

FCC Test Report

Equipment : Wireless-AC VPN Router
Brand Name : CISCO
Model No. : RV160W
FCC ID : PD5-RV160W
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant / Manufacturer : Delta Networks, Inc.
No.252, Shang Ying Rd., Kuei San District, Taoyuan
City 33341, Taiwan R.O.C.

The product sample received on May 08, 2017 and completely tested on Aug. 03, 2017. 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.



Phoenix Chen
SPORTON INTERNATIONAL INC.





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APPENDIX A. TEST PHOTOS

PHOTOGRAPHS OF EUT v01

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.
TEL : 886-3-3273456
FAX : 886-3-3270973
FCC ID: PD5-RV160W

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)	2412-2462	1-11 [11]
2400-2483.5	n (HT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX(Port 1)
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX

Note:

- 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.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Master Wave	98619PIPF040	Dipole	I-PEX	3.08
2	Master Wave	98619PIPF041	Dipole	I-PEX	3.53

Note: 1: 802.11b only includes 1TX2RX and Port1 for emission.

Note: 2: 802.11g/n used two antennas are for signal transmitting and receiving.(2T2R Spatial Multiplexing MIMO configuration)

1.1.3 EUT Information

Operational Condition			
EUT Power Type		From Adapter	
Beamforming Function		☐ With beamforming	☒ Without beamforming
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:		...
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:		...
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.999	0.004	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11g	0.986	0.061	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11n HT20	0.985	0.066	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11n HT40	0.96	0.177	948.75u	3k

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
- ♦ KDB 558074 D01 v04
- ♦ KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Ryan	24.5°C / 65%	03/Aug/2017
Radiated	03CH03-HY	Terry	21.4°C / 57%	30/May/2017
AC Conduction	CO01-LK	Alex	25°C / 61%	16/May/2017

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)	3.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software Version	MTool/ 2.0.1.1
-----------------------	----------------

Mode	Power Setting
802.11b_(1Mbps)_1TX	-
2412MHz	75
2437MHz	80
2462MHz	72
802.11g_(6Mbps)_2TX	-
2412MHz	58
2437MHz	76
2462MHz	52
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	46
2437MHz	74
2462MHz	45
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	40
2437MHz	51
2452MHz	40

2.3 The Worst Case Measurement Configuration

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests		
Tests Item	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	Adapter Mode	
Operating Mode > 1GHz	CTX	
Orthogonal Planes of EUT	Y Plane	Z Plane
		
Worst Planes of EUT		V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA750812 for Co-location RF Exposure Evaluation and Report Clause 3.6.8 for Radiated Emission Co-location.	

2.4 Accessories

Accessories				
AC Adapter	Brand Name	DVE	Model Name	DSA-24PFM-12 FCA 120200
	Power Rating	I/P: 100 - 240Vac, 0.8 A, O/P: 12 Vdc, 2A		
	Power Cord	1.2 meter, non-shielded cable, w/o ferrite core		
RJ45 to RS232 console cable	Power Cord	1.8 meter, non-shielded cable		
RJ45 Cable	Power Cord	1.42 meter, non-shielded cable		

2.5 Support Equipment

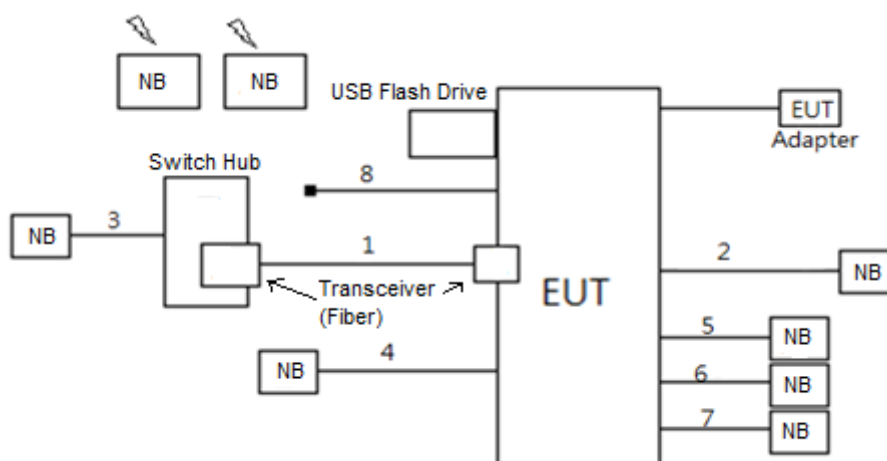
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DoC

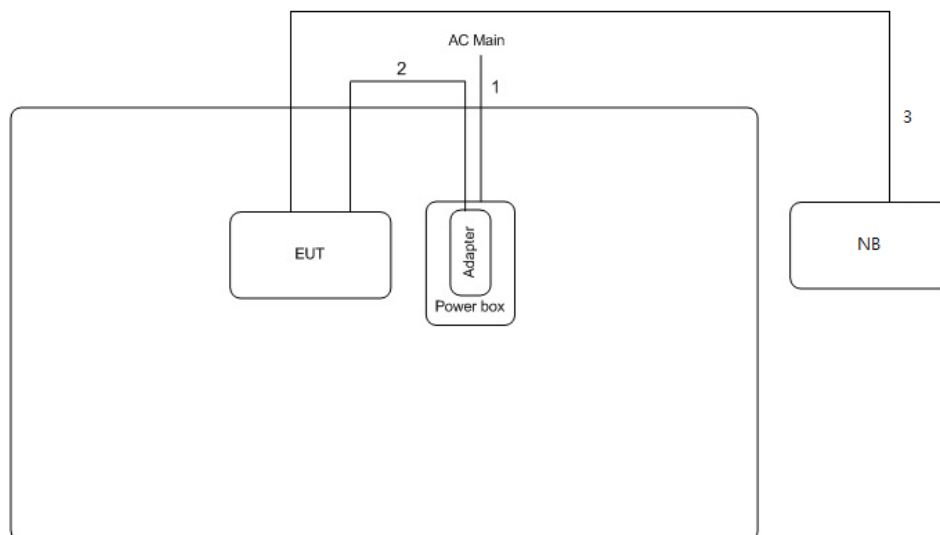
Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	USB Flash Drive	Transcend	TS8GJFV85	DoC
2	Transceiver (Fiber)	Finisar	FTLF8519P2BNL	-
3	Switch Hub	DELL	N3024	-
4	Transceiver (Fiber)	Finisar	FTLF8519P2BNL	-
5	Notebook	DELL	PP13S	DoC
6	Notebook	DELL	PP13S	DoC
7	Notebook	DELL	PP13S	DoC
8	Notebook	DELL	PP13S	DoC
9	Notebook	DELL	PP13S	DoC
10	Notebook	DELL	PP13S	DoC
11	Notebook (WiFi 2.4G)	DELL	Latitude E5540	DoC
12	Notebook (WiFi 5G)	DELL	Latitude E5540	DoC

2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Fiber	Non-Shielded	10
2	RJ45	Non-Shielded	3
3	RJ45	Non-Shielded	10
4	RJ45	Non-Shielded	10
5	RJ45	Non-Shielded	10
6	RJ45	Non-Shielded	10
7	RJ45	Non-Shielded	10
8	Console (Floating)	Non-Shielded	1.8

Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length
1	AC Power cable	No	1.8m
2	DC Power cable	No	1.2m
3	RJ45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

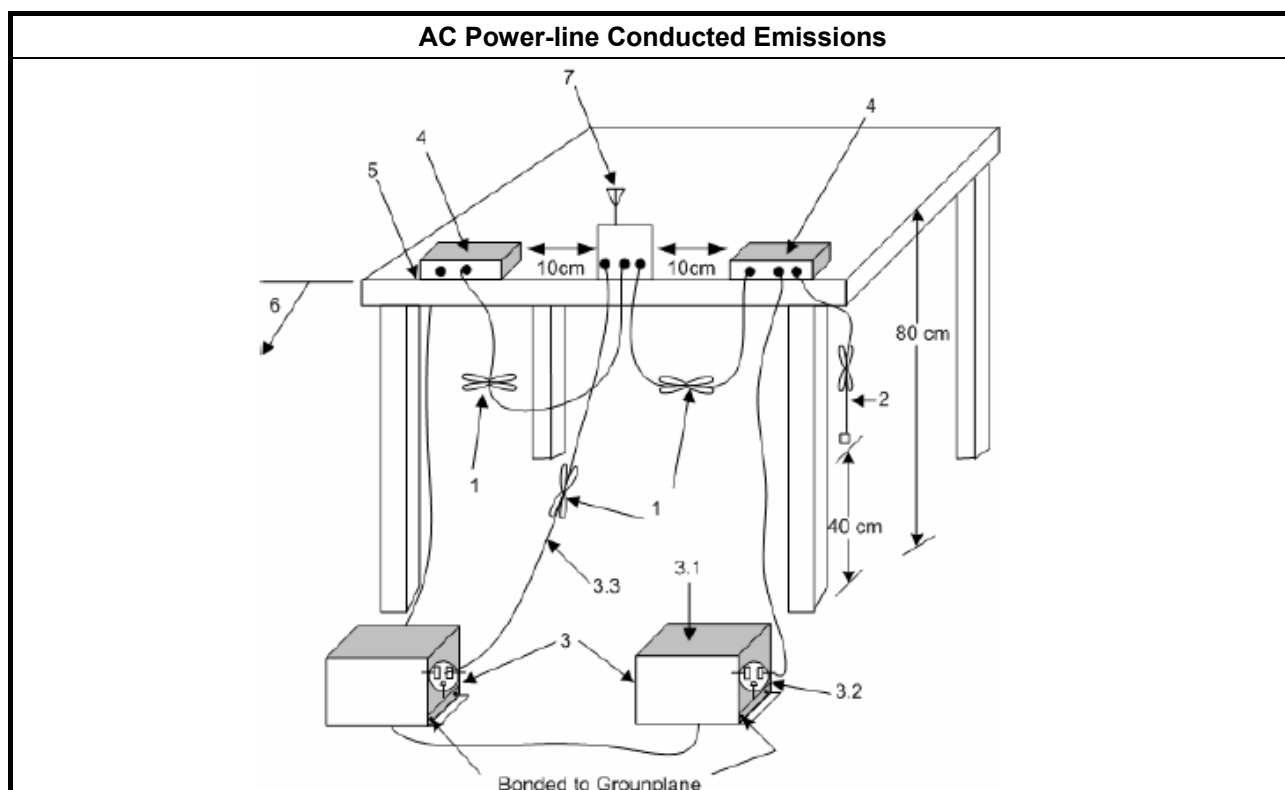
3.1.2 Measuring Instruments

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

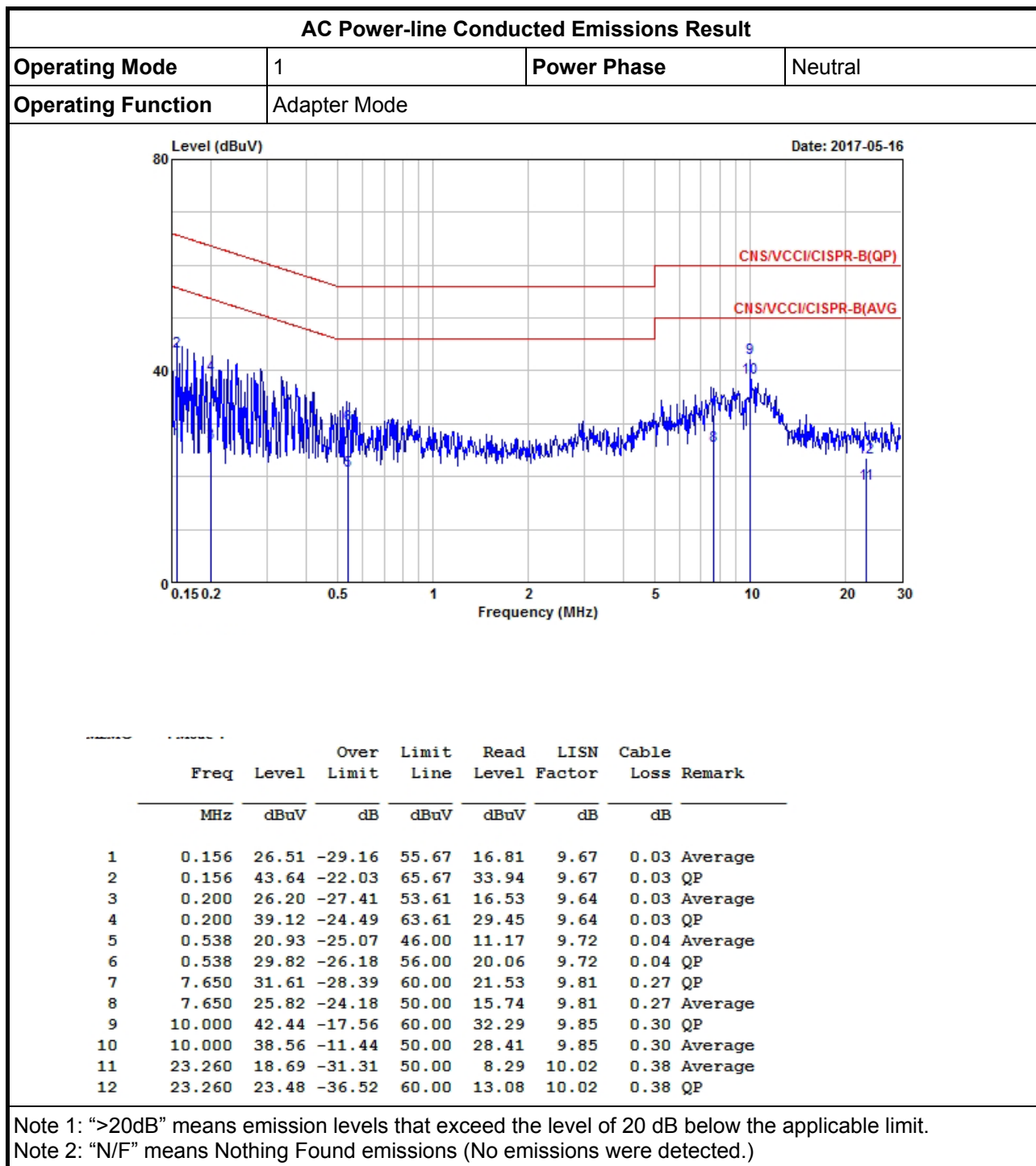
3.1.3 Test Procedures

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

3.1.4 Test Setup

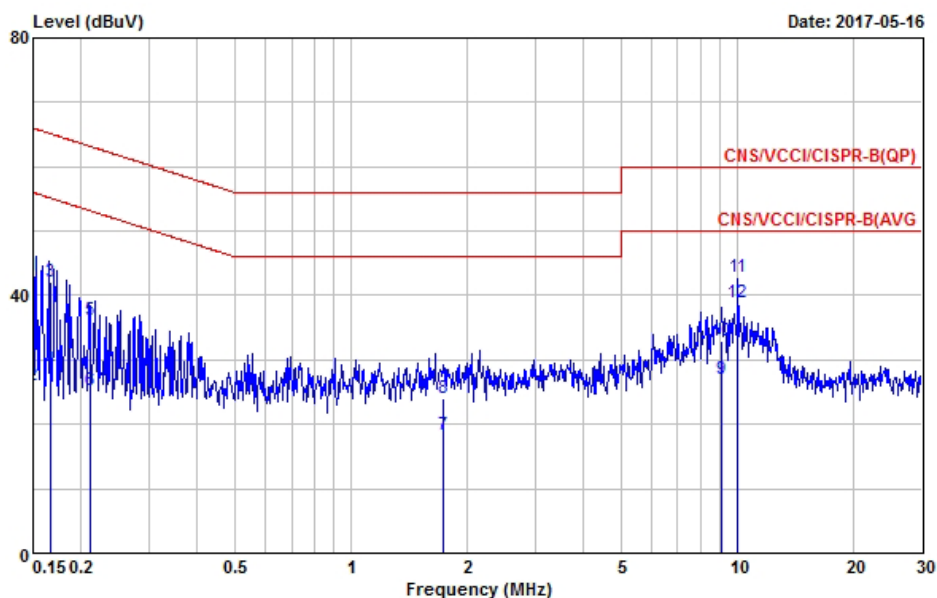


3.1.5 Test Result of AC Power-line Conducted Emissions



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Adapter Mode		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.150	43.21	-22.79	66.00	33.48	9.70	0.03	QP
2	0.150	25.96	-30.04	56.00	16.23	9.70	0.03	Average
3	0.167	42.05	-23.06	65.11	32.32	9.70	0.03	QP
4	0.167	28.59	-26.52	55.11	18.86	9.70	0.03	Average
5	0.211	36.15	-27.02	63.17	26.43	9.69	0.03	QP
6	0.211	25.29	-27.88	53.17	15.57	9.69	0.03	Average
7	1.730	18.40	-27.60	46.00	8.64	9.64	0.12	Average
8	1.730	24.03	-31.97	56.00	14.27	9.64	0.12	QP
9	9.110	26.91	-23.09	50.00	16.75	9.87	0.29	Average
10	9.110	32.82	-27.18	60.00	22.66	9.87	0.29	QP
11	10.000	42.79	-17.21	60.00	32.60	9.89	0.30	QP
12	10.000	38.95	-11.05	50.00	28.76	9.89	0.30	Average

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.

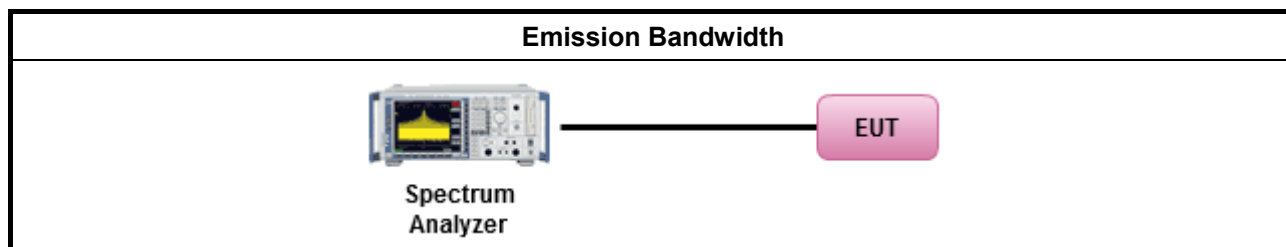
3.2.2 Measuring Instruments

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 KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
☐	Refer as RSS-Gen, clause 6.6 for for occupied bandwidth testing.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-
2.4-2.4835GHz	8.05M	10.17M	10M2G1D	7.975M	10.12M
802.11g_(6Mbps)_2TX	-	-	-	-	-
2.4-2.4835GHz	15.65M	16.367M	16M4D1D	14.4M	16.292M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	15.675M	17.516M	17M5D1D	14.425M	17.391M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	36.3M	36.182M	36M2D1D	32.55M	36.032M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

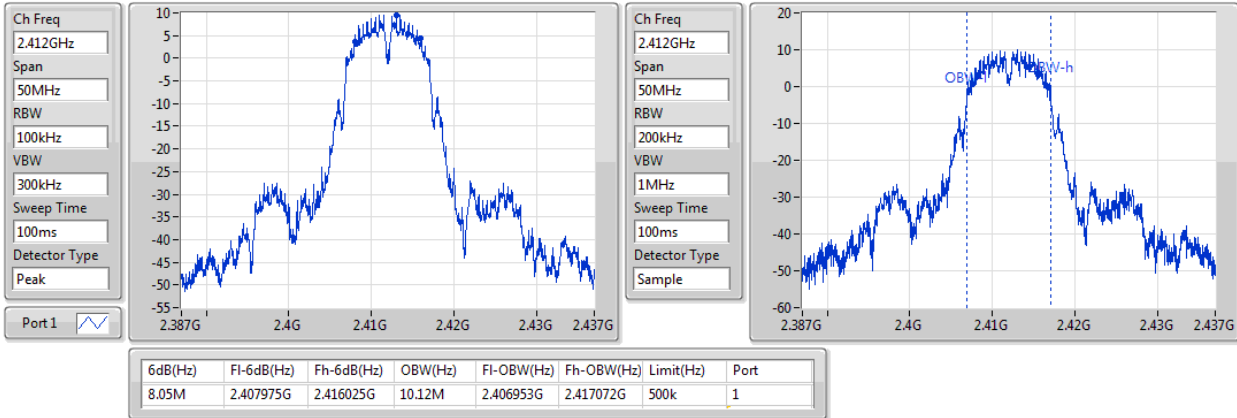
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.05M	10.12M		
2437MHz	Pass	500k	8.025M	10.17M		
2462MHz	Pass	500k	7.975M	10.12M		
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.05M	16.342M	15.65M	16.292M
2437MHz	Pass	500k	14.4M	16.342M	14.4M	16.367M
2462MHz	Pass	500k	15.025M	16.317M	15M	16.342M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.975M	17.441M	15.675M	17.466M
2437MHz	Pass	500k	15M	17.491M	15.65M	17.516M
2462MHz	Pass	500k	14.425M	17.391M	15.675M	17.491M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	32.55M	36.182M	32.55M	36.132M
2437MHz	Pass	500k	35.1M	36.132M	35.7M	36.132M
2452MHz	Pass	500k	35.4M	36.032M	36.3M	36.182M

Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_(1Mbps)_1TX

EBW

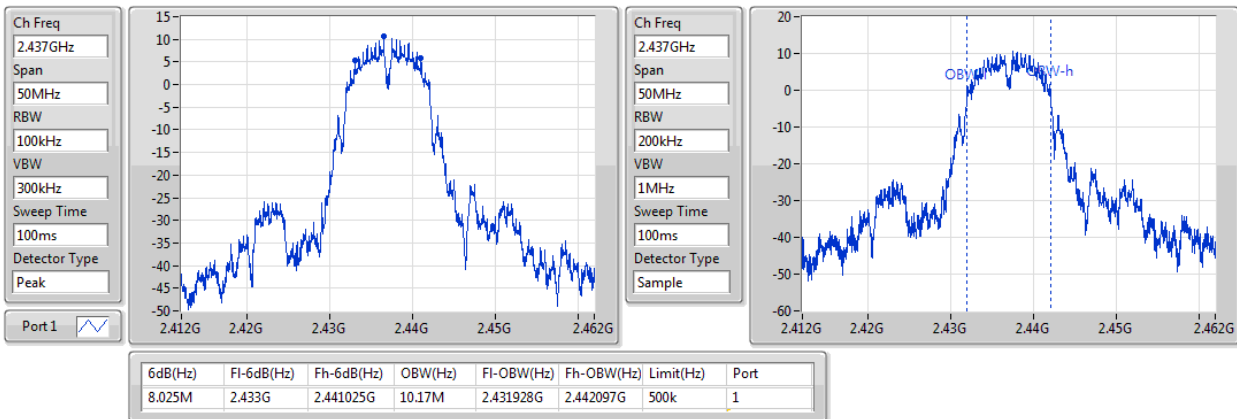
2412MHz



802.11b_(1Mbps)_1TX

EBW

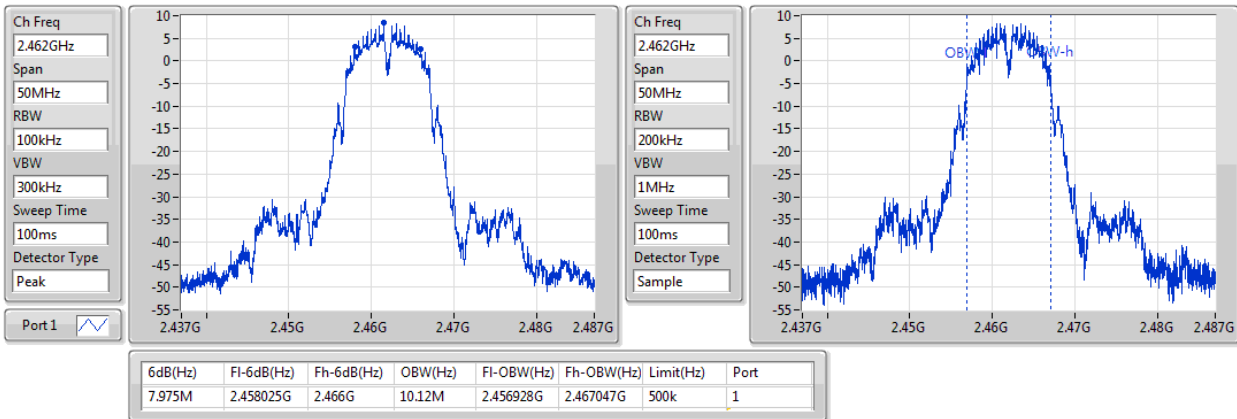
2437MHz



802.11b_(1Mbps)_1TX

EBW

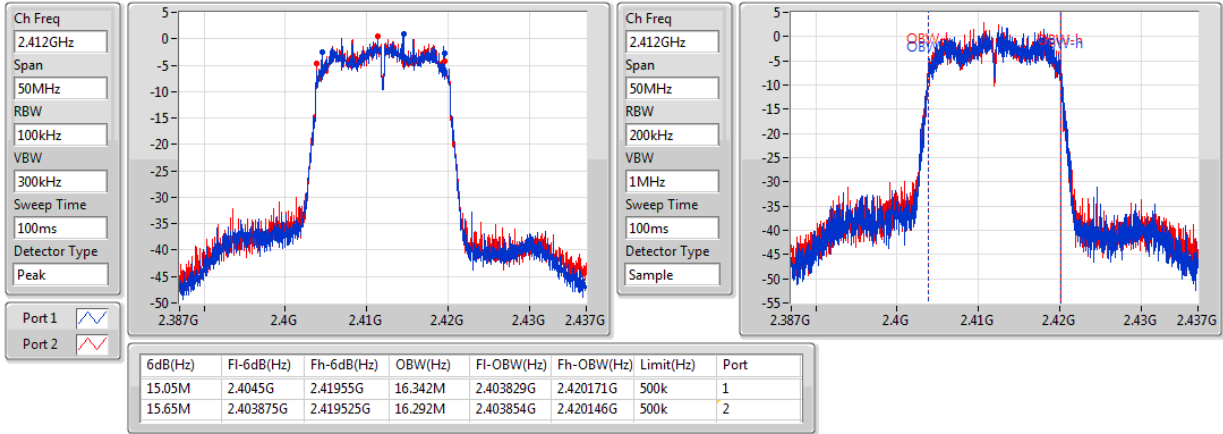
2462MHz



802.11g (6Mbps)_2TX

EBW

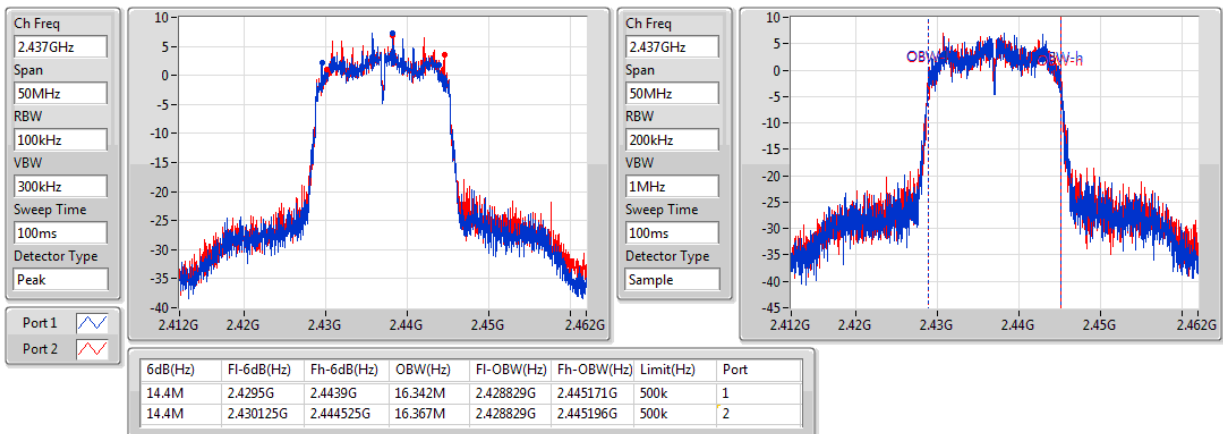
2412MHz



802.11g (6Mbps)_2TX

EBW

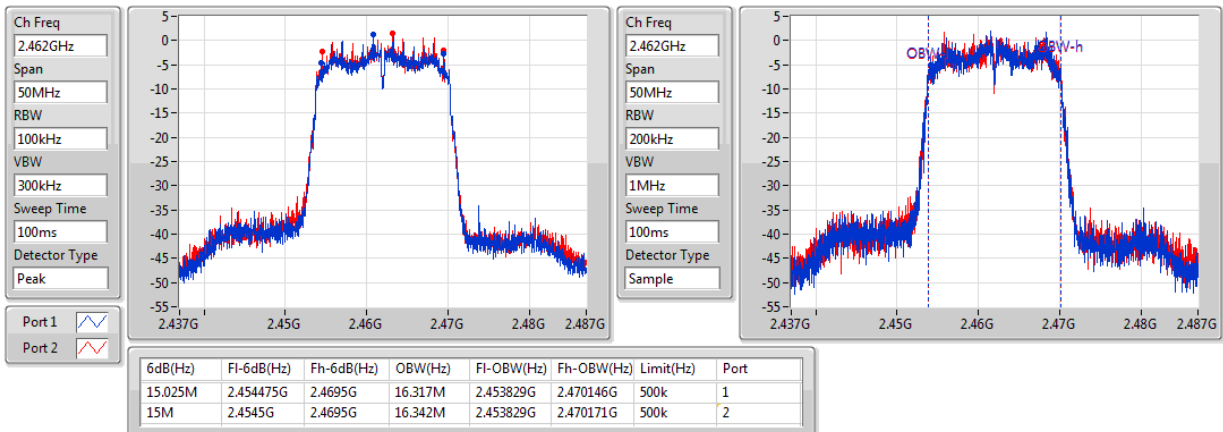
2437MHz



802.11g (6Mbps)_2TX

EBW

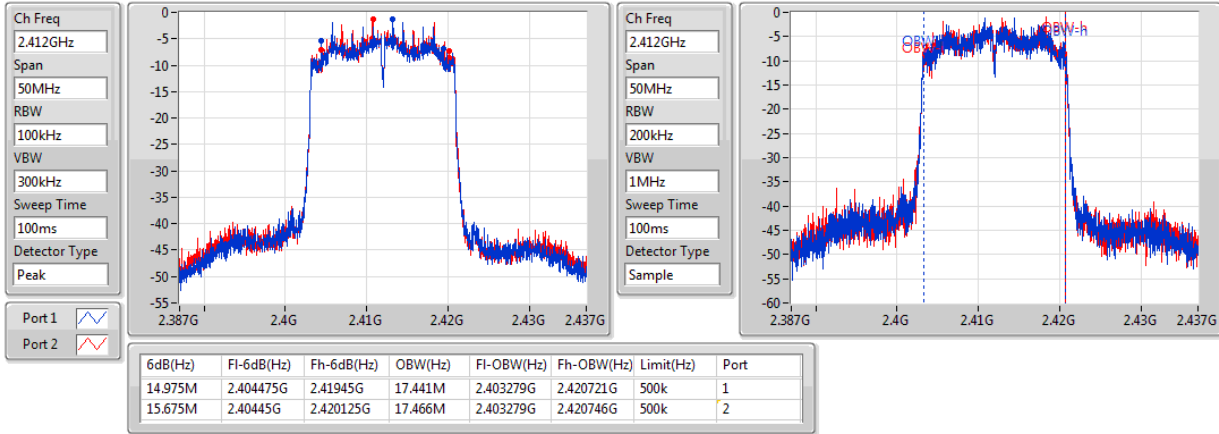
2462MHz



802.11n HT20_Nss1,(MCS0)_2TX

EBW

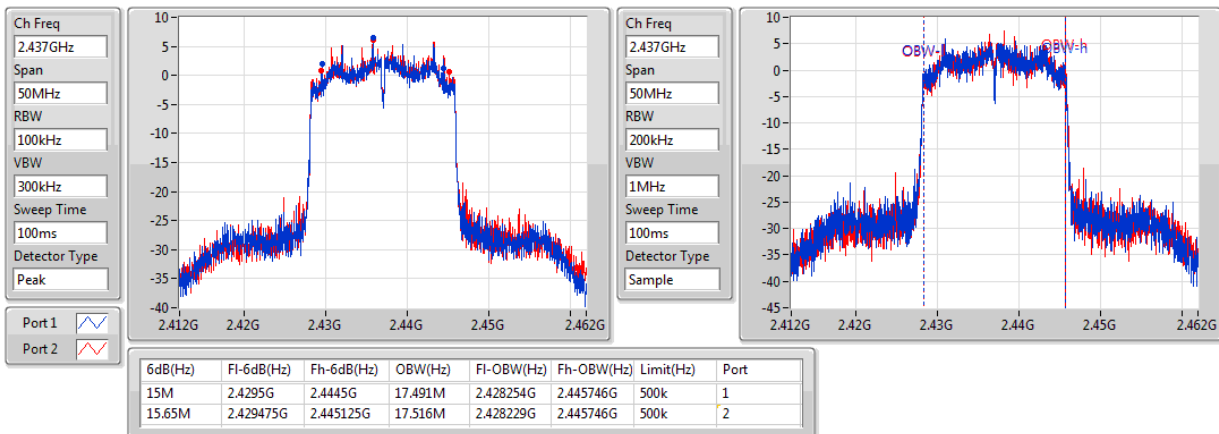
2412MHz



802.11n HT20_Nss1,(MCS0)_2TX

EBW

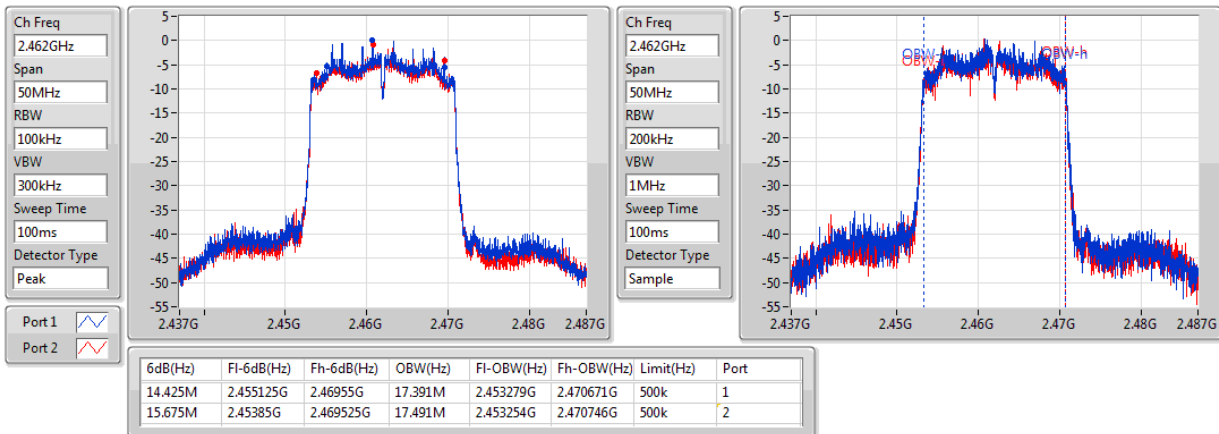
2437MHz



802.11n HT20_Nss1,(MCS0)_2TX

EBW

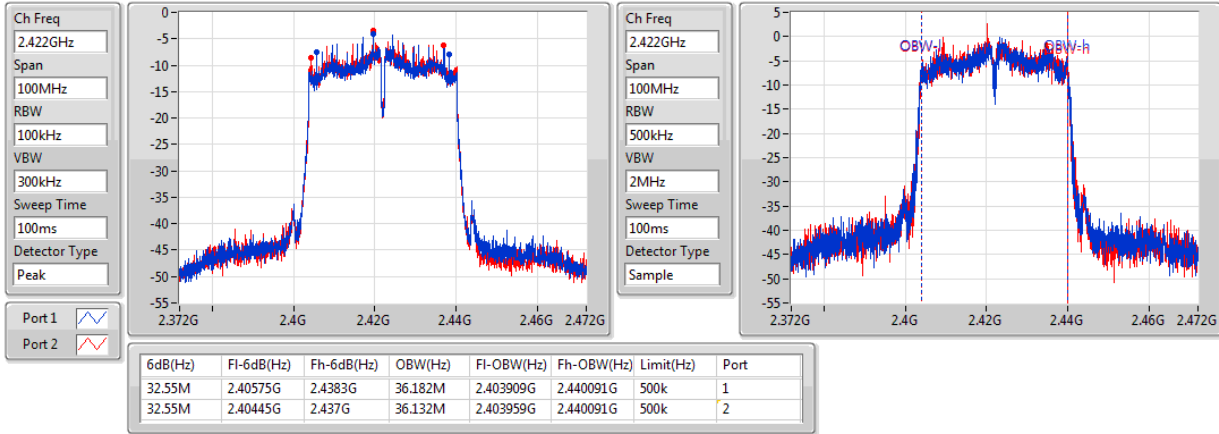
2462MHz



802.11n HT40_Nss1,(MCS0)_2TX

EBW

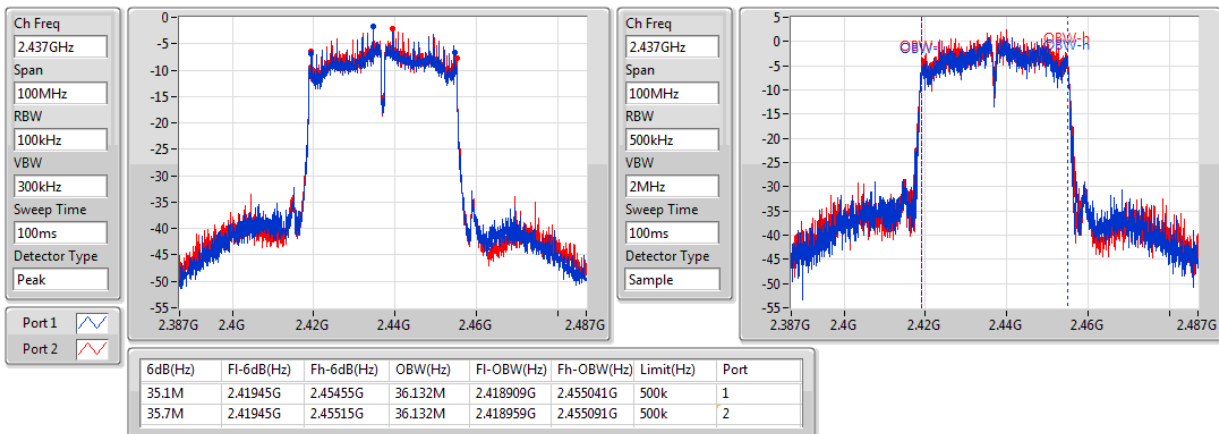
2422MHz



802.11n HT40_Nss1,(MCS0)_2TX

EBW

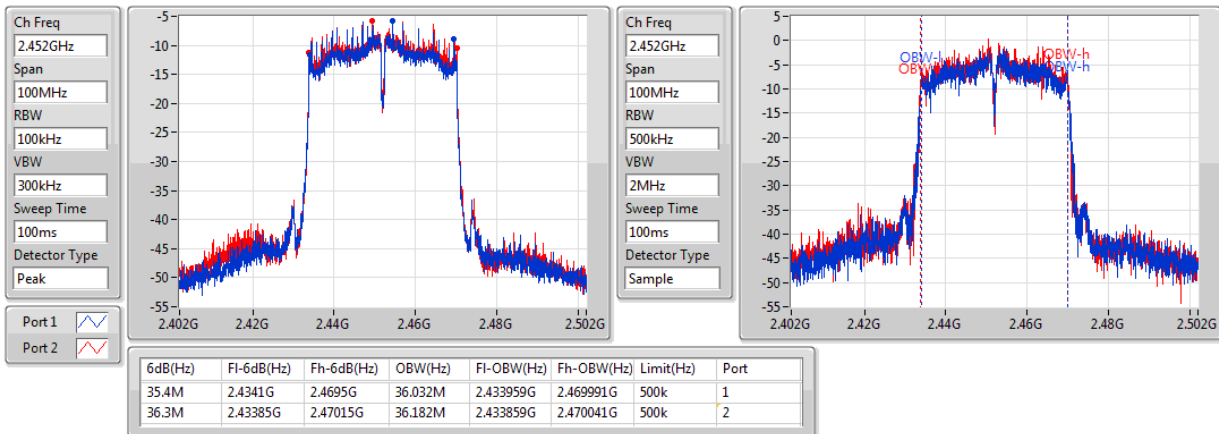
2437MHz



802.11n HT40_Nss1,(MCS0)_2TX

EBW

2452MHz



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
e.i.r.p. Power Limit:		
	2400-2483.5 MHz Band	
	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)	
	Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm	
	Smart antenna system (SAS)	
	-	Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	-	Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	-	Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ 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.		

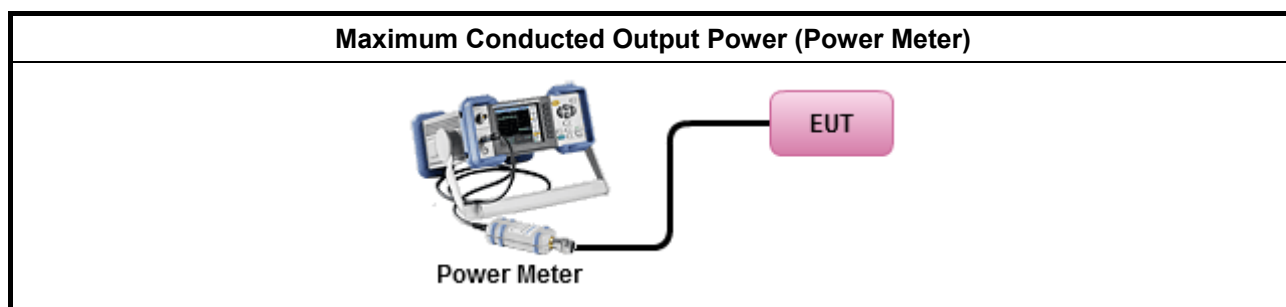
3.3.2 Measuring Instruments

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 KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as KDB 558074, clause 9.1.2 Option 2 (integrated band power method)
☐	Refer as KDB 558074, clause 9.1.3 Option 3 (peak power meter for VBW ≥ DTS BW)
Maximum Average Conducted Output Power	
	Duty cycle ≥ 98%
☐	Refer as KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	Duty cycle < 98%
☐	Refer as 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 KDB 558074, clause 9.2.3.1 Method AVGPM (using an RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as 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

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
802.11b_(1Mbps)_1TX	-	-	-	-
2.4-2.4835GHz	19.50	0.08913	22.58	0.18113
802.11g_(6Mbps)_2TX	-	-	-	-
2.4-2.4835GHz	21.65	0.14622	25.18	0.32961
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	20.98	0.12531	24.51	0.28249
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-
2.4-2.4835GHz	15.03	0.03184	18.56	0.07178

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_(1Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.08	18.32	-	18.32	30.00	21.40	36.00
2437MHz	Pass	3.08	19.50	-	19.50	30.00	22.58	36.00
2462MHz	Pass	3.08	17.25	-	17.25	30.00	20.33	36.00
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.53	13.71	14.12	16.93	30.00	20.46	36.00
2437MHz	Pass	3.53	18.50	18.77	21.65	30.00	25.18	36.00
2462MHz	Pass	3.53	12.34	12.66	15.51	30.00	19.04	36.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	3.53	10.57	10.98	13.79	30.00	17.32	36.00
2437MHz	Pass	3.53	17.88	18.06	20.98	30.00	24.51	36.00
2462MHz	Pass	3.53	11.26	10.94	14.11	30.00	17.64	36.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	3.53	9.52	9.58	12.56	30.00	16.09	36.00
2437MHz	Pass	3.53	11.86	12.17	15.03	30.00	18.56	36.00
2452MHz	Pass	3.53	8.62	8.92	11.78	30.00	15.31	36.00

DG = Directional Gain; Port X = Port X output power

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

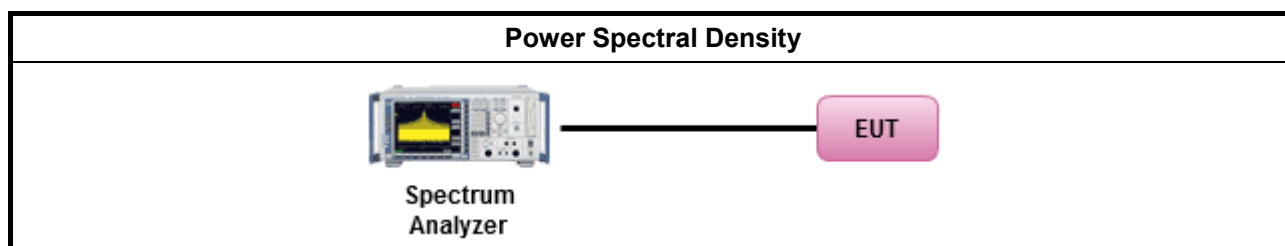
3.4.2 Measuring Instruments

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 KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
☒	Measure and sum the spectra across the outputs. Refer as 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.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_1TX	-
2.4-2.4835GHz	-4.62
802.11g_(6Mbps)_2TX	-
2.4-2.4835GHz	-6.11
802.11n HT20_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-6.71
802.11n HT40_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-15.05

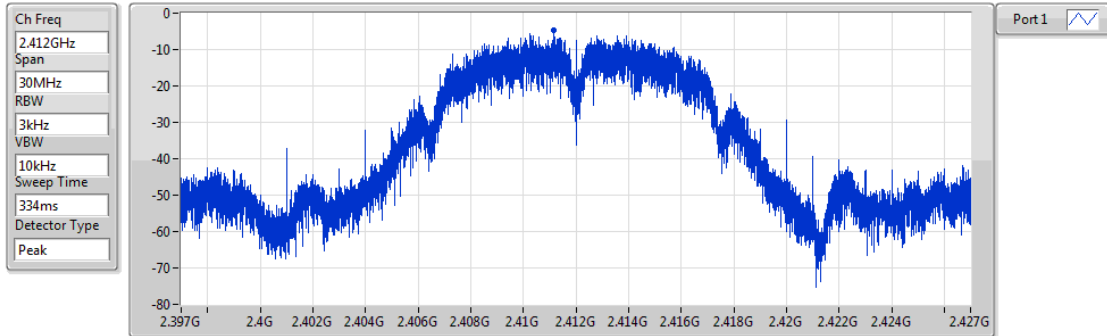
RBW=3kHz.

Result

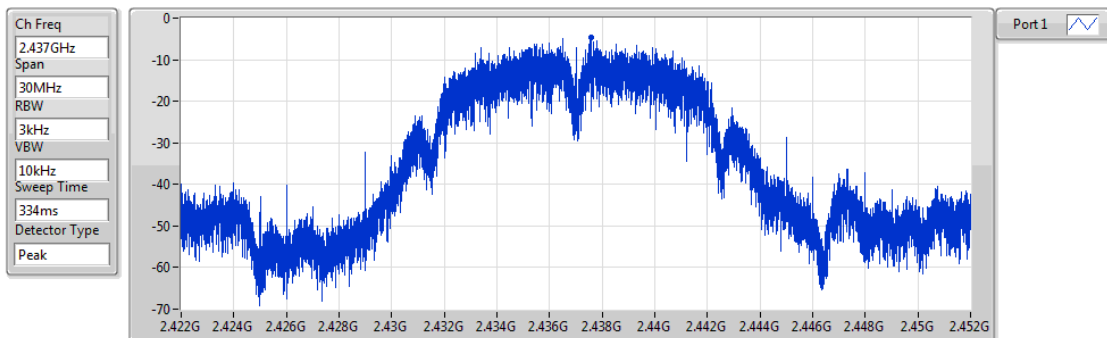
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	3.08	-4.67		-4.67	8.00
2437MHz	Pass	3.08	-4.62		-4.62	8.00
2462MHz	Pass	3.08	-6.70		-6.70	8.00
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.32	-11.82	-12.08	-10.58	7.68
2437MHz	Pass	6.32	-7.96	-8.17	-6.11	7.68
2462MHz	Pass	6.32	-13.18	-12.43	-11.70	7.68
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.32	-15.27	-16.08	-14.35	7.68
2437MHz	Pass	6.32	-7.76	-8.36	-6.71	7.68
2462MHz	Pass	6.32	-15.65	-14.89	-13.84	7.68
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	6.32	-18.53	-18.31	-16.81	7.68
2437MHz	Pass	6.32	-17.17	-16.08	-15.05	7.68
2452MHz	Pass	6.32	-20.00	-19.94	-18.13	7.68

DG = Directional Gain; RBW=3kHz;

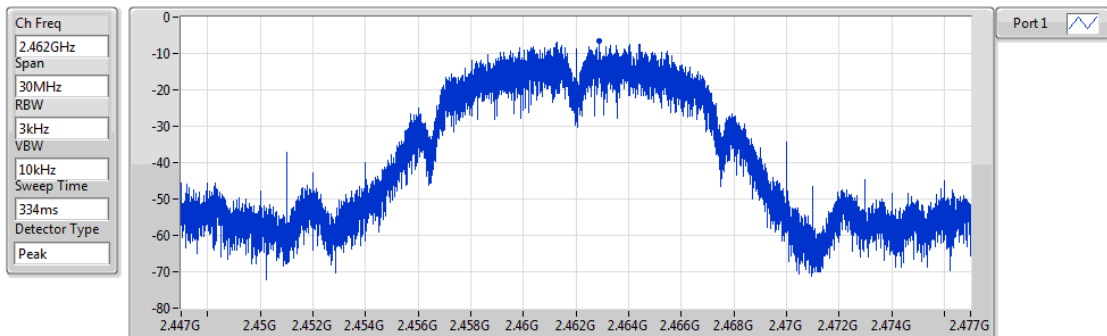
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_(1Mbps)_1TX
PSD
2412MHz


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.67	-4.67	-4.67

802.11b_(1Mbps)_1TX
PSD
2437MHz


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.62	-4.62	-4.62

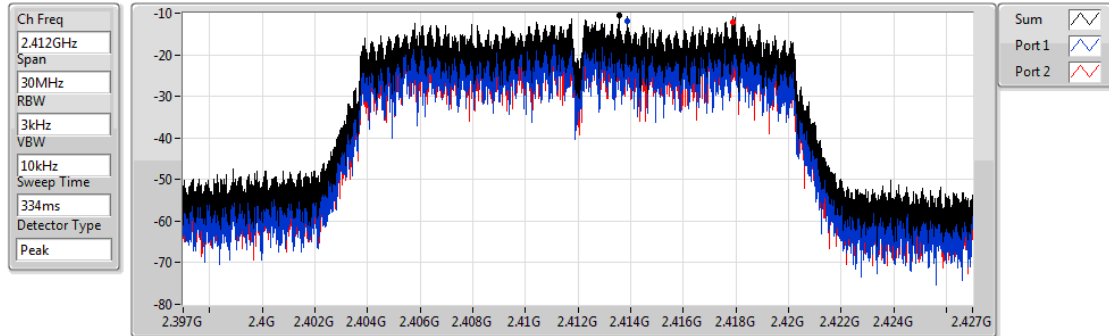
802.11b_(1Mbps)_1TX
PSD
2462MHz


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.70	-6.70	-6.70

802.11g_(6Mbps)_2TX

PSD

2412MHz

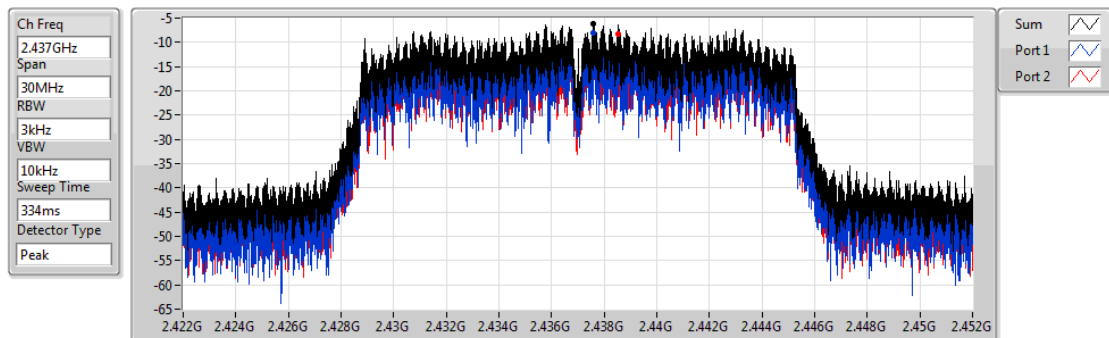


Sum	PD	Port 1	Port 2
(dBm/RTW)	(dBm/RTW)	(dBm/RTW)	(dBm/RTW)
-10.58	-10.58	-11.82	-12.08

802.11g_(6Mbps)_2TX

PSD

2437MHz

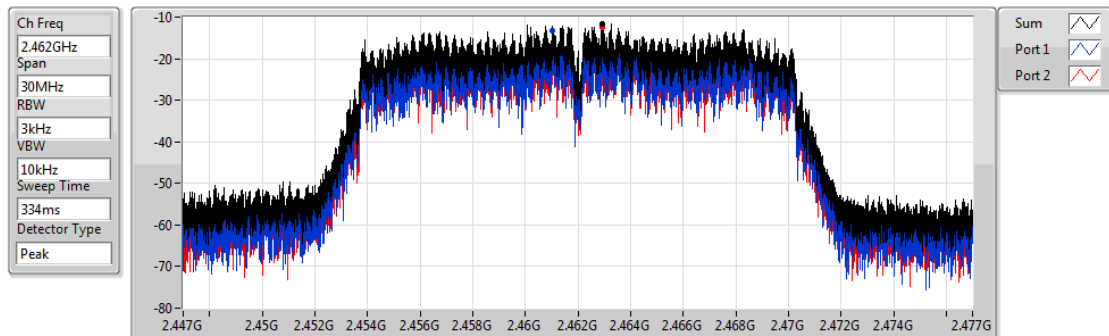


Sum	PD	Port 1	Port 2
(dBm/RTW)	(dBm/RTW)	(dBm/RTW)	(dBm/RTW)
-6.11	-6.11	-7.96	-8.17

802.11g_(6Mbps)_2TX

PSD

2462MHz

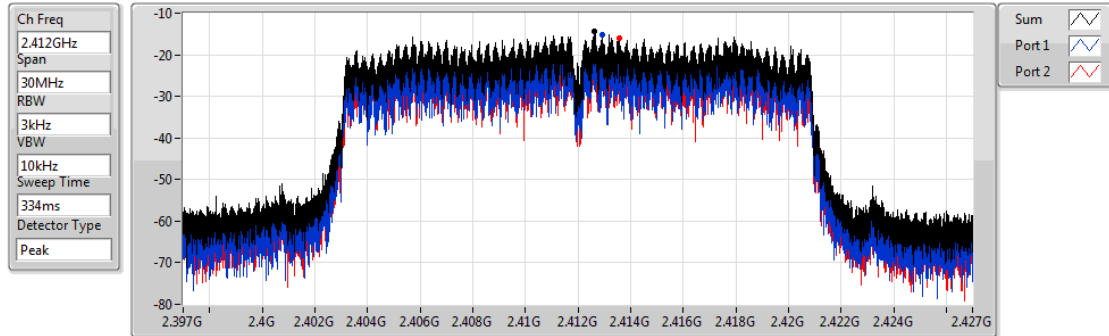


Sum	PD	Port 1	Port 2
(dBm/RTW)	(dBm/RTW)	(dBm/RTW)	(dBm/RTW)
-11.70	-11.70	-13.18	-12.43

802.11n HT20_Nss1,(MCS0)_2TX

PSD

2412MHz

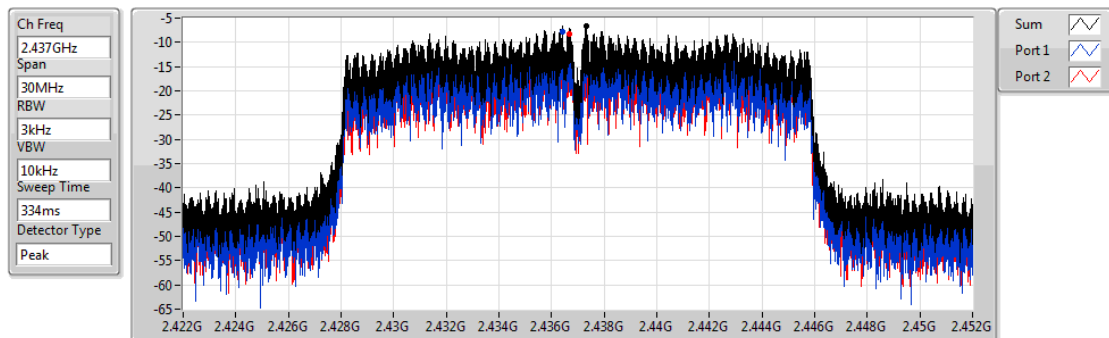


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-14.35	-14.35	-15.27	-16.08

802.11n HT20_Nss1,(MCS0)_2TX

PSD

2437MHz

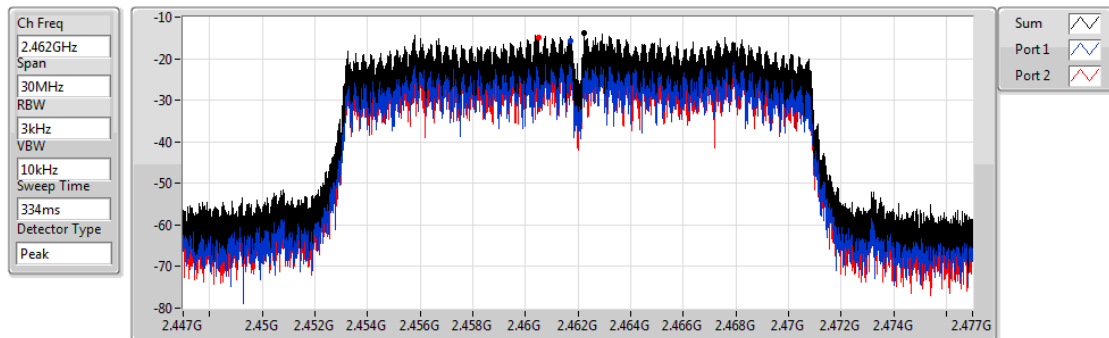


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-6.71	-6.71	-7.76	-8.36

802.11n HT20_Nss1,(MCS0)_2TX

PSD

2462MHz

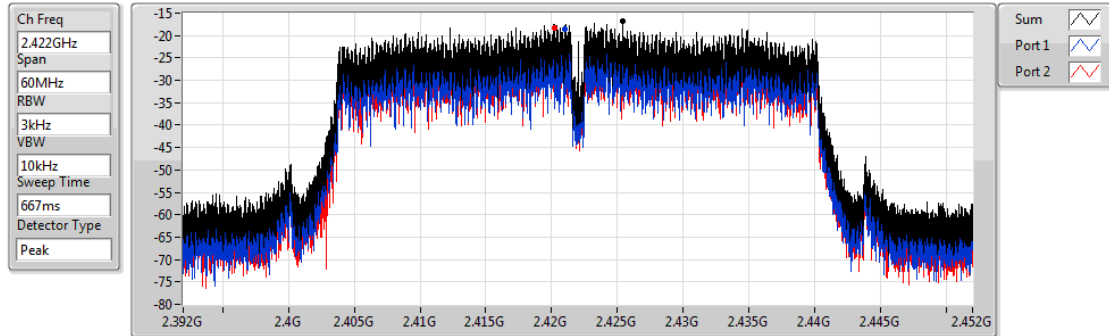


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-13.84	-13.84	-15.65	-14.89

802.11n HT40_Nss1,(MCS0)_2TX

PSD

2422MHz

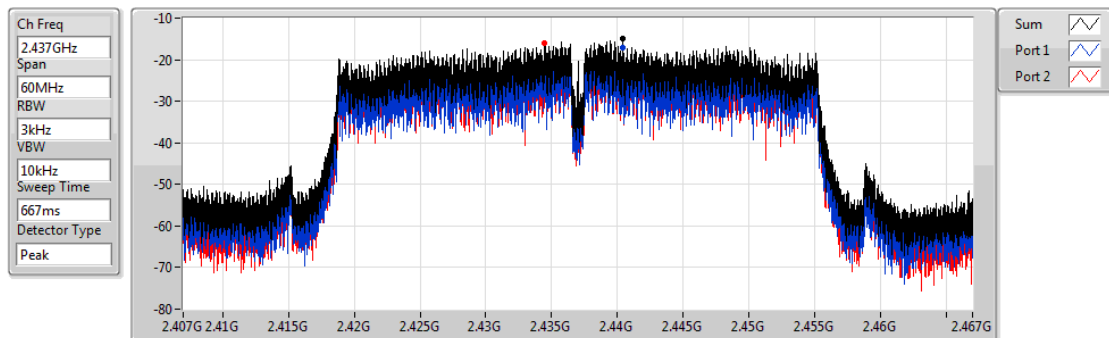


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-16.81	-16.81	-18.53	-18.31

802.11n HT40_Nss1,(MCS0)_2TX

PSD

2437MHz

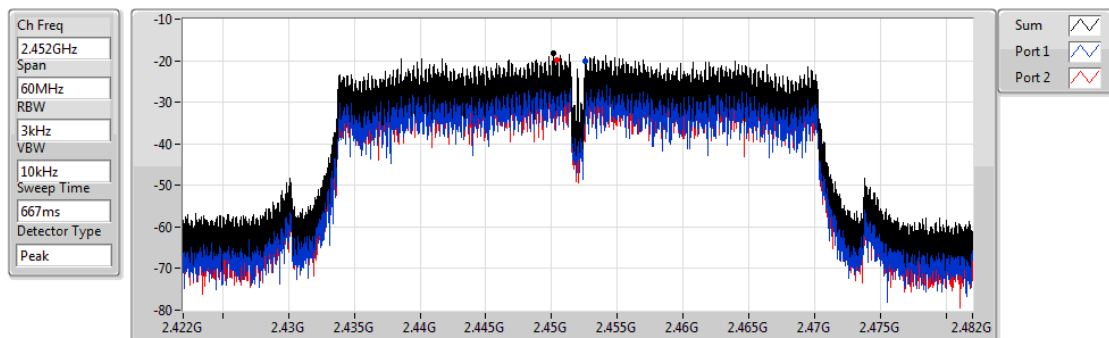


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-15.05	-15.05	-17.17	-16.08

802.11n HT40_Nss1,(MCS0)_2TX

PSD

2452MHz



Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-18.13	-18.13	-20.00	-19.94

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.	

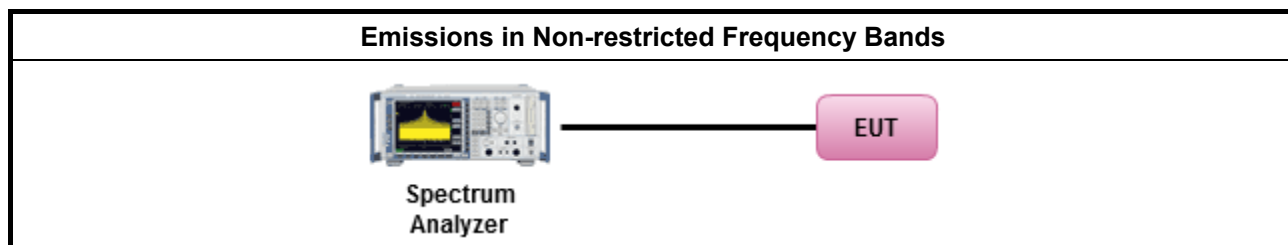
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as 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

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11n HT40_Nss1(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.434569G	-1.88	-31.88	830.355M	-54.00	2.39776G	-36.62	2.48446G	-44.88	15.206468G	-47.03	2

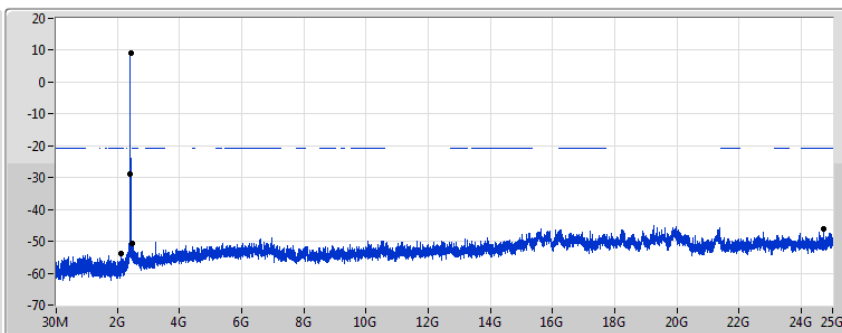
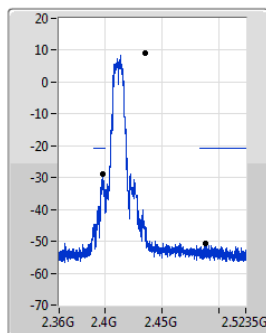
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_(1Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.435571G	9.10	-20.90	2.107195G	-53.77	2.398G	-28.73	2.4883G	-50.73	24.719044G	-46.11	1
2437MHz	Pass	2.435571G	9.10	-20.90	936.37M	-54.64	2.39488G	-49.87	2.49526G	-49.46	16.773601G	-46.82	1
2462MHz	Pass	2.435571G	9.10	-20.90	937.535M	-53.96	2.3988G	-52.61	2.48358G	-44.79	16.610646G	-46.46	1
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.439579G	5.65	-24.35	944.525M	-53.70	2.39856G	-33.80	2.48798G	-50.03	16.214498G	-46.12	1
2412MHz	Pass	2.439579G	5.65	-24.35	2.004675G	-54.22	2.3992G	-33.14	2.49502G	-51.95	16.239784G	-46.28	2
2437MHz	Pass	2.439579G	5.65	-24.35	2.307575G	-54.35	2.39848G	-40.06	2.4839G	-44.72	16.208879G	-46.19	1
2437MHz	Pass	2.439579G	5.65	-24.35	2.30874G	-54.02	2.39944G	-39.88	2.48822G	-40.88	17.658613G	-46.66	2
2462MHz	Pass	2.439579G	5.65	-24.35	2.128165G	-54.53	2.39952G	-52.69	2.4839G	-44.08	16.248213G	-46.26	1
2462MHz	Pass	2.439579G	5.65	-24.35	2.19224G	-53.73	2.39832G	-53.14	2.48358G	-42.05	17.644565G	-46.15	2
802.11n HT20_Nss1(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.441917G	5.72	-24.28	2.16661G	-54.32	2.3996G	-40.17	2.51094G	-52.27	16.599408G	-46.60	1
2412MHz	Pass	2.441917G	5.72	-24.28	464.545M	-54.90	2.39952G	-39.81	2.51518G	-50.93	17.605232G	-46.00	2
2437MHz	Pass	2.441917G	5.72	-24.28	761.62M	-53.83	2.39856G	-40.59	2.48438G	-46.45	17.546231G	-46.22	1
2437MHz	Pass	2.441917G	5.72	-24.28	2.156125G	-54.74	2.39576G	-40.14	2.4863G	-43.22	17.619279G	-46.07	2
2462MHz	Pass	2.441917G	5.72	-24.28	2.305245G	-54.38	2.39856G	-53.28	2.48358G	-44.56	16.590979G	-46.90	1
2462MHz	Pass	2.441917G	5.72	-24.28	2.13865G	-53.64	2.39616G	-53.32	2.48382G	-43.46	16.883174G	-46.01	2
802.11n HT40_Nss1(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.434569G	-1.88	-31.88	820.05M	-54.20	2.39952G	-39.01	2.51294G	-52.83	16.872378G	-46.37	1
2422MHz	Pass	2.434569G	-1.88	-31.88	1.879175G	-53.59	2.39984G	-39.88	2.48542G	-52.11	16.771414G	-46.28	2
2437MHz	Pass	2.434569G	-1.88	-31.88	2.30626G	-53.64	2.39984G	-39.39	2.48446G	-48.82	15.212077G	-46.24	1
2437MHz	Pass	2.434569G	-1.88	-31.88	830.355M	-54.00	2.39776G	-36.62	2.48446G	-44.88	15.206468G	-47.03	2
2452MHz	Pass	2.434569G	-1.88	-31.88	911.65M	-54.46	2.39984G	-53.68	2.48942G	-44.20	15.284996G	-45.80	1
2452MHz	Pass	2.434569G	-1.88	-31.88	1.61926G	-55.13	2.3904G	-52.64	2.48574G	-44.17	16.218915G	-46.29	2

802.11b_(1Mbps)_1TX

CSE NdB

2412MHz

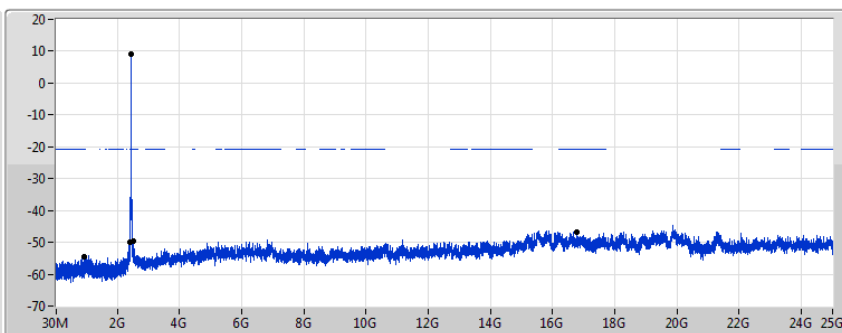
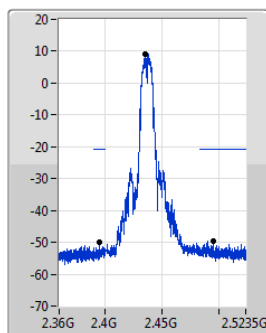


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.435571G	9.10	-20.90	2.107195G	-53.77	2.398G	-28.73	2.4883G	-50.73	24.719044G	-46.11	1

802.11b_(1Mbps)_1TX

CSE NdB

2437MHz

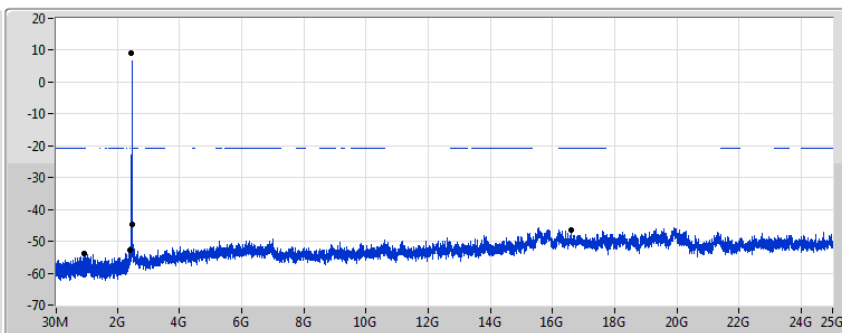
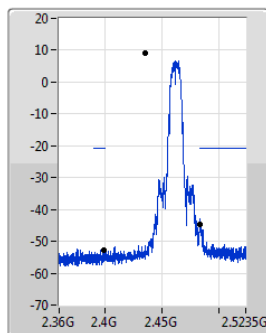


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.435571G	9.10	-20.90	936.37M	-54.64	2.39488G	-49.87	2.49526G	-49.46	16.773601G	-46.82	1

802.11b_(1Mbps)_1TX

CSE NdB

2462MHz

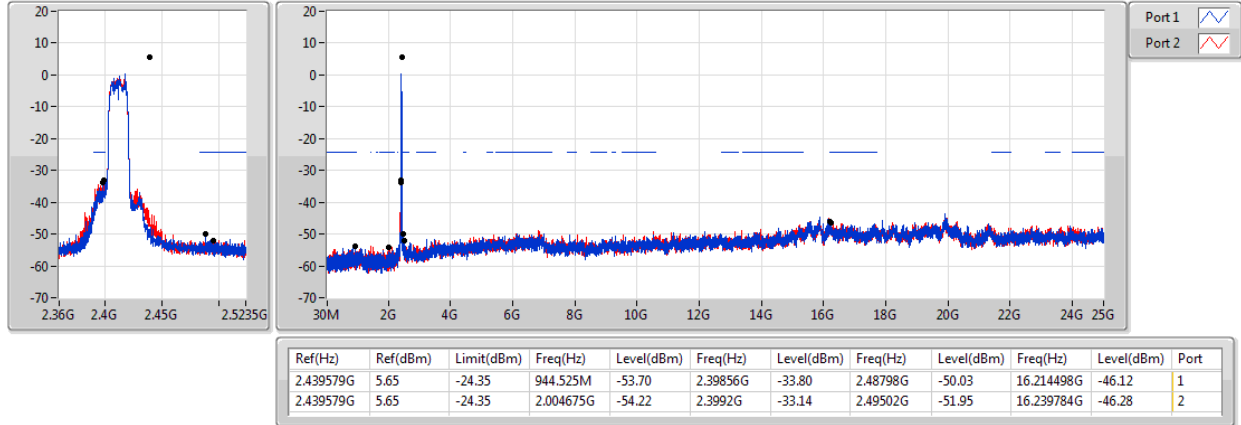


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.435571G	9.10	-20.90	937.535M	-53.96	2.3988G	-52.61	2.48358G	-44.79	16.610646G	-46.46	1

802.11g_(6Mbps)_2TX

CSE NdB

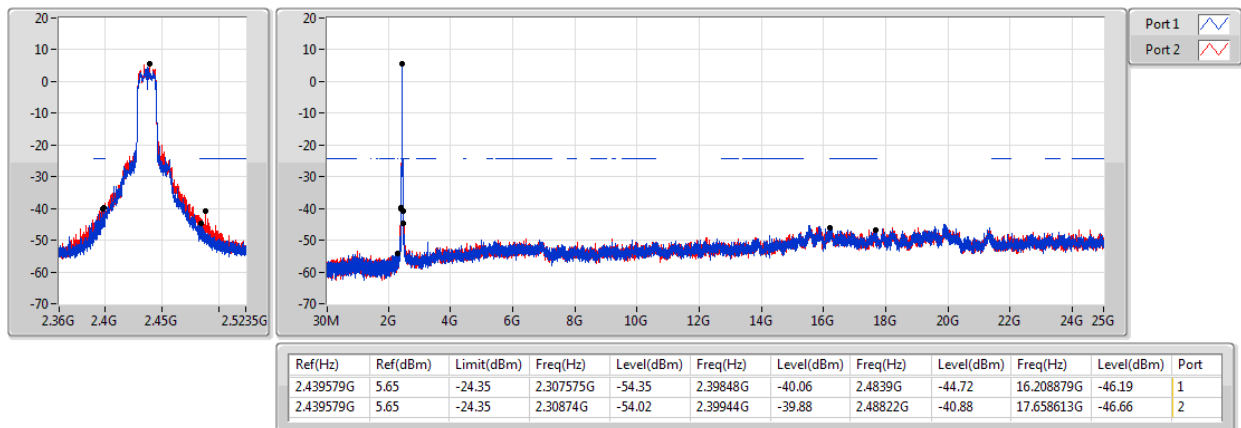
2412MHz



802.11g_(6Mbps)_2TX

CSE NdB

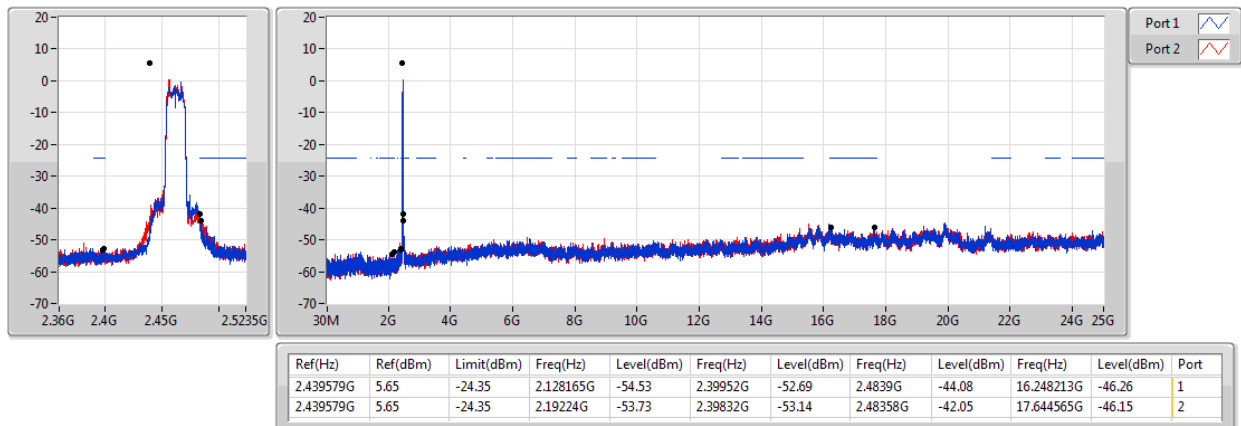
2437MHz



802.11g_(6Mbps)_2TX

CSE NdB

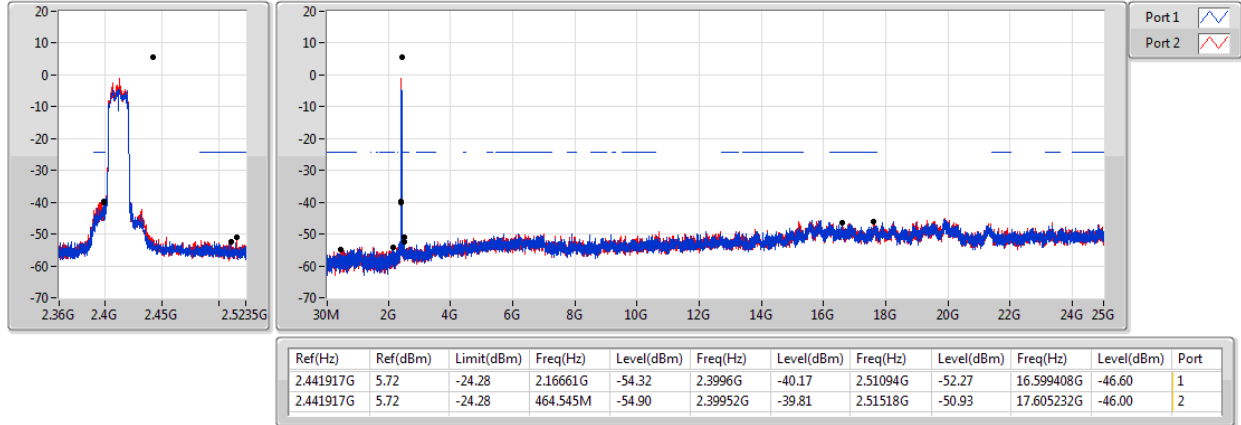
2462MHz



802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

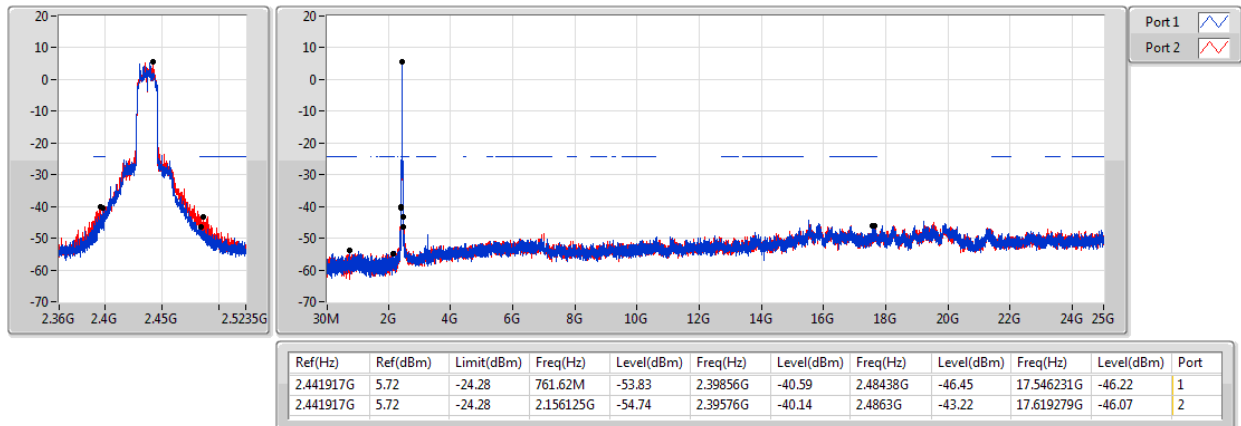
2412MHz



802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

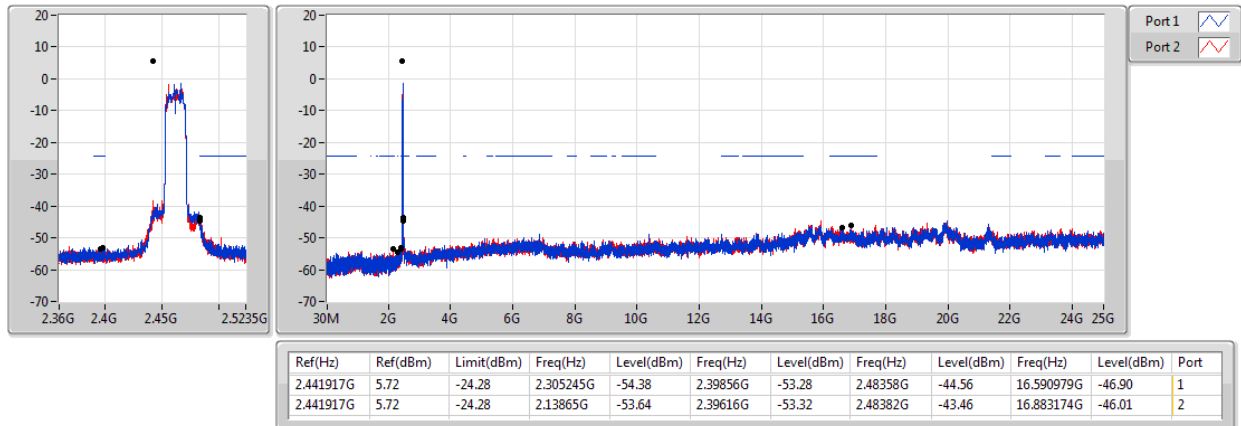
2437MHz

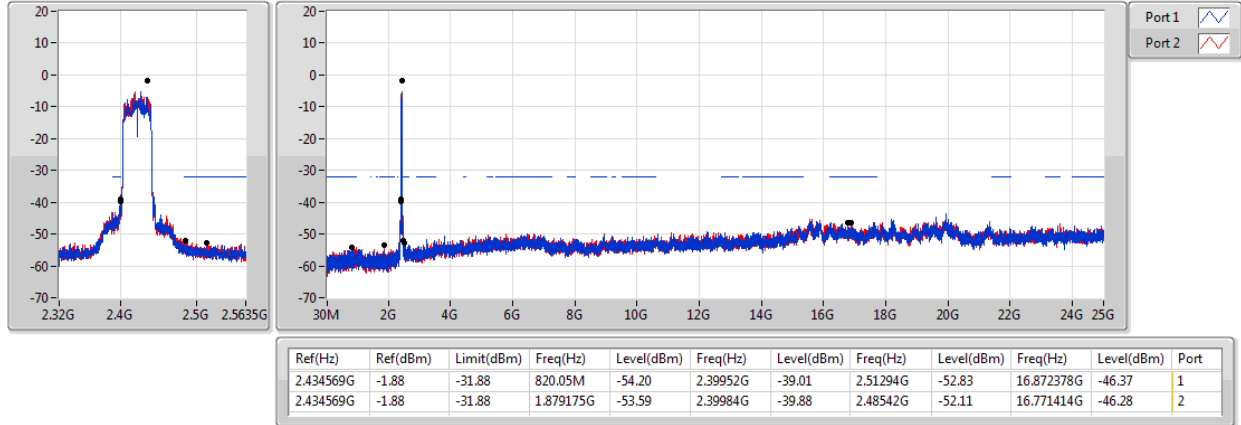
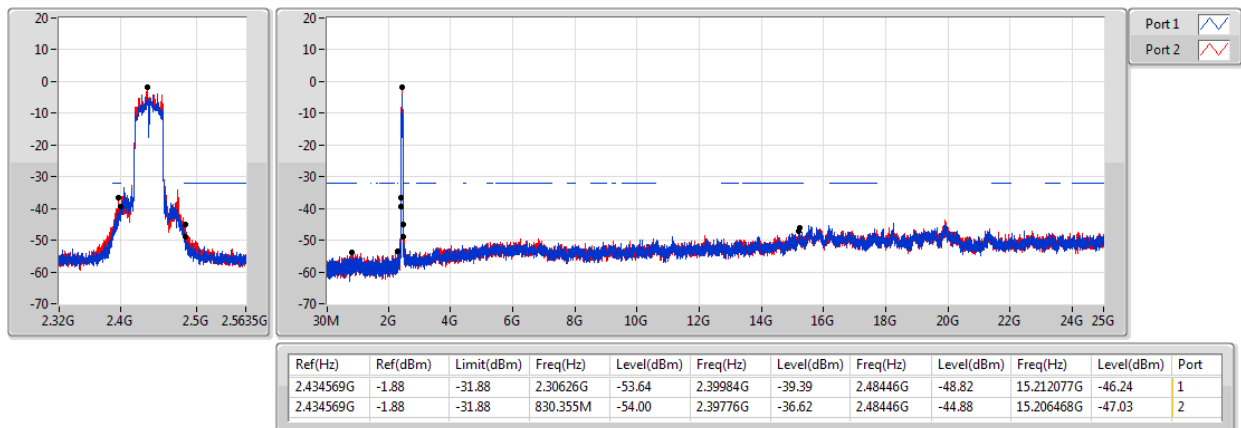
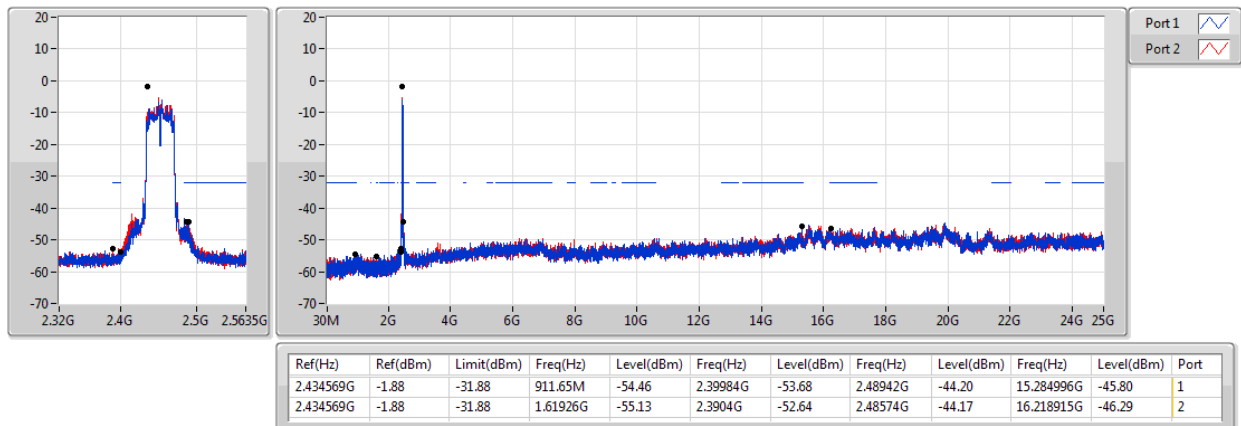


802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

2462MHz



802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2422MHz

802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2437MHz

802.11n HT40_Nss1,(MCS0)_2TX
CSE NdB
2452MHz


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.

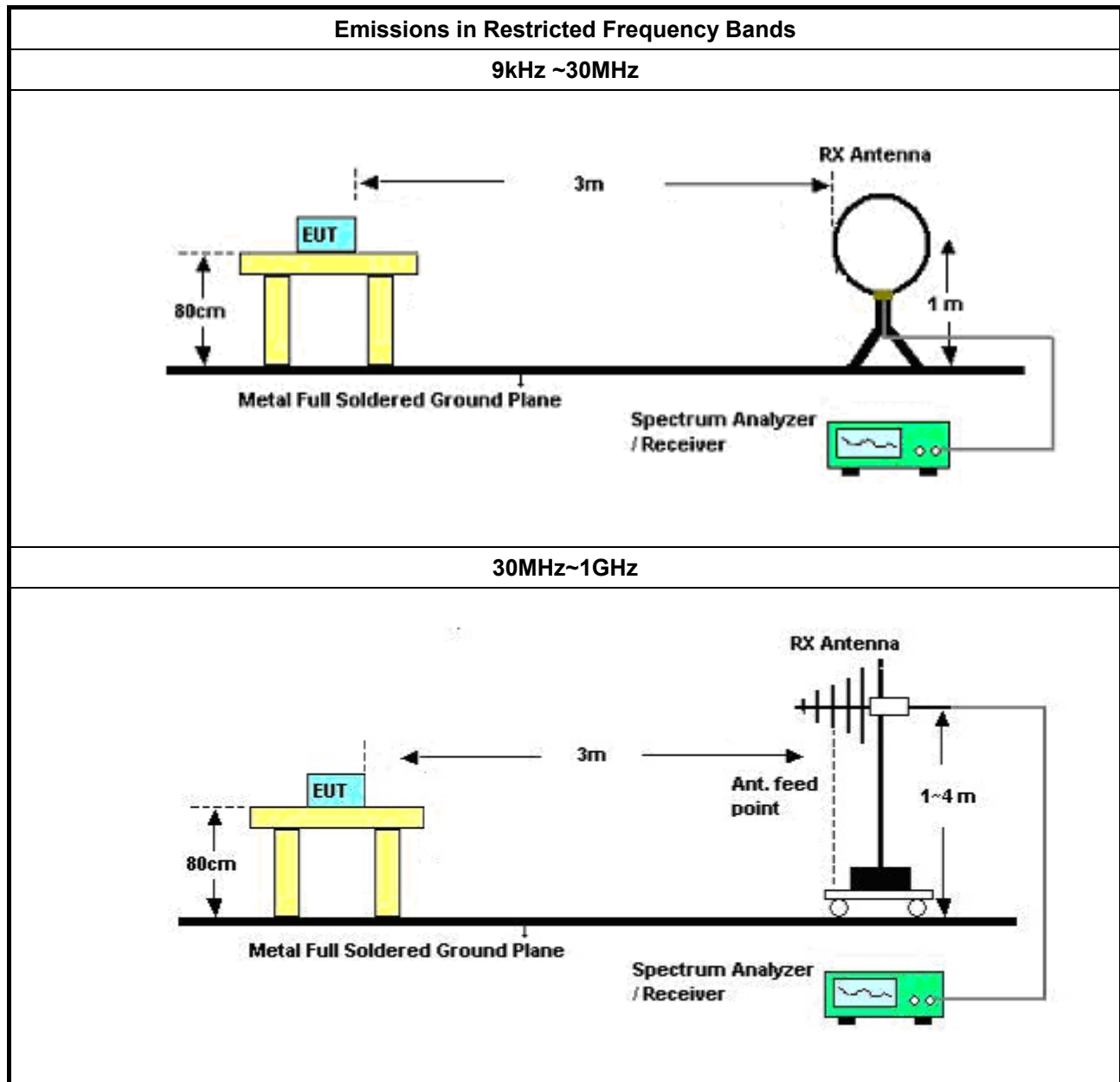
3.6.2 Measuring Instruments

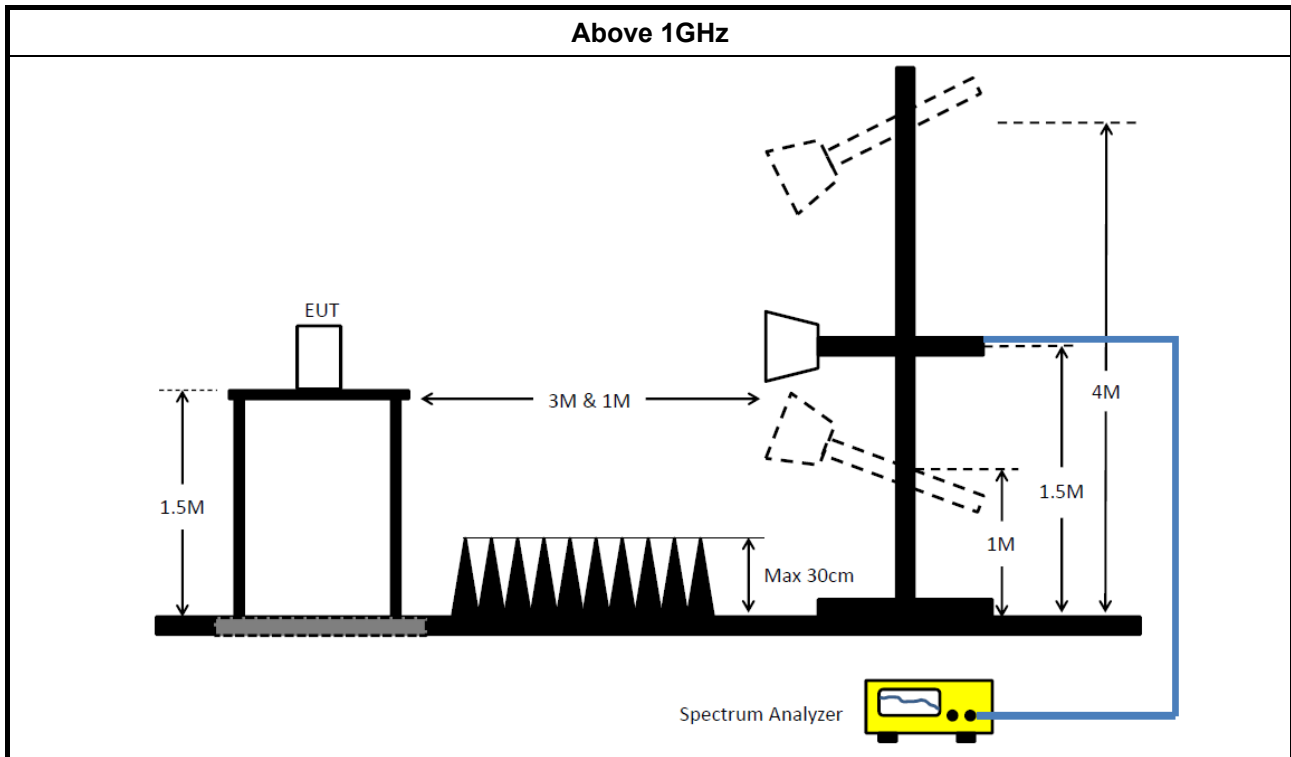
Refer a test equipment and calibration data table in this test report.

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 6.10.3 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 KDB 558074, clause 12 for unwanted emissions into restricted bands.
	☒ Refer as KDB 558074, clause 12.2.5.3 (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW $\geq 1/T$.
	☒ Refer as 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 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 KDB 558074, clause 13.2 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	Refer as 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 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 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 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 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 Emissions in Restricted Frequency Bands below 1 GHz****Summary**

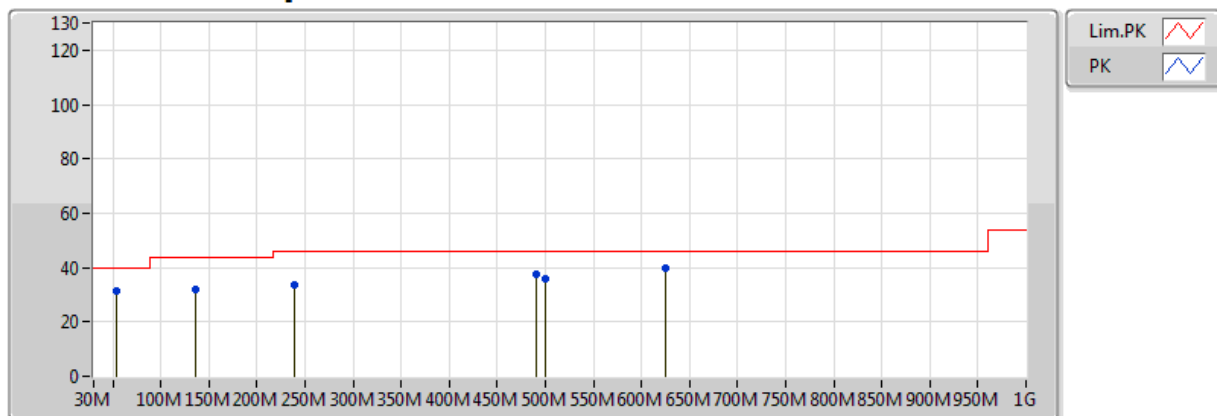
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	PK	119.24M	39.32	43.50	-4.18	-13.46	3	H	360	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	45.52M	31.66	40.00	-7.60	-14.61	3	H	360	1.00	-
2437MHz	Pass	PK	107.6M	35.22	43.50	-8.28	-14.28	3	H	360	1.00	-
2437MHz	Pass	PK	119.24M	39.32	43.50	-4.18	-13.46	3	H	360	1.00	-
2437MHz	Pass	PK	274.44M	37.43	46.00	-8.57	-10.78	3	H	360	1.00	-
2437MHz	Pass	PK	381.77M	40.11	46.00	-5.89	-8.19	3	H	360	1.00	-
2437MHz	Pass	PK	875.84M	40.73	46.00	-5.27	0.24	3	H	360	1.00	-
2437MHz	Pass	PK	53.28M	31.58	40.00	-8.42	-13.22	3	V	0	1.00	-
2437MHz	Pass	PK	135.44M	31.99	43.50	-11.51	-8.42	3	V	0	1.00	-
2437MHz	Pass	PK	239.52M	33.83	46.00	-12.17	-7.85	3	V	0	1.00	-
2437MHz	Pass	PK	489.78M	37.66	46.00	-11.86	-8.89	3	V	0	1.00	-
2437MHz	Pass	PK	499.48M	35.88	46.00	-9.49	-1.76	3	V	0	1.00	-
2437MHz	Pass	PK	625.58M	39.64	46.00	-6.04	-3.93	3	V	0	1.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_Adapter

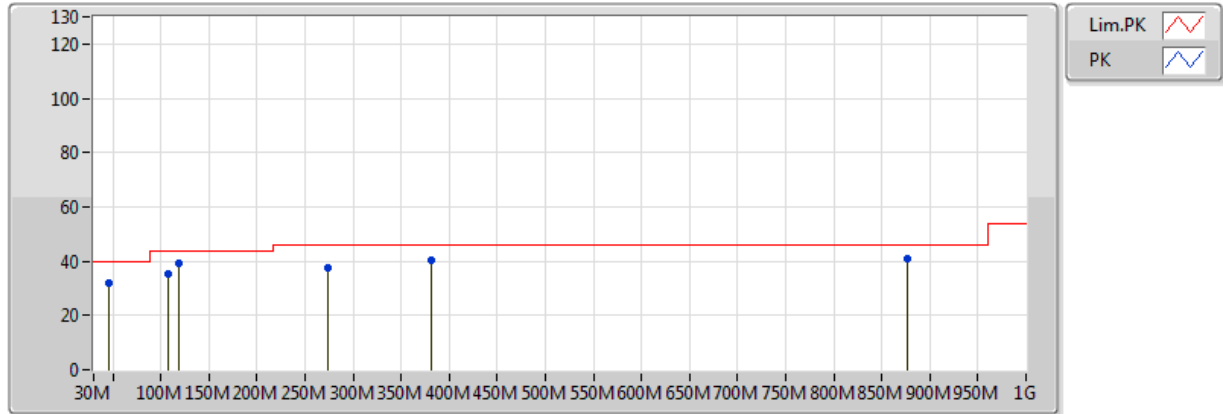


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
PK	53.28M	31.58	40.00	-8.42	-13.22	3	V	0	1.00	-
PK	135.44M	31.99	43.50	-11.51	-8.42	3	V	0	1.00	-
PK	239.52M	33.83	46.00	-12.17	-7.85	3	V	0	1.00	-
PK	489.78M	37.66	46.00	-11.86	-8.89	3	V	0	1.00	-
PK	499.48M	35.88	46.00	-9.49	-1.76	3	V	0	1.00	-
PK	625.58M	39.64	46.00	-6.04	-3.93	3	V	0	1.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_Adapter



EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
PK	45.52M	31.66	40.00	-7.60	-14.61	3	H	360	1.00	-
PK	107.6M	35.22	43.50	-8.28	-14.28	3	H	360	1.00	-
PK	119.24M	39.32	43.50	-4.18	-13.46	3	H	360	1.00	-
PK	274.44M	37.43	46.00	-8.57	-10.78	3	H	360	1.00	-
PK	381.77M	40.11	46.00	-5.89	-8.19	3	H	360	1.00	-
PK	875.84M	40.73	46.00	-5.27	0.24	3	H	360	1.00	-

**3.6.7 Test Result of Emissions in Restricted Frequency Bands above 1 GHz****Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11b_(1Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	AV	2.483502G	53.84	54.00	-0.16	31.78	3	V	233	1.50	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11b_(1Mbps)_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	4.824G	38.09	54.00	-15.91	6.48	3	H	120	1.04	-
2412MHz	Pass	PK	4.824G	48.33	74.00	-26.67	6.48	3	H	120	1.04	-
2412MHz	Pass	AV	2.39G	53.40	54.00	-0.60	31.45	3	V	25	1.64	-
2412MHz	Pass	AV	2.4112G	106.03	Inf	-Inf	31.52	3	V	25	1.64	-
2412MHz	Pass	AV	4.824G	43.69	54.00	-10.31	6.48	3	V	171	3.28	-
2412MHz	Pass	PK	2.39G	62.67	74.00	-11.33	31.45	3	V	25	1.64	-
2412MHz	Pass	PK	2.4118G	108.90	Inf	-Inf	31.52	3	V	25	1.64	-
2412MHz	Pass	PK	4.824G	51.02	74.00	-23.98	6.48	3	V	171	3.28	-
2437MHz	Pass	AV	4.874G	50.62	54.00	-3.38	6.61	3	H	105	2.43	-
2437MHz	Pass	PK	4.874G	53.73	74.00	-20.27	6.61	3	H	105	2.43	-
2437MHz	Pass	AV	2.3882G	46.58	54.00	-7.42	31.44	3	V	197	1.26	-
2437MHz	Pass	AV	2.4362G	106.86	Inf	-Inf	31.61	3	V	197	1.26	-
2437MHz	Pass	AV	2.4842G	47.61	54.00	-6.39	31.78	3	V	197	1.26	-
2437MHz	Pass	AV	4.874G	53.29	54.00	-0.71	6.61	3	V	227	1.01	-
2437MHz	Pass	PK	2.363G	59.40	74.00	-14.60	31.35	3	V	197	1.26	-
2437MHz	Pass	PK	2.437G	109.79	Inf	-Inf	31.61	3	V	197	1.26	-
2437MHz	Pass	PK	2.4854G	60.98	74.00	-13.02	31.79	3	V	197	1.26	-
2437MHz	Pass	PK	4.874G	56.31	74.00	-17.69	6.61	3	V	227	1.01	-
2462MHz	Pass	AV	4.924G	38.65	54.00	-15.35	6.73	3	H	114	2.44	-
2462MHz	Pass	PK	4.924G	48.70	74.00	-25.30	6.73	3	H	114	2.44	-
2462MHz	Pass	AV	2.4612G	103.39	Inf	-Inf	31.70	3	V	233	1.50	-
2462MHz	Pass	AV	2.483502G	53.84	54.00	-0.16	31.78	3	V	233	1.50	-
2462MHz	Pass	AV	4.924G	42.10	54.00	-11.90	6.73	3	V	182	1.49	-
2462MHz	Pass	PK	2.462G	106.29	Inf	-Inf	31.70	3	V	233	1.50	-
2462MHz	Pass	PK	2.483502G	62.94	74.00	-11.06	31.78	3	V	233	1.50	-
2462MHz	Pass	PK	4.924G	49.76	74.00	-24.24	6.73	3	V	182	1.49	-
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	4.824G	34.07	54.00	-19.93	6.48	3	H	0	1.50	-
2412MHz	Pass	PK	4.824G	47.83	74.00	-26.17	6.48	3	H	0	1.50	-
2412MHz	Pass	AV	2.39G	53.66	54.00	-0.34	31.45	3	V	28	1.50	-
2412MHz	Pass	AV	2.4114G	100.68	Inf	-Inf	31.52	3	V	28	1.50	-
2412MHz	Pass	AV	4.824G	36.69	54.00	-17.31	6.48	3	V	221	1.00	-
2412MHz	Pass	PK	2.387G	73.42	74.00	-0.58	31.43	3	V	28	1.50	-
2412MHz	Pass	PK	2.4108G	110.62	Inf	-Inf	31.52	3	V	28	1.50	-
2412MHz	Pass	PK	4.824G	51.19	74.00	-22.81	6.48	3	V	221	1.00	-
2437MHz	Pass	AV	4.874G	43.84	54.00	-10.16	6.61	3	H	13	2.19	-
2437MHz	Pass	PK	4.874G	57.71	74.00	-16.29	6.61	3	H	13	2.19	-
2437MHz	Pass	AV	2.3878G	51.80	54.00	-2.20	31.44	3	V	26	1.50	-
2437MHz	Pass	AV	2.4362G	105.62	Inf	-Inf	31.61	3	V	26	1.50	-
2437MHz	Pass	AV	2.4858G	53.36	54.00	-0.64	31.79	3	V	26	1.50	-
2437MHz	Pass	AV	4.874G	46.39	54.00	-7.61	6.61	3	V	202	1.00	-
2437MHz	Pass	PK	2.383G	73.15	74.00	-0.85	31.42	3	V	26	1.50	-
2437MHz	Pass	PK	2.4362G	115.51	Inf	-Inf	31.61	3	V	26	1.50	-
2437MHz	Pass	PK	2.4854G	71.97	74.00	-2.03	31.79	3	V	26	1.50	-
2437MHz	Pass	PK	4.874G	60.91	74.00	-13.09	6.61	3	V	202	1.00	-



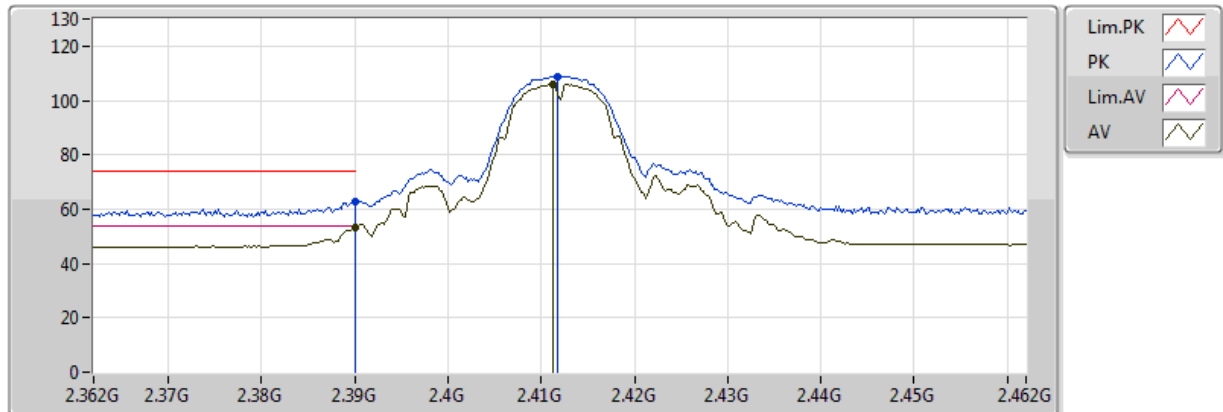
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
2462MHz	Pass	AV	4.924G	33.83	54.00	-20.17	6.73	3	H	360	1.50	-
2462MHz	Pass	PK	4.924G	47.94	74.00	-26.06	6.73	3	H	360	1.50	-
2462MHz	Pass	AV	2.4614G	99.84	Inf	-Inf	31.70	3	V	24	1.75	-
2462MHz	Pass	AV	2.486G	53.51	54.00	-0.49	31.79	3	V	24	1.75	-
2462MHz	Pass	AV	4.924G	34.78	54.00	-19.22	6.73	3	V	184	2.66	-
2462MHz	Pass	PK	2.4614G	109.91	Inf	-Inf	31.70	3	V	24	1.75	-
2462MHz	Pass	PK	2.4862G	71.59	74.00	-2.41	31.79	3	V	24	1.75	-
2462MHz	Pass	PK	4.924G	48.35	74.00	-25.65	6.73	3	V	184	2.66	-
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	AV	4.824G	33.02	54.00	-20.98	6.48	3	H	0	1.50	-
2412MHz	Pass	PK	4.824G	47.44	74.00	-26.56	6.48	3	H	0	1.50	-
2412MHz	Pass	AV	2.3898G	53.76	54.00	-0.24	31.44	3	V	26	1.77	-
2412MHz	Pass	AV	2.4116G	97.23	Inf	-Inf	31.52	3	V	26	1.77	-
2412MHz	Pass	AV	4.824G	33.50	54.00	-20.50	6.48	3	V	360	1.50	-
2412MHz	Pass	PK	2.3896G	71.67	74.00	-2.33	31.44	3	V	26	1.77	-
2412MHz	Pass	PK	2.4114G	107.68	Inf	-Inf	31.52	3	V	26	1.77	-
2412MHz	Pass	PK	4.824G	47.22	74.00	-26.78	6.48	3	V	360	1.50	-
2437MHz	Pass	AV	4.874G	43.19	54.00	-10.81	6.61	3	H	12	2.12	-
2437MHz	Pass	PK	4.874G	57.11	74.00	-16.89	6.61	3	H	12	2.12	-
2437MHz	Pass	AV	2.3894G	53.12	54.00	-0.88	31.44	3	V	27	2.09	-
2437MHz	Pass	AV	2.4366G	104.47	Inf	-Inf	31.61	3	V	27	2.09	-
2437MHz	Pass	AV	2.4838G	53.44	54.00	-0.56	31.78	3	V	27	2.09	-
2437MHz	Pass	AV	4.874G	45.18	54.00	-8.82	6.61	3	V	205	1.01	-
2437MHz	Pass	PK	2.385G	73.80	74.00	-0.20	31.43	3	V	27	2.09	-
2437MHz	Pass	PK	2.4366G	114.64	Inf	-Inf	31.61	3	V	27	2.09	-
2437MHz	Pass	PK	2.4842G	71.78	74.00	-2.22	31.78	3	V	27	2.09	-
2437MHz	Pass	PK	4.874G	59.49	74.00	-14.51	6.61	3	V	205	1.01	-
2462MHz	Pass	AV	4.924G	33.10	54.00	-20.90	6.73	3	H	360	1.50	-
2462MHz	Pass	PK	4.924G	47.09	74.00	-26.91	6.73	3	H	360	1.50	-
2462MHz	Pass	AV	2.4616G	96.72	Inf	-Inf	31.70	3	V	27	1.78	-
2462MHz	Pass	AV	2.4838G	53.44	54.00	-0.56	31.78	3	V	27	1.78	-
2462MHz	Pass	AV	4.924G	33.44	54.00	-20.56	6.73	3	V	0	1.50	-
2462MHz	Pass	PK	2.4564G	106.96	Inf	-Inf	31.68	3	V	27	1.78	-
2462MHz	Pass	PK	2.4836G	69.11	74.00	-4.89	31.78	3	V	27	1.78	-
2462MHz	Pass	PK	4.924G	47.53	74.00	-26.47	6.73	3	V	0	1.50	-
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	AV	4.844G	33.57	54.00	-20.43	6.53	3	H	0	1.50	-
2422MHz	Pass	PK	4.844G	48.79	74.00	-25.21	6.53	3	H	0	1.50	-
2422MHz	Pass	AV	2.3832G	53.52	54.00	-0.48	31.42	3	V	221	1.19	-
2422MHz	Pass	AV	2.4232G	91.68	Inf	-Inf	31.56	3	V	221	1.19	-
2422MHz	Pass	AV	2.484G	46.81	54.00	-7.19	31.78	3	V	221	1.19	-
2422MHz	Pass	AV	4.844G	33.72	54.00	-20.28	6.53	3	V	360	1.50	-
2422MHz	Pass	PK	2.3836G	69.31	74.00	-4.69	31.42	3	V	221	1.19	-
2422MHz	Pass	PK	2.4208G	104.17	Inf	-Inf	31.55	3	V	221	1.19	-
2422MHz	Pass	PK	2.4868G	60.41	74.00	-13.59	31.79	3	V	221	1.19	-
2422MHz	Pass	PK	4.844G	48.08	74.00	-25.92	6.53	3	V	360	1.50	-
2437MHz	Pass	AV	4.874G	33.52	54.00	-20.48	6.61	3	H	360	1.50	-
2437MHz	Pass	PK	4.874G	48.50	74.00	-25.50	6.61	3	H	360	1.50	-



Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
2437MHz	Pass	AV	2.3886G	53.62	54.00	-0.38	31.44	3	V	218	1.04	-
2437MHz	Pass	AV	2.4358G	93.82	Inf	-Inf	31.61	3	V	218	1.04	-
2437MHz	Pass	AV	2.483502G	52.84	54.00	-1.16	31.78	3	V	218	1.04	-
2437MHz	Pass	AV	4.874G	34.27	54.00	-19.73	6.61	3	V	0	1.50	-
2437MHz	Pass	PK	2.389G	69.58	74.00	-4.42	31.44	3	V	218	1.04	-
2437MHz	Pass	PK	2.4382G	106.00	Inf	-Inf	31.62	3	V	218	1.04	-
2437MHz	Pass	PK	2.4878G	67.72	74.00	-6.28	31.80	3	V	218	1.04	-
2437MHz	Pass	PK	4.874G	48.35	74.00	-25.65	6.61	3	V	0	1.50	-
2452MHz	Pass	AV	4.904G	32.65	54.00	-21.35	6.68	3	H	360	1.50	-
2452MHz	Pass	PK	4.904G	47.46	74.00	-26.54	6.68	3	H	360	1.50	-
2452MHz	Pass	AV	2.388G	45.85	54.00	-8.15	31.44	3	V	26	1.86	-
2452MHz	Pass	AV	2.454G	90.70	Inf	-Inf	31.67	3	V	26	1.86	-
2452MHz	Pass	AV	2.486G	52.91	54.00	-1.09	31.79	3	V	26	1.86	-
2452MHz	Pass	AV	4.904G	32.78	54.00	-21.22	6.68	3	V	0	1.50	-
2452MHz	Pass	PK	2.3704G	59.59	74.00	-14.41	31.38	3	V	26	1.86	-
2452MHz	Pass	PK	2.4544G	102.25	Inf	-Inf	31.68	3	V	26	1.86	-
2452MHz	Pass	PK	2.4888G	67.04	74.00	-6.96	31.80	3	V	26	1.86	-
2452MHz	Pass	PK	4.904G	46.87	74.00	-27.13	6.68	3	V	0	1.50	-

802.11b_(1Mbps)_1TX

2412MHz_TX

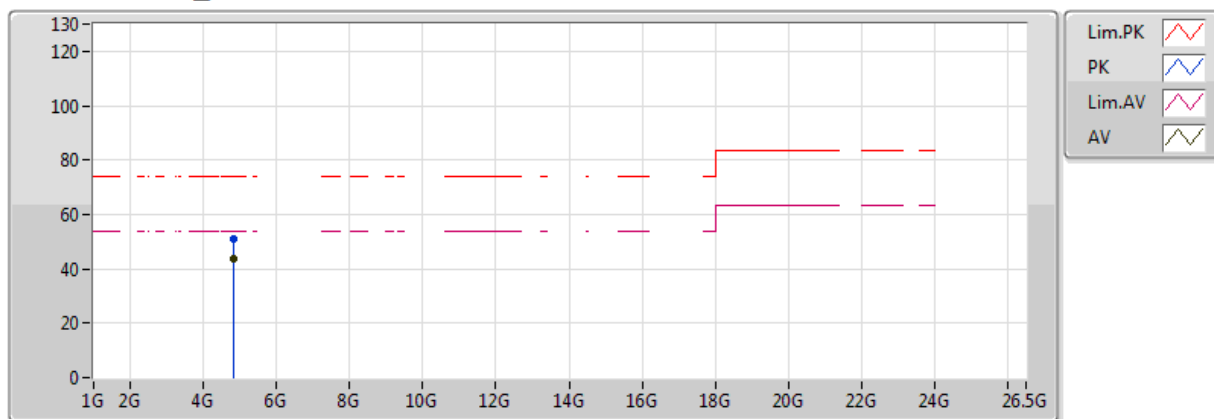


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4112G	106.03	Inf	-Inf	31.52	3	V	25	1.64	-
AV	2.39G	53.40	54.00	-0.60	31.45	3	V	25	1.64	-
PK	2.4118G	108.90	Inf	-Inf	31.52	3	V	25	1.64	-
PK	2.39G	62.67	74.00	-11.33	31.45	3	V	25	1.64	-

802.11b_(1Mbps)_1TX

2412MHz_TX

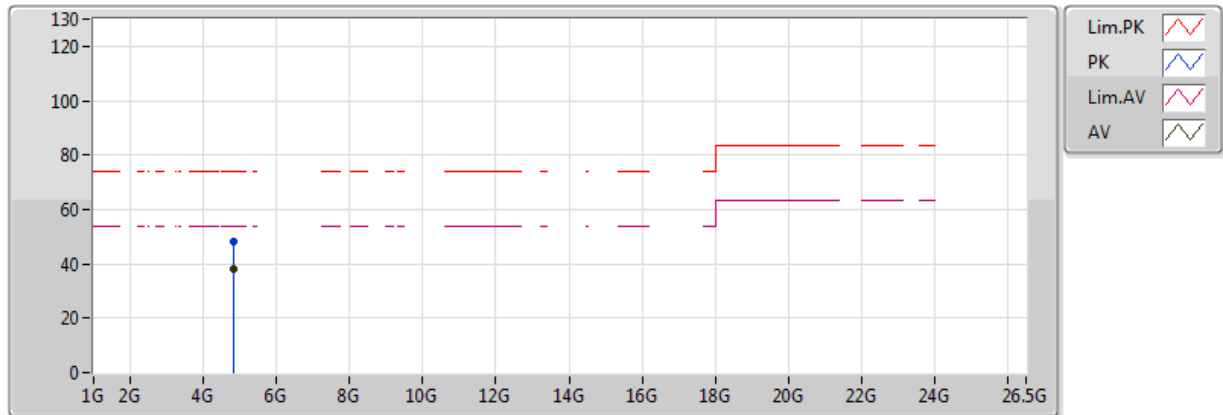


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	43.69	54.00	-10.31	6.48	3	V	171	3.28	-
PK	4.824G	51.02	74.00	-23.98	6.48	3	V	171	3.28	-

802.11b_(1Mbps)_1TX

2412MHz_TX

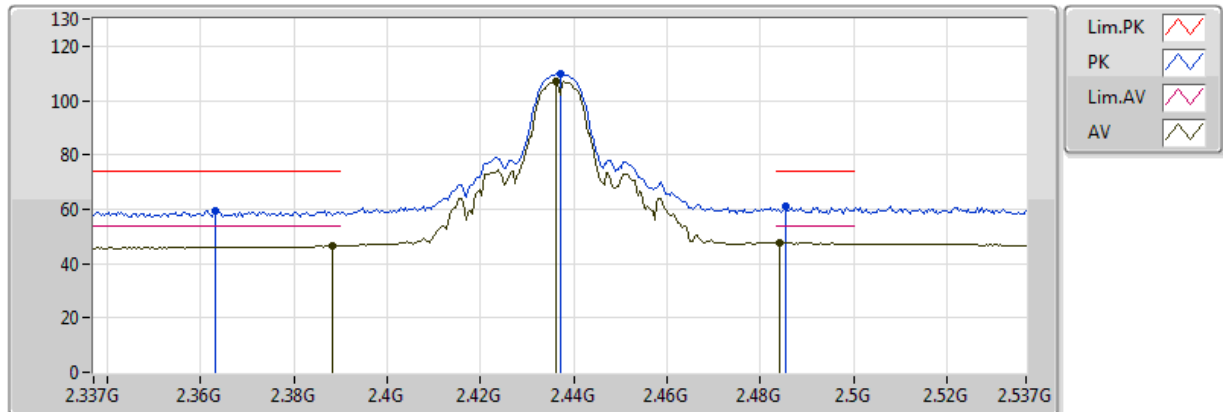


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	38.09	54.00	-15.91	6.48	3	H	120	1.04	-
PK	4.824G	48.33	74.00	-26.67	6.48	3	H	120	1.04	-

802.11b_(1Mbps)_1TX

2437MHz_TX

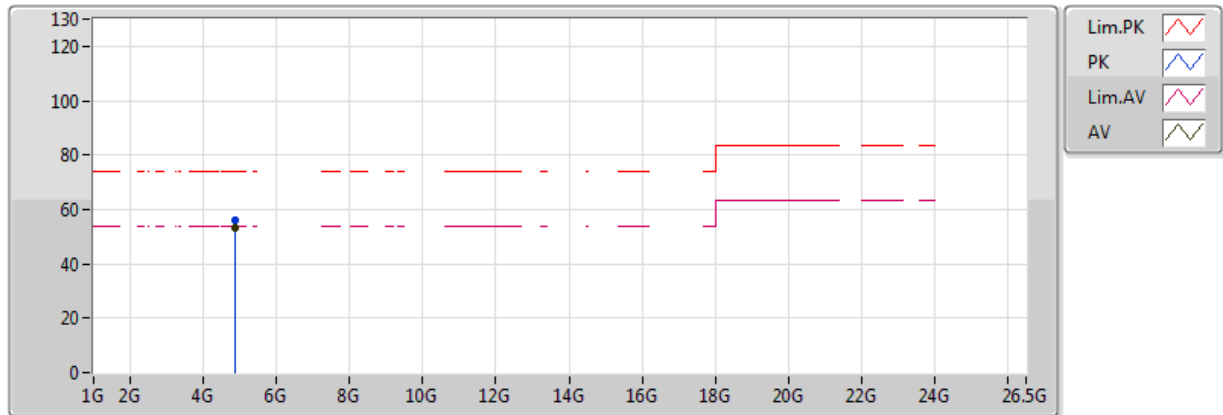


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4362G	106.86	Inf	-Inf	31.61	3	V	197	1.26	-
AV	2.3882G	46.58	54.00	-7.42	31.44	3	V	197	1.26	-
AV	2.4842G	47.61	54.00	-6.39	31.78	3	V	197	1.26	-
PK	2.437G	109.79	Inf	-Inf	31.61	3	V	197	1.26	-
PK	2.363G	59.40	74.00	-14.60	31.35	3	V	197	1.26	-
PK	2.4854G	60.98	74.00	-13.02	31.79	3	V	197	1.26	-

802.11b_(1Mbps)_1TX

2437MHz_TX

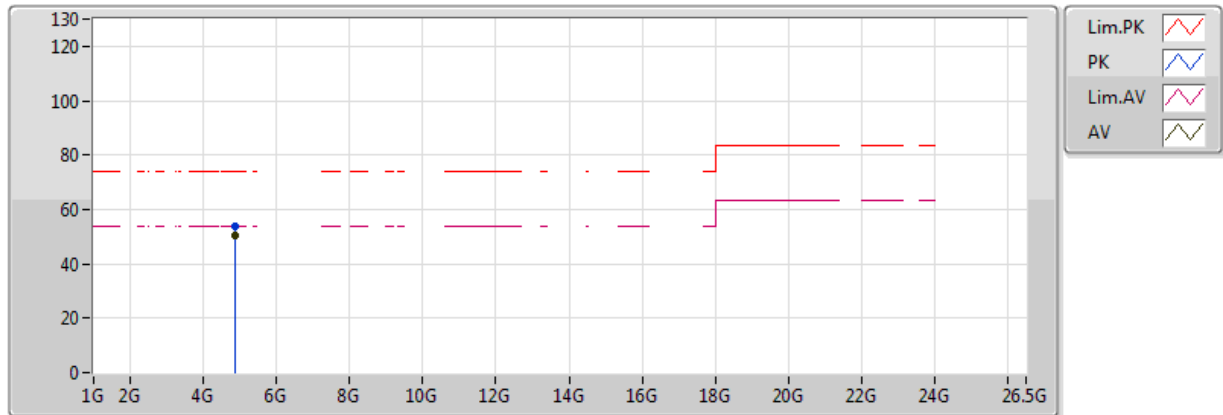


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	53.29	54.00	-0.71	6.61	3	V	227	1.01	-
PK	4.874G	56.31	74.00	-17.69	6.61	3	V	227	1.01	-

802.11b_(1Mbps)_1TX

2437MHz_TX

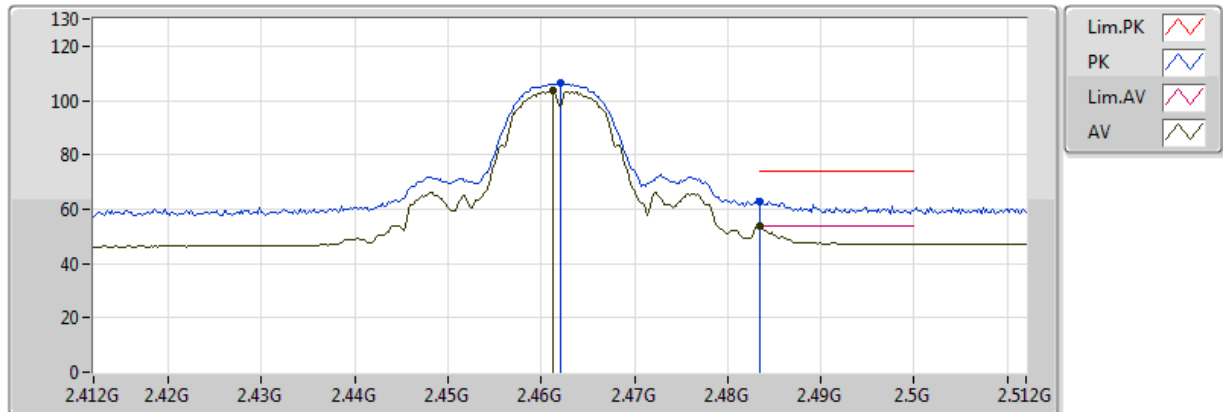


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	50.62	54.00	-3.38	6.61	3	H	105	2.43	-
PK	4.874G	53.73	74.00	-20.27	6.61	3	H	105	2.43	-

802.11b_(1Mbps)_1TX

2462MHz_TX

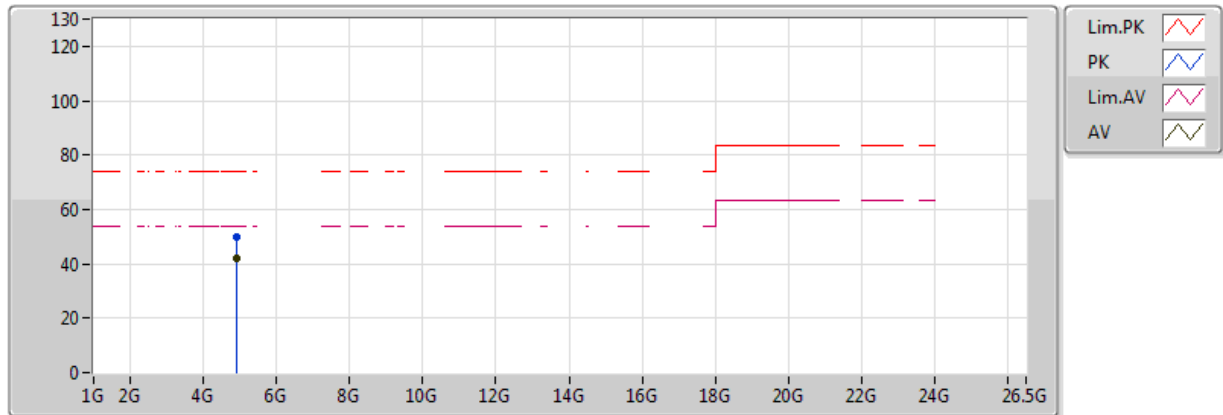


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4612G	103.39	Inf	-Inf	31.70	3	V	233	1.50	-
AV	2.483502G	53.84	54.00	-0.16	31.78	3	V	233	1.50	-
PK	2.462G	106.29	Inf	-Inf	31.70	3	V	233	1.50	-
PK	2.483502G	62.94	74.00	-11.06	31.78	3	V	233	1.50	-

802.11b_(1Mbps)_1TX

2462MHz_TX

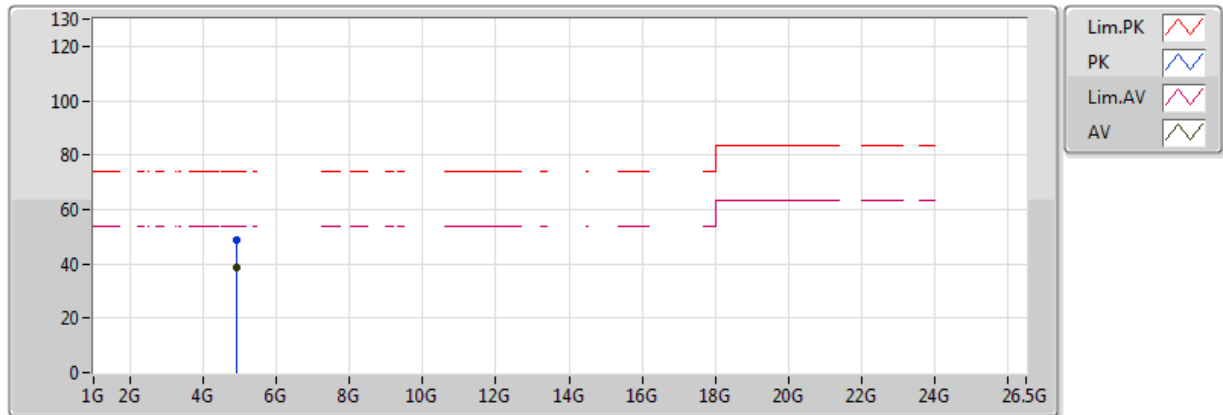


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	42.10	54.00	-11.90	6.73	3	V	182	1.49	-
PK	4.924G	49.76	74.00	-24.24	6.73	3	V	182	1.49	-

802.11b_(1Mbps)_1TX

2462MHz_TX

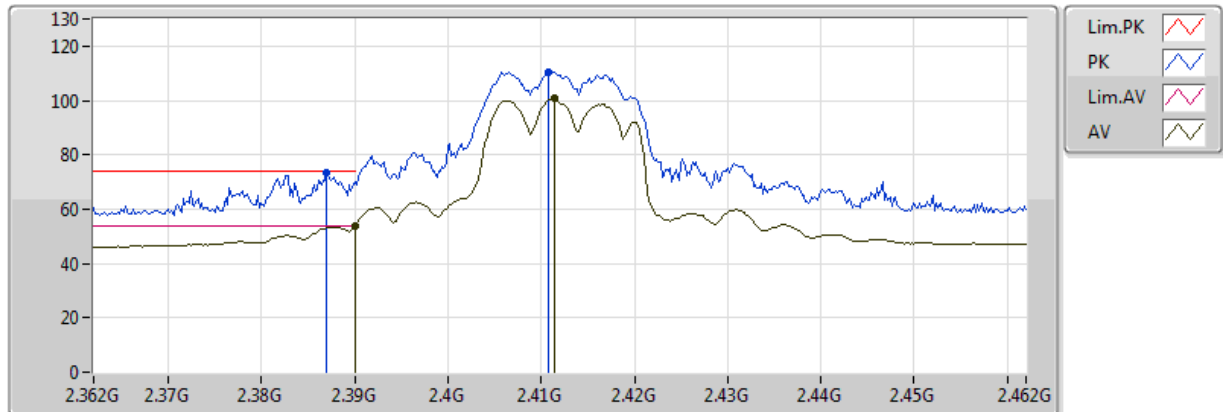


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	38.65	54.00	-15.35	6.73	3	H	114	2.44	-
PK	4.924G	48.70	74.00	-25.30	6.73	3	H	114	2.44	-

802.11g_(6Mbps)_2TX

2412MHz_TX

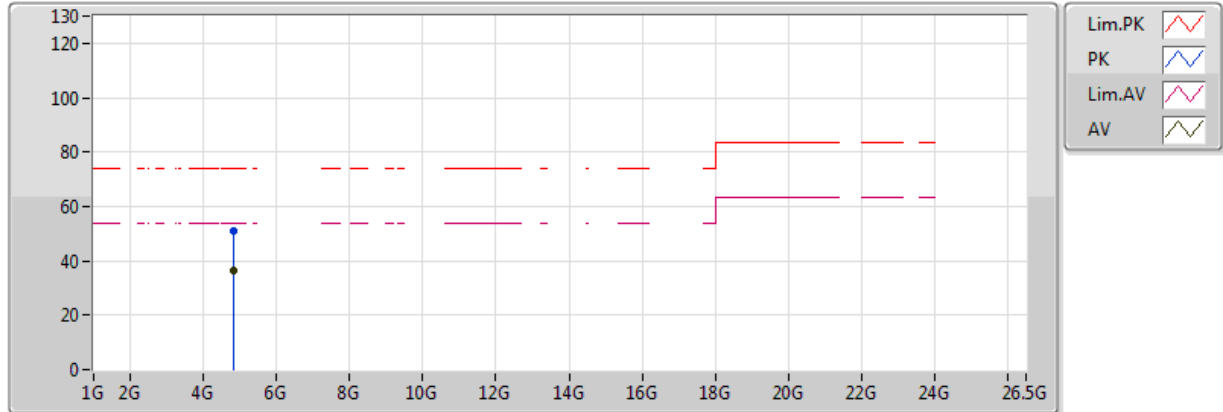


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4114G	100.68	Inf	-Inf	31.52	3	V	28	1.50	-
AV	2.39G	53.66	54.00	-0.34	31.45	3	V	28	1.50	-
PK	2.4108G	110.62	Inf	-Inf	31.52	3	V	28	1.50	-
PK	2.387G	73.42	74.00	-0.58	31.43	3	V	28	1.50	-

802.11g_(6Mbps)_2TX

2412MHz_TX

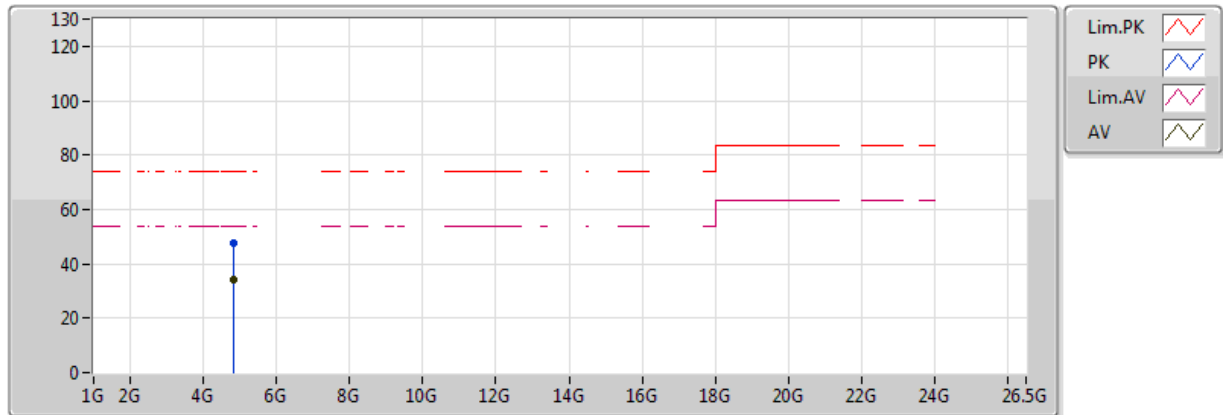


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	36.69	54.00	-17.31	6.48	3	V	221	1.00	-
PK	4.824G	51.19	74.00	-22.81	6.48	3	V	221	1.00	-

802.11g_(6Mbps)_2TX

2412MHz_TX

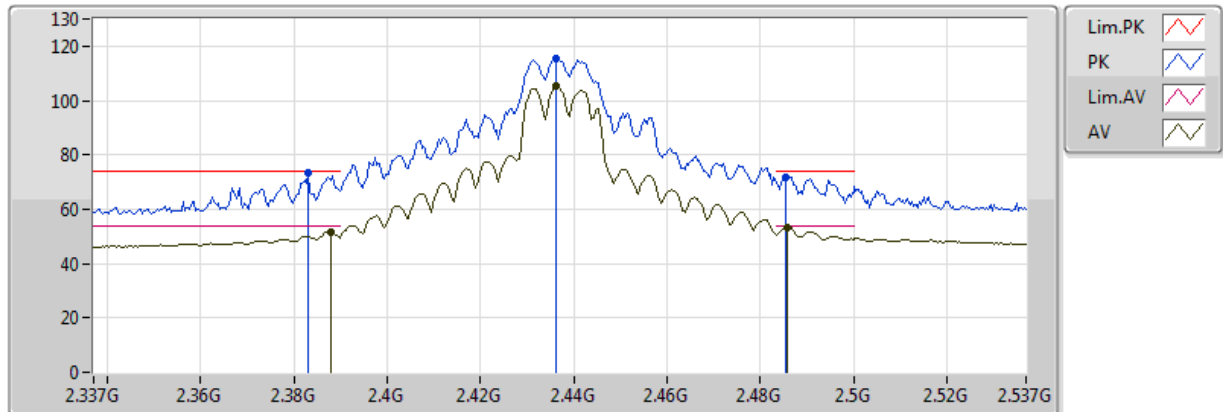


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	34.07	54.00	-19.93	6.48	3	H	0	1.50	-
PK	4.824G	47.83	74.00	-26.17	6.48	3	H	0	1.50	-

802.11g_(6Mbps)_2TX

2437MHz_TX

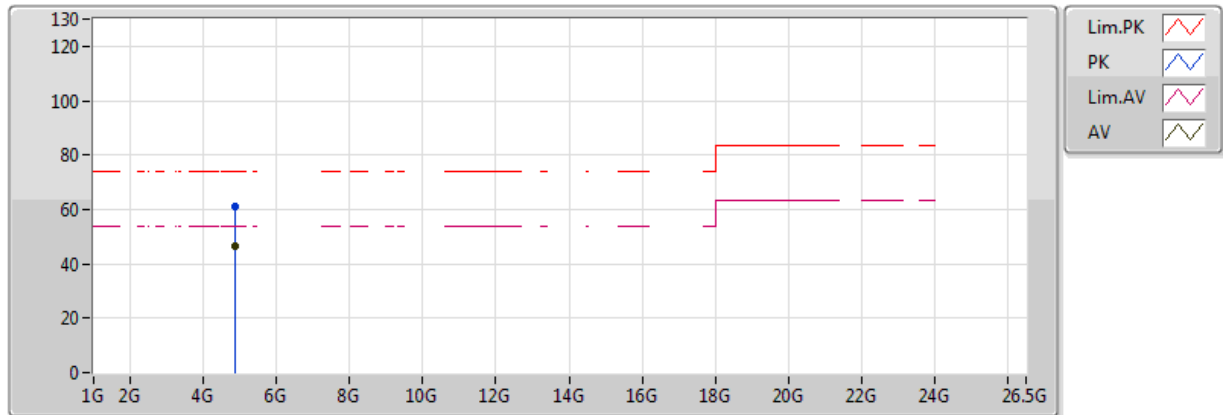


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3878G	51.80	54.00	-2.20	31.44	3	V	26	1.50	-
AV	2.4362G	105.62	Inf	-Inf	31.61	3	V	26	1.50	-
AV	2.4858G	53.36	54.00	-0.64	31.79	3	V	26	1.50	-
PK	2.383G	73.15	74.00	-0.85	31.42	3	V	26	1.50	-
PK	2.4362G	115.51	Inf	-Inf	31.61	3	V	26	1.50	-
PK	2.4854G	71.97	74.00	-2.03	31.79	3	V	26	1.50	-

802.11g_(6Mbps)_2TX

2437MHz_TX

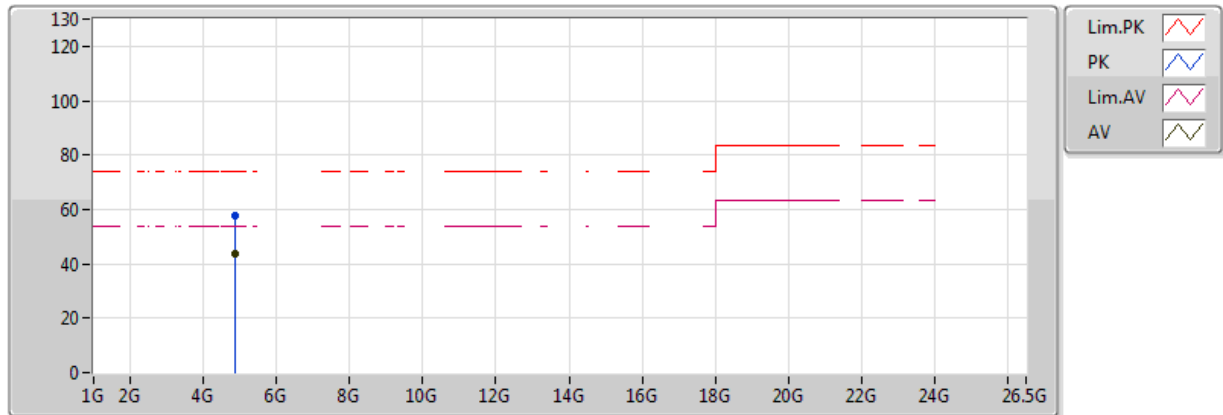


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	46.39	54.00	-7.61	6.61	3	V	202	1.00	-
PK	4.874G	60.91	74.00	-13.09	6.61	3	V	202	1.00	-

802.11g_(6Mbps)_2TX

2437MHz_TX

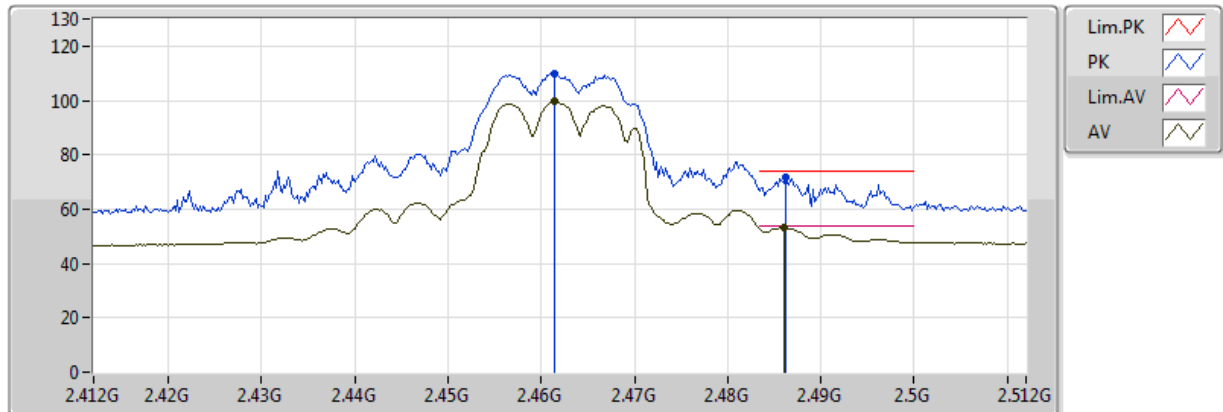


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	43.84	54.00	-10.16	6.61	3	H	13	2.19	-
PK	4.874G	57.71	74.00	-16.29	6.61	3	H	13	2.19	-

802.11g_(6Mbps)_2TX

2462MHz_TX

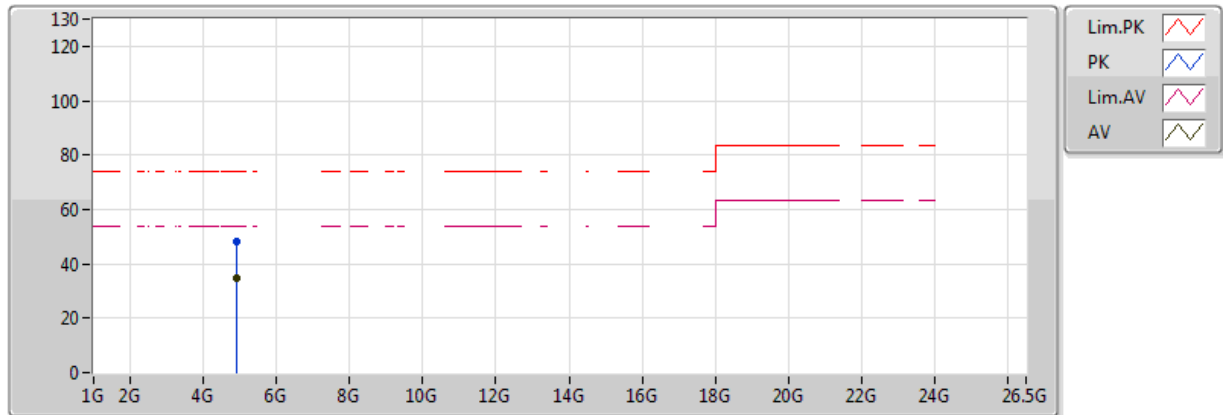


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4614G	99.84	Inf	-Inf	31.70	3	V	24	1.75	-
AV	2.486G	53.51	54.00	-0.49	31.79	3	V	24	1.75	-
PK	2.4614G	109.91	Inf	-Inf	31.70	3	V	24	1.75	-
PK	2.4862G	71.59	74.00	-2.41	31.79	3	V	24	1.75	-

802.11g_(6Mbps)_2TX

2462MHz_TX

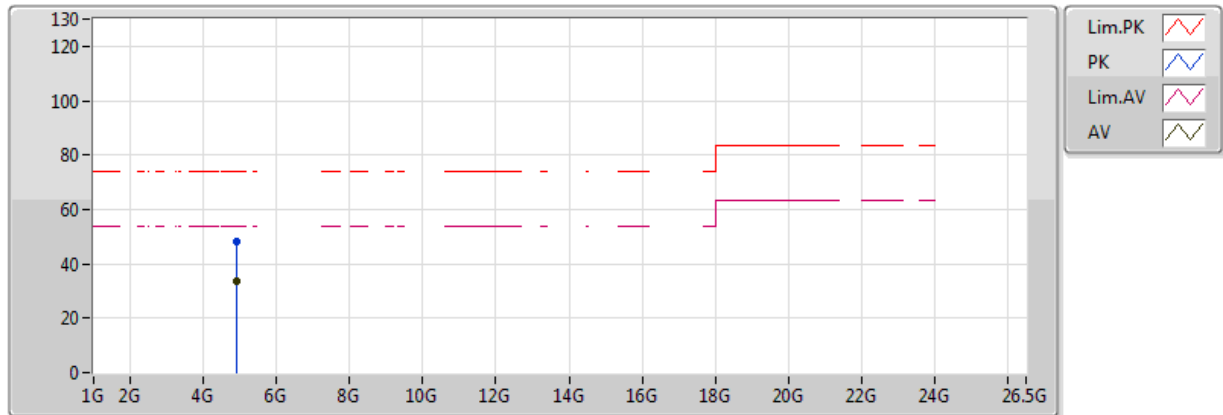


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	34.78	54.00	-19.22	6.73	3	V	184	2.66	-
PK	4.924G	48.35	74.00	-25.65	6.73	3	V	184	2.66	-

802.11g_(6Mbps)_2TX

2462MHz_TX

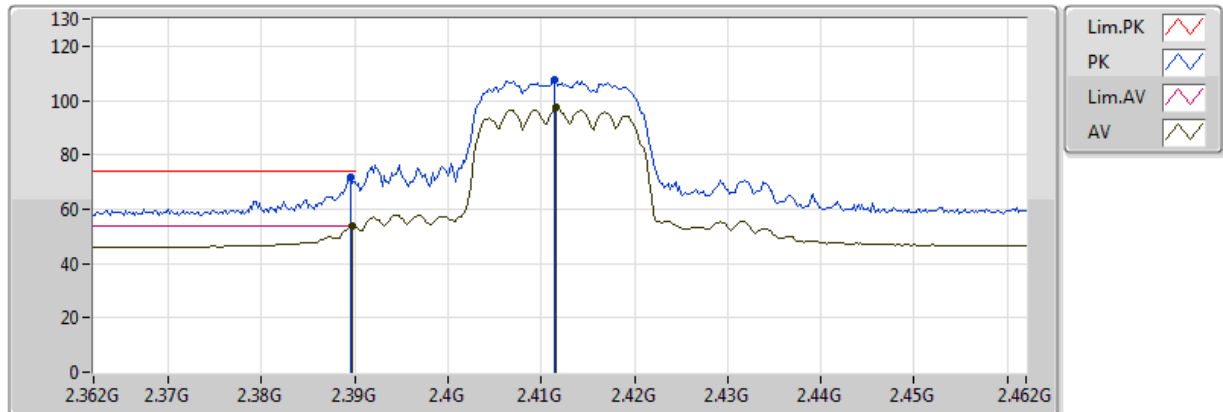


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	33.83	54.00	-20.17	6.73	3	H	360	1.50	-
PK	4.924G	47.94	74.00	-26.06	6.73	3	H	360	1.50	-

802.11n HT20_Nss1,(MCS0)_2TX

2412MHz_TX

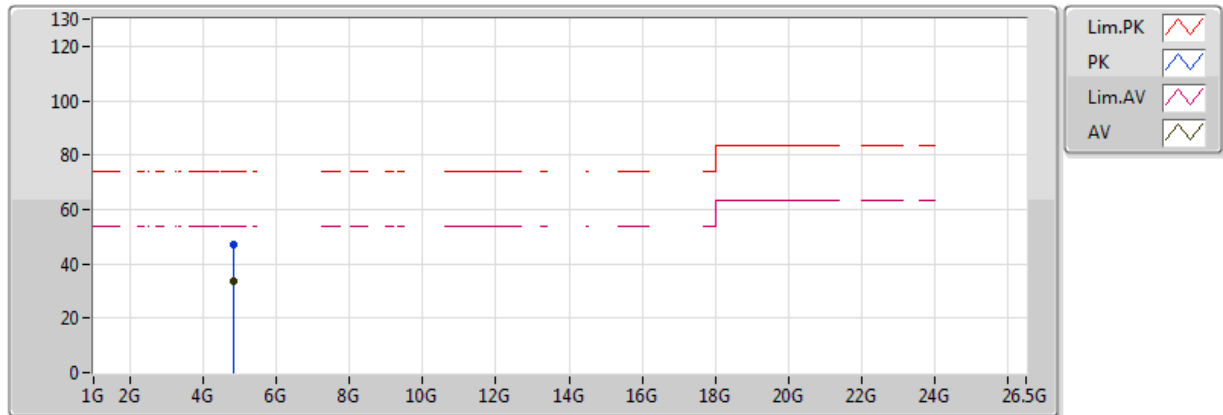


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4116G	97.23	Inf	-Inf	31.52	3	V	26	1.77	-
AV	2.3898G	53.76	54.00	-0.24	31.44	3	V	26	1.77	-
PK	2.4114G	107.68	Inf	-Inf	31.52	3	V	26	1.77	-
PK	2.3896G	71.67	74.00	-2.33	31.44	3	V	26	1.77	-

802.11n HT20_Nss1,(MCS0)_2TX

2412MHz_TX

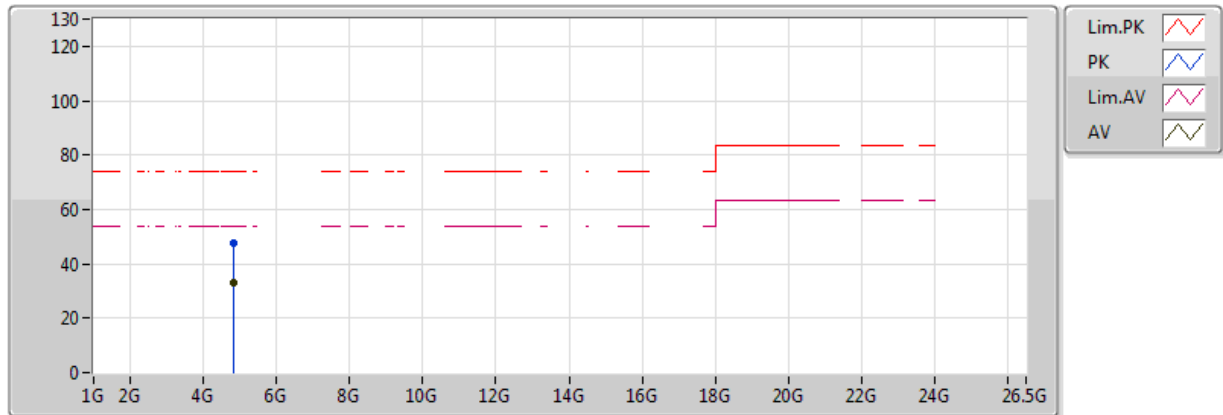


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	33.50	54.00	-20.50	6.48	3	V	360	1.50	-
PK	4.824G	47.22	74.00	-26.78	6.48	3	V	360	1.50	-

802.11n HT20_Nss1,(MCS0)_2TX

2412MHz_TX

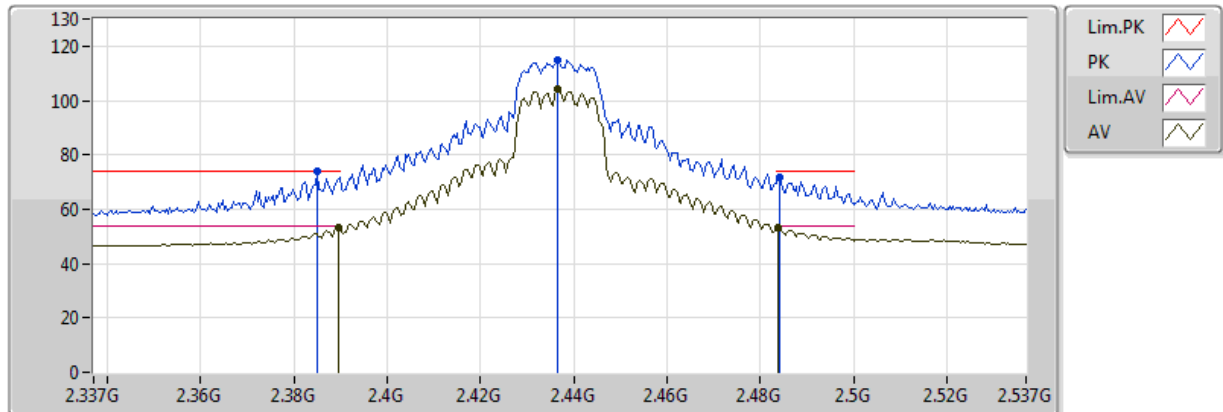


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.824G	33.02	54.00	-20.98	6.48	3	H	0	1.50	-
PK	4.824G	47.44	74.00	-26.56	6.48	3	H	0	1.50	-

802.11n HT20_Nss1,(MCS0)_2TX

2437MHz_TX

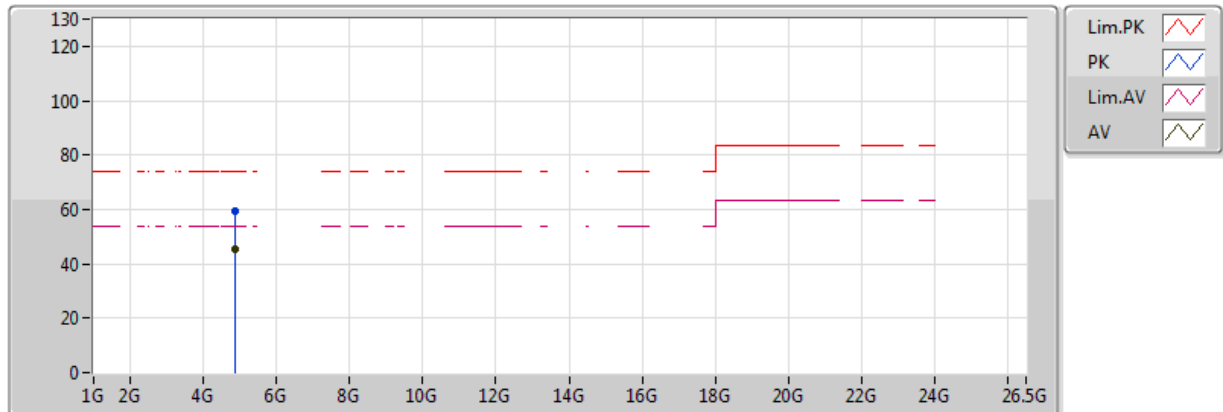


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3894G	53.12	54.00	-0.88	31.44	3	V	27	2.09	-
AV	2.4366G	104.47	Inf	-Inf	31.61	3	V	27	2.09	-
AV	2.4838G	53.44	54.00	-0.56	31.78	3	V	27	2.09	-
PK	2.385G	73.80	74.00	-0.20	31.43	3	V	27	2.09	-
PK	2.4366G	114.64	Inf	-Inf	31.61	3	V	27	2.09	-
PK	2.4842G	71.78	74.00	-2.22	31.78	3	V	27	2.09	-

802.11n HT20_Nss1,(MCS0)_2TX

2437MHz_TX

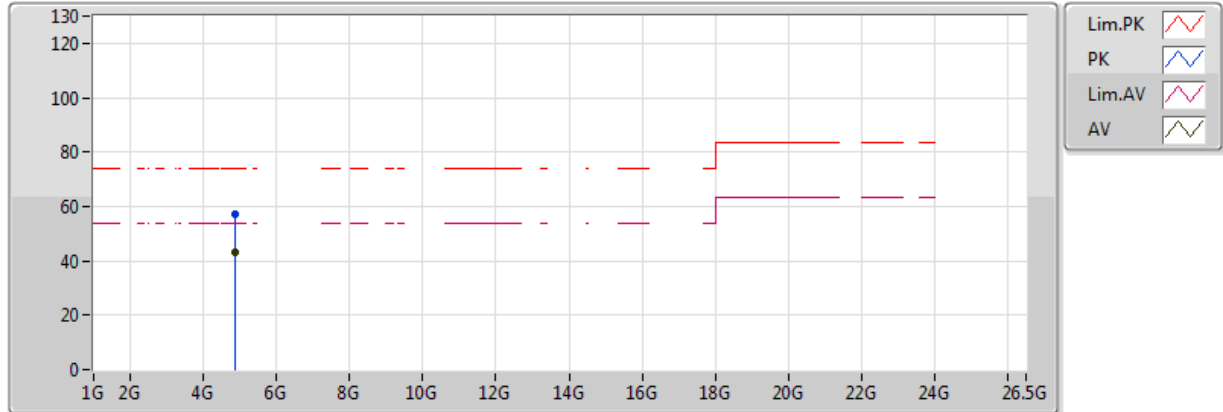


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	45.18	54.00	-8.82	6.61	3	V	205	1.01	-
PK	4.874G	59.49	74.00	-14.51	6.61	3	V	205	1.01	-

802.11n HT20_Nss1,(MCS0)_2TX

2437MHz_TX

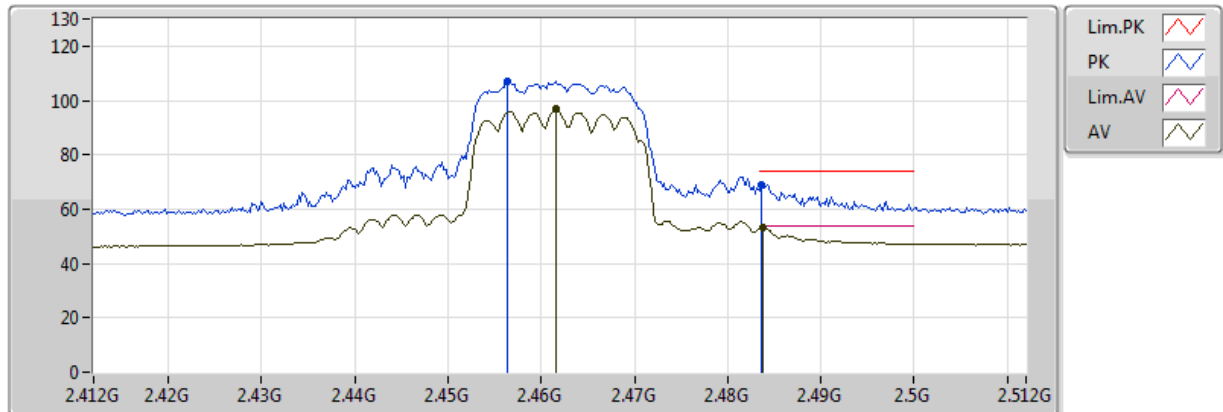


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	43.19	54.00	-10.81	6.61	3	H	12	2.12	-
PK	4.874G	57.11	74.00	-16.89	6.61	3	H	12	2.12	-

802.11n HT20_Nss1,(MCS0)_2TX

2462MHz_TX

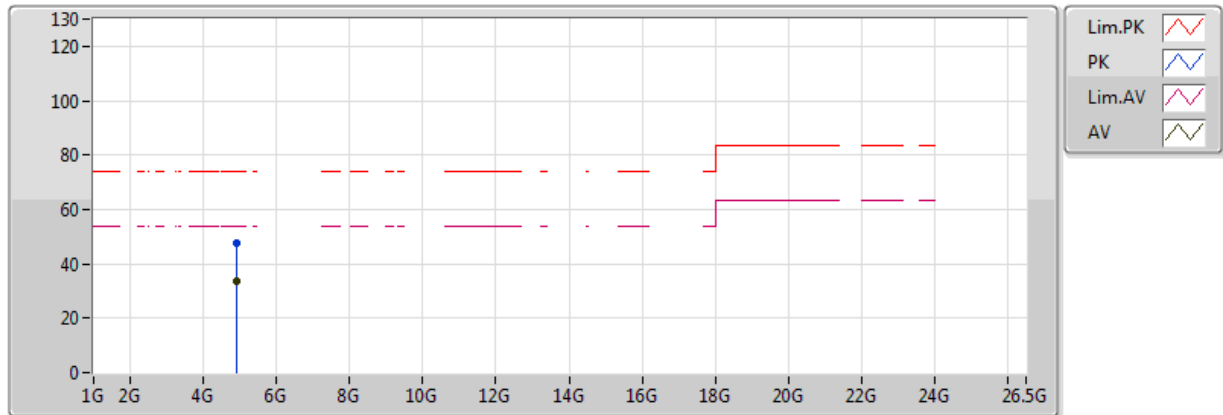


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4838G	53.44	54.00	-0.56	31.78	3	V	27	1.78	-
AV	2.4616G	96.72	Inf	-Inf	31.70	3	V	27	1.78	-
PK	2.4564G	106.96	Inf	-Inf	31.68	3	V	27	1.78	-
PK	2.4836G	69.11	74.00	-4.89	31.78	3	V	27	1.78	-

802.11n HT20_Nss1,(MCS0)_2TX

2462MHz_TX

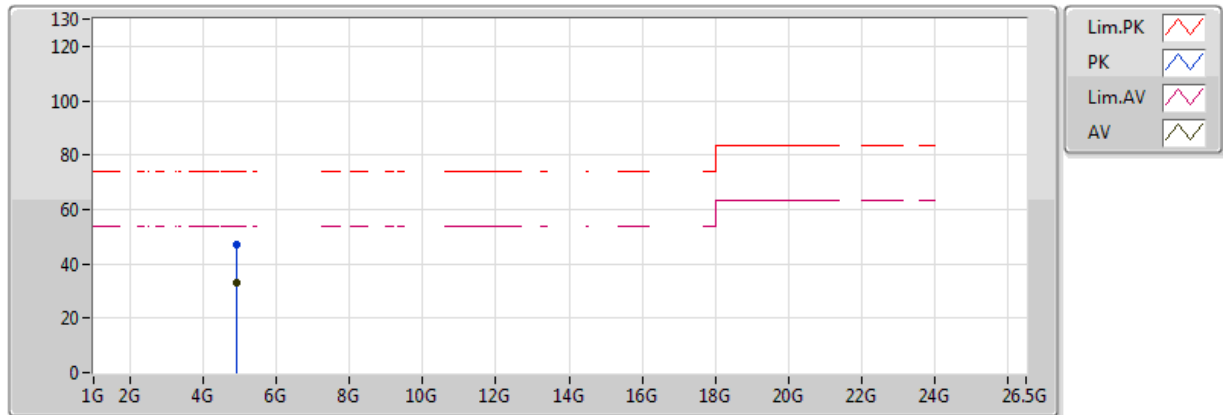


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	33.44	54.00	-20.56	6.73	3	V	0	1.50	-
PK	4.924G	47.53	74.00	-26.47	6.73	3	V	0	1.50	-

802.11n HT20_Nss1,(MCS0)_2TX

2462MHz_TX

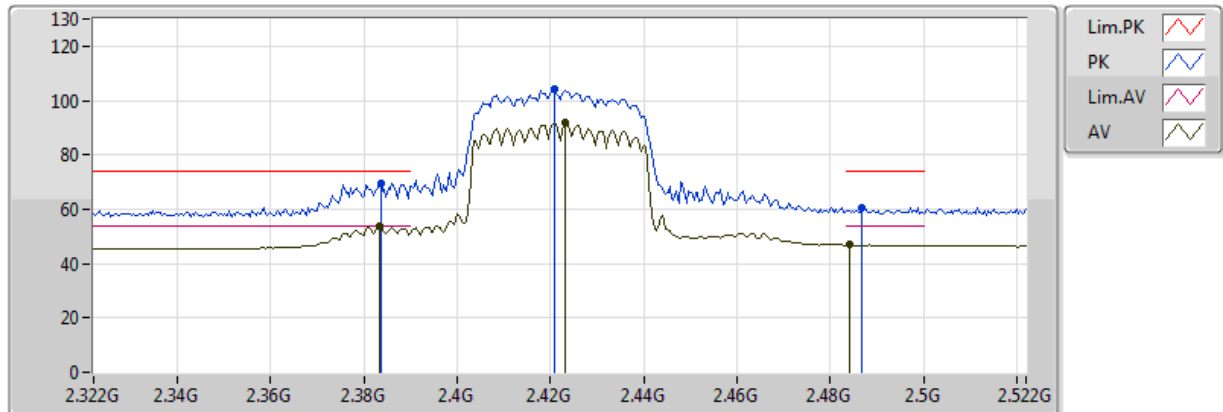


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.924G	33.10	54.00	-20.90	6.73	3	H	360	1.50	-
PK	4.924G	47.09	74.00	-26.91	6.73	3	H	360	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2422MHz_TX

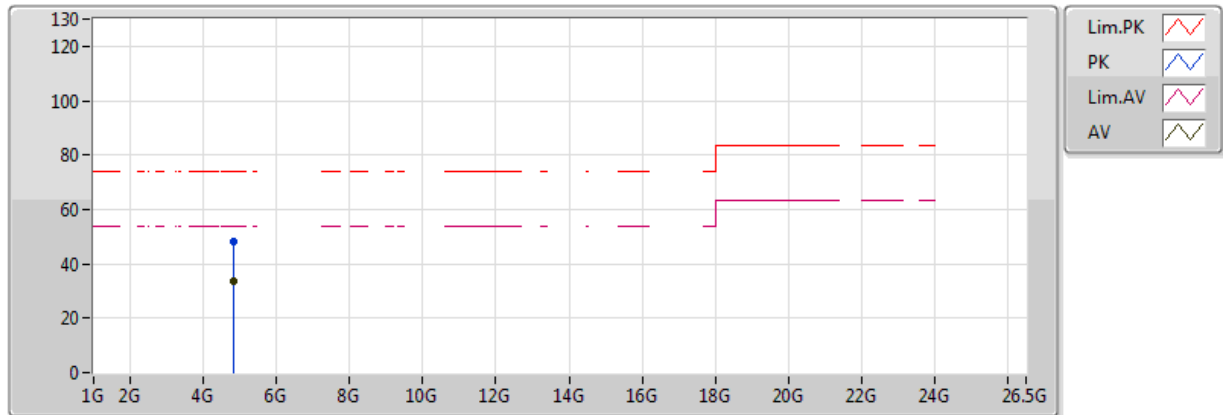


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3832G	53.52	54.00	-0.48	31.42	3	V	221	1.19	-
AV	2.4232G	91.68	Inf	-Inf	31.56	3	V	221	1.19	-
AV	2.484G	46.81	54.00	-7.19	31.78	3	V	221	1.19	-
PK	2.3836G	69.31	74.00	-4.69	31.42	3	V	221	1.19	-
PK	2.4208G	104.17	Inf	-Inf	31.55	3	V	221	1.19	-
PK	2.4868G	60.41	74.00	-13.59	31.79	3	V	221	1.19	-

802.11n HT40_Nss1,(MCS0)_2TX

2422MHz_TX

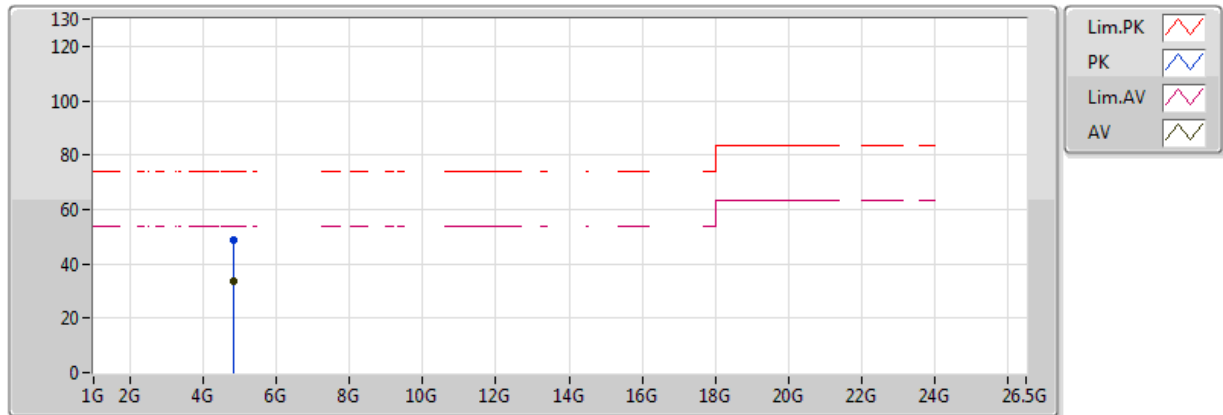


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.844G	33.72	54.00	-20.28	6.53	3	V	360	1.50	-
PK	4.844G	48.08	74.00	-25.92	6.53	3	V	360	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2422MHz_TX

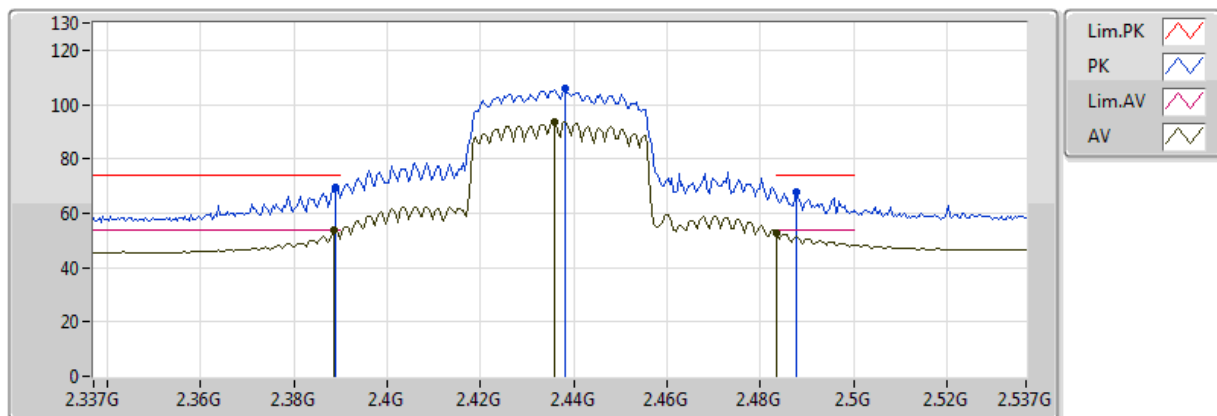


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.844G	33.57	54.00	-20.43	6.53	3	H	0	1.50	-
PK	4.844G	48.79	74.00	-25.21	6.53	3	H	0	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_TX

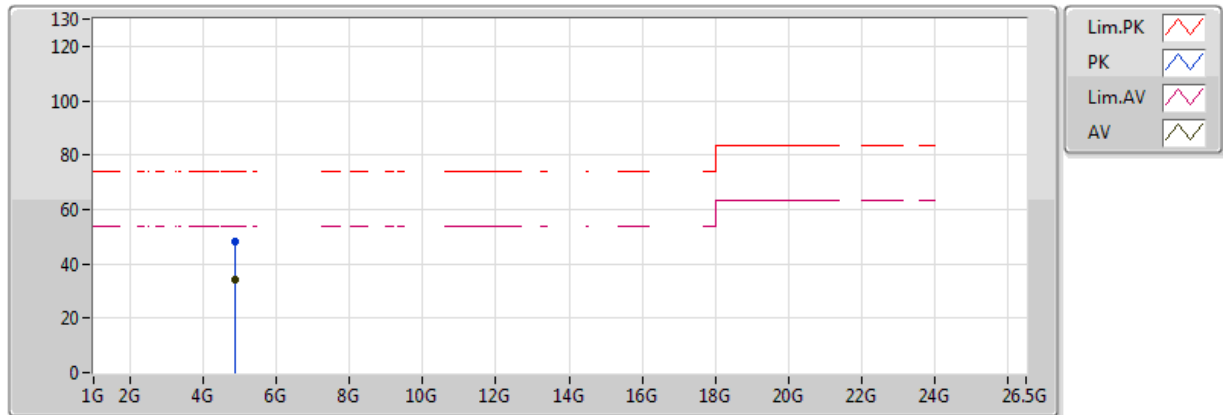


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3886G	53.62	54.00	-0.38	31.44	3	V	218	1.04	-
AV	2.4358G	93.82	Inf	-Inf	31.61	3	V	218	1.04	-
AV	2.483502G	52.84	54.00	-1.16	31.78	3	V	218	1.04	-
PK	2.389G	69.58	74.00	-4.42	31.44	3	V	218	1.04	-
PK	2.4382G	106.00	Inf	-Inf	31.62	3	V	218	1.04	-
PK	2.4878G	67.72	74.00	-6.28	31.80	3	V	218	1.04	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_TX

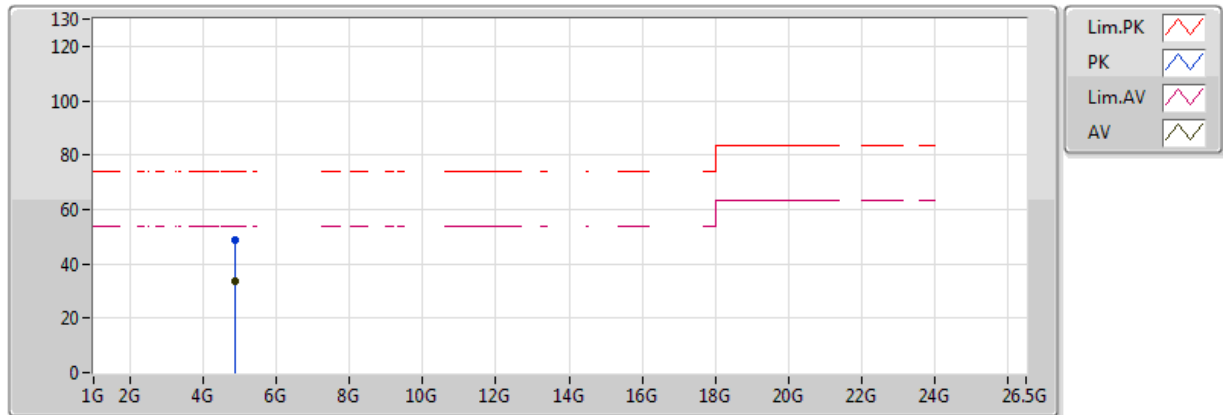


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	34.27	54.00	-19.73	6.61	3	V	0	1.50	-
PK	4.874G	48.35	74.00	-25.65	6.61	3	V	0	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_TX

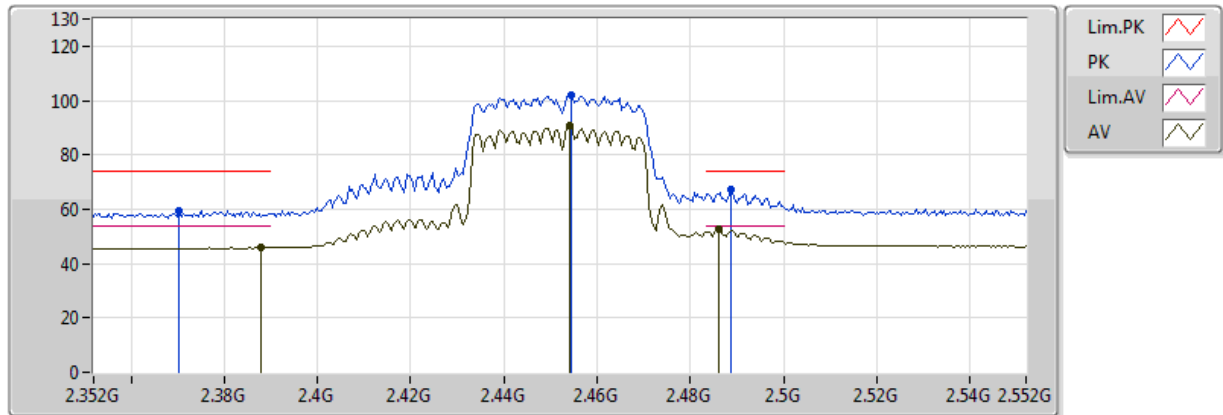


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	33.52	54.00	-20.48	6.61	3	H	360	1.50	-
PK	4.874G	48.50	74.00	-25.50	6.61	3	H	360	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2452MHz_TX

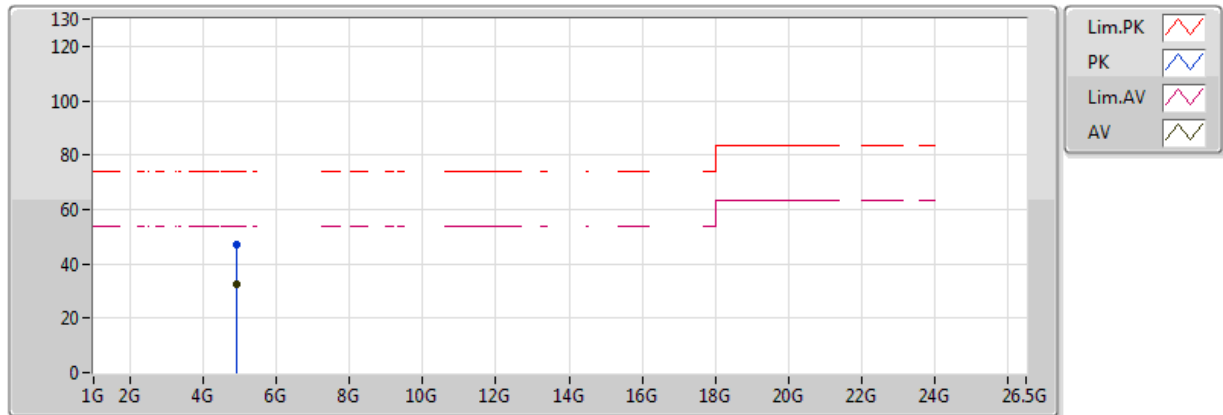


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.388G	45.85	54.00	-8.15	31.44	3	V	26	1.86	-
AV	2.454G	90.70	Inf	-Inf	31.67	3	V	26	1.86	-
AV	2.486G	52.91	54.00	-1.09	31.79	3	V	26	1.86	-
PK	2.3704G	59.59	74.00	-14.41	31.38	3	V	26	1.86	-
PK	2.4544G	102.25	Inf	-Inf	31.68	3	V	26	1.86	-
PK	2.4888G	67.04	74.00	-6.96	31.80	3	V	26	1.86	-

802.11n HT40_Nss1,(MCS0)_2TX

2452MHz_TX

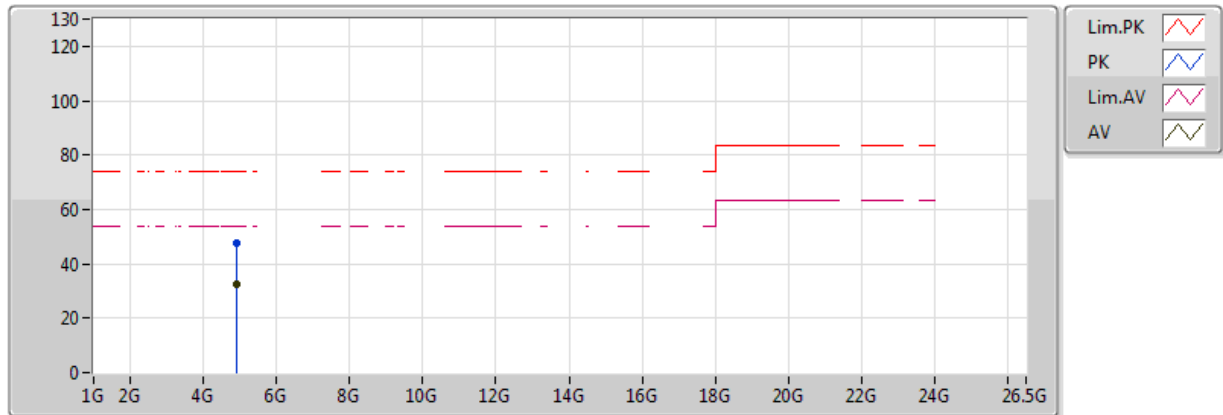


EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.904G	32.78	54.00	-21.22	6.68	3	V	0	1.50	-
PK	4.904G	46.87	74.00	-27.13	6.68	3	V	0	1.50	-

802.11n HT40_Nss1,(MCS0)_2TX

2452MHz_TX



EUT = Z axis

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.904G	32.65	54.00	-21.35	6.68	3	H	360	1.50	-
PK	4.904G	47.46	74.00	-26.54	6.68	3	H	360	1.50	-

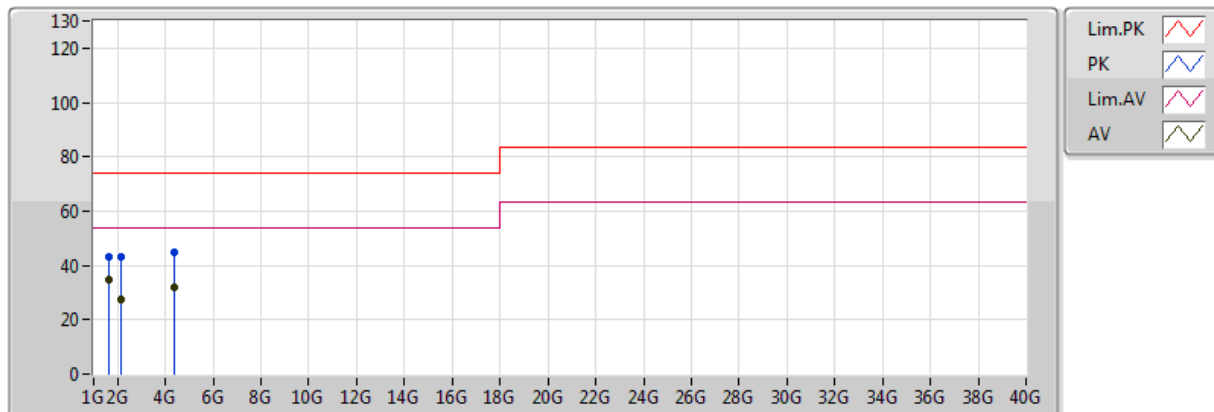
**3.6.8 Test Result of Radiated Emission Co-location****Summary**

Mode	Result	Type	Freq (Hz)	Level	Limit	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.624G	34.96	54.00	-19.04	-2.31	3	Vertical	121	1.72	-

**Result**

Mode	Result	Type	Freq (Hz)	Level	Limit	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.6248G	32.26	54.00	-21.74	-2.31	3	Horizontal	231	1.63	-
Mode 1	Pass	AV	2G	31.87	54.00	-22.13	-0.96	3	Horizontal	45	1.28	-
Mode 1	Pass	AV	4.2565G	32.84	54.00	-21.16	5.09	3	Horizontal	0	1.50	-
Mode 1	Pass	PK	1.6248G	42.09	74.00	-31.91	-2.31	3	Horizontal	231	1.63	-
Mode 1	Pass	PK	2G	43.75	74.00	-30.25	-0.96	3	Horizontal	45	1.28	-
Mode 1	Pass	PK	4.2565G	47.95	74.00	-26.05	5.09	3	Horizontal	0	1.50	-
Mode 1	Pass	AV	1.624G	34.96	54.00	-19.04	-2.31	3	Vertical	121	1.72	-
Mode 1	Pass	AV	2.1477G	27.69	54.00	-26.31	-0.36	3	Vertical	0	1.50	-
Mode 1	Pass	AV	4.356G	32.02	54.00	-21.98	5.31	3	Vertical	360	1.50	-
Mode 1	Pass	PK	1.624G	43.09	74.00	-30.91	-2.31	3	Vertical	121	1.72	-
Mode 1	Pass	PK	2.1477G	43.27	74.00	-30.73	-0.36	3	Vertical	0	1.50	-
Mode 1	Pass	PK	4.356G	44.93	74.00	-29.07	5.31	3	Vertical	360	1.50	-

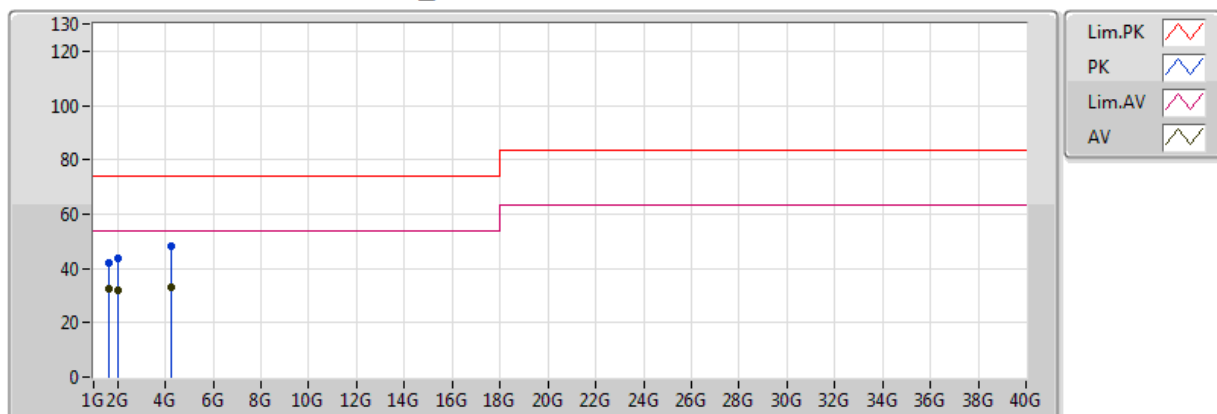
Radiated-above 1GHz_Mode 1



EUT=Z

Type	Freq(Hz)	Level	Limit	Margin(dB)	Factor(dB)	Dist(m)	Condition	Azimuth(°)	Height(m)	Comments
AV	1.624G	34.96	54.00	-19.04	-2.31	3	Vertical	121	1.72	-
AV	2.1477G	27.69	54.00	-26.31	-0.36	3	Vertical	0	1.50	-
AV	4.356G	32.02	54.00	-21.98	5.31	3	Vertical	360	1.50	-
PK	1.624G	43.09	74.00	-30.91	-2.31	3	Vertical	121	1.72	-
PK	2.1477G	43.27	74.00	-30.73	-0.36	3	Vertical	0	1.50	-
PK	4.356G	44.93	74.00	-29.07	5.31	3	Vertical	360	1.50	-

Radiated-above 1GHz_Mode 1



EUT=Z

Type	Freq(Hz)	Level	Limit	Margin(dB)	Factor(dB)	Dist(m)	Condition	Azimuth(°)	Height(m)	Comments
AV	1.6248G	32.26	54.00	-21.74	-2.31	3	Horizontal	231	1.63	-
AV	2G	31.87	54.00	-22.13	-0.96	3	Horizontal	45	1.28	-
AV	4.2565G	32.84	54.00	-21.16	5.09	3	Horizontal	0	1.50	-
PK	1.6248G	42.09	74.00	-31.91	-2.31	3	Horizontal	231	1.63	-
PK	2G	43.75	74.00	-30.25	-0.96	3	Horizontal	45	1.28	-
PK	4.2565G	47.95	74.00	-26.05	5.09	3	Horizontal	0	1.50	-

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Test Receiver	R&S	ESR3	102052	9 kHz ~ 3.6 GHz	05/Apr/2017	04/Apr/2018
Two-Line V-Network	R&S	ENV 216	100003	9 kHz ~ 30 MHz	30/Aug/2016	29/Aug/2017
RF Cable-CON	Weiyang	WY200	CB018	9 kHz ~ 30 MHz	07/Feb/2017	06/Feb/2018
Impul Sbegrenzer Pulse Limiter	R&S	ESH3-Z2	100921	10 kHz ~ 30 MHz	20/Oct/2016	19/Oct/2017
Impedance Stabilization Network	TESEQ	ISN T800	24558	150 kHz ~ 30 MHz	07/Feb/2017	06/Feb/2018

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz	28/Nov/2016	27/Nov/2017
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz	16/Dec/2016	15/Dec/2017
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	19/Apr/2017	18/Apr/2018
Amplifier	KEYSIGHT	83017A	MY53270197	1GHz ~ 26.5GHz	29/Aug/2016	28/Aug/2017
Spectrum	R&S	FSV40	101515	9kHz ~ 40GHz	28/Nov/2016	27/Nov/2017
Bilog Antenna	SCHAFFNER	CBL 6112D	2723	30MHz ~ 1GHz	01/Oct/2016	30/Sep/2017
Horn Antenna	SCHWARZBECK	BBHA 9120D	BBHA 9120D 1531	1GHz ~ 18GHz	25/Apr/2017	24/Apr/2018
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz ~ 40GHz	06/Feb/2017	05/Feb/2018
Loop Antenna	TESEQ	HLA 6120	24155	9 kHz~30 MHz	02/Mar/2017	01/Mar/2018
RF-Cable-high	SUHNER	SUHNER	CB222	1GHz ~ 40GHz	28/Oct/2016	27/Oct/2017
Microwave Preamplifier with 6dB Attenuator	EMC INSTRUMENTS	EMC184045B & PE7005-	1840917	18GHz-40GHz	24/Aug/2016	23/Aug/2017
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	27/Oct/2016	26/Oct/2017
Receiver	R&S	ESU-26	100422/026	20Hz ~ 26.5GHz	21/Sep/2016	20/Sep/2017

**Instrument for Conducted Test**

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	30/Dec/2016	29/Dec/2017
Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	27/Jul/2017	26/Jul/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY677/3	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY678/3	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10717/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY22998/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY23000/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017