FCC Test Report

FCC ID	:	**2AGOZ-F8MZ**
Equipment	:	**VR Headset**
Brand Name	:	**oculus**
Model Name	:	**MH-B**
Applicant	:	**Facebook Technologies, LLC 1 Hacker Way, Menlo Park, CA 94025, USA**
Manufacturer	:	**Facebook Technologies, LLC 1 Hacker Way, Menlo Park, CA 94025, USA**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jul. 25, 2018, and testing was started from Oct. 11, 2018 and completed on Nov. 07, 2018. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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.

Allen Lin

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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History of this test report

Report No.	Version	Description	Issued Date
FR8O0804AG	01	Initial issue of report	Nov. 19, 2018
FR8O0804AG	02	Revise Typo	Nov. 27, 2018

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	FCC 15.207
3.2	15.247(a)	DTS Bandwidth	PASS	≥500kHz
3.3	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]:30
3.4	15.247(e)	Power Spectral Density	PASS	PSD [dBm/3kHz]:8
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	Non-Restricted Bands: >30 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

Declaration of Conformity:
The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.
Comments and explanations:
None

Reviewed by: Sam Chen

Report Producer: Ann Hou

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)
2400-2483.5	GFSK	2402-2478

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

Note:
- Mode uses a combination of GFSK modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector
1	1	-	-	PIFA	I-PEX
2	2	-	-	PIFA	I-PEX
3	-	-	-	Monopole	I-PEX

Ant.	Gain (dBi) - Maximum Peak Gain								
	2.4G			5G				BT	GFSK
	2412MHz	2437MHz	2462MHz	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3		
1	2.92	3.24	3.30	4.28	4.28	3.34	2.21	3.3	-
2	2.56	2.52	2.56	4.04	4.04	4.56	4.93	-	-
3	-	-	-	-	-	-	-	-	3.8

2TX Stream	DG Gain (dBi) - Correlated Gain						
	2.4G			5G			
	2412MHz	2437MHz	2462MHz	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
1	5.56	5.77	5.95	6.93	6.93	6.53	6.07
2	2.56	2.77	2.95	3.92	3.92	3.52	3.16

Note 1: The EUT has three antennas.

Note 2: Ant. 1 = port 1 = Chain 0 = Right ; Ant. 2 = port 2 = Chain 1 = Left.

For 2.4GHz function:

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

Only supports 2X2 MIMO configuration.

For 5GHz function:
For IEEE 802.11 a/n/ac mode (2TX/2RX)
Only supports 2X2 MIMO configuration.
For BT function:
For IEEE 802.15.1 Bluetooth mode (1TX/1RX)
Only Ant. 1 could transmit/receive simultaneously.
For GFSK function:
For GFSK mode (1TX/1RX)
Only Ant. 3 could transmit/receive simultaneously.

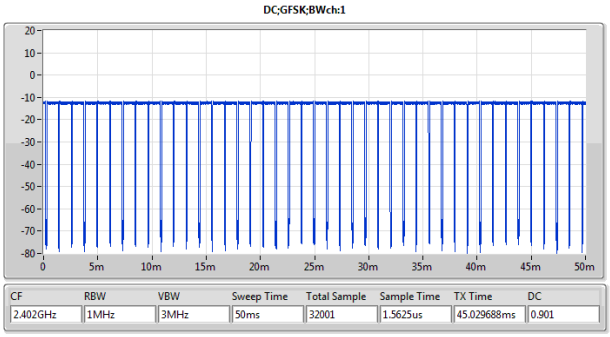
1.1.3 EUT Information

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

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
GFSK	0.901	0.453	1.063m	1k

GFSK



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
- KDB 558074 D01 v05

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.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Andy	24.8°C / 59%	17/Oct/2018
RF Conducted	TH01-HY	Andy	24.5°C / 63.5%	12/Oct/2018
Radiated	03CH09-HY	Kevin	21°C / 59%	11/Oct/2018
Radiated (co-location)	03CH09-HY	Kevin	22.3°C / 58%	09/Nov/2018

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)	3.6 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	3.82V

2.2 Test Channel Mode

Test Software Version	QRCT 3.0.297.0

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 Accessories

Accessories				
AC Adapter (US Plug)	**Brand Name**	oculus	**Model Name**	AQ15A-050A
	Manufacturer	PHIHONG		
	Power Rating	I/P: 100 - 240Vac, 0.5A, O/P: 5Vdc, 3A		
Type-C USB Cable	**In/Out door**	In door		
	Cable	2.95 meter, Shielded cable, w/o ferrite core		

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

2.5 Support Equipment

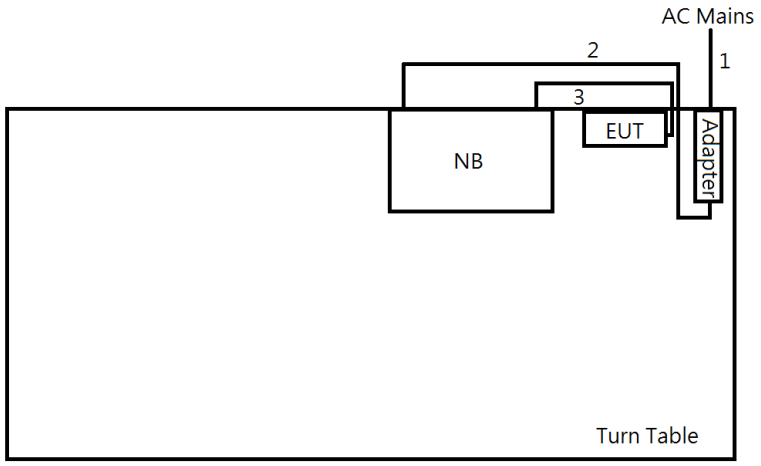
Support Equipment – AC Conduction				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	HP	ProBook5220m	-
2	Mouse(USB)	DELL	MS111-L	-
3	IPod	APPLE	YM719D8YVQ5	-
4	AC adapter	HP	608425-003	-
5	USB Cable	-	-	-

Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	DoC
2	Adapter for notebook	DELL	HA65NM130	DoC
3	DC Power Supply	GW	GPS-3030DD	-

Support Equipment – Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	HP	ProBook5220m	-
2	Adapter for notebook	HP	Series PPP012H-S	-

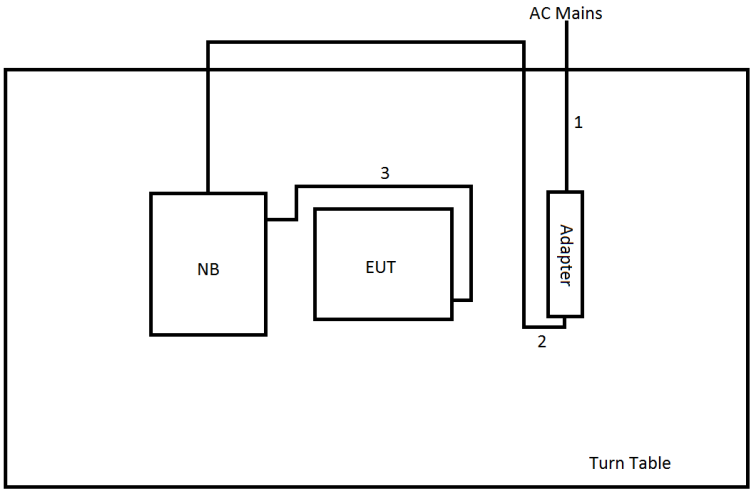
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	AC Power line	No	1.8m
2	DC Power line	No	1.8m
3	USB Cable	No	1.2m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	AC Power line	No	1.8m
2	DC Power line	No	2.0m
3	Data cable	No	1.2m

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

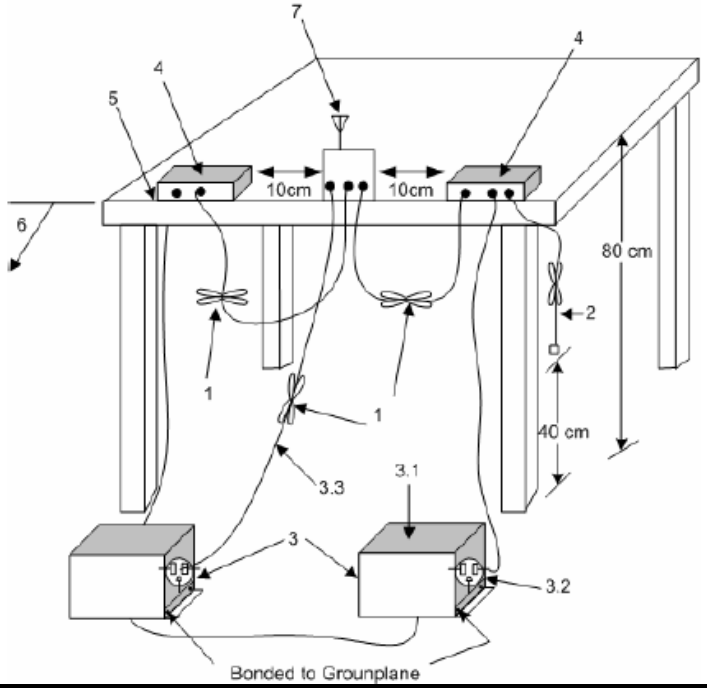
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 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.

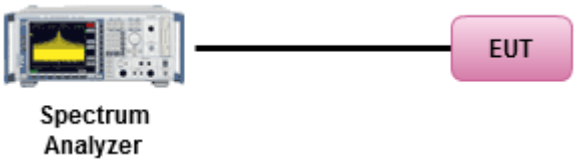
3.2.2 Measuring Instruments

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 (11.9.2.2 of ANSI C63.10) DTS bandwidth measurement.
	☐ Refer as RSS-Gen, clause 6.7 for 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} ≤ 6 dBi, then P_{Out} ≤ 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 + 8dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)		
	▪ Point-to-point systems (P2P): P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX}]) dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Overlap beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Aggregate power on all beams: P_{eirp} ≤ 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

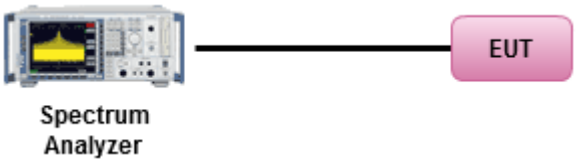
3.4.2 Measuring Instruments

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) Method PKPSD.	
▪ 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 PSD 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 PSD level.	

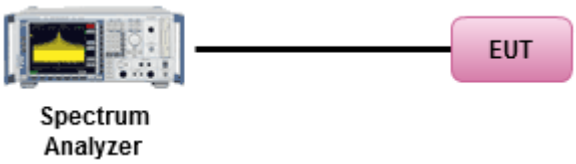
3.5.2 Measuring Instruments

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 below30 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

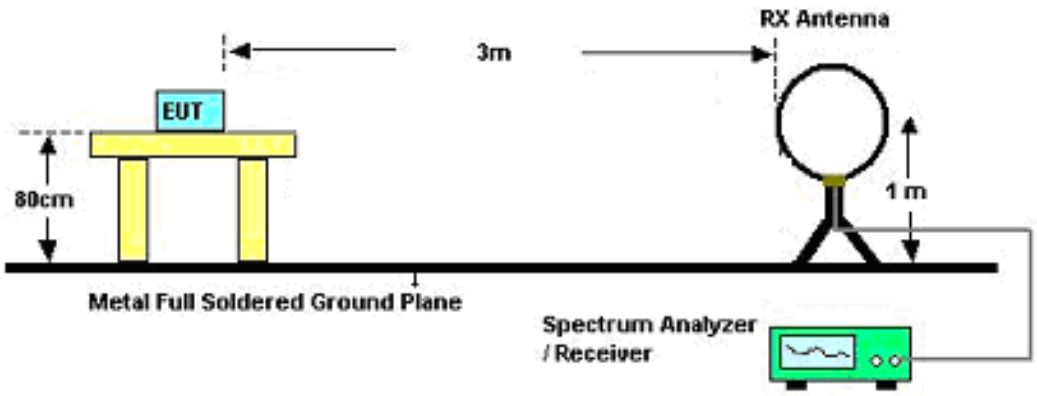
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

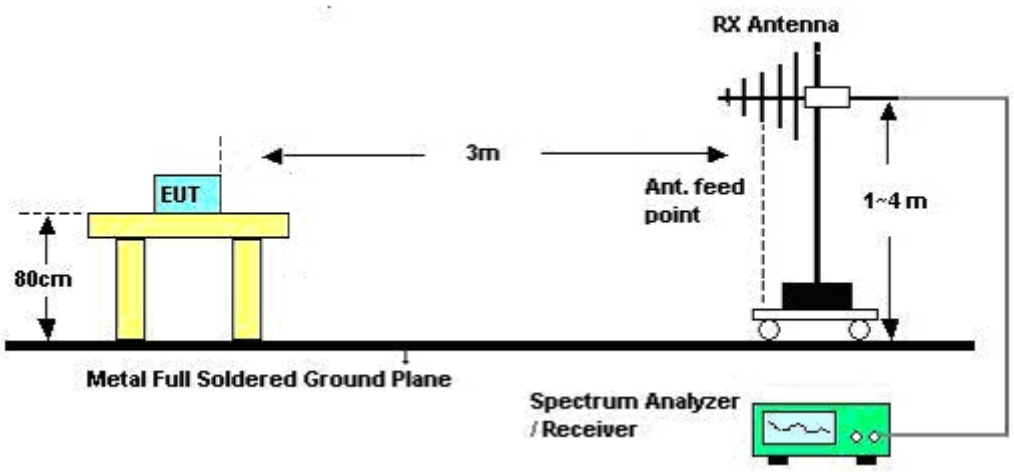
Test Method	
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted 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 (i.e., 1 MHz).

3.6.4 Test Setup

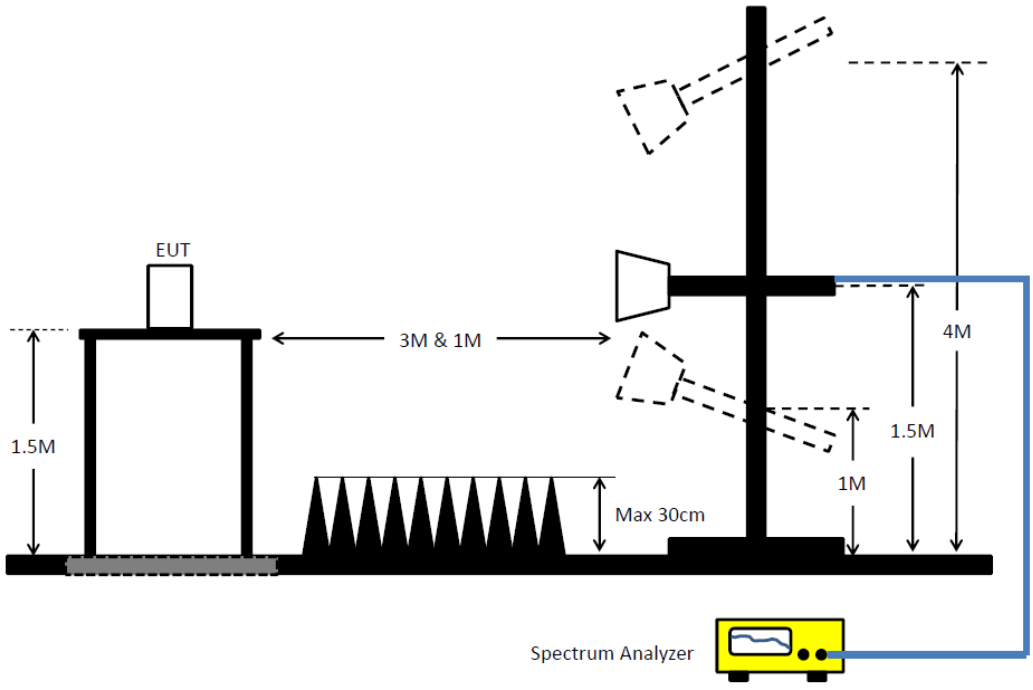
Emissions in Restricted Frequency Bands
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 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.

3.6.6 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
EMC Receiver	R&S	ESR	102051	9KHz ~ 3.6GHz	03/May/2018	02/May/2019
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	17/Nov/2017	16/Nov/2018
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019
AC POWER	APC	AFC-11005G	F310050055	47Hz ~ 63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019

NCR : Non-Calibration Require

Instrument for Radiated Test

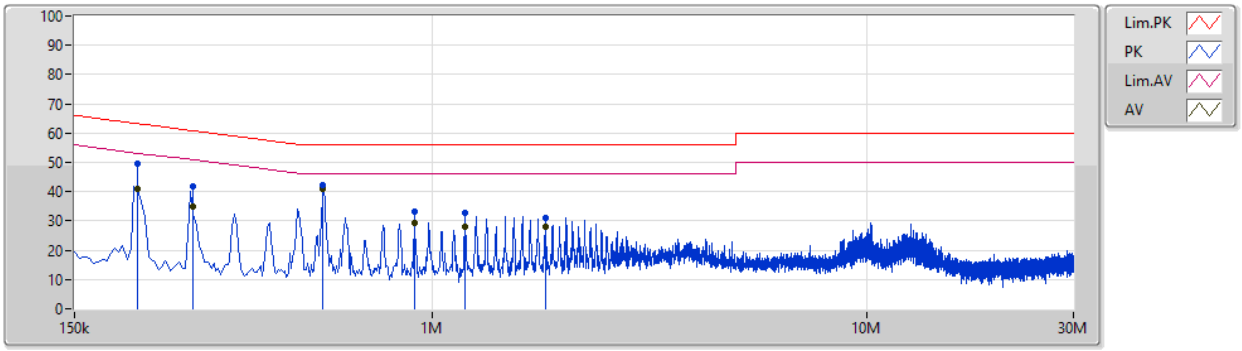
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	23/Apr/2018	22/Apr/2019
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	14/Jun/2018	13/Jun/2019
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	10/May/2018	09/May/2019
Amplifier	EMC	EMC9135	980232	9KHz ~ 1GHz	27/Apr/2018	26/Apr/2019
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	31/Jul/2018	30/Jul/2019
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz ~ 1GHz	02/Oct/2018	03/Oct/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz ~ 18GHz	30/Apr/2018	29/Apr/2019
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz ~ 40GHz	09/Feb/2018	08/Feb/2019
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k ~ 30MHz	29/Mar/2018	28/Mar/2019
RF Cable-R03m	Jye Bao	RG142	CB031	9kHz ~ 1GHz	1/Feb/2018	31/Jan/2019
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	14/Mar/2018	13/Mar/2019
EMC Receiver	R&S	ESR	102051	9KHz ~ 3.6GHz	03/May/2018	02/May/2019

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	18/Jul/2018	17/Jul/2019
Power Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	06/Nov/2017	05/Nov/2018
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	06/Nov/2017	05/Nov/2018
RF Cable-1m	HUBER+SUHNER	MY37332/4	RF Cable - 44	30MHz~1GHz	26/Jan/2018	25/Jan/2019
RF Cable-1m	HUBER+SUHNER	MY37332/4	RF Cable - 44	1GHz~18GHz	26/Jan/2018	25/Jan/2019
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10710/4	30MHz~26.5GHz	26/Jan/2018	25/Jan/2019
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10709/4	30MHz~26.5GHz	26/Jan/2018	25/Jan/2019
Signal Generator	R&S	SMB100A	175727	100kHz~40GHz	26/Oct/2017	25/Oct/2018

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	USB mode		

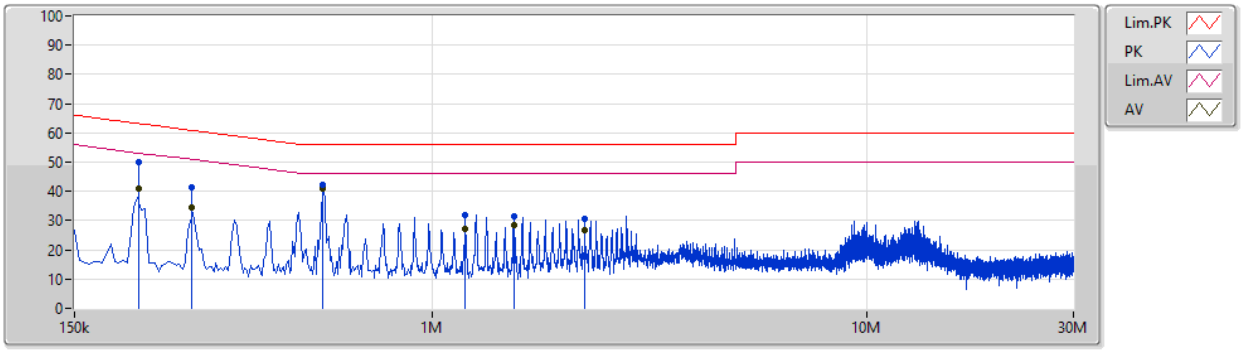
17/10/2018



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	209.546k	49.74	63.23	-13.49	19.50	Neutral	-	30.24	9.62	0.01	9.87
AV	209.546k	41.11	53.23	-12.12	19.50	Neutral	-	21.61	9.62	0.01	9.87
QP	280.243k	41.82	60.80	-18.98	19.54	Neutral	-	22.28	9.62	0.05	9.87
AV	280.243k	34.88	50.80	-15.92	19.54	Neutral	-	15.34	9.62	0.05	9.87
QP	560.119k	42.36	56.00	-13.64	19.55	Neutral	-	22.81	9.61	0.06	9.88
AV	560.119k	40.83	46.00	-5.17	19.55	Neutral	"Worst"	21.28	9.61	0.06	9.88
QP	912.46k	32.99	56.00	-23.01	19.51	Neutral	-	13.48	9.62	0.01	9.88
AV	912.46k	29.37	46.00	-16.63	19.51	Neutral	-	9.86	9.62	0.01	9.88
QP	1.192M	32.58	56.00	-23.42	19.51	Neutral	-	13.07	9.62	0.01	9.88
AV	1.192M	27.89	46.00	-18.11	19.51	Neutral	-	8.38	9.62	0.01	9.88
QP	1.823M	30.87	56.00	-25.13	19.52	Neutral	-	11.35	9.63	0.01	9.88
AV	1.823M	27.87	46.00	-18.13	19.52	Neutral	-	8.35	9.63	0.01	9.88

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	USB mode		

17/10/2018



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	210.651k	50.08	63.17	-13.09	19.50	Line	-	30.58	9.62	0.01	9.87
AV	210.651k	41.04	53.17	-12.13	19.50	Line	-	21.54	9.62	0.01	9.87
QP	279.612k	41.19	60.82	-19.63	19.54	Line	-	21.65	9.62	0.05	9.87
AV	279.612k	34.31	50.82	-16.51	19.54	Line	-	14.77	9.62	0.05	9.87
QP	561.132k	42.34	56.00	-13.66	19.55	Line	-	22.79	9.61	0.06	9.88
AV	561.132k	40.96	46.00	-5.04	19.55	Line	"Worst"	21.41	9.61	0.06	9.88
QP	1.192M	32.11	56.00	-23.89	19.50	Line	-	12.61	9.61	0.01	9.88
AV	1.192M	27.12	46.00	-18.88	19.50	Line	-	7.62	9.61	0.01	9.88
QP	1.542M	31.60	56.00	-24.40	19.51	Line	-	12.09	9.62	0.01	9.88
AV	1.542M	28.55	46.00	-17.45	19.51	Line	-	9.04	9.62	0.01	9.88
QP	2.243M	30.63	56.00	-25.37	19.51	Line	-	11.12	9.62	0.01	9.88
AV	2.243M	26.60	46.00	-19.40	19.51	Line	-	7.09	9.62	0.01	9.88

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
GFSK	856.25k	1.785M	1M79F1D	820k	1.735M

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;

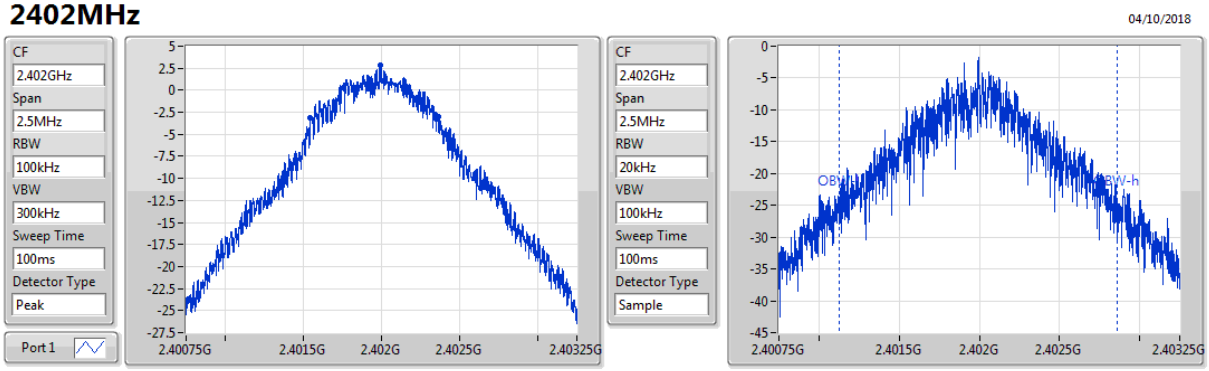
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	500k	821.25k	1.735M
2438MHz_TnomVnom	Pass	500k	820k	1.785M
2478MHz_TnomVnom	Pass	500k	856.25k	1.755M

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

GFSK **EBW**

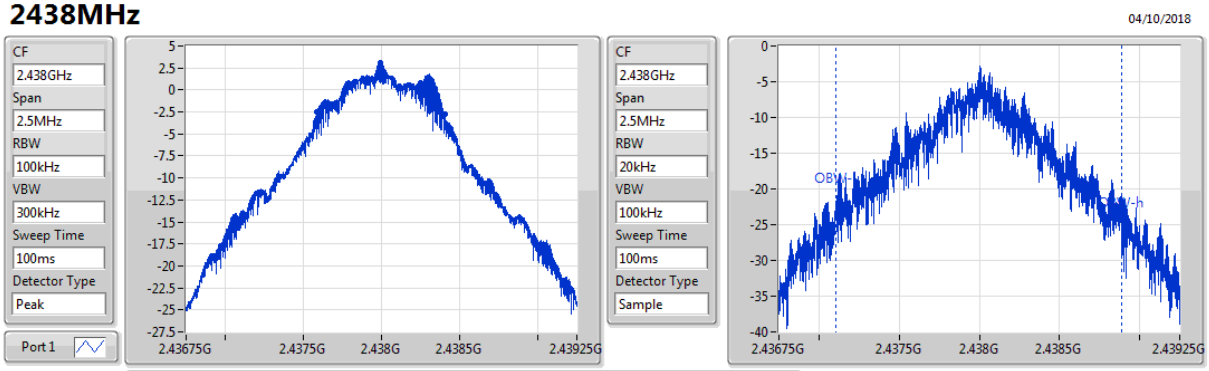
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
821.25k	2.401544G	2.402365G	1.735M	2.401128G	2.402863G	500k	1

GFSK **EBW**

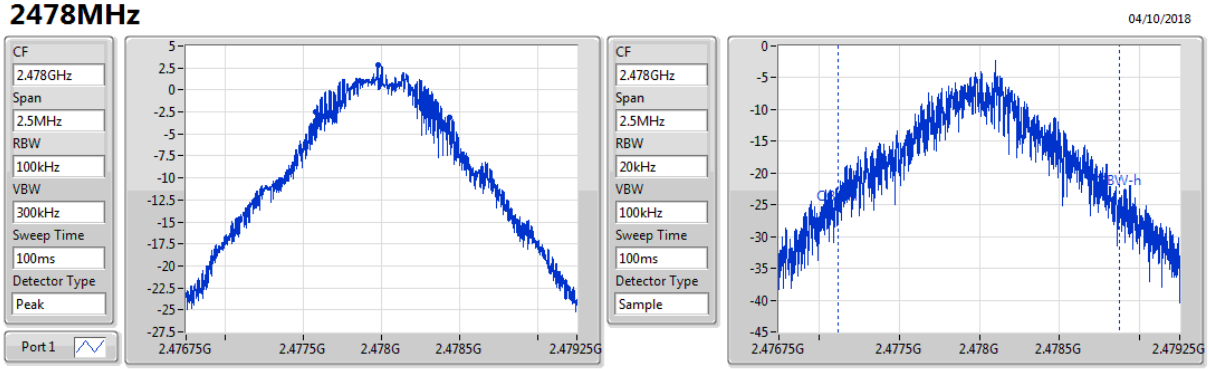
2438MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
820k	2.437585G	2.438405G	1.785M	2.437104G	2.43889G	500k	1

GFSK **EBW**

2478MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
856.25k	2.477579G	2.478435G	1.755M	2.477117G	2.478872G	500k	1

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
GFSK	3.06	0.00202

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	3.80	3.03	30.00
2438MHz_TnomVnom	Pass	3.80	3.06	30.00
2478MHz_TnomVnom	Pass	3.80	2.91	30.00

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
GFSK	-10.57

RBW=3kHz.

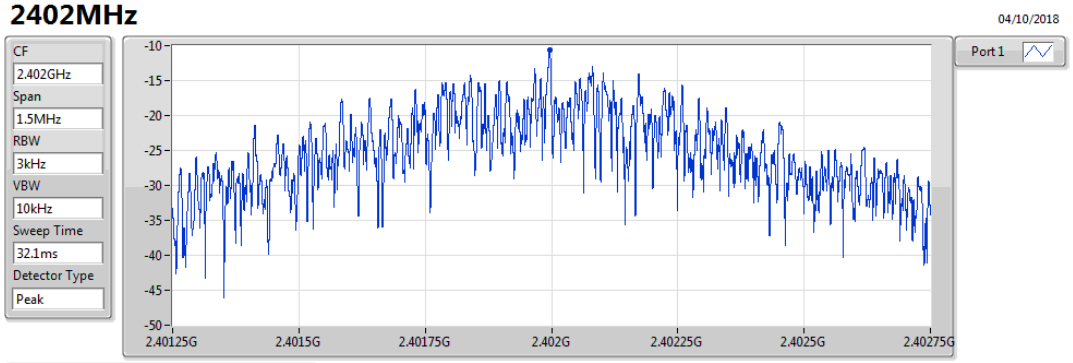
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	3.80	-10.57	8.00
2438MHz_TnomVnom	Pass	3.80	-12.30	8.00
2478MHz_TnomVnom	Pass	3.80	-12.18	8.00

RBW=3kHz.

GFSK **PSD**

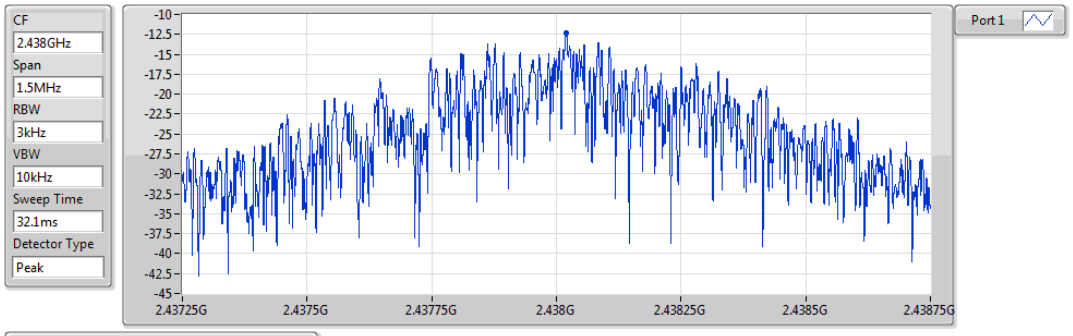
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.57	-10.57	-10.57

GFSK **PSD**

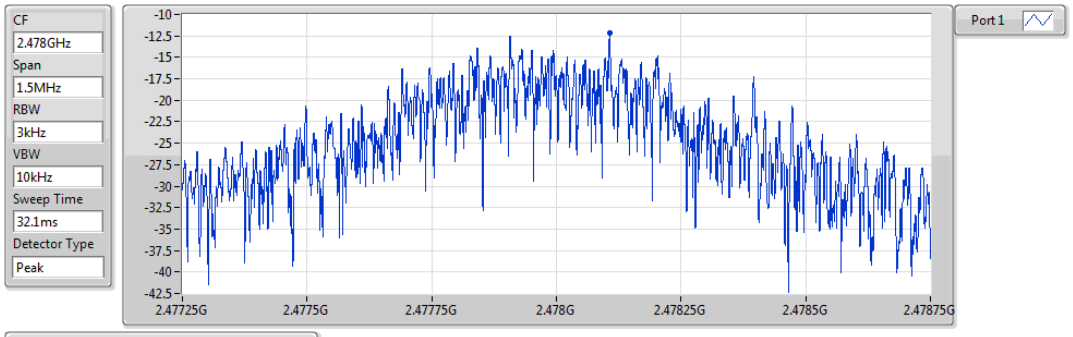
2438MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.30	-12.30	-12.30

GFSK **PSD**

2478MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.18	-12.18	-12.18

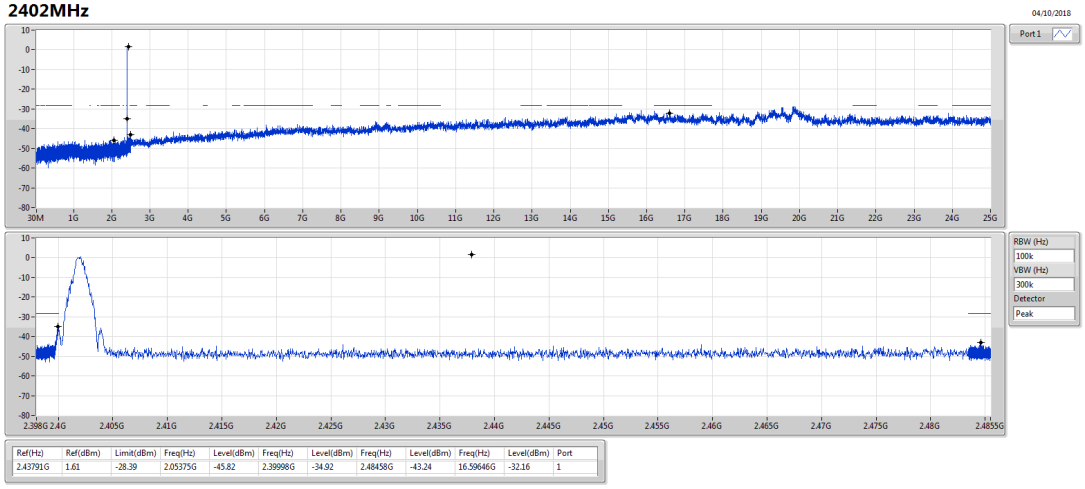
Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
GFSK	Pass	2.43791G	1.61	-28.39	2.1168G	-45.09	2.39879G	-44.46	2.48436G	-44.31	16.25312G	-31.55	1

Result

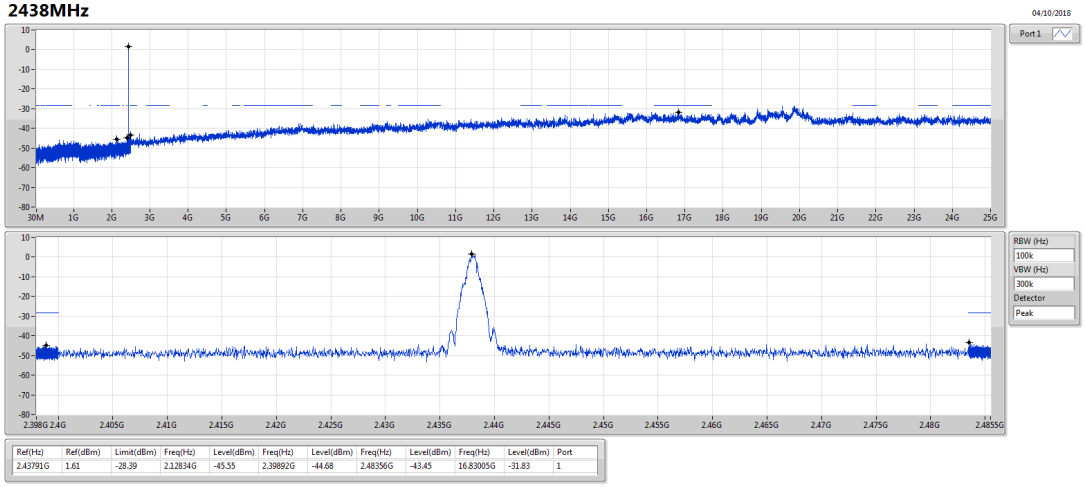
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
GFSK	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.43791G	1.61	-28.39	2.05375G	-45.82	2.39998G	-34.92	2.48458G	-43.24	16.59646G	-32.16	1
2438MHz_TnomVnom	Pass	2.43791G	1.61	-28.39	2.12834G	-45.55	2.39892G	-44.68	2.48356G	-43.45	16.83005G	-31.83	1
2478MHz_TnomVnom	Pass	2.43791G	1.61	-28.39	2.1168G	-45.09	2.39879G	-44.46	2.48436G	-44.31	16.25312G	-31.55	1

GFSK
2402MHz
CSE NdB



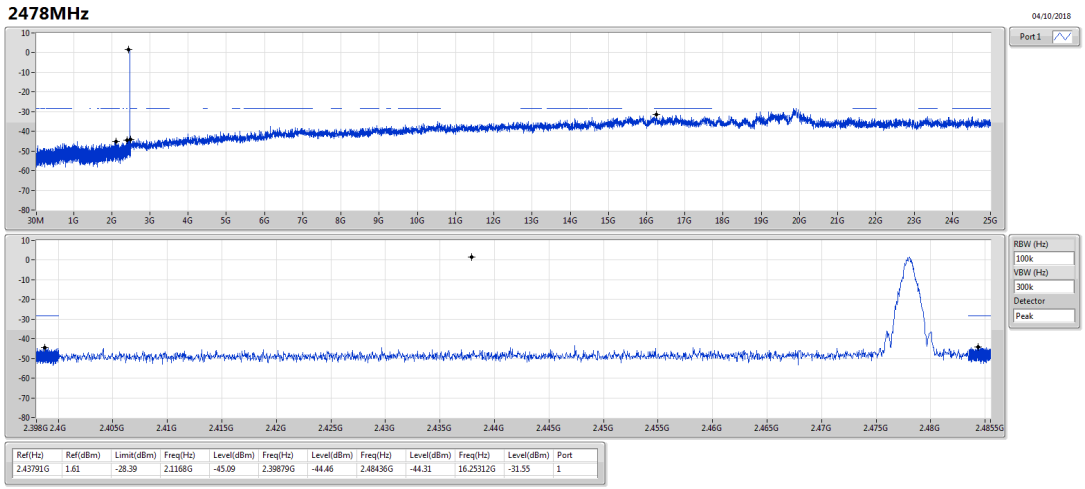
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43791G	1.61	-28.39	2.05375G	-45.82	2.39998G	-34.92	2.48458G	-43.24	16.59646G	-32.16	1

GFSK
2438MHz
CSE NdB



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43791G	1.61	-28.39	2.12834G	-45.55	2.39892G	-44.68	2.48356G	-43.45	16.83005G	-31.83	1

GFSK
2478MHz
CSE NdB



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43791G	1.61	-28.39	2.1168G	-45.09	2.39879G	-44.46	2.48436G	-44.31	16.25312G	-31.55	1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
GFSK	Pass	PK	765.26M	37.32	46.00	-8.68	-8.22	3	Vertical	0	1.00	-

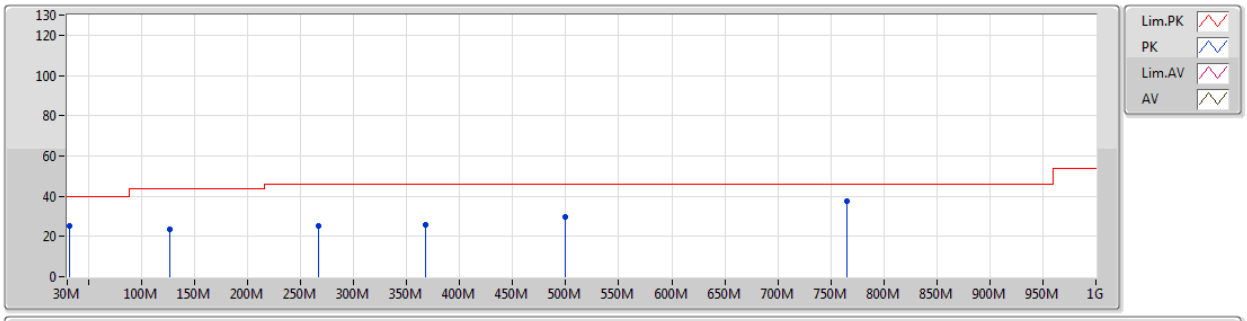
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
GFSK	-	-	-	-	-	-	-	-	-	-	-	-
2438MHz	Pass	PK	31.94M	25.14	40.00	-14.86	-14.36	3	Vertical	0	1.00	-
2438MHz	Pass	PK	127M	23.71	43.50	-19.79	-19.19	3	Vertical	0	1.00	-
2438MHz	Pass	PK	266.68M	25.35	46.00	-20.65	-16.12	3	Vertical	0	1.00	-
2438MHz	Pass	PK	367.56M	26.02	46.00	-19.98	-15.04	3	Vertical	0	1.00	-
2438MHz	Pass	PK	499.48M	29.84	46.00	-16.16	-12.10	3	Vertical	0	1.00	-
2438MHz	Pass	PK	765.26M	37.32	46.00	-8.68	-8.22	3	Vertical	0	1.00	-
2438MHz	Pass	PK	51.34M	26.03	40.00	-13.97	-23.90	3	Horizontal	360	1.00	-
2438MHz	Pass	PK	125.06M	25.00	43.50	-18.50	-19.21	3	Horizontal	360	1.00	-
2438MHz	Pass	PK	280.26M	26.78	46.00	-19.22	-17.10	3	Horizontal	360	1.00	-
2438MHz	Pass	PK	464.56M	28.68	46.00	-17.32	-12.63	3	Horizontal	360	1.00	-
2438MHz	Pass	PK	664.38M	30.53	46.00	-15.47	-10.02	3	Horizontal	360	1.00	-
2438MHz	Pass	PK	771.08M	37.09	46.00	-8.91	-8.18	3	Horizontal	360	1.00	-

GFSK

2438MHz_USB

16/10/2018

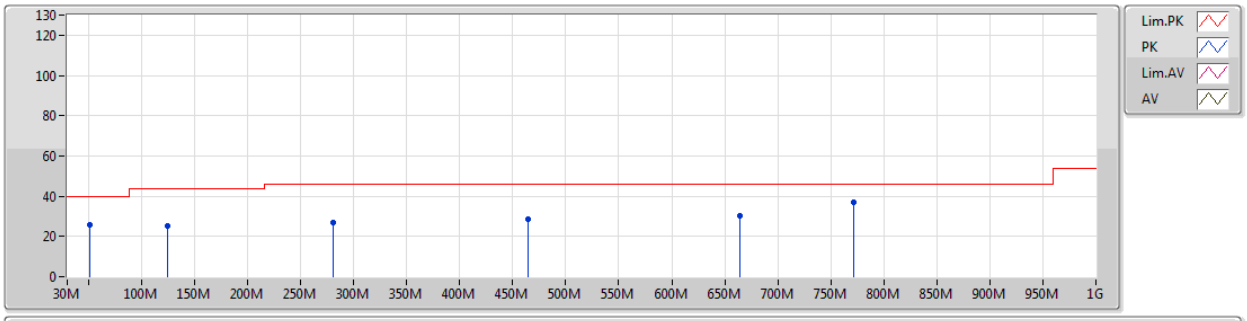


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	31.94M	25.14	40.00	-14.86	-14.36	3	Vertical	0	1.00	-
PK	127M	23.71	43.50	-19.79	-19.19	3	Vertical	0	1.00	-
PK	266.68M	25.35	46.00	-20.65	-16.12	3	Vertical	0	1.00	-
PK	367.56M	26.02	46.00	-19.98	-15.04	3	Vertical	0	1.00	-
PK	499.48M	29.84	46.00	-16.16	-12.10	3	Vertical	0	1.00	-
PK	765.26M	37.32	46.00	-8.68	-8.22	3	Vertical	0	1.00	-

GFSK

2438MHz_USB

16/10/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	51.34M	26.03	40.00	-13.97	-23.90	3	Horizontal	360	1.00	-
PK	125.06M	25.00	43.50	-18.50	-19.21	3	Horizontal	360	1.00	-
PK	280.26M	26.78	46.00	-19.22	-17.10	3	Horizontal	360	1.00	-
PK	464.56M	28.68	46.00	-17.32	-12.63	3	Horizontal	360	1.00	-
PK	664.38M	30.53	46.00	-15.47	-10.02	3	Horizontal	360	1.00	-
PK	771.08M	37.09	46.00	-8.91	-8.18	3	Horizontal	360	1.00	-

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
GFSK	Pass	AV	2.4835G	43.67	54.00	-10.33	30.97	3	Horizontal	357	1.05	-

Result

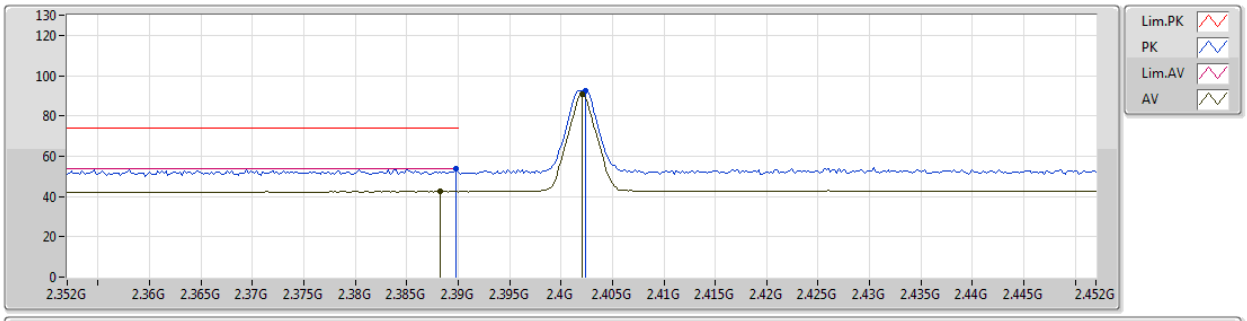
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
GFSK	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3882G	42.46	54.00	-11.54	30.68	3	Vertical	103	1.37	-
2402MHz	Pass	AV	2.402G	90.74	Inf	-Inf	30.72	3	Vertical	103	1.37	-
2402MHz	Pass	PK	2.3898G	53.76	74.00	-20.24	30.69	3	Vertical	103	1.37	-
2402MHz	Pass	PK	2.4024G	92.55	Inf	-Inf	30.73	3	Vertical	103	1.37	-
2402MHz	Pass	AV	2.3898G	42.65	54.00	-11.35	30.69	3	Horizontal	352	1.29	-
2402MHz	Pass	AV	2.402G	99.75	Inf	-Inf	30.72	3	Horizontal	352	1.29	-
2402MHz	Pass	PK	2.3756G	53.75	74.00	-20.25	30.64	3	Horizontal	352	1.29	-
2402MHz	Pass	PK	2.4024G	101.49	Inf	-Inf	30.73	3	Horizontal	352	1.29	-
2402MHz	Pass	AV	4.80416G	40.63	54.00	-13.37	6.49	3	Vertical	0	1.22	-
2402MHz	Pass	PK	4.80452G	49.60	74.00	-24.40	6.49	3	Vertical	0	1.22	-
2402MHz	Pass	AV	4.80406G	38.28	54.00	-15.72	6.49	3	Horizontal	355	1.07	-
2402MHz	Pass	PK	4.8034G	48.62	74.00	-25.38	6.48	3	Horizontal	355	1.07	-
2438MHz	Pass	AV	2.3844G	42.71	54.00	-11.29	30.67	3	Vertical	93	1.59	-
2438MHz	Pass	AV	2.438G	88.95	Inf	-Inf	30.83	3	Vertical	93	1.59	-
2438MHz	Pass	AV	2.4968G	43.23	54.00	-10.77	31.00	3	Vertical	93	1.59	-
2438MHz	Pass	PK	2.3648G	53.51	74.00	-20.49	30.62	3	Vertical	93	1.59	-
2438MHz	Pass	PK	2.4376G	90.87	Inf	-Inf	30.83	3	Vertical	93	1.59	-
2438MHz	Pass	PK	2.4888G	54.08	74.00	-19.92	30.98	3	Vertical	93	1.59	-
2438MHz	Pass	AV	2.3736G	42.98	54.00	-11.02	30.64	3	Horizontal	360	1.10	-
2438MHz	Pass	AV	2.438G	98.48	Inf	-Inf	30.83	3	Horizontal	360	1.10	-
2438MHz	Pass	AV	2.498G	43.17	54.00	-10.83	31.01	3	Horizontal	360	1.10	-
2438MHz	Pass	PK	2.3876G	53.69	74.00	-20.31	30.68	3	Horizontal	360	1.10	-
2438MHz	Pass	PK	2.4376G	100.39	Inf	-Inf	30.83	3	Horizontal	360	1.10	-
2438MHz	Pass	PK	2.4876G	53.73	74.00	-20.27	30.98	3	Horizontal	360	1.10	-
2438MHz	Pass	AV	4.876G	38.47	54.00	-15.53	6.66	3	Vertical	360	1.68	-
2438MHz	Pass	AV	7.31496G	43.05	54.00	-10.95	11.35	3	Vertical	338	2.35	-
2438MHz	Pass	PK	4.87546G	47.12	74.00	-26.88	6.66	3	Vertical	360	1.68	-
2438MHz	Pass	PK	7.3152G	53.68	74.00	-20.32	11.35	3	Vertical	338	2.35	-
2438MHz	Pass	AV	4.87606G	36.67	54.00	-17.33	6.66	3	Horizontal	42	1.02	-
2438MHz	Pass	AV	7.31496G	39.79	54.00	-14.21	11.35	3	Horizontal	348	1.15	-
2438MHz	Pass	PK	4.87666G	47.06	74.00	-26.94	6.67	3	Horizontal	42	1.02	-
2438MHz	Pass	PK	7.3128G	51.56	74.00	-22.44	11.34	3	Horizontal	348	1.15	-
2478MHz	Pass	AV	2.478G	86.44	Inf	-Inf	30.95	3	Vertical	99	1.49	-
2478MHz	Pass	AV	2.4848G	43.37	54.00	-10.63	30.97	3	Vertical	99	1.49	-
2478MHz	Pass	PK	2.478G	88.22	Inf	-Inf	30.95	3	Vertical	99	1.49	-
2478MHz	Pass	PK	2.4906G	53.99	74.00	-20.01	30.99	3	Vertical	99	1.49	-
2478MHz	Pass	AV	2.478G	96.64	Inf	-Inf	30.95	3	Horizontal	357	1.05	-
2478MHz	Pass	AV	2.4835G	43.67	54.00	-10.33	30.97	3	Horizontal	357	1.05	-
2478MHz	Pass	PK	2.4776G	98.41	Inf	-Inf	30.95	3	Horizontal	357	1.05	-
2478MHz	Pass	PK	2.4836G	54.64	74.00	-19.36	30.97	3	Horizontal	357	1.05	-
2478MHz	Pass	AV	4.95588G	37.67	54.00	-16.33	6.85	3	Vertical	1	1.50	-
2478MHz	Pass	AV	7.43298G	42.33	54.00	-11.67	11.62	3	Vertical	36	1.13	-
2478MHz	Pass	PK	4.95594G	47.14	74.00	-26.86	6.85	3	Vertical	1	1.50	-
2478MHz	Pass	PK	7.43436G	53.46	74.00	-20.54	11.62	3	Vertical	36	1.13	-
2478MHz	Pass	AV	4.956G	36.87	54.00	-17.13	6.85	3	Horizontal	357	1.50	-
2478MHz	Pass	AV	7.43304G	39.09	54.00	-14.91	11.62	3	Horizontal	342	2.11	-
2478MHz	Pass	PK	4.95684G	47.38	74.00	-26.62	6.85	3	Horizontal	357	1.50	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2478MHz	Pass	PK	7.42446G	51.88	74.00	-22.12	11.59	3	Horizontal	342	2.11	-

GFSK

2402MHz_TX

04/10/2018

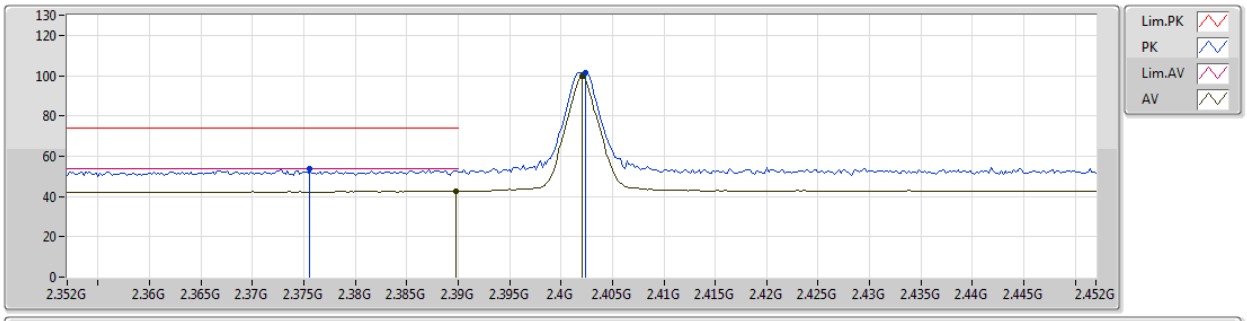


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3882G	42.46	54.00	-11.54	30.68	3	Vertical	103	1.37	-
AV	2.402G	90.74	Inf	-Inf	30.72	3	Vertical	103	1.37	-
PK	2.3898G	53.76	74.00	-20.24	30.69	3	Vertical	103	1.37	-
PK	2.4024G	92.55	Inf	-Inf	30.73	3	Vertical	103	1.37	-

GFSK

2402MHz_TX

04/10/2018

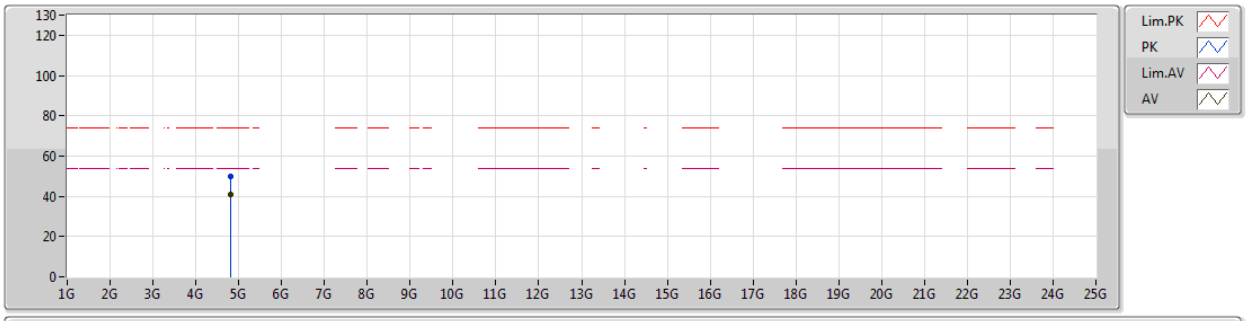


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3898G	42.65	54.00	-11.35	30.69	3	Horizontal	352	1.29	-
AV	2.402G	99.75	Inf	-Inf	30.72	3	Horizontal	352	1.29	-
PK	2.3756G	53.75	74.00	-20.25	30.64	3	Horizontal	352	1.29	-
PK	2.4024G	101.49	Inf	-Inf	30.73	3	Horizontal	352	1.29	-

GFSK

2402MHz_TX

04/10/2018

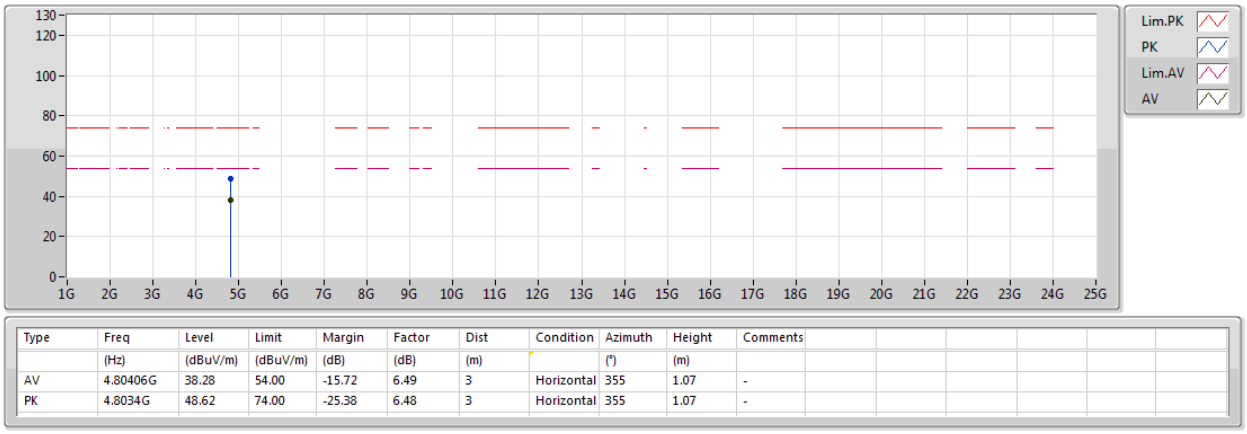


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.80416G	40.63	54.00	-13.37	6.49	3	Vertical	0	1.22	-
PK	4.80452G	49.60	74.00	-24.40	6.49	3	Vertical	0	1.22	-

GFSK

2402MHz_TX

04/10/2018

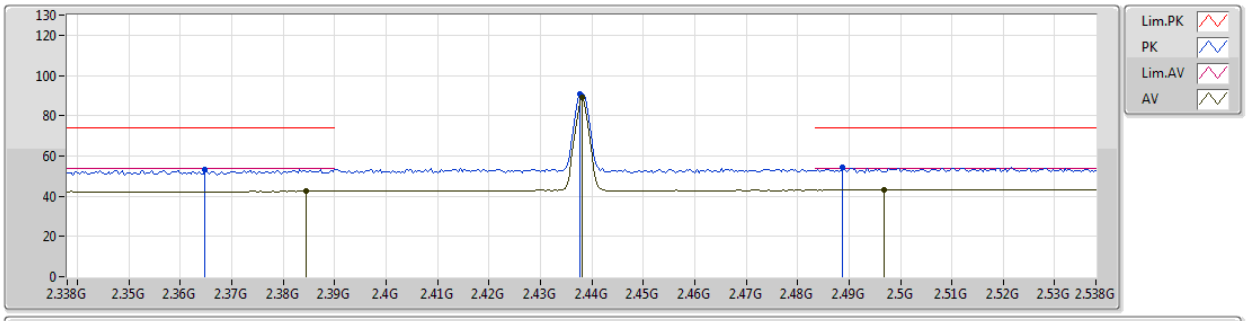


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.80406G	38.28	54.00	-15.72	6.49	3	Horizontal	355	1.07	-
PK	4.8034G	48.62	74.00	-25.38	6.48	3	Horizontal	355	1.07	-

GFSK

2438MHz_TX

04/10/2018

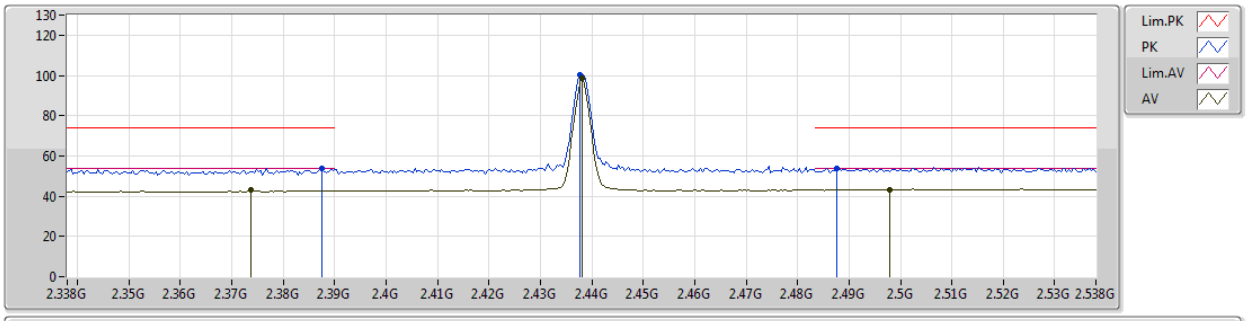


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3844G	42.71	54.00	-11.29	30.67	3	Vertical	93	1.59	-
AV	2.438G	88.95	Inf	-Inf	30.83	3	Vertical	93	1.59	-
AV	2.4968G	43.23	54.00	-10.77	31.00	3	Vertical	93	1.59	-
PK	2.3648G	53.51	74.00	-20.49	30.62	3	Vertical	93	1.59	-
PK	2.4376G	90.87	Inf	-Inf	30.83	3	Vertical	93	1.59	-
PK	2.4888G	54.08	74.00	-19.92	30.98	3	Vertical	93	1.59	-

GFSK

2438MHz_TX

04/10/2018

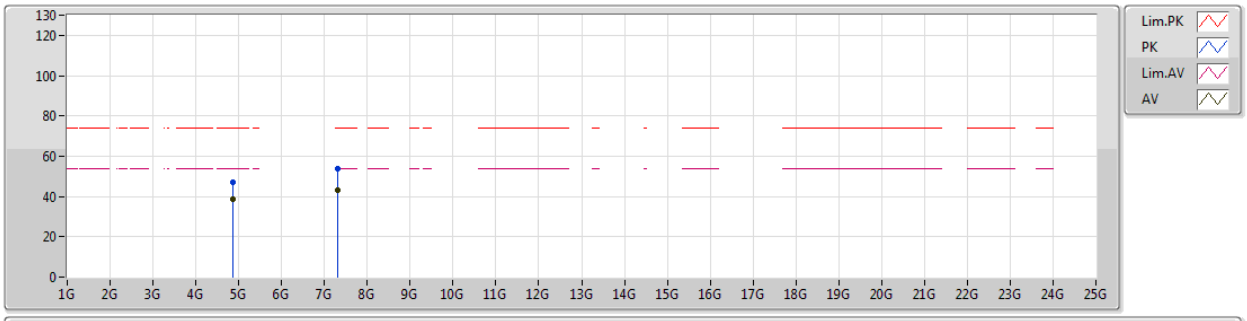


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3736G	42.98	54.00	-11.02	30.64	3	Horizontal	360	1.10	-
AV	2.438G	98.48	Inf	-Inf	30.83	3	Horizontal	360	1.10	-
AV	2.498G	43.17	54.00	-10.83	31.01	3	Horizontal	360	1.10	-
PK	2.3876G	53.69	74.00	-20.31	30.68	3	Horizontal	360	1.10	-
PK	2.4376G	100.39	Inf	-Inf	30.83	3	Horizontal	360	1.10	-
PK	2.4876G	53.73	74.00	-20.27	30.98	3	Horizontal	360	1.10	-

GFSK

2438MHz_TX

04/10/2018

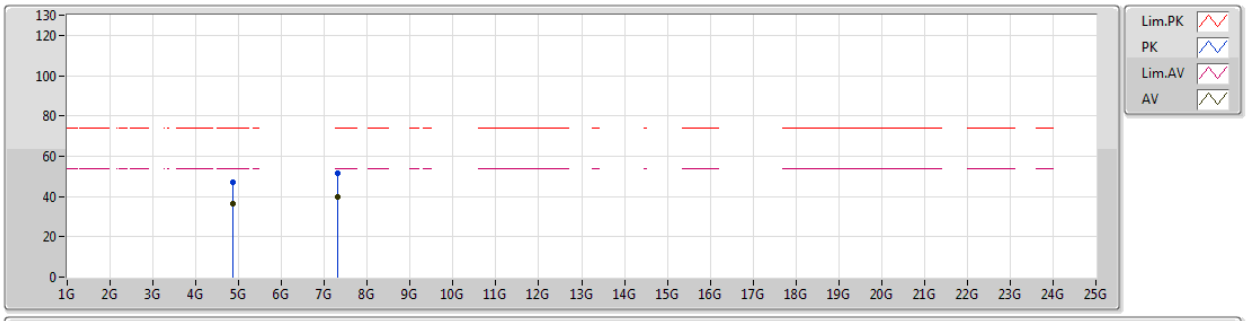


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.876G	38.47	54.00	-15.53	6.66	3	Vertical	360	1.68	-
AV	7.31496G	43.05	54.00	-10.95	11.35	3	Vertical	338	2.35	-
PK	4.87546G	47.12	74.00	-26.88	6.66	3	Vertical	360	1.68	-
PK	7.3152G	53.68	74.00	-20.32	11.35	3	Vertical	338	2.35	-

GFSK

2438MHz_TX

04/10/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.87606G	36.67	54.00	-17.33	6.66	3	Horizontal	42	1.02	-
AV	7.31496G	39.79	54.00	-14.21	11.35	3	Horizontal	348	1.15	-
PK	4.87666G	47.06	74.00	-26.94	6.67	3	Horizontal	42	1.02	-
PK	7.3128G	51.56	74.00	-22.44	11.34	3	Horizontal	348	1.15	-

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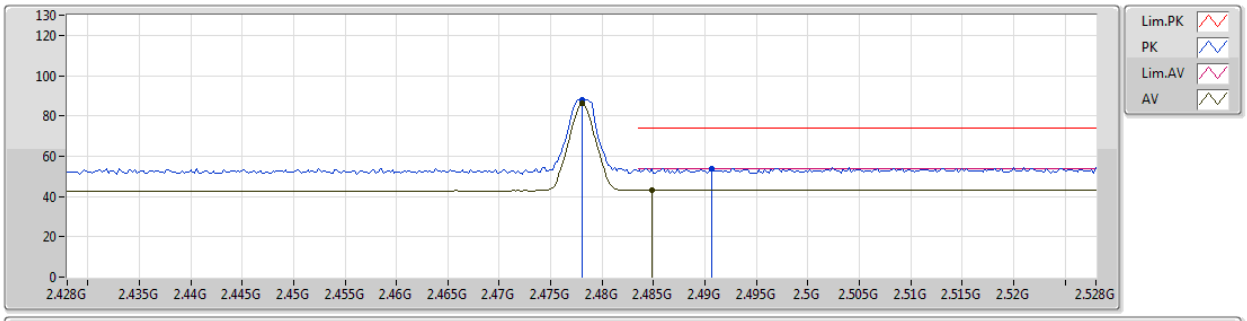
2478MHz_TX

04/10/2018

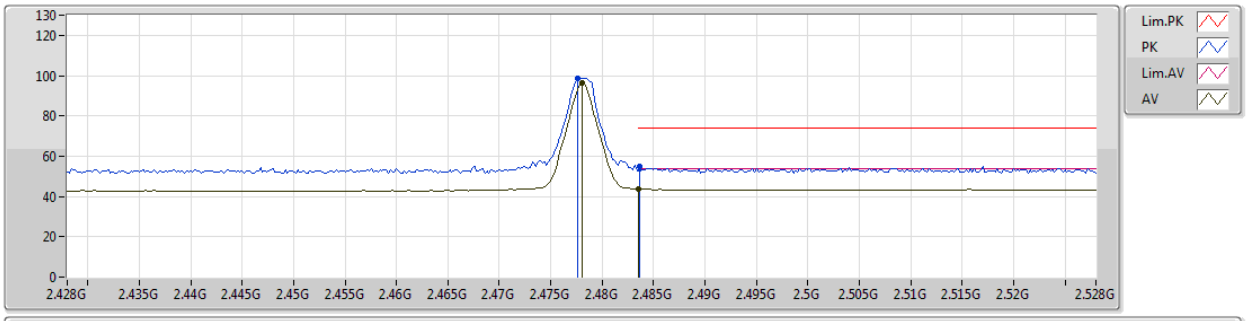


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.478G	86.44	Inf	-Inf	30.95	3	Vertical	99	1.49	-
AV	2.4848G	43.37	54.00	-10.63	30.97	3	Vertical	99	1.49	-
PK	2.478G	88.22	Inf	-Inf	30.95	3	Vertical	99	1.49	-
PK	2.4906G	53.99	74.00	-20.01	30.99	3	Vertical	99	1.49	-

GFSK

2478MHz_TX

04/10/2018

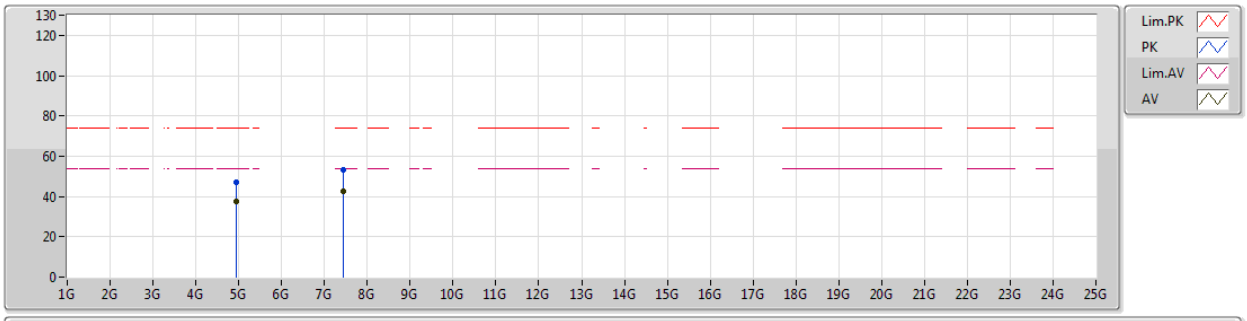


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.478G	96.64	Inf	-Inf	30.95	3	Horizontal	357	1.05	-
AV	2.4835G	43.67	54.00	-10.33	30.97	3	Horizontal	357	1.05	-
PK	2.4776G	98.41	Inf	-Inf	30.95	3	Horizontal	357	1.05	-
PK	2.4836G	54.64	74.00	-19.36	30.97	3	Horizontal	357	1.05	-

GFSK

2478MHz_TX

04/10/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.95588G	37.67	54.00	-16.33	6.85	3	Vertical	1	1.50	-
AV	7.43298G	42.33	54.00	-11.67	11.62	3	Vertical	36	1.13	-
PK	4.95594G	47.14	74.00	-26.86	6.85	3	Vertical	1	1.50	-
PK	7.43436G	53.46	74.00	-20.54	11.62	3	Vertical	36	1.13	-

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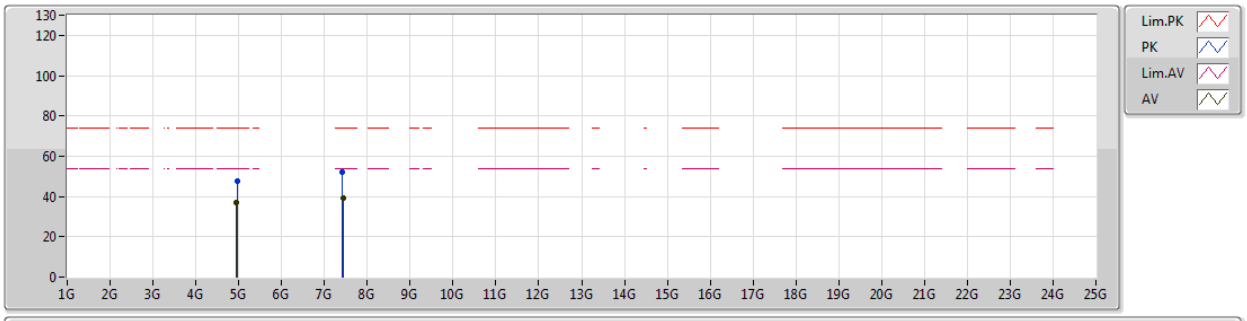
2478MHz_TX

04/10/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.956G	36.87	54.00	-17.13	6.85	3	Horizontal	357	1.50	-
AV	7.43304G	39.09	54.00	-14.91	11.62	3	Horizontal	342	2.11	-
PK	4.95684G	47.38	74.00	-26.62	6.85	3	Horizontal	357	1.50	-
PK	7.42446G	51.88	74.00	-22.12	11.59	3	Horizontal	342	2.11	-