FCC Test Report

FCC ID	:	**2ACIA-TTBT010**
Equipment	:	**Wireless Audio System**
Model Name	:	**A-1447K**
Applicant	:	**Ten Tronics Co., Ltd No.33, Lane 347, Chung-San S. Road, Young-Kang District**
Manufacturer	:	**Ten Tronics Co., Ltd No.33, Lane 347, Chung-San S. Road, Young-Kang District**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on May 15, 2020, and testing was started from Aug. 16, 2020 and completed on Aug. 24, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR022423AC	01	Initial issue of report	Sep. 22, 2020
FR022423AC	02	Revised typo (This report is the latest version replacing for the report issued on Sep. 22, 2020.)	Feb. 26, 2021

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: Sam Tsai
Report Producer: Ann Hou

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Modulation	Ch. Frequency (MHz)	Channel Number
2400-2483.5	FSK	2406-2474	1-19 [19]

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

Channel	Freq.(MHz)	Channel	Freq.(MHz)
1	2406	11	2446
2	2410	12	2450
3	2414	13	2454
4	2418	14	2458
5	2422	15	2462
6	2426	16	2466
7	2430	17	2470
8	2434	18	2474
9	2438	19	2478
10	2442	-	

Note:
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	Cortec	AN2400-92140BRS	Dipole	SMA
2	Ten-tronics	IFA-1	PCB	N/A

Ant.	Port	Gain (dBi)	
		SRD 2.4G	BT
1	1	4.87	-
2	1	-	1.1

Note 1: The EUT has two antennas.

For SRD 2.4GHz function:

For SRD 2.4G mode (1TX/1RX)

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

For BT function:

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

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

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From Host system			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Beamforming Function	☐	With beamforming	☒	Without beamforming

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
SRD_Nss1_1TX	1	0	20.001m	10

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

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			
☐	Wen Shan	ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
		TEL : 886-3-318-0787	FAX : 886-3-318-0287
Test site Designation No. TW1097 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward	23.5~25.8°C / 52~57%	20/Aug/2020
RF Conducted	TH06-HY	Raven	22.5~23.8°C / 58~72%	17/Aug/2020~ 21/Aug/2020
Radiated	03CH03-HY	Edward	22.5~25.4°C / 52~54%	16/Aug/2020~ 24/Aug/2020

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 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 Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software Version	Setup_PurePath_Wireless_Commander.1.0.36940

Mode	Power Setting
SRD_Nss1_1TX	-
2406MHz	2dBm
2442MHz	2dBm
2478MHz	-1dBm

2.3 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
Operating Mode	CTX
1	USB 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	USB mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT		V	

2.4 Support Equipment

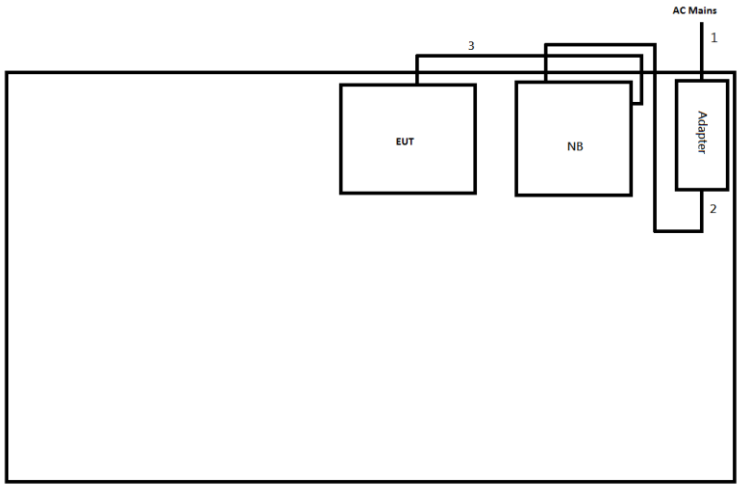
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	HP	5220m	-	-
2	AC Adapter for Notebook	HP	PPP012H-S	-	-
3	USB Cable	Hawk	04-HTE120	-	-

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	AC Adapter for Notebook	DELL	HA65NM130	-	-
3	Fixture	-	-	-	Customer provide
4	USB Cable	Hawk	04-HTE120	-	-

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	HP	5220m	-	-
2	AC Adapter for Notebook	HP	PPP012H-S	-	-
3	USB Cable	Hawk	04-HTE120	-	-

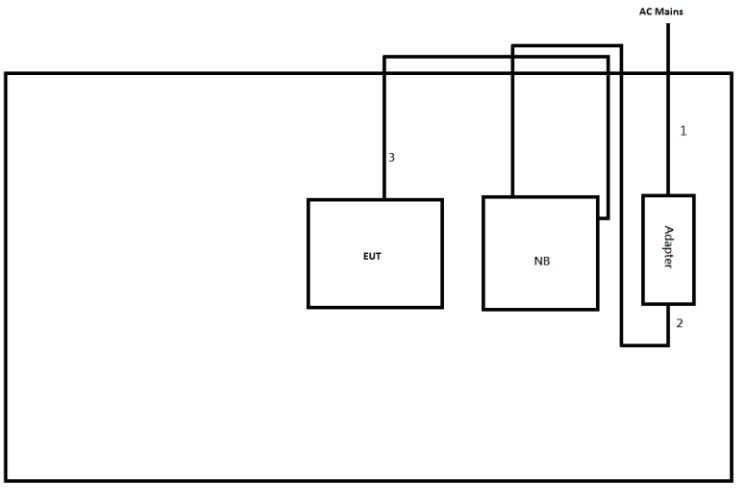
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.5
3	USB Cable	No	1.0

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	USB Cable	NO	1.0

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

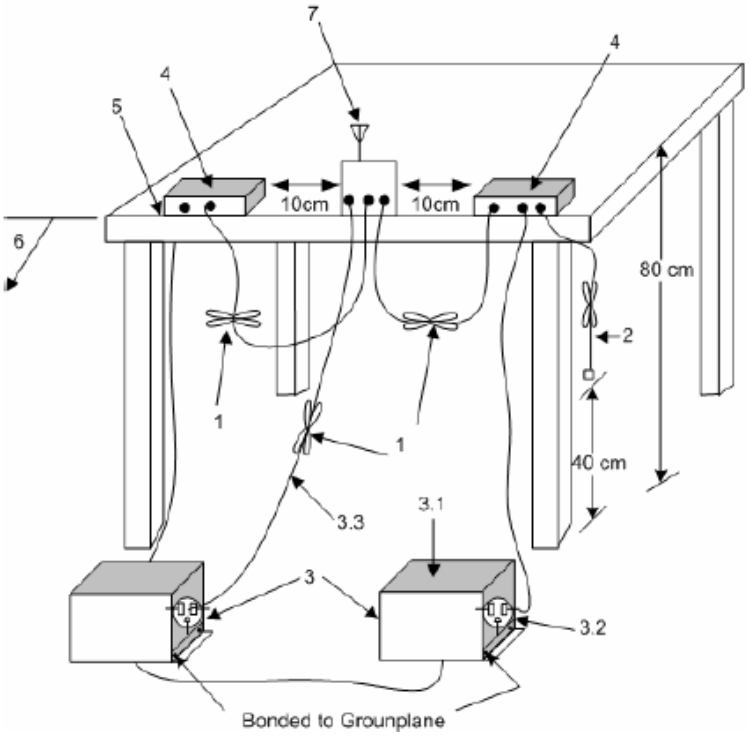
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

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

AC Power-line Conducted Emissions



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

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 ≥ 500 kHz.

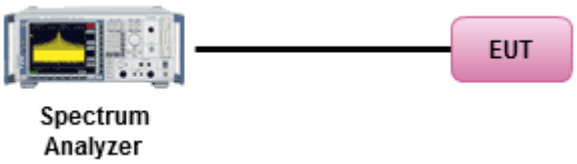
3.2.2 Measuring Instruments

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

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit			
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)		
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm		
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm		
	▪ Smart antenna system (SAS):		
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm	
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): $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX}])$ dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Overlap beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8])$ 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: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

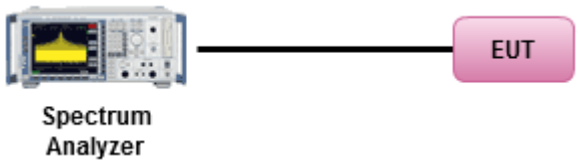
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒ Refer as 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

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

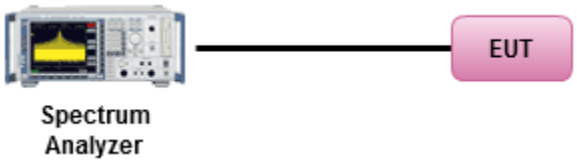
3.5.2 Measuring Instruments

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

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method	
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as 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.
▪ 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 ≥ 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.

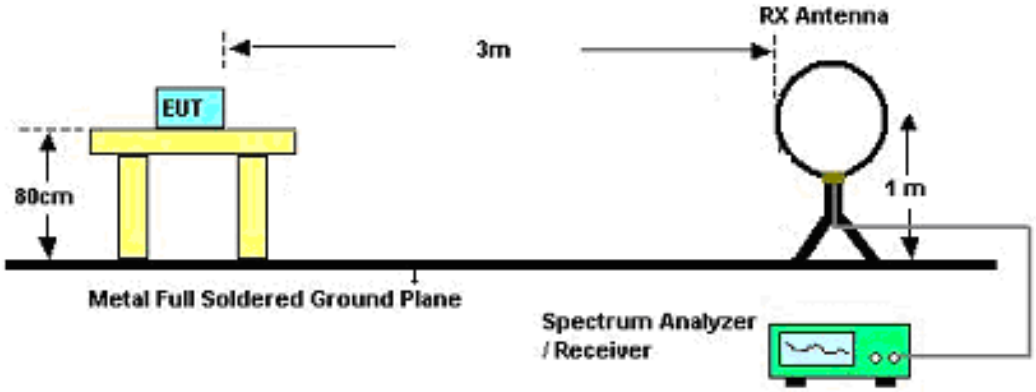
3.6.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

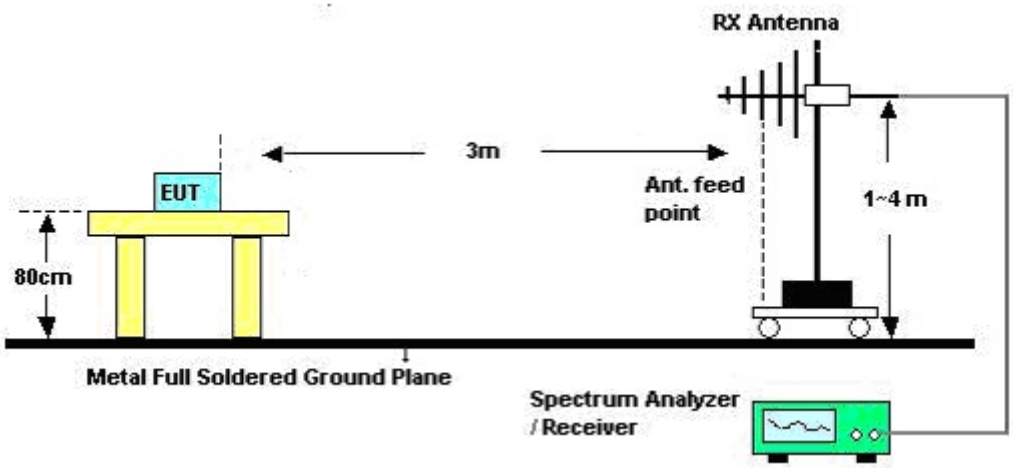
3.6.5 Test Setup

Emissions in Restricted Frequency Bands

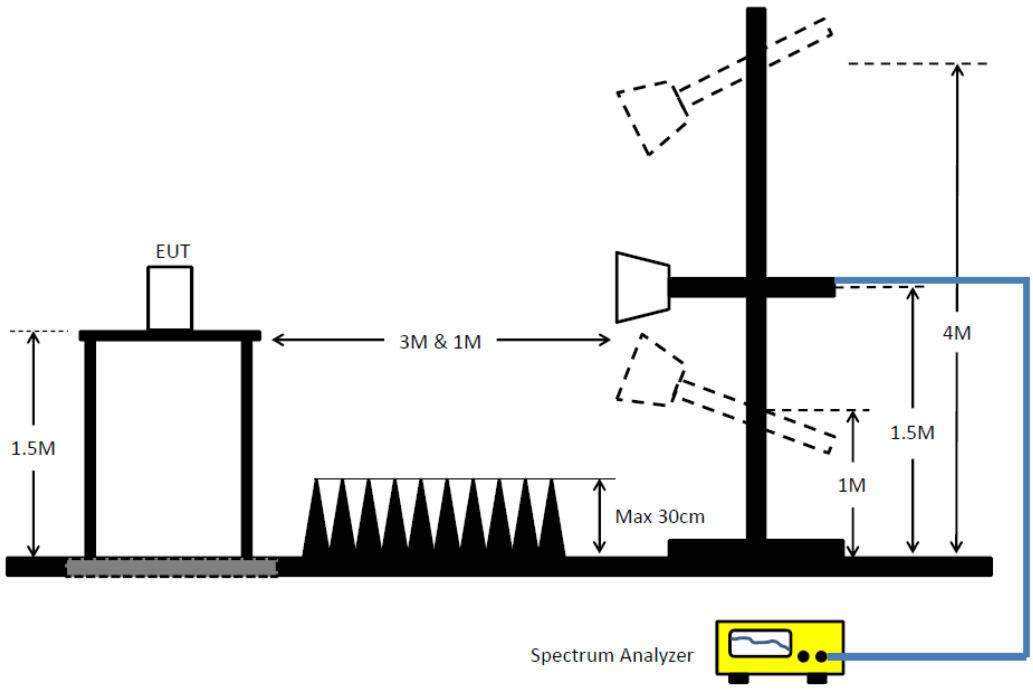
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



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	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	05/Nov/2019	04/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	23/Sep/2019	22/Sep/2020
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	24/Sep/2019	23/Sep/2020

NCR: Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10kHz ~ 40GHz	01/Oct/2019	30/Sep/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	11/Nov/2020
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	18/Mar/2020	17/Mar/2021
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	18/Mar/2020	17/Mar/2021

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	06/Aug/2020	05/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	04/Aug/2020	03/Aug/2021
Signal Analyzer	R&S	FSV 40	101515	10Hz~40GHz	15/Feb/2020	14/Feb/2021
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	14/Apr/2020	13/Apr/2021
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz~26.5GHz	09/Sep/2019	08/Sep/2020
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	19/Apr/2020	18/Apr/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	26/Mar/2020	25/Mar/2021
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	19/Jun/2020	18/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	18/Mar/2020	17/Mar/2021
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	SN MY38596/4+SN 804300/4	1GHz~40GHz	04/Aug/2020	03/Aug/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	13/Mar/2020	12/Mar/2021
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz~40GHz	10/Mar/2020	09/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2020	15/Mar/2021
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021

Summary

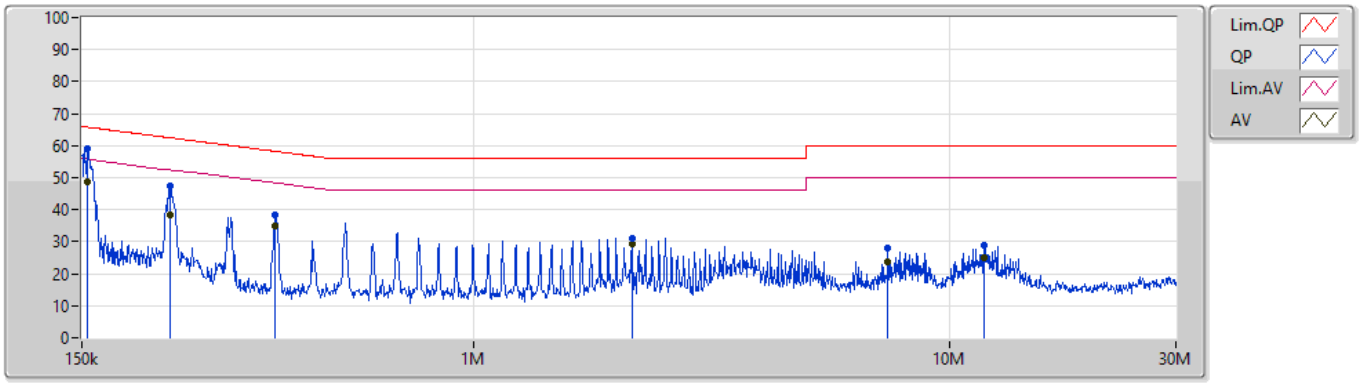
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	153.024k	59.40	65.83	-6.43	Neutral

Mode Configure

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	153.636k	59.02	65.81	-6.79	Line	"Worst"
Mode 1	Pass	AV	153.636k	48.76	55.81	-7.05	Line	-
Mode 1	Pass	QP	229.932k	47.25	62.44	-15.19	Line	-
Mode 1	Pass	AV	229.932k	38.29	52.44	-14.15	Line	-
Mode 1	Pass	QP	383.278k	38.31	58.20	-19.89	Line	-
Mode 1	Pass	AV	383.278k	34.96	48.20	-13.24	Line	-
Mode 1	Pass	QP	2.15M	31.09	56.00	-24.91	Line	-
Mode 1	Pass	AV	2.15M	29.15	46.00	-16.85	Line	-
Mode 1	Pass	QP	7.442M	27.84	60.00	-32.16	Line	-
Mode 1	Pass	AV	7.442M	23.89	50.00	-26.11	Line	-
Mode 1	Pass	QP	11.824M	28.88	60.00	-31.12	Line	-
Mode 1	Pass	AV	11.824M	24.87	50.00	-25.13	Line	-
Mode 1	Pass	QP	153.024k	59.40	65.83	-6.43	Neutral	"Worst"
Mode 1	Pass	AV	153.024k	48.82	55.83	-7.01	Neutral	-
Mode 1	Pass	QP	229.015k	46.87	62.48	-15.61	Neutral	-
Mode 1	Pass	AV	229.015k	37.66	52.48	-14.82	Neutral	-
Mode 1	Pass	QP	307.723k	39.48	60.03	-20.55	Neutral	-
Mode 1	Pass	AV	307.723k	32.36	50.03	-17.67	Neutral	-
Mode 1	Pass	QP	1.84M	31.83	56.00	-24.17	Neutral	-
Mode 1	Pass	AV	1.84M	30.00	46.00	-16.00	Neutral	-
Mode 1	Pass	QP	8.288M	29.41	60.00	-30.59	Neutral	-
Mode 1	Pass	AV	8.288M	25.73	50.00	-24.27	Neutral	-
Mode 1	Pass	QP	11.967M	31.64	60.00	-28.36	Neutral	-
Mode 1	Pass	AV	11.967M	26.63	50.00	-23.37	Neutral	-

Conducted Emissions at Powerline_Mode 1

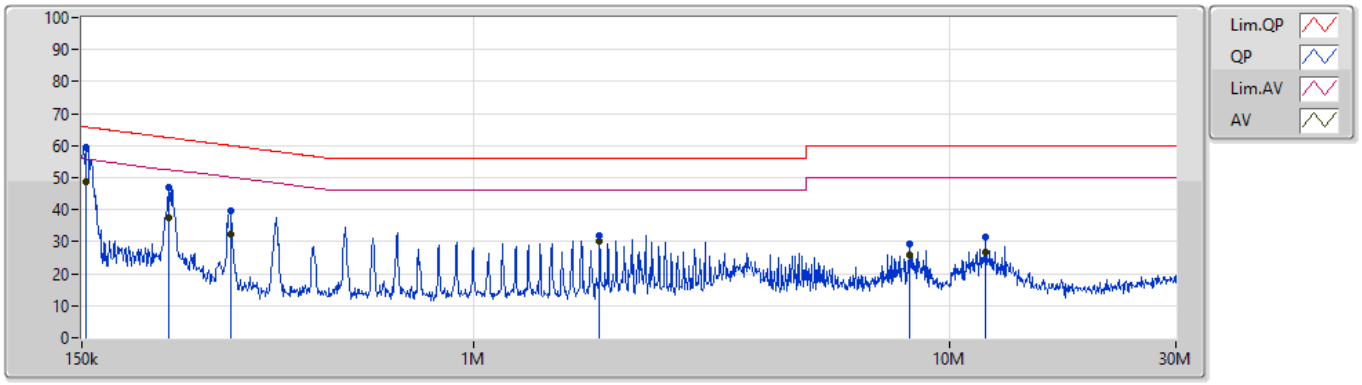
20/08/2020



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	153.636k	59.02	65.81	-6.79	19.64	Line	"Worst"	39.38	9.66	0.11	9.87
AV	153.636k	48.76	55.81	-7.05	19.64	Line	-	29.12	9.66	0.11	9.87
QP	229.932k	47.25	62.44	-15.19	19.63	Line	-	27.62	9.65	0.11	9.87
AV	229.932k	38.29	52.44	-14.15	19.63	Line	-	18.66	9.65	0.11	9.87
QP	383.278k	38.31	58.20	-19.89	19.64	Line	-	18.67	9.64	0.13	9.87
AV	383.278k	34.96	48.20	-13.24	19.64	Line	-	15.32	9.64	0.13	9.87
QP	2.15M	31.09	56.00	-24.91	19.66	Line	-	11.43	9.65	0.14	9.87
AV	2.15M	29.15	46.00	-16.85	19.66	Line	-	9.49	9.65	0.14	9.87
QP	7.442M	27.84	60.00	-32.16	19.80	Line	-	8.04	9.68	0.24	9.88
AV	7.442M	23.89	50.00	-26.11	19.80	Line	-	4.09	9.68	0.24	9.88
QP	11.824M	28.88	60.00	-31.12	19.85	Line	-	9.03	9.68	0.29	9.88
AV	11.824M	24.87	50.00	-25.13	19.85	Line	-	5.02	9.68	0.29	9.88

Conducted Emissions at Powerline_Mode 1

20/08/2020



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	153.024k	59.40	65.83	-6.43	19.63	Neutral	"Worst"	39.77	9.65	0.11	9.87
AV	153.024k	48.82	55.83	-7.01	19.63	Neutral	-	29.19	9.65	0.11	9.87
QP	229.015k	46.87	62.48	-15.61	19.62	Neutral	-	27.25	9.64	0.11	9.87
AV	229.015k	37.66	52.48	-14.82	19.62	Neutral	-	18.04	9.64	0.11	9.87
QP	307.723k	39.48	60.03	-20.55	19.62	Neutral	-	19.86	9.63	0.12	9.87
AV	307.723k	32.36	50.03	-17.67	19.62	Neutral	-	12.74	9.63	0.12	9.87
QP	1.84M	31.83	56.00	-24.17	19.66	Neutral	-	12.17	9.65	0.14	9.87
AV	1.84M	30.00	46.00	-16.00	19.66	Neutral	-	10.34	9.65	0.14	9.87
QP	8.288M	29.41	60.00	-30.59	19.82	Neutral	-	9.59	9.69	0.25	9.88
AV	8.288M	25.73	50.00	-24.27	19.82	Neutral	-	5.91	9.69	0.25	9.88
QP	11.967M	31.64	60.00	-28.36	19.88	Neutral	-	11.76	9.71	0.29	9.88
AV	11.967M	26.63	50.00	-23.37	19.88	Neutral	-	6.75	9.71	0.29	9.88

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
SRD_Nss1_1TX	2.213M	3.798M	3M80D1D	2.081M	3.708M

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

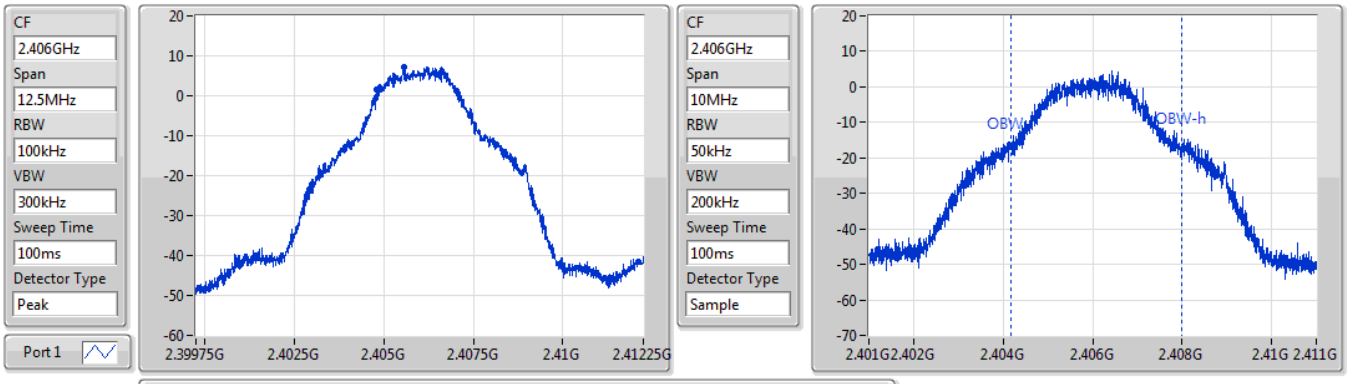
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
SRD_Nss1_1TX	-	-	-	-
2406MHz	Pass	500k	2.213M	3.798M
2442MHz	Pass	500k	2.081M	3.708M
2478MHz	Pass	500k	2.181M	3.748M

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

SRD_Nss1_1TX EBW

2406MHz

17/08/2020

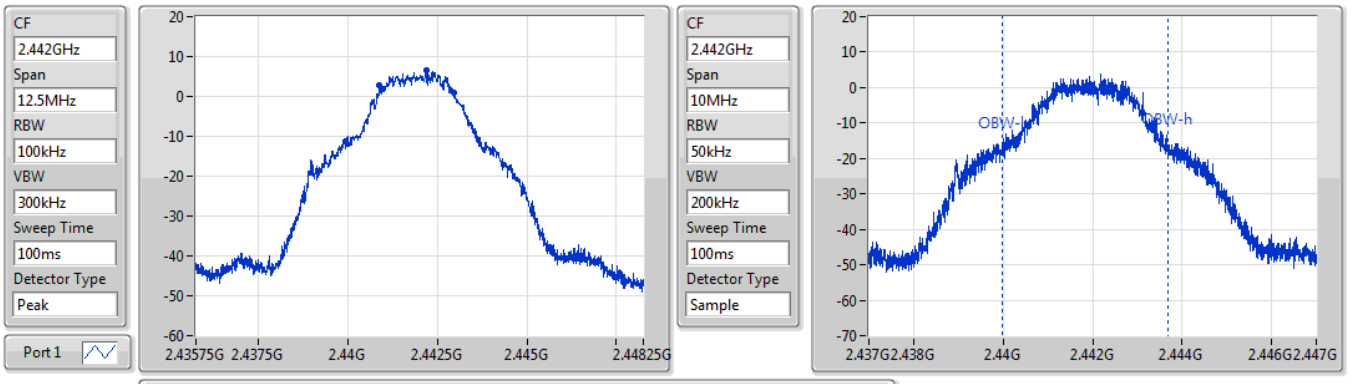


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.213M	2.4048G	2.407013G	3.798M	2.404186G	2.407984G	500k	1

SRD_Nss1_1TX EBW

2442MHz

17/08/2020

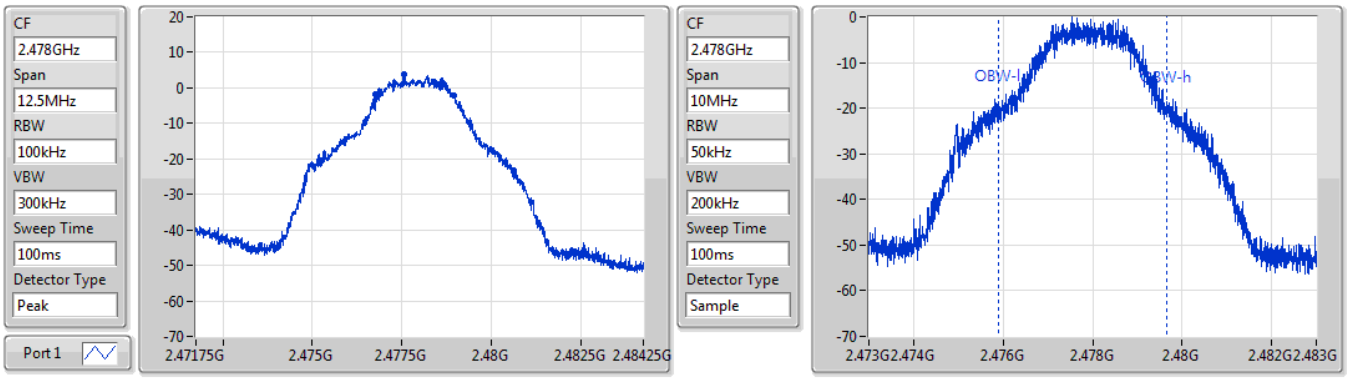


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.081M	2.440875G	2.442956G	3.708M	2.439986G	2.443694G	500k	1

SRD_Nss1_1TX **EBW**

2478MHz

17/08/2020



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.181M	2.476781G	2.478963G	3.748M	2.475906G	2.479654G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
SRD_Nss1_1TX	10.68	0.01169

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
SRD_Nss1_1TX	-	-	-	-	-
2406MHz	Pass	4.87	10.68	10.68	Inf
2442MHz	Pass	4.87	10.19	10.19	Inf
2478MHz	Pass	4.87	6.84	6.84	Inf

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
SRD_Nss1_1TX	-8.04

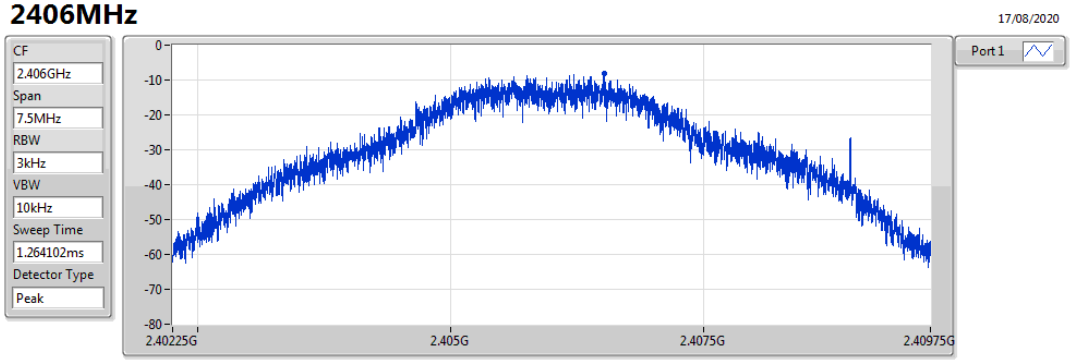
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
SRD_Nss1_1TX	-	-	-	-	-
2406MHz	Pass	4.87	-8.04	-8.04	8.00
2442MHz	Pass	4.87	-8.66	-8.66	8.00
2478MHz	Pass	4.87	-12.11	-12.11	8.00

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

SRD_Nss1_1TX **PSD**

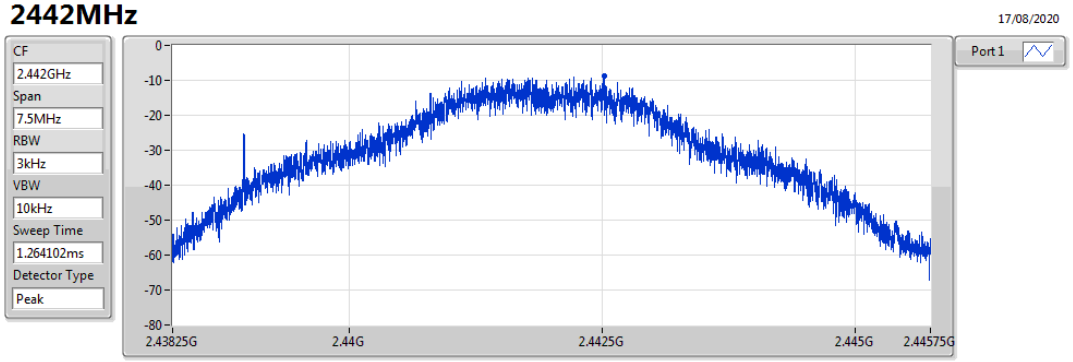
2406MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.04	-8.04	-8.04

SRD_Nss1_1TX **PSD**

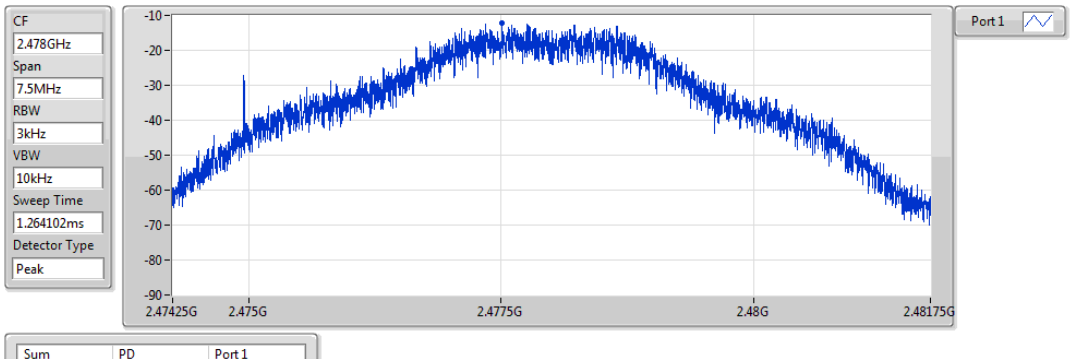
2442MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.66	-8.66	-8.66

SRD_Nss1_1TX **PSD**

2478MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.11	-12.11	-12.11

Summary

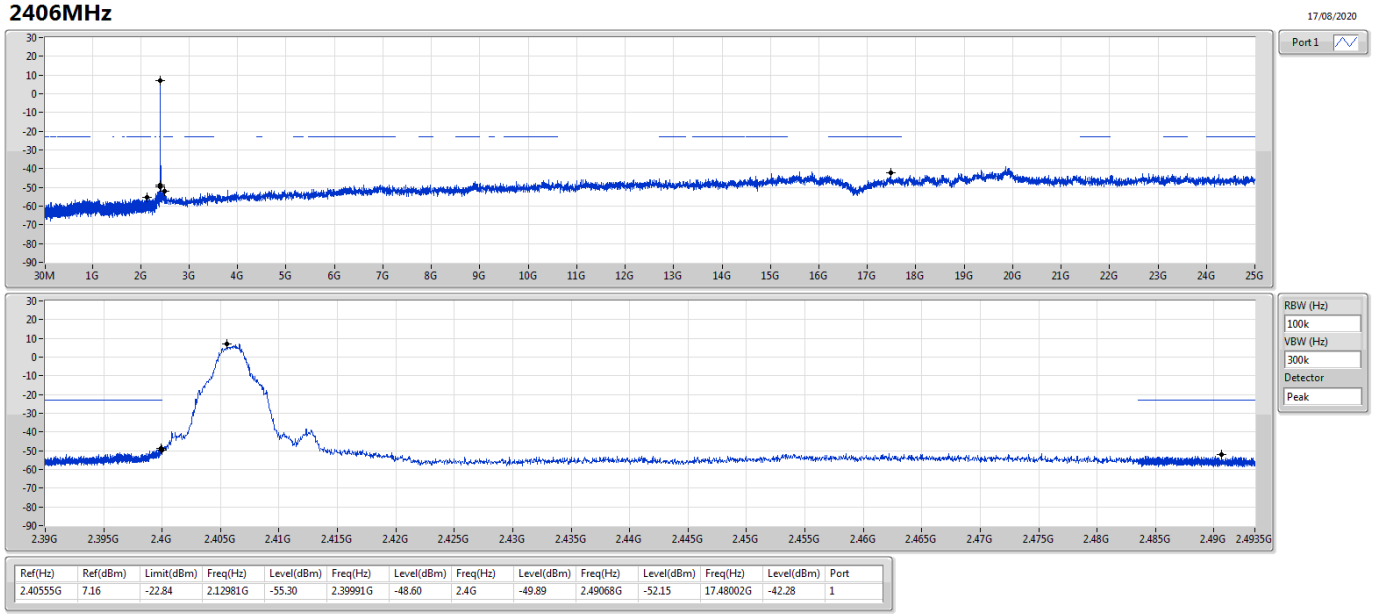
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRD_Nss1_1TX	Pass	2.40555G	7.16	-22.84	2.12981G	-55.3	2.39991G	-48.6	2.4G	-49.89	2.49068G	-52.15	17.48002G	-42.28	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
SRD_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2406MHz	Pass	2.40555G	7.16	-22.84	2.12981G	-55.3	2.39991G	-48.6	2.4G	-49.89	2.49068G	-52.15	17.48002G	-42.28	1
2442MHz	Pass	2.40555G	7.16	-22.84	2.00444G	-55.7	2.39078G	-50.92	2.4G	-54.13	2.48551G	-51.34	15.22655G	-42.9	1
2478MHz	Pass	2.40555G	7.16	-22.84	1.9298G	-55.6	2.39451G	-52.74	2.4835G	-53.5	2.48357G	-51.59	17.63475G	-43.37	1

SRD_Nss1_1TX **CSENdB**

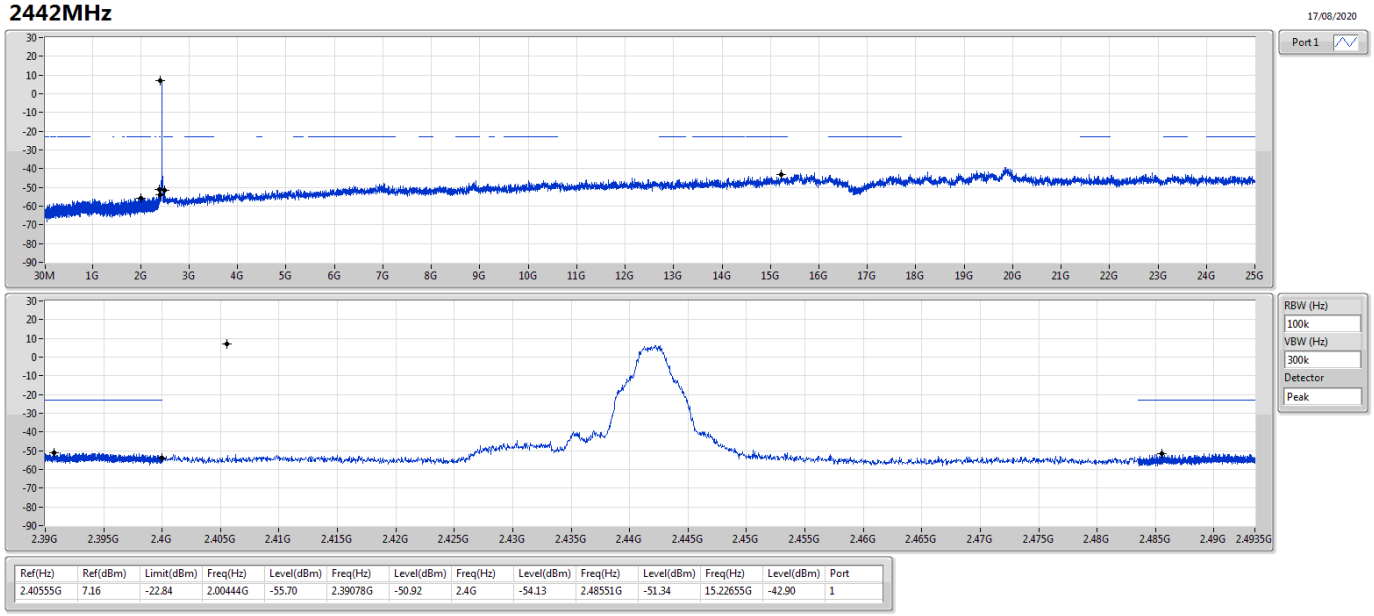
2406MHz



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
2.40555G	7.16	-22.84	2.12981G	-55.30	2.39991G	-48.60	2.4G	-49.89	2.49068G	-52.15	17.48002G	-42.28	1

SRD_Nss1_1TX **CSENdB**

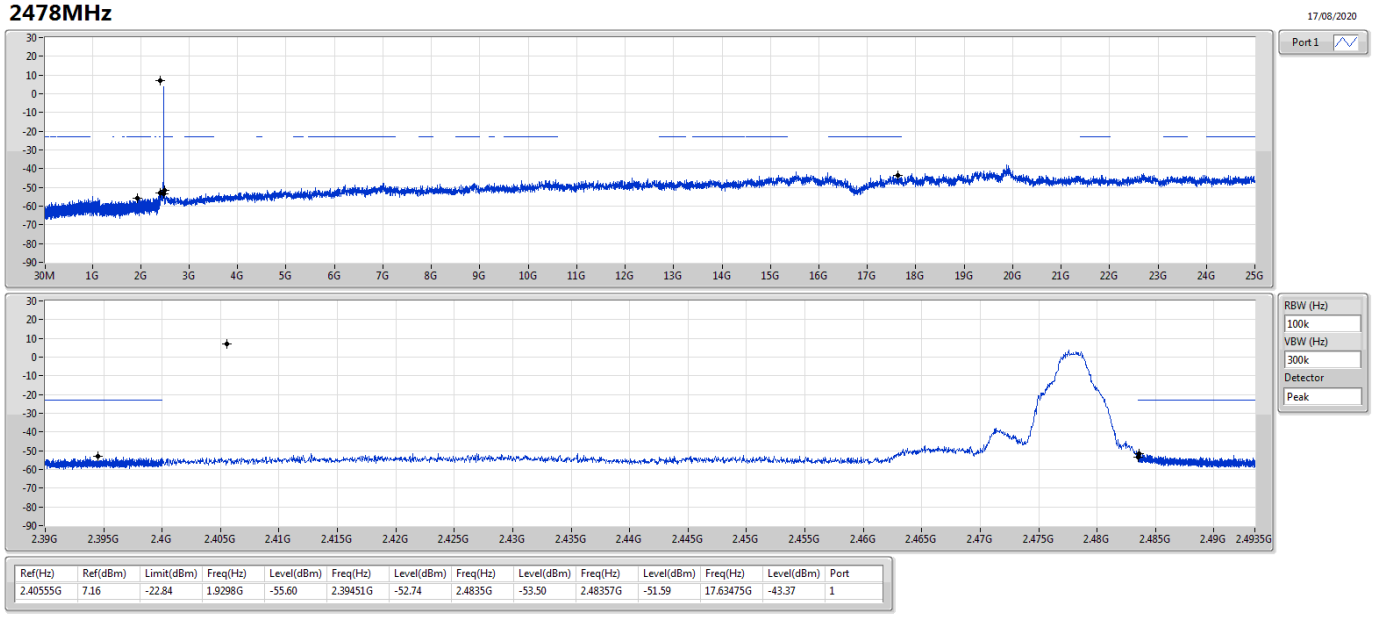
2442MHz



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
2.40555G	7.16	-22.84	2.00444G	-55.70	2.39078G	-50.92	2.4G	-54.13	2.48551G	-51.34	15.22655G	-42.90	1

SRD_Nss1_1TX **CSENdB**

2478MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40555G	7.16	-22.84	1.9298G	-55.60	2.39451G	-52.74	2.4835G	-53.50	2.48357G	-51.59	17.63475G	-43.37	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	-	-	-	-	-	-	-	-	-	-	-
SRD_Nss1_1TX	Pass	PK	30M	31.56	40.00	-8.44	3	Horizontal	0	1.00	-

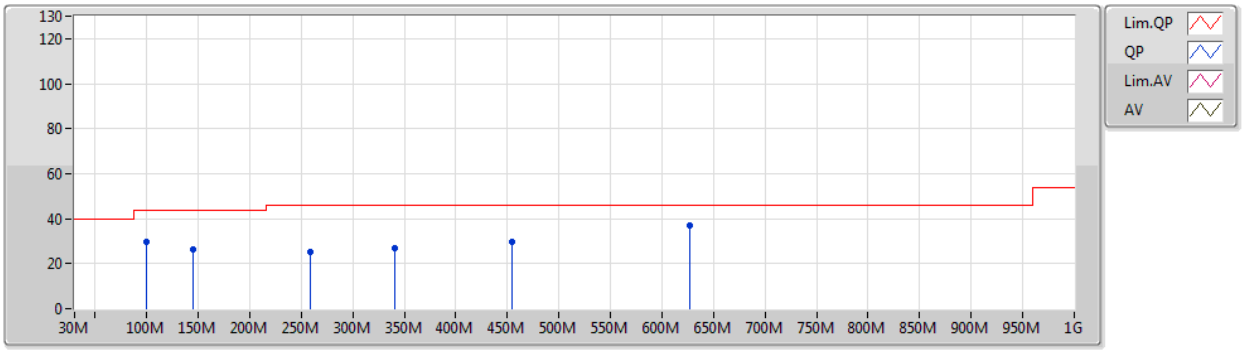
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2442MHz	Pass	PK	99.84M	29.89	43.50	-13.61	3	Vertical	360	1.00	-
2442MHz	Pass	PK	144.46M	26.60	43.50	-16.90	3	Vertical	360	1.00	-
2442MHz	Pass	PK	258.92M	25.05	46.00	-20.95	3	Vertical	360	1.00	-
2442MHz	Pass	PK	340.4M	27.05	46.00	-18.95	3	Vertical	360	1.00	-
2442MHz	Pass	PK	454.86M	29.42	46.00	-16.58	3	Vertical	360	1.00	-
2442MHz	Pass	PK	627.52M	37.23	46.00	-8.77	3	Vertical	360	1.00	-
2442MHz	Pass	PK	30M	31.56	40.00	-8.44	3	Horizontal	0	1.00	-
2442MHz	Pass	PK	144.46M	30.38	43.50	-13.12	3	Horizontal	0	1.00	-
2442MHz	Pass	PK	299.66M	27.83	46.00	-18.17	3	Horizontal	0	1.00	-
2442MHz	Pass	PK	419.94M	28.31	46.00	-17.69	3	Horizontal	0	1.00	-
2442MHz	Pass	PK	454.86M	32.30	46.00	-13.70	3	Horizontal	0	1.00	-
2442MHz	Pass	PK	546.04M	32.00	46.00	-14.00	3	Horizontal	0	1.00	-

SRD_Nss1_1TX

2442MHz_USB

18/08/2020

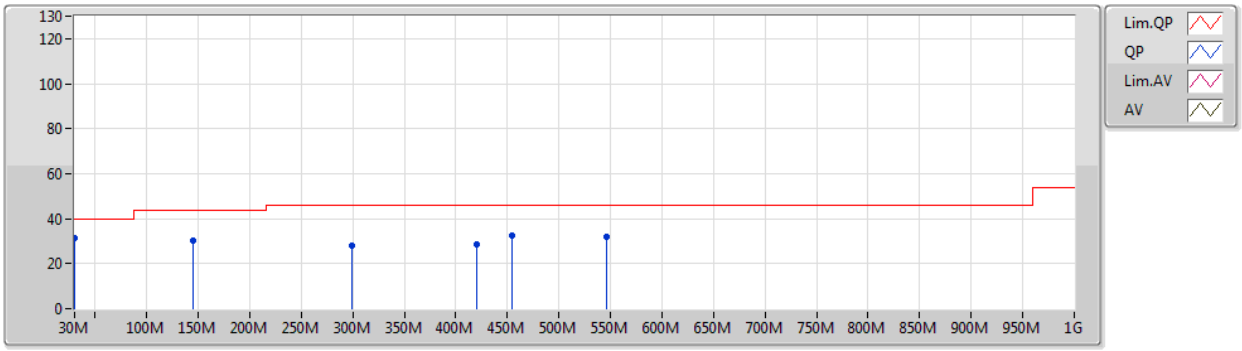


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	99.84M	29.89	43.50	-13.61	-9.86	3	Vertical	360	1.00	-	39.75	15.93	1.60	27.39
PK	144.46M	26.60	43.50	-16.90	-9.56	3	Vertical	360	1.00	-	36.16	15.73	1.92	27.21
PK	258.92M	25.05	46.00	-20.95	-5.28	3	Vertical	360	1.00	-	30.33	18.77	2.65	26.70
PK	340.4M	27.05	46.00	-18.95	-4.69	3	Vertical	360	1.00	-	31.74	19.13	3.06	26.88
PK	454.86M	29.42	46.00	-16.58	-2.18	3	Vertical	360	1.00	-	31.60	22.09	3.43	27.70
PK	627.52M	37.23	46.00	-8.77	0.03	3	Vertical	360	1.00	-	37.20	23.88	4.21	28.06

SRD_Nss1_1TX

2442MHz_USB

18/08/2020



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	30M	31.56	40.00	-8.44	-3.44	3	Horizontal	0	1.00	-	35.00	23.33	0.81	27.58
PK	144.46M	30.38	43.50	-13.12	-9.56	3	Horizontal	0	1.00	-	39.94	15.73	1.92	27.21
PK	299.66M	27.83	46.00	-18.17	-5.31	3	Horizontal	0	1.00	-	33.14	18.44	2.90	26.65
PK	419.94M	28.31	46.00	-17.69	-2.28	3	Horizontal	0	1.00	-	30.59	21.81	3.34	27.43
PK	454.86M	32.30	46.00	-13.70	-2.18	3	Horizontal	0	1.00	-	34.48	22.09	3.43	27.70
PK	546.04M	32.00	46.00	-14.00	-0.16	3	Horizontal	0	1.00	-	32.16	23.96	3.88	28.00

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	-	-	-	-	-	-	-	-	-	-	-
SRD_Nss1_1TX	Pass	AV	4.81201G	50.70	54.00	-3.30	3	Horizontal	156	1.56	-

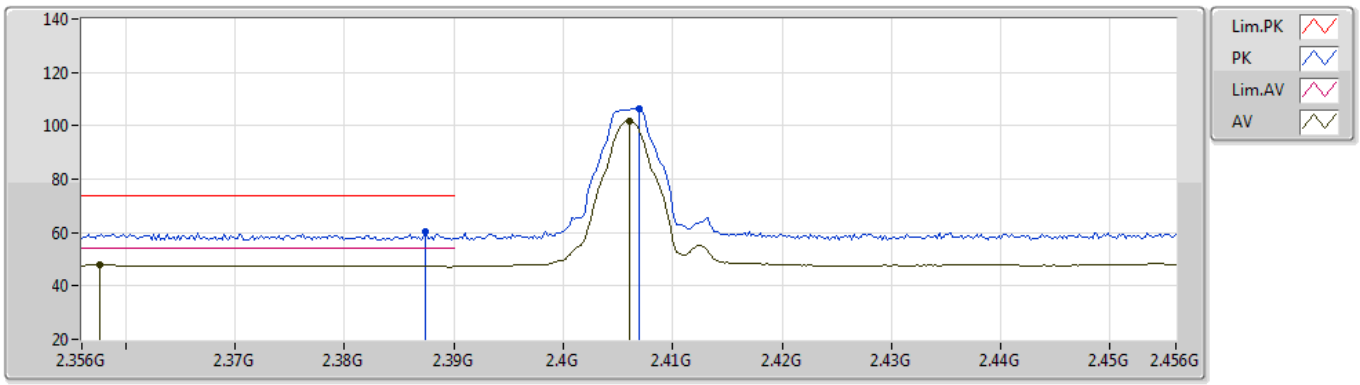
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2406MHz_TX	Pass	AV	2.3576G	48.14	54.00	-5.86	3	Vertical	170	1.31	-
2406MHz_TX	Pass	AV	2.406G	101.55	Inf	-Inf	3	Vertical	170	1.31	-
2406MHz_TX	Pass	PK	2.3874G	60.09	74.00	-13.91	3	Vertical	170	1.31	-
2406MHz_TX	Pass	PK	2.407G	106.32	Inf	-Inf	3	Vertical	170	1.31	-
2406MHz_TX	Pass	AV	2.3572G	49.14	54.00	-4.86	3	Horizontal	150	2.40	-
2406MHz_TX	Pass	AV	2.406G	104.84	Inf	-Inf	3	Horizontal	150	2.40	-
2406MHz_TX	Pass	PK	2.3766G	60.81	74.00	-13.19	3	Horizontal	150	2.40	-
2406MHz_TX	Pass	PK	2.407G	109.50	Inf	-Inf	3	Horizontal	150	2.40	-
2406MHz_TX	Pass	AV	4.81195G	50.28	54.00	-3.72	3	Vertical	36	1.47	-
2406MHz_TX	Pass	PK	4.81339G	59.63	74.00	-14.37	3	Vertical	36	1.47	-
2406MHz_TX	Pass	AV	4.81201G	50.70	54.00	-3.30	3	Horizontal	156	1.56	-
2406MHz_TX	Pass	PK	4.81395G	59.98	74.00	-14.02	3	Horizontal	156	1.56	-
2442MHz_TX	Pass	AV	2.39G	47.98	54.00	-6.02	3	Vertical	168	1.32	-
2442MHz_TX	Pass	AV	2.442G	101.63	Inf	-Inf	3	Vertical	168	1.32	-
2442MHz_TX	Pass	AV	2.4852G	48.01	54.00	-5.99	3	Vertical	168	1.32	-
2442MHz_TX	Pass	PK	2.382G	59.71	74.00	-14.29	3	Vertical	168	1.32	-
2442MHz_TX	Pass	PK	2.4412G	106.44	Inf	-Inf	3	Vertical	168	1.32	-
2442MHz_TX	Pass	PK	2.4992G	59.71	74.00	-14.29	3	Vertical	168	1.32	-
2442MHz_TX	Pass	AV	2.39G	47.98	54.00	-6.02	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	AV	2.442G	102.11	Inf	-Inf	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	AV	2.4864G	48.01	54.00	-5.99	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	PK	2.3456G	59.44	74.00	-14.56	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	PK	2.4412G	106.88	Inf	-Inf	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	PK	2.492G	60.36	74.00	-13.64	3	Horizontal	150	1.60	-
2442MHz_TX	Pass	AV	4.88361G	49.13	54.00	-4.87	3	Vertical	29	1.49	-
2442MHz_TX	Pass	AV	7.32532G	44.30	54.00	-9.70	3	Vertical	20	1.69	-
2442MHz_TX	Pass	PK	4.88302G	58.82	74.00	-15.18	3	Vertical	29	1.49	-
2442MHz_TX	Pass	PK	7.32351G	57.09	74.00	-16.91	3	Vertical	20	1.69	-
2442MHz_TX	Pass	AV	4.88361G	46.97	54.00	-7.03	3	Horizontal	199	1.62	-
2442MHz_TX	Pass	AV	7.32553G	49.40	54.00	-4.60	3	Horizontal	85	2.37	-
2442MHz_TX	Pass	PK	4.88271G	56.85	74.00	-17.15	3	Horizontal	199	1.62	-
2442MHz_TX	Pass	PK	7.32369G	60.79	74.00	-13.21	3	Horizontal	85	2.37	-
2478MHz_TX	Pass	AV	2.4778G	98.26	Inf	-Inf	3	Vertical	166	1.27	-
2478MHz_TX	Pass	AV	2.4835G	48.28	54.00	-5.72	3	Vertical	166	1.27	-
2478MHz_TX	Pass	PK	2.477G	103.18	Inf	-Inf	3	Vertical	166	1.27	-
2478MHz_TX	Pass	PK	2.4852G	60.58	74.00	-13.42	3	Vertical	166	1.27	-
2478MHz_TX	Pass	AV	2.4778G	100.20	Inf	-Inf	3	Horizontal	149	2.27	-
2478MHz_TX	Pass	AV	2.4835G	48.83	54.00	-5.17	3	Horizontal	149	2.27	-
2478MHz_TX	Pass	PK	2.4768G	105.10	Inf	-Inf	3	Horizontal	149	2.27	-
2478MHz_TX	Pass	PK	2.4835G	61.09	74.00	-12.91	3	Horizontal	149	2.27	-
2478MHz_TX	Pass	AV	4.95522G	38.97	54.00	-15.03	3	Vertical	22	1.50	-
2478MHz_TX	Pass	AV	7.43366G	39.30	54.00	-14.70	3	Vertical	17	1.57	-
2478MHz_TX	Pass	PK	4.95496G	50.76	74.00	-23.24	3	Vertical	22	1.50	-
2478MHz_TX	Pass	PK	7.43455G	51.66	74.00	-22.34	3	Vertical	17	1.57	-
2478MHz_TX	Pass	AV	4.95485G	37.75	54.00	-16.25	3	Horizontal	214	1.52	-
2478MHz_TX	Pass	AV	7.43351G	40.57	54.00	-13.43	3	Horizontal	85	2.37	-
2478MHz_TX	Pass	PK	4.95455G	51.15	74.00	-22.85	3	Horizontal	214	1.52	-
2478MHz_TX	Pass	PK	7.43318G	53.37	74.00	-20.63	3	Horizontal	85	2.37	-

SRD_Nss1_1TX

2406MHz_TX

17/08/2020

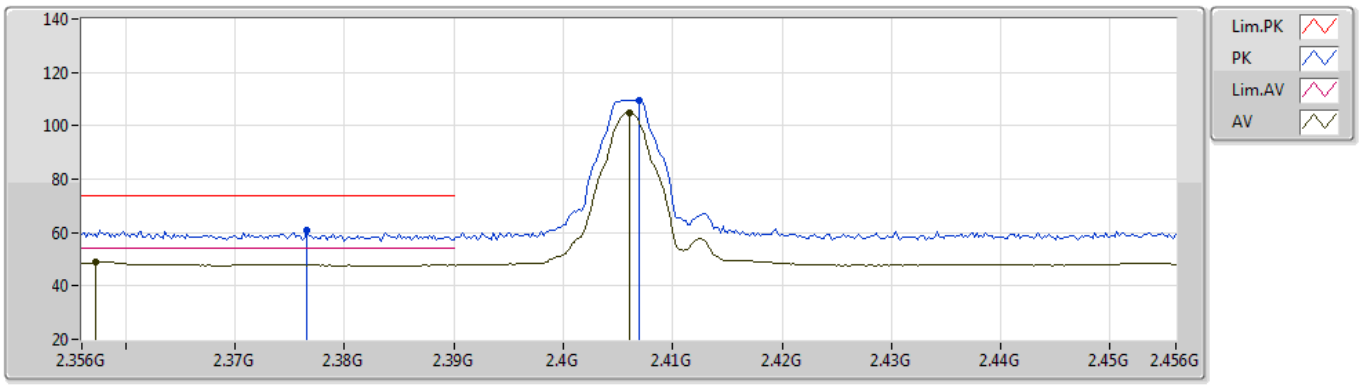


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3576G	48.14	54.00	-5.86	31.94	3	Vertical	170	1.31	-	16.20	27.68	4.26	-
AV	2.406G	101.55	Inf	-Inf	31.90	3	Vertical	170	1.31	-	69.65	27.59	4.31	-
PK	2.3874G	60.09	74.00	-13.91	31.92	3	Vertical	170	1.31	-	28.17	27.63	4.29	-
PK	2.407G	106.32	Inf	-Inf	31.90	3	Vertical	170	1.31	-	74.42	27.59	4.31	-

SRD_Nss1_1TX

2406MHz_TX

17/08/2020

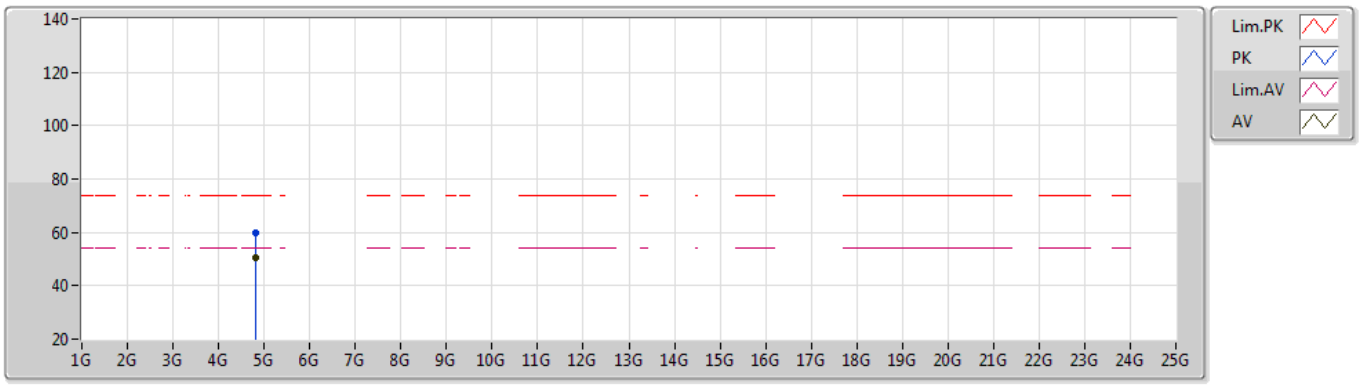


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3572G	49.14	54.00	-4.86	31.95	3	Horizontal	150	2.40	-	17.19	27.69	4.26	-
AV	2.406G	104.84	Inf	-Inf	31.90	3	Horizontal	150	2.40	-	72.94	27.59	4.31	-
PK	2.3766G	60.81	74.00	-13.19	31.93	3	Horizontal	150	2.40	-	28.88	27.65	4.28	-
PK	2.407G	109.50	Inf	-Inf	31.90	3	Horizontal	150	2.40	-	77.60	27.59	4.31	-

SRD_Nss1_1TX

2406MHz_TX

17/08/2020

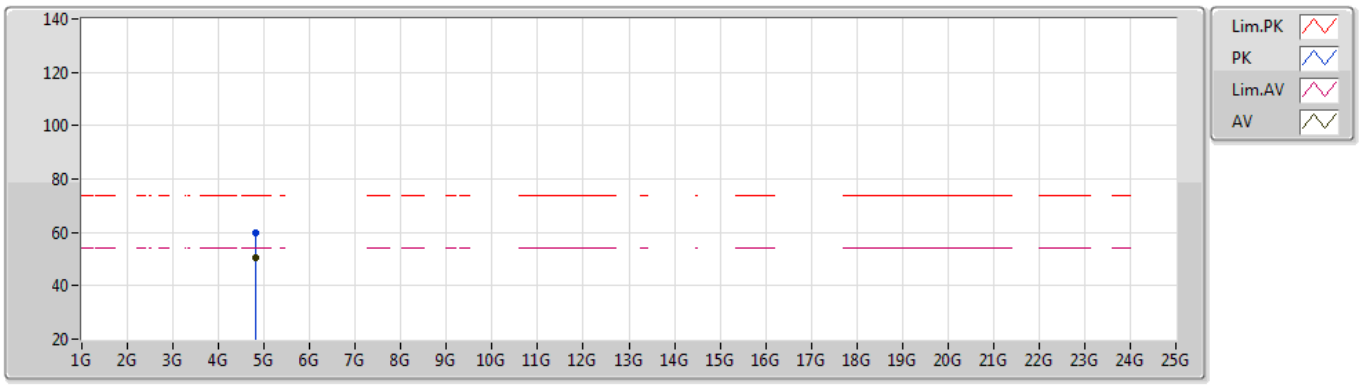


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.81195G	50.28	54.00	-3.72	8.20	3	Vertical	36	1.47	-	42.08	31.10	6.51	29.41
PK	4.81339G	59.63	74.00	-14.37	8.20	3	Vertical	36	1.47	-	51.43	31.10	6.51	29.41

SRD_Nss1_1TX

2406MHz_TX

17/08/2020

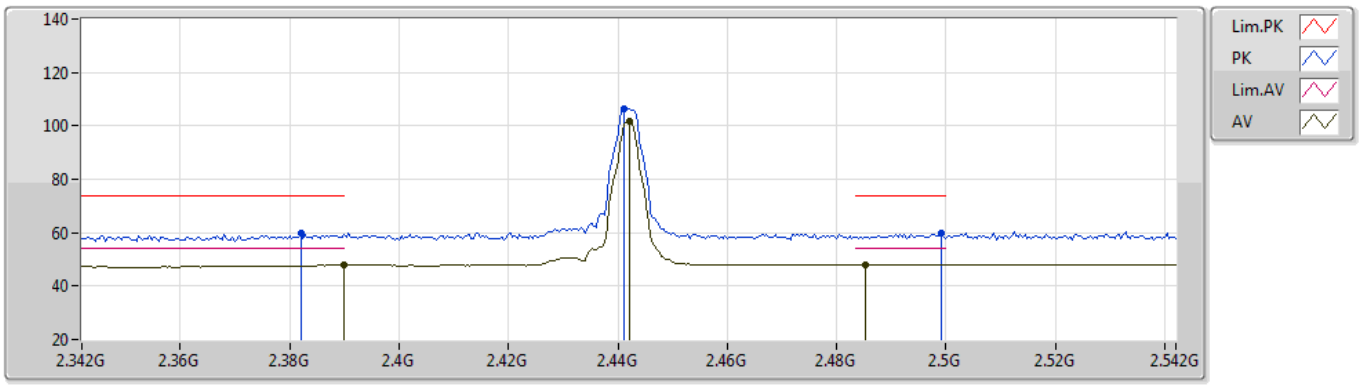


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.81201G	50.70	54.00	-3.30	8.20	3	Horizontal	156	1.56	-	42.50	31.10	6.51	29.41
PK	4.81395G	59.98	74.00	-14.02	8.20	3	Horizontal	156	1.56	-	51.78	31.10	6.51	29.41

SRD_Nss1_1TX

2442MHz_TX

17/08/2020

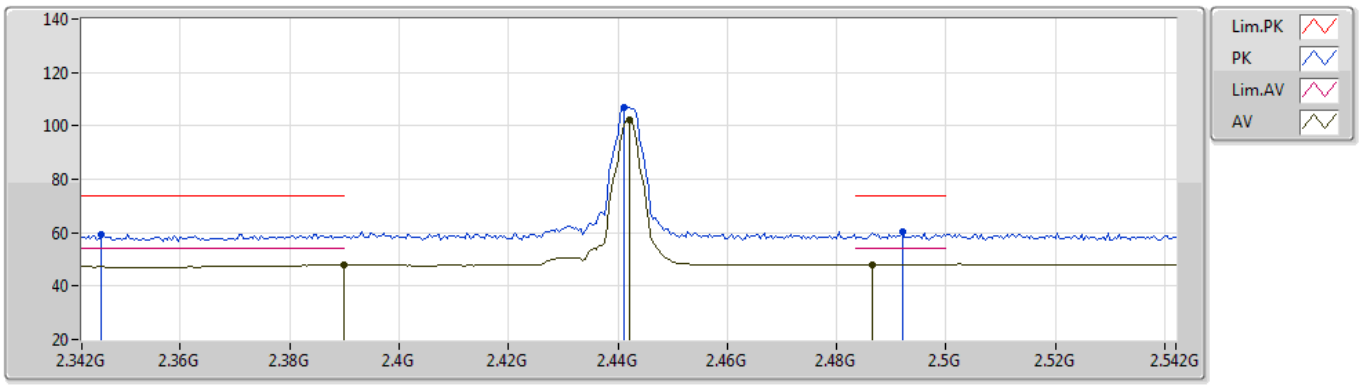


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.39G	47.98	54.00	-6.02	31.91	3	Vertical	168	1.32	-	16.07	27.62	4.29	-
AV	2.442G	101.63	Inf	-Inf	31.86	3	Vertical	168	1.32	-	69.77	27.52	4.34	-
AV	2.4852G	48.01	54.00	-5.99	31.82	3	Vertical	168	1.32	-	16.19	27.43	4.39	-
PK	2.382G	59.71	74.00	-14.29	31.92	3	Vertical	168	1.32	-	27.79	27.64	4.28	-
PK	2.4412G	106.44	Inf	-Inf	31.86	3	Vertical	168	1.32	-	74.58	27.52	4.34	-
PK	2.4992G	59.71	74.00	-14.29	31.80	3	Vertical	168	1.32	-	27.91	27.40	4.40	-

SRD_Nss1_1TX

2442MHz_TX

17/08/2020

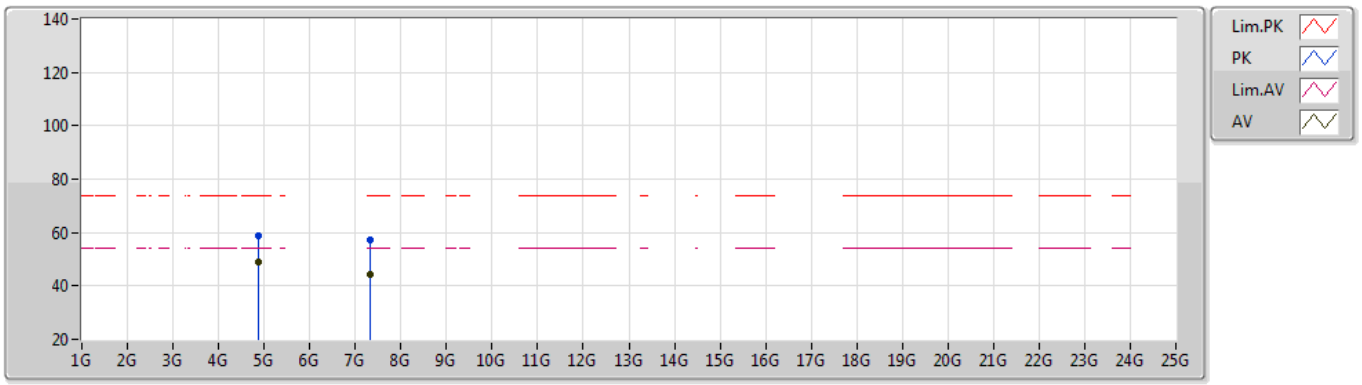


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.39G	47.98	54.00	-6.02	31.91	3	Horizontal	150	1.60	-	16.07	27.62	4.29	-
AV	2.442G	102.11	Inf	-Inf	31.86	3	Horizontal	150	1.60	-	70.25	27.52	4.34	-
AV	2.4864G	48.01	54.00	-5.99	31.82	3	Horizontal	150	1.60	-	16.19	27.43	4.39	-
PK	2.3456G	59.44	74.00	-14.56	31.97	3	Horizontal	150	1.60	-	27.47	27.72	4.25	-
PK	2.4412G	106.88	Inf	-Inf	31.86	3	Horizontal	150	1.60	-	75.02	27.52	4.34	-
PK	2.492G	60.36	74.00	-13.64	31.81	3	Horizontal	150	1.60	-	28.55	27.42	4.39	-

SRD_Nss1_1TX

2442MHz_TX

17/08/2020

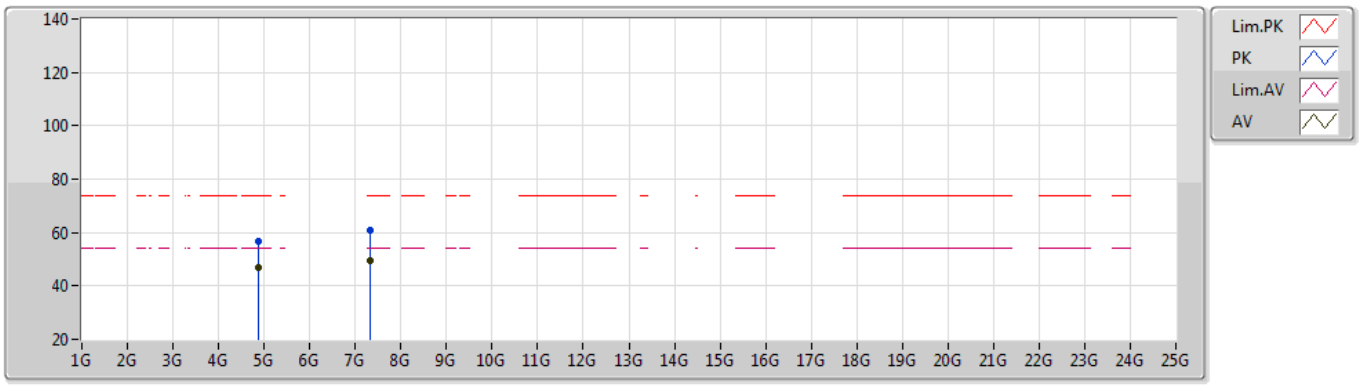


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88361G	49.13	54.00	-4.87	8.31	3	Vertical	29	1.49	-	40.82	31.10	6.58	29.37
AV	7.32532G	44.30	54.00	-9.70	13.58	3	Vertical	20	1.69	-	30.72	36.35	7.60	30.37
PK	4.88302G	58.82	74.00	-15.18	8.31	3	Vertical	29	1.49	-	50.51	31.10	6.58	29.37
PK	7.32351G	57.09	74.00	-16.91	13.58	3	Vertical	20	1.69	-	43.51	36.35	7.60	30.37

SRD_Nss1_1TX

2442MHz_TX

17/08/2020

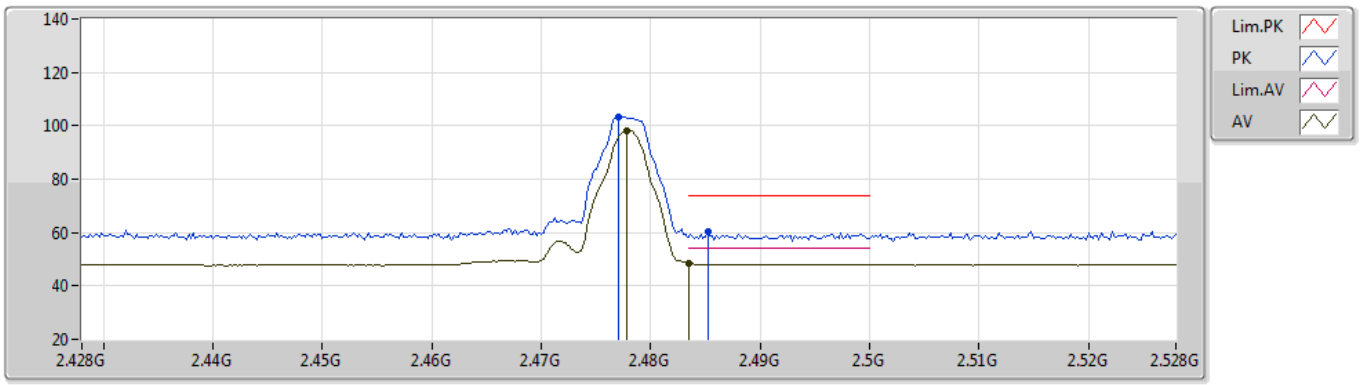


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88361G	46.97	54.00	-7.03	8.31	3	Horizontal	199	1.62	-	38.66	31.10	6.58	29.37
AV	7.32553G	49.40	54.00	-4.60	13.58	3	Horizontal	85	2.37	-	35.82	36.35	7.60	30.37
PK	4.88271G	56.85	74.00	-17.15	8.31	3	Horizontal	199	1.62	-	48.54	31.10	6.58	29.37
PK	7.32369G	60.79	74.00	-13.21	13.58	3	Horizontal	85	2.37	-	47.21	36.35	7.60	30.37

SRD_Nss1_1TX

2478MHz_TX

17/08/2020

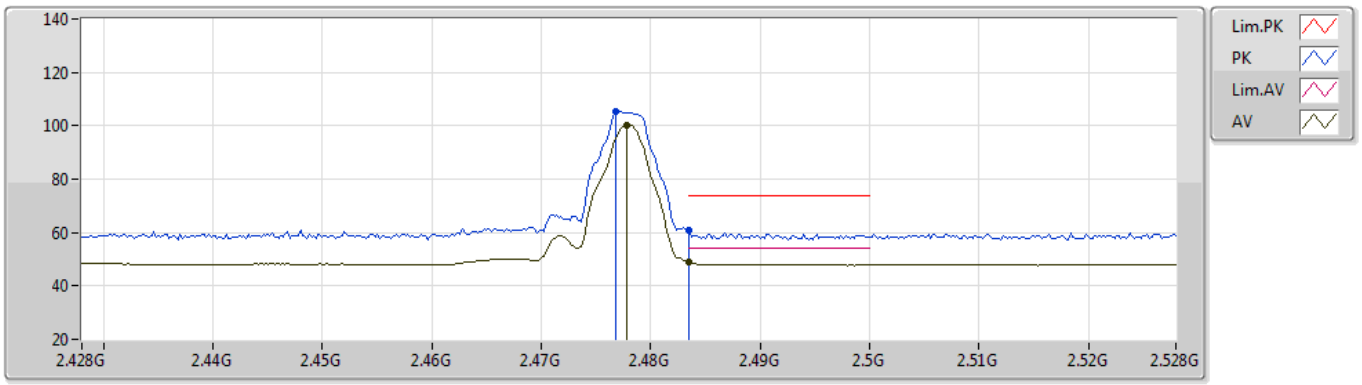


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4778G	98.26	Inf	-Inf	31.82	3	Vertical	166	1.27	-	66.44	27.44	4.38	-
AV	2.4835G	48.28	54.00	-5.72	31.81	3	Vertical	166	1.27	-	16.47	27.43	4.38	-
PK	2.477G	103.18	Inf	-Inf	31.83	3	Vertical	166	1.27	-	71.35	27.45	4.38	-
PK	2.4852G	60.58	74.00	-13.42	31.82	3	Vertical	166	1.27	-	28.76	27.43	4.39	-

SRD_Nss1_1TX

2478MHz_TX

17/08/2020

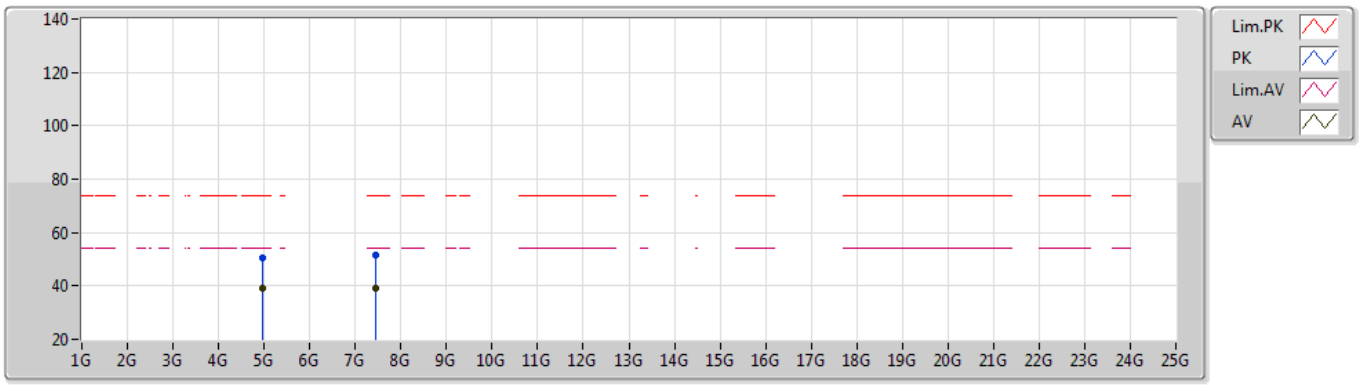


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4778G	100.20	Inf	-Inf	31.82	3	Horizontal	149	2.27	-	68.38	27.44	4.38	-
AV	2.4835G	48.83	54.00	-5.17	31.81	3	Horizontal	149	2.27	-	17.02	27.43	4.38	-
PK	2.4768G	105.10	Inf	-Inf	31.83	3	Horizontal	149	2.27	-	73.27	27.45	4.38	-
PK	2.4835G	61.09	74.00	-12.91	31.81	3	Horizontal	149	2.27	-	29.28	27.43	4.38	-

SRD_Nss1_1TX

2478MHz_TX

17/08/2020

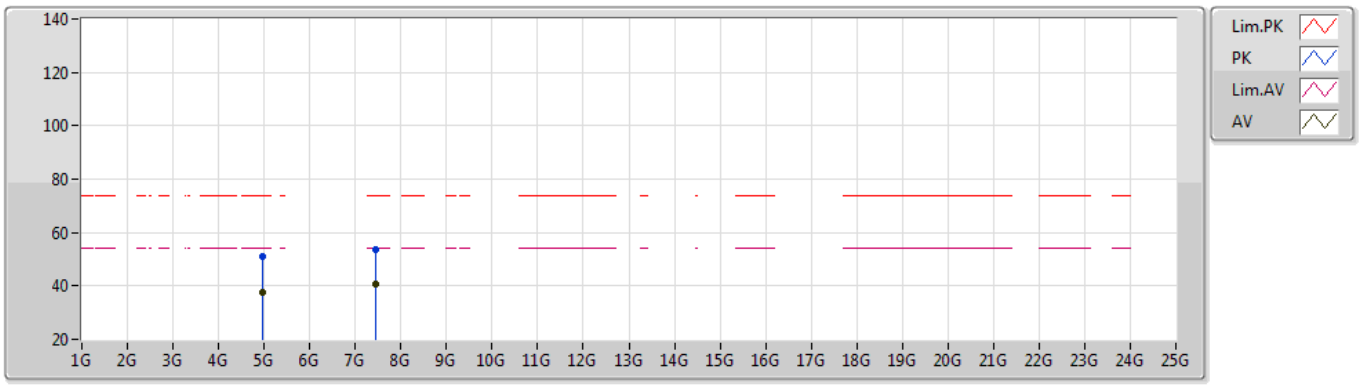


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95522G	38.97	54.00	-15.03	8.52	3	Vertical	22	1.50	-	30.45	31.20	6.66	29.34
AV	7.43366G	39.30	54.00	-14.70	13.37	3	Vertical	17	1.57	-	25.93	36.20	7.63	30.46
PK	4.95496G	50.76	74.00	-23.24	8.51	3	Vertical	22	1.50	-	42.25	31.20	6.65	29.34
PK	7.43455G	51.66	74.00	-22.34	13.38	3	Vertical	17	1.57	-	38.28	36.21	7.63	30.46

SRD_Nss1_1TX

2478MHz_TX

17/08/2020



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95485G	37.75	54.00	-16.25	8.51	3	Horizontal	214	1.52	-	29.24	31.20	6.65	29.34
AV	7.43351G	40.57	54.00	-13.43	13.37	3	Horizontal	85	2.37	-	27.20	36.20	7.63	30.46
PK	4.95455G	51.15	74.00	-22.85	8.51	3	Horizontal	214	1.52	-	42.64	31.20	6.65	29.34
PK	7.43318G	53.37	74.00	-20.63	13.37	3	Horizontal	85	2.37	-	40.00	36.20	7.63	30.46