

FCC Radio Test Report

FCC ID : 2AHBN-AP64
Equipment : 802.11ax WiFi6E 2+2+2 Access Point
Brand Name : Juniper
Model Name : AP64
Applicant : Juniper Networks, Inc.
1133 Innovation Way, Sunnyvale, CA 94089, USA
Manufacturer : Juniper Networks, Inc.
1133 Innovation Way, Sunnyvale, CA 94089, USA
Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 13, 2023, and testing was started from Sep. 27, 2023 and completed on Oct. 27, 2023. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.


Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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History of this test report

[illegible]

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:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Ryan Hsiao

Report Producer: Michelle Tsai

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	2405-2475	11-25 [15]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	Zigbee	5	1

Note:..

- Zigbee uses a O-QPSK (250kbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	Juniper	0990279010_1	PIFA	I-PEX	Radio 2_2.4G+Radio 1_6G
2	Juniper	0990279010_2	PIFA	I-PEX	Radio 0_5G+BT/Thread/Zigbee
3	Juniper	0990279010_3	PIFA	I-PEX	Radio 1_2.4G+Radio 0_5G
4	Juniper	0990279010_4	PIFA	I-PEX	Radio 1_2.4G+Radio 1_6G
5	Juniper	0990279010_5	PIFA	I-PEX	Radio 2_2.4G+Radio 2_5G+ Radio 2_6G
6	Juniper	0990278910	PIFA	I-PEX	GPS

Ant.	Gain (dBi)							
	Radio 0	Radio 1		Radio 2			BT/Thread/Zigbee	GPS
	5G	2.4G	6G	2.4G	5G	6G		
1	-	-	4.45	1.58	-	-	-	-
2	5.46	-	-	-	-	-	1.22	-
3	5.41	1.38	-	-	-	-	-	-
4	-	4.41	4.25	-	-	-	-	-
5	-	-	-	2.3	4.26	3.9	-	-
6	-	-	-	-	-	-	-	3.15

Composite Gain (dBi)									
	2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	6.175G	6.475G	6.695G	6.995G
DG [1SS] Ant.1 & Ant.5	4.35	-	-	-	-	-	-	-	-
DG [1SS] Ant.3 & Ant.4	5.08	-	-	-	-	-	-	-	-
DG [1SS] Ant.2 & Ant.3	-	5.46	5.42	5.52	3.99	-	-	-	-
DG [1SS] Ant.1 & Ant.4	-	-	-	-	-	5.37	4.72	4.36	4.63

Note 1: The EUT has six antennas.

Note 2: The composite gain is derived as KDB 662911 D03 v01 which was used as directional gain. For more detail information, please refer to the Antenna Pattern Report AP391129.

For 2.4GHz function:

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

Ant. 5 could transmit/receive.

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

Ant. 3 and Ant. 4 could transmit/receive simultaneously.

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

Ant. 1 and Ant. 5 could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 2 could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX) (Radio 2)

Ant. 5 could transmit/receive.

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 0)

Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For Thread function:

For Thread mode (1TX/1RX)

Ant. 2 could transmit/receive.

For Zigbee function:

For Zigbee mode (1TX/1RX)

Ant. 2 could transmit/receive.

**1.1.3 EUT Information**

Operational Condition			
EUT Power Type	From PoE		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:	...	
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:	...	
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz) 1/T
Zigbee	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

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

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Daniel Lin	21.7~22.7°C / 55~58%	24/Oct/2023
RF Conducted	TH07-HY	Xun Hsieh	22.9~23.4°C / 56~61%	28/Sep/2023~03/Oct/2023
Radiated (Co-location)	03CH02-HY	Vasari Huang	22.9~24.1°C / 52~58%	26/Oct/2023~27/Oct/2023
☒ Wenhua 3rd. (TAF: 3785)	ADD: No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	TEL: 886-3-327-0868			
Test site Designation No. TW0036 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH26-HY	Simon Cheng	23.1~23.7°C / 48~56%	27/Sep/2023~23/Oct/2023

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
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Receiver Radiated Unwanted Emissions	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	Tera Term Version 4.76
------------------------------	------------------------

Mode	Power Setting
Zigbee	-
2405MHz	8
2440MHz	8
2475MHz	8

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	CTX
1	PoE Mode

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

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	PoE Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V		



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Bluetooth
2	Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Bluetooth
3	Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Zigbee
4	Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Zigbee
5	Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Thread
6	Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Thread
Refer to Sporton Test Report No.: FA391129 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
Bracket	Brand Name	Juniper	Model Name	APOUTBR-FM2

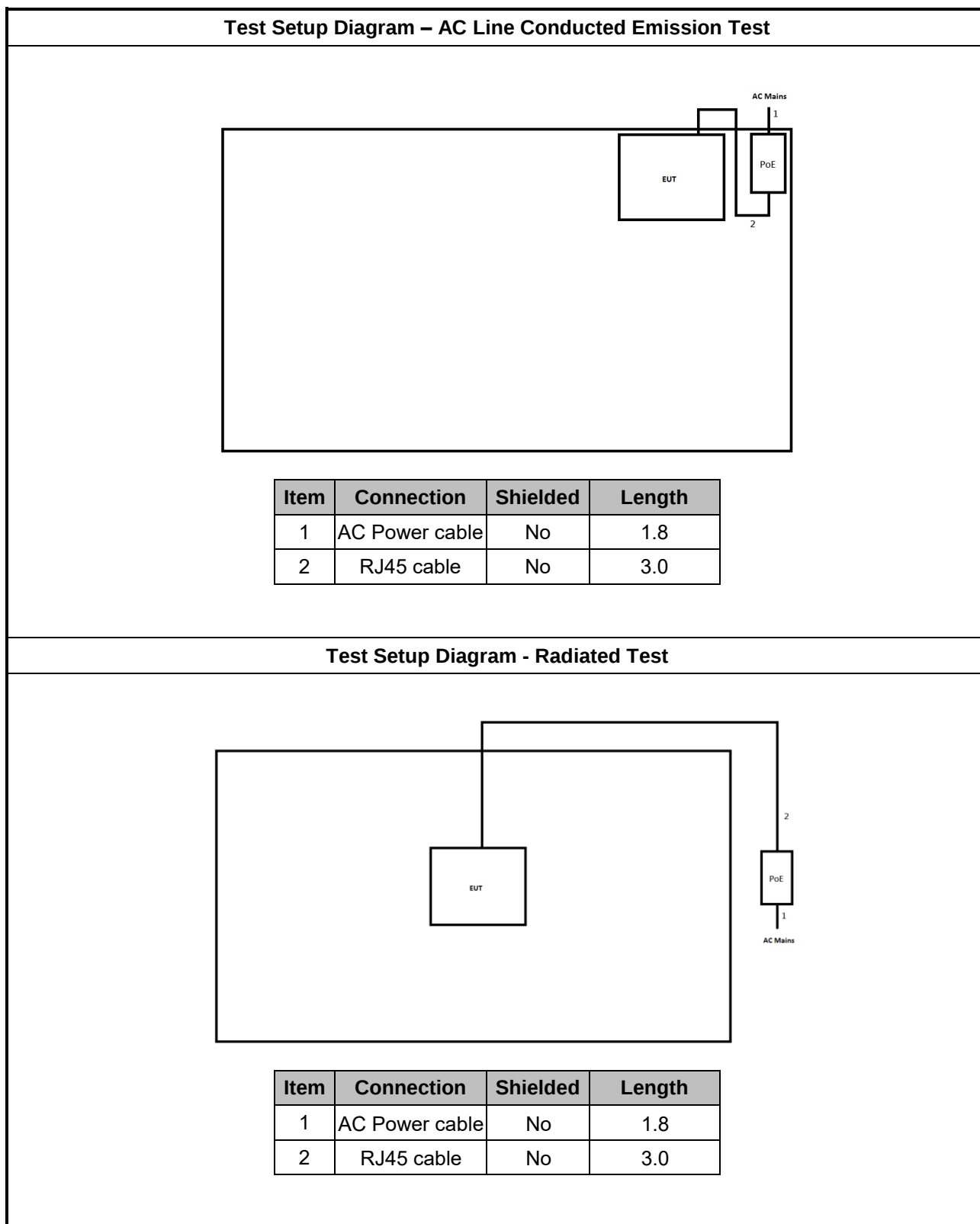
Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Support Equipment

Support Equipment – AC Conduction and Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	PoE	PHIHONG	POE60U-1BT-5	-	-
2	RJ45 cable	Power sync	CAT-6E-03	-	-
3	AC Power Cable	Power sync	PW-GPC180-3	-	-

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

2.5 Test Setup Diagram



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

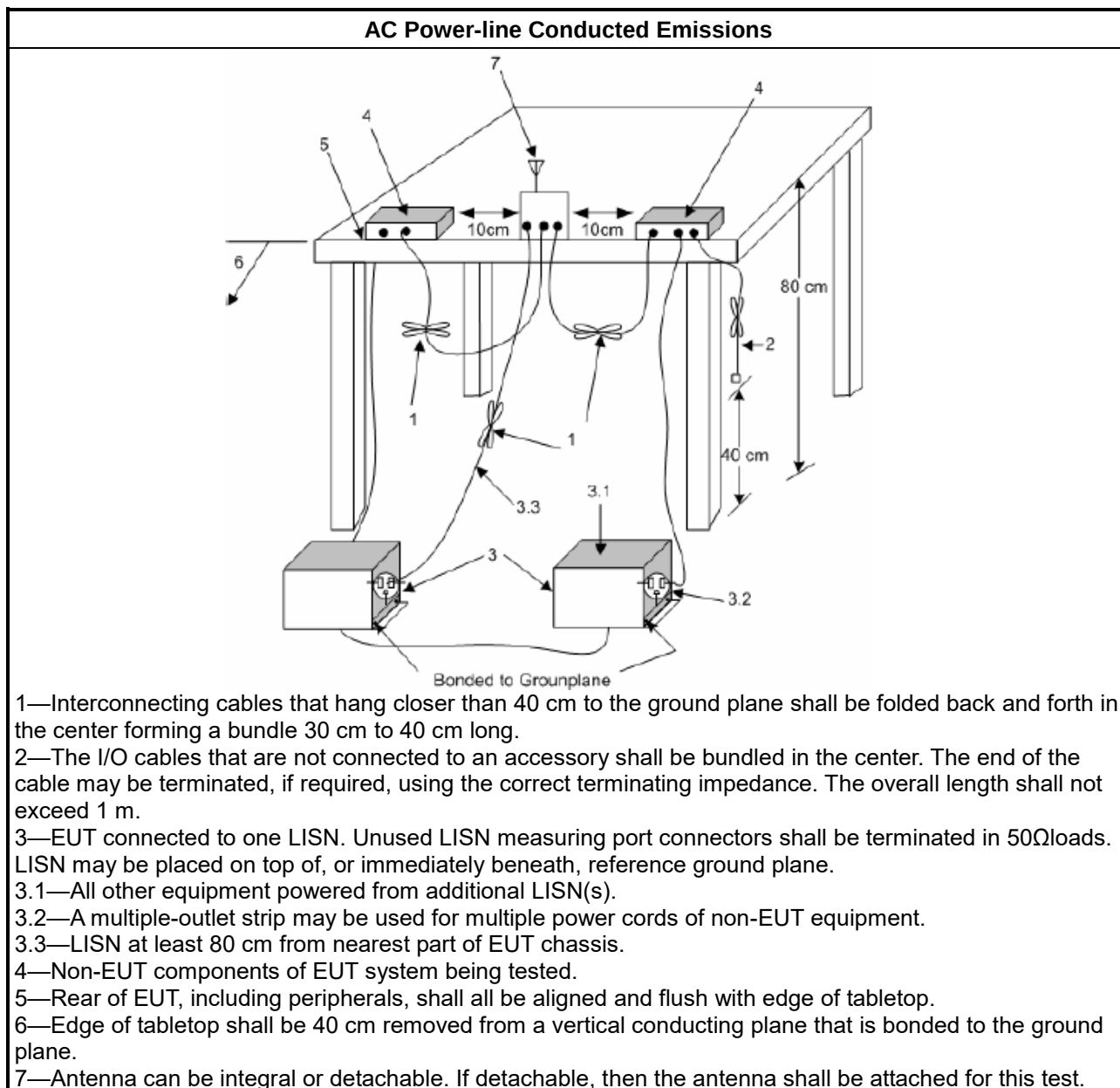
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup



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.

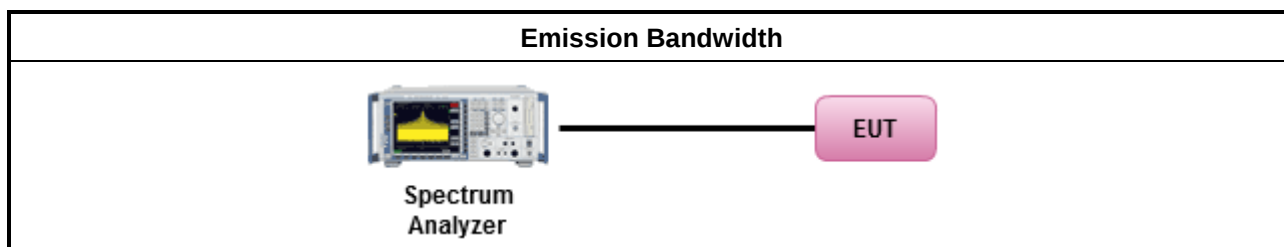
3.2.2 Measuring Instruments

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 KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
☐	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

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

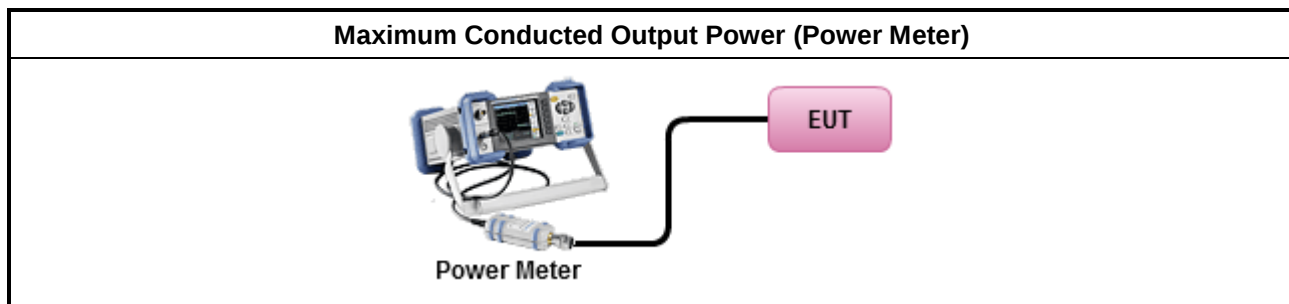
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
☐	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
☐	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
Maximum Average Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
☒	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

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

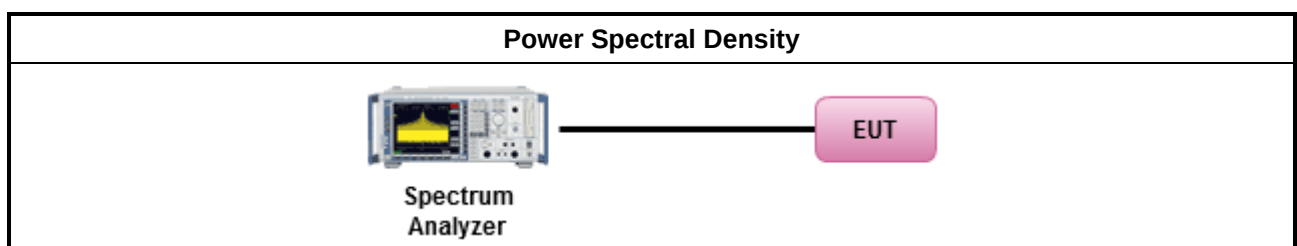
3.4.2 Measuring Instruments

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 KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
▪	Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

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 (dB)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak 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 level.	

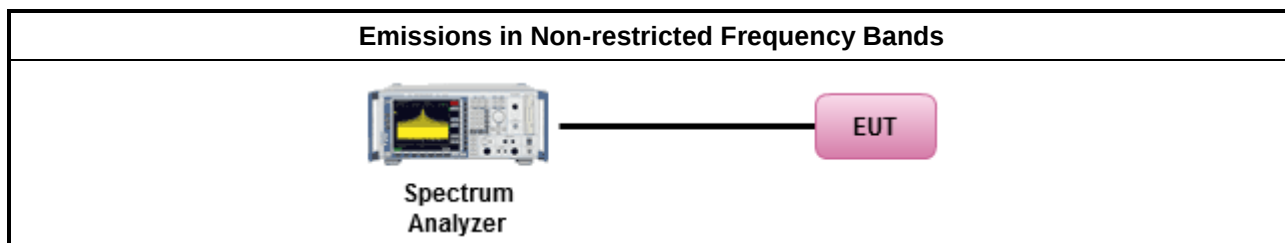
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency 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

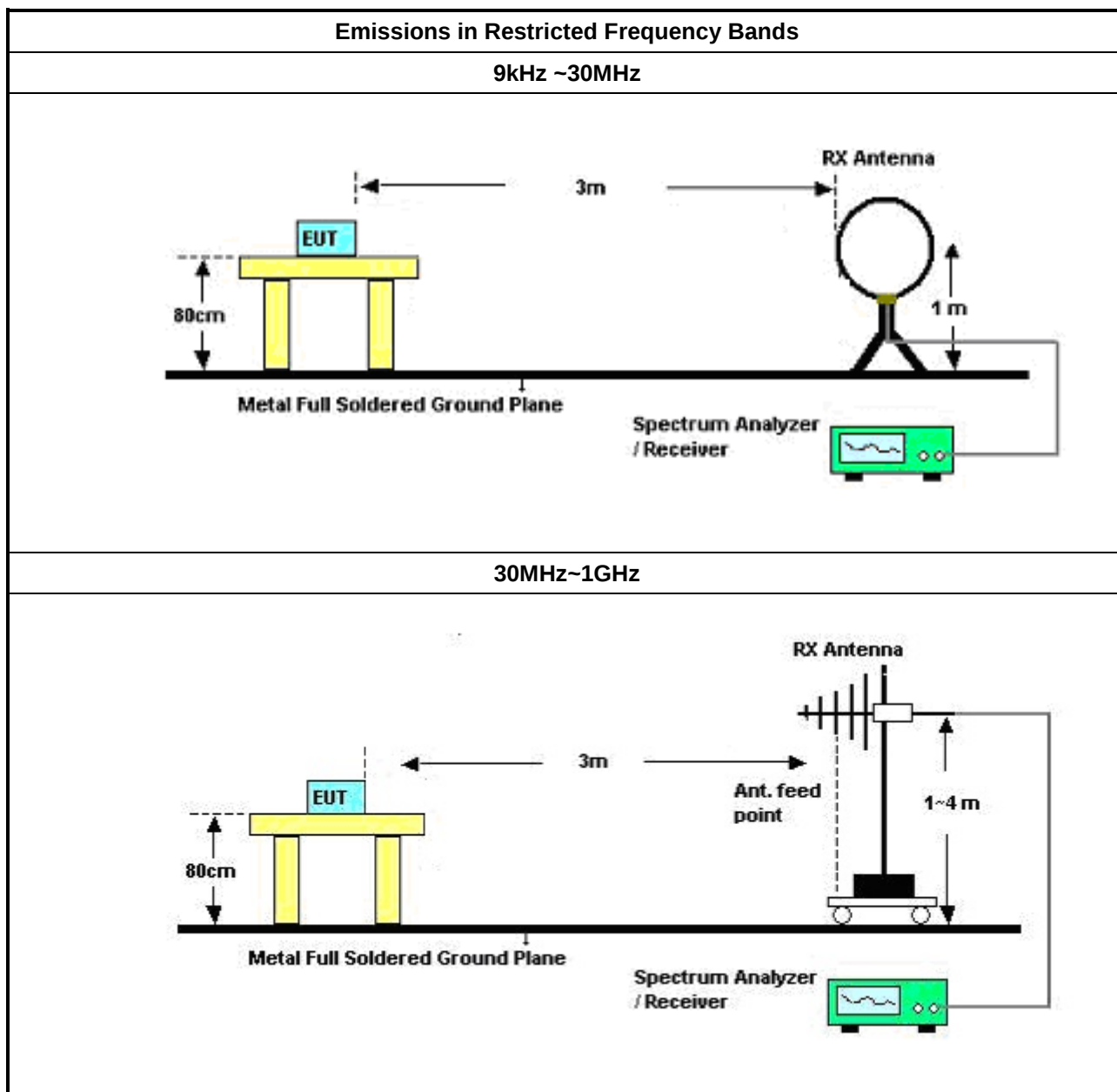
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
For the transmitter band-edge emissions shall be measured using following options below:	
	Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
Use the following spectrum analyzer settings:	
	Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.
KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.	
	Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

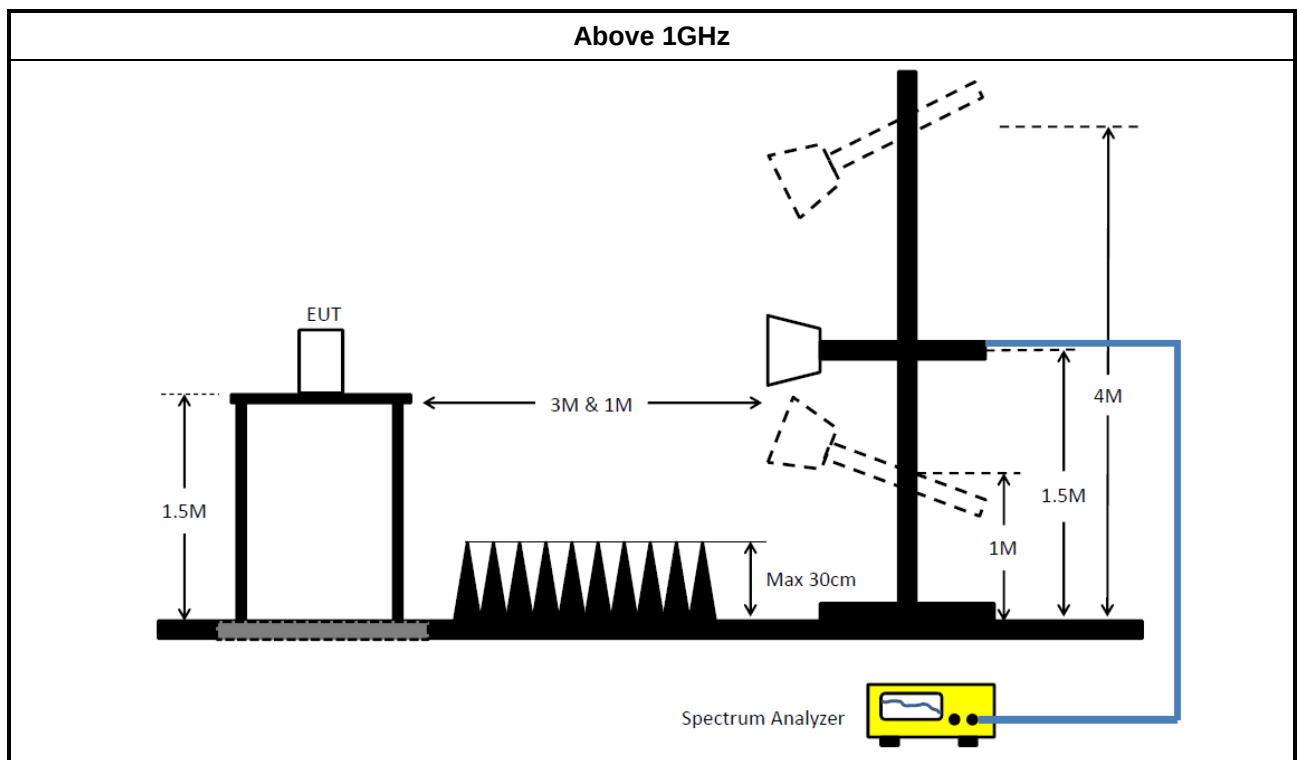
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.6.5 Test Setup





3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	07/Sep/2023	06/Sep/2024
RF Cable 5m	TITAN	RG142	CO04-cable-01	9 kHz~200MHz	28/Feb/2023	27/Feb/2024
Pulse Limiter	R&S	EHS3-Z2	100920	9kHz ~ 30MHz	19/Oct/2023	18/Oct/2024
SENSE-EMI	Sporton	V5.11.3	N/A	N/A	N/A	N/A

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	14/Feb/2023	13/Feb/2024
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2022	20/Oct/2023
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	14/Dec/2022	13/Dec/2023
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	14/Dec/2022	13/Dec/2023
SENSE-15247_DTS	Sporton	V5.11.10	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH26-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	30MHz~1GHz 3m	08/Aug/2023	07/Aug/2024
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	1GHz~18GHz 3m	08/Aug/2023	07/Aug/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101411	10Hz~44GHz	27/Oct/2022	26/Oct/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02877	1GHz~18GHz	12/Jul/2023	11/Jul/2024
Bilog Antenna & 6dB Attenuator	TESEQ & VGT	CBL 6111D & VFA 04002-06	63540/002	30MHz~1GHz	06/Jun/2023	05/Jun/2024
Preamplifier	SGH	PRAMP 903	20230515-2	30MHz~1GHz	25/May/2023	24/May/2024
Amplifier	EM	EM01G18G	060870	1GHz ~18GHz	10/Aug/2023	09/Aug/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	1GHz~40GHz	24/Apr/2023	23/Apr/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	30MHz~1GHz	18/Oct/2023	17/Oct/2024
Microwave Preamplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	16/Mar/2023	15/Mar/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	29/Dec/2022	28/Dec/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
SENSE-15247_DTS	Sporton	V5.11.10	N/A	N/A	N/A	N/A

**Instrument for Radiated Test (03CH02-HY)**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	28/Jul/2023	27/Jul/2024
Signal Analyzer	R&S	FSP 40	100305	9kHz~40GHz	25/Mar/2023	24/Mar/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz~18GHz	23/Sep/2023	22/Sep/2024
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	03CH02-cable-01	1GHz~40GHz	10/Feb/2023	09/Feb/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz~40GHz	01/Jun/2023	31/May/2024
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	24/Oct/2023	23/Oct/2024
Microwave Preamplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	16/Mar/2023	15/Mar/2024
SENSE-EMI	Sporton	V5.11.5	NA	NA	NA	NA



Conducted Emissions at Powerline

Appendix A

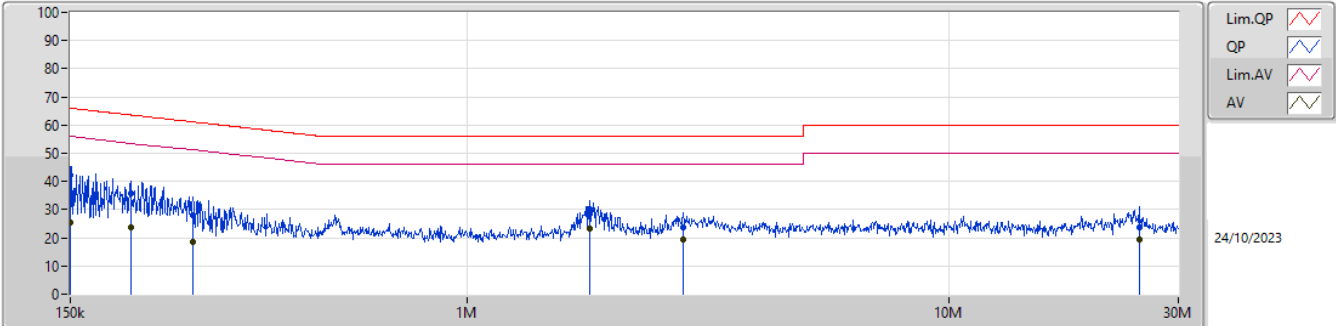
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	1.797M	23.45	46.00	-22.55	Line

Result

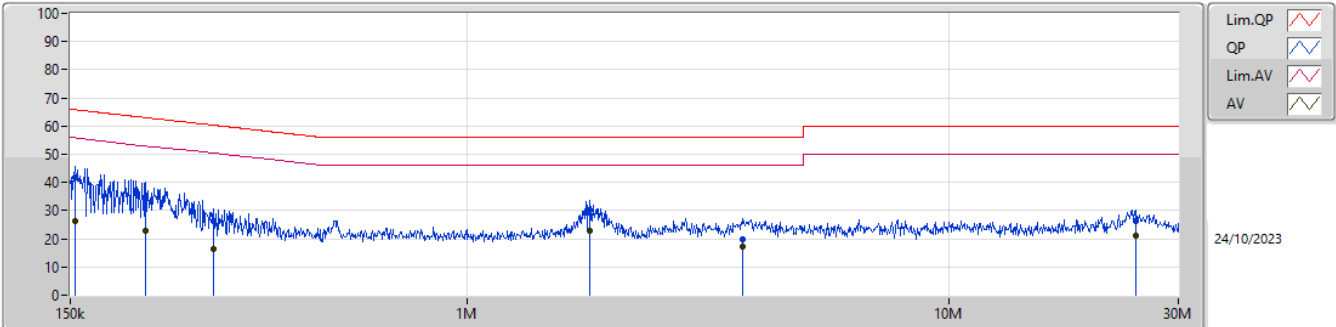
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	150k	42.07	66.00	-23.93	Line
Mode 1	Pass	AV	150k	25.55	56.00	-30.45	Line
Mode 1	Pass	QP	199.949k	35.85	63.61	-27.76	Line
Mode 1	Pass	AV	199.949k	23.69	53.61	-29.92	Line
Mode 1	Pass	QP	269.741k	27.90	61.12	-33.22	Line
Mode 1	Pass	AV	269.741k	18.50	51.12	-32.62	Line
Mode 1	Pass	QP	1.797M	30.37	56.00	-25.63	Line
Mode 1	Pass	AV	1.797M	23.45	46.00	-22.55	Line
Mode 1	Pass	QP	2.81M	23.59	56.00	-32.41	Line
Mode 1	Pass	AV	2.81M	19.37	46.00	-26.63	Line
Mode 1	Pass	QP	24.845M	23.56	60.00	-36.44	Line
Mode 1	Pass	AV	24.845M	19.51	50.00	-30.49	Line
Mode 1	Pass	QP	153.636k	41.94	65.81	-23.87	Neutral
Mode 1	Pass	AV	153.636k	26.24	55.81	-29.57	Neutral
Mode 1	Pass	QP	214.845k	35.08	63.02	-27.94	Neutral
Mode 1	Pass	AV	214.845k	22.93	53.02	-30.09	Neutral
Mode 1	Pass	QP	298.051k	26.10	60.30	-34.20	Neutral
Mode 1	Pass	AV	298.051k	16.56	50.30	-33.74	Neutral
Mode 1	Pass	QP	1.797M	29.99	56.00	-26.01	Neutral
Mode 1	Pass	AV	1.797M	22.66	46.00	-23.34	Neutral
Mode 1	Pass	QP	3.745M	19.74	56.00	-36.26	Neutral
Mode 1	Pass	AV	3.745M	17.23	46.00	-28.77	Neutral
Mode 1	Pass	QP	24.549M	26.17	60.00	-33.83	Neutral
Mode 1	Pass	AV	24.549M	21.18	50.00	-28.82	Neutral

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)								
QP	150k	42.07	66.00	-23.93	19.39	Line	-	22.68	9.57	0.03	9.79								
AV	150k	25.55	56.00	-30.45	19.39	Line	-	6.16	9.57	0.03	9.79								
QP	199.949k	35.85	63.61	-27.76	19.33	Line	-	16.52	9.56	0.03	9.74								
AV	199.949k	23.69	53.61	-29.92	19.33	Line	-	4.36	9.56	0.03	9.74								
QP	269.741k	27.90	61.12	-33.22	19.33	Line	-	8.57	9.56	0.03	9.74								
AV	269.741k	18.50	51.12	-32.62	19.33	Line	-	-0.83	9.56	0.03	9.74								
QP	1.797M	30.37	56.00	-25.63	19.46	Line	-	10.91	9.58	0.08	9.80								
AV	1.797M	23.45	46.00	-22.55	19.46	Line	-	3.99	9.58	0.08	9.80								
QP	2.81M	23.59	56.00	-32.41	19.52	Line	-	4.07	9.59	0.10	9.83								
AV	2.81M	19.37	46.00	-26.63	19.52	Line	-	-0.15	9.59	0.10	9.83								
QP	24.845M	23.56	60.00	-36.44	20.03	Line	-	3.53	9.74	0.31	9.98								
AV	24.845M	19.51	50.00	-30.49	20.03	Line	-	-0.52	9.74	0.31	9.98								

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)								
QP	153.636k	41.94	65.81	-23.87	19.43	Neutral	-	22.51	9.62	0.03	9.78								
AV	153.636k	26.24	55.81	-29.57	19.43	Neutral	-	6.81	9.62	0.03	9.78								
QP	214.845k	35.08	63.02	-27.94	19.39	Neutral	-	15.69	9.62	0.03	9.74								
AV	214.845k	22.93	53.02	-30.09	19.39	Neutral	-	3.54	9.62	0.03	9.74								
QP	298.051k	26.10	60.30	-34.20	19.39	Neutral	-	6.71	9.62	0.04	9.73								
AV	298.051k	16.56	50.30	-33.74	19.39	Neutral	-	-2.83	9.62	0.04	9.73								
QP	1.797M	29.99	56.00	-26.01	19.52	Neutral	-	10.47	9.64	0.08	9.80								
AV	1.797M	22.66	46.00	-23.34	19.52	Neutral	-	3.14	9.64	0.08	9.80								
QP	3.745M	19.74	56.00	-36.26	19.64	Neutral	-	0.10	9.66	0.13	9.85								
AV	3.745M	17.23	46.00	-28.77	19.64	Neutral	-	-2.41	9.66	0.13	9.85								
QP	24.549M	26.17	60.00	-33.83	20.32	Neutral	-	5.85	10.03	0.31	9.98								
AV	24.549M	21.18	50.00	-28.82	20.32	Neutral	-	0.86	10.03	0.31	9.98								

**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Zigbee	1.419M	2.274M	2M27G1D	1.394M	2.236M

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)
Zigbee	-	-	-	-
2405MHz	Pass	500k	1.419M	2.236M
2440MHz	Pass	500k	1.406M	2.274M
2475MHz	Pass	500k	1.394M	2.255M

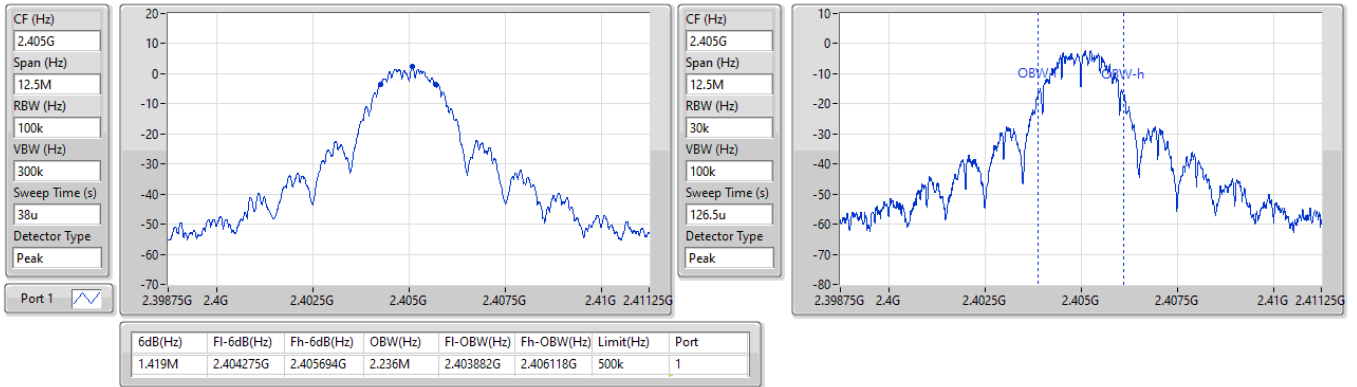
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_Zigbee

EBW

2405MHz

28/09/2023

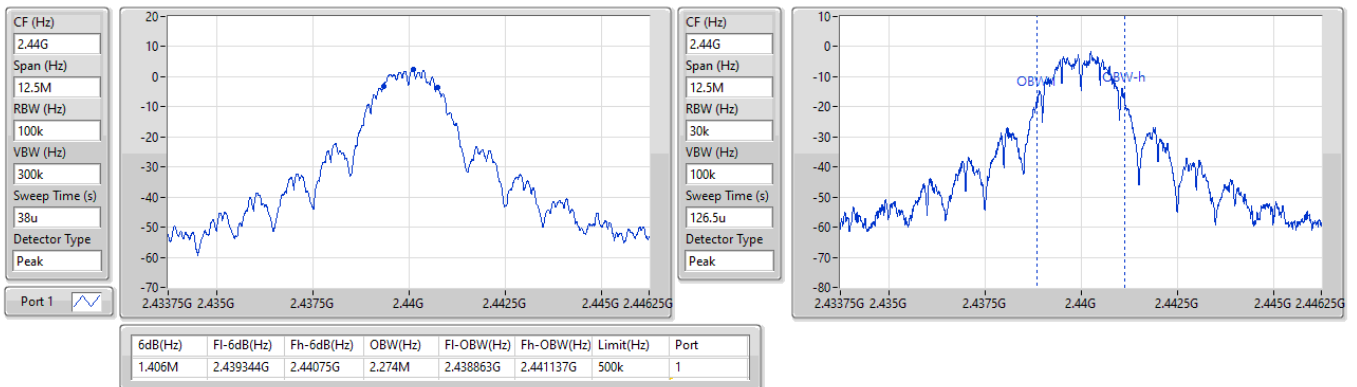


2.4-2.4835GHz_Zigbee

EBW

2440MHz

28/09/2023

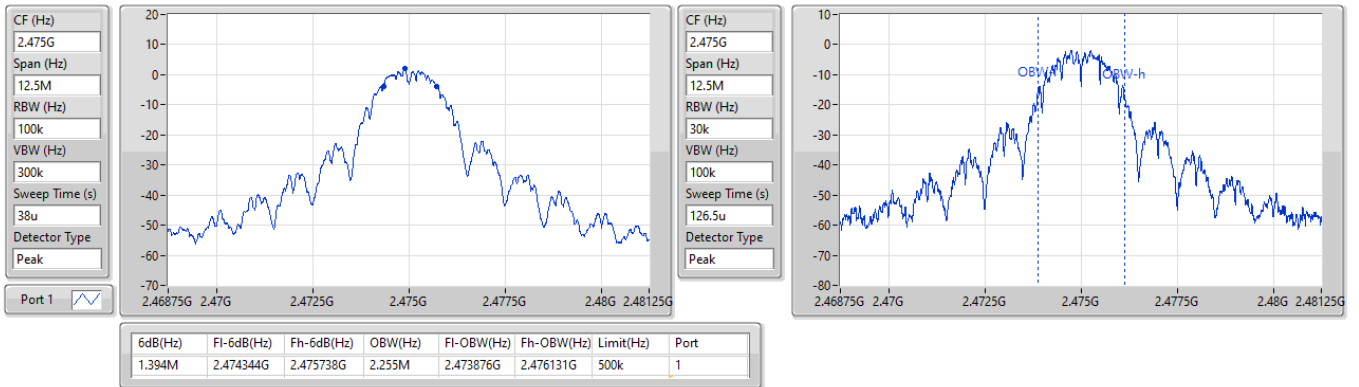


2.4-2.4835GHz_Zigbee

EBW

2475MHz

28/09/2023





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Zigbee	7.03	0.00505



Average Power

Appendix C

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Zigbee	-	-	-	-	-
2405MHz	Pass	1.22	7.01	7.01	30.00
2440MHz	Pass	1.22	7.03	7.03	30.00
2475MHz	Pass	1.22	6.97	6.97	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Zigbee	-8.96

RBW = 3kHz;



Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Zigbee	-	-	-	-	-
2405MHz	Pass	1.22	-8.96	-8.96	8.00
2440MHz	Pass	1.22	-9.17	-9.17	8.00
2475MHz	Pass	1.22	-9.49	-9.49	8.00

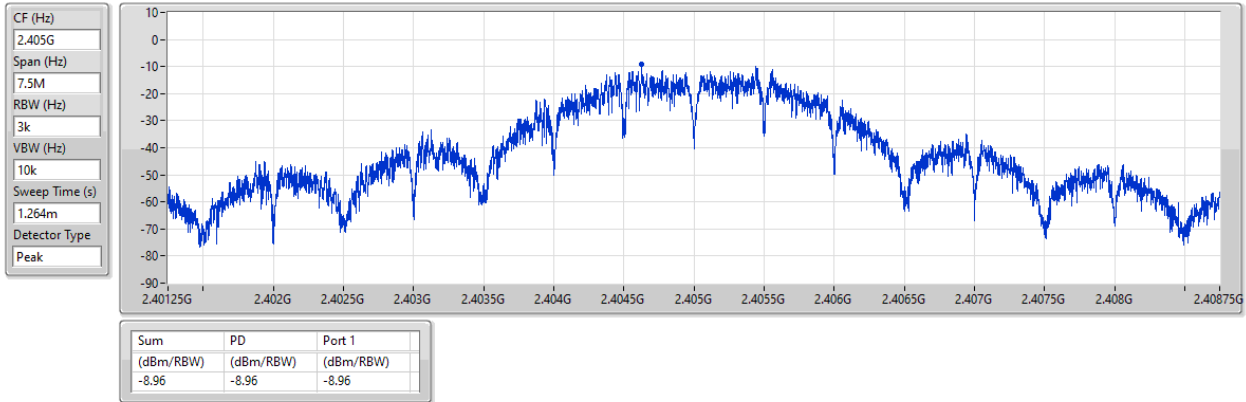
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

2.4-2.4835GHz_Zigbee

PSD

2405MHz

28/09/2023

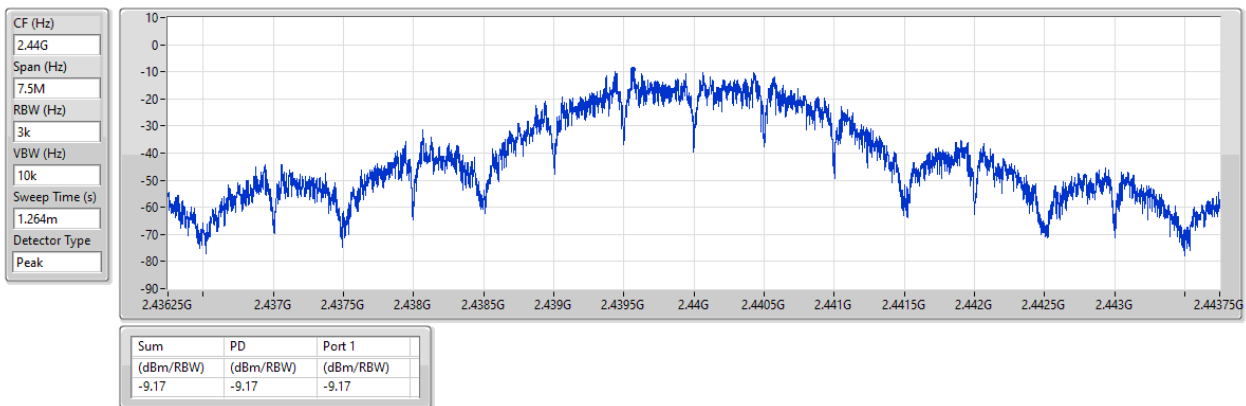


2.4-2.4835GHz_Zigbee

PSD

2440MHz

28/09/2023

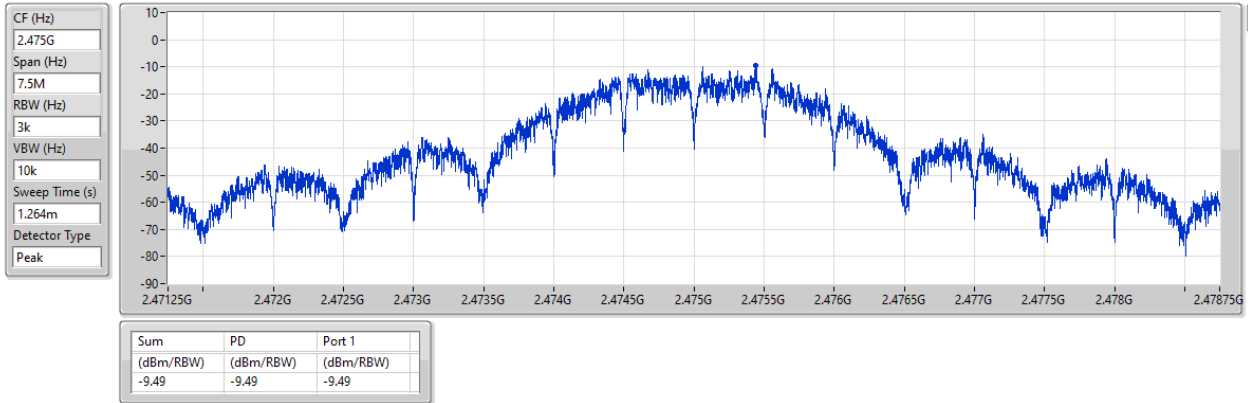


2.4-2.4835GHz_Zigbee

PSD

2475MHz

28/09/2023





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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	2.44025G	4.03	-25.97	2.1074G	-54.50	2.39996G	-45.15	2.4G	-45.18	2.5003G	-52.97	16.74097G	-42.73	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
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.44025G	4.03	-25.97	2.1074G	-54.50	2.39996G	-45.15	2.4G	-45.18	2.5003G	-52.97	16.74097G	-42.73	1
2440MHz	Pass	2.44025G	4.03	-25.97	1.8912G	-54.10	2.39028G	-52.72	2.4G	-55.85	2.50066G	-53.08	16.89282G	-41.67	1
2475MHz	Pass	2.44025G	4.03	-25.97	1.8254G	-54.69	2.39868G	-53.61	2.4G	-55.24	2.50214G	-53.25	16.57787G	-42.17	1

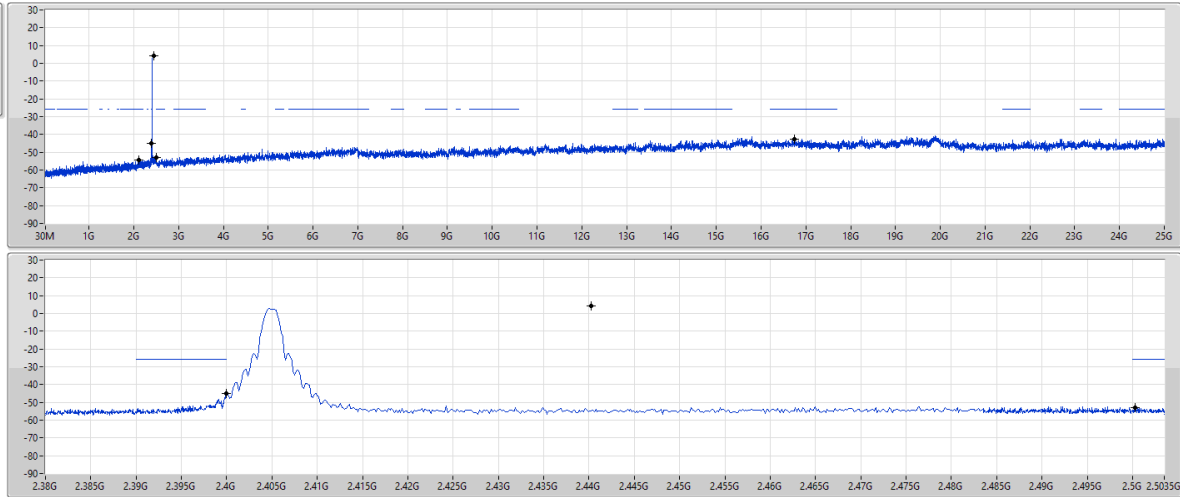
2.4-2.4835GHz Zigbee

CSEndB

2405MHz

03/10/2023

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



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
2.44025G	4.03	-25.97	2.1074G	-54.50	2.39996G	-45.15	2.4G	-45.18	2.5003G	-52.97	16.74097G	-42.73	1

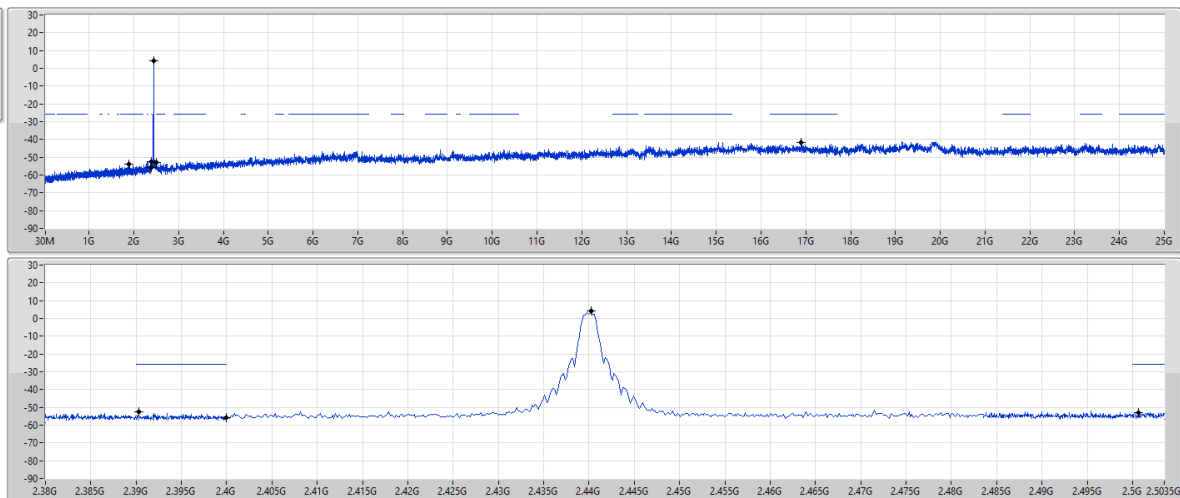
2.4-2.4835GHz Zigbee

CSEndB

2440MHz

03/10/2023

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



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
2.44025G	4.03	-25.97	1.8912G	-54.10	2.39028G	-52.72	2.4G	-55.85	2.50066G	-53.08	16.89282G	-41.67	1

2.4-2.4835GHz_Zigbee

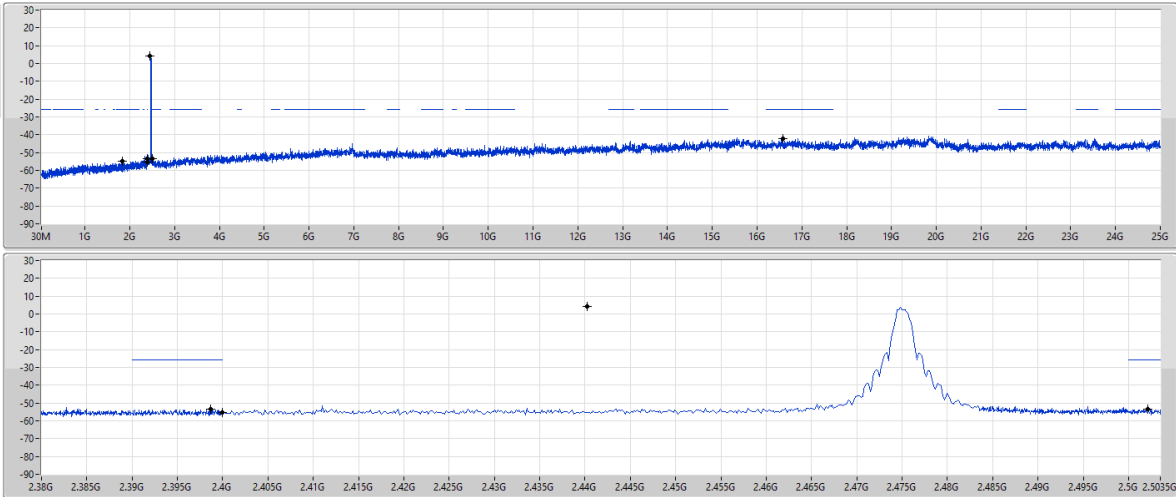
CSEndB

2475MHz

03/10/2023

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)	Freq(Hz)	Level(dBm)	Port
2.44025G	4.03	-25.97	1.8254G	-54.69	2.39868G	-53.61	2.4G	-55.24	2.50214G	-53.25	16.57787G	-42.17	1



Summary

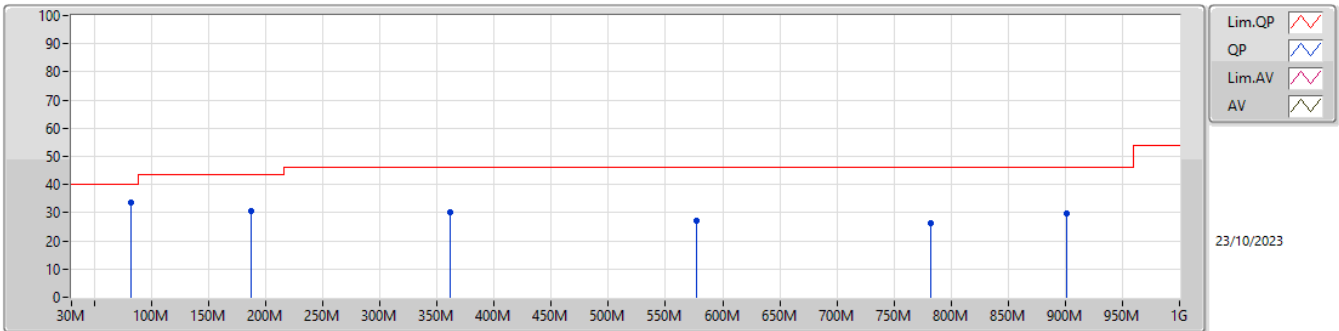
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	PK	82.38M	33.53	40.00	-6.47	3	Vertical	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Zigbee	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	PK	82.38M	33.53	40.00	-6.47	3	Vertical	0	1.00
2405MHz	Pass	PK	187.14M	30.44	43.50	-13.06	3	Vertical	0	1.00
2405MHz	Pass	PK	361.74M	29.99	46.00	-16.01	3	Vertical	0	1.00
2405MHz	Pass	PK	577.08M	27.28	46.00	-18.72	3	Vertical	0	1.00
2405MHz	Pass	PK	782.72M	26.28	46.00	-19.72	3	Vertical	0	1.00
2405MHz	Pass	PK	901.06M	29.61	46.00	-16.39	3	Vertical	0	1.00
2405MHz	Pass	PK	95.96M	26.61	43.50	-16.89	3	Horizontal	360	1.00
2405MHz	Pass	PK	138.64M	25.64	43.50	-17.86	3	Horizontal	360	1.00
2405MHz	Pass	PK	214.3M	25.54	43.50	-17.96	3	Horizontal	360	1.00
2405MHz	Pass	PK	361.74M	32.72	46.00	-13.28	3	Horizontal	360	1.00
2405MHz	Pass	PK	577.08M	27.75	46.00	-18.25	3	Horizontal	360	1.00
2405MHz	Pass	PK	959.26M	29.47	46.00	-16.53	3	Horizontal	360	1.00

2.4-2.4835GHz_Zigbee

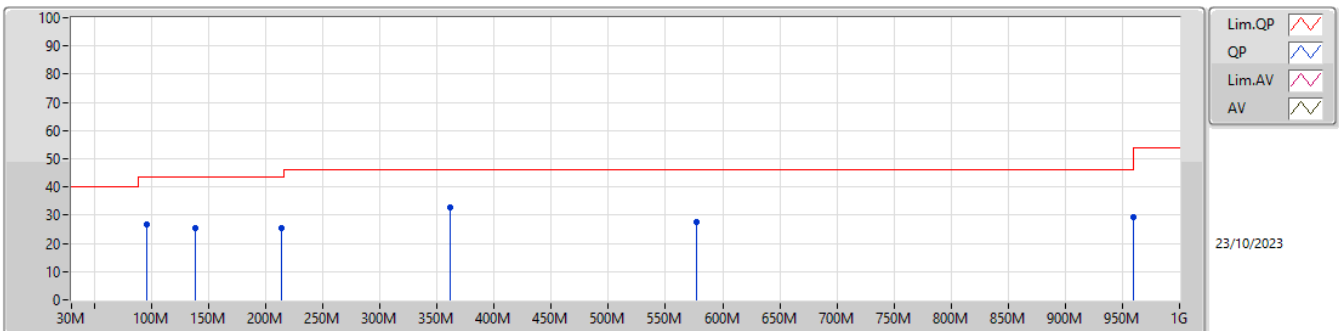
2405MHz_PoE



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	82.38M	33.53	40.00	-6.47	-29.30	3	Vertical	0	1.00	62.83	14.14	0.88	44.32
PK	187.14M	30.44	43.50	-13.06	-27.89	3	Vertical	0	1.00	58.33	14.99	1.30	44.18
PK	361.74M	29.99	46.00	-16.01	-21.33	3	Vertical	0	1.00	51.32	20.83	1.76	43.92
PK	577.08M	27.28	46.00	-18.72	-15.36	3	Vertical	0	1.00	42.64	26.06	2.21	43.63
PK	782.72M	26.28	46.00	-19.72	-12.29	3	Vertical	0	1.00	38.57	28.50	2.57	43.36
PK	901.06M	29.61	46.00	-16.39	-11.11	3	Vertical	0	1.00	40.72	29.50	2.67	43.28

2.4-2.4835GHz_Zigbee

2405MHz_PoE



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	95.96M	26.61	43.50	-16.89	-27.51	3	Horizontal	360	1.00	54.12	15.88	0.93	44.32
PK	138.64M	25.64	43.50	-17.86	-25.48	3	Horizontal	360	1.00	51.12	17.66	1.12	44.26
PK	214.3M	25.54	43.50	-17.96	-27.68	3	Horizontal	360	1.00	53.22	15.07	1.39	44.14
PK	361.74M	32.72	46.00	-13.28	-21.33	3	Horizontal	360	1.00	54.05	20.83	1.76	43.92
PK	577.08M	27.75	46.00	-18.25	-15.36	3	Horizontal	360	1.00	43.11	26.06	2.21	43.63
PK	959.26M	29.47	46.00	-16.53	-8.92	3	Horizontal	360	1.00	38.39	31.50	2.86	43.28



Summary

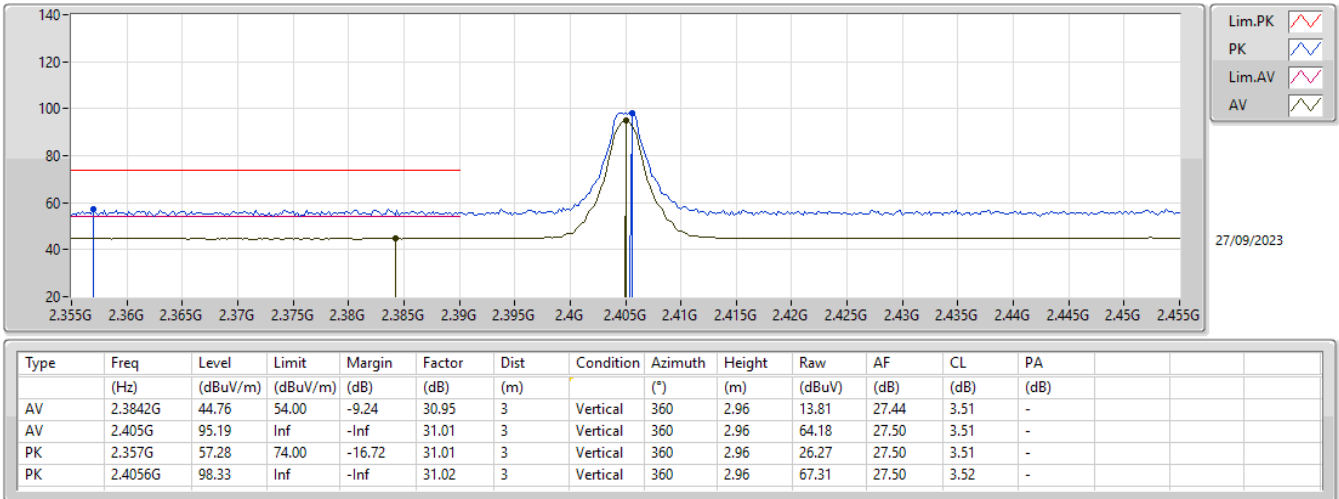
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	AV	2.4836G	45.87	54.00	-8.13	3	Horizontal	305	1.50

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Zigbee	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.3842G	44.76	54.00	-9.24	3	Vertical	360	2.96
2405MHz	Pass	AV	2.405G	95.19	Inf	-Inf	3	Vertical	360	2.96
2405MHz	Pass	PK	2.357G	57.28	74.00	-16.72	3	Vertical	360	2.96
2405MHz	Pass	PK	2.4056G	98.33	Inf	-Inf	3	Vertical	360	2.96
2405MHz	Pass	AV	2.3896G	44.87	54.00	-9.13	3	Horizontal	308	2.14
2405MHz	Pass	AV	2.405G	101.14	Inf	-Inf	3	Horizontal	308	2.14
2405MHz	Pass	PK	2.3854G	57.39	74.00	-16.61	3	Horizontal	308	2.14
2405MHz	Pass	PK	2.4056G	104.20	Inf	-Inf	3	Horizontal	308	2.14
2405MHz	Pass	AV	4.809G	29.90	54.00	-24.10	3	Vertical	310	2.94
2405MHz	Pass	PK	4.80944G	41.82	74.00	-32.18	3	Vertical	310	2.94
2405MHz	Pass	AV	4.80908G	30.70	54.00	-23.30	3	Horizontal	24	2.46
2405MHz	Pass	PK	4.8111G	42.40	74.00	-31.60	3	Horizontal	24	2.46
2440MHz	Pass	AV	2.3884G	44.85	54.00	-9.15	3	Vertical	349	2.92
2440MHz	Pass	AV	2.44G	96.39	Inf	-Inf	3	Vertical	349	2.92
2440MHz	Pass	AV	2.4864G	45.44	54.00	-8.56	3	Vertical	349	2.92
2440MHz	Pass	PK	2.34G	56.36	74.00	-17.64	3	Vertical	349	2.92
2440MHz	Pass	PK	2.4404G	99.54	Inf	-Inf	3	Vertical	349	2.92
2440MHz	Pass	PK	2.4944G	57.22	74.00	-16.78	3	Vertical	349	2.92
2440MHz	Pass	AV	2.3896G	44.78	54.00	-9.22	3	Horizontal	305	2.09
2440MHz	Pass	AV	2.44G	100.78	Inf	-Inf	3	Horizontal	305	2.09
2440MHz	Pass	AV	2.4988G	45.45	54.00	-8.55	3	Horizontal	305	2.09
2440MHz	Pass	PK	2.3432G	57.32	74.00	-16.68	3	Horizontal	305	2.09
2440MHz	Pass	PK	2.4396G	103.87	Inf	-Inf	3	Horizontal	305	2.09
2440MHz	Pass	PK	2.4856G	57.73	74.00	-16.27	3	Horizontal	305	2.09
2440MHz	Pass	AV	4.87904G	30.14	54.00	-23.86	3	Vertical	321	2.49
2440MHz	Pass	PK	4.87956G	42.53	74.00	-31.47	3	Vertical	321	2.49
2440MHz	Pass	AV	4.87896G	29.64	54.00	-24.36	3	Horizontal	60	1.33
2440MHz	Pass	PK	4.88048G	42.30	74.00	-31.70	3	Horizontal	60	1.33
2475MHz	Pass	AV	2.475G	94.67	Inf	-Inf	3	Vertical	349	2.89
2475MHz	Pass	AV	2.4836G	45.53	54.00	-8.47	3	Vertical	349	2.89
2475MHz	Pass	PK	2.4746G	97.80	Inf	-Inf	3	Vertical	349	2.89
2475MHz	Pass	PK	2.4934G	57.71	74.00	-16.29	3	Vertical	349	2.89
2475MHz	Pass	AV	2.475G	99.31	Inf	-Inf	3	Horizontal	305	1.50
2475MHz	Pass	AV	2.4836G	45.87	54.00	-8.13	3	Horizontal	305	1.50
2475MHz	Pass	PK	2.4756G	102.42	Inf	-Inf	3	Horizontal	305	1.50
2475MHz	Pass	PK	2.4835G	58.73	74.00	-15.27	3	Horizontal	305	1.50
2475MHz	Pass	AV	4.9544G	30.06	54.00	-23.94	3	Vertical	156	1.24
2475MHz	Pass	PK	4.9501G	43.75	74.00	-30.25	3	Vertical	156	1.24
2475MHz	Pass	AV	4.95098G	30.35	54.00	-23.65	3	Horizontal	322	1.62
2475MHz	Pass	PK	4.9508G	43.31	74.00	-30.69	3	Horizontal	322	1.62

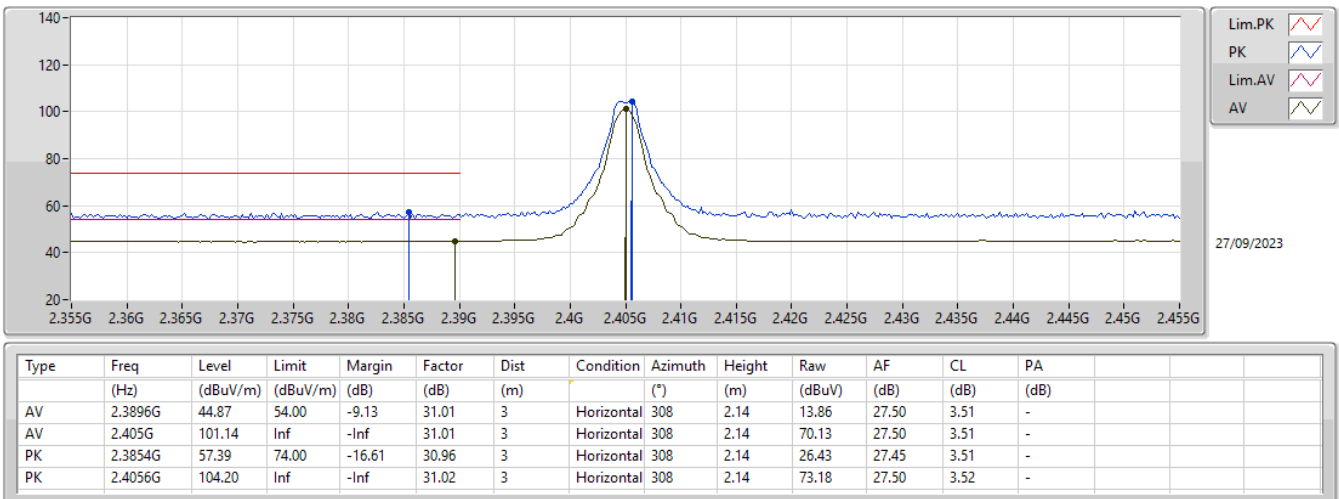
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2405MHz_TX



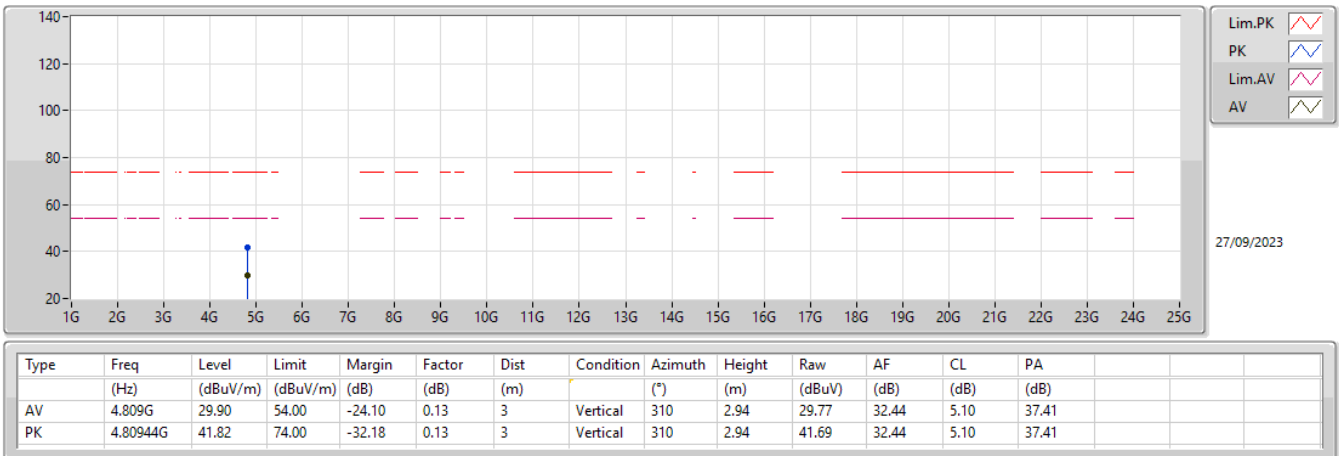
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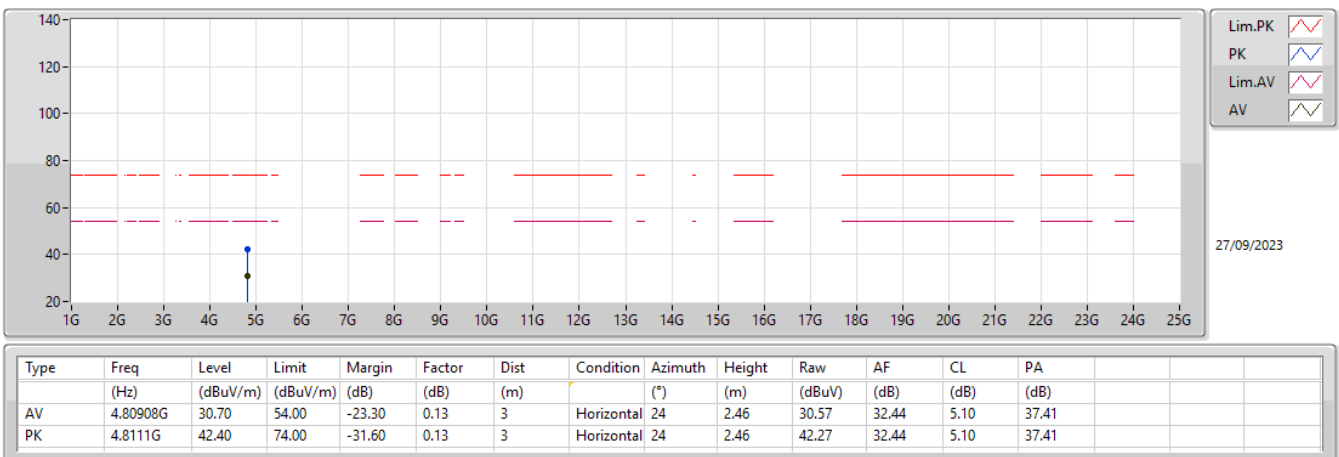
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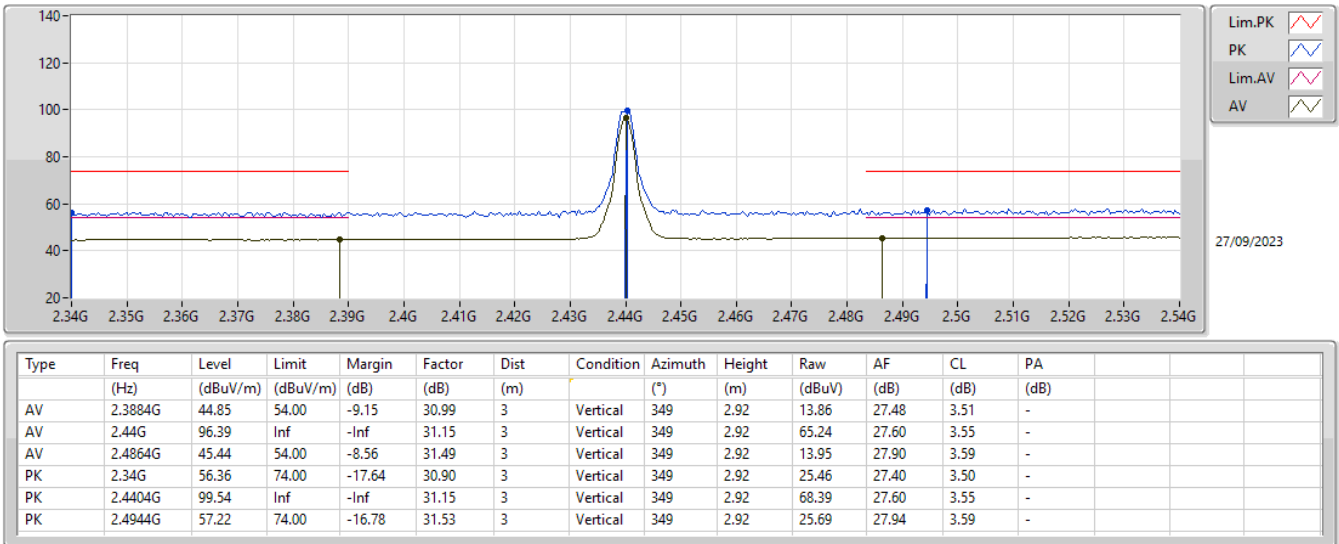
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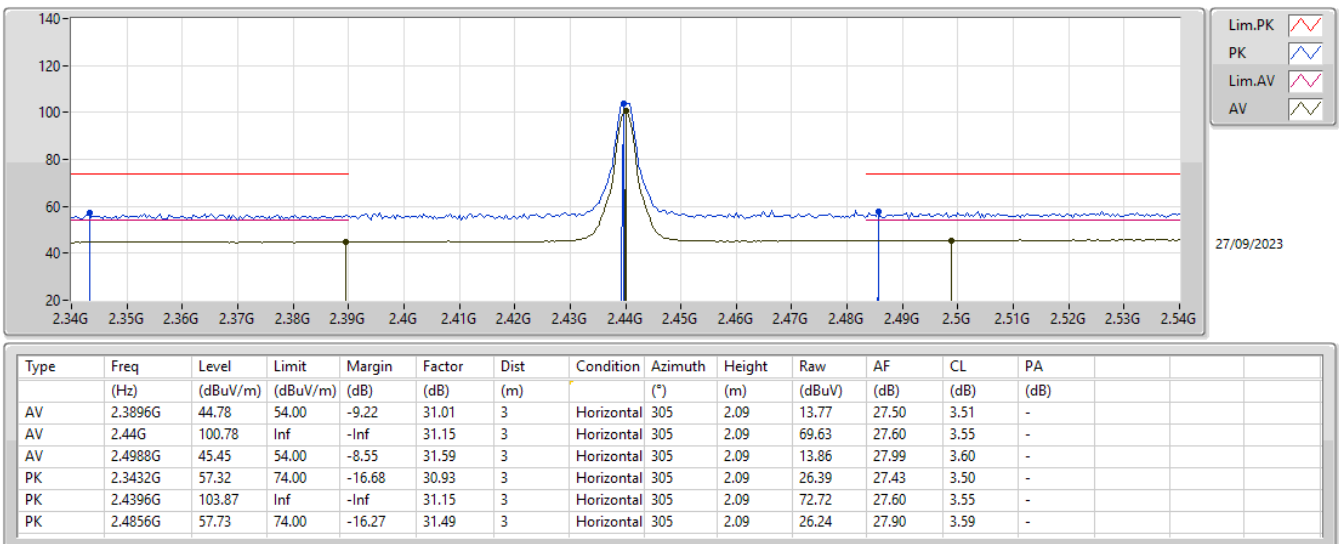
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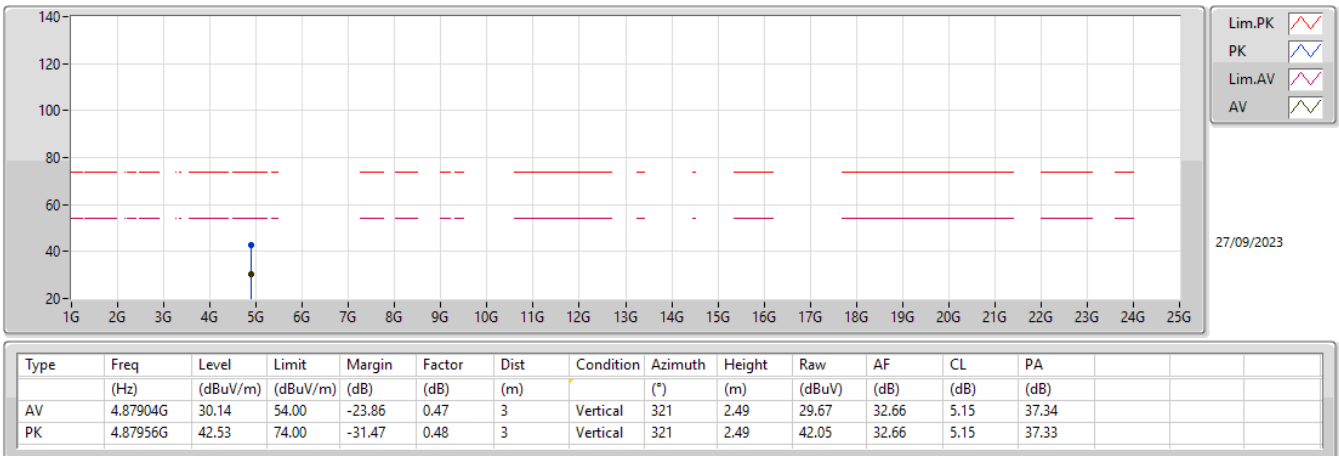
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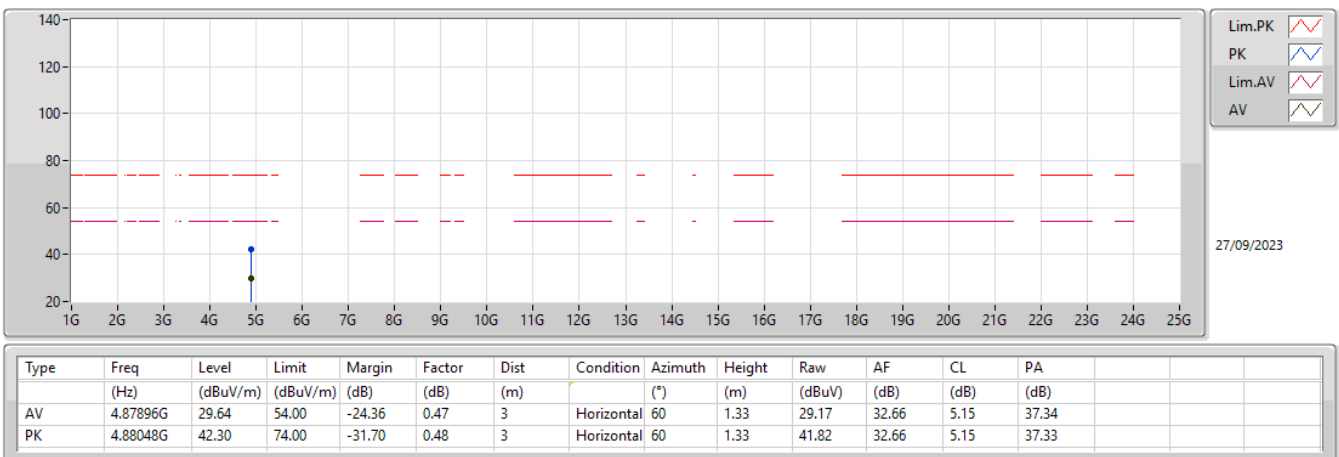
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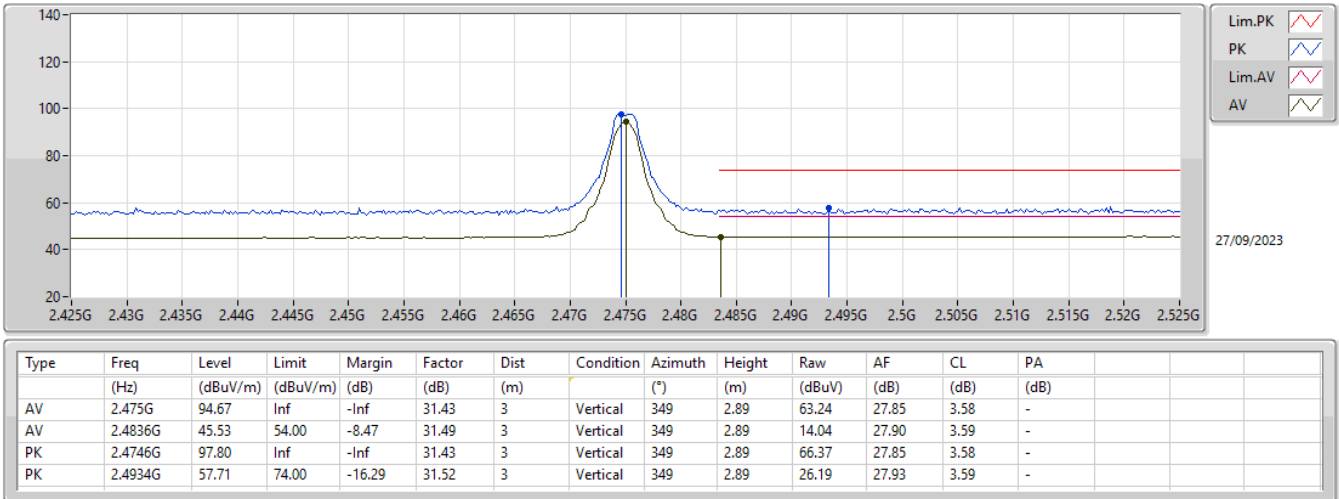
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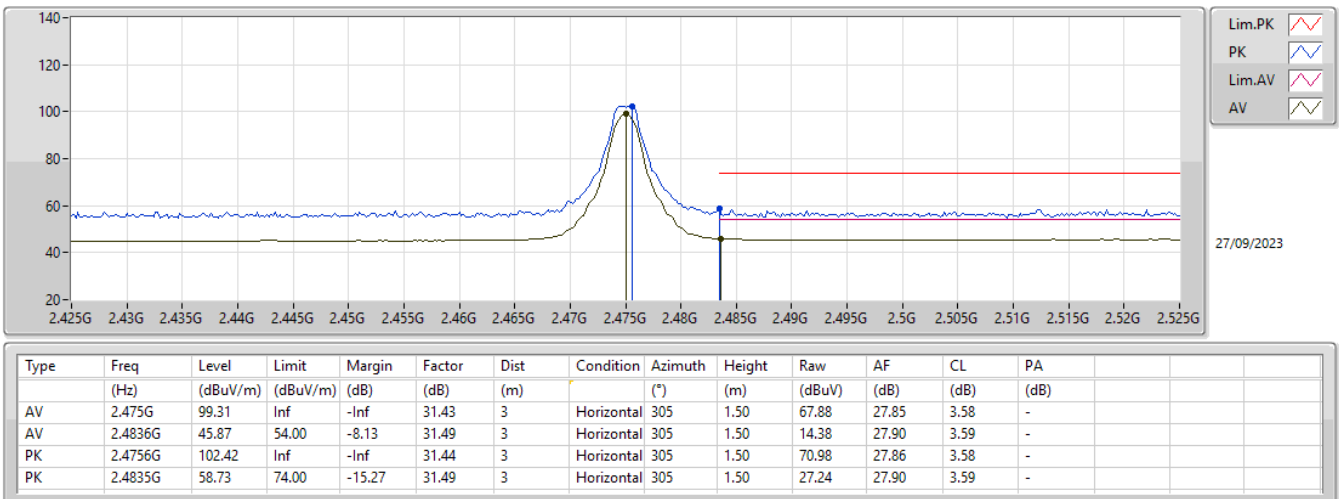
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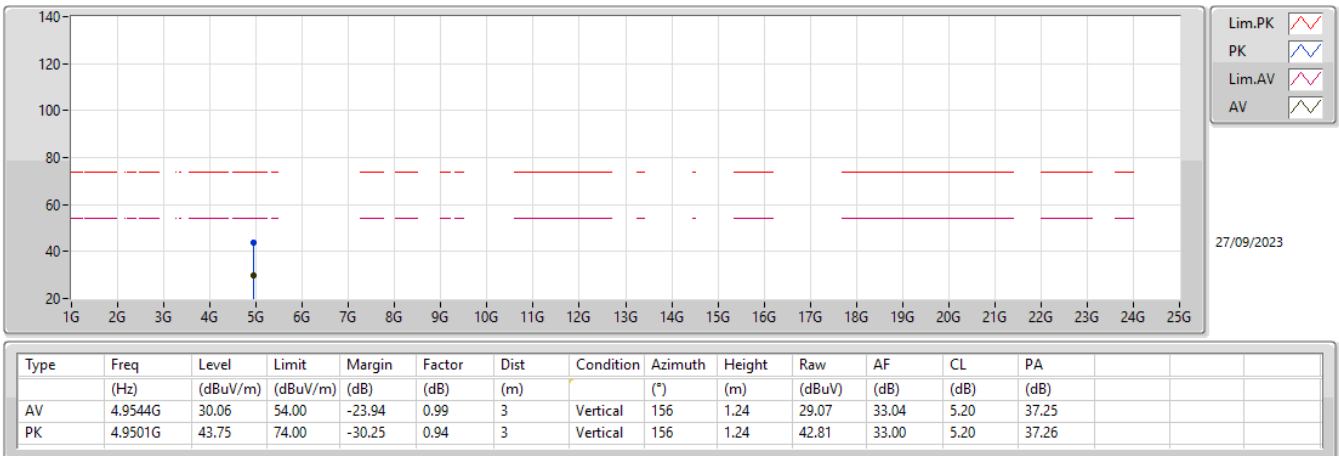
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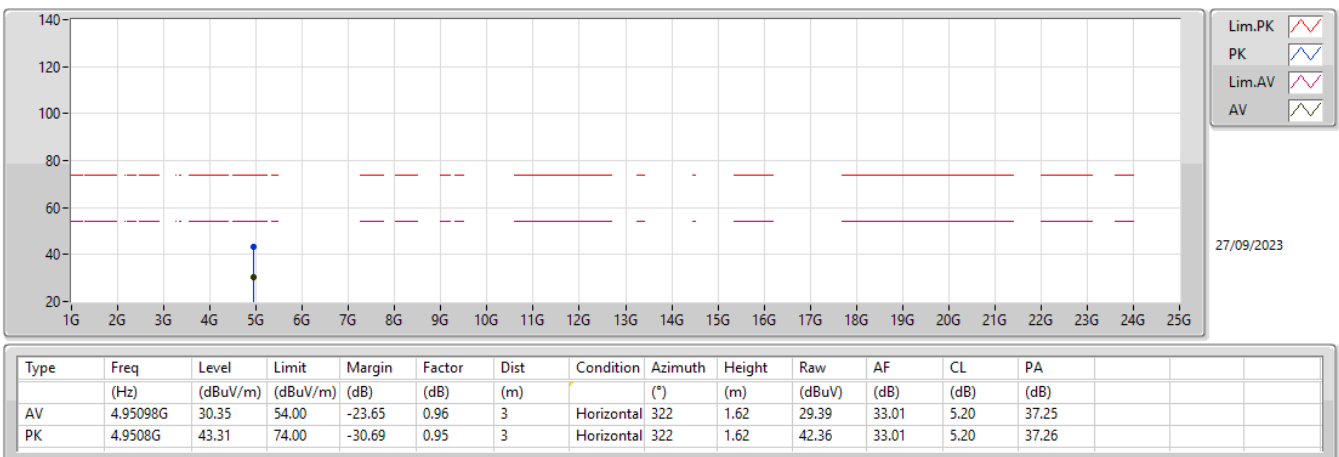
2.4-2.4835GHz_Zigbee

2475MHz_TX



2.4-2.4835GHz_Zigbee

2475MHz_TX



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	17.24059G	59.47	68.20	-8.73	Vertical
Mode 2	Pass	PK	17.475G	61.21	68.20	-6.99	Vertical
Mode 3	Pass	PK	17.2344G	60.64	68.20	-7.56	Vertical
Mode 4	Pass	PK	17.47326G	61.36	68.20	-6.84	Vertical
Mode 5	Pass	PK	17.235G	60.96	68.20	-7.24	Vertical
Mode 6	Pass	PK	17.47452G	61.20	68.20	-7.00	Horizontal

Result

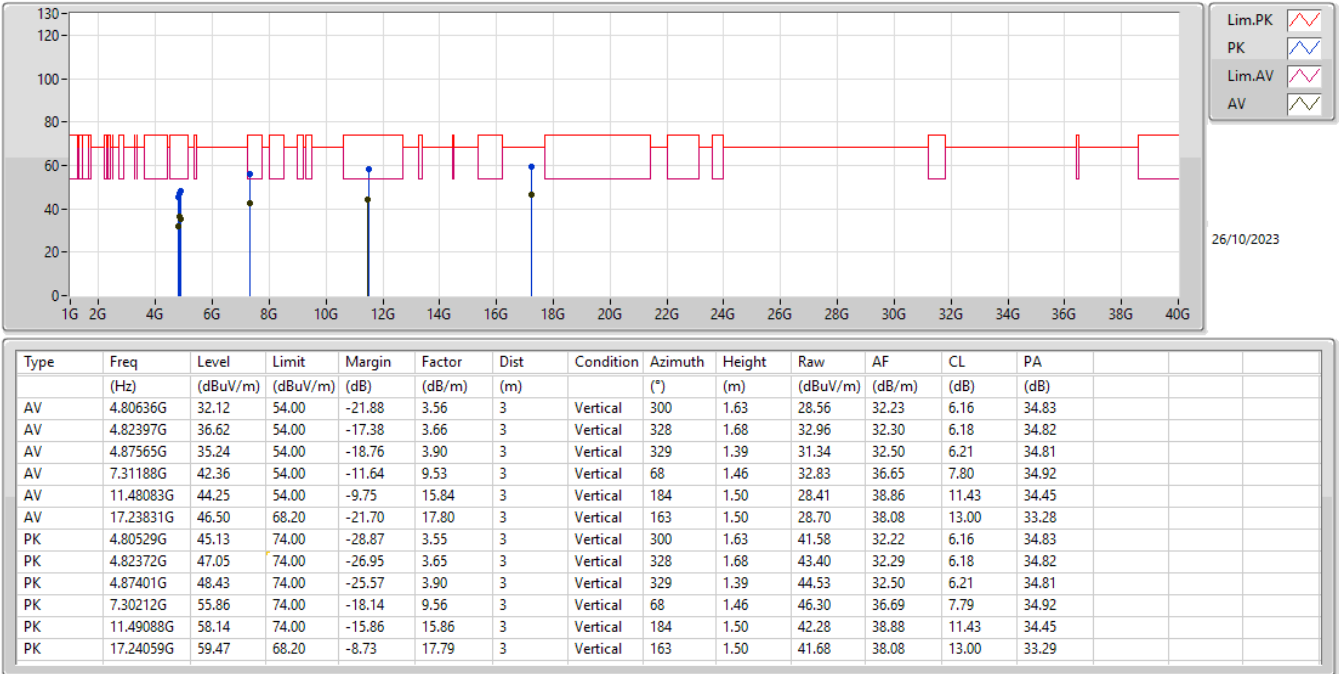
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 1	Pass	AV	4.80636G	32.12	54.00	-21.88	3	Vertical	300	1.63
Mode 1	Pass	AV	4.82397G	36.62	54.00	-17.38	3	Vertical	328	1.68
Mode 1	Pass	AV	4.87565G	35.24	54.00	-18.76	3	Vertical	329	1.39
Mode 1	Pass	AV	7.31188G	42.36	54.00	-11.64	3	Vertical	68	1.46
Mode 1	Pass	AV	11.48083G	44.25	54.00	-9.75	3	Vertical	184	1.50
Mode 1	Pass	AV	17.23831G	46.50	68.20	-21.70	3	Vertical	163	1.50
Mode 1	Pass	PK	4.80529G	45.13	74.00	-28.87	3	Vertical	300	1.63
Mode 1	Pass	PK	4.82372G	47.05	74.00	-26.95	3	Vertical	328	1.68
Mode 1	Pass	PK	4.87401G	48.43	74.00	-25.57	3	Vertical	329	1.39
Mode 1	Pass	PK	7.30212G	55.86	74.00	-18.14	3	Vertical	68	1.46
Mode 1	Pass	PK	11.49088G	58.14	74.00	-15.86	3	Vertical	184	1.50
Mode 1	Pass	PK	17.24059G	59.47	68.20	-8.73	3	Vertical	163	1.50
Mode 1	Pass	AV	4.80217G	31.95	54.00	-22.05	3	Horizontal	273	1.52
Mode 1	Pass	AV	4.824G	41.35	54.00	-12.65	3	Horizontal	305	1.74
Mode 1	Pass	AV	4.874G	36.15	54.00	-17.85	3	Horizontal	354	1.50
Mode 1	Pass	AV	7.31156G	45.24	54.00	-8.76	3	Horizontal	53	1.72
Mode 1	Pass	AV	11.48064G	44.29	54.00	-9.71	3	Horizontal	23	1.50
Mode 1	Pass	AV	17.24376G	46.42	68.20	-21.78	3	Horizontal	189	1.20
Mode 1	Pass	PK	4.80314G	44.94	74.00	-29.06	3	Horizontal	273	1.52
Mode 1	Pass	PK	4.824G	49.20	74.00	-24.80	3	Horizontal	305	1.74
Mode 1	Pass	PK	4.874G	51.72	74.00	-22.28	3	Horizontal	354	1.50
Mode 1	Pass	PK	7.30888G	59.06	74.00	-14.94	3	Horizontal	53	1.72
Mode 1	Pass	PK	11.48272G	57.26	74.00	-16.74	3	Horizontal	23	1.50
Mode 1	Pass	PK	17.2288G	59.33	68.20	-8.87	3	Horizontal	189	1.20
Mode 2	Pass	AV	4.80304G	32.89	54.00	-21.11	3	Vertical	313	1.46
Mode 2	Pass	AV	4.8826G	33.08	54.00	-20.92	3	Vertical	54	1.50
Mode 2	Pass	AV	7.30928G	43.13	54.00	-10.87	3	Vertical	53	1.96
Mode 2	Pass	AV	11.49436G	44.59	54.00	-9.41	3	Vertical	293	1.53
Mode 2	Pass	AV	11.65G	44.30	54.00	-9.70	3	Vertical	224	1.50
Mode 2	Pass	AV	17.23483G	47.11	68.20	-21.09	3	Vertical	12	1.50
Mode 2	Pass	AV	17.475G	47.88	68.20	-20.32	3	Vertical	169	1.66
Mode 2	Pass	PK	4.80602G	46.21	74.00	-27.79	3	Vertical	313	1.46
Mode 2	Pass	PK	4.86792G	46.81	74.00	-27.19	3	Vertical	54	1.50
Mode 2	Pass	PK	7.30204G	57.50	74.00	-16.50	3	Vertical	53	1.96
Mode 2	Pass	PK	11.48992G	58.69	74.00	-15.31	3	Vertical	293	1.53
Mode 2	Pass	PK	11.65G	57.66	74.00	-16.34	3	Vertical	224	1.50
Mode 2	Pass	PK	17.23513G	61.06	68.20	-7.14	3	Vertical	12	1.50
Mode 2	Pass	PK	17.475G	61.21	68.20	-6.99	3	Vertical	169	1.66
Mode 2	Pass	AV	4.80205G	32.68	54.00	-21.32	3	Horizontal	42	1.42
Mode 2	Pass	AV	4.874G	31.70	54.00	-22.30	3	Horizontal	48	1.50
Mode 2	Pass	AV	7.30888G	45.17	54.00	-8.83	3	Horizontal	51	1.64
Mode 2	Pass	AV	11.49G	44.97	54.00	-9.03	3	Horizontal	63	2.00
Mode 2	Pass	AV	11.65G	44.19	54.00	-9.81	3	Horizontal	289	1.60
Mode 2	Pass	AV	17.235G	46.43	68.20	-21.77	3	Horizontal	347	1.50
Mode 2	Pass	AV	17.475G	47.86	68.20	-20.34	3	Horizontal	312	1.70
Mode 2	Pass	PK	4.80232G	46.40	74.00	-27.60	3	Horizontal	42	1.42
Mode 2	Pass	PK	4.874G	44.84	74.00	-29.16	3	Horizontal	48	1.50
Mode 2	Pass	PK	7.302G	58.51	74.00	-15.49	3	Horizontal	51	1.64
Mode 2	Pass	PK	11.49G	58.73	74.00	-15.27	3	Horizontal	63	2.00
Mode 2	Pass	PK	11.65G	57.43	74.00	-16.57	3	Horizontal	289	1.60

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 2	Pass	PK	17.235G	59.97	68.20	-8.23	3	Horizontal	347	1.50
Mode 2	Pass	PK	17.475G	61.14	68.20	-7.06	3	Horizontal	312	1.70
Mode 3	Pass	AV	4.82392G	42.70	54.00	-11.30	3	Vertical	8	1.26
Mode 3	Pass	AV	4.8734G	38.53	54.00	-15.47	3	Vertical	360	2.68
Mode 3	Pass	AV	4.87804G	39.17	54.00	-14.83	3	Vertical	19	2.68
Mode 3	Pass	AV	7.23672G	48.68	68.20	-19.52	3	Vertical	356	1.58
Mode 3	Pass	AV	7.31064G	42.49	54.00	-11.51	3	Vertical	342	2.97
Mode 3	Pass	AV	7.31728G	41.82	54.00	-12.18	3	Vertical	337	2.96
Mode 3	Pass	AV	11.4943G	40.41	54.00	-13.59	3	Vertical	88	1.93
Mode 3	Pass	AV	17.23422G	46.66	68.20	-21.54	3	Vertical	306.9	1.33
Mode 3	Pass	PK	4.82419G	49.20	74.00	-24.80	3	Vertical	8	1.26
Mode 3	Pass	PK	4.87328G	51.40	74.00	-22.60	3	Vertical	360	2.68
Mode 3	Pass	PK	4.87846G	51.95	74.00	-22.05	3	Vertical	19	2.68
Mode 3	Pass	PK	7.2353G	56.06	68.20	-12.14	3	Vertical	356	1.58
Mode 3	Pass	PK	7.30832G	56.48	74.00	-17.52	3	Vertical	342	2.97
Mode 3	Pass	PK	7.31532G	58.21	74.00	-15.79	3	Vertical	337	2.96
Mode 3	Pass	PK	11.49172G	54.16	74.00	-19.84	3	Vertical	88	1.93
Mode 3	Pass	PK	17.2344G	60.64	68.20	-7.56	3	Vertical	306.9	1.33
Mode 3	Pass	AV	4.82398G	44.29	54.00	-9.71	3	Horizontal	356	1.20
Mode 3	Pass	AV	4.871G	40.33	54.00	-13.67	3	Horizontal	355	2.16
Mode 3	Pass	AV	4.87826G	40.12	54.00	-13.88	3	Horizontal	360	1.92
Mode 3	Pass	AV	7.23672G	47.81	68.20	-20.39	3	Horizontal	338	1.60
Mode 3	Pass	AV	7.31248G	45.81	54.00	-8.19	3	Horizontal	48	2.04
Mode 3	Pass	AV	7.31702G	45.43	54.00	-8.57	3	Horizontal	46	1.99
Mode 3	Pass	AV	11.49168G	40.90	54.00	-13.10	3	Horizontal	93	1.56
Mode 3	Pass	AV	17.23936G	46.91	68.20	-21.29	3	Horizontal	204	1.50
Mode 3	Pass	PK	4.82402G	50.35	74.00	-23.65	3	Horizontal	356	1.20
Mode 3	Pass	PK	4.87392G	55.80	74.00	-18.20	3	Horizontal	355	2.16
Mode 3	Pass	PK	4.87866G	52.47	74.00	-21.53	3	Horizontal	360	1.92
Mode 3	Pass	PK	7.2351G	56.01	68.20	-12.19	3	Horizontal	338	1.60
Mode 3	Pass	PK	7.31486G	60.22	74.00	-13.78	3	Horizontal	48	2.04
Mode 3	Pass	PK	7.31894G	60.95	74.00	-13.05	3	Horizontal	46	1.99
Mode 3	Pass	PK	11.48946G	54.50	74.00	-19.50	3	Horizontal	93	1.56
Mode 3	Pass	PK	17.23766G	60.11	68.20	-8.09	3	Horizontal	204	1.50
Mode 4	Pass	AV	4.87595G	33.97	54.00	-20.03	3	Vertical	0	1.12
Mode 4	Pass	AV	4.87896G	33.82	54.00	-20.18	3	Vertical	360	1.11
Mode 4	Pass	AV	7.30936G	42.21	54.00	-11.79	3	Vertical	347	1.53
Mode 4	Pass	AV	7.31847G	41.72	54.00	-12.28	3	Vertical	346	2.86
Mode 4	Pass	AV	11.48979G	43.65	54.00	-10.35	3	Vertical	85	1.05
Mode 4	Pass	AV	11.64838G	43.46	54.00	-10.54	3	Vertical	144	1.44
Mode 4	Pass	AV	17.237G	46.65	68.20	-21.55	3	Vertical	16	2.73
Mode 4	Pass	AV	17.47631G	47.64	68.20	-20.56	3	Vertical	297	1.48
Mode 4	Pass	PK	4.87221G	48.84	74.00	-25.16	3	Vertical	0	1.12
Mode 4	Pass	PK	4.87921G	47.75	74.00	-26.25	3	Vertical	360	1.11
Mode 4	Pass	PK	7.30951G	55.89	74.00	-18.11	3	Vertical	347	1.53
Mode 4	Pass	PK	7.31856G	57.25	74.00	-16.75	3	Vertical	346	2.86
Mode 4	Pass	PK	11.49138G	57.20	74.00	-16.80	3	Vertical	85	1.05
Mode 4	Pass	PK	11.65141G	56.66	74.00	-17.34	3	Vertical	144	1.44
Mode 4	Pass	PK	17.23714G	59.65	68.20	-8.55	3	Vertical	16	2.73
Mode 4	Pass	PK	17.47326G	61.36	68.20	-6.84	3	Vertical	297	1.48

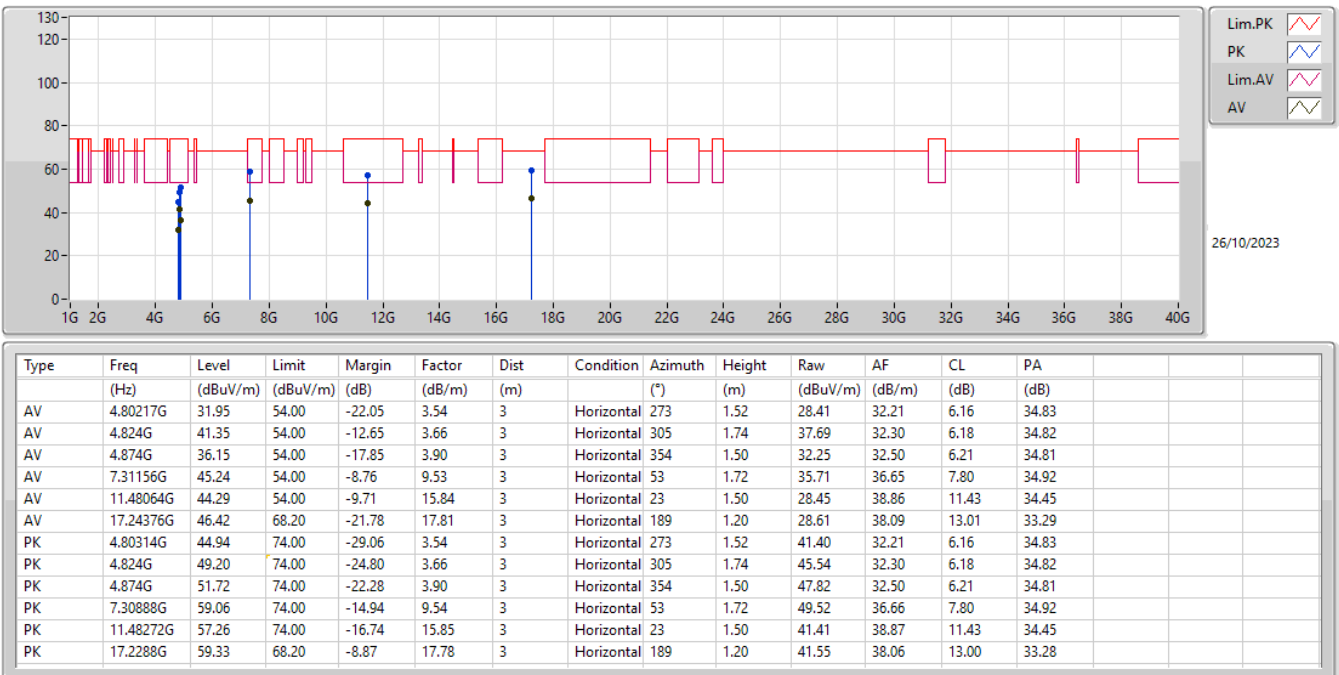
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 4	Pass	AV	4.87473G	34.22	54.00	-19.78	3	Horizontal	318	1.95
Mode 4	Pass	AV	4.87924G	34.14	54.00	-19.86	3	Horizontal	325	1.64
Mode 4	Pass	AV	7.31056G	46.31	54.00	-7.69	3	Horizontal	55	1.97
Mode 4	Pass	AV	7.31844G	45.34	54.00	-8.66	3	Horizontal	57	2.03
Mode 4	Pass	AV	11.48815G	43.67	54.00	-10.33	3	Horizontal	165	1.41
Mode 4	Pass	AV	11.64906G	43.27	54.00	-10.73	3	Horizontal	277	1.99
Mode 4	Pass	AV	17.23257G	46.48	68.20	-21.72	3	Horizontal	20	1.76
Mode 4	Pass	AV	17.47507G	47.55	68.20	-20.65	3	Horizontal	102	1.46
Mode 4	Pass	PK	4.8746G	48.08	74.00	-25.92	3	Horizontal	318	1.95
Mode 4	Pass	PK	4.87945G	48.02	74.00	-25.98	3	Horizontal	325	1.64
Mode 4	Pass	PK	7.30897G	61.11	74.00	-12.89	3	Horizontal	55	1.97
Mode 4	Pass	PK	7.3184G	61.03	74.00	-12.97	3	Horizontal	57	2.03
Mode 4	Pass	PK	11.49007G	56.70	74.00	-17.30	3	Horizontal	165	1.41
Mode 4	Pass	PK	11.64918G	56.10	74.00	-17.90	3	Horizontal	277	1.99
Mode 4	Pass	PK	17.23376G	59.42	68.20	-8.78	3	Horizontal	20	1.76
Mode 4	Pass	PK	17.47592G	61.04	68.20	-7.16	3	Horizontal	102	1.46
Mode 5	Pass	AV	4.824G	42.63	54.00	-11.37	3	Vertical	360	1.53
Mode 5	Pass	AV	4.87324G	38.60	54.00	-15.40	3	Vertical	359	2.69
Mode 5	Pass	AV	4.87552G	39.19	54.00	-14.81	3	Vertical	15	2.69
Mode 5	Pass	AV	7.23516G	48.19	68.20	-20.01	3	Vertical	352	1.58
Mode 5	Pass	AV	7.31364G	42.96	54.00	-11.04	3	Vertical	314	1.02
Mode 5	Pass	AV	7.31602G	41.77	54.00	-12.23	3	Vertical	342	2.97
Mode 5	Pass	AV	11.48876G	44.06	54.00	-9.94	3	Vertical	57	2.99
Mode 5	Pass	AV	17.23336G	46.51	68.20	-21.69	3	Vertical	242	1.37
Mode 5	Pass	PK	4.82396G	49.38	74.00	-24.62	3	Vertical	360	1.53
Mode 5	Pass	PK	4.87402G	54.68	74.00	-19.32	3	Vertical	359	2.69
Mode 5	Pass	PK	4.87538G	52.32	74.00	-21.68	3	Vertical	15	2.69
Mode 5	Pass	PK	7.2359G	55.82	68.20	-12.38	3	Vertical	352	1.58
Mode 5	Pass	PK	7.31586G	56.86	74.00	-17.14	3	Vertical	314	1.02
Mode 5	Pass	PK	7.31856G	56.84	74.00	-17.16	3	Vertical	342	2.97
Mode 5	Pass	PK	11.49144G	57.61	74.00	-16.39	3	Vertical	57	2.99
Mode 5	Pass	PK	17.235G	60.96	68.20	-7.24	3	Vertical	242	1.37
Mode 5	Pass	AV	4.82396G	44.09	54.00	-9.91	3	Horizontal	349	1.32
Mode 5	Pass	AV	4.87568G	40.20	54.00	-13.80	3	Horizontal	353	1.50
Mode 5	Pass	AV	4.87596G	40.49	54.00	-13.51	3	Horizontal	347	1.90
Mode 5	Pass	AV	7.23678G	47.58	68.20	-20.62	3	Horizontal	331	1.60
Mode 5	Pass	AV	7.30978G	45.57	54.00	-8.43	3	Horizontal	45	2.04
Mode 5	Pass	AV	7.31702G	45.10	54.00	-8.90	3	Horizontal	41	2.08
Mode 5	Pass	AV	11.4916G	45.09	54.00	-8.91	3	Horizontal	92	1.95
Mode 5	Pass	AV	17.23488G	46.57	68.20	-21.63	3	Horizontal	342	1.50
Mode 5	Pass	PK	4.82394G	49.64	74.00	-24.36	3	Horizontal	349	1.32
Mode 5	Pass	PK	4.8739G	54.43	74.00	-19.57	3	Horizontal	353	1.50
Mode 5	Pass	PK	4.88286G	52.71	74.00	-21.29	3	Horizontal	347	1.90
Mode 5	Pass	PK	7.2352G	55.87	68.20	-12.33	3	Horizontal	331	1.60
Mode 5	Pass	PK	7.31514G	61.32	74.00	-12.68	3	Horizontal	45	2.04
Mode 5	Pass	PK	7.31836G	59.50	74.00	-14.50	3	Horizontal	41	2.08
Mode 5	Pass	PK	11.48606G	58.37	74.00	-15.63	3	Horizontal	92	1.95
Mode 5	Pass	PK	17.23492G	59.89	68.20	-8.31	3	Horizontal	342	1.50
Mode 6	Pass	AV	4.87444G	32.44	54.00	-21.56	3	Vertical	23	2.69
Mode 6	Pass	AV	4.87919G	32.46	54.00	-21.54	3	Vertical	181	1.92

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 6	Pass	AV	7.31201G	43.11	54.00	-10.89	3	Vertical	353	2.21
Mode 6	Pass	AV	7.31768G	41.85	54.00	-12.15	3	Vertical	360	2.96
Mode 6	Pass	AV	11.48799G	43.63	54.00	-10.37	3	Vertical	148	2.59
Mode 6	Pass	AV	11.64977G	43.28	54.00	-10.72	3	Vertical	131	2.89
Mode 6	Pass	AV	17.2354G	46.41	68.20	-21.79	3	Vertical	291	2.71
Mode 6	Pass	AV	17.47659G	47.65	68.20	-20.55	3	Vertical	300	1.90
Mode 6	Pass	PK	4.8723G	45.62	74.00	-28.38	3	Vertical	23	2.69
Mode 6	Pass	PK	4.87867G	45.67	74.00	-28.33	3	Vertical	181	1.92
Mode 6	Pass	PK	7.31211G	56.58	74.00	-17.42	3	Vertical	353	2.21
Mode 6	Pass	PK	7.31753G	56.60	74.00	-17.40	3	Vertical	360	2.96
Mode 6	Pass	PK	11.48927G	57.23	74.00	-16.77	3	Vertical	148	2.59
Mode 6	Pass	PK	11.64869G	56.88	74.00	-17.12	3	Vertical	131	2.89
Mode 6	Pass	PK	17.23339G	59.50	68.20	-8.70	3	Vertical	291	2.71
Mode 6	Pass	PK	17.47668G	60.62	68.20	-7.58	3	Vertical	300	1.90
Mode 6	Pass	AV	4.87556G	33.70	54.00	-20.30	3	Horizontal	294	2.92
Mode 6	Pass	AV	4.87918G	34.17	54.00	-19.83	3	Horizontal	320	1.72
Mode 6	Pass	AV	7.31322G	46.11	54.00	-7.89	3	Horizontal	53	1.98
Mode 6	Pass	AV	7.3189G	45.35	54.00	-8.65	3	Horizontal	55	1.89
Mode 6	Pass	AV	11.48978G	43.54	54.00	-10.46	3	Horizontal	22	2.31
Mode 6	Pass	AV	11.65055G	43.42	54.00	-10.58	3	Horizontal	3	1.71
Mode 6	Pass	AV	17.23377G	46.43	68.20	-21.77	3	Horizontal	245	2.05
Mode 6	Pass	AV	17.47679G	47.46	68.20	-20.74	3	Horizontal	270	2.34
Mode 6	Pass	PK	4.87517G	47.63	74.00	-26.37	3	Horizontal	294	2.92
Mode 6	Pass	PK	4.8785G	48.22	74.00	-25.78	3	Horizontal	320	1.72
Mode 6	Pass	PK	7.31156G	60.66	74.00	-13.34	3	Horizontal	53	1.98
Mode 6	Pass	PK	7.31821G	60.92	74.00	-13.08	3	Horizontal	55	1.89
Mode 6	Pass	PK	11.49154G	57.50	74.00	-16.50	3	Horizontal	22	2.31
Mode 6	Pass	PK	11.65169G	56.24	74.00	-17.76	3	Horizontal	3	1.71
Mode 6	Pass	PK	17.23283G	59.35	68.20	-8.85	3	Horizontal	245	2.05
Mode 6	Pass	PK	17.47452G	61.20	68.20	-7.00	3	Horizontal	270	2.34

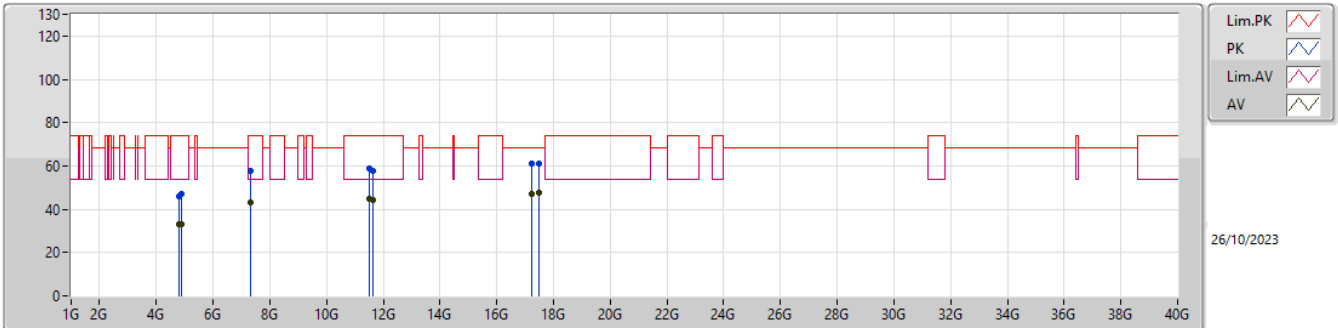
Radiated Emissions above 1GHz_Mode 1



Radiated Emissions above 1GHz_Mode 1

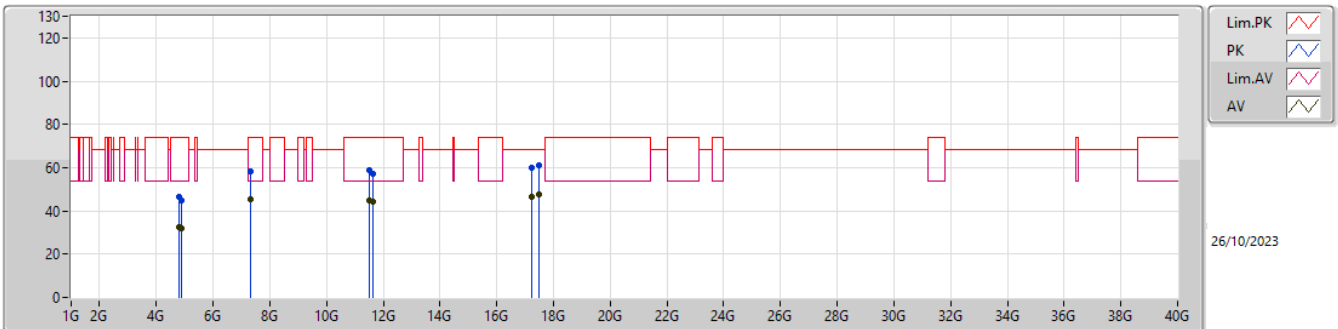


Radiated Emissions above 1GHz_Mode 2



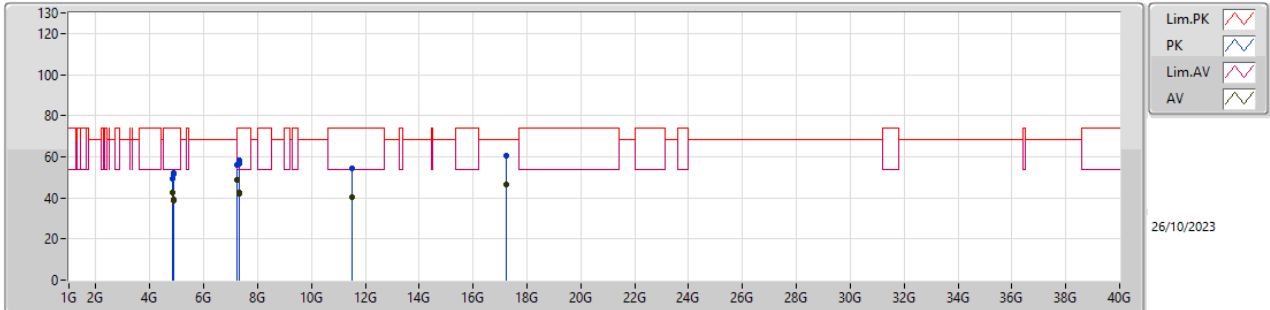
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)		
AV	4.80304G	32.89	54.00	-21.11	4.18	3	Vertical	313	1.46	28.71	32.21	6.16	34.19		
AV	4.8826G	33.08	54.00	-20.92	4.59	3	Vertical	54	1.50	28.49	32.53	6.22	34.16		
AV	7.30928G	43.13	54.00	-10.87	9.96	3	Vertical	53	1.96	33.17	36.66	7.80	34.50		
AV	11.49436G	44.59	54.00	-9.41	16.26	3	Vertical	293	1.53	28.33	38.89	11.43	34.06		
AV	11.65G	44.30	54.00	-9.70	15.64	3	Vertical	224	1.50	28.66	38.30	11.49	34.15		
AV	17.23483G	47.11	68.20	-21.09	17.78	3	Vertical	12	1.50	29.33	38.07	13.00	33.29		
AV	17.475G	47.88	68.20	-20.32	18.05	3	Vertical	169	1.66	29.83	38.30	13.11	33.36		
PK	4.80602G	46.21	74.00	-27.79	4.19	3	Vertical	313	1.46	42.02	32.22	6.16	34.19		
PK	4.86792G	46.81	74.00	-27.19	4.51	3	Vertical	54	1.50	42.30	32.47	6.21	34.17		
PK	7.30204G	57.50	74.00	-16.50	9.98	3	Vertical	53	1.96	47.52	36.69	7.79	34.50		
PK	11.48992G	58.69	74.00	-15.31	16.25	3	Vertical	293	1.53	42.44	38.88	11.43	34.06		
PK	11.65G	57.66	74.00	-16.34	15.64	3	Vertical	224	1.50	42.02	38.30	11.49	34.15		
PK	17.23513G	61.06	68.20	-7.14	17.78	3	Vertical	12	1.50	43.28	38.07	13.00	33.29		
PK	17.475G	61.21	68.20	-6.99	18.05	3	Vertical	169	1.66	43.16	38.30	13.11	33.36		

Radiated Emissions above 1GHz_Mode 2



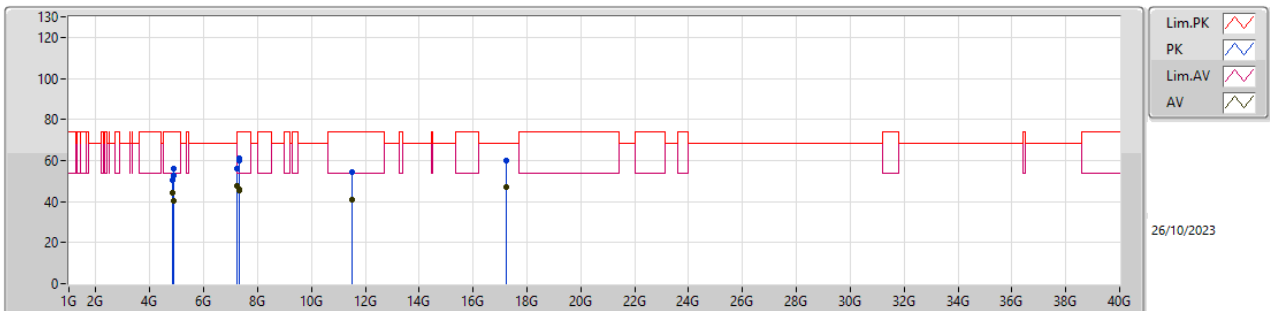
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)		
AV	4.80205G	32.68	54.00	-21.32	4.18	3	Horizontal	42	1.42	28.50	32.21	6.16	34.19		
AV	4.874G	31.70	54.00	-22.30	4.54	3	Horizontal	48	1.50	27.16	32.50	6.21	34.17		
AV	7.30888G	45.17	54.00	-8.83	9.96	3	Horizontal	51	1.64	35.21	36.66	7.80	34.50		
AV	11.49G	44.97	54.00	-9.03	16.25	3	Horizontal	63	2.00	28.72	38.88	11.43	34.06		
AV	11.65G	44.19	54.00	-9.81	15.64	3	Horizontal	289	1.60	28.55	38.30	11.49	34.15		
AV	17.235G	46.43	68.20	-21.77	17.78	3	Horizontal	347	1.50	28.65	38.07	13.00	33.29		
AV	17.475G	47.86	68.20	-20.34	18.05	3	Horizontal	312	1.70	29.81	38.30	13.11	33.36		
PK	4.80232G	46.40	74.00	-27.60	4.18	3	Horizontal	42	1.42	42.22	32.21	6.16	34.19		
PK	4.874G	44.84	74.00	-29.16	4.54	3	Horizontal	48	1.50	40.30	32.50	6.21	34.17		
PK	7.302G	58.51	74.00	-15.49	9.98	3	Horizontal	51	1.64	48.53	36.69	7.79	34.50		
PK	11.49G	58.73	74.00	-15.27	16.25	3	Horizontal	63	2.00	42.48	38.88	11.43	34.06		
PK	11.65G	57.43	74.00	-16.57	15.64	3	Horizontal	289	1.60	41.79	38.30	11.49	34.15		
PK	17.235G	59.97	68.20	-8.23	17.78	3	Horizontal	347	1.50	42.19	38.07	13.00	33.29		
PK	17.475G	61.14	68.20	-7.06	18.05	3	Horizontal	312	1.70	43.09	38.30	13.11	33.36		

Radiated Emissions above 1GHz_Mode 3



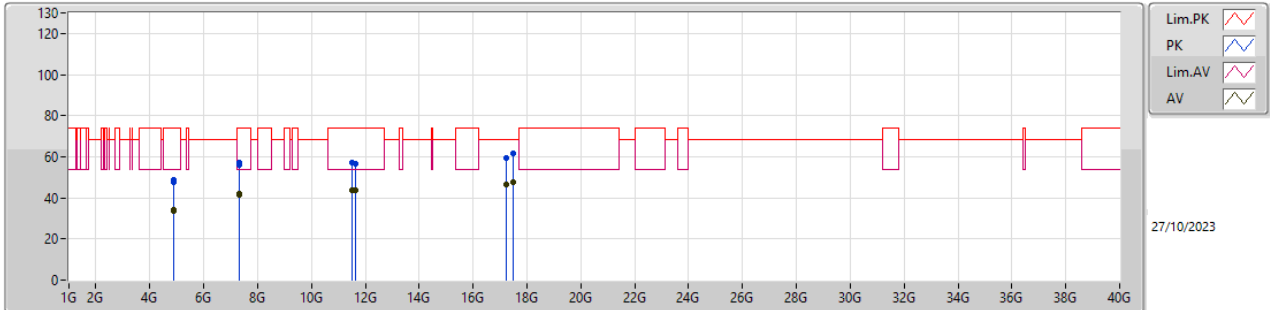
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)				
AV	4.82392G	42.70	54.00	-11.30	3.66	3	Vertical	8	1.26	39.04	32.30	6.18	34.82				
AV	4.8734G	38.53	54.00	-15.47	3.89	3	Vertical	360	2.68	34.64	32.49	6.21	34.81				
AV	4.87804G	39.17	54.00	-14.83	3.91	3	Vertical	19	2.68	35.26	32.51	6.21	34.81				
AV	7.23672G	48.68	68.20	-19.52	9.44	3	Vertical	356	1.58	39.24	36.57	7.75	34.88				
AV	7.31064G	42.49	54.00	-11.51	9.54	3	Vertical	342	2.97	32.95	36.66	7.80	34.92				
AV	7.31728G	41.82	54.00	-12.18	9.50	3	Vertical	337	2.96	32.32	36.63	7.80	34.93				
AV	11.4943G	40.41	54.00	-13.59	15.87	3	Vertical	88	1.93	24.54	38.89	11.43	34.45				
AV	17.23422G	46.66	68.20	-21.54	17.79	3	Vertical	306.9	1.33	28.87	38.07	13.00	33.28				
PK	4.82419G	49.20	74.00	-24.80	3.66	3	Vertical	8	1.26	45.54	32.30	6.18	34.82				
PK	4.87328G	51.40	74.00	-22.60	3.89	3	Vertical	360	2.68	47.51	32.49	6.21	34.81				
PK	4.87846G	51.95	74.00	-22.05	3.91	3	Vertical	19	2.68	48.04	32.51	6.21	34.81				
PK	7.2353G	56.06	68.20	-12.14	9.44	3	Vertical	356	1.58	46.62	36.57	7.75	34.88				
PK	7.30832G	56.48	74.00	-17.52	9.54	3	Vertical	342	2.97	46.94	36.67	7.79	34.92				
PK	7.31532G	58.21	74.00	-15.79	9.51	3	Vertical	337	2.96	48.70	36.64	7.80	34.93				
PK	11.49172G	54.16	74.00	-19.84	15.86	3	Vertical	88	1.93	38.30	38.88	11.43	34.45				
PK	17.2344G	60.64	68.20	-7.56	17.79	3	Vertical	306.9	1.33	42.85	38.07	13.00	33.28				

Radiated Emissions above 1GHz_Mode 3



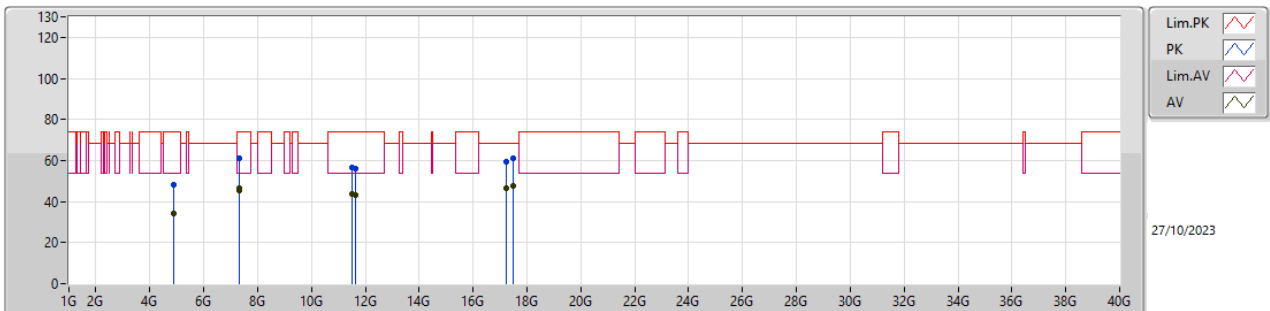
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)				
AV	4.82398G	44.29	54.00	-9.71	3.66	3	Horizontal	356	1.20	40.63	32.30	6.18	34.82				
AV	4.871G	40.33	54.00	-13.67	3.88	3	Horizontal	355	2.16	36.45	32.48	6.21	34.81				
AV	4.87826G	40.12	54.00	-13.88	3.91	3	Horizontal	360	1.92	36.21	32.51	6.21	34.81				
AV	7.23672G	47.81	68.20	-20.39	9.44	3	Horizontal	338	1.60	38.37	36.57	7.75	34.88				
AV	7.31248G	45.81	54.00	-8.19	9.53	3	Horizontal	48	2.04	36.28	36.65	7.80	34.92				
AV	7.31702G	45.43	54.00	-8.57	9.50	3	Horizontal	46	1.99	35.93	36.63	7.80	34.93				
AV	11.49168G	40.90	54.00	-13.10	15.86	3	Horizontal	93	1.56	25.04	38.88	11.43	34.45				
AV	17.23936G	46.91	68.20	-21.29	17.79	3	Horizontal	204	1.50	29.12	38.08	13.00	33.29				
PK	4.82402G	50.35	74.00	-23.65	3.66	3	Horizontal	356	1.20	46.69	32.30	6.18	34.82				
PK	4.87392G	55.80	74.00	-18.20	3.90	3	Horizontal	355	2.16	51.90	32.50	6.21	34.81				
PK	4.87866G	52.47	74.00	-21.53	3.92	3	Horizontal	360	1.92	48.55	32.51	6.22	34.81				
PK	7.2351G	56.01	68.20	-12.19	9.44	3	Horizontal	338	1.60	46.57	36.57	7.75	34.88				
PK	7.31486G	60.22	74.00	-13.78	9.51	3	Horizontal	48	2.04	50.71	36.64	7.80	34.93				
PK	7.31894G	60.95	74.00	-13.05	9.49	3	Horizontal	46	1.99	51.46	36.62	7.80	34.93				
PK	11.48946G	54.50	74.00	-19.50	15.86	3	Horizontal	93	1.56	38.64	38.88	11.43	34.45				
PK	17.23766G	60.11	68.20	-8.09	17.80	3	Horizontal	204	1.50	42.31	38.08	13.00	33.28				

Radiated Emissions above 1GHz_Mode 4



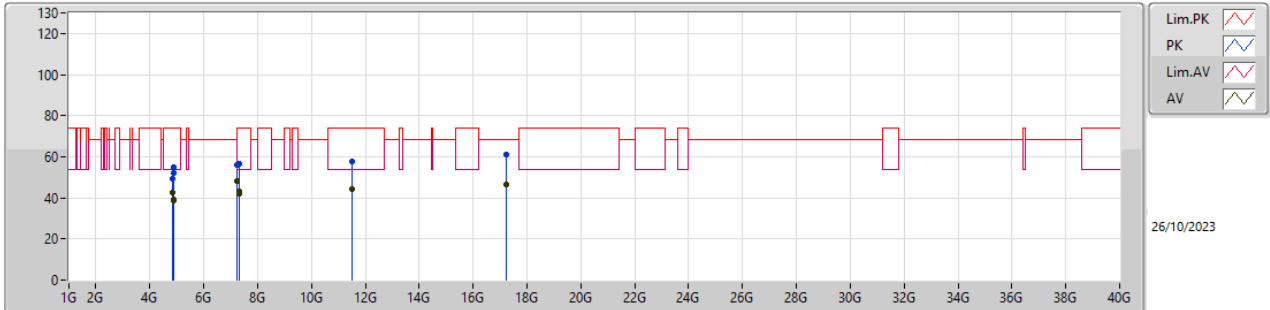
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	4.87595G	33.97	54.00	-20.03	3.90	3	Vertical	0	1.12	30.07	32.50	6.21	34.81
AV	4.87896G	33.82	54.00	-20.18	3.93	3	Vertical	360	1.11	29.89	32.52	6.22	34.81
AV	7.30936G	42.21	54.00	-11.79	9.54	3	Vertical	347	1.53	32.67	36.66	7.80	34.92
AV	7.31847G	41.72	54.00	-12.28	9.50	3	Vertical	346	2.86	32.22	36.63	7.80	34.93
AV	11.48979G	43.65	54.00	-10.35	15.86	3	Vertical	85	1.05	27.79	38.88	11.43	34.45
AV	11.64838G	43.46	54.00	-10.54	15.27	3	Vertical	144	1.44	28.19	38.30	11.49	34.52
AV	17.237G	46.65	68.20	-21.55	17.79	3	Vertical	16	2.73	28.86	38.07	13.00	33.28
AV	17.47631G	47.64	68.20	-20.56	18.02	3	Vertical	297	1.48	29.62	38.30	13.11	33.39
PK	4.87221G	48.84	74.00	-25.16	3.89	3	Vertical	0	1.12	44.95	32.49	6.21	34.81
PK	4.87921G	47.75	74.00	-26.25	3.93	3	Vertical	360	1.11	43.82	32.52	6.22	34.81
PK	7.30951G	55.89	74.00	-18.11	9.54	3	Vertical	347	1.53	46.35	36.66	7.80	34.92
PK	7.31856G	57.25	74.00	-16.75	9.50	3	Vertical	346	2.86	47.75	36.63	7.80	34.93
PK	11.49138G	57.20	74.00	-16.80	15.86	3	Vertical	85	1.05	41.34	38.88	11.43	34.45
PK	11.65141G	56.66	74.00	-17.34	15.28	3	Vertical	144	1.44	41.38	38.31	11.49	34.52
PK	17.23714G	59.65	68.20	-8.55	17.79	3	Vertical	16	2.73	41.86	38.07	13.00	33.28
PK	17.47326G	61.36	68.20	-6.84	18.02	3	Vertical	297	1.48	43.34	38.30	13.11	33.39

Radiated Emissions above 1GHz_Mode 4



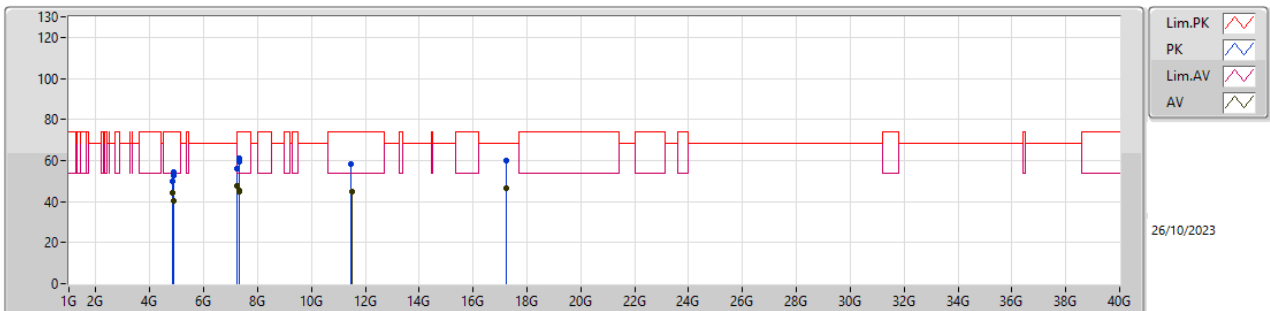
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	4.87473G	34.22	54.00	-19.78	3.90	3	Horizontal	318	1.95	30.32	32.50	6.21	34.81
AV	4.87924G	34.14	54.00	-19.86	3.93	3	Horizontal	325	1.64	30.21	32.52	6.22	34.81
AV	7.31056G	46.31	54.00	-7.69	9.54	3	Horizontal	55	1.97	36.77	36.66	7.80	34.92
AV	7.31844G	45.34	54.00	-8.66	9.50	3	Horizontal	57	2.03	35.84	36.63	7.80	34.93
AV	11.48815G	43.67	54.00	-10.33	15.86	3	Horizontal	165	1.41	27.81	38.88	11.43	34.45
AV	11.64906G	43.27	54.00	-10.73	15.27	3	Horizontal	277	1.99	28.00	38.30	11.49	34.52
AV	17.23257G	46.48	68.20	-21.72	17.79	3	Horizontal	20	1.76	28.69	38.07	13.00	33.28
AV	17.47507G	47.55	68.20	-20.65	18.02	3	Horizontal	102	1.46	29.53	38.30	13.11	33.39
PK	4.8746G	48.08	74.00	-25.92	3.90	3	Horizontal	318	1.95	44.18	32.50	6.21	34.81
PK	4.87945G	48.02	74.00	-25.98	3.93	3	Horizontal	325	1.64	44.09	32.52	6.22	34.81
PK	7.30897G	61.11	74.00	-12.89	9.54	3	Horizontal	55	1.97	51.57	36.66	7.80	34.92
PK	7.3184G	61.03	74.00	-12.97	9.50	3	Horizontal	57	2.03	51.53	36.63	7.80	34.93
PK	11.49007G	56.70	74.00	-17.30	15.86	3	Horizontal	165	1.41	40.84	38.88	11.43	34.45
PK	11.64918G	56.10	74.00	-17.90	15.27	3	Horizontal	277	1.99	40.83	38.30	11.49	34.52
PK	17.23376G	59.42	68.20	-8.78	17.79	3	Horizontal	20	1.76	41.63	38.07	13.00	33.28
PK	17.47592G	61.04	68.20	-7.16	18.02	3	Horizontal	102	1.46	43.02	38.30	13.11	33.39

Radiated Emissions above 1GHz_Mode 5



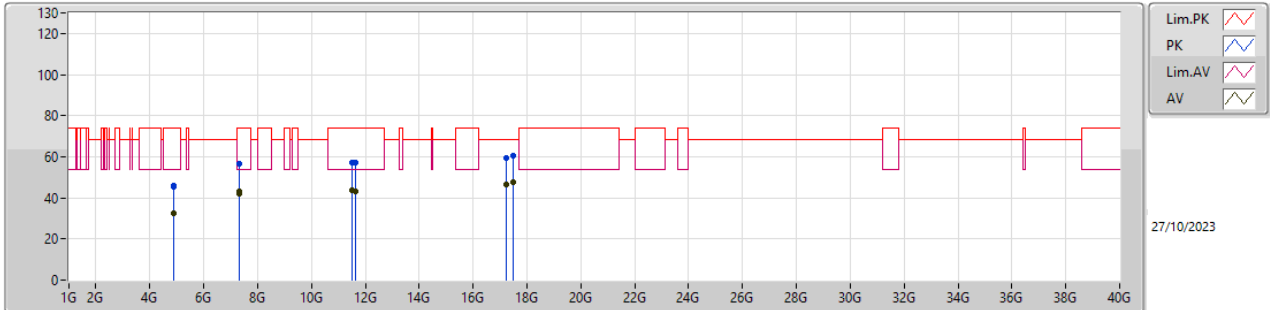
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)				
AV	4.824G	42.63	54.00	-11.37	3.66	3	Vertical	360	1.53	38.97	32.30	6.18	34.82				
AV	4.87324G	38.60	54.00	-15.40	3.89	3	Vertical	359	2.69	34.71	32.49	6.21	34.81				
AV	4.87552G	39.19	54.00	-14.81	3.90	3	Vertical	15	2.69	35.29	32.50	6.21	34.81				
AV	7.23516G	48.19	68.20	-20.01	9.44	3	Vertical	352	1.58	38.75	36.57	7.75	34.88				
AV	7.31364G	42.96	54.00	-11.04	9.53	3	Vertical	314	1.02	33.43	36.65	7.80	34.92				
AV	7.31602G	41.77	54.00	-12.23	9.51	3	Vertical	342	2.97	32.26	36.64	7.80	34.93				
AV	11.48876G	44.06	54.00	-9.94	15.86	3	Vertical	57	2.99	28.20	38.88	11.43	34.45				
AV	17.23336G	46.51	68.20	-21.69	17.79	3	Vertical	242	1.37	28.72	38.07	13.00	33.28				
PK	4.82396G	49.38	74.00	-24.62	3.66	3	Vertical	360	1.53	45.72	32.30	6.18	34.82				
PK	4.87402G	54.68	74.00	-19.32	3.90	3	Vertical	359	2.69	50.78	32.50	6.21	34.81				
PK	4.87538G	52.32	74.00	-21.68	3.90	3	Vertical	15	2.69	48.42	32.50	6.21	34.81				
PK	7.2359G	55.82	68.20	-12.38	9.44	3	Vertical	352	1.58	46.38	36.57	7.75	34.88				
PK	7.31586G	56.86	74.00	-17.14	9.51	3	Vertical	314	1.02	47.35	36.64	7.80	34.93				
PK	7.31856G	56.84	74.00	-17.16	9.50	3	Vertical	342	2.97	47.34	36.63	7.80	34.93				
PK	11.49144G	57.61	74.00	-16.39	15.86	3	Vertical	57	2.99	41.75	38.88	11.43	34.45				
PK	17.235G	60.96	68.20	-7.24	17.79	3	Vertical	242	1.37	43.17	38.07	13.00	33.28				

Radiated Emissions above 1GHz_Mode 5



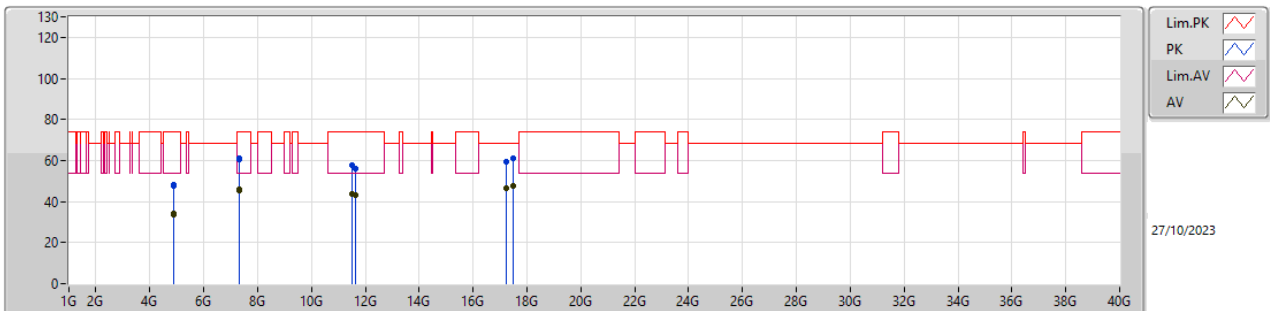
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)				
AV	4.82396G	44.09	54.00	-9.91	3.66	3	Horizontal	349	1.32	40.43	32.30	6.18	34.82				
AV	4.87568G	40.20	54.00	-13.80	3.90	3	Horizontal	353	1.50	36.30	32.50	6.21	34.81				
AV	4.87596G	40.49	54.00	-13.51	3.90	3	Horizontal	347	1.90	36.59	32.50	6.21	34.81				
AV	7.23678G	47.58	68.20	-20.62	9.44	3	Horizontal	331	1.60	38.14	36.57	7.75	34.88				
AV	7.30978G	45.57	54.00	-8.43	9.54	3	Horizontal	45	2.04	36.03	36.66	7.80	34.92				
AV	7.31702G	45.10	54.00	-8.90	9.50	3	Horizontal	41	2.08	35.60	36.63	7.80	34.93				
AV	11.4916G	45.09	54.00	-8.91	15.86	3	Horizontal	92	1.95	29.23	38.88	11.43	34.45				
AV	17.23488G	46.57	68.20	-21.63	17.79	3	Horizontal	342	1.50	28.78	38.07	13.00	33.28				
PK	4.82394G	49.64	74.00	-24.36	3.66	3	Horizontal	349	1.32	45.98	32.30	6.18	34.82				
PK	4.8739G	54.43	74.00	-19.57	3.90	3	Horizontal	353	1.50	50.53	32.50	6.21	34.81				
PK	4.88286G	52.71	74.00	-21.29	3.94	3	Horizontal	347	1.90	48.77	32.53	6.22	34.81				
PK	7.2352G	55.87	68.20	-12.33	9.44	3	Horizontal	331	1.60	46.43	36.57	7.75	34.88				
PK	7.31514G	61.32	74.00	-12.68	9.51	3	Horizontal	45	2.04	51.81	36.64	7.80	34.93				
PK	7.31836G	59.50	74.00	-14.50	9.50	3	Horizontal	41	2.08	50.00	36.63	7.80	34.93				
PK	11.48606G	58.37	74.00	-15.63	15.85	3	Horizontal	92	1.95	42.52	38.87	11.43	34.45				
PK	17.23492G	59.89	68.20	-8.31	17.79	3	Horizontal	342	1.50	42.10	38.07	13.00	33.28				

Radiated Emissions above 1GHz_Mode 6



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)			
AV	4.87444G	32.44	54.00	-21.56	3.90	3	Vertical	23	2.69	28.54	32.50	6.21	34.81			
AV	4.87919G	32.46	54.00	-21.54	3.93	3	Vertical	181	1.92	28.53	32.52	6.22	34.81			
AV	7.31201G	43.11	54.00	-10.89	9.53	3	Vertical	353	2.21	33.58	36.65	7.80	34.92			
AV	7.31768G	41.85	54.00	-12.15	9.50	3	Vertical	360	2.96	32.35	36.63	7.80	34.93			
AV	11.48799G	43.63	54.00	-10.37	15.86	3	Vertical	148	2.59	27.77	38.88	11.43	34.45			
AV	11.64977G	43.28	54.00	-10.72	15.27	3	Vertical	131	2.89	28.01	38.30	11.49	34.52			
AV	17.2354G	46.41	68.20	-21.79	17.79	3	Vertical	291	2.71	28.62	38.07	13.00	33.28			
AV	17.47659G	47.65	68.20	-20.55	18.02	3	Vertical	300	1.90	29.63	38.30	13.11	33.39			
PK	4.8723G	45.62	74.00	-28.38	3.89	3	Vertical	23	2.69	41.73	32.49	6.21	34.81			
PK	4.87867G	45.67	74.00	-28.33	3.92	3	Vertical	181	1.92	41.75	32.51	6.22	34.81			
PK	7.31211G	56.58	74.00	-17.42	9.53	3	Vertical	353	2.21	47.05	36.65	7.80	34.92			
PK	7.31753G	56.60	74.00	-17.40	9.50	3	Vertical	360	2.96	47.10	36.63	7.80	34.93			
PK	11.48927G	57.23	74.00	-16.77	15.86	3	Vertical	148	2.59	41.37	38.88	11.43	34.45			
PK	11.64869G	56.88	74.00	-17.12	15.27	3	Vertical	131	2.89	41.61	38.30	11.49	34.52			
PK	17.23339G	59.50	68.20	-8.70	17.79	3	Vertical	291	2.71	41.71	38.07	13.00	33.28			
PK	17.47668G	60.62	68.20	-7.58	18.02	3	Vertical	300	1.90	42.60	38.30	13.11	33.39			

Radiated Emissions above 1GHz_Mode 6



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)			
AV	4.87556G	33.70	54.00	-20.30	3.90	3	Horizontal	294	2.92	29.80	32.50	6.21	34.81			
AV	4.87918G	34.17	54.00	-19.83	3.93	3	Horizontal	320	1.72	30.24	32.52	6.22	34.81			
AV	7.31322G	46.11	54.00	-7.89	9.53	3	Horizontal	53	1.98	36.58	36.65	7.80	34.92			
AV	7.3189G	45.35	54.00	-8.65	9.49	3	Horizontal	55	1.89	35.86	36.62	7.80	34.93			
AV	11.48978G	43.54	54.00	-10.46	15.86	3	Horizontal	22	2.31	27.68	38.88	11.43	34.45			
AV	11.65055G	43.42	54.00	-10.58	15.27	3	Horizontal	3	1.71	28.15	38.30	11.49	34.52			
AV	17.23377G	46.43	68.20	-21.77	17.79	3	Horizontal	245	2.05	28.64	38.07	13.00	33.28			
AV	17.47679G	47.46	68.20	-20.74	18.02	3	Horizontal	270	2.34	29.44	38.30	13.11	33.39			
PK	4.87517G	47.63	74.00	-26.37	3.90	3	Horizontal	294	2.92	43.73	32.50	6.21	34.81			
PK	4.8785G	48.22	74.00	-25.78	3.91	3	Horizontal	320	1.72	44.31	32.51	6.21	34.81			
PK	7.31156G	60.66	74.00	-13.34	9.53	3	Horizontal	53	1.98	51.13	36.65	7.80	34.92			
PK	7.31821G	60.92	74.00	-13.08	9.50	3	Horizontal	55	1.89	51.42	36.63	7.80	34.93			
PK	11.49154G	57.50	74.00	-16.50	15.86	3	Horizontal	22	2.31	41.64	38.88	11.43	34.45			
PK	11.65169G	56.24	74.00	-17.76	15.28	3	Horizontal	3	1.71	40.96	38.31	11.49	34.52			
PK	17.23283G	59.35	68.20	-8.85	17.79	3	Horizontal	245	2.05	41.56	38.07	13.00	33.28			
PK	17.47452G	61.20	68.20	-7.00	18.02	3	Horizontal	270	2.34	43.18	38.30	13.11	33.39			