

# FCC C2PC Test Report

**FCC ID** : SQG-BL54L15  
**Equipment** : Bluetooth LE + 802.15.4 + NFC module  
**Model No.** : BL54L10  
**Brand Name** : Ezurio  
**Applicant** : Ezurio LLC  
**Address** : W66N220 Commerce Court, Cedarburg, WI  
53012, USA  
**Standard** : 47 CFR FCC Part 15.247  
**Received Date** : Mar. 12, 2025  
**Tested Date** : Mar. 17 ~ Mar. 20, 2025

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

  
Along Chen / Assistant Manager

Approved by:

  
Gary Chang / Manager

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## Release Record

Report No.	Version	Description	Issued Date
FR4D2002-01AE	Rev. 01	Initial issue	Apr. 02, 2025

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emissions	[dBuV]: 18.622MHz 33.11 (Margin -16.89dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 12.4GHz 47.09 (Margin -6.91dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Power [dBm]: 6.71	Pass

**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:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

# 1 General Description

## 1.1 Information

This is a Class II Permissive Change report (C2PC).

This report is issued as a supplementary report to original report no. FR4D2002AE. The modifications are concerned with the following items.

- Adding 2<sup>nd</sup> source of RF chip (Nordic / nRF54L10 QFN) with different memory capacity.
- New model name for above change.

### 1.1.1 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Freq. (MHz)	Channel Number	Data Rate
2400-2483.5	LE	2402-2480	40	125 kbps
				500 kbps
				1 Mbps
		2404-2478	37	2 Mbps
Note: Bluetooth LE (Low energy) uses GFSK modulation.				

### 1.1.2 Antenna Details

External Antenna list for BL54L10 MHF4 module variant (453-00226)

Manufacturer	Model	Part Number	Type	Connector	2400-2500 (MHz)	2400-2480 (MHz)
Ezurio	NanoBlue	EBL2400A1-10 MH4L	PCB Dipole	IPEX MHF4	2 dBi	-
Ezurio	FlexPIFA	001-0022	FlexPIFA	IPEX MHF4L	-	2 dBi
Mag.Layers	EDA-8709-2G4C 1-B27-CY	0600-00057	Dipole	IPEX MHF4	2.32 dBi	-
Ezurio	mFlexPIFA	EFA2400A3S-10 MH4L	PIFA	IPEX MHF4L	-	2 dBi
Ezurio	i-FlexPIFATM Mini Series	EFG2401A3S-1 0MH4L	i-FlexPIFA	IPEX MHF4L	-	2 dBi
Ezurio	Ezurio NFC	0600-00061	Coiled Inductor	FFC/FPC Connector	-	-

Integrated Antenna BL54L10 PCB printed antenna module variant (453-00225)

Manufacturer	Model	Part Number	Type	Connector	2400-2500 (MHz)
Ezurio	BL54L15 Printed PCB Antenna	N/A	Printed PCB	N/A	0 dBi
Ezurio	Ezurio NFC	0600-00061	Coiled Inductor	FFC/FPC Connector	-

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

<b>Power Supply Type</b>	1.8Vdc from host
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### 1.1.4 Accessories

N/A

### 1.1.5 Channel List

Frequency band (MHz)				2402-2480 / BT-LE(125kbps / 500kbps / 1Mbps)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
37	2402	9	2422	18	2442	28	2462
0	2404	10	2424	19	2444	29	2464
1	2406	38	2426	20	2446	30	2466
2	2408	11	2428	21	2448	31	2468
3	2410	12	2430	22	2450	32	2470
4	2412	13	2432	23	2452	33	2472
5	2414	14	2434	24	2454	34	2474
6	2416	15	2436	25	2456	35	2476
7	2418	16	2438	26	2458	36	2478
8	2420	17	2440	27	2460	39	2480

Frequency band (MHz)				2404-2478 / BT-LE(2Mbps)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2404	10	2424	20	2446	30	2466
1	2406	11	2428	21	2448	31	2468
2	2408	12	2430	22	2450	32	2470
3	2410	13	2432	23	2452	33	2472
4	2412	14	2434	24	2454	34	2474
5	2414	15	2436	25	2456	35	2476
6	2416	16	2438	26	2458	36	2478
7	2418	17	2440	27	2460	--	--
8	2420	18	2442	28	2462	--	--
9	2422	19	2444	29	2464	--	--

### 1.1.6 Test Tool and Duty Cycle

Test Tool	PuTTY, Version: 0.60	
Modulation Mode	Duty Cycle Of Test Signal (%)	Duty Factor (dB)
BT-LE(125kbps)	100.00%	0.00
BT-LE(500kbps)	100.00%	0.00
BT-LE(1Mbps)	100.00%	0.00
BT-LE(2Mbps)	100.00%	0.00

### 1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)		
	2402	2440	2480
BT-LE(125kbps)	pos7dBm	pos7dBm	pos7dBm
BT-LE(500kbps)	pos7dBm	pos7dBm	pos7dBm
BT-LE(1Mbps)	pos7dBm	pos7dBm	pos7dBm

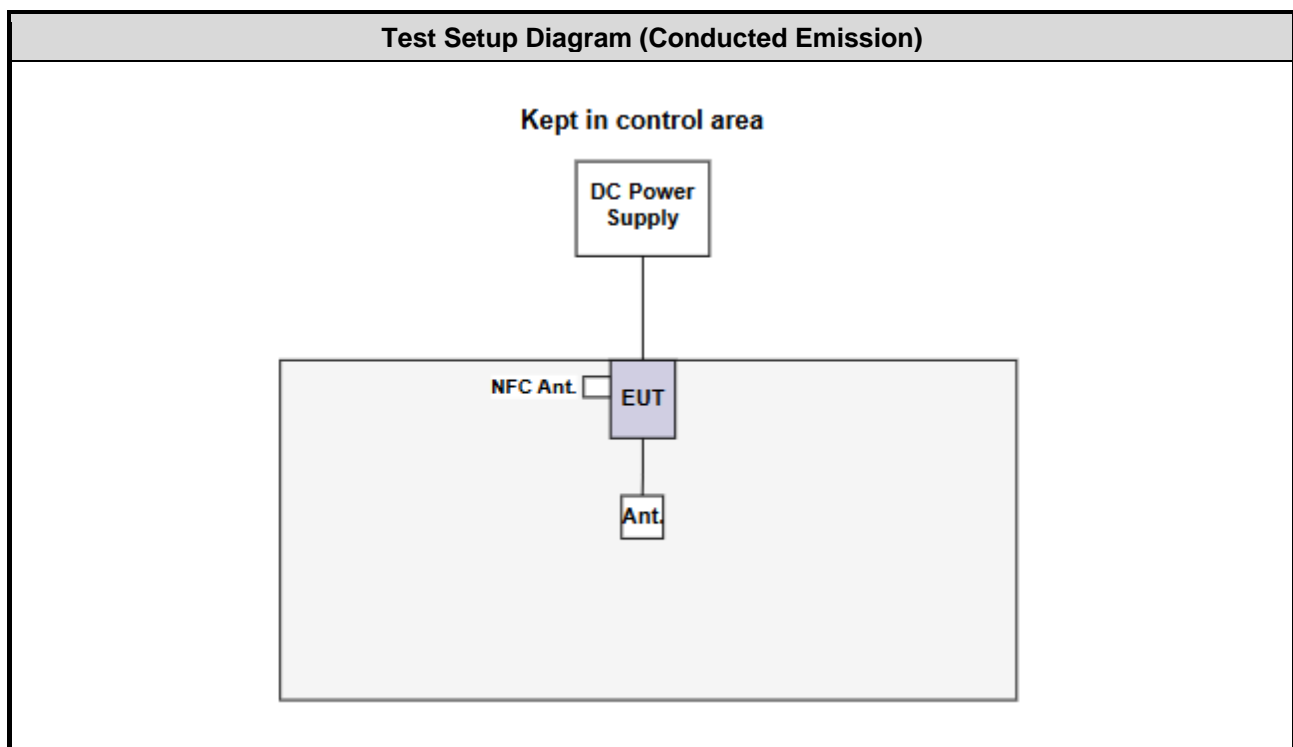
Modulation Mode	Test Frequency (MHz)		
	2404	2440	2478
BT-LE(2Mbps)	pos7dBm	pos7dBm	pos7dBm

## 1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Laptop	DELL	Latitude E5400	DoC	---
2	50 ohm load	---	---	---	Provided by applicant.

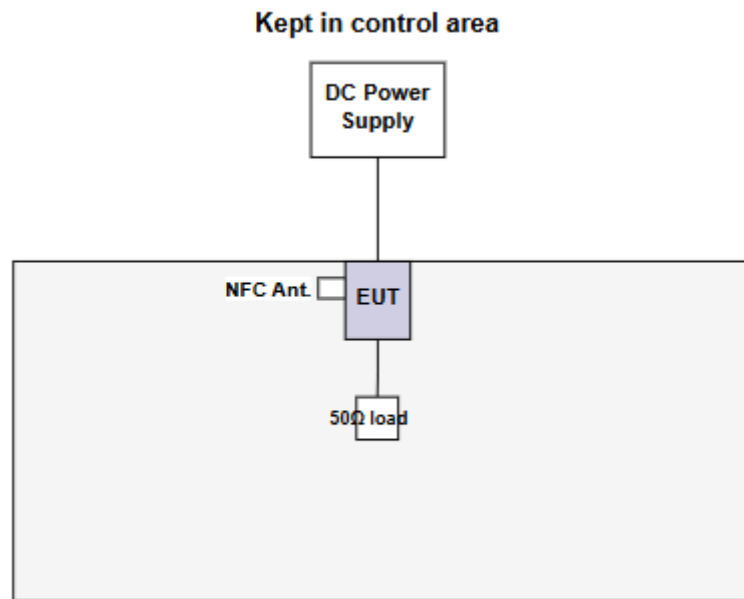
Note: The support laptop was disconnected from EUT and was removed from test table after sending command from laptop to control EUT to transmit continuously.

## 1.3 Test Setup Chart





### Test Setup Diagram (Radiated Emission)



## 1.4 Test Equipment List and Calibration Data

<b>Test Item</b>	Conducted Emission				
<b>Test Site</b>	Conduction room 1 / (CO01-WS)				
<b>Tested Date</b>	Mar. 17, 2025				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Receiver	R&S	ESR3	101658	Feb. 25, 2025	Feb. 24, 2026
LISN	R&S	ENV216	101579	May 09, 2024	May 08, 2025
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Feb. 05, 2025	Feb. 04, 2026
DC POWER SOURCE	GW INSTRUK	GPC-6030D	GES855395	Nov. 06, 2024	Nov. 05, 2025
50 ohm terminal	NA	50	01	Jun. 19, 2024	Jun. 18, 2025
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	Radiated Emission				
<b>Test Site</b>	966 chamber3 / (03CH03-WS)				
<b>Tested Date</b>	Mar. 17, 2025				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Receiver	R&S	ESR3	101657	Mar. 11, 2025	Mar. 10, 2026
Spectrum Analyzer	R&S	FSV40	101499	Apr. 02, 2024	Apr. 01, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 05, 2024	Nov. 04, 2025
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 02, 2024	Jul. 01, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 20, 2024	Dec. 19, 2025
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 18, 2024	Nov. 17, 2025
Preamplifier	EMC	EMC02325	980187	Jun. 27, 2024	Jun. 26, 2025
Preamplifier	EMC	EMC118A45SE	980897	Aug. 05, 2024	Aug. 04, 2025
Preamplifier	EMC	EMC184045SE	980903	Jul. 30, 2024	Jul. 29, 2025
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 02, 2024	Oct. 01, 2025
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 20, 2024	Sep. 19, 2025
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 20, 2024	Sep. 19, 2025
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 20, 2024	Sep. 19, 2025
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 20, 2024	Sep. 19, 2025
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 20, 2024	Sep. 19, 2025
HIGHPASS FILTER	WI	WHK3.1-18G-10SS	43	Sep. 20, 2024	Sep. 19, 2025
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA
Measurement Software	Sporton	SENSE-EMI	V5.11	NA	NA
Measurement Software	Sporton	SENSE-15247_EMI	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	RF Conducted				
<b>Test Site</b>	(TH01-WS)				
<b>Tested Date</b>	Mar. 20, 2025				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2024	Apr. 17, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 26, 2024	Nov. 25, 2025
Power Sensor	Anritsu	MA2411B	1207366	Nov. 26, 2024	Nov. 25, 2025
Attenuator	Pasternack	PE7005-10	10-2	Oct. 04, 2024	Oct. 03, 2025
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA

Note: Calibration Interval of instruments listed above is one year.

## 1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

## 1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

## 1.7 Deviation from Test Standard and Measurement Procedure

None

## 1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ( $k=2$ )).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	$\pm 34.130$ Hz
Conducted power	$\pm 0.808$ dB
Power density	$\pm 0.583$ dB
Conducted emission	$\pm 2.715$ dB
AC conducted emission	$\pm 2.92$ dB
Unwanted Emission $\leq 1$ GHz	$\pm 3.96$ dB
Unwanted Emission $> 1$ GHz	$\pm 4.51$ dB

## 2 Test Configuration

### 2.1 Testing Facility

<b>Test Laboratory</b>	International Certification Corporation
<b>Test Site</b>	CO01-WS, TH01-WS
<b>Address of Test Site</b>	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)
<b>Test Site</b>	03CH03-WS
<b>Address of Test Site</b>	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807C
- CAB identifier: TW2732

### 2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Test Configuration
AC Power Line Conducted Emissions	BT-LE(1Mbps)	2480	---
Unwanted Emissions ≤ 1GHz	BT-LE(1Mbps)	2480	---
Unwanted Emissions > 1GHz	BT-LE(1Mbps)	2480	---
Conducted Output Power	BT-LE(125kbps) BT-LE(500kbps) BT-LE(1Mbps) BT-LE(2Mbps)	2402, 2440, 2480 2402, 2440, 2480 2402, 2440, 2480 2404, 2440, 2478	---
<b>NOTE:</b>			
1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The <b>X-plane</b> results were found as the worst case and were shown in this report.			

### 3 Transmitter Test Results

#### 3.1 Conducted Output Power

##### 3.1.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain  $\leq 6\text{dBi}$ , no any corresponding reduction is in output power limit.

##### 3.1.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

##### 3.1.3 Test Setup



##### 3.1.4 Test Results

Ambient Condition	21°C / 66%	Tested By	Akun Chung
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Refer to Appendix A.

## 3.2 Unwanted Emissions in Restricted Frequency Bands

### 3.2.1 Limit of Unwanted Emissions in Restricted Frequency Bands

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:**  
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

**Note 2:**  
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

### 3.2.2 Test Procedures

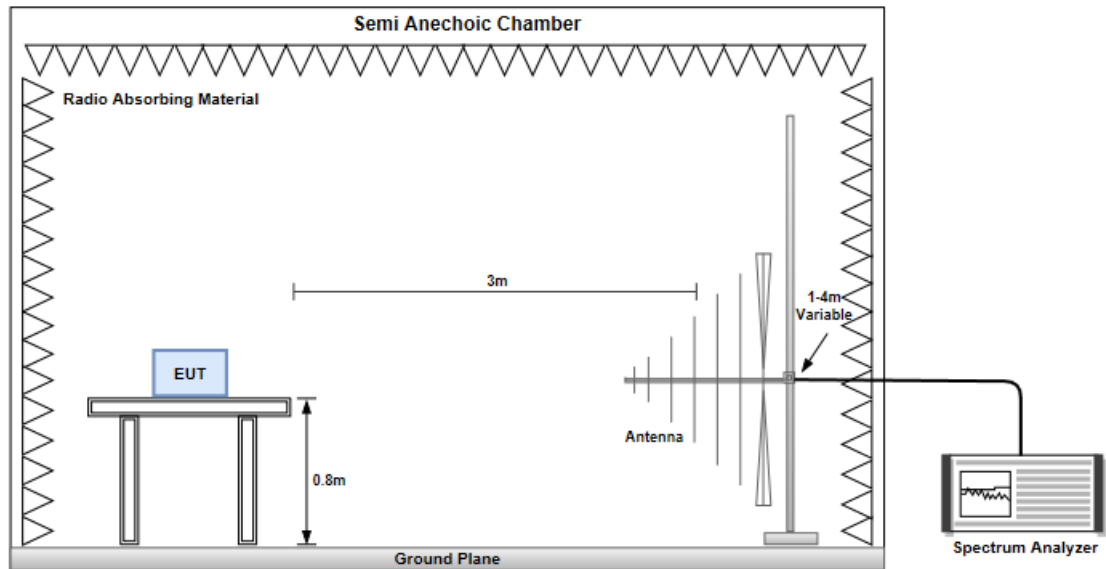
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

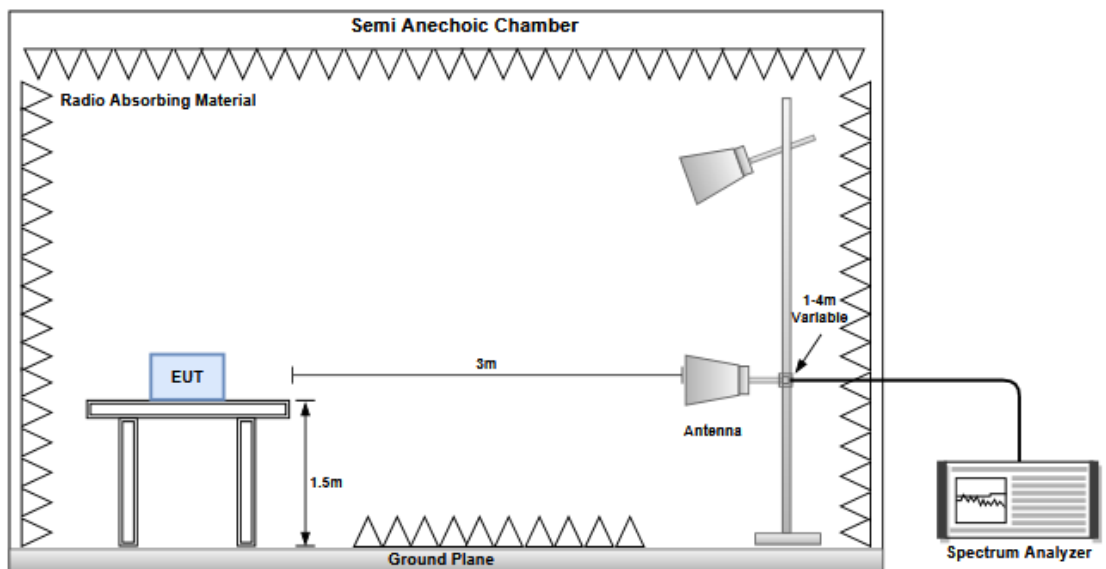
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

### 3.2.3 Test Setup

#### Radiated Emissions below 1 GHz



#### Radiated Emissions above 1 GHz



### 3.2.4 Test Results

Ambient Condition	21°C / 62%	Tested By	Sean Yu
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Refer to Appendix B.

### 3.3 AC Power Line Conducted Emissions

#### 3.3.1 Limit of AC Power Line Conducted Emissions

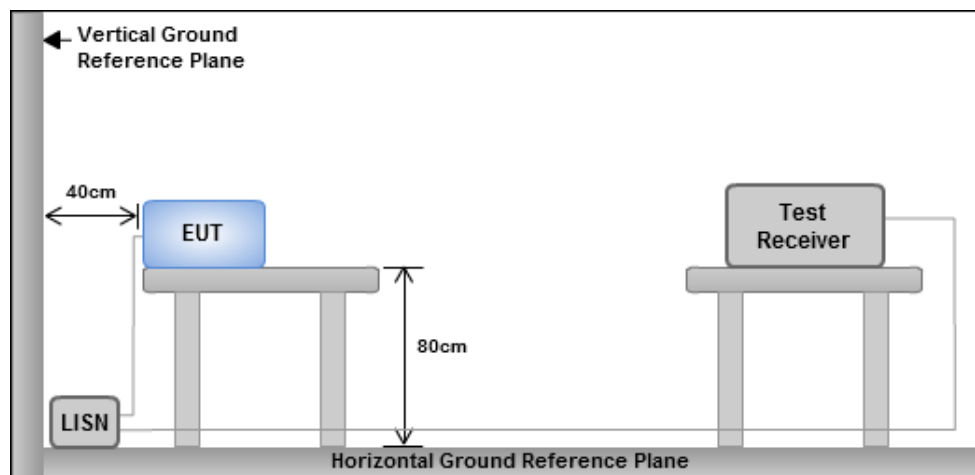
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: \* Decreases with the logarithm of the frequency.

#### 3.3.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50  $\Omega$  LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

#### 3.3.3 Test Setup



Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

#### 3.3.4 Test Results

Refer to Appendix C.



## 4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

### **Linkou**

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou  
District, New Taipei City, Taiwan  
(R.O.C.)

### **Kwei Shan**

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)  
No.2-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)

### **Kwei Shan Site II**

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC\_Service@icertifi.com.tw

==END==

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(125kbps)	6.70	0.00468
BT-LE(500kbps)	6.70	0.00468
BT-LE(1Mbps)	6.71	0.00469
BT-LE(2Mbps)	6.71	0.00469

**Result**

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-LE(125kbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.70	30.00	9.02	36.00
2440MHz	Pass	2.32	6.69	30.00	9.01	36.00
2480MHz	Pass	2.32	6.61	30.00	8.93	36.00
BT-LE(500kbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.70	30.00	9.02	36.00
2440MHz	Pass	2.32	6.68	30.00	9.00	36.00
2480MHz	Pass	2.32	6.62	30.00	8.94	36.00
BT-LE(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.71	30.00	9.03	36.00
2440MHz	Pass	2.32	6.70	30.00	9.02	36.00
2480MHz	Pass	2.32	6.63	30.00	8.95	36.00
BT-LE(2Mbps)	-	-	-	-	-	-
2404MHz	Pass	2.32	6.71	30.00	9.03	36.00
2440MHz	Pass	2.32	6.70	30.00	9.02	36.00
2478MHz	Pass	2.32	6.63	30.00	8.95	36.00

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(125kbps)	6.61	0.00458
BT-LE(500kbps)	6.61	0.00458
BT-LE(1Mbps)	6.62	0.00459
BT-LE(2Mbps)	6.61	0.00458

**Result**

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-LE(125kbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.61	-	8.93	-
2440MHz	Pass	2.32	6.60	-	8.92	-
2480MHz	Pass	2.32	6.52	-	8.84	-
BT-LE(500kbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.61	-	8.93	-
2440MHz	Pass	2.32	6.59	-	8.91	-
2480MHz	Pass	2.32	6.53	-	8.85	-
BT-LE(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	2.32	6.62	-	8.94	-
2440MHz	Pass	2.32	6.61	-	8.93	-
2480MHz	Pass	2.32	6.54	-	8.86	-
BT-LE(2Mbps)	-	-	-	-	-	-
2404MHz	Pass	2.32	6.61	-	8.93	-
2440MHz	Pass	2.32	6.60	-	8.92	-
2478MHz	Pass	2.32	6.53	-	8.85	-

Note: Average power is for reference only.



## ***Unwanted Emissions into Restricted Frequency Bands Below 1GHz***

### ***Appendix B.1***

#### **Summary**

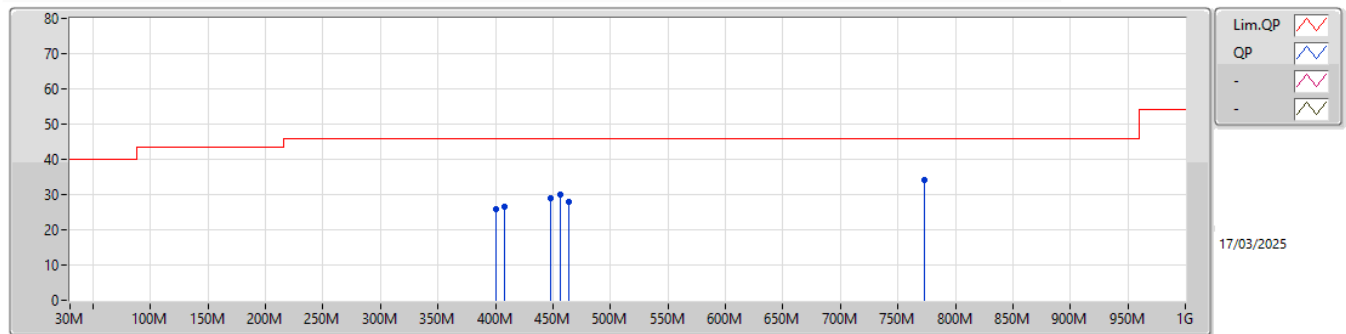
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	772.6M	34.20	46.00	-11.80	Horizontal



## Unwanted Emissions into Restricted Frequency Bands Below 1GHz

### Appendix B.1

#### Mode 1



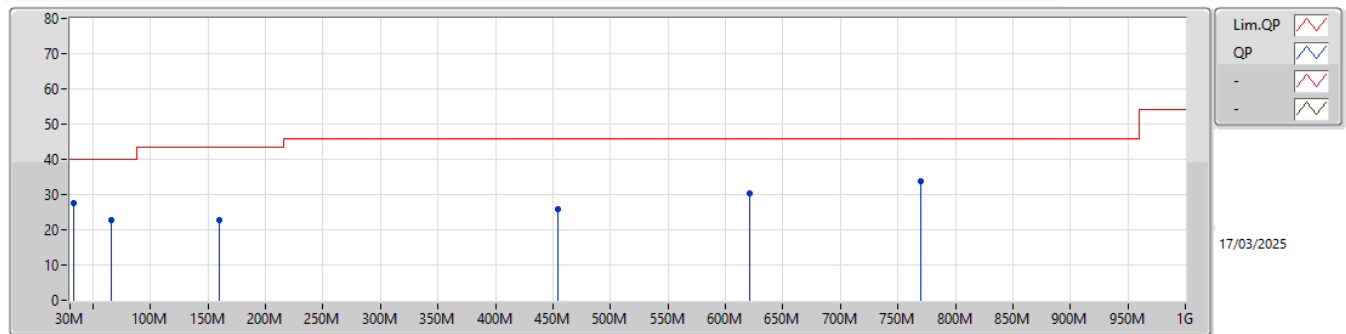
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
PK	400M	25.83	46.00	-20.17	-5.34	3	Horizontal	-	-	-	31.17	20.40	2.25	27.99		
PK	408M	26.47	46.00	-19.53	-5.18	3	Horizontal	-	-	-	31.65	20.52	2.28	27.98		
PK	448M	28.87	46.00	-17.13	-3.82	3	Horizontal	-	-	-	32.69	21.72	2.41	27.95		
PK	456M	29.86	46.00	-16.14	-3.60	3	Horizontal	-	-	-	33.46	21.90	2.45	27.95		
PK	464M	28.02	46.00	-17.98	-3.46	3	Horizontal	-	-	-	31.48	21.98	2.50	27.94		
PK	772.6M	34.20	46.00	-11.80	3.12	3	Horizontal	-	-	-	31.08	26.75	3.90	27.53		



# Unwanted Emissions into Restricted Frequency Bands Below 1GHz

## Appendix B.1

### Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)		
PK	33.2M	27.42	40.00	-12.58	-10.11	3	Vertical	-	-	-	37.53	17.42	0.48	28.01		
PK	66.3M	22.76	40.00	-17.24	-10.60	3	Vertical	-	-	-	33.36	16.73	0.72	28.05		
PK	160M	22.63	43.50	-20.87	-8.55	3	Vertical	-	-	-	31.18	18.30	1.25	28.10		
PK	454M	25.89	46.00	-20.11	-3.63	3	Vertical	-	-	-	29.52	21.88	2.44	27.95		
PK	620.9M	30.22	46.00	-15.78	0.08	3	Vertical	-	-	-	30.14	24.80	3.08	27.80		
PK	769.4M	33.78	46.00	-12.22	3.04	3	Vertical	-	-	-	30.74	26.70	3.88	27.54		



**Unwanted Emissions into Restricted Frequency Bands  
Above 1GHz**

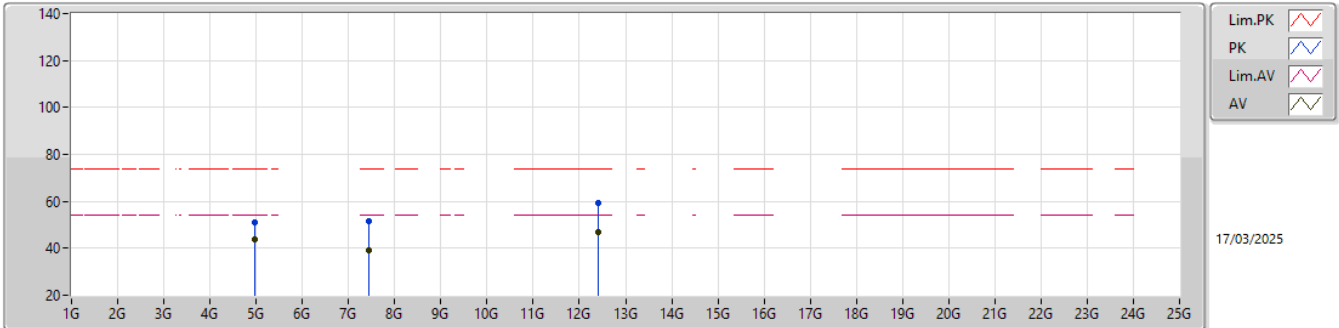
**Appendix B.2**

**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	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	12.4G	47.09	54.00	-6.91	3	Horizontal	325	1.95	-

### 2.4-2.4835GHz\_BT-LE(1Mbps)

#### 2480MHz\_TX

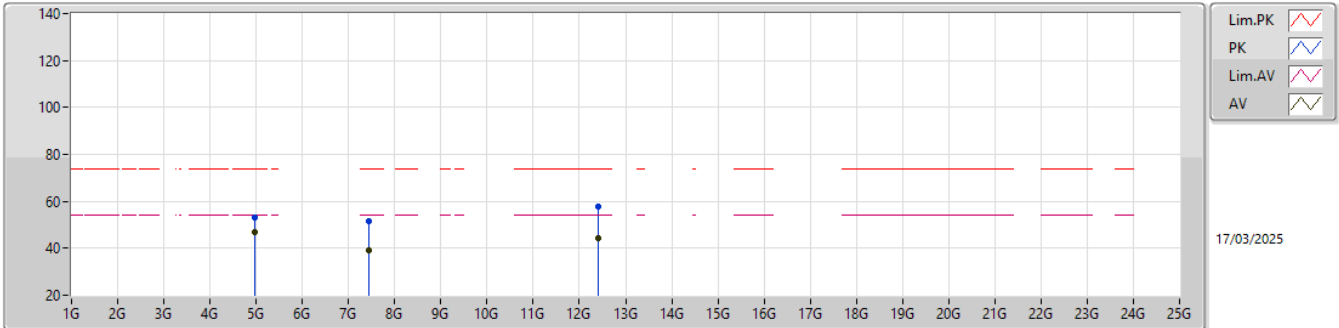


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	4.96G	44.04	54.00	-9.96	44.07	3	Horizontal	178	2.23	-	31.44	6.83	38.30			
PK	4.96G	50.92	74.00	-23.08	50.95	3	Horizontal	178	2.23	-	31.44	6.83	38.30			
AV	7.44G	38.92	54.00	-15.08	33.54	3	Horizontal	193	1.00	-	36.38	8.30	39.30			
PK	7.44G	51.39	74.00	-22.61	46.01	3	Horizontal	193	1.00	-	36.38	8.30	39.30			
AV	12.4G	47.09	54.00	-6.91	40.60	3	Horizontal	325	1.95	-	38.30	10.68	42.49			
PK	12.4G	59.10	74.00	-14.90	52.61	3	Horizontal	325	1.95	-	38.30	10.68	42.49			



### 2.4-2.4835GHz\_BT-LE(1Mbps)

#### 2480MHz\_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	4.96G	46.70	54.00	-7.30	46.73	3	Vertical	326	2.56	-	31.44	6.83	38.30			
PK	4.96G	52.91	74.00	-21.09	52.94	3	Vertical	326	2.56	-	31.44	6.83	38.30			
AV	7.44G	39.21	54.00	-14.79	33.83	3	Vertical	64	1.00	-	36.38	8.30	39.30			
PK	7.44G	51.45	74.00	-22.55	46.07	3	Vertical	64	1.00	-	36.38	8.30	39.30			
AV	12.4G	44.32	54.00	-9.68	37.83	3	Vertical	303	1.00	-	38.30	10.68	42.49			
PK	12.4G	57.80	74.00	-16.20	51.31	3	Vertical	303	1.00	-	38.30	10.68	42.49			

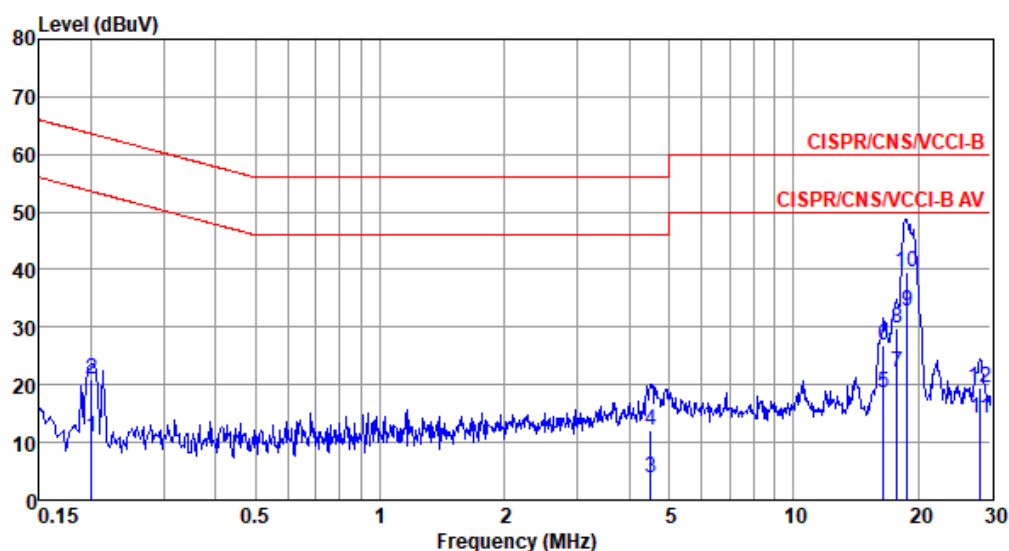


Modulation Mode	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Power Phase	Line		

Test by : Sean Yu

Temperature: 21°C

Humidity: 62%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.201	10.85	53.58	-42.73	0.86	9.65	0.08	0.26	Average
2	0.201	21.10	63.58	-42.48	11.11	9.65	0.08	0.26	QP
3	4.501	3.96	46.00	-42.04	-6.42	9.67	0.23	0.48	Average
4	4.501	12.07	56.00	-43.93	1.69	9.67	0.23	0.48	QP
5	16.486	18.59	50.00	-31.41	7.86	9.69	0.48	0.56	Average
6	16.486	26.94	60.00	-33.06	16.21	9.69	0.48	0.56	QP
7	17.755	22.25	50.00	-27.75	11.46	9.69	0.51	0.59	Average
8	17.755	29.87	60.00	-30.13	19.08	9.69	0.51	0.59	QP
9*	18.820	32.67	50.00	-17.33	21.83	9.68	0.54	0.62	Average
10	18.820	39.60	60.00	-20.40	28.76	9.68	0.54	0.62	QP
11	28.302	14.25	50.00	-35.75	3.05	9.65	0.73	0.82	Average
12	28.302	19.46	60.00	-40.54	8.26	9.65	0.73	0.82	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) - Limit Line (dBuV).

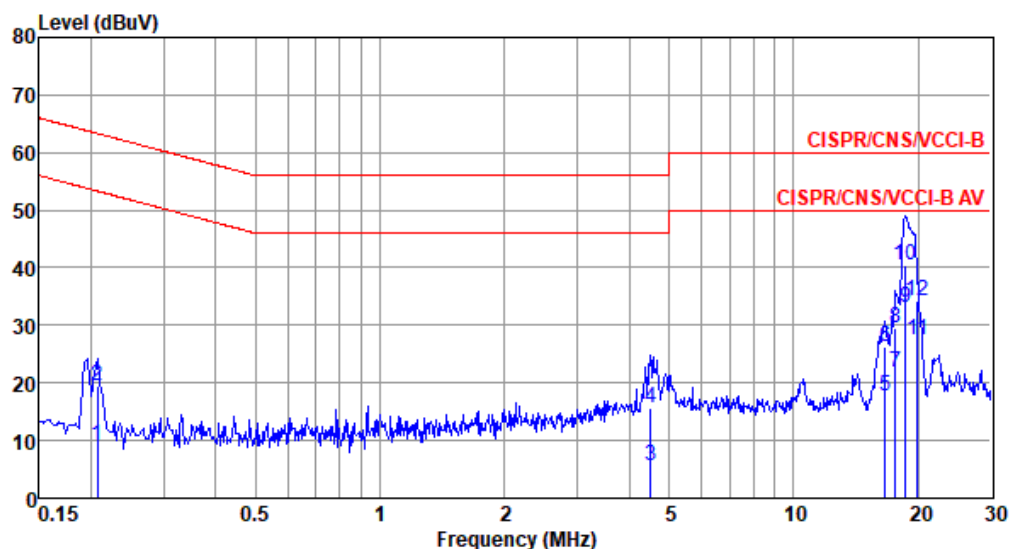


Modulation Mode	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Power Phase	Neutral		

Test by : Sean Yu

Temperature: 21°C

Humidity: 62%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.207	9.19	53.32	-44.13	-0.74	9.65	0.08	0.20	Average
2	0.207	19.40	63.32	-43.92	9.47	9.65	0.08	0.20	QP
3	4.501	5.65	46.00	-40.35	-4.75	9.69	0.23	0.48	Average
4	4.501	15.72	56.00	-40.28	5.32	9.69	0.23	0.48	QP
5	16.661	17.61	50.00	-32.39	6.72	9.81	0.48	0.60	Average
6	16.661	26.23	60.00	-33.77	15.34	9.81	0.48	0.60	QP
7	17.661	21.74	50.00	-28.26	10.81	9.81	0.51	0.61	Average
8	17.661	29.64	60.00	-30.36	18.71	9.81	0.51	0.61	QP
9*	18.622	33.11	50.00	-16.89	22.13	9.82	0.54	0.62	Average
10	18.622	40.34	60.00	-19.66	29.36	9.82	0.54	0.62	QP
11	19.950	27.50	50.00	-22.50	16.46	9.83	0.57	0.64	Average
12	19.950	34.13	60.00	-25.87	23.09	9.83	0.57	0.64	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) - Limit Line (dBuV).