FCC Test Report

FCC ID	:	**VW3DIW362-V2**
Equipment	:	**SET TOP BOX**
Brand Name	:	**SAGEMCOM**
Model Name	:	**DIW362 UHD V2**
Applicant / Manufacturer	:	**Sagemcom Broadband SAS 250, route de l'Empereur 92848 Rueil-Malmaison cedex – France**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Dec. 14, 2018, and testing was started from Dec. 20, 2018 and completed on Dec. 29, 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
FR862116-02AL	01	Initial issue of report	Mar. 11, 2019

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 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: Jackson Tsai

Report Producer: Ann Hou

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

Note:
- Bluetooth LE uses a GFSK (1Mbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	-	-	PCB	N/A
2	-	-	PCB	N/A
3	-	-	PCB	I-PEX
4	-	-	PCB	N/A

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	3.30	5.36	-
2	2	3.55	5.31	-
3	3	3.93	5.41	-
4	4	-	-	3.54

Note 1: The EUT has four antennas.

Note 2: Higher gain antenna was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4 GHz function:

For IEEE 802.11b/g mode (1TX/1RX)

Support diversity function and pre-tested on each single chain, the worst case was Ant. 2(port 2) and it was record in this test report.

For IEEE 802.11n mode (3TX/3RX)

Ant. 1 (port 1), Ant. 2 (port 2) and Ant. 3 (port 3) could transmit/receive simultaneously.

For 5 GHz function:

For IEEE 802.11a mode (1TX/1RX)

Support diversity function and pre-tested on each single chain, the worst case was Ant. 3(port 3) and it was record in this test report.

For IEEE 802.11n/ac mode (3TX/3RX)

Ant. 1 (port 1), Ant. 2 (port 2) and Ant. 3 (port 3) could transmit/receive simultaneously.

For Bluetooth function:

For Bluetooth mode (1TX/1RX)

Only Ant. 4 (port 4) can be used as transmitting/receiving antenna.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter			
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
BT-LE(1Mbps)	0.626	2.034	391.25u	3k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- 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	Lego	21°C / 55%	26/Dec/2018
RF Conducted	TH06-HY	Streak	23.3°C / 63%	26/Dec/2018
Radiated	03CH03-HY	Terry	25°C / 57%	29/Dec/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)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 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	120V

2.2 Test Channel Mode

Test Software	DoS

Mode	Power Setting
BT-LE(1Mbps)	-
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	Adapter 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	Adapter mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	**Z Plane**
	
Worst Planes of EUT	V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	CTX
1	Bluetooth+WLAN 2.4GHz+WLAN 5GHz
Refer to Sporton Test Report No.: FA862116-02 for Co-location RF Exposure Evaluation.	

2.4 Accessories and Support Equipment

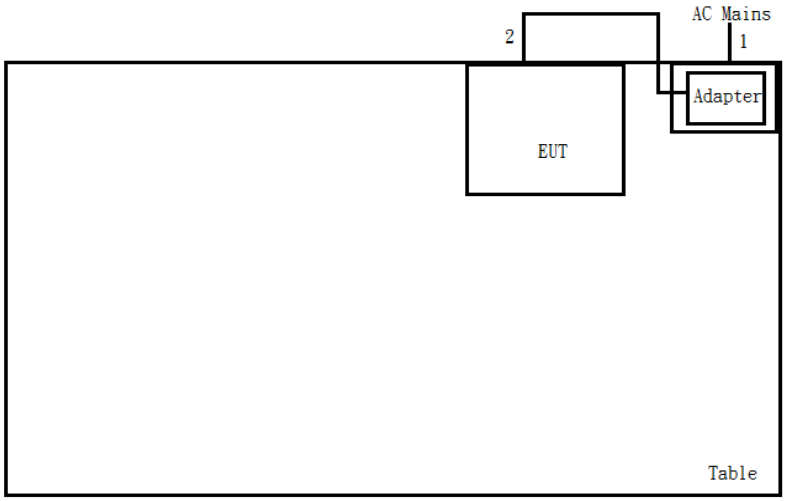
Accessories				
AC Adapter 1	**Brand Name**	SAGEMCOM	**Model Name**	MSA-C2000IS12.0-24N-DE
	Power Rating	I/P: 200-240Vac, 50/60Hz, 0.7A max, O/P: 12Vdc, 2A		
	Power Cord	1.8 meter, non-shielded cable, w/o ferrite core		
AC Adapter 2	**Brand Name**	SAGEMCOM	**Model Name**	MSA-C2000IS12.0-24N-DE
	Manufacturer	MOSO		
	Power Rating	I/P: 200-240Vac, 50/60Hz, 0.7A max, O/P: 12Vdc, 2A		
	Power Cord	1.8 meter, non-shielded cable, w/o ferrite core		
HDMI Cable	**Power Cord**	1.4 meter, shielded cable, w/o ferrite core		

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	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

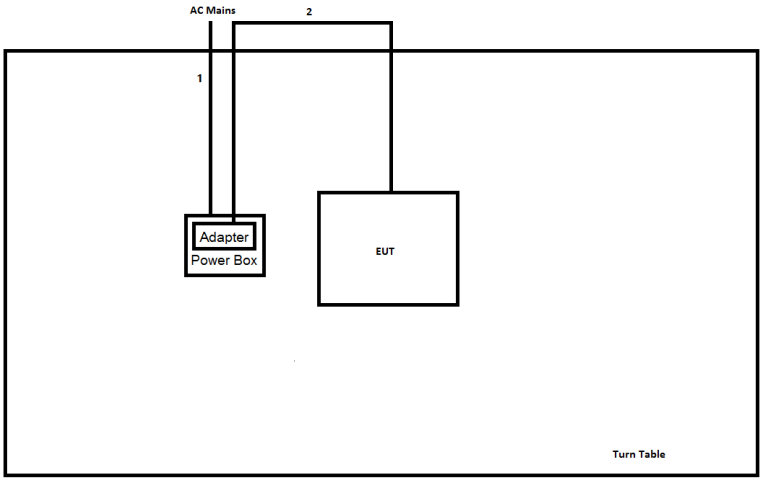
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	AC Power line	No	1.5m
2	DC Power line	No	1.79m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	AC Power line	No	1.8m
2	DC Power line	No	1.79m

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

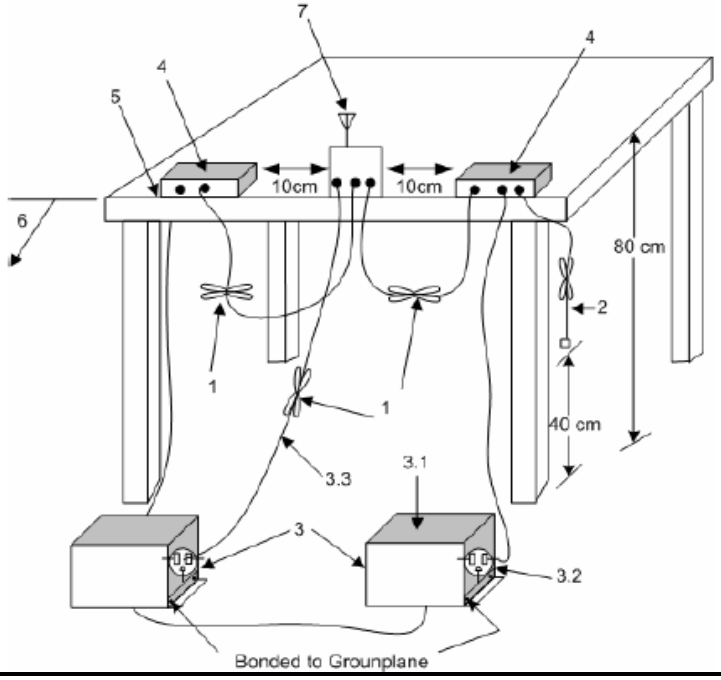
Refer a test equipment and calibration data table in this test report.

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.

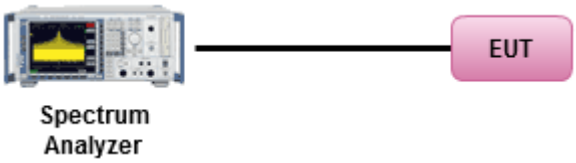
3.2.2 Measuring Instruments

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 (11.8 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

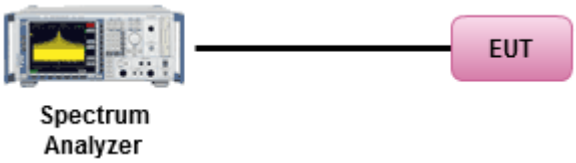
3.4.2 Measuring Instruments

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.	

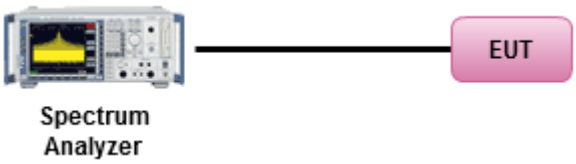
3.5.2 Measuring Instruments

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.

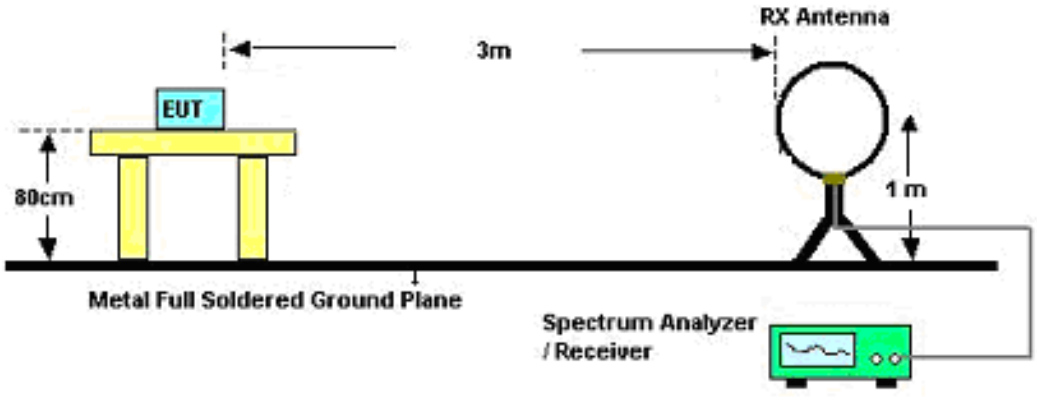
3.6.2 Measuring Instruments

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

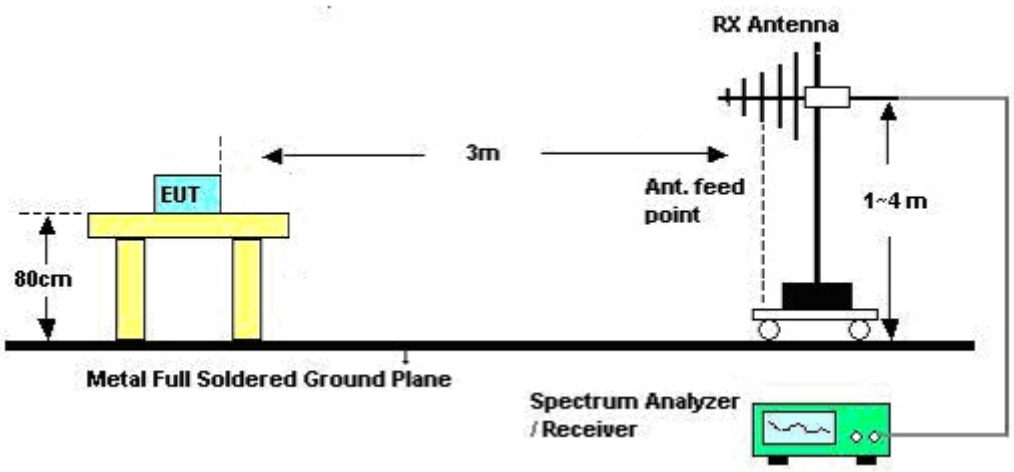
3.6.3 Test Procedures

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).
▪ Use the following spectrum analyzer settings:	
	▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.

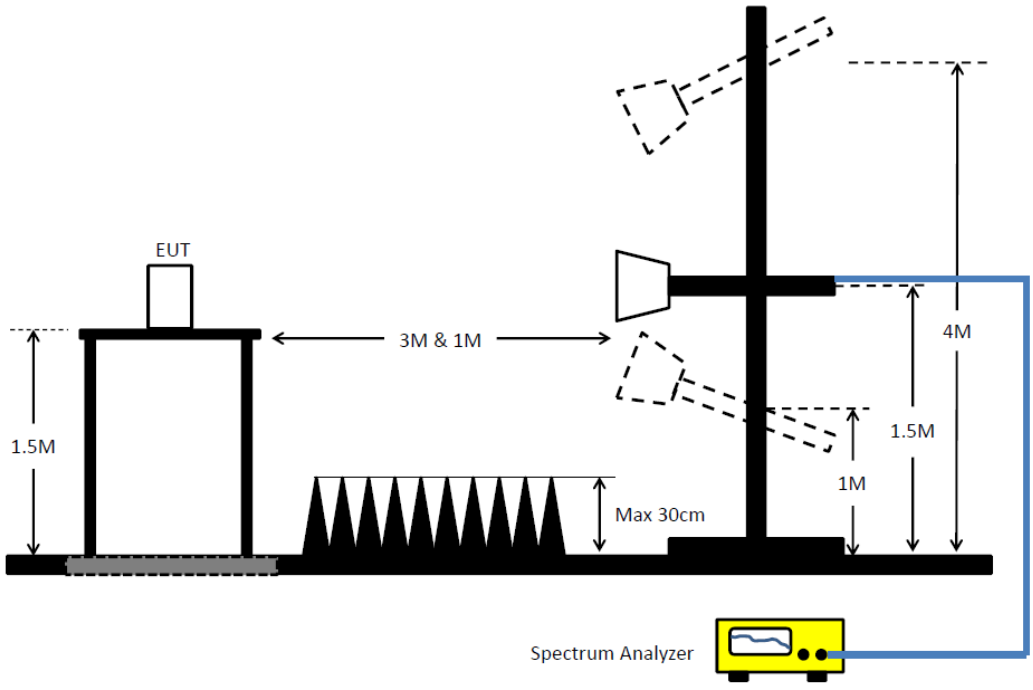
3.6.4 Test Setup

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	08/Nov/2018	07/Nov/2019
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

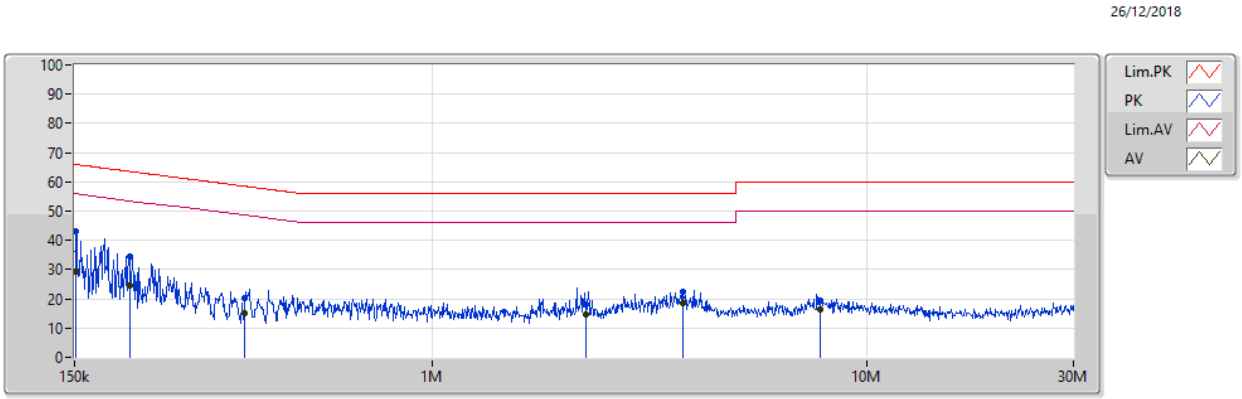
Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	30/Oct/2018	29/Oct/2019
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	30/Oct/2018	29/Oct/2019
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	23/Apr/2018	19/Apr/2019
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	05/Sep/2018	04/Sep/2019
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	10/Apr/2018	09/Apr/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
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
Bilog Antenna with 5dB Pad	ETS	3142B & MTJ6102-05	00022055	26 MHz - 3 GHz	19/Nov/2018	18/Nov/2019
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	28/Mar/2018	27/Mar/2019
RF Cable	HUBER+SUHNER	SUCOFLEX 102	MY2579/2	100 kHz~40 GHz	13/Jun/2018	12/Jun/2019
RF Cable	HUBER+SUHNER	SUCOFLEX 102	MY2580/2	100 kHz~40 GHz	10/May/2018	09/May/2019

Instrument for Conducted Test

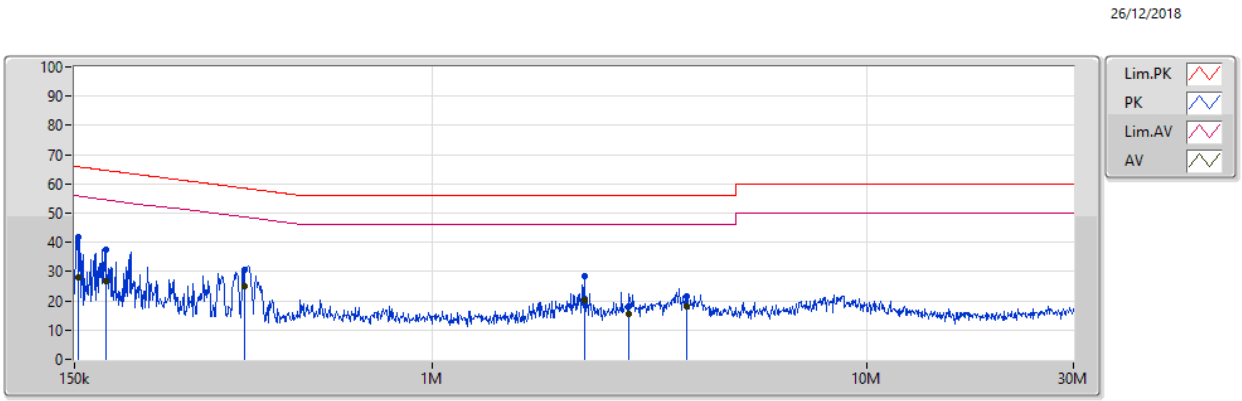
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
Signal Generator	R&S	SMB100A	175727	100kHz~40GHz	26/Oct/2018	25/Oct/2019
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	05/Feb/2018	04/Feb/2019
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	05/Feb/2018	04/Feb/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
CABLE 0.5m	HUBER	MY39464/4	RF Cable - 23	1GHz~18GHz	26/Jan/2018	25/Jan/2019

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



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	151.223k	43.13	65.92	-22.79	19.48	Neutral	"Worst"	23.65	9.60	0.01	9.87
AV	151.223k	29.48	55.92	-26.44	19.48	Neutral	-	10.00	9.60	0.01	9.87
QP	200.931k	34.37	63.57	-29.20	19.47	Neutral	-	14.90	9.59	0.01	9.87
AV	200.931k	24.65	53.57	-28.92	19.47	Neutral	-	5.18	9.59	0.01	9.87
QP	368.657k	20.26	58.52	-38.26	19.48	Neutral	-	0.78	9.59	0.01	9.88
AV	368.657k	15.18	48.52	-33.34	19.48	Neutral	-	-4.30	9.59	0.01	9.88
QP	2.264M	18.05	56.00	-37.95	19.54	Neutral	-	-1.49	9.61	0.04	9.89
AV	2.264M	14.57	46.00	-31.43	19.54	Neutral	-	-4.97	9.61	0.04	9.89
QP	3.79M	22.51	56.00	-33.49	19.54	Neutral	-	2.97	9.61	0.04	9.89
AV	3.79M	18.44	46.00	-27.56	19.54	Neutral	-	-1.10	9.61	0.04	9.89
QP	7.815M	19.33	60.00	-40.67	19.60	Neutral	-	-0.27	9.65	0.06	9.89
AV	7.815M	16.33	50.00	-33.67	19.60	Neutral	-	-3.27	9.65	0.06	9.89

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



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	153.003k	41.77	65.83	-24.06	19.48	Line	-	22.29	9.60	0.01	9.87
AV	153.003k	27.81	55.83	-28.02	19.48	Line	-	8.33	9.60	0.01	9.87
QP	177.394k	37.57	64.60	-27.03	19.48	Line	-	18.09	9.60	0.01	9.87
AV	177.394k	26.70	54.60	-27.90	19.48	Line	-	7.22	9.60	0.01	9.87
QP	370.477k	30.76	58.49	-27.73	19.48	Line	-	11.28	9.59	0.01	9.88
AV	370.477k	25.04	48.49	-23.45	19.48	Line	"Worst"	5.56	9.59	0.01	9.88
QP	2.243M	28.41	56.00	-27.59	19.55	Line	-	8.86	9.62	0.04	9.89
AV	2.243M	20.27	46.00	-25.73	19.55	Line	-	0.72	9.62	0.04	9.89
QP	2.834M	18.11	56.00	-37.89	19.55	Line	-	-1.44	9.62	0.04	9.89
AV	2.834M	15.39	46.00	-30.61	19.55	Line	-	-4.16	9.62	0.04	9.89
QP	3.851M	21.39	56.00	-34.61	19.57	Line	-	1.82	9.63	0.05	9.89
AV	3.851M	18.19	46.00	-27.81	19.57	Line	-	-1.38	9.63	0.05	9.89

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	563.75k	1.066M	1M07F1D	560k	1.062M

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;

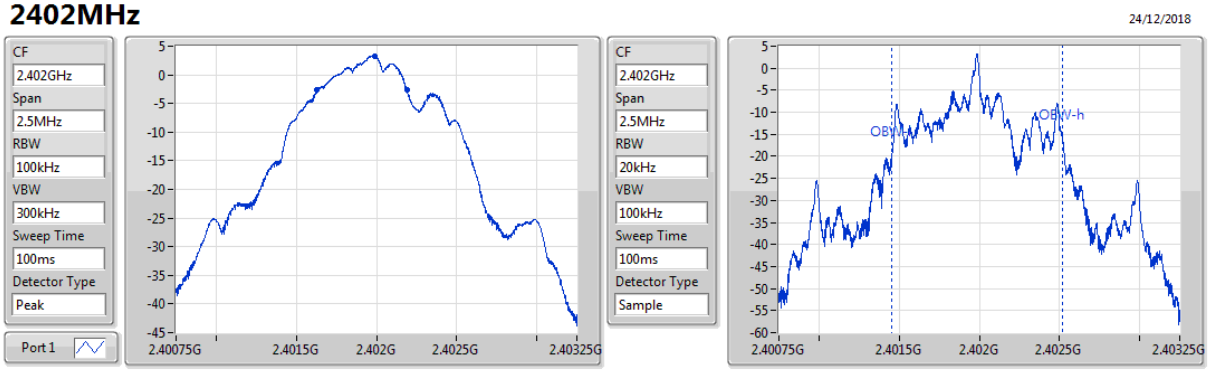
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	500k	561.25k	1.063M
2440MHz_TnomVnom	Pass	500k	560k	1.062M
2480MHz_TnomVnom	Pass	500k	563.75k	1.066M

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

BT-LE(1Mbps) **EBW**

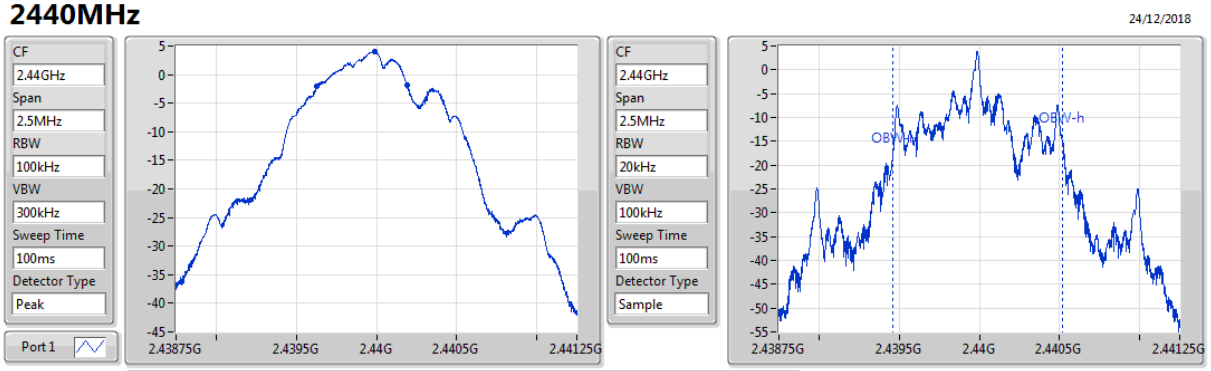
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
561.25k	2.401628G	2.402189G	1.063M	2.401457G	2.40252G	500k	1

BT-LE(1Mbps) **EBW**

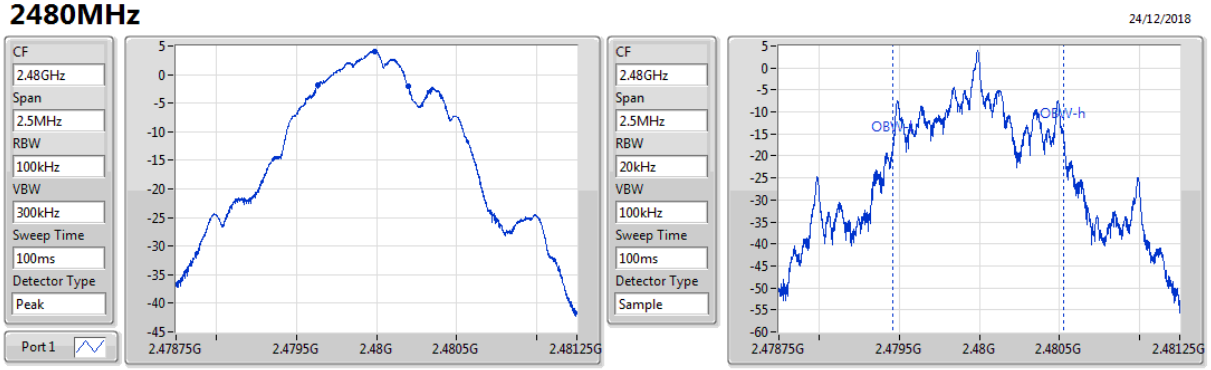
2440MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
560k	2.43963G	2.44019G	1.062M	2.439459G	2.440521G	500k	1

BT-LE(1Mbps) **EBW**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
563.75k	2.479631G	2.480195G	1.066M	2.479458G	2.480523G	500k	1

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	3.97	0.00249

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.54	3.09	30.00
2440MHz_TnomVnom	Pass	3.54	3.82	30.00
2480MHz_TnomVnom	Pass	3.54	3.97	30.00

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	3.20

RBW=3kHz.

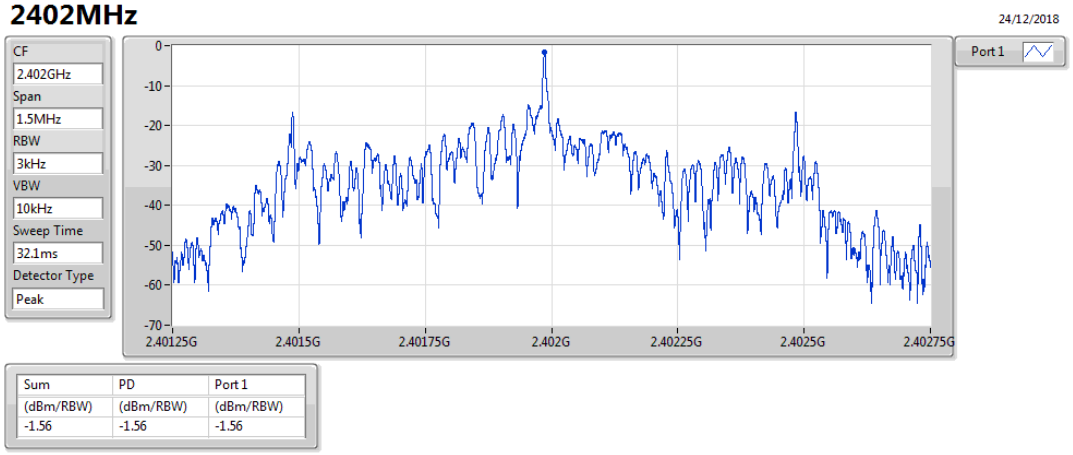
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	3.54	-1.56	8.00
2440MHz_TnomVnom	Pass	3.54	3.20	8.00
2480MHz_TnomVnom	Pass	3.54	2.99	8.00

RBW=3kHz.

BT-LE(1Mbps) **PSD**

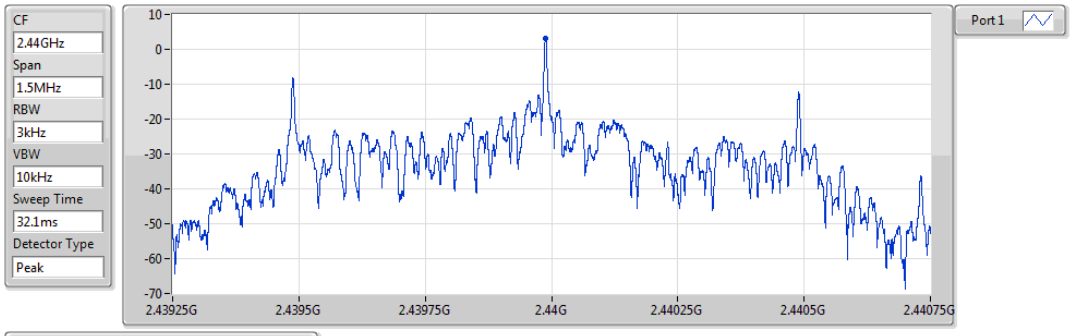
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.56	-1.56	-1.56

BT-LE(1Mbps) **PSD**

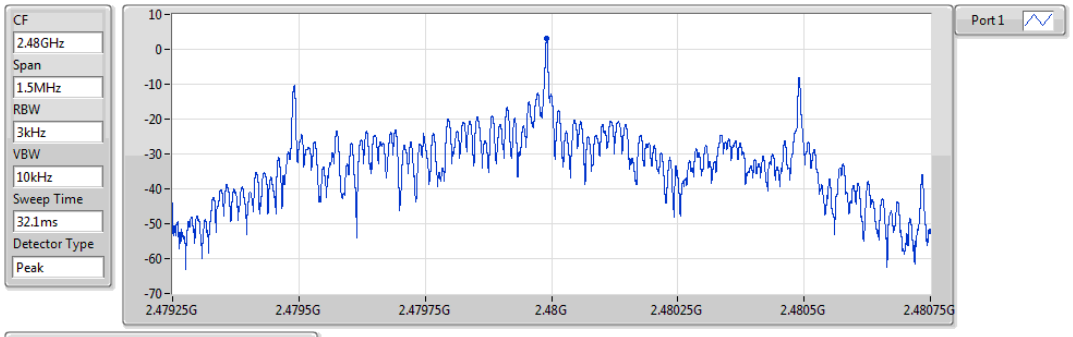
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.20	3.20	3.20

BT-LE(1Mbps) **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.99	2.99	2.99

Summary

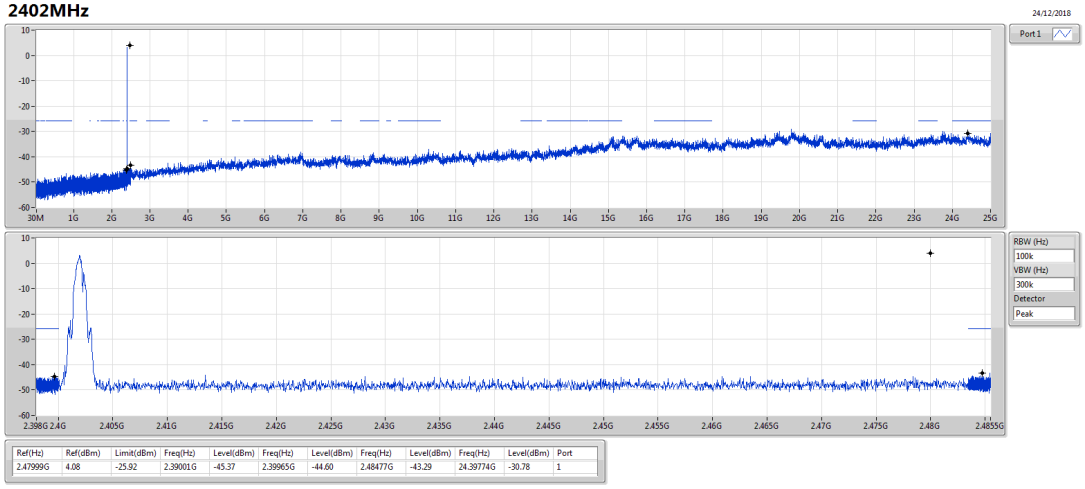
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.47999G	4.08	-25.92	2.12894G	-44.93	2.39831G	-44.76	2.4844G	-43.21	24.42588G	-30.72	1

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
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.47999G	4.08	-25.92	2.39001G	-45.37	2.39965G	-44.60	2.48477G	-43.29	24.39774G	-30.78	1
2440MHz_TnomVnom	Pass	2.47999G	4.08	-25.92	2.18488G	-45.48	2.39886G	-44.57	2.48443G	-43.78	24.46528G	-30.74	1
2480MHz_TnomVnom	Pass	2.47999G	4.08	-25.92	2.12894G	-44.93	2.39831G	-44.76	2.4844G	-43.21	24.42588G	-30.72	1

BT-LE(1Mbps) **CSE NdB**

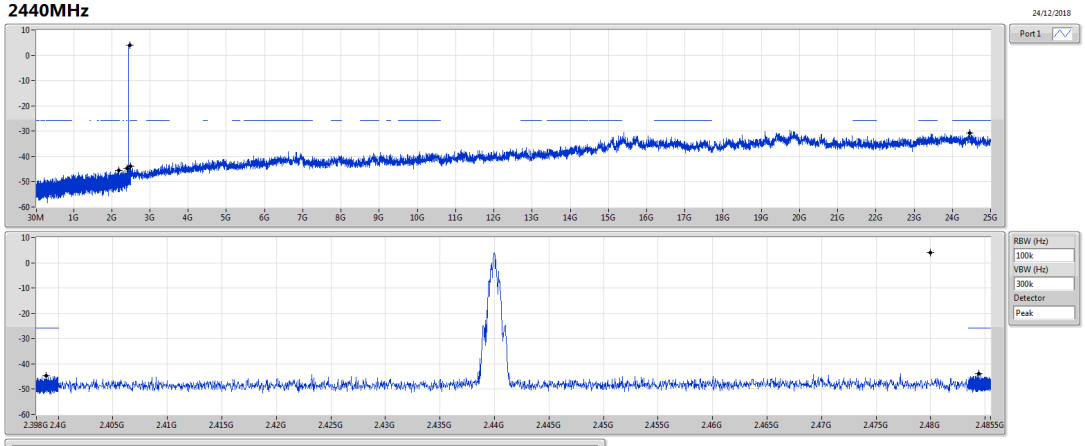
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	4.08	-25.92	2.39001G	-45.37	2.39965G	-44.60	2.48477G	-43.29	24.39774G	-30.78	1

BT-LE(1Mbps) **CSE NdB**

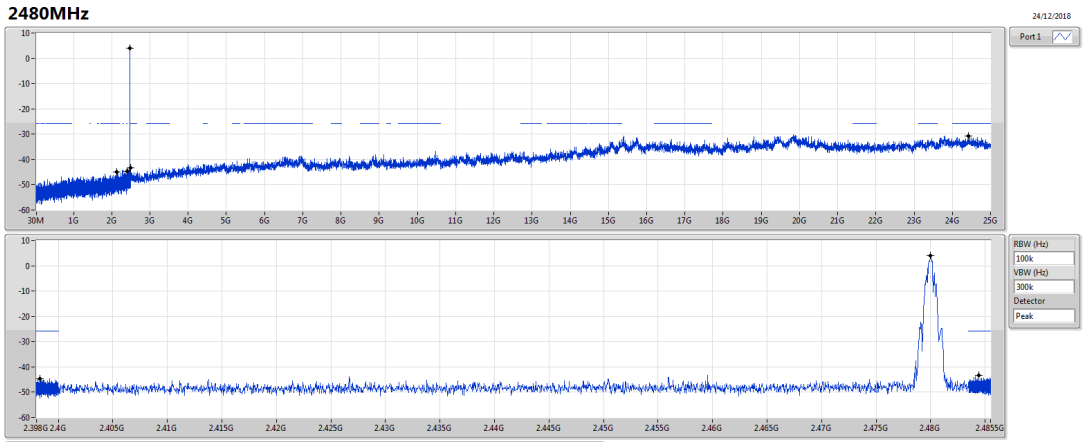
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	4.08	-25.92	2.18488G	-45.48	2.39886G	-44.57	2.48443G	-43.78	24.46528G	-30.74	1

BT-LE(1Mbps) **CSE NdB**

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	4.08	-25.92	2.12894G	-44.93	2.39831G	-44.76	2.4844G	-43.21	24.42588G	-30.72	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	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	454.55M	37.16	46.00	-8.84	-2.75	3	Horizontal	360	1.00	-

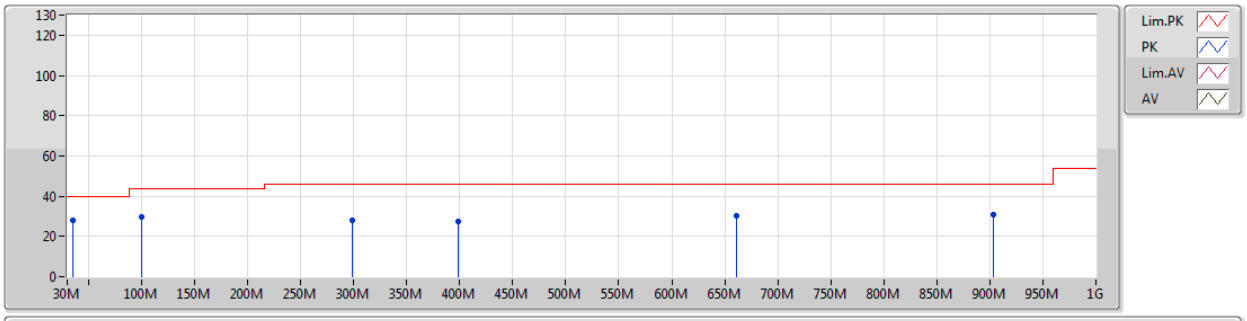
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	35.62M	28.02	40.00	-11.98	-7.24	3	Vertical	0	1.00	-
2440MHz	Pass	PK	100.29M	29.45	43.50	-14.05	-10.28	3	Vertical	0	1.00	-
2440MHz	Pass	PK	298.51M	28.07	46.00	-17.93	-5.73	3	Vertical	0	1.00	-
2440MHz	Pass	PK	398.32M	27.23	46.00	-18.77	-3.63	3	Vertical	0	1.00	-
2440MHz	Pass	PK	661.2M	30.38	46.00	-15.62	-0.29	3	Vertical	0	1.00	-
2440MHz	Pass	PK	903M	31.03	46.00	-14.97	2.64	3	Vertical	0	1.00	-
2440MHz	Pass	PK	35.62M	25.69	40.00	-14.31	-7.24	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	149.49M	24.74	43.50	-18.76	-10.21	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	202.91M	34.19	43.50	-9.31	-10.58	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	349.12M	31.44	46.00	-14.56	-4.76	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	454.55M	37.16	46.00	-8.84	-2.75	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	748.36M	32.97	46.00	-13.03	1.02	3	Horizontal	360	1.00	-

BT-LE(1Mbps)

2440MHz_Adapter

27/12/2018

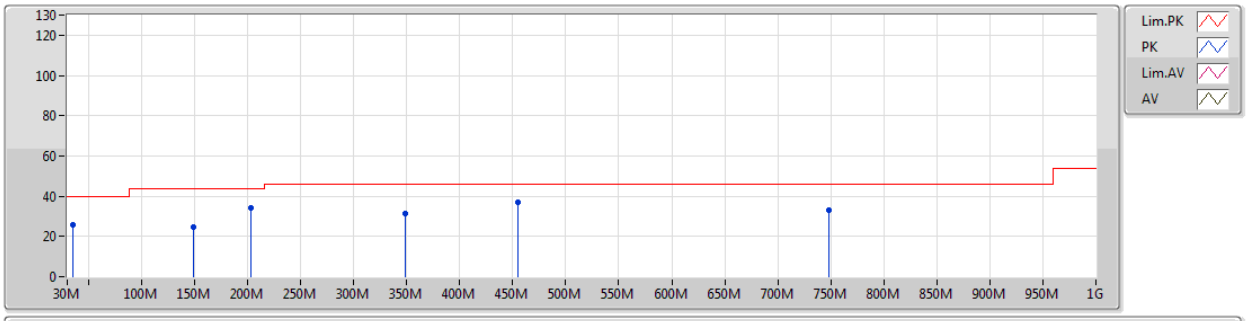


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	35.62M	28.02	40.00	-11.98	-7.24	3	Vertical	0	1.00	-
PK	100.29M	29.45	43.50	-14.05	-10.28	3	Vertical	0	1.00	-
PK	298.51M	28.07	46.00	-17.93	-5.73	3	Vertical	0	1.00	-
PK	398.32M	27.23	46.00	-18.77	-3.63	3	Vertical	0	1.00	-
PK	661.2M	30.38	46.00	-15.62	-0.29	3	Vertical	0	1.00	-
PK	903M	31.03	46.00	-14.97	2.64	3	Vertical	0	1.00	-

BT-LE(1Mbps)

2440MHz_Adapter

27/12/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	35.62M	25.69	40.00	-14.31	-7.24	3	Horizontal	360	1.00	-
PK	149.49M	24.74	43.50	-18.76	-10.21	3	Horizontal	360	1.00	-
PK	202.91M	34.19	43.50	-9.31	-10.58	3	Horizontal	360	1.00	-
PK	349.12M	31.44	46.00	-14.56	-4.76	3	Horizontal	360	1.00	-
PK	454.55M	37.16	46.00	-8.84	-2.75	3	Horizontal	360	1.00	-
PK	748.36M	32.97	46.00	-13.03	1.02	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	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.4835G	47.73	54.00	-6.27	32.29	3	Horizontal	171	2.99	-

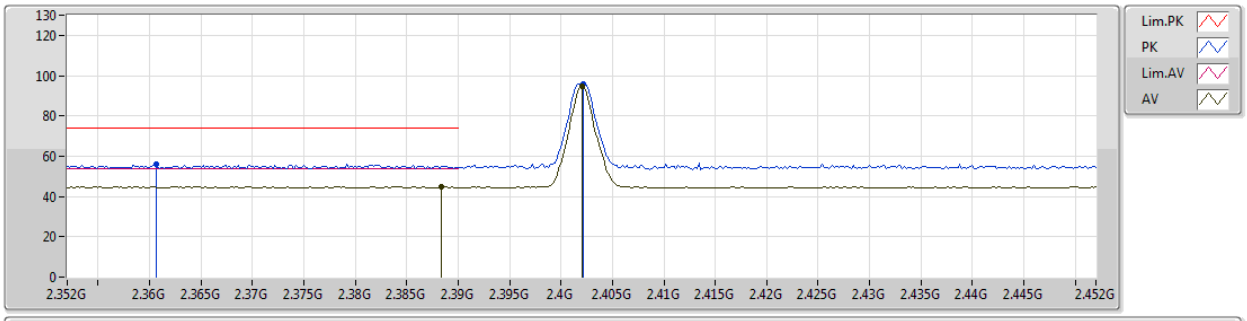
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3884G	44.91	54.00	-9.09	32.00	3	Vertical	174	2.47	-
2402MHz	Pass	AV	2.402G	94.96	Inf	-Inf	32.04	3	Vertical	174	2.47	-
2402MHz	Pass	PK	2.3606G	56.05	74.00	-17.95	31.91	3	Vertical	174	2.47	-
2402MHz	Pass	PK	2.4022G	95.88	Inf	-Inf	32.05	3	Vertical	174	2.47	-
2402MHz	Pass	AV	2.3666G	44.90	54.00	-9.10	31.93	3	Horizontal	249	1.22	-
2402MHz	Pass	AV	2.402G	96.68	Inf	-Inf	32.04	3	Horizontal	249	1.22	-
2402MHz	Pass	PK	2.3704G	56.15	74.00	-17.85	31.94	3	Horizontal	249	1.22	-
2402MHz	Pass	PK	2.4022G	97.64	Inf	-Inf	32.05	3	Horizontal	249	1.22	-
2440MHz	Pass	AV	2.3772G	44.86	54.00	-9.14	31.97	3	Vertical	183	2.99	-
2440MHz	Pass	AV	2.44G	97.16	Inf	-Inf	32.16	3	Vertical	183	2.99	-
2440MHz	Pass	AV	2.4916G	44.87	54.00	-9.13	32.31	3	Vertical	183	2.99	-
2440MHz	Pass	PK	2.3736G	56.39	74.00	-17.61	31.95	3	Vertical	183	2.99	-
2440MHz	Pass	PK	2.4404G	98.20	Inf	-Inf	32.16	3	Vertical	183	2.99	-
2440MHz	Pass	PK	2.4884G	55.46	74.00	-18.54	32.30	3	Vertical	183	2.99	-
2440MHz	Pass	AV	2.3776G	44.89	54.00	-9.11	31.97	3	Horizontal	219	1.02	-
2440MHz	Pass	AV	2.44G	97.53	Inf	-Inf	32.16	3	Horizontal	219	1.02	-
2440MHz	Pass	AV	2.4928G	45.01	54.00	-8.99	32.32	3	Horizontal	219	1.02	-
2440MHz	Pass	PK	2.3824G	56.07	74.00	-17.93	31.98	3	Horizontal	219	1.02	-
2440MHz	Pass	PK	2.4396G	98.42	Inf	-Inf	32.16	3	Horizontal	219	1.02	-
2440MHz	Pass	PK	2.494G	55.88	74.00	-18.12	32.33	3	Horizontal	219	1.02	-
2440MHz	Pass	AV	4.87586G	32.98	54.00	-21.02	3.70	3	Vertical	305	1.53	-
2440MHz	Pass	PK	4.8929G	45.93	74.00	-28.07	3.74	3	Vertical	305	1.53	-
2440MHz	Pass	AV	4.87832G	32.89	54.00	-21.11	3.70	3	Horizontal	230	1.30	-
2440MHz	Pass	PK	4.8812G	44.93	74.00	-29.07	3.71	3	Horizontal	230	1.30	-
2480MHz	Pass	AV	2.48G	95.43	Inf	-Inf	32.28	3	Vertical	145	2.99	-
2480MHz	Pass	AV	2.4835G	45.92	54.00	-8.08	32.29	3	Vertical	145	2.99	-
2480MHz	Pass	PK	2.4798G	96.42	Inf	-Inf	32.28	3	Vertical	145	2.99	-
2480MHz	Pass	PK	2.4852G	56.70	74.00	-17.30	32.29	3	Vertical	145	2.99	-
2480MHz	Pass	AV	2.48G	99.52	Inf	-Inf	32.28	3	Horizontal	171	2.99	-
2480MHz	Pass	AV	2.4835G	47.73	54.00	-6.27	32.29	3	Horizontal	171	2.99	-
2480MHz	Pass	PK	2.4798G	100.51	Inf	-Inf	32.28	3	Horizontal	171	2.99	-
2480MHz	Pass	PK	2.4838G	56.92	74.00	-17.08	32.29	3	Horizontal	171	2.99	-
2480MHz	Pass	AV	4.97386G	33.22	54.00	-20.78	3.91	3	Vertical	351	1.48	-
2480MHz	Pass	PK	4.95208G	45.48	74.00	-28.52	3.86	3	Vertical	351	1.48	-
2480MHz	Pass	AV	4.9501G	33.20	54.00	-20.80	3.86	3	Horizontal	230	1.35	-
2480MHz	Pass	PK	4.97086G	45.74	74.00	-28.26	3.91	3	Horizontal	230	1.35	-

BT-LE(1Mbps)

2402MHz_TX

27/12/2018

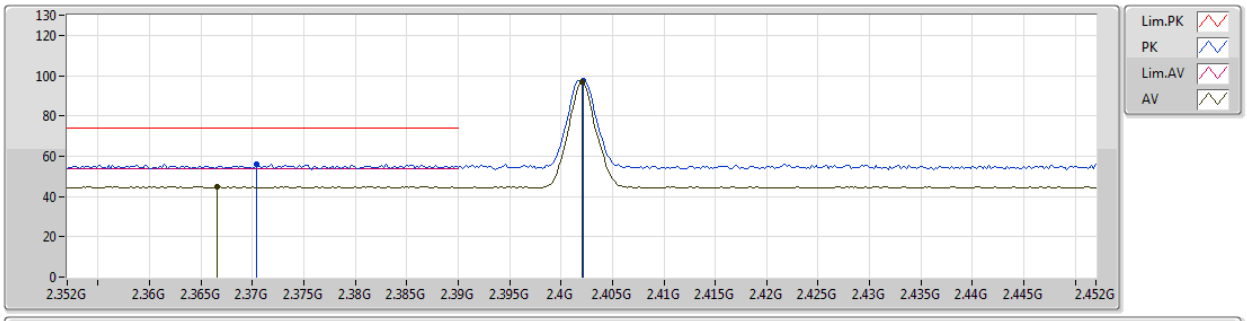


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3884G	44.91	54.00	-9.09	32.00	3	Vertical	174	2.47	-
AV	2.402G	94.96	Inf	-Inf	32.04	3	Vertical	174	2.47	-
PK	2.3606G	56.05	74.00	-17.95	31.91	3	Vertical	174	2.47	-
PK	2.4022G	95.88	Inf	-Inf	32.05	3	Vertical	174	2.47	-

BT-LE(1Mbps)

2402MHz_TX

27/12/2018

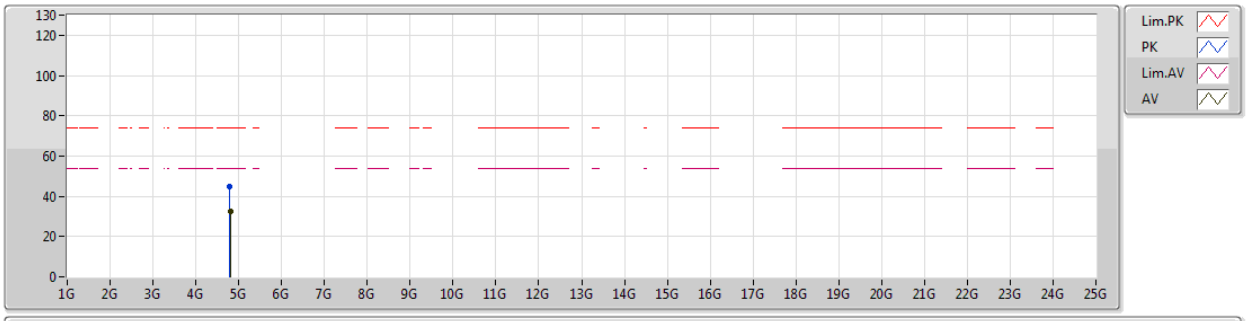


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3666G	44.90	54.00	-9.10	31.93	3	Horizontal	249	1.22	-
AV	2.402G	96.68	Inf	-Inf	32.04	3	Horizontal	249	1.22	-
PK	2.3704G	56.15	74.00	-17.85	31.94	3	Horizontal	249	1.22	-
PK	2.4022G	97.64	Inf	-Inf	32.05	3	Horizontal	249	1.22	-

BT-LE(1Mbps)

2402MHz_TX

27/12/2018

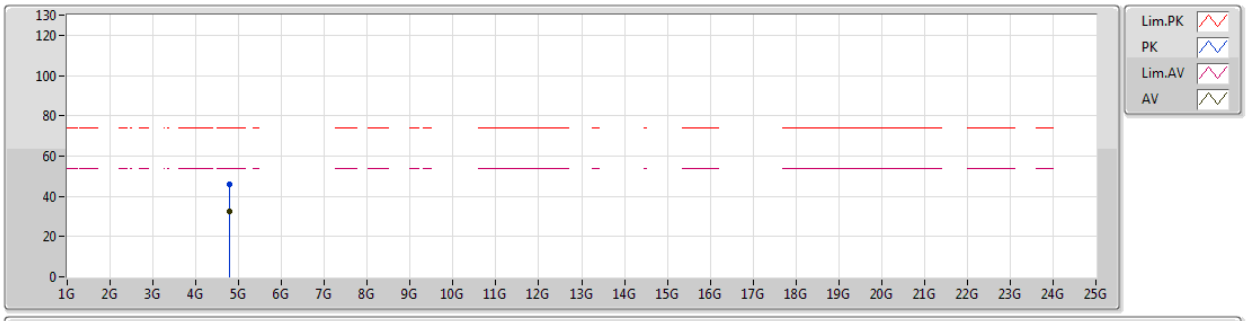


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.80526G	32.49	54.00	-21.51	3.54	3	Vertical	323	2.09	-
PK	4.79782G	44.81	74.00	-29.19	3.53	3	Vertical	323	2.09	-

BT-LE(1Mbps)

2402MHz_TX

27/12/2018

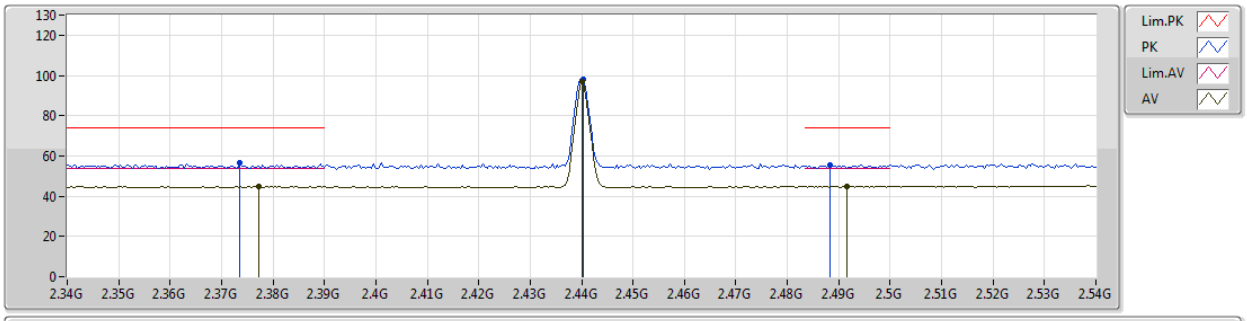


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.79734G	32.53	54.00	-21.47	3.53	3	Horizontal	105	1.51	-
PK	4.79686G	45.80	74.00	-28.20	3.52	3	Horizontal	105	1.51	-

BT-LE(1Mbps)

2440MHz_TX

27/12/2018

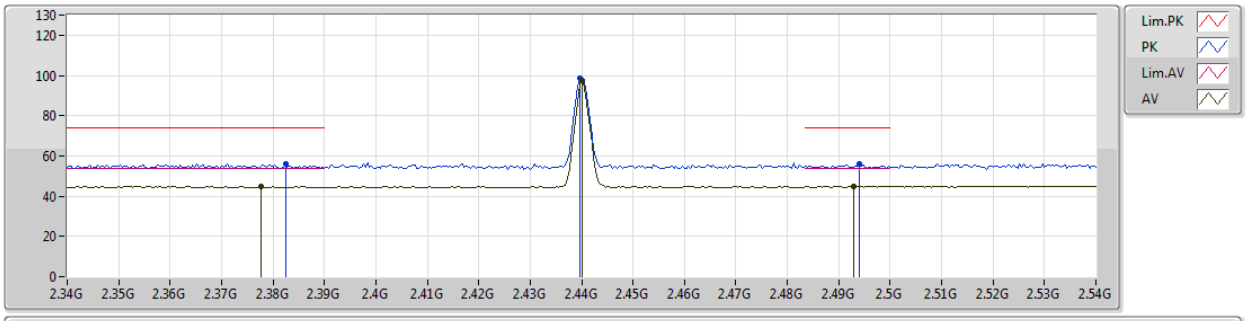


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3772G	44.86	54.00	-9.14	31.97	3	Vertical	183	2.99	-
AV	2.44G	97.16	Inf	-Inf	32.16	3	Vertical	183	2.99	-
AV	2.4916G	44.87	54.00	-9.13	32.31	3	Vertical	183	2.99	-
PK	2.3736G	56.39	74.00	-17.61	31.95	3	Vertical	183	2.99	-
PK	2.4404G	98.20	Inf	-Inf	32.16	3	Vertical	183	2.99	-
PK	2.4884G	55.46	74.00	-18.54	32.30	3	Vertical	183	2.99	-

BT-LE(1Mbps)

2440MHz_TX

27/12/2018

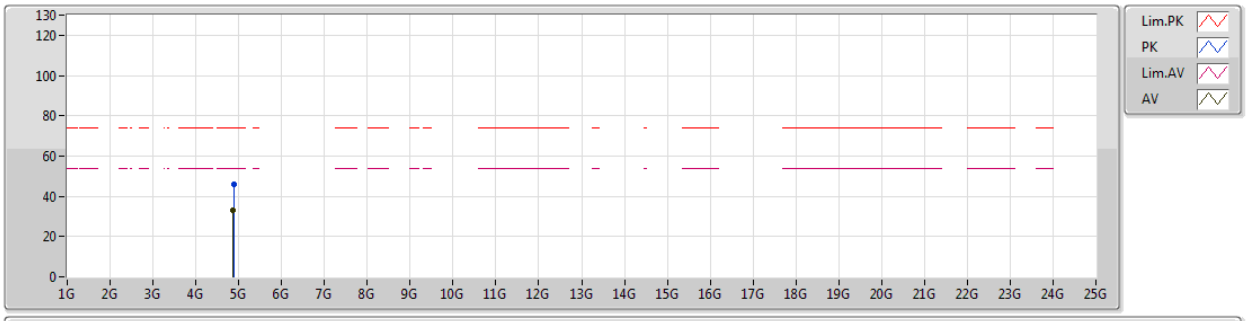


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.3776G	44.89	54.00	-9.11	31.97	3	Horizontal	219	1.02	-
AV	2.44G	97.53	Inf	-Inf	32.16	3	Horizontal	219	1.02	-
AV	2.4928G	45.01	54.00	-8.99	32.32	3	Horizontal	219	1.02	-
PK	2.3824G	56.07	74.00	-17.93	31.98	3	Horizontal	219	1.02	-
PK	2.4396G	98.42	Inf	-Inf	32.16	3	Horizontal	219	1.02	-
PK	2.494G	55.88	74.00	-18.12	32.33	3	Horizontal	219	1.02	-

BT-LE(1Mbps)

2440MHz_TX

27/12/2018

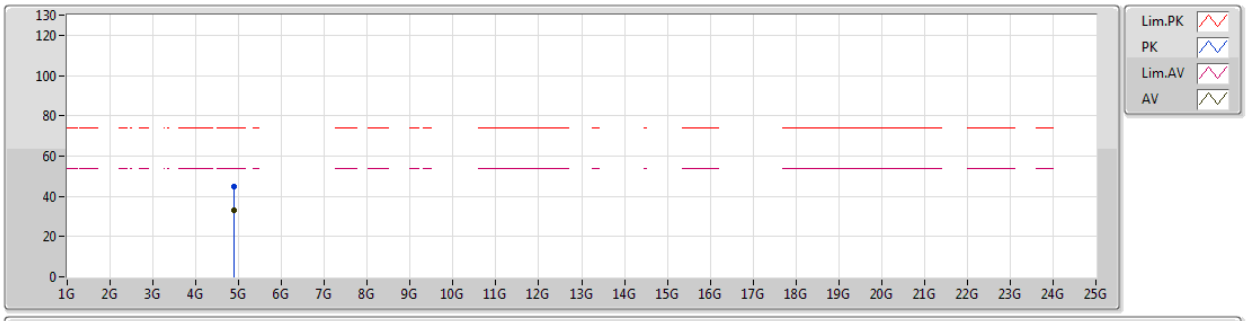


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.87586G	32.98	54.00	-21.02	3.70	3	Vertical	305	1.53	-
PK	4.8929G	45.93	74.00	-28.07	3.74	3	Vertical	305	1.53	-

BT-LE(1Mbps)

2440MHz_TX

27/12/2018

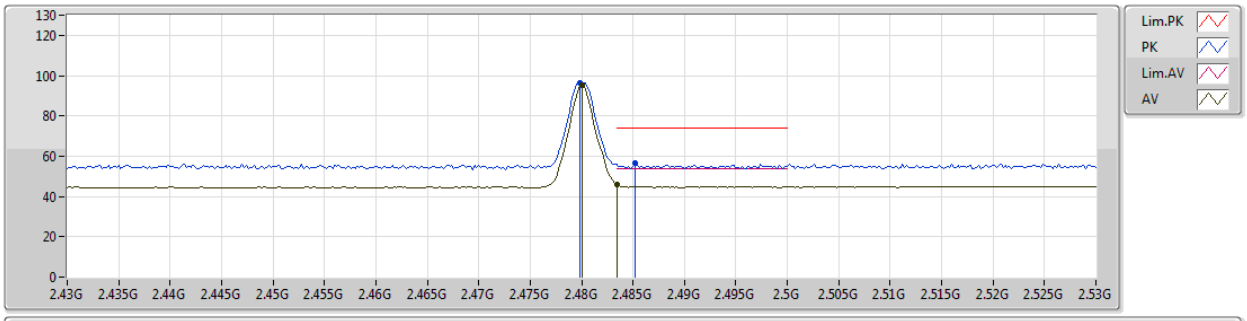


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.87832G	32.89	54.00	-21.11	3.70	3	Horizontal	230	1.30	-
PK	4.8812G	44.93	74.00	-29.07	3.71	3	Horizontal	230	1.30	-

BT-LE(1Mbps)

2480MHz_TX

27/12/2018

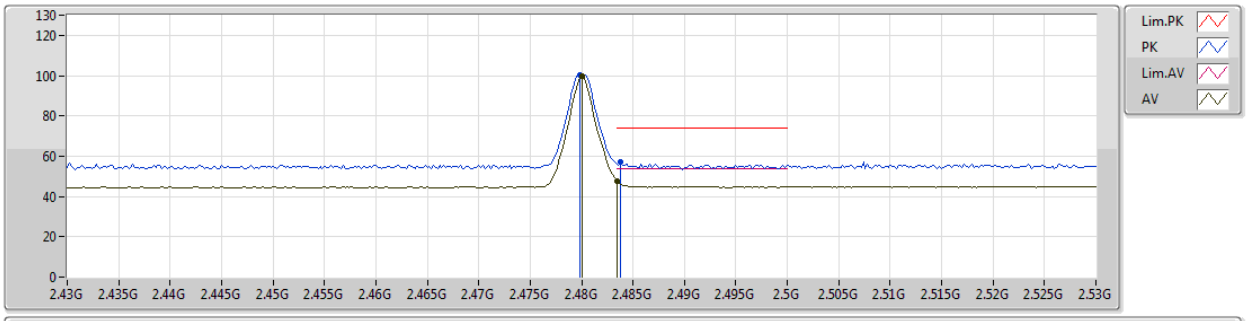


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.48G	95.43	Inf	-Inf	32.28	3	Vertical	145	2.99	-
AV	2.4835G	45.92	54.00	-8.08	32.29	3	Vertical	145	2.99	-
PK	2.4798G	96.42	Inf	-Inf	32.28	3	Vertical	145	2.99	-
PK	2.4852G	56.70	74.00	-17.30	32.29	3	Vertical	145	2.99	-

BT-LE(1Mbps)

2480MHz_TX

27/12/2018

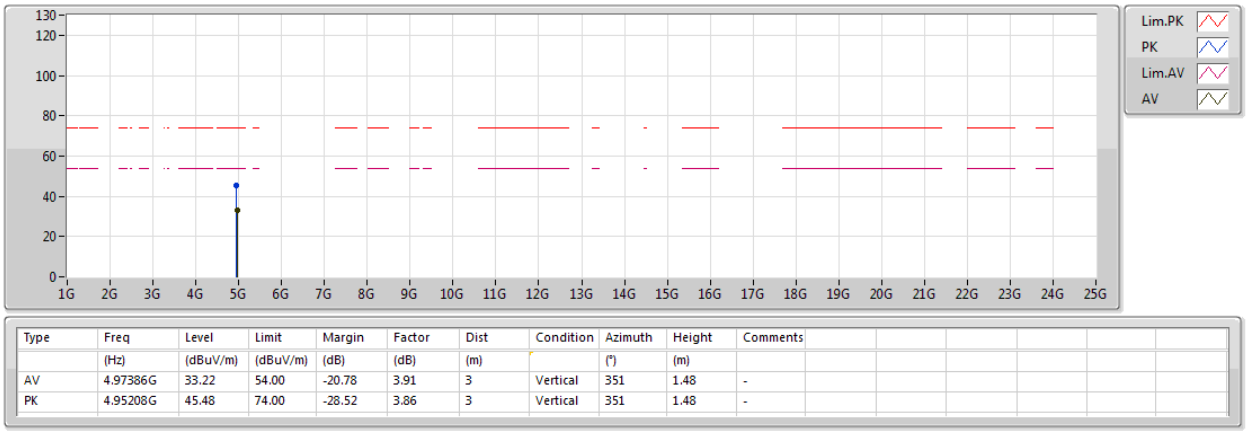


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	2.48G	99.52	Inf	-Inf	32.28	3	Horizontal	171	2.99	-
AV	2.4835G	47.73	54.00	-6.27	32.29	3	Horizontal	171	2.99	-
PK	2.4798G	100.51	Inf	-Inf	32.28	3	Horizontal	171	2.99	-
PK	2.4838G	56.92	74.00	-17.08	32.29	3	Horizontal	171	2.99	-

BT-LE(1Mbps)

2480MHz_TX

27/12/2018

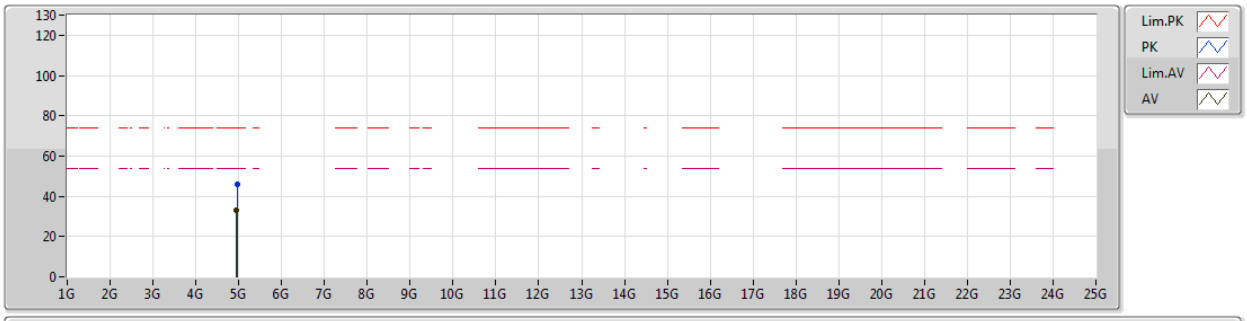


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.97386G	33.22	54.00	-20.78	3.91	3	Vertical	351	1.48	-
PK	4.95208G	45.48	74.00	-28.52	3.86	3	Vertical	351	1.48	-

BT-LE(1Mbps)

2480MHz_TX

27/12/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.9501G	33.20	54.00	-20.80	3.86	3	Horizontal	230	1.35	-
PK	4.97086G	45.74	74.00	-28.26	3.91	3	Horizontal	230	1.35	-