



FCC Test Report

Equipment : Wireless-AC/N Dual Band Desktop Access Point with PoE
Brand Name : CISCO
Model No. : WAP125
FCC ID : PD5-WAP125
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant : Delta Networks, Inc.
No.252, Shang Ying Rd., Kuei San District, Taoyuan City
33341, Taiwan R.O.C.
Manufacturer : Delta Networks, Inc.
No.252, Shang Ying Rd., Kuei San District, Taoyuan City
33341, Taiwan R.O.C.

The product sample received on Sep. 12, 2016 and completely tested on Dec. 12, 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.


Cliff Chang
SPORTON INTERNATIONAL INC.



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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)	Maximum Conducted 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



SPORTON INTERNATIONAL INC.
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FCC ID: PD5-WAP125

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, n (HT20), ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40)	2422-2452	3-9 [7]

Mode	Bandwidth(MHz)	TX
802.11b	20	1
802.11g	20	1
802.11n HT20	20	1
802.11n HT40	40	1
802.11ac VHT20	20	1
802.11ac VHT40	40	1
802.11b	20	2
802.11g	20	2
802.11n HT20(BF)	20	2
802.11n HT40(BF)	40	2
802.11ac VHT20(BF)	20	2
802.11ac VHT40(BF)	40	2

Note:

- ♦ 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ BF is the Beam-forming mode

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
					2.4GHz	5GHz B1	5GHz B4
1	Master Wave	98M82PIPF000	PIFA Antenna	I-PEX	4.02	5.43	5.63
2	Master Wave	98M83PIPF000	PIFA Antenna	I-PEX	4.02	5.03	5.26

Note: The EUT has two antennas.

For 2.4GHz IEEE 802.11b/g/ac mode (1TX/1RX):

Only Ant. 1 can be used as transmitting/receiving antenna.

For 5GHz IEEE 802.11n/a/ac mode (1TX/1RX):

Only Ant. 2 can be used as transmitting/receiving antenna.

For 2.4GHz IEEE 802.11b/g/ac mode (2TX/2RX):

Both Ant. 1 and Ant. 2 could transmit/receive simultaneously.

For 5GHz IEEE 802.11n/a/ac mode (2TX/2RX):

Both Ant. 1 and Ant. 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	Bandwidth (MHz)	Data Rate	TX	Duty Cycle	T(s)	VBW(Hz) ≥ 1/T
802.11b	20	1Mbps	1	0.936	12.418m	100
802.11g	20	6Mbps	1	0.74	2.065m	1k
802.11ac VHT20	20	MCS0-Nss1	1	0.752	1.929m	1k
802.11ac VHT40	40	MCS0-Nss1	1	0.593	953.125u	3k
802.11b	20	1Mbps	2	1	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11g	20	6Mbps	2	0.999	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT20(BF)	20	MCS0-Nss1	2	0.986	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40(BF)	40	MCS0-Nss1	2	0.971	953.125u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE		
Beamforming Function	☒ With beamforming in 802.11 n/ac	☐ Without beamforming	

Note: 802.11n/ac 2TX doesn't support non-beamforming mode.

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	Andy Tsai	20°C / 60%	Oct. 17, 2016~Dec. 12, 2016
Radiated	03CH01-CB	Kenneth Huang& DK Chang& Stim Sung	21°C / 50%	Sep. 22, 2016 ~ Dec. 01, 2016
AC Conduction	CO02-CB	Ryo Fan	23°C / 61%	Sep. 23, 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

Mode	Bandwidth (MHz)	Data Rate	TX	Frequency (MHz)	Power Setting
802.11b	20	1Mbps	1	2412	71
802.11b	20	1Mbps	1	2437	99
802.11b	20	1Mbps	1	2462	73
802.11g	20	6Mbps	1	2412	70
802.11g	20	6Mbps	1	2437	76
802.11g	20	6Mbps	1	2462	66
802.11ac VHT20	20	MCS0 Nss-1	1	2412	72
802.11ac VHT20	20	MCS0 Nss-1	1	2437	80
802.11ac VHT20	20	MCS0 Nss-1	1	2462	72
802.11ac VHT40	40	MCS0 Nss-1	1	2422	61
802.11ac VHT40	40	MCS0 Nss-1	1	2437	69
802.11ac VHT40	40	MCS0 Nss-1	1	2452	61
802.11b	20	1Mbps	2	2412	70
802.11b	20	1Mbps	2	2437	99
802.11b	20	1Mbps	2	2462	72
802.11g	20	6Mbps	2	2412	69
802.11g	20	6Mbps	2	2437	75
802.11g	20	6Mbps	2	2462	64
802.11ac VHT20(BF)	20	MCS0 Nss-1	2	2412	67
802.11ac VHT20(BF)	20	MCS0 Nss-1	2	2437	76
802.11ac VHT20(BF)	20	MCS0 Nss-1	2	2462	67
802.11ac VHT40(BF)	40	MCS0 Nss-1	2	2422	56
802.11ac VHT40(BF)	40	MCS0 Nss-1	2	2437	63
802.11ac VHT40(BF)	40	MCS0 Nss-1	2	2452	53

Note:

- ♦ 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.

2.2 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	CTX
1	EUT + Adapter
2	EUT + PoE
For operating mode 1 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted 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	CTX
1	EUT Z axis + Adapter
2	EUT Y axis + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT Z axis + PoE
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
1	EUT Z axis
2	EUT Y axis
Mode 1 has been evaluated to be the worst case after evaluating. Consequently, measurement will follow this same test mode.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	
1	WLAN 2.4GHz+WLAN 5GHz
Refer to Sporton Test Report No.: FA691002 for Co-location RF Exposure Evaluation.	

Note: The PoE was for measurement only, would not be marketed, and its information as below.

Equipment	Brand Name	Model Name	FCC ID
PoE	CISCO	SB-PWR-INJ2	DoC

2.3 EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

The measured result was added array gain $10\log 2=3.01\text{dBi}$ as worse case in beamforming mode.

2.4 Accessories

Accessories			
Power	Brand Name	Model Name	Rating
Adapter	DVE	DSA-12CB-12 120100	INPUT: 100-240V ~ 50/60Hz 0.5A OUTPUT: 12V, 1A
Others			
plug*1			

2.5 Support Equipment

For Test Site No: CO02-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC

For Test Site No: TH01-CB

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

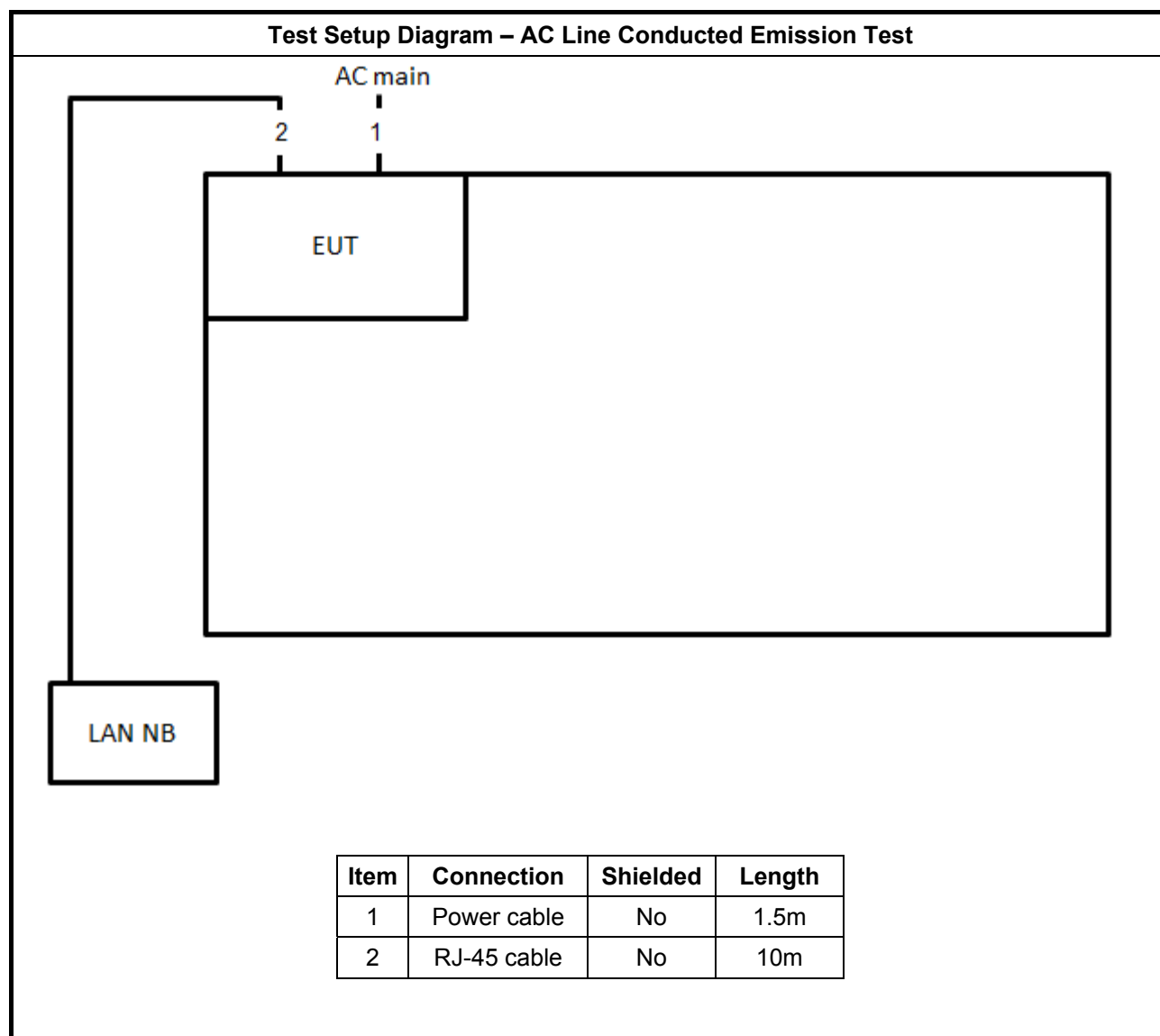
For Test Site No: 03CH01-CB (below 1GHz)

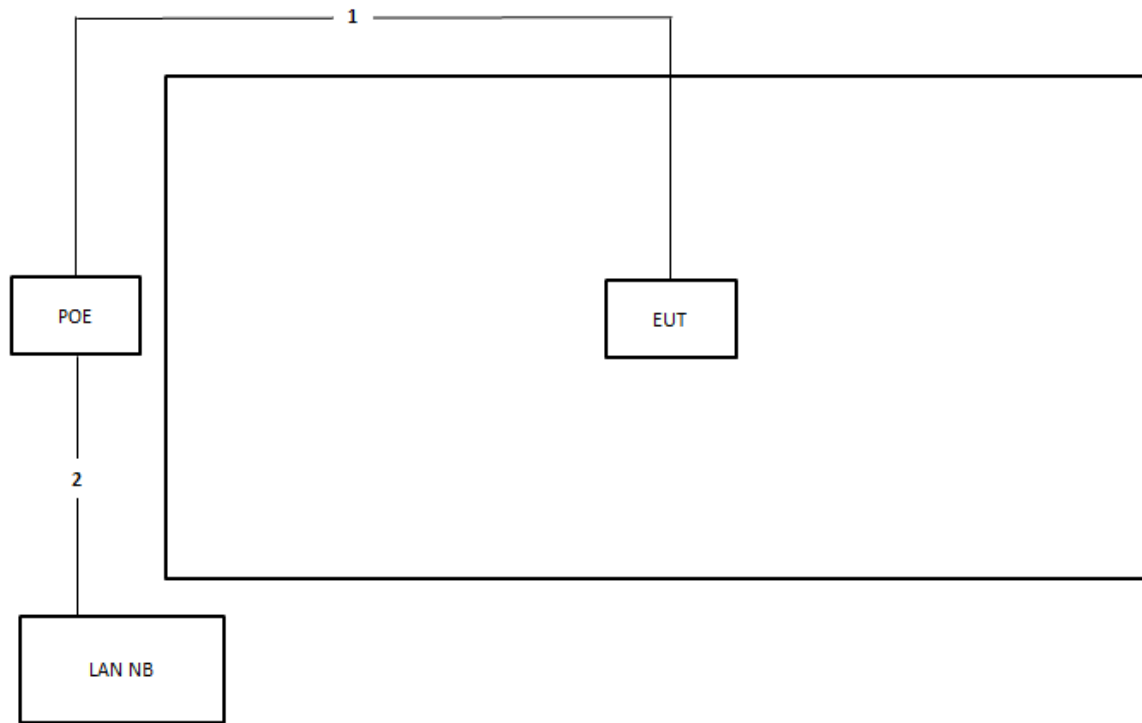
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	PoE	CISCO	SB-PWR-INJ2	DoC

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

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

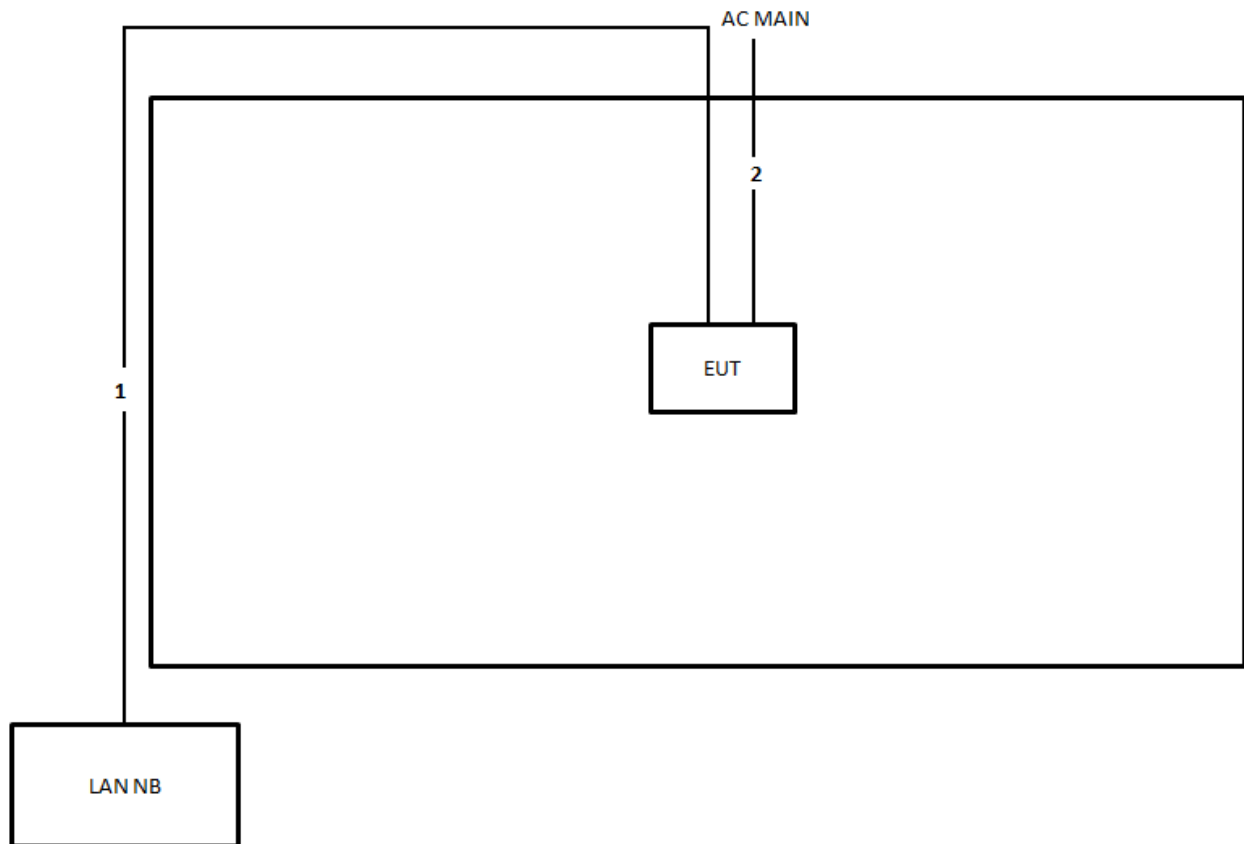
2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


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

Test Setup Diagram - Radiated Test > 1GHz



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

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.

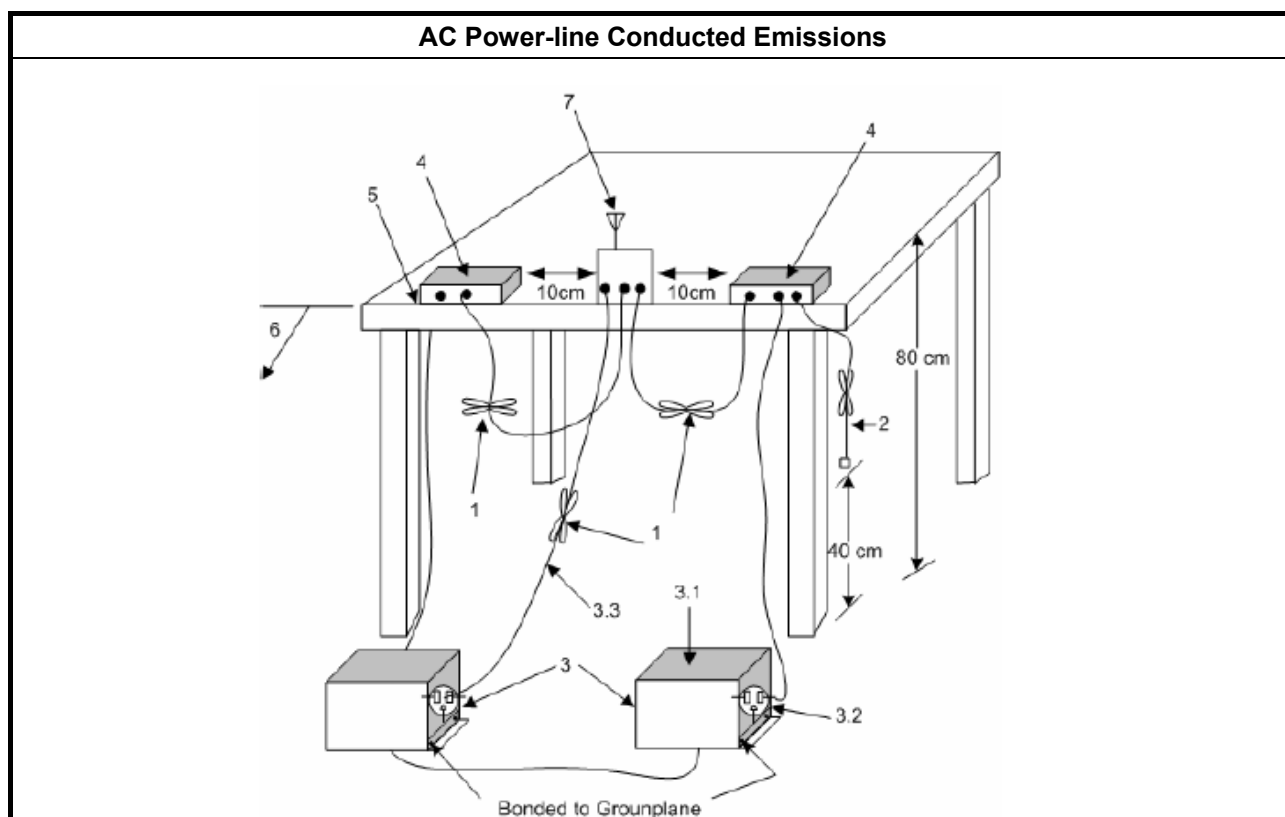
3.1.2 Measuring Instruments

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

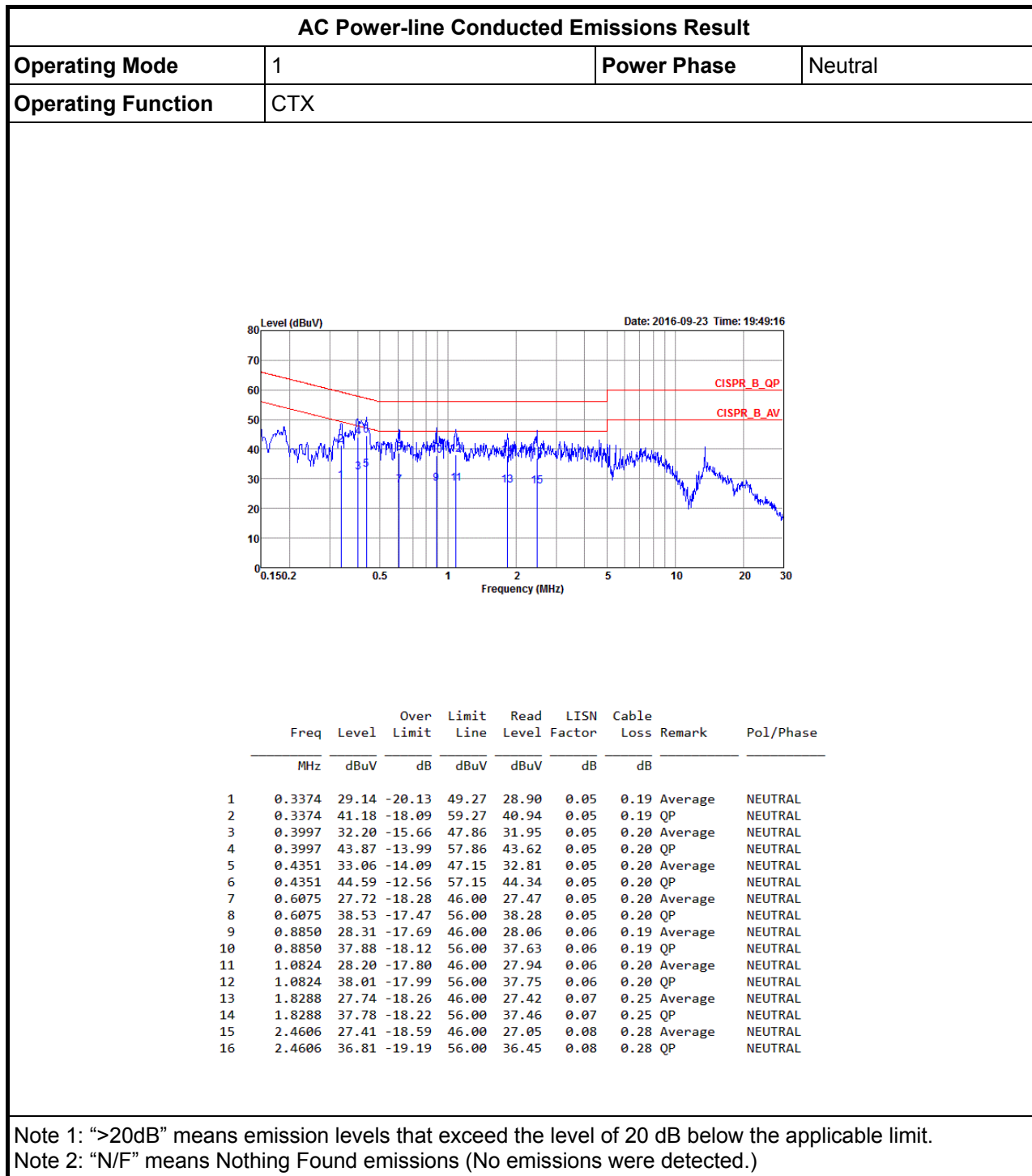
3.1.3 Test Procedures

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

3.1.4 Test Setup

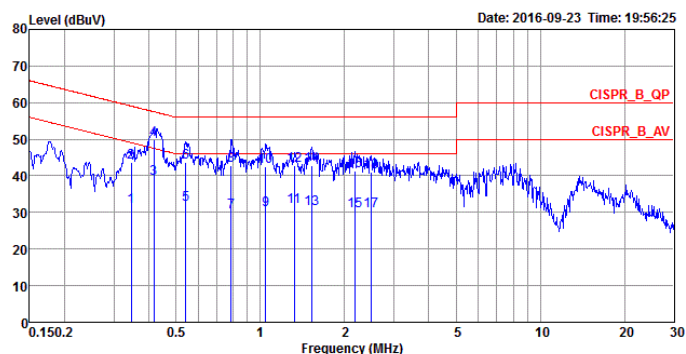


3.1.5 Test Result of AC Power-line Conducted Emissions



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	CTX		



	Freq	Level	Over	Limit	Read	LISN	Cable		
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.3465	31.52	-17.53	49.05	31.28	0.05	0.19	Average	LINE
2	0.3465	43.78	-15.27	59.05	43.54	0.05	0.19	QP	LINE
3	0.4171	39.40	-8.11	47.51	39.15	0.05	0.20	Average	LINE
4	0.4171	49.85	-7.66	57.51	49.60	0.05	0.20	QP	LINE
5	0.5407	32.04	-13.96	46.00	31.79	0.05	0.20	Average	LINE
6	0.5407	43.55	-12.45	56.00	43.30	0.05	0.20	QP	LINE
7	0.7876	30.20	-15.80	46.00	29.95	0.06	0.19	Average	LINE
8	0.7876	42.75	-13.25	56.00	42.50	0.06	0.19	QP	LINE
9	1.0430	30.74	-15.26	46.00	30.49	0.06	0.19	Average	LINE
10	1.0430	42.62	-13.38	56.00	42.37	0.06	0.19	QP	LINE
11	1.3238	31.49	-14.51	46.00	31.22	0.06	0.21	Average	LINE
12	1.3238	42.74	-13.26	56.00	42.47	0.06	0.21	QP	LINE
13	1.5274	30.99	-15.01	46.00	30.69	0.07	0.23	Average	LINE
14	1.5274	42.70	-13.30	56.00	42.40	0.07	0.23	QP	LINE
15	2.1783	30.35	-15.65	46.00	30.01	0.07	0.27	Average	LINE
16	2.1783	41.29	-14.71	56.00	40.95	0.07	0.27	QP	LINE
17	2.4868	30.41	-15.59	46.00	30.05	0.08	0.28	Average	LINE
18	2.4868	40.93	-15.07	56.00	40.57	0.08	0.28	QP	LINE

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.)

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth $\geq$ 500 kHz.

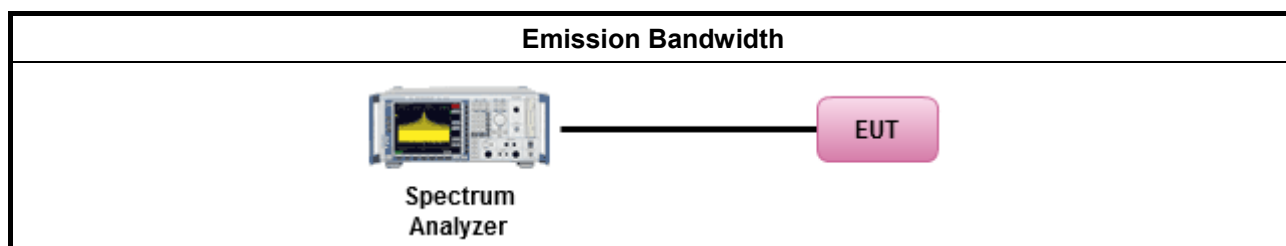
3.2.2 Measuring Instruments

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, clause 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as FCC KDB 558074, 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



3.2.5 Test Result of Emission Bandwidth

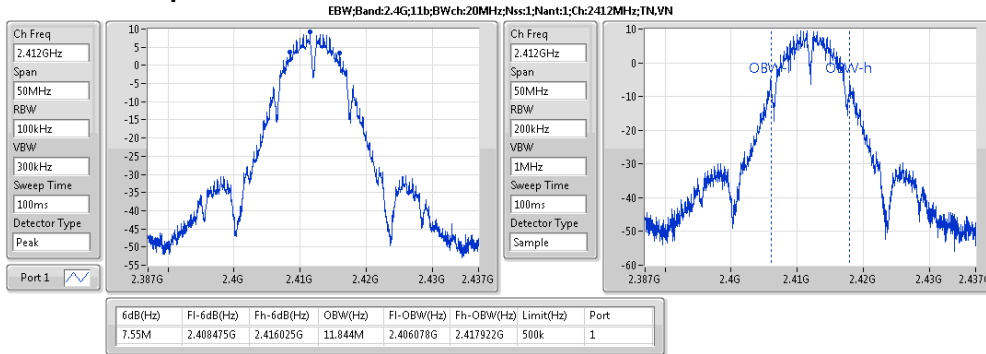
Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)
802.11b 1Mbps 2412MHz 1TX	Pass	500k	7.55M	11.844M
802.11b 1Mbps 2437MHz 1TX	Pass	500k	7.05M	11.844M
802.11b 1Mbps 2462MHz 1TX	Pass	500k	6.55M	11.944M
802.11g 6Mbps 2412MHz 1TX	Pass	500k	15.25M	16.367M
802.11g 6Mbps 2437MHz 1TX	Pass	500k	12.9M	16.392M
802.11g 6Mbps 2462MHz 1TX	Pass	500k	15.425M	16.367M
802.11ac VHT20 MCS0 2412MHz 1TX	Pass	500k	15M	17.591M
802.11ac VHT20 MCS0 2437MHz 1TX	Pass	500k	17M	17.566M
802.11ac VHT20 MCS0 2462MHz 1TX	Pass	500k	11.425M	17.566M
802.11ac VHT40 MCS0 2422MHz 1TX	Pass	500k	34.65M	35.632M
802.11ac VHT40 MCS0 2437MHz 1TX	Pass	500k	33.8M	35.632M
802.11ac VHT40 MCS0 2452MHz 1TX	Pass	500k	35.05M	35.732M

Note: N dB BW = 6dB BW

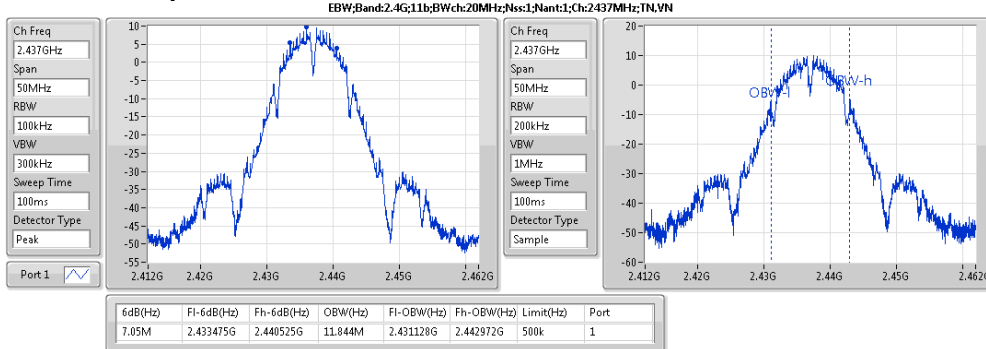
Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)
802.11b 1Mbps 2412MHz 2TX	Pass	500k	6.575M	7.05M
802.11b 1Mbps 2437MHz 2TX	Pass	500k	7.525M	8.475M
802.11b 1Mbps 2462MHz 2TX	Pass	500k	7.025M	7.025M
802.11g 6Mbps 2412MHz 2TX	Pass	500k	15.05M	14.925M
802.11g 6Mbps 2437MHz 2TX	Pass	500k	15.125M	15.075M
802.11g 6Mbps 2462MHz 2TX	Pass	500k	15.125M	13.875M
802.11ac VHT20(BF)MCS0 2412MHz 2TX	Pass	500k	15.05M	15.125M
802.11ac VHT20(BF)MCS0 2437MHz 2TX	Pass	500k	13.925M	15.7M
802.11ac VHT20(BF)MCS0 2462MHz 2TX	Pass	500k	15.075M	15.125M
802.11ac VHT40(BF)MCS0 2422MHz 2TX	Pass	500k	35.05M	35M
802.11ac VHT40(BF)MCS0 2437MHz 2TX	Pass	500k	35.2M	35.1M
802.11ac VHT40(BF)MCS0 2452MHz 2TX	Pass	500k	35.2M	35.1M

Note: N dB BW = 6dB BW

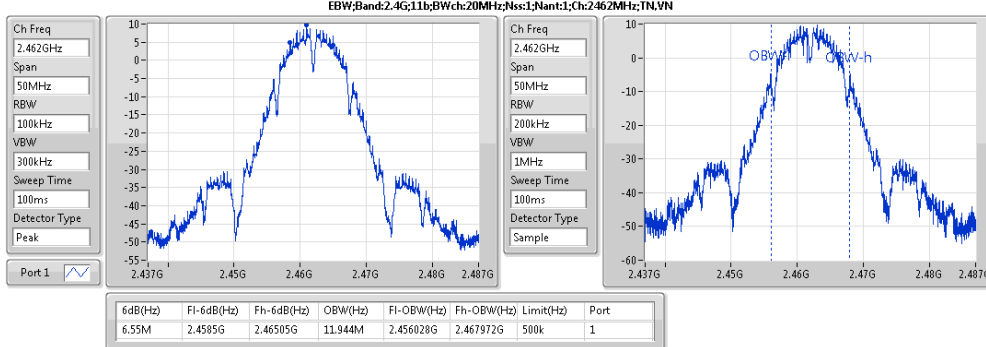
802.11b 1Mbps 2412MHz 1TX



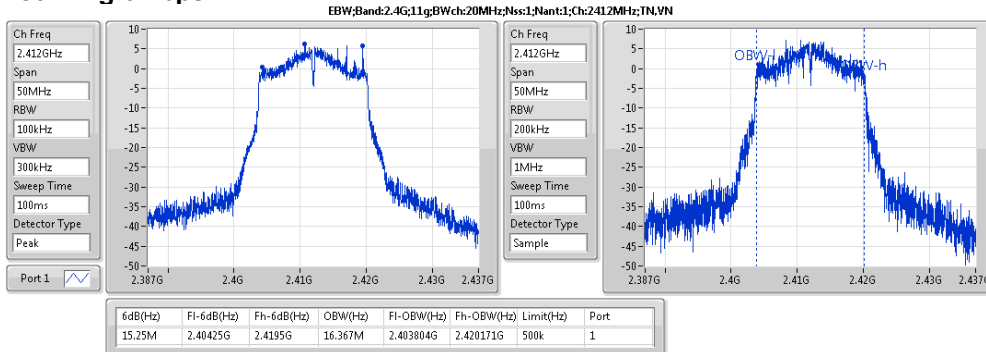
802.11b 1Mbps 2437MHz 1TX



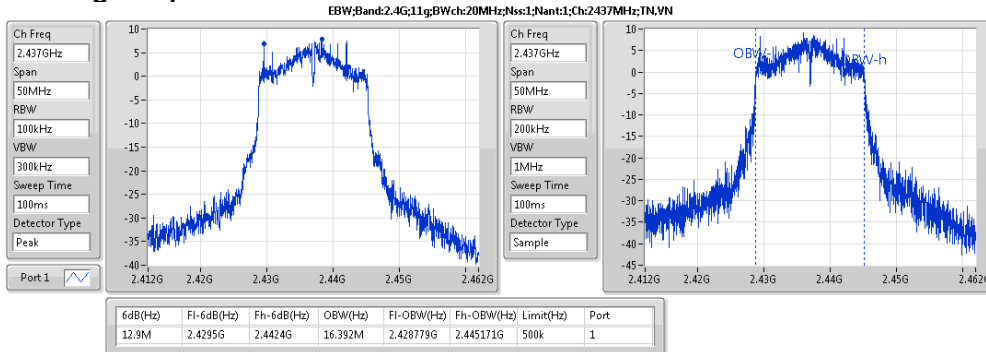
802.11b 1Mbps 2462MHz 1TX



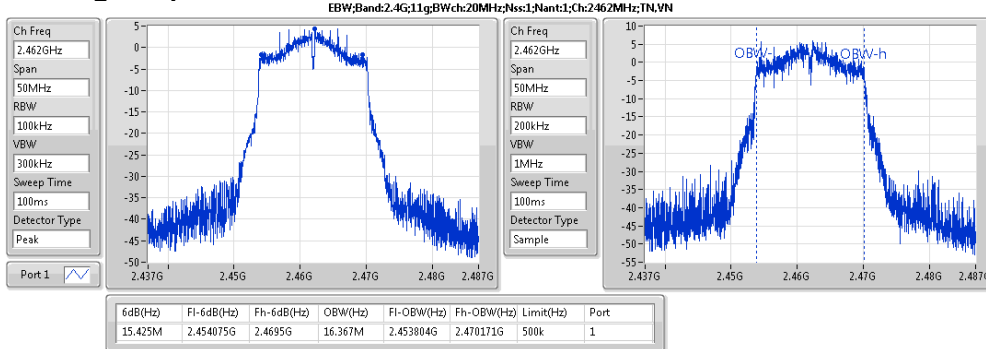
802.11g 6Mbps 2412MHz 1TX



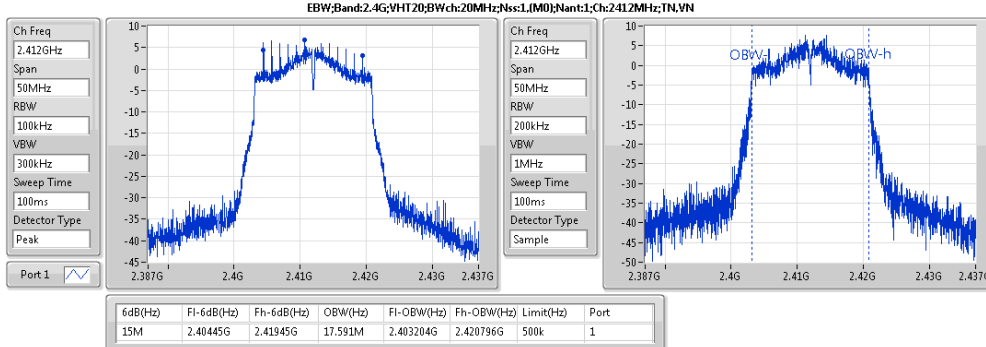
802.11g 6Mbps 2437MHz 1TX



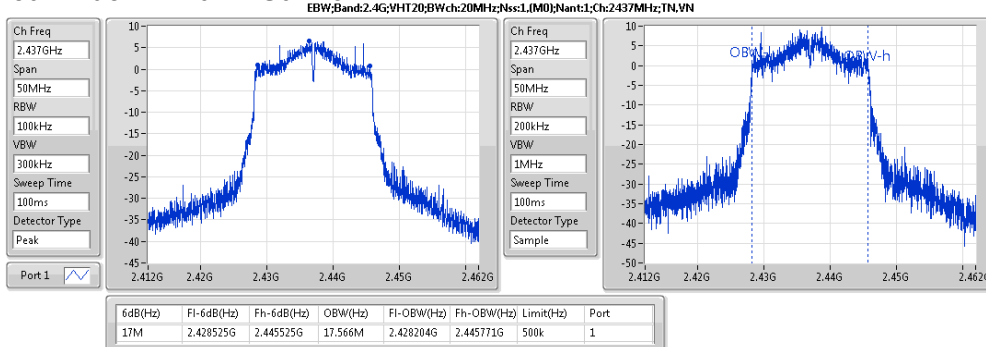
802.11g 6Mbps 2462MHz 1TX



802.11ac VHT20 MCS0 2412MHz 1TX

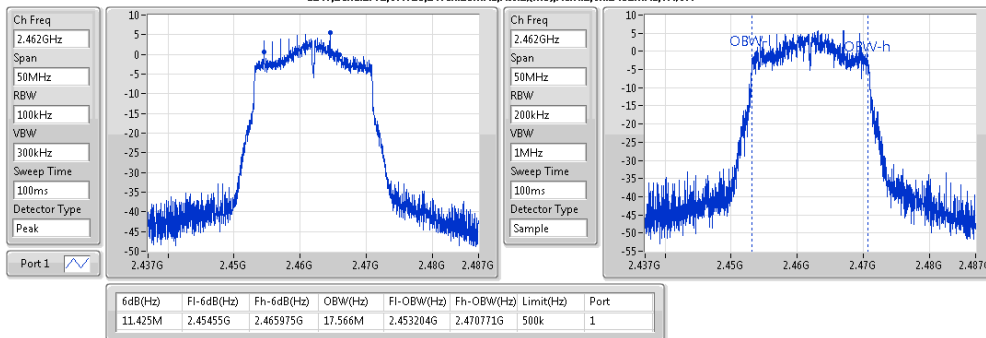


802.11ac VHT20 MCS0 2437MHz 1TX



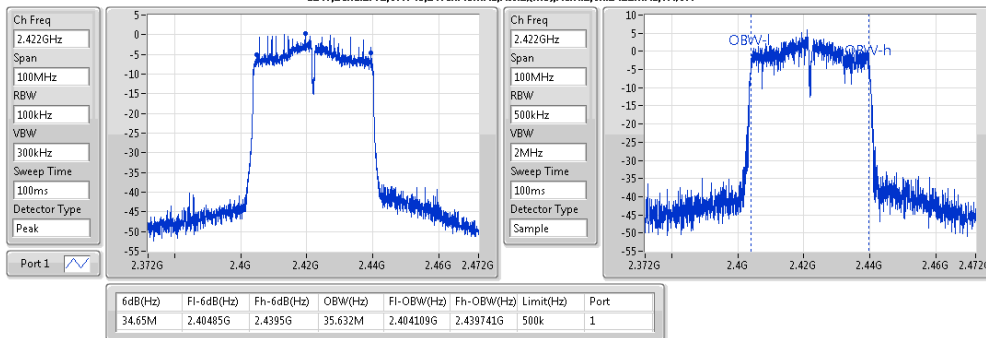
802.11ac VHT20 MCS0 2462MHz 1TX

EBW:Band:2.4G;VHT20;BWch:20MHz;Nss:1;IMD;Nant:1;Ch:2462MHz;TN,VN



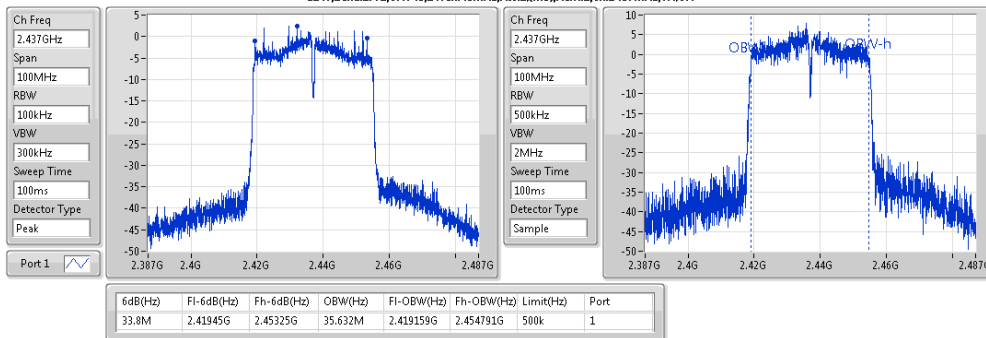
802.11ac VHT40 MCS0 2422MHz 1TX

EBW:Band:2.4G;VHT40;BWch:40MHz;Nss:1;IMD;Nant:1;Ch:2422MHz;TN,VN



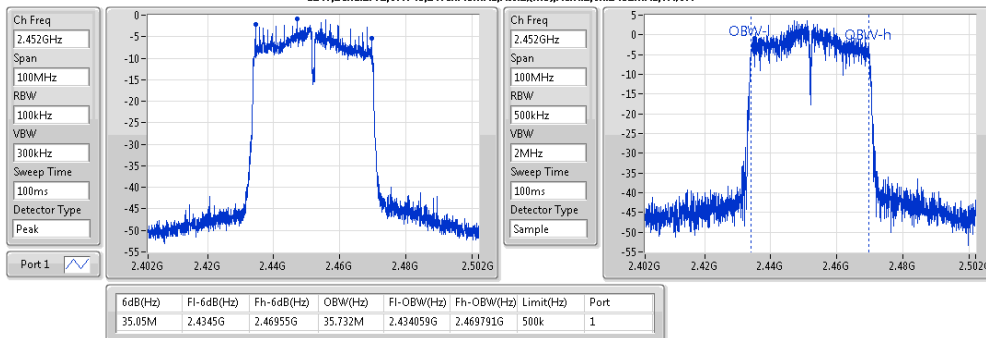
802.11ac VHT40 MCS0 2437MHz 1TX

EBW:Band:2.4G;VHT40;BWch:40MHz;Nss:1;IMD;Nant:1;Ch:2437MHz;TN,VN

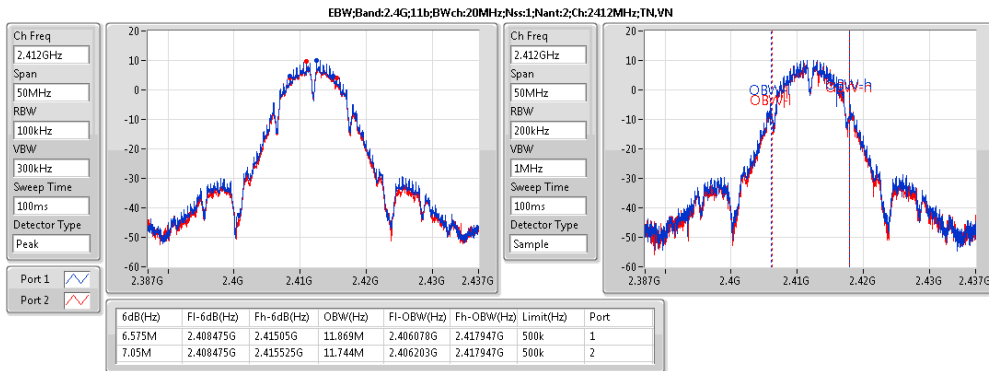


802.11ac VHT40 MCS0 2452MHz 1TX

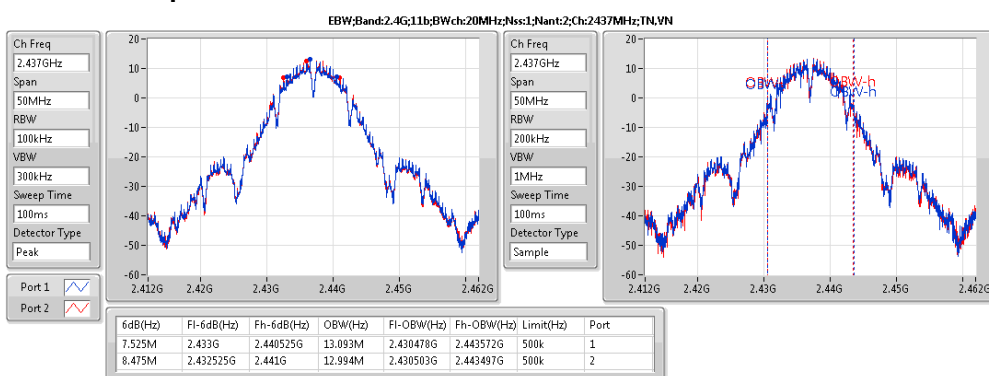
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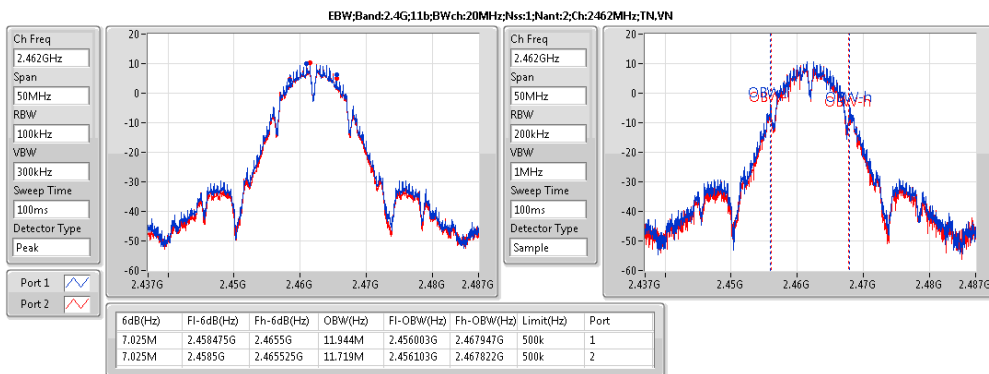
802.11b 1Mbps 2412MHz 2TX



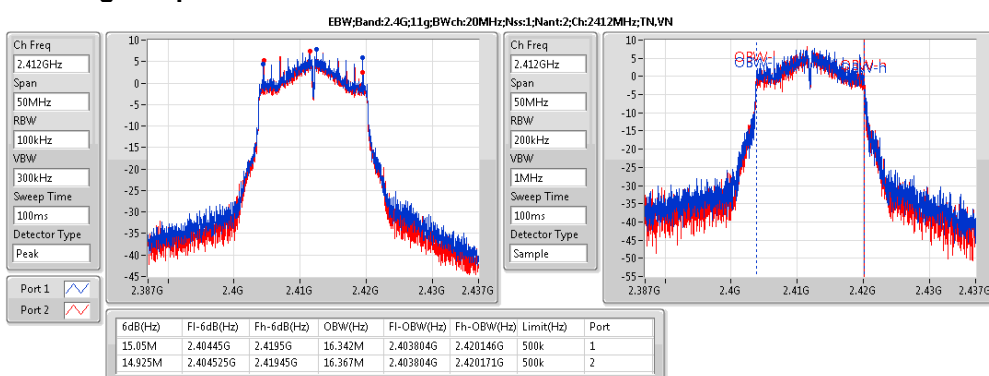
802.11b 1Mbps 2437MHz 2TX



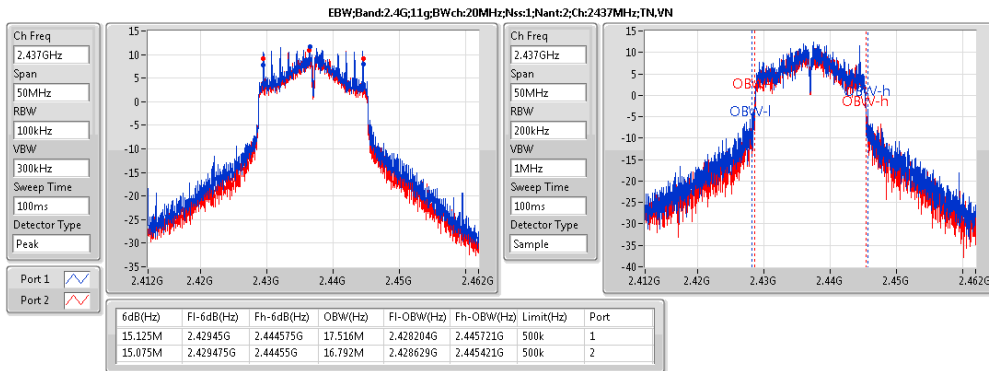
802.11b 1Mbps 2462MHz 2TX



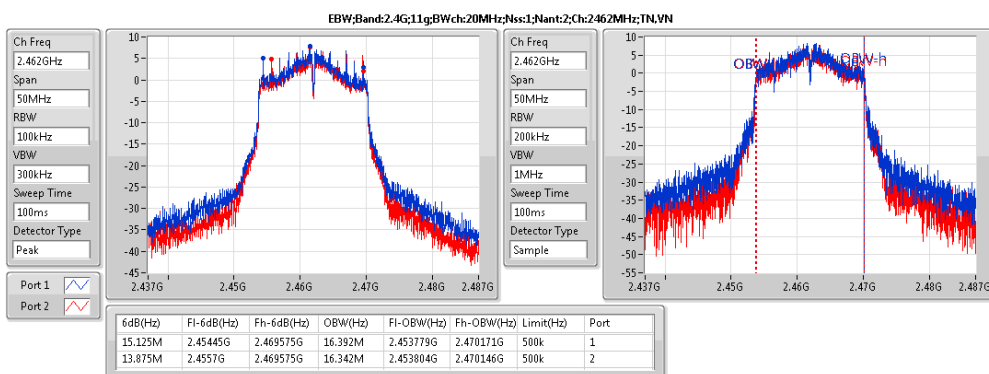
802.11g 6Mbps 2412MHz 2TX



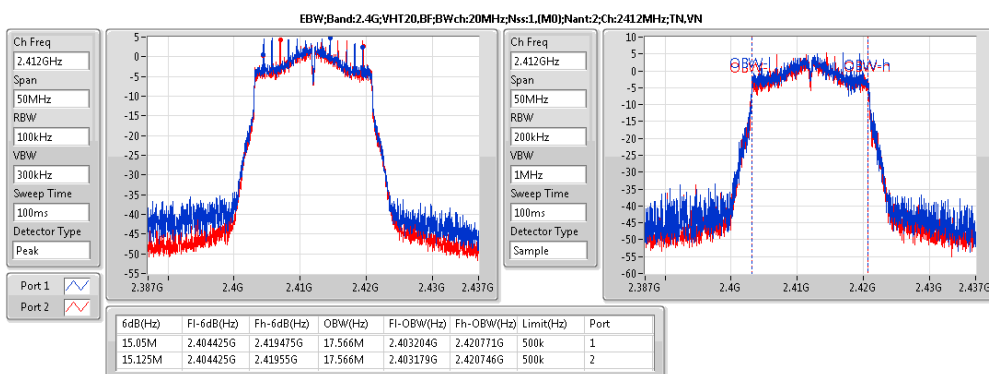
802.11g 6Mbps 2437MHz 2TX



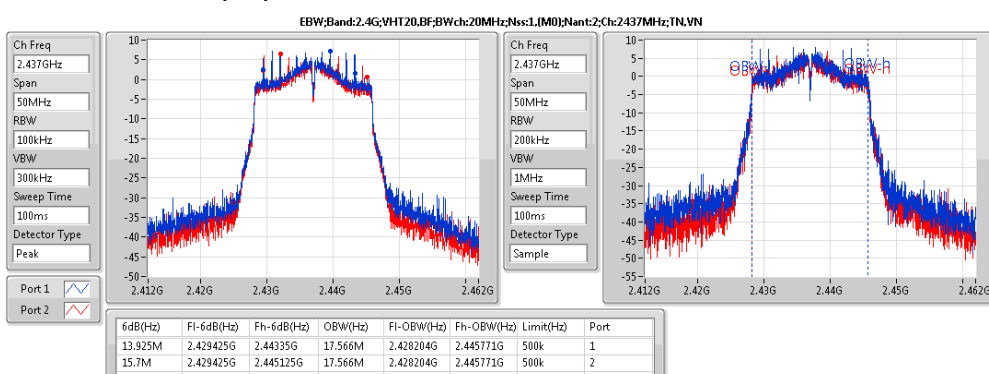
802.11g 6Mbps 2462MHz 2TX



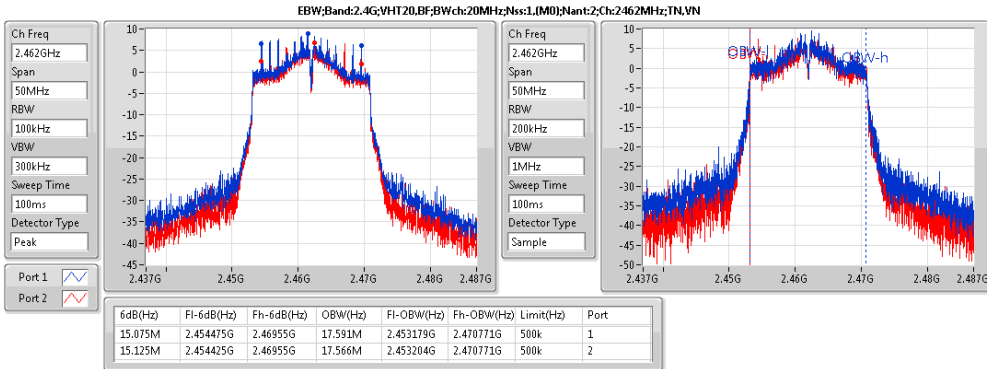
802.11ac VHT20(BF)MCS0 2412MHz 2TX



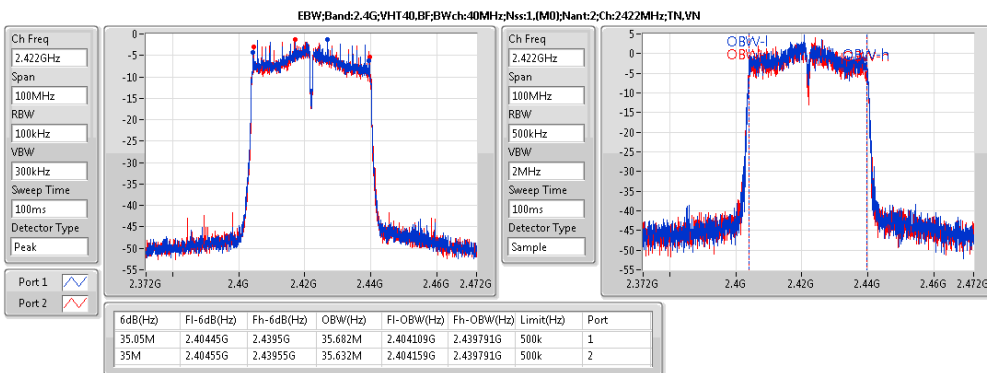
802.11ac VHT20(BF)MCS0 2437MHz 2TX



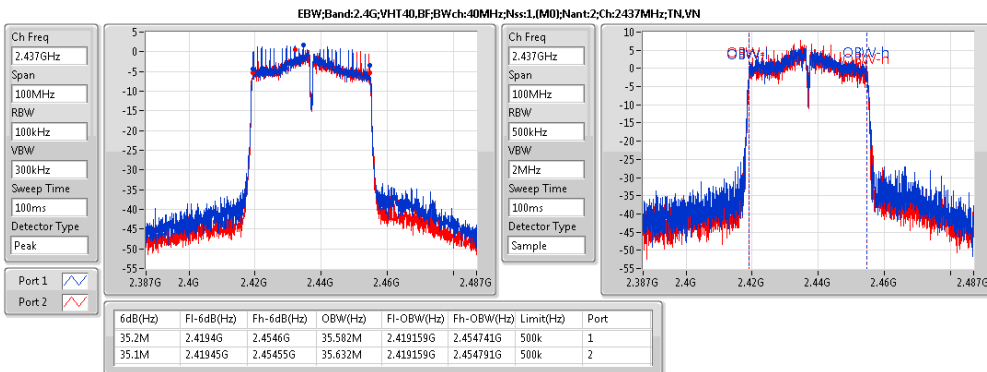
802.11ac VHT20(BF)MCS0 2462MHz 2TX



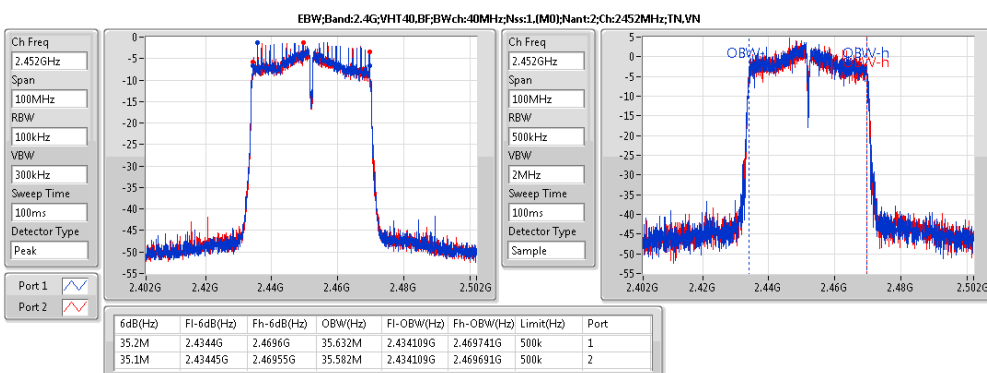
802.11ac VHT40(BF)MCS0 2422MHz 2TX



802.11ac VHT40(BF)MCS0 2437MHz 2TX



802.11ac VHT40(BF)MCS0 2452MHz 2TX



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted 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.	

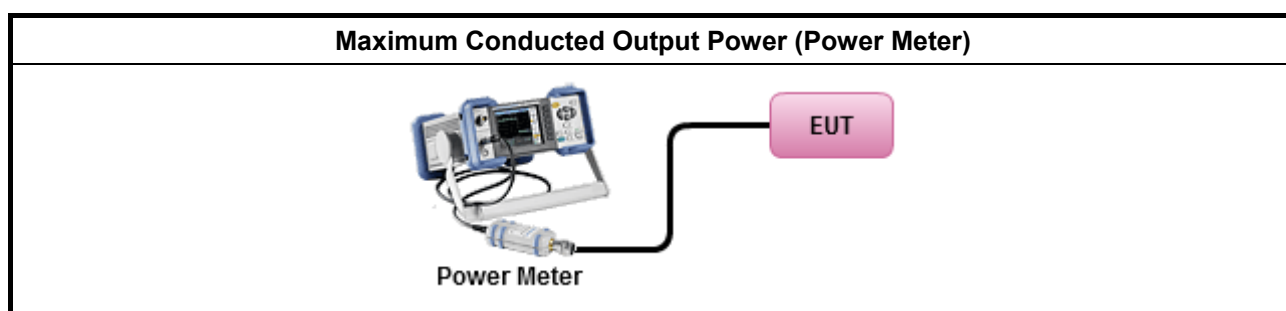
3.3.2 Measuring Instruments

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, clause 9.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, 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, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, 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, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
☐	Refer as FCC KDB 558074, 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, clause 9.2.3 Method AVGPM-G (using an RF average power meter).
☐	Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method.
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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Mode	Result	Directional Gain (dBi)	Port 1 (dBm)	Output Power Limit (dBm)	EIRP (dBm)
802.11b 1Mbps 2412MHz 1TX	Pass	4.02	18.17	30.00	22.19
802.11b 1Mbps 2437MHz 1TX	Pass	4.02	22.90	30.00	26.92
802.11b 1Mbps 2462MHz 1TX	Pass	4.02	18.72	30.00	22.74
802.11g 6Mbps 2412MHz 1TX	Pass	4.02	17.42	30.00	21.44
802.11g 6Mbps 2437MHz 1TX	Pass	4.02	19.03	30.00	23.05
802.11g 6Mbps 2462MHz 1TX	Pass	4.02	16.23	30.00	20.25
802.11ac VHT20 MCS0 2412MHz 1TX	Pass	4.02	17.13	30.00	21.15
802.11ac VHT20 MCS0 2437MHz 1TX	Pass	4.02	19.89	30.00	23.91
802.11ac VHT20 MCS0 2462MHz 1TX	Pass	4.02	17.33	30.00	21.35
802.11ac VHT40 MCS0 2422MHz 1TX	Pass	4.02	15.79	30.00	19.81
802.11ac VHT40 MCS0 2437MHz 1TX	Pass	4.02	17.55	30.00	21.57
802.11ac VHT40 MCS0 2452MHz 1TX	Pass	4.02	15.73	30.00	19.75

Mode	Result	Directional Gain (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Output Power Limit (dBm)	EIRP (dBm)
802.11b 1Mbps 2412MHz 2TX	Pass	4.02	18.72	18.51	21.63	30.00	25.65
802.11b 1Mbps 2437MHz 2TX	Pass	4.02	22.86	22.51	25.70	30.00	29.72
802.11b 1Mbps 2462MHz 2TX	Pass	4.02	19.54	19.30	22.43	30.00	26.45
802.11g 6Mbps 2412MHz 2TX	Pass	4.02	19.18	18.29	21.77	30.00	25.79
802.11g 6Mbps 2437MHz 2TX	Pass	4.02	19.72	19.12	22.44	30.00	26.46
802.11g 6Mbps 2462MHz 2TX	Pass	4.02	17.02	16.43	19.75	30.00	23.77
802.11ac VHT20(BF)MCS0 2412MHz 2TX	Pass	7.03	16.3	16.38	19.35	28.97	26.38
802.11ac VHT20(BF)MCS0 2437MHz 2TX	Pass	7.03	18.85	18.69	21.78	28.97	28.81
802.11ac VHT20(BF)MCS0 2462MHz 2TX	Pass	7.03	16.57	16.34	19.47	28.97	26.50
802.11ac VHT40(BF)MCS0 2422MHz 2TX	Pass	7.03	14.69	14.60	17.66	28.97	24.69
802.11ac VHT40(BF)MCS0 2437MHz 2TX	Pass	7.03	16.36	16.34	19.36	28.97	26.39
802.11ac VHT40(BF)MCS0 2452MHz 2TX	Pass	7.03	14.12	14.08	17.11	28.97	24.14

Note: For 802.11ac VHT20(BF) and 802.11ac VHT40(BF)

$$Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 7.03 \text{dBi} > 6 \text{dBi}, \text{ so limit} = 30 - (7.03 - 6) = 28.97 \text{dBm}.$$

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
Power Spectral Density (PSD) $\leq$ 8 dBm/3kHz

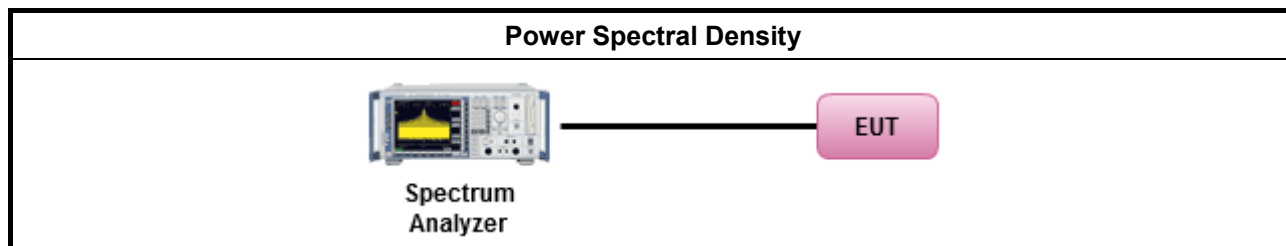
3.4.2 Measuring Instruments

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, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle $\geq$ 98% or external video / power trigger]
☐ Refer as FCC KDB 558074, clause 10.3 Method AVGPS-1 (spectral trace averaging).
☐ Refer as FCC KDB 558074, clause 10.4 Method AVGPS-2 (slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor
☐ Refer as FCC KDB 558074, clause 10.5 Method AVGPS-1 Alt (spectral trace averaging).
☐ Refer as FCC KDB 558074, clause 10.6 Method AVGPS-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



3.4.5 Test Result of Power Spectral Density

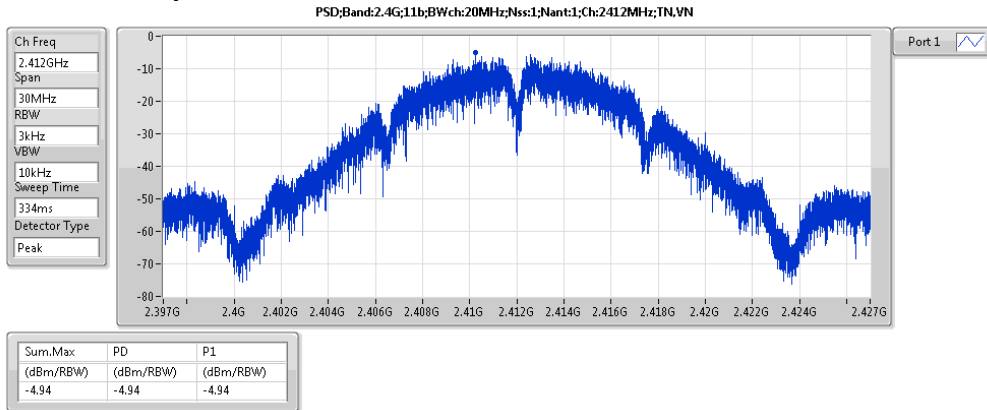
Mode	Result	Directional Gain (dBi)	Port 1 (dBm/3kHz)	PSD.Limit (dBm/3kHz)
802.11b 1Mbps 2412MHz 1TX	Pass	4.02	-4.94	8.00
802.11b 1Mbps 2437MHz 1TX	Pass	4.02	-3.79	8.00
802.11b 1Mbps 2462MHz 1TX	Pass	4.02	-5.36	8.00
802.11g 6Mbps 2412MHz 1TX	Pass	4.02	-6.05	8.00
802.11g 6Mbps 2437MHz 1TX	Pass	4.02	-4.96	8.00
802.11g 6Mbps 2462MHz 1TX	Pass	4.02	-7.79	8.00
802.11ac VHT20 MCS0 2412MHz 1TX	Pass	4.02	-6.33	8.00
802.11ac VHT20 MCS0 2437MHz 1TX	Pass	4.02	-5.60	8.00
802.11ac VHT20 MCS0 2462MHz 1TX	Pass	4.02	-8.59	8.00
802.11ac VHT40 MCS0 2422MHz 1TX	Pass	4.02	-12.14	8.00
802.11ac VHT40 MCS0 2437MHz 1TX	Pass	4.02	-11.71	8.00
802.11ac VHT40 MCS0 2452MHz 1TX	Pass	4.02	-14.59	8.00

Mode	Result	Directional Gain (dBi)	Port 1 (dBm/3kHz)	Port 2 (dBm/3kHz)	Total PSD (dBm/3kHz)	PSD.Limit (dBm/3kHz)
802.11b 1Mbps 2412MHz 2TX	Pass	7.03	-4.42	-5.76	-3.79	6.97
802.11b 1Mbps 2437MHz 2TX	Pass	7.03	-2.12	0.13	0.27	6.97
802.11b 1Mbps 2462MHz 2TX	Pass	7.03	-4.00	-3.47	-2.26	6.97
802.11g 6Mbps 2412MHz 2TX	Pass	7.03	-6.00	-6.92	-4.12	6.97
802.11g 6Mbps 2437MHz 2TX	Pass	7.03	-2.46	-2.72	-0.41	6.97
802.11g 6Mbps 2462MHz 2TX	Pass	7.03	-5.87	-7.11	-4.03	6.97
802.11ac VHT20(BF)MCS0 2412MHz 2TX	Pass	7.03	-9.66	-9.87	-7.35	6.97
802.11ac VHT20(BF)MCS0 2437MHz 2TX	Pass	7.03	-6.82	-8.09	-5.82	6.97
802.11ac VHT20(BF)MCS0 2462MHz 2TX	Pass	7.03	-6.15	-7.44	-4.82	6.97
802.11ac VHT40(BF)MCS0 2422MHz 2TX	Pass	7.03	-8.49	-9.19	-5.86	6.97
802.11ac VHT40(BF)MCS0 2437MHz 2TX	Pass	7.03	-4.94	-6.24	-3.87	6.97
802.11ac VHT40(BF)MCS0 2452MHz 2TX	Pass	7.03	-8.32	-8.40	-6.92	6.97

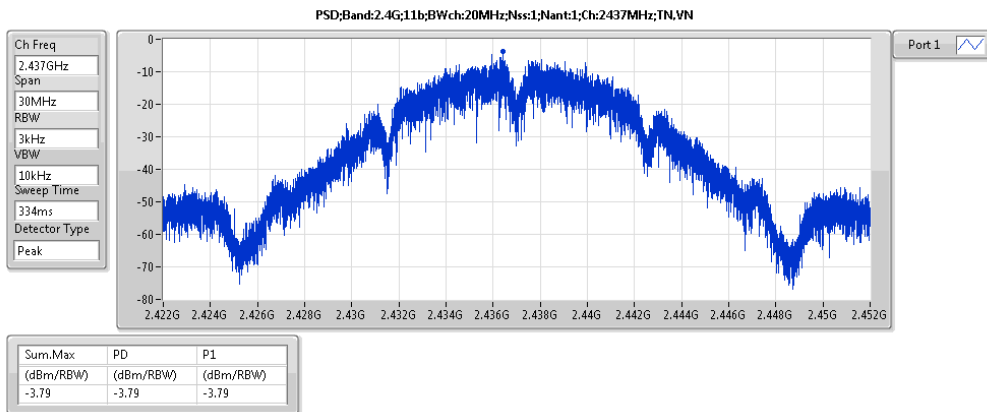
Note: $Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 7.03 \text{dBi} > 6 \text{dBi}$, so limit = $8 - (7.03 - 6) = 6.97 \text{dBm/3kHz}$.



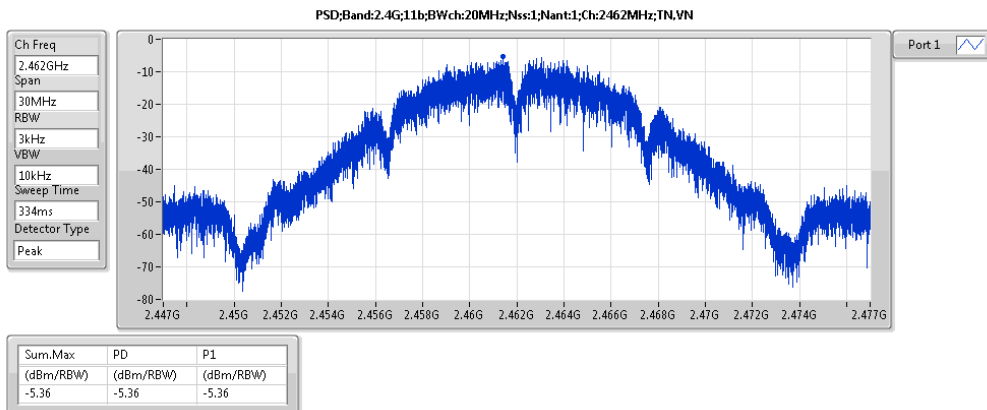
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802.11b 1Mbps 2437MHz 1TX

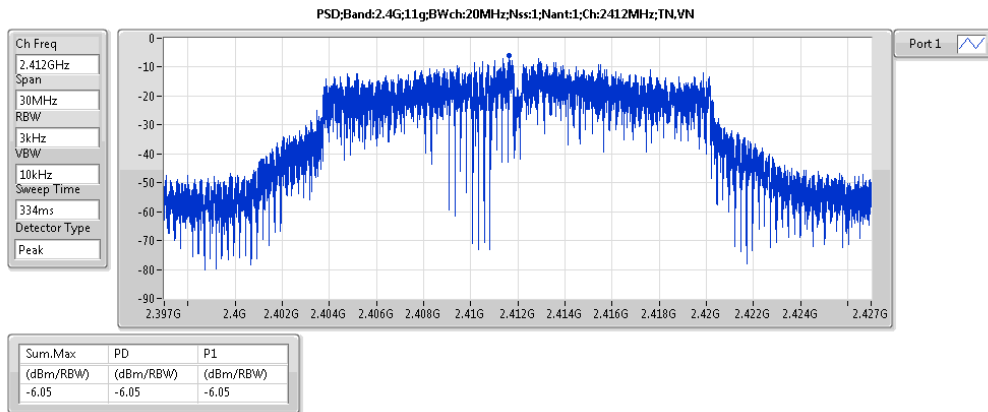


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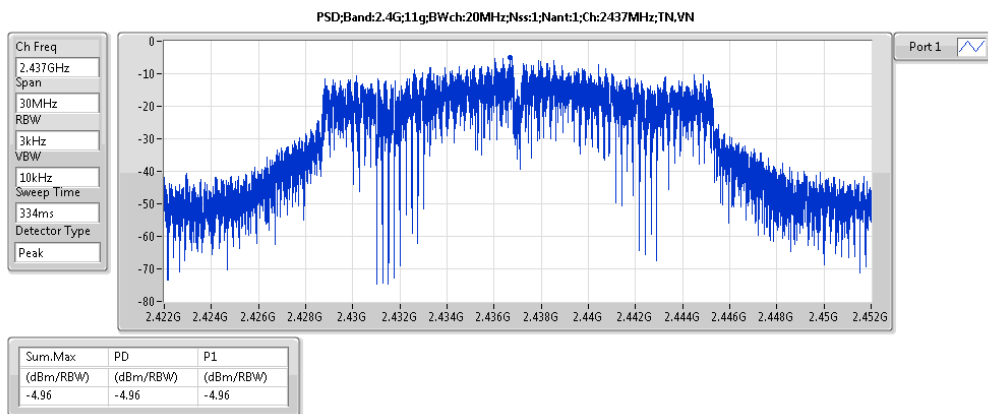




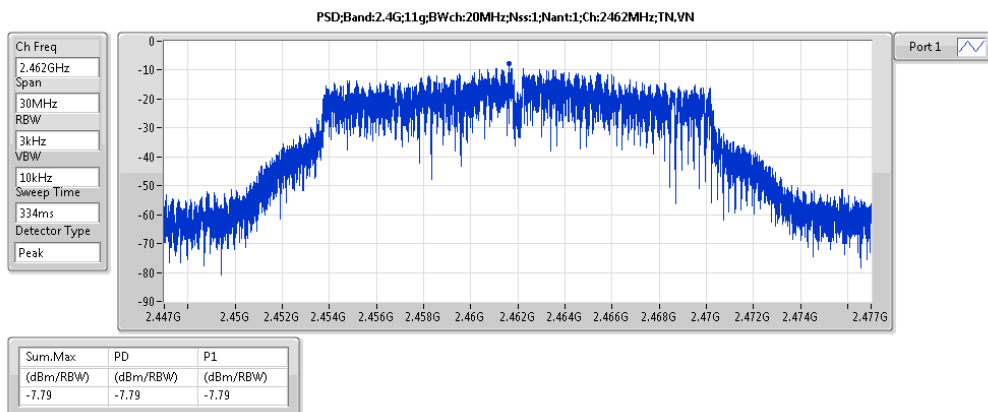
802.11g 6Mbps 2412MHz 1TX



802.11g 6Mbps 2437MHz 1TX

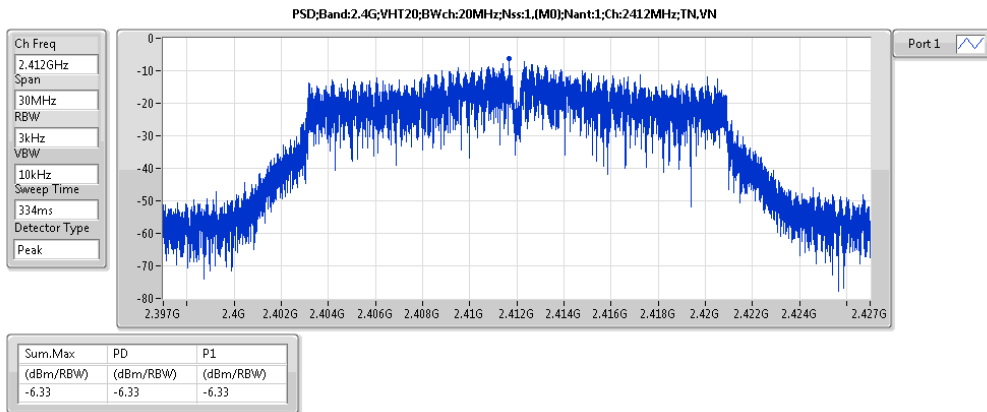


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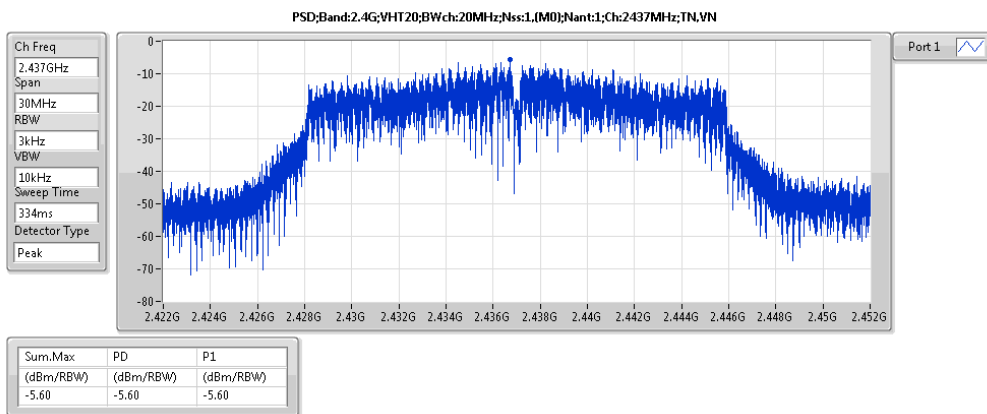




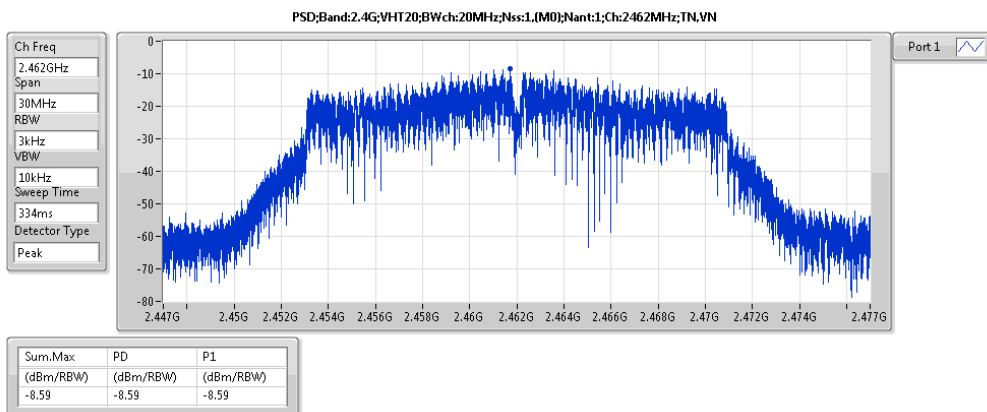
802.11ac VHT20 MCS0 2412MHz 1TX



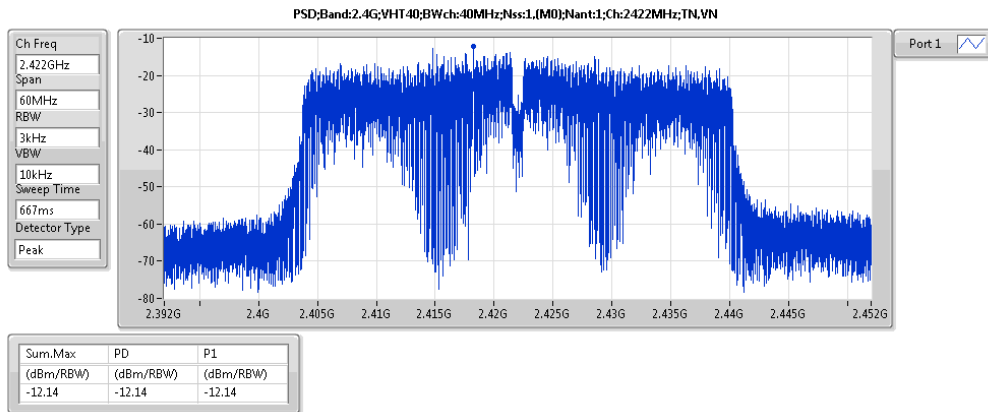
802.11ac VHT20 MCS0 2437MHz 1TX



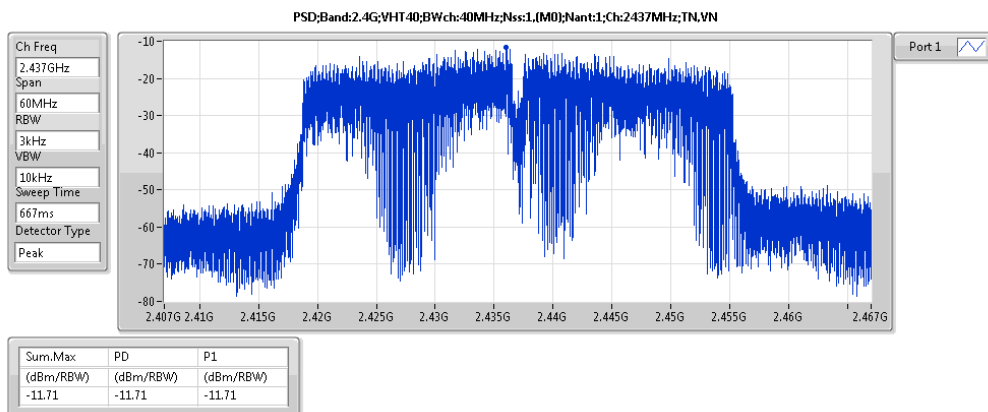
802.11ac VHT20 MCS0 2462MHz 1TX



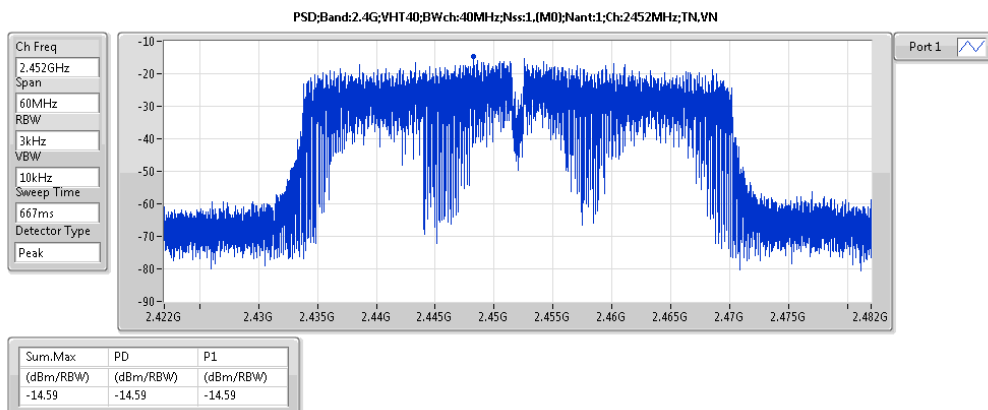
802.11ac VHT40 MCS0 2422MHz 1TX



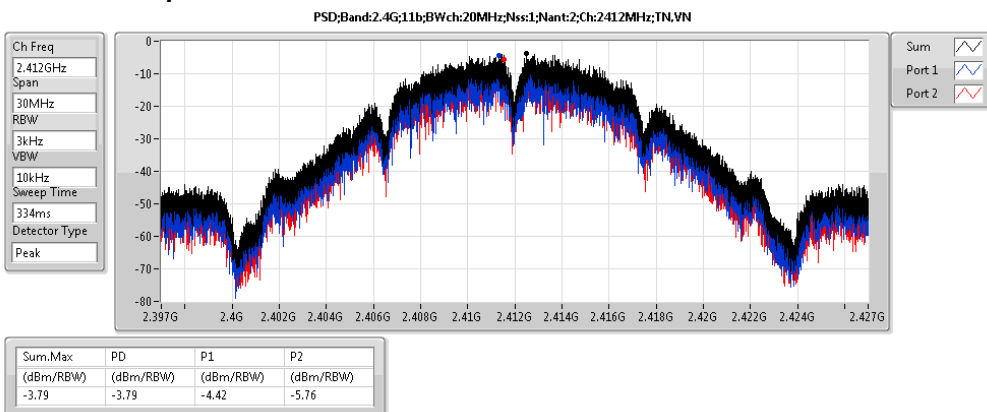
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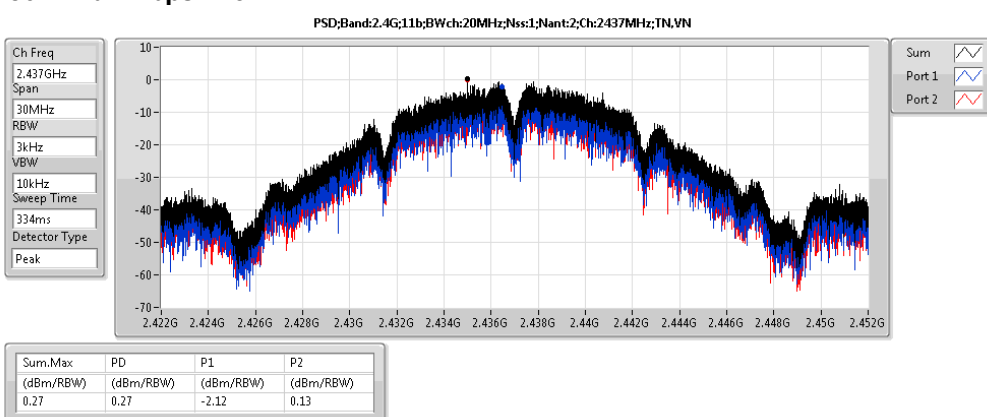
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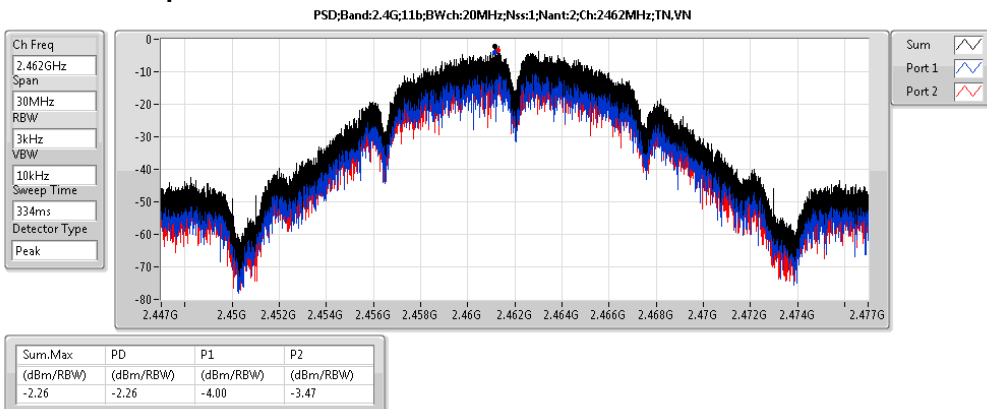
802.11b 1Mbps 2412MHz 2TX



802.11b 1Mbps 2437MHz 2TX

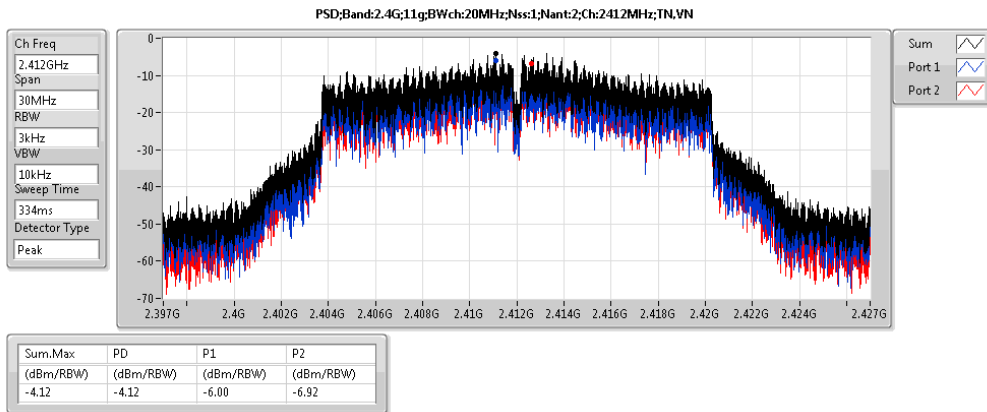


802.11b 1Mbps 2462MHz 2TX

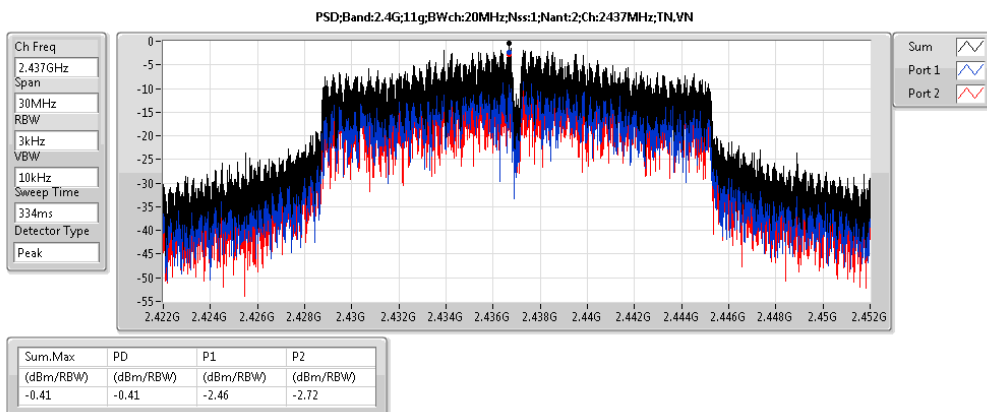




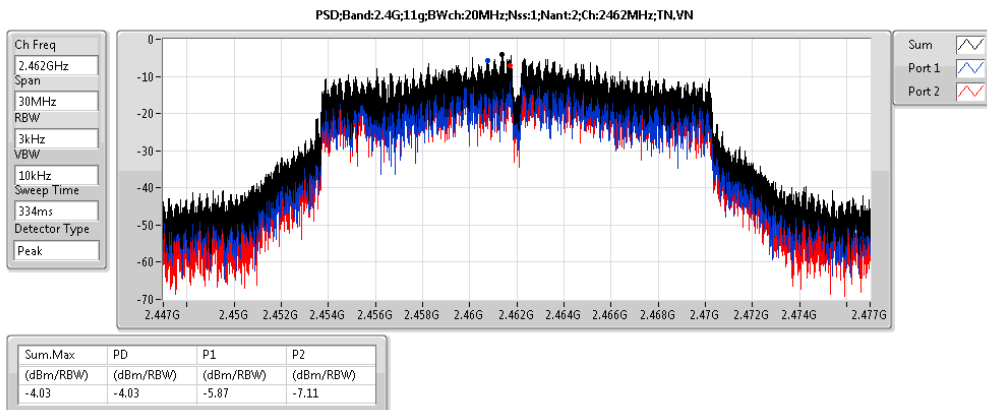
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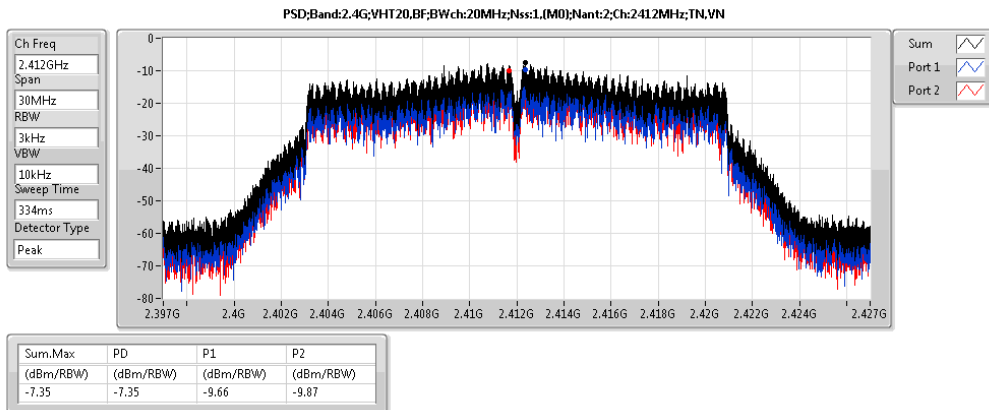
802.11g 6Mbps 2437MHz 2TX



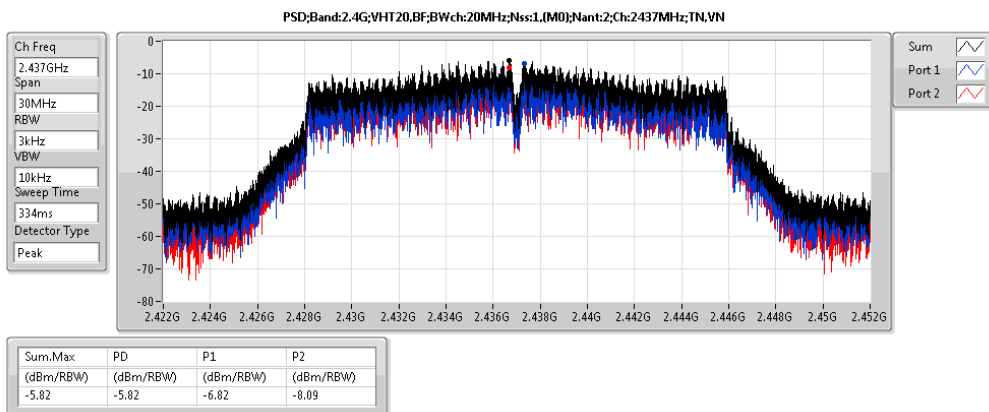
802.11g 6Mbps 2462MHz 2TX



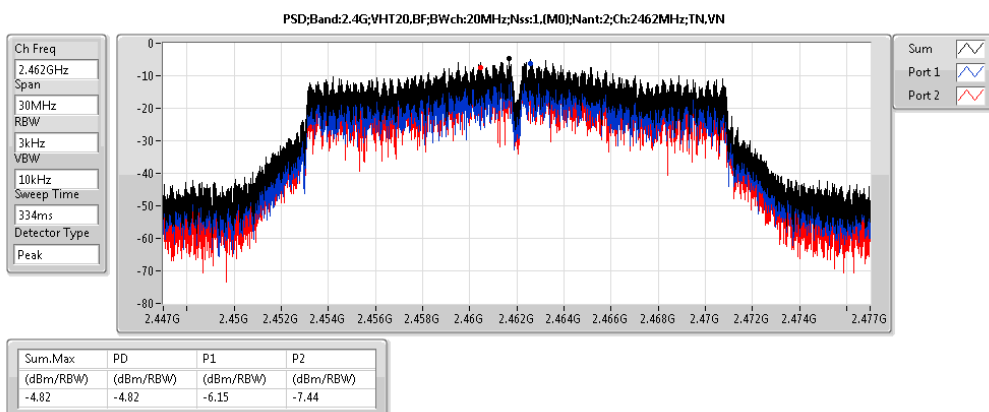
802.11ac VHT20(BF)MCS0 2412MHz 2TX



802.11ac VHT20(BF)MCS0 2437MHz 2TX

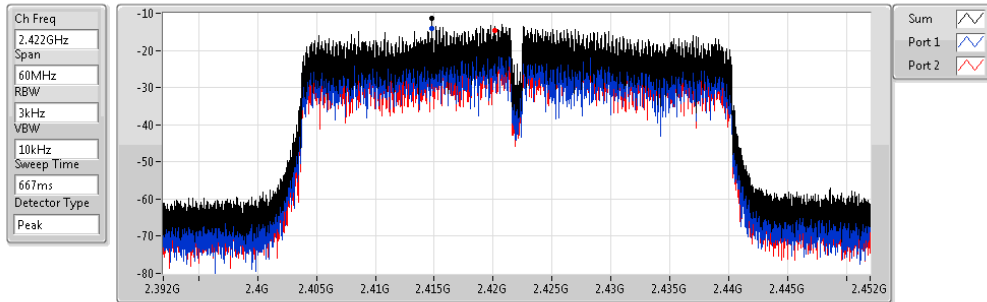


802.11ac VHT20(BF)MCS0 2462MHz 2TX



802.11ac VHT40(BF)MCS0 2422MHz 2TX

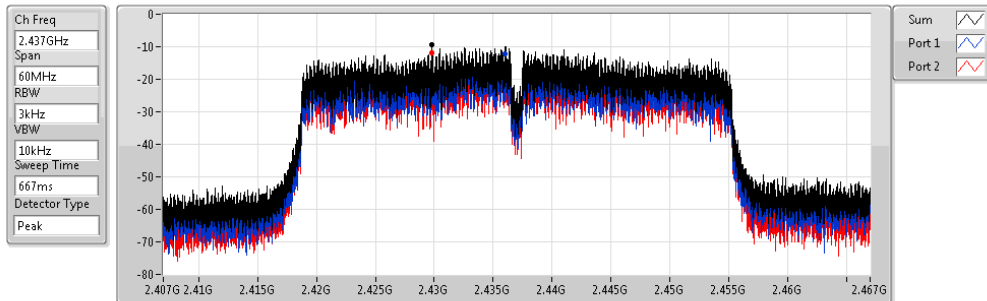
PSD;Band:2.4G;VHT40,BF;BWch:40MHz;Nss:1;(M0);Nant:2;Ch:2422MHz;TN,VN



Sum,Max	PD	P1	P2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-11.50	-11.50	-14.19	-14.72

802.11ac VHT40(BF)MCS0 2437MHz 2TX

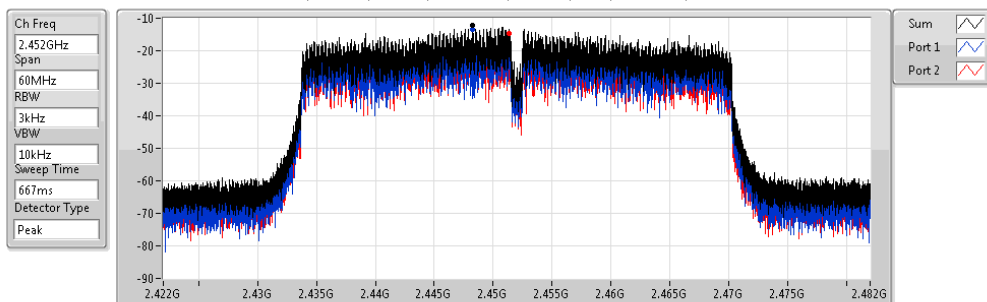
PSD;Band:2.4G;VHT40,BF;BWch:40MHz;Nss:1;(M0);Nant:2;Ch:2437MHz;TN,VN



Sum,Max	PD	P1	P2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-9.25	-9.25	-12.12	-11.79

802.11ac VHT40(BF)MCS0 2452MHz 2TX

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



Sum,Max	PD	P1	P2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-12.11	-12.11	-13.48	-14.64

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.

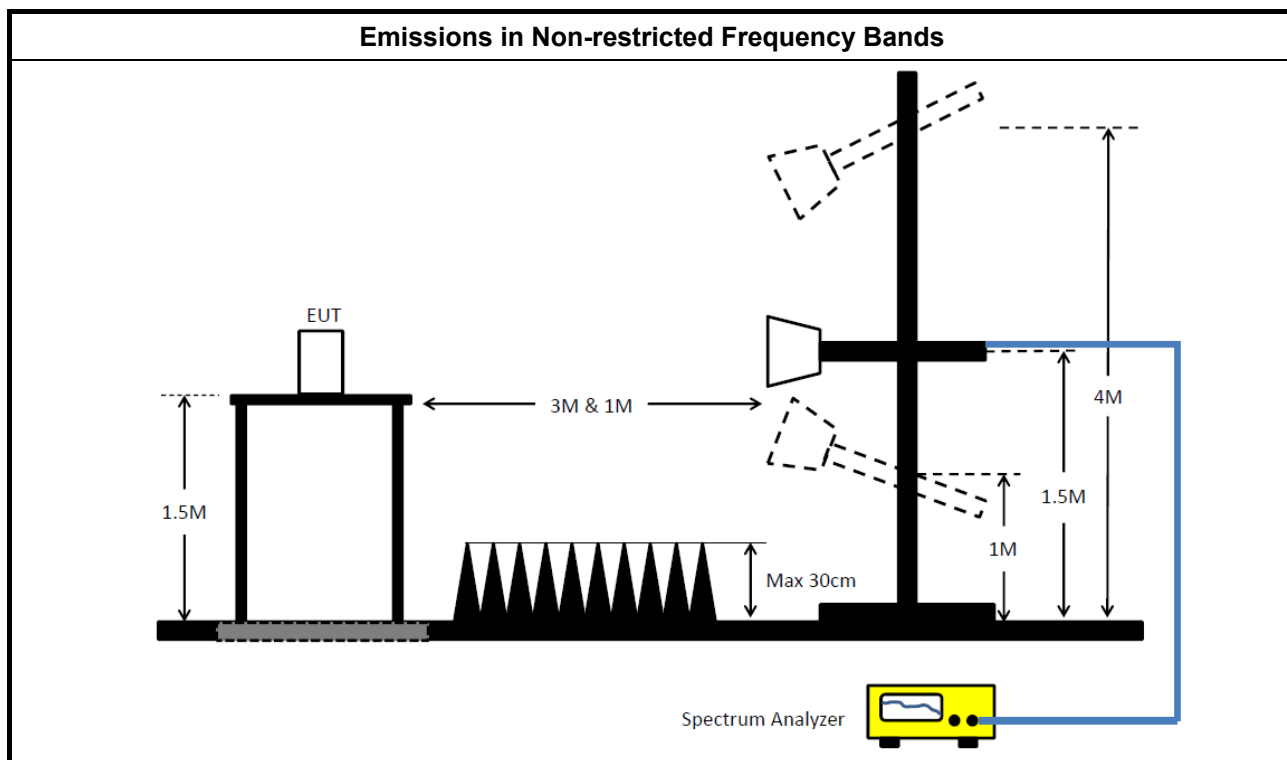
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

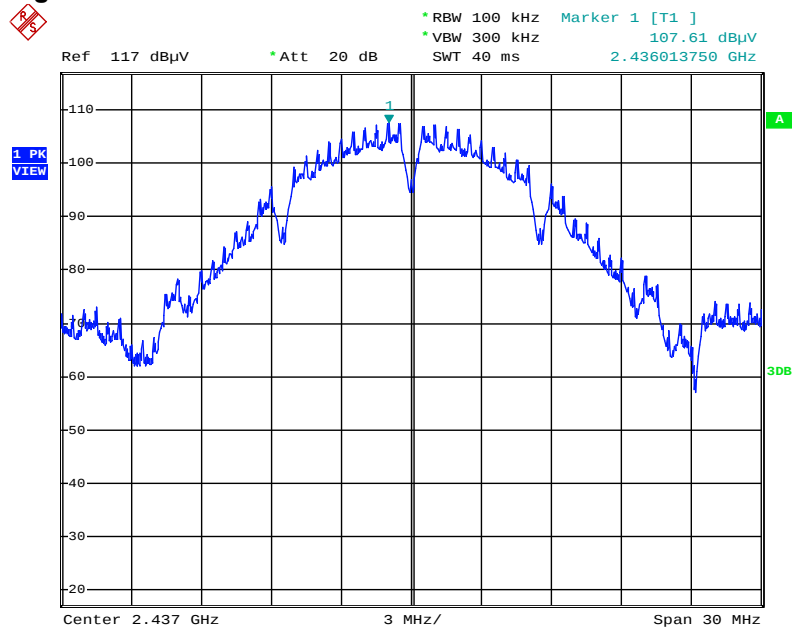
Test Method
Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



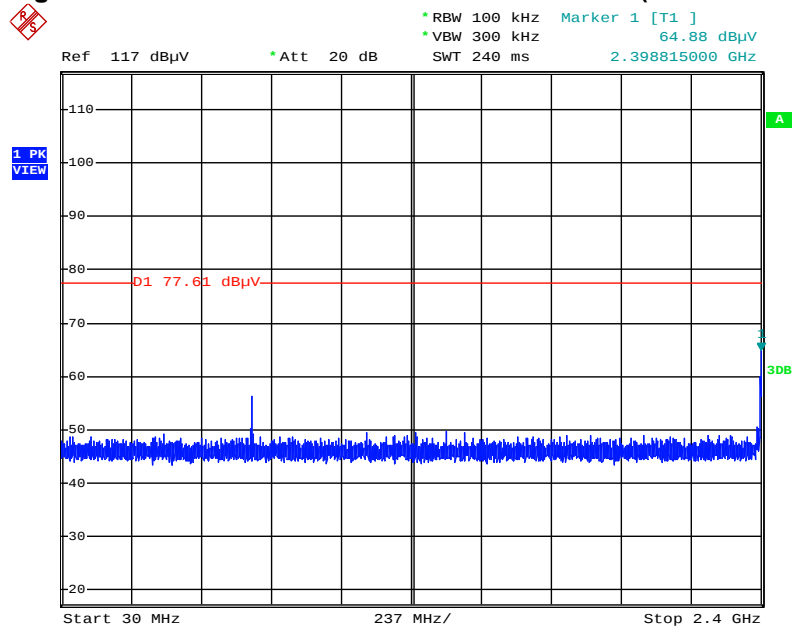
3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1



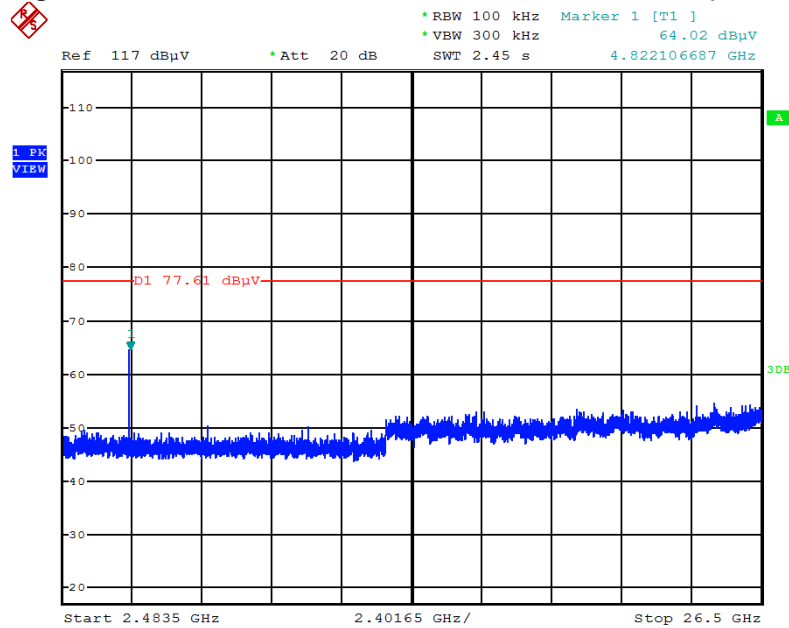
Date: 23.SEP.2016 01:45:56

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



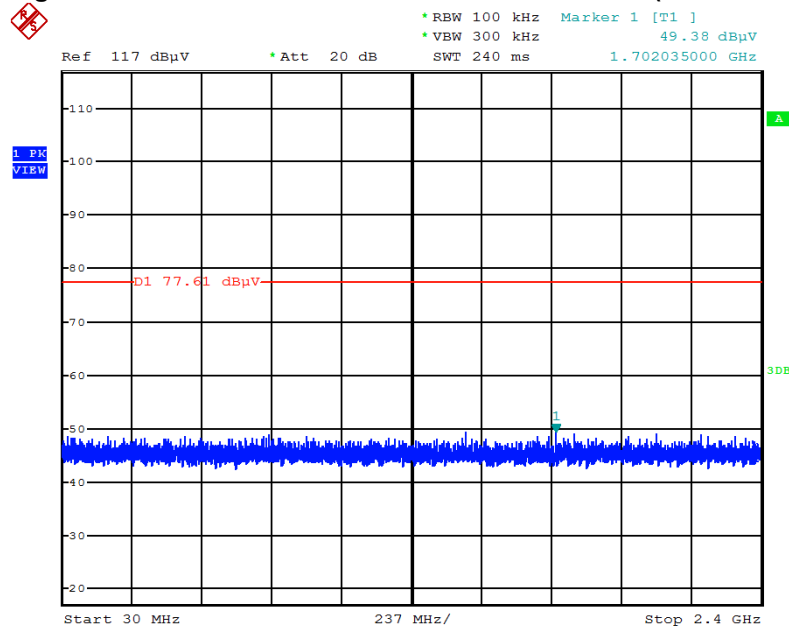
Date: 23.SEP.2016 01:47:27

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



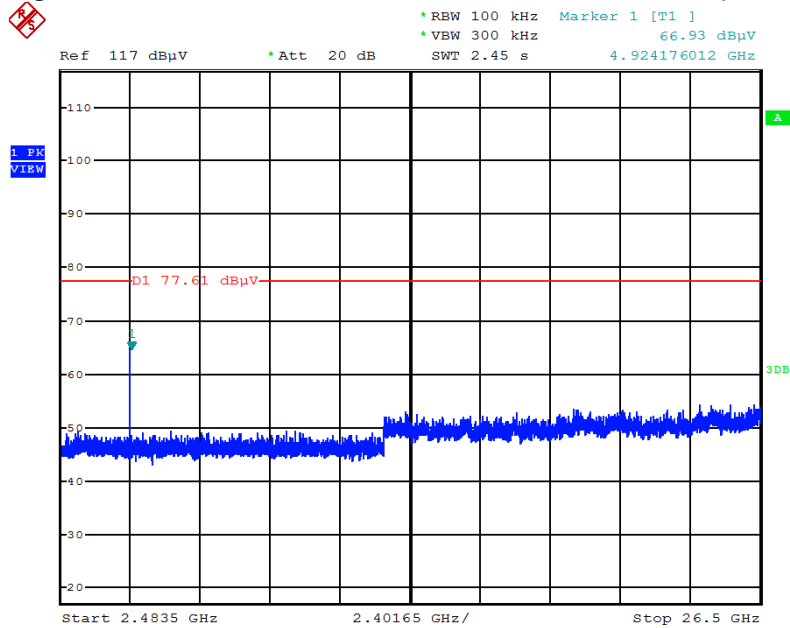
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Plot on Configuration IEEE 802.11b / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1



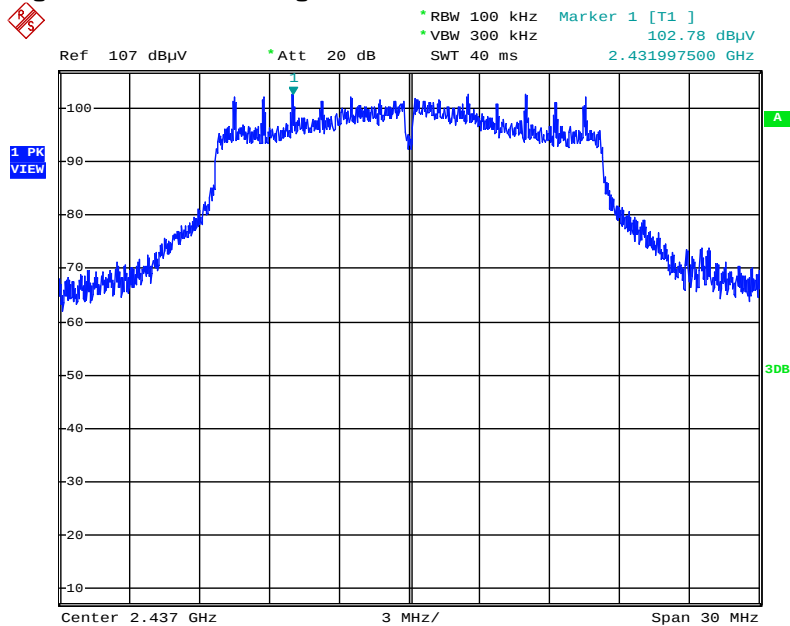
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Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1



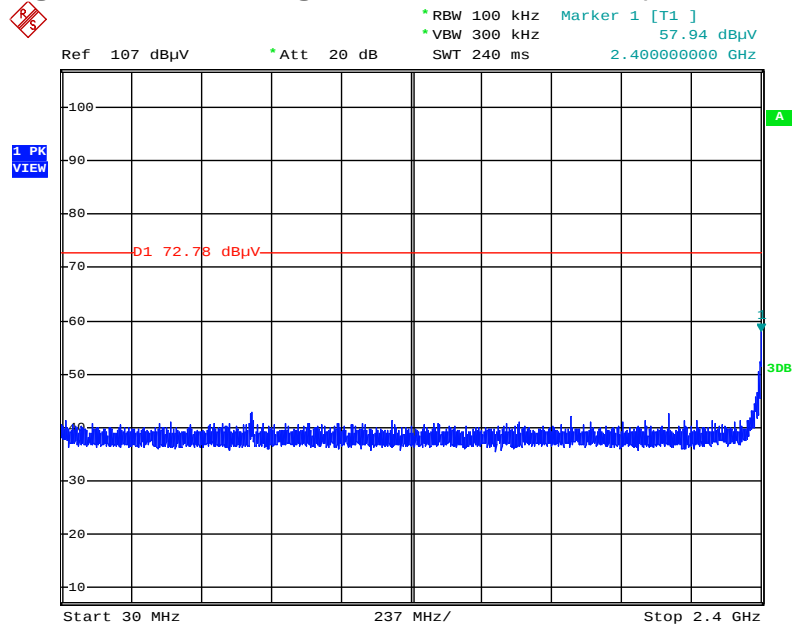
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Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1



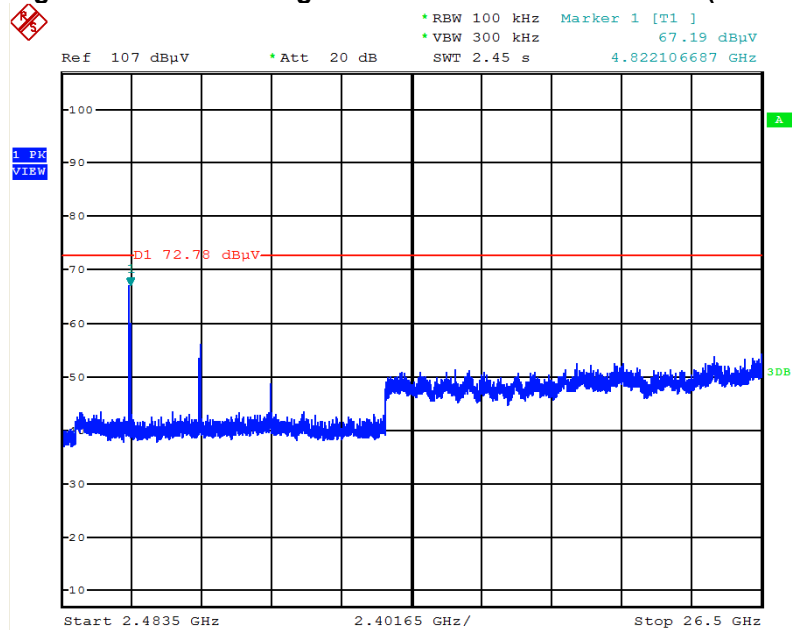
Date: 23.SEP.2016 01:40:11

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



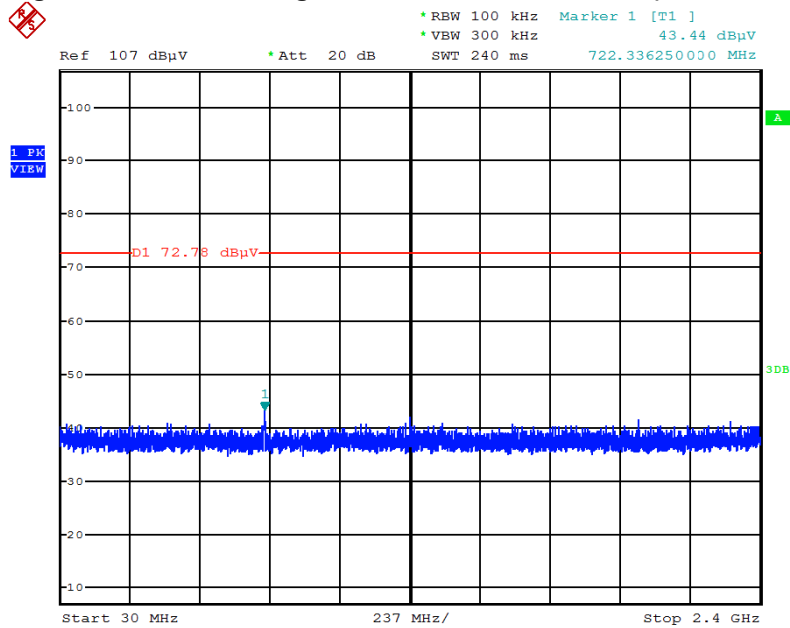
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Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1



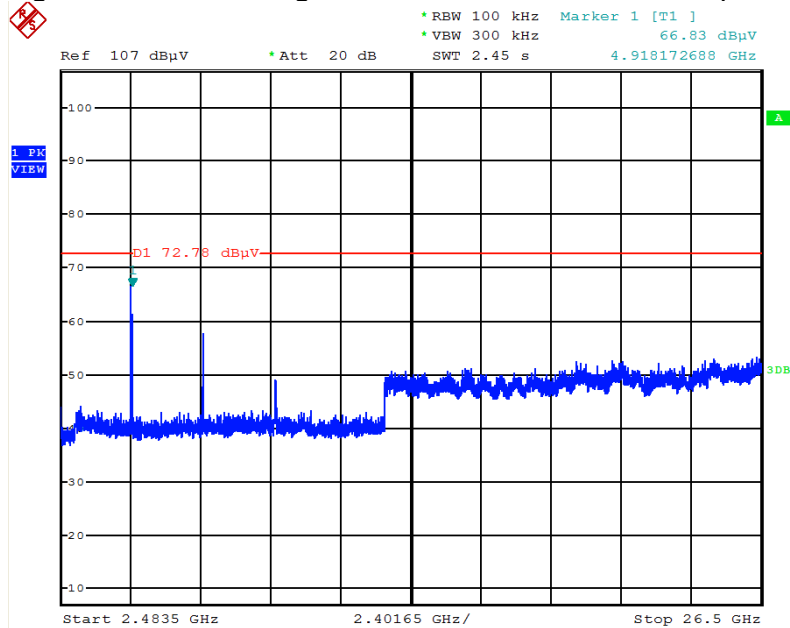
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Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1



Date: 23.SEP.2016 01:44:07

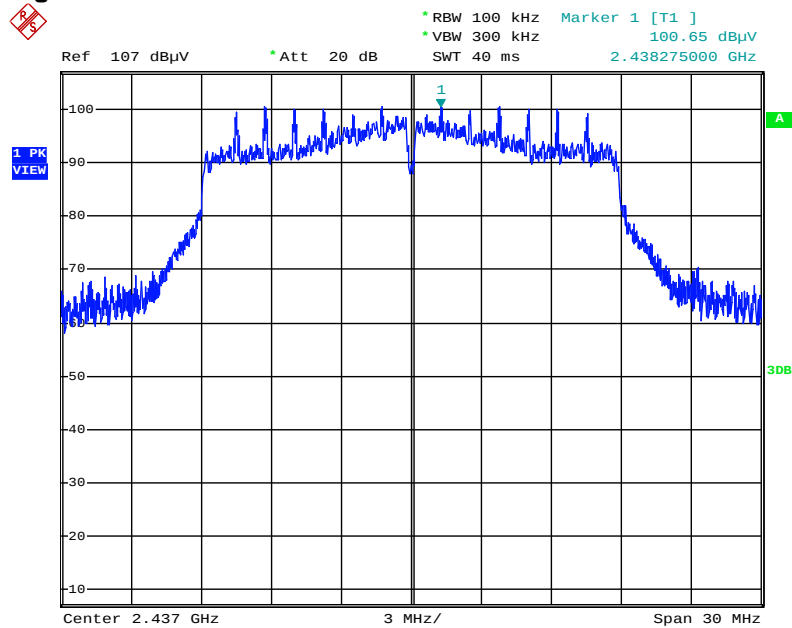
Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1



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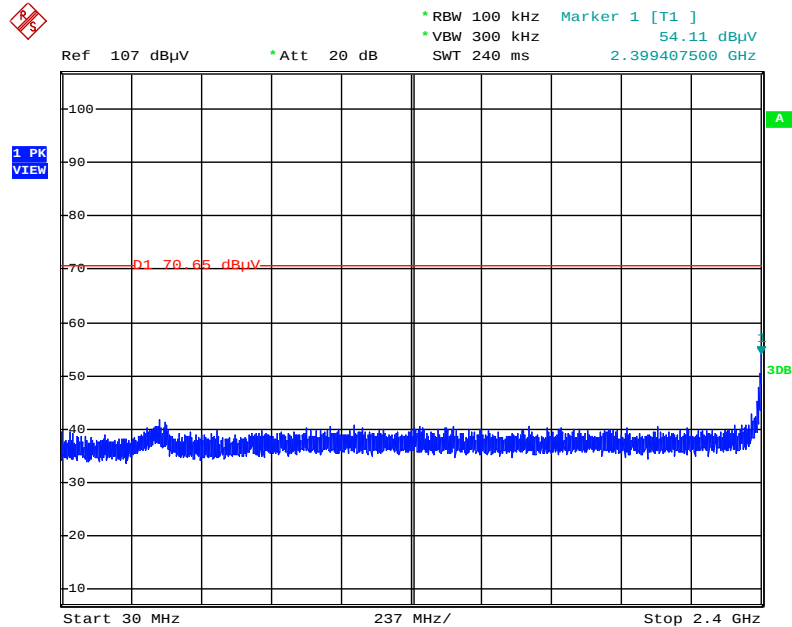


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level / Ant. 1



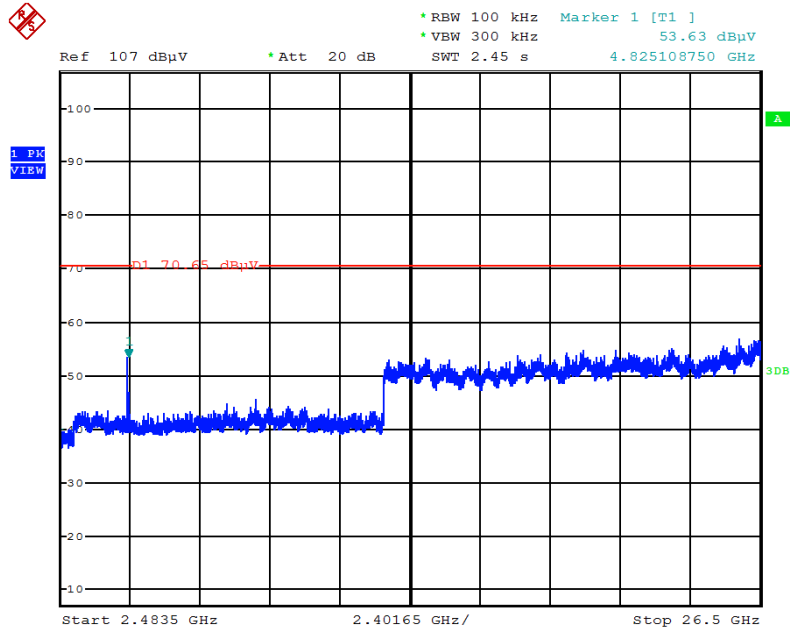
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1



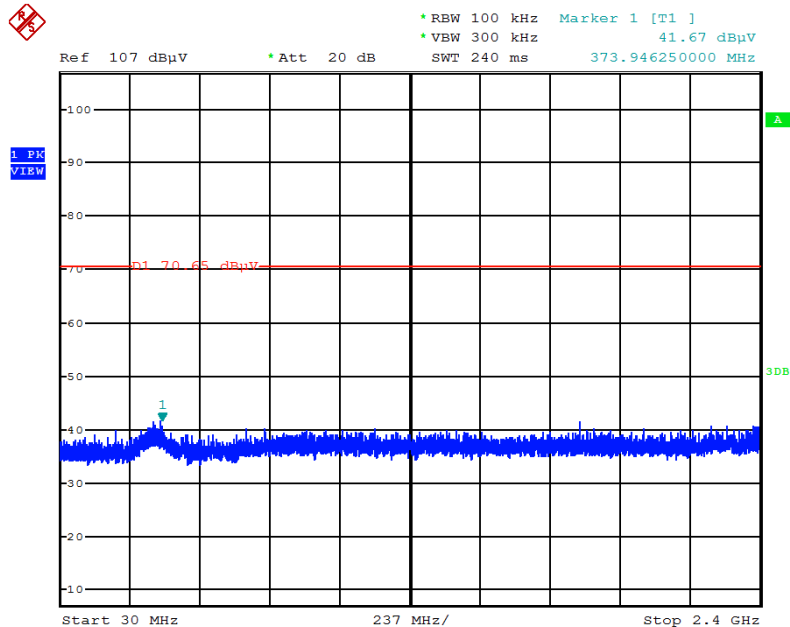
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1



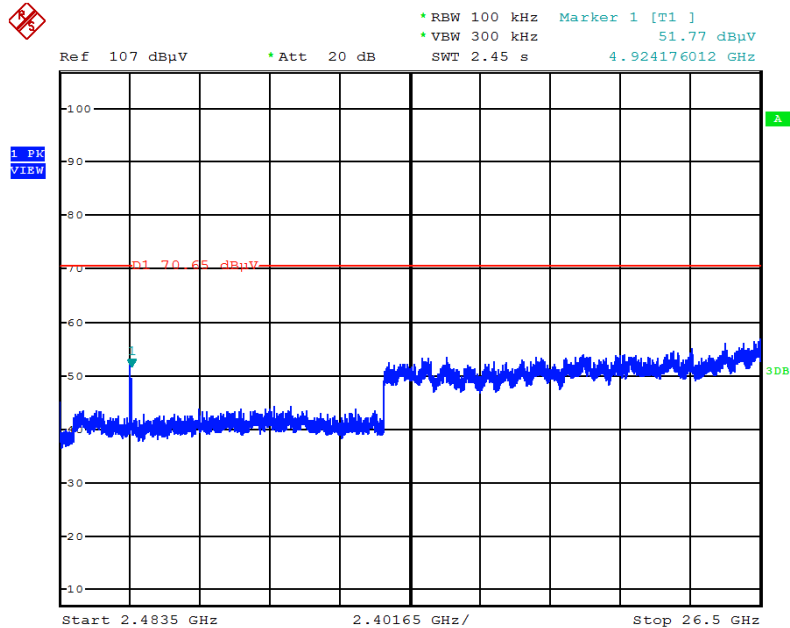
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1



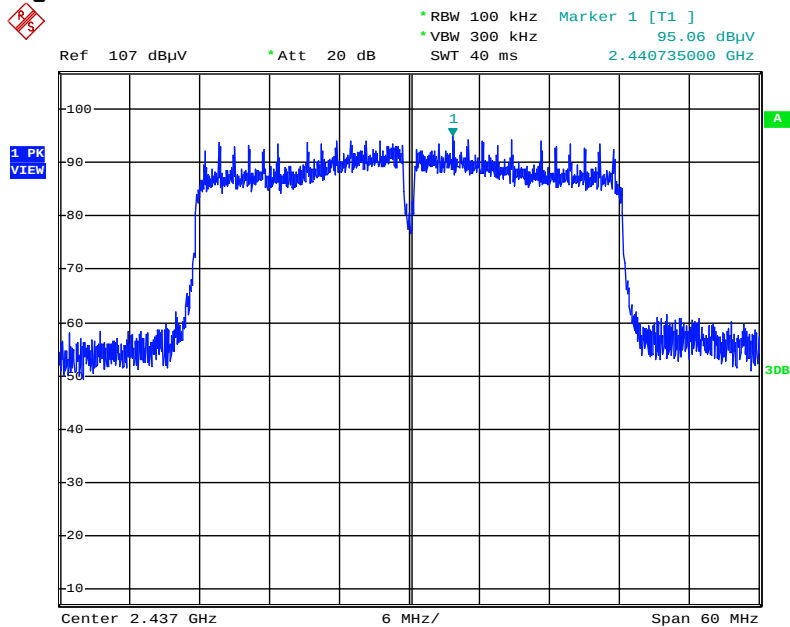
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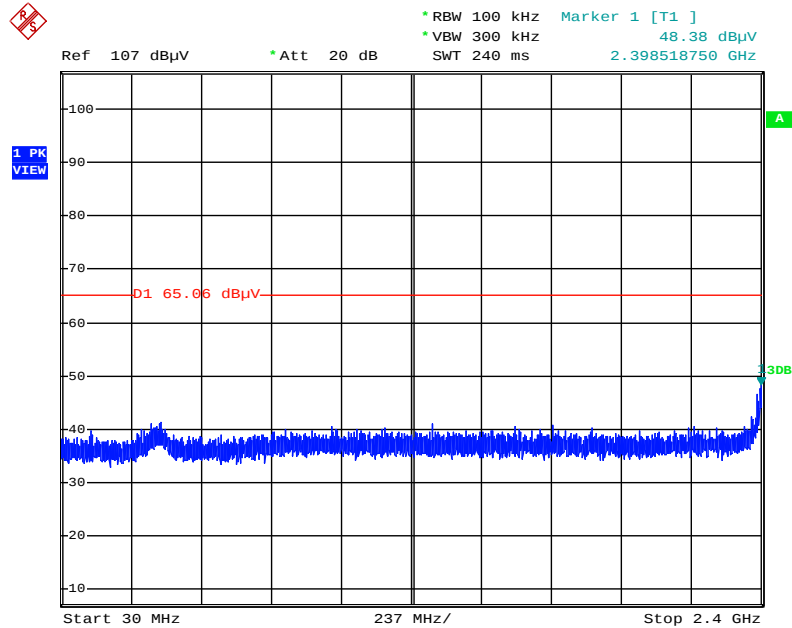
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level / Ant. 1



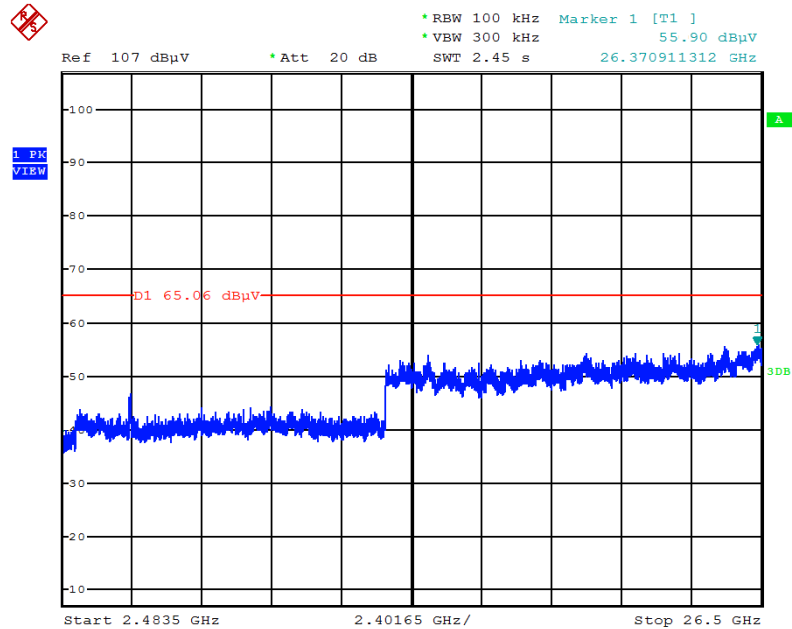
Date: 15.OCT.2016 00:31:31

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 30MHz~2400MHz (down 30dBc) / Ant. 1



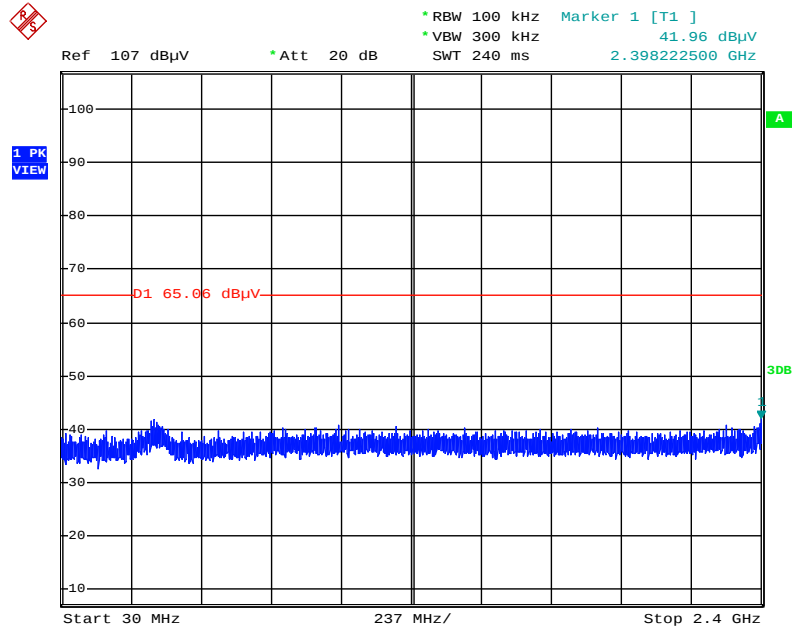
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 3 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1



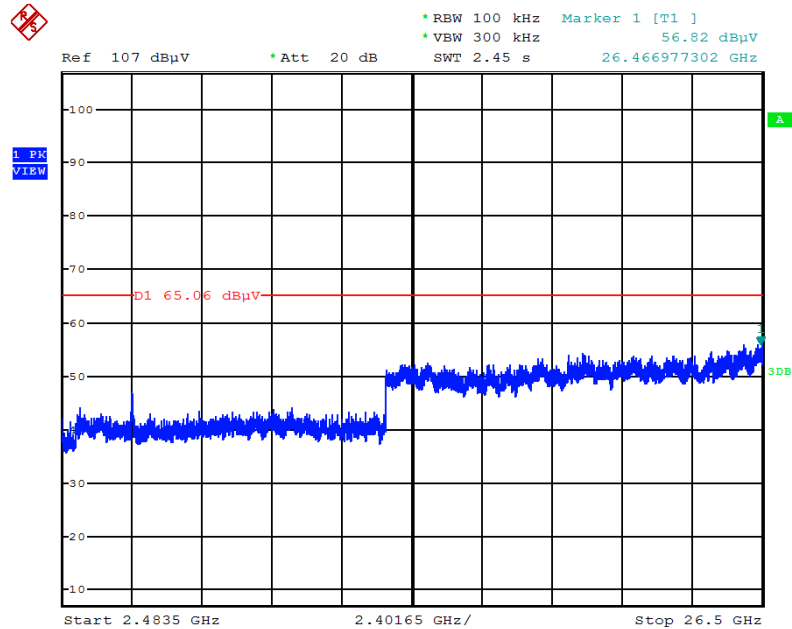
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 9 / 30MHz~2400MHz (down 30dBc) / Ant. 1



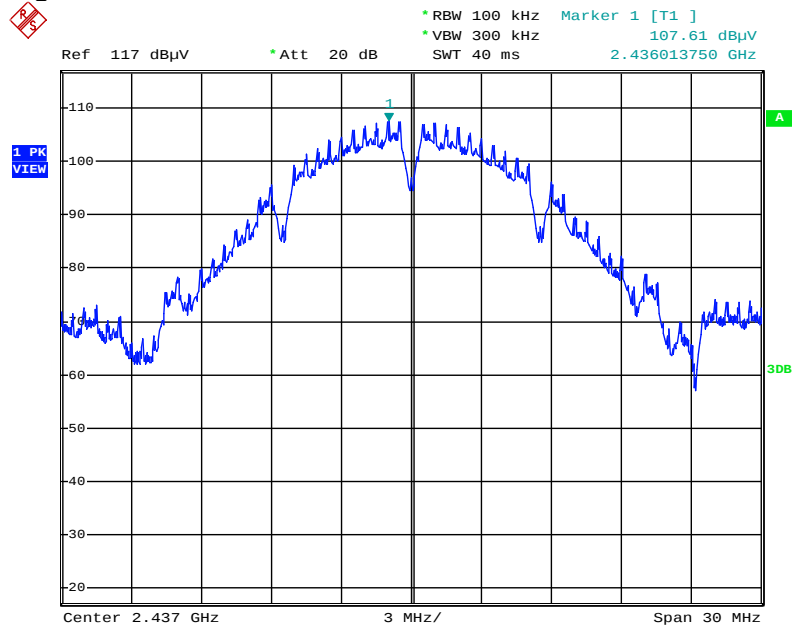
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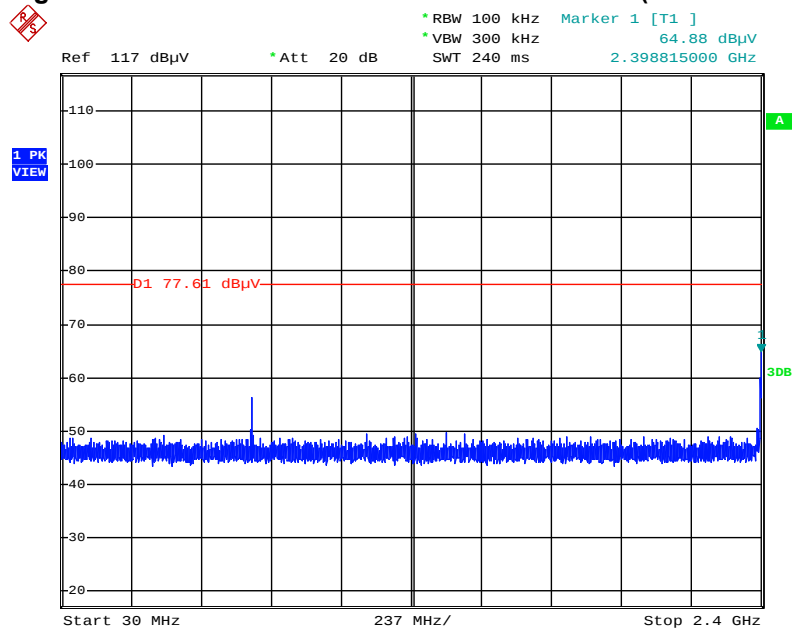
Date: 15.OCT.2016 00:33:30

Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1 + Ant. 2



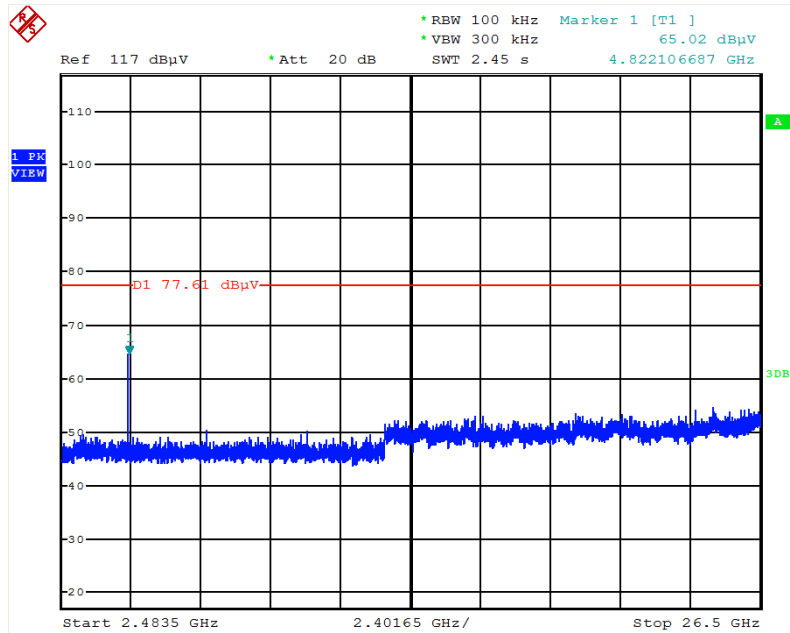
Date: 23.SEP.2016 01:45:56

Plot on Configuration IEEE 802.11b / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



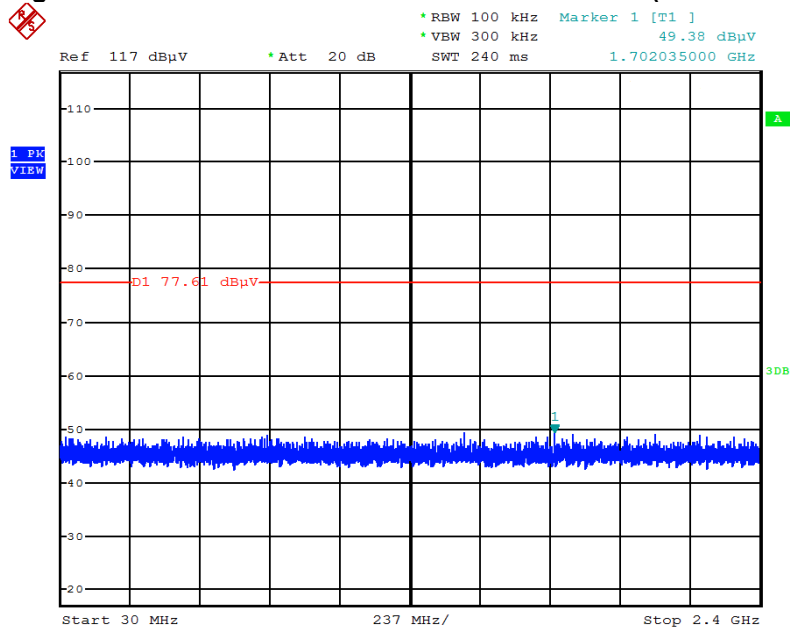
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Plot on Configuration IEEE 802.11b / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



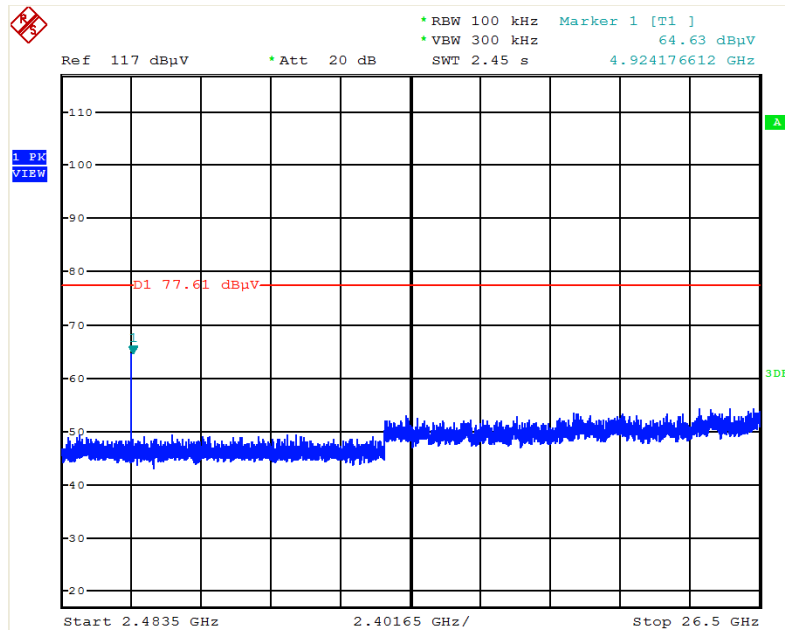
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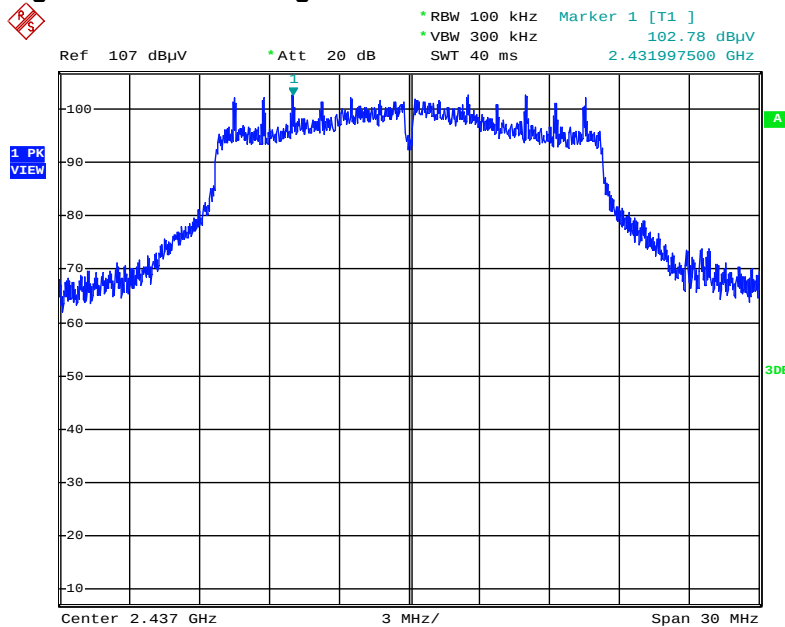
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Plot on Configuration IEEE 802.11b / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



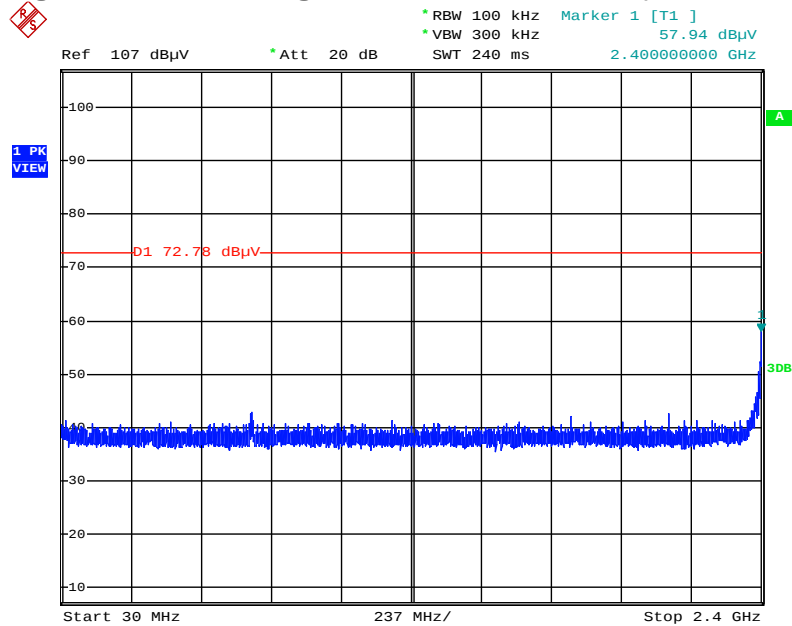
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Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1 + Ant. 2



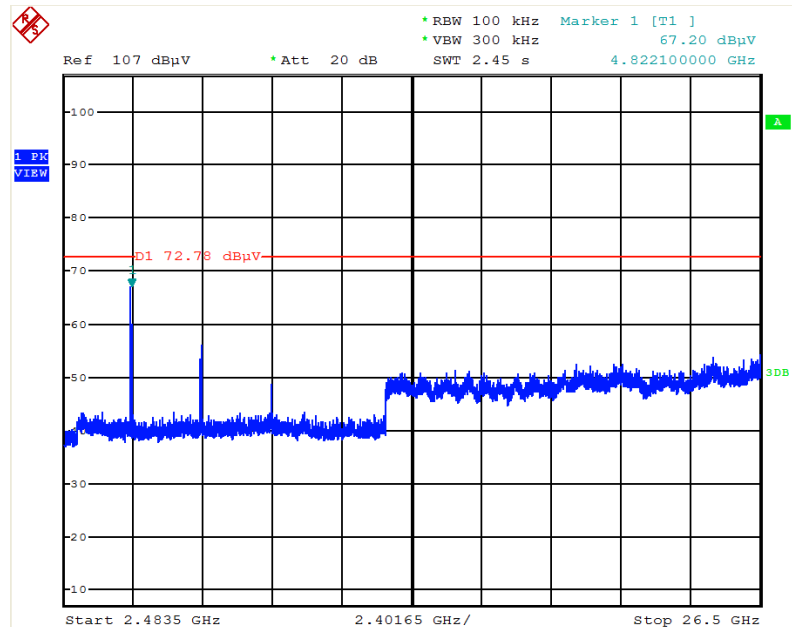
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Plot on Configuration IEEE 802.11g / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



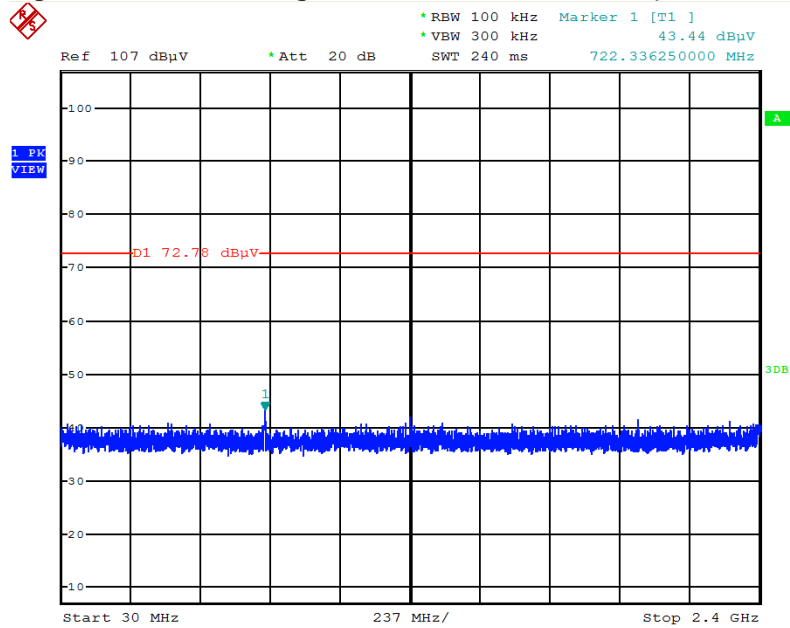
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Plot on Configuration IEEE 802.11g / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



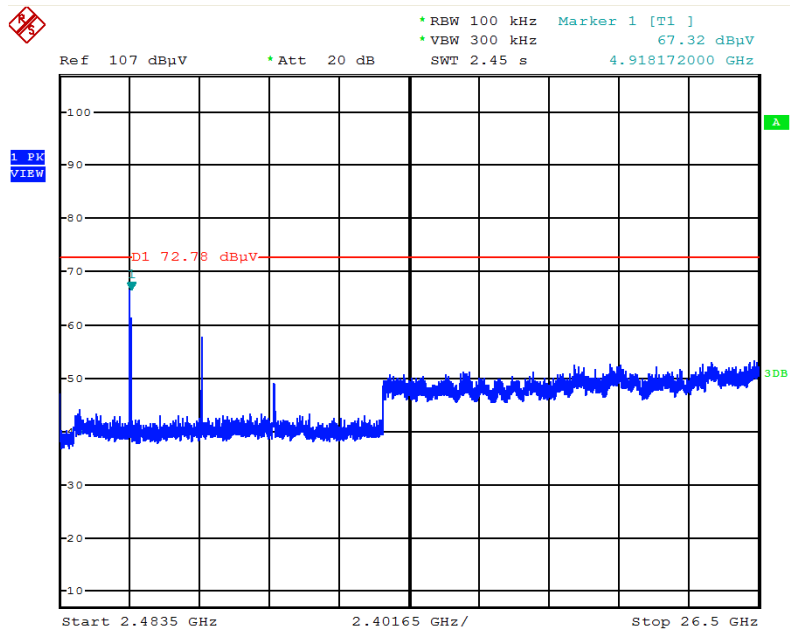
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Plot on Configuration IEEE 802.11g / CH 11 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



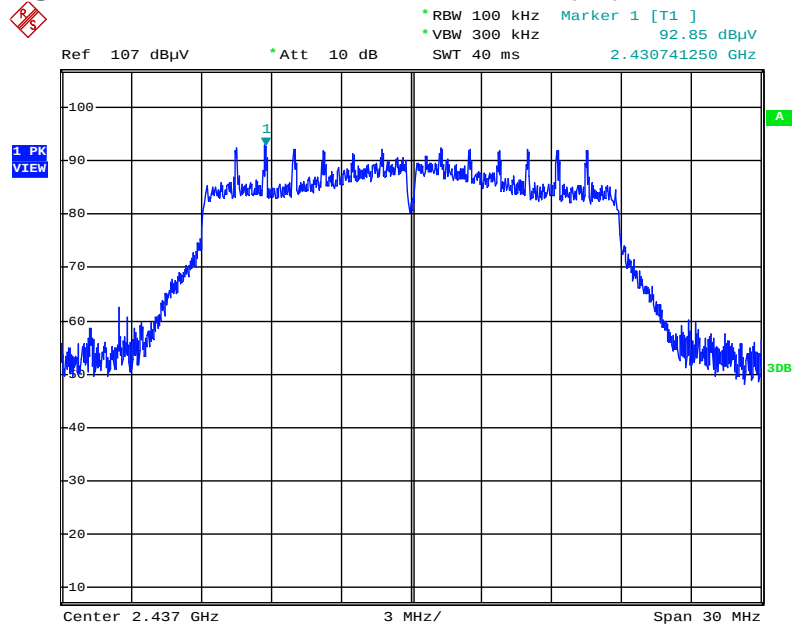
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Plot on Configuration IEEE 802.11g / CH 11 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



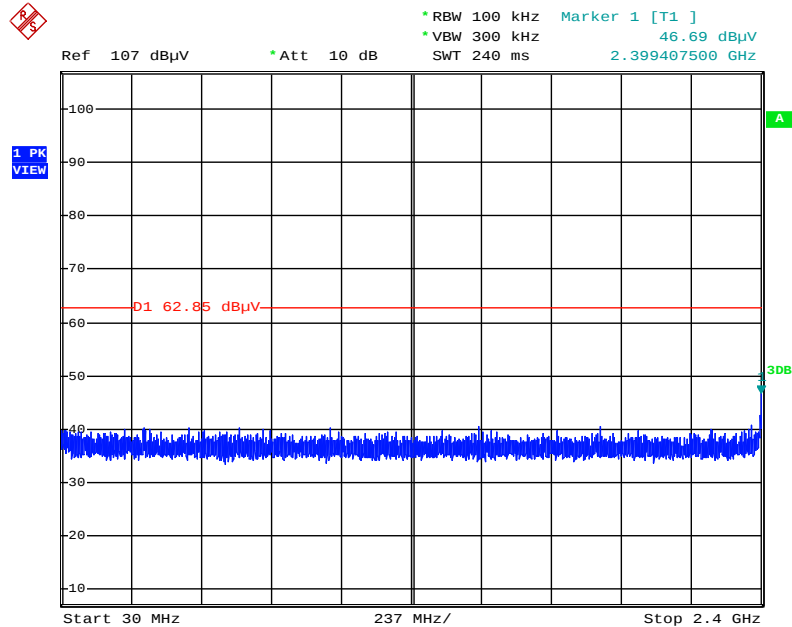
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / Reference Level / Ant. 1 + Ant. 2



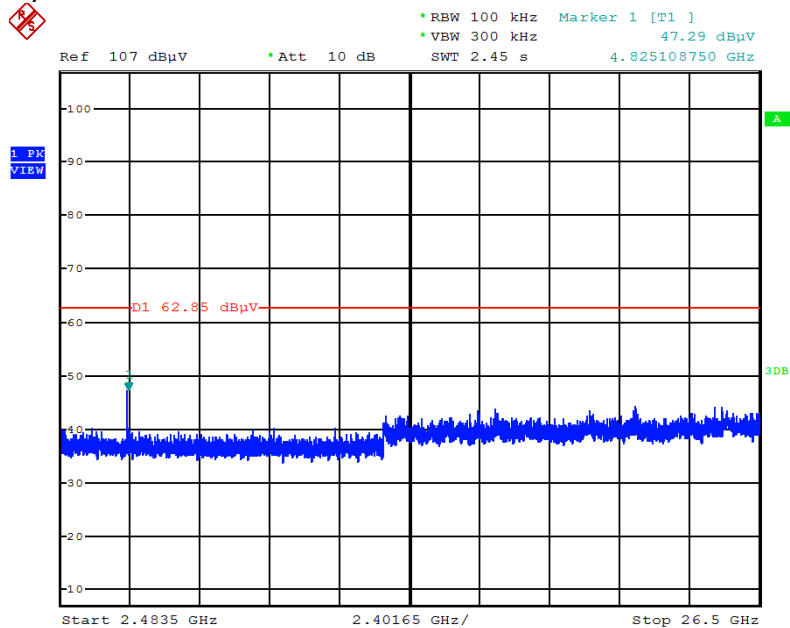
Date: 23.SEP.2016 22:45:55

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 1 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



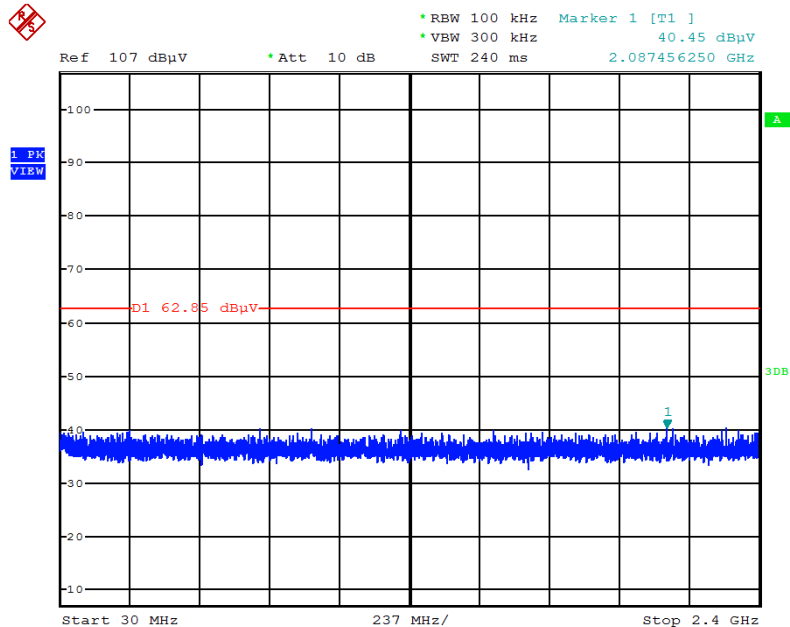
Date: 23.SEP.2016 22:47:35

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20(BF) / CH 1 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



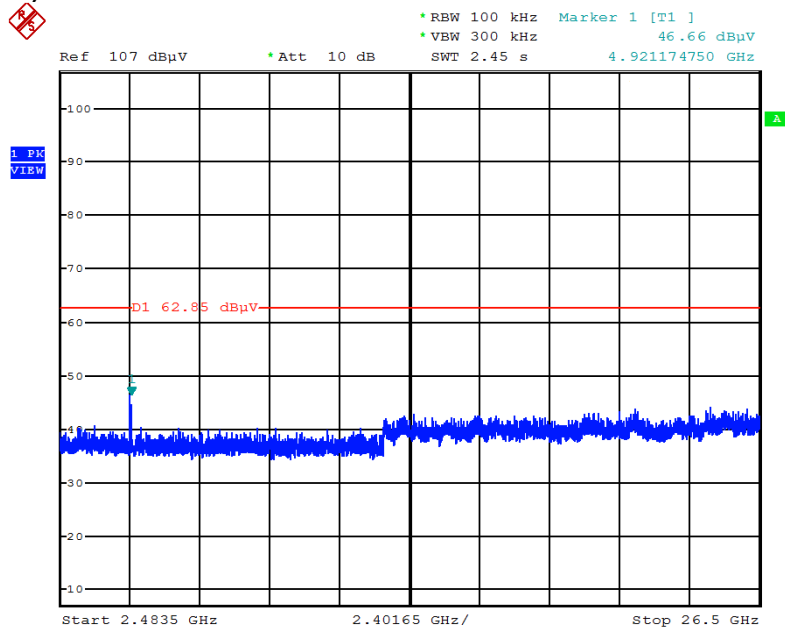
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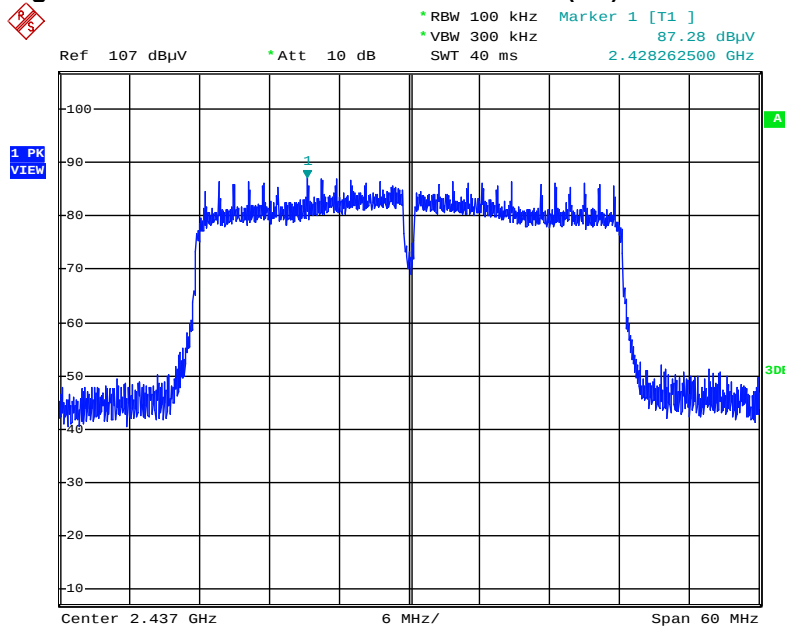
Date: 23.SEP.2016 22:49:01

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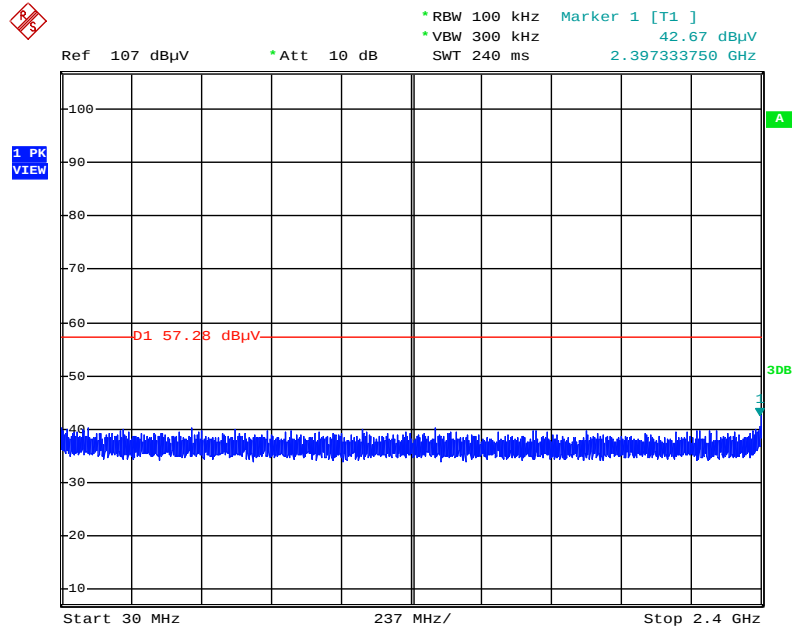
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Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / Reference Level / Ant. 1 + Ant. 2



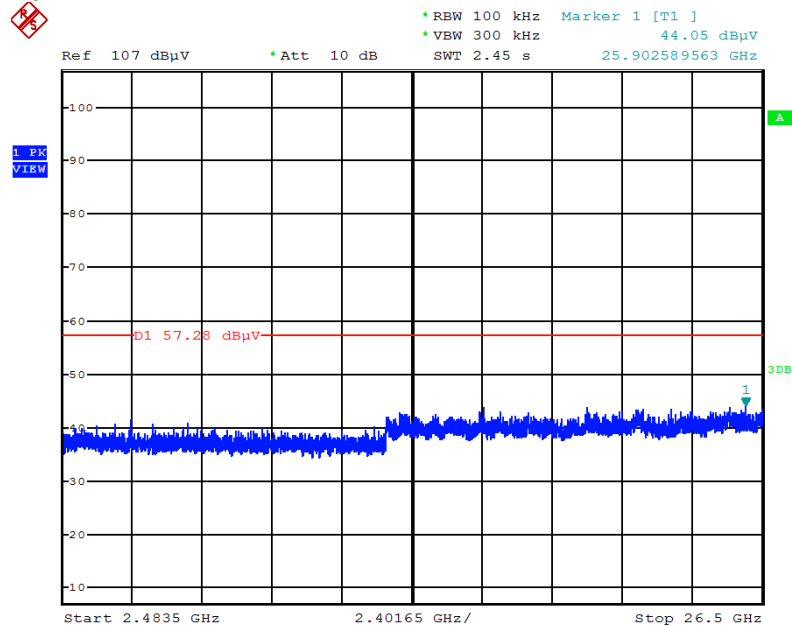
Date: 23.SEP.2016 22:50:22

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 3 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



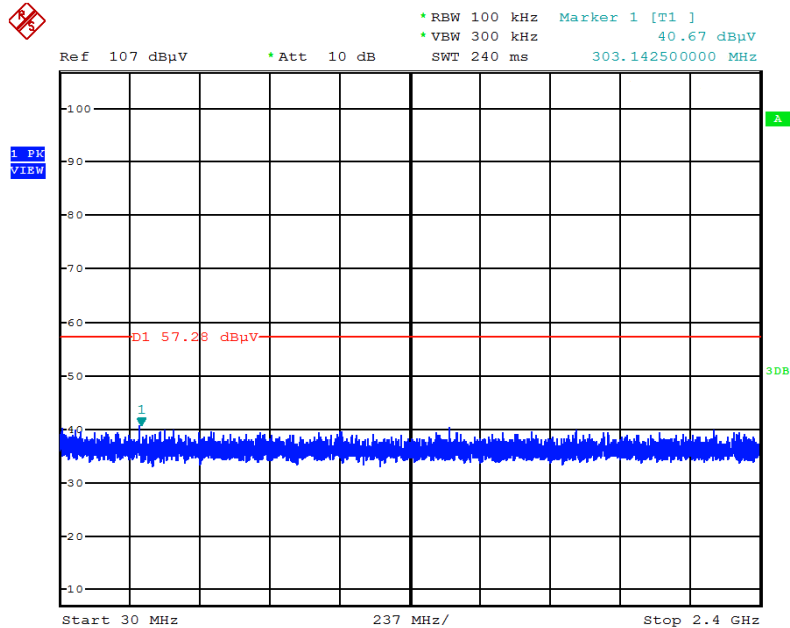
Date: 23.SEP.2016 22:51:10

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 3 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



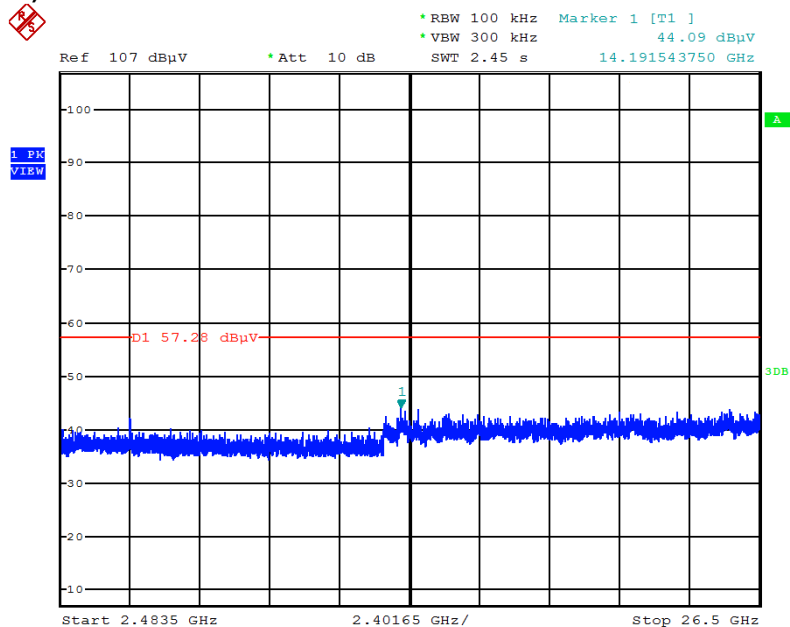
Date: 23.SEP.2016 22:51:39

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 9 / 30MHz~2400MHz (down 30dBc) / Ant. 1 + Ant. 2



Date: 23.SEP.2016 22:52:31

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40(BF) / CH 9 / 2483.5MHz~26500MHz (down 30dBc) / Ant. 1 + Ant. 2



Date: 23.SEP.2016 22:52:14

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.

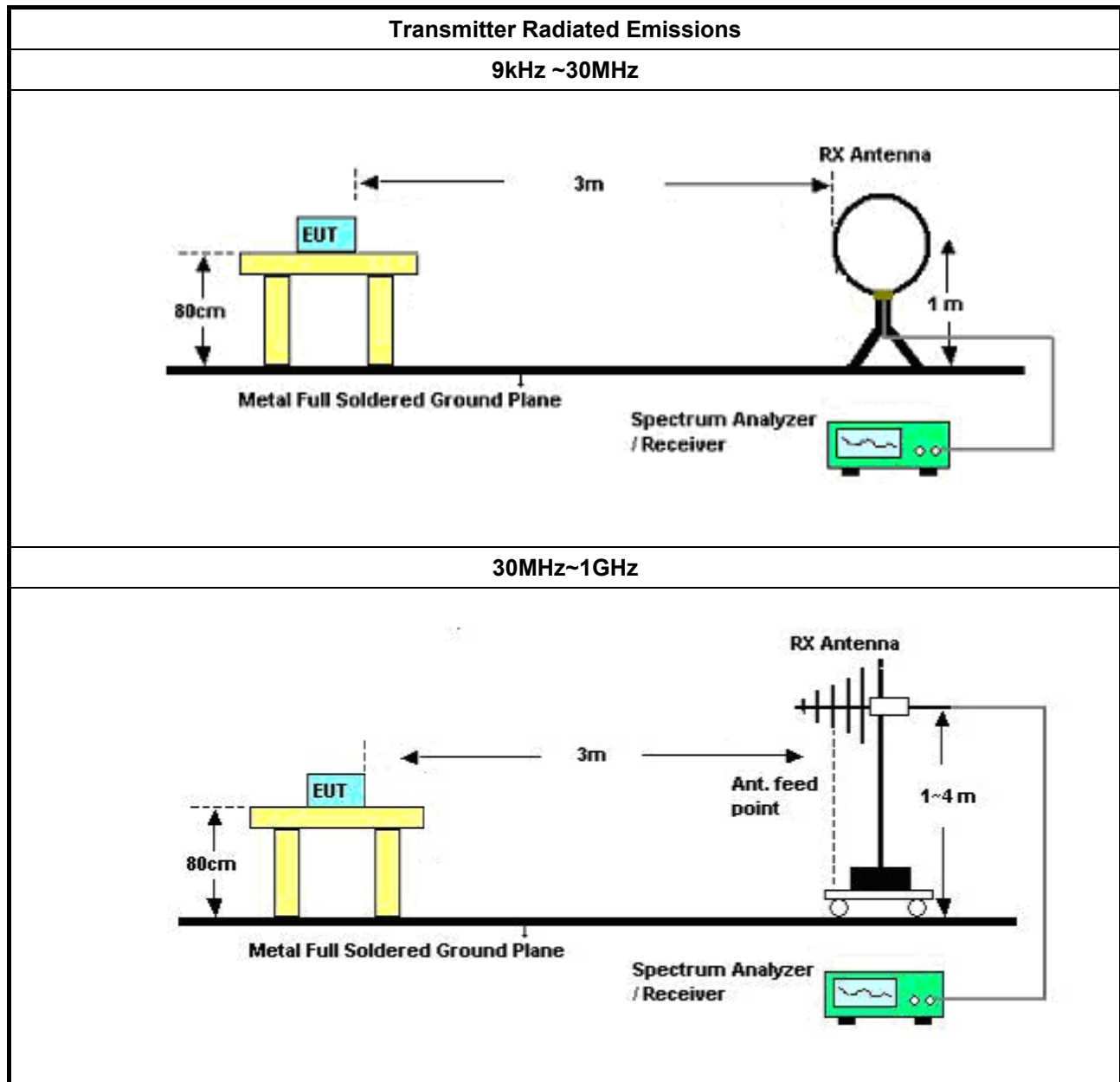
3.6.2 Measuring Instruments

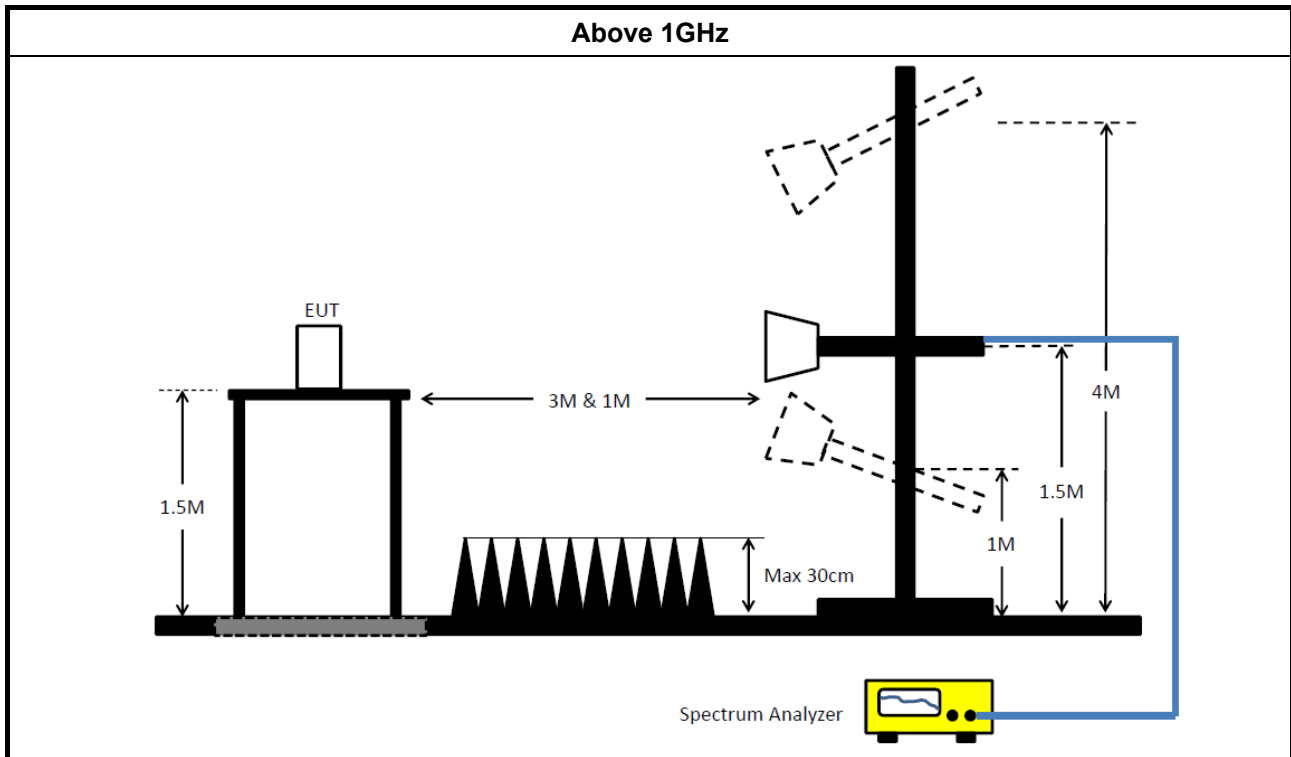
Refer a test equipment and calibration data table in this test report.

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, clause 12 for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
	☐ Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
	☒ Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, 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, 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 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, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.
	Refer as FCC KDB 558074, 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, 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

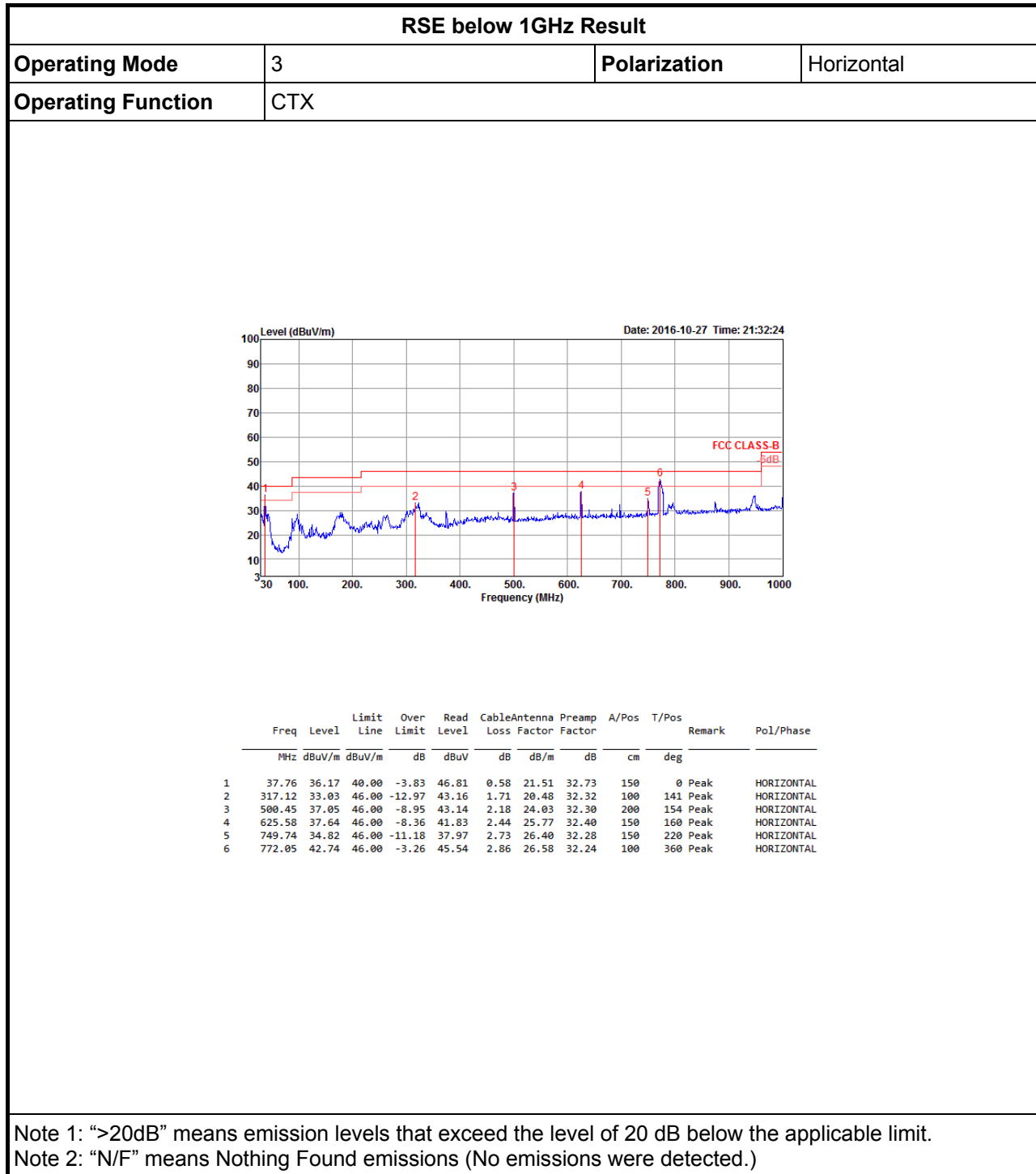




3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

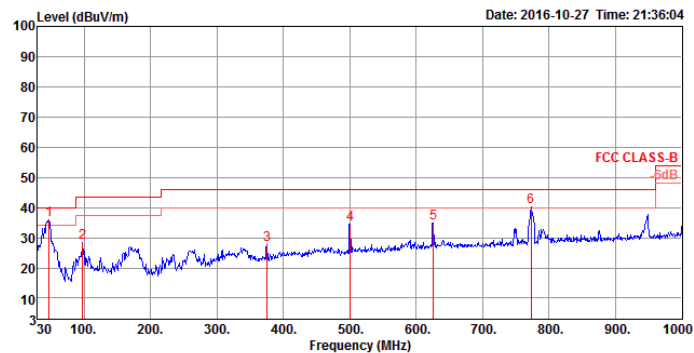
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.6.6 Test Result of Transmitter Radiated Unwanted Emissions



RSE below 1GHz Result

Operating Mode	3	Polarization	Vertical
Operating Function	CTX		



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	47.46	36.01	40.00	-3.99	51.80	0.65	16.00	32.44	100	250 Peak	VERTICAL
2	97.90	28.41	43.50	-15.09	42.73	0.95	17.18	32.45	150	195 Peak	VERTICAL
3	375.32	27.72	46.00	-18.28	36.06	1.89	22.08	32.31	150	172 Peak	VERTICAL
4	500.45	34.37	46.00	-11.63	40.46	2.18	24.03	32.30	100	235 Peak	VERTICAL
5	625.58	34.98	46.00	-11.02	39.17	2.44	25.77	32.40	200	211 Peak	VERTICAL
6	773.02	40.32	46.00	-5.68	43.09	2.87	26.60	32.24	100	105 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 / Ant. 1
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Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.92	53.84	74.00	-20.16	47.52	6.26	33.11	33.05	110	68	Peak	HORIZONTAL
2	4823.98	49.21	54.00	-4.79	42.89	6.26	33.11	33.05	110	68	Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4824.00	54.10	74.00	-19.90	47.78	6.26	33.11	33.05	281	151	Peak	VERTICAL
2	4824.02	50.22	54.00	-3.78	43.90	6.26	33.11	33.05	281	151	Average	VERTICAL

Configurations	IEEE 802.11b CH 6 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4874.00	48.49	54.00	-5.51	42.01	6.28	33.23	33.03	125	359	Average	HORIZONTAL
2	4874.02	53.20	74.00	-20.80	46.72	6.28	33.23	33.03	125	359	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.98	55.35	74.00	-18.65	48.87	6.28	33.23	33.03	275	144	Peak	VERTICAL
2	4874.04	52.80	54.00	-1.20	46.32	6.28	33.23	33.03	275	144	Average	VERTICAL

Configurations	IEEE 802.11b CH 11 / Ant. 1
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.98	53.05	74.00	-20.95	46.41	6.29	33.35	33.00	106	66 Peak	HORIZONTAL
2	4924.02	48.77	54.00	-5.23	42.13	6.29	33.35	33.00	106	66 Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4924.02	51.38	54.00	-2.62	44.74	6.29	33.35	33.00	269	151 Average	VERTICAL
2	4924.08	55.14	74.00	-18.86	48.50	6.29	33.35	33.00	269	151 Peak	VERTICAL

Configurations	IEEE 802.11g CH 1 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4823.84	35.64	54.00	-18.36	28.47	7.79	31.12	31.74	109	81	Average	HORIZONTAL
2	4824.56	49.53	74.00	-24.47	42.36	7.79	31.12	31.74	109	81	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4823.39	49.09	74.00	-24.91	41.92	7.79	31.12	31.74	164	132	Peak	VERTICAL
2	4824.32	35.74	54.00	-18.26	28.57	7.79	31.12	31.74	164	132	Average	VERTICAL

Configurations	IEEE 802.11g CH 6 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4874.11	36.21	54.00	-17.79	28.86	7.86	31.21	31.72	148	9 Average	HORIZONTAL
2	4874.69	48.93	74.00	-25.07	41.58	7.86	31.21	31.72	148	9 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.38	51.32	74.00	-22.68	43.97	7.86	31.21	31.72	144	132 Peak	VERTICAL
2	4874.16	38.24	54.00	-15.76	30.89	7.86	31.21	31.72	144	132 Average	VERTICAL

Configurations	IEEE 802.11g CH 11 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.02	34.28	54.00	-19.72	26.78	7.93	31.27	31.70	103	4 Average	HORIZONTAL
2	4923.38	48.23	74.00	-25.77	40.73	7.93	31.27	31.70	103	4 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4924.48	35.29	54.00	-18.71	27.77	7.93	31.29	31.70	151	131 Average	VERTICAL
2	4925.25	47.98	74.00	-26.02	40.46	7.93	31.29	31.70	151	131 Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1 / Ant. 1
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.25	47.17	74.00	-26.83	43.93	4.94	32.82	34.52	139	96 Peak	HORIZONTAL
2	4826.61	33.85	54.00	-20.15	30.59	4.94	32.84	34.52	139	96 Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.48	36.90	54.00	-17.10	33.66	4.94	32.82	34.52	285	160 Average	VERTICAL
2	4824.16	49.56	74.00	-24.44	46.32	4.94	32.82	34.52	285	160 Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 6 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4874.06	35.76	54.00	-18.24	32.42	4.94	32.91	34.51	130	81	Average
2	4880.05	48.35	74.00	-25.65	45.00	4.94	32.91	34.50	130	81	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.23	36.20	54.00	-17.80	32.86	4.94	32.91	34.51	255	164	Average
2	4879.62	49.99	74.00	-24.01	46.64	4.94	32.91	34.50	255	164	Peak

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 11 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4922.84	45.58	74.00	-28.42	42.16	4.94	32.97	34.49	100	348	Peak	HORIZONTAL
2	4925.33	33.46	54.00	-20.54	30.02	4.94	32.99	34.49	100	348	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4922.06	45.48	74.00	-28.52	42.06	4.94	32.97	34.49	150	262	Peak	VERTICAL
2	4924.09	32.41	54.00	-21.59	28.97	4.94	32.99	34.49	150	262	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 3 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableLoss	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	4842.31	46.75	74.00	-27.25	44.17	4.24	32.86	34.52	132	153	Peak	HORIZONTAL
2	4842.78	32.79	54.00	-21.21	30.21	4.24	32.86	34.52	132	153	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4841.55	32.82	54.00	-21.18	30.24	4.24	32.86	34.52	195	189	Average	VERTICAL
2	4844.61	45.56	74.00	-28.44	42.98	4.24	32.86	34.52	195	189	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 6 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4874.00	46.52	74.00	-27.48	43.18	4.94	32.91	34.51	119	92	Peak	HORIZONTAL
2	4874.00	33.20	54.00	-20.80	29.86	4.94	32.91	34.51	119	92	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4874.00	47.43	74.00	-26.57	44.09	4.94	32.91	34.51	243	153	Peak	VERTICAL
2	4874.00	33.30	54.00	-20.70	29.96	4.94	32.91	34.51	243	153	Average	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 9 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4904.00	46.19	74.00	-27.81	42.80	4.94	32.95	34.50	113	328	Peak	HORIZONTAL
2	4904.00	32.76	54.00	-21.24	29.37	4.94	32.95	34.50	113	328	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4904.00	45.33	74.00	-28.67	41.94	4.94	32.95	34.50	230	195	Peak	VERTICAL
2	4904.00	32.82	54.00	-21.18	29.43	4.94	32.95	34.50	230	195	Average	VERTICAL



Configurations	IEEE 802.11b CH 1 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.98	53.11	74.00	-20.89	45.94	7.79	31.12	31.74	291	79 Peak	HORIZONTAL
2	4824.00	48.25	54.00	-5.75	41.08	7.79	31.12	31.74	291	79 Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.96	52.36	74.00	-21.64	45.19	7.79	31.12	31.74	166	132 Peak	VERTICAL
2	4824.00	46.76	54.00	-7.24	39.59	7.79	31.12	31.74	166	132 Average	VERTICAL

Configurations	IEEE 802.11b CH 6 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.98	45.33	54.00	-8.67	37.98	7.86	31.21	31.72	153	9	Average	HORIZONTAL
2	4874.14	51.41	74.00	-22.59	44.06	7.86	31.21	31.72	153	9	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.96	47.37	54.00	-6.63	40.02	7.86	31.21	31.72	150	134	Average	VERTICAL
2	4874.00	52.99	74.00	-21.01	45.64	7.86	31.21	31.72	150	134	Peak	VERTICAL



Configurations	IEEE 802.11b CH 11 / Ant. 1 + Ant. 2
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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	4924.00	51.12	74.00	-22.88	43.60	7.93	31.29	31.70	114	6	Peak	HORIZONTAL
2	4924.04	45.85	54.00	-8.15	38.33	7.93	31.29	31.70	114	6	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	4924.04	48.25	54.00	-5.75	40.73	7.93	31.29	31.70	137	131	Average	VERTICAL
2	4924.06	53.03	74.00	-20.97	45.51	7.93	31.29	31.70	137	131	Peak	VERTICAL



Configurations	IEEE 802.11g CH 1 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.63	47.99	74.00	-26.01	40.82	7.79	31.12	31.74	147	0 Peak	HORIZONTAL
2	4824.00	34.70	54.00	-19.30	27.53	7.79	31.12	31.74	147	0 Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4823.99	48.26	74.00	-25.74	41.09	7.79	31.12	31.74	133	130 Peak	VERTICAL
2	4824.12	34.54	54.00	-19.46	27.37	7.79	31.12	31.74	133	130 Average	VERTICAL

Configurations	IEEE 802.11g CH 6 / Ant. 1 + Ant. 2
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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	4873.82	47.88	74.00	-26.12	40.53	7.86	31.21	31.72	118	8	Peak	HORIZONTAL
2	4874.36	34.25	54.00	-19.75	26.90	7.86	31.21	31.72	118	8	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	4874.06	48.23	74.00	-25.77	40.88	7.86	31.21	31.72	124	136	Peak	VERTICAL
2	4874.09	36.29	54.00	-17.71	28.94	7.86	31.21	31.72	124	136	Average	VERTICAL

Configurations	IEEE 802.11g CH 11 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.92	48.76	74.00	-25.24	41.24	7.93	31.29	31.70	109	80 Peak	HORIZONTAL
2	4924.07	34.81	54.00	-19.19	27.29	7.93	31.29	31.70	109	80 Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4924.03	34.47	54.00	-19.53	26.95	7.93	31.29	31.70	120	91 Average	VERTICAL
2	4924.21	48.66	74.00	-25.34	41.14	7.93	31.29	31.70	120	91 Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 1 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4824.96	39.60	54.00	-14.40	31.97	6.26	33.11	31.74	116	345	Average	HORIZONTAL
2	4829.60	51.72	74.00	-22.28	44.05	6.27	33.14	31.74	116	345	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4822.00	38.10	54.00	-15.90	30.47	6.26	33.11	31.74	108	220	Average
2	4830.00	50.60	74.00	-23.40	42.93	6.27	33.14	31.74	108	220	Peak



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 6 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4875.28	40.58	54.00	-13.42	32.79	6.28	33.23	31.72	123	8 Average	HORIZONTAL
2	4875.48	52.64	74.00	-21.36	44.85	6.28	33.23	31.72	123	8 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4871.72	39.68	54.00	-14.32	31.89	6.28	33.23	31.72	127	157 Average	VERTICAL
2	4875.32	51.51	74.00	-22.49	43.72	6.28	33.23	31.72	127	157 Peak	VERTICAL



Configurations	IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 11 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4922.48	38.82	54.00	-15.18	30.91	6.29	33.32	31.70	122	291 Average	HORIZONTAL
2	4923.76	51.55	74.00	-22.45	43.61	6.29	33.35	31.70	122	291 Peak	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.36	38.50	54.00	-15.50	30.59	6.29	33.32	31.70	129	156 Average	VERTICAL
2	4926.72	50.57	74.00	-23.43	42.62	6.29	33.35	31.69	129	156 Peak	VERTICAL

**Configurations**

IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 3 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4839.44	50.58	74.00	-23.42	42.88	6.27	33.17	31.74	126	214	Peak	HORIZONTAL
2	4850.32	37.86	54.00	-16.14	30.15	6.27	33.17	31.73	126	214	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4837.60	37.29	54.00	-16.71	29.62	6.27	33.14	31.74	124	136	Average	VERTICAL
2	4839.92	49.86	74.00	-24.14	42.16	6.27	33.17	31.74	124	136	Peak	VERTICAL

**Configurations**

IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 6 / Ant. 1 + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4865.64	50.29	74.00	-23.71	42.54	6.27	33.20	31.72	136	158	Peak	HORIZONTAL
2	4872.76	38.25	54.00	-15.75	30.46	6.28	33.23	31.72	136	158	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4873.00	37.40	54.00	-16.60	29.61	6.28	33.23	31.72	115	105	Average	VERTICAL
2	4875.60	50.05	74.00	-23.95	42.26	6.28	33.23	31.72	115	105	Peak	VERTICAL

Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 9 / Ant. 1 + Ant. 2
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Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4899.32	49.97	74.00	-24.03	42.10	6.28	33.29	31.70	138	187 Peak	HORIZONTAL
2	4910.48	37.94	54.00	-16.06	30.03	6.29	33.32	31.70	138	187 Average	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4907.20	37.87	54.00	-16.13	30.00	6.28	33.29	31.70	143	166 Average	VERTICAL
2	4910.20	50.47	74.00	-23.53	42.56	6.29	33.32	31.70	143	166 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.

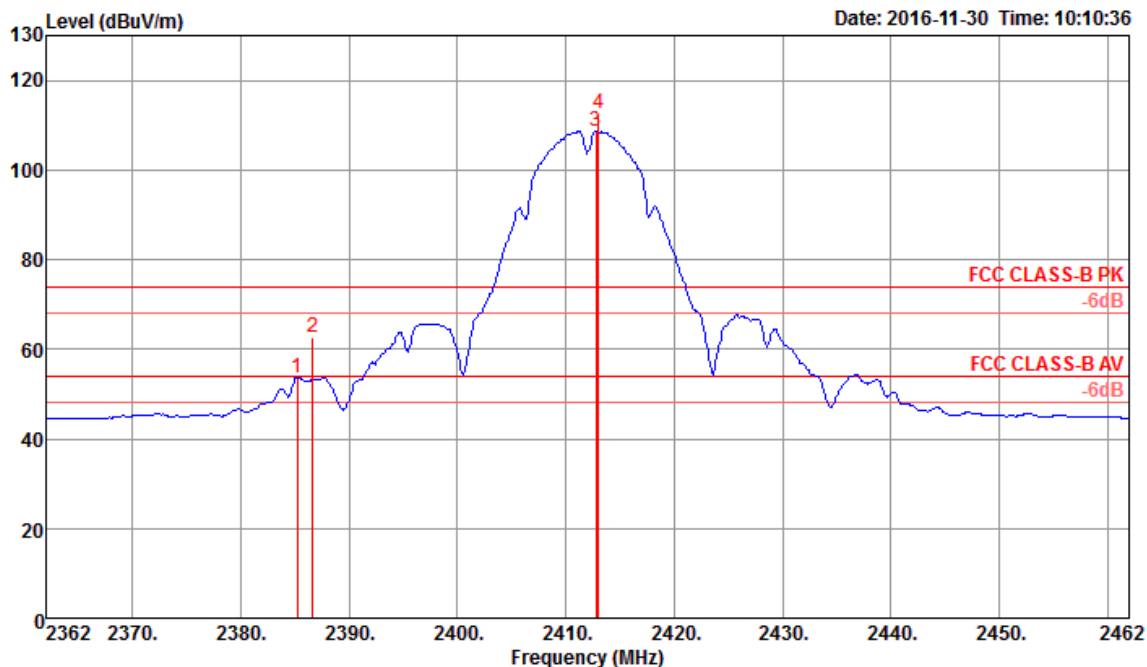
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

Band Edge Emissions

Configurations	IEEE 802.11b CH 1, 6, 11 / Ant. 1
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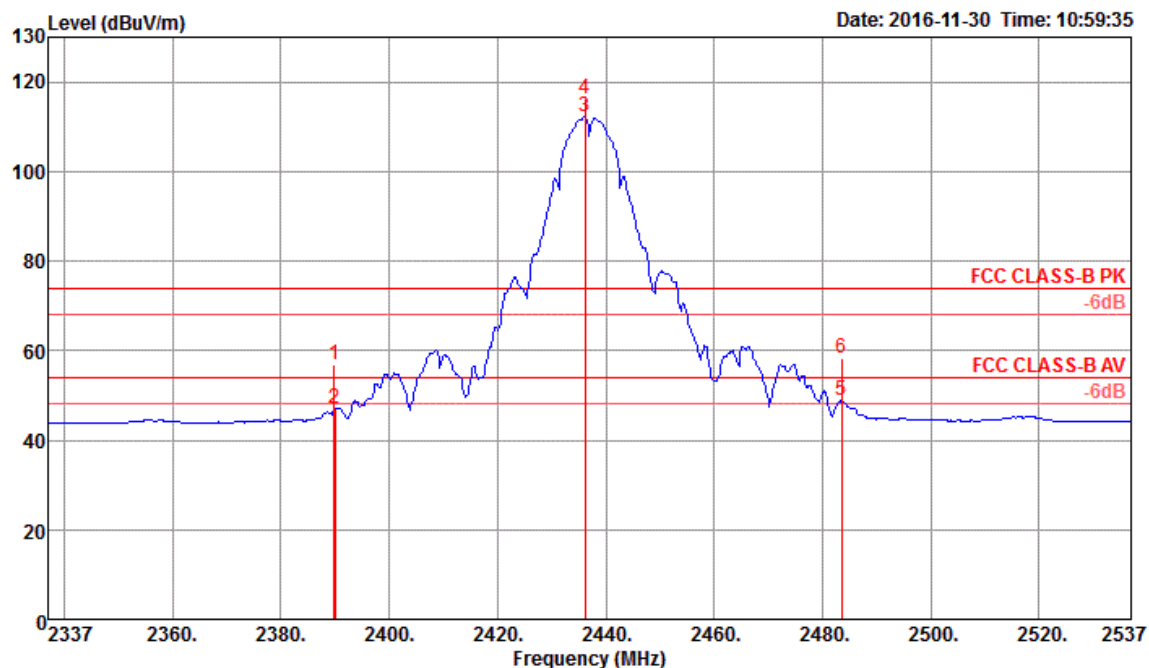
Channel 1



	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	2385.20	53.77	54.00	-0.23	21.86	3.60	28.31	0.00	109	89	Average	HORIZONTAL
2	2386.60	62.65	74.00	-11.35	30.74	3.60	28.31	0.00	109	89	Peak	HORIZONTAL
3 @	2412.80	108.70			76.72	3.62	28.36	0.00	109	89	Average	HORIZONTAL
4 @	2413.00	112.74			80.76	3.62	28.36	0.00	109	89	Peak	HORIZONTAL

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

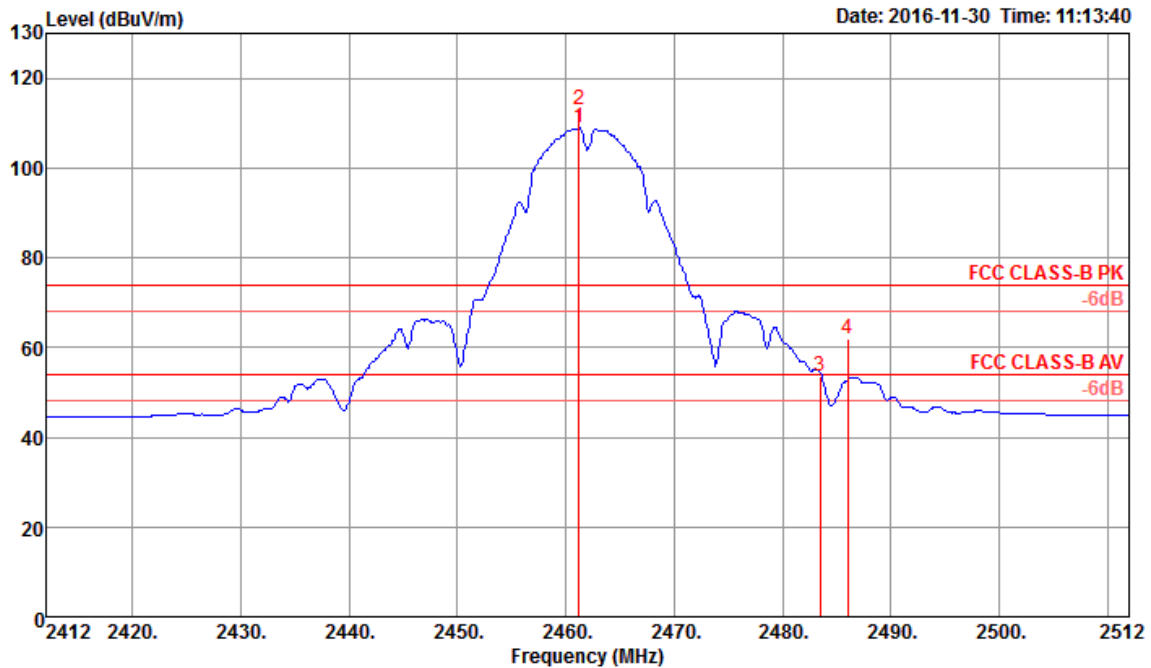
Channel 6



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2389.80	56.78	74.00	-17.22	24.87	3.60	28.31	0.00	164	81 Peak	HORIZONTAL
2	2390.00	47.07	54.00	-6.93	15.16	3.60	28.31	0.00	164	81 Average	HORIZONTAL
3 @	2436.20	112.31			80.28	3.64	28.39	0.00	164	81 Average	HORIZONTAL
4 @	2436.20	116.12			84.09	3.64	28.39	0.00	164	81 Peak	HORIZONTAL
5	2483.50	48.76	54.00	-5.24	16.60	3.68	28.48	0.00	164	81 Average	HORIZONTAL
6	2483.50	58.44	74.00	-15.56	26.28	3.68	28.48	0.00	164	81 Peak	HORIZONTAL

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

Channel 11



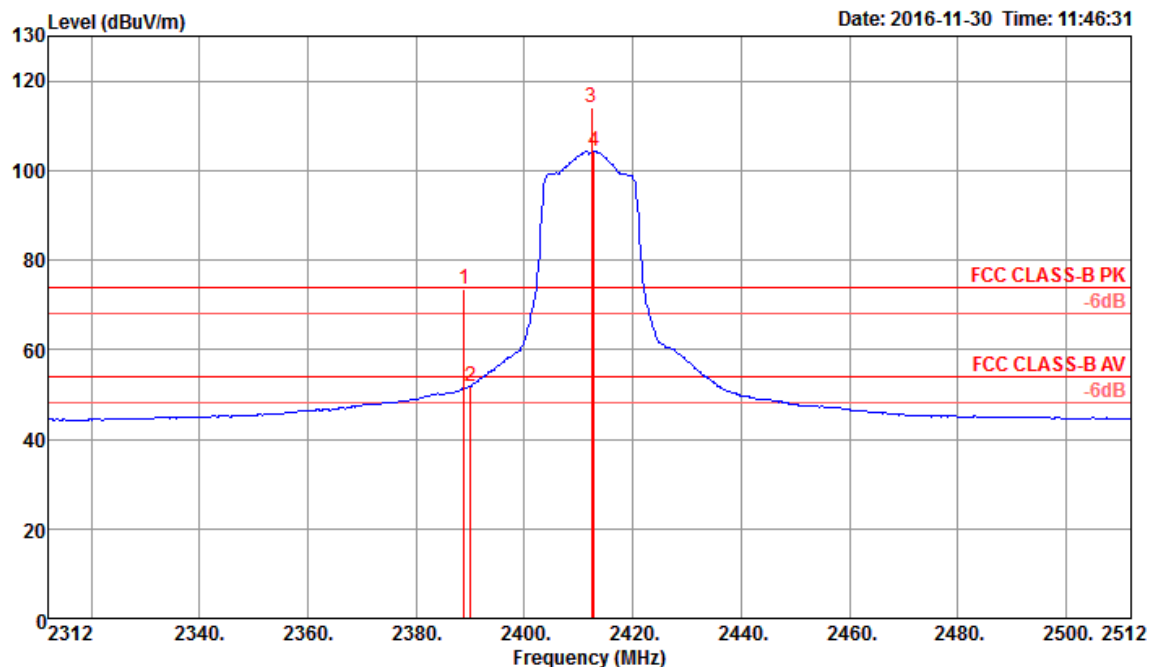
	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1 @	2461.20	108.98			76.88	3.66	28.44	0.00	185	85	Average	HORIZONTAL
2 @	2461.20	112.84			80.74	3.66	28.44	0.00	185	85	Peak	HORIZONTAL
3	2483.50	53.73	54.00	-0.27	21.57	3.68	28.48	0.00	185	85	Average	HORIZONTAL
4	2486.00	61.83	74.00	-12.17	29.67	3.68	28.48	0.00	185	85	Peak	HORIZONTAL

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

Configurations

IEEE 802.11g CH 1, 6, 11 / Ant. 1

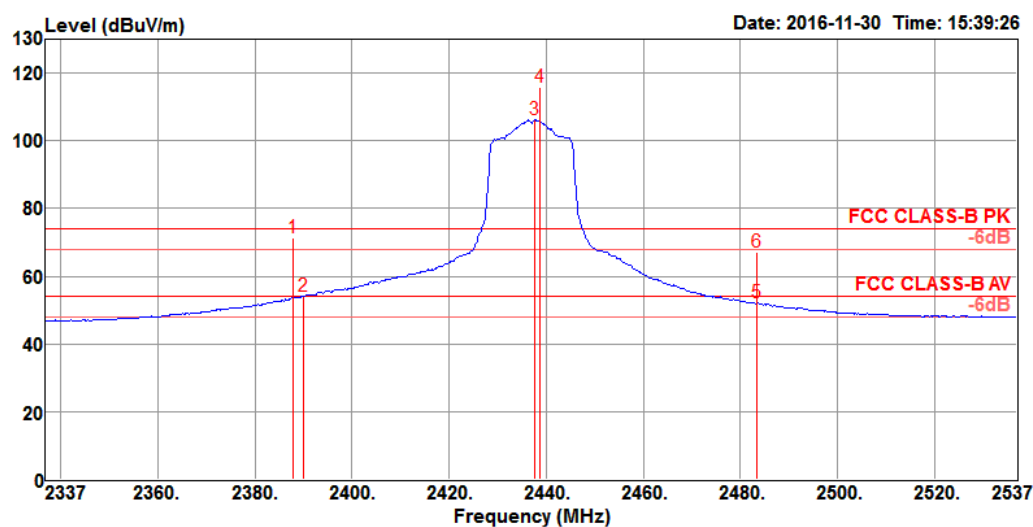
Channel 1



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamplifier Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2388.80	73.59	74.00	-0.41	41.68	3.60	28.31	0.00	110	80	Peak	HORIZONTAL
2	2390.00	51.70	54.00	-2.30	19.79	3.60	28.31	0.00	110	80	Average	HORIZONTAL
3 @	2412.40	113.99			82.01	3.62	28.36	0.00	110	80	Peak	HORIZONTAL
4 @	2412.80	104.45			72.47	3.62	28.36	0.00	110	80	Average	HORIZONTAL

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

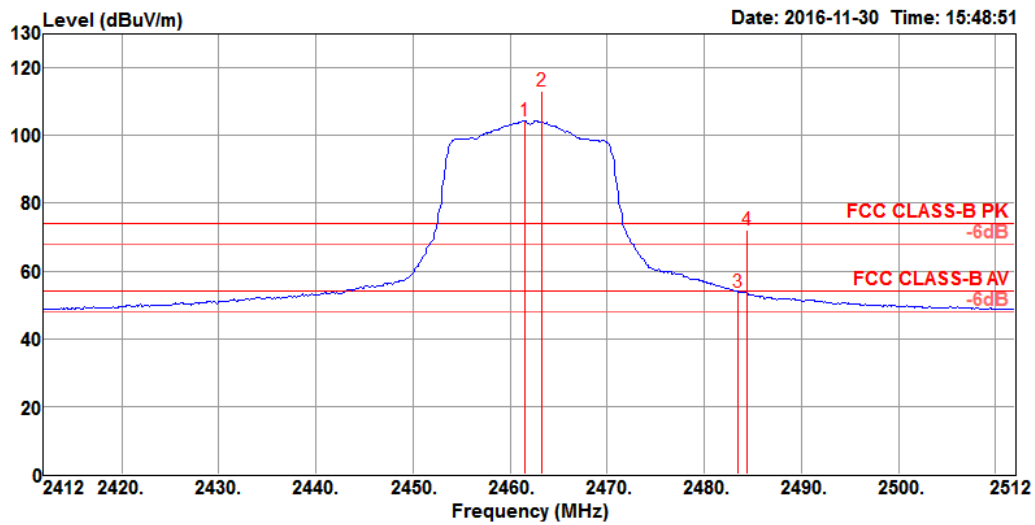
Channel 6



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2387.96	71.26	74.00	-2.74	39.30	4.89	27.07	0.00	120	101 Peak	HORIZONTAL
2	2390.00	53.96	54.00	-0.04	22.00	4.89	27.07	0.00	120	101 Average	HORIZONTAL
3 @	2437.64	106.16			74.04	4.95	27.17	0.00	120	101 Average	HORIZONTAL
4 @	2438.60	115.71			83.59	4.95	27.17	0.00	120	101 Peak	HORIZONTAL
5	2483.50	52.11	54.00	-1.89	19.86	4.98	27.27	0.00	120	101 Average	HORIZONTAL
6	2483.50	67.22	74.00	-6.78	34.97	4.98	27.27	0.00	120	101 Peak	HORIZONTAL

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

Channel 11

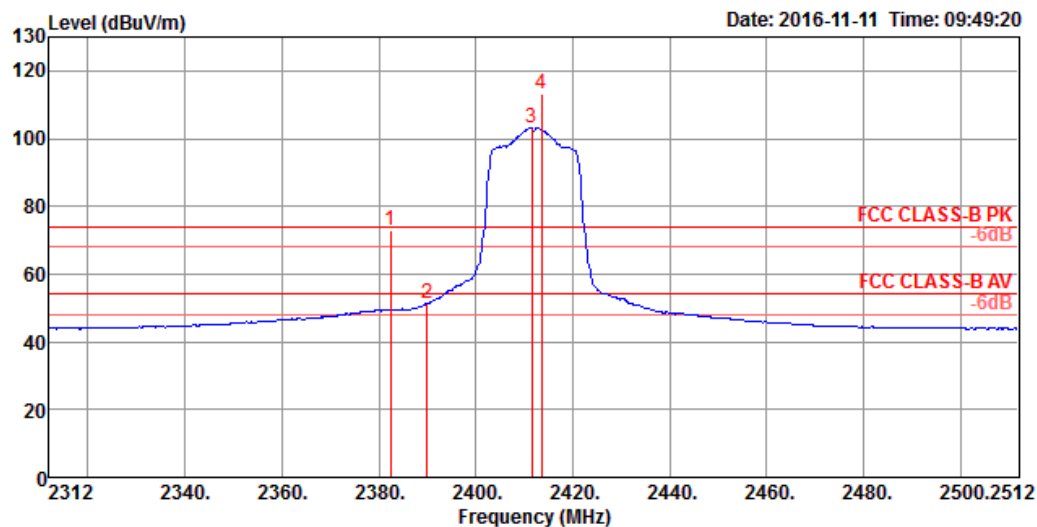


	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1 @	2461.52	104.40			72.20	4.97	27.23	0.00	121	101 Average	HORIZONTAL
2 @	2463.28	113.20			81.00	4.97	27.23	0.00	121	101 Peak	HORIZONTAL
3	2483.50	53.84	54.00	-0.16	21.59	4.98	27.27	0.00	121	101 Average	HORIZONTAL
4	2484.44	72.15	74.00	-1.85	39.90	4.98	27.27	0.00	121	101 Peak	HORIZONTAL

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

Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 1, 6, 11 / Ant. 1
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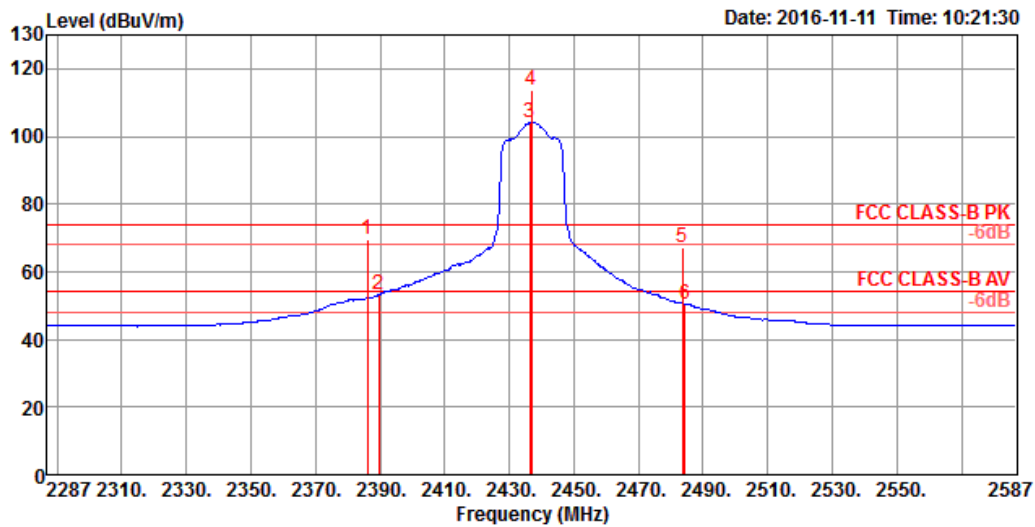
Channel 1



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2382.40	73.07	74.00	-0.93	41.18	3.98	27.91	0.00	112	100	Peak
2	2390.00	51.19	54.00	-2.81	19.31	3.98	27.90	0.00	112	100	Average
3 @	2411.60	103.32			71.43	4.01	27.88	0.00	112	100	Average
4 @	2413.60	113.01			81.12	4.01	27.88	0.00	112	100	Average

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

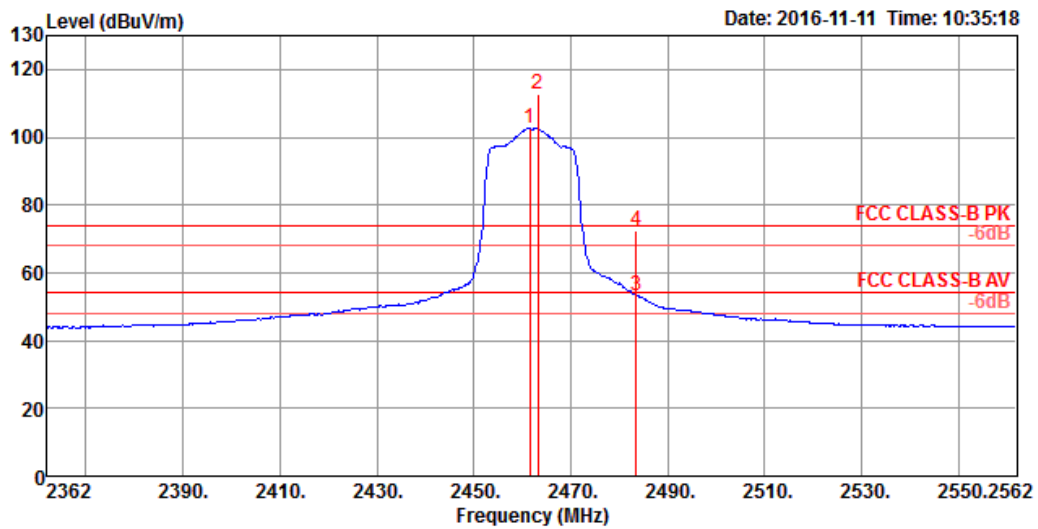
Channel 6



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2386.00	69.70	74.00	-4.30	37.82	3.98	27.90	0.00	150	99	Peak	HORIZONTAL
2	2389.60	53.37	54.00	-0.63	21.49	3.98	27.90	0.00	150	99	Average	HORIZONTAL
3 @	2436.40	104.30			72.40	4.04	27.86	0.00	150	99	Average	HORIZONTAL
4 @	2437.00	113.56			81.66	4.04	27.86	0.00	150	99	Peak	HORIZONTAL
5	2483.50	67.03	74.00	-6.97	35.11	4.11	27.81	0.00	150	99	Peak	HORIZONTAL
6	2484.40	50.49	54.00	-3.51	18.57	4.11	27.81	0.00	150	99	Average	HORIZONTAL

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

Channel 11

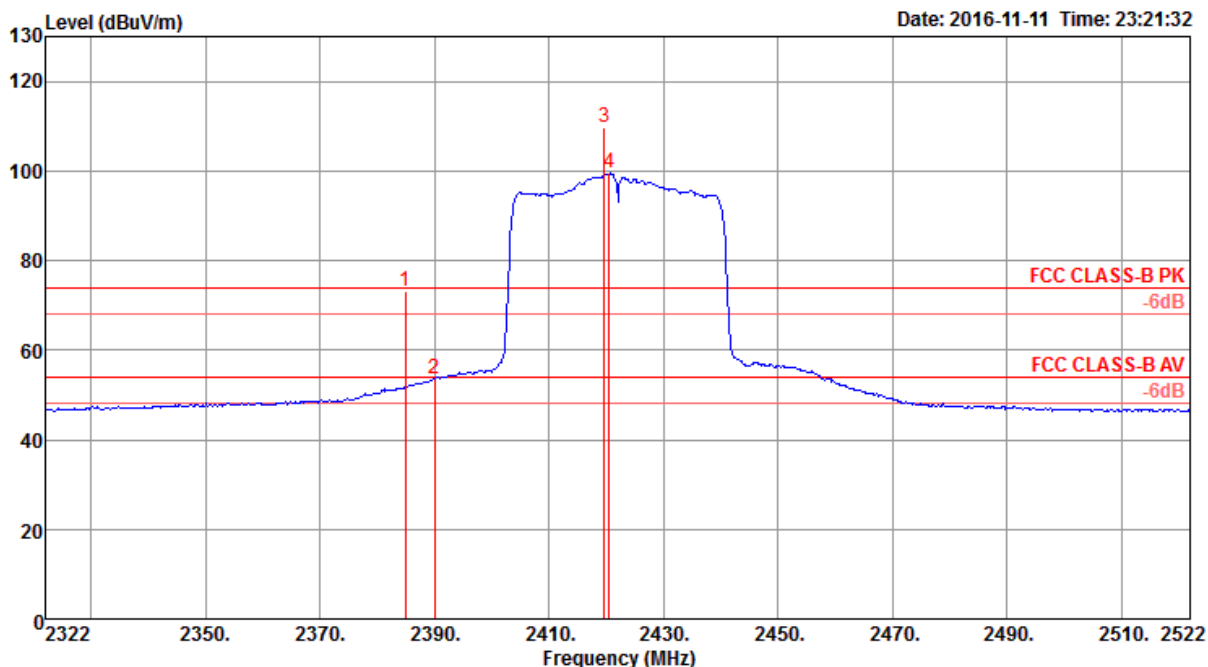


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1 @	2461.60	102.85			70.94	4.08	27.83	0.00	100	103	Average	HORIZONTAL
2 @	2463.20	112.76			80.85	4.08	27.83	0.00	100	103	Peak	HORIZONTAL
3	2483.50	53.46	54.00	-0.54	21.54	4.11	27.81	0.00	100	103	Average	HORIZONTAL
4	2483.50	72.59	74.00	-1.41	40.67	4.11	27.81	0.00	100	103	Peak	HORIZONTAL

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

Configurations

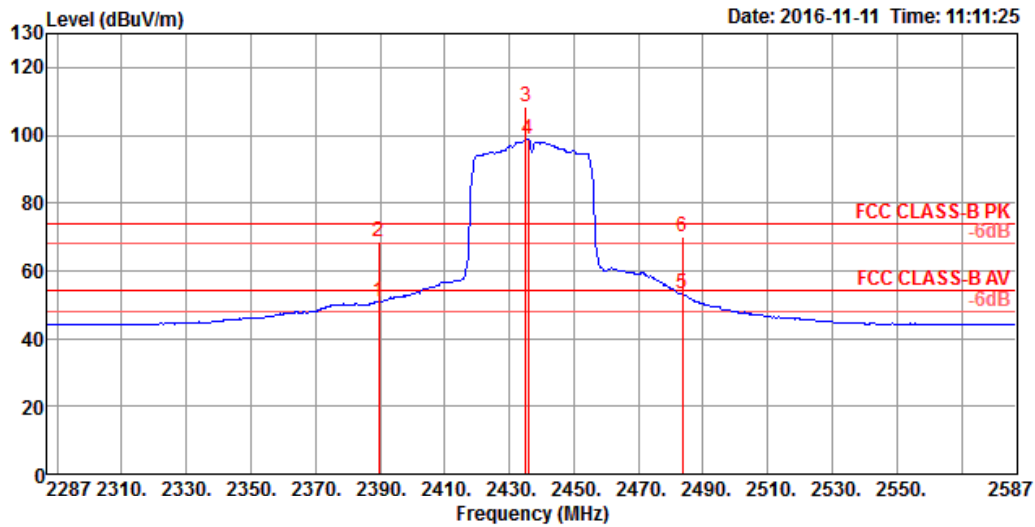
IEEE 802.11ac MCS0/Nss1 VHT40 CH 3, 6, 9 / Ant. 1

Channel 3


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2384.95	73.15	74.00	-0.85	42.27	2.86	28.02	0.00	101	100	Peak	HORIZONTAL
2	2390.00	53.60	54.00	-0.40	22.72	2.86	28.02	0.00	101	100	Average	HORIZONTAL
3 @	2419.68	109.82			78.95	2.88	27.99	0.00	101	100	Peak	HORIZONTAL
4 @	2420.55	99.43			68.56	2.88	27.99	0.00	101	100	Average	HORIZONTAL

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

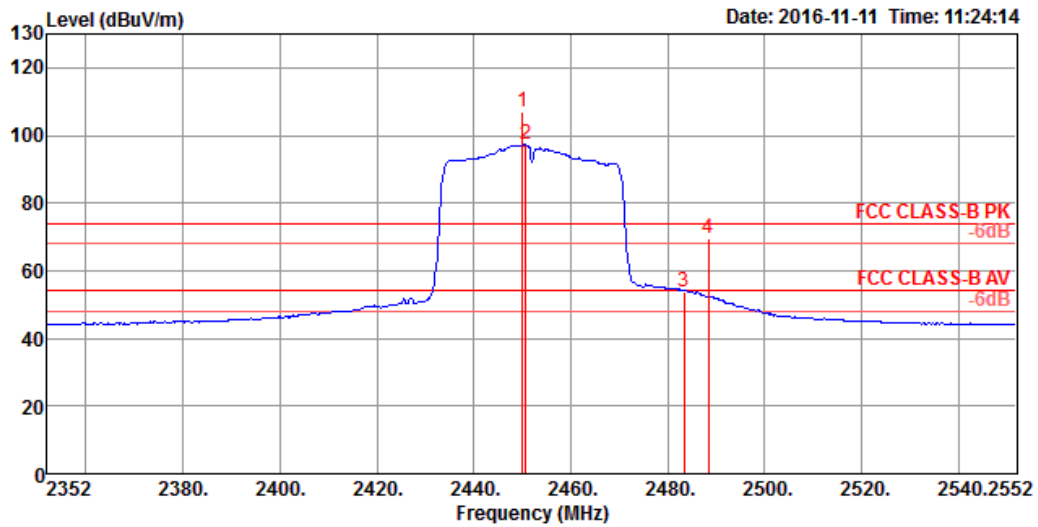
Channel 6



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2389.60	50.78	54.00	-3.22	18.90	3.98	27.90	0.00	150	97 Average	HORIZONTAL
2	2389.60	68.63	74.00	-5.37	36.75	3.98	27.90	0.00	150	97 Peak	HORIZONTAL
3 @	2435.20	108.31			76.41	4.04	27.86	0.00	150	97 Peak	HORIZONTAL
4 @	2435.80	98.74			66.84	4.04	27.86	0.00	150	97 Average	HORIZONTAL
5	2483.50	53.10	54.00	-0.90	21.18	4.11	27.81	0.00	150	97 Average	HORIZONTAL
6	2483.50	69.93	74.00	-4.07	38.01	4.11	27.81	0.00	150	97 Peak	HORIZONTAL

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

Channel 9



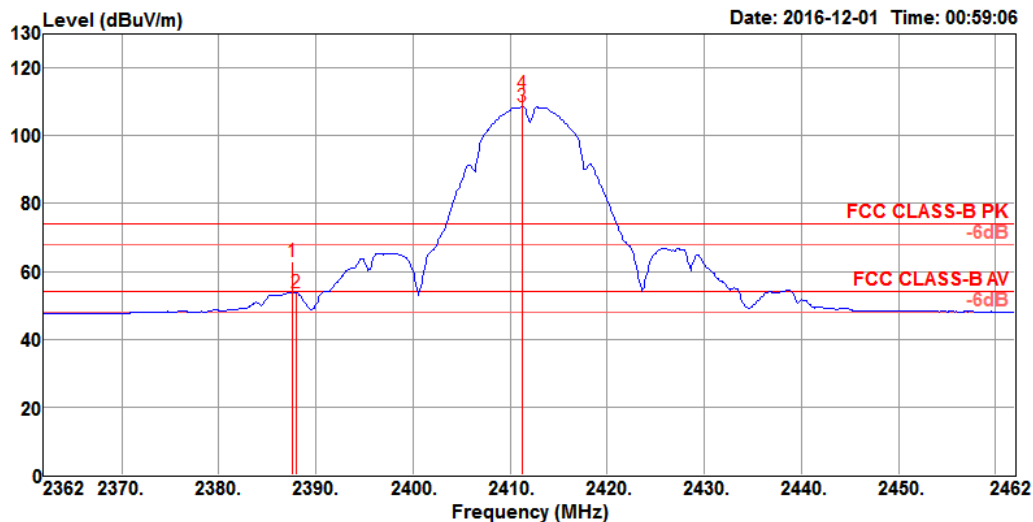
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1 @	2450.00	106.80			74.89	4.06	27.85	0.00	154	98 Peak	HORIZONTAL
2 @	2450.80	97.21			65.30	4.06	27.85	0.00	154	98 Average	HORIZONTAL
3	2483.50	53.94	54.00	-0.06	22.02	4.11	27.81	0.00	154	98 Average	HORIZONTAL
4	2488.40	69.73	74.00	-4.27	37.80	4.12	27.81	0.00	154	98 Peak	HORIZONTAL

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



Configurations	IEEE 802.11b CH 1, 6, 11 / Ant. 1 + Ant. 2
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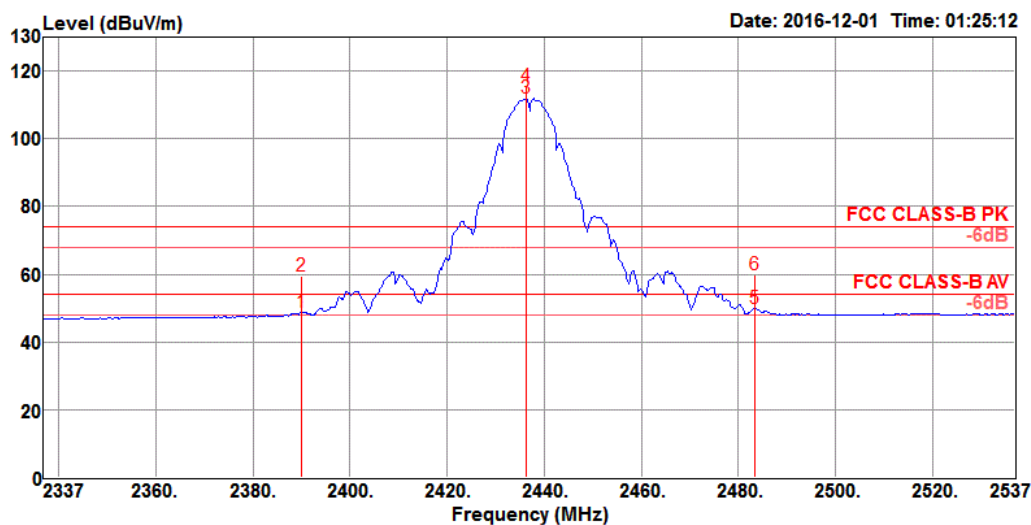
Channel 1



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	
1	2387.60	62.87	74.00	-11.13	30.91	4.89	27.07	0.00	100	87 Peak	HORIZONTAL
2	2388.00	53.78	54.00	-0.22	21.82	4.89	27.07	0.00	100	87 Average	HORIZONTAL
3 @	2411.20	108.69			76.65	4.91	27.13	0.00	100	87 Average	HORIZONTAL
4 @	2411.20	112.31			80.27	4.91	27.13	0.00	100	87 Peak	HORIZONTAL

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

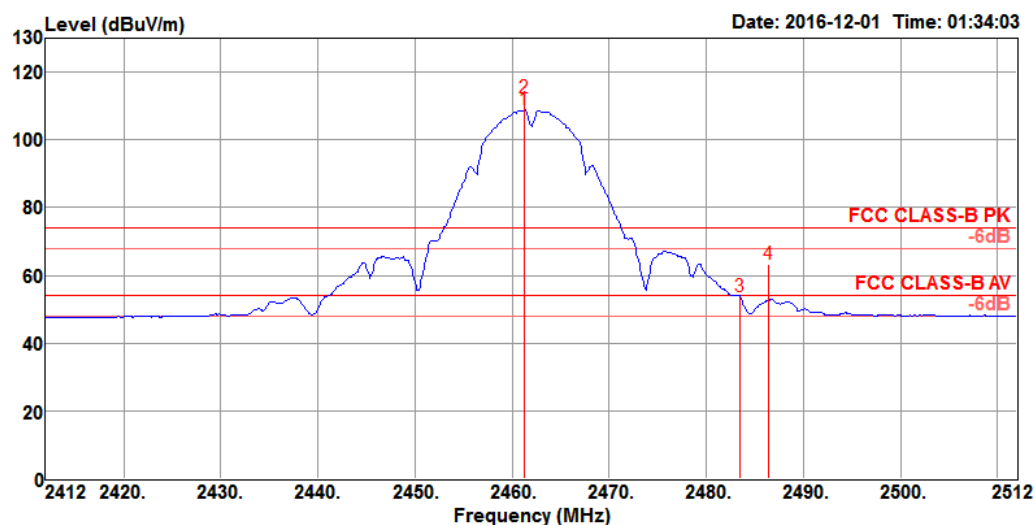
Channel 6



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2390.00	48.60	54.00	-5.40	16.64	4.89	27.07	0.00	100	89 Average	HORIZONTAL
2	2390.00	59.29	74.00	-14.71	27.33	4.89	27.07	0.00	100	89 Peak	HORIZONTAL
3 @	2436.20	111.97			79.87	4.93	27.17	0.00	100	89 Average	HORIZONTAL
4 @	2436.20	115.44			83.34	4.93	27.17	0.00	100	89 Peak	HORIZONTAL
5	2483.50	49.76	54.00	-4.24	17.51	4.98	27.27	0.00	100	89 Average	HORIZONTAL
6	2483.50	59.97	74.00	-14.03	27.72	4.98	27.27	0.00	100	89 Peak	HORIZONTAL

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

Channel 11

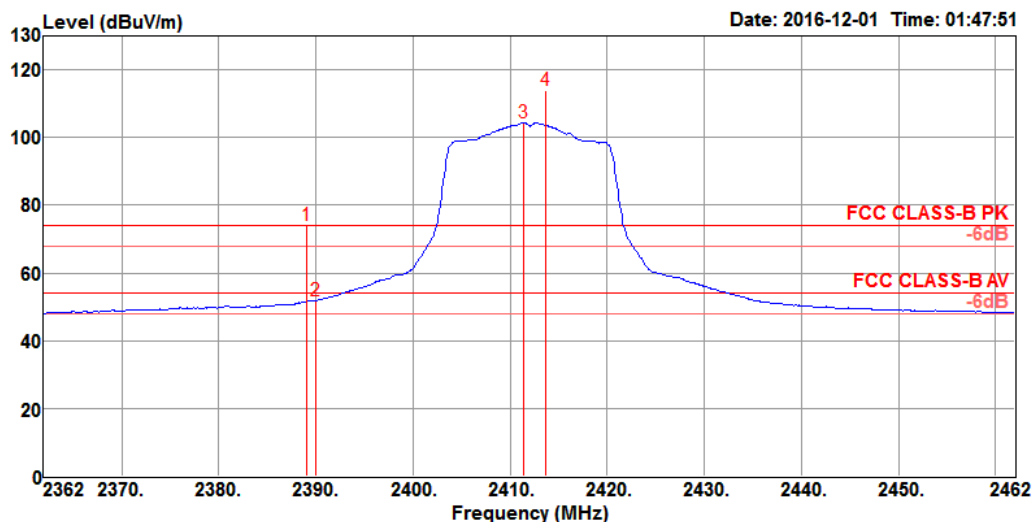


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1 @	2461.20	108.78			76.58	4.97	27.23	0.00	158	87	Average	HORIZONTAL
2 @	2461.20	112.36			80.16	4.97	27.23	0.00	158	87	Peak	HORIZONTAL
3	2483.50	53.77	54.00	-0.23	21.52	4.98	27.27	0.00	158	87	Average	HORIZONTAL
4	2486.40	63.28	74.00	-10.72	31.03	4.98	27.27	0.00	158	87	Peak	HORIZONTAL

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

Configurations	IEEE 802.11g CH 1, 6, 11 / Ant. 1 + Ant. 2
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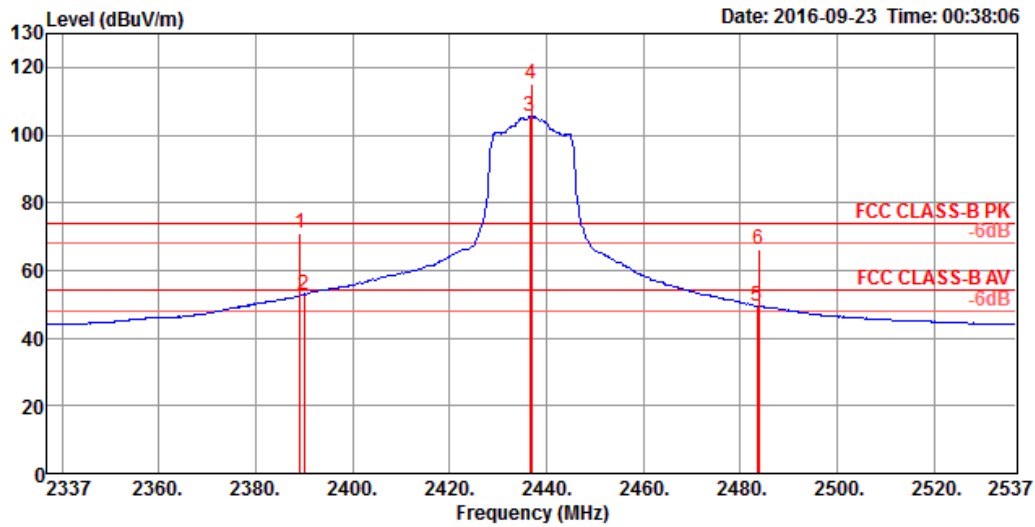
Channel 1



	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	2389.00	73.88	74.00	-0.12	41.92	4.89	27.07	0.00	102	86	Peak	HORIZONTAL
2	2390.00	51.80	54.00	-2.20	19.84	4.89	27.07	0.00	102	86	Average	HORIZONTAL
3 @	2411.40	104.34			72.30	4.91	27.13	0.00	102	86	Average	HORIZONTAL
4 @	2413.60	113.79			81.75	4.91	27.13	0.00	102	86	Peak	HORIZONTAL

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

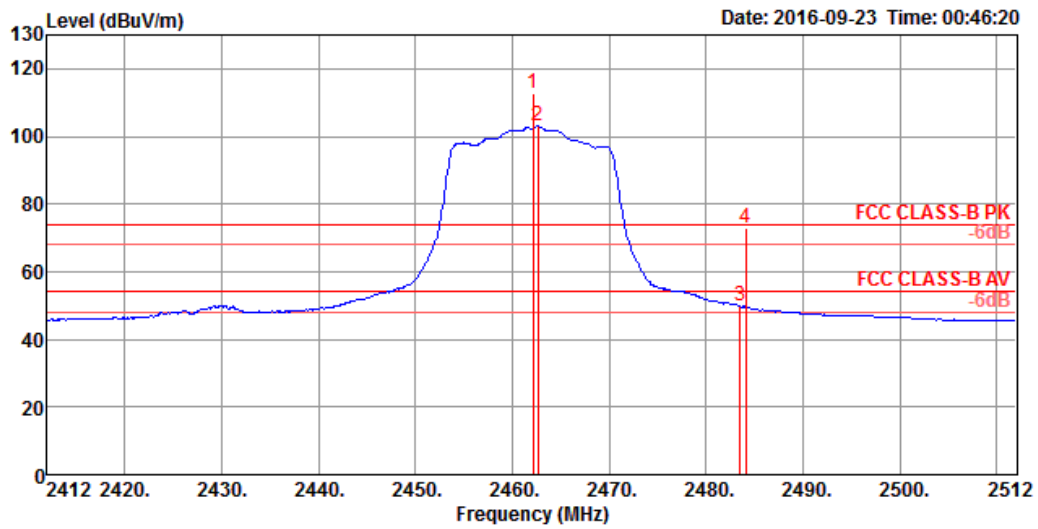
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2389.20	71.15	74.00	-2.85	39.27	3.98	27.90	0.00	142	90 Peak	HORIZONTAL
2	2390.00	52.92	54.00	-1.08	21.04	3.98	27.90	0.00	142	90 Average	HORIZONTAL
3 @	2436.60	105.50			73.60	4.04	27.86	0.00	142	90 Average	HORIZONTAL
4 @	2437.00	115.32			83.42	4.04	27.86	0.00	142	90 Peak	HORIZONTAL
5	2483.50	49.54	54.00	-4.46	17.62	4.11	27.81	0.00	142	90 Average	HORIZONTAL
6	2483.80	66.24	74.00	-7.76	34.32	4.11	27.81	0.00	142	90 Peak	HORIZONTAL

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

Channel 11



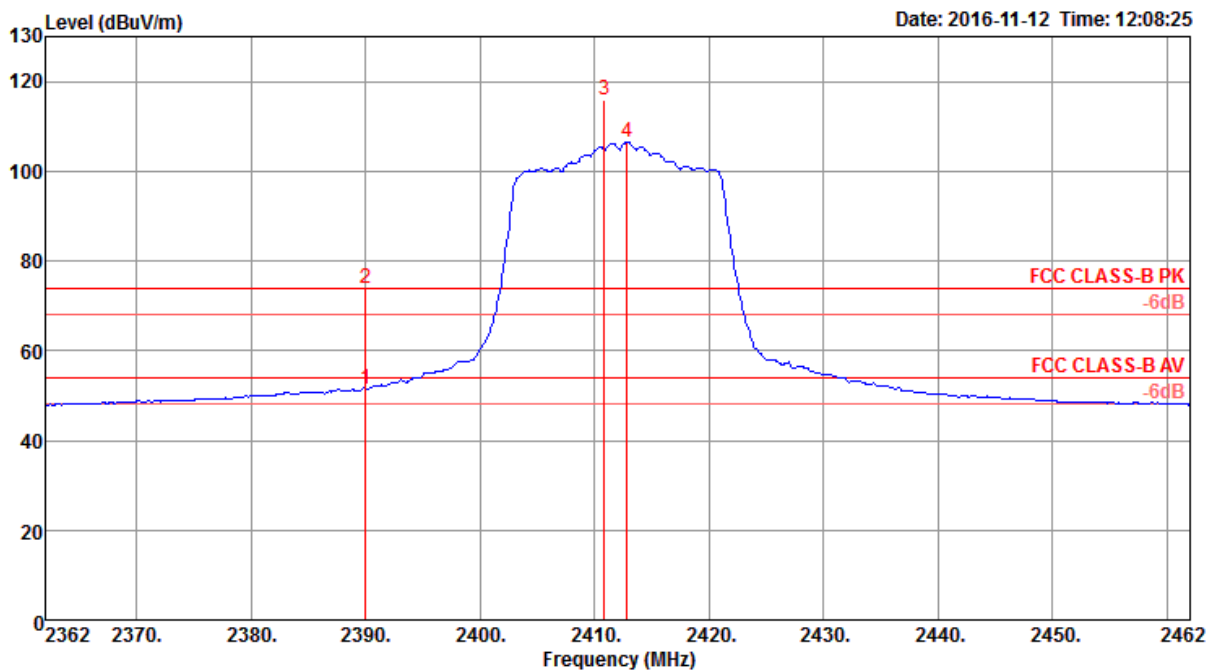
	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1 @	2462.10	112.79			80.88	4.08	27.83	0.00	100	89 Peak	HORIZONTAL
2 @	2462.60	102.95			71.04	4.08	27.83	0.00	100	89 Average	HORIZONTAL
3	2483.50	49.73	54.00	-4.27	17.81	4.11	27.81	0.00	100	89 Average	HORIZONTAL
4	2484.10	72.99	74.00	-1.01	41.07	4.11	27.81	0.00	100	89 Peak	HORIZONTAL

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

Configurations

IEEE 802.11ac MCS0/Nss1 VHT20(BF) CH 1, 6, 11 / Ant. 1 + Ant. 2

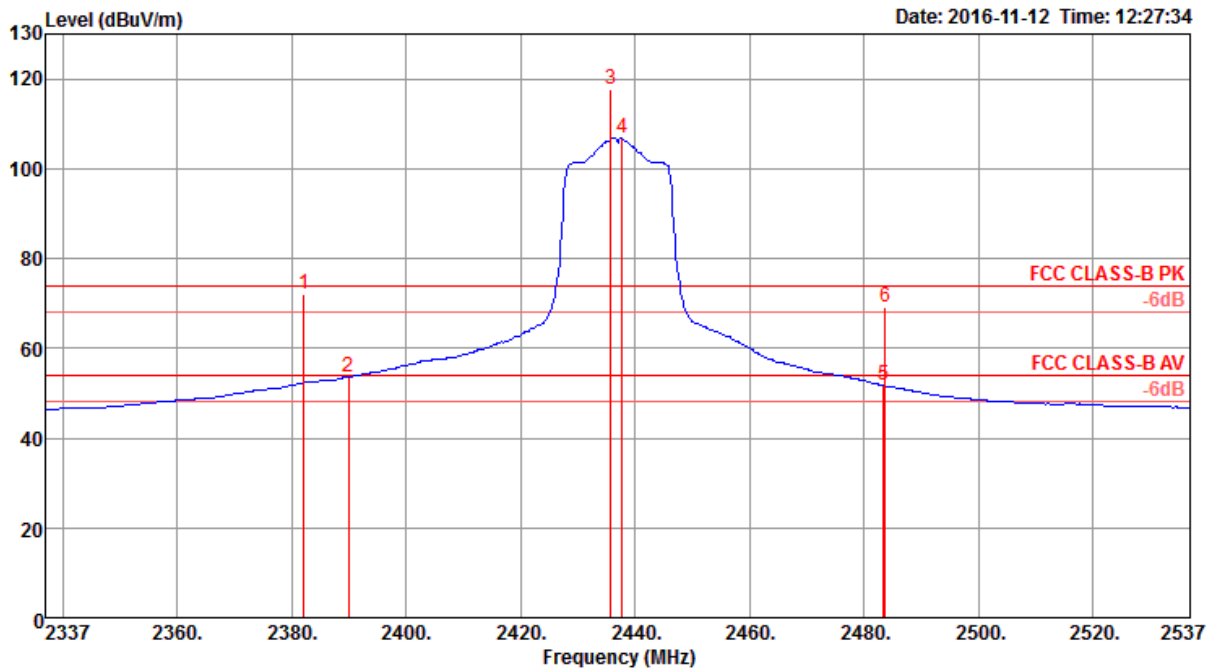
Channel 1



	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	2390.00	51.45	54.00	-2.55	19.54	3.60	28.31	0.00	128	117	Average	HORIZONTAL
2	2390.00	73.77	74.00	-0.23	41.86	3.60	28.31	0.00	128	117	Peak	HORIZONTAL
3 @	2410.80	115.85			83.88	3.62	28.35	0.00	128	117	Peak	HORIZONTAL
4 @	2412.80	106.42			74.44	3.62	28.36	0.00	128	117	Average	HORIZONTAL

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

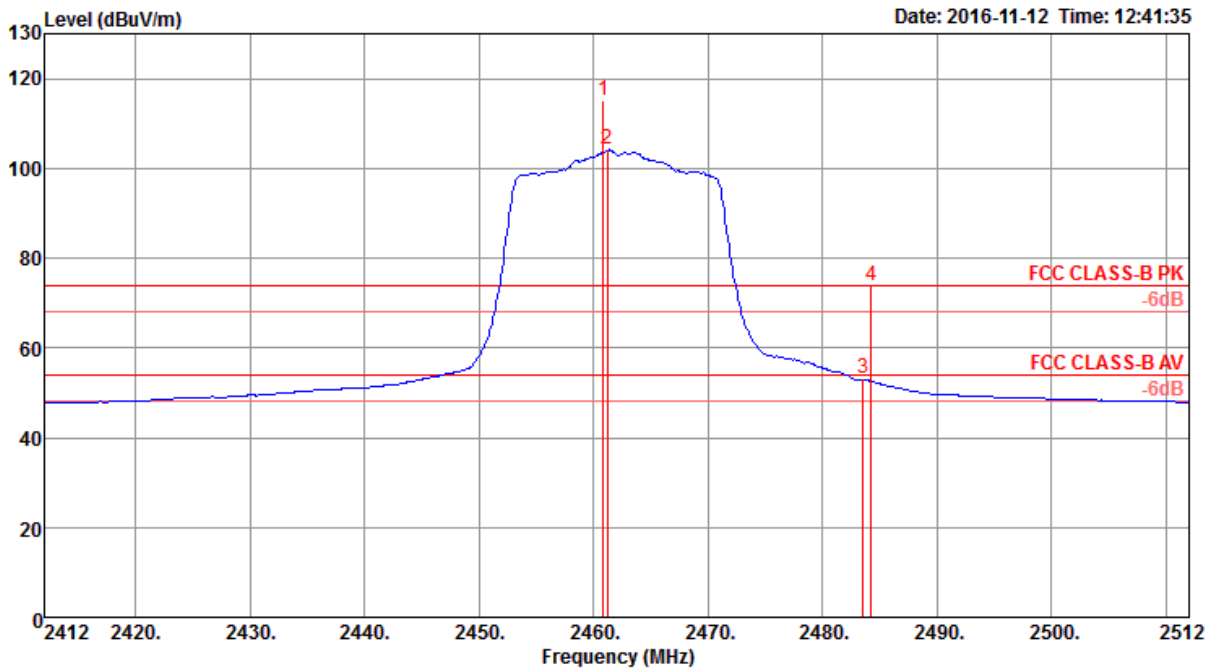
Channel 6



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2382.20	72.09	74.00	-1.91	40.20	3.59	28.30	0.00	125	102	Peak
2	2390.00	53.71	54.00	-0.29	21.80	3.60	28.31	0.00	125	102	Average
3 @	2435.80	117.78			85.75	3.64	28.39	0.00	125	102	Peak
4 @	2437.80	106.76			74.73	3.64	28.39	0.00	125	102	Average
5	2483.50	51.70	54.00	-2.30	19.54	3.68	28.48	0.00	125	102	Average
6	2483.80	69.06	74.00	-4.94	36.90	3.68	28.48	0.00	125	102	Peak

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

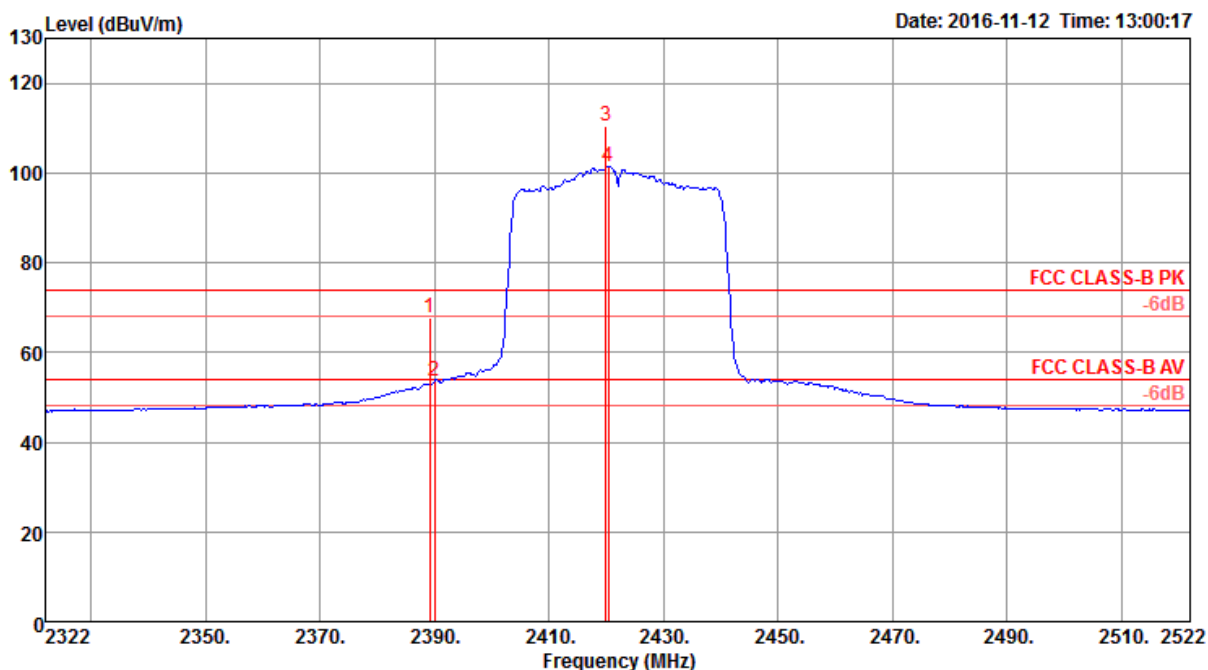
Channel 11



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1 @	2460.80	115.09			82.99	3.66	28.44	0.00	143	104 Peak	HORIZONTAL
2 @	2461.20	104.14			72.04	3.66	28.44	0.00	143	104 Average	HORIZONTAL
3	2483.50	53.20	54.00	-0.80	21.04	3.68	28.48	0.00	143	104 Average	HORIZONTAL
4	2484.20	73.95	74.00	-0.05	41.79	3.68	28.48	0.00	143	104 Peak	HORIZONTAL

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

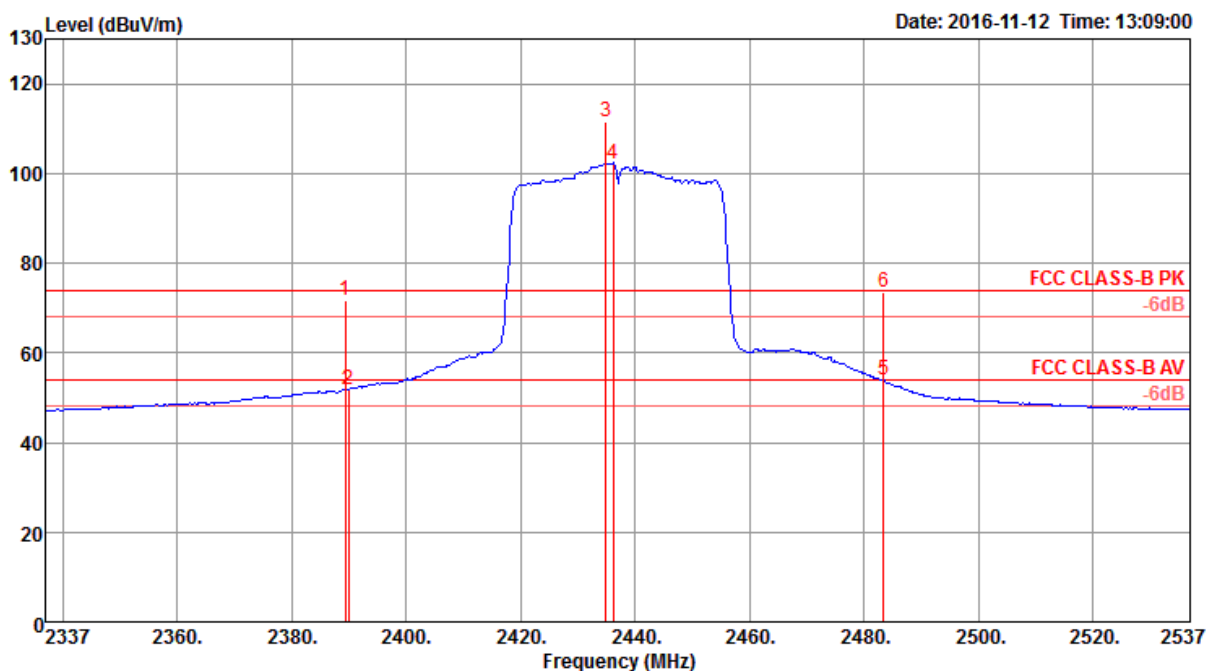
Configurations	IEEE 802.11ac MCS0/Nss1 VHT40(BF) CH 3, 6, 9 / Ant. 1 + Ant. 2
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Channel 3


	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	2389.20	67.77	74.00	-6.23	35.86	3.60	28.31	0.00	131	114	Peak	HORIZONTAL
2	2390.00	53.76	54.00	-0.24	21.85	3.60	28.31	0.00	131	114	Average	HORIZONTAL
3 @	2420.00	110.36			78.36	3.63	28.37	0.00	131	114	Peak	HORIZONTAL
4 @	2420.40	101.39			69.39	3.63	28.37	0.00	131	114	Average	HORIZONTAL

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

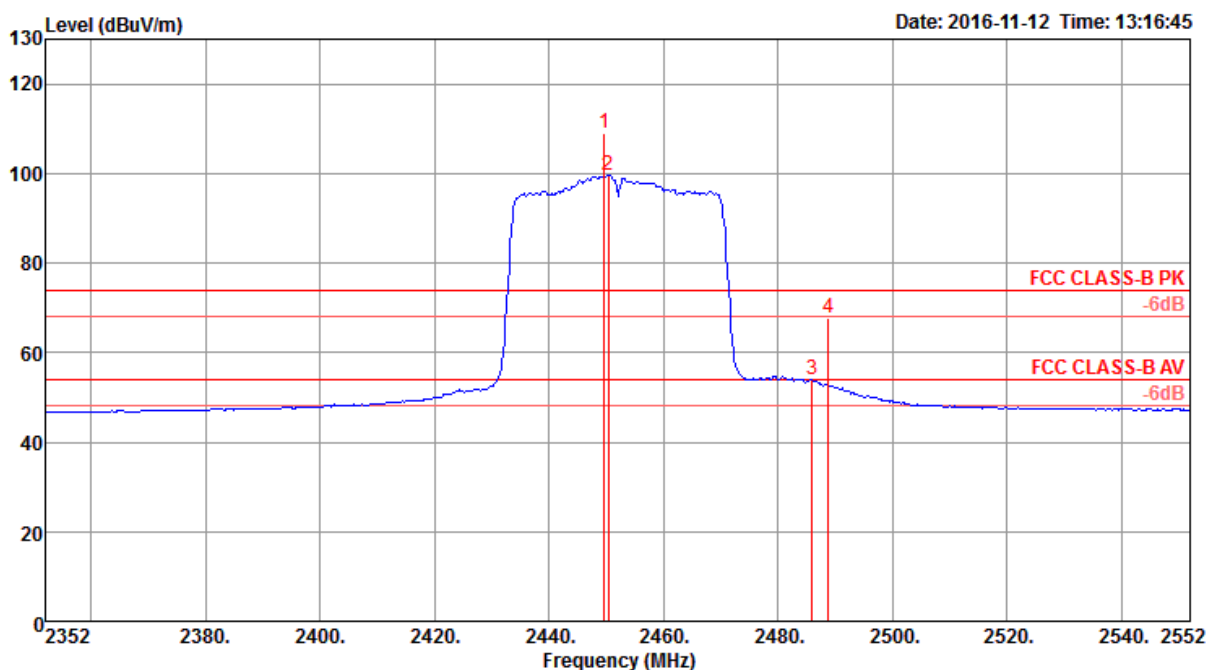
Channel 6



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	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	71.66	74.00	-2.34	39.75	3.60	28.31	0.00	147	106	Peak
2	2390.00	51.90	54.00	-2.10	19.99	3.60	28.31	0.00	147	106	Average
3 @	2435.00	111.44			79.41	3.64	28.39	0.00	147	106	Peak
4 @	2436.20	102.30			70.27	3.64	28.39	0.00	147	106	Average
5	2483.50	53.79	54.00	-0.21	21.63	3.68	28.48	0.00	147	106	Average
6	2483.50	73.56	74.00	-0.44	41.40	3.68	28.48	0.00	147	106	Peak

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 @	2449.60	108.86			76.79	3.65	28.42	0.00	124	121	Peak	HORIZONTAL
2 @	2450.40	99.67			67.60	3.65	28.42	0.00	124	121	Average	HORIZONTAL
3	2486.00	53.80	54.00	-0.20	21.64	3.68	28.48	0.00	124	121	Average	HORIZONTAL
4	2488.80	67.56	74.00	-6.44	35.40	3.68	28.48	0.00	124	121	Peak	HORIZONTAL

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.

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 16, 2015	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 13, 2015	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 18, 2016	Conduction (CO02-CB)
COND Cable	Woken	Cable	01	0.15MHz ~ 30MHz	Dec. 01, 2015	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F	9561-F073	9kHz ~ 30MHz	Sep. 30, 2015	Conduction (CO02-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	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	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jun. 28, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	Agilent	N9010A	MY52220519	10kHz~44GHz	Jan. 19, 2016	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-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	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-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	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-17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	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-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 26, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
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-7	1 GHz – 26.5 GHz	Oct. 24, 2016	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-8	1 GHz – 26.5 GHz	Oct. 24, 2016	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-9	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 24, 2016	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.