

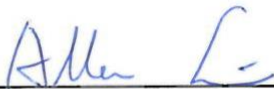
# FCC Test Report

**FCC ID** : 2AA2U-UCW4026MCS  
**Equipment** : Set Top Box  
**Brand Name** : Technicolor  
**Model Name** : UCW4026MCS  
**Applicant** : Cal-Comp Electronics & Communications Company Limited  
3th FL., No. 99, Sec. 5, Nanjing E. Rd. Taipei 105  
Taiwan  
**Manufacturer** : Cal-Comp Electronics & Communications Company Limited  
No. 147, Sec. 3, Beishen Rd., Shenkeng Dist.,222  
New Taipei City,TAIWAN  
**Standard** : 47 CFR FCC Part 15.247

The product was received on Jul. 27, 2018, and testing was started from Jul. 31, 2018 and completed on Aug. 02, 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
FR871710AL	01	Initial issue of report	Aug. 24, 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: Jackson Tsai

Report Producer: Debby Hung

# 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	Hongbo	-	PIFA Antenna	Murata
2	Hongbo	-	PIFA Antenna	I-PEX
3	Hongbo	-	PIFA Antenna	Murata

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	2	2.61	3.67	-
2	1	2.60	3.64	-
3	1	-	-	1.92

#### For 2.4 GHz function:

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

Support diversity function and pre-tested Ant. 1 and Ant. 2 on each single chain, the worst case was Ant. 1 and it was record in this test report.

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

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

#### For 5 GHz function:

For IEEE 802.11a/n mode (2TX/2RX)

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

#### For Bluetooth function:

For Bluetooth mode (1TX/1RX)



Only Ant. 3 can be used as transmitting/receiving antenna.

### 1.1.3 EUT Information

<b>Operational Condition</b>	
<b>EUT Power Type</b>	From AC Adapter
<b>EUT Function</b>	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
<b>Type of EUT</b>	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

### 1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.282	5.498	176.25u	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 v04

## 1.3 Testing Location Information

Testing Location		
<input checked="" type="checkbox"/>	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.		
<input type="checkbox"/>	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	26.5°C / 60%	27/Jul/2018
Radiated	03CH03-HY	Jeff	23.5°C / 65%	31/Jul/2018
AC Conduction	CO04-HY	Jeremy	20.5°C / 62%	02/Aug/2018

## 1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%



## 2 Test Configuration of EUT

### 2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	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	X Plane	Y Plane	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
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA871710 for Co-location RF Exposure Evaluation.	

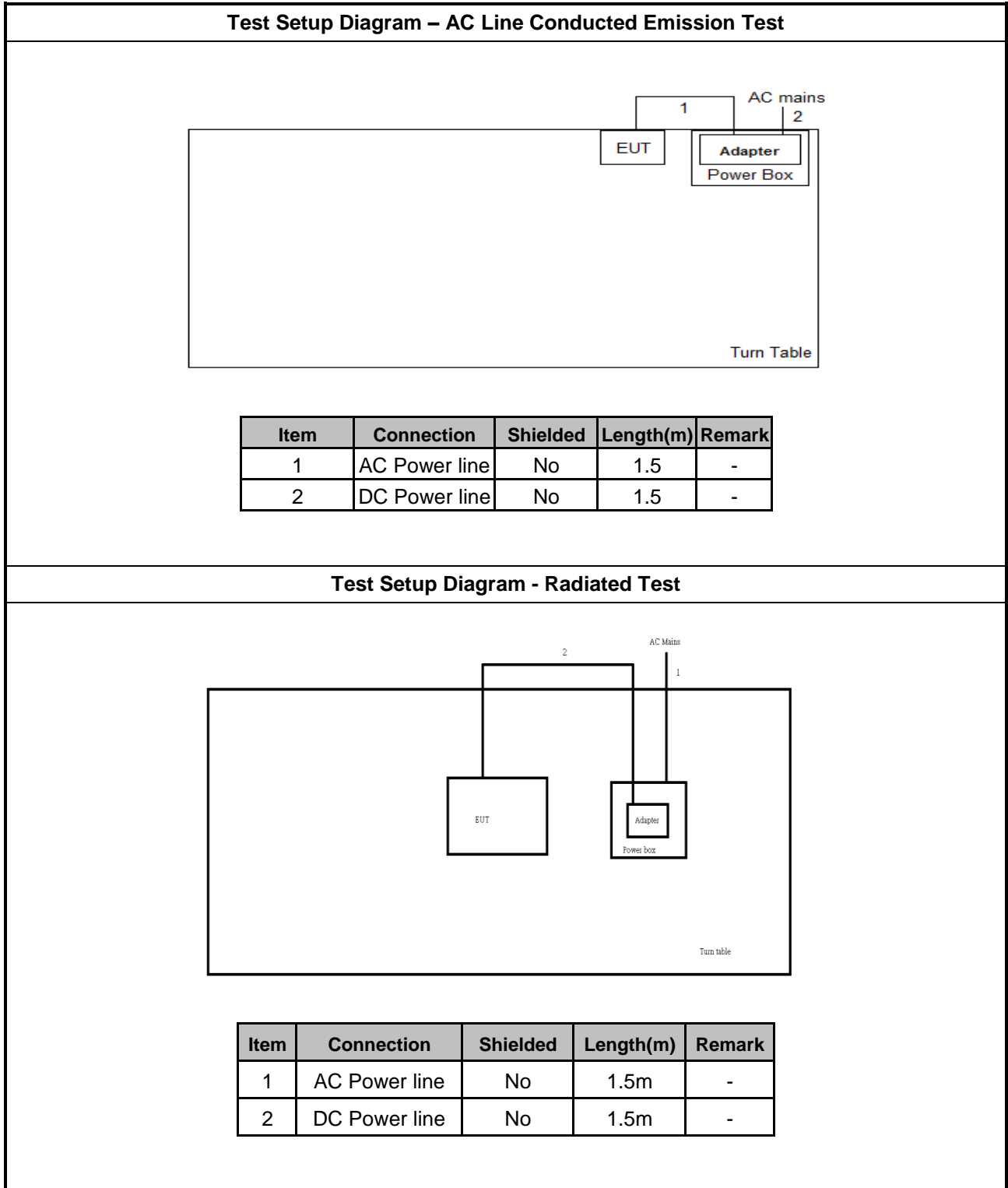
## 2.4 Accessories

Accessories				
AC Adapter	Brand Name	Acbel	Model Name	WAH033
	Power Rating	I/P: <u>100</u> - <u>240</u> Vac, <u>0.6</u> A, O/P: <u>12</u> Vdc, <u>1.5</u> A		
	Power Cord	1.5 meter, Non-Shielded cable, w/o ferrite core		
remote control	Brand Name	-	Model Name	-
HDMI Cable	Power Cord	1.7 meter, Shielded cable, w/o ferrite core		

## 2.5 Support Equipment

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

## 2.6 Test Setup Diagram



### 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.

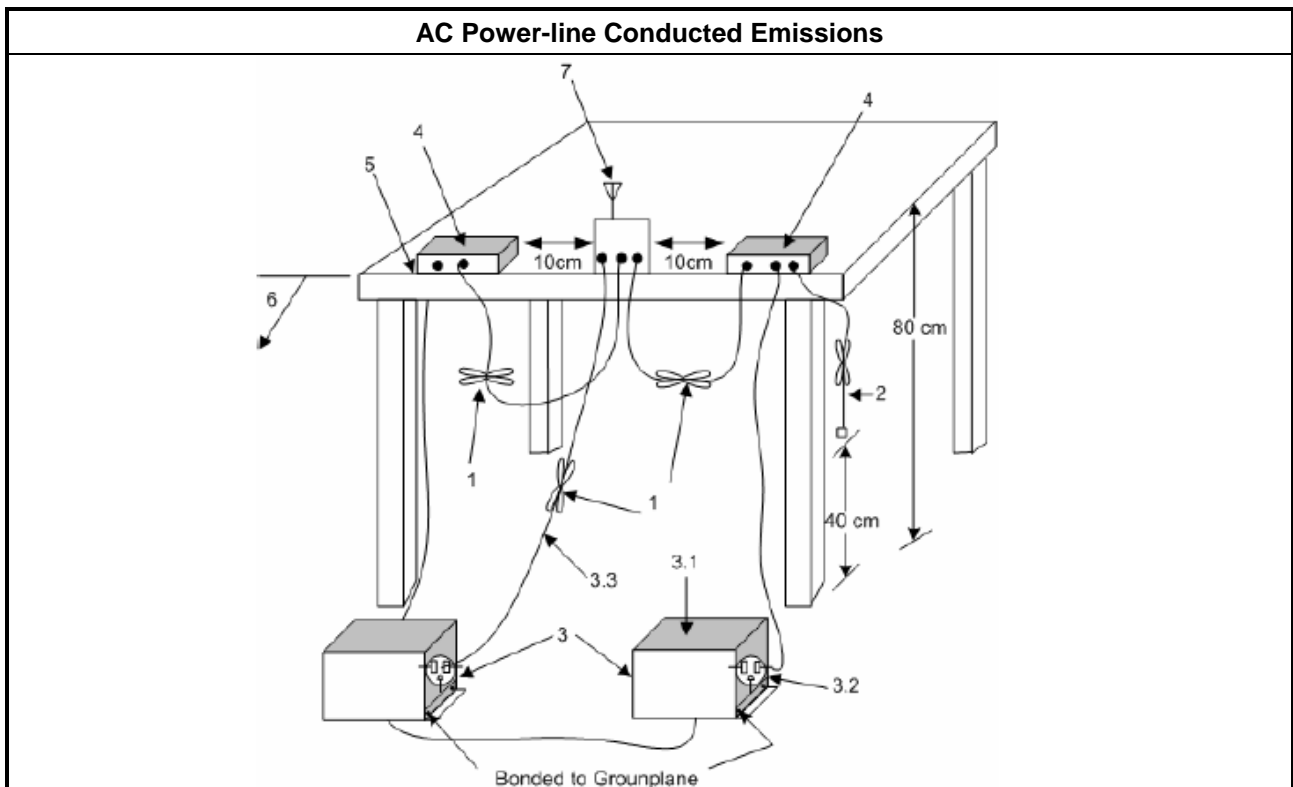
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.</li> </ul>

##### 3.1.4 Test Setup





### **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
<b>Systems using digital modulation techniques:</b>
<ul style="list-style-type: none"> <li>▪ 6 dB bandwidth <math>\geq</math> 500 kHz.</li> </ul>

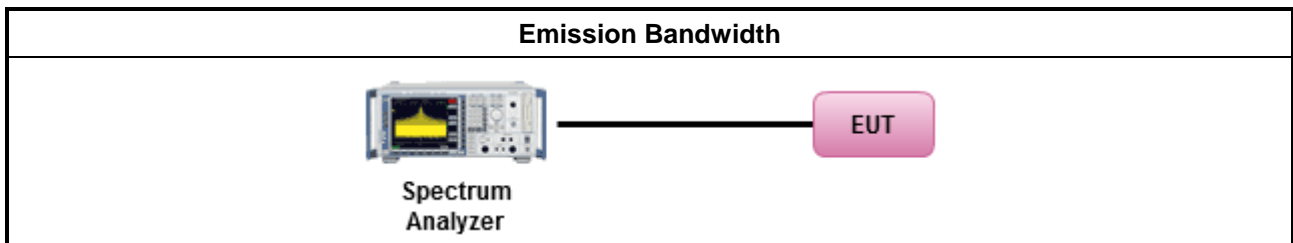
#### 3.2.2 Measuring Instruments

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

#### 3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>▪ For the emission bandwidth shall be measured using one of the options below:</li> </ul>
<input checked="" type="checkbox"/> Refer as KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as RSS-Gen, clause 6.7 for for occupied bandwidth testing.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

#### 3.2.4 Test Setup



#### 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	
	<ul style="list-style-type: none"> <li>▪ If <math>G_{TX} \leq 6</math> dBi, then <math>P_{Out} \leq 30</math> dBm (1 W)</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-point systems (P2P): If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Smart antenna system (SAS):</li> </ul>
	<ul style="list-style-type: none"> <li>- Single beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Overlap beam: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Aggregate power on all beams: If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)/3 + 8</math> dB dBm</li> </ul>
<b>e.i.r.p. Power Limit:</b>	
	<ul style="list-style-type: none"> <li>▪ 2400-2483.5 MHz Band</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): <math>P_{eirp} \leq 36</math> dBm (4 W)</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Point-to-point systems (P2P): <math>P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Smart antenna system (SAS)</li> </ul>
	<ul style="list-style-type: none"> <li>- Single beam: <math>P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Overlap beam: <math>P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})</math> dBm</li> </ul>
	<ul style="list-style-type: none"> <li>- Aggregate power on all beams: <math>P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])</math> dBm</li> </ul>
$P_{Out}$ = maximum peak conducted output power or maximum conducted output power in dBm, $G_{TX}$ = the maximum transmitting antenna directional gain in dBi.	

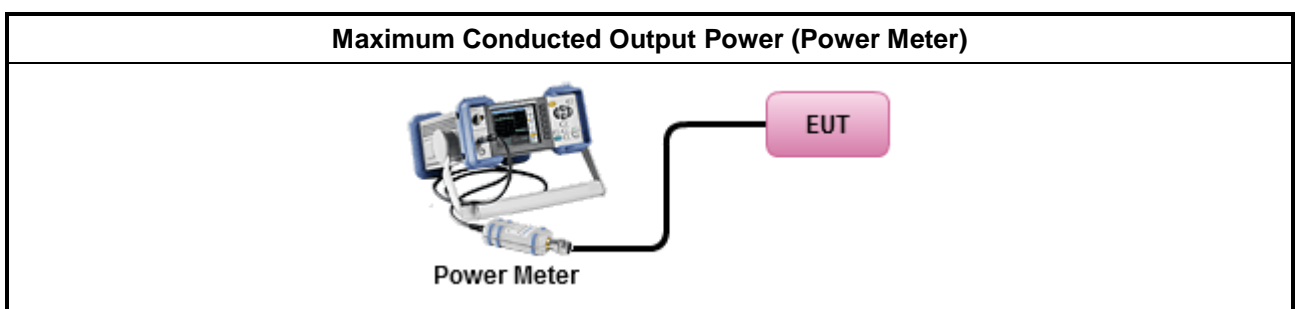
#### 3.3.2 Measuring Instruments

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

### 3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ Maximum Peak Conducted Output Power</li> </ul>	
<input type="checkbox"/>	Refer as KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
<input type="checkbox"/>	Refer as KDB 558074, clause 9.1.2 Option 2 (integrated band power method)
<input type="checkbox"/>	Refer as KDB 558074, clause 9.1.3 Option 3 (peak power meter for VBW ≥ DTS BW)
<ul style="list-style-type: none"> <li>▪ Maximum Average Conducted Output Power</li> </ul>	
Duty cycle ≥ 98%	
<input type="checkbox"/>	Refer as KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
Duty cycle < 98%	
<input type="checkbox"/>	Refer as KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
RF power meter and average over on/off periods with duty factor or gated trigger	
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 9.2.3.1 Method AVGPM (using an RF average power meter).
<ul style="list-style-type: none"> <li>▪ For conducted measurement.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ If multiple transmit chains, EIRP calculation could be following as methods:  <math>P_{total} = P_1 + P_2 + \dots + P_n</math>                      (calculated in linear unit [mW] and transfer to log unit [dBm])  <math>EIRP_{total} = P_{total} + DG</math> </li> </ul>	

### 3.3.4 Test Setup



### 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
<ul style="list-style-type: none"> <li>Power Spectral Density (PSD) ≤ 8 dBm/3kHz</li> </ul>

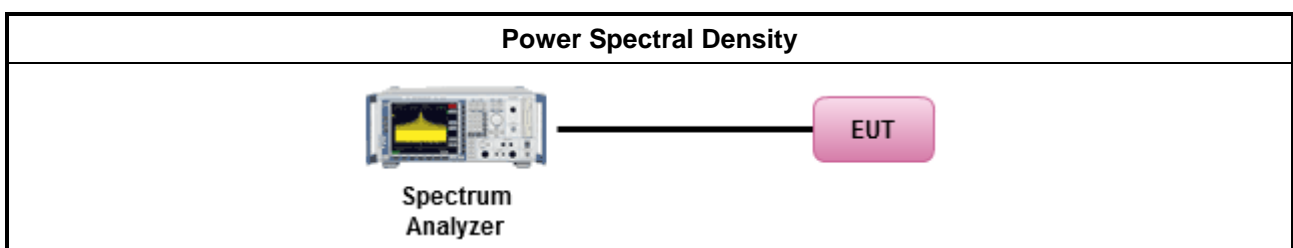
#### 3.4.2 Measuring Instruments

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

#### 3.4.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> <li>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).</li> </ul>
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).
	<ul style="list-style-type: none"> <li>For conducted measurement.</li> </ul>
	<ul style="list-style-type: none"> <li>If The EUT supports multiple transmit chains using options given below:</li> </ul>
	<ul style="list-style-type: none"> <li>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.</li> </ul>

#### 3.4.4 Test Setup



#### 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
<p>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.</p> <p>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.</p>	

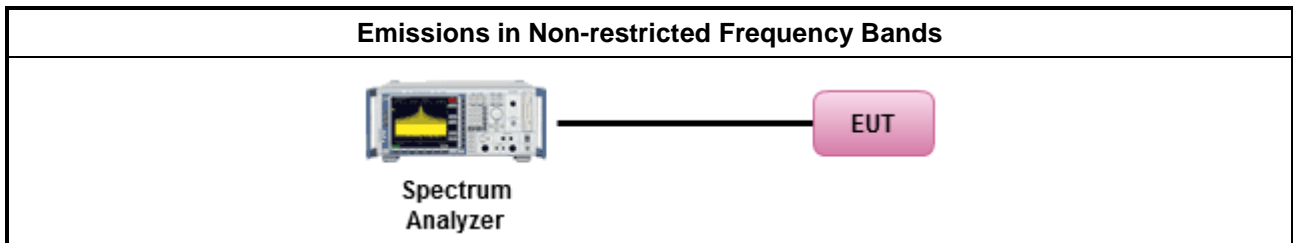
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> <li>Refer as KDB 558074, clause 11 for unwanted emissions into non-restricted bands.</li> </ul>

#### 3.5.4 Test Setup



#### 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.

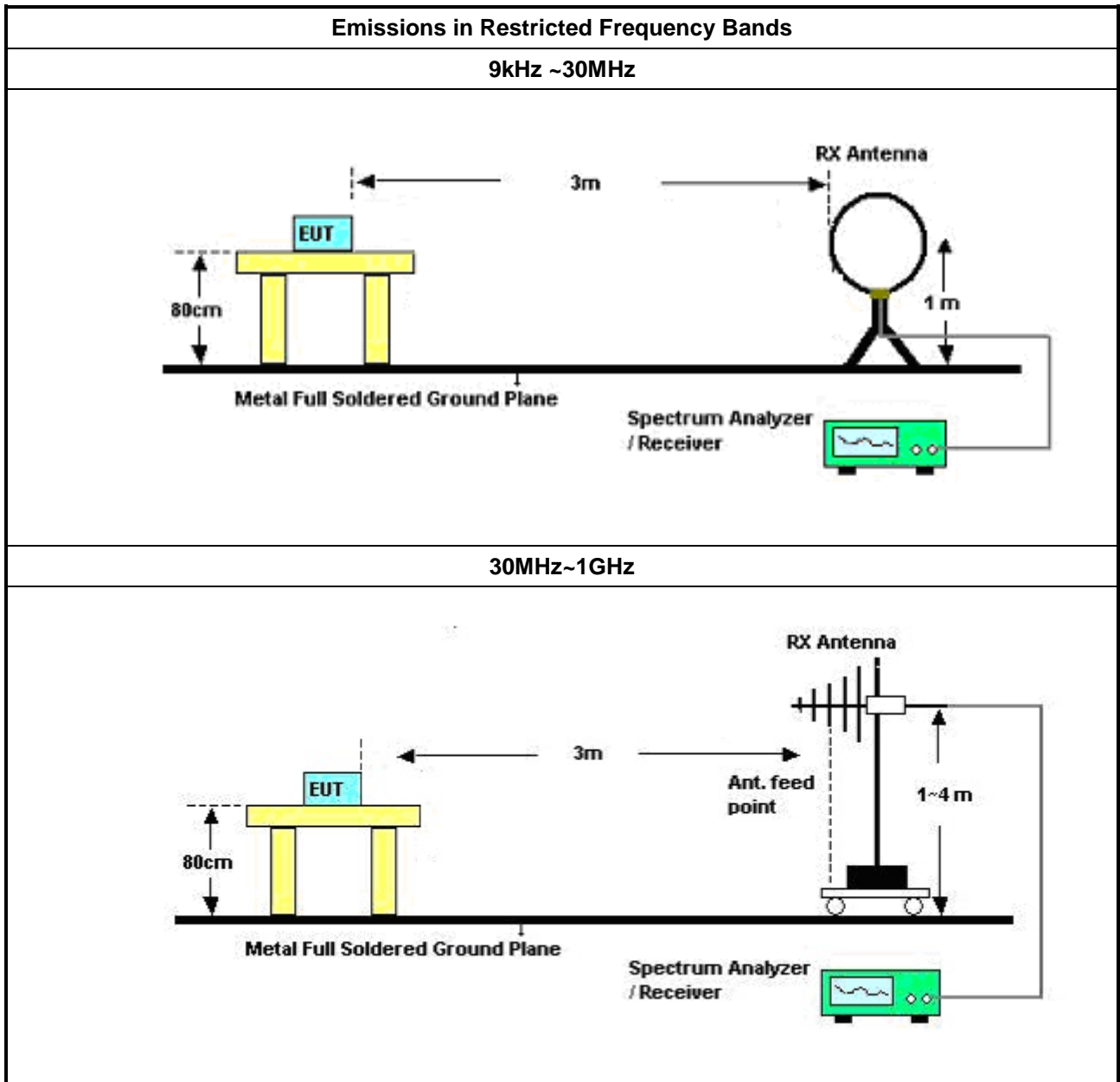
#### 3.6.2 Measuring Instruments

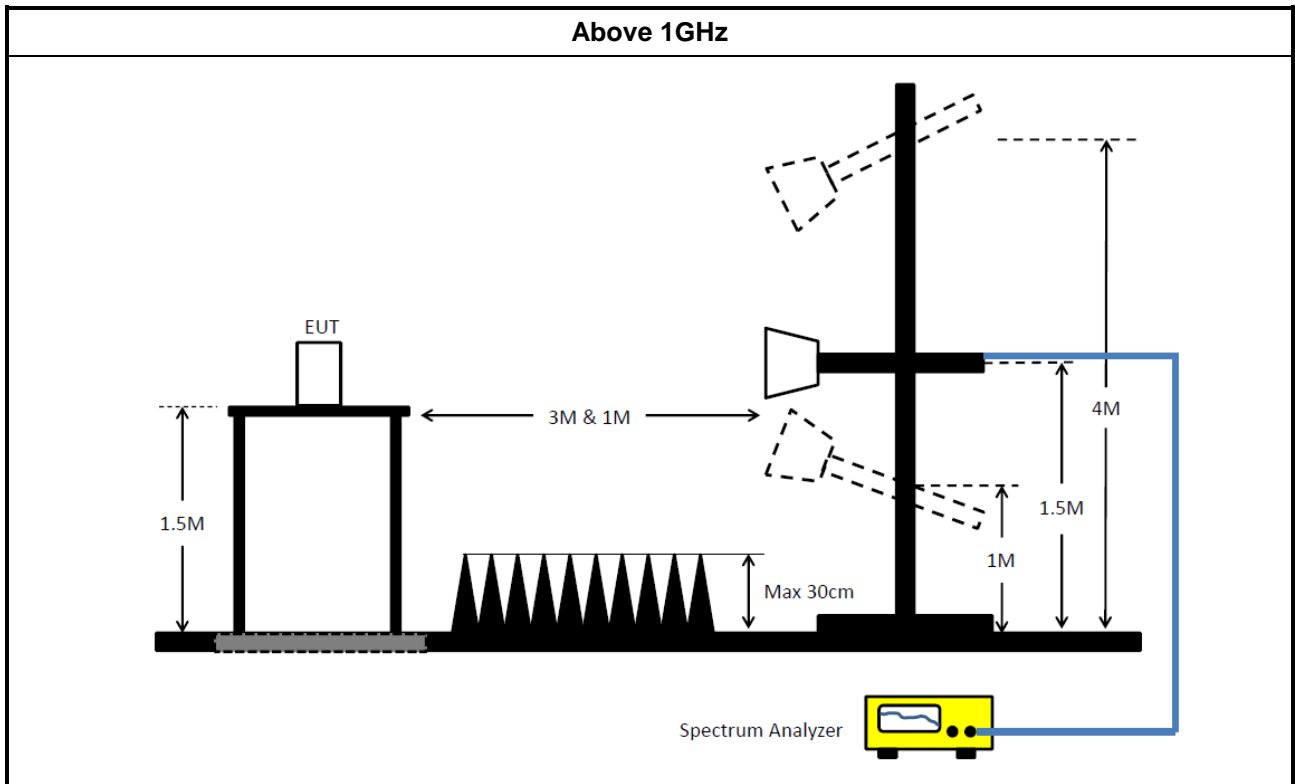
Refer a test equipment and calibration data table in this test report.

### 3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ For the transmitter unwanted emissions shall be measured using following options below:</li> </ul>	
<ul style="list-style-type: none"> <li>▪ Refer as KDB 558074, clause 12 for unwanted emissions into restricted bands.</li> </ul>	
	<input checked="" type="checkbox"/> Refer as KDB 558074, clause 12.2.5.3 (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW $\geq$ 1/T.
	<input checked="" type="checkbox"/> Refer as KDB 558074, clause 12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none"> <li>▪ For the transmitter band-edge emissions shall be measured using following options below:</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Refer as KDB 558074 clause 13.1, 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.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as KDB 558074, clause 13.2 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).</li> </ul>
<ul style="list-style-type: none"> <li>▪ For conducted and cabinet radiation measurement, refer as KDB 558074, clause 12.2.2.</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB</li> </ul>
	<ul style="list-style-type: none"> <li>▪ For KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.</li> </ul>

### 3.6.4 Test Setup





### 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	ESR3	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	0761183202000 1	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

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	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 Pre-amplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	31/Aug/2017	30/Aug/2018
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	SCHAFFNER	CBL 6112B	2723	30MHz ~ 1GHz	09/Sep/2017	08/Sep/2018
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
Amplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2017	23/Aug/2018
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	28/Mar/2018	27/Mar/2019

**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	05/Feb/2018	04/Feb/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	25/Aug/2017	24/Aug/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10709/4	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
RF Cable-1m	HUBER+SUHNER	SUCOFLEX_104	MY37332/4	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
RF Cable-1m	HUBER+SUHNER	SUCOFLEX_104	MY37333/4	30MHz ~ 26.5GHz	25/Aug/2017	24/Aug/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	26/Jul/2018	25/Jul/2019





AC Power-line Conducted Emissions Result																																																																																																																																										
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**Summary**

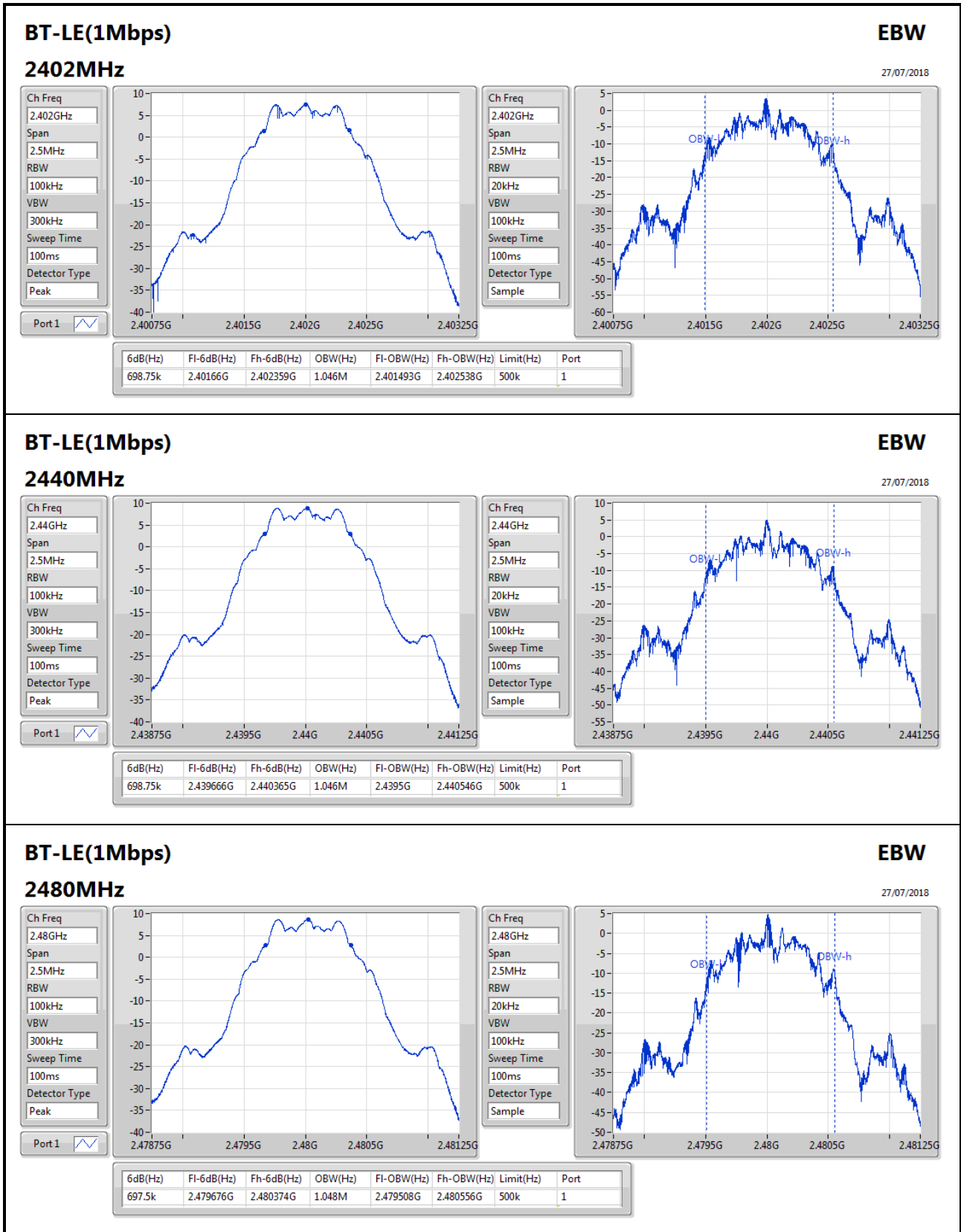
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	698.75k	1.048M	1M05F1D	697.5k	1.046M

**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	698.75k	1.046M
2440MHz_TnomVnom	Pass	500k	698.75k	1.046M
2480MHz_TnomVnom	Pass	500k	697.5k	1.048M

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





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	8.56	0.00718

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.92	7.20	30.00
2440MHz_TnomVnom	Pass	1.92	8.56	30.00
2480MHz_TnomVnom	Pass	1.92	8.24	30.00



Summary

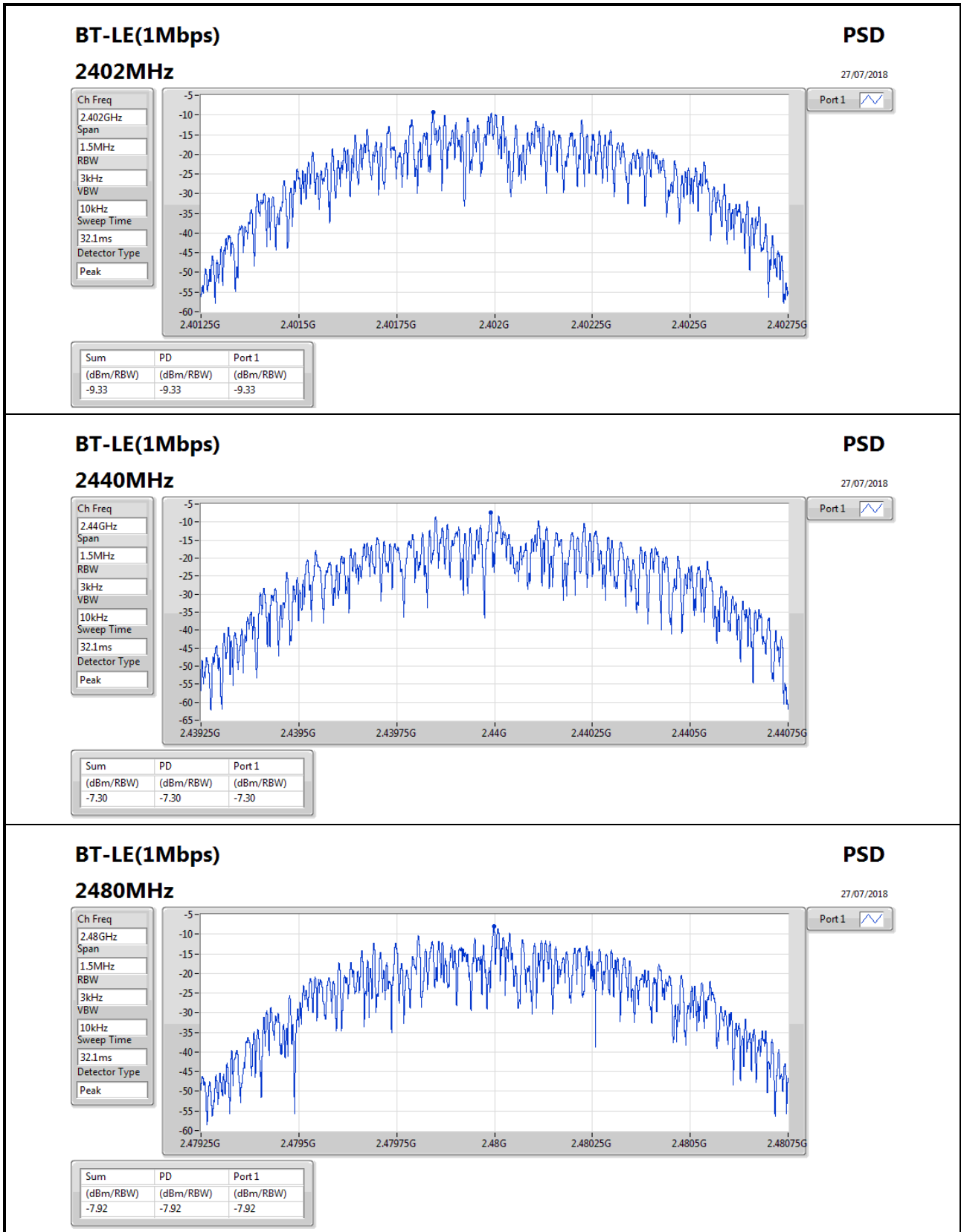
Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-7.30

RBW=3kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.92	-9.33	8.00
2440MHz_TnomVnom	Pass	1.92	-7.30	8.00
2480MHz_TnomVnom	Pass	1.92	-7.92	8.00

RBW=3kHz.





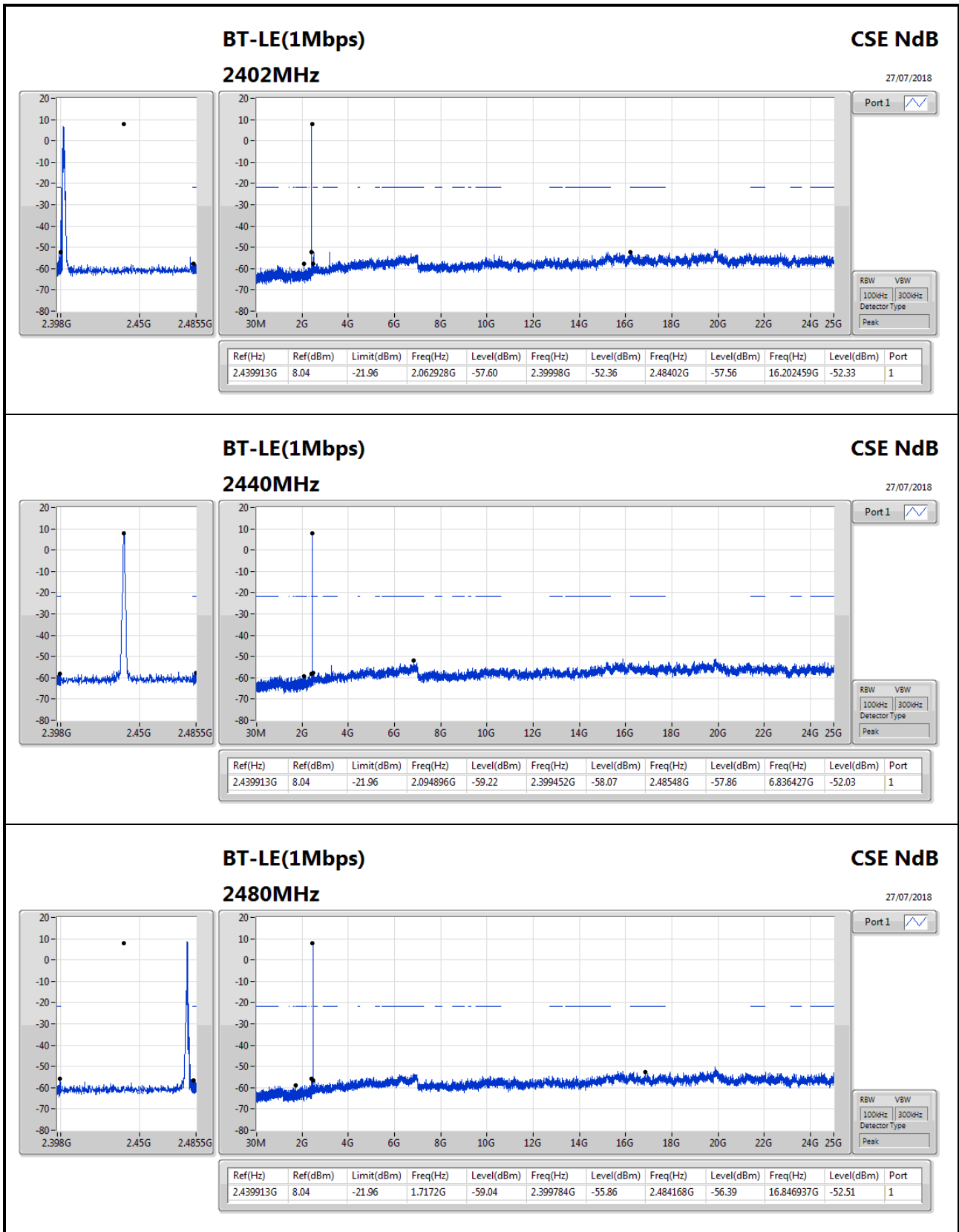
**Summary**

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	2.439913G	8.04	-21.96	2.094896G	-59.22	2.399452G	-58.07	2.48548G	-57.86	6.836427G	-52.03	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	2.439913G	8.04	-21.96	2.062928G	-57.60	2.39998G	-52.36	2.48402G	-57.56	16.202459G	-52.33	1
2440MHz_TnomVnom	Pass	2.439913G	8.04	-21.96	2.094896G	-59.22	2.399452G	-58.07	2.48548G	-57.86	6.836427G	-52.03	1
2480MHz_TnomVnom	Pass	2.439913G	8.04	-21.96	1.7172G	-59.04	2.399784G	-55.86	2.484168G	-56.39	16.846937G	-52.51	1





**BT-LE(1Mbps)**

**2480MHz**

**CSE NdB**

27/07/2018

Port1

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.439913G	8.04	-21.96	1.7172G	-59.04	2.399784G	-55.86	2.484168G	-56.39	16.846937G	-52.51	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	37.76M	33.06	40.00	-6.94	-6.81	3	Vertical	0	1.00	-

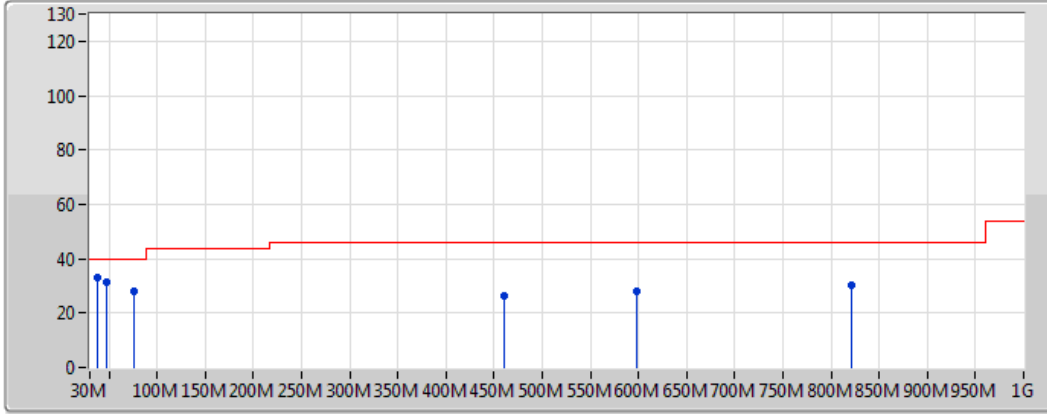


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	37.76M	33.06	40.00	-6.94	-6.81	3	Vertical	0	1.00	-
2440MHz	Pass	PK	47.46M	31.49	40.00	-8.51	-11.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	76.56M	28.22	40.00	-11.78	-13.92	3	Vertical	0	1.00	-
2440MHz	Pass	PK	460.68M	26.29	46.00	-19.71	-2.11	3	Vertical	0	1.00	-
2440MHz	Pass	PK	598.42M	27.89	46.00	-18.11	-0.56	3	Vertical	0	1.00	-
2440MHz	Pass	PK	821.52M	30.09	46.00	-15.91	2.14	3	Vertical	0	1.00	-
2440MHz	Pass	PK	51.34M	28.46	40.00	-11.54	-13.06	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	97.9M	27.03	43.50	-16.47	-9.71	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	142.52M	28.10	43.50	-15.40	-8.96	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	553.8M	27.80	46.00	-18.20	-0.38	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	592.6M	28.60	46.00	-17.40	-0.58	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	813.76M	31.65	46.00	-14.35	2.04	3	Horizontal	360	1.00	-

**BT-LE(1Mbps)**  
**2440MHz\_Adapter**

31/07/2018



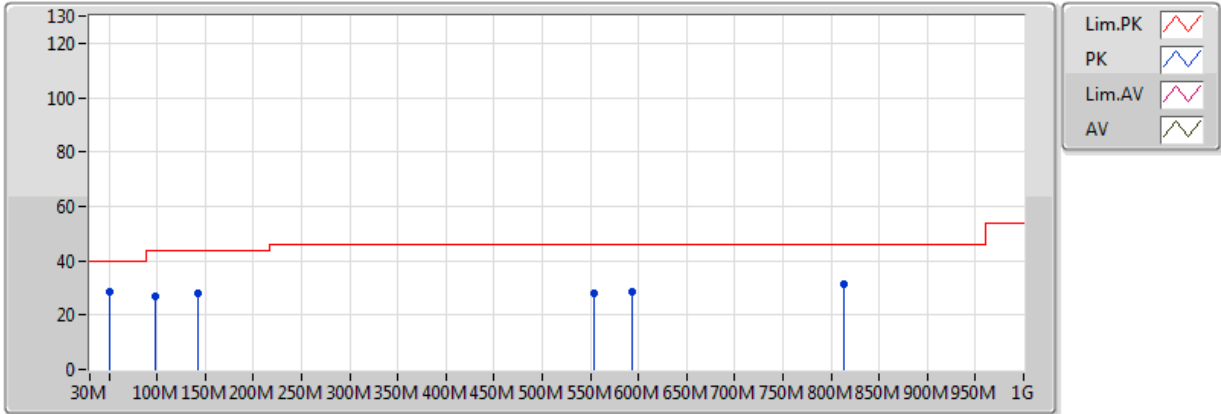
Legend for the spectrum plot:

- Lim.PK: Red stepped line
- PK: Blue vertical spike
- Lim.AV: Pink stepped line
- AV: Black stepped line

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	37.76M	33.06	40.00	-6.94	-6.81	3	Vertical	0	1.00	-
PK	47.46M	31.49	40.00	-8.51	-11.70	3	Vertical	0	1.00	-
PK	76.56M	28.22	40.00	-11.78	-13.92	3	Vertical	0	1.00	-
PK	460.68M	26.29	46.00	-19.71	-2.11	3	Vertical	0	1.00	-
PK	598.42M	27.89	46.00	-18.11	-0.56	3	Vertical	0	1.00	-
PK	821.52M	30.09	46.00	-15.91	2.14	3	Vertical	0	1.00	-

**BT-LE(1Mbps)**  
**2440MHz\_Adapter**

31/07/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	51.34M	28.46	40.00	-11.54	-13.06	3	Horizontal	360	1.00	-
PK	97.9M	27.03	43.50	-16.47	-9.71	3	Horizontal	360	1.00	-
PK	142.52M	28.10	43.50	-15.40	-8.96	3	Horizontal	360	1.00	-
PK	553.8M	27.80	46.00	-18.20	-0.38	3	Horizontal	360	1.00	-
PK	592.6M	28.60	46.00	-17.40	-0.58	3	Horizontal	360	1.00	-
PK	813.76M	31.65	46.00	-14.35	2.04	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	2.483502G	51.88	54.00	-2.12	30.69	3	Horizontal	325	1.25	-



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	43.96	54.00	-10.04	30.37	3	Vertical	283	1.48	-
2402MHz	Pass	AV	2.402G	88.09	Inf	-Inf	30.41	3	Vertical	283	1.48	-
2402MHz	Pass	PK	2.3538G	55.31	74.00	-18.69	30.26	3	Vertical	283	1.48	-
2402MHz	Pass	PK	2.4022G	91.06	Inf	-Inf	30.42	3	Vertical	283	1.48	-
2402MHz	Pass	AV	2.3828G	43.98	54.00	-10.02	30.35	3	Horizontal	59	1.62	-
2402MHz	Pass	AV	2.402G	98.95	Inf	-Inf	30.41	3	Horizontal	59	1.62	-
2402MHz	Pass	PK	2.3674G	55.70	74.00	-18.30	30.30	3	Horizontal	59	1.62	-
2402MHz	Pass	PK	2.4022G	102.27	Inf	-Inf	30.42	3	Horizontal	59	1.62	-
2402MHz	Pass	AV	4.80364G	31.90	54.00	-22.10	5.79	3	Vertical	338	1.29	-
2402MHz	Pass	PK	4.81366G	44.22	74.00	-29.78	5.81	3	Vertical	338	1.29	-
2402MHz	Pass	AV	4.7917G	32.00	54.00	-22.00	5.77	3	Horizontal	128	1.50	-
2402MHz	Pass	PK	4.79968G	44.52	74.00	-29.48	5.78	3	Horizontal	128	1.50	-
2440MHz	Pass	AV	2.374G	43.86	54.00	-10.14	30.33	3	Vertical	137	2.92	-
2440MHz	Pass	AV	2.44G	96.73	Inf	-Inf	30.55	3	Vertical	137	2.92	-
2440MHz	Pass	AV	2.492G	44.53	54.00	-9.47	30.72	3	Vertical	137	2.92	-
2440MHz	Pass	PK	2.3448G	55.13	74.00	-18.87	30.23	3	Vertical	137	2.92	-
2440MHz	Pass	PK	2.44G	100.04	Inf	-Inf	30.55	3	Vertical	137	2.92	-
2440MHz	Pass	PK	2.4988G	55.32	74.00	-18.68	30.75	3	Vertical	137	2.92	-
2440MHz	Pass	AV	2.3856G	43.98	54.00	-10.02	30.37	3	Horizontal	327	1.25	-
2440MHz	Pass	AV	2.44G	98.46	Inf	-Inf	30.55	3	Horizontal	327	1.25	-
2440MHz	Pass	AV	2.4992G	44.46	54.00	-9.54	30.75	3	Horizontal	327	1.25	-
2440MHz	Pass	PK	2.3852G	55.55	74.00	-18.45	30.36	3	Horizontal	327	1.25	-
2440MHz	Pass	PK	2.44G	101.90	Inf	-Inf	30.55	3	Horizontal	327	1.25	-
2440MHz	Pass	PK	2.486G	55.51	74.00	-18.49	30.71	3	Horizontal	327	1.25	-
2440MHz	Pass	AV	4.86752G	30.88	54.00	-23.12	5.91	3	Vertical	325	1.50	-
2440MHz	Pass	AV	7.31556G	36.96	54.00	-17.04	11.13	3	Vertical	248	1.50	-
2440MHz	Pass	PK	4.89434G	44.17	74.00	-29.83	5.98	3	Vertical	325	1.50	-
2440MHz	Pass	PK	7.32138G	50.94	74.00	-23.06	11.16	3	Vertical	248	1.50	-
2440MHz	Pass	AV	4.87922G	30.94	54.00	-23.06	5.95	3	Horizontal	226	1.00	-
2440MHz	Pass	AV	7.31598G	37.04	54.00	-16.96	11.13	3	Horizontal	102	1.68	-
2440MHz	Pass	PK	4.87754G	44.11	74.00	-29.89	5.95	3	Horizontal	226	1.00	-
2440MHz	Pass	PK	7.31856G	50.60	74.00	-23.40	11.15	3	Horizontal	102	1.68	-
2480MHz	Pass	AV	2.48G	88.43	Inf	-Inf	30.68	3	Vertical	199	1.23	-
2480MHz	Pass	AV	2.483502G	44.94	54.00	-9.06	30.69	3	Vertical	199	1.23	-
2480MHz	Pass	PK	2.4802G	91.40	Inf	-Inf	30.68	3	Vertical	199	1.23	-
2480MHz	Pass	PK	2.4852G	55.42	74.00	-18.58	30.70	3	Vertical	199	1.23	-
2480MHz	Pass	AV	2.48G	99.73	Inf	-Inf	30.68	3	Horizontal	325	1.25	-
2480MHz	Pass	AV	2.483502G	51.88	54.00	-2.12	30.69	3	Horizontal	325	1.25	-
2480MHz	Pass	PK	2.4802G	102.96	Inf	-Inf	30.68	3	Horizontal	325	1.25	-
2480MHz	Pass	PK	2.483502G	58.40	74.00	-15.60	30.69	3	Horizontal	325	1.25	-
2480MHz	Pass	AV	4.972G	30.98	54.00	-23.02	6.14	3	Vertical	303	1.50	-
2480MHz	Pass	AV	7.43028G	37.78	54.00	-16.22	11.46	3	Vertical	226	1.50	-
2480MHz	Pass	PK	4.9681G	44.46	74.00	-29.54	6.13	3	Vertical	303	1.50	-
2480MHz	Pass	PK	7.4259G	51.66	74.00	-22.34	11.44	3	Vertical	226	1.50	-
2480MHz	Pass	AV	4.95364G	32.82	54.00	-21.18	6.11	3	Horizontal	182	1.50	-
2480MHz	Pass	AV	7.42908G	37.85	54.00	-16.15	11.46	3	Horizontal	218	1.91	-
2480MHz	Pass	PK	4.95736G	45.18	74.00	-28.82	6.11	3	Horizontal	182	1.50	-



## RSE TX above 1GHz Result

## Appendix F.2

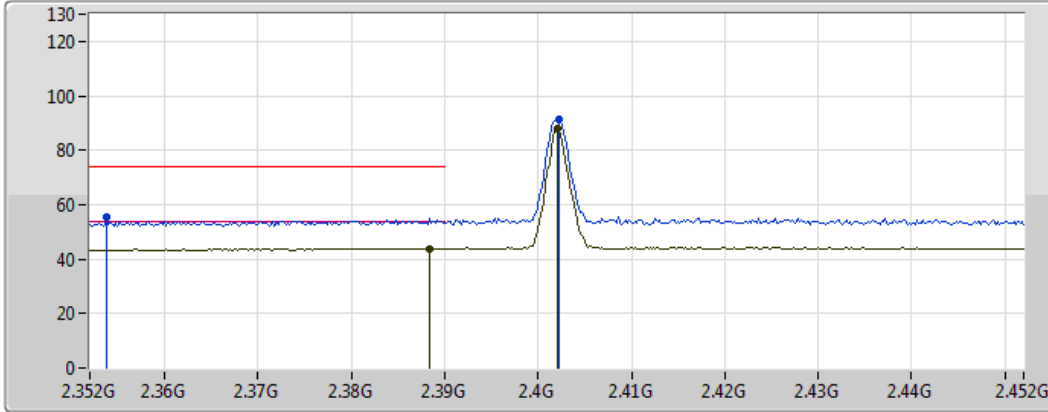
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.4502G	51.13	74.00	-22.87	11.51	3	Horizontal	218	1.91	-







### BT-LE(1Mbps)

### 2402MHz\_TX

31/07/2018



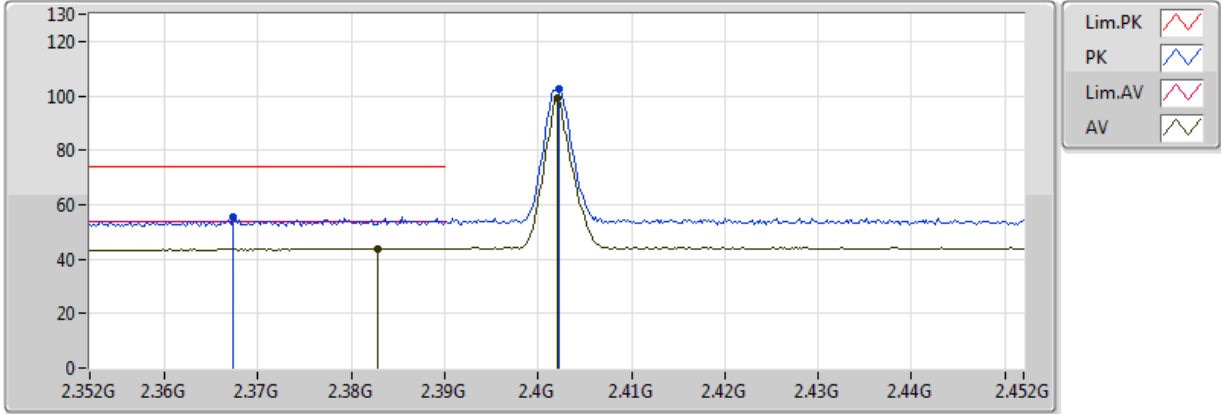
Lim.PK	
PK	
Lim.AV	
AV	

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3884G	43.96	54.00	-10.04	30.37	3	Vertical	283	1.48	-
AV	2.402G	88.09	Inf	-Inf	30.41	3	Vertical	283	1.48	-
PK	2.3538G	55.31	74.00	-18.69	30.26	3	Vertical	283	1.48	-
PK	2.4022G	91.06	Inf	-Inf	30.42	3	Vertical	283	1.48	-

### BT-LE(1Mbps)

### 2402MHz\_TX

31/07/2018

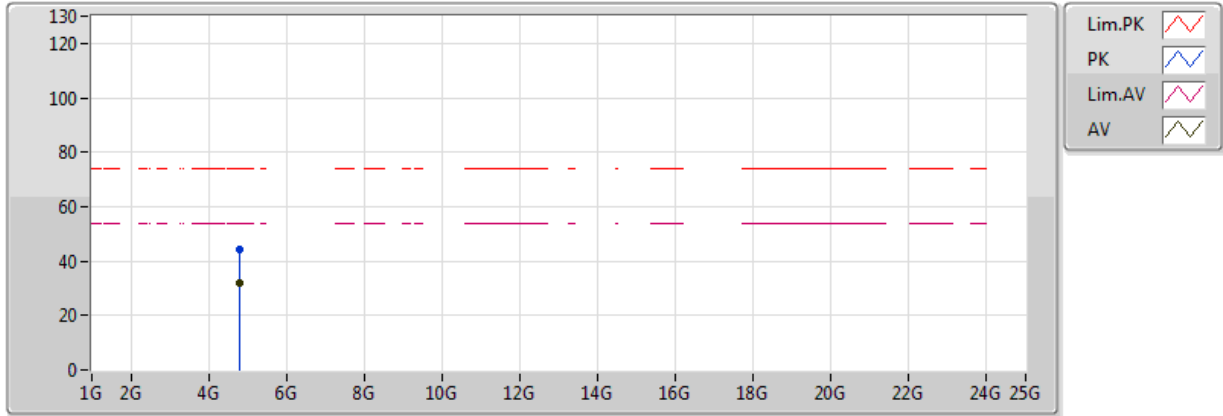


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3828G	43.98	54.00	-10.02	30.35	3	Horizontal	59	1.62	-
AV	2.402G	98.95	Inf	-Inf	30.41	3	Horizontal	59	1.62	-
PK	2.3674G	55.70	74.00	-18.30	30.30	3	Horizontal	59	1.62	-
PK	2.4022G	102.27	Inf	-Inf	30.42	3	Horizontal	59	1.62	-

### BT-LE(1Mbps)

### 2402MHz\_TX

31/07/2018

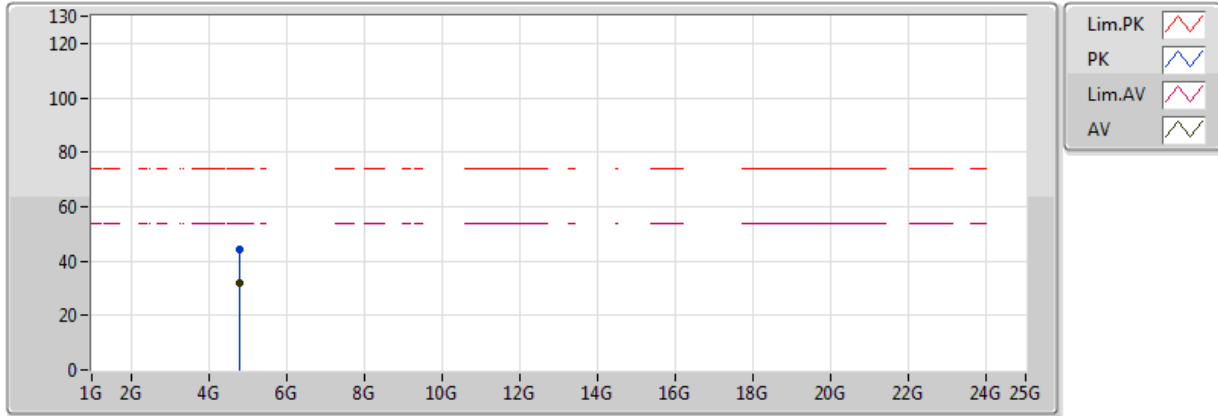


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80364G	31.90	54.00	-22.10	5.79	3	Vertical	338	1.29	-
PK	4.81366G	44.22	74.00	-29.78	5.81	3	Vertical	338	1.29	-

### BT-LE(1Mbps)

### 2402MHz\_TX

31/07/2018

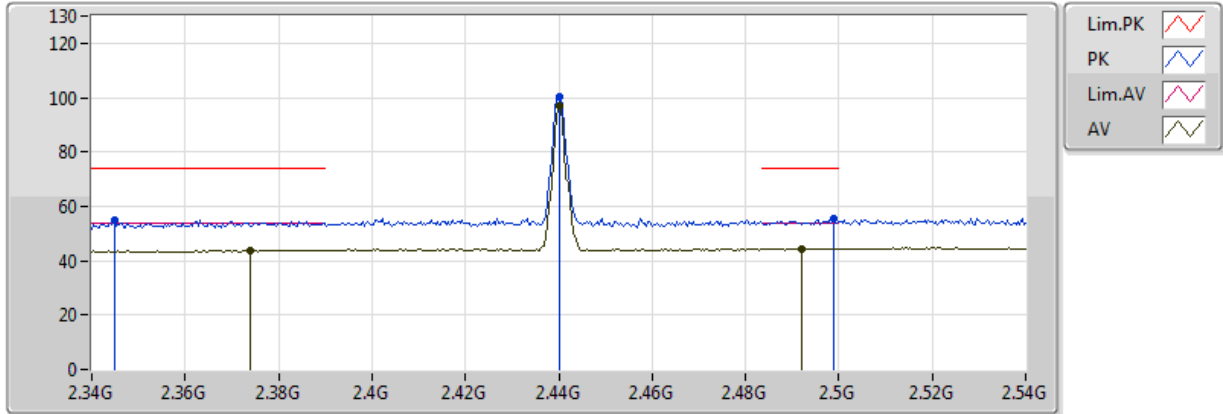


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.7917G	32.00	54.00	-22.00	5.77	3	Horizontal	128	1.50	-
PK	4.79968G	44.52	74.00	-29.48	5.78	3	Horizontal	128	1.50	-

### BT-LE(1Mbps)

### 2440MHz\_TX

31/07/2018

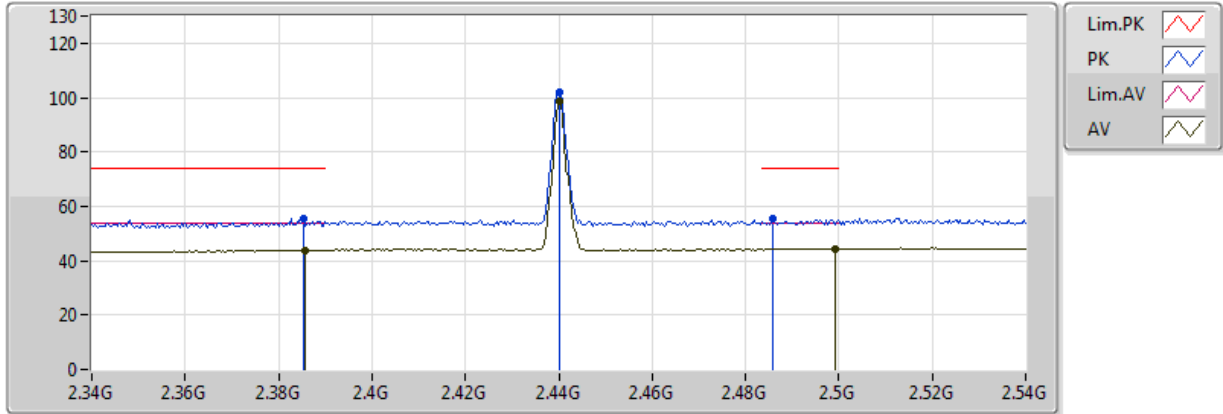


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.374G	43.86	54.00	-10.14	30.33	3	Vertical	137	2.92	-
AV	2.44G	96.73	Inf	-Inf	30.55	3	Vertical	137	2.92	-
AV	2.492G	44.53	54.00	-9.47	30.72	3	Vertical	137	2.92	-
PK	2.3448G	55.13	74.00	-18.87	30.23	3	Vertical	137	2.92	-
PK	2.44G	100.04	Inf	-Inf	30.55	3	Vertical	137	2.92	-
PK	2.4988G	55.32	74.00	-18.68	30.75	3	Vertical	137	2.92	-

### BT-LE(1Mbps)

### 2440MHz\_TX

31/07/2018

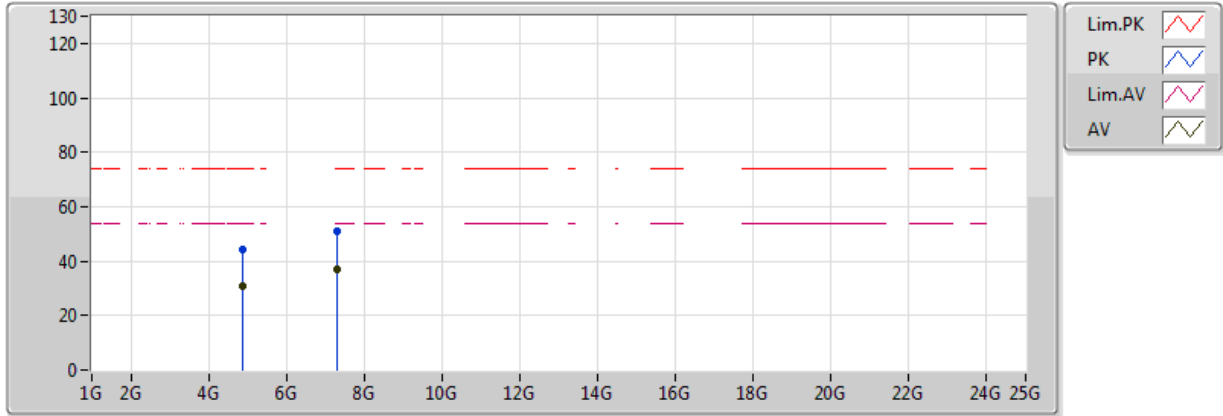


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3856G	43.98	54.00	-10.02	30.37	3	Horizontal	327	1.25	-
AV	2.44G	98.46	Inf	-Inf	30.55	3	Horizontal	327	1.25	-
AV	2.4992G	44.46	54.00	-9.54	30.75	3	Horizontal	327	1.25	-
PK	2.3852G	55.55	74.00	-18.45	30.36	3	Horizontal	327	1.25	-
PK	2.44G	101.90	Inf	-Inf	30.55	3	Horizontal	327	1.25	-
PK	2.486G	55.51	74.00	-18.49	30.71	3	Horizontal	327	1.25	-

### BT-LE(1Mbps)

### 2440MHz\_TX

31/07/2018

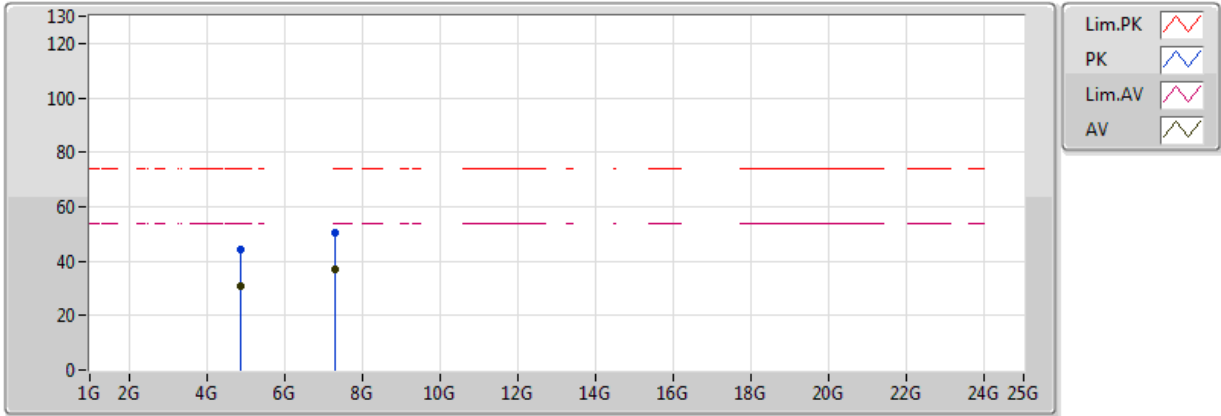


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.86752G	30.88	54.00	-23.12	5.91	3	Vertical	325	1.50	-
AV	7.31556G	36.96	54.00	-17.04	11.13	3	Vertical	248	1.50	-
PK	4.89434G	44.17	74.00	-29.83	5.98	3	Vertical	325	1.50	-
PK	7.32138G	50.94	74.00	-23.06	11.16	3	Vertical	248	1.50	-

### BT-LE(1Mbps)

### 2440MHz\_TX

31/07/2018



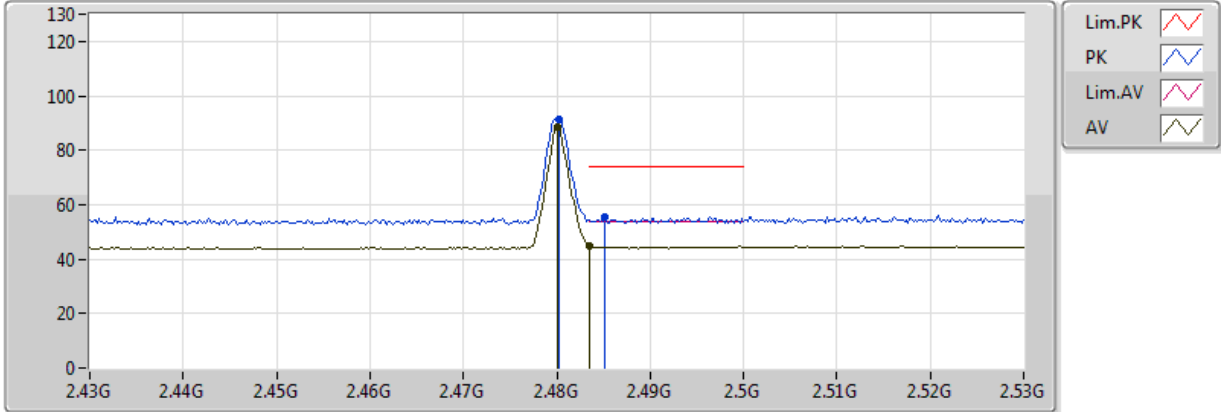
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.87922G	30.94	54.00	-23.06	5.95	3	Horizontal	226	1.00	-
AV	7.31598G	37.04	54.00	-16.96	11.13	3	Horizontal	102	1.68	-
PK	4.87754G	44.11	74.00	-29.89	5.95	3	Horizontal	226	1.00	-
PK	7.31856G	50.60	74.00	-23.40	11.15	3	Horizontal	102	1.68	-



### BT-LE(1Mbps)

### 2480MHz\_TX

31/07/2018

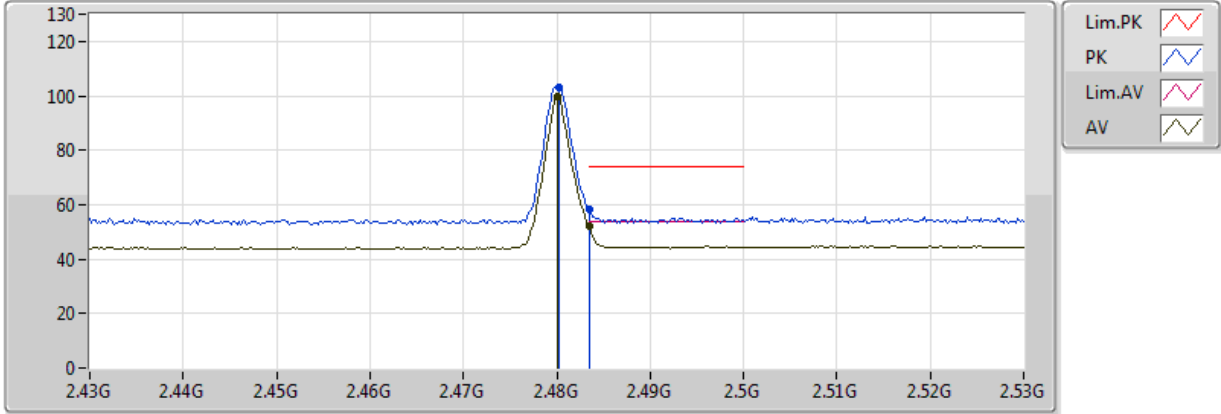


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	88.43	Inf	-Inf	30.68	3	Vertical	199	1.23	-
AV	2.483502G	44.94	54.00	-9.06	30.69	3	Vertical	199	1.23	-
PK	2.4802G	91.40	Inf	-Inf	30.68	3	Vertical	199	1.23	-
PK	2.4852G	55.42	74.00	-18.58	30.70	3	Vertical	199	1.23	-

### BT-LE(1Mbps)

### 2480MHz\_TX

31/07/2018

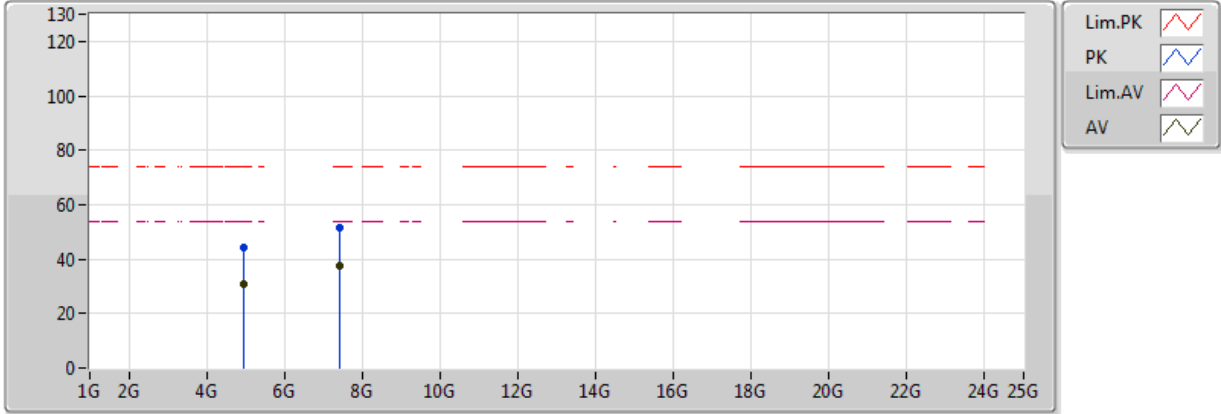


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	99.73	Inf	-Inf	30.68	3	Horizontal	325	1.25	-
AV	2.483502G	51.88	54.00	-2.12	30.69	3	Horizontal	325	1.25	-
PK	2.4802G	102.96	Inf	-Inf	30.68	3	Horizontal	325	1.25	-
PK	2.483502G	58.40	74.00	-15.60	30.69	3	Horizontal	325	1.25	-

### BT-LE(1Mbps)

### 2480MHz\_TX

31/07/2018

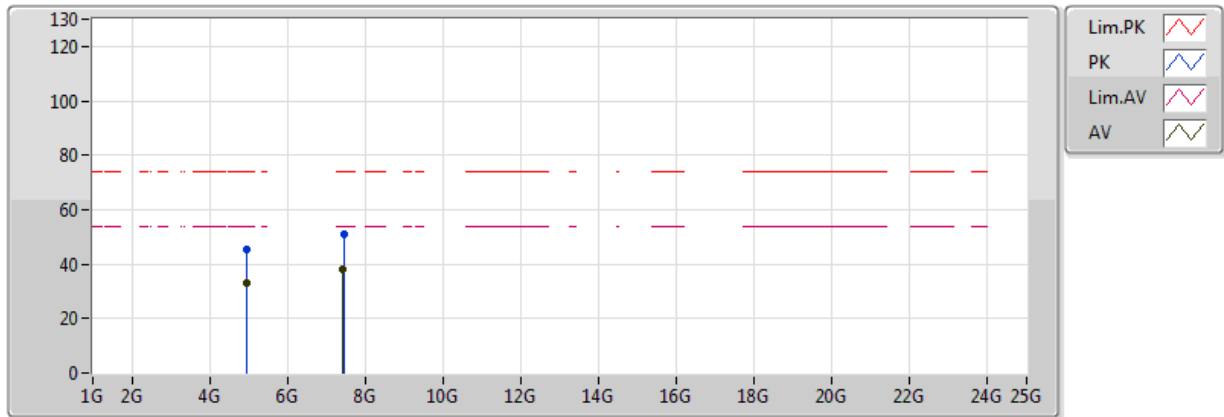


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.972G	30.98	54.00	-23.02	6.14	3	Vertical	303	1.50	-
AV	7.43028G	37.78	54.00	-16.22	11.46	3	Vertical	226	1.50	-
PK	4.9681G	44.46	74.00	-29.54	6.13	3	Vertical	303	1.50	-
PK	7.4259G	51.66	74.00	-22.34	11.44	3	Vertical	226	1.50	-

### BT-LE(1Mbps)

### 2480MHz\_TX

31/07/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.95364G	32.82	54.00	-21.18	6.11	3	Horizontal	182	1.50	-
AV	7.42908G	37.85	54.00	-16.15	11.46	3	Horizontal	218	1.91	-
PK	4.95736G	45.18	74.00	-28.82	6.11	3	Horizontal	182	1.50	-
PK	7.4502G	51.13	74.00	-22.87	11.51	3	Horizontal	218	1.91	-