



RADIO TEST REPORT

FCC ID : MSQ-RTAX5000
Equipment : AX3000 Dual Band Wi-Fi Router
Brand Name : ASUS
Model Name : RT-AX58U V2 / RT-AX3000 V2
Applicant : ASUSTeK Computer Inc
1F., No. 15, Lide Rd., Beitou, Taipei 112, Taiwan
Manufacturer (1) : ASUSTeK Computer Inc
1F., No. 15, Lide Rd., Beitou, Taipei 112, Taiwan
Manufacturer (2) : Lukisen Electronic Corp.
3F., No.236, Boai St., Shulin Dist., New Taipei City
23845, Taiwan
Manufacturer (3) : Lih Rong Electronic Enterprise Co.,Ltd
No. 486, Sec. 1, Wanshou Rd., Guishan Dist.,
Taoyuan City 33350, Taiwan
Standard : 47 CFR FCC Part 15.247

The product was received on Jun. 29, 2021, and testing was started from Sep. 17, 2021 and completed on Jan. 10, 2022. We, Sporton International Inc. Hsinchu Laboratory, 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. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Cliff Chang

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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Photographs of EUT v01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen
Report Producer: Jessie Wei



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), VHT20, ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), VHT40, ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT20-BF	20	2TX
2.4-2.4835GHz	VHT20	20	2TX
2.4-2.4835GHz	VHT20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	802.11n HT40-BF	40	2TX
2.4-2.4835GHz	VHT40	40	2TX
2.4-2.4835GHz	VHT40-BF	40	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX
2.4-2.4835GHz	802.11ax HEW40-BF	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.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.



1.1.2 Antenna Information

Ant.	Port		Brand	Model Name	Antenna Type	Connector	Gain (dBi)				
	WLAN	WLAN					WLAN	WLAN	WLAN		
	2.4GHz	5GHz					2.4GHz	5GHz	5GHz	5GHz	5GHz
						UNII 1	UNII 2A	UNII 2C	UNII 3		
1	1	-	M.gear	C059-510469-A	Dipole	I-PEX	2.5	-	-	-	-
2	-	1	M.gear	C059-510470-A	Dipole	I-PEX	-	2.57	2.62	2.70	2.95
3	-	2	M.gear	C059-510471-A	Dipole	I-PEX	-	2.13	2.33	2.51	2.50
4	2	-	M.gear	C059-510472-A	Dipole	I-PEX	2.2	-	-	-	-

Note1: The above information was declared by manufacturer.

For 2.4GHz function:

For IEEE 802.11b/g/n/VHT/ax mode (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

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

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.



Note2: Directional gain information

	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{i,k} \right\}^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{i,k} \right\}^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{i,k} \right\}^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{i,k} \right\}^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2))^2 / N_{ANT}] \Rightarrow 10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$$

Where ;

G1 = Ant 1 Gain ; G2 = Ant 2 Gain

(NSS1)

2.4GHz DG = 5.36 dBi

5 GHz U-NII-1 DG = 5.36 dBi

5 GHz U-NII-2A DG = 5.49 dBi

5 GHz U-NII-2C DG = 5.62 dBi

5 GHz U-NII-3 DG = 5.74 dBi



1.1.3 Mode Test Duty Cycle

<Non-Beamforming Mode>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.962	0.17	12.54m	100
802.11g	0.958	0.19	2.066m	1k

<Beamforming Mode>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ax HEW20	0.937	0.28	2.928m	1k
802.11ax HEW40	0.98	0.09	n/a (DC>=0.98)	n/a (DC>=0.98)

Note:

- ◆ DC is Duty Cycle.
- ◆ DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/>	Without beamforming
	The product has beamforming function for 11n/VHT/ax in 2.4GHz and 11n/ac/ax in 5GHz.			
Function	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
Test Software Version	accessMTool [version 3.2.1.3] \ DOS [ver 6.1.7601]			

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT supports functions

Function	Support Type
AP Router	Master
Bridge	Slave without radar detection
Repeater	Master
Mesh	Master

Note1: After evaluating, only AP Router was selected to test and recorded in the test report.

Note 2: The above information was declared by manufacturer.

1.1.6 Table for Multiple Listing

Model No.	Description
RT-AX58U V2	All the model names are identical, the difference model names served as marketing strategy.
RT-AX3000 V2	

Note 1: From the above models, model: RT-AX58U V2 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



1.2 Applicable Standards

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

- ◆ 47 CFR FCC Part 15.247
- ◆ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- ◆ FCC KDB 558074 D01 v05r02
- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Brian Sun	26.3~27 / 65~69	Dec. 20, 2021~ Jan. 10, 2022
Radiated below 1GHz & Radiated Co-location	03CH06-CB	Paul Chen	23.7~24.8 / 56~59	Nov. 20, 2021~ Jan. 07, 2022
	03CH02-CB	Paul Chen	23.5~24.6 / 55~59	
Radiated above 1GHz	03CH06-CB	Paul Chen	23.7~24.8 / 56~59	Nov. 20, 2021~ Jan. 07, 2022
	03CH02-CB	Paul Chen	23.5~24.6 / 55~59	
AC Conduction	CO01-CB	Peter Wu	22~23 / 60~61	Sep. 17, 2021~ Dec. 08, 2021



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)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

<Non-Beamforming Mode>

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	108
2417MHz	108
2437MHz	109
2457MHz	108
2462MHz	109
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	88
2417MHz	102
2437MHz	110
2457MHz	104
2462MHz	97

<Beamforming Mode>

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	86
2417MHz	105
2437MHz	112
2457MHz	104
2462MHz	81
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	80
2427MHz	87
2437MHz	91
2447MHz	85
2452MHz	80

Note1: Evaluated HEW20/HEW40 mode only, due to similar modulation. The power setting of HT20/HT40/VHT20/VHT40 mode are the same or lower than HEW20/HEW40.

Note2: The EUT supports non-beamforming and beamforming modes, after evaluating, the beamforming mode has been selected to execute all tests.



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 Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	AP Router mode_EUT + Adapter 1
2	AP Router mode_EUT + Adapter 2
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 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
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
1	EUT in Z axis + Adapter 1 – 2.4GHz
2	EUT in Z axis + Adapter 1 – 5GHz
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 in Z axis + Adapter 2 – 2.4GHz
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
1	EUT in Z axis



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
Operating Mode	Normal Link
1	EUT in Z axis – WLAN 2.4GHz + WLAN 5GHz
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis – Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA112119 for Co-location RF Exposure Evaluation.	



2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under DOS [ver 6.1.7601].
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by WLAN AP and transmit duty cycle no less than 98%.

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter 1	LEI	MU24D1120200-A1	INPUT: 100-240V~50/60Hz, 0.7A OUTPUT: 12V, 2A
Adapter 2	DVE	DSA-24PFS-12 FUS 120200	INPUT: 100-240V~50/60Hz, 0.8A OUTPUT: +12.0V, 2.0A, 24.0W
Others			
RJ-45 cable*1: Non-shielded, 1.5m			



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN1 NB	DELL	E6430	N/A
B	2.4G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	WAN NB	DELL	E6430	N/A
E	Flash disk3.0	Transcend	JetFlash-700	N/A
F	LAN4 NB	DELL	E6430	N/A

For Radiated below 1GHz and RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

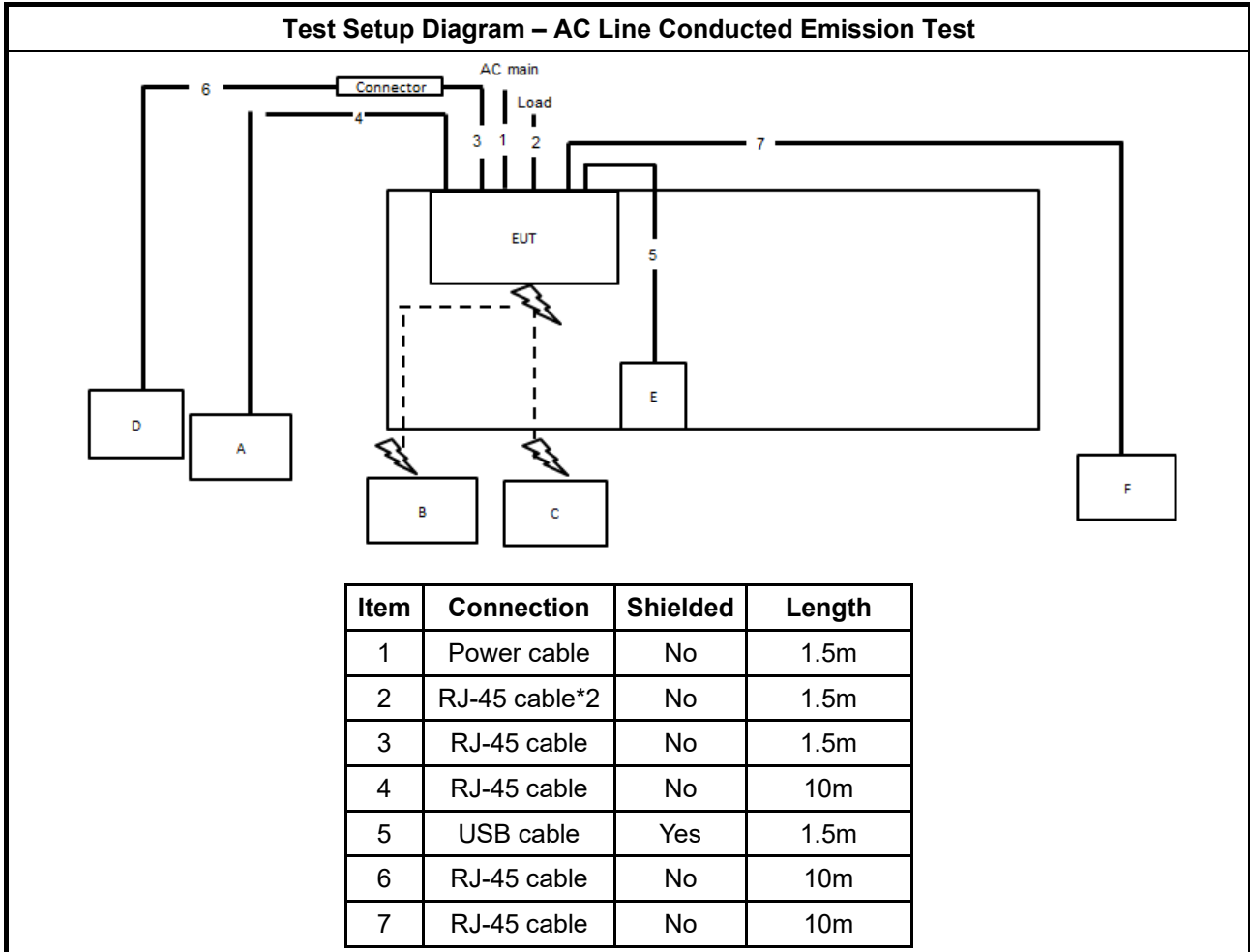
For Radiated above 1GHz:
<Non-Beamforming Mode>

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

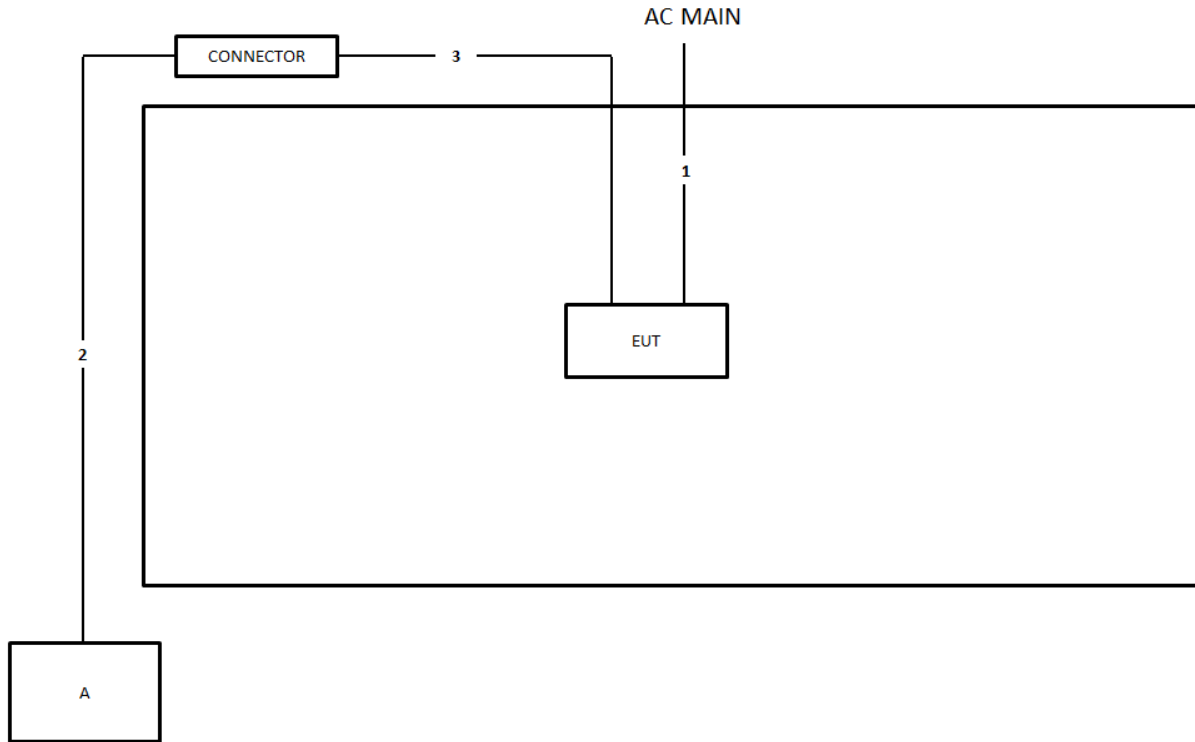
<Beamforming Mode>

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Notebook	DELL	E4300	N/A
C	WLAN AP	ASUS	RT-AX88U	MSQ-RTAXHP00

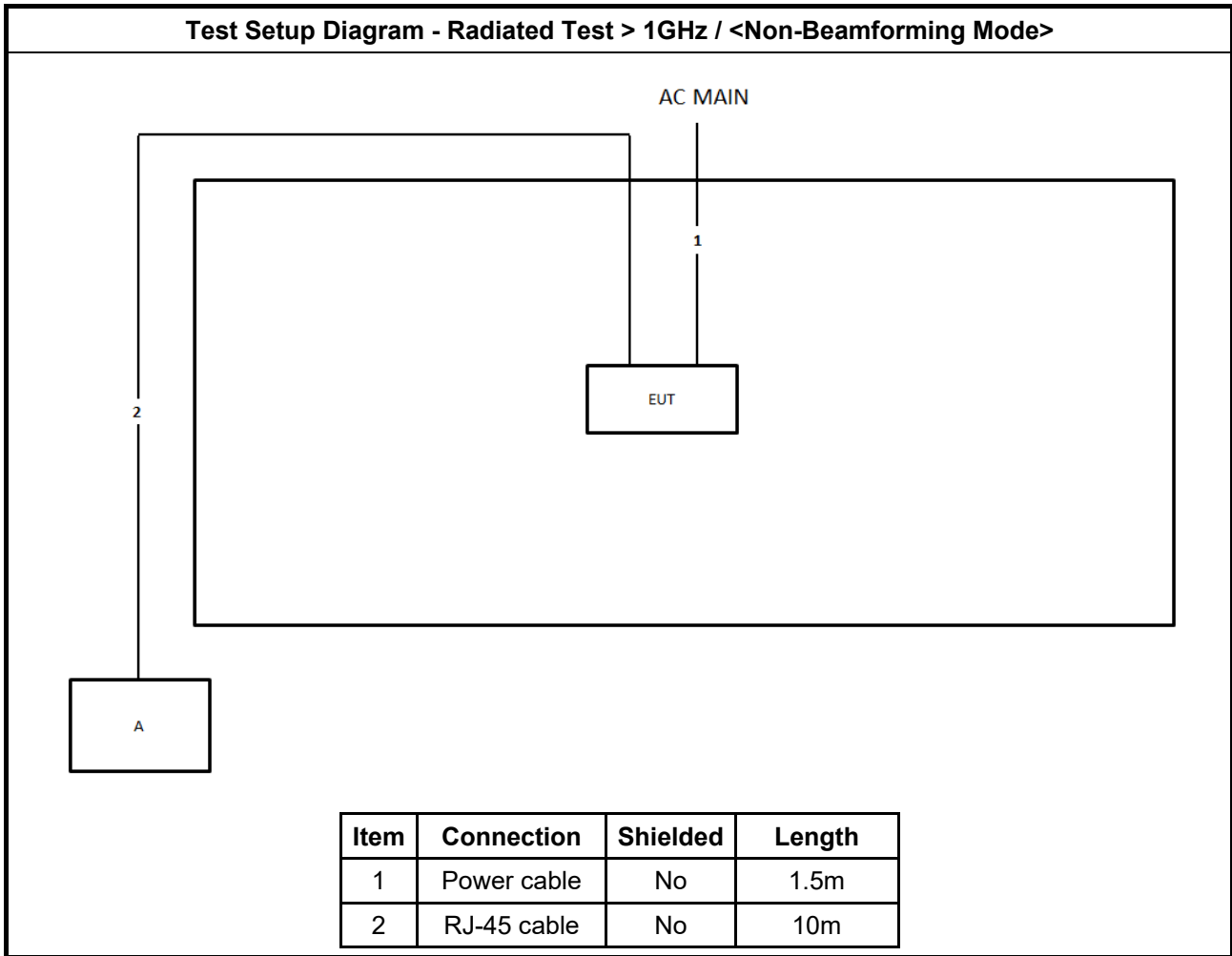
2.6 Test Setup Diagram

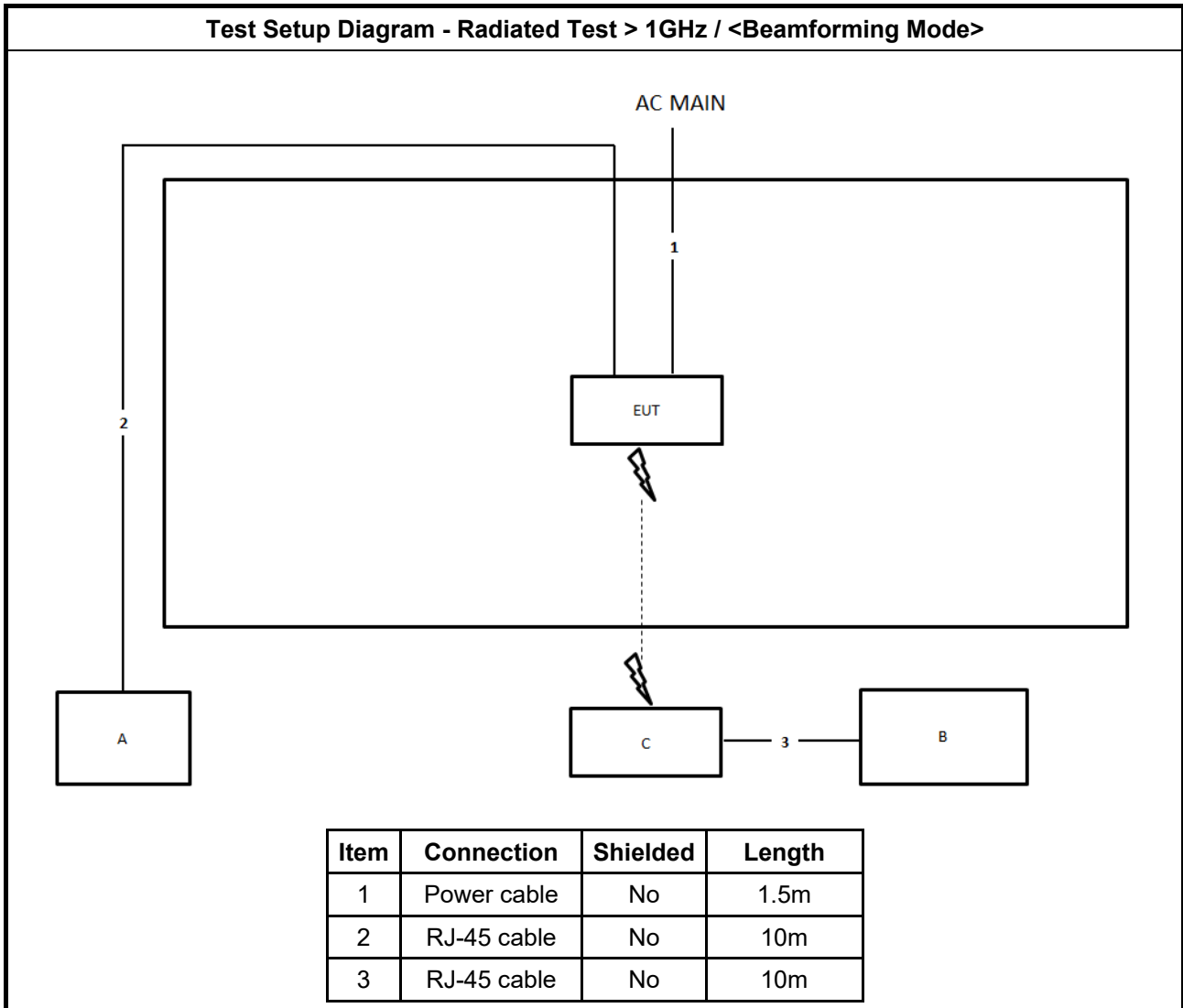


Test Setup Diagram - Radiated Test < 1GHz



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

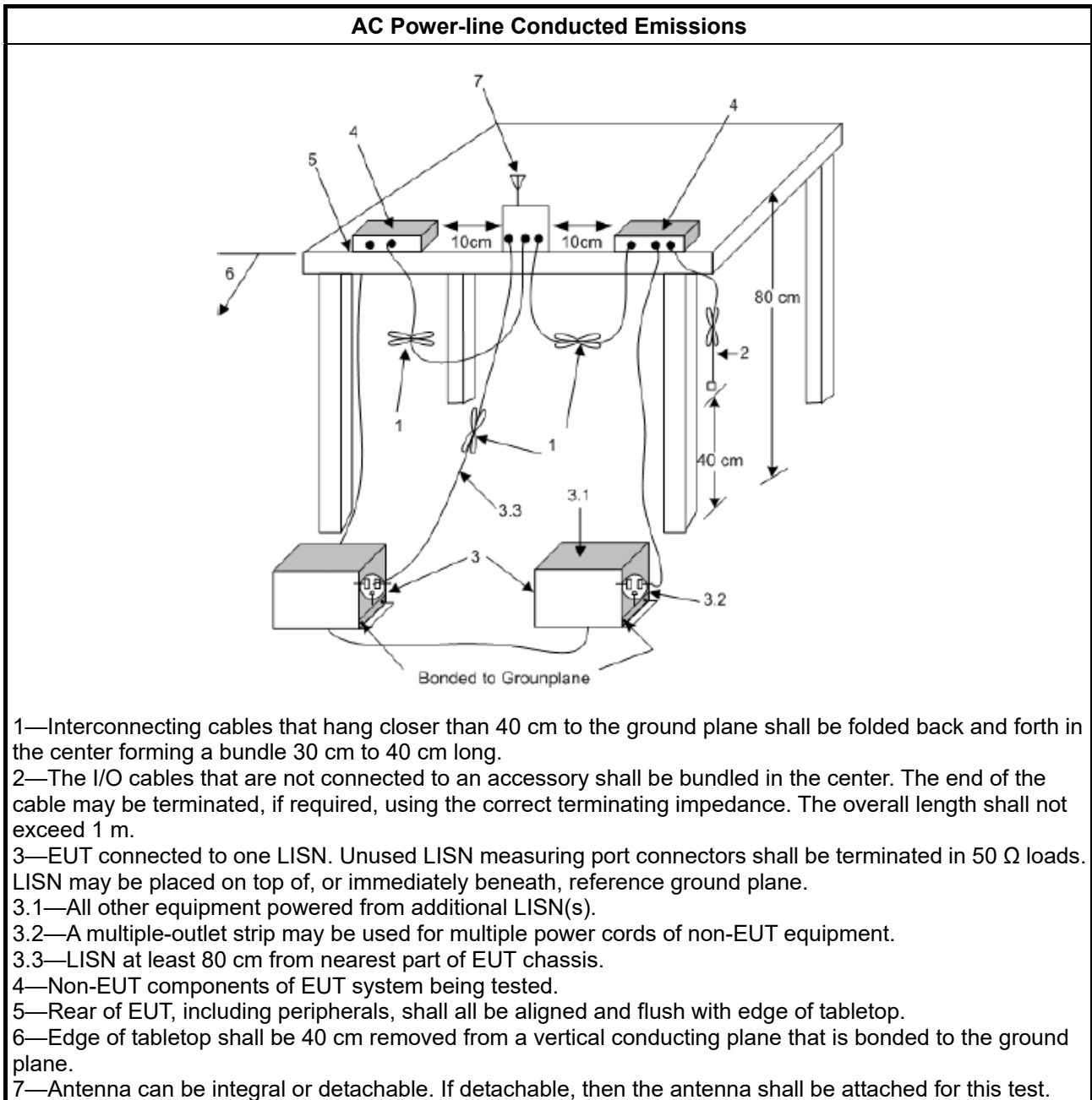
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- b. Margin = -Limit + Level

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
<ul style="list-style-type: none"> ▪ 6 dB bandwidth \geq 500 kHz.

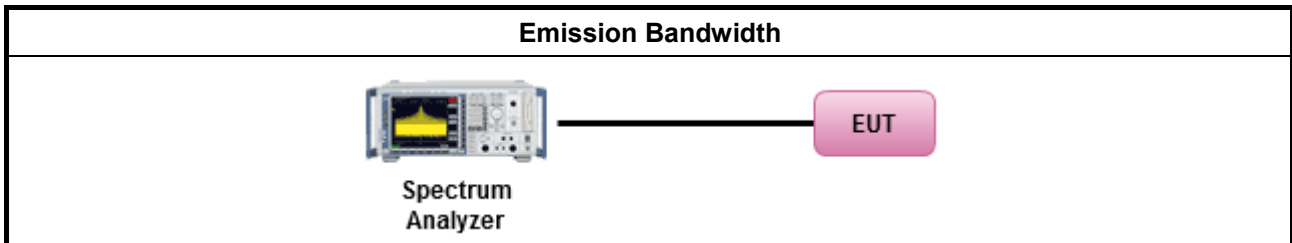
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> 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

Refer as Appendix B



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

3.3.2 Measuring Instruments

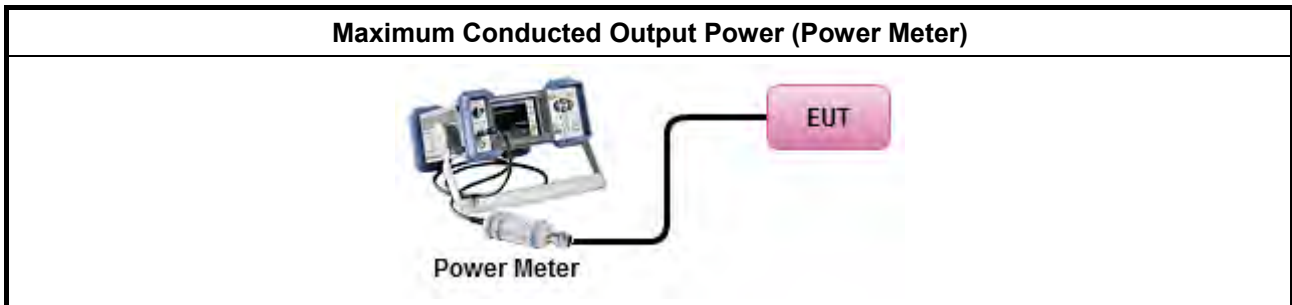
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
<ul style="list-style-type: none"> ▪ Maximum Conducted Output Power 	
[duty cycle ≥ 98% or external video / power trigger]	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
duty cycle < 98% and average over on/off periods with duty factor	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
Measurement using a power meter (PM)	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ 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

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
<ul style="list-style-type: none"> Power Spectral Density (PSD) \leq 8 dBm/3kHz

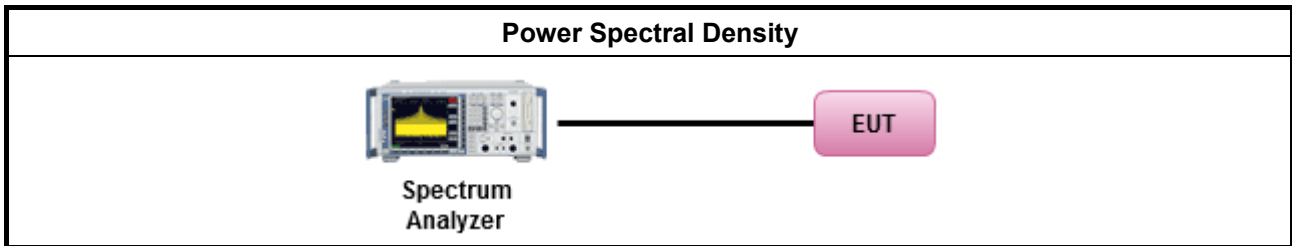
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method			
<ul style="list-style-type: none"> 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). 			
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.			
<ul style="list-style-type: none"> For conducted measurement. <ul style="list-style-type: none"> If The EUT supports multiple transmit chains using options given below: <table border="1"> <tbody> <tr> <td> <input checked="" type="checkbox"/> 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. </td> </tr> <tr> <td> <input type="checkbox"/> 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, </td> </tr> <tr> <td> <input type="checkbox"/> 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. </td> </tr> </tbody> </table> 	<input checked="" type="checkbox"/> 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.	<input type="checkbox"/> 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,	<input type="checkbox"/> 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.
<input checked="" type="checkbox"/> 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.			
<input type="checkbox"/> 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,			
<input type="checkbox"/> 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

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dBc)
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.

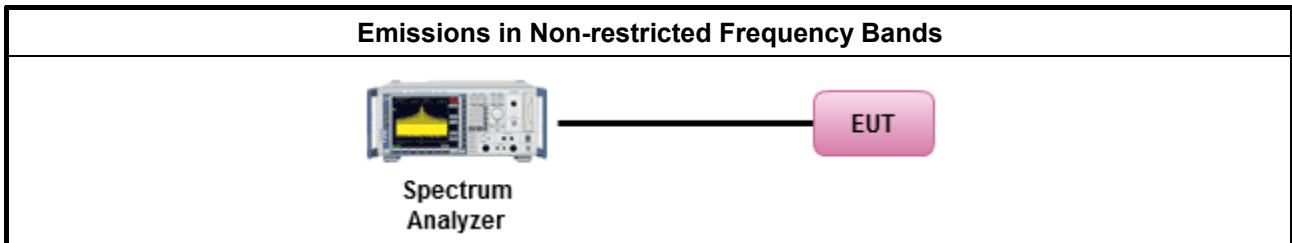
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E



3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

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

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

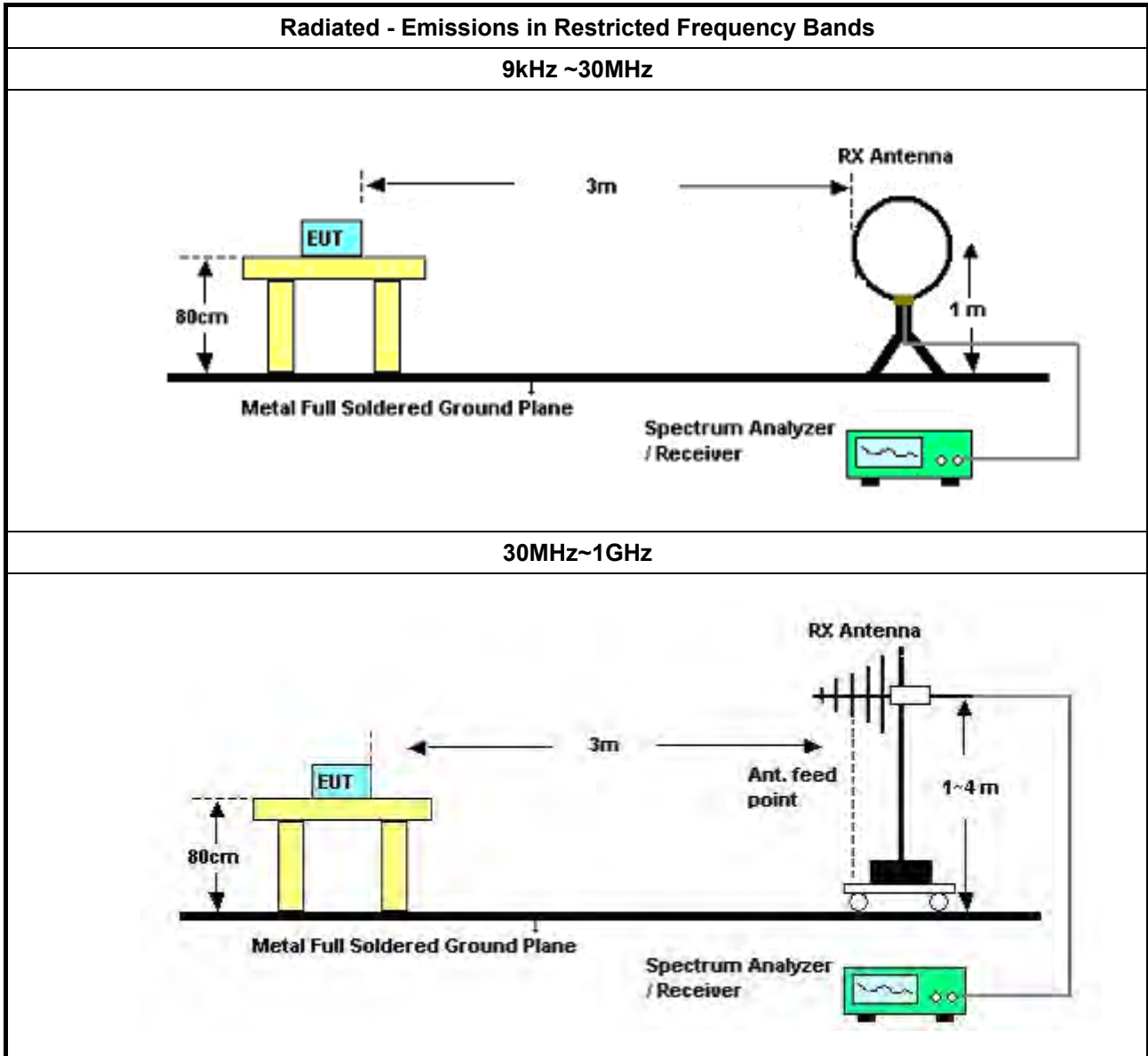
Refer a test equipment and calibration data table in this test report.

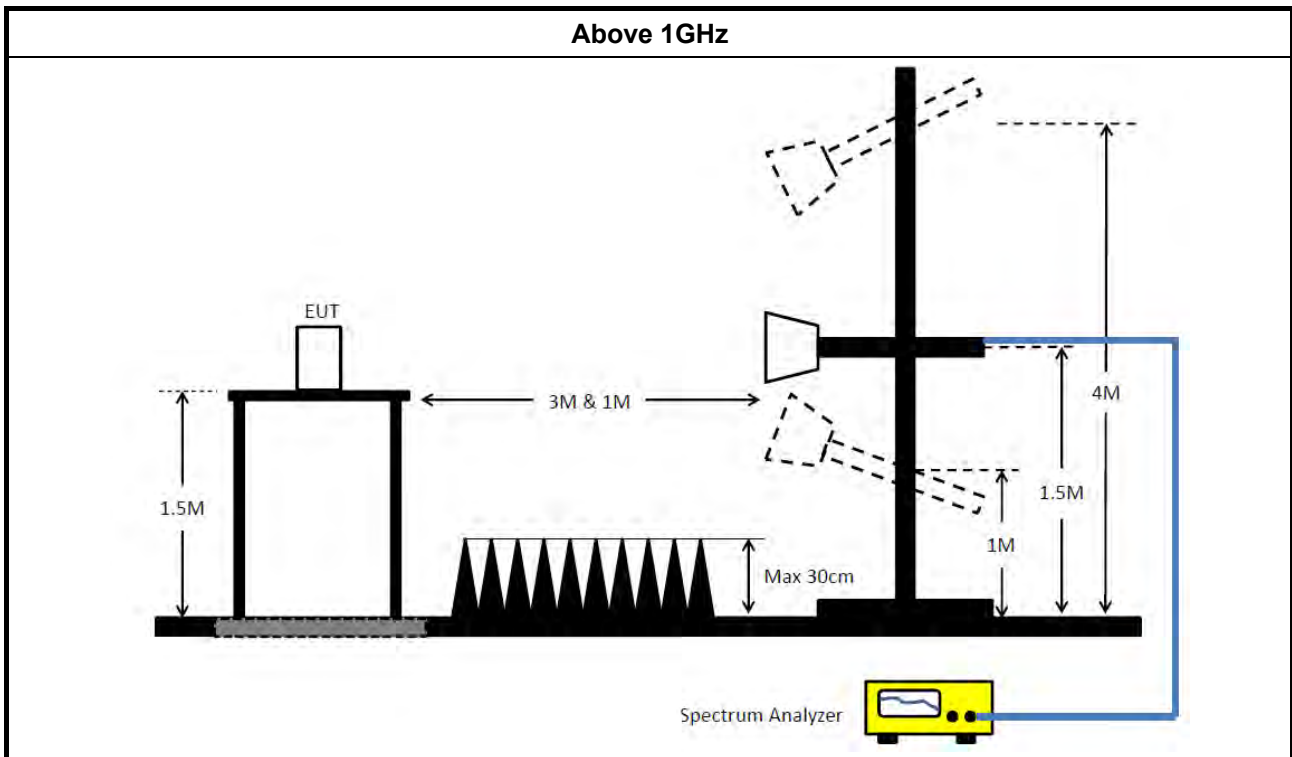


3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> ▪ 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. 	
<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle \geq 98%).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW \geq 1/T).
<input type="checkbox"/>	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, 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.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	<ul style="list-style-type: none"> ▪ 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
	<ul style="list-style-type: none"> ▪ 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 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 03, 2021	Mar. 02, 2022	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-5 0-16-2	04083	150kHz ~ 100MHz	Jan. 06, 2021	Jan. 05, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Mar. 07, 2021	Mar. 06, 2022	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 30, 2021	Jan. 29, 2022	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH06-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH06-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 01, 2021	Sep. 30, 2022	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Jul. 31, 2021	Jul. 30, 2022	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120 D	BBHA 9120D-1292	1GHz~18GHz	Aug. 04, 2021	Aug. 03, 2022	Radiation (03CH06-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	Nov. 04, 2021	Nov. 03, 2022	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	May 06, 2021	May 05, 2022	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35 -HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 15, 2020	Dec. 14, 2021	Radiation (03CH06-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH06-CB)
RF Cable-low	Woken	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05	1GHz~18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+24	1GHz~18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH06-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	May 04, 2021	May 03, 2022	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Aug. 02, 2021	Aug. 01, 2022	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)



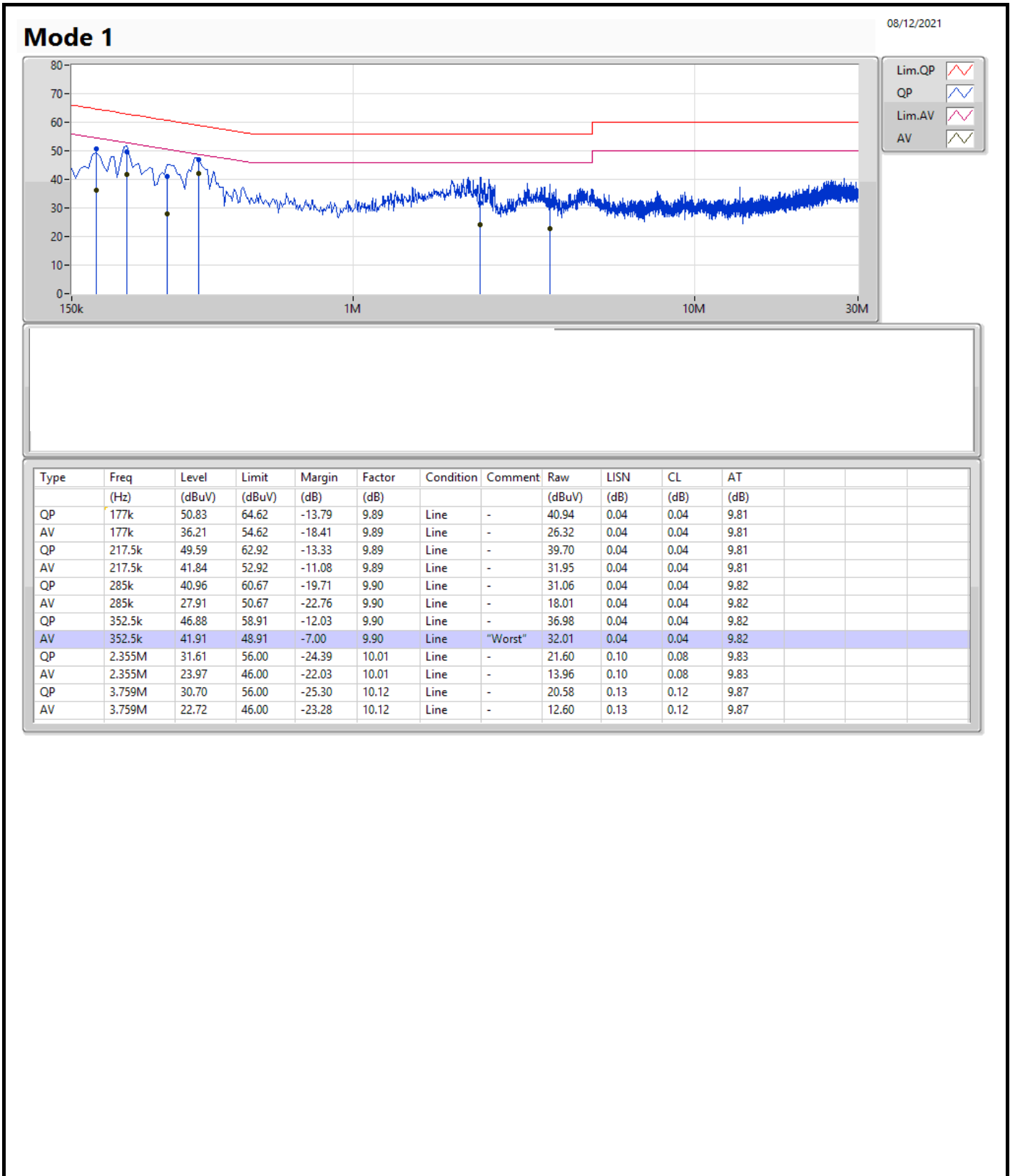
Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

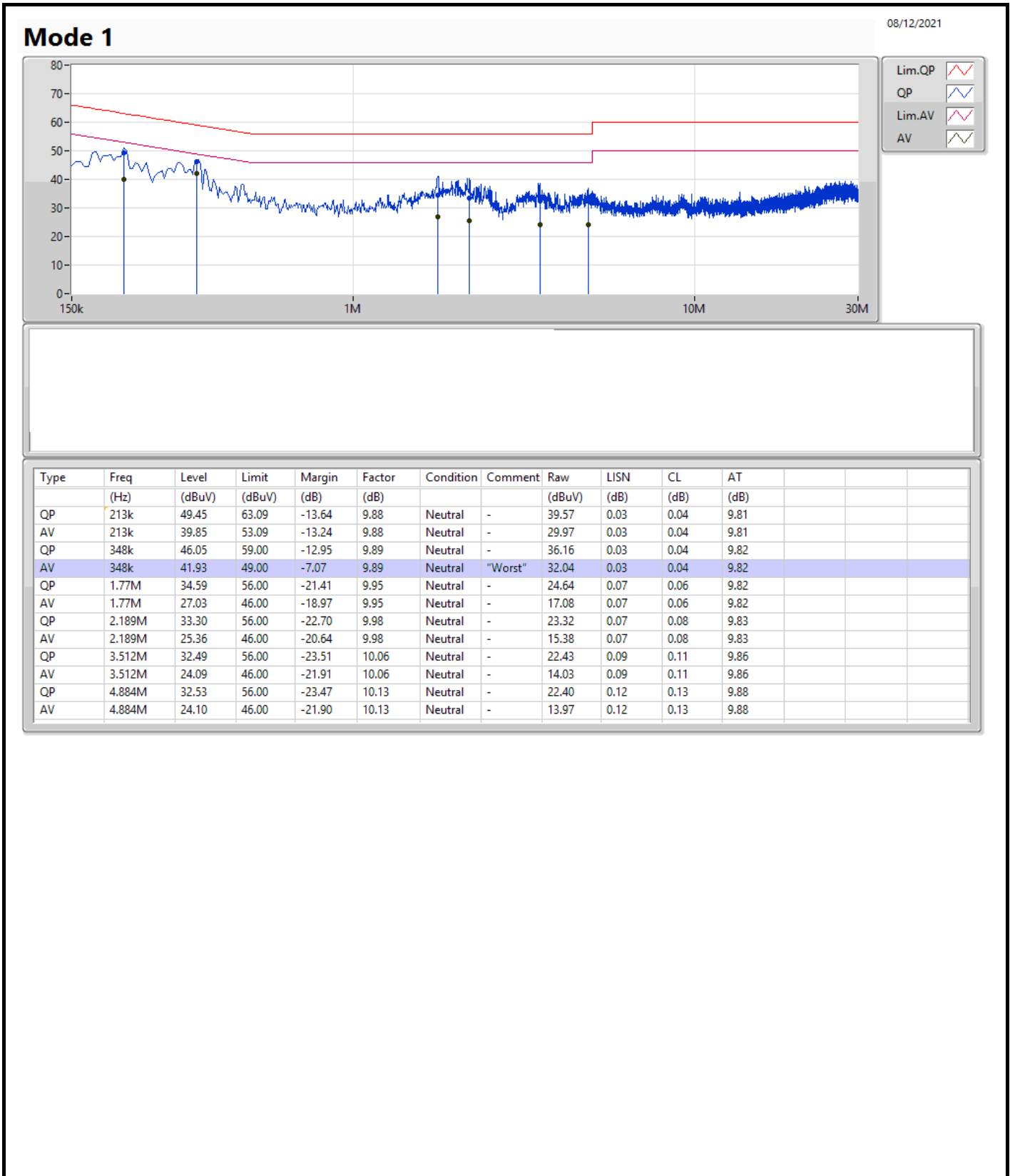
Note: Calibration Interval of instruments listed above is one year.
NCR means Non-Calibration required.



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	352.5k	41.91	48.91	-7.00	Line





<Non-Beamforming Mode>

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	8M	10.695M	10M7G1D	6.55M	10.395M
802.11g_Nss1,(6Mbps)_2TX	16.325M	16.992M	17M0D1D	16.3M	16.867M

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_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	6.55M	10.52M	7.05M	10.395M
2437MHz	Pass	500k	7.075M	10.695M	7.05M	10.495M
2462MHz	Pass	500k	7.05M	10.495M	8M	10.395M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.867M	16.325M	16.917M
2437MHz	Pass	500k	16.325M	16.967M	16.3M	16.942M
2462MHz	Pass	500k	16.325M	16.992M	16.325M	16.942M

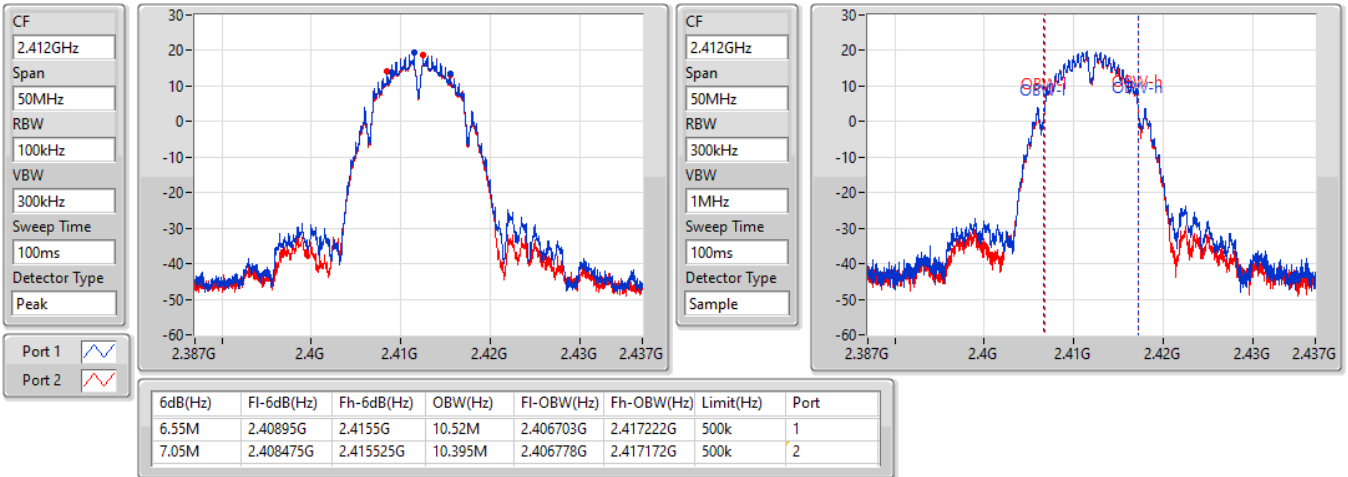
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_2TX

EBW

2412MHz

20/12/2021

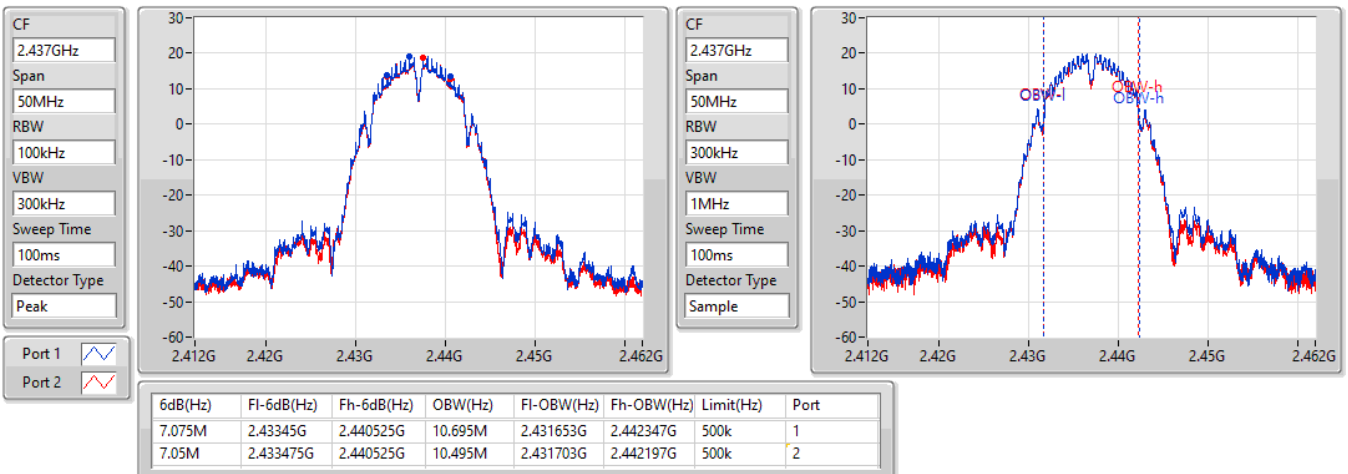


802.11b_Nss1,(1Mbps)_2TX

EBW

2437MHz

20/12/2021

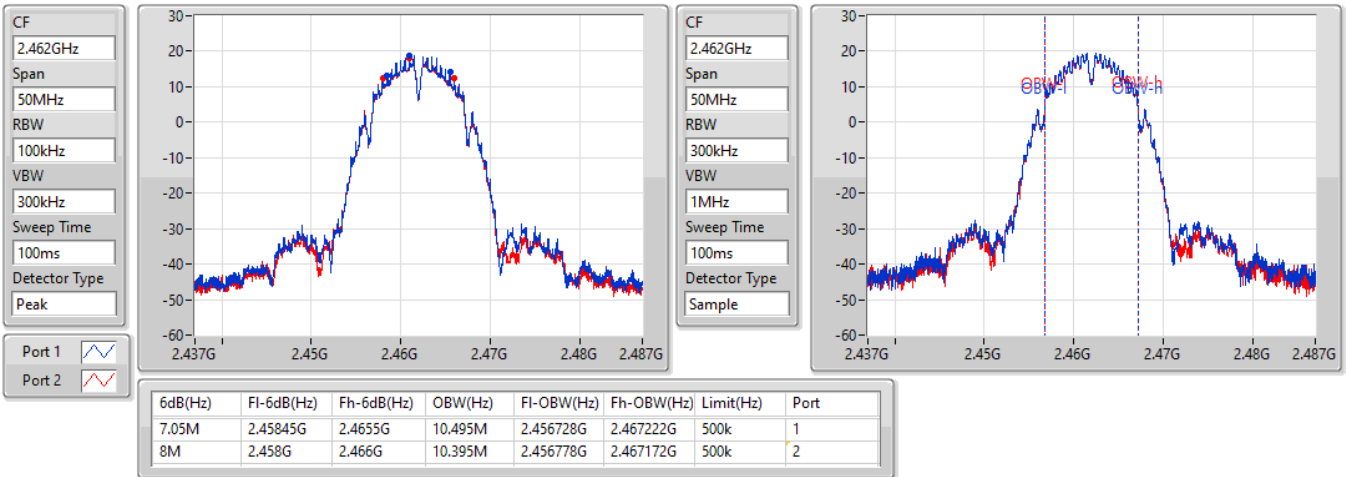


802.11b_Nss1,(1Mbps)_2TX

EBW

2462MHz

20/12/2021

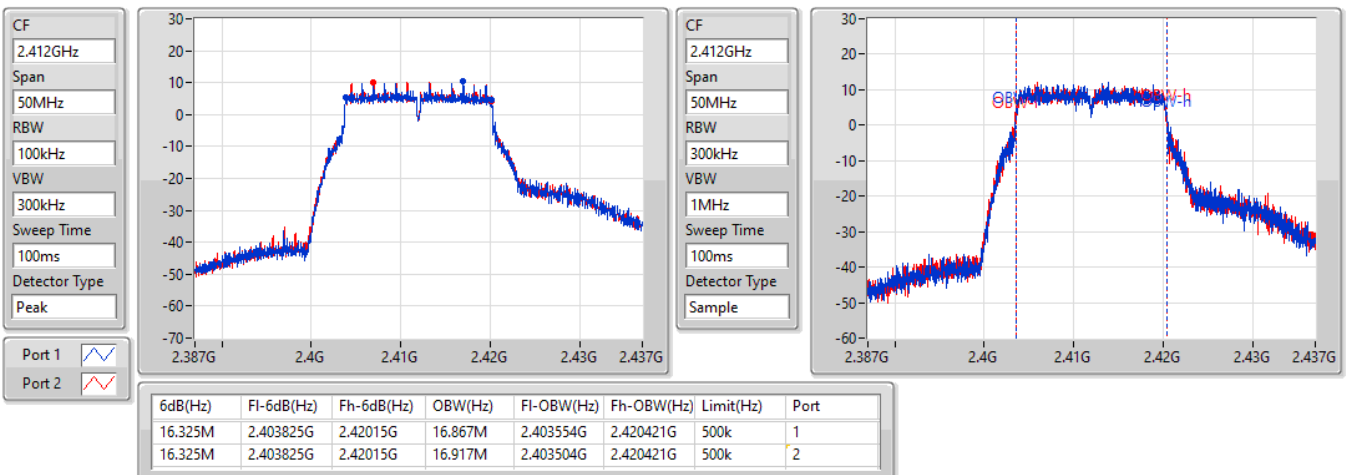


802.11g_Nss1,(6Mbps)_2TX

EBW

2412MHz

20/12/2021

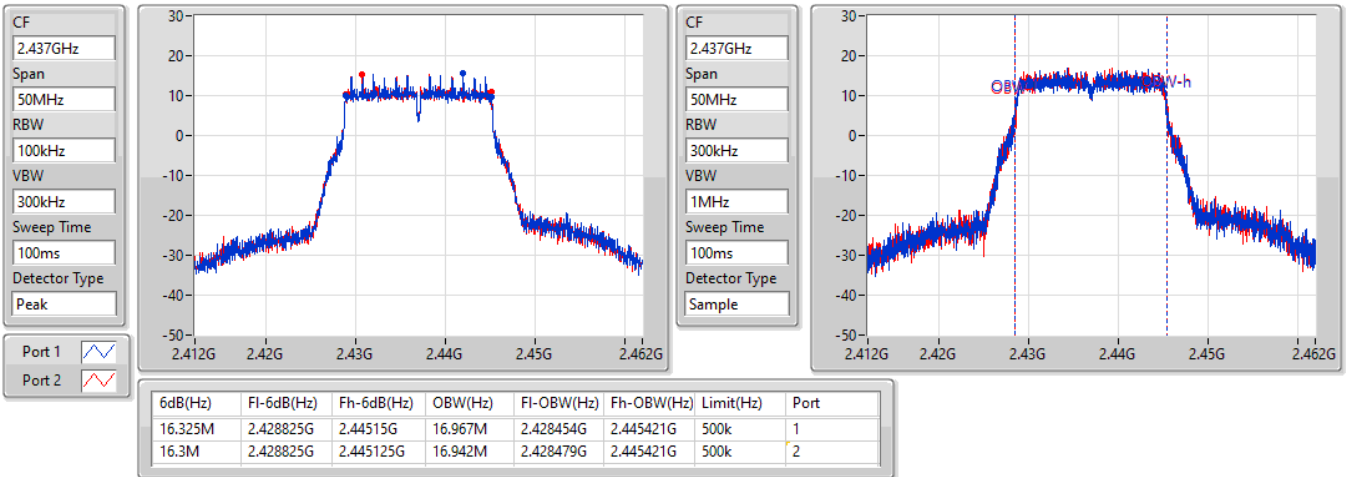


802.11g_Nss1,(6Mbps)_2TX

EBW

2437MHz

20/12/2021

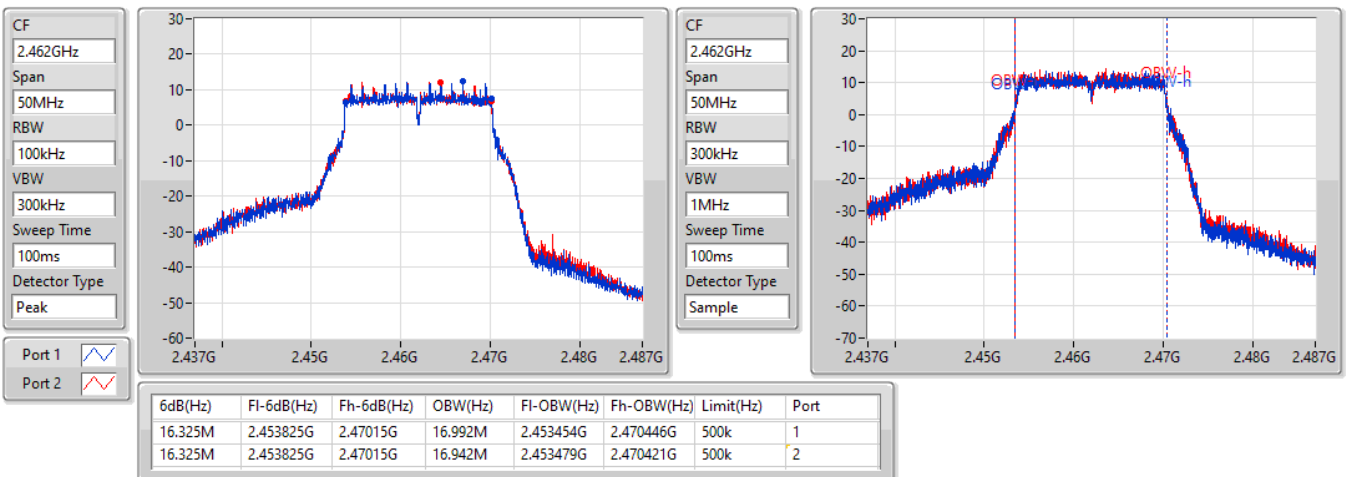


802.11g_Nss1,(6Mbps)_2TX

EBW

2462MHz

20/12/2021



<Beamforming Mode>

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.875M	19.065M	19M1D1D	18.7M	19.04M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.5M	37.831M	37M8D1D	36.8M	37.731M

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)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.875M	19.065M	18.875M	19.04M
2437MHz	Pass	500k	18.7M	19.04M	18.825M	19.065M
2462MHz	Pass	500k	18.875M	19.065M	18.825M	19.04M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.8M	37.781M	37.2M	37.831M
2437MHz	Pass	500k	36.8M	37.781M	37.5M	37.731M
2452MHz	Pass	500k	36.8M	37.781M	37.45M	37.831M

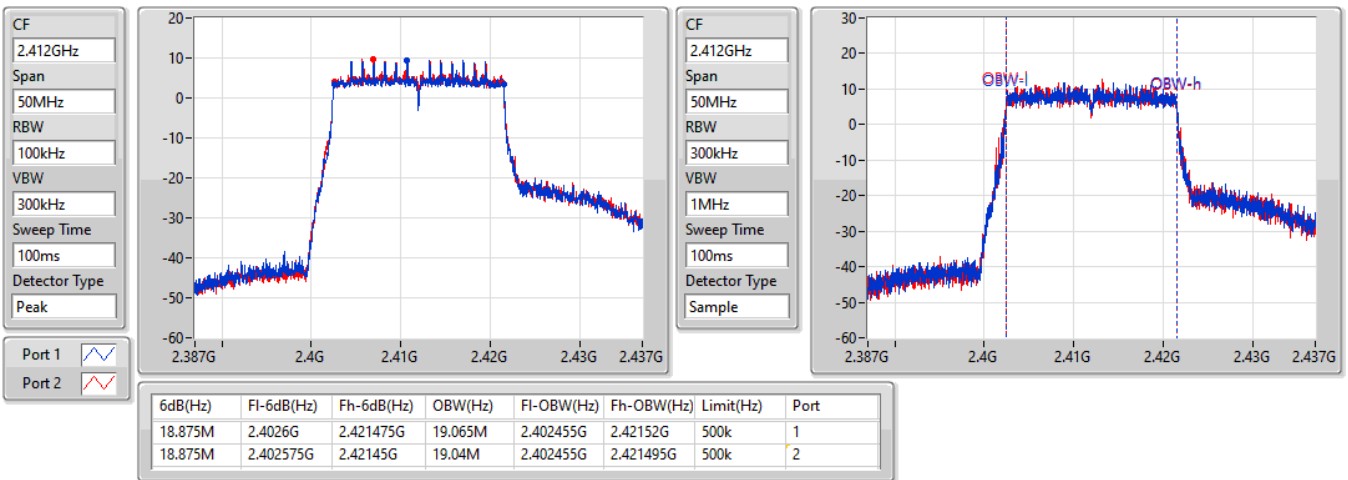
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2412MHz

20/12/2021

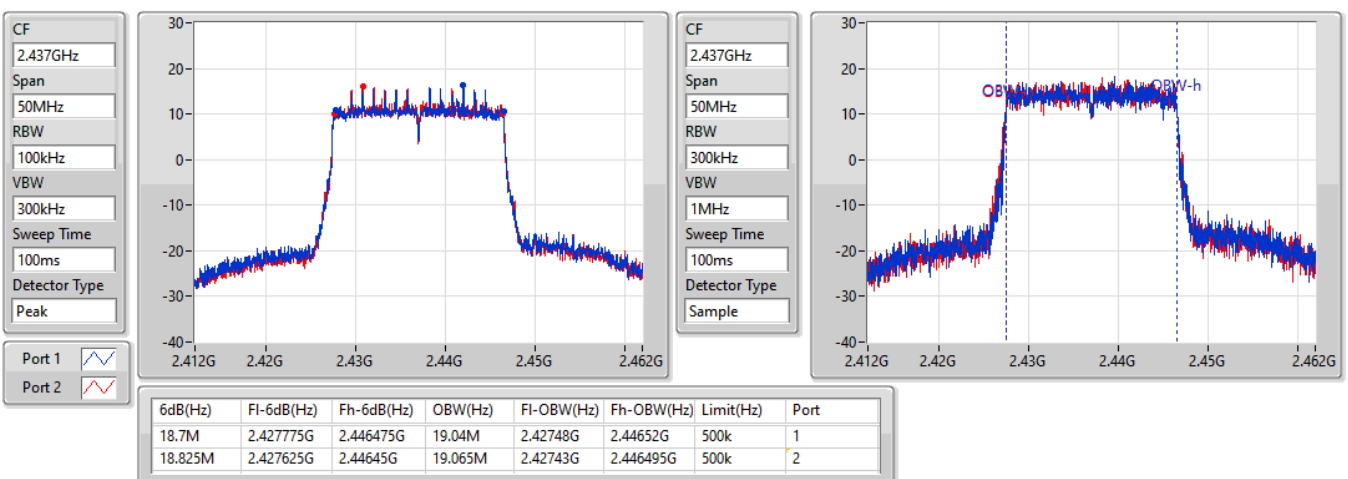


802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2437MHz

20/12/2021

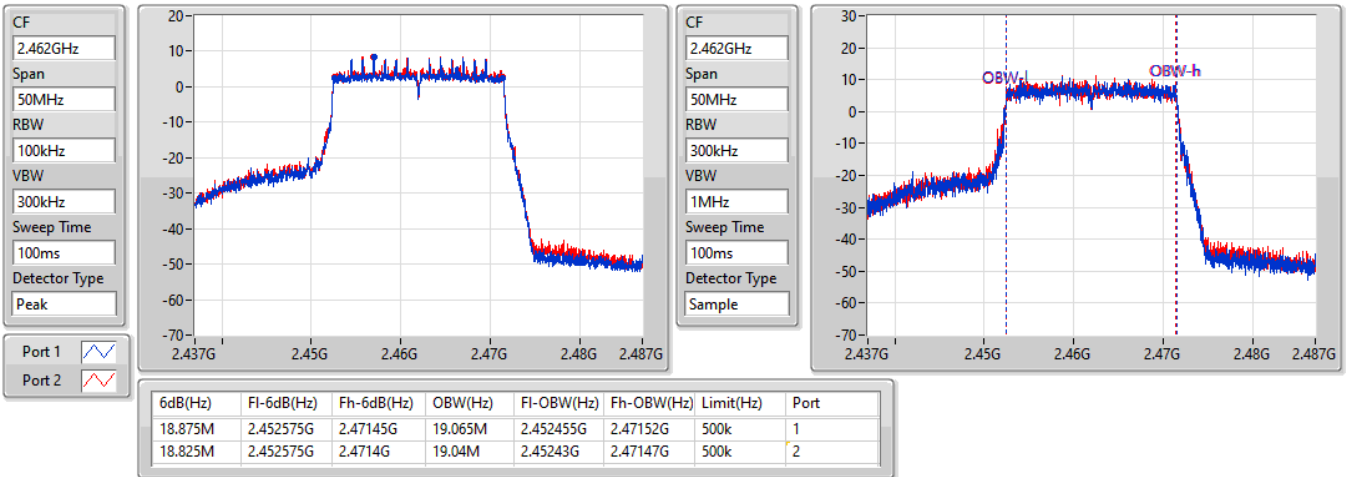


802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2462MHz

20/12/2021

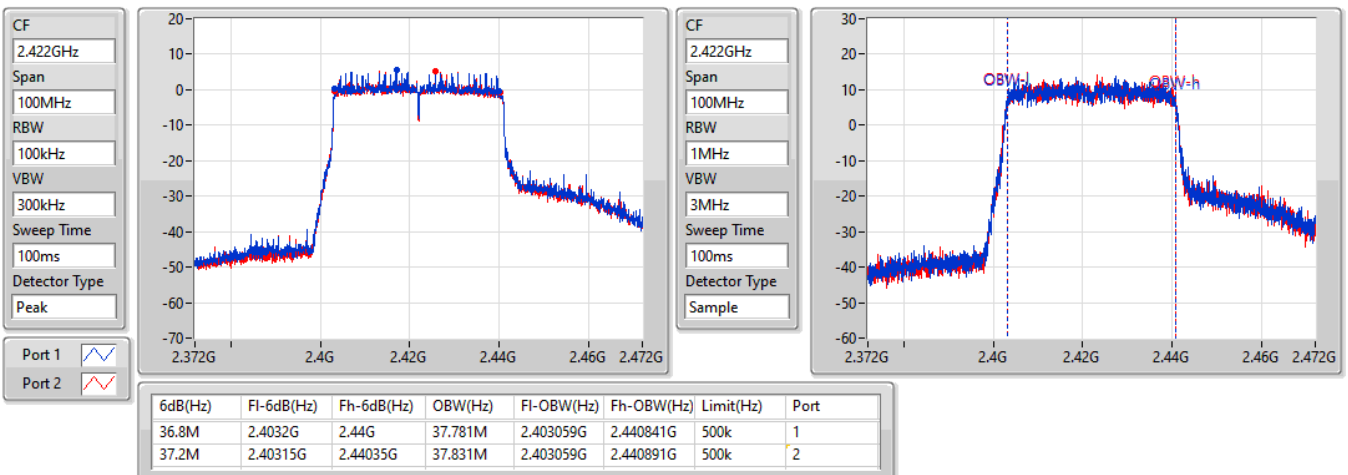


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2422MHz

20/12/2021

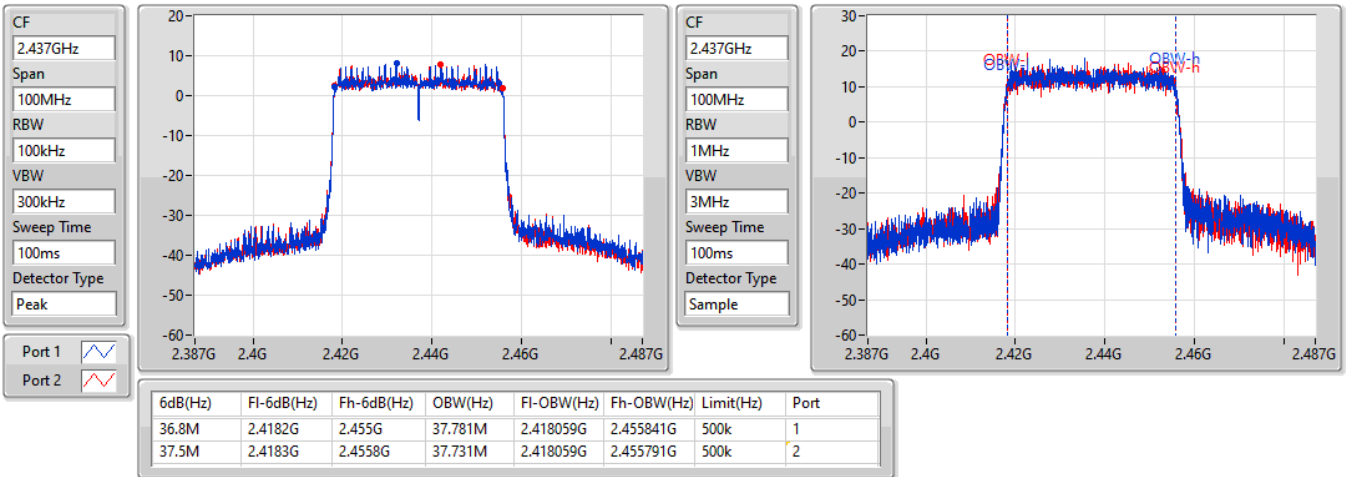


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2437MHz

20/12/2021

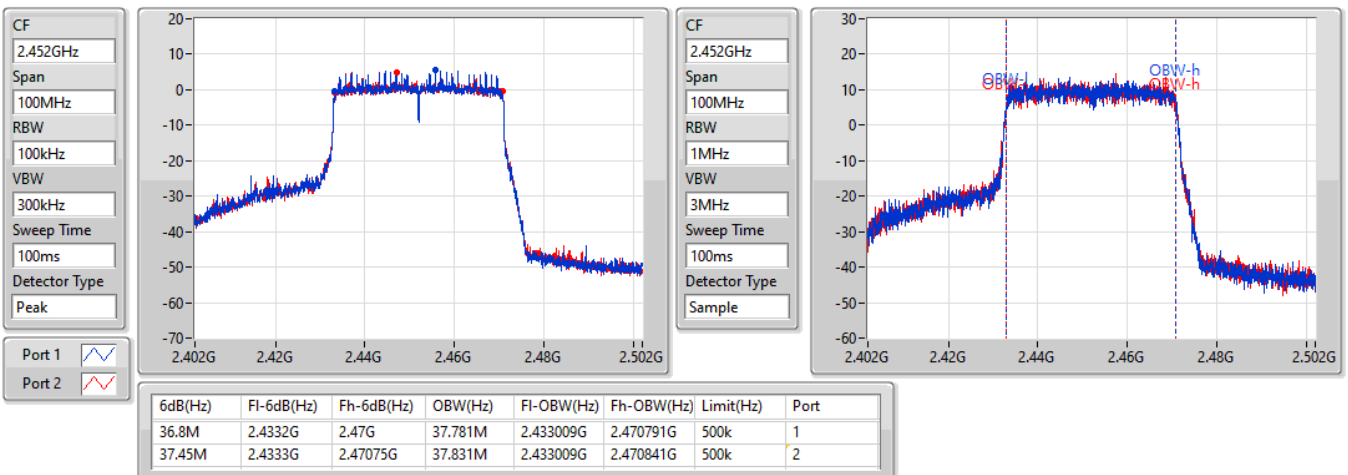


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2452MHz

20/12/2021





<Non-Beamforming Mode>
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	29.88	0.97275
802.11g_Nss1,(6Mbps)_2TX	29.14	0.82035



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.50	26.87	26.70	29.80	30.00
2417MHz	Pass	2.50	26.85	26.68	29.78	30.00
2437MHz	Pass	2.50	26.85	26.89	29.88	30.00
2457MHz	Pass	2.50	26.84	26.71	29.79	30.00
2462MHz	Pass	2.50	26.91	26.78	29.86	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	2.50	20.91	21.05	23.99	30.00
2417MHz	Pass	2.50	24.42	24.35	27.40	30.00
2437MHz	Pass	2.50	26.06	26.20	29.14	30.00
2457MHz	Pass	2.50	24.82	24.77	27.81	30.00
2462MHz	Pass	2.50	23.04	23.08	26.07	30.00

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



<Beamforming Mode>
Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	29.89	0.97499
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	25.35	0.34277



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.36	20.43	20.51	23.48	30.00
2417MHz	Pass	5.36	25.1	25.24	28.18	30.00
2437MHz	Pass	5.36	26.87	26.88	29.89	30.00
2457MHz	Pass	5.36	24.9	24.97	27.95	30.00
2462MHz	Pass	5.36	19.2	19.35	22.29	30.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.36	19.29	19.32	22.32	30.00
2427MHz	Pass	5.36	20.85	20.96	23.92	30.00
2437MHz	Pass	5.36	22.35	22.32	25.35	30.00
2447MHz	Pass	5.36	20.46	20.58	23.53	30.00
2452MHz	Pass	5.36	19.26	19.22	22.25	30.00

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



<Non-Beamforming Mode>
Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	6.26
802.11g_Nss1,(6Mbps)_2TX	3.08

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.36	5.16	4.16	6.26	8.00
2437MHz	Pass	5.36	4.33	3.84	6.20	8.00
2462MHz	Pass	5.36	3.05	4.22	6.08	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.36	-3.71	-4.17	-0.92	8.00
2437MHz	Pass	5.36	0.43	0.43	3.08	8.00
2462MHz	Pass	5.36	-1.13	-3.04	-0.29	8.00

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_Nss1,(1Mbps)_2TX

PSD

2412MHz

20/12/2021

CF
2.412GHz

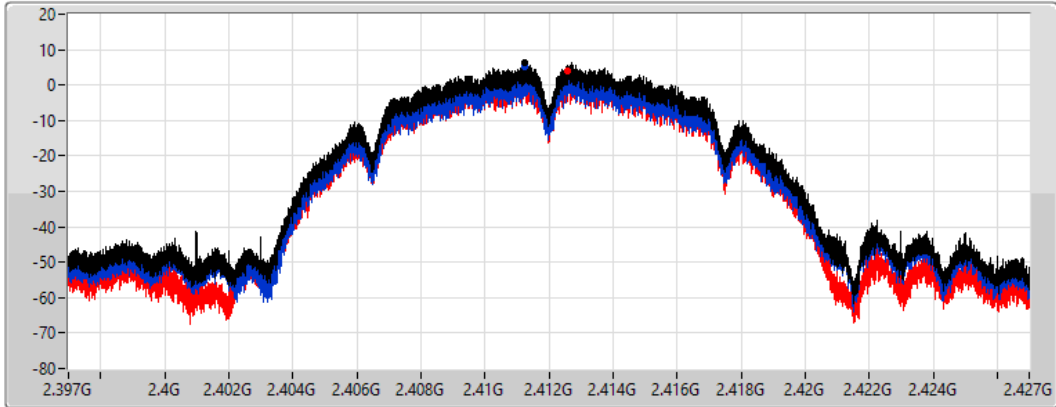
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.26	6.26	5.16	4.16

802.11b_Nss1,(1Mbps)_2TX

PSD

2437MHz

20/12/2021

CF
2.437GHz

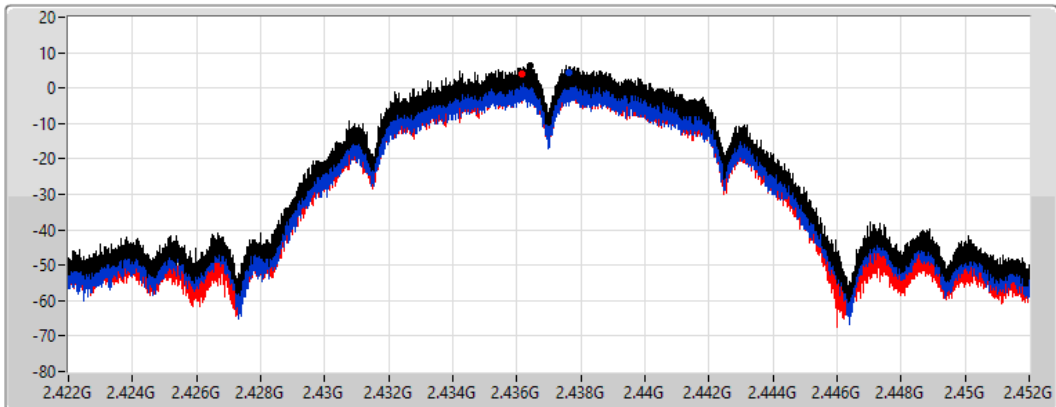
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.20	6.20	4.33	3.84

802.11b_Nss1,(1Mbps)_2TX

PSD

2462MHz

20/12/2021

CF
2.462GHz

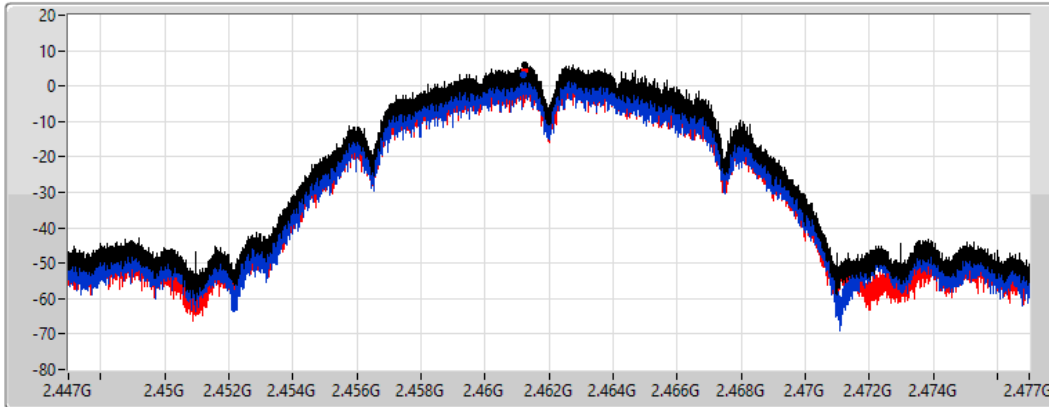
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.08	6.08	3.05	4.22

802.11g_Nss1,(6Mbps)_2TX

PSD

2412MHz

20/12/2021

CF
2.412GHz

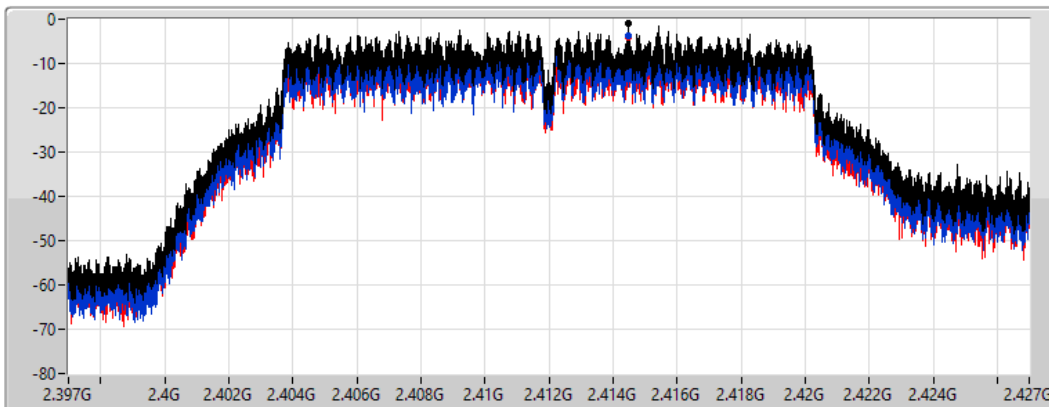
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.92	-0.92	-3.71	-4.17

802.11g_Nss1,(6Mbps)_2TX

PSD

2437MHz

20/12/2021

CF
2.437GHz

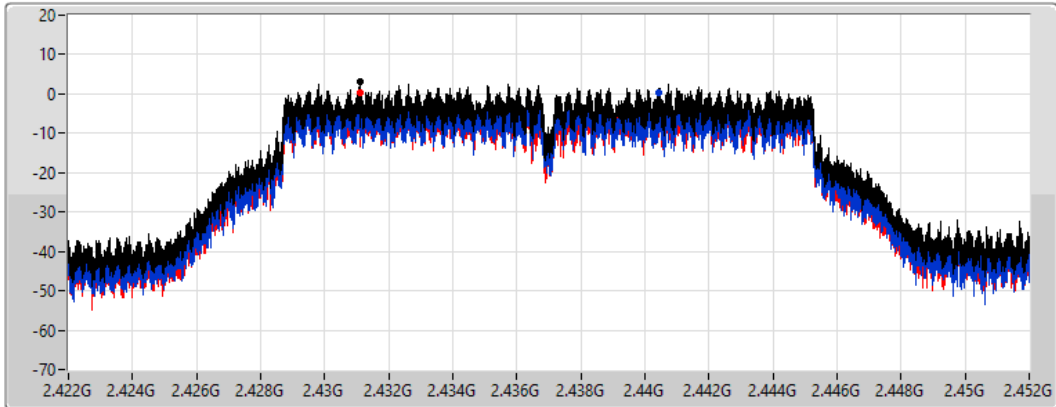
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.08	3.08	0.43	0.43

802.11g_Nss1,(6Mbps)_2TX

PSD

2462MHz

20/12/2021

CF
2.462GHz

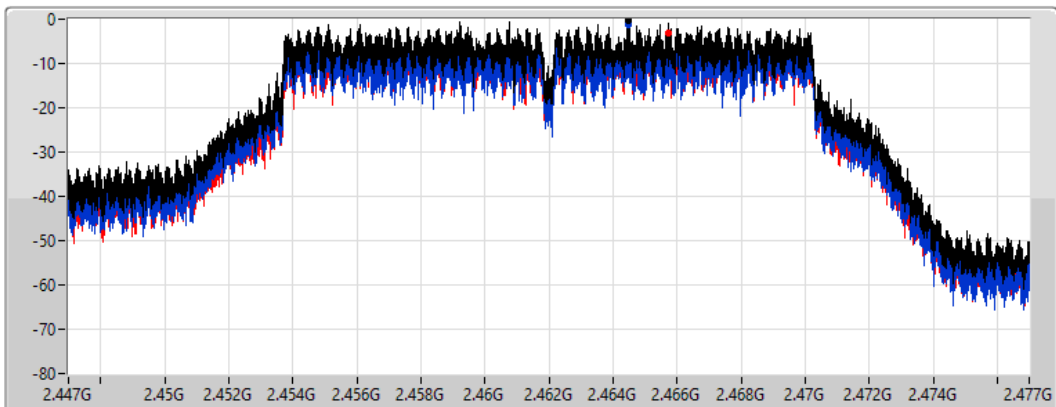
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.29	-0.29	-1.13	-3.04



<Beamforming Mode>
Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	4.82
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-3.63

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.36	-4.15	-4.82	-1.46	8.00
2437MHz	Pass	5.36	2.05	1.56	4.82	8.00
2462MHz	Pass	5.36	-5.54	-7.34	-4.50	8.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.36	-9.34	-9.52	-6.42	8.00
2437MHz	Pass	5.36	-6.61	-6.67	-3.63	8.00
2452MHz	Pass	5.36	-10.06	-9.26	-7.11	8.00

DG = Directional Gain; RBW = 3kHz;

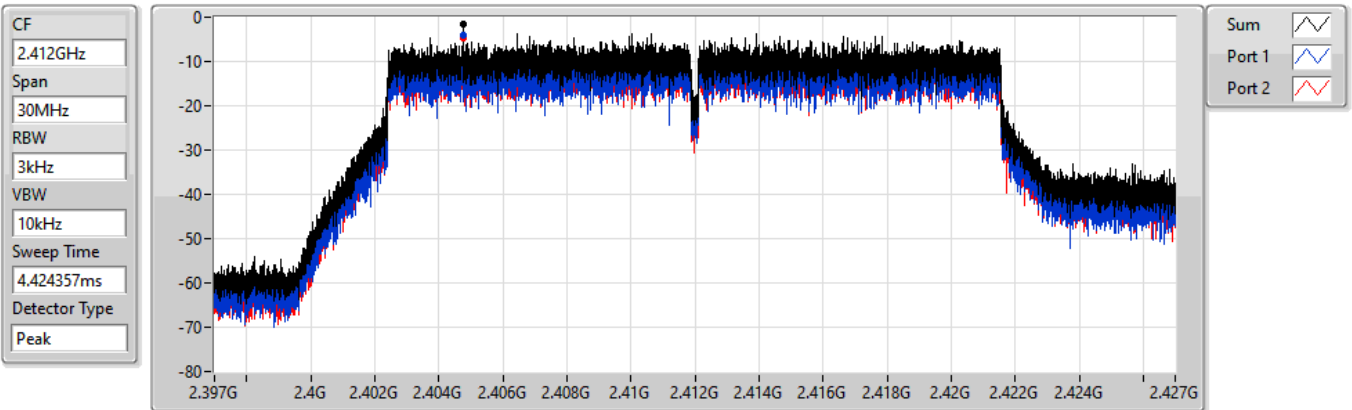
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2412MHz

20/12/2021



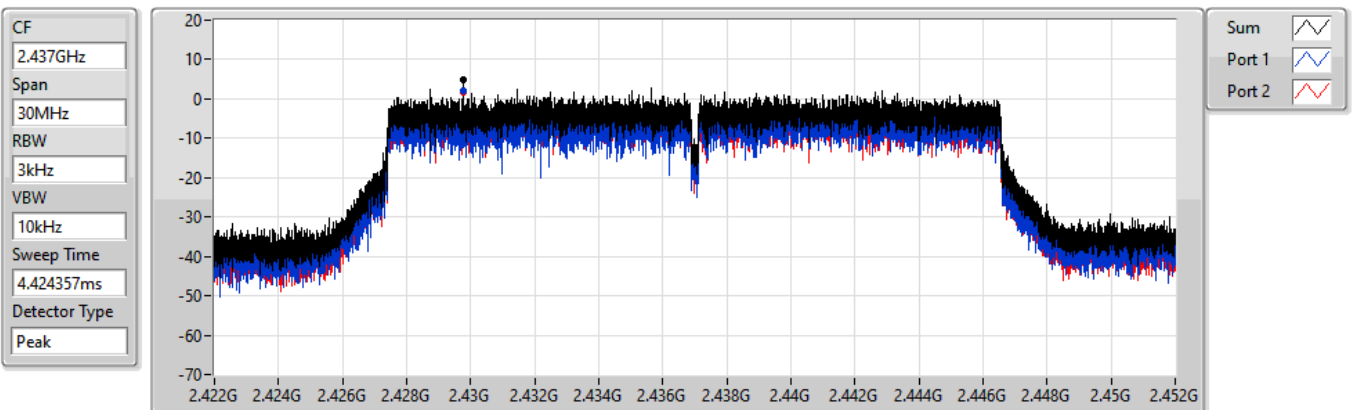
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.46	-1.46	-4.15	-4.82

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2437MHz

20/12/2021



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.82	4.82	2.05	1.56

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

PSD

2462MHz

20/12/2021

CF
2.462GHz

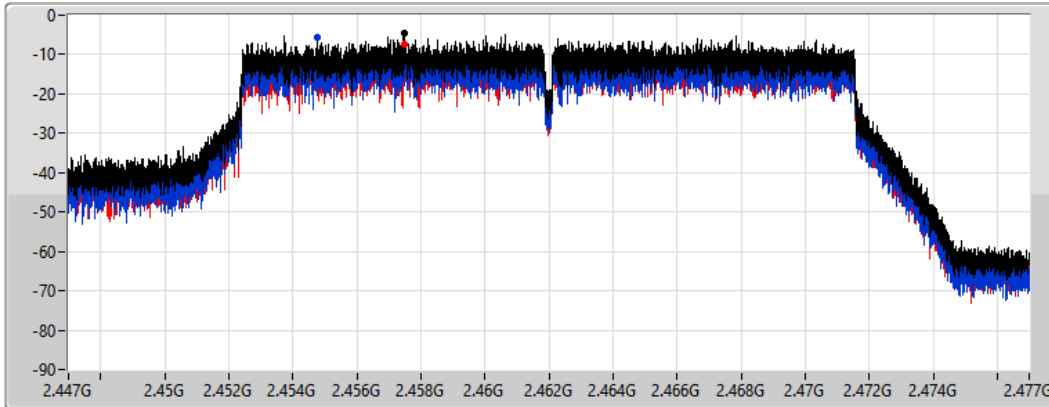
Span
30MHz


RBW
3kHz


VBW
10kHz


Sweep Time
4.424357ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.50	-4.50	-5.54	-7.34

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

PSD

2422MHz

20/12/2021

CF
2.422GHz

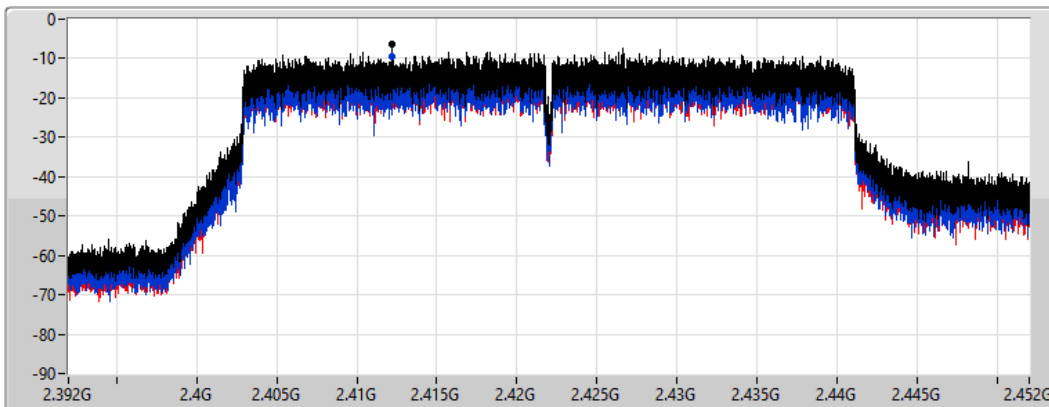
Span
60MHz


RBW
3kHz


VBW
10kHz


Sweep Time
8.848933ms

Detector Type
Peak



Sum 

Port 1 

Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.42	-6.42	-9.34	-9.52

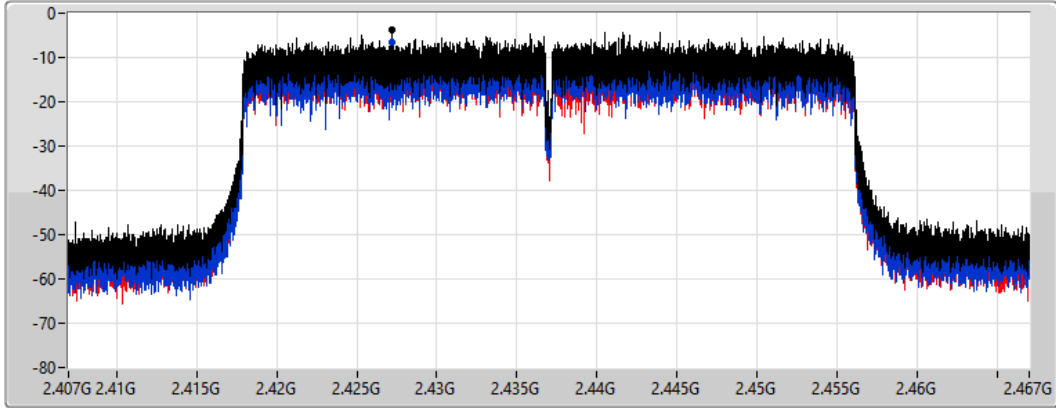
802.11ax HEW40-BF_Nss1,(MCS0)_2TX




PSD

2437MHz

20/12/2021

CF
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
8.848933ms
Detector Type
Peak



Sum 
Port 1 
Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.63	-3.63	-6.61	-6.67

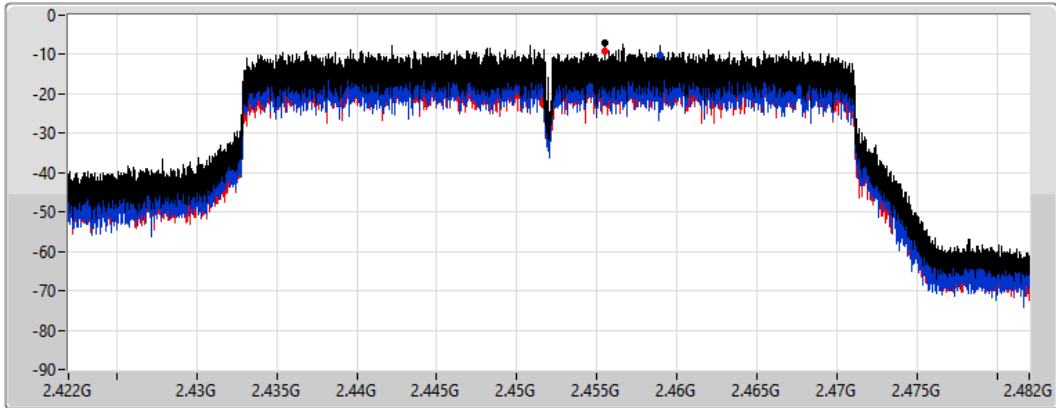
802.11ax HEW40-BF_Nss1,(MCS0)_2TX




PSD

2452MHz

20/12/2021

CF
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
8.848933ms
Detector Type
Peak



Sum 
Port 1 
Port 2 

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.11	-7.11	-10.06	-9.26



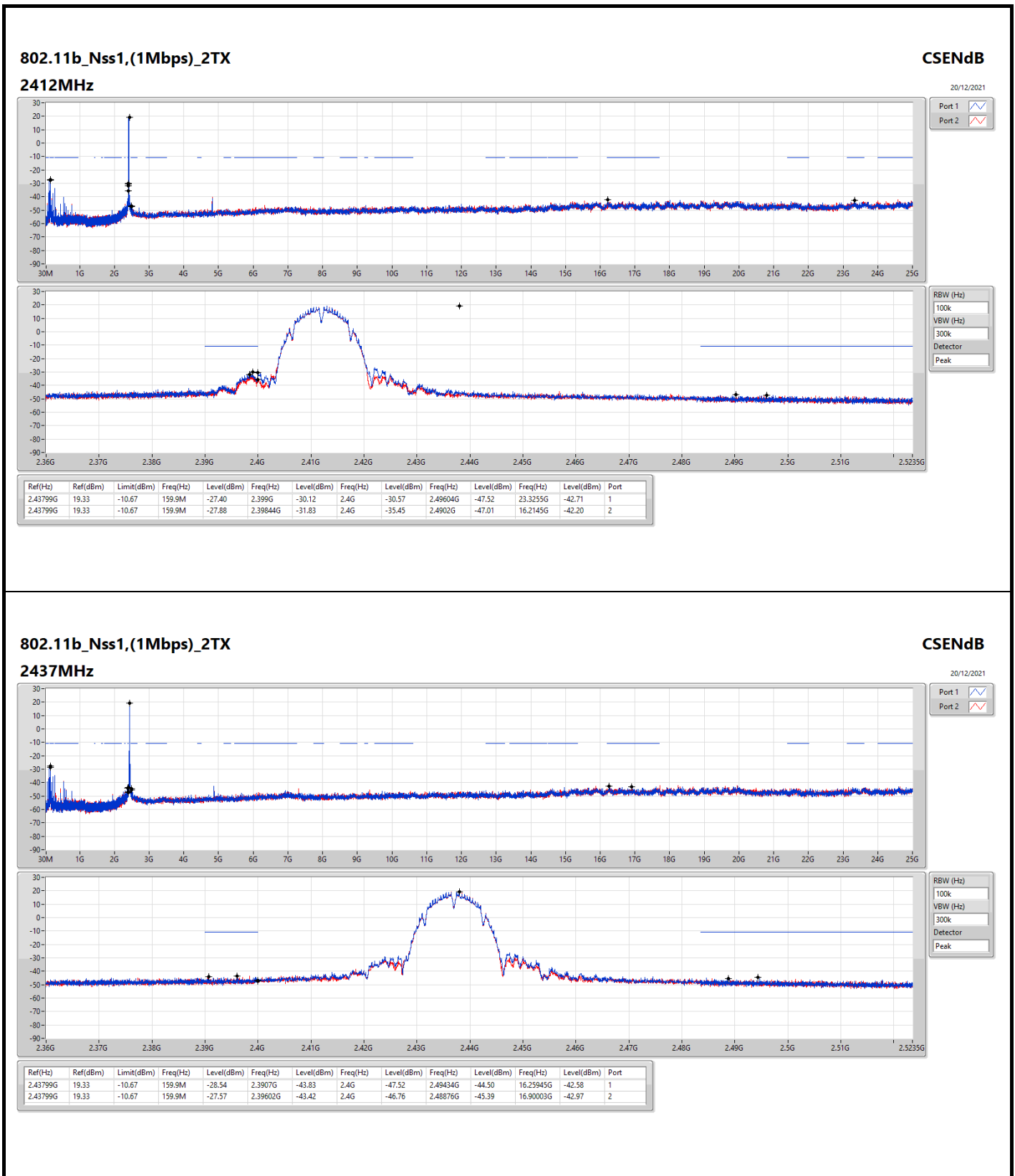
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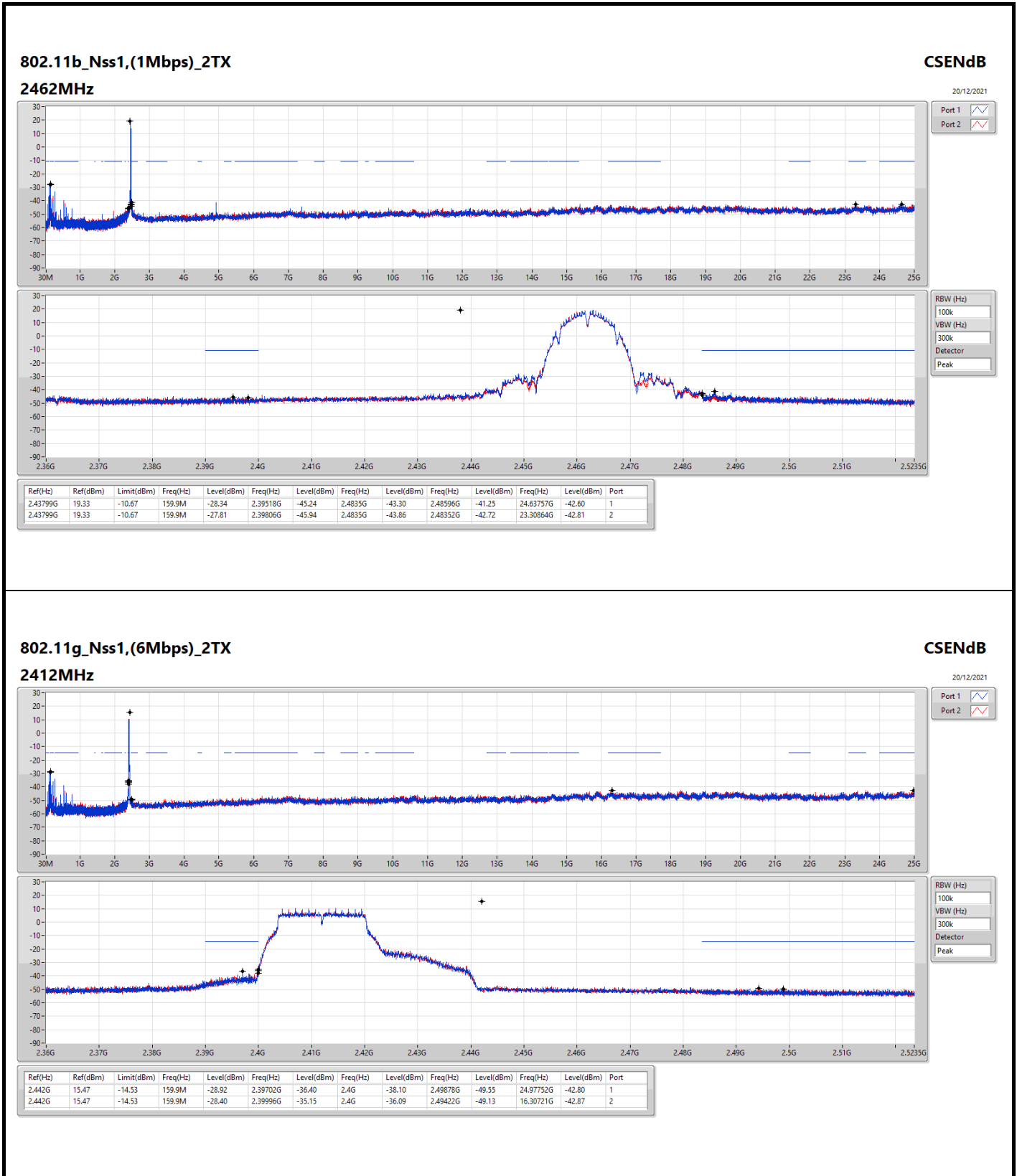
Summary

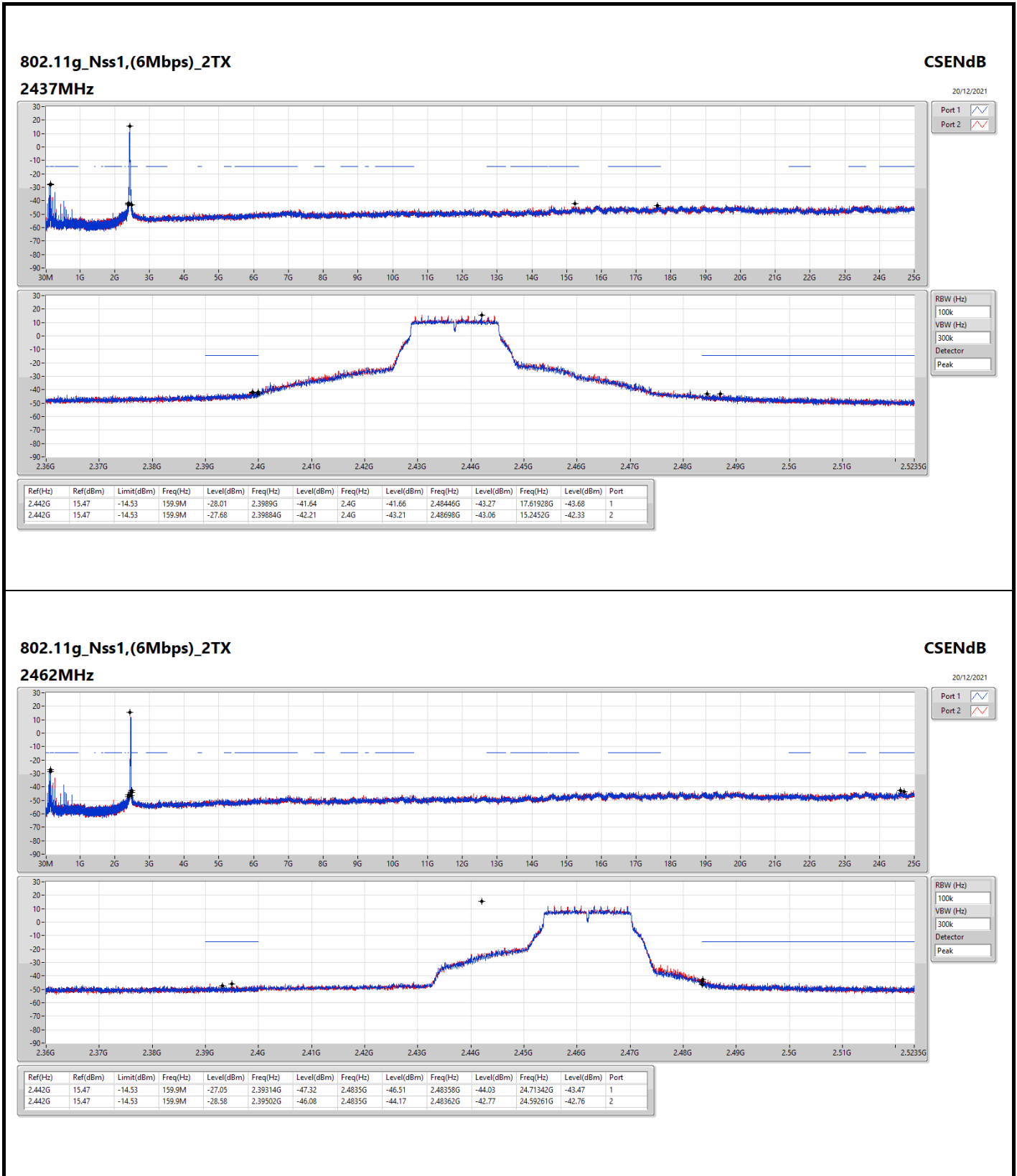
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	Pass	2.43799G	19.33	-10.67	159.9M	-27.40	2.399G	-30.12	2.4G	-30.57	2.49604G	-47.52	23.3255G	-42.71	1
802.11g_Nss1,(6Mbps)_2TX	Pass	2.442G	15.47	-14.53	159.9M	-27.05	2.39314G	-47.32	2.4835G	-46.51	2.48358G	-44.03	24.71342G	-43.47	1

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)	Freq (Hz)	Level (dBm)	Port
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43799G	19.33	-10.67	159.9M	-27.40	2.399G	-30.12	2.4G	-30.57	2.49604G	-47.52	23.3255G	-42.71	1
2412MHz	Pass	2.43799G	19.33	-10.67	159.9M	-27.88	2.39844G	-31.83	2.4G	-35.45	2.4902G	-47.01	16.2145G	-42.20	2
2437MHz	Pass	2.43799G	19.33	-10.67	159.9M	-28.54	2.3907G	-43.83	2.4G	-47.52	2.49434G	-44.50	16.25945G	-42.58	1
2437MHz	Pass	2.43799G	19.33	-10.67	159.9M	-27.57	2.39602G	-43.42	2.4G	-46.76	2.48876G	-45.39	16.90003G	-42.97	2
2462MHz	Pass	2.43799G	19.33	-10.67	159.9M	-28.34	2.39518G	-45.24	2.4835G	-43.30	2.48596G	-41.25	24.63757G	-42.60	1
2462MHz	Pass	2.43799G	19.33	-10.67	159.9M	-27.81	2.39806G	-45.94	2.4835G	-43.86	2.48352G	-42.72	23.30864G	-42.81	2
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.442G	15.47	-14.53	159.9M	-28.92	2.39702G	-36.40	2.4G	-38.10	2.49878G	-49.55	24.97752G	-42.80	1
2412MHz	Pass	2.442G	15.47	-14.53	159.9M	-28.40	2.39996G	-35.15	2.4G	-36.09	2.49422G	-49.13	16.30721G	-42.87	2
2437MHz	Pass	2.442G	15.47	-14.53	159.9M	-28.01	2.3989G	-41.64	2.4G	-41.66	2.48446G	-43.27	17.61928G	-43.68	1
2437MHz	Pass	2.442G	15.47	-14.53	159.9M	-27.68	2.39884G	-42.21	2.4G	-43.21	2.48698G	-43.06	15.2452G	-42.33	2
2462MHz	Pass	2.442G	15.47	-14.53	159.9M	-27.05	2.39314G	-47.32	2.4835G	-46.51	2.48358G	-44.03	24.71342G	-43.47	1
2462MHz	Pass	2.442G	15.47	-14.53	159.9M	-28.58	2.39502G	-46.08	2.4835G	-44.17	2.48362G	-42.77	24.59261G	-42.76	2









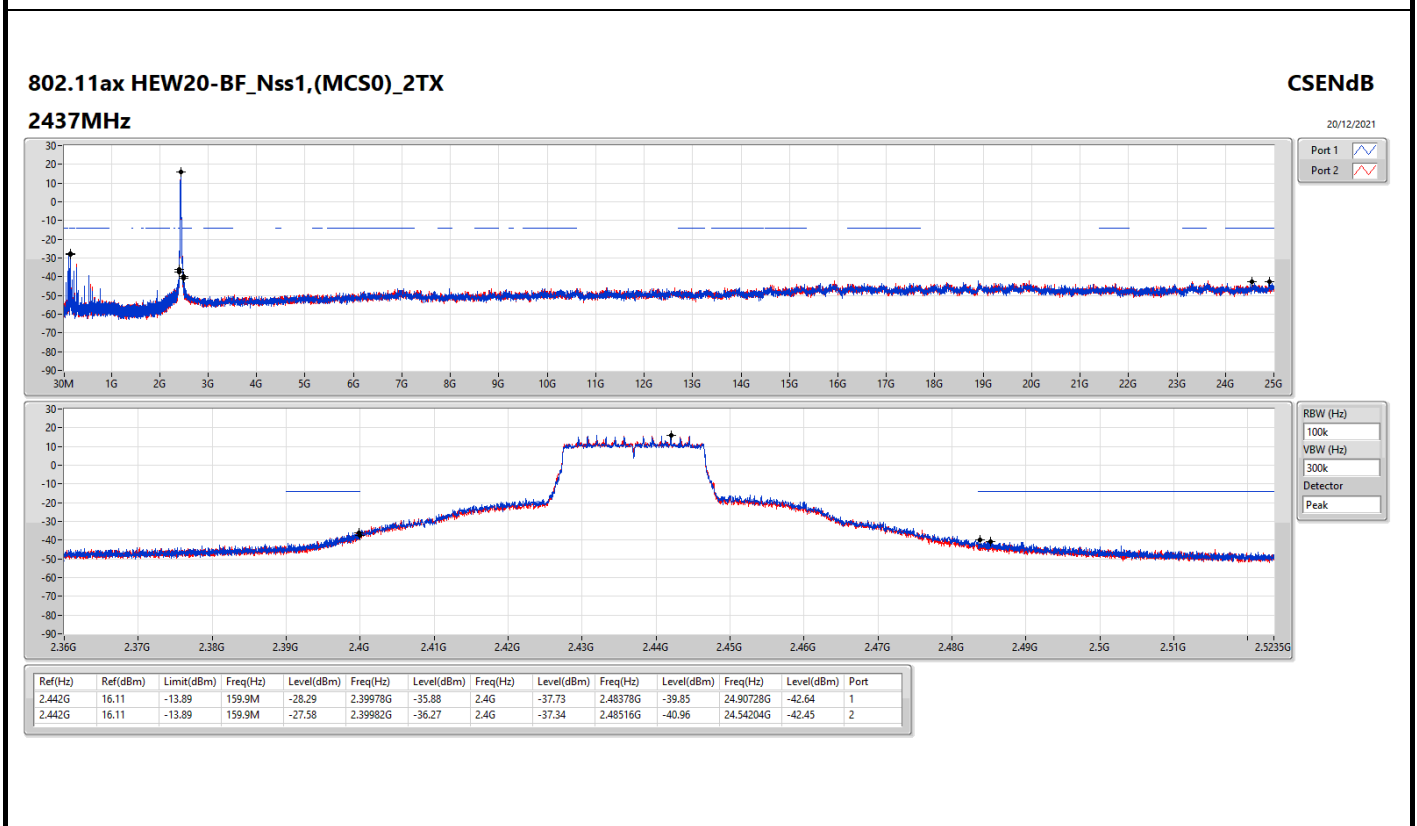
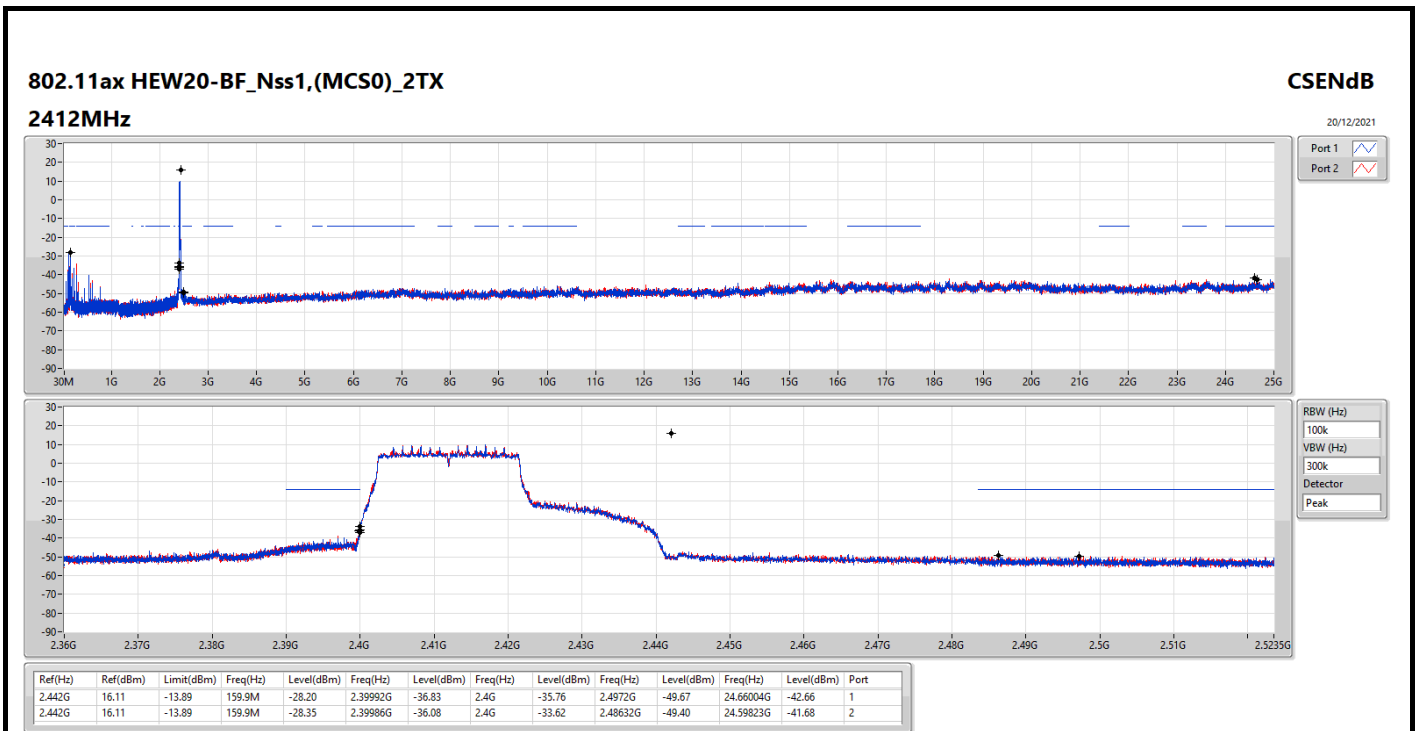
<Beamforming Mode>

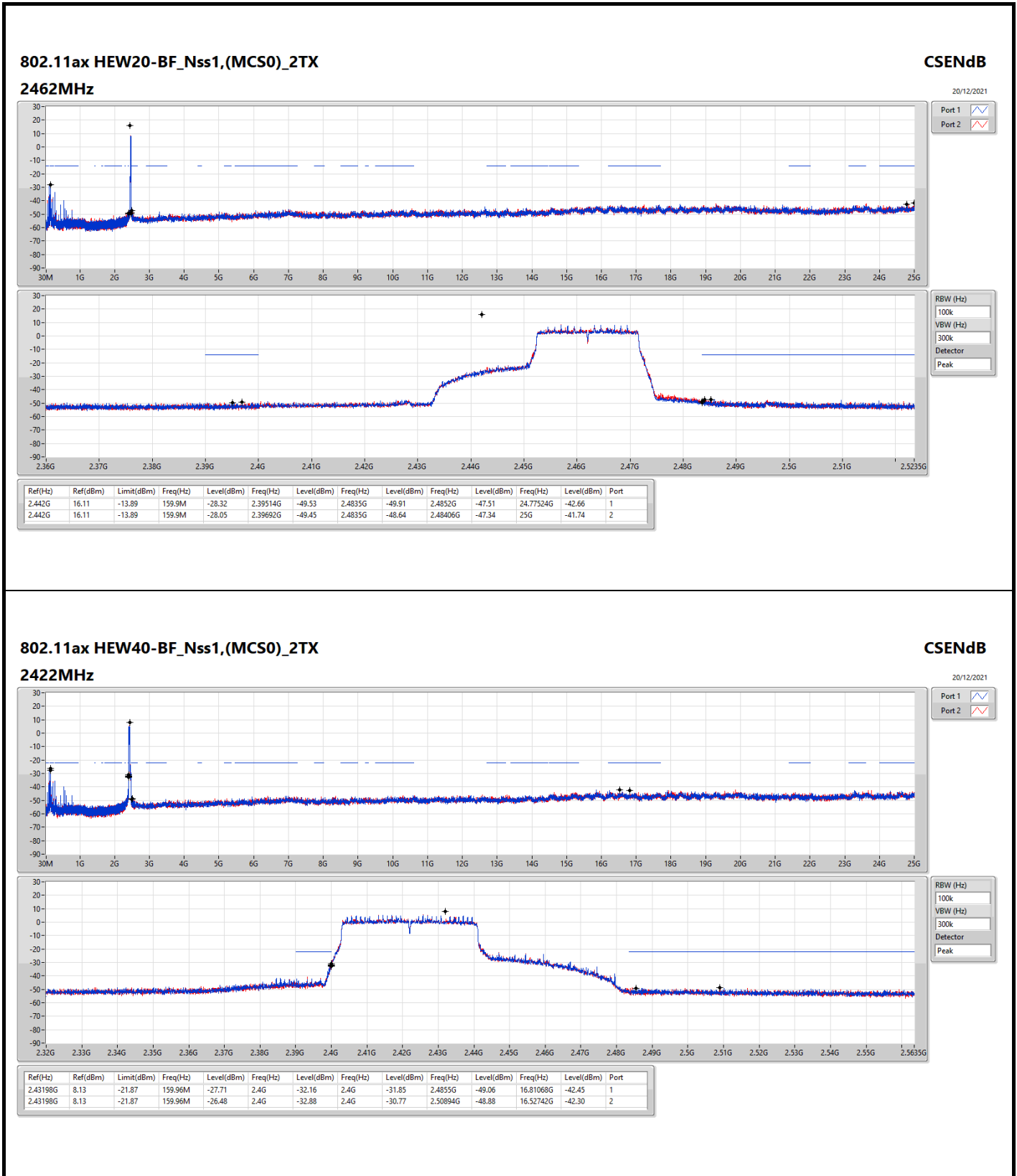
Summary

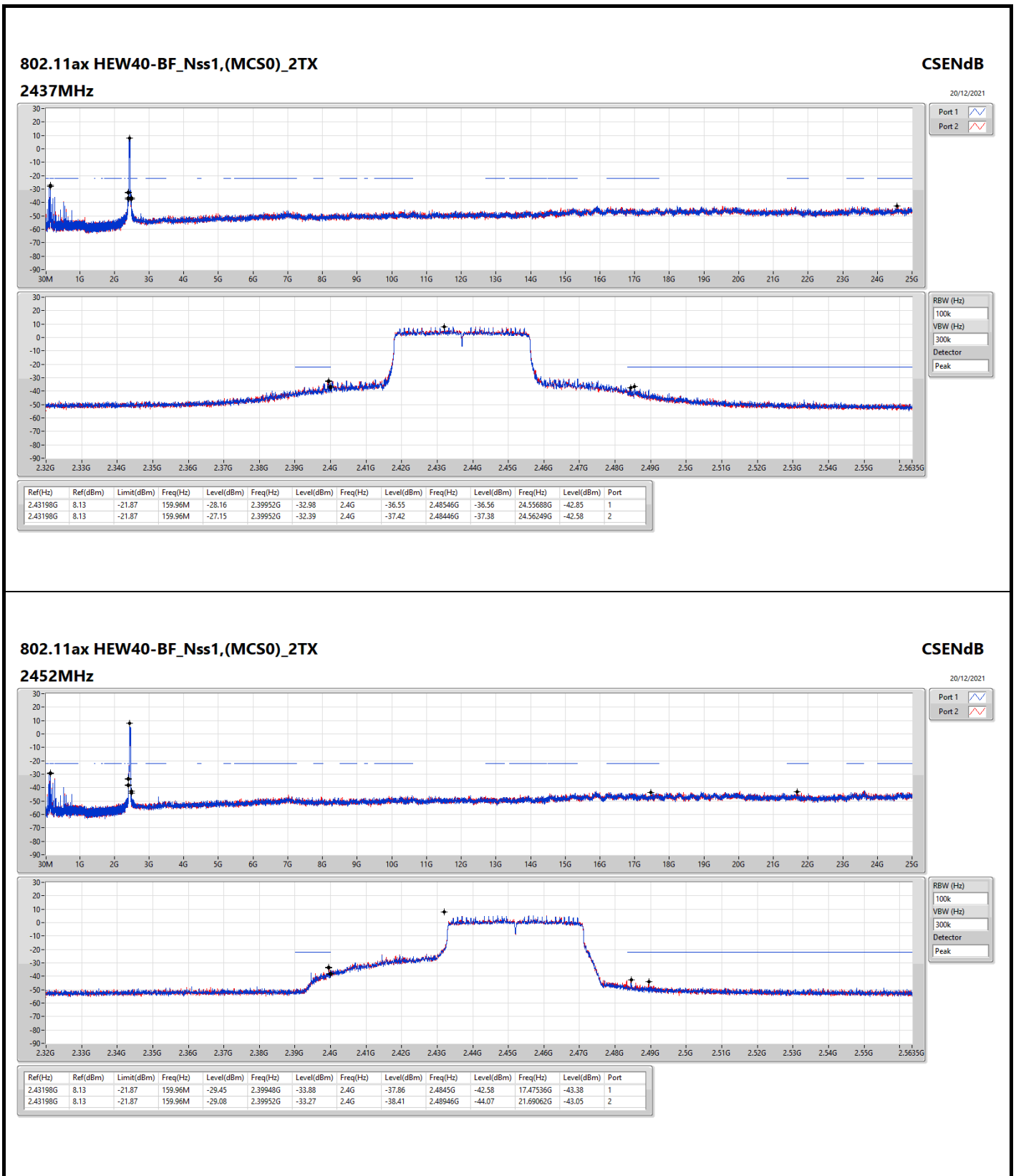
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	Pass	2.442G	16.11	-13.89	159.9M	-27.58	2.39982G	-36.27	2.4G	-37.34	2.48516G	-40.96	24.54204G	-42.45	2
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	Pass	2.43198G	8.13	-21.87	159.96M	-26.48	2.4G	-32.88	2.4G	-30.77	2.50894G	-48.88	16.52742G	-42.30	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)	Freq (Hz)	Level (dBm)	Port
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.442G	16.11	-13.89	159.9M	-28.20	2.39992G	-36.83	2.4G	-35.76	2.4972G	-49.67	24.66004G	-42.66	1
2412MHz	Pass	2.442G	16.11	-13.89	159.9M	-28.35	2.39986G	-36.08	2.4G	-33.62	2.48632G	-49.40	24.59823G	-41.68	2
2437MHz	Pass	2.442G	16.11	-13.89	159.9M	-28.29	2.39978G	-35.88	2.4G	-37.73	2.48378G	-39.85	24.90728G	-42.64	1
2437MHz	Pass	2.442G	16.11	-13.89	159.9M	-27.58	2.39982G	-36.27	2.4G	-37.34	2.48516G	-40.96	24.54204G	-42.45	2
2462MHz	Pass	2.442G	16.11	-13.89	159.9M	-28.32	2.39514G	-49.53	2.4835G	-49.91	2.4852G	-47.51	24.77524G	-42.66	1
2462MHz	Pass	2.442G	16.11	-13.89	159.9M	-28.05	2.39692G	-49.45	2.4835G	-48.64	2.48406G	-47.34	25G	-41.74	2
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.43198G	8.13	-21.87	159.96M	-27.71	2.4G	-32.16	2.4G	-31.85	2.4855G	-49.06	16.81068G	-42.45	1
2422MHz	Pass	2.43198G	8.13	-21.87	159.96M	-26.48	2.4G	-32.88	2.4G	-30.77	2.50894G	-48.88	16.52742G	-42.30	2
2437MHz	Pass	2.43198G	8.13	-21.87	159.96M	-28.16	2.39952G	-32.98	2.4G	-36.55	2.48546G	-36.56	24.55688G	-42.85	1
2437MHz	Pass	2.43198G	8.13	-21.87	159.96M	-27.15	2.39952G	-32.39	2.4G	-37.42	2.48446G	-37.38	24.56249G	-42.58	2
2452MHz	Pass	2.43198G	8.13	-21.87	159.96M	-29.45	2.39948G	-33.88	2.4G	-37.86	2.4845G	-42.58	17.47536G	-43.38	1
2452MHz	Pass	2.43198G	8.13	-21.87	159.96M	-29.08	2.39952G	-33.27	2.4G	-38.41	2.48946G	-44.07	21.69062G	-43.05	2





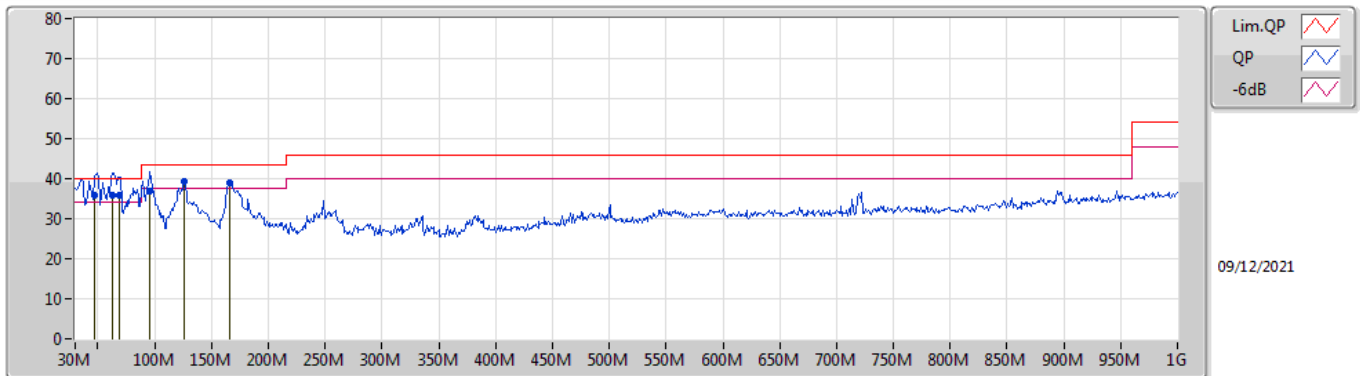




Summary

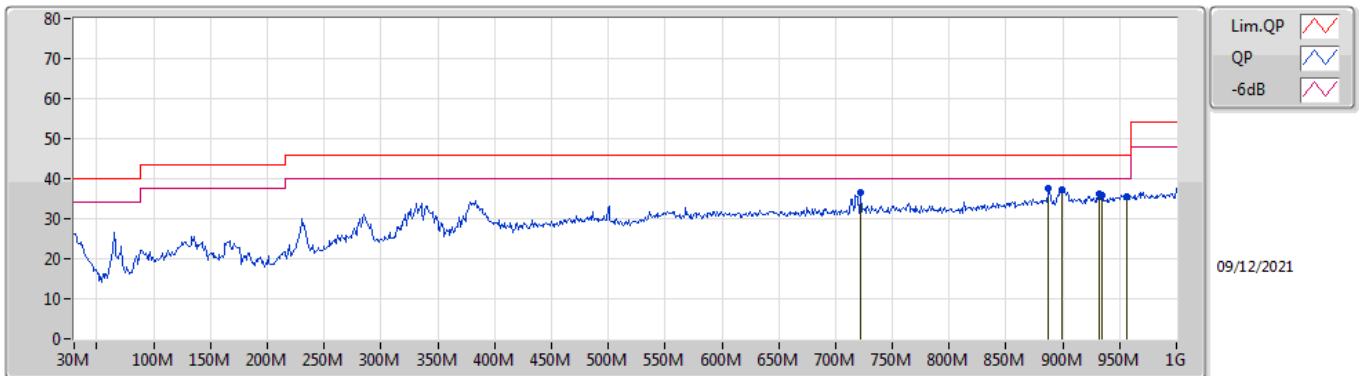
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	47.46M	35.85	40.00	-4.15	Vertical

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	47.46M	35.85	40.00	-4.15	-15.37	3	Vertical	328	2.00	"Worst"	51.22	15.31	1.80	32.48
PK	62.98M	35.70	40.00	-4.30	-18.04	3	Vertical	359	2.00	-	53.74	12.31	2.10	32.45
PK	68.8M	35.70	40.00	-4.30	-17.96	3	Vertical	84	1.00	-	53.66	12.37	2.10	32.43
PK	95.96M	36.80	43.50	-6.70	-14.16	3	Vertical	260	1.50	-	50.96	15.86	2.32	32.34
PK	126.03M	39.22	43.50	-4.28	-11.93	3	Vertical	214	1.00	-	51.15	17.95	2.53	32.41
PK	165.8M	38.93	43.50	-4.57	-13.83	3	Vertical	139	1.25	-	52.76	15.66	2.83	32.32

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	722.58M	36.72	46.00	-9.28	-1.18	3	Horizontal	0	1.50	-	37.90	25.17	5.69	32.04
PK	887.48M	37.64	46.00	-8.36	1.15	3	Horizontal	314	3.00	"Worst"	36.49	26.27	6.42	31.54
PK	899.12M	37.11	46.00	-8.89	1.23	3	Horizontal	327	1.00	-	35.88	26.27	6.49	31.53
PK	932.1M	36.24	46.00	-9.76	1.66	3	Horizontal	196	1.00	-	34.58	26.32	6.56	31.22
PK	935.01M	36.01	46.00	-9.99	1.73	3	Horizontal	280	1.25	-	34.28	26.35	6.57	31.19
PK	956.35M	35.51	46.00	-10.49	2.25	3	Horizontal	300	1.25	-	33.26	26.62	6.63	31.00



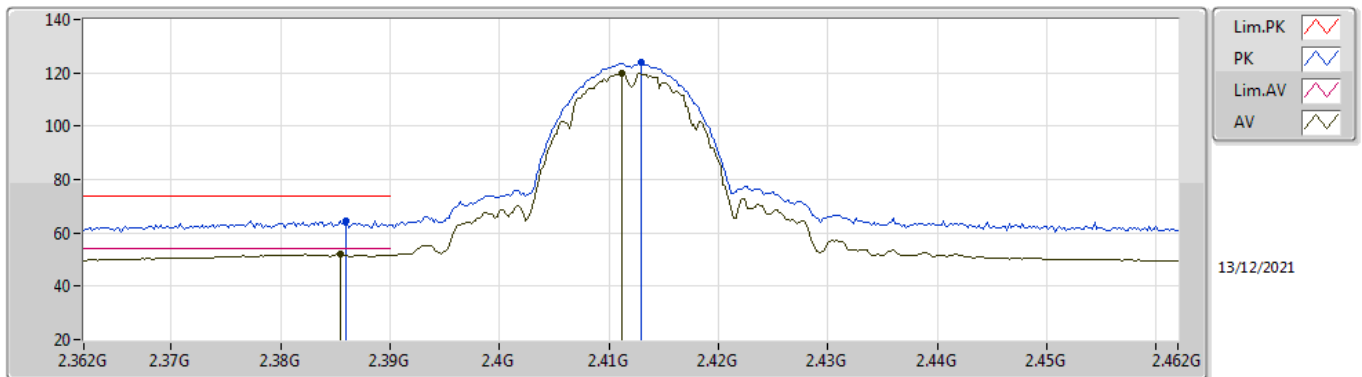
<Non-Beamforming Mode>

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.39G	53.90	54.00	-0.10	3	Vertical	354	3.00	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

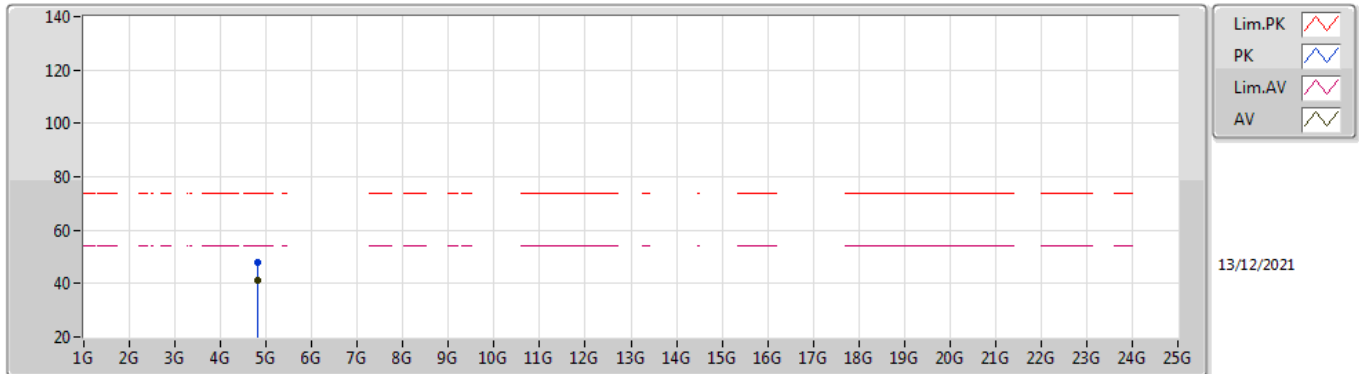


EUT_Z_2TX
Setting 110
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.386G	64.69	74.00	-9.31	33.53	3	Vertical	319	2.05	-	28.37	2.79	-
AV	2.3854G	51.92	54.00	-2.08	20.76	3	Vertical	319	2.05	-	28.37	2.79	-
PK	2.413G	123.71	Inf	-Inf	92.50	3	Vertical	319	2.05	-	28.40	2.81	-
AV	2.4112G	119.78	Inf	-Inf	88.57	3	Vertical	319	2.05	-	28.40	2.81	-

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

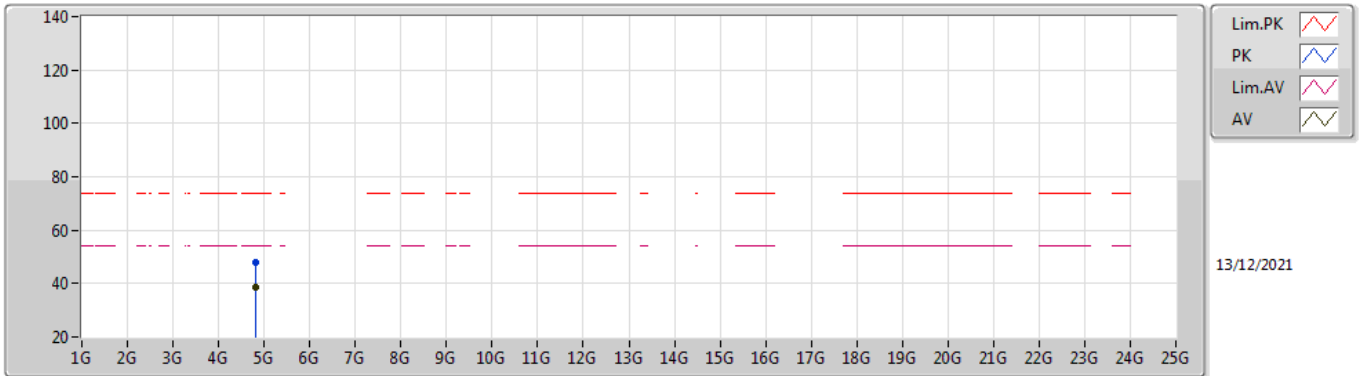


EUT_Z_2TX
Setting 110
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.82401G	48.05	74.00	-25.95	42.37	3	Vertical	237	2.78	-	32.80	5.10	32.22
AV	4.82397G	41.33	54.00	-12.67	35.65	3	Vertical	237	2.78	-	32.80	5.10	32.22

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX

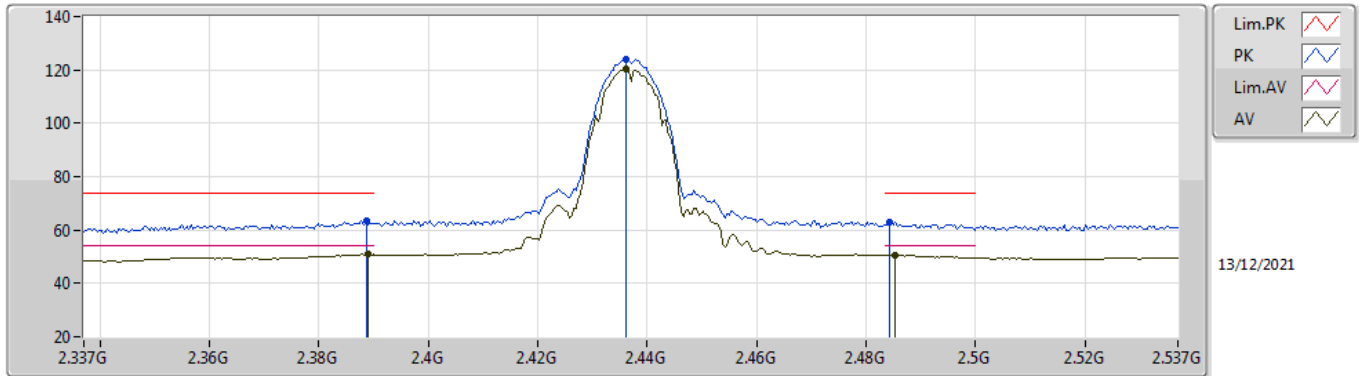


EUT_Z_2TX
Setting 110
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.82392G	47.87	74.00	-26.13	42.19	3	Horizontal	175	1.96	-	32.80	5.10	32.22
AV	4.82394G	38.84	54.00	-15.16	33.16	3	Horizontal	175	1.96	-	32.80	5.10	32.22

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

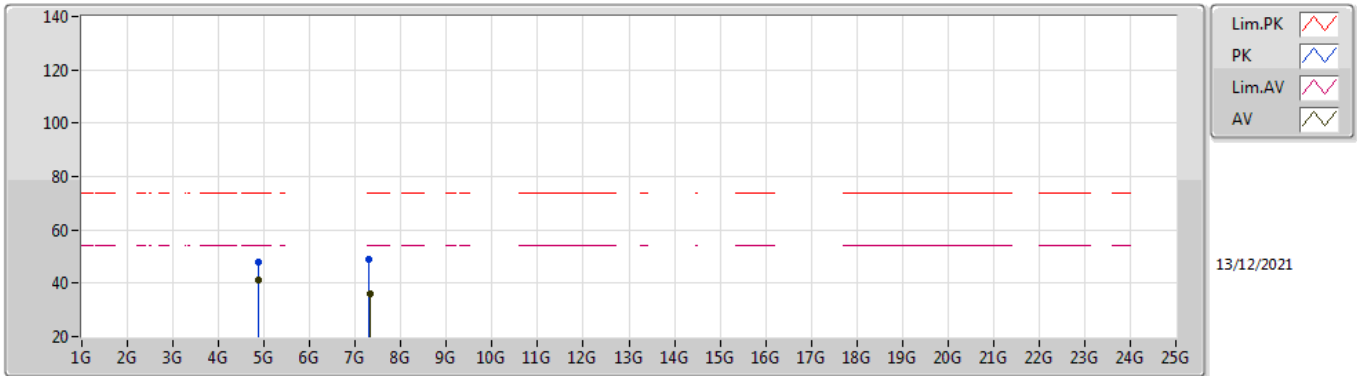


EUT_Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3886G	63.42	74.00	-10.58	32.25	3	Vertical	360	2.19	-	28.38	2.79	-
AV	2.389G	50.93	54.00	-3.07	19.76	3	Vertical	360	2.19	-	28.38	2.79	-
PK	2.4362G	124.20	Inf	-Inf	92.96	3	Vertical	360	2.19	-	28.40	2.84	-
AV	2.4362G	120.59	Inf	-Inf	89.35	3	Vertical	360	2.19	-	28.40	2.84	-
PK	2.4842G	62.96	74.00	-11.04	31.54	3	Vertical	360	2.19	-	28.54	2.88	-
AV	2.4854G	50.45	54.00	-3.55	19.02	3	Vertical	360	2.19	-	28.54	2.89	-

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

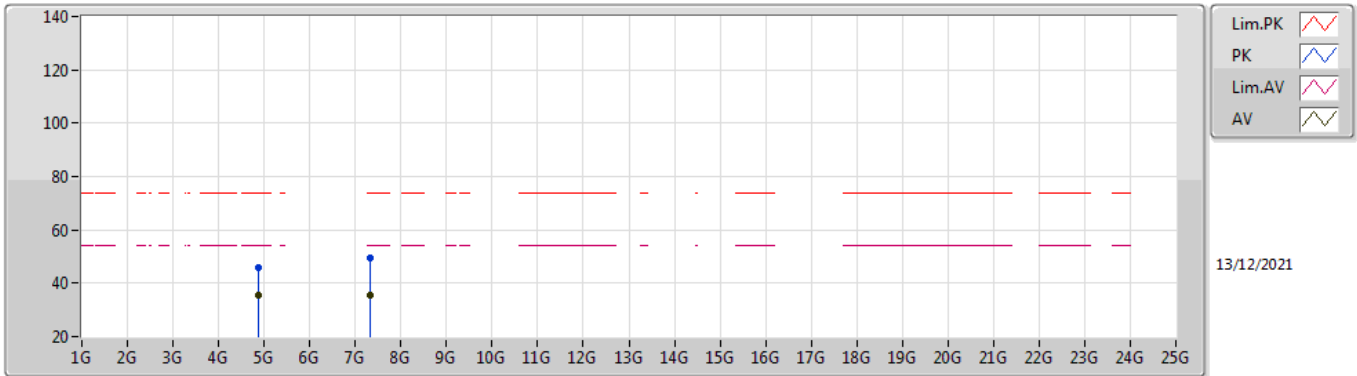


EUT_Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87399G	47.92	74.00	-26.08	42.08	3	Vertical	192	2.34	-	32.95	5.10	32.21
AV	4.87397G	41.30	54.00	-12.70	35.46	3	Vertical	192	2.34	-	32.95	5.10	32.21
PK	7.30204G	48.97	74.00	-25.03	39.23	3	Vertical	177	1.80	-	36.40	6.15	32.81
AV	7.31188G	35.92	54.00	-18.08	26.16	3	Vertical	177	1.80	-	36.42	6.16	32.82

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX

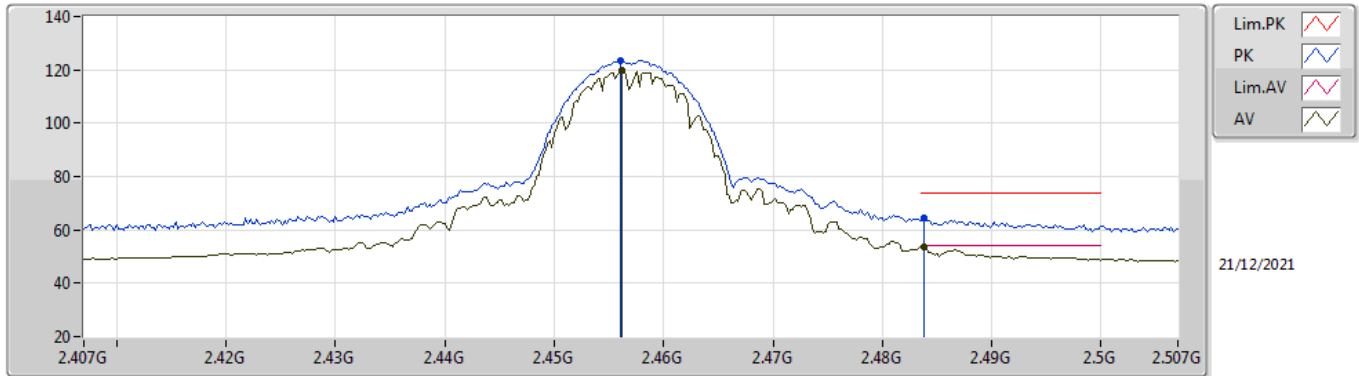


EUT_Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87391G	45.82	74.00	-28.18	39.98	3	Horizontal	226	1.80	-	32.95	5.10	32.21
AV	4.87396G	35.37	54.00	-18.63	29.53	3	Horizontal	226	1.80	-	32.95	5.10	32.21
PK	7.3208G	49.36	74.00	-24.64	39.60	3	Horizontal	23	1.81	-	36.44	6.16	32.84
AV	7.3186G	35.35	54.00	-18.65	25.58	3	Horizontal	23	1.81	-	36.44	6.16	32.83

802.11b_Nss1,(1Mbps)_2TX

2457MHz_TX

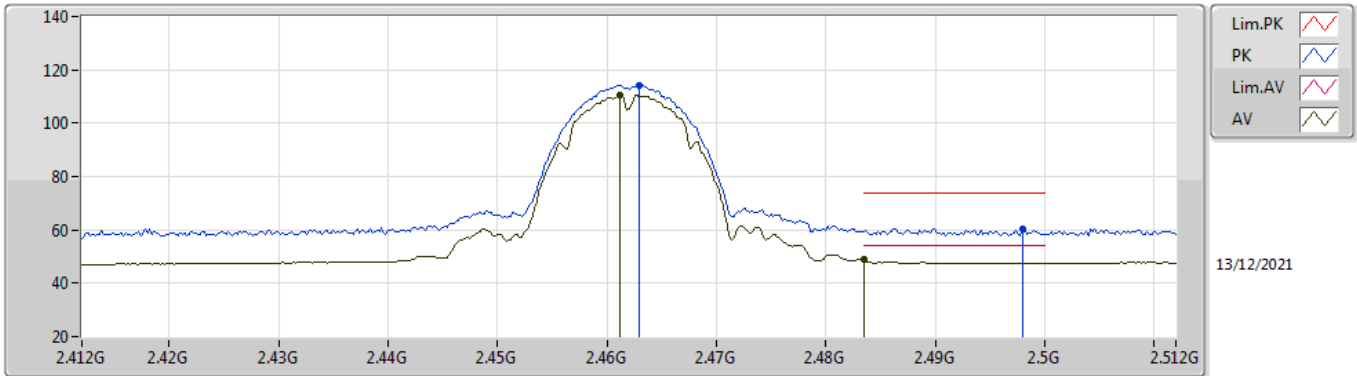


EUT_Z_2TX
Setting 110
06-D-S-8

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.456G	123.59	Inf	-Inf	92.52	3	Vertical	23	2.60	-	27.21	3.86	-
AV	2.4562G	119.74	Inf	-Inf	88.67	3	Vertical	23	2.60	-	27.21	3.86	-
PK	2.4838G	64.52	74.00	-9.48	33.37	3	Vertical	23	2.60	-	27.27	3.88	-
AV	2.4838G	53.68	54.00	-0.32	22.53	3	Vertical	23	2.60	-	27.27	3.88	-

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

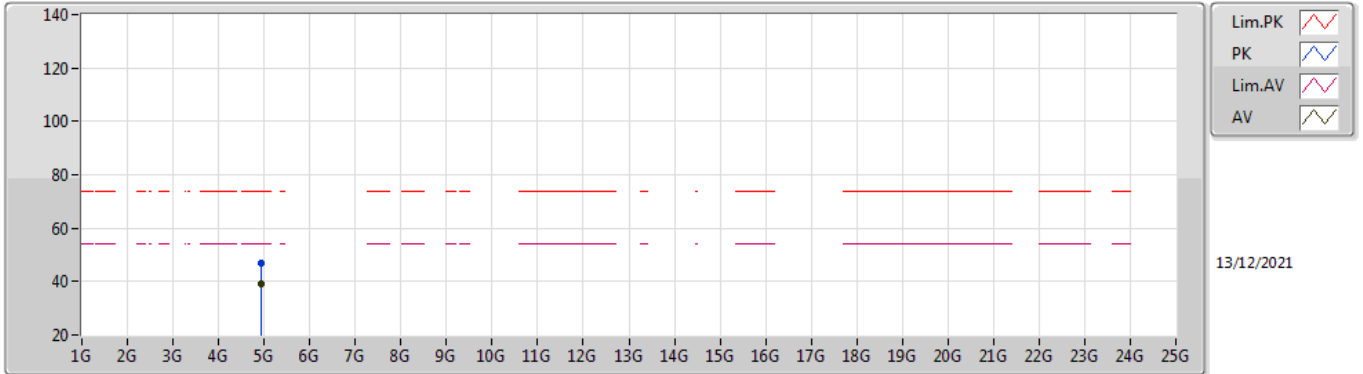


EUT_Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.463G	114.38	Inf	-Inf	83.07	3	Vertical	247	2.12	-	28.45	2.86	-
AV	2.4612G	110.65	Inf	-Inf	79.35	3	Vertical	247	2.12	-	28.44	2.86	-
PK	2.498G	60.58	74.00	-13.42	29.09	3	Vertical	247	2.12	-	28.59	2.90	-
AV	2.4835G	48.85	54.00	-5.15	17.44	3	Vertical	247	2.12	-	28.53	2.88	-

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

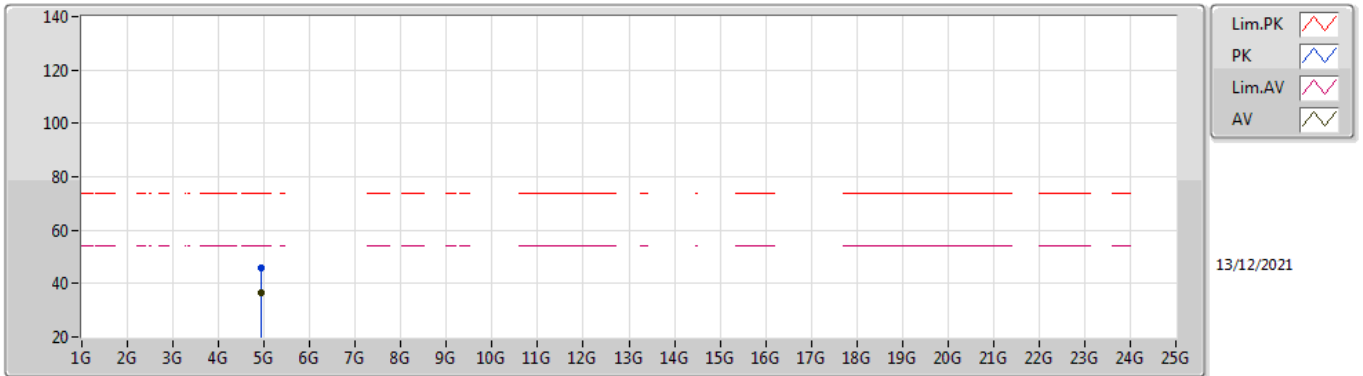


EUT_Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.92388G	46.83	74.00	-27.17	40.78	3	Vertical	216	2.19	-	33.14	5.10	32.19
AV	4.92397G	39.14	54.00	-14.86	33.09	3	Vertical	216	2.19	-	33.14	5.10	32.19

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX

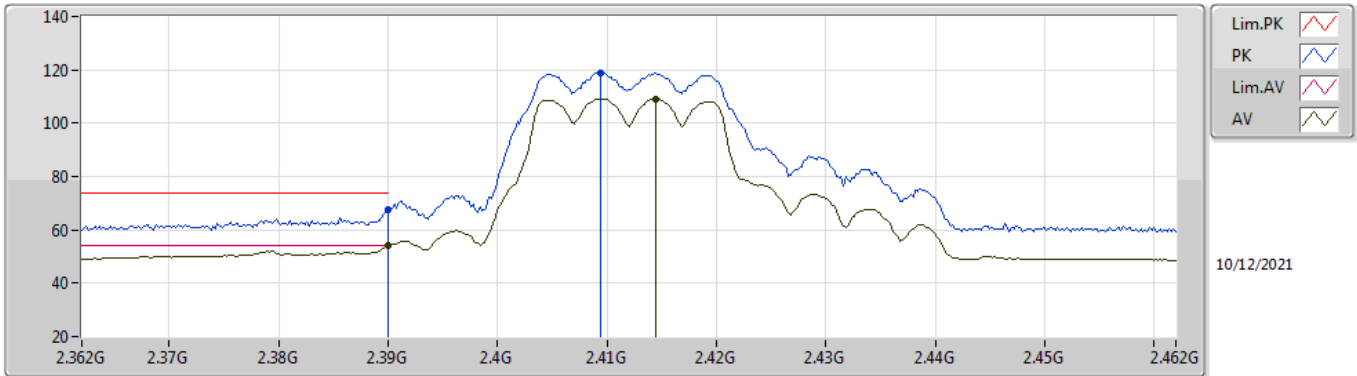


EUT Z_2TX
Setting 110
02-B-K-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.92399G	45.69	74.00	-28.31	39.64	3	Horizontal	212	1.99	-	33.14	5.10	32.19
AV	4.92393G	36.41	54.00	-17.59	30.36	3	Horizontal	212	1.99	-	33.14	5.10	32.19

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

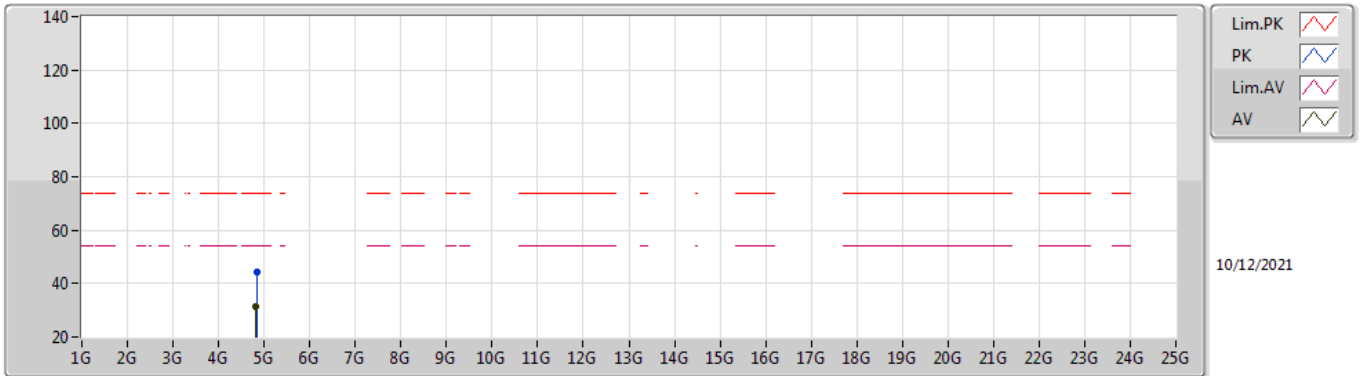


EUT_Z_2TX
Setting 88
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.39G	67.63	74.00	-6.37	36.46	3	Vertical	354	3.00	-	28.38	2.79	-
AV	2.39G	53.90	54.00	-0.10	22.73	3	Vertical	354	3.00	-	28.38	2.79	-
PK	2.4094G	118.97	Inf	-Inf	87.76	3	Vertical	354	3.00	-	28.40	2.81	-
AV	2.4144G	109.21	Inf	-Inf	78.00	3	Vertical	354	3.00	-	28.40	2.81	-

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

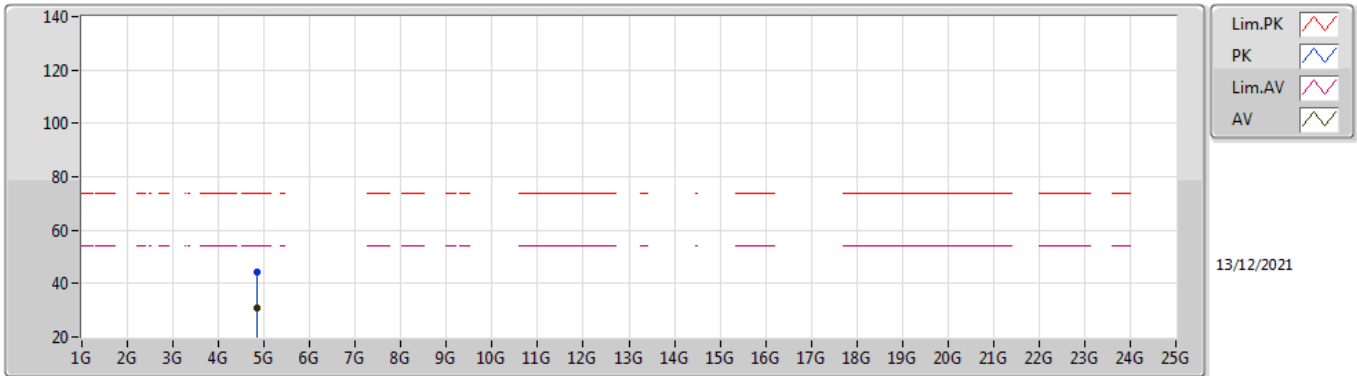


EUT_Z_2TX
Setting 88
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.83378G	44.44	74.00	-29.56	38.72	3	Vertical	340	1.00	-	32.84	5.10	32.22
AV	4.82442G	31.36	54.00	-22.64	25.68	3	Vertical	340	1.00	-	32.80	5.10	32.22

802.11g_Nss1,(6Mbps)_2TX

2412MHz_TX

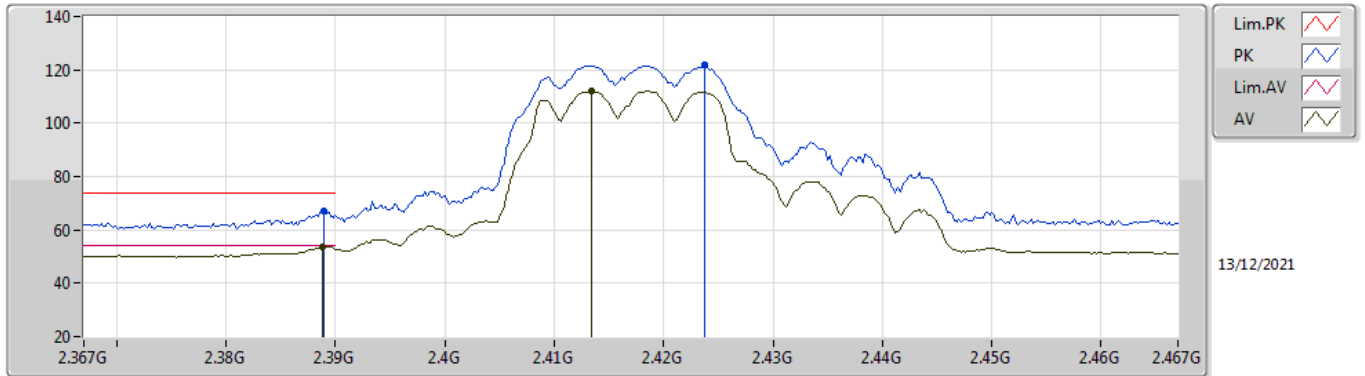


EUT_Z_2TX
Setting 88
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8369G	44.14	74.00	-29.86	38.41	3	Horizontal	334	1.80	-	32.85	5.10	32.22
AV	4.8318G	31.12	54.00	-22.88	25.41	3	Horizontal	334	1.80	-	32.83	5.10	32.22

802.11g_Nss1,(6Mbps)_2TX

2417MHz_TX

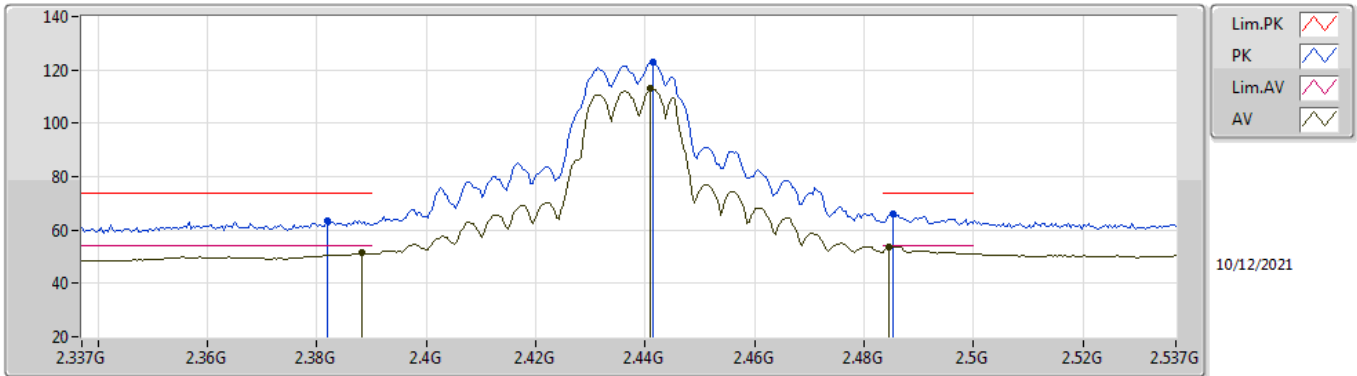


EUT_Z_2TX
Setting 102
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.389G	67.16	74.00	-6.84	35.99	3	Vertical	161	2.09	-	28.38	2.79	-
AV	2.3888G	53.62	54.00	-0.38	22.45	3	Vertical	161	2.09	-	28.38	2.79	-
PK	2.4238G	121.76	Inf	-Inf	90.54	3	Vertical	161	2.09	-	28.40	2.82	-
AV	2.4134G	111.99	Inf	-Inf	80.78	3	Vertical	161	2.09	-	28.40	2.81	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

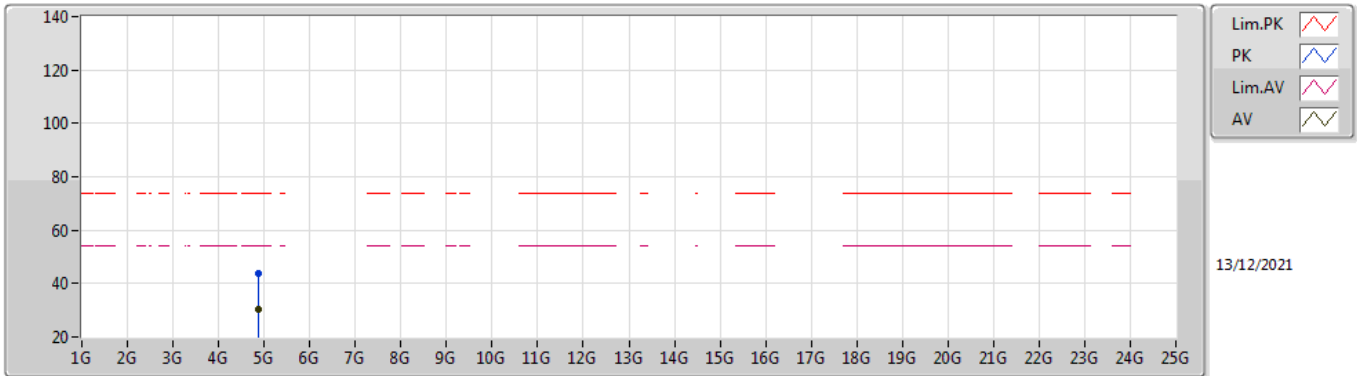


EUT_Z_2TX
Setting 110
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3818G	63.55	74.00	-10.45	32.40	3	Vertical	178	1.90	-	28.36	2.79	-
AV	2.3882G	51.34	54.00	-2.66	20.17	3	Vertical	178	1.90	-	28.38	2.79	-
PK	2.4414G	122.89	Inf	-Inf	91.65	3	Vertical	178	1.90	-	28.40	2.84	-
AV	2.441G	113.06	Inf	-Inf	81.82	3	Vertical	178	1.90	-	28.40	2.84	-
PK	2.4854G	65.89	74.00	-8.11	34.46	3	Vertical	178	1.90	-	28.54	2.89	-
AV	2.4846G	53.77	54.00	-0.23	22.35	3	Vertical	178	1.90	-	28.54	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

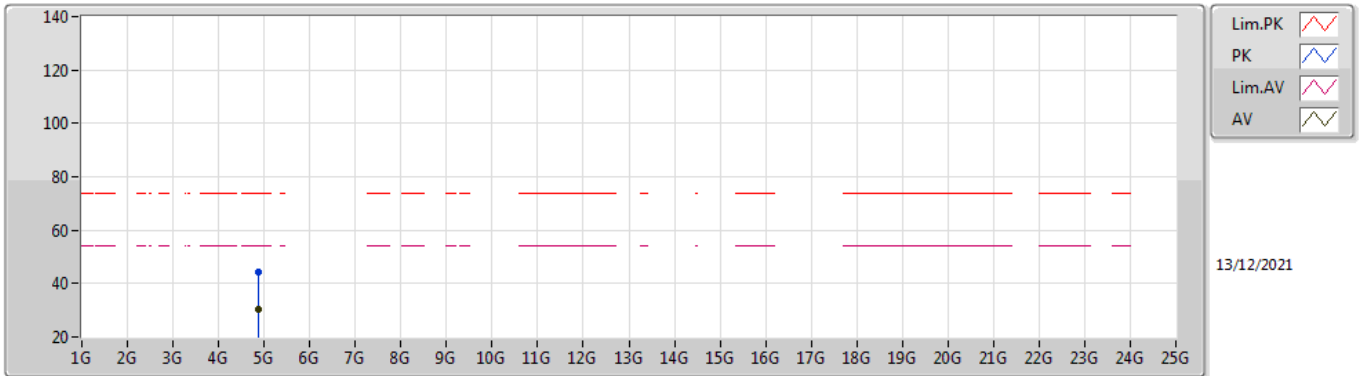


EUT_Z_2TX
Setting 110
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87486G	43.79	74.00	-30.21	37.95	3	Vertical	148	3.00	-	32.95	5.10	32.21
AV	4.87564G	30.36	54.00	-23.64	24.51	3	Vertical	148	3.00	-	32.95	5.10	32.20

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

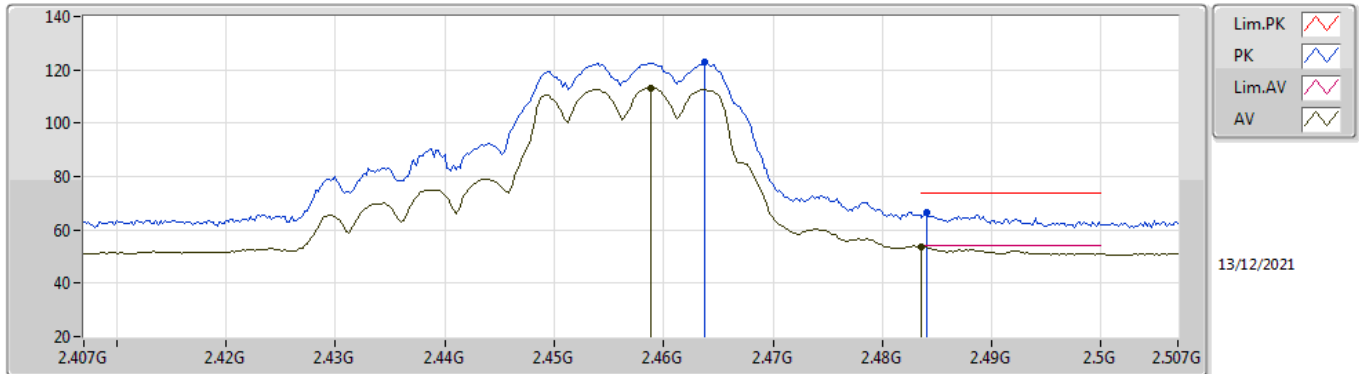


EUT_Z_2TX
Setting 110
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8721G	44.39	74.00	-29.61	38.56	3	Horizontal	194	2.76	-	32.94	5.10	32.21
AV	4.8744G	30.19	54.00	-23.81	24.35	3	Horizontal	194	2.76	-	32.95	5.10	32.21

802.11g_Nss1,(6Mbps)_2TX

2457MHz_TX

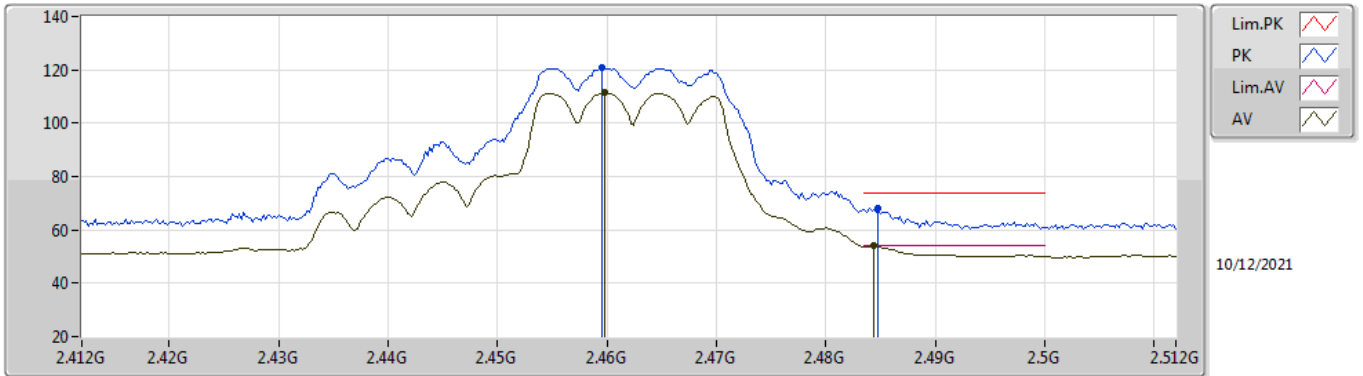


EUT_Z_2TX
Setting 104
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4638G	122.81	Inf	-Inf	91.49	3	Vertical	157	1.73	-	28.46	2.86	-
AV	2.4588G	113.00	Inf	-Inf	81.70	3	Vertical	157	1.73	-	28.44	2.86	-
PK	2.484G	66.66	74.00	-7.34	35.24	3	Vertical	157	1.73	-	28.54	2.88	-
AV	2.4836G	53.66	54.00	-0.34	22.25	3	Vertical	157	1.73	-	28.53	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

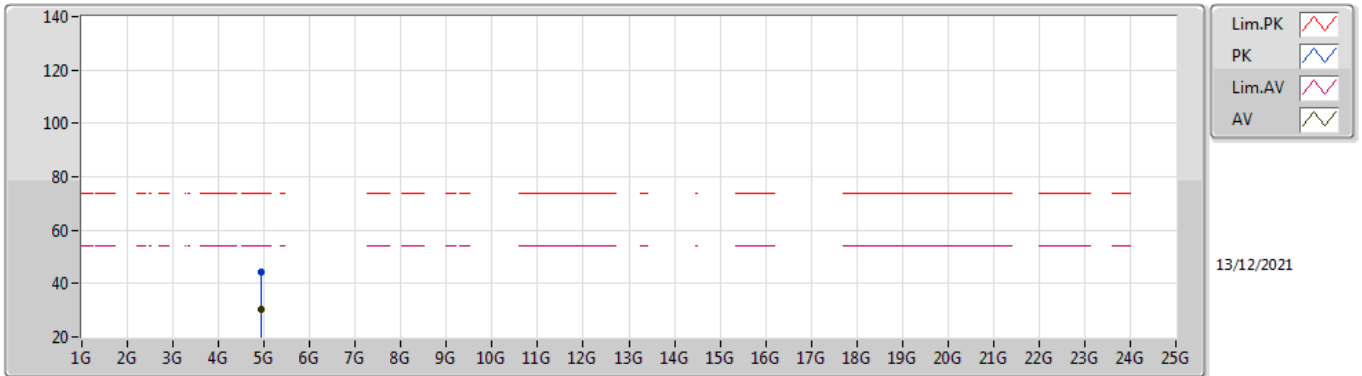


EUT_Z_2TX
Setting 97
02-B-C-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4596G	121.04	Inf	-Inf	89.74	3	Vertical	0	2.60	-	28.44	2.86	-
AV	2.4598G	111.40	Inf	-Inf	80.10	3	Vertical	0	2.60	-	28.44	2.86	-
PK	2.4848G	68.18	74.00	-5.82	36.76	3	Vertical	0	2.60	-	28.54	2.88	-
AV	2.4844G	53.88	54.00	-0.12	22.46	3	Vertical	0	2.60	-	28.54	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX

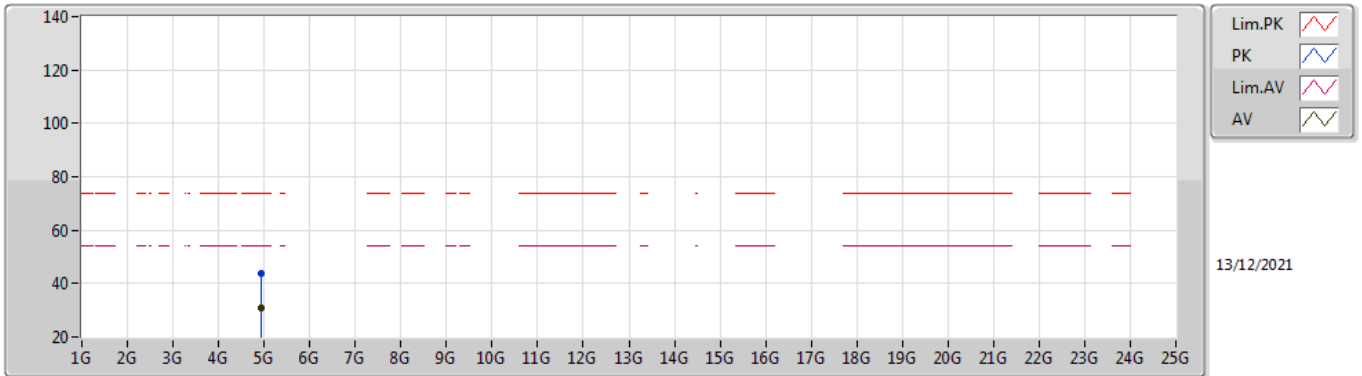


EUT_Z_2TX
Setting 97
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.92876G	44.46	74.00	-29.54	38.38	3	Vertical	175	2.64	-	33.17	5.10	32.19
AV	4.92604G	30.52	54.00	-23.48	24.45	3	Vertical	175	2.64	-	33.16	5.10	32.19

802.11g_Nss1,(6Mbps)_2TX

2462MHz_TX



EUT Z_2TX
Setting 97
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.92168G	43.76	74.00	-30.24	37.72	3	Horizontal	195	1.00	-	33.13	5.10	32.19
AV	4.92534G	30.72	54.00	-23.28	24.66	3	Horizontal	195	1.00	-	33.15	5.10	32.19



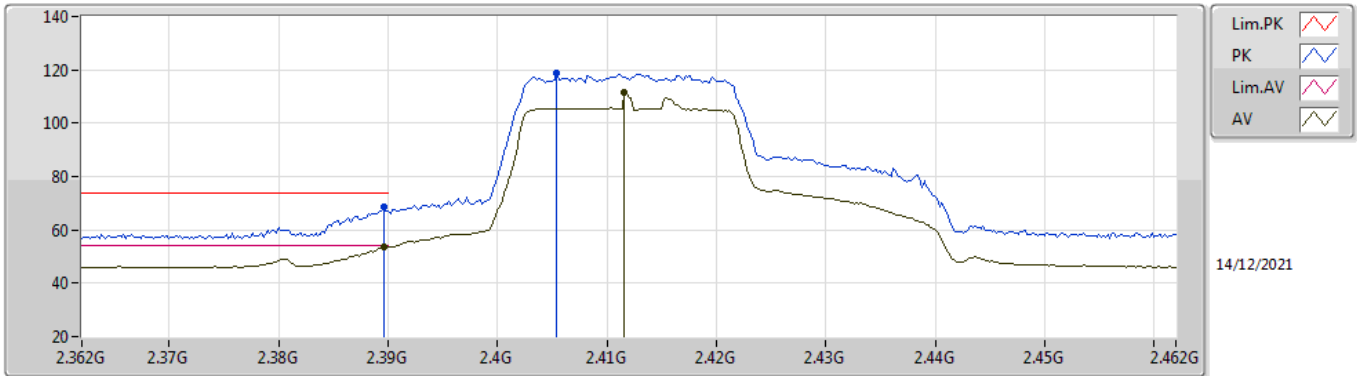
<Beamforming Mode>

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	Pass	PK	2.4948G	73.80	74.00	-0.20	3	Vertical	0	2.63	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

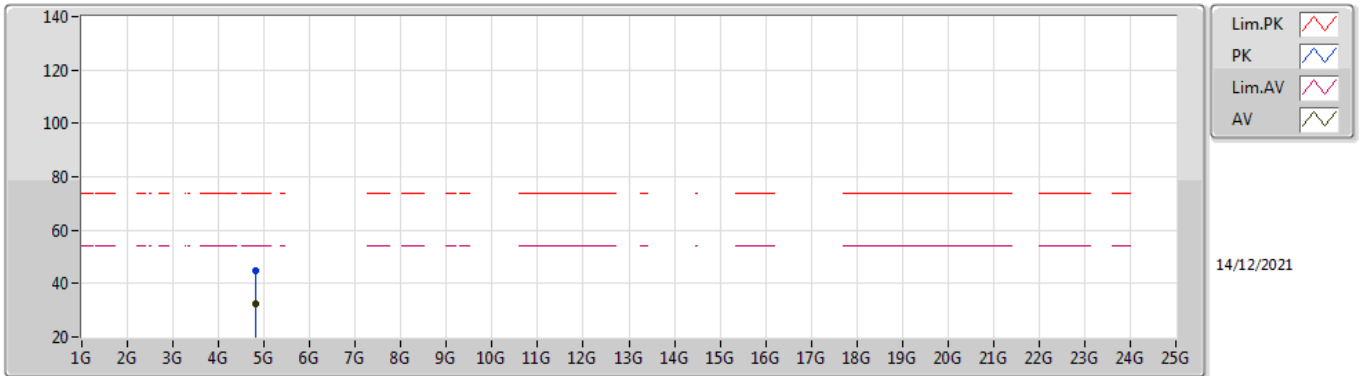


EUT_Z_2TX
Setting 86
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3896G	68.42	74.00	-5.58	37.00	3	Vertical	162	2.28	-	27.62	3.80	-
AV	2.3896G	53.48	54.00	-0.52	22.06	3	Vertical	162	2.28	-	27.62	3.80	-
PK	2.4054G	118.89	Inf	-Inf	87.50	3	Vertical	162	2.28	-	27.59	3.80	-
AV	2.4116G	111.76	Inf	-Inf	80.37	3	Vertical	162	2.28	-	27.58	3.81	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

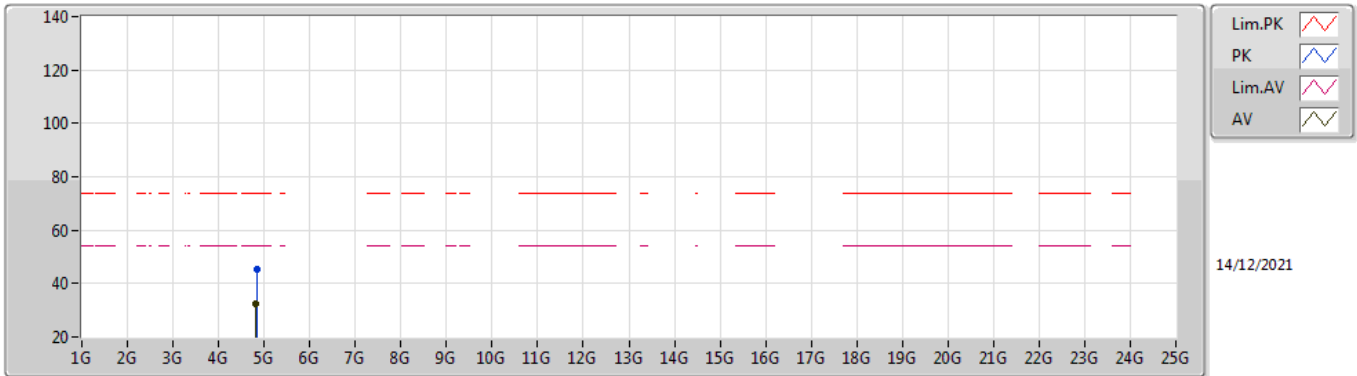


EUT_Z_2TX
Setting 86
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.81752G	45.08	74.00	-28.92	40.41	3	Vertical	151	2.33	-	31.36	6.30	32.99
AV	4.81754G	32.16	54.00	-21.84	27.49	3	Vertical	151	2.33	-	31.36	6.30	32.99

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2412MHz_TX

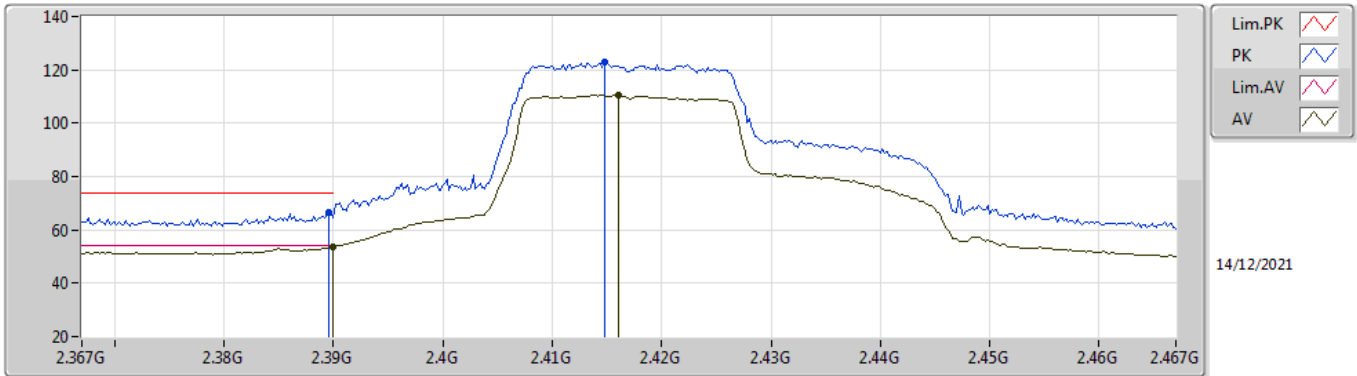


EUT_Z_2TX
Setting 86
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.83308G	45.23	74.00	-28.77	40.58	3	Horizontal	105	2.00	-	31.33	6.30	32.98
AV	4.82328G	32.30	54.00	-21.70	27.63	3	Horizontal	105	2.00	-	31.35	6.30	32.98

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2417MHz_TX

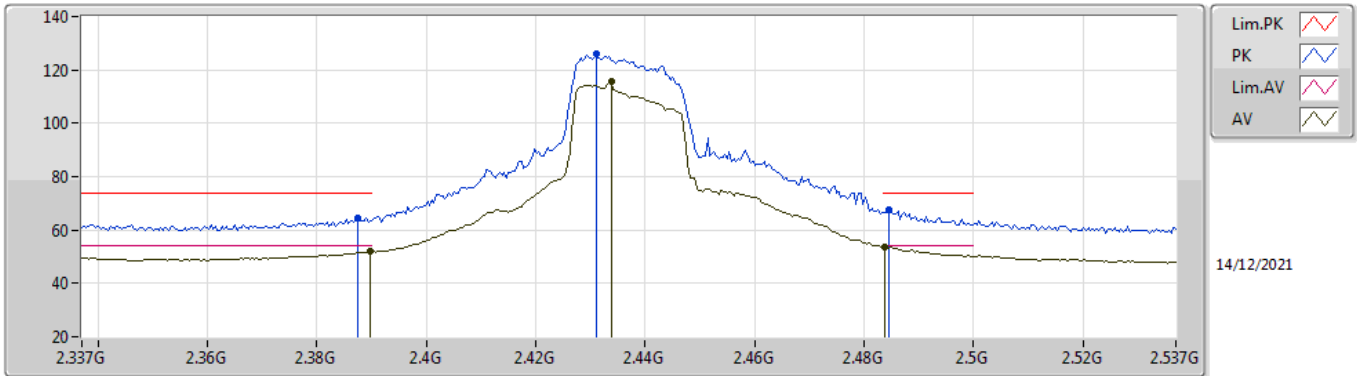


EUT_Z_2TX
Setting 105
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3896G	66.30	74.00	-7.70	35.13	3	Vertical	20.5	2.67	-	28.38	2.79	-
AV	2.39G	53.78	54.00	-0.22	22.61	3	Vertical	20.5	2.67	-	28.38	2.79	-
PK	2.4148G	122.91	Inf	-Inf	91.70	3	Vertical	20.5	2.67	-	28.40	2.81	-
AV	2.416G	110.45	Inf	-Inf	79.23	3	Vertical	20.5	2.67	-	28.40	2.82	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

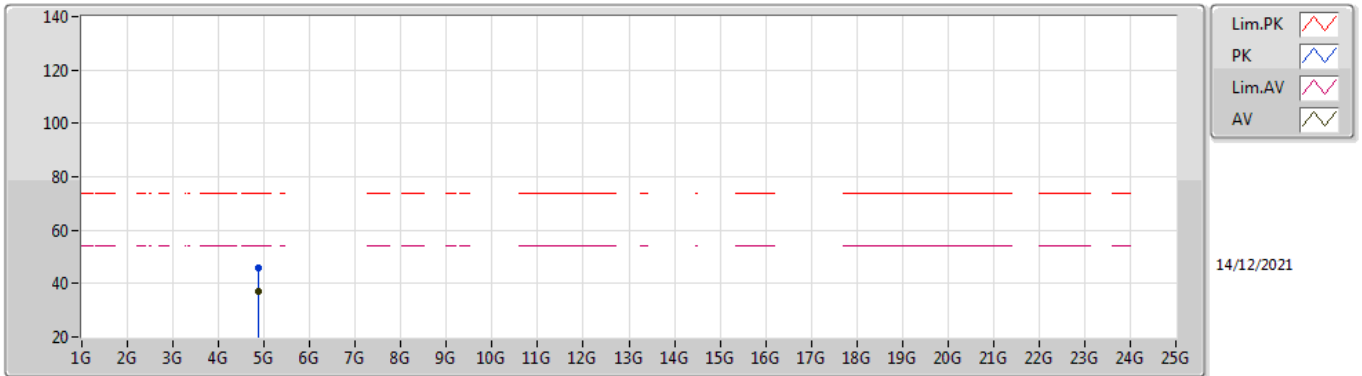


EUT_Z_2TX
Setting 114
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3874G	64.43	74.00	-9.57	33.00	3	Vertical	49.9	2.57	-	27.63	3.80	-
AV	2.3898G	51.84	54.00	-2.16	20.42	3	Vertical	49.9	2.57	-	27.62	3.80	-
PK	2.431G	125.80	Inf	-Inf	94.44	3	Vertical	49.9	2.57	-	27.54	3.82	-
AV	2.4338G	115.93	Inf	-Inf	84.58	3	Vertical	49.9	2.57	-	27.53	3.82	-
PK	2.4846G	67.40	74.00	-6.60	36.06	3	Vertical	49.9	2.57	-	27.50	3.84	-
AV	2.4838G	53.74	54.00	-0.26	22.40	3	Vertical	49.9	2.57	-	27.50	3.84	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

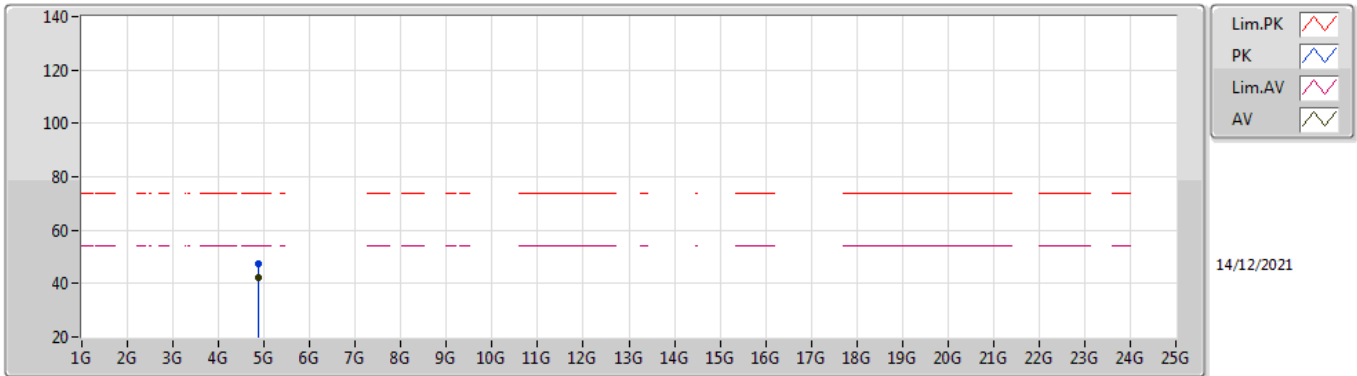


EUT_Z_2TX
Setting 114
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87124G	45.95	74.00	-28.05	41.33	3	Vertical	280	2.74	-	31.30	6.30	32.98
AV	4.87108G	36.86	54.00	-17.14	32.24	3	Vertical	280	2.74	-	31.30	6.30	32.98

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2437MHz_TX

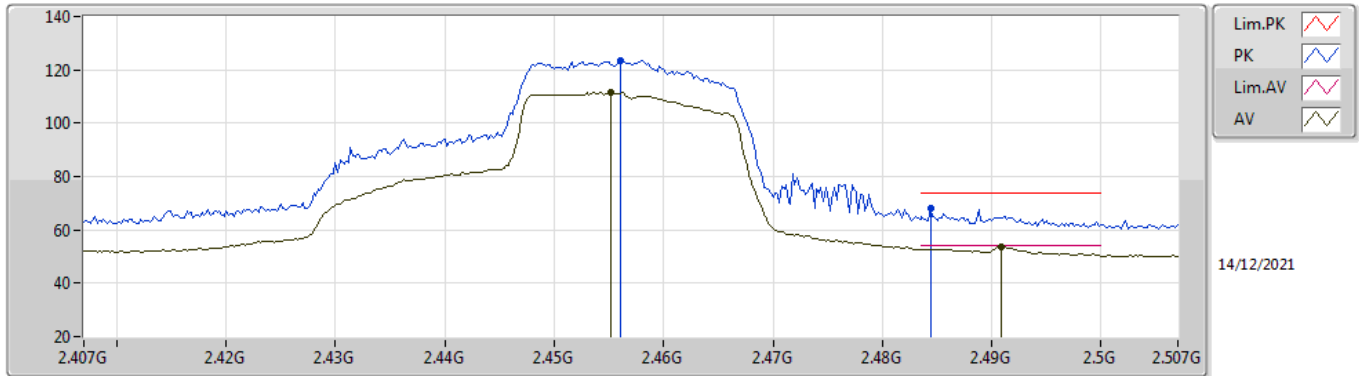


EUT_Z_2TX
Setting 114
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87372G	47.67	74.00	-26.33	43.05	3	Horizontal	182	1.72	-	31.30	6.30	32.98
AV	4.87404G	42.14	54.00	-11.86	37.52	3	Horizontal	182	1.72	-	31.30	6.30	32.98

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2457MHz_TX

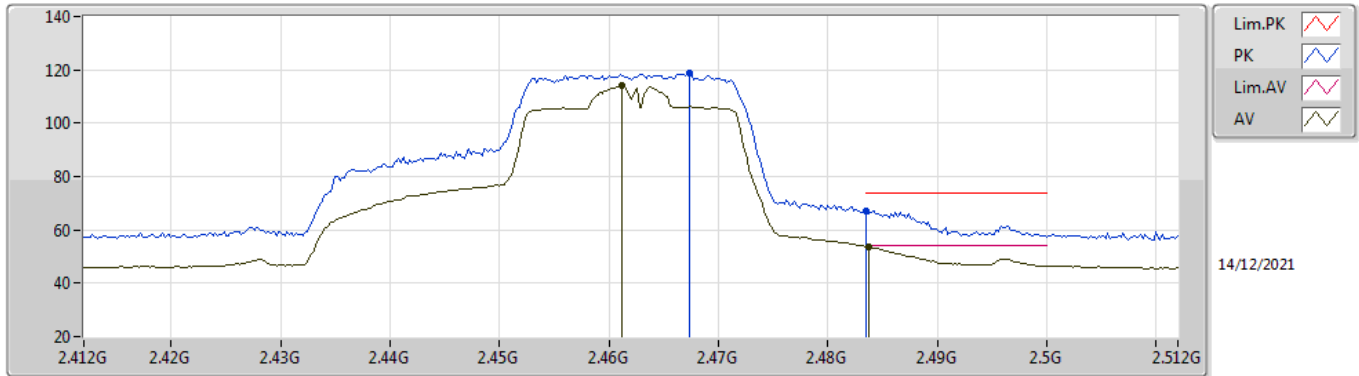


EUT_Z_2TX
Setting 104
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.456G	123.66	Inf	-Inf	92.38	3	Vertical	21	2.65	-	28.42	2.86	-
AV	2.4552G	111.56	Inf	-Inf	80.28	3	Vertical	21	2.65	-	28.42	2.86	-
PK	2.4844G	67.85	74.00	-6.15	36.43	3	Vertical	21	2.65	-	28.54	2.88	-
AV	2.4908G	53.75	54.00	-0.25	22.30	3	Vertical	21	2.65	-	28.56	2.89	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

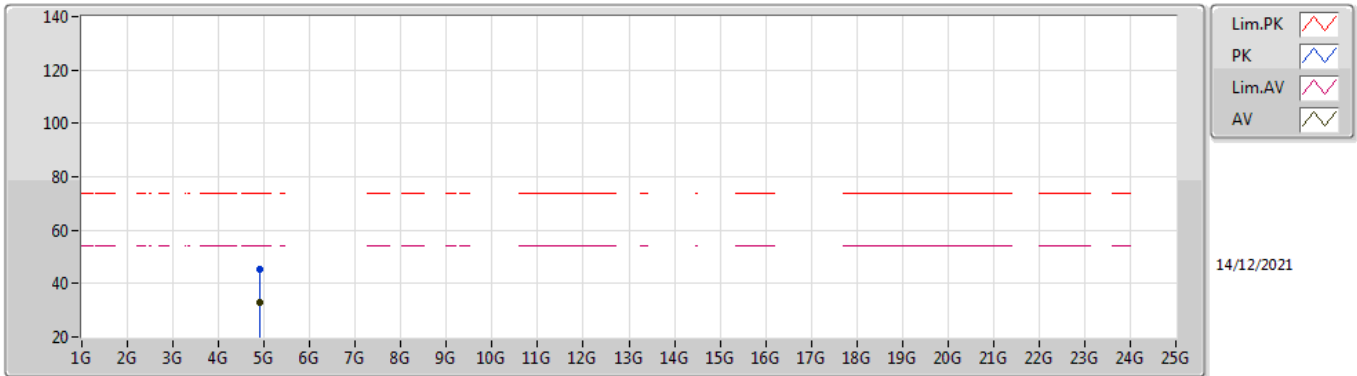


EUT_Z_2TX
Setting 81
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4674G	118.69	Inf	-Inf	87.36	3	Vertical	135	2.49	-	27.50	3.83	-
AV	2.4612G	114.33	Inf	-Inf	83.00	3	Vertical	135	2.49	-	27.50	3.83	-
PK	2.4835G	67.07	74.00	-6.93	35.73	3	Vertical	135	2.49	-	27.50	3.84	-
AV	2.4838G	53.73	54.00	-0.27	22.39	3	Vertical	135	2.49	-	27.50	3.84	-

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

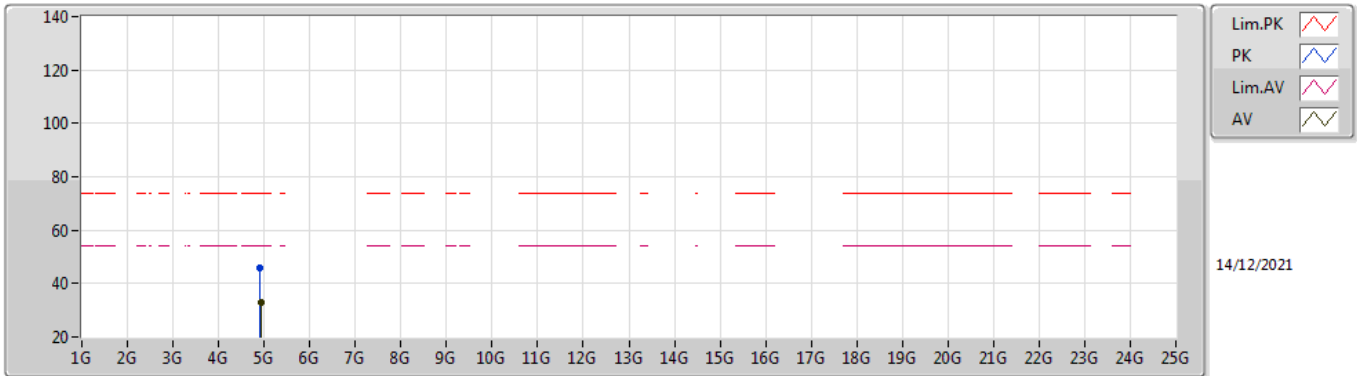


EUT_Z_2TX
Setting 81
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.91872G	45.55	74.00	-28.45	40.85	3	Vertical	70	2.09	-	31.37	6.30	32.97
AV	4.91848G	32.70	54.00	-21.30	28.00	3	Vertical	70	2.09	-	31.37	6.30	32.97

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

2462MHz_TX

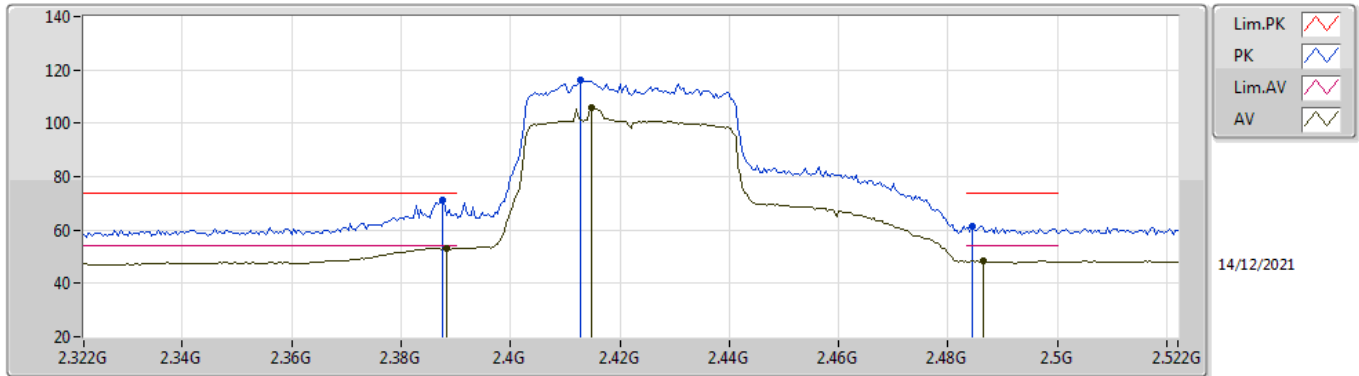


EUT Z_2TX
Setting 81
01-A-B-4

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.91884G	45.95	74.00	-28.05	41.24	3	Horizontal	277	3.00	-	31.38	6.30	32.97
AV	4.93172G	32.91	54.00	-21.09	28.15	3	Horizontal	277	3.00	-	31.43	6.30	32.97

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

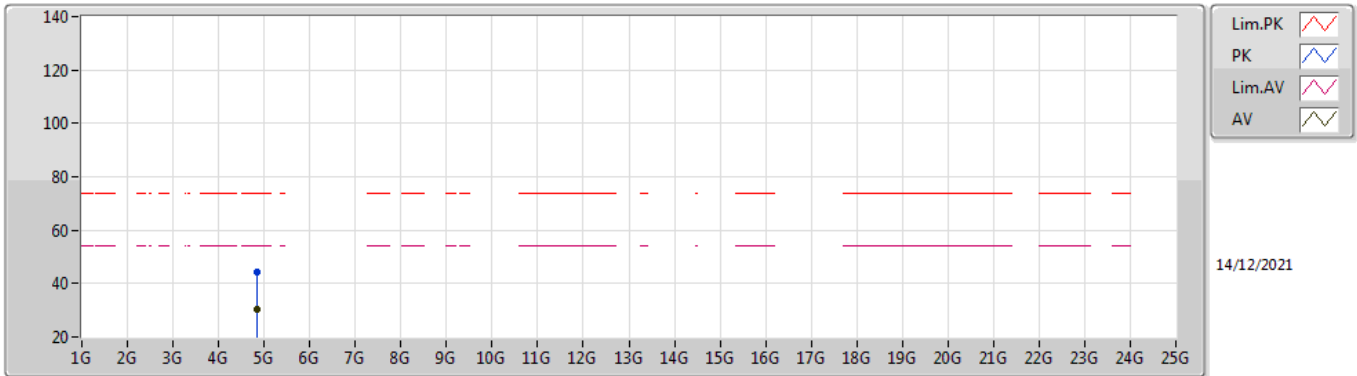


EUT_Z_2TX
Setting 80
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3876G	71.40	74.00	-2.60	40.23	3	Vertical	153	1.94	-	28.38	2.79	-
AV	2.3884G	53.26	54.00	-0.74	22.09	3	Vertical	153	1.94	-	28.38	2.79	-
PK	2.4128G	115.97	Inf	-Inf	84.76	3	Vertical	153	1.94	-	28.40	2.81	-
AV	2.4148G	105.88	Inf	-Inf	74.67	3	Vertical	153	1.94	-	28.40	2.81	-
PK	2.4844G	61.63	74.00	-12.37	30.21	3	Vertical	153	1.94	-	28.54	2.88	-
AV	2.4864G	48.26	54.00	-5.74	16.82	3	Vertical	153	1.94	-	28.55	2.89	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

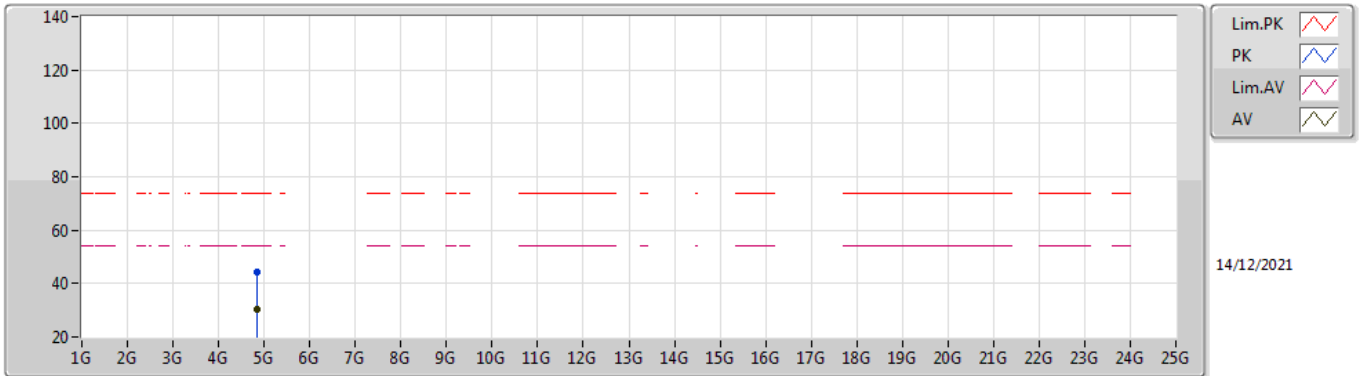


EUT_Z_2TX
Setting 80
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.8427G	44.24	74.00	-29.76	38.49	3	Vertical	15	1.34	-	32.87	5.10	32.22
AV	4.84382G	30.53	54.00	-23.47	24.77	3	Vertical	15	1.34	-	32.88	5.10	32.22

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2422MHz_TX

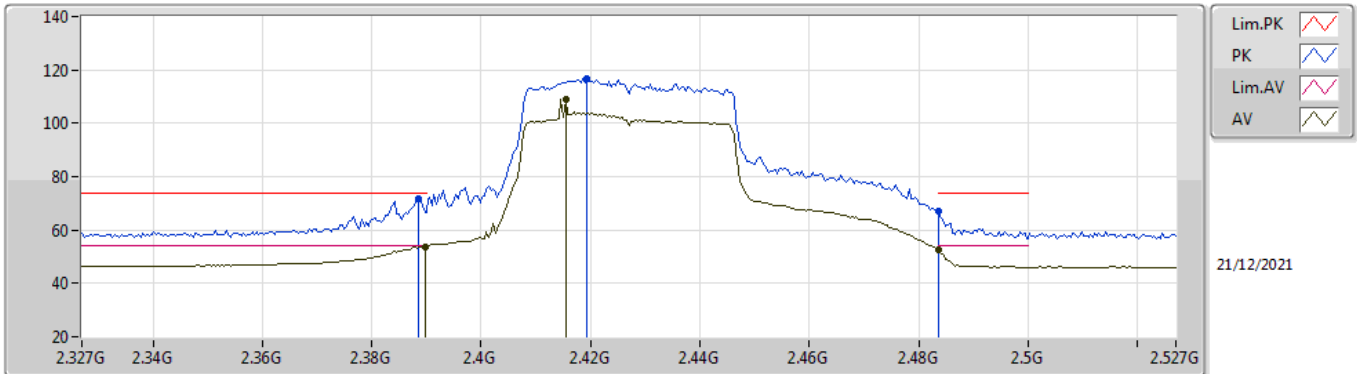


EUT_Z_2TX
Setting 80
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.84194G	44.35	74.00	-29.65	38.60	3	Horizontal	57	2.06	-	32.87	5.10	32.22
AV	4.84386G	30.51	54.00	-23.49	24.75	3	Horizontal	57	2.06	-	32.88	5.10	32.22

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2427MHz_TX

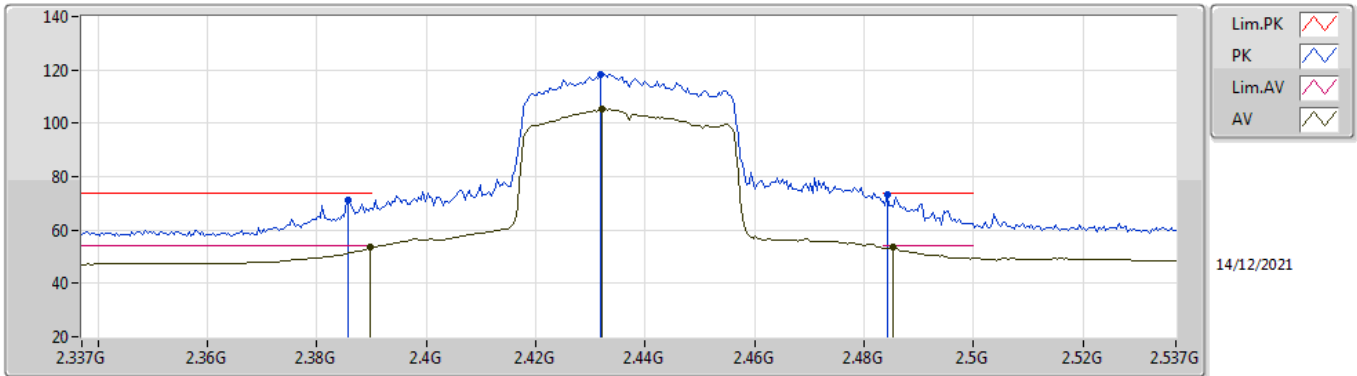


EUT_Z_2TX
Setting 87
06-F-S-8

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3886G	71.97	74.00	-2.03	40.69	3	Vertical	14.9	2.70	-	27.49	3.79	-
AV	2.3898G	53.79	54.00	-0.21	22.52	3	Vertical	14.9	2.70	-	27.48	3.79	-
PK	2.4194G	116.81	Inf	-Inf	85.67	3	Vertical	14.9	2.70	-	27.32	3.82	-
AV	2.4154G	108.99	Inf	-Inf	77.83	3	Vertical	14.9	2.70	-	27.34	3.82	-
PK	2.4835G	66.90	74.00	-7.10	35.75	3	Vertical	14.9	2.70	-	27.27	3.88	-
AV	2.4835G	52.38	54.00	-1.62	21.23	3	Vertical	14.9	2.70	-	27.27	3.88	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

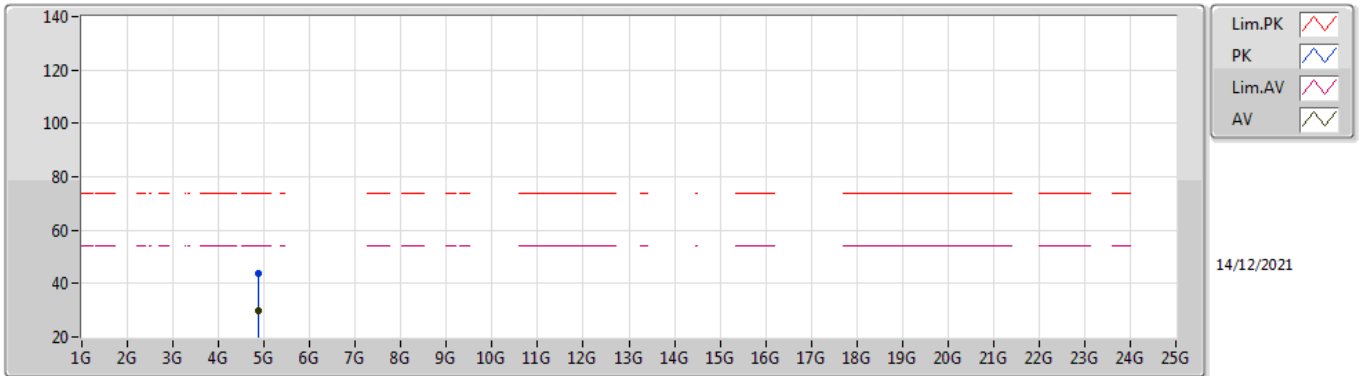


EUT_Z_2TX
Setting 91
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3858G	71.07	74.00	-2.93	39.91	3	Vertical	244	1.82	-	28.37	2.79	-
AV	2.3898G	53.38	54.00	-0.62	22.21	3	Vertical	244	1.82	-	28.38	2.79	-
PK	2.4318G	118.33	Inf	-Inf	87.10	3	Vertical	244	1.82	-	28.40	2.83	-
AV	2.4322G	105.18	Inf	-Inf	73.95	3	Vertical	244	1.82	-	28.40	2.83	-
PK	2.4842G	73.10	74.00	-0.90	41.68	3	Vertical	244	1.82	-	28.54	2.88	-
AV	2.4854G	53.61	54.00	-0.39	22.18	3	Vertical	244	1.82	-	28.54	2.89	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

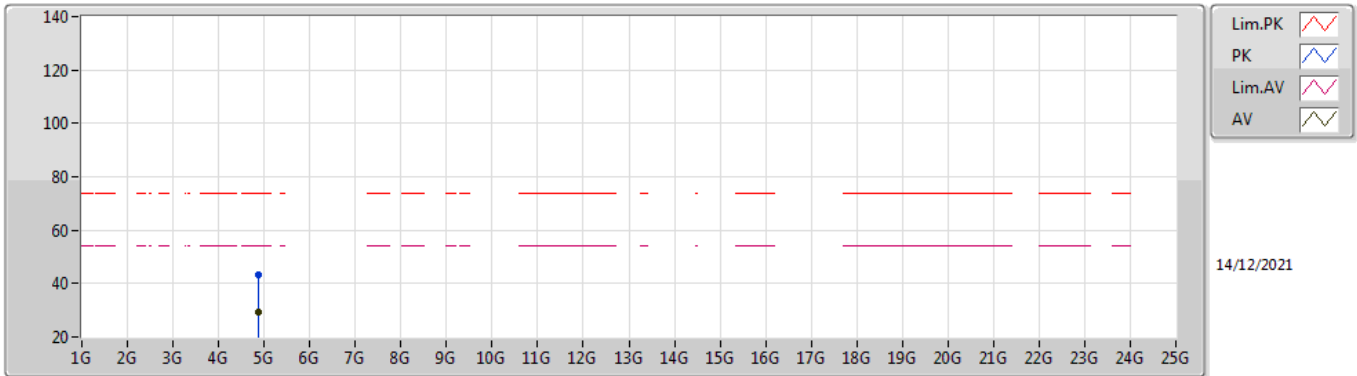


EUT_Z_2TX
Setting 91
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87892G	43.66	74.00	-30.34	37.80	3	Vertical	13	1.95	-	32.96	5.10	32.20
AV	4.87388G	29.58	54.00	-24.42	23.74	3	Vertical	13	1.95	-	32.95	5.10	32.21

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2437MHz_TX

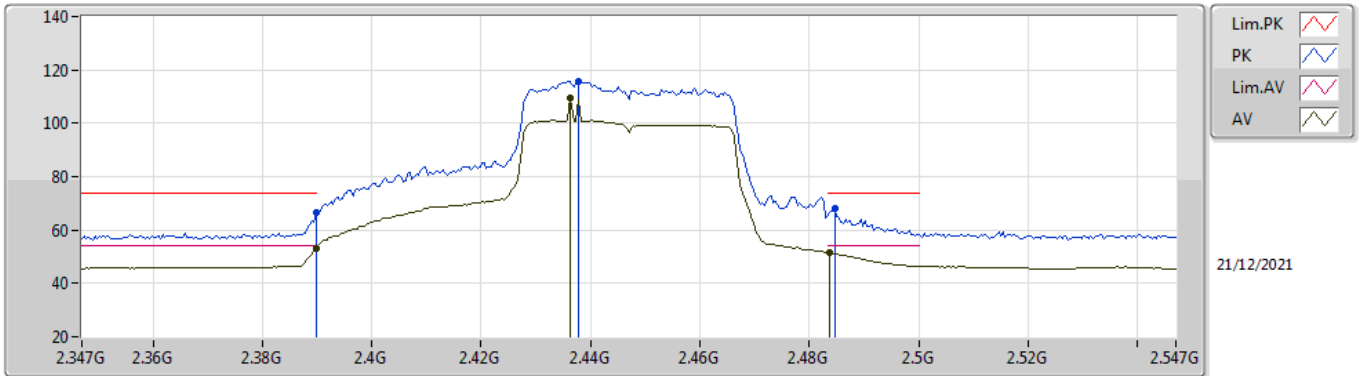


EUT_Z_2TX
Setting 91
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87886G	43.21	74.00	-30.79	37.35	3	Horizontal	21	2.98	-	32.96	5.10	32.20
AV	4.87388G	29.56	54.00	-24.44	23.72	3	Horizontal	21	2.98	-	32.95	5.10	32.21

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2447MHz_TX

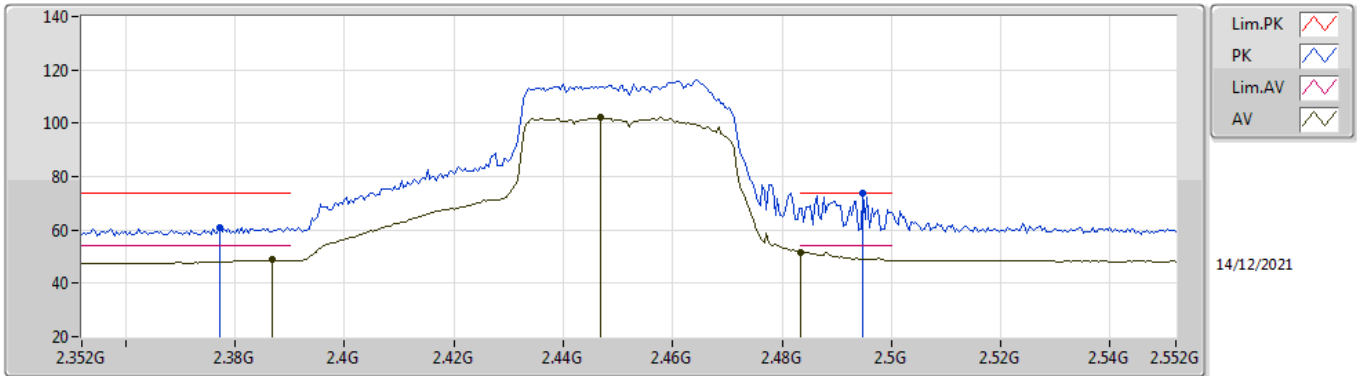


EUT_Z_2TX
Setting 85
06-F-S-8

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3898G	66.72	74.00	-7.28	35.45	3	Vertical	345	1.80	-	27.48	3.79	-
AV	2.3898G	53.25	54.00	-0.75	21.98	3	Vertical	345	1.80	-	27.48	3.79	-
PK	2.4378G	115.70	Inf	-Inf	84.61	3	Vertical	345	1.80	-	27.25	3.84	-
AV	2.4362G	109.57	Inf	-Inf	78.47	3	Vertical	345	1.80	-	27.26	3.84	-
PK	2.4846G	67.93	74.00	-6.07	36.78	3	Vertical	345	1.80	-	27.27	3.88	-
AV	2.4838G	51.37	54.00	-2.63	20.22	3	Vertical	345	1.80	-	27.27	3.88	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX

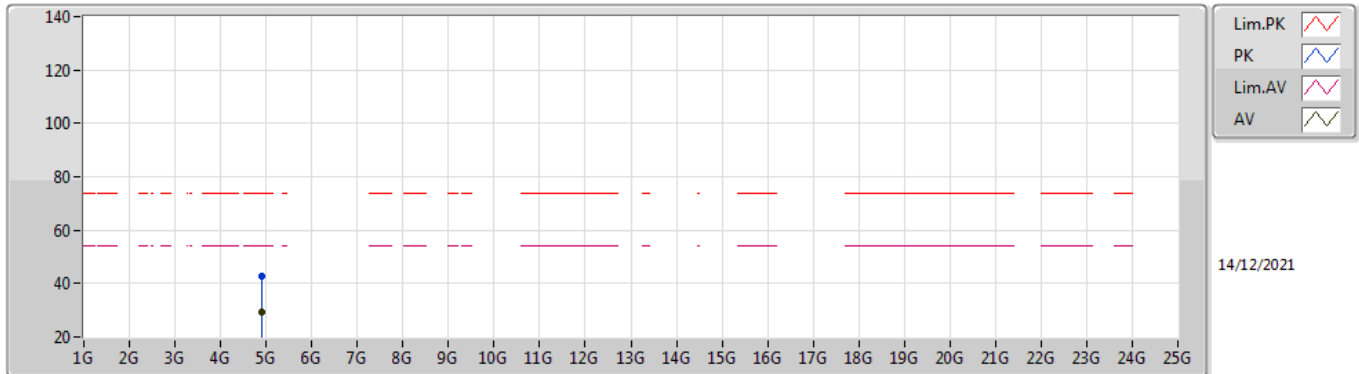


EUT_Z_2TX
Setting 80
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.3868G	48.71	54.00	-5.29	17.55	3	Vertical	0	2.63	-	28.37	2.79	-
PK	2.3772G	60.98	74.00	-13.02	29.84	3	Vertical	0	2.63	-	28.35	2.79	-
AV	2.4468G	102.19	Inf	-Inf	70.94	3	Vertical	0	2.63	-	28.40	2.85	-
AV	2.4835G	51.72	54.00	-2.28	20.31	3	Vertical	0	2.63	-	28.53	2.88	-
PK	2.4948G	73.80	74.00	-0.20	42.33	3	Vertical	0	2.63	-	28.58	2.89	-

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX

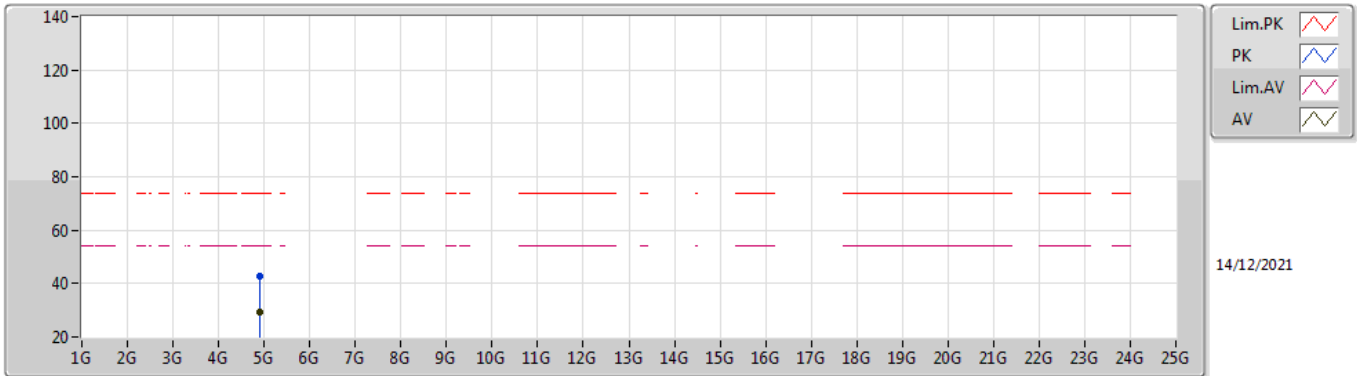


EUT_Z_2TX
Setting 80
02-B-G-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.9031G	42.83	74.00	-31.17	36.90	3	Vertical	139	2.92	-	33.02	5.10	32.19
AV	4.9047G	29.17	54.00	-24.83	23.23	3	Vertical	139	2.92	-	33.03	5.10	32.19

802.11ax HEW40-BF_Nss1,(MCS0)_2TX

2452MHz_TX



EUT_Z_2TX
Setting 80
02-B-G-2

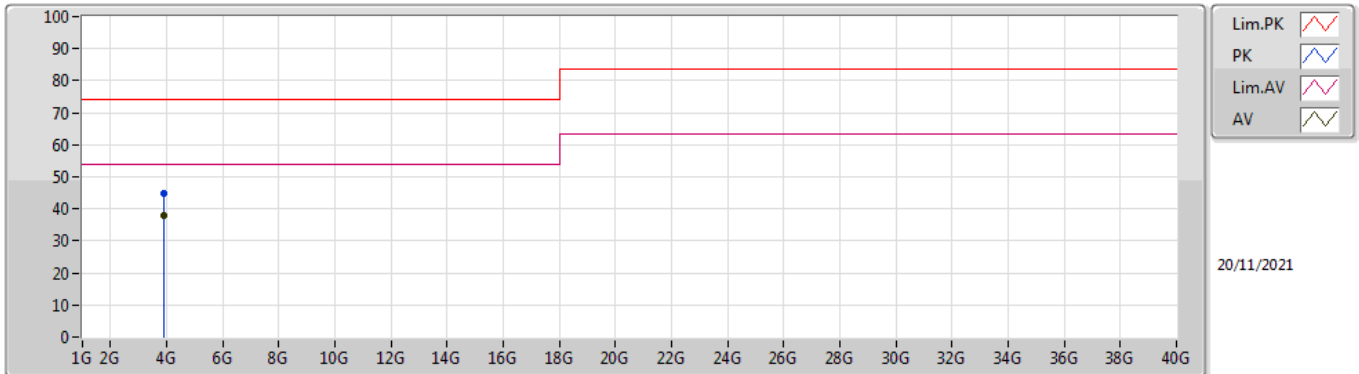
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.909G	42.71	74.00	-31.29	36.75	3	Horizontal	91	1.27	-	33.05	5.10	32.19
AV	4.9045G	29.23	54.00	-24.77	23.29	3	Horizontal	91	1.27	-	33.03	5.10	32.19



Summary

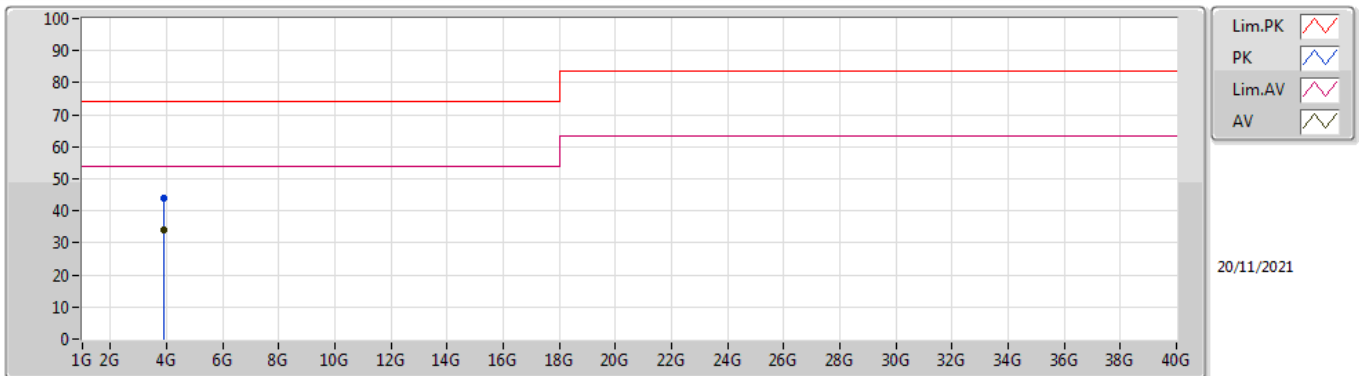
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	3.912458G	37.85	54.00	-16.15	Vertical

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	3.902315G	44.82	74.00	-29.18	1.78	3	Vertical	145	1.10	-	43.04	29.60	4.95	32.77
AV	3.912458G	37.85	54.00	-16.15	1.80	3	Vertical	145	1.10	"Worst"	36.05	29.60	4.96	32.76

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	3.91255G	44.15	74.00	-29.85	1.80	3	Horizontal	3	1.45	-	42.35	29.60	4.96	32.76
AV	3.904165G	34.25	54.00	-19.75	1.78	3	Horizontal	3	1.45	"Worst"	32.47	29.60	4.95	32.77