

LTE band IV - Low Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log  
(147.5/100)=4.5+1.7=6.2 dB



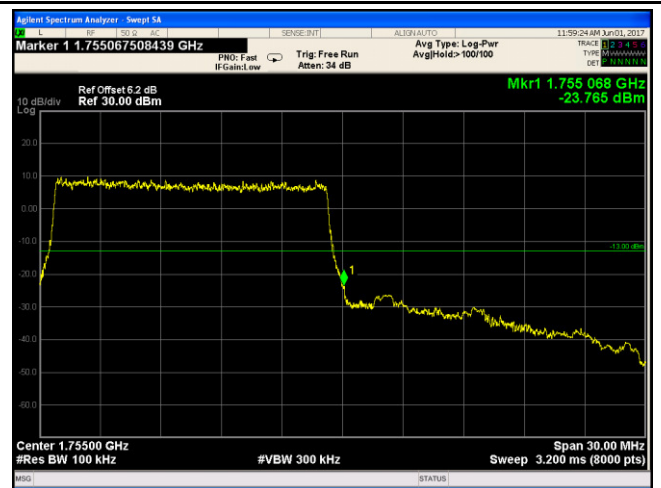
LTE band IV - High Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log  
(148/100)=4.5+1.7=6.2 dB



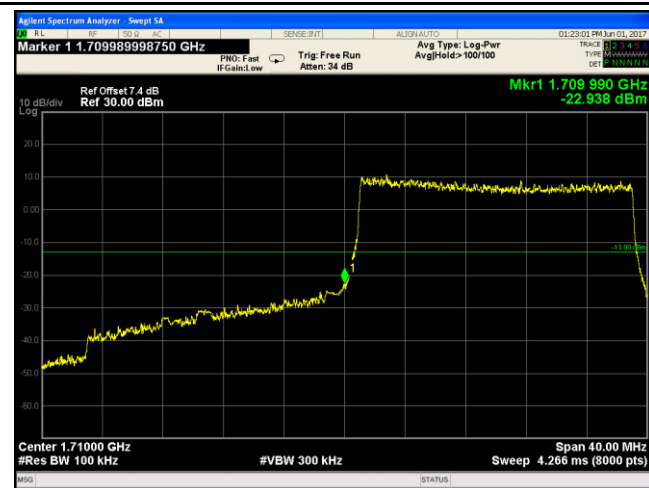
LTE band IV - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log  
(148.1/100)=4.5+1.7=6.2 dB

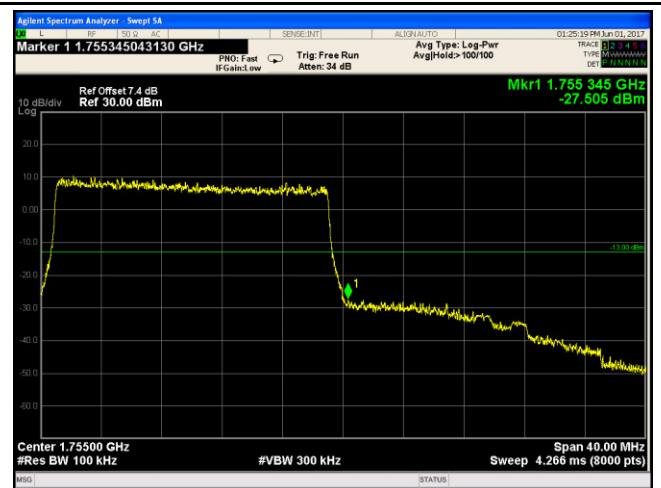


LTE band IV - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log  
(148.4/100)=4.5+1.7=6.2 dB

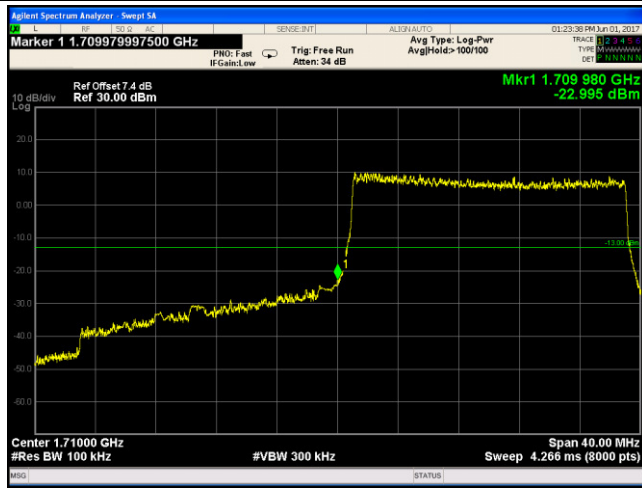


LTE band IV - Low Channel QPSK-20



LTE band IV - High Channel QPSK-20

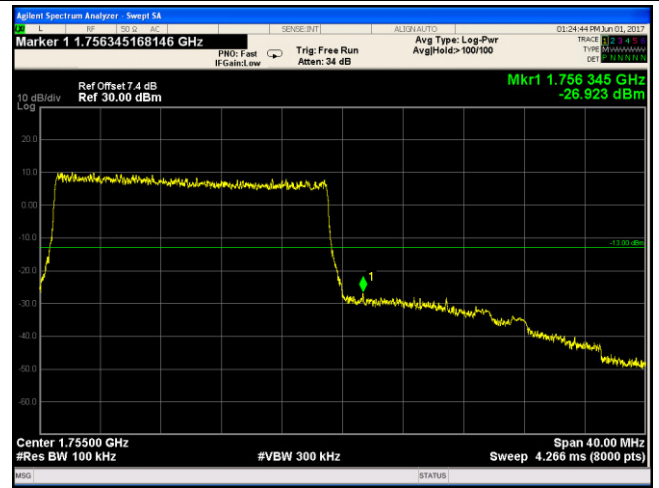
Note: Offset=Cable loss (4.5) + 10log  
(193.6/100)=4.5+2.9=7.4 dB



LTE band IV - Low Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log  
(194.6/100)=4.5+2.9=7.4dB

Note: Offset=Cable loss (4.5) + 10log  
(194.1/100)=4.5+2.9=7.4 dB



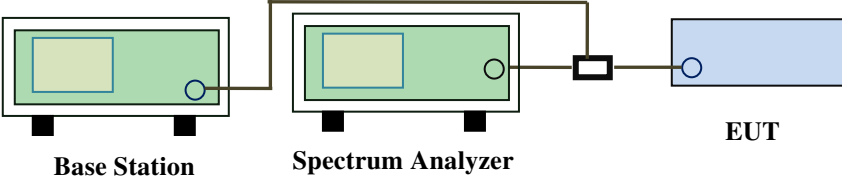
LTE band IV - High Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log  
(195.3/100)=4.5+2.9=7.4 dB

## 6.8 Band Edge 27.53(m)

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1002mbar
Test date :	June 01, 2017
Tested By :	Vera Zhang

### Requirement(s):

Spec	Requirement	Applicable
§27.53(m)	According to FCC 27.53(m)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power(P) by a factor shall be not less than $43+10\log(P)$ dB at the channel edge, the limit of emission equal to -13dBm. And $55+10\log(P)$ dB at 5.5MHz from the channel edges, the limit of emission equal to -25dBm. In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;">Base Station      Spectrum Analyzer      EUT</p>	
Test Procedure	<ul style="list-style-type: none"> <li>- The EUT was connected to Spectrum Analyzer and Base Station via power divider.</li> <li>- The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.</li> </ul>	
Remark		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

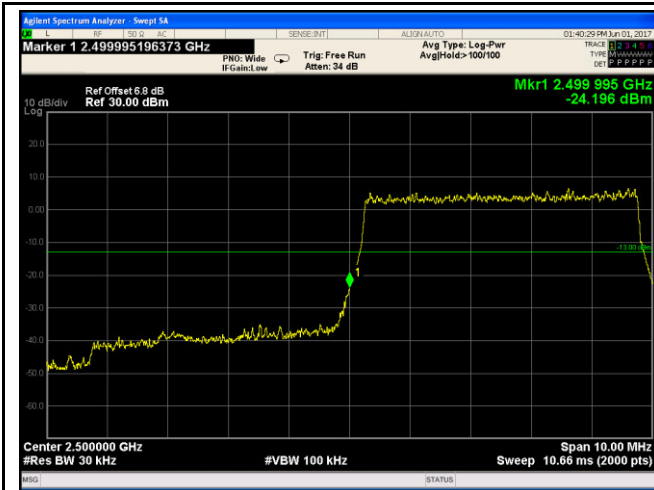
Test Data     Yes       N/A

Test Plot     Yes (See below)       N/A

**LTE band VII (Part 27) result**

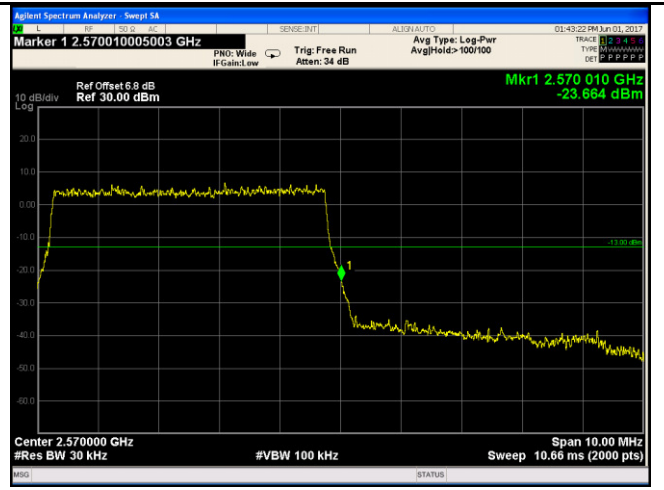
BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
5	20775	2500	QPSK	-24.196	-13
			16QAM	-24.202	-13
5	21425	2570	QPSK	-23.664	-13
			16QAM	-23.160	-13
10	20800	2500	QPSK	-24.916	-13
			16QAM	-22.922	-13
10	21400	2570	QPSK	-25.002	-13
			16QAM	-23.157	-13
15	20825	2500	QPSK	-25.383	-13
			16QAM	-25.892	-13
15	21400	2570	QPSK	-26.469	-13
			16QAM	-25.757	-13
20	20850	2500	QPSK	-26.838	-13
			16QAM	-26.866	-13
20	21350	2570	QPSK	-29.469	-13
			16QAM	-29.701	-13

### LTE band VII (Part 27)



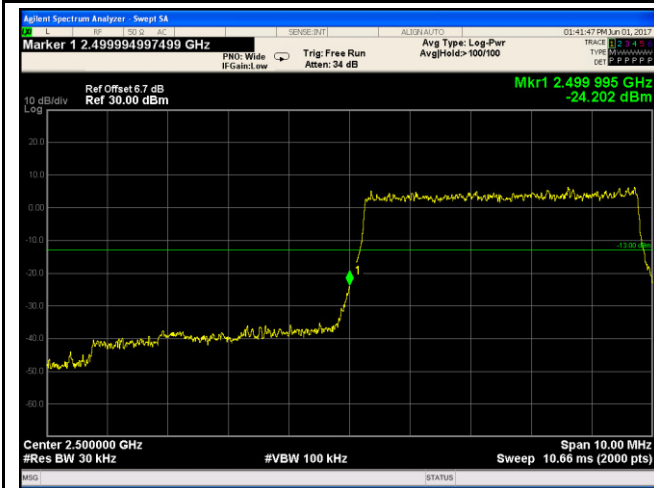
LTE band VII - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log  
 (50.39/30)=4.5+2.3=6.8 dB



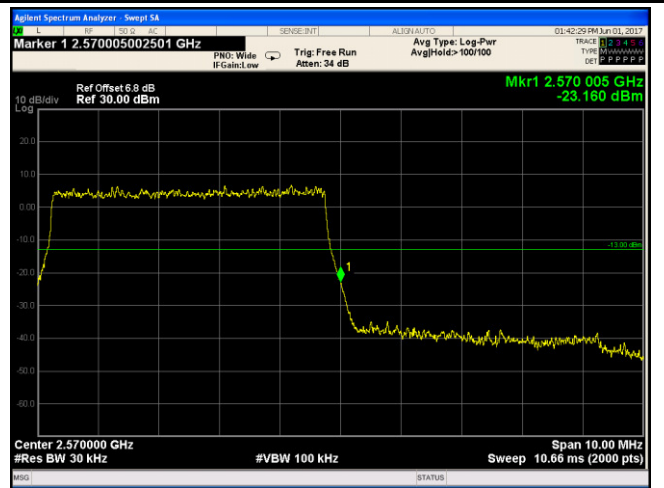
LTE band VII - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log  
 (50.48/30)=4.5+2.3=6.8 dB



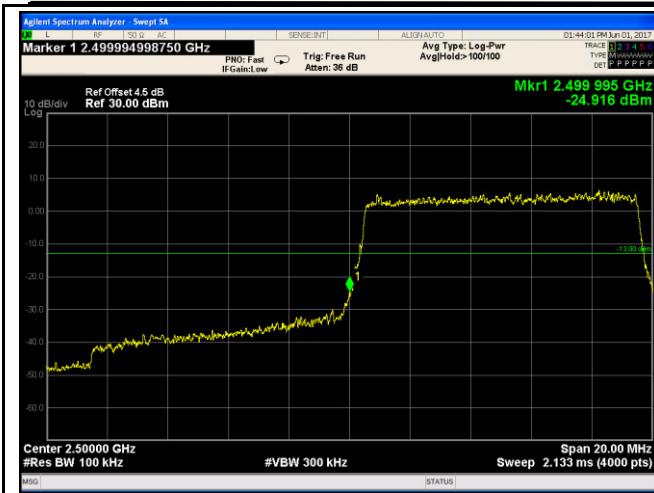
LTE band VII - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log  
 (50.34/30)=4.5+2.2=6.7 dB

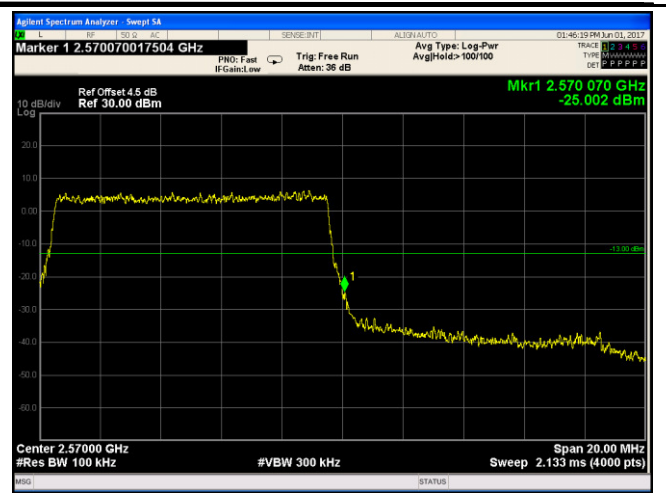


LTE band VII - High Channel 16QAM-5

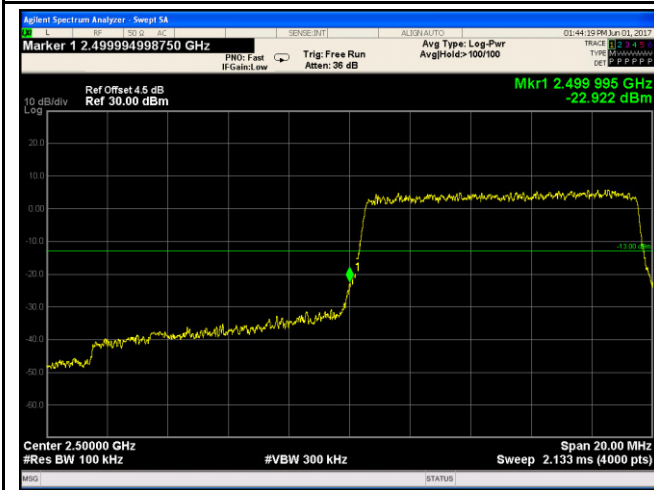
Note: Offset=Cable loss (4.5) + 10log  
 (50.40/30)=4.5+2.3=6.8 dB



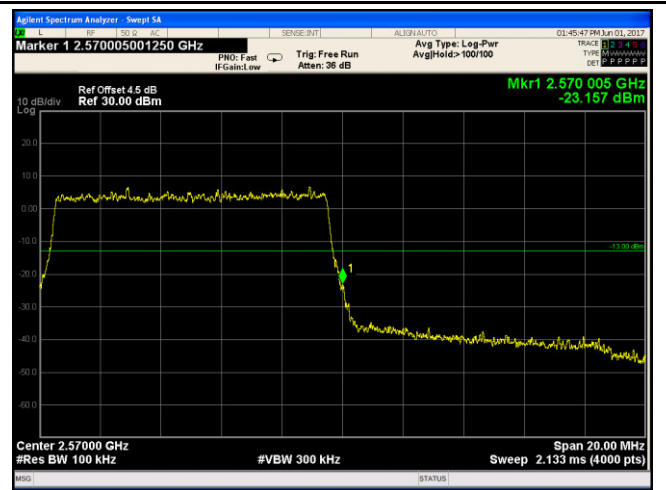
LTE band VII - Low Channel QPSK-10



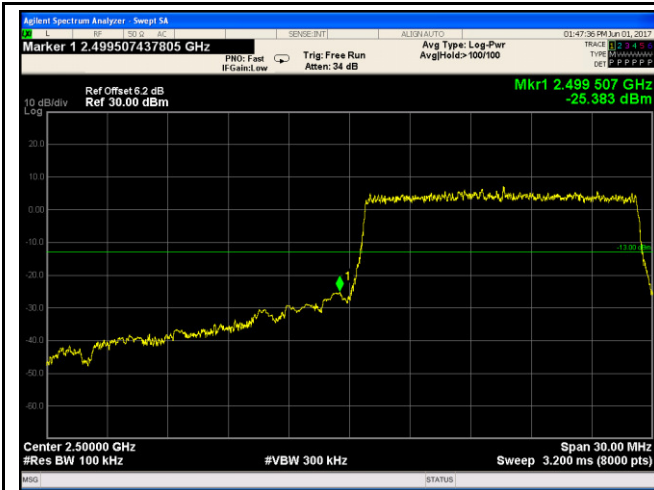
LTE band VII - High Channel QPSK-10



LTE band VII - Low Channel 16QAM-10

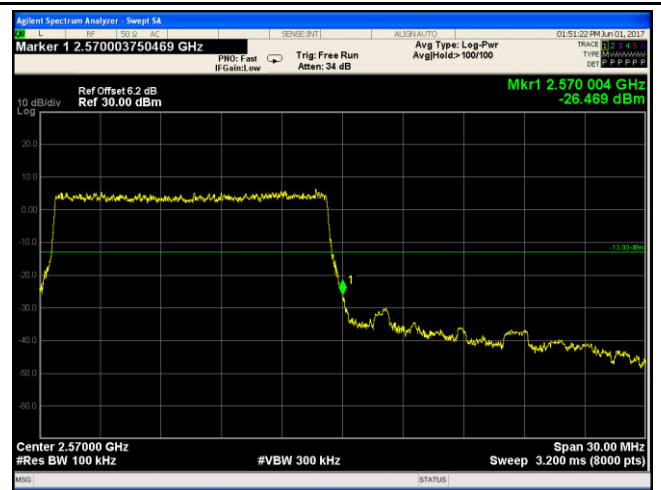


LTE band VII - High Channel 16QAM-10



LTE band VII - Low Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log  
(148.2/100)=4.5+1.7=6.2 dB



LTE band VII - High Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log  
(149.4/100)=4.5+1.7=6.2 dB



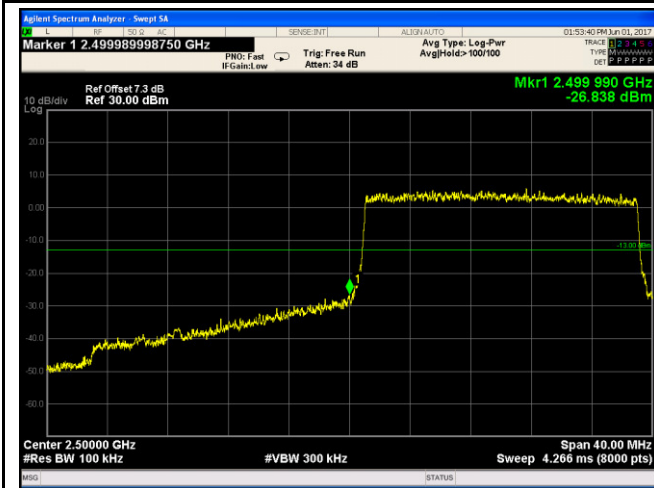
LTE band VII - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log  
(147.7/100)=4.5+1.7=6.2dB



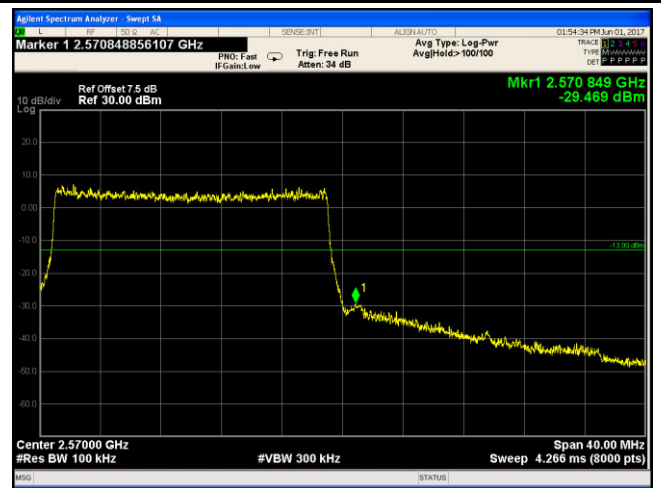
LTE band VII - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log  
(149.6/100)=4.5+1.7=6.2 dB



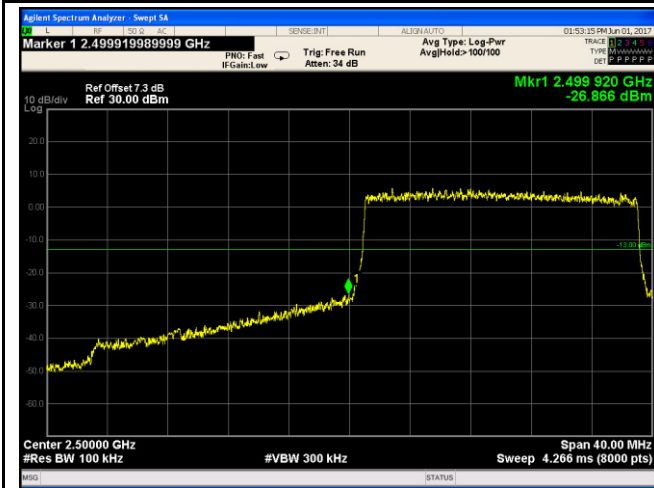
LTE band VII - Low Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log  
(192.1/100)=4.5+2.8=7.3 dB



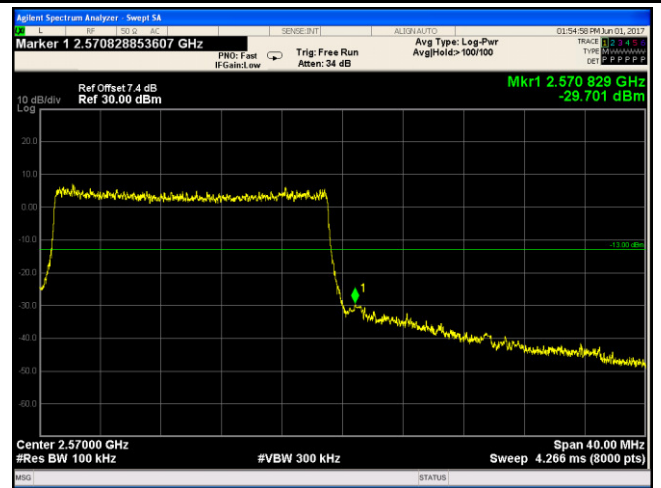
LTE band VII - High Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log  
(197.4/100)=4.5+3.0=7.5dB



LTE band VII - Low Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log  
(191.5/100)=4.5+2.8=7.3 dB



LTE band VII - High Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log  
(194.5/100)=4.5+2.9=7.4 dB

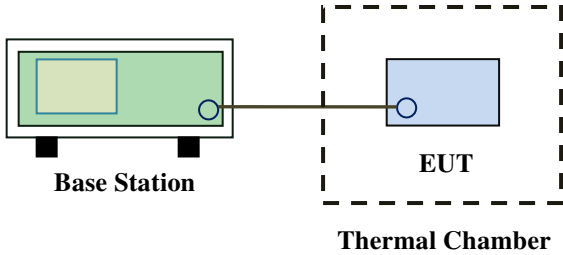


## 6.9 Frequency Stability

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1002mbar
Test date :	June 01, 2017
Tested By :	Vera Zhang

### Requirement(s):

Spec	Item	Requirement	Applicable																																
§2.1055, §22.355 & §24.235 § 27.5(h); § 27.54	a)	<p>According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:</p> <p>Frequency Tolerance for Transmitters in the Public Mobile Services</p> <table border="1"> <thead> <tr> <th>Frequency Range (MHz)</th> <th>Base, fixed (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> </tr> </thead> <tbody> <tr> <td>25 to 50</td> <td>20.0</td> <td>20.0</td> <td>50.0</td> </tr> <tr> <td>□□to 450</td> <td>5.0</td> <td>5.0</td> <td>50.0</td> </tr> <tr> <td>450 to 512</td> <td>2.5</td> <td>5.0</td> <td>5□0</td> </tr> <tr> <td>821 to 896</td> <td>1.5</td> <td>2.5</td> <td>2.5</td> </tr> <tr> <td>928 to 929.</td> <td>5.0</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>929 to 960.</td> <td>1.5</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>2110 to 2220</td> <td>10.0</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block.</p> <p>According to §27.54, The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.</p>	Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)	25 to 50	20.0	20.0	50.0	□□to 450	5.0	5.0	50.0	450 to 512	2.5	5.0	5□0	821 to 896	1.5	2.5	2.5	928 to 929.	5.0	N/A	N/A	929 to 960.	1.5	N/A	N/A	2110 to 2220	10.0	N/A	N/A	<input checked="" type="checkbox"/>
		Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)																														
		25 to 50	20.0	20.0	50.0																														
		□□to 450	5.0	5.0	50.0																														
		450 to 512	2.5	5.0	5□0																														
		821 to 896	1.5	2.5	2.5																														
		928 to 929.	5.0	N/A	N/A																														
		929 to 960.	1.5	N/A	N/A																														
		2110 to 2220	10.0	N/A	N/A																														

Test setup	 <p>The diagram illustrates the test setup. On the left, a green rectangular box labeled 'Base Station' is shown. A horizontal line connects it to a blue rectangular box labeled 'EUT' (Equipment Under Test) located inside a dashed-line rectangular box labeled 'Thermal Chamber'.</p>
Procedure	<p>A communication link was established between EUT and base station. The frequency error was monitored and measured by base station under variation of ambient temperature and variation of primary supply voltage.</p> <p>Limit: The frequency stability of the transmitter shall be maintained within <math>\pm 0.00025\%</math> (<math>\pm 2.5\text{ppm}</math>) of the center frequency.</p>
Remark	<p>Frequency Stability versus Temperature: The Frequency tolerance of the carrier signal shall be maintained within 2.5ppm of the operating frequency over a temperature variation of <math>-10^{\circ}\text{C}</math> to <math>+55^{\circ}\text{C}</math> at normal supply voltage.</p>
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data     Yes                       N/A

Test Plot     Yes (See below)             N/A

### LTE band II (Part 24E) result

Middle Channel, $f_0 = 1880$ MHz				
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.85	-8	0.0043	2.5
0		-9	0.0048	2.5
10		-7	0.0037	2.5
20		-14	0.0074	2.5
30		-8	0.0043	2.5
40		-5	0.0027	2.5
50		-12	0.0064	2.5
55		-15	0.0080	2.5
25		4.4	-9	0.0048
	3.6	-11	0.0059	2.5

### LTE band IV (Part 27) result

Middle Channel, $f_0 = 1732.5$ MHz				
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.85	-11	0.0063	2.5
0		-14	0.0081	2.5
10		-12	0.0069	2.5
20		11	0.0063	2.5
30		-8	0.0046	2.5
40		-8	0.0046	2.5
50		-9	0.0052	2.5
55		-13	0.0075	2.5
25		4.4	-9	0.0052
	3.6	-10	0.0058	2.5

**LTE band VII (Part 27) result**

Middle Channel, $f_0 = 2535$ MHz				
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.85	-10	0.0039	2.5
0		-12	0.0047	2.5
10		-14	0.0055	2.5
20		-9	0.0036	2.5
30		-11	0.0043	2.5
40		-10	0.0039	2.5
50		-5	0.0020	2.5
55		-15	0.0059	2.5
25		4.4	-4	0.0016
	3.6	-6	0.0024	2.5

## Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
<b>RF Conducted Test</b>					
Agilent ESA-E SERIES SPECTRUM ANALYZER	E4407B	MY45108319	09/15/2016	09/14/2017	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
Temperature/Humidity Chamber	UHL-270	001	10/08/2016	10/07/2017	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
RF Power Sensor	Dare RPR3006C/P/W	AY554013	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
<b>Radiated Emissions</b>					
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/24/2016	03/23/2017	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~2GHz)	JB1	A112017	09/20/2016	09/19/2017	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71259	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
SYNTHESIZED SIGNAL GENERATOR	8665B	3744A01293	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Power Amplifier	SMC150D	R1553-0313	03/08/2017	03/07/2018	<input checked="" type="checkbox"/>
Power Amplifier	S41-25D	R1553-0314	05/27/2016	05/26/2017	<input checked="" type="checkbox"/>
Tunable Notch Filter	3NF-800/1000-S	AA4	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>



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Tunable Notch Filter	3NF- 1000/2000-S	AM 4	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
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**Annex B. EUT And Test Setup Photographs**

**Annex B.i. Photograph: EUT External Photo**

Whole Package View



Adapter - Label View



EUT - Front View

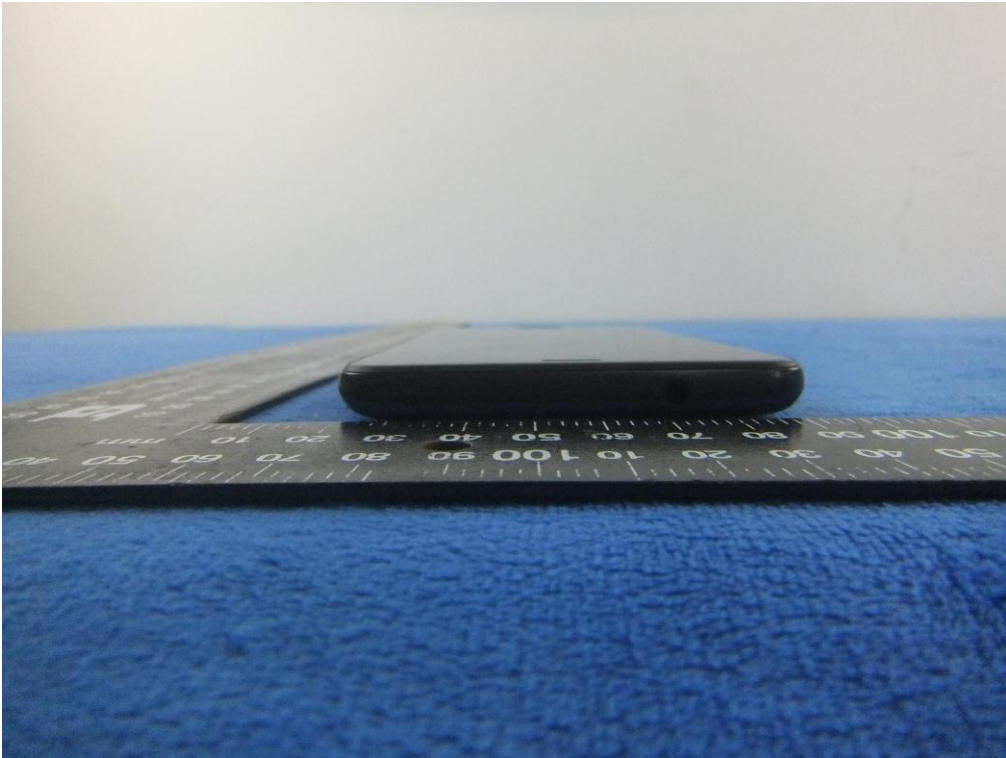


EUT - Rear View

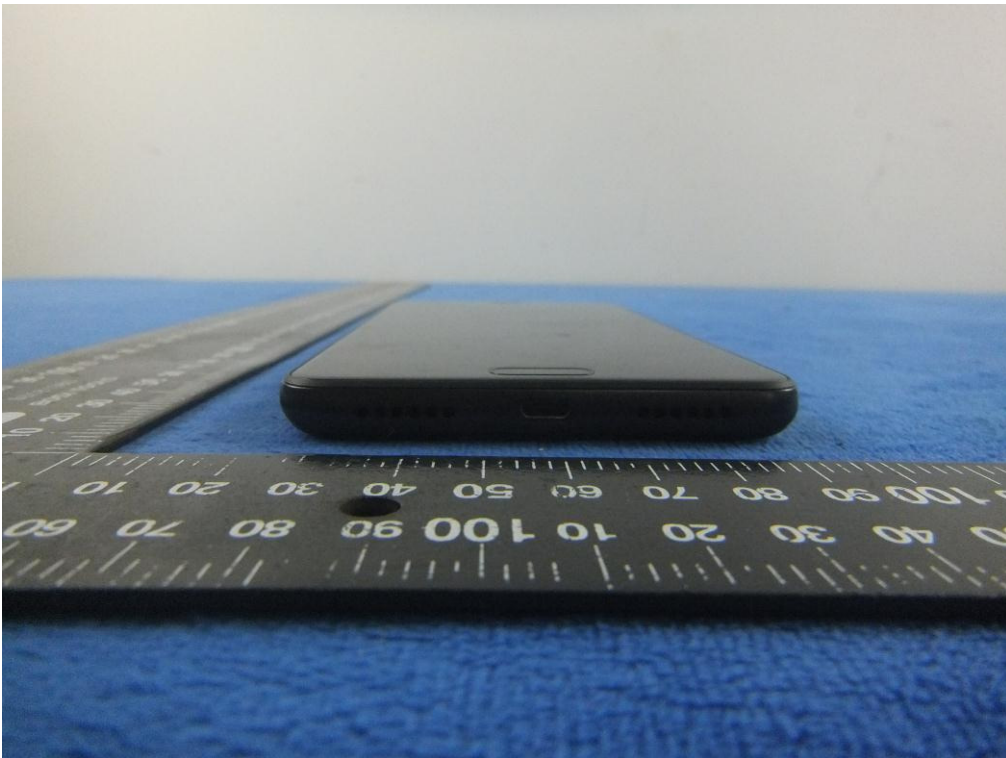




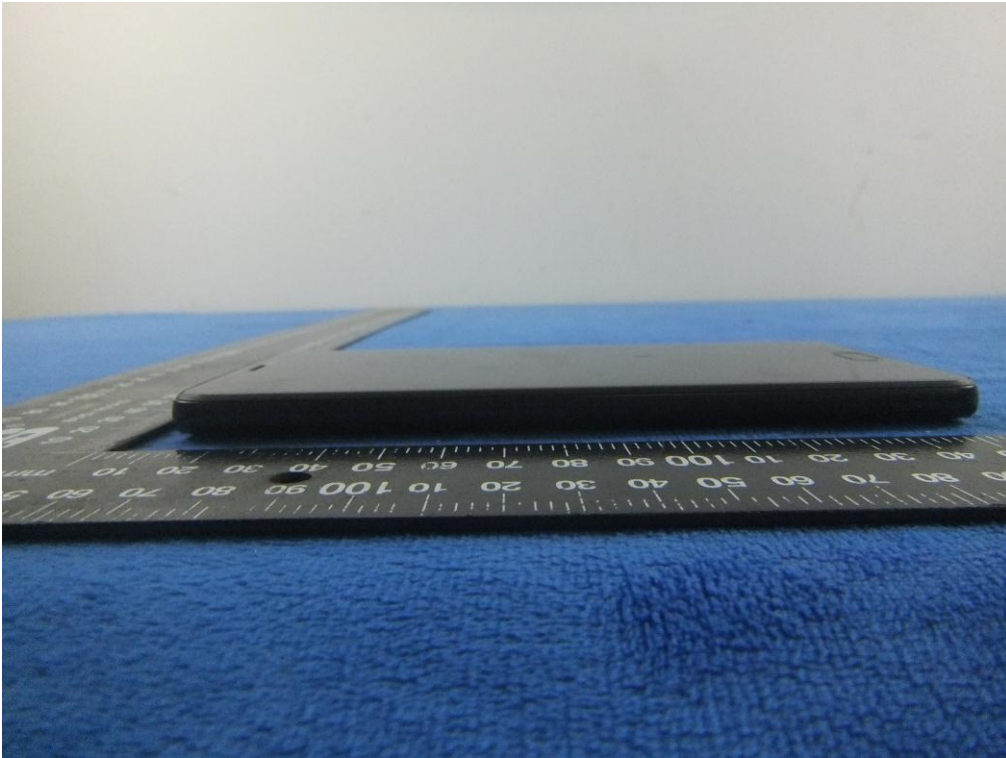
EUT - Top View



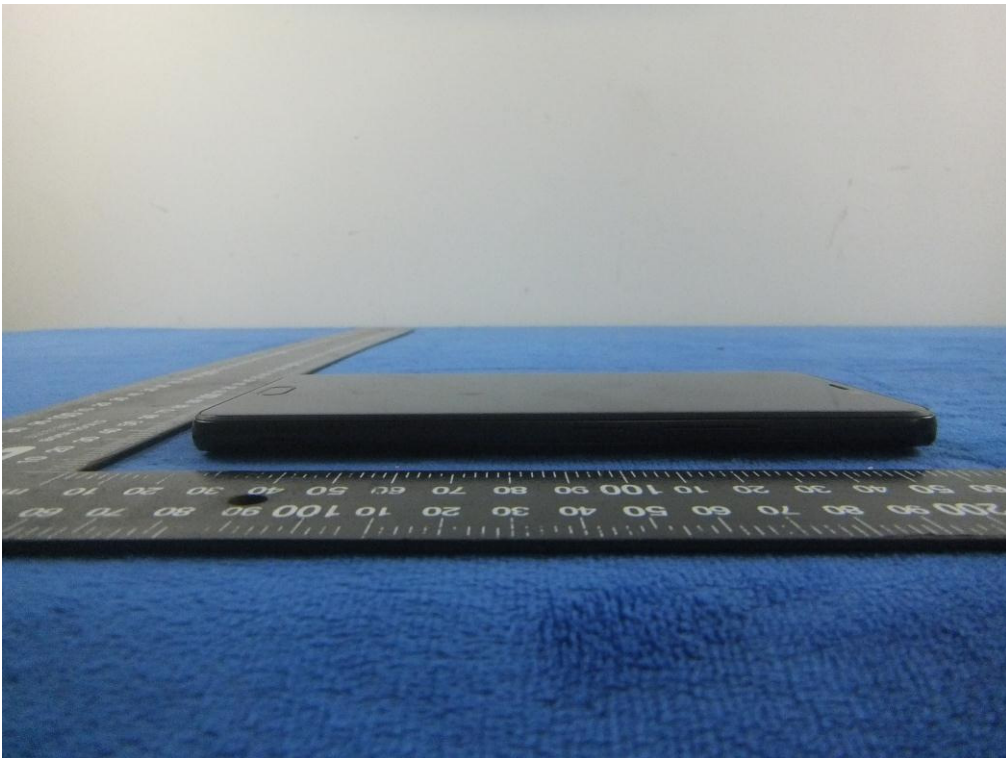
EUT - Bottom View



EUT - Left View



EUT - Right View



**Annex B.ii. Photograph: EUT Internal Photo**

Cover Off - Top View 1



Cover Off - Top View 2



Battery - Front View

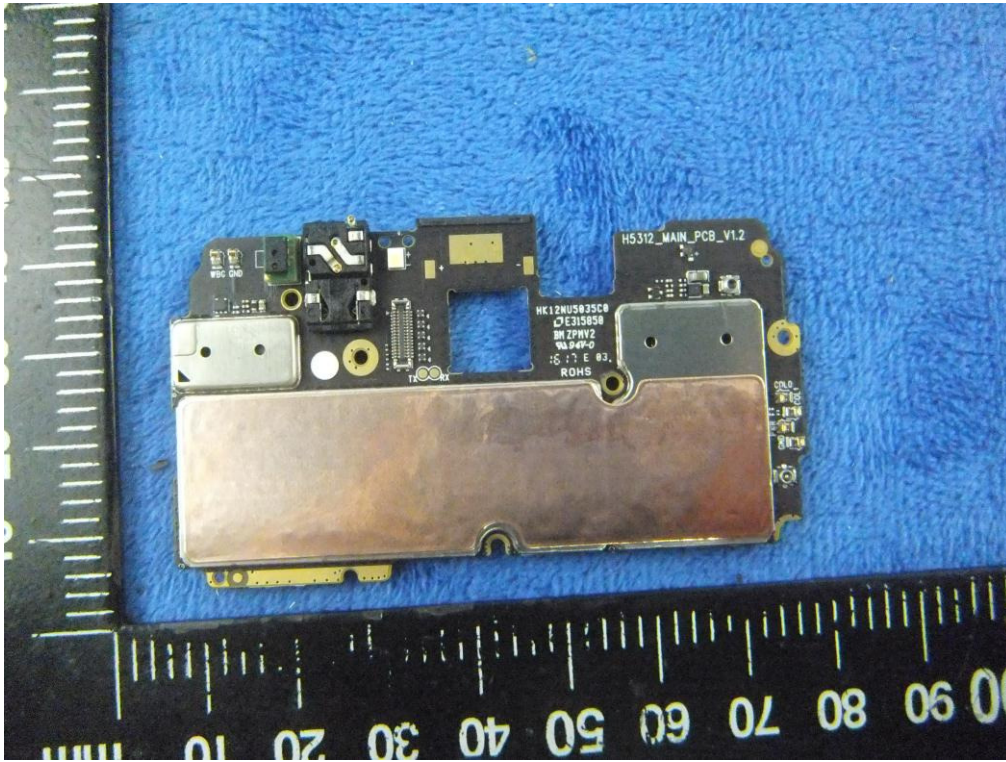


Battery - Rear View

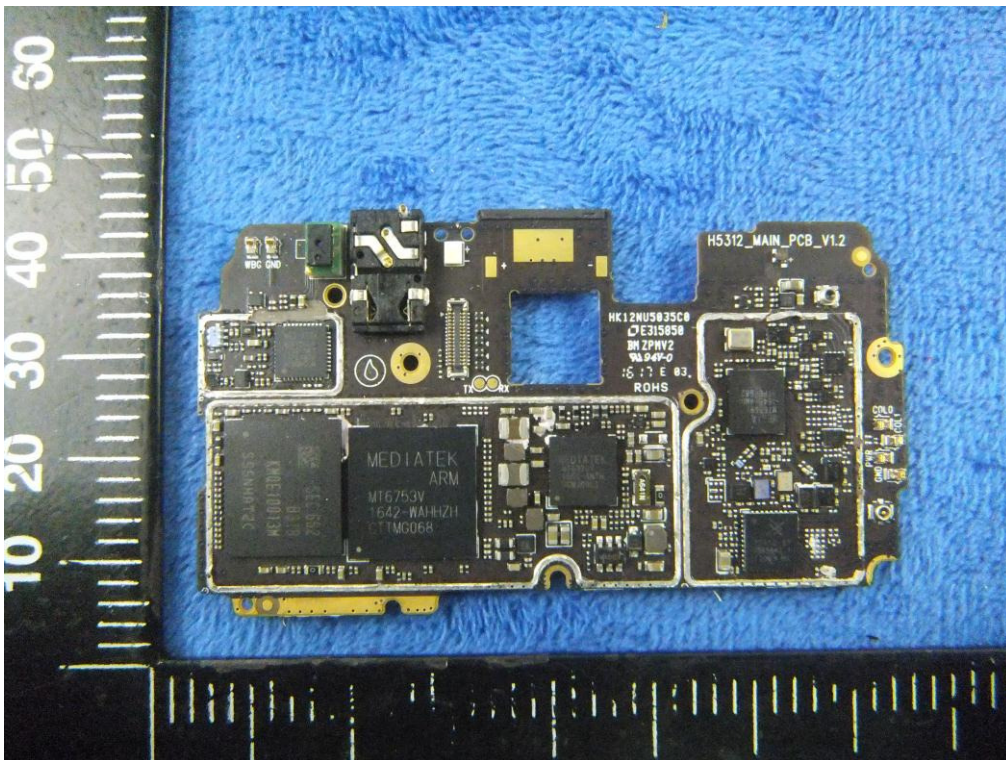




Mainboard with Shielding – Rear View



Mainboard without Shielding – Rear View



LCD – Front View



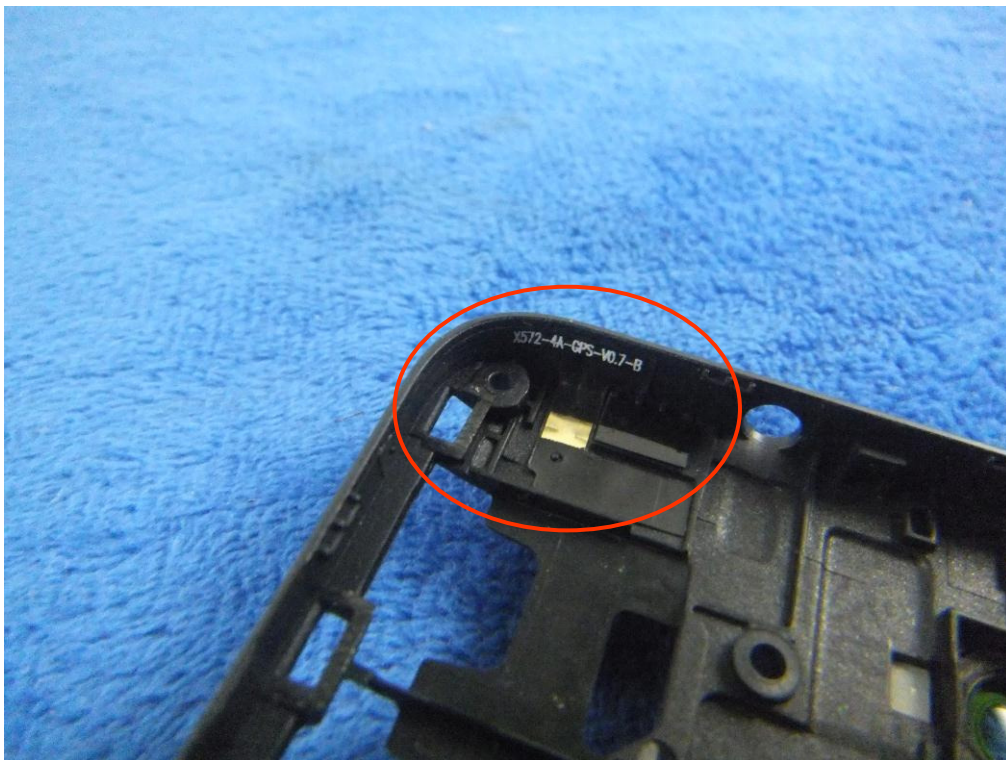
LCD – Rear View



GSM/PCS/UMTS-FDD Antenna View

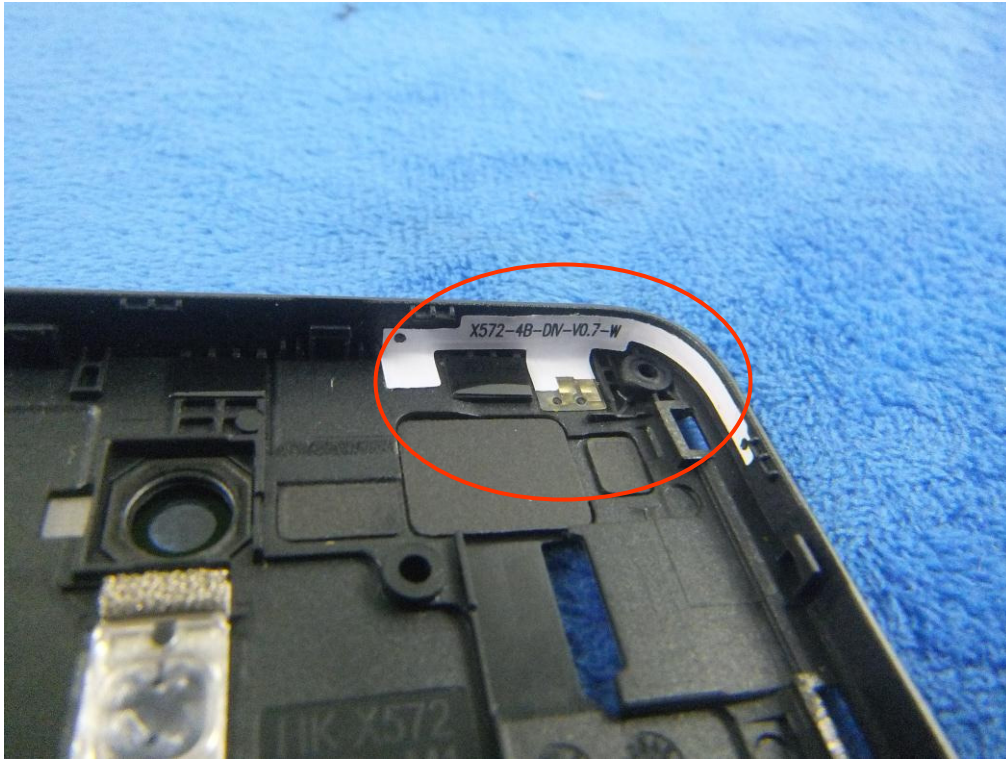


WIFI/BT/BLE - Antenna View

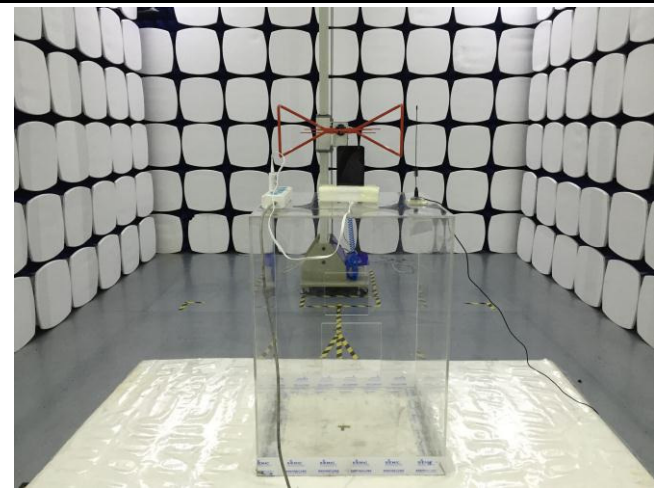




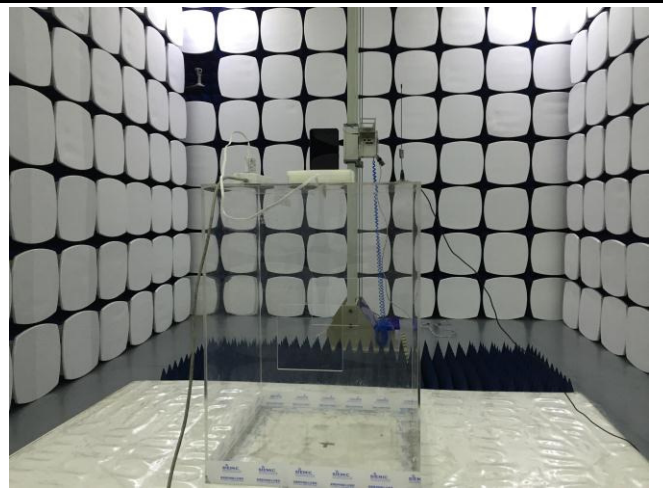
LTE - Antenna View



**Annex B.iii. Photograph: Test Setup Photo**



Radiated Spurious Emissions Test Setup Below 1GHz

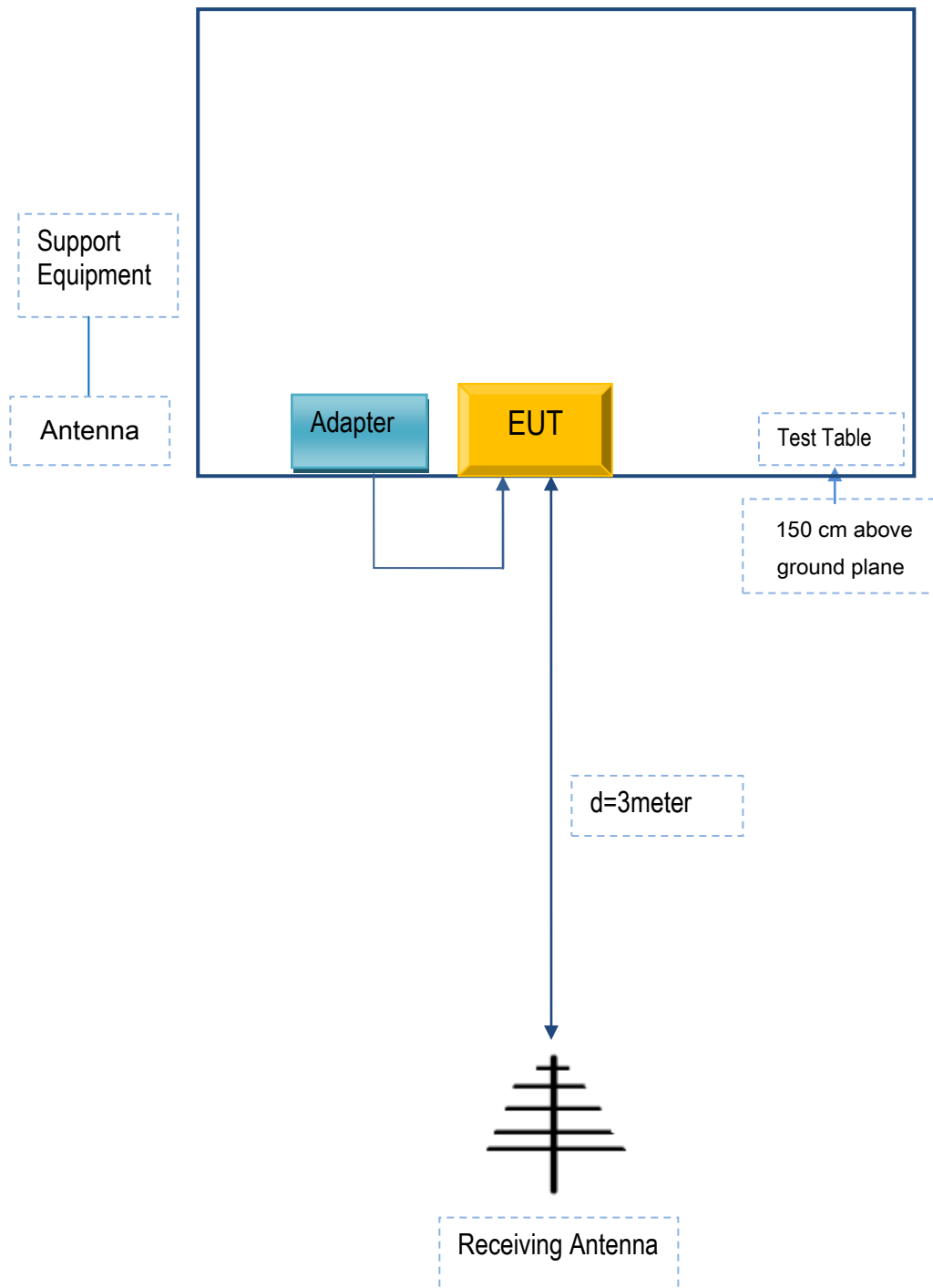


Radiated Spurious Emissions Test Setup Above  
1GHz

## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

### Annex C.ii. TEST SET UP BLOCK

#### Block Configuration Diagram for Radiated Emissions



## **Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION**

The following is a description of supporting equipment and details of cables used with the EUT.

### **Supporting Equipment:**

<b>Manufacturer</b>	<b>Equipment Description</b>	<b>Model</b>	<b>Serial No</b>
INFINIX MOBILITY LIMITED	Adapter	CQ-18KX	Z20160348

### **Supporting Cable:**

<b>Cable type</b>	<b>Shield Type</b>	<b>Ferrite Core</b>	<b>Length</b>	<b>Serial No</b>
USB Cable	Un-shielding	No	0.8m	Z20160348

## Annex C.ii. EUT OPERATING CONKITIONS

N/A

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**Annex D. User Manual / Block Diagram / Schematics / Partlist**

N/A

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## Annex E. DECLARATION OF SIMILARITY

N/A