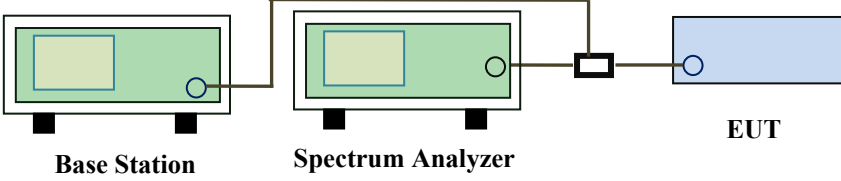


6.8 Band Edge

Temperature	25°C
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	August 24, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.	☒
Test setup	 The diagram illustrates the test setup. On the left is a green box labeled 'Base Station'. A line connects it to a green box labeled 'Spectrum Analyzer'. From the Spectrum Analyzer, a line goes through a small black box (power divider) and then to a blue box labeled 'EUT'.		
Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band 2 (Part 24E) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	18607	1850.7	16QAM	-23.358	-13
			QPSK	-22.687	-13
1.4	18900	1909.3	16QAM	-23.741	-13
			QPSK	-25.330	-13
3	18615	1851.5	16QAM	-21.843	-13
			QPSK	-19.463	-13
3	19185	1908.5	16QAM	-23.094	-13
			QPSK	-22.774	-13
5	18625	1852.5	16QAM	-18.591	-13
			QPSK	-17.022	-13
5	19175	1907.5	16QAM	-21.284	-13
			QPSK	-20.952	-13
10	18650	1855	16QAM	-20.549	-13
			QPSK	-18.401	-13
10	19150	1905	16QAM	-22.949	-13
			QPSK	-20.269	-13
15	18675	1857.5	16QAM	-20.987	-13
			QPSK	-18.867	-13
15	19125	1902.5	16QAM	-23.229	-13
			QPSK	-21.159	-13
20	18700	1860	16QAM	-22.422	-13
			QPSK	-21.795	-13
20	19100	1900	16QAM	-26.027	-13
			QPSK	-25.005	-13

LTE Band 4 (Part 27) result

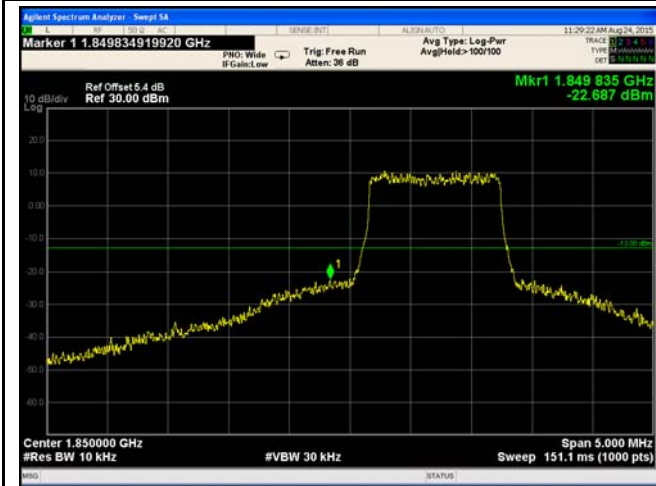
BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	19957	1710.7	16QAM	-36.760	-13
			QPSK	-5.017	-13
1.4	20393	1754.3	16QAM	-32.551	-13
			QPSK	-33.052	-13
3	19965	1711.5	16QAM	-20.887	-13
			QPSK	-20.247	-13
3	20385	1753.5	16QAM	-22.134	-13
			QPSK	-22.437	-13
5	19975	1712.5	16QAM	-19.947	-13
			QPSK	-17.757	-13
5	20375	1752.5	16QAM	-19.752	-13
			QPSK	-18.468	-13
10	20000	1715	16QAM	-21.973	-13
			QPSK	-19.605	-13
10	20350	1750	16QAM	-21.769	-13
			QPSK	-20.274	-13
15	20025	1717.5	16QAM	-23.789	-13
			QPSK	-21.682	-13
15	20325	1747.5	16QAM	-24.873	-13
			QPSK	-22.951	-13
20	20050	1720	16QAM	-25.884	-13
			QPSK	-25.991	-13
20	20300	1745	16QAM	-27.482	-13
			QPSK	-27.603	-13

LTE Band 12 (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	23017	699.7	16QAM	-20.214	-13
			QPSK	-18.126	-13
1.4	23173	715.3	16QAM	-24.532	-13
			QPSK	-23.219	-13
3	23025	700.5	16QAM	-21.445	-13
			QPSK	-18.121	-13
3	23165	714.5	16QAM	-21.582	-13
			QPSK	-18.884	-13
5	23035	701.5	16QAM	-18.117	-13
			QPSK	-18.099	-13
5	23155	713.5	16QAM	-19.339	-13
			QPSK	-19.392	-13
10	23060	704	16QAM	-18.789	-13
			QPSK	-16.742	-13
10	23130	711	16QAM	-18.852	-13
			QPSK	-18.840	-13

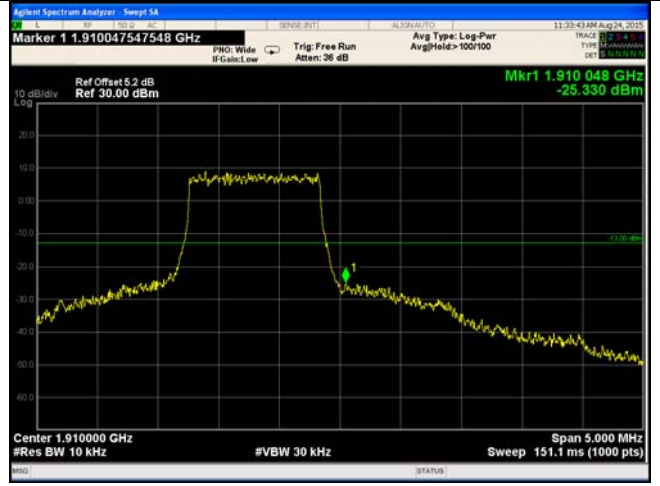
Test Plots

LTE Band 2 (Part 24E)



LTE Band 2 - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.90/10)=4.0+1.4=5.4 dB



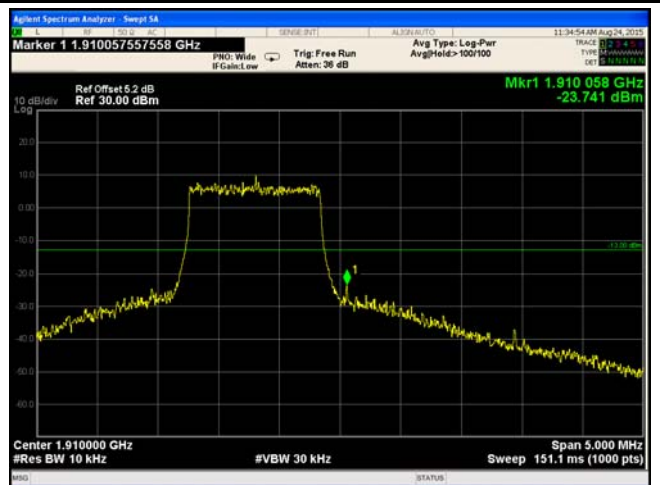
LTE Band 2 - High Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.26/10)=4.0+1.2=5.2 dB



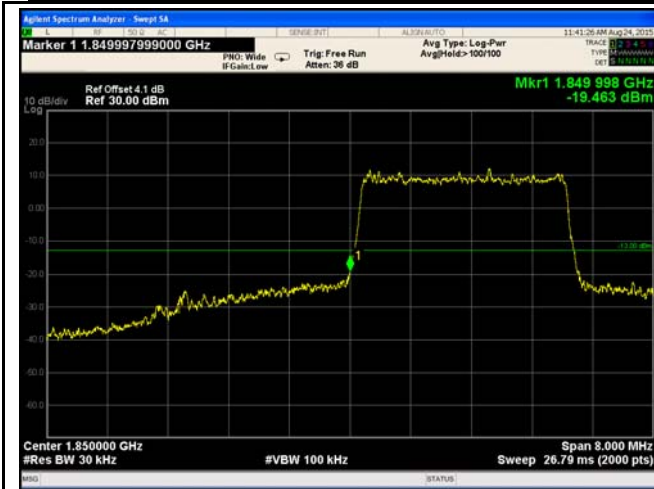
LTE Band 2 - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(14.96/10)=4.0+1.7=5.7 dB



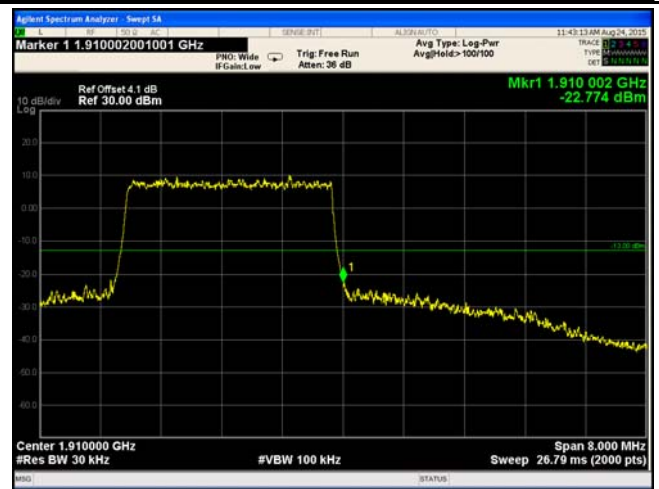
LTE Band 2 - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.14/10)=4.0+1.2=5.2 dB



LTE Band 2 - Low Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(30.79/30)=4.0+0.1=4.1 dB



LTE Band 2 - High Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(30.66/30)=4.0+0.1=4.1 dB



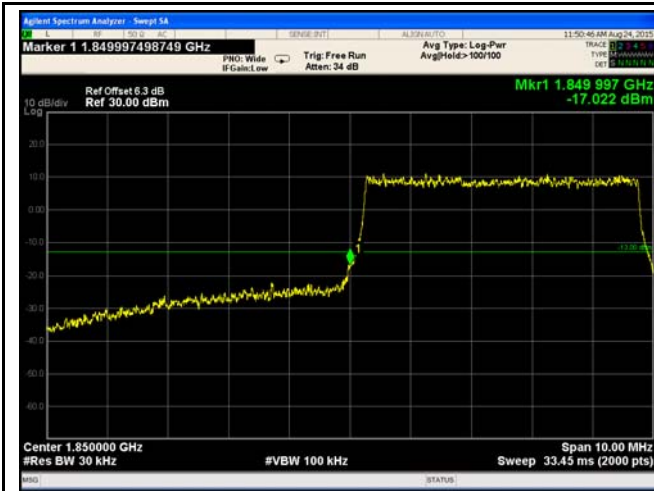
LTE Band 2 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(31.13/30)=4.0+0.2=4.2 dB



LTE Band 2 - High Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(30.66/30)=4.0+0.1=4.1 dB



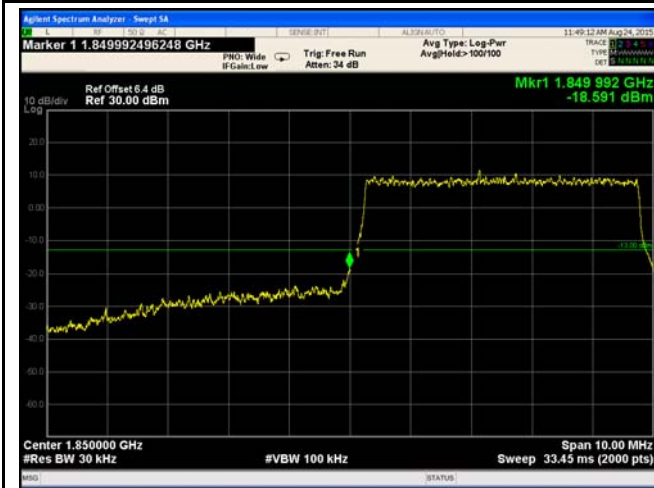
LTE Band 2 - Low Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(51.52/30)=4.0+2.3=6.3 dB



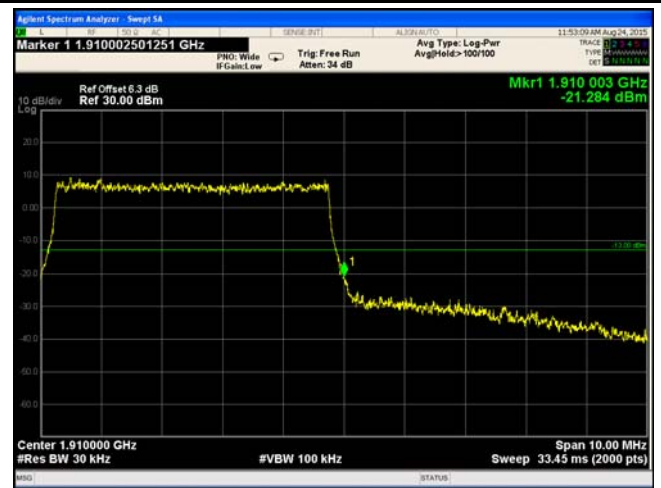
LTE Band 2 - High Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(50.82/30)=4.0+2.3=6.3 dB



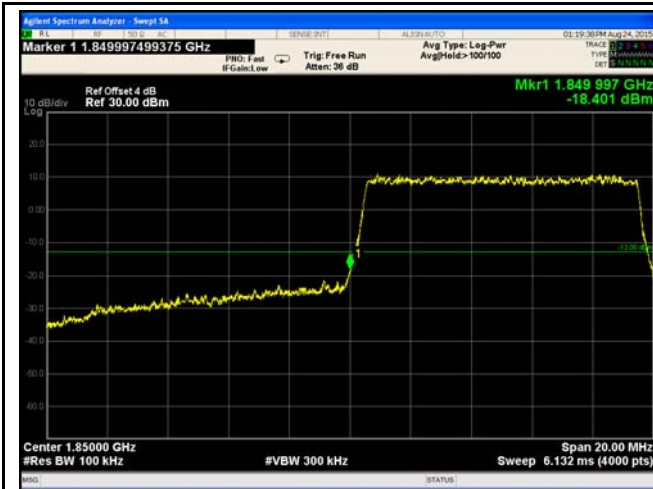
LTE Band 2 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.0) + 10log
(51.64/30)=4.0+2.4=6.4 dB

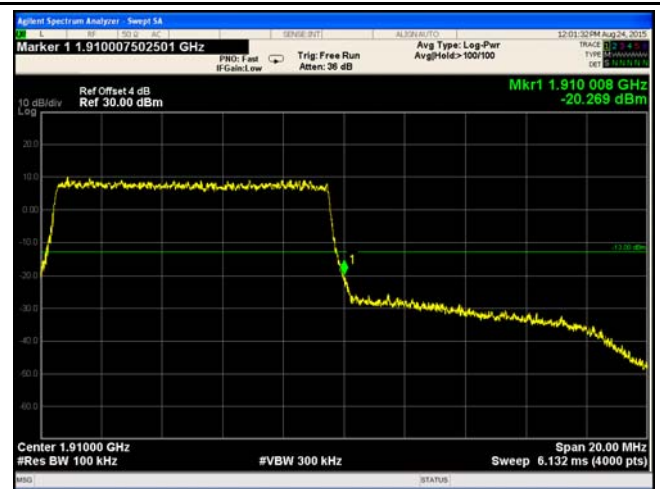


LTE Band 2 - High Channel 16QAM-5

Note: Offset=Cable loss (4.0) + 10log
(51.04/30)=4.0+2.3=6.3 dB



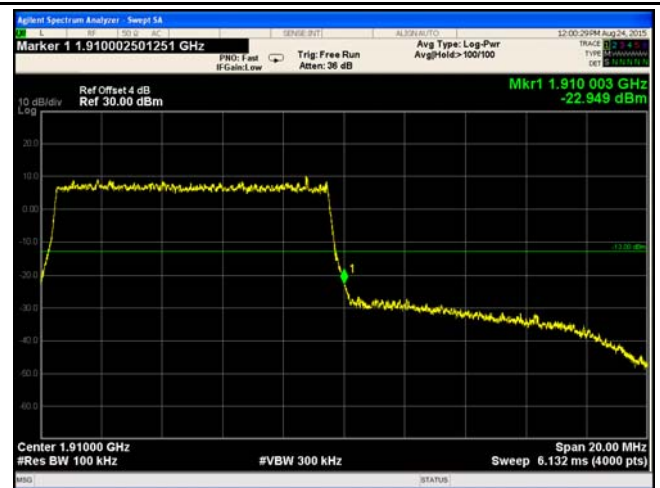
LTE Band 2 - Low Channel QPSK-10



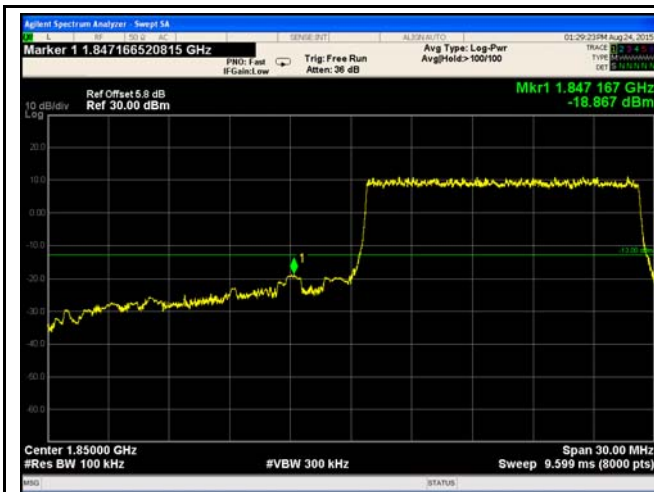
LTE Band 2 - High Channel QPSK-10



LTE Band 2 - Low Channel 16QAM-10



LTE Band 2 - High Channel 16QAM-10



LTE Band 2 - Low Channel QPSK-15

Note: Offset=Cable loss (4.0) + 10log
(151.8/100)=4.0+1.8=5.8 dB



LTE Band 2 - High Channel QPSK-15

Note: Offset=Cable loss (4.0) + 10log
(149.8/100)=4.0+1.8=5.8 dB



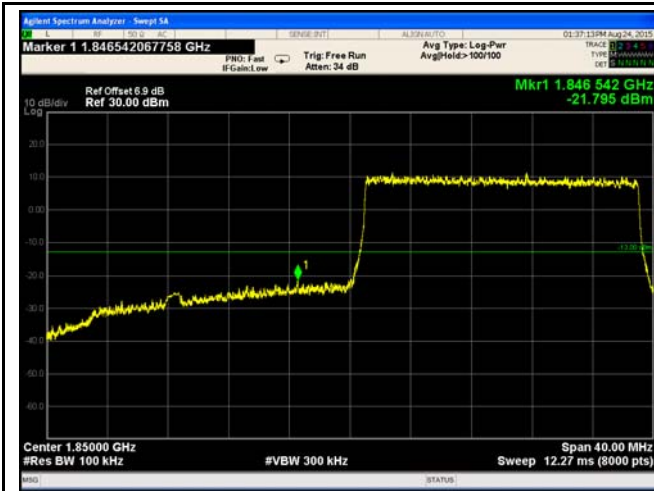
LTE Band 2 - Low Channel 16QAM-15

Note: Offset=Cable loss (4.0) + 10log
(100.1/100)=4.0+1.8=5.8 dB



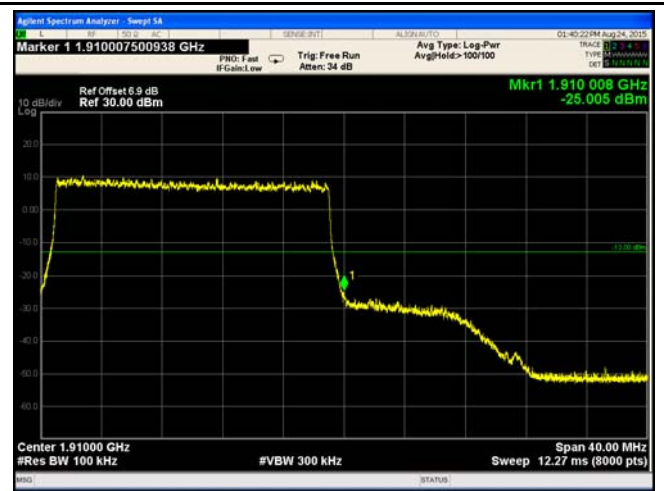
LTE Band 2 - High Channel 16QAM-15

Note: Offset=Cable loss (4.0) + 10log
(149.3/100)=4.0+1.7=5.7 dB



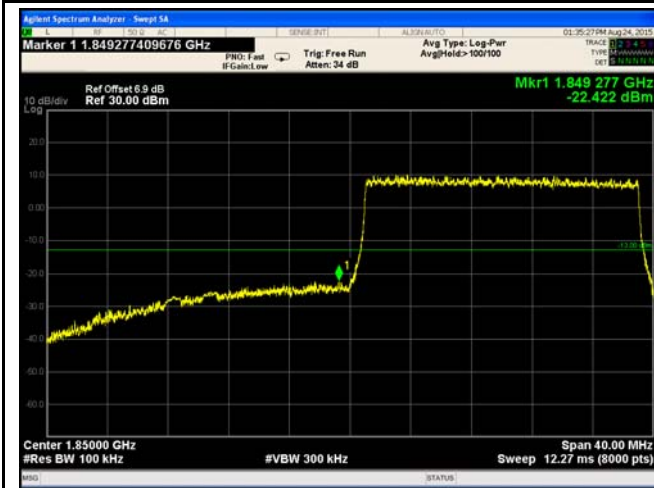
LTE Band 2 - Low Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(194.4/100)=4.0+2.9=6.9dB



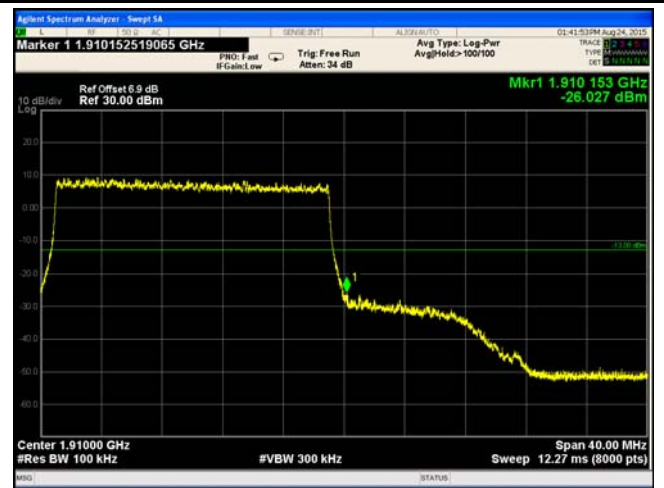
LTE Band 2 - High Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(196.7/100)=4.0+2.9=6.9 dB



LTE Band 2 - Low Channel 16QAM-20

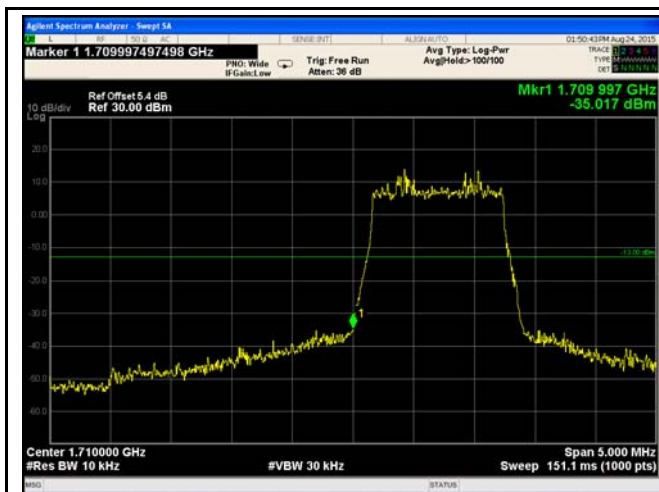
Note: Offset=Cable loss (4.0) + 10log
(195.3/100)=4.0+2.9=6.9 dB



LTE Band 2 - High Channel 16QAM-20

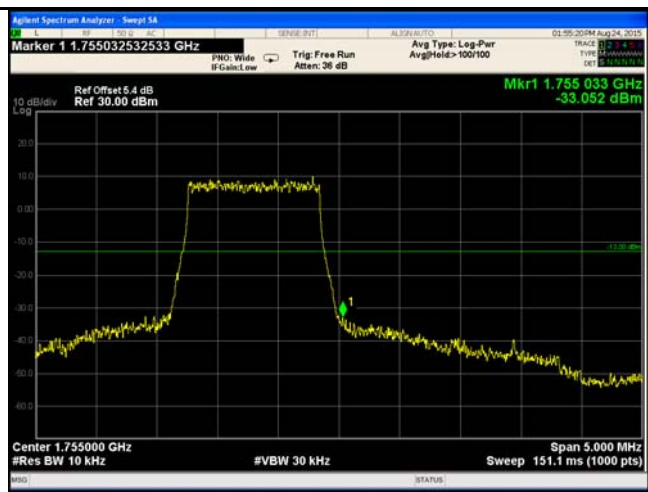
Note: Offset=Cable loss (4.0) + 10log
(195.7/100)=4.0+2.9=6.9 dB

LTE Band 4 (Part 27)



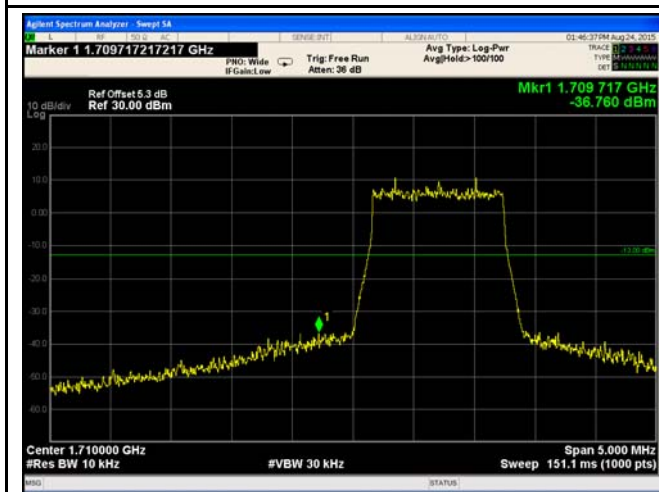
LTE Band 4 - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.77/10)=4.0+1.4=5.4 dB



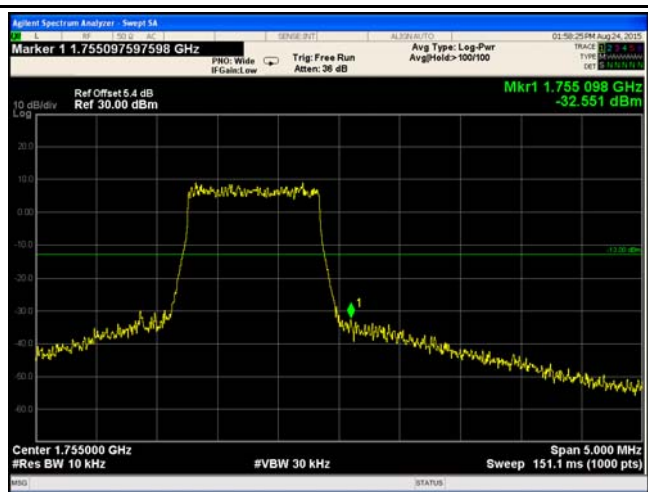
LTE Band 4 - High Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.70/10)=4.0+1.4=5.4 dB



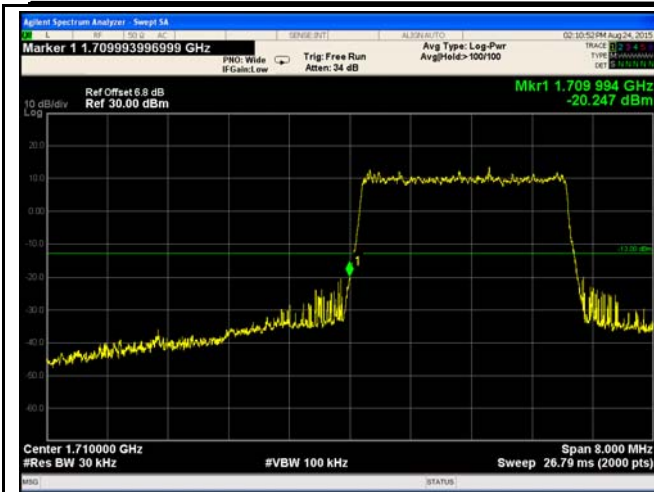
LTE Band 4 - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.52/10)=4.0+1.3=5.3 dB



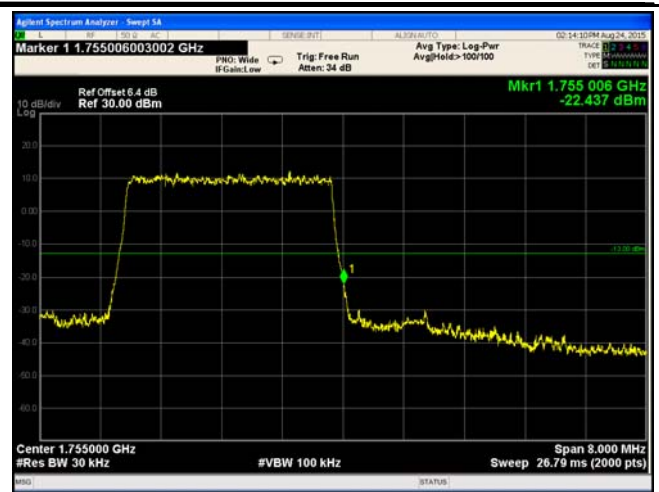
LTE Band 4 - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(13.79/10)=4.0+1.4=5.4 dB



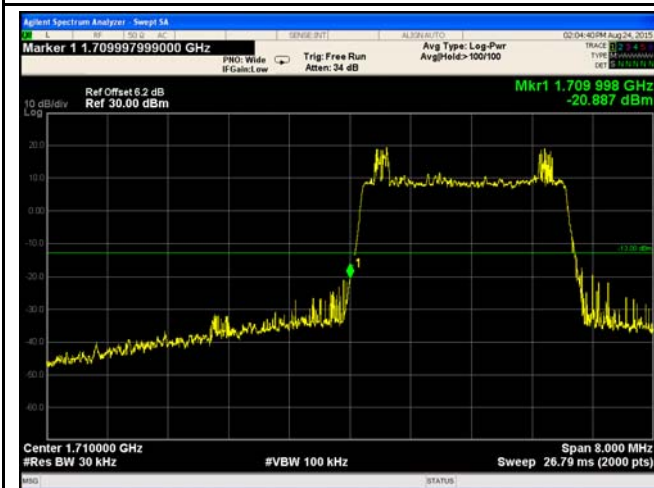
LTE Band 4 - Low Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(57.46/30)=4.0+2.8=6.8 dB



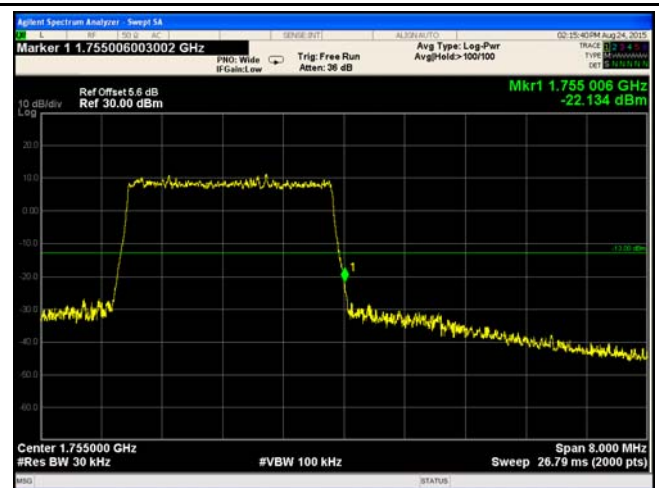
LTE Band 4 - High Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(51.77/30)=4.0+2.4=6.4 dB



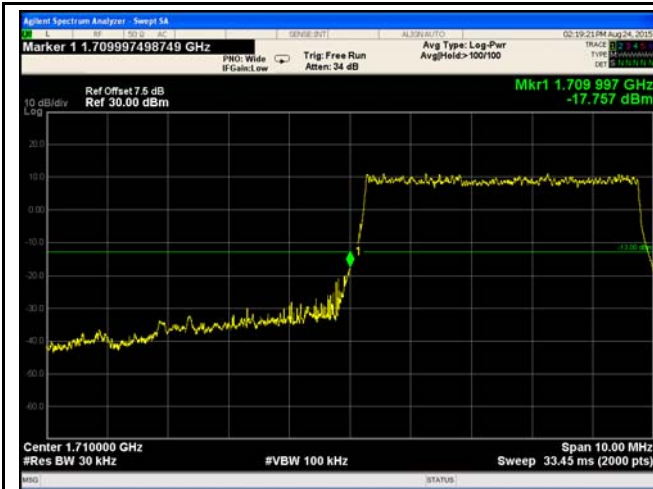
LTE Band 4 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(49.51/30)=4.0+2.2=6.2 dB



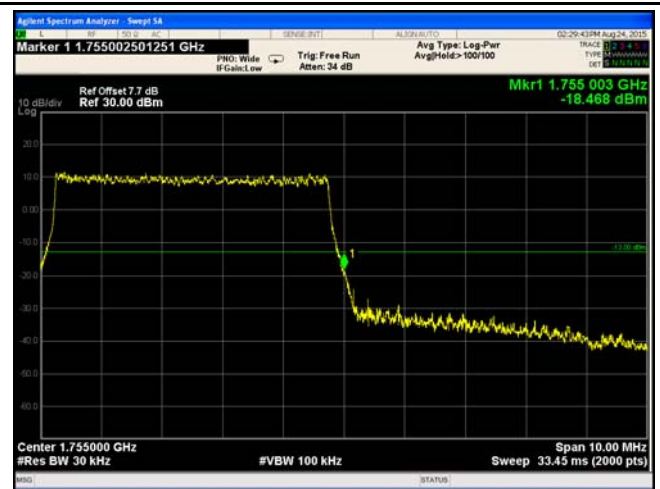
LTE Band 4 - High Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(43.68/30)=4.0+1.6=5.6 dB



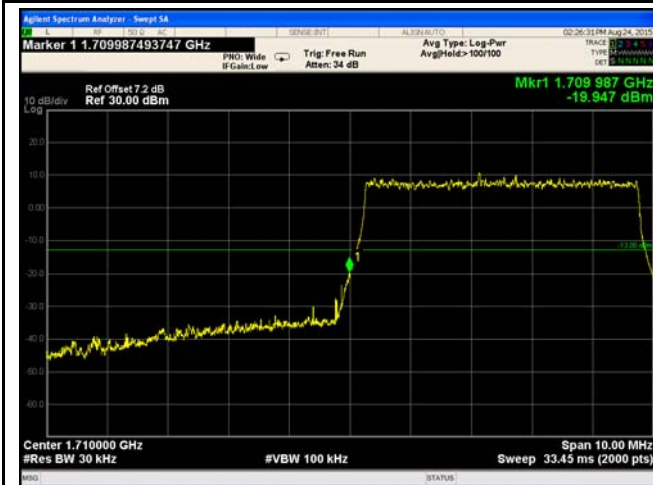
LTE Band 4 - Low Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(67.76/30)=4.0+3.5=7.5 dB



LTE Band 4 - High Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(69.80/30)=4.0+3.7=7.7 dB



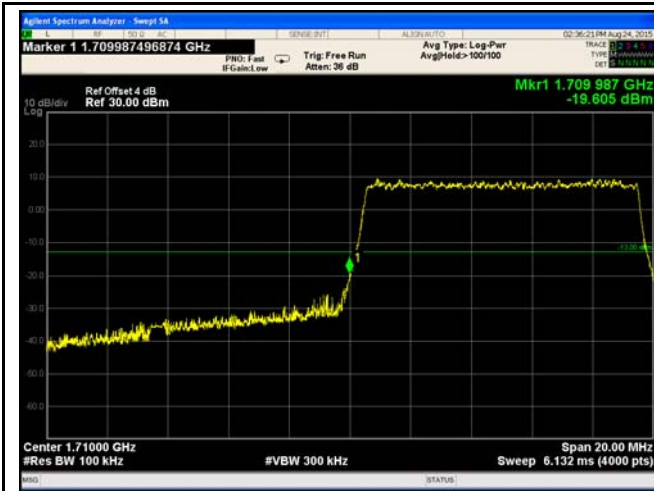
LTE Band 4 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.0) + 10log
(62.2/30)=4.0+3.2=7.2 dB



LTE Band 4 - High Channel 16QAM-5

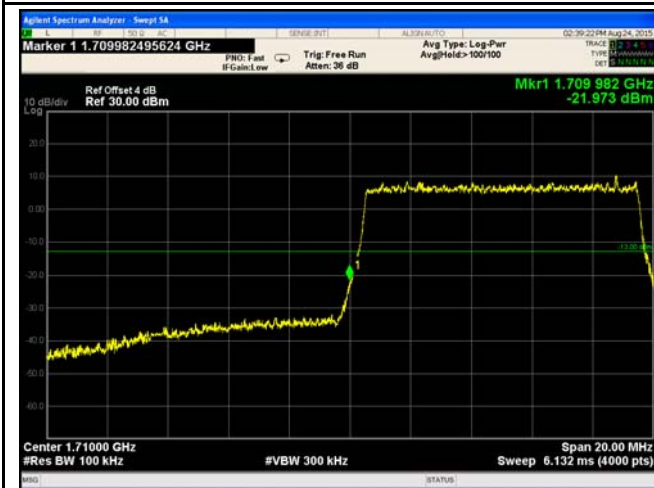
Note: Offset=Cable loss (4.0) + 10log
(63.17/30)=4.0+3.2=7.2 dB



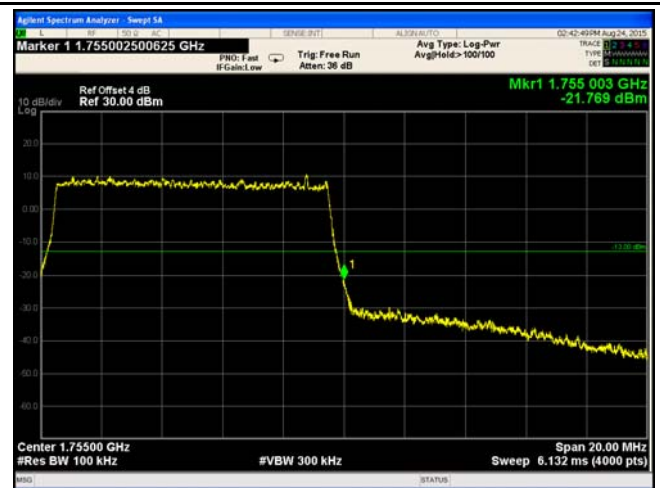
LTE Band 4 - Low Channel QPSK-10



LTE Band 4 - High Channel QPSK-10



LTE Band 4 - Low Channel 16QAM-10



LTE Band 4 - High Channel 16QAM-10



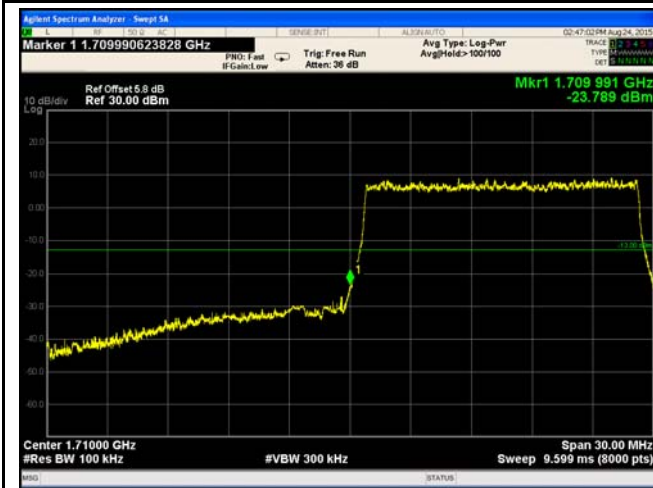
LTE Band 4 - Low Channel QPSK-15

Note: Offset=Cable loss (4.0) + 10log
(151.7/100)=4.0+1.8=5.8 dB



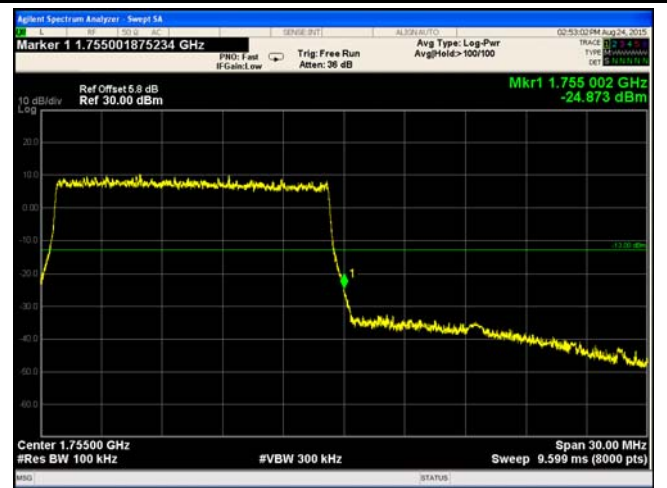
LTE Band 4 - High Channel QPSK-15

Note: Offset=Cable loss (4.0) + 10log
(151.4/100)=4.0+1.8=5.8 dB



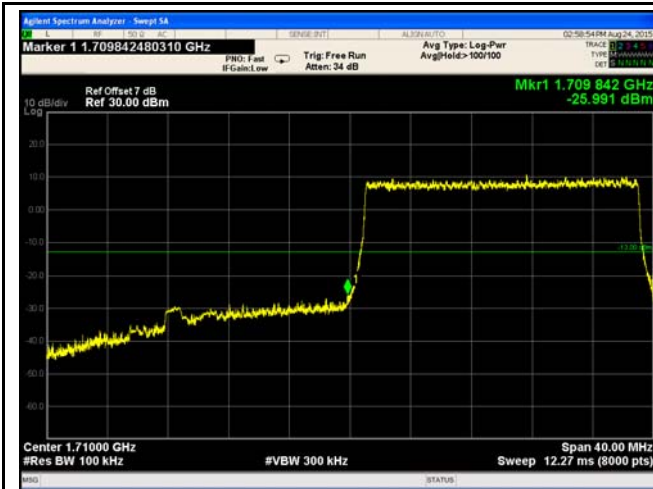
LTE Band 4 - Low Channel 16QAM-15

Note: Offset=Cable loss (4.0) + 10log
(151.3/100)=4.0+1.8=5.8 dB



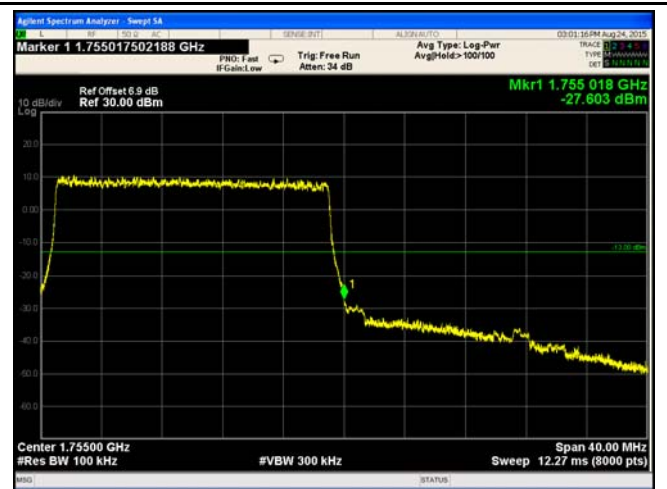
LTE Band 4 - High Channel 16QAM-15

Note: Offset=Cable loss (4.0) + 10log
(151.6/100)=4.0+1.8=5.8 dB



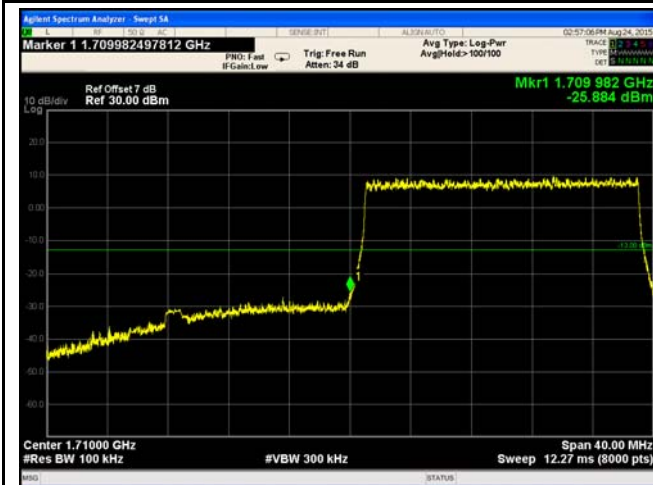
LTE Band 4 - Low Channel QPSK-20

Note: Offset=Cable loss (4.0) + 10log
(197.3/100)=4.0+3.0=7.0 dB



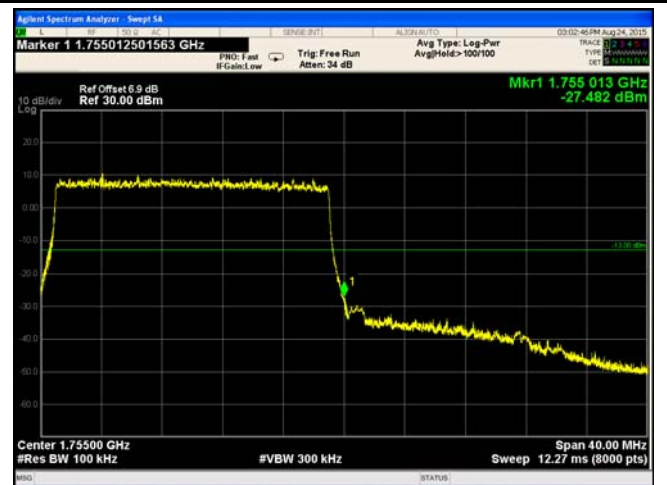
LTE Band 4 - High Channel QPSK-20

Note: Offset=Cable loss (4.0) + 10log
(196.7/100)=4.0+2.9=6.9dB



LTE Band 4 - Low Channel 16QAM-20

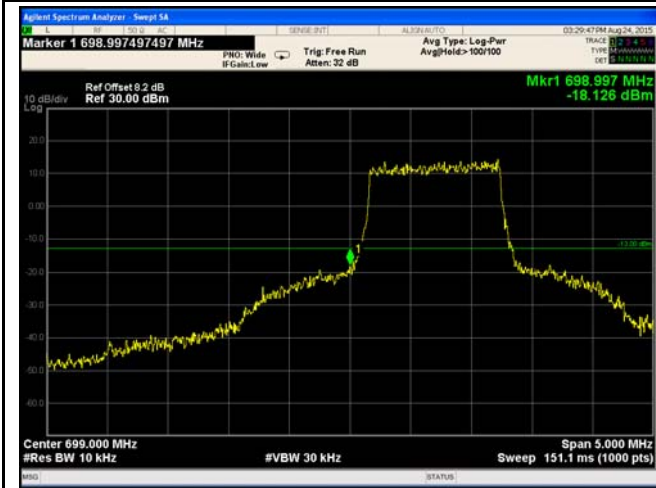
Note: Offset=Cable loss (4.0) + 10log
(198.1/100)=4.0+3.0=7.0 dB



LTE Band 4 - High Channel 16QAM-20

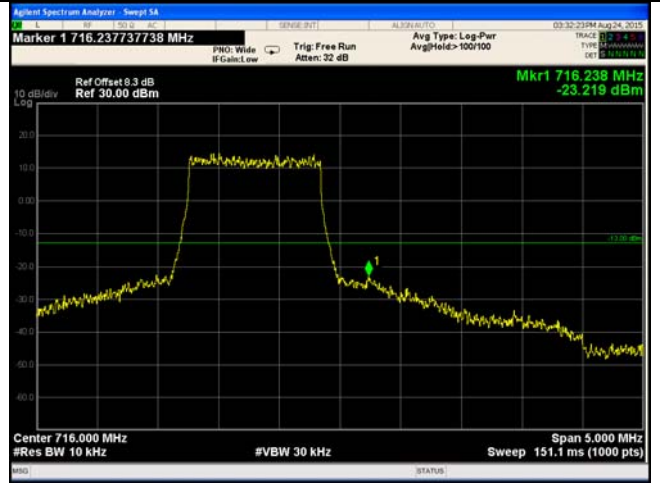
Note: Offset=Cable loss (4.0) + 10log
(196.7/100)=4.0+2.9=6.9dB

LTE Band 12 (Part 27)



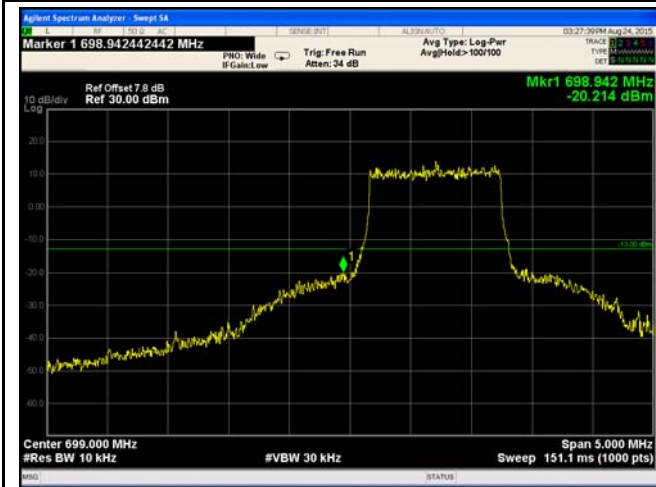
LTE Band 4 - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(26.37/10)=4.0+4.2=8.2 dB



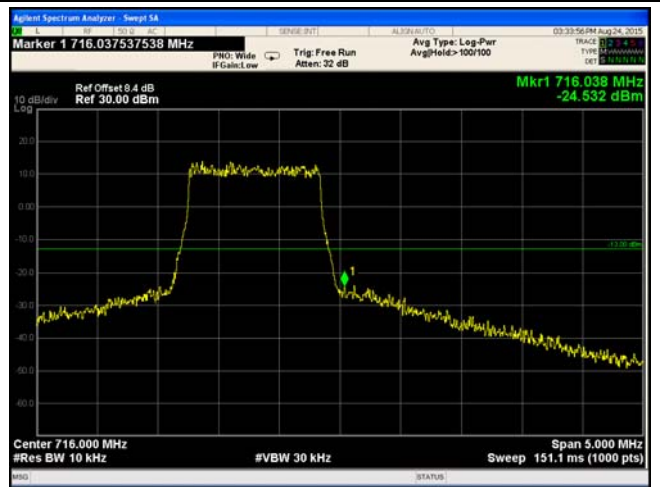
LTE Band 4 - High Channel QPSK-1.4

Note: Offset=Cable loss (4.0) + 10log
(26.83/10)=4.0+4.3=8.3 dB



LTE Band 4 - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(23.94/10)=4.0+3.8=7.8 dB



LTE Band 4 - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.0) + 10log
(27.37/10)=4.0+4.4=8.4 dB



LTE Band 4 - Low Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(67.39/30)=4.0+3.5=7.5 dB



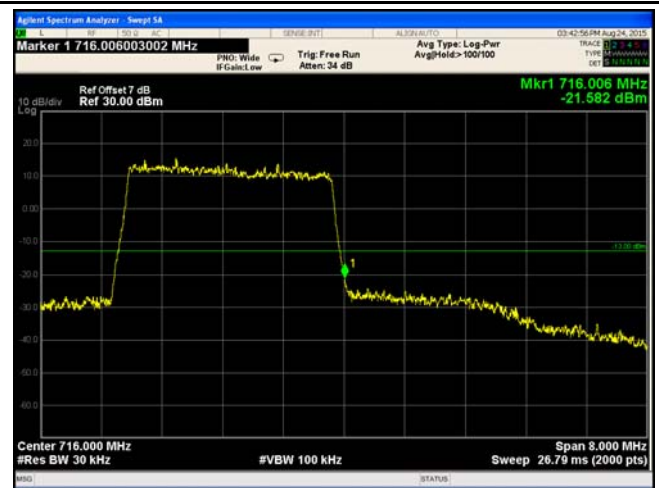
LTE Band 4 - High Channel QPSK-3

Note: Offset=Cable loss (4.0) + 10log
(65.60/30)=4.0+3.4=7.4 dB



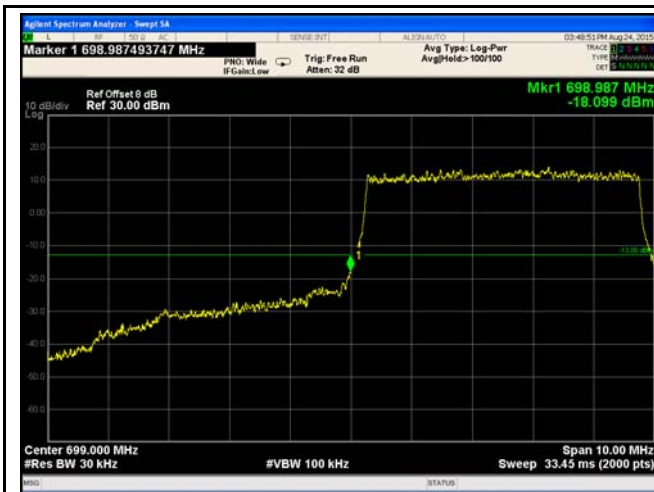
LTE Band 4 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(62.59/30)=4.0+3.2=7.2 dB



LTE Band 4 - High Channel 16QAM-3

Note: Offset=Cable loss (4.0) + 10log
(60.34/30)=4.0+3.0=7.0 dB



LTE Band 4 - Low Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(50.5/30)=4.5+2.3=6.8 dB



LTE Band 4 - High Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(50.2/30)=4.5+2.2=6.7 dB



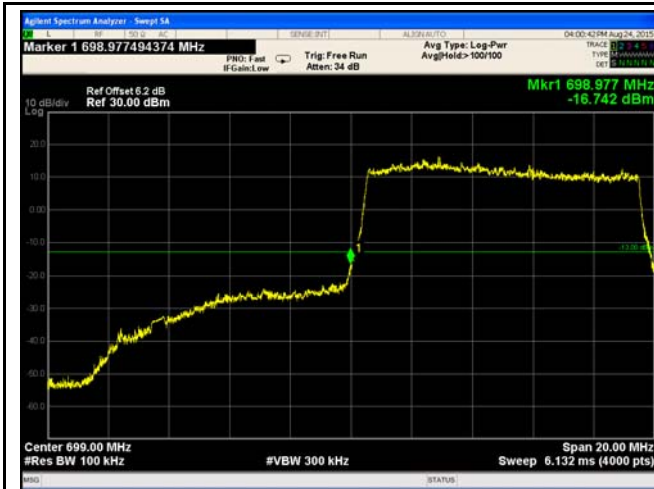
LTE Band 4 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.0) + 10log
(75.57/30)=4.0+4.0=8.0 dB

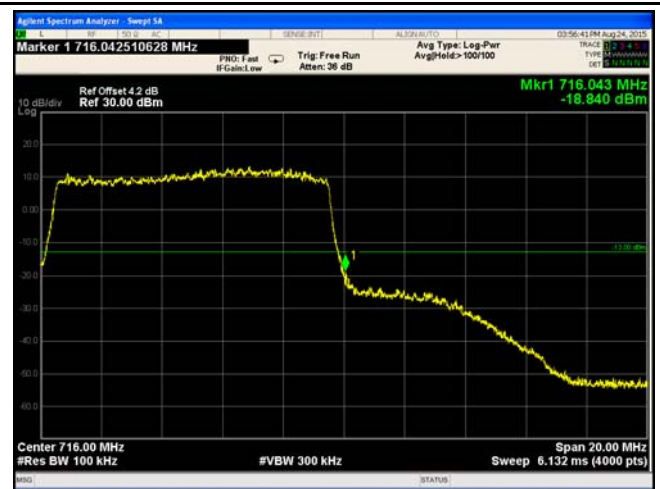


LTE Band 4 - High Channel 16QAM-5

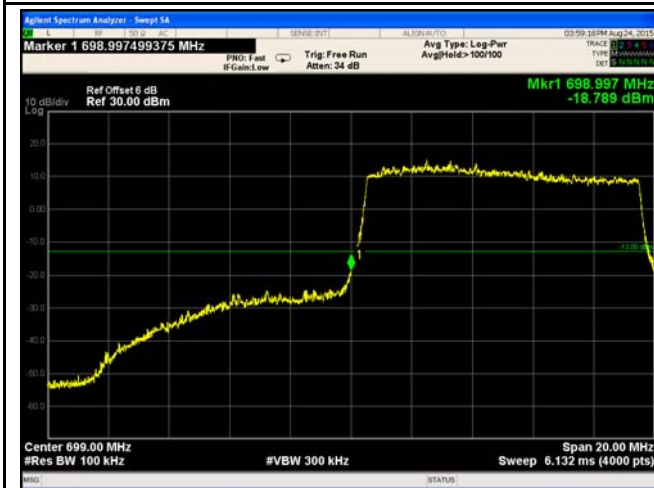
Note: Offset=Cable loss (4.0) + 10log
(75.59/30)=4.0+4.0=8.0 dB



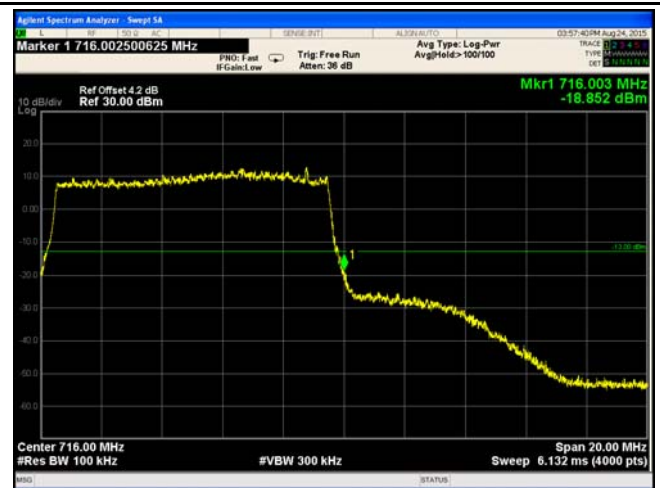
LTE Band 4 - Low Channel QPSK-10



LTE Band 4 - High Channel QPSK-10



LTE Band 4 - Low Channel 16QAM-10

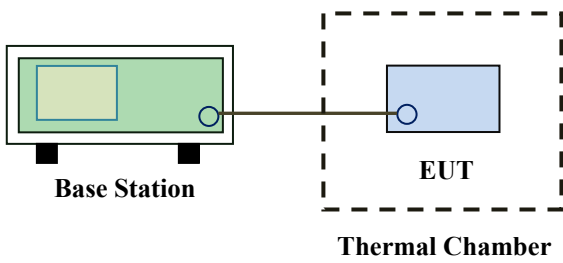


LTE Band 4 - High Channel 16QAM-10

6.10 Frequency Stability

Temperature	25°C
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	August 24, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1055, §24.235 § 27.5(h); § 27.54	a)	According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block. According to §27.54, The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	☒
Test setup	 The diagram illustrates the test setup. On the left, a green rectangular box represents the 'Base Station'. A horizontal line connects it to a blue rectangular box labeled 'EUT' (Equipment Under Test). The 'EUT' is enclosed within a dashed-line rectangular box labeled 'Thermal Chamber'.		
Procedure	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. Limit: The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.		
Remark	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 -10°C to +55°C at normal supply voltage.		
Result	☒ Pass ☐ Fail		

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Test Plot



Yes (See below)



N/A

LTE Band 2 (Part 24E) result

Middle Channel, $f_0 = 1880$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-10	0.0053	2.5
0		-11	0.0059	2.5
10		-5	0.0027	2.5
20		-9	0.0048	2.5
30		-15	0.0080	2.5
40		-6	0.0032	2.5
50		-9	0.0048	2.5
55		-8	0.0043	2.5
25	4.2	-10	0.0053	2.5
	3.5	-13	0.0069	2.5

LTE Band 4 (Part 27) result

Middle Channel, $f_0 = 1732.5$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-21	0.0121	2.5
0		-15	0.0087	2.5
10		-17	0.0098	2.5
20		-12	0.0069	2.5
30		-15	0.0087	2.5
40		-14	0.0081	2.5
50		-16	0.0092	2.5
55		-15	0.0087	2.5
25	4.2	-19	0.0110	2.5
	3.5	-20	0.0115	2.5

LTE Band 12 (Part 27) result

Middle Channel, $f_0 = 707.5$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	5	0.0071	2.5
0		4	0.0057	2.5
10		6	0.0085	2.5
20		8	0.0113	2.5
30		10	0.0141	2.5
40		11	0.0155	2.5
50		12	0.0170	2.5
55		8	0.0113	2.5
25	4.2	4	0.0057	2.5
	3.5	7	0.0099	2.5

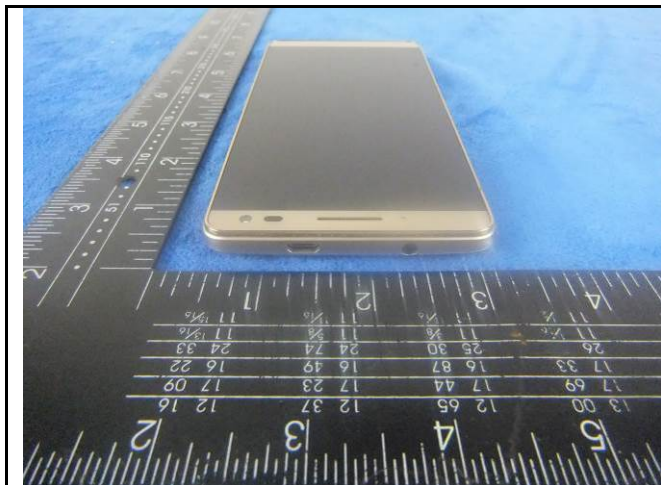
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
RF Conducted Test					
Agilent ESA-E SERIES SPECTRUM ANALYZER	E4407B	MY45108319	09/17/2014	09/16/2015	☒
Power Splitter	1#	1#	09/02/2014	09/01/2015	☒
Universal Radio Communication Tester	CMU200	121393	09/26/2014	09/25/2015	☒
Wideband Radio Communication Tester	CMW500	120906	03/28/2015	03/27/2016	☒
Temperature/Humidity Chamber	UHL-270	001	10/10/2014	10/09/2015	☒
DC Power Supply	E3640A	MY40004013	09/18/2014	09/17/2015	☒
Radiated Emissions					
EMI test receiver	ESL6	100262	09/18/2014	09/17/2015	☒
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/01/2015	08/31/2016	☒
Microwave Preamplifier (0.5 ~ 18GHz)	PAM-118	443008	09/01/2015	08/31/2016	☒
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/22/2014	09/21/2015	☒
Bilog Antenna (30MHz~2GHz)	JB1	A112017	09/22/2014	09/21/2015	☒
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71259	09/25/2014	09/24/2015	☒
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/25/2014	09/24/2015	☒
SYNTHESIZED SIGNAL GENERATOR	8665B	3744A01293	09/18/2014	09/17/2015	☒
Tunable Notch Filter	3NF-800/1000-S	AA4	09/01/2015	08/31/2016	☒
Tunable Notch Filter	3NF-1000/2000-S	AM 4	09/01/2015	08/31/2016	☒

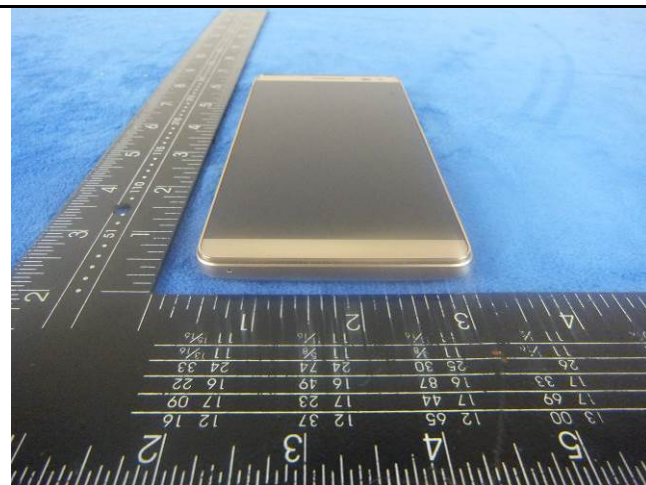
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

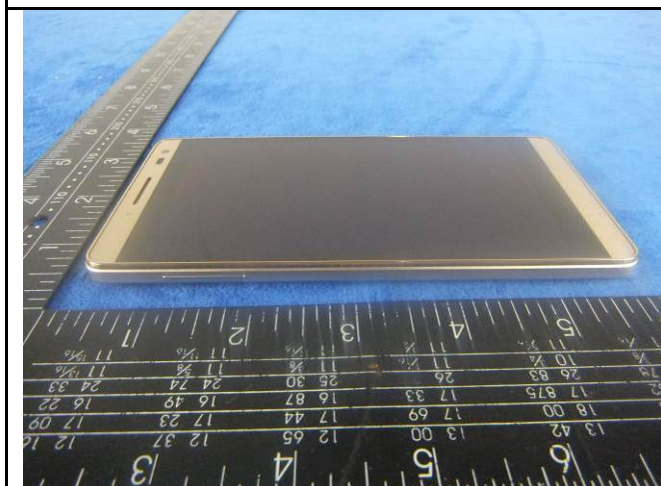




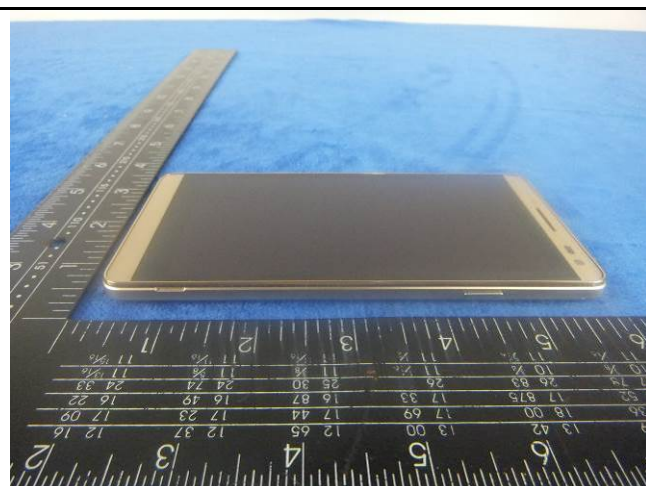
EUT - Top View



EUT - Bottom View



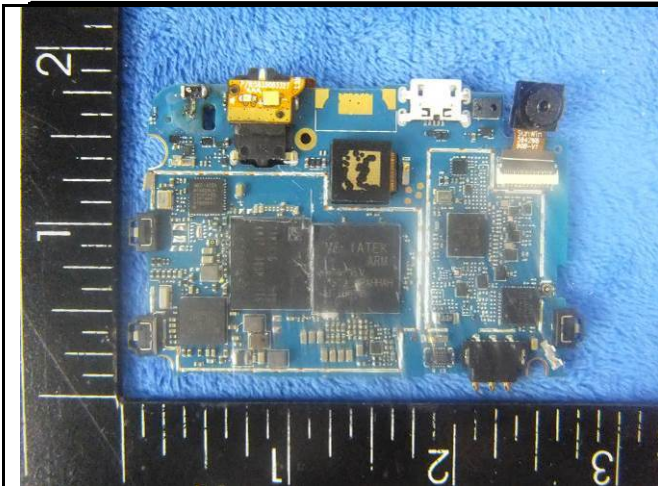
EUT - Left View



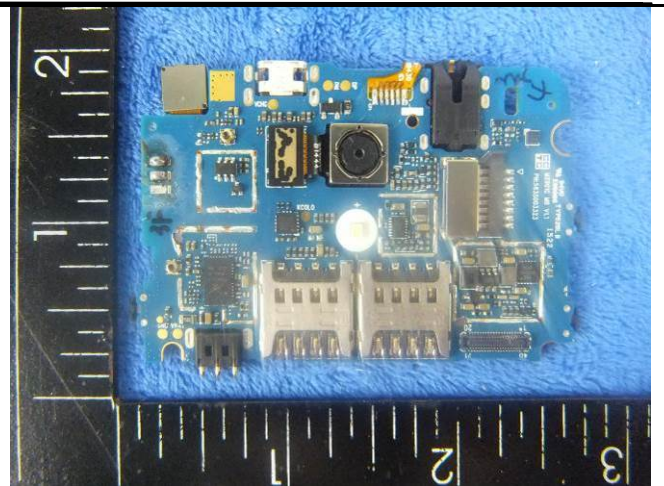
EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo





Mainboard Without Shielding - Front View



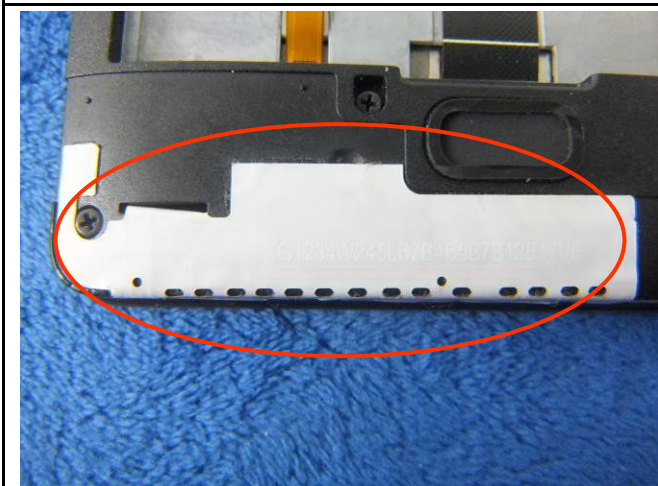
Mainboard Without Shielding - Rear View



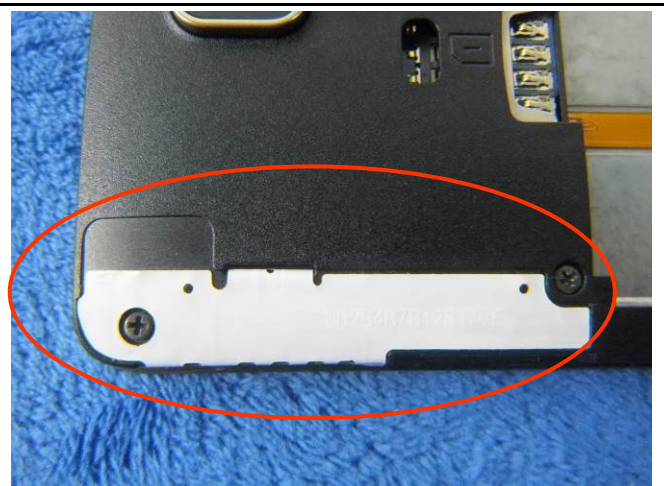
LCD - Front View



LCD - Rear View

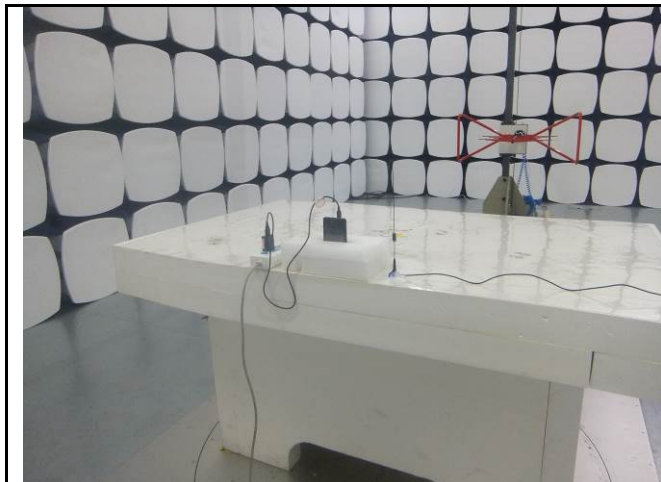


GSM/PCS/UMTS-FDD/LTE Antenna View



WIFI/BT/BLE - Antenna View

Annex B.iii. Photograph: Test Setup Photo



Radiated Spurious Emissions Test Setup Below 1GHz

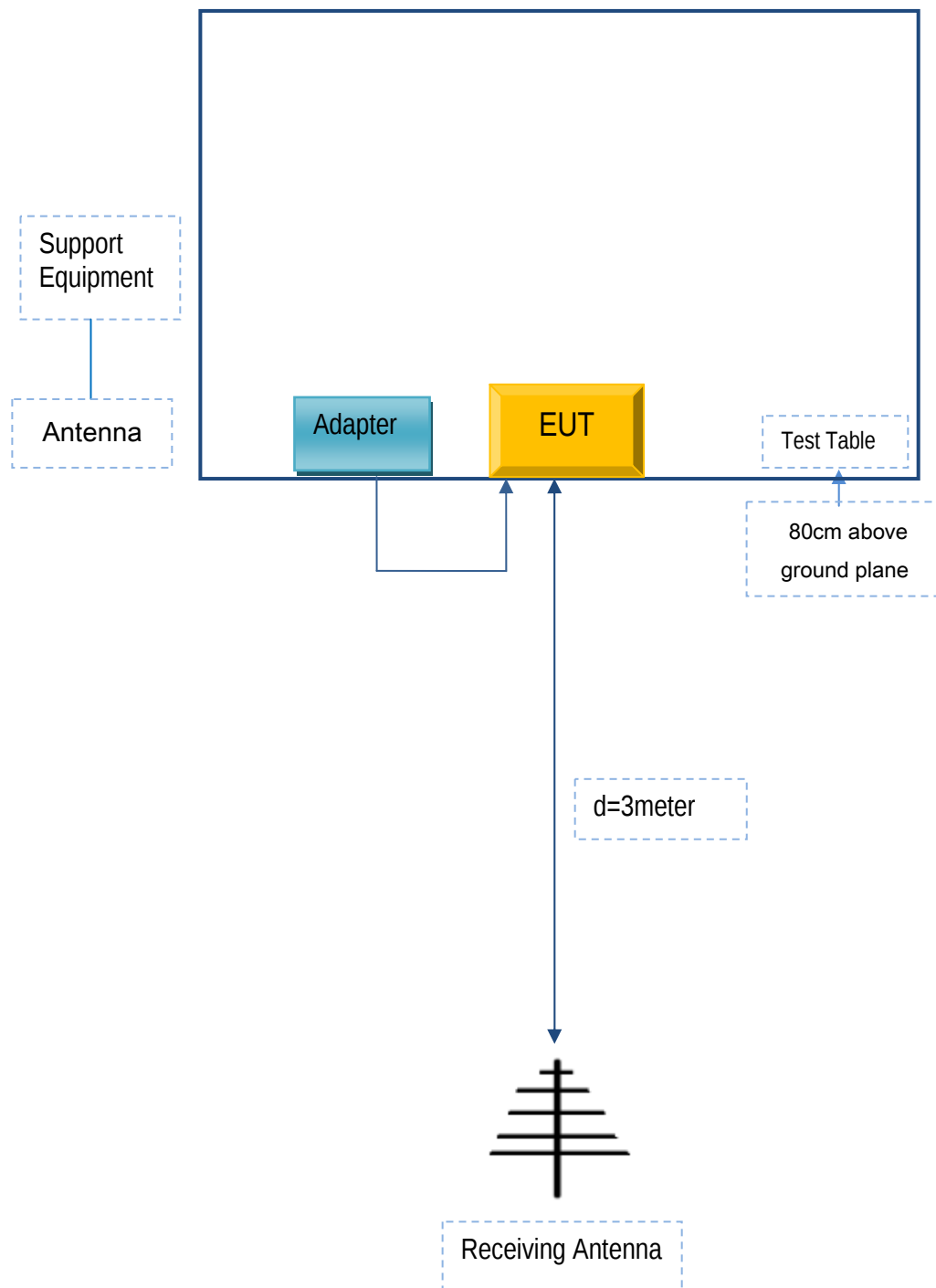


Radiated Spurious Emissions Test Setup Above
1GHz

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.

Manufacturer	Equipment Description	Model	Calibration Date	Calibration Due Date
N/A	N/A	N/A	N/A	N/A

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Annex C.ii. EUT OPERATING CONKITIONS

N/A

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

Please see attachment

Annex E. DECLARATION OF SIMILARITY

b Mobile HK limited

To SIEMIC Inc
775 Montague Expressway
Milpitas, CA 95035.

Statement

We, b Mobile HK limited apply a multiple-listing certification for the below models.

Product Name: Mobile phone

Model number: AX1050/L50

FCC ID: ZSW-30-017

We hereby state that these models are identical in interior structure, electrical circuits and components, and just model name is different for the marketing requirement.

Your assistance on this matter is highly appreciated.

Sincerely,
Name: KA SHING LAM
Title: Director
Signature:

For and on behalf of
b mobile HK Limited

.....
Authorized Signature(s)