


FCC Radio Test Report

FCC ID : QXO-AP3000
Equipment : Access Point
Brand Name :  Extreme
networks or Extreme Networks
Model Name : AP3000-WW, AP3000X-WW
Applicant : Extreme Networks, Inc.
2121 RDU Center Drive, Morrisville,
NC 27560, United States
Manufacturer : Extreme Networks, Inc.
2121 RDU Center Drive, Morrisville,
NC 27560, United States
Standard : 47 CFR FCC Part 15.247

The product was received on Apr. 07, 2022, and testing was started from Apr. 25, 2022 and completed on Sep. 12, 2022. 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

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PHOTOGRAPHS OF EUT V03



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: Barry Hsiao

Report Producer: Ann Hou

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
2.4-2.4835GHz	802.15.4	5	1TX

Note:.

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

1.1.2 Antenna Information

Internal Antenna (AP3000)

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	Senao	5718A0691300	PIFA	I-PEX	Radio 1_5G+ Radio 2_2.4G
2	Senao	5718A0690300	PIFA	I-PEX	Radio 1_5G+ Radio 2_2.4G
3	Senao	5718A0693300	PIFA	I-PEX	Radio 2_6E
4	Senao	5718A0692300	PIFA	I-PEX	Radio 2_6E
5	Senao	5718A0694300	PIFA	I-PEX	Radio 3_ BT+802.15.4

Ant.	Port	Gain (dBi)				
		2.4G	5G	6E	BT	802.15.4
1	1	4.40	5.14	-	-	-
2	2	4.38	5.13	-	-	-
3	1	-	-	5.22	-	-
4	2	-	-	5.21	-	-
5	1	-	-	-	4.02	4.02

Composite Gain (dBi)			
2.4G		5G	
2T1S	2T2S	2T1S	2T2S
5.85	2.85	4.95	2.52

Note 1: The EUT has five antennas.



For 2.4GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 2(port 2) and it was recorded in this test report.

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 5GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 2(port 2) and it was recorded in this test report.

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 6GHz function:

For IEEE 802.11 a/ax mode (1TX/1RX)

Support diversity function and pre-tested on each single chain, the worst case was Ant. 4(port 2) and it was recorded in this test report.

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

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

For BT function:

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

Ant. 5 (port 1) could transmit/receive.

For 802.15.4 function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 5 (port 1) could transmit/receive.

External Antenna (AP3000X)

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	WNC	ML2452-APA2-02	Dipole	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
2	WNC	ML2452-APA2-02	Dipole	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
3	AWAN	7102A0545000	Dipole	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
4	AWAN	7102A0545000	Dipole	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
5	Extreme	ML-2452-HPAG5A8-01	Omni	N-type	Radio 1_5G+ Radio 2_2.4G
6	Extreme	ML-2452-HPAG5A8-01	Omni	N-type	Radio 1_5G+ Radio 2_2.4G
7	MARS	MA-WC2458-2H	Panel	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
8	AWAN	7102A0547000	Dipole	I-Pex	Radio 2_6E
9	AWAN	7102A0546000	Dipole	I-Pex	Radio 2_6E
10	Senao	5718A0694300	PIFA	I-Pex	Radio 3_ BT+802.15.4
11	Ventev	M603004001D3620DP	Panel	Reverse SMA	Radio 1_5G+ Radio 2_2.4G
12	Ventev	M604006002D2402	Panel	Reverse SMA	Radio 1_5G+ Radio 2_2.4G



Ant.	Gain (dBi)				
	2.4G	5G	6E	BT	802.15.4
1	3.04	4.96	-	-	-
2	3.04	4.96	-	-	-
3	3.23	5.22	-	-	-
4	3.23	5.22	-	-	-
5	5	8	-	-	-
6	5	8	-	-	-
7	7.5	7.5	-	-	-
8	-	-	5.49	-	-
9	-	-	5.49	-	-
10	-	-	-	4.02	4.02
11	2.94	4.62	-	-	-
12	2.97	4.94	-	-	-

Note 1: The EUT has ten antennas.

Note 2: The antenna mentioned above will not be sold with the EUT in the market. (except Dipole Antenna_7102A0545000)

Note 3: EUT can match with above antennas for using. Higher gain in each type of antenna was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 3 (port 1), Ant. 5 (port 1), Ant. 7 (port 1) and it was recorded in this test report.

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

Ant. 1~2, Ant. 3~4, Ant. 5~6, Ant. 7, Ant 11, Ant 12 could transmit/receive simultaneously.

For 5GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 3 (port 1), Ant. 6 (port 2), Ant. 7 (port 2) and it was recorded in this test report.

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

Ant. 1~2, Ant. 3~4, Ant. 5~6, Ant. 7, Ant 11, Ant 12 could transmit/receive simultaneously.

For 6GHz function:

For IEEE 802.11 a/ax mode (1TX/1RX)

Support diversity function and pre-tested on each single chain, the worst case was Ant. 9 (port 2) and it was recorded in this test report.

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

Ant. 8 and Ant. 9 could transmit/receive simultaneously.

For BT function:

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

Ant. 10 could transmit/receive.

For 802.15.4 function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 10 could transmit/receive.



1.1.3 EUT Information

Operational Condition	
EUT Power Type	From AC Adapter
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.15.4_Nss1_1TX	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.

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
AP3000-WW, AP3000X-WW	The "X" in AP3000X-WW SKU indicates that it comes with external antenna



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				
<input checked="" type="checkbox"/> 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	CO01-HY	Jack	22.0~22.5°C / 55~57%	12/May/2022~13/May/2022
RF Conducted	TH01-HY	Johnny	22.3~25.6°C / 51~60%	09/May/2022~12/Sep/2022
Radiated	03CH02-HY	Lego	21.5~22.3°C / 51~56%	25/Apr/2022~06/Sep/2022
Radiated (Co-location)	03CH03-HY	Edward	21.5~22.3°C / 51~56%	22/Aug/2022
<input type="checkbox"/> Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787	FAX: 886-3-318-0287		
Test site Designation No. TW0008 with FCC.				

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%
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	Setup_SmartRF_Studio_7-2.17.0
------------------------------	-------------------------------

Mode	Power Setting
802.15.4_Nss1_1TX	-
2405MHz	5
2440MHz	5
2475MHz	5
2480MHz	0

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	Adapter 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	Adapter 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	5GHz WLAN + 2.4GHz WLAN + Bluetooth
2	5GHz WLAN + 6GHz WLAN + Bluetooth
3	5GHz WLAN + 2.4GHz WLAN + 802.15.4
4	5GHz WLAN + 6GHz WLAN + 802.15.4
Refer to Sporton Test Report No.: FA232478 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
SPECIAL WALL BKT	Brand Name	COMING	Model Name	6309Aq493000
Antenna (For AP3000X)	Brand Name	AWAN	Model Name	7102A0545000

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

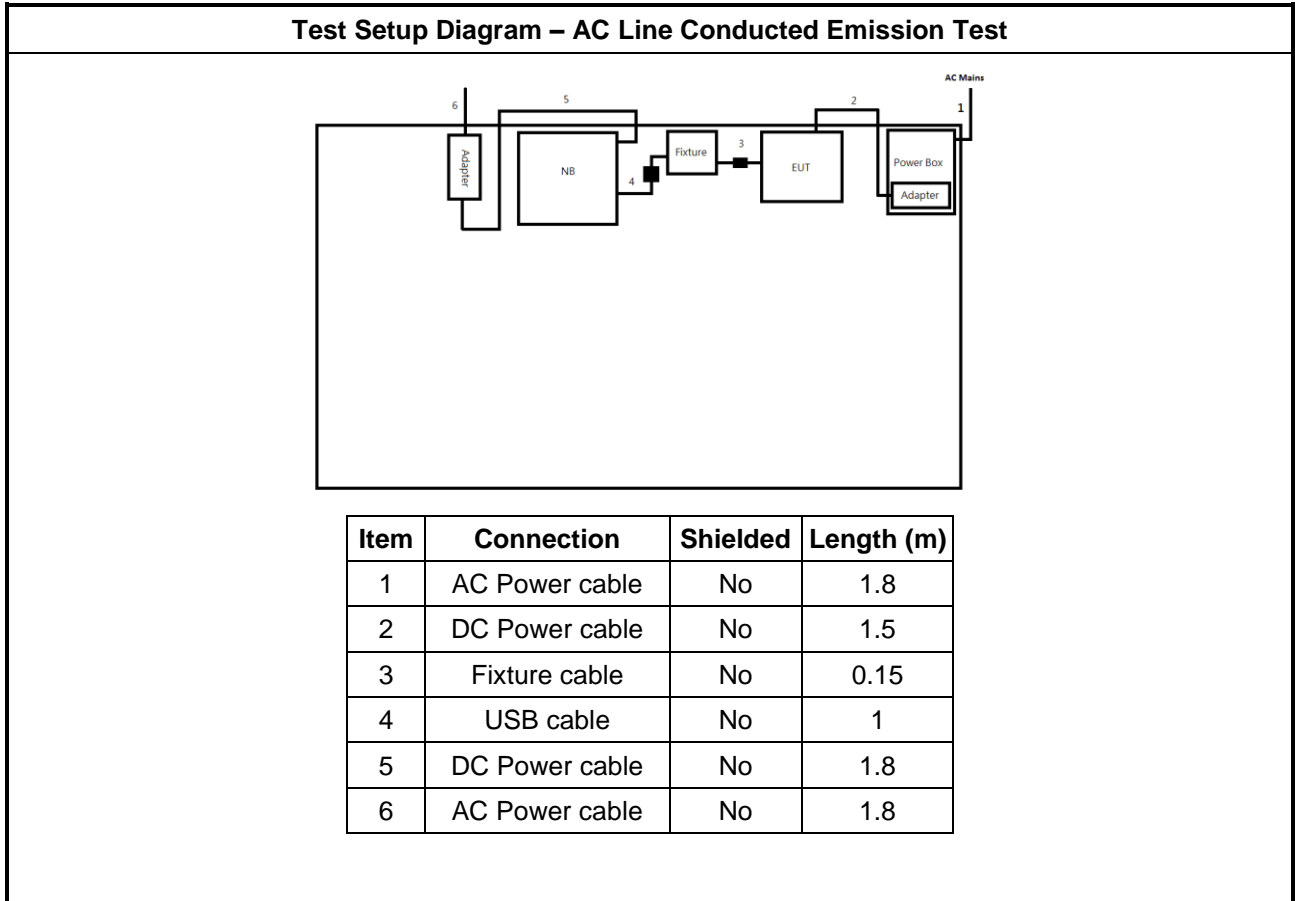
2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	5220M	-	-
2	AC Power Cable	Power sync	PW-GPC180-3	-	-
3	Adapter for NB	HP	PPP012L-E	-	-
4	AC Adapter	Powertron Electronics Corp.	PA1024-120IB200	-	-
5	Fixture	TI	CC2642R1/CC2652R1 Development Kit	-	Provided by Customer

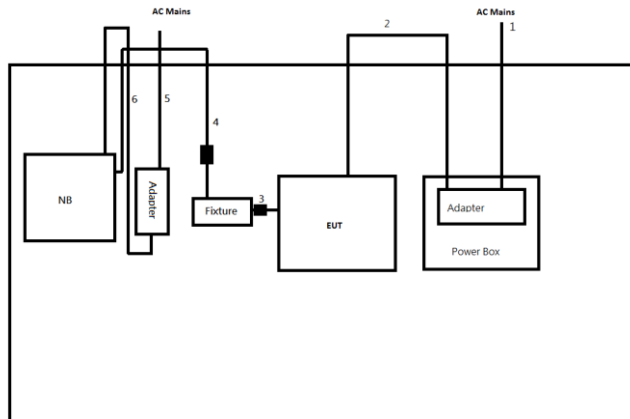
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	AC Adapter	Powertron Electronics Corp.	PA1024-120IB200	-	-
4	Fixture	TI	CC2642R1/CC2652R1 Development Kit	-	Provided by Customer

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	5220M	-	-
2	Adapter for NB	HP	PPP012L-E	-	-
3	Adapter	Powertron Electronics Corp.	PA1024-120IB200	-	-
4	Omni Antenna	Extreme	ML-2452-HPAG5A8-01	-	-
5	Panel Antenna	MARS	MA-WC2458-2H	-	-

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.5
3	Fixture	No	0.2
4	USB cable	No	0.5
5	AC Power cable	No	1.8
6	DC Power cable	No	1.8



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

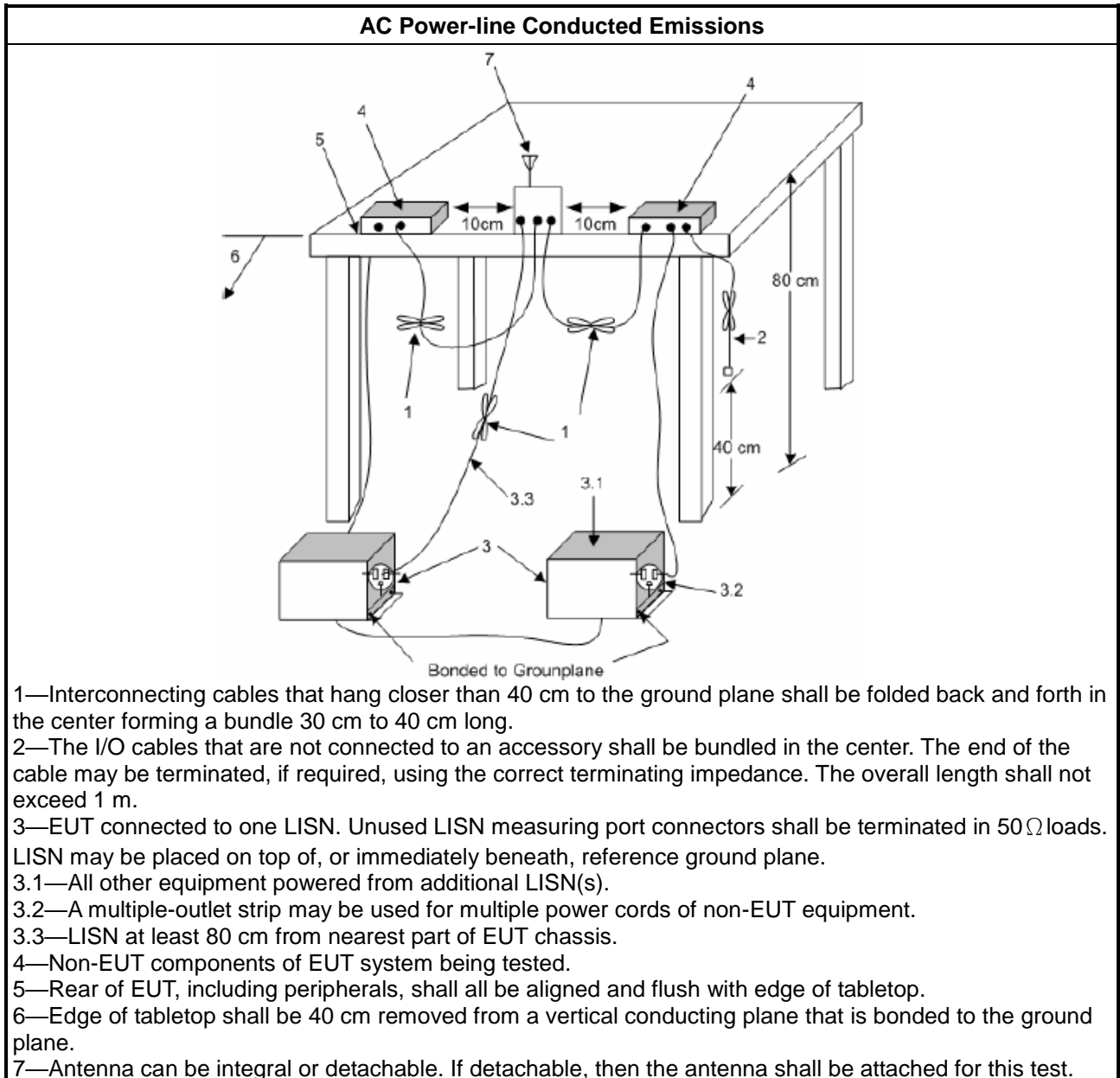
Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 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:
<ul style="list-style-type: none"> ▪ 6 dB bandwidth \geq 500 kHz.

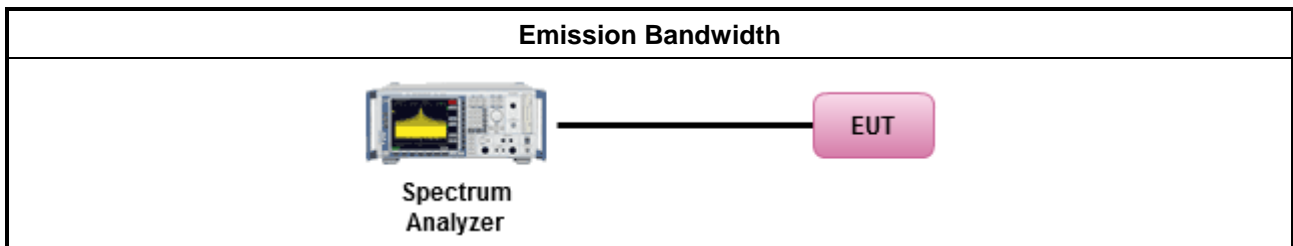
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/> Refer as RSS-Gen, clause 6.7 for for occupied bandwidth testing.
<input type="checkbox"/> 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	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - 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.	

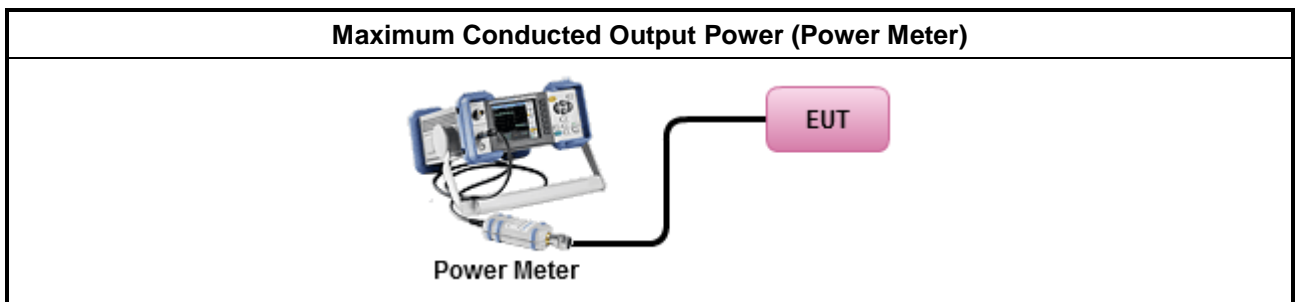
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> ▪ Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ 	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

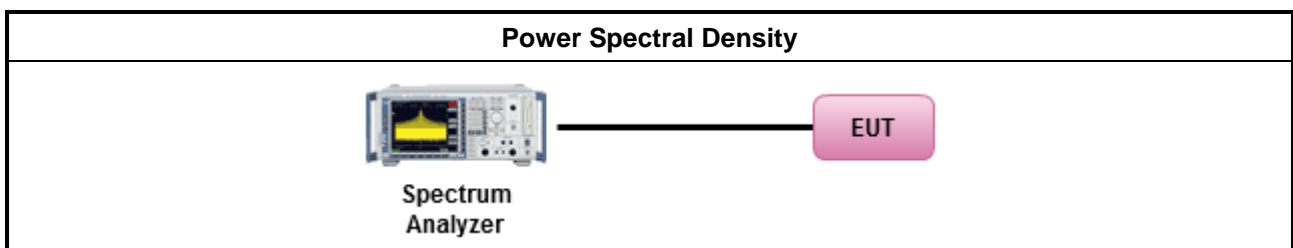
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.
	<ul style="list-style-type: none"> ▪ For conducted measurement.
	<ul style="list-style-type: none"> ▪ If The EUT supports multiple transmit chains using options given below:
	<ul style="list-style-type: none"> ▪ 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.

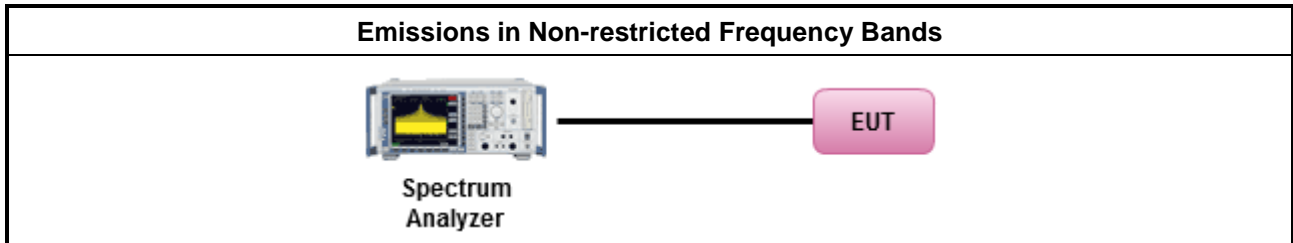
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> 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

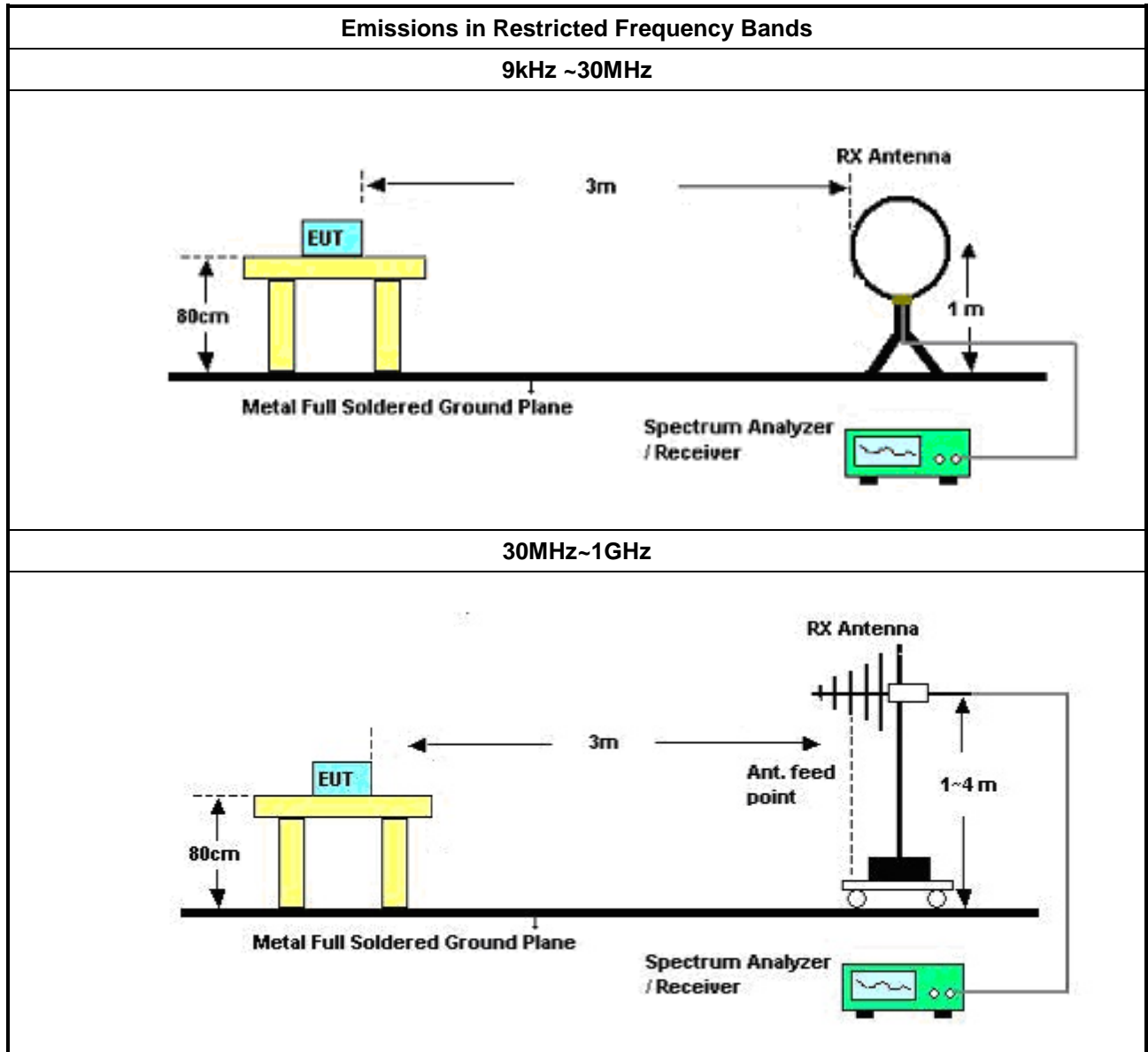
Test Method	
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as 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.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ 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).
	<ul style="list-style-type: none"> ▪ Use the following spectrum analyzer settings:
	<ul style="list-style-type: none"> ▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	<ul style="list-style-type: none"> ▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
	<ul style="list-style-type: none"> ▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

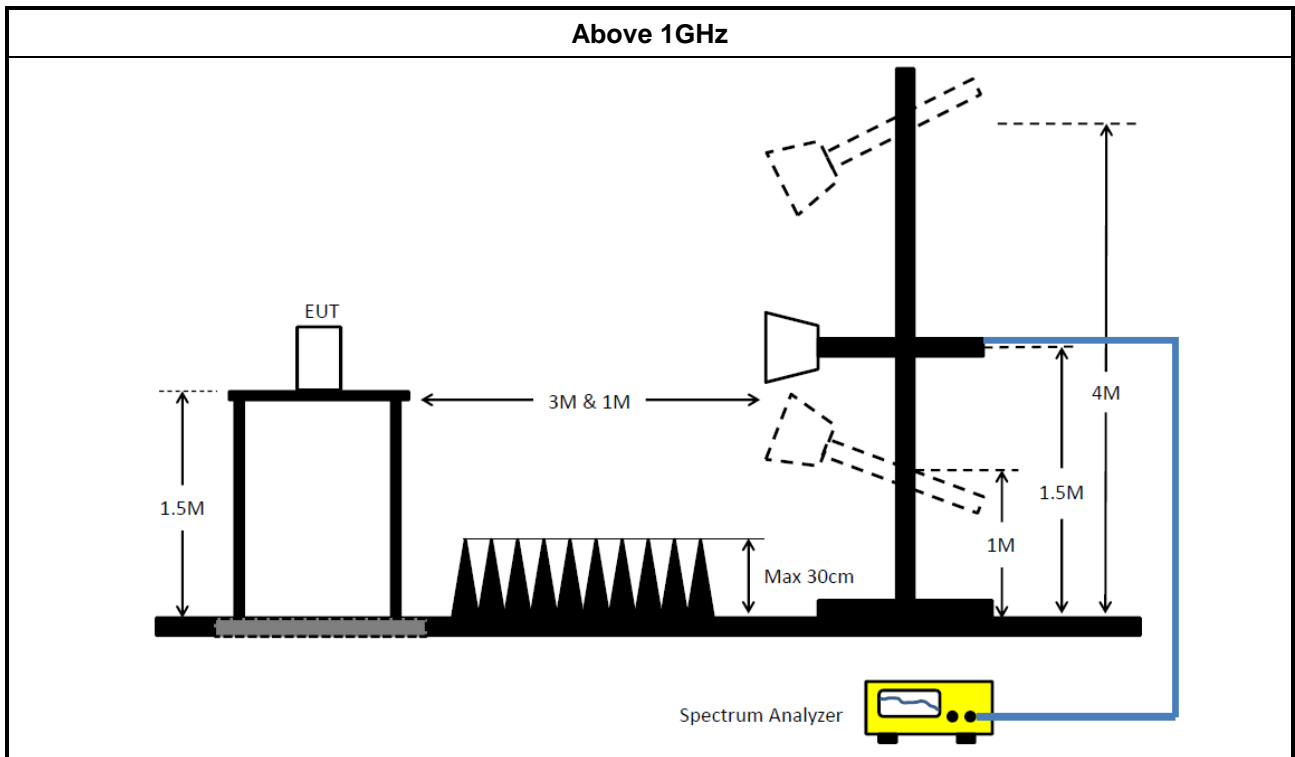
3.6.4 Measurement Results Calculation

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	102052	9kHz ~ 3.6GHz	02/Jun/2021	01/Jun/2022
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	12/Jan/2022	11/Jan/2023
LISN- Two-Line V Network (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz ~ 30MHz	12/Oct/2021	11/Oct/2022
Cable	MTJ	RG 142	CO01-cable-01	9 kHz ~ 1GHz	12/Jul/2021	11/Jul/2022
Pulse Limiter	R&S	EHS3-Z2	100920	9kHz ~ 30MHz	29/Oct/2021	28/Oct/2022
Software	Sporton	SENSE-EMI	V5.10.7	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	01/Apr/2022	31/Mar/2023
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2021	20/Oct/2022
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	21/Feb/2022	20/Feb/2023
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	21/Feb/2022	20/Feb/2023
SENSE-15247_DTS	Sporton	V5.10.8.3	N/A	N/A	N/A	N/A



Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	02/Aug/2021	01/Aug/2022
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	01/Aug/2021	31/Jul/2022
Signal Analyzer	R&S	FSP40	100593	9kHz~40GHz	08/Apr/2022	07/Apr/2023
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	29/Jun/2021	28/Jun/2022
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	03/Nov/2021	02/Nov/2022
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	04/Sep/2021	03/Sep/2022
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 01543	1GHz~18GHz	04/Jun/2021	03/Jun/2022
RF Cable	MVE	400LL	MVE-1-0802	9kHz~30MHz	04/May/2022	03/May/2023
RF Cable	MVE	400LL	MVE-1-0802	30MHz~1GHz	04/May/2022	03/May/2023
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	805193/4+805192 /4	1GHz~40GHz	01/Apr/2022	31/Mar/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	02/Jun/2021	01/Jun/2022
SENSE-15247_DTS	Sporton	V5.10.7.15	N/A	N/A	N/A	N/A

Instrument for Radiated Test (Co-location)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	02/Aug/2022	01/Aug/2023
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	12/Oct/2021	11/Oct/2022
Microwave Preamplifier	Agilent	8449BA	3008A02326	1 GHz ~ 26.5 GHz	14/Jul/2022	13/Jul/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz ~18GHz	14/Sep/2021	13/Sep/2022
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-01	1GHz~40GHz	27/Jul/2022	26/Jul/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	08/Mar/2022	07/Mar/2023
SENSE-EMI	Sporton	V5.10.8.6	NA	NA	NA	NA



Summary

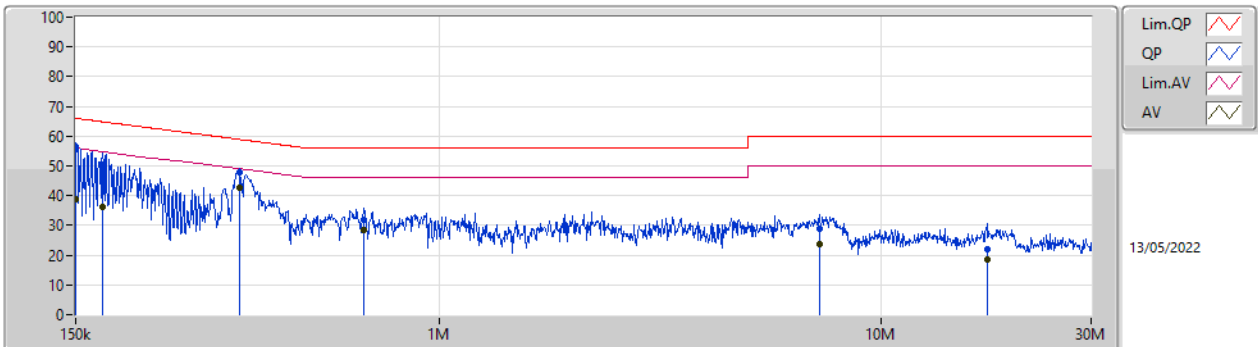
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	352.457k	42.53	48.91	-6.38	Line



Mode Configure

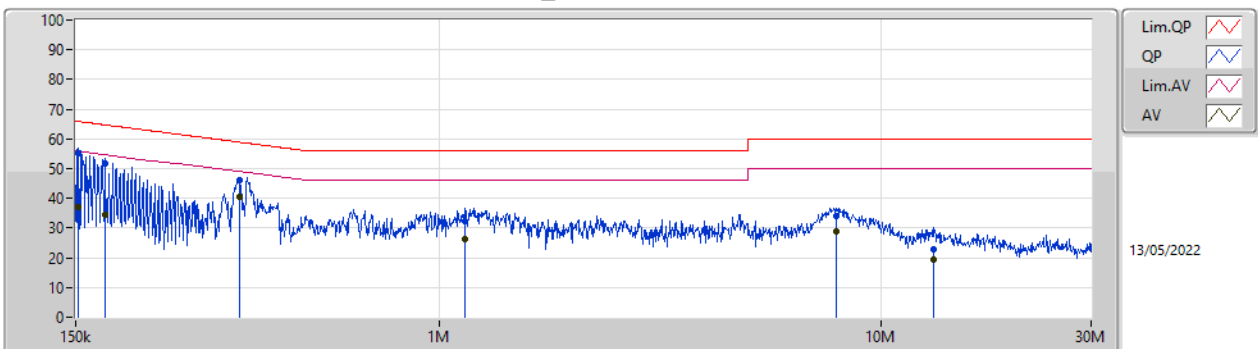
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	150k	55.76	66.00	-10.24	Line	-
Mode 1	Pass	AV	150k	38.74	56.00	-17.26	Line	-
Mode 1	Pass	QP	172.493k	50.50	64.83	-14.33	Line	-
Mode 1	Pass	AV	172.493k	36.09	54.83	-18.74	Line	-
Mode 1	Pass	QP	352.457k	47.75	58.91	-11.16	Line	-
Mode 1	Pass	AV	352.457k	42.53	48.91	-6.38	Line	-
Mode 1	Pass	QP	672.926k	31.87	56.00	-24.13	Line	-
Mode 1	Pass	AV	672.926k	28.61	46.00	-17.39	Line	-
Mode 1	Pass	QP	7.265M	28.73	60.00	-31.27	Line	-
Mode 1	Pass	AV	7.265M	23.65	50.00	-26.35	Line	-
Mode 1	Pass	QP	17.416M	21.97	60.00	-38.03	Line	-
Mode 1	Pass	AV	17.416M	18.42	50.00	-31.58	Line	-
Mode 1	Pass	QP	152.414k	55.30	65.87	-10.57	Neutral	-
Mode 1	Pass	AV	152.414k	36.97	55.87	-18.90	Neutral	-
Mode 1	Pass	QP	174.571k	51.56	64.74	-13.18	Neutral	-
Mode 1	Pass	AV	174.571k	34.68	54.74	-20.06	Neutral	-
Mode 1	Pass	QP	352.457k	46.00	58.91	-12.91	Neutral	-
Mode 1	Pass	AV	352.457k	40.52	48.91	-8.39	Neutral	-
Mode 1	Pass	QP	1.144M	32.49	56.00	-23.51	Neutral	-
Mode 1	Pass	AV	1.144M	26.12	46.00	-19.88	Neutral	-
Mode 1	Pass	QP	7.964M	33.92	60.00	-26.08	Neutral	-
Mode 1	Pass	AV	7.964M	28.91	50.00	-21.09	Neutral	-
Mode 1	Pass	QP	13.17M	22.98	60.00	-37.02	Neutral	-
Mode 1	Pass	AV	13.17M	19.53	50.00	-30.47	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	55.76	66.00	-10.24	19.36	Line	-	36.40	9.60	0.07	9.69
AV	150k	38.74	56.00	-17.26	19.36	Line	-	19.38	9.60	0.07	9.69
QP	172.493k	50.50	64.83	-14.33	19.36	Line	-	31.14	9.60	0.07	9.69
AV	172.493k	36.09	54.83	-18.74	19.36	Line	-	16.73	9.60	0.07	9.69
QP	352.457k	47.75	58.91	-11.16	19.39	Line	-	28.36	9.60	0.09	9.70
AV	352.457k	42.53	48.91	-6.38	19.39	Line	-	23.14	9.60	0.09	9.70
QP	672.926k	31.87	56.00	-24.13	19.40	Line	-	12.47	9.61	0.10	9.69
AV	672.926k	28.61	46.00	-17.39	19.40	Line	-	9.21	9.61	0.10	9.69
QP	7.265M	28.73	60.00	-31.27	19.55	Line	-	9.18	9.63	0.21	9.71
AV	7.265M	23.65	50.00	-26.35	19.55	Line	-	4.10	9.63	0.21	9.71
QP	17.416M	21.97	60.00	-38.03	19.64	Line	-	2.33	9.60	0.31	9.73
AV	17.416M	18.42	50.00	-31.58	19.64	Line	-	-1.22	9.60	0.31	9.73

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	152.414k	55.30	65.87	-10.57	19.35	Neutral	-	35.95	9.59	0.07	9.69
AV	152.414k	36.97	55.87	-18.90	19.35	Neutral	-	17.62	9.59	0.07	9.69
QP	174.571k	51.56	64.74	-13.18	19.35	Neutral	-	32.21	9.59	0.07	9.69
AV	174.571k	34.68	54.74	-20.06	19.35	Neutral	-	15.33	9.59	0.07	9.69
QP	352.457k	46.00	58.91	-12.91	19.37	Neutral	-	26.63	9.58	0.09	9.70
AV	352.457k	40.52	48.91	-8.39	19.37	Neutral	-	21.15	9.58	0.09	9.70
QP	1.144M	32.49	56.00	-23.51	19.39	Neutral	-	13.10	9.59	0.11	9.69
AV	1.144M	26.12	46.00	-19.88	19.39	Neutral	-	6.73	9.59	0.11	9.69
QP	7.964M	33.92	60.00	-26.08	19.56	Neutral	-	14.36	9.64	0.21	9.71
AV	7.964M	28.91	50.00	-21.09	19.56	Neutral	-	9.35	9.64	0.21	9.71
QP	13.17M	22.98	60.00	-37.02	19.65	Neutral	-	3.33	9.66	0.27	9.72
AV	13.17M	19.53	50.00	-30.47	19.65	Neutral	-	-0.12	9.66	0.27	9.72



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_Nss1_1TX	1.613M	2.592M	2M59D1D	1.569M	2.58M

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_Nss1_1TX	-	-	-	-
2405MHz	Pass	500k	1.569M	2.592M
2440MHz	Pass	500k	1.575M	2.58M
2475MHz	Pass	500k	1.613M	2.586M
2480MHz	Pass	500k	1.588M	2.586M

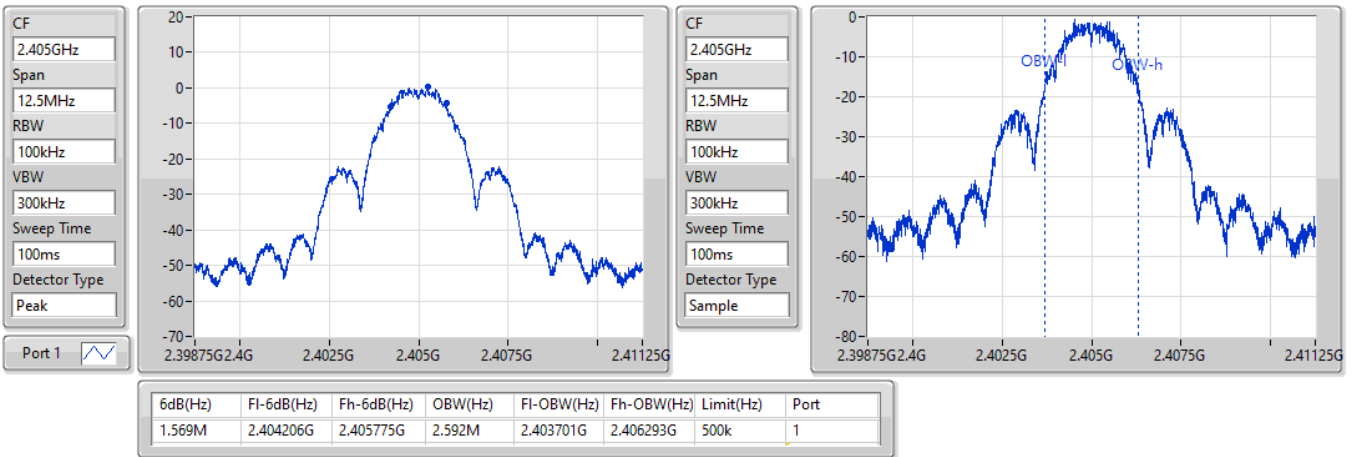
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.15.4_Nss1_1TX

EBW

2405MHz

18/05/2022

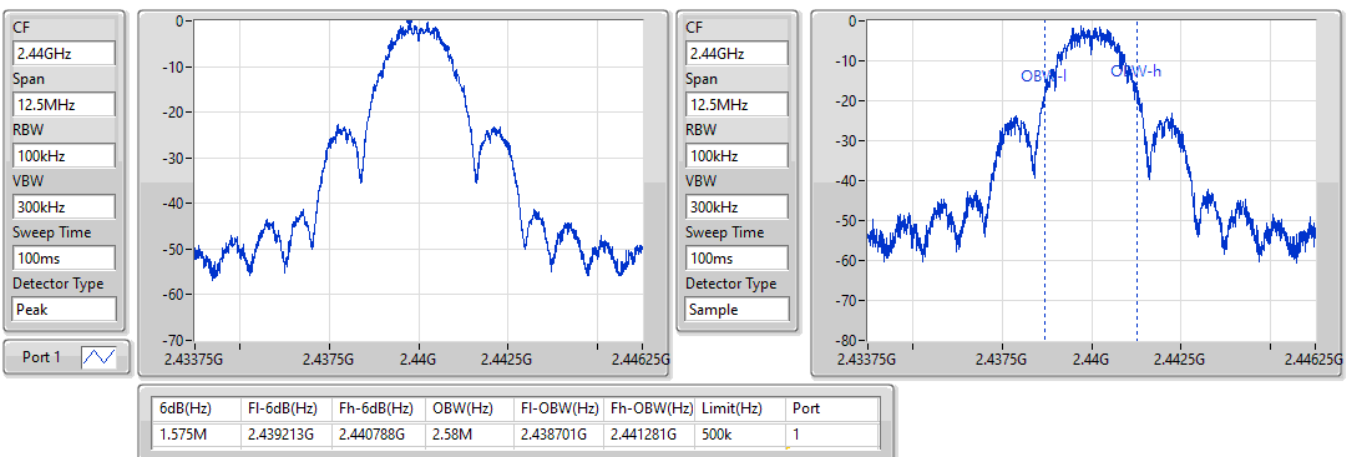


802.15.4_Nss1_1TX

EBW

2440MHz

18/05/2022

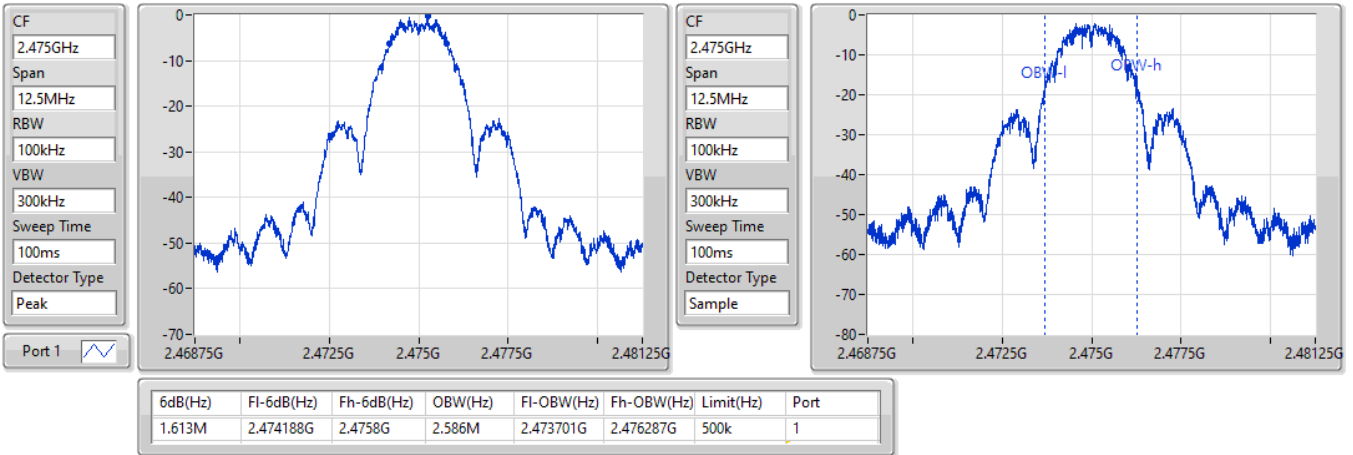


802.15.4_Nss1_1TX

EBW

2475MHz

18/05/2022

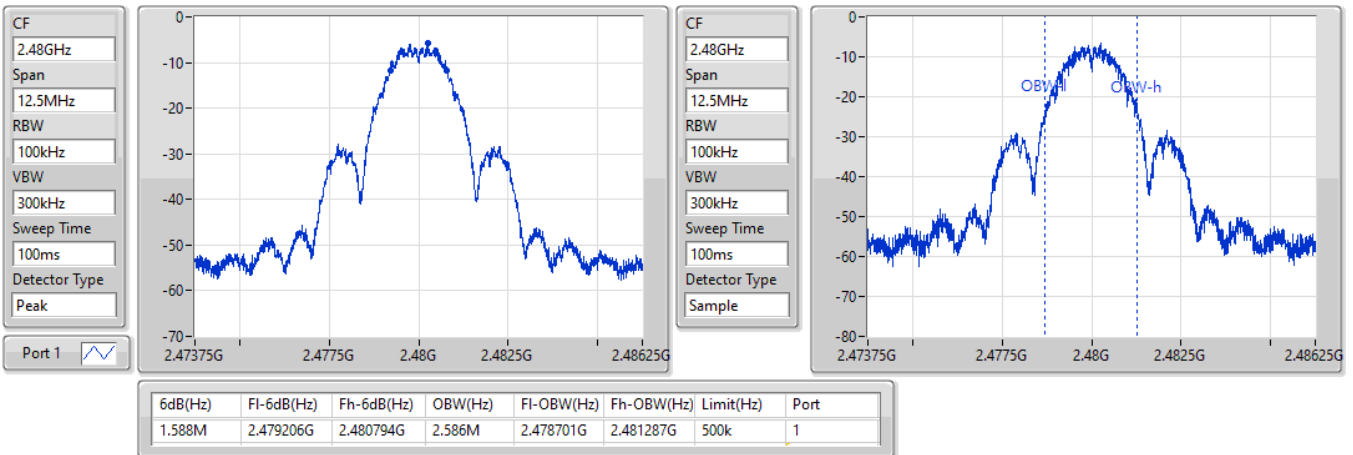


802.15.4_Nss1_1TX

EBW

2480MHz

18/05/2022





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.15.4_Nss1_1TX	4.01	0.00252



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.15.4_Nss1_1TX	-	-	-	-	-
2405MHz	Pass	4.02	4.01	4.01	30.00
2440MHz	Pass	4.02	3.43	3.43	30.00
2475MHz	Pass	4.02	3.30	3.30	30.00
2480MHz	Pass	4.02	-2.24	-2.24	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.15.4_Nss1_1TX	-12.46

RBW = 3kHz;



Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.15.4_Nss1_1TX	-	-	-	-	-
2405MHz	Pass	4.02	-12.46	-12.46	8.00
2440MHz	Pass	4.02	-13.53	-13.53	8.00
2475MHz	Pass	4.02	-13.41	-13.41	8.00
2480MHz	Pass	4.02	-18.53	-18.53	8.00

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

802.15.4_Nss1_1TX

PSD

2405MHz

18/05/2022

CF
2.405GHz

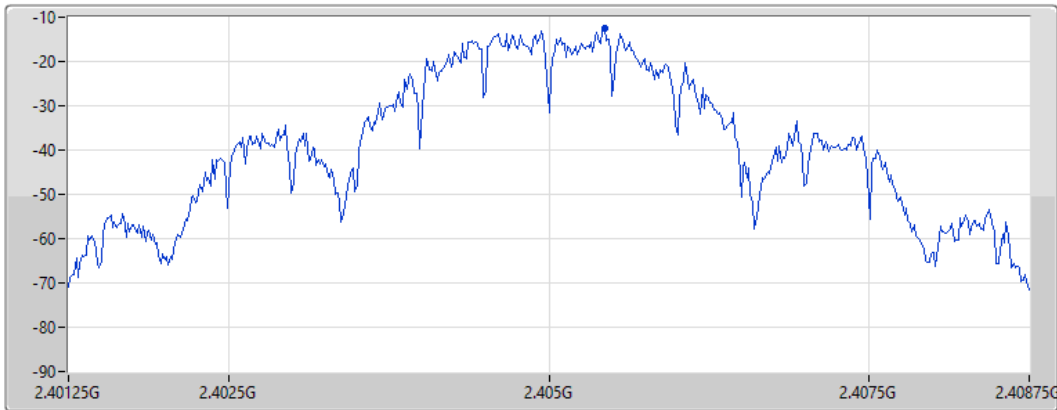
Span
7.5MHz


RBW
3kHz

VBW
10kHz

Sweep Time
1.264133ms

Detector Type
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.46	-12.46	-12.46

802.15.4_Nss1_1TX

PSD

2440MHz

18/05/2022

CF
2.44GHz

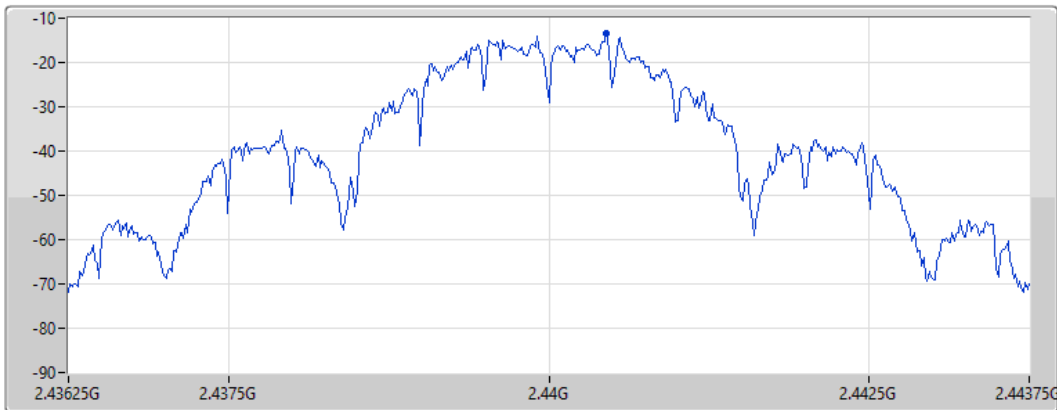
Span
7.5MHz


RBW
3kHz

VBW
10kHz

Sweep Time
1.264133ms

Detector Type
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.53	-13.53	-13.53

802.15.4_Nss1_1TX

PSD

2475MHz

18/05/2022

CF
2.475GHz

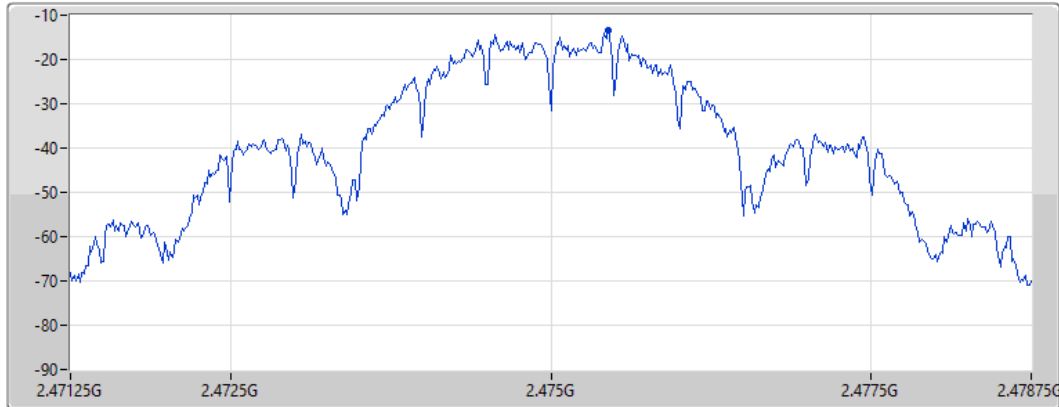
Span
7.5MHz


RBW
3kHz

VBW
10kHz

Sweep Time
1.264133ms

Detector Type
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.41	-13.41	-13.41

802.15.4_Nss1_1TX

PSD

2480MHz

18/05/2022

CF
2.48GHz

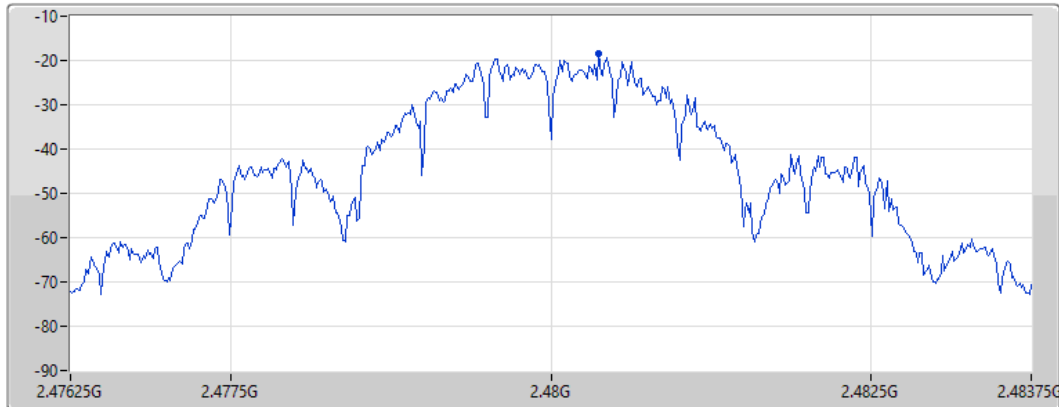
Span
7.5MHz


RBW
3kHz

VBW
10kHz

Sweep Time
1.264133ms

Detector Type
Peak



Port 1 

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-18.53	-18.53	-18.53



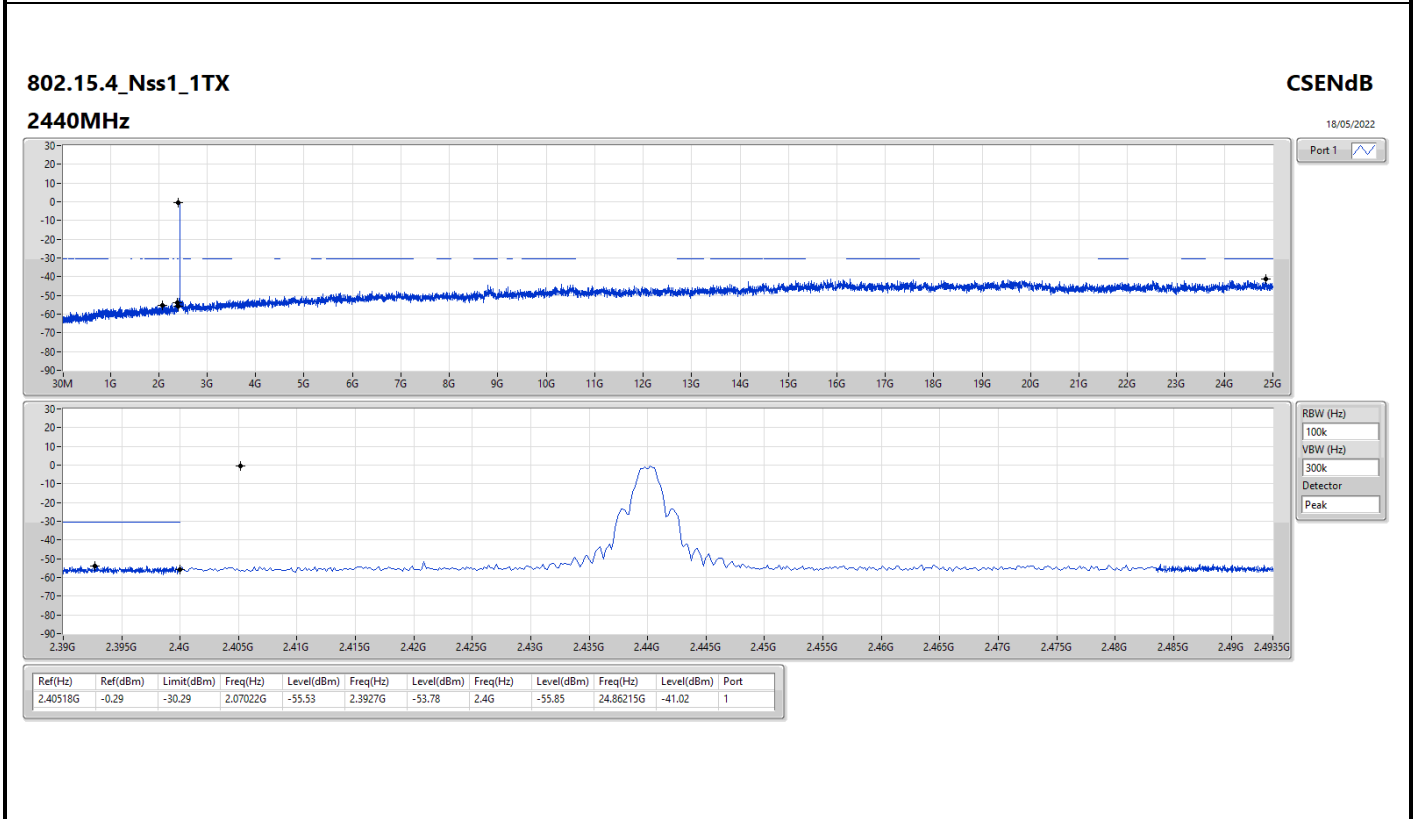
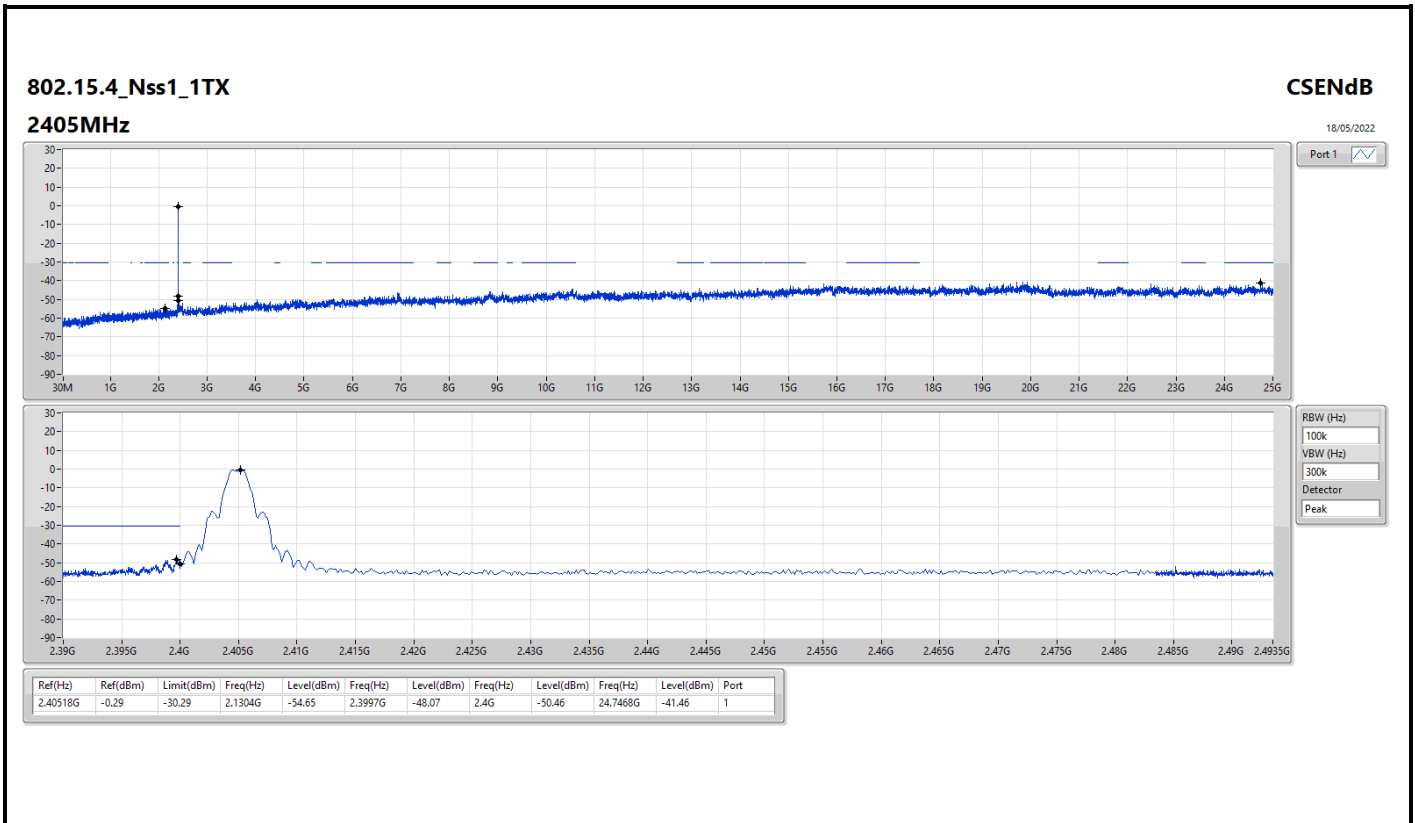
Summary

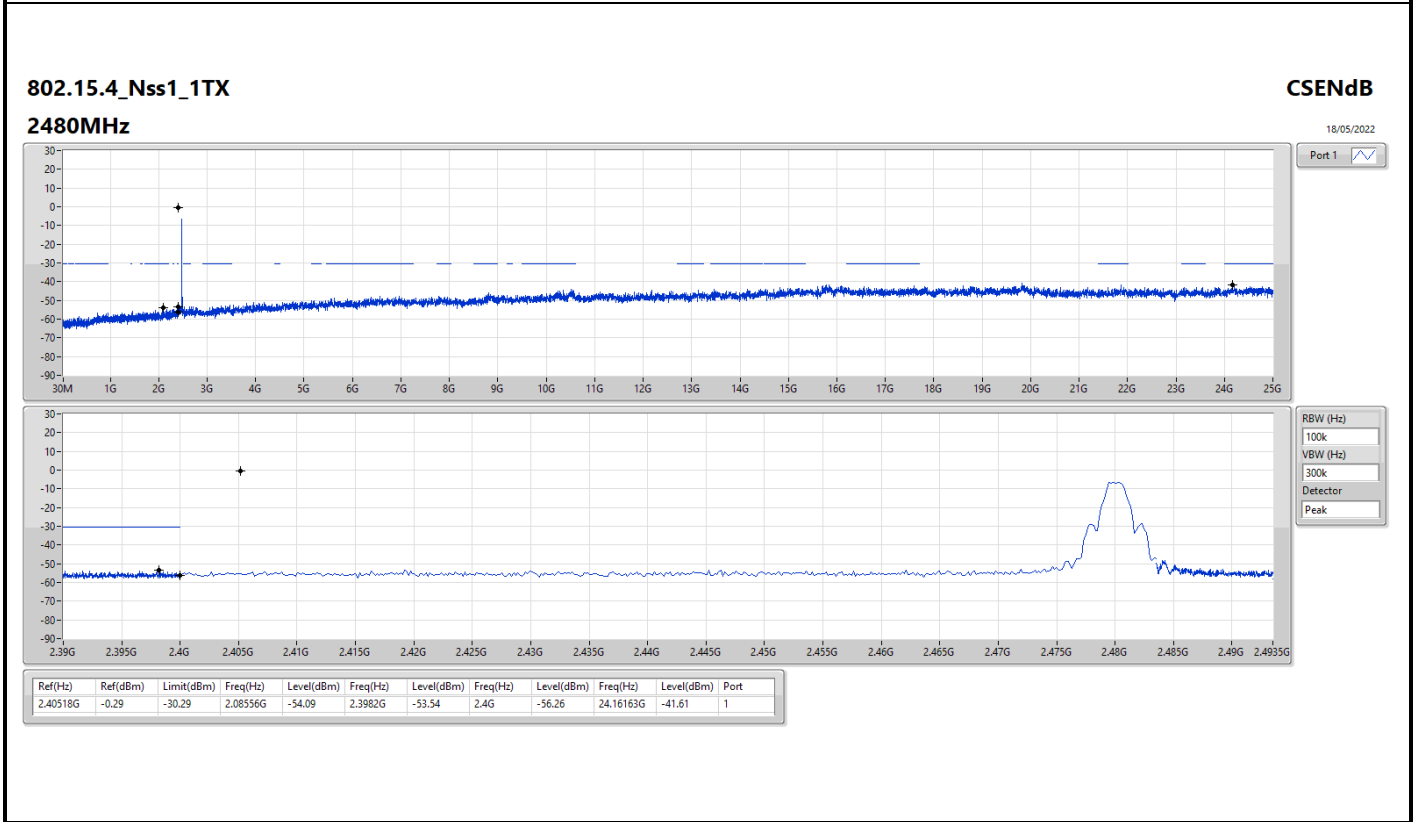
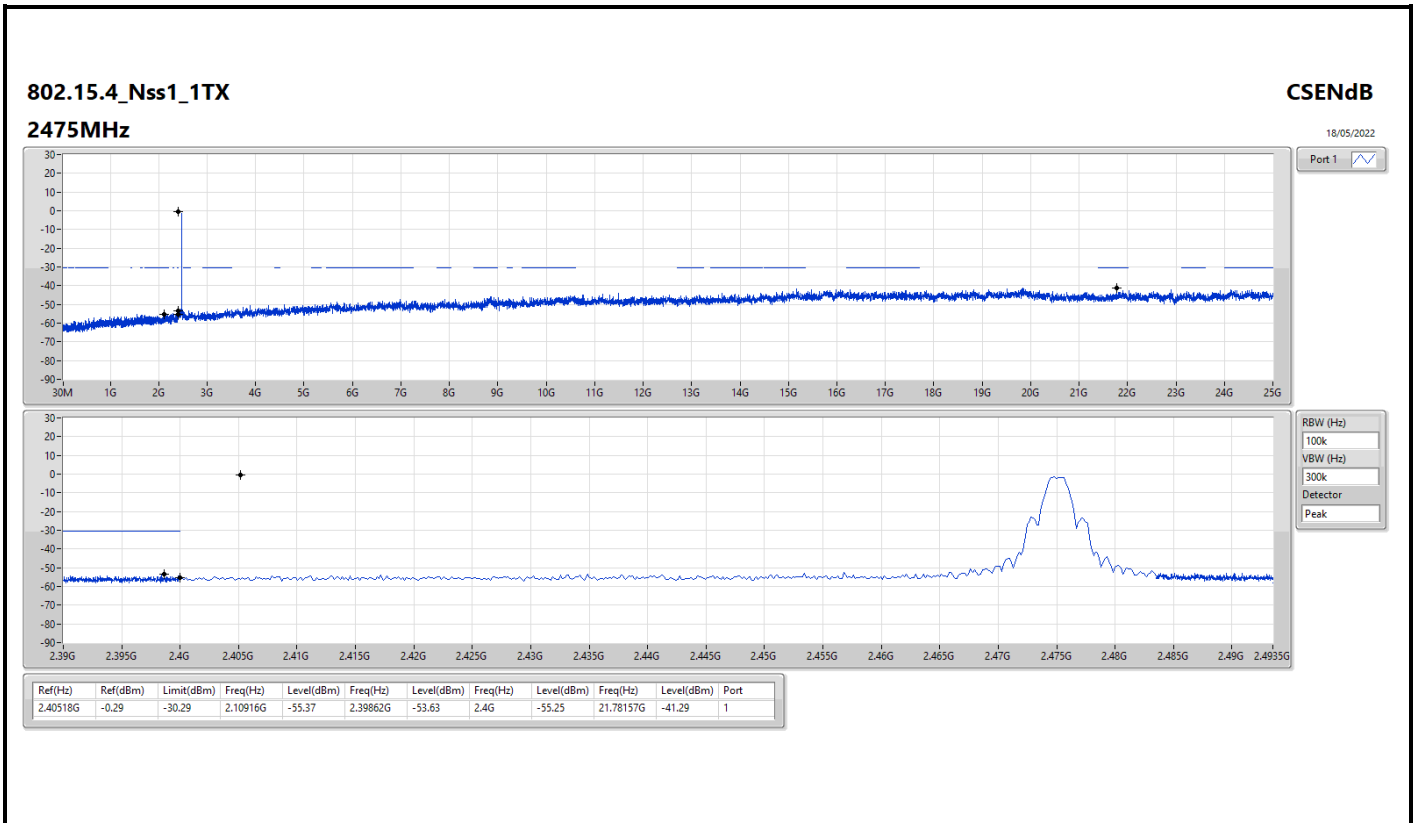
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.15.4_Nss1_1TX	Pass	2.40518G	-0.29	-30.29	2.07022G	-55.53	2.3927G	-53.78	2.4G	-55.85	24.86215G	-41.02	1



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_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.40518G	-0.29	-30.29	2.1304G	-54.65	2.3997G	-48.07	2.4G	-50.46	24.7468G	-41.46	1
2440MHz	Pass	2.40518G	-0.29	-30.29	2.07022G	-55.53	2.3927G	-53.78	2.4G	-55.85	24.86215G	-41.02	1
2475MHz	Pass	2.40518G	-0.29	-30.29	2.10916G	-55.37	2.39862G	-53.63	2.4G	-55.25	21.78157G	-41.29	1
2480MHz	Pass	2.40518G	-0.29	-30.29	2.08556G	-54.09	2.3982G	-53.54	2.4G	-56.26	24.16163G	-41.61	1







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_Nss1_1TX	Pass	PK	350.1M	42.61	46.00	-3.39	3	Vertical	0	1.00	-

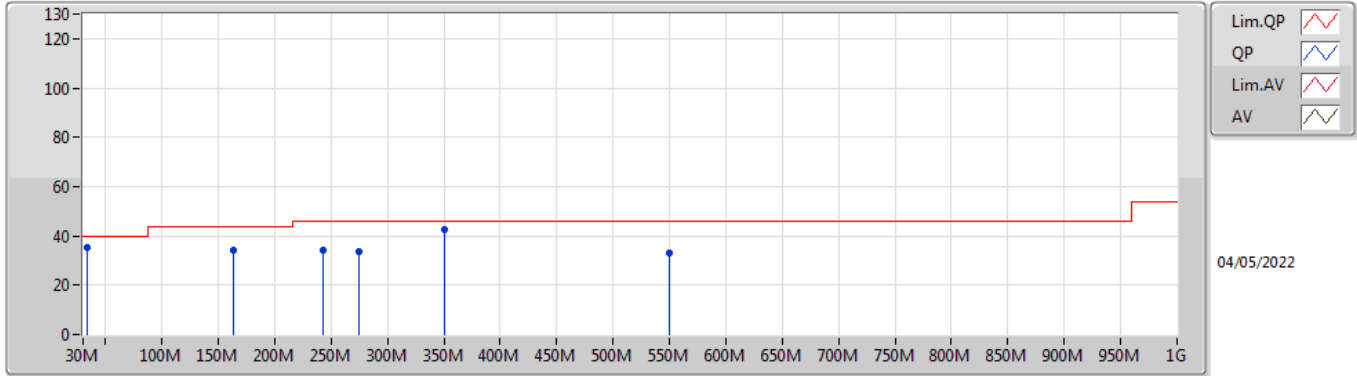


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.15.4_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	33.88M	35.17	40.00	-4.83	3	Vertical	0	1.00	-
2440MHz	Pass	PK	163.86M	34.36	43.50	-9.14	3	Vertical	0	1.00	-
2440MHz	Pass	PK	243.4M	33.93	46.00	-12.07	3	Vertical	0	1.00	-
2440MHz	Pass	PK	274.44M	33.62	46.00	-12.38	3	Vertical	0	1.00	-
2440MHz	Pass	PK	350.1M	42.61	46.00	-3.39	3	Vertical	0	1.00	-
2440MHz	Pass	PK	549.92M	33.22	46.00	-12.78	3	Vertical	0	1.00	-
2440MHz	Pass	PK	33.88M	34.70	40.00	-5.30	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	130.88M	34.79	43.50	-8.71	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	165.8M	36.15	43.50	-7.35	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	243.4M	40.32	46.00	-5.68	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	350.1M	42.54	46.00	-3.46	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	716.76M	34.95	46.00	-11.05	3	Horizontal	360	1.00	-

802.15.4_Nss1_1TX

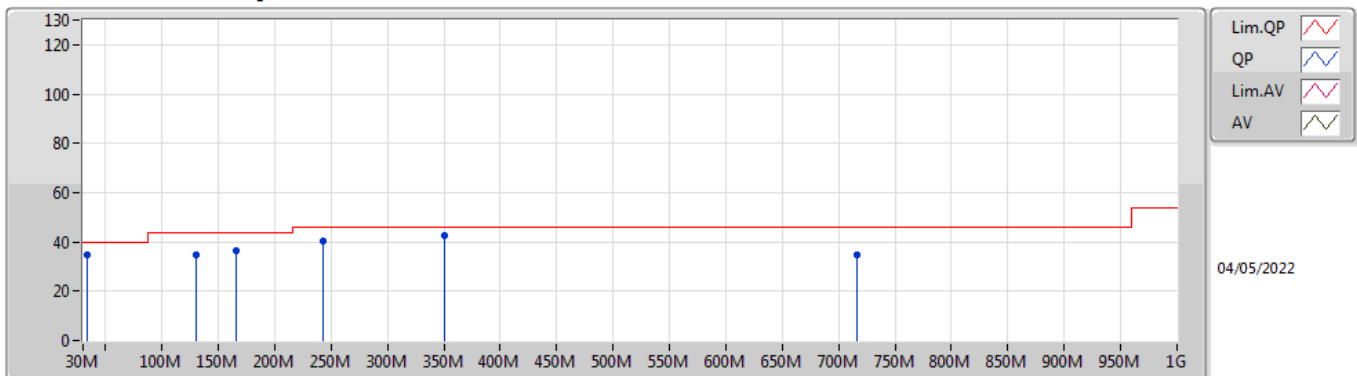
2440MHz_Adapter



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	33.88M	35.17	40.00	-4.83	-4.98	3	Vertical	0	1.00	-	40.15	21.11	1.02	27.11
PK	163.86M	34.36	43.50	-9.14	-10.59	3	Vertical	0	1.00	-	44.95	15.11	1.81	27.51
PK	243.4M	33.93	46.00	-12.07	-8.01	3	Vertical	0	1.00	-	41.94	16.82	2.23	27.06
PK	274.44M	33.62	46.00	-12.38	-6.67	3	Vertical	0	1.00	-	40.29	17.99	2.38	27.04
PK	350.1M	42.61	46.00	-3.39	-5.03	3	Vertical	0	1.00	-	47.64	19.59	2.71	27.33
PK	549.92M	33.22	46.00	-12.78	-1.02	3	Vertical	0	1.00	-	34.24	23.89	3.41	28.32

802.15.4_Nss1_1TX

2440MHz_Adapter



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	33.88M	34.70	40.00	-5.30	-4.98	3	Horizontal	360	1.00	-	39.68	21.11	1.02	27.11
PK	130.88M	34.79	43.50	-8.71	-8.98	3	Horizontal	360	1.00	-	43.77	17.10	1.61	27.69
PK	165.8M	36.15	43.50	-7.35	-10.60	3	Horizontal	360	1.00	-	46.75	15.08	1.82	27.50
PK	243.4M	40.32	46.00	-5.68	-8.01	3	Horizontal	360	1.00	-	48.33	16.82	2.23	27.06
PK	350.1M	42.54	46.00	-3.46	-5.03	3	Horizontal	360	1.00	-	47.57	19.59	2.71	27.33
PK	716.76M	34.95	46.00	-11.05	0.05	3	Horizontal	360	1.00	-	34.90	24.37	3.86	28.18



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_Nss1_1TX	Pass	AV	2.4835G	53.28	54.00	-0.72	3	Horizontal	343	1.00	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.15.4_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.3606G	48.43	54.00	-5.57	3	Vertical	19	1.08	-
2405MHz	Pass	AV	2.405G	95.21	Inf	-Inf	3	Vertical	19	1.08	-
2405MHz	Pass	PK	2.3578G	60.11	74.00	-13.89	3	Vertical	19	1.08	-
2405MHz	Pass	PK	2.4056G	99.75	Inf	-Inf	3	Vertical	19	1.08	-
2405MHz	Pass	AV	2.3564G	48.33	54.00	-5.67	3	Horizontal	339	1.50	-
2405MHz	Pass	AV	2.405G	96.23	Inf	-Inf	3	Horizontal	339	1.50	-
2405MHz	Pass	PK	2.3766G	60.57	74.00	-13.43	3	Horizontal	339	1.50	-
2405MHz	Pass	PK	2.4056G	100.76	Inf	-Inf	3	Horizontal	339	1.50	-
2405MHz	Pass	AV	4.81104G	30.15	54.00	-23.85	3	Vertical	15	1.29	-
2405MHz	Pass	PK	4.80937G	44.97	74.00	-29.03	3	Vertical	15	1.29	-
2405MHz	Pass	AV	4.81091G	29.84	54.00	-24.16	3	Horizontal	42	1.41	-
2405MHz	Pass	PK	4.8108G	43.90	74.00	-30.10	3	Horizontal	42	1.41	-
2440MHz	Pass	AV	2.3432G	48.47	54.00	-5.53	3	Vertical	40	2.16	-
2440MHz	Pass	AV	2.44G	96.17	Inf	-Inf	3	Vertical	40	2.16	-
2440MHz	Pass	AV	2.4848G	47.97	54.00	-6.03	3	Vertical	40	2.16	-
2440MHz	Pass	PK	2.3824G	59.94	74.00	-14.06	3	Vertical	40	2.16	-
2440MHz	Pass	PK	2.4404G	100.57	Inf	-Inf	3	Vertical	40	2.16	-
2440MHz	Pass	PK	2.4988G	59.49	74.00	-14.51	3	Vertical	40	2.16	-
2440MHz	Pass	AV	2.3432G	48.48	54.00	-5.52	3	Horizontal	340	1.36	-
2440MHz	Pass	AV	2.44G	96.59	Inf	-Inf	3	Horizontal	340	1.36	-
2440MHz	Pass	AV	2.4884G	48.00	54.00	-6.00	3	Horizontal	340	1.36	-
2440MHz	Pass	PK	2.3556G	60.16	74.00	-13.84	3	Horizontal	340	1.36	-
2440MHz	Pass	PK	2.4404G	100.97	Inf	-Inf	3	Horizontal	340	1.36	-
2440MHz	Pass	PK	2.4908G	59.96	74.00	-14.04	3	Horizontal	340	1.36	-
2440MHz	Pass	AV	4.8789G	31.00	54.00	-23.00	3	Vertical	14	1.46	-
2440MHz	Pass	AV	7.31867G	36.39	54.00	-17.61	3	Vertical	299	2.60	-
2440MHz	Pass	PK	4.8792G	44.21	74.00	-29.79	3	Vertical	14	1.46	-
2440MHz	Pass	PK	7.32045G	50.07	74.00	-23.93	3	Vertical	299	2.60	-
2440MHz	Pass	AV	4.87909G	30.42	54.00	-23.58	3	Horizontal	13	1.50	-
2440MHz	Pass	AV	7.31773G	36.27	54.00	-17.73	3	Horizontal	40	1.50	-
2440MHz	Pass	PK	4.88104G	44.28	74.00	-29.72	3	Horizontal	13	1.50	-
2440MHz	Pass	PK	7.32129G	51.13	74.00	-22.87	3	Horizontal	40	1.50	-
2475MHz	Pass	AV	2.475G	94.78	Inf	-Inf	3	Vertical	40	1.96	-
2475MHz	Pass	AV	2.4852G	48.02	54.00	-5.98	3	Vertical	40	1.96	-
2475MHz	Pass	PK	2.4744G	99.26	Inf	-Inf	3	Vertical	40	1.96	-
2475MHz	Pass	PK	2.487G	59.50	74.00	-14.50	3	Vertical	40	1.96	-
2475MHz	Pass	AV	2.475G	96.07	Inf	-Inf	3	Horizontal	344	1.50	-
2475MHz	Pass	AV	2.4836G	48.12	54.00	-5.88	3	Horizontal	344	1.50	-
2475MHz	Pass	PK	2.4744G	100.51	Inf	-Inf	3	Horizontal	344	1.50	-
2475MHz	Pass	PK	2.4898G	59.69	74.00	-14.31	3	Horizontal	344	1.50	-
2475MHz	Pass	AV	4.9488G	30.28	54.00	-23.72	3	Vertical	48	1.50	-
2475MHz	Pass	AV	7.42686G	36.71	54.00	-17.29	3	Vertical	127	1.00	-
2475MHz	Pass	PK	4.9486G	44.14	74.00	-29.86	3	Vertical	48	1.50	-
2475MHz	Pass	PK	7.426G	50.81	74.00	-23.19	3	Vertical	127	1.00	-
2475MHz	Pass	AV	4.94986G	30.30	54.00	-23.70	3	Horizontal	60	2.56	-
2475MHz	Pass	AV	7.42256G	36.66	54.00	-17.34	3	Horizontal	45	1.50	-
2475MHz	Pass	PK	4.95068G	44.24	74.00	-29.76	3	Horizontal	60	2.56	-
2475MHz	Pass	PK	7.42565G	51.34	74.00	-22.66	3	Horizontal	45	1.50	-
2480MHz	Pass	AV	2.48G	87.17	Inf	-Inf	3	Vertical	40	1.95	-
2480MHz	Pass	AV	2.4835G	50.78	54.00	-3.22	3	Vertical	40	1.95	-
2480MHz	Pass	PK	2.4796G	91.71	Inf	-Inf	3	Vertical	40	1.95	-
2480MHz	Pass	PK	2.4835G	60.99	74.00	-13.01	3	Vertical	40	1.95	-
2480MHz	Pass	AV	2.48G	91.10	Inf	-Inf	3	Horizontal	343	1.00	-
2480MHz	Pass	AV	2.4835G	53.28	54.00	-0.72	3	Horizontal	343	1.00	-
2480MHz	Pass	PK	2.4796G	95.41	Inf	-Inf	3	Horizontal	343	1.00	-
2480MHz	Pass	PK	2.4835G	62.92	74.00	-11.08	3	Horizontal	343	1.00	-
2480MHz	Pass	AV	4.96106G	30.31	54.00	-23.69	3	Vertical	25	2.99	-
2480MHz	Pass	AV	7.43961G	36.75	54.00	-17.25	3	Vertical	0	2.84	-
2480MHz	Pass	PK	4.95952G	44.20	74.00	-29.80	3	Vertical	25	2.99	-
2480MHz	Pass	PK	7.44107G	50.75	74.00	-23.25	3	Vertical	0	2.84	-



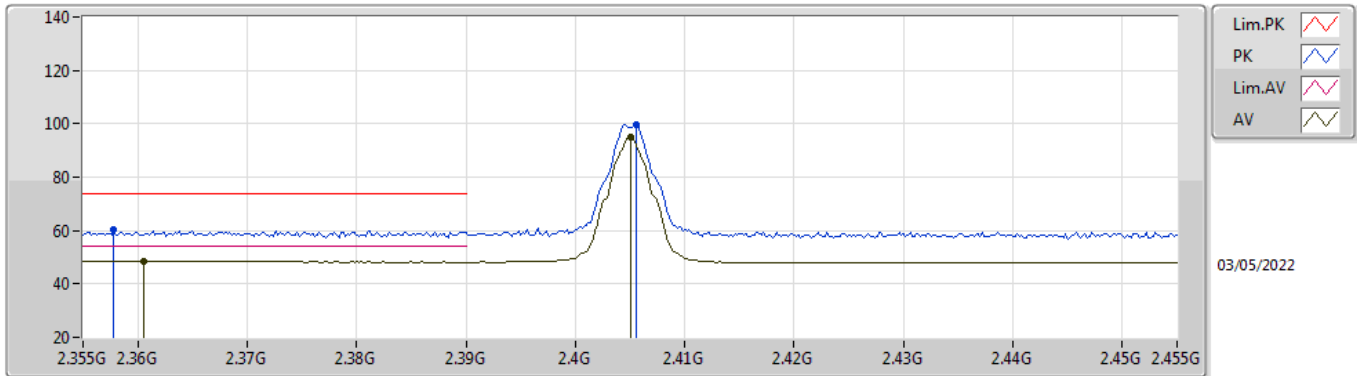
RSE TX above 1GHz

Appendix F.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	AV	4.95876G	30.30	54.00	-23.70	3	Horizontal	39	2.28	-
2480MHz	Pass	AV	7.43866G	36.74	54.00	-17.26	3	Horizontal	196	1.50	-
2480MHz	Pass	PK	4.96115G	45.70	74.00	-28.30	3	Horizontal	39	2.28	-
2480MHz	Pass	PK	7.43983G	51.30	74.00	-22.70	3	Horizontal	196	1.50	-

802.15.4_Nss1_1TX

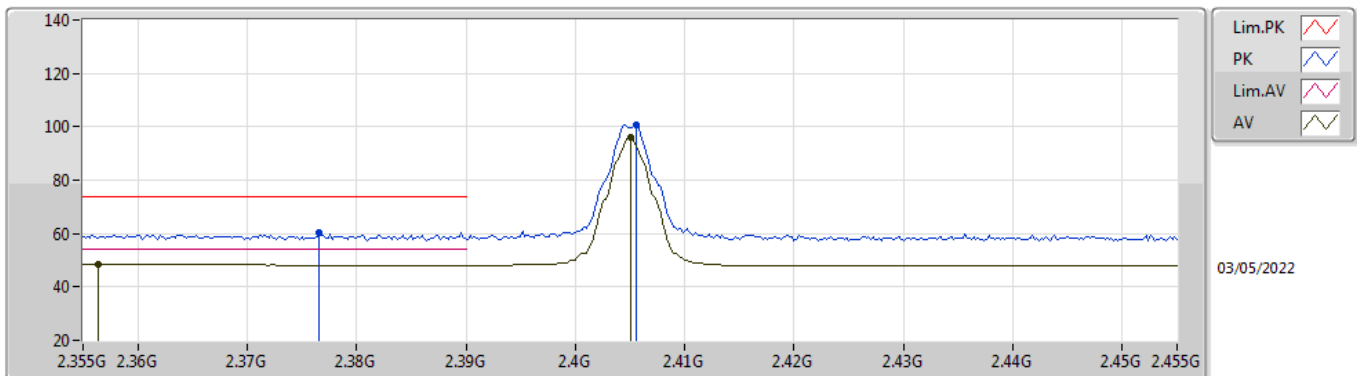
2405MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3606G	48.43	54.00	-5.57	36.04	3	Vertical	19	1.08	-	12.39	27.78	8.26	-
AV	2.405G	95.21	Inf	-Inf	35.96	3	Vertical	19	1.08	-	59.25	27.67	8.29	-
PK	2.3578G	60.11	74.00	-13.89	36.04	3	Vertical	19	1.08	-	24.07	27.78	8.26	-
PK	2.4056G	99.75	Inf	-Inf	35.96	3	Vertical	19	1.08	-	63.79	27.67	8.29	-

802.15.4_Nss1_1TX

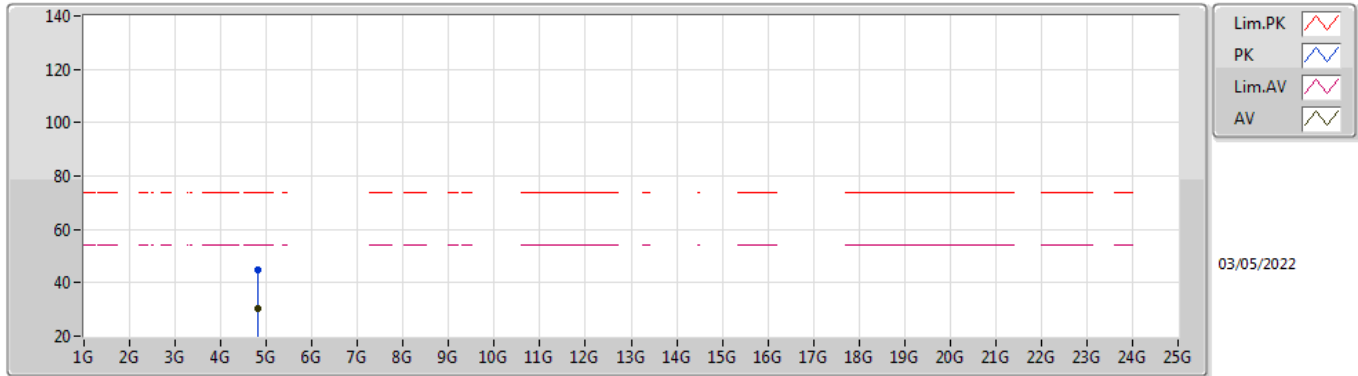
2405MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3564G	48.33	54.00	-5.67	36.05	3	Horizontal	339	1.50	-	12.28	27.79	8.26	-
AV	2.405G	96.23	Inf	-Inf	35.96	3	Horizontal	339	1.50	-	60.27	27.67	8.29	-
PK	2.3766G	60.57	74.00	-13.43	36.02	3	Horizontal	339	1.50	-	24.55	27.75	8.27	-
PK	2.4056G	100.76	Inf	-Inf	35.96	3	Horizontal	339	1.50	-	64.80	27.67	8.29	-

802.15.4_Nss1_1TX

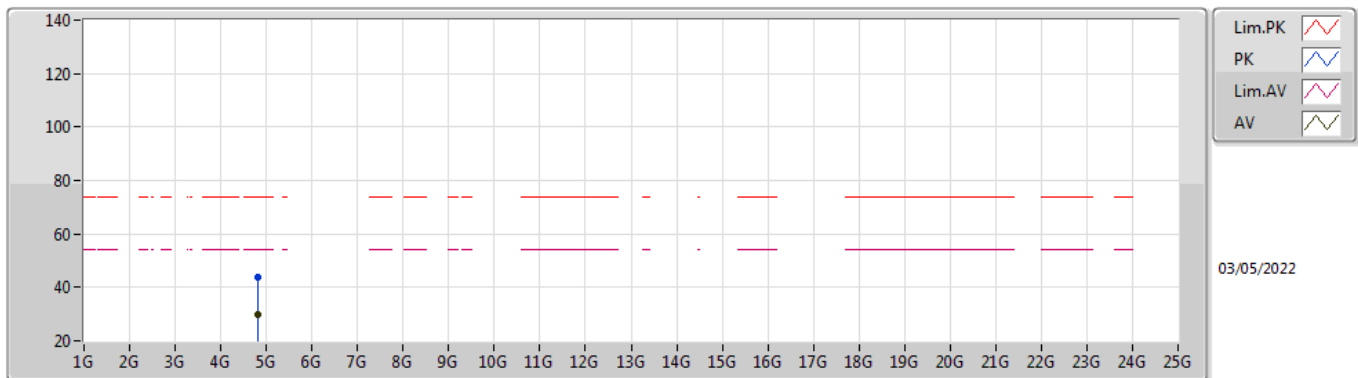
2405MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.81104G	30.15	54.00	-23.85	6.60	3	Vertical	15	1.29	-	23.55	31.12	9.67	34.19
PK	4.80937G	44.97	74.00	-29.03	6.60	3	Vertical	15	1.29	-	38.37	31.12	9.67	34.19

802.15.4_Nss1_1TX

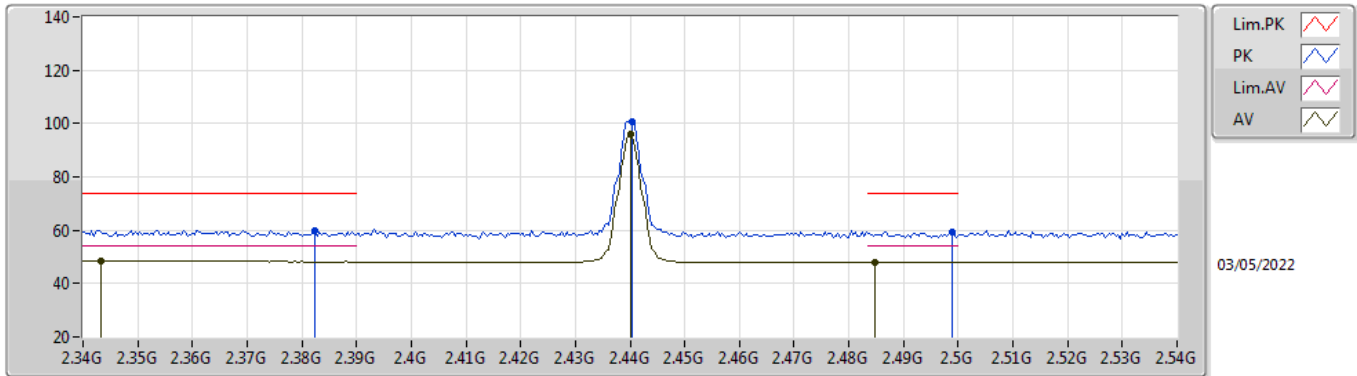
2405MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.81091G	29.84	54.00	-24.16	6.60	3	Horizontal	42	1.41	-	23.24	31.12	9.67	34.19
PK	4.8108G	43.90	74.00	-30.10	6.60	3	Horizontal	42	1.41	-	37.30	31.12	9.67	34.19

802.15.4_Nss1_1TX

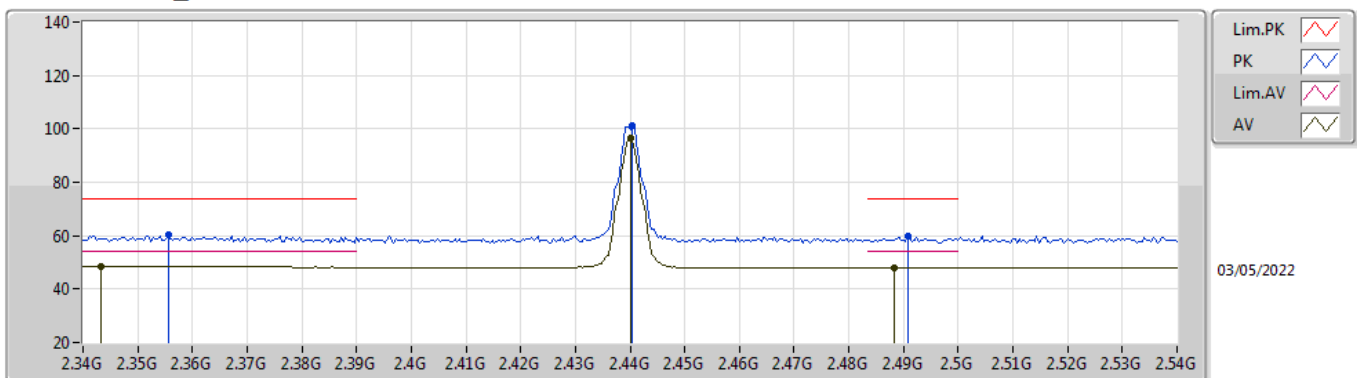
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3432G	48.47	54.00	-5.53	36.06	3	Vertical	40	2.16	-	12.41	27.81	8.25	-
AV	2.44G	96.17	Inf	-Inf	35.78	3	Vertical	40	2.16	-	60.39	27.46	8.32	-
AV	2.4848G	47.97	54.00	-6.03	35.75	3	Vertical	40	2.16	-	12.22	27.40	8.35	-
PK	2.3824G	59.94	74.00	-14.06	36.02	3	Vertical	40	2.16	-	23.92	27.74	8.28	-
PK	2.4404G	100.57	Inf	-Inf	35.78	3	Vertical	40	2.16	-	64.79	27.46	8.32	-
PK	2.4988G	59.49	74.00	-14.51	35.75	3	Vertical	40	2.16	-	23.74	27.40	8.35	-

802.15.4_Nss1_1TX

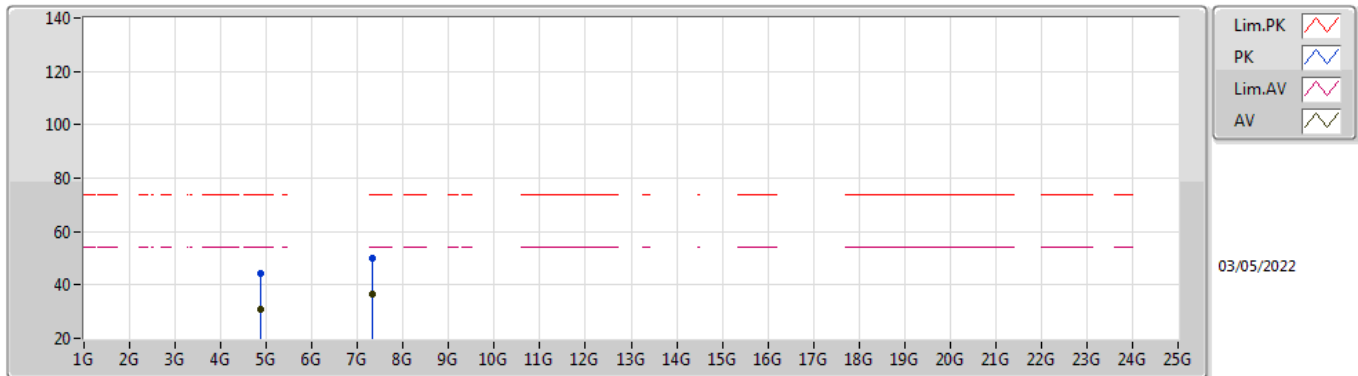
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3432G	48.48	54.00	-5.52	36.06	3	Horizontal	340	1.36	-	12.42	27.81	8.25	-
AV	2.44G	96.59	Inf	-Inf	35.78	3	Horizontal	340	1.36	-	60.81	27.46	8.32	-
AV	2.4884G	48.00	54.00	-6.00	35.75	3	Horizontal	340	1.36	-	12.25	27.40	8.35	-
PK	2.3556G	60.16	74.00	-13.84	36.05	3	Horizontal	340	1.36	-	24.11	27.79	8.26	-
PK	2.4404G	100.97	Inf	-Inf	35.78	3	Horizontal	340	1.36	-	65.19	27.46	8.32	-
PK	2.4908G	59.96	74.00	-14.04	35.75	3	Horizontal	340	1.36	-	24.21	27.40	8.35	-

802.15.4_Nss1_1TX

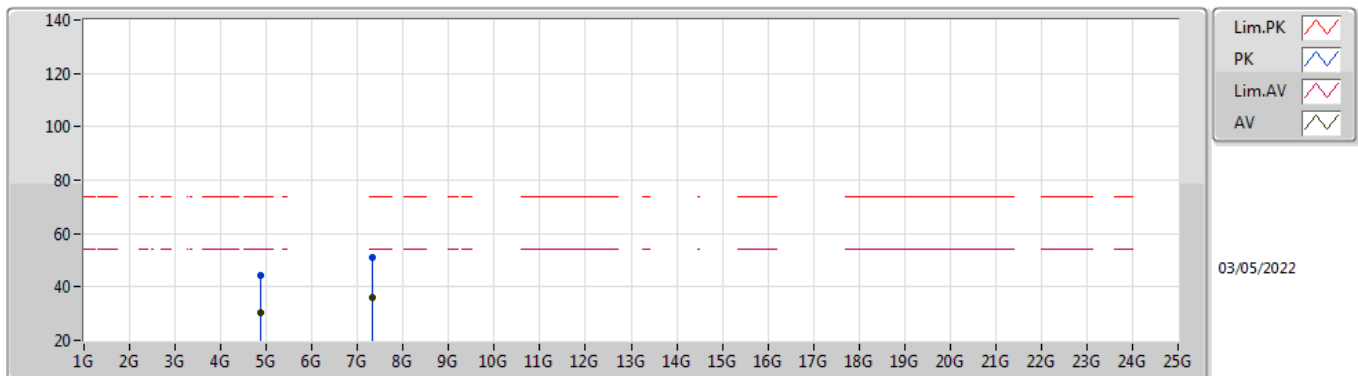
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8789G	31.00	54.00	-23.00	6.74	3	Vertical	14	1.46	-	24.26	31.20	9.70	34.16
AV	7.31867G	36.39	54.00	-17.61	13.18	3	Vertical	299	2.60	-	23.21	36.36	11.32	34.50
PK	4.8792G	44.21	74.00	-29.79	6.74	3	Vertical	14	1.46	-	37.47	31.20	9.70	34.16
PK	7.32045G	50.07	74.00	-23.93	13.18	3	Vertical	299	2.60	-	36.89	36.36	11.32	34.50

802.15.4_Nss1_1TX

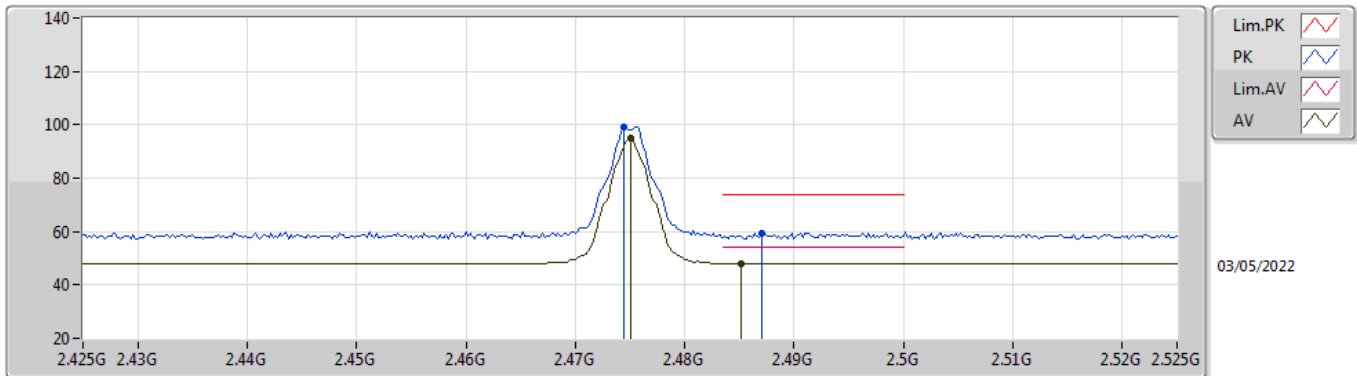
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87909G	30.42	54.00	-23.58	6.74	3	Horizontal	13	1.50	-	23.68	31.20	9.70	34.16
AV	7.31773G	36.27	54.00	-17.73	13.18	3	Horizontal	40	1.50	-	23.09	36.36	11.32	34.50
PK	4.88104G	44.28	74.00	-29.72	6.74	3	Horizontal	13	1.50	-	37.54	31.20	9.70	34.16
PK	7.32129G	51.13	74.00	-22.87	13.18	3	Horizontal	40	1.50	-	37.95	36.36	11.32	34.50

802.15.4_Nss1_1TX

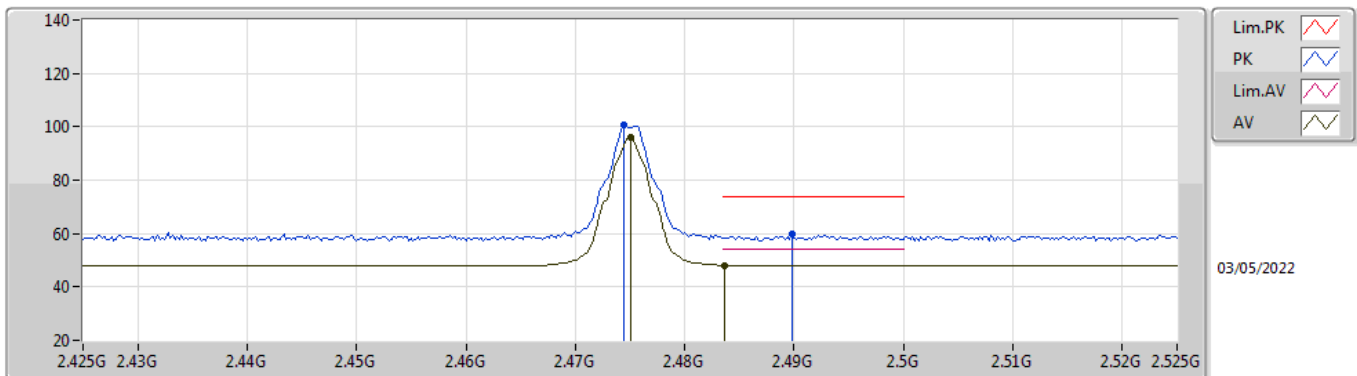
2475MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.475G	94.78	Inf	-Inf	35.74	3	Vertical	40	1.96	-	59.04	27.40	8.34	-
AV	2.4852G	48.02	54.00	-5.98	35.75	3	Vertical	40	1.96	-	12.27	27.40	8.35	-
PK	2.4744G	99.26	Inf	-Inf	35.74	3	Vertical	40	1.96	-	63.52	27.40	8.34	-
PK	2.487G	59.50	74.00	-14.50	35.75	3	Vertical	40	1.96	-	23.75	27.40	8.35	-

802.15.4_Nss1_1TX

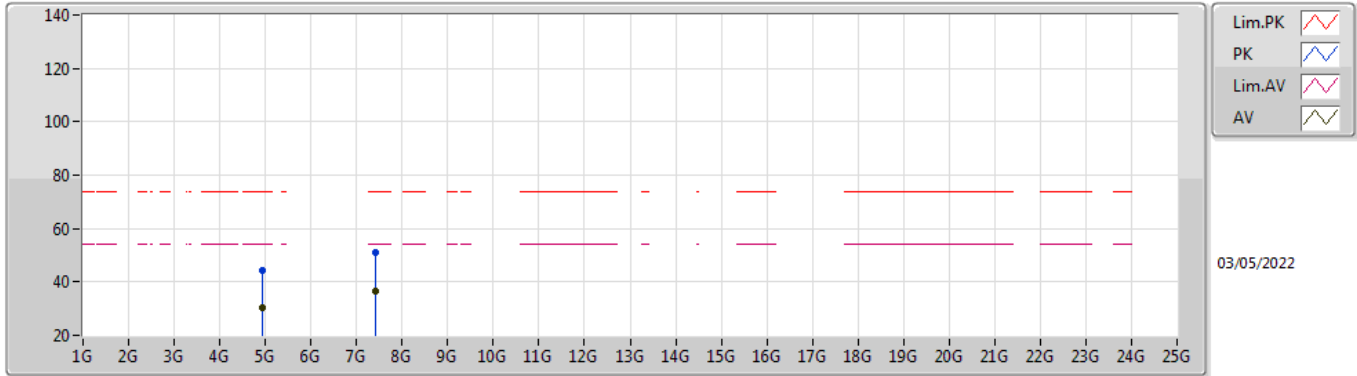
2475MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.475G	96.07	Inf	-Inf	35.74	3	Horizontal	344	1.50	-	60.33	27.40	8.34	-
AV	2.4836G	48.12	54.00	-5.88	35.74	3	Horizontal	344	1.50	-	12.38	27.40	8.34	-
PK	2.4744G	100.51	Inf	-Inf	35.74	3	Horizontal	344	1.50	-	64.77	27.40	8.34	-
PK	2.4898G	59.69	74.00	-14.31	35.75	3	Horizontal	344	1.50	-	23.94	27.40	8.35	-

802.15.4_Nss1_1TX

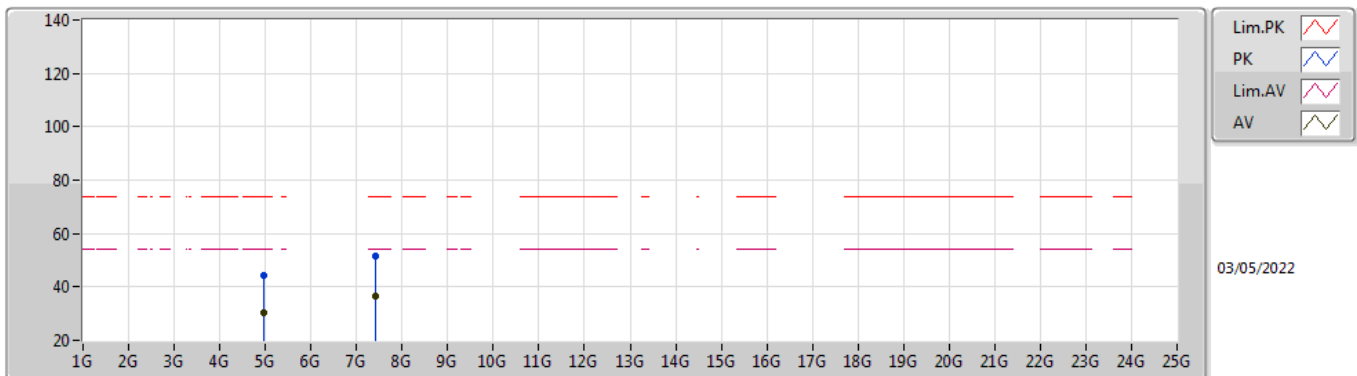
2475MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.9488G	30.28	54.00	-23.72	7.01	3	Vertical	48	1.50	-	23.27	31.40	9.73	34.12
AV	7.42686G	36.71	54.00	-17.29	13.07	3	Vertical	127	1.00	-	23.64	36.25	11.31	34.49
PK	4.9486G	44.14	74.00	-29.86	7.00	3	Vertical	48	1.50	-	37.14	31.39	9.73	34.12
PK	7.426G	50.81	74.00	-23.19	13.07	3	Vertical	127	1.00	-	37.74	36.25	11.31	34.49

802.15.4_Nss1_1TX

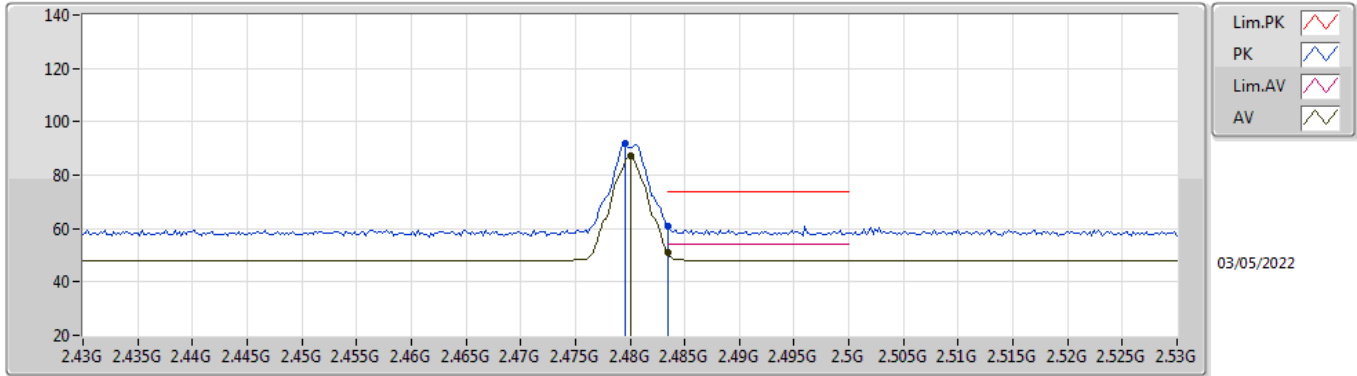
2475MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.94986G	30.30	54.00	-23.70	7.01	3	Horizontal	60	2.56	-	23.29	31.40	9.73	34.12
AV	7.42256G	36.66	54.00	-17.34	13.08	3	Horizontal	45	1.50	-	23.58	36.25	11.32	34.49
PK	4.95068G	44.24	74.00	-29.76	7.01	3	Horizontal	60	2.56	-	37.23	31.40	9.73	34.12
PK	7.42565G	51.34	74.00	-22.66	13.07	3	Horizontal	45	1.50	-	38.27	36.25	11.31	34.49

802.15.4_Nss1_1TX

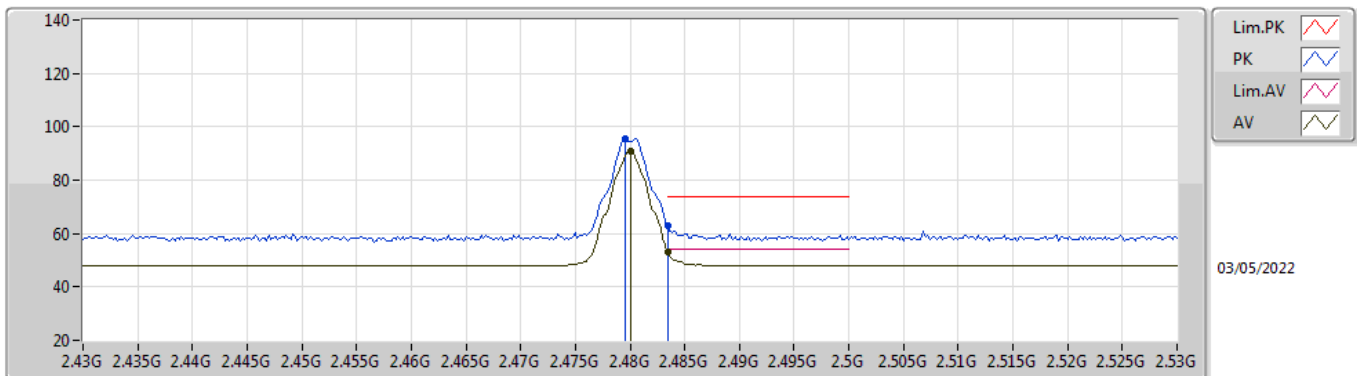
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	87.17	Inf	-Inf	35.74	3	Vertical	40	1.95	-	51.43	27.40	8.34	-
AV	2.4835G	50.78	54.00	-3.22	35.74	3	Vertical	40	1.95	-	15.04	27.40	8.34	-
PK	2.4796G	91.71	Inf	-Inf	35.74	3	Vertical	40	1.95	-	55.97	27.40	8.34	-
PK	2.4835G	60.99	74.00	-13.01	35.74	3	Vertical	40	1.95	-	25.25	27.40	8.34	-

802.15.4_Nss1_1TX

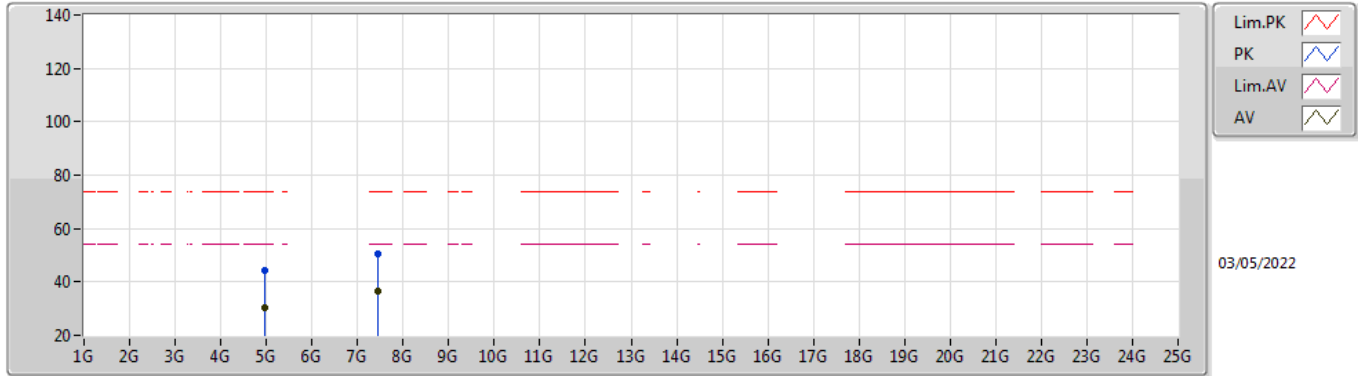
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	91.10	Inf	-Inf	35.74	3	Horizontal	343	1.00	-	55.36	27.40	8.34	-
AV	2.4835G	53.28	54.00	-0.72	35.74	3	Horizontal	343	1.00	-	17.54	27.40	8.34	-
PK	2.4796G	95.41	Inf	-Inf	35.74	3	Horizontal	343	1.00	-	59.67	27.40	8.34	-
PK	2.4835G	62.92	74.00	-11.08	35.74	3	Horizontal	343	1.00	-	27.18	27.40	8.34	-

802.15.4_Nss1_1TX

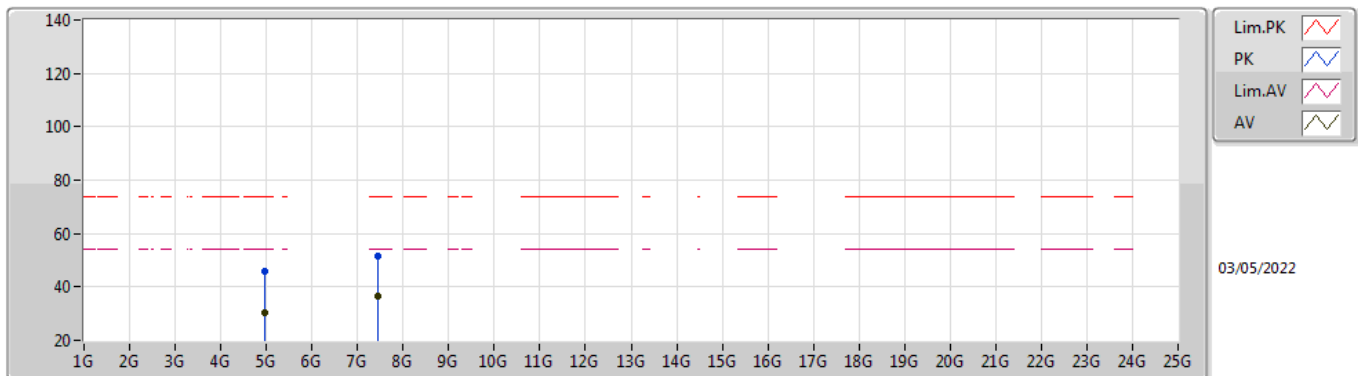
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96106G	30.31	54.00	-23.69	7.03	3	Vertical	25	2.99	-	23.28	31.42	9.73	34.12
AV	7.43961G	36.75	54.00	-17.25	13.09	3	Vertical	0	2.84	-	23.66	36.28	11.30	34.49
PK	4.95952G	44.20	74.00	-29.80	7.03	3	Vertical	25	2.99	-	37.17	31.42	9.73	34.12
PK	7.44107G	50.75	74.00	-23.25	13.09	3	Vertical	0	2.84	-	37.66	36.28	11.30	34.49

802.15.4_Nss1_1TX

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95876G	30.30	54.00	-23.70	7.03	3	Horizontal	39	2.28	-	23.27	31.42	9.73	34.12
AV	7.43866G	36.74	54.00	-17.26	13.09	3	Horizontal	196	1.50	-	23.65	36.28	11.30	34.49
PK	4.96115G	45.70	74.00	-28.30	7.03	3	Horizontal	39	2.28	-	38.67	31.42	9.73	34.12
PK	7.43983G	51.30	74.00	-22.70	13.09	3	Horizontal	196	1.50	-	38.21	36.28	11.30	34.49



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.82398G	50.33	54.00	-3.67	Vertical
Mode 2	Pass	AV	4.82398G	50.47	54.00	-3.53	Vertical
Mode 3	Pass	AV	4.822G	50.67	54.00	-3.33	Vertical
Mode 4	Pass	AV	4.822G	46.36	54.00	-7.64	Vertical



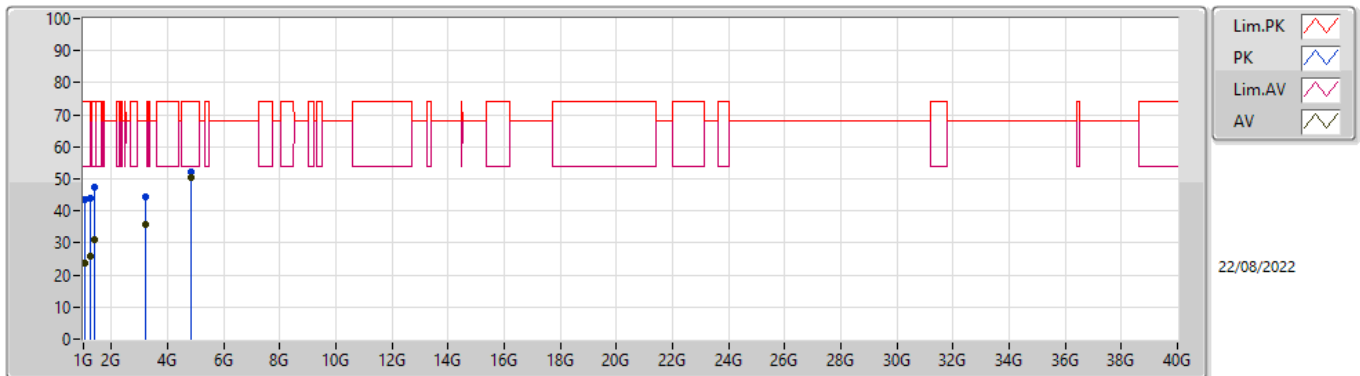
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.056G	23.66	54.00	-30.34	3	Vertical	168	1.82	-
Mode 1	Pass	AV	1.224G	25.81	54.00	-28.19	3	Vertical	20	2.18	-
Mode 1	Pass	AV	1.406G	31.23	54.00	-22.77	3	Vertical	234	1.28	-
Mode 1	Pass	AV	3.198G	35.86	68.20	-32.34	3	Vertical	27	1.99	-
Mode 1	Pass	AV	4.82398G	50.33	54.00	-3.67	3	Vertical	140	1.22	-
Mode 1	Pass	PK	1.056G	43.62	74.00	-30.38	3	Vertical	168	1.82	-
Mode 1	Pass	PK	1.224G	44.11	74.00	-29.89	3	Vertical	20	2.18	-
Mode 1	Pass	PK	1.406G	47.60	74.00	-26.40	3	Vertical	234	1.28	-
Mode 1	Pass	PK	3.198G	44.59	68.20	-23.61	3	Vertical	27	1.99	-
Mode 1	Pass	PK	4.82398G	52.36	74.00	-21.64	3	Vertical	140	1.22	-
Mode 1	Pass	AV	1.05714G	27.33	54.00	-26.67	3	Horizontal	149	1.01	-
Mode 1	Pass	AV	1.22914G	30.93	54.00	-23.07	3	Horizontal	248	2.62	-
Mode 1	Pass	AV	1.40018G	30.97	54.00	-23.03	3	Horizontal	240	2.22	-
Mode 1	Pass	AV	1.75343G	33.10	68.20	-35.10	3	Horizontal	256	1.50	-
Mode 1	Pass	AV	4.82392G	44.65	54.00	-9.35	3	Horizontal	335	1.50	-
Mode 1	Pass	PK	1.05714G	42.41	74.00	-31.59	3	Horizontal	149	1.01	-
Mode 1	Pass	PK	1.22914G	42.48	74.00	-31.52	3	Horizontal	248	2.62	-
Mode 1	Pass	PK	1.40018G	42.66	74.00	-31.34	3	Horizontal	240	2.22	-
Mode 1	Pass	PK	1.75343G	40.21	68.20	-27.99	3	Horizontal	256	1.50	-
Mode 1	Pass	PK	4.82392G	45.70	74.00	-28.30	3	Horizontal	335	1.50	-
Mode 2	Pass	AV	1.42067G	32.21	54.00	-21.79	3	Vertical	311	2.37	-
Mode 2	Pass	AV	1.77G	30.27	68.20	-37.93	3	Vertical	58	1.81	-
Mode 2	Pass	AV	2.232G	31.85	54.00	-22.15	3	Vertical	150	1.53	-
Mode 2	Pass	AV	3.016G	34.52	68.20	-33.68	3	Vertical	348	2.04	-
Mode 2	Pass	AV	4.82398G	50.47	54.00	-3.53	3	Vertical	152	2.86	-
Mode 2	Pass	AV	5.13G	38.52	54.00	-15.48	3	Vertical	178	2.00	-
Mode 2	Pass	PK	1.42067G	51.43	74.00	-22.57	3	Vertical	311	2.37	-
Mode 2	Pass	PK	1.77G	44.07	68.20	-24.13	3	Vertical	58	1.81	-
Mode 2	Pass	PK	2.232G	50.28	74.00	-23.72	3	Vertical	150	1.53	-
Mode 2	Pass	PK	3.016G	47.61	68.20	-20.59	3	Vertical	348	2.04	-
Mode 2	Pass	PK	4.82398G	53.53	74.00	-20.47	3	Vertical	152	2.86	-
Mode 2	Pass	PK	5.13G	49.32	74.00	-24.68	3	Vertical	178	2.00	-
Mode 2	Pass	AV	1.238G	31.55	54.00	-22.45	3	Horizontal	39	2.03	-
Mode 2	Pass	AV	1.406G	31.04	54.00	-22.96	3	Horizontal	27	1.66	-
Mode 2	Pass	AV	2.232G	33.22	54.00	-20.78	3	Horizontal	107	1.81	-
Mode 2	Pass	AV	2.988G	32.91	68.20	-35.29	3	Horizontal	294	1.48	-
Mode 2	Pass	AV	3.184G	35.53	68.20	-32.67	3	Horizontal	23	1.36	-
Mode 2	Pass	AV	4.822G	47.56	54.00	-6.44	3	Horizontal	355	1.80	-
Mode 2	Pass	PK	1.238G	46.61	74.00	-27.39	3	Horizontal	39	2.03	-
Mode 2	Pass	PK	1.406G	46.65	74.00	-27.35	3	Horizontal	27	1.66	-
Mode 2	Pass	PK	2.232G	43.16	74.00	-30.84	3	Horizontal	107	1.81	-
Mode 2	Pass	PK	2.988G	45.25	68.20	-22.95	3	Horizontal	294	1.48	-
Mode 2	Pass	PK	3.184G	47.86	68.20	-20.34	3	Horizontal	23	1.36	-
Mode 2	Pass	PK	4.822G	49.03	74.00	-24.97	3	Horizontal	355	1.80	-
Mode 3	Pass	AV	1.238G	30.11	54.00	-23.89	3	Vertical	55	1.17	-
Mode 3	Pass	AV	1.406G	31.52	54.00	-22.48	3	Vertical	359	1.32	-
Mode 3	Pass	AV	1.77G	34.01	68.20	-34.19	3	Vertical	147	1.28	-
Mode 3	Pass	AV	4.822G	50.67	54.00	-3.33	3	Vertical	16	2.20	-
Mode 3	Pass	PK	1.238G	43.53	74.00	-30.47	3	Vertical	55	1.17	-
Mode 3	Pass	PK	1.406G	43.98	74.00	-30.02	3	Vertical	359	1.32	-



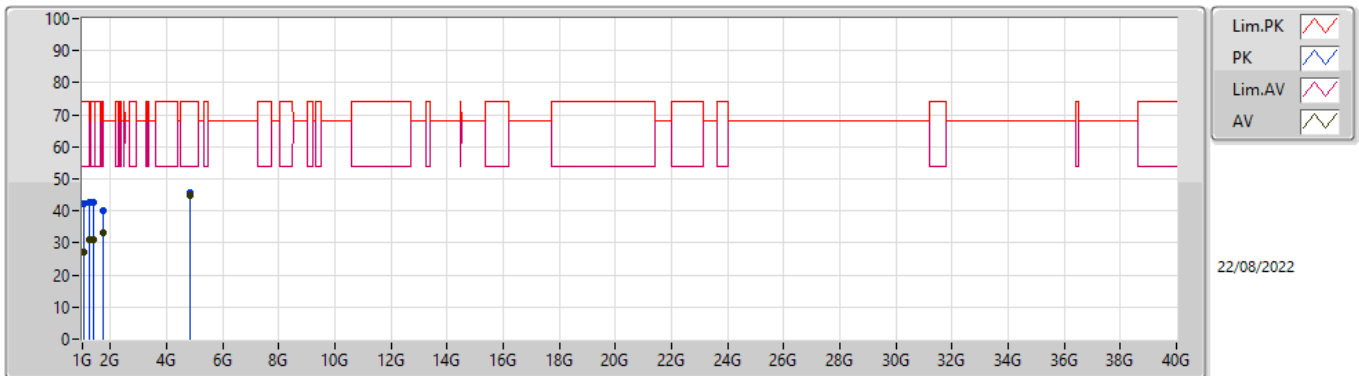
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 3	Pass	PK	1.77G	42.41	68.20	-25.79	3	Vertical	147	1.28	-
Mode 3	Pass	PK	4.822G	53.51	74.00	-20.49	3	Vertical	16	2.20	-
Mode 3	Pass	AV	1.238G	30.57	54.00	-23.43	3	Horizontal	24	1.81	-
Mode 3	Pass	AV	1.406G	31.25	54.00	-22.75	3	Horizontal	42	2.36	-
Mode 3	Pass	AV	2.358G	32.13	54.00	-21.87	3	Horizontal	209	1.96	-
Mode 3	Pass	AV	4.822G	43.83	54.00	-10.17	3	Horizontal	136	1.32	-
Mode 3	Pass	PK	1.238G	46.95	74.00	-27.05	3	Horizontal	24	1.81	-
Mode 3	Pass	PK	1.406G	43.81	74.00	-30.19	3	Horizontal	42	2.36	-
Mode 3	Pass	PK	2.358G	42.31	74.00	-31.69	3	Horizontal	209	1.96	-
Mode 3	Pass	PK	4.822G	46.00	74.00	-28.00	3	Horizontal	136	1.32	-
Mode 4	Pass	AV	1.056G	31.25	54.00	-22.75	3	Vertical	73	1.68	-
Mode 4	Pass	AV	1.238G	36.31	54.00	-17.69	3	Vertical	256	2.37	-
Mode 4	Pass	AV	1.406G	32.36	54.00	-21.64	3	Vertical	129	1.32	-
Mode 4	Pass	AV	2.582G	30.58	68.20	-37.62	3	Vertical	21	2.25	-
Mode 4	Pass	AV	4.822G	46.36	54.00	-7.64	3	Vertical	63	1.30	-
Mode 4	Pass	PK	1.056G	44.38	74.00	-29.62	3	Vertical	73	1.68	-
Mode 4	Pass	PK	1.238G	42.37	74.00	-31.63	3	Vertical	256	2.37	-
Mode 4	Pass	PK	1.406G	44.17	74.00	-29.83	3	Vertical	129	1.32	-
Mode 4	Pass	PK	2.582G	45.44	68.20	-22.76	3	Vertical	21	2.25	-
Mode 4	Pass	PK	4.822G	47.24	74.00	-26.76	3	Vertical	63	1.30	-
Mode 4	Pass	AV	1.238G	34.21	54.00	-19.79	3	Horizontal	196	2.04	-
Mode 4	Pass	AV	1.406G	32.01	54.00	-21.99	3	Horizontal	79	1.13	-
Mode 4	Pass	AV	3.002G	33.47	68.20	-34.73	3	Horizontal	57	2.36	-
Mode 4	Pass	AV	4.822G	45.25	54.00	-8.75	3	Horizontal	39	2.25	-
Mode 4	Pass	PK	1.238G	47.85	74.00	-26.15	3	Horizontal	196	2.04	-
Mode 4	Pass	PK	1.406G	43.88	74.00	-30.12	3	Horizontal	79	1.13	-
Mode 4	Pass	PK	3.002G	43.11	68.20	-25.09	3	Horizontal	57	2.36	-
Mode 4	Pass	PK	4.822G	49.03	74.00	-24.97	3	Horizontal	39	2.25	-

Radiated Emissions above 1GHz_Mode 1



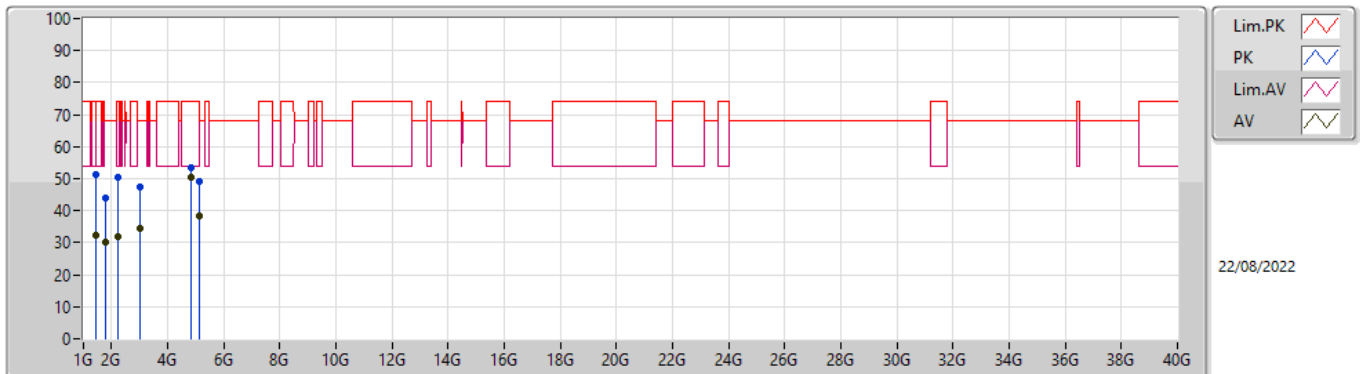
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.056G	23.66	54.00	-30.34	-6.35	3	Vertical	168	1.82	-	30.01	25.02	3.14	34.51
AV	1.224G	25.81	54.00	-28.19	-4.74	3	Vertical	20	2.18	-	30.55	26.10	3.39	34.23
AV	1.406G	31.23	54.00	-22.77	-4.98	3	Vertical	234	1.28	-	36.21	25.30	3.65	33.93
AV	3.198G	35.86	68.20	-32.34	1.18	3	Vertical	27	1.99	-	34.68	29.80	5.55	34.17
AV	4.82398G	50.33	54.00	-3.67	5.21	3	Vertical	140	1.22	-	45.12	32.60	6.90	34.29
PK	1.056G	43.62	74.00	-30.38	-6.35	3	Vertical	168	1.82	-	49.97	25.02	3.14	34.51
PK	1.224G	44.11	74.00	-29.89	-4.74	3	Vertical	20	2.18	-	48.85	26.10	3.39	34.23
PK	1.406G	47.60	74.00	-26.40	-4.98	3	Vertical	234	1.28	-	52.58	25.30	3.65	33.93
PK	3.198G	44.59	68.20	-23.61	1.18	3	Vertical	27	1.99	-	43.41	29.80	5.55	34.17
PK	4.82398G	52.36	74.00	-21.64	5.21	3	Vertical	140	1.22	-	47.15	32.60	6.90	34.29

Radiated Emissions above 1GHz_Mode 1



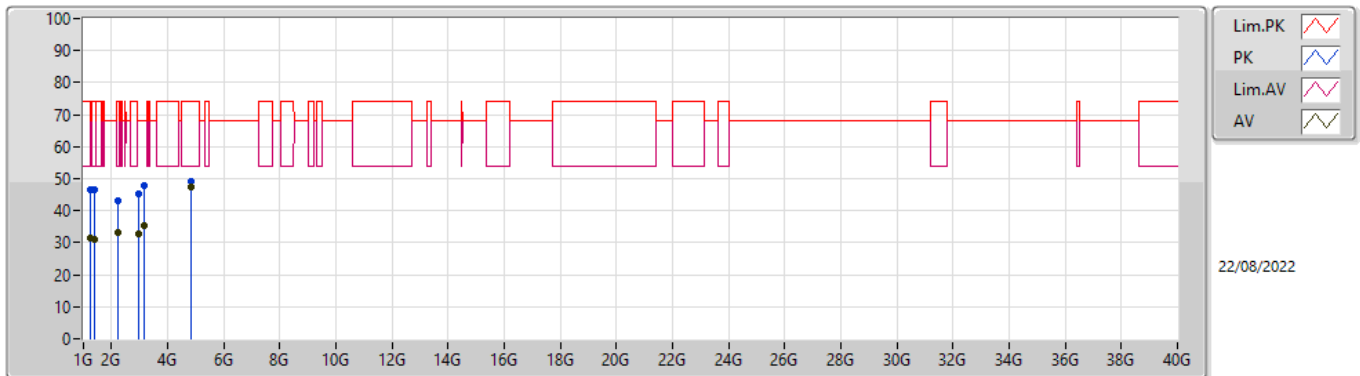
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.05714G	27.33	54.00	-26.67	-6.33	3	Horizontal	149	1.01	-	33.66	25.03	3.15	34.51
AV	1.22914G	30.93	54.00	-23.07	-4.74	3	Horizontal	248	2.62	-	35.67	26.08	3.40	34.22
AV	1.40018G	30.97	54.00	-23.03	-5.00	3	Horizontal	240	2.22	-	35.97	25.30	3.64	33.94
AV	1.75343G	33.10	68.20	-35.10	-4.53	3	Horizontal	256	1.50	-	37.63	25.18	4.09	33.80
AV	4.82392G	44.65	54.00	-9.35	5.21	3	Horizontal	335	1.50	-	39.44	32.60	6.90	34.29
PK	1.05714G	42.41	74.00	-31.59	-6.33	3	Horizontal	149	1.01	-	48.74	25.03	3.15	34.51
PK	1.22914G	42.48	74.00	-31.52	-4.74	3	Horizontal	248	2.62	-	47.22	26.08	3.40	34.22
PK	1.40018G	42.66	74.00	-31.34	-5.00	3	Horizontal	240	2.22	-	47.66	25.30	3.64	33.94
PK	1.75343G	40.21	68.20	-27.99	-4.53	3	Horizontal	256	1.50	-	44.74	25.18	4.09	33.80
PK	4.82392G	45.70	74.00	-28.30	5.21	3	Horizontal	335	1.50	-	40.49	32.60	6.90	34.29

Radiated Emissions above 1GHz_Mode 2



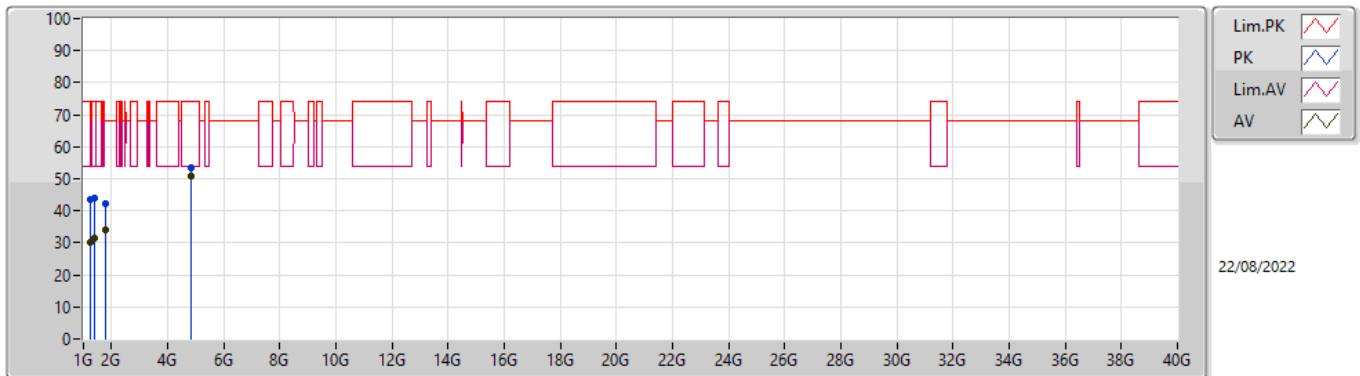
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.42067G	32.21	54.00	-21.79	-4.94	3	Vertical	311	2.37	-	37.15	25.30	3.67	33.91
AV	1.77G	30.27	68.20	-37.93	-4.61	3	Vertical	58	1.81	-	34.88	25.08	4.11	33.80
AV	2.232G	31.85	54.00	-22.15	-1.99	3	Vertical	150	1.53	-	33.84	27.31	4.57	33.87
AV	3.016G	34.52	68.20	-33.68	0.83	3	Vertical	348	2.04	-	33.69	29.50	5.46	34.13
AV	4.82398G	50.47	54.00	-3.53	5.21	3	Vertical	152	2.86	-	45.26	32.60	6.90	34.29
AV	5.13G	38.52	54.00	-15.48	6.05	3	Vertical	178	2.00	-	32.47	33.14	7.17	34.26
PK	1.42067G	51.43	74.00	-22.57	-4.94	3	Vertical	311	2.37	-	56.37	25.30	3.67	33.91
PK	1.77G	44.07	68.20	-24.13	-4.61	3	Vertical	58	1.81	-	48.68	25.08	4.11	33.80
PK	2.232G	50.28	74.00	-23.72	-1.99	3	Vertical	150	1.53	-	52.27	27.31	4.57	33.87
PK	3.016G	47.61	68.20	-20.59	0.83	3	Vertical	348	2.04	-	46.78	29.50	5.46	34.13
PK	4.82398G	53.53	74.00	-20.47	5.21	3	Vertical	152	2.86	-	48.32	32.60	6.90	34.29
PK	5.13G	49.32	74.00	-24.68	6.05	3	Vertical	178	2.00	-	43.27	33.14	7.17	34.26

Radiated Emissions above 1GHz_Mode 2



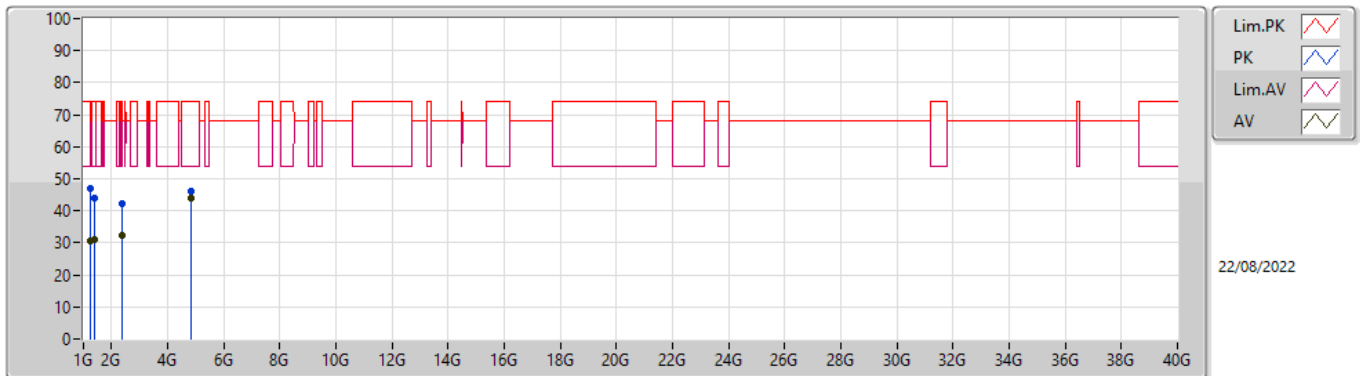
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.238G	31.55	54.00	-22.45	-4.75	3	Horizontal	39	2.03	-	36.30	26.05	3.41	34.21
AV	1.406G	31.04	54.00	-22.96	-4.98	3	Horizontal	27	1.66	-	36.02	25.30	3.65	33.93
AV	2.232G	33.22	54.00	-20.78	-1.99	3	Horizontal	107	1.81	-	35.21	27.31	4.57	33.87
AV	2.988G	32.91	68.20	-35.29	0.74	3	Horizontal	294	1.48	-	32.17	29.43	5.44	34.13
AV	3.184G	35.53	68.20	-32.67	1.14	3	Horizontal	23	1.36	-	34.39	29.77	5.54	34.17
AV	4.822G	47.56	54.00	-6.44	5.20	3	Horizontal	355	1.80	-	42.36	32.59	6.90	34.29
PK	1.238G	46.61	74.00	-27.39	-4.75	3	Horizontal	39	2.03	-	51.36	26.05	3.41	34.21
PK	1.406G	46.65	74.00	-27.35	-4.98	3	Horizontal	27	1.66	-	51.63	25.30	3.65	33.93
PK	2.232G	43.16	74.00	-30.84	-1.99	3	Horizontal	107	1.81	-	45.15	27.31	4.57	33.87
PK	2.988G	45.25	68.20	-22.95	0.74	3	Horizontal	294	1.48	-	44.51	29.43	5.44	34.13
PK	3.184G	47.86	68.20	-20.34	1.14	3	Horizontal	23	1.36	-	46.72	29.77	5.54	34.17
PK	4.822G	49.03	74.00	-24.97	5.20	3	Horizontal	355	1.80	-	43.83	32.59	6.90	34.29

Radiated Emissions above 1GHz_Mode 3



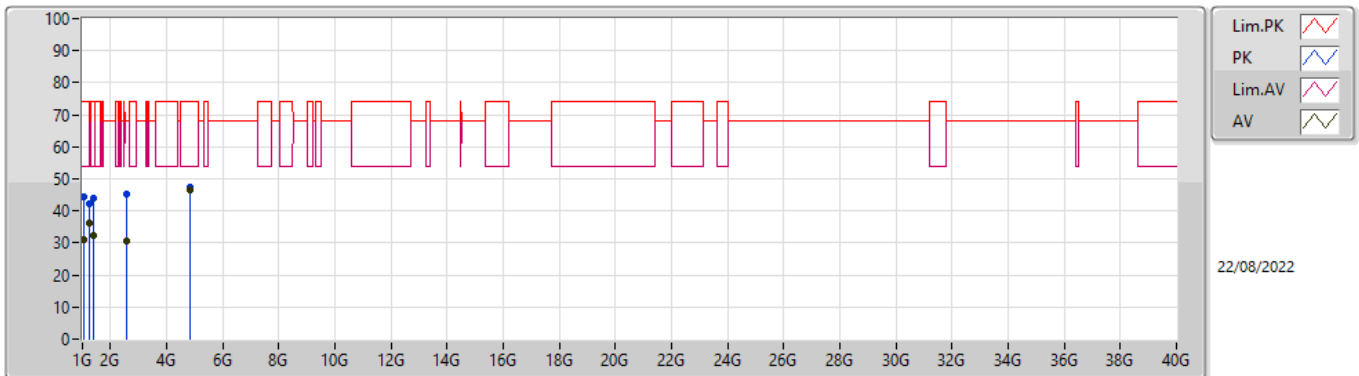
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.238G	30.11	54.00	-23.89	-4.75	3	Vertical	55	1.17	-	34.86	26.05	3.41	34.21
AV	1.406G	31.52	54.00	-22.48	-4.98	3	Vertical	359	1.32	-	36.50	25.30	3.65	33.93
AV	1.77G	34.01	68.20	-34.19	-4.61	3	Vertical	147	1.28	-	38.62	25.08	4.11	33.80
AV	4.822G	50.67	54.00	-3.33	5.20	3	Vertical	16	2.20	-	45.47	32.59	6.90	34.29
PK	1.238G	43.53	74.00	-30.47	-4.75	3	Vertical	55	1.17	-	48.28	26.05	3.41	34.21
PK	1.406G	43.98	74.00	-30.02	-4.98	3	Vertical	359	1.32	-	48.96	25.30	3.65	33.93
PK	1.77G	42.41	68.20	-25.79	-4.61	3	Vertical	147	1.28	-	47.02	25.08	4.11	33.80
PK	4.822G	53.51	74.00	-20.49	5.20	3	Vertical	16	2.20	-	48.31	32.59	6.90	34.29

Radiated Emissions above 1GHz_Mode 3



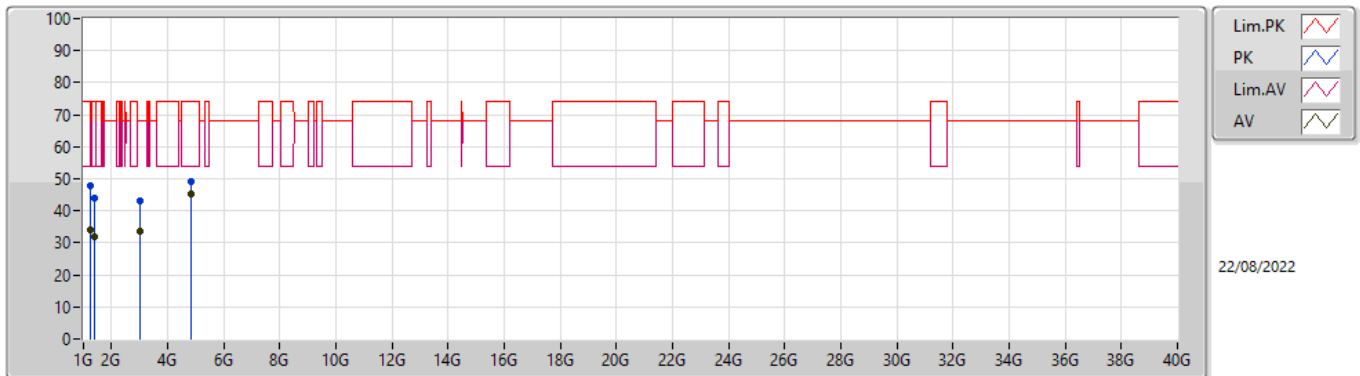
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.238G	30.57	54.00	-23.43	-4.75	3	Horizontal	24	1.81	-	35.32	26.05	3.41	34.21
AV	1.406G	31.25	54.00	-22.75	-4.98	3	Horizontal	42	2.36	-	36.23	25.30	3.65	33.93
AV	2.358G	32.13	54.00	-21.87	-2.08	3	Horizontal	209	1.96	-	34.21	27.32	4.50	33.90
AV	4.822G	43.83	54.00	-10.17	5.20	3	Horizontal	136	1.32	-	38.63	32.59	6.90	34.29
PK	1.238G	46.95	74.00	-27.05	-4.75	3	Horizontal	24	1.81	-	51.70	26.05	3.41	34.21
PK	1.406G	43.81	74.00	-30.19	-4.98	3	Horizontal	42	2.36	-	48.79	25.30	3.65	33.93
PK	2.358G	42.31	74.00	-31.69	-2.08	3	Horizontal	209	1.96	-	44.39	27.32	4.50	33.90
PK	4.822G	46.00	74.00	-28.00	5.20	3	Horizontal	136	1.32	-	40.80	32.59	6.90	34.29

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)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.056G	31.25	54.00	-22.75	-6.35	3	Vertical	73	1.68	-	37.60	25.02	3.14	34.51
AV	1.238G	36.31	54.00	-17.69	-4.75	3	Vertical	256	2.37	-	41.06	26.05	3.41	34.21
AV	1.406G	32.36	54.00	-21.64	-4.98	3	Vertical	129	1.32	-	37.34	25.30	3.65	33.93
AV	2.582G	30.58	68.20	-37.62	-1.34	3	Vertical	21	2.25	-	31.92	28.13	4.50	33.97
AV	4.822G	46.36	54.00	-7.64	5.20	3	Vertical	63	1.30	-	41.16	32.59	6.90	34.29
PK	1.056G	44.38	74.00	-29.62	-6.35	3	Vertical	73	1.68	-	50.73	25.02	3.14	34.51
PK	1.238G	42.37	74.00	-31.63	-4.75	3	Vertical	256	2.37	-	47.12	26.05	3.41	34.21
PK	1.406G	44.17	74.00	-29.83	-4.98	3	Vertical	129	1.32	-	49.15	25.30	3.65	33.93
PK	2.582G	45.44	68.20	-22.76	-1.34	3	Vertical	21	2.25	-	46.78	28.13	4.50	33.97
PK	4.822G	47.24	74.00	-26.76	5.20	3	Vertical	63	1.30	-	42.04	32.59	6.90	34.29

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)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.238G	34.21	54.00	-19.79	-4.75	3	Horizontal	196	2.04	-	38.96	26.05	3.41	34.21
AV	1.406G	32.01	54.00	-21.99	-4.98	3	Horizontal	79	1.13	-	36.99	25.30	3.65	33.93
AV	3.002G	33.47	68.20	-34.73	0.82	3	Horizontal	57	2.36	-	32.65	29.50	5.45	34.13
AV	4.822G	45.25	54.00	-8.75	5.20	3	Horizontal	39	2.25	-	40.05	32.59	6.90	34.29
PK	1.238G	47.85	74.00	-26.15	-4.75	3	Horizontal	196	2.04	-	52.60	26.05	3.41	34.21
PK	1.406G	43.88	74.00	-30.12	-4.98	3	Horizontal	79	1.13	-	48.86	25.30	3.65	33.93
PK	3.002G	43.11	68.20	-25.09	0.82	3	Horizontal	57	2.36	-	42.29	29.50	5.45	34.13
PK	4.822G	49.03	74.00	-24.97	5.20	3	Horizontal	39	2.25	-	43.83	32.59	6.90	34.29