



RADIO TEST REPORT

FCC ID : UDX-600155010
Equipment : Catalyst Wireless 9162I Series Wi-Fi 6E Access Point
Brand Name : CISCO
Model Name : CW9162I-B, CW9162I-MR
Applicant : Cisco Systems, Inc.
170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer : Cisco Systems, Inc.
170 West Tasman Drive, San Jose, CA 95134 USA
Standard : 47 CFR FCC Part 15.247

The product was received on Mar. 03, 2022, and testing was started from Mar. 24, 2022 and completed on May 25, 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

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_6 Ver1.3

Page Number : 3 of 33
Issued Date : Sep. 12, 2022
Report Version : 01



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:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. 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: Viola Huang**



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]

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

Note:

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



1.1.2 Antenna Information

Ant.	Port								Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz (Radio 1)		WLAN 5GHz (Radio 1)		WLAN 6E (Radio 2)		WLAN 2.4GHz / WLAN 5GHz / WLAN 6GHz (Scanning Radio 3)	BT (Radio 4)					
	1TX	2TX	1TX	2TX	1TX	2TX							
1	1	2	1	2	-	-	-	-	WNC	95XEAJ15.G19	PIFA	I-PEX	Note 1
2	-	1	-	1	-	-	-	-	WNC	95XEAJ15.G20	PIFA	I-PEX	
3	-	-	-	-	1	2	-	-	WNC	95XEAJ15.G21	Dipole	I-PEX	
4	-	-	-	-	-	1	-	-	WNC	95XEAJ15.G22	Dipole	I-PEX	
5	-	-	-	-	-	-	-	1	WNC	95XEAJ15.G23	PIFA	I-PEX	
6	-	-	-	-	-	-	1	-	WNC	95XEAJ15.G24	PIFA	I-PEX	

Note 1:

Ant.	Antenna Gain (dBi)																
	WLAN 2.4GHz (Radio 1)	WLAN 5GHz (Radio 1)					WLAN 6GHz (Radio 2)				WLAN 2.4GHz (Scanning Radio 3)	WLAN 5GHz (Scanning Radio 3)	WLAN 6GHz (Scanning Radio 3)				BT (Radio 4)
		UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 4	UNII 5	UNII 6	UNII 7	UNII 8			UNII 1~UNII 3	UNII 5	UNII 6	UNII 7	
1	2.74	1.75	1.67	1.80	1.64	1.45	-	-	-	-	-	-	-	-	-	-	-
2	2.51	2.13	2.37	1.82	1.50	2.06	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	4.38	3.62	3.78	4.08	-	-	-	-	-	-	-
4	-	-	-	-	-	-	4.33	3.72	3.95	4.11	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.85
6	-	-	-	-	-	-	-	-	-	-	3.80	5.54	5.43	5.23	5.50	5.40	-

Ant.	Directional Gain (dBi)											
	WLAN 2.4GHz (Radio 1)		WLAN 5GHz (Radio 1)									
			UNII 1		UNII 2A		UNII 2C		UNII 3		UNII 4	
	2T1S	2T2S	2T1S	2T2S	2T1S	2T2S	2T1S	2T2S	2T1S	2T2S	2T1S	2T2S
1	5.12	2.74	4.19	2.13	4.07	2.37	4.41	1.82	4.08	1.64	3.96	2.06
2												

Note 2: The EUT has six antennas.

Note 3: The above information (excepting antenna gain of Radio 1 2.4GHz, 5GHz UNII 1~UNII 4) was declared by manufacturer.

Note 4: Radio 1 2.4GHz, 5GHz UNII 1~UNII 4: Maximum Directional Gain following KDB662911 D03.

Note 5: The EUT doesn't enable the DFS band.

**For Radio 1****For 2.4GHz:****For IEEE 802.11b/g/n/VHT/ax mode (1TX/2RX):**

Only Port 1 can be use as transmitting antenna.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

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

Port 1, Port 2 can be use as transmitting antenna.
Port 1, Port 2 could transmitting simultaneously.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

For 5GHz UNII 1, UNII 3, 5.9GHz UNII 4:**For IEEE 802.11a/n/ac/ax mode (1TX/2RX):**

Only Port 1 can be use as transmitting antenna.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

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

Port 1, Port 2 can be use as transmitting antenna.
Port 1, Port 2 could transmitting simultaneously.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

For Radio 2**For 6GHz UNII 5~UNII 8:****For IEEE 802.11ax mode (1TX/2RX):**

Only Port 1 can be use as transmitting antenna.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

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

Port 1, Port 2 can be use as transmitting antenna.
Port 1, Port 2 could transmitting simultaneously.
Port 1, Port 2 can be used as receiving antennas.
Port 1, Port 2 could receive simultaneously.

For Radio 4**Bluetooth (1TX/1RX):**

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

For Scanning Radio 3**For 2.4GHz:****For IEEE 802.11b/g/n/VHT/ax mode (1TX/1RX):**

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

For 5GHz UNII 1, UNII 3:**For IEEE 802.11a/n/ac/ax mode (1TX/1RX):**

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

For 6GHz UNII 5~UNII 8:**For IEEE 802.11ax mode (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)	0.683	1.66	426.875u	3k
BT-LE(2Mbps)	0.388	4.11	242.5u	10k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE		
Function	☒ Point-to-multipoint	☐ Point-to-point	
Test Software Version	DOS [ver 6.1.7601] / v0.1.8.0		
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 Multiple Listing

Model Name	EUT No.	SW
CW9162I-B	1	Cisco
CW9162I-MR	2	Meraki

Note 1: From the above models, model: CW9162I-B 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.

1.1.6 Table for Radio function

Radio (R)	WLAN 2.4GHz	5GHz UNII 1~4	6GHz UNII 5~8	Bluetooth
R1	V	V	-	-
R2	-	-	V	-
R3 (Scanning radio)	V	V	V	-
R4	-	-	-	V

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH01-CB	Owen Hsu	24.7~25.6 / 64~70	Mar. 25, 2022~May 25, 2022
Radiated below 1GHz	10CH01-CB	Ryan Huang	22~23 / 56~57	May 17, 2022
Radiated above 1GHz	03CH06-CB	Stim Sung	23.5~24.6 / 55~59	Mar. 24, 2022~May 14, 2022
AC Conduction	CO01-CB	Bob Chang	22~23 / 53~54	May 16, 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)	5.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.9 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	200
2440MHz	200
2478MHz	200
2480MHz	140
BT-LE(2Mbps)	-
2402MHz	200
2440MHz	200
2478MHz	200
2480MHz	90

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	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + Adapter
2	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 5GHz) + Adapter
3	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 6GHz) + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4~9 will follow this same test mode.	
4	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 1
5	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 2
6	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 3
7	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 4
8	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 5
9	Normal Link-EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 6
For operating mode 8 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
1	EUT 1_R4

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
1	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + Adapter
2	EUT 1 in Y axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + Adapter
3	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + Adapter
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 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 5GHz) + Adapter
5	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 6GHz) + Adapter
Mode 1 has been evaluated to be the worst case among Mode 1~5, thus measurement for Mode 6~11 will follow this same test mode.	
6	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 1
7	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 2
8	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 3
9	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth)+ (Scanning R3: 2.4GHz) + PoE 4
10	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 5
11	EUT 1 in Z axis (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz) + PoE 6
For operating mode 1 and Mode 8 are the worst case and they were record in this test report.	
Operating Mode > 1GHz	CTX The EUT was performed at X axis, Y axis and Z axis position test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT 1 in Z axis_R4

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 2.4GHz)
2	EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth) + (Scanning R3: 5GHz)
3	EUT 1 (R1: 2.4GHz + 5GHz + R2: 6GHz + R4: Bluetooth)+ (Scanning R3: 6GHz)
Refer to Sporton Test Report No.: FA230306 for Co-location RF Exposure Evaluation.	

Note: The Adapter and PoEs are for measurement only, would not be marketed.

Adapter and PoEs information as below:

Power	Brand	Model
Adapter	CISCO	MA-PWR-30W-US (MA-PWR-30W)
PoE 1	CISCO	POE16U-1AF (AIR-PWRINJ5)
PoE 2	CISCO	SB-PWR-INJ2 (AIR-PWRINJ6)
PoE 3	PHIHONG	POE29U-1AT(PL) (AIR-PWRINJ6)
PoE 4	Delta	ADH-65AR B (AIR-PWRINJ7)
PoE 5	PHIHONG	POEA33U-1ATE (MA-INJ-4)
PoE 6	PHIHONG	POE60U-1BT-X (MA-INJ-6)

According to the manufacturer's declaration, the console port is not used for end-users.

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

Accessories
Bracket*1



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE 5	PHIHONG	POEA33U-1ATE (MA-INJ-4)	N/A
B	2.5G LAN NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	6E device	JUNIPER	B-Q3AP-2	N/A
F	6E NB	DELL	E6430	N/A
G	Flash disk3.0	Transcend	JetFlash-700	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE 3	PHIHONG	POE29U-1AT(PL) (AIR-PWRINJ6)	N/A
B	2.5G LAN NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	6E device	JUNIPER	B-Q3AP-2	N/A
F	6E NB	DELL	E6430	N/A
G	Flash disk3.0	Transcend	JetFlash-700	N/A

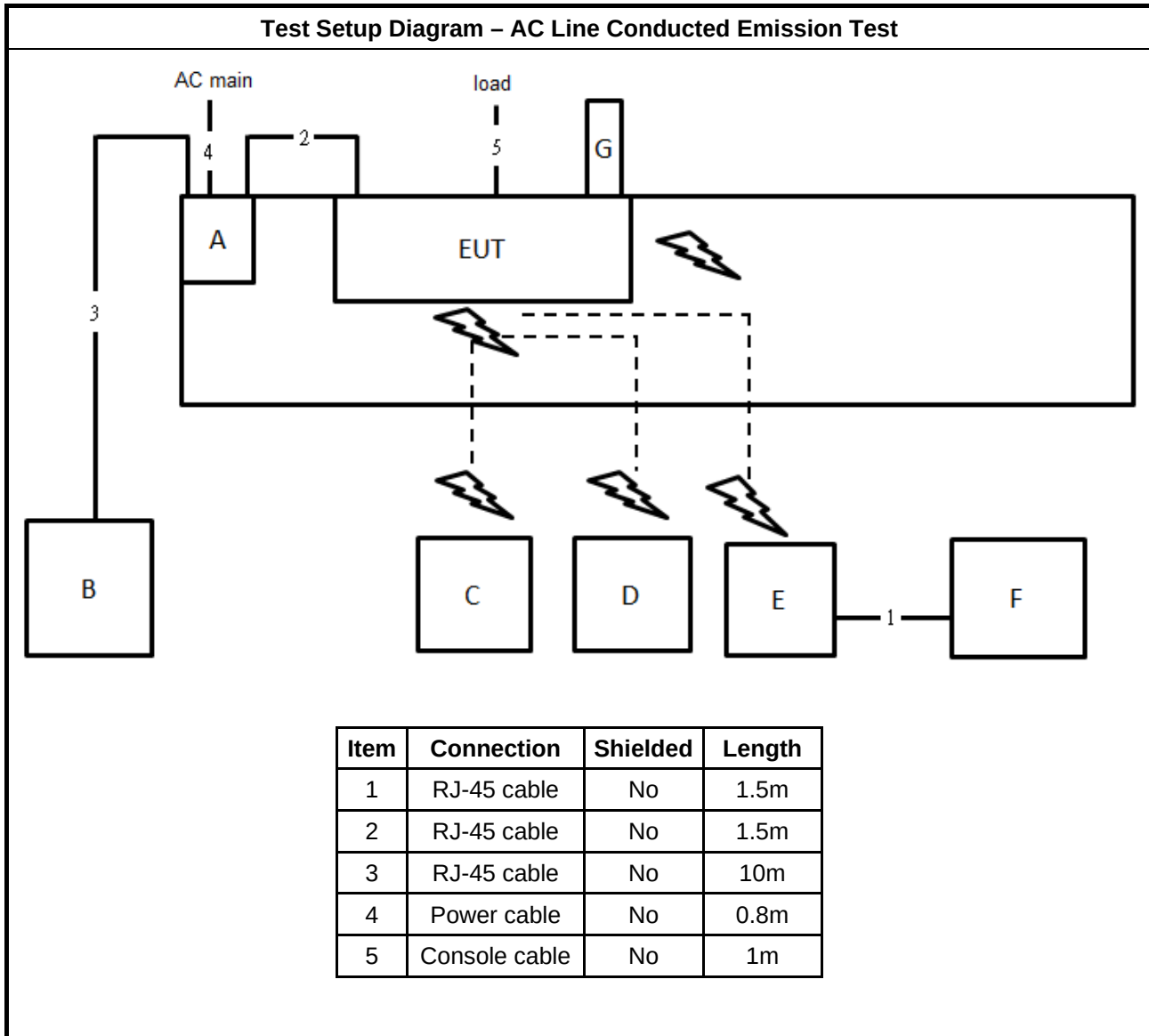
For Radiated (above 1GHz):

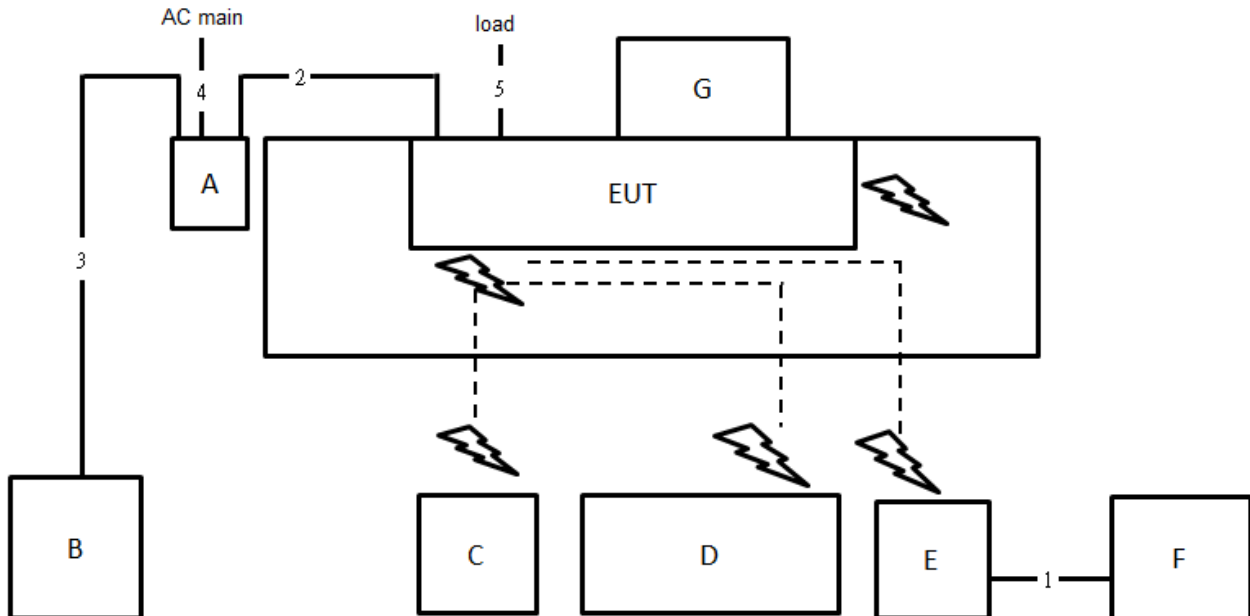
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE 5	PHIHONG	POEA33U-1ATE (MA-INJ-4)	N/A
B	Notebook	DELL	E4300	N/A

For RF Conducted:

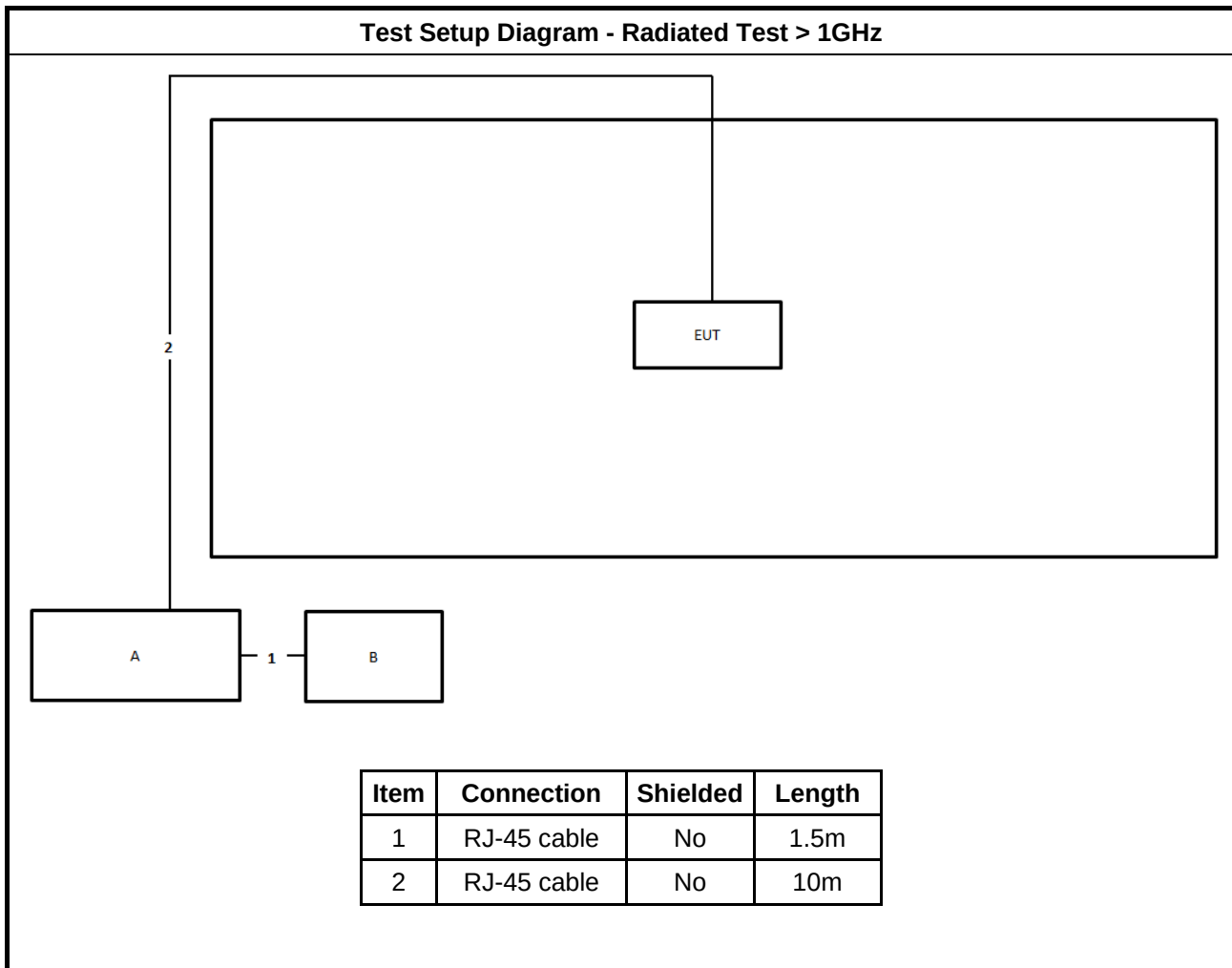
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	PoE 5	PHIHONG	POEA33U-1ATE (MA-INJ-4)	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	RJ-45 cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	Power cable	No	0.8m
5	Console cable	No	1m

Test Setup Diagram - Radiated Test > 1GHz




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.

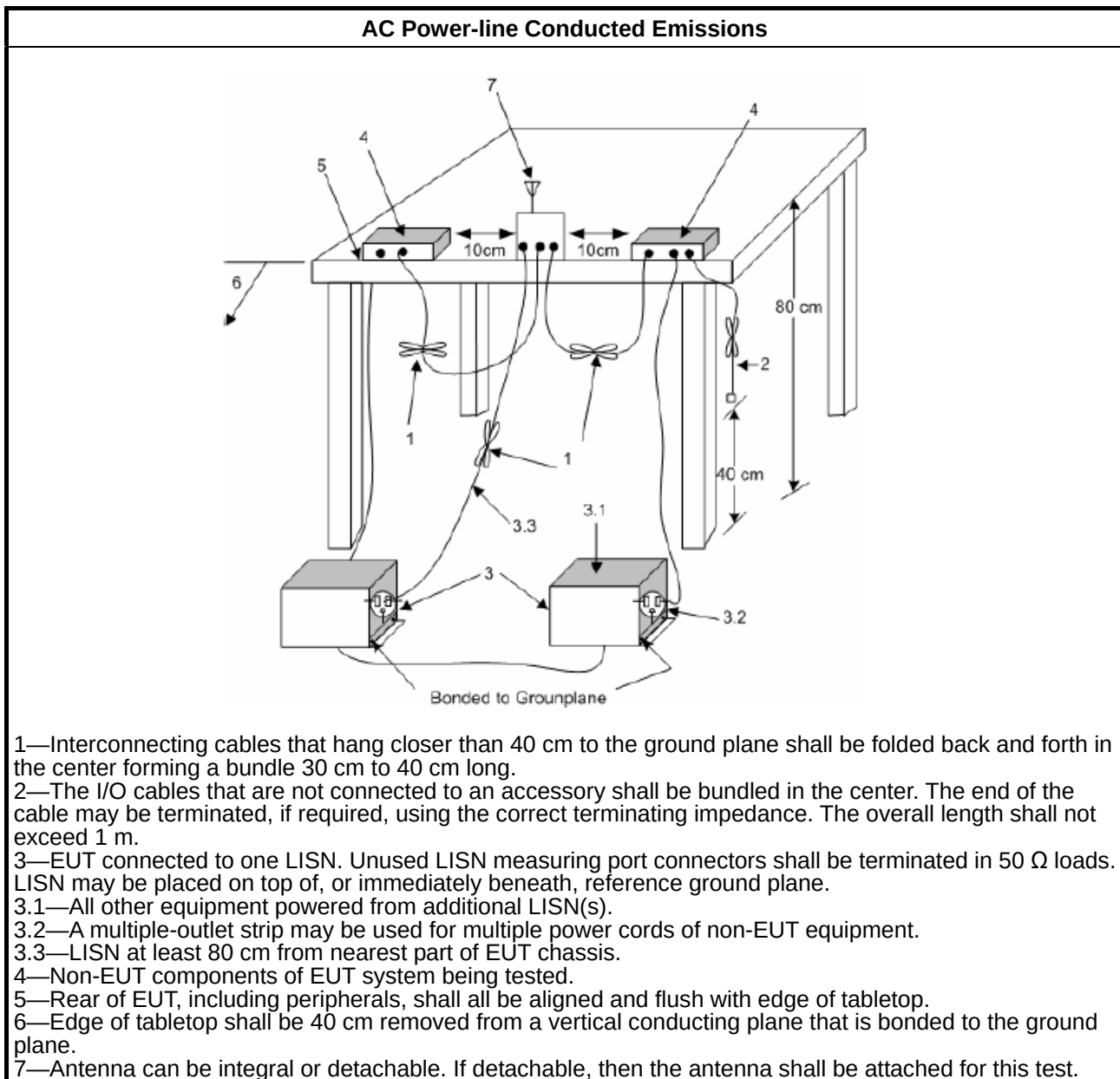
3.1.2 Measuring Instruments

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



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 $\geq$ 500 kHz.

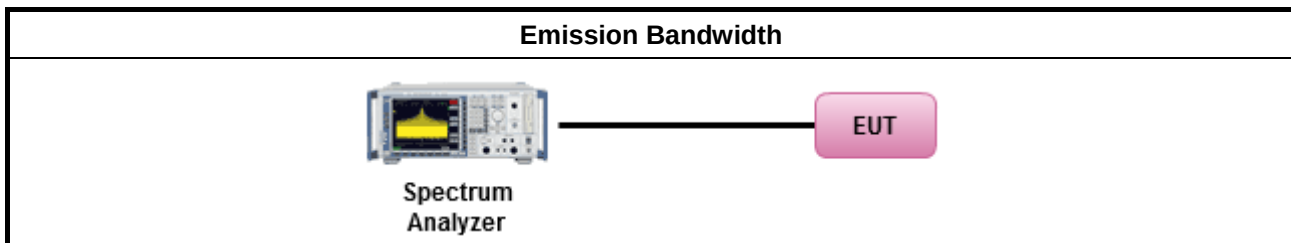
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
For the emission bandwidth shall be measured using one of the options below:
☒ Refer as FCC KDB 558074, clause 8.2 & 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



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.	

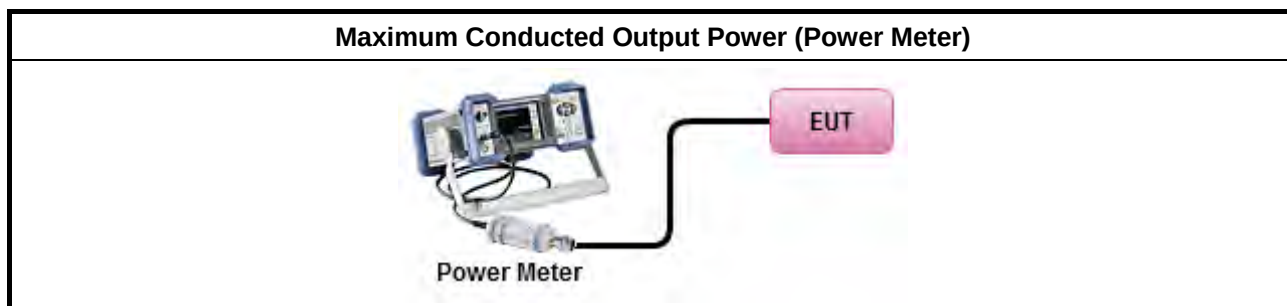
3.3.2 Measuring Instruments

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: $P_{total} = P_1 + P_2 + \dots + P_n$ (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
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

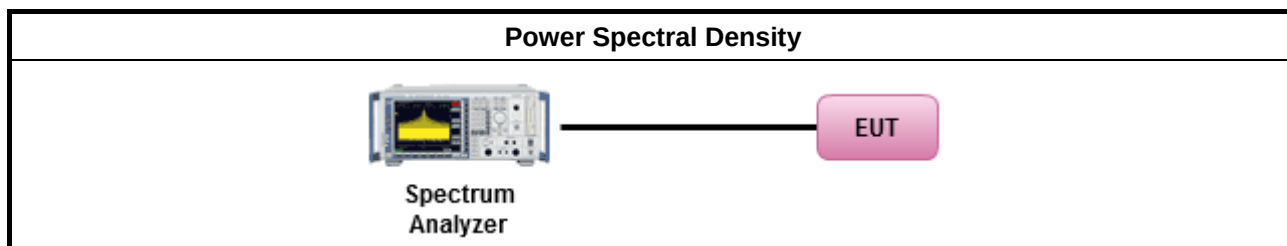
3.4.2 Measuring Instruments

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 $\geq 98\%$ 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



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.	

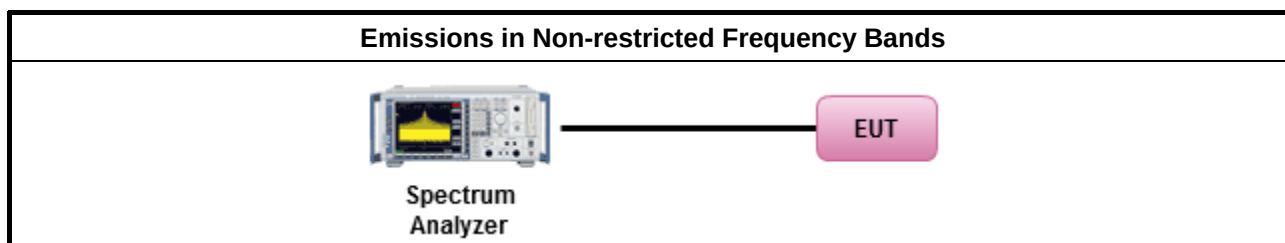
3.5.2 Measuring Instruments

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



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

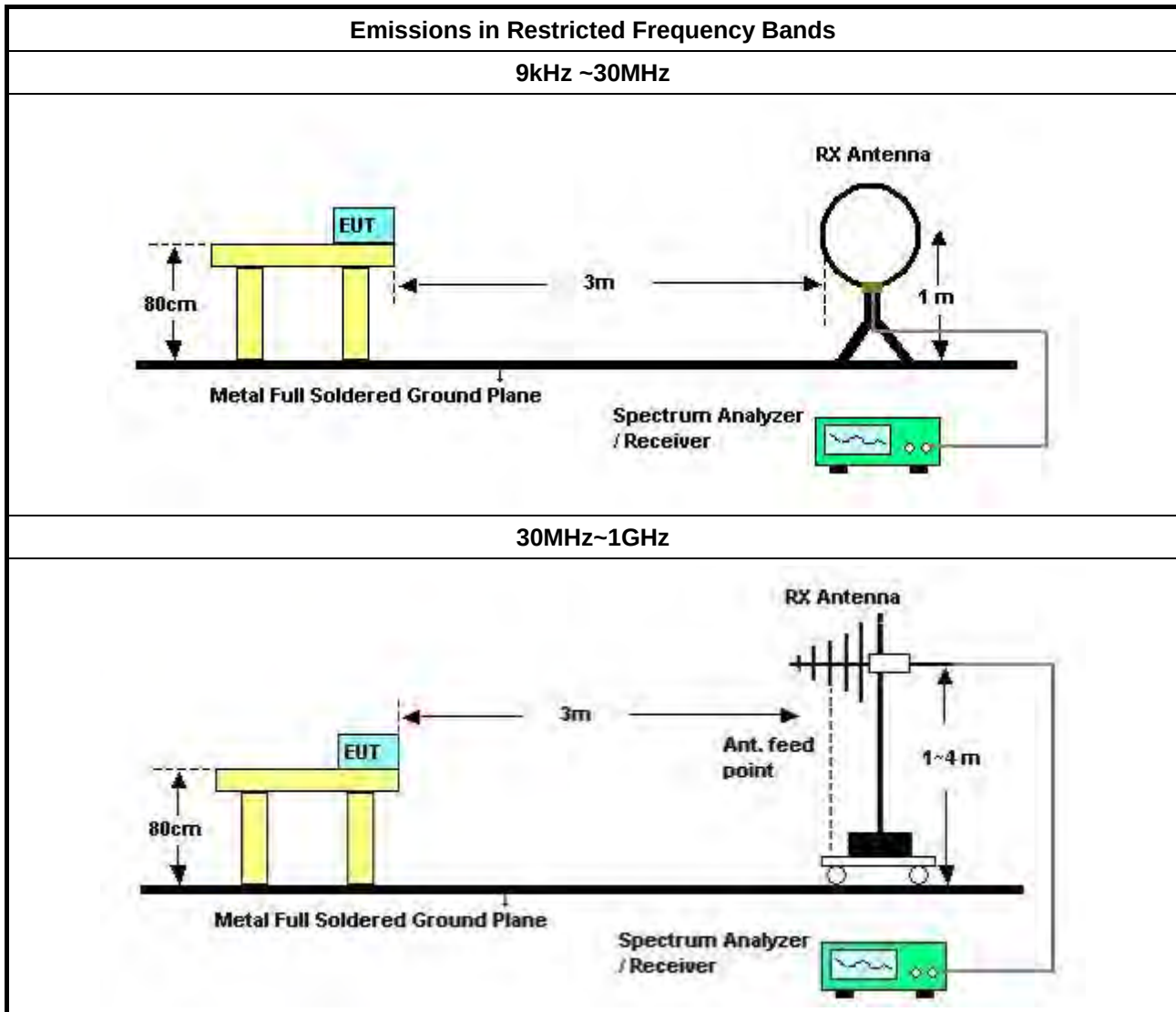
Refer a test equipment and calibration data table in this test report.

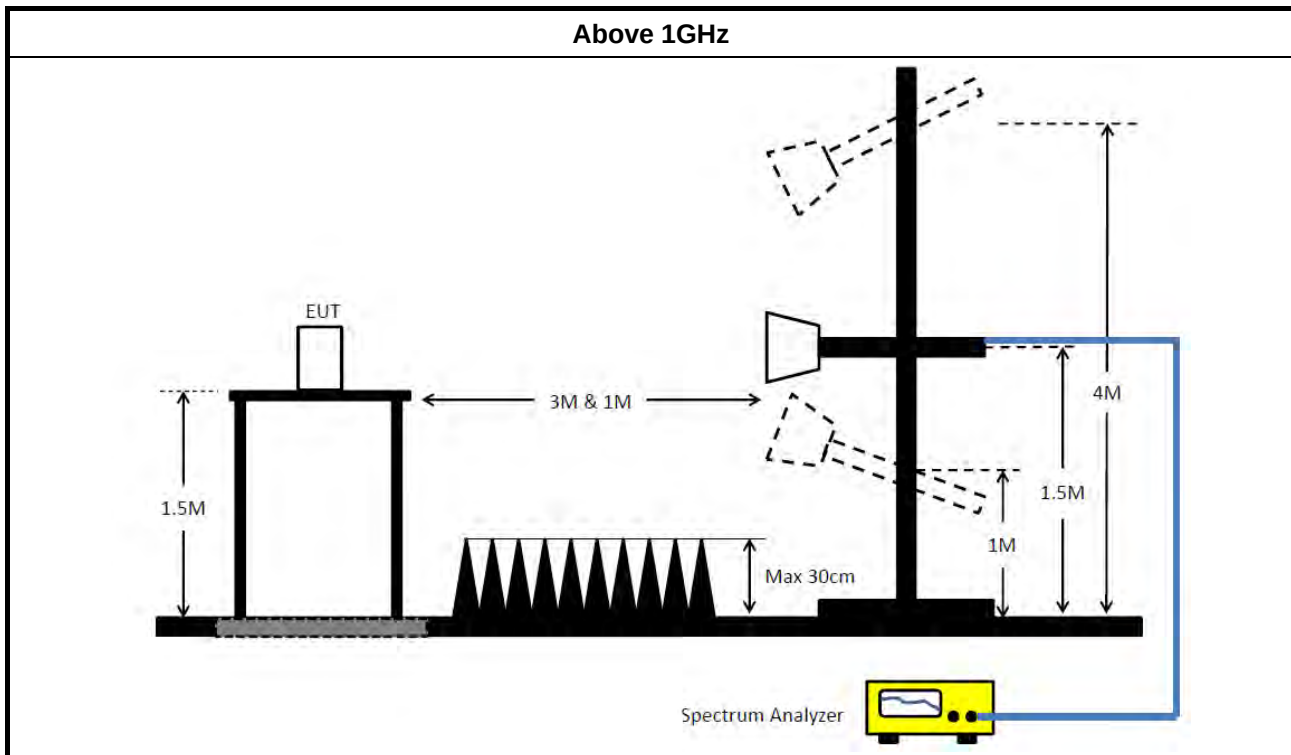


3.6.3 Test Procedures

Test Method	
▪ 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 $\geq 98\%$).
	☐ 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 $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq 1/T$, 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





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	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 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	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde&Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde&Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
Amplifier	EM	EM101	060703	10MHz ~ 1GHz	Oct. 20, 2021	Oct. 19, 2022	Radiation (10CH01-CB)
Low Cable	TITAN	T318E	low cable-03	30MHz ~ 1GHz	Jun. 17, 2021	Jun. 16, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 01, 2021	Sep. 30, 2022	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	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)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Pre-Amplifier	Agilent	SGH5265	20211115-1	1GHz ~ 26.5GHz	Jan. 19, 2022	Jan. 18, 2023	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 24, 2021	Dec. 23, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	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)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 21, 2021	May 20, 2022	Conducted (TH01-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 26, 2022	Apr. 25, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)



RADIO TEST REPORT

Report No. : FR230306AD

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

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

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



Conducted Emissions at Powerline

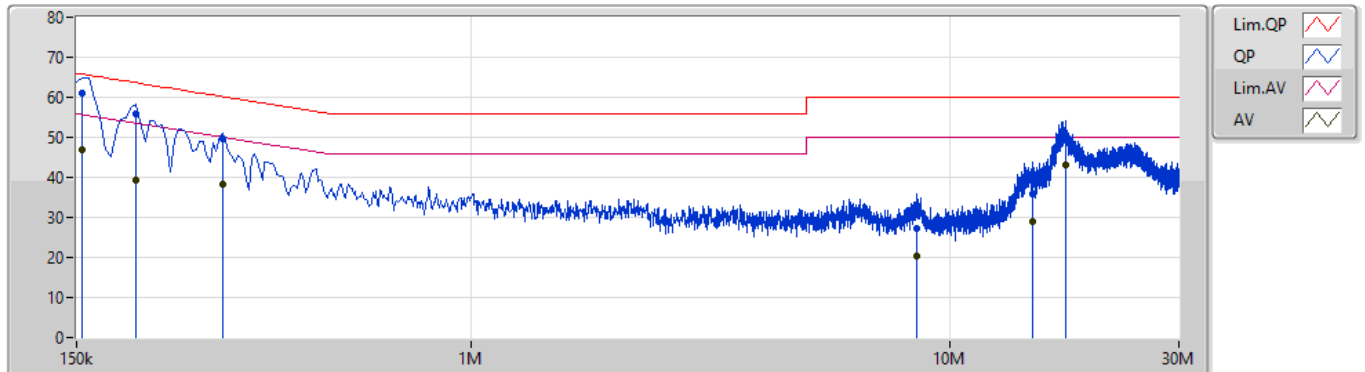
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 8	Pass	QP	163.5k	60.68	65.27	-4.59	Neutral

Mode 8

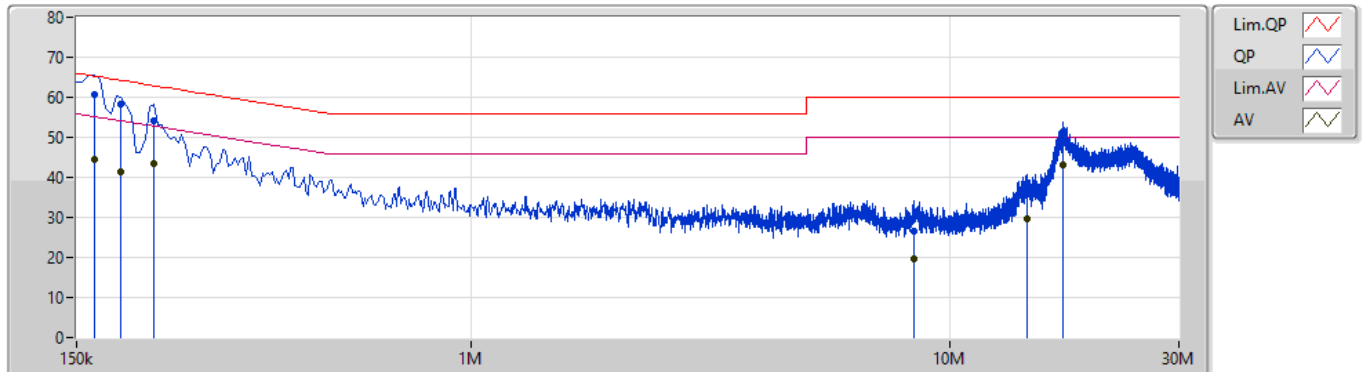
16/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	154.5k	60.97	65.75	-4.78	9.97	Line	"Worst"	51.00	0.06	0.02	9.89			
AV	154.5k	46.88	55.75	-8.87	9.97	Line	-	36.91	0.06	0.02	9.89			
QP	199.5k	55.88	63.63	-7.75	9.97	Line	-	45.91	0.06	0.02	9.89			
AV	199.5k	39.21	53.63	-14.42	9.97	Line	-	29.24	0.06	0.02	9.89			
QP	303k	49.76	60.17	-10.41	9.97	Line	-	39.79	0.06	0.02	9.89			
AV	303k	38.27	50.17	-11.90	9.97	Line	-	28.30	0.06	0.02	9.89			
QP	8.538M	27.33	60.00	-32.67	10.18	Line	-	17.15	0.20	0.07	9.91			
AV	8.538M	20.45	50.00	-29.55	10.18	Line	-	10.27	0.20	0.07	9.91			
QP	14.807M	35.72	60.00	-24.28	10.32	Line	-	25.40	0.27	0.11	9.94			
AV	14.807M	28.99	50.00	-21.01	10.32	Line	-	18.67	0.27	0.11	9.94			
QP	17.394M	49.20	60.00	-10.80	10.35	Line	-	38.85	0.28	0.12	9.95			
AV	17.394M	42.94	50.00	-7.06	10.35	Line	-	32.59	0.28	0.12	9.95			

Mode 8

16/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	163.5k	60.68	65.27	-4.59	9.98	Neutral	"Worst"	50.70	0.07	0.02	9.89			
AV	163.5k	44.47	55.27	-10.80	9.98	Neutral	-	34.49	0.07	0.02	9.89			
QP	186k	58.35	64.20	-5.85	9.98	Neutral	-	48.37	0.07	0.02	9.89			
AV	186k	41.31	54.20	-12.89	9.98	Neutral	-	31.33	0.07	0.02	9.89			
QP	217.5k	54.12	62.92	-8.80	9.98	Neutral	-	44.14	0.07	0.02	9.89			
AV	217.5k	43.38	52.92	-9.54	9.98	Neutral	-	33.40	0.07	0.02	9.89			
QP	8.403M	26.55	60.00	-33.45	10.20	Neutral	-	16.35	0.22	0.07	9.91			
AV	8.403M	19.63	50.00	-30.37	10.20	Neutral	-	9.43	0.22	0.07	9.91			
QP	14.492M	36.27	60.00	-23.73	10.32	Neutral	-	25.95	0.27	0.11	9.94			
AV	14.492M	29.52	50.00	-20.48	10.32	Neutral	-	19.20	0.27	0.11	9.94			
QP	17.21M	49.44	60.00	-10.56	10.35	Neutral	-	39.09	0.29	0.11	9.95			
AV	17.21M	43.17	50.00	-6.83	10.35	Neutral	-	32.82	0.29	0.11	9.95			



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)	633.75k	1.028M	1M03F1D	631.25k	1.024M
BT-LE(2Mbps)	1.09M	2.066M	2M07F1D	632.5k	1.019M

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

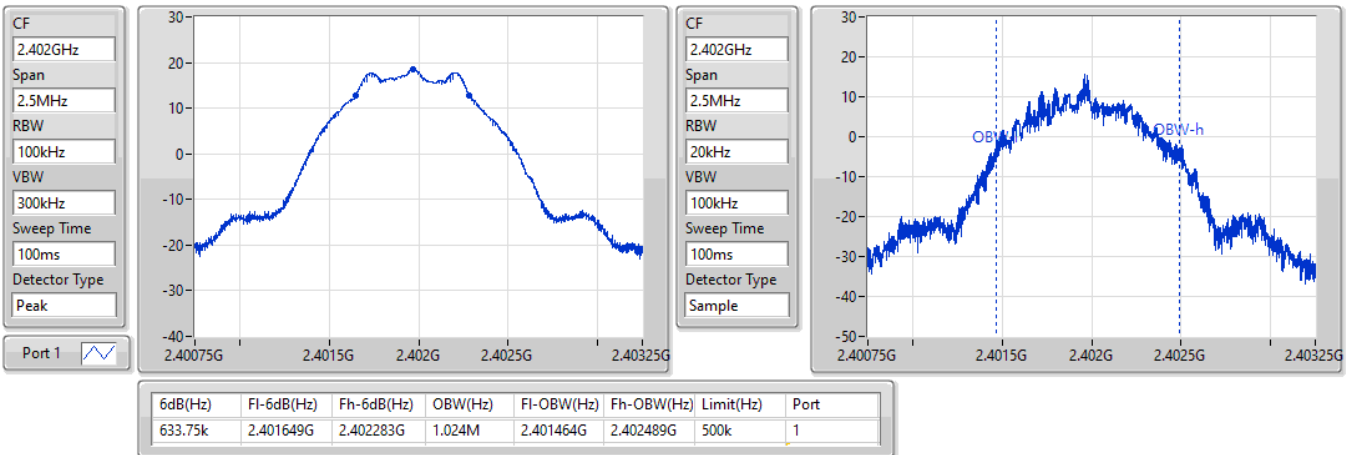
**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	633.75k	1.024M
2440MHz	Pass	500k	633.75k	1.027M
2478MHz	Pass	500k	633.75k	1.028M
2480MHz	Pass	500k	631.25k	1.027M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.09M	2.041M
2440MHz	Pass	500k	1.088M	2.066M
2478MHz	Pass	500k	632.5k	1.019M
2480MHz	Pass	500k	1.085M	2.059M

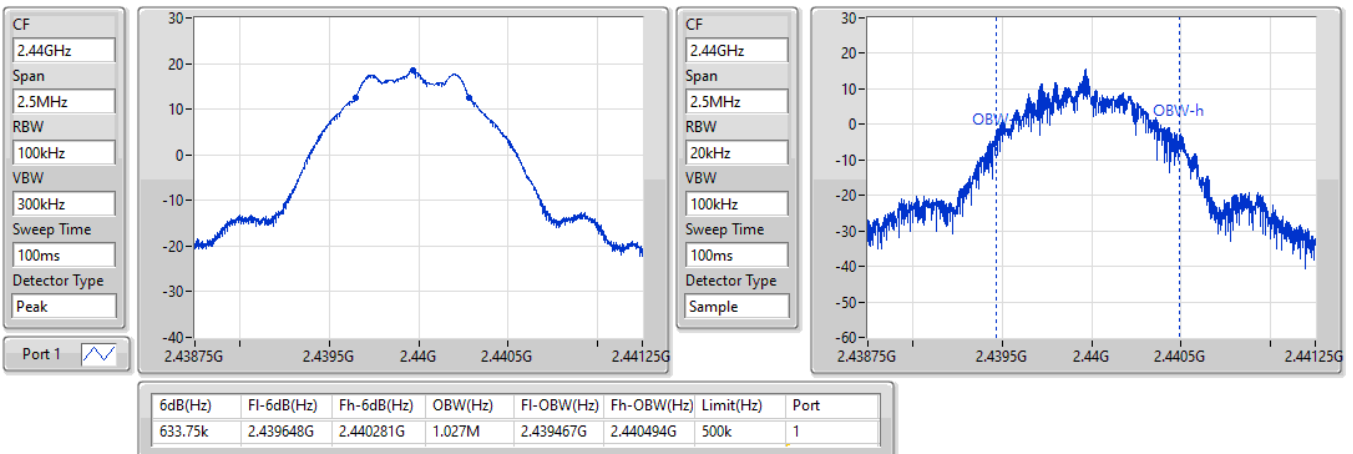
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

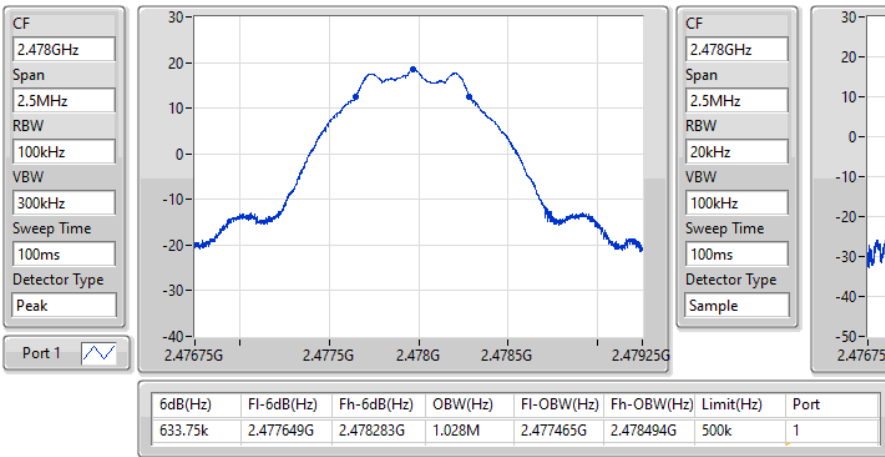
BT-LE(1Mbps)
2402MHz
EBW-DTS

25/03/2022

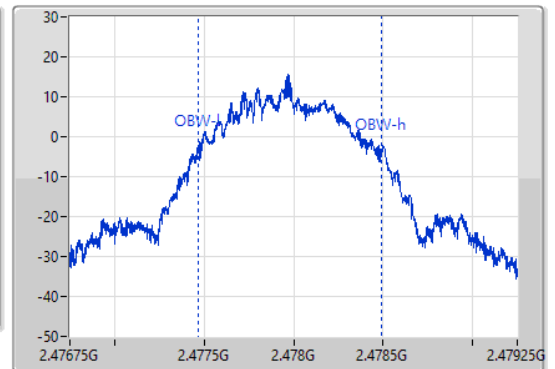
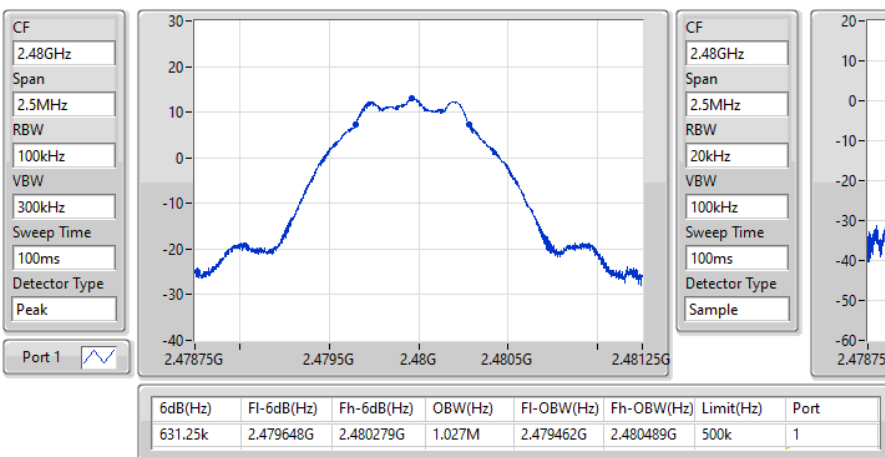

BT-LE(1Mbps)
2440MHz
EBW-DTS

25/03/2022

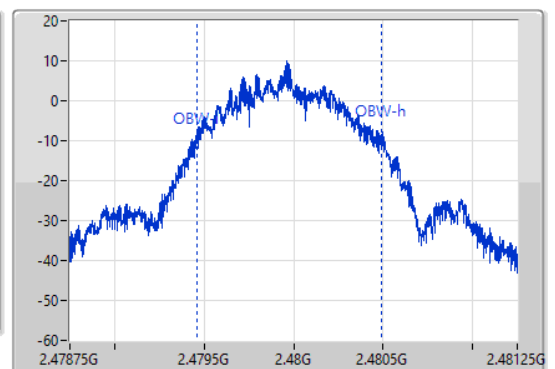


BT-LE(1Mbps)
2478MHz

EBW-DTS

28/03/2022

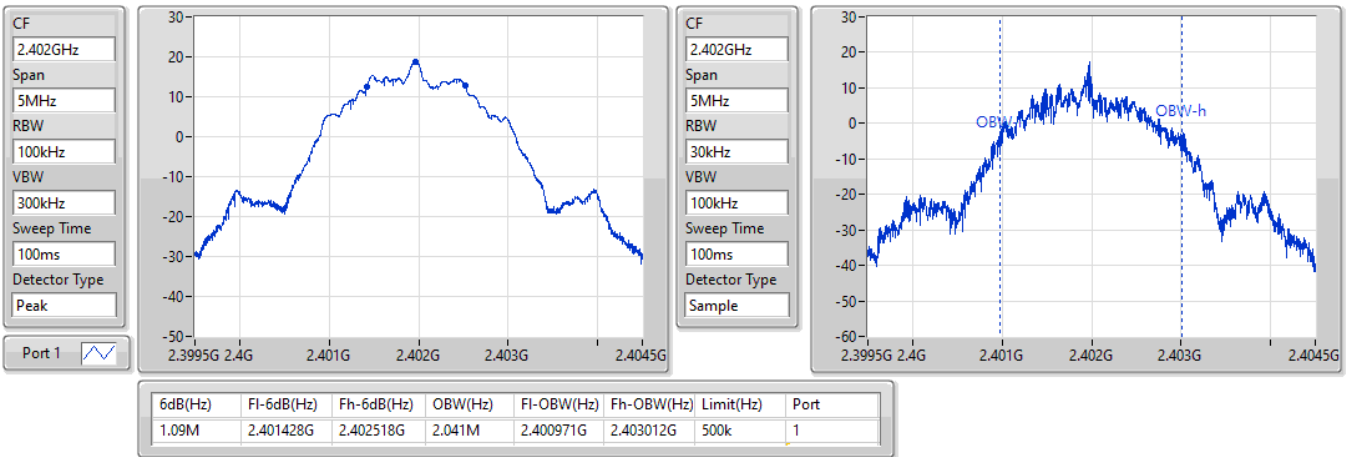

BT-LE(1Mbps)
2480MHz

EBW-DTS

25/03/2022

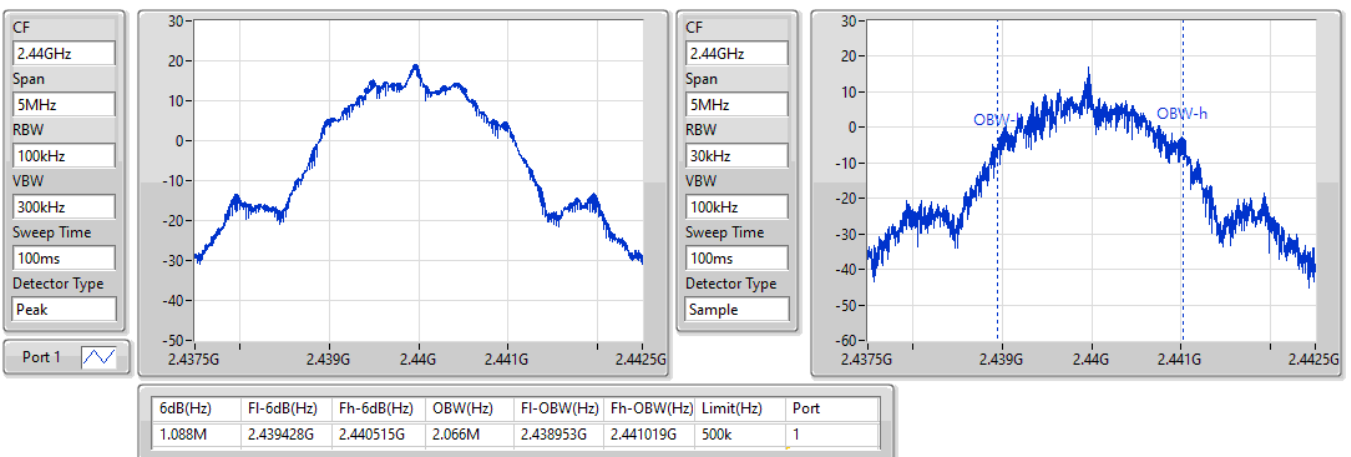


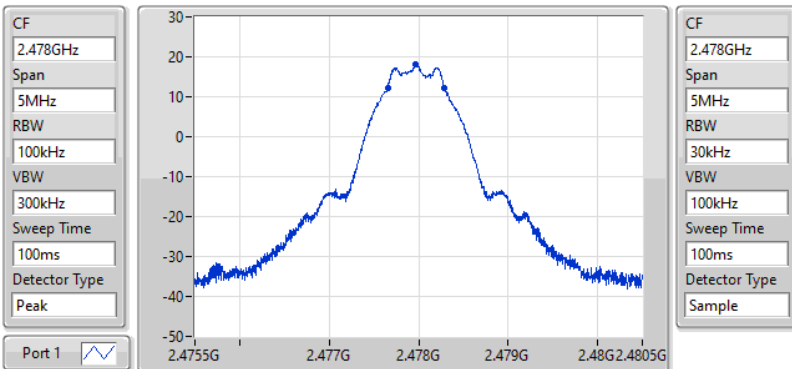
BT-LE(2Mbps)
EBW-DTS
2402MHz

28/03/2022


BT-LE(2Mbps)
EBW-DTS
2440MHz

25/03/2022

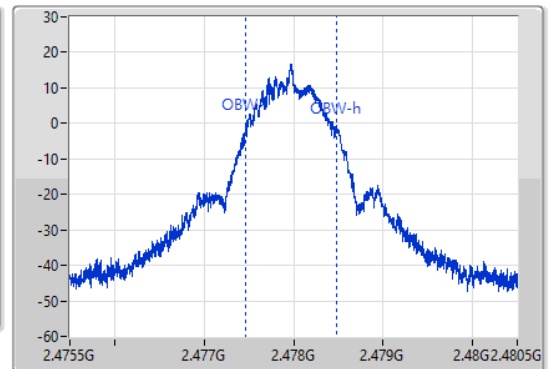
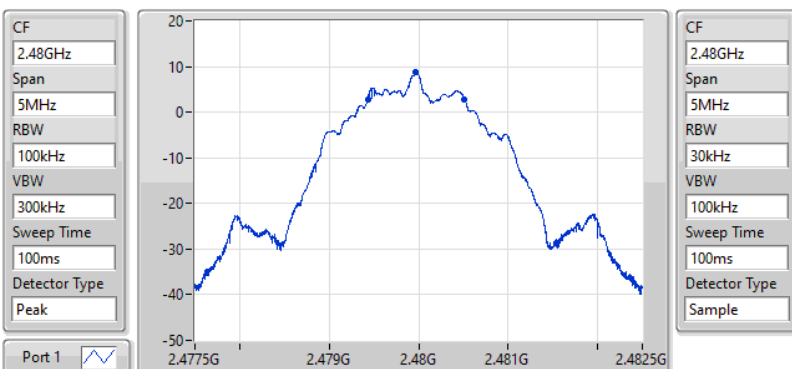


BT-LE(2Mbps)
2478MHz


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
632.5k	2.477653G	2.478285G	1.019M	2.477468G	2.478487G	500k	1

EBW-DTS

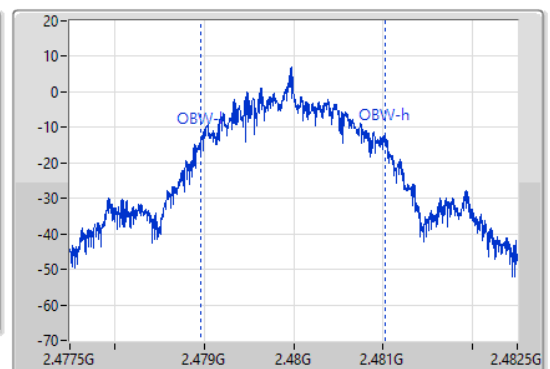
07/04/2022


BT-LE(2Mbps)
2480MHz


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.085M	2.47943G	2.480515G	2.059M	2.478961G	2.481019G	500k	1

EBW-DTS

25/03/2022





Average Power-DTS_Radio 4

Appendix C

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LF(1Mbps)	18.28	0.06730
BT-LF(2Mbps)	18.20	0.06607



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	3.85	18.28	30.00
2440MHz	Pass	3.85	17.98	30.00
2478MHz	Pass	3.85	18.26	30.00
2480MHz	Pass	3.85	12.83	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	3.85	18.20	30.00
2440MHz	Pass	3.85	17.91	30.00
2478MHz	Pass	3.85	18.11	30.00
2480MHz	Pass	3.85	7.93	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	3.47
BT-LE(2Mbps)	2.97

RBW = 3kHz;

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	3.85	3.47	8.00
2440MHz	Pass	3.85	3.35	8.00
2478MHz	Pass	3.85	3.29	8.00
2480MHz	Pass	3.85	-2.02	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	3.85	2.97	8.00
2440MHz	Pass	3.85	2.88	8.00
2478MHz	Pass	3.85	2.88	8.00
2480MHz	Pass	3.85	-7.23	8.00

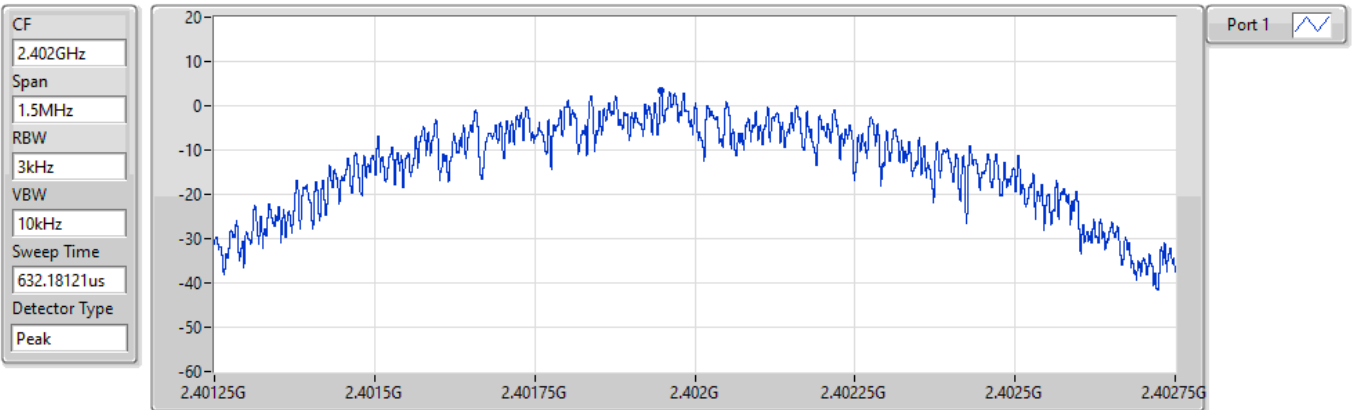
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

BT-LE(1Mbps)

PSD

2402MHz

25/03/2022



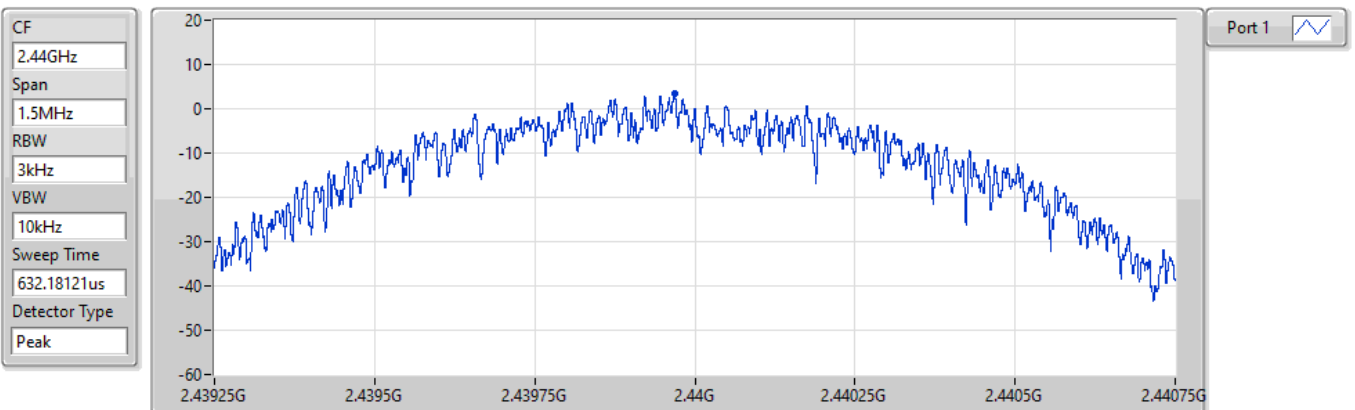
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.47	3.47	3.47

BT-LE(1Mbps)

PSD

2440MHz

25/03/2022

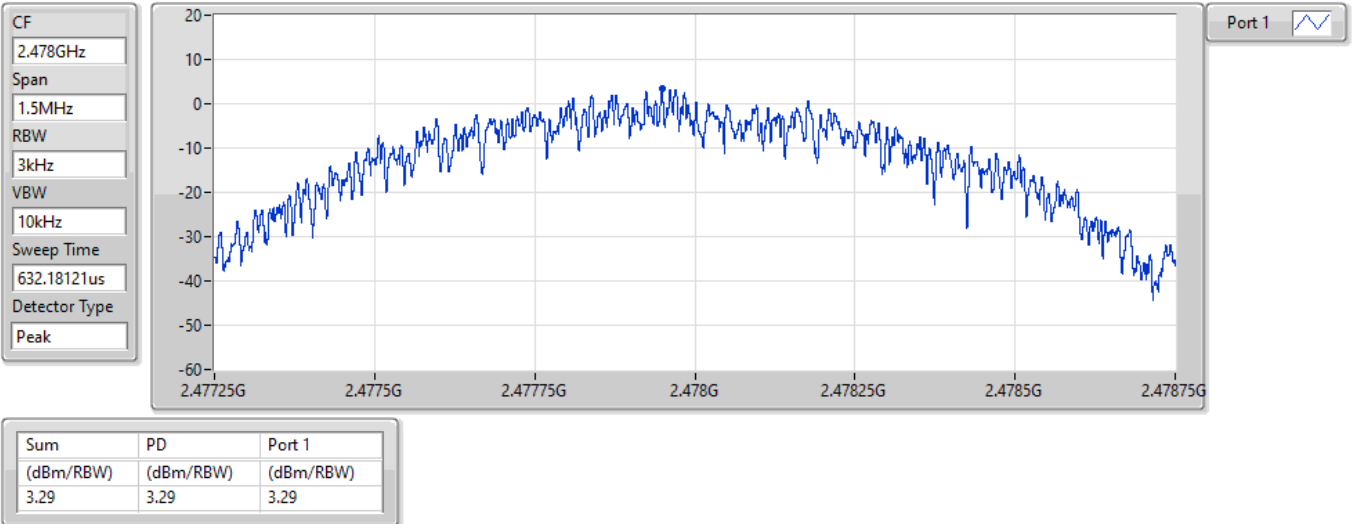


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.35	3.35	3.35

BT-LE(1Mbps)

2478MHz

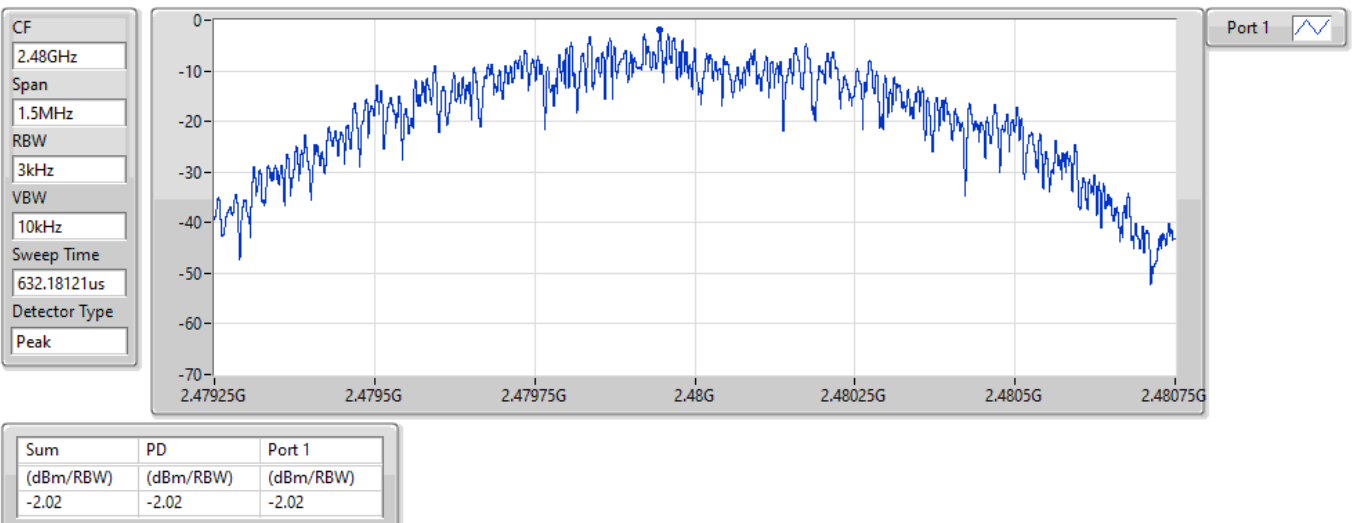
28/03/2022



BT-LE(1Mbps)

2480MHz

25/03/2022

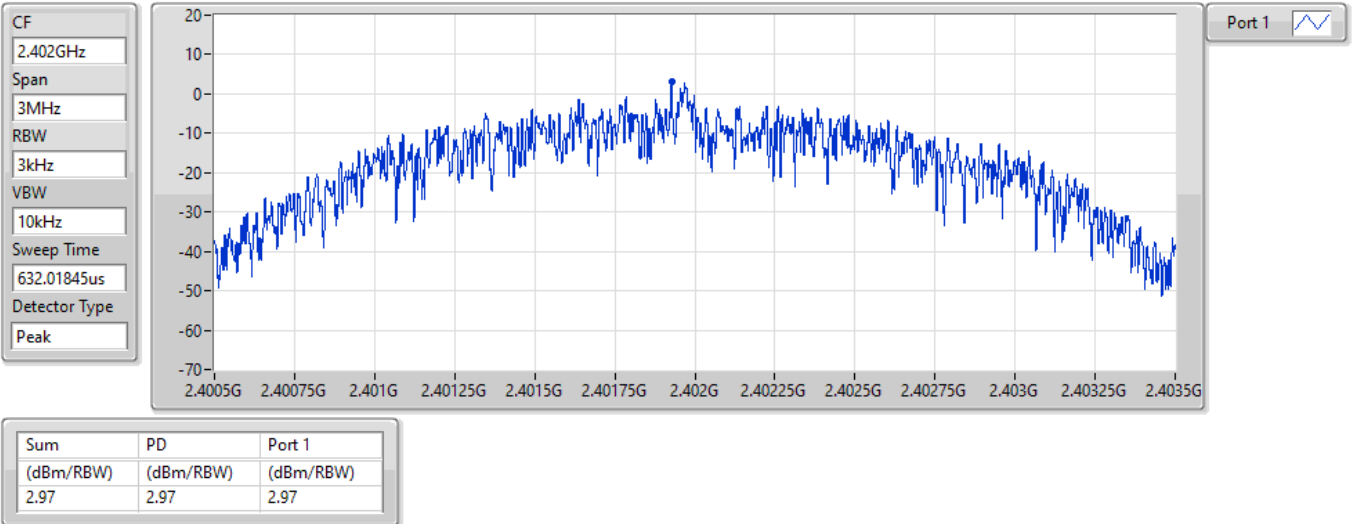


BT-LE(2Mbps)

PSD

2402MHz

25/03/2022

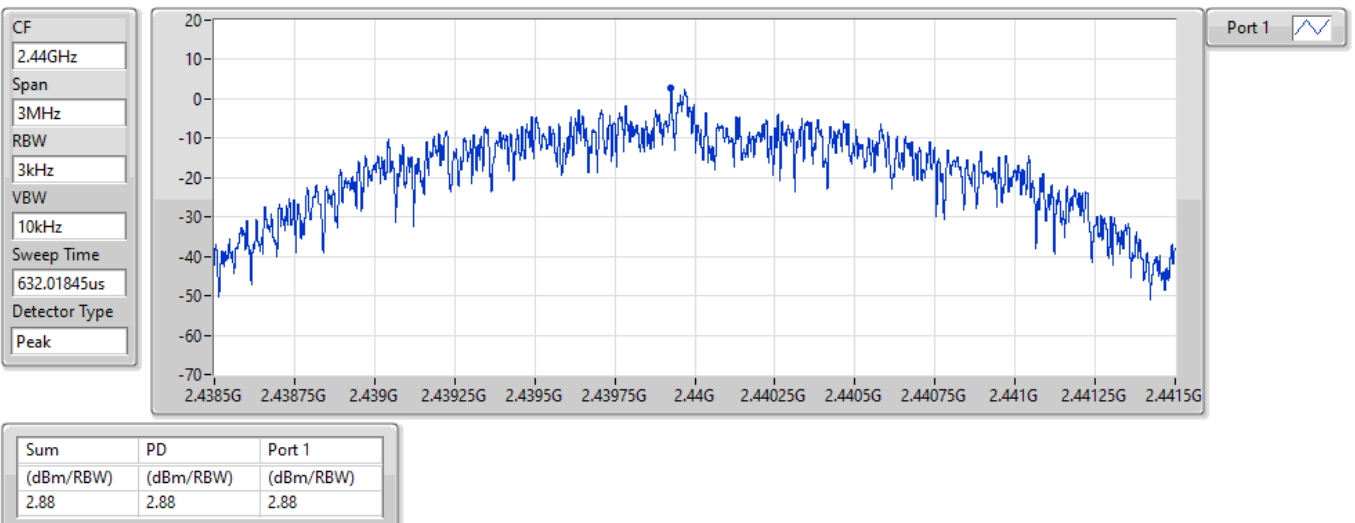


BT-LE(2Mbps)

PSD

2440MHz

25/03/2022

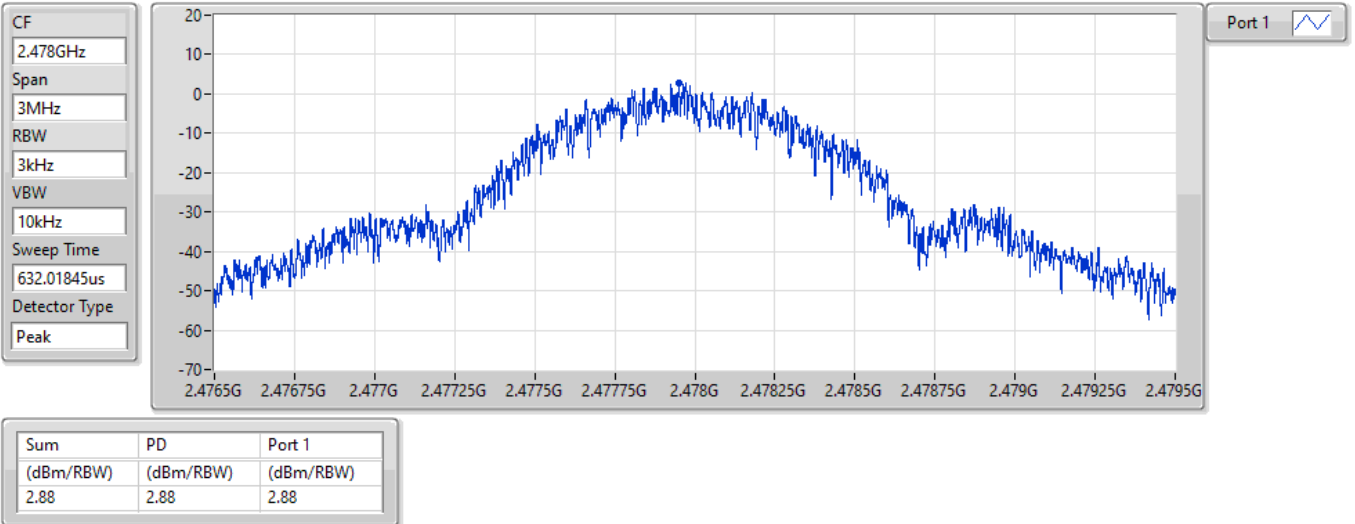


BT-LE(2Mbps)

PSD

2478MHz

07/04/2022

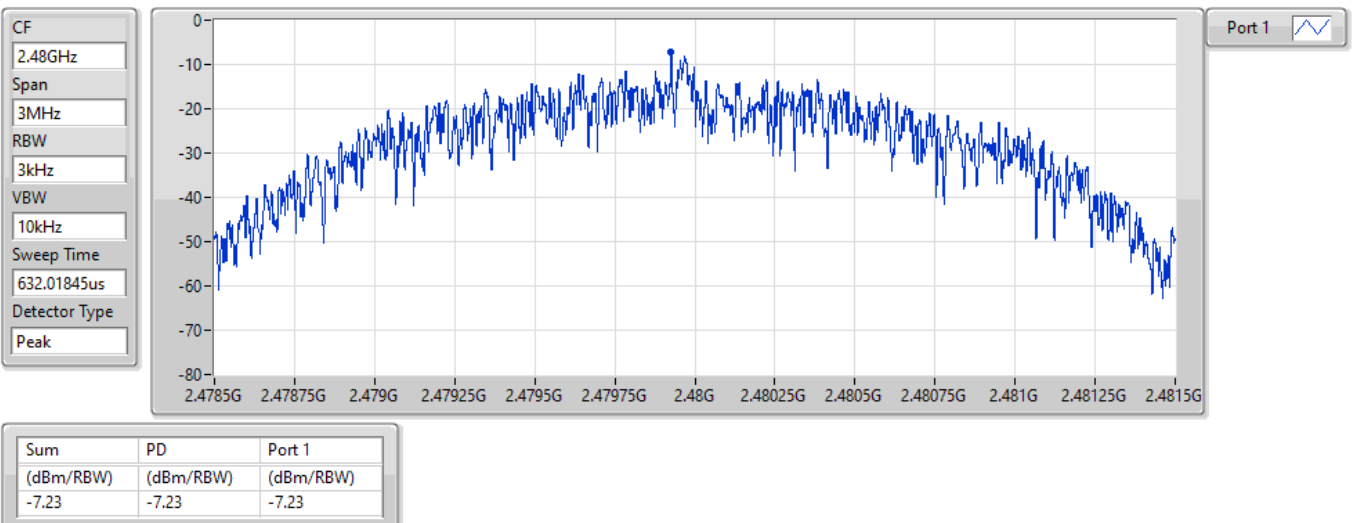


BT-LE(2Mbps)

PSD

2480MHz

25/03/2022



**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	2.40196G	18.74	-11.26	696.52M	-52.12	2.39987G	-33.43	2.4G	-35.32	2.49724G	-51.66	7.20527G	-32.40	1
BT-LE(2Mbps)	Pass	2.40196G	18.71	-11.29	641.29M	-51.65	2.39976G	-33.23	2.4G	-35.47	2.48537G	-50.89	17.54803G	-44.32	1

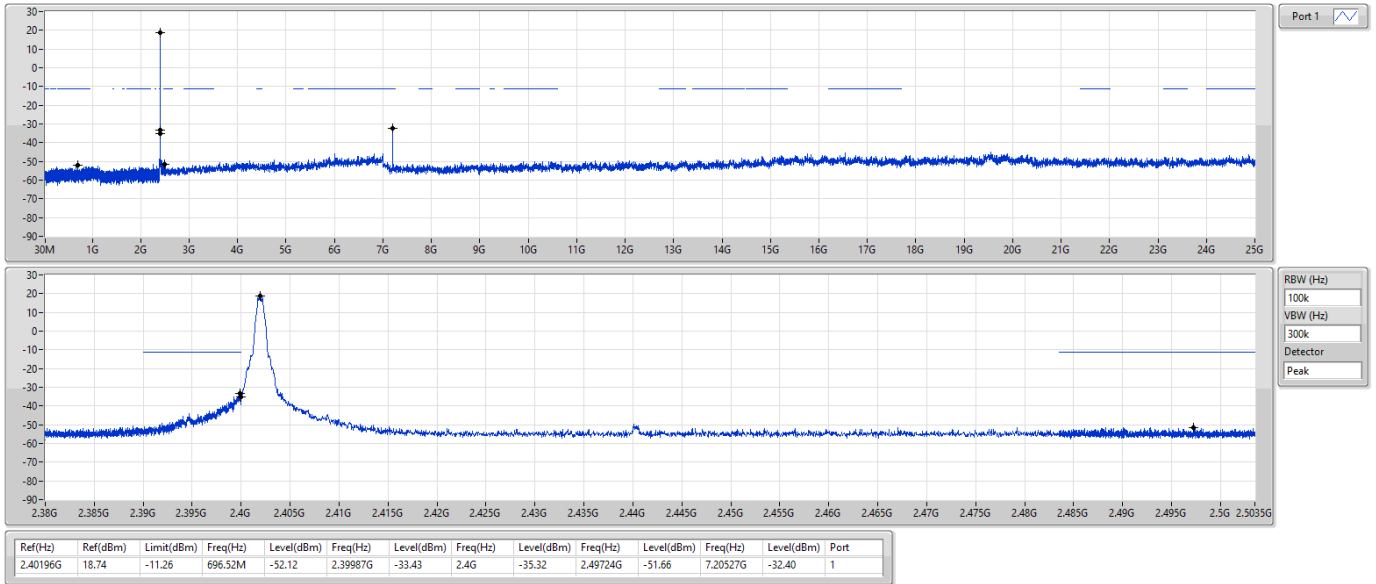
Result

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	2.40196G	18.74	-11.26	696.52M	-52.12	2.39987G	-33.43	2.4G	-35.32	2.49724G	-51.66	7.20527G	-32.40	1
2440MHz	Pass	2.40196G	18.74	-11.26	863.66M	-52.63	2.39814G	-52.53	2.4835G	-53.27	2.49731G	-50.22	16.75784G	-46.16	1
2478MHz	Pass	2.40196G	18.74	-11.26	1.72347G	-52.21	2.39866G	-51.59	2.4835G	-44.24	2.48383G	-41.36	16.39228G	-45.49	1
2480MHz	Pass	2.40196G	18.74	-11.26	2.08919G	-52.41	2.39988G	-51.56	2.4835G	-45.68	2.4844G	-45.25	24.51633G	-46.02	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	18.71	-11.29	641.29M	-51.65	2.39976G	-33.23	2.4G	-35.47	2.48537G	-50.89	17.54803G	-44.32	1
2440MHz	Pass	2.40196G	18.71	-11.29	902.73M	-52.39	2.39381G	-51.15	2.4835G	-52.11	2.49821G	-50.47	21.85049G	-44.70	1
2478MHz	Pass	2.40196G	18.71	-11.29	763.2M	-51.85	2.39705G	-51.46	2.4835G	-43.70	2.48391G	-40.68	16.98562G	-44.11	1
2480MHz	Pass	2.40196G	18.71	-11.29	877.76M	-51.08	2.39492G	-50.61	2.4835G	-46.33	2.48432G	-47.92	17.06998G	-44.74	1

BT-LE(1Mbps)

CSEndB-DTS

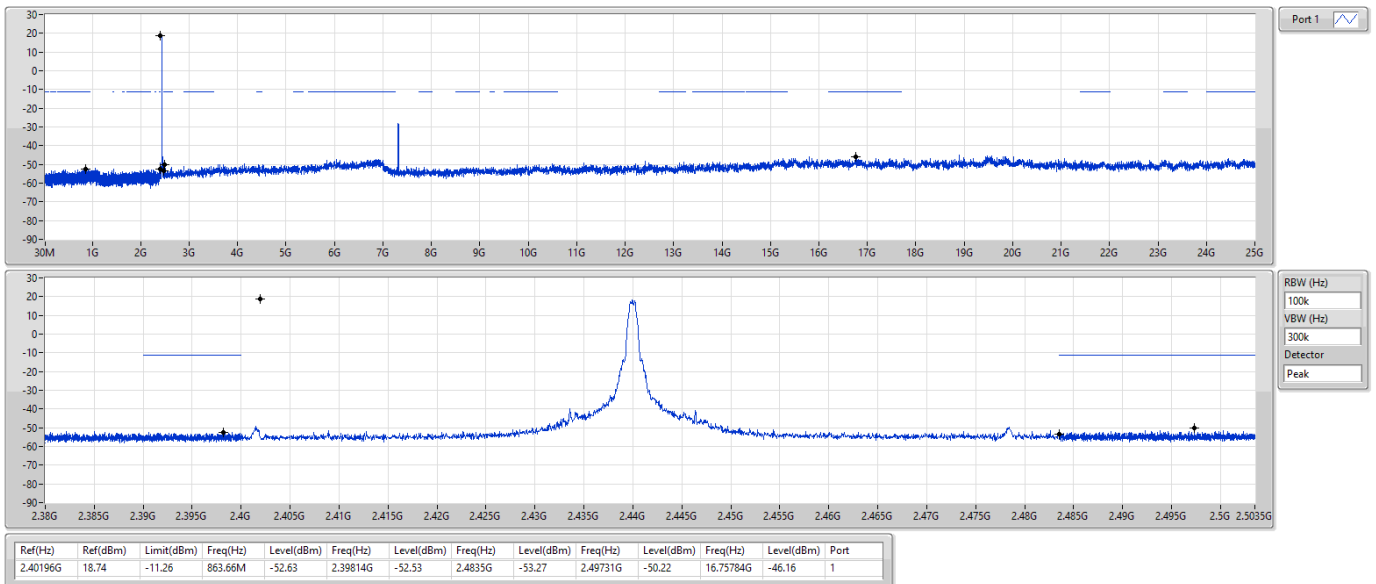
2402MHz



BT-LE(1Mbps)

CSEndB-DTS

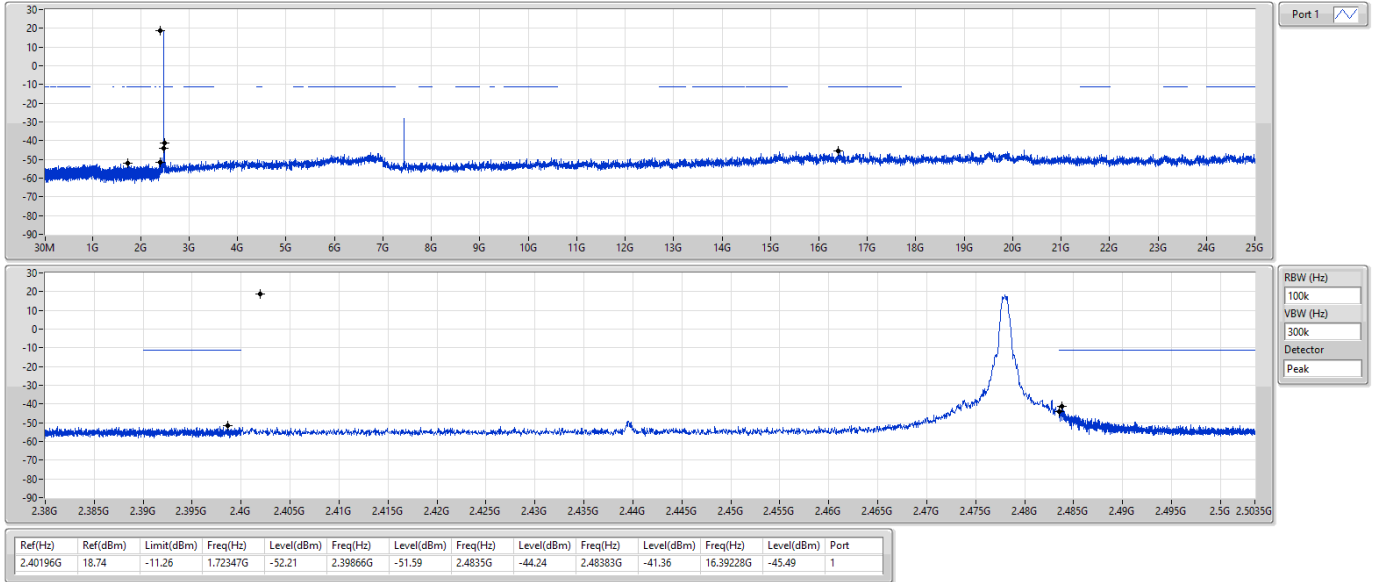
2440MHz



BT-LE(1Mbps)

CSEndB-DTS

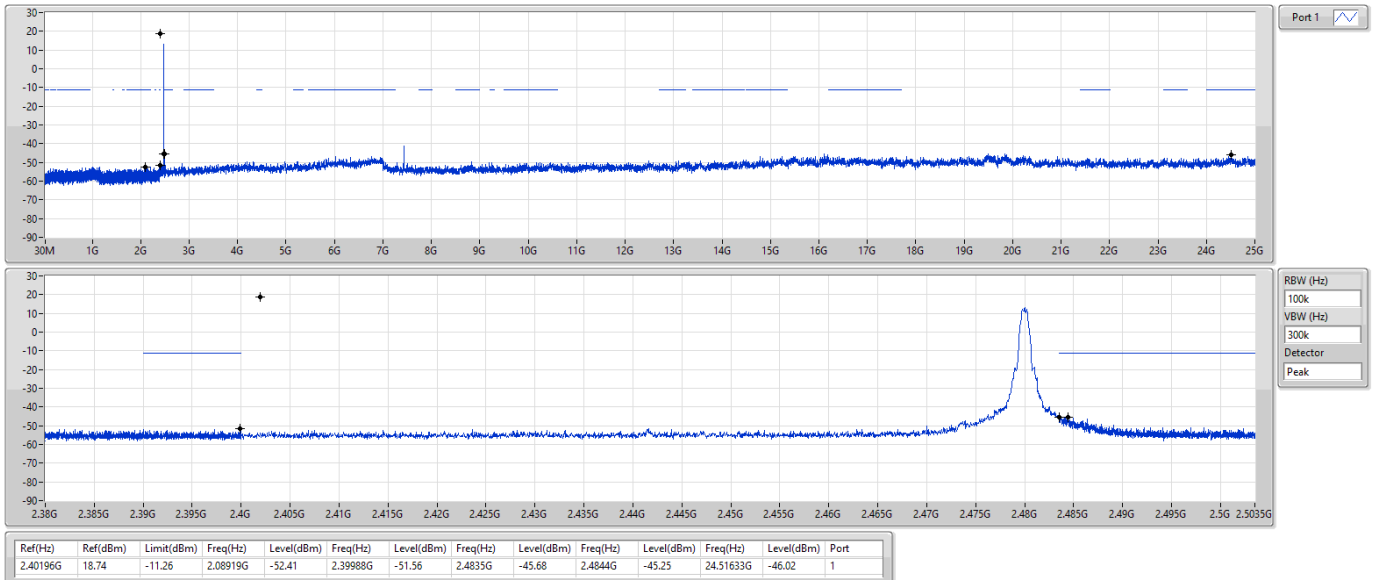
2478MHz



BT-LE(1Mbps)

CSEndB-DTS

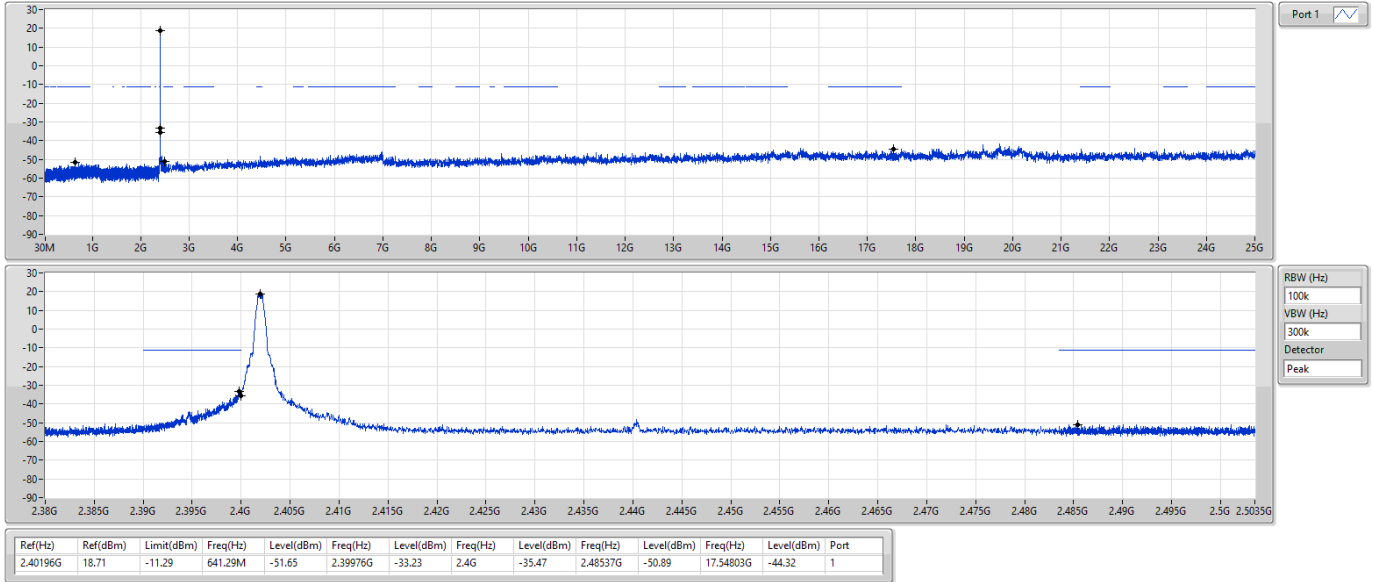
2480MHz



BT-LE(2Mbps)

CSEndB-DTS

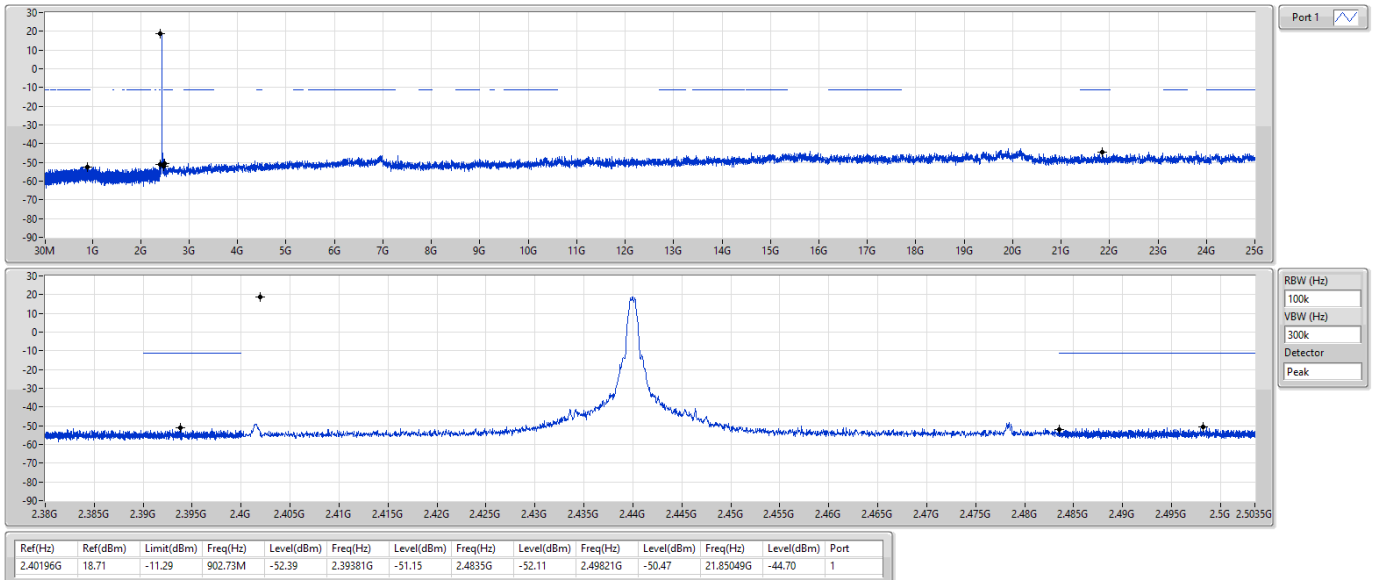
2402MHz



BT-LE(2Mbps)

CSEndB-DTS

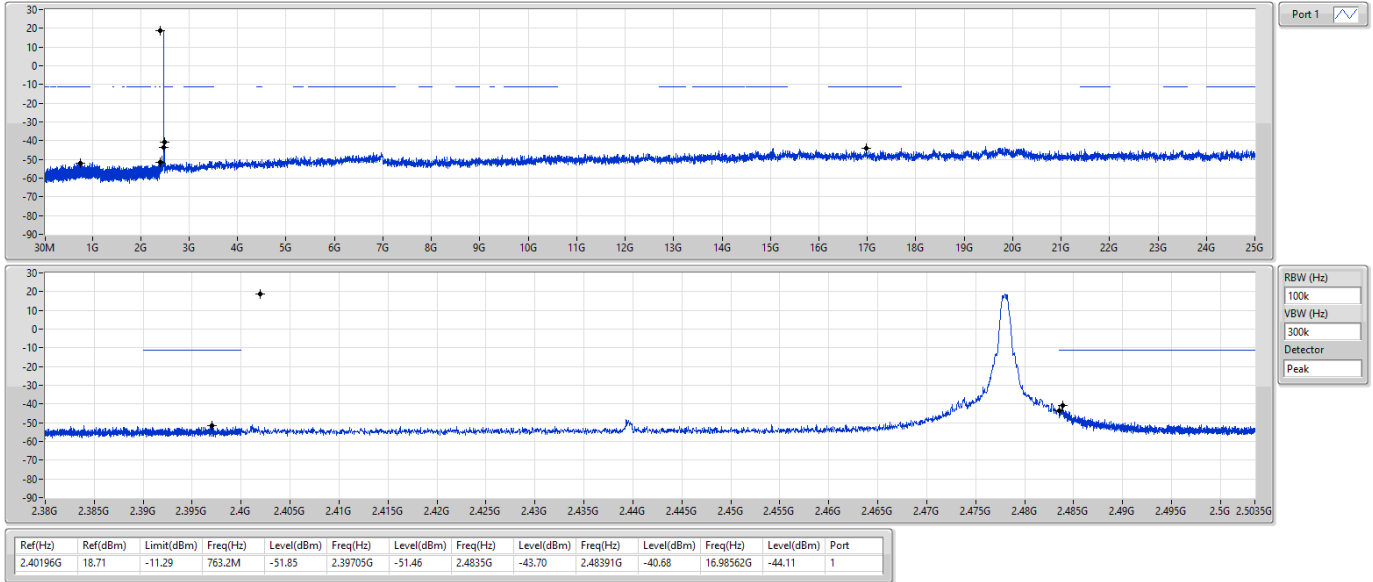
2440MHz



BT-LE(2Mbps)

CSEndB-DTS

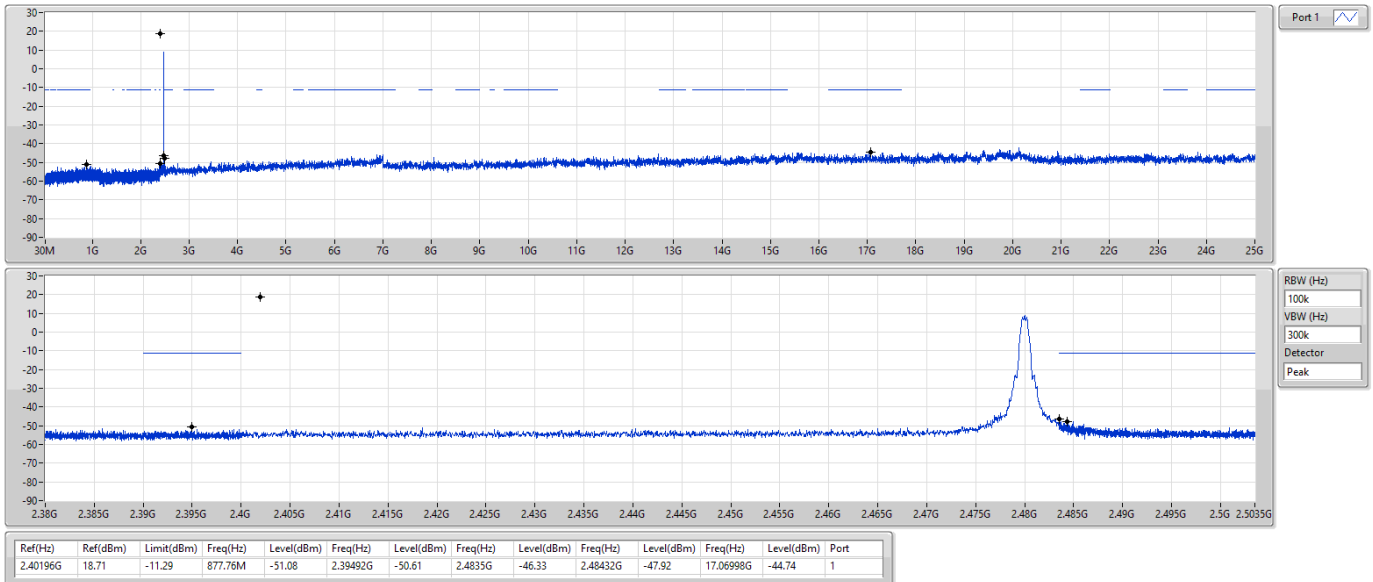
2478MHz



BT-LE(2Mbps)

CSEndB-DTS

2480MHz





Radiated Emissions below 1GHz_Radio 1

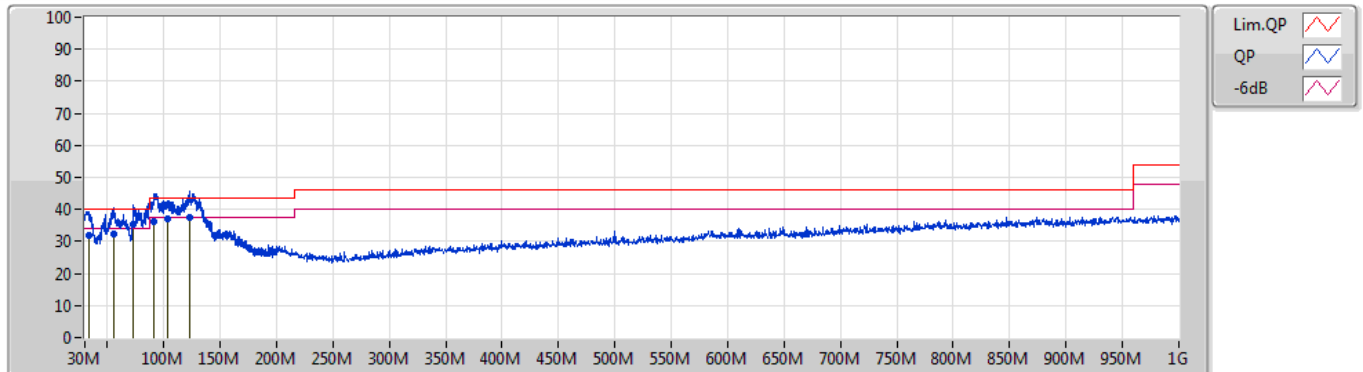
Appendix F.1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	73.35M	35.20	40.00	-4.80	Vertical
Mode 8	Pass	QP	39.78M	35.44	40.00	-4.56	Vertical

Mode 1

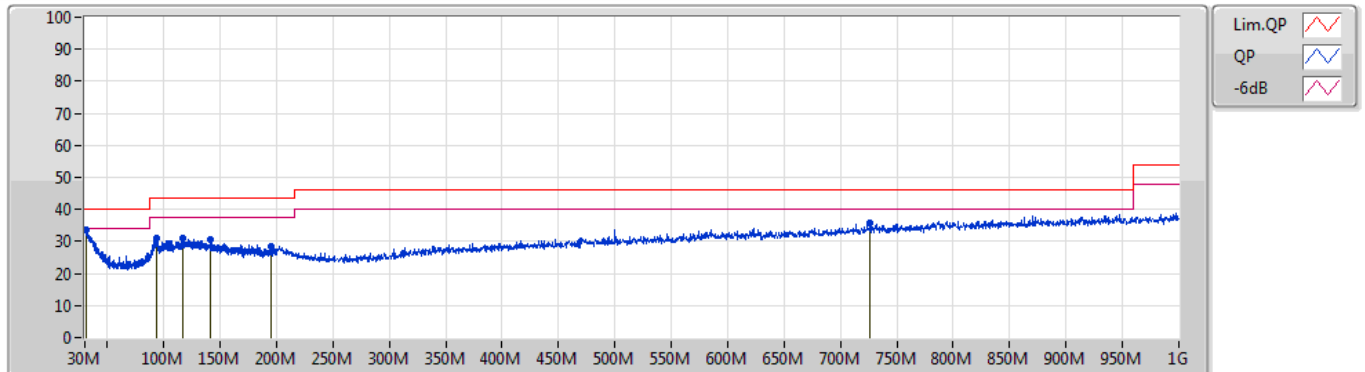
17/05/2022



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
QP	33.66M	31.88	40.00	-8.12	-5.12	3	Vertical	0	1.00	-	37.00	21.94	0.85	27.91
QP	55.76M	32.41	40.00	-7.59	-13.89	3	Vertical	65	2.00	-	46.30	12.83	1.22	27.94
QP	73.35M	35.20	40.00	-4.80	-14.00	3	Vertical	33	2.00	"Worst"	49.20	12.18	1.60	27.78
QP	91.71M	36.25	43.50	-7.25	-10.75	3	Vertical	320	1.00	-	47.00	15.26	1.83	27.84
QP	103.95M	37.04	43.50	-6.46	-8.46	3	Vertical	278	1.00	-	45.50	17.36	1.96	27.78
QP	122.57M	37.35	43.50	-6.15	-7.15	3	Vertical	345	4.00	-	44.50	18.23	2.25	27.63

Mode 1

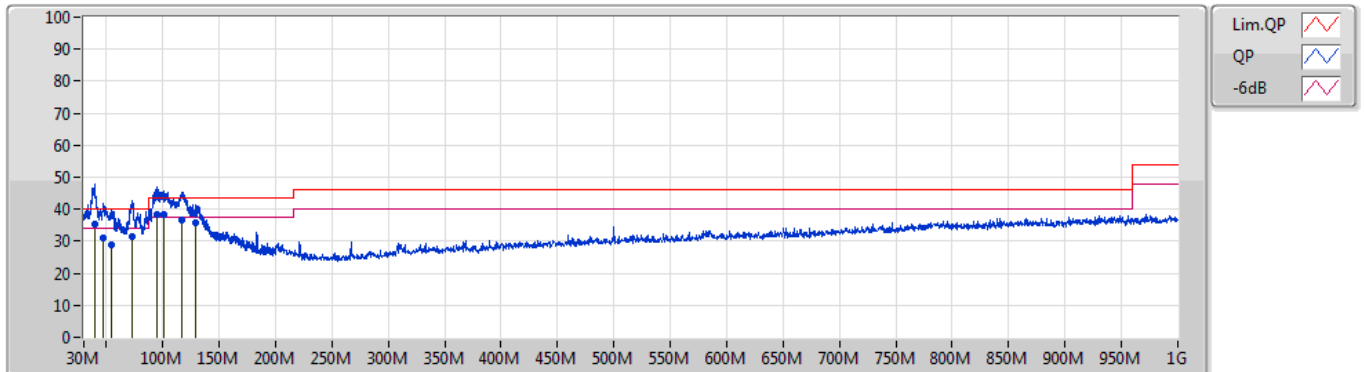
17/05/2022



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30.85M	33.57	40.00	-6.43	-3.61	3	Horizontal	169	1.00	"Worst"	37.18	23.55	0.73	27.89
PK	93.92M	31.15	43.50	-12.35	-10.20	3	Horizontal	228	1.00	-	41.35	15.75	1.88	27.83
PK	117.13M	30.85	43.50	-12.65	-7.28	3	Horizontal	328	3.00	-	38.13	18.22	2.16	27.66
PK	141.18M	30.72	43.50	-12.78	-7.87	3	Horizontal	3	4.00	-	38.59	17.06	2.61	27.54
PK	195.5M	28.40	43.50	-15.10	-9.02	3	Horizontal	169	3.00	-	37.42	15.09	3.18	27.29
PK	726.4M	35.89	46.00	-10.11	-1.39	3	Horizontal	339	1.00	-	37.28	20.67	5.56	27.62

Mode 8

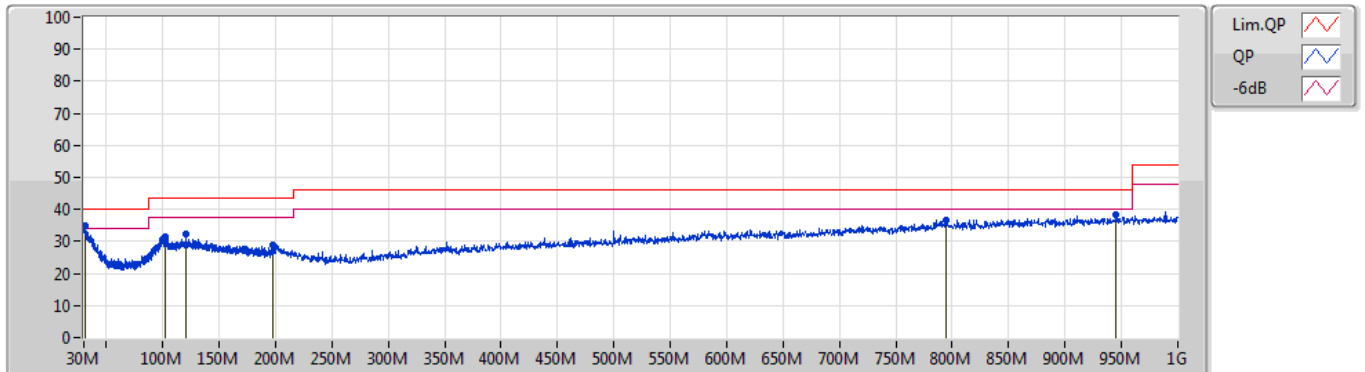
17/05/2022



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
QP	39.78M	35.44	40.00	-4.56	-8.76	3	Vertical	345	1.00	"Worst"	44.20	18.44	0.80	28.00
QP	47.51M	30.89	40.00	-9.11	-12.31	3	Vertical	356	1.00	-	43.20	14.58	1.05	27.94
QP	54.48M	28.95	40.00	-11.05	-14.05	3	Vertical	317	1.00	-	43.00	12.73	1.19	27.97
QP	73.27M	31.30	40.00	-8.70	-14.00	3	Vertical	166	2.00	-	45.30	12.18	1.60	27.78
QP	94.69M	38.24	43.50	-5.26	-10.06	3	Vertical	142	1.00	-	48.30	15.88	1.89	27.83
QP	100.38M	38.43	43.50	-5.07	-8.87	3	Vertical	252	4.00	-	47.30	17.03	1.91	27.81
QP	116.28M	36.65	43.50	-6.85	-7.35	3	Vertical	258	3.00	-	44.00	18.18	2.14	27.67
QP	129.45M	35.82	43.50	-7.68	-7.28	3	Vertical	22	2.00	-	43.10	17.92	2.39	27.59

Mode 8

17/05/2022



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30.85M	35.02	40.00	-4.98	-3.61	3	Horizontal	356	1.00	"Worst"	38.63	23.55	0.73	27.89
PK	102.42M	31.47	43.50	-12.03	-8.63	3	Horizontal	213	2.00	-	40.10	17.22	1.94	27.79
PK	120.36M	32.16	43.50	-11.34	-7.11	3	Horizontal	356	2.00	-	39.27	18.32	2.21	27.64
PK	197.2M	28.91	43.50	-14.59	-8.90	3	Horizontal	204	1.00	-	37.81	15.19	3.19	27.28
PK	794.8M	36.84	46.00	-9.16	-0.62	3	Horizontal	282	4.00	-	37.46	20.58	5.97	27.17
PK	945.2M	38.18	46.00	-7.82	2.34	3	Horizontal	0	1.00	-	35.84	22.23	6.48	26.37

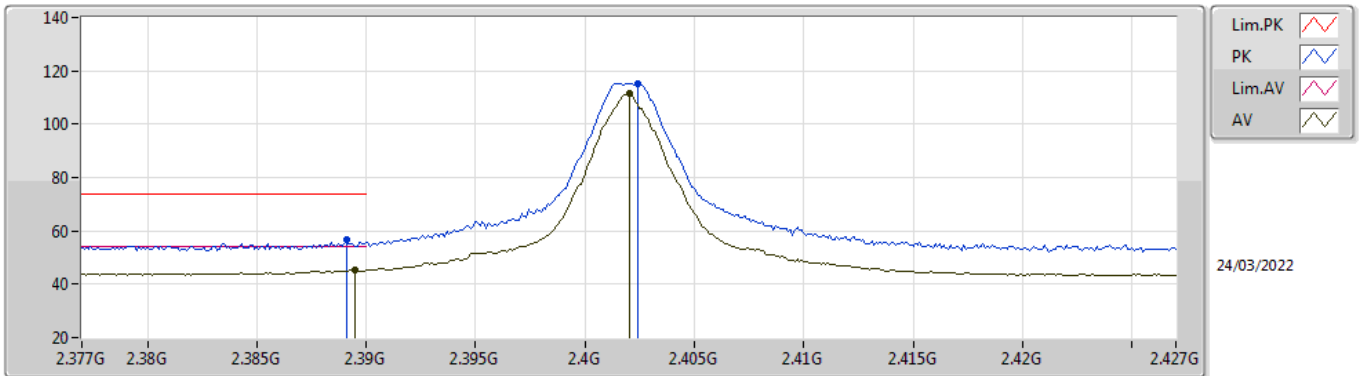


Summary

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	53.74	54.00	-0.26	3	Vertical	138	2.95	-

BT-LE(1Mbps)

2402MHz_TX

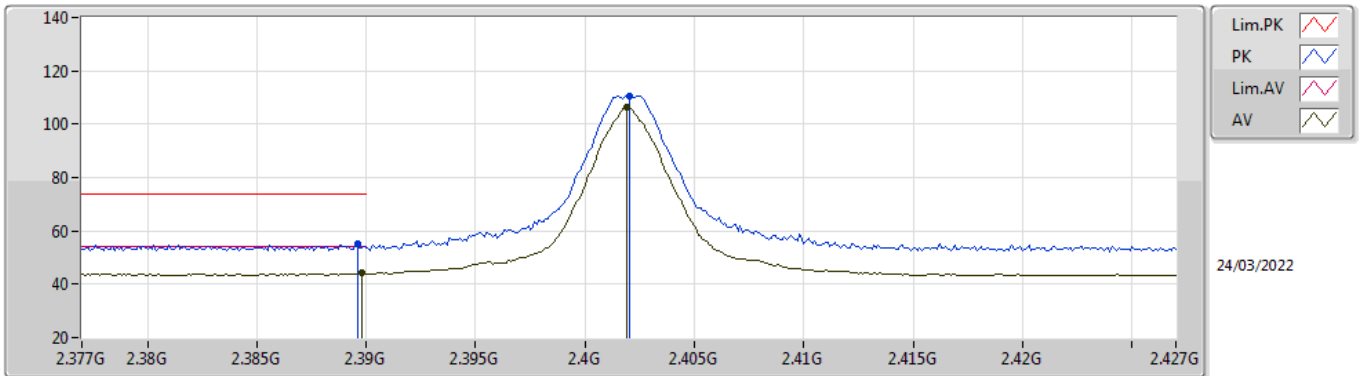


EUT Z1TX
Setting 200
06-F-S-5

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	2.3891G	56.49	74.00	-17.51	25.11	3	Vertical	137	2.75	-	27.49	3.89	-	
AV	2.3895G	45.22	54.00	-8.78	13.85	3	Vertical	137	2.75	-	27.48	3.89	-	
PK	2.4024G	115.22	Inf	-Inf	83.93	3	Vertical	137	2.75	-	27.39	3.90	-	
AV	2.402G	111.38	Inf	-Inf	80.09	3	Vertical	137	2.75	-	27.39	3.90	-	

BT-LE(1Mbps)

2402MHz_TX

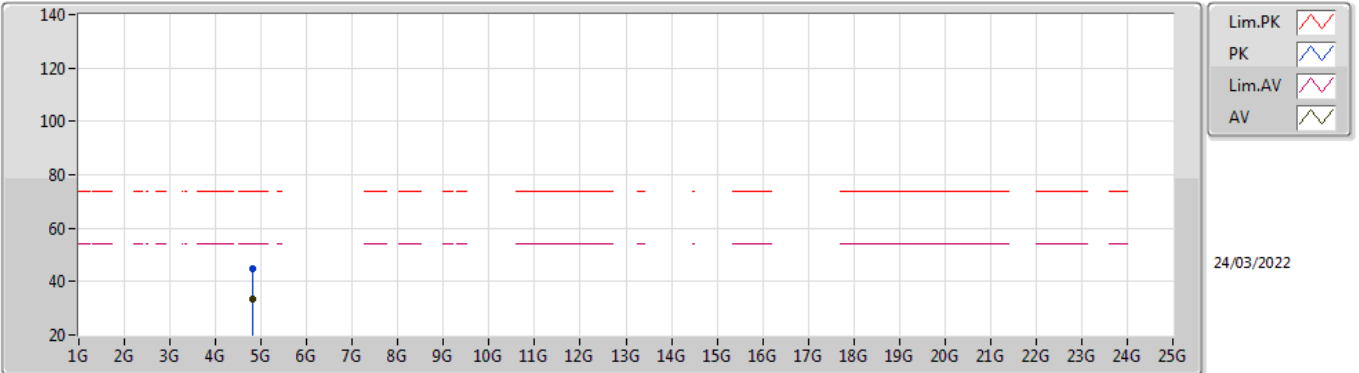


EUT Z1TX
Setting 200
06-F-S-5

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	2.3896G	55.35	74.00	-18.65	23.98	3	Horizontal	201	1.08	-	27.48	3.89	-	
AV	2.3898G	44.07	54.00	-9.93	12.70	3	Horizontal	201	1.08	-	27.48	3.89	-	
PK	2.402G	110.37	Inf	-Inf	79.08	3	Horizontal	201	1.08	-	27.39	3.90	-	
AV	2.4019G	106.58	Inf	-Inf	75.29	3	Horizontal	201	1.08	-	27.39	3.90	-	

BT-LE(1Mbps)

2402MHz_TX

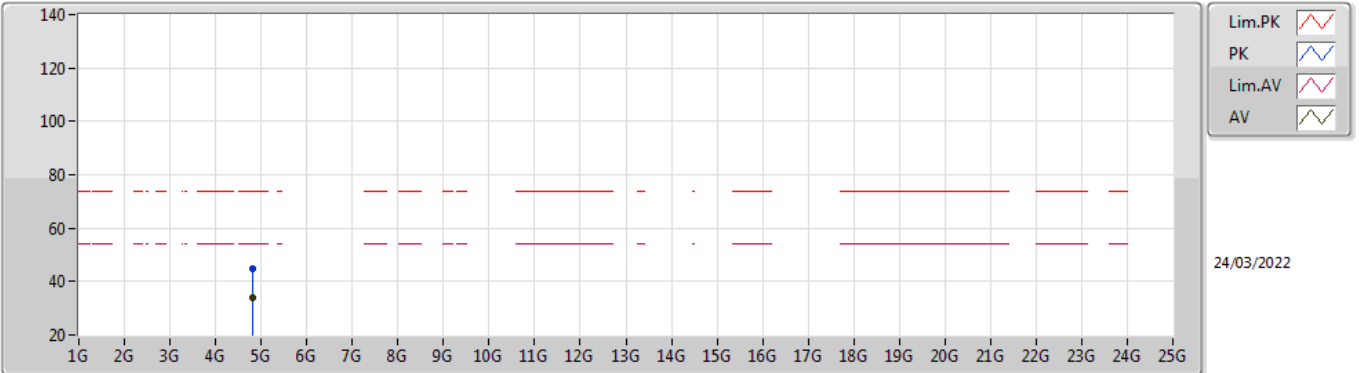


EUT Z1TX
Setting 200
06-F-S-5

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	4.8045G	44.94	74.00	-29.06	40.56	3	Vertical	161.6	2.51	-	31.09	5.36	32.07	
AV	4.80358G	33.66	54.00	-20.34	29.28	3	Vertical	161.6	2.51	-	31.09	5.36	32.07	

BT-LE(1Mbps)

2402MHz_TX

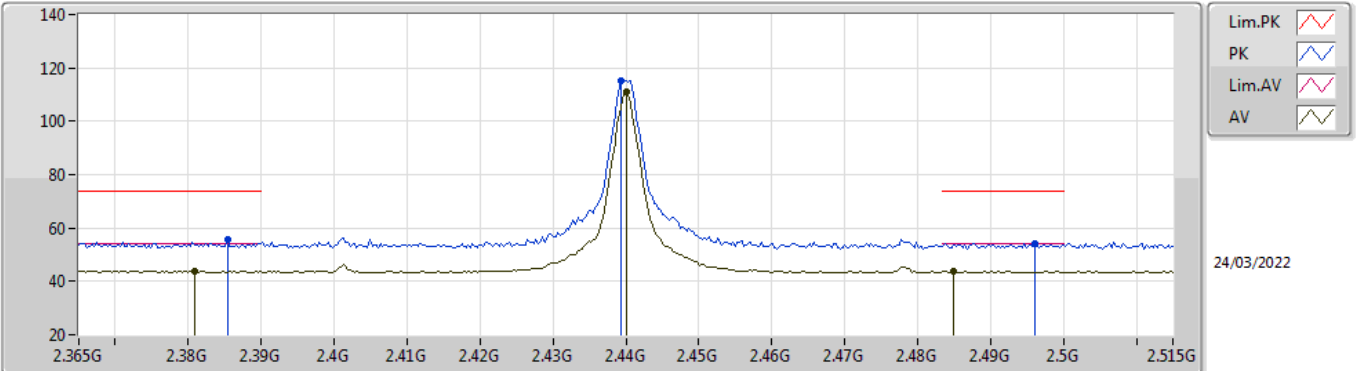


EUT Z1TX
Setting 200
06-F-S-5

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	4.80348G	44.77	74.00	-29.23	40.40	3	Horizontal	192	2.40	-	31.09	5.36	32.08
AV	4.80386G	33.85	54.00	-20.15	29.47	3	Horizontal	192	2.40	-	31.09	5.36	32.07

BT-LE(1Mbps)

2440MHz_TX

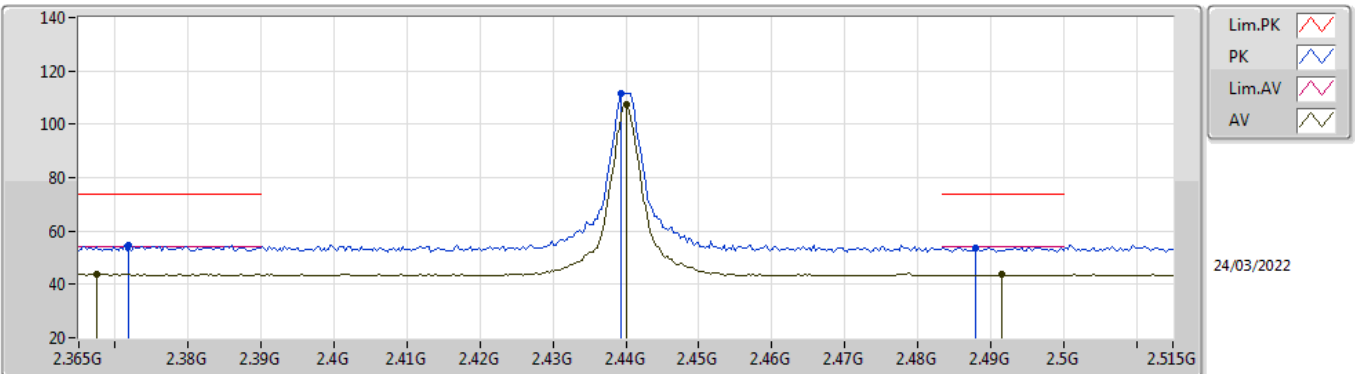


EUT Z1TX
Setting 200
06-F-S-5

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	2.3854G	55.46	74.00	-18.54	24.06	3	Vertical	137	3.00	-	27.52	3.88	-
AV	2.3809G	43.86	54.00	-10.14	12.43	3	Vertical	137	3.00	-	27.55	3.88	-
PK	2.4394G	114.98	Inf	-Inf	83.83	3	Vertical	137	3.00	-	27.24	3.91	-
AV	2.44G	111.10	Inf	-Inf	79.95	3	Vertical	137	3.00	-	27.24	3.91	-
PK	2.4961G	54.22	74.00	-19.78	23.02	3	Vertical	137	3.00	-	27.29	3.91	-
AV	2.485G	43.70	54.00	-10.30	12.52	3	Vertical	137	3.00	-	27.27	3.91	-

BT-LE(1Mbps)

2440MHz_TX

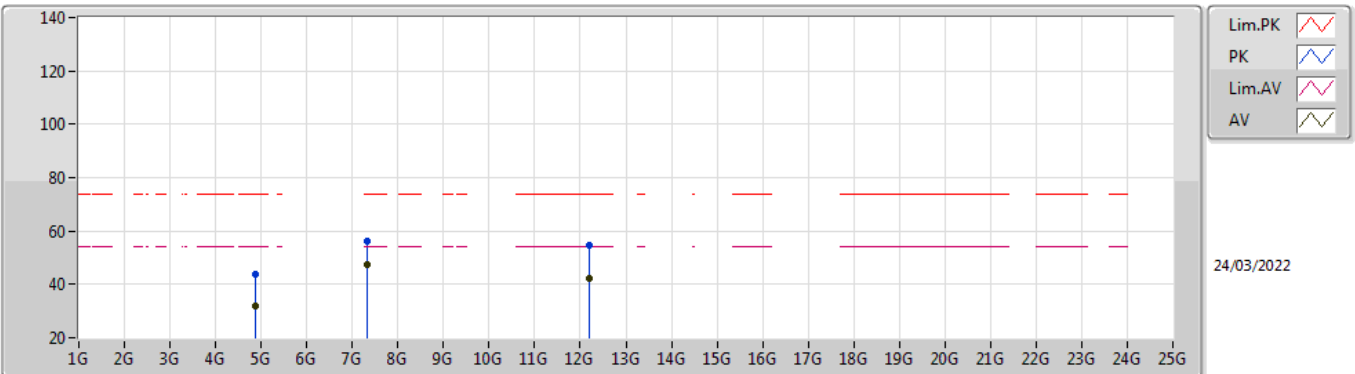


EUT Z1TX
Setting 200
06-F-S-5

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	2.3719G	54.53	74.00	-19.47	23.04	3	Horizontal	195	2.98	-	27.62	3.87	-
AV	2.3674G	43.81	54.00	-10.19	12.29	3	Horizontal	195	2.98	-	27.66	3.86	-
PK	2.4394G	111.51	Inf	-Inf	80.36	3	Horizontal	195	2.98	-	27.24	3.91	-
AV	2.44G	107.62	Inf	-Inf	76.47	3	Horizontal	195	2.98	-	27.24	3.91	-
PK	2.488G	53.85	74.00	-20.15	22.66	3	Horizontal	195	2.98	-	27.28	3.91	-
AV	2.4916G	43.60	54.00	-10.40	12.41	3	Horizontal	195	2.98	-	27.28	3.91	-

BT-LE(1Mbps)

2440MHz_TX

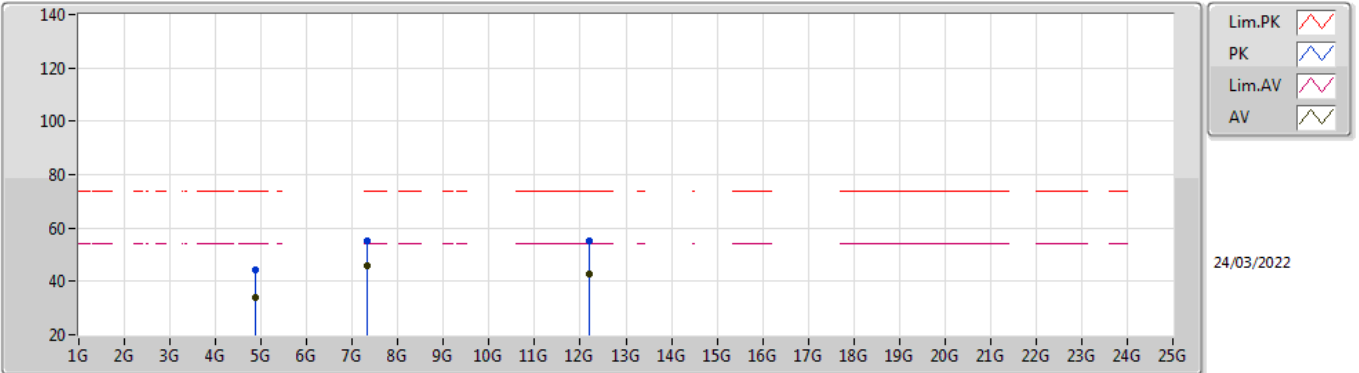


EUT Z1TX
Setting 200
06-F-S-5

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	4.88044G	43.78	74.00	-30.22	39.34	3	Vertical	110	2.34	-	31.06	5.39	32.01
AV	4.87966G	31.83	54.00	-22.17	27.39	3	Vertical	110	2.34	-	31.06	5.39	32.01
PK	7.32026G	56.39	74.00	-17.61	46.83	3	Vertical	85	2.26	-	36.32	6.71	33.47
AV	7.31934G	47.35	54.00	-6.65	37.79	3	Vertical	85	2.26	-	36.32	6.71	33.47
PK	12.1954G	54.82	74.00	-19.18	41.05	3	Vertical	297	2.31	-	38.71	9.21	34.15
AV	12.20068G	42.42	54.00	-11.58	28.66	3	Vertical	297	2.31	-	38.70	9.21	34.15

BT-LE(1Mbps)

2440MHz_TX

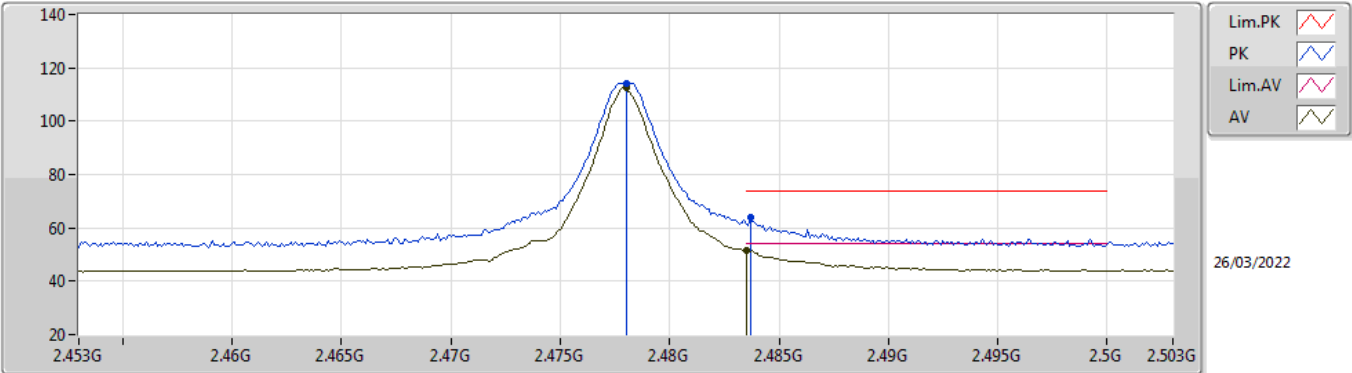


EUT Z1TX
Setting 200
06-F-S-5

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	4.8802G	44.47	74.00	-29.53	40.03	3	Horizontal	195	2.33	-	31.06	5.39	32.01
AV	4.87974G	33.74	54.00	-20.26	29.30	3	Horizontal	195	2.33	-	31.06	5.39	32.01
PK	7.32056G	55.31	74.00	-18.69	45.75	3	Horizontal	181	2.33	-	36.32	6.71	33.47
AV	7.31924G	46.00	54.00	-8.00	36.44	3	Horizontal	181	2.33	-	36.32	6.71	33.47
PK	12.19626G	55.16	74.00	-18.84	41.39	3	Horizontal	229	2.01	-	38.71	9.21	34.15
AV	12.19746G	42.53	54.00	-11.47	28.76	3	Horizontal	229	2.01	-	38.71	9.21	34.15

BT-LE(1Mbps)

2478MHz_TX

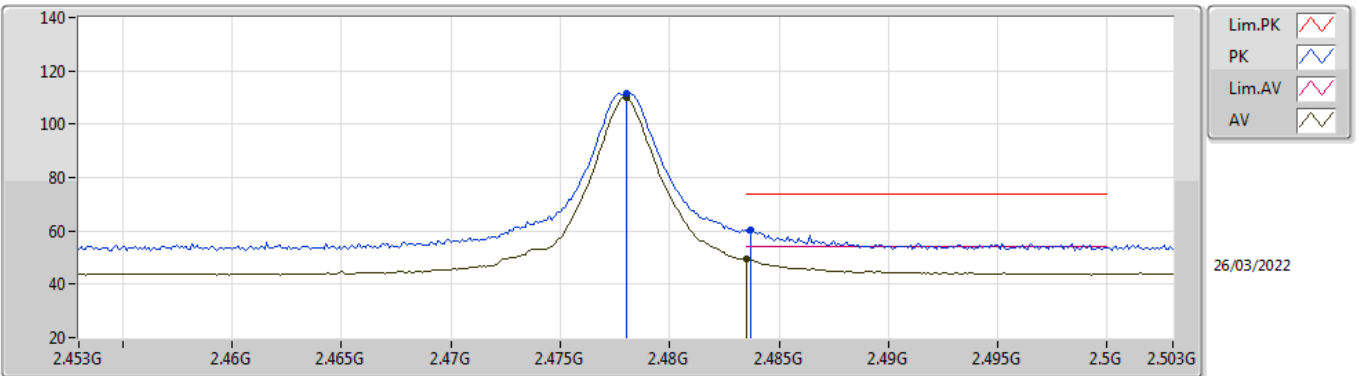


EUT Z1TX
Setting 200
06-F-S-5

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	2.478G	113.96	Inf	-Inf	82.79	3	Vertical	5	2.27	-	27.26	3.91	-
AV	2.478G	112.42	Inf	-Inf	81.25	3	Vertical	5	2.27	-	27.26	3.91	-
PK	2.4837G	63.83	74.00	-10.17	32.65	3	Vertical	5	2.27	-	27.27	3.91	-
AV	2.4835G	51.61	54.00	-2.39	20.43	3	Vertical	5	2.27	-	27.27	3.91	-

BT-LE(1Mbps)

2478MHz_TX

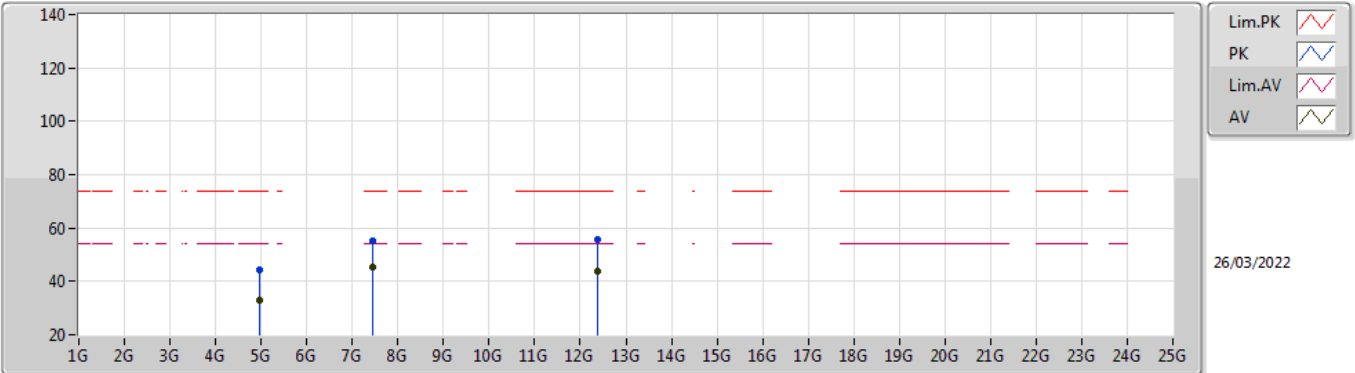


EUT Z1TX
Setting 200
06-F-S-5

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	2.478G	111.34	Inf	-Inf	80.17	3	Horizontal	44	2.27	-	27.26	3.91	-	
AV	2.478G	109.98	Inf	-Inf	78.81	3	Horizontal	44	2.27	-	27.26	3.91	-	
PK	2.4837G	60.39	74.00	-13.61	29.21	3	Horizontal	44	2.27	-	27.27	3.91	-	
AV	2.4835G	49.34	54.00	-4.66	18.16	3	Horizontal	44	2.27	-	27.27	3.91	-	

BT-LE(1Mbps)

2478MHz_TX

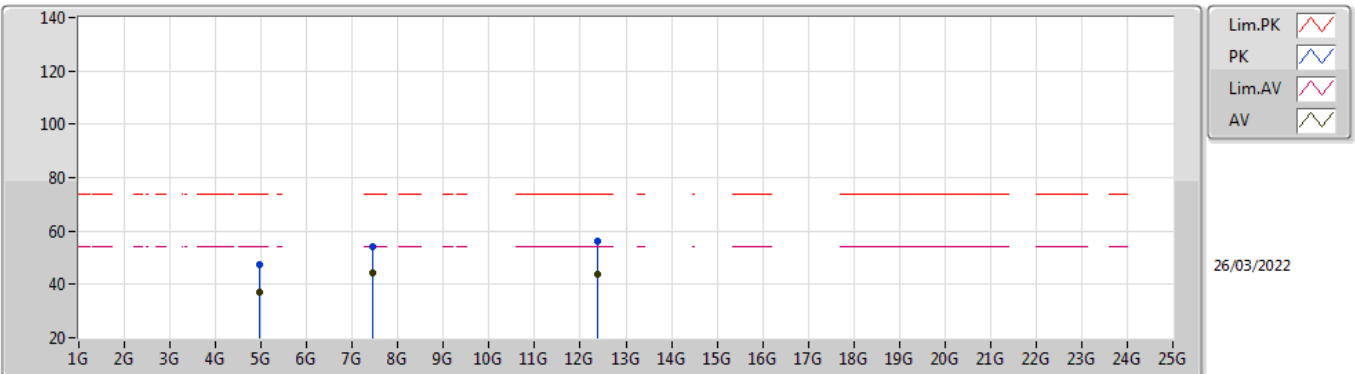


EUT Z1TX
Setting 200
06-F-S-5

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	4.95361G	44.20	74.00	-29.80	39.44	3	Vertical	8	1.67	-	31.30	5.41	31.95
AV	4.95576G	33.08	54.00	-20.92	28.32	3	Vertical	8	1.67	-	31.30	5.41	31.95
PK	7.4345G	55.21	74.00	-18.79	45.81	3	Vertical	97	2.21	-	36.14	6.79	33.53
AV	7.43313G	45.13	54.00	-8.87	35.75	3	Vertical	97	2.21	-	36.13	6.78	33.53
PK	12.38818G	55.70	74.00	-18.30	42.02	3	Vertical	283	2.09	-	38.51	9.26	34.09
AV	12.38848G	43.91	54.00	-10.09	30.23	3	Vertical	283	2.09	-	38.51	9.26	34.09

BT-LE(1Mbps)

2478MHz_TX

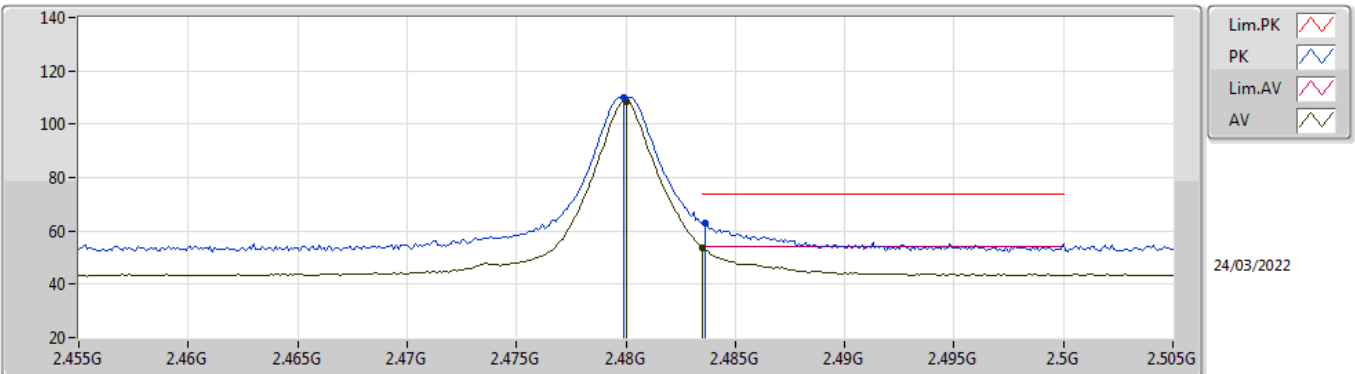


EUT Z1TX
Setting 200
06-F-S-5

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	4.95551G	47.29	74.00	-26.71	42.53	3	Horizontal	176	2.92	-	31.30	5.41	31.95
AV	4.95598G	36.82	54.00	-17.18	32.06	3	Horizontal	176	2.92	-	31.30	5.41	31.95
PK	7.43379G	54.22	74.00	-19.78	44.82	3	Horizontal	116	2.16	-	36.14	6.79	33.53
AV	7.43316G	44.11	54.00	-9.89	34.73	3	Horizontal	116	2.16	-	36.13	6.78	33.53
PK	12.3882G	56.25	74.00	-17.75	42.57	3	Horizontal	26	1.05	-	38.51	9.26	34.09
AV	12.38991G	43.94	54.00	-10.06	30.26	3	Horizontal	26	1.05	-	38.51	9.26	34.09

BT-LE(1Mbps)

2480MHz_TX

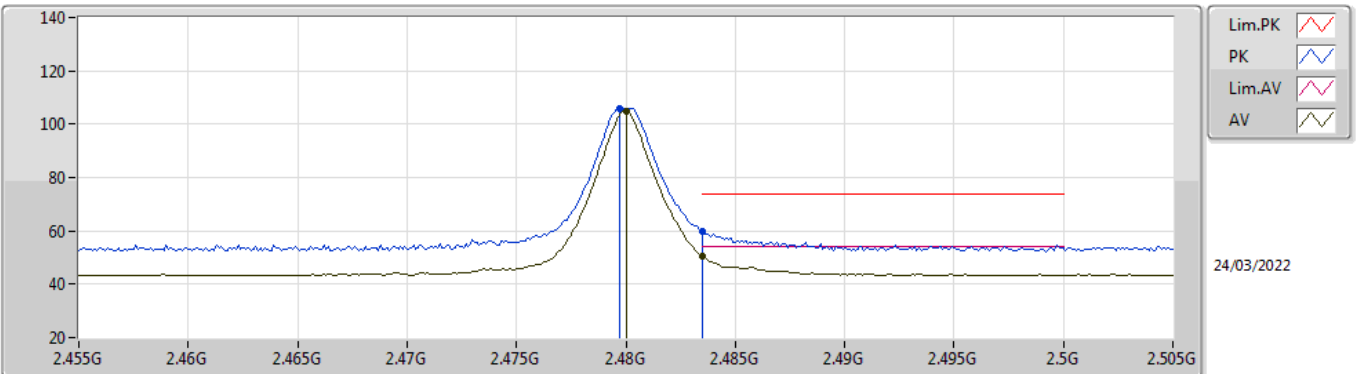


EUT Z1TX
Setting 140
06-F-S-5

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	2.4799G	109.87	Inf	-Inf	78.70	3	Vertical	138	2.96	-	27.26	3.91	-	
AV	2.48G	108.49	Inf	-Inf	77.32	3	Vertical	138	2.96	-	27.26	3.91	-	
PK	2.4836G	62.69	74.00	-11.31	31.51	3	Vertical	138	2.96	-	27.27	3.91	-	
AV	2.4835G	53.57	54.00	-0.43	22.39	3	Vertical	138	2.96	-	27.27	3.91	-	

BT-LE(1Mbps)

2480MHz_TX

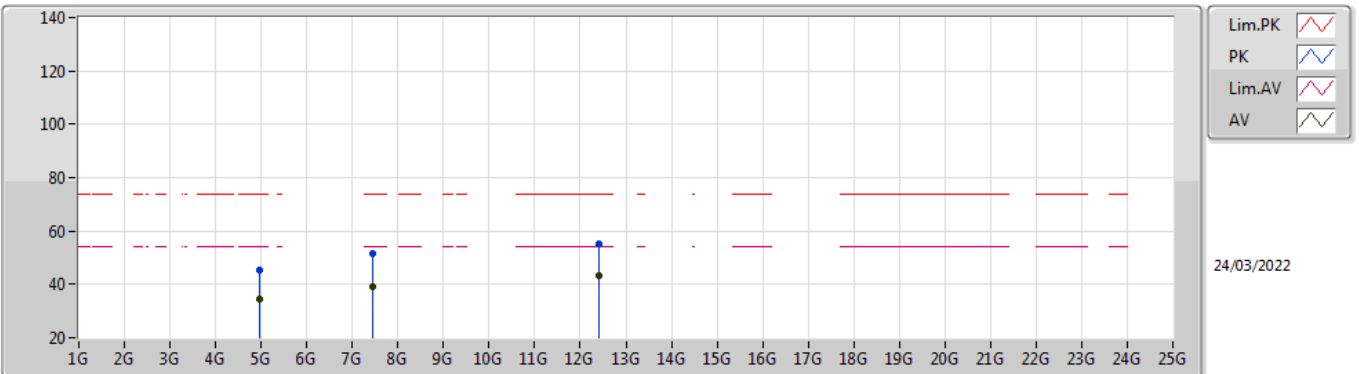


EUT Z1TX
Setting 140
06-F-S-5

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	2.4797G	106.01	Inf	-Inf	74.84	3	Horizontal	39	2.81	-	27.26	3.91	-	
AV	2.48G	104.63	Inf	-Inf	73.46	3	Horizontal	39	2.81	-	27.26	3.91	-	
PK	2.4835G	59.58	74.00	-14.42	28.40	3	Horizontal	39	2.81	-	27.27	3.91	-	
AV	2.4835G	50.38	54.00	-3.62	19.20	3	Horizontal	39	2.81	-	27.27	3.91	-	

BT-LE(1Mbps)

2480MHz_TX

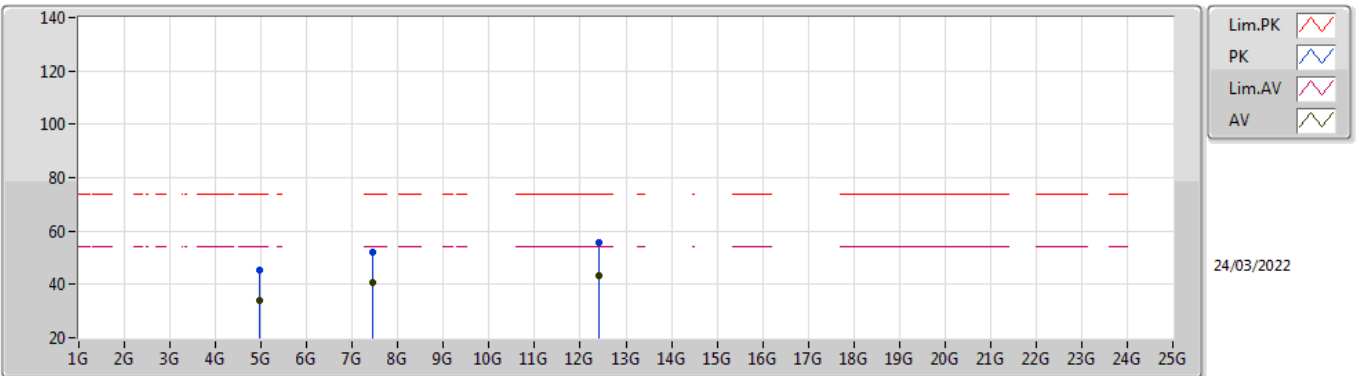


EUT Z1TX
Setting 140
06-F-S-5

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	4.95933G	45.33	74.00	-28.67	40.55	3	Vertical	167	2.76	-	31.30	5.42	31.94
AV	4.95964G	34.70	54.00	-19.30	29.92	3	Vertical	167	2.76	-	31.30	5.42	31.94
PK	7.43936G	51.53	74.00	-22.47	42.11	3	Vertical	126	2.28	-	36.16	6.79	33.53
AV	7.43908G	39.39	54.00	-14.61	29.97	3	Vertical	126	2.28	-	36.16	6.79	33.53
PK	12.40063G	55.20	74.00	-18.80	41.52	3	Vertical	270	1.61	-	38.50	9.26	34.08
AV	12.40228G	43.48	54.00	-10.52	29.81	3	Vertical	270	1.61	-	38.49	9.26	34.08

BT-LE(1Mbps)

2480MHz_TX

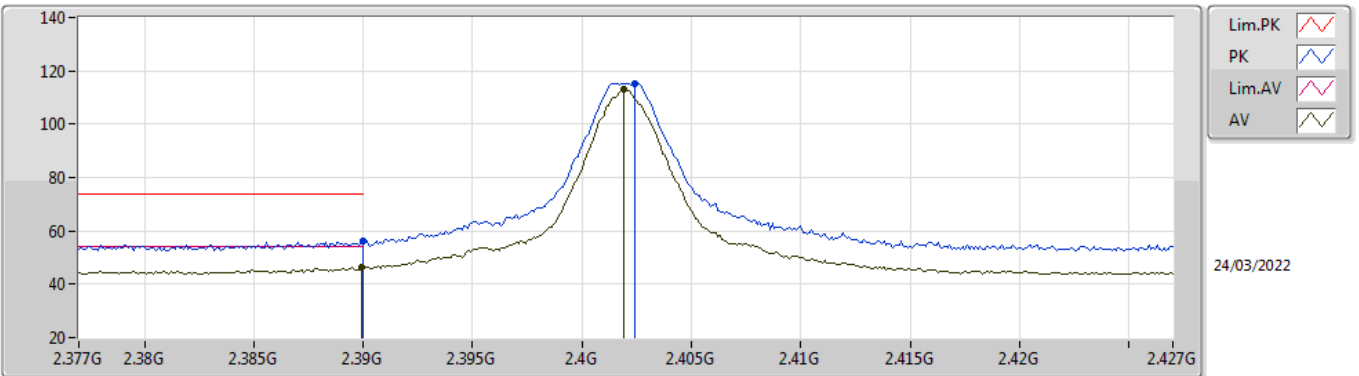


EUT Z1TX
Setting 140
06-F-S-5

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	4.95943G	45.09	74.00	-28.91	40.31	3	Horizontal	196	1.03	-	31.30	5.42	31.94
AV	4.95983G	33.85	54.00	-20.15	29.07	3	Horizontal	196	1.03	-	31.30	5.42	31.94
PK	7.4405G	52.07	74.00	-21.93	42.65	3	Horizontal	124	2.28	-	36.16	6.79	33.53
AV	7.43921G	40.61	54.00	-13.39	31.19	3	Horizontal	124	2.28	-	36.16	6.79	33.53
PK	12.39796G	55.65	74.00	-18.35	41.97	3	Horizontal	195	1.14	-	38.50	9.26	34.08
AV	12.39916G	43.22	54.00	-10.78	29.54	3	Horizontal	195	1.14	-	38.50	9.26	34.08

BT-LE(2Mbps)

2402MHz_TX

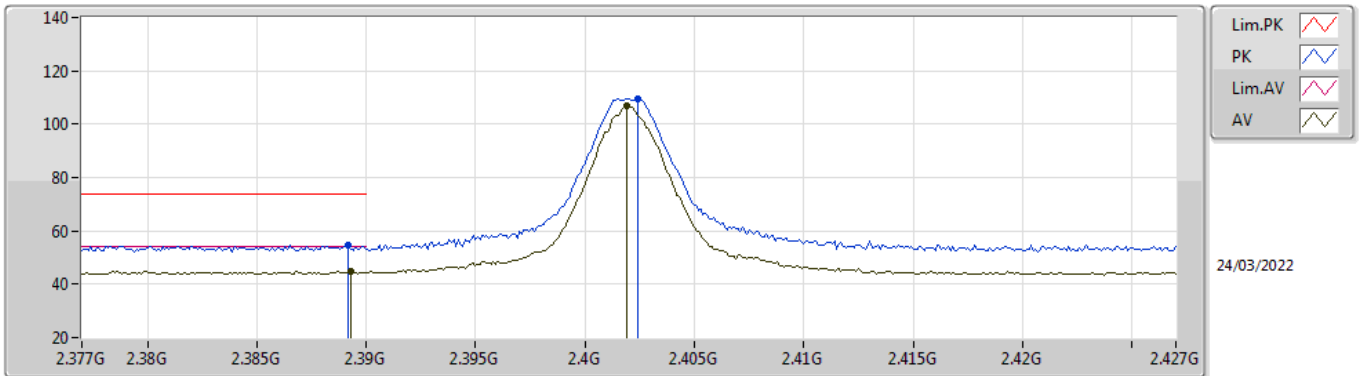


EUT Z1TX
Setting 200
06-F-S-5

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	2.39G	56.34	74.00	-17.66	24.97	3	Vertical	136	2.75	-	27.48	3.89	-	
AV	2.3899G	46.51	54.00	-7.49	15.14	3	Vertical	136	2.75	-	27.48	3.89	-	
PK	2.4024G	115.38	Inf	-Inf	84.09	3	Vertical	136	2.75	-	27.39	3.90	-	
AV	2.4019G	113.12	Inf	-Inf	81.83	3	Vertical	136	2.75	-	27.39	3.90	-	

BT-LE(2Mbps)

2402MHz_TX

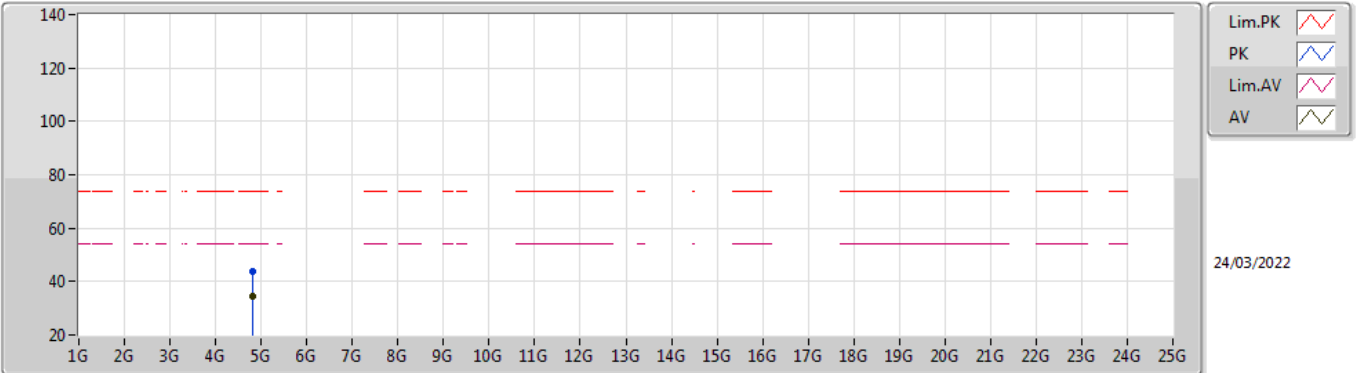


EUT Z1TX
Setting 200
06-F-S-5

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	2.3892G	54.83	74.00	-19.17	23.45	3	Horizontal	30	3.00	-	27.49	3.89	-	
AV	2.3893G	45.01	54.00	-8.99	13.63	3	Horizontal	30	3.00	-	27.49	3.89	-	
PK	2.4024G	109.37	Inf	-Inf	78.08	3	Horizontal	30	3.00	-	27.39	3.90	-	
AV	2.4019G	106.99	Inf	-Inf	75.70	3	Horizontal	30	3.00	-	27.39	3.90	-	

BT-LE(2Mbps)

2402MHz_TX

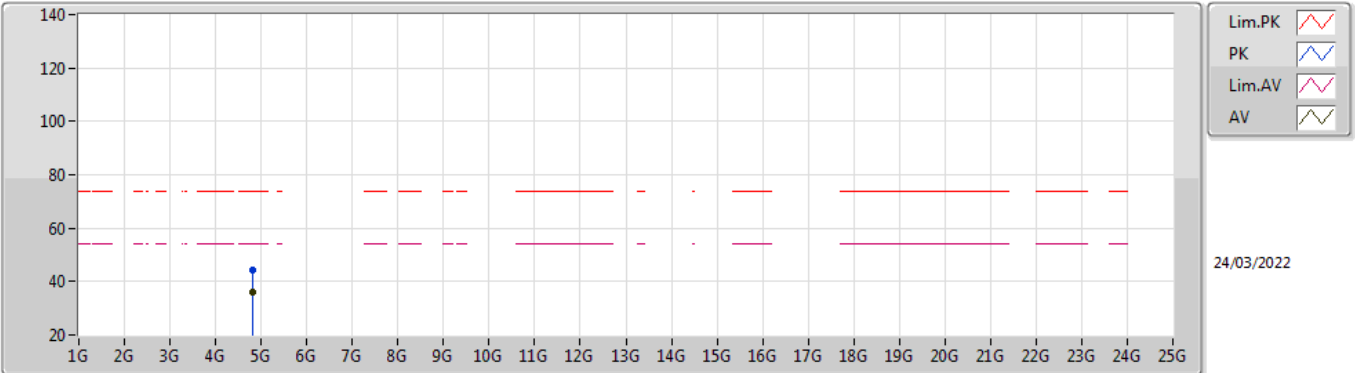


EUT Z1TX
Setting 200
06-F-S-5

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	4.80322G	43.55	74.00	-30.45	39.18	3	Vertical	156	2.05	-	31.09	5.36	32.08	
AV	4.804G	34.53	54.00	-19.47	30.15	3	Vertical	156	2.05	-	31.09	5.36	32.07	

BT-LE(2Mbps)

2402MHz_TX

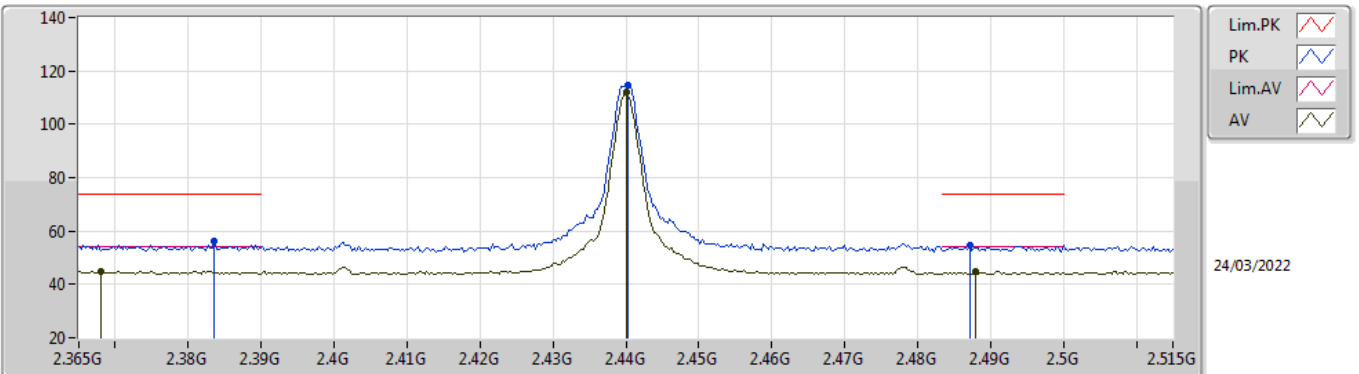


EUT Z1TX
Setting 200
06-F-S-5

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	4.80352G	44.52	74.00	-29.48	40.15	3	Horizontal	207	2.87	-	31.09	5.36	32.08	
AV	4.8038G	35.96	54.00	-18.04	31.58	3	Horizontal	207	2.87	-	31.09	5.36	32.07	

BT-LE(2Mbps)

2440MHz_TX

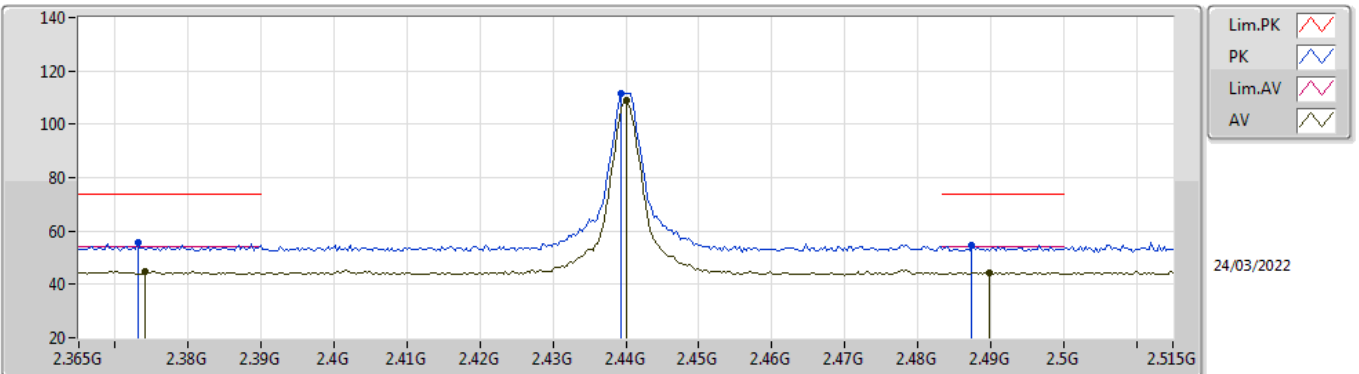


EUT Z1TX
Setting 200
06-F-S-5

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	2.3836G	56.12	74.00	-17.88	24.71	3	Vertical	140	2.97	-	27.53	3.88	-
AV	2.368G	44.92	54.00	-9.08	13.40	3	Vertical	140	2.97	-	27.66	3.86	-
PK	2.4403G	114.40	Inf	-Inf	83.25	3	Vertical	140	2.97	-	27.24	3.91	-
AV	2.44G	111.98	Inf	-Inf	80.83	3	Vertical	140	2.97	-	27.24	3.91	-
PK	2.4871G	54.53	74.00	-19.47	23.35	3	Vertical	140	2.97	-	27.27	3.91	-
AV	2.488G	44.81	54.00	-9.19	13.62	3	Vertical	140	2.97	-	27.28	3.91	-

BT-LE(2Mbps)

2440MHz_TX

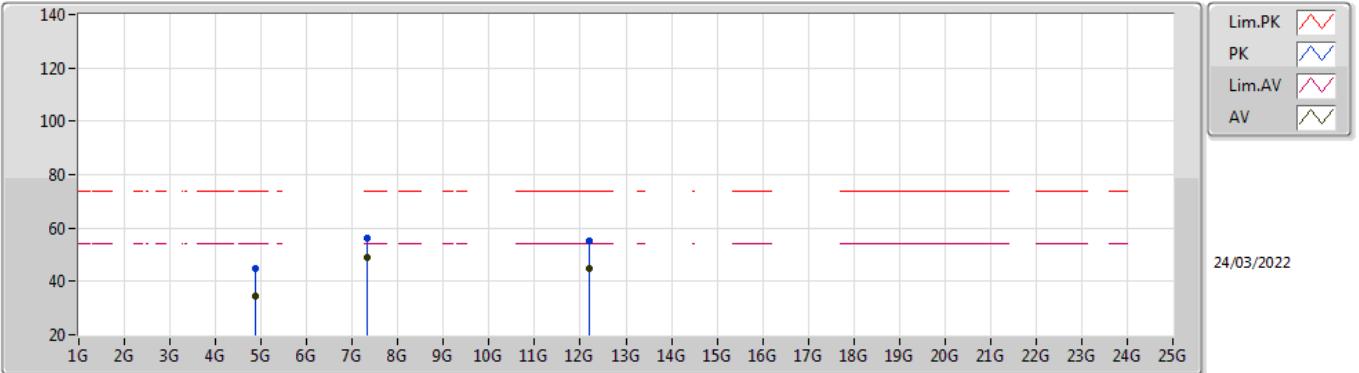


EUT Z1TX
Setting 200
06-F-S-5

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	2.3731G	55.70	74.00	-18.30	24.21	3	Horizontal	152	1.06	-	27.62	3.87	-
AV	2.374G	44.80	54.00	-9.20	13.32	3	Horizontal	152	1.06	-	27.61	3.87	-
PK	2.4394G	111.46	Inf	-Inf	80.31	3	Horizontal	152	1.06	-	27.24	3.91	-
AV	2.44G	109.02	Inf	-Inf	77.87	3	Horizontal	152	1.06	-	27.24	3.91	-
PK	2.4874G	54.49	74.00	-19.51	23.31	3	Horizontal	152	1.06	-	27.27	3.91	-
AV	2.4898G	44.53	54.00	-9.47	13.34	3	Horizontal	152	1.06	-	27.28	3.91	-

BT-LE(2Mbps)

2440MHz_TX

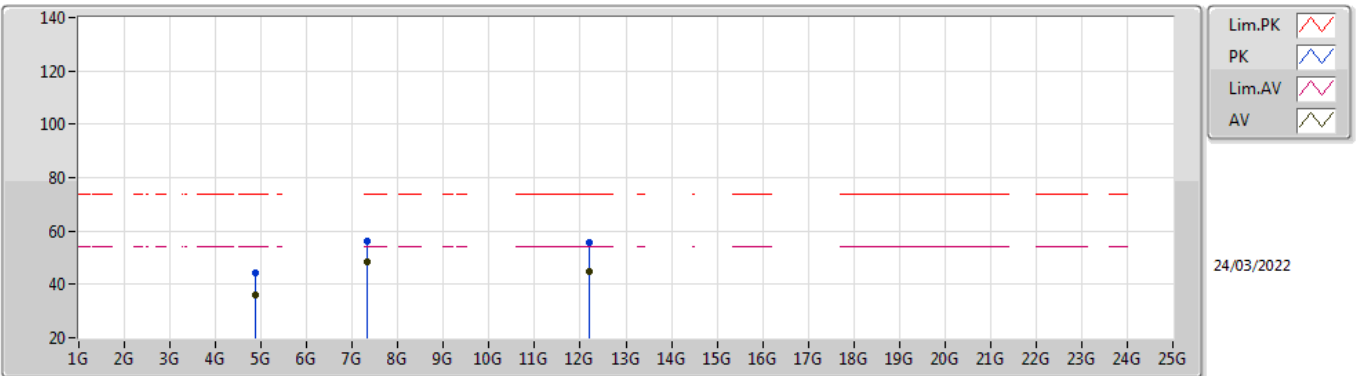


EUT Z1TX
Setting 200
06-F-S-5

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	4.87904G	44.61	74.00	-29.39	40.17	3	Vertical	135	2.54	-	31.06	5.39	32.01
AV	4.8799G	34.59	54.00	-19.41	30.15	3	Vertical	135	2.54	-	31.06	5.39	32.01
PK	7.31992G	56.28	74.00	-17.72	46.72	3	Vertical	84	2.26	-	36.32	6.71	33.47
AV	7.31992G	49.20	54.00	-4.80	39.64	3	Vertical	84	2.26	-	36.32	6.71	33.47
PK	12.19916G	55.06	74.00	-18.94	41.30	3	Vertical	112	1.78	-	38.70	9.21	34.15
AV	12.20274G	44.59	54.00	-9.41	30.83	3	Vertical	112	1.78	-	38.70	9.21	34.15

BT-LE(2Mbps)

2440MHz_TX

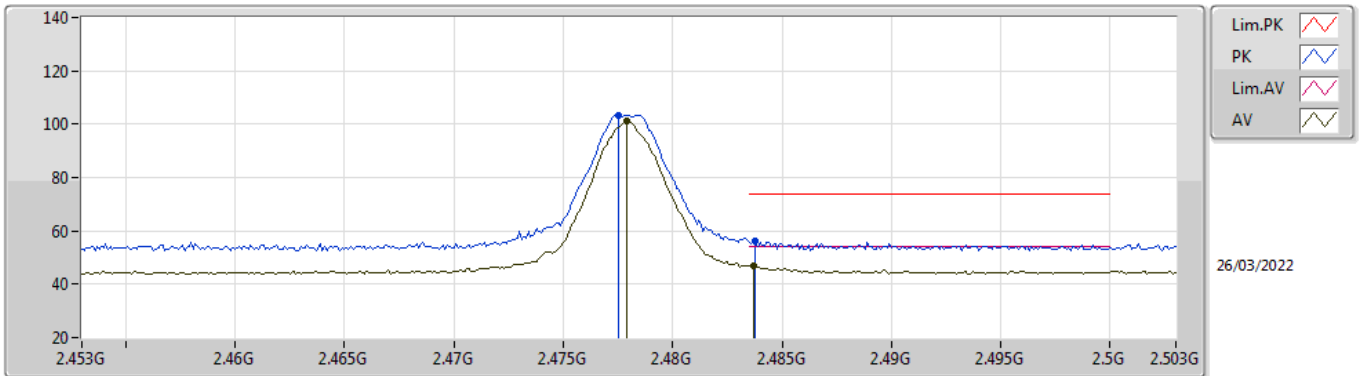


EUT Z1TX
Setting 200
06-F-S-5

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	4.87984G	44.44	74.00	-29.56	40.00	3	Horizontal	196	1.00	-	31.06	5.39	32.01
AV	4.87984G	35.97	54.00	-18.03	31.53	3	Horizontal	196	1.00	-	31.06	5.39	32.01
PK	7.31846G	56.03	74.00	-17.97	46.47	3	Horizontal	180	2.41	-	36.33	6.70	33.47
AV	7.31984G	48.57	54.00	-5.43	39.01	3	Horizontal	180	2.41	-	36.32	6.71	33.47
PK	12.19818G	55.86	74.00	-18.14	42.09	3	Horizontal	240	1.80	-	38.71	9.21	34.15
AV	12.19902G	45.02	54.00	-8.98	31.26	3	Horizontal	240	1.80	-	38.70	9.21	34.15

BT-LE(2Mbps)

2478MHz_TX

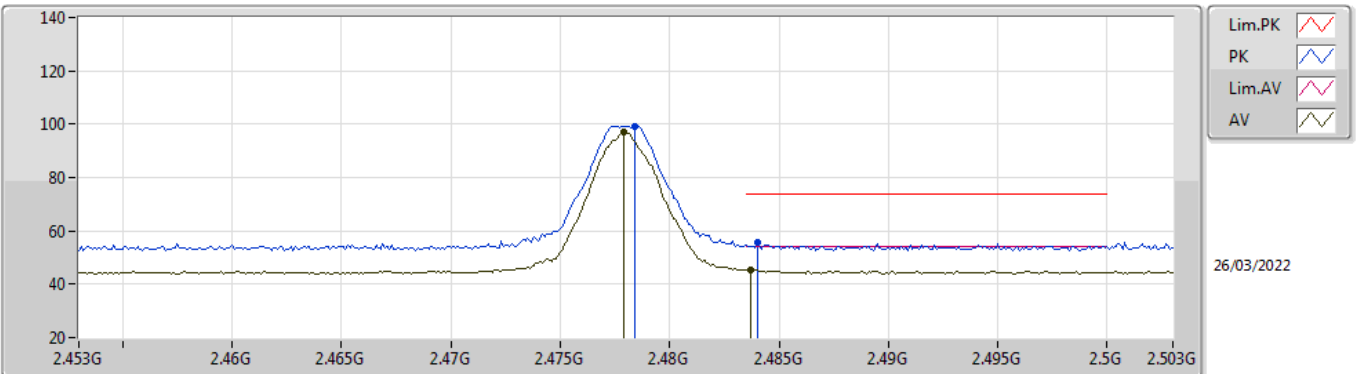


EUT Z1TX
Setting 200
06-F-S-5

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	2.4775G	103.33	Inf	-Inf	72.17	3	Vertical	134	2.91	-	27.25	3.91	-	
AV	2.4779G	100.96	Inf	-Inf	69.79	3	Vertical	134	2.91	-	27.26	3.91	-	
PK	2.4838G	55.96	74.00	-18.04	24.78	3	Vertical	134	2.91	-	27.27	3.91	-	
AV	2.4837G	46.84	54.00	-7.16	15.66	3	Vertical	134	2.91	-	27.27	3.91	-	

BT-LE(2Mbps)

2478MHz_TX

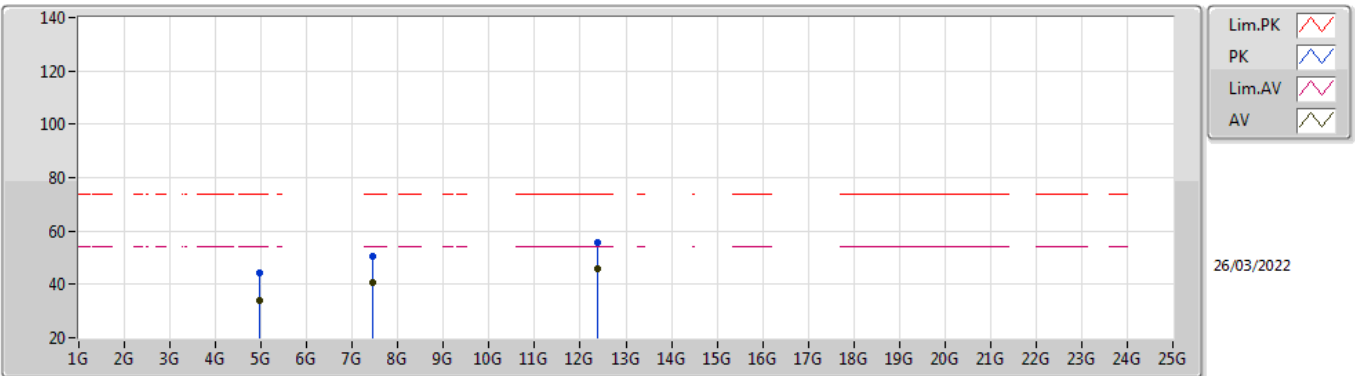


EUT Z1TX
Setting 200
06-F-S-5

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	2.4784G	99.39	Inf	-Inf	68.22	3	Horizontal	34	2.54	-	27.26	3.91	-
AV	2.4779G	97.01	Inf	-Inf	65.84	3	Horizontal	34	2.54	-	27.26	3.91	-
PK	2.484G	55.88	74.00	-18.12	24.70	3	Horizontal	34	2.54	-	27.27	3.91	-
AV	2.4837G	45.55	54.00	-8.45	14.37	3	Horizontal	34	2.54	-	27.27	3.91	-

BT-LE(2Mbps)

2478MHz_TX

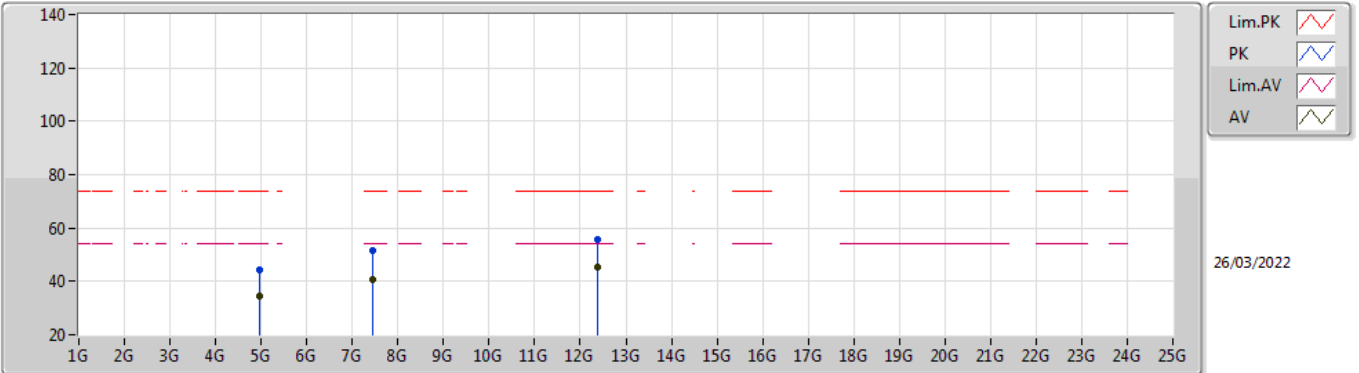


EUT Z1TX
Setting 200
06-F-S-5

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	4.95749G	44.49	74.00	-29.51	39.72	3	Vertical	239	1.74	-	31.30	5.42	31.95
AV	4.95583G	34.21	54.00	-19.79	29.45	3	Vertical	239	1.74	-	31.30	5.41	31.95
PK	7.43233G	50.65	74.00	-23.35	41.27	3	Vertical	258	1.58	-	36.13	6.78	33.53
AV	7.43333G	40.92	54.00	-13.08	31.54	3	Vertical	258	1.58	-	36.13	6.78	33.53
PK	12.38894G	55.79	74.00	-18.21	42.11	3	Vertical	222	2.83	-	38.51	9.26	34.09
AV	12.38776G	45.65	54.00	-8.35	31.97	3	Vertical	222	2.83	-	38.51	9.26	34.09

BT-LE(2Mbps)

2478MHz_TX

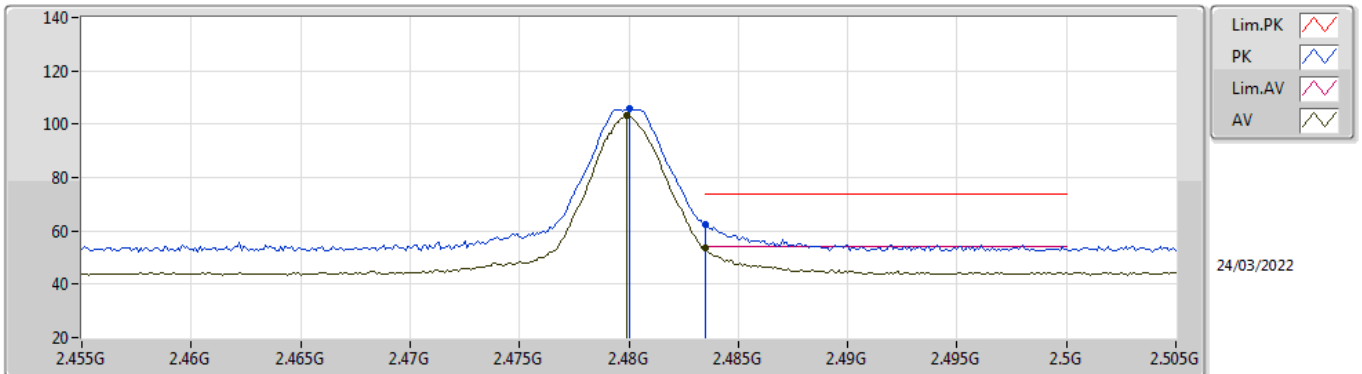


EUT Z1TX
Setting 200
06-F-S-5

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	4.95384G	44.56	74.00	-29.44	39.80	3	Horizontal	35	2.14	-	31.30	5.41	31.95
AV	4.95577G	34.26	54.00	-19.74	29.50	3	Horizontal	35	2.14	-	31.30	5.41	31.95
PK	7.4318G	51.33	74.00	-22.67	41.95	3	Horizontal	161	1.01	-	36.13	6.78	33.53
AV	7.43637G	40.49	54.00	-13.51	31.08	3	Horizontal	161	1.01	-	36.15	6.79	33.53
PK	12.39242G	55.84	74.00	-18.16	42.16	3	Horizontal	178	2.09	-	38.51	9.26	34.09
AV	12.38961G	45.42	54.00	-8.58	31.74	3	Horizontal	178	2.09	-	38.51	9.26	34.09

BT-LE(2Mbps)

2480MHz_TX

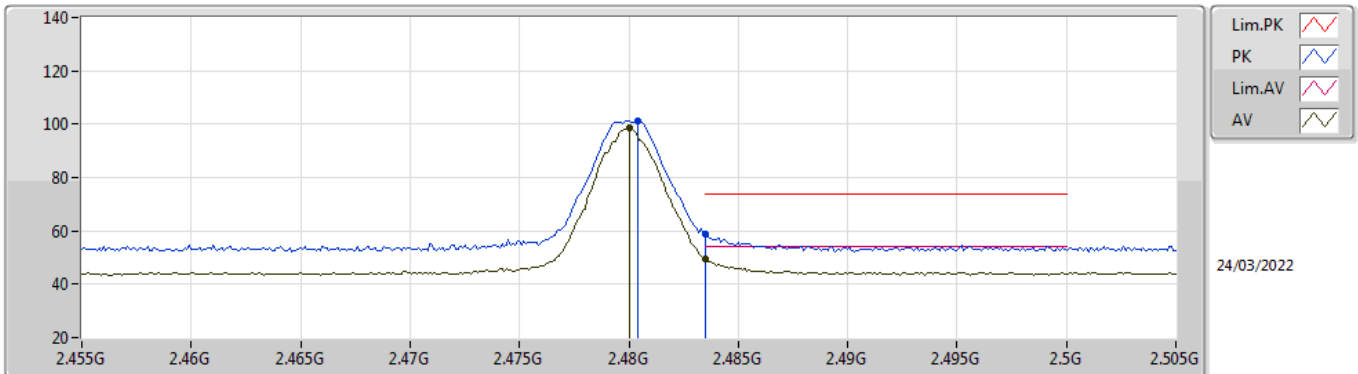


EUT Z1TX
Setting 90
06-F-S-5

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	105.61	Inf	-Inf	74.44	3	Vertical	138	2.95	-	27.26	3.91	-	
AV	2.4799G	103.17	Inf	-Inf	72.00	3	Vertical	138	2.95	-	27.26	3.91	-	
PK	2.4835G	62.32	74.00	-11.68	31.14	3	Vertical	138	2.95	-	27.27	3.91	-	
AV	2.4835G	53.74	54.00	-0.26	22.56	3	Vertical	138	2.95	-	27.27	3.91	-	

BT-LE(2Mbps)

2480MHz_TX

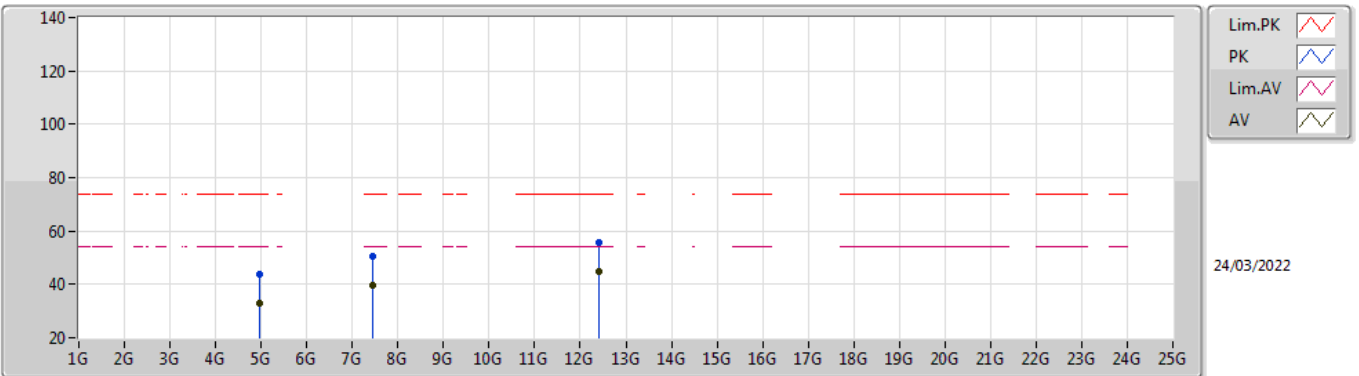


EUT Z1TX
Setting 90
06-F-S-5

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	2.4804G	101.01	Inf	-Inf	69.84	3	Horizontal	52	1.80	-	27.26	3.91	-	
AV	2.48G	98.58	Inf	-Inf	67.41	3	Horizontal	52	1.80	-	27.26	3.91	-	
PK	2.4835G	58.56	74.00	-15.44	27.38	3	Horizontal	52	1.80	-	27.27	3.91	-	
AV	2.4835G	49.42	54.00	-4.58	18.24	3	Horizontal	52	1.80	-	27.27	3.91	-	

BT-LE(2Mbps)

2480MHz_TX

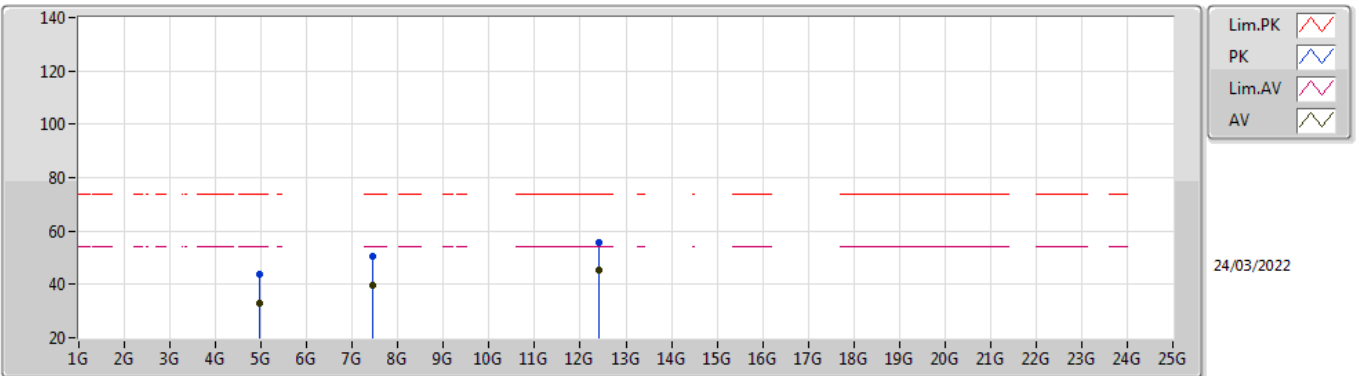


EUT Z1TX
Setting 90
06-F-S-5

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	4.95948G	43.66	74.00	-30.34	38.88	3	Vertical	251	2.90	-	31.30	5.42	31.94
AV	4.9558G	33.11	54.00	-20.89	28.35	3	Vertical	251	2.90	-	31.30	5.41	31.95
PK	7.43952G	50.71	74.00	-23.29	41.29	3	Vertical	282	1.37	-	36.16	6.79	33.53
AV	7.43672G	39.72	54.00	-14.28	30.31	3	Vertical	282	1.37	-	36.15	6.79	33.53
PK	12.39672G	55.44	74.00	-18.56	41.77	3	Vertical	90	2.94	-	38.50	9.26	34.09
AV	12.39876G	44.95	54.00	-9.05	31.27	3	Vertical	90	2.94	-	38.50	9.26	34.08

BT-LE(2Mbps)

2480MHz_TX



EUT Z1TX
Setting 90
06-F-S-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	4.96148G	43.82	74.00	-30.18	39.04	3	Horizontal	57	1.80	-	31.30	5.42	31.94
AV	4.96478G	32.99	54.00	-21.01	28.21	3	Horizontal	57	1.80	-	31.30	5.42	31.94
PK	7.44106G	50.72	74.00	-23.28	41.30	3	Horizontal	261	2.13	-	36.16	6.79	33.53
AV	7.43846G	39.52	54.00	-14.48	30.11	3	Horizontal	261	2.13	-	36.15	6.79	33.53
PK	12.39734G	55.69	74.00	-18.31	42.01	3	Horizontal	177	1.51	-	38.50	9.26	34.08
AV	12.39714G	45.27	54.00	-8.73	31.59	3	Horizontal	177	1.51	-	38.50	9.26	34.08