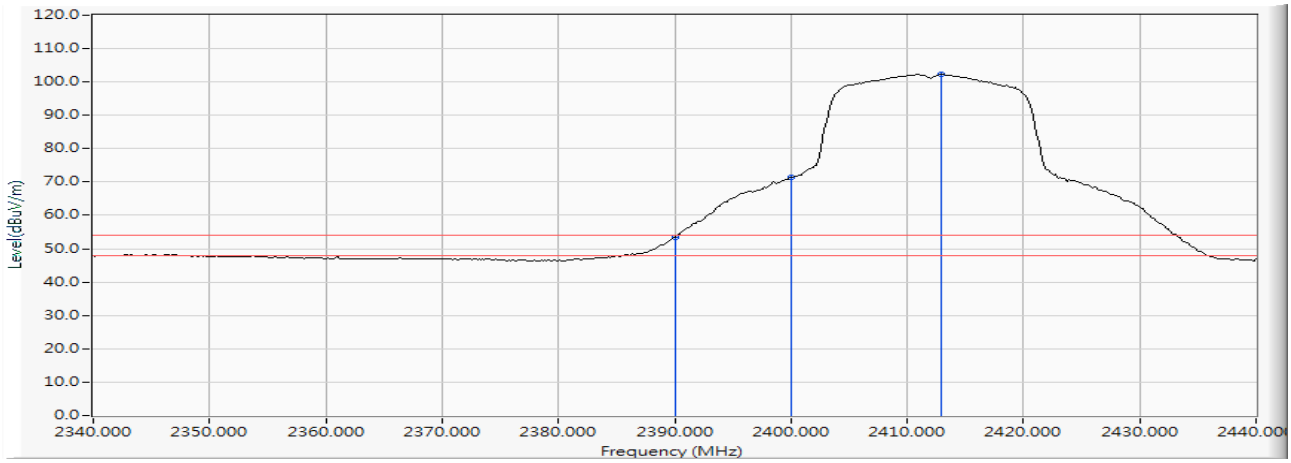
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2389.275	10.260	60.530	70.789	-3.211	74.000	PEAK
2		2390.000	10.262	60.289	70.551	-3.449	74.000	PEAK
3		2400.000	10.304	76.964	87.267	--	--	PEAK
4	*	2413.478	10.358	101.386	111.744	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/14

Horizontal



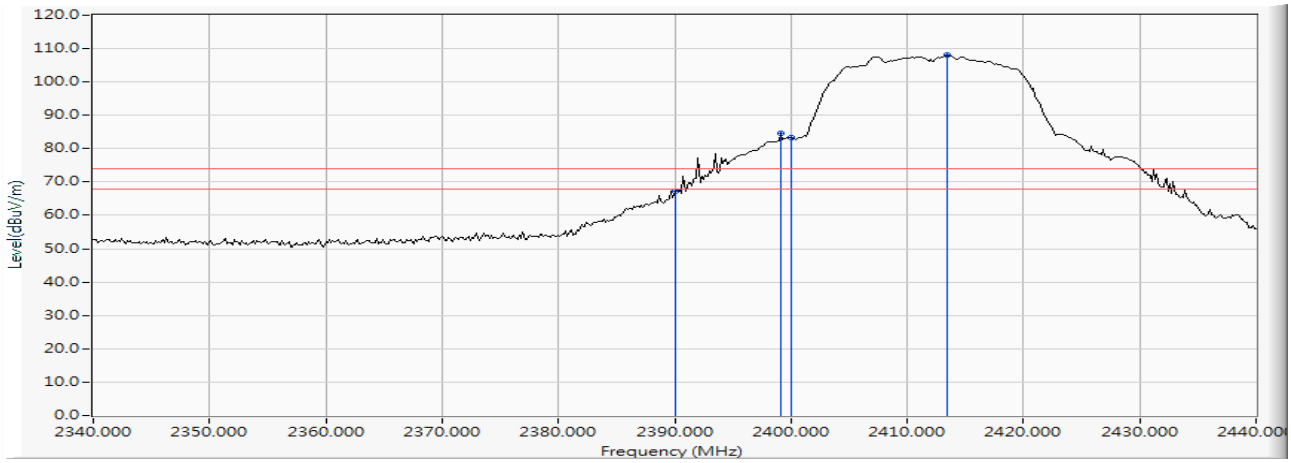
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	43.283	53.545	-0.455	54.000	AVERAGE
2		2400.000	10.304	61.003	71.306	--	--	AVERAGE
3	*	2412.899	10.355	91.952	102.308	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/14

Vertical



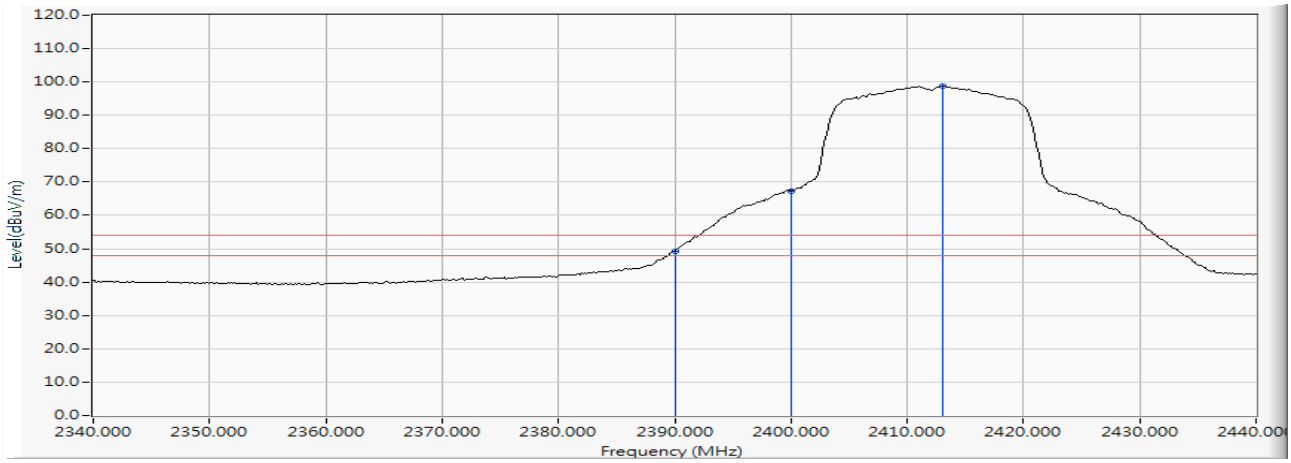
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	57.079	67.341	-6.659	74.000	PEAK
2		2399.130	10.299	74.368	84.668	--	--	PEAK
3		2400.000	10.304	72.970	83.273	--	--	PEAK
4	*	2413.478	10.358	97.740	108.098	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date : 2019/01/14

Vertical



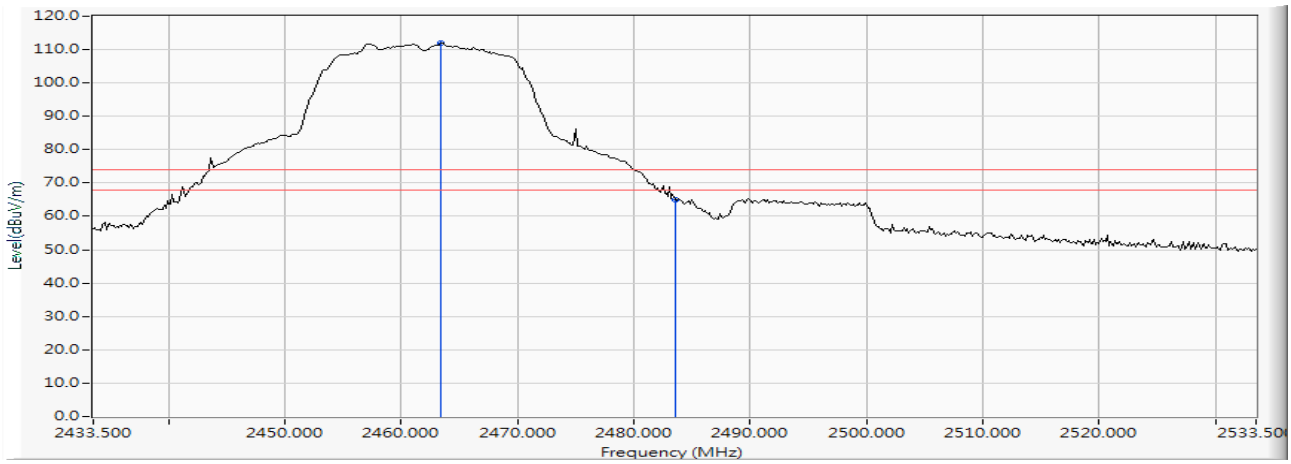
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	39.006	49.268	-4.732	54.000	AVERAGE
2		2400.000	10.304	56.855	67.158	--	--	AVERAGE
3	*	2413.043	10.357	88.431	98.787	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date : 2019/01/14

Horizontal



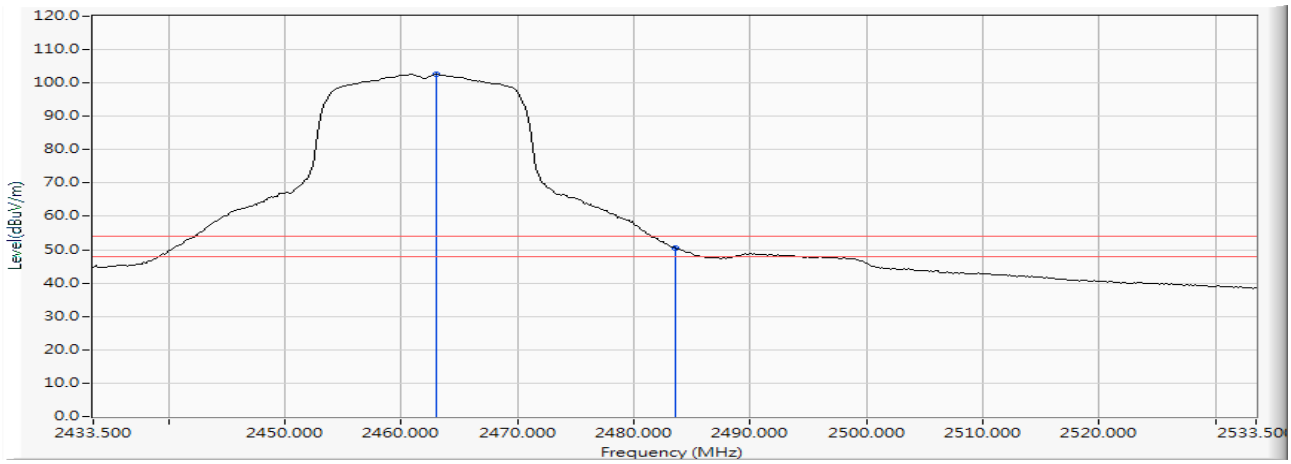
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.355	10.555	101.447	112.003	--	--	PEAK
2		2483.500	10.640	54.463	65.104	-8.896	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date : 2019/01/14

Horizontal



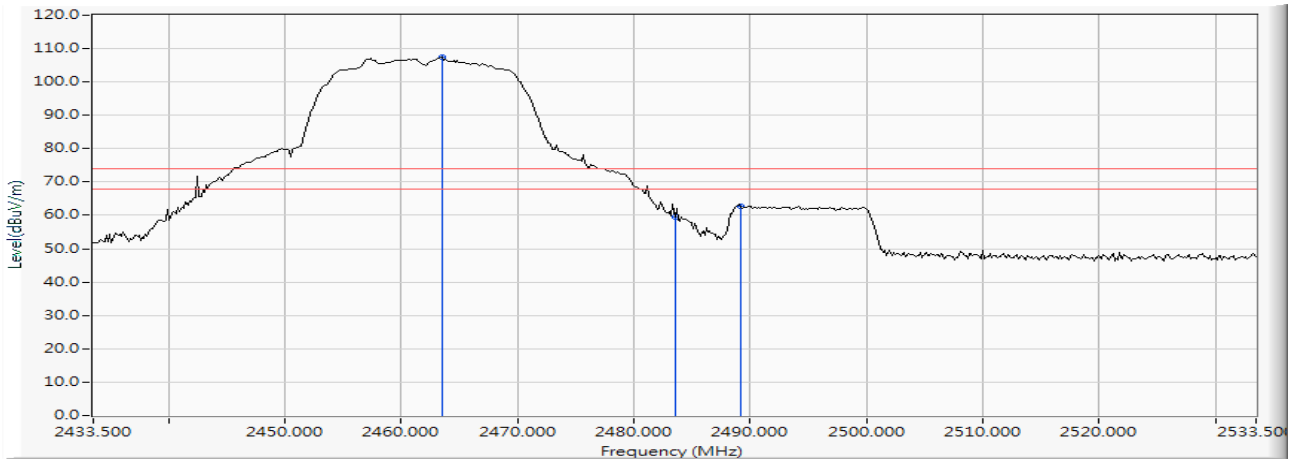
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.065	10.554	92.042	102.596	--	--	AVERAGE
2		2483.500	10.640	39.981	50.622	-3.378	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date : 2019/01/14

Vertical



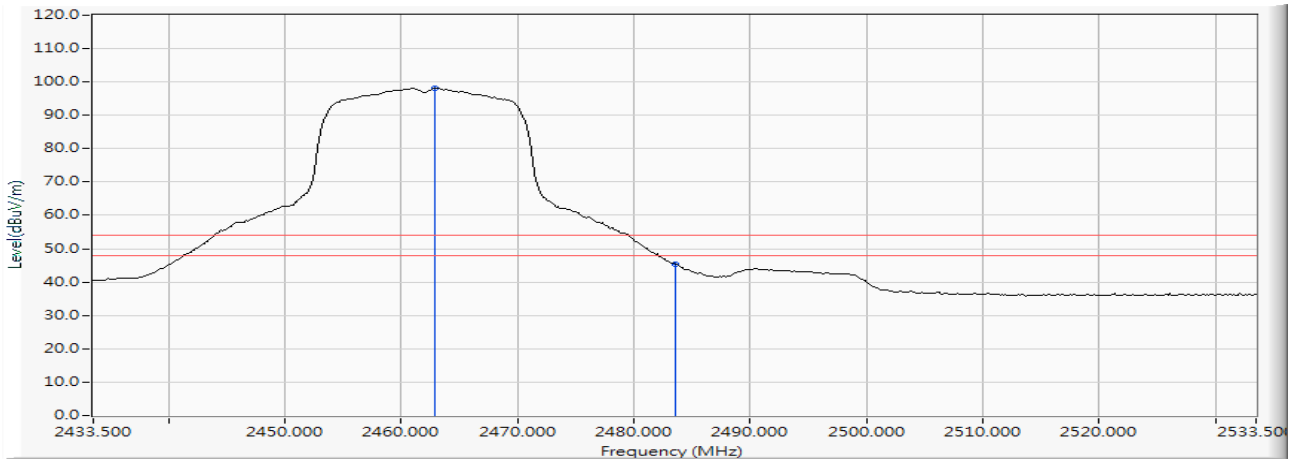
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.500	10.557	96.820	107.376	--	--	PEAK
2		2483.500	10.640	48.738	59.379	-14.621	74.000	PEAK
3		2489.152	10.662	52.110	62.773	-11.227	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
Test Date : 2019/01/14

Vertical



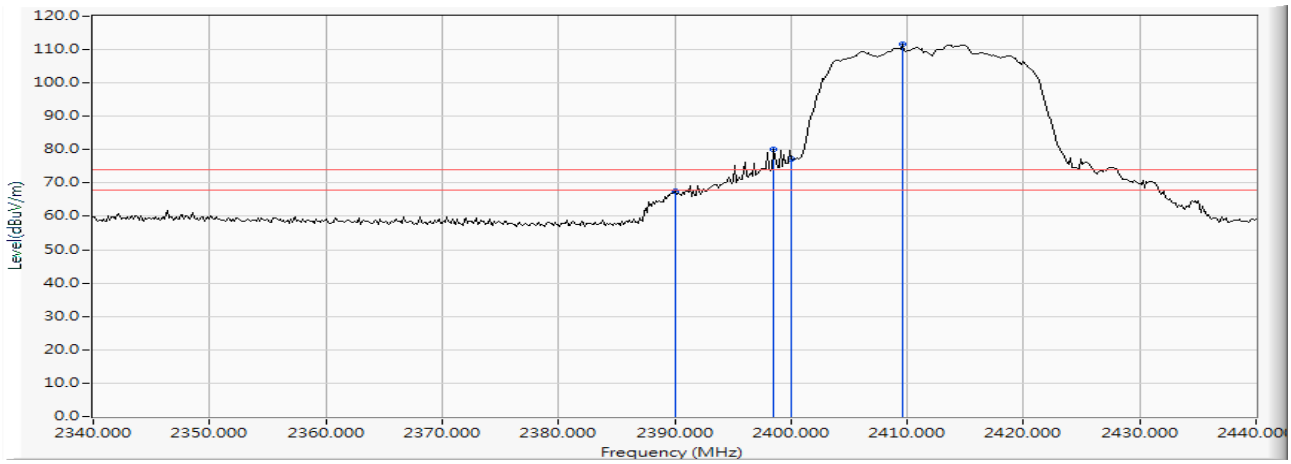
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.920	10.554	87.575	98.129	--	--	AVERAGE
2		2483.500	10.640	34.812	45.453	-8.547	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date : 2019/01/14

Horizontal



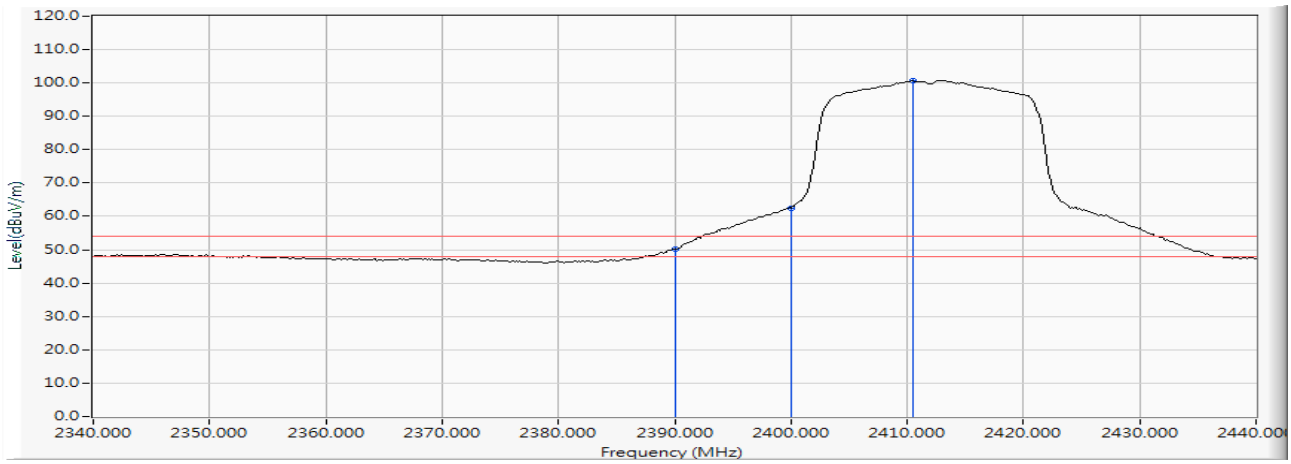
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	57.394	67.656	-6.344	74.000	PEAK
2		2398.551	10.297	69.759	80.056	--	--	PEAK
3		2400.000	10.304	66.752	77.055	--	--	PEAK
4	*	2409.565	10.341	101.361	111.703	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date : 2019/01/14

Horizontal



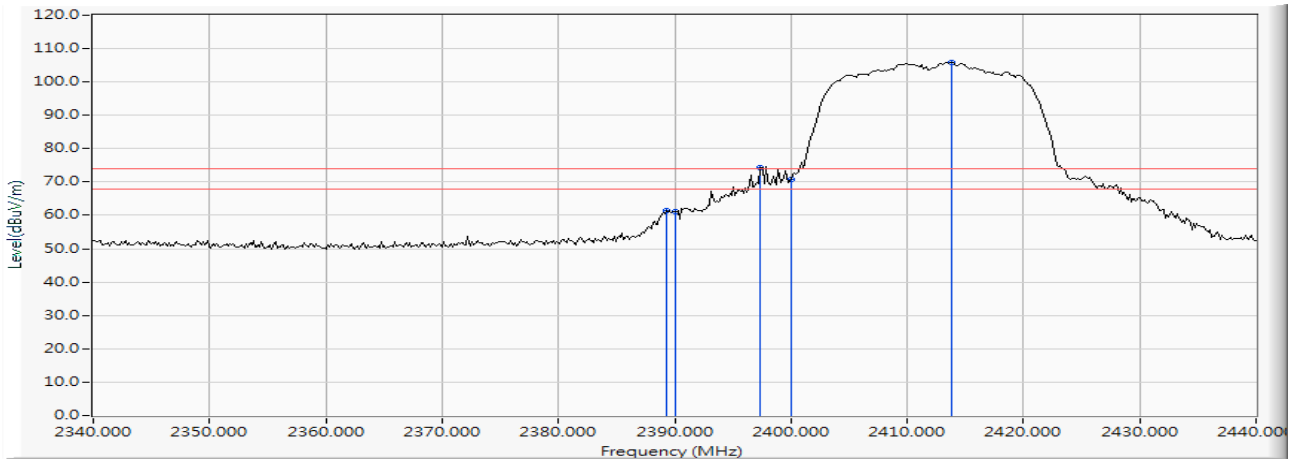
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	39.785	50.047	-3.953	54.000	AVERAGE
2		2400.000	10.304	52.197	62.500	--	--	AVERAGE
3	*	2410.435	10.345	90.295	100.641	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date : 2019/01/14

Vertical



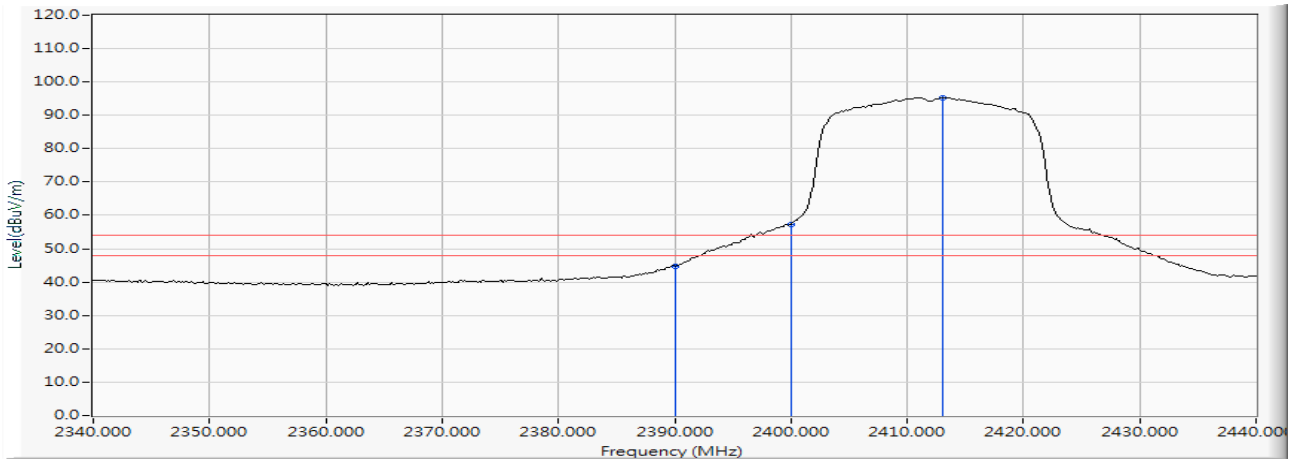
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2389.275	10.260	51.326	61.585	-12.415	74.000	PEAK
2		2390.000	10.262	50.794	61.056	-12.944	74.000	PEAK
3		2397.391	10.293	64.012	74.304	--	--	PEAK
4		2400.000	10.304	60.457	70.760	--	--	PEAK
5	*	2413.768	10.359	95.524	105.883	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	4G/LTE Broadband Router with PoE
Test Item	:	Band Edge Data
Test Mode	:	Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)
Test Date	:	2019/01/14

Vertical



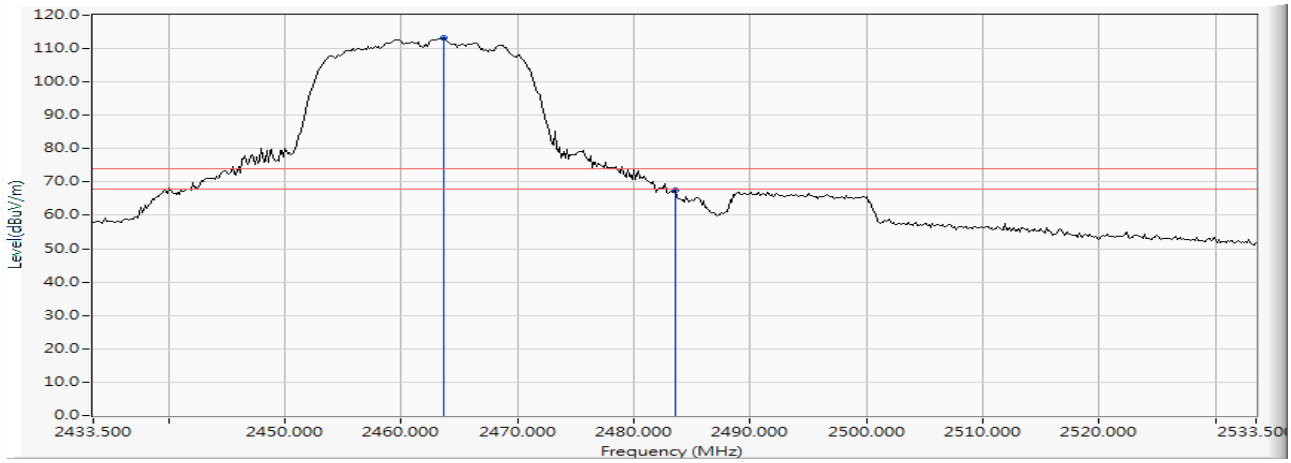
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	34.573	44.835	-9.165	54.000	AVERAGE
2		2400.000	10.304	47.054	57.357	--	--	AVERAGE
3	*	2413.043	10.357	85.005	95.361	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date : 2019/01/14

Horizontal



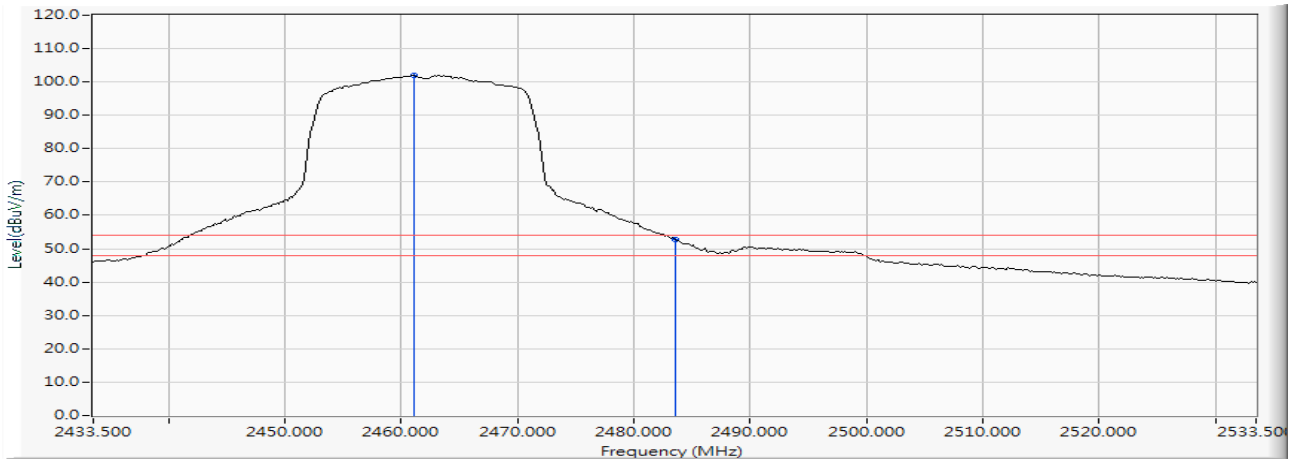
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.645	10.557	102.560	113.117	--	--	PEAK
2		2483.500	10.640	56.784	67.425	-6.575	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date : 2019/01/14

Horizontal



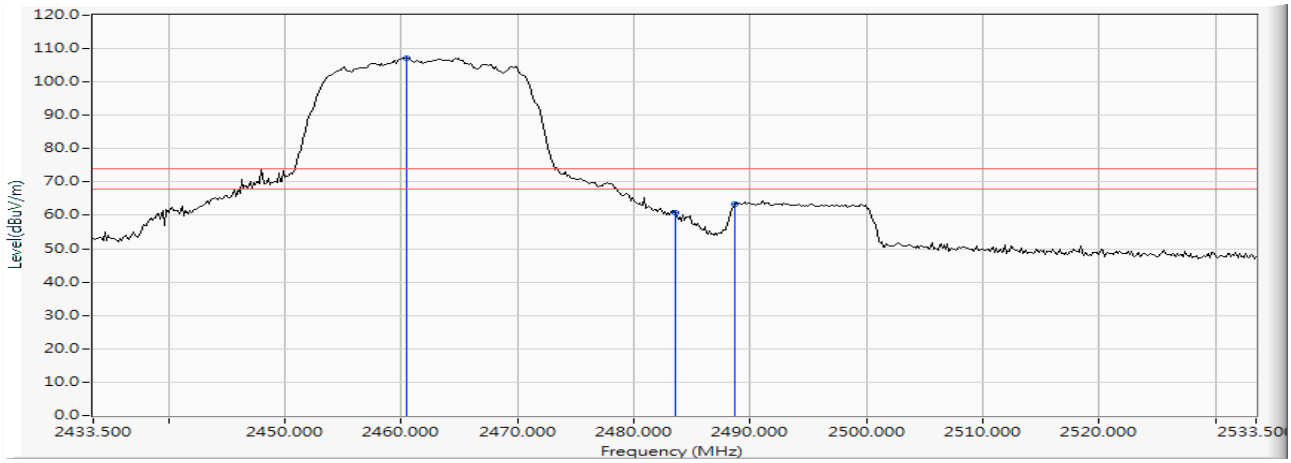
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.036	10.545	91.469	102.014	--	--	AVERAGE
2		2483.500	10.640	42.073	52.714	-1.286	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date : 2019/01/14

Vertical



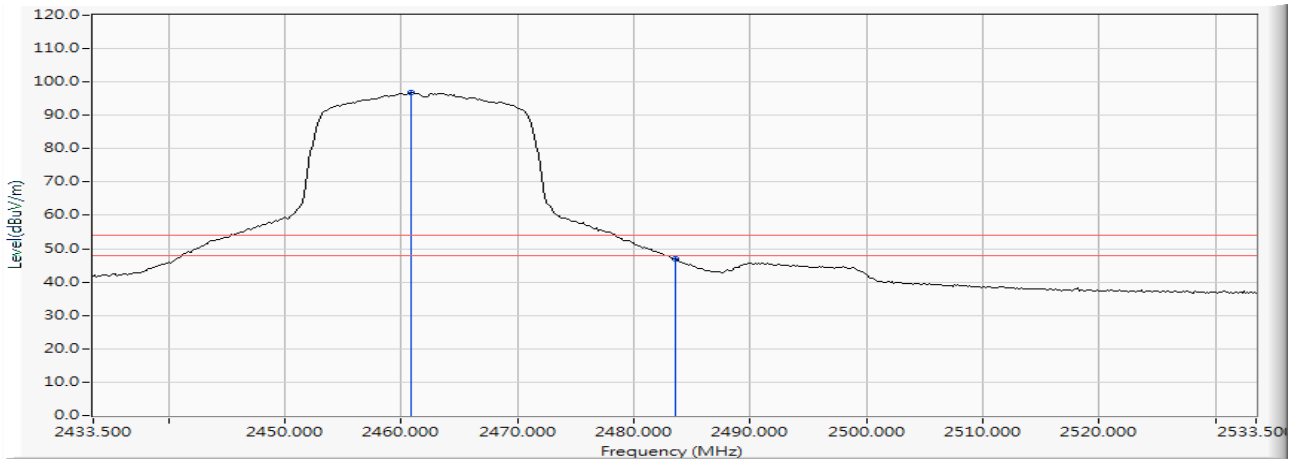
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.457	10.542	96.743	107.286	--	--	PEAK
2		2483.500	10.640	50.218	60.859	-13.141	74.000	PEAK
3		2488.717	10.661	52.622	63.283	-10.717	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)
Test Date : 2019/01/14

Vertical



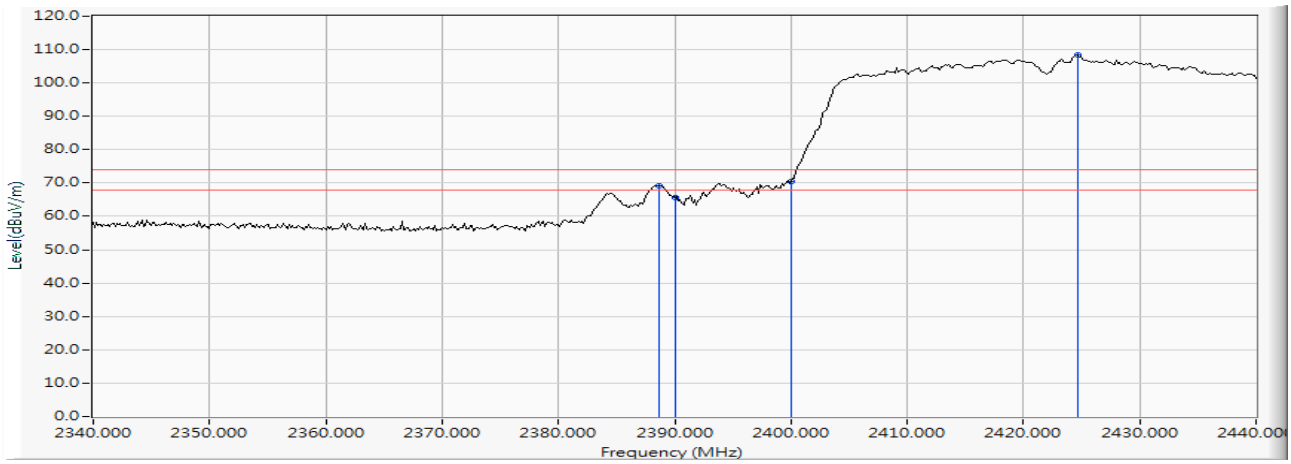
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.891	10.544	86.193	96.738	--	--	AVERAGE
2		2483.500	10.640	36.395	47.036	-6.964	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2019/01/14

Horizontal



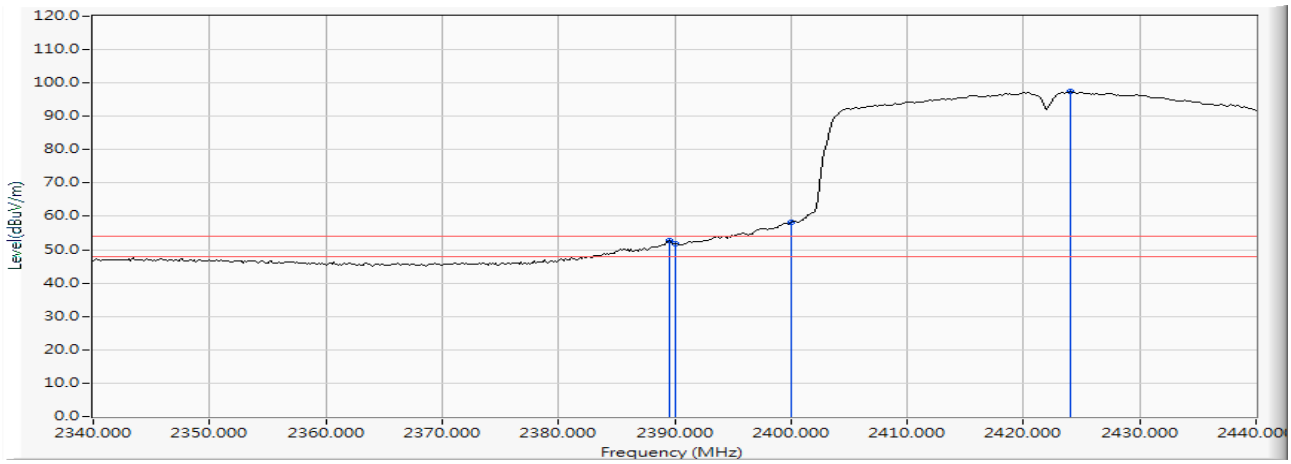
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2388.696	10.257	59.026	69.283	-4.717	74.000	PEAK
2		2390.000	10.262	55.487	65.749	-8.251	74.000	PEAK
3		2400.000	10.304	60.205	70.508	--	--	PEAK
4	*	2424.638	10.403	97.914	108.318	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2019/01/14

Horizontal



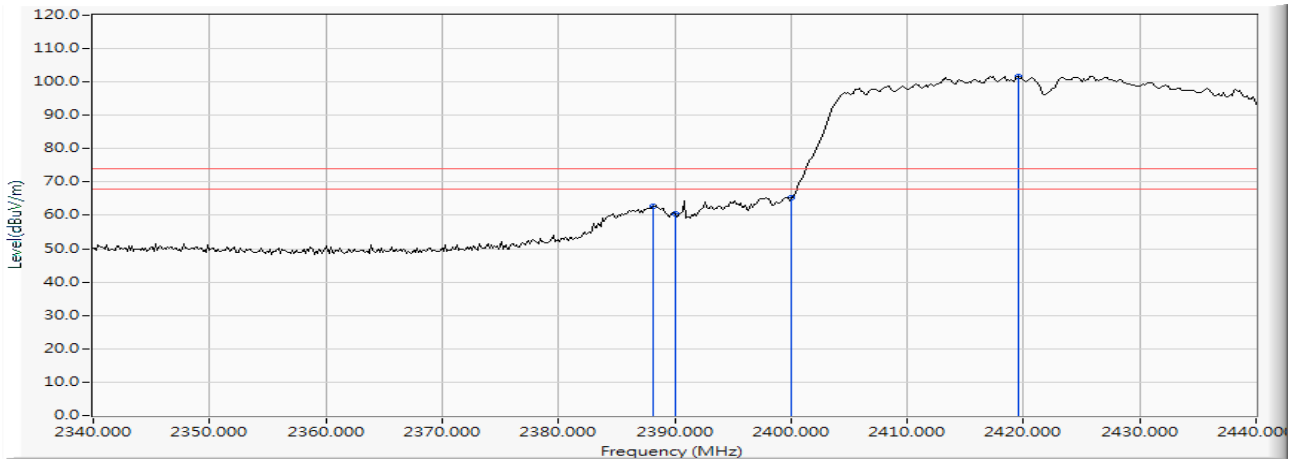
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2389.565	10.261	42.534	52.794	-1.206	54.000	AVERAGE
2		2390.000	10.262	41.560	51.822	-2.178	54.000	AVERAGE
3		2400.000	10.304	47.977	58.280	--	--	AVERAGE
4	*	2424.058	10.401	86.984	97.385	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2019/01/14

Vertical



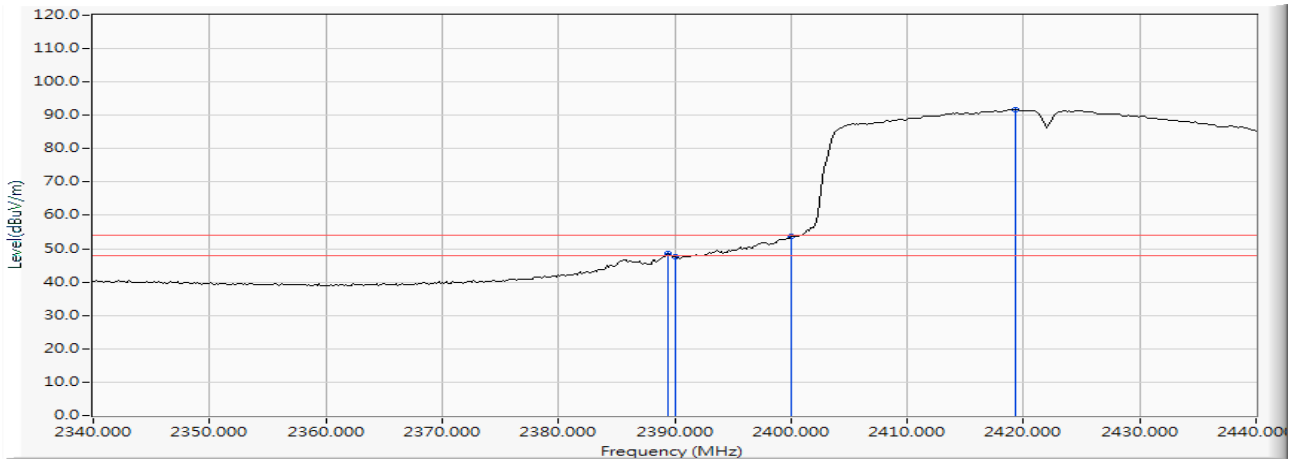
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2388.116	10.254	52.548	62.802	-11.198	74.000	PEAK
2		2390.000	10.262	50.095	60.357	-13.643	74.000	PEAK
3		2400.000	10.304	54.957	65.260	--	--	PEAK
4	*	2419.565	10.382	91.321	101.703	--	--	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2422MHz)
Test Date : 2019/01/14

Vertical



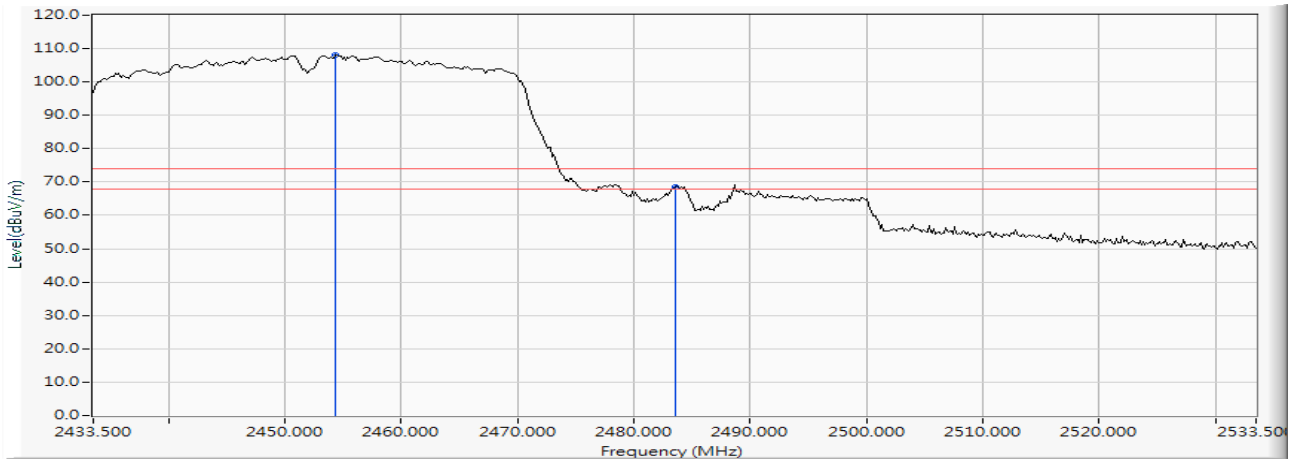
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2389.420	10.260	38.186	48.446	-5.554	54.000	AVERAGE
2		2390.000	10.262	37.491	47.753	-6.247	54.000	AVERAGE
3		2400.000	10.304	43.333	53.636	--	--	AVERAGE
4	*	2419.275	10.381	81.441	91.822	--	--	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date : 2019/01/14

Horizontal



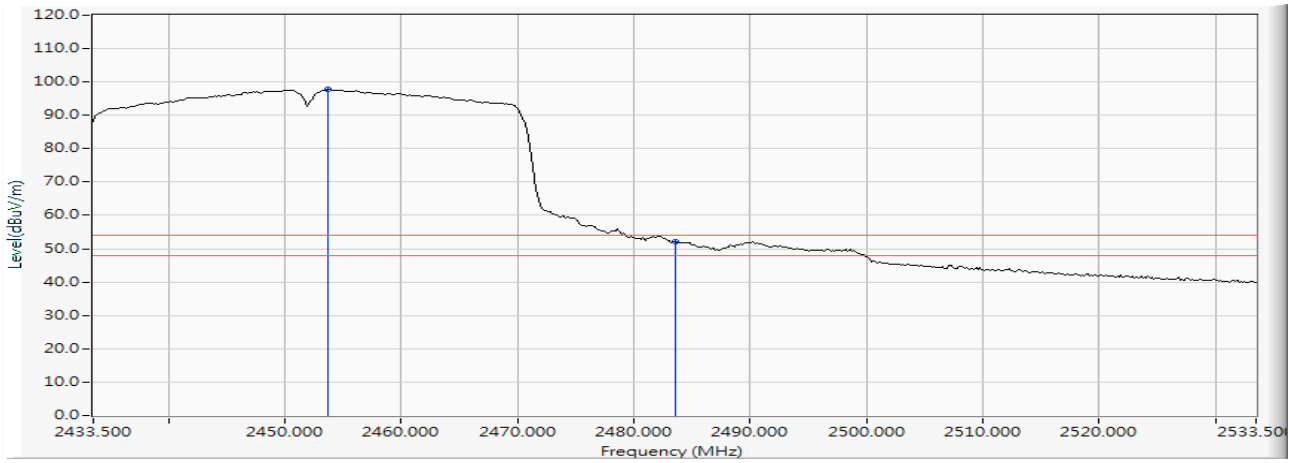
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2454.370	10.517	97.545	108.062	--	--	PEAK
2		2483.500	10.640	57.959	68.600	-5.400	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date : 2019/01/14

Horizontal



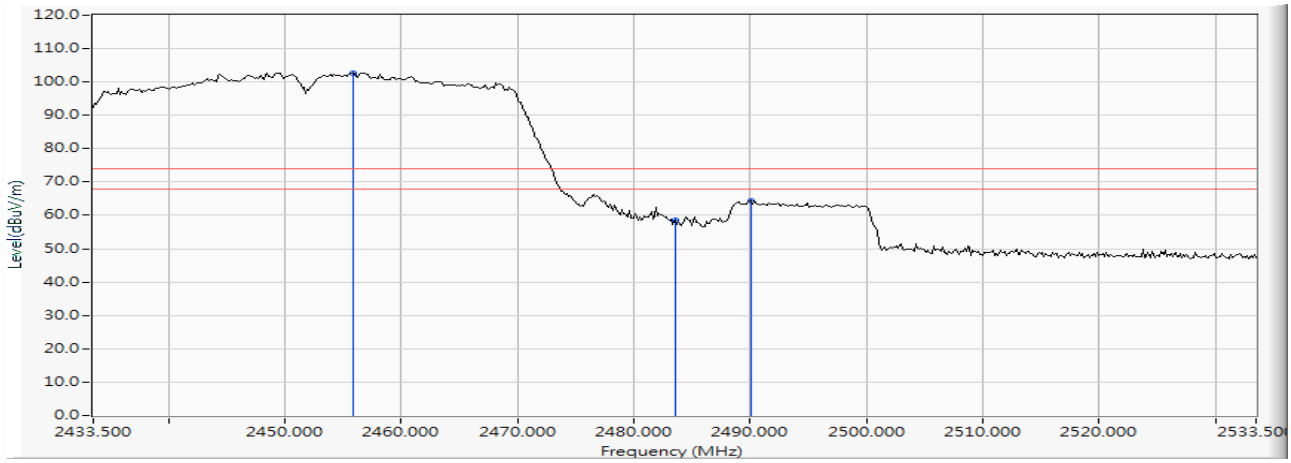
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2453.645	10.514	87.341	97.856	--	--	AVERAGE
2		2483.500	10.640	41.508	52.149	-1.851	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date : 2019/01/14

Vertical



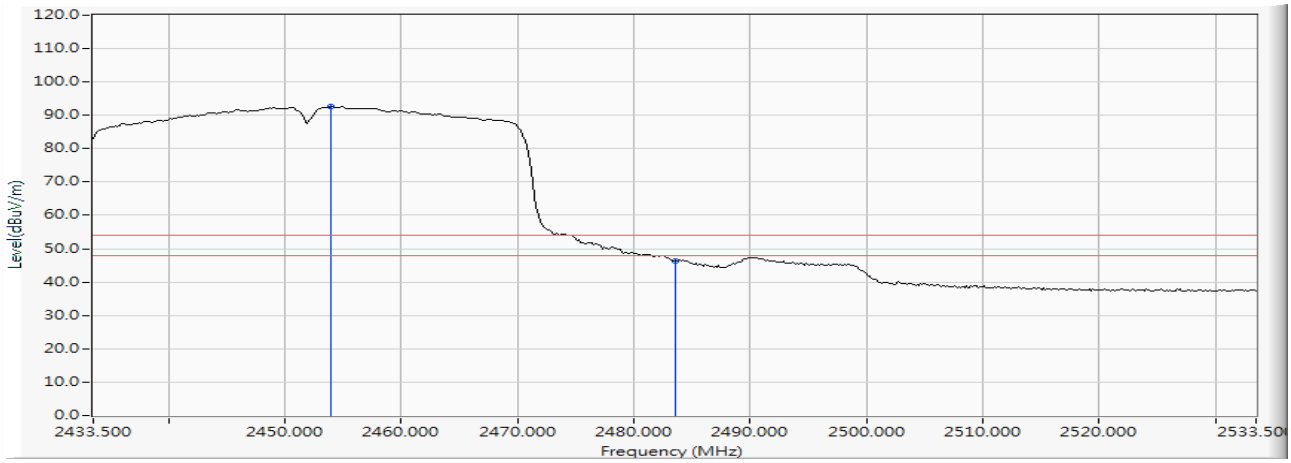
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2455.819	10.523	92.218	102.740	--	--	PEAK
2		2483.500	10.640	47.781	58.422	-15.578	74.000	PEAK
3		2490.022	10.667	53.786	64.452	-9.548	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 4G/LTE Broadband Router with PoE
Test Item : Band Edge Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW) (2452MHz)
Test Date : 2019/01/14

Vertical



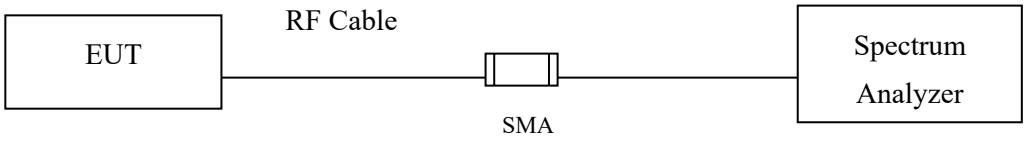
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2453.935	10.515	82.044	92.560	--	--	AVERAGE
2		2483.500	10.640	35.686	46.327	-7.673	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.2 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 1-5% of the emission bandwidth, VBW≥3*RBW

7.4. Uncertainty

± 279.2Hz

7.5. Test Result of 6dB Bandwidth

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	9650	>500	Pass
06	2437	9650	>500	Pass
11	2462	10100	>500	Pass

Figure Channel 01:

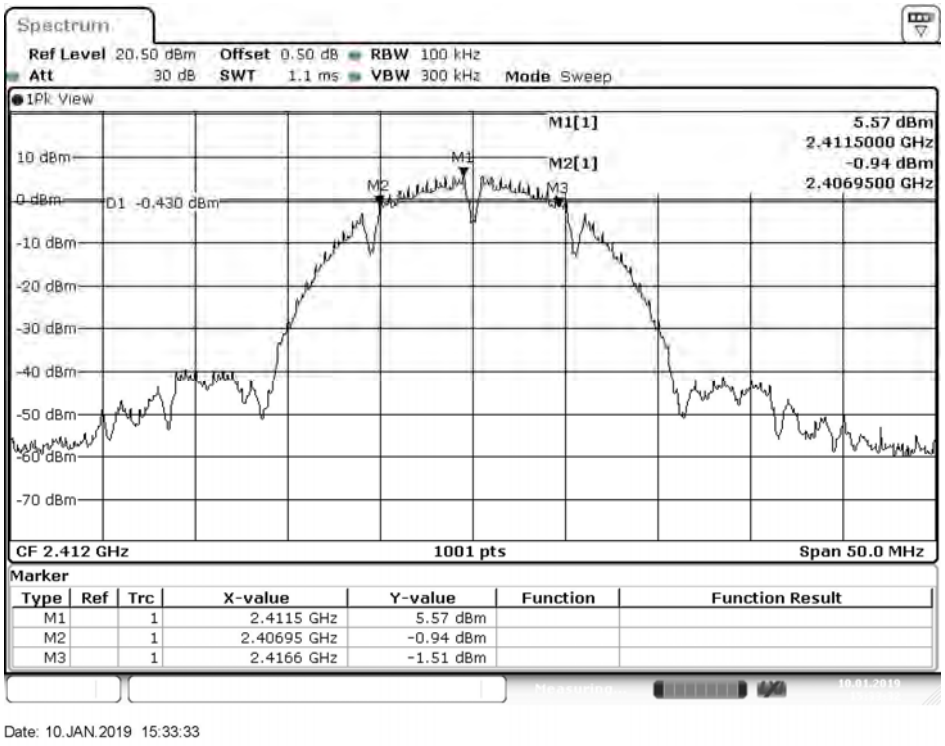
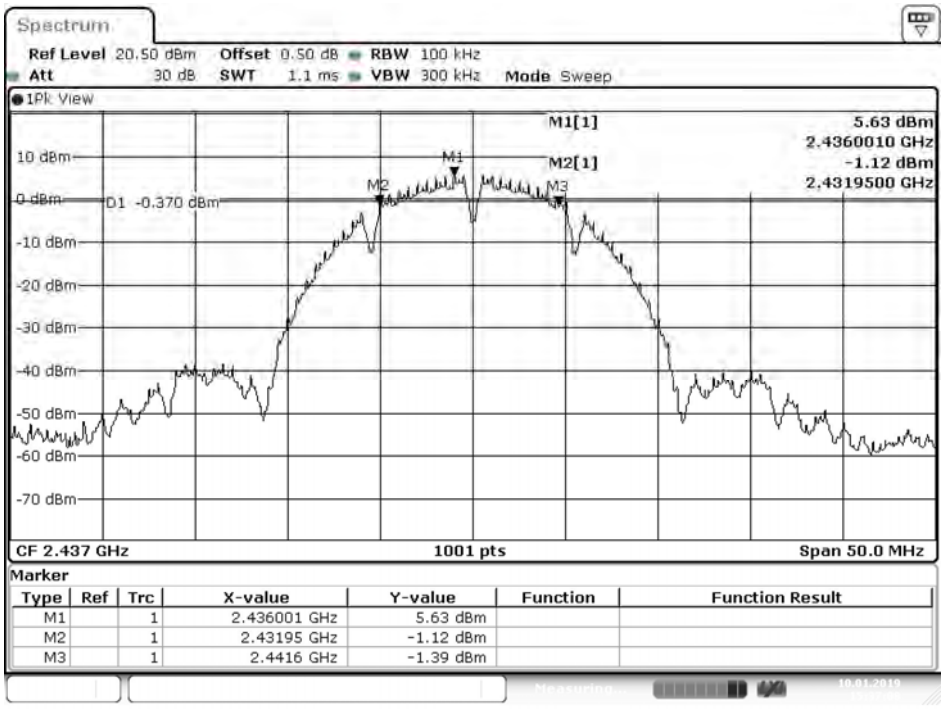
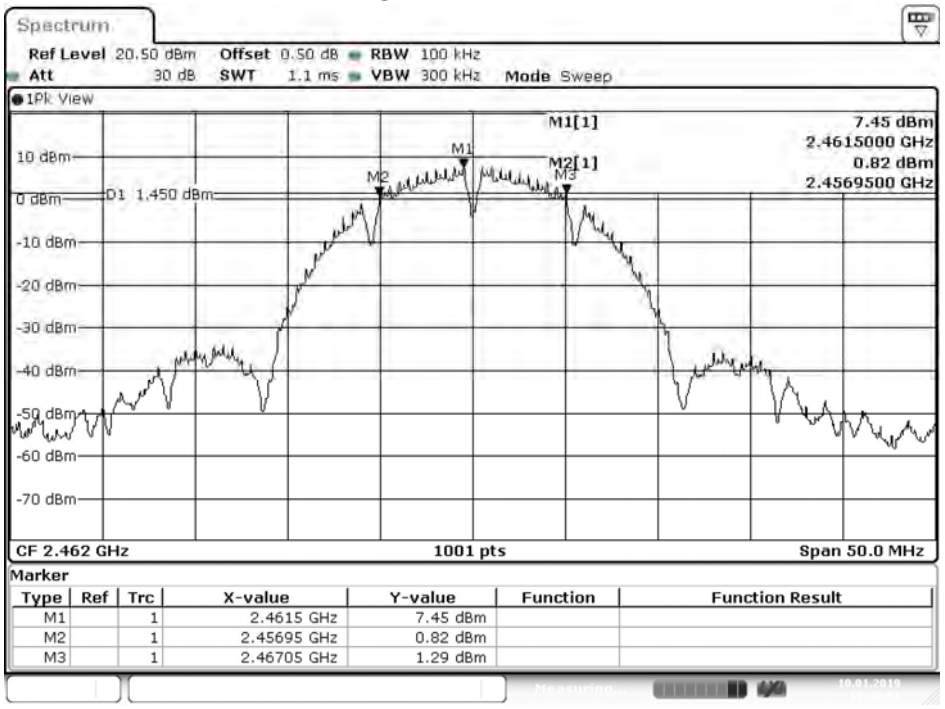


Figure Channel 06:



Date: 10.JAN.2019 15:37:09

Figure Channel 11:



Date: 10.JAN.2019 15:40:51

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	13950	>500	Pass
06	2437	15200	>500	Pass
11	2462	15200	>500	Pass

Figure Channel 01:

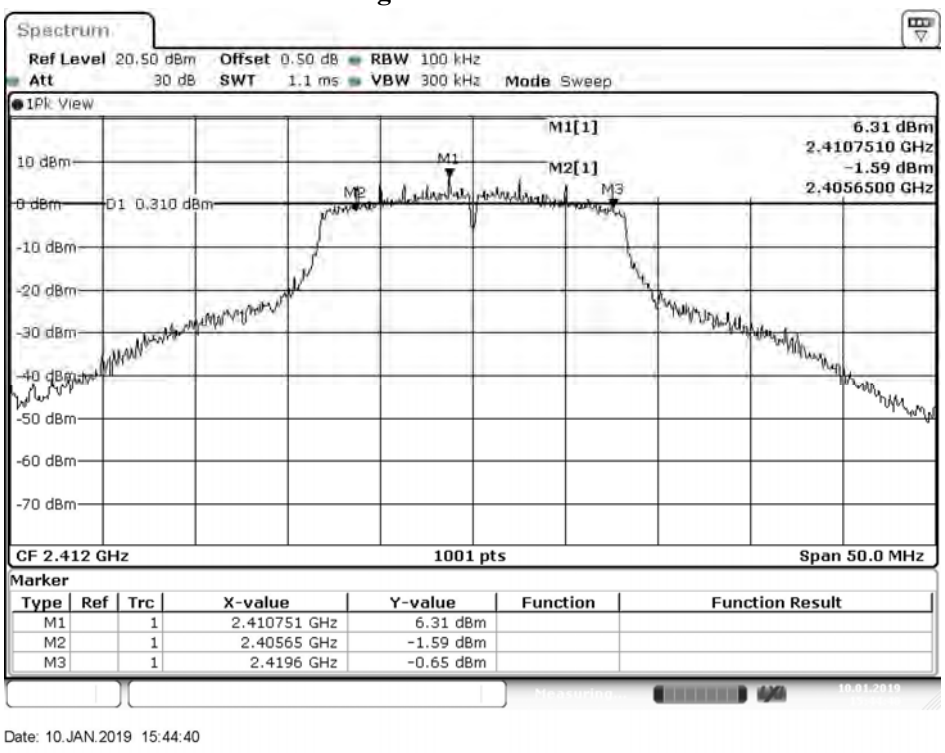
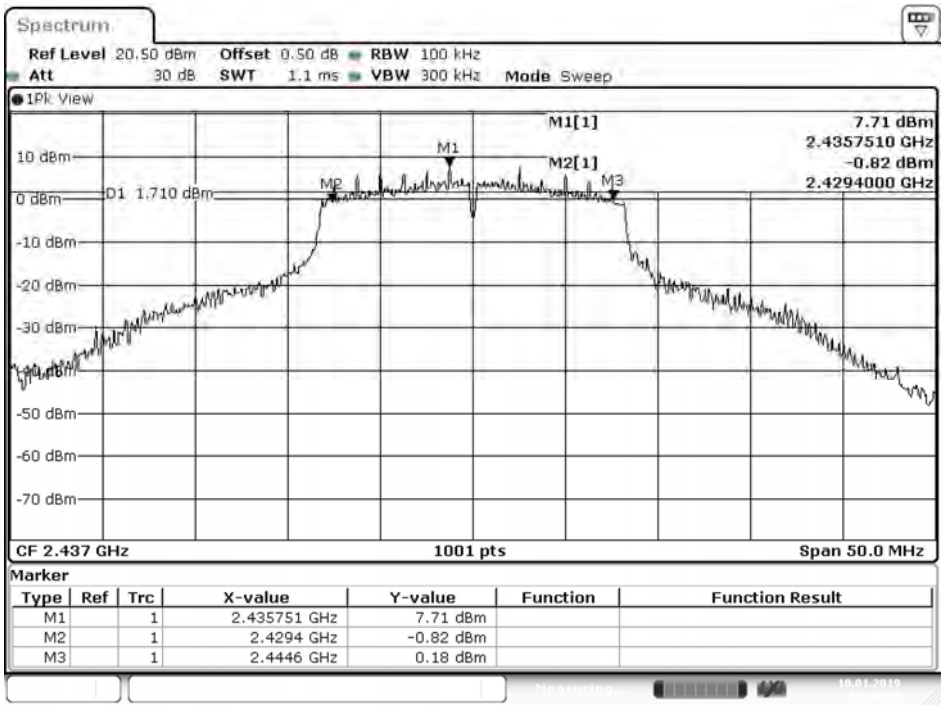
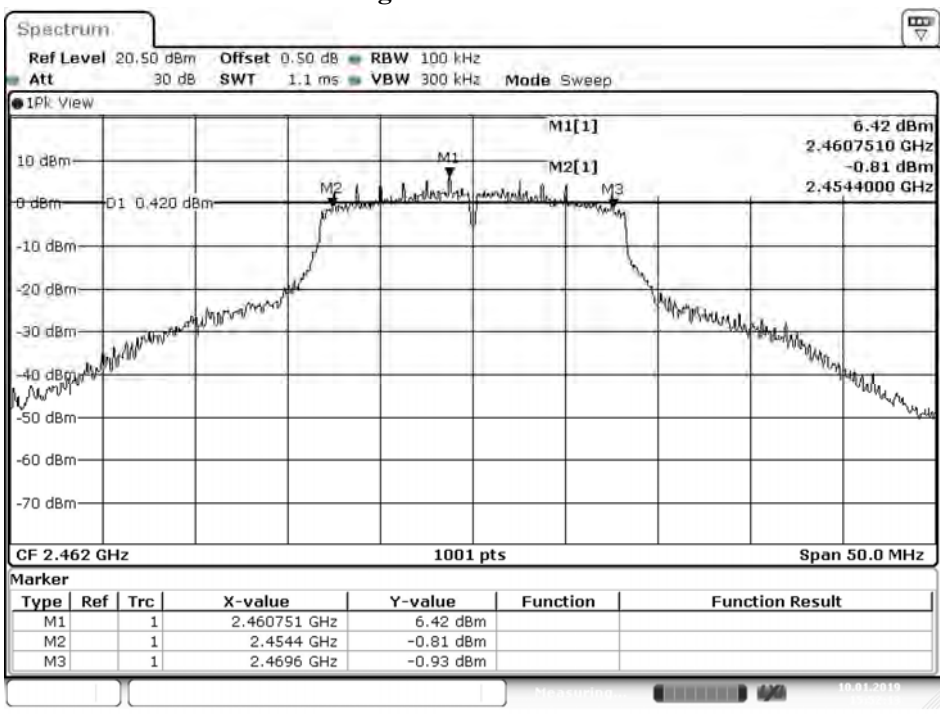


Figure Channel 06:



Date: 10.JAN.2019 15:48:28

Figure Channel 11:



Date: 10.JAN.2019 15:52:13

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15150	>500	Pass
06	2437	15200	>500	Pass
11	2462	15200	>500	Pass

Figure Channel 01: (Chain A)

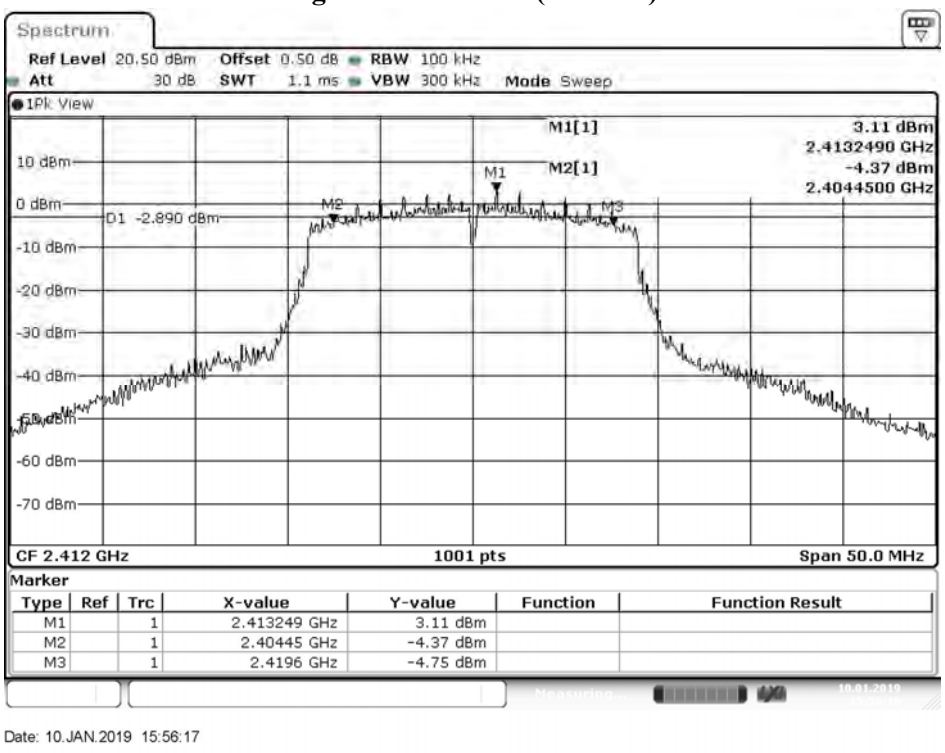
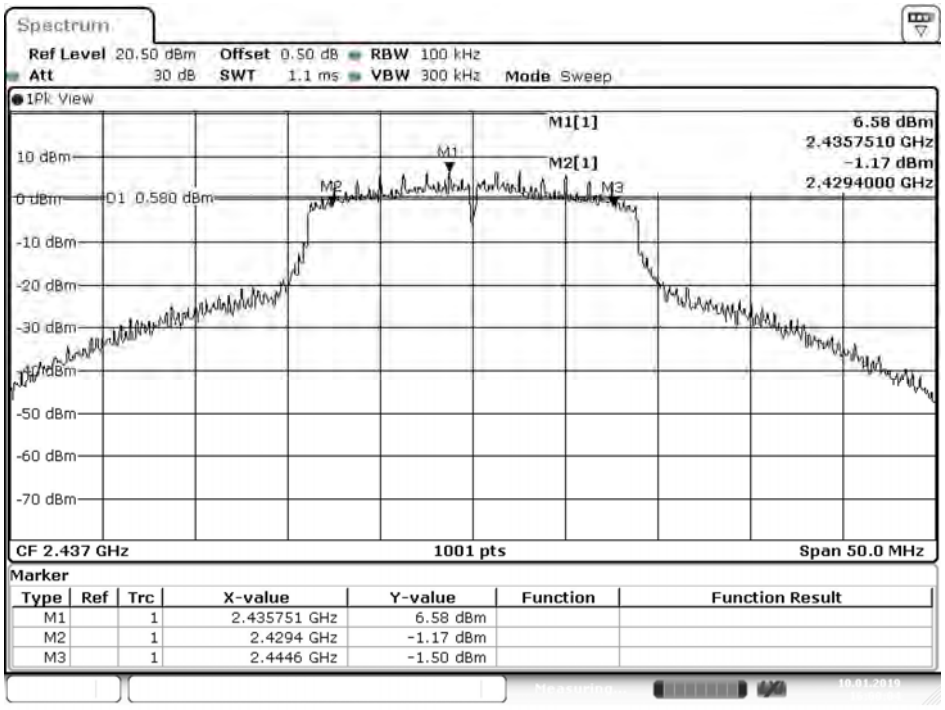
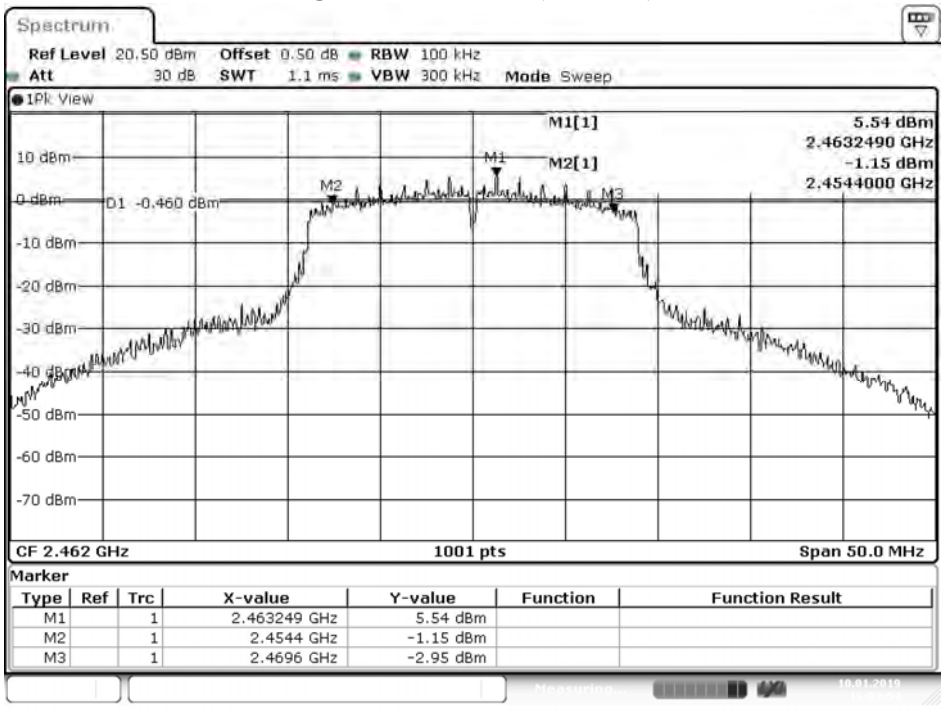


Figure Channel 06: (Chain A)



Date: 10.JAN.2019 16:00:05

Figure Channel 11: (Chain A)



Date: 10.JAN.2019 16:03:54

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	12950	>500	Pass
06	2437	15200	>500	Pass
11	2462	13950	>500	Pass

Figure Channel 01: (Chain B)

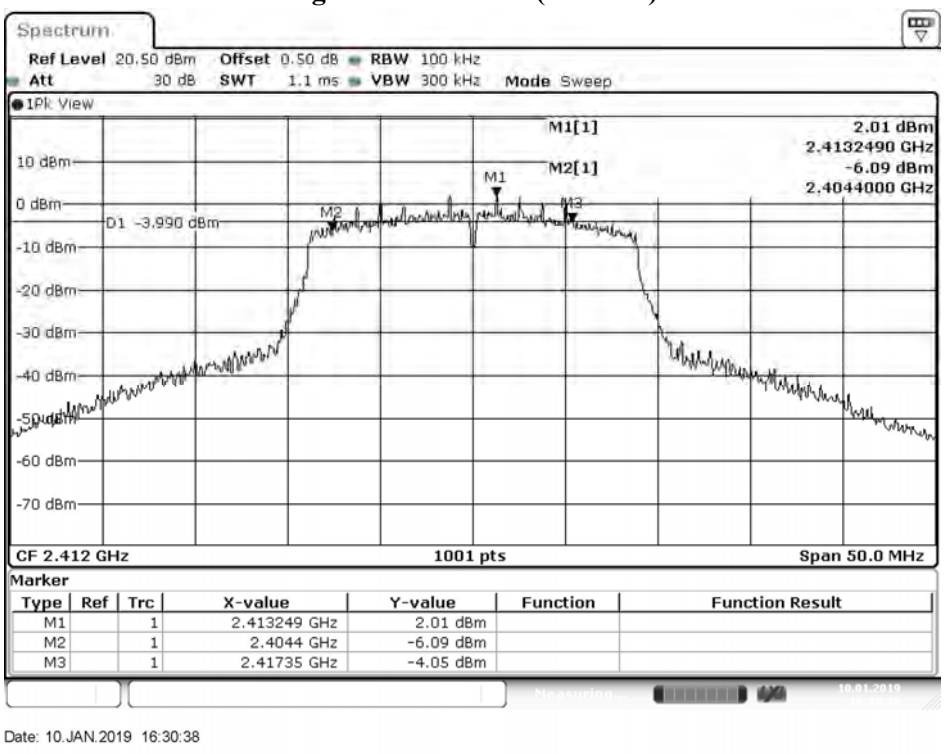
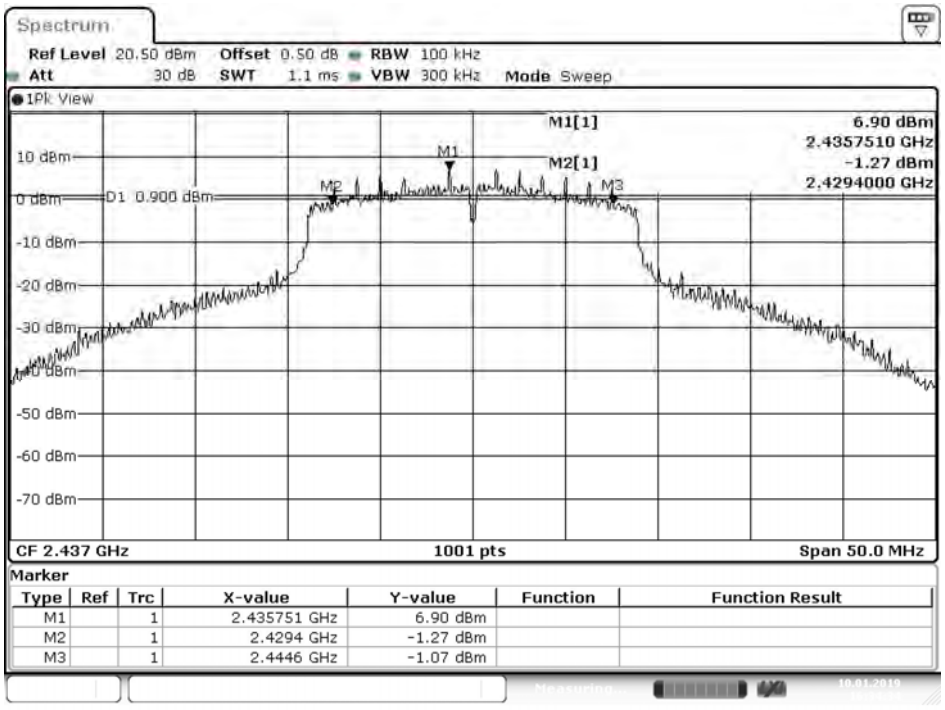
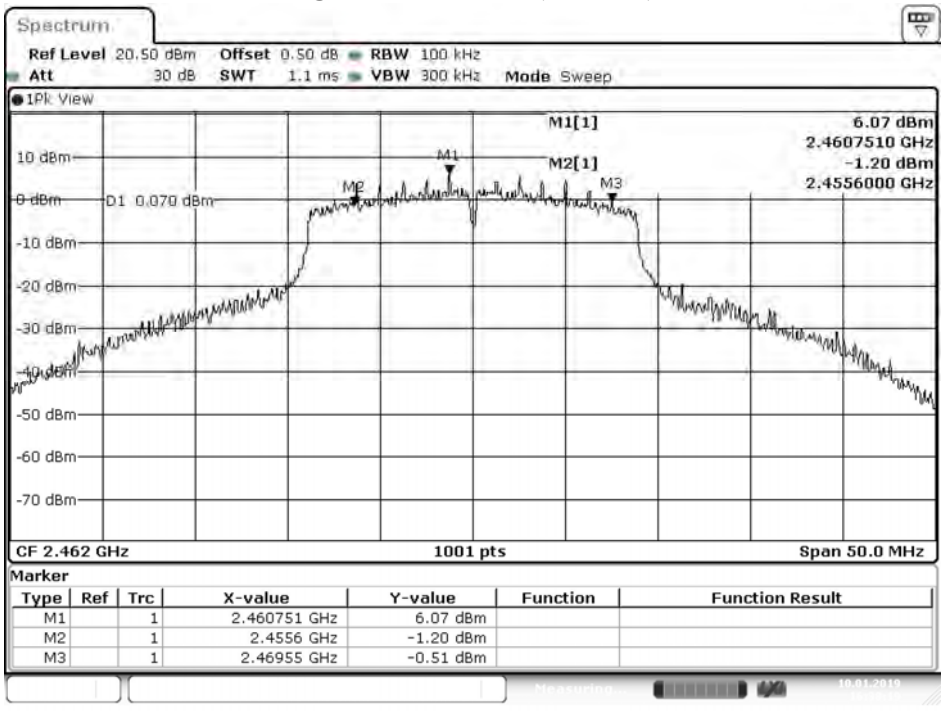


Figure Channel 06: (Chain B)



Date: 10.JAN.2019 16:34:35

Figure Channel 11: (Chain B)



Date: 10.JAN.2019 16:38:20

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35200	>500	Pass
06	2437	35200	>500	Pass
09	2452	35200	>500	Pass

Figure Channel 03: (Chain A)

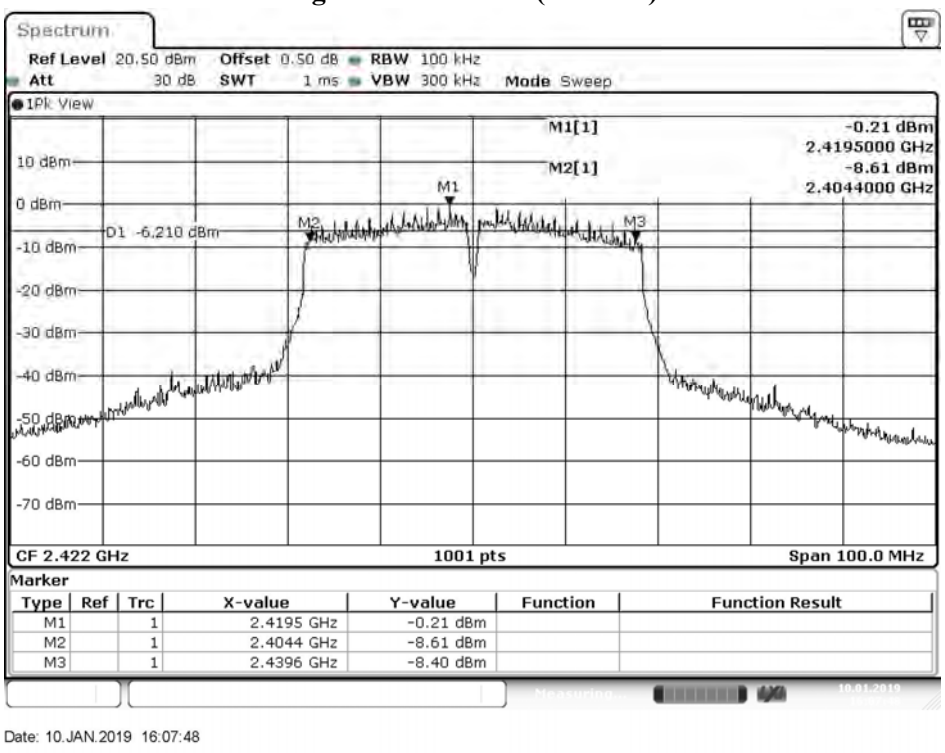
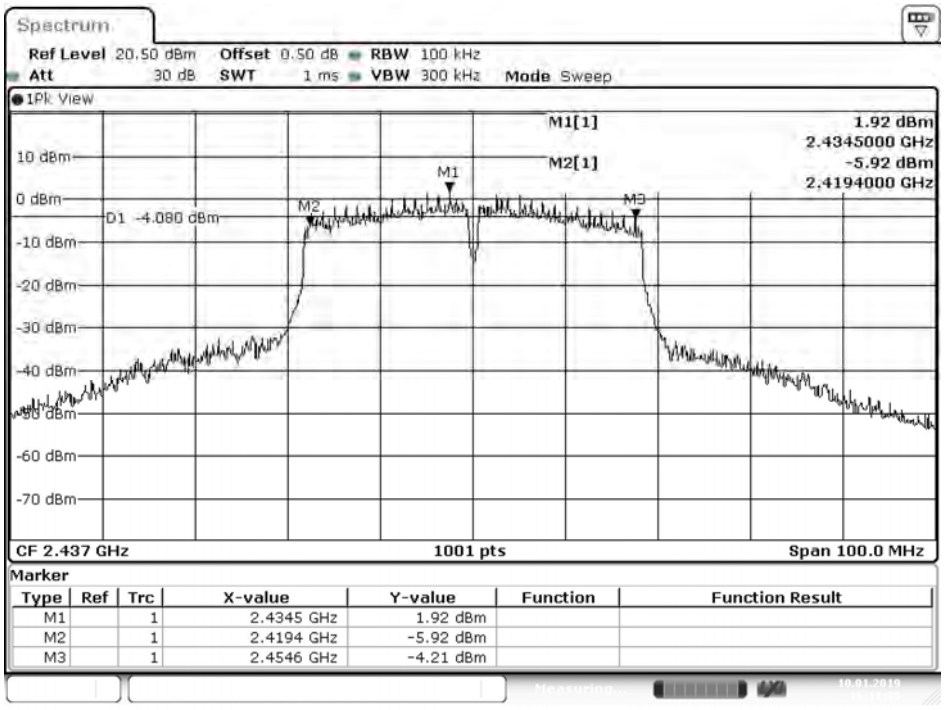
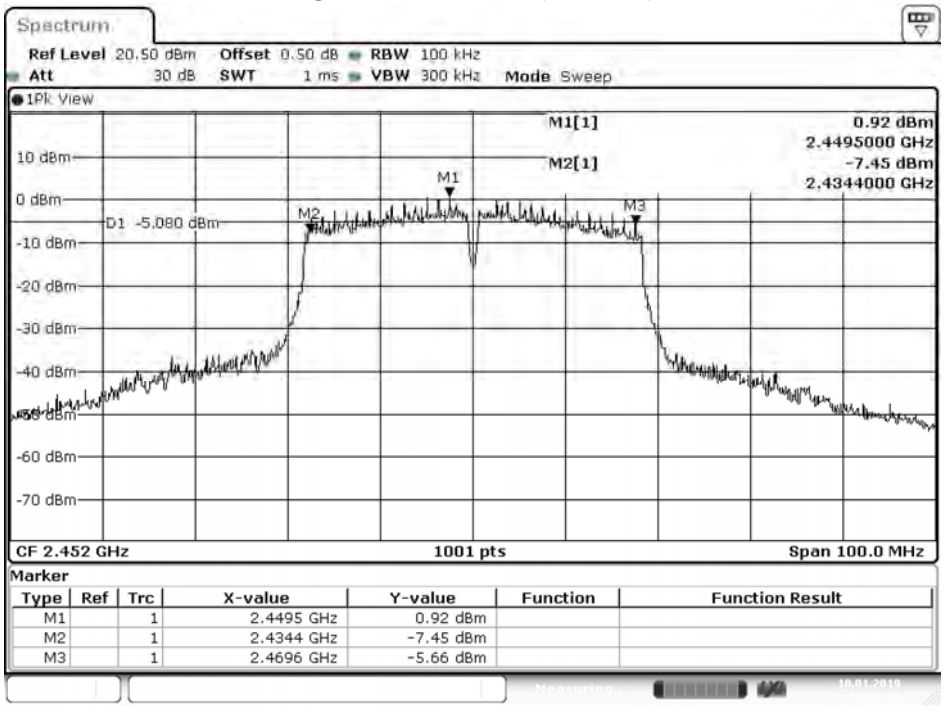


Figure Channel 06: (Chain A)



Date: 10.JAN.2019 16:11:36

Figure Channel 09: (Chain A)



Date: 10.JAN.2019 16:15:35

Product : 4G/LTE Broadband Router with PoE
Test Item : 6dB Bandwidth Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35200	>500	Pass
06	2437	35300	>500	Pass
09	2452	35300	>500	Pass

Figure Channel 03: (Chain B)

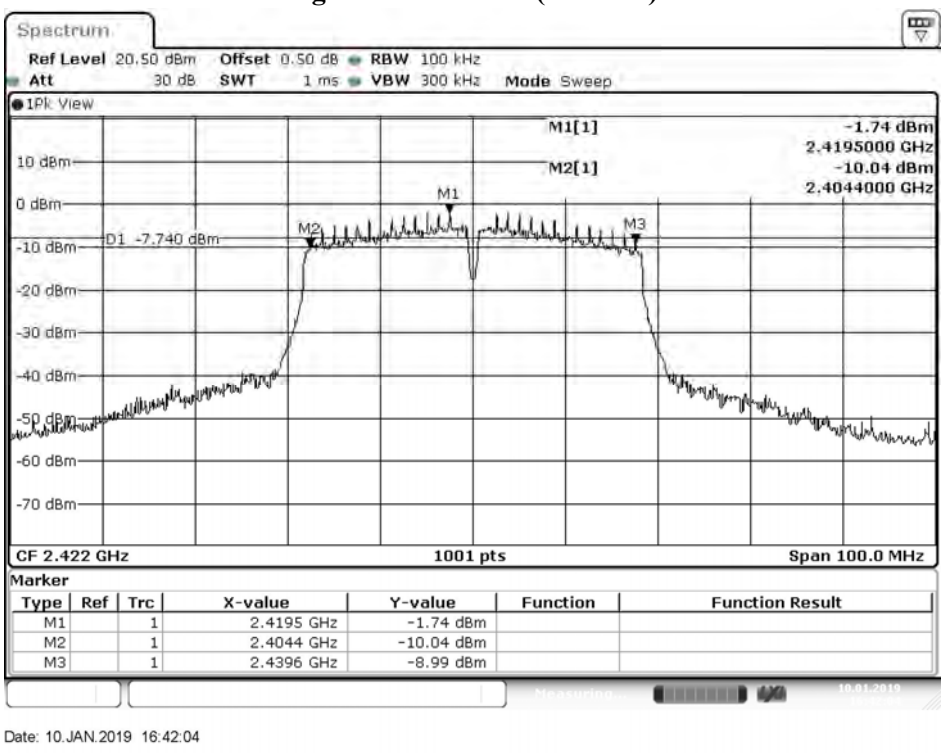
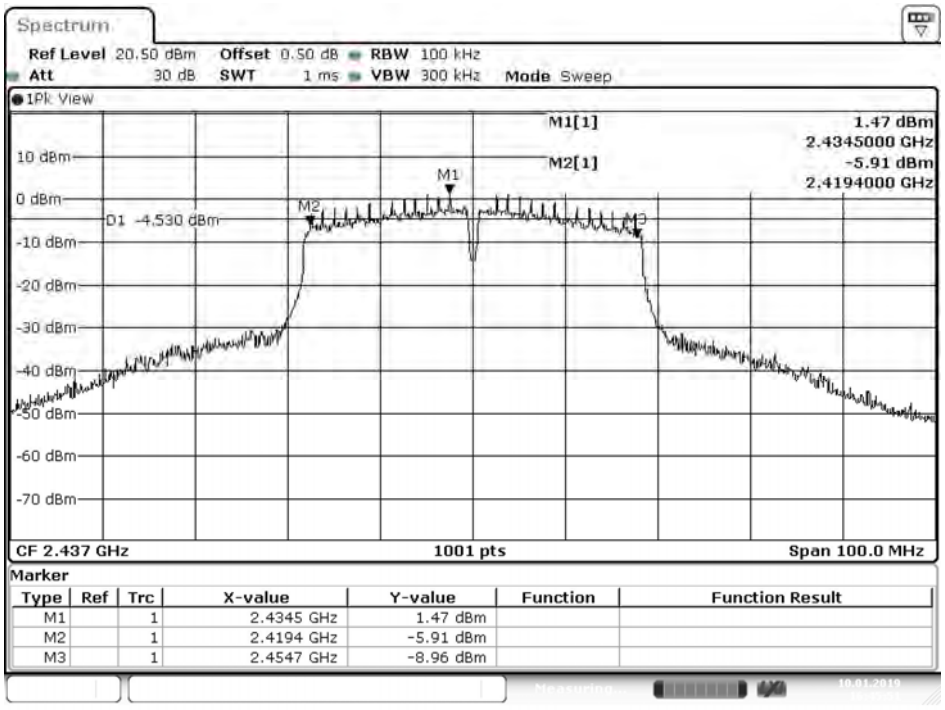
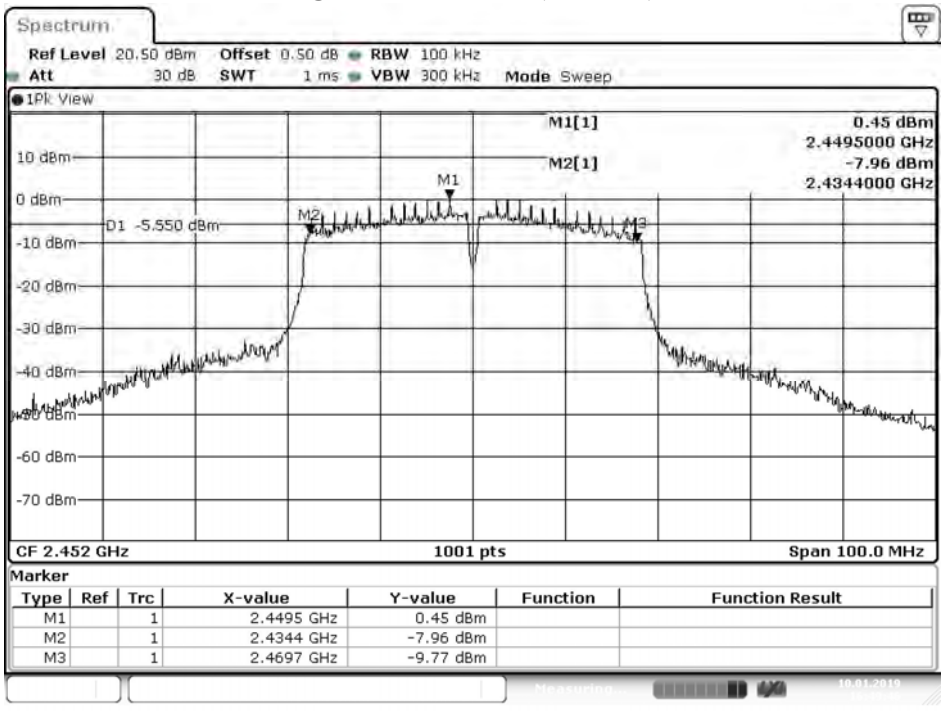


Figure Channel 06: (Chain B)



Date: 10.JAN.2019 16:45:51

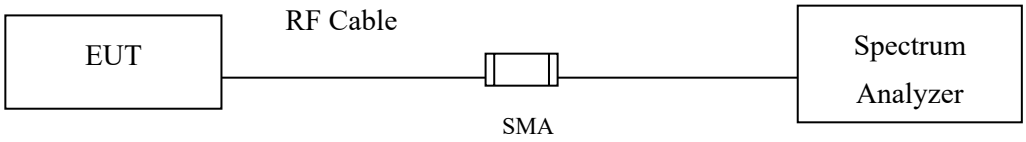
Figure Channel 09: (Chain B)



Date: 10.JAN.2019 16:49:46

8. Power Density

8.1. Test Setup



8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.3. Test Procedure

Tested according to DTS test procedure of KDB558074 section 8.4 for compliance to FCC 47CFR 15.247 requirements.

8.4. Uncertainty

± 1.23 dB

8.5. Test Result of Power Density

Product : 4G/LTE Broadband Router with PoE
Test Item : Power Density Data
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	5.480	≦8dBm	Pass
06	2437.000	6.320	≦8dBm	Pass
11	2462.000	7.410	≦8dBm	Pass

Figure Channel 1:

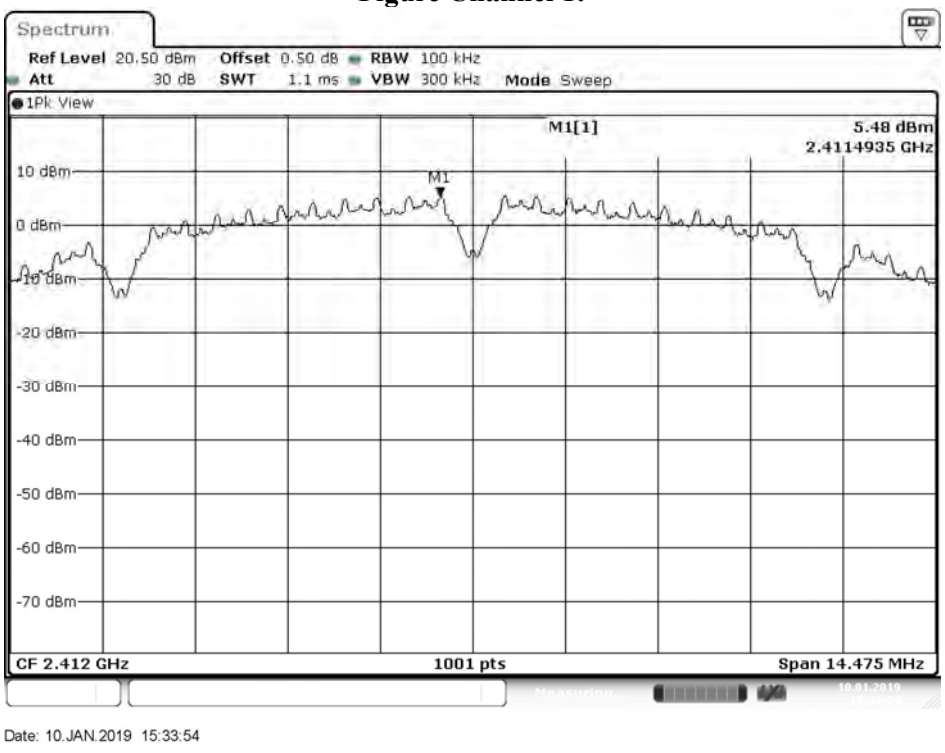


Figure Channel 6:

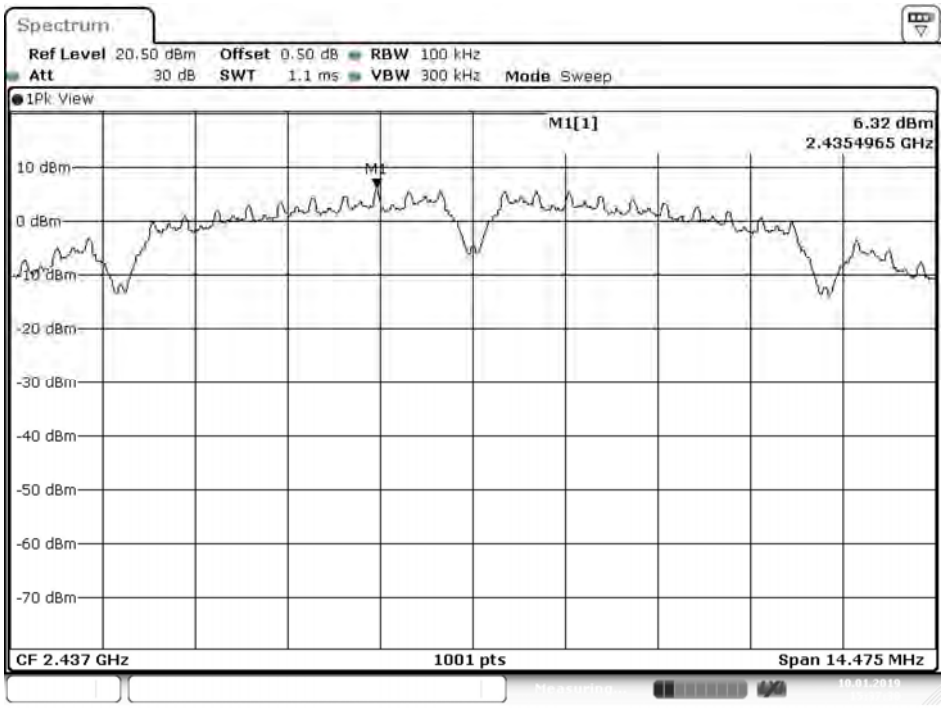
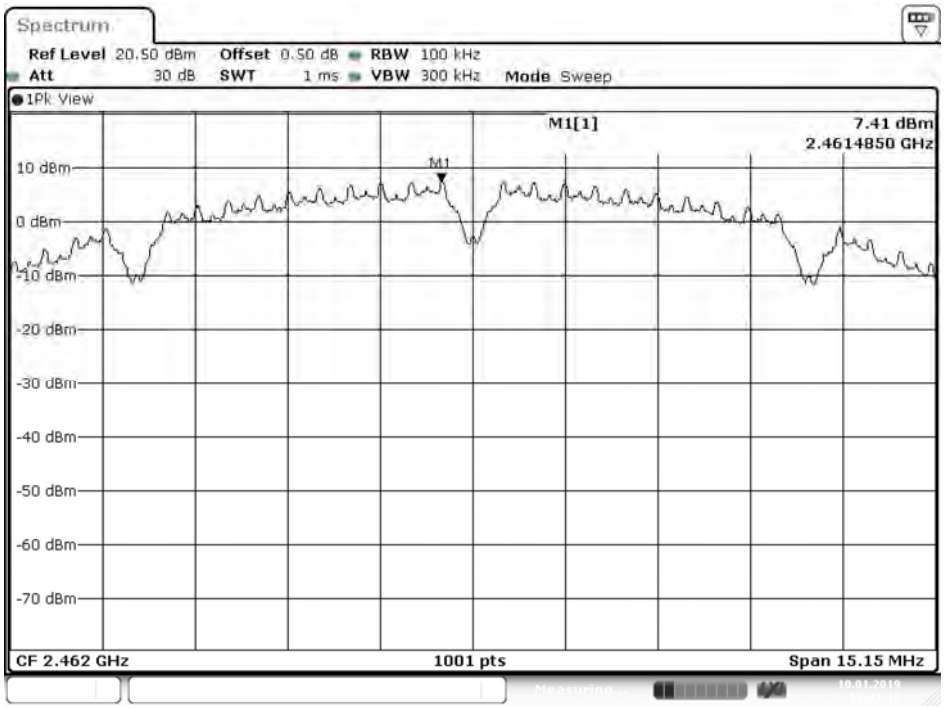


Figure Channel 11:



Product : 4G/LTE Broadband Router with PoE
Test Item : Power Density Data
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No.	Frequency (MHz)	PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	6.450	≦8dBm	Pass
06	2437.000	7.840	≦8dBm	Pass
11	2462.000	6.360	≦8dBm	Pass

Figure Channel 1:

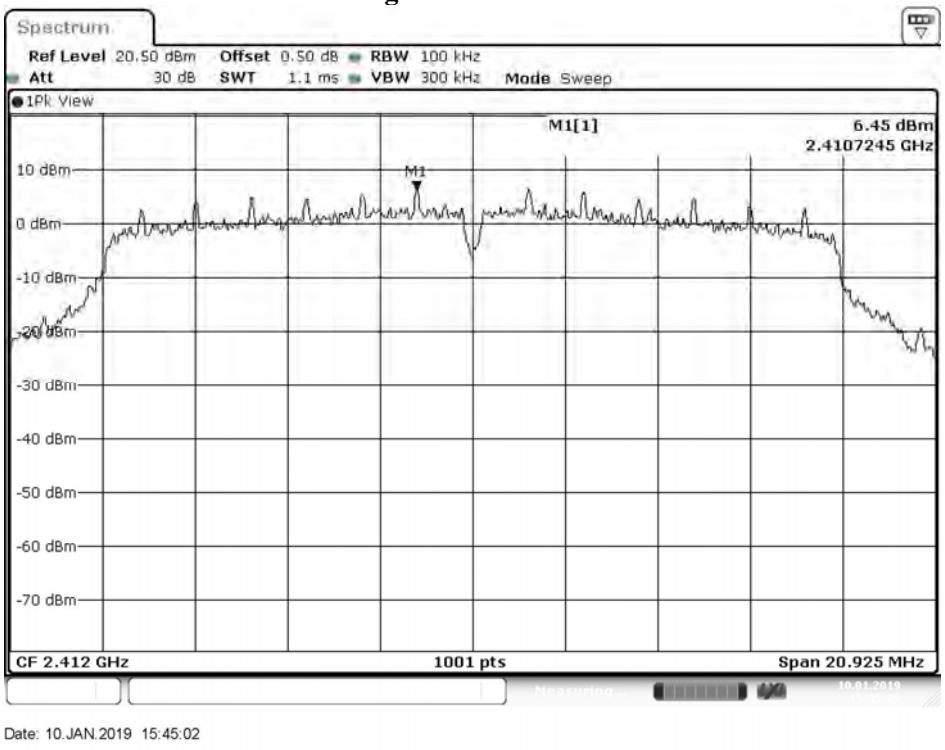


Figure Channel 6:

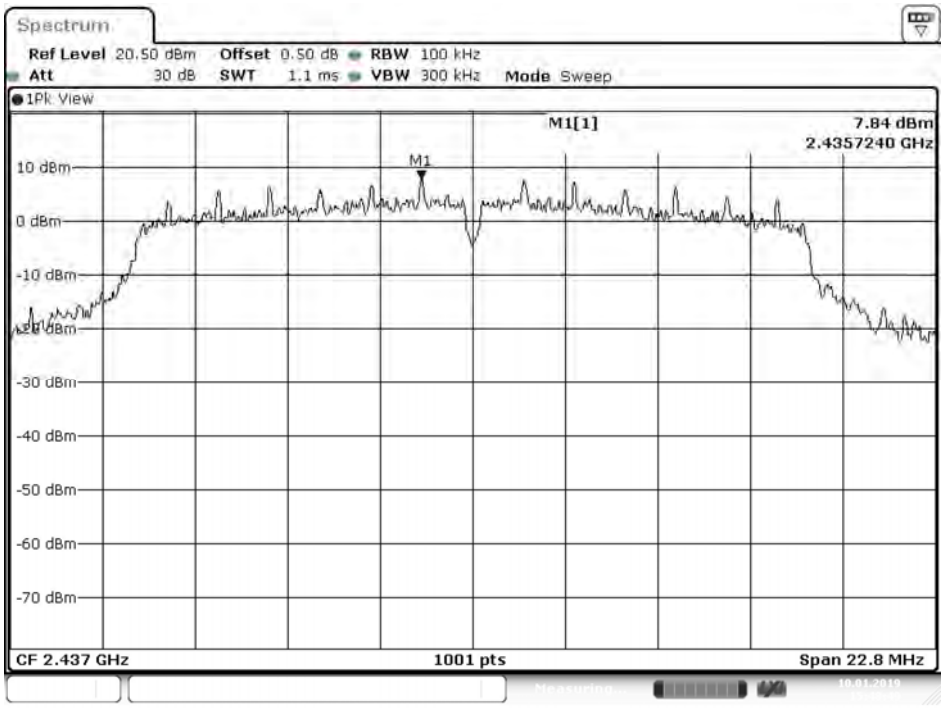
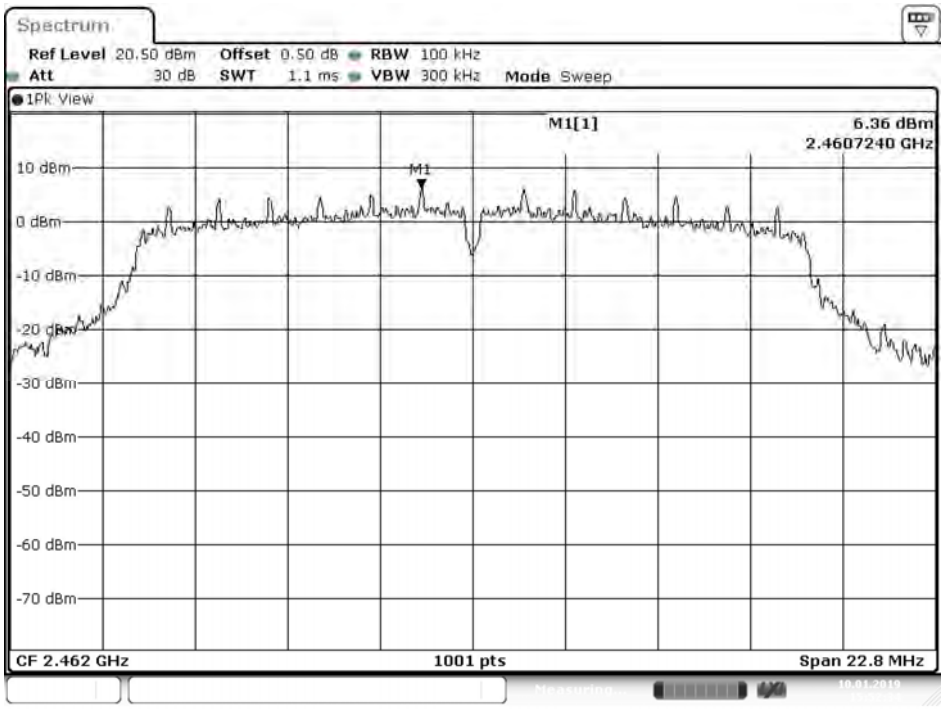


Figure Channel 11:



Product : 4G/LTE Broadband Router with PoE
Test Item : Power Density Data
Test Mode : Mode 3: Transmit (802.11n MCS8 14.4Mbps 20M-BW)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412.000	A	3.100	6.110	≦8dBm	Pass
		B	2.010	5.020	≦8dBm	Pass
06	2437.000	A	3.500	6.510	≦8dBm	Pass
		B	4.410	7.420	≦8dBm	Pass
11	2462.000	A	2.610	5.620	≦8dBm	Pass
		B	3.450	6.460	≦8dBm	Pass

Note :

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 1: (Chain A)

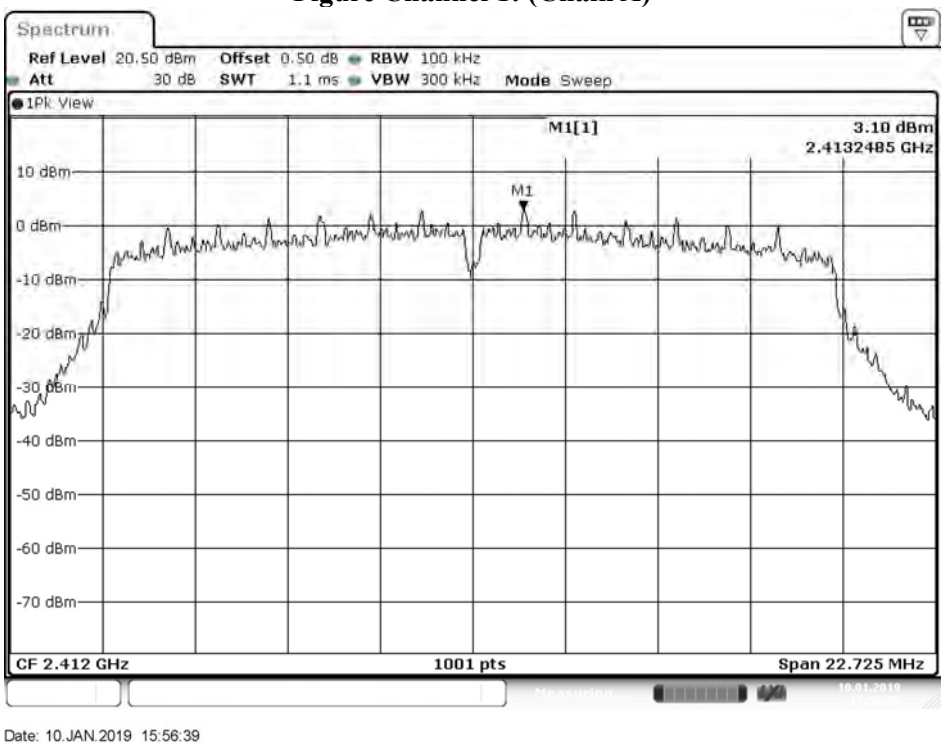
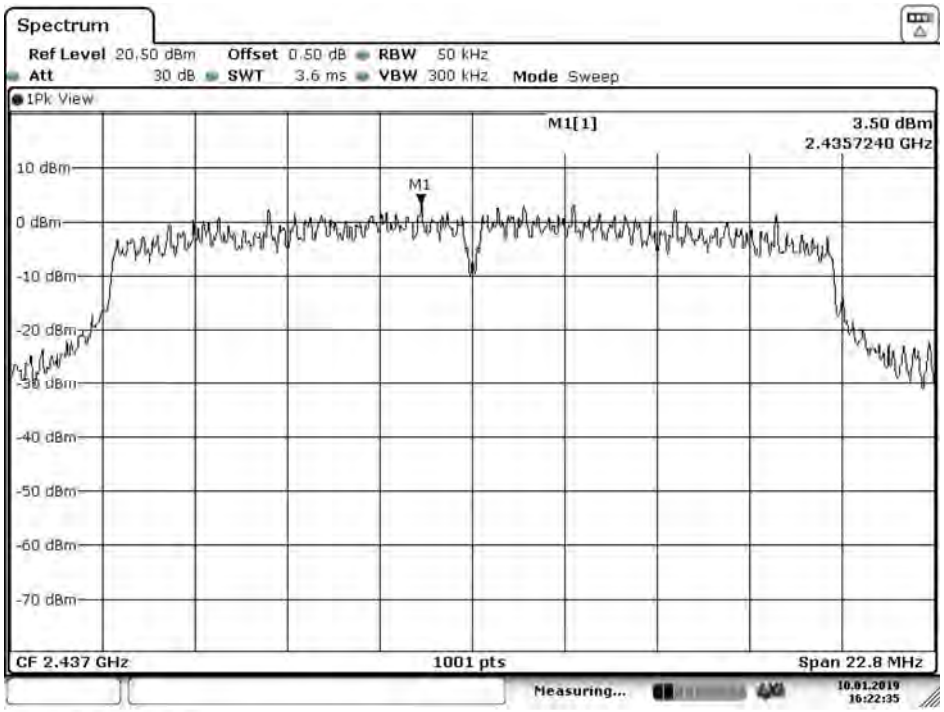
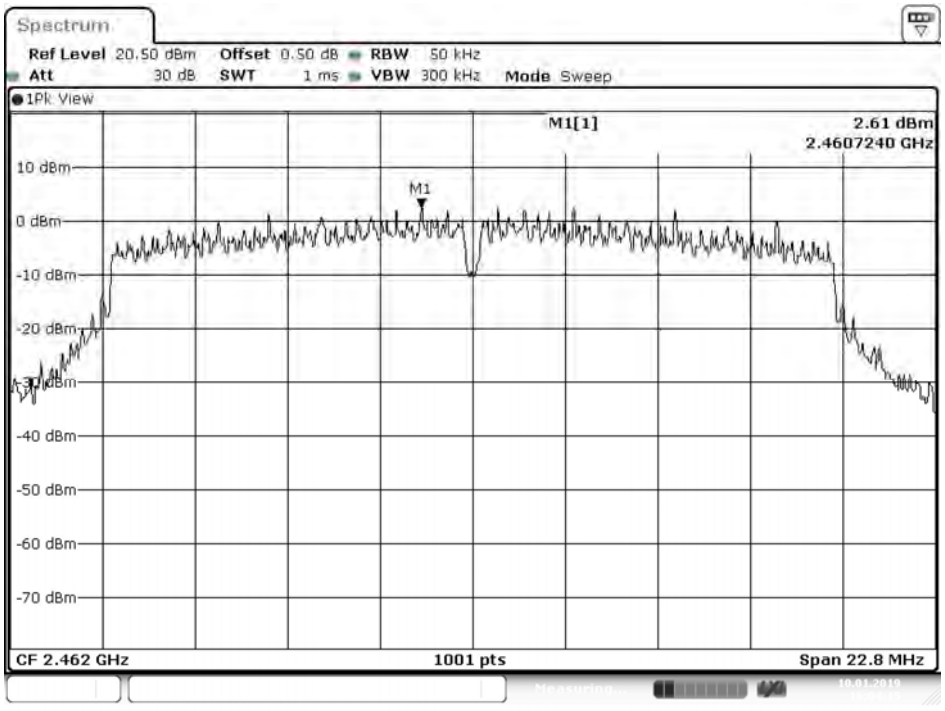


Figure Channel 6: (Chain A)



Date: 10.JAN.2019 16:22:35

Figure Channel 11: (Chain A)



Date: 10.JAN.2019 16:04:15

Figure Channel 1: (Chain B)

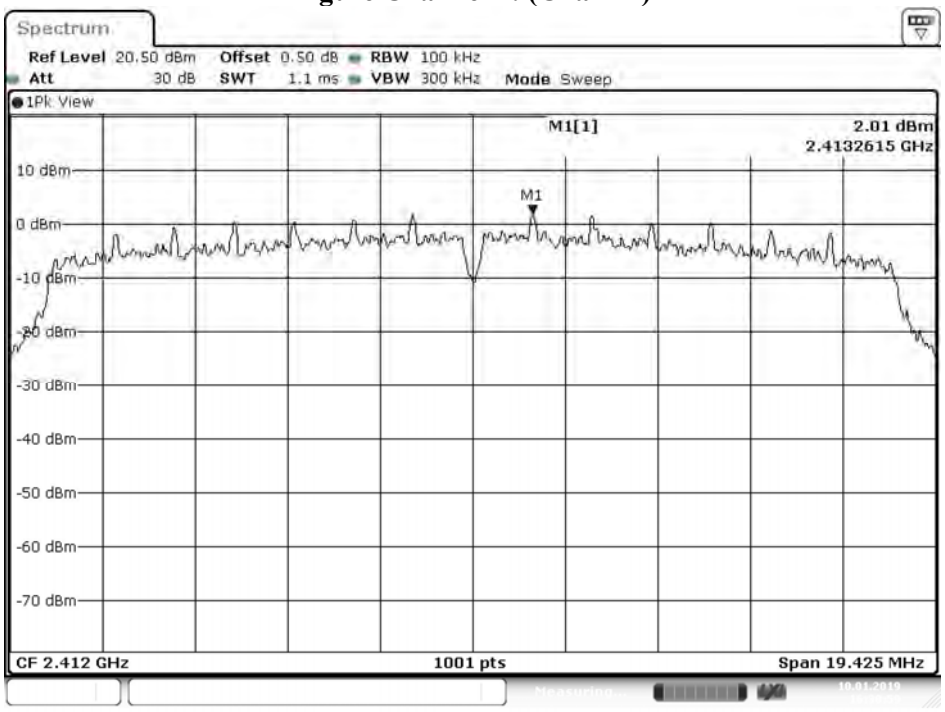


Figure Channel 6: (Chain B)

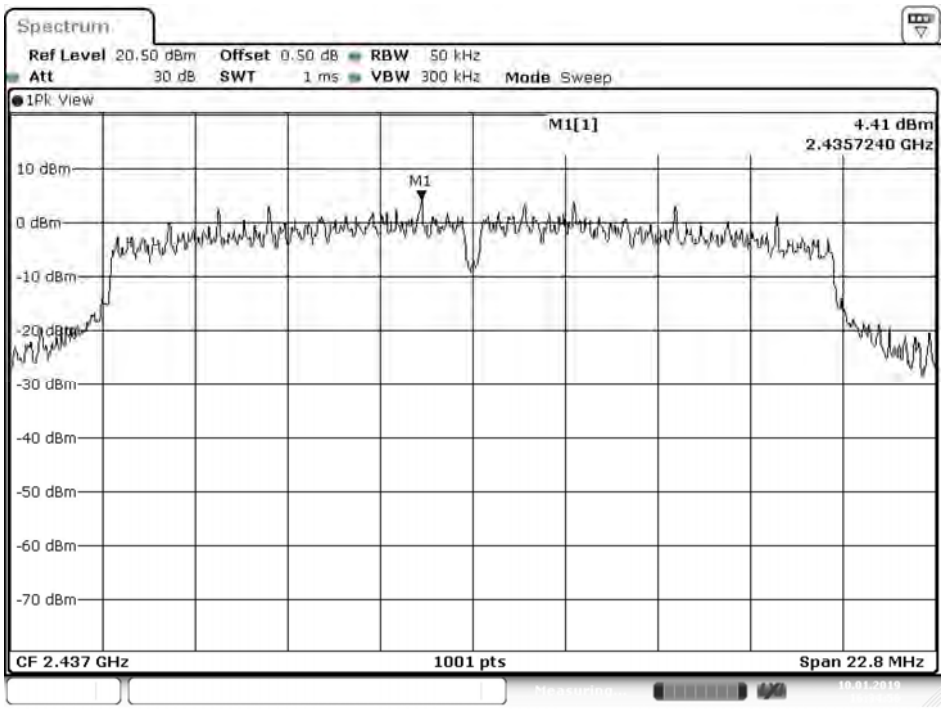
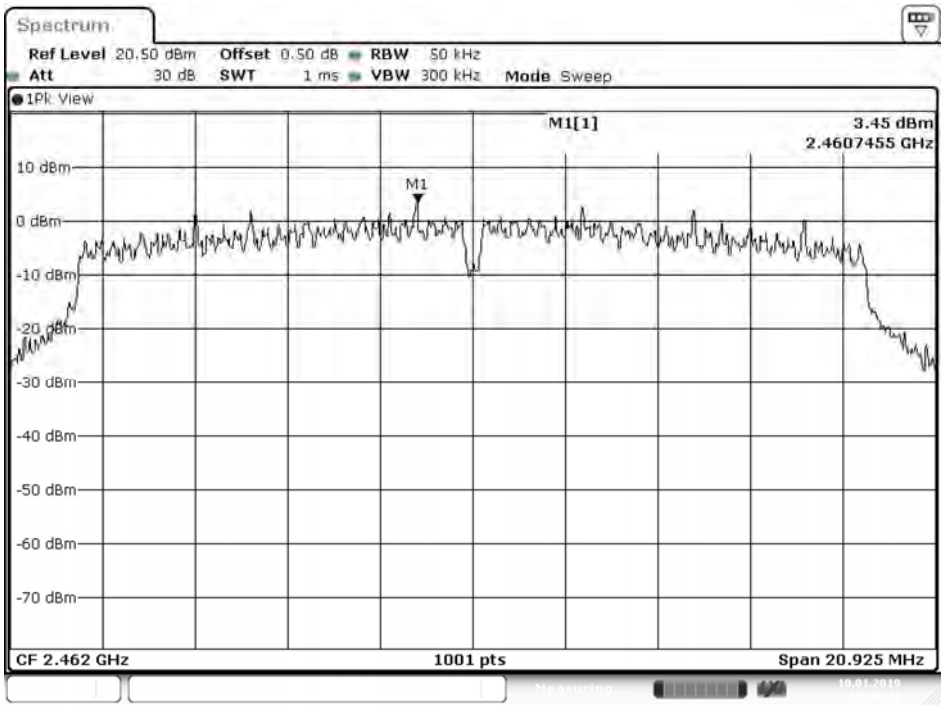


Figure Channel 11: (Chain B)



Product : 4G/LTE Broadband Router with PoE
Test Item : Power Density Data
Test Mode : Mode 4: Transmit (802.11n MCS8 30Mbps 40M-BW)

Channel No.	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422.000	A	-0.350	2.660	≦8dBm	Pass
		B	-1.770	1.240	≦8dBm	Pass
06	2437.000	A	1.690	4.700	≦8dBm	Pass
		B	1.410	4.420	≦8dBm	Pass
09	2452.000	A	0.720	3.730	≦8dBm	Pass
		B	0.490	3.500	≦8dBm	Pass

Note :

The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Figure Channel 3: (Chain A)

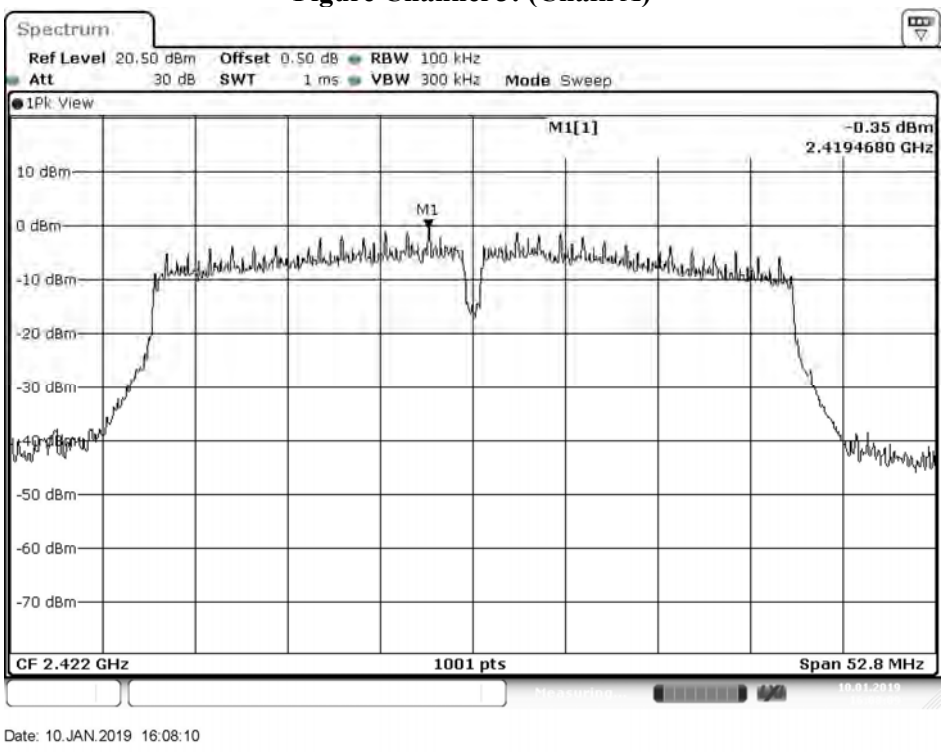


Figure Channel 6: (Chain A)

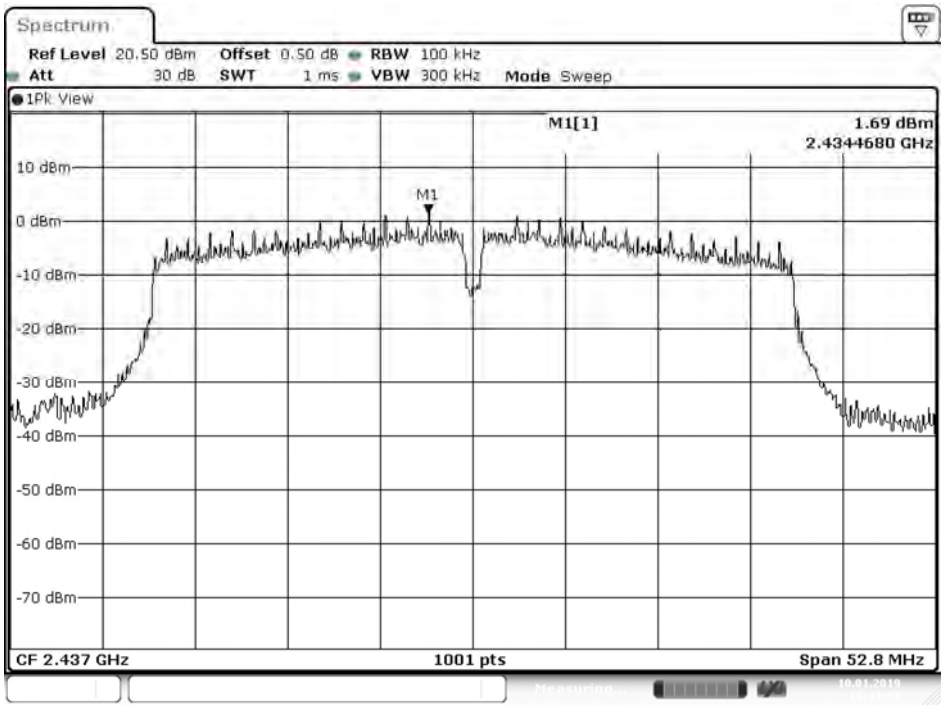


Figure Channel 9: (Chain A)

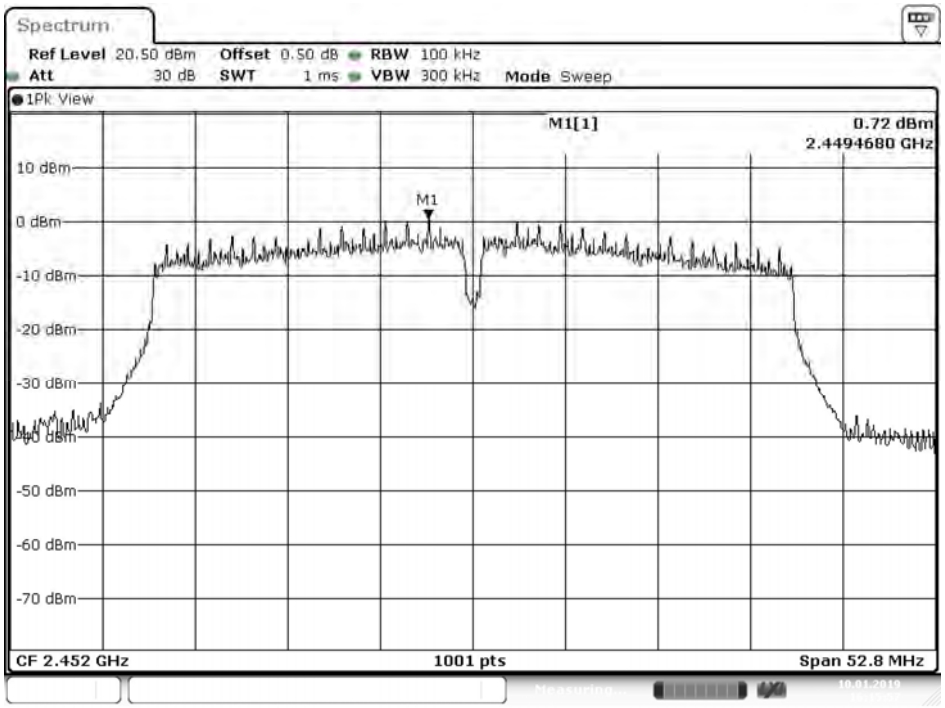


Figure Channel 3: (Chain B)

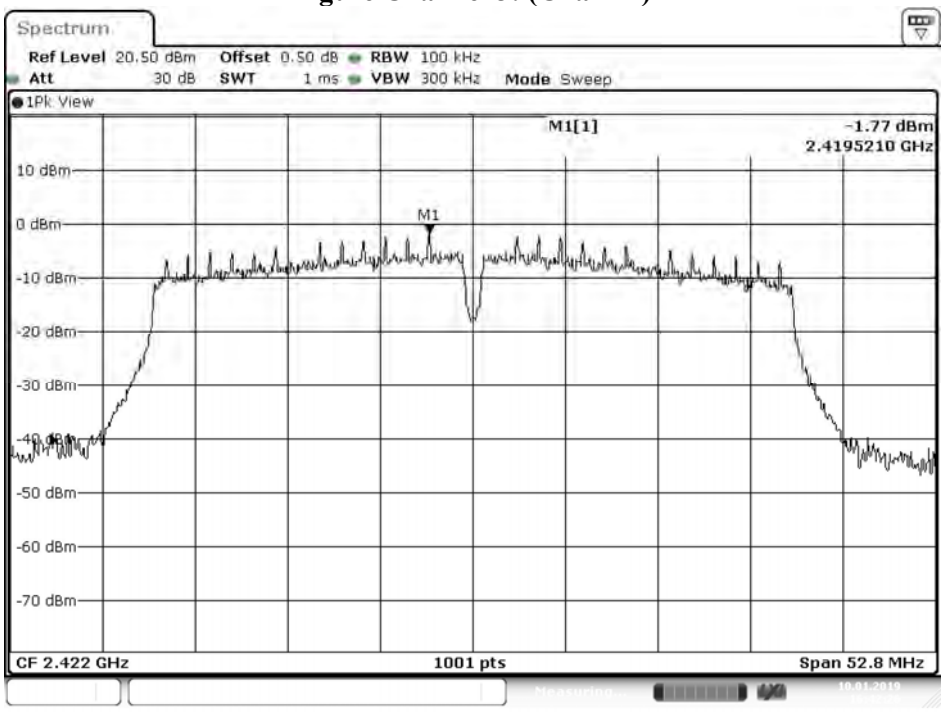


Figure Channel 6: (Chain B)

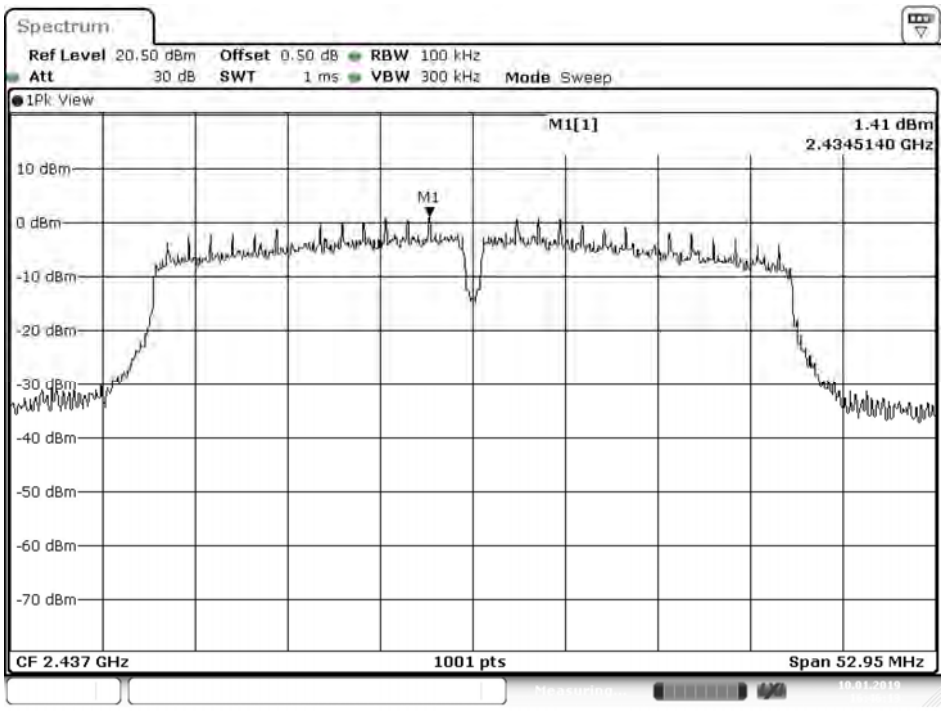
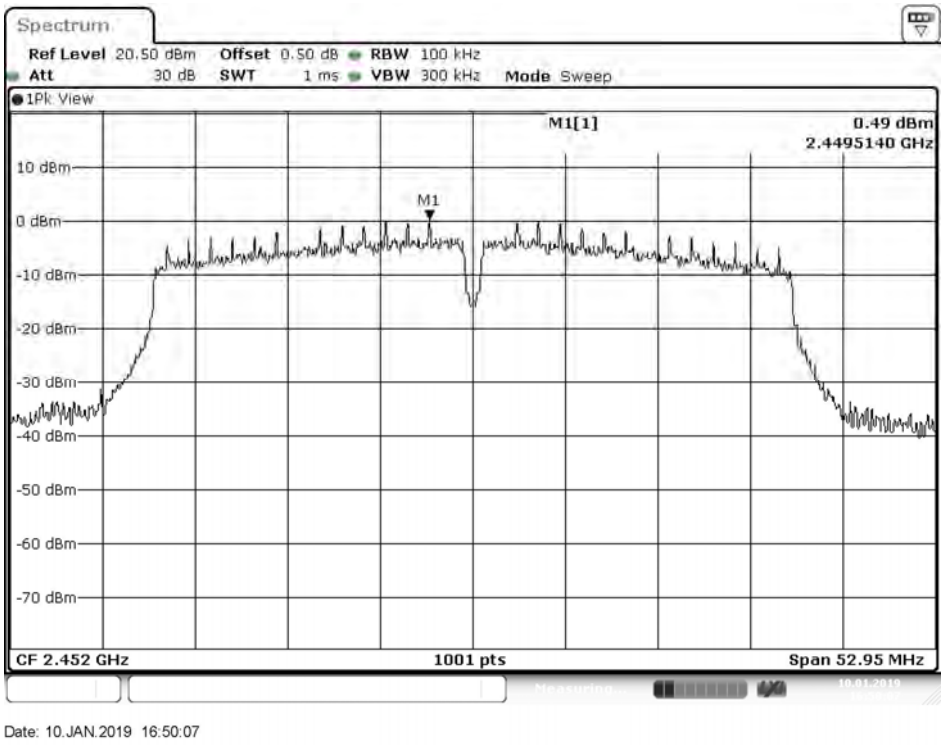
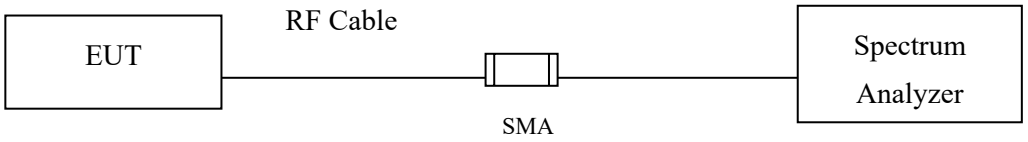


Figure Channel 9: (Chain B)



9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

9.3. Uncertainty

± 2.31msec

9.4. Test Result of Duty Cycle

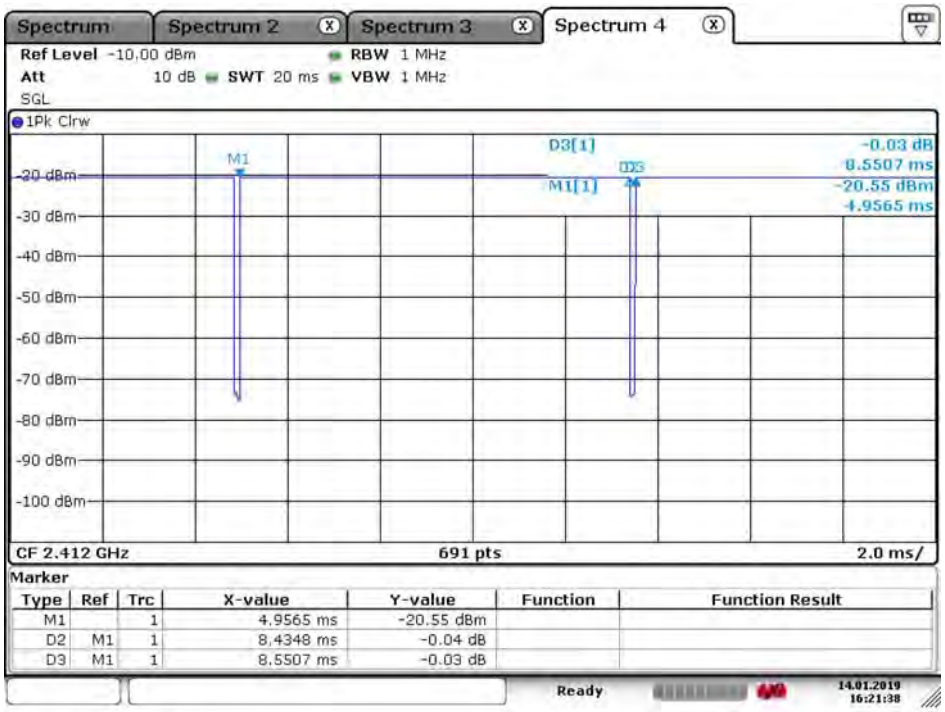
Product : 4G/LTE Broadband Router with PoE
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:
Duty Cycle = Ton / (Ton + Toff)
Duty Factor = 10 Log (1/Duty Cycle)

Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	8.4348	8.5507	98.64	0.06
802.11g	1.3913	1.4420	96.48	0.16
802.11n20	0.6710	0.8217	81.66	0.88
802.11n40	0.3173	0.4594	69.07	1.61

802.11b



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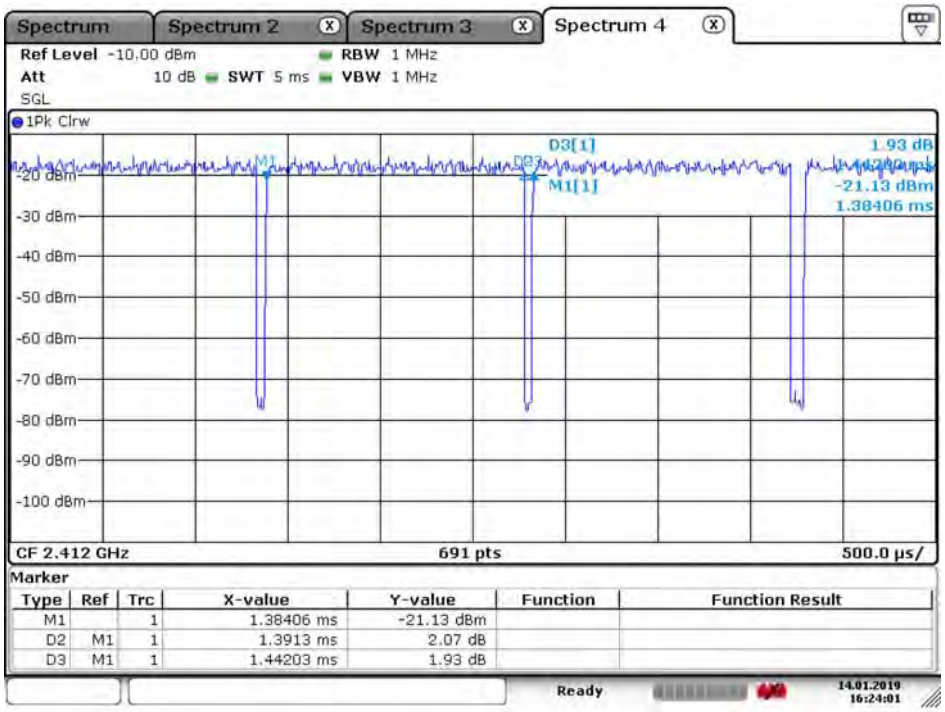

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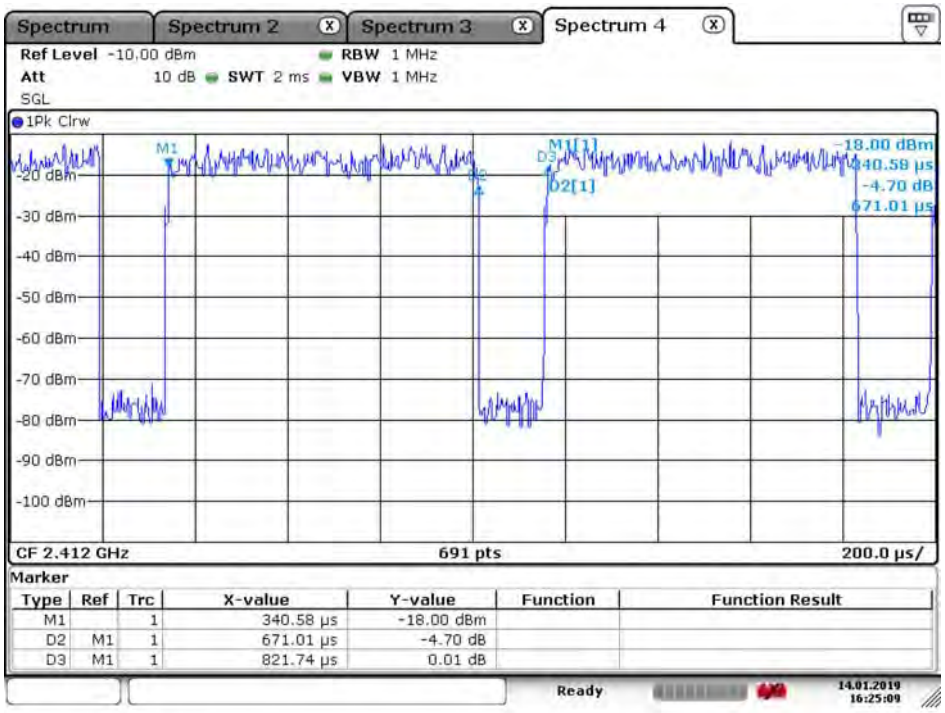

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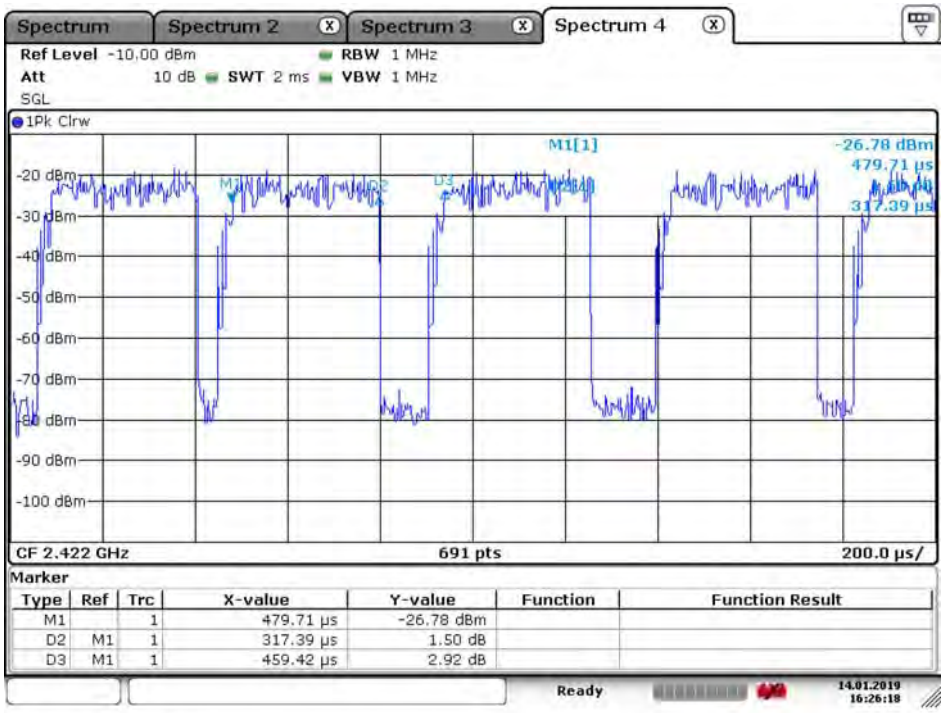

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10. EMI Reduction Method During Compliance Testing

No modification was made during testing.