FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART L
FCC CFR47 PART 27 SUBPART E

CERTIFICATION TEST REPORT

FOR

CDMA/LTE Phone + Bluetooth & DTS/UNII a/b/g/n + NFC

MODEL NUMBER: LG-VS876, VS876, LGVS876, LG-AS876, AS876 and LGAS876

FCC ID: ZNFVS876

REPORT NUMBER: 13U16594-1, Revision B

ISSUE DATE: January 24, 2014

Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	1/10/14	Initial Issue	P. Kim
A	1/21/14	Add Models LG-AS876, AS876 and LGAS876	P. Kim
B	1/24/14	Updated data table on page 92.	P. Kim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: **LG ELECTRONICS MOBILECOMM U.S.A., INC**

EUT DESCRIPTION: **CDMA/LTE Phone + Bluetooth & WLAN 2.4 & 5GHz and NFC**

MODEL: **LG-VS876, LGVS876, VS876, LG-AS876, AS876 and LGAS876**

SERIAL NUMBER: **1792206-VS**

DATE TESTED: **DECEMBER13, 2013 – JANUARY 6, 2014**

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22H, 24E, 27E and 27L	PASS

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released

For UL Verification Services Inc. By:

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WiSE PROGRAM MANAGER
UL Verification Services Inc.

Tested By:

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WiSE LAB TECHNICIAN
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 22, FCC CFR Part 24, FCC CFR 47 Part 27.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a CDMA/LTE Phone + Bluetooth & DTS/UNII a/b/g/n + NFC

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted and radiated ERP / EIRP output powers as follows:

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation Peak	Conducted		Radiated	
			Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
BC0	824~849	1xRTT	24.9	309	21.96	157.0
	824~849	EVDO REL. 0	25.0	316	23.39	218.3
	824~849	EVDO REV. A	24.9	309		
BC1	1850~1910	1xRTT	24.9	309	22.39	173.4
	1850~1910	EVDO REL. 0	24.9	309	23.48	222.84
	1850~1910	EVDO REV. A	24.9	309		

5.3. MAXIMUM OUTPUT POWER (LTE)

The transmitter has a maximum peak conducted and radiated ERP/EIRP output powers as follows:

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
LTE13	777~787	10MHz	QPSK	24.1	257	18.30	68
			16QAM	23.2	209	18.05	64

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FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
LTE4	1710~1755	20MHz	QPSK	24.0	251	24.28	267.92
			16QAM	22.9	195	23.29	213.3

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
LTE4	1710~1755	15MHz	QPSK	24.0	251	24.63	290
			16QAM	23.0	200	23.938	247.63

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
LTE4	1710~1755	10MHz	QPSK	24.0	251	24.38	274.16
			16QAM	22.93	196	24.41	276.06

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
LTE4	1710~1755	5MHz	QPSK	24.0	251	24.65	292
			16QAM	22.7	186	23.94	248

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5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi)
BC0, 824~849MHz	-3.8
BC1, 1850~1910MHz	-1.36
LTE4, 1710~1755MHz	-1.6
LTE13, 777~787MHz	-6.1

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-02WD	DA3Y0035121	N/A
Earphone	LG	EAB62209201	N/A	N/A

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF Out	1	Spectrum Analyzer	Shielded	None	NA
2	Antenna Port	1	EUT	Shielded	0.1m	NA
3	RF In/Out	1	Communication Test Set	Shielded	1m	NA

I/O CABLES (RADIATED SETUP)

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	USB	1	AC Adapter	Un-shielded	1.2m	No
2	Jack	1	Headset	Shielded	1m	No
3	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes

TEST SETUP

The EUT is continuously communicated to the call box during the tests.

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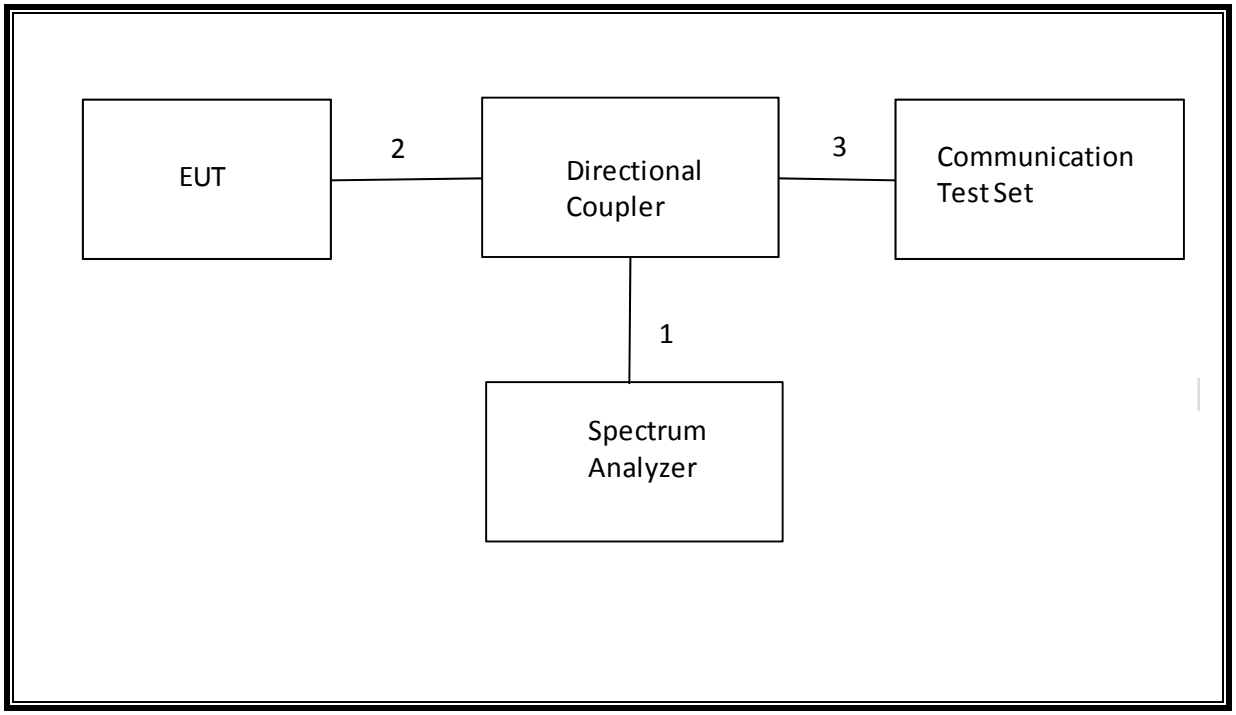
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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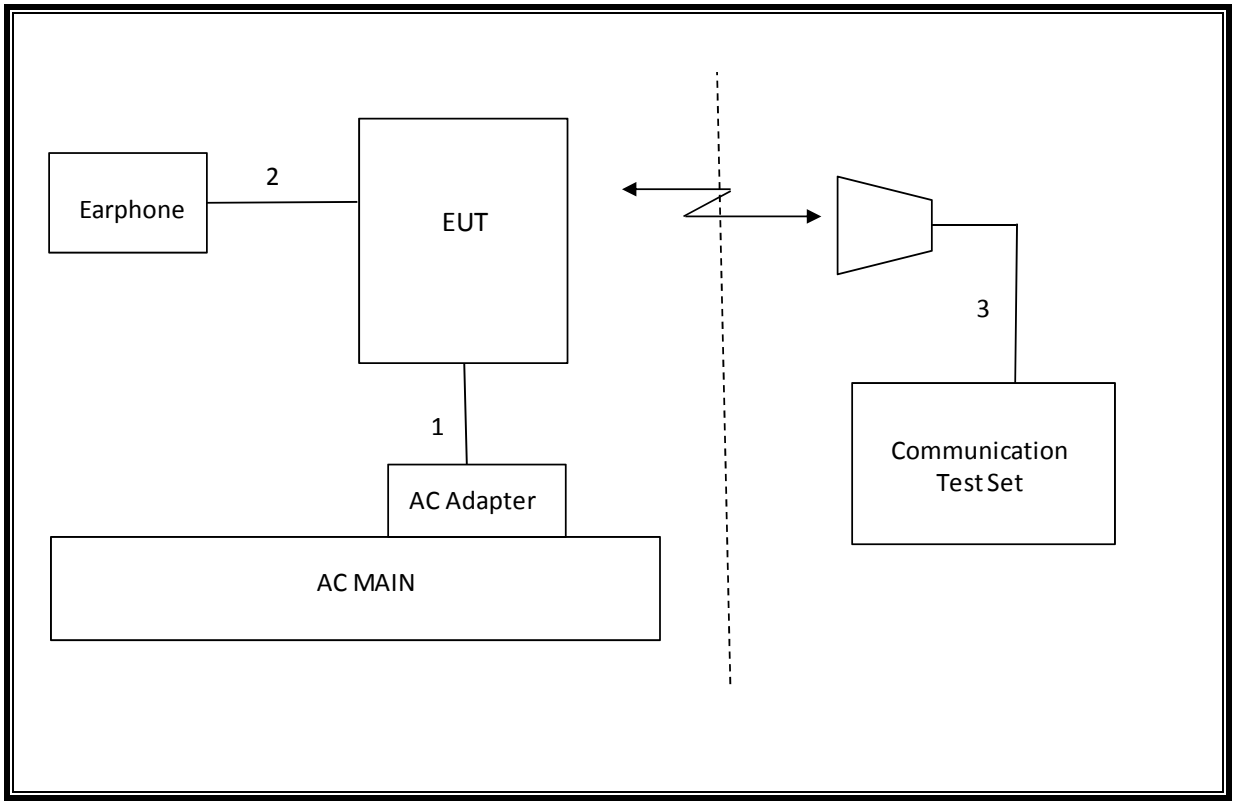
SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn, 18 GHz	EMCO	3115	C00872	10/25/14
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/14
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/11/14
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01179	02/26/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/14
Communication Test Set	Agilent / HP	E5515C	C01086	06/20/14
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	01/09/14
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01016	08/14/14
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	07/06/14

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7. Summary Table

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case	Note
2.1049	N/A	Occupied Band width (99%)	N/A	Conducted	Pass	17.85MHz	
22.917(a) 24.238(a) 27.53(g) 90.691	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm		Pass	13.207dBm	
2.1046	N/A	Conducted output power	N/A		Pass	25.0dBm	
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass	0.0077PPM	
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	23.39dBm	Band 5
27.50(b)(10)	N/A		34.77 dBm		Pass		Band 13
24.232(c)	RSS-133(6.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	24.65dBm	Band 2
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass		Band 4
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Radiated Spurious Emission	-13dBm		Pass	-13.207dBm	

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8.1. CDMA2000

8.1.1. 1xRTT

TEST PROCEDURE

This procedure assumes the Agilest 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
CDMA2000 Mobile Test	B.13.08, L

- Call Setup > Shift & Preset
- Cell Info > Cell Parameters > System ID (SID) > 7
  > Network ID (NID) > 1
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > Please see following table or details
- FCH Service Option (SO) Setup > Please see following table or details
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
  > R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Rvs Power Ctrl > Active bits
  - Rvs Power Ctrl > All Up bits (Maximum TxPout)

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8.1.2. CDMA2000 OUTPUT POWER RESULT

1xRTT

Full Power

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC 1	RC1 SO55 (Loopback)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.8
	RC3 SO55 (Loopback)	25	1851.25	24.8
		600	1880.00	24.8
		1175	1908.75	24.8
	RC3 SO32 (+F-SCH)	25	1851.25	24.8
		600	1880.00	24.8
		1175	1908.75	24.8

1xRTT

Full Power

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC 0	RC1, SO55 (Loopback)	1013	824.70	24.8
		384	836.52	24.9
		777	848.31	24.8
	RC3, SO55 (Loopback)	1013	824.70	24.8
		384	836.52	24.9
		777	848.31	24.8
	RC3, SO32 (+F-SCH)	1013	824.70	24.8
		384	836.52	24.9
		777	848.31	24.8

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8.1.3. 1xEV-DO Release 0

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
  - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
  - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
  - Cell Power > -105.5 dBm/1.23 MHz
  - Cell Band > (Select US Cellular or US PCS)
  - Channel > (Enter channel number)
  - Application Config > Enhanced Test Application Protocol > RTAP
  - RTAP Rate > 153.6 kbps
  - Rvs Power Ctrl > Active bits
  - Protocol Rel > 0 (1xEV-DO)
- Press “Start Data Connection” when “Session Open” appear in “Active Cell”
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

EVDO Release 0 - FTAP

- Call Setup > Shift & Preset
- Call Control:
  - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
  - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
  - Cell Power > -105.5 dBm/1.23 MHz
  - Cell Band > (Select US Cellular or US PCS)
  - Channel > (Enter channel number)
  - Application Config > Enhanced Test Application Protocol > FTAP (default)
  - FTAP Rate > 307.2 kbps (2 Slot, QPSK)
  - Rvs Power Ctrl > Active bits
  - Protocol Rel > 0 (1xEV-DO)
- Press “Start Data Connection” when “Session Open” appear in “Active Cell”
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

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8.1.4. 1XEVDO REL 0 OUTPUT POWER RESULT

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2 kbps (2 slot, QPSK)	1013	824.70	24.9
		384	836.52	25.0
		777	848.31	24.9

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC 1	307.2 kbps (2 slot, QPSK)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.9

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8.1.5. 1xEV-DO Rev. A

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Release A – RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2

> PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)

- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Release A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2

> PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)

- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

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8.1.6. 1xEVDO REV A OUTPUT RESULT

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2k, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	24.9
		384	836.52	24.9
		777	848.31	24.9

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC 1	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	24.9
		600	1880	24.9
		1175	1908.75	24.8

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8.2. LTE OUTPUT VERIFICATION

8.2.1. LTE OUTPUT RESULT

Full Power

Band	BW (MHz)	Mode	RB Allocation	RB Size	Target MPR	Avg Pwr (dBm)		
						20050	20175	20300
						1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0	23.8	23.9	24.0
			1	49	0	23.7	23.8	23.8
			1	99	0	23.8	23.9	23.9
			50	0	1	22.7	22.9	23.0
			50	25	1	22.8	22.9	22.9
			50	50	1	22.9	22.9	22.8
			100	0	1	22.9	22.9	22.9
		16QAM	1	0	1	22.5	22.8	22.5
			1	49	1	22.2	22.8	22.4
			1	99	1	22.4	22.9	22.5
			50	0	2	21.8	21.9	22.0
			50	25	2	21.9	21.8	21.8
			50	50	2	21.9	21.9	21.8
			100	0	2	21.9	22.0	21.9
Band	BW (MHz)	Mode	RB Allocation	RB Size	Target MPR	Avg Pwr (dBm)		
						20025	20175	20325
						1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	24.0	23.9	24.0
			1	36	0	23.8	23.9	23.8
			1	74	0	23.9	23.9	23.8
			36	0	1	22.8	22.9	22.8
			36	18	1	22.7	22.8	22.8
			36	37	1	22.8	22.9	22.9
			75	0	1	22.8	22.9	22.9
		16QAM	1	0	1	22.6	22.6	23.0
			1	36	1	22.5	22.6	22.8
			1	74	1	22.6	22.8	22.9
			36	0	2	21.8	21.9	21.9
			36	18	2	21.8	21.8	21.9
			36	37	2	21.8	21.9	21.9
			75	0	2	21.9	21.9	22.0
Band	BW (MHz)	Mode	RB Allocation	RB Size	Target MPR	Avg Pwr (dBm)		
						20000	20175	20350
						1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	24.00	23.84	23.81
			1	25	0	23.87	23.90	23.86

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			1	49	0	23.90	23.91	23.82
			25	0	1	22.83	22.79	22.82
			25	12	1	22.66	22.81	22.88
			25	25	1	22.71	22.90	22.85
			50	0	1	22.86	22.84	22.90
		16QAM	1	0	1	22.59	22.58	22.93
			1	25	1	22.46	22.63	22.93
			1	49	1	22.53	22.63	22.86
			25	0	2	21.90	21.88	21.83
			25	12	2	21.80	21.91	21.87
			25	25	2	21.81	21.99	21.91
			50	0	2	21.92	21.83	21.86
Band	BW (MHz)	Mode	RB Allocation	RB Size	Target MPR	Avg Pwr (dBm)		
						19975	20175	20375
						1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0	23.81	23.88	23.95
			1	12	0	23.73	24.00	23.92
			1	24	0	23.68	23.95	23.84
			12	0	1	22.82	22.91	22.96
			12	6	1	22.91	22.88	22.90
			12	13	1	22.89	23.00	22.87
			25	0	1	22.89	22.91	22.91
		16QAM	1	0	1	22.69	22.45	22.66
			1	12	1	22.55	22.60	22.66
			1	24	1	22.50	22.70	22.52
			12	0	2	21.80	21.87	21.90
			12	6	2	21.81	21.92	21.86
			12	13	2	21.83	21.97	21.88
			25	0	2	21.93	21.92	21.92

Band	BW	Mode	RB	RB	Target	Avg Pwr (dBm)

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	(MHz)		Allocation	Size	MPR	23230
						782 MHz
LTE Band 13	10	QPSK	1	0	0	24.1
			1	25	0	24.1
			1	49	0	24.1
			25	0	1	23.0
			25	12	1	23.0
			25	25	1	23.0
			50	0	1	23.0
		16QAM	1	0	1	23.0
			1	25	1	23.2
			1	49	1	23.1
			25	0	2	22.1
			25	12	2	22.0
			25	25	2	22.0
			50	0	2	22.0

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9. PEAK TO AVERAGE RATIO

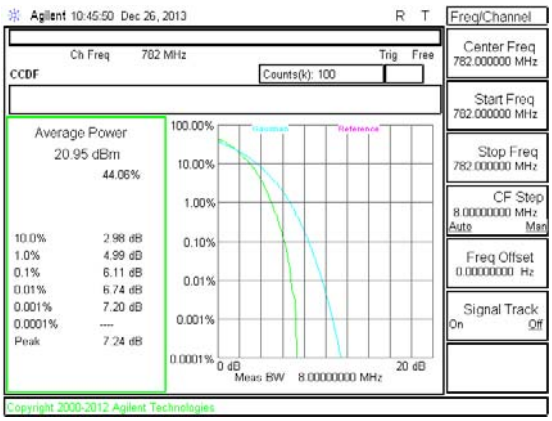
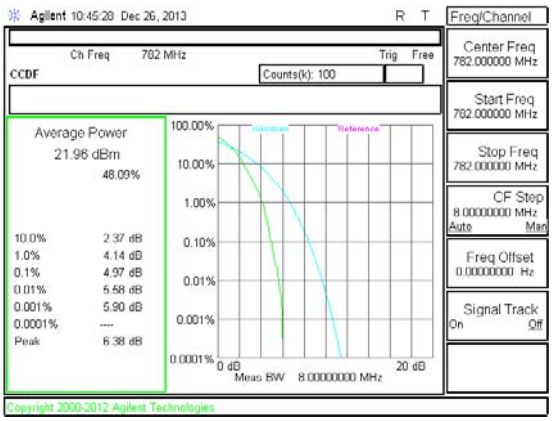
Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

Test Spec

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

9.1. CONDUCTED PEAK TO AVERAGE RESULT

Band LTE13 10MHz 16QAM	 Band LTE13 10MHz 16QAM High channel	 Band LTE13 10MHz QPSK High channel

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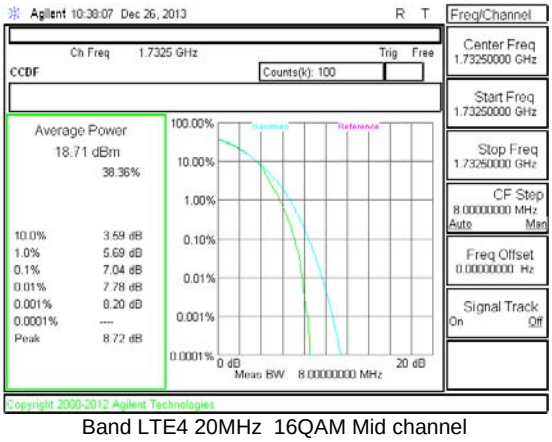
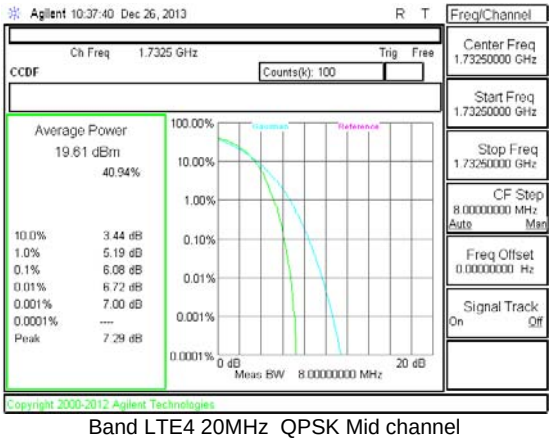
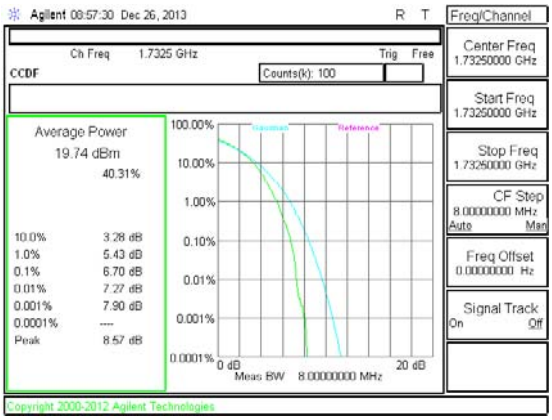
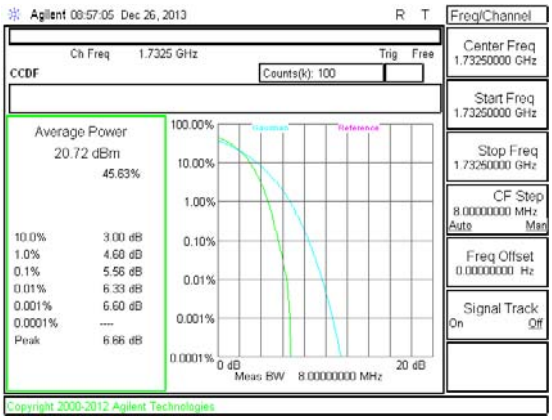
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz 16QAM Mid channel	 Band LTE4 20MHz QPSK Mid channel

Band LTE4 15MHz 16QAM	 Band LTE4 15MHz 16QAM Mid channel	 Band LTE4 15MHz QPSK Mid channel

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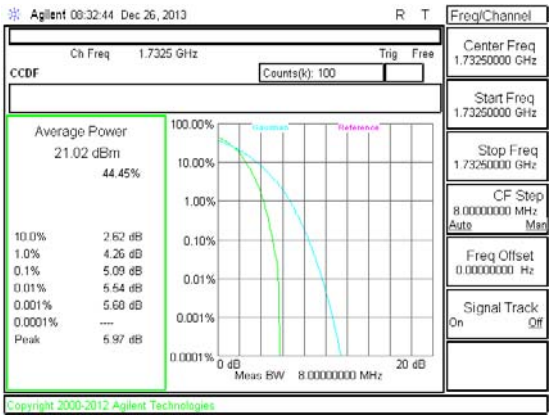
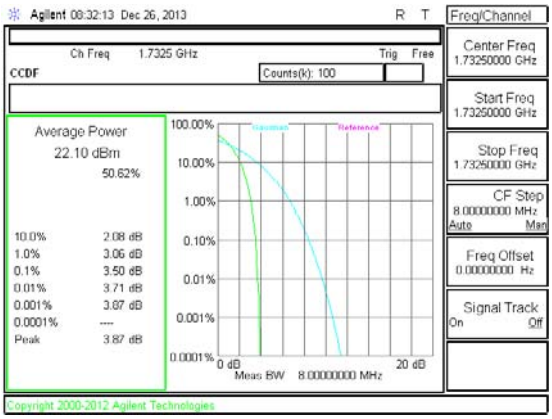
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz 16QAM Mid channel	 Band LTE4 10MHz QPSK Mid channel

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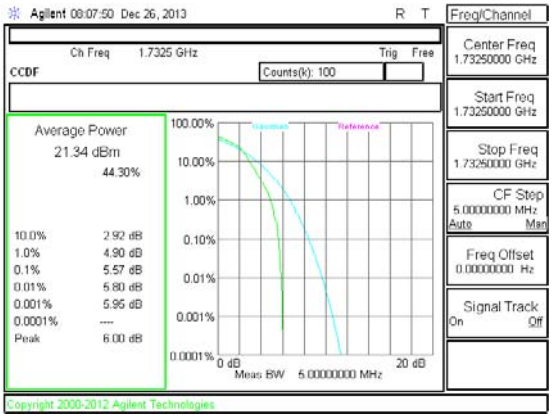
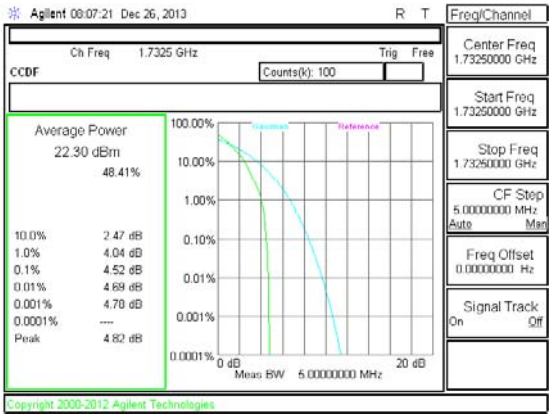
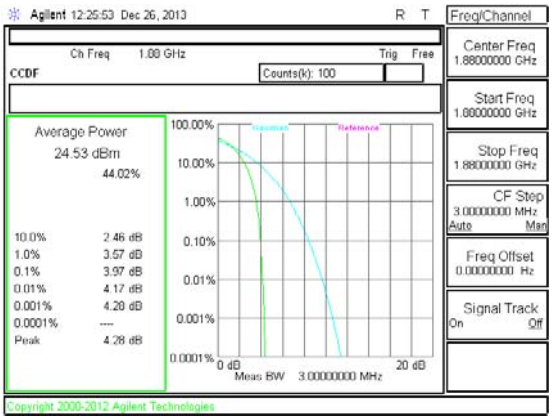
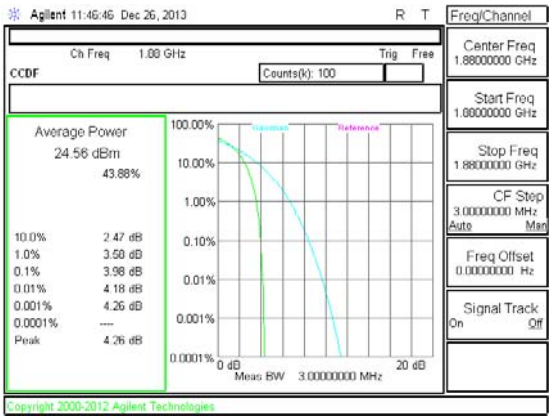
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz 16QAM Mid channel	 Band LTE4 5MHz QPSK Mid channel

Band BC1 EVDO REL. 0	 Band BC1 EVDO Rel. 0 Mid channel	 Band BC1 1xRTT Mid channel

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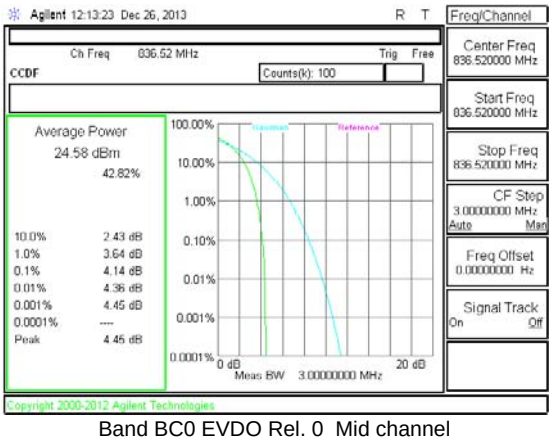
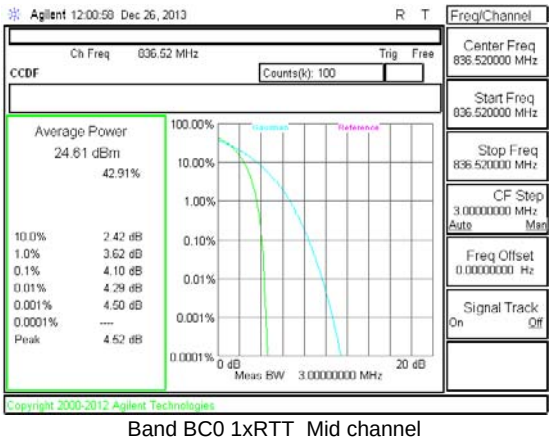
Band BC0 EVDO REL. 0	 Band BC0 EVDO Rel. 0 Mid channel	 Band BC0 1xRTT Mid channel

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10. LIMITS AND CONDUCTED RESULTS

10.1. OCCUPIED BANDWIDTH

RULE PART(S)
FCC: §2.1049
IC: RSS-132, 4.5; RSS-133, 6.5

LIMITS
For reporting purposes only

TEST PROCEDURE
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v02r01 - 06/07/2013)

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10.1.1. OCCUPIED BANDWIDTH RESULTS

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
BC0	1xRTT	1013	824.7	1.281	1.436
		384	836.52	1.279	1.430
		777	848.31	1.265	1.429
	EVDO REL. 0	1013	824.7	1.275	1.432
		384	836.52	1.277	1.429
		777	848.31	1.266	1.427
BC1	1xRTT	25	1851.25	1.283	1.442
		600	1880	1.271	1.426
		1175	1908.75	1.291	1.447
	EVDO REL. 0	25	1851.25	1.277	1.435
		600	1880	1.278	1.433
		1175	1908.75	1.282	1.449

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10.1.2. LTE OCCUPIED BANDWIDTH RESULTS

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE13	10	QPSK	50/0	782	8.962	9.743
		16QAM	50/0	782	8.975	9.632

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	20	QPSK	100/0	1720	17.821	18.900
			100/0	1732.5	17.850	19.142
			100/0	1745	17.778	18.819
		16QAM	100/0	1720	17.818	19.001
			100/0	1732.5	17.799	18.998
			100/0	1745	17.835	18.956

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	15	QPSK	75/0	1717.5	13.368	14.444
			75/0	1732.5	13.378	14.545
			75/0	1747.5	13.418	14.446
		16QAM	75/0	1717.5	13.356	14.247
			75/0	1732.5	13.369	14.487
			75/0	1747.5	13.350	14.154

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	10	QPSK	50/0	1715	8.950	9.509
			50/0	1732.5	8.938	9.680
			50/0	1750	8.948	9.624
		16QAM	50/0	1715	8.903	9.616
			50/0	1732.5	8.944	9.781
			50/0	1750	8.927	9.656

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	5	QPSK	25/0	1712.5	4.461	4.872
			25/0	1732.5	4.464	4.902

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			25/0	1752.5	4.462	4.881
		16QAM	25/0	1712.5	4.459	4.917
			25/0	1732.5	4.472	4.894
			25/0	1752.5	4.463	4.924

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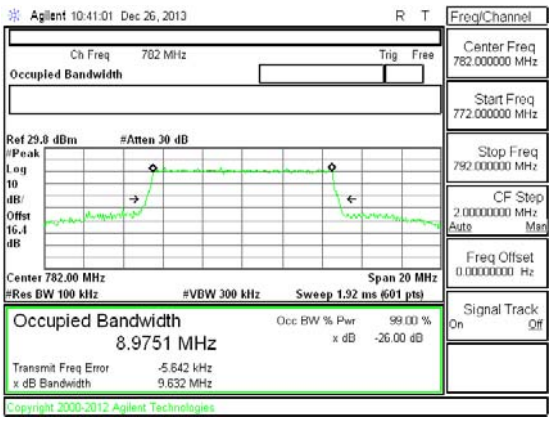
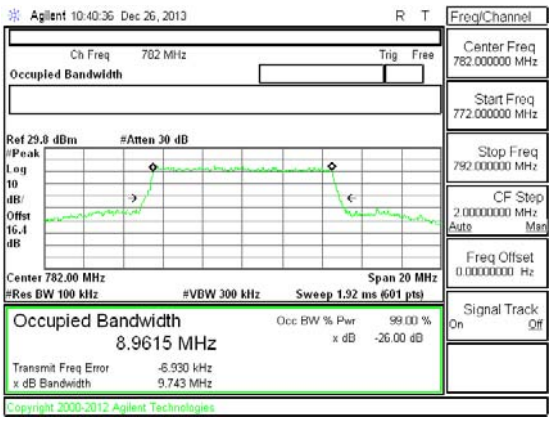
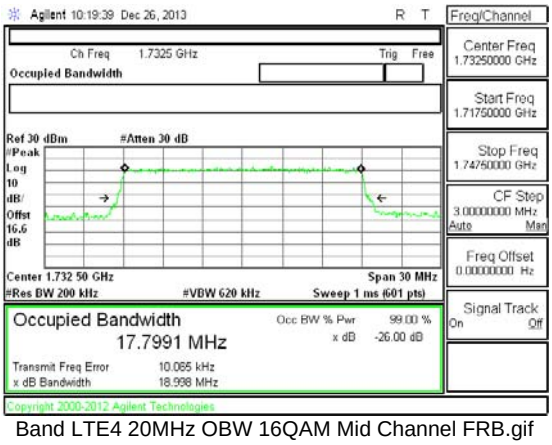
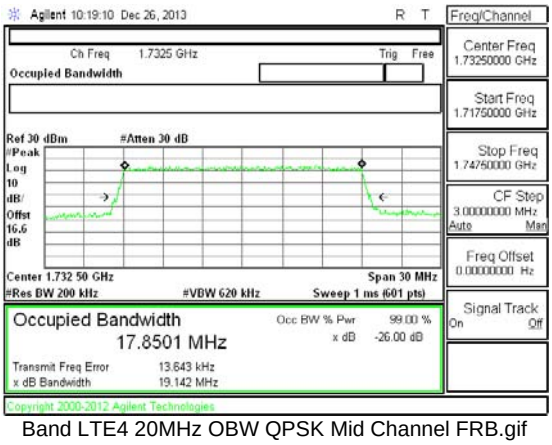
10.1.1. OCCUPIED BANDWIDTH PLOTS

Band LTE13 10MHz 16QAM	 Band LTE13 10MHz OBW 16QAM High Channel FRB.gif	 Band LTE13 10MHz OBW QPSK High Channel FRB.gif
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE4 20MHz OBW QPSK Mid Channel FRB.gif

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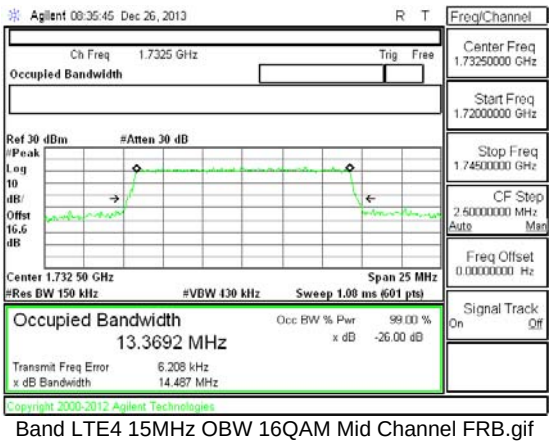
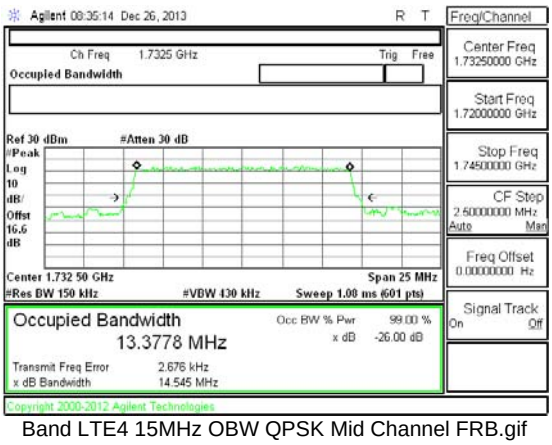
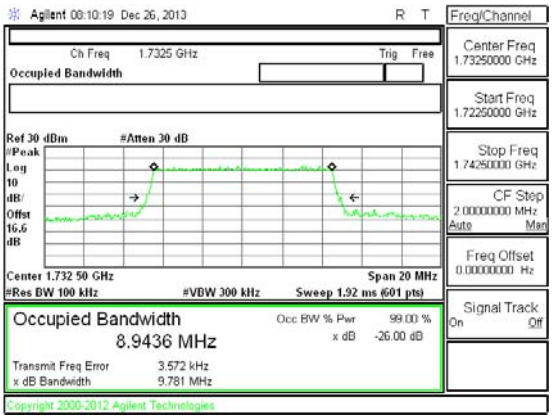
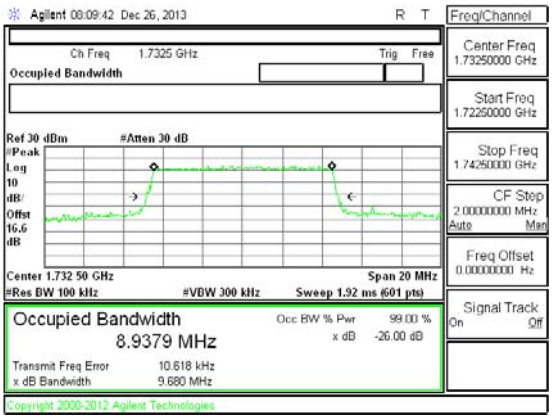
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE4 15MHz OBW QPSK Mid Channel FRB.gif
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE4 10MHz OBW QPSK Mid Channel FRB.gif

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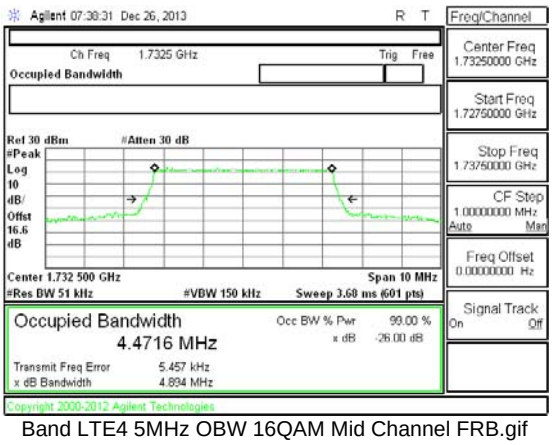
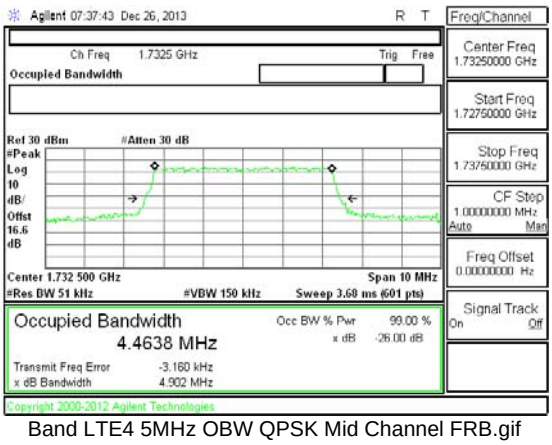
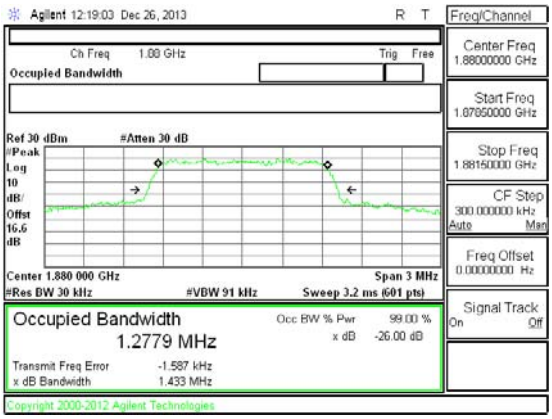
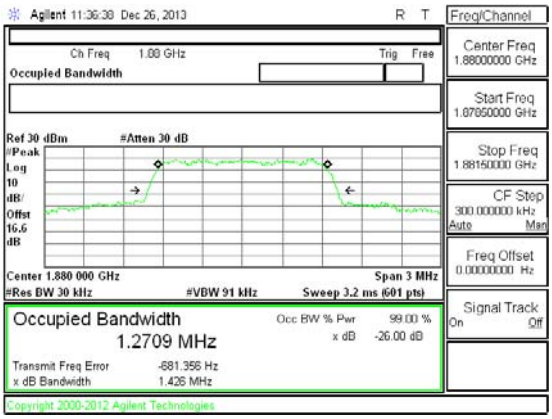
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE4 5MHz OBW QPSK Mid Channel FRB.gif
Band BC1	 Band BC1 EVDO Rel. 0 OBW Mid channel	 Band BC1 1xRTT OBW Mid channel

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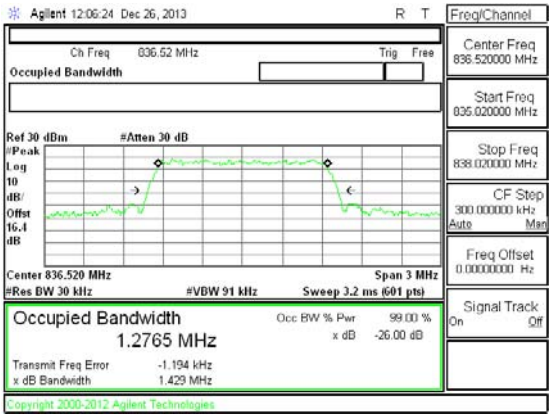
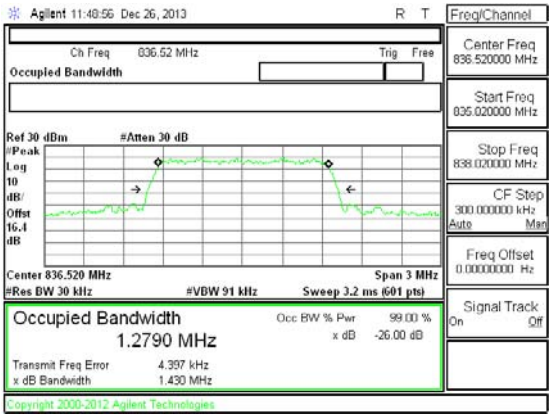
Band BC0 EVDO REL. 0	 Band BC0 EVDO Rel. 0 OBW Mid channel	 Band BC0 1xRTT OBW Mid channel

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10.2. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238, §27

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

The transmitter output was connected to an Agilent 8960 or a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

- Set the spectrum analyzer span to include the block edge frequency (824, 849, 1850, 1910 and 1915MHz)
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm.
- Set resolution bandwidth to at least 1% of emission bandwidth.
- (m)(6) Compliance with these rules is based on the user of measurement instrumentation employing a resolution bandwidth of 1MHz or greater. However, in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 1 percent of the emission bandwidth may be employed.

MODES TESTED

CDMA BC0/BC1 & LTE B4/B13

RESULTS

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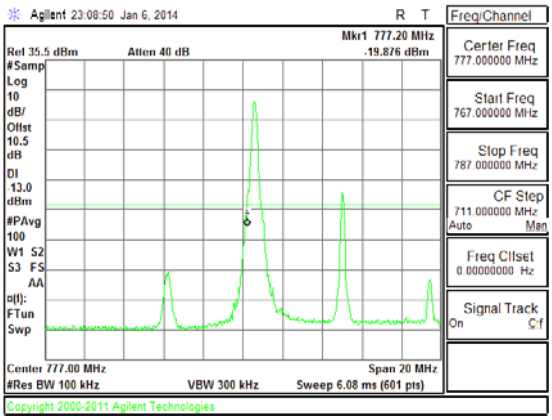
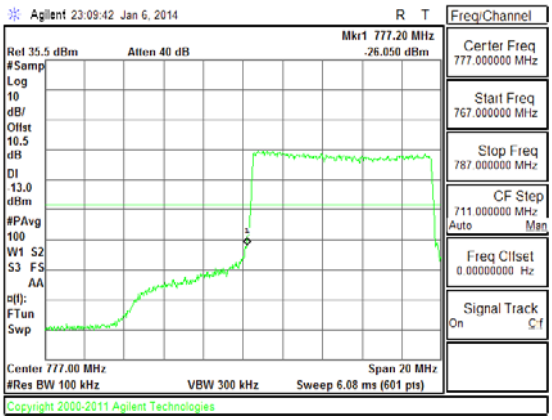
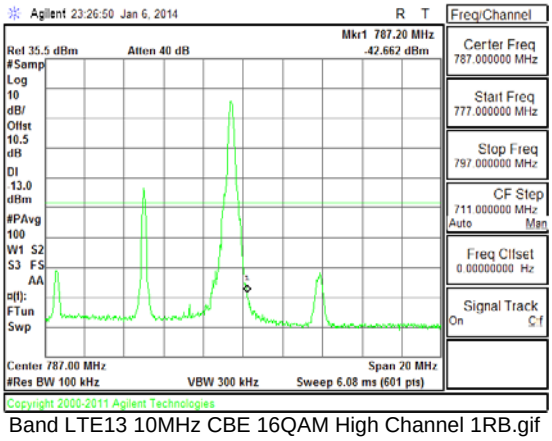
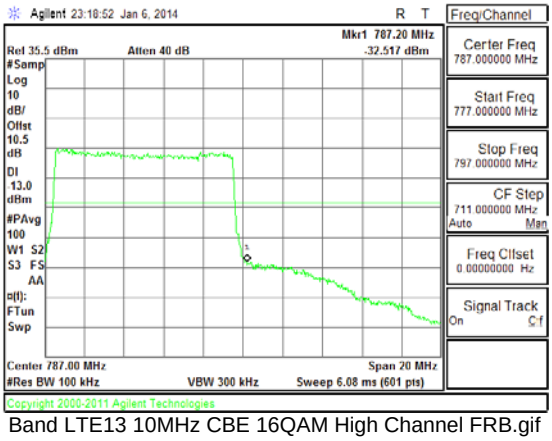
10.2.1. BAND EDGE PLOTS

Band LTE13 10MHz 16QAM	 Band LTE13 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE13 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE13 10MHz 16QAM	 Band LTE13 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE13 10MHz CBE 16QAM High Channel FRB.gif

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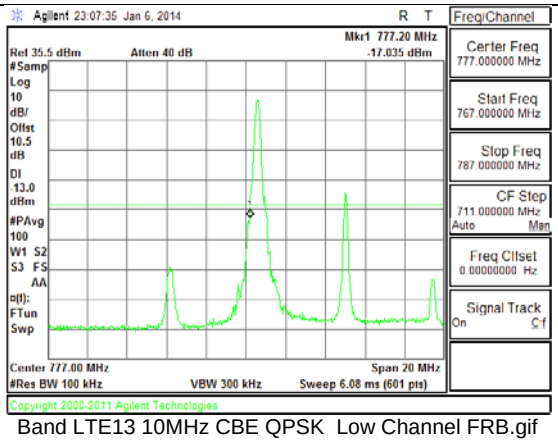
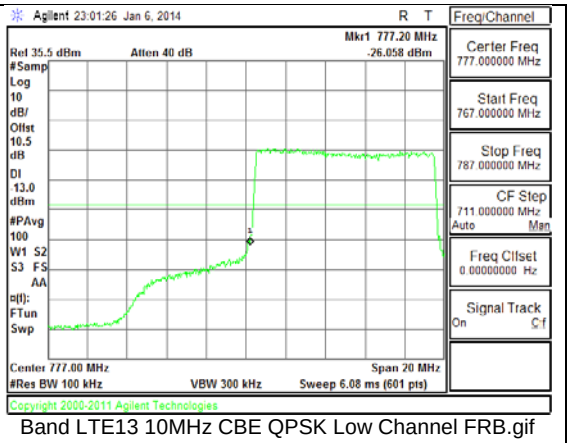
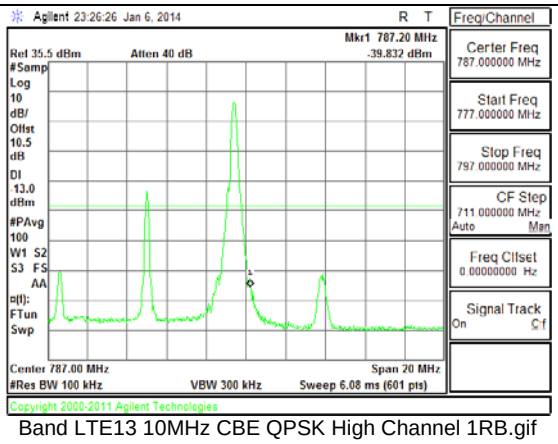
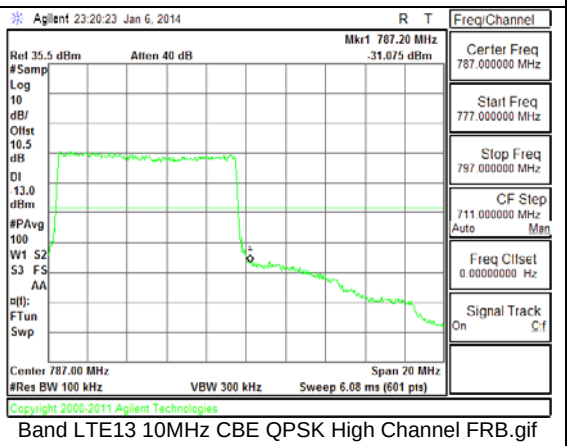
Band LTE13 10MHz QPSK	 Band LTE13 10MHz CBE QPSK Low Channel FRB.gif	 Band LTE13 10MHz CBE QPSK Low Channel FRB.gif
Band LTE13 10MHz QPSK	 Band LTE13 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE13 10MHz CBE QPSK High Channel FRB.gif

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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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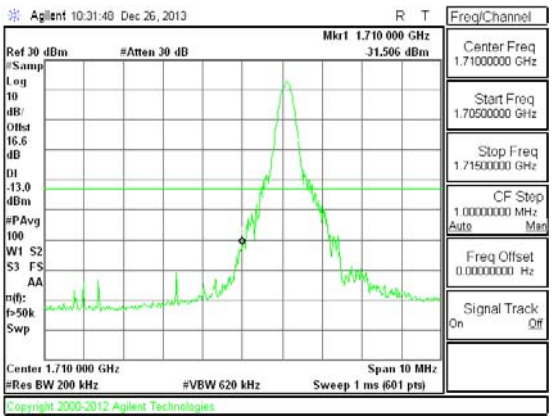
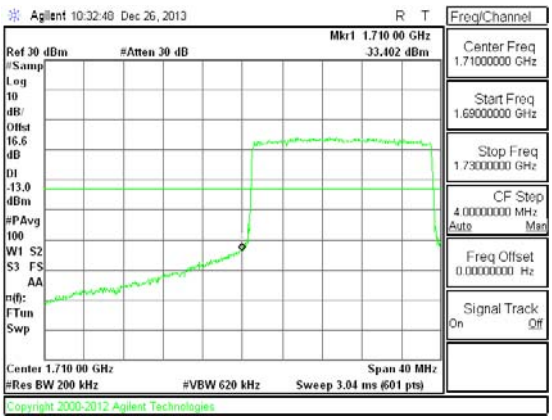
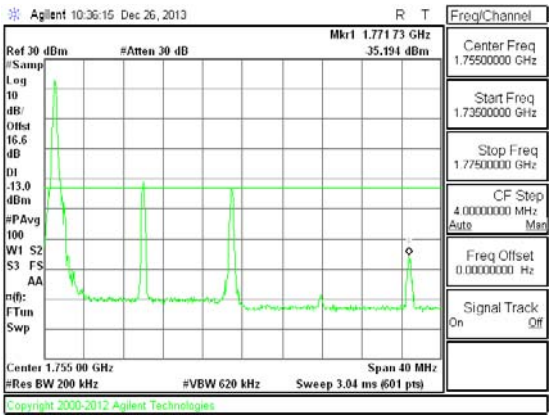
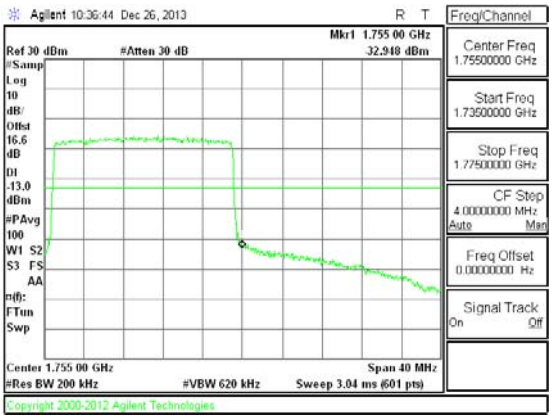
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 20MHz CBE 16QAM Low Channel FRB.gif
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 20MHz CBE 16QAM High Channel FRB.gif

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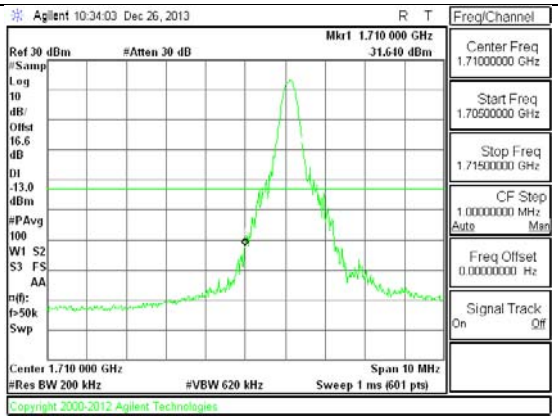
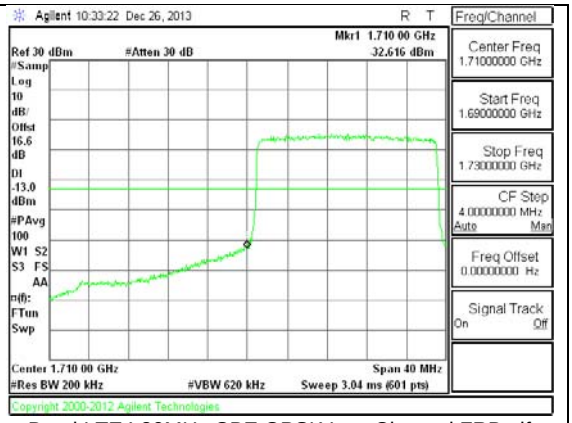
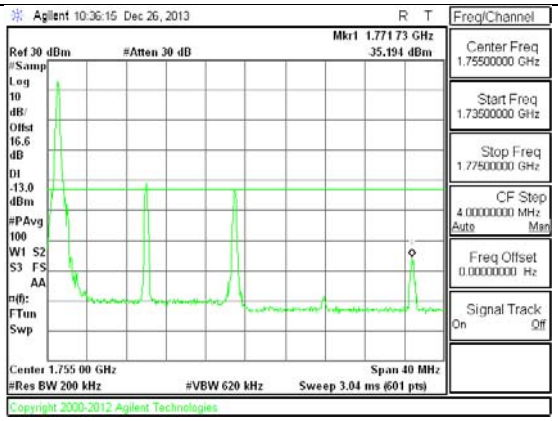
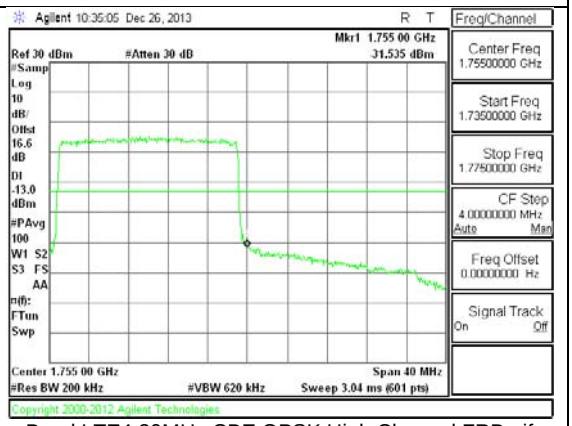
Band LTE4 20MHz QPSK	 Band LTE4 20MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 20MHz CBE QPSK Low Channel FRB.gif
Band LTE4 20MHz QPSK	 Band LTE4 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 20MHz CBE QPSK High Channel FRB.gif

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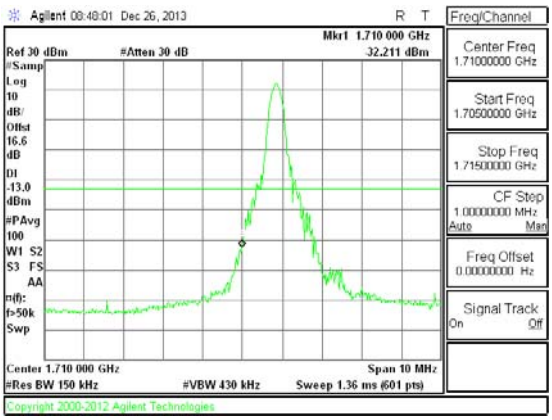
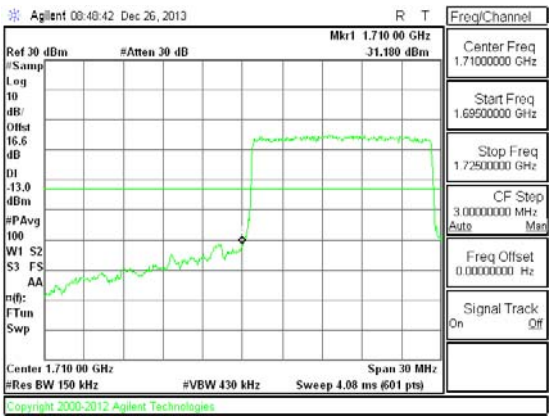
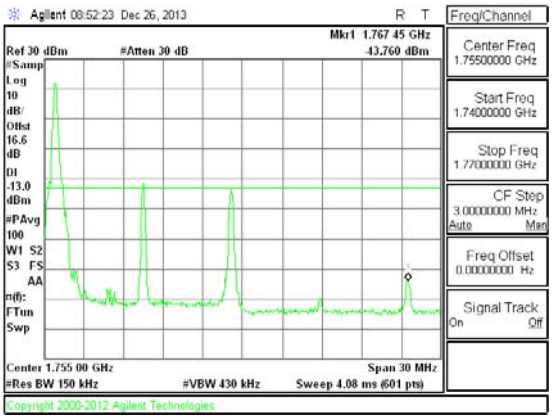
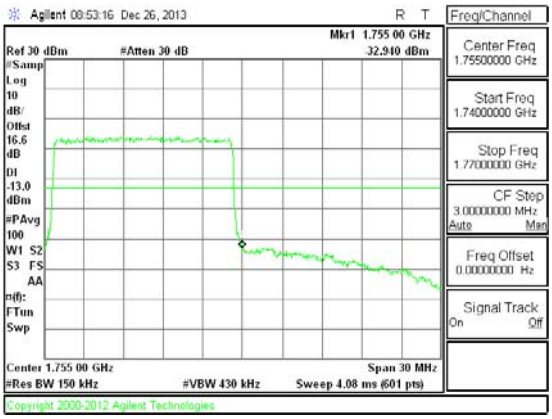
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 15MHz CBE 16QAM Low Channel FRB.gif
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 15MHz CBE 16QAM High Channel FRB.gif

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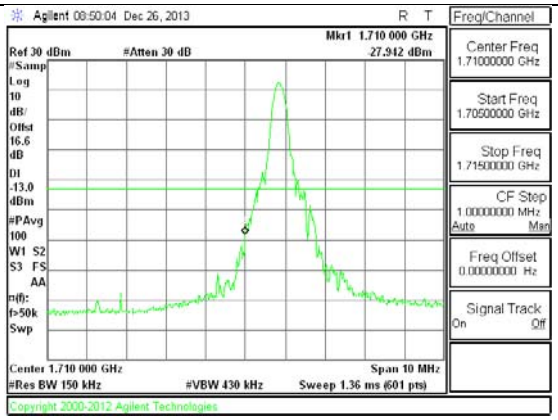
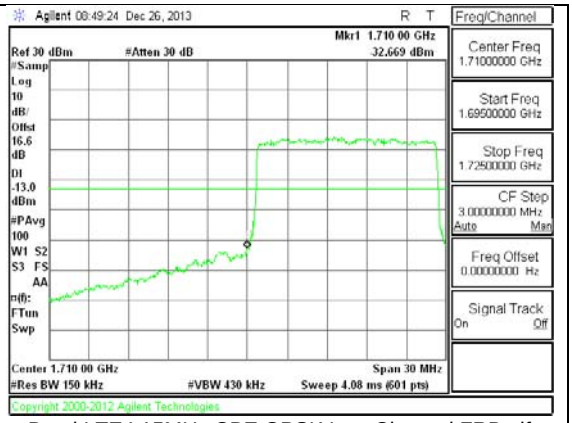
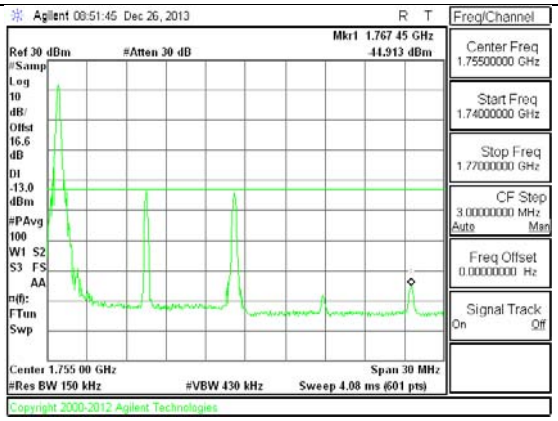
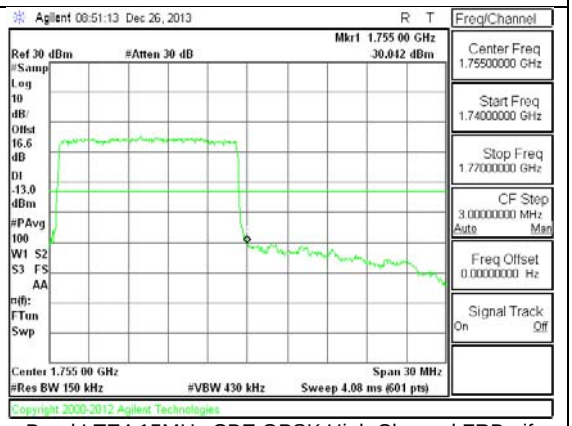
Band LTE4 15MHz QPSK	 Band LTE4 15MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 15MHz CBE QPSK Low Channel FRB.gif
Band LTE4 15MHz QPSK	 Band LTE4 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 15MHz CBE QPSK High Channel FRB.gif

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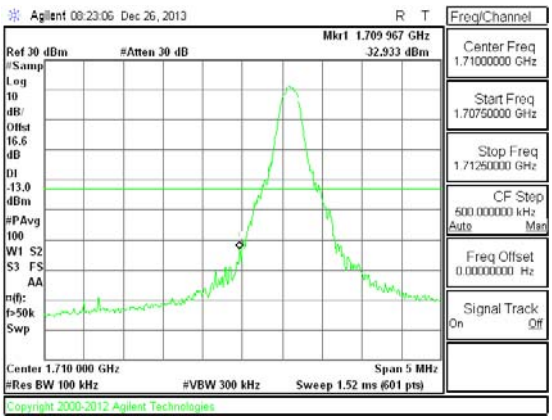
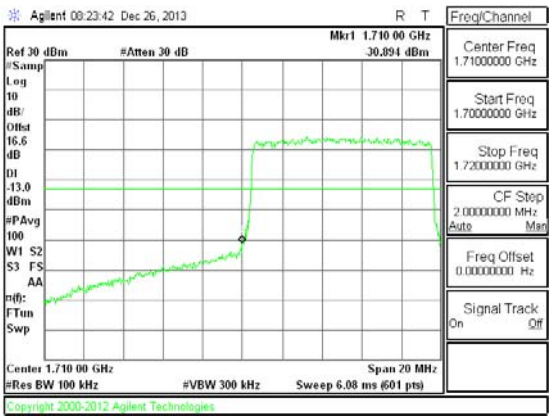
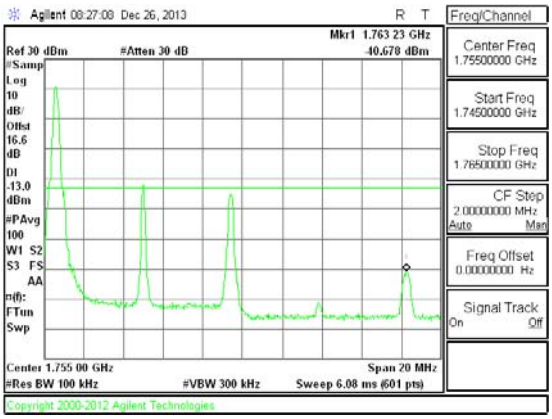
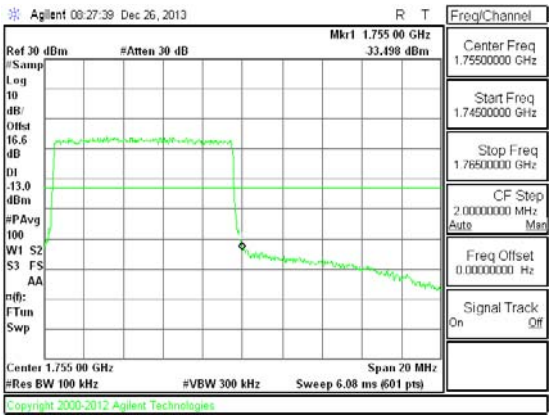
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 10MHz CBE 16QAM High Channel FRB.gif

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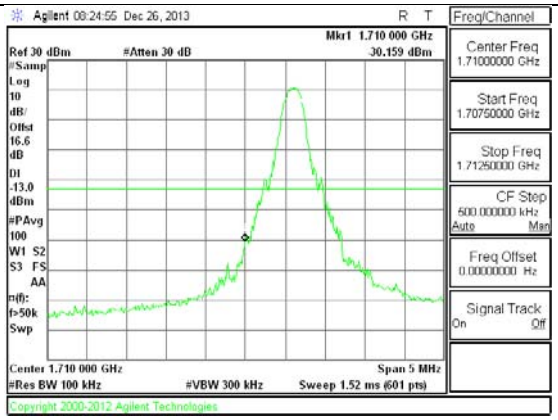
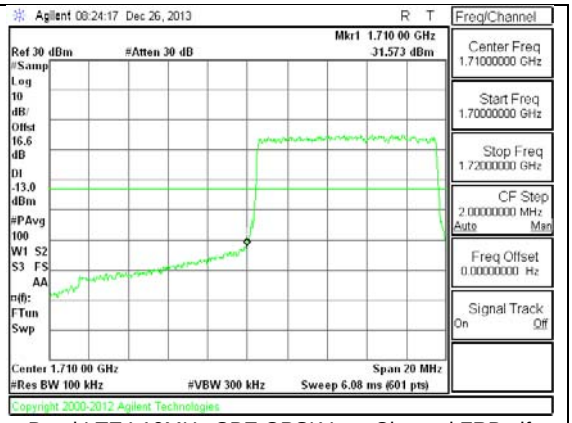
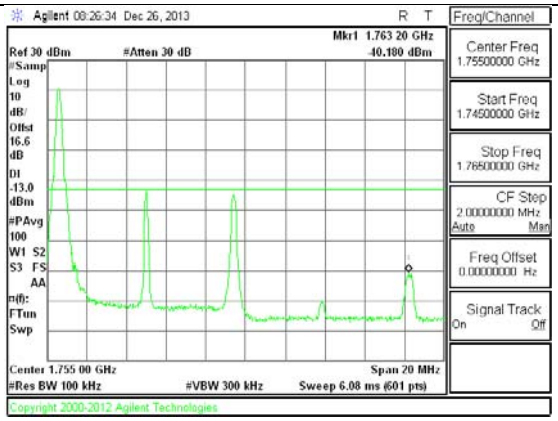
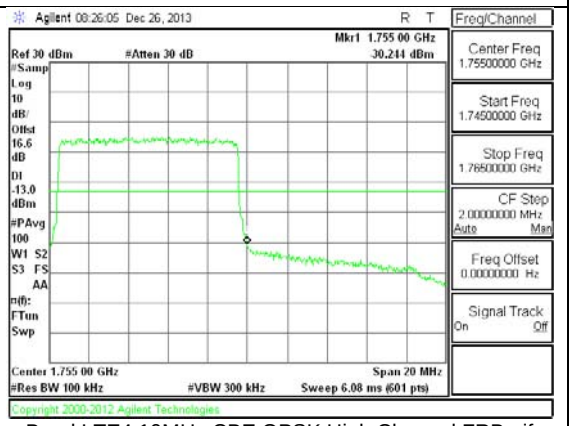
Band LTE4 10MHz QPSK	 Band LTE4 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 10MHz CBE QPSK Low Channel FRB.gif
Band LTE4 10MHz QPSK	 Band LTE4 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 10MHz CBE QPSK High Channel FRB.gif

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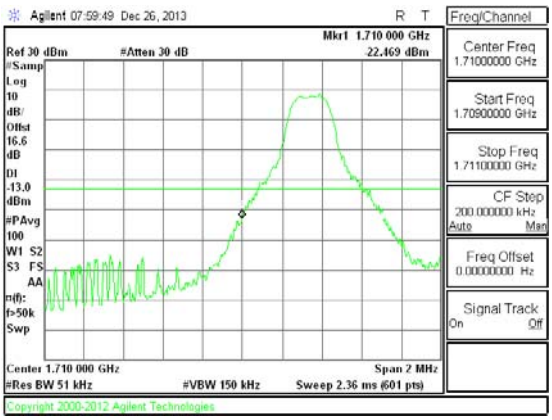
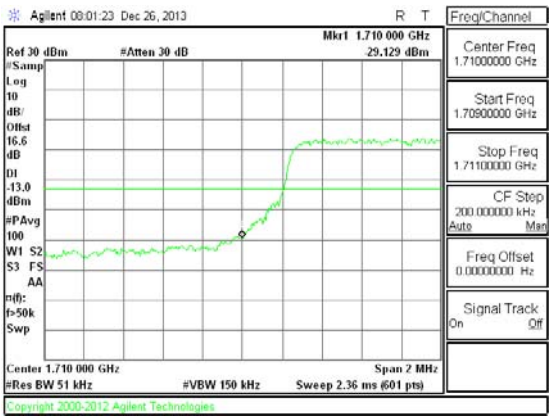
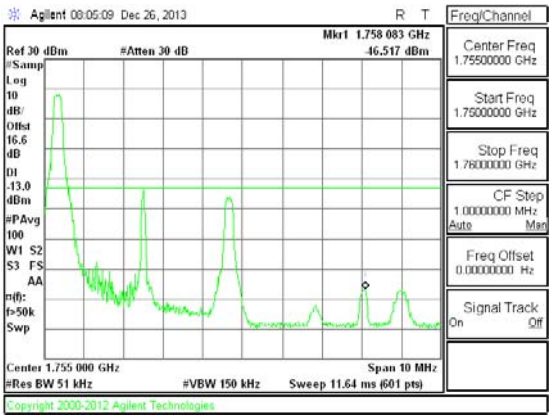
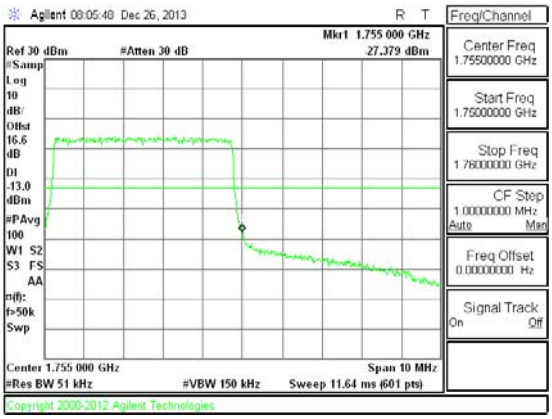
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 5MHz CBE 16QAM Low Channel FRB.gif
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 5MHz CBE 16QAM High Channel FRB.gif

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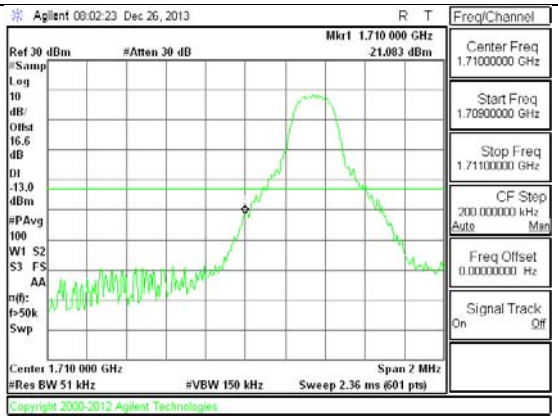
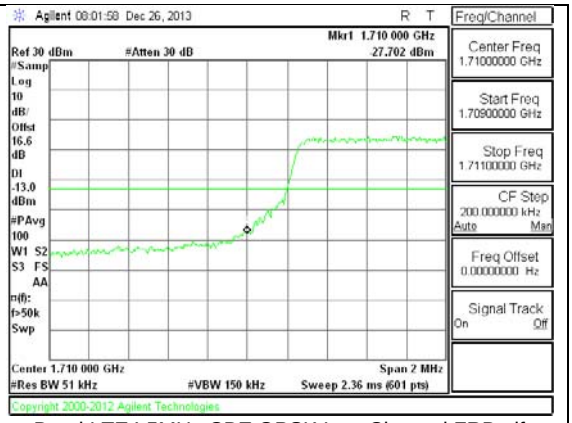
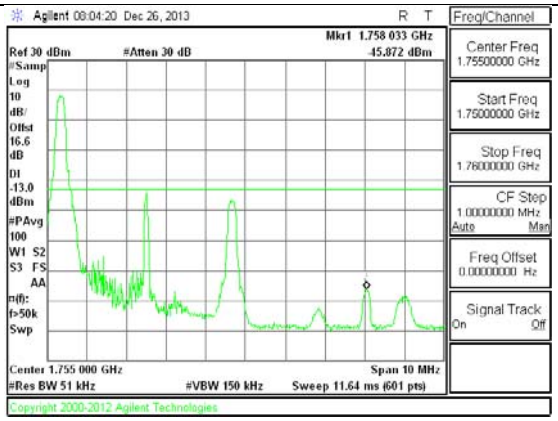
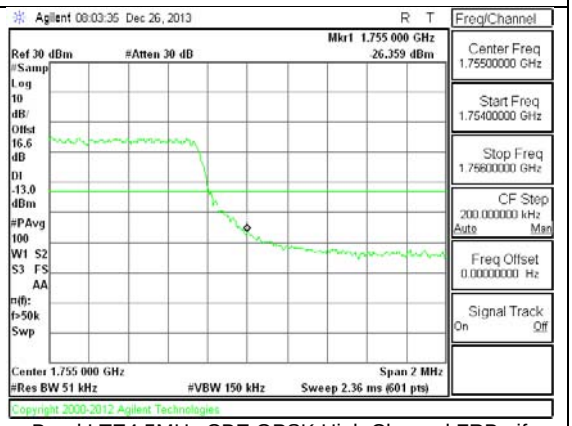
Band LTE4 5MHz QPSK	 Band LTE4 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 5MHz CBE QPSK Low Channel FRB.gif
Band LTE4 5MHz QPSK	 Band LTE4 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 5MHz CBE QPSK High Channel FRB.gif

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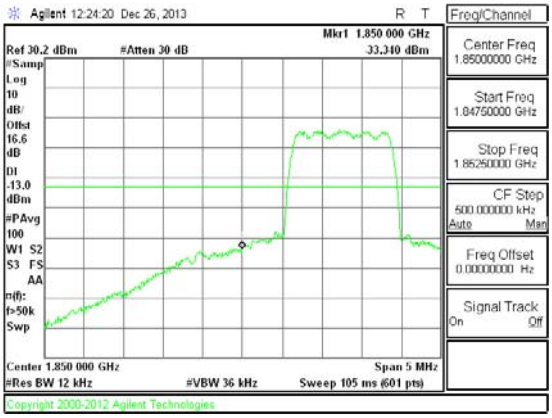
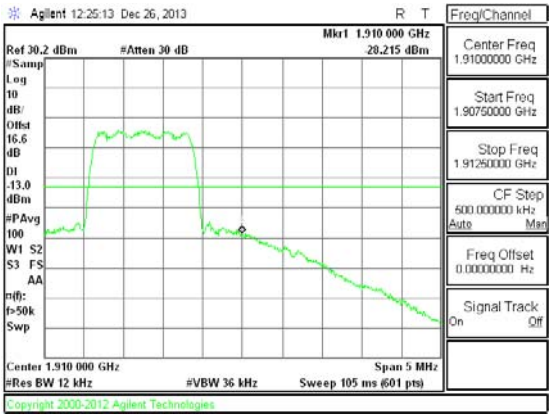
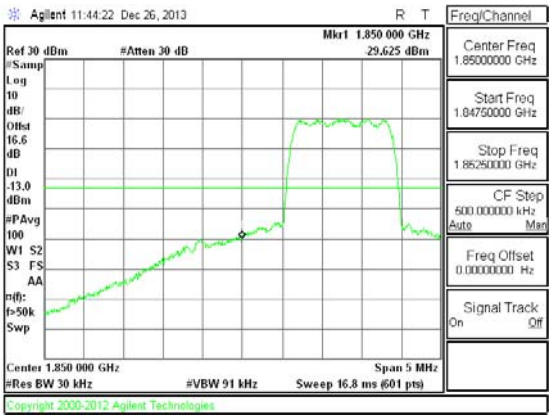
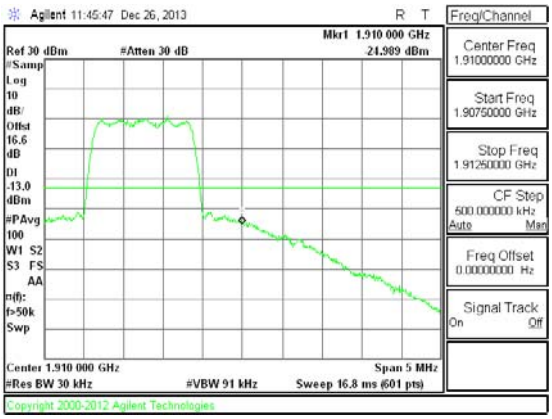
Band BC1 EVDO REL. 0	 Band BC1 EVDO Rel. 0 CBE Low channel	 Band BC1 EVDO Rel. 0 CBE High channel
Band BC1 1xRTT	 Band BC1 1xRTT CBE Low channel	 Band BC1 1xRTT CBE High channel

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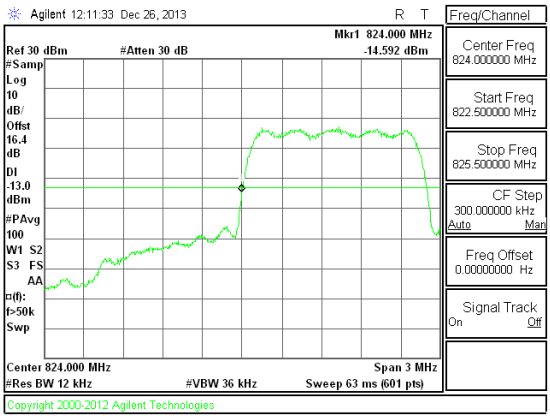
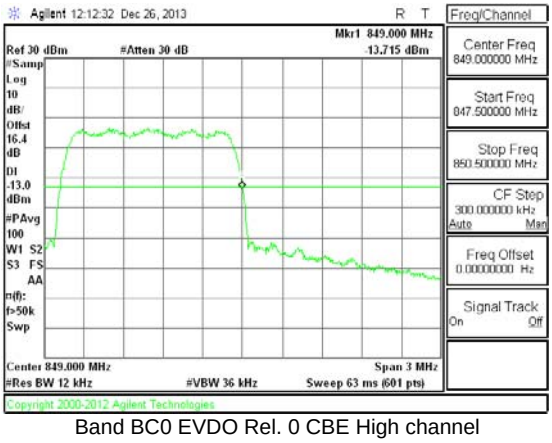
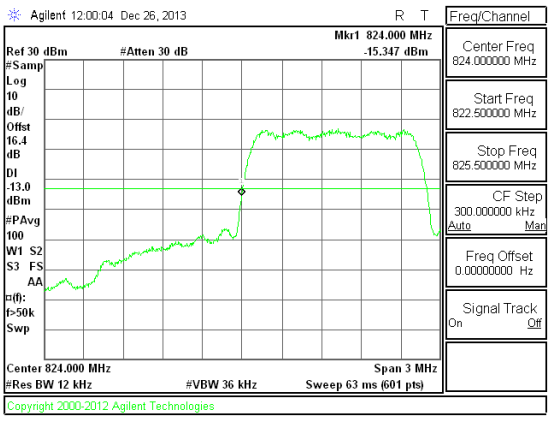
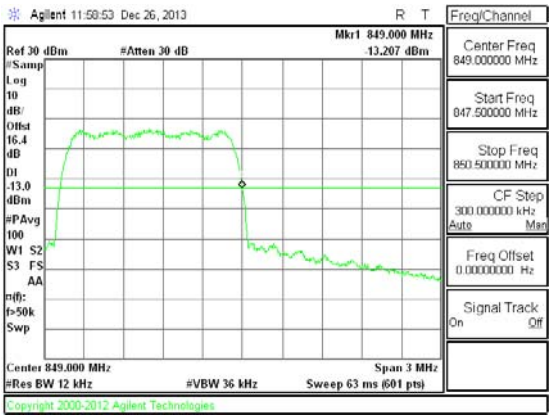
Band BC0 EVDO REL. 0	Band BC0 EVDO Rel  Band BC0 EVDO Rel.0 CBE Low channel	 Band BC0 EVDO Rel. 0 CBE High channel
Band BC0 1xRTT	Band BC0 1xRT  Band BC0 1xRTT CBE High channel	 Band BC0 1xRTT CBE Low channel

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10.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

CDMA BC0/BC1 & LTE B4/B13

RESULTS

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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10.3.1. OUT OF BAND EMISSIONS RESULT

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE13	10	QPSK	782	-27.50	-13	-14.5
		16QAM	782	-26.95	-13	-13.95

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	20	QPSK	1720	-26.43	-13	-13.43
			1732.5	-26.25	-13	-13.25
			1745	-27.15	-13	-14.15
		16QAM	1720	-27.57	-13	-14.57
			1732.5	-27.25	-13	-14.25
			1745	-27.25	-13	-14.25

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	15	QPSK	1717.5	-27.03	-13	-14.03
			1732.5	-27.21	-13	-14.21
			1747.5	-27.21	-13	-14.21
		16QAM	1717.5	-28.30	-13	-15.3
			1732.5	-27.20	-13	-14.2
			1747.5	-26.22	-13	-13.22

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	10	QPSK	1715	-26.23	-13	-13.23
			1732.5	-26.44	-13	-13.44
			1750	-27.56	-13	-14.56
		16QAM	1715	-26.88	-13	-13.88
			1732.5	-26.88	-13	-13.88
			1750	-27.48	-13	-14.48

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	5	QPSK	1712.5	-26.06	-13	-13.06
			1732.5	-26.46	-13	-13.46
			1752.5	-26.51	-13	-13.51
		16QAM	1712.5	-27.23	-13	-14.23
			1732.5	-26.70	-13	-13.7
			1752.5	-25.97	-13	-12.97

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
BC0	1xRTT	824.7	-28.41	-13	-15.41
		836.52	-26.59	-13	-13.59
		848.31	-27.34	-13	-14.34
	EVDO	824.7	-26.48	-13	-13.48
		836.52	-27.32	-13	-14.32
		848.31	-27.32	-13	-14.32
BC1	1xRTT	1851.25	-23.06	-13	-10.06
		1880	-25.60	-13	-12.6
		1908.75	-25.48	-13	-12.48
	1xRTT	1851.25	-23.93	-13	-10.93
		1880	-26.62	-13	-13.62
		1908.75	-28.07	-13	-15.07

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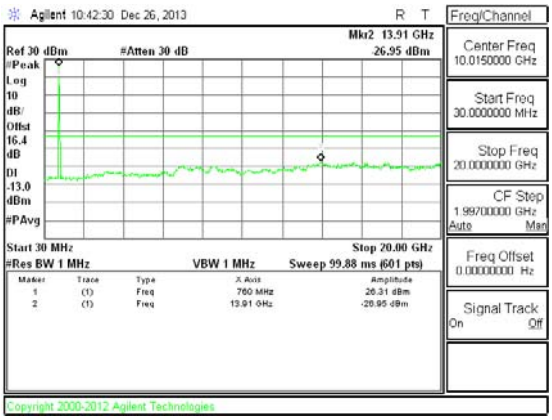
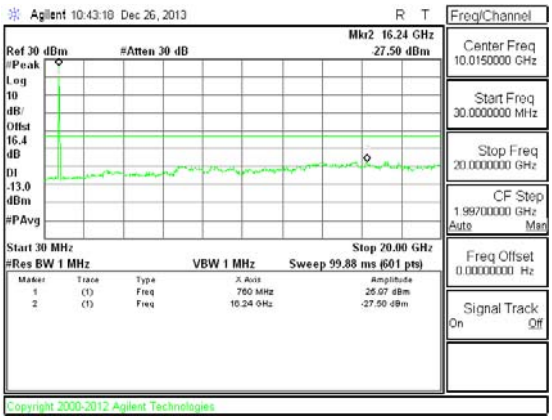
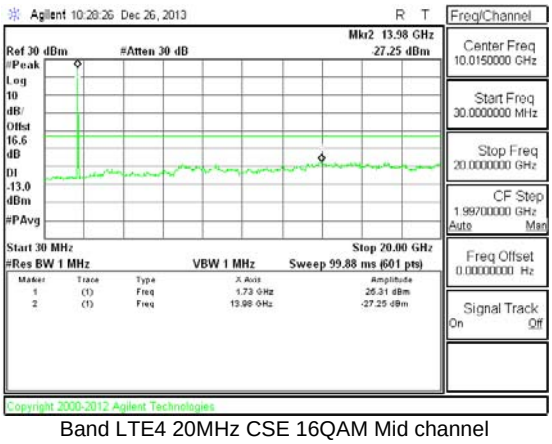
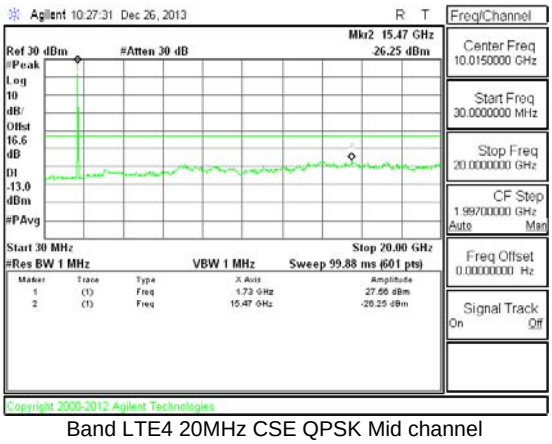
10.3.2. OUT OF BAND EMISSIONS PLOTS

Band LTE13 10MHz 16QAM	 Band LTE13 10MHz CSE 16QAM High channel	 Band LTE13 10MHz CSE QPSK High channel
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CSE 16QAM Mid channel	 Band LTE4 20MHz CSE QPSK Mid channel

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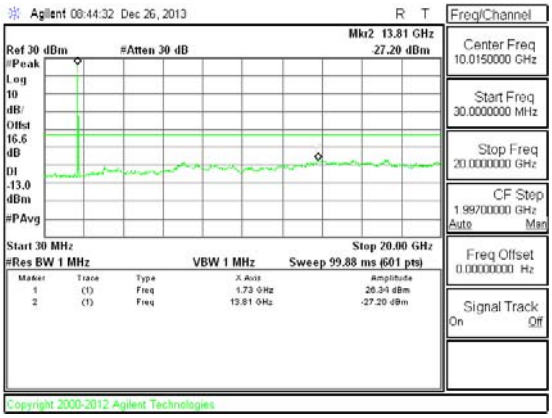
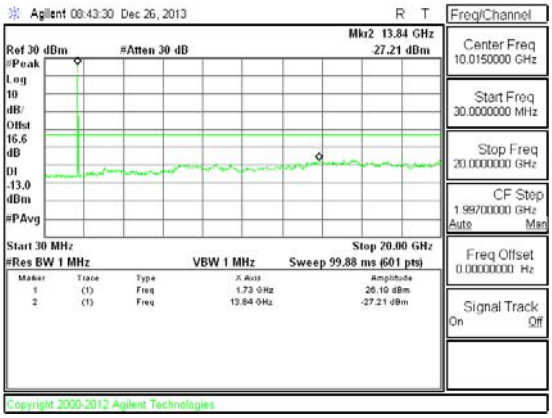
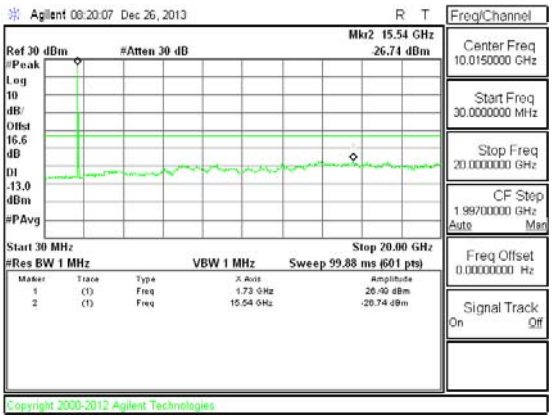
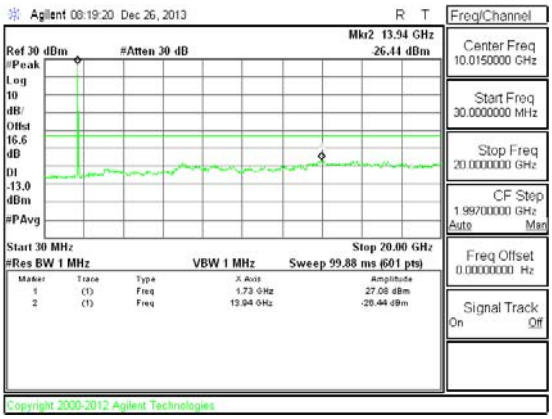
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CSE 16QAM Mid channel	 Band LTE4 15MHz CSE QPSK Mid channel
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CSE 16QAM Mid channel	 Band LTE4 10MHz CSE QPSK Mid channel

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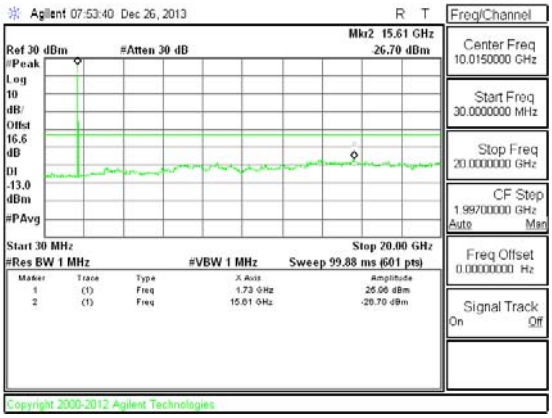
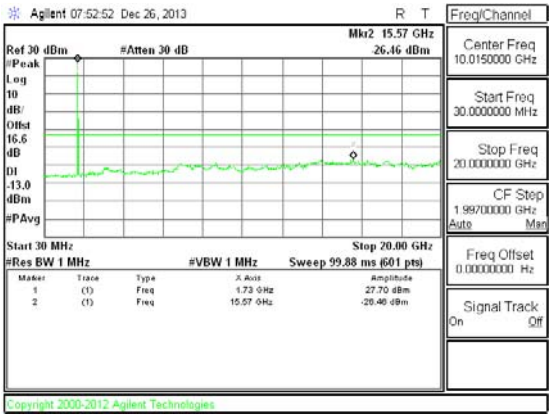
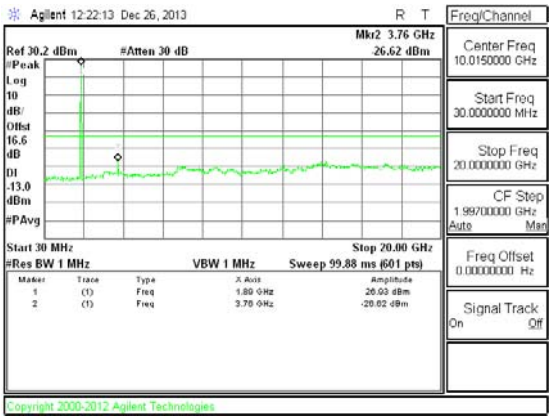
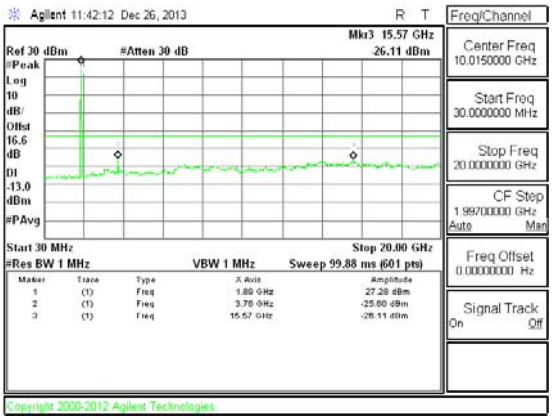
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CSE 16QAM Mid channel	 Band LTE4 5MHz CSE QPSK Mid channel

Band BC1	 Band BC1 EVDO Rel. 0 CSE Mid channel	 Band BC1 1xRTT CSE Mid channel

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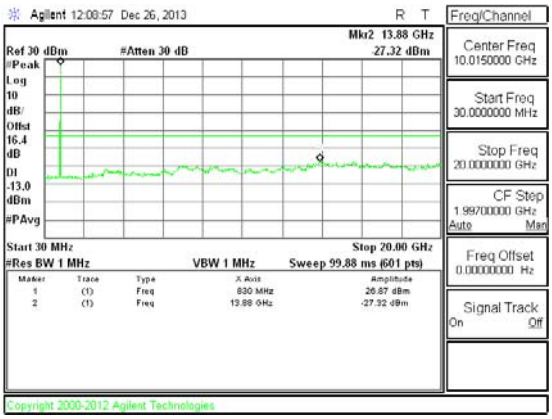
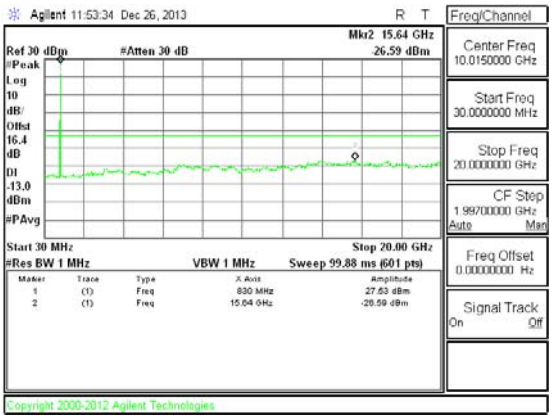
Band BC0	 Band BC0 EVDO Rel. 0 CSE Mid channel	 Band BC0 1xRTT CSE Mid channel

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10.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, and §27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached. Reference power supply voltage for these tests is 3.7Vdc.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case). The test voltage ranges from 3.50 to 4.26 VDC.

MODES TESTED

CDMA BC0/BC1 & LTE B4/B13

RESULTS

See the following pages.

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10.4.1. FREQUENCY STABILITY RESULTS

LTE BAND 13 – MID CHANNEL

Reference Frequency: Mid Channel 781.999992 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 1955.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse (MHz)	Delta (ppm)	Limit (ppm)
3.70	50	781.999993	-0.001	2.5
3.70	40	781.999994	-0.002	2.5
3.70	30	781.999993	-0.001	2.5
3.70	***20***	***781.999992***	***0***	***2.5***
3.70	10	781.999992	0.000	2.5
3.70	0	781.999995	-0.003	2.5
3.70	-10	781.999993	-0.001	2.5
3.70	-20	781.999994	-0.002	2.5
3.70	-30	781.999996	-0.005	2.5

Reference Frequency: Mid Channel 781.999992 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 1955.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse	Delta (ppm)	Limit (ppm)
3.70	***20***	***781.999992***	***0.00000***	***2.5***
4.20	20	781.999998	*-0.00767*	2.5
3.30	20	781.999994	*-0.00256*	2.5
End Volt(3.2)	20	781.999995	*-0.00384*	2.5

LTE BAND 4 – MID CHANNEL

Reference Frequency: PCS Mid Channel 1732.500003MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse (MHz)	Delta (ppm)	Limit (ppm)
3.70	50	1732.500001	0.001	2.5
3.70	40	1732.500003	0.000	2.5
3.70	30	1732.500004	-0.001	2.5
3.70	***20***	***1732.500003***	***0***	***2.5***
3.70	10	1732.500002	0.001	2.5
3.70	0	1732.500003	0.000	2.5
3.70	-10	1732.500001	0.001	2.5
3.70	-20	1732.500002	0.001	2.5
3.70	-30	1732.500002	0.001	2.5

Reference Frequency: PCS Mid Channel 1732.500003 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse	Delta (ppm)	Limit (ppm)
3.70	***20***	***1732.500003***	***0.00000***	***2.5***
4.20	20	1732.500005	*-0.00115*	2.5
3.30	20	1732.500002	*0.00058*	2.5
End Volt(3.2)	20	1732.500004	*-0.00058*	2.5

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CDMA BC0 – MID CHANNEL

Reference Frequency: Mid Channel 836.520000 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 2091.300 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse (MHz)	Delta (ppm)	Limit (ppm)
3.70	50	836.520001	0.000	2.5
3.70	40	836.520001	0.000	2.5
3.70	30	836.520001	0.000	2.5
3.70	***20***	***836.520001***	***0***	***2.5***
3.70	10	836.520001	0.000	2.5
3.70	0	836.520001	0.000	2.5
3.70	-10	836.520001	0.000	2.5
3.70	-20	836.520001	0.000	2.5
3.70	-30	836.520001	0.000	2.5

Reference Frequency: Mid Channel 836.520000 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 2091.300 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse	Delta (ppm)	Limit (ppm)
3.70	***20***	***836.520001***	***0.00000***	***2.5***
4.20	20	836.520001	*0.00000*	2.5
3.30	20	836.520001	*0.00000*	2.5
End Volt(3.2)	20	836.520001	*0.00000*	2.5

CDMA BC1 – MID CHANNEL

Reference Frequency: Mid Channel 1880.000010 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse (MHz)	Delta (ppm)	Limit (ppm)
3.70	50	1880.000001	0.000	2.5
3.70	40	1880.000001	0.000	2.5
3.70	30	1880.000001	0.000	2.5
3.70	***20***	***1880.000001***	***0***	***2.5***
3.70	10	1880.000001	0.000	2.5
3.70	0	1880.000001	0.000	2.5
3.70	-10	1880.000001	0.000	2.5
3.70	-20	1880.000001	0.000	2.5
3.70	-30	1880.000001	0.000	2.5

Reference Frequency: Mid Channel 836.600010 MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse	Delta (ppm)	Limit (ppm)
3.70	***20***	***1880.000001***	***0.00000***	***2.5***
4.20	20	1880.000001	*0.00000*	2.5
3.30	20	1880.000001	*0.00000*	2.5
End Volt(3.2)	20	1880.000001	*0.00000*	2.5

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11. RADIATED TEST RESULTS

11.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17

MODES TESTED

CDMA BC0/BC1 & LTE B4/B13

TEST RESULTS

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11.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC1	1xRTT	25	1851.25	19.63	92.0
		600	1880	21.27	133.97
		1175	1908.75	22.39	173.4
	EVDO REL. 0	25	1851.25	21.35	136.5
		600	1880	23.48	222.84
		1175	1908.75	22.00	158.5

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC0	1xRTT	1013	824.7	21.70	147.9
		384	836.52	21.70	147.9
		777	848.31	21.96	157.0
	EVDO REL. 0	1013	824.7	23.39	218.3
		384	836.52	23.05	201.8
		777	848.31	23.02	200.4

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11.1.2. LTE ERP/EIRP Results

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE13	10	QPSK	1/0	782	18.30	68
		16QAM	1/0	782	18.05	64

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	24.28	267.92
			1/0	1732.5	23.25	211
			1/0	1745	23.76	238
		16QAM	1/0	1720	23.29	213.3
			1/0	1732.5	23.28	213
			1/0	1745	23.248	211.25

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	15	QPSK	1/0	1717.5	23.18	208
			1/0	1732.5	24.44	278
			1/0	1747.5	24.63	290
		16QAM	1/0	1717.5	23.55	226.46
			1/0	1732.5	22.63	183
			1/0	1747.5	23.938	247.63

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	10	QPSK	1/0	1715	24.38	274.16
			1/0	1732.5	23.92	247
			1/0	1750	23.758	237.57
		16QAM	1/0	1715	24.41	276.06
			1/0	1732.5	23.62	230
			1/0	1750	23.658	232.17

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	5	QPSK	1/0	1712.5	23.18	208
			1/0	1732.5	23.25	211
			1/0	1752.5	24.65	292
		16QAM	1/0	1712.5	22.03	160
			1/0	1732.5	23.23	210
			1/0	1752.5	23.94	248

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11.1.3. ERP/EIRP PLOTS

Band

LTE13

10MHz

16QAM

High Frequency Substitution Measurement
Compliance Certification Services Chamber B

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Charles Vergonio
Configuration: X position
Mode: LTE_B13_10MHz_16QAM

Test Equipment:
Receiving: Sunol T1243, and Chamber B Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
782.000	17.80	V	0.9	0.0	16.90	34.8	-17.9	
782.000	18.95	H	0.9	0.0	18.05	34.8	-16.7	
Mid Ch								
NEW								

Rev. 3.17.11

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Band

LTE13

10MHz

QPSK

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Charles Vergonio
Configuration: X position
Mode: LTE_B13_10MHz_QPSK

Test Equipment:
Receiving: Sunol T243, and Chamber B Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
782.000	18.00	V	0.9	0.0	17.10	34.8	-17.7	
782.000	19.20	H	0.9	0.0	18.30	34.8	-16.5	
Mid Ch								
NEW								

Rev. 3.17.11

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Band

LTE4

20MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_20MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.720	17.0	V	0.85	5.58	21.74	33.0	-11.3	
1.720	18.6	H	0.85	5.58	23.29	33.0	-9.7	
Mid Ch								
1.732	17.7	V	0.85	5.60	22.42	33.0	-10.6	
1.732	18.5	H	0.85	5.60	23.28	33.0	-9.7	
High Ch								
1.745	18.5	V	0.85	5.63	23.29	33.0	-9.7	
1.745	18.5	H	0.85	5.63	23.25	33.0	-9.8	

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Band

LTE4

20MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_20MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.720	17.9	V	0.85	5.58	22.59	33.0	-10.4	
1.720	19.6	H	0.85	5.58	24.28	33.0	-8.7	
Mid Ch								
1.732	18.0	V	0.85	5.60	22.74	33.0	-10.3	
1.732	18.5	H	0.85	5.60	23.25	33.0	-9.8	
High Ch								
1.745	19.0	V	0.85	5.63	23.76	33.0	-9.2	
1.745	18.9	H	0.85	5.63	23.70	33.0	-9.3	

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Band

LTE4

15MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_15MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.718	17.7	V	0.85	5.58	22.45	33.0	-10.6	
1.718	18.8	H	0.85	5.58	23.55	33.0	-9.5	
Mid Ch								
1.732	17.9	V	0.85	5.60	22.63	33.0	-10.4	
1.732	17.3	H	0.85	5.60	22.05	33.0	-11.0	
High Ch								
1.748	18.9	V	0.85	5.63	23.69	33.0	-9.3	
1.748	19.2	H	0.85	5.63	23.94	33.0	-9.1	

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Band

LTE4

15MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_15MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.718	18.0	V	0.85	5.58	22.76	33.0	-10.2	
1.718	18.5	H	0.85	5.58	23.18	33.0	-9.8	
Mid Ch								
1.732	17.5	V	0.85	5.60	22.22	33.0	-10.8	
1.732	19.7	H	0.85	5.60	24.44	33.0	-8.6	
High Ch								
1.748	19.1	V	0.85	5.63	23.87	33.0	-9.1	
1.748	19.9	H	0.85	5.63	24.63	33.0	-8.4	

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Band

LTE4

10MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_10MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.715	17.4	V	0.85	5.58	22.10	33.0	-10.9	
1.715	19.7	H	0.85	5.58	24.41	33.0	-8.6	
Mid Ch								
1.732	18.9	V	0.85	5.60	23.62	33.0	-9.4	
1.732	18.7	H	0.85	5.60	23.43	33.0	-9.6	
High Ch								
1.750	18.5	V	0.85	5.63	23.24	33.0	-9.8	
1.750	18.9	H	0.85	5.63	23.66	33.0	-9.3	

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Band

LTE4

10MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_10MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.715	17.9	V	0.85	5.58	22.60	33.0	-10.4	
1.715	19.7	H	0.85	5.58	24.38	33.0	-8.6	
Mid Ch								
1.732	18.9	V	0.85	5.60	23.62	33.0	-9.4	
1.732	19.2	H	0.85	5.60	23.92	33.0	-9.1	
High Ch								
1.750	19.0	V	0.85	5.63	23.76	33.0	-9.2	
1.750	19.0	H	0.85	5.63	23.76	33.0	-9.2	

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Band

LTE4

5MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_5MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.712	16.6	V	0.85	5.58	21.36	33.0	-11.6	
1.712	17.3	H	0.85	5.58	22.03	33.0	-11.0	
Mid Ch								
1.732	17.7	V	0.85	5.60	22.45	33.0	-10.6	
1.732	18.5	H	0.85	5.60	23.23	33.0	-9.8	
High Ch								
1.752	19.0	V	0.85	5.63	23.78	33.0	-9.2	
1.752	19.2	H	0.85	5.63	23.94	33.0	-9.1	

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High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Charles Vergonio
Configuration: Y Position, EUT only
Mode: LTE_B4_5MHz_QPSK

Band

LTE4

5MHz

QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.712	18.0	V	0.85	5.58	22.73	33.0	-10.3	
1.712	18.5	H	0.85	5.58	23.18	33.0	-9.8	
Mid Ch								
1.732	18.5	V	0.85	5.60	23.25	33.0	-9.8	
1.732	18.1	H	0.85	5.60	22.86	33.0	-10.1	
High Ch								
1.752	19.2	V	0.85	5.63	24.01	33.0	-9.0	
1.752	19.9	H	0.85	5.63	24.65	33.0	-8.4	

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Band

BC1

EVDO
REL. 0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/16/13
Test Engineer: Steven Tran
Configuration: EUT, X Position W/ Charger
Mode: CDMA EVDOR0 1900MHz

Test Equipment:
Receiving: T120, and Chamber D SMA Cables
Substitution: Horn T712 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.851	12.6	V	0.85	5.10	16.82	33.0	-16.2	
1.851	17.1	H	0.85	5.10	21.35	33.0	-11.7	
Mid Ch								
1.880	12.5	V	0.85	5.10	16.71	33.0	-16.3	
1.880	19.2	H	0.85	5.10	23.48	33.0	-9.5	
High Ch								
1.909	15.5	V	0.85	5.10	19.75	33.0	-13.3	
1.909	17.8	H	0.85	5.10	22.00	33.0	-11.0	

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Band

BC1

1xRTT

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/16/13
Test Engineer: Steven
Configuration: EUT, X Position & charger
Mode: CDMA 1900MHz

Test Equipment:
Receiving: T120, and Chamber D SMA Cables
Substitution: Horn T711 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.851	12.3	V	0.85	4.90	16.37	33.0	-16.6	
1.851	15.6	H	0.85	4.90	19.63	33.0	-13.4	
Mid Ch								
1.880	11.2	V	0.85	4.90	15.27	33.0	-17.7	
1.880	17.2	H	0.85	4.90	21.27	33.0	-11.7	
High Ch								
1.909	14.8	V	0.85	4.90	18.84	33.0	-14.2	
1.909	18.3	H	0.85	4.90	22.39	33.0	-10.6	

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Band

BC0

EVDO
REL. 0

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/16/13
Test Engineer: STEVEN TRAN
Configuration: EUT, Z POSITION
Mode: CDMA EVDO R0 BC0

Test Equipment:
Receiving: Sunol T185, and Chamber C Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	24.29	V	0.9	0.0	23.39	38.5	-15.1	
824.70	10.88	H	0.9	0.0	9.98	38.5	-28.5	
Mid Ch								
836.52	23.95	V	0.9	0.0	23.05	38.5	-15.4	
836.52	11.95	H	0.9	0.0	11.05	38.5	-27.4	
High Ch								
848.31	23.92	V	0.9	0.0	23.02	38.5	-15.4	
848.31	11.79	H	0.9	0.0	10.89	38.5	-27.6	

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Band

BC0

1xRTT

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: LG
Project #: 13U16594
Date: 12/16/13
Test Engineer: STEVEN TRAN
Configuration: EUT, Z POSITION
Mode: CDMA RTT BC0

Test Equipment:
Receiving: Sunol T185, and Chamber C Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	22.60	V	0.9	0.0	21.70	38.5	-16.7	
824.70	9.53	H	0.9	0.0	8.63	38.5	-29.8	
Mid Ch								
836.52	22.60	V	0.9	0.0	21.70	38.5	-16.7	
836.52	10.78	H	0.9	0.0	9.88	38.5	-28.6	
High Ch								
848.31	22.86	V	0.9	0.0	21.96	38.5	-16.5	
848.31	11.32	H	0.9	0.0	10.42	38.5	-28.0	

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11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

MODES TESTED

CDMA BC0/BC1 & LTE B4/B13

RESULTS

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11.2.1. SPURIOUS RADIATION PLOTS

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Steven Tran
Configuration: X position
Mode: TX, LTE band 13, 10MHz, 16QAM

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T145 8449B	Filter 1	Part 27

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE13	16QAM									
	Mid Ch, (782 MHz)									
10MHz	1.564	-28.5	V	3.0	30.7	1.0	-58.2	-13.0	-45.2	
	2.346	-25.4	V	3.0	28.9	1.0	-53.3	-13.0	-40.3	
	3.128	-22.4	V	3.0	26.8	1.0	-48.2	-13.0	-35.2	
16QAM	1.564	-22.5	H	3.0	30.7	1.0	-52.2	-13.0	-39.2	
	2.346	-27.0	H	3.0	28.9	1.0	-54.8	-13.0	-41.8	
	3.128	-22.6	H	3.0	26.8	1.0	-48.5	-13.0	-35.5	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: Steven Tran
Configuration: X position
Mode: TX, LTE band 13, 10MHz, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

Band

LTE13

10MHz

QPSK

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
QPSK									
Mid Ch, (782 MHz)									
1.564	-28.4	V	3.0	30.7	1.0	-58.1	-13.0	-45.1	
2.346	-24.7	V	3.0	28.9	1.0	-52.6	-13.0	-39.6	
3.128	-21.3	V	3.0	26.8	1.0	-47.1	-13.0	-34.1	
1.564	-21.5	H	3.0	30.7	1.0	-51.2	-13.0	-38.2	
2.346	-26.3	H	3.0	28.9	1.0	-54.2	-13.0	-41.2	
3.128	-21.7	H	3.0	26.8	1.0	-47.6	-13.0	-34.6	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 20MHz BW 16QAN

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band

LTE4

20MHz

16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1720 MHz)									
3.440	-12.8	V	3.0	30.4	1.0	-42.2	-13.0	-29.2	
5.160	-19.7	V	3.0	28.7	1.0	-47.4	-13.0	-34.4	
6.880	-1.3	V	3.0	27.1	1.0	-27.4	-13.0	-14.4	
3.440	-13.9	H	3.0	30.4	1.0	-43.3	-13.0	-30.3	
5.160	-11.3	H	3.0	28.7	1.0	-39.1	-13.0	-26.1	
6.880	-7.7	H	3.0	27.1	1.0	-33.8	-13.0	-20.8	
Mid Ch, (1732.5 MHz)									
3.465	-12.6	V	3.0	30.4	1.0	-42.0	-13.0	-29.0	
5.198	-10.1	V	3.0	28.7	1.0	-37.8	-13.0	-24.8	
6.930	-0.5	V	3.0	27.1	1.0	-26.6	-13.0	-13.6	
3.465	-13.2	H	3.0	30.4	1.0	-42.6	-13.0	-29.6	
5.198	-6.9	H	3.0	28.7	1.0	-34.6	-13.0	-21.6	
6.930	-7.3	H	3.0	27.1	1.0	-33.3	-13.0	-20.3	
High Ch, (1745 MHz)									
3.490	-13.6	V	3.0	30.4	1.0	-43.0	-13.0	-30.0	
5.235	-18.2	V	3.0	28.7	1.0	-45.9	-13.0	-32.9	
6.980	0.8	V	3.0	27.0	1.0	-25.2	-13.0	-12.2	
3.490	-12.1	H	3.0	30.4	1.0	-41.5	-13.0	-28.5	
5.235	-18.9	H	3.0	28.7	1.0	-46.6	-13.0	-33.6	
6.980	-5.2	H	3.0	27.0	1.0	-31.2	-13.0	-18.2	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 20MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band

LTE4

20MHz

QPSK

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1720 MHz)									
3.440	-12.4	V	3.0	30.4	1.0	-41.8	-13.0	-28.8	
5.160	-19.3	V	3.0	28.7	1.0	-47.0	-13.0	-34.0	
6.880	-0.9	V	3.0	27.1	1.0	-27.0	-13.0	-14.0	
3.440	-13.5	H	3.0	30.4	1.0	-42.9	-13.0	-29.9	
5.160	-10.9	H	3.0	28.7	1.0	-38.6	-13.0	-25.6	
6.880	-7.3	H	3.0	27.1	1.0	-33.4	-13.0	-20.4	
Mid Ch, (1732.5 MHz)									
3.465	-12.1	V	3.0	30.4	1.0	-41.6	-13.0	-28.6	
5.198	-9.6	V	3.0	28.7	1.0	-37.3	-13.0	-24.3	
6.930	-0.1	V	3.0	27.1	1.0	-26.1	-13.0	-13.1	
3.465	-12.8	H	3.0	30.4	1.0	-42.2	-13.0	-29.2	
5.198	-6.4	H	3.0	28.7	1.0	-34.1	-13.0	-21.1	
6.930	-6.8	H	3.0	27.1	1.0	-32.9	-13.0	-19.9	
High Ch, (1745 MHz)									
3.490	-13.1	V	3.0	30.4	1.0	-42.5	-13.0	-29.5	
5.235	-17.8	V	3.0	28.7	1.0	-45.5	-13.0	-32.5	
6.980	1.3	V	3.0	27.0	1.0	-24.8	-13.0	-11.8	
3.490	-11.7	H	3.0	30.4	1.0	-41.1	-13.0	-28.1	
5.235	-18.4	H	3.0	28.7	1.0	-46.1	-13.0	-33.1	
6.980	-4.7	H	3.0	27.0	1.0	-30.8	-13.0	-17.8	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 15MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band
LTE4
15MHz
16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1718 MHz)									
3.436	-14.0	V	3.0	30.4	1.0	-43.4	-13.0	-30.4	
5.154	-13.5	V	3.0	28.7	1.0	-41.3	-13.0	-28.3	
6.872	-12.5	V	3.0	27.1	1.0	-38.6	-13.0	-25.6	
3.436	-13.3	H	3.0	30.4	1.0	-42.7	-13.0	-29.7	
5.154	-9.4	H	3.0	28.7	1.0	-37.1	-13.0	-24.1	
6.872	-14.5	H	3.0	27.1	1.0	-40.6	-13.0	-27.6	
Mid Ch, (1732.5 MHz)									
3.465	-13.6	V	3.0	30.4	1.0	-43.0	-13.0	-30.0	
5.198	-16.0	V	3.0	28.7	1.0	-43.7	-13.0	-30.7	
6.930	-15.9	V	3.0	27.1	1.0	-42.0	-13.0	-29.0	
3.465	-13.4	H	3.0	30.4	1.0	-42.8	-13.0	-29.8	
5.198	-15.5	H	3.0	28.7	1.0	-43.2	-13.0	-30.2	
6.930	-13.9	H	3.0	27.1	1.0	-40.0	-13.0	-27.0	
High Ch, (1748 MHz)									
3.496	-19.8	V	3.0	30.4	1.0	-49.2	-13.0	-36.2	
5.244	-17.0	V	3.0	28.7	1.0	-44.6	-13.0	-31.6	
6.992	-15.7	V	3.0	27.0	1.0	-41.7	-13.0	-28.7	
3.496	-20.4	H	3.0	30.4	1.0	-49.7	-13.0	-36.7	
5.244	-16.2	H	3.0	28.7	1.0	-43.9	-13.0	-30.9	
6.992	-14.0	H	3.0	27.0	1.0	-40.0	-13.0	-27.0	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 15MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band

LTE4

15MHz

QPSK

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1718 MHz)									
3.436	-13.6	V	3.0	30.4	1.0	-43.0	-13.0	-30.0	
5.154	-13.1	V	3.0	28.7	1.0	-40.8	-13.0	-27.8	
6.872	-12.1	V	3.0	27.1	1.0	-38.2	-13.0	-25.2	
3.436	-12.9	H	3.0	30.4	1.0	-42.3	-13.0	-29.3	
5.154	-8.9	H	3.0	28.7	1.0	-36.7	-13.0	-23.7	
6.872	-14.0	H	3.0	27.1	1.0	-40.1	-13.0	-27.1	
Mid Ch, (1732.5 MHz)									
3.465	-13.1	V	3.0	30.4	1.0	-42.5	-13.0	-29.5	
5.198	-15.5	V	3.0	28.7	1.0	-43.2	-13.0	-30.2	
6.930	-15.4	V	3.0	27.1	1.0	-41.5	-13.0	-28.5	
3.465	-12.9	H	3.0	30.4	1.0	-42.3	-13.0	-29.3	
5.198	-15.1	H	3.0	28.7	1.0	-42.8	-13.0	-29.8	
6.930	-13.5	H	3.0	27.1	1.0	-39.5	-13.0	-26.5	
High Ch, (1748 MHz)									
3.496	-19.4	V	3.0	30.4	1.0	-48.7	-13.0	-35.7	
5.244	-16.5	V	3.0	28.7	1.0	-44.2	-13.0	-31.2	
6.992	-15.3	V	3.0	27.0	1.0	-41.3	-13.0	-28.3	
3.496	-19.9	H	3.0	30.4	1.0	-49.3	-13.0	-36.3	
5.244	-15.8	H	3.0	28.7	1.0	-43.4	-13.0	-30.4	
6.992	-13.5	H	3.0	27.0	1.0	-39.5	-13.0	-26.5	

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 10MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band: LTE4 10MHz 16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715 MHz)									
3.430	-13.2	V	3.0	30.4	1.0	-42.6	-13.0	-29.6	
5.145	-16.7	V	3.0	28.8	1.0	-44.4	-13.0	-31.4	
6.860	-1.8	V	3.0	27.1	1.0	-28.0	-13.0	-15.0	
3.430	-13.5	H	3.0	30.4	1.0	-42.9	-13.0	-29.9	
5.145	-10.0	H	3.0	28.8	1.0	-37.8	-13.0	-24.8	
6.860	-7.0	H	3.0	27.1	1.0	-33.2	-13.0	-20.2	
Mid Ch, (1732.5 MHz)									
3.465	-12.7	V	3.0	30.4	1.0	-42.1	-13.0	-29.1	
5.198	-10.4	V	3.0	28.7	1.0	-38.1	-13.0	-25.1	
6.930	0.7	V	3.0	27.1	1.0	-25.4	-13.0	-12.4	
3.465	-13.0	H	3.0	30.4	1.0	-42.4	-13.0	-29.4	
5.198	-10.0	H	3.0	28.7	1.0	-37.7	-13.0	-24.7	
6.930	-5.6	H	3.0	27.1	1.0	-31.6	-13.0	-18.6	
High Ch, (1750 MHz)									
3.500	-12.8	V	3.0	30.4	1.0	-42.1	-13.0	-29.1	
5.250	-15.5	V	3.0	28.7	1.0	-43.2	-13.0	-30.2	
7.000	1.2	V	3.0	27.0	1.0	-24.8	-13.0	-11.8	
3.500	-13.0	H	3.0	30.4	1.0	-42.3	-13.0	-29.3	
5.250	-7.4	H	3.0	28.7	1.0	-35.1	-13.0	-22.1	
7.000	-3.7	H	3.0	27.0	1.0	-29.7	-13.0	-16.7	

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 10MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band: LTE4 10MHz QPSK

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715 MHz)									
3.430	-12.7	V	3.0	30.4	1.0	-42.2	-13.0	-29.2	
5.145	-16.2	V	3.0	28.8	1.0	-44.0	-13.0	-31.0	
6.860	-1.4	V	3.0	27.1	1.0	-27.5	-13.0	-14.5	
3.430	-13.0	H	3.0	30.4	1.0	-42.4	-13.0	-29.4	
5.145	-9.6	H	3.0	28.8	1.0	-37.3	-13.0	-24.3	
6.860	-6.6	H	3.0	27.1	1.0	-32.7	-13.0	-19.7	
Mid Ch, (1732.5 MHz)									
3.465	-12.3	V	3.0	30.4	1.0	-41.7	-13.0	-28.7	
5.198	-10.0	V	3.0	28.7	1.0	-37.7	-13.0	-24.7	
6.930	1.1	V	3.0	27.1	1.0	-24.9	-13.0	-11.9	
3.465	-12.6	H	3.0	30.4	1.0	-42.0	-13.0	-29.0	
5.198	-9.5	H	3.0	28.7	1.0	-37.2	-13.0	-24.2	
6.930	-5.1	H	3.0	27.1	1.0	-31.2	-13.0	-18.2	
High Ch, (1750 MHz)									
3.500	-12.3	V	3.0	30.4	1.0	-41.7	-13.0	-28.7	
5.250	-15.1	V	3.0	28.7	1.0	-42.7	-13.0	-29.7	
7.000	1.7	V	3.0	27.0	1.0	-24.3	-13.0	-11.3	
3.500	-12.5	H	3.0	30.4	1.0	-41.9	-13.0	-28.9	
5.250	-6.9	H	3.0	28.7	1.0	-34.6	-13.0	-21.6	
7.000	-3.3	H	3.0	27.0	1.0	-29.3	-13.0	-16.3	

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 5MHz BW, 16 QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band
LTE4
5MHz
16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.5 MHz)									
3.420	-13.1	V	3.0	30.4	1.0	-42.6	-13.0	-29.6	
5.131	-16.9	V	3.0	28.8	1.0	-44.6	-13.0	-31.6	
6.841	-5.4	V	3.0	27.2	1.0	-31.6	-13.0	-18.6	
3.420	-13.3	H	3.0	30.4	1.0	-42.8	-13.0	-29.8	
5.131	-14.5	H	3.0	28.8	1.0	-42.3	-13.0	-29.3	
6.921	-8.3	H	3.0	27.1	1.0	-34.4	-13.0	-21.4	
Mid Ch, (1732.5 MHz)									
3.460	-13.2	V	3.0	30.4	1.0	-42.6	-13.0	-29.6	
5.190	-9.0	V	3.0	28.7	1.0	-36.7	-13.0	-23.7	
6.920	0.9	V	3.0	27.1	1.0	-25.2	-13.0	-12.2	
3.460	-13.0	H	3.0	30.4	1.0	-42.4	-13.0	-29.4	
5.000	-4.7	H	3.0	28.9	1.0	-32.6	-13.0	-19.6	
5.191	-8.4	H	3.0	28.7	1.0	-36.1	-13.0	-23.1	
High Ch, (1752.5 MHz)									
3.500	-13.6	V	3.0	30.4	1.0	-43.0	-13.0	-30.0	
5.520	-14.4	V	3.0	28.4	1.0	-41.8	-13.0	-28.8	
7.001	-0.1	V	3.0	27.0	1.0	-26.1	-13.0	-13.1	
3.501	-12.5	H	3.0	30.4	1.0	-41.8	-13.0	-28.8	
5.250	-8.5	H	3.0	28.7	1.0	-36.1	-13.0	-23.1	
7.001	-4.3	H	3.0	27.0	1.0	-30.3	-13.0	-17.3	

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: Steven Tran
Configuration: Y Position
Mode: TX, LTE band 4, 5MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1712.5 MHz)									
LTE4	3.425	-12.7	V	3.0	30.4	1.0	-42.1	-13.0	-29.1	
	5.139	-16.4	V	3.0	28.8	1.0	-44.2	-13.0	-31.2	
5MHz	6.850	-5.0	V	3.0	27.1	1.0	-31.1	-13.0	-18.1	
	3.427	-12.8	H	3.0	30.4	1.0	-42.3	-13.0	-29.3	
QPSK	5.134	-14.1	H	3.0	28.8	1.0	-41.8	-13.0	-28.8	
	6.849	-8.0	H	3.0	27.1	1.0	-34.1	-13.0	-21.1	
	Mid Ch, (1732.5 MHz)									
	3.460	-12.8	V	3.0	30.4	1.0	-42.2	-13.0	-29.2	
	5.190	-8.5	V	3.0	28.7	1.0	-36.2	-13.0	-23.2	
	6.921	1.3	V	3.0	27.1	1.0	-24.7	-13.0	-11.7	
	3.460	-12.6	H	3.0	30.4	1.0	-42.0	-13.0	-29.0	
	5.191	-3.8	H	3.0	28.7	1.0	-31.5	-13.0	-18.5	
	6.921	-5.0	H	3.0	27.1	1.0	-31.1	-13.0	-18.1	
	High Ch, (1752.5 MHz)									
	3.500	-13.2	V	3.0	30.4	1.0	-42.6	-13.0	-29.6	
	5.251	-14.3	V	3.0	28.7	1.0	-41.9	-13.0	-28.9	
	7.001	0.3	V	3.0	27.0	1.0	-25.7	-13.0	-12.7	
	3.500	-12.0	H	3.0	30.4	1.0	-41.4	-13.0	-28.4	
	5.264	-8.0	H	3.0	28.6	1.0	-35.7	-13.0	-22.7	
	7.000	-3.8	H	3.0	27.0	1.0	-29.8	-13.0	-16.8	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 01/06/13
Test Engineer: KIYA KEDIDA
Configuration: EUT, Z POSITION
Mode: EVDO BC01 HARM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber C	T343 8449B	Filter 1	Part 24

Band

BC1

EVDO

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850MHz									
3.700	0.5	V	3.0	35.4	1.0	-33.9	-13.0	-20.9	
5.550	-13.3	V	3.0	34.7	1.0	-47.0	-13.0	-34.0	
7.400	-11.7	V	3.0	34.9	1.0	-45.7	-13.0	-32.7	
3.700	-1.4	H	3.0	35.4	1.0	-35.8	-13.0	-22.8	
5.550	-13.0	H	3.0	34.7	1.0	-46.7	-13.0	-33.7	
7.400	-10.1	H	3.0	34.9	1.0	-44.1	-13.0	-31.1	
Mid Ch, 1880.0MHz									
3.760	-3.0	V	3.0	35.3	1.0	-37.3	-13.0	-24.3	
5.640	-13.3	V	3.0	34.7	1.0	-47.0	-13.0	-34.0	
7.520	-16.0	V	3.0	34.9	1.0	-49.9	-13.0	-36.9	
3.760	-5.9	H	3.0	35.3	1.0	-40.3	-13.0	-27.3	
5.640	-12.9	H	3.0	34.7	1.0	-46.7	-13.0	-33.7	
7.520	-9.8	H	3.0	34.9	1.0	-43.8	-13.0	-30.8	
High Ch, 1909.8 MHz									
3.820	3.2	V	3.0	35.3	1.0	-31.1	-13.0	-18.1	
5.729	-10.0	V	3.0	34.7	1.0	-43.7	-13.0	-30.7	
7.640	-10.9	V	3.0	35.0	1.0	-44.8	-13.0	-31.8	
3.820	-7.7	H	3.0	35.3	1.0	-42.0	-13.0	-29.0	
5.729	-12.5	H	3.0	34.7	1.0	-46.2	-13.0	-33.2	
7.640	-9.2	H	3.0	35.0	1.0	-43.2	-13.0	-30.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/20/13
Test Engineer: STEVEN TRAN
Configuration: EUT, Z POSITION
Mode: CDMA 1900

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T343 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850MHz									
BC1	3.700	3.8	V	3.0	35.4	1.0	-30.6	-13.0	-17.6	
	5.550	-13.4	V	3.0	34.7	1.0	-47.1	-13.0	-34.1	
	7.400	-15.4	V	3.0	34.9	1.0	-49.3	-13.0	-36.3	
1xRTT	3.700	7.3	H	3.0	35.4	1.0	-27.1	-13.0	-14.1	
	5.550	-15.4	H	3.0	34.7	1.0	-49.1	-13.0	-36.1	
	7.400	-13.2	H	3.0	34.9	1.0	-47.1	-13.0	-34.1	
	Mid Ch, 1880.0MHz									
	3.760	-3.0	V	3.0	35.3	1.0	-37.3	-13.0	-24.3	
	5.640	-13.3	V	3.0	34.7	1.0	-47.0	-13.0	-34.0	
	7.520	-16.0	V	3.0	34.9	1.0	-49.9	-13.0	-36.9	
	3.760	3.3	H	3.0	35.3	1.0	-31.1	-13.0	-18.1	
	5.640	-14.5	H	3.0	34.7	1.0	-48.2	-13.0	-35.2	
	7.520	-14.0	H	3.0	34.9	1.0	-47.9	-13.0	-34.9	
	High Ch, 1909.8 MHz									
	3.820	-10.8	V	3.0	35.3	1.0	-45.1	-13.0	-32.1	
	5.729	-11.2	V	3.0	34.7	1.0	-45.0	-13.0	-32.0	
	7.640	-15.7	V	3.0	35.0	1.0	-49.6	-13.0	-36.6	
	3.820	-3.1	H	3.0	35.3	1.0	-37.4	-13.0	-24.4	
	5.729	-7.3	H	3.0	34.7	1.0	-41.0	-13.0	-28.0	
	7.640	-14.2	H	3.0	35.0	1.0	-48.1	-13.0	-35.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: STEVEN TRAN
Configuration: EUT, Z POSITION
Mode: EVDOR0 BC0 HARM

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T343 8449B	Filter 1	Part 24

Band

BC0

EVDO
REL. 0

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1.650	-28.7	V	3.0	37.4	1.0	-65.1	-13.0	-52.1	
2.474	-24.2	V	3.0	36.4	1.0	-59.6	-13.0	-46.6	
3.298	-23.1	V	3.0	35.8	1.0	-57.9	-13.0	-44.9	
1.650	-28.2	H	3.0	37.4	1.0	-64.5	-13.0	-51.5	
2.474	-25.8	H	3.0	36.4	1.0	-61.1	-13.0	-48.1	
3.298	-22.9	H	3.0	35.8	1.0	-57.7	-13.0	-44.7	
Mid Ch, 836.52MHz									
1.673	-27.0	V	3.0	37.3	1.0	-63.4	-13.0	-50.4	
2.509	-23.6	V	3.0	36.4	1.0	-59.0	-13.0	-46.0	
3.346	-21.7	V	3.0	35.8	1.0	-56.4	-13.0	-43.4	
1.673	-28.2	H	3.0	37.3	1.0	-64.6	-13.0	-51.6	
2.509	-25.9	H	3.0	36.4	1.0	-61.3	-13.0	-48.3	
3.346	-22.8	H	3.0	35.8	1.0	-57.6	-13.0	-44.6	
High Ch, 848.31 MHz									
1.696	-28.0	V	3.0	37.3	1.0	-64.3	-13.0	-51.3	
2.544	-23.7	V	3.0	36.3	1.0	-59.0	-13.0	-46.0	
3.393	-22.6	V	3.0	35.7	1.0	-57.3	-13.0	-44.3	
1.696	-28.2	H	3.0	37.3	1.0	-64.5	-13.0	-51.5	
2.544	-26.1	H	3.0	36.3	1.0	-61.4	-13.0	-48.4	
3.393	-22.4	H	3.0	35.7	1.0	-57.1	-13.0	-44.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U16594
Date: 12/19/13
Test Engineer: STEVEN TRAN
Configuration: EUT, Z POSITION
Mode: RTT BC0 HARM

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T343 8449B	Filter 1	Part 24

Band

BC0

1xRTT

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1.650	-27.7	V	3.0	37.4	1.0	-64.1	-13.0	-51.1	
2.474	-20.7	V	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3.298	-22.3	V	3.0	35.8	1.0	-57.1	-13.0	-44.1	
1.650	-29.1	H	3.0	37.4	1.0	-65.5	-13.0	-52.5	
2.474	-26.0	H	3.0	36.4	1.0	-61.4	-13.0	-48.4	
3.298	-22.9	H	3.0	35.8	1.0	-57.7	-13.0	-44.7	
Mid Ch, 836.52MHz									
1.673	-26.9	V	3.0	37.3	1.0	-63.2	-13.0	-50.2	
2.509	-24.0	V	3.0	36.4	1.0	-59.4	-13.0	-46.4	
3.346	-22.1	V	3.0	35.8	1.0	-56.8	-13.0	-43.8	
1.673	-28.9	H	3.0	37.3	1.0	-65.3	-13.0	-52.3	
2.509	-25.8	H	3.0	36.4	1.0	-61.2	-13.0	-48.2	
3.346	-22.7	H	3.0	35.8	1.0	-57.5	-13.0	-44.5	
High Ch, 848.31 MHz									
1.696	-23.9	V	3.0	37.3	1.0	-60.2	-13.0	-47.2	
2.544	-24.2	V	3.0	36.3	1.0	-59.5	-13.0	-46.5	
3.393	-22.4	V	3.0	35.7	1.0	-57.1	-13.0	-44.1	
1.696	-27.3	H	3.0	37.3	1.0	-63.6	-13.0	-50.6	
2.544	-26.2	H	3.0	36.3	1.0	-61.5	-13.0	-48.5	
3.393	-22.9	H	3.0	35.7	1.0	-57.6	-13.0	-44.6	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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