FCC Test Report

FCC ID	:	**2AGBW-LCN31**
Equipment	:	**Philips IP65 Occupancy and Multi Sensor**
Brand Name	:	**PHILIPS**
Model Name	:	**LCN3110/05, LCN3120/05**
Applicant/ Manufacturer	:	**Signify (China) Investment Co., Ltd. Building 9, Lane 888, Tianlin Road, Minhang District, Shanghai 200233 China**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jul. 26, 2019, and testing was started from Jul. 31, 2019 and completed on Jul. 31, 2019. 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.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR970420AZ	01	Initial issue of report	Sep. 20, 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	Not Required	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: Sam Tsai

Report Producer: Kate Lo

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std.	Ch. Frequency (MHz)	Channel Number
2400-2483.5	802.15.4	2405-2480	11-26 [16]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	Zigbee	5	1

Note:.
- Zigbee uses a O-QPSK (250kbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	-	Printed antenna	N/A	2.29

For Zigbee function:

For Zigbee mode (1TX/1RX)

Ant. 1 could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From battery			
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
Zigbee	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

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

1.1.5 Table for Multiple Listing

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

Model Name	Modeling Hole	Description
LCN3110/05	No	LCN3110/05 is identical to LCN3120/05, except LCN3120/05 has modeling hole for light sensor.
LCN3120/05	Yes	

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 v05r02

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	TH06-HY	Tim	22~24.8°C / 61~64%	31/Jul/2019
Radiated	03CH09-HY	Lego	21.3~23.2°C / 54.5~56.4%	31/Jul/2019

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	3.6V

2.2 Test Channel Mode

Test Software	DoS

Mode	Power Setting
Zigbee	-
2405MHz	3
2440MHz	3
2480MHz	3

2.3 The Worst Case Measurement Configuration

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				
AA Battery	**Brand Name**	EVE	**Model Name**	ER14505
	Power Rating	3.6Vdc, 2700mAh	**Type**	Li-ion, Y
Lens hood (AISEL)	**Brand Name**	-	**Model Name**	-
Lens hood (HEMISPHERE)	**Brand Name**	-	**Model Name**	-

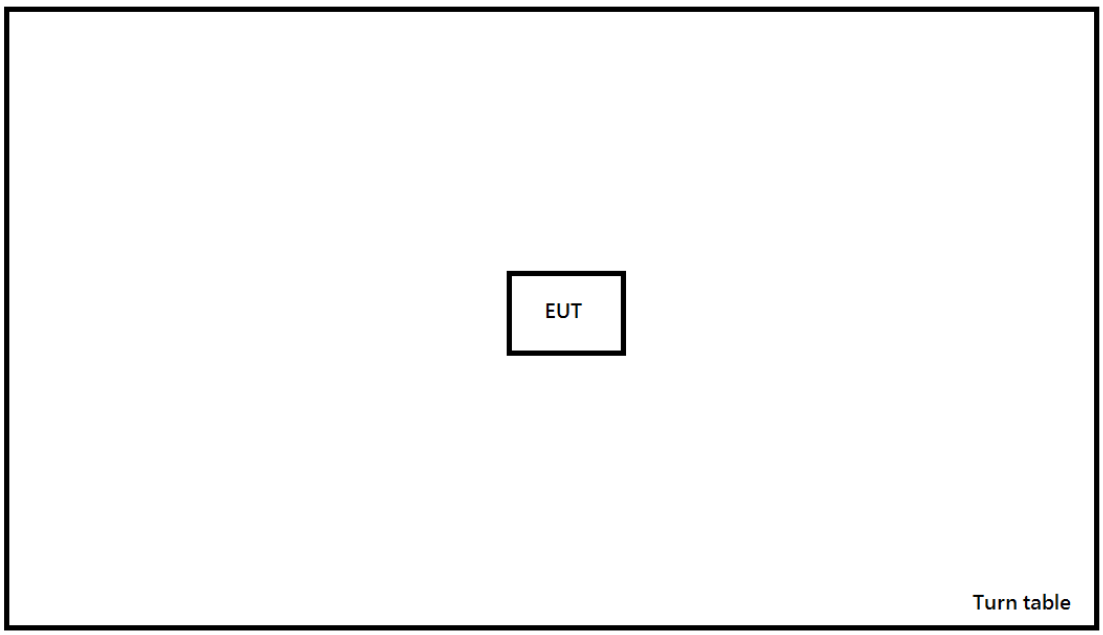
Reminder: Regarding to more detail and other information, please refer to user manual.

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

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

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test < 1GHz



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

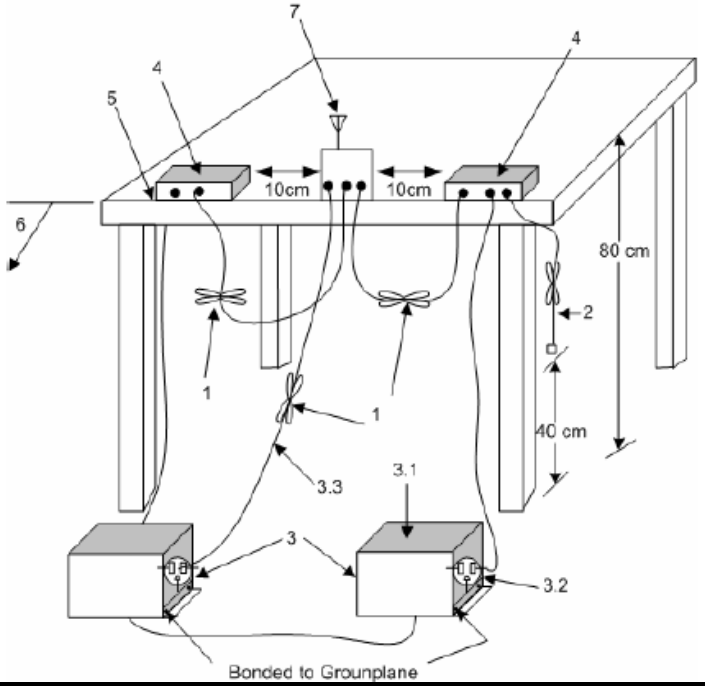
Refer a test equipment and calibration data table in this test report.

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

Please refer to FCC 15.207 which states, “Measurements to demonstrate compliance with the conducted limits are not required for devices employ Battery for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines”.
Therefore, for this device, AC Power Line Conducted Emissions investigation is not required.

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

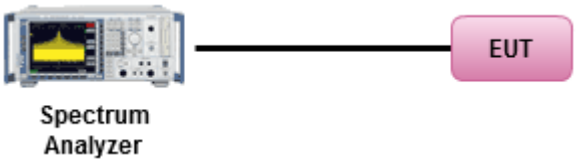
3.2.2 Measuring Instruments

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 A

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 B

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

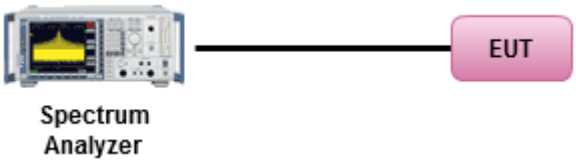
3.4.2 Measuring Instruments

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 C

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 level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.	

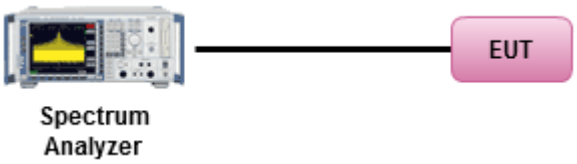
3.5.2 Measuring Instruments

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 D

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.

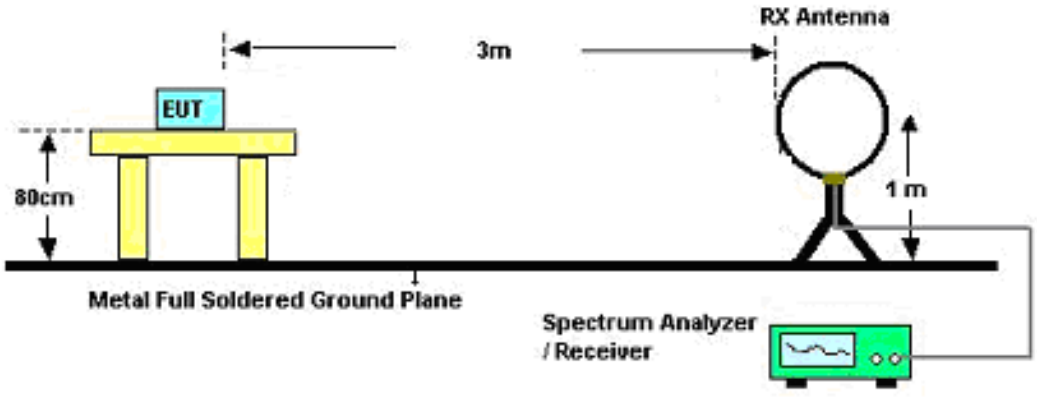
3.6.2 Measuring Instruments

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

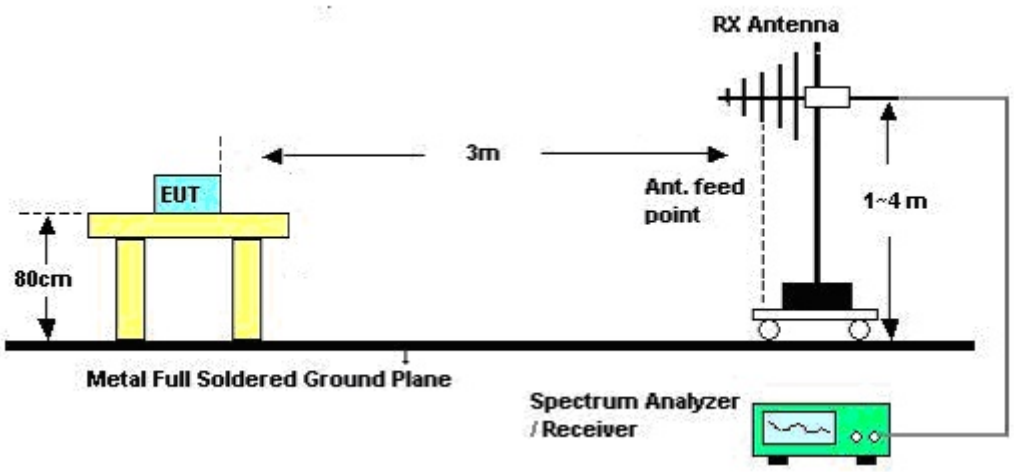
3.6.3 Test Procedures

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).
▪ 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.

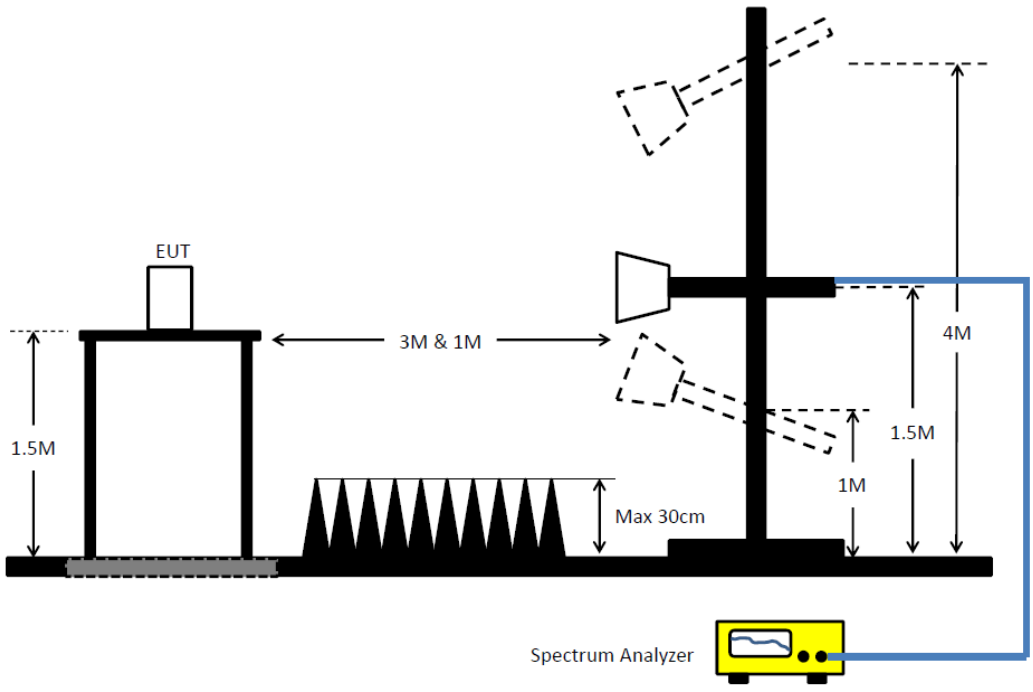
3.6.4 Test Setup

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 E

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	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

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	22/Apr/2019	21/Apr/2020
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz	13/Jun/2019	12/Jun/2020
Microwave System Premplifier	KEYSIGHT	87422A	MY53270197	1GHz~18GHz	30/Nov/2018	29/Nov/2019
Amplifier	EMC	EMC9135	980232	9KHz~1GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	09/Apr/2019	08/Apr/2020
Spectrum Analyzer	R&S	FSP30	100793	9kHz~30GHz	05/Jun/2019	04/Jun/2020
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	22/May/2019	21/May/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	22/May/2019	21/May/2020
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz~40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k~30MHz	15/Mar/2019	14/Mar/2020
LF-CABLE-2019 0218	Jye Bao	RG142	CB028	9kHz~1GHz	18/Feb/2019	17/Feb/2020
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz~40GHz	13/Mar/2019	12/Mar/2020

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Zigbee	1.594M	2.386M	2M39G1D	1.556M	2.368M

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)
Zigbee	-	-	-	-
2405MHz_TnomVnom	Pass	500k	1.563M	2.386M
2440MHz_TnomVnom	Pass	500k	1.594M	2.374M
2480MHz_TnomVnom	Pass	500k	1.556M	2.368M

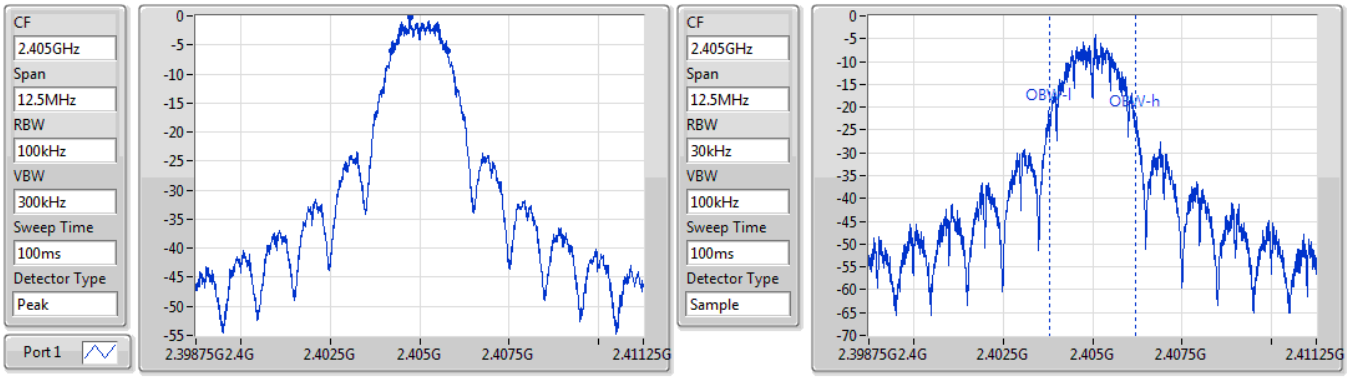
Port X-N dB = Port **X** 6dB down bandwidth; **Port X-OBW** = Port **X** 99% occupied bandwidth;

Zigbee

EBW

2405MHz

31/07/2019



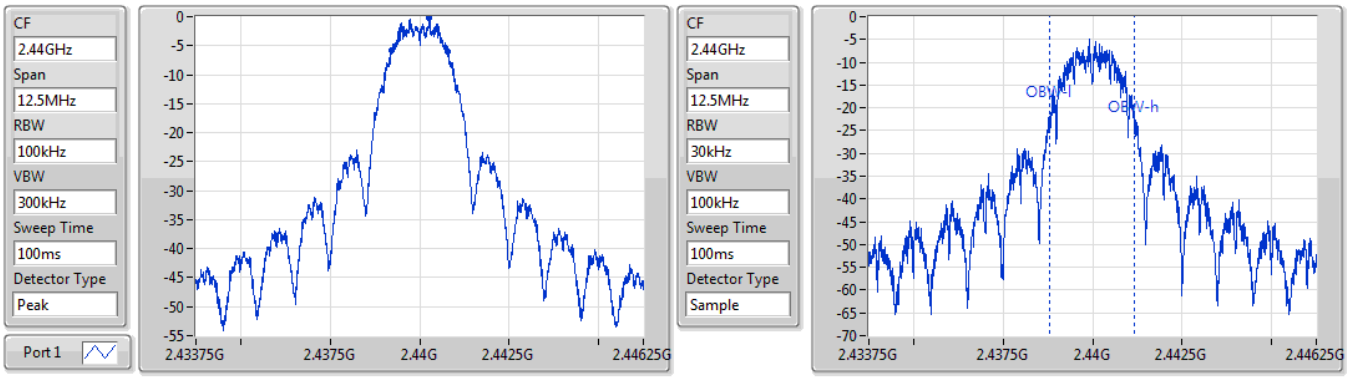
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.563M	2.404213G	2.405775G	2.386M	2.403801G	2.406187G	500k	1

Zigbee

EBW

2440MHz

31/07/2019

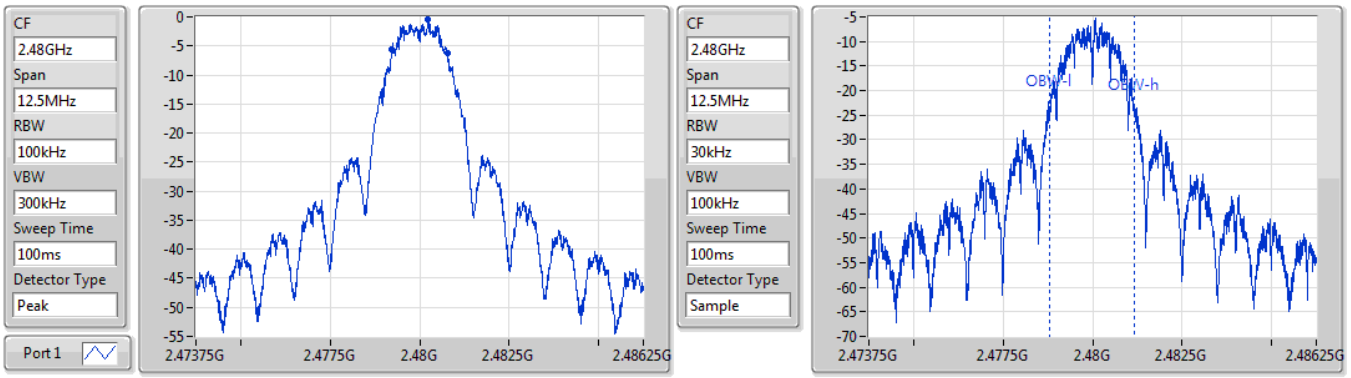


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.594M	2.4392G	2.440794G	2.374M	2.438801G	2.441174G	500k	1

Zigbee **EBW**

2480MHz

31/07/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.556M	2.479219G	2.480775G	2.368M	2.478807G	2.481174G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Zigbee	3.53	0.00225

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Zigbee	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.29	3.53	3.53	30.00
2440MHz_TnomVnom	Pass	2.29	3.49	3.49	30.00
2480MHz_TnomVnom	Pass	2.29	3.33	3.33	30.00

DG = Directional Gain; **Port X** = Port X output power

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Zigbee	-13.18

RBW=3 kHz.

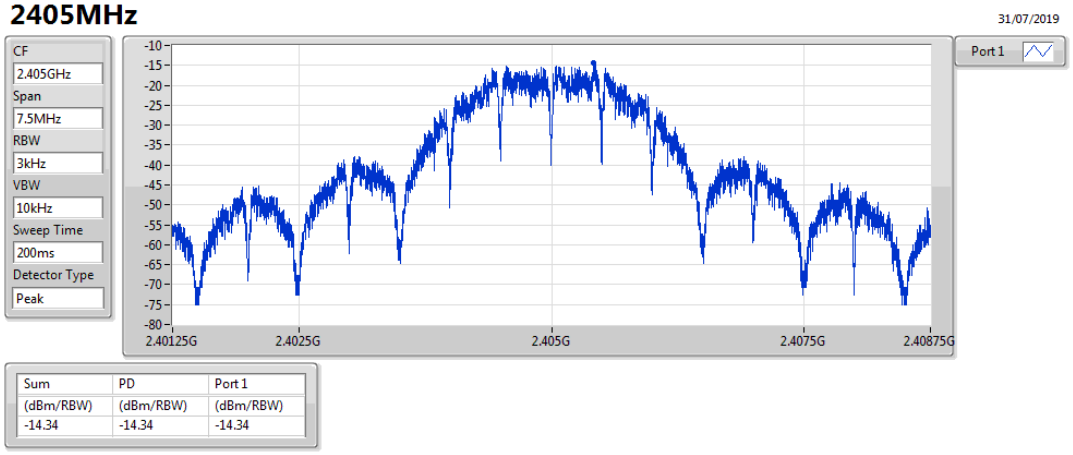
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Zigbee	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.29	-14.34	-14.34	8.00
2440MHz_TnomVnom	Pass	2.29	-13.19	-13.19	8.00
2480MHz_TnomVnom	Pass	2.29	-13.18	-13.18	8.00

DG = Directional Gain; RBW=3 kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

Zigbee **PSD**

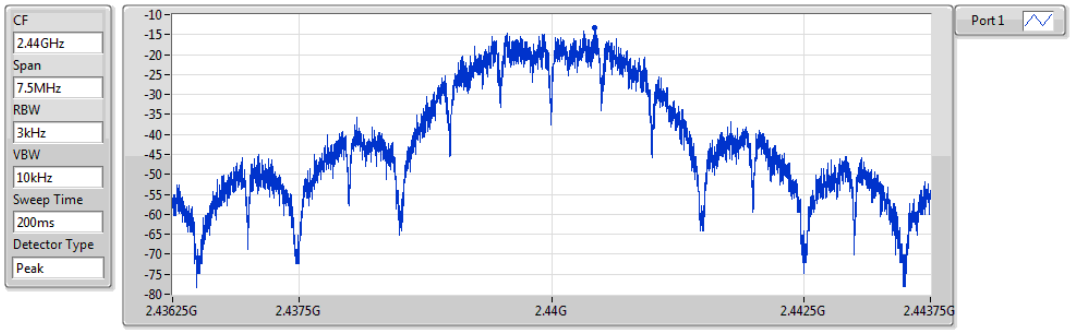
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-14.34	-14.34	-14.34

Zigbee **PSD**

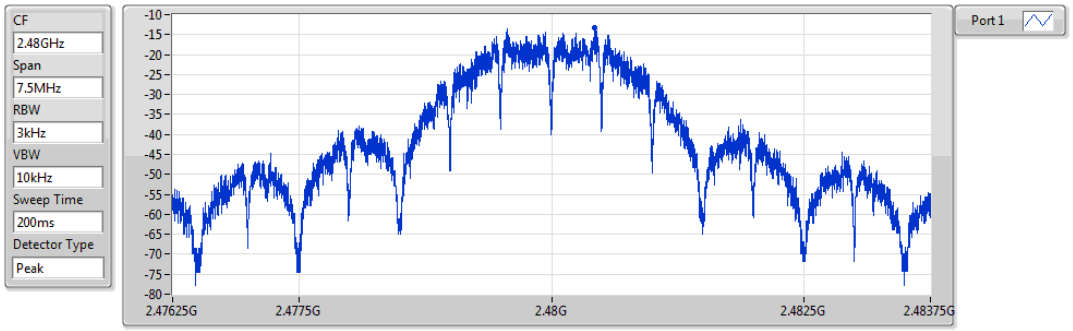
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.19	-13.19	-13.19

Zigbee **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.18	-13.18	-13.18

Summary

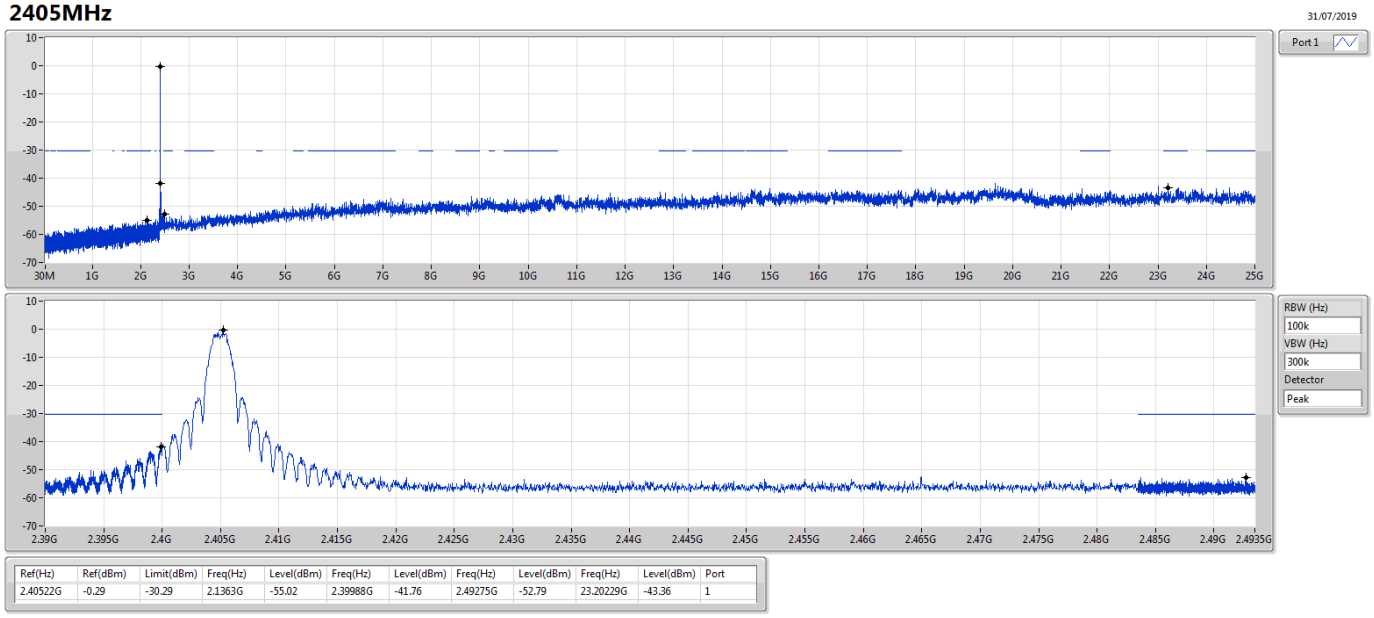
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	2.40522G	-0.29	-30.29	2.14043G	-54.45	2.39408G	-53.42	2.4839G	-37.24	24.78056G	-42.60	1

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
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.40522G	-0.29	-30.29	2.1363G	-55.02	2.39988G	-41.76	2.49275G	-52.79	23.20229G	-43.36	1
2440MHz_TnomVnom	Pass	2.40522G	-0.29	-30.29	2.18026G	-55.58	2.39857G	-53.61	2.48367G	-52.08	15.0887G	-43.61	1
2480MHz_TnomVnom	Pass	2.40522G	-0.29	-30.29	2.14043G	-54.45	2.39408G	-53.42	2.4839G	-37.24	24.78056G	-42.60	1

Zigbee **CSE NdB**

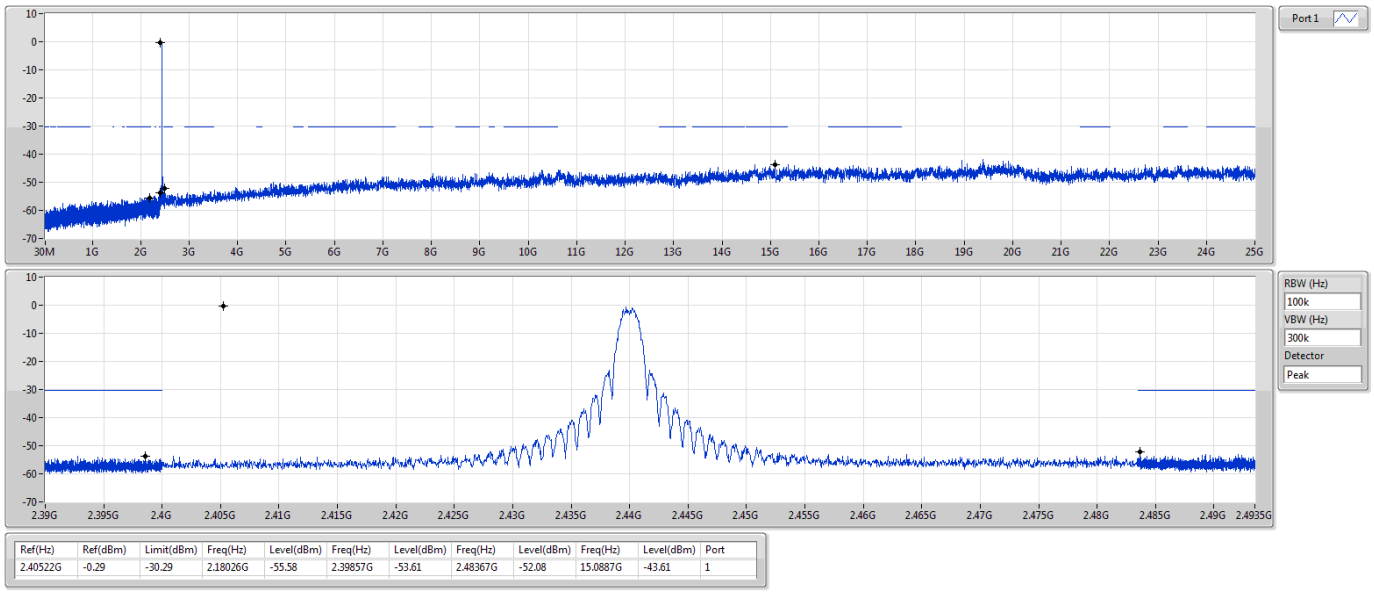
2405MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40522G	-0.29	-30.29	2.1363G	-55.02	2.39988G	-41.76	2.49275G	-52.79	23.20229G	-43.36	1

Zigbee **CSE NdB**

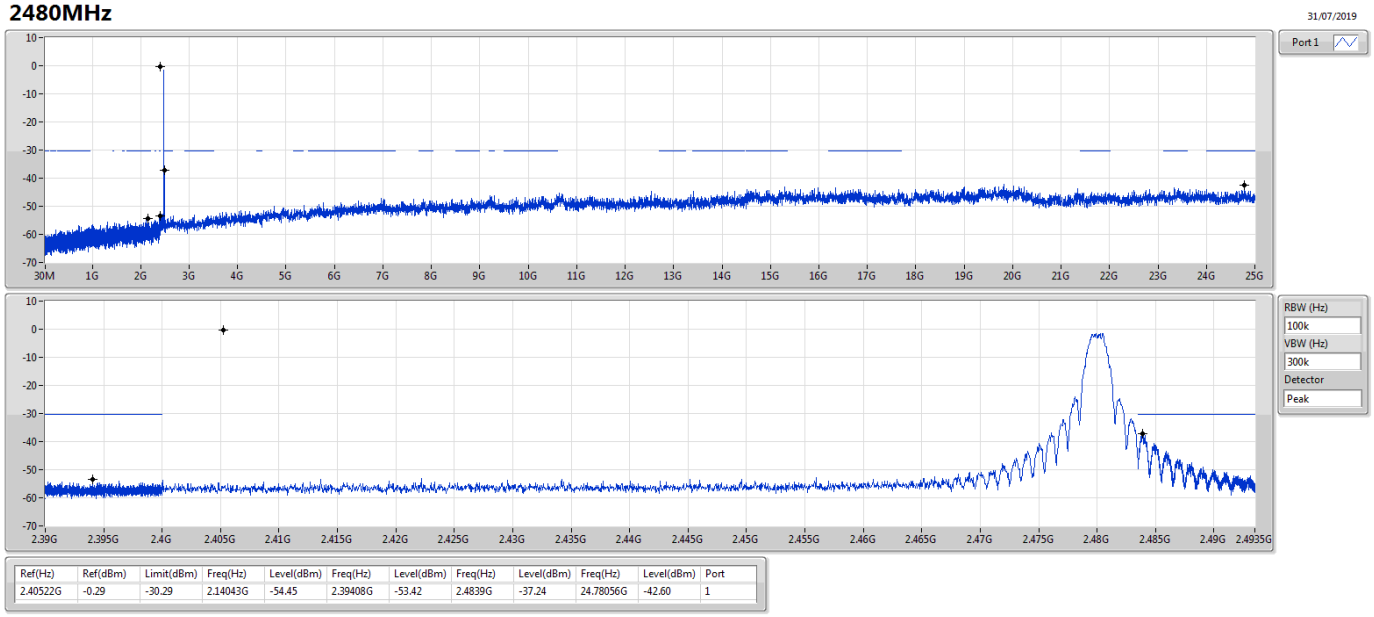
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40522G	-0.29	-30.29	2.18026G	-55.58	2.39857G	-53.61	2.48367G	-52.08	15.0887G	-43.61	1

Zigbee **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
2.40522G	-0.29	-30.29	2.14043G	-54.45	2.39408G	-53.42	2.4839G	-37.24	24.78056G	-42.60	1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	PK	55.22M	32.66	40.00	-7.34	3	Horizontal	360	1.00	-

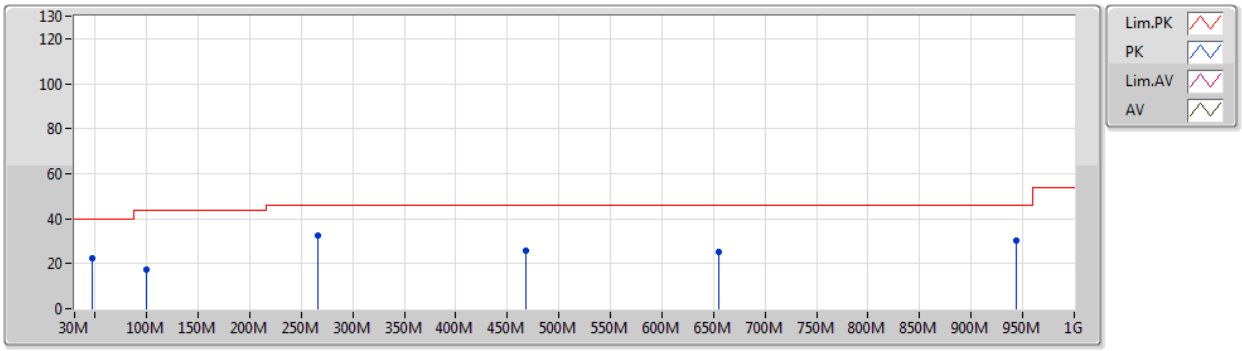
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Zigbee	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	47.46M	22.62	40.00	-17.38	3	Vertical	0	2.00	-
2440MHz	Pass	PK	99.84M	17.63	43.50	-25.87	3	Vertical	0	2.00	-
2440MHz	Pass	PK	266.68M	32.77	46.00	-13.23	3	Vertical	0	2.00	-
2440MHz	Pass	PK	468.44M	25.52	46.00	-20.48	3	Vertical	0	2.00	-
2440MHz	Pass	PK	654.68M	25.37	46.00	-20.63	3	Vertical	0	2.00	-
2440MHz	Pass	PK	943.74M	30.27	46.00	-15.73	3	Vertical	0	2.00	-
2440MHz	Pass	PK	55.22M	32.66	40.00	-7.34	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	103.72M	25.69	43.50	-17.81	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	260.86M	25.23	46.00	-20.77	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	332.64M	28.35	46.00	-17.65	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	571.26M	25.38	46.00	-20.62	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	767.2M	27.65	46.00	-18.35	3	Horizontal	360	1.00	-

Zigbee

31/07/2019

2440MHz_Battery

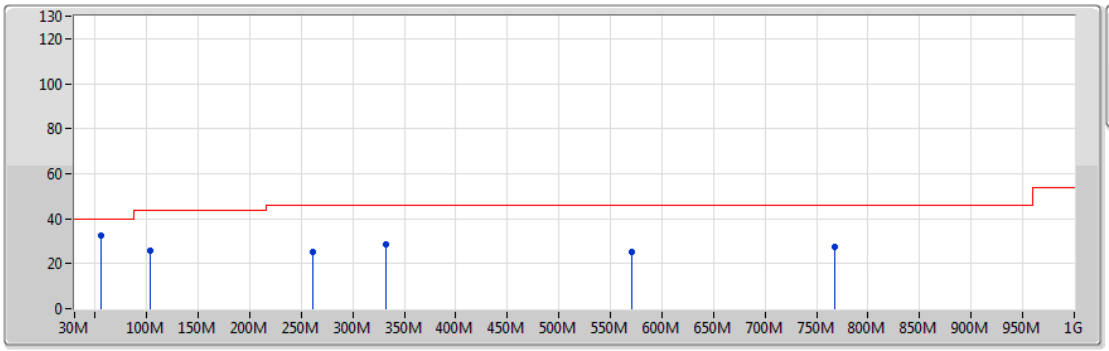


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	47.46M	22.62	40.00	-17.38	-22.06	3	Vertical	0	2.00	-	44.68	14.56	0.57	37.19
PK	99.84M	17.63	43.50	-25.87	-20.84	3	Vertical	0	2.00	-	38.47	15.13	0.81	36.78
PK	266.68M	32.77	46.00	-13.23	-16.09	3	Vertical	0	2.00	-	48.86	19.01	1.34	36.44
PK	468.44M	25.52	46.00	-20.48	-12.29	3	Vertical	0	2.00	-	37.81	22.69	1.85	36.83
PK	654.68M	25.37	46.00	-20.63	-9.52	3	Vertical	0	2.00	-	34.89	25.56	2.21	37.29
PK	943.74M	30.27	46.00	-15.73	-4.80	3	Vertical	0	2.00	-	35.07	29.92	2.60	37.32

Zigbee

31/07/2019

2440MHz_Battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	55.22M	32.66	40.00	-7.34	-25.00	3	Horizontal	360	1.00	-	57.66	11.52	0.60	37.12
PK	103.72M	25.69	43.50	-17.81	-20.43	3	Horizontal	360	1.00	-	46.12	15.52	0.82	36.77
PK	260.86M	25.23	46.00	-20.77	-15.67	3	Horizontal	360	1.00	-	40.90	19.44	1.32	36.43
PK	332.64M	28.35	46.00	-17.65	-15.93	3	Horizontal	360	1.00	-	44.28	19.07	1.53	36.53
PK	571.26M	25.38	46.00	-20.62	-10.26	3	Horizontal	360	1.00	-	35.64	24.82	2.05	37.13
PK	767.2M	27.65	46.00	-18.35	-7.78	3	Horizontal	360	1.00	-	35.43	27.29	2.38	37.45

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	AV	2.48351G	48.32	54.00	-5.68	3	Horizontal	19	1.00	-

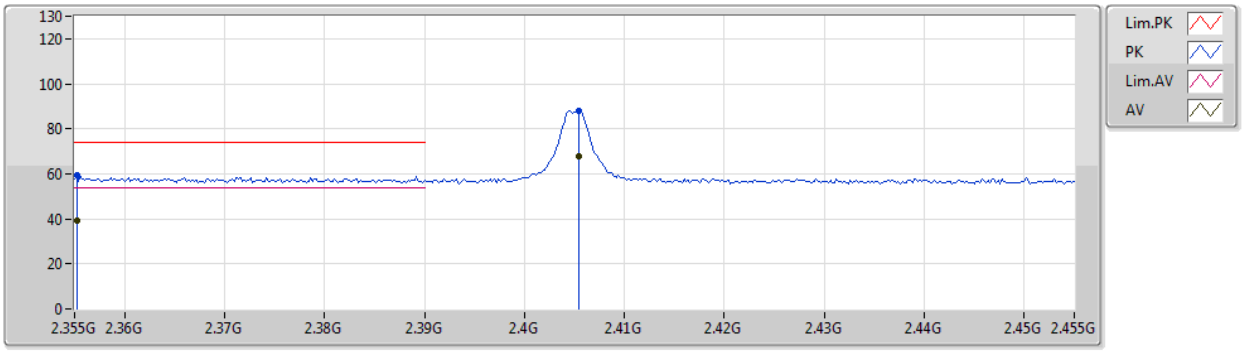
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Zigbee	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.3552G	39.17	54.00	-14.83	3	Vertical	34	2.84	-
2405MHz	Pass	AV	2.4054G	68.04	Inf	-Inf	3	Vertical	34	2.84	-
2405MHz	Pass	PK	2.3552G	59.17	74.00	-14.83	3	Vertical	34	2.84	-
2405MHz	Pass	PK	2.4054G	88.04	Inf	-Inf	3	Vertical	34	2.84	-
2405MHz	Pass	AV	2.356G	38.42	54.00	-15.58	3	Horizontal	10	1.08	-
2405MHz	Pass	AV	2.4056G	79.95	Inf	-Inf	3	Horizontal	10	1.08	-
2405MHz	Pass	PK	2.356G	58.42	74.00	-15.58	3	Horizontal	10	1.08	-
2405MHz	Pass	PK	2.4056G	99.95	Inf	-Inf	3	Horizontal	10	1.08	-
2405MHz	Pass	AV	4.81106G	31.06	54.00	-22.94	3	Vertical	324	3.00	-
2405MHz	Pass	PK	4.81106G	51.06	74.00	-22.94	3	Vertical	324	3.00	-
2405MHz	Pass	AV	4.80903G	28.53	54.00	-25.47	3	Horizontal	332	1.08	-
2405MHz	Pass	PK	4.80903G	48.53	74.00	-25.47	3	Horizontal	332	1.08	-
2440MHz	Pass	AV	2.35G	38.52	54.00	-15.48	3	Vertical	52	3.00	-
2440MHz	Pass	AV	2.4404G	70.16	Inf	-Inf	3	Vertical	52	3.00	-
2440MHz	Pass	AV	2.488G	37.49	54.00	-16.51	3	Vertical	52	3.00	-
2440MHz	Pass	PK	2.35G	58.52	74.00	-15.48	3	Vertical	52	3.00	-
2440MHz	Pass	PK	2.4404G	90.16	Inf	-Inf	3	Vertical	52	3.00	-
2440MHz	Pass	PK	2.488G	57.49	74.00	-16.51	3	Vertical	52	3.00	-
2440MHz	Pass	AV	2.3428G	39.00	54.00	-15.00	3	Horizontal	9	1.00	-
2440MHz	Pass	AV	2.4404G	80.20	Inf	-Inf	3	Horizontal	9	1.00	-
2440MHz	Pass	AV	2.498G	37.80	54.00	-16.20	3	Horizontal	9	1.00	-
2440MHz	Pass	PK	2.3428G	59.00	74.00	-15.00	3	Horizontal	9	1.00	-
2440MHz	Pass	PK	2.4404G	100.20	Inf	-Inf	3	Horizontal	9	1.00	-
2440MHz	Pass	PK	2.498G	57.80	74.00	-16.20	3	Horizontal	9	1.00	-
2440MHz	Pass	AV	4.8792G	30.16	54.00	-23.84	3	Vertical	328	3.00	-
2440MHz	Pass	PK	4.8792G	50.16	74.00	-23.84	3	Vertical	328	3.00	-
2440MHz	Pass	AV	4.87898G	28.48	54.00	-25.52	3	Horizontal	335	1.08	-
2440MHz	Pass	PK	4.87898G	48.48	74.00	-25.52	3	Horizontal	335	1.08	-
2480MHz	Pass	AV	2.4804G	68.39	Inf	-Inf	3	Vertical	56	2.99	-
2480MHz	Pass	AV	2.4835G	41.65	54.00	-12.35	3	Vertical	56	2.99	-
2480MHz	Pass	PK	2.4804G	88.39	Inf	-Inf	3	Vertical	56	2.99	-
2480MHz	Pass	PK	2.4835G	61.65	74.00	-12.35	3	Vertical	56	2.99	-
2480MHz	Pass	AV	2.4794G	79.00	Inf	-Inf	3	Horizontal	19	1.00	-
2480MHz	Pass	AV	2.48351G	48.32	54.00	-5.68	3	Horizontal	19	1.00	-
2480MHz	Pass	PK	2.4794G	99.00	Inf	-Inf	3	Horizontal	19	1.00	-
2480MHz	Pass	PK	2.48351G	68.32	74.00	-5.68	3	Horizontal	19	1.00	-
2480MHz	Pass	AV	4.959G	30.51	54.00	-23.49	3	Vertical	131	3.00	-
2480MHz	Pass	PK	4.959G	50.51	74.00	-23.49	3	Vertical	131	3.00	-
2480MHz	Pass	AV	4.95905G	29.12	54.00	-24.88	3	Horizontal	13	2.00	-
2480MHz	Pass	PK	4.95905G	49.12	74.00	-24.88	3	Horizontal	13	2.00	-

Zigbee

31/07/2019

2405MHz_TX

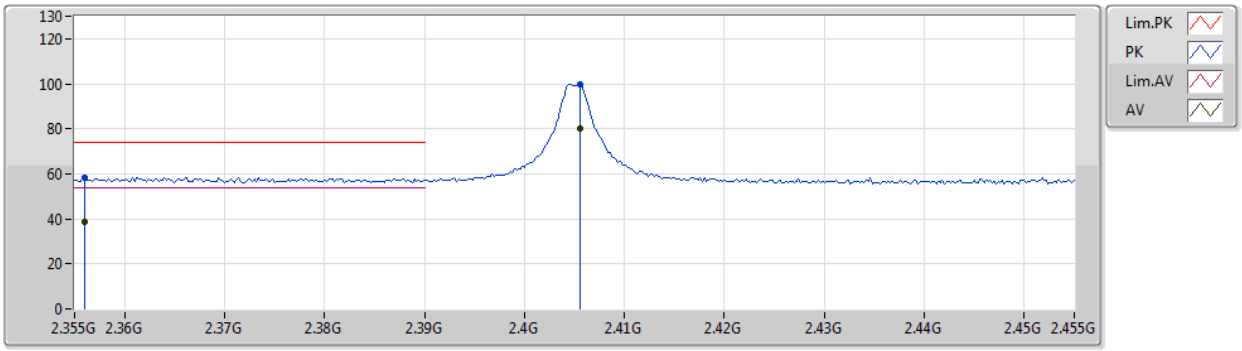


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3552G	39.17	54.00	-14.83	33.90	3	Vertical	34	2.84	-	5.27	27.78	6.12	-
AV	2.4054G	68.04	Inf	-Inf	33.71	3	Vertical	34	2.84	-	34.33	27.59	6.12	-
PK	2.3552G	59.17	74.00	-14.83	33.90	3	Vertical	34	2.84	-	25.27	27.78	6.12	-
PK	2.4054G	88.04	Inf	-Inf	33.71	3	Vertical	34	2.84	-	54.33	27.59	6.12	-

Zigbee

31/07/2019

2405MHz_TX

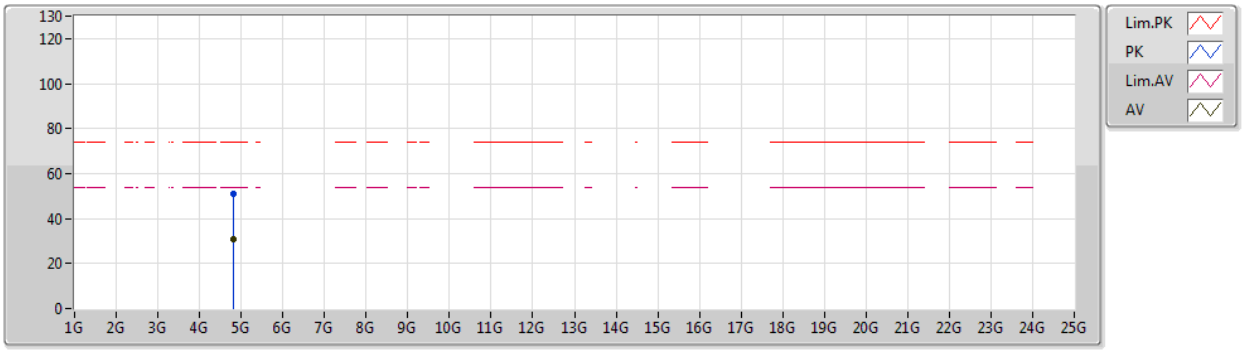


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.356G	38.42	54.00	-15.58	33.90	3	Horizontal	10	1.08	-	4.52	27.78	6.12	-
AV	2.4056G	79.95	Inf	-Inf	33.71	3	Horizontal	10	1.08	-	46.24	27.59	6.12	-
PK	2.356G	58.42	74.00	-15.58	33.90	3	Horizontal	10	1.08	-	24.52	27.78	6.12	-
PK	2.4056G	99.95	Inf	-Inf	33.71	3	Horizontal	10	1.08	-	66.24	27.59	6.12	-

Zigbee

2405MHz_TX

31/07/2019

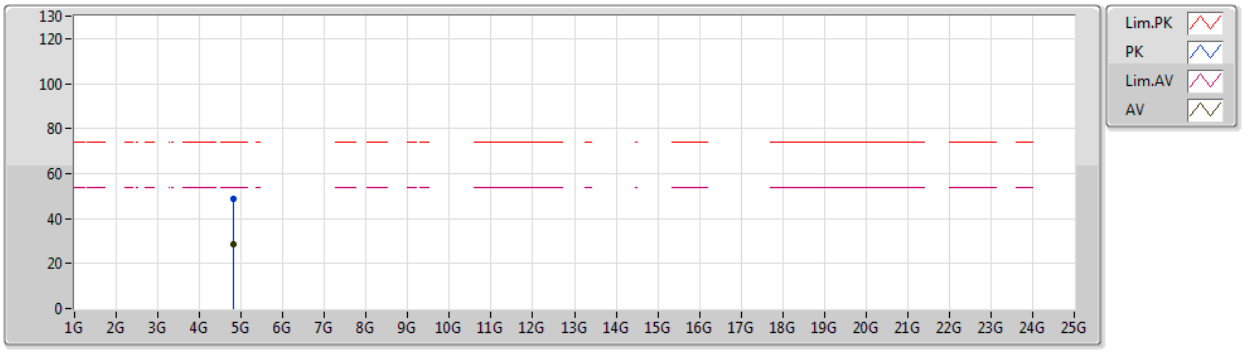


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.81106G	31.06	54.00	-22.94	5.71	3	Vertical	324	3.00	-	25.35	31.10	8.91	34.30
PK	4.81106G	51.06	74.00	-22.94	5.71	3	Vertical	324	3.00	-	45.35	31.10	8.91	34.30

Zigbee

2405MHz_TX

31/07/2019

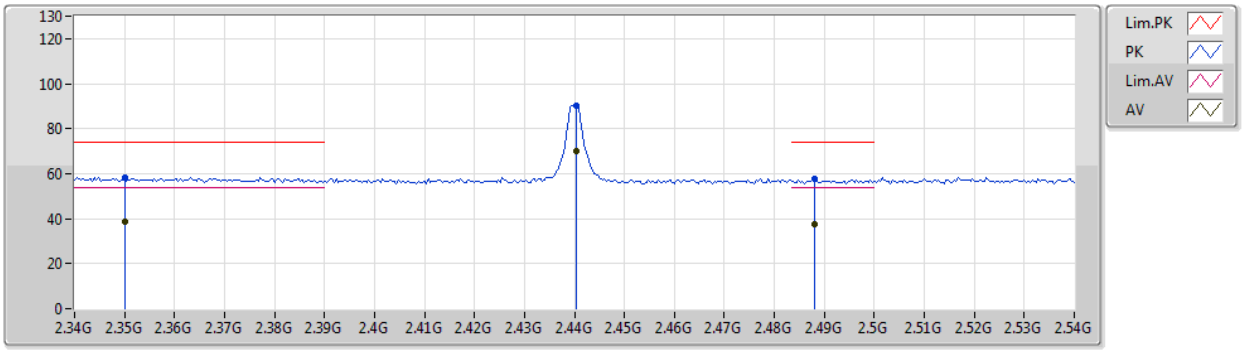


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80903G	28.53	54.00	-25.47	5.70	3	Horizontal	332	1.08	-	22.83	31.10	8.90	34.30
PK	4.80903G	48.53	74.00	-25.47	5.70	3	Horizontal	332	1.08	-	42.83	31.10	8.90	34.30

Zigbee

31/07/2019

2440MHz_TX

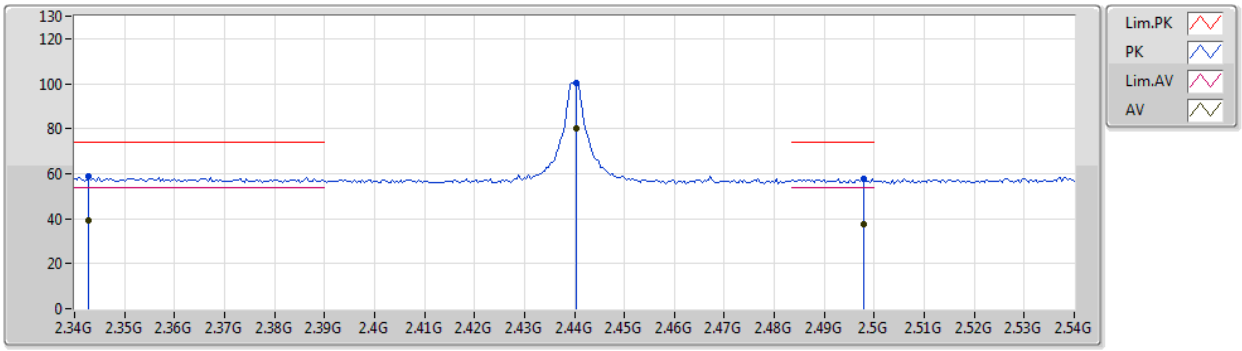


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.35G	38.52	54.00	-15.48	33.92	3	Vertical	52	3.00	-	4.60	27.80	6.12	-
AV	2.4404G	70.16	Inf	-Inf	33.69	3	Vertical	52	3.00	-	36.47	27.56	6.13	-
AV	2.488G	37.49	54.00	-16.51	33.66	3	Vertical	52	3.00	-	3.83	27.51	6.15	-
PK	2.35G	58.52	74.00	-15.48	33.92	3	Vertical	52	3.00	-	24.60	27.80	6.12	-
PK	2.4404G	90.16	Inf	-Inf	33.69	3	Vertical	52	3.00	-	56.47	27.56	6.13	-
PK	2.488G	57.49	74.00	-16.51	33.66	3	Vertical	52	3.00	-	23.83	27.51	6.15	-

Zigbee

31/07/2019

2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3428G	39.00	54.00	-15.00	33.95	3	Horizontal	9	1.00	-	5.05	27.83	6.12	-
AV	2.4404G	80.20	Inf	-Inf	33.69	3	Horizontal	9	1.00	-	46.51	27.56	6.13	-
AV	2.498G	37.80	54.00	-16.20	33.65	3	Horizontal	9	1.00	-	4.15	27.50	6.15	-
PK	2.3428G	59.00	74.00	-15.00	33.95	3	Horizontal	9	1.00	-	25.05	27.83	6.12	-
PK	2.4404G	100.20	Inf	-Inf	33.69	3	Horizontal	9	1.00	-	66.51	27.56	6.13	-
PK	2.498G	57.80	74.00	-16.20	33.65	3	Horizontal	9	1.00	-	24.15	27.50	6.15	-

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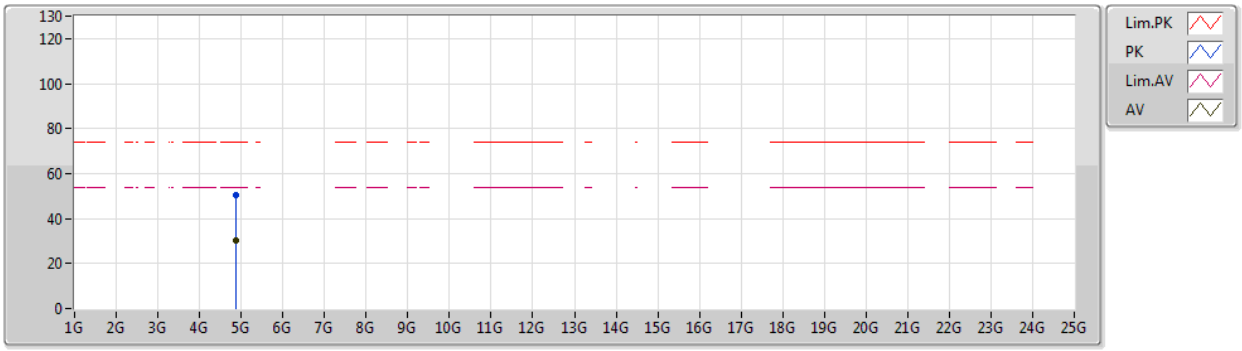
2440MHz_TX

31/07/2019



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8792G	30.16	54.00	-23.84	5.78	3	Vertical	328	3.00	-	24.38	31.10	8.96	34.28
PK	4.8792G	50.16	74.00	-23.84	5.78	3	Vertical	328	3.00	-	44.38	31.10	8.96	34.28

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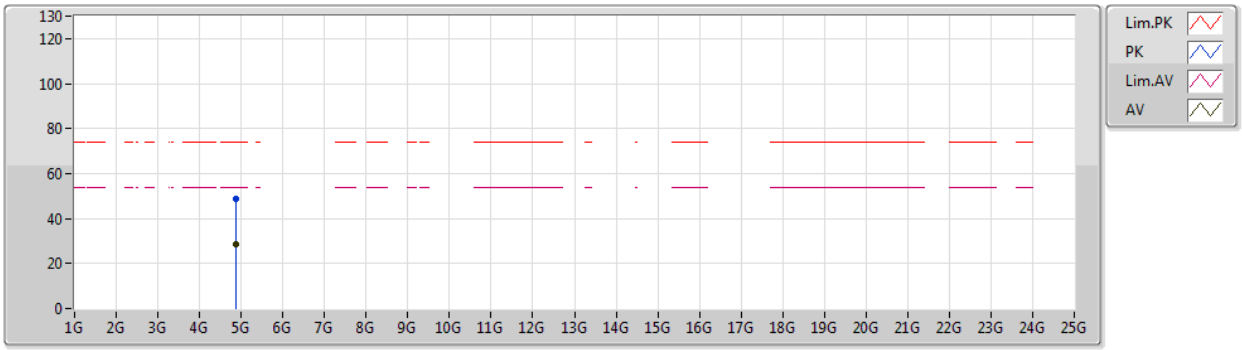
2440MHz_TX

31/07/2019



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87898G	28.48	54.00	-25.52	5.78	3	Horizontal	335	1.08	-	22.70	31.10	8.96	34.28
PK	4.87898G	48.48	74.00	-25.52	5.78	3	Horizontal	335	1.08	-	42.70	31.10	8.96	34.28

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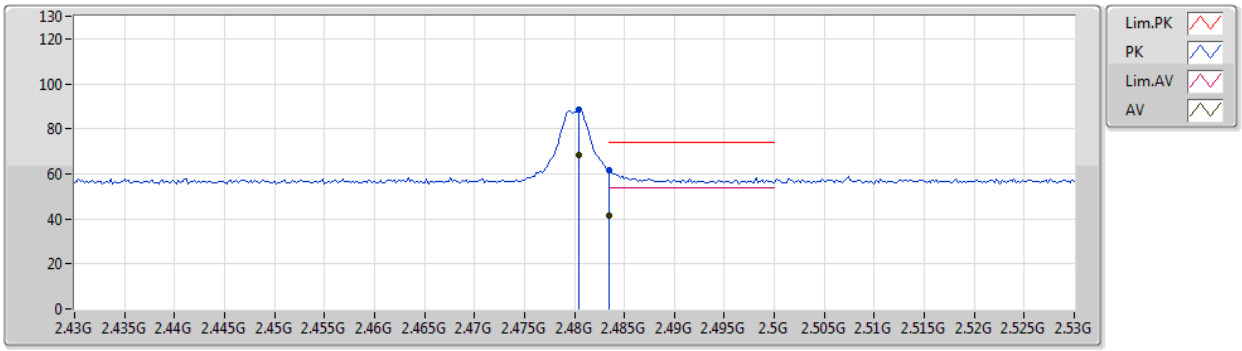
31/07/2019

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4804G	68.39	Inf	-Inf	33.67	3	Vertical	56	2.99	-	34.72	27.52	6.15	-
AV	2.4835G	41.65	54.00	-12.35	33.67	3	Vertical	56	2.99	-	7.98	27.52	6.15	-
PK	2.4804G	88.39	Inf	-Inf	33.67	3	Vertical	56	2.99	-	54.72	27.52	6.15	-
PK	2.4835G	61.65	74.00	-12.35	33.67	3	Vertical	56	2.99	-	27.98	27.52	6.15	-

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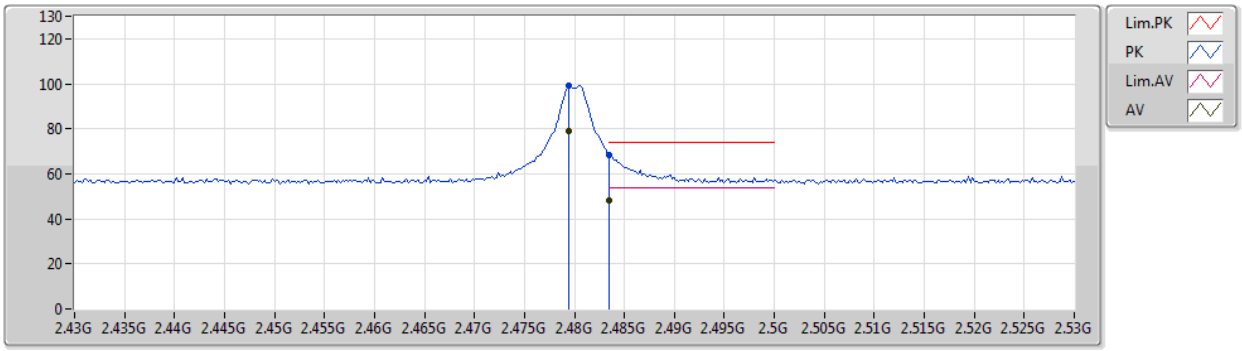
31/07/2019

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4794G	79.00	Inf	-Inf	33.66	3	Horizontal	19	1.00	-	45.34	27.52	6.14	-
AV	2.48351G	48.32	54.00	-5.68	33.67	3	Horizontal	19	1.00	-	14.65	27.52	6.15	-
PK	2.4794G	99.00	Inf	-Inf	33.66	3	Horizontal	19	1.00	-	65.34	27.52	6.14	-
PK	2.48351G	68.32	74.00	-5.68	33.67	3	Horizontal	19	1.00	-	34.65	27.52	6.15	-

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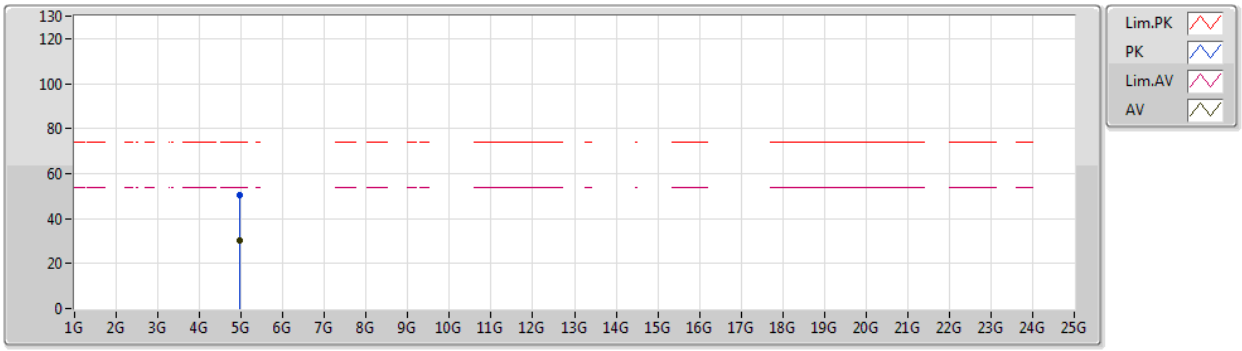
2480MHz_TX

31/07/2019



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.959G	30.51	54.00	-23.49	6.20	3	Vertical	131	3.00	-	24.31	31.34	9.02	34.16
PK	4.959G	50.51	74.00	-23.49	6.20	3	Vertical	131	3.00	-	44.31	31.34	9.02	34.16

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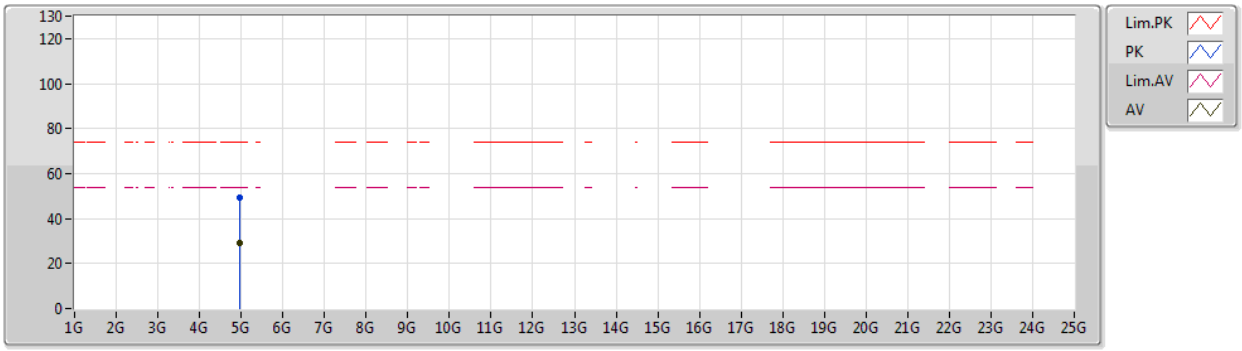
2480MHz_TX

31/07/2019



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95905G	29.12	54.00	-24.88	6.21	3	Horizontal	13	2.00	-	22.91	31.34	9.03	34.16
PK	4.95905G	49.12	74.00	-24.88	6.21	3	Horizontal	13	2.00	-	42.91	31.34	9.03	34.16