FCC Test Report

FCC ID	:	**X8Y600**
Equipment	:	**Swiftpoint G4 Computer Mouse**
Brand Name	:	**SWIFTPOINT**
Model Name	:	**600；601；602；603**
Applicant	:	**Swiftpoint Limited 77 Montreal St. Christchurch 8023 New Zealand**
Manufacturer	:	**Swiftpoint Limited 77 Montreal St. Christchurch 8023 New Zealand**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jul. 26, 2018, and testing was started from Sep. 10, 2018 and completed on Sep. 11, 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.

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
FR872303AC	01	Initial issue of report	Sep. 28, 2018
FR872303AC	02	Equipment name and Applicant/ Manufacturer address was revised	Oct. 19, 2018
FR872303AC	03	Revise typo	Nov. 07, 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

Reviewed by: Sam Tsai

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Modulation	Ch. Frequency (MHz)	Channel Number
2400-2483.5	GFSK	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	GFSK	2.0	1TX

Frequency Range (MHz)	Channel No.	Frequency	Channel No.	Frequency	Channel No.	Frequency	Channel No.	Frequency
2.4-2.4835GHz	0	2402	11	2424	22	2446	33	2468
	1	2404	12	2426	23	2448	34	2470
	2	2406	13	2428	24	2450	35	2472
	3	2408	14	2430	25	2452	36	2474
	4	2410	15	2432	26	2454	37	2476
	5	2412	16	2434	27	2456	38	2478
	6	2414	17	2436	28	2458	39	2480
	7	2416	18	2438	29	2460	-	-
	8	2418	19	2440	30	2462	-	-
	9	2420	20	2442	31	2464	-	-
	10	2422	21	2444	32	2466	-	-

Note:
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector
1	1	SWIFTPOINT	Antenna for Swiftpoint G4 Computer Mouse	PCB Antenna	fixed on board

Ant.	Gain (dBi)	
	SRD 2.4G	BTLE
1	-0.16	-0.16

For SRD 2.4GHz function:

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

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

For BT function:

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

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

1.1.3 Table for Multiple Listing

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

Brand Name	Model Name	BUTTON	Description
SWIFTPOINT	600	3	All the models are electrically identical, the difference model for difference brand and button served as marketing strategy.
SWIFTPOINT	601	2	
SWIFTPOINT	602	2	
SWIFTPOINT	603	2	

1.1.4 EUT Information

Operational Condition				
EUT Power Type	From Battery / 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:	

1.1.5 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
GFSK	0.153	8.153	95.313u	10k

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
RF Conducted	TH01-HY	Barry	23.5°C / 65%	11/Sep/2018
Radiated	03CH03-HY	Justin	23.5°C / 60.3%	10/Sep/2018
AC Conduction	CO04-HY	Jerry	24.5°C / 55.5%	11/Sep/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 ℃	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	3.3V

2.2 Test Channel Mode

Test Software Version	YAT & nRFgo Studio v1.21.2.10

Mode	PowerSetting
GFSK	-
2402MHz	default
2440MHz	default
2480MHz	default

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

2.4 Accessories and Support Equipment

Accessories				
Battery	**Power Rating**	3.7Vdc, 120 mAh	**Type**	Li-ion Polymer Battery, Y

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

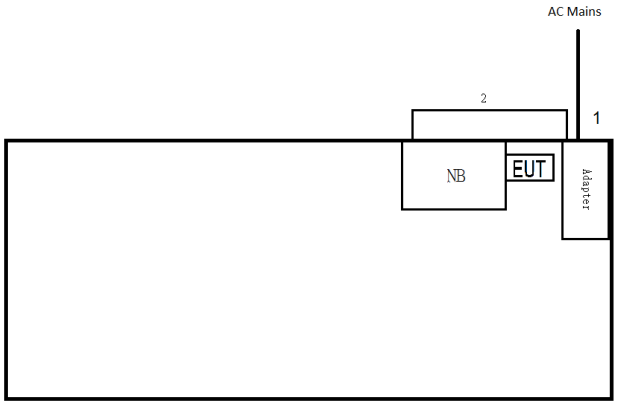
Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	R33002 / DOC
2	Adapter for NB	DELL	HA65NM130	R35737 / DOC
3	DC Power Supply	GW	GPS-3030DD	-
4	fixture	-	-	-

Note.Support equipment No.4 was provided by customer.

Support Equipment – AC Conduction				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	HP	5220m	-
2	AC adapter for NB	DELL	AD-90195D	-

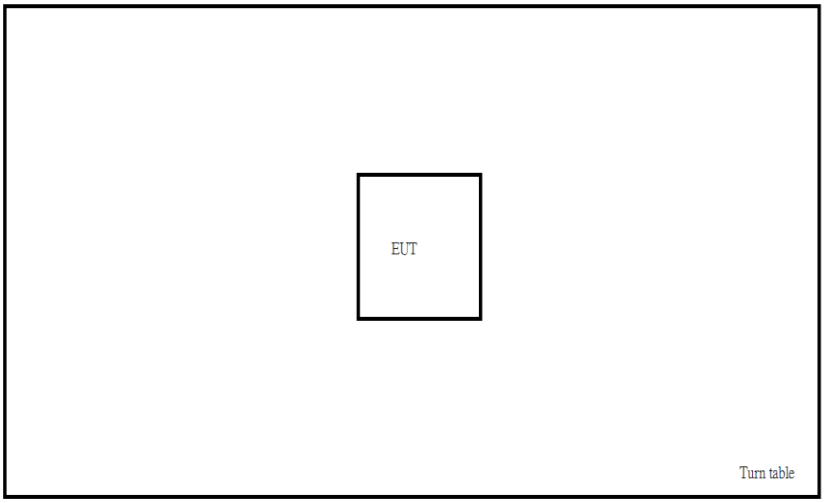
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.7	-
2	DC Power line	No	1.5	-

Test Setup Diagram - Radiated Test



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

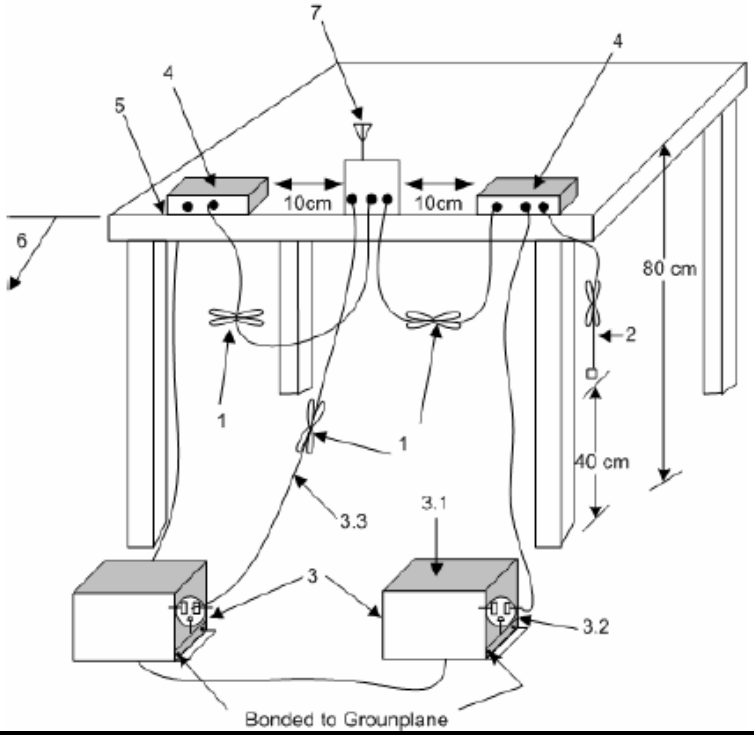
Refer a test equipment and calibration data table in this test report.

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 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.

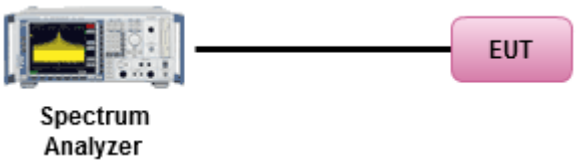
3.2.2 Measuring Instruments

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 $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)		
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm		
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm		
	▪ Smart antenna system (SAS):		
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)		
	▪ Point-to-point systems (P2P): $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX}])$ dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Overlap beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8])$ dBm	
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.			

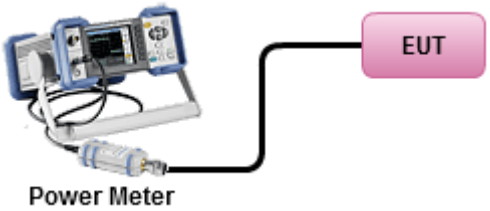
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	☐ Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	☐ Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
▪ Maximum Average Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	☒ Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

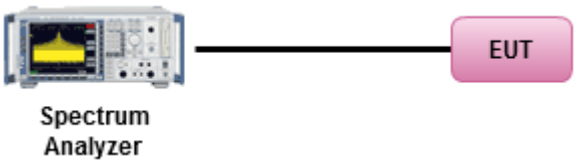
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) 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.	

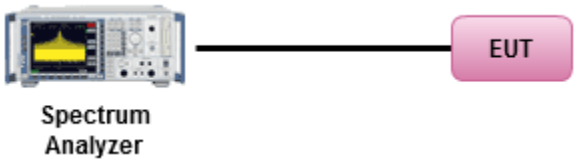
3.5.2 Measuring Instruments

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 below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

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

3.6.2 Measuring Instruments

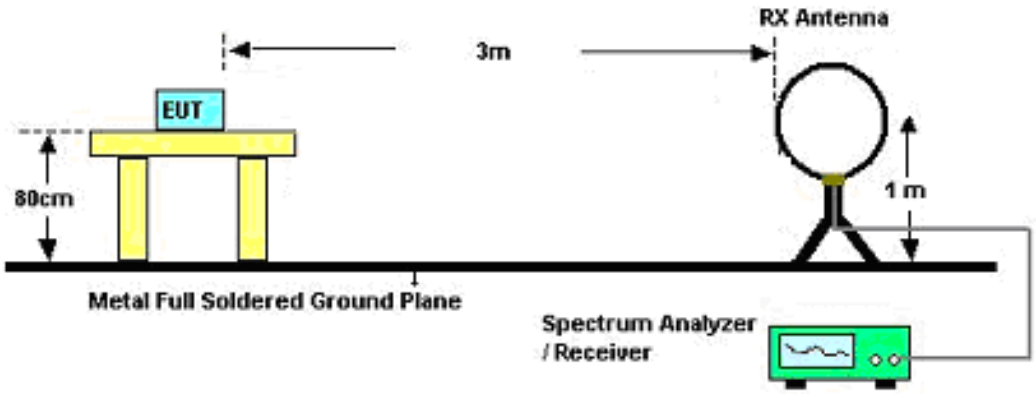
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

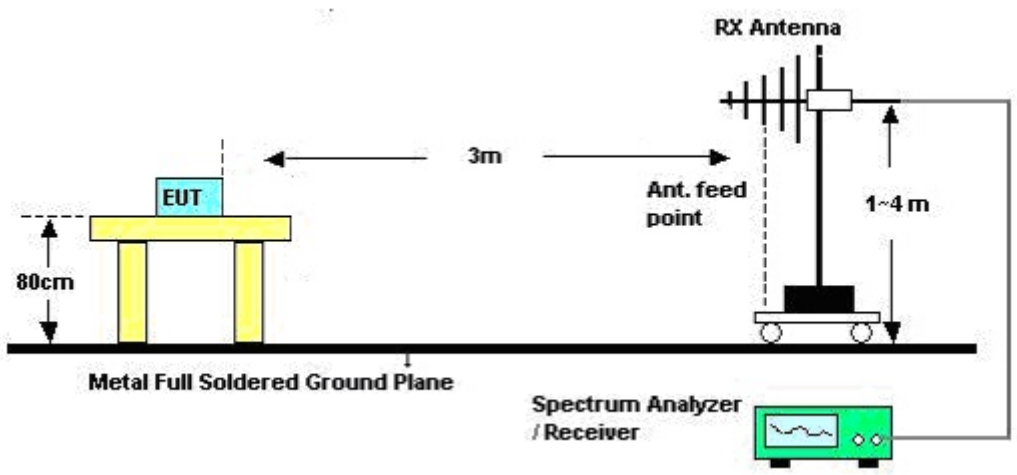
Test Method	
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪ For the transmitter band-edge emissions shall be measured using following options below:	
	▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).

3.6.4 Test Setup

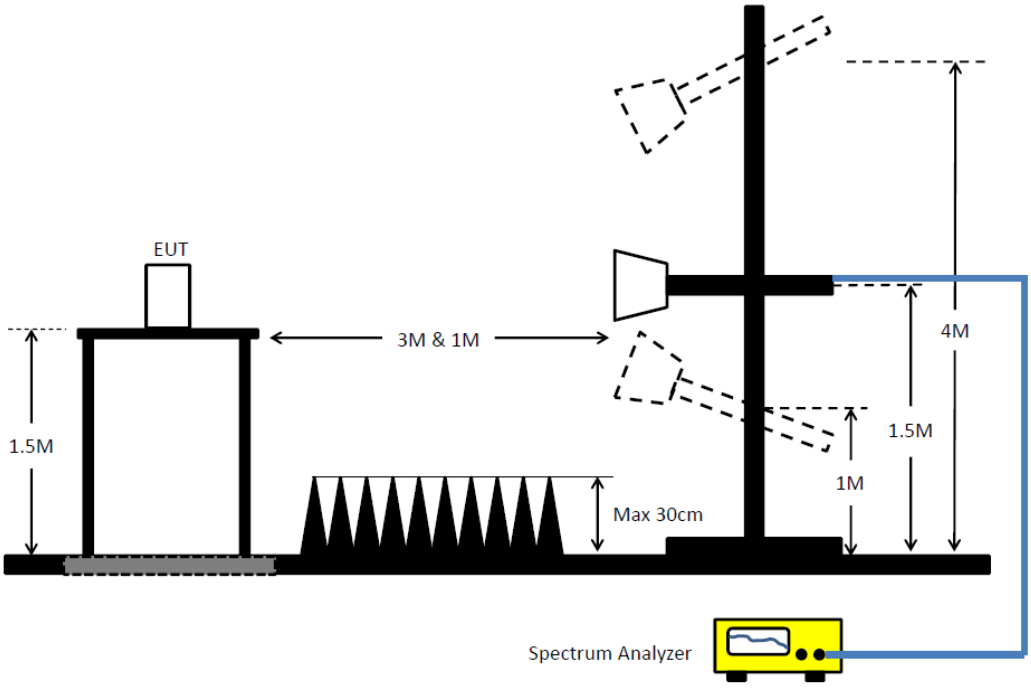
Emissions in Restricted Frequency Bands
9kHz ~30MHz



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 Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	9kHz~40GHz	29/Dec/2017	28/Dec/2018
Signal Generator	R&S	SMR 40	100116	10MHz ~ 40GHz	23/Jul/2018	22/Jul/2019
Pulse Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	27/Feb/2018	26/Feb/2019
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	27/Feb/2018	26/Feb/2019
CABLE 0.2m	HUBER	MY37960/4	RF Cable - 17	1 to 18GHz	17/Jan/2018	16/Jan/2019
CABLE 0.2m	HUBER	MY37960/4	RF Cable - 17	30 to 1000MHz	17/Jan/2018	16/Jan/2019
CABLE 0.5m	HUBER	MY37963/4	RF Cable - 22	1 to 18GHz	17/Jan/2018	16/Jan/2019

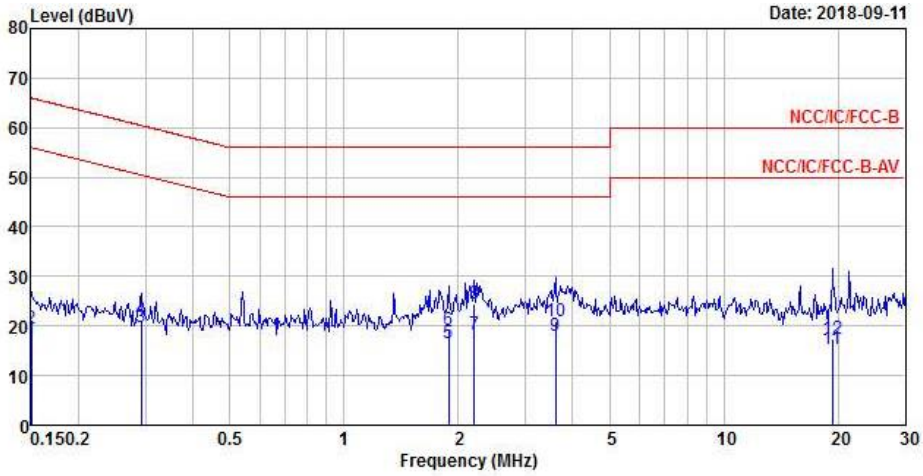
Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	31/Oct/2017	30/Oct/2018
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	01/Nov/2017	31/Oct/2018
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	23/Apr/2018	19/Apr/2019
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	30/Aug/2018	29/Aug/2019
Signal Analyzer	R&S	FSP40	100305	10Hz ~ 40GHz	04/Jan/2018	03/Jan/2019
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	29/Jan/2018	28/Jan/2019
RF Cable-high	SUHNER	SUCOFLEX 106	CB222	1GHz ~ 40GHz	29/Jan/2018	28/Jan/2019
Bilog Antenna & 5db Attenuator	SCHAFFNER/MTJ	CBL6112D / MTJ6102-05	2678 / 001	30MHz ~ 2GHz	07/July/2017	06/July/2019
Receiver	R&S	ESCS 30	100354	9kHz ~ 2.75GHz	08/Dec/2017	07/Dec/2018
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz ~ 40GHz	06/Feb/ 2018	05/Feb/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz ~ 18GHz	18/Apr/ 2018	17/Apr/2019

Instrument for Conduction Test

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	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	06/Oct/2017	05/Oct/2018
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Puls e Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2017	11/Oct/2018

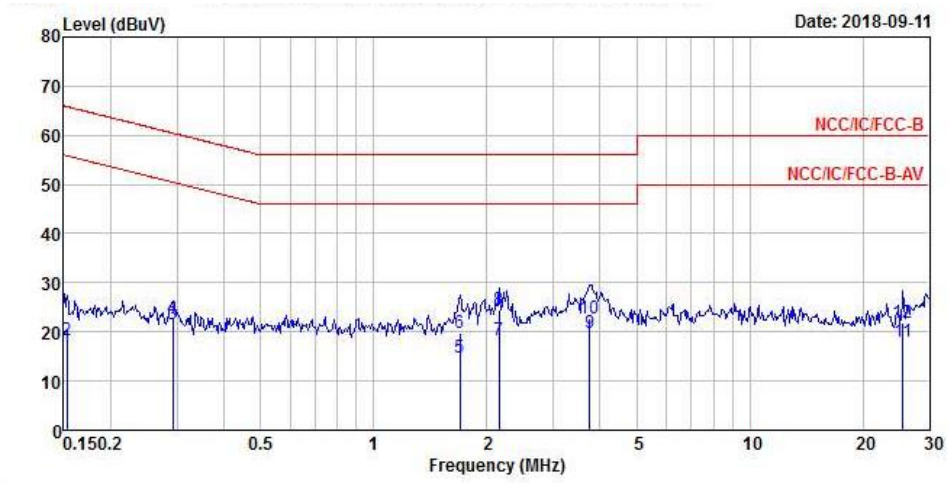
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	USB mode		



		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	17.41	-38.59	56.00	7.74	9.63	0.04	Average
2		0.15	19.42	-46.58	66.00	9.75	9.63	0.04	QP
3		0.29	19.65	-30.81	50.46	9.99	9.61	0.05	Average
4		0.29	21.39	-39.07	60.46	11.73	9.61	0.05	QP
5		1.89	16.59	-29.41	46.00	6.96	9.63	0.00	Average
6		1.89	19.19	-36.81	56.00	9.56	9.63	0.00	QP
7	MAX	2.20	18.37	-27.63	46.00	8.73	9.63	0.01	Average
8		2.20	24.53	-31.47	56.00	14.89	9.63	0.01	QP
9		3.60	18.06	-27.94	46.00	8.35	9.64	0.07	Average
10		3.60	21.02	-34.98	56.00	11.31	9.64	0.07	QP
11		19.33	15.25	-34.75	50.00	5.36	9.71	0.18	Average
12		19.33	17.45	-42.55	60.00	7.56	9.71	0.18	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

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



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	16.78	-39.04	55.82	7.12	9.62	0.04	Average
2	0.15	18.30	-47.52	65.82	8.64	9.62	0.04	QP
3	0.29	21.44	-29.02	50.46	11.78	9.61	0.05	Average
4	0.29	22.73	-37.73	60.46	13.07	9.61	0.05	QP
5	1.70	14.90	-31.10	46.00	5.28	9.62	0.00	Average
6	1.70	19.69	-36.31	56.00	10.07	9.62	0.00	QP
7	2.16	18.19	-27.81	46.00	8.56	9.62	0.01	Average
8	2.16	24.61	-31.39	56.00	14.98	9.62	0.01	QP
9 MAX	3.76	19.83	-26.17	46.00	10.12	9.63	0.08	Average
10	3.76	22.78	-33.22	56.00	13.07	9.63	0.08	QP
11	25.59	18.07	-31.93	50.00	8.48	9.55	0.04	Average
12	25.59	21.84	-38.16	60.00	12.25	9.55	0.04	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
GFSK	772.5k	1.644M	1M64F1D	727.5k	1.477M

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

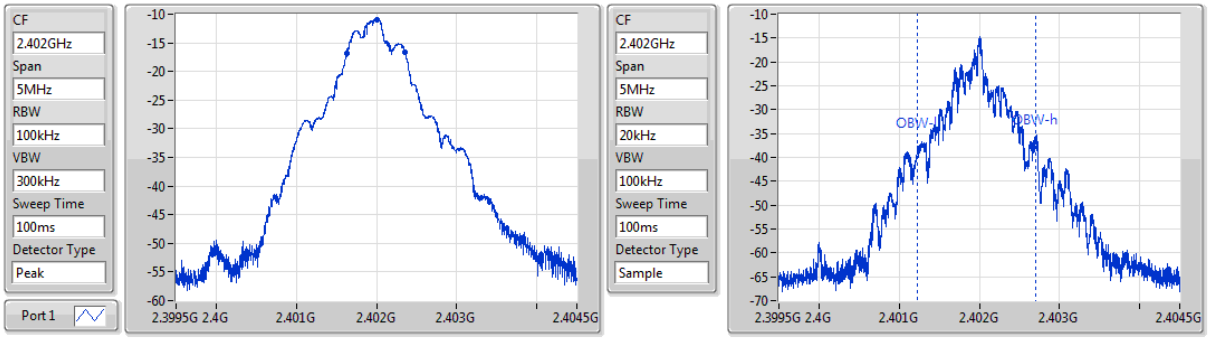
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	500k	727.5k	1.477M
2440MHz_TnomVnom	Pass	500k	760k	1.494M
2480MHz_TnomVnom	Pass	500k	772.5k	1.644M

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

GFSK **EBW**

2402MHz

11/09/2018

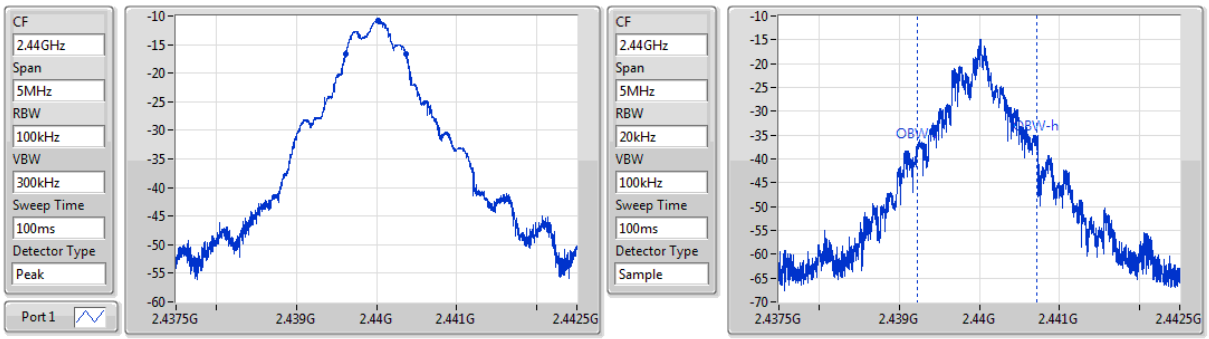


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
727.5k	2.401633G	2.40236G	1.477M	2.401233G	2.40271G	500k	1

GFSK **EBW**

2440MHz

11/09/2018

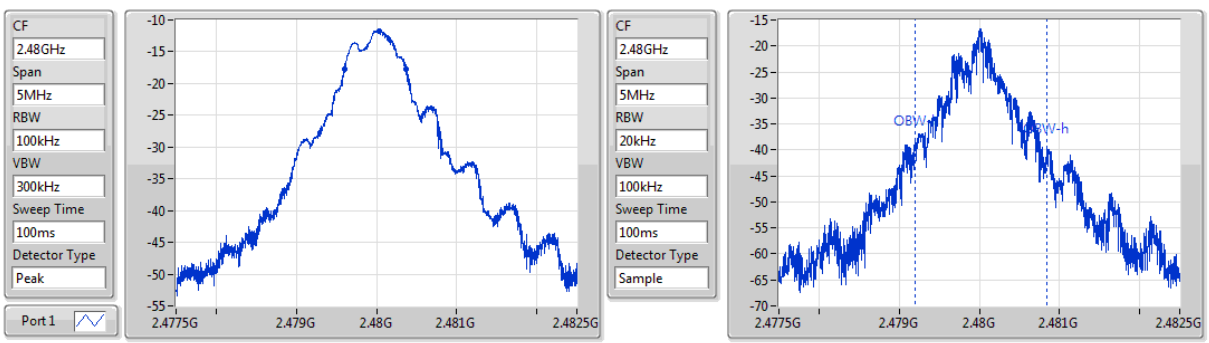


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
760k	2.439613G	2.440373G	1.494M	2.439223G	2.440717G	500k	1

GFSK **EBW**

2480MHz

11/09/2018



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
772.5k	2.4796G	2.480373G	1.644M	2.479198G	2.480842G	500k	1

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
GFSK	-18.60	0.00001

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	-0.16	-18.60	30.00
2440MHz_TnomVnom	Pass	-0.16	-18.69	30.00
2480MHz_TnomVnom	Pass	-0.16	-19.27	30.00

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
GFSK	-26.57

RBW=3kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
GFSK	-	-	-	-
2402MHz_TnomVnom	Pass	-0.16	-26.57	8.00
2440MHz_TnomVnom	Pass	-0.16	-27.16	8.00
2480MHz_TnomVnom	Pass	-0.16	-29.24	8.00

RBW=3kHz.

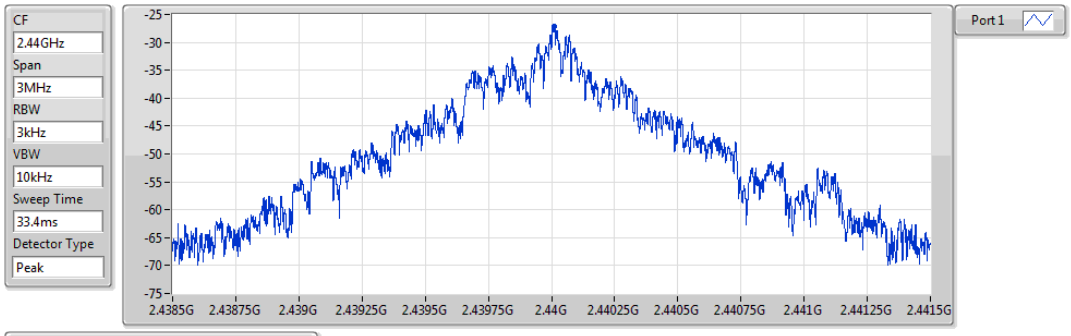
GFSK **PSD**

2402MHz

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-26.57	-26.57	-26.57

GFSK **PSD**

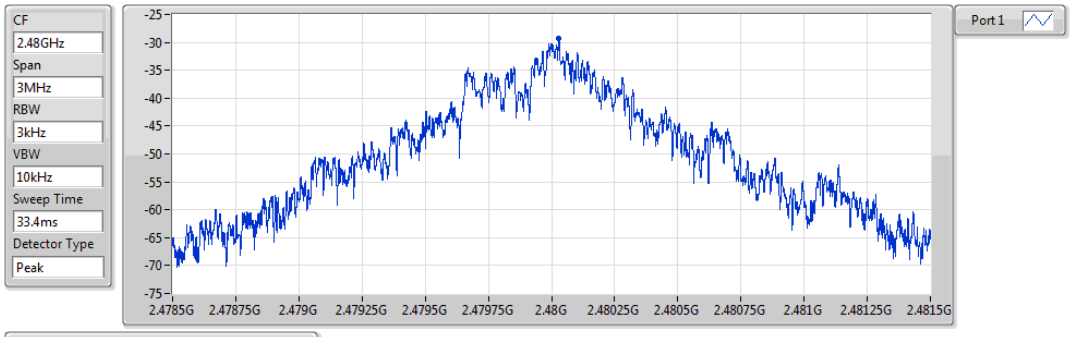
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-27.16	-27.16	-27.16

GFSK **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-29.24	-29.24	-29.24

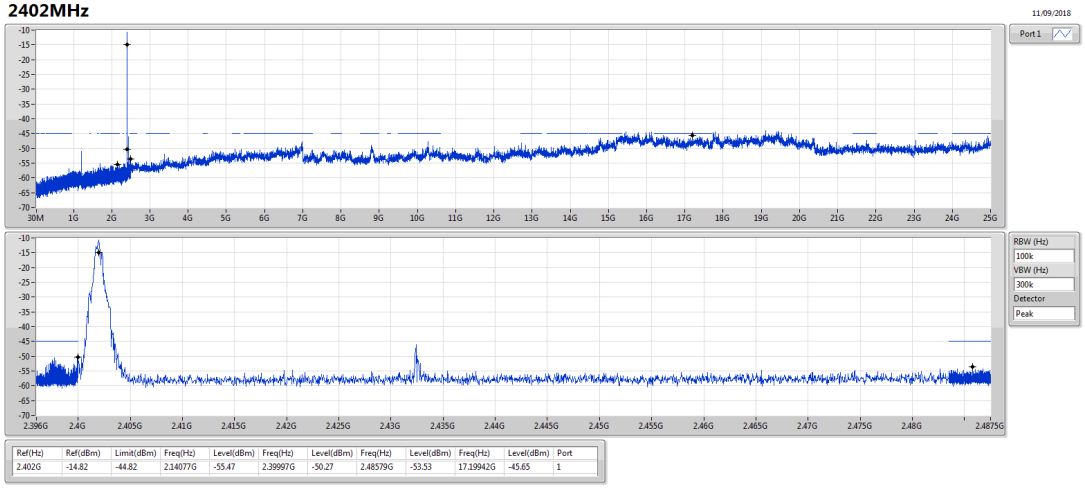
Summary

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	2.402G	-14.82	-44.82	2.12805G	-54.54	2.39647G	-55.14	2.48553G	-54.16	15.20988G	-45.08	1

Result

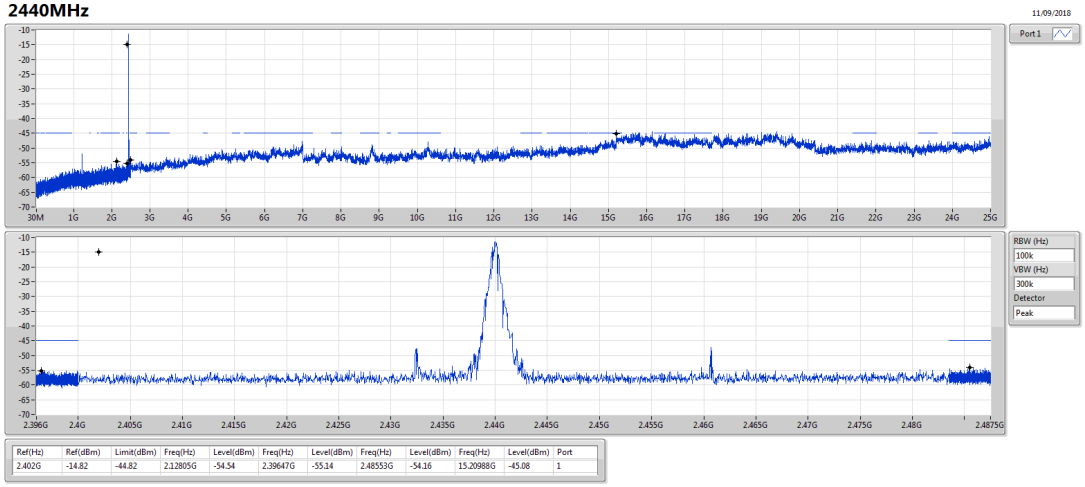
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
GFSK	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402G	-14.82	-44.82	2.14077G	-55.47	2.39997G	-50.27	2.48579G	-53.53	17.19942G	-45.65	1
2440MHz_TnomVnom	Pass	2.402G	-14.82	-44.82	2.12805G	-54.54	2.39647G	-55.14	2.48553G	-54.16	15.20988G	-45.08	1
2480MHz_TnomVnom	Pass	2.402G	-14.82	-44.82	2.12214G	-56.10	2.39813G	-54.54	2.48369G	-51.69	17.26414G	-45.56	1

GFSK
2402MHz
CSE NdB



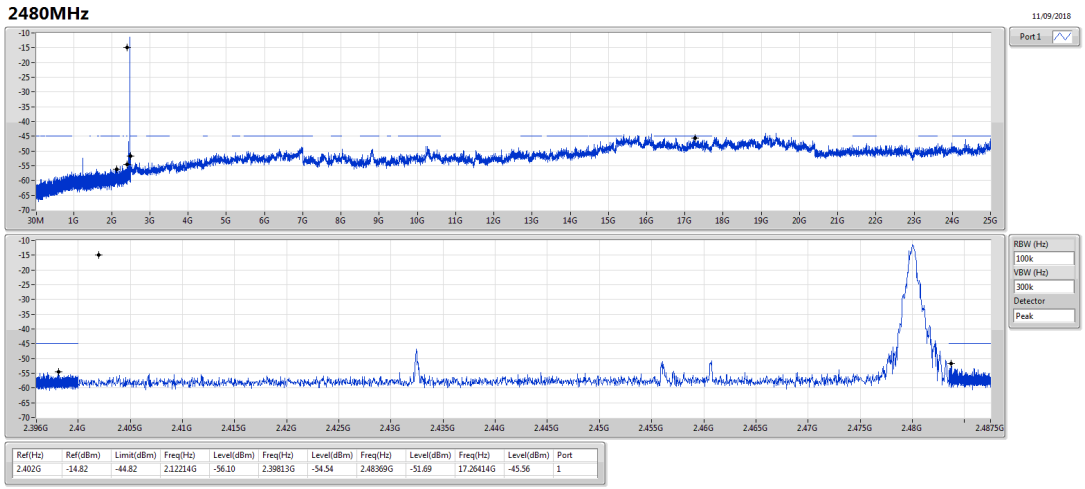
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	-14.82	-44.82	2.14077G	-55.47	2.39997G	-50.27	2.48579G	-53.53	17.19942G	-45.65	1

GFSK
2440MHz
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
2.402G	-14.82	-44.82	2.12805G	-54.54	2.39647G	-55.14	2.48553G	-54.16	15.20988G	-45.08	1

GFSK
2480MHz
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
2.402G	-14.82	-44.82	2.12214G	-56.10	2.39813G	-54.54	2.48369G	-51.69	17.26414G	-45.56	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	825.4M	29.60	46.00	-16.40	2.19	3	Vertical	360	1.00	-

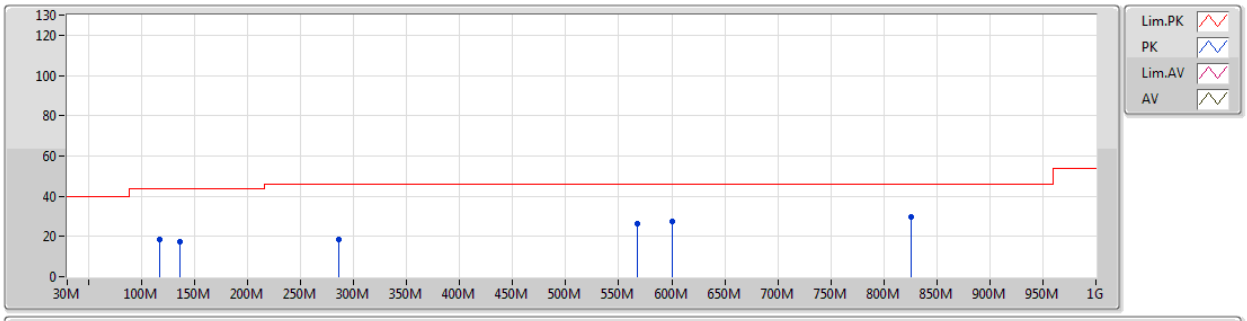
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
GFSK	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	117.3M	18.31	43.50	-25.19	-8.00	3	Vertical	360	1.00	-
2440MHz	Pass	PK	136.7M	17.14	43.50	-26.36	-8.39	3	Vertical	360	1.00	-
2440MHz	Pass	PK	286.08M	18.30	46.00	-27.70	-6.07	3	Vertical	360	1.00	-
2440MHz	Pass	PK	567.38M	26.20	46.00	-19.80	-0.56	3	Vertical	360	1.00	-
2440MHz	Pass	PK	600.36M	27.41	46.00	-18.59	-0.54	3	Vertical	360	1.00	-
2440MHz	Pass	PK	825.4M	29.60	46.00	-16.40	2.19	3	Vertical	360	1.00	-
2440MHz	Pass	PK	35.82M	19.52	40.00	-20.48	-5.82	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	262.8M	18.63	46.00	-27.37	-5.73	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	336.52M	20.65	46.00	-25.35	-5.10	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	503.36M	24.71	46.00	-21.29	-1.70	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	619.76M	27.94	46.00	-18.06	-0.14	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	864.2M	29.60	46.00	-16.40	2.61	3	Horizontal	0	1.00	-

GFSK

12/09/2018

2440MHz_battery

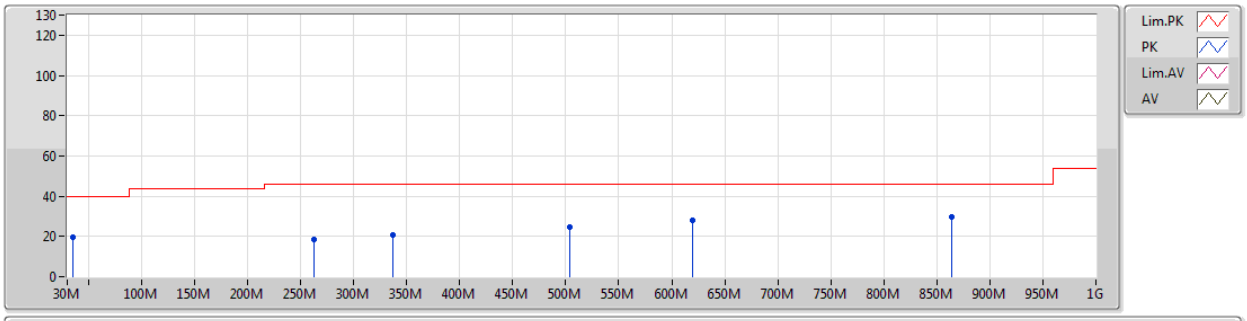


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	117.3M	18.31	43.50	-25.19	-8.00	3	Vertical	360	1.00	-
PK	136.7M	17.14	43.50	-26.36	-8.39	3	Vertical	360	1.00	-
PK	286.08M	18.30	46.00	-27.70	-6.07	3	Vertical	360	1.00	-
PK	567.38M	26.20	46.00	-19.80	-0.56	3	Vertical	360	1.00	-
PK	600.36M	27.41	46.00	-18.59	-0.54	3	Vertical	360	1.00	-
PK	825.4M	29.60	46.00	-16.40	2.19	3	Vertical	360	1.00	-

GFSK

12/09/2018

2440MHz_battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	35.82M	19.52	40.00	-20.48	-5.82	3	Horizontal	0	1.00	-
PK	262.8M	18.63	46.00	-27.37	-5.73	3	Horizontal	0	1.00	-
PK	336.52M	20.65	46.00	-25.35	-5.10	3	Horizontal	0	1.00	-
PK	503.36M	24.71	46.00	-21.29	-1.70	3	Horizontal	0	1.00	-
PK	619.76M	27.94	46.00	-18.06	-0.14	3	Horizontal	0	1.00	-
PK	864.2M	29.60	46.00	-16.40	2.61	3	Horizontal	0	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	4.80394G	51.05	54.00	-2.95	1.25	3	Horizontal	15	2.60	-

Result

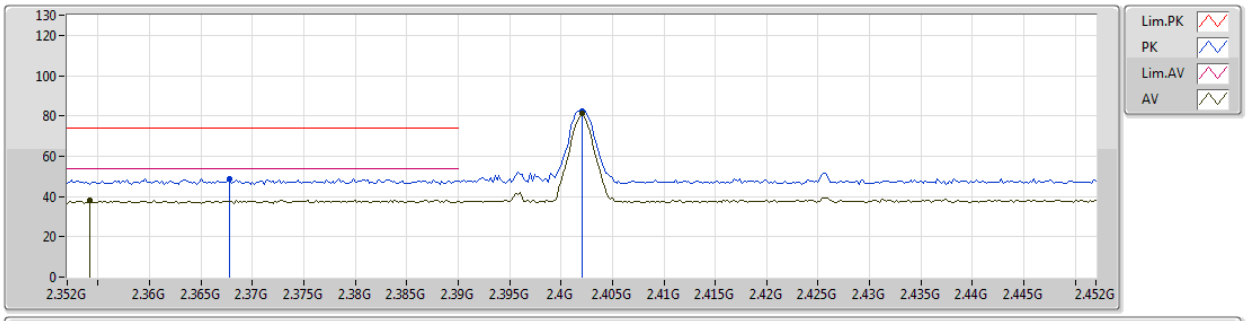
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
GFSK	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3542G	38.22	54.00	-15.78	-3.69	3	Horizontal	284	2.63	-
2402MHz	Pass	AV	2.402G	81.10	Inf	-Inf	-3.56	3	Horizontal	284	2.63	-
2402MHz	Pass	PK	2.3678G	48.94	74.00	-25.06	-3.66	3	Horizontal	284	2.63	-
2402MHz	Pass	PK	2.402G	82.63	Inf	-Inf	-3.56	3	Horizontal	284	2.63	-
2402MHz	Pass	AV	2.375G	38.52	54.00	-15.48	-3.63	3	Horizontal	200	1.82	-
2402MHz	Pass	AV	2.402G	82.68	Inf	-Inf	-3.56	3	Horizontal	200	1.82	-
2402MHz	Pass	PK	2.3716G	49.09	74.00	-24.91	-3.65	3	Horizontal	200	1.82	-
2402MHz	Pass	PK	2.4024G	84.25	Inf	-Inf	-3.55	3	Horizontal	200	1.82	-
2402MHz	Pass	AV	4.804G	50.27	54.00	-3.73	1.25	3	Vertical	176	2.75	-
2402MHz	Pass	PK	4.804G	53.88	74.00	-20.12	1.25	3	Vertical	176	2.75	-
2402MHz	Pass	AV	4.80394G	51.05	54.00	-2.95	1.25	3	Horizontal	15	2.60	-
2402MHz	Pass	PK	4.8034G	53.81	74.00	-20.19	1.24	3	Horizontal	15	2.60	-
2440MHz	Pass	AV	2.3888G	38.07	54.00	-15.93	-3.60	3	Vertical	282	2.51	-
2440MHz	Pass	AV	2.44G	83.50	Inf	-Inf	-3.44	3	Vertical	282	2.51	-
2440MHz	Pass	AV	2.4932G	38.20	54.00	-15.80	-3.29	3	Vertical	282	2.51	-
2440MHz	Pass	PK	2.37G	48.44	74.00	-25.56	-3.65	3	Vertical	282	2.51	-
2440MHz	Pass	PK	2.4396G	85.19	Inf	-Inf	-3.44	3	Vertical	282	2.51	-
2440MHz	Pass	PK	2.4984G	48.46	74.00	-25.54	-3.26	3	Vertical	282	2.51	-
2440MHz	Pass	AV	2.3616G	38.27	54.00	-15.73	-3.66	3	Horizontal	199	1.53	-
2440MHz	Pass	AV	2.44G	85.81	Inf	-Inf	-3.44	3	Horizontal	199	1.53	-
2440MHz	Pass	AV	2.4916G	38.49	54.00	-15.51	-3.29	3	Horizontal	199	1.53	-
2440MHz	Pass	PK	2.376G	48.83	74.00	-25.17	-3.63	3	Horizontal	199	1.53	-
2440MHz	Pass	PK	2.4404G	87.51	Inf	-Inf	-3.44	3	Horizontal	199	1.53	-
2440MHz	Pass	PK	2.4892G	48.15	74.00	-25.85	-3.30	3	Horizontal	199	1.53	-
2440MHz	Pass	AV	4.88G	47.05	54.00	-6.95	1.39	3	Vertical	175	2.73	-
2440MHz	Pass	AV	7.33482G	37.15	54.00	-16.85	7.03	3	Vertical	186	1.50	-
2440MHz	Pass	PK	4.87946G	51.15	74.00	-22.85	1.39	3	Vertical	175	2.73	-
2440MHz	Pass	PK	7.32348G	47.71	74.00	-26.29	7.00	3	Vertical	186	1.50	-
2440MHz	Pass	AV	4.87988G	47.66	54.00	-6.34	1.39	3	Horizontal	18	2.74	-
2440MHz	Pass	AV	7.33476G	37.42	54.00	-16.58	7.03	3	Horizontal	238	1.50	-
2440MHz	Pass	PK	4.87956G	51.53	74.00	-22.47	1.39	3	Horizontal	18	2.74	-
2440MHz	Pass	PK	7.31982G	47.88	74.00	-26.12	6.99	3	Horizontal	238	1.50	-
2480MHz	Pass	AV	2.48G	84.16	Inf	-Inf	-3.32	3	Vertical	331	2.72	-
2480MHz	Pass	AV	2.486G	43.83	54.00	-10.17	-3.29	3	Vertical	331	2.72	-
2480MHz	Pass	PK	2.4796G	85.78	Inf	-Inf	-3.32	3	Vertical	331	2.72	-
2480MHz	Pass	PK	2.486G	54.88	74.00	-19.12	-3.29	3	Vertical	331	2.72	-
2480MHz	Pass	AV	2.48G	87.28	Inf	-Inf	-3.32	3	Horizontal	195	1.24	-
2480MHz	Pass	AV	2.486G	45.32	54.00	-8.68	-3.29	3	Horizontal	195	1.24	-
2480MHz	Pass	PK	2.48G	88.86	Inf	-Inf	-3.32	3	Horizontal	195	1.24	-
2480MHz	Pass	PK	2.486G	57.60	74.00	-16.40	-3.29	3	Horizontal	195	1.24	-
2480MHz	Pass	AV	4.96006G	46.28	54.00	-7.72	1.54	3	Vertical	289	1.06	-
2480MHz	Pass	AV	7.43988G	42.97	54.00	-11.03	7.38	3	Vertical	290	1.01	-
2480MHz	Pass	PK	4.95946G	50.02	74.00	-23.98	1.54	3	Vertical	289	1.06	-
2480MHz	Pass	PK	7.43988G	50.32	74.00	-23.68	7.38	3	Vertical	290	1.01	-
2480MHz	Pass	AV	4.95994G	43.69	54.00	-10.31	1.54	3	Horizontal	22	2.53	-
2480MHz	Pass	AV	7.43988G	39.55	54.00	-14.45	7.38	3	Horizontal	0	1.50	-
2480MHz	Pass	PK	4.95988G	48.33	74.00	-25.67	1.54	3	Horizontal	22	2.53	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.43376G	49.46	74.00	-24.54	7.36	3	Horizontal	0	1.50	-

GFSK

2402MHz_TX

12/09/2018

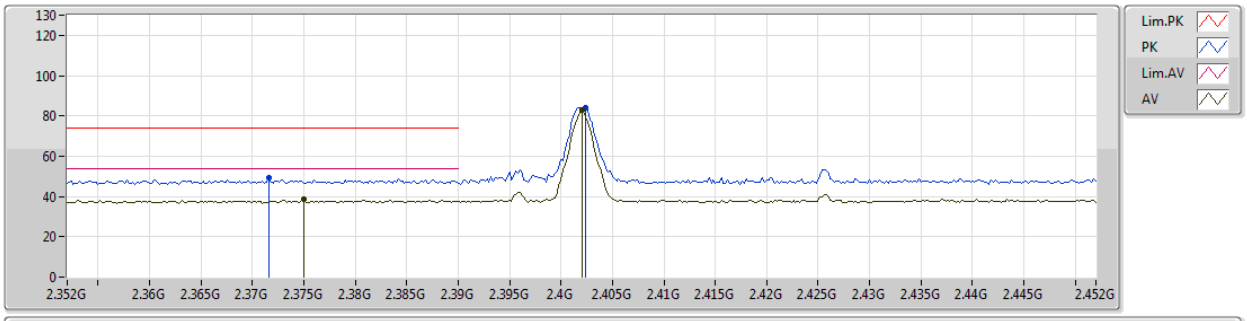


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3542G	38.22	54.00	-15.78	-3.69	3	Horizontal	284	2.63	-
AV	2.402G	81.10	Inf	-Inf	-3.56	3	Horizontal	284	2.63	-
PK	2.3678G	48.94	74.00	-25.06	-3.66	3	Horizontal	284	2.63	-
PK	2.402G	82.63	Inf	-Inf	-3.56	3	Horizontal	284	2.63	-

GFSK

2402MHz_TX

12/09/2018

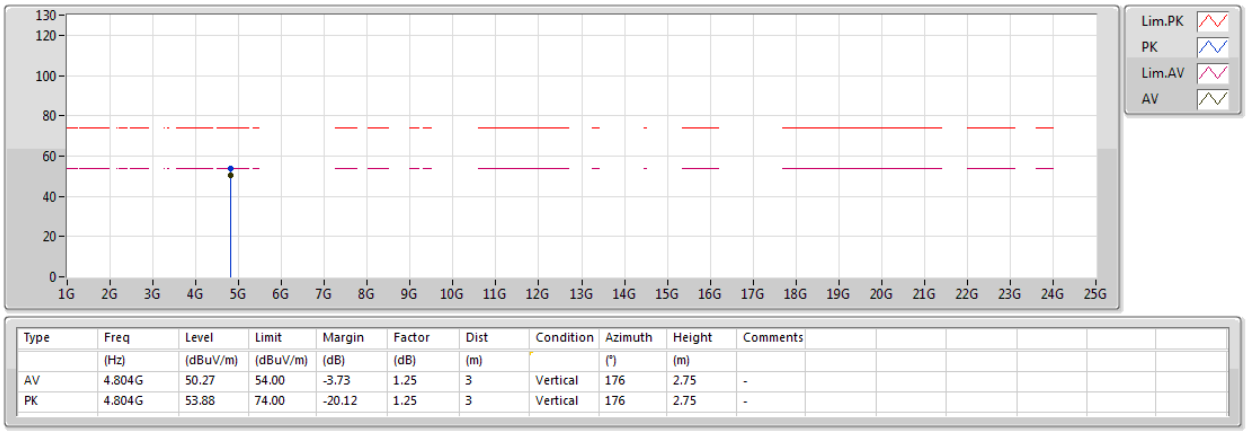


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.375G	38.52	54.00	-15.48	-3.63	3	Horizontal	200	1.82	-
AV	2.402G	82.68	Inf	-Inf	-3.56	3	Horizontal	200	1.82	-
PK	2.3716G	49.09	74.00	-24.91	-3.65	3	Horizontal	200	1.82	-
PK	2.4024G	84.25	Inf	-Inf	-3.55	3	Horizontal	200	1.82	-

GFSK

2402MHz_TX

12/09/2018

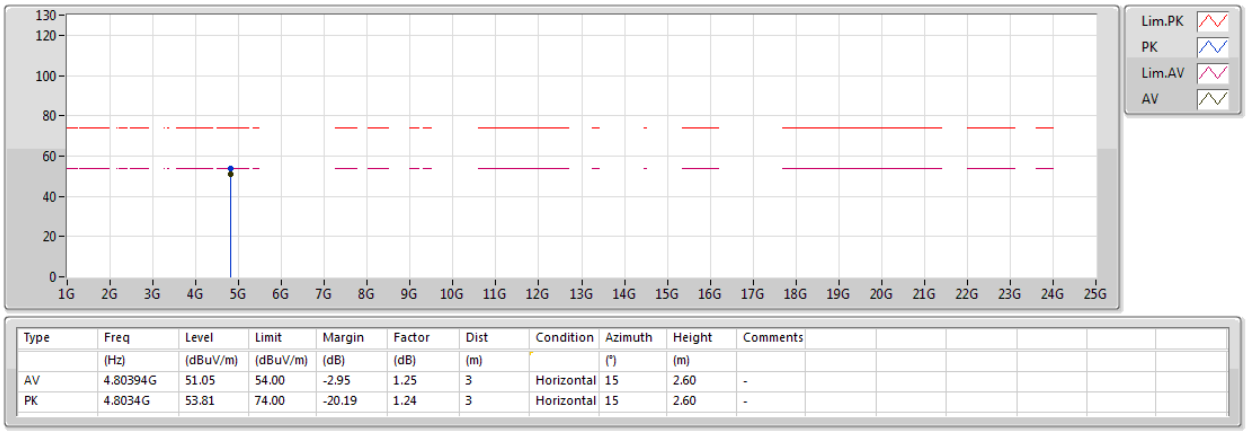


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.804G	50.27	54.00	-3.73	1.25	3	Vertical	176	2.75	-
PK	4.804G	53.88	74.00	-20.12	1.25	3	Vertical	176	2.75	-

GFSK

2402MHz_TX

12/09/2018

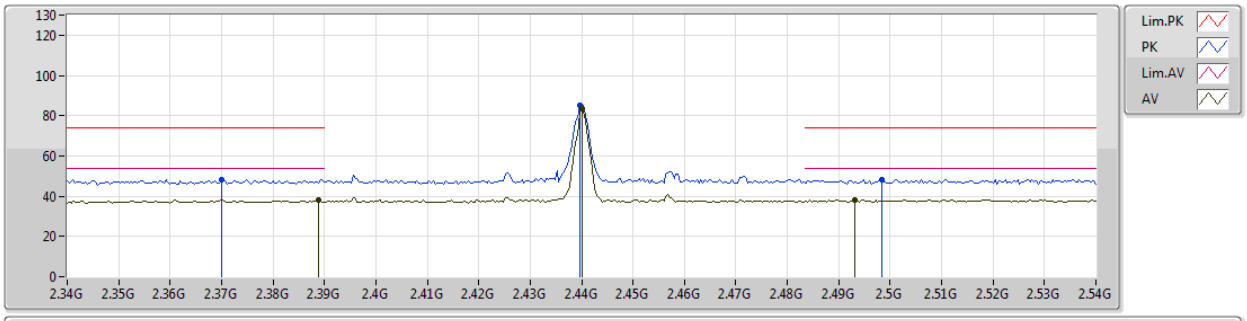


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.80394G	51.05	54.00	-2.95	1.25	3	Horizontal	15	2.60	-
PK	4.8034G	53.81	74.00	-20.19	1.24	3	Horizontal	15	2.60	-

GFSK

2440MHz_TX

12/09/2018

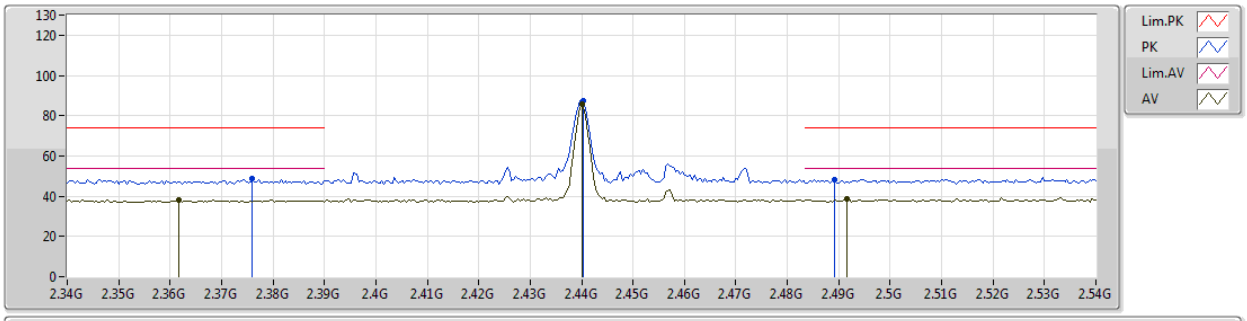


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3888G	38.07	54.00	-15.93	-3.60	3	Vertical	282	2.51	-
AV	2.44G	83.50	Inf	-Inf	-3.44	3	Vertical	282	2.51	-
AV	2.4932G	38.20	54.00	-15.80	-3.29	3	Vertical	282	2.51	-
PK	2.37G	48.44	74.00	-25.56	-3.65	3	Vertical	282	2.51	-
PK	2.4396G	85.19	Inf	-Inf	-3.44	3	Vertical	282	2.51	-
PK	2.4984G	48.46	74.00	-25.54	-3.26	3	Vertical	282	2.51	-

GFSK

2440MHz_TX

12/09/2018

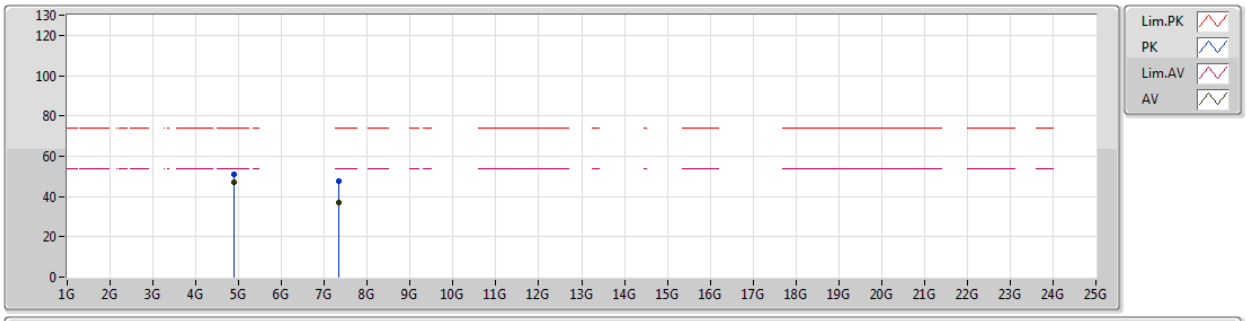


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3616G	38.27	54.00	-15.73	-3.66	3	Horizontal	199	1.53	-
AV	2.44G	85.81	Inf	-Inf	-3.44	3	Horizontal	199	1.53	-
AV	2.4916G	38.49	54.00	-15.51	-3.29	3	Horizontal	199	1.53	-
PK	2.376G	48.83	74.00	-25.17	-3.63	3	Horizontal	199	1.53	-
PK	2.4404G	87.51	Inf	-Inf	-3.44	3	Horizontal	199	1.53	-
PK	2.4892G	48.15	74.00	-25.85	-3.30	3	Horizontal	199	1.53	-

GFSK

2440MHz_TX

12/09/2018

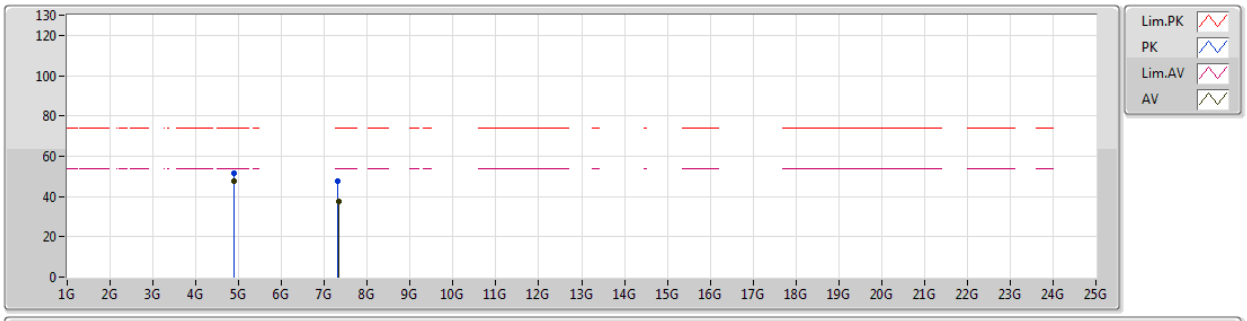


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.88G	47.05	54.00	-6.95	1.39	3	Vertical	175	2.73	-
AV	7.33482G	37.15	54.00	-16.85	7.03	3	Vertical	186	1.50	-
PK	4.87946G	51.15	74.00	-22.85	1.39	3	Vertical	175	2.73	-
PK	7.32348G	47.71	74.00	-26.29	7.00	3	Vertical	186	1.50	-

GFSK

2440MHz_TX

12/09/2018

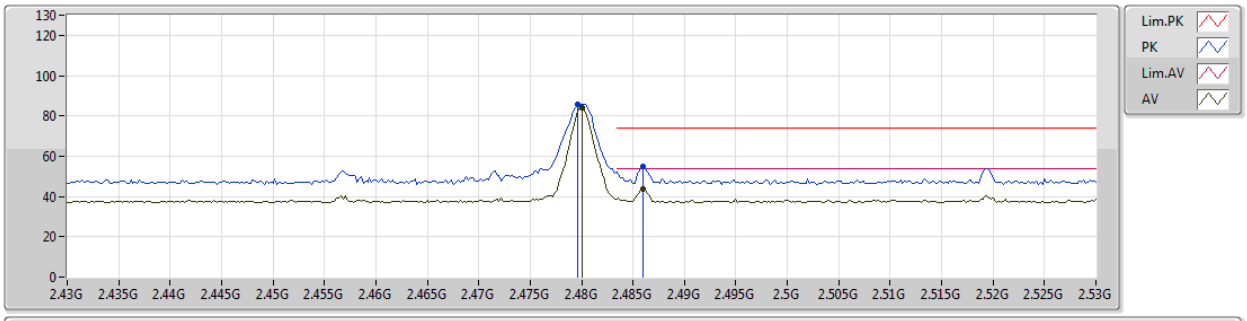


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.87988G	47.66	54.00	-6.34	1.39	3	Horizontal	18	2.74	-
AV	7.33476G	37.42	54.00	-16.58	7.03	3	Horizontal	238	1.50	-
PK	4.87956G	51.53	74.00	-22.47	1.39	3	Horizontal	18	2.74	-
PK	7.31982G	47.88	74.00	-26.12	6.99	3	Horizontal	238	1.50	-

GFSK

2480MHz_TX

12/09/2018

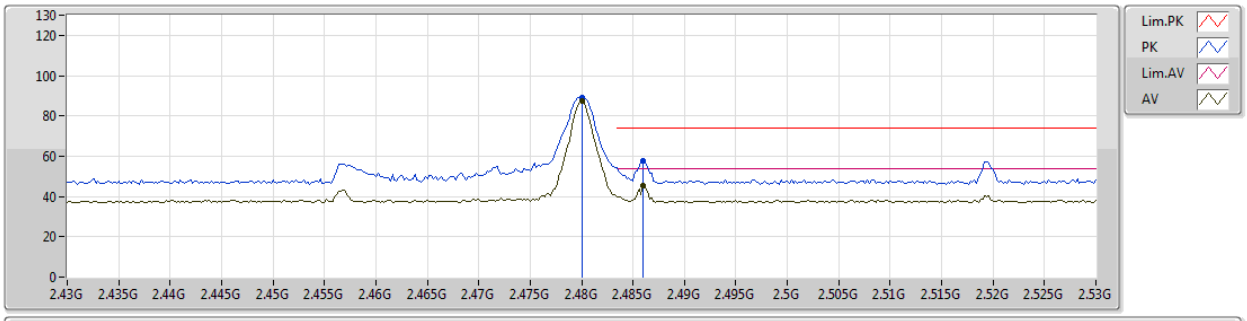


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.48G	84.16	Inf	-Inf	-3.32	3	Vertical	331	2.72	-
AV	2.486G	43.83	54.00	-10.17	-3.29	3	Vertical	331	2.72	-
PK	2.4796G	85.78	Inf	-Inf	-3.32	3	Vertical	331	2.72	-
PK	2.486G	54.88	74.00	-19.12	-3.29	3	Vertical	331	2.72	-

GFSK

2480MHz_TX

12/09/2018

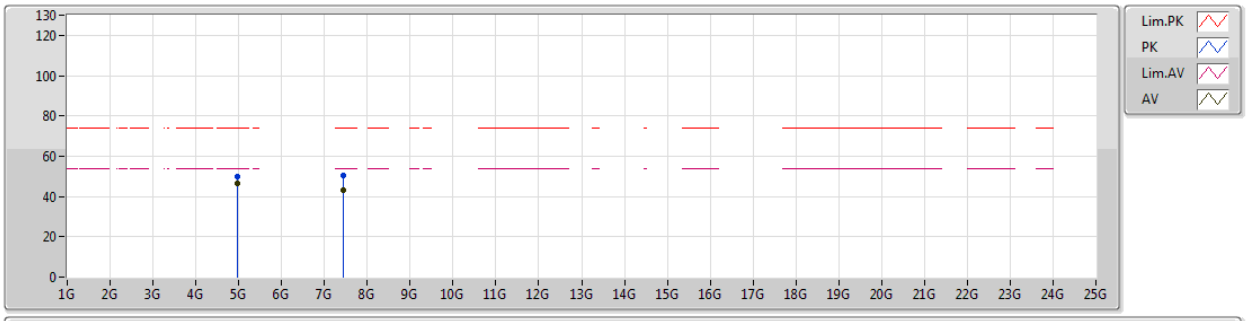


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.48G	87.28	Inf	-Inf	-3.32	3	Horizontal	195	1.24	-
AV	2.486G	45.32	54.00	-8.68	-3.29	3	Horizontal	195	1.24	-
PK	2.48G	88.86	Inf	-Inf	-3.32	3	Horizontal	195	1.24	-
PK	2.486G	57.60	74.00	-16.40	-3.29	3	Horizontal	195	1.24	-

GFSK

2480MHz_TX

12/09/2018

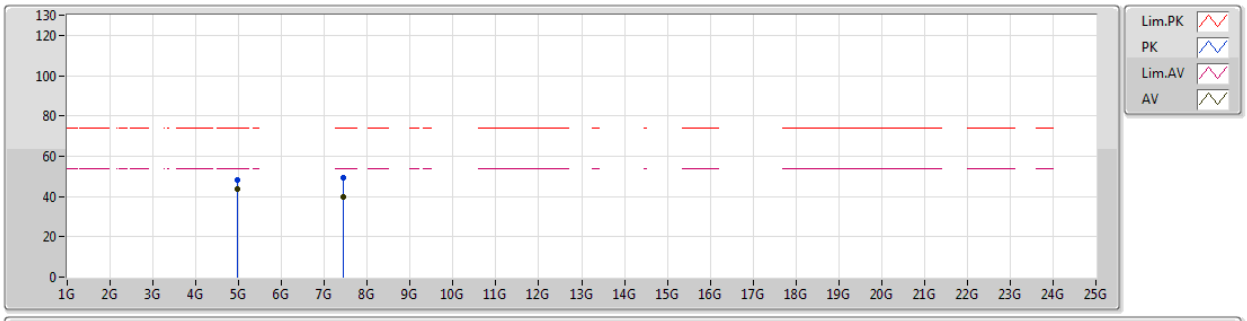


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.96006G	46.28	54.00	-7.72	1.54	3	Vertical	289	1.06	-
AV	7.43988G	42.97	54.00	-11.03	7.38	3	Vertical	290	1.01	-
PK	4.95946G	50.02	74.00	-23.98	1.54	3	Vertical	289	1.06	-
PK	7.43988G	50.32	74.00	-23.68	7.38	3	Vertical	290	1.01	-

GFSK

2480MHz_TX

12/09/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.95994G	43.69	54.00	-10.31	1.54	3	Horizontal	22	2.53	-
AV	7.43988G	39.55	54.00	-14.45	7.38	3	Horizontal	0	1.50	-
PK	4.95988G	48.33	74.00	-25.67	1.54	3	Horizontal	22	2.53	-
PK	7.43376G	49.46	74.00	-24.54	7.36	3	Horizontal	0	1.50	-