FCC TEST REPORT

FCC ID	:	**MRXBG6BL4**
Equipment	:	**Tyre Pressure Monitoring Sensor**
Brand Name	:	**Schrader Electronics**
Model Name	:	**BG6BL4**
Applicant	:	**SCHRADER ELECTRONICS LIMITED** **11 Technology Park, Belfast Road, Antrim, BT41 1QS, UK**
Manufacturer	:	**SCHRADER ELECTRONICS LIMITED** **11 Technology Park, Belfast Road, Antrim, BT41 1QS, UK**
Standard	:	**47 CFR FCC Part 15.231**

The product was received on Nov. 17, 2023, and testing was started from Feb. 20, 2024 and completed on Feb. 29, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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

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History of this test report

Report No.	Version	Description	Issued Date
FR3N1706AF	01	Initial issue of report	Apr. 19, 2024
FR3N1706AF	02	Revised typo (This report is the latest version replacing for the report issued on Apr. 19, 2024.)	Apr. 24, 2024
FR3N1706AF	03	Revised typo (This report is the latest version replacing for the report issued on Apr. 24, 2024.)	May 07, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Only employ battery power.
3.1	15.231(c)	Emission Bandwidth	PASS	-
3.2	15.231(e)	Fundamental Emissions	PASS	-
3.3	15.231(e)	Transmitter Radiated Unwanted Emissions	PASS	-
3.4	15.231(a)/(e)	Operation Restriction	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
None.

Reviewed by: Ryan Hsiao

Report Producer: Julie Tseng

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information				
Frequency Range(MHz)	**Modulation**	**Ch. Frequency (MHz)**	**Channel Number**	**Fundamental Field Strength (dBuV/m)**
433.92	ASK	433.92	1	58.80
433.92	FSK	433.92	1	66.01
Note 1: Field strength performed average level at 3m.				

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Schrader Electronics Ltd.	BG6BL4	PCB Trace	N/A	-27.1

Note: All measurements were performed without counting antenna gain and that therefore additional antenna gain information is not required.

For SRD mode (1TX)

Ant. 1 could transmit.

1.1.3 Type of EUT

Operational Condition		
EUT Power Type	From Battery	
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

Operated Mode for Worst Duty Cycle	
☐	Operated normal mode for worst duty cycle
☒	Operated test mode for worst duty cycle
Test Signal Duty Cycle (x)	
☒	17.4% (ASK) 40% (FSK)

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 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
RF Conducted	TH07-HY	Yuna Lin	23.2~23.9°C / 49~54%	20/Feb/2024
☒ Wenhua 3rd.	**ADD:** No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-0868			
Test site Designation No. TW0008 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
Radiated	03CH26-HY	Simon Cheng	21.5~22.7°C / 53~55%	29/Feb/2024

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**
Emission Bandwidth	3 MHz	Confidence levels of 95%
Fundamental Emissions	4.8 dB	Confidence levels of 95%
Transmitter Radiated Unwanted Emissions	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
Tnom Vnom	Tnom	20°C
-	Vnom	3V

2.2 The Worst Case Modulation Configuration

Modulation Used for Conformance Testing		
Mode	**Field Strength (dBuV/m at3m)**	**Test Channel Frequencies (MHz)**
Wireless transmit	58.80	433.92
Wireless transmit	66.01	433.92

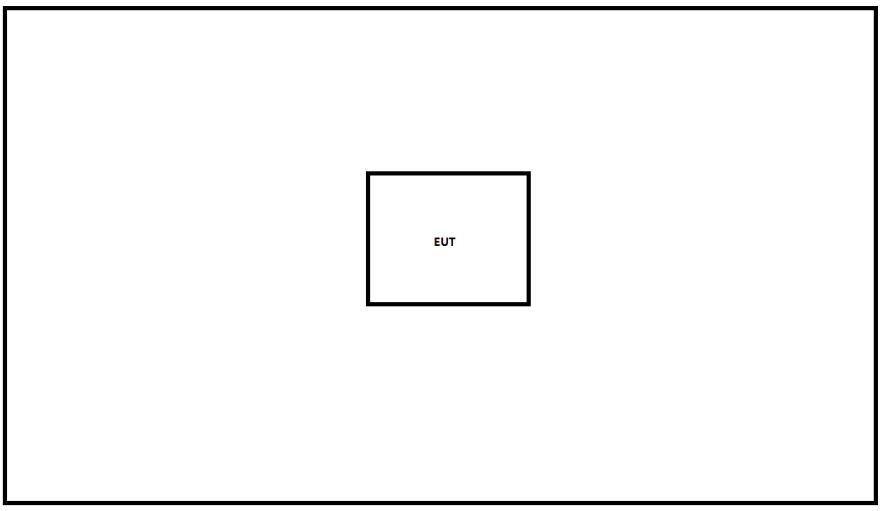
2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode	CTX		
	☒ 1. Battery Mode		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT		V	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Operation Restriction (silent time and operated time)
Test Condition	Conducted measurement
Test Mode	Operated normally mode for worst duty cycle condition.

2.4 Test Setup Diagram

Test Setup Diagram –Radiated Test



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
☒	Emission bandwidth falls completely within authorized band.
☒	Fc(70~900MHz): BW ≤ fc x 0.25%
☐	Fc(>900MHz): BW ≤ fc x 0.5%

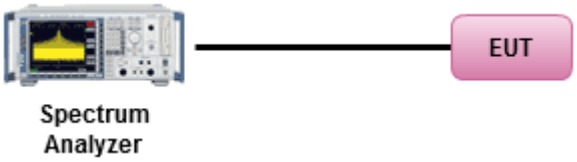
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 6.9.3 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

3.1.4 Test Setup

Emission Bandwidth


3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Fundamental Emissions

3.2.1 Fundamental Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Frequency Band (MHz)	**Fundamental Limit (uV/m) at 3m**	**Fundamental Limit (dBuV/m) at 3m**
40.66-40.70	2250	67
70-130	1250	61.9
130-174	1250-3750(**)	61.9-71.5
174-260	3750	71.5
260-470	3750-12500(**)	71.5-81.9
Above 470	12500	81.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Frequency Band (MHz)	**Fundamental Limit (uV/m) at 3m**	**Fundamental Limit (dBuV/m) at 3m**
40.66-40.70	1000	60
70-130	500	54
130-174	500-1500(**)	54-63.5
174-260	1500	63.5
260-470	1500-5000(**)	63.5-74
Above 470	5000	74
** 1. Linear interpolations. Based on the average value of the measured emissions.		

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

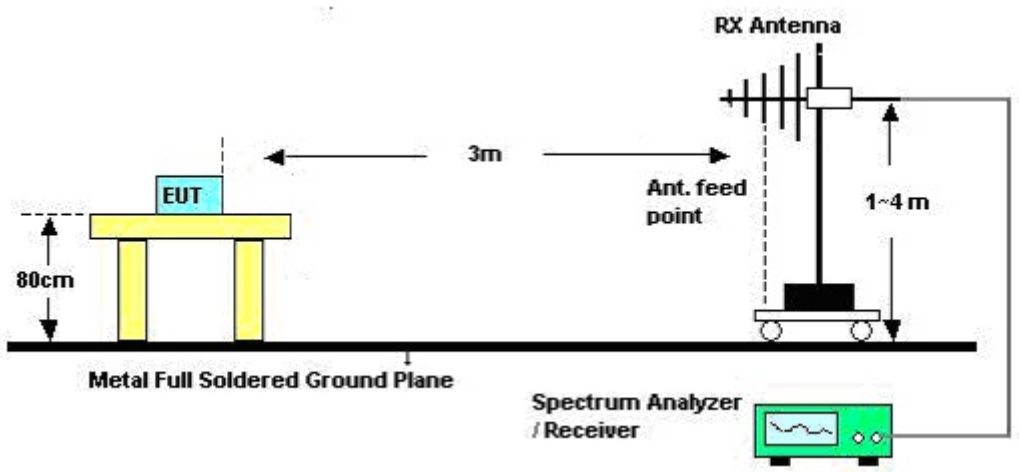
☒	For the transmitter emissions shall be measured using following options below:	
	☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
	☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
	☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions	

3.2.4 Measurement Results Calculation

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

3.2.5 Test Setup

Fundamental Emissions



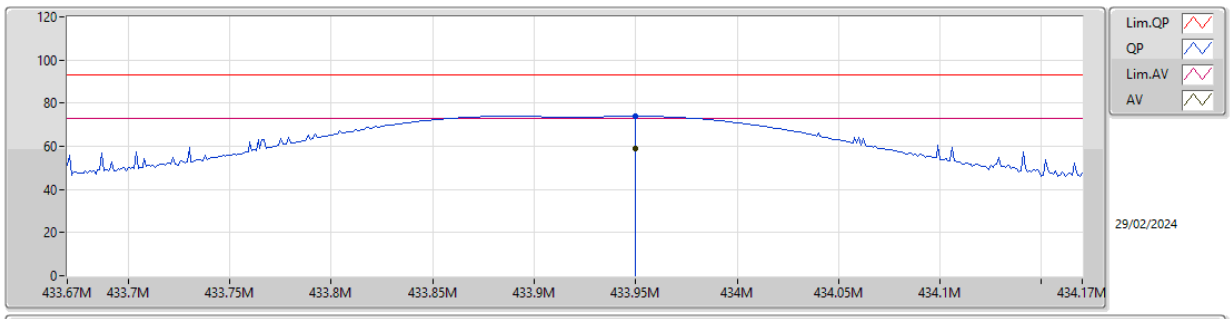
3.2.6 Test Result of Fundamental Emissions

Field Strength of Fundamental Emissions Result					
Modulation Mode	**Frequency (MHz)**	**Fundamental (dBuV/m)@3m**	**Margin (dB)**	**Limit (dBuV/m)@3m**	**Type**
ASK	433.92	58.80	14.07	72.87	Average
ASK	433.92	73.99	18.88	92.87	Peak
Result		**Complied**			

Note 1: Measurement worst emissions of receive antenna polarization: Vertical
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).

ASK

433.92MHz_Battery

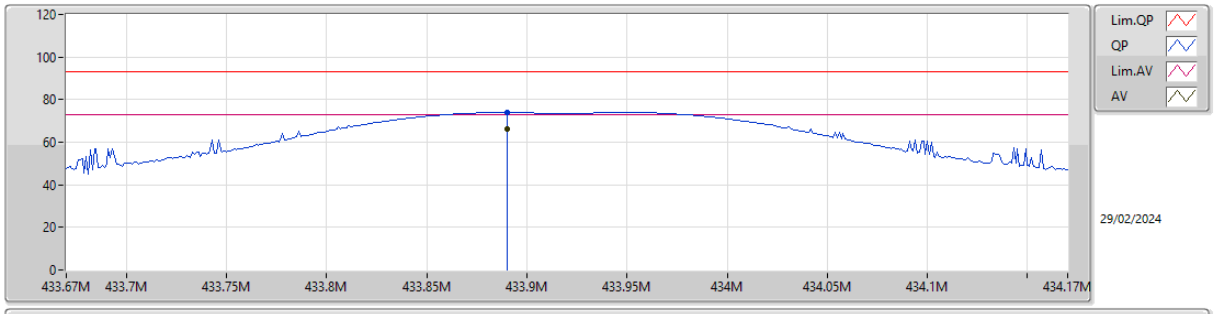


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	433.95M	58.80	72.87	-14.07	-18.86	3	Vertical	144	1.72	77.66	23.10	1.87	43.83
PK	433.95M	73.99	92.87	-18.88	-18.86	3	Vertical	144	1.72	92.85	23.10	1.87	43.83

Field Strength of Fundamental Emissions Result					
Modulation Mode	**Frequency (MHz)**	**Fundamental (dBuV/m)@3m**	**Margin (dB)**	**Limit (dBuV/m)@3m**	**Type**
FSK	433.92	66.01	6.86	72.87	Average
FSK	433.92	73.97	18.90	92.87	Peak
Result		**Complied**			
Note 1: Measurement worst emissions of receive antenna polarization: Vertical Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

FSK

433.92MHz_Battery



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	433.89M	66.01	72.87	-6.86	-18.86	3	Vertical	142	1.70	84.87	23.10	1.87	43.83
PK	433.89M	73.97	92.87	-18.90	-18.86	3	Vertical	142	1.70	92.83	23.10	1.87	43.83

3.3 Transmitter Radiated Unwanted Emissions

3.3.1 Transmitter Radiated Unwanted Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	**Spurious Limit (uV/m) at 3m**	**Spurious Limit (dBuV/m) at 3m**
40.66-40.70	225	47
70-130	125	41.9
130-174	125-375(**)	41.9-51.5
174-260	375	51.5
260-470	375-1250(**)	51.5-61.9
Above 470	1250	61.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	**Spurious Limit (uV/m) at 3m**	**Spurious Limit (dBuV/m) at 3m**
40.66-40.70	100	40
70-130	50	34
130-174	50-150(**)	34-43.5
174-260	150	43.5
260-470	150-500(**)	43.5-54
Above 470	500	54
** 1. Linear interpolations Based on the average value of the measured emissions.		

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

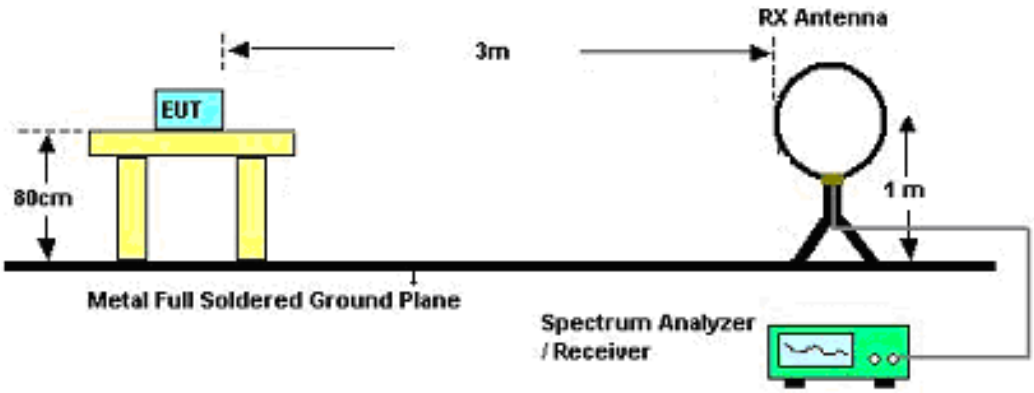
Test Method – General Information	
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☐	Refer as ANSI C63.10, clause 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
☒	For the transmitter unwanted emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
☒	Refer as ANSI C63.10, clause 6.10 for band-edge testing.
☐	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
☒	For radiated measurement.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
▪	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.

3.3.4 Measurement Results Calculation

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

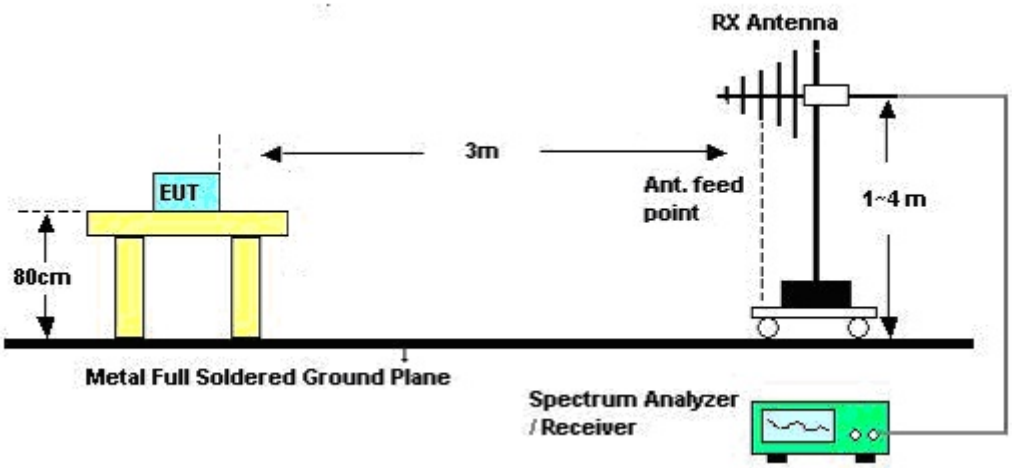
3.3.5 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)



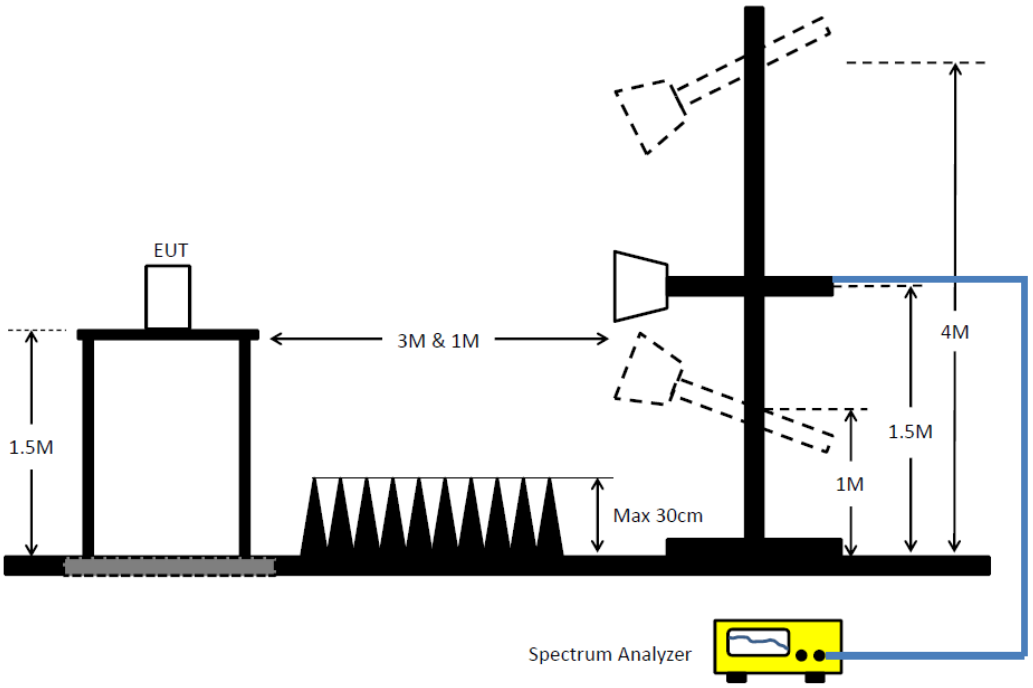
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

Transmitter Radiated Unwanted Emissions (Above 1GHz)



Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.3.6 Transmitter Radiated Unwanted Emissions (Below 30MHz)

Refer as Appendix B

3.4 Operation Restriction

3.4.1 Operation Restriction Limit

Operation Restriction Limit	
☐	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
☐	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
☐	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
☒	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

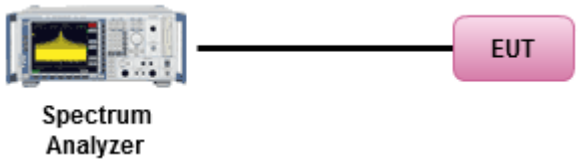
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 7.4 for periodic operation measurement.

3.4.4 Test Setup

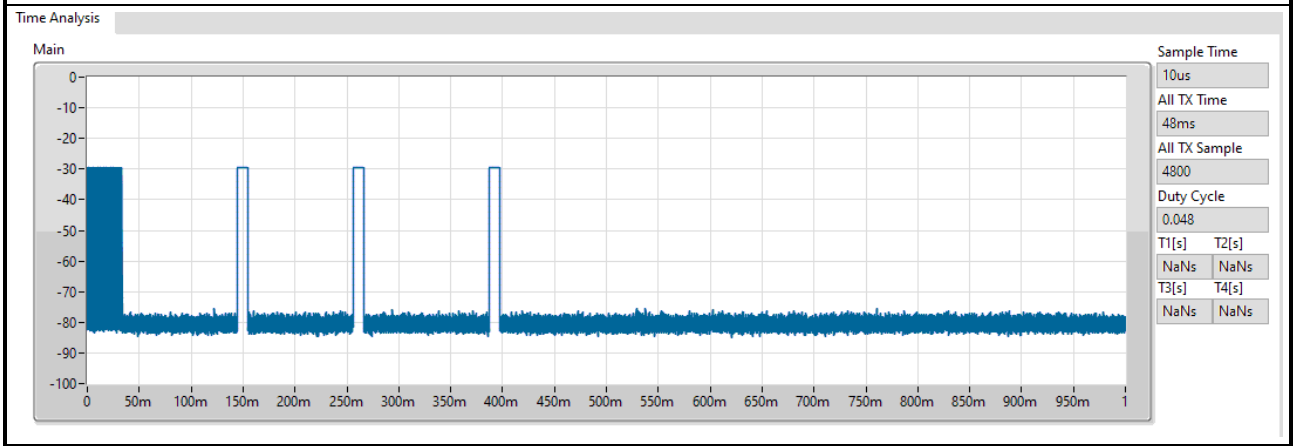
Operation Restriction


3.4.5 Test Result of Operation Restriction

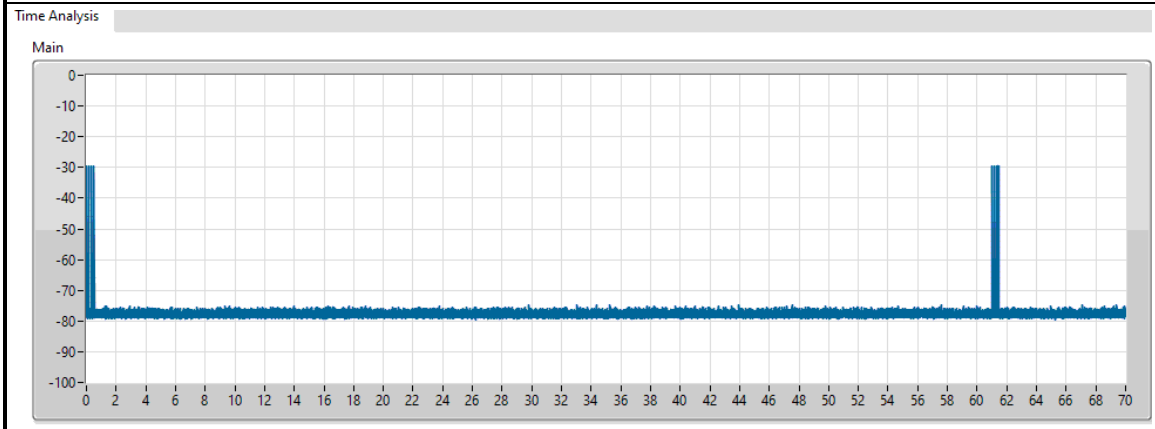
ASK

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.048	1.00
Silent duration (TX-off)	60.994	11.92
Note: Transmission time = 0.39749 sec 30 time limit : 0.39749 sec*30=11.92 sec		

TX On time



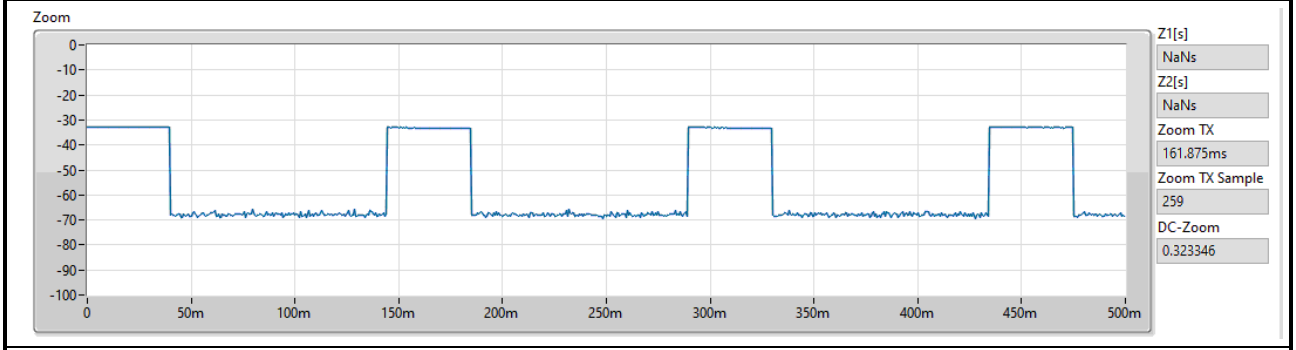
Period_70 sec



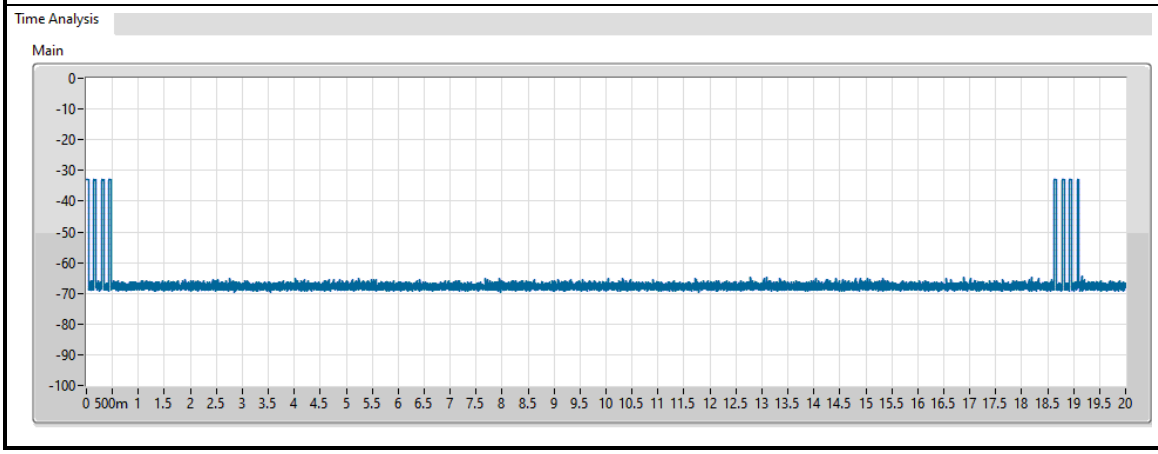
FSK

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.162	1.00
Silent duration (TX-off)	18.633	14.25
Note: Transmission time = 0.475 sec 30 time limit : 0.475 sec*30=14.25 sec		

TX On time



Period_20 sec



4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SENSE-NFC	Sporton	V5.11.0	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	30MHz~1GHz 3m	08/Aug/2023	07/Aug/2024
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	1GHz~18GHz 3m	08/Aug/2023	07/Aug/2024
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	27/Dec/2023	26/Dec/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101411	10Hz~44GHz	06/Oct/2023	05/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
Bilog Antenna & 6dB Attenuator	TESEQ & VGT	CBL 6111D & VFA 04002-06	63540/002	30MHz~1GHz	06/Jun/2023	05/Jun/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02877	1GHz~18GHz	12/Jul/2023	11/Jul/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	9kHz~1GHz	18/Oct/2023	17/Oct/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	1GHz~40GHz	18/Oct/2023	17/Oct/2024
Preamplifier	SGH	PRAMP 903	20230515-2	30MHz~1GHz	25/May/2023	24/May/2024
Preamplifier	SGH	PRAMP 118-H	20230515-4	1GHz ~18GHz	25/May/2023	24/May/2024
SENSE-15247_DTS	Sporton	V5.11.16	N/A	N/A	N/A	N/A

Summary

Mode	20dB (Hz)	Fl-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Limit (Range)
FSK	-	-	-	-	-
433.92MHz	169k	433.83550M	434.00450M	144.302k	1.0848M
ASK					
433.92MHz	161.5k	433.83650M	433.99800M	157.786k	1.0848M

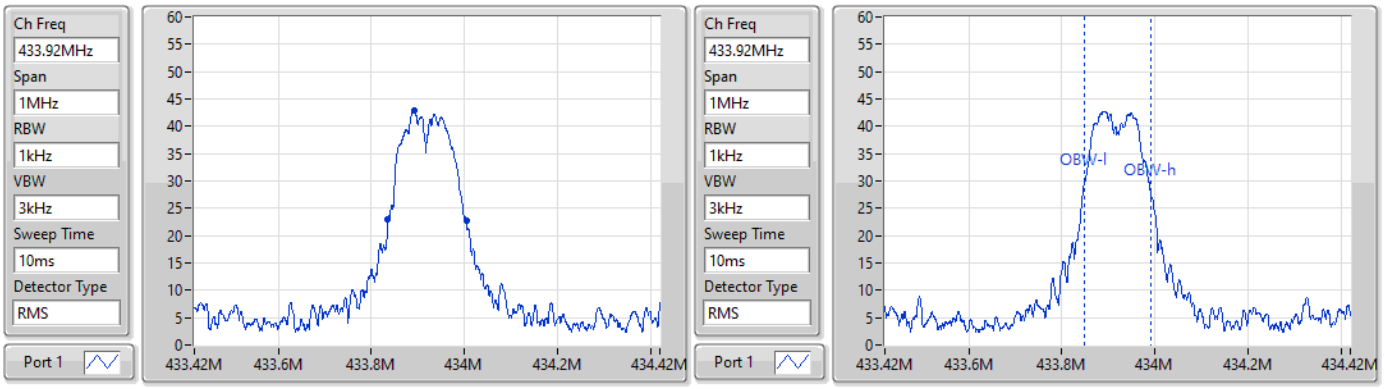
Result

Mode	Result	20dB (Hz)	Fl-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Fl-OBW (Hz)	Fh-OBW (Hz)	Limit (Range)
FSK	-	-	-	-	-	-	-	-
433.92MHz_TnomVnom	Pass	169k	433.83550M	434.00450M	144.302k	433.84732M	433.99162M	1.0848M
ASK	-	-	-	-	-	-	-	-
433.92MHz_TnomVnom	Pass	161.5k	433.83650M	433.99800M	157.786k	433.83889M	433.99668M	1.0848M

FSK **EBW**

433.92MHz_TnomVnom

20/02/2024

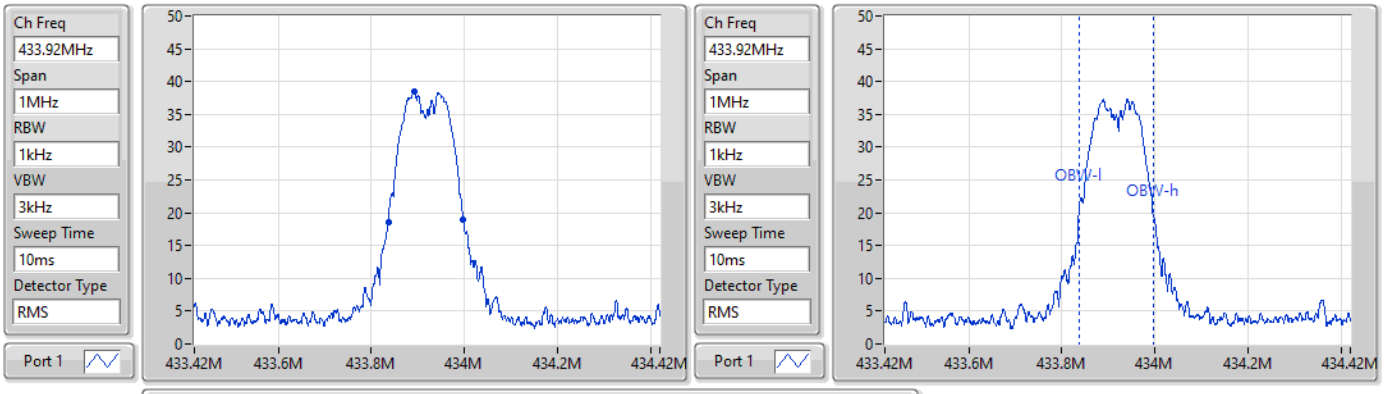


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Range)
169k	433.83550M	434.00450M	144.302k	433.84732M	433.99162M	1.0848M

ASK **EBW**

433.92MHz_TnomVnom

20/02/2024



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Range)
161.5k	433.83650M	433.99800M	157.786k	433.83889M	433.99668M	1.0848M

Summary

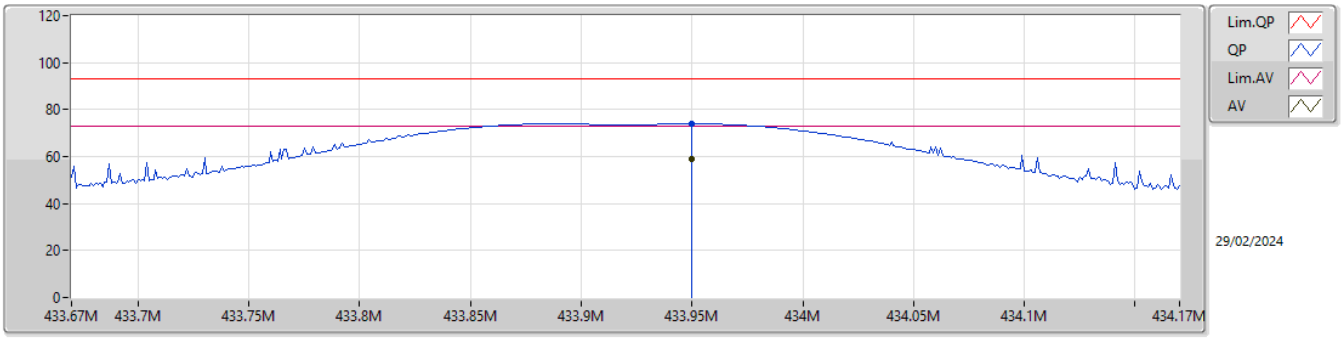
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
	-	-	-	-	-	-	-	-	-	-
ASK	Pass	PK	30M	29.20	40.00	-10.80	3	Vertical	360	1.00
FSK	Pass	AV	433.89M	66.01	72.87	-6.86	3	Vertical	142	1.70

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
FSK	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	433.89M	66.01	72.87	-6.86	3	Vertical	142	1.70
433.92MHz	Pass	PK	433.89M	73.97	92.87	-18.90	3	Vertical	142	1.70
433.92MHz	Pass	AV	433.89M	62.74	72.87	-10.13	3	Horizontal	250	1.59
433.92MHz	Pass	PK	433.89M	70.70	92.87	-22.17	3	Horizontal	250	1.59
433.92MHz	Pass	AV	867.89M	27.69	52.84	-25.15	3	Vertical	215	1.25
433.92MHz	Pass	PK	867.89M	35.65	72.84	-37.19	3	Vertical	215	1.25
433.92MHz	Pass	AV	867.78M	25.23	52.84	-27.61	3	Horizontal	15	1.10
433.92MHz	Pass	PK	867.78M	33.19	72.84	-39.65	3	Horizontal	15	1.10
433.92MHz	Pass	PK	31.94M	30.06	40.00	-9.94	3	Vertical	0	1.00
433.92MHz	Pass	PK	123.12M	26.78	43.50	-16.72	3	Vertical	0	1.00
433.92MHz	Pass	PK	239.52M	18.64	46.00	-27.36	3	Vertical	0	1.00
433.92MHz	Pass	PK	342.34M	17.82	46.00	-28.18	3	Vertical	0	1.00
433.92MHz	Pass	PK	505.3M	22.34	46.00	-23.66	3	Vertical	0	1.00
433.92MHz	Pass	PK	633.34M	25.05	46.00	-20.95	3	Vertical	0	1.00
433.92MHz	Pass	PK	30M	22.54	40.00	-17.46	3	Horizontal	360	1.00
433.92MHz	Pass	PK	123.12M	23.36	43.50	-20.14	3	Horizontal	360	1.00
433.92MHz	Pass	PK	158.04M	20.40	43.50	-23.10	3	Horizontal	360	1.00
433.92MHz	Pass	PK	297.72M	16.97	46.00	-29.03	3	Horizontal	360	1.00
433.92MHz	Pass	PK	503.36M	22.11	46.00	-23.89	3	Horizontal	360	1.00
433.92MHz	Pass	PK	660.5M	24.52	46.00	-21.48	3	Horizontal	360	1.00
ASK	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	433.95M	58.80	72.87	-14.07	3	Vertical	144	1.72
433.92MHz	Pass	PK	433.95M	73.99	92.87	-18.88	3	Vertical	144	1.72
433.92MHz	Pass	AV	433.89M	55.49	72.87	-17.38	3	Horizontal	257	1.61
433.92MHz	Pass	PK	433.89M	70.68	92.87	-22.19	3	Horizontal	257	1.61
433.92MHz	Pass	AV	867.9M	20.10	52.84	-32.74	3	Vertical	216	1.23
433.92MHz	Pass	PK	867.9M	35.29	72.84	-37.55	3	Vertical	216	1.23
433.92MHz	Pass	AV	867.89M	17.94	52.84	-34.90	3	Horizontal	10	1.00
433.92MHz	Pass	PK	867.89M	33.13	72.84	-39.71	3	Horizontal	10	1.00
433.92MHz	Pass	PK	30M	29.20	40.00	-10.80	3	Vertical	360	1.00
433.92MHz	Pass	PK	47.46M	25.12	40.00	-14.88	3	Vertical	360	1.00
433.92MHz	Pass	PK	123.12M	27.85	43.50	-15.65	3	Vertical	360	1.00
433.92MHz	Pass	PK	239.52M	18.97	46.00	-27.03	3	Vertical	360	1.00
433.92MHz	Pass	PK	497.54M	23.36	46.00	-22.64	3	Vertical	360	1.00
433.92MHz	Pass	PK	683.78M	25.33	46.00	-20.67	3	Vertical	360	1.00
433.92MHz	Pass	PK	31.94M	24.16	40.00	-15.84	3	Horizontal	0	1.00
433.92MHz	Pass	PK	123.12M	25.11	43.50	-18.39	3	Horizontal	0	1.00
433.92MHz	Pass	PK	239.52M	16.94	46.00	-29.06	3	Horizontal	0	1.00
433.92MHz	Pass	PK	357.86M	18.03	46.00	-27.97	3	Horizontal	0	1.00
433.92MHz	Pass	PK	553.8M	25.58	46.00	-20.42	3	Horizontal	0	1.00
433.92MHz	Pass	PK	712.88M	30.54	46.00	-15.46	3	Horizontal	0	1.00

ASK

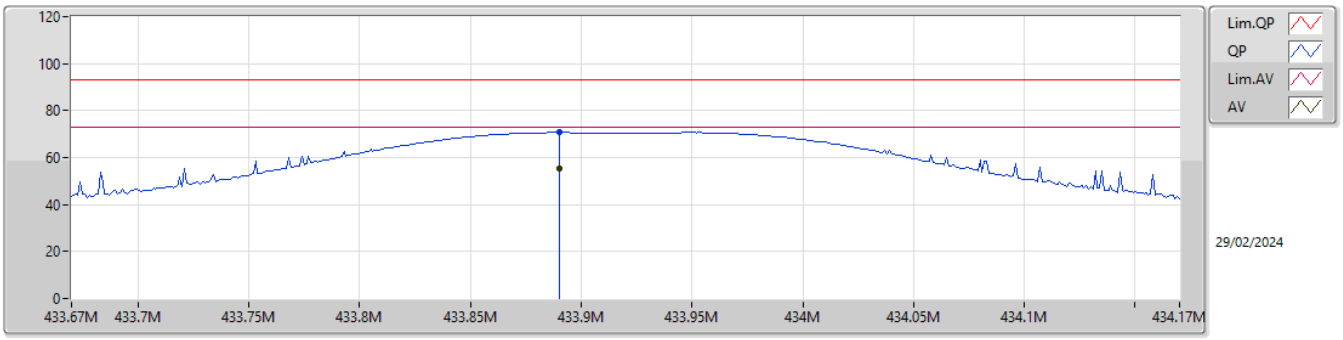
433.92MHz_Battery



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	433.95M	58.80	72.87	-14.07	-18.86	3	Vertical	144	1.72	77.66	23.10	1.87	43.83
PK	433.95M	73.99	92.87	-18.88	-18.86	3	Vertical	144	1.72	92.85	23.10	1.87	43.83

ASK

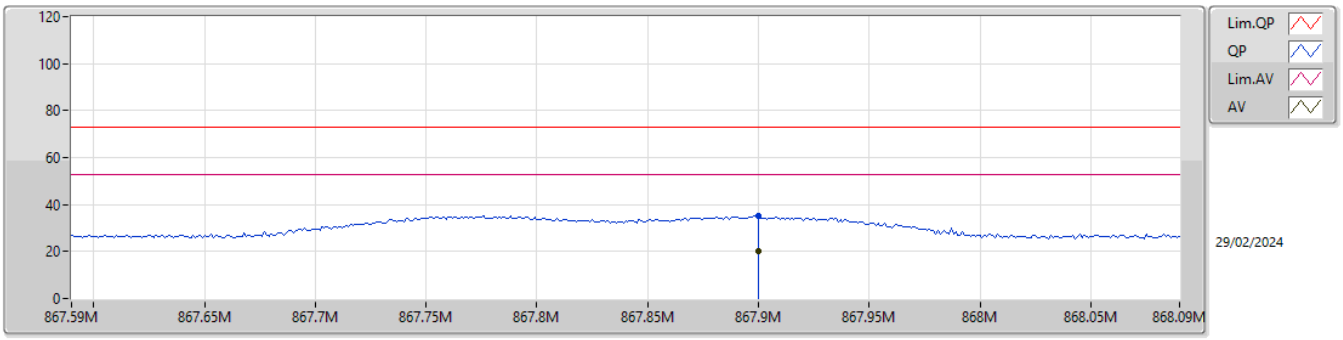
433.92MHz_Battery



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	433.89M	55.49	72.87	-17.38	-18.86	3	Horizontal	257	1.61	74.35	23.10	1.87	43.83
PK	433.89M	70.68	92.87	-22.19	-18.86	3	Horizontal	257	1.61	89.54	23.10	1.87	43.83

ASK

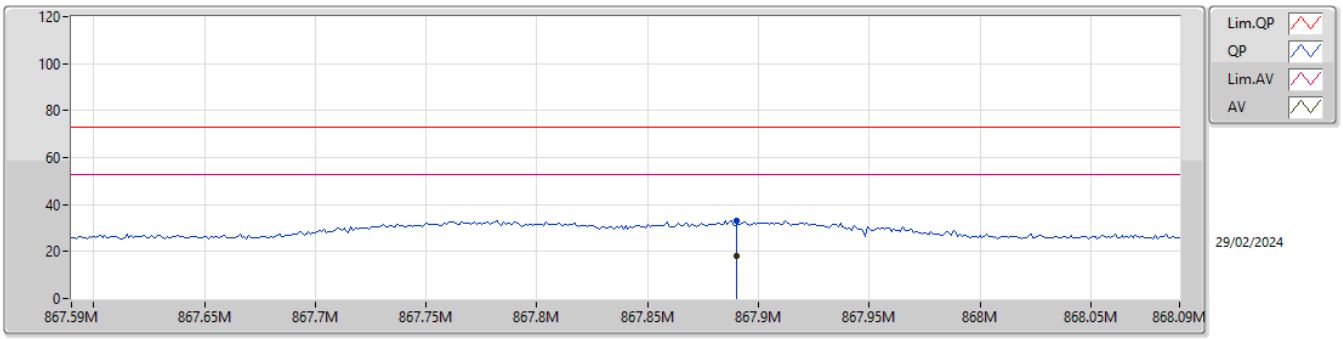
433.92MHz_Battery



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	867.9M	20.10	52.84	-32.74	-11.27	3	Vertical	216	1.23	31.37	29.38	2.65	43.30
PK	867.9M	35.29	72.84	-37.55	-11.27	3	Vertical	216	1.23	46.56	29.38	2.65	43.30

ASK

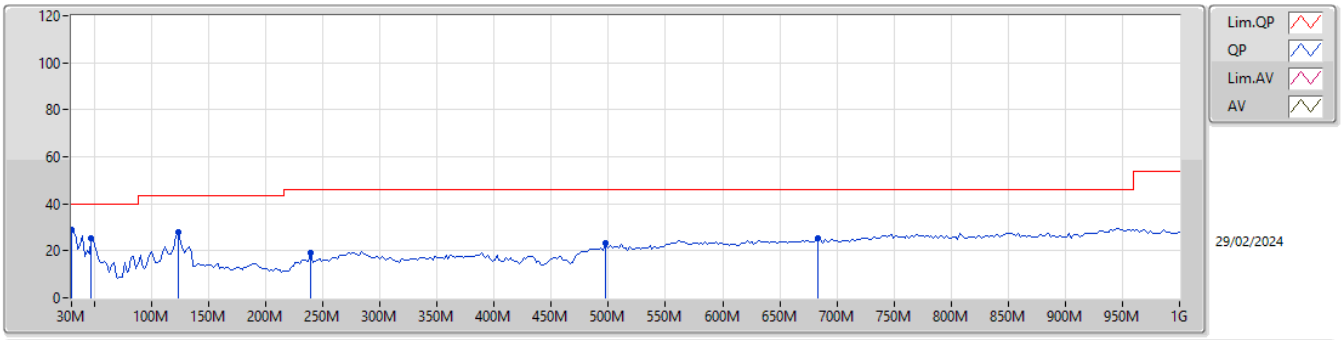
433.92MHz_Battery



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	867.89M	17.94	52.84	-34.90	-11.27	3	Horizontal	10	1.00	29.21	29.38	2.65	43.30
PK	867.89M	33.13	72.84	-39.71	-11.27	3	Horizontal	10	1.00	44.40	29.38	2.65	43.30

ASK

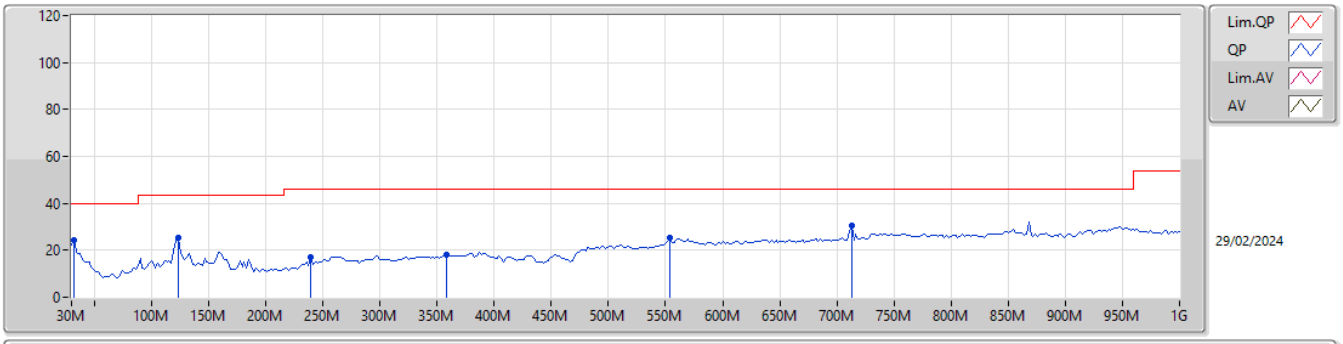
433.92MHz_Battery



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	29.20	40.00	-10.80	-18.35	3	Vertical	360	1.00	47.55	25.20	0.55	44.10
PK	47.46M	25.12	40.00	-14.88	-27.59	3	Vertical	360	1.00	52.71	16.01	0.66	44.26
PK	123.12M	27.85	43.50	-15.65	-25.56	3	Vertical	360	1.00	53.41	17.66	1.07	44.29
PK	239.52M	18.97	46.00	-27.03	-25.12	3	Vertical	360	1.00	44.09	17.53	1.45	44.10
PK	497.54M	23.36	46.00	-22.64	-17.49	3	Vertical	360	1.00	40.85	24.15	2.10	43.74
PK	683.78M	25.33	46.00	-20.67	-14.13	3	Vertical	360	1.00	39.46	26.96	2.39	43.48

ASK

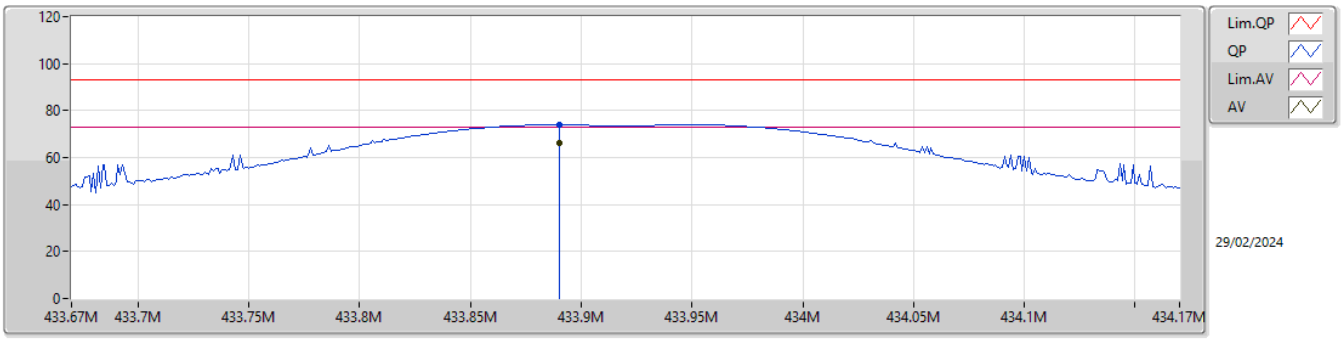
433.92MHz_Battery



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	24.16	40.00	-15.84	-19.04	3	Horizontal	0	1.00	43.20	24.52	0.56	44.12
PK	123.12M	25.11	43.50	-18.39	-25.56	3	Horizontal	0	1.00	50.67	17.66	1.07	44.29
PK	239.52M	16.94	46.00	-29.06	-25.12	3	Horizontal	0	1.00	42.06	17.53	1.45	44.10
PK	357.86M	18.03	46.00	-27.97	-21.37	3	Horizontal	0	1.00	39.40	20.80	1.76	43.93
PK	553.8M	25.58	46.00	-20.42	-14.42	3	Horizontal	0	1.00	40.00	27.05	2.19	43.66
PK	712.88M	30.54	46.00	-15.46	-13.62	3	Horizontal	0	1.00	44.16	27.37	2.45	43.44

FSK

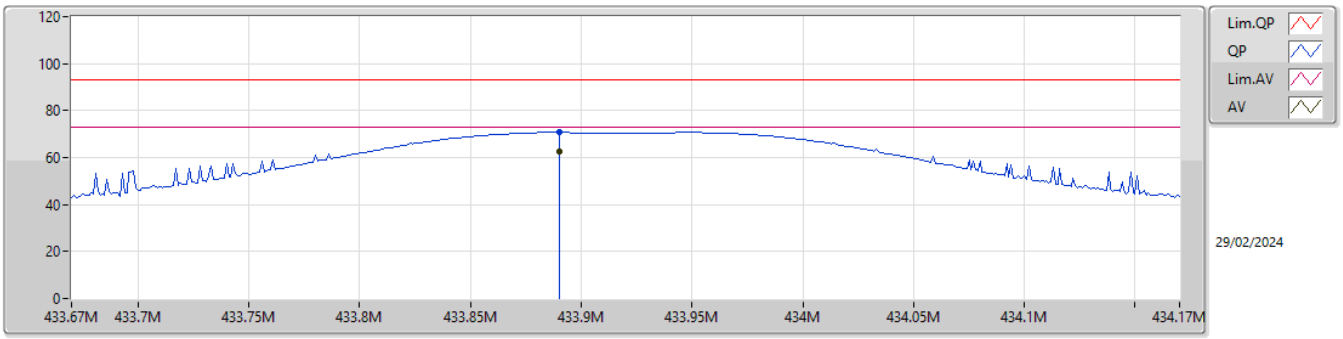
433.92MHz_Battery



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	433.89M	66.01	72.87	-6.86	-18.86	3	Vertical	142	1.70	84.87	23.10	1.87	43.83
PK	433.89M	73.97	92.87	-18.90	-18.86	3	Vertical	142	1.70	92.83	23.10	1.87	43.83

FSK

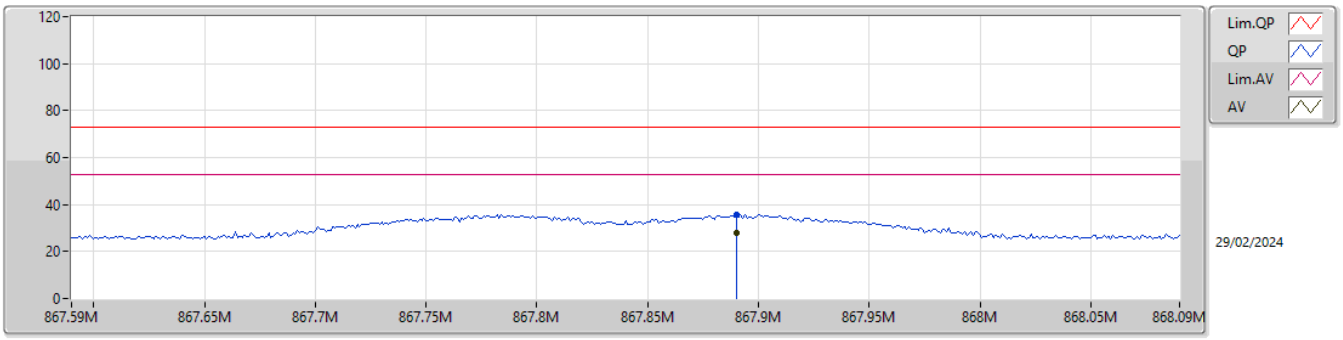
433.92MHz_Battery



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	433.89M	62.74	72.87	-10.13	-18.86	3	Horizontal	250	1.59	81.60	23.10	1.87	43.83
PK	433.89M	70.70	92.87	-22.17	-18.86	3	Horizontal	250	1.59	89.56	23.10	1.87	43.83

FSK

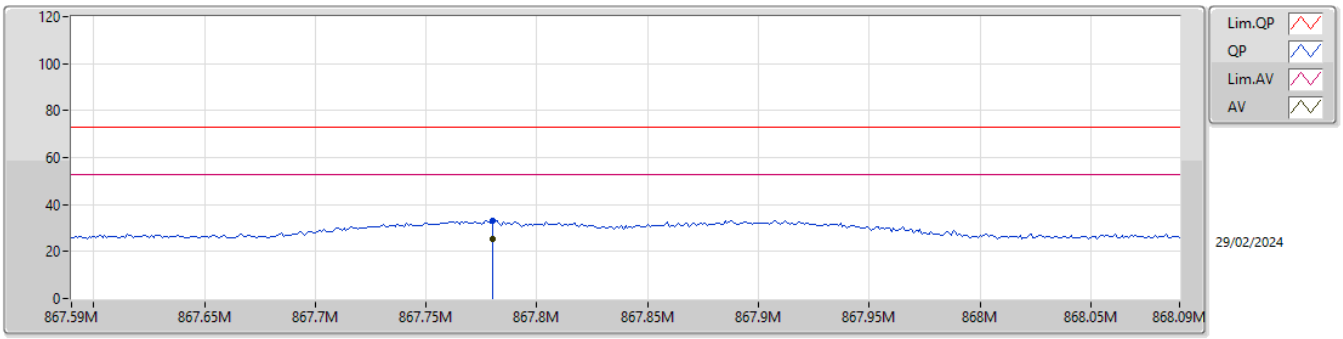
433.92MHz_Battery



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	867.89M	27.69	52.84	-25.15	-11.27	3	Vertical	215	1.25	38.96	29.38	2.65	43.30
PK	867.89M	35.65	72.84	-37.19	-11.27	3	Vertical	215	1.25	46.92	29.38	2.65	43.30

FSK

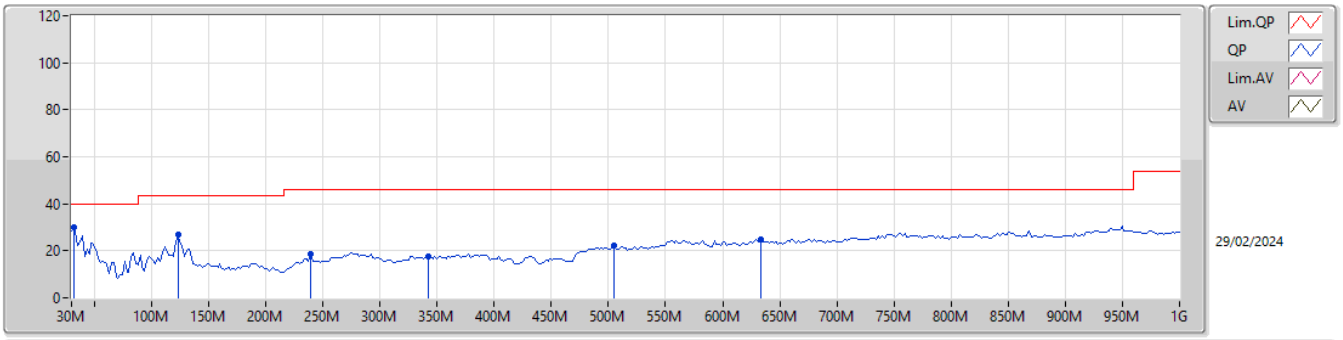
433.92MHz_Battery



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	867.78M	25.23	52.84	-27.61	-11.26	3	Horizontal	15	1.10	36.49	29.39	2.65	43.30
PK	867.78M	33.19	72.84	-39.65	-11.26	3	Horizontal	15	1.10	44.45	29.39	2.65	43.30

FSK

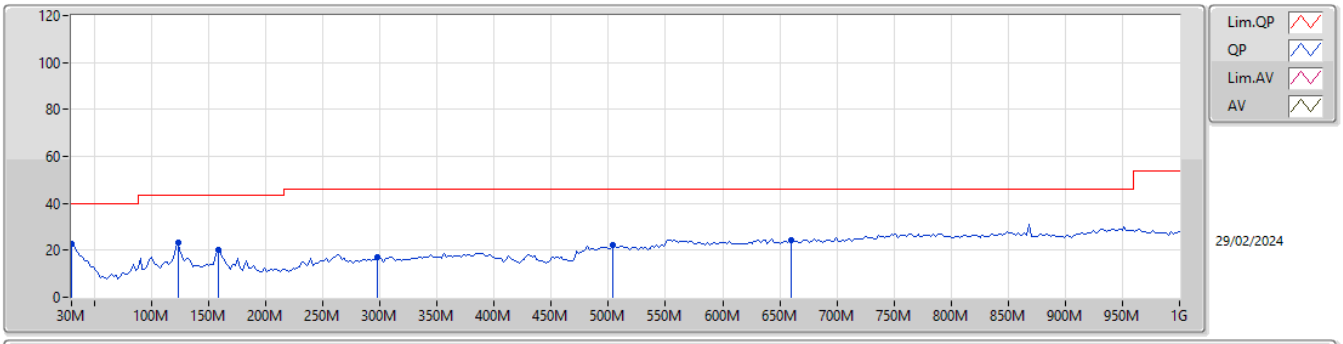
433.92MHz_Battery



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	30.06	40.00	-9.94	-19.04	3	Vertical	0	1.00	49.10	24.52	0.56	44.12
PK	123.12M	26.78	43.50	-16.72	-25.56	3	Vertical	0	1.00	52.34	17.66	1.07	44.29
PK	239.52M	18.64	46.00	-27.36	-25.12	3	Vertical	0	1.00	43.76	17.53	1.45	44.10
PK	342.34M	17.82	46.00	-28.18	-21.87	3	Vertical	0	1.00	39.69	20.35	1.73	43.95
PK	505.3M	22.34	46.00	-23.66	-17.30	3	Vertical	0	1.00	39.64	24.31	2.12	43.73
PK	633.34M	25.05	46.00	-20.95	-14.40	3	Vertical	0	1.00	39.45	26.87	2.28	43.55

FSK

433.92MHz_Battery



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	22.54	40.00	-17.46	-18.35	3	Horizontal	360	1.00	40.89	25.20	0.55	44.10
PK	123.12M	23.36	43.50	-20.14	-25.56	3	Horizontal	360	1.00	48.92	17.66	1.07	44.29
PK	158.04M	20.40	43.50	-23.10	-26.34	3	Horizontal	360	1.00	46.74	16.70	1.19	44.23
PK	297.72M	16.97	46.00	-29.03	-22.89	3	Horizontal	360	1.00	39.86	19.50	1.62	44.01
PK	503.36M	22.11	46.00	-23.89	-17.35	3	Horizontal	360	1.00	39.46	24.27	2.12	43.74
PK	660.5M	24.52	46.00	-21.48	-14.38	3	Horizontal	360	1.00	38.90	26.80	2.34	43.52

Summary

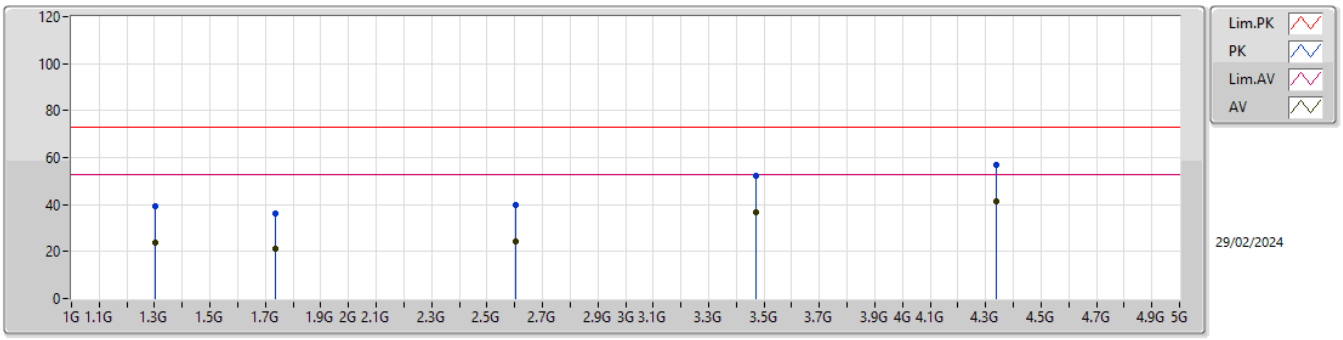
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
	-	-	-	-	-	-	-	-	-	-
ASK	Pass	AV	4.3402G	41.56	52.84	-11.28	3	Vertical	246	1.50
FSK	Pass	AV	4.34032G	47.84	52.84	-5.00	3	Vertical	253	1.50

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
FSK	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	1.3016G	31.01	52.84	-21.83	3	Vertical	290	2.91
433.92MHz	Pass	AV	1.73584G	30.83	52.84	-22.01	3	Vertical	331	1.50
433.92MHz	Pass	AV	2.6034G	31.10	52.84	-21.74	3	Vertical	165	1.50
433.92MHz	Pass	AV	3.47068G	41.15	52.84	-11.69	3	Vertical	75	1.50
433.92MHz	Pass	AV	4.34032G	47.84	52.84	-5.00	3	Vertical	253	1.50
433.92MHz	Pass	PK	1.3016G	38.97	72.84	-33.87	3	Vertical	290	2.91
433.92MHz	Pass	PK	1.73584G	38.79	72.84	-34.05	3	Vertical	331	1.50
433.92MHz	Pass	PK	2.6034G	39.06	72.84	-33.78	3	Vertical	165	1.50
433.92MHz	Pass	PK	3.47068G	49.11	72.84	-23.73	3	Vertical	75	1.50
433.92MHz	Pass	PK	4.34032G	55.80	72.84	-17.04	3	Vertical	253	1.50
433.92MHz	Pass	AV	1.30203G	32.50	52.84	-20.34	3	Horizontal	221	2.77
433.92MHz	Pass	AV	1.73511G	29.43	52.84	-23.41	3	Horizontal	41	1.50
433.92MHz	Pass	AV	2.6029G	37.17	52.84	-15.67	3	Horizontal	54	1.50
433.92MHz	Pass	AV	3.4707G	33.11	52.84	-19.73	3	Horizontal	141	1.50
433.92MHz	Pass	AV	4.3412G	39.92	52.84	-12.92	3	Horizontal	104	1.50
433.92MHz	Pass	PK	1.30203G	40.46	72.84	-32.38	3	Horizontal	221	2.77
433.92MHz	Pass	PK	1.73511G	37.39	72.84	-35.45	3	Horizontal	41	1.50
433.92MHz	Pass	PK	2.6029G	45.13	72.84	-27.71	3	Horizontal	54	1.50
433.92MHz	Pass	PK	3.4707G	41.07	72.84	-31.77	3	Horizontal	141	1.50
433.92MHz	Pass	PK	4.3412G	47.88	72.84	-24.96	3	Horizontal	104	1.50
ASK	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	1.3008G	23.87	52.84	-28.97	3	Vertical	20	1.50
433.92MHz	Pass	AV	1.7357G	21.24	52.84	-31.60	3	Vertical	147	1.50
433.92MHz	Pass	AV	2.60356G	24.42	52.84	-28.42	3	Vertical	47	1.50
433.92MHz	Pass	AV	3.47169G	36.98	52.84	-15.86	3	Vertical	149	1.00
433.92MHz	Pass	AV	4.3402G	41.56	52.84	-11.28	3	Vertical	246	1.50
433.92MHz	Pass	PK	1.3008G	39.06	72.84	-33.78	3	Vertical	20	1.50
433.92MHz	Pass	PK	1.7357G	36.43	72.84	-36.41	3	Vertical	147	1.50
433.92MHz	Pass	PK	2.60356G	39.61	72.84	-33.23	3	Vertical	47	1.50
433.92MHz	Pass	PK	3.47169G	52.17	72.84	-20.67	3	Vertical	149	1.00
433.92MHz	Pass	PK	4.3402G	56.75	72.84	-16.09	3	Vertical	246	1.50
433.92MHz	Pass	AV	1.30188G	22.80	52.84	-30.04	3	Horizontal	84	1.50
433.92MHz	Pass	AV	1.73552G	24.02	52.84	-28.82	3	Horizontal	227	1.50
433.92MHz	Pass	AV	2.60364G	32.11	52.84	-20.73	3	Horizontal	41	2.72
433.92MHz	Pass	AV	3.47274G	26.87	52.84	-25.97	3	Horizontal	187	1.00
433.92MHz	Pass	AV	4.34013G	34.73	52.84	-18.11	3	Horizontal	193	2.65
433.92MHz	Pass	PK	1.30188G	37.99	72.84	-34.85	3	Horizontal	84	1.50
433.92MHz	Pass	PK	1.73552G	39.21	72.84	-33.63	3	Horizontal	227	1.50
433.92MHz	Pass	PK	2.60364G	47.30	72.84	-25.54	3	Horizontal	41	2.72
433.92MHz	Pass	PK	3.47274G	42.06	72.84	-30.78	3	Horizontal	187	1.00
433.92MHz	Pass	PK	4.34013G	49.92	72.84	-22.92	3	Horizontal	193	2.65

ASK

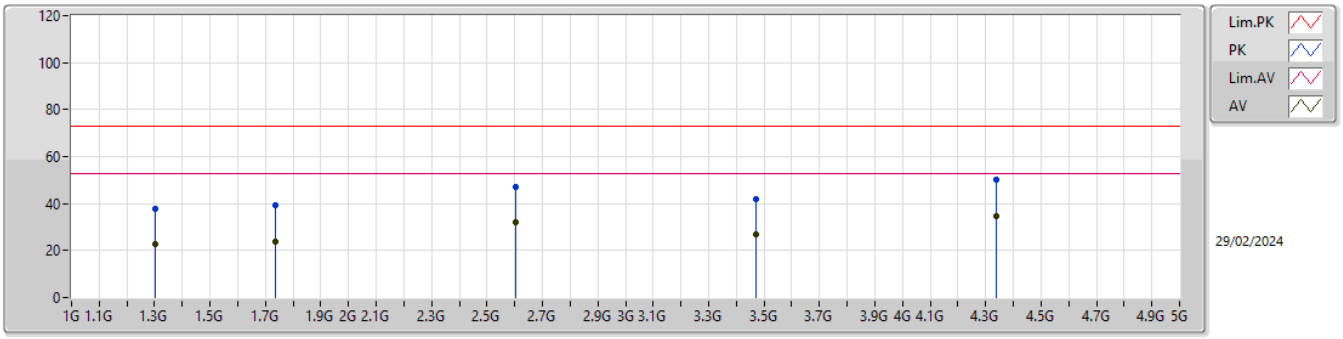
433.92MHz_TX



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	1.3008G	23.87	52.84	-28.97	-15.54	3	Vertical	20	1.50	39.41	25.80	3.32	44.66
AV	1.7357G	21.24	52.84	-31.60	-15.80	3	Vertical	147	1.50	37.04	25.10	3.84	44.74
AV	2.60356G	24.42	52.84	-28.42	-12.09	3	Vertical	47	1.50	36.51	28.16	4.76	45.01
AV	3.47169G	36.98	52.84	-15.86	-10.25	3	Vertical	149	1.00	47.23	29.61	5.51	45.37
AV	4.3402G	41.56	52.84	-11.28	-7.83	3	Vertical	246	1.50	49.39	31.58	6.22	45.63
PK	1.3008G	39.06	72.84	-33.78	-15.54	3	Vertical	20	1.50	54.60	25.80	3.32	44.66
PK	1.7357G	36.43	72.84	-36.41	-15.80	3	Vertical	147	1.50	52.23	25.10	3.84	44.74
PK	2.60356G	39.61	72.84	-33.23	-12.09	3	Vertical	47	1.50	51.70	28.16	4.76	45.01
PK	3.47169G	52.17	72.84	-20.67	-10.25	3	Vertical	149	1.00	62.42	29.61	5.51	45.37
PK	4.3402G	56.75	72.84	-16.09	-7.83	3	Vertical	246	1.50	64.58	31.58	6.22	45.63

ASK

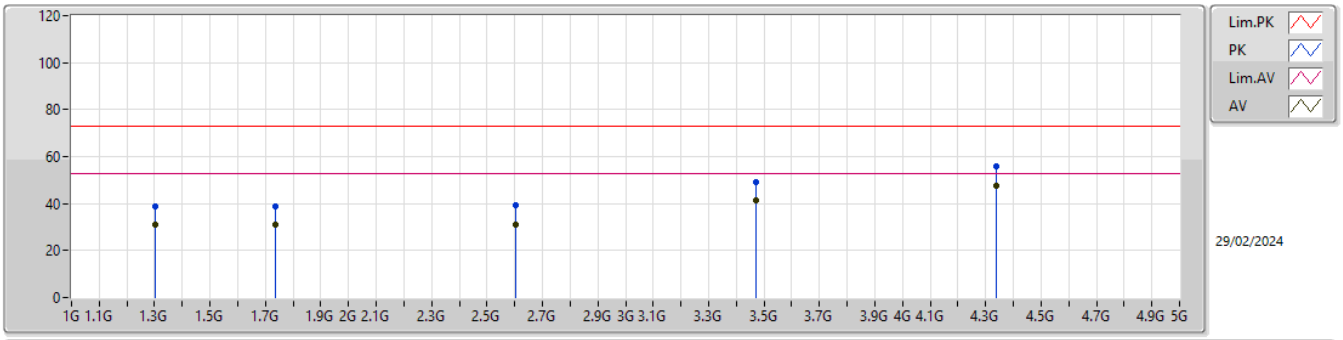
433.92MHz_TX



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	1.30188G	22.80	52.84	-30.04	-15.54	3	Horizontal	84	1.50	38.34	25.80	3.32	44.66
AV	1.73552G	24.02	52.84	-28.82	-15.80	3	Horizontal	227	1.50	39.82	25.10	3.84	44.74
AV	2.60364G	32.11	52.84	-20.73	-12.09	3	Horizontal	41	2.72	44.20	28.16	4.76	45.01
AV	3.47274G	26.87	52.84	-25.97	-10.25	3	Horizontal	187	1.00	37.12	29.61	5.51	45.37
AV	4.34013G	34.73	52.84	-18.11	-7.83	3	Horizontal	193	2.65	42.56	31.58	6.22	45.63
PK	1.30188G	37.99	72.84	-34.85	-15.54	3	Horizontal	84	1.50	53.53	25.80	3.32	44.66
PK	1.73552G	39.21	72.84	-33.63	-15.80	3	Horizontal	227	1.50	55.01	25.10	3.84	44.74
PK	2.60364G	47.30	72.84	-25.54	-12.09	3	Horizontal	41	2.72	59.39	28.16	4.76	45.01
PK	3.47274G	42.06	72.84	-30.78	-10.25	3	Horizontal	187	1.00	52.31	29.61	5.51	45.37
PK	4.34013G	49.92	72.84	-22.92	-7.83	3	Horizontal	193	2.65	57.75	31.58	6.22	45.63

FSK

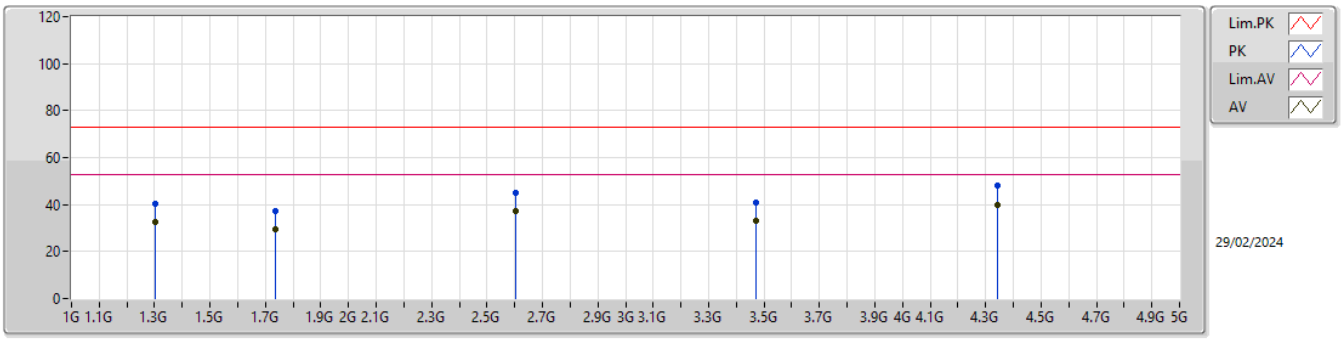
433.92MHz_TX



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	1.3016G	31.01	52.84	-21.83	-15.54	3	Vertical	290	2.91	46.55	25.80	3.32	44.66
AV	1.73584G	30.83	52.84	-22.01	-15.80	3	Vertical	331	1.50	46.63	25.10	3.84	44.74
AV	2.6034G	31.10	52.84	-21.74	-12.08	3	Vertical	165	1.50	43.18	28.17	4.76	45.01
AV	3.47068G	41.15	52.84	-11.69	-10.24	3	Vertical	75	1.50	51.39	29.62	5.51	45.37
AV	4.34032G	47.84	52.84	-5.00	-7.83	3	Vertical	253	1.50	55.67	31.58	6.22	45.63
PK	1.3016G	38.97	72.84	-33.87	-15.54	3	Vertical	290	2.91	54.51	25.80	3.32	44.66
PK	1.73584G	38.79	72.84	-34.05	-15.80	3	Vertical	331	1.50	54.59	25.10	3.84	44.74
PK	2.6034G	39.06	72.84	-33.78	-12.08	3	Vertical	165	1.50	51.14	28.17	4.76	45.01
PK	3.47068G	49.11	72.84	-23.73	-10.24	3	Vertical	75	1.50	59.35	29.62	5.51	45.37
PK	4.34032G	55.80	72.84	-17.04	-7.83	3	Vertical	253	1.50	63.63	31.58	6.22	45.63

FSK

433.92MHz_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	1.30203G	32.50	52.84	-20.34	-15.54	3	Horizontal	221	2.77	48.04	25.80	3.32	44.66
AV	1.73511G	29.43	52.84	-23.41	-15.80	3	Horizontal	41	1.50	45.23	25.10	3.84	44.74
AV	2.6029G	37.17	52.84	-15.67	-12.08	3	Horizontal	54	1.50	49.25	28.17	4.76	45.01
AV	3.4707G	33.11	52.84	-19.73	-10.24	3	Horizontal	141	1.50	43.35	29.62	5.51	45.37
AV	4.3412G	39.92	52.84	-12.92	-7.83	3	Horizontal	104	1.50	47.75	31.58	6.22	45.63
PK	1.30203G	40.46	72.84	-32.38	-15.54	3	Horizontal	221	2.77	56.00	25.80	3.32	44.66
PK	1.73511G	37.39	72.84	-35.45	-15.80	3	Horizontal	41	1.50	53.19	25.10	3.84	44.74
PK	2.6029G	45.13	72.84	-27.71	-12.08	3	Horizontal	54	1.50	57.21	28.17	4.76	45.01
PK	3.4707G	41.07	72.84	-31.77	-10.24	3	Horizontal	141	1.50	51.31	29.62	5.51	45.37
PK	4.3412G	47.88	72.84	-24.96	-7.83	3	Horizontal	104	1.50	55.71	31.58	6.22	45.63