



# FCC PART 15B TEST REPORT

No. 23T04Z80263-13

for

**BLU Products, Inc.**

**Smart Phone**

**Model Name: B170D**

**FCC ID: YHLBLUB170D**

with

**Hardware Version: V1.0**

**Software Version: BLU\_B170D\_V14.0.01.05.01.01\_FSec**

**Issued Date: 2023-11-08**

**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 CTTL.

**Test Laboratory:**

CTTL-Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: [cttl\\_terminals@caict.ac.cn](mailto:cttl_terminals@caict.ac.cn), website: [www.caict.ac.cn](http://www.caict.ac.cn)



## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
23T04Z80263-13	Rev.0	1 <sup>st</sup> edition	2023-11-08

Note: the latest revision of the test report supersedes all previous version.



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## 1. Test Laboratory

### 1.1. Testing Location

#### CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology  
Development Area, Beijing, P. R. China 100176

### 1.2. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

### 1.3. Project data

Testing Start Date: 2023-10-19

Testing End Date: 2023-10-29

### 1.4. Signature



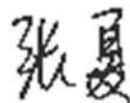
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Zhang Ying  
(Prepared this test report)



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An Hui  
(Reviewed this test report)



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Zhang Xia  
Deputy Director of the laboratory  
(Approved this test report)



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: BLU Products, Inc.  
Address /Post: 8600 NW 36th Street, Suite #200, Doral, FL 33166  
Contact: Zeng wei  
Email: zwei@ctasiasz.com  
Telephone: 305.715.7171  
Fax: 305.436.8819

### **2.2. Manufacturer Information**

Company Name: BLU Products, Inc.  
Address /Post: 8600 NW 36th Street, Suite #200, Doral, FL 33166  
Contact: Zeng wei  
Email: zwei@ctasiasz.com  
Telephone: 305.715.7171  
Fax: 305.436.8819

### **3. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

#### **3.1. About EUT**

Description	Smart Phone
Model Name	B170D
FCC ID:	YHLBLUB170D

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL, Telecommunication Technology Labs, CAICT.

#### **3.2. Internal Identification of EUT used during the test**

EUT ID*	SN or IMEI	HW Version	SW Version
EUT4	359979710002223	v1.0	BLU_B170D_V14.0.01.05.01.01_FSec

\*EUT ID: is used to identify the test sample in the lab internally.

#### **3.3. Internal Identification of AE used during the test**

AE ID*	Description	Model	Manufacture
AE1	Battery	C926547500P	Hunan Gaoyuan Battery Co., LTD
AE2	Charger	US-SP-2000	ShenZhen BaiJunDa Electronic CO.,LTD.
AE3	USB cable	CL2105-4	Dongguan Yuwei Electronic Technology Co., Ltd.

\*AE ID: is used to identify the test sample in the lab internally.

#### **3.4. EUT set-ups**

EUT set-up No.	Combination of EUT and AE	Remarks
Set.4	EUT4 + AE1 + AE2 + AE3	Charger
Set.5	EUT4 + AE1 +AE3+ PC	PC

Note:

Equipment Under Test (EUT) is a model of Smart Phone.

It supports

GSM Band	GSM850MHz/1900MHz
UMTS Band	FDD Band II(W1900) /FDD Band IV(W1700) /FDD Band V(W850)
LTE Band	FDD Bands 2/4/5/12/13/25/26/41/66/71

It has Wi-Fi (802.11a/b/g/n/ac, 802.11n supports 20MHz and 40MHz bandwidth, 802.11ac supports 20MHz, 40MHz and 80MHz bandwidth) function.Only the worst-case emissions are reported.

## **4. Reference Documents**

### **4.1. Reference Documents for testing**

The following documents listed in this section are referred for testing.

<b>Reference</b>	<b>Title</b>	<b>Version</b>
FCC Part 15, Subpart B	Radio frequency devices - Unintentional Radiators	2019
ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

Note: The test methods have no deviation with standards.

## 5. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:		
Verdict Column	P	Pass
	NA	Not applicable
	F	Fail

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Radiated Emission	15.109(a)	B.1	P	CTTL(BDA)
2	Conducted Emission	15.107(a)	B.2	P	CTTL(BDA)



## 6. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESCI	100766	R&S	2024-04-30	1 Year
2	LISN	ENV216	101459	R&S	2024-06-04	1 year
3	Test Receiver	ESU26	100376	R&S	2024-06-29	1 Year
4	EMI Antenna	VULB 9163	01223	SCHWARZBECK	2024-08-18	1 year
5	EMI Antenna	3117	00119021	ETS	2024-06-24	1 Year
6	Universal Communication Tester	CMW500	159408	R&S	2024-03-26	1 year
7	Vector Signal Generator	SMBV100A	260613	R&S	2024-03-14	1 year
8	PC	E500-1042	2140770010 640901850	Tsinghua Tongfang	N/A	N/A
9	Printer	1160	33740	HP	N/A	N/A
10	Keyboard	/	/	/	N/A	N/A
11	Mouse	/	/	/	N/A	N/A

Test software information		
Test Item	Software	Version
Radiated Emission	EMC32	V8.53.0
Conducted Emission	EMC32	V9.25

**Semi-anechoic chamber utilized** did not exceed following limits along the testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 M $\Omega$
Ground system resistance	< 4 $\Omega$
Normalised site attenuation (NSA)	< $\pm 4$ dB, 10 m distance
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 6GHz

**Shielded room utilized** did not exceed following limits along the testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 M $\Omega$
Ground system resistance	< 4 $\Omega$

## 7. Measurement Uncertainty

Where relevant, the following measurement uncertainty(worse case) levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

### Location 2: CTTL(BDA)

FAT-2

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	5.73dB( $k=2$ )
	1GHz-18GHz	5.58dB( $k=2$ )
Conducted Emission	150kHz-30MHz	AC Power Line: 3.10dB( $k=2$ )

## **ANNEX A: MEASUREMENT RESULTS**

### **A.1 Radiated Emission**

#### **Reference**

FCC: CFR Part 15.109(a).

#### **A.1.1 Method of measurement**

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at distances of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 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.

#### **A.1.2 EUT Operating Mode**

The MS is operating in the charging mode. During the test MS is connected to a charger in the case of charging mode.

The EUT was tested while operating in licensed band Rx mode. All licensed band receivers that tune in the range of 30MHz-960MHz, as listed in section 3.4, are investigated. Only the worst case emissions are reported.

All equipment is placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

#### **A.1.3 Measurement Limit**

Frequency range (MHz)	Field strength limit ( $\mu\text{V}/\text{m}$ )		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

Note: the above limit is for 3 meters test distance. 10 meters' limit is got by converting.

#### **A.1.4 Test Condition**

Frequency range (MHz)	RBW/VBW	Sweep Time (s)	Detector
30-1000	120kHz (IF Bandwidth)	5	Peak/Quasi-peak
Above 1000	1MHz/3MHz	15	Peak, Average

### A.1.5 Measurement Results

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{Mea}} + A_{Rpl} = P_{\text{Mea}} + G_A + G_{PL}$$

Where

$G_A$ : Antenna factor of receive antenna

$G_{PL}$ : Path Loss

$P_{\text{Mea}}$ : Measurement result on receiver.

#### Measurement results for Set.4:

##### Charing Mode/Average detector

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17030.500	40.10	-24.6	41.0	23.69	54.0	13.9	V
16924.500	40.08	-24.7	41.3	23.48	54.0	13.9	V
16927.000	40.06	-24.6	41.2	23.46	54.0	13.9	V
17608.000	40.05	-23.7	40.6	23.19	54.0	13.9	V
17603.000	40.04	-23.8	40.6	23.19	54.0	14.0	V
16929.000	40.03	-24.6	41.2	23.43	54.0	14.0	V

##### Charging Mode/Peak detector

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17628.000	53.1	-23.7	40.6	36.14	74.0	20.9	V
17964.000	52.9	-23.3	40.6	35.66	74.0	21.1	V
17009.000	52.7	-24.6	41.1	36.24	74.0	21.3	H
17602.500	52.6	-23.8	40.6	35.74	74.0	21.4	V
17917.500	52.4	-23.4	40.5	35.33	74.0	21.6	H
17430.000	52.4	-24.1	40.7	35.83	74.0	21.6	V

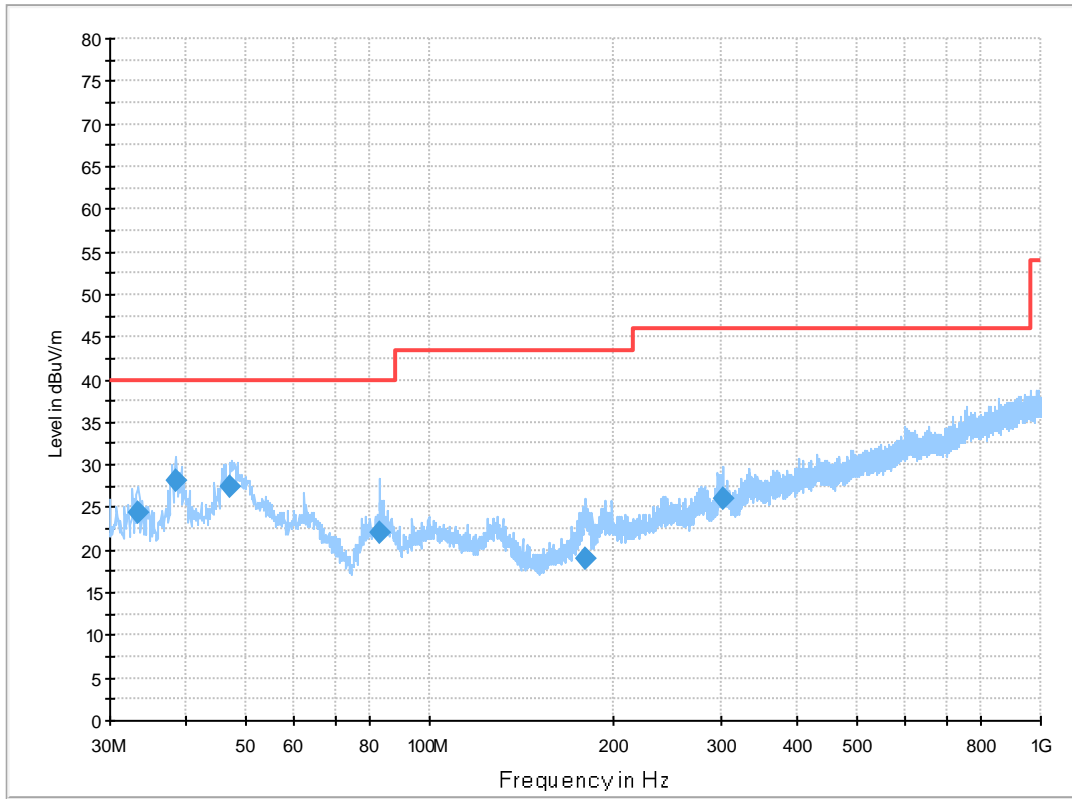
**Measurement results for Set.5:**
**USB Mode/Average detector**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
1049.400	31.82	-38.5	28.3	41.98	54.0	22.2	H
1220.200	32.24	-38.3	27.9	42.61	54.0	21.8	H
1594.400	36.72	-37.7	28.5	45.89	54.0	17.3	H
3329.500	33.51	-35.5	32.9	36.10	54.0	20.5	H
4441.500	34.92	-34.4	33.5	35.77	54.0	19.1	H
5250.000	34.58	-35.0	34.2	35.36	54.0	19.4	H

**USB Mode/Peak detector**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
1049.600	52.5	-38.5	28.3	62.63	74.0	21.5	H
1594.200	49.5	-37.7	28.5	58.67	74.0	24.5	V
2524.800	49.7	-36.7	32.5	53.83	74.0	24.3	H
3906.000	47.8	-35.3	33.4	49.73	74.0	26.2	H
4790.000	52.3	-35.1	34.0	53.40	74.0	21.7	V
8005.000	50.3	-32.9	35.8	47.41	74.0	23.7	V

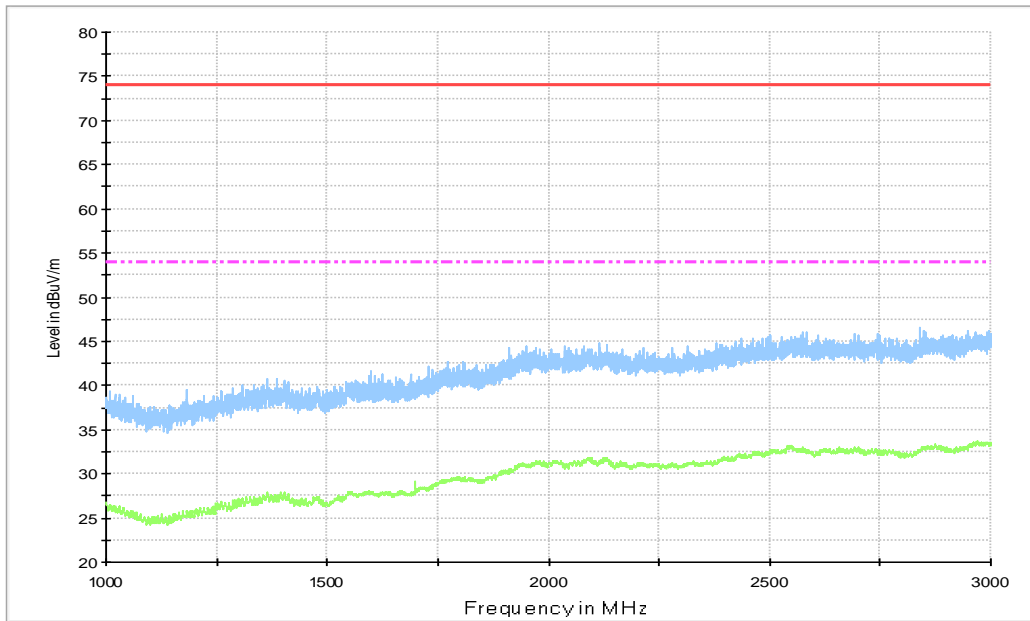
**Measurement results for Set.4:**



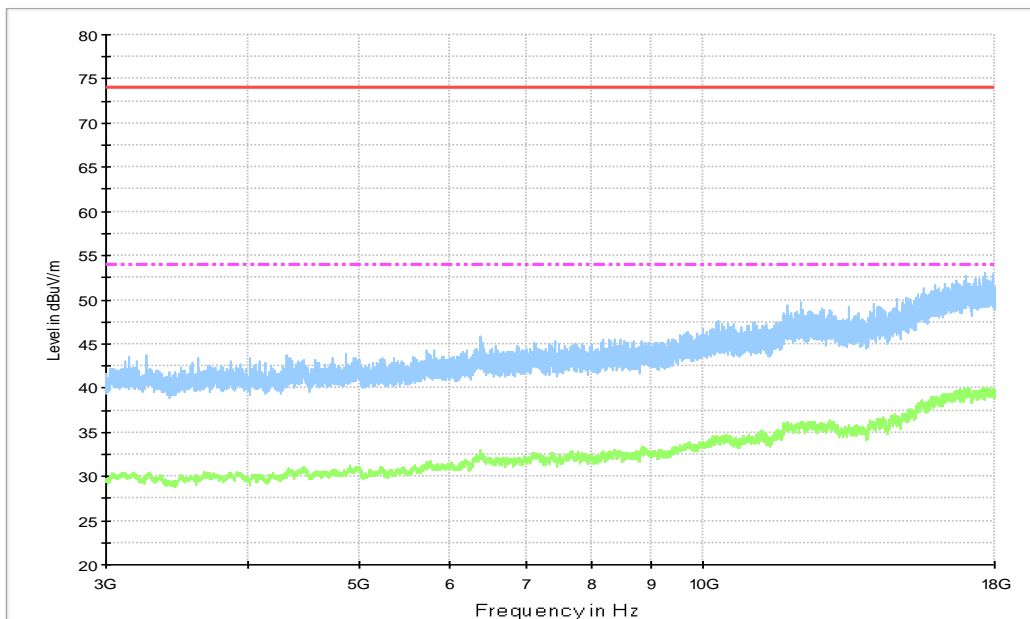
**Fig A.1 Radiated Emission from 30MHz to 1GHz**

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
33.298000	24.4	100.0	V	135.0	-3.0	15.6	40.0
38.342000	28.1	100.0	V	45.0	-1.0	11.9	40.0
47.169000	27.3	125.0	V	71.0	0.7	12.7	40.0
82.962000	22.1	113.0	V	257.0	-5.7	17.9	40.0
180.350000	19.1	100.0	V	0.0	-2.7	24.4	43.5
301.309000	25.9	100.0	H	308.0	1.7	20.1	46.0



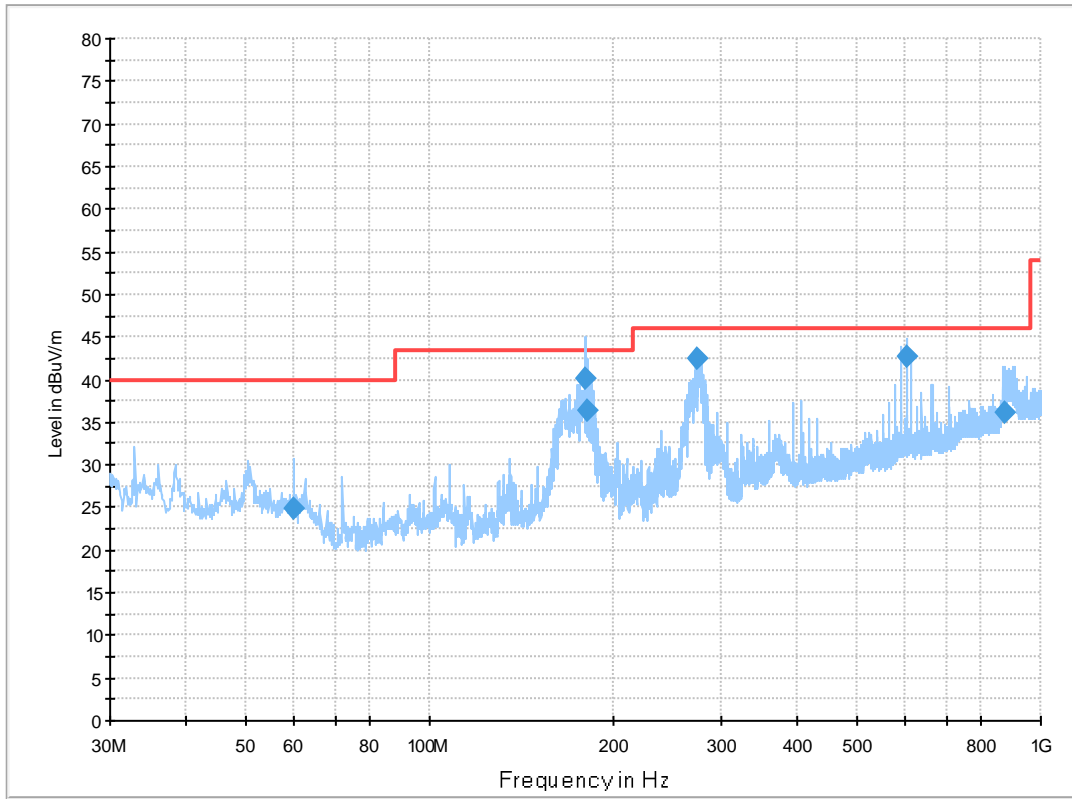
**Fig A.2 Radiated Emission from 1GHz to 3GHz**



**Fig A.3 Radiated Emission from 3GHz to 18GHz**



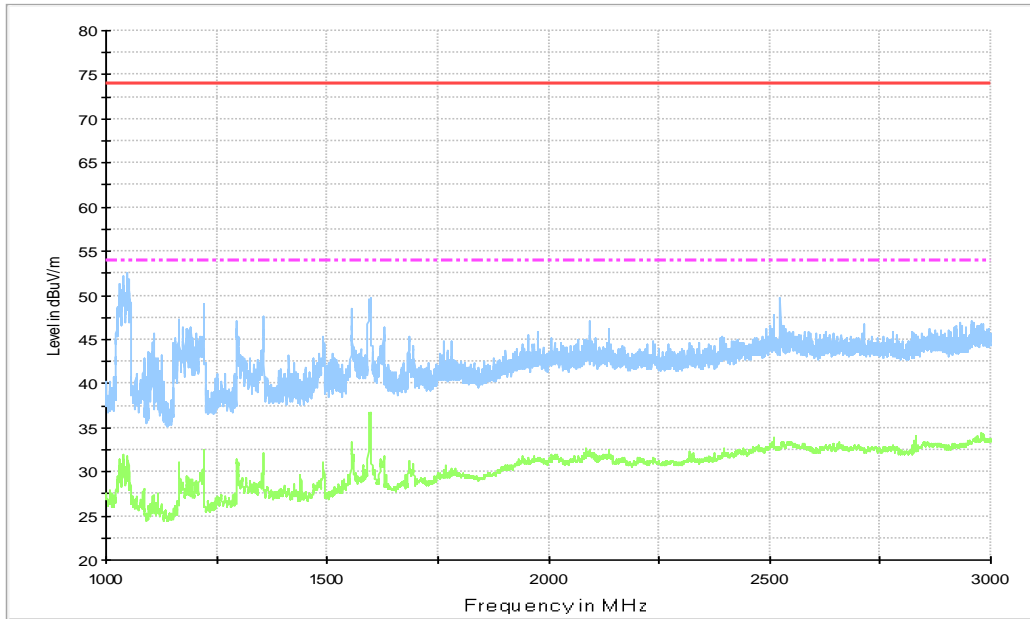
**Measurement results for Set.5:**



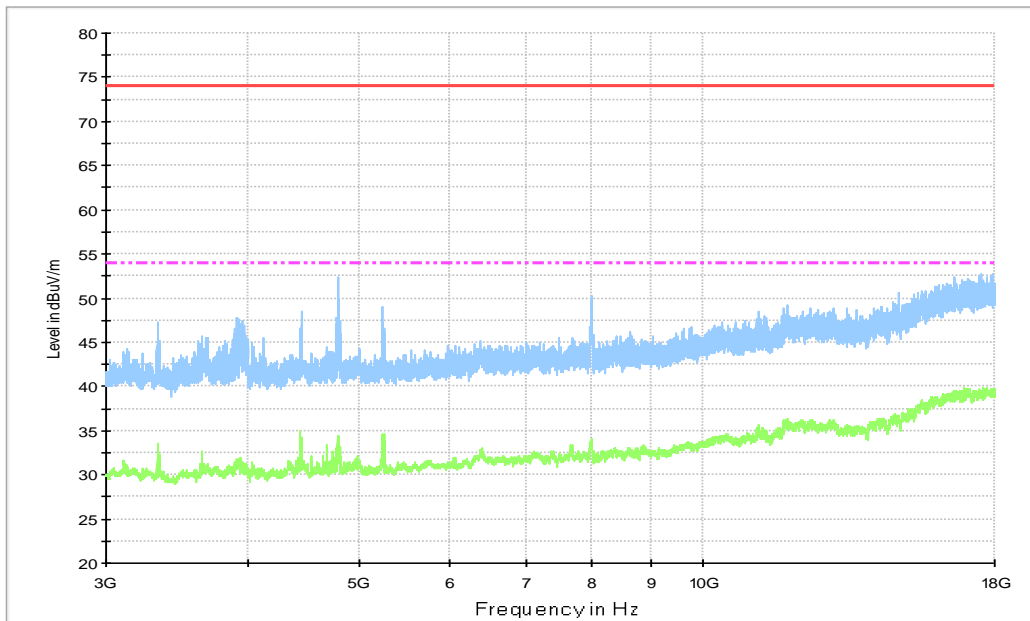
**Fig A.4 Radiated Emission from 30MHz to 1GHz**

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
60.070000	24.9	125.0	V	127.0	-0.7	15.1	40.0
180.253000	40.1	100.0	H	76.0	-2.7	3.4	43.5
181.417000	36.3	100.0	H	115.0	-2.6	7.2	43.5
274.828000	42.4	100.0	H	116.0	0.8	3.6	46.0
602.106000	42.7	113.0	V	192.0	9.6	3.3	46.0
871.378000	36.1	113.0	V	0.0	12.7	9.9	46.0



**Fig A.5 Radiated Emission from 1GHz to 3GHz**



**Fig A.6 Radiated Emission from 3GHz to 18GHz**

## A.2 Conducted Emission

### Reference

FCC: CFR Part 15.107(a).

### A.2.1 Method of measurement

For equipment that 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 the limits. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 7.3.

### A.2.2 EUT Operating Mode

The MS is operating in the charging mode. During the test MS is connected to a charger in the case of charging mode.

### A.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency

### A.2.4 Test Condition in charging mode

Voltage (V)	Frequency (Hz)
120	60

RBW/IF bandwidth	Sweep Time(s)
9kHz	1

### A.2.5 Measurement Results

#### Charging Mode, Set.4:

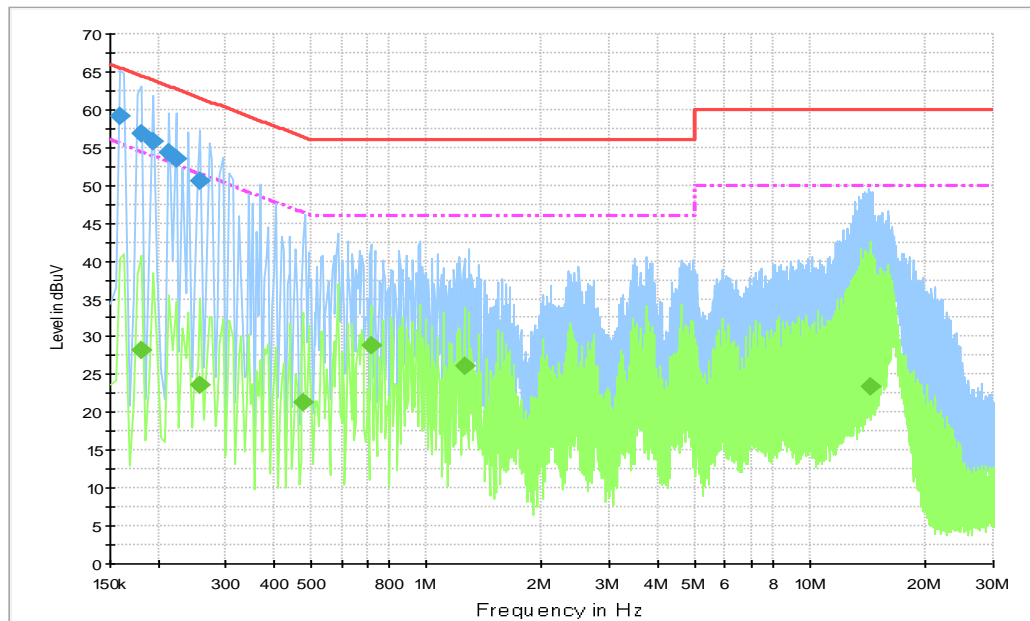


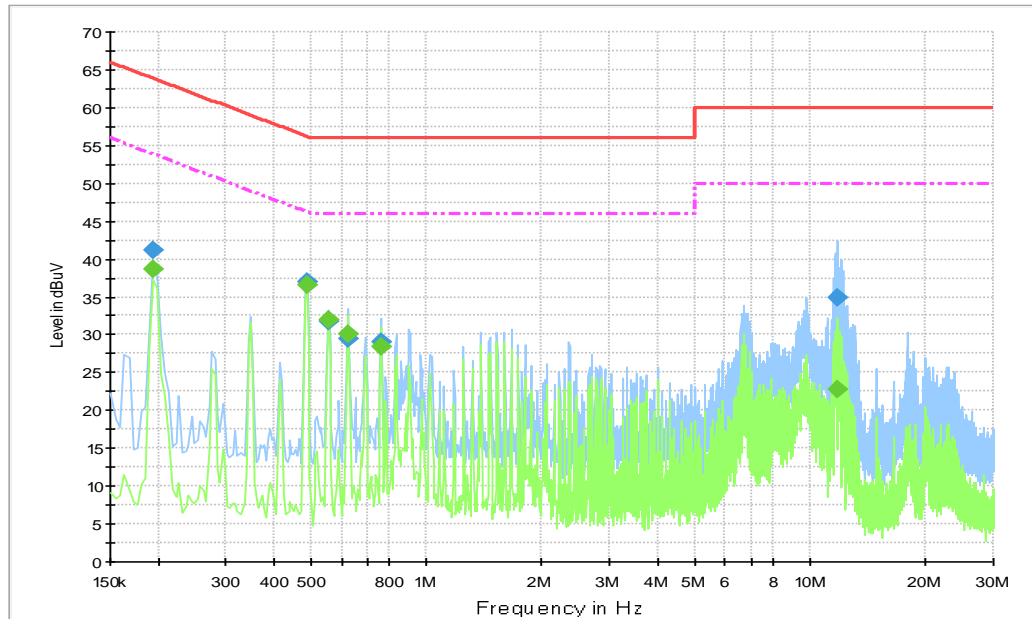
Fig A.7 Conducted Emission from 150kHz to 30MHz

#### Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.159000	59.1	2000.0	9.000	Off	L1	19.5	6.5	65.5
0.181500	56.9	2000.0	9.000	Off	N	19.5	7.5	64.4
0.195000	55.7	2000.0	9.000	Off	N	19.4	8.1	63.8
0.213000	54.3	2000.0	9.000	Off	L1	19.4	8.8	63.1
0.222000	53.5	2000.0	9.000	Off	N	19.5	9.3	62.7
0.258000	50.7	2000.0	9.000	Off	N	19.4	10.8	61.5

#### Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.181500	28.3	2000.0	9.000	Off	N	19.5	26.1	54.4
0.258000	23.6	2000.0	9.000	Off	N	19.4	27.9	51.5
0.478500	21.3	2000.0	9.000	Off	N	19.5	25.0	46.4
0.717000	28.8	2000.0	9.000	Off	L1	19.5	17.2	46.0
1.257000	26.1	2000.0	9.000	Off	L1	19.5	19.9	46.0
14.275500	23.4	2000.0	9.000	Off	N	19.8	26.6	50.0

**USB Mode, Set.5:**

**Fig A.8 Conducted Emission from 150kHz to 30MHz**
**Final Result 1**

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.195000	41.2	2000.0	9.000	Off	L1	19.4	22.6	63.8
0.487500	37.1	2000.0	9.000	Off	L1	19.5	19.1	56.2
0.555000	31.7	2000.0	9.000	Off	L1	19.5	24.3	56.0
0.622500	29.4	2000.0	9.000	Off	N	19.4	26.6	56.0
0.762000	29.0	2000.0	9.000	Off	L1	19.5	27.0	56.0
11.755500	34.8	2000.0	9.000	Off	L1	19.7	25.2	60.0

**Final Result 2**

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.195000	38.6	2000.0	9.000	Off	N	19.4	15.2	53.8
0.487500	36.5	2000.0	9.000	Off	N	19.5	9.7	46.2
0.555000	31.9	2000.0	9.000	Off	L1	19.5	14.1	46.0
0.622500	30.0	2000.0	9.000	Off	L1	19.4	16.0	46.0
0.762000	28.4	2000.0	9.000	Off	N	19.5	17.6	46.0
11.755500	22.9	2000.0	9.000	Off	L1	19.7	27.1	50.0

\*\*\*END OF REPORT\*\*\*