FCC REPORT
(BLE)

Applicant:	BLU Products, Inc.
Address of Applicant:	10814 NW 33rd St # 100 Doral, FL 33172, USA

Equipment Under Test (EUT)

Product Name:	Smart Phone
Model No.:	B110DL
Trade mark:	BLU
FCC ID:	YHLBLUB110DL
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	09 Dec., 2021
Date of Test:	10 Dec., 2021 to 15 Jan., 2022
Date of report issued:	16 Jan., 2022
Test Result:	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*16 Jan., 2022*	*Original*

Tested by: Mike.ou ***Date:*** *16 Jan., 2022*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *16 Jan., 2022*

Project Engineer

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4 Test Summary

Test Items	Section in CFR 47	Result
Antenna requirement	15.203 & 15.247 (b)	Pass
AC Power Line Conducted Emission	15.207	Pass[1]
Conducted Peak Output Power	15.247 (b)(3)	Pass[2]
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass[1]
Power Spectral Density	15.247 (e)	Pass[1]
Band Edge	15.247 (d)	Pass[1]
Emissions in Restricted Frequency Bands	15.205 & 15.209	Pass[2]
Conducted Spurious Emission	15.247 (d)	Pass[1]
Spurious Emission	15.205 & 15.209	Pass[2]

Remark:

1. *Pass[1]: Items data are refer from the original report issued by SGS-CSTC Standards Technical Services, Co., Ltd.Shenzhen Branch.(Date of Test: 2019/10/17-2019/10/31).The detailed data refer to Appendix- BLE.*
2. *Pass[2]: These items are tested by JianYan Testing Group Shenzhen Co., Ltd.*
3. *Re-test statement: The EUT is operating at the same power level with the original testing of SGS-CSTC Standards Technical Services, Co Ltd. Shenzhen Branch.*
4. *The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).*

Test Method:	*ANSI C63.10-2013* *KDB 558074 D01 15.247 Meas Guidance v05r02*

5 General Information

5.1 Client Information

Applicant:	BLU Products, Inc.
Address:	10814 NW 33rd St # 100 Doral, FL 33172, USA
Manufacturer:	BLU Products, Inc.
Address:	10814 NW 33rd St # 100 Doral, FL 33172, USA

5.2 General Description of E.U.T.

Product Name:	Smart Phone
Model No.:	B110DL
Hardware Version:	V0.23
Software Version:	PPR1.180610.011
Operation Frequency:	2402-2480 MHz
Channel numbers:	40
Channel separation:	2 MHz
Modulation technology:	GFSK
Data speed :	1Mbps
Antenna Type:	Integrated Antenna
Antenna gain:	0.18 dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V, 3000mAh
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

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

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test. Channel No. 0, 49 & 39 were selected as Lowest, Middle and Highest channel.

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation
Radiated Emission: The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.	

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission (9kHz ~ 30MHz electric field) for 3m SAC	3.13 dB
Radiated Emission (9kHz ~ 30MHz magnetic field) for 3m SAC	3.13 dB
Radiated Emission (30MHz ~ 1GHz) for 3m SAC	4.45 dB
Radiated Emission (1GHz ~ 18GHz) for 3m SAC	5.34 dB
Radiated Emission (18GHz ~ 40GHz) for 3m SAC	5.34 dB

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

5.9 Test Instruments list

Radiated Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
3m SAC	ETS	RFD-100	Q1984	04-14-2021	04-13-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	9163-1246	03-07-2021	03-06-2022
Biconical Antenna	SCHWARZBECK	VUBA 9117	9117#359	06-17-2021	06-17-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	912D-916	03-07-2021	03-06-2022
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1067	04-02-2021	04-01-2022
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1068	04-02-2021	04-01-2022
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022
Spectrum analyzer	Keysight	N9010B	MY60240202	10-27-2021	10-26-2022
Low Pre-amplifier	SCHWARZBECK	BBV9743B	00305	03-07-2021	03-06-2022
High Pre-amplifier	SKET	LNPA_0118G-50	MF280208233	03-07-2021	03-06-2022
Band Reject Filter Group	Tonscend	JS0806	21B8060367	04-06-2021	04-05-2022
Cable	Qualwave	JYT3M-1G-NN-8M	JYT3M-1	03-07-2021	03-06-2022
Cable	Qualwave	JYT3M-18G-NN-8M	JYT3M-2	03-07-2021	03-06-2022
Cable	Qualwave	JYT3M-1G-BB-5M	JYT3M-3	03-07-2021	03-06-2022
Cable	Bost	JYT3M-40G-SS-8M	JYT3M-4	04-02-2021	04-01-2022
EMI Test Software	Tonscend	TS+	Version:3.0.0.1		

Conducted method:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
Spectrum Analyzer	Keysight	N9010B	MY60240202	10-27-2021	10-26-2022
Power Detector Box	MWRF-test	MW100-PSB	MW201020JYT	11-19-2021	11-18-2022
RF Control Box	MWRF-test	MW100-RFCB	MW200927JYT	N/A	N/A
DC Power Supply	Keysight	E3642A	MY60296194	11-27-2020	11-26-2023
Test Software	MWRF-tes	MTS 8310	Version: 2.0.0.0		

6 Test results and Measurement Data

6.1 Antenna requirement:

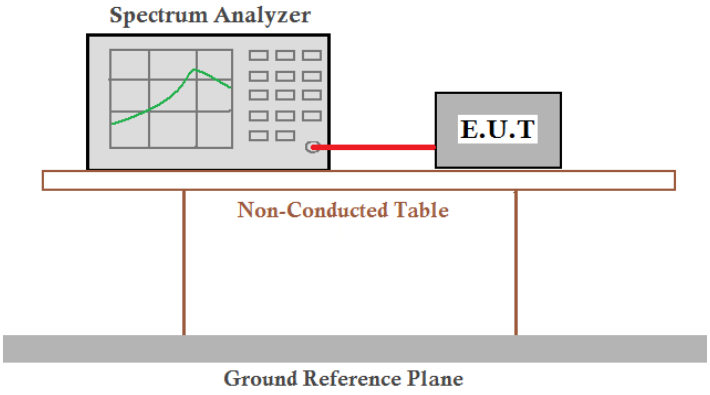
Standard requirement:	FCC Part 15 C Section 15.203 /247(b)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
E.U.T Antenna:	
The BLE antenna is an Integrated antenna which cannot replace by end-user, the best-case gain of the antenna is 0.18 dBi.	

6.2 Conducted Output Power

6.2.1 Re-test statement

Re-test statement: The EUT is operating at the same power level with the original testing of SGS-CSTC Standards Technical Services, Co Ltd. Shenzhen Branch.

6.2.2 Test Results

Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

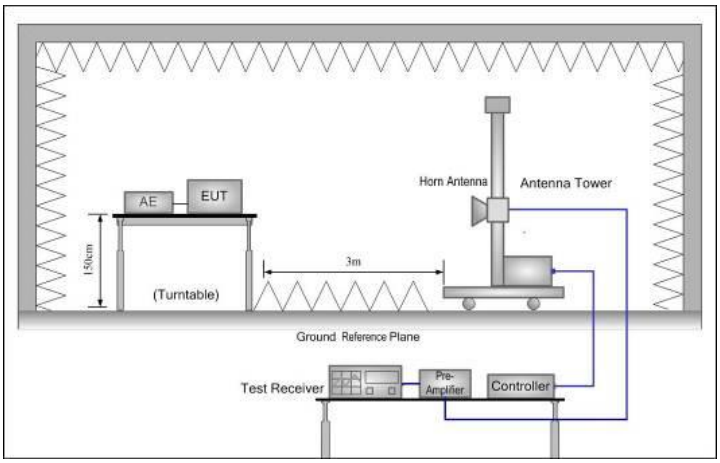
Measurement Data:

Mode	Test Channel	The Original Reports Level [dBm]	Re-Test Reports Level [dBm]	Power level
GFSK	Lowest	-12.03	-11.86	7
	Middle	-6.62	-6.27	7
	Highest	0.58	0.51	7

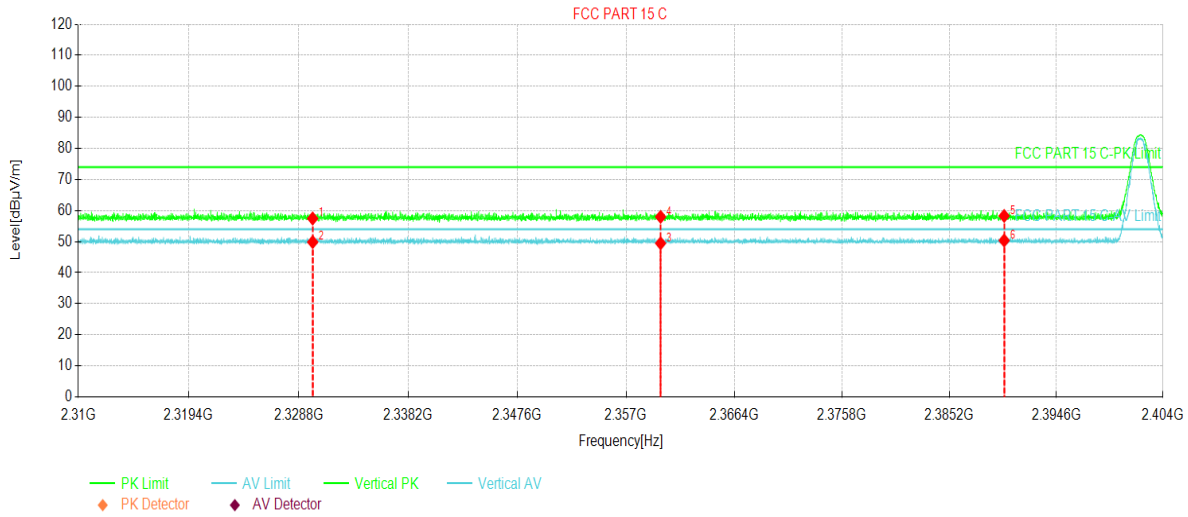
Remark:

	The Original Reports	Re-Test Reports
File name:	test report BLE	Test Report BLE rev1
Test location:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	JianYan Testing Group Shenzhen Co., Ltd.
The output power is re-test at JianYan Testing Group Shenzhen Co., Ltd.		

6.3 Emissions in Restricted Frequency Bands

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part 15 C Section 15.205 and 15.209</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">2310 MHz to 2390 MHz and 2483.5MHz to 2500 MHz</td></tr>
<tr><td>Test Distance:</td><td colspan="5">3m</td></tr>
<tr><td rowspan="3">Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
<tr><td rowspan="3">Limit:</td><td colspan="2">Frequency</td><td colspan="2">Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td colspan="2" rowspan="2">Above 1GHz</td><td colspan="2">54.00</td><td>Average Value</td></tr>
<tr><td colspan="2">74.00</td><td>Peak Value</td></tr>
<tr><td>Test Procedure:</td><td colspan="5">1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
<tr><td>Test setup:</td><td colspan="5"> 
</td></tr>
<tr><td>Test Instruments:</td><td colspan="5">Refer to section 5.9 for details</td></tr>
<tr><td>Test mode:</td><td colspan="5">Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td colspan="5">Passed</td></tr>
</table>

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	DC 3.8V	Environment:	Temp: 24℃ Huni: 57%



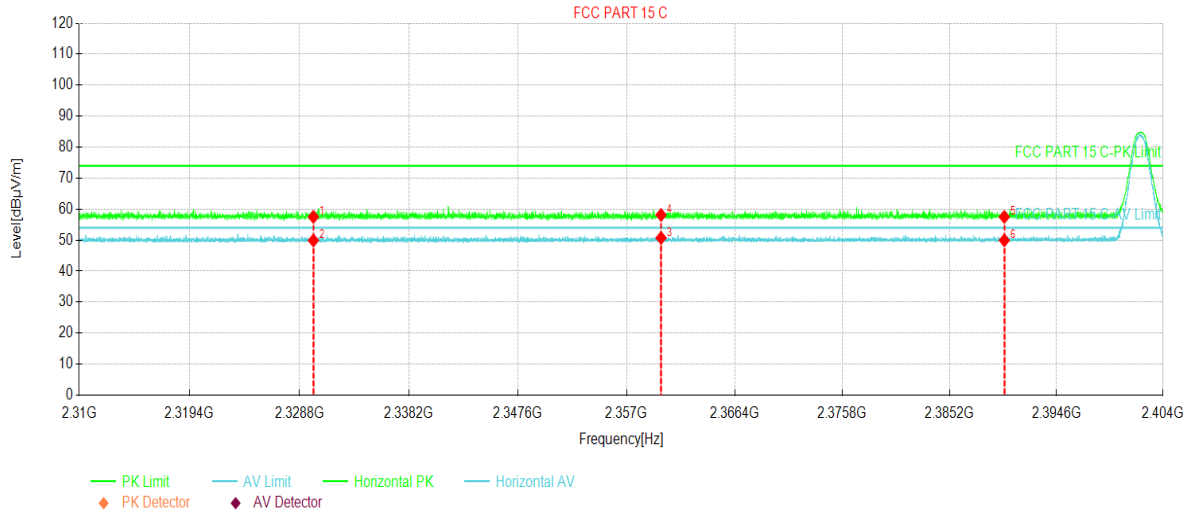
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	2330.0	22.04	57.45	35.41	74.00	16.55	357	160	PK	Vertical
2	2330.0	14.45	49.86	35.41	54.00	4.14	19	157	AV	Vertical
3	2360.0	13.83	49.46	35.63	54.00	4.54	287	141	AV	Vertical
4	2360.0	22.34	57.97	35.63	74.00	16.03	265	146	PK	Vertical
5	2390.0	22.44	58.28	35.84	74.00	15.72	35	135	PK	Vertical
6	2390.0	14.53	50.37	35.84	54.00	3.63	60	130	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 24℃ Huni: 57%



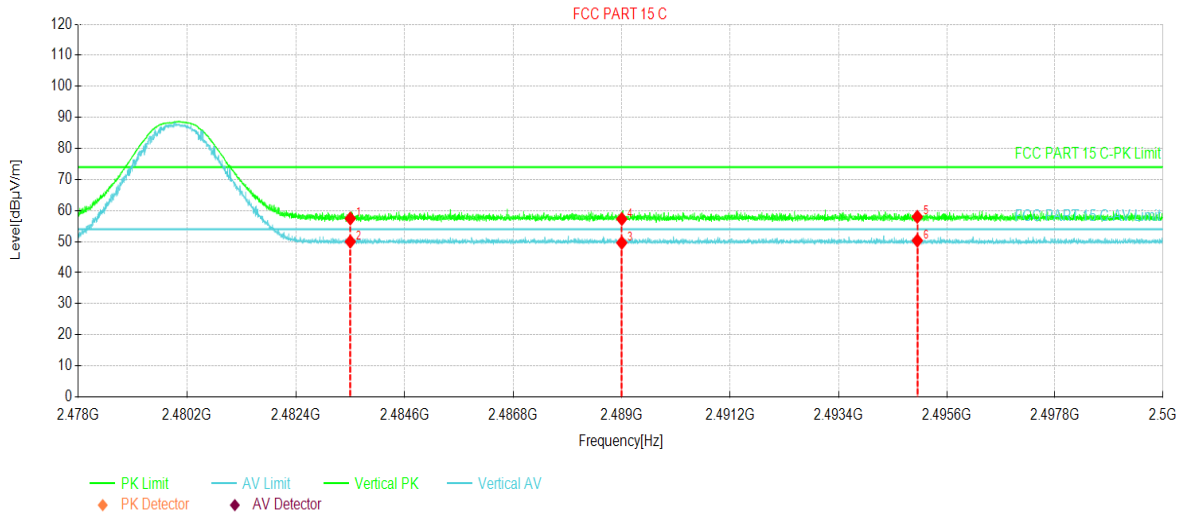
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	2330.0	22.09	57.50	35.41	74.00	16.50	269	155	PK	Horizontal
2	2330.0	14.50	49.91	35.41	54.00	4.09	231	150	AV	Horizontal
3	2360.0	15.09	50.72	35.63	54.00	3.28	56	143	AV	Horizontal
4	2360.0	22.50	58.13	35.63	74.00	15.87	67	139	PK	Horizontal
5	2390.0	21.65	57.49	35.84	74.00	16.51	177	159	PK	Horizontal
6	2390.0	14.12	49.96	35.84	54.00	4.04	193	166	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	DC 3.8V	Environment:	Temp: 24℃ Huni: 57%



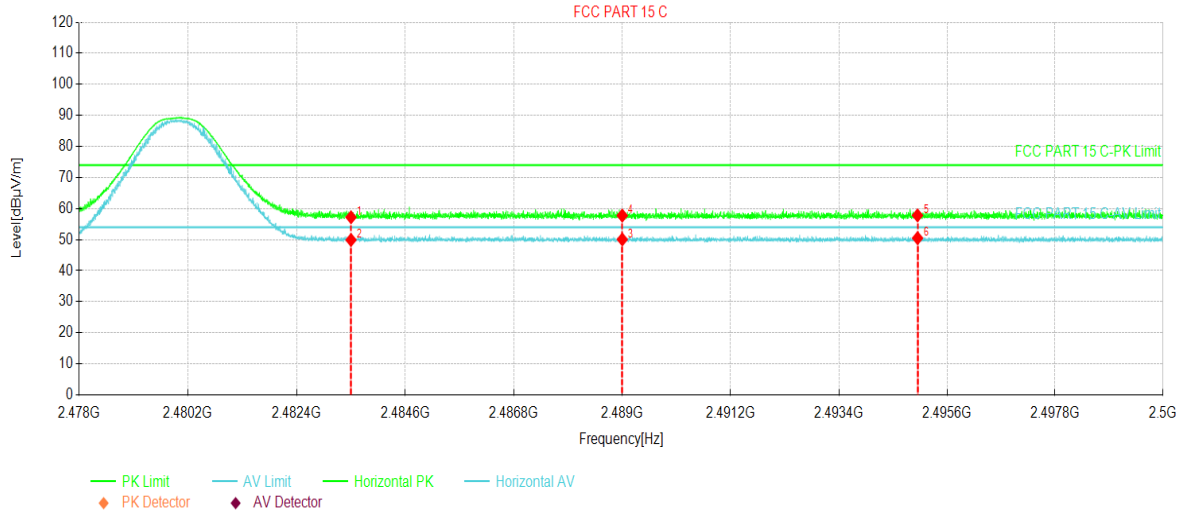
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	2483.5	21.73	57.45	35.72	74.00	16.55	321	153	PK	Vertical
2	2483.5	14.28	50.00	35.72	54.00	4.00	297	159	AV	Vertical
3	2489.0	13.91	49.62	35.71	54.00	4.38	76	140	AV	Vertical
4	2489.0	21.57	57.28	35.71	74.00	16.72	51	143	PK	Vertical
5	2495.0	22.30	57.99	35.69	74.00	16.01	221	137	PK	Vertical
6	2495.0	14.64	50.33	35.69	54.00	3.67	240	132	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 24℃ Huni: 57%



Suspected Data List

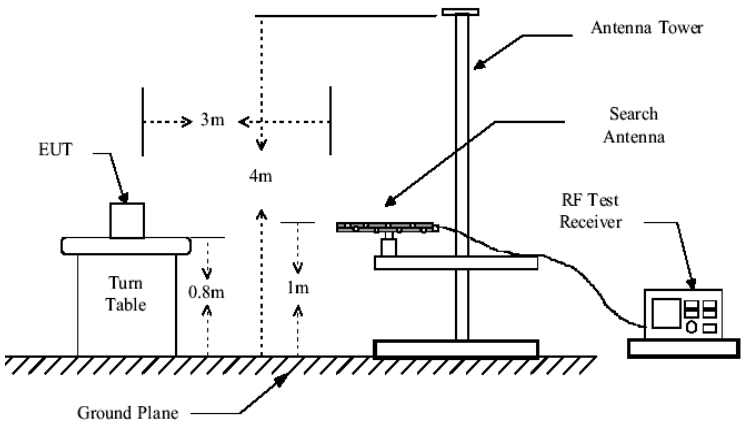
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	2483.5	21.49	57.21	35.72	74.00	16.79	202	131	PK	Horizontal
2	2483.5	14.17	49.89	35.72	54.00	4.11	245	137	AV	Horizontal
3	2489.0	14.35	50.06	35.71	54.00	3.94	88	143	AV	Horizontal
4	2489.0	22.03	57.74	35.71	74.00	16.26	93	149	PK	Horizontal
5	2495.0	22.11	57.80	35.69	74.00	16.20	102	156	PK	Horizontal
6	2495.0	14.79	50.48	35.69	54.00	3.52	129	165	AV	Horizontal

Remark:

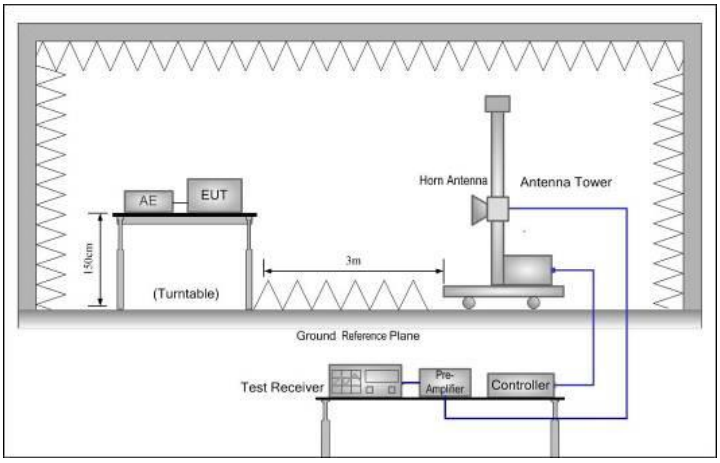
1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

6.4 Spurious Emission

6.4.1 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part 15 C Section 15.205 and 15.209</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">9kHz to 25GHz</td></tr>
<tr><td>Test Distance:</td><td colspan="5">3m</td></tr>
<tr><td>Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td></td><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td></td><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
<tr><td>Limit:</td><td colspan="2">Frequency</td><td colspan="2">Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td></td><td colspan="2">30MHz-88MHz</td><td colspan="2">40.0</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">88MHz-216MHz</td><td colspan="2">43.5</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">216MHz-960MHz</td><td colspan="2">46.0</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">960MHz-1GHz</td><td colspan="2">54.0</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2" rowspan="2">Above 1GHz</td><td colspan="2">54.0</td><td>Average Value</td></tr>
<tr><td></td><td colspan="2">74.0</td><td>Peak Value</td></tr>
<tr><td>Test Procedure:</td><td colspan="5">1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
<tr><td>Test setup:</td><td colspan="5">Below 1GHz
 

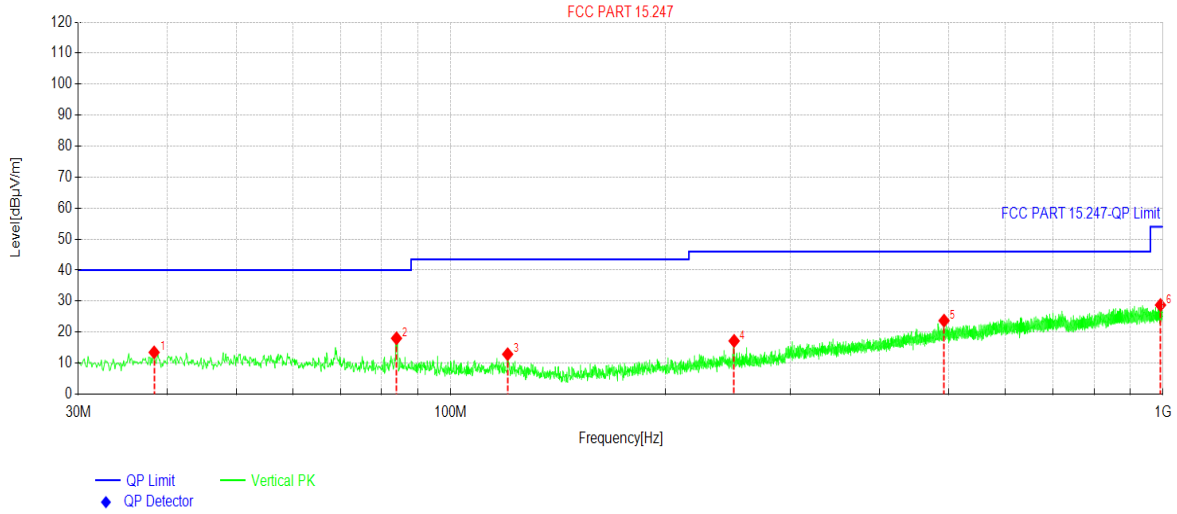
Above 1GHz</td></tr>
</table>

	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. 9 kHz to 30MHz is lower than the limit 20dB, so only shows the data of above 30MHz in this report.

Measurement Data (worst case):

Below 1GHz:

Product Name:	Smart Phone	**Product Model:**	B110DL
Test By:	Mike	**Test mode:**	BLE Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical
Test Voltage:	DC 3.8V	**Environment:**	Temp: 24℃ Huni: 57%

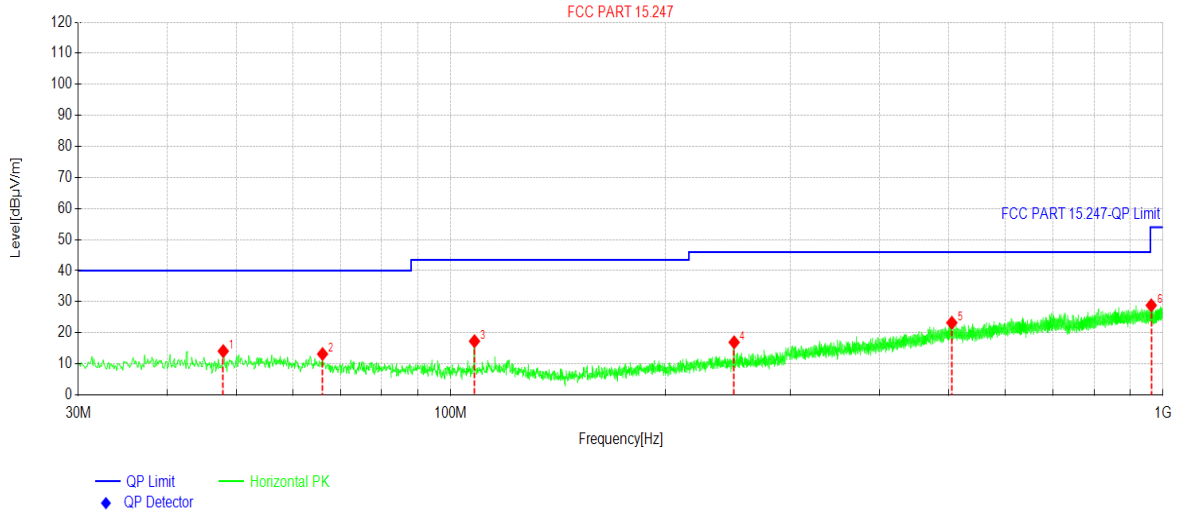


Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	38.342	28.12	13.48	-14.64	40.00	26.52	355	131	PK	Vertical
2	83.937	35.46	18.00	-17.46	40.00	22.00	3	125	PK	Vertical
3	120.21	28.93	12.88	-16.05	43.50	30.62	180	109	PK	Vertical
4	250.01	30.95	17.16	-13.79	46.00	28.84	56	114	PK	Vertical
5	492.73	30.92	23.70	-7.22	46.00	22.30	253	104	PK	Vertical
6	991.94	29.39	28.74	-0.65	54.00	25.26	109	122	PK	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 24℃ Huni: 57%



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	47.946	28.92	14.08	-14.84	40.00	25.92	23	101	PK	Horizontal
2	66.087	29.07	13.16	-15.91	40.00	26.84	305	120	PK	Horizontal
3	107.99	33.21	17.27	-15.94	43.50	26.23	267	108	PK	Horizontal
4	250.01	30.72	16.93	-13.79	46.00	29.07	299	116	PK	Horizontal
5	505.34	30.13	23.22	-6.91	46.00	22.78	105	124	PK	Horizontal
6	962.94	29.71	28.83	-0.88	54.00	25.17	119	129	PK	Horizontal

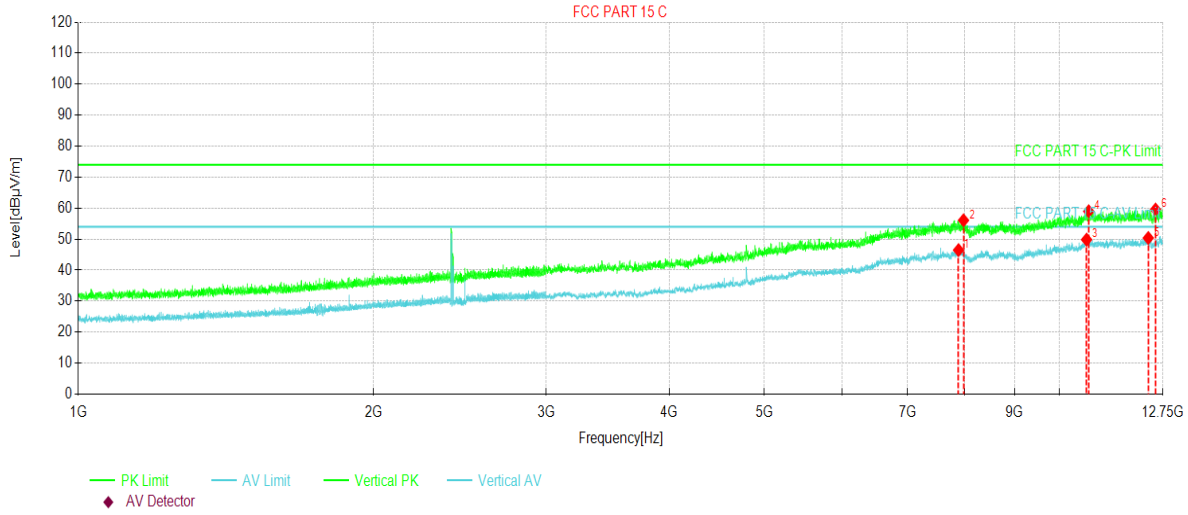
Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Above 1GHz:

Remark: When testing spurs above 1GHz, use Band Reject Filter Group to filter out fundamental signal

Product Name:	Smart Phone	**Product Model:**	B110DL
Test By:	Mike	**Test mode:**	BLE Tx Low CH
Test Frequency:	1 GHz ~ 25 GHz	**Polarization:**	Vertical
Test Voltage:	DC 3.8V	**Environment:**	Temp: 21.2℃ Huni: 52%



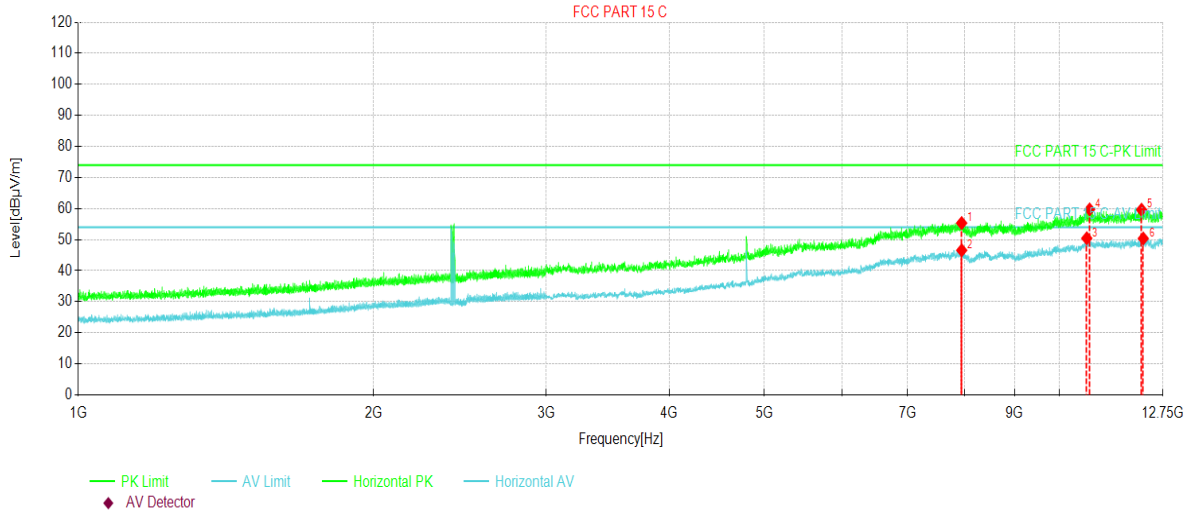
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7890.8	45.46	46.47	1.01	54.00	7.53	154	156	AV	Vertical
2	7984.6	55.16	56.08	0.92	74.00	17.92	219	154	PK	Vertical
3	10657.	42.72	49.84	7.12	54.00	4.16	334	134	AV	Vertical
4	10709.	51.75	59.00	7.25	74.00	15.00	38	156	PK	Vertical
5	12317.	42.55	50.38	7.83	54.00	3.62	46	149	AV	Vertical
6	12529.	52.43	59.57	7.14	74.00	14.43	318	131	PK	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx Low CH
Test Frequency:	1 GHz ~ 25 GHz	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 21.2℃ Huni: 52%



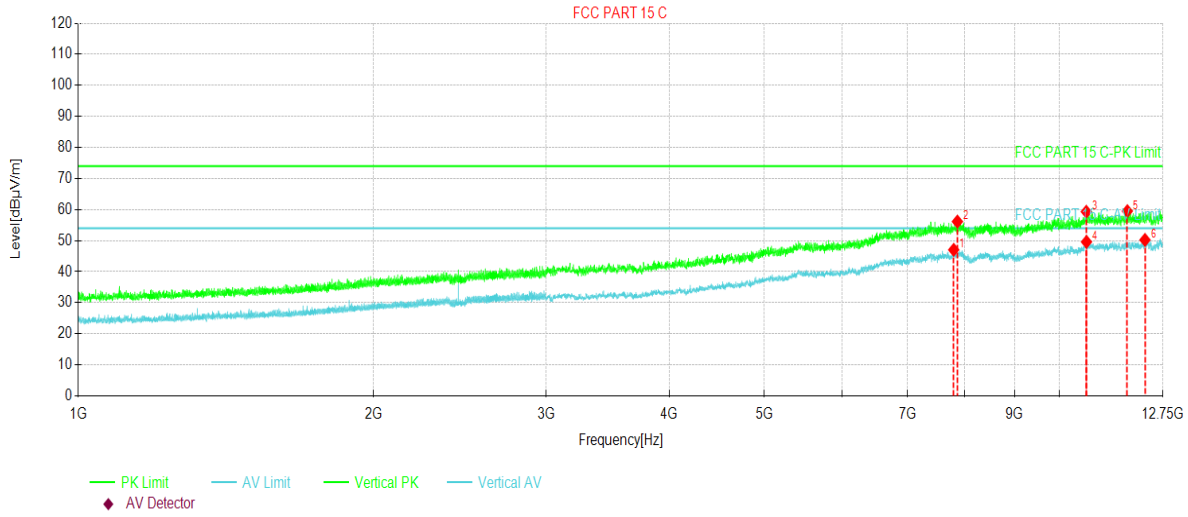
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7949.3	54.37	55.33	0.96	74.00	18.67	21	153	PK	Horizontal
2	7950.5	45.62	46.57	0.95	54.00	7.43	349	159	AV	Horizontal
3	10661.	43.30	50.44	7.14	54.00	3.56	34	163	AV	Horizontal
4	10732.	52.51	59.73	7.22	74.00	14.27	336	166	PK	Horizontal
5	12123.	52.26	59.62	7.36	74.00	14.38	46	154	PK	Horizontal
6	12173.	42.67	50.37	7.70	54.00	3.63	315	156	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx Mid CH
Test Frequency:	1 GHz ~ 25 GHz	Polarization:	Vertical
Test Voltage:	DC 3.8V	Environment:	Temp: 21.2℃ Huni: 52%



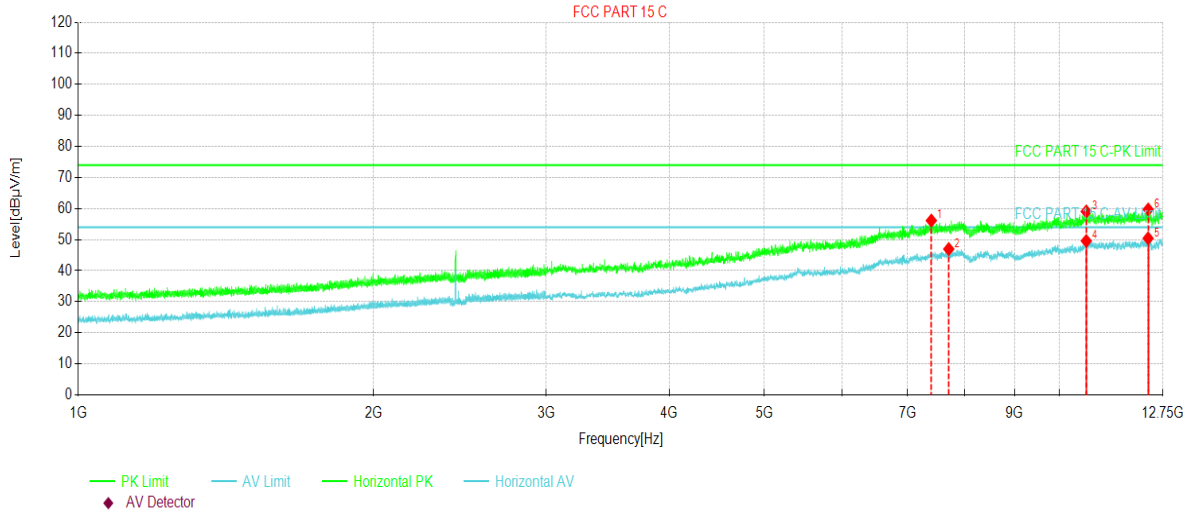
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7801.8	46.02	47.04	1.02	54.00	6.96	112	136	AV	Vertical
2	7870.1	55.12	56.13	1.01	74.00	17.87	261	167	PK	Vertical
3	10650.	52.20	59.30	7.10	74.00	14.70	315	134	PK	Vertical
4	10654.	42.48	49.60	7.12	54.00	4.40	51	147	AV	Vertical
5	11726.	51.50	59.50	8.00	74.00	14.50	33	155	PK	Vertical
6	12221.	42.36	50.23	7.87	54.00	3.77	329	159	AV	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx Mid CH
Test Frequency:	1 GHz ~ 25 GHz	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 21.2℃ Huni: 52%



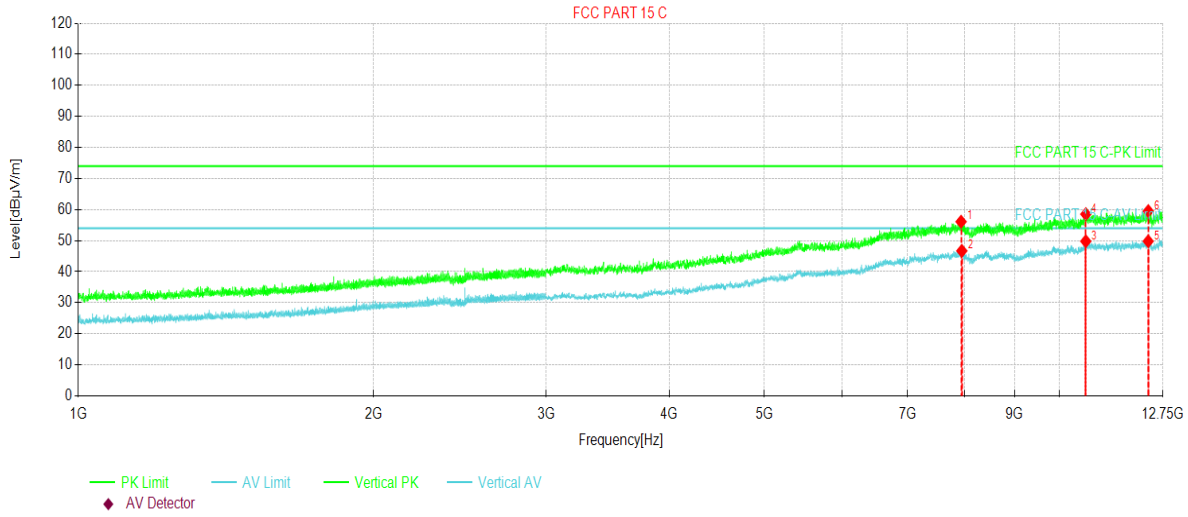
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7403.3	55.87	56.13	0.26	74.00	17.87	7	149	PK	Horizontal
2	7711.6	46.36	46.96	0.60	54.00	7.04	351	137	AV	Horizontal
3	10648.	51.96	59.06	7.10	74.00	14.94	99	158	PK	Horizontal
4	10650.	42.47	49.57	7.10	54.00	4.43	287	164	AV	Horizontal
5	12312.	42.58	50.41	7.83	54.00	3.59	28	148	AV	Horizontal
6	12316.	51.88	59.71	7.83	74.00	14.29	346	154	PK	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx High CH
Test Frequency:	1 GHz ~ 25 GHz	Polarization:	Vertical
Test Voltage:	DC 3.8V	Environment:	Temp: 21.2℃ Huni: 52%



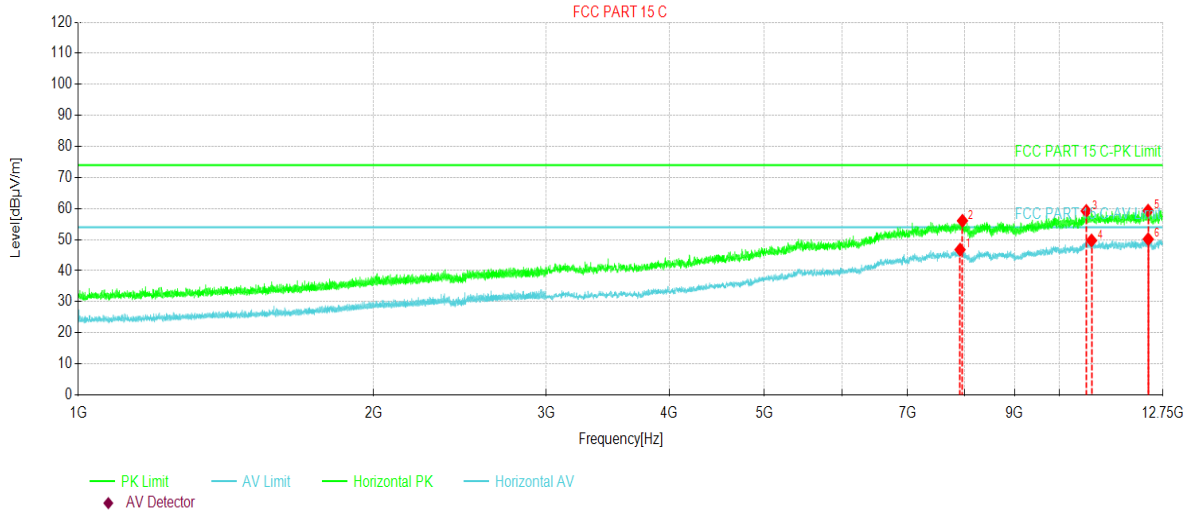
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7938.3	55.13	56.10	0.97	74.00	17.90	261	156	PK	Vertical
2	7953.0	45.75	46.70	0.95	54.00	7.30	100	166	AV	Vertical
3	10636.	42.74	49.80	7.06	54.00	4.20	257	154	AV	Vertical
4	10637.	51.46	58.52	7.06	74.00	15.48	104	134	PK	Vertical
5	12314.	41.97	49.80	7.83	54.00	4.20	349	159	AV	Vertical
6	12317.	51.69	59.52	7.83	74.00	14.48	21	157	PK	Vertical

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

Product Name:	Smart Phone	Product Model:	B110DL
Test By:	Mike	Test mode:	BLE Tx High CH
Test Frequency:	1 GHz ~ 25 GHz	Polarization:	Horizontal
Test Voltage:	DC 3.8V	Environment:	Temp: 21.2℃ Huni: 52%



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Angle [°]	Height [cm]	Trace	Polarity
1	7920.0	45.77	46.76	0.99	54.00	7.24	328	157	AV	Horizontal
2	7963.9	55.12	56.06	0.94	74.00	17.94	44	166	PK	Horizontal
3	10648.	52.13	59.23	7.10	74.00	14.77	38	159	PK	Horizontal
4	10782.	42.56	49.72	7.16	54.00	4.28	334	158	AV	Horizontal
5	12311.	51.48	59.31	7.83	74.00	14.69	214	154	PK	Horizontal
6	12316.	42.31	50.14	7.83	54.00	3.86	154	156	AV	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of above 12.75GHz are lower than the limit 20dB and not show in test report.*

7 Appendix

The below Appendix was detail result tested by SGS-CSTC Standards Technical Services, Co., Ltd.Shenzhen Branch. (Date of Test: 2019/10/17-2019/10/31)..

Appendix	*Item*
Appendix- BLE	*BLE*