FCC Radio Test Report

FCC ID	:	**2BOYO-SWDI-10**
Equipment	:	**Wireless Digital Input Device**
Brand Name	:	**SKS**
Model Name	:	**SWDI-10-1**
Applicant	:	**TAIWAN SHIN KONG SECURITY CO.,LTD No. 128, Xing'ai Rd., Neihu Dist., Taipei City 114508, Taiwan**
Manufacturer	:	**TAIWAN SHIN KONG SECURITY CO.,LTD No. 128, Xing'ai Rd., Neihu Dist., Taipei City 114508, Taiwan**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Mar. 28, 2025, and testing was started from Apr. 11, 2025 and completed on Apr. 24, 2025. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR531017	01	Initial issue of report	May 14, 2025

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)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.6	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.7	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.8	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: Michelle Tsai

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Modulation	Ch. Frequency (MHz)	Channel Number
902-928 MHz	LoRa (125kHz)	902.3-914.9	64
902-928 MHz	LoRa (500kHz)	923.3-927.5	8

Band	Mode	BWch (MHz)	Nant
902-928MHz	LoRa (125kHz)	0.2	1TX
902-928MHz	LoRa (500kHz)	0.5	1TX

Note:
- 902-928 MHz Band uses as a hybrid system using DTS & FHSS.
- LoRa (125kHz) uses FHSS.
- LoRa (500kHz) uses DTS.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support	Gain (dBi)
1	B&T	BAT-ANT2-1503	chip patch	N/A	Lora	1.5

For LoRa function:
For LoRa mode (1TX/1RX)
Ant. 1 (port 1) could transmit/receive.

1.1.3 Type of EUT

Operational Condition		
EUT Power Type	From Adapter	
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 Test Signal Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
LoRa (125kHz)	0.544	2.64	627.5m	10
LoRa (500kHz)	0.24	6.2	157.188m	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

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua **(TAF:** 3785**)**	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		**FAX:** 886-3-327-0973	
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Lego Lin	21.8~23.9°C / 53~57%	11/Apr/2025
RF Conducted	TH07-HY	Raven Chien	22.6~23.4°C / 52~55%	11/Apr/2025~24/Apr/2025
☒ Wenhua 3rd. **(TAF:** 3785**)**	**ADD:** No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	TEL: 886-3-327-0868			
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
Radiated	03CH25-HY	Henry Ho	22.1~23.1°C / 50~52%	18/Apr/2025~22/Apr/2025

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 Condition

RF Conducted-DTS	Abbreviation	Remark
TX-DTS	Tnom	20°C
	Vnom	120V
TX-FHSS	Tnom	20°C
	Vnom	120V

2.2 Test Channel Mode

Test Software Version	Tera Term Version 4.76

Mode	Power Setting
LoRa (125kHz)	-
902.3MHz	19
908.5MHz	18
914.9MHz	22
LoRa (500kHz)	-
923.3MHz	22
927.5MHz	22

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 Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	Adapter mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, 20dB Bandwidth, Carrier Frequency Separation (ChS) Number of Hopping Frequencies (N), Hopping Bandedge Time of Occupancy (Dwell Time) Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains
	☒ Non-adaptive frequency hopping systems (Non-AFH) ☐ adaptive frequency hopping systems (AFH)

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

2.4 Accessories

Accessories				
AC Adapter 1 (US Plug)	Brand Name	Sunun	Model Name	SA361V-240150U
	Manufacturer	Dongguan Sunun Power Co., Ltd	SN	
	Power Rating	I/P: 100 - 240Vac, 1.2A, O/P: 24Vdc, 1.5A		
	Power Cord	1.5meter, non-shielded cable, w/o ferrite core		

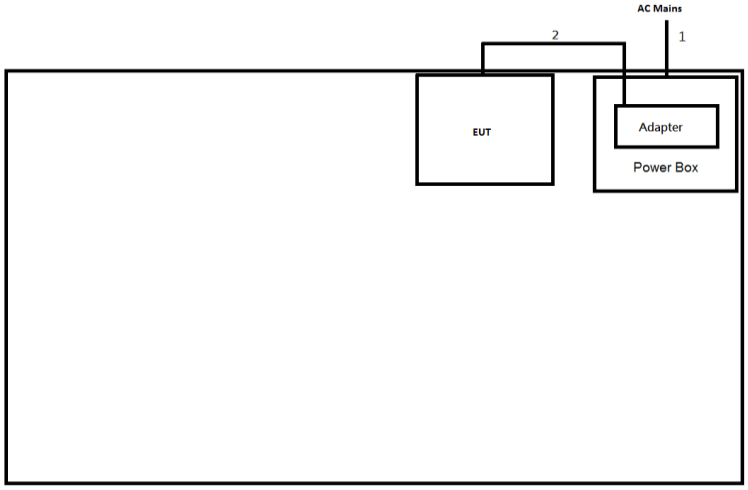
Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

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

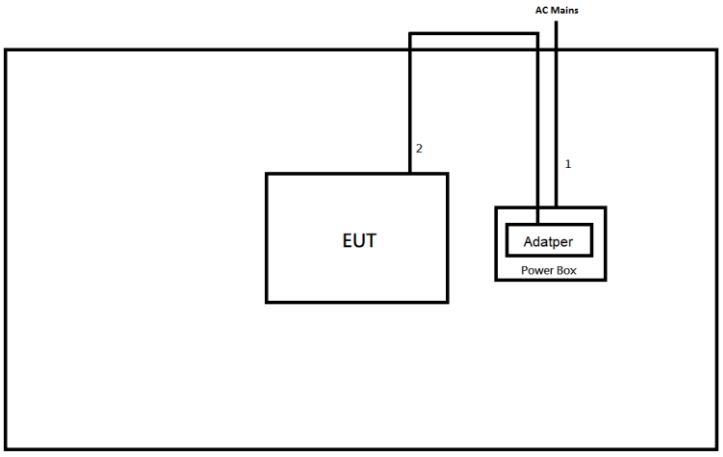
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.5	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power Cable	No	1.5	-

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

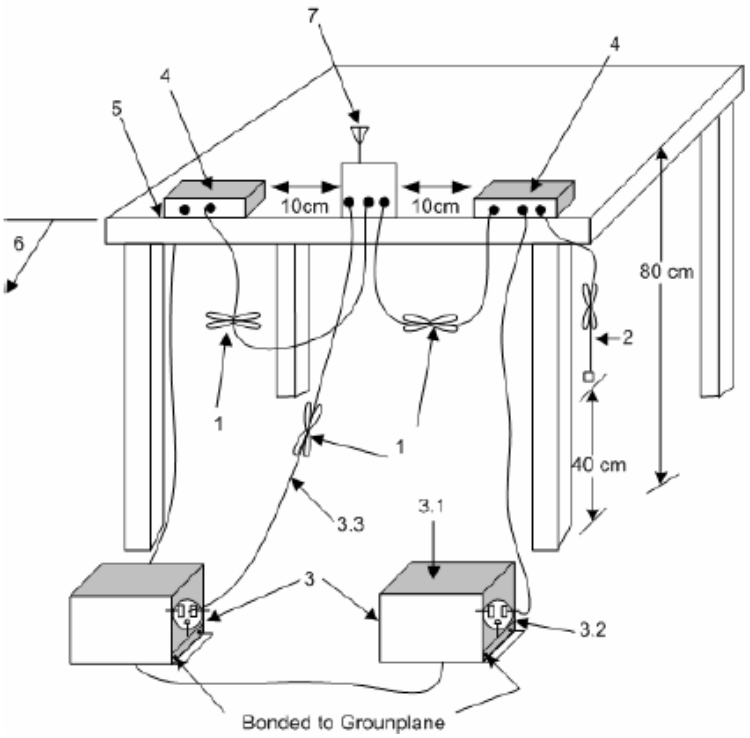
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

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 50Ω loads. 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 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems
▪ 902-928 MHz Band:
N:Number of Hopping Frequencies; **ChS**: Hopping Channel Separation

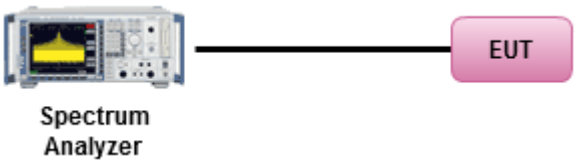
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.9.2 for 20 dB bandwidth measurement.
☒ Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation


3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
▪ 902-928 MHz Band:	
	▪ N ≥50 and hybrid system; Power 30dBm; EIRP 36dBm
	▪ 50 >N≥ 25; Power 24dBm; EIRP 30dBm
N:Number of Hopping Frequencies	

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 FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (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

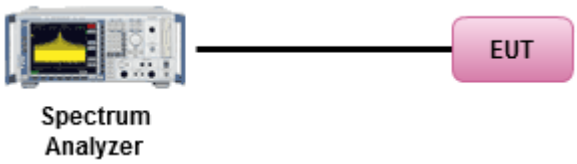
3.4.2 Measuring Instruments

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 FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Number of Hopping Frequencies and Hopping Bandedge

3.5.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit
▪ 902-928 MHz Band:
▪ ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 250 kHz.
▪ ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth>250 kHz.
Note : **1. ChS** : Hopping Channel Separation **2.** There is no minimum number of hopping channels associated with this type of hybrid system.

3.5.2 Hopping Bandedge Limit

Refer clause 3.7.1 and clause 3.8.1

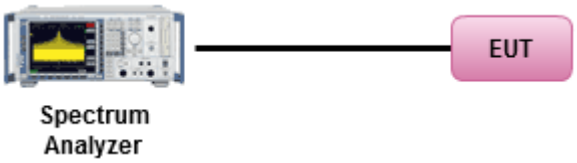
3.5.3 Measuring Instruments

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

3.5.4 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
☒ Refer as ANSI C63.10-2013, clause 7.8.6 for hopping frequencies Bandedge measurement.

3.5.5 Test Setup

Number of Hopping Frequencies


3.5.6 Test Result of Number of Hopping Frequencies

Refer as Appendix E

3.5.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix E

3.6 Time of Occupancy (Dwell Time)

3.6.1 Time of Occupancy (Dwell Time) Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ N ≥50; 0.4s in 20s period
	▪ 50 >N≥ 25; 0.4s in 10s period
N:Number of Hopping Frequencies	

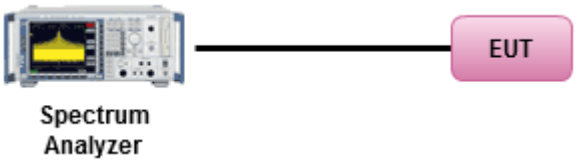
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement.

3.6.4 Test Setup

Time of Occupancy (Dwell Time)
 Spectrum Analyzer

3.6.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix F

3.7 Emissions in Non-restricted Frequency Bands

3.7.1 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.	

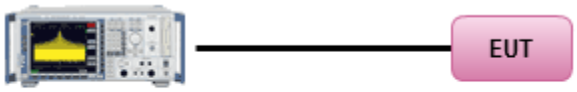
3.7.2 Measuring Instruments

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

3.7.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.8 for unwanted emissions into non-restricted bands.

3.7.4 Test Setup

Emissions in Non-restricted Frequency Bands
 Spectrum Analyzer

3.7.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix G

3.8 Emissions in Restricted Frequency Bands

3.8.1 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.

3.8.2 Measuring Instruments

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

3.8.3 Test Procedures

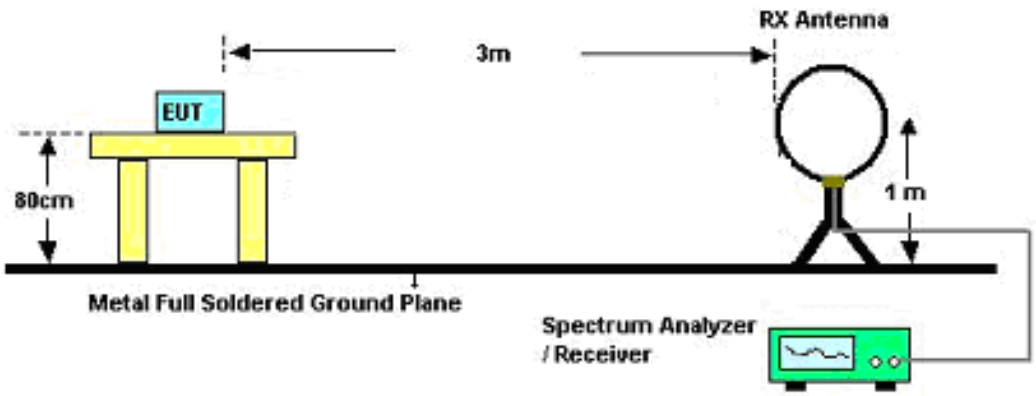
Test Method	
▪ The average emission levels shall be measured in [hopping duty factor].	
▪ Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.
▪	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.

3.8.4 Measurement Results Calculation

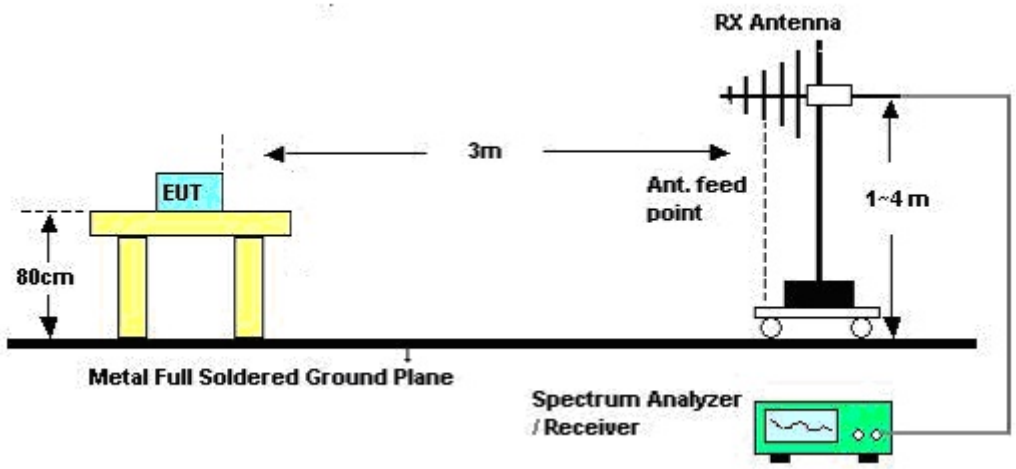
The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.8.5 Test Setup

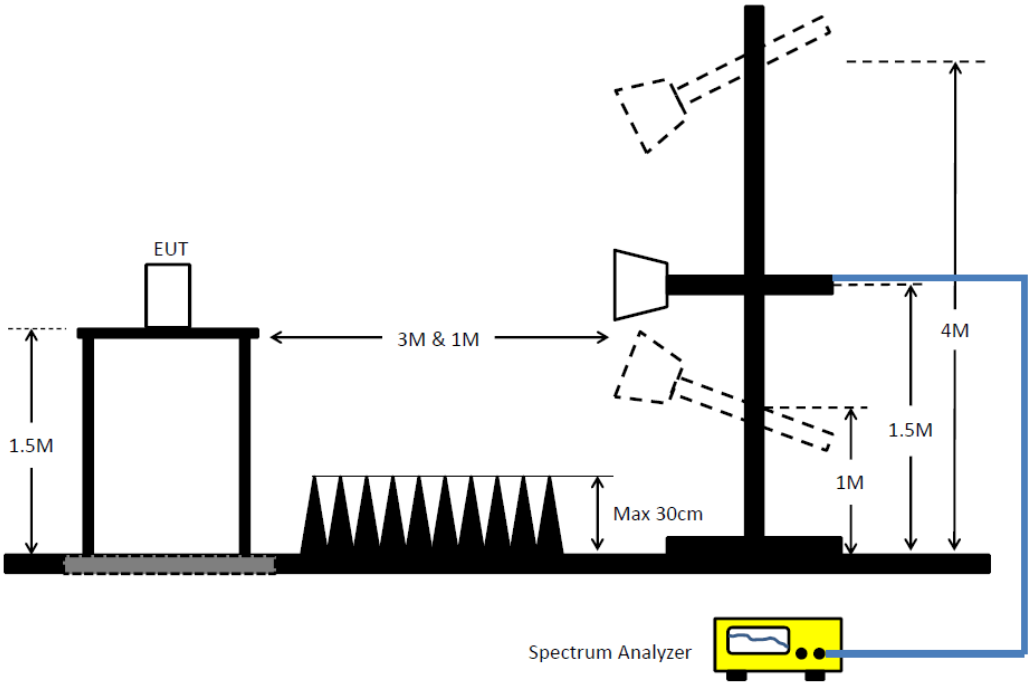
Emissions in Restricted Frequency Bands
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



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

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

3.8.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix H

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer/ Brand Name	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101578	9kHz ~ 30MHz	11/Oct/2024	10/Oct/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	26/Feb/2025	25/Feb/2026
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	17/Oct/2024	16/Oct/2025
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required.

Instrument for Conducted Test

Instrument	Manufacturer/ Brand Name	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	10Hz~40GHz	23/Jan/2025	22/Jan/2026
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	16/Oct/2024	15/Oct/2025
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	18/Dec/2024	17/Dec/2025
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	18/Dec/2024	17/Dec/2025
SENSE-15247_FS	Sporton	V5.11.23	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer/ Brand Name	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH25-HY	30MHz~1GHz 3m	20/Jul/2024	19/Jul/2025
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH25-HY	1GHz~18GHz 3m	08/Aug/2024	07/Aug/2025
ESR7 EMI Test Receiver	ROHDE & SCHWARZ	ESR7	102956	9kHz~3.6GHz	27/Aug/2024	26/Aug/2025
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101410	10Hz~44GHz	18/Nov/2024	17/Nov/2025
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	20/Mar/2025	19/Mar/2026
Bilog Antenna & 6dB Attenuator	TESEQ & VGT	CBL 6111D & VFA 04002-06	63537/001	30MHz~1GHz	30/May/2024	29/May/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02876	1GHz~18GHz	11/Jul/2024	10/Jul/2025
RF Cable	HUBER+ SUHNER	SUOFLEX 104	CB007	9kHz~1GHz	24/Apr/2024	23/Apr/2025
RF Cable	HUBER+ SUHNER	SUOFLEX 104	CB007	1GHz~40GHz	15/Feb/2025	14/Feb/2026
Preamplifier	SGH	PRAMP 903	20230515-1	25MHz~3GHz	24/May/2024	23/May/2025
Preamplifier	SGH	PRAMP 118-H	20230515-3	1GHz~18GHz	24/May/2024	23/May/2025
SENSE-15247-FS	Sporton	V5.11.23	NA	NA	NA	NA

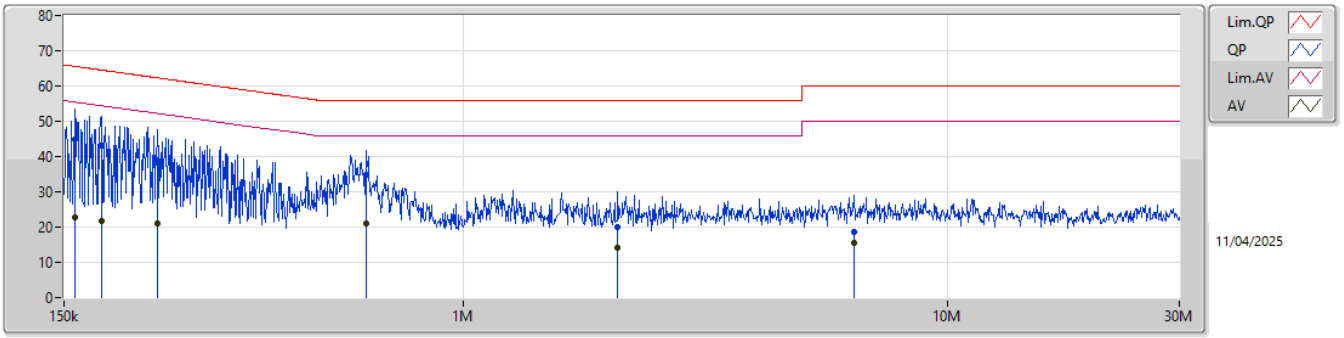
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	616.347k	39.89	56.00	-16.11	Neutral

Result

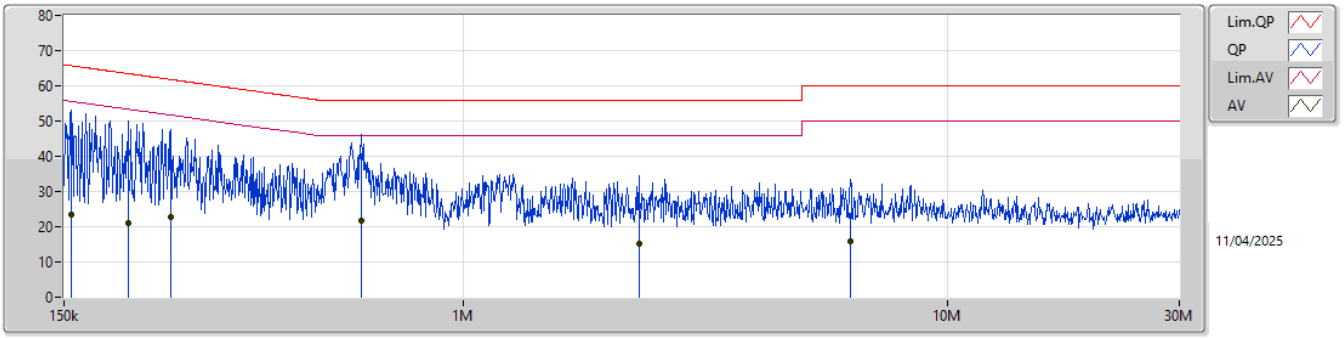
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	157.99k	44.95	65.56	-20.61	Line
Mode 1	Pass	AV	157.99k	22.91	55.56	-32.65	Line
Mode 1	Pass	QP	179.518k	43.09	64.51	-21.42	Line
Mode 1	Pass	AV	179.518k	21.56	54.51	-32.95	Line
Mode 1	Pass	QP	233.633k	38.87	62.31	-23.44	Line
Mode 1	Pass	AV	233.633k	20.87	52.31	-31.44	Line
Mode 1	Pass	QP	628.773k	34.95	56.00	-21.05	Line
Mode 1	Pass	AV	628.773k	21.17	46.00	-24.83	Line
Mode 1	Pass	QP	2.083M	20.13	56.00	-35.87	Line
Mode 1	Pass	AV	2.083M	14.26	46.00	-31.74	Line
Mode 1	Pass	QP	6.394M	18.66	60.00	-41.34	Line
Mode 1	Pass	AV	6.394M	15.47	50.00	-34.53	Line
Mode 1	Pass	QP	155.487k	45.01	65.69	-20.68	Neutral
Mode 1	Pass	AV	155.487k	23.51	55.69	-32.18	Neutral
Mode 1	Pass	QP	203.167k	41.00	63.48	-22.48	Neutral
Mode 1	Pass	AV	203.167k	21.18	53.48	-32.30	Neutral
Mode 1	Pass	QP	249.042k	38.26	61.79	-23.53	Neutral
Mode 1	Pass	AV	249.042k	22.69	51.79	-29.10	Neutral
Mode 1	Pass	QP	616.347k	39.89	56.00	-16.11	Neutral
Mode 1	Pass	AV	616.347k	21.88	46.00	-24.12	Neutral
Mode 1	Pass	QP	2.301M	25.82	56.00	-30.18	Neutral
Mode 1	Pass	AV	2.301M	15.10	46.00	-30.90	Neutral
Mode 1	Pass	QP	6.293M	23.06	60.00	-36.94	Neutral
Mode 1	Pass	AV	6.293M	15.96	50.00	-34.04	Neutral

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	157.99k	44.95	65.56	-20.61	20.05	Line	-	24.90	10.07	0.01	9.97
AV	157.99k	22.91	55.56	-32.65	20.05	Line	-	2.86	10.07	0.01	9.97
QP	179.518k	43.09	64.51	-21.42	20.17	Line	-	22.92	10.19	0.01	9.97
AV	179.518k	21.56	54.51	-32.95	20.17	Line	-	1.39	10.19	0.01	9.97
QP	233.633k	38.87	62.31	-23.44	19.72	Line	-	19.15	9.74	0.01	9.97
AV	233.633k	20.87	52.31	-31.44	19.72	Line	-	1.15	9.74	0.01	9.97
QP	628.773k	34.95	56.00	-21.05	20.01	Line	-	14.94	9.99	0.04	9.98
AV	628.773k	21.17	46.00	-24.83	20.01	Line	-	1.16	9.99	0.04	9.98
QP	2.083M	20.13	56.00	-35.87	19.72	Line	-	0.41	9.72	0.03	9.97
AV	2.083M	14.26	46.00	-31.74	19.72	Line	-	-5.46	9.72	0.03	9.97
QP	6.394M	18.66	60.00	-41.34	19.81	Line	-	-1.15	9.68	0.15	9.98
AV	6.394M	15.47	50.00	-34.53	19.81	Line	-	-4.34	9.68	0.15	9.98

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	155.487k	45.01	65.69	-20.68	20.01	Neutral	-	25.00	10.03	0.01	9.97
AV	155.487k	23.51	55.69	-32.18	20.01	Neutral	-	3.50	10.03	0.01	9.97
QP	203.167k	41.00	63.48	-22.48	19.93	Neutral	-	21.07	9.95	0.01	9.97
AV	203.167k	21.18	53.48	-32.30	19.93	Neutral	-	1.25	9.95	0.01	9.97
QP	249.042k	38.26	61.79	-23.53	19.67	Neutral	-	18.59	9.68	0.02	9.97
AV	249.042k	22.69	51.79	-29.10	19.67	Neutral	-	3.02	9.68	0.02	9.97
QP	616.347k	39.89	56.00	-16.11	20.02	Neutral	-	19.87	10.00	0.04	9.98
AV	616.347k	21.88	46.00	-24.12	20.02	Neutral	-	1.86	10.00	0.04	9.98
QP	2.301M	25.82	56.00	-30.18	19.71	Neutral	-	6.11	9.71	0.03	9.97
AV	2.301M	15.10	46.00	-30.90	19.71	Neutral	-	-4.61	9.71	0.03	9.97
QP	6.293M	23.06	60.00	-36.94	19.80	Neutral	-	3.26	9.68	0.14	9.98
AV	6.293M	15.96	50.00	-34.04	19.80	Neutral	-	-3.84	9.68	0.14	9.98

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
902-928MHz	-	-	-	-	-
LoRa (125kHz)	141.9k	126.687k	127KF1D	139.7k	125.687k

Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

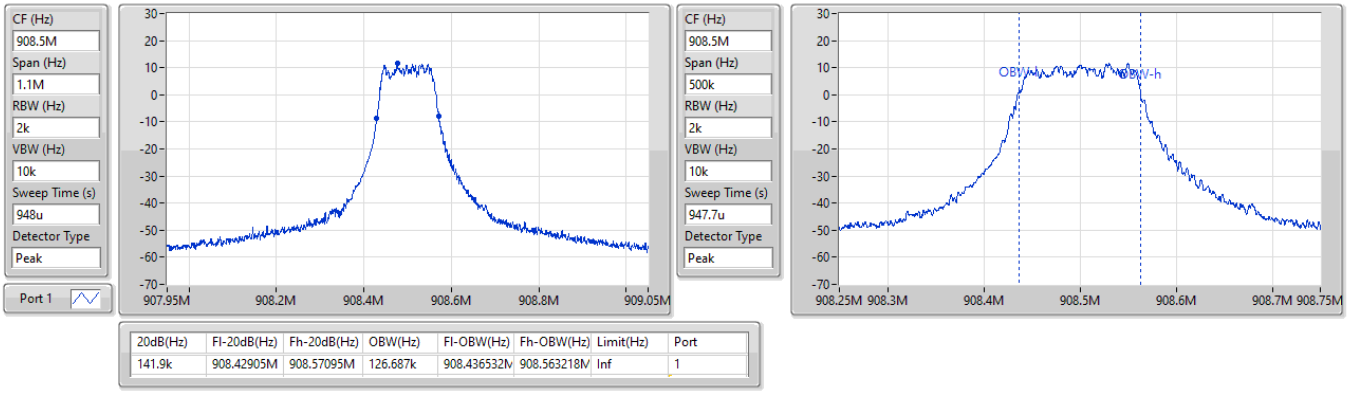
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	Inf	139.7k	126.687k
908.5MHz	Pass	Inf	141.9k	126.687k
914.9MHz	Pass	Inf	140.8k	125.687k

Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

902-928MHz_LoRa (125kHz) **EBW-FS**

908.5MHz

12/04/2025



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
141.9k	908.42905M	908.57095M	126.687k	908.436532M	908.563218M	Inf	1

Summary

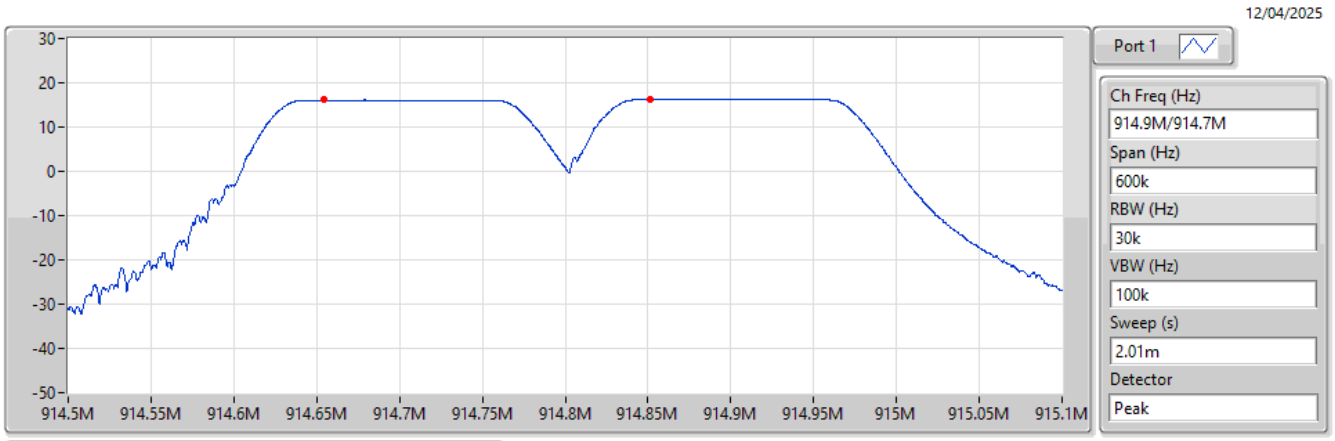
Mode	Max-Space (Hz)	Min-Space (Hz)
902-928MHz	-	-
LoRa (125kHz)	225.6k	196.8k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
LoRa (125kHz)	-	-	-	-	-
902.3MHz	Pass	902.2413M	902.4669M	225.6k	139.7k
908.5MHz	Pass	908.444M	908.6477M	203.7k	141.9k
914.9MHz	Pass	914.6542M	914.851M	196.8k	140.8k

902-928MHz_LoRa (125kHz) Channel Separation-FS

914.9M/914.7MHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
914.6542M	914.851M	196.8k	140.8k

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
902-928MHz	-	-	-	-	-
LoRa (500kHz)	620k	512.869k	513KF1D	613.75k	506.622k

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

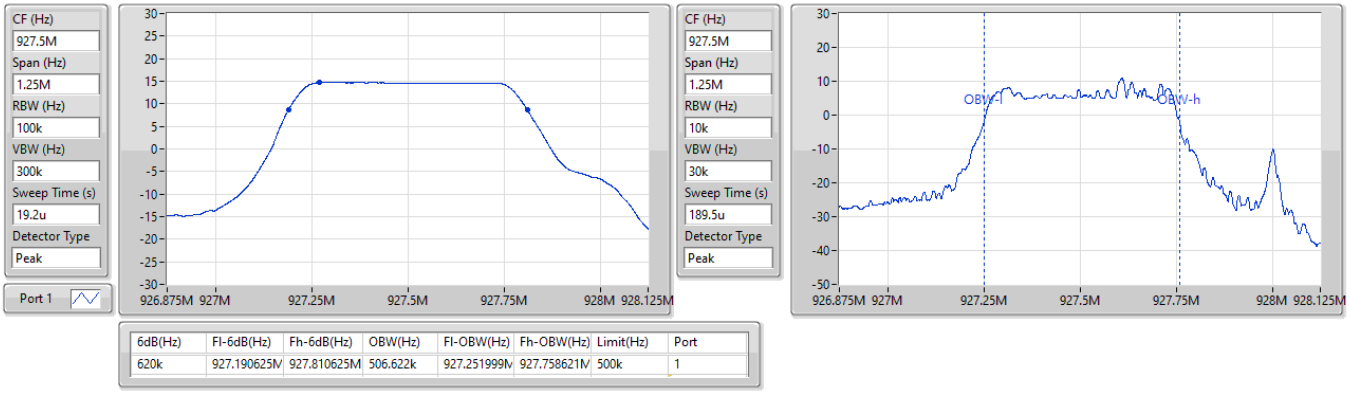
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
LoRa (500kHz)	-	-	-	-
923.3MHz	Pass	500k	613.75k	512.869k
927.5MHz	Pass	500k	620k	506.622k

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

902-928MHz_LoRa (500kHz) **EBW-DTS**

927.5MHz

12/04/2025



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
620k	927.190625M	927.810625M	506.622k	927.251999M	927.758621M	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
902-928MHz	-	-
LoRa (125kHz)	20.41	0.10990

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	1.50	18.02	30.00
908.5MHz	Pass	1.50	16.74	30.00
914.9MHz	Pass	1.50	20.41	30.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
902-928MHz	-	-
LoRa (125kHz)	20.31	0.10740

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	1.50	17.94	30.00
908.5MHz	Pass	1.50	16.66	30.00
914.9MHz	Pass	1.50	20.31	30.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
902-928MHz	-	-
LoRa (500kHz)	20.48	0.11169

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
LoRa (500kHz)	-	-	-	-
923.3MHz	Pass	1.50	20.48	30.00
927.5MHz	Pass	1.50	20.43	30.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
902-928MHz	-	-
LoRa (500kHz)	20.37	0.10889

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
LoRa (500kHz)	-	-	-	-
923.3MHz	Pass	1.50	20.37	30.00
927.5MHz	Pass	1.50	20.37	30.00

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

Summary

Mode	PD (dBm/RBW)
902-928MHz	-
LoRa (500kHz)	7.55

RBW = 3kHz;

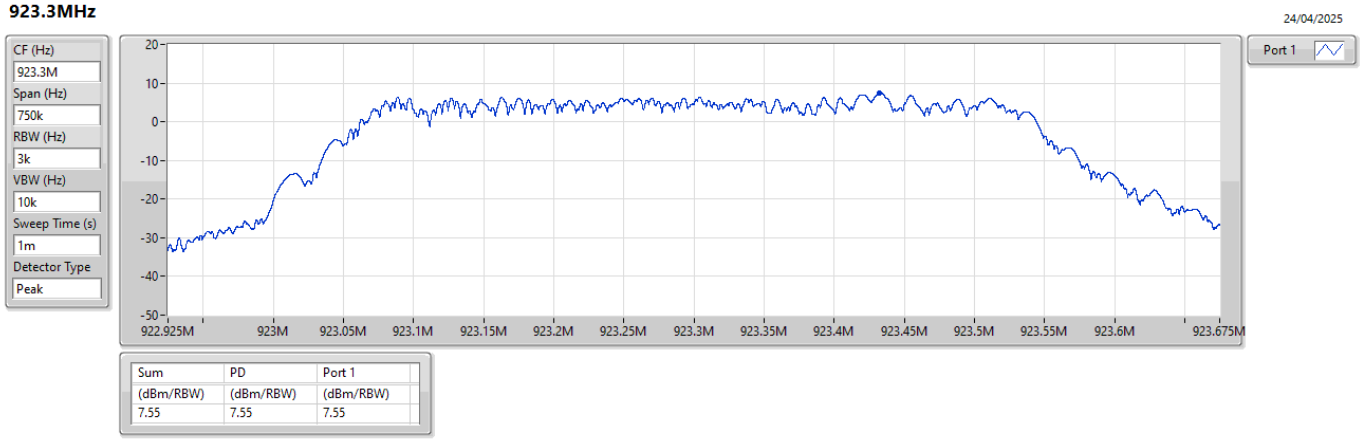
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
LoRa (500kHz)	-	-	-	-
923.3MHz	Pass	1.50	7.55	8.00
927.5MHz	Pass	1.50	6.68	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

902-928MHz_LoRa (500kHz) **PSD**

923.3MHz



Summary

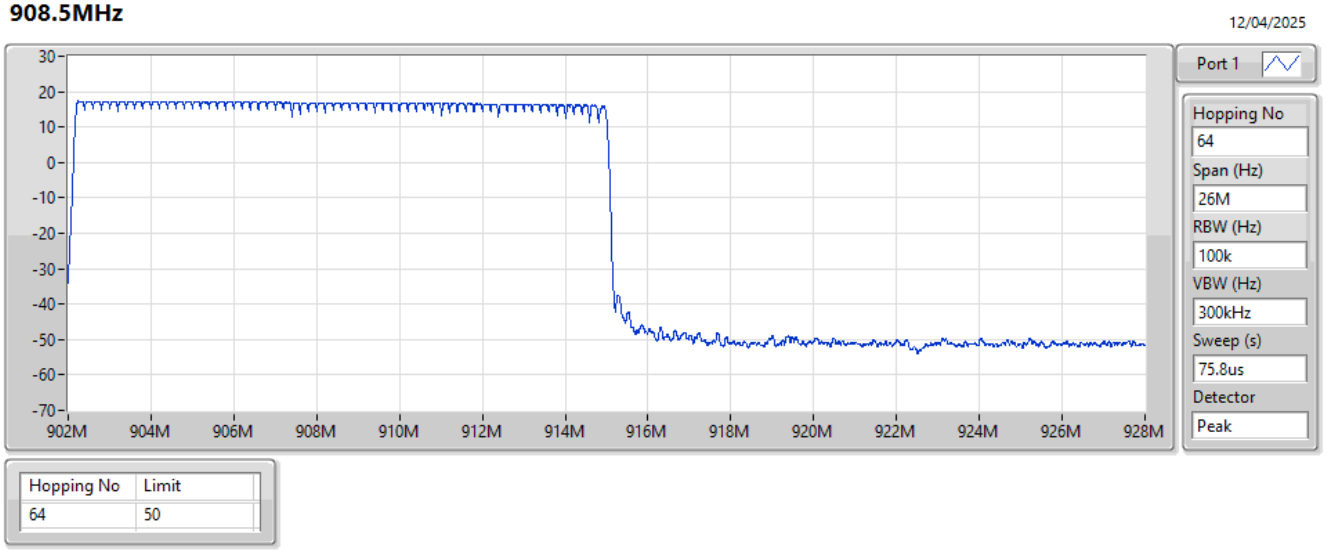
Mode 902-928MHz	Max-Hop No -
LoRa (125kHz)	64

Result

Mode LoRa (125kHz)	Result -	Hopping No -	Limit -
908.5MHz	Pass	64	50

902-928MHz_LoRa (125kHz) **Hopping-FS**

908.5MHz

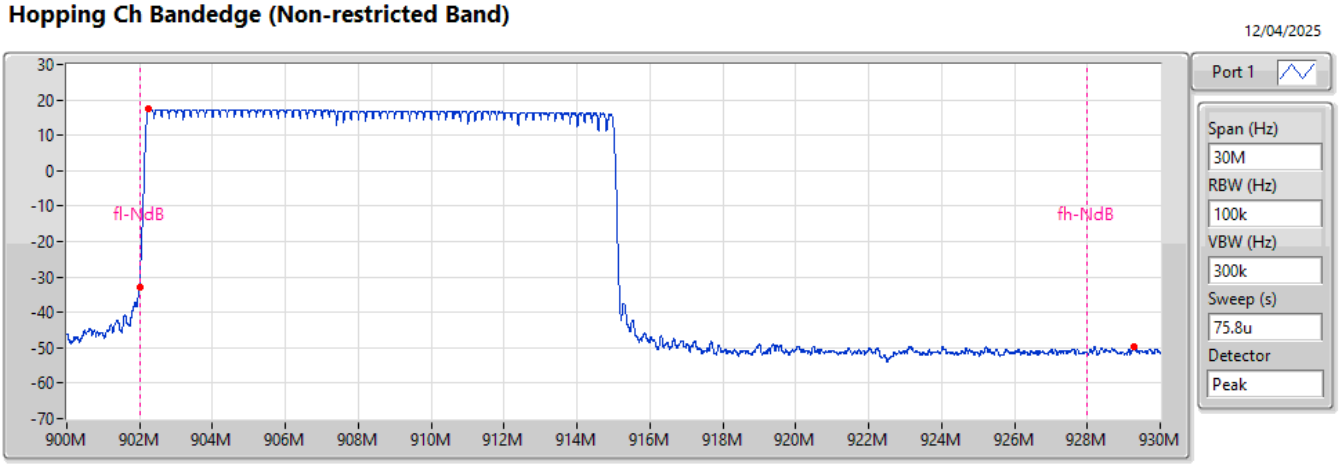


Hopping No	Limit
64	50

902-928MHz_LoRa (125kHz)

908.5MHz

Hopping Ch Bandedge (Non-restricted Band)



Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-2.68	902.2425M	17.32	901.99875M	-32.93	929.26875M	-49.52

Summary

Mode	Dwell (s)
902-928MHz	-
LoRa (125kHz)	53.5925m

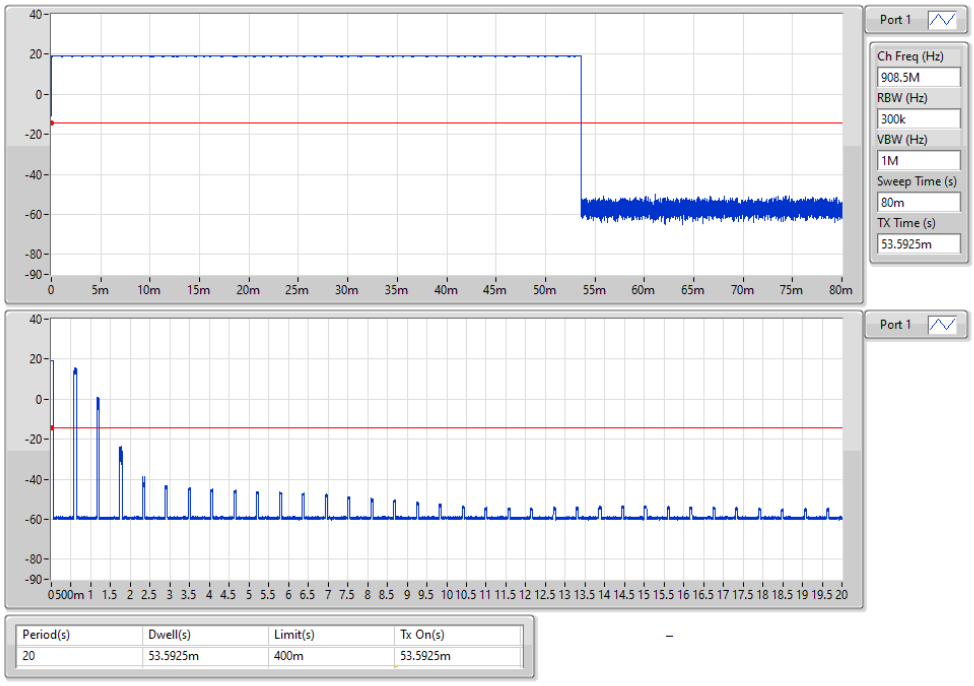
Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
LoRa (125kHz)	-	-	-	-	-
908.5MHz	Pass	20	53.5925m	400m	53.5925m

902-928MHz_LoRa (125kHz) **Dwell-FS**

908.5MHz

12/04/2025



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
20	53.5925m	400m	53.5925m

Summary

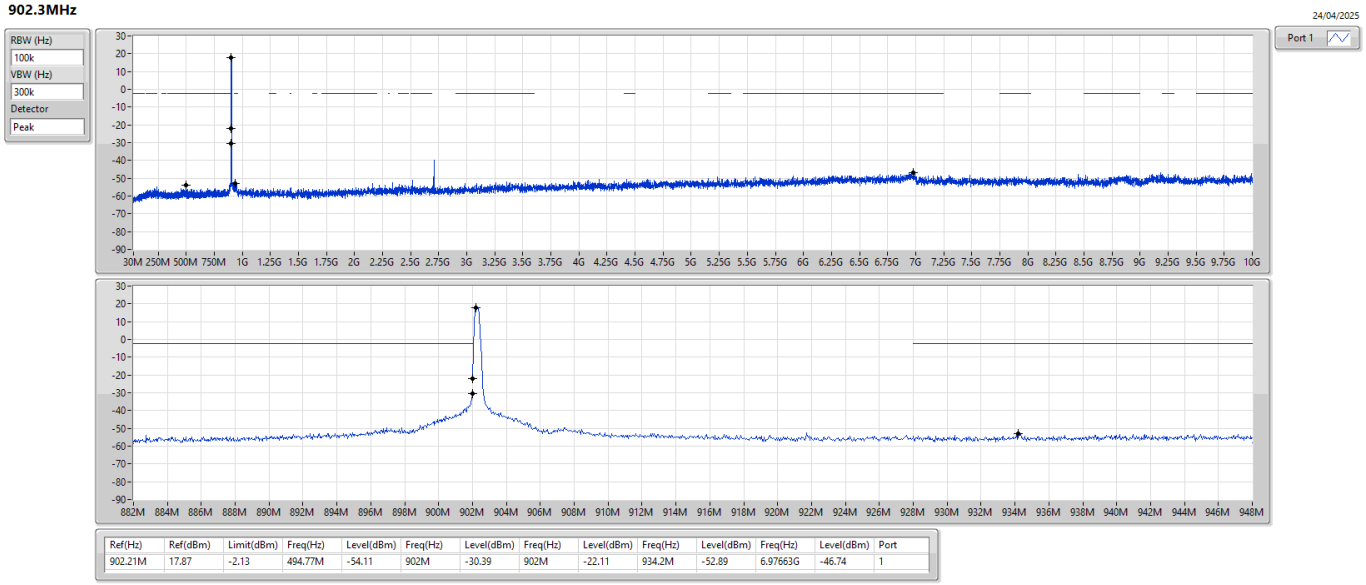
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
902-928MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LoRa (125kHz)	Pass	902.21M	17.87	-2.13	494.77M	-54.11	902M	-30.39	902M	-22.11	934.2M	-52.89	6.97663G	-46.74	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
LoRa (125kHz)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
902.3MHz	Pass	902.21M	17.87	-2.13	494.77M	-54.11	902M	-30.39	902M	-22.11	934.2M	-52.89	6.97663G	-46.74	1
908.5MHz	Pass	908.45M	16.64	-3.36	444.07M	-55.25	898.96M	-52.20	902M	-54.03	940.52M	-53.60	6.98568G	-45.93	1
914.9MHz	Pass	914.84M	20.27	0.27	492.21M	-53.41	901.68M	-53.27	902M	-51.51	946.92M	-50.99	1.82944G	-41.19	1

902-928MHz_LoRa (125kHz) CSENdB-FS

902.3MHz



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
902.21M	17.87	-2.13	494.77M	-54.11	902M	-30.39	902M	-22.11	934.2M	-52.89	6.97663G	-46.74	1

Summary

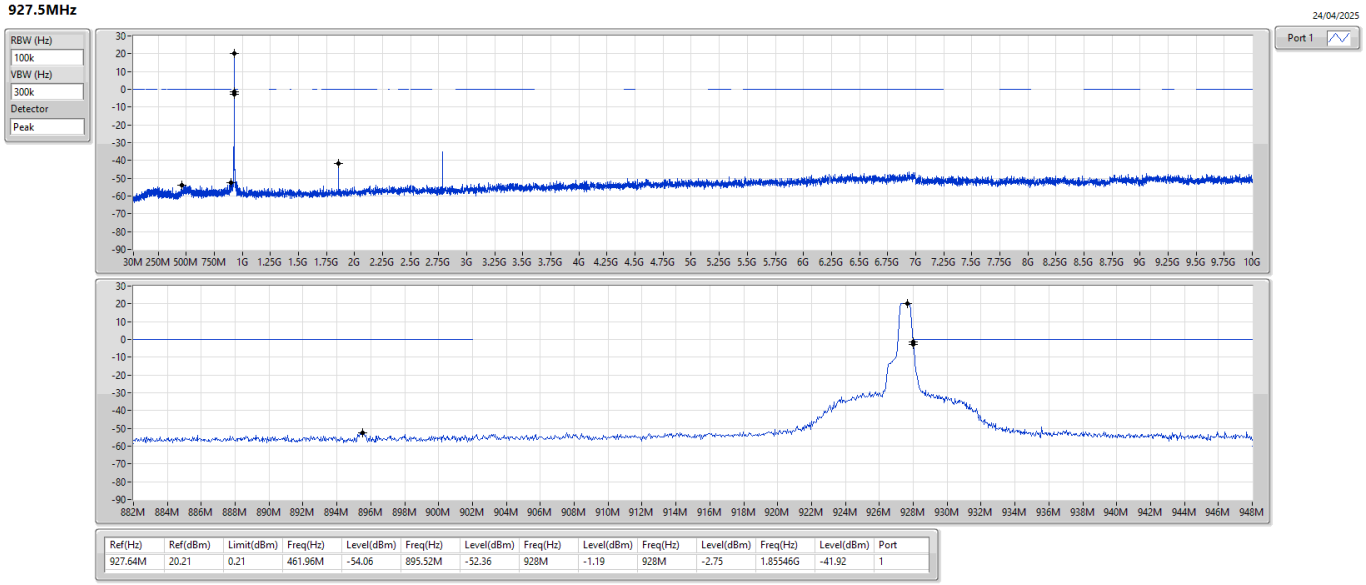
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
902-928MHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LoRa (500kHz)	Pass	927.64M	20.21	0.21	461.96M	-54.06	895.52M	-52.36	928M	-1.19	928M	-2.75	1.85546G	-41.92	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
LoRa (500kHz)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
923.3MHz	Pass	923.06M	20.21	0.21	508.4M	-53.44	891.36M	-51.66	928M	-36.70	928.04M	-35.01	1.84641G	-41.84	1
927.5MHz	Pass	927.64M	20.21	0.21	461.96M	-54.06	895.52M	-52.36	928M	-1.19	928M	-2.75	1.85546G	-41.92	1

902-928MHz_LoRa (500kHz) CSENdB-DTS

927.5MHz



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
927.64M	20.21	0.21	461.96M	-54.06	895.52M	-52.36	928M	-1.19	928M	-2.75	1.85546G	-41.92	1

Summary

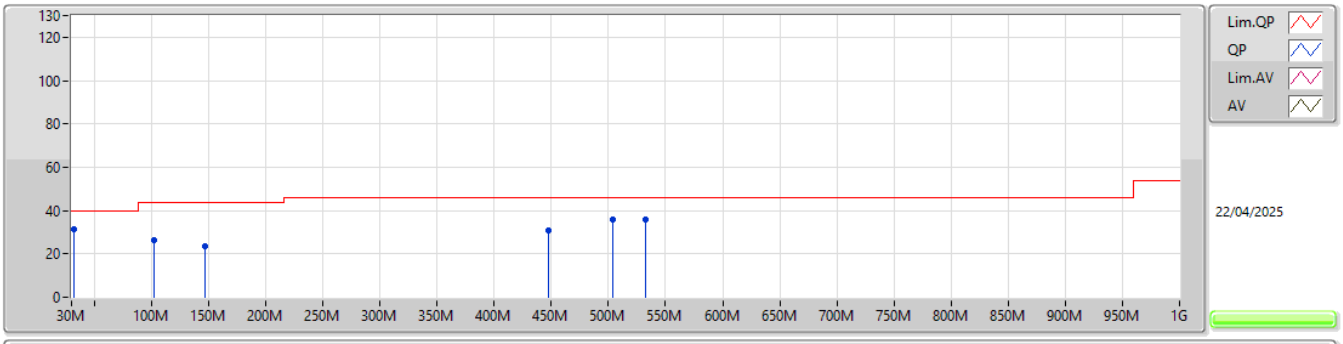
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
902-928MHz	-	-	-	-	-	-	-	-	-	-
LoRa (500kHz)	Pass	PK	31.94M	31.16	40.00	-8.84	3	Vertical	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
LoRa (500kHz)	-	-	-	-	-	-	-	-	-	-
923.3MHz	Pass	PK	31.94M	31.16	40.00	-8.84	3	Vertical	0	1.00
923.3MHz	Pass	PK	101.78M	26.41	43.50	-17.09	3	Vertical	0	1.00
923.3MHz	Pass	PK	146.4M	23.43	43.50	-20.07	3	Vertical	0	1.00
923.3MHz	Pass	PK	447.1M	30.93	46.00	-15.07	3	Vertical	0	1.00
923.3MHz	Pass	PK	503.36M	35.82	46.00	-10.18	3	Vertical	0	1.00
923.3MHz	Pass	PK	532.46M	35.90	46.00	-10.10	3	Vertical	0	1.00
923.3MHz	Pass	PK	30M	23.21	40.00	-16.79	3	Horizontal	360	1.00
923.3MHz	Pass	PK	154.16M	24.79	43.50	-18.71	3	Horizontal	360	1.00
923.3MHz	Pass	PK	258.92M	23.27	46.00	-22.73	3	Horizontal	360	1.00
923.3MHz	Pass	PK	373.38M	27.94	46.00	-18.06	3	Horizontal	360	1.00
923.3MHz	Pass	PK	450.98M	34.06	46.00	-11.94	3	Horizontal	360	1.00
923.3MHz	Pass	PK	534.4M	36.74	46.00	-9.26	3	Horizontal	360	1.00

902-928MHz_LoRa (500kHz)

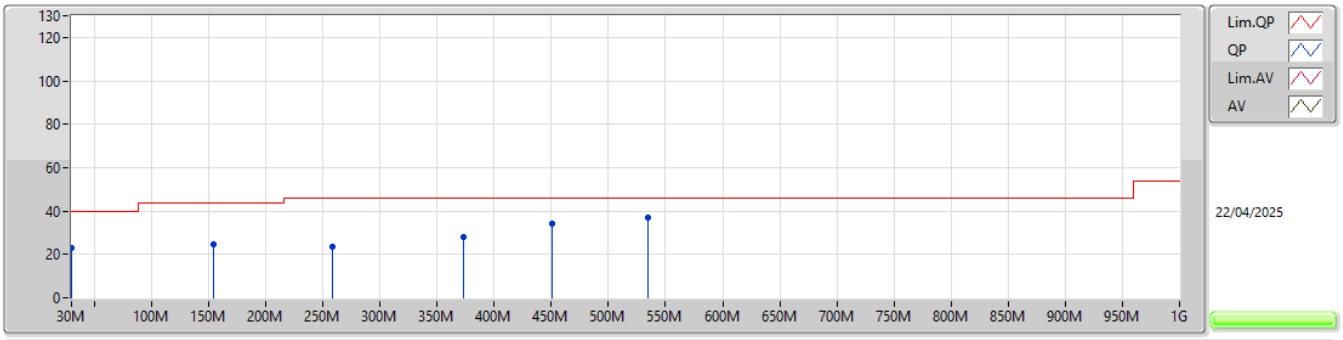
923.3MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	31.94M	31.16	40.00	-8.84	-20.11	3	Vertical	0	1.00	51.27	23.74	0.45	44.30
PK	101.78M	26.41	43.50	-17.09	-27.31	3	Vertical	0	1.00	53.72	16.40	0.82	44.53
PK	146.4M	23.43	43.50	-20.07	-26.20	3	Vertical	0	1.00	49.63	17.39	0.98	44.57
PK	447.1M	30.93	46.00	-15.07	-19.42	3	Vertical	0	1.00	50.35	23.02	1.51	43.95
PK	503.36M	35.82	46.00	-10.18	-18.16	3	Vertical	0	1.00	53.98	24.06	1.65	43.87
PK	532.46M	35.90	46.00	-10.10	-17.72	3	Vertical	0	1.00	53.62	24.49	1.66	43.87

902-928MHz_LoRa (500kHz)

923.3MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	30M	23.21	40.00	-16.79	-19.10	3	Horizontal	360	1.00	42.31	24.72	0.45	44.27
PK	154.16M	24.79	43.50	-18.71	-26.53	3	Horizontal	360	1.00	51.32	17.05	0.98	44.56
PK	258.92M	23.27	46.00	-22.73	-23.28	3	Horizontal	360	1.00	46.55	19.91	1.16	44.35
PK	373.38M	27.94	46.00	-18.06	-21.62	3	Horizontal	360	1.00	49.56	21.09	1.37	44.08
PK	450.98M	34.06	46.00	-11.94	-19.29	3	Horizontal	360	1.00	53.35	23.15	1.51	43.95
PK	534.4M	36.74	46.00	-9.26	-17.74	3	Horizontal	360	1.00	54.48	24.47	1.66	43.87

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
902-928MHz	-	-	-	-	-	-	-	-	-	-
LoRa (125kHz)	Pass	AV	8.23418G	53.90	54.00	-0.10	3	Horizontal	220	1.00
LoRa (500kHz)	Pass	AV	8.34718G	46.09	54.00	-7.91	3	Horizontal	279	1.01

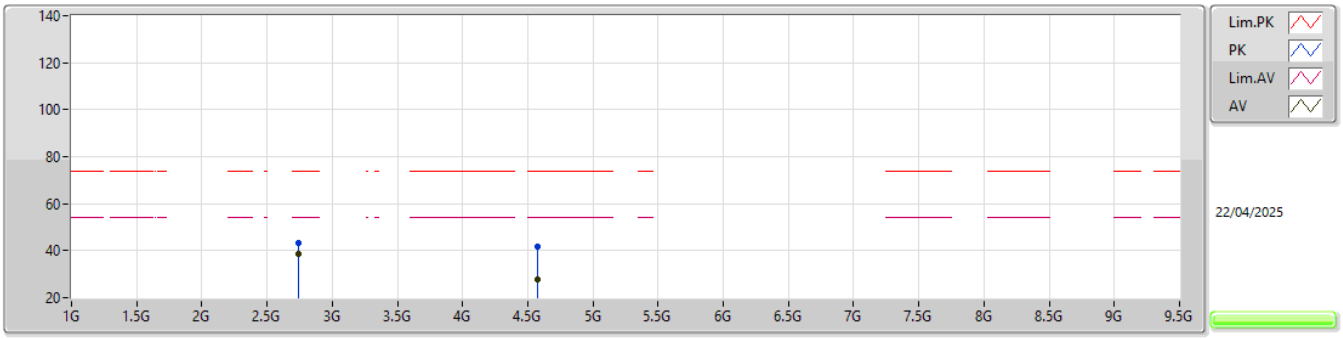
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
LoRa (125kHz)	-	-	-	-	-	-	-	-	-	-
902.3MHz	Pass	AV	2.70704G	37.51	54.00	-16.49	3	Vertical	119	1.00
902.3MHz	Pass	AV	5.41389G	46.19	54.00	-7.81	3	Vertical	69	1.31
902.3MHz	Pass	AV	8.12139G	47.56	54.00	-6.44	3	Vertical	31	1.45
902.3MHz	Pass	PK	2.70704G	42.92	74.00	-31.08	3	Vertical	119	1.00
902.3MHz	Pass	PK	5.41389G	51.60	74.00	-22.40	3	Vertical	69	1.31
902.3MHz	Pass	PK	8.12139G	52.97	74.00	-21.03	3	Vertical	31	1.45
902.3MHz	Pass	AV	2.70693G	38.17	54.00	-15.83	3	Horizontal	353	2.92
902.3MHz	Pass	AV	5.41461G	43.71	54.00	-10.29	3	Horizontal	245	1.01
902.3MHz	Pass	AV	8.12097G	49.37	54.00	-4.63	3	Horizontal	222	1.01
902.3MHz	Pass	PK	2.70693G	43.58	74.00	-30.42	3	Horizontal	353	2.92
902.3MHz	Pass	PK	5.41461G	49.12	74.00	-24.88	3	Horizontal	245	1.01
902.3MHz	Pass	PK	8.12097G	54.78	74.00	-19.22	3	Horizontal	222	1.01
908.5MHz	Pass	AV	2.72561G	36.58	54.00	-17.42	3	Vertical	118	1.50
908.5MHz	Pass	AV	5.45097G	46.30	54.00	-7.70	3	Vertical	71	1.50
908.5MHz	Pass	AV	8.17653G	47.02	54.00	-6.98	3	Vertical	35	1.03
908.5MHz	Pass	PK	2.72561G	41.99	74.00	-32.01	3	Vertical	118	1.50
908.5MHz	Pass	PK	5.45097G	51.71	74.00	-22.29	3	Vertical	71	1.50
908.5MHz	Pass	PK	8.17653G	52.43	74.00	-21.57	3	Vertical	35	1.03
908.5MHz	Pass	AV	2.72567G	36.95	54.00	-17.05	3	Horizontal	350	1.50
908.5MHz	Pass	AV	5.45123G	52.24	54.00	-1.76	3	Horizontal	243	1.00
908.5MHz	Pass	AV	8.17696G	47.76	54.00	-6.24	3	Horizontal	225	1.01
908.5MHz	Pass	PK	2.72567G	42.36	74.00	-31.64	3	Horizontal	350	1.50
908.5MHz	Pass	PK	5.45123G	57.65	74.00	-16.35	3	Horizontal	243	1.00
908.5MHz	Pass	PK	8.17696G	53.17	74.00	-20.83	3	Horizontal	225	1.01
914.9MHz	Pass	AV	2.74458G	40.36	54.00	-13.64	3	Vertical	116	1.06
914.9MHz	Pass	AV	8.23412G	49.01	54.00	-4.99	3	Vertical	32	1.80
914.9MHz	Pass	PK	2.74458G	45.77	74.00	-28.23	3	Vertical	116	1.06
914.9MHz	Pass	PK	8.23412G	54.42	74.00	-19.58	3	Vertical	32	1.80
914.9MHz	Pass	AV	2.74481G	41.79	54.00	-12.21	3	Horizontal	357	2.91
914.9MHz	Pass	AV	8.23418G	53.90	54.00	-0.10	3	Horizontal	220	1.00
914.9MHz	Pass	PK	2.74481G	47.20	74.00	-26.80	3	Horizontal	357	2.91
914.9MHz	Pass	PK	8.23396G	59.31	74.00	-14.69	3	Horizontal	220	1.00
LoRa (500kHz)	-	-	-	-	-	-	-	-	-	-
923.3MHz	Pass	AV	2.76988G	36.00	54.00	-18.00	3	Vertical	199	2.96
923.3MHz	Pass	AV	8.31056G	40.68	54.00	-13.32	3	Vertical	220	1.16
923.3MHz	Pass	PK	2.76996G	44.07	74.00	-29.93	3	Vertical	199	2.96
923.3MHz	Pass	PK	8.31008G	54.24	74.00	-19.76	3	Vertical	220	1.16
923.3MHz	Pass	AV	2.76966G	26.69	54.00	-27.31	3	Horizontal	360	1.49
923.3MHz	Pass	AV	8.31044G	45.02	54.00	-8.98	3	Horizontal	297	1.00
923.3MHz	Pass	PK	2.77028G	38.61	74.00	-35.39	3	Horizontal	360	1.49
923.3MHz	Pass	PK	8.30796G	58.00	74.00	-16.00	3	Horizontal	297	1.00
927.5MHz	Pass	AV	2.7825G	36.65	54.00	-17.35	3	Vertical	316	3.00
927.5MHz	Pass	AV	8.35098G	39.35	54.00	-14.65	3	Vertical	186	1.10
927.5MHz	Pass	PK	2.78252G	44.20	74.00	-29.80	3	Vertical	316	3.00

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
927.5MHz	Pass	PK	8.34646G	52.18	74.00	-21.82	3	Vertical	186	1.10
927.5MHz	Pass	AV	2.78244G	38.91	54.00	-15.09	3	Horizontal	143	3.00
927.5MHz	Pass	AV	8.34718G	46.09	54.00	-7.91	3	Horizontal	279	1.01
927.5MHz	Pass	PK	2.78266G	45.96	74.00	-28.04	3	Horizontal	143	3.00
927.5MHz	Pass	PK	8.3466G	58.47	74.00	-15.53	3	Horizontal	279	1.01

902-928MHz_LoRa (125kHz)

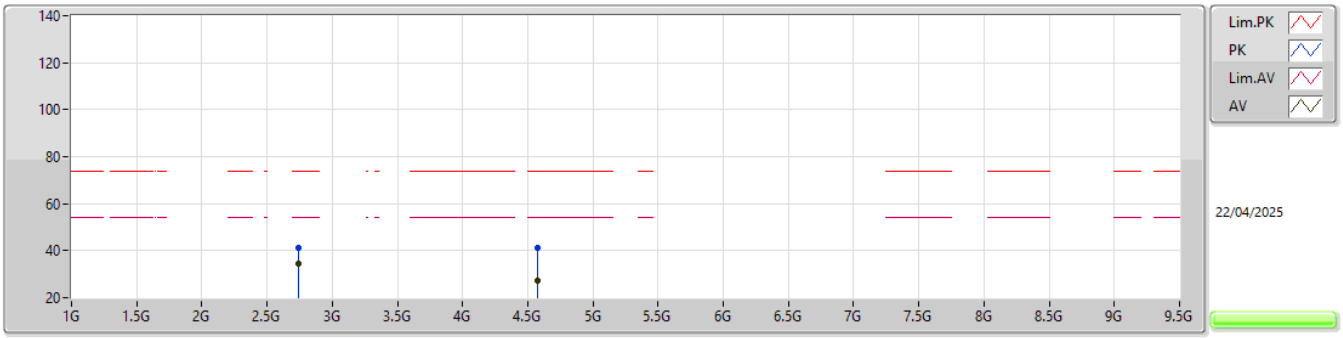
914.9MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.74476G	38.40	54.00	-15.60	-9.95	3	Vertical	325	2.95	48.35	28.30	5.09	43.34
AV	4.5746G	27.70	54.00	-26.30	-6.19	3	Vertical	14	1.50	33.89	31.75	6.17	44.11
PK	2.74482G	43.03	74.00	-30.97	-9.95	3	Vertical	325	2.95	52.98	28.30	5.09	43.34
PK	4.577G	41.72	74.00	-32.28	-6.18	3	Vertical	14	1.50	47.90	31.75	6.18	44.11

902-928MHz_LoRa (125kHz)

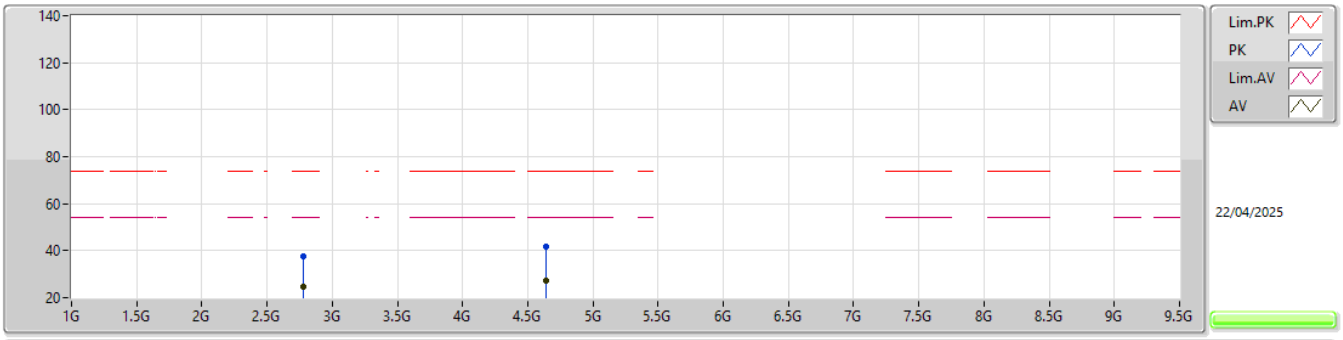
914.9MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.74474G	34.33	54.00	-19.67	-9.95	3	Horizontal	304	1.10	44.28	28.30	5.09	43.34
AV	4.57451G	27.25	54.00	-26.75	-6.19	3	Horizontal	348	2.99	33.44	31.75	6.17	44.11
PK	2.74465G	41.05	74.00	-32.95	-9.95	3	Horizontal	304	1.10	51.00	28.30	5.09	43.34
PK	4.57265G	41.34	74.00	-32.66	-6.19	3	Horizontal	348	2.99	47.53	31.75	6.17	44.11

902-928MHz_LoRa (500kHz)

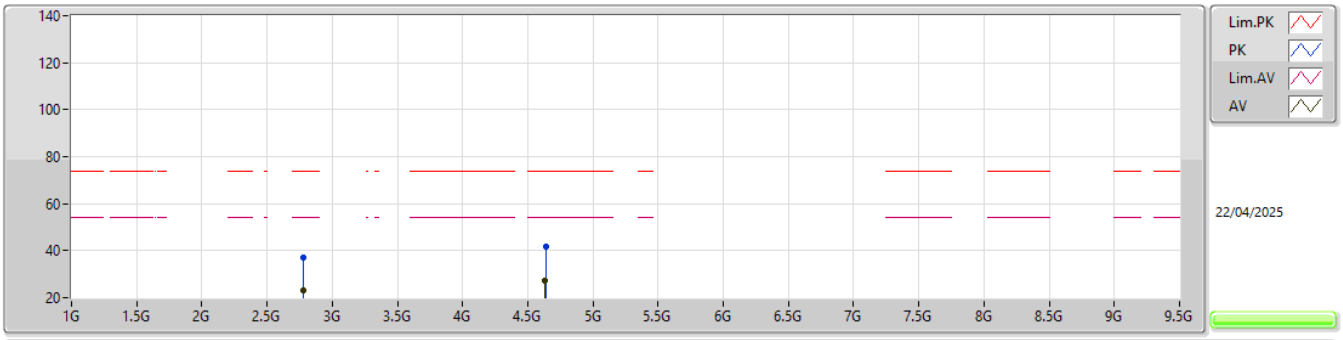
927.5MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.7827G	24.65	54.00	-29.35	-9.87	3	Vertical	307	1.53	34.52	28.40	5.08	43.35
AV	4.63825G	27.19	54.00	-26.81	-6.02	3	Vertical	236	1.50	33.21	31.88	6.20	44.10
PK	2.78282G	37.33	74.00	-36.67	-9.87	3	Vertical	307	1.53	47.20	28.40	5.08	43.35
PK	4.63811G	41.51	74.00	-32.49	-6.02	3	Vertical	236	1.50	47.53	31.88	6.20	44.10

902-928MHz_LoRa (500kHz)

927.5MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.78186G	23.27	54.00	-30.73	-9.87	3	Horizontal	168	1.52	33.14	28.40	5.08	43.35
AV	4.63535G	27.37	54.00	-26.63	-6.03	3	Horizontal	53	1.50	33.40	31.87	6.20	44.10
PK	2.78112G	36.87	74.00	-37.13	-9.87	3	Horizontal	168	1.52	46.74	28.40	5.08	43.35
PK	4.6405G	41.57	74.00	-32.43	-6.01	3	Horizontal	53	1.50	47.58	31.88	6.20	44.09