



RADIO TEST REPORT

FCC ID : QXO-AP3020
Equipment : Access Point
Brand Name : Extreme Networks
Model Name : AP3020
Applicant : Extreme Networks, Inc.
2121 RDU Center Drive Morrisville North Carolina United States 27560
Manufacturer : Extreme Networks, Inc.
2121 RDU Center Drive Morrisville North Carolina United States 27560
Standard : 47 CFR FCC Part 15.247

The product was received on Mar. 16, 2026, and testing was started from Jun. 03, 2026 and completed on Aug. 25, 2026. 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 C63.10-2020 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

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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_9 Ver1.3



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	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen**Report Producer: Sandy Chuang**



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std.	Ch. Frequency (MHz)	Channel Number
2400-2483.5	802.15.4	2405-2480	11-26 [16]

Band	Mode	BWch (MHz)	Nant
2.4G	802.15.4	3	1

Note:

- ♦ 802.15.4 uses a O-QPSK (250kbps) modulation.
- ♦ BWch is the nominal channel bandwidth.


1.1.2 Antenna Information

Ant.	RF Port				Brand Name	Model Name	Ant. Type	Connector	Modes of Operation	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Bluetooth and IEEE 802.15.4						
1	1	1	1	-	WNC	95XPAM15.G93	PIFA	I-PEX	WLAN 2.4GHz, WLAN 5GHz UNII 1~2A, WLAN 6GHz UNII 5~8 (Radio 1)	Note 1
2	2	2	2	-	WNC	95XPAM15.G92	Dipole	I-PEX		
3	1	1	-	-	WNC	95XPAM15.G90	PIFA	I-PEX	WLAN 2.4GHz, WLAN 5GHz UNII 2C~3 or UNII 1~3 (Radio 2)	
4	2	2	-	-	WNC	95XPAM15.G91	Dipole	I-PEX		
5	-	-	-	1	WNC	95XPAM15.GAP	PIFA	I-PEX	Bluetooth, IEEE 802.15.4 (Radio 3)	
6	-	-	-	1	WNC	95XPAM15.GAQ	Dipole	I-PEX		
7	-	-	-	1	WNC	95XPAM15.G94	PIFA	I-PEX		

Note 1:

Notes 1.

Ant.	Antenna Gain (dBi)						
	WLAN 2.4GHz (Radio 1)	WLAN 5GHz UNII 1~2A (Radio 1)		WLAN 6GHz UNII 5~8 (Radio 1)			
	2.45GHz	5.2GHz	5.3GHz	6.175GHz	6.475GHz	6.695GHz	6.995GHz
1	1.12	2.93	2.62	3.38	3.03	3.14	3.59
2	5.37	4	4.54	3.97	4.01	2.34	4.43
Ant.	WLAN 2.4GHz (Radio 2)	WLAN 5GHz UNII 2C~3 or UNII 1~3 (Radio 2)					
	2.45GHz	5.2GHz	5.3GHz	5.6GHz		5.785GHz	
	3	2.26	1.95	2.21	2.92		2.29
4	5.9	4.48	4.52	5.21		5.83	
Ant.	Bluetooth, IEEE 802.15.4 (Radio 3)						
5	4.5						
6	4.9						
7	4.5						



Directional Gain (dBi)							
Item	WLAN 2.4GHz (Radio 1)	WLAN 5GHz UNII 1~2A (Radio 1)		WLAN 6GHz UNII 5~8 (Radio 1)			
	2.45GHz	5.2GHz	5.3GHz	6.175GHz	6.475GHz	6.695GHz	6.995GHz
2T1S	5.37	4.37	4.87	4.05	4.01	3.3	4.67
2T2S	5.37	4	4.54	3.97	4.01	3.14	4.43
Item	WLAN 2.4GHz (Radio 2)	WLAN 5GHz UNII 2C~3 or UNII 1~3 (Radio 2)					
		5.2GHz	5.3GHz	5.6GHz	5.785GHz		
2T1S	5.9	4.48	4.52	5.21	5.83		
2T2S	5.9	4.48	4.52	5.21	5.83		

Note 2: The above information (excepting Ant. 1-4 (WLAN) antenna gain and directional gain) was declared by Manufacturer.

Note 3: The above information was declared by manufacturer.

Note 4: States antenna 5GHz and 6GHz transmission will be restricted per country's regulation.

For Radio 1:

2.4GHz IEEE 802.11b/g/n/VHT/ax/be mode (1, 2TX/2RX)

The EUT can support both 1TX and 2TX functions.

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX/2RX

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

Port 1 and Port 2 could transmit/receive simultaneously.

5GHz IEEE 802.11a/n/ac/ax/be mode (1, 2TX/2RX)

The EUT can support both 1TX and 2TX functions.

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX/2RX

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

Port 1 and Port 2 could transmit/receive simultaneously.

6GHz IEEE 802.11ax/be mode (1, 2TX/2RX)

The EUT can support both 1TX and 2TX functions.

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX/2RX

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

Port 1 and Port 2 could transmit/receive simultaneously.

For Radio 2:

2.4GHz IEEE 802.11b/g/n/VHT/ax/be mode (1, 2TX/2RX)

The EUT can support both 1TX and 2TX functions.

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX/2RX

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

Port 1 and Port 2 could transmit/receive simultaneously.

5GHz IEEE 802.11a/n/ac/ax/be mode (1, 2TX/2RX)

The EUT can support both 1TX and 2TX functions.

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX/2RX

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



Port 1 and Port 2 could transmit/receive simultaneously.

For Radio 3:**Bluetooth, IEEE 802.15.4 mode (1TX/1RX)**

The EUT supports all antennas with TX/RX diversity functions.

At once time there is only one antenna port can transmitting/receiving RF signal

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz) 1/T
802.15.4_Nss 1	0.906	0.43	4.288m	300

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	DOS[ver 10.0.19045.6466]		

Note: The above information was declared by manufacturer.



1.1.5 Table for Radio Function

Function Radio (R)	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Bluetooth	IEEE 802.15.4
1	V	V (UNII 1~2A)	V	-	-
2	V	V (UNII 1~3 or UNII 2C~3)	-	-	-
3	-	-	-	V	V

Note 1: For WLAN 2.4GHz, 5GHz: The Radio 1 and Radio 2 can't operate at the same frequency simultaneously.

Note 2: The above information was declared by manufacturer.

1.1.6 Table for EUT Support Function

Type of Function	WLAN 2.4GHz	WLAN 5GHz		WLAN 6GHz
		Radio 1	Radio 2	
AP	V	V (UNII 1~2A)	V (UNII 1~3)	V
Bridge	V	V (UNII 1)	V (UNII 1/UNII3)	V
Mesh	V	V (UNII 1)	V (UNII 1/UNII3)	V

Note 1: For above table list, only AP mode was tested and recorded in this test.

Note 2: The above information was declared by manufacturer.

1.1.7 Table for Source Information

EUT	1	2	3
Source Item	Main source	Second source	Third source
DDR4 (Location: U301)	Brand: Micron Model: MT40A1G16TB-062E:F	Brand: SK HYNIX Model: H5AG46DXNDX117N	Brand: SAMSUNG Model: K4AAG165WA-BCWE

Note 1: From the above, EUT 1 has selected to execute all test items and EUT 2~3 have selected to execute Emissions in Restricted Frequency Bands Below 1GHz test.

Note 2: The above information was declared by manufacturer.



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15.247
- ♦ ANSI C63.10-2020

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	TH02-CB	Justin Lin	21.8~23.3 / 61~65	Jun. 05, 2026~ Aug. 08, 2026
Radiated below 1GHz	03CH01-CB 03CH04-CB	Sean Ku Stim Sung	23.6~24.6 / 63~65 23.5~24.2 / 55~58	Jun. 03, 2026~ Aug. 25, 2026
Radiated above 1GHz	03CH05-CB	Lex Lee	24.4~24.8 / 57~67	Jun. 03, 2026~ Aug. 25, 2026
AC Conduction (Test Mode: Mode 1~6)	CO01-CB	Ryan Huang	21~22 / 55~56	Jun. 17, 2026
AC Conduction (Test Mode: Mode 7)	CO01-CB	Allen Chung	23~24 / 56~57	Jul. 04, 2026



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 Date: Before Jul. 01, 2026

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%

Test Date: After Jun. 30, 2026

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.7 dB	Confidence levels of 95%

Test Date: After May 27, 2026

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 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	2.0 dB	Confidence levels of 95%
Bandwidth Measurement	1.0 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode
802.15.4
2405MHz
2440MHz
2475MHz
2480MHz

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	EUT 1_R1 (2.4GHz)+R2 (5GHz full)+R3 (BT_Ant. 7)+PoE
2	EUT 1_R1 (2.4GHz)+R2 (5GHz full)+R3 (BT_Ant. 5)+PoE
3	EUT 1_R1 (2.4GHz)+R2 (5GHz full)+R3 (BT_Ant. 6)+PoE
Mode 1 has been evaluated to be the worst case between Mode 1~3, thus measurement for Mode 4~6 will follow this same test mode..	
4	EUT 1_R1 (6GHz full)+R2 (5GHz full)+R3 (BT_Ant. 7)+PoE
5	EUT 1_R1 (5GHz UNII 1~2A)+R2 (5GHz UNII 2C~3)+R3 (BT_Ant. 7)+PoE
6	EUT 1_R1 (6GHz full)+R2 (2.4GHz)+R3 (BT_Ant. 7)+PoE
Mode 1 has been evaluated to be the worst case between Mode 1~6, thus measurement for Mode 7 will follow this same test mode.	
7	EUT 1_R1 (2.4GHz)+R2 (5GHz full)+R3 (IEEE 802.15.4_Ant. 7)+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 Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains The EUT supports all antennas with TX/RX diversity functions. At once time there is only one antenna port can transmitting/receiving RF signal. The Ant. 6 generated the worst case, so it was selected for testing.
1	EUT 1_R3+Ant. 6



The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	1. After evaluating, and the worst case axis was found as below for radiated above 1GHz test. So the measurement will follow this same test configuration. 2. For Radio 3: The EUT supports all antennas with TX/RX diversity functions. At once time there is only one antenna port can transmitting/receiving RF signal. The Ant. 6 generated the worst case for radiated above 1GHz test, so it was selected for testing.
1	EUT 1 in Z axis_R1 (2.4GHz)+PoE
2	EUT 1 in Y axis_R1 (5GHz UNII 1~2A)+PoE
3	EUT 1 in Y axis_R1 (6GHz)+PoE
4	EUT 1 in Y axis_R2 (2.4GHz)+PoE
5	EUT 1 in Y axis_R2 (5GHz UNII 1~3)+PoE
6	EUT 1 in Y axis_R3 (BT_Ant. 6)+PoE
7	EUT 1 in Y axis_R3 (IEEE 802.15.4_Ant. 6)+PoE
Mode 4 has been evaluated to be the worst case between Mode 1~7, thus measurement for Mode 8~9 will follow this same test mode.	
8	EUT 2 in Z axis_R2 (2.4GHz)+PoE
9	EUT 3 in Z axis_R2 (2.4GHz)+PoE
For operating mode 4 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
	1. After evaluating, the worst case axis was found at Y axis, so it was selected to perform test and its test result was written in the report. 2. The EUT supports all antennas with TX/RX diversity functions. At once time there is only one antenna port can transmitting/receiving RF signal. The Ant. 6 generated the worst case, so it was selected for testing.
1	EUT 1 in Y axis_R3+Ant. 6



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) + R2 (5GHz full) + R3 (BT)
2	EUT 1_R1 (2.4GHz) + R2 (5GHz full) + R3 (IEEE 802.15.4)
3	EUT 1_R1 (6GHz full) + R2 (5GHz full) + R3 (BT)
4	EUT 1_R1 (6GHz full) + R2 (5GHz full) + R3 (IEEE 802.15.4)
5	EUT 1_R1 (5GHz UNII 1~2A) + R2 (5GHz UNII 2C~3) + R3 (BT)
6	EUT 1_R1 (5GHz UNII 1~2A) + R2 (5GHz UNII 2C~3) + R3 (IEEE 802.15.4)
7	EUT 1_R1 (6GHz full) + R2 (2.4GHz) + R3 (BT)
8	EUT 1_R1 (6GHz full) + R2 (2.4GHz) + R3 (IEEE 802.15.4)
Refer to Sporton Test Report No.: FA631826 for Co-location RF Exposure Evaluation.	

Note1: R means Radio ; BT means Bluetooth.

Note2: The PoE is used for testing purpose; it will not be sold with the EUT

Power	Brand Name	Model Name
PoE 1	PHIHONG	POE60U-BTA
PoE 2	Microsemi	PD-9001GR/AT/AC

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories
Bracket*1
Cap*1



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE 1	PHIHONG	POE60U-BTA	N/A
B	PC	ASUS	S300TA	TX2-RTL8821CE
C	R1(2.4G) NB	Lenovo	X260	N/A
D	R2(5G full) NB	Lenovo	X260	N/A
E	Smart phone	Apple	A2403	BCG-E3544A
F	Flash disk2.0	Tcell	Push	N/A

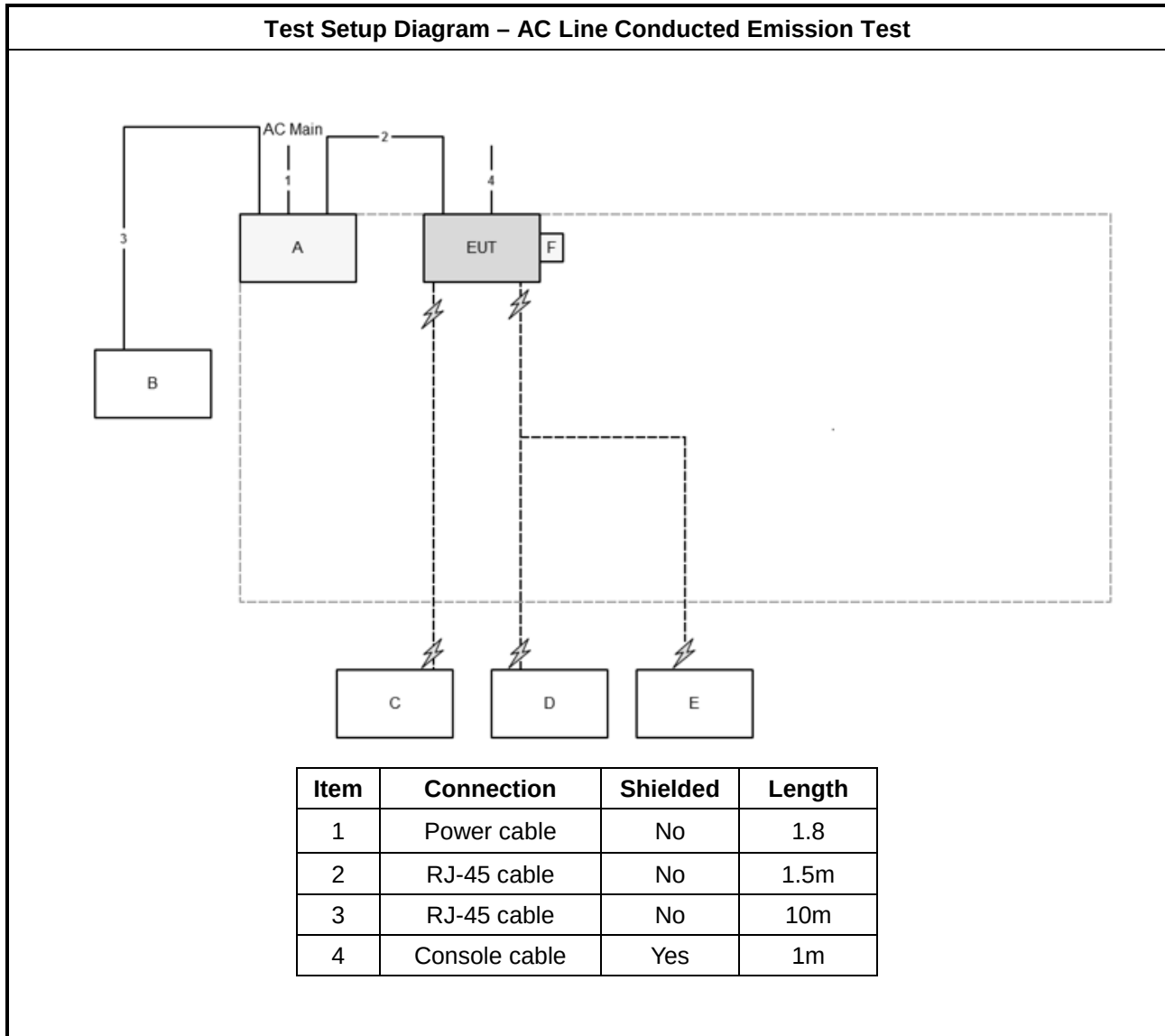
For Radiated:

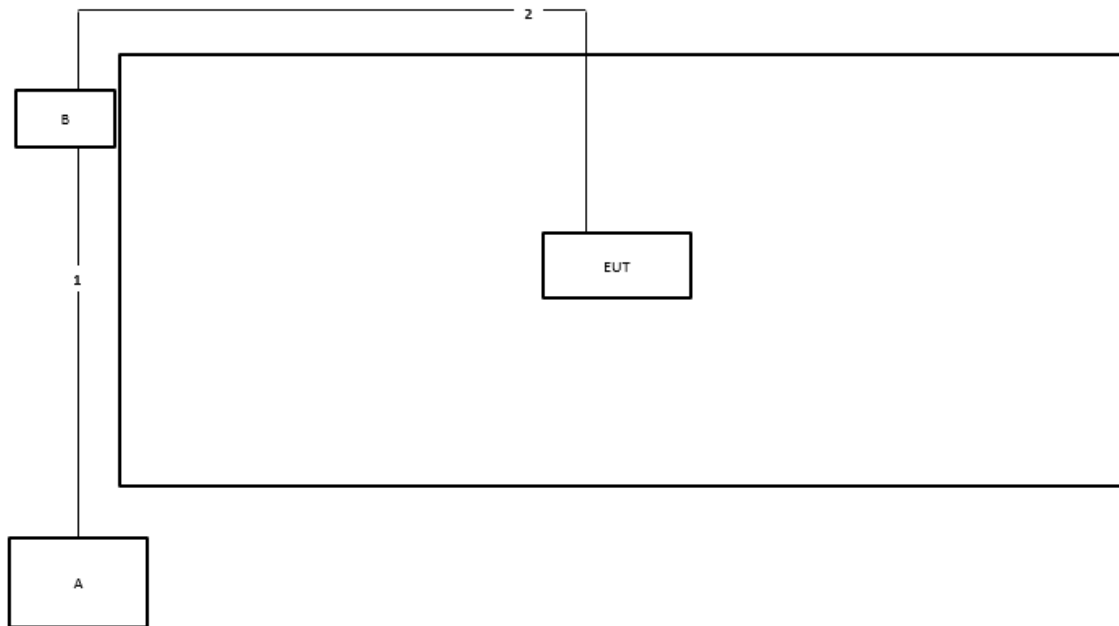
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	PoE 2	Microsemi	PD-9001GR/AT/AC	N/A

For RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E6230	N/A
B	PoE 2	Microsemi	PD-9001GR/AT/AC	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


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.		

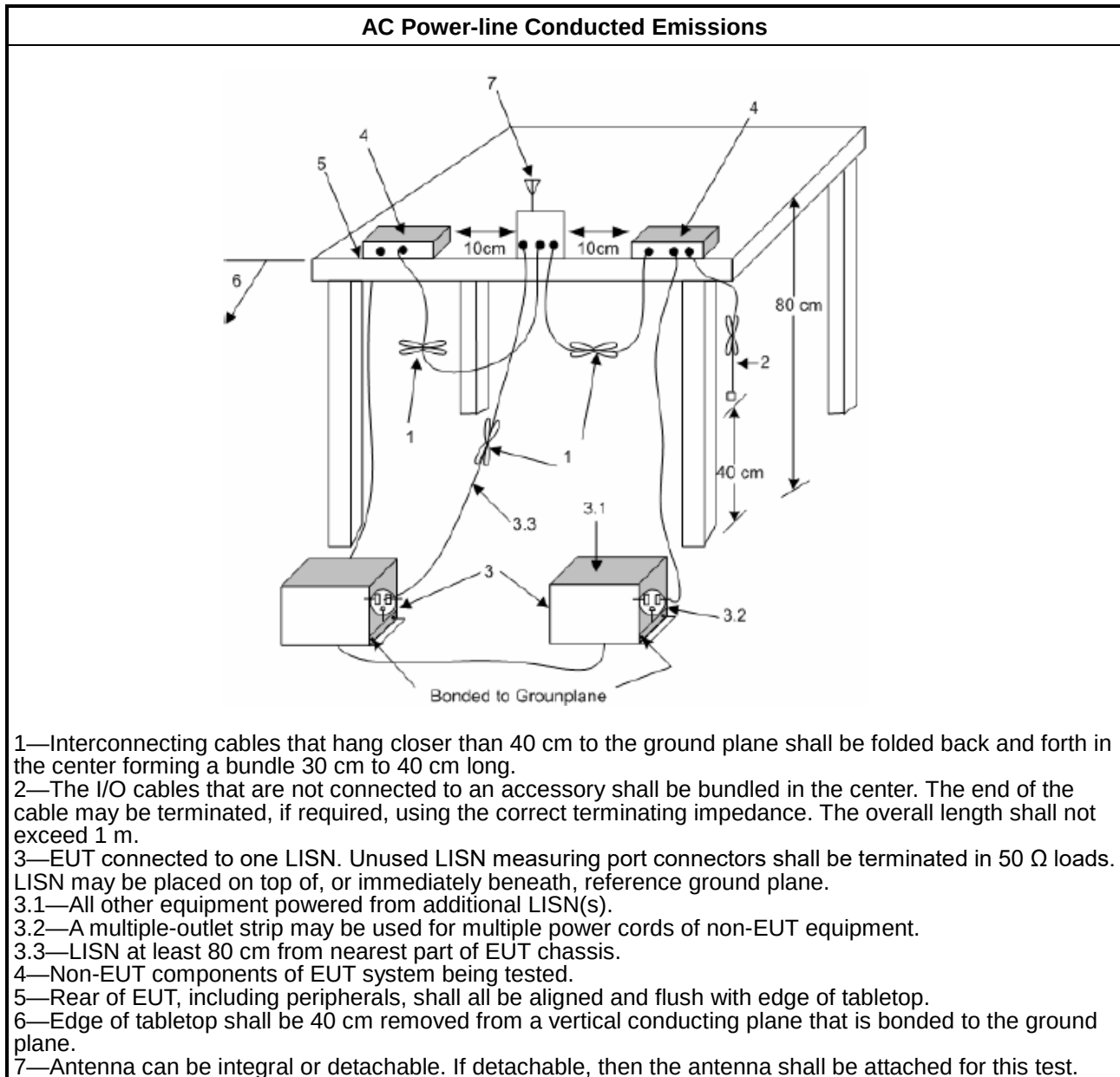
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2020, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

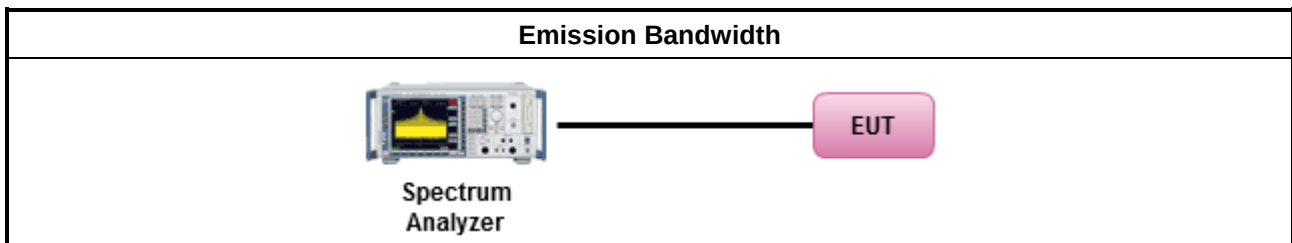
3.2.2 Measuring Instruments

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

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

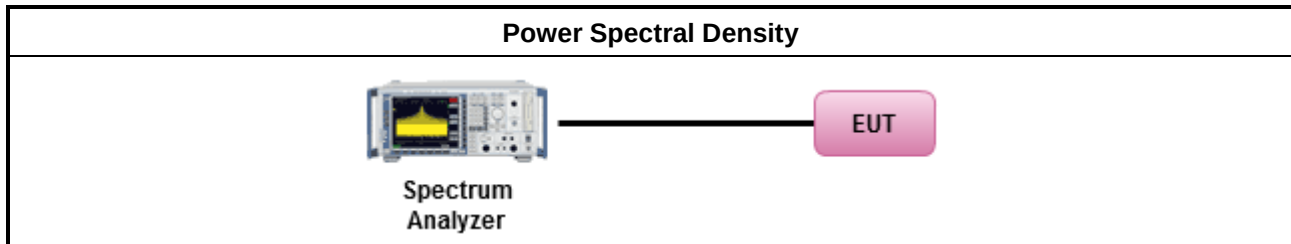
3.4.2 Measuring Instruments

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.
▪ 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.	

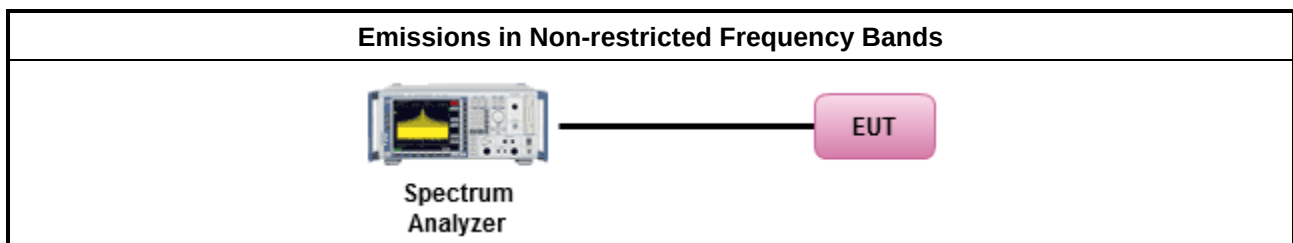
3.5.2 Measuring Instruments

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

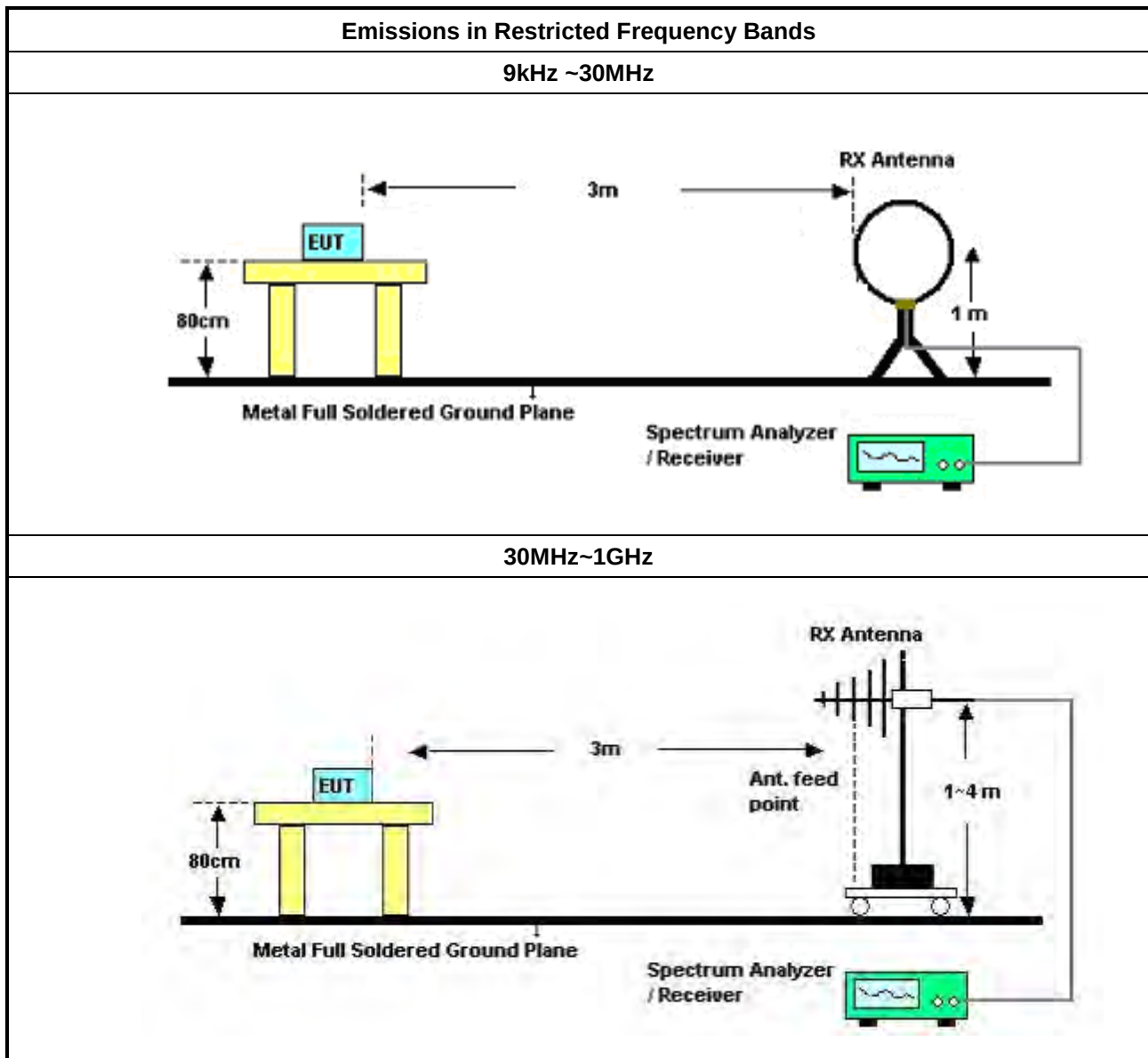
Refer a test equipment and calibration data table in this test report.

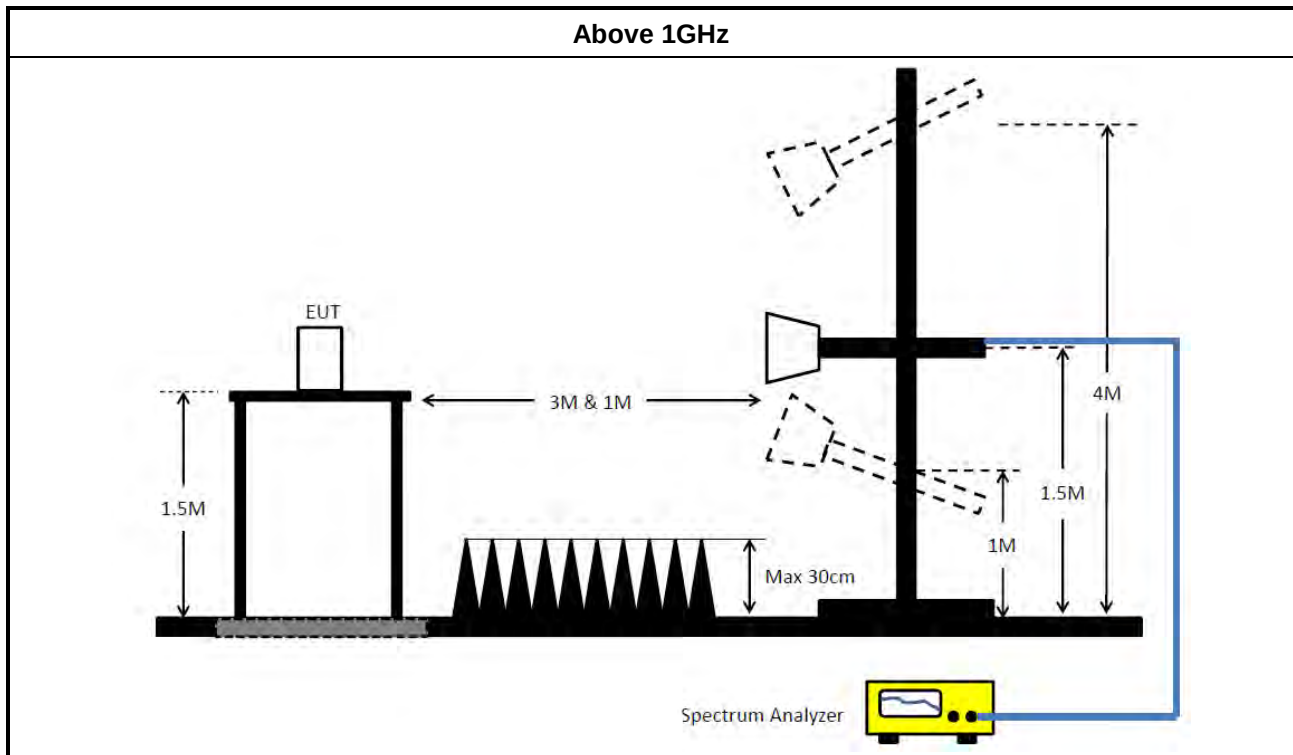


3.6.3 Test Procedures

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	Mar. 12, 2026	Mar. 11, 2027	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 04, 2026	Feb. 03, 2027	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 10, 2026	Apr. 09, 2027	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Sep. 14, 2025	Sep. 13, 2026	Conduction (CO01-CB)
COND Cable	Woken	Cable	CO01	9kHz ~ 30MHz	Sep. 14, 2025	Sep. 13, 2026	Conduction (CO01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30MHz	Oct. 20, 2025	Oct. 19, 2026	Radiation (03CH01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH01-CB	30 MHz ~ 1 GHz	Jan. 15, 2026	Jan. 14, 2027	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Feb. 13, 2026	Feb. 12, 2027	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH0301	20230109-2	10M~1GHz	Jun. 21, 2025	Jun. 20, 2026	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH0301	20230109-2	10M~1GHz	Jun. 20, 2026	Jun. 19, 2027	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV3044	101437	10kHz ~ 44GHz	Dec. 12, 2025	Dec. 11, 2026	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 29, 2025	Oct. 28, 2026	Radiation (03CH01-CB)
RF Cable-low	Woken	RG402	Low Cable-31+32	30 MHz ~ 1 GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.10	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH04-CB	30 MHz ~ 1 GHz	Jul. 30, 2025	Jul. 29, 2026	Radiation (03CH04-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH04-CB	30 MHz ~ 1 GHz	Jul. 28, 2026	Jul. 27, 2027	Radiation (03CH04-CB)
BILOG ANTENNA with 6 dB attenuator	Schaffner & EMCI	CBL6112B & N-6-06	22021&AT-N0 607	30MHz ~ 1GHz	Oct. 04, 2025	Oct. 03, 2026	Radiation (03CH04-CB)
Pre-Amplifier	EMCI	EMC330N	980391	20MHz ~ 3GHz	May 20, 2026	May 19, 2027	Radiation (03CH04-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Signal Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 30, 2026	Mar. 29, 2027	Radiation (03CH04-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 29, 2025	Oct. 28, 2026	Radiation (03CH04-CB)
RF Cable-low	Woken	RG402	Low Cable-03+67	30MHz – 1GHz	Apr. 24, 2026	Apr. 23, 2027	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.10	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH04-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Sep. 27, 2025	Sep. 26, 2026	Radiation (03CH05-CB)
Horn Antenna	ETS-Lindgren	3115	00143147	750MHz~18GHz	Nov. 05, 2025	Nov. 04, 2026	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Oct. 07, 2025	Oct. 06, 2026	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jun. 28, 2025	Jun. 27, 2026	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jun. 27, 2026	Jun. 26, 2027	Radiation (03CH05-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 21, 2025	Nov. 20, 2026	Radiation (03CH05-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Jun. 10, 2025	Jun. 09, 2026	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	May 08, 2026	May 07, 2027	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Feb. 11, 2026	Feb. 10, 2027	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE-15247_DTS	V5.11.27	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Signal Analyzer	R&S	FSV3044	101878	10kHz ~ 44GHz	May 11, 2026	May 10, 2027	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 28, 2025	Oct. 27, 2026	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 28, 2025	Oct. 27, 2026	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Sep. 30, 2025	Sep. 29, 2026	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Sep. 30, 2025	Sep. 29, 2026	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Sep. 30, 2025	Sep. 29, 2026	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Sep. 30, 2025	Sep. 29, 2026	Conducted (TH02-CB)

**RADIO TEST REPORT****Report No. : FR631826AE**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Sep. 30, 2025	Sep. 29, 2026	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1–18 GHz	Sep. 20, 2025	Sep. 19, 2026	Conducted (TH02-CB)
Test Software	SPORTON	SENSE-15247_DTS	V5.11.27	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

NCR means Non-Calibration required.



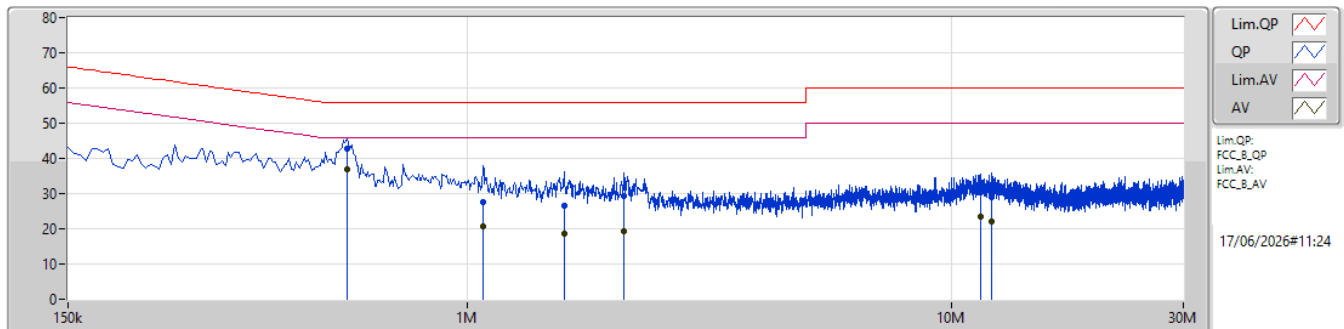
Conducted Emissions at Powerline

Appendix A

Summary

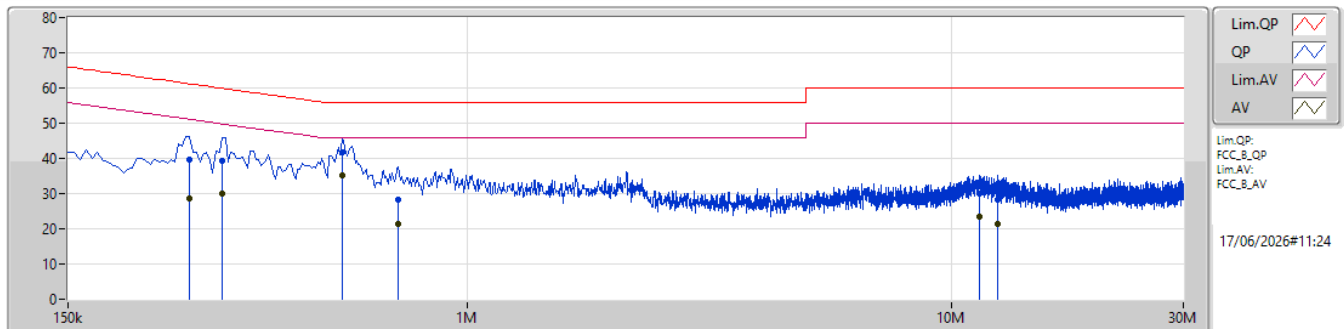
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	564k	36.88	46.00	-9.12	Line

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	564k	42.74	56.00	-13.26	10.12	Line	-	32.62	0.09	0.13	9.90						
AV	564k	36.88	46.00	-9.12	10.12	Line	"Worst"	26.76	0.09	0.13	9.90						
QP	1.077M	27.45	56.00	-28.55	10.12	Line	-	17.33	0.10	0.15	9.87						
AV	1.077M	20.59	46.00	-25.41	10.12	Line	-	10.47	0.10	0.15	9.87						
QP	1.586M	26.67	56.00	-29.33	10.04	Line	-	16.63	0.11	0.14	9.79						
AV	1.586M	18.50	46.00	-27.50	10.04	Line	-	8.46	0.11	0.14	9.79						
QP	2.103M	29.39	56.00	-26.61	10.00	Line	-	19.39	0.12	0.14	9.74						
AV	2.103M	19.18	46.00	-26.82	10.00	Line	-	9.18	0.12	0.14	9.74						
QP	11.432M	30.33	60.00	-29.67	10.74	Line	-	19.59	0.25	0.30	10.19						
AV	11.432M	23.40	50.00	-26.60	10.74	Line	-	12.66	0.25	0.30	10.19						
QP	12.084M	29.04	60.00	-30.96	10.78	Line	-	18.26	0.25	0.31	10.22						
AV	12.084M	22.19	50.00	-27.81	10.78	Line	-	11.41	0.25	0.31	10.22						

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	267k	39.49	61.20	-21.71	9.97	Neutral	-	29.52	0.06	0.09	9.82						
AV	267k	28.50	51.20	-22.70	9.97	Neutral	-	18.53	0.06	0.09	9.82						
QP	312k	39.19	59.92	-20.73	10.01	Neutral	-	29.18	0.06	0.10	9.85						
AV	312k	30.04	49.92	-19.88	10.01	Neutral	-	20.03	0.06	0.10	9.85						
QP	550.5k	41.63	56.00	-14.37	10.09	Neutral	-	31.54	0.06	0.13	9.90						
AV	550.5k	35.05	46.00	-10.95	10.09	Neutral	"Worst"	24.96	0.06	0.13	9.90						
QP	721.5k	28.43	56.00	-27.57	10.10	Neutral	-	18.33	0.07	0.14	9.89						
AV	721.5k	21.38	46.00	-24.62	10.10	Neutral	-	11.28	0.07	0.14	9.89						
QP	11.373M	30.14	60.00	-29.86	10.71	Neutral	-	19.43	0.22	0.30	10.19						
AV	11.373M	23.30	50.00	-26.70	10.71	Neutral	-	12.59	0.22	0.30	10.19						
QP	12.417M	28.24	60.00	-31.76	10.78	Neutral	-	17.46	0.22	0.32	10.24						
AV	12.417M	21.24	50.00	-28.76	10.78	Neutral	-	10.46	0.22	0.32	10.24						

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.15.4	1.617M	2.362M	2M36G1D	1.568M	2.343M

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)
802.15.4	-	-	-	-
2405MHz	Pass	500k	1.576M	2.343M
2440MHz	Pass	500k	1.617M	2.345M
2480MHz	Pass	500k	1.568M	2.362M

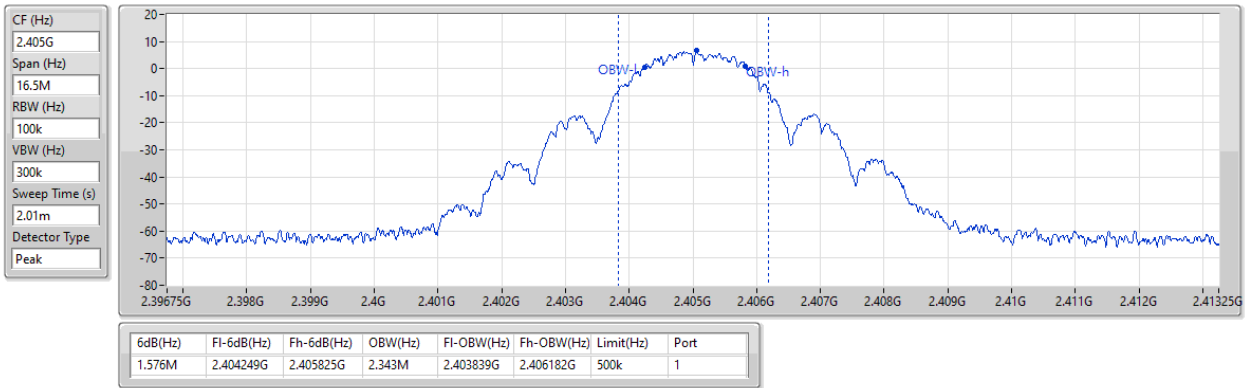
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.15.4

EBW

2405MHz

23/06/2026

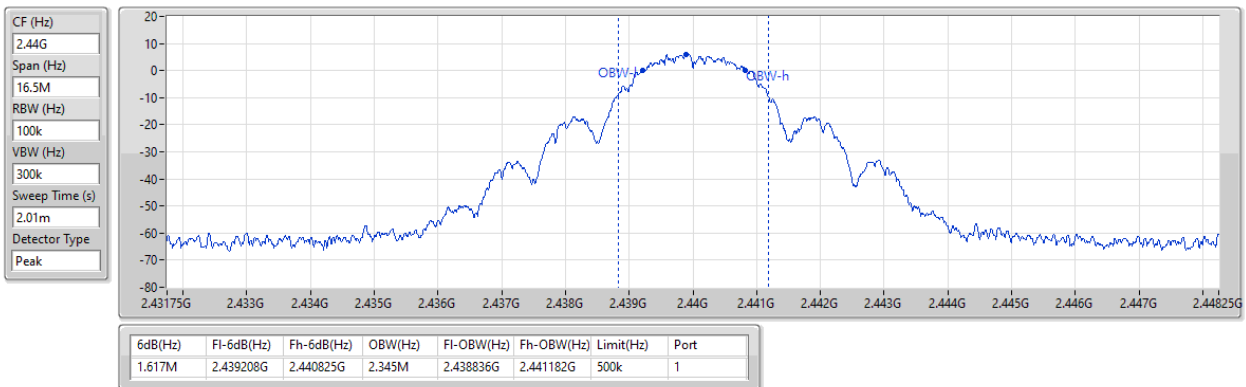


2.4-2.4835GHz_802.15.4

EBW

2440MHz

24/06/2026

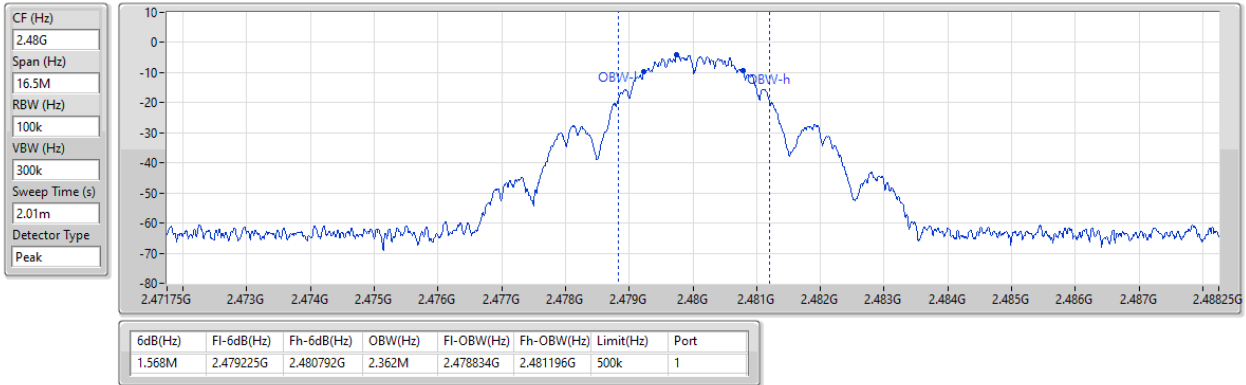


2.4-2.4835GHz_802.15.4

EBW

2480MHz

24/06/2026





Average Power

Appendix C

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.15.4	10.58	0.01143



Average Power

Appendix C

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.15.4	-	-	-	-	-
2405MHz	Pass	4.90	10.04	10.04	30.00
2440MHz	Pass	4.90	10.58	10.58	30.00
2475MHz	Pass	4.90	10.06	10.06	30.00
2480MHz	Pass	4.90	0.38	0.38	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.15.4	-6.09

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.15.4	-	-	-	-	-
2405MHz	Pass	4.90	-6.70	-6.70	8.00
2440MHz	Pass	4.90	-6.09	-6.09	8.00
2480MHz	Pass	4.90	-17.63	-17.63	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;
Inf = There's no restriction for the limit.

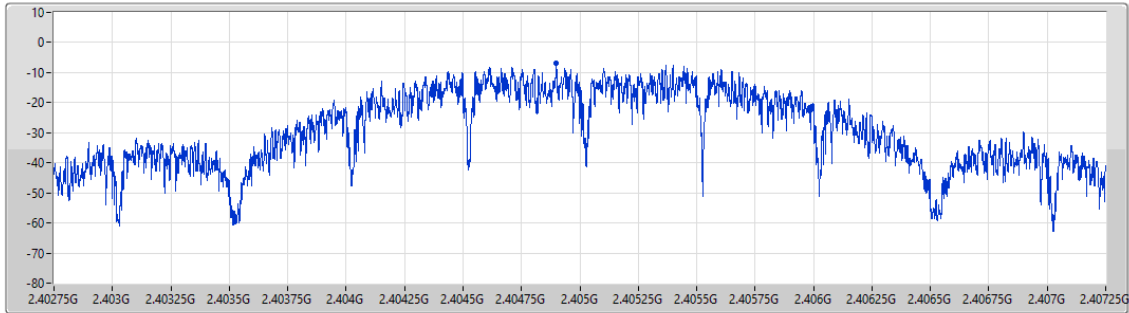
2.4-2.4835GHz_802.15.4

PSD

2405MHz

23/06/2026

CF (Hz)
2.405G
Span (Hz)
4.5M
RBW (Hz)
3k
VBW (Hz)
10k
Sweep Time (s)
1.4m
Detector Type
Peak



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

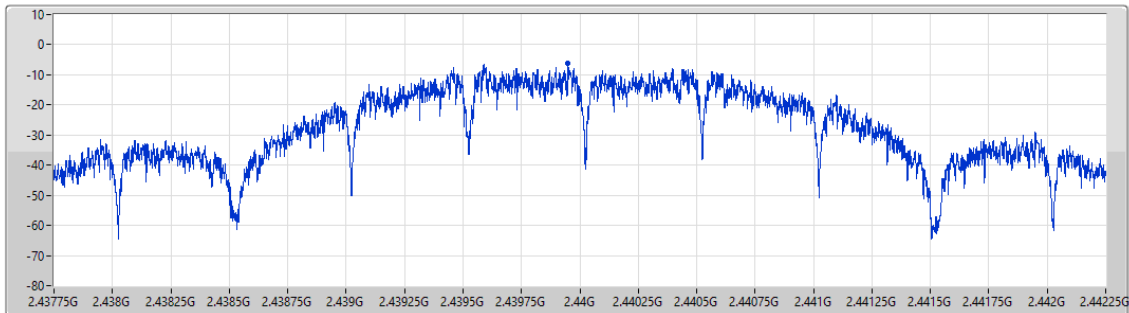
2.4-2.4835GHz_802.15.4

PSD

2440MHz

23/06/2026

CF (Hz)
2.44G
Span (Hz)
4.5M
RBW (Hz)
3k
VBW (Hz)
10k
Sweep Time (s)
1.4m
Detector Type
Peak



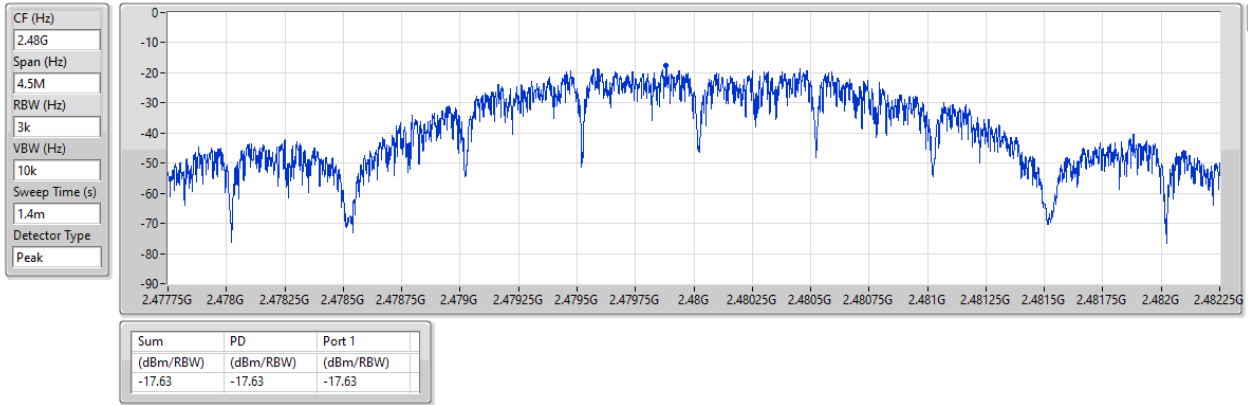
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-6.09	-6.09	-6.09

2.4-2.4835GHz_802.15.4

PSD

2480MHz

24/06/2026





Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.15.4	Pass	2.43975G	6.69	-23.31	1.82782G	-53.23	2.39531G	-53.24	2.4G	-55.94	22.00329G	-45.88	1



Result

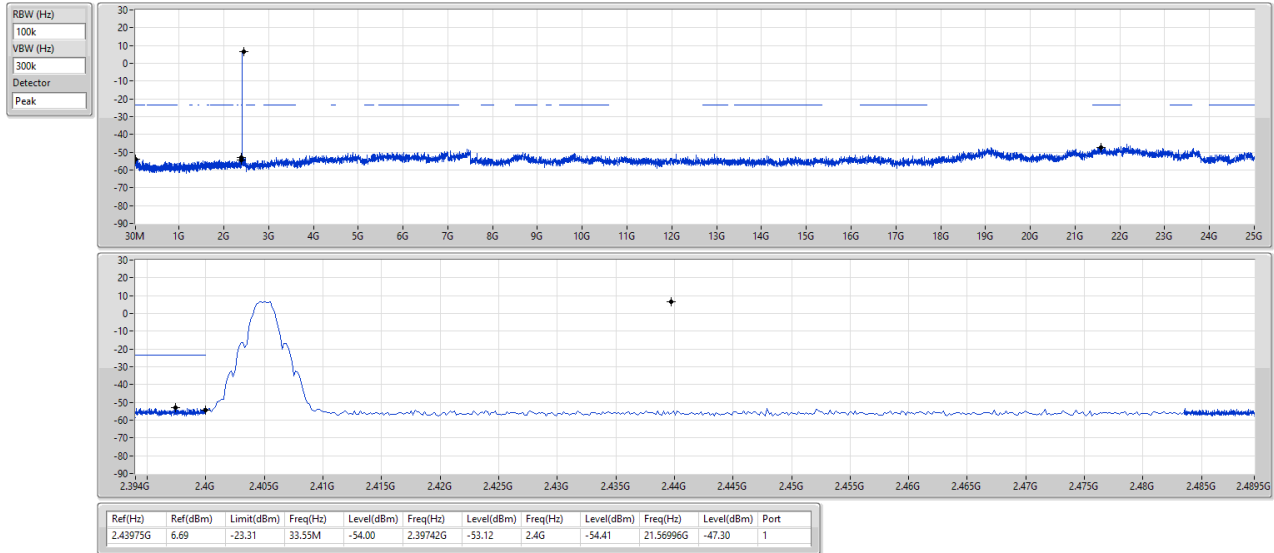
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.15.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.43975G	6.69	-23.31	33.55M	-54.00	2.39742G	-53.12	2.4G	-54.41	21.56996G	-47.30	1
2440MHz	Pass	2.43975G	6.69	-23.31	1.82782G	-53.23	2.39531G	-53.24	2.4G	-55.94	22.00329G	-45.88	1
2480MHz	Pass	2.43975G	6.69	-23.31	40.64M	-53.32	2.39689G	-53.16	2.4G	-56.96	21.89355G	-46.64	1

2.4-2.4835GHz_802.15.4

CSEndB

2405MHz

24/06/2026

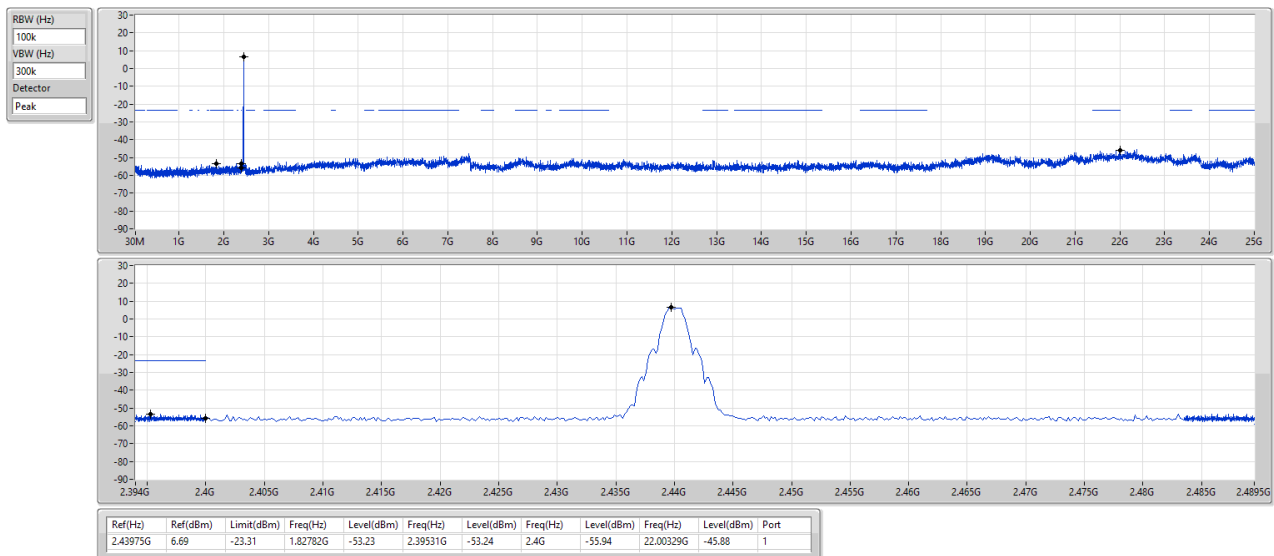


2.4-2.4835GHz_802.15.4

CSEndB

2440MHz

24/06/2026



2.4-2.4835GHz_802.15.4

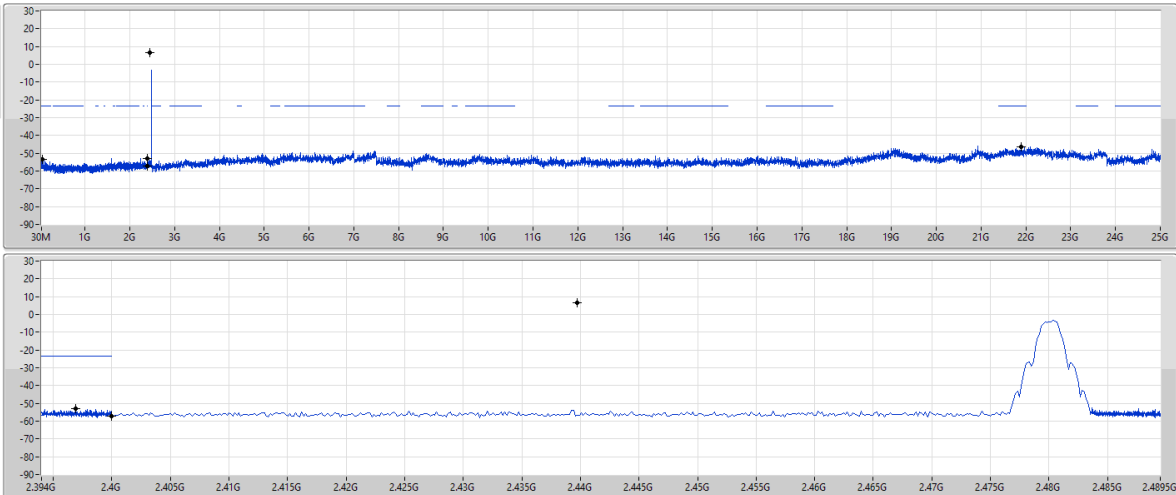
CSEndB

2480MHz

24/06/2026

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

Port 1



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43975G	6.69	-23.31	40.64M	-53.32	2.39689G	-53.16	2.4G	-56.96	2.489355G	-46.64	1



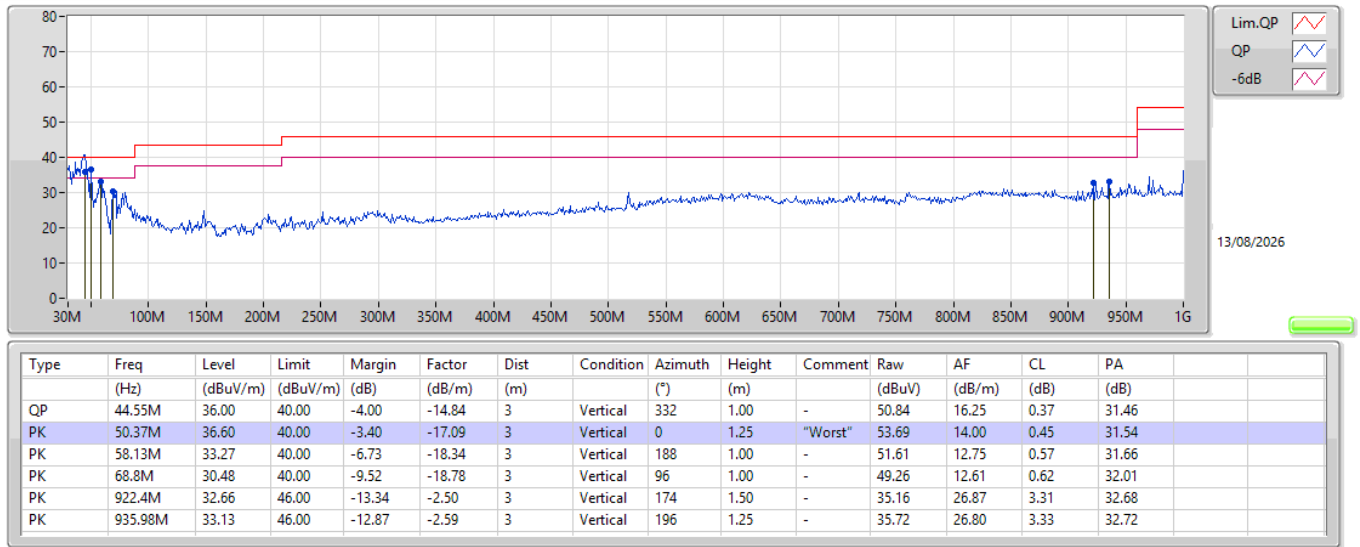
Radiated Emissions below 1GHz

Appendix F.1

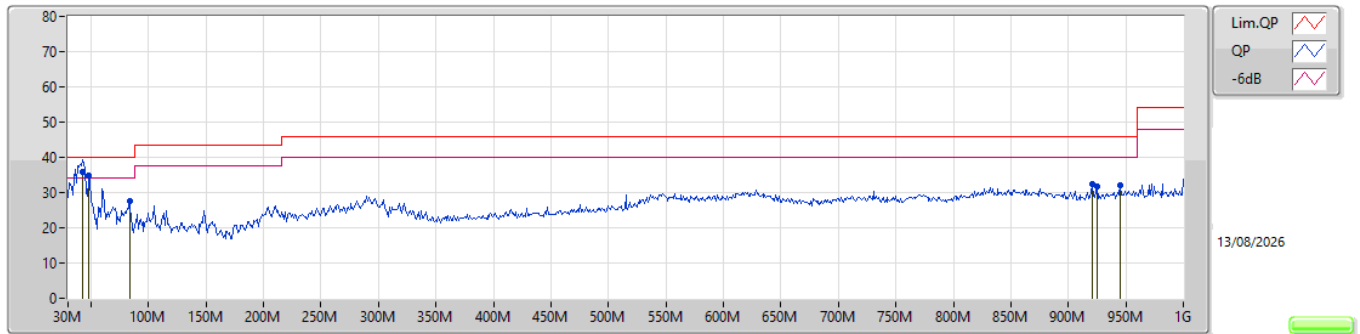
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 4	Pass	PK	50.37M	36.60	40.00	-3.40	Vertical

Mode 4



Mode 4



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
QP	42.61M	35.94	40.00	-4.06	-13.84	3	Horizontal	360	1.25	"Worst"	49.78	17.28	0.36	31.48		
PK	48.43M	34.99	40.00	-5.01	-16.50	3	Horizontal	114	2.00	-	51.49	14.59	0.42	31.51		
PK	83.35M	27.48	40.00	-12.52	-17.67	3	Horizontal	338	1.25	-	45.15	13.55	0.74	31.96		
PK	920.46M	32.29	46.00	-13.71	-2.49	3	Horizontal	214	1.50	-	34.78	26.87	3.31	32.67		
PK	925.31M	31.78	46.00	-14.22	-2.53	3	Horizontal	215	1.00	-	34.31	26.84	3.32	32.69		
PK	944.71M	31.90	46.00	-14.10	-2.61	3	Horizontal	0	2.00	-	34.51	26.78	3.35	32.74		

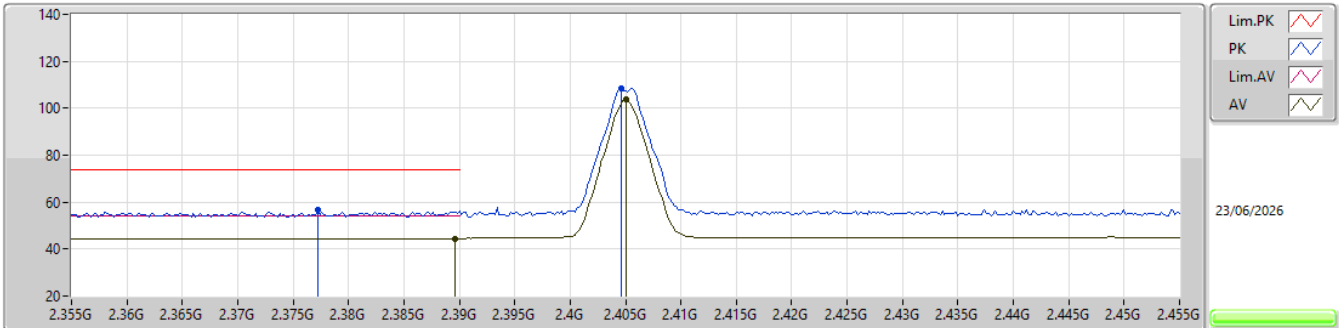


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.15.4	Pass	AV	2.4835G	50.51	54.00	-3.49	3	Vertical	350	1.80	-

2.4-2.4835GHz_802.15.4

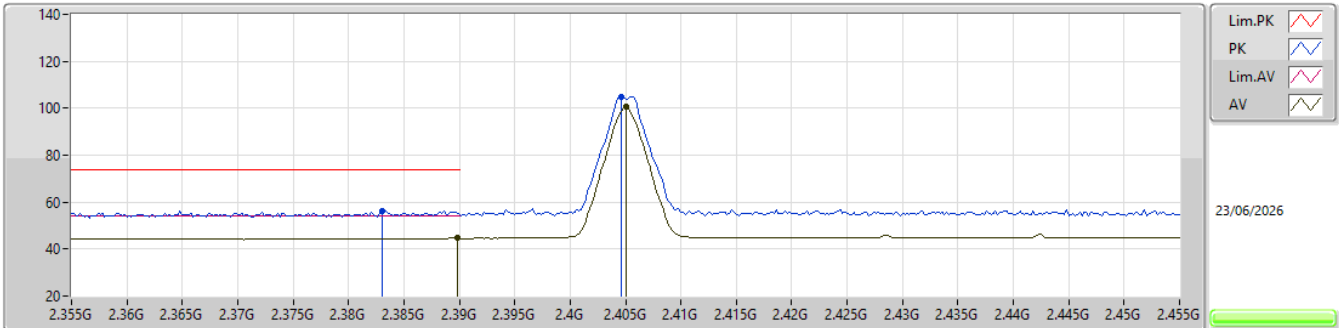
2405MHz_TX


EUT Y_1TX
Setting 12
05-E-B-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	2.3772G	56.61	74.00	-17.39	24.12	3	Vertical	345	1.80	-	27.50	4.99	-				
AV	2.3896G	44.54	54.00	-9.46	11.94	3	Vertical	345	1.80	-	27.60	5.00	-				
PK	2.4046G	108.35	Inf	-Inf	75.63	3	Vertical	345	1.80	-	27.70	5.02	-				
AV	2.405G	103.96	Inf	-Inf	71.24	3	Vertical	345	1.80	-	27.70	5.02	-				

2.4-2.4835GHz_802.15.4

2405MHz_TX

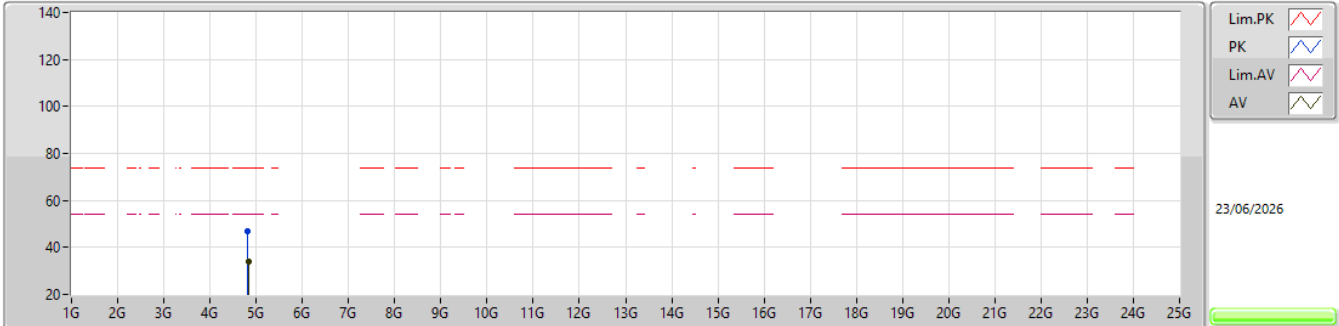


EUT_Y_1TX
Setting 12
05-E-B-5

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	2.383G	56.46	74.00	-17.54	23.94	3	Horizontal	8	1.80	-	27.53	4.99	-				
AV	2.3898G	44.70	54.00	-9.30	12.10	3	Horizontal	8	1.80	-	27.60	5.00	-				
PK	2.4046G	105.03	Inf	-Inf	72.31	3	Horizontal	8	1.80	-	27.70	5.02	-				
AV	2.405G	100.60	Inf	-Inf	67.88	3	Horizontal	8	1.80	-	27.70	5.02	-				

2.4-2.4835GHz_802.15.4

2405MHz_TX

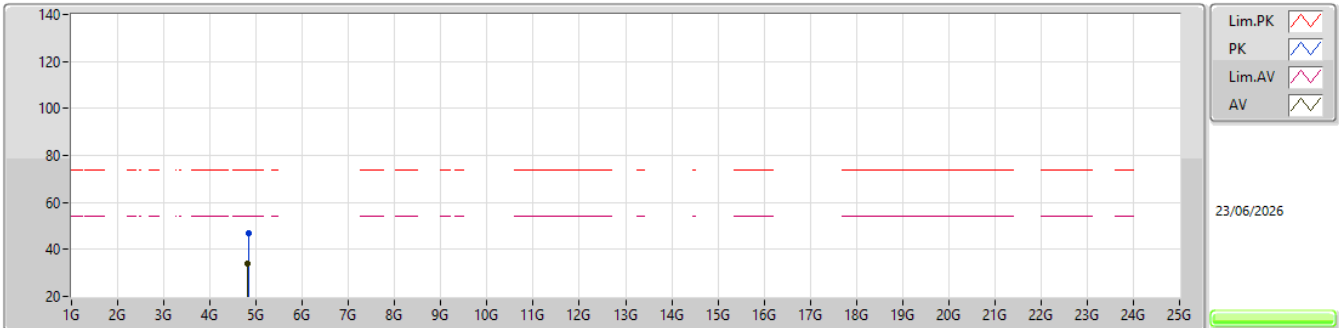


EUT_V_1TX
Setting 12
05-E-B-5

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	4.8121G	46.98	74.00	-27.02	41.36	3	Vertical	136	1.30	-	32.62	8.18	35.18			
AV	4.833G	34.08	54.00	-19.92	28.41	3	Vertical	136	1.30	-	32.67	8.18	35.18			

2.4-2.4835GHz_802.15.4

2405MHz_TX

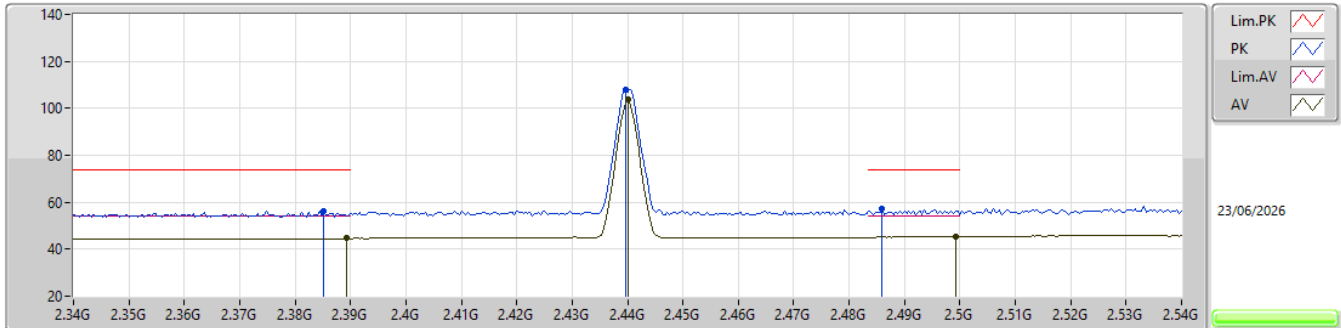


EUT_V_1TX
Setting 12
05-E-B-5

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	4.8328G	46.73	74.00	-27.27	41.06	3	Horizontal	88	1.36	-	32.67	8.18	35.18			
AV	4.8186G	33.97	54.00	-20.03	28.33	3	Horizontal	88	1.36	-	32.64	8.18	35.18			

2.4-2.4835GHz_802.15.4

2440MHz_TX

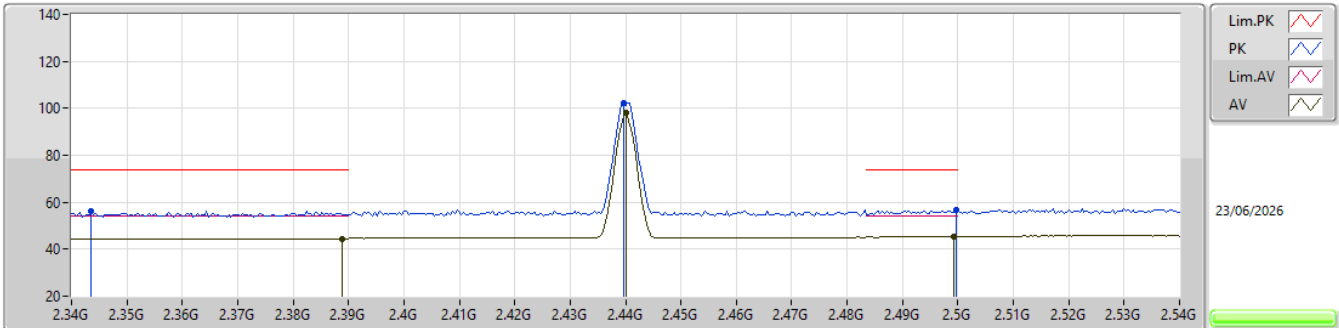


EUT_Y_1TX
Setting 12
05-E-B-5

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	2.3852G	56.34	74.00	-17.66	23.79	3	Vertical	360	1.80	-	27.55	5.00	-					
AV	2.3892G	44.58	54.00	-9.42	11.99	3	Vertical	360	1.80	-	27.59	5.00	-					
PK	2.4396G	107.98	Inf	-Inf	75.21	3	Vertical	360	1.80	-	27.70	5.07	-					
AV	2.44G	103.55	Inf	-Inf	70.78	3	Vertical	360	1.80	-	27.70	5.07	-					
PK	2.486G	57.34	74.00	-16.66	24.25	3	Vertical	360	1.80	-	27.96	5.13	-					
AV	2.4992G	45.45	54.00	-8.55	12.21	3	Vertical	360	1.80	-	28.09	5.15	-					

2.4-2.4835GHz_802.15.4

2440MHz_TX

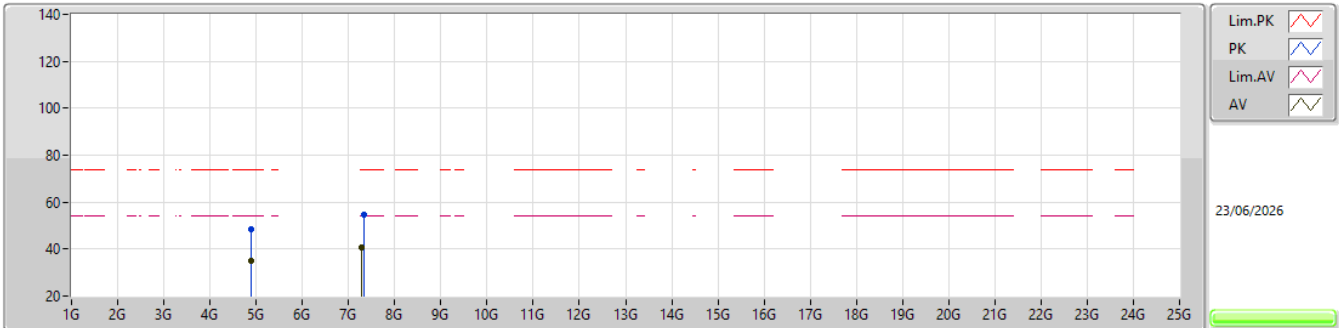


EUT_V_1TX
Setting 12
05-E-B-5

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	2.3436G	56.12	74.00	-17.88	23.52	3	Horizontal	13	1.80	-	27.64	4.96	-				
AV	2.3888G	44.55	54.00	-9.45	11.96	3	Horizontal	13	1.80	-	27.59	5.00	-				
PK	2.4396G	102.31	Inf	-Inf	69.54	3	Horizontal	13	1.80	-	27.70	5.07	-				
AV	2.44G	97.93	Inf	-Inf	65.16	3	Horizontal	13	1.80	-	27.70	5.07	-				
PK	2.4996G	56.58	74.00	-17.42	23.33	3	Horizontal	13	1.80	-	28.10	5.15	-				
AV	2.4992G	45.50	54.00	-8.50	12.26	3	Horizontal	13	1.80	-	28.09	5.15	-				

2.4-2.4835GHz_802.15.4

2440MHz_TX

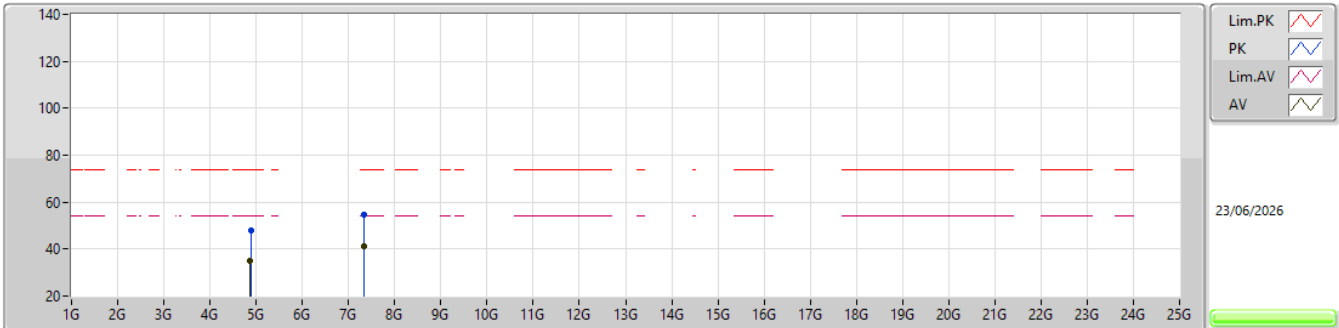


EUT_Y_1TX
Setting 12
05-E-B-5

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	4.8869G	48.44	74.00	-25.56	42.58	3	Vertical	226	2.85	-	32.85	8.18	35.17				
AV	4.8774G	35.25	54.00	-18.75	29.43	3	Vertical	226	2.85	-	32.81	8.18	35.17				
PK	7.3409G	54.44	74.00	-19.56	41.17	3	Vertical	9	1.90	-	37.60	9.72	34.05				
AV	7.295G	40.85	54.00	-13.15	27.70	3	Vertical	9	1.90	-	37.58	9.68	34.11				

2.4-2.4835GHz_802.15.4

2440MHz_TX

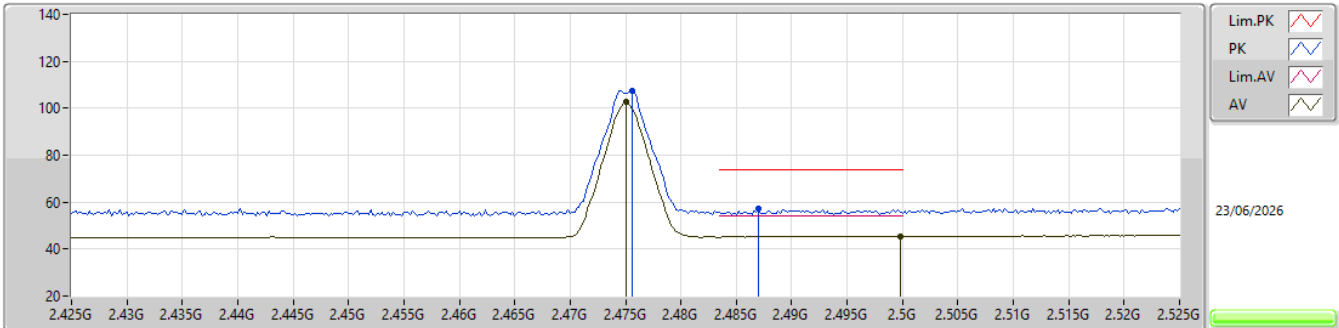


EUT_Y_1TX
Setting 12
05-E-B-5

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	4.8779G	47.68	74.00	-26.32	41.86	3	Horizontal	192	1.76	-	32.81	8.18	35.17				
AV	4.8704G	35.11	54.00	-18.89	29.32	3	Horizontal	192	1.76	-	32.78	8.18	35.17				
PK	7.3431G	54.41	74.00	-19.59	41.14	3	Horizontal	276	1.02	-	37.60	9.72	34.05				
AV	7.345G	40.95	54.00	-13.05	27.68	3	Horizontal	276	1.02	-	37.60	9.72	34.05				

2.4-2.4835GHz_802.15.4

2475MHz_TX

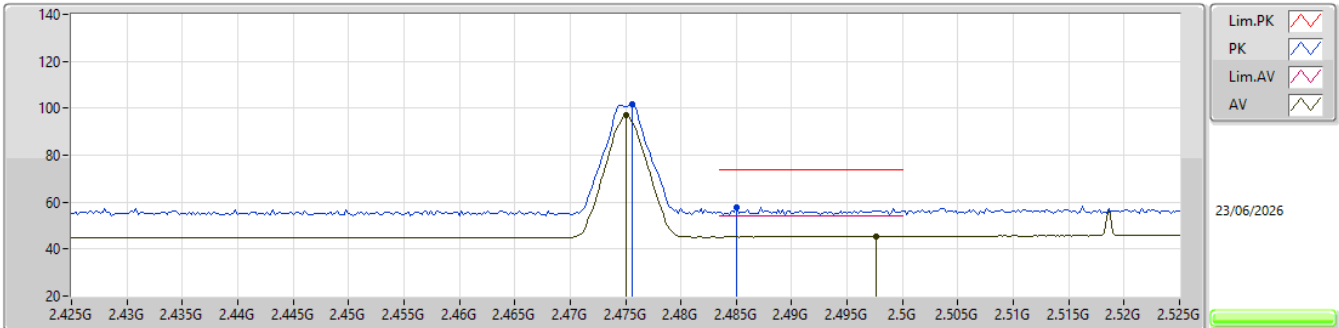


EUT Y_1TX
Setting 12
05-E-B-5

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	2.4756G	107.36	Inf	-Inf	74.38	3	Vertical	345	1.80	-	27.86	5.12	-				
AV	2.475G	102.98	Inf	-Inf	70.01	3	Vertical	345	1.80	-	27.85	5.12	-				
PK	2.487G	57.20	74.00	-16.80	24.10	3	Vertical	345	1.80	-	27.97	5.13	-				
AV	2.4998G	45.44	54.00	-8.56	12.19	3	Vertical	345	1.80	-	28.10	5.15	-				

2.4-2.4835GHz_802.15.4

2475MHz_TX

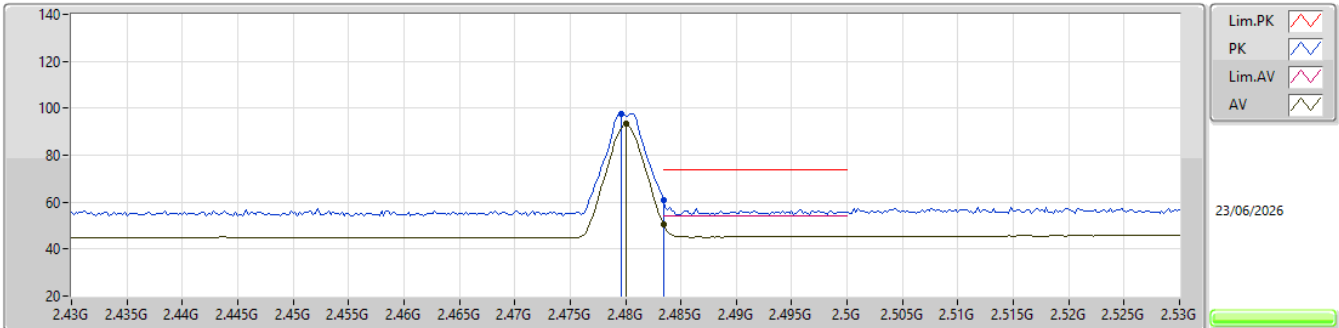


EUT_Y_1TX
Setting 12
05-E-B-5

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	2.4756G	101.92	Inf	-Inf	68.94	3	Horizontal	5	1.04	-	27.86	5.12	-					
AV	2.475G	97.28	Inf	-Inf	64.31	3	Horizontal	5	1.04	-	27.85	5.12	-					
PK	2.485G	57.86	74.00	-16.14	24.78	3	Horizontal	5	1.04	-	27.95	5.13	-					
AV	2.4976G	45.51	54.00	-8.49	12.28	3	Horizontal	5	1.04	-	28.08	5.15	-					

2.4-2.4835GHz_802.15.4

2480MHz_TX

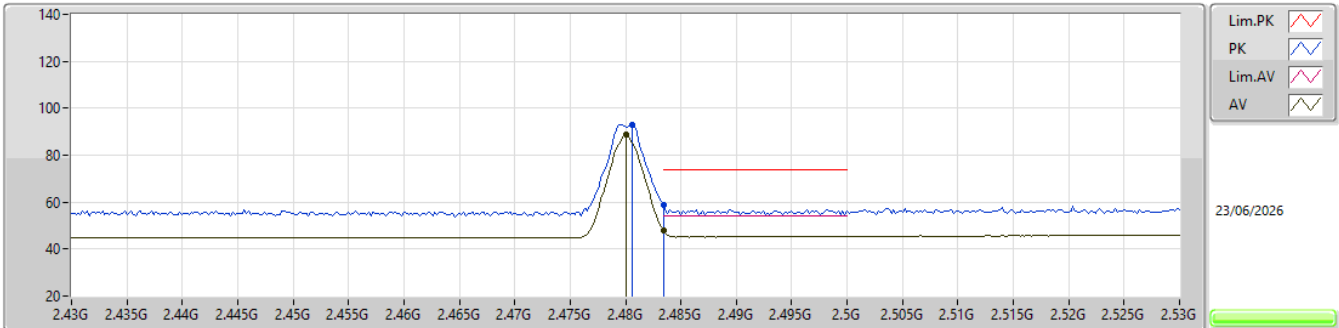


EUT Y_1TX
Setting 4
05-E-B-5

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	97.80	Inf	-Inf	64.78	3	Vertical	350	1.80	-	27.90	5.12	-				
AV	2.48G	93.47	Inf	-Inf	60.45	3	Vertical	350	1.80	-	27.90	5.12	-				
PK	2.4835G	60.81	74.00	-13.19	27.74	3	Vertical	350	1.80	-	27.94	5.13	-				
AV	2.4835G	50.51	54.00	-3.49	17.44	3	Vertical	350	1.80	-	27.94	5.13	-				

2.4-2.4835GHz_802.15.4

2480MHz_TX

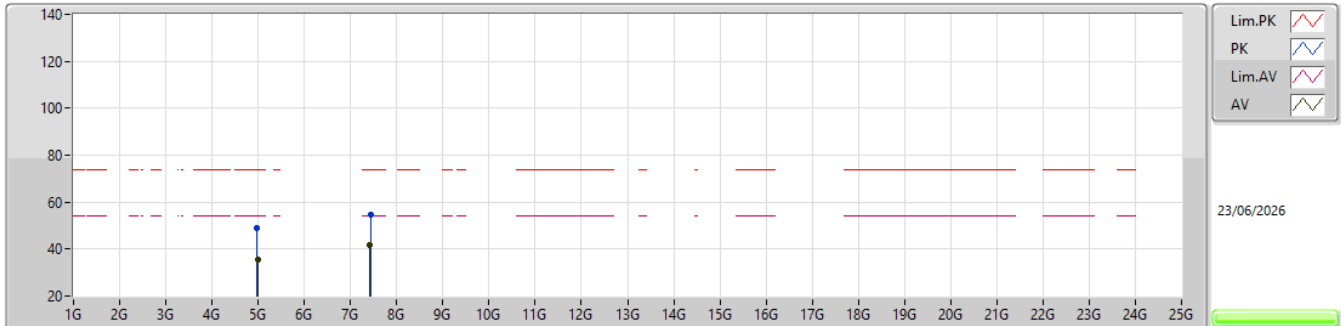


EUT Y_1TX
Setting 4
05-E-B-5

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	93.04	Inf	-Inf	60.01	3	Horizontal	5.9	1.06	-	27.91	5.12	-				
AV	2.48G	88.72	Inf	-Inf	55.70	3	Horizontal	5.9	1.06	-	27.90	5.12	-				
PK	2.4835G	58.60	74.00	-15.40	25.53	3	Horizontal	5.9	1.06	-	27.94	5.13	-				
AV	2.4835G	47.77	54.00	-6.23	14.70	3	Horizontal	5.9	1.06	-	27.94	5.13	-				

2.4-2.4835GHz_802.15.4

2480MHz_TX

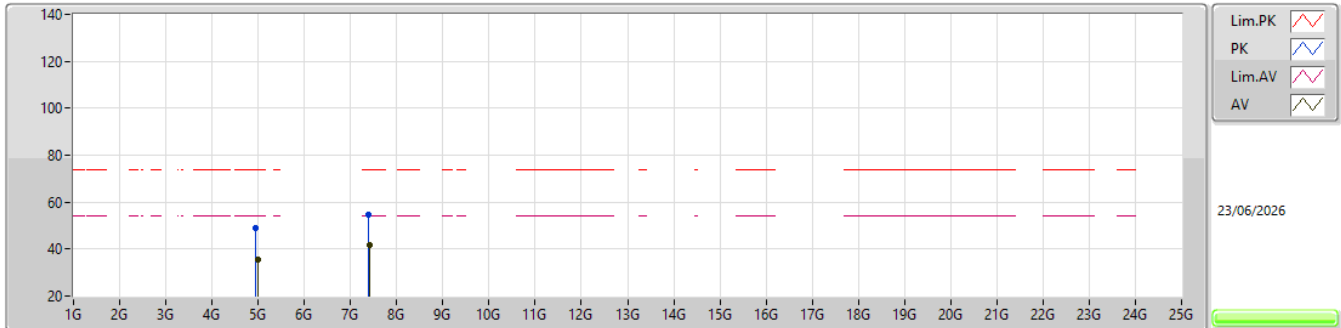


EUT_Y_1TX
Setting 4
05-E-B-5

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	4.9696G	48.86	74.00	-25.14	42.85	3	Vertical	66	1.80	-	33.00	8.17	35.16			
AV	4.9988G	35.60	54.00	-18.40	29.59	3	Vertical	66	1.80	-	33.00	8.17	35.16			
PK	7.4382G	54.82	74.00	-19.18	41.37	3	Vertical	202	2.66	-	37.60	9.79	33.94			
AV	7.418G	41.86	54.00	-12.14	28.45	3	Vertical	202	2.66	-	37.60	9.78	33.97			

2.4-2.4835GHz_802.15.4

2480MHz_TX



EUT_Y_1TX
Setting 4
05-E-B-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	4.9358G	48.76	74.00	-25.24	42.79	3	Horizontal	69	1.97	-	32.97	8.17	35.17				
AV	5G	35.62	54.00	-18.38	29.61	3	Horizontal	69	1.97	-	33.00	8.17	35.16				
PK	7.4G	54.59	74.00	-19.41	41.21	3	Horizontal	193	1.69	-	37.60	9.77	33.99				
AV	7.422G	41.97	54.00	-12.03	28.55	3	Horizontal	193	1.69	-	37.60	9.78	33.96				