

ATC

TEST REPORT

Applicant Name : INFINIX MOBILITY LIMITED
Address : FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35
Report Number : SHAN MEI STREET FOTAN NT, Hong Kong
FCC ID: SZNS220215-04527E-RF-00CA1
2AIZN-X6812B

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type: Mobile Phone
Model No.: X6812B
Multiple Model(s) No.: N/A
Trade Mark: Infinix
Date Received: 2022/02/15
Date of Test: 2022/02/22~2022/02/25
Report Date: 2022/03/01

Test Result:	Pass*
--------------	-------

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

Prepared and Checked By:

Ting Lü
EMC Engineer

Approved By:

Robert Li
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk “*”.

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk “**”. Customer model name, addresses, names, trademarks etc. are not considered data.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

Shenzhen Accurate Technology Co., Ltd.

1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China
Tel: +86 755-26503290 Fax: +86 755-26503396 Web: www.atc-lab.com

TABLE OF CONTENTS

GENERAL INFORMATION.....	.3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	.3
OBJECTIVE .....	.3
TEST METHODOLOGY .....	.3
MEASUREMENT UNCERTAINTY.....	.4
SYSTEM TEST CONFIGURATION.....	.5
DESCRIPTION OF TEST CONFIGURATION .....	.5
EQUIPMENT MODIFICATIONS .....	.6
EUT EXERCISE SOFTWARE .....	.6
DUTY CYCLE .....	.6
SUPPORT EQUIPMENT LIST AND DETAILS .....	.6
EXTERNAL I/O CABLE.....	.6
BLOCK DIAGRAM OF TEST SETUP .....	.7
SUMMARY OF TEST RESULTS.....	.8
TEST EQUIPMENT LIST .....	.9
FCC §15.207 (A) – AC LINE CONDUCTED EMISSIONS .....	.10
APPLICABLE STANDARD .....	.10
EUT SETUP .....	.10
EMI TEST RECEIVER SETUP.....	.10
TEST PROCEDURE .....	.10
TRANSF FACTOR & MARGIN CALCULATION.....	.11
TEST DATA .....	.11
FCC §15.209, §15.205 & §15.247(D) - SPURIOUS EMISSIONS.....	.14
APPLICABLE STANDARD .....	.14
EUT SETUP .....	.14
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP .....	.14
TEST PROCEDURE .....	.14
FACTOR & MARGIN CALCULATION .....	.15
TEST DATA .....	.15

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	BLE_1M & BLE_2M: 2402-2480MHz Wi-Fi: 2412-2472MHz & 2422-2462MHz
Maximum Conducted Peak Output Power	BLE: -2.07dBm Wi-Fi: 18.99dBm
Modulation Technique	BLE: GFSK Wi-Fi: DSSS, OFDM
Antenna Specification*	1.3dBi(It is provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5.0V or DC7.5V from adapter
Sample serial number	SZNS220215-04527E-RFA1-S1 (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter information	Model: U180XSA Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 5.0V, 2.4A or DC7.5V, 2.4A 18.0W Max

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

This is a CIIPC application of the device; the differences between the original device and the current one are as follows:

- (1) Adding one of Adapter.

Based on above differences, it will affected partial test data, so the changed items were performed.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter	Uncertainty	
Occupied Channel Bandwidth	5%	
RF output power, conducted	0.73dB	
Unwanted Emission, conducted	1.6dB	
AC Line Conducted emission	2.72dB	
Emissions, Radiated	30MHz - 1GHz	4.28dB
	1GHz- 18GHz	4.98dB
	18GHz- 26.5GHz	5.06dB
Temperature	1°C	
Humidity	6%	
Supply voltages	0.4%	

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 2.4GHz Wi-Fi, total 13 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442	/	/

802.11b, 802.11g and 802.11n-HT20 mode was tested with Channel 1, 7 and 13.

EUT was tested with Channel 3, 7 and 11.

For BLE mode, 40 channels are provided to testing:

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

EUT was tested with Channel 0, 19 and 39.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

Test in the engineer mode.

The device was tested with the worst case was performed as below:

Mode	Data rate	Power level*		
		Low channel	Middle channel	High channel
802.11b	1 Mbps	15	15	15
802.11g	6 Mbps	15	15	15
802.11n-HT20	MCS0	15	15	15
802.11n-HT40	MCS0	17.5	17.5	17.5
BLE	1Mbps & 2Mbps	Default	Default	Default

The power level was provided by the applicant.

Duty cycle

Test Result: Compliant. Please refer to the original report: SZ1210813-34307E-RF-00C.

Support Equipment List and Details

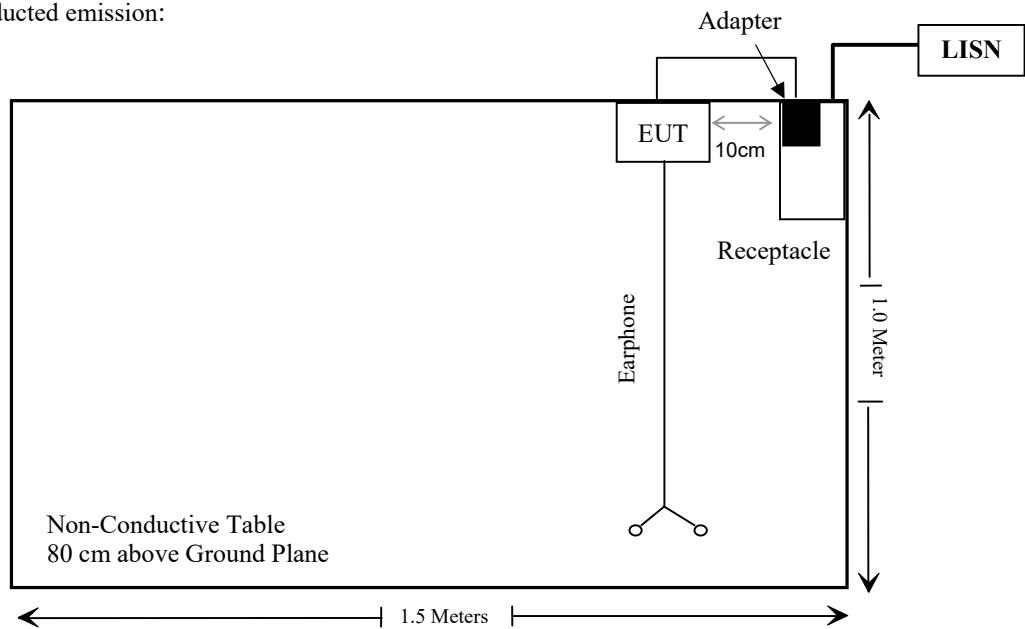
Manufacturer	Description	Model	Serial Number
Unknown	earphone	Unknown	Unknown

External I/O Cable

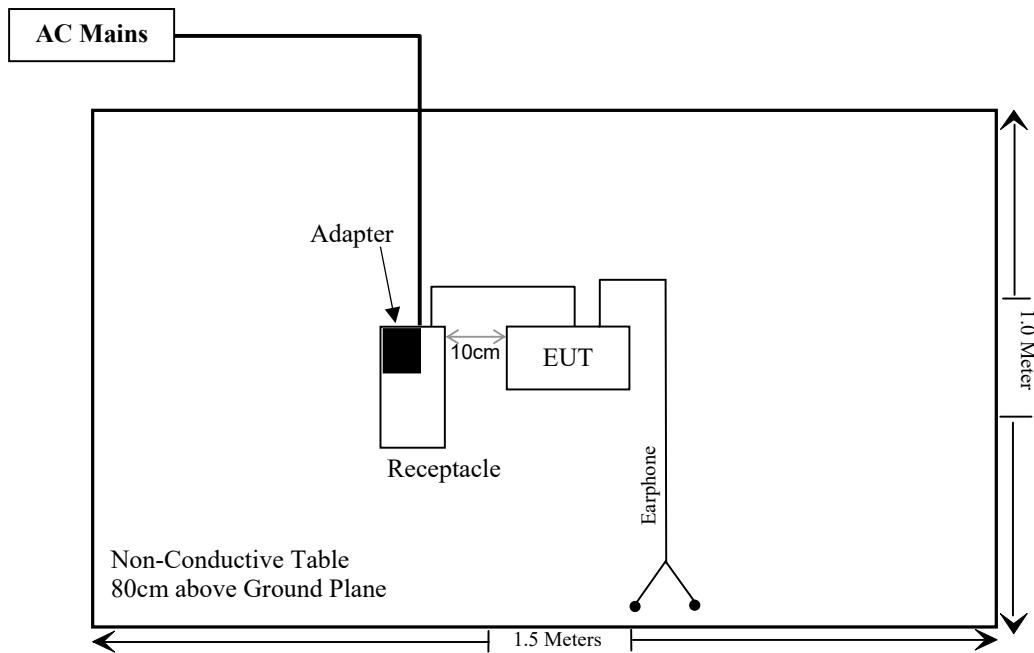
Cable Description	Length (m)	From Port	To
Un-shielding Detachable USB Cable	1.0	EUT	Adapter

Block Diagram of Test Setup

For conducted emission:



For Radiated Emissions (below 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b) (1) & §2.1093	RF Exposure	Compliant*
§15.203	Antenna Requirement	Compliant*
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth & Occupied Bandwidth	Compliant*
§15.247(b)(3)	Maximum Conducted Output Power	Compliant*
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant*
§15.247(e)	Power Spectral Density	Compliant*

Compliant*: Please refer to the original report: SZ1210813-34307E-RF-00C.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted emission test					
Rohde& Schwarz	EMI Test Receiver	ESCI	100784	2021/12/13	2022/12/12
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2021/12/13	2022/12/12
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2021/12/13	2022/12/12
Unknown	RF Coaxial Cable	No.17	N0350	2021/12/14	2022/12/13
Conducted Emission Test Software: e3 19821b (V9)					
Radiated emission test					
Rohde& Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b (V9)					

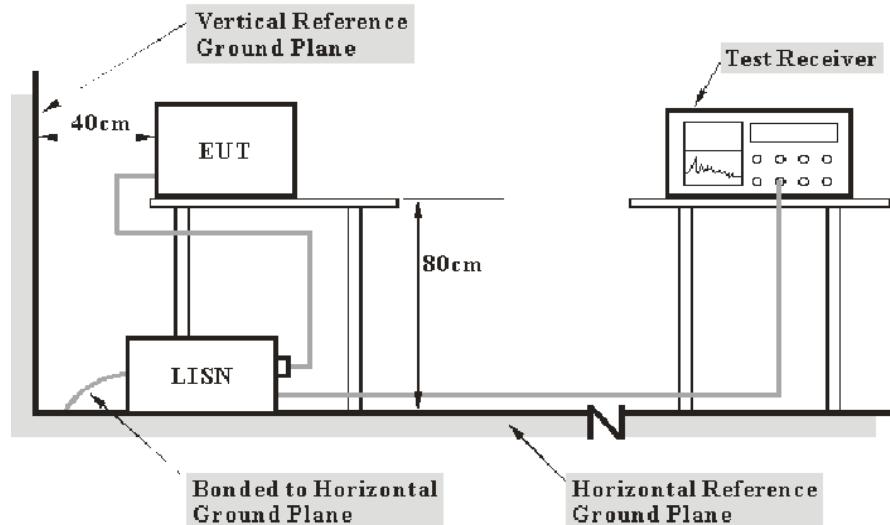
*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



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

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Transd Factor & Margin Calculation

The Transd factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

$$\text{Over Limit} = \text{Level} - \text{Limit}$$

$$\text{Level} = \text{Read Level} + \text{Factor}$$

Test Data

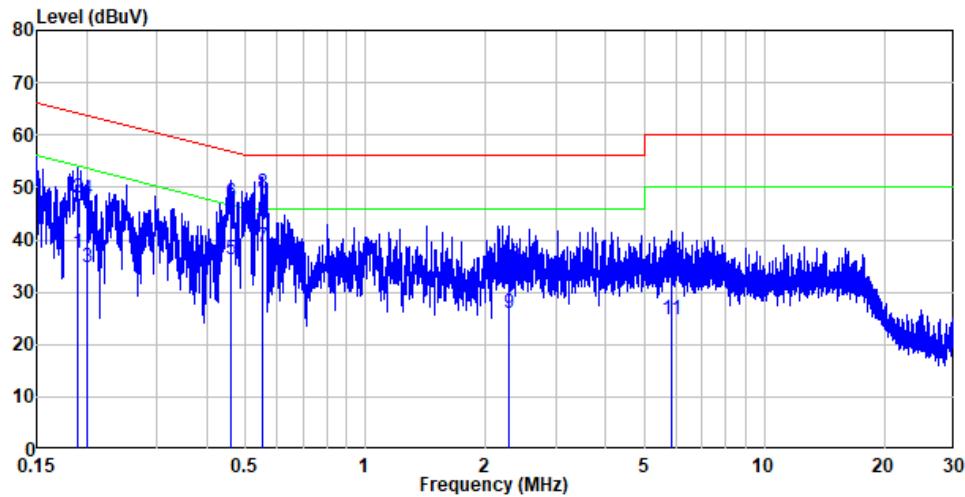
Environmental Conditions

Temperature:	23 °C
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

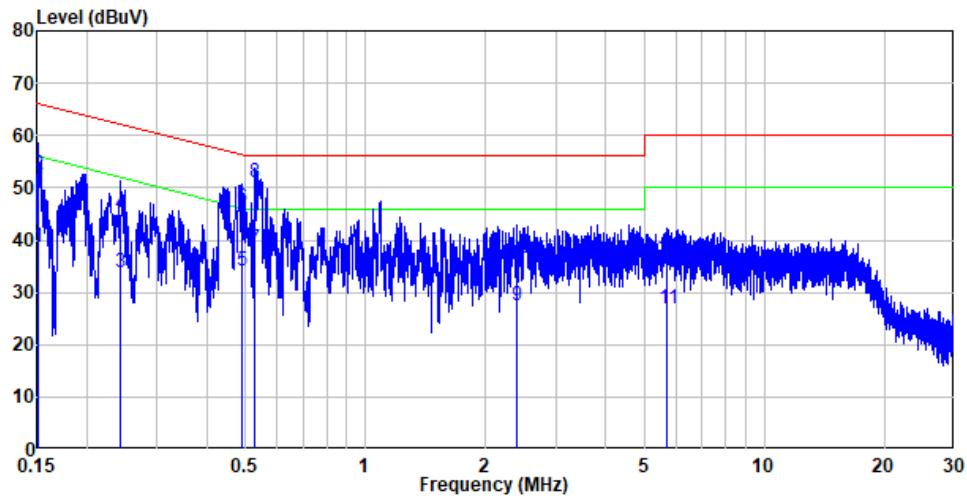
The testing was performed by Bin Duan on 2022-02-22.

EUT operation mode: Transmitting (Worst case is 802.11g, middle channel)

AC 120V/60 Hz, Line



No.	Frequency	Factor	Read	Level	Limit	Over	Remark
			Level				
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.190	9.80	27.69	37.49	54.05	-16.56	Average
2	0.190	9.80	38.09	47.89	64.05	-16.16	QP
3	0.200	9.80	24.80	34.60	53.61	-19.01	Average
4	0.200	9.80	37.96	47.76	63.61	-15.85	QP
5	0.460	9.80	26.40	36.20	46.69	-10.49	Average
6	0.460	9.80	37.38	47.18	56.69	-9.51	QP
7	0.550	9.81	28.69	38.50	46.00	-7.50	Average
8	0.550	9.81	39.04	48.85	56.00	-7.15	QP
9	2.295	9.82	16.00	25.82	46.00	-20.18	Average
10	2.295	9.82	25.34	35.16	56.00	-20.84	QP
11	5.840	9.86	14.79	24.65	50.00	-25.35	Average
12	5.840	9.86	24.99	34.85	60.00	-25.15	QP

AC 120V/60 Hz, Neutral

No.	Frequency	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.152	9.80	28.71	38.51	55.91	-17.40	Average
2	0.152	9.80	42.62	52.42	65.91	-13.49	QP
3	0.244	9.80	24.15	33.95	51.97	-18.02	Average
4	0.244	9.80	35.10	44.90	61.97	-17.07	QP
5	0.489	9.80	24.42	34.22	46.19	-11.97	Average
6	0.489	9.80	36.24	46.04	56.19	-10.15	QP
7	0.530	9.81	28.47	38.28	46.00	-7.72	Average
8	0.530	9.81	41.21	51.02	56.00	-4.98	QP
9	2.406	9.82	17.69	27.51	46.00	-18.49	Average
10	2.406	9.82	26.66	36.48	56.00	-19.52	QP
11	5.717	9.92	16.81	26.73	50.00	-23.27	Average
12	5.717	9.92	26.50	36.42	60.00	-23.58	QP

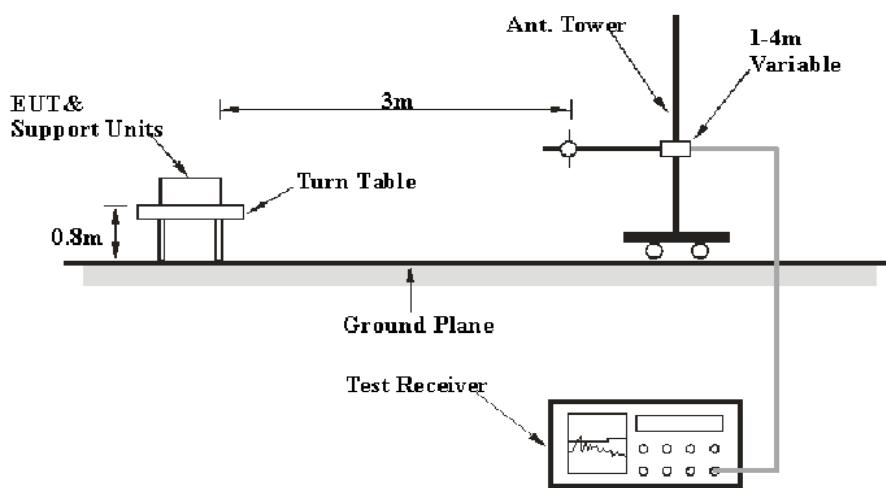
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1 GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz.

Factor & Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{Level} - \text{Limit} \\ \text{Level} &= \text{Read Level} + \text{Factor}\end{aligned}$$

Test Data

Environmental Conditions

Temperature:	19 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Chao Mo on 2022-02-25 for below 1GHz.

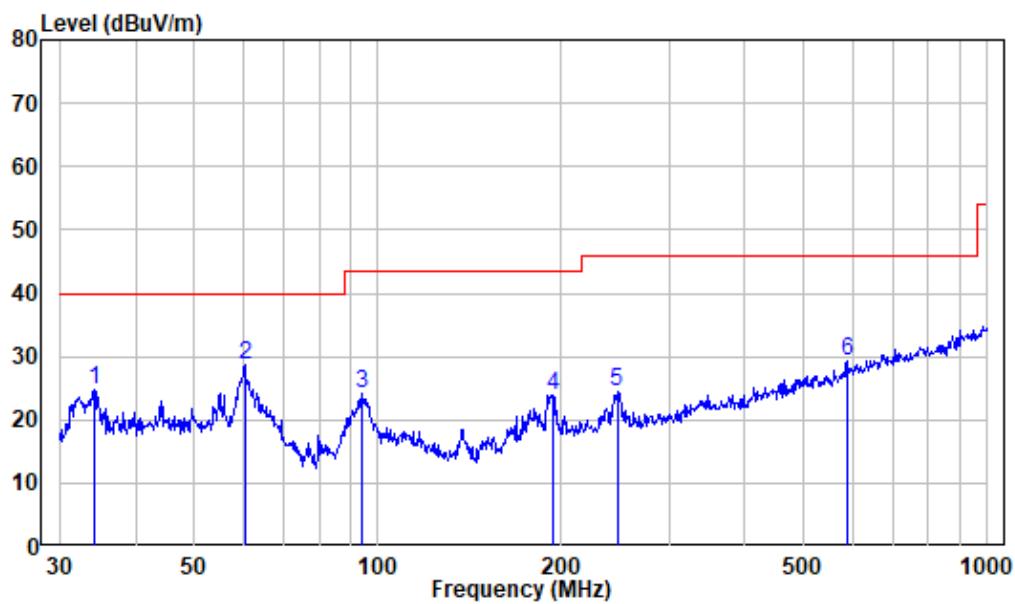
EUT operation mode: Transmitting (Pre-scan in the X, Y and Z axes of orientation, the worst case of X-axes orientation was recorded)

Note: for test data of above 1GHz, please refer to the original report: SZ1210813-34307E-RF-00C.

30MHz-1GHz: (Worst case is 802.11g, middle channel)

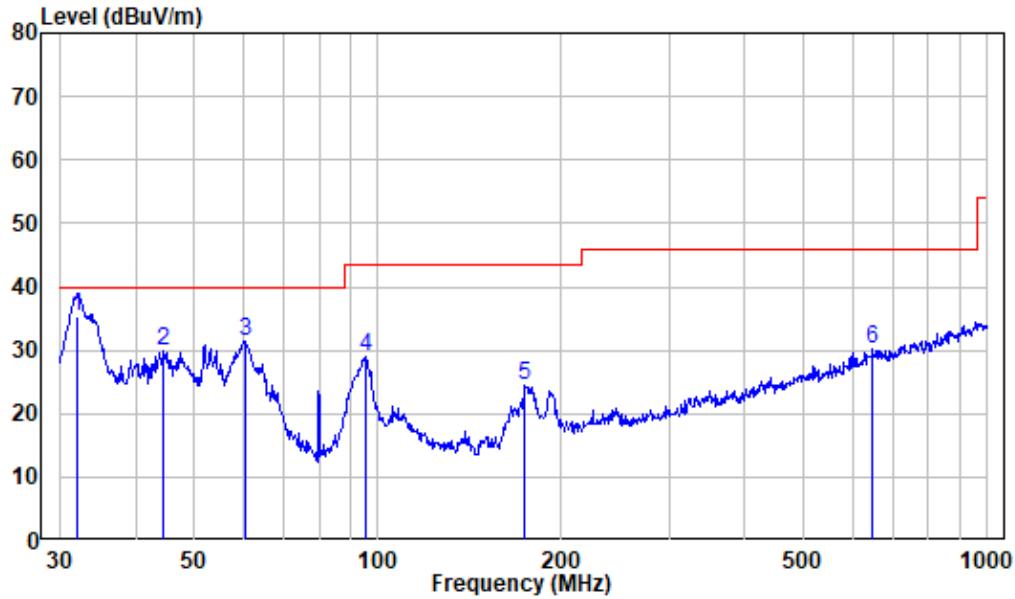
Note: When the test result of peak was less than the limit of QP more than 6dB, just peak value were recorded.

Horizontal:



Freq	Factor	Read	Limit	Over	Remark	
		Level	Level	Line		
1	34.276	-11.77	36.41	24.64	40.00	-15.36 Peak
2	60.492	-10.82	39.54	28.72	40.00	-11.28 Peak
3	94.428	-12.60	36.78	24.18	43.50	-19.32 Peak
4	193.773	-11.31	35.24	23.93	43.50	-19.57 Peak
5	246.815	-10.64	35.19	24.55	46.00	-21.45 Peak
6	588.905	-2.80	32.07	29.27	46.00	-16.73 Peak

Vertical



	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
1	32.067	-12.16	47.39	35.23	40.00	-4.77	QP
2	44.431	-9.91	39.68	29.77	40.00	-10.23	Peak
3	60.492	-10.82	42.27	31.45	40.00	-8.55	Peak
4	95.762	-12.35	41.24	28.89	43.50	-14.61	Peak
5	174.424	-13.16	37.59	24.43	43.50	-19.07	Peak
6	647.386	-1.81	31.94	30.13	46.00	-15.87	Peak

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