Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	2AHBN-AP34
Equipment	:	802.11ax 6E Wireless Access Point
Brand Name	:	Juniper
Model Name	:	AP34
Applicant	:	Juniper Networks, Inc. 1133 Innovation Way Sunnyvale, California 94089 USA
Manufacturer	:	Juniper Networks, Inc. 1133 Innovation Way Sunnyvale, California 94089 USA
Standard	:	47 CFR FCC Part 15.247

The product was received on Mar. 22, 2022, and testing was started from Mar. 26, 2022 and completed on May 12, 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: Sam Chen

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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History of this test report

Report No.	Version	Description	Issued Date
FR231832AA	01	Initial issue of report	Jul. 12, 2022
FR231832AA	02	Update the typo in section 1.1.1.	Jul. 15, 2022

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: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

For Radio 5

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1	1TX
2.4-2.4835GHz	BT-LE(500Kb/s)	1	1TX
2.4-2.4835GHz	BT-LE(125Kb/s)	1	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2	1TX

Note:
- Bluetooth LE uses a GFSK modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port							Brand Name	Model Name	Ant. Type	Connector	Gain (dBi)
	WLAN 5GHz (Radio 1)	WLAN 2.4GHz (Radio 2)	WLAN 6GHz (Radio 3)	WLAN 2.4GHz (Radio 4)	WLAN 5GHz (Radio 4)	WLAN 6GHz (Radio 4)	BT (Radio 5)					
1	2	1	-	-	-		-	Juniper	AP34	PIFA	I-PEX	Note 2
2	1	2	-	-	-		-	Juniper	AP34	PIFA	I-PEX	
3	-	-	2	-	-		-	Juniper	AP34	PIFA	I-PEX	
4	-	-	1	-	-		-	Juniper	AP34	PIFA	I-PEX	
5	-	-	-	1	1	1	-	Juniper	AP34	PIFA	I-PEX	
6	-	-	-	-	-		1	Juniper	AP34	PIFA	N/A	

Note1: The above information was declared by manufacturer.
Note2:

Ant.	Gain (dBi)																		
	WLAN5GHz (Radio 1)				WLAN 2.4GHz (Radio 2)	WLAN 6GHz (Radio 3)				WLAN2.4GHz (Radio 4)	WLAN 5GHz (Radio 4)				WLAN 6GHz (Radio 4)				BT (Radio 5)
	UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 5	UNII 6	UNII 7	UNII 8		UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8	
1	2.4	2.13	2.25	2.02	2.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2.38	2.22	2.33	2.07	2.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	5.85	5.08	5.08	4.70	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	5.85	5.08	5.08	4.70	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	5.0	5.8	5.8	5.5	5.6	5.6	5.5	5.5	5.6	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6

Note3: WLAN 2.4GHz (Radio 2) and 5GHz (Radio 1): Maximum Directional Gain following KDB662911 D03. The antenna report is provided in the operational description for this application.
Note4: The antenna gain of Radio 3, Radio 4 and Radio 5 were declared by manufacturer.
Note5: **For Radio 2**

For 2.4GHz:
For IEEE 802.11b/g/n/VHT/ax mode (2TX/2RX):
Port 1, Port 2 can be used as transmitting/receiving antenna.
Port 1, Port 2 could transmit/receive simultaneously.
For Radio 1
For 5GHz UNII 1~3:
For IEEE 802.11a/n/ac/ax mode (2TX/2RX):
Port 1, Port 2 can be used as transmitting/receiving antenna.
Port 1, Port 2 could transmit/receive simultaneously.
For Radio 3
For 6E UNII 5~8:
For IEEE 802.11ax mode (2TX/2RX):
Port 1, Port 2 can be used as transmitting/receiving antenna.
Port 1, Port 2 could transmit/receive simultaneously.
For scanning Radio 4
For 2.4GHz, IEEE 802.11b/g/n/VHT/ax mode (1TX/1RX):
For 5GHz UNII 1~3, IEEE 802.11a/n/ac/ax mode (1TX/1RX):
For 6E UNII 5~8, IEEE 802.11ax mode (1TX/1RX):
Only Port 1 can be used as transmitting/receiving antenna.
For Radio 5
Bluetooth (1TX/1RX):
Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.632	1.99	395u	3k
BT-LE(2Mbps)	0.332	4.79	207.5u	10k

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	accessMTool(version3.2.1.5)			
Support Mode	☒	LE 1M PHY: 1 Mb/s		
	☒	LE Coded PHY (S=2): 500 Kb/s		
	☒	LE Coded PHY (S=8): 125 Kb/s		
	☒	LE 2M PHY: 2 Mb/s		

Note: The above information was declared by manufacturer.

1.1.5 Table for Radio function

Radio 1	Radio 2	Radio 3	Radio 4 (Scanning)	Radio 5
(WLAN 5GHz UNII 1~3)	(WLAN 2.4GHz)	(WLAN 6GHz)	(WLAN 2.4GHz)	(Bluetooth)
			(WLAN 5GHz)	
			(WLAN 6GHz)	

Note: 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 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	21.7~22.8 / 66~71	Apr. 01, 2022 ~ Apr. 04, 2022
Radiated Emission below 1GHz	03CH05-CB	Eason Chen	24.4-25.5 / 55-58	Mar. 30, 2022~ Mar. 31, 2022
Radiated Emission above 1GHz	03CH01-CB	Stim Sung	23.8-24.9 / 55-58	Mar. 26, 2022 ~ May 12, 2022
AC Conduction	CO01-CB	Joe Chu	20~22 / 60~62	Apr. 08, 2022

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 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

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	8dBm
2440MHz	8dBm
2480MHz	8dBm
BT-LE(2Mbps)	-
2402MHz	8dBm
2440MHz	8dBm
2478MHz	8dBm
2480MHz	4dBm

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						
	EUT	Radio 1	Radio 2	Radio 3	Radio 4	Radio 5	Powered by
1	EUT	5GHz Full Band	2.4GHz	6GHz	2.4GHz	Bluetooth	PoE
2	EUT	5GHz Full Band	2.4GHz	6GHz	5GHz	Bluetooth	PoE
3	EUT	5GHz Full Band	2.4GHz	6GHz	6GHz	Bluetooth	PoE
For operating mode 1 is the worst case and it was record in this test report.							

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

The Worst Case Mode for Following Conformance Tests							
Tests Item	Emissions in Restricted Frequency Bands						
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.						
Operating Mode < 1GHz	Normal Link						
	EUT	Radio 1	Radio 2	Radio 3	Radio 4	Radio 5	Powered by
1	EUT in Z axis	5GHz Full Band	2.4GHz	6GHz	2.4GHz	Bluetooth	PoE
2	EUT in Y axis	5GHz Full Band	2.4GHz	6GHz	2.4GHz	Bluetooth	PoE
3	EUT in X axis	5GHz Full Band	2.4GHz	6GHz	2.4GHz	Bluetooth	PoE
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 ~ 5 will follow this same test mode.							
4	EUT in Z axis	5GHz Full Band	2.4GHz	6GHz	5GHz	Bluetooth	PoE
5	EUT in Z axis	5GHz Full Band	2.4GHz	6GHz	6GHz	Bluetooth	PoE
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 X axis. So the measurement will follow this same test configuration.						
1	EUT in X axis						

The Worst Case Mode for Following Conformance Tests					
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation				
Operating Mode	Radio 1	Radio 2	Radio 3	Radio 4	Radio 5
1	5GHz Full Band	2.4GHz	6GHz	2.4GHz	Bluetooth
2	5GHz Full Band	2.4GHz	6GHz	5GHz	Bluetooth
3	5GHz Full Band	2.4GHz	6GHz	6GHz	Bluetooth
Refer to Sporton Test Report No.: FA231832 for Co-location RF Exposure Evaluation.					

Note: The PoE is for measurement only, would not be marketed.

PoE information as below:

Power	Brand	Model
PoE	PHIHONG	POE60U-1BT-5

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.4 Accessories

Bracket*1

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN PC	DELL	T3400	N/A
B	2.4G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	SCAN NB	DELL	E6430	N/A
E	Flash disk3.0	Transcend	JetFlash-700	N/A
F	PoE	PHIHONG	POE60U-1BT-5	N/A
G	6E NB	DELL	E6430	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN Notebook	DELL	E4300	N/A
B	5G NB	DELL	E4300	N/A
C	2.4G NB	DELL	E4300	N/A
D	6E NB	DELL	E4300	N/A
E	SCAN NB	DELL	E4300	N/A
F	Flash disk3.0	Silicon Power	B06	N/A
G	PoE	PHIHONG	POE60U-1BT-5	N/A

For Radiated (above 1GHz):

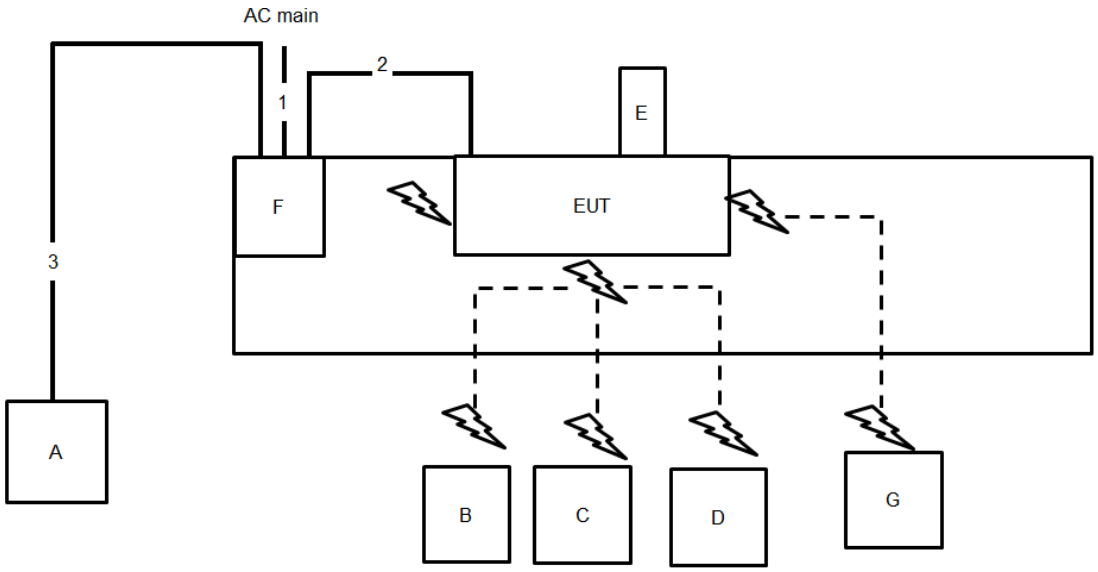
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	PoE	Microsemi	PD-9001-10GC/AC	N/A
B	Notebook	DELL	E4300	N/A

For RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
B	PoE	PHIHONG	POE60U-1BT-X	N/A

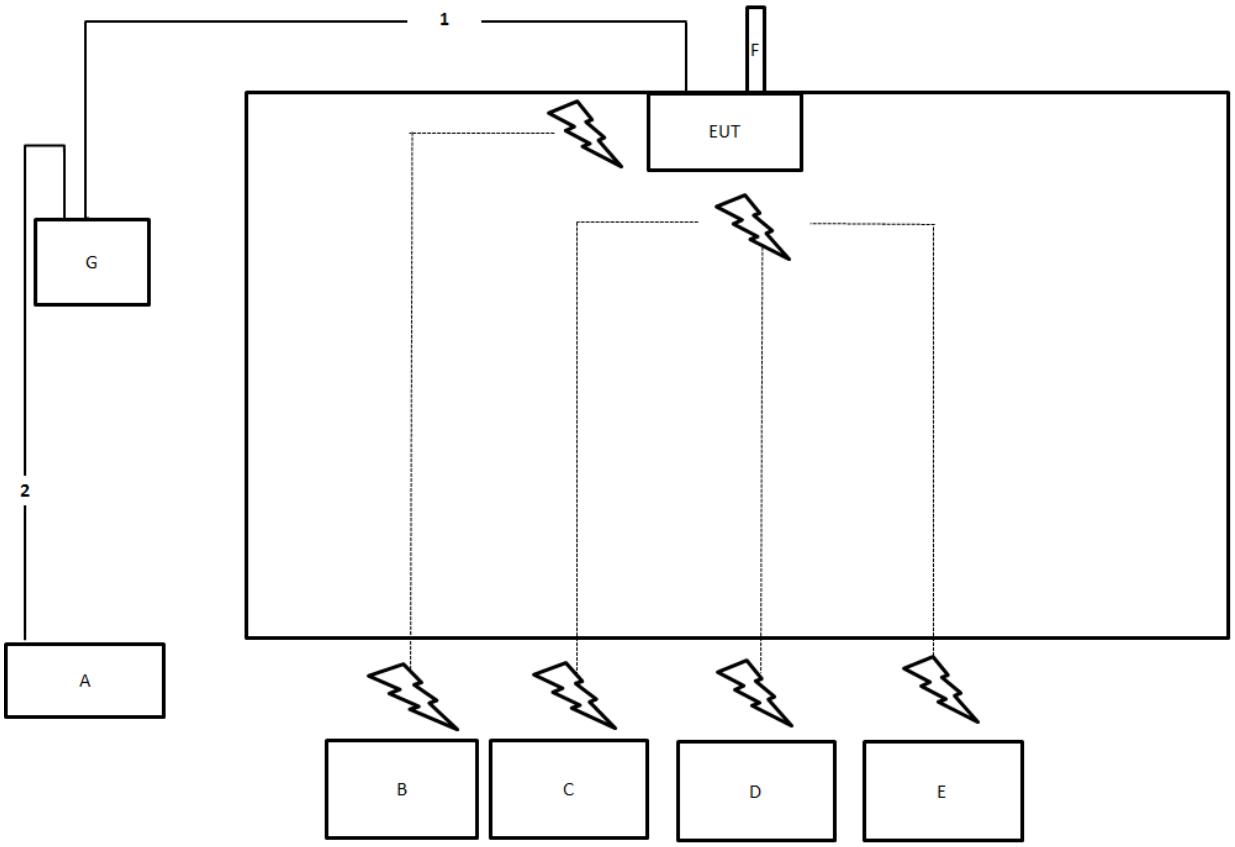
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



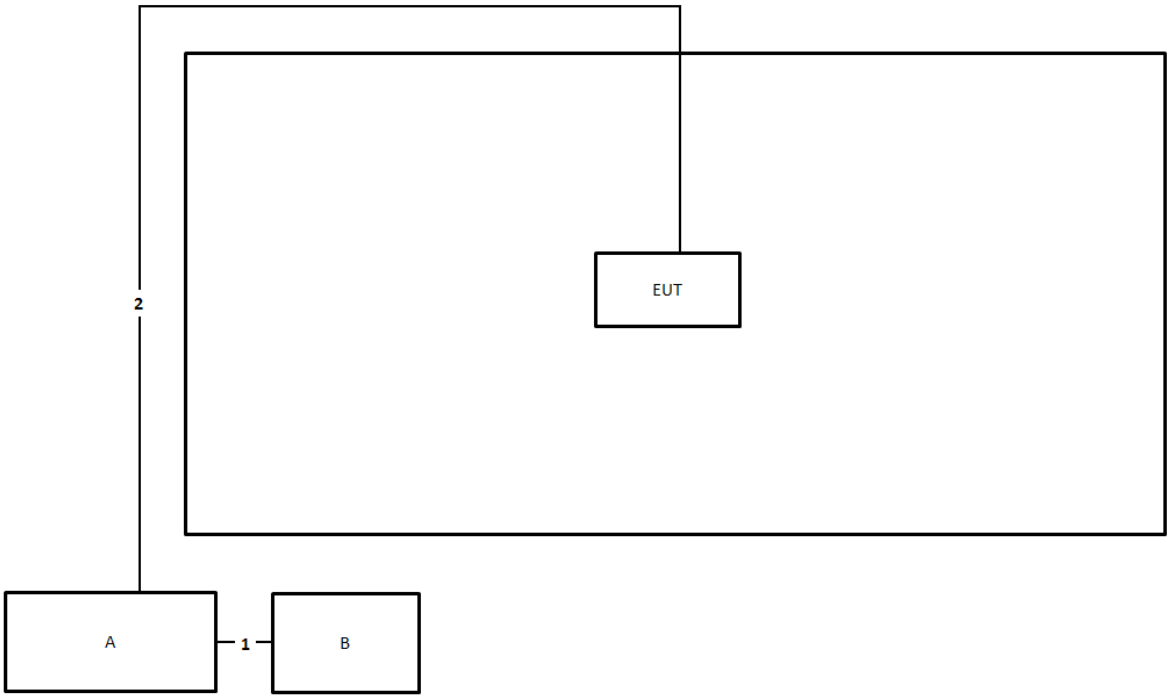
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test < 1GHz



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

Test Setup Diagram - Radiated Test > 1GHz



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

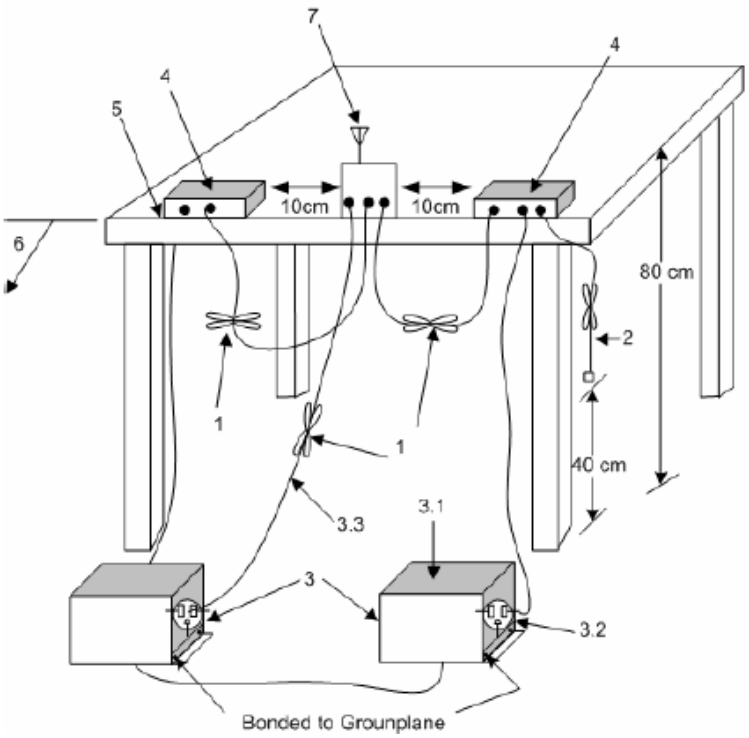
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

1.1.1. 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

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

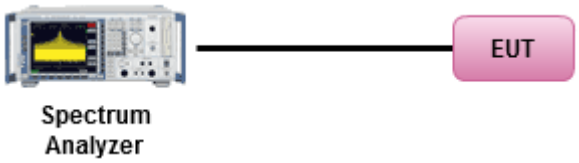
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

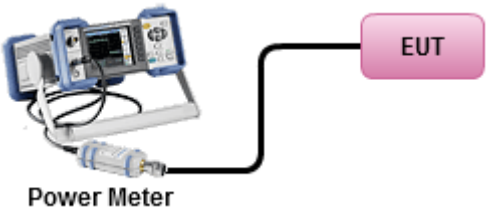
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	☐ 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
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	☐ 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)
	☐ 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).
	☒ 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).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

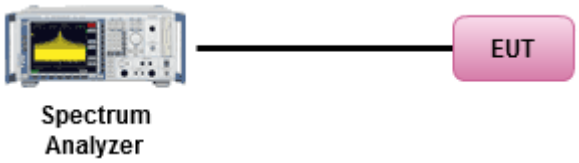
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method			
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).			
	☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.		
	[duty cycle ≥ 98% or external video / power trigger]		
▪ For conducted measurement.			
	▪ If The EUT supports multiple transmit chains using options given below:		
		☐	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
		☐	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

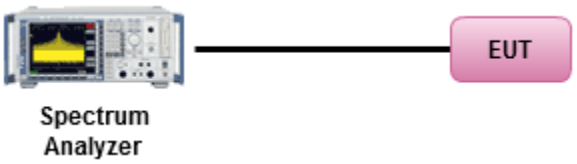
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 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.

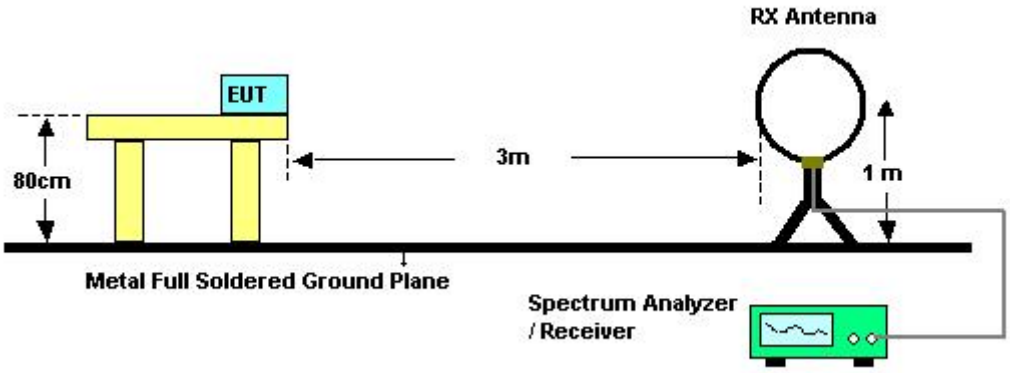
3.6.3 Test Procedures

Test Method
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074 clause 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.
▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
▪ 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).
▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

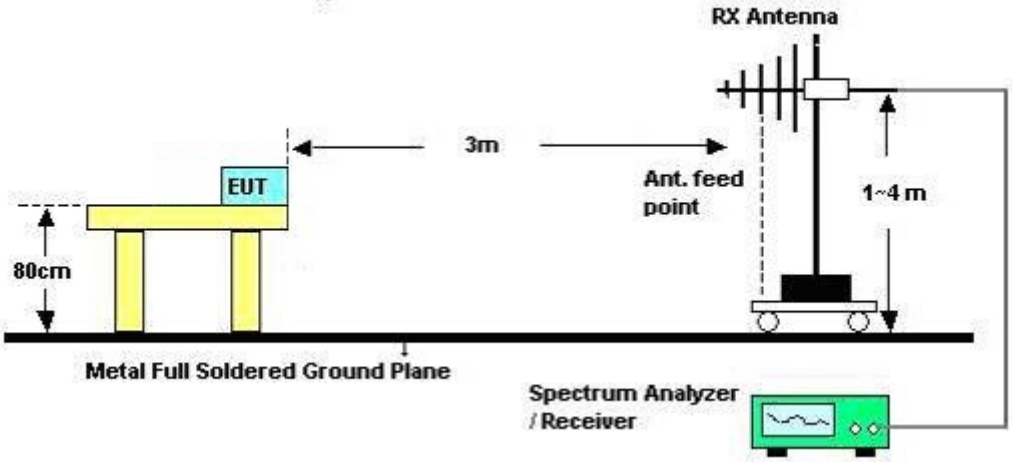
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

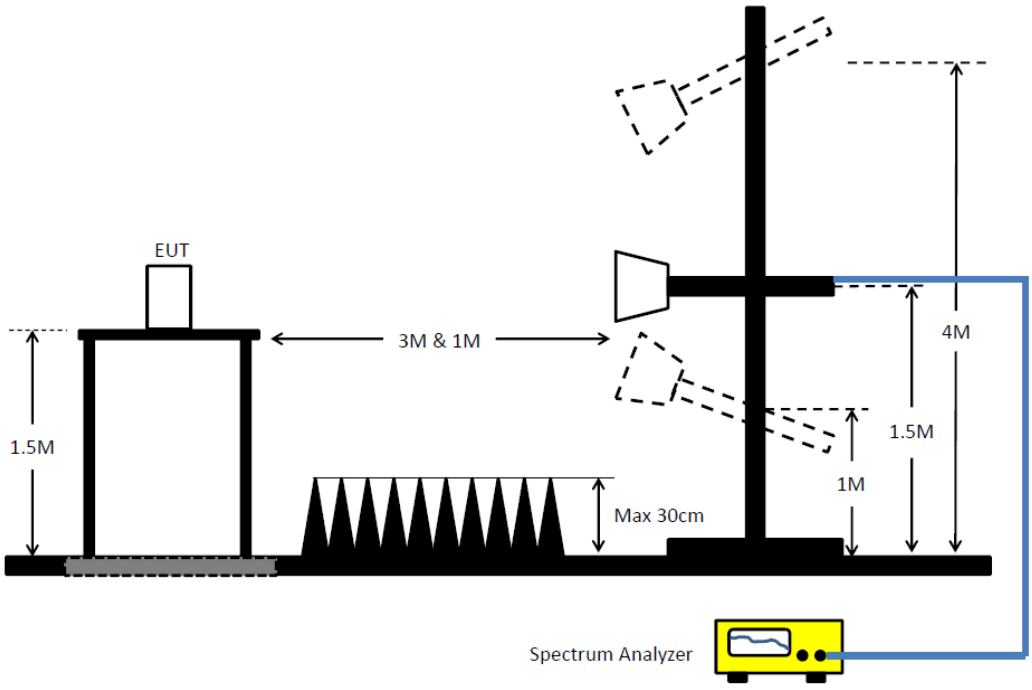
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



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	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Jan. 07, 2022	Jan. 06, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	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	31244	9kHz - 30 MHz	Mar. 18, 2022	Mar. 17, 2023	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 07, 2021	Nov. 06, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Oct. 14, 2021	Oct. 13, 2022	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 07, 2021	May 06, 2022	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 06, 2022	May 05, 2023	Radiation (03CH01-CB)
Horn Antenna	ETS-LINDGREN	3115	00075790	750MHz ~ 18GHz	Nov. 06, 2021	Nov. 05, 2022	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 20, 2021	May 19, 2022	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	May 03, 2021	May 02, 2022	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH01-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.

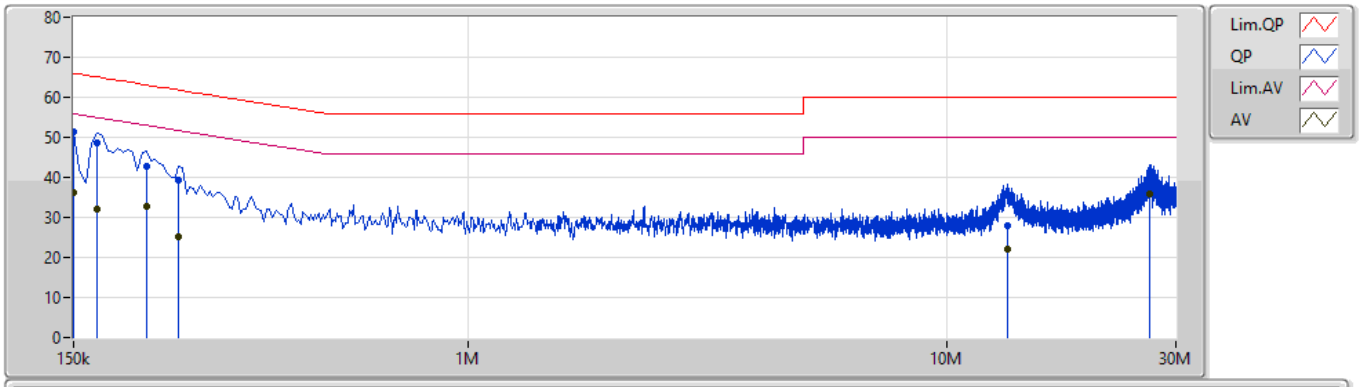
N.C.R means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	26.925M	37.15	50.00	-12.85	Neutral

Mode 1

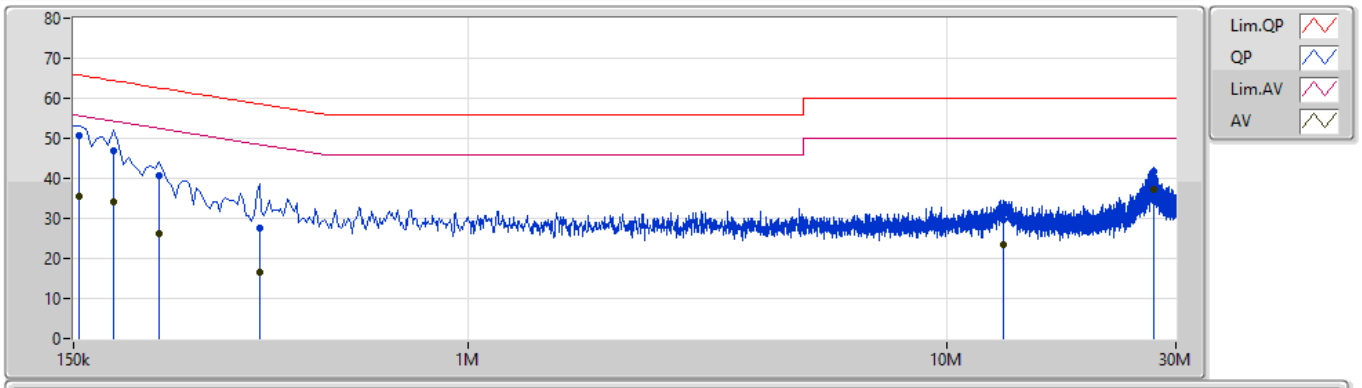
08/04/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	51.36	66.00	-14.64	10.03	Line	-	41.33	0.12	0.02	9.89
AV	150k	36.10	56.00	-19.90	10.03	Line	-	26.07	0.12	0.02	9.89
QP	168k	48.51	65.06	-16.55	10.03	Line	-	38.48	0.12	0.02	9.89
AV	168k	31.98	55.06	-23.08	10.03	Line	-	21.95	0.12	0.02	9.89
QP	213k	42.63	63.09	-20.46	10.03	Line	-	32.60	0.12	0.02	9.89
AV	213k	32.69	53.09	-20.40	10.03	Line	-	22.66	0.12	0.02	9.89
QP	249k	39.18	61.79	-22.61	10.03	Line	-	29.15	0.12	0.02	9.89
AV	249k	25.11	51.79	-26.68	10.03	Line	-	15.08	0.12	0.02	9.89
QP	13.349M	27.96	60.00	-32.04	10.39	Line	-	17.57	0.36	0.10	9.93
AV	13.349M	21.95	50.00	-28.05	10.39	Line	-	11.56	0.36	0.10	9.93
QP	26.534M	40.52	60.00	-19.48	10.61	Line	-	29.91	0.41	0.21	9.99
AV	26.534M	35.90	50.00	-14.10	10.61	Line	"Worst"	25.29	0.41	0.21	9.99

Mode 1

08/04/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	50.55	65.75	-15.20	10.07	Neutral	-	40.48	0.16	0.02	9.89
AV	154.5k	35.64	55.75	-20.11	10.07	Neutral	-	25.57	0.16	0.02	9.89
QP	181.5k	46.76	64.41	-17.65	10.07	Neutral	-	36.69	0.16	0.02	9.89
AV	181.5k	34.03	54.41	-20.38	10.07	Neutral	-	23.96	0.16	0.02	9.89
QP	226.5k	40.52	62.58	-22.06	10.07	Neutral	-	30.45	0.16	0.02	9.89
AV	226.5k	26.23	52.58	-26.35	10.07	Neutral	-	16.16	0.16	0.02	9.89
QP	366k	27.65	58.60	-30.95	10.07	Neutral	-	17.58	0.16	0.02	9.89
AV	366k	16.49	48.60	-32.11	10.07	Neutral	-	6.42	0.16	0.02	9.89
QP	13.061M	29.57	60.00	-30.43	10.33	Neutral	-	19.24	0.30	0.10	9.93
AV	13.061M	23.47	50.00	-26.53	10.33	Neutral	-	13.14	0.30	0.10	9.93
QP	26.925M	41.65	60.00	-18.35	10.57	Neutral	-	31.08	0.36	0.22	9.99
AV	26.925M	37.15	50.00	-12.85	10.57	Neutral	"Worst"	26.58	0.36	0.22	9.99

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	710k	1.044M	1M04F1D	707.5k	1.042M
BT-LE(2Mbps)	1.138M	2.036M	2M04F1D	1.133M	2.029M

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

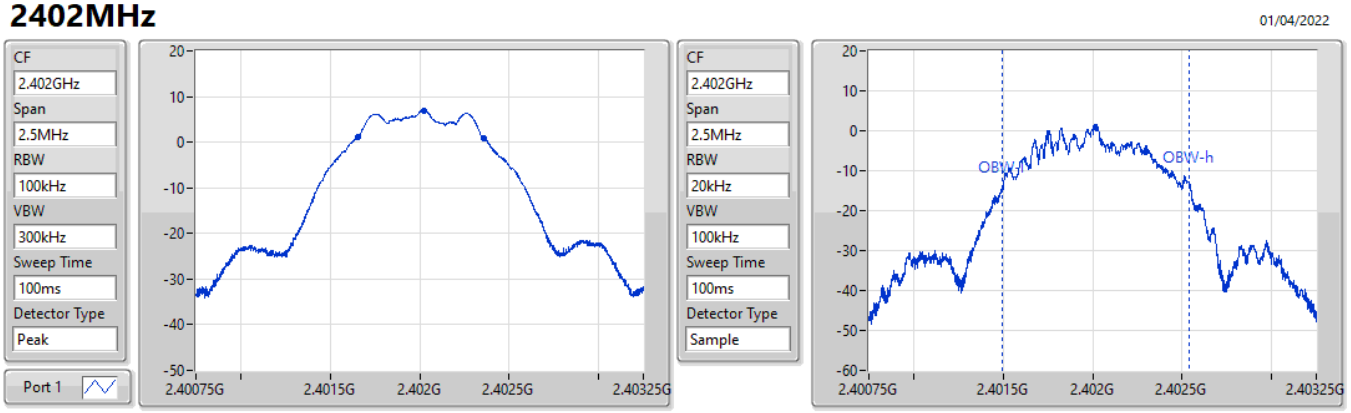
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	707.5k	1.042M
2440MHz	Pass	500k	707.5k	1.044M
2480MHz	Pass	500k	710k	1.044M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.135M	2.029M
2440MHz	Pass	500k	1.138M	2.036M
2478MHz	Pass	500k	1.133M	2.034M
2480MHz	Pass	500k	1.138M	2.031M

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

BT-LE(1Mbps) **EBW-DTS**

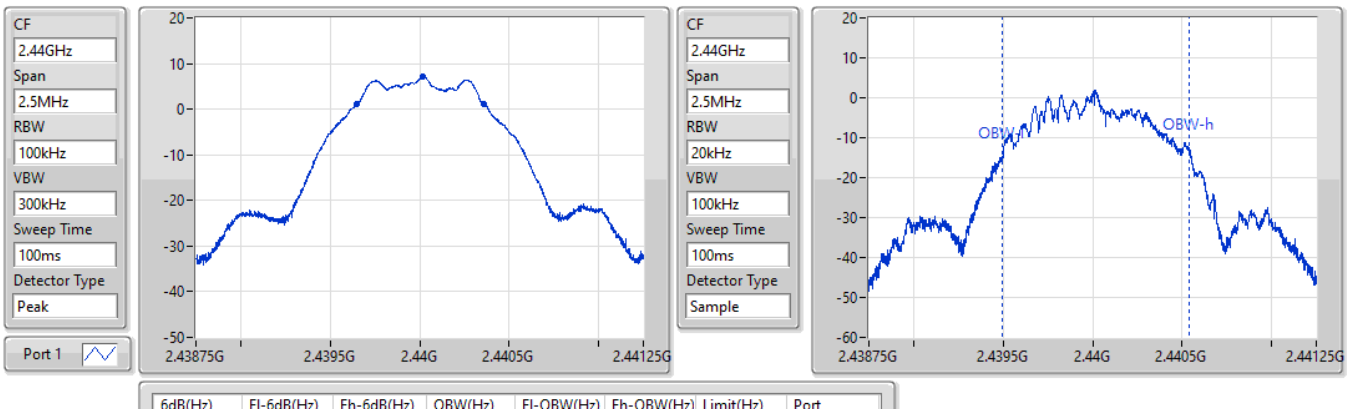
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
707.5k	2.401654G	2.402361G	1.042M	2.401495G	2.402537G	500k	1

BT-LE(1Mbps) **EBW-DTS**

2440MHz

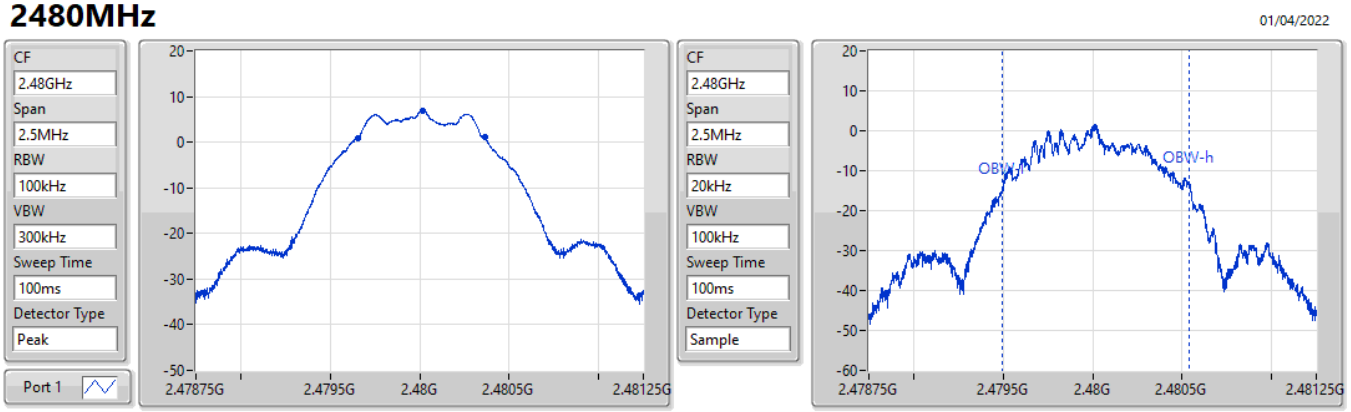


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
707.5k	2.43965G	2.440358G	1.044M	2.439494G	2.440538G	500k	1

BT-LE(1Mbps)

EBW-DTS

2480MHz

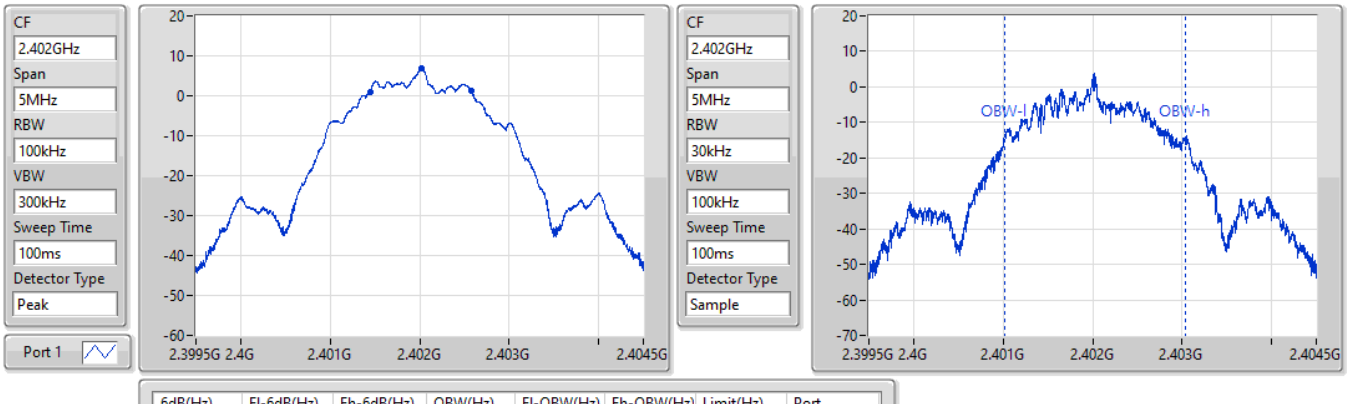


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
710k	2.479654G	2.480364G	1.044M	2.479494G	2.480538G	500k	1

BT-LE(2Mbps)

EBW-DTS

2402MHz

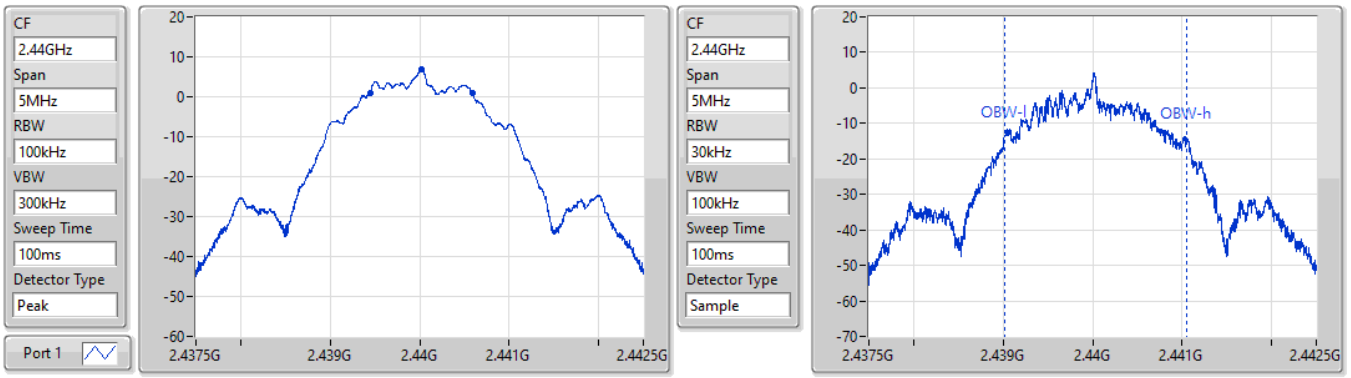


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.135M	2.401445G	2.40258G	2.029M	2.401015G	2.403044G	500k	1

BT-LE(2Mbps) EBW-DTS

2440MHz

01/04/2022

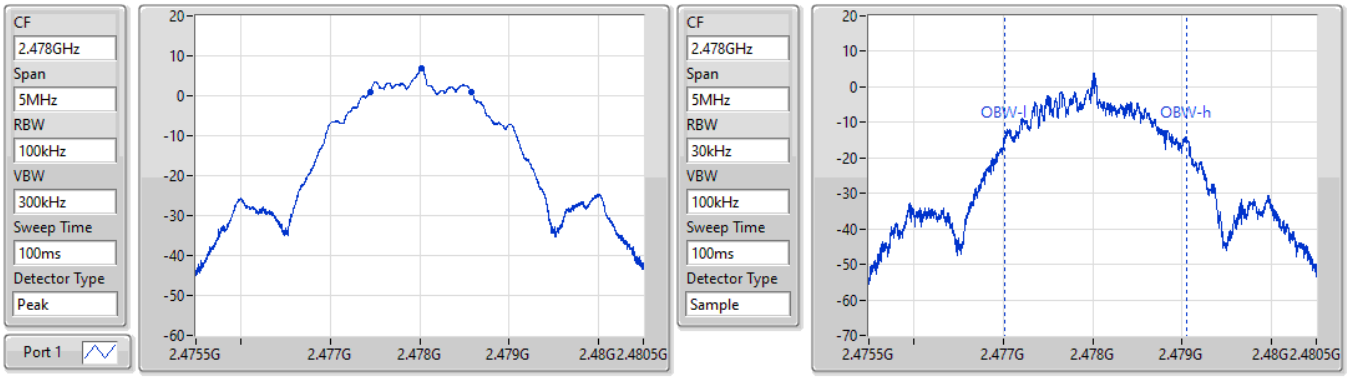


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.138M	2.439448G	2.440585G	2.036M	2.439013G	2.441049G	500k	1

BT-LE(2Mbps) EBW-DTS

2478MHz

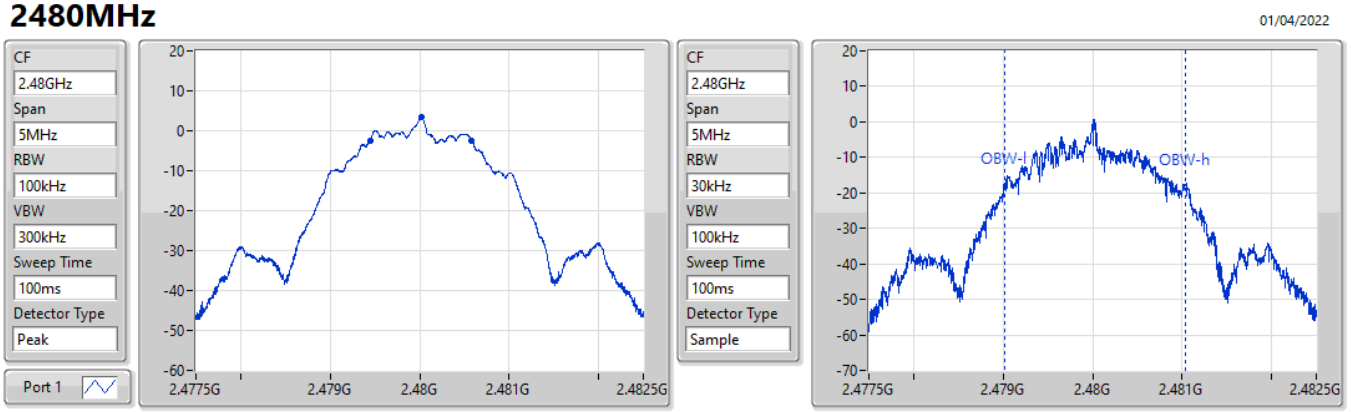
01/04/2022



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.133M	2.477448G	2.47858G	2.034M	2.477013G	2.479047G	500k	1

BT-LE(2Mbps) **EBW-DTS**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.138M	2.479445G	2.480583G	2.031M	2.479013G	2.481044G	500k	1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	7.08	0.00511
BT-LE(2Mbps)	7.05	0.00507

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.60	6.97	30.00
2440MHz	Pass	4.60	7.08	30.00
2480MHz	Pass	4.60	6.87	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.60	6.93	30.00
2440MHz	Pass	4.60	7.05	30.00
2478MHz	Pass	4.60	6.86	30.00
2480MHz	Pass	4.60	3.38	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.53
BT-LE(2Mbps)	-11.29

RBW = 3kHz;

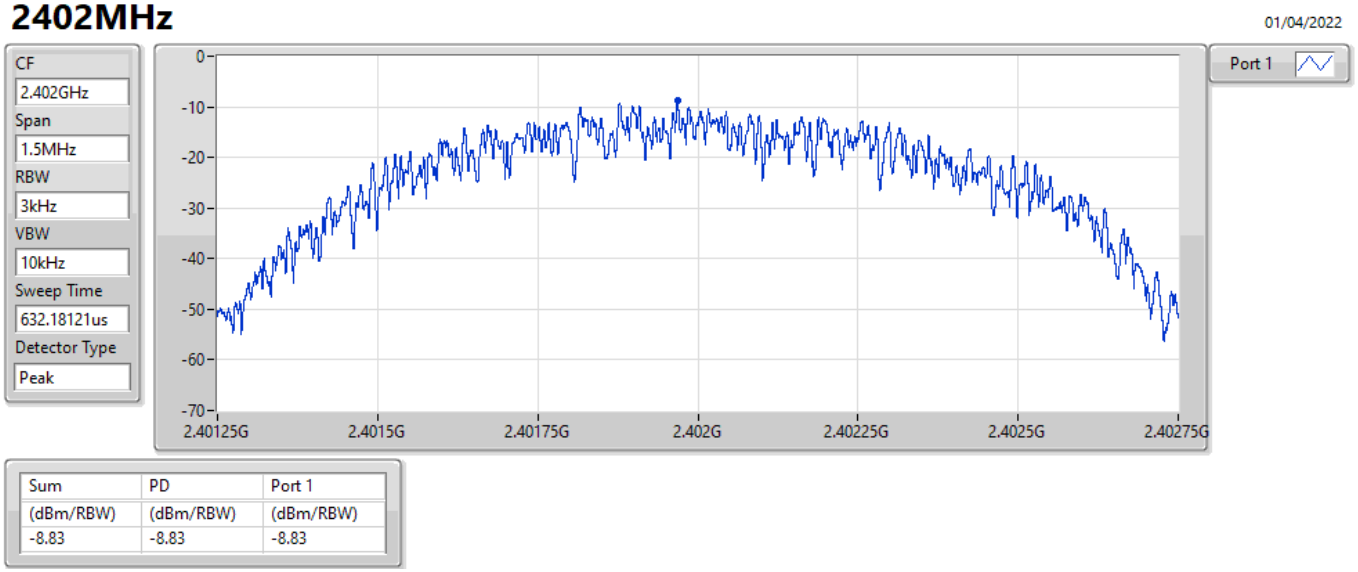
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.60	-8.83	8.00
2440MHz	Pass	4.60	-8.53	8.00
2480MHz	Pass	4.60	-9.27	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.60	-11.33	8.00
2440MHz	Pass	4.60	-11.29	8.00
2478MHz	Pass	4.60	-11.63	8.00
2480MHz	Pass	4.60	-15.18	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;

BT-LE(1Mbps) PSD

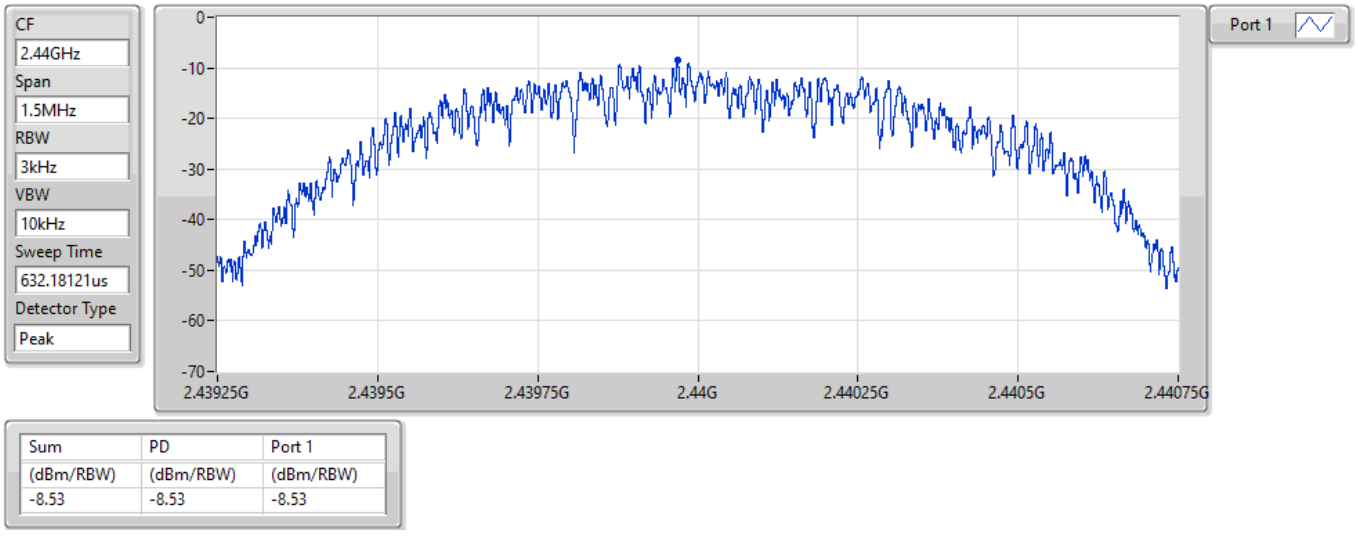
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.83	-8.83	-8.83

BT-LE(1Mbps) PSD

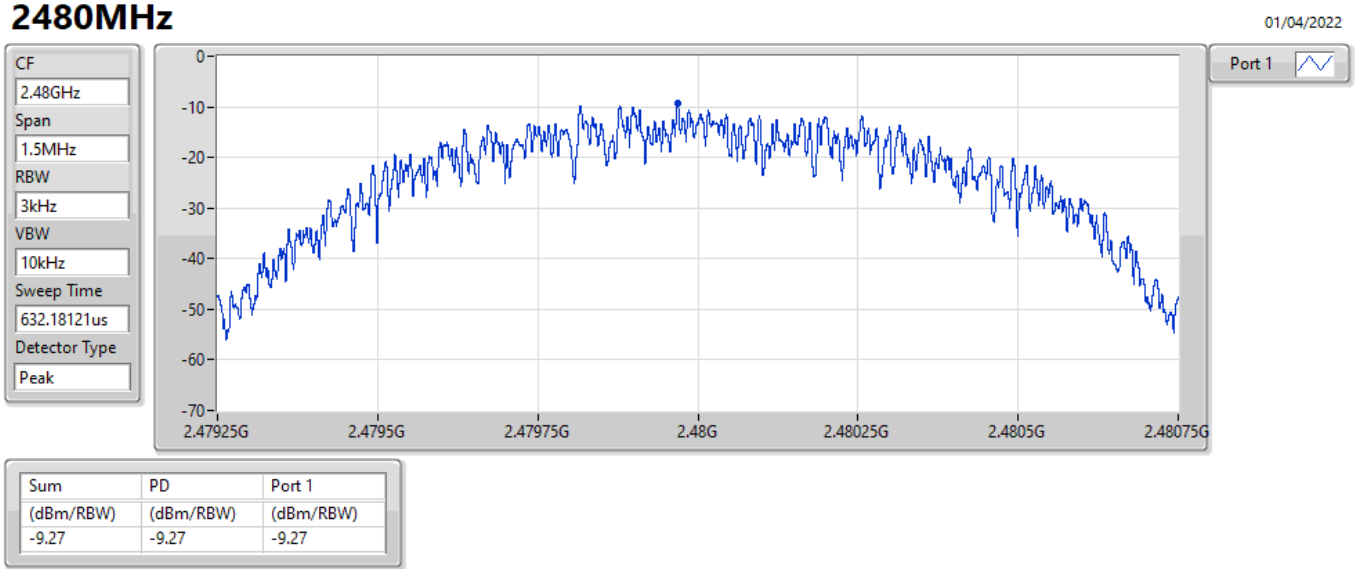
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.53	-8.53	-8.53

BT-LE(1Mbps) PSD

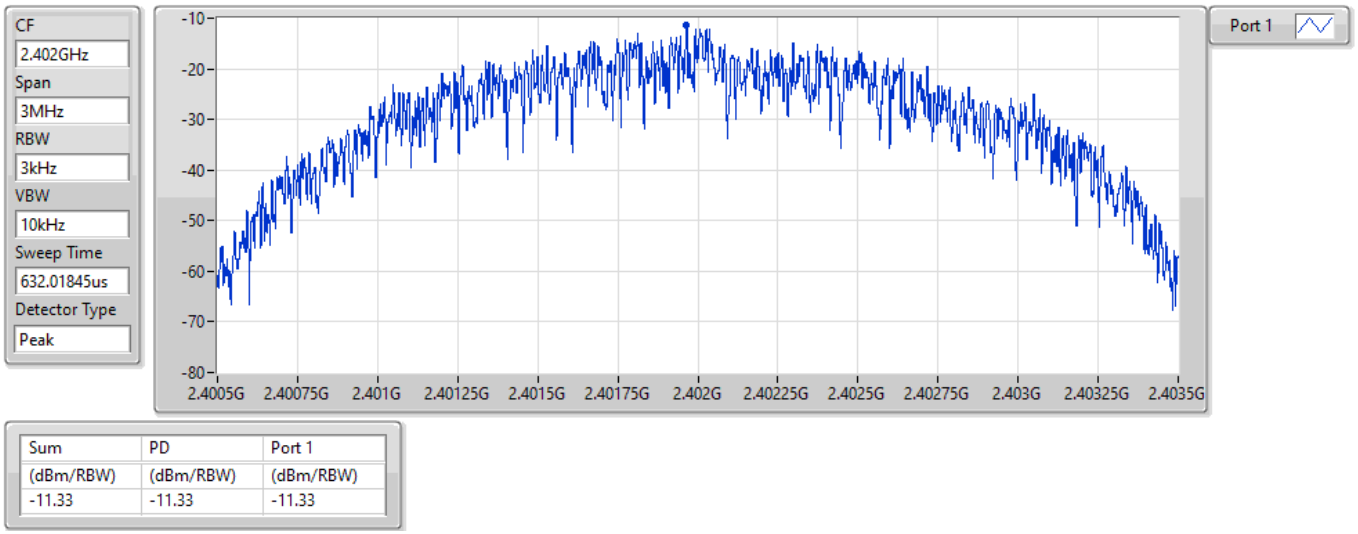
2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.27	-9.27	-9.27

BT-LE(2Mbps) PSD

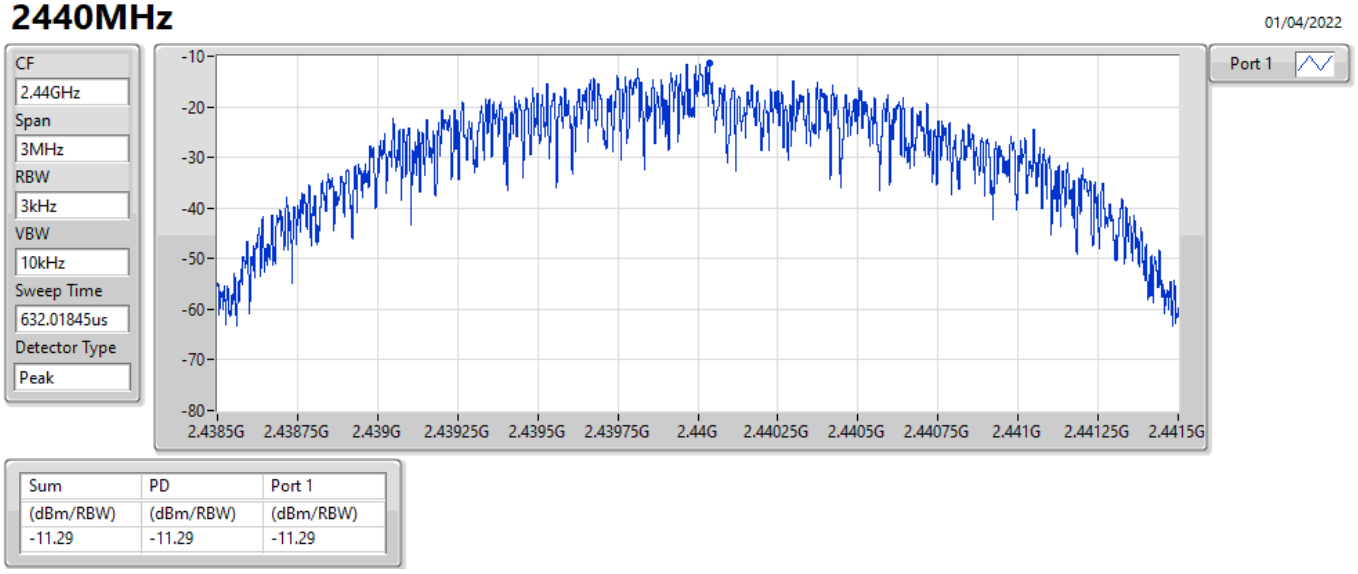
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.33	-11.33	-11.33

BT-LE(2Mbps) PSD

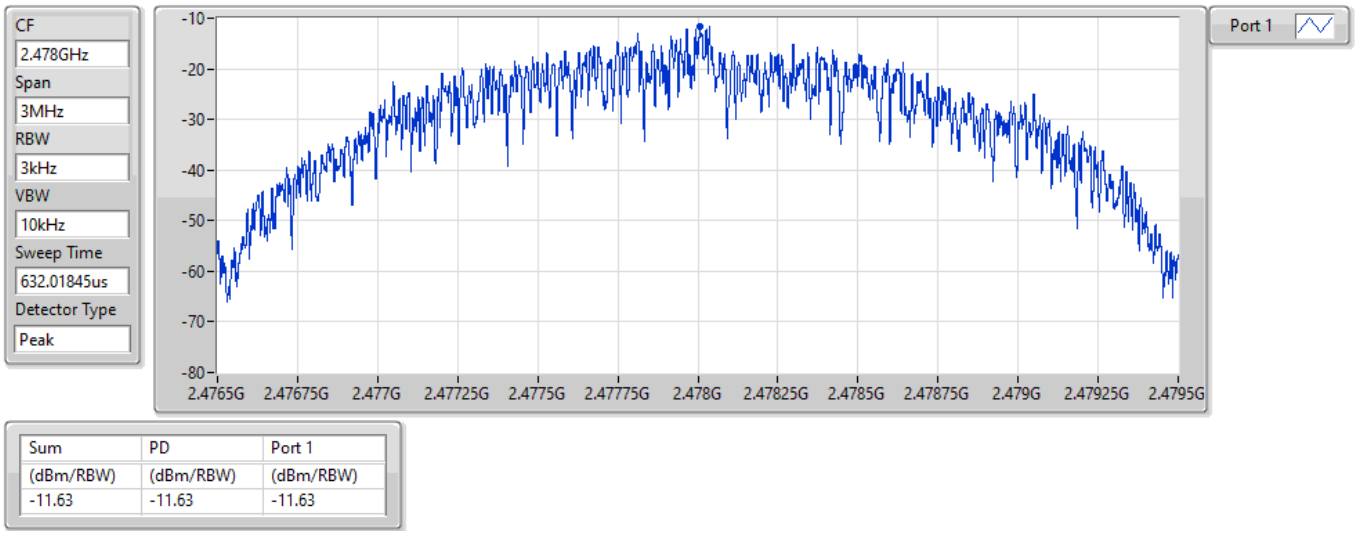
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.29	-11.29	-11.29

BT-LE(2Mbps) PSD

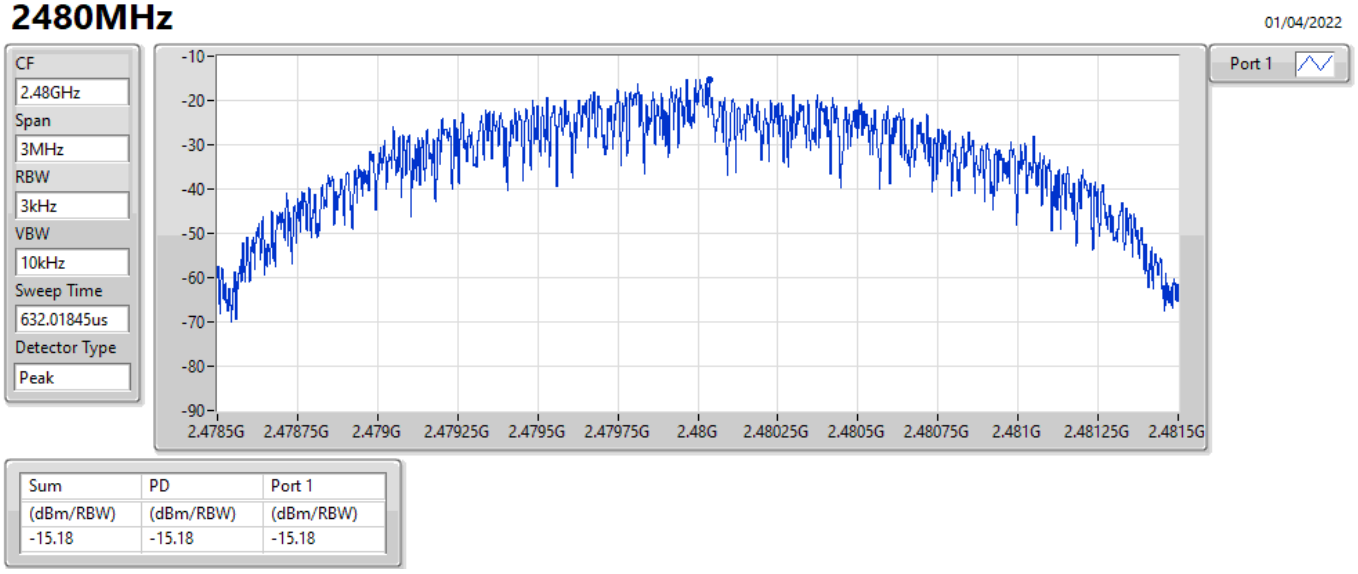
2478MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.63	-11.63	-11.63

BT-LE(2Mbps) **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-15.18	-15.18	-15.18

Summary

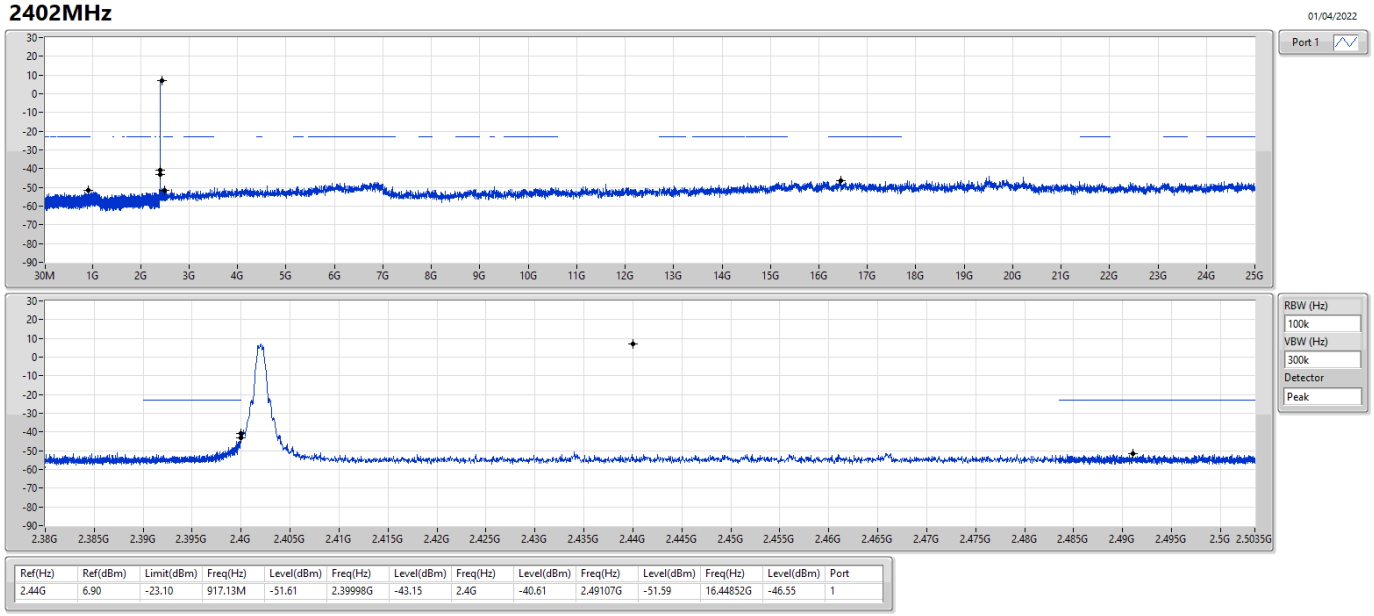
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.44G	6.90	-23.10	917.13M	-51.61	2.39998G	-43.15	2.4G	-40.61	2.49107G	-51.59	16.44852G	-46.55	1
BT-LE(2Mbps)	Pass	2.44G	6.95	-23.05	837.52M	-52.79	2.4G	-25.83	2.4G	-25.67	2.48492G	-51.14	24.39822G	-45.88	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
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.44G	6.90	-23.10	917.13M	-51.61	2.39998G	-43.15	2.4G	-40.61	2.49107G	-51.59	16.44852G	-46.55	1
2440MHz	Pass	2.44G	6.90	-23.10	374.57M	-52.51	2.3931G	-51.51	2.4G	-54.28	2.49237G	-50.88	24.47696G	-46.47	1
2480MHz	Pass	2.44G	6.90	-23.10	827.53M	-52.47	2.39757G	-51.98	2.4835G	-52.83	2.48516G	-50.00	6.80314G	-45.86	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.44G	6.95	-23.05	837.52M	-52.79	2.4G	-25.83	2.4G	-25.67	2.48492G	-51.14	24.39822G	-45.88	1
2440MHz	Pass	2.44G	6.95	-23.05	430.09M	-52.80	2.39077G	-51.84	2.4835G	-55.03	2.48621G	-50.89	15.27308G	-45.62	1
2478MHz	Pass	2.44G	6.95	-23.05	1.94408G	-52.69	2.39461G	-51.40	2.4835G	-53.07	2.49083G	-50.66	16.74941G	-45.58	1
2480MHz	Pass	2.44G	6.95	-23.05	216.24M	-52.28	2.39283G	-51.41	2.4835G	-52.86	2.48393G	-50.44	24.49664G	-45.93	1

BT-LE(1Mbps) **CSENdB-DTS**

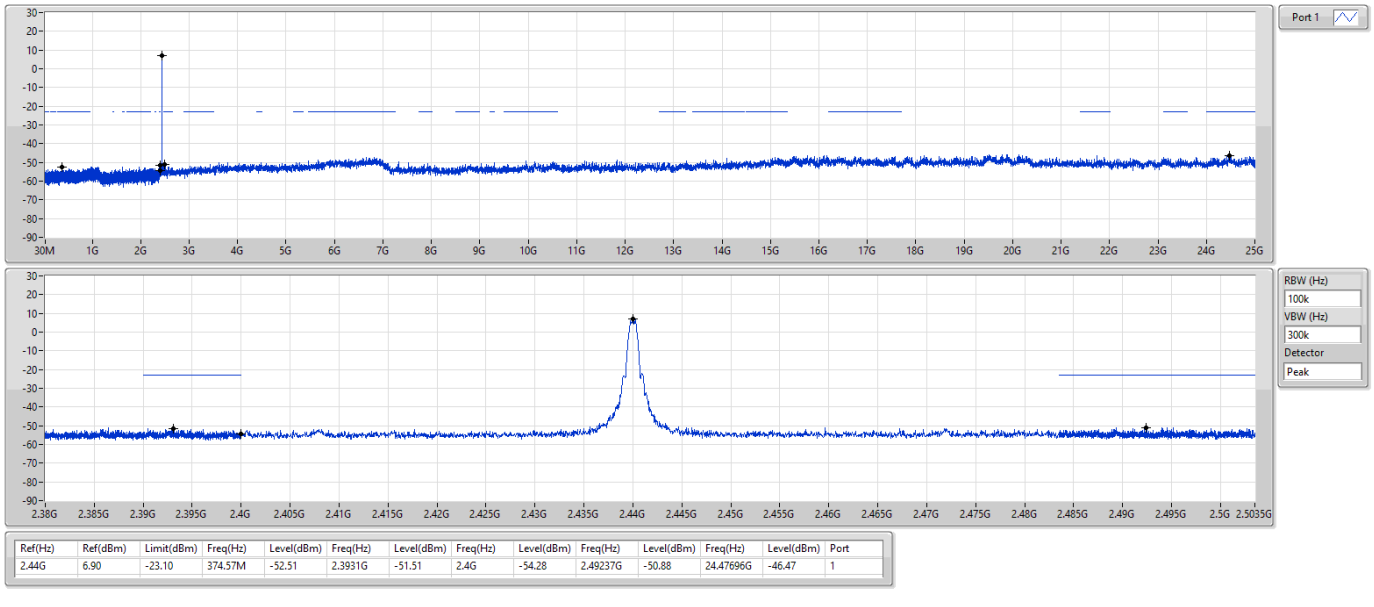
2402MHz



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
2.44G	6.90	-23.10	917.13M	-51.61	2.39998G	-43.15	2.4G	-40.61	2.49107G	-51.59	16.44852G	-46.55	1

BT-LE(1Mbps) **CSENdB-DTS**

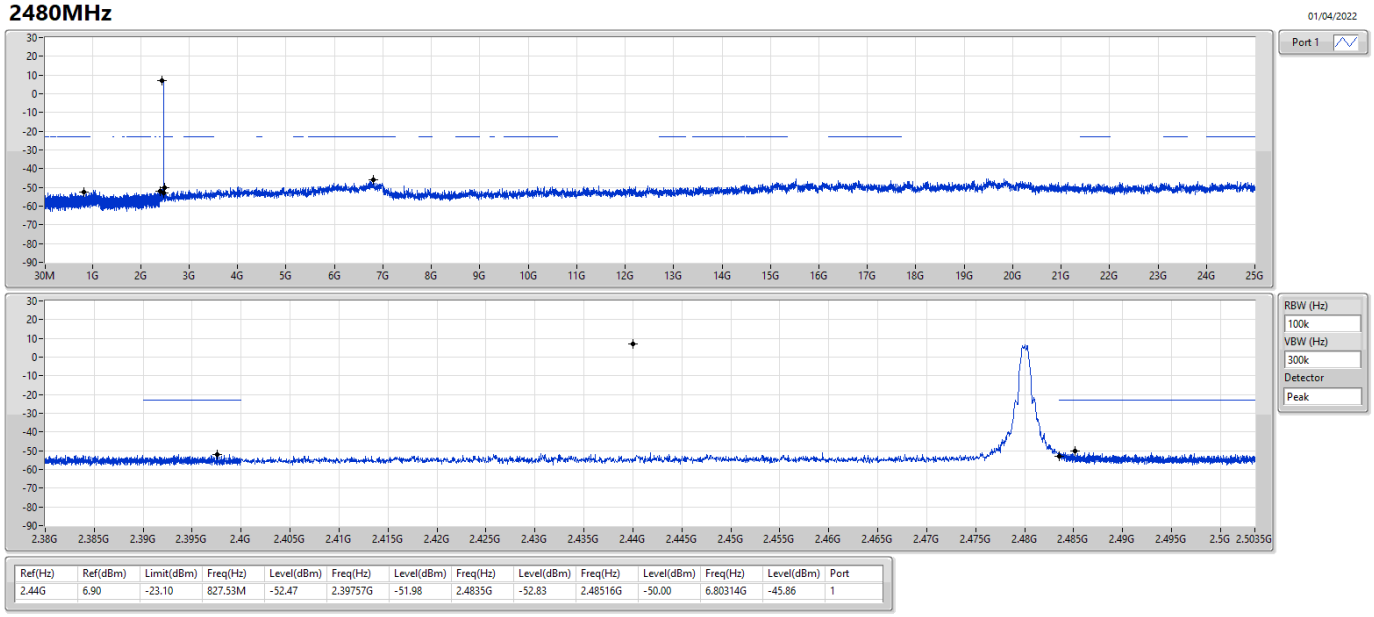
2440MHz



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
2.44G	6.90	-23.10	374.57M	-52.51	2.3931G	-51.51	2.4G	-54.28	2.49237G	-50.88	24.47696G	-46.47	1

BT-LE(1Mbps) **CSENdB-DTS**

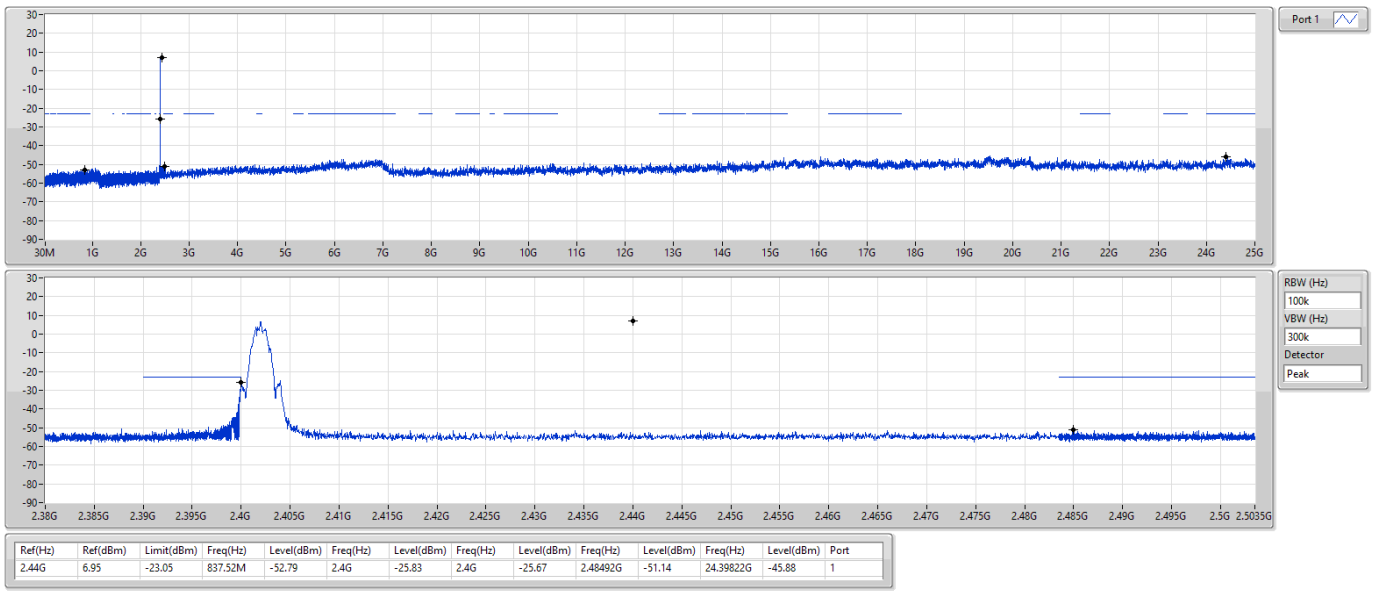
2480MHz



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
2.44G	6.90	-23.10	827.53M	-52.47	2.39757G	-51.98	2.4835G	-52.83	2.48516G	-50.00	6.80314G	-45.86	1

BT-LE(2Mbps) **CSENdB-DTS**

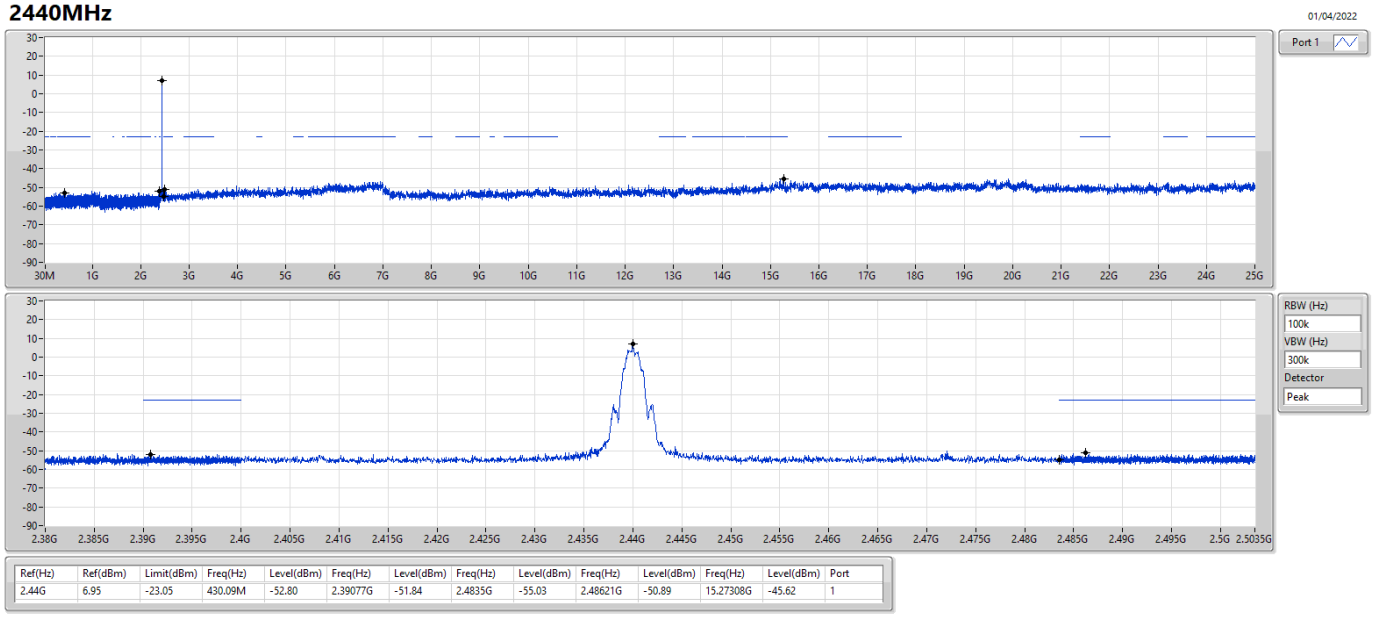
2402MHz



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
2.44G	6.95	-23.05	837.52M	-52.79	2.4G	-25.83	2.4G	-25.67	2.48492G	-51.14	24.39822G	-45.88	1

BT-LE(2Mbps) **CSENdB-DTS**

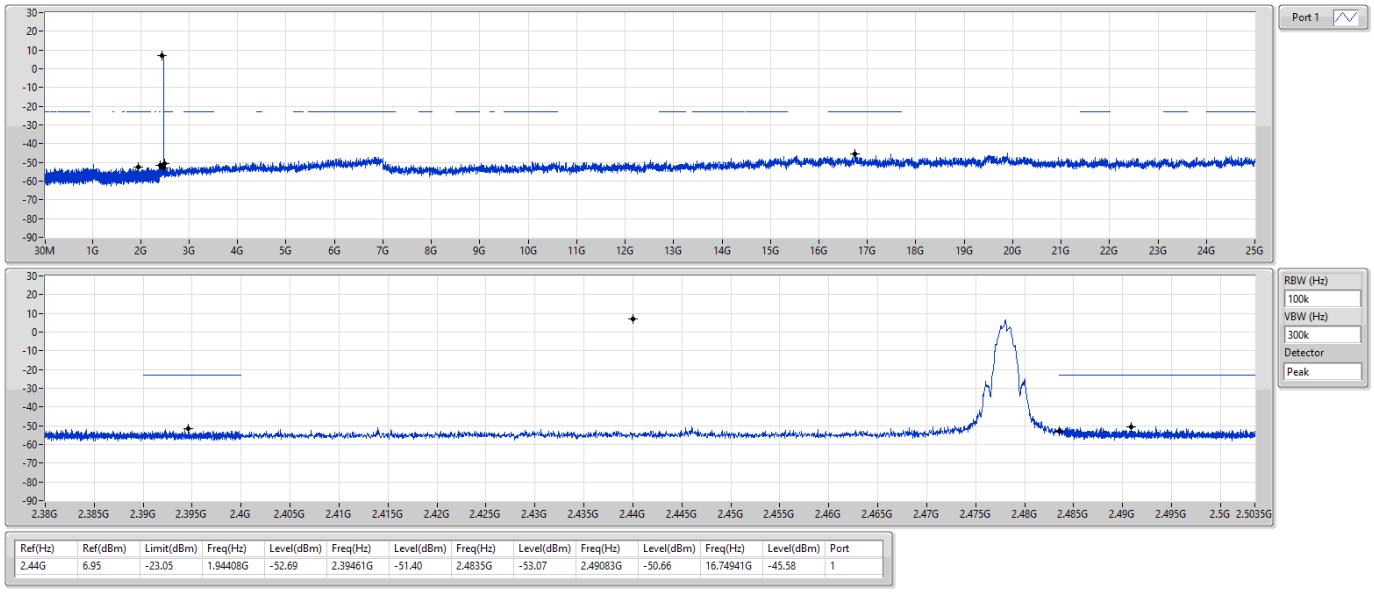
2440MHz



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
2.44G	6.95	-23.05	430.09M	-52.80	2.39077G	-51.84	2.4835G	-55.03	2.48621G	-50.89	15.27308G	-45.62	1

BT-LE(2Mbps) **CSENdB-DTS**

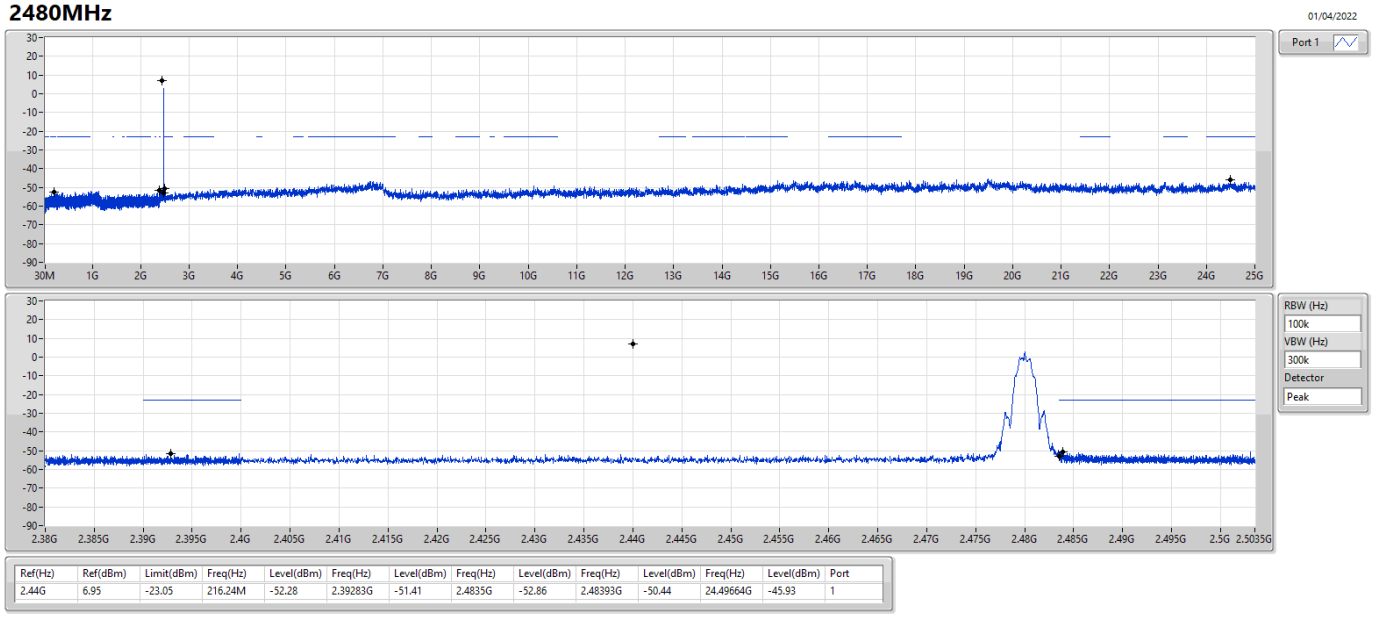
2478MHz



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
2.44G	6.95	-23.05	1.94408G	-52.69	2.39461G	-51.40	2.4835G	-53.07	2.49083G	-50.66	16.74941G	-45.58	1

BT-LE(2Mbps) **CSENdB-DTS**

2480MHz

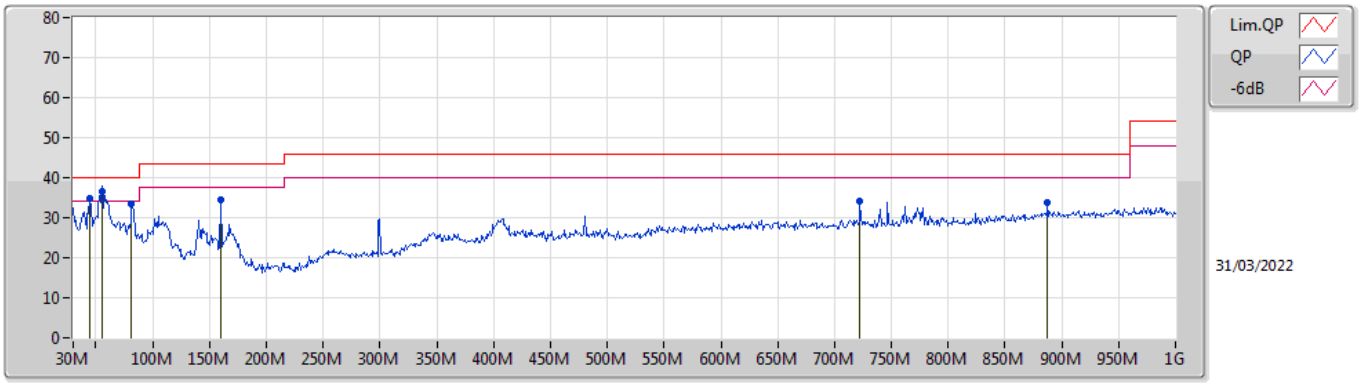


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44G	6.95	-23.05	216.24M	-52.28	2.39283G	-51.41	2.4835G	-52.86	2.48393G	-50.44	24.49664G	-45.93	1

Summary

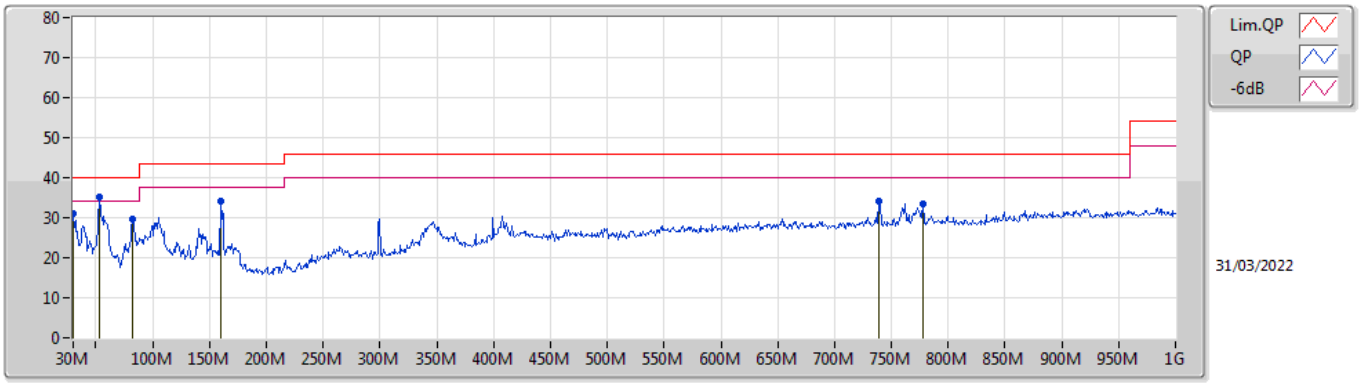
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	55.22M	36.53	40.00	-3.47	Vertical

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	44.55M	34.86	40.00	-5.14	-14.50	3	Vertical	360	1.00	-	49.36	16.22	0.99	31.71
QP	55.22M	36.53	40.00	-3.47	-18.02	3	Vertical	220	1.25	"Worst"	54.55	12.69	1.10	31.81
PK	81.41M	33.45	40.00	-6.55	-17.63	3	Vertical	288	1.50	-	51.08	12.89	1.40	31.92
PK	159.98M	34.60	43.50	-8.90	-14.21	3	Vertical	251	1.00	-	48.81	15.75	2.00	31.96
PK	722.58M	34.14	46.00	-11.86	-3.33	3	Vertical	360	1.00	-	37.47	24.76	4.59	32.68
PK	887.48M	33.90	46.00	-12.10	-1.27	3	Vertical	306	3.00	-	35.17	26.13	5.25	32.65

Mode 1



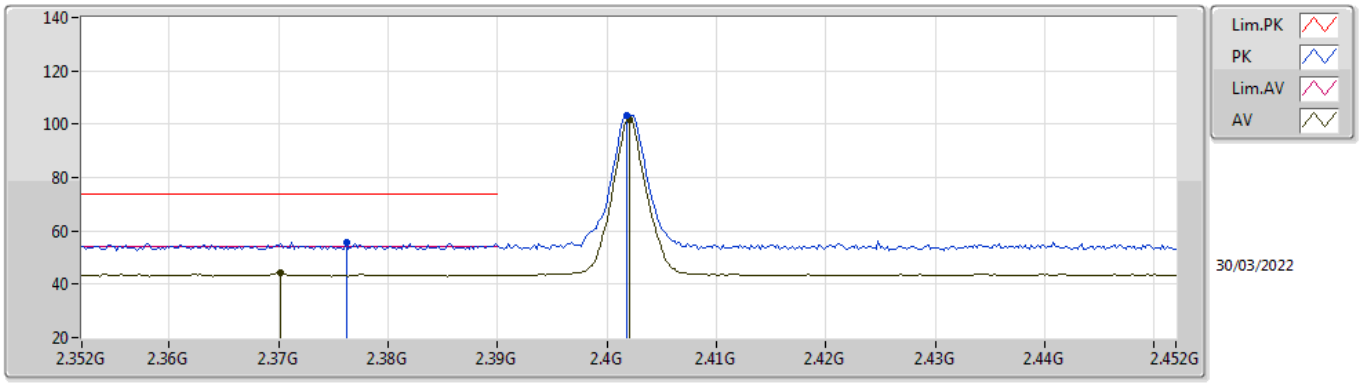
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	30M	31.18	40.00	-8.82	-6.70	3	Horizontal	68	1.25	-	37.88	23.99	0.80	31.49
PK	53.28M	35.04	40.00	-4.96	-17.73	3	Horizontal	121	2.00	"Worst"	52.77	12.96	1.10	31.79
PK	82.38M	29.65	40.00	-10.35	-17.49	3	Horizontal	299	1.50	-	47.14	13.03	1.40	31.92
PK	159.98M	34.16	43.50	-9.34	-14.21	3	Horizontal	76	1.25	-	48.37	15.75	2.00	31.96
PK	739.07M	33.97	46.00	-12.03	-2.89	3	Horizontal	290	2.00	-	36.86	25.15	4.66	32.70
PK	777.87M	33.42	46.00	-12.58	-2.47	3	Horizontal	254	2.00	-	35.89	25.42	4.81	32.70

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	-	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	AV	2.4835G	51.48	54.00	-2.52	3	Horizontal	50	1.41	-

BT-LE(1Mbps)

2402MHz_TX

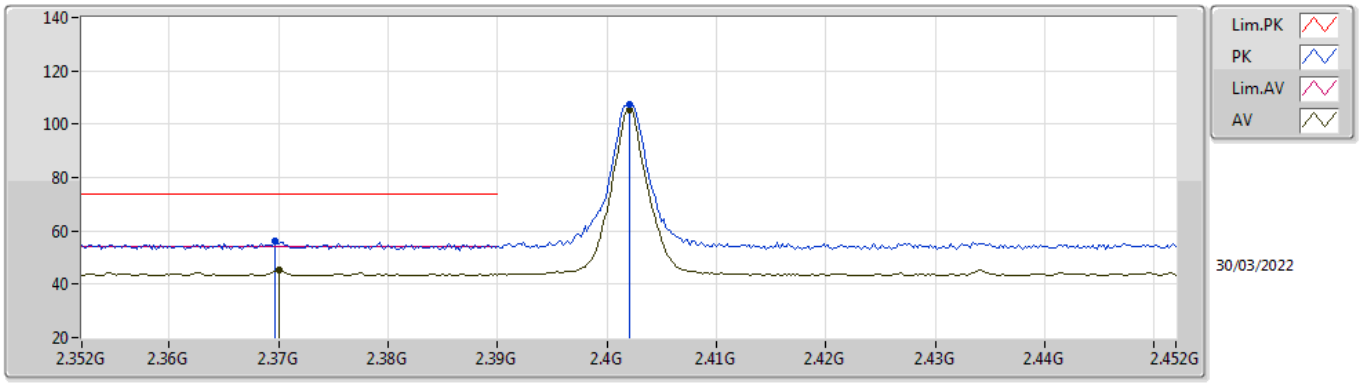


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3762G	55.85	74.00	-18.15	24.55	3	Vertical	347	1.01	-	27.50	3.80	-
AV	2.3702G	44.21	54.00	-9.79	12.93	3	Vertical	347	1.01	-	27.48	3.80	-
PK	2.4018G	103.39	Inf	-Inf	71.99	3	Vertical	347	1.01	-	27.60	3.80	-
AV	2.402G	101.93	Inf	-Inf	70.53	3	Vertical	347	1.01	-	27.60	3.80	-

BT-LE(1Mbps)

2402MHz_TX

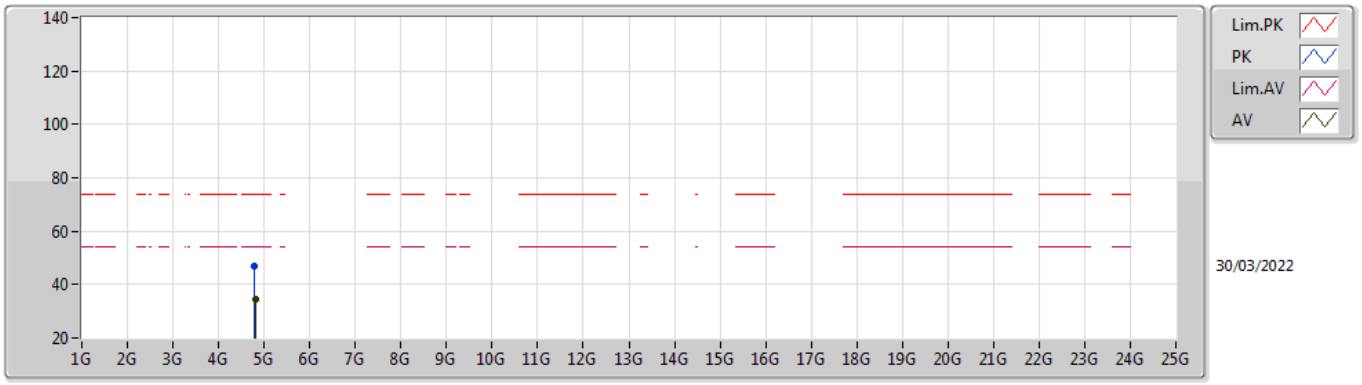


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3696G	56.16	74.00	-17.84	24.88	3	Horizontal	308	1.08	-	27.48	3.80	-
AV	2.37G	45.49	54.00	-8.51	14.21	3	Horizontal	308	1.08	-	27.48	3.80	-
PK	2.402G	107.16	Inf	-Inf	75.76	3	Horizontal	308	1.08	-	27.60	3.80	-
AV	2.402G	105.60	Inf	-Inf	74.20	3	Horizontal	308	1.08	-	27.60	3.80	-

BT-LE(1Mbps)

2402MHz_TX

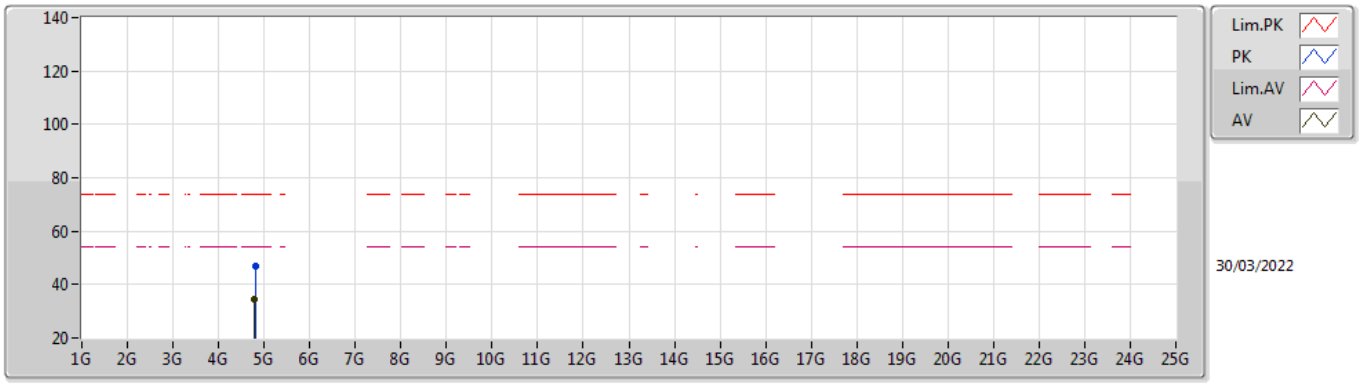


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.79776G	47.10	74.00	-26.90	41.39	3	Vertical	0	1.02	-	32.40	6.30	32.99
AV	4.79836G	34.57	54.00	-19.43	28.86	3	Vertical	0	1.02	-	32.40	6.30	32.99

BT-LE(1Mbps)

2402MHz_TX

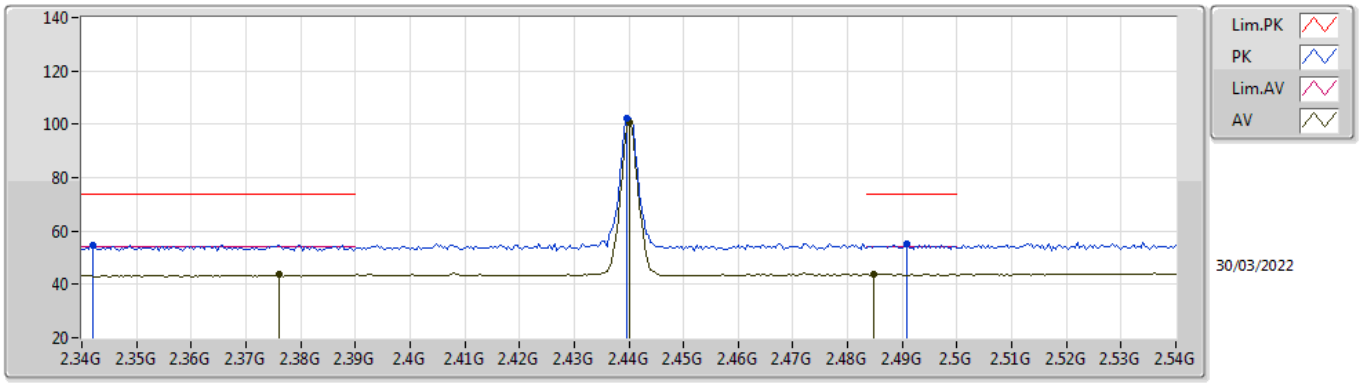


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8134G	46.98	74.00	-27.02	41.24	3	Horizontal	74	1.80	-	32.43	6.30	32.99
AV	4.79652G	34.66	54.00	-19.34	28.96	3	Horizontal	74	1.80	-	32.39	6.30	32.99

BT-LE(1Mbps)

2440MHz_TX

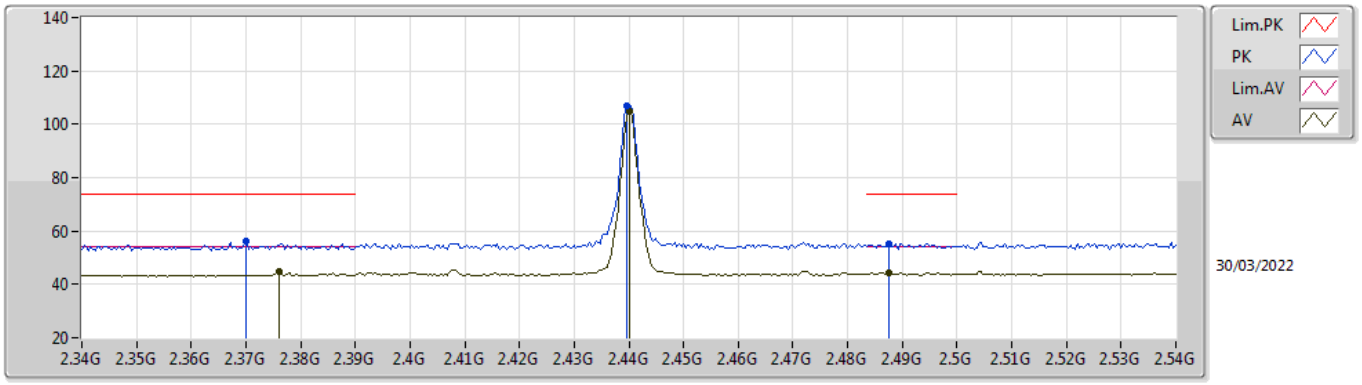


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.342G	54.84	74.00	-19.16	23.64	3	Vertical	360	1.05	-	27.40	3.80	-
AV	2.376G	43.86	54.00	-10.14	12.56	3	Vertical	360	1.05	-	27.50	3.80	-
PK	2.4396G	102.23	Inf	-Inf	70.89	3	Vertical	360	1.05	-	27.52	3.82	-
AV	2.44G	100.79	Inf	-Inf	69.45	3	Vertical	360	1.05	-	27.52	3.82	-
PK	2.4908G	54.99	74.00	-19.01	23.40	3	Vertical	360	1.05	-	27.74	3.85	-
AV	2.4848G	43.92	54.00	-10.08	12.37	3	Vertical	360	1.05	-	27.71	3.84	-

BT-LE(1Mbps)

2440MHz_TX

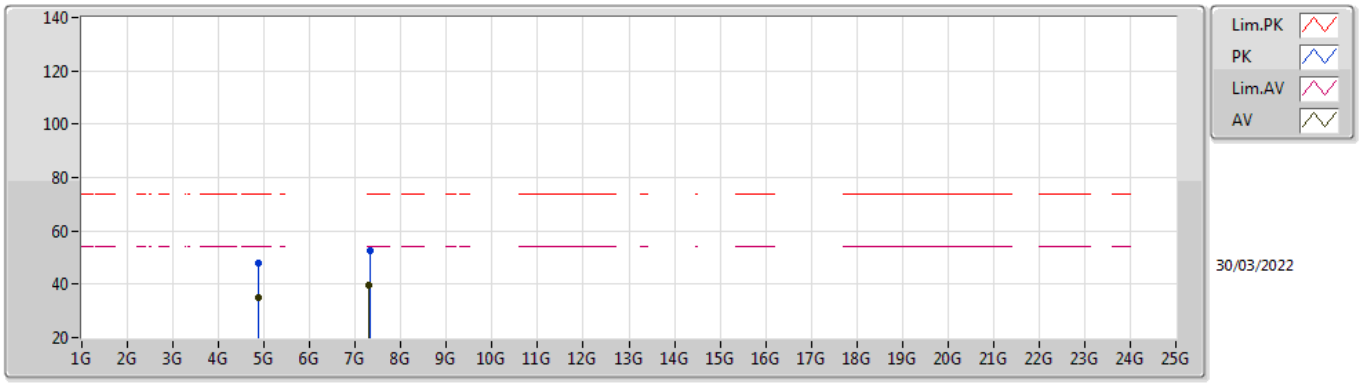


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.37G	56.38	74.00	-17.62	25.10	3	Horizontal	306	1.50	-	27.48	3.80	-
AV	2.376G	44.64	54.00	-9.36	13.34	3	Horizontal	306	1.50	-	27.50	3.80	-
PK	2.4396G	106.67	Inf	-Inf	75.33	3	Horizontal	306	1.50	-	27.52	3.82	-
AV	2.44G	105.07	Inf	-Inf	73.73	3	Horizontal	306	1.50	-	27.52	3.82	-
PK	2.4876G	55.34	74.00	-18.66	23.77	3	Horizontal	306	1.50	-	27.73	3.84	-
AV	2.4876G	44.30	54.00	-9.70	12.73	3	Horizontal	306	1.50	-	27.73	3.84	-

BT-LE(1Mbps)

2440MHz_TX

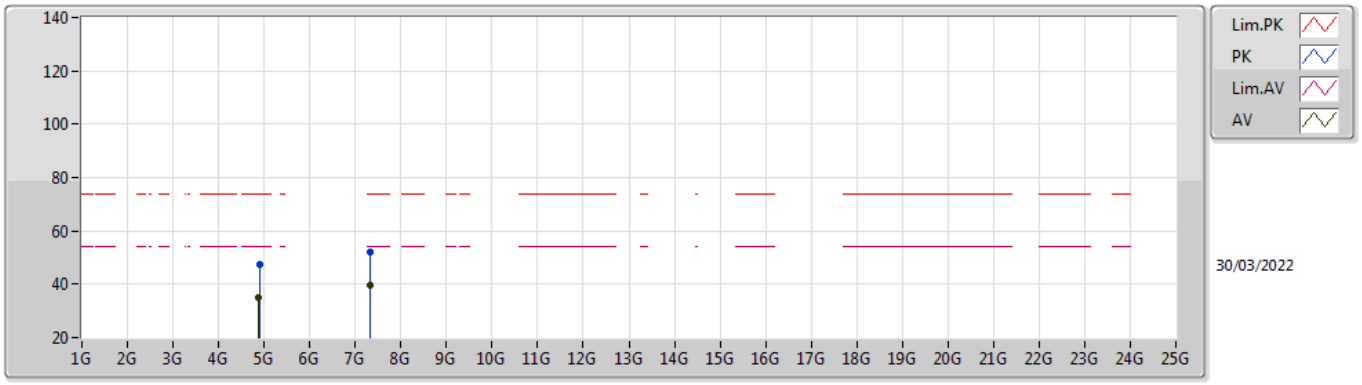


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8856G	47.84	74.00	-26.16	41.95	3	Vertical	202	1.08	-	32.57	6.30	32.98
AV	4.87308G	35.04	54.00	-18.96	29.17	3	Vertical	202	1.08	-	32.55	6.30	32.98
PK	7.32216G	52.75	74.00	-21.25	41.24	3	Vertical	262	2.71	-	37.26	7.32	33.07
AV	7.3102G	39.83	54.00	-14.17	28.32	3	Vertical	262	2.71	-	37.28	7.31	33.08

BT-LE(1Mbps)

2440MHz_TX

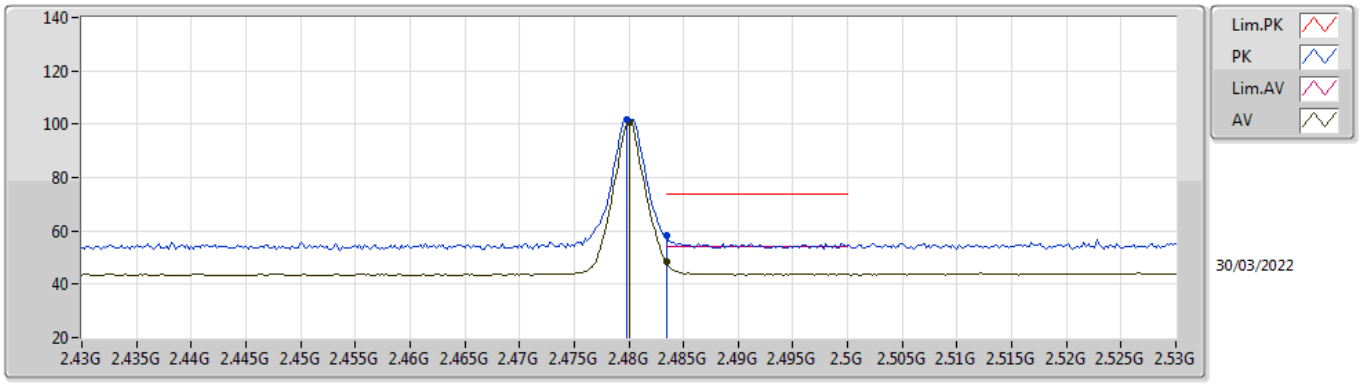


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88912G	47.44	74.00	-26.56	41.54	3	Horizontal	344	2.05	-	32.58	6.30	32.98
AV	4.8808G	35.08	54.00	-18.92	29.20	3	Horizontal	344	2.05	-	32.56	6.30	32.98
PK	7.32056G	52.32	74.00	-21.68	40.81	3	Horizontal	168	1.64	-	37.26	7.32	33.07
AV	7.323G	39.76	54.00	-14.24	28.26	3	Horizontal	168	1.64	-	37.25	7.32	33.07

BT-LE(1Mbps)

2480MHz_TX

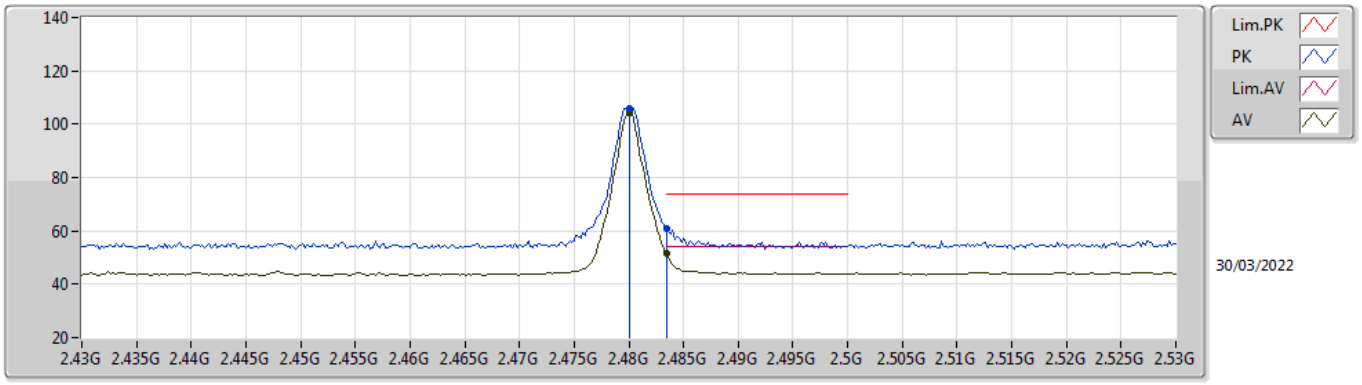


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	101.98	Inf	-Inf	70.46	3	Vertical	353	1.03	-	27.68	3.84	-
AV	2.48G	100.46	Inf	-Inf	68.94	3	Vertical	353	1.03	-	27.68	3.84	-
PK	2.4835G	58.13	74.00	-15.87	26.59	3	Vertical	353	1.03	-	27.70	3.84	-
AV	2.4835G	48.19	54.00	-5.81	16.65	3	Vertical	353	1.03	-	27.70	3.84	-

BT-LE(1Mbps)

2480MHz_TX

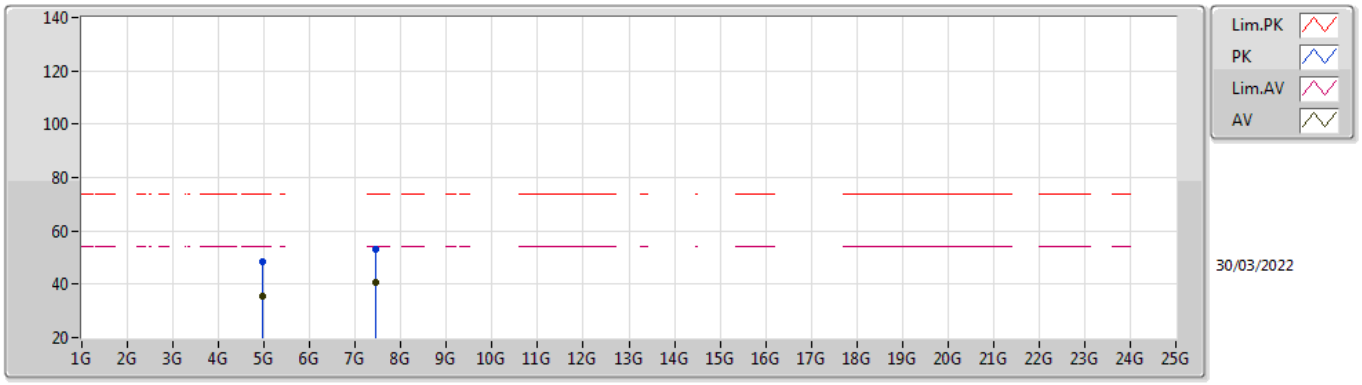


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	105.75	Inf	-Inf	74.23	3	Horizontal	50	1.41	-	27.68	3.84	-
AV	2.48G	104.32	Inf	-Inf	72.80	3	Horizontal	50	1.41	-	27.68	3.84	-
PK	2.4835G	60.99	74.00	-13.01	29.45	3	Horizontal	50	1.41	-	27.70	3.84	-
AV	2.4835G	51.33	54.00	-2.67	19.79	3	Horizontal	50	1.41	-	27.70	3.84	-

BT-LE(1Mbps)

2480MHz_TX

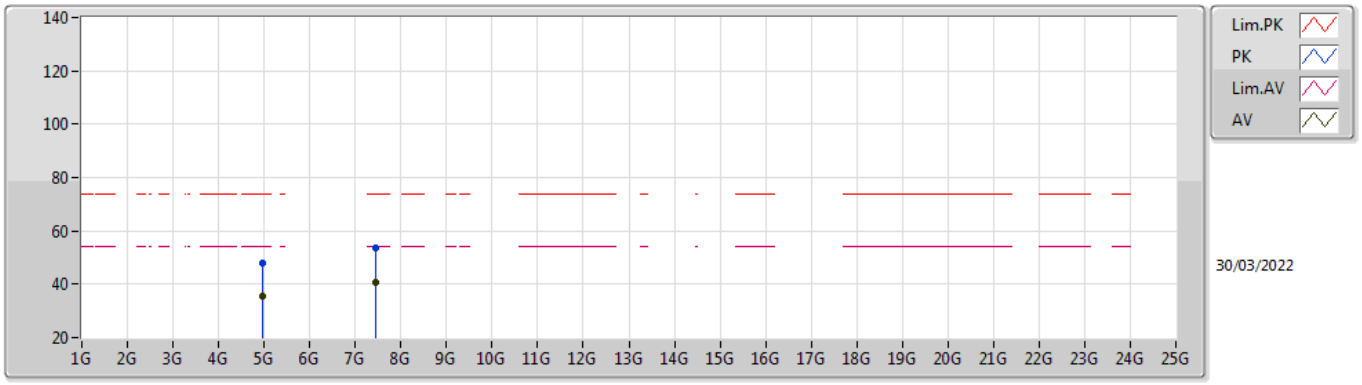


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96828G	48.64	74.00	-25.36	42.49	3	Vertical	307	2.01	-	32.81	6.30	32.96
AV	4.97128G	35.41	54.00	-18.59	29.24	3	Vertical	307	2.01	-	32.83	6.30	32.96
PK	7.4355G	53.28	74.00	-20.72	41.73	3	Vertical	131	1.80	-	37.20	7.38	33.03
AV	7.45296G	40.56	54.00	-13.44	29.01	3	Vertical	131	1.80	-	37.21	7.37	33.03

BT-LE(1Mbps)

2480MHz_TX

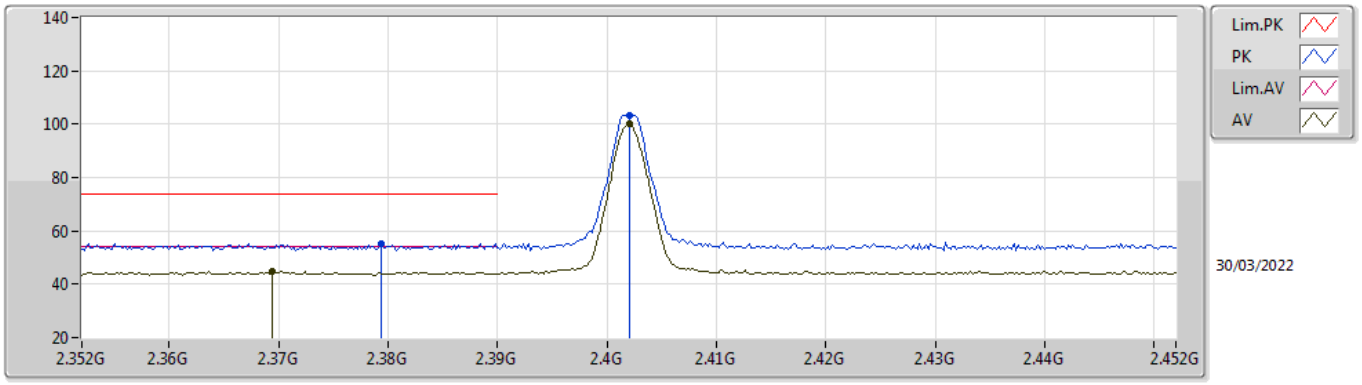


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.97428G	47.82	74.00	-26.18	41.63	3	Horizontal	188	1.80	-	32.85	6.30	32.96
AV	4.97296G	35.46	54.00	-18.54	29.28	3	Horizontal	188	1.80	-	32.84	6.30	32.96
PK	7.43688G	53.54	74.00	-20.46	41.99	3	Horizontal	0	1.80	-	37.20	7.38	33.03
AV	7.45368G	40.83	54.00	-13.17	29.28	3	Horizontal	0	1.80	-	37.21	7.37	33.03

BT-LE(2Mbps)

2402MHz_TX

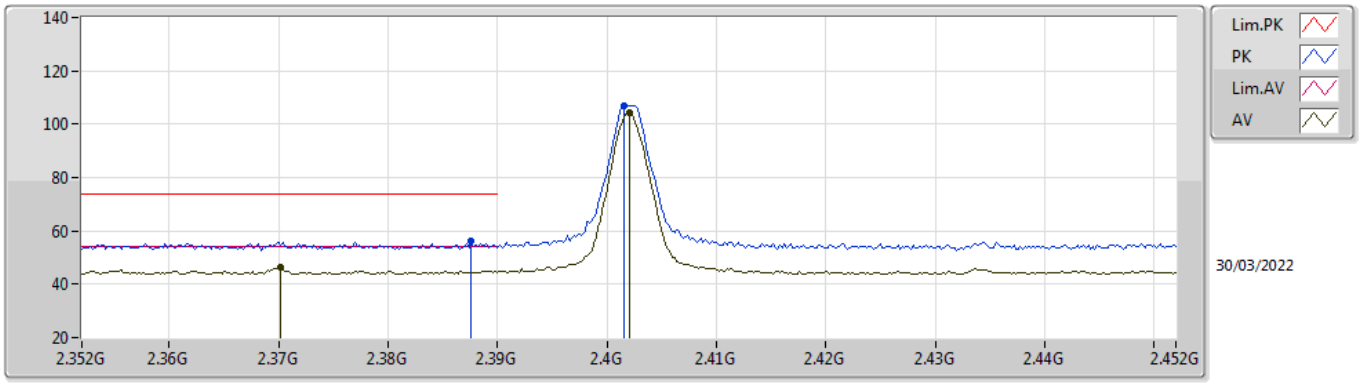


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3794G	55.26	74.00	-18.74	23.94	3	Vertical	349	1.01	-	27.52	3.80	-
AV	2.3694G	45.06	54.00	-8.94	13.78	3	Vertical	349	1.01	-	27.48	3.80	-
PK	2.402G	103.44	Inf	-Inf	72.04	3	Vertical	349	1.01	-	27.60	3.80	-
AV	2.402G	100.39	Inf	-Inf	68.99	3	Vertical	349	1.01	-	27.60	3.80	-

BT-LE(2Mbps)

2402MHz_TX

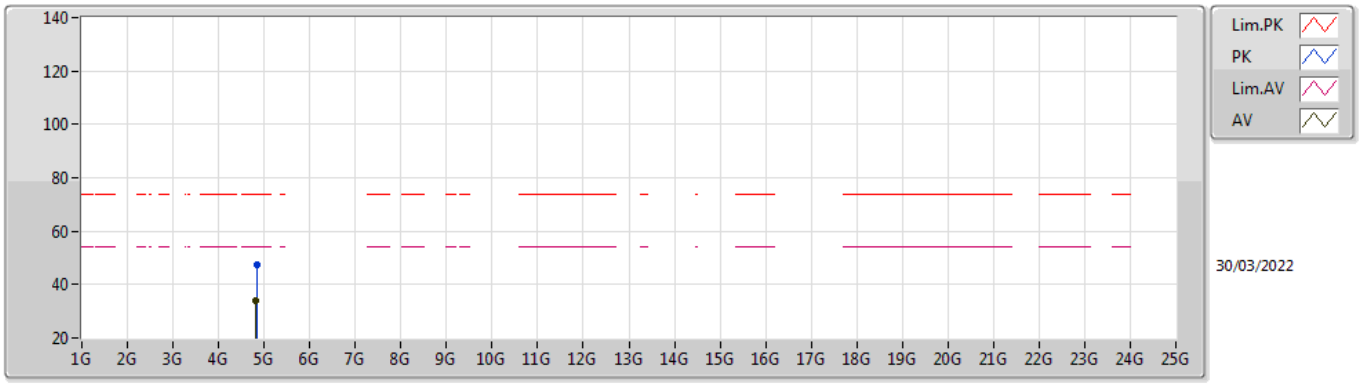


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3876G	56.07	74.00	-17.93	24.72	3	Horizontal	308	1.14	-	27.55	3.80	-
AV	2.3702G	46.15	54.00	-7.85	14.87	3	Horizontal	308	1.14	-	27.48	3.80	-
PK	2.4016G	107.04	Inf	-Inf	75.64	3	Horizontal	308	1.14	-	27.60	3.80	-
AV	2.402G	104.28	Inf	-Inf	72.88	3	Horizontal	308	1.14	-	27.60	3.80	-

BT-LE(2Mbps)

2402MHz_TX

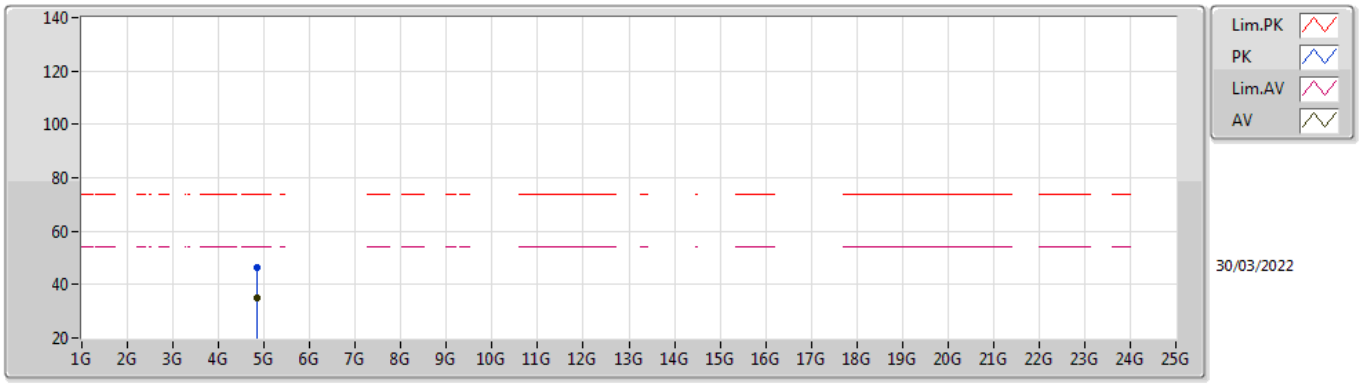


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8528G	47.57	74.00	-26.43	41.74	3	Vertical	140	1.98	-	32.51	6.30	32.98
AV	4.8224G	34.03	54.00	-19.97	28.27	3	Vertical	140	1.98	-	32.44	6.30	32.98

BT-LE(2Mbps)

2402MHz_TX

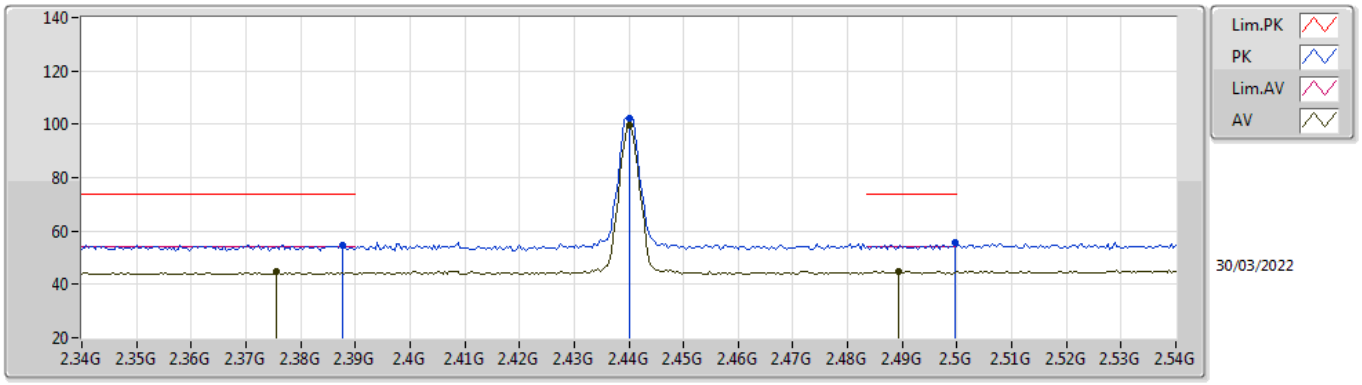


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8536G	46.31	74.00	-27.69	40.48	3	Horizontal	116	2.38	-	32.51	6.30	32.98
AV	4.8538G	34.80	54.00	-19.20	28.97	3	Horizontal	116	2.38	-	32.51	6.30	32.98

BT-LE(2Mbps)

2440MHz_TX

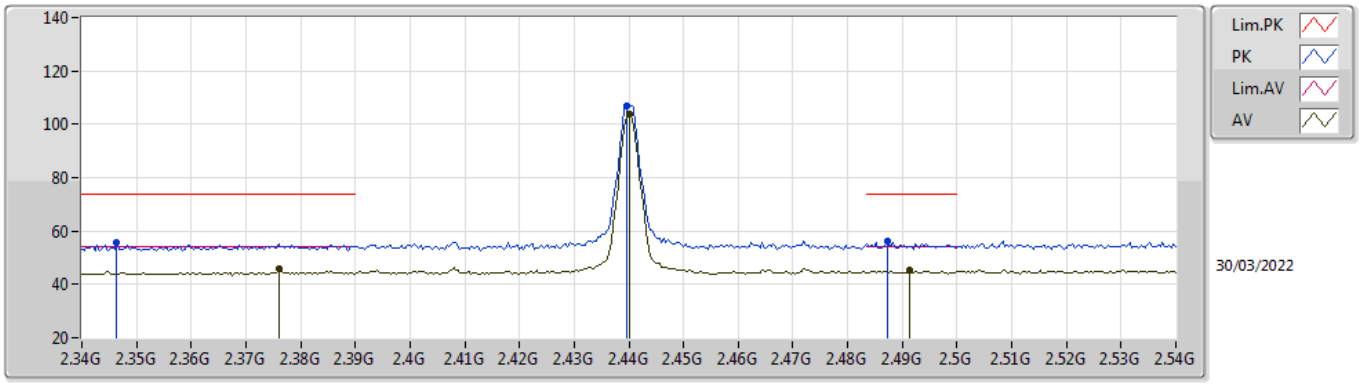


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3876G	54.75	74.00	-19.25	23.40	3	Vertical	0	1.04	-	27.55	3.80	-
AV	2.3756G	44.87	54.00	-9.13	13.57	3	Vertical	0	1.04	-	27.50	3.80	-
PK	2.44G	102.22	Inf	-Inf	70.88	3	Vertical	0	1.04	-	27.52	3.82	-
AV	2.44G	99.40	Inf	-Inf	68.06	3	Vertical	0	1.04	-	27.52	3.82	-
PK	2.4996G	55.52	74.00	-18.48	23.87	3	Vertical	0	1.04	-	27.80	3.85	-
AV	2.4892G	44.91	54.00	-9.09	13.33	3	Vertical	0	1.04	-	27.74	3.84	-

BT-LE(2Mbps)

2440MHz_TX

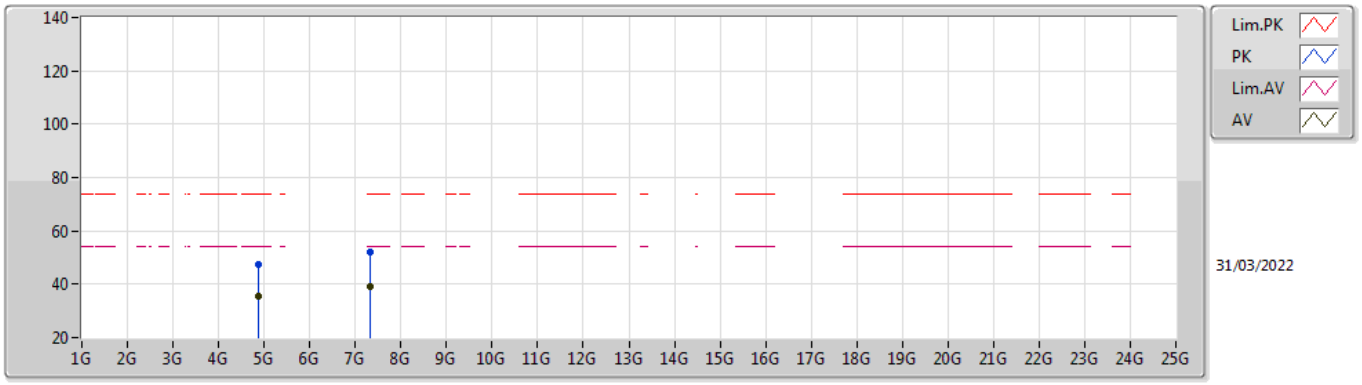


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3464G	55.83	74.00	-18.17	24.63	3	Horizontal	308	1.48	-	27.40	3.80	-
AV	2.376G	45.63	54.00	-8.37	14.33	3	Horizontal	308	1.48	-	27.50	3.80	-
PK	2.4396G	106.70	Inf	-Inf	75.36	3	Horizontal	308	1.48	-	27.52	3.82	-
AV	2.44G	103.86	Inf	-Inf	72.52	3	Horizontal	308	1.48	-	27.52	3.82	-
PK	2.4872G	56.08	74.00	-17.92	24.52	3	Horizontal	308	1.48	-	27.72	3.84	-
AV	2.4912G	45.34	54.00	-8.66	13.74	3	Horizontal	308	1.48	-	27.75	3.85	-

BT-LE(2Mbps)

2440MHz_TX

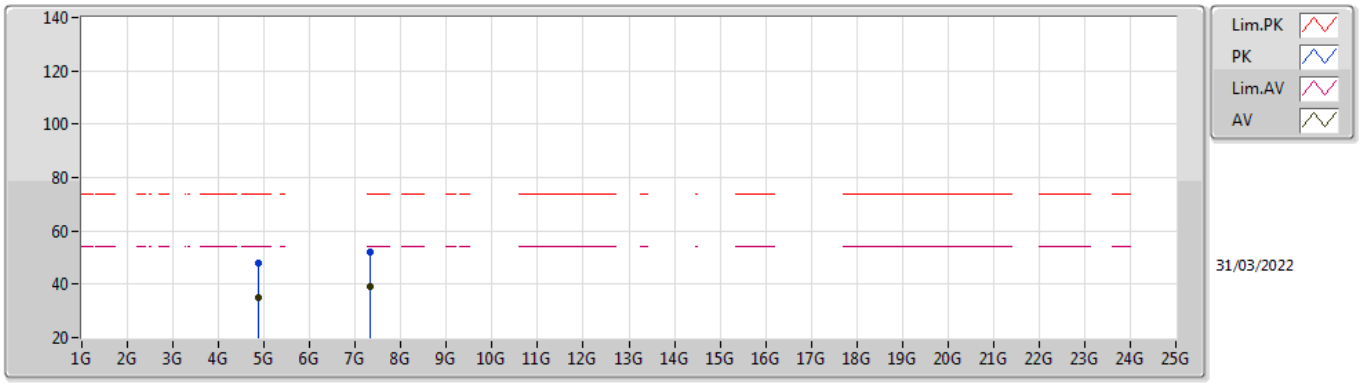


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87736G	47.63	74.00	-26.37	41.76	3	Vertical	3	1.13	-	32.55	6.30	32.98
AV	4.87936G	35.39	54.00	-18.61	29.51	3	Vertical	3	1.13	-	32.56	6.30	32.98
PK	7.3258G	52.00	74.00	-22.00	40.49	3	Vertical	93	2.28	-	37.25	7.33	33.07
AV	7.3188G	39.00	54.00	-15.00	27.50	3	Vertical	93	2.28	-	37.26	7.32	33.08

BT-LE(2Mbps)

2440MHz_TX

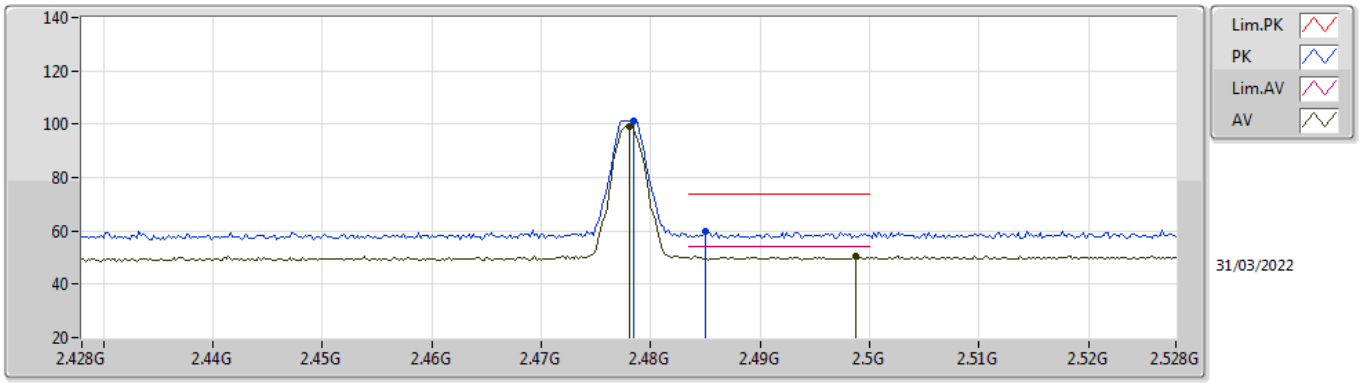


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88268G	47.96	74.00	-26.04	42.07	3	Horizontal	71	1.59	-	32.57	6.30	32.98
AV	4.8792G	35.00	54.00	-19.00	29.12	3	Horizontal	71	1.59	-	32.56	6.30	32.98
PK	7.31424G	52.12	74.00	-21.88	40.62	3	Horizontal	329	2.17	-	37.27	7.31	33.08
AV	7.3168G	39.09	54.00	-14.91	27.58	3	Horizontal	329	2.17	-	37.27	7.32	33.08

BT-LE(2Mbps)

2478MHz_TX

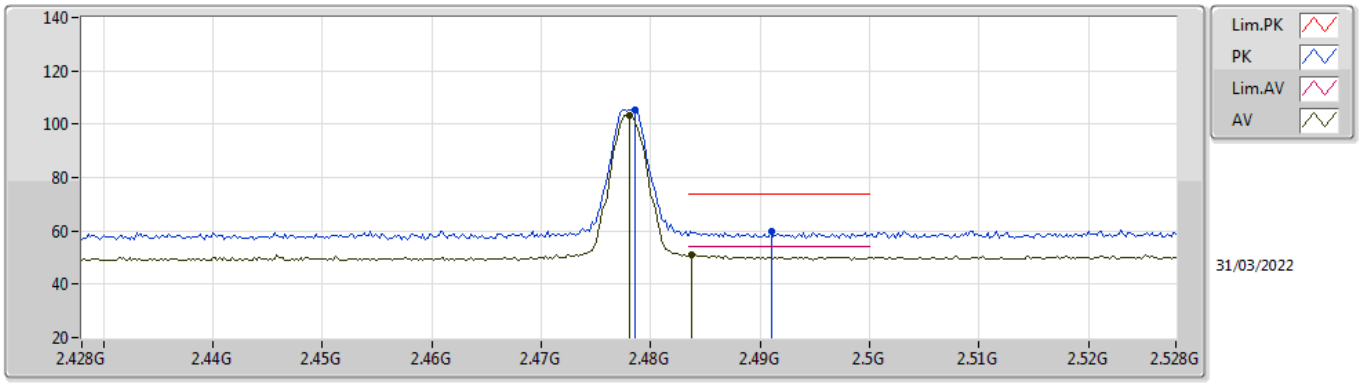


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4784G	101.36	Inf	-Inf	69.85	3	Vertical	350	1.04	-	27.67	3.84	-
AV	2.478G	99.31	Inf	-Inf	67.80	3	Vertical	350	1.04	-	27.67	3.84	-
PK	2.485G	59.89	74.00	-14.11	28.34	3	Vertical	350	1.04	-	27.71	3.84	-
AV	2.4988G	50.67	54.00	-3.33	19.03	3	Vertical	350	1.04	-	27.79	3.85	-

BT-LE(2Mbps)

2478MHz_TX

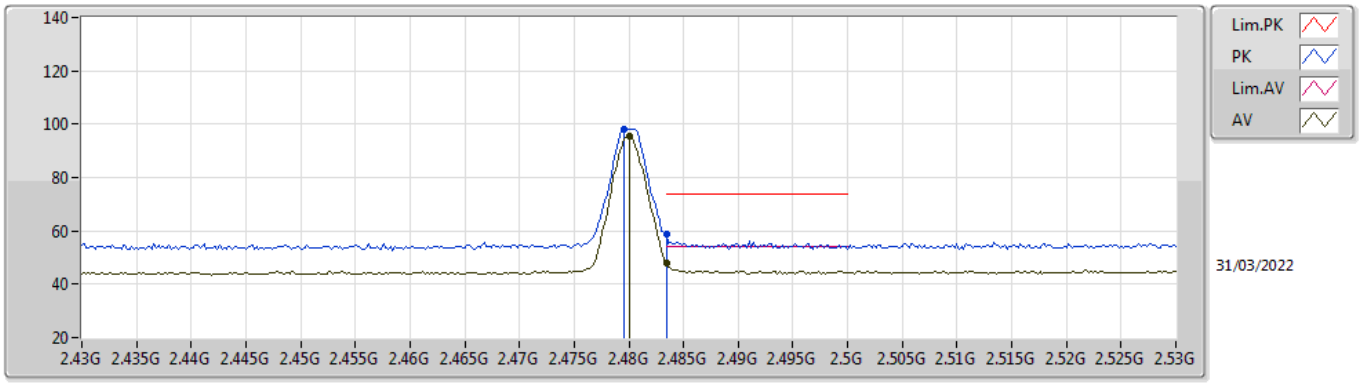


EUT X_1TX
Setting 8dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4786G	105.42	Inf	-Inf	73.91	3	Horizontal	52	1.42	-	27.67	3.84	-
AV	2.478G	103.39	Inf	-Inf	71.88	3	Horizontal	52	1.42	-	27.67	3.84	-
PK	2.491G	59.87	74.00	-14.13	28.27	3	Horizontal	52	1.42	-	27.75	3.85	-
AV	2.4838G	51.13	54.00	-2.87	19.59	3	Horizontal	52	1.42	-	27.70	3.84	-

BT-LE(2Mbps)

2480MHz_TX

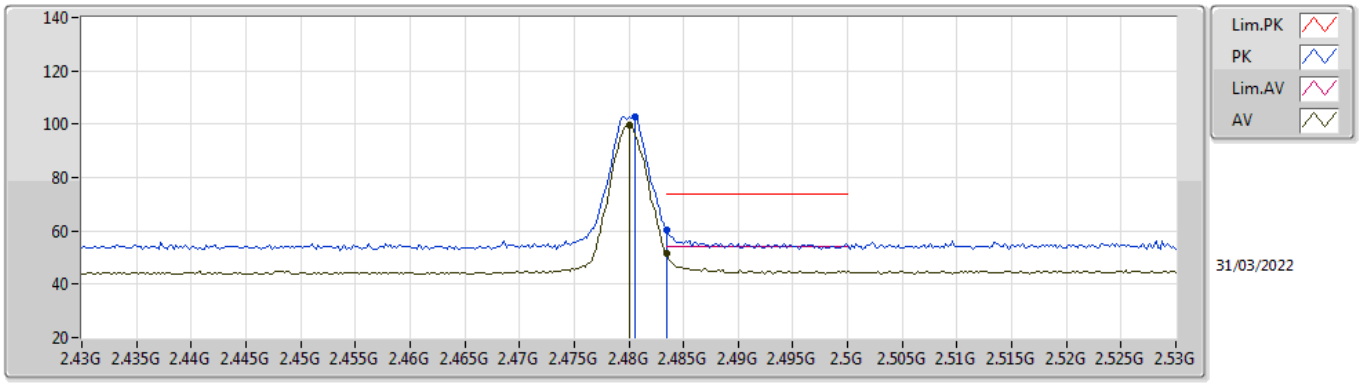


EUT X_1TX
Setting 4dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4796G	98.28	Inf	-Inf	66.76	3	Vertical	350	1.04	-	27.68	3.84	-
AV	2.48G	95.50	Inf	-Inf	63.98	3	Vertical	350	1.04	-	27.68	3.84	-
PK	2.4835G	58.57	74.00	-15.43	27.03	3	Vertical	350	1.04	-	27.70	3.84	-
AV	2.4835G	48.15	54.00	-5.85	16.61	3	Vertical	350	1.04	-	27.70	3.84	-

BT-LE(2Mbps)

2480MHz_TX

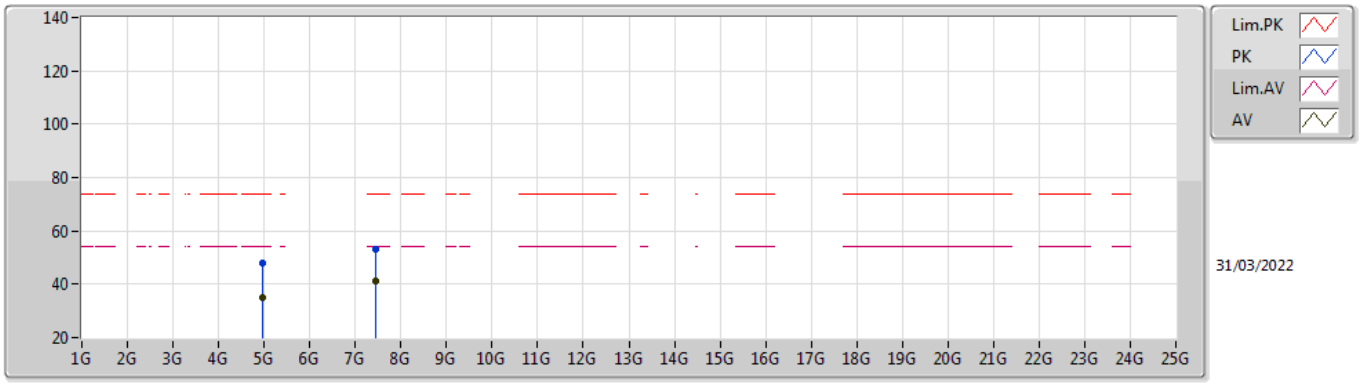


EUT X_1TX
Setting 4dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4806G	102.56	Inf	-Inf	71.04	3	Horizontal	50	1.41	-	27.68	3.84	-
AV	2.48G	99.77	Inf	-Inf	68.25	3	Horizontal	50	1.41	-	27.68	3.84	-
PK	2.4835G	60.30	74.00	-13.70	28.76	3	Horizontal	50	1.41	-	27.70	3.84	-
AV	2.4835G	51.48	54.00	-2.52	19.94	3	Horizontal	50	1.41	-	27.70	3.84	-

BT-LE(2Mbps)

2480MHz_TX

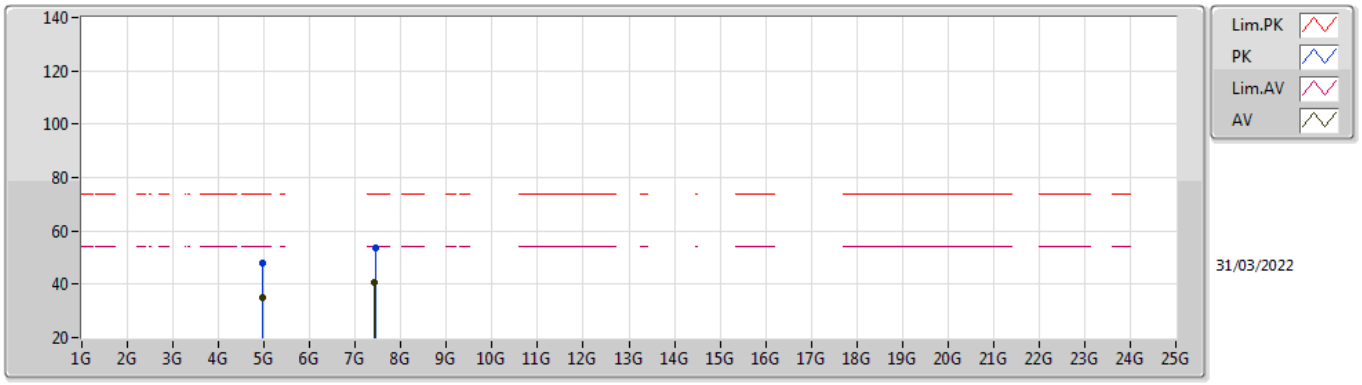


EUT X_1TX
Setting 4dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95644G	48.18	74.00	-25.82	42.11	3	Vertical	144	1.10	-	32.74	6.30	32.97
AV	4.96996G	35.21	54.00	-18.79	29.05	3	Vertical	144	1.10	-	32.82	6.30	32.96
PK	7.43548G	53.13	74.00	-20.87	41.58	3	Vertical	133	1.77	-	37.20	7.38	33.03
AV	7.43204G	40.98	54.00	-13.02	29.43	3	Vertical	133	1.77	-	37.20	7.38	33.03

BT-LE(2Mbps)

2480MHz_TX



EUT X_1TX
Setting 4dBm
01-A-C-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95184G	47.95	74.00	-26.05	41.91	3	Horizontal	266	2.24	-	32.71	6.30	32.97
AV	4.95256G	35.08	54.00	-18.92	29.03	3	Horizontal	266	2.24	-	32.72	6.30	32.97
PK	7.44244G	53.54	74.00	-20.46	41.99	3	Horizontal	246	2.28	-	37.20	7.38	33.03
AV	7.43112G	40.63	54.00	-13.37	29.08	3	Horizontal	246	2.28	-	37.20	7.38	33.03

1. Photographs of Conducted Emissions Test Configuration

Test Mode: Mode 1

FRONT VIEW

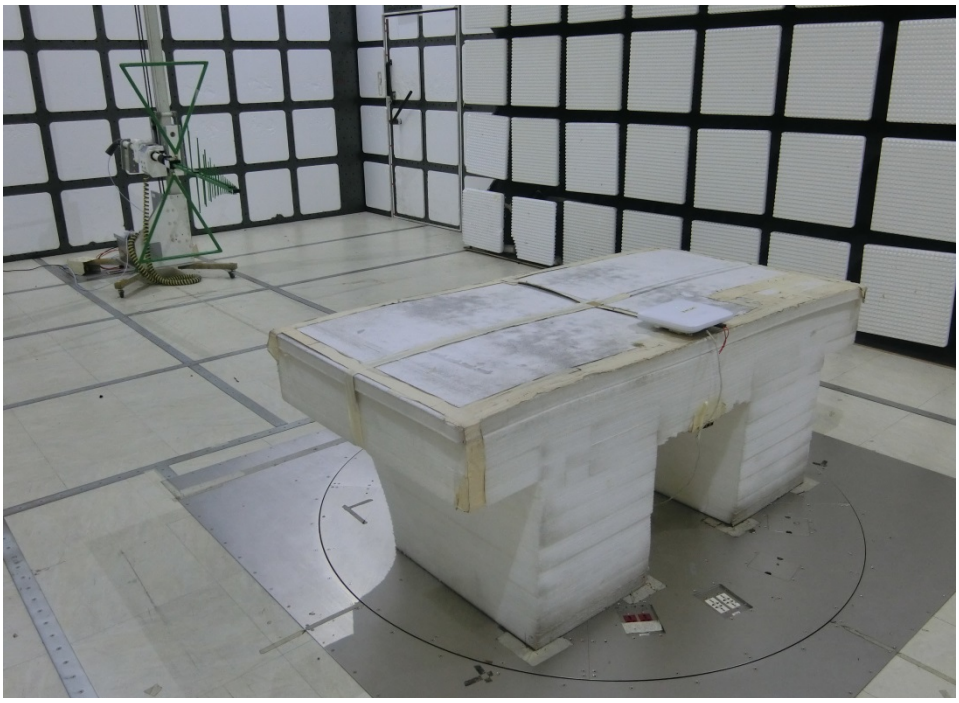
REAR VIEW

2. Photographs of Radiated Emissions Test Configuration

Test Configuration: 30MHz~1GHz / Test Mode: Mode 1

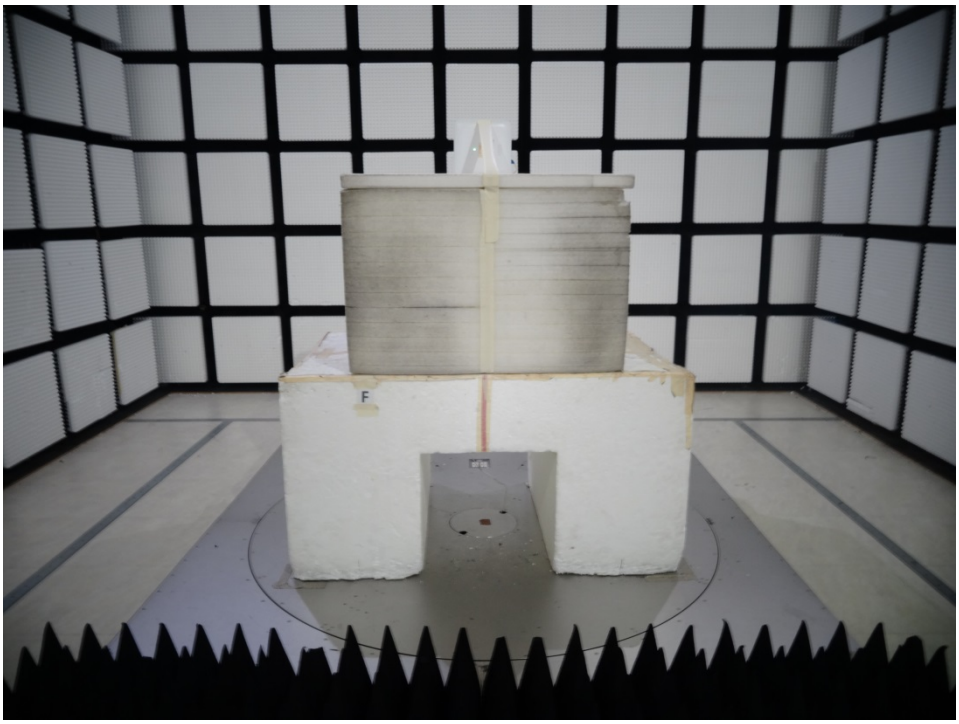
FRONT VIEW

REAR VIEW

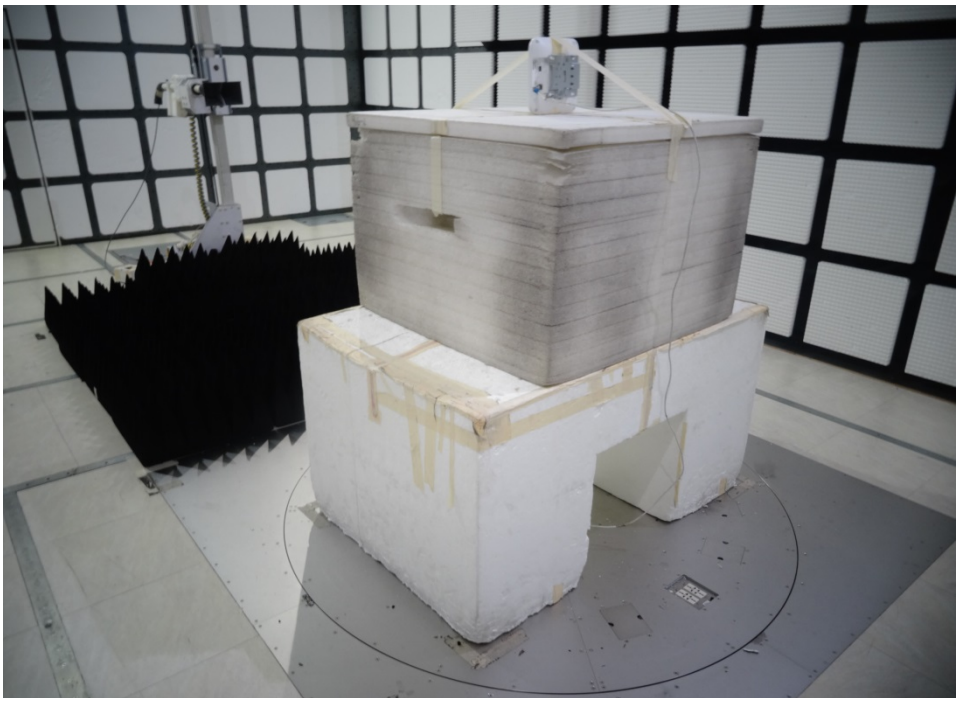


Test Configuration: Above 1GHz

FRONT VIEW



REAR VIEW



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