FCC Test Report

Equipment	:	Linksys Smart Wi-Fi Router AC1200
Brand Name	:	LINKSYS
Model No.	:	EA6350 V3
FCC ID	:	Q87-EA6350V3
Standard	:	47 CFR FCC Part 15.247
Operating Band	:	2400 MHz – 2483.5 MHz
Function	:	☒ Point-to-multipoint; ☐ Point-to-point
Applicant	:	Linksys LLC 121 Theory Drive, Irvine, CA 92617, USA
Manufacturer	:	Linksys LLC 121 Theory Drive, Irvine, CA 92617, USA

The product sample received on Jul. 14, 2016 and completely tested on Aug. 09, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Sam Chen
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

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Summary of Test Result

Conformance Test Specifications				
Report Clause	**Ref. Std. Clause**	**Description**	**Limit**	**Result**
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	≥500kHz	Complied
3.3	15.247(b)	Fundamental Emission Output Power	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: > 30 dBc	Complied
3.6	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR671111AA	Rev. 01	Initial issue of report	Aug. 19, 2016

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	ac (VHT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4G	11b	20	1
2.4G	11g	20	1
2.4G	HT20	20	2
2.4G	VHT20	20	2
2.4G	HT40	40	2
2.4G	VHT40	40	2

Note:
- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, and CCK modulation.
- 11a, 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand Holder	Part No.	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	ARISTOTLE ENTERPRISES	RFA-25-F70-70B-230	PIFA Antenna	I-PEX	1.7	4.0
2	ARISTOTLE ENTERPRISES	RFA-25-F70-70-115	Dipole Antenna	I-PEX	2.0	5.0

Note: The EUT has two antennas.

<For 2.4GHz Band>

For IEEE 802.11b/g mode<1TX/1RX>:

Only Chain 1 can be used as transmitting antenna and receiving antenna.

For IEEE 802.11n/ac mode<2TX/2RX>:

Chain 1 and Chain 2 will transmit/receive the same signal simultaneously.

Chain 1 and Chain 2 can be used as transmitting/receiving antennas.

<For 5GHz Band>

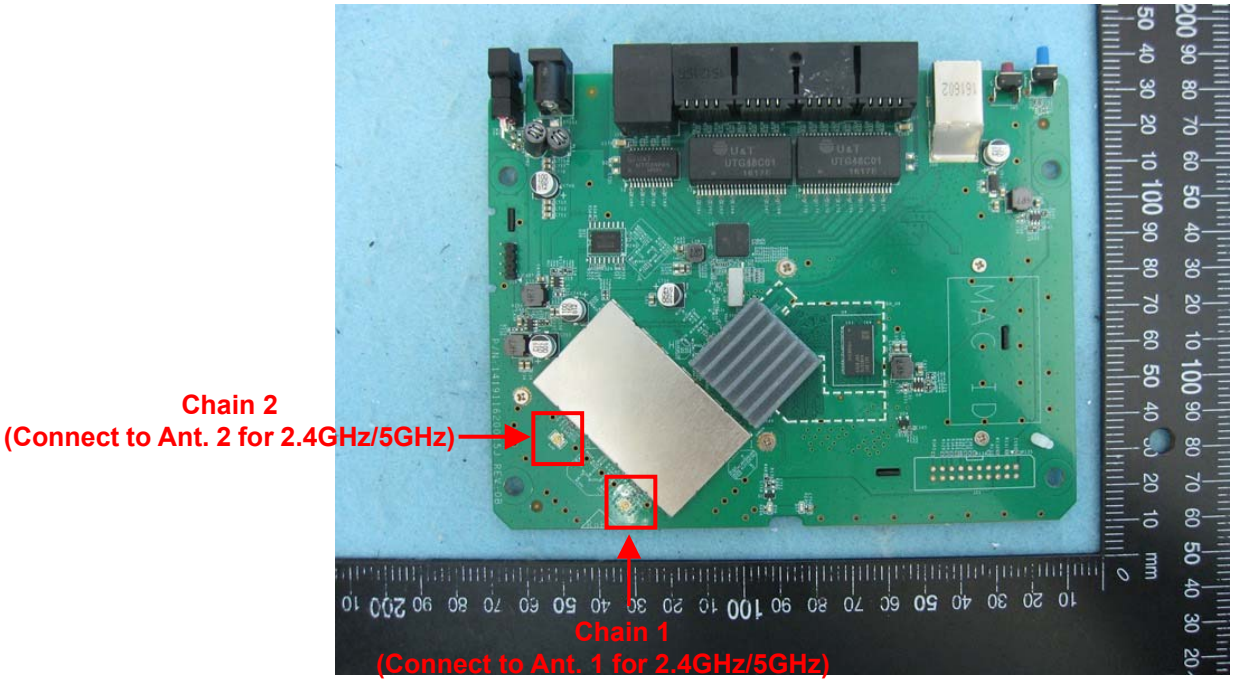
For IEEE 802.11a mode <1TX/1RX>:

Only Chain 1 can be used as transmitting antenna and receiving antenna.

For IEEE 802.11n/ac mode <2TX/2RX>:

Chain 1 and Chain 2 will transmit/receive the same signal simultaneously.

Chain 1 and Chain 2 can be used as transmitting/receiving antennas.



1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
11b	0.996	n/a (DC>=0.98)	n/a (DC>=0.98)
11g	0.959	2.065m	1k
VHT20	0.849	4.516m	300
VHT40	0.744	2.198m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☐	With beamforming	☒	Without beamforming

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v03r05
- FCC KDB 662911 D01 v02r01
- FCC KDB 644545 D01 v01r02

1.3 Testing Location Information

Testing Location							
☐	HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.			
		TEL	:	886-3-327-3456	FAX	:	886-3-318-0055
☒	JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.			
		TEL	:	886-3-656-9065	FAX	:	886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Gary Chu	24°C / 54%	Aug. 09, 2016
Radiated	03CH01-CB	Peter wu	22°C / 59%	Jul. 19, 2016~Aug. 01, 2016
AC Conduction	CO01-CB	Hank Yang	23°C / 57%	Jul. 18, 2016

Test site Designation No. TW0006 with FCC.
Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
2.4G	11b	20	1	1	2412	L	24.5
2.4G	11b	20	1	1	2437	M	24.5
2.4G	11b	20	1	1	2462	H	25
2.4G	11g	20	1	1	2412	L	21
2.4G	11g	20	1	1	2437	M	25
2.4G	11g	20	1	1	2462	H	25.5
2.4G	VHT20	20	1,(M0)	2	2412	L	20
2.4G	VHT20	20	1,(M0)	2	2437	M	24
2.4G	VHT20	20	1,(M0)	2	2462	H	20
2.4G	VHT40	40	1,(M0)	2	2422	L	16
2.4G	VHT40	40	1,(M0)	2	2437	M	19.5
2.4G	VHT40	40	1,(M0)	2	2452	H	17.5

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT Normal Link

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Fundamental Emission Output Power Power Spectral Density
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	Place EUT in Z axis
Operating Mode > 1GHz	CTX
1	Place EUT in Z axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA671111 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

Note 1: The EUT can only use Z axis position.

Note 2: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter	APD	WA-24Q12FU	Input: 100-240V~50-60Hz 0.7A Max. Output: 12V, 2A

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*4	DELL	E6430	DoC
2	Flash Disk3.0	Transcend	JetFlash-700	DoC

For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*4	DELL	E4300	DoC
2	Flash Disk3.0	Transcend	JetFlash-700	DoC

For Test Site No: 03CH01-CB (above 1GHz)

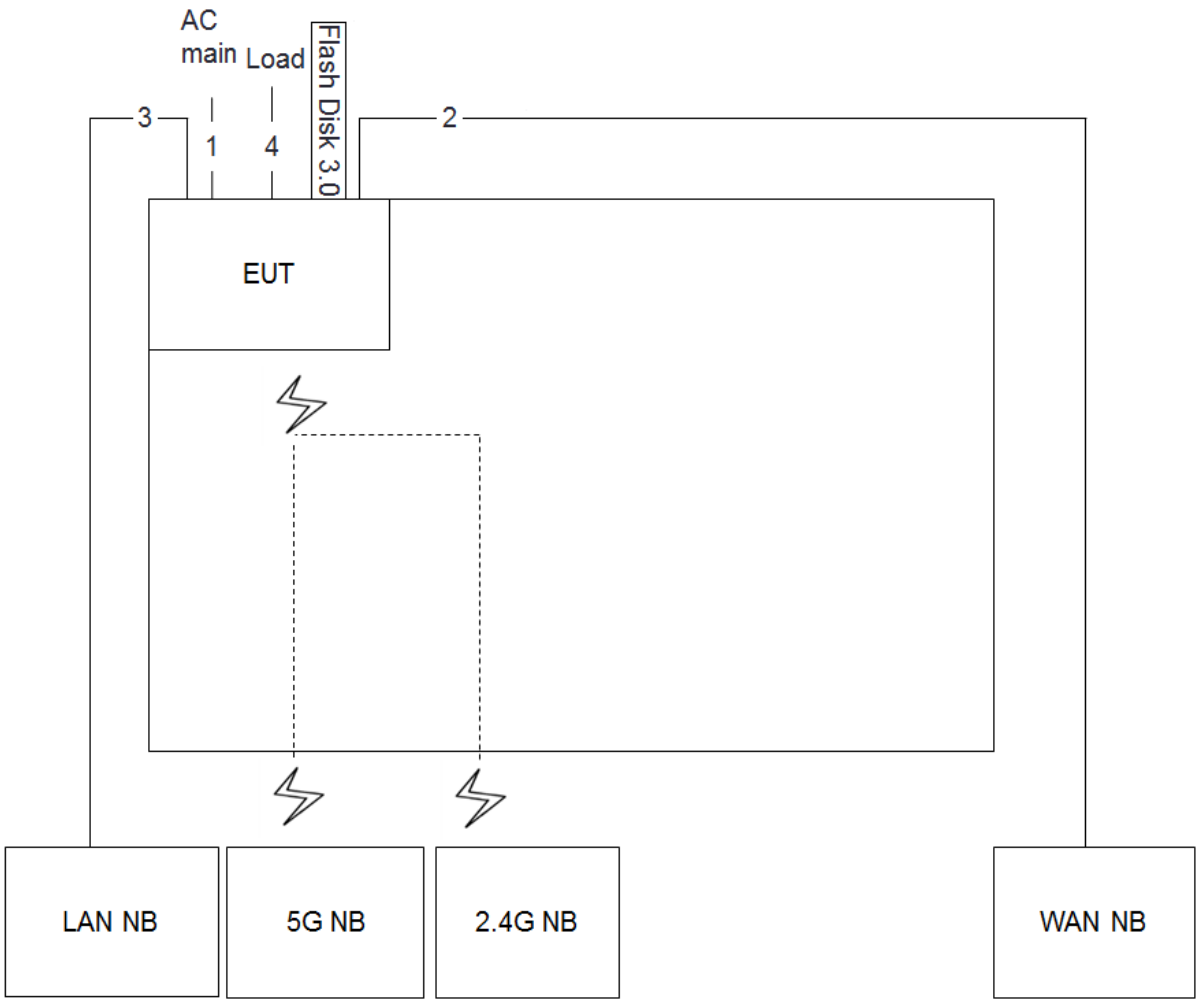
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

For Test Site No: TH01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

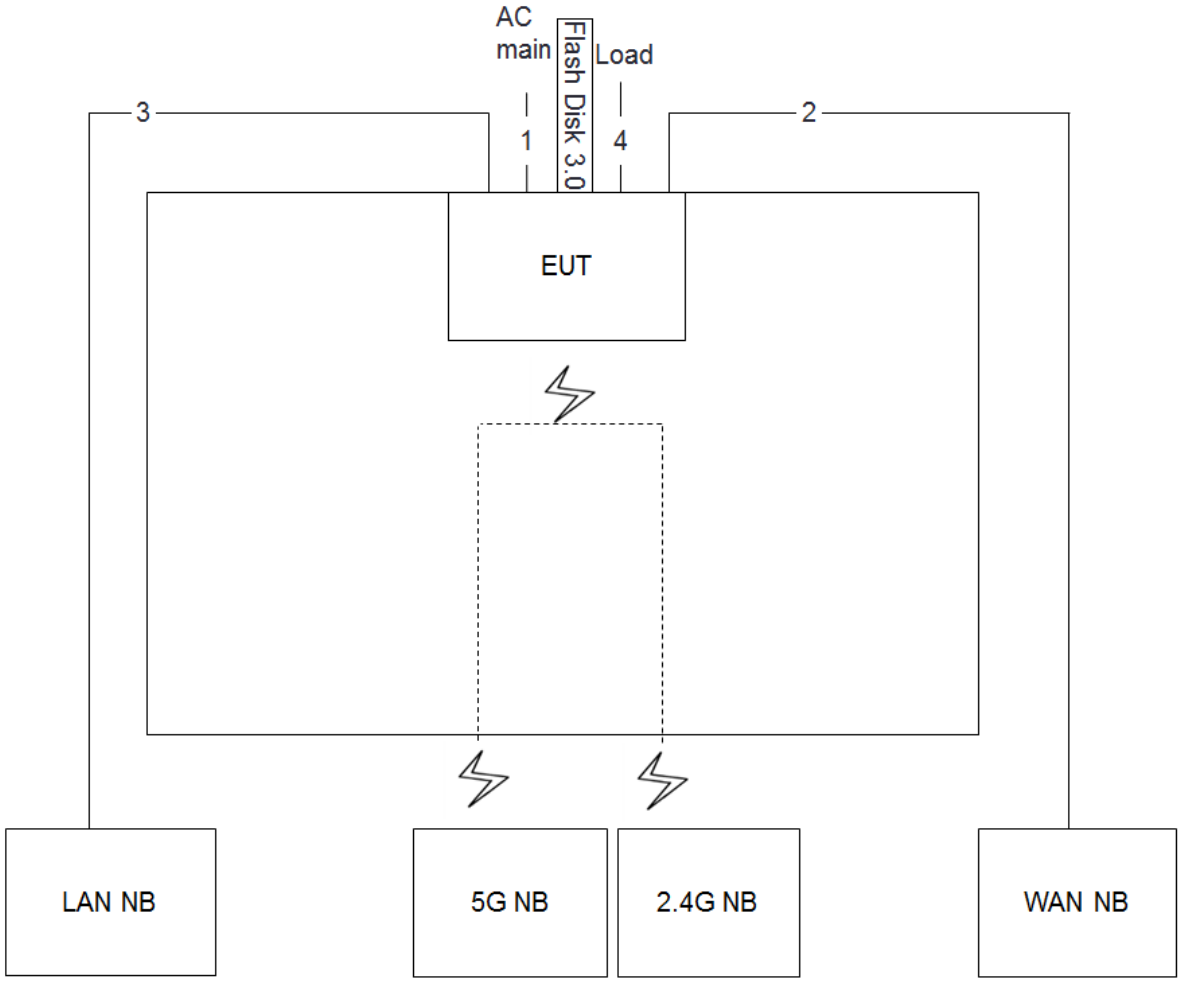
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



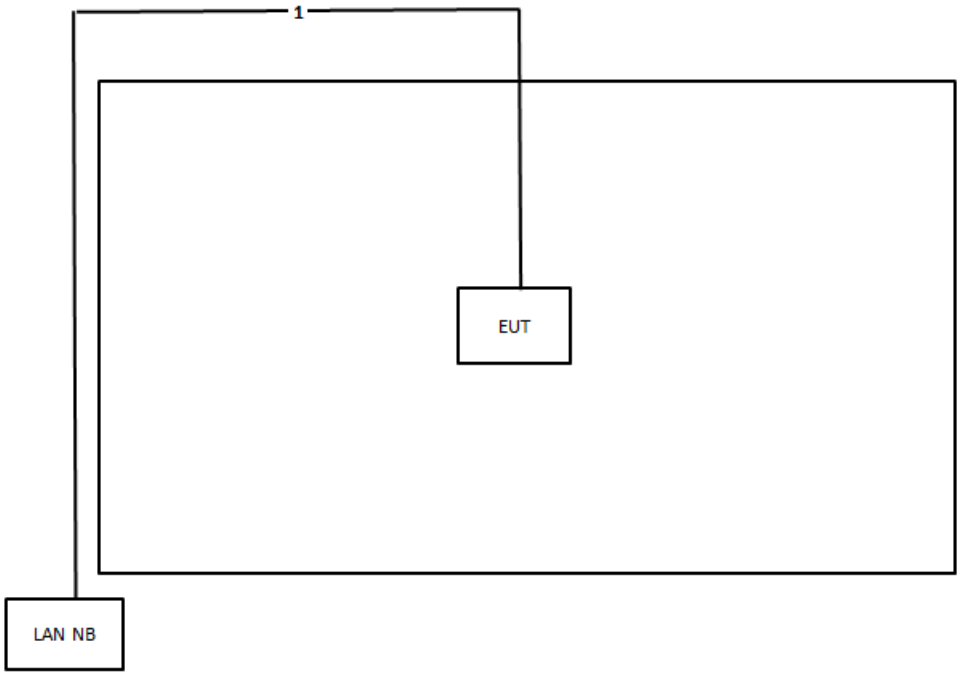
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable*3	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable*3	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

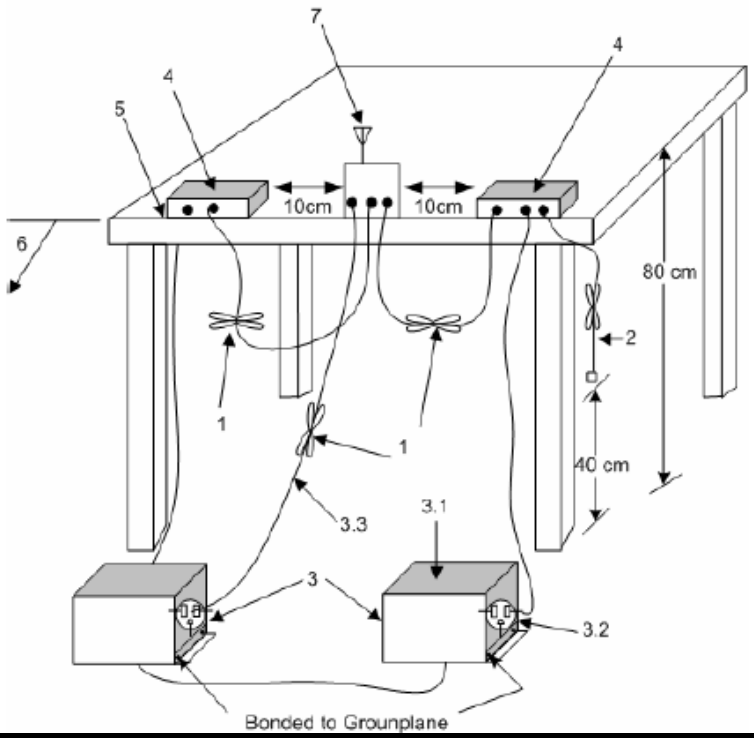
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

3.2.2 Measuring Instruments

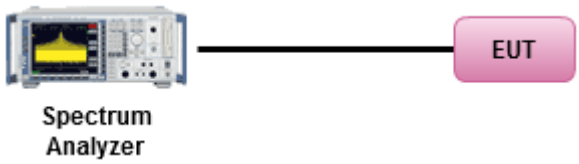
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074 D01 v03r05, clause 8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Fundamental Emission Output Power

3.3.1 Fundamental Emission Output Power Limit

Maximum Conducted Output Power Limit		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.1.1 Option 1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	RF power meter and average over on/off periods with duty factor or gated trigger
	☒ Refer as FCC KDB 558074 D01 v03r05, clause 9.2.3 Method AVGPM-G (using an RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Power Meter)

3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

3.4.2 Measuring Instruments

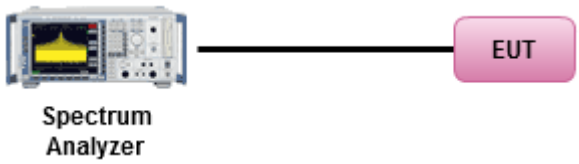
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method			
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).			
	☒ Refer as FCC KDB 558074 D01 v03r05, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).		
	[duty cycle ≥ 98% or external video / power trigger]		
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 10.3 Method AVGPSD-1 (spectral trace averaging).		
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 10.4 Method AVGPSD-2 (slow sweep speed)		
	duty cycle < 98% and average over on/off periods with duty factor		
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).		
	☐ Refer as FCC KDB 558074 D01 v03r05, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)		
▪ For conducted measurement.			
	▪ If The EUT supports multiple transmit chains using options given below:		
		☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.	

3.4.4 Test Setup

Power Spectral Density



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dB)**
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

3.5.2 Measuring Instruments

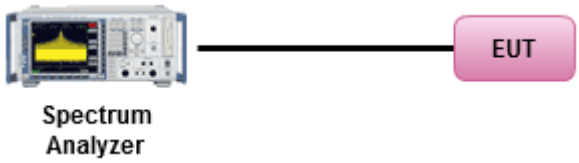
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074 D01 v03r05, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

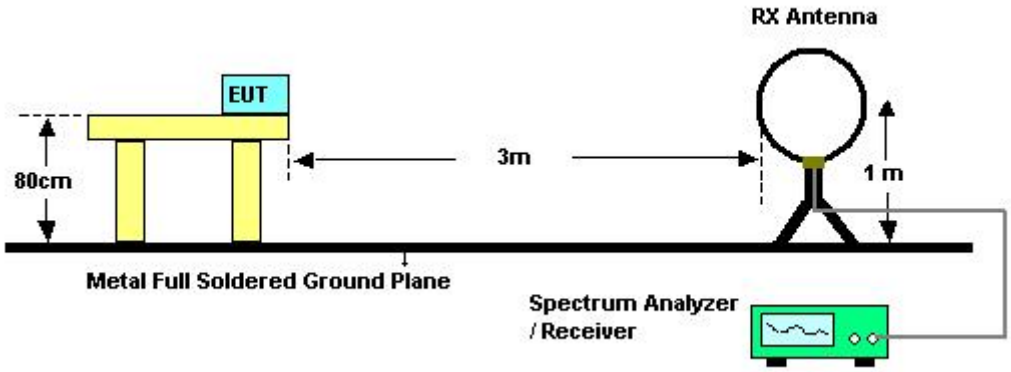
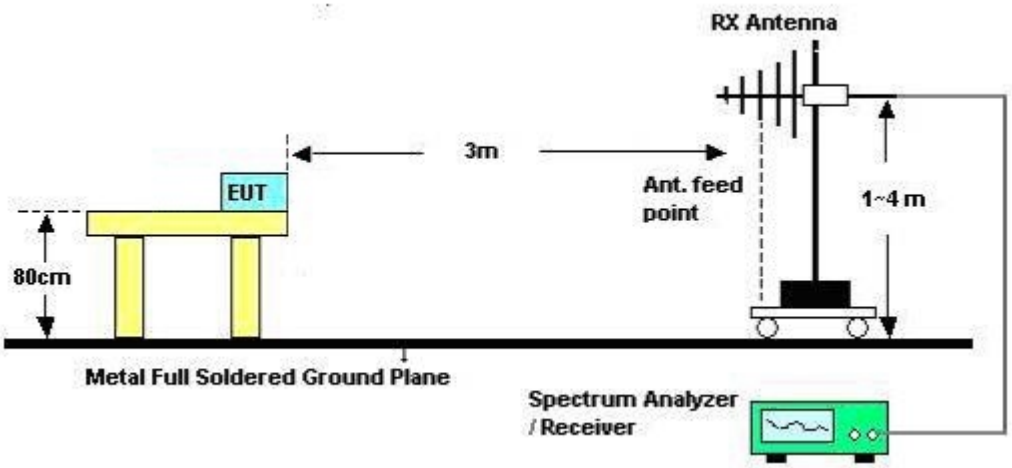
3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

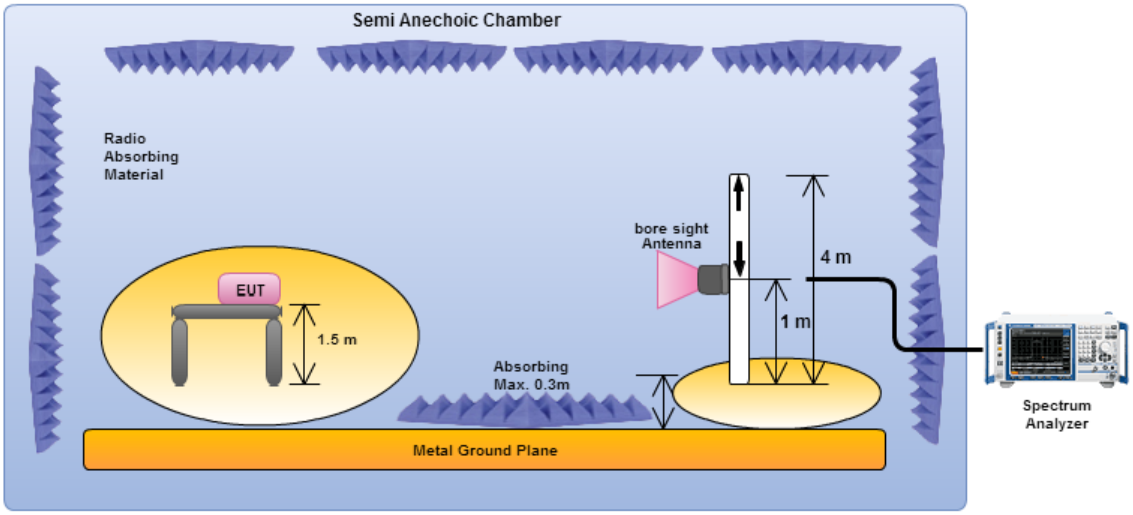
3.6.3 Test Procedures

Test Method			
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].			
▪ Refer as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.			
▪ For the transmitter unwanted emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 D01 v03r05, clause 12 for unwanted emissions into restricted bands.		
		☐	Refer as FCC KDB 558074 D01 v03r05, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)
		☐	Refer as FCC KDB 558074 D01 v03r05, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
		☒	Refer as FCC KDB 558074 D01 v03r05, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		☐	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074 D01 v03r05, clause 12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 D01 v03r05 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.		
	▪ Refer as FCC KDB 558074 D01 v03r05, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.		
	▪ Refer as FCC KDB 558074 D01 v03r05, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).		
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074 D01 v03r05, clause 12.2.2.			
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB		
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.		

3.6.4 Test Setup

Transmitter Radiated Emissions
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.6.6 Test Result of Transmitter Radiated Unwanted Emissions

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 13, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-l0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)

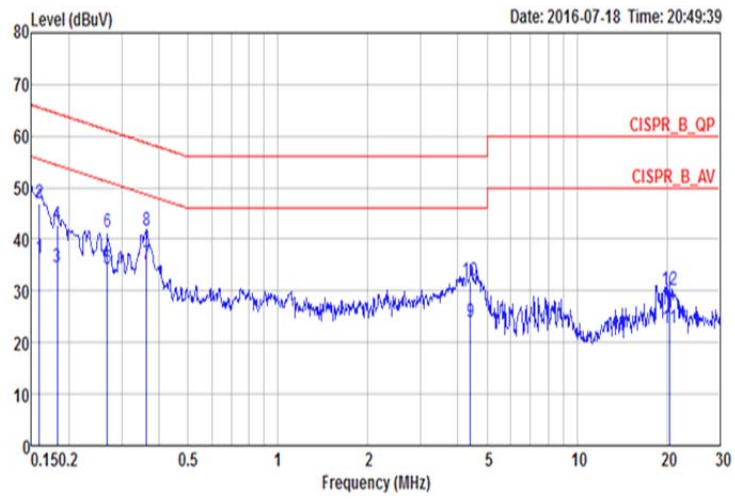
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

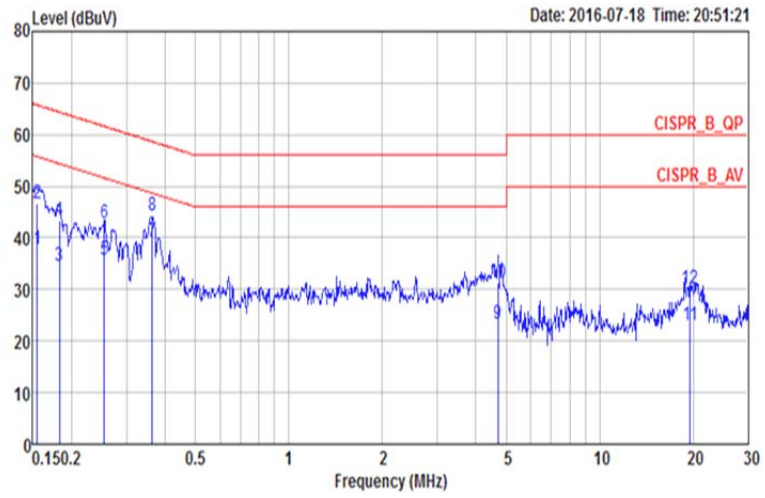
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1590	36.35	-19.17	55.52	26.40	9.78	0.17	NEUTRAL	Average
2	0.1590	46.99	-18.53	65.52	37.04	9.78	0.17	NEUTRAL	QP
3	0.1825	34.46	-19.91	54.37	24.49	9.79	0.18	NEUTRAL	Average
4	0.1825	42.78	-21.59	64.37	32.81	9.79	0.18	NEUTRAL	QP
5	0.2687	34.31	-16.85	51.16	24.41	9.79	0.11	NEUTRAL	Average
6	0.2687	41.30	-19.86	61.16	31.40	9.79	0.11	NEUTRAL	QP
7	0.3634	35.02	-13.63	48.65	25.19	9.79	0.04	NEUTRAL	Average
8	0.3634	41.69	-16.96	58.65	31.86	9.79	0.04	NEUTRAL	QP
9	4.4071	23.77	-22.23	46.00	13.79	9.88	0.10	NEUTRAL	Average
10	4.4071	31.74	-24.26	56.00	21.76	9.88	0.10	NEUTRAL	QP
11	20.4855	22.80	-27.20	50.00	12.37	10.19	0.24	NEUTRAL	Average
12	20.4855	30.05	-29.95	60.00	19.62	10.19	0.24	NEUTRAL	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1548	37.73	-18.01	55.74	27.64	9.93	0.16	LINE	Average
2	0.1548	46.67	-19.07	65.74	36.58	9.93	0.16	LINE	QP
3	0.1825	34.45	-19.92	54.37	24.34	9.93	0.18	LINE	Average
4	0.1825	43.44	-20.93	64.37	33.33	9.93	0.18	LINE	QP
5	0.2548	35.73	-15.87	51.60	25.67	9.93	0.13	LINE	Average
6	0.2548	42.72	-18.88	61.60	32.66	9.93	0.13	LINE	QP
7	0.3634	39.34	-9.31	48.65	29.37	9.93	0.04	LINE	Average
8	0.3634	44.22	-14.43	58.65	34.25	9.93	0.04	LINE	QP
9	4.6964	23.41	-22.59	46.00	13.26	10.05	0.10	LINE	Average
10	4.6964	31.15	-24.85	56.00	21.00	10.05	0.10	LINE	QP
11	19.5316	23.08	-26.92	50.00	12.41	10.43	0.24	LINE	Average
12	19.5316	30.19	-29.81	60.00	19.52	10.43	0.24	LINE	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

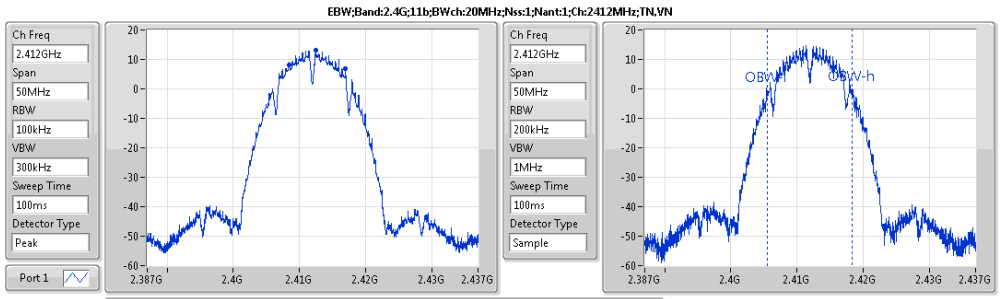
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4G;11b;Nss1;Ntx1	8.55M	12.794M	12M8G1D	8.025M	12.769M
2.4G;11g;Nss1;Ntx1	16.325M	18.016M	18M0D1D	16.3M	16.517M
2.4G;VHT20;Nss1,(M0);Ntx2	17.65M	17.791M	17M8D1D	17.4M	17.741M
2.4G;VHT40;Nss1,(M0);Ntx2	36.45M	36.332M	36M3D1D	36M	36.232M

Result

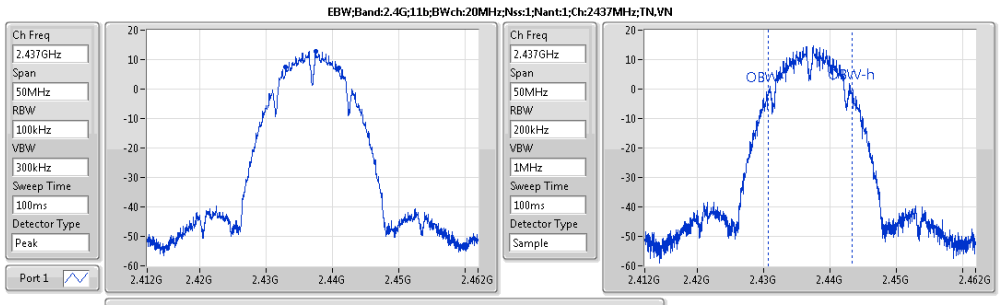
Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)	P2-N dB (Hz)	P2-OBW (Hz)
2.4G;11b;Nss1;Ntx1;2412;TN,VN	Pass	500k	8.55M	12.794M		
2.4G;11b;Nss1;Ntx1;2437;TN,VN	Pass	500k	8.05M	12.769M		
2.4G;11b;Nss1;Ntx1;2462;TN,VN	Pass	500k	8.025M	12.794M		
2.4G;11g;Nss1;Ntx1;2412;TN,VN	Pass	500k	16.325M	16.517M		
2.4G;11g;Nss1;Ntx1;2437;TN,VN	Pass	500k	16.3M	18.016M		
2.4G;11g;Nss1;Ntx1;2462;TN,VN	Pass	500k	16.325M	16.542M		
2.4G;VHT20;Nss1,(M0);Ntx2;2412;TN,VN	Pass	500k	17.575M	17.766M	17.575M	17.741M
2.4G;VHT20;Nss1,(M0);Ntx2;2437;TN,VN	Pass	500k	17.4M	17.791M	17.65M	17.766M
2.4G;VHT20;Nss1,(M0);Ntx2;2462;TN,VN	Pass	500k	17.6M	17.766M	17.55M	17.766M
2.4G;VHT40;Nss1,(M0);Ntx2;2422;TN,VN	Pass	500k	36.4M	36.282M	36.25M	36.282M
2.4G;VHT40;Nss1,(M0);Ntx2;2437;TN,VN	Pass	500k	36.45M	36.232M	36.05M	36.282M
2.4G;VHT40;Nss1,(M0);Ntx2;2452;TN,VN	Pass	500k	36.15M	36.332M	36M	36.282M

EBW;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2412MHz;TN,VN



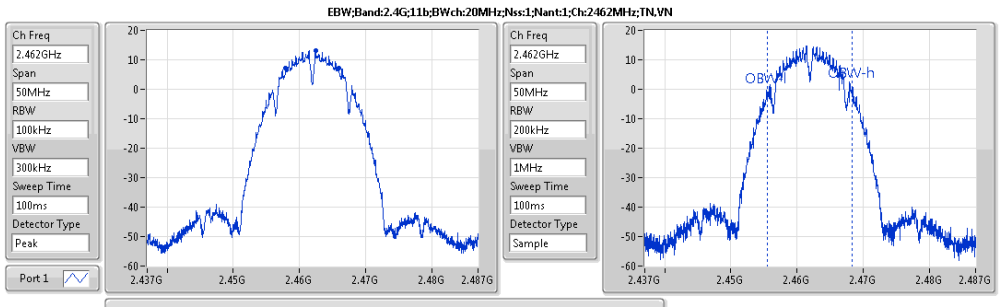
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.55M	2.4084G	2.41695G	12.794M	2.405578G	2.418372G	500k	1

EBW;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2437MHz;TN,VN



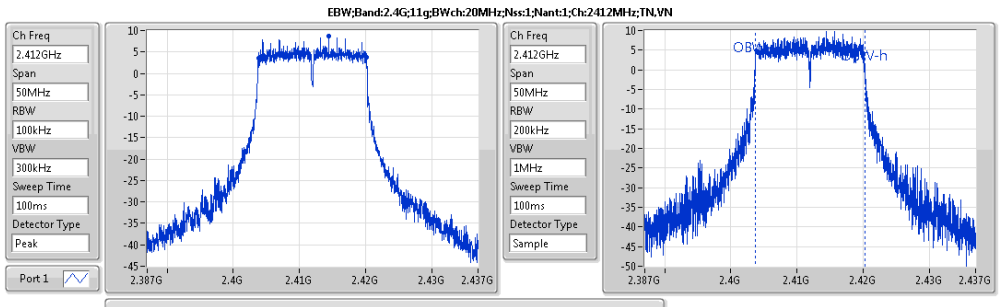
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.05M	2.432925G	2.440975G	12.769M	2.430603G	2.443372G	500k	1

EBW;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2462MHz;TN,VN



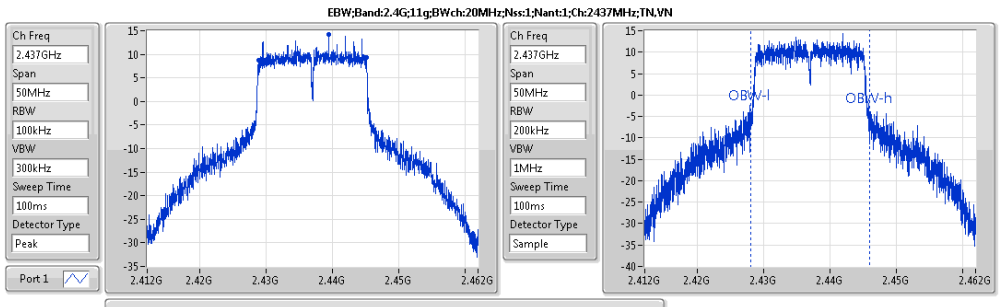
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8.025M	2.45795G	2.465975G	12.794M	2.455578G	2.468372G	500k	1

EBW;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2412MHz;TN,VN



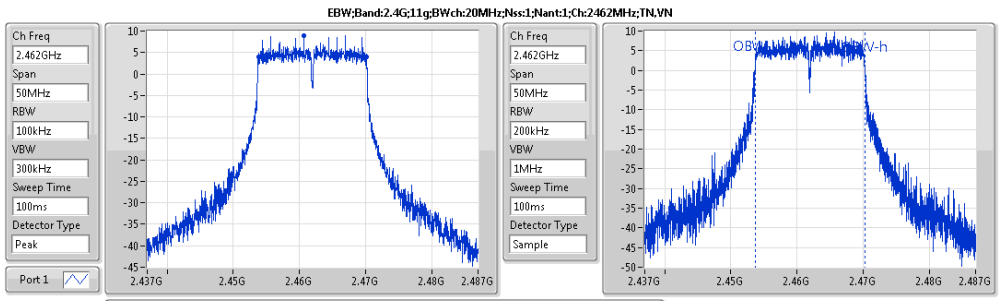
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.4038G	2.420125G	16.517M	2.403704G	2.420221G	500k	1

EBW;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2437MHz;TN,VN



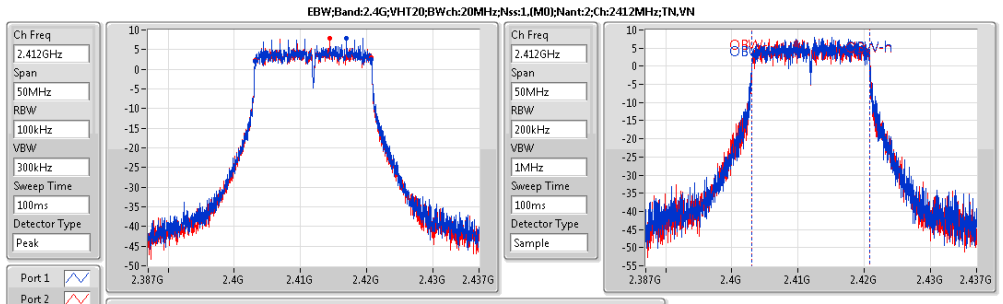
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.3M	2.4288G	2.4451G	18.016M	2.42798G	2.445996G	500k	1

EBW;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2462MHz;TN,VN



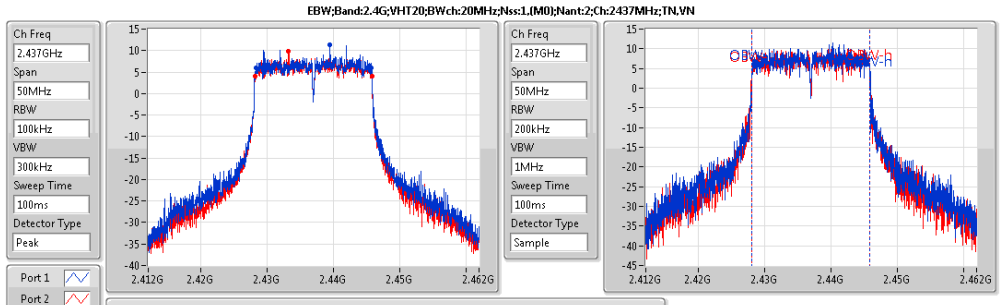
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.4538G	2.470125G	16.542M	2.453679G	2.470221G	500k	1

EBW;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2412MHz;TN,VN



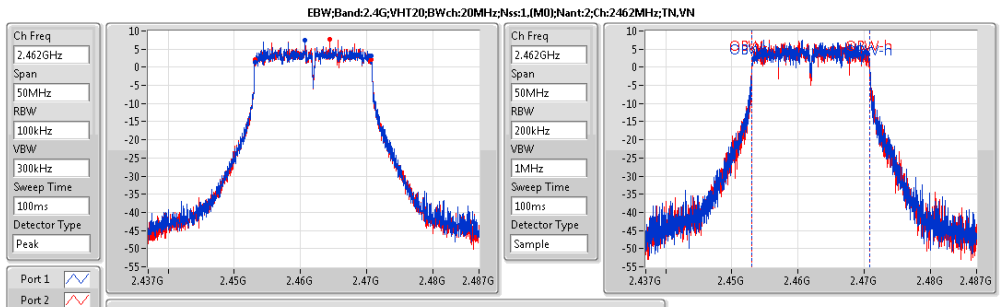
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	2.403175G	2.42075G	17.766M	2.403054G	2.420821G	500k	1
17.575M	2.403175G	2.42075G	17.741M	2.403079G	2.420821G	500k	2

EBW;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2437MHz;TN,VN



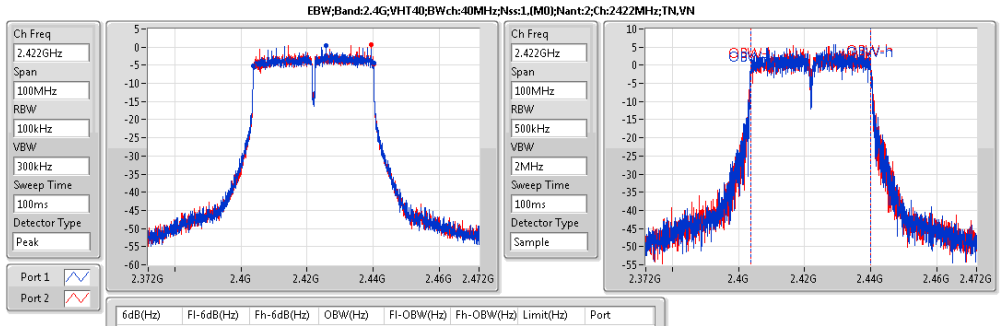
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.4M	2.42835G	2.44575G	17.791M	2.428079G	2.445871G	500k	1
17.65M	2.428125G	2.445775G	17.766M	2.428079G	2.445846G	500k	2

EBW;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2462MHz;TN,VN



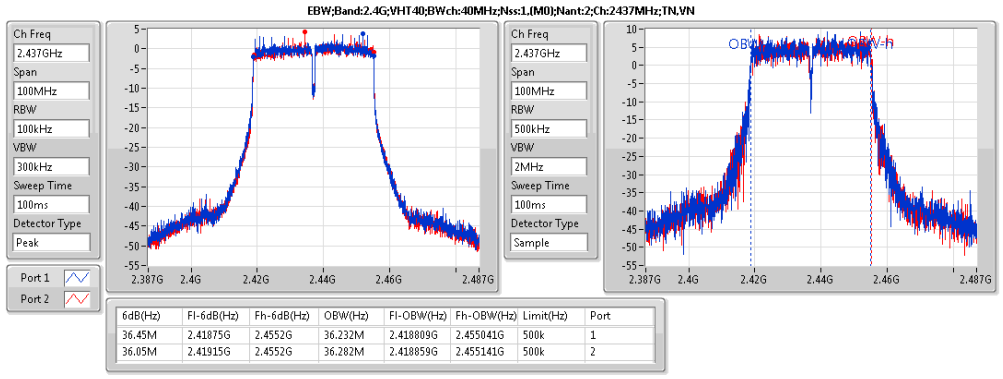
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.6M	2.45315G	2.47075G	17.766M	2.453079G	2.470846G	500k	1
17.55M	2.4532G	2.47075G	17.766M	2.453079G	2.470846G	500k	2

EBW;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2422MHz;TN,VN



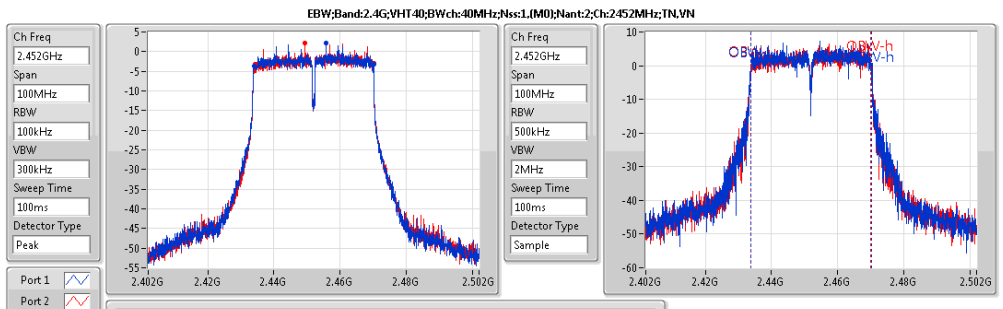
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.4M	2.40375G	2.44015G	36.282M	2.403809G	2.440091G	500k	1
36.25M	2.4039G	2.44015G	36.282M	2.403809G	2.440091G	500k	2

EBW;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2437MHz;TN,VN



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.45M	2.41875G	2.4552G	36.232M	2.418809G	2.455041G	500k	1
36.05M	2.41915G	2.4552G	36.282M	2.418859G	2.455141G	500k	2

EBW;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2452MHz;TN,VN



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.15M	2.434G	2.47015G	36.332M	2.433809G	2.470141G	500k	1
36M	2.4342G	2.4702G	36.282M	2.433809G	2.470091G	500k	2

Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
2.4G;11b;Nss1;Ntx1	23.25	0.21135	24.95	0.31261
2.4G;11g;Nss1;Ntx1	25.84	0.38371	27.54	0.56754
2.4G;VHT20;Nss1,(M0);Ntx2	26.38	0.43451	28.38	0.68865
2.4G;VHT40;Nss1,(M0);Ntx2	22.53	0.17906	24.53	0.28379

Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)	P2 (dBm)
2.4G;11b;Nss1;Ntx1;2412;TN,VN	Pass	1.70	24.95	36.00	23.25	30.00	23.25	
2.4G;11b;Nss1;Ntx1;2437;TN,VN	Pass	1.70	24.85	36.00	23.15	30.00	23.15	
2.4G;11b;Nss1;Ntx1;2462;TN,VN	Pass	1.70	24.92	36.00	23.22	30.00	23.22	
2.4G;11g;Nss1;Ntx1;2412;TN,VN	Pass	1.70	22.87	36.00	21.17	30.00	21.17	
2.4G;11g;Nss1;Ntx1;2437;TN,VN	Pass	1.70	27.52	36.00	25.82	30.00	25.82	
2.4G;11g;Nss1;Ntx1;2462;TN,VN	Pass	1.70	27.54	36.00	25.84	30.00	25.84	
2.4G;VHT20;Nss1,(M0);Ntx2;2412;TN,VN	Pass	2.00	25.60	36.00	23.6	30.00	20.67	20.50
2.4G;VHT20;Nss1,(M0);Ntx2;2437;TN,VN	Pass	2.00	28.38	36.00	26.38	30.00	23.51	23.23
2.4G;VHT20;Nss1,(M0);Ntx2;2462;TN,VN	Pass	2.00	25.31	36.00	23.31	30.00	20.28	20.32
2.4G;VHT40;Nss1,(M0);Ntx2;2422;TN,VN	Pass	2.00	21.27	36.00	19.27	30.00	16.26	16.25
2.4G;VHT40;Nss1,(M0);Ntx2;2437;TN,VN	Pass	2.00	24.53	36.00	22.53	30.00	19.62	19.42
2.4G;VHT40;Nss1,(M0);Ntx2;2452;TN,VN	Pass	2.00	22.54	36.00	20.54	30.00	17.55	17.50

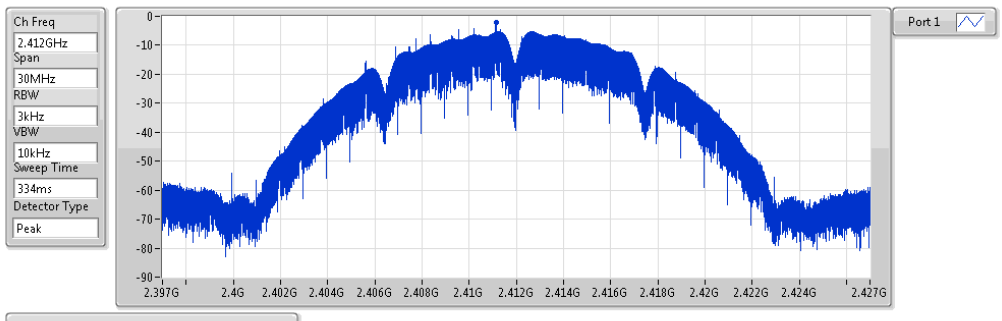
Summary

Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
2.4G;11b;Nss1;Ntx1	-2.03	-0.33
2.4G;11g;Nss1;Ntx1	-3.63	-1.93
2.4G;VHT20;Nss1,(M0);Ntx2	-3.79	1.07
2.4G;VHT40;Nss1,(M0);Ntx2	-10.64	-5.78

Result

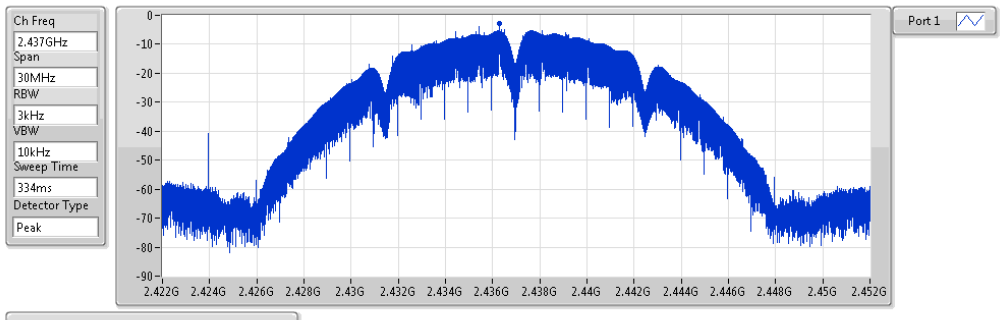
Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	Sum.Max (dBm/RBW)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Lim (dBm/RBW)	P1 (dBm/RBW)	P2 (dBm/RBW)
2.4G;11b;Nss1;Ntx1;2412;TN,VN	Pass	3k	3k	0.00	1.70	-2.03	-2.03	8.00	-0.33	Inf	-2.03	
2.4G;11b;Nss1;Ntx1;2437;TN,VN	Pass	3k	3k	0.00	1.70	-2.90	-2.90	8.00	-1.20	Inf	-2.90	
2.4G;11b;Nss1;Ntx1;2462;TN,VN	Pass	3k	3k	0.00	1.70	-3.68	-3.68	8.00	-1.98	Inf	-3.68	
2.4G;11g;Nss1;Ntx1;2412;TN,VN	Pass	3k	3k	0.00	1.70	-6.90	-6.90	8.00	-5.20	Inf	-6.90	
2.4G;11g;Nss1;Ntx1;2437;TN,VN	Pass	3k	3k	0.00	1.70	-3.63	-3.63	8.00	-1.93	Inf	-3.63	
2.4G;11g;Nss1;Ntx1;2462;TN,VN	Pass	3k	3k	0.00	1.70	-7.52	-7.52	8.00	-5.82	Inf	-7.52	
2.4G;VHT20;Nss1,(M0);Ntx2;2412;TN,VN	Pass	3k	3k	0.00	4.86	-6.47	-6.47	8.00	-1.61	Inf	-9.02	-8.92
2.4G;VHT20;Nss1,(M0);Ntx2;2437;TN,VN	Pass	3k	3k	0.00	4.86	-3.79	-3.79	8.00	1.07	Inf	-5.75	-6.02
2.4G;VHT20;Nss1,(M0);Ntx2;2462;TN,VN	Pass	3k	3k	0.00	4.86	-6.58	-6.58	8.00	-1.72	Inf	-7.66	-8.63
2.4G;VHT40;Nss1,(M0);Ntx2;2422;TN,VN	Pass	3k	3k	0.00	4.86	-13.02	-13.02	8.00	-8.16	Inf	-14.69	-14.73
2.4G;VHT40;Nss1,(M0);Ntx2;2437;TN,VN	Pass	3k	3k	0.00	4.86	-10.64	-10.64	8.00	-5.78	Inf	-11.96	-12.86
2.4G;VHT40;Nss1,(M0);Ntx2;2452;TN,VN	Pass	3k	3k	0.00	4.86	-11.87	-11.87	8.00	-7.01	Inf	-14.01	-14.66

PSD;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2412MHz;TN,VN



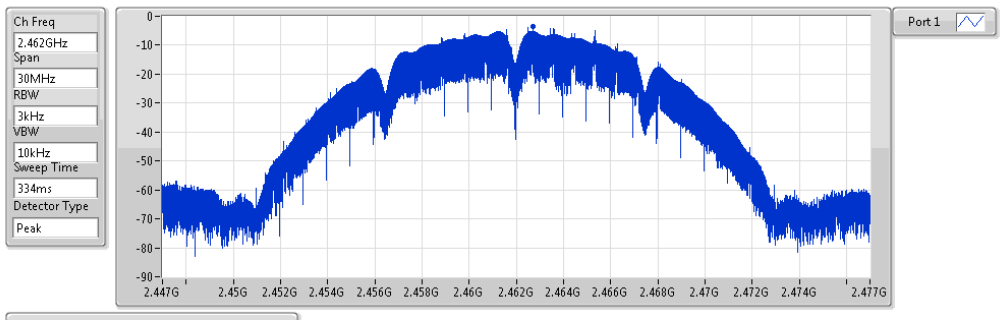
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.03	-2.03	-2.03

PSD;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2437MHz;TN,VN



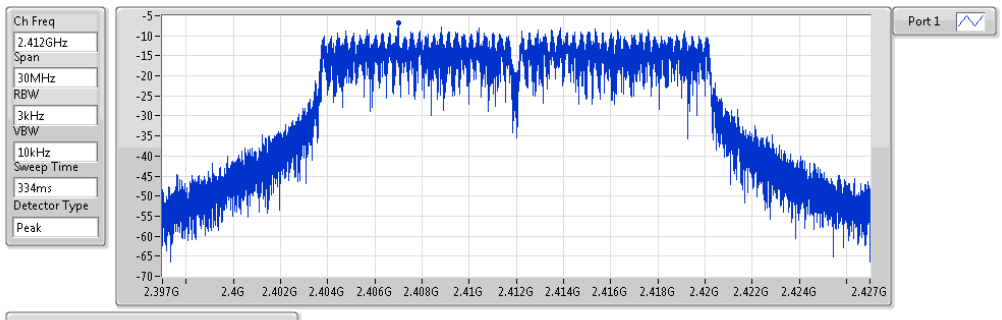
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.90	-2.90	-2.90

PSD;Band:2.4G;11b;BWch:20MHz;Nss:1;Nant:1;Ch:2462MHz;TN,VN



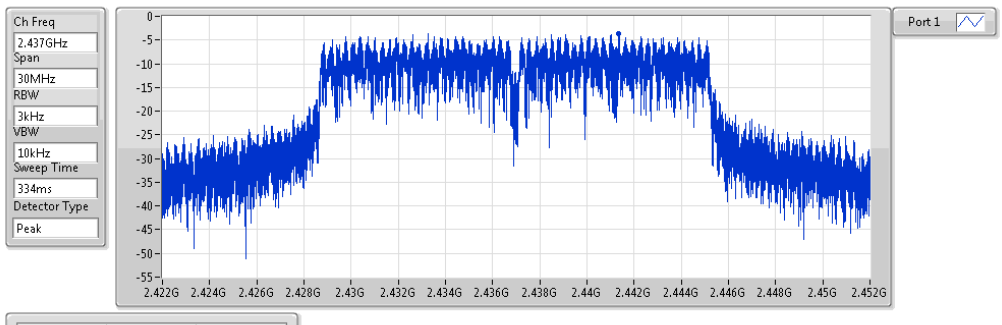
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.68	-3.68	-3.68

PSD;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2412MHz;TN,VN



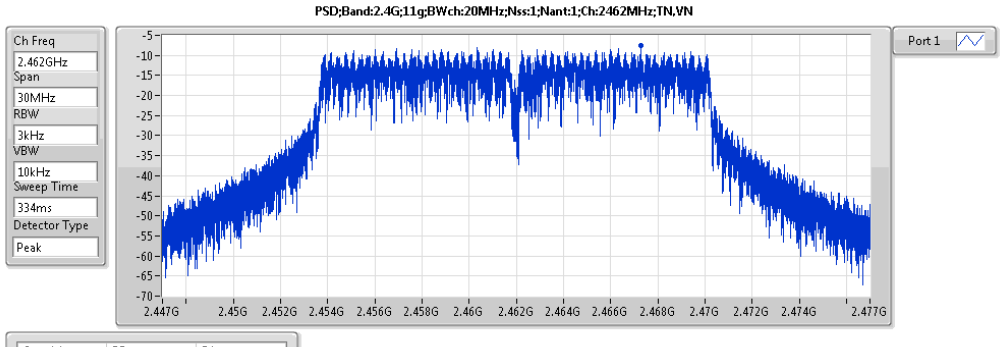
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.90	-6.90	-6.90

PSD;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2437MHz;TN,VN



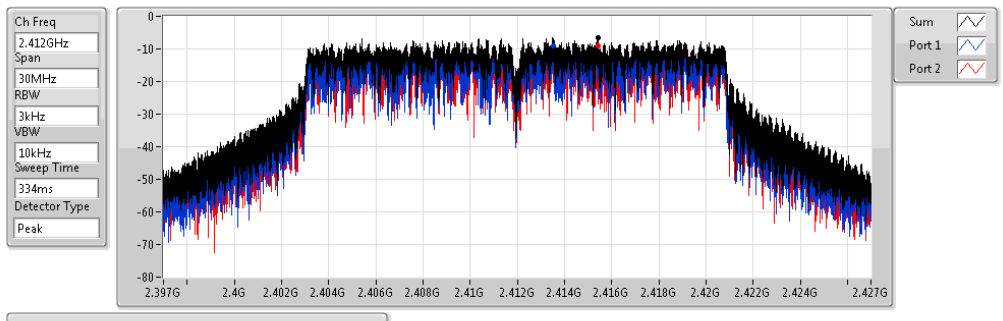
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.63	-3.63	-3.63

PSD;Band:2.4G;11g;BWch:20MHz;Nss:1;Nant:1;Ch:2462MHz;TN,VN



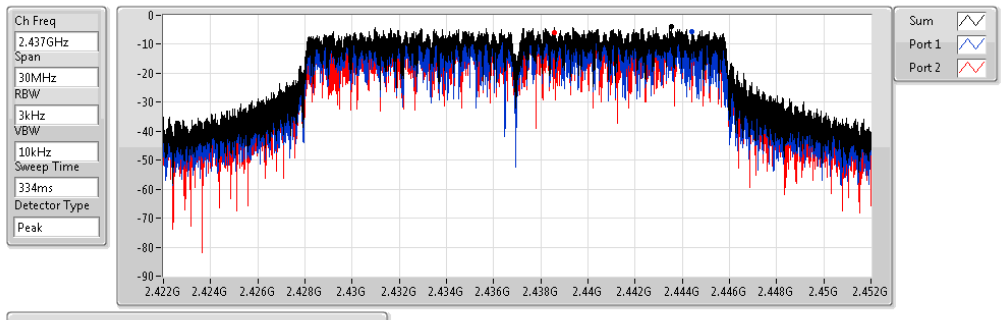
Sum.Max	PD	P1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.52	-7.52	-7.52

PSD;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2412MHz;TN,VN



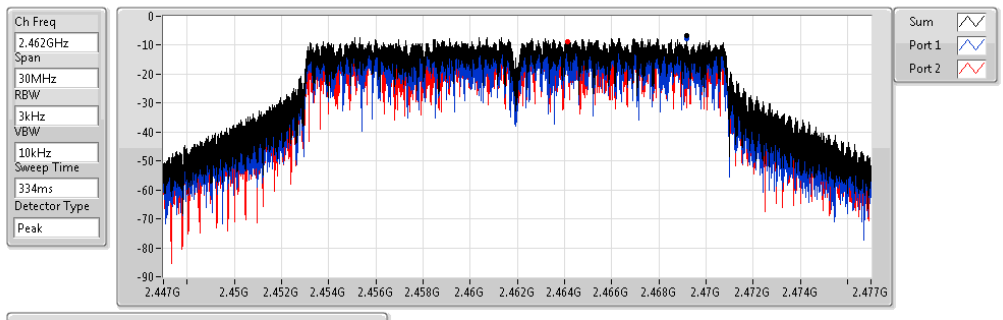
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.47	-6.47	-9.02	-8.92

PSD;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2437MHz;TN,VN



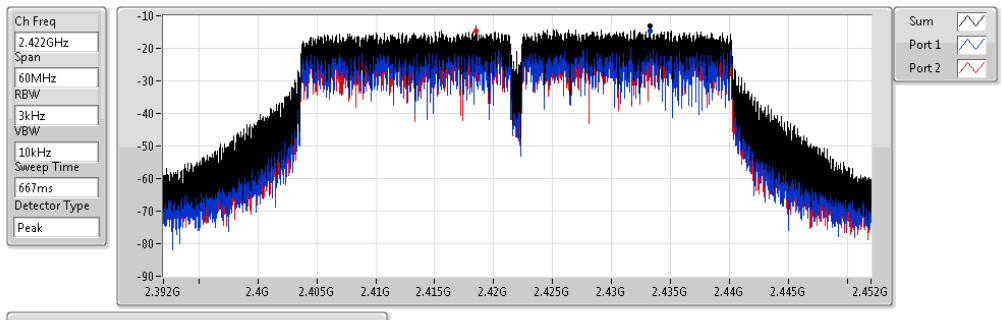
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.79	-3.79	-5.75	-6.02

PSD;Band:2.4G;VHT20;BWch:20MHz;Nss:1,(M0);Nant:2;Ch:2462MHz;TN,VN



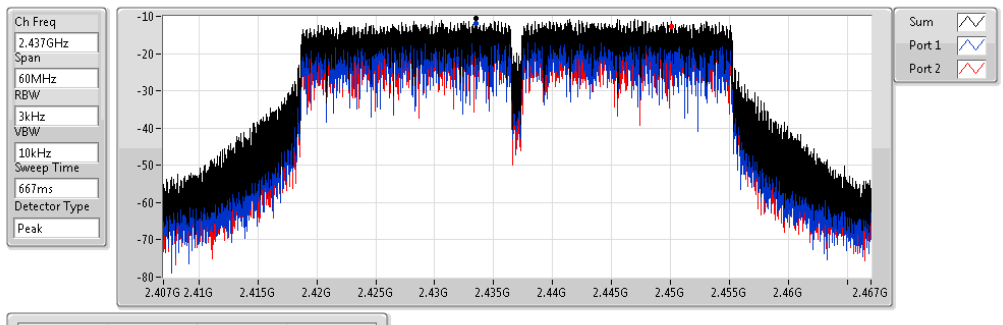
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.58	-6.58	-7.66	-8.63

PSD;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2422MHz;TN,VN



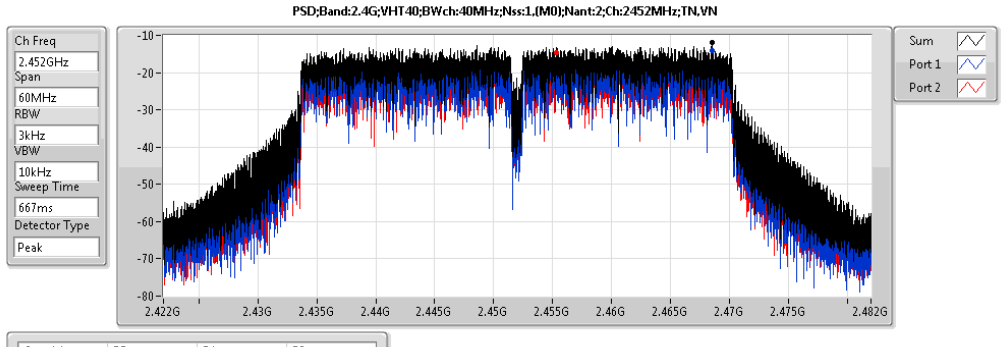
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.02	-13.02	-14.69	-14.73

PSD;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2437MHz;TN,VN



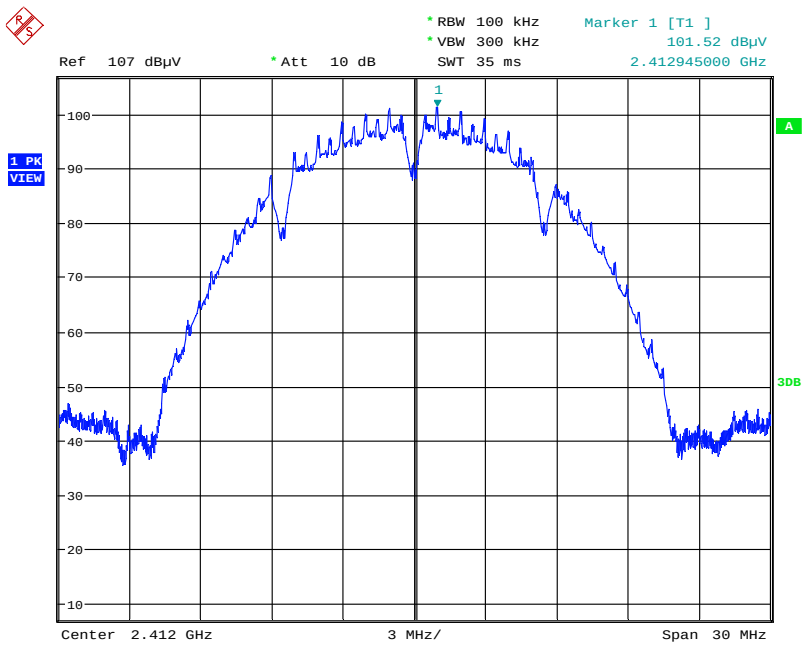
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.64	-10.64	-11.96	-12.86

PSD;Band:2.4G;VHT40;BWch:40MHz;Nss:1,(M0);Nant:2;Ch:2452MHz;TN,VN



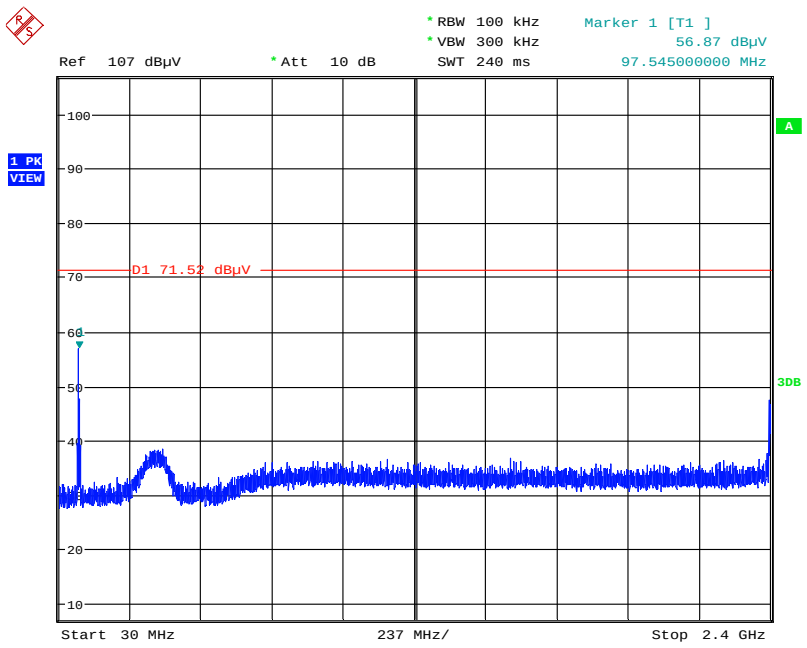
Sum.Max	PD	P1	P2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.87	-11.87	-14.01	-14.66

Plot on Configuration IEEE 802.11b / Reference Level



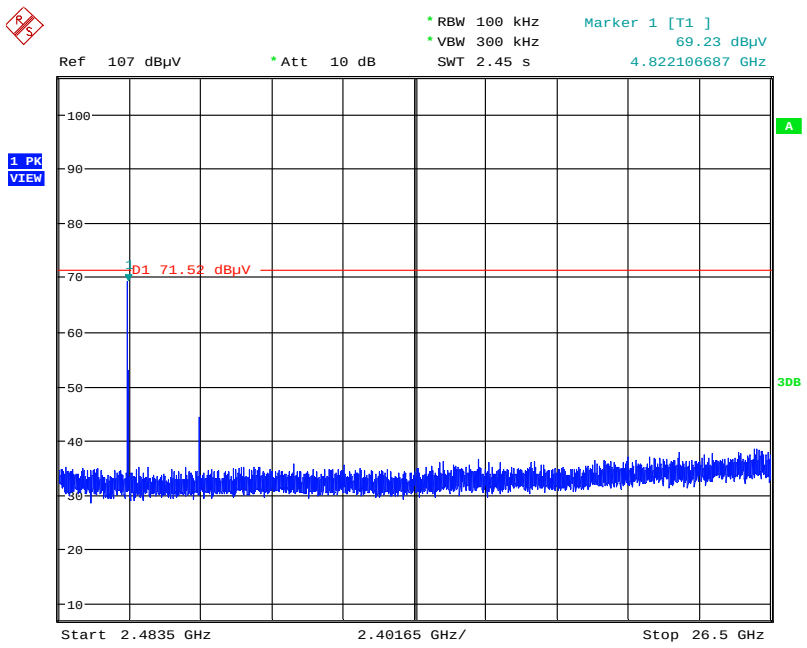
Date: 27.JUL.2016 21:59:35

Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc)



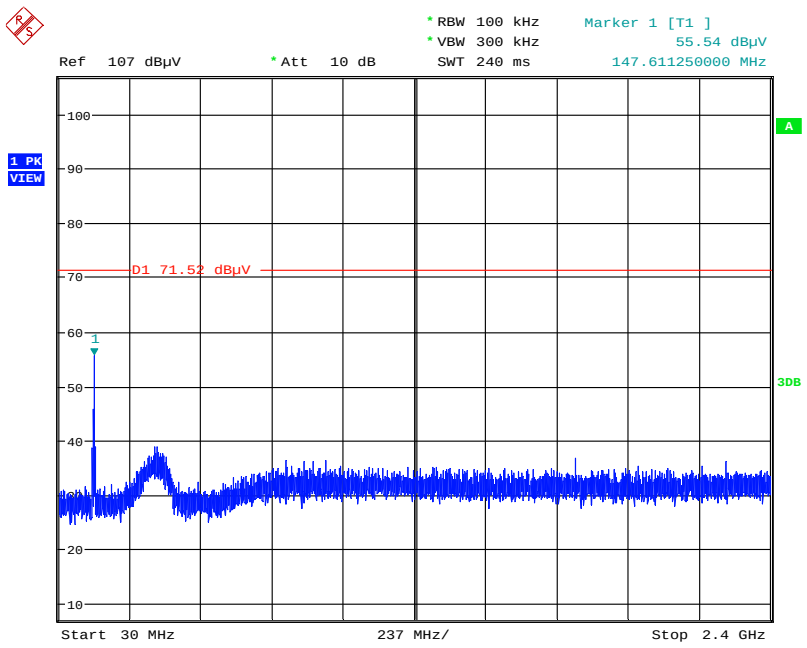
Date: 27.JUL.2016 22:00:32

Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~26500MHz (down 30dBc)



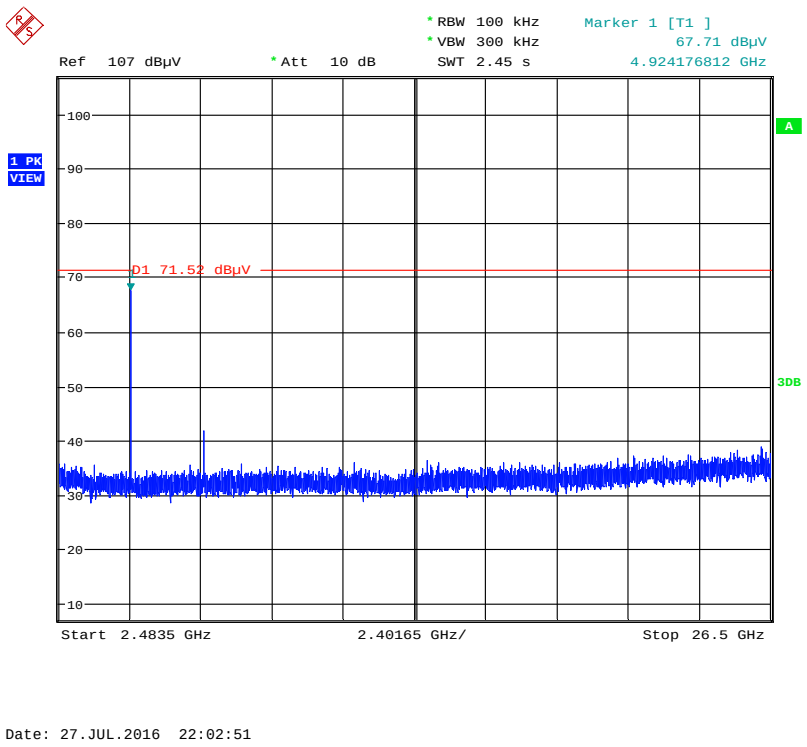
Date: 27.JUL.2016 22:01:21

Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc)

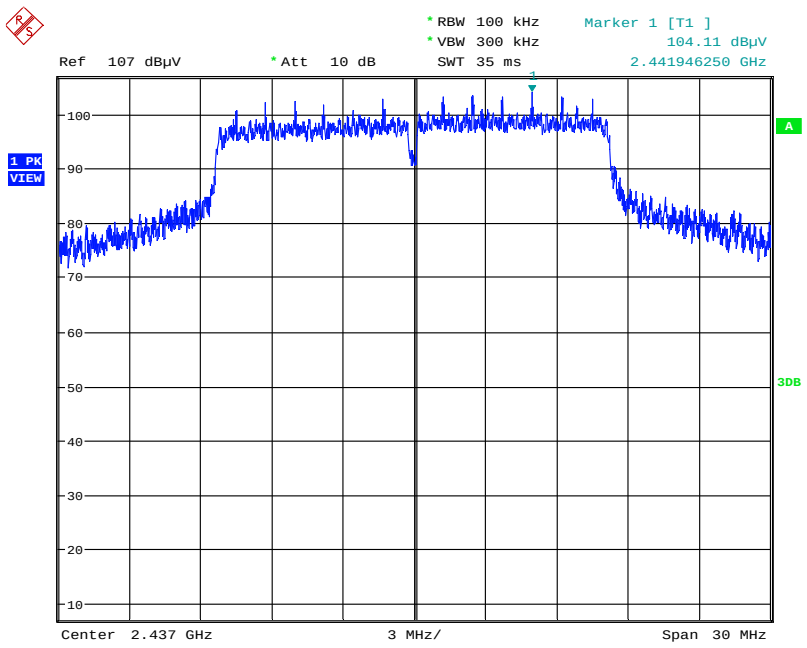


Date: 27.JUL.2016 22:02:20

Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~26500MHz (down 30dBc)

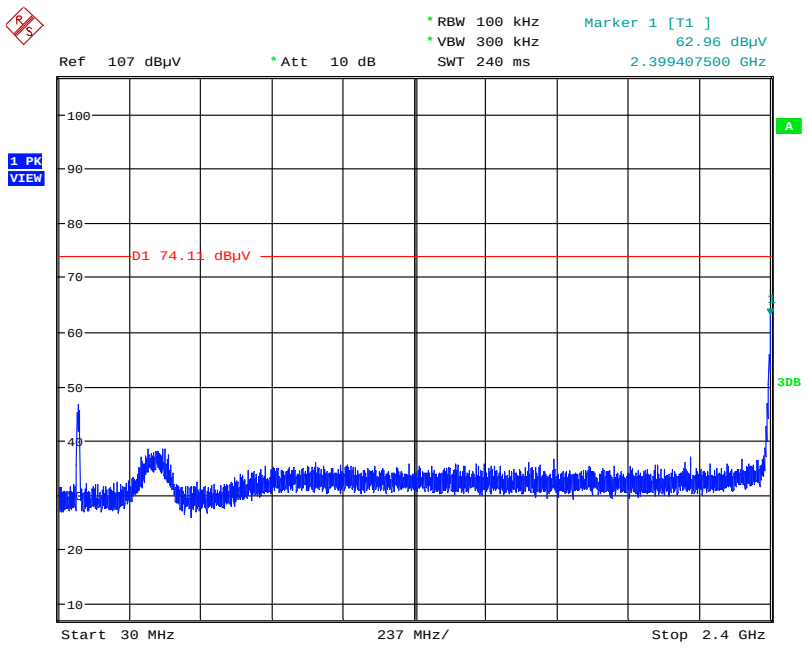


Plot on Configuration IEEE 802.11g / Reference Level



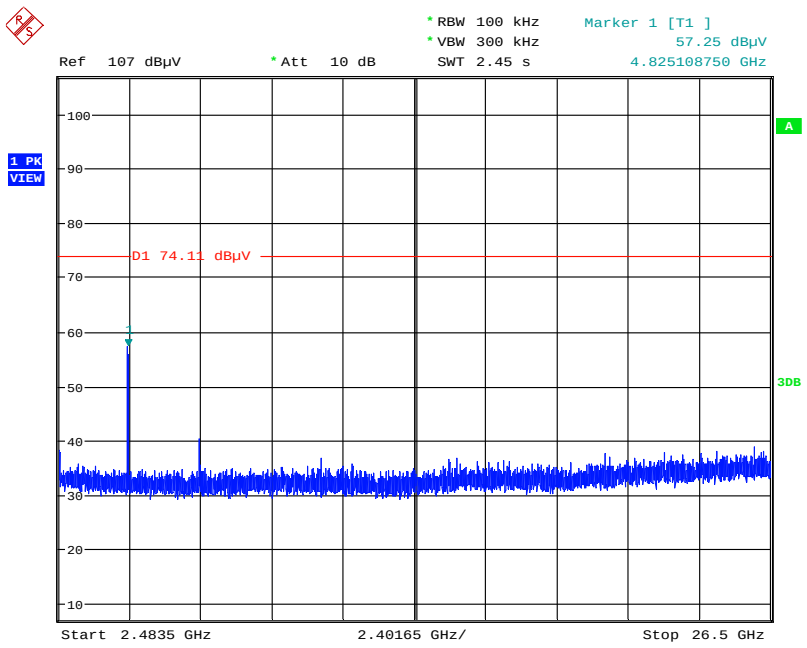
Date: 27.JUL.2016 22:04:25

Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc)



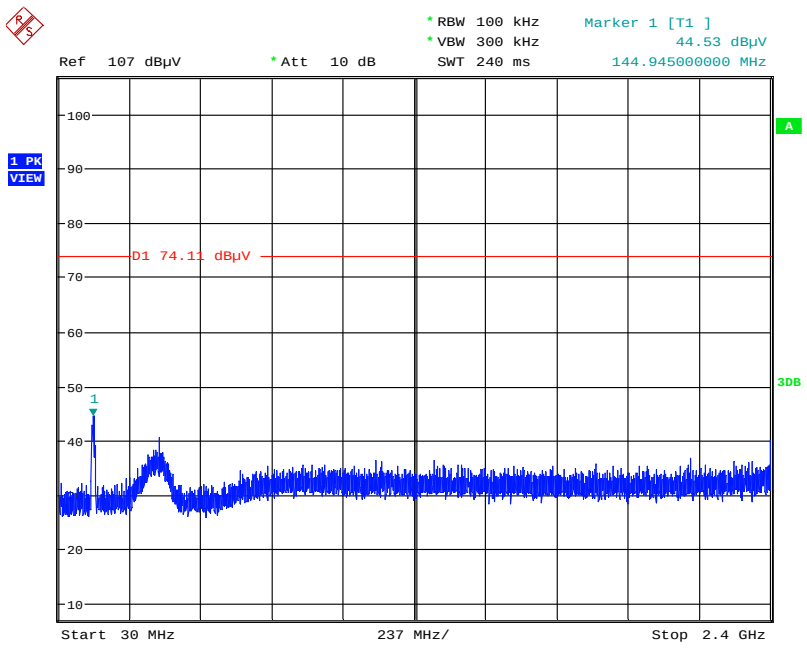
Date: 27.JUL.2016 22:05:32

Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~26500MHz (down 30dBc)



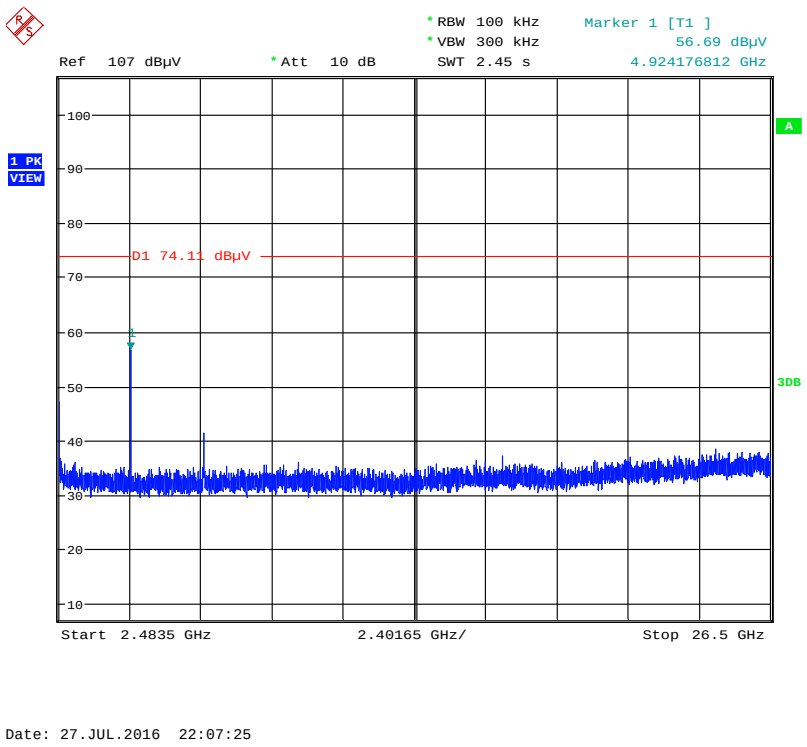
Date: 27.JUL.2016 22:06:10

Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc)

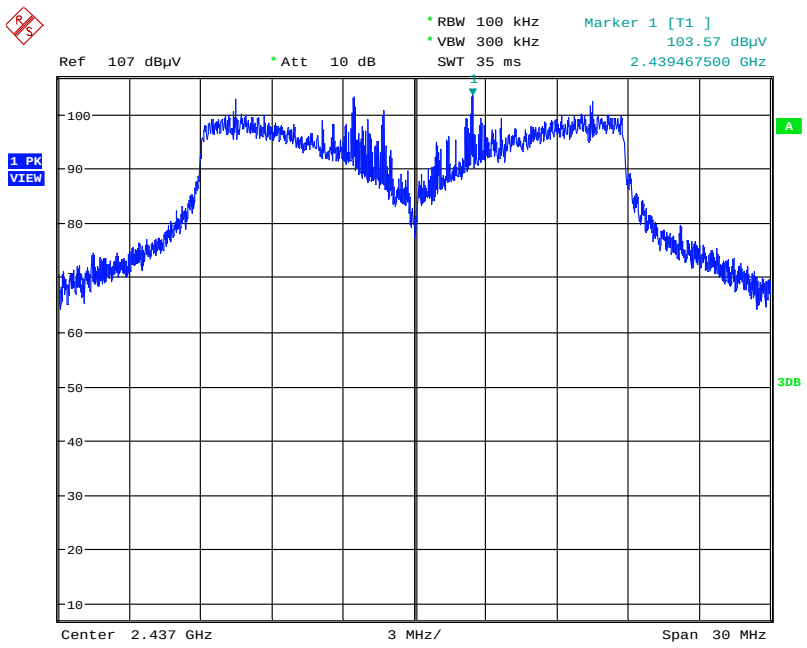


Date: 27.JUL.2016 22:06:54

Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~26500MHz (down 30dBc)

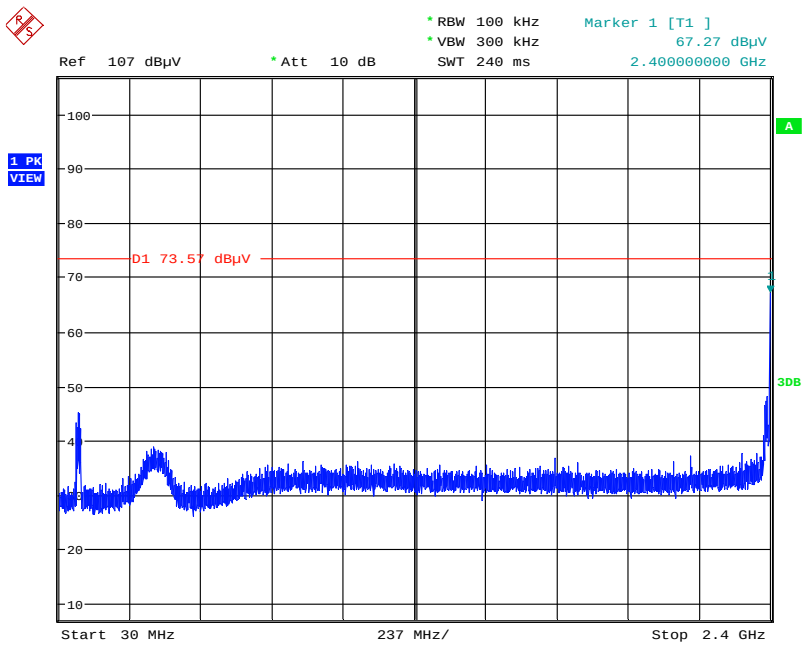


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level



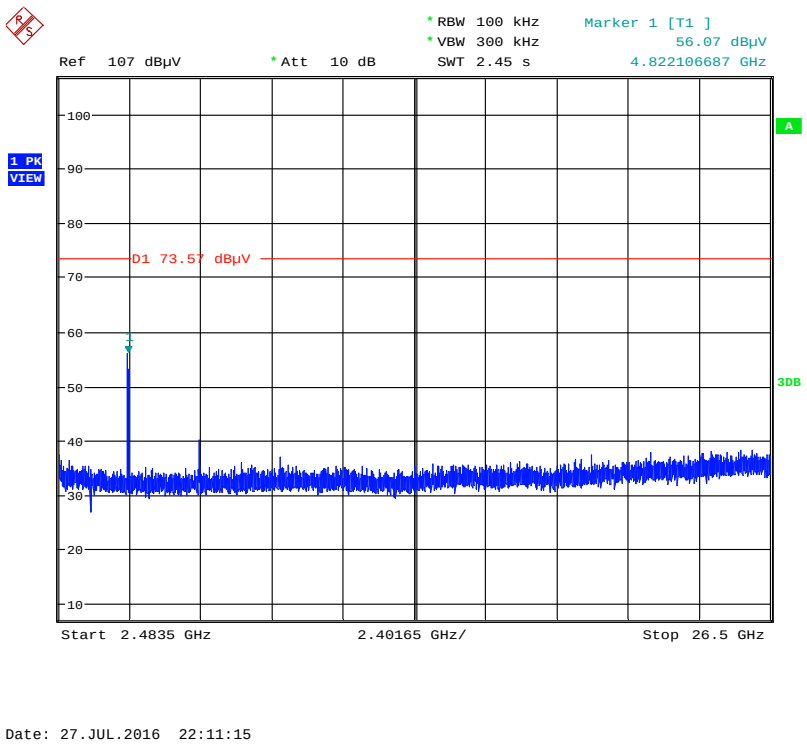
Date: 27.JUL.2016 22:09:39

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 30MHz~2400MHz (down 30dBc)

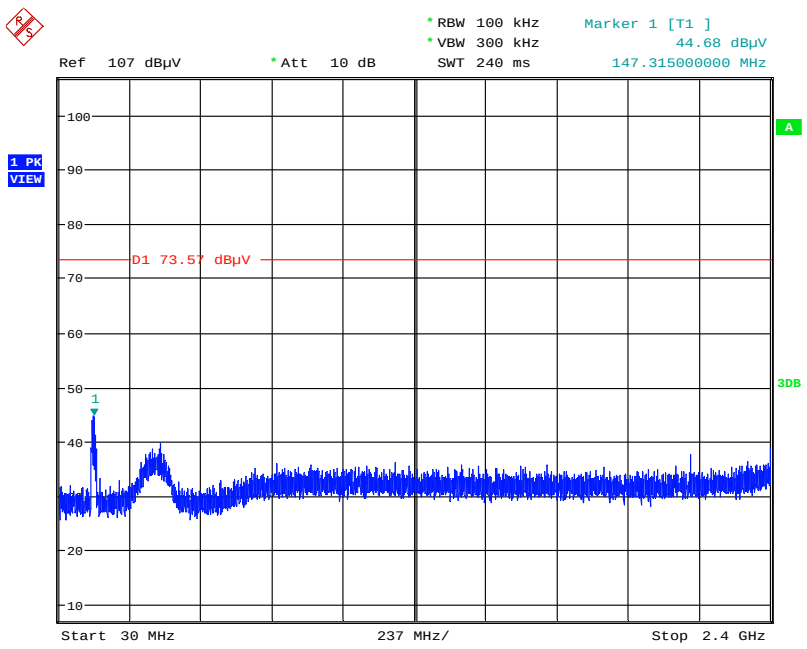


Date: 27.JUL.2016 22:10:41

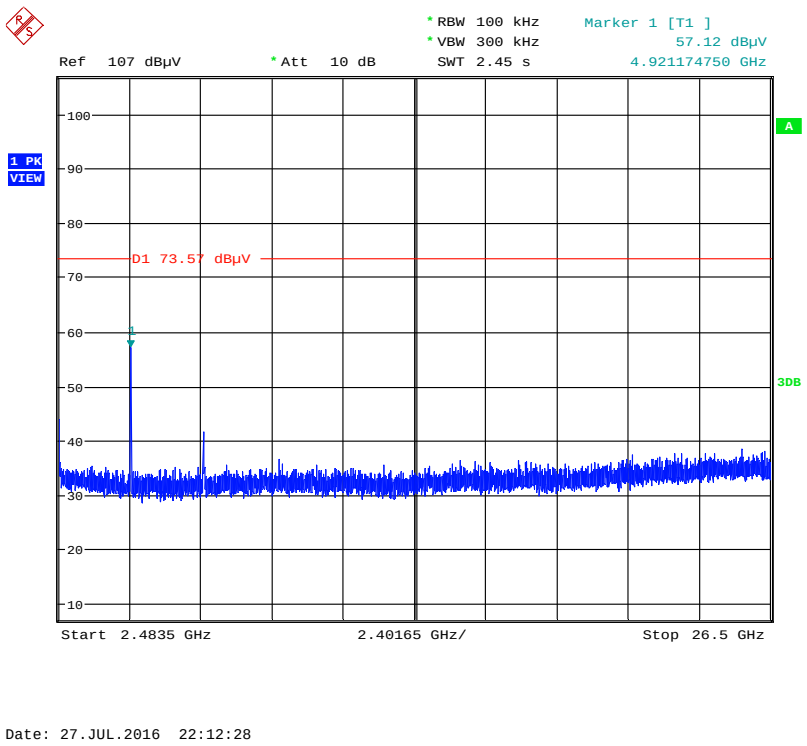
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2483.5MHz~26500MHz (down 30dBc)



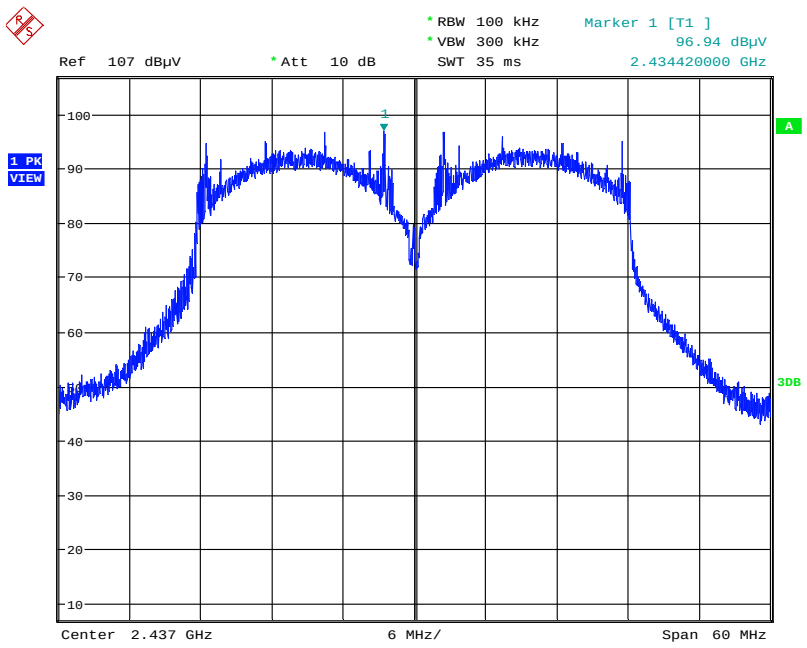
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 30MHz~2400MHz (down 30dBc)



Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 2483.5MHz~26500MHz (down 30dBc)

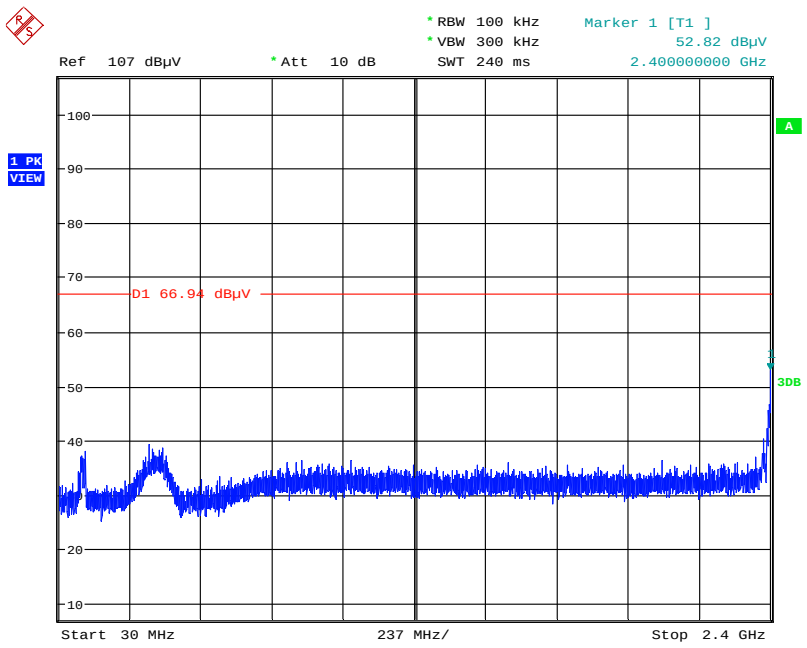


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level



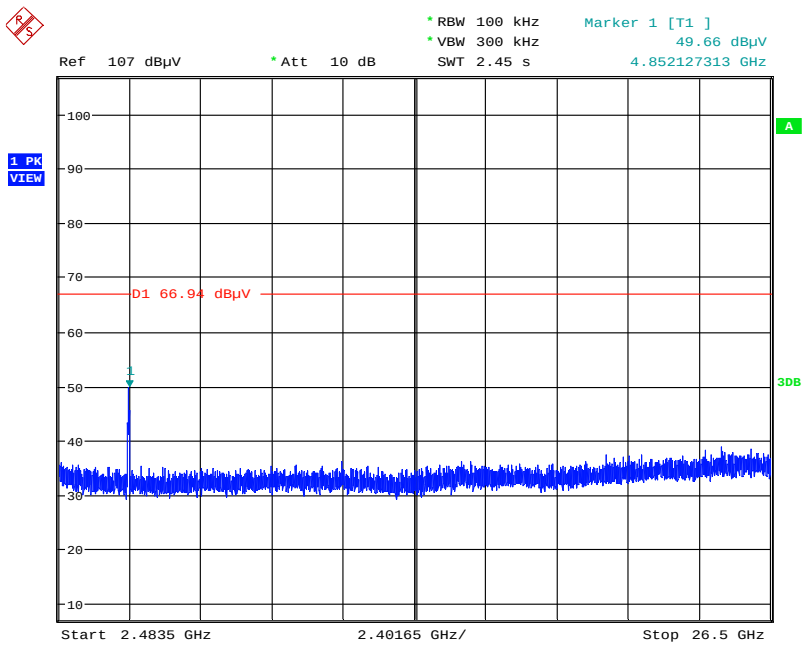
Date: 27.JUL.2016 22:14:12

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 30MHz~2400MHz (down 30dBc)



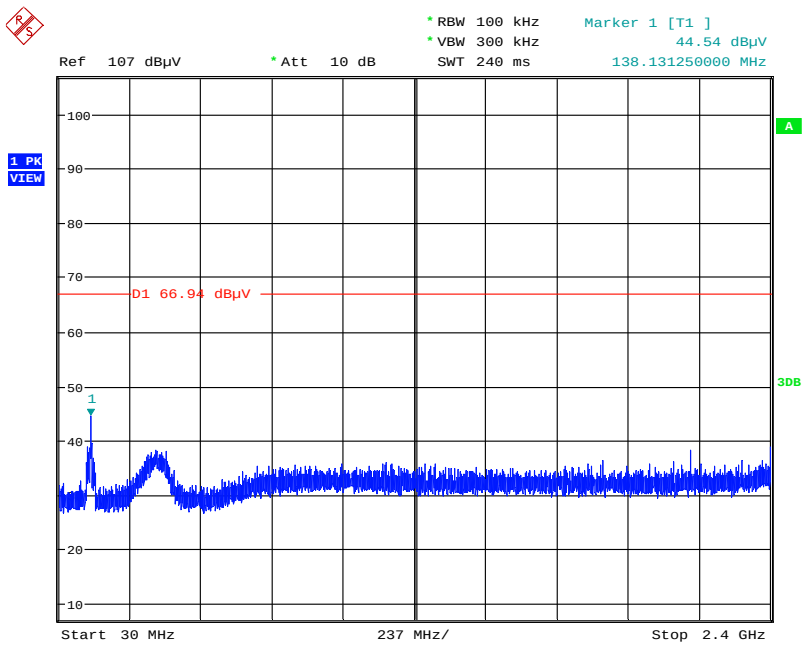
Date: 27.JUL.2016 22:15:10

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2483.5MHz~26500MHz (down 30dBc)



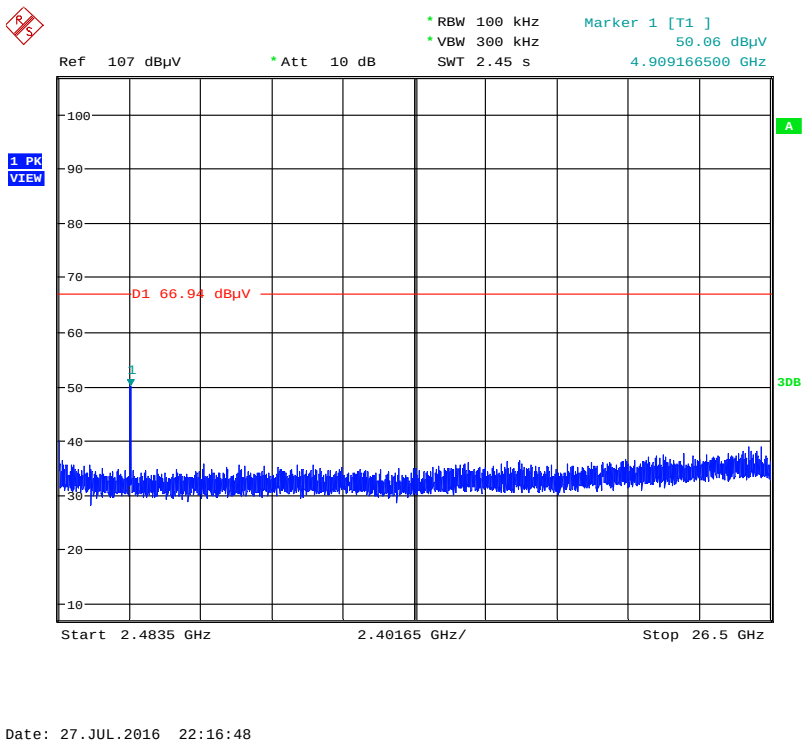
Date: 27.JUL.2016 22:15:41

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 30MHz~2400MHz (down 30dBc)

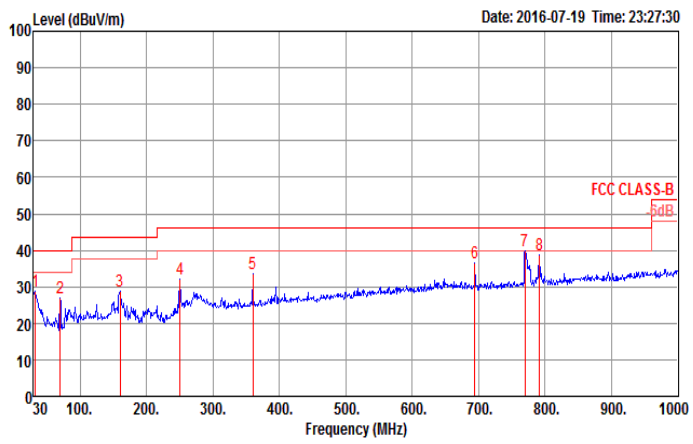


Date: 27.JUL.2016 22:16:22

Plot on Configuration IEEE 802.11ac MCS0/Nss 1 VHT40 / CH 9 / 2483.5MHz~26500MHz (down 30dBc)



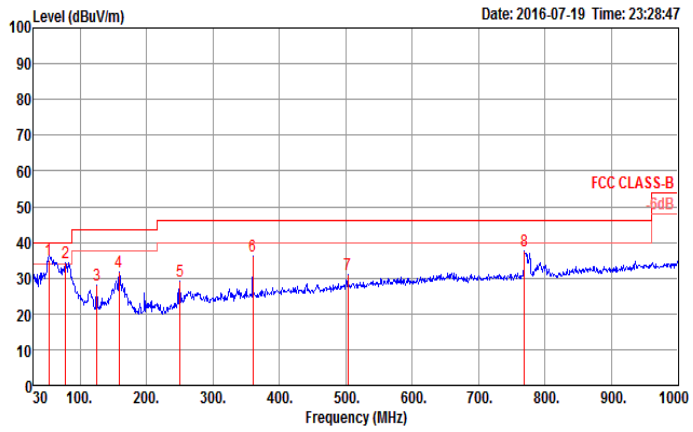
RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	32.91	28.71	40.00	-11.29	36.36	0.51	24.24	32.40	150	169	Peak	HORIZONTAL
2	69.77	26.91	40.00	-13.09	45.67	0.72	12.92	32.40	125	354	Peak	HORIZONTAL
3	159.98	28.71	43.50	-14.79	43.08	1.08	16.90	32.35	125	90	Peak	HORIZONTAL
4	250.19	31.99	46.00	-14.01	43.85	1.34	19.10	32.30	200	359	Peak	HORIZONTAL
5	359.80	33.57	46.00	-12.43	42.61	1.63	21.64	32.31	300	290	Peak	HORIZONTAL
6	694.45	36.53	46.00	-9.47	40.71	2.26	25.92	32.36	125	358	Peak	HORIZONTAL
7	770.11	39.68	46.00	-6.32	42.97	2.41	26.58	32.28	125	250	Peak	HORIZONTAL
8	791.45	38.85	46.00	-7.15	41.93	2.44	26.73	32.25	125	119	Peak	HORIZONTAL

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

RSE below 1GHz Result			
Operating Mode	1	**Power Phase**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	53.28	34.94	40.00	-5.06	52.23	0.64	14.48	32.41	100	248	QP	VERTICAL
2	78.50	34.45	40.00	-5.55	52.59	0.77	13.49	32.40	150	140	Peak	VERTICAL
3	125.06	27.89	43.50	-15.61	40.35	0.97	18.94	32.37	125	176	Peak	VERTICAL
4	159.01	31.83	43.50	-11.67	46.18	1.08	16.92	32.35	200	155	Peak	VERTICAL
5	250.19	29.14	46.00	-16.86	41.00	1.34	19.10	32.30	100	178	Peak	VERTICAL
6	359.80	36.09	46.00	-9.91	45.13	1.63	21.64	32.31	200	360	Peak	VERTICAL
7	503.36	31.09	46.00	-14.91	37.43	1.95	24.06	32.35	150	158	Peak	VERTICAL
8	769.14	37.46	46.00	-8.54	40.78	2.40	26.56	32.28	150	358	Peak	VERTICAL

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

Radiated Emissions (1GHz~10th Harmonic)

Configurations	IEEE 802.11b CH 1 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.85	50.04	54.00	-3.96	43.60	6.26	33.11	32.93	299	217	Average	HORIZONTAL
2	4823.93	55.25	74.00	-18.75	48.81	6.26	33.11	32.93	299	217	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.82	53.33	74.00	-20.67	46.89	6.26	33.11	32.93	100	310	Peak	VERTICAL
2	4823.87	47.23	54.00	-6.77	40.79	6.26	33.11	32.93	100	310	Average	VERTICAL

Configurations	IEEE 802.11b CH 6 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.89	47.84	54.00	-6.16	41.26	6.28	33.23	32.93	113	214	Average	HORIZONTAL
2	4873.89	54.34	74.00	-19.66	47.76	6.28	33.23	32.93	113	214	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.83	52.63	74.00	-21.37	46.05	6.28	33.23	32.93	100	202	Peak	VERTICAL
2	4873.87	46.12	54.00	-7.88	39.54	6.28	33.23	32.93	100	202	Average	VERTICAL

Configurations	IEEE 802.11b CH 11 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.50	53.67	74.00	-20.33	46.98	6.29	33.32	32.92	125	213	Peak	HORIZONTAL
2	4923.90	48.08	54.00	-5.92	41.36	6.29	33.35	32.92	125	213	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.89	47.21	54.00	-6.79	40.49	6.29	33.35	32.92	100	187	Average	VERTICAL
2	4924.16	53.48	74.00	-20.52	46.76	6.29	33.35	32.92	100	187	Peak	VERTICAL

Configurations	IEEE 802.11g CH 1 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.52	50.17	74.00	-23.83	43.73	6.26	33.11	32.93	114	190	Peak	HORIZONTAL
2	4823.78	37.07	54.00	-16.93	30.63	6.26	33.11	32.93	114	190	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4821.69	49.90	74.00	-24.10	43.46	6.26	33.11	32.93	108	264	Peak	VERTICAL
2	4824.04	37.46	54.00	-16.54	31.02	6.26	33.11	32.93	108	264	Average	VERTICAL

Configurations	IEEE 802.11g CH 6 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.87	44.65	54.00	-9.35	38.07	6.28	33.23	32.93	112	216	Average	HORIZONTAL
2	4876.37	59.30	74.00	-14.70	52.72	6.28	33.23	32.93	112	216	Peak	HORIZONTAL
3	7322.73	39.56	54.00	-14.44	28.87	7.87	36.13	33.31	100	45	Average	HORIZONTAL
4	7323.12	51.24	74.00	-22.76	40.55	7.87	36.13	33.31	100	45	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4870.22	56.00	74.00	-18.00	49.42	6.28	33.23	32.93	114	140	Peak	VERTICAL
2	4874.00	41.33	54.00	-12.67	34.75	6.28	33.23	32.93	114	140	Average	VERTICAL
3	7322.67	47.77	54.00	-6.23	37.08	7.87	36.13	33.31	295	21	Average	VERTICAL
4	7322.73	54.57	74.00	-19.43	43.88	7.87	36.13	33.31	295	21	Peak	VERTICAL

Configurations	IEEE 802.11g CH 11 / Chain 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.90	37.66	54.00	-16.34	30.94	6.29	33.35	32.92	263	192	Average	HORIZONTAL
2	4925.35	50.30	74.00	-23.70	43.58	6.29	33.35	32.92	263	192	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.84	36.09	54.00	-17.91	29.37	6.29	33.35	32.92	101	184	Average	VERTICAL
2	4924.02	49.85	74.00	-24.15	43.13	6.29	33.35	32.92	101	184	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT20 CH 1 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.90	43.59	54.00	-10.41	37.15	6.26	33.11	32.93	300	39	Average	HORIZONTAL
2	4823.97	51.27	74.00	-22.73	44.83	6.26	33.11	32.93	300	39	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.88	43.03	54.00	-10.97	36.59	6.26	33.11	32.93	288	263	Average	VERTICAL
2	4823.94	49.52	74.00	-24.48	43.08	6.26	33.11	32.93	288	263	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT20 CH 6 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.97	41.55	54.00	-12.45	34.97	6.28	33.23	32.93	263	195	Average	HORIZONTAL
2	4880.22	54.21	74.00	-19.79	47.63	6.28	33.23	32.93	263	195	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.49	56.20	74.00	-17.80	49.62	6.28	33.23	32.93	120	141	Peak	VERTICAL
2	4873.81	41.84	54.00	-12.16	35.26	6.28	33.23	32.93	120	141	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT20 CH 11 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.86	48.88	74.00	-25.12	42.16	6.29	33.35	32.92	298	39	Peak	HORIZONTAL
2	4923.92	43.08	54.00	-10.92	36.36	6.29	33.35	32.92	298	39	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4923.78	50.08	74.00	-23.92	43.36	6.29	33.35	32.92	294	258	Peak	VERTICAL
2	4923.89	44.01	54.00	-9.99	37.29	6.29	33.35	32.92	294	258	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT40 CH 3 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4843.73	48.12	74.00	-25.88	41.61	6.27	33.17	32.93	296	360	Peak	HORIZONTAL
2	4843.89	40.38	54.00	-13.62	33.87	6.27	33.17	32.93	296	360	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4843.89	42.32	54.00	-11.68	35.81	6.27	33.17	32.93	288	269	Average	VERTICAL
2	4843.94	48.97	74.00	-25.03	42.46	6.27	33.17	32.93	288	269	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT40 CH 6 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.89	42.29	54.00	-11.71	35.71	6.28	33.23	32.93	270	37	Average	HORIZONTAL
2	4873.94	48.49	74.00	-25.51	41.91	6.28	33.23	32.93	270	37	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.87	42.60	54.00	-11.40	36.02	6.28	33.23	32.93	298	258	Average	VERTICAL
2	4873.94	50.14	74.00	-23.86	43.56	6.28	33.23	32.93	298	258	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT40 CH 9 / Chain 1 + Chain 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4903.87	40.81	54.00	-13.19	34.16	6.28	33.29	32.92	277	158	Average	HORIZONTAL
2	4903.92	48.29	74.00	-25.71	41.64	6.28	33.29	32.92	277	158	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4903.92	42.76	54.00	-11.24	36.11	6.28	33.29	32.92	291	266	Average	VERTICAL
2	4903.94	48.97	74.00	-25.03	42.32	6.28	33.29	32.92	291	266	Peak	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

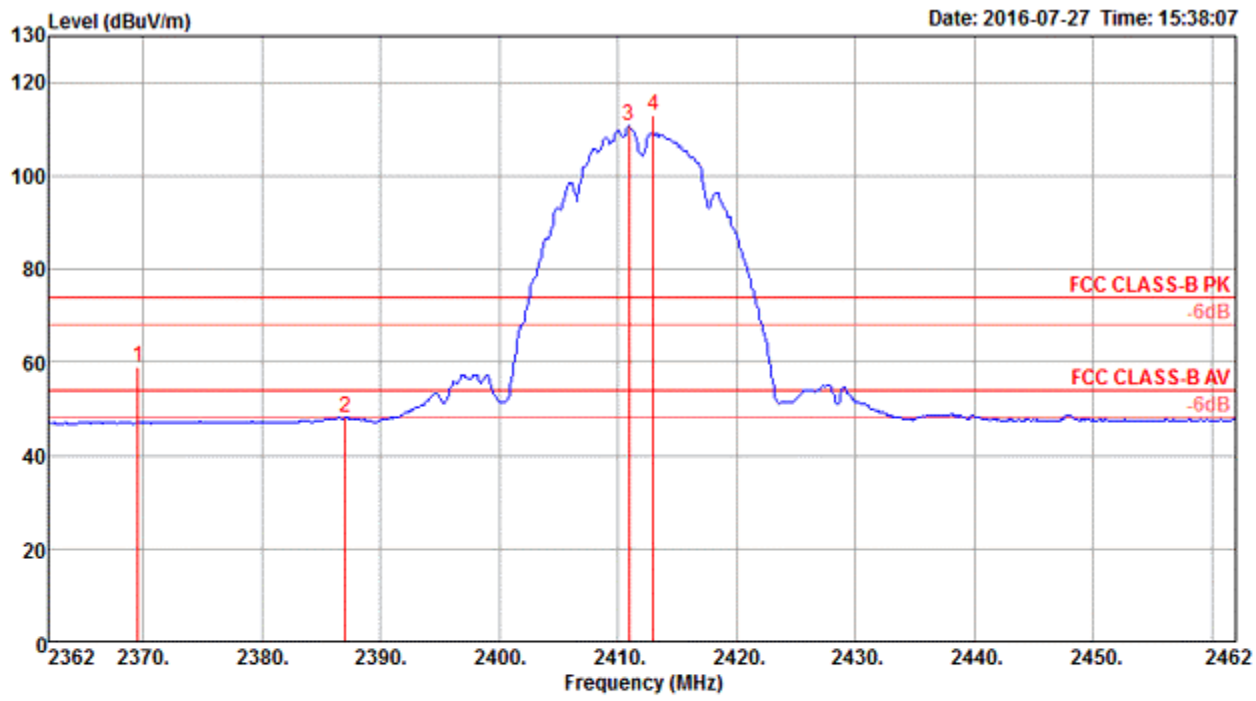
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Band Edge Emissions

Configurations	IEEE 802.11b CH 1, 6, 11 / Chain 1

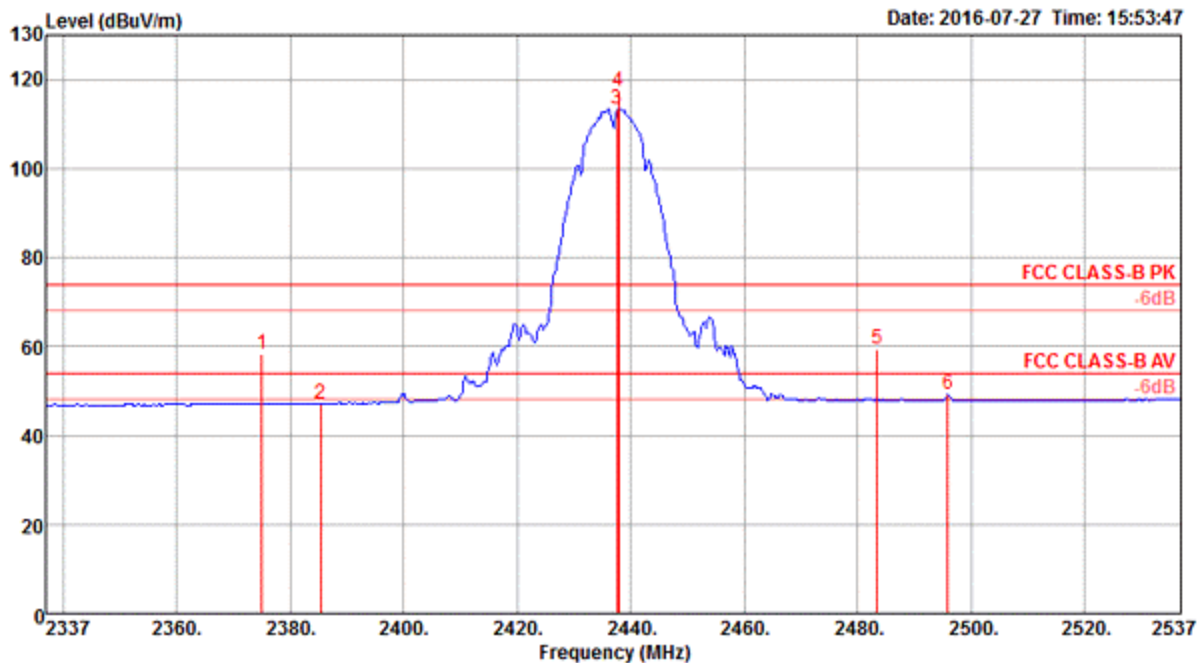
Channel 1



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2369.53	59.06	74.00	-14.94	27.20	3.58	28.28	0.00	133	160	Peak	VERTICAL
2	2387.00	48.03	54.00	-5.97	16.12	3.60	28.31	0.00	133	160	Average	VERTICAL
3	2410.90	110.72			78.75	3.62	28.35	0.00	133	160	Average	VERTICAL
4	2412.96	112.93			80.95	3.62	28.36	0.00	133	160	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz.

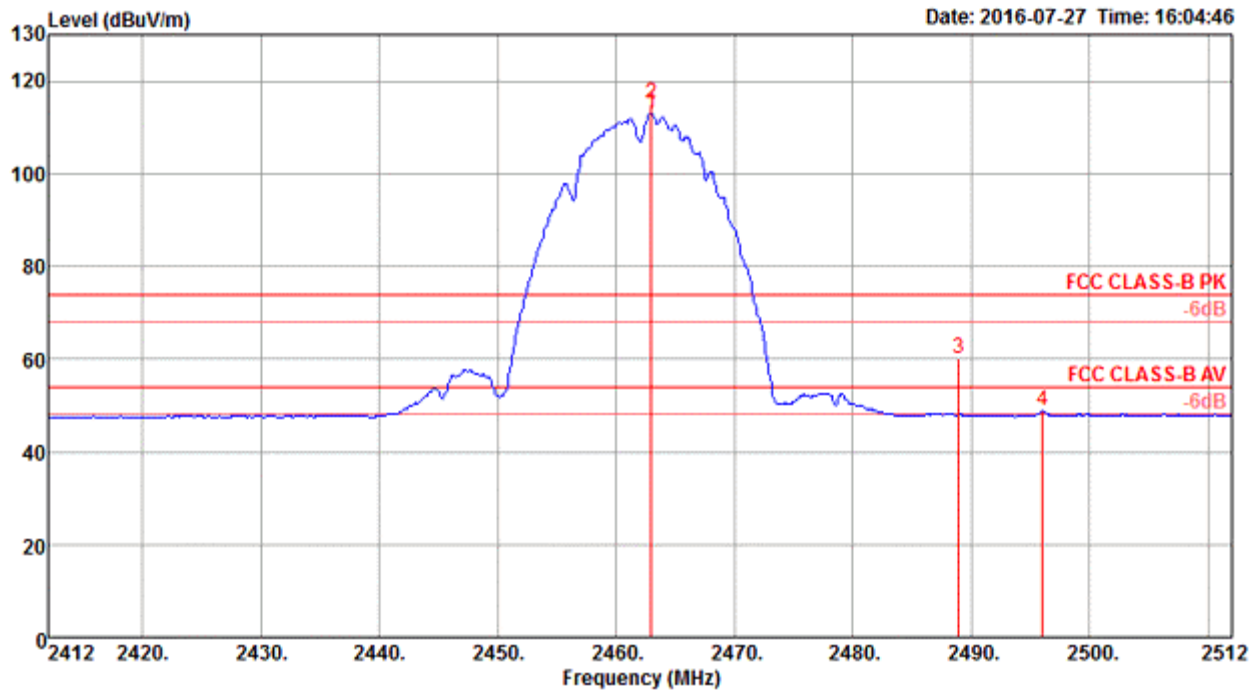
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2375.14	58.23	74.00	-15.77	26.35	3.59	28.29	0.00	159	206	Peak	VERTICAL
2	2385.40	47.21	54.00	-6.79	15.30	3.60	28.31	0.00	159	206	Average	VERTICAL
3	2437.64	113.47			81.44	3.64	28.39	0.00	159	206	Average	VERTICAL
4	2437.96	117.21			85.18	3.64	28.39	0.00	159	206	Peak	VERTICAL
5	2483.50	59.52	74.00	-14.48	27.36	3.68	28.48	0.00	159	206	Peak	VERTICAL
6	2495.97	49.18	54.00	-4.82	17.01	3.68	28.49	0.00	159	206	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 11

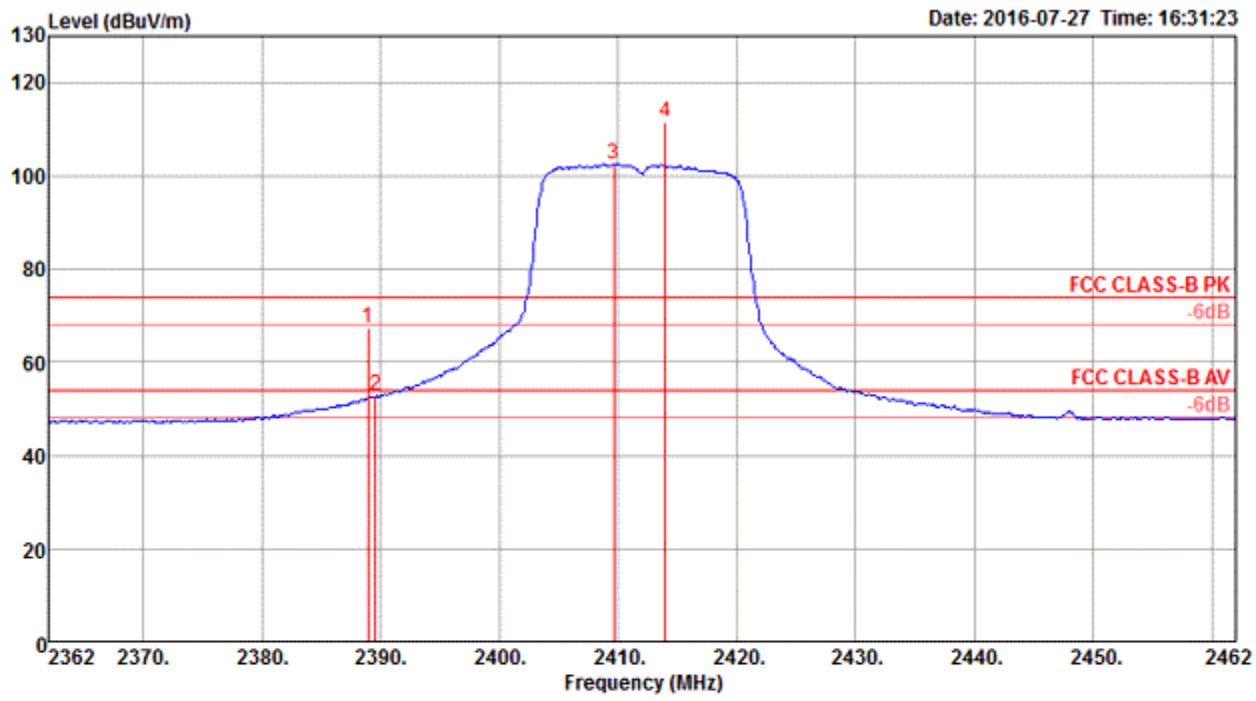


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2462.96	113.10			81.00	3.66	28.44	0.00	114	213	Average	VERTICAL
2	2462.96	115.32			83.22	3.66	28.44	0.00	114	213	Peak	VERTICAL
3	2488.92	60.11	74.00	-13.89	27.95	3.68	28.48	0.00	114	213	Peak	VERTICAL
4	2495.97	48.71	54.00	-5.29	16.54	3.68	28.49	0.00	114	213	Average	VERTICAL

Item 1, 2 are the fundamental frequency at 2462 MHz.

Configurations	IEEE 802.11g CH 1, 6, 11 / Chain 1

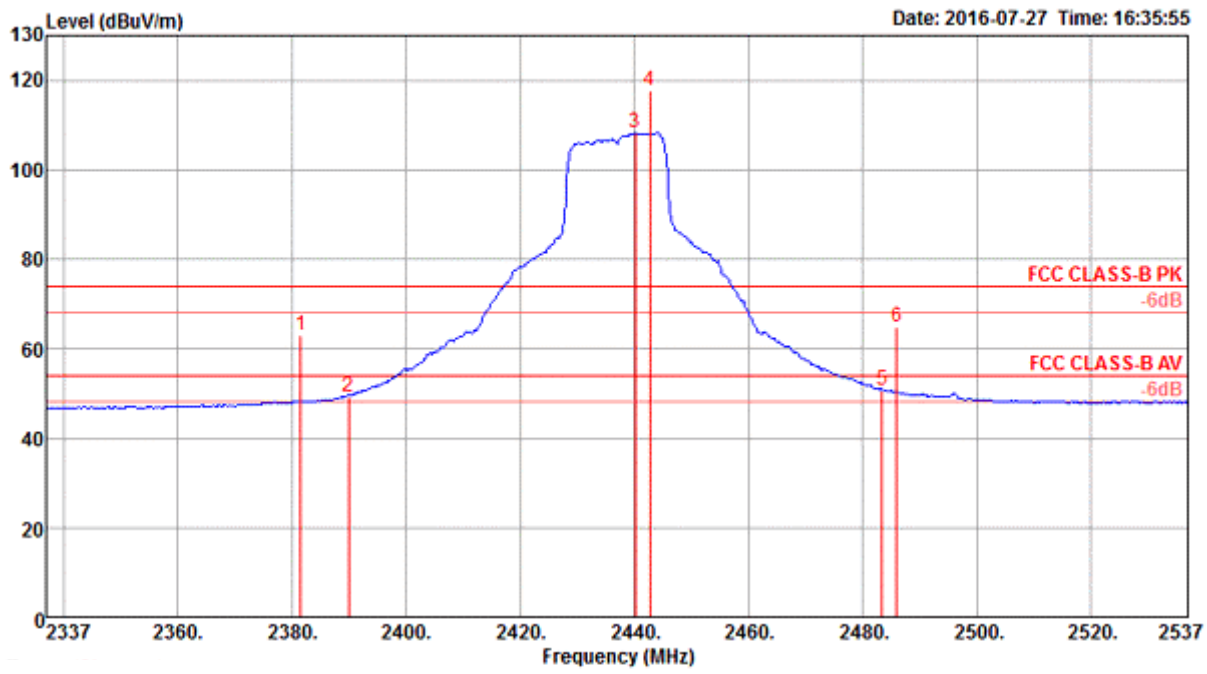
Channel 1



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2388.92	67.38	74.00	-6.62	35.47	3.60	28.31	0.00	111	21	Peak	VERTICAL
2	2389.56	52.74	54.00	-1.26	20.83	3.60	28.31	0.00	111	21	Average	VERTICAL
3	2409.60	102.48			70.51	3.62	28.35	0.00	111	21	Average	VERTICAL
4	2413.92	111.44			79.46	3.62	28.36	0.00	111	21	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz.

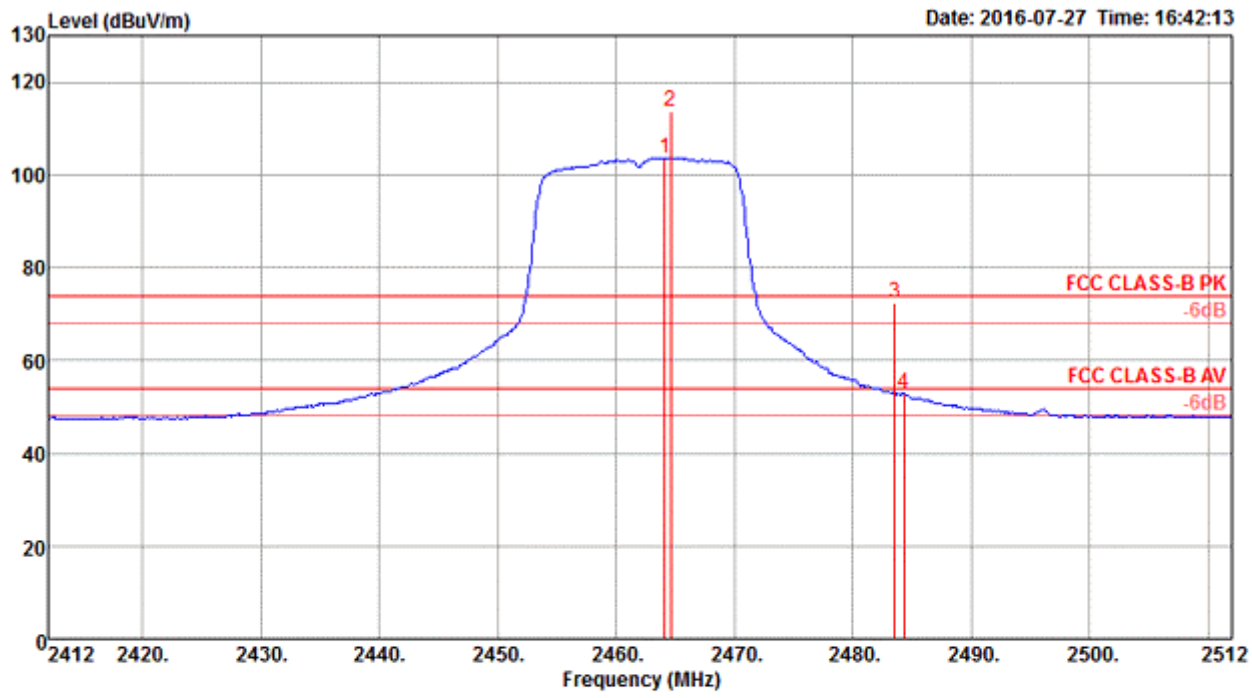
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2381.55	63.18	74.00	-10.82	31.29	3.59	28.30	0.00	122	208	Peak	VERTICAL
2	2390.00	49.33	54.00	-4.67	17.42	3.60	28.31	0.00	122	208	Average	VERTICAL
3	2440.21	108.16			76.11	3.64	28.41	0.00	122	208	Average	VERTICAL
4	2442.77	117.52			85.47	3.64	28.41	0.00	122	208	Peak	VERTICAL
5	2483.50	50.73	54.00	-3.27	18.57	3.68	28.48	0.00	122	208	Average	VERTICAL
6	2486.04	64.85	74.00	-9.15	32.69	3.68	28.48	0.00	122	208	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 11

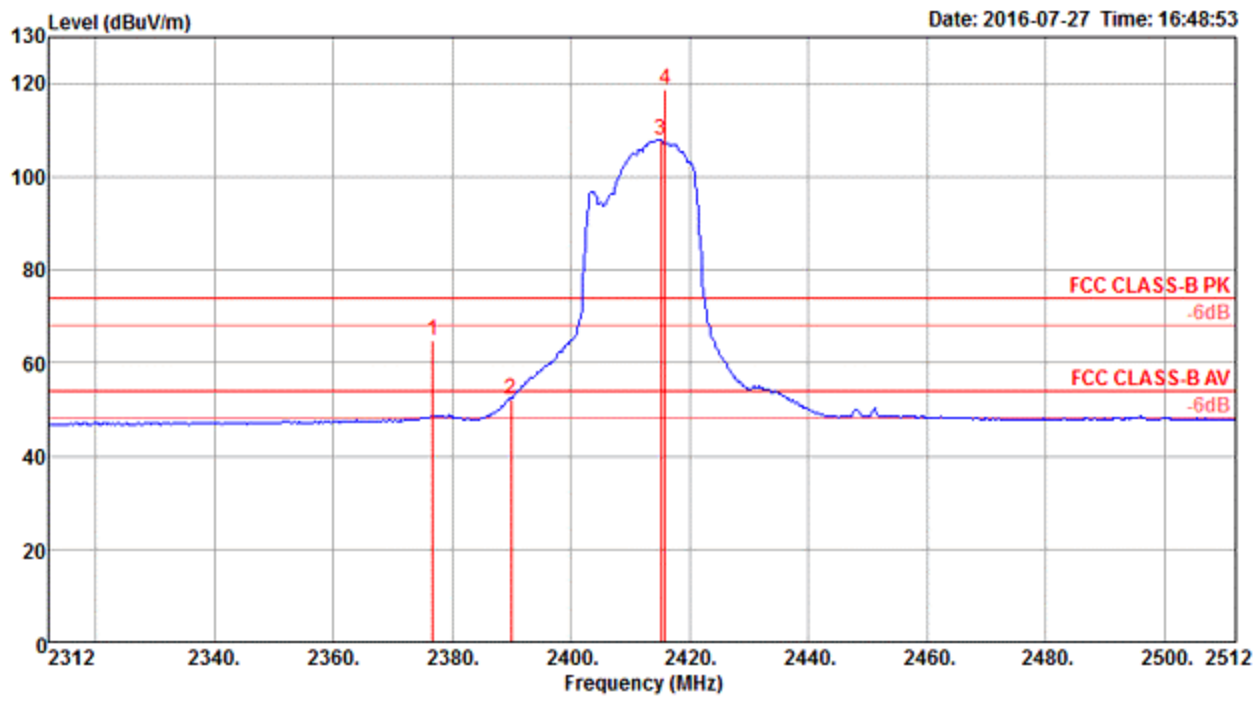


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2464.08	103.68			71.58	3.66	28.44	0.00	119	109	Average	VERTICAL
2	2464.56	113.58			81.48	3.66	28.44	0.00	119	109	Peak	VERTICAL
3	2483.50	72.49	74.00	-1.51	40.33	3.68	28.48	0.00	119	109	Peak	VERTICAL
4	2484.28	52.90	54.00	-1.10	20.74	3.68	28.48	0.00	119	109	Average	VERTICAL

Item 1, 2 are the fundamental frequency at 2462 MHz.

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT20 CH 1, 6, 11 / Chain 1 + Chain 2

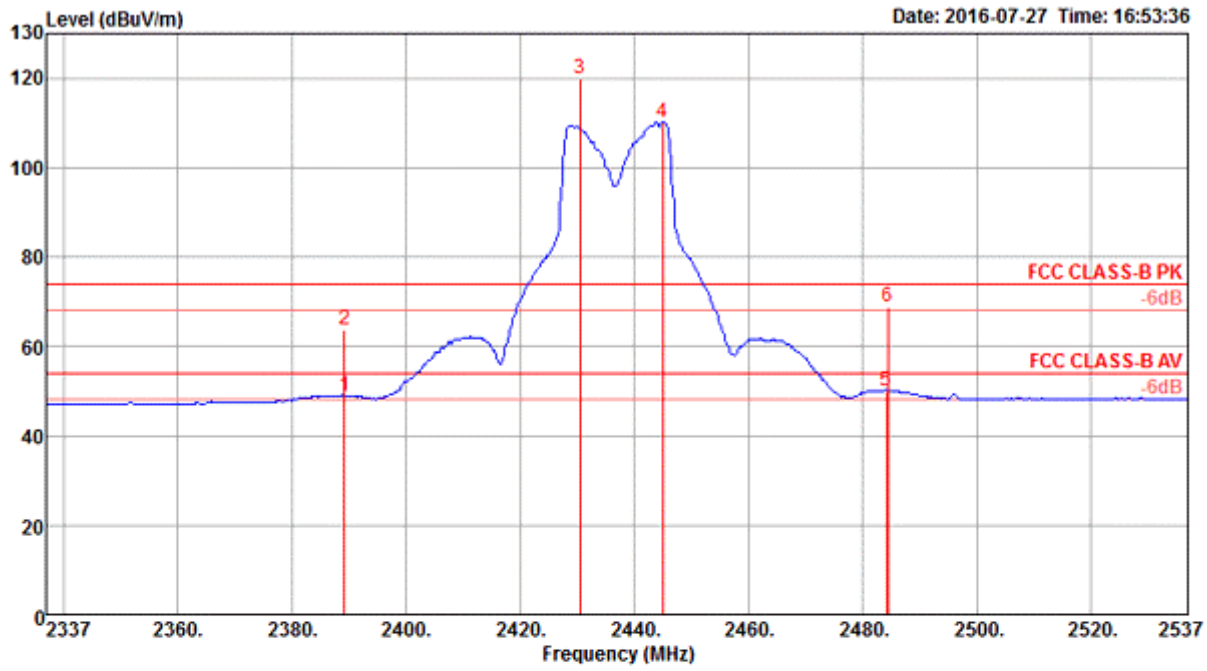
Channel 1



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2376.74	64.79	74.00	-9.21	32.90	3.59	28.30	0.00	106	198	Peak	VERTICAL
2	2390.00	52.28	54.00	-1.72	20.37	3.60	28.31	0.00	106	198	Average	VERTICAL
3	2415.21	107.94			75.96	3.62	28.36	0.00	106	198	Average	VERTICAL
4	2415.85	118.87			86.89	3.62	28.36	0.00	106	198	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz.

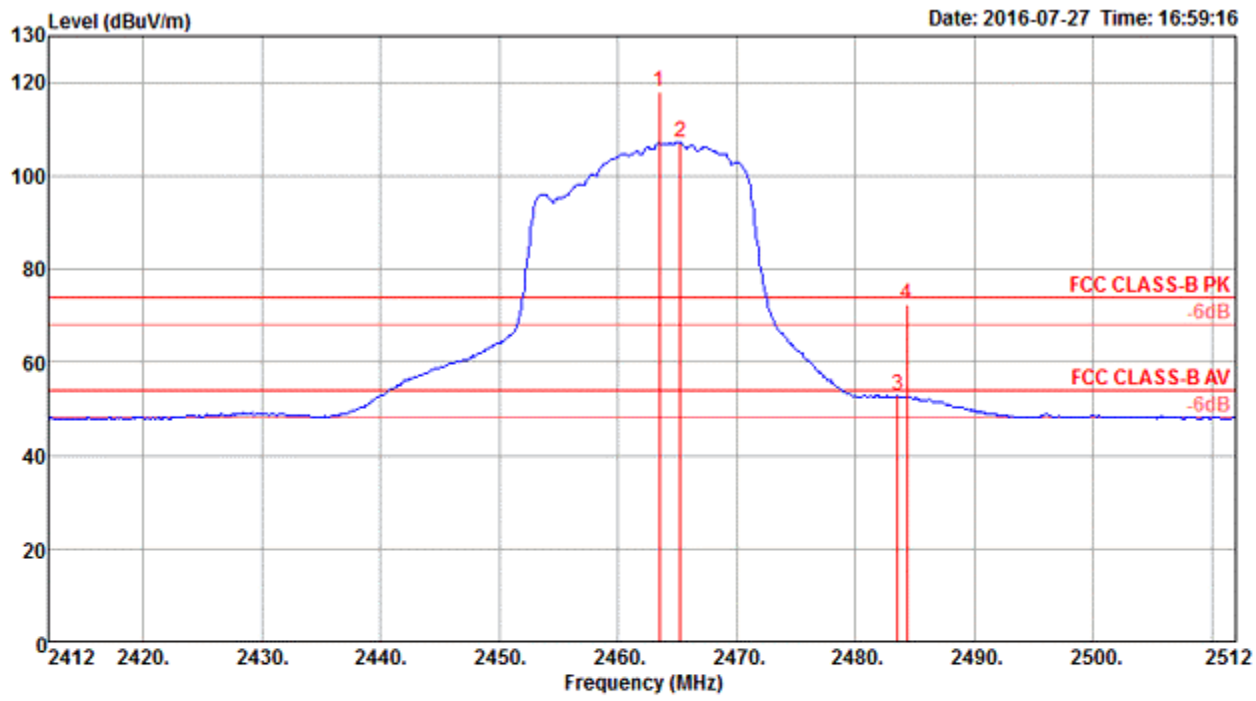
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2389.24	48.97	54.00	-5.03	17.06	3.60	28.31	0.00	100	137	Average	VERTICAL
2	2389.24	63.80	74.00	-10.20	31.89	3.60	28.31	0.00	100	137	Peak	VERTICAL
3	2430.59	119.93			87.92	3.63	28.38	0.00	100	137	Peak	VERTICAL
4	2445.01	110.13			78.08	3.64	28.41	0.00	100	137	Average	VERTICAL
5	2484.12	50.12	54.00	-3.88	17.96	3.68	28.48	0.00	100	137	Average	VERTICAL
6	2484.44	68.84	74.00	-5.16	36.68	3.68	28.48	0.00	100	137	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 11

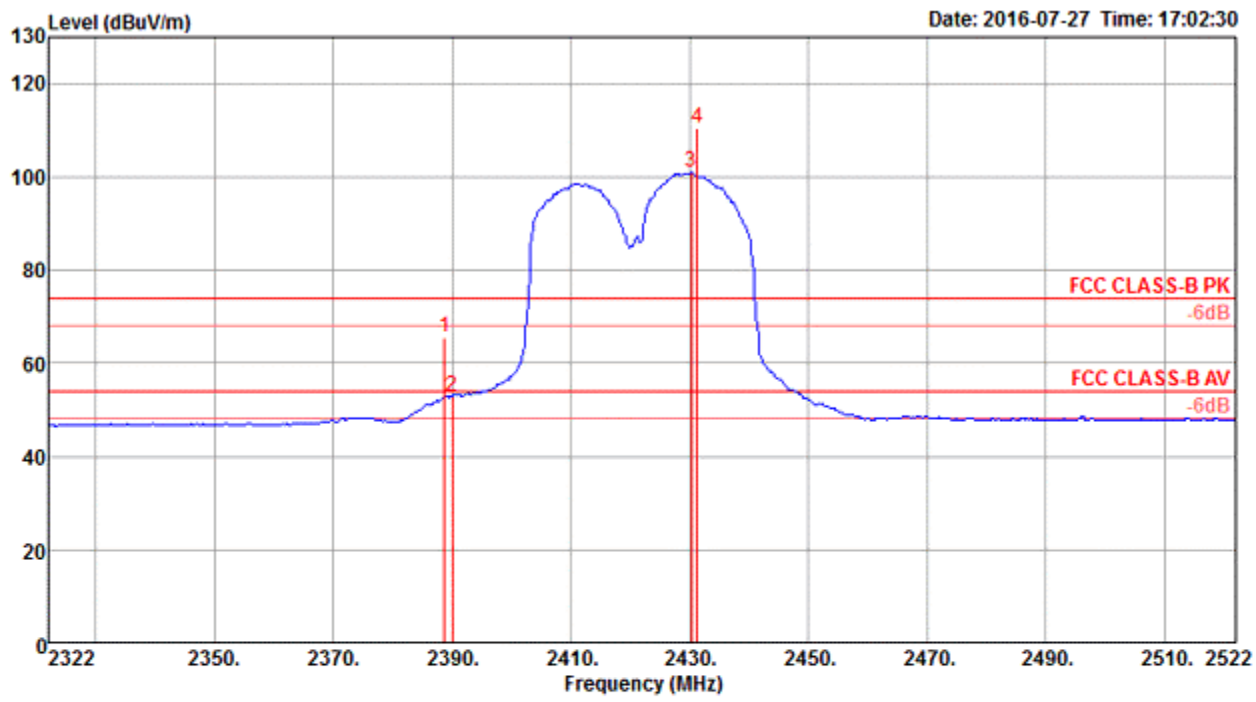


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2463.44	118.09			85.99	3.66	28.44	0.00	102	196	Peak	VERTICAL
2	2465.21	107.15			75.05	3.66	28.44	0.00	102	196	Average	VERTICAL
3	2483.50	52.71	54.00	-1.29	20.55	3.68	28.48	0.00	102	196	Average	VERTICAL
4	2484.28	72.43	74.00	-1.57	40.27	3.68	28.48	0.00	102	196	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 2462 MHz.

Configurations	IEEE 802.11ac MCS0/Nss 1 VHT40 CH 3, 6, 9 / Chain 1 + Chain 2

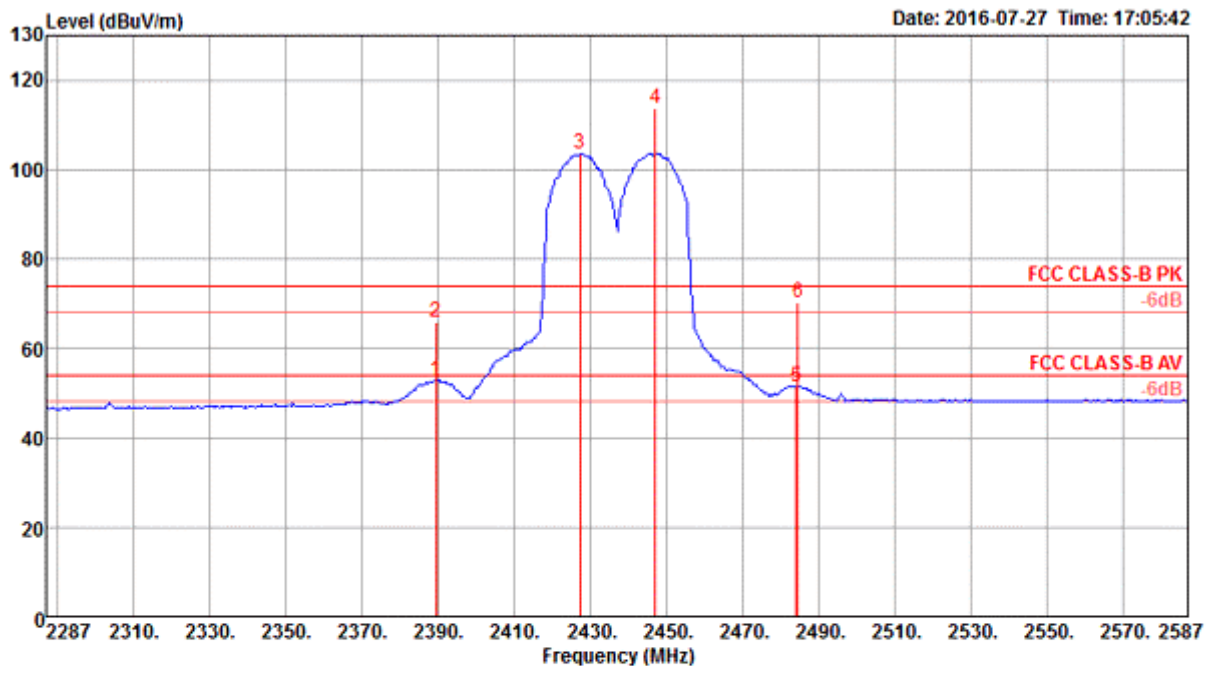
Channel 3



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2388.67	65.44	74.00	-8.56	33.53	3.60	28.31	0.00	103	142	Peak	VERTICAL
2	2390.00	52.99	54.00	-1.01	21.08	3.60	28.31	0.00	103	142	Average	VERTICAL
3	2430.33	100.87			68.86	3.63	28.38	0.00	103	142	Average	VERTICAL
4	2431.30	110.60			78.59	3.63	28.38	0.00	103	142	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2422 MHz.

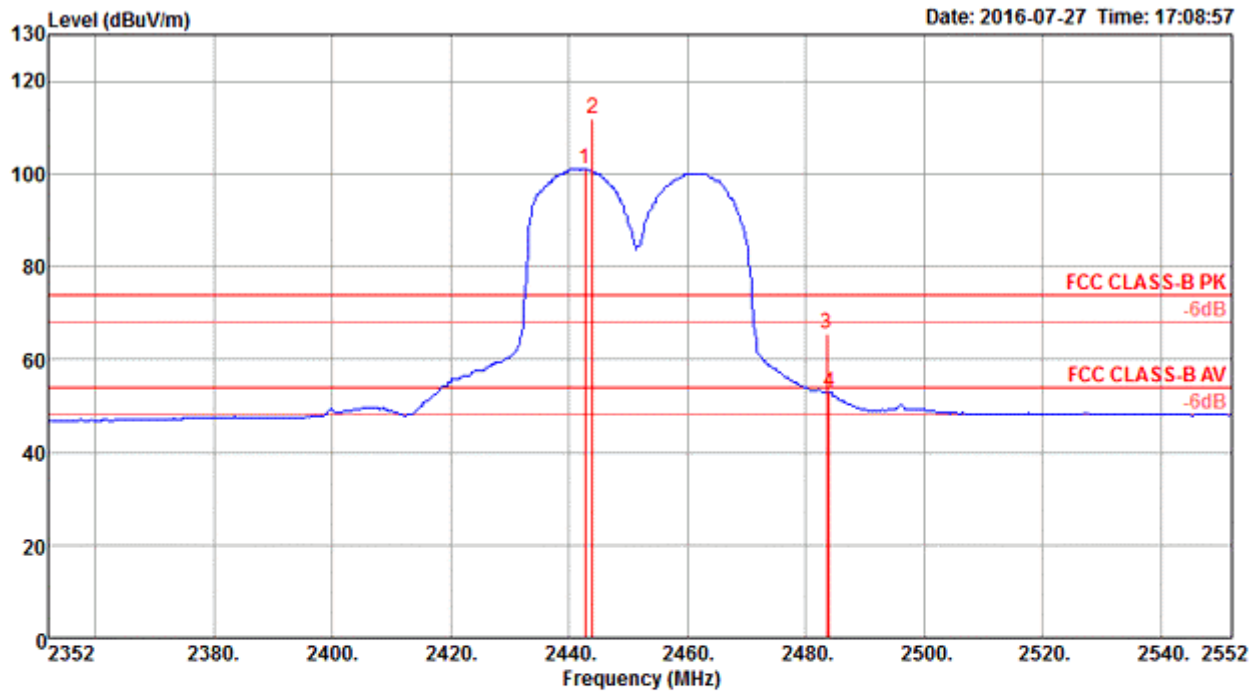
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2389.40	52.94	54.00	-1.06	21.03	3.60	28.31	0.00	103	137	Average	VERTICAL
2	2389.40	65.88	74.00	-8.12	33.97	3.60	28.31	0.00	103	137	Peak	VERTICAL
3	2427.39	103.55			71.54	3.63	28.38	0.00	103	137	Average	VERTICAL
4	2447.10	113.60			81.53	3.65	28.42	0.00	103	137	Peak	VERTICAL
5	2484.12	51.58	54.00	-2.42	19.42	3.68	28.48	0.00	103	137	Average	VERTICAL
6	2484.60	70.08	74.00	-3.92	37.92	3.68	28.48	0.00	103	137	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 9



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2442.71	101.19			69.14	3.64	28.41	0.00	103	139	Average	VERTICAL
2	2443.99	112.04			79.99	3.64	28.41	0.00	103	139	Peak	VERTICAL
3	2483.50	65.55	74.00	-8.45	33.39	3.68	28.48	0.00	103	139	Peak	VERTICAL
4	2484.05	52.86	54.00	-1.14	20.70	3.68	28.48	0.00	103	139	Average	VERTICAL

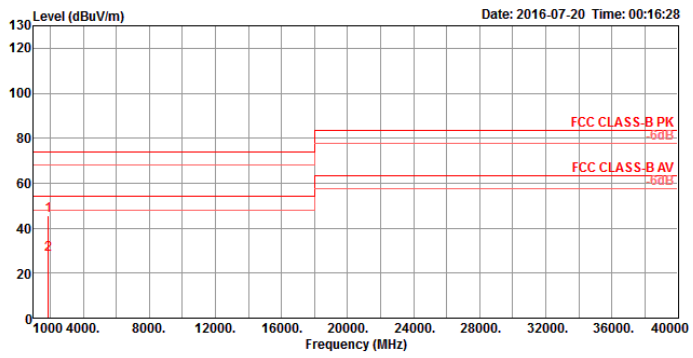
Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

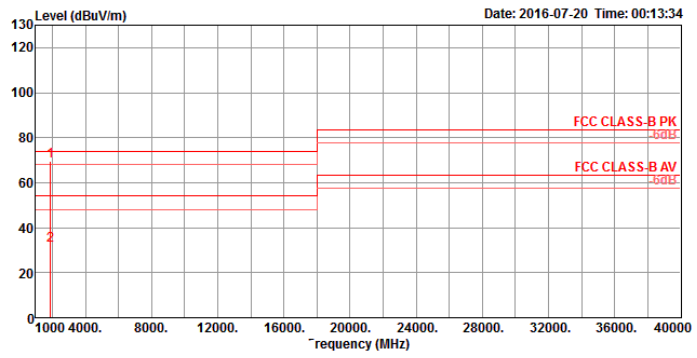
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

RSE Co-location Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1878.92	45.75	74.00	-28.25	47.39	5.07	26.02	32.73	100	320	Peak	HORIZONTAL
2	1880.04	28.35	54.00	-25.65	29.99	5.07	26.02	32.73	100	320	Average	HORIZONTAL

RSE Co-location Result			
Operating Mode	1	**Power Phase**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1880.76	69.74	74.00	-4.26	71.36	5.08	26.03	32.73	100	132	Peak	VERTICAL
2	1882.76	32.10	54.00	-21.90	33.72	5.08	26.03	32.73	100	132	Average	VERTICAL