

# TEST REPORT

**REPORT NUMBER: B17W00112-BLE-Rev2**

**ON**

**Type of Equipment:** 4G TLE mobile phone  
**Model Name:** A1-901  
**Manufacturer:** SHENZHEN FUTAIHONG PRECISION  
INDUSTRY CO.,LTD

**ACCORDING TO**

**FCC Part 15, Subpart C, 2015:**

**15.207 Conducted limits.**

**15.209 Radiated emission limits; general requirements.**

**15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz**

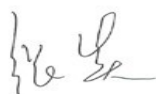
**ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed  
Wireless Devices**

**Chongqing Institute of Telecommunications**

*Month date, year*

*Jun, 2, 2017*

Signature



**Zhang Yan**  
**Director**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Institute of Telecommunications.

**FCC ID:** 2AK9KA1

**Report Date:** 2017-06-02

**Test Firm Name:** Chongqing Institute of Telecommunications

**FCC Registration Number:** 428018

#### Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC Parts 15, subpart C. The sample tested was found to comply with the requirements defined in the applied rules.

## CONTENTS

<b>1 GENERAL INFORMATION .....</b>	<b>4</b>
1.1 NOTES.....	4
1.2 TESTERS .....	5
1.3 TESTING LABORATORY INFORMATION.....	6
1.4 DETAILS OF APPLICANT OR MANUFACTURER.....	7
<b>2 TEST ITEM.....</b>	<b>8</b>
2.1 GENERAL INFORMATION .....	8
2.2 OUTLINE OF EQUIPMENT UNDER TEST .....	8
2.3 MODIFICATIONS INCORPORATED IN EUT .....	8
2.4 EQUIPMENT CONFIGURATION .....	8
2.5 OTHER INFORMATION.....	8
<b>3 SUMMARY OF TEST RESULTS .....</b>	<b>9</b>
<b>4 TEST EQUIPMENTS AND ANCILLARIES USED FOR TESTS .....</b>	<b>10</b>
<b>5 TEST RESULTS .....</b>	<b>11</b>
5.1 MAXIMUM PEAK OUTPUT POWER .....	11
5.2 PEAK POWER SPECTRAL DENSITY .....	12
5.3 6DB OCCUPIED BANDWIDTH .....	16
5.4 BAND EDGES COMPLIANCE.....	19
5.5 TRANSMITTER SPURIOUS EMISSION-CONDUCTED.....	21
5.6 TRANSMITTER SPURIOUS EMISSION-RADIATED .....	26
5.7 POWER LINE CONDUCTED EMISSIONS.....	33
<b>ANNEX A EUT PHOTOS.....</b>	<b>36</b>
<b>ANNEX B DEVIATIONS FROM PRESCRIBED TEST METHODS .....</b>	<b>37</b>

## 1 General Information

### 1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC Parts 15, subpart C and ANSI C63.10-2013 and FCC DA 00-705.


The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.


Chongqing Institute of Telecommunications authorizes the applicant or manufacturer (see section 1.4) to reproduce this report provided, and the test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of director of Mr. Zhang Yan.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Chongqing Institute of Telecommunications accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

## 1.2 Testers

Name: Li Xu  
Position: Engineer  
Department: Department of RF test  
Date: 2017-02-21 to 2017-04-28  
Signature: 

Editor of this test report:

Name: Zhou Jin  
Position: Engineer  
Department: Department of RF test  
Date: 2017-06-02  
Signature: 

Technical responsibility for area of testing:

Name: Zhang Yan  
Position: Manager  
Department: Director of the laboratory  
Date: 2017-06-02  
Signature: 

### 1.3 Testing Laboratory information

#### 1.3.1 Location

Name: Chongqing Institute of Telecommunications  
Address: No. 8, Yuma Road, Chayuan New City, Nan'an District  
Chongqing  
P. R. CHINA, 401336  
Tel: 0086 23 88069965  
Fax: 0086 23 88608777  
Email: [songweiwei@chinattl.com](mailto:songweiwei@chinattl.com)

#### 1.3.2 Details of accreditation status

Accredited by: -----  
Registration number: -----  
Standard: -----

#### 1.3.3 Test location, where different from section 1.3.1

Name: -----  
Street: -----  
City: -----  
Country: -----  
Telephone: -----  
Fax: -----  
Postcode: -----

## 1.4 Details of applicant or manufacturer

### 1.4.1 Applicant

Name: Cloud Minds(Shenzhen) Holdings Co. Ltd  
Address: Room 201 Building A No.1 Qian hai shengang Corporation  
Zone Qian hai Road 1st Shenzhen (Stay by Shenzhen  
Qianhai Commerce Secretariat Co., Ltd )  
Country: China  
Telephone: 0086 13426155325  
Fax: -----  
Contact: andy.xu  
Email: andy.xu@cloudminds.com

### 1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: SHENZHEN FUTAIHONG PRECISION INDUSTRY  
CO.,LTD  
Address: Office Address Floor 2.Building 3. Zone K1. Foxcon  
Technology park, 2ND DONGHUAN RD NO.2.LONGHUA  
Agency. LONGHUA NEW DISTRICT SHENZHEN  
Country: China  
Telephone: -----  
Fax: -----  
Contact: -----  
Email: -----

## 2 Test Item

### 2.1 General Information

Manufacturer: SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD  
 Type of Equipment: 4G TLE mobile phone  
 Model Name: A1-901  
 Serial Number: S7/18: 862851030000163/862851030020161  
 S15/18: 862851030000175/862851030020177  
 Production Status: Product  
 Receipt date of test item: 2017-02-21

### 2.2 Outline of Equipment under Test

The A1-901, referred to as “EUT” hereafter, is a 4G TLE mobile phone operating on the GSM/UMTS/LTE networks. The table below shows the supported bands for the EUT.

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)	Note
GSM	GSM850	824 - 849	869 - 894	--
	PCS1900	1850 - 1910	1930 - 1990	--
WCDMA	B2	1850 - 1910	1930 - 1990	--
	B5	824 - 849	869 - 894	--
LTE	B2	1850-1910	1930-1990	--
	B4	1710-1755	2110-2155	--
	B7	2500-2570	2620-2690	--
	B17	704-716	734-746	--

### 2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

### 2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Adaptor	None	None	--	None

### 2.5 Other Information

--

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P.R.C,401336  
 Tel:+86 23 88069965 FAX:+86 23 88608777 Web:http://www.chinattl.com



### 3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
15.247(b)(1)	Maximum Peak Output Power	Pass
15.247(e)	Peak Power Spectral Density	Pass
15.247(a)(2)	6dB Occupied Bandwidth	Pass
15.247(d)	Band Edges Compliance	Pass
15.247 (d)	Transmitter Spurious Emission-Conducted	Pass
15.247(d), 15.209(a)	Transmitter Spurious Emission-Radiated	Pass
ANSI C63.4 voltage mains test	Power line Conducted Emissions	Pass

#### 4 Test Equipments and Ancillaries Used For Tests

The test equipments and ancillaries used are as follows.

No.	Equipment	Model	SN	Manufacture	Cal. Due Date
1	EMI Test Receiver	ESU26	100367	R&S	2018-03-03
2	Trilog super broadband test antenna	VULB 9163	9163-544	R&S	2017-12-01
3	Double-Ridged Horn Antenna	HF907	100356	R&S	2017-12-01
4	Fully-Anechoic Chamber	11.8m×6.5m×6.3m	--	ETS	2017-08-19
5	Universal Radio Communication Tester	CMW500	128181	R&S	2018-03-03
6	Signal Generator	SMU200A	104517	R&S	2018-03-03
7	spectrum analyzer	FSQ 26	201137/026	R&S	2018-03-03
8	spectrum analyzer	N9020A	MY50200376	Agilent	2018-03-03
9	Universal Radio Communication Tester	CMU200	112012	R&S	2018-03-03
10	Climate chamber	SH-241	92010759	ESPEC	2018-03-03
11	DC Power Supply	N6705B	MY50000919	Agilent	2017-12-06

## 5 Test Results

### 5.1 Maximum Peak Output Power

<b>Specifications:</b>	FCC Part 15.247(b)(1)
<b>DUT Serial Number:</b>	S15/18: 862851030000175/862851030020177
<b>Test conditions:</b>	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	Pass

#### Limit Level Construction:

The maximum peak output power of the intentional radiator shall not exceed the following:

1. For systems using digital modulation in the bands of 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz: 1 watt.
2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### Test Method:

The measurement is according to ANSI C63.10 clause 11.2

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set RBW  $\geq$  OBW, Set the appropriate VBW
4. Detector : Peak.
5. Trace mode: Max Hold

Note: --

#### Measurement Results:

Channel No.	Output Power (dBm)	Limit (dBm)	Conclusion
<b>Low: 0</b>	-0.48	30	Pass
<b>Middle: 19</b>	0.99		Pass
<b>High: 39</b>	0.11		Pass

**Conclusion: PASS**

## 5.2 Peak Power Spectral Density

<b>Specifications:</b>	FCC CFR Part 15.247(e)
<b>DUT Serial Number:</b>	S15/18: 862851030000175/862851030020177
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

## Limit Level Construction:

Standard	Limit
FCC CFR Part 15.247(e)	< 8dBm/3 kHz

## Test procedure:

The measurement is according to ANSI C63.10 clause 11.10.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set analyzer center frequency to DTS channel center frequency.
4. Set the span to 1.5 times the DTS bandwidth.
5. Set the RBW to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
6. Set the VBW  $\geq [3 \times \text{RBW}]$ .
7. Detector = peak.
8. Sweep time = auto couple.
9. Trace mode = max hold.
10. Allow trace to fully stabilize.
11. Use the peak marker function to determine the maximum amplitude level within the RBW.
12. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

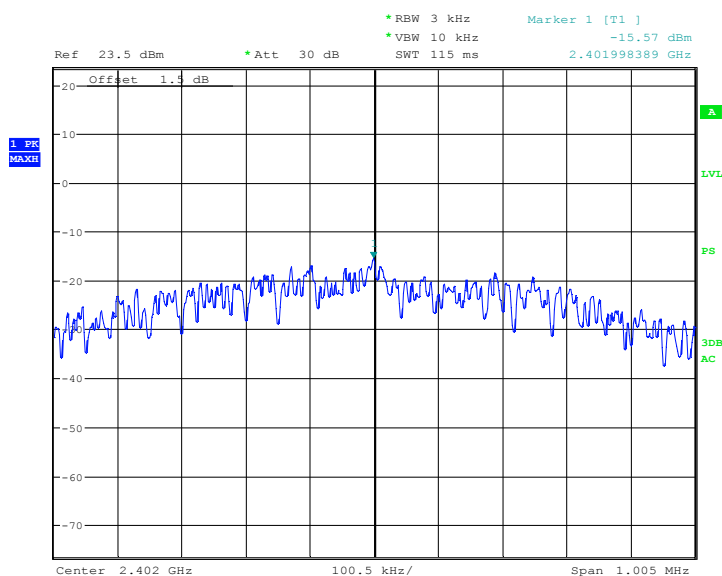
Note: --

## Test Results:

Power Spectral Density(dBm/3kHz)			Conclusion
Ch0	Ch19	Ch39	
-15.57	-14.05	-15.13	Pass

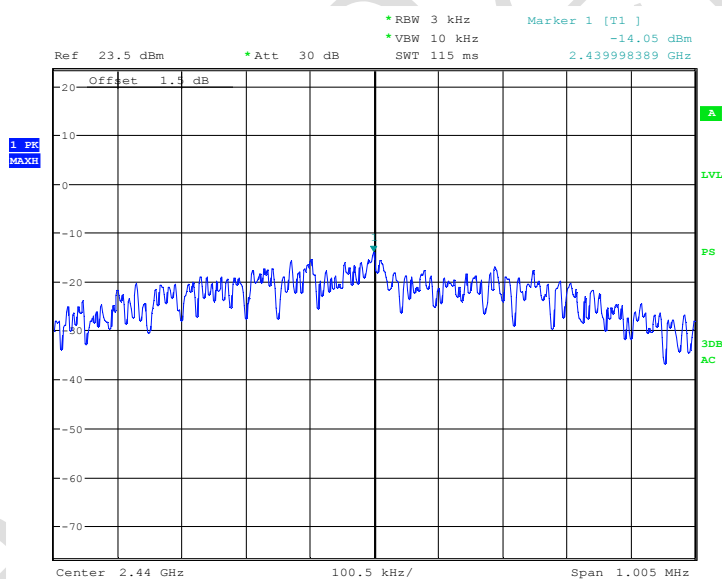
Power Spectral Density(dBm/100kHz)			Conclusion
Ch0	Ch19	Ch39	
-0.85	0.69	-0.28	Pass

Test figure as below:



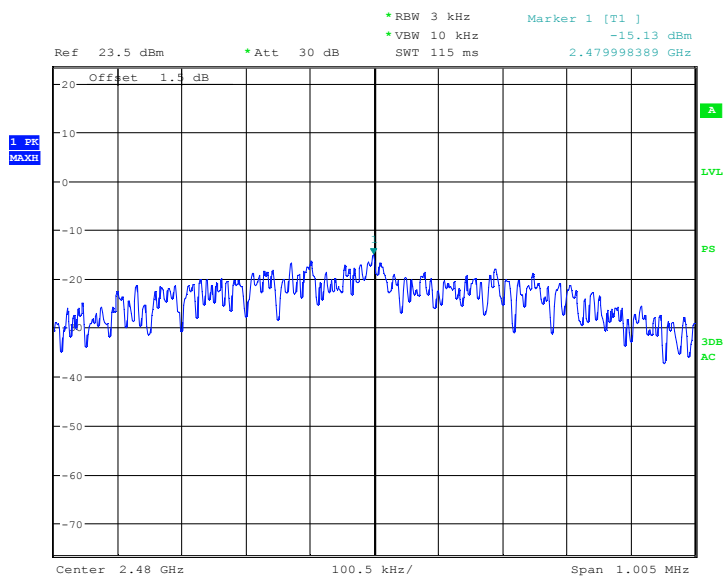
Date: 23.MAR.2017 16:14:30

Fig.1 Power spectral density: CH0 PSD/3kHz



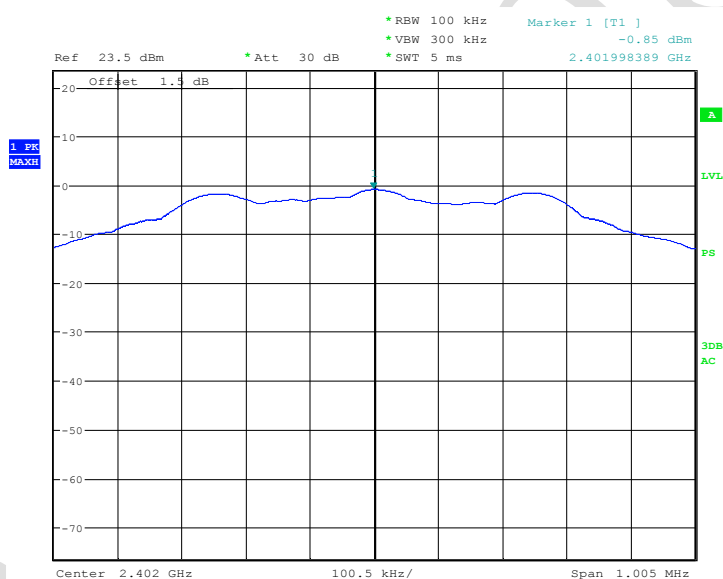
Date: 23.MAR.2017 16:14:59

Fig.2 Power spectral density: CH19 PSD/3kHz



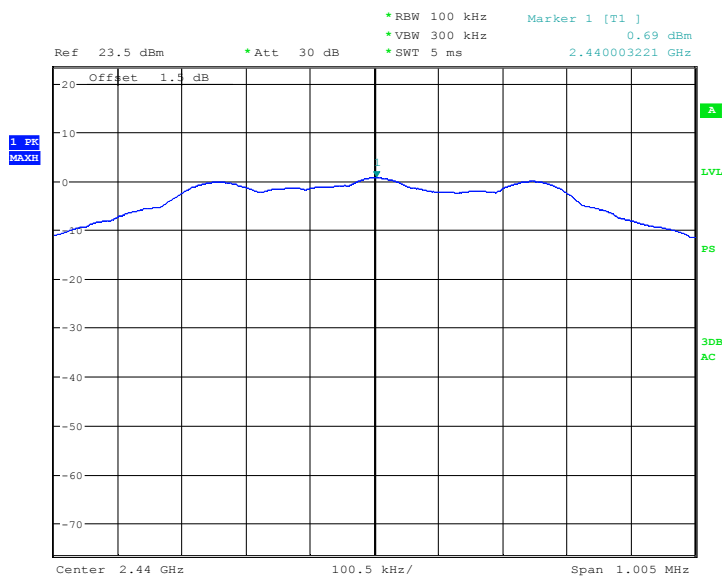
Date: 23.MAR.2017 16:15:32

Fig.3 Power spectral density: CH39 PSD/3kHz



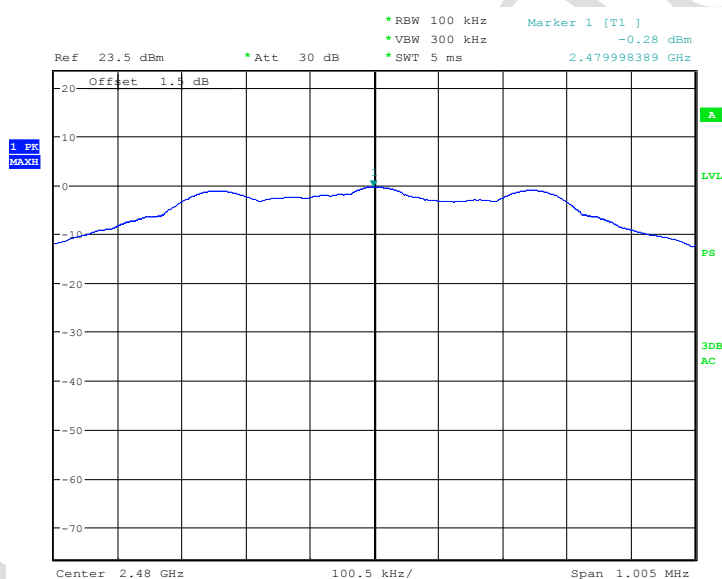
Date: 23.MAR.2017 16:18:25

Fig.4 Power spectral density: CH0 PSD/100kHz



Date: 23.MAR.2017 16:18:51

Fig.5 Power spectral density: CH19 PSD/100kHz



Date: 23.MAR.2017 16:19:20

Fig.6 Power spectral density: CH39 PSD/100kHz

## 5.3 6dB Occupied Bandwidth

<b>Specifications:</b>	FCC 47 CFR Part 15.247(a)(2)
<b>DUT Serial Number:</b>	S15/18: 862851030000175/862851030020177
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

## Limit Level Construction:

Standard	Limit(kHz)
FCC 47 CFR Part 15.247(a)	≥500

## Test Procedure

The measurement is according to ANSI C63.10 clause 11.8.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set RBW = 100 kHz.
4. Set the VBW  $\geq [3 \times \text{RBW}]$ .
5. Detector = peak.
6. Trace mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize.
9. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: --

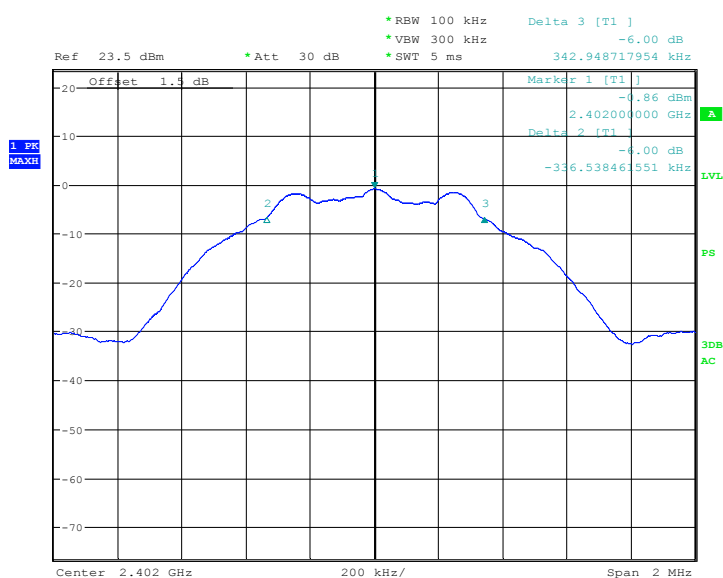
## Test Result:

Occupied 6dB Bandwidth(MHz)			Conclusion
Ch0	Ch19	Ch39	
0.679	0.679	0.679	Pass

Conclusion: PASS

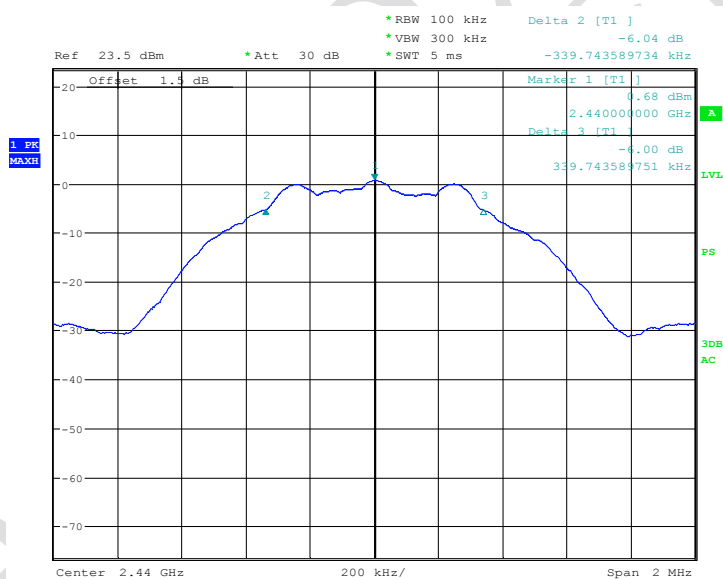


Test figure as below:



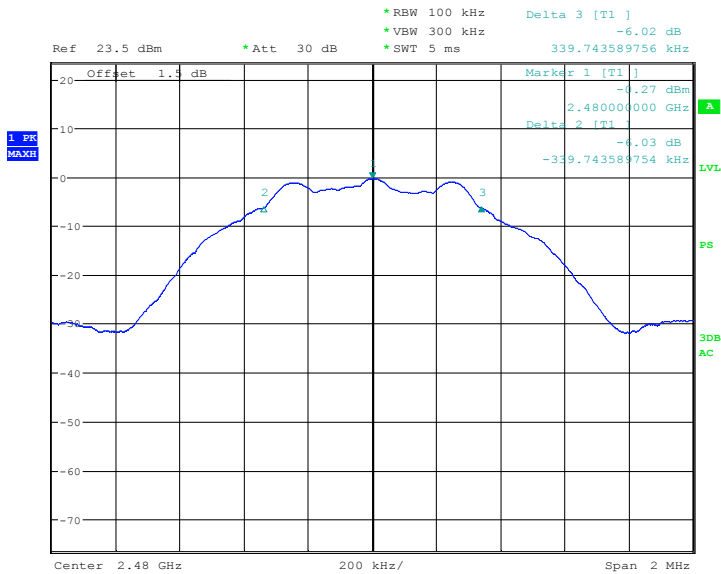
Date: 23.MAR.2017 16:20:57

Fig.7 6dB Bandwidth: Ch0



Date: 23.MAR.2017 16:21:50

Fig.8 6dB Bandwidth: Ch19



Date: 23.MAR.2017 16:22:44

Fig.9 6dB Bandwidth: Ch39

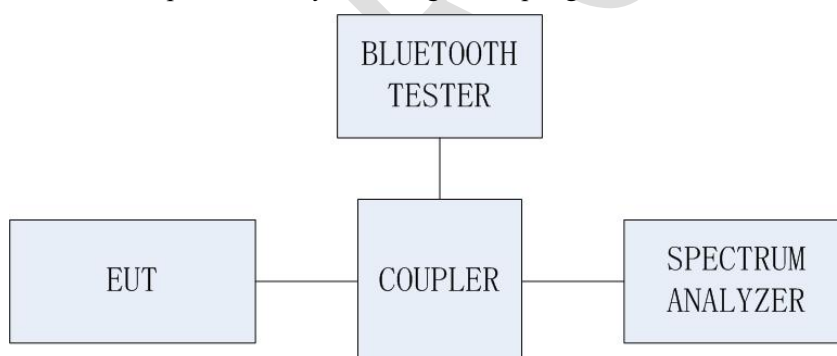
## 5.4 Band Edges Compliance

<b>Specifications:</b>	FCC 47 CFR Part 15.247(d)
<b>DUT Serial Number:</b>	S15/18: 862851030000175/862851030020177
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

### Limit Level Construction:

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

The BLUETOOTH TESTER was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.



### Test procedure:

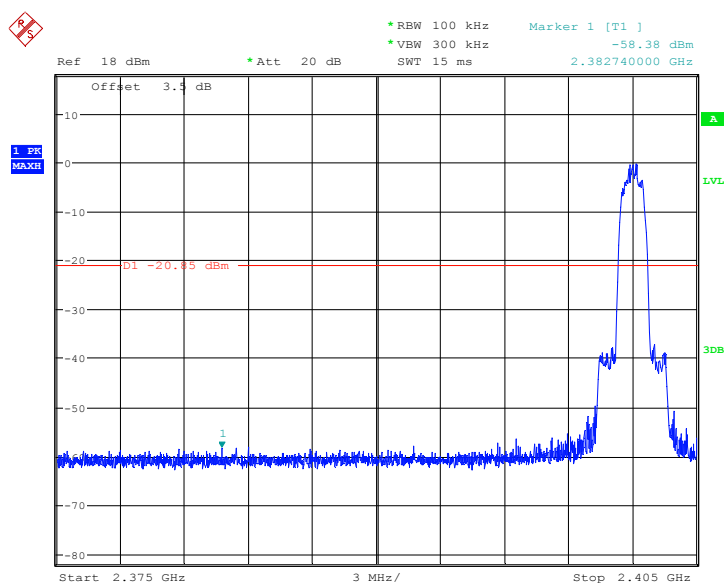
The transmitter output is connected to the Spectrum Analyzer. The Spectrum Analyzer is set to the peak detector mode. The spectrum analyzer is set to:

1. Span = 10 MHz
2. RBW = 100 kHz
3. VBW = 300 kHz
4. Sweep = auto

The measurement is made according to Public notice FCC Public Notice DA 00-705, March 2000, and ANSI C63.4-2014.

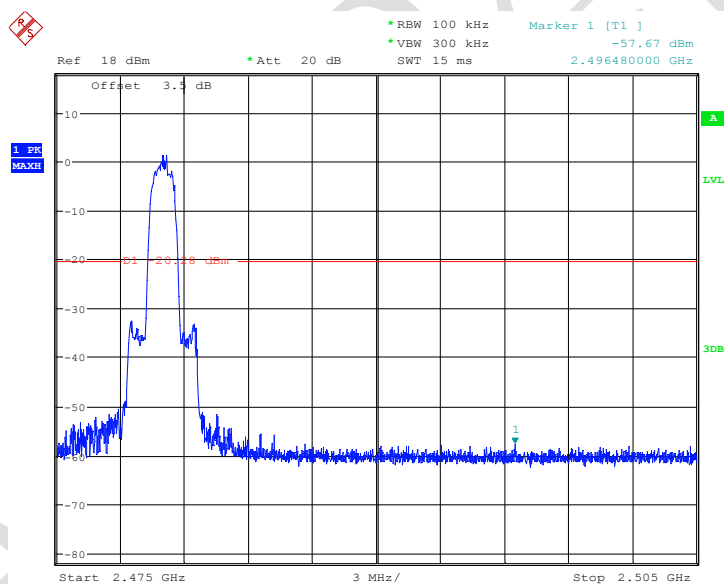
**Note:** --

Test Result:



Date: 28.APR.2017 16:24:15

Fig.10 Frequency Band Edge: Ch0



Date: 28.APR.2017 16:25:40

Fig.11 Frequency Band Edge: Ch39

Conclusion: PASS

## 5.5 Transmitter Spurious Emission-Conducted

<b>Specifications:</b>	FCC 47 CFR Part 15.247 (d)
<b>DUT Serial Number:</b>	S15/18: 862851030000175/862851030020177
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

## Limit

Standard	Limit
FCC 47 CFR Part15.247 (d)	20dB below peak output power in 100kHz bandwidth

## Test Procedure

This measurement is according to ANSI C63.10 clause 11.11.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.

## Reference level measurement

3. Set instrument center frequency to DTS channel center frequency.
4. Set the span to  $\geq 1.5$  times the DTS bandwidth.
5. Set the RBW = 100 kHz.
6. Set the VBW  $\geq [3 \times \text{RBW}]$ .
7. Detector = peak.
8. Sweep time = auto couple.
9. Trace mode = max hold.
10. Allow trace to fully stabilize.
11. Use the peak marker function to determine the maximum PSD level.

## Emission level measurement

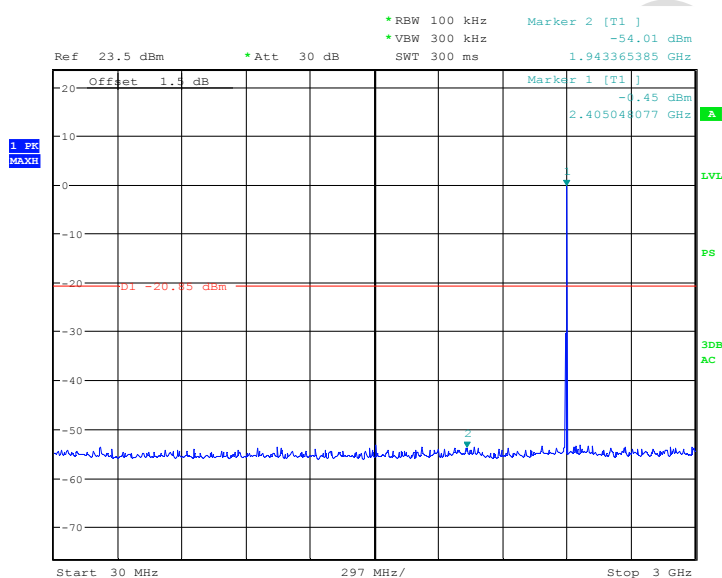
12. Set the center frequency and span to encompass frequency range to be measured.
13. Set the RBW = 100 kHz.
14. Set the VBW  $\geq [3 \times \text{RBW}]$ .
15. Detector = peak.
16. Sweep time = auto couple.
17. Trace mode = max hold.
18. Allow trace to fully stabilize.
19. Use the peak marker function to determine the maximum amplitude level.

Test Result:

Channel	Frequency Range	Test Results	Conclusion
0	30MHz~3GHz	Fig.12	Pass
	3GHz~26.5GHz	Fig.13	Pass
19	30MHz~3GHz	Fig.14	Pass
	3GHz~26.5GHz	Fig.15	Pass
39	30MHz~3GHz	Fig.16	Pass
	3GHz~26.5GHz	Fig.17	Pass

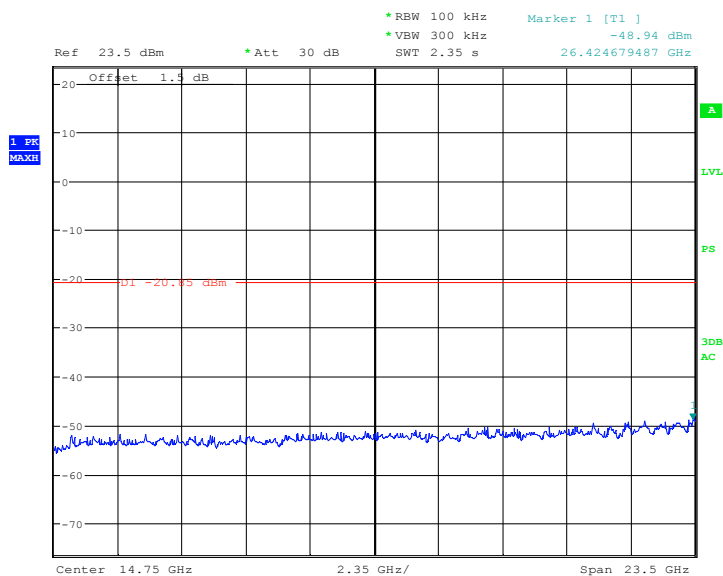
Conclusion: PASS

Test figure as below:



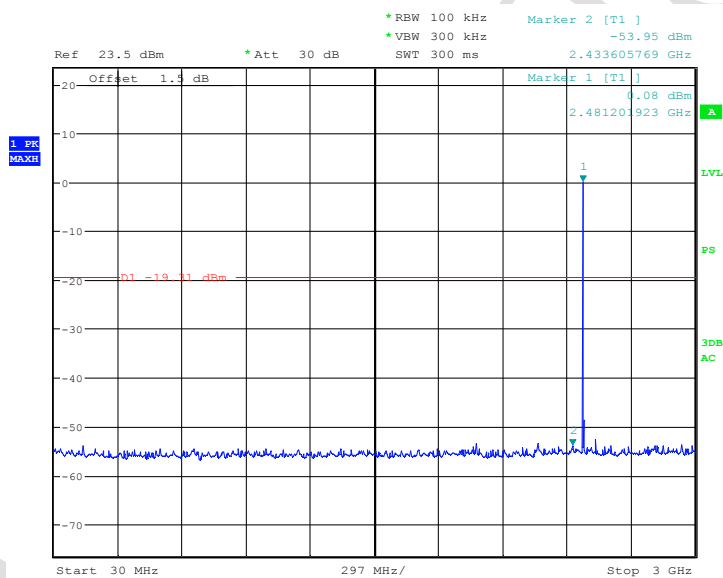
Date: 23.MAR.2017 17:04:54

Fig.12 Conducted spurious emission: Ch0, 30MHz~3GHz



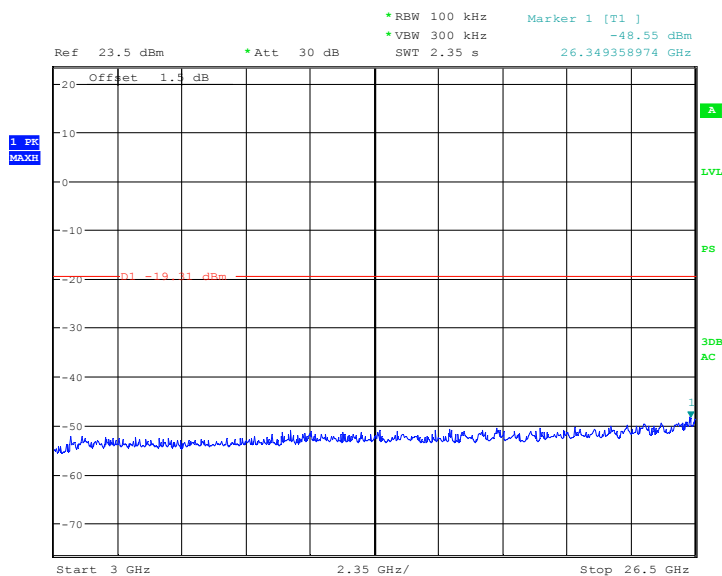
Date: 23.MAR.2017 17:06:10

Fig.13 Conducted spurious emission: Ch0, 3GHz~26.5GHz



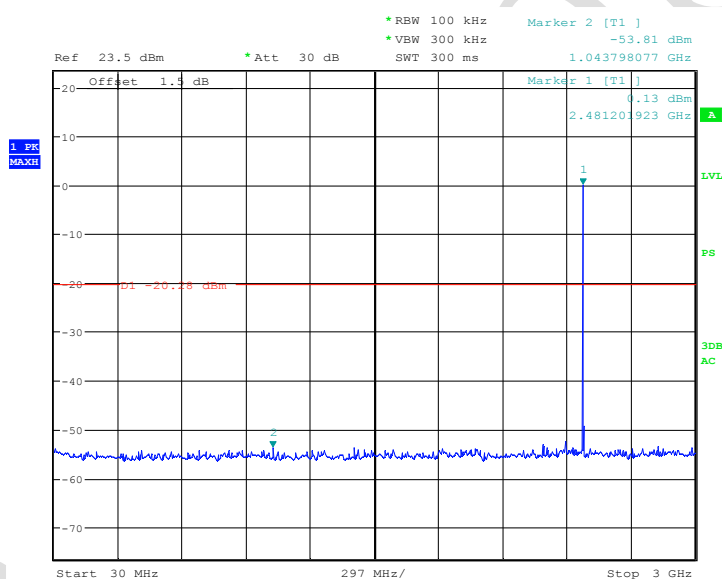
Date: 23.MAR.2017 17:14:40

Fig.14 Conducted spurious emission: Ch19, 30MHz~3GHz



Date: 23.MAR.2017 17:15:33

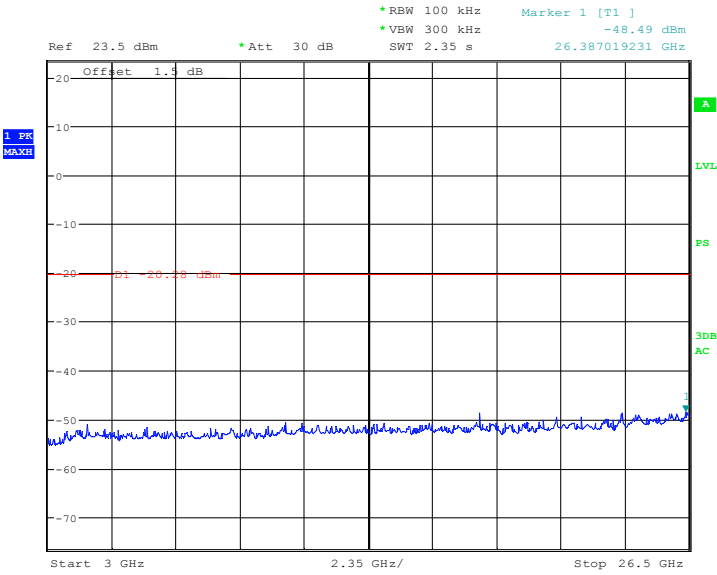
Fig.15 Conducted spurious emission: Ch19, 3GHz~26.5GHz



Date: 23.MAR.2017 17:09:23

Fig.16 Conducted spurious emission: Ch39, 30MHz~3GHz





Date: 23.MAR.2017 17:10:56

Fig.17 Conducted spurious emission: Ch39, 3GHz~26.5GHz

## 5.6 Transmitter Spurious Emission-Radiated

<b>Specifications:</b>	FCC 47 CFR Part 15.247(d), 15.209(a)
<b>DUT Serial Number:</b>	S7/18: 862851030000163/862851030020161
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

## Limit

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see 15.205(c)).

## Limit in restricted band:

Frequency of emission (MHz)	Field strength (uV/m)	Field strength (dBuV/m)
30~88	100	40
88~216	150	43.5
216~960	200	46
Above 960	500	54

## Test Procedure

Portable, small, lightweight, or modular devices that may be handheld, worn on the body, or placed on a table during operation shall be positioned on a non-conducting platform, the top of which is 80 cm above the reference ground plane. The preferred area occupied by the EUT arrangement is 1 m by 1.5 m, but it may be larger or smaller to accommodate various sized EUTs. For testing purposes, ceiling- and wall-mounted devices also shall be positioned on a tabletop (see also ANSI C63.10-2013 section 6.3.4 and 6.3.5). In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time (s)
30~1000	100kHz/300kHz	5
1000~4000	1MHz/1MHz	15
4000~18000	1MHz/1MHz	40
18000~26500	1MHz/1MHz	20

**Test Result:**

A “reference path loss” is established and AR<sub>pi</sub> is the attenuation of “reference path loss”, and including the gain of receive antenna , the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

AR<sub>pi</sub>= Cable loss + Antenna Gain-Preamplifier gain

Result=PM<sub>ea</sub> + AR<sub>pi</sub>

Channel	Frequency Range	Test Results	Conclusion
Ch0	30MH-1GHz	Fig.18	Pass
	1GHz-3GHz	Fig.19	Pass
	3GHz-18GHz	Fig.20	Pass

Channel	Frequency Range	Test Results	Conclusion
Ch19	30MH-1GHz	Fig.21	Pass
	1GHz-3GHz	Fig.22	Pass
	3GHz-18GHz	Fig.23	Pass

Channel	Frequency Range	Test Results	Conclusion
Ch39	30MH-1GHz	Fig.24	Pass
	1GHz-3GHz	Fig.25	Pass
	3GHz-18GHz	Fig.26	Pass
All channels	18GHz-26GHz	Fig.27	Pass

Note: all the test data shown was peak detected.

**Conclusion: PASS**

Test graphs as below:

RE 30MHz-1GHz

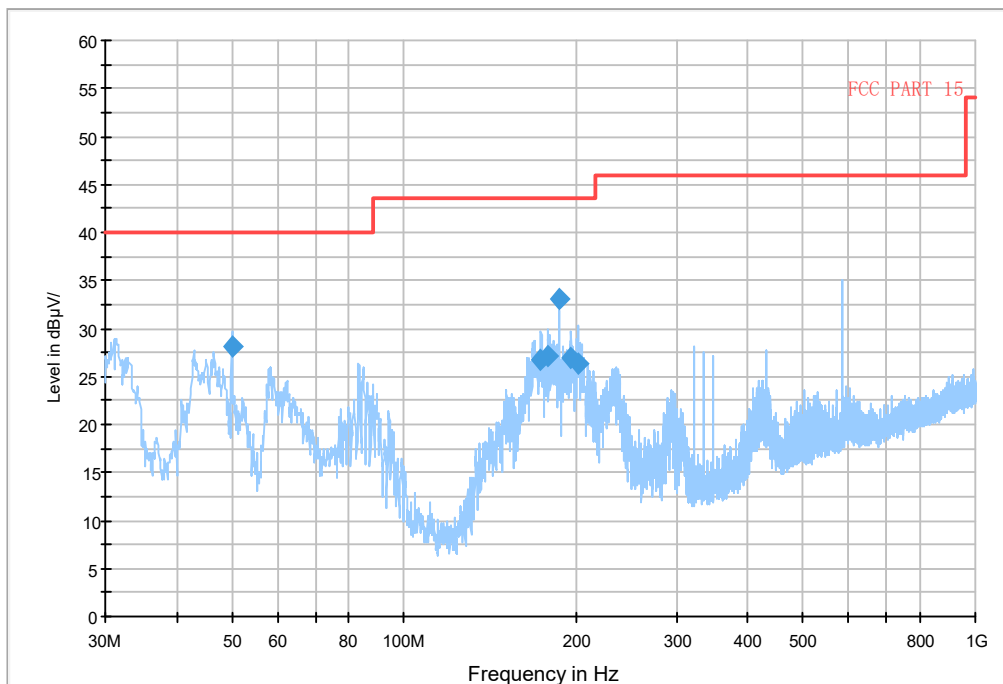


Fig.18 Radiated emission: Ch0, 30MHz-1GHz

RE 1GHz-3GHz

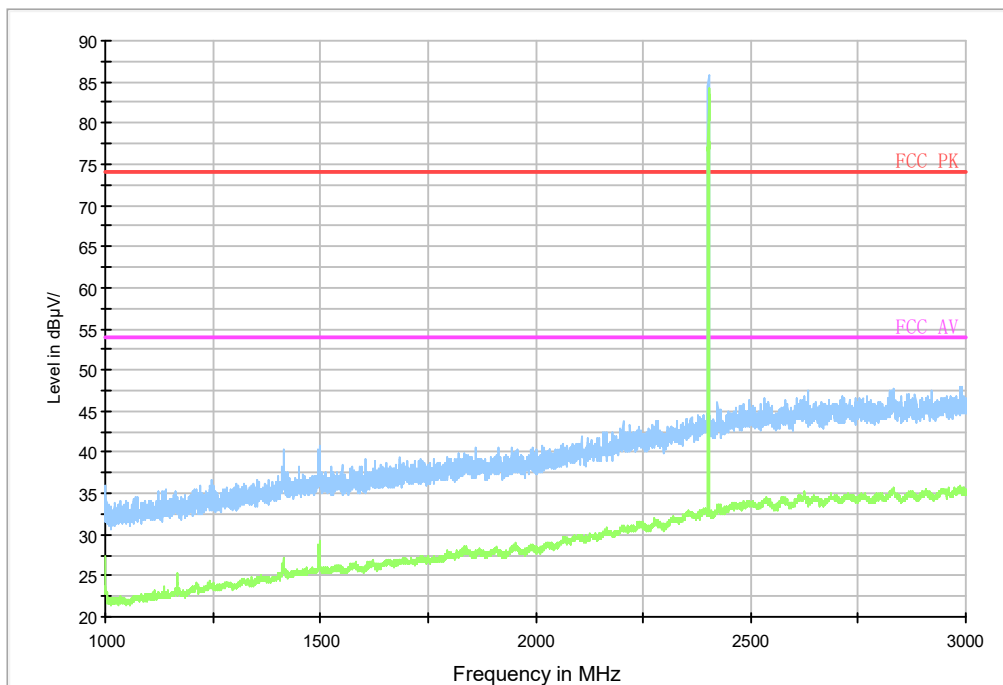


Fig.19 Radiated emission: Ch0, 1GHz-3GHz

RE 3GHz-18GHz

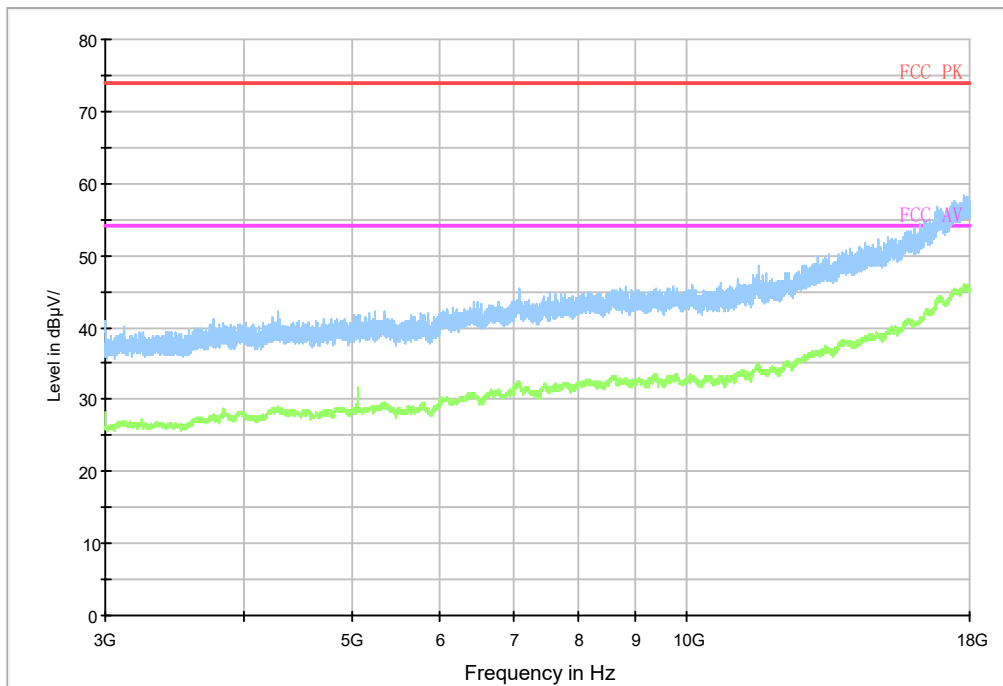


Fig.20 Radiated emission: Ch0, 3GHz-18GHz

RE 30MHz-1GHz

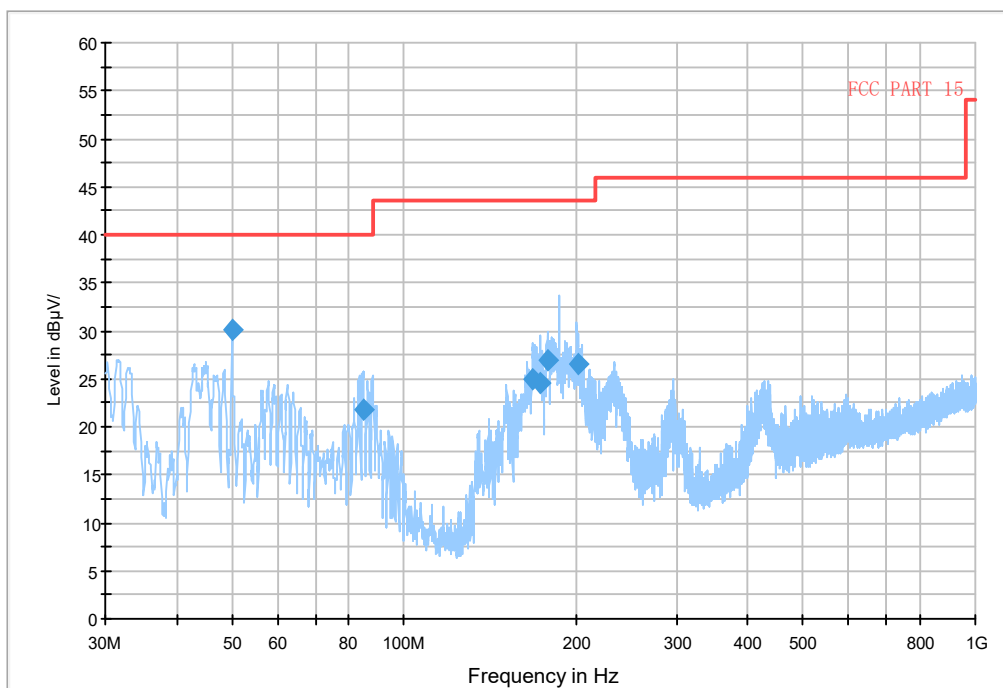


Fig.21 Radiated emission Ch19, 30MHz-1GHz

RE 1GHz-3GHz

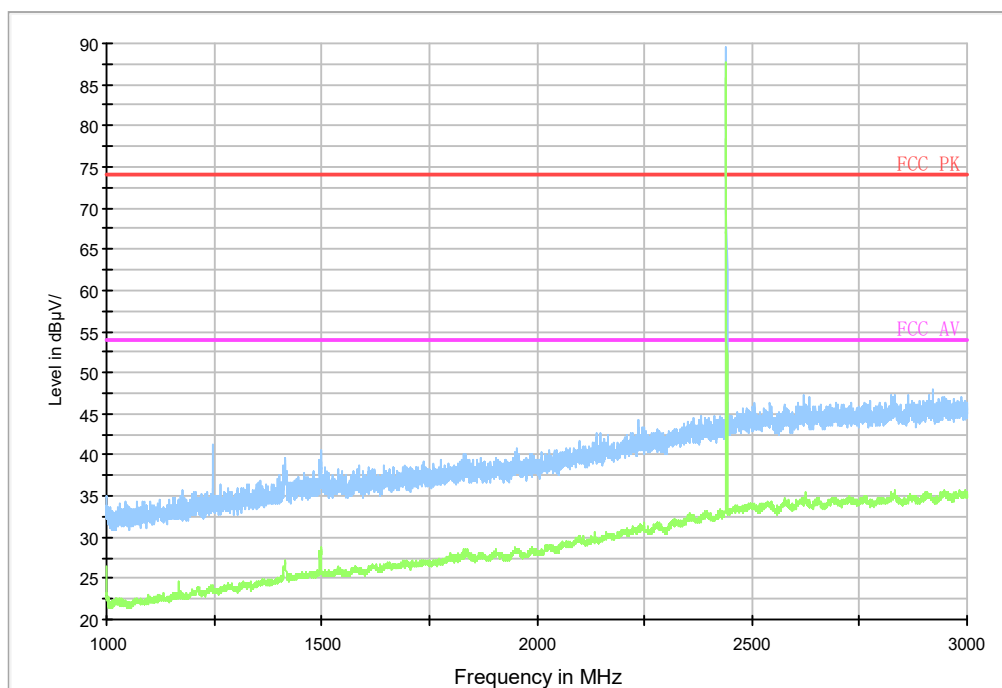


Fig.22 Radiated emission: Ch19, 1GHz-3GHz

RE 3GHz-18GHz

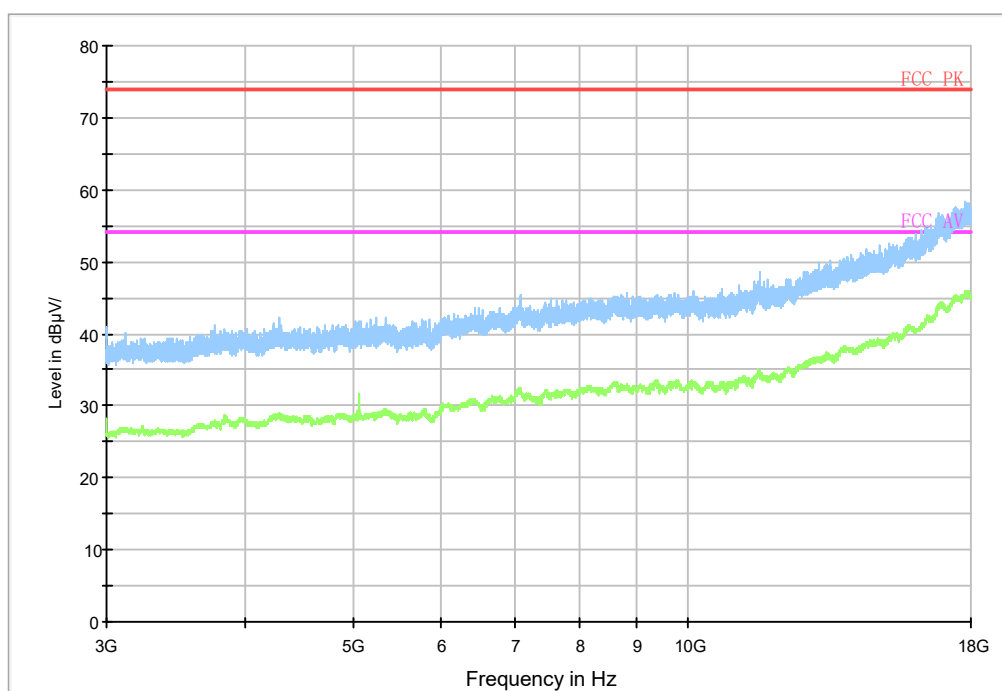


Fig.23 Radiated emission: Ch19, 3GHz-18GHz

RE 30MHz-1GHz

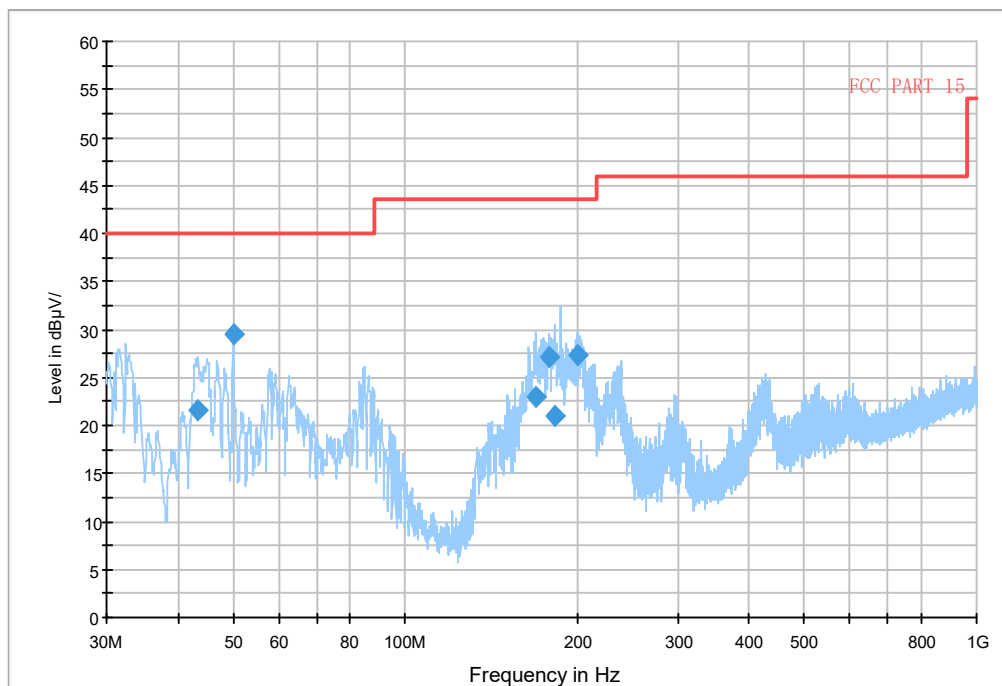


Fig.24 Radiated emission: Ch39, 30MHz-1GHz

RE 1GHz-3GHz

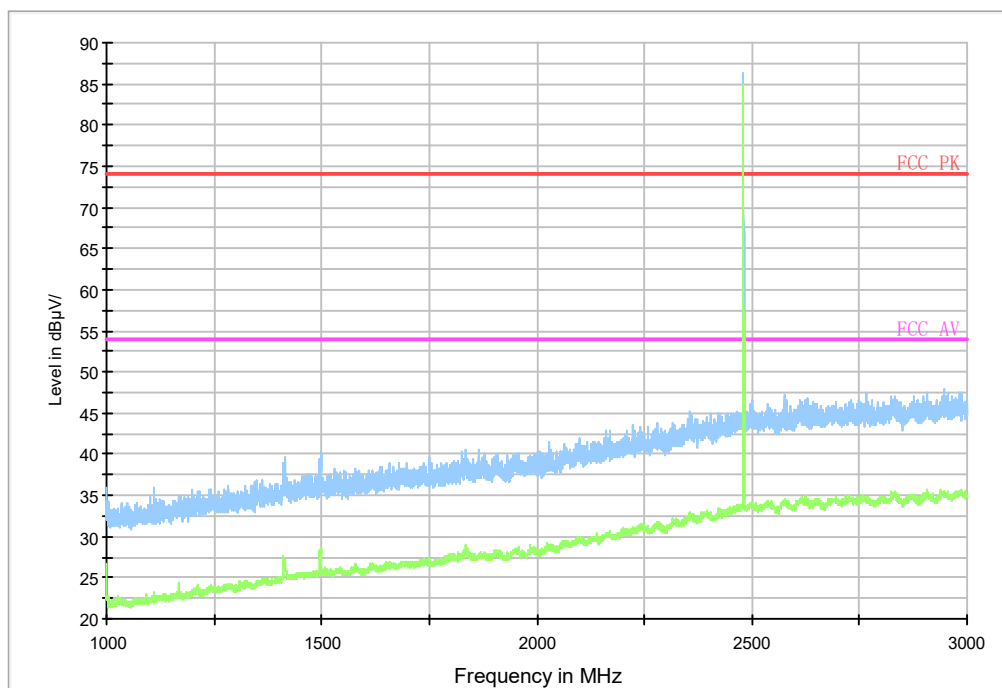


Fig.25 Radiated emission: Ch39, 1GHz-3GHz

RE 3GHz-18GHz

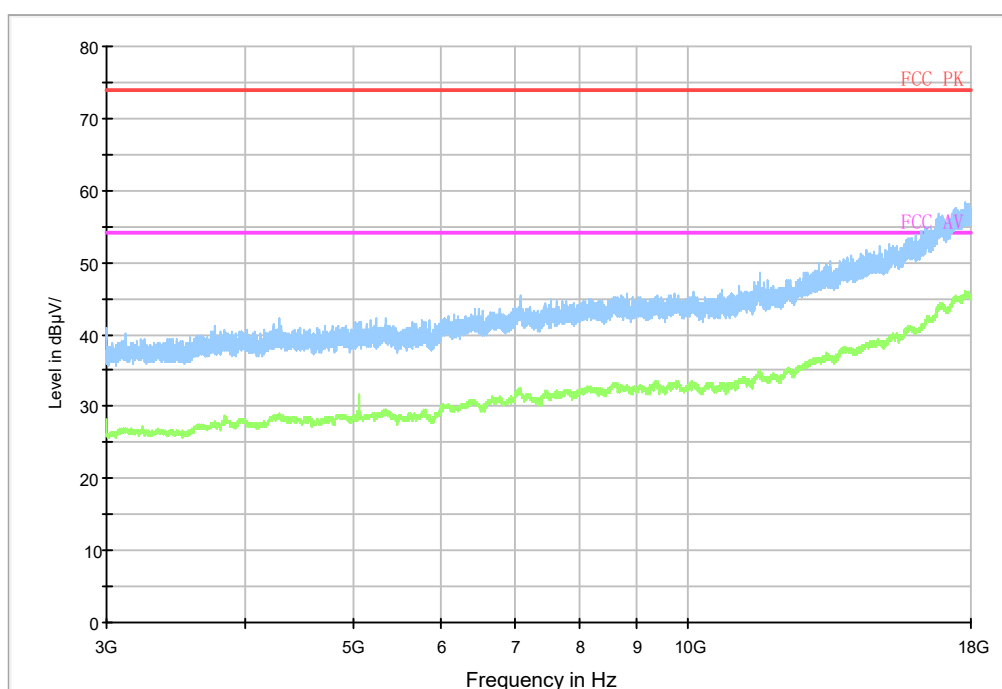


Fig.26 Radiated emission: Ch39, 3GHz-18GHz

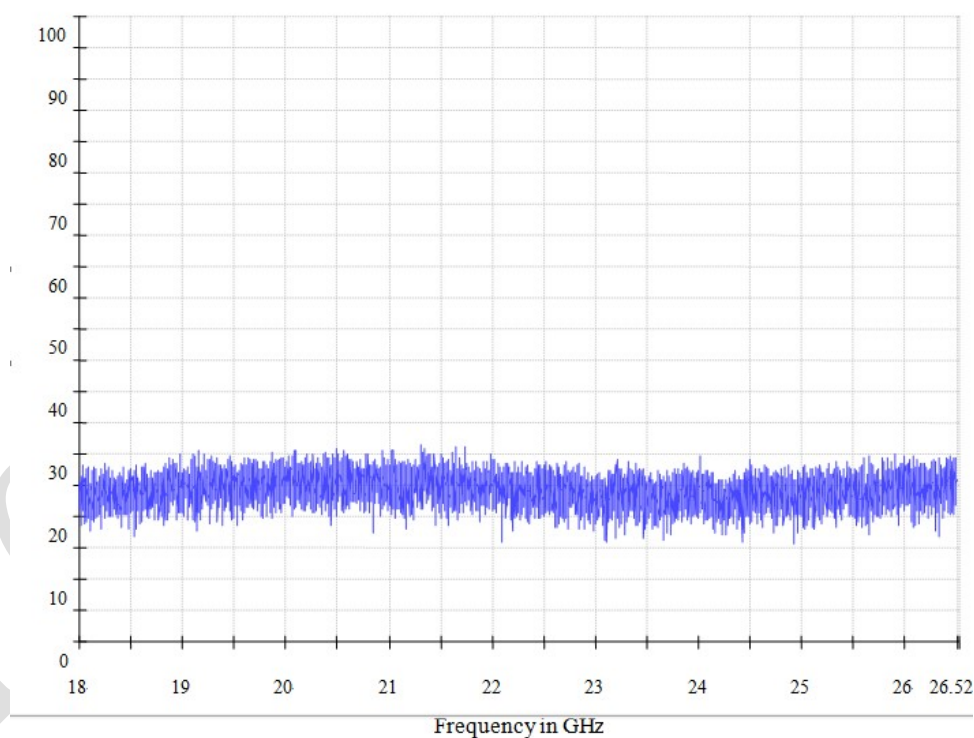


Fig.27 Radiated emission: 18 GHz - 26 GHz

### Test photo

See the Pic1- Pic 6 in document "A1-901\_Wifi\_BT Test Setup Photos".



## 5.7 Power line Conducted Emissions

<b>Specifications:</b>	ANSI C63.4 voltage mains test
<b>DUT Serial Number:</b>	S7/18: 862851030000163/862851030020161
<b>Test conditions:</b>	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
<b>Test Results:</b>	--

### Limit

The EUT meets the requirement of having a peak to average ratio of less than 13dB.

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

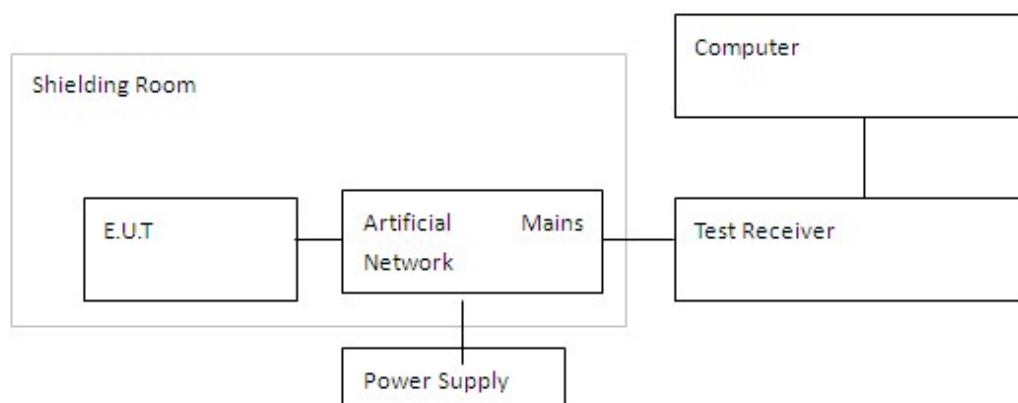
#### Limits of the conducted disturbance at the AC mains ports:

Frequency range	Limit(Quasi-peak)	Limit(Average)
0.15 MHz to 0.5 MHz	66 dB $\mu$ V – 56 dB $\mu$ V	56 dB $\mu$ V – 46 dB $\mu$ V
>0.5 MHz to 5MHz	56 dB $\mu$ V	46 dB $\mu$ V
>5 MHz to 30 MHz	60 dB $\mu$ V	50 dB $\mu$ V
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### Test Setup

The EUT was placed in a shielding room. The WLAN TESTER was used to set the TX channel and power level. The ac adapter output is connected to Receiver through an AMN (Artificial Mains Network).



**Test Procedure**

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

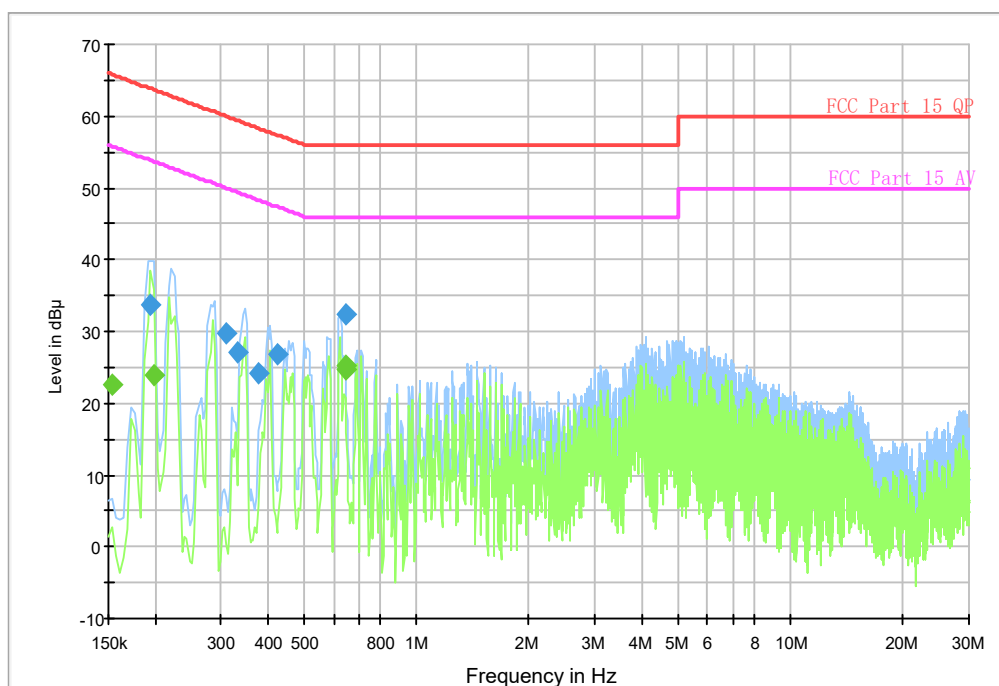
The measurement is made according to Public notice FCC Public Notice DA 00-705, March 2000, and ANSI C63.4-2014.

**Test Result:**

Line L&N					
Detector (QP)	Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Line	PE
QP	0.194594	33.8	63.8	L1	FLO
QP	0.309756	29.8	60.0	L1	FLO
QP	0.333994	27.0	59.4	N	FLO
QP	0.377156	24.0	58.3	N	FLO
QP	0.422469	26.9	57.4	N	FLO
QP	0.646138	32.4	56.0	L1	FLO

Line L&N					
Detector (AV)	Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Line	PE
AV	0.154000	22.5	55.8	L1	FLO
AV	0.198325	23.8	53.7	L1	FLO
AV	0.647419	25.2	46.0	L1	FLO
AV	0.648825	25.1	46.0	L1	FLO
AV	0.649869	24.7	46.0	L1	FLO
AV	0.658934	24.7	46.0	L1	FLO

**Conclusion: PASS**



Line L & Line N

### Test photo

See the Pic7 in document "A1-901\_Wifi\_BT\_Test Setup Photos".

## Annex A EUT Photos

See the document "A1-901-External Photos".

See the document "A1-901-Internal Photos".

Test Report

## ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

\*\*\*End Of Report\*\*\*

Test Report