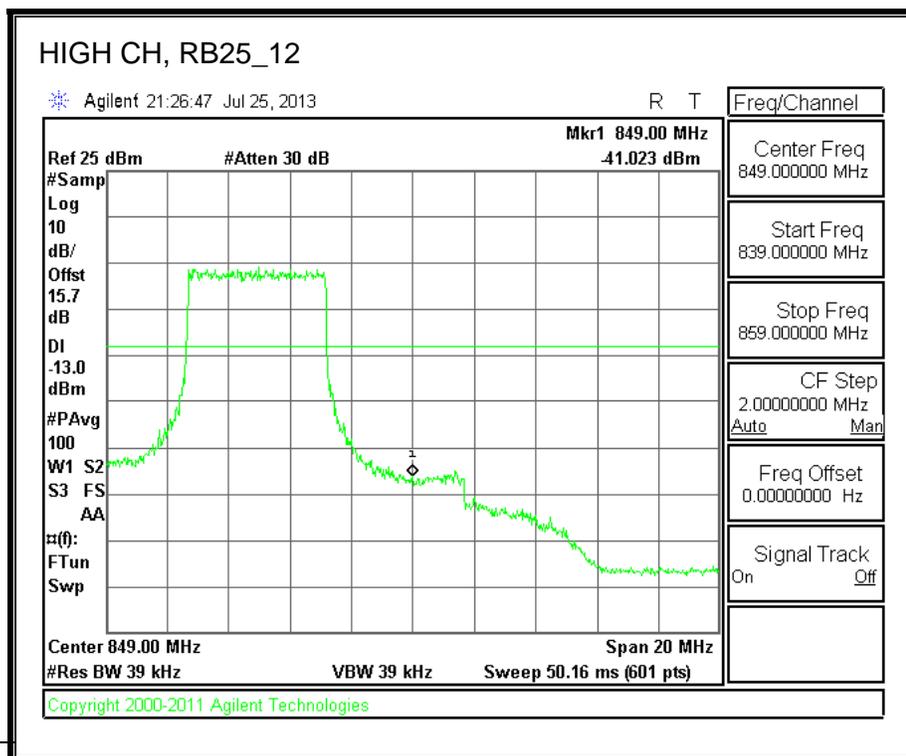
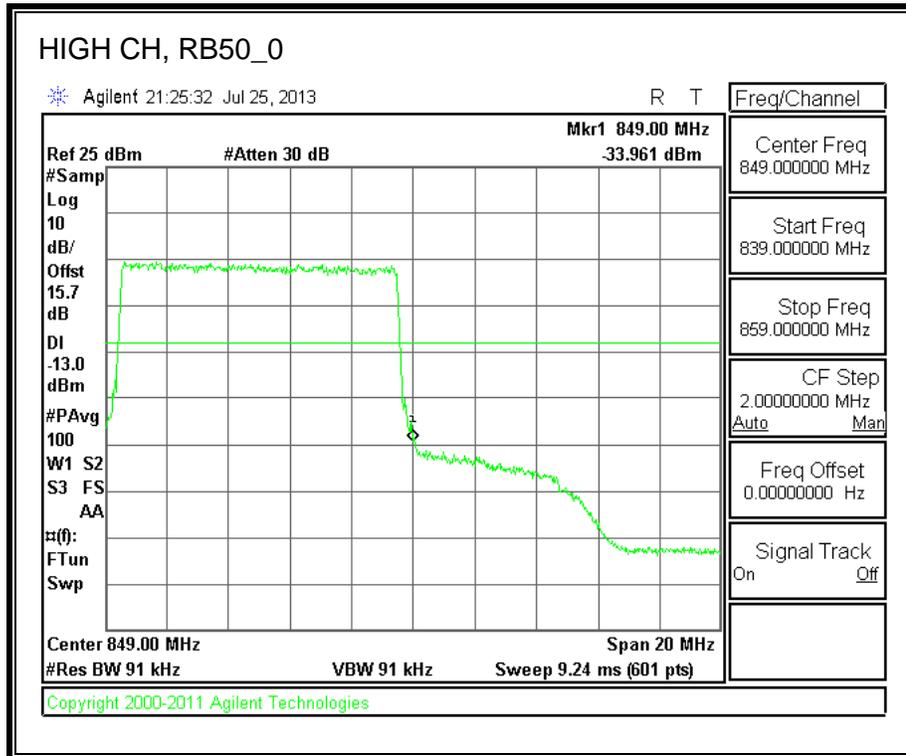
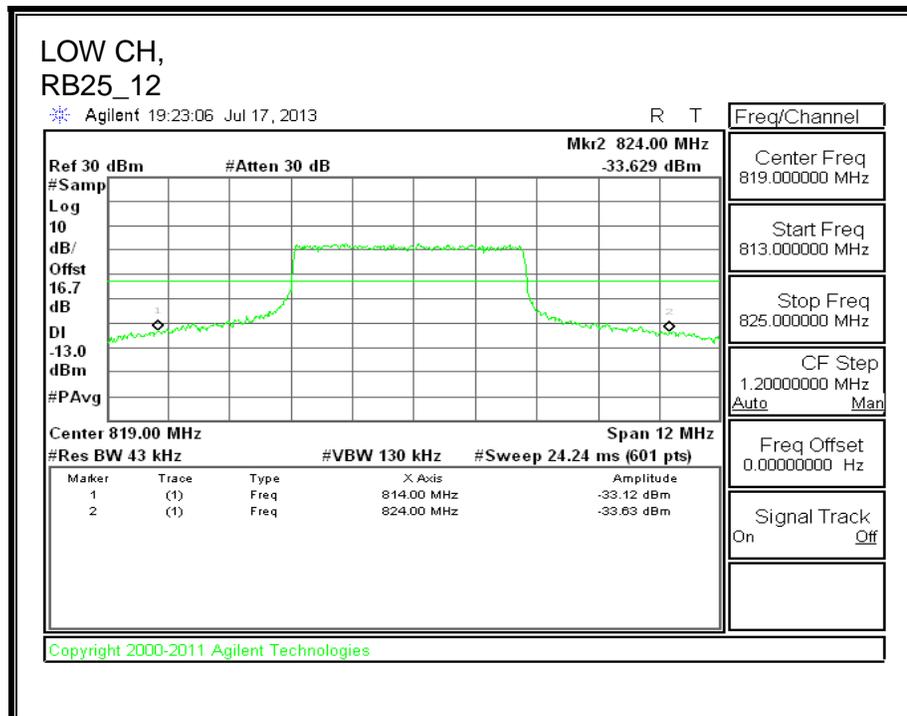
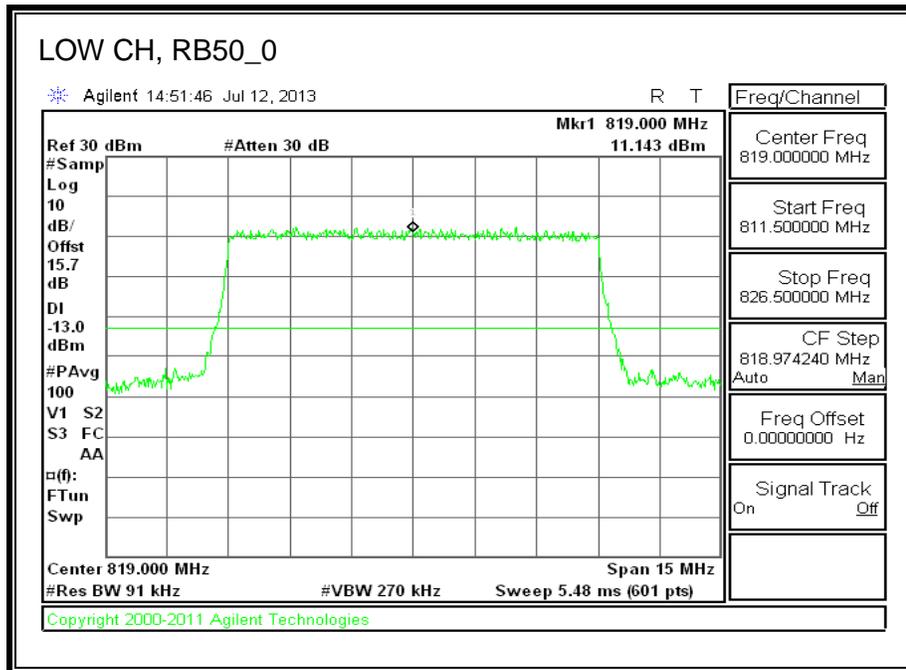


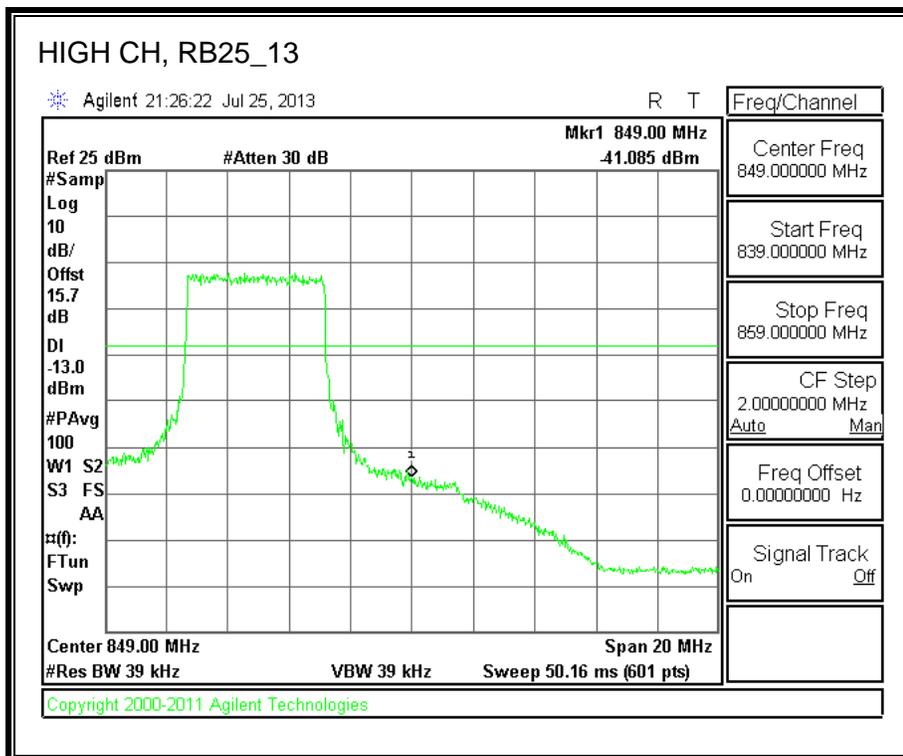
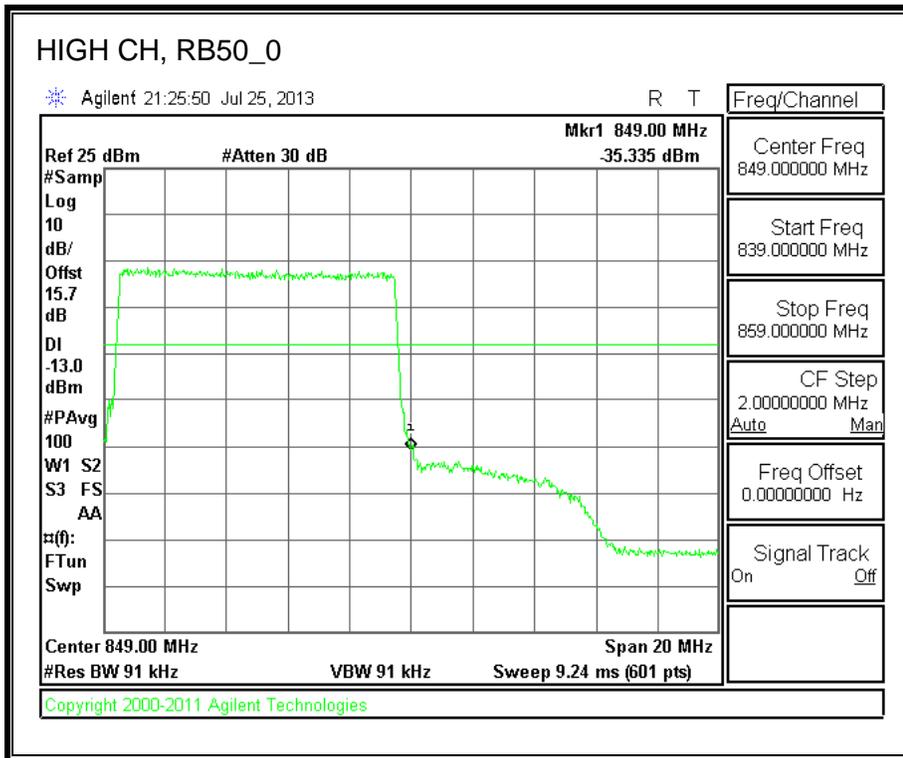
HIGH-QPSK



LOW-16QAM



HIGH-16QAM



11.6. LTE BAND 41

Channel edge requirements are covered by mask tests under section 12.

12. 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

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.

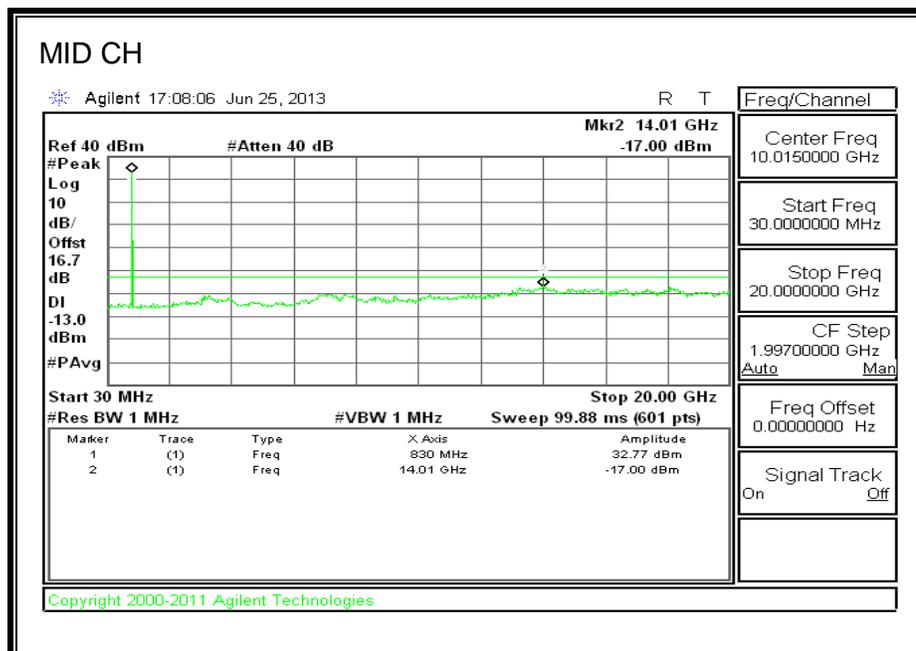
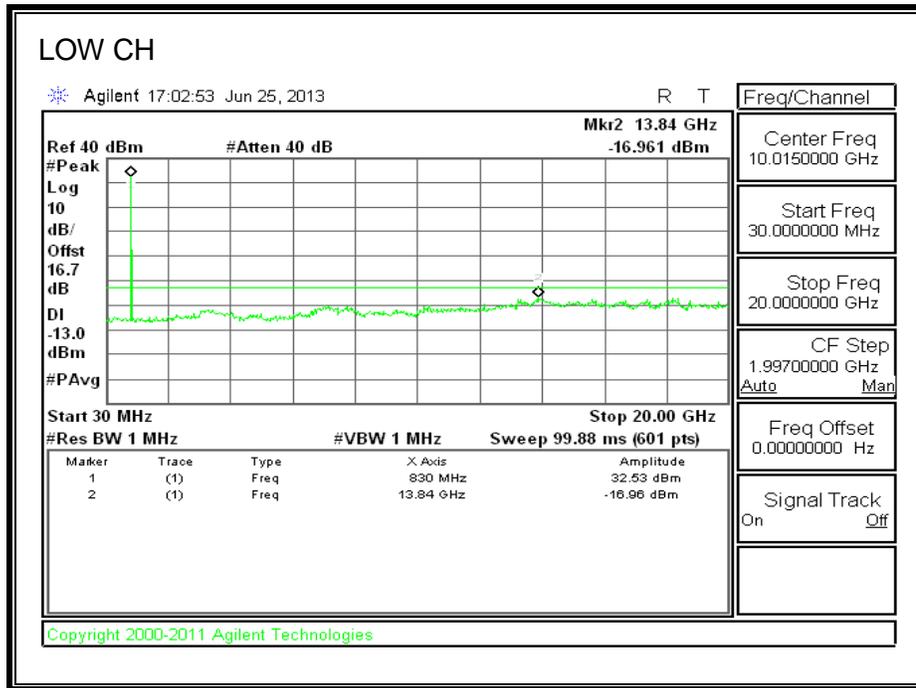
MODES TESTED

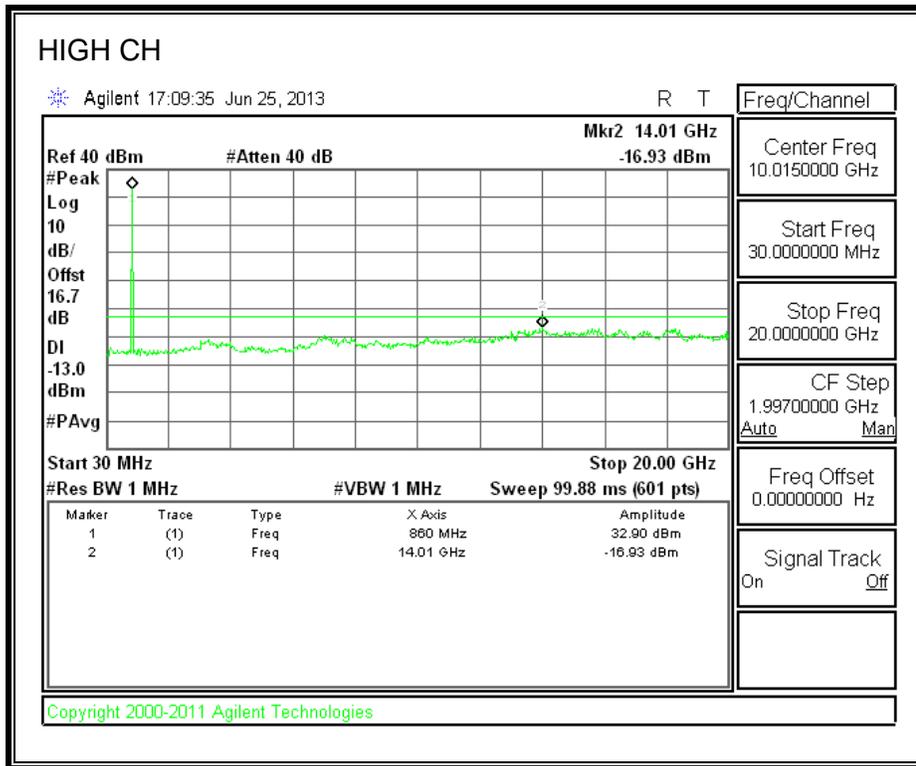
- GPRS
- UMTS REL 99, and HSUPA

RESULTS

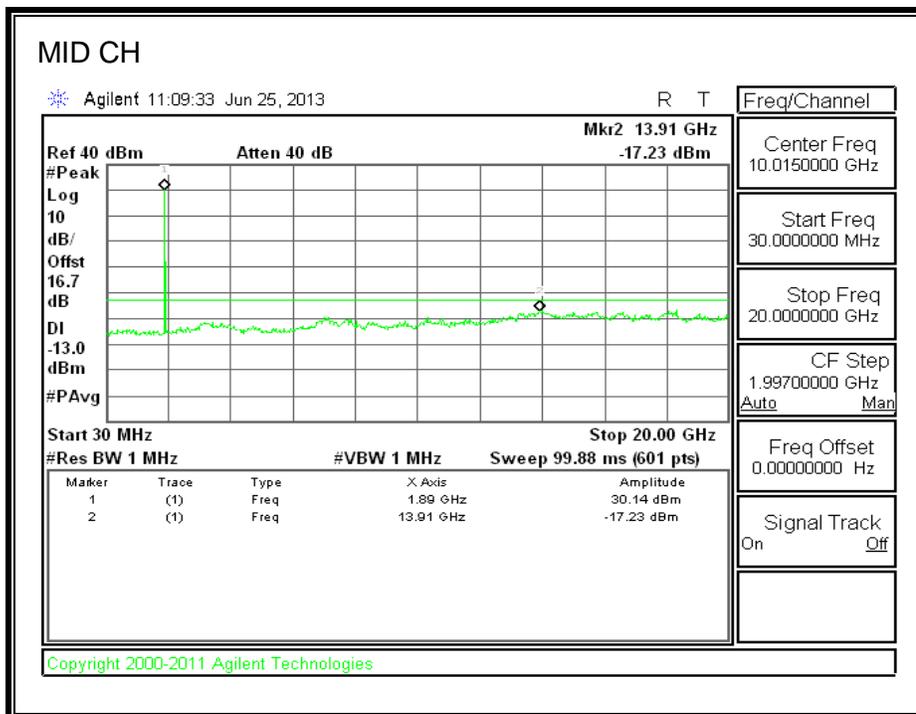
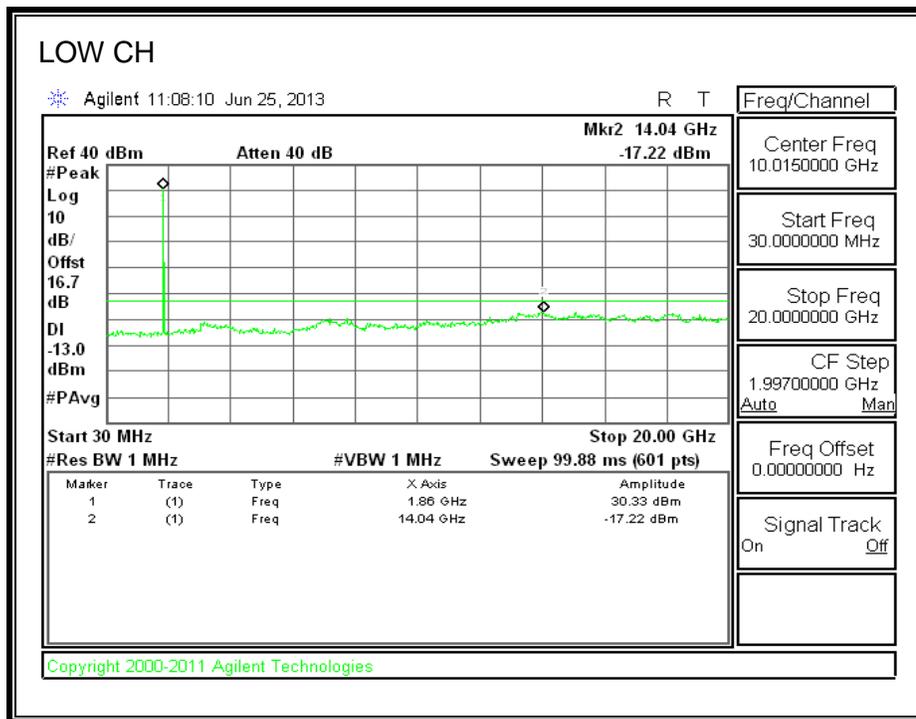
12.1.1. GPRS MODE

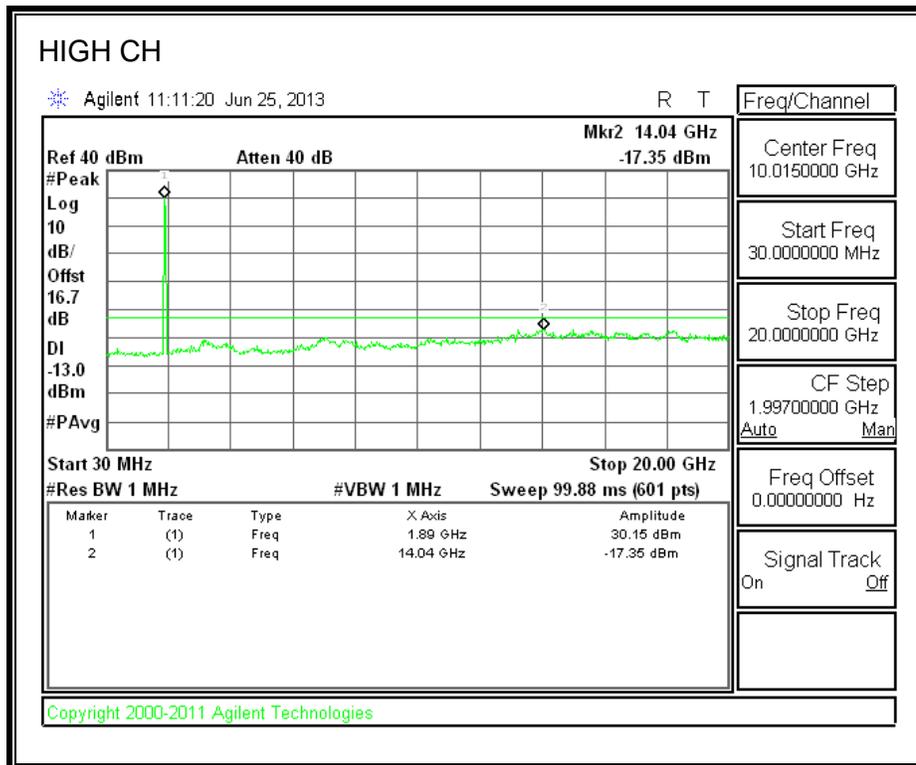
CELL BAND





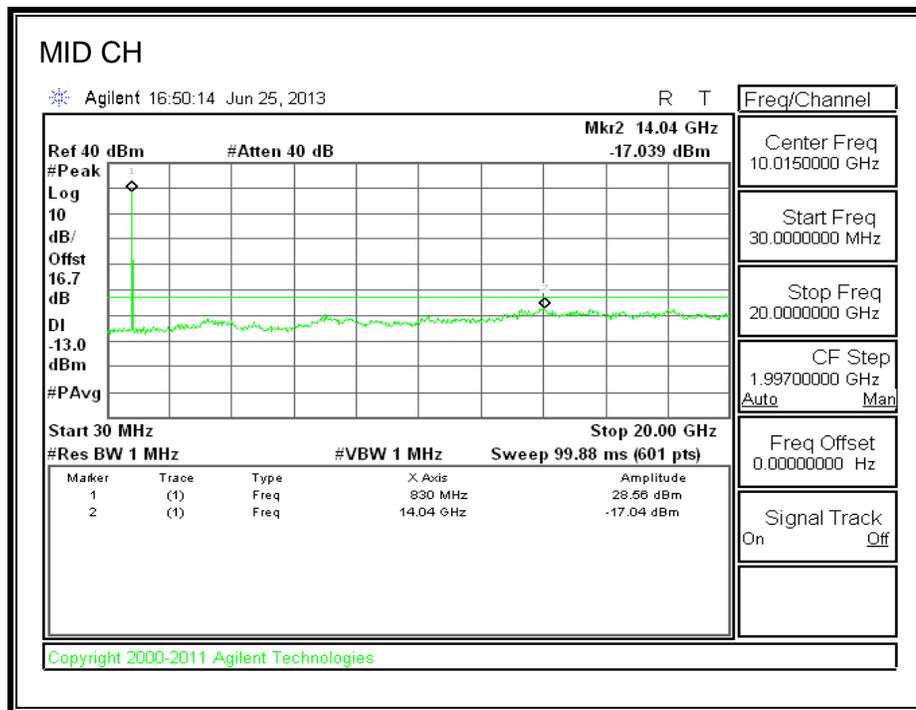
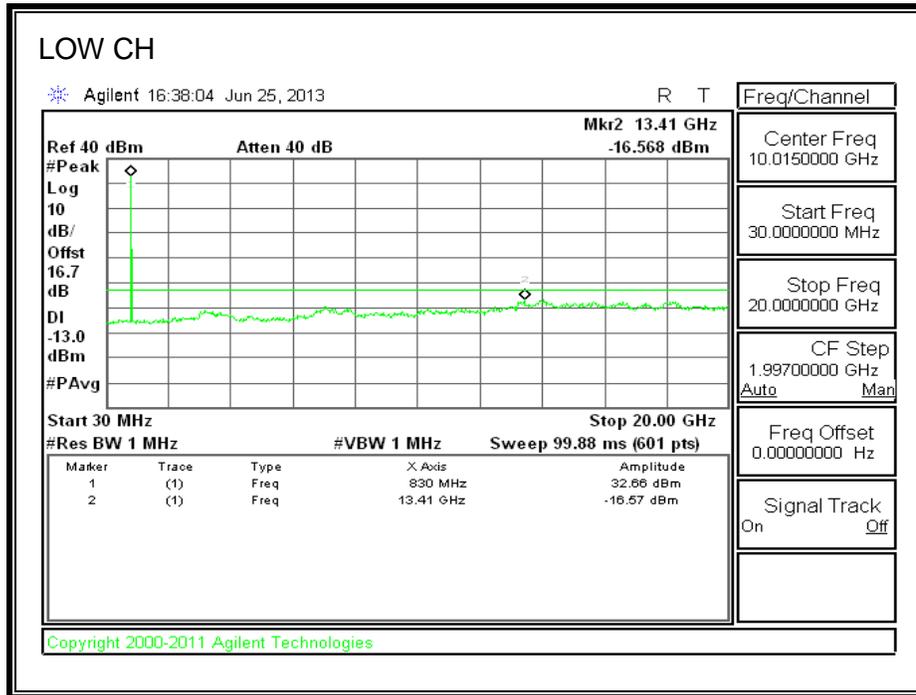
PCS BAND

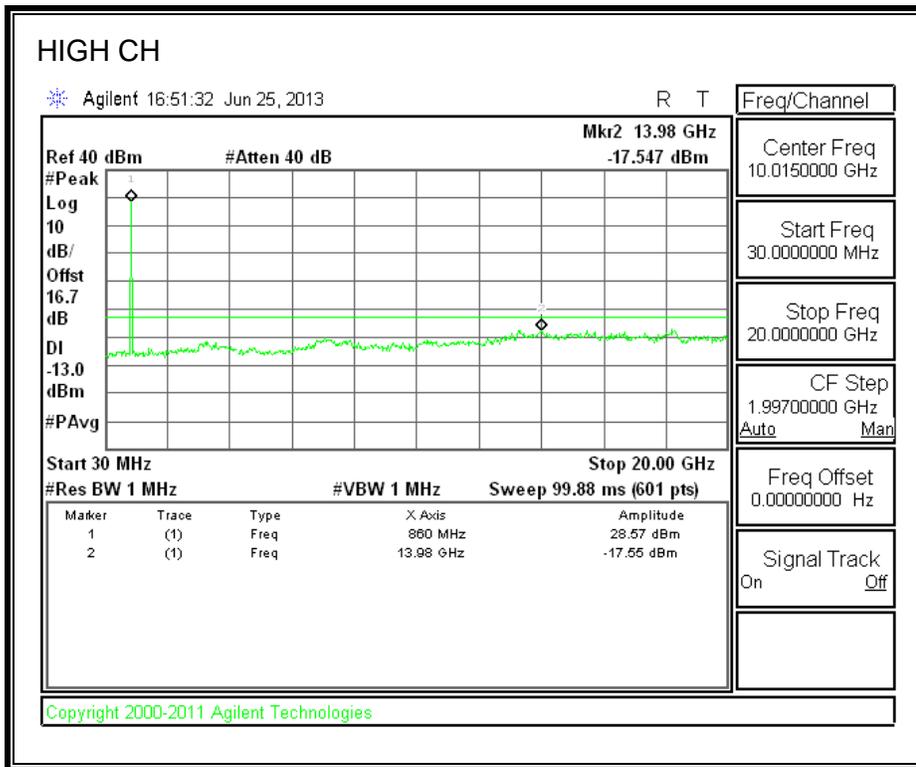




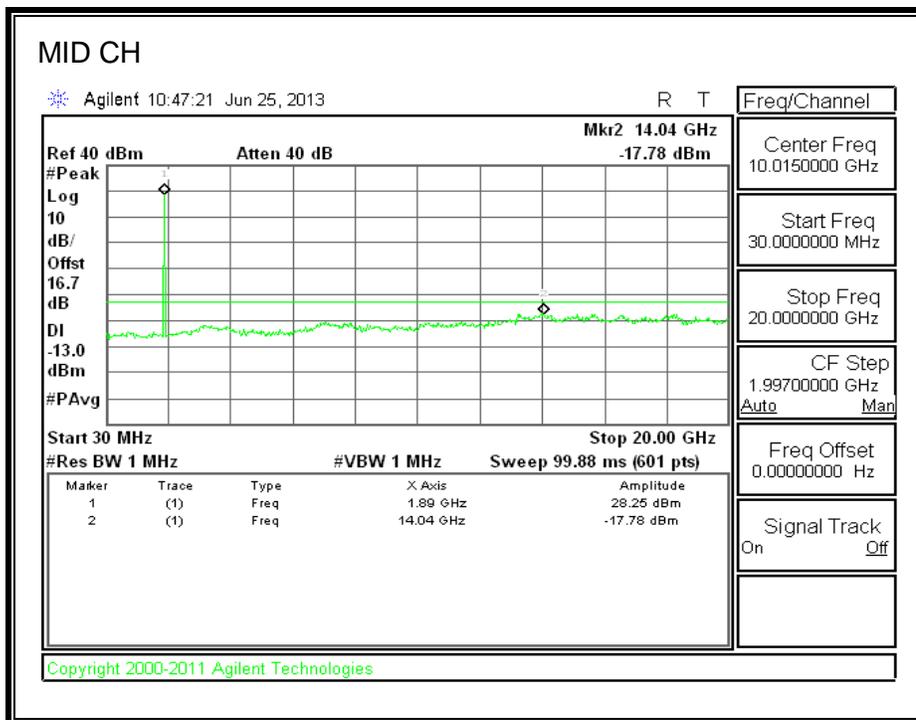
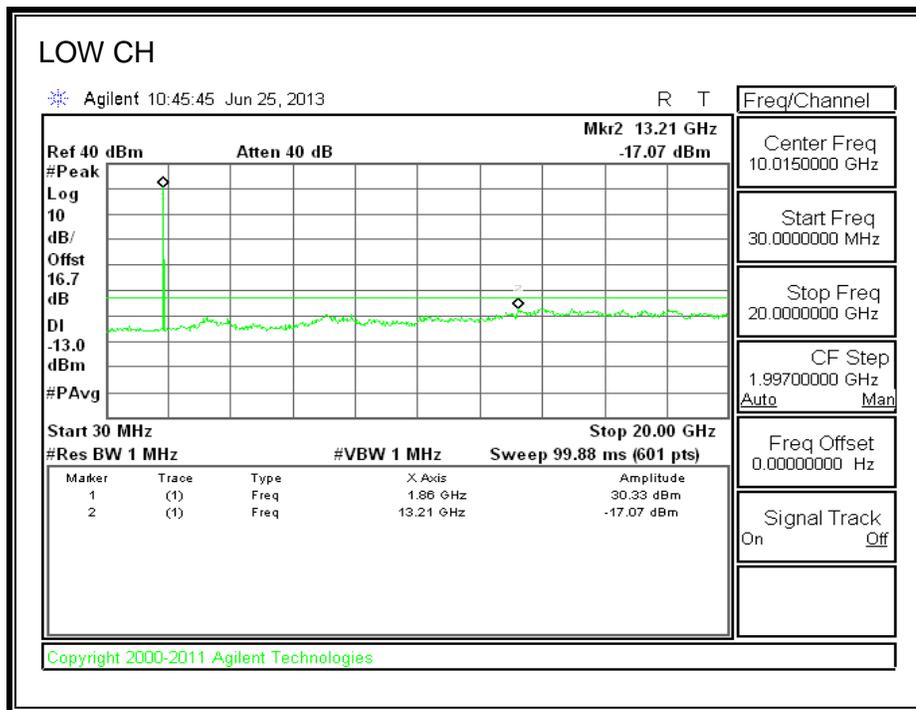
12.1.1. EGPRS MODE

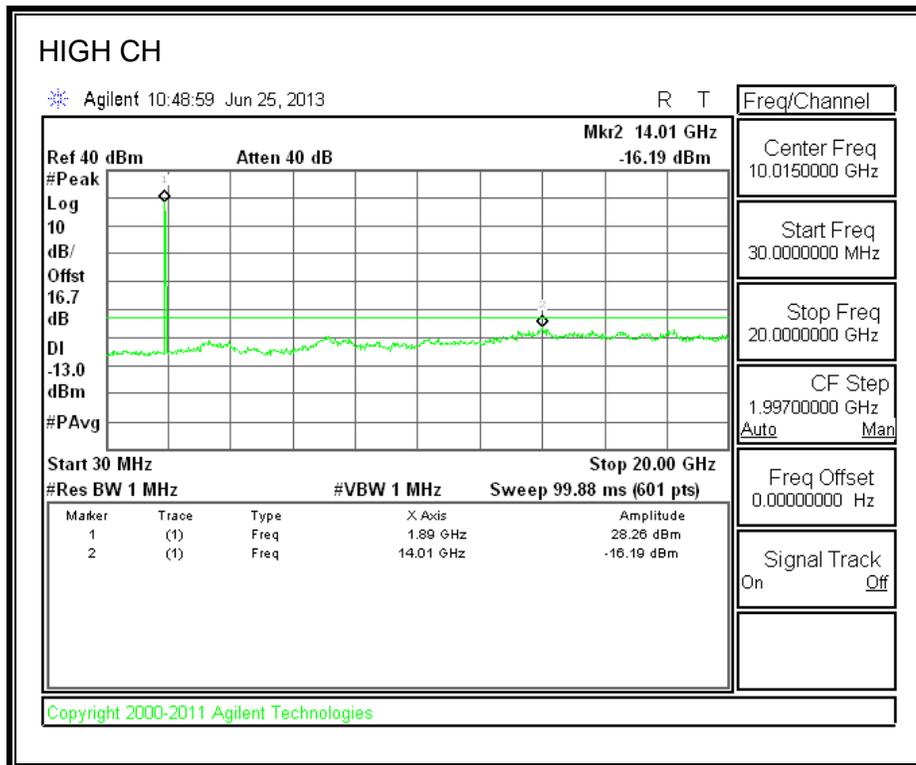
CELL BAND





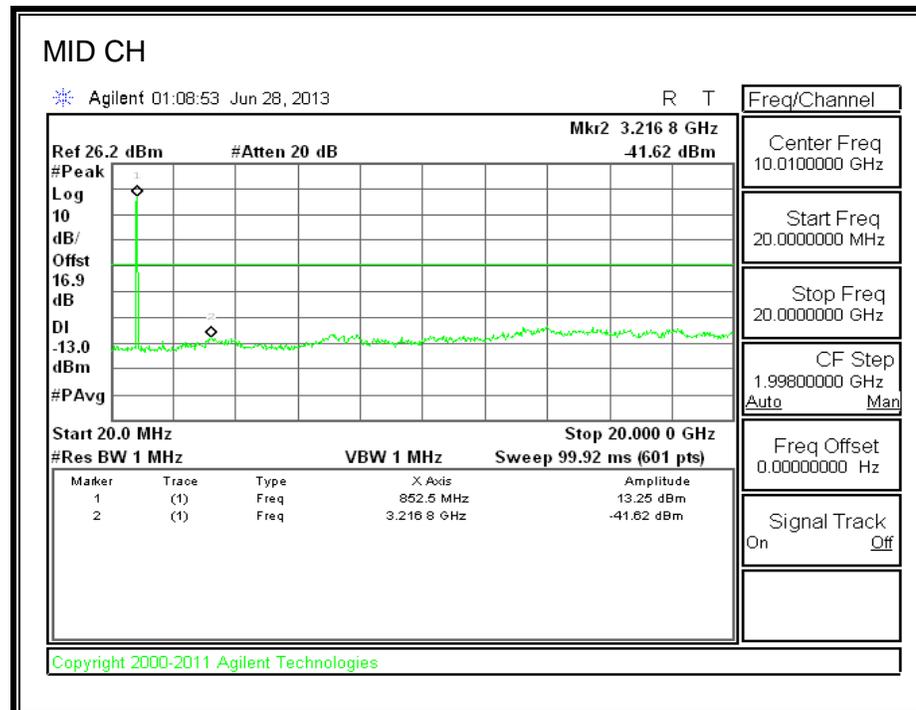
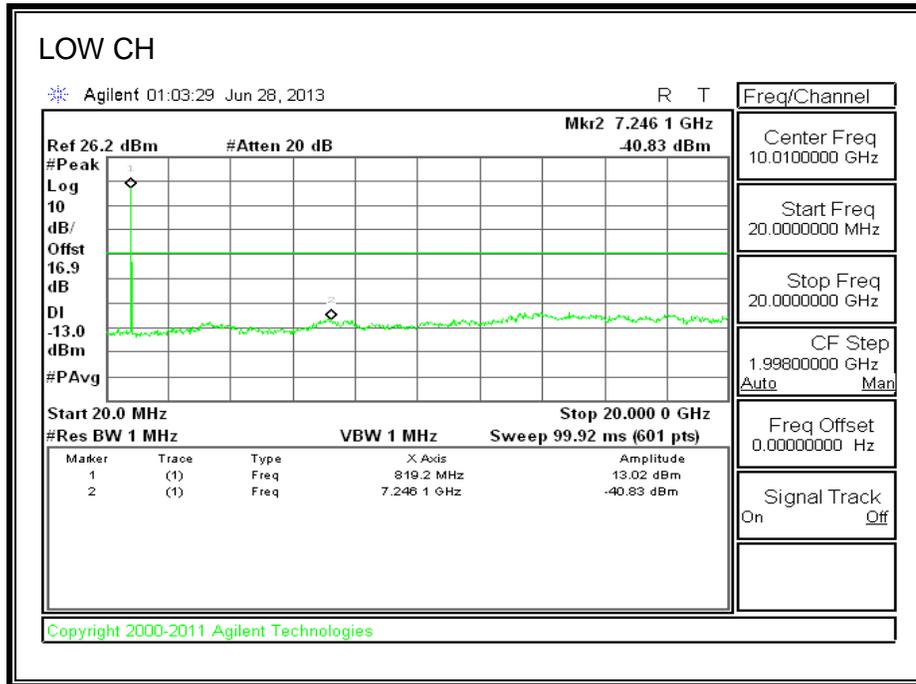
PCS BAND

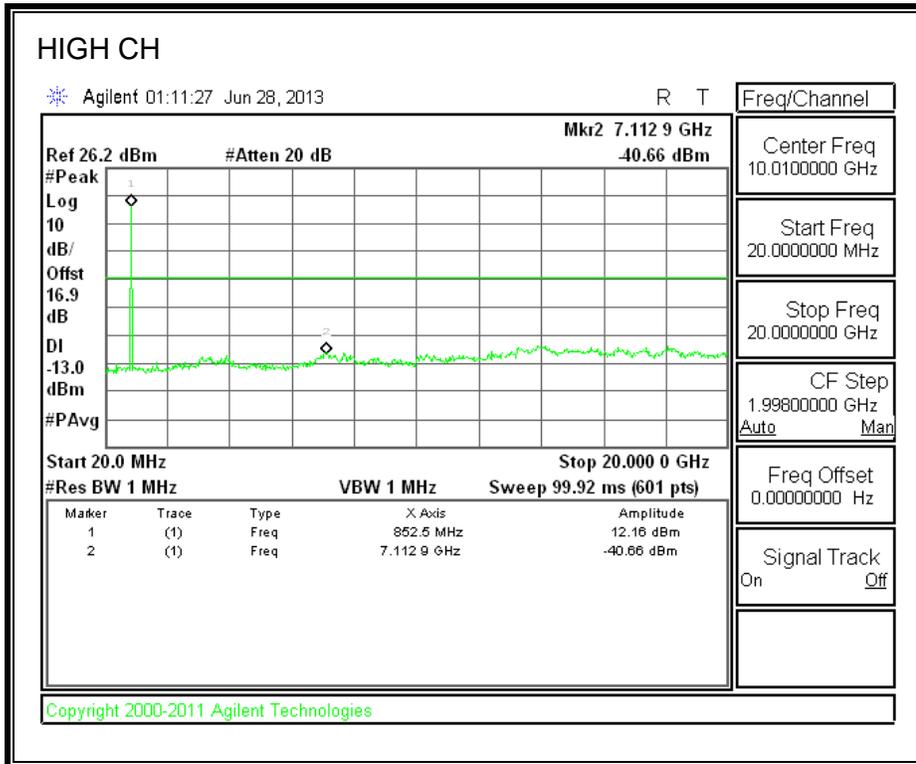




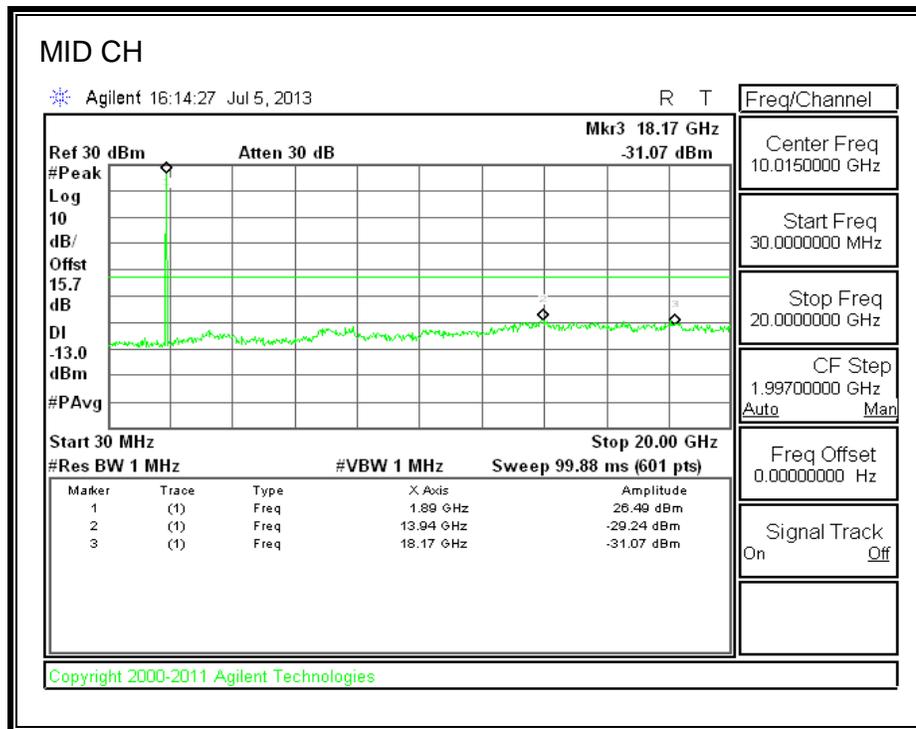
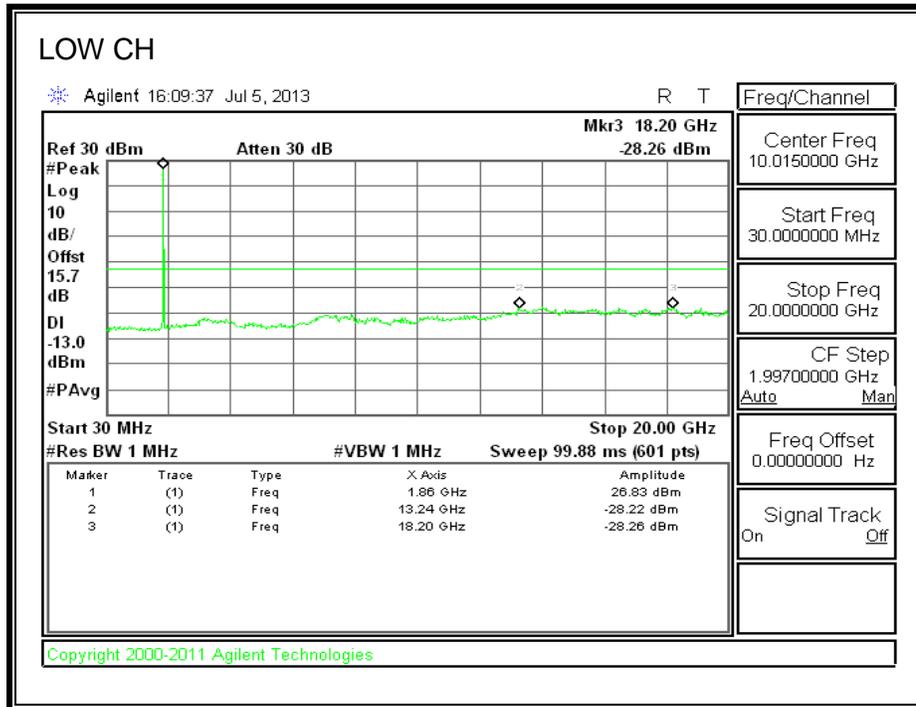
12.1.1. CDMA 1xRTT MODE

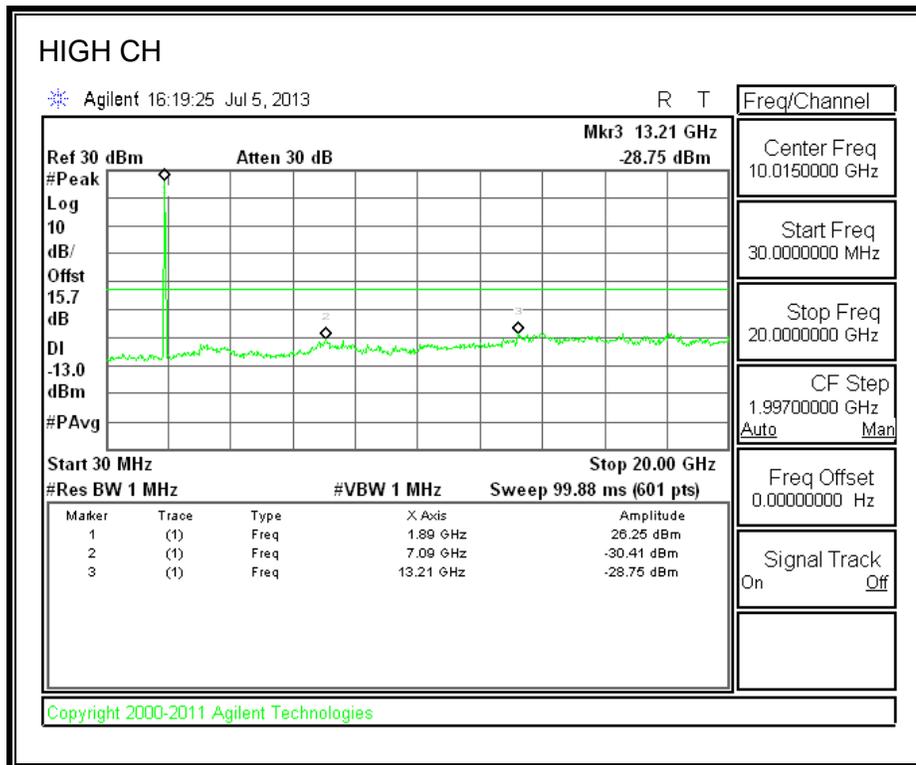
BC0



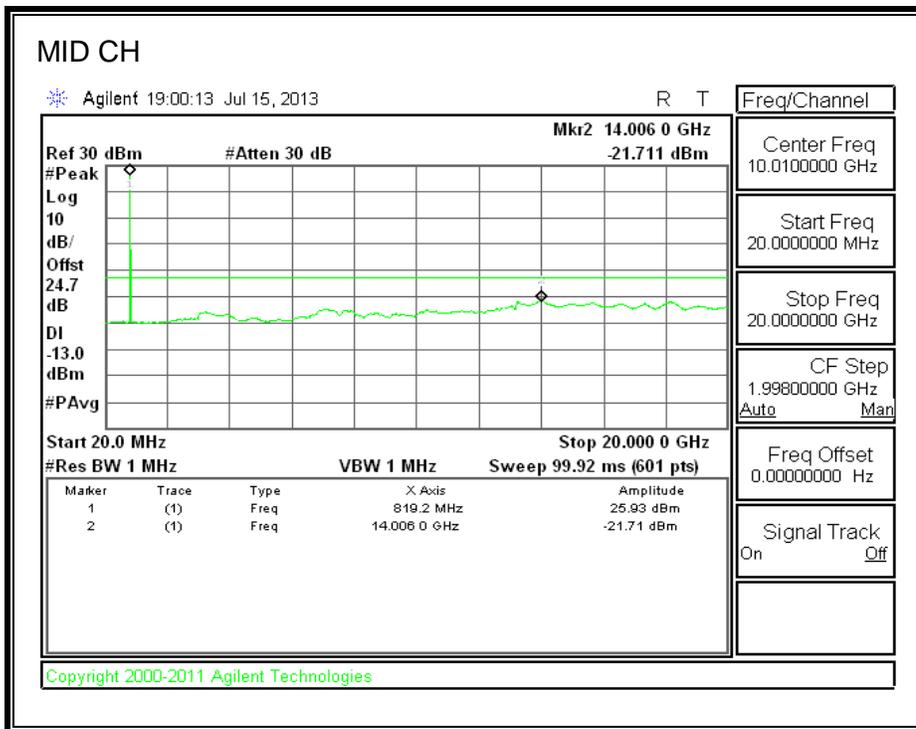
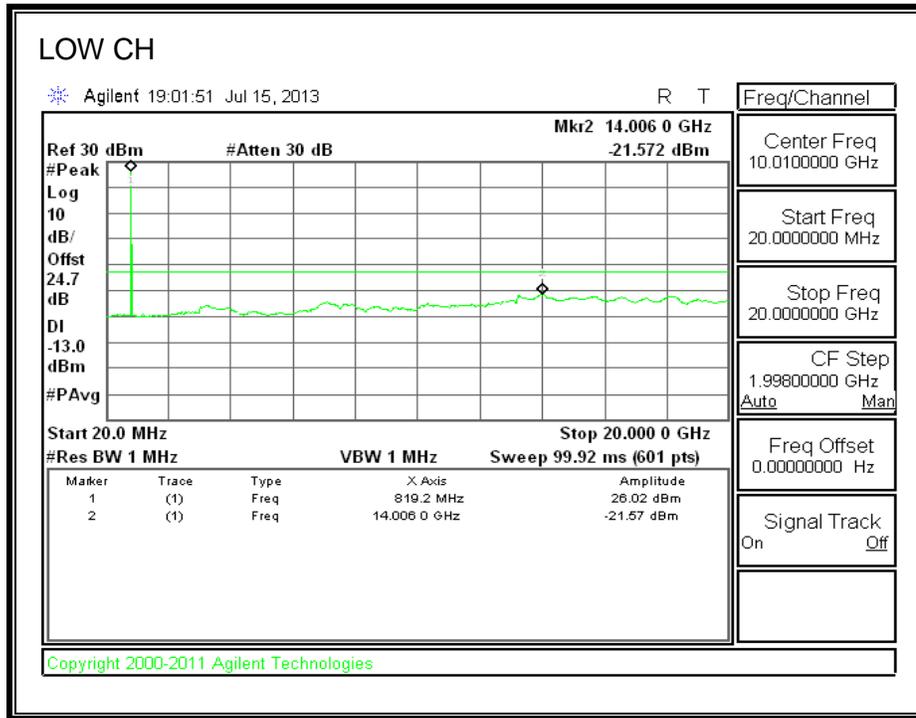


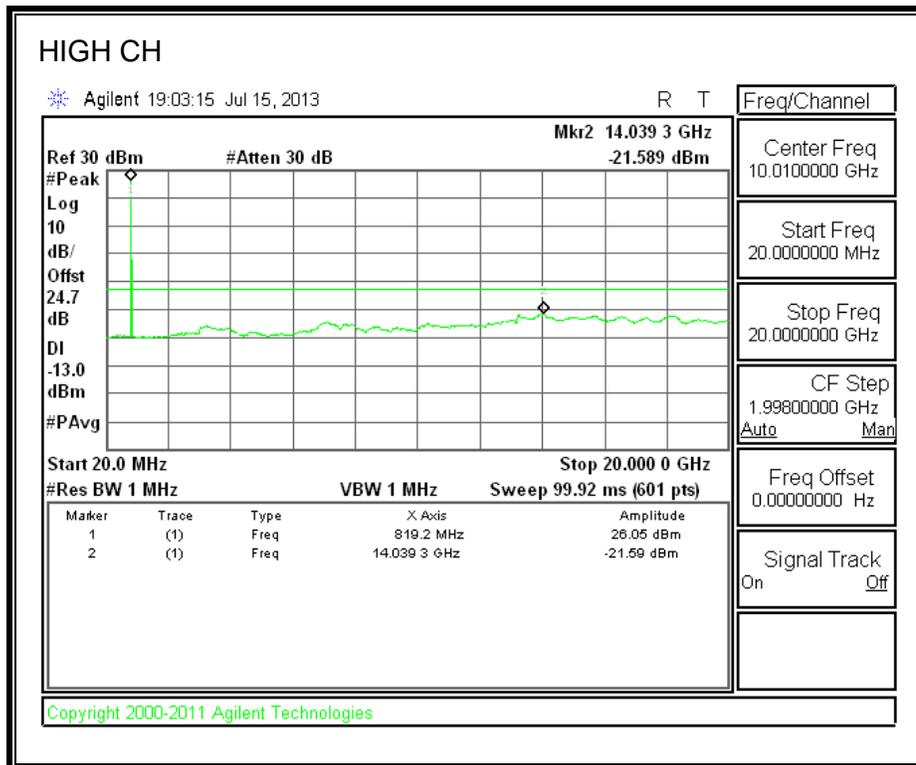
BC1





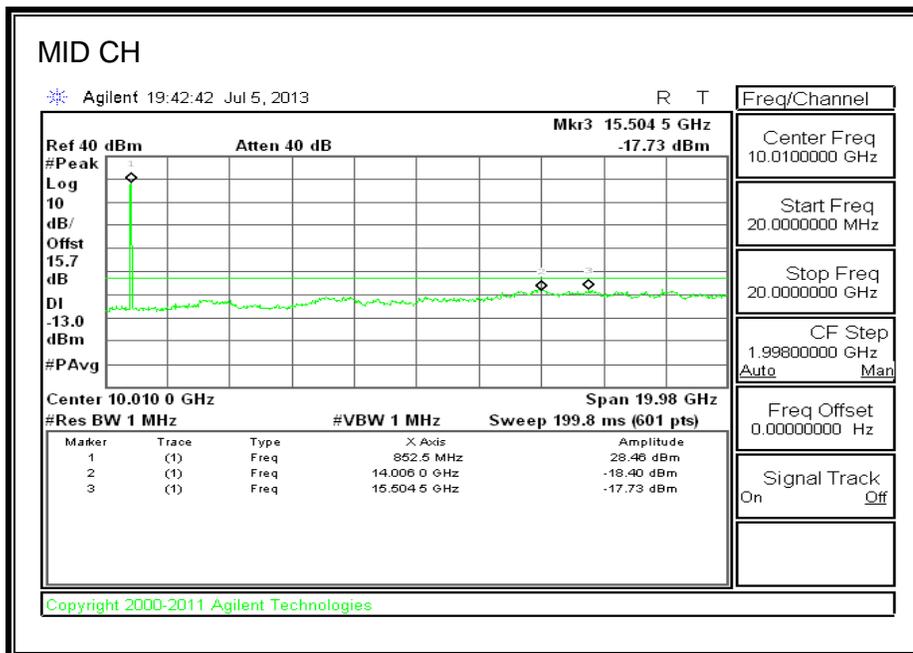
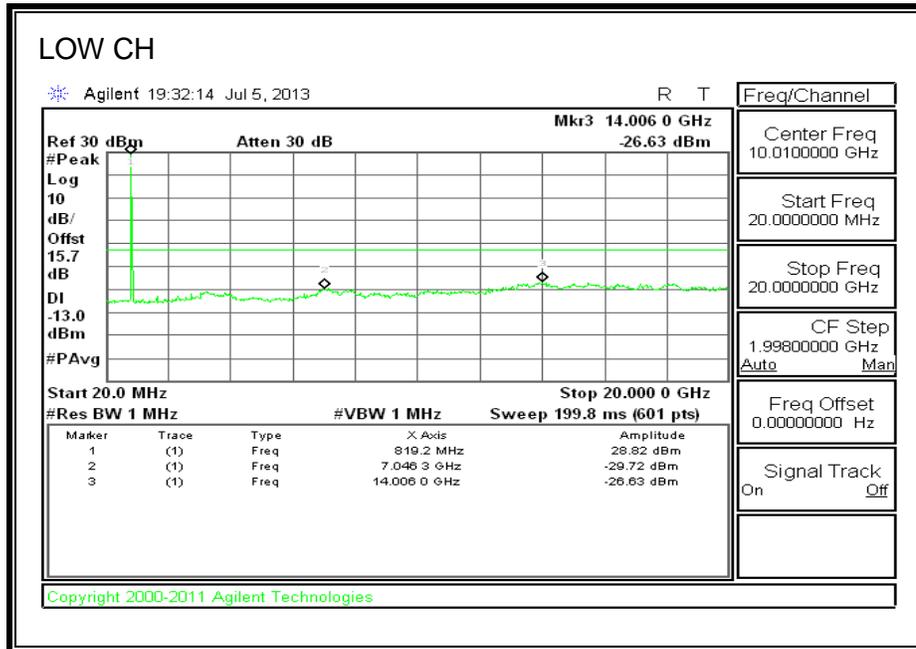
BC10

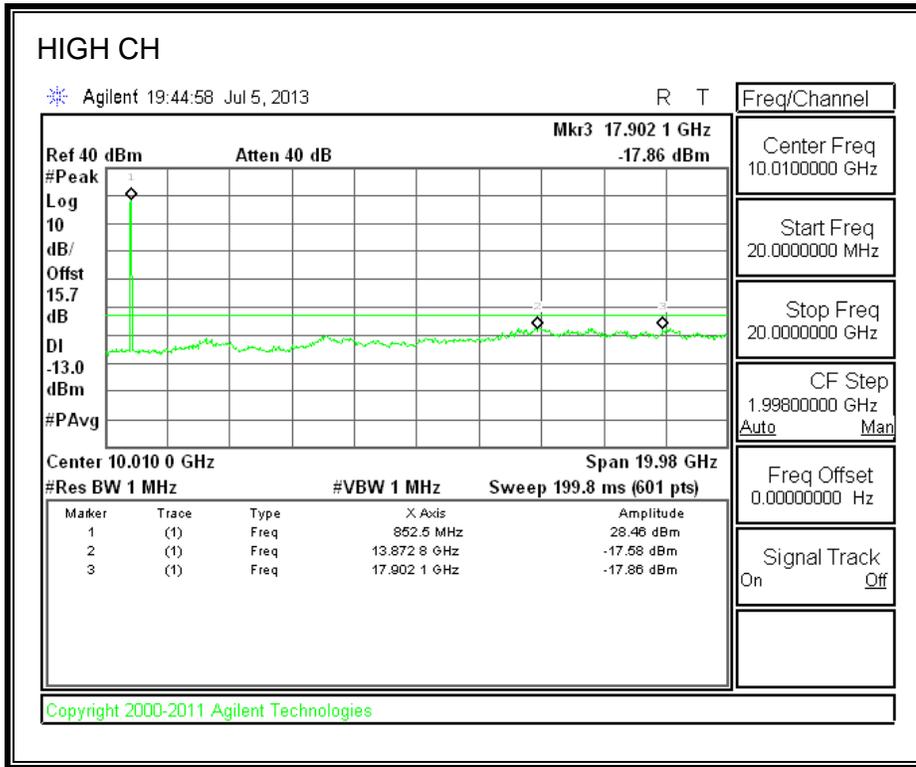




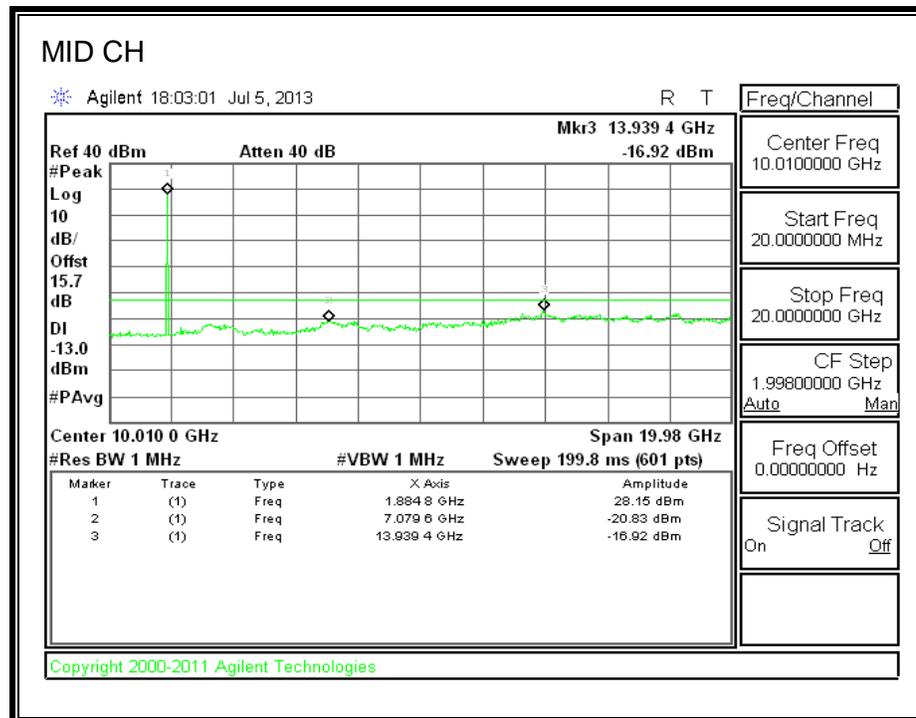
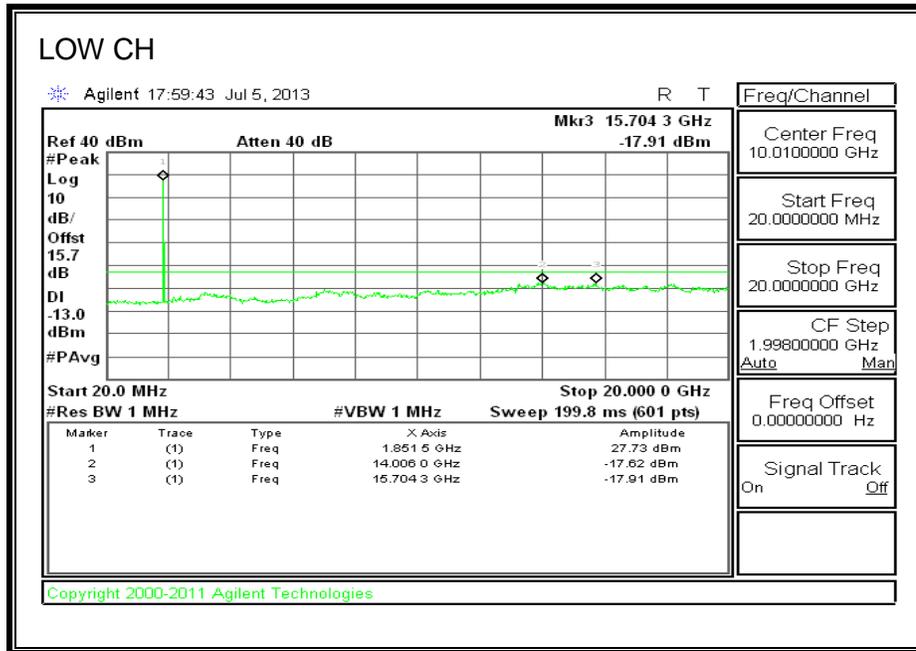
12.1.1. CDMA EV-DO MODE

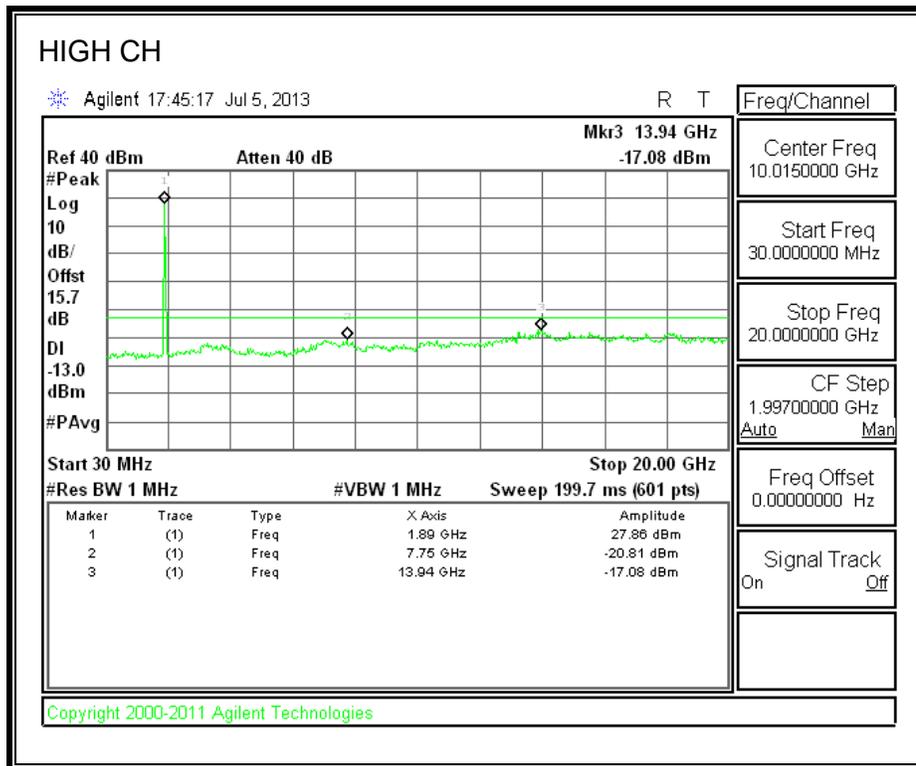
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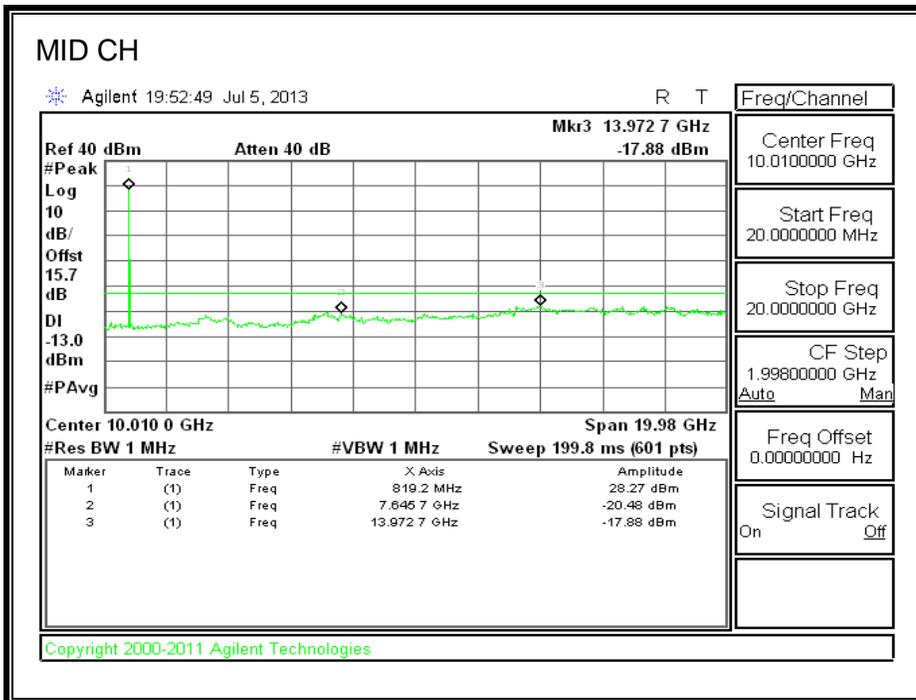
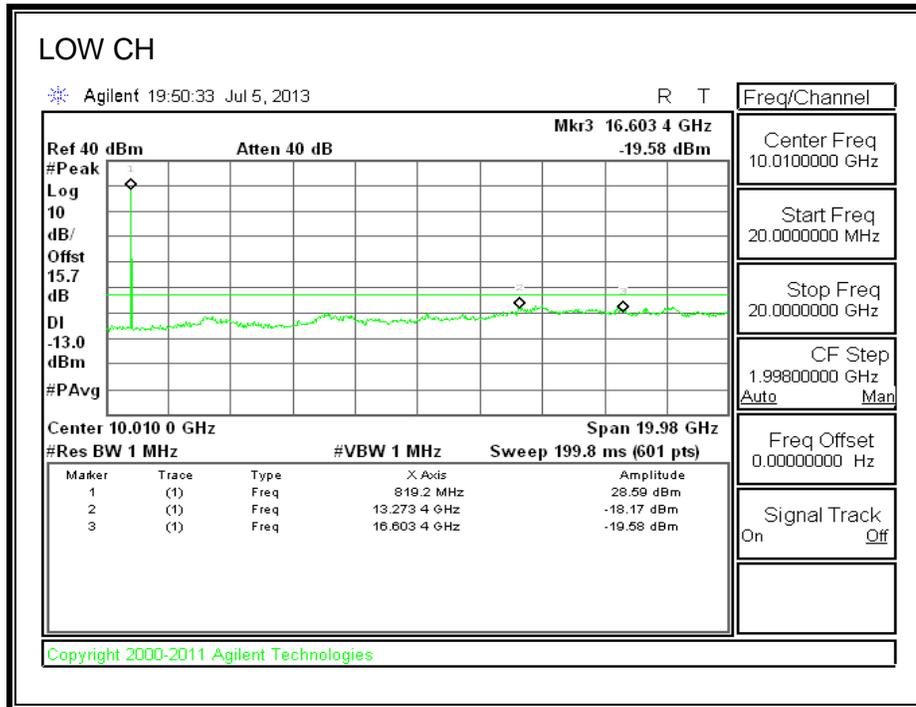


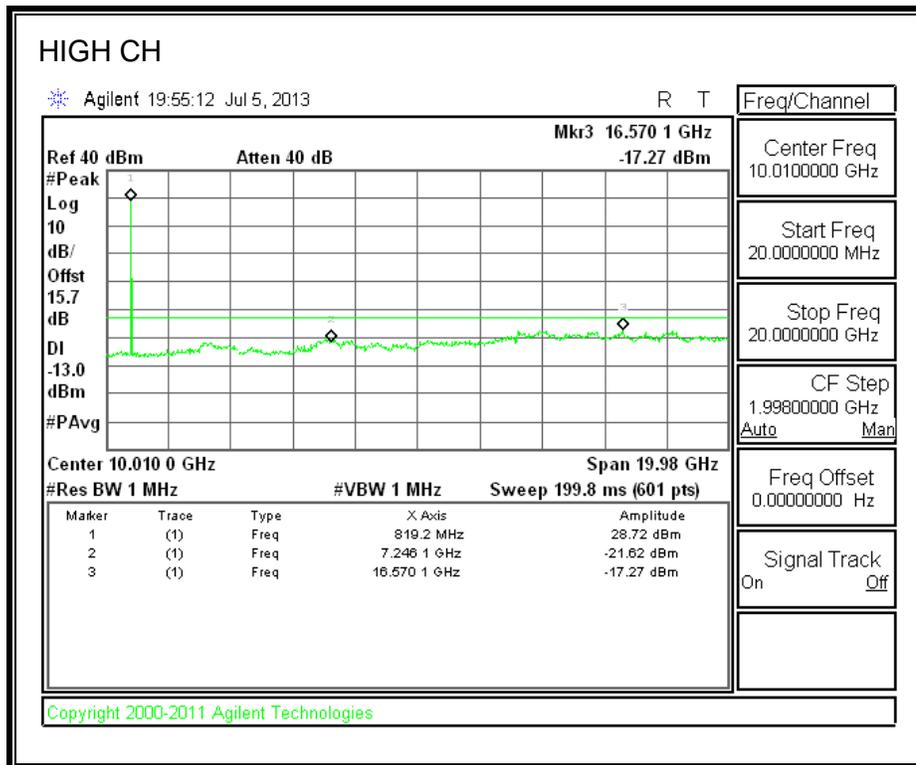
BC1





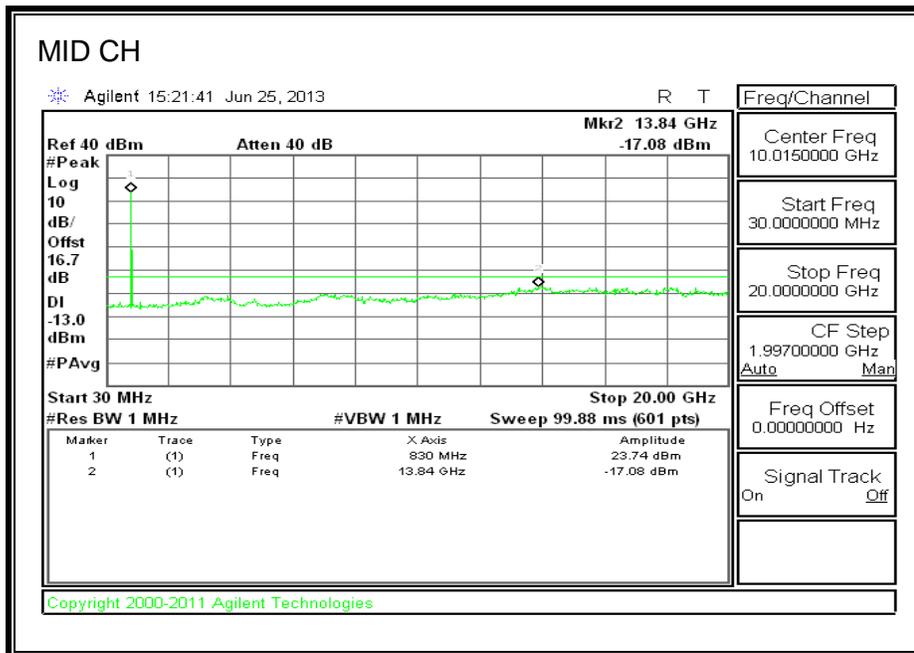
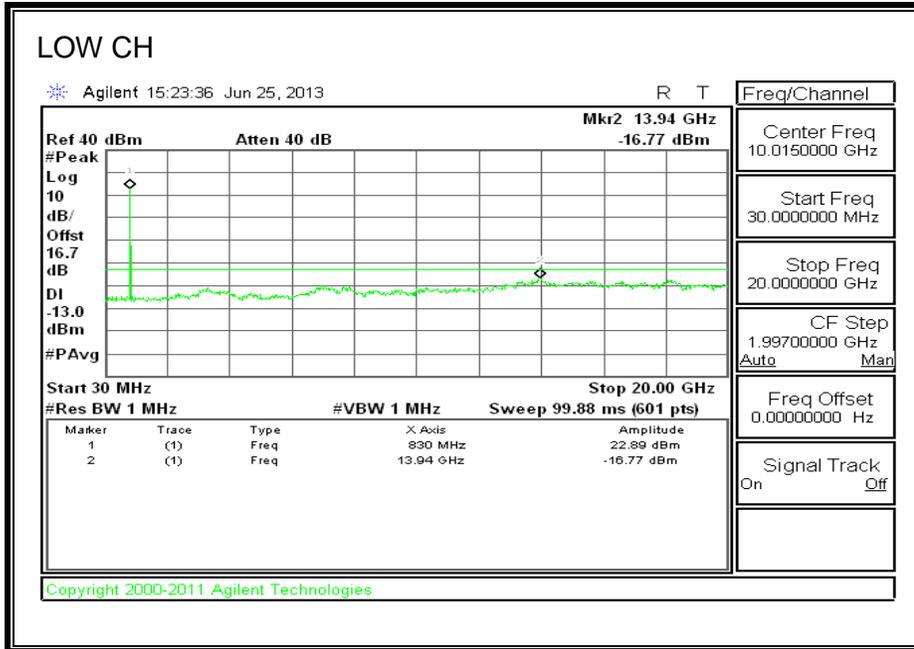
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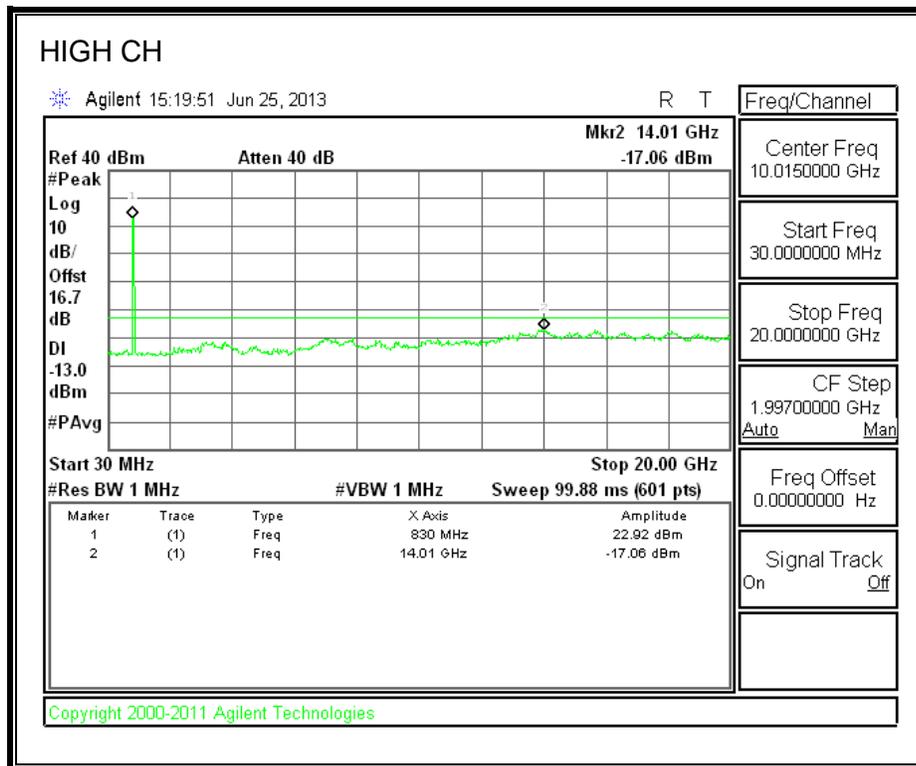




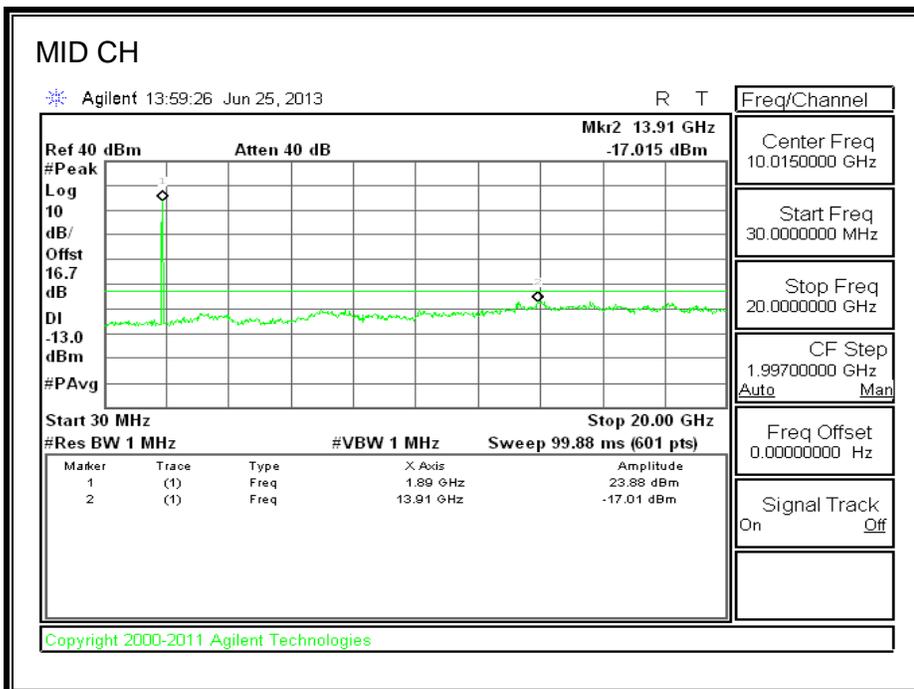
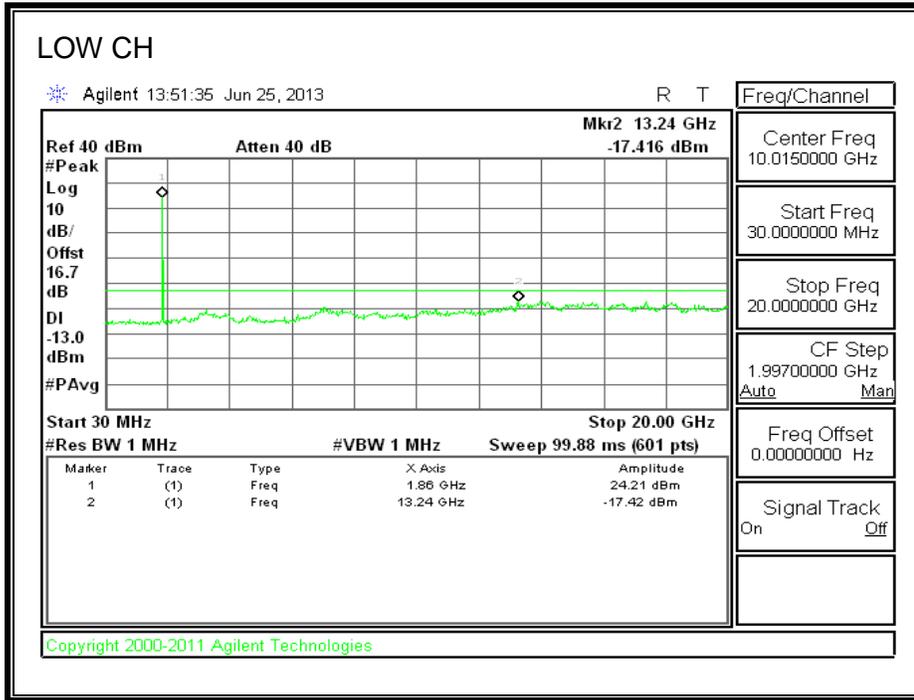
12.1.2. UMTS REL 99 MODE

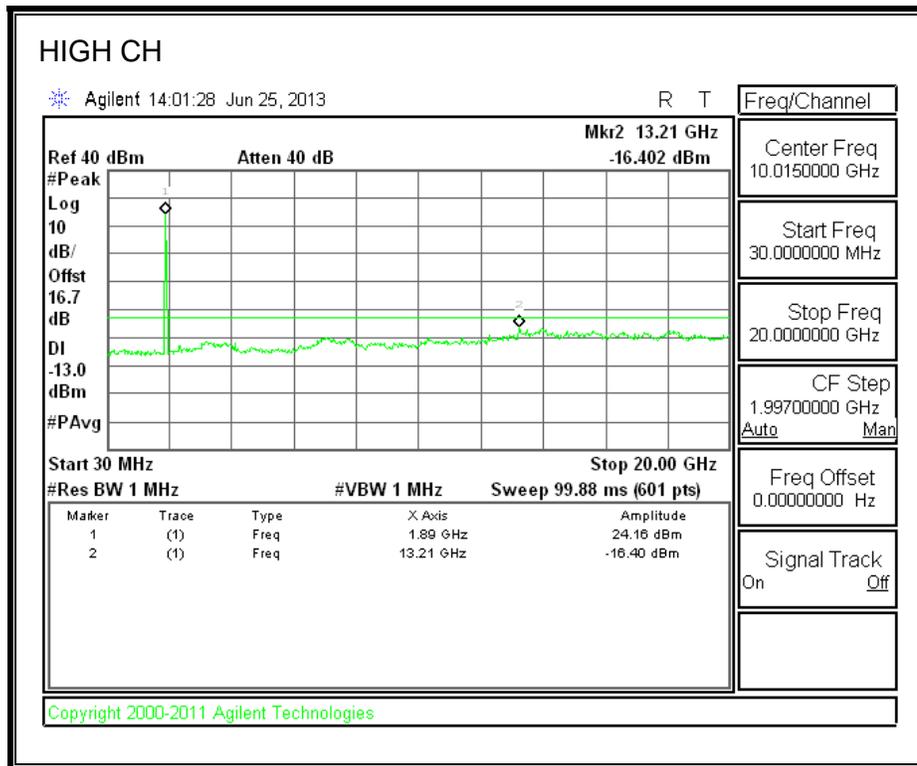
BAND 5



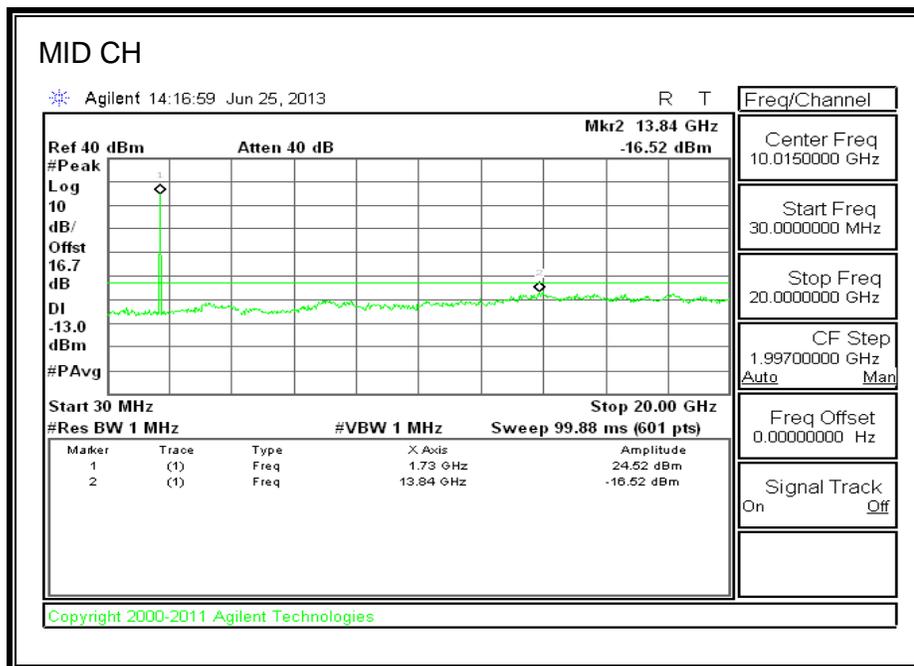
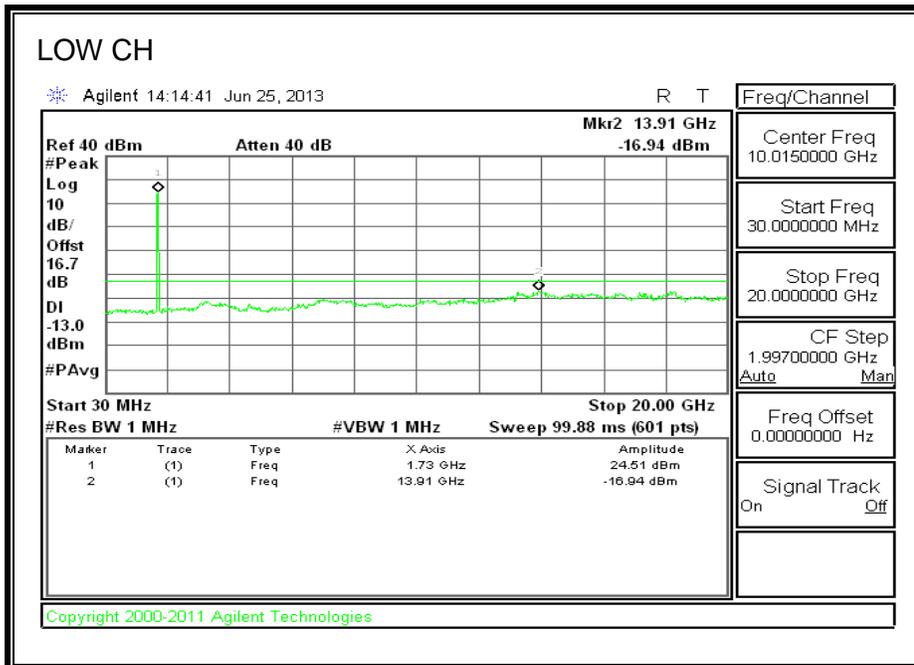


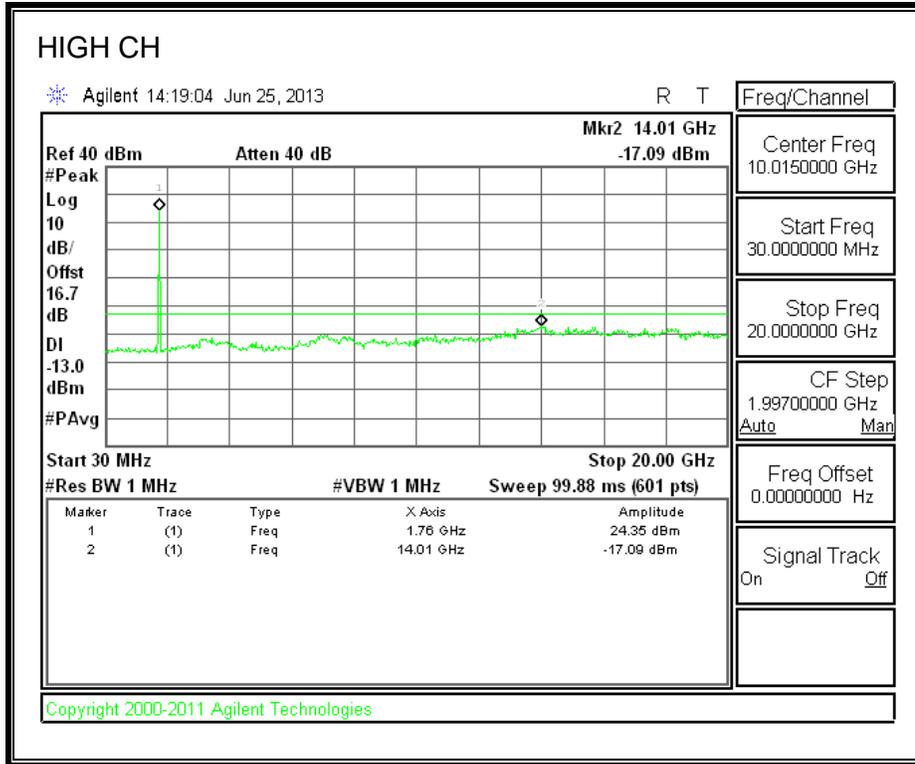
BAND 2





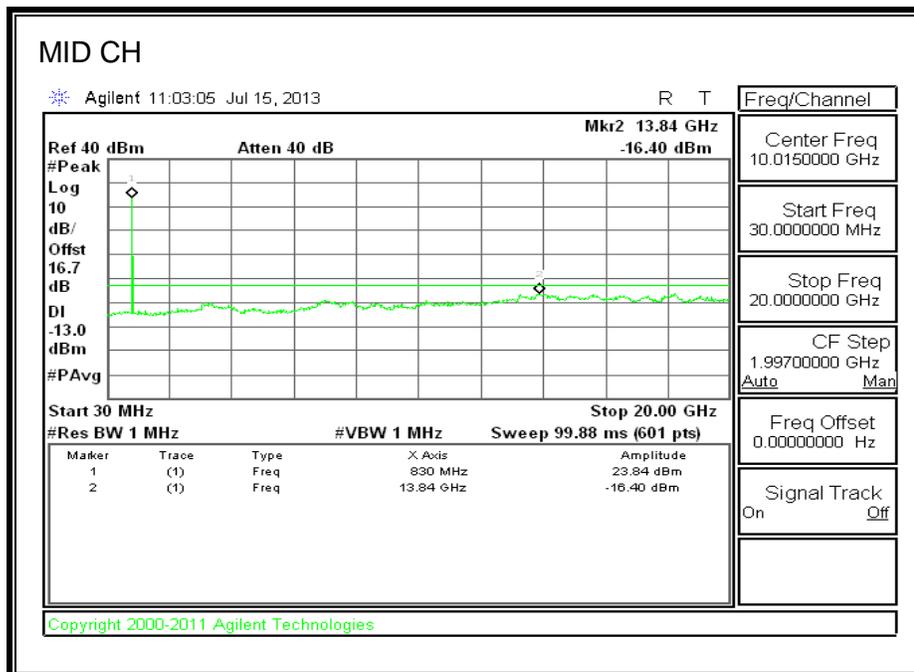
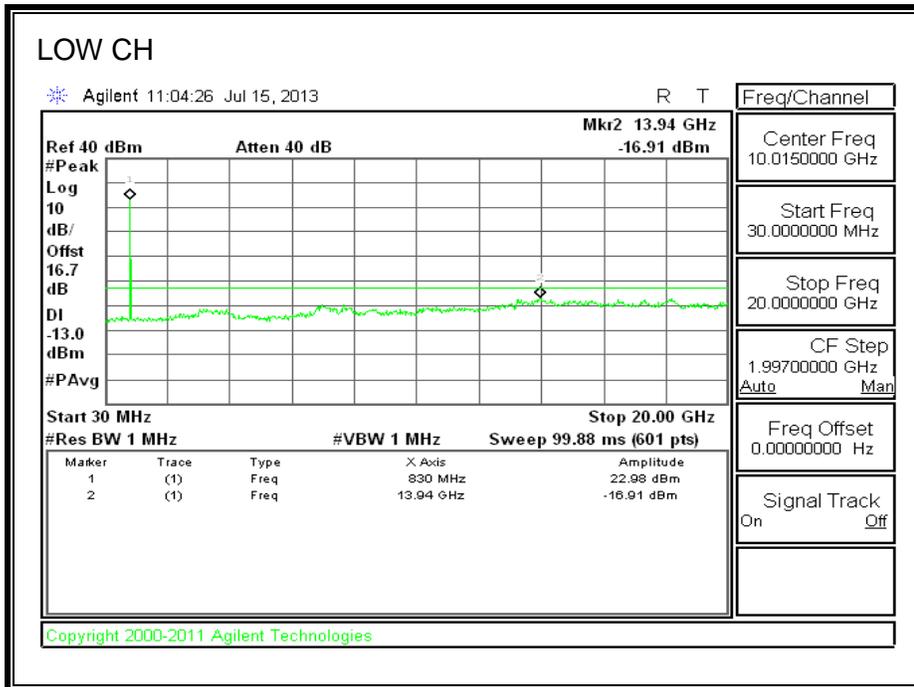
BAND 4

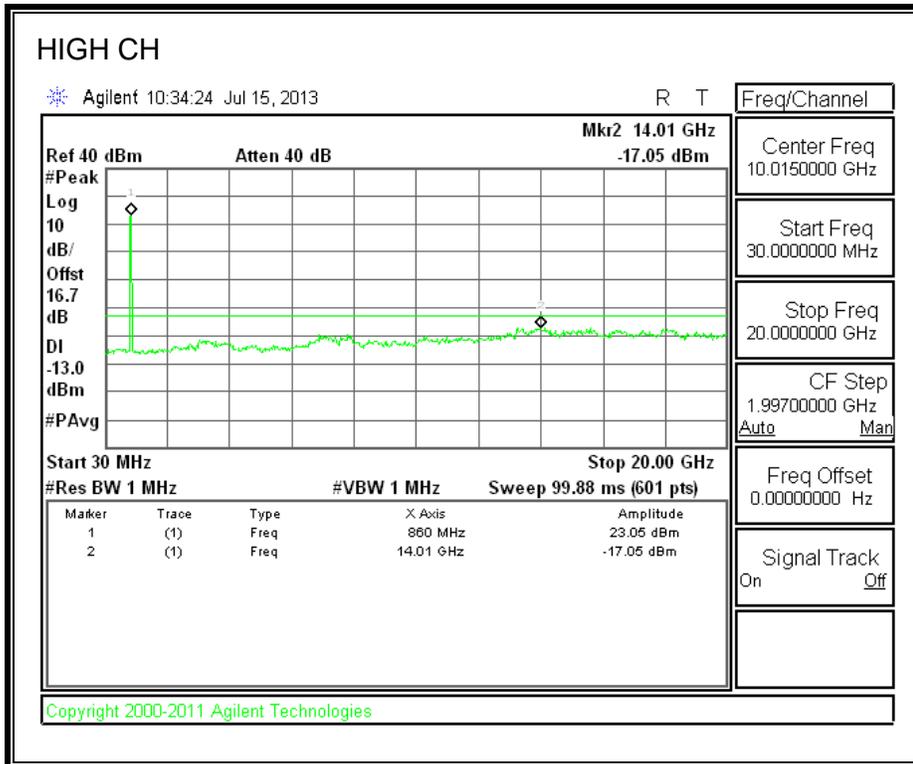




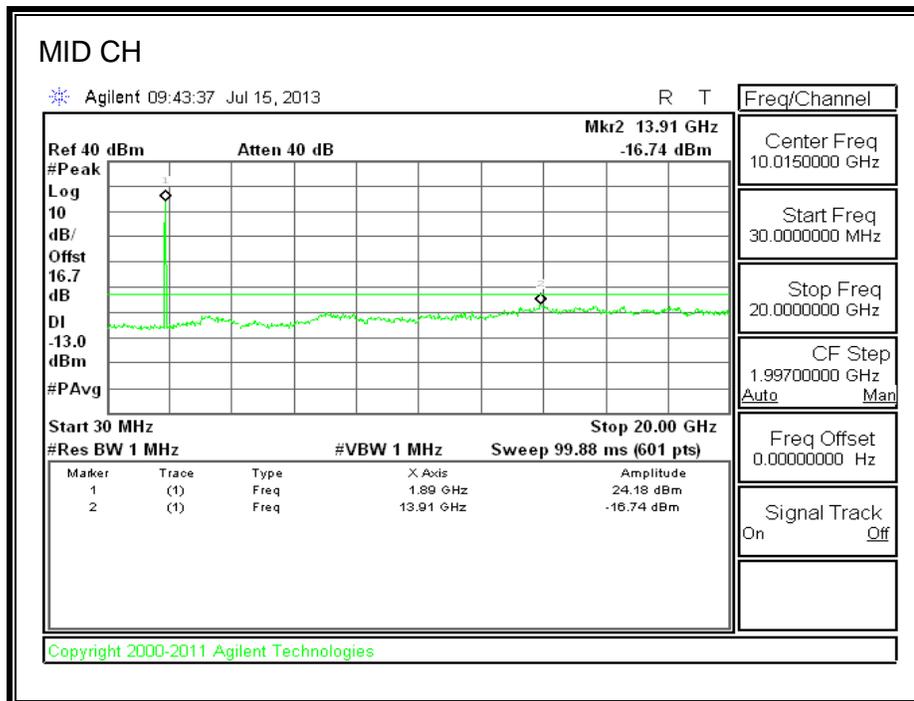
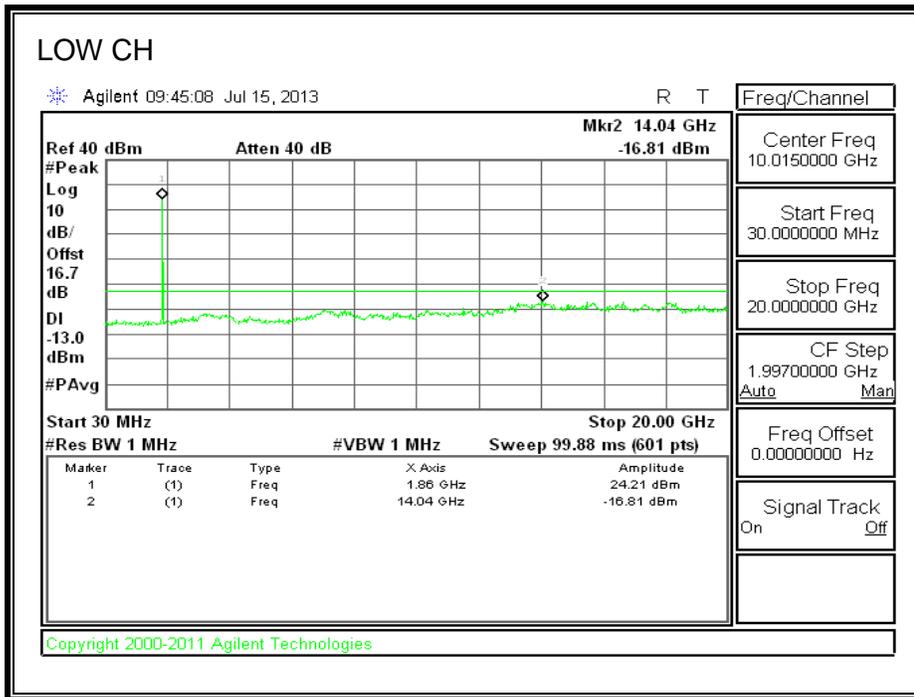
12.1.3. UMTS HSDPA MODE

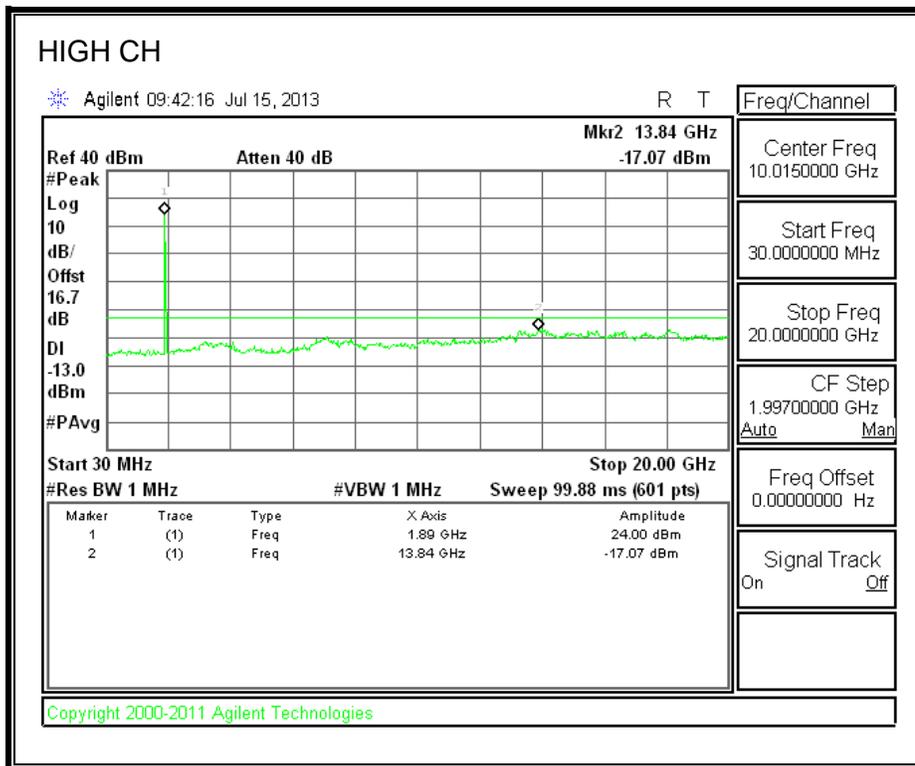
BAND 5



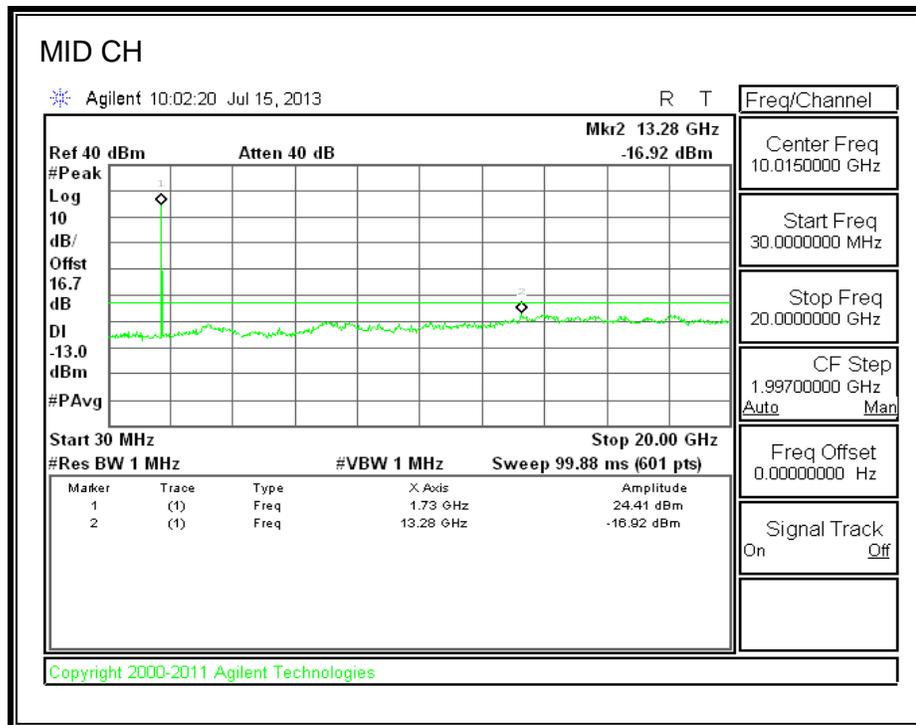
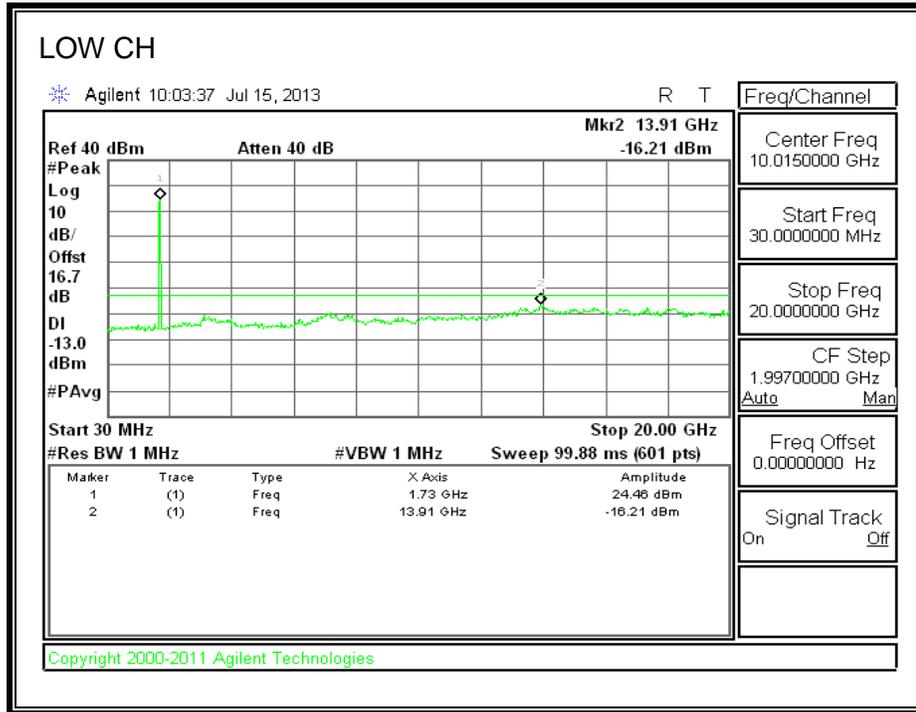


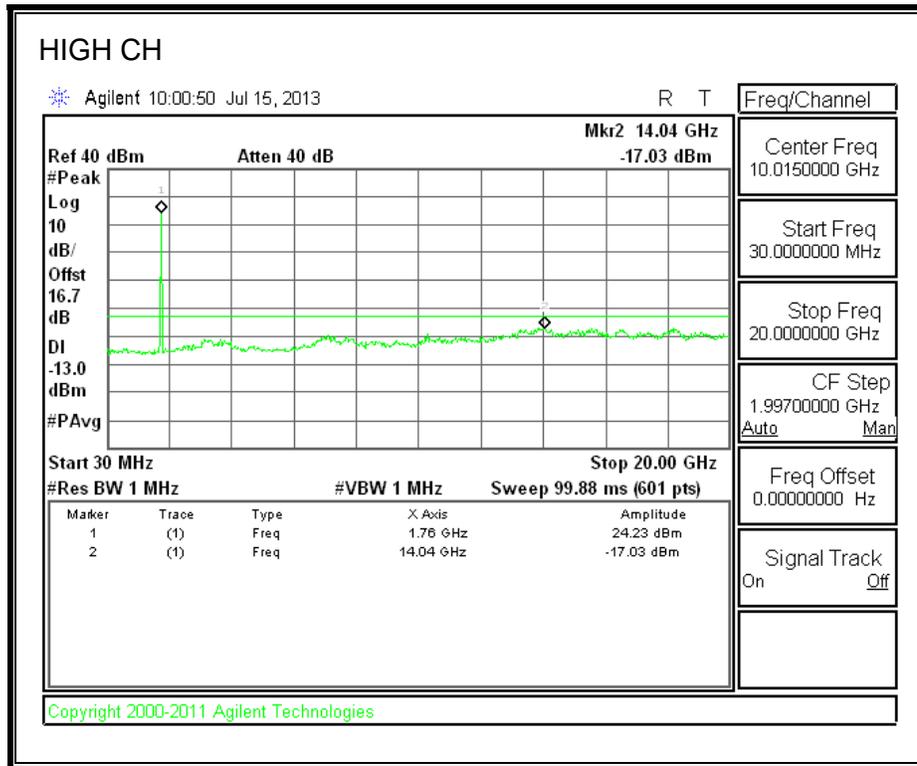
BAND 2





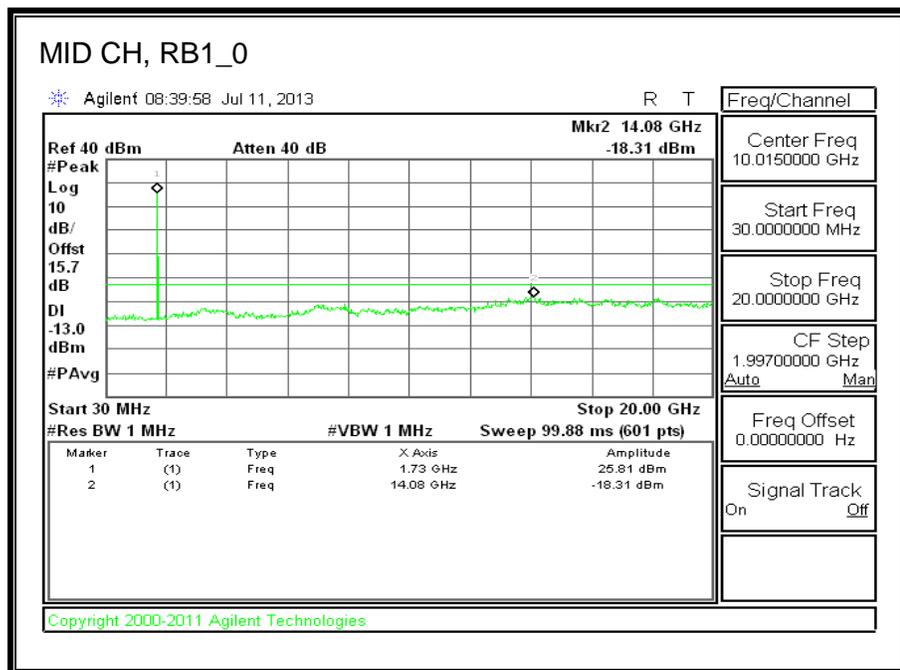
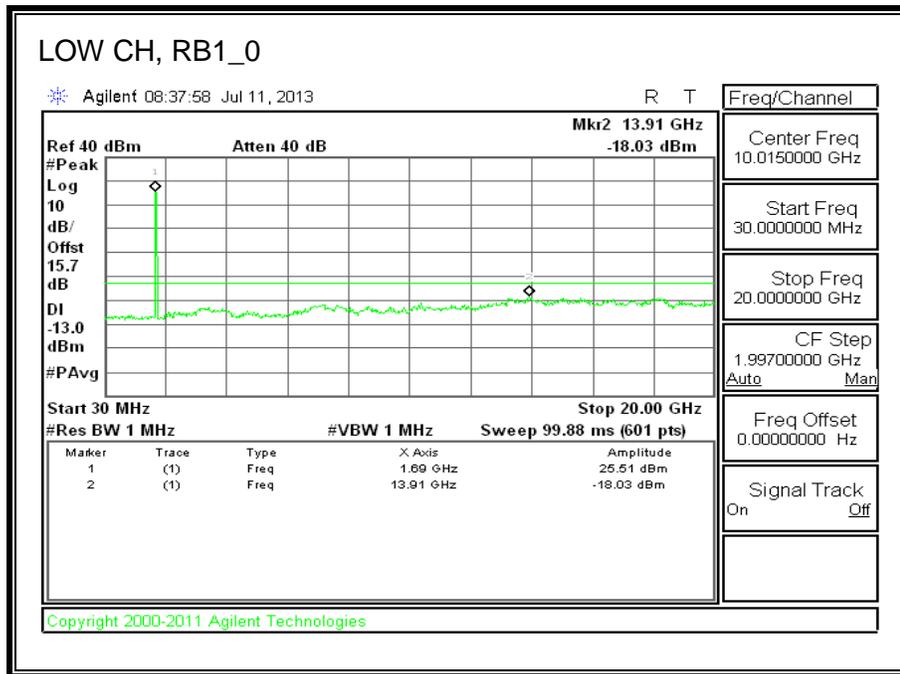
BAND 4

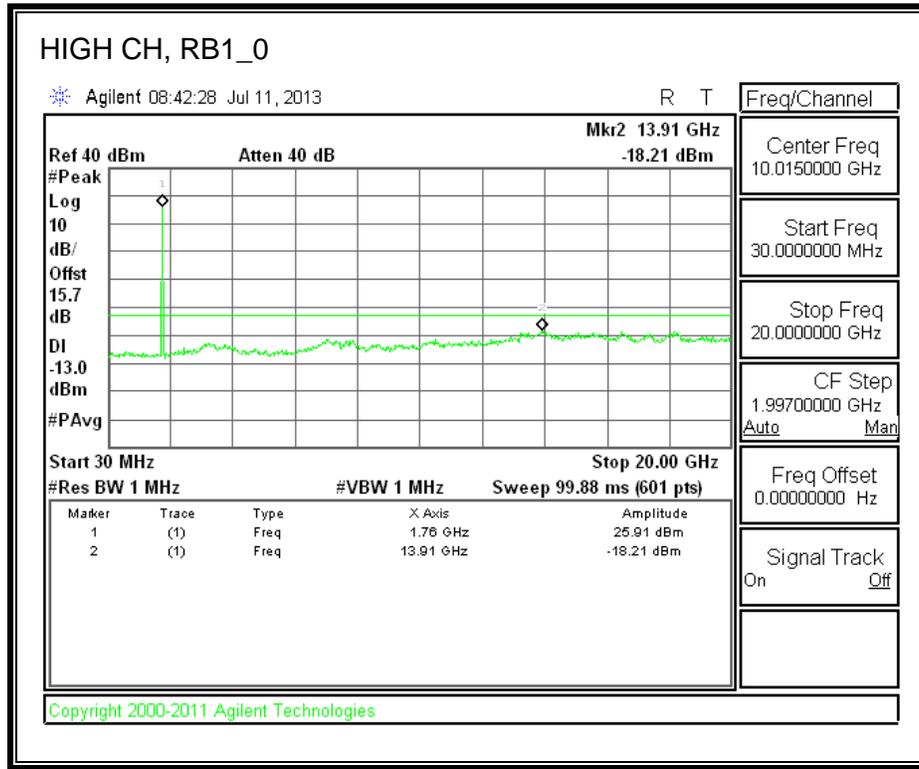




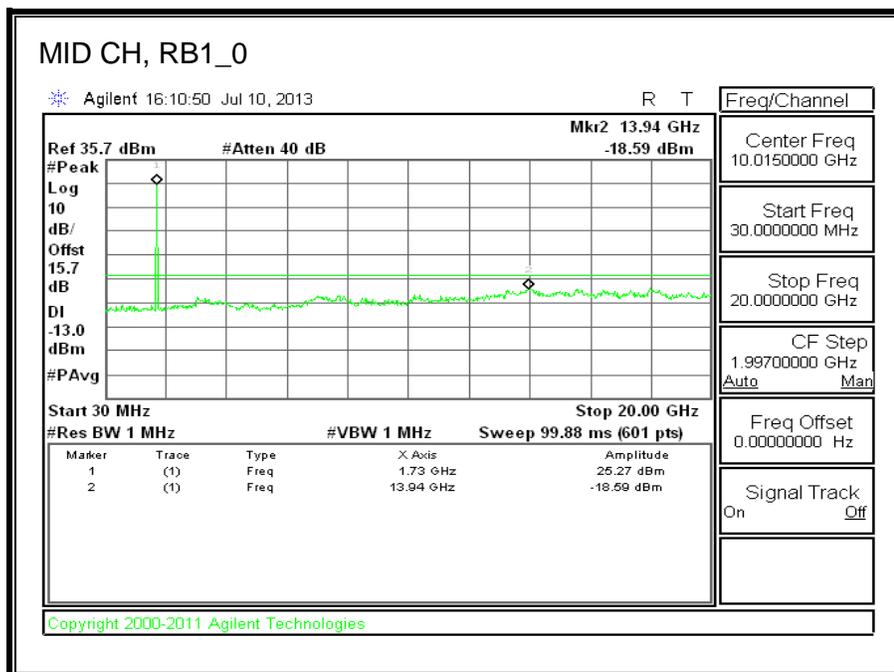
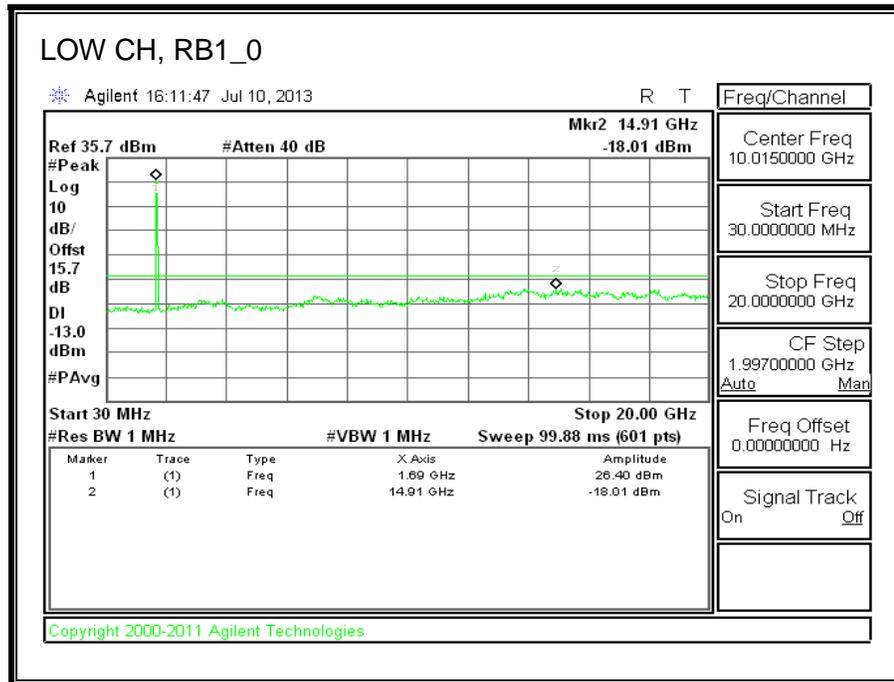
12.2. LTE BAND 4

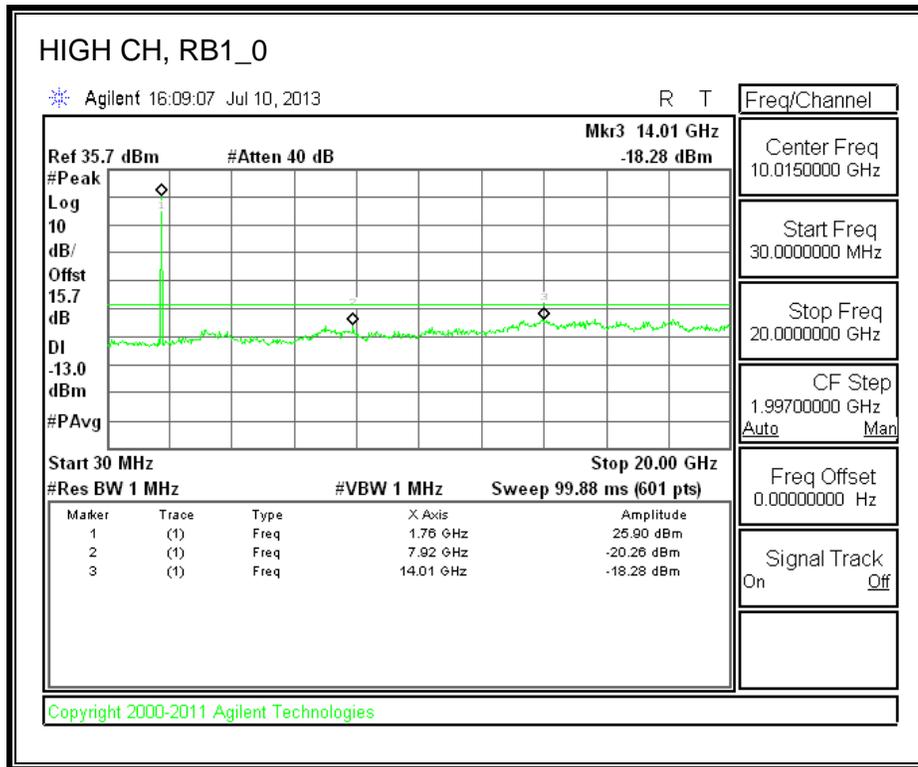
12.2.1. LTE BAND 4-1.4MHz OUT OF BAND EMISSIONS QPSK





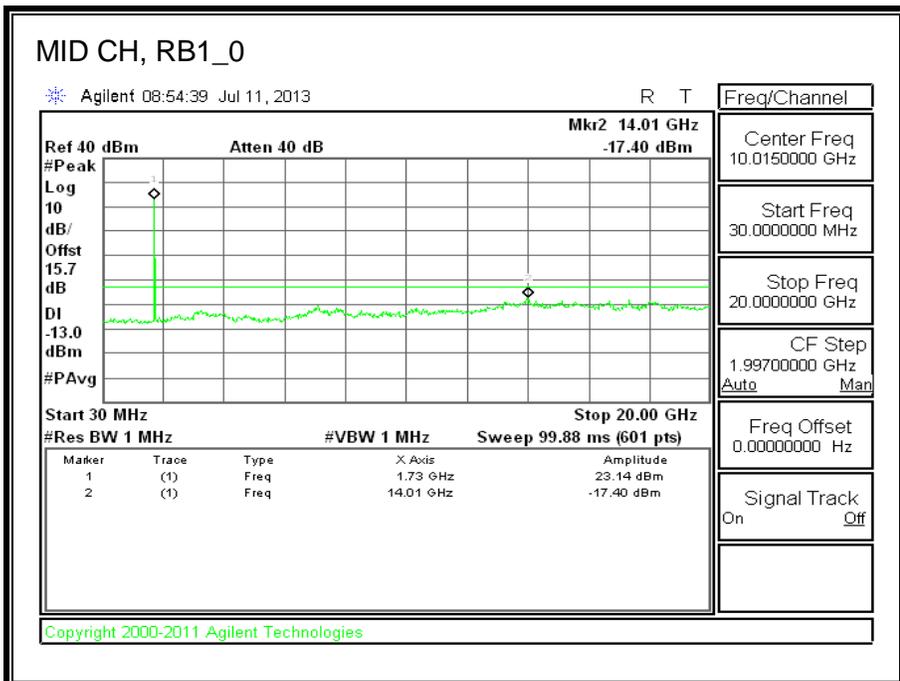
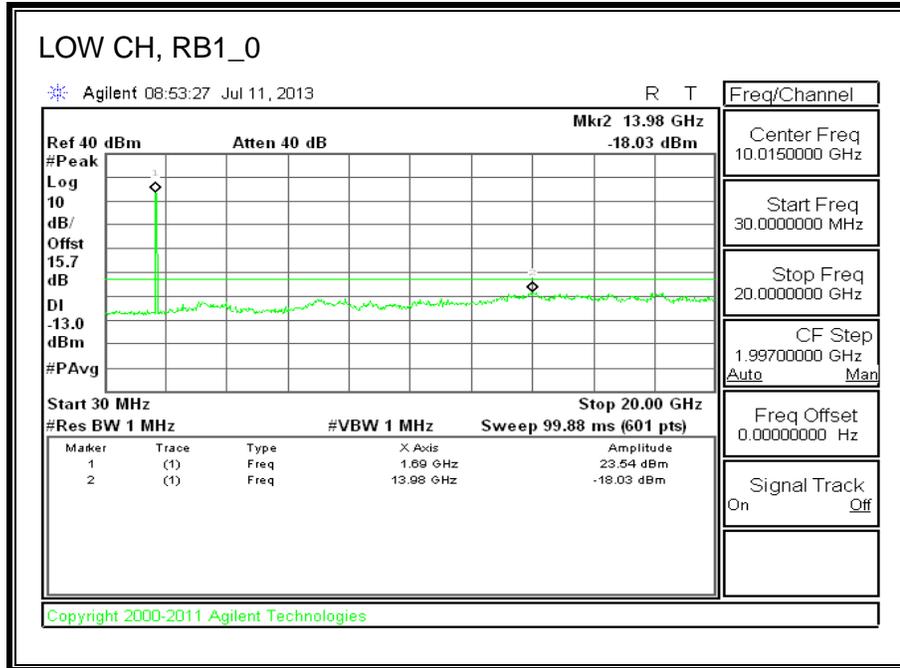
16QAM



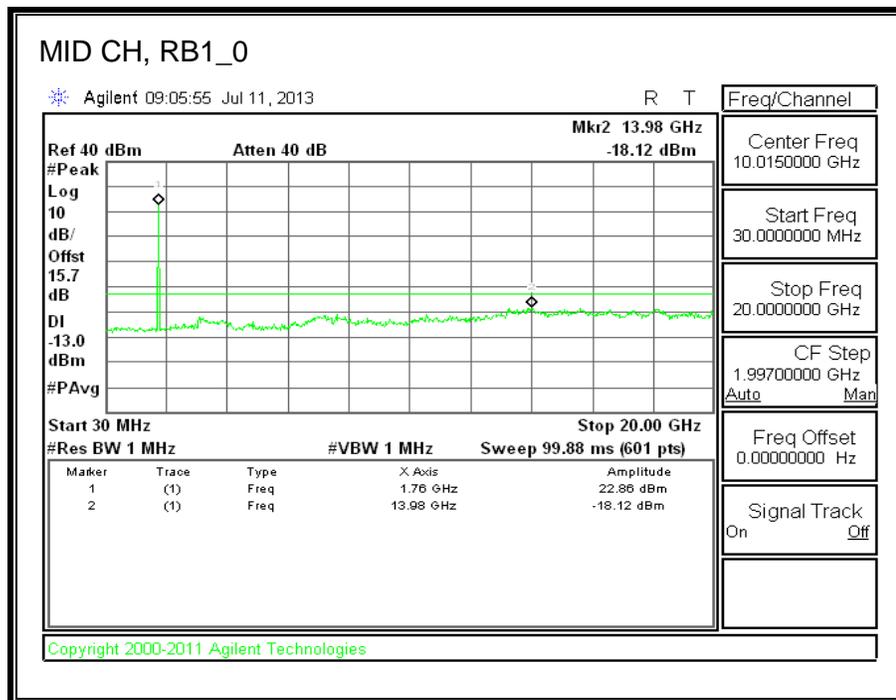
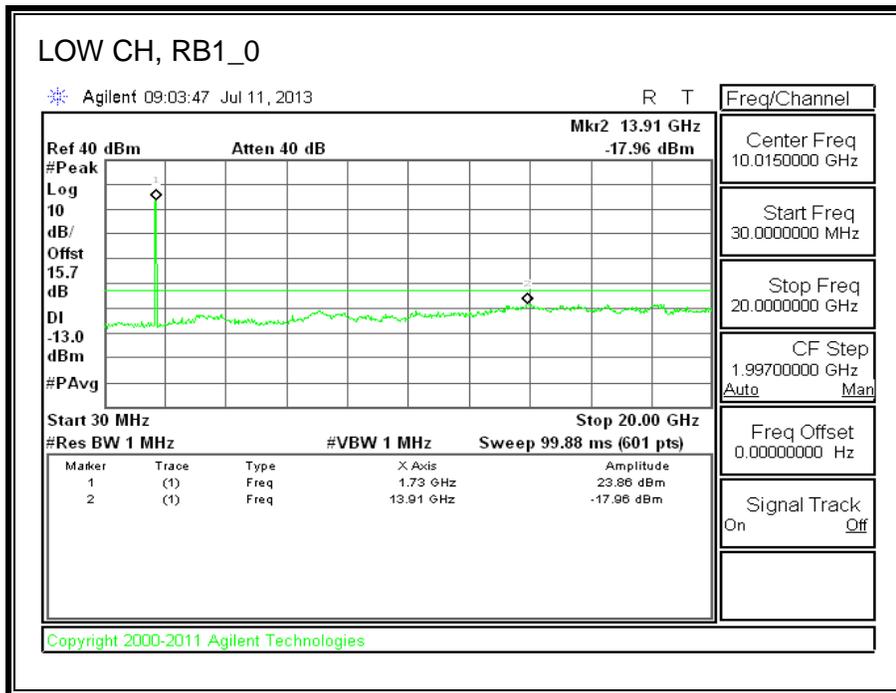


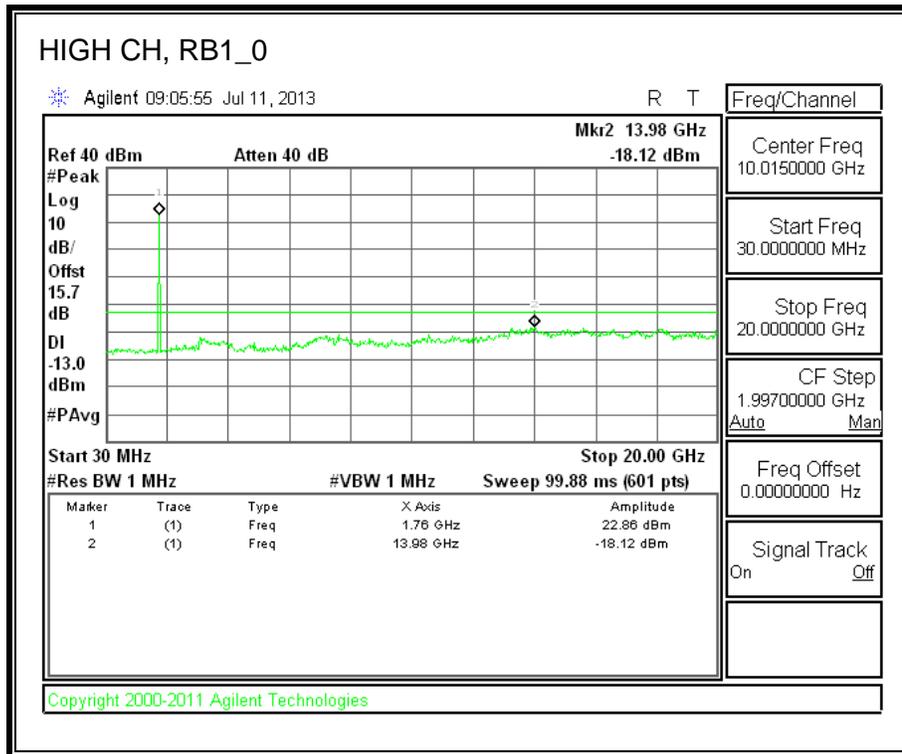
12.2.2. LTE BAND 4-3MHz OUT OF BAND EMISSIONS

QPSK



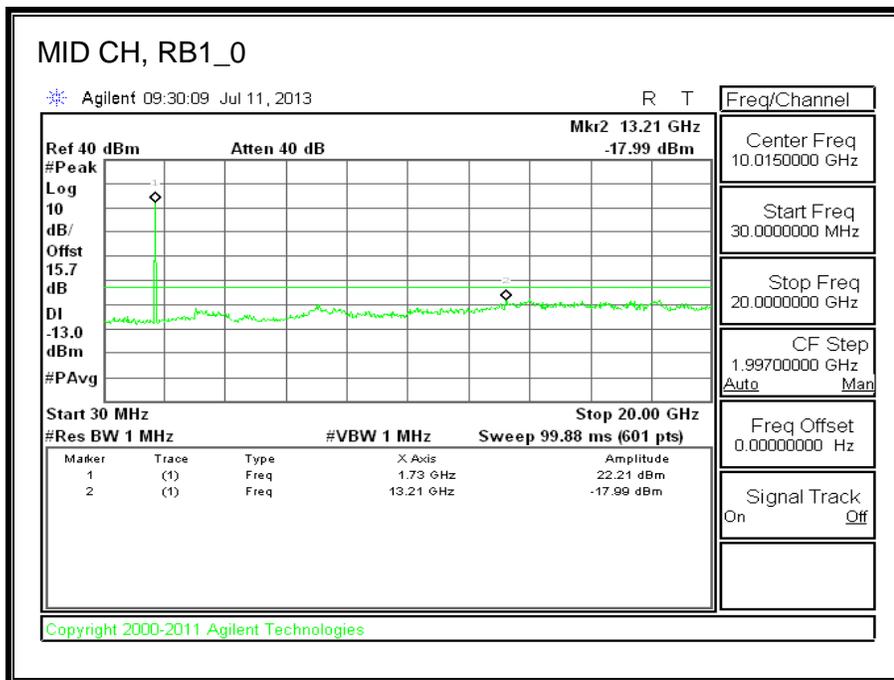
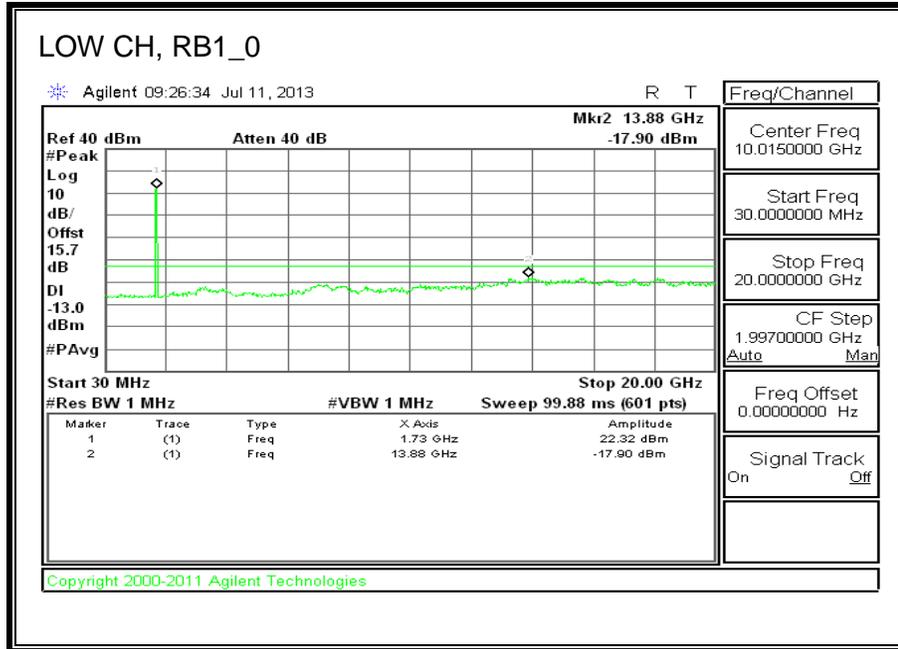
16QAM

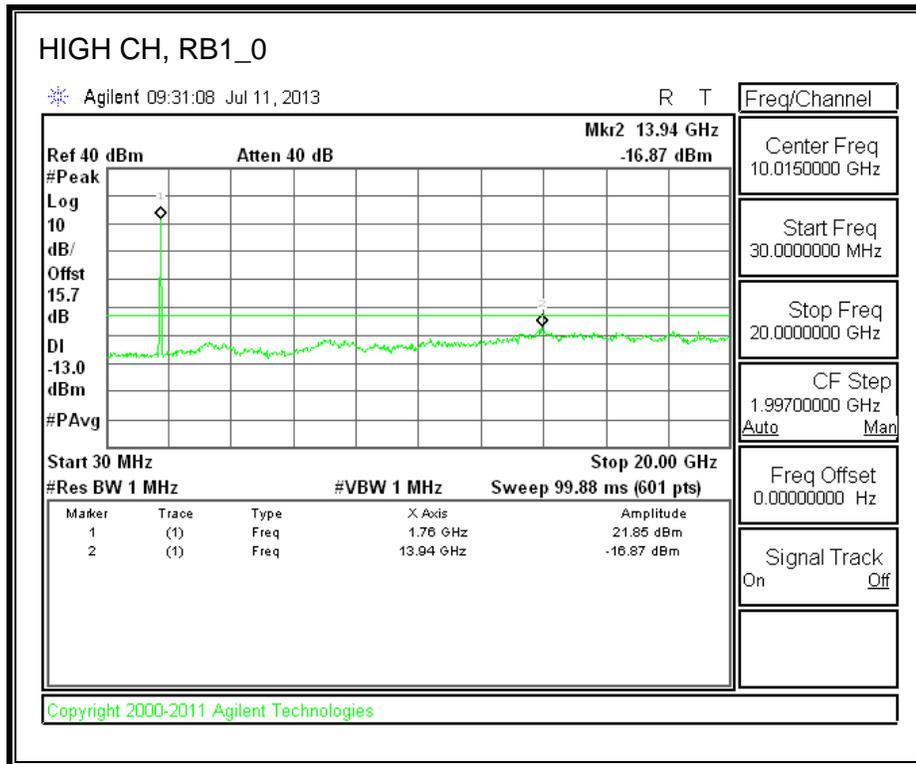




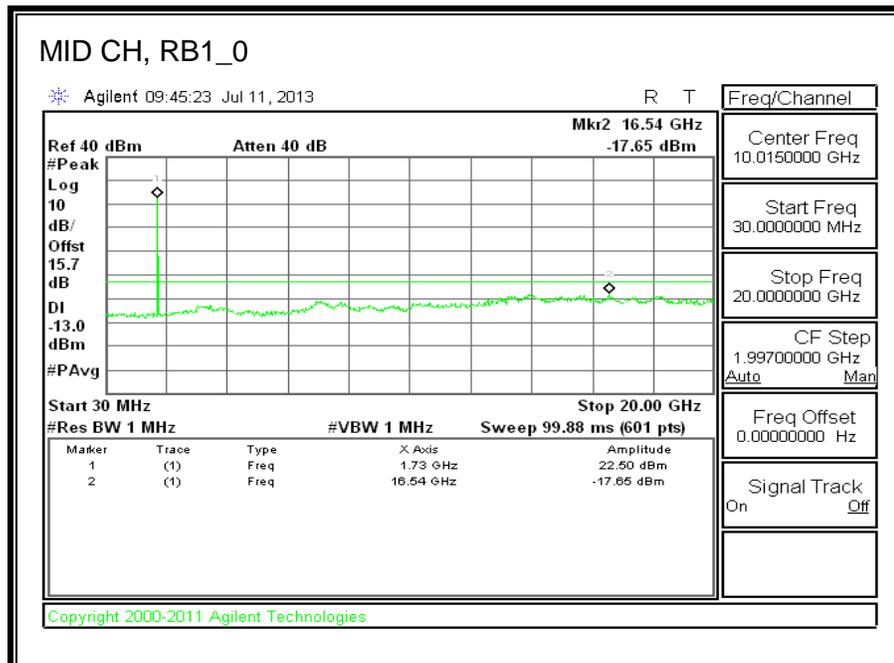
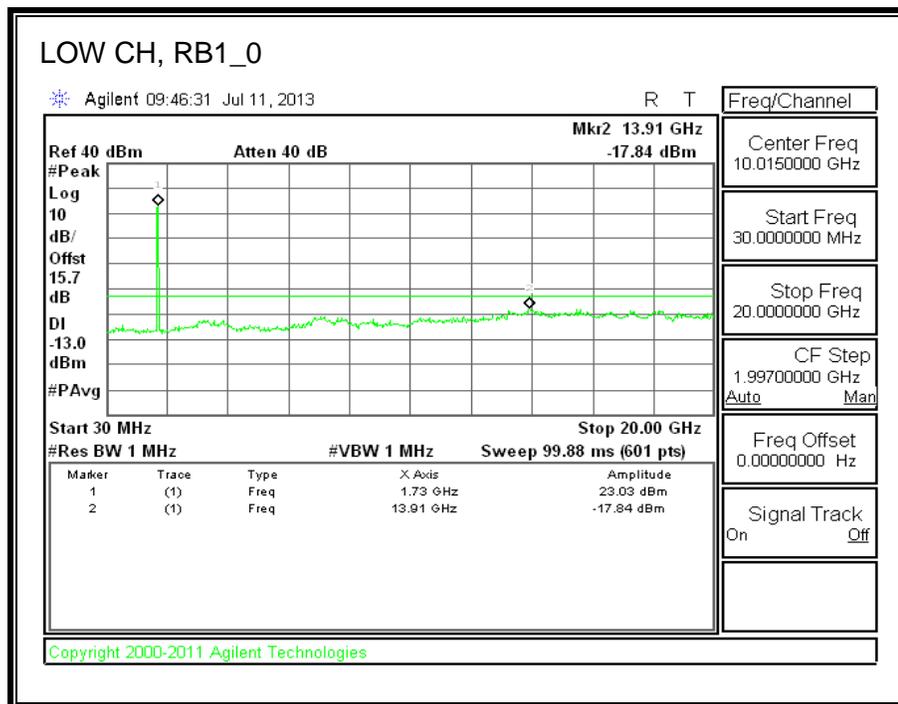
12.2.3. LTE BAND 4-5MHz BANDWIDTH

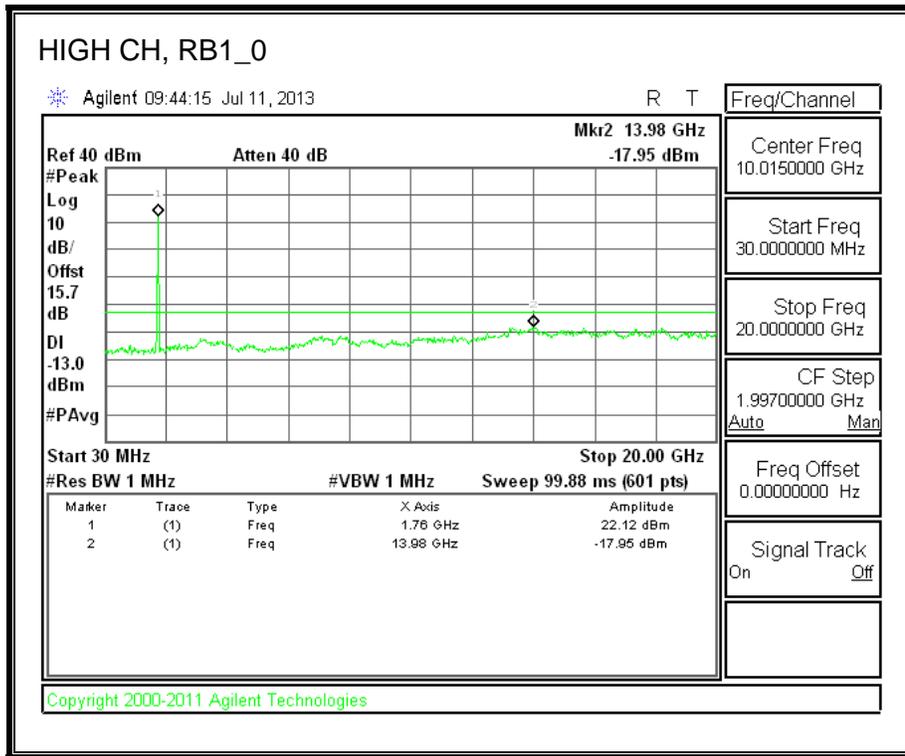
QPSK





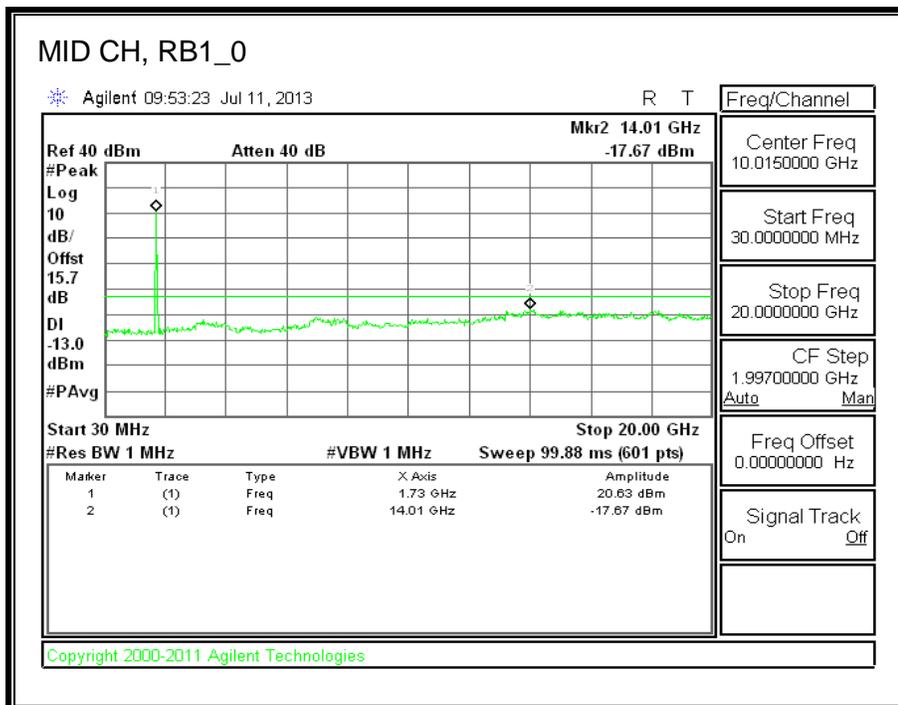
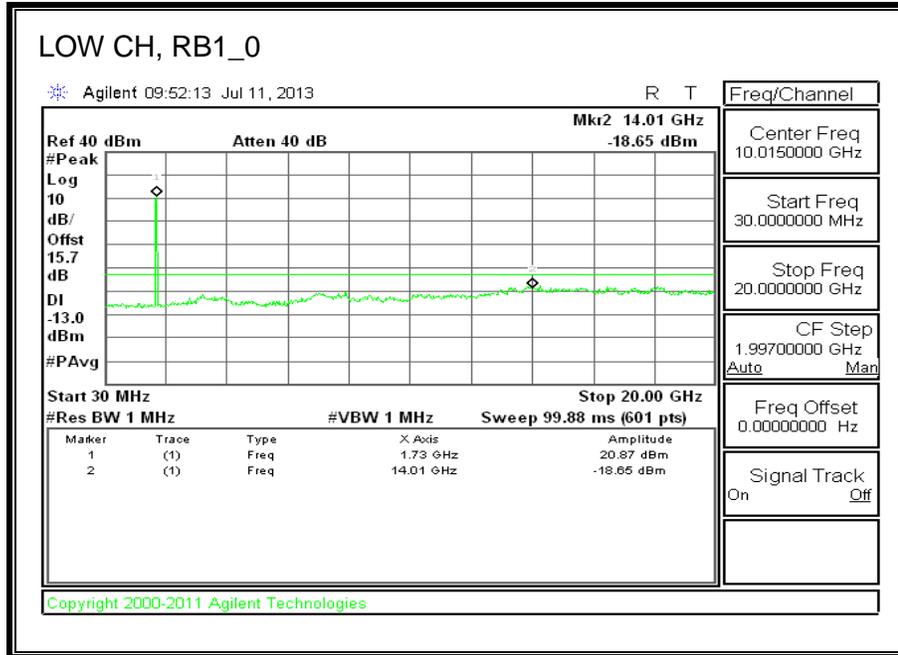
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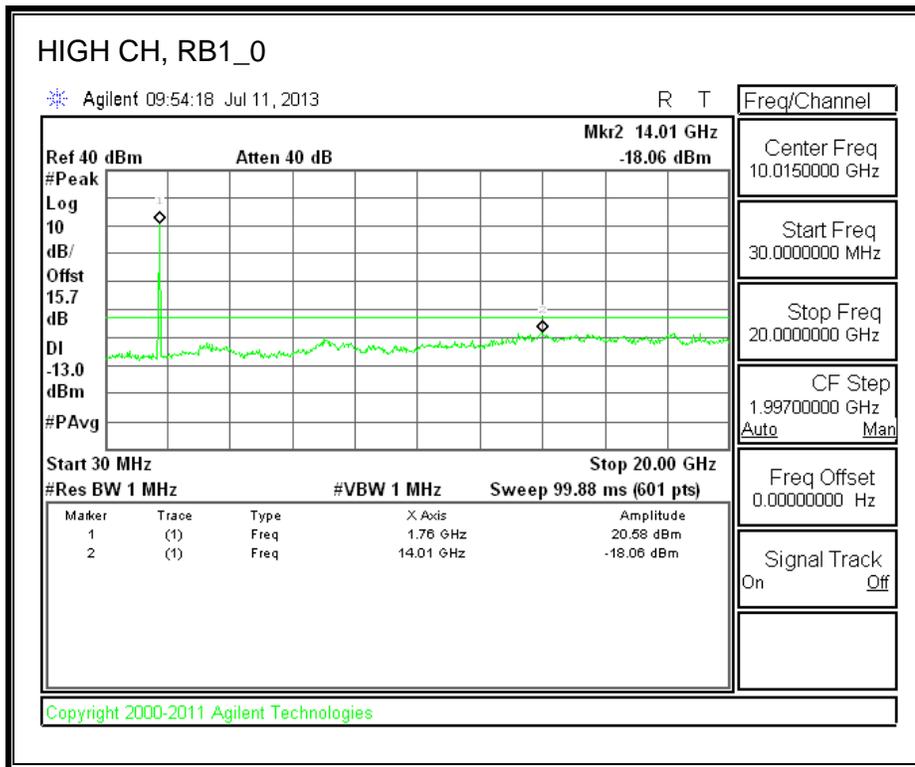




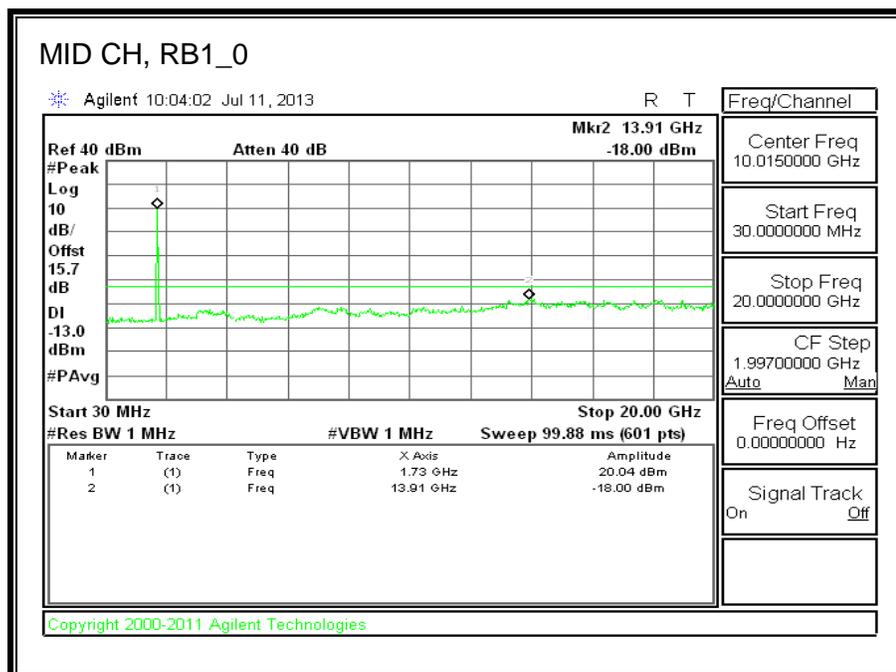
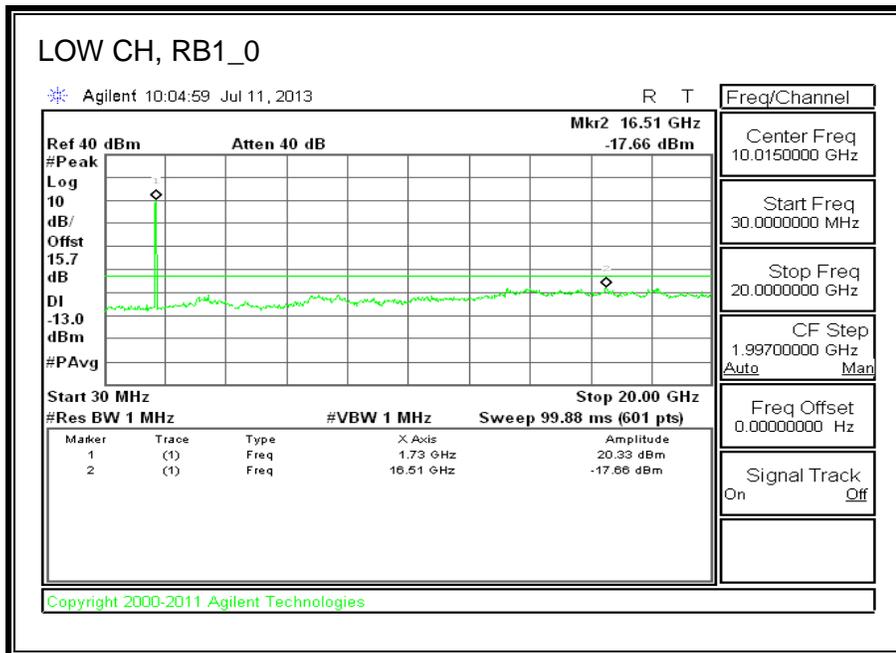
12.2.4. LTE BAND 4-10MHz BANDWIDTH

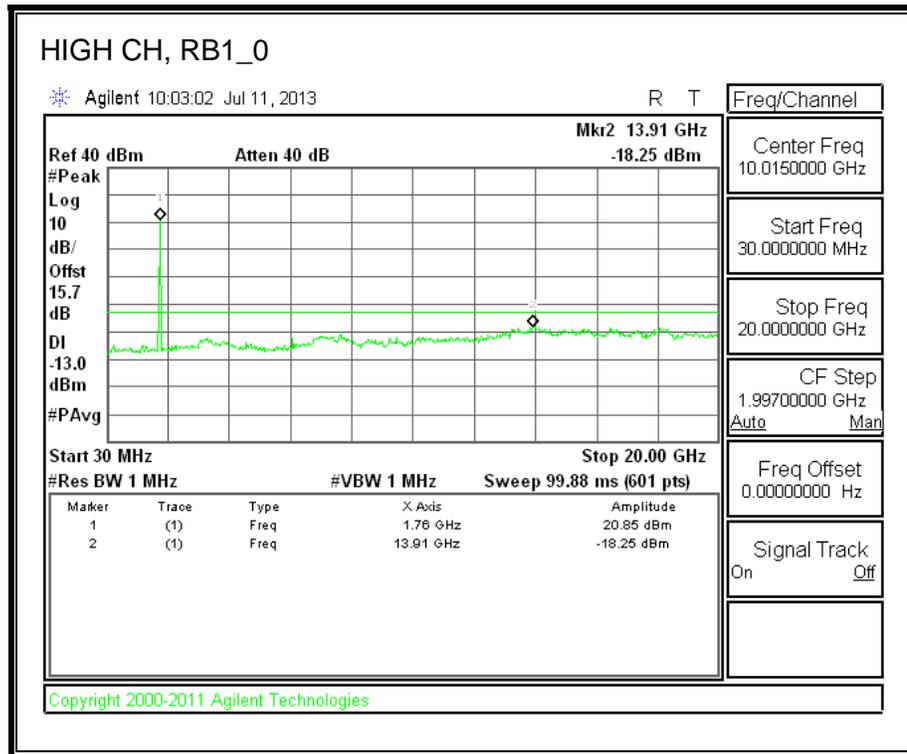
QPSK





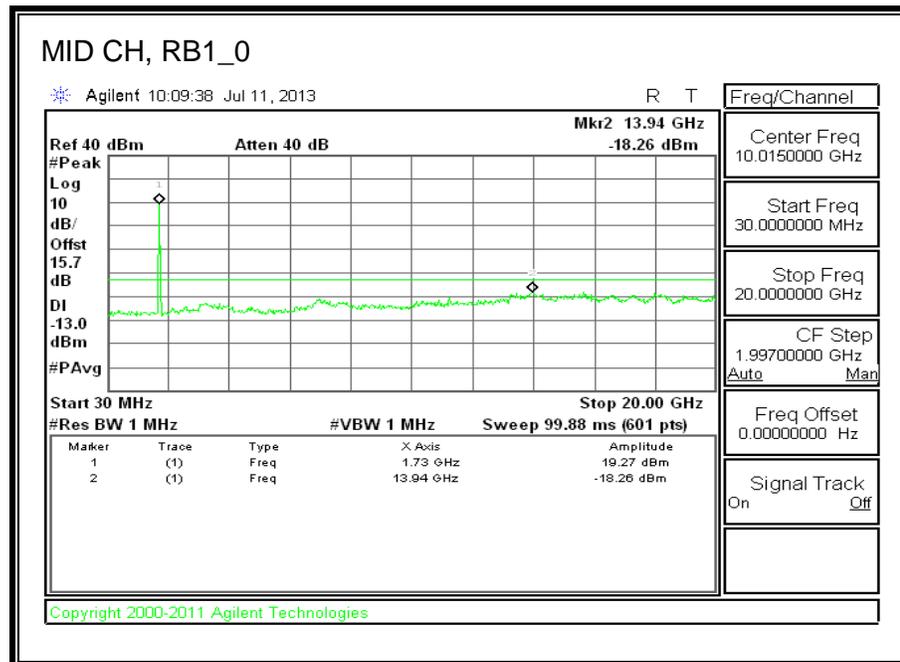
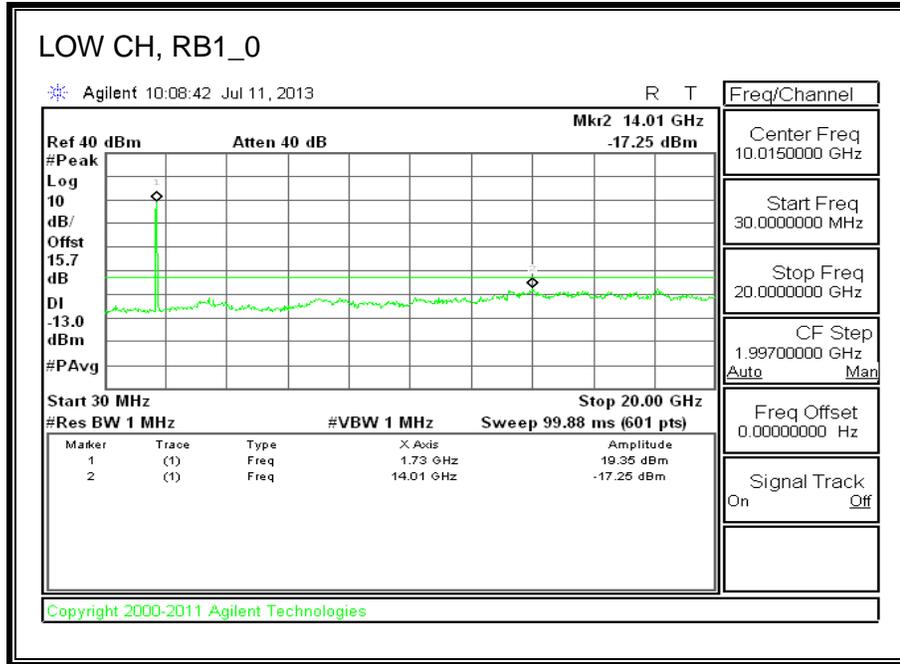
16QAM

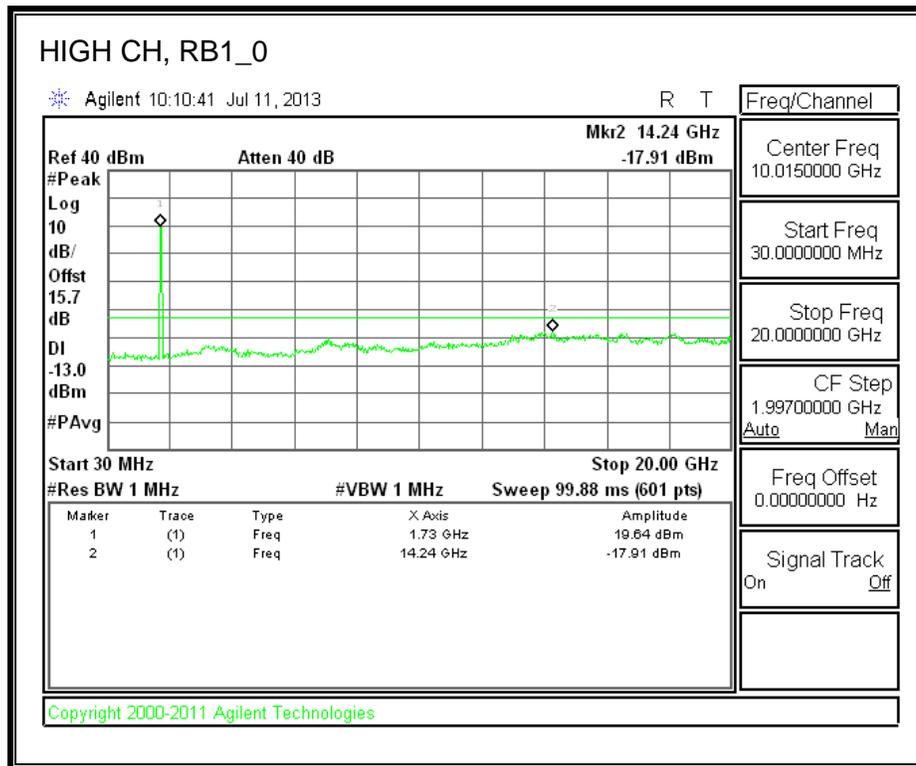




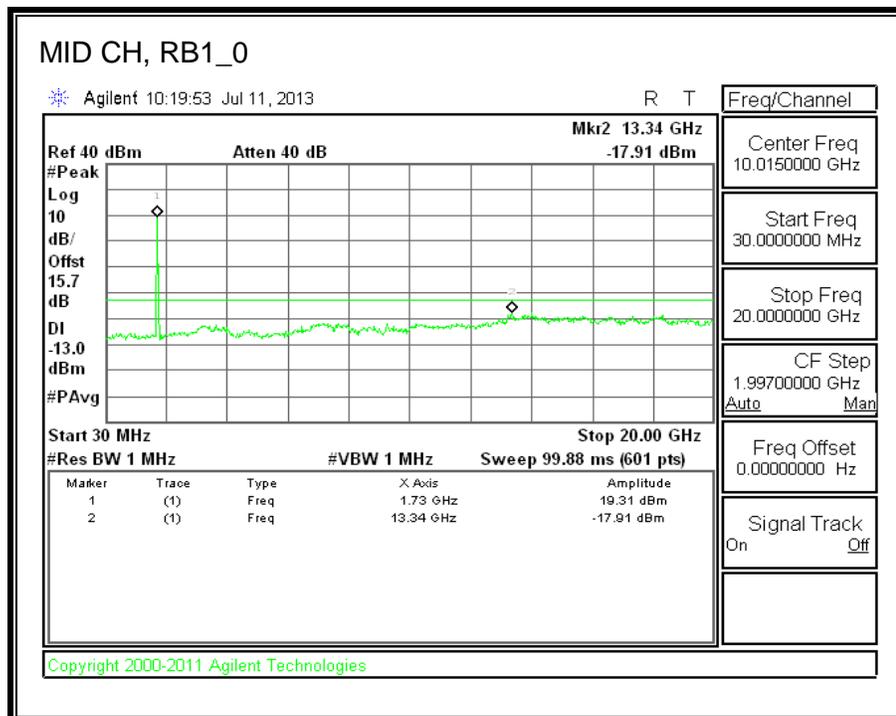
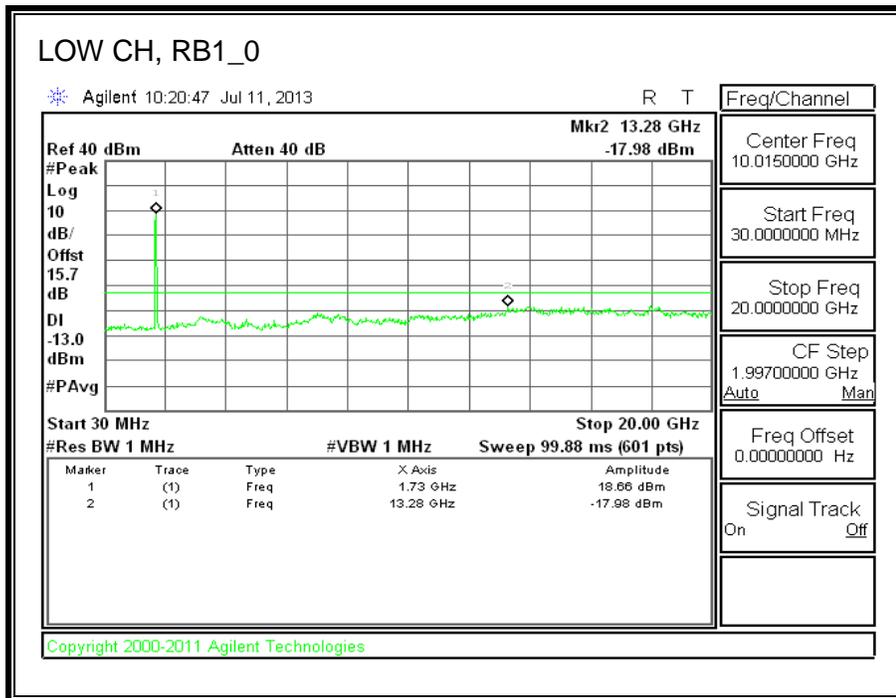
12.2.5. LTE BAND 4-15MHz BANDWIDTH

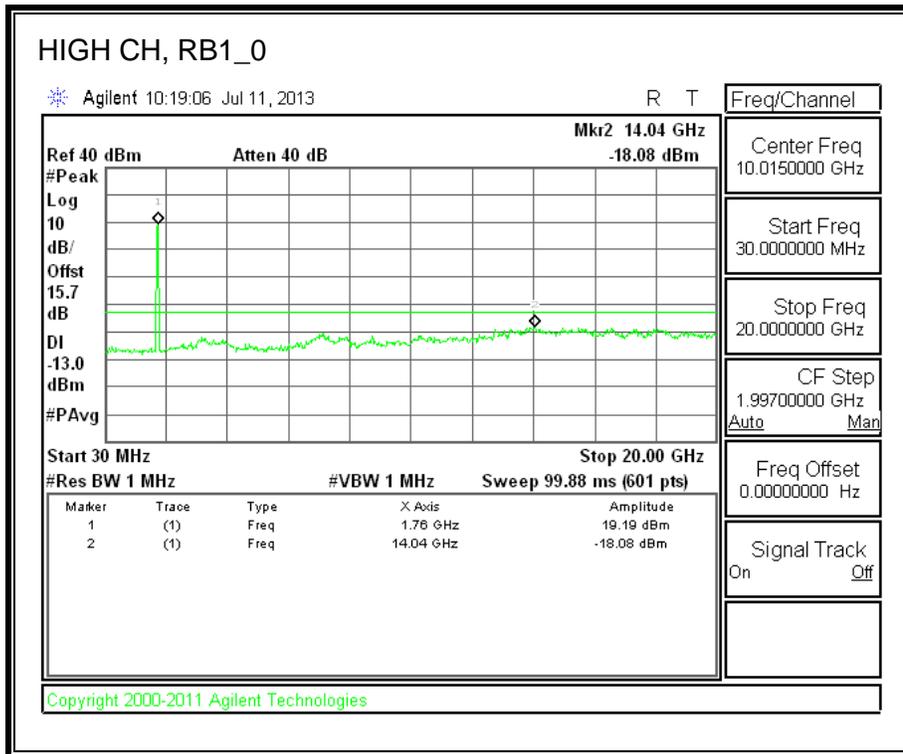
QPSK





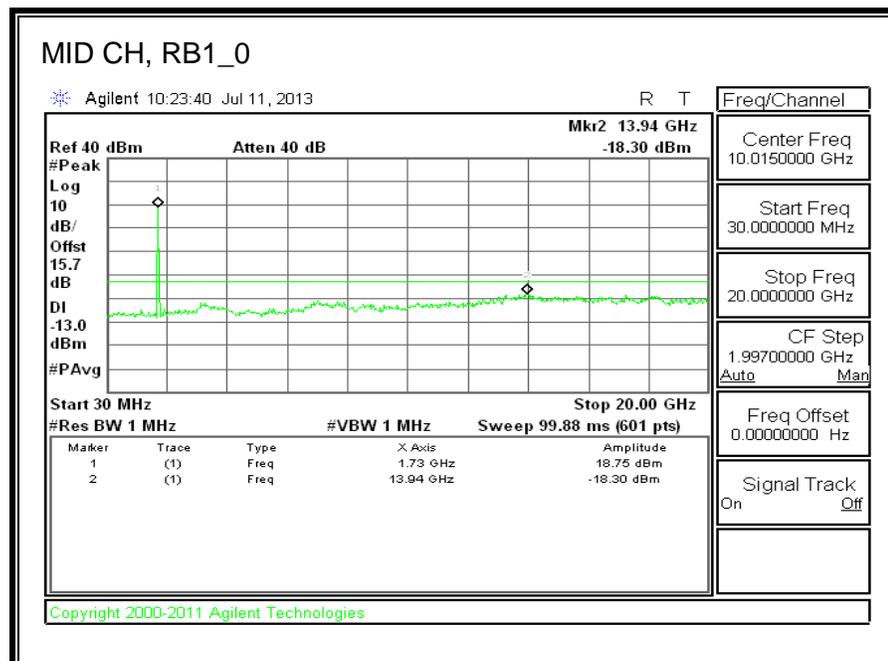
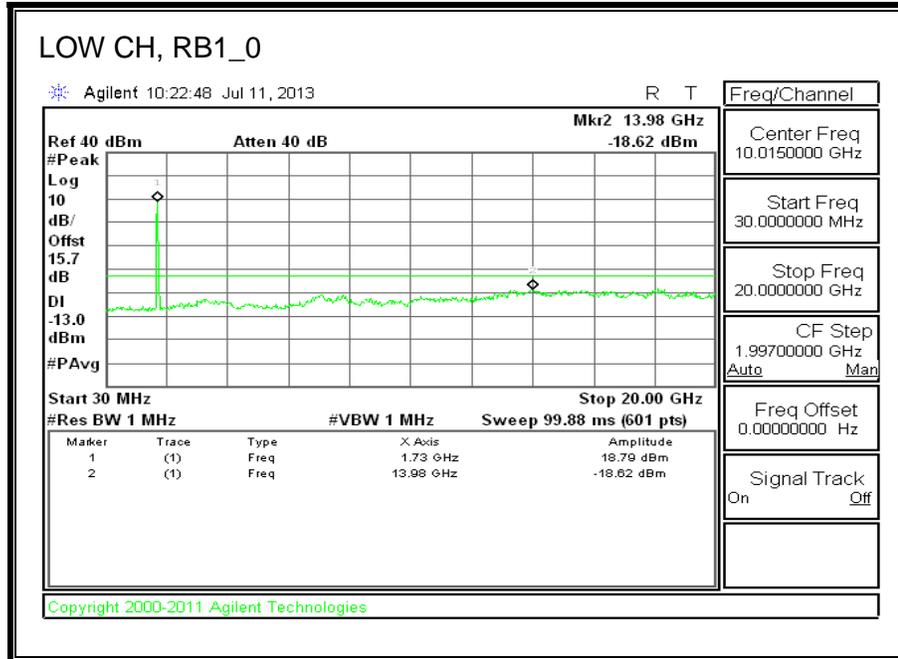
16QAM

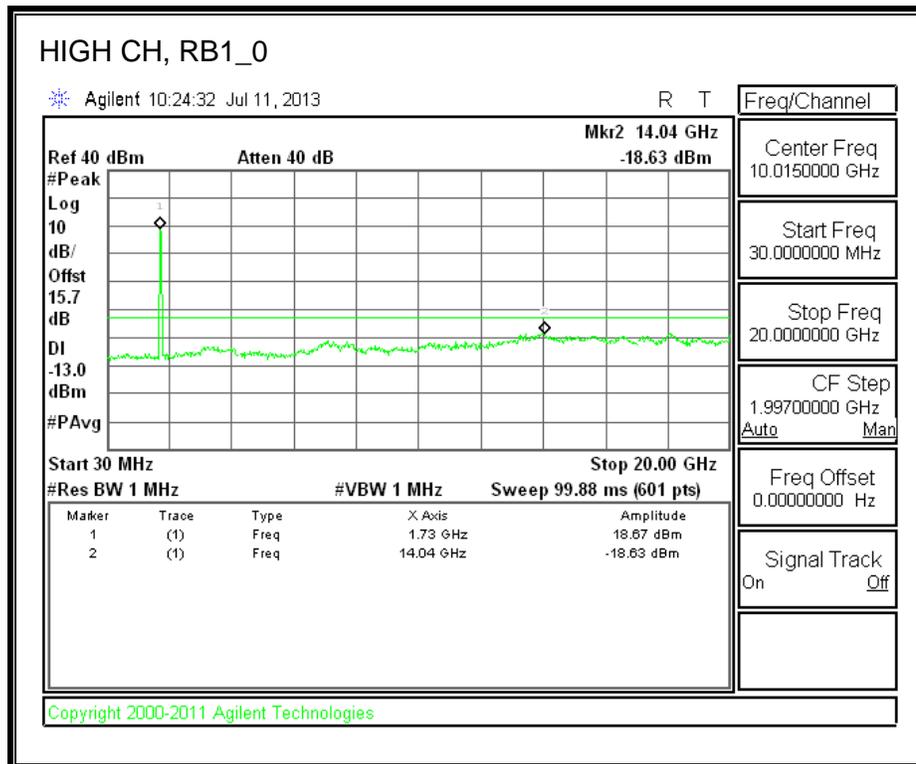




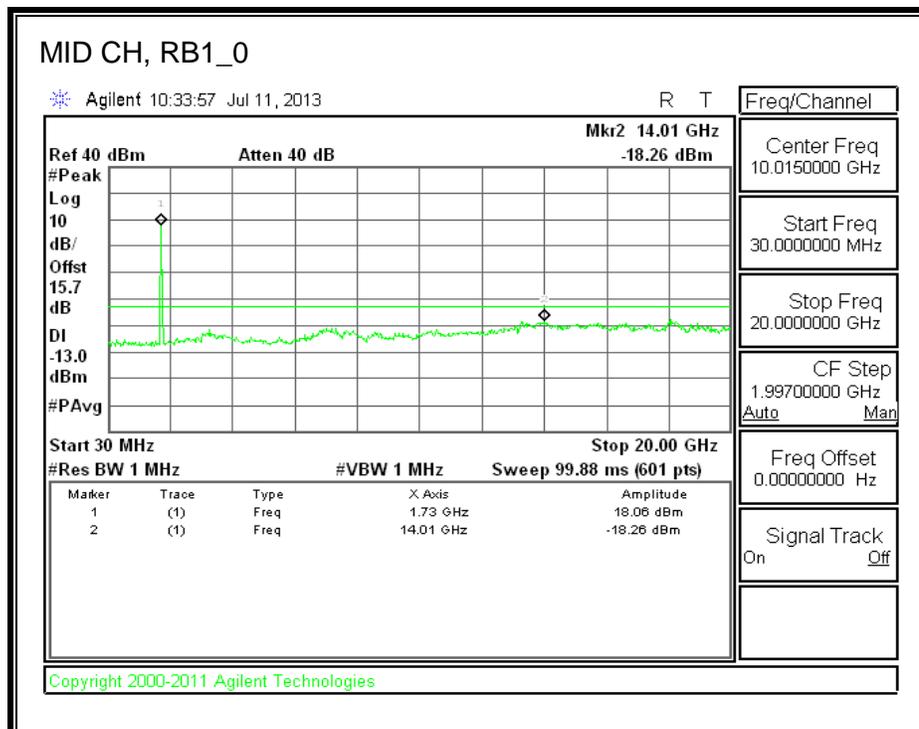
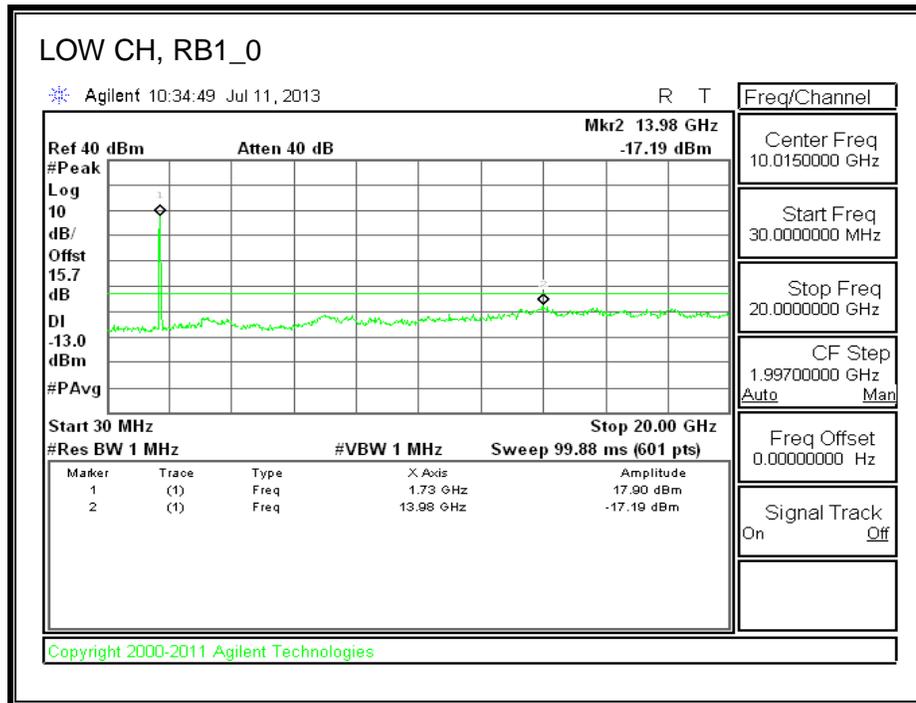
12.2.6. LTE BAND 4-20MHz BANDWIDTH

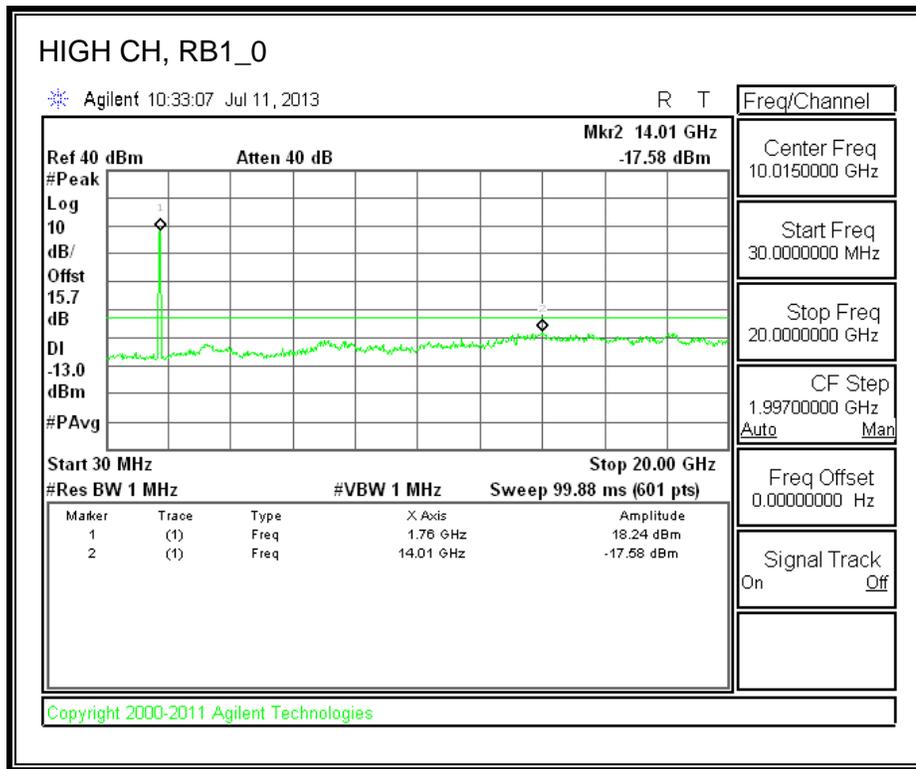
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16QAM

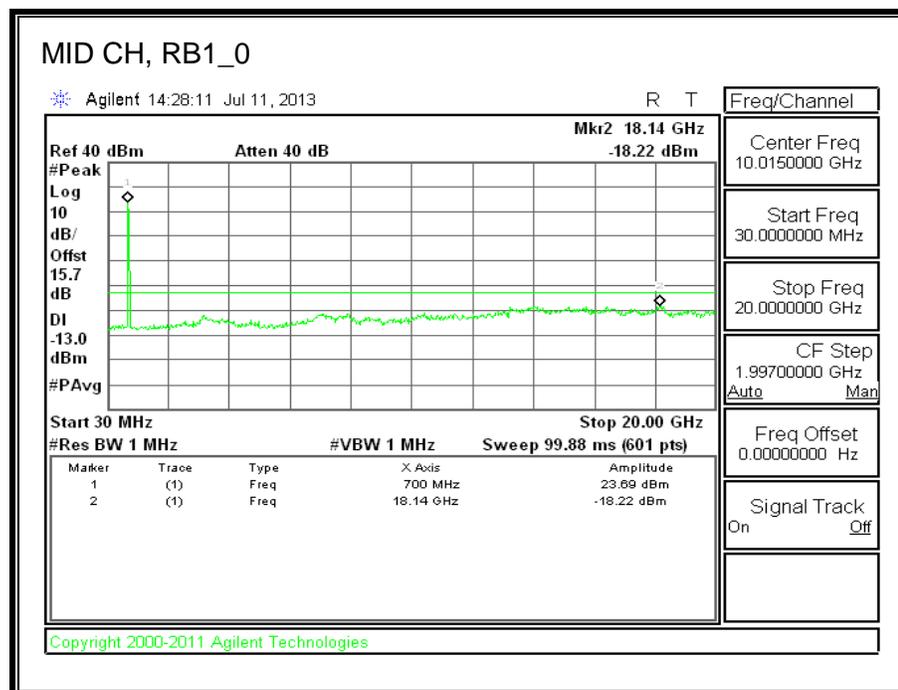
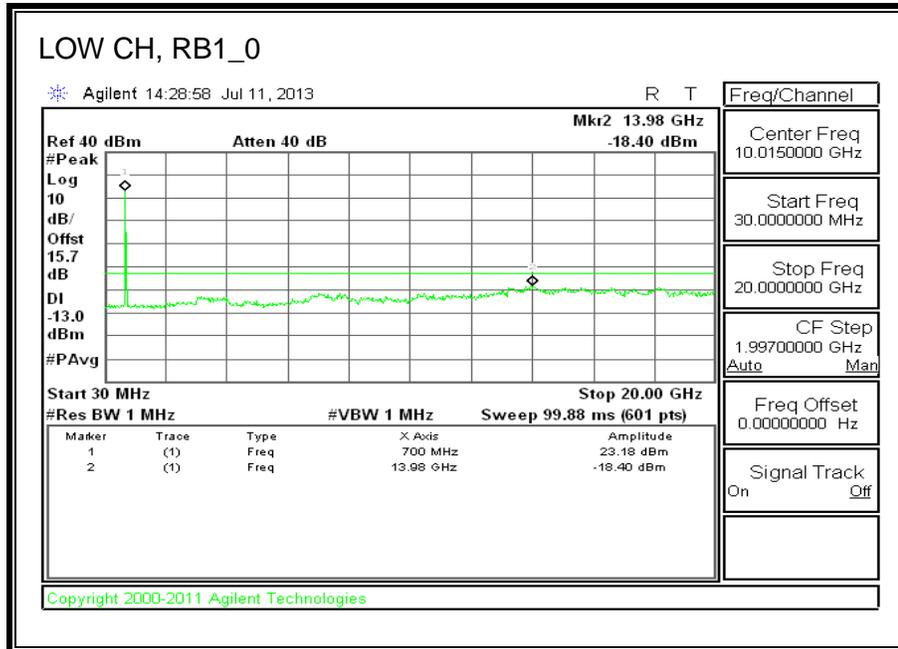


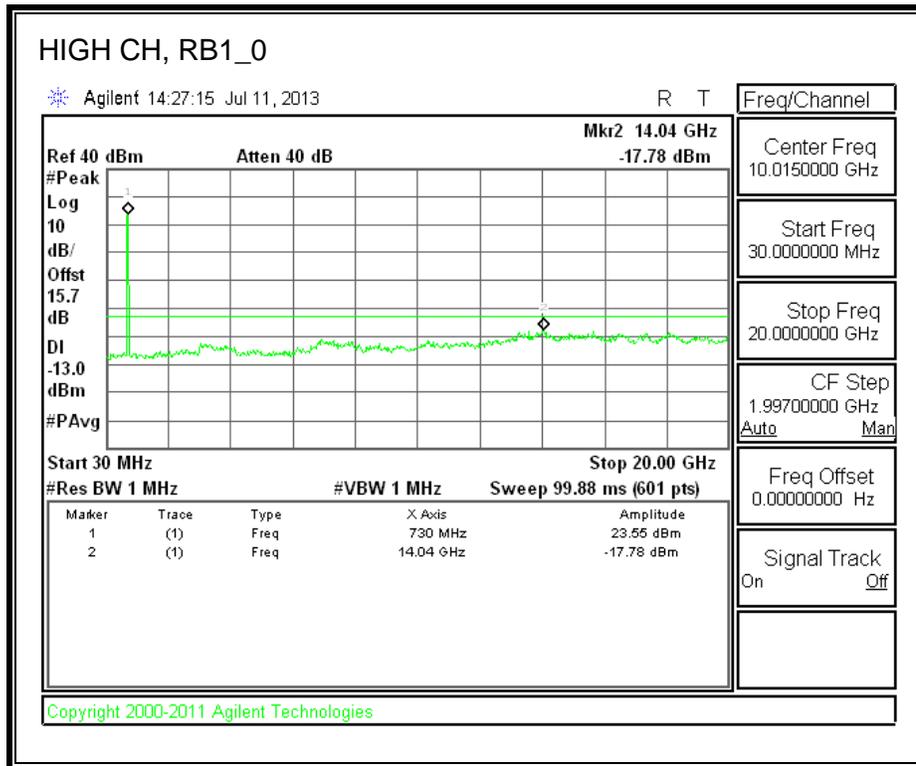


12.3. LTE BAND 17

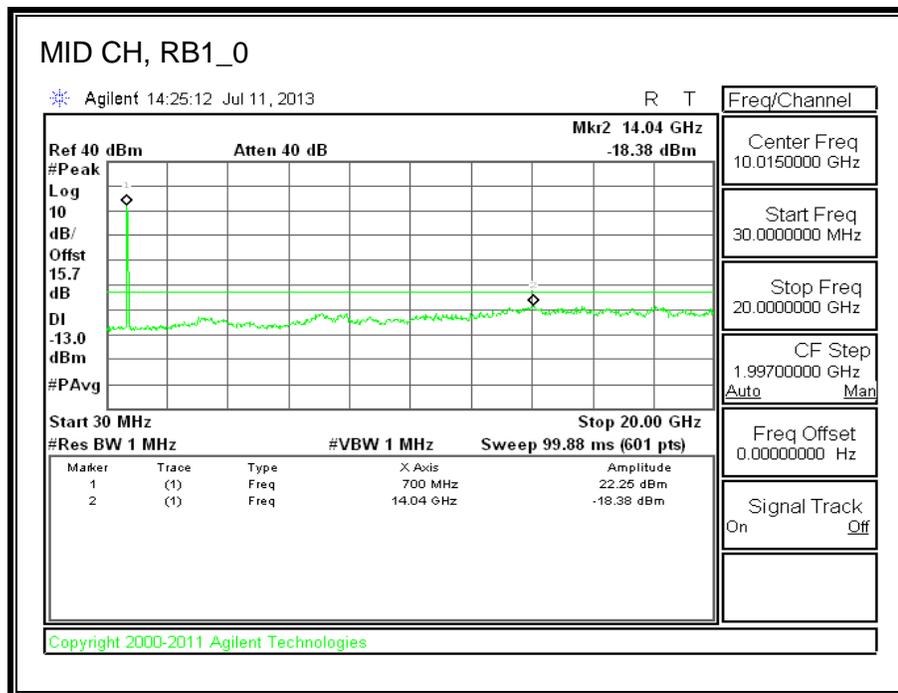
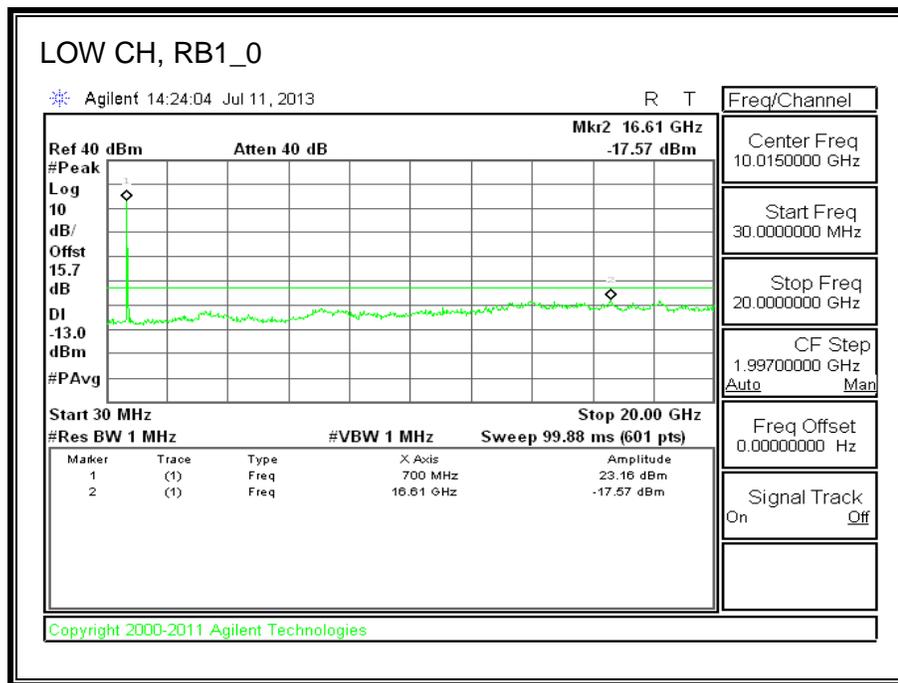
12.3.1. LTE BAND 17-5MHz BANDWIDTH

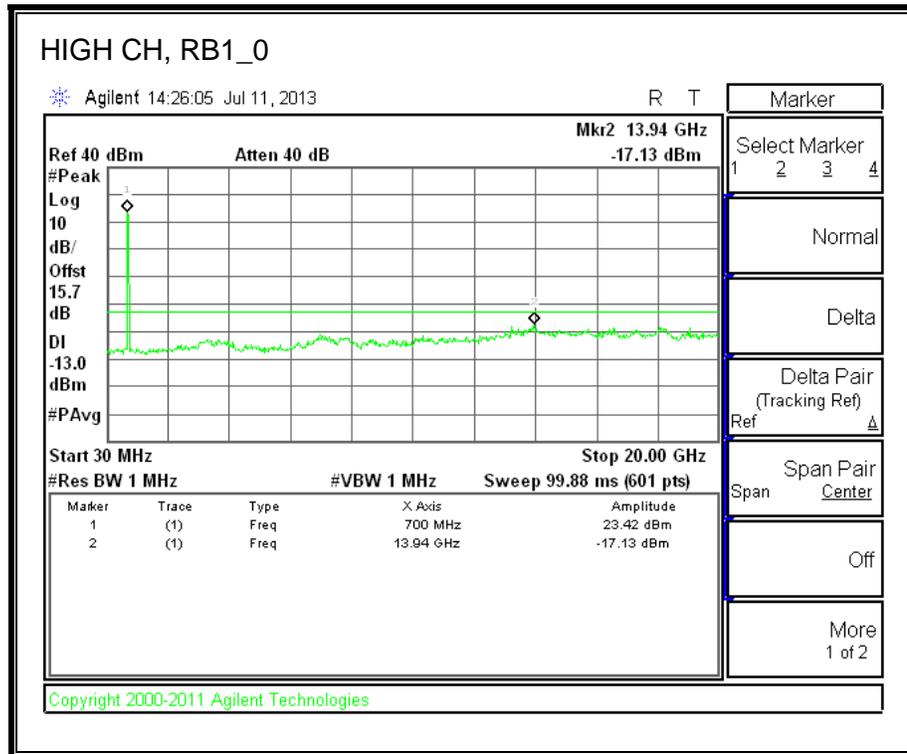
QPSK





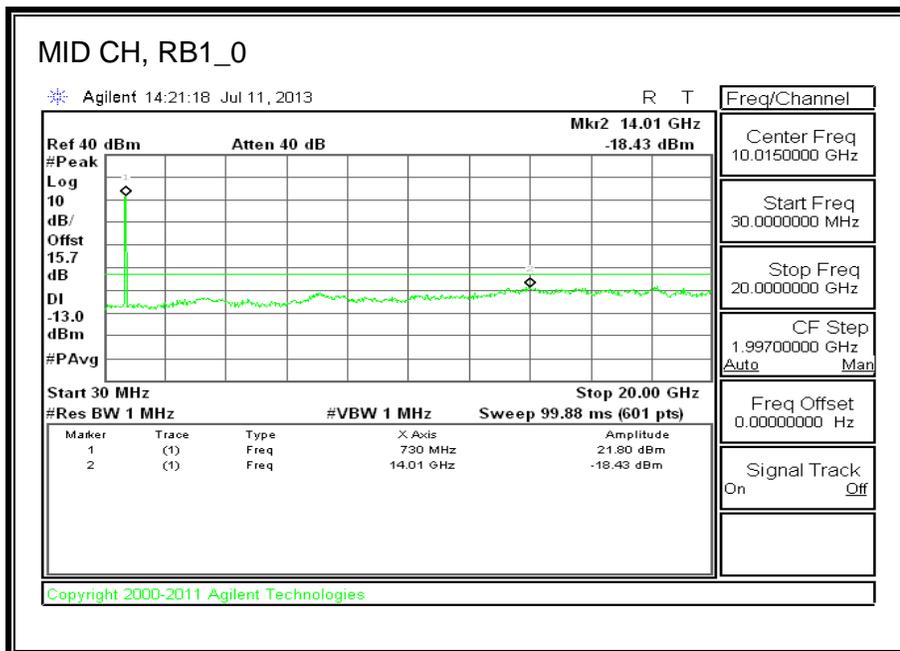
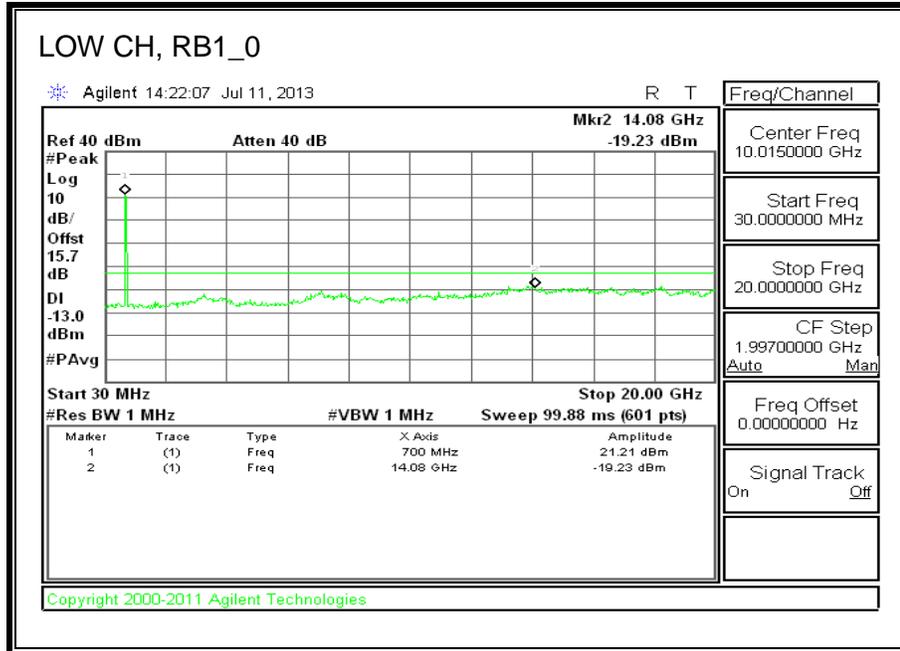
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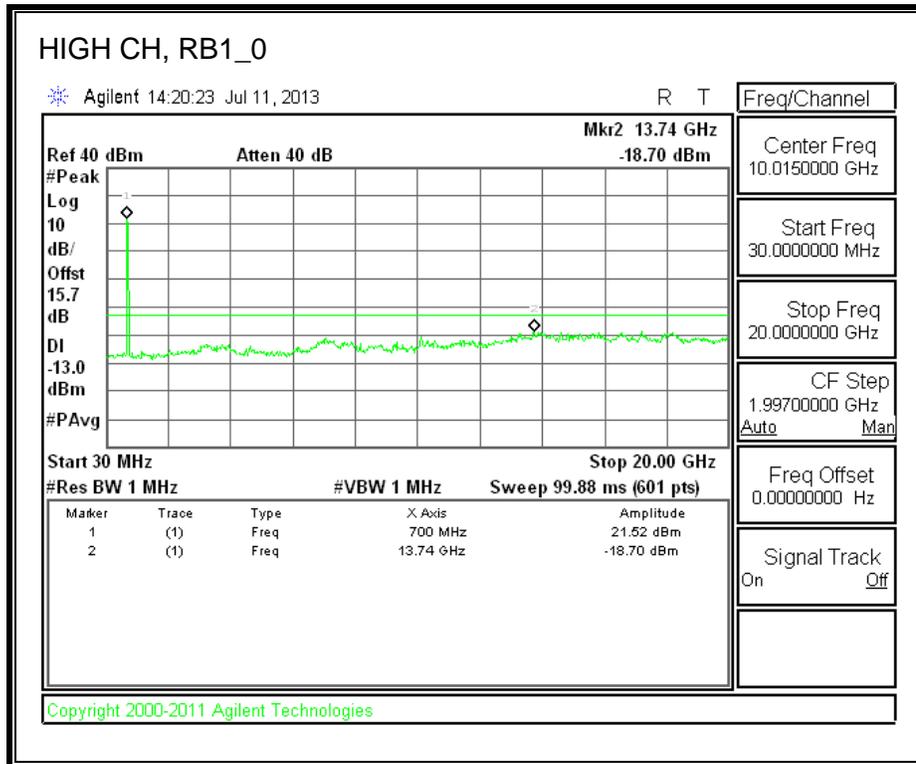




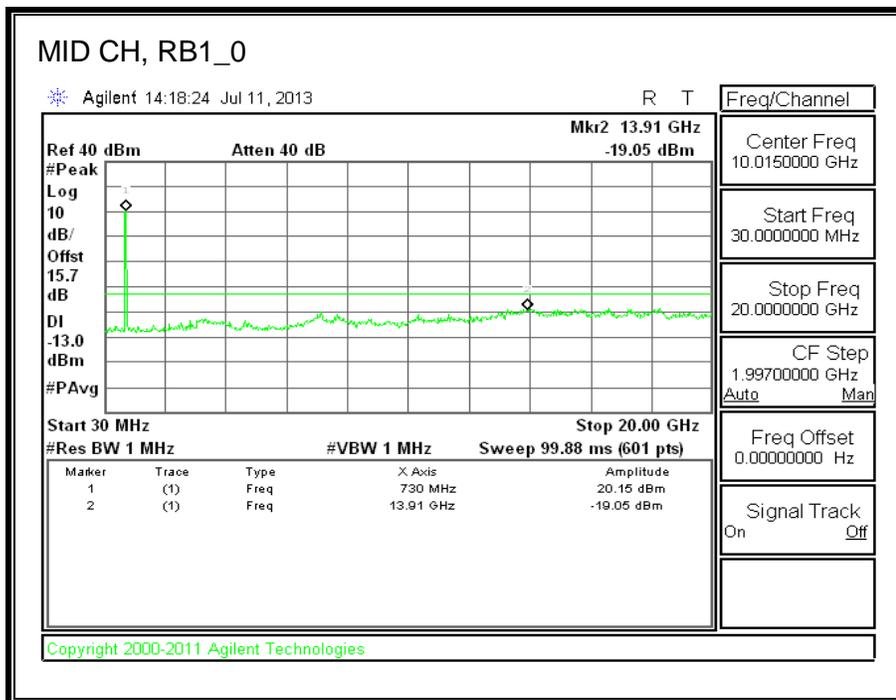
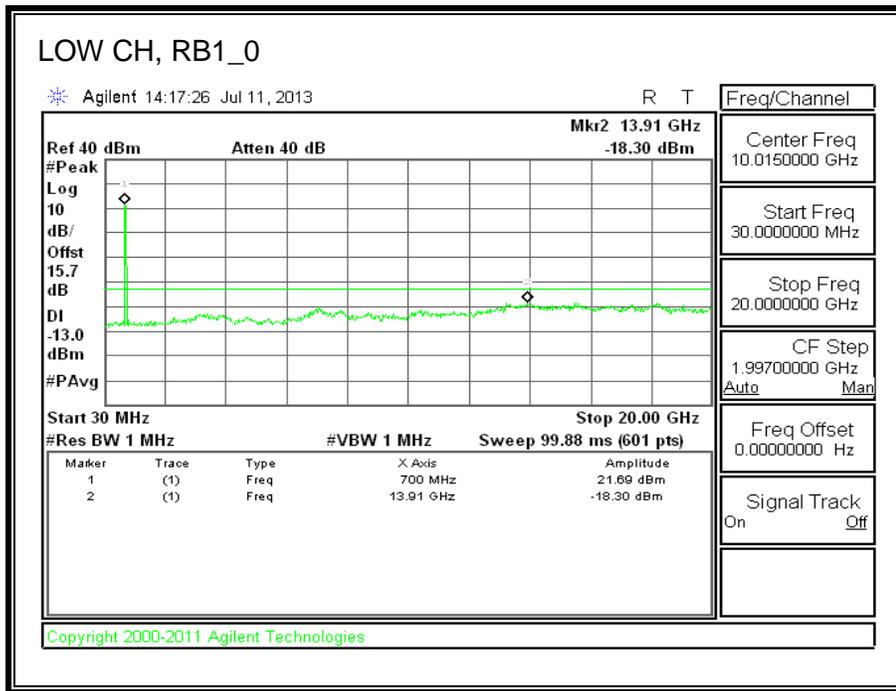
12.3.2. LTE BAND 17-10MHz BANDWIDTH

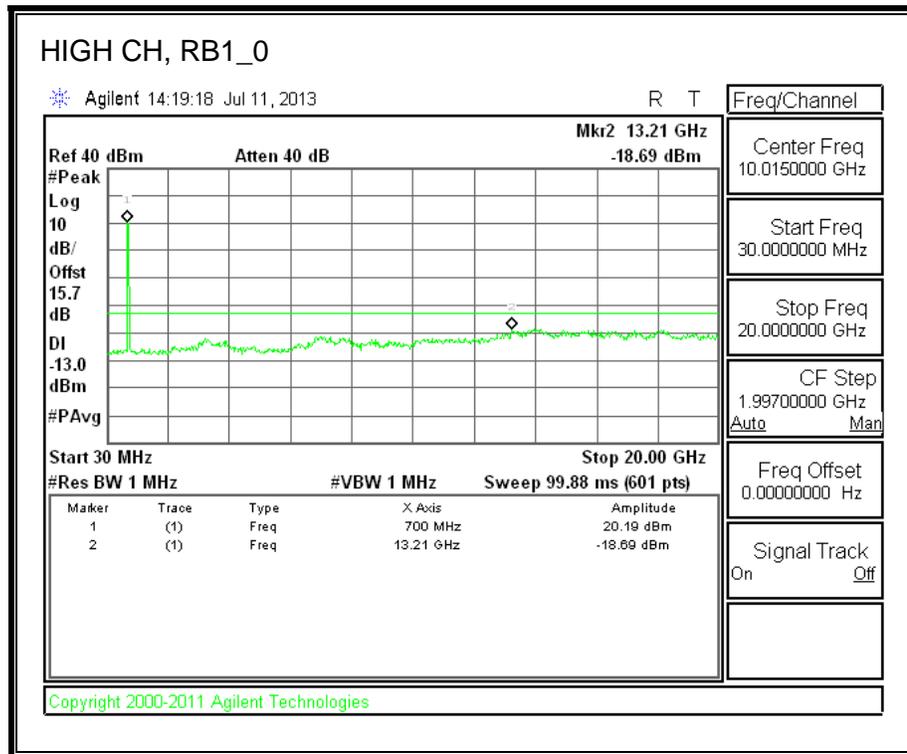
QPSK





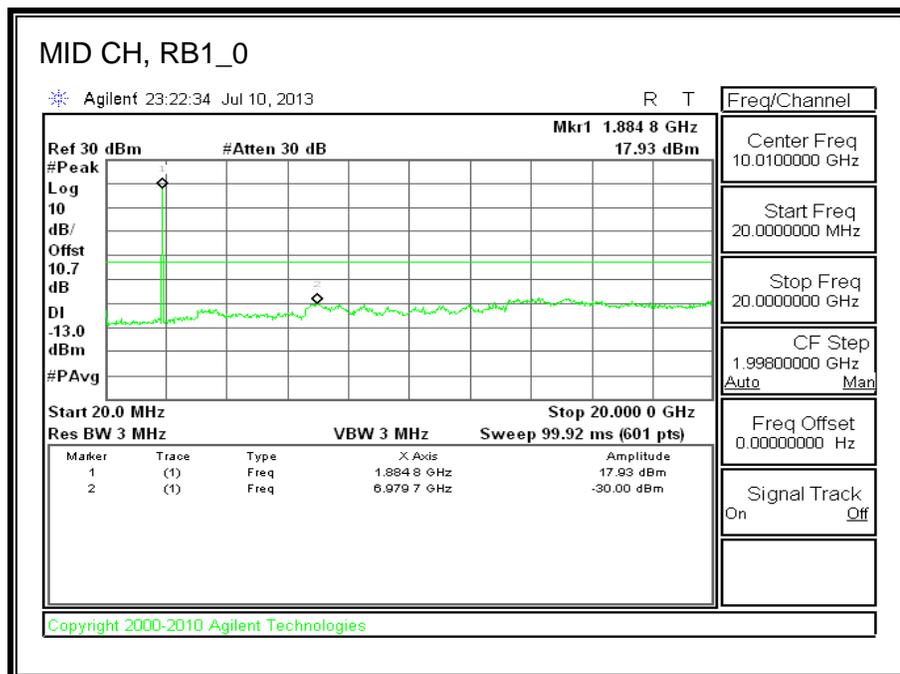
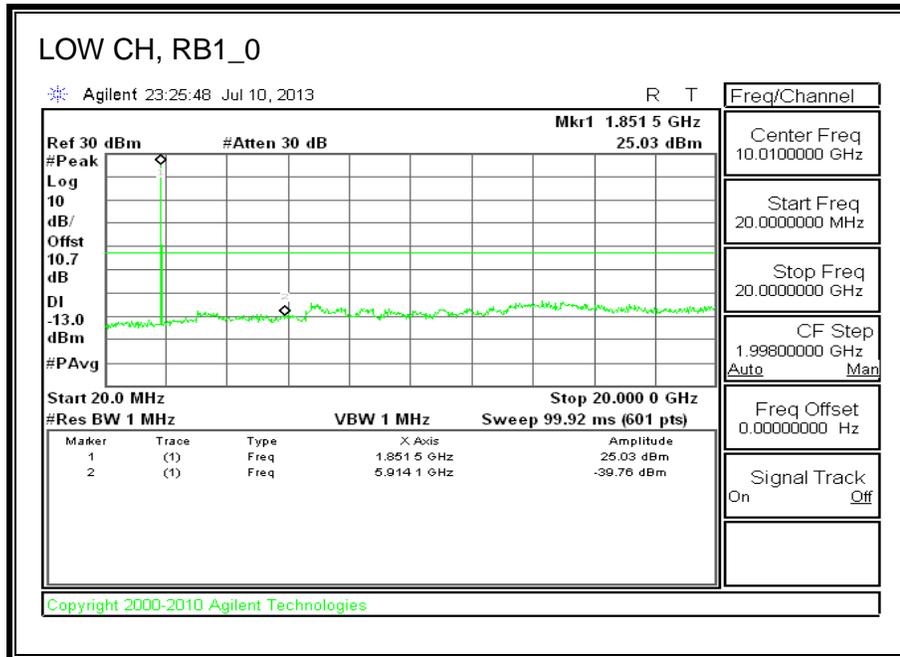
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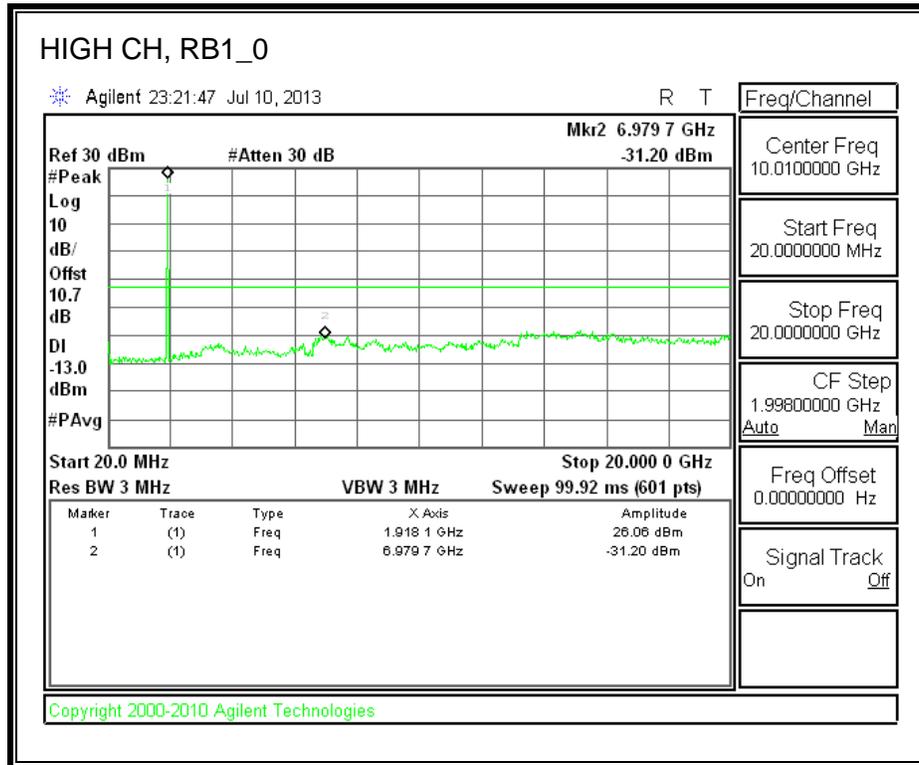




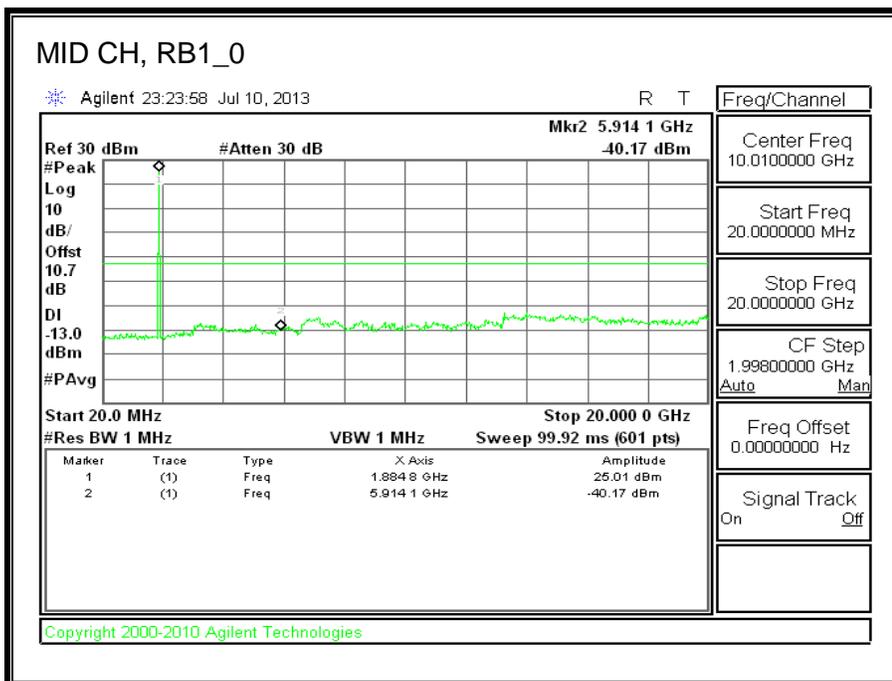
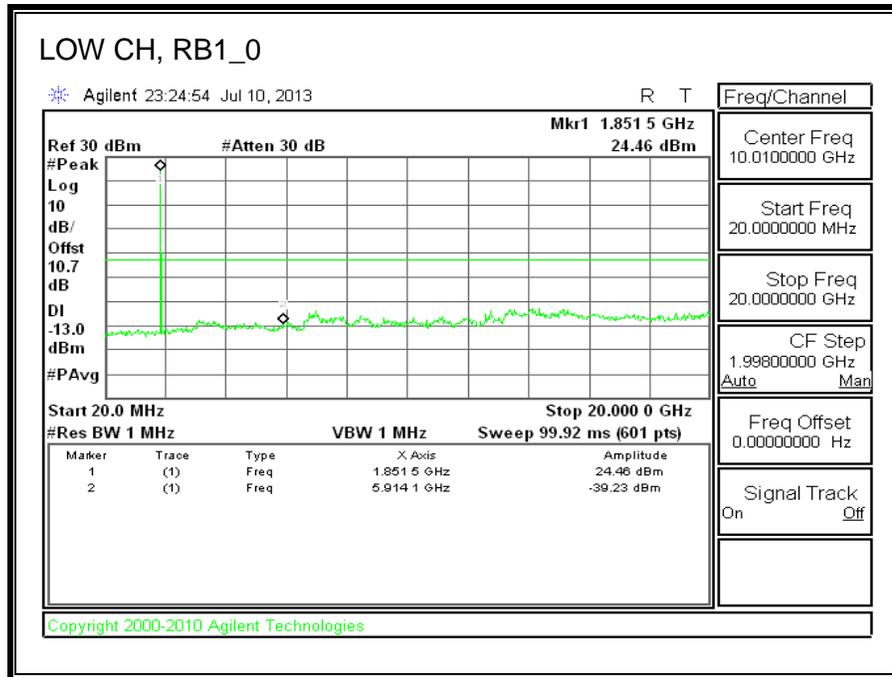
12.4. LTE BAND 25

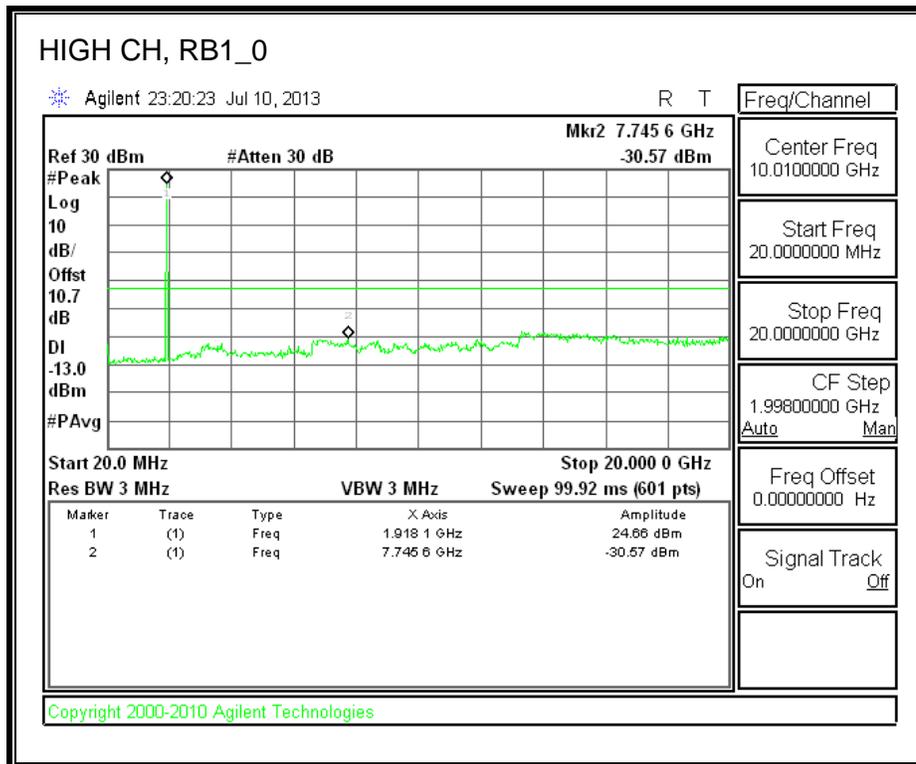
12.4.1. LTE BAND 25-1.4MHz OUT OF BAND EMISSIONS QPSK





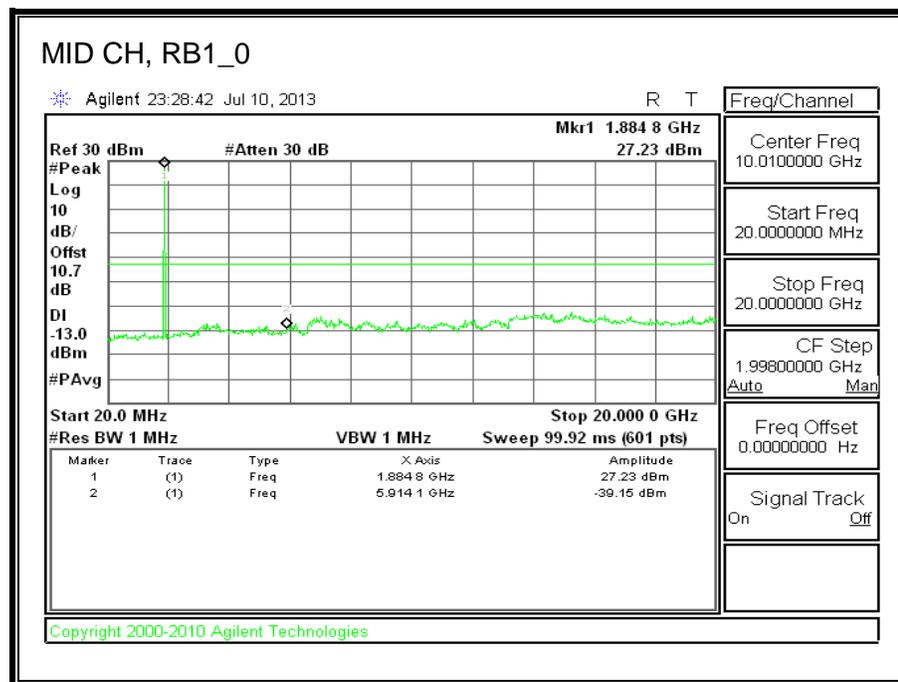
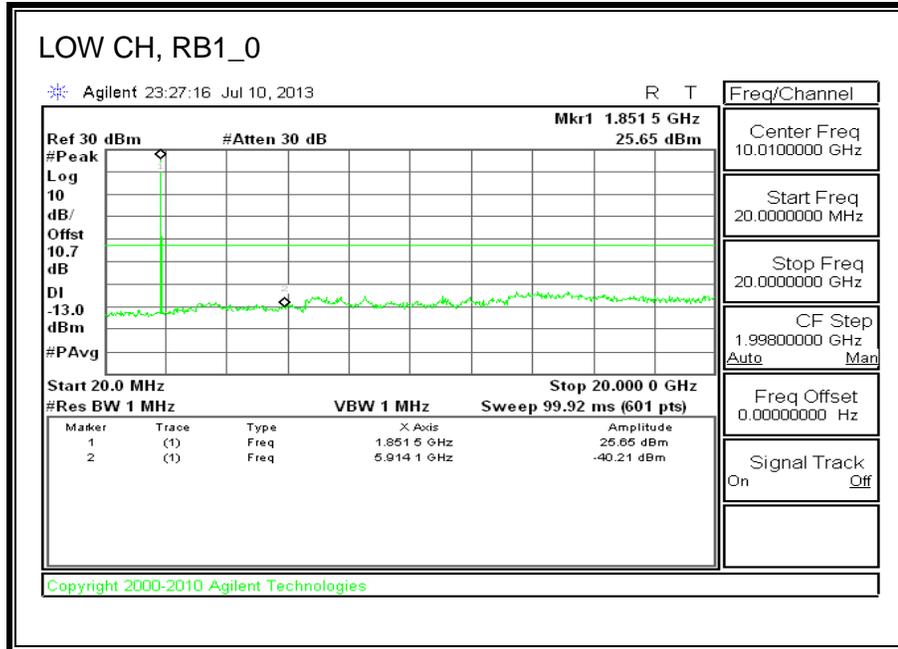
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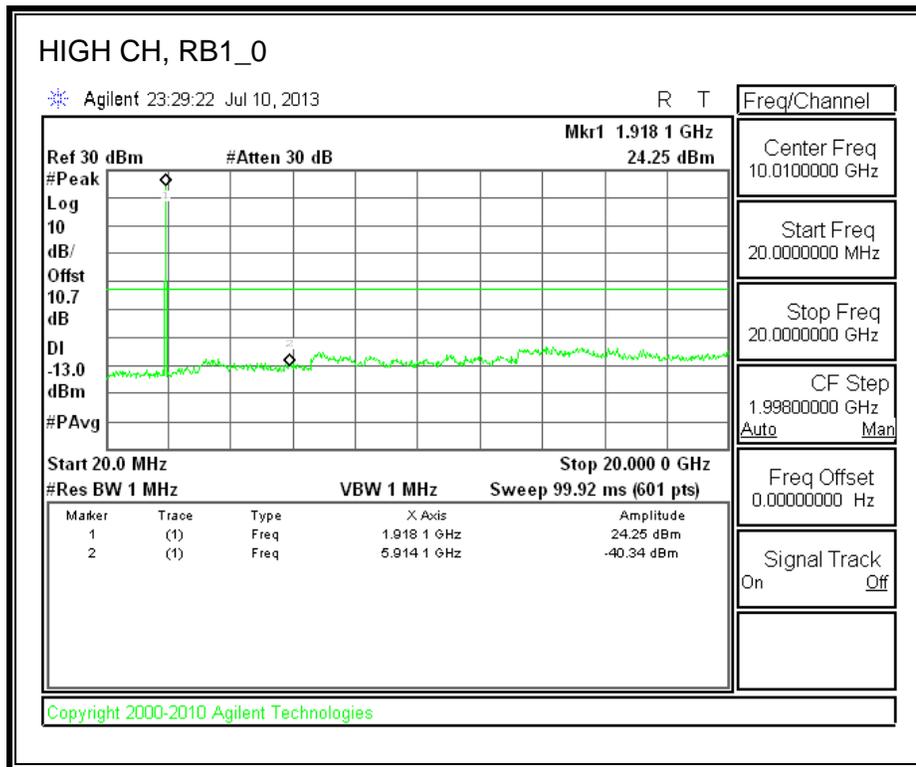




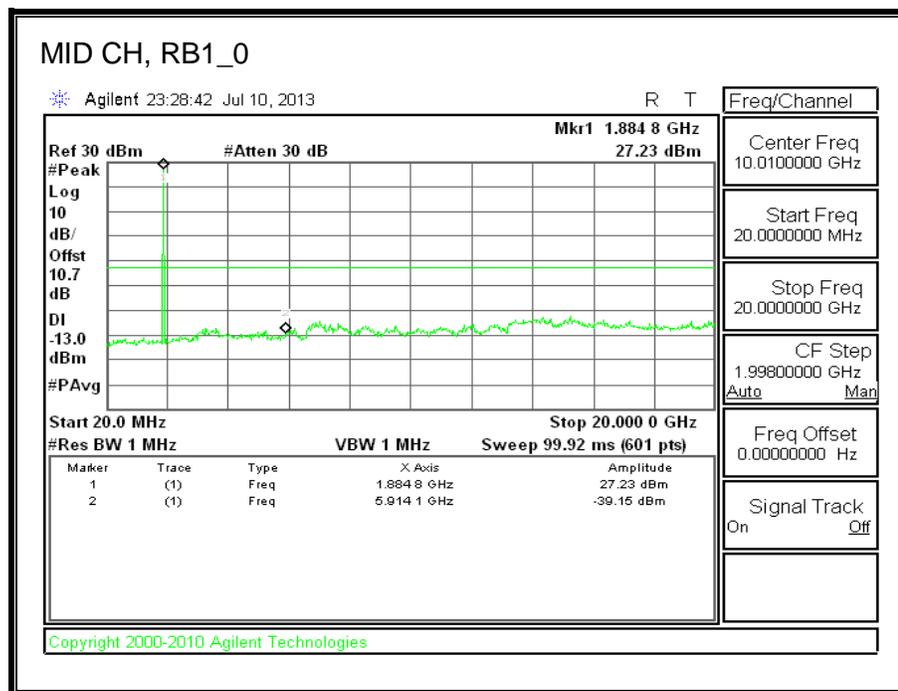
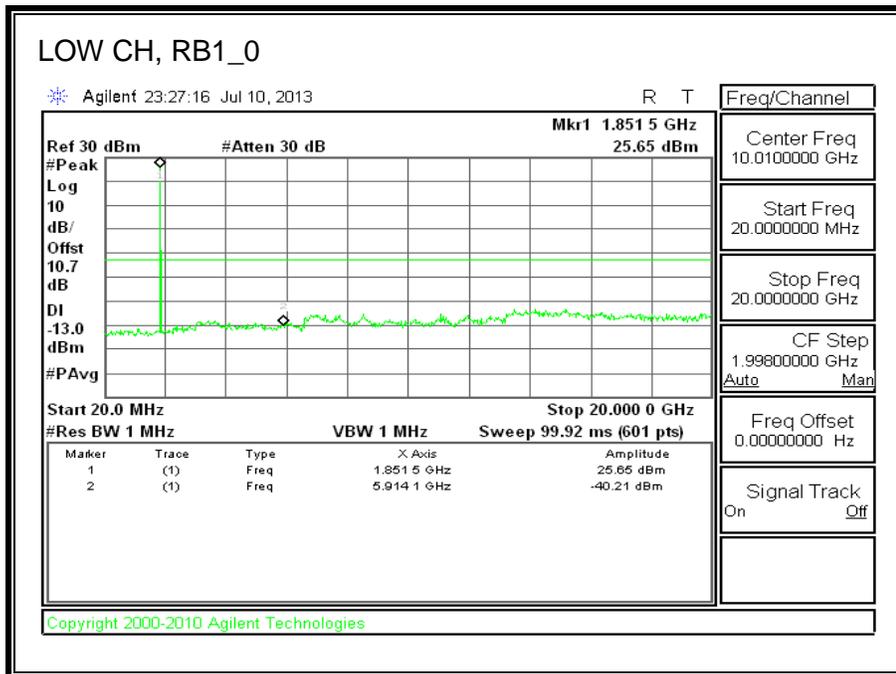
12.4.2. LTE BAND 25-3MHz OUT OF BAND EMISSIONS

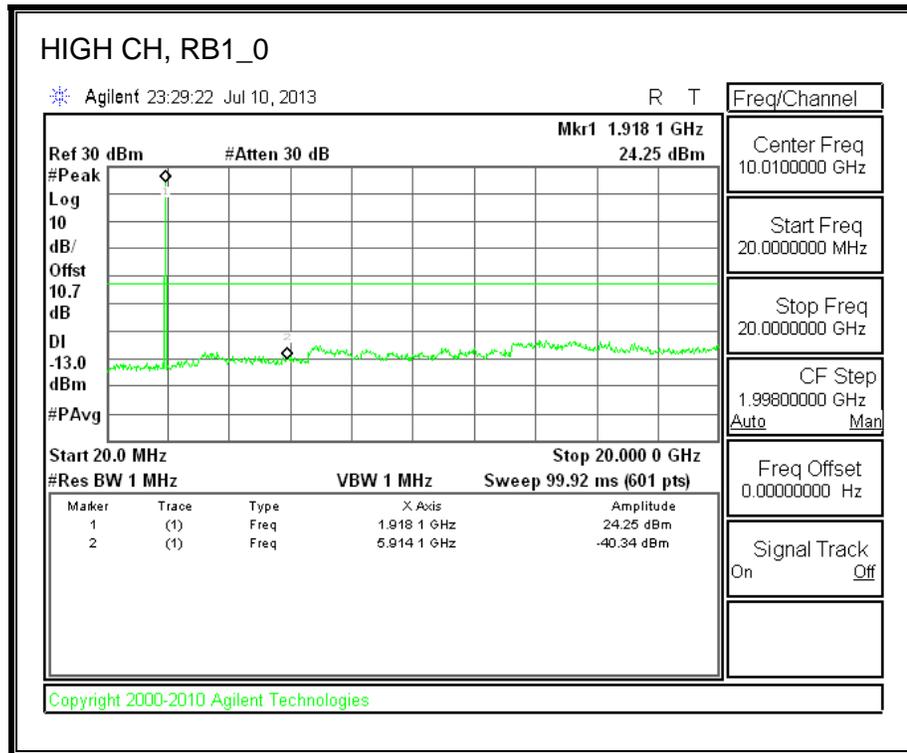
QPSK





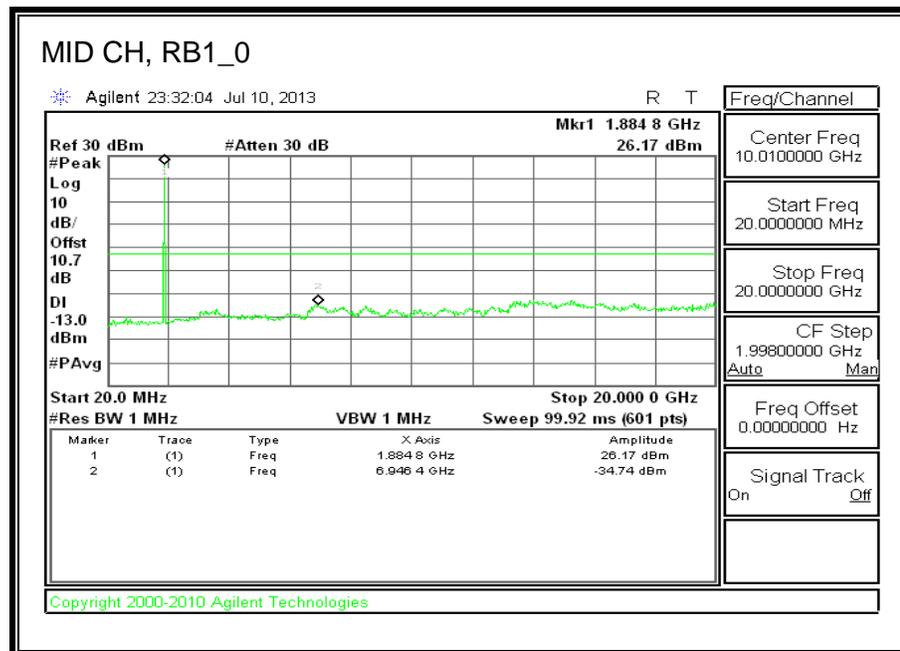
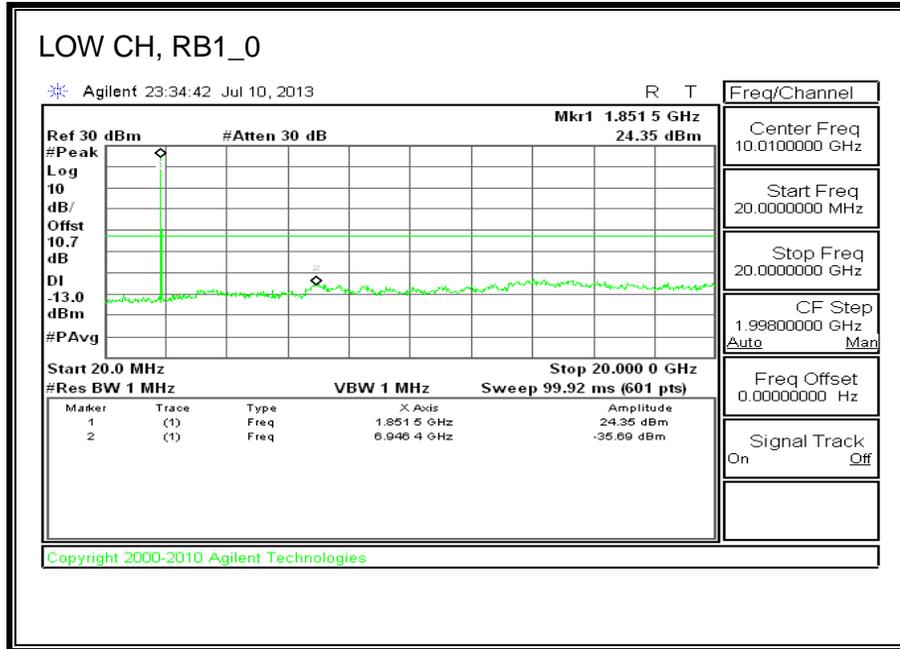
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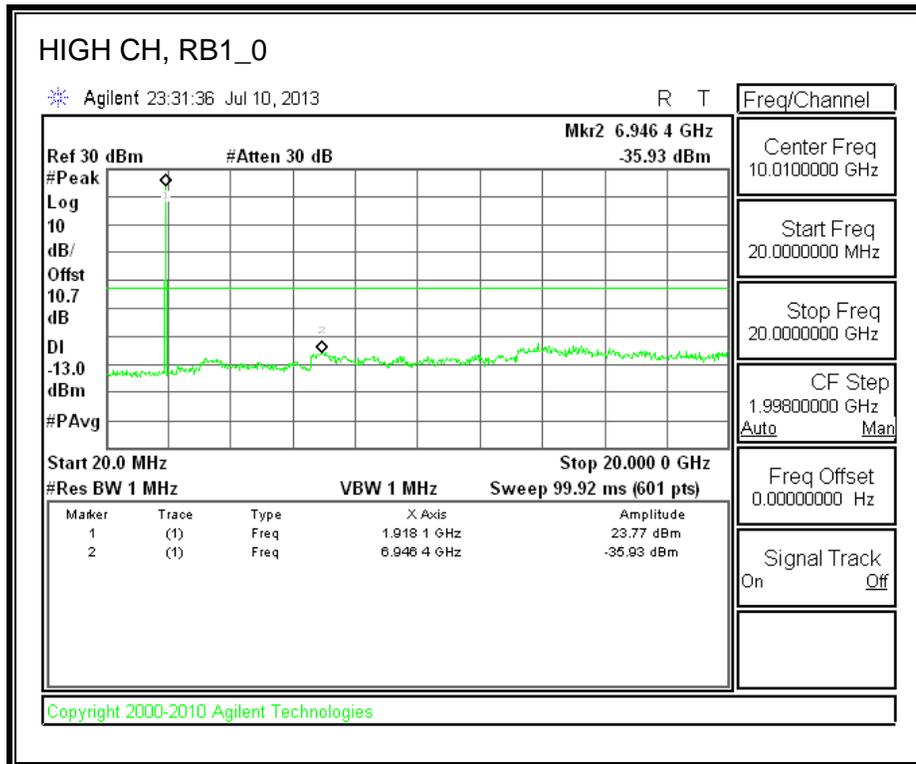




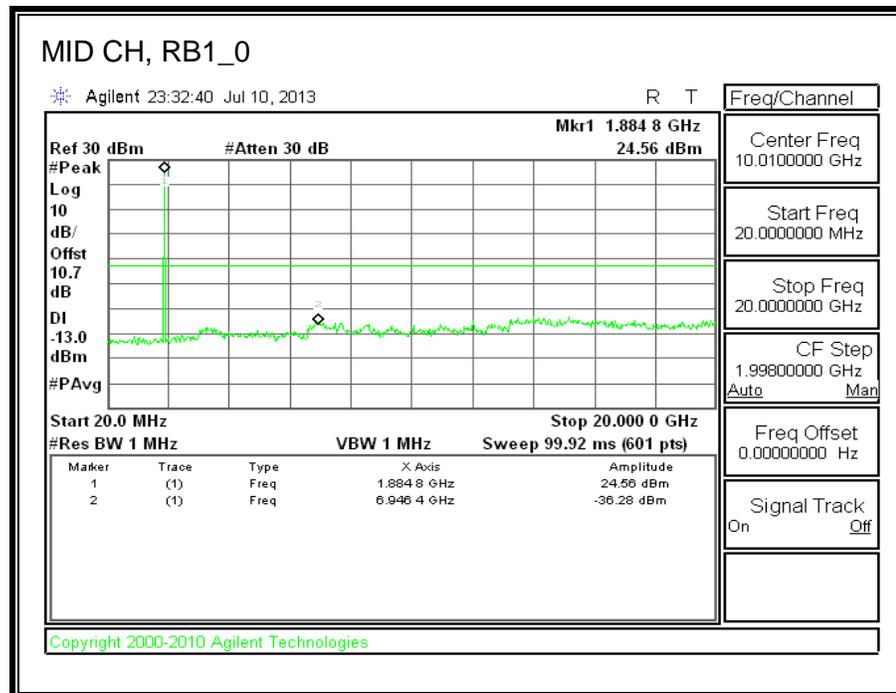
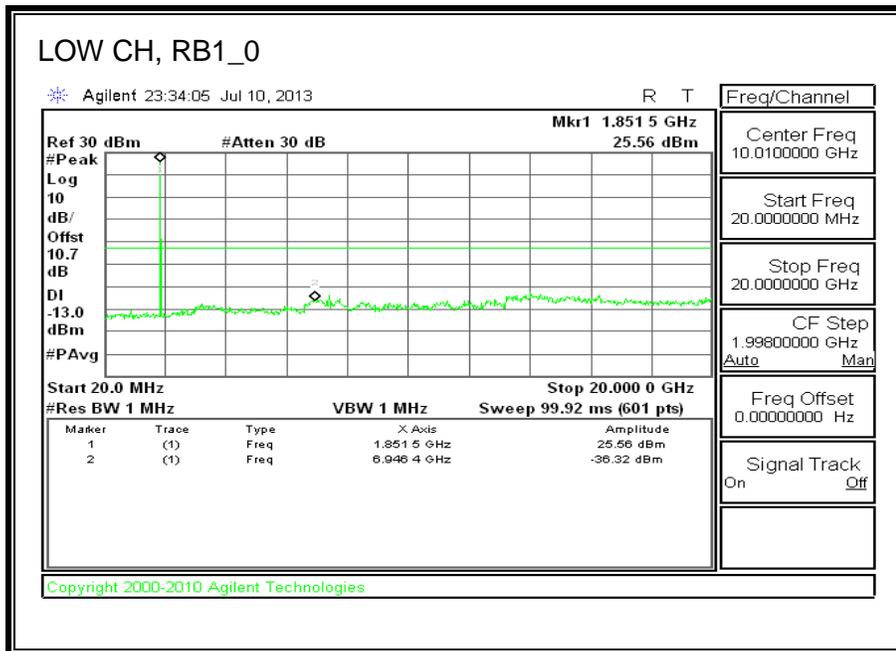
12.4.3. LTE BAND 25-5MHz BANDWIDTH

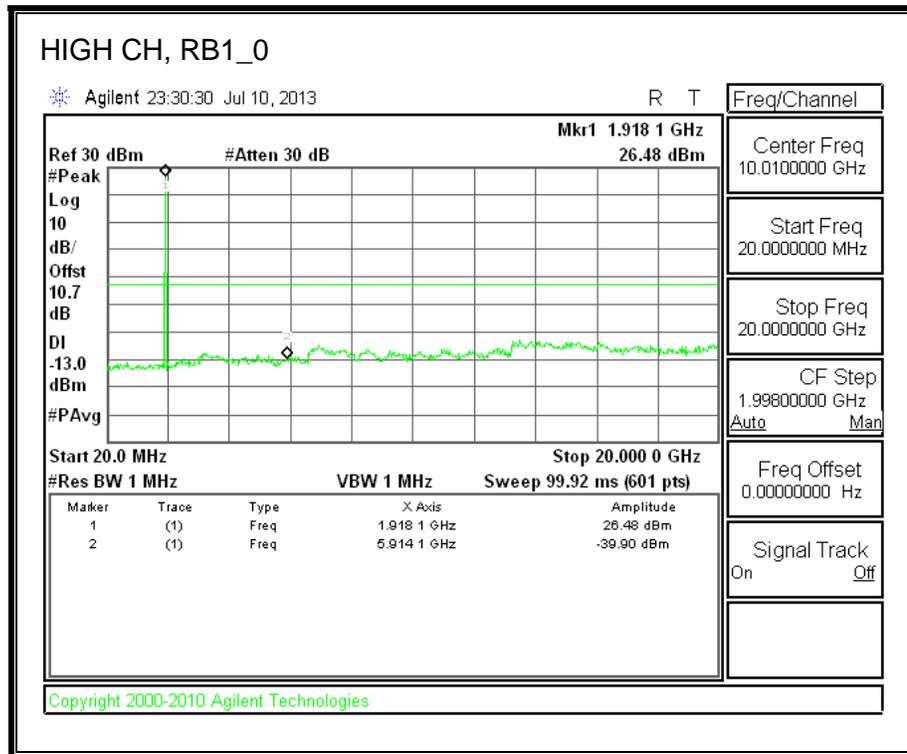
QPSK





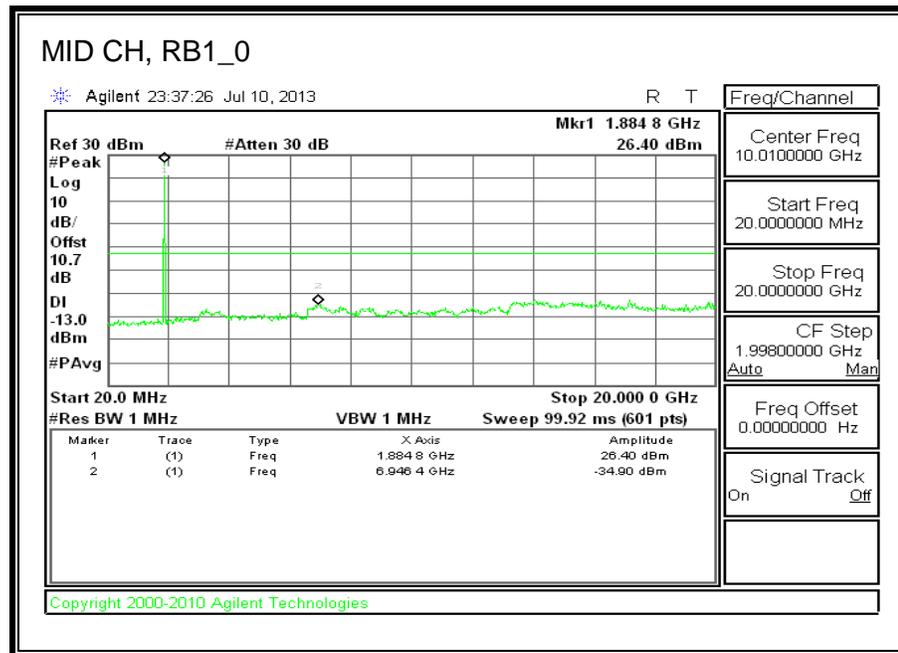
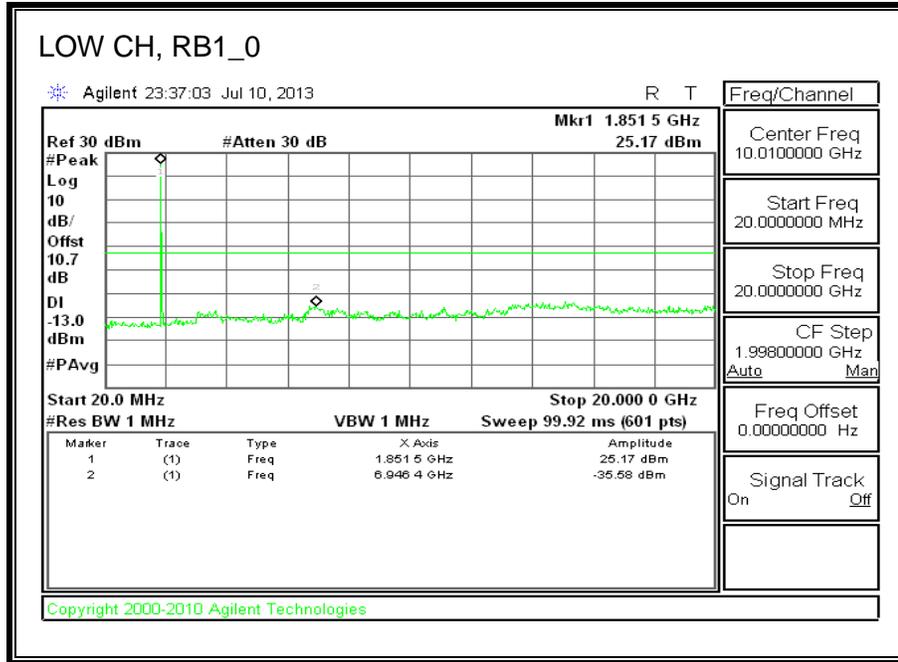
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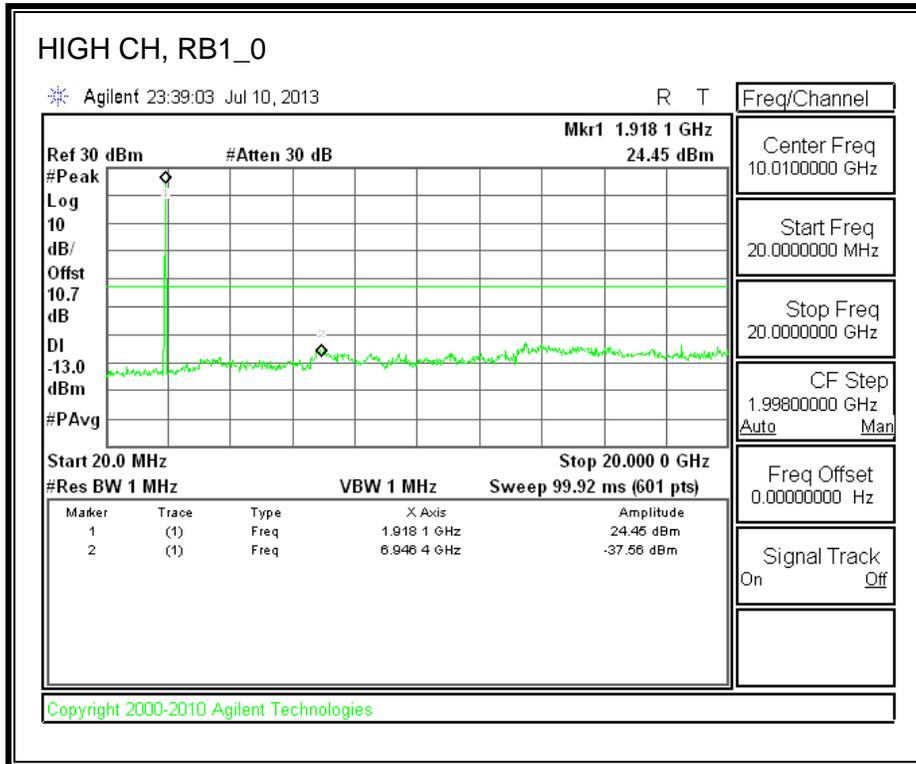




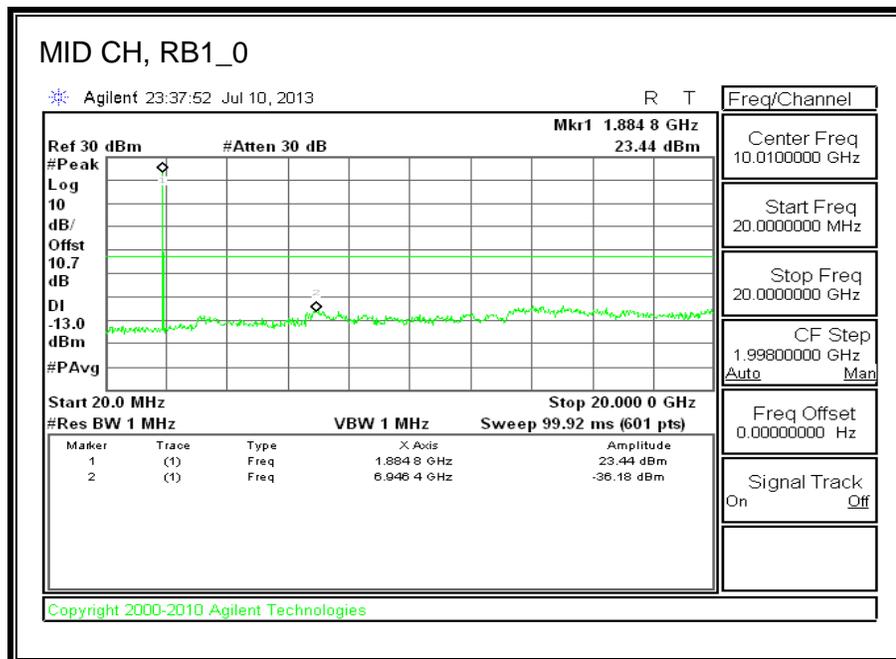
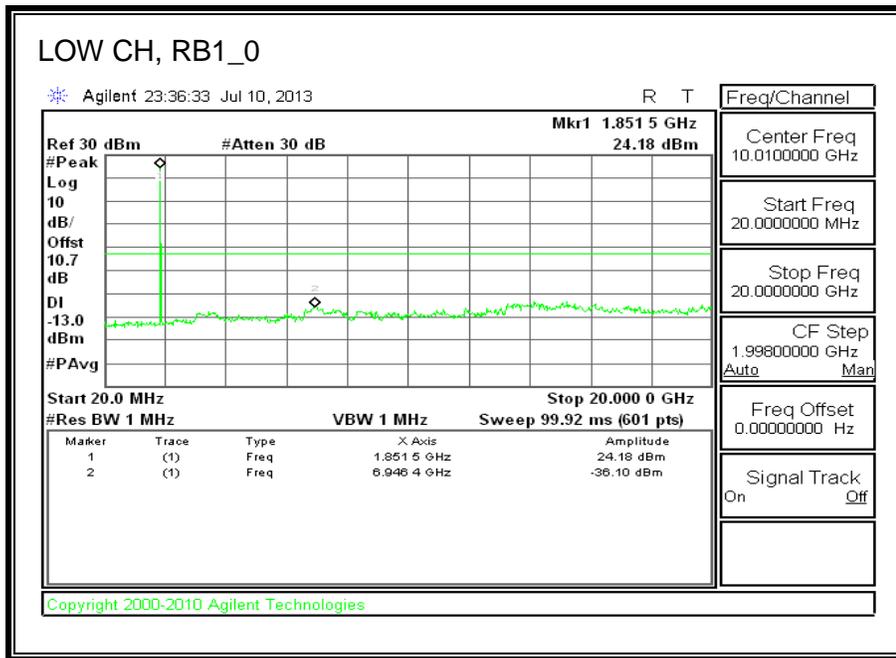
12.4.4. LTE BAND 25-10MHz BANDWIDTH

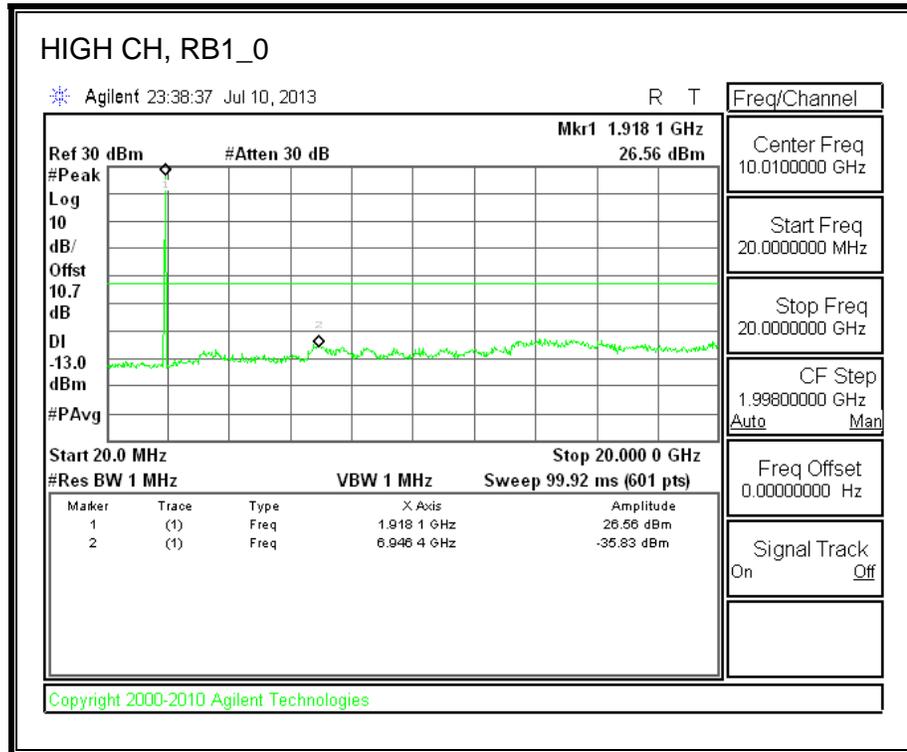
QPSK





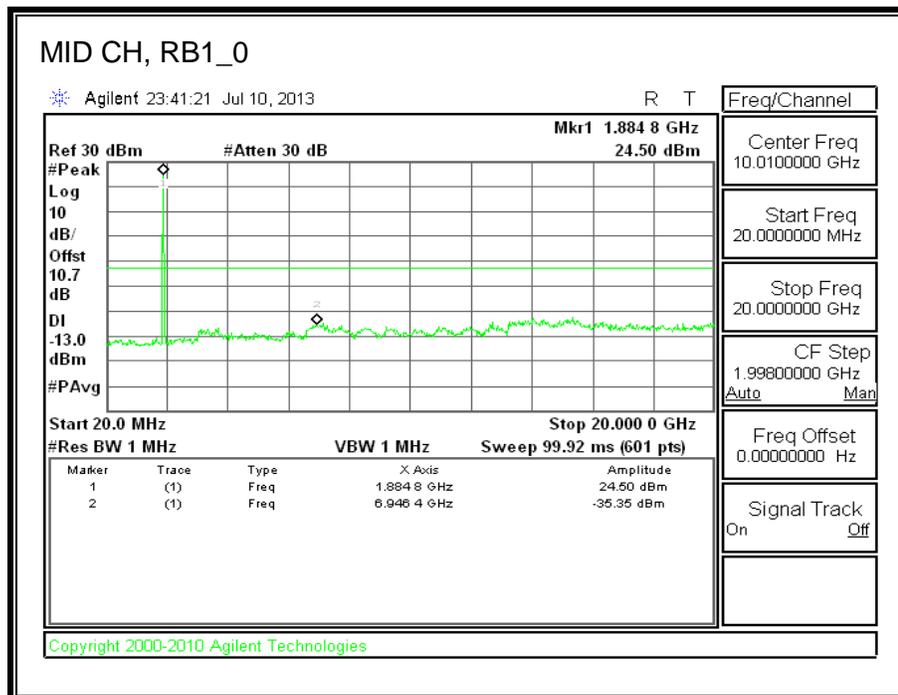
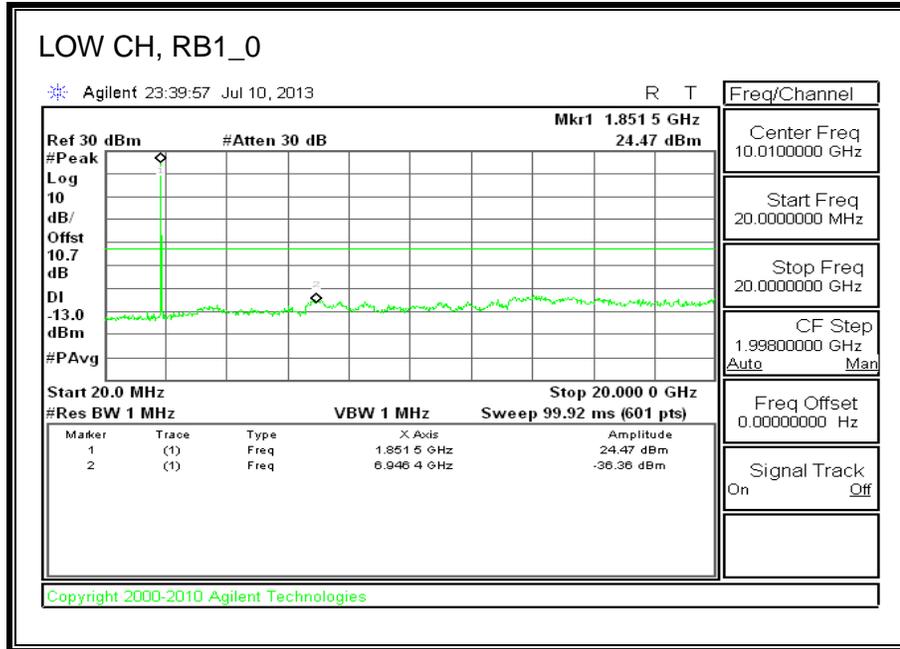
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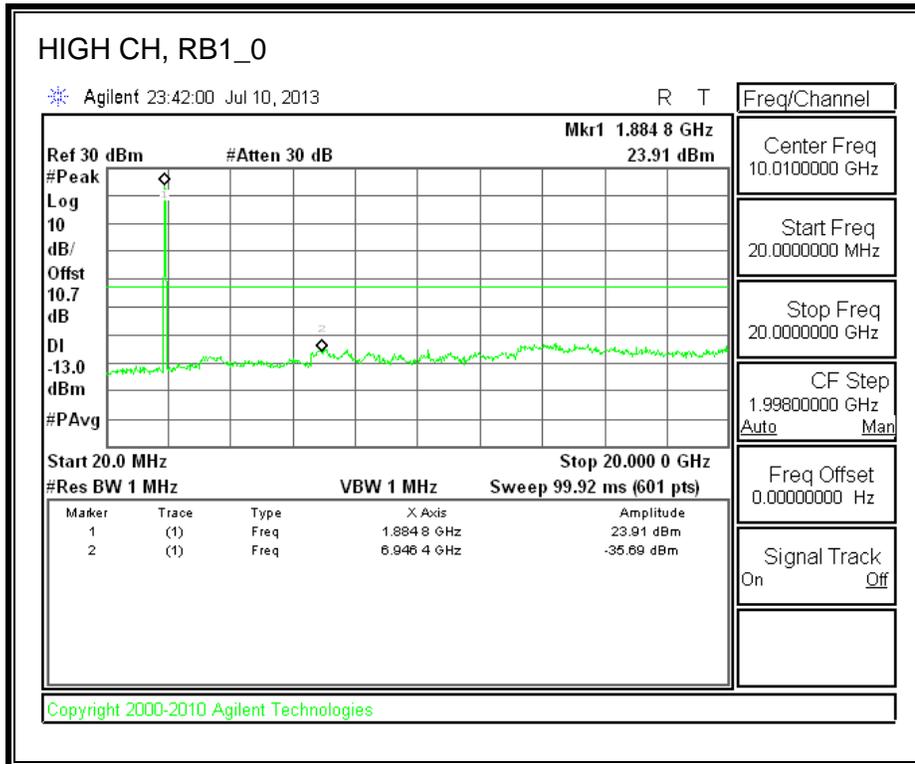




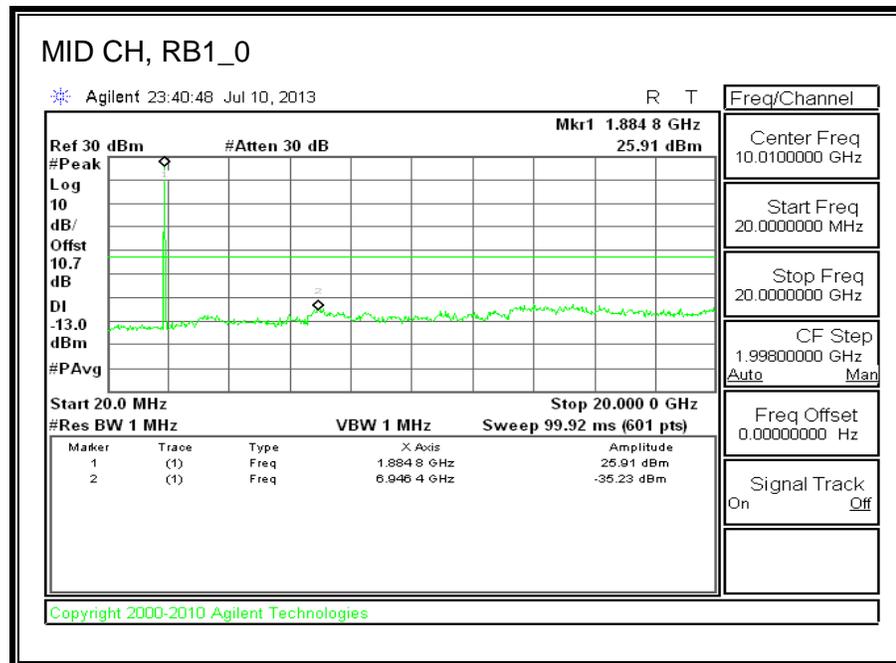
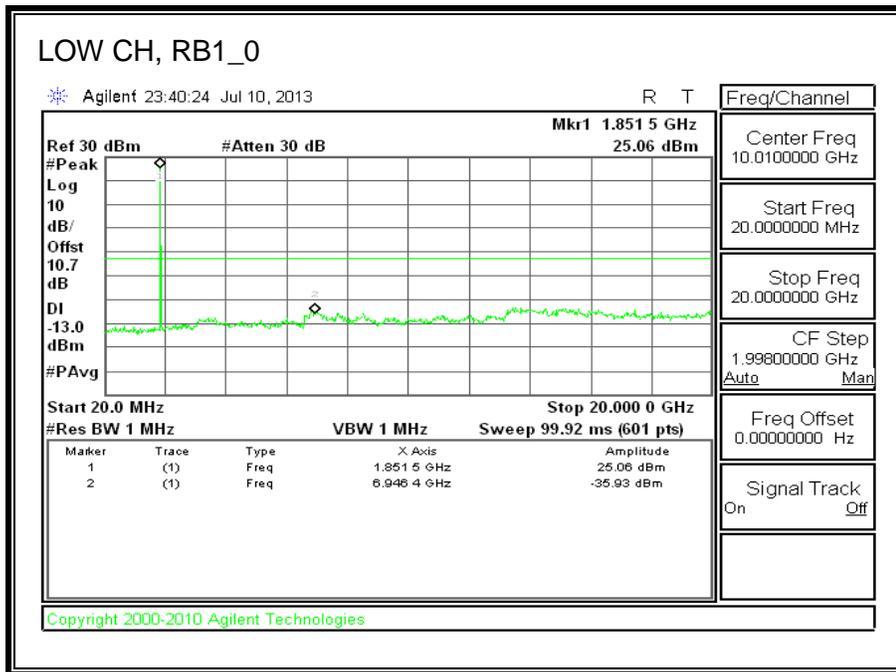
12.4.5. LTE BAND 25-15MHz BANDWIDTH

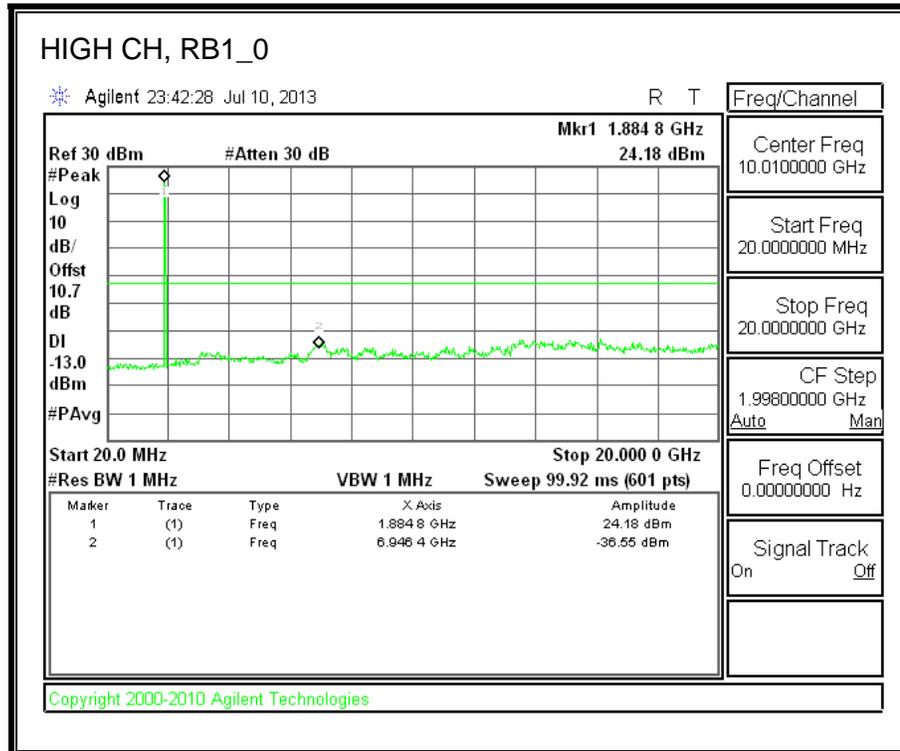
QPSK





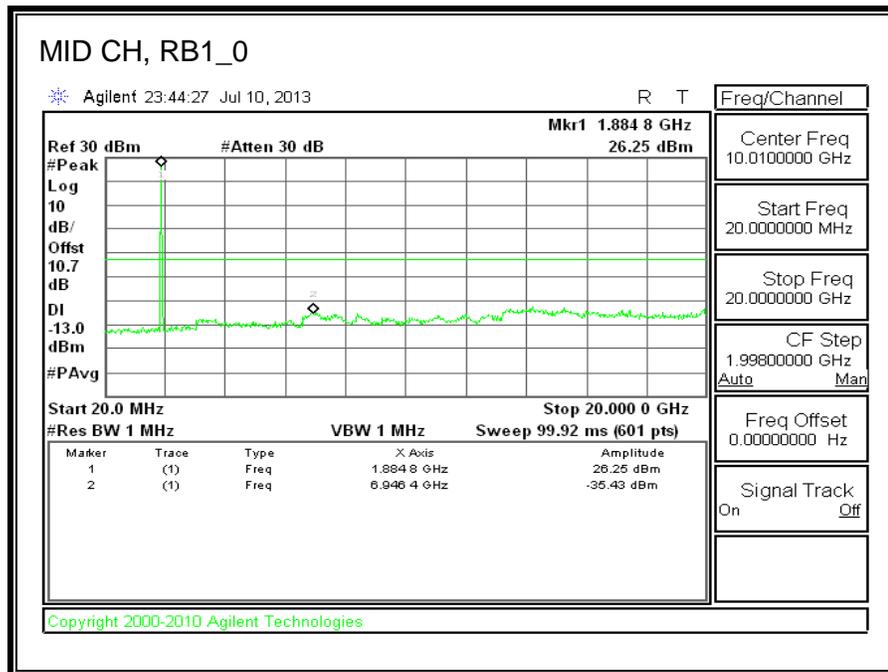
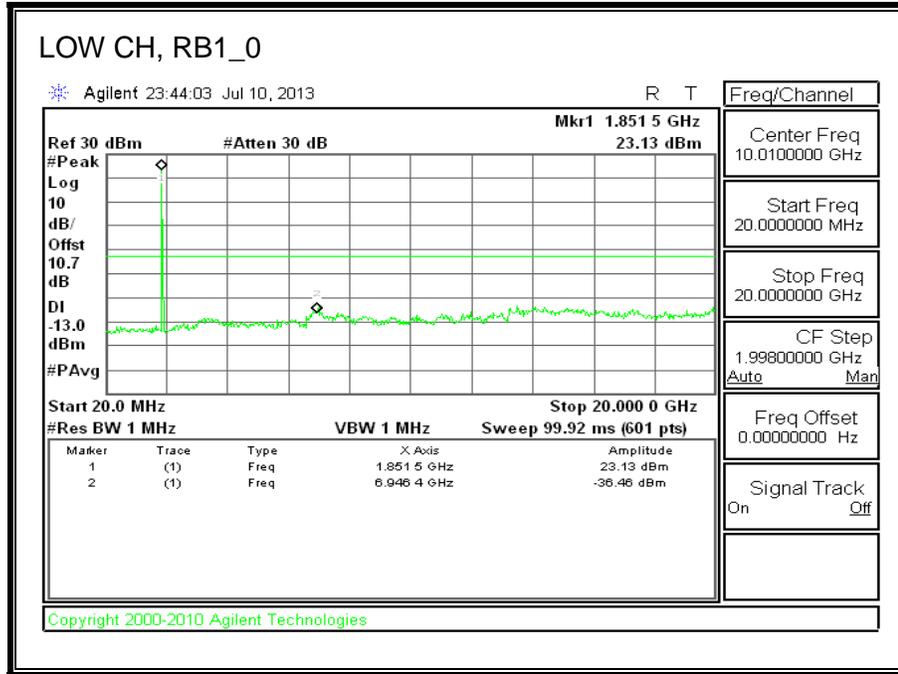
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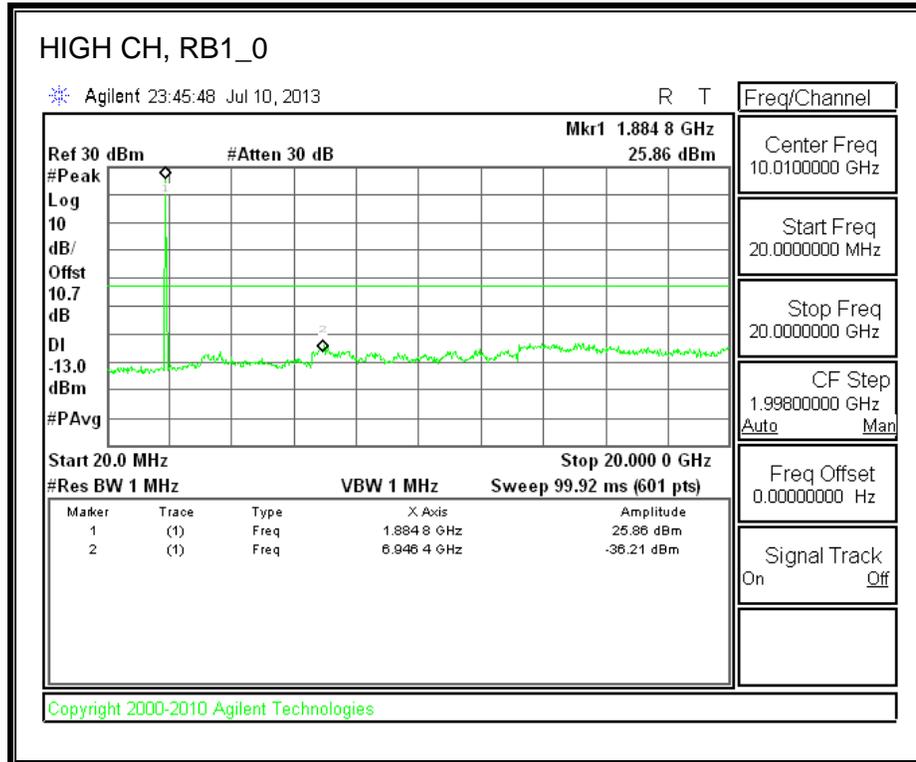




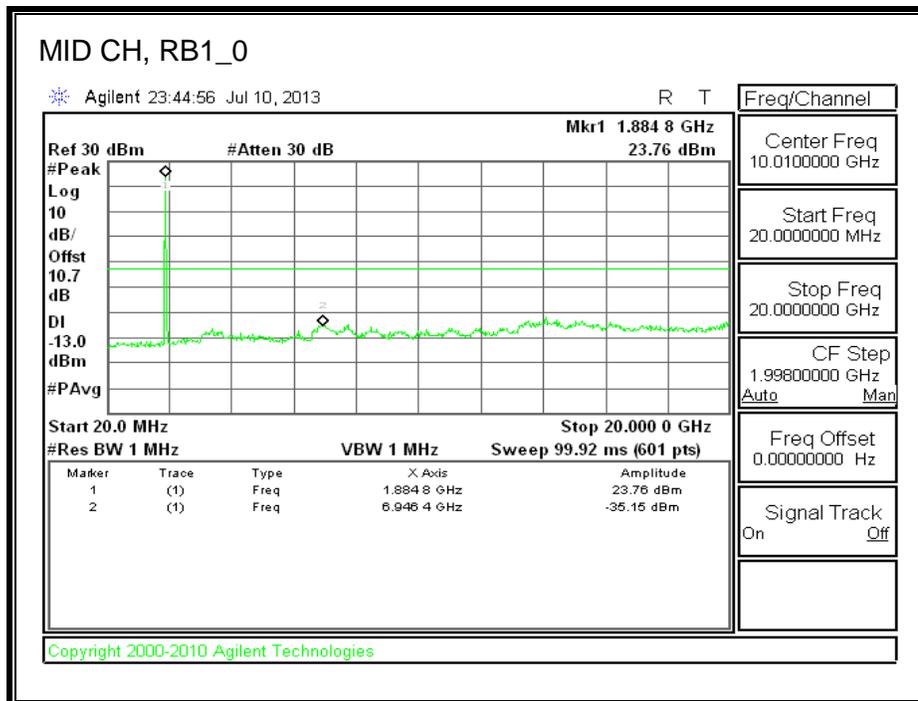
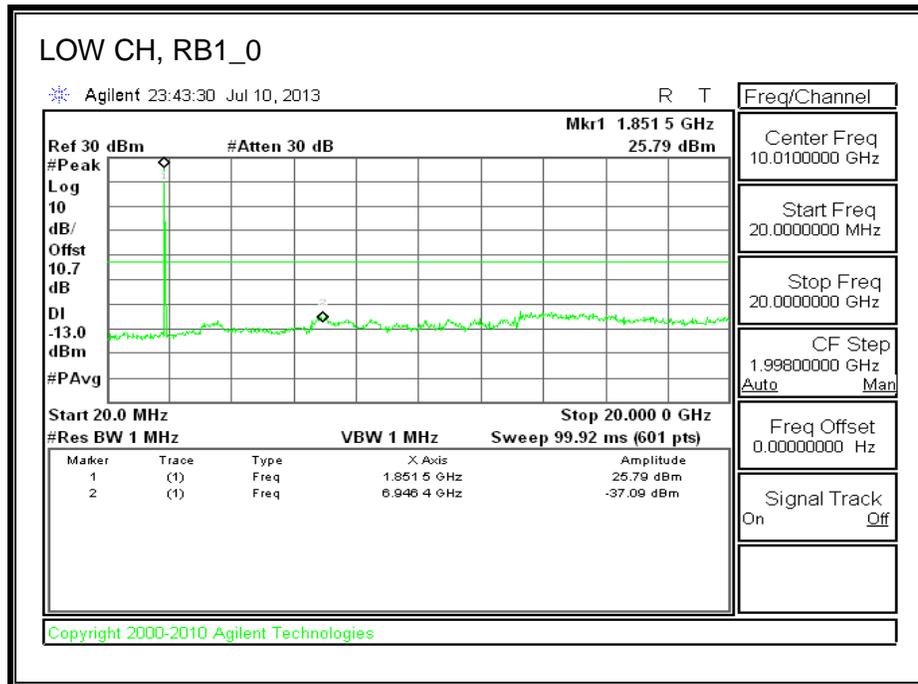
12.4.6. LTE BAND 25-20MHz BANDWIDTH

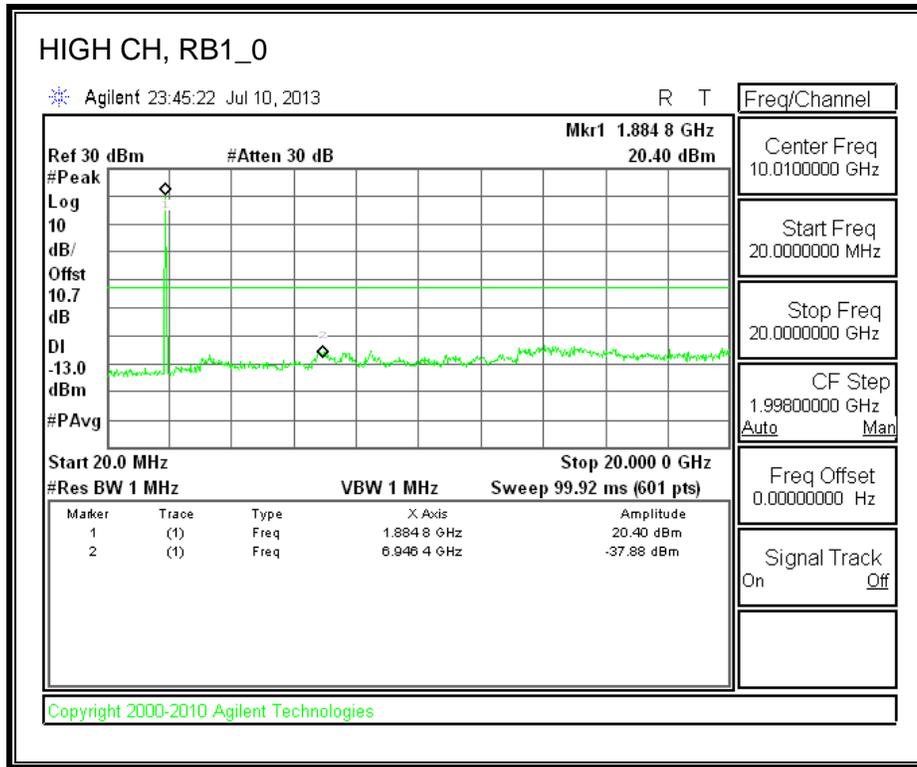
QPSK





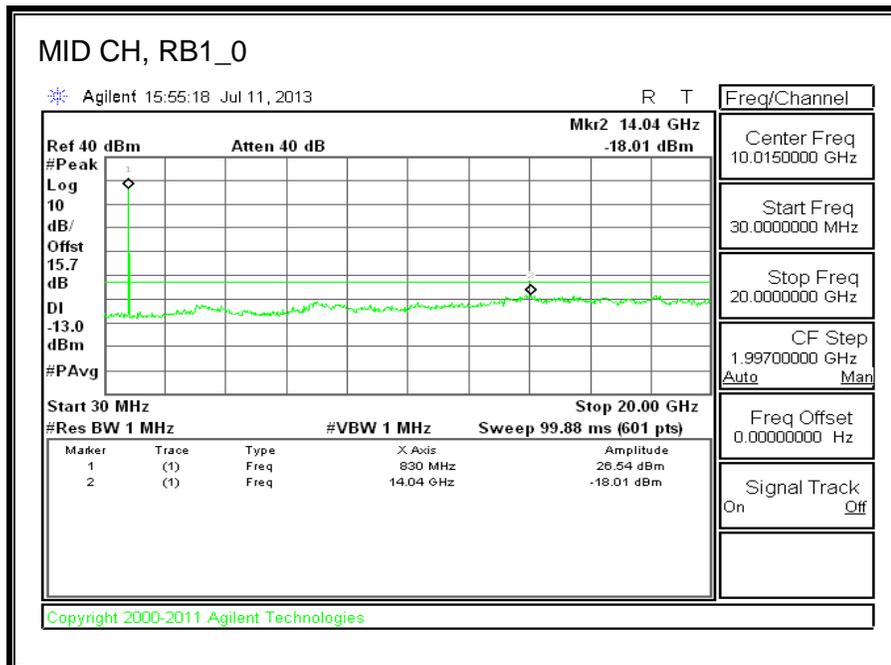
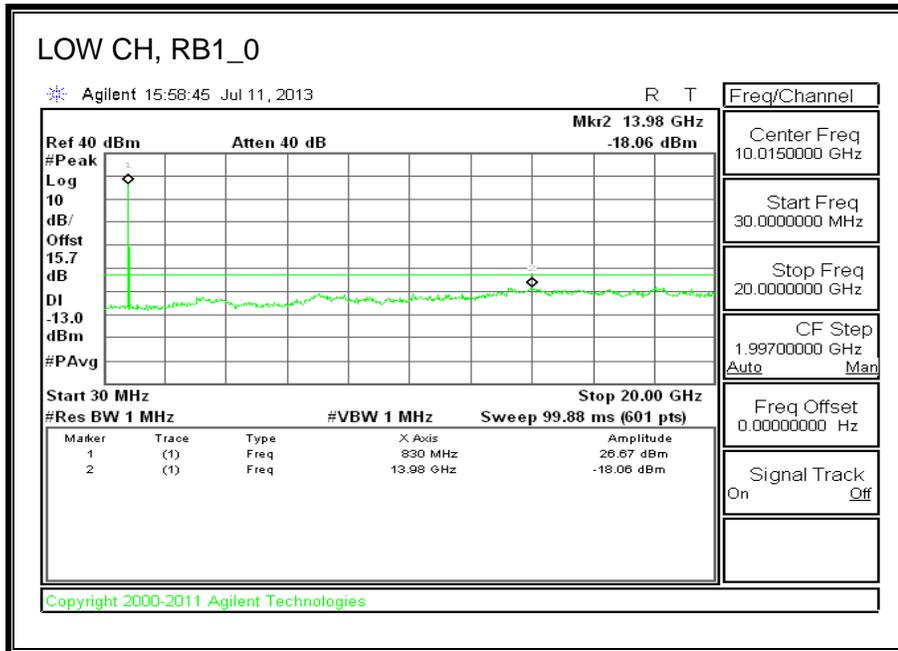
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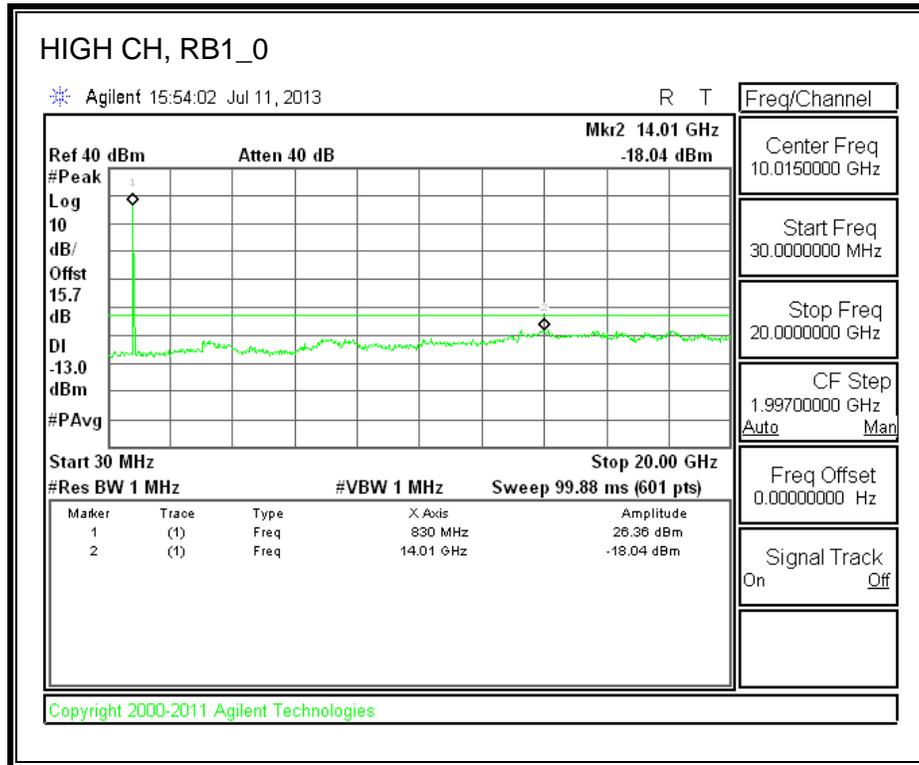




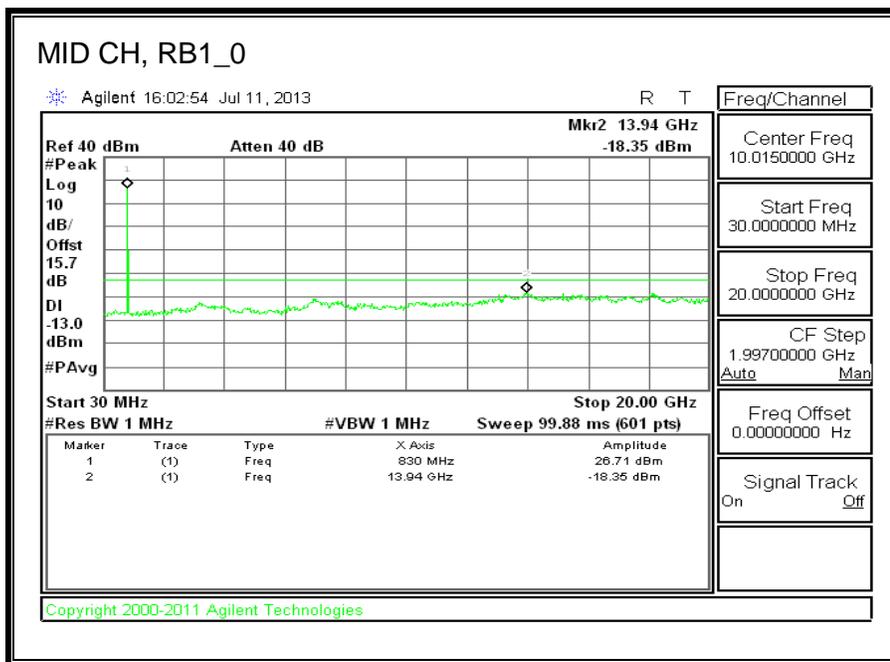
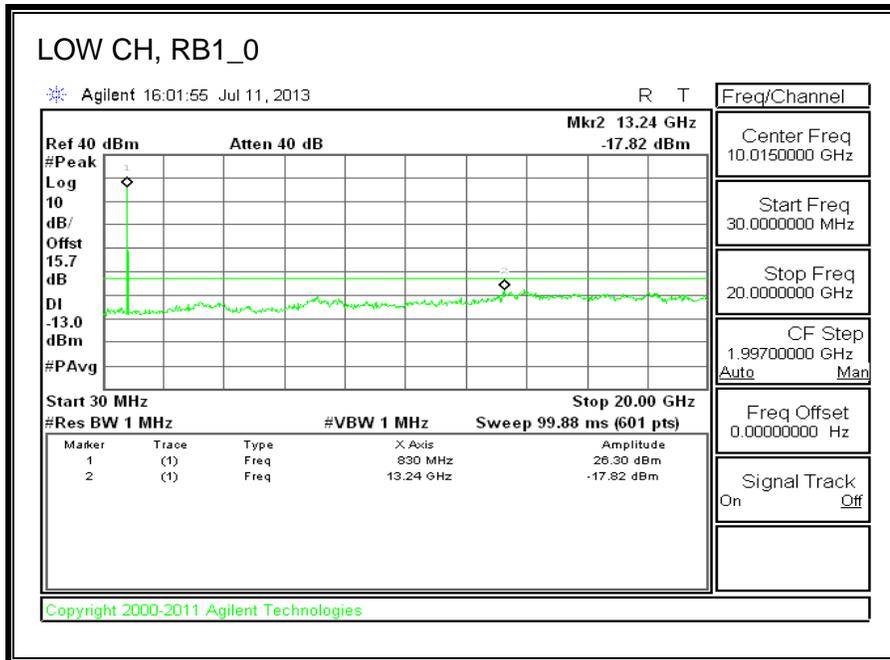
12.5. LTE BAND 26

12.5.1. LTE BAND 26-1.4MHz OUT OF BAND EMISSIONS QPSK



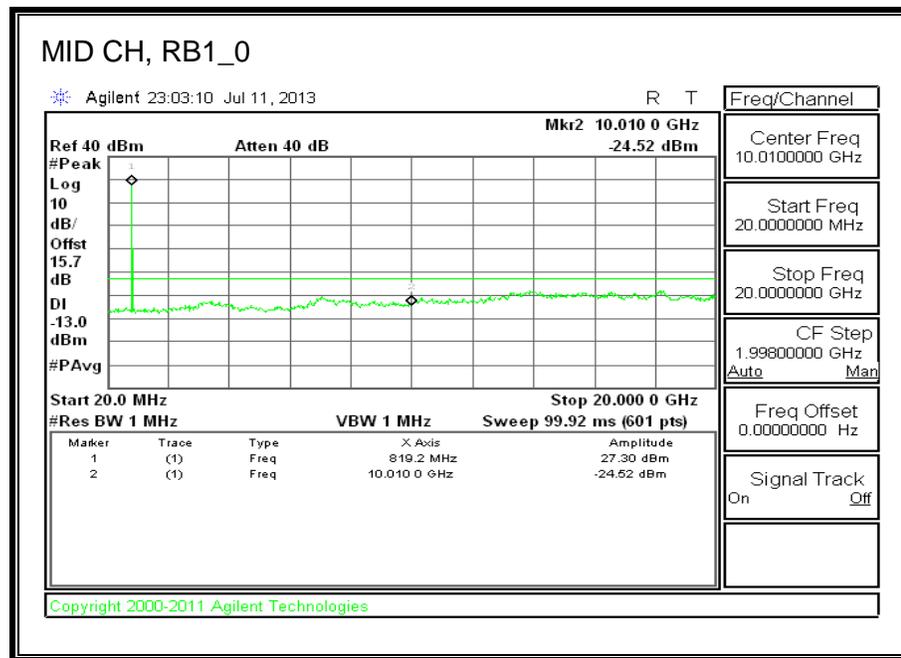
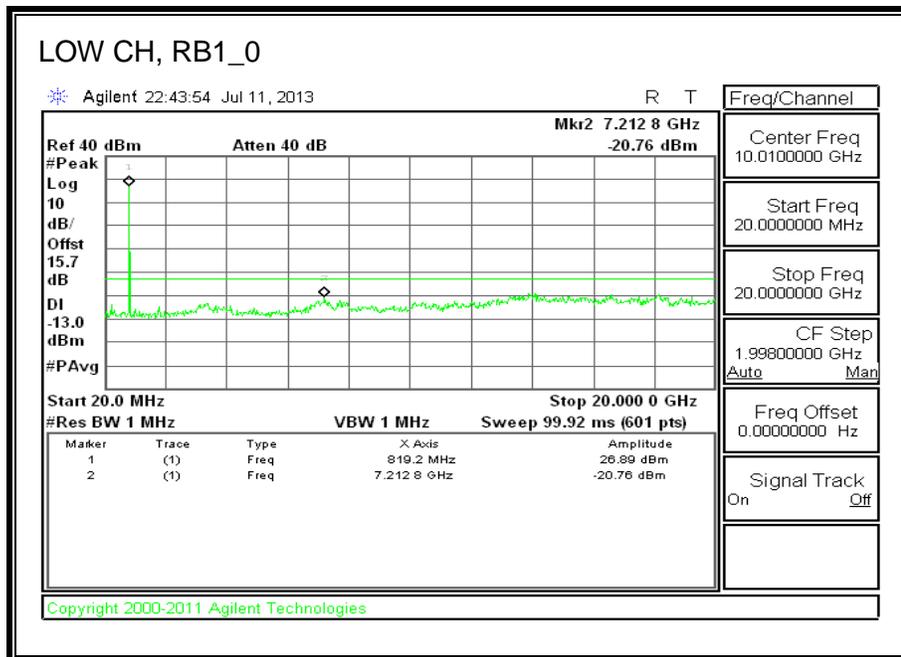


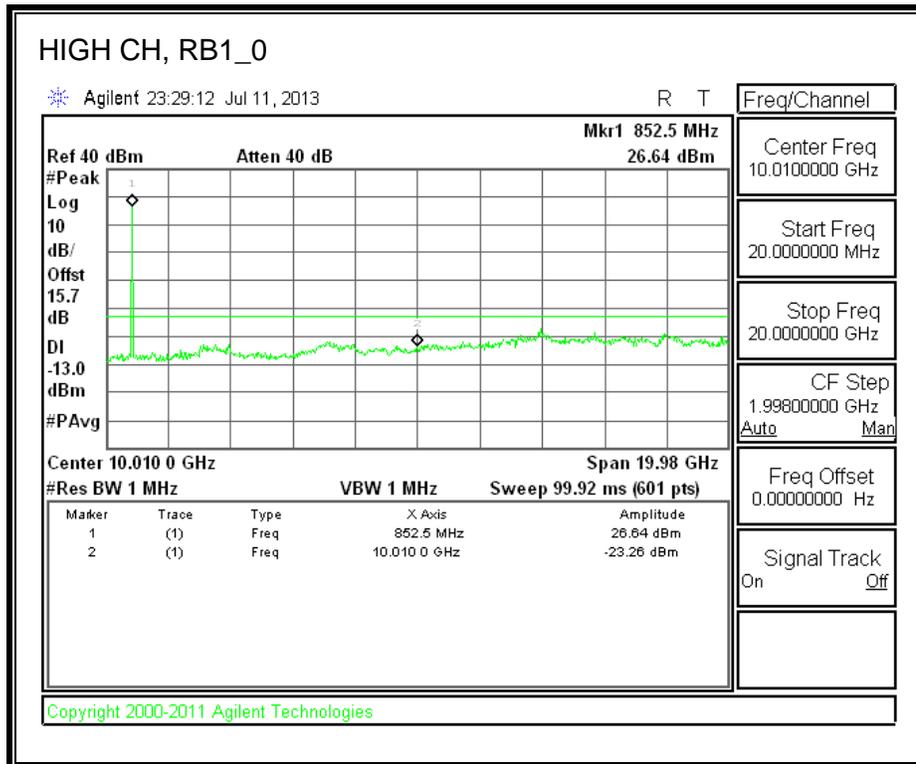
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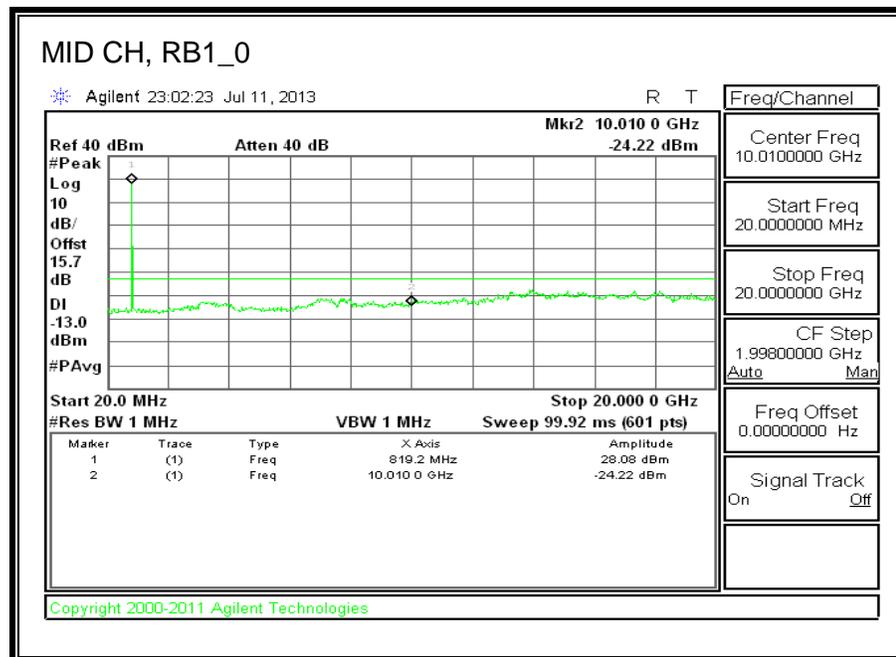
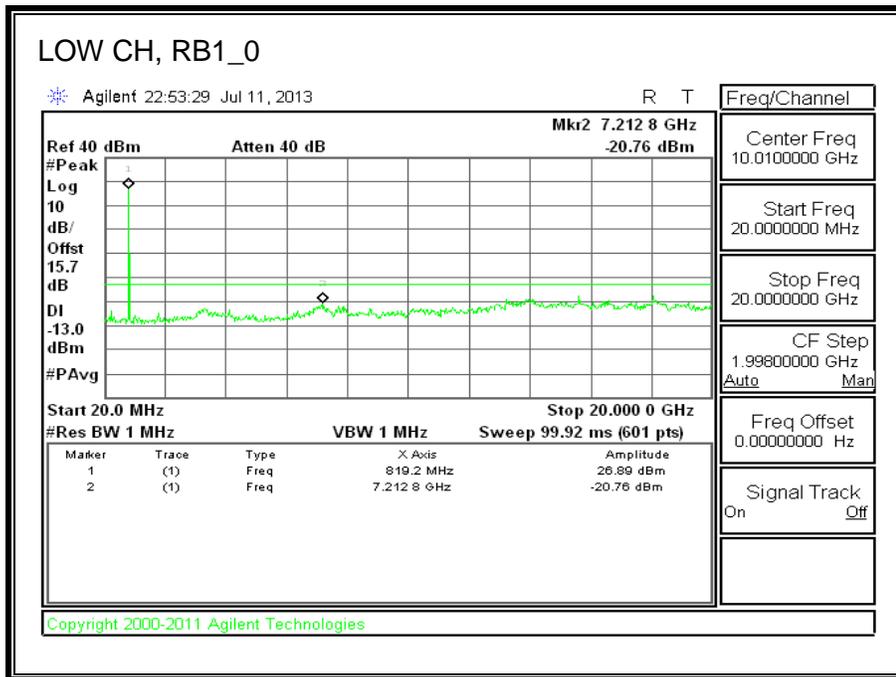
12.5.2. LTE BAND 26-3MHz OUT OF BAND EMISSIONS

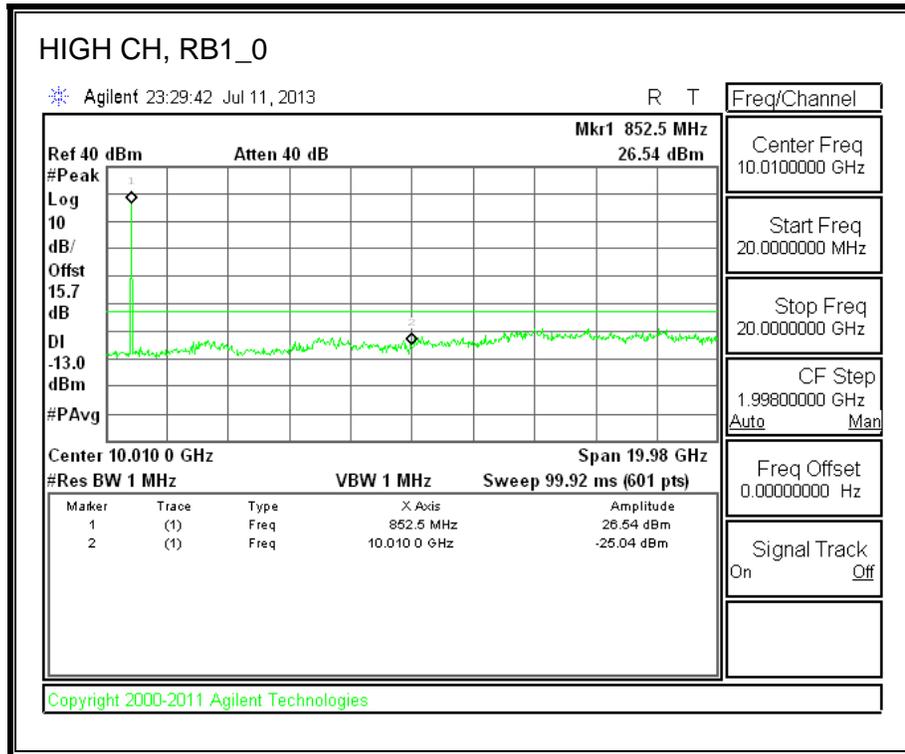
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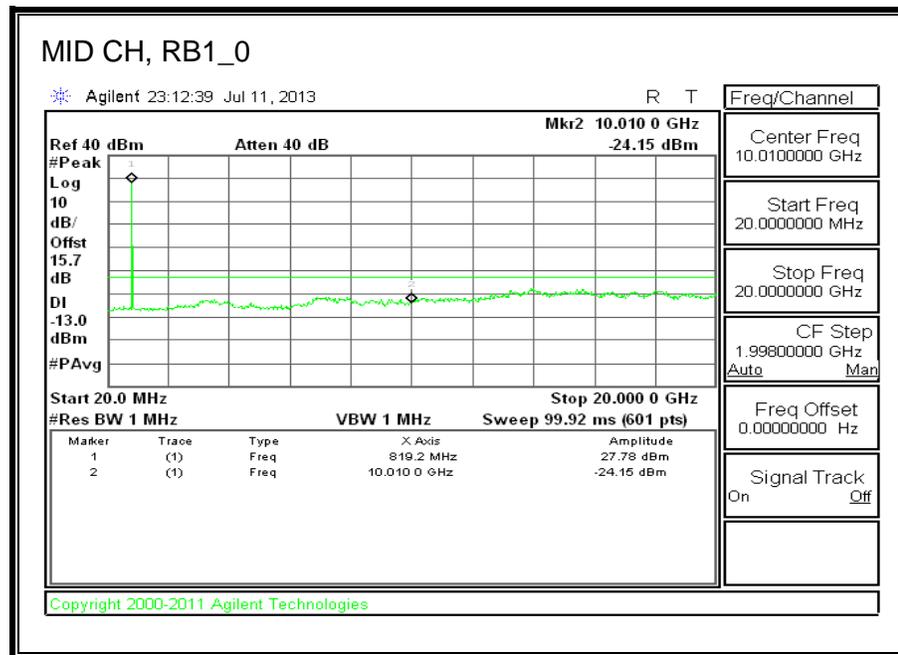
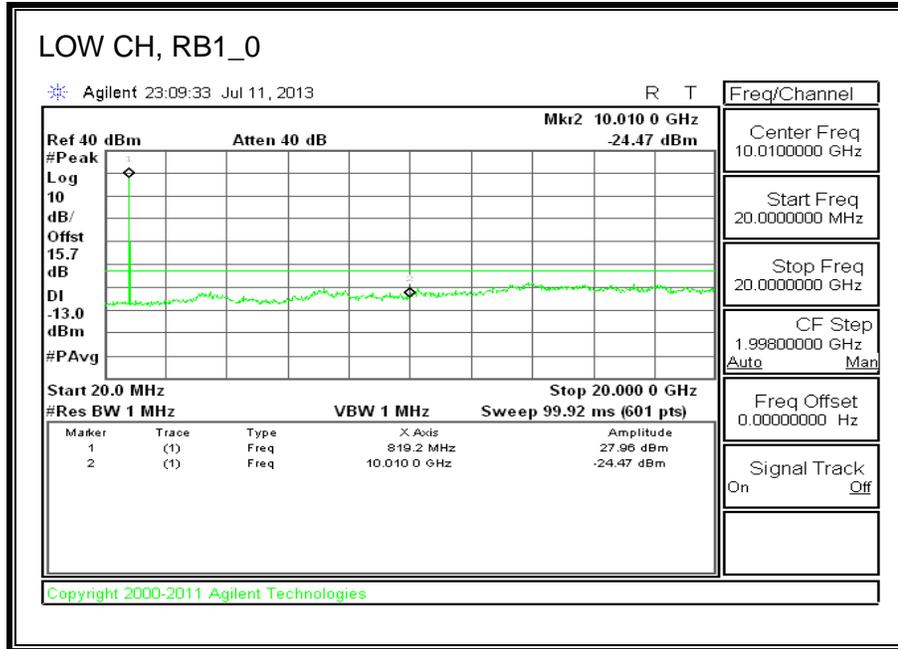
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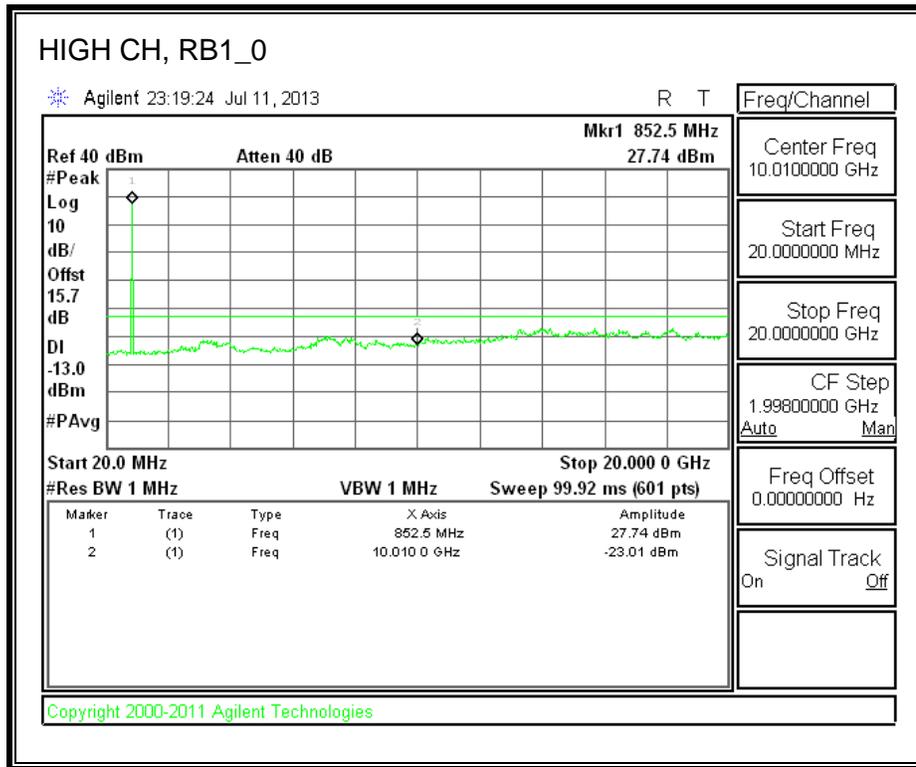




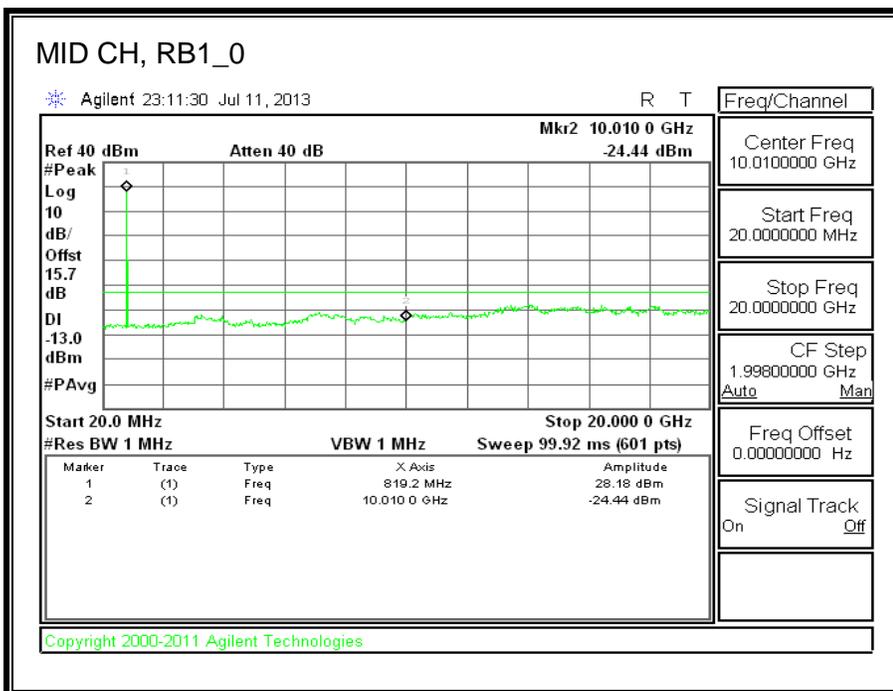
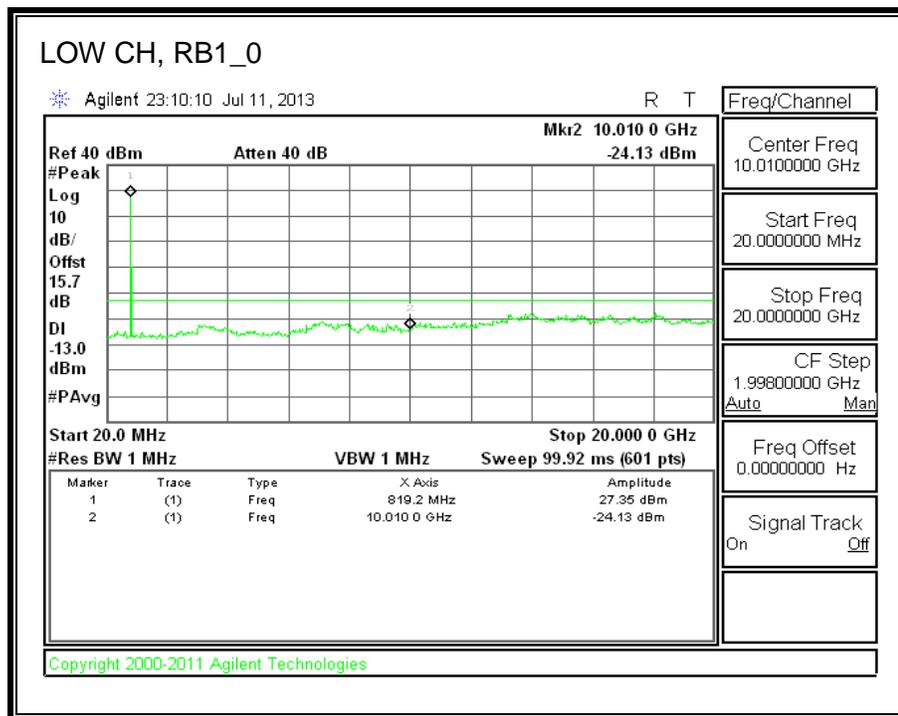
12.5.3. LTE BAND 26-5MHz BANDWIDTH

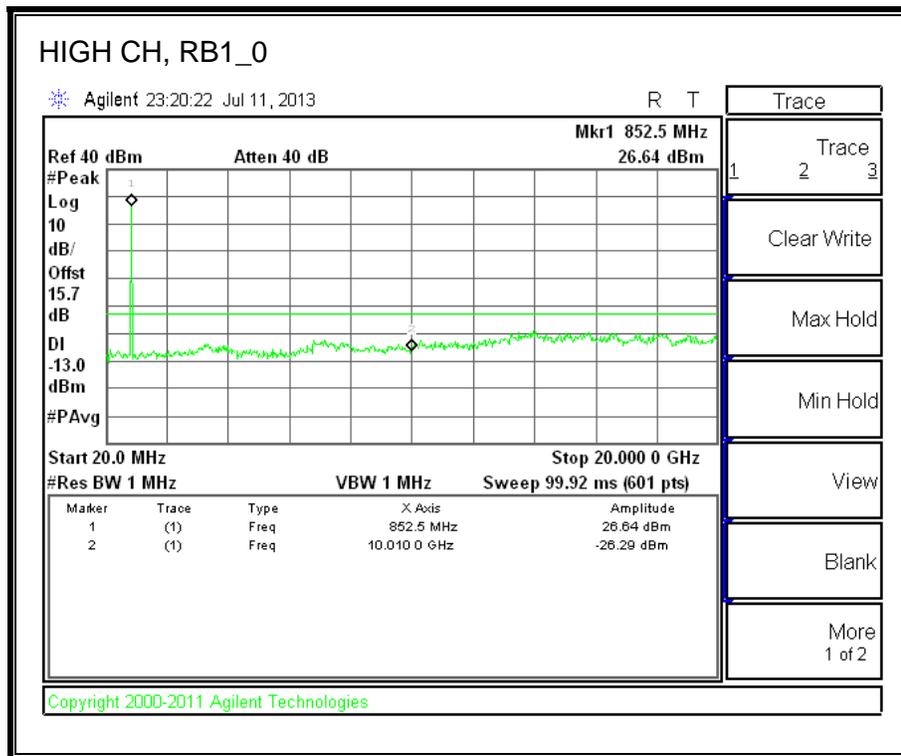
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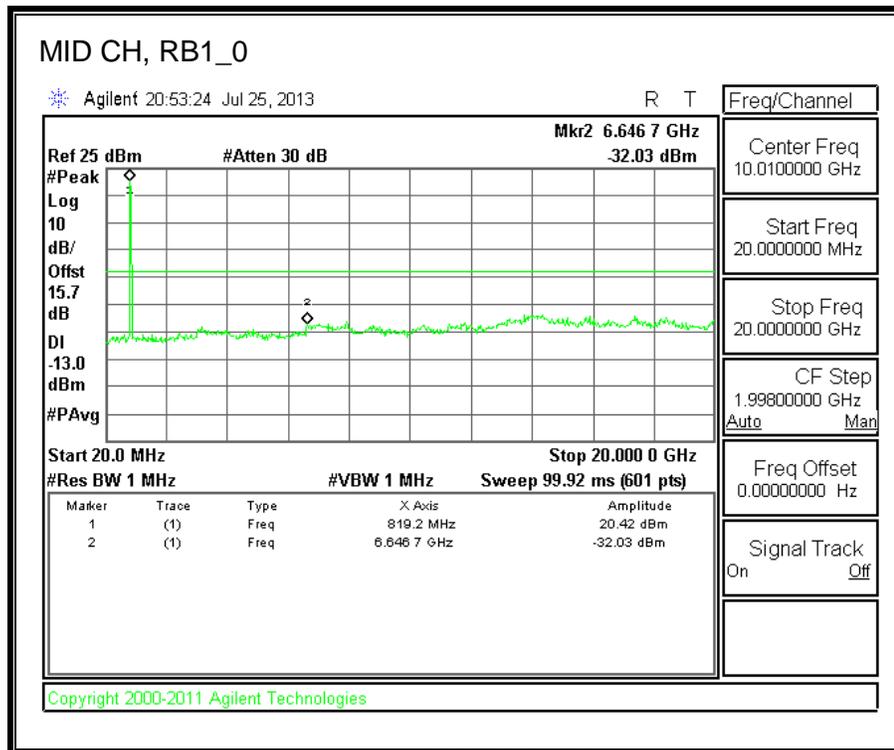
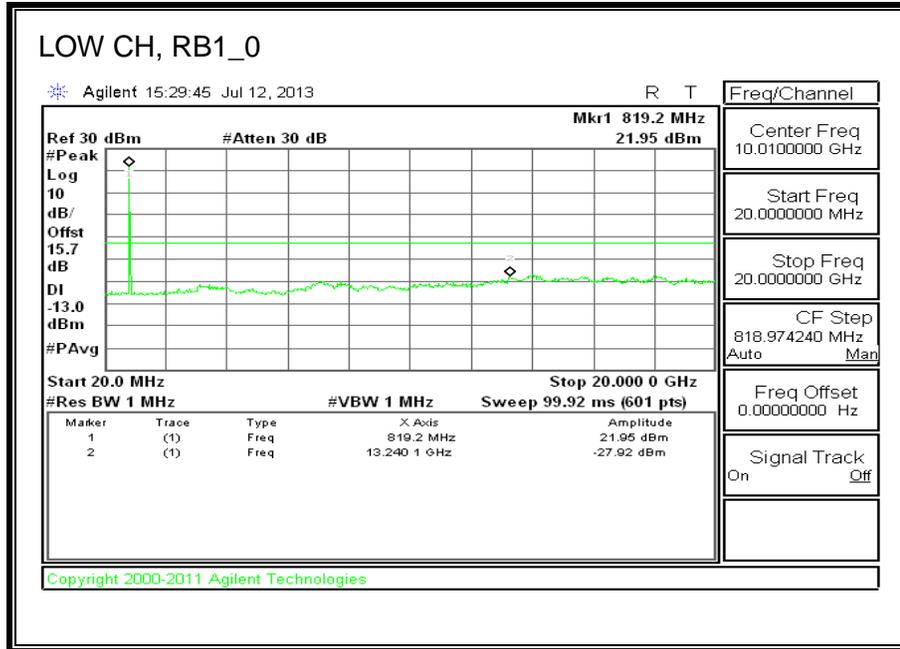
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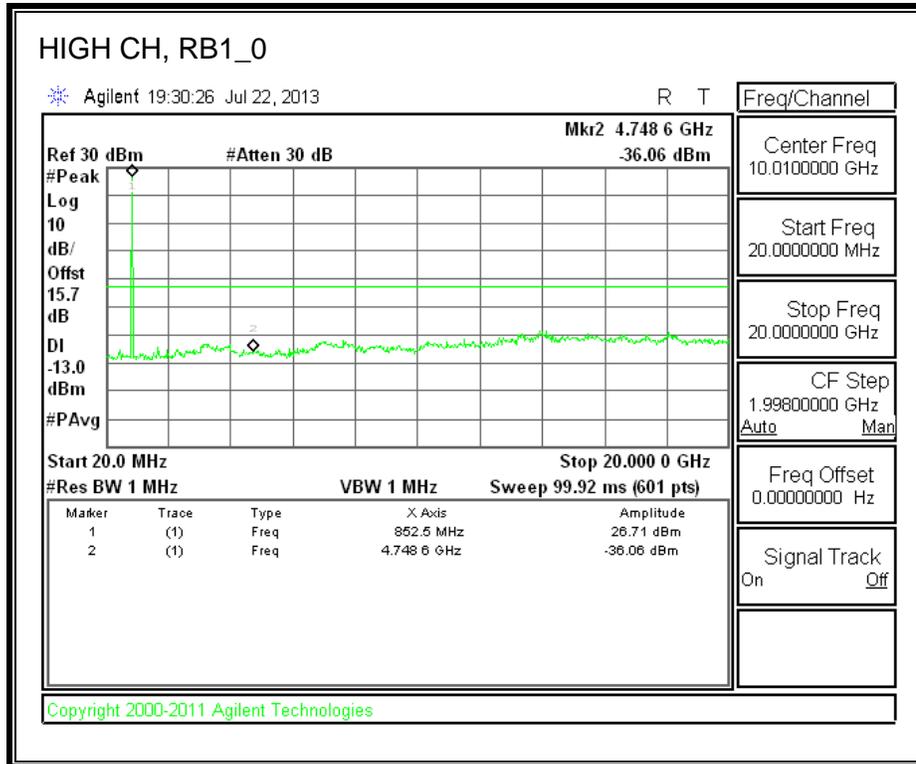




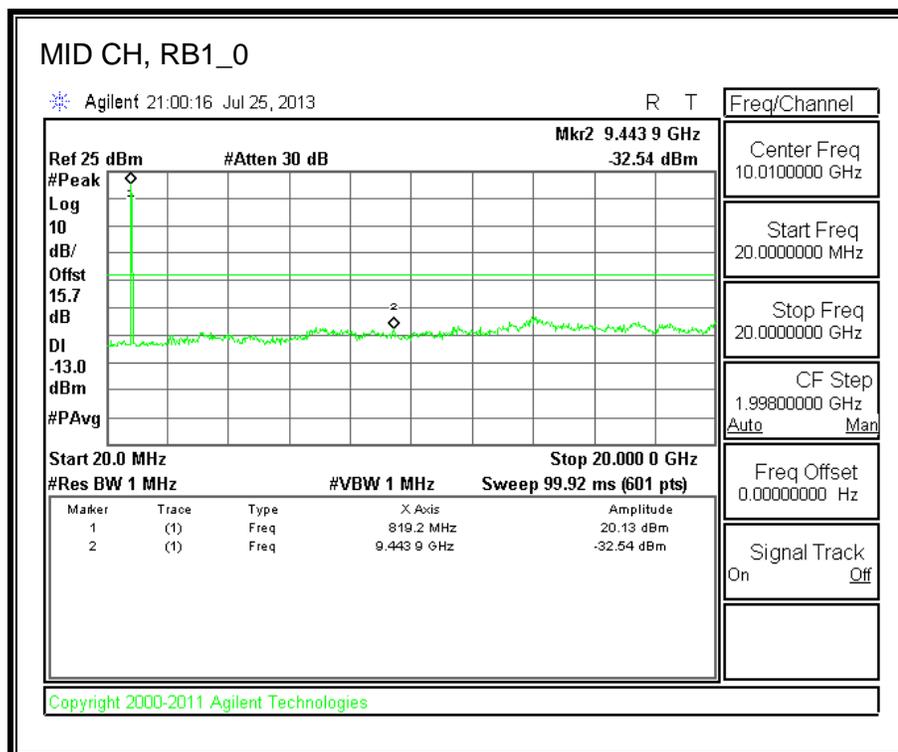
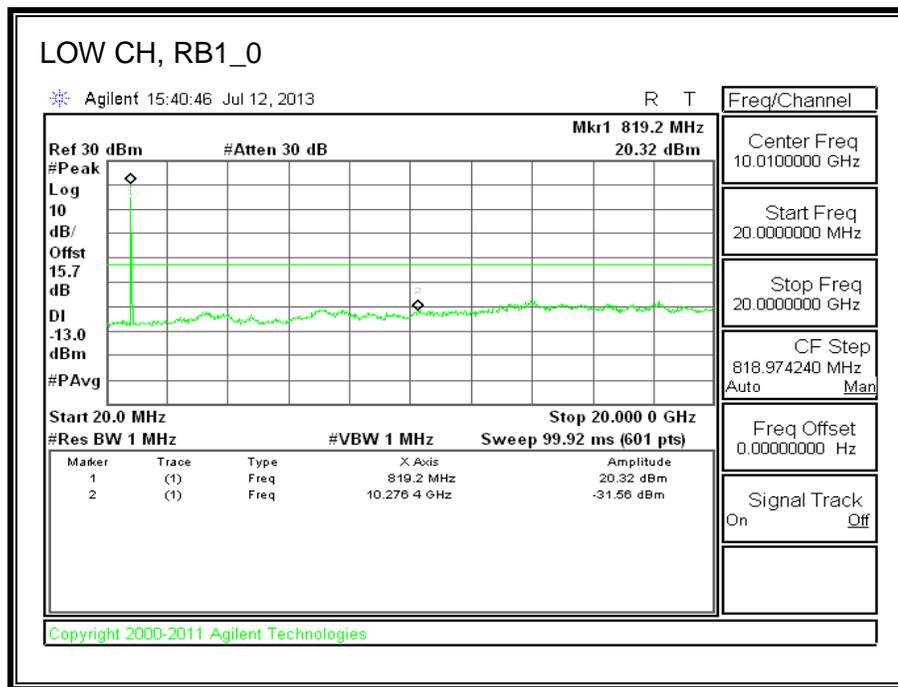
12.5.4. LTE BAND 26-10MHz BANDWIDTH

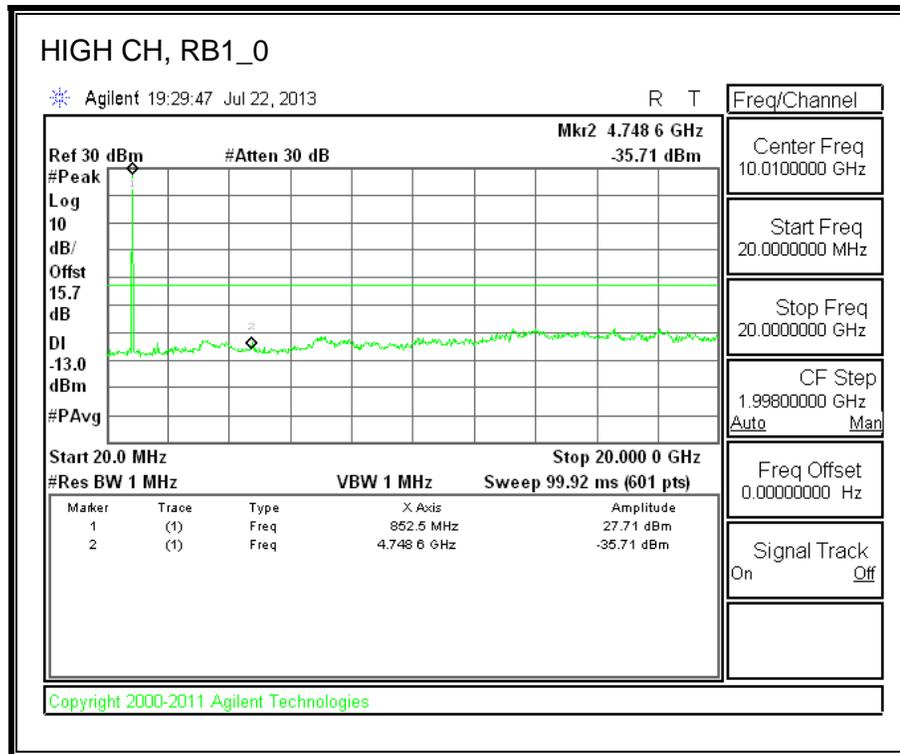
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16QAM

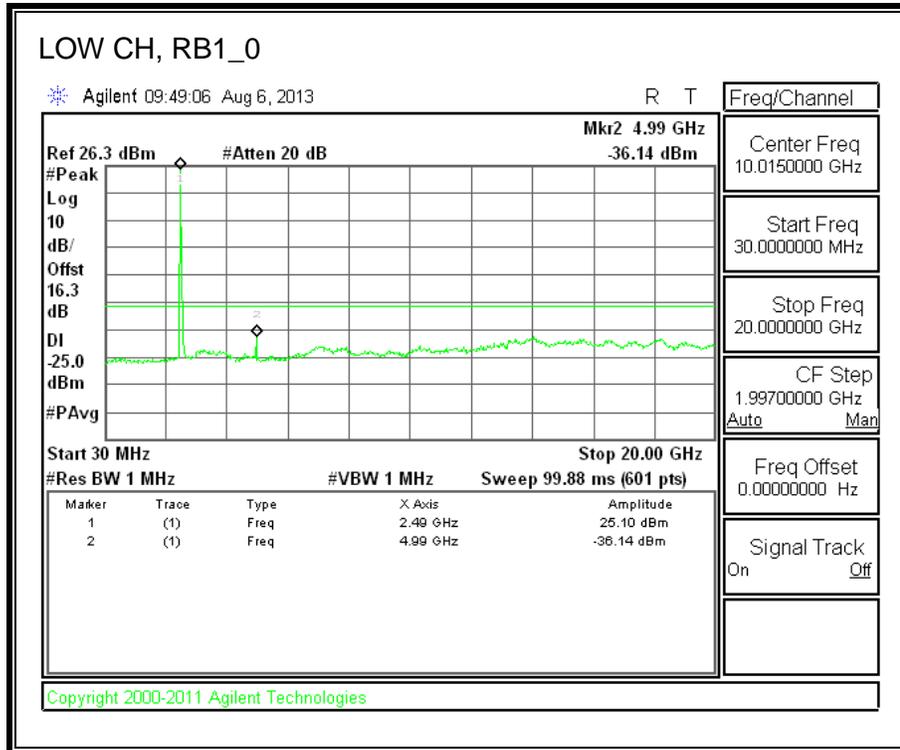


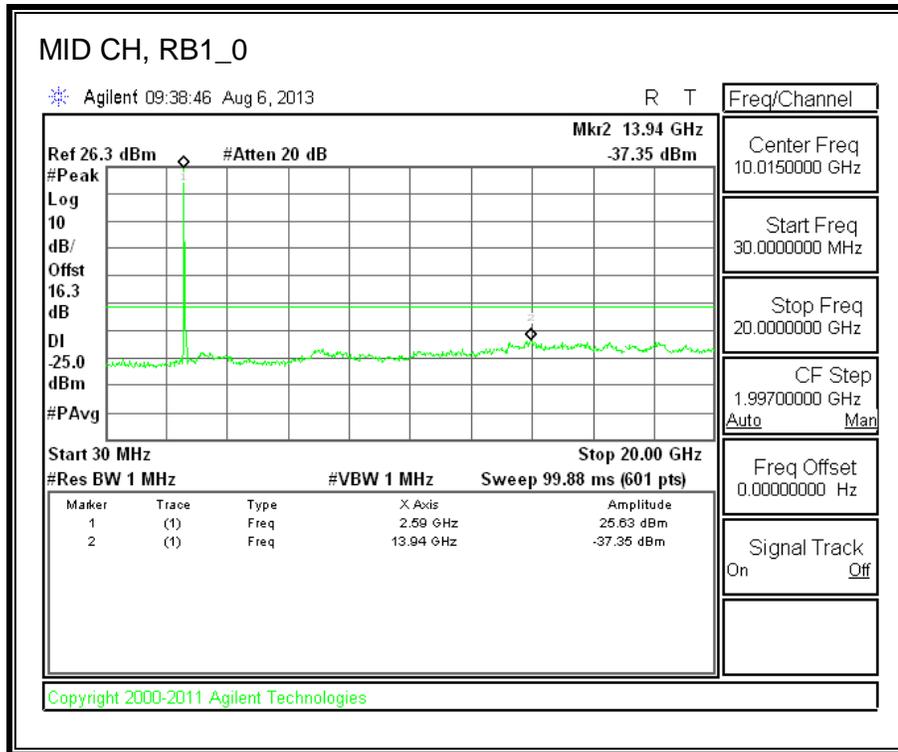


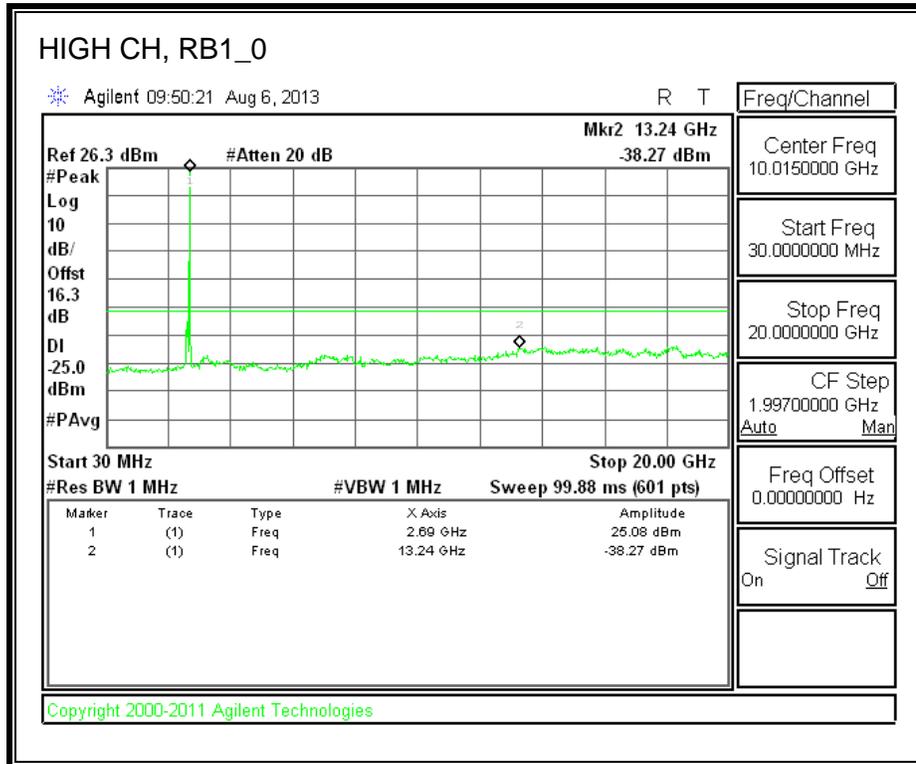
12.6. LTE BAND 41

12.6.1. LTE BAND 41-10MHz BANDWIDTH

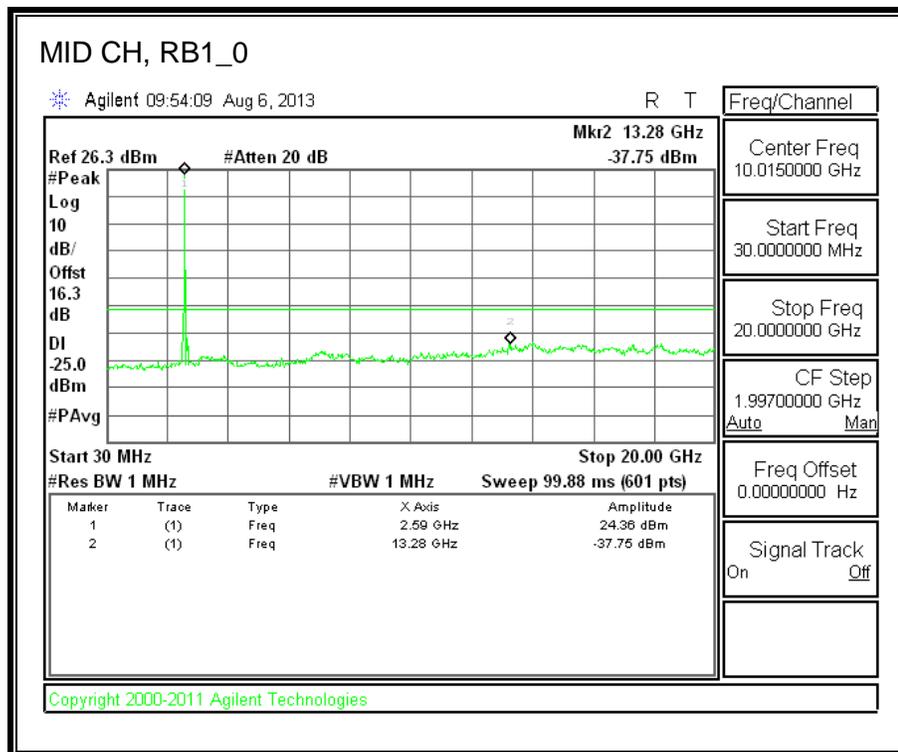
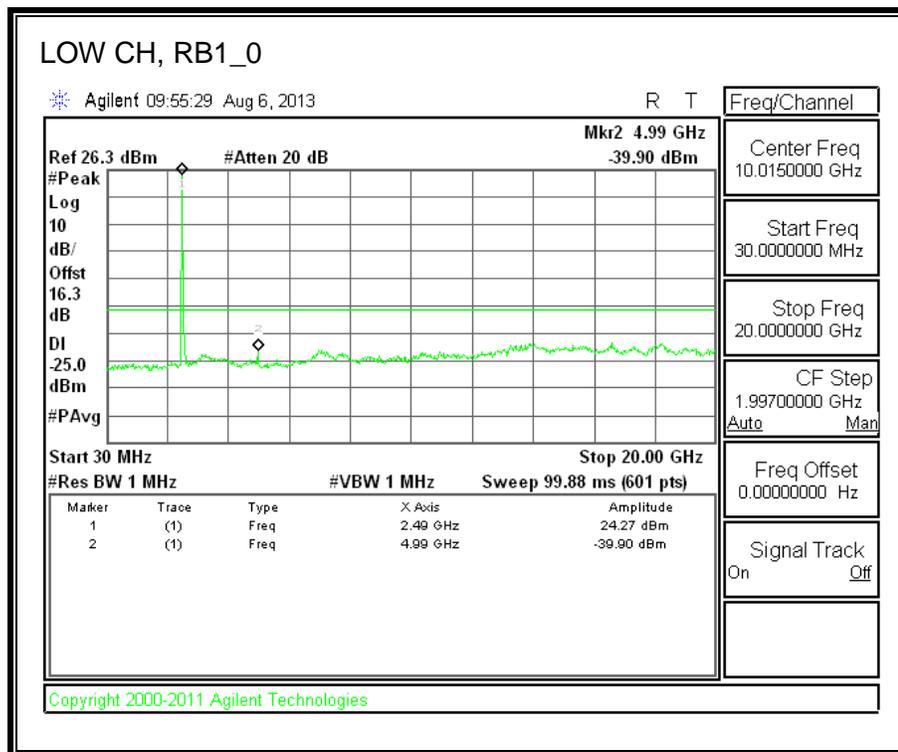
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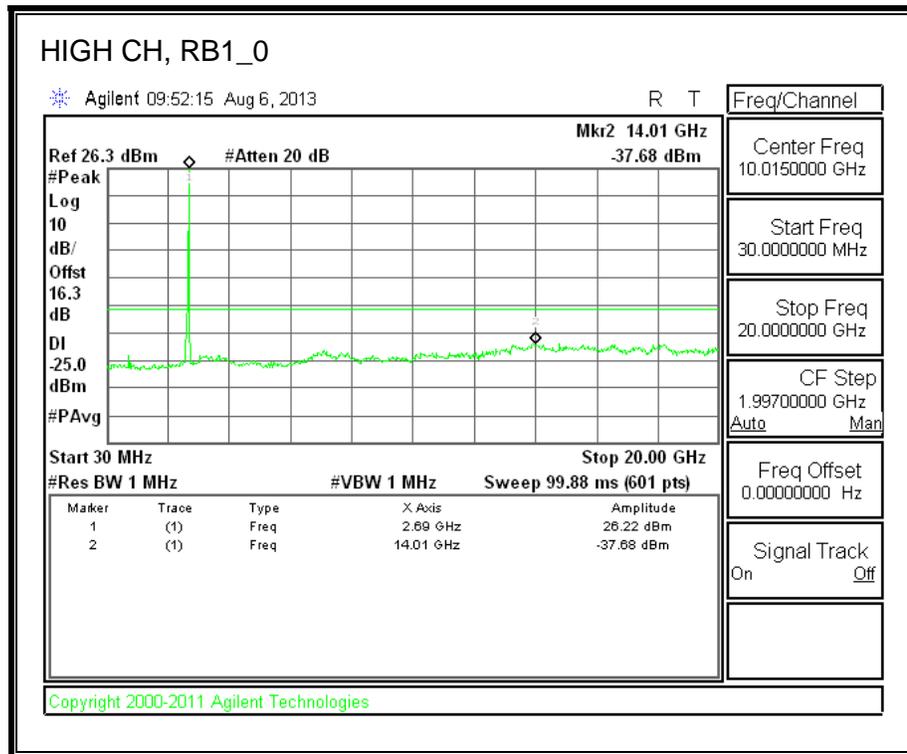






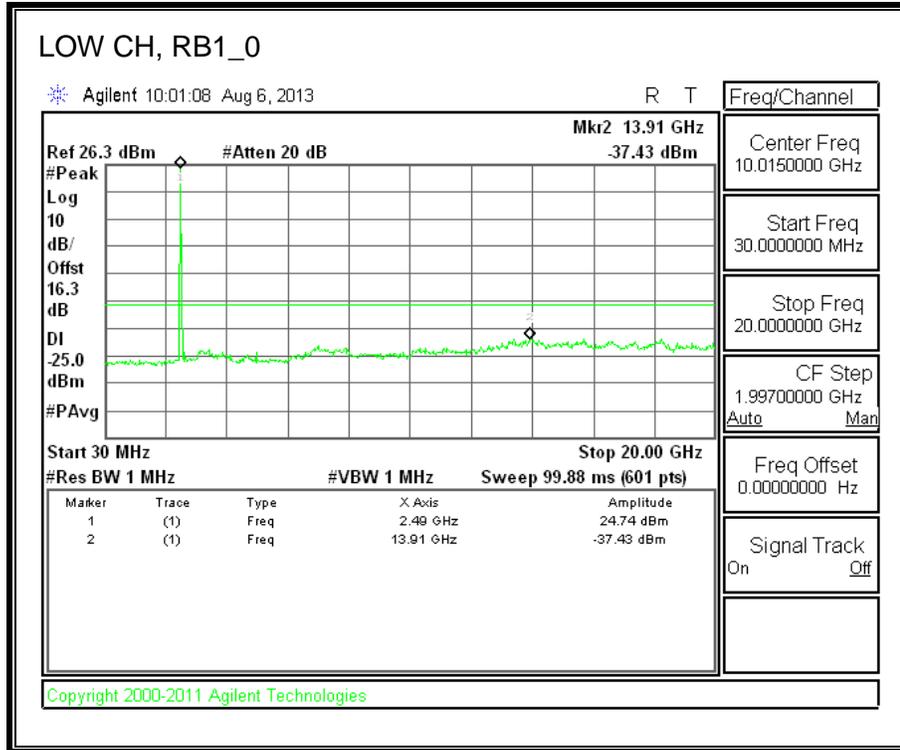
16QAM

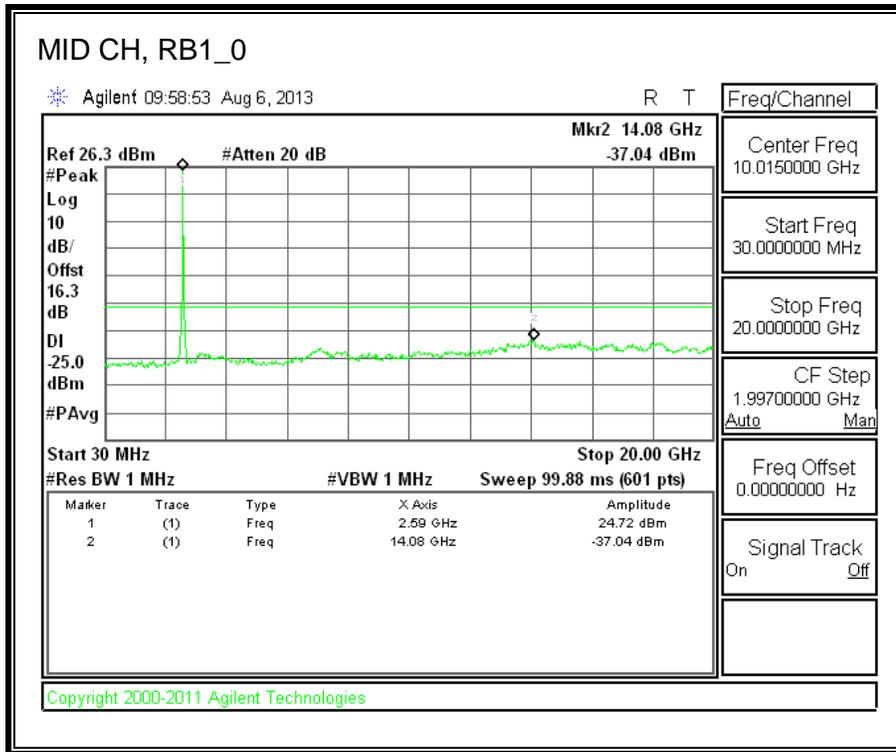


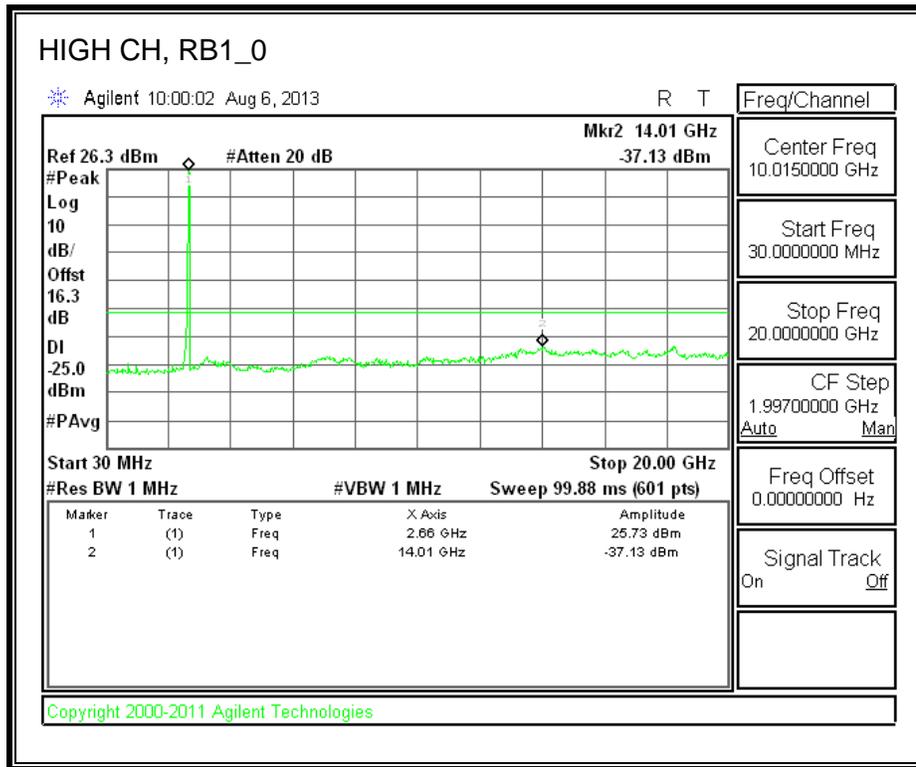


12.6.2. LTE BAND 41-15MHz BANDWIDTH

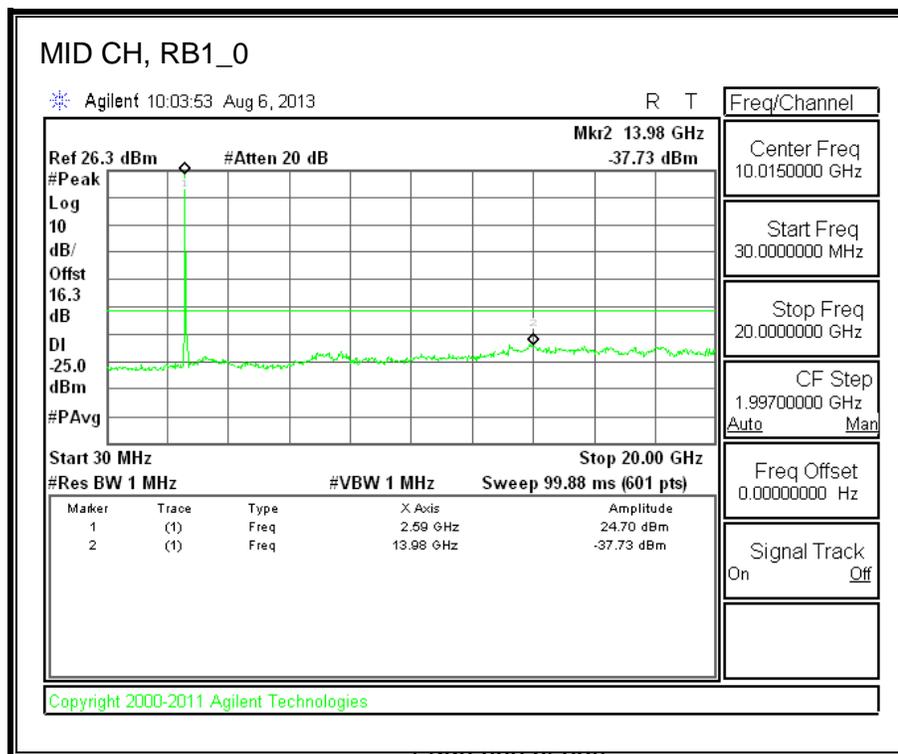
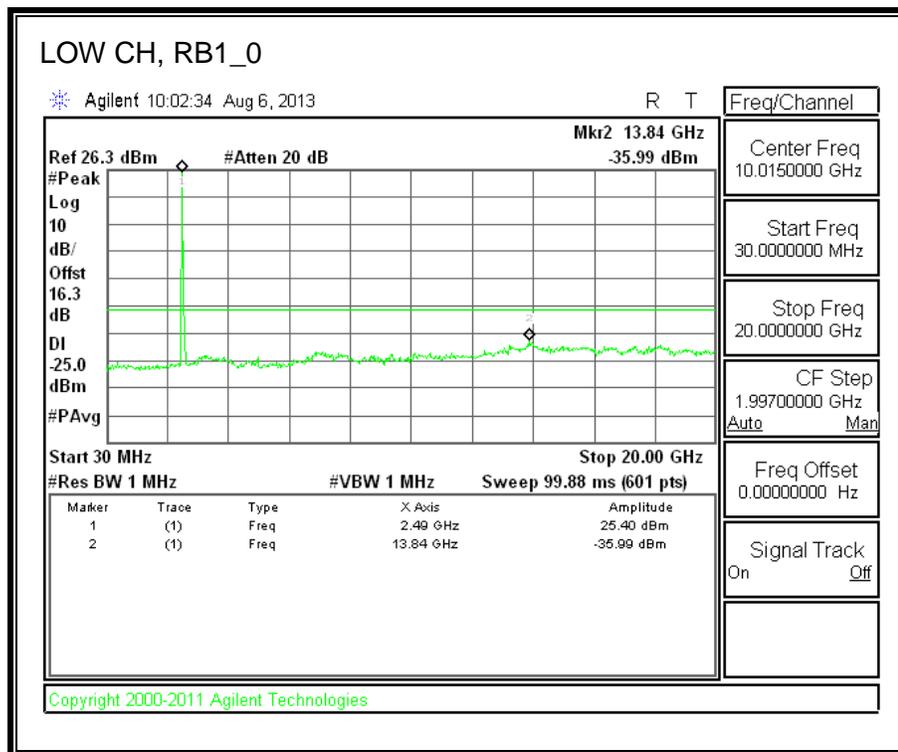
QPSK

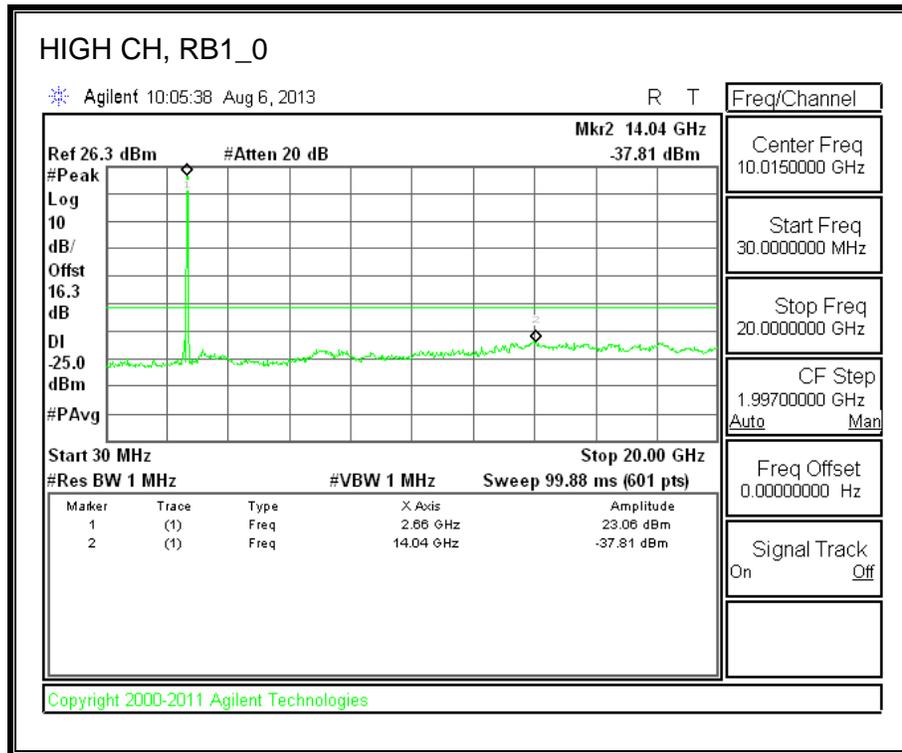






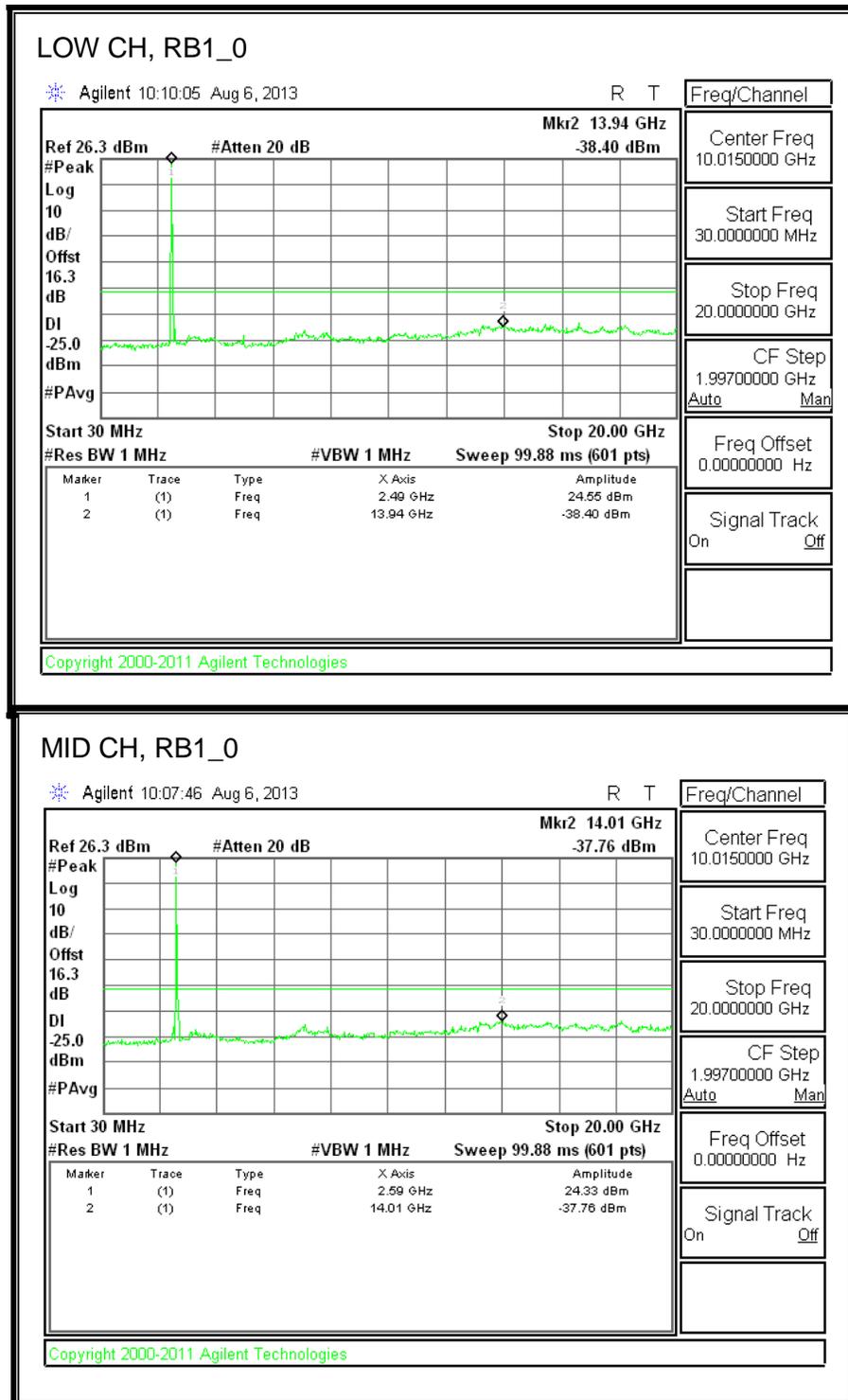
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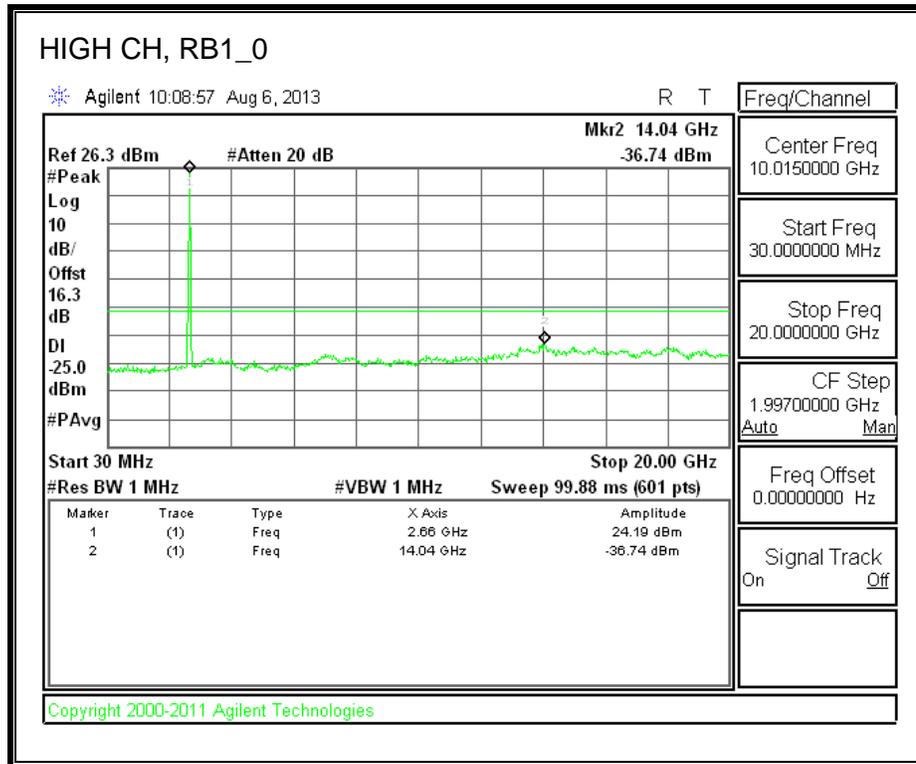




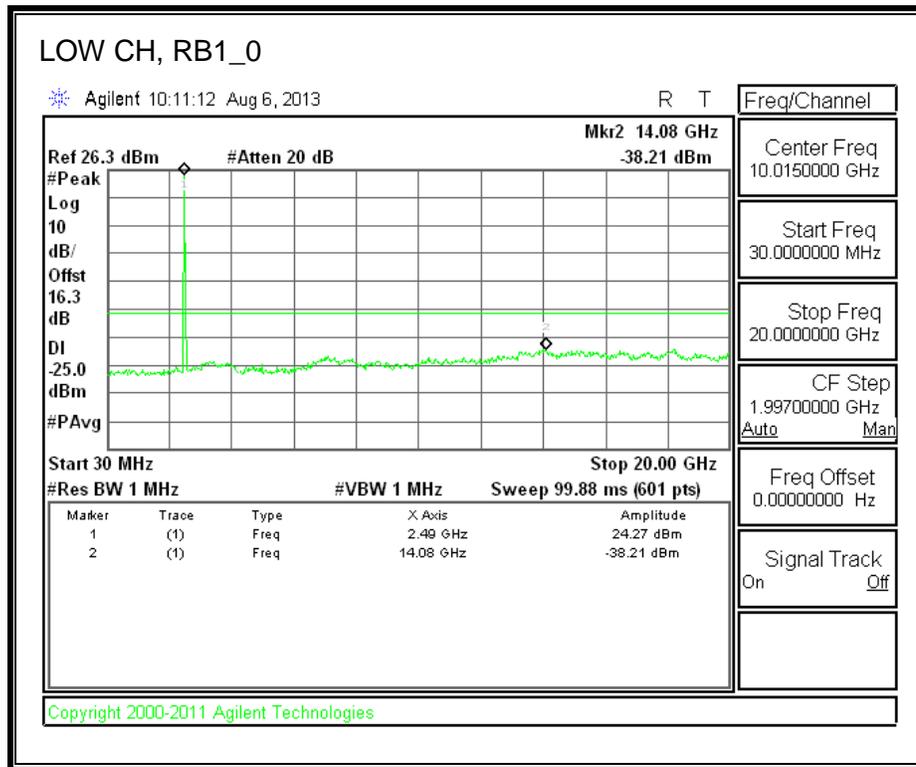
12.6.3. LTE BAND 41-20MHz BANDWIDTH

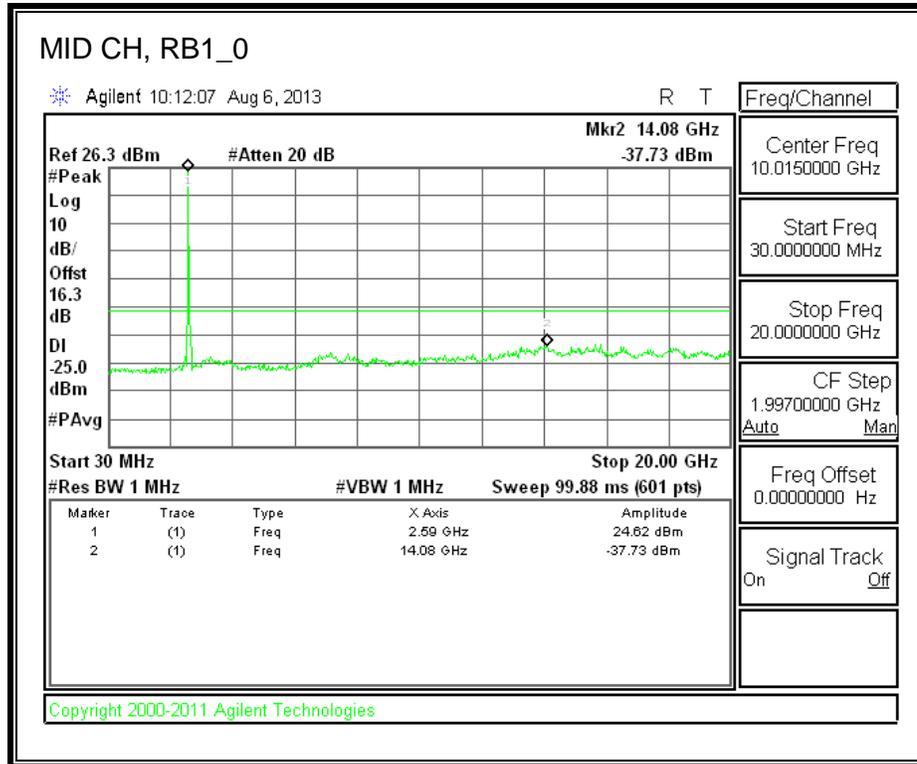
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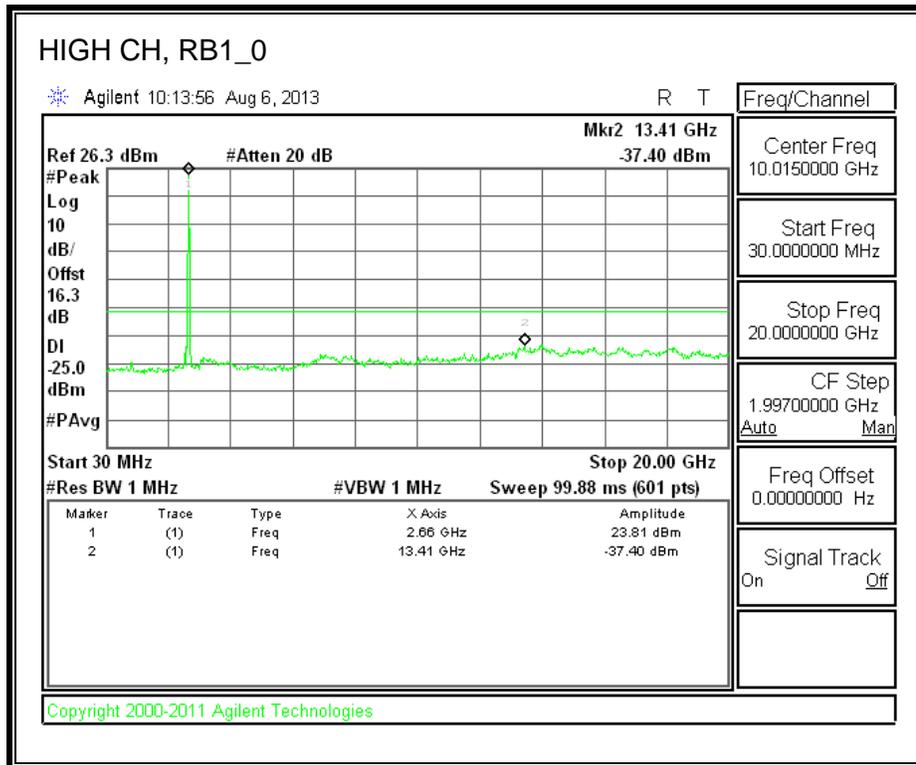




16QAM







13. EMISSION MASK

Test Specification

- FCC: §27.53 (LTE BAND 41)
- (m)(4) For mobile station, the attenuation factor shall be not less than $43+10\text{Log}(P)$ dB at the channel edge and $(55+10\text{Log}(P))$ dB at 5.5 MHz from the channel edges.

- FCC: §90.210, and §90.691 (LTE BAND 26)
- (a)(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \text{Log}_{10}(f/6.1)$ decibels or $50 + 10 \text{Log}_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
- (a)(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\text{Log}_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. {NOTE: Use 100 kHz reference bandwidth.}

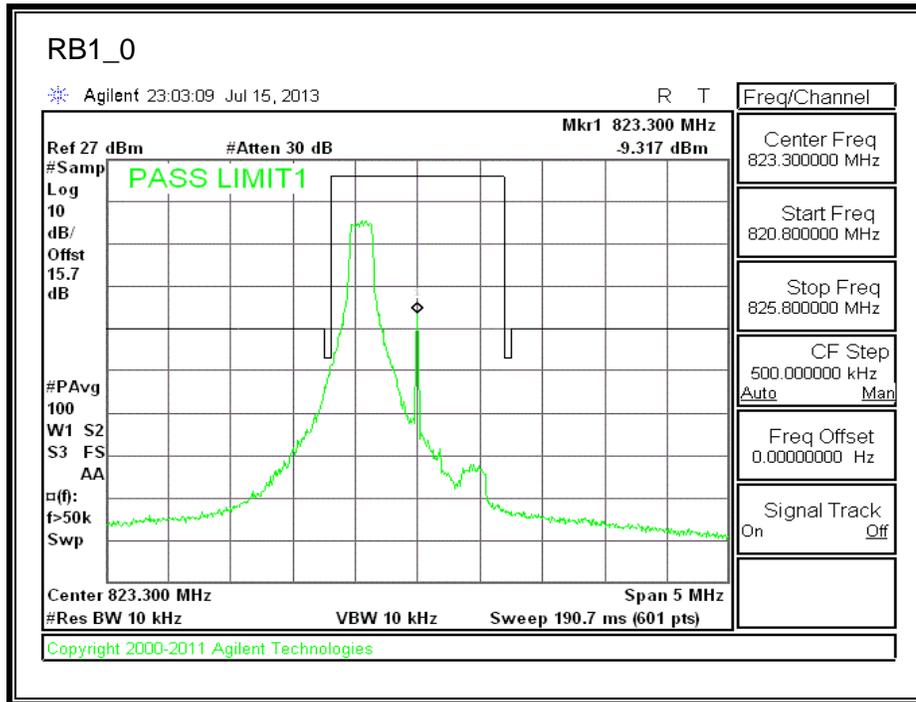
Test Procedure

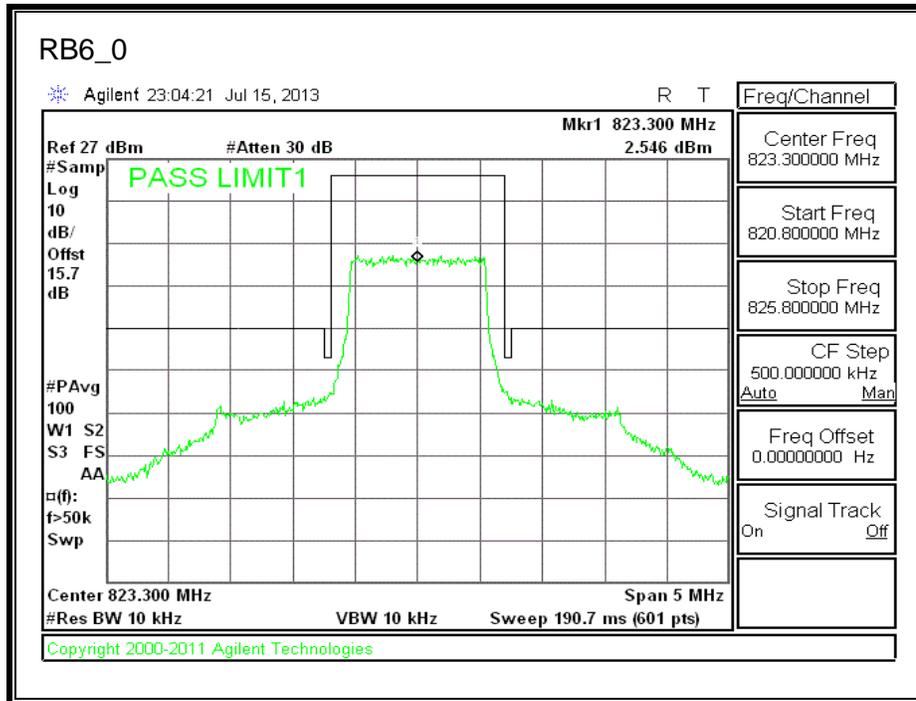
- FCC: §27.53 (LTE BAND 41)
- (m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.
- Emission mask plot has limit line to demonstrate the out of band emission lower than -25dBm/MHz, therefore, in order to show compliance, following formula has been applied on each emission mask plots.
RBW integration method is applied when RBW less than 1MHz:
Emission mask display line formula= $-25\text{dBm} + 10\log(\text{RBW}/1\text{MHz})$
For example:
If RBW = 100 KHz than display line limit will be $-25\text{dBm} + 10\log(100/1000) = -35\text{dBm}$

13.1. LTE BAND 26

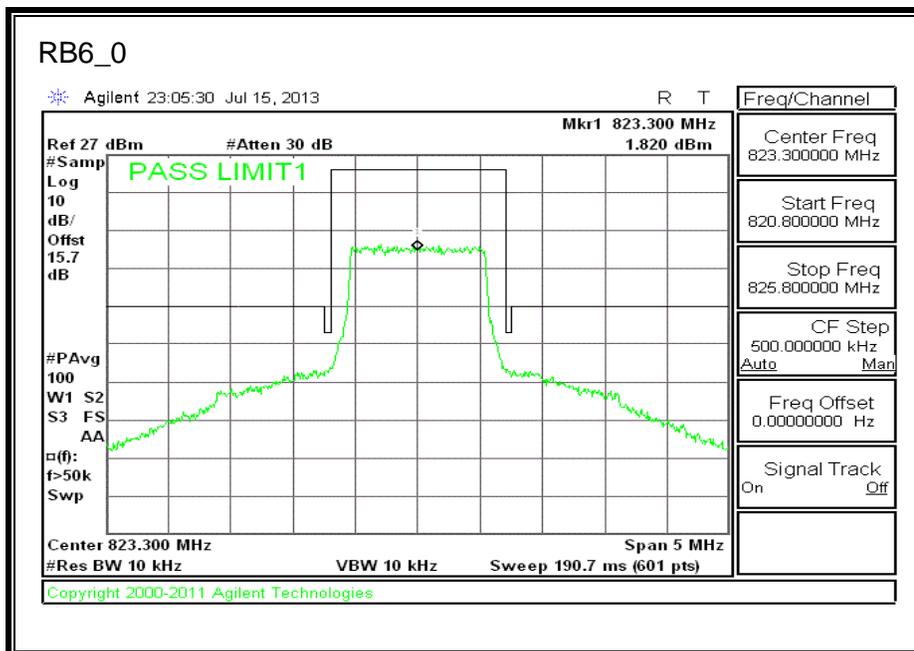
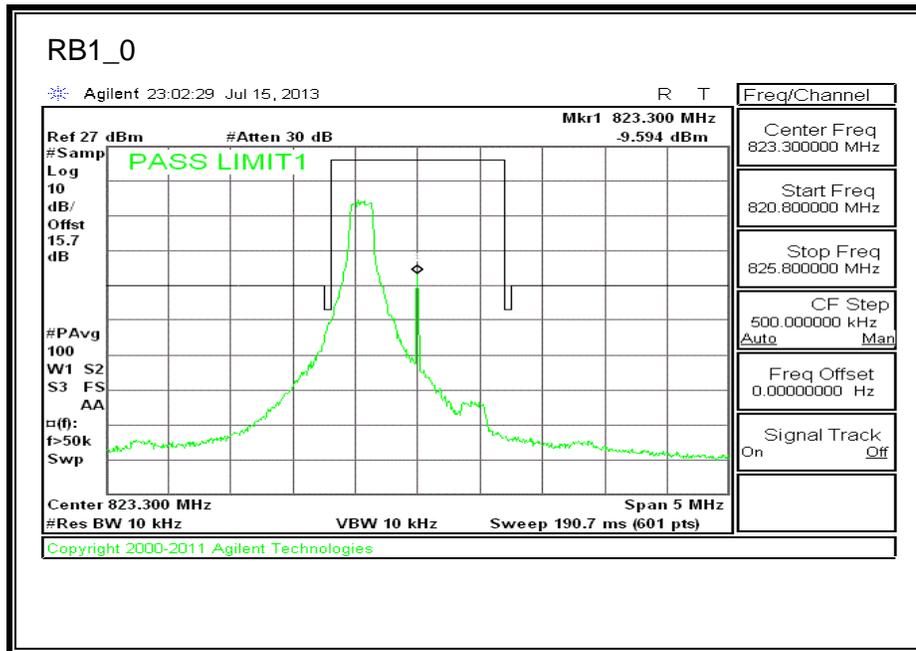
13.1.1. 1.4 MHz

QPSK



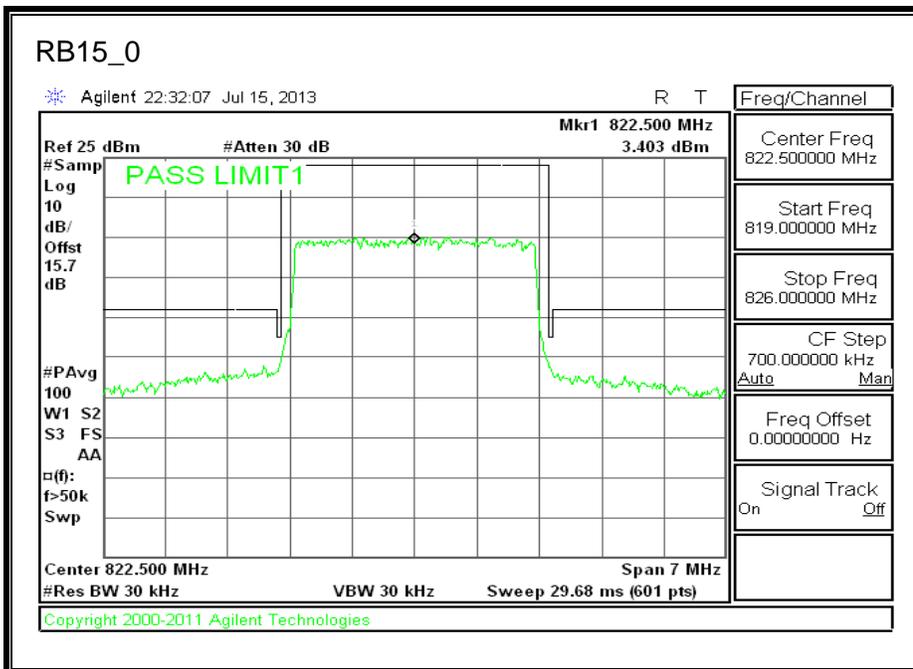
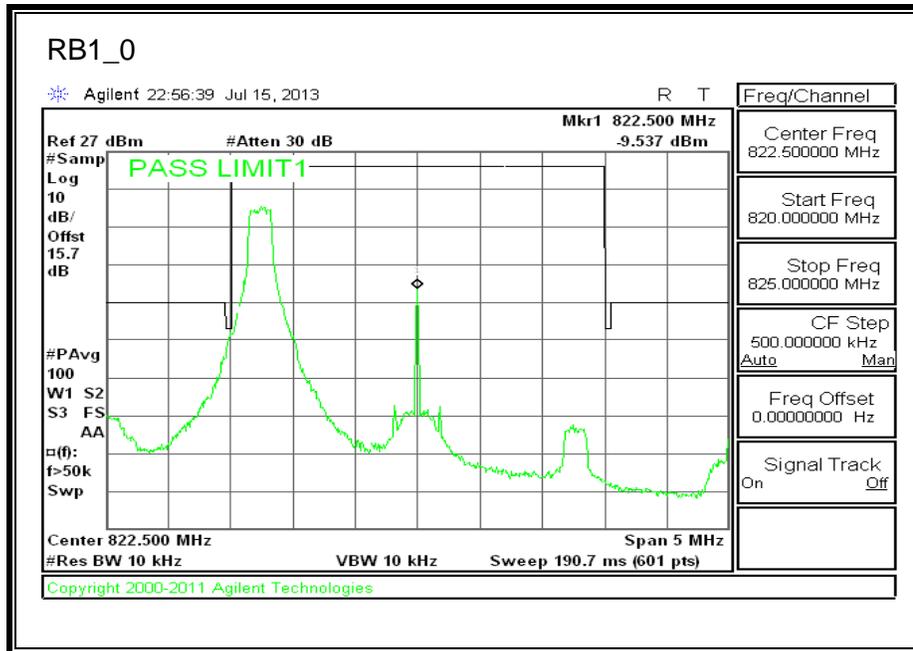


16QAM

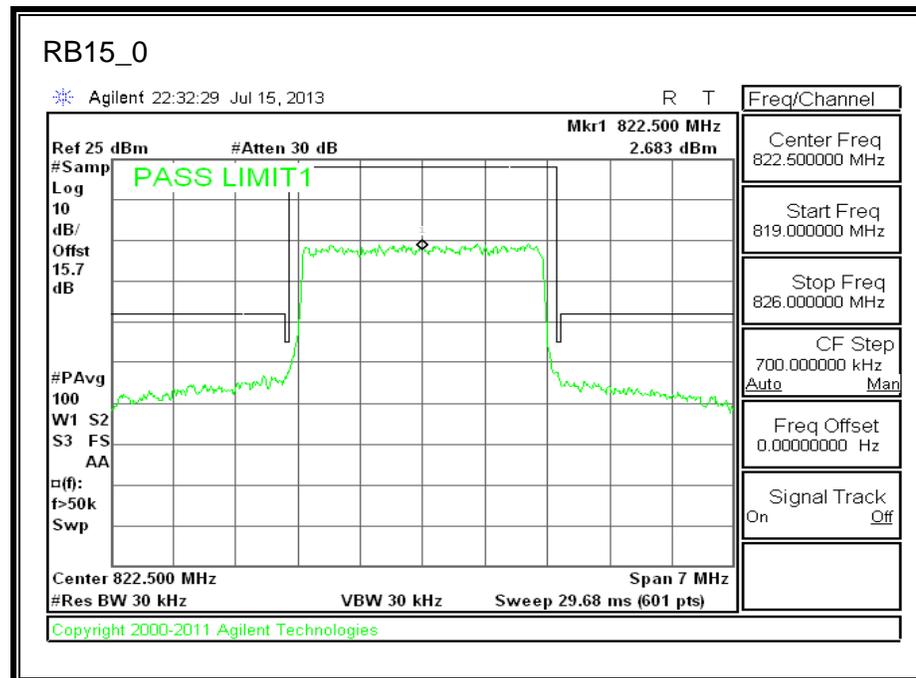
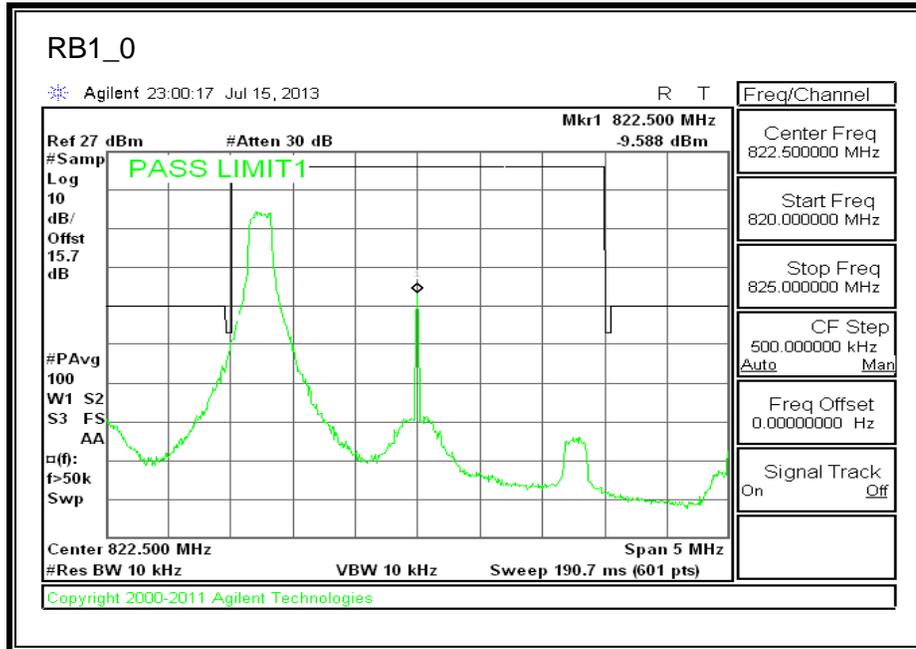


13.1.2. 3 MHz

QPSK

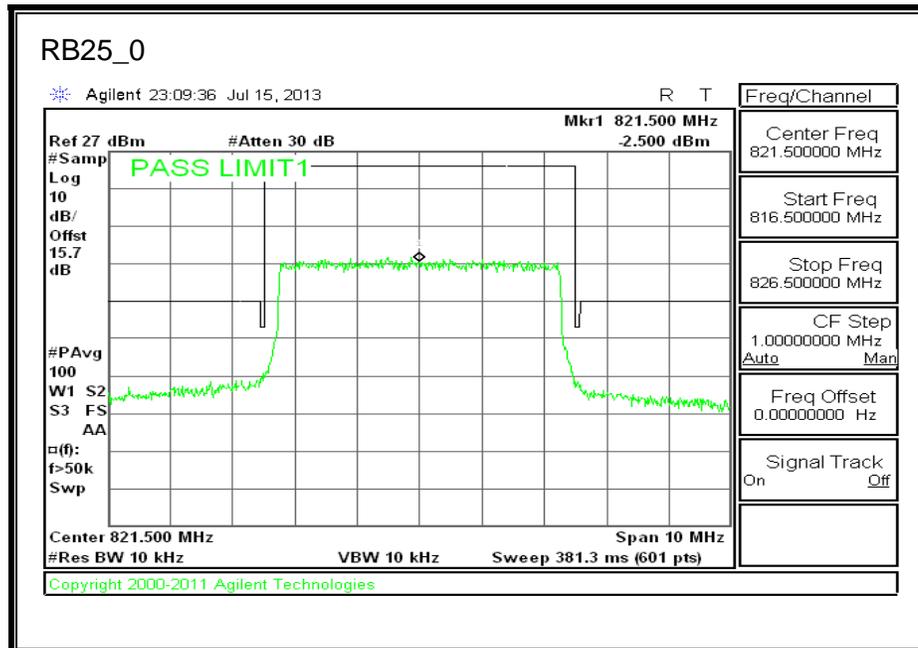
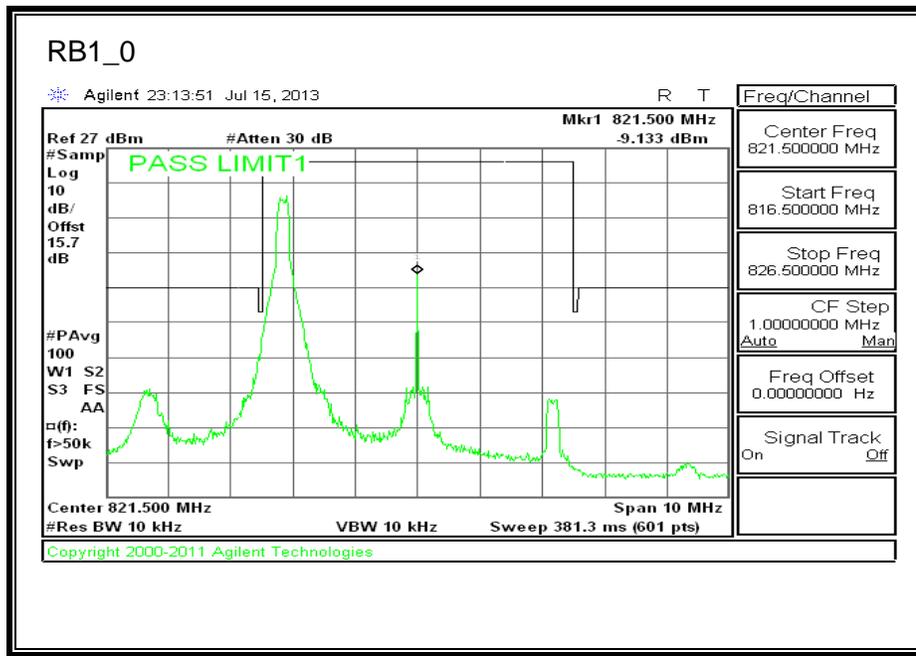


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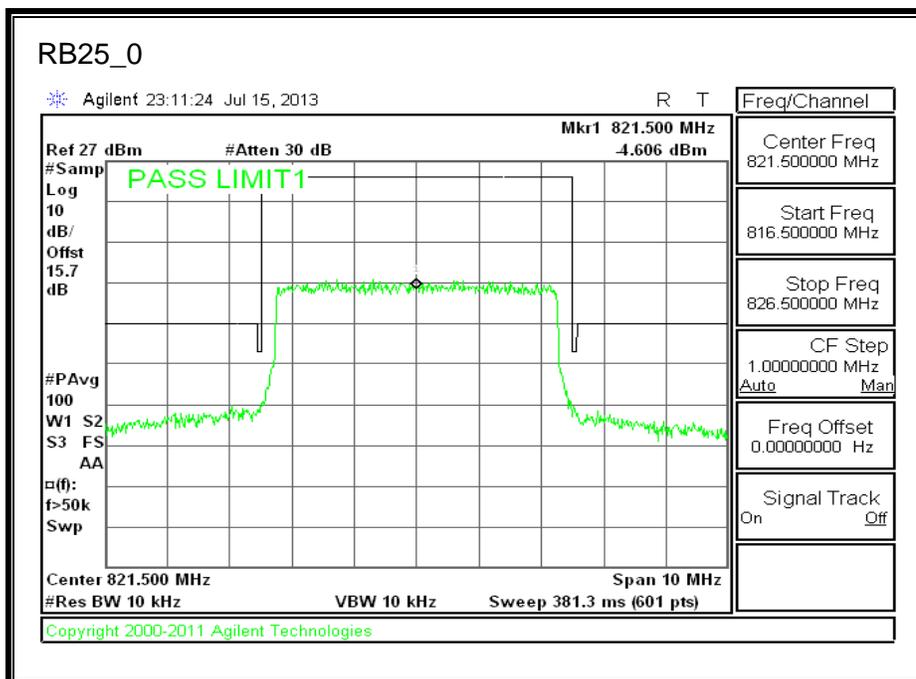
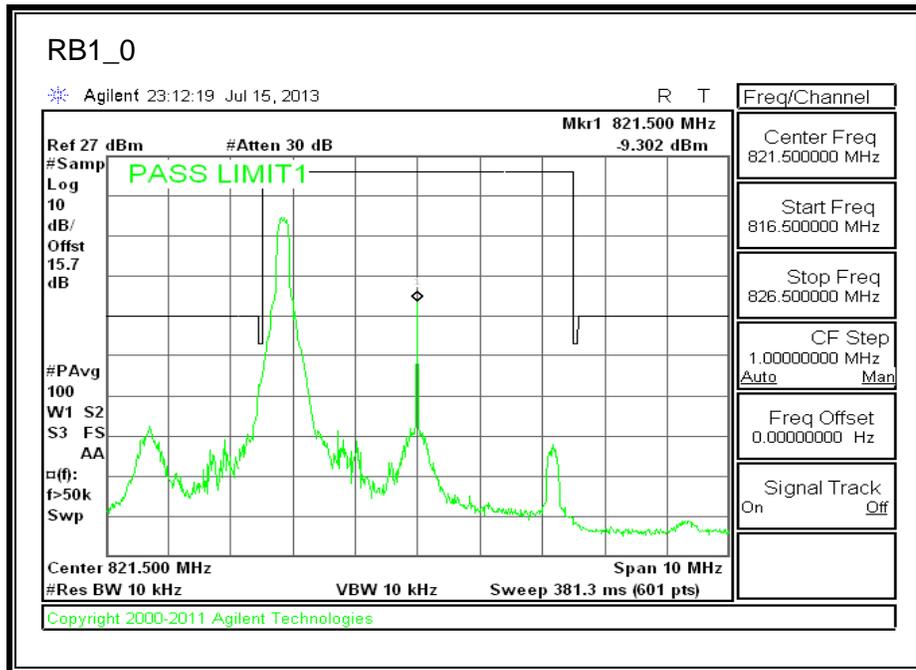


13.1.1. 5 MHz

QPSK

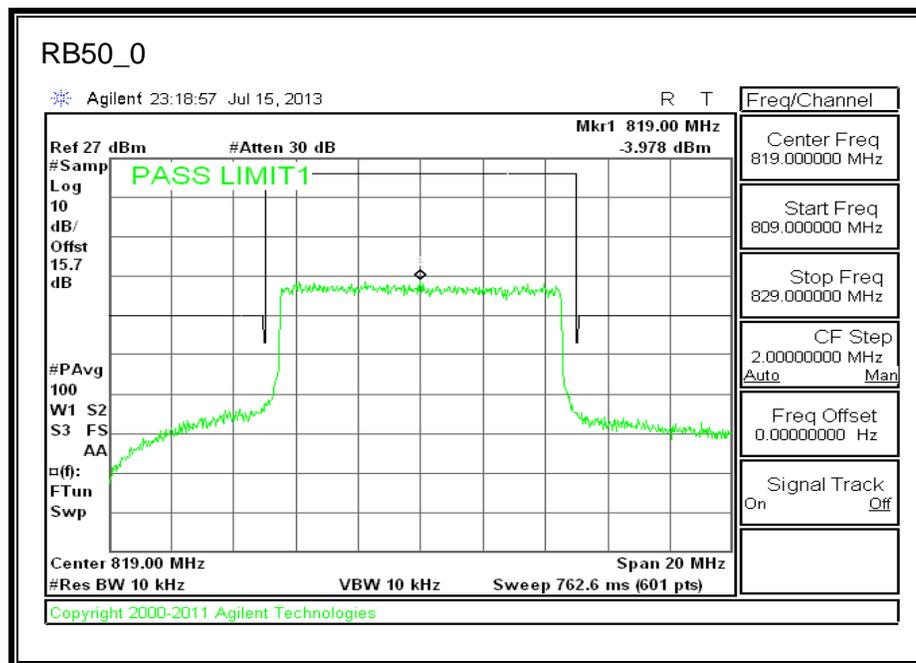
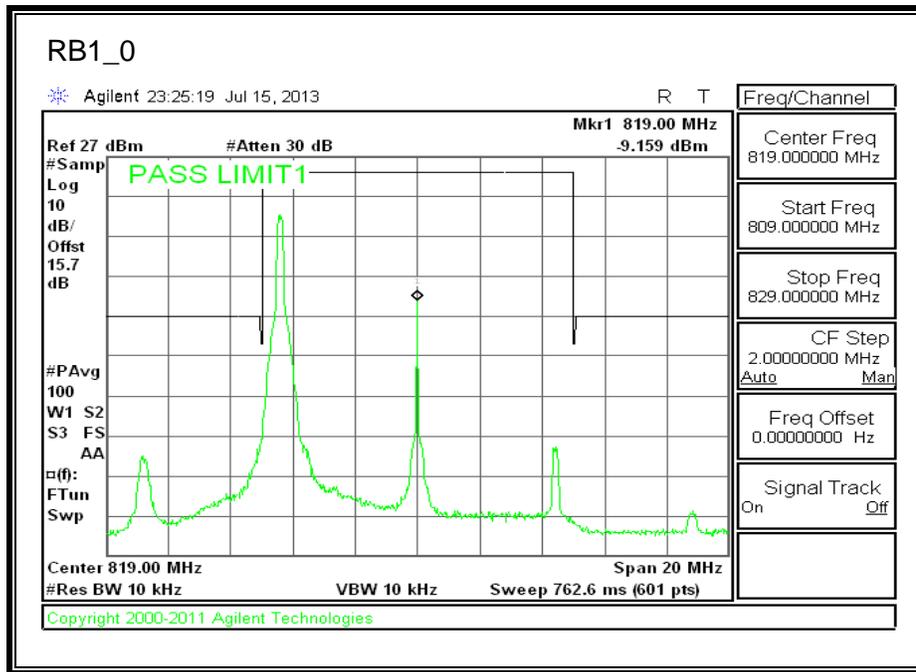


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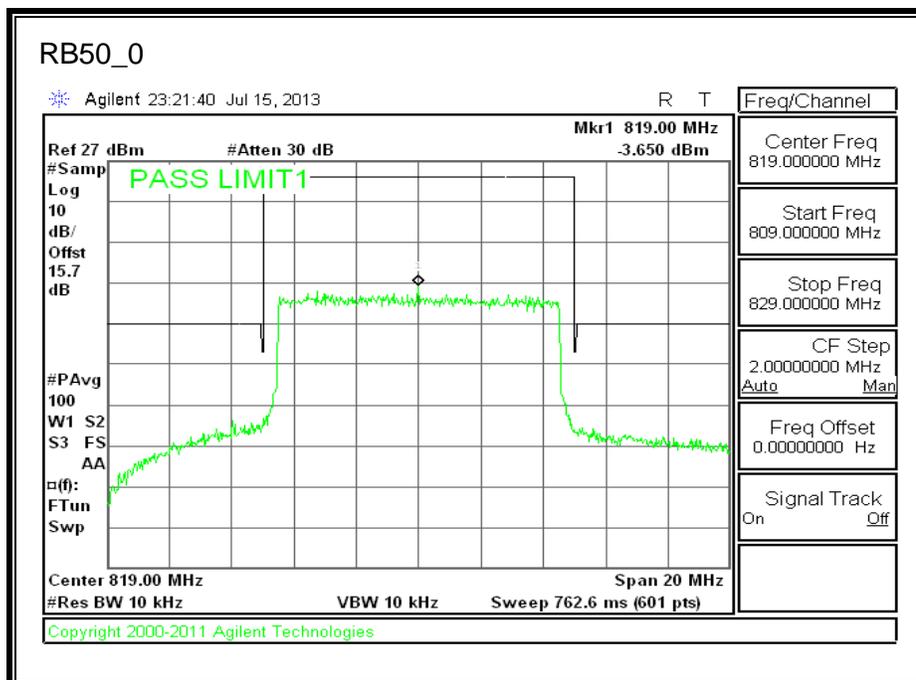
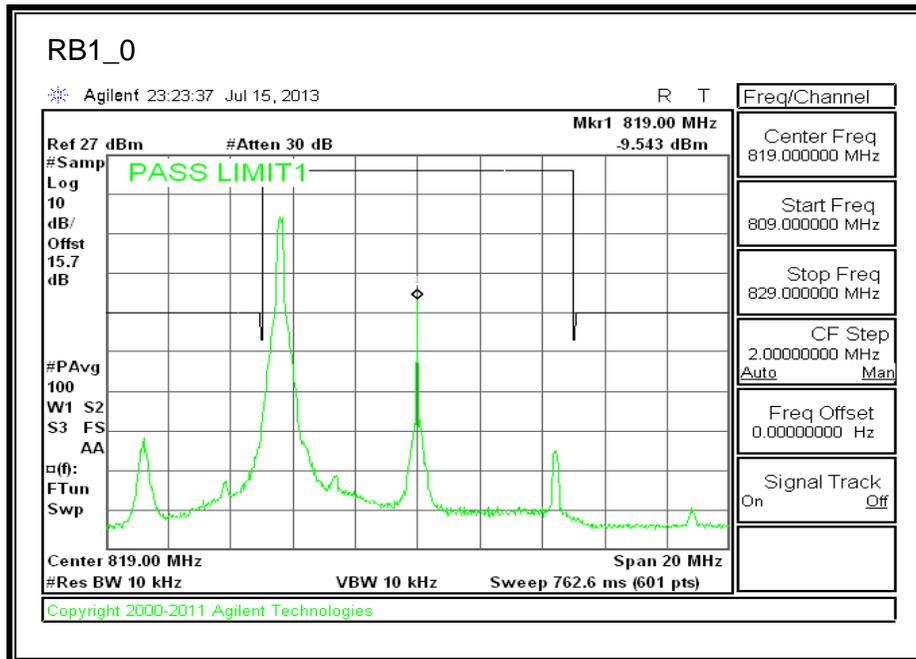


13.1.1. 10 MHz

QPSK



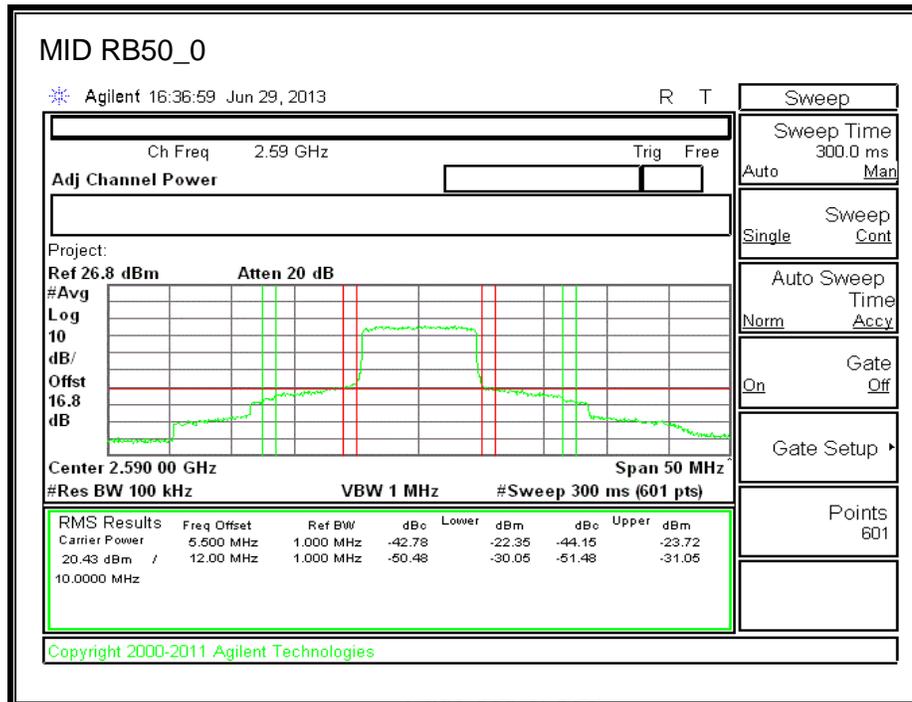
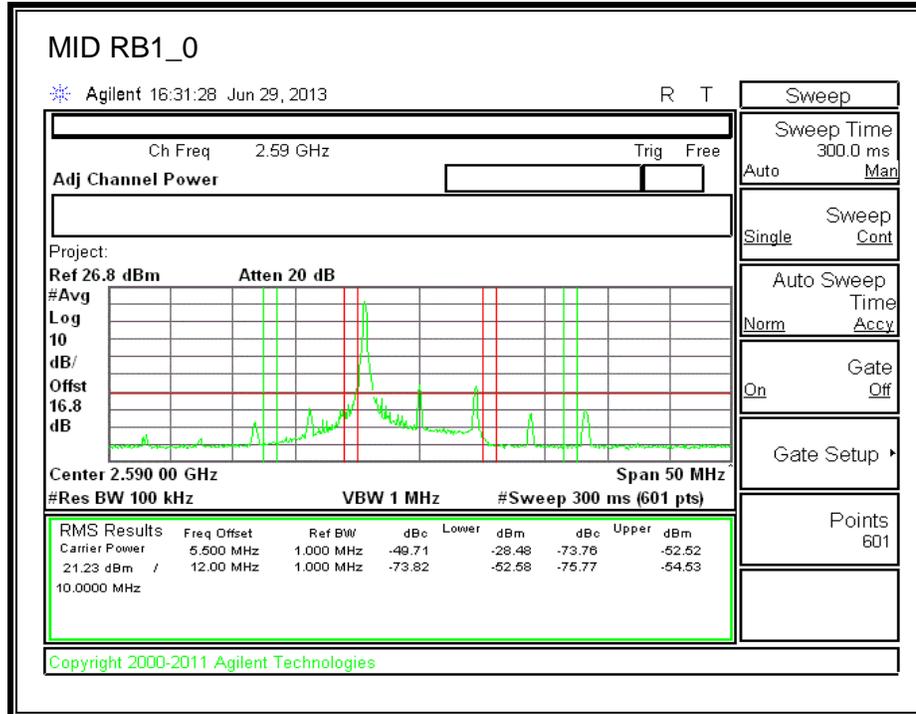
16QAM



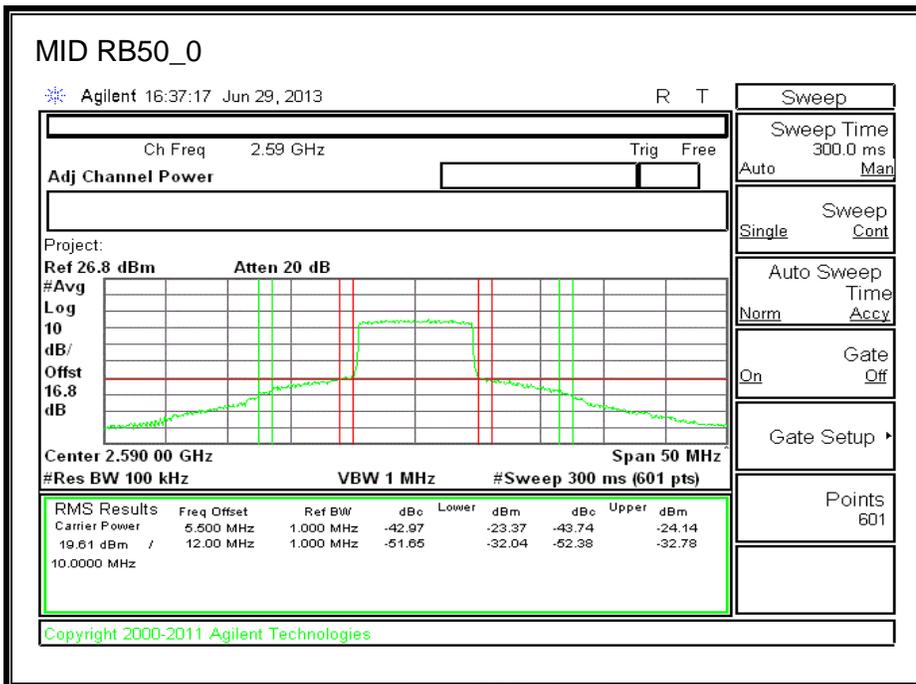
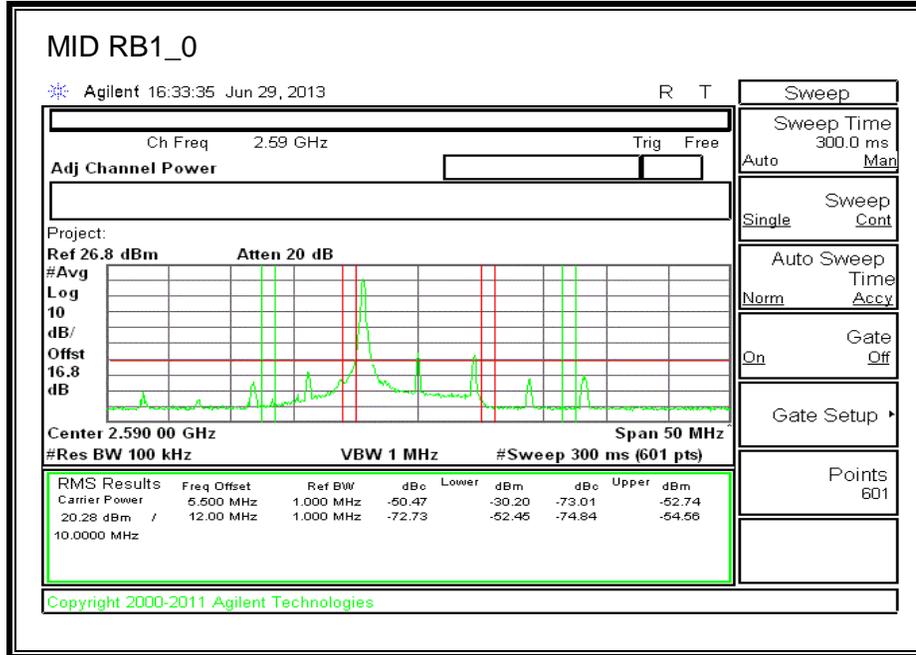
13.2. LTE BAND 41

13.2.1. 10MHz

QPSK

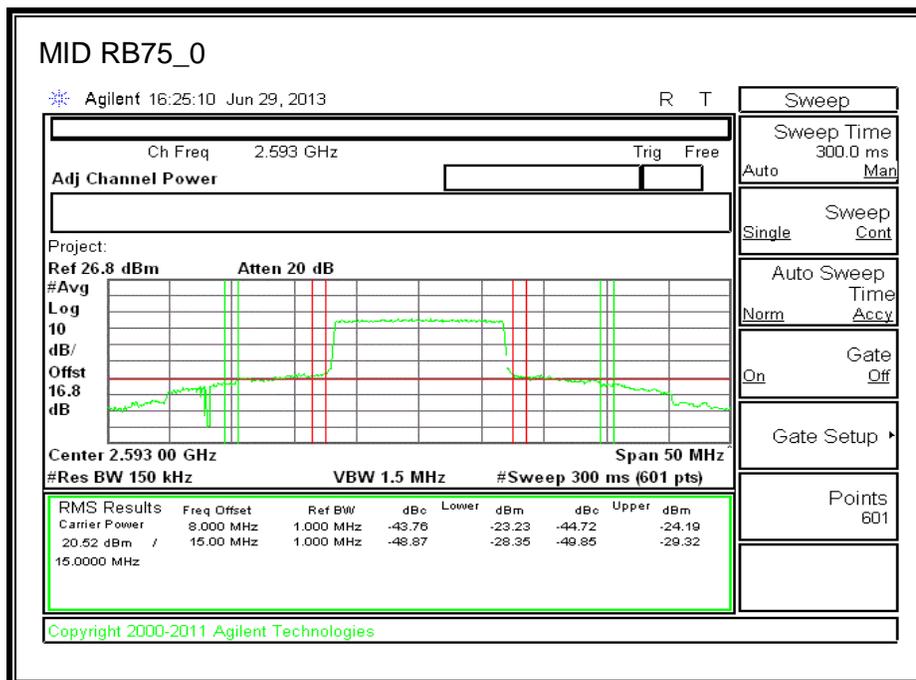
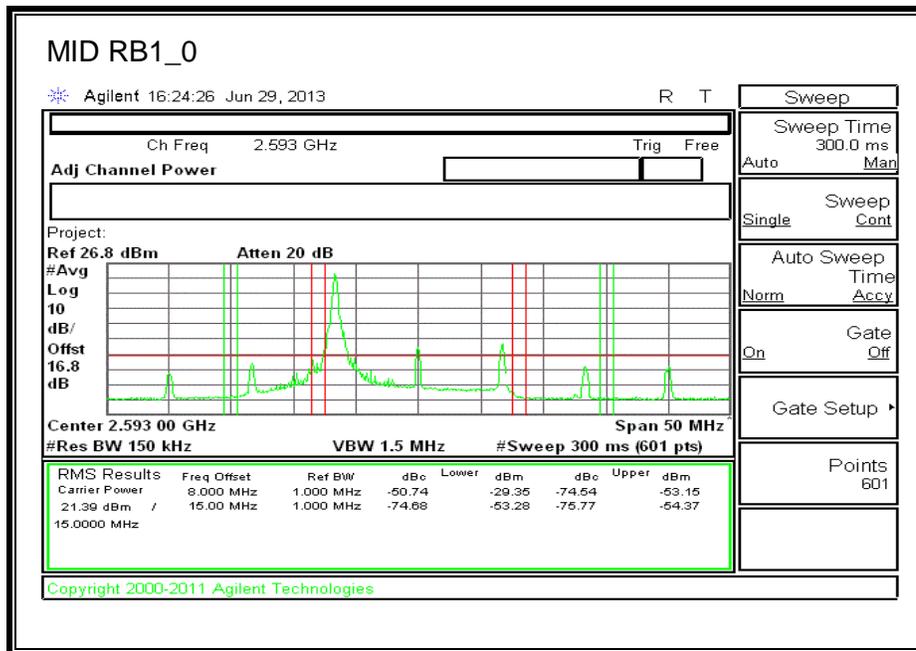


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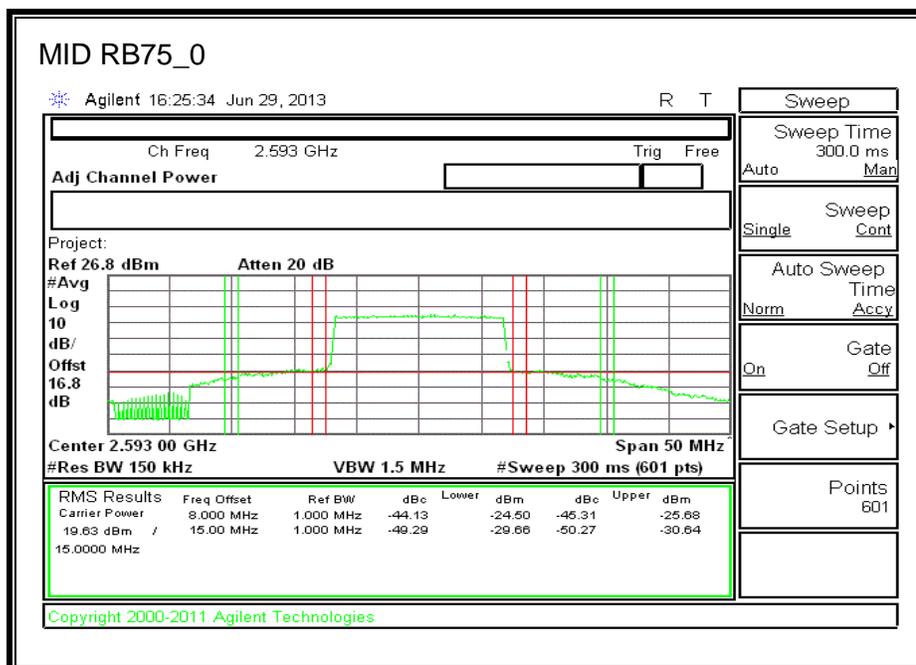
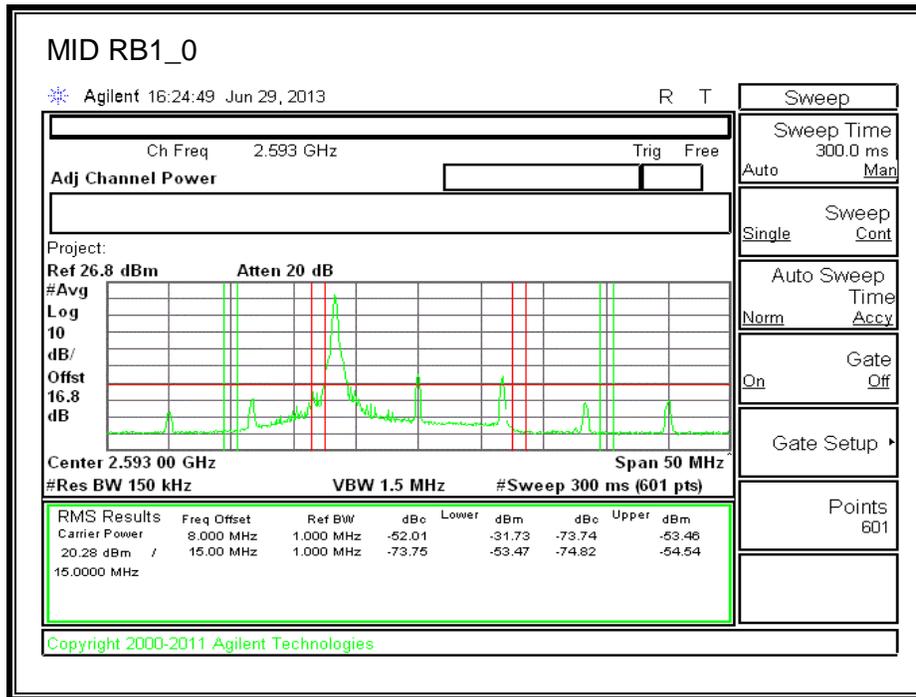


13.2.2. 15MHz

QPSK

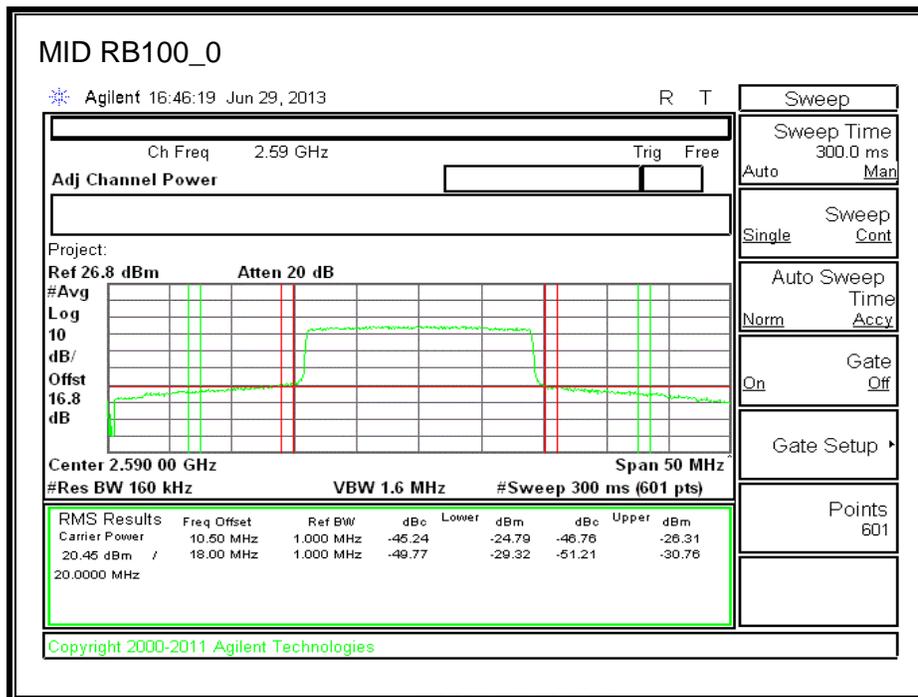
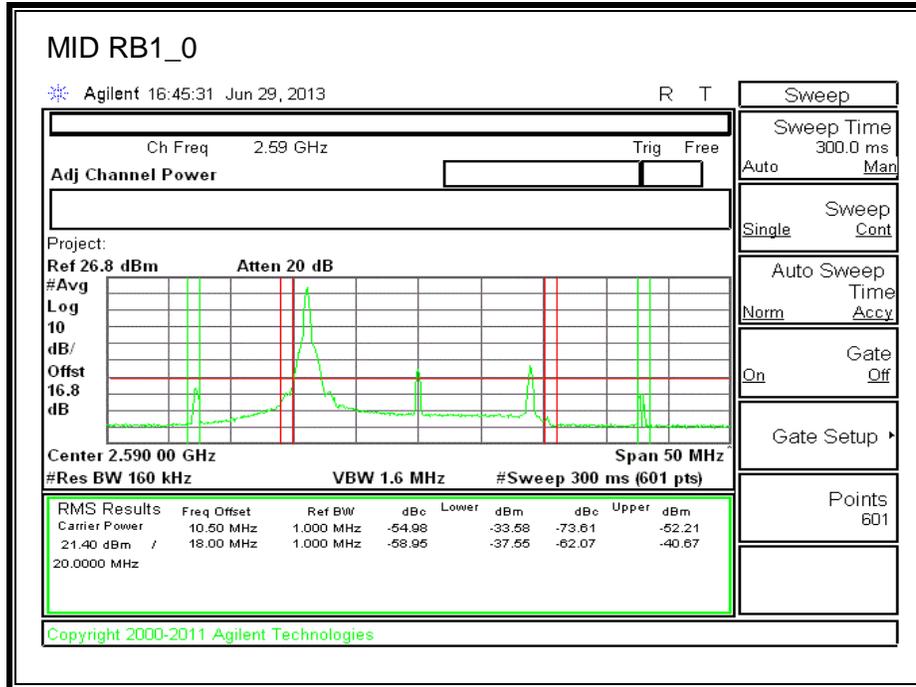


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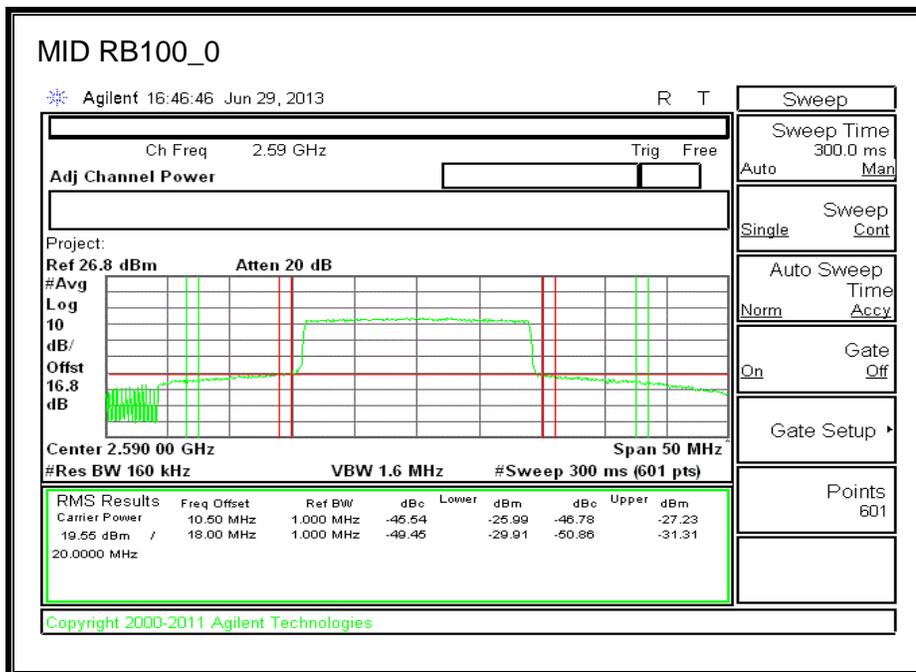
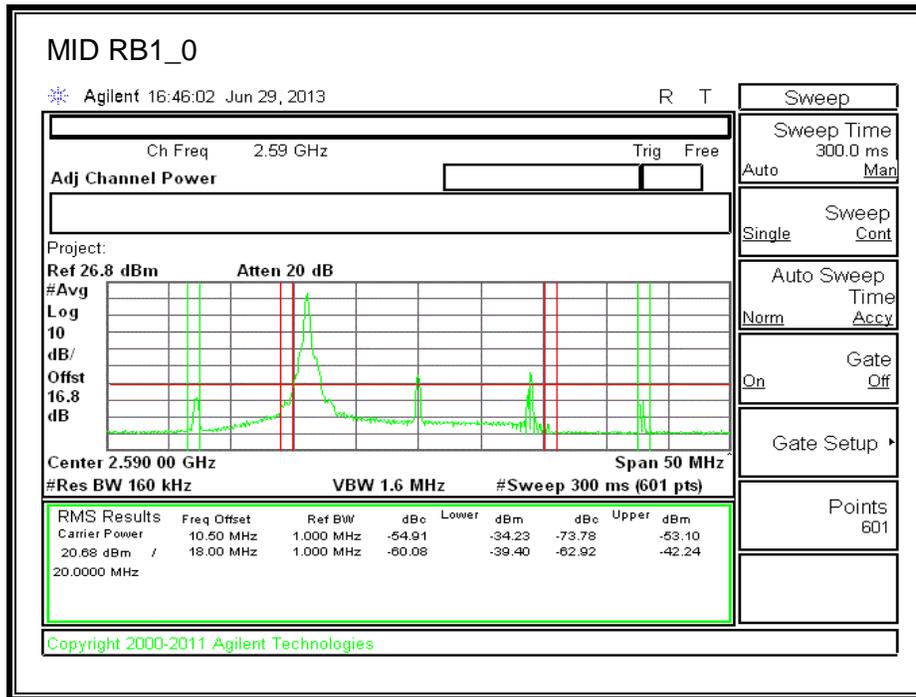


13.2.3. 20MHz

QPSK



16QAM



14. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235

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.

TEST PROCEDURE

Use Agilent 8960 with Frequency Error measurement capability.

- Temp. = -30° to $+50^{\circ}\text{C}$
- Voltage = 85% - 115%

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C 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 $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- GPRS (CELL and PCS)

RESULTS

See the following pages

GPRS CELL – MID CHANNEL

Reference Frequency: Cellular Mid Channel 836.600027MHz @ 20°C Limit to stay +/- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	836.599983	0.000	2.5
3.70	40	836.599977	0.007	2.5
3.70	30	836.599979	0.005	2.5
3.70	20	836.599983	0	2.5
3.70	10	836.599962	0.025	2.5
3.70	0	836.599985	-0.002	2.5
3.70	-10	836.599985	-0.002	2.5
3.70	-20	836.599982	0.001	2.5
3.70	-30	836.599936	0.056	2.5

Reference Frequency: Cellular Mid Channel 836.600027MHz @ 20°C Limit to stay +/- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	836.599983	0	2.5
4.20	20	836.599977	0.007	2.5
3.30	20	836.599986	-0.004	2.5
End Volt(3.2)	20	836.599985	-0.002	2.5

GPRS PCS – MID CHANNEL

Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	1879.999989	0.006	2.5
3.70	40	1879.999992	0.005	2.5
3.70	30	1879.999989	0.006	2.5
3.70	20	1880.000001	0	2.5
3.70	10	1879.999995	0.003	2.5
3.70	0	1879.999998	0.002	2.5
3.70	-10	1879.999992	0.005	2.5
3.70	-20	1879.999979	0.012	2.5
3.70	-30	1880.000005	-0.002	2.5

Reference Frequency: PCS Mid Channel 1880.000036MHz @ 20°C				
Limit: within the authorized block or +/- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	1880.000001	0.00000	2.5
4.20	20	1880.000005	-0.00213	2.5
3.30	20	1879.999995	0.00319	2.5
End Volt(3.2)	20	1879.999986	0.00798	2.5

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CDMA BC10- MID CHANNEL

Reference Frequency: Cellular Mid Channel 820.5MHz @ 20°C				
Limit: to stay +/- 2.5 ppm = 2051.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	820.4999921	0.010	2.5
3.70	40	820.4999921	0.010	2.5
3.70	30	820.4999927	0.009	2.5
3.70	20	820.500000	0	2.5
3.70	10	820.4999948	0.006	2.5
3.70	0	820.4999896	0.013	2.5
3.70	-10	820.4999944	0.007	2.5
3.70	-20	820.4999994	0.007	2.5
3.70	-30	820.4999993	0.008	2.5

Reference Frequency: Cellular Mid Channel 820.5 MHz @ 20°C				
Limit: to stay +/- 2.5 ppm = 2051.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	820.500000	0	2.5
4.20	20	820.50002	-0.024	2.5
3.30	20	820.50002	-0.024	2.5

LTE BAND 41 – MID CHANNEL

Reference Frequency: Cellular Mid Channel 2592.999996MHz @ 20°C				
Limit: to stay +- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	2592.999994	0.001	2.5
3.70	40	2592.999992	0.002	2.5
3.70	30	2592.999997	0.000	2.5
3.70	20	2592.999996	0	2.5
3.70	10	2592.999990	0.002	2.5
3.70	0	2593.000002	-0.002	2.5
3.70	-10	2593.000003	-0.003	2.5
3.70	-20	2593.000002	-0.002	2.5
3.70	-30	2593.000001	-0.002	2.5

Reference Frequency: Cellular Mid Channel 2592.999996 MHz @ 20°C				
Limit: to stay +- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	2592.999996	0	2.5
4.20	20	2592.999997	0.000	2.5
3.30	20	2592.999995	0.000	2.5
End Volt(3.2)	20	2592.999996	0.000	2.5

LTE BAND 26 – MID CHANNEL

Reference Frequency: PCS Mid Channel 831.499999 MHz @ 20°C				
Limit: within the authorized block or +/- 2.5 ppm = 2078.750 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	831.499996	0.004	2.5
3.70	40	831.499998	0.001	2.5
3.70	30	831.499998	0.001	2.5
3.70	20	831.499999	0	2.5
3.70	10	831.499998	0.001	2.5
3.70	0	831.499998	0.001	2.5
3.70	-10	831.499999	0.000	2.5
3.70	-20	831.499999	0.000	2.5
3.70	-30	831.499997	0.002	2.5

Reference Frequency: PCS Mid Channel 831.499999 MHz @ 20°C				
Limit: within the authorized block or +/- 2.5 ppm = 2078.750 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	831.499999	0.00000	2.5
4.20	20	831.499999	0.00000	2.5
3.30	20	831.499998	0.00120	2.5
End Volt(3.2)	20	831.499997	0.00241	2.5

LTE BAND 25 – MID CHANNEL

Reference Frequency: Cellular Mid Channel 1882.500007 MHz @ 20°C				
Limit: to stay +/- 2.5 ppm = 4706.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	1882.500004	0.002	2.5
3.70	40	1882.500005	0.001	2.5
3.70	30	1882.500002	0.003	2.5
3.70	20	1882.500007	0	2.5
3.70	10	1882.500006	0.001	2.5
3.70	0	1882.500005	0.001	2.5
3.70	-10	1882.500008	-0.001	2.5
3.70	-20	1882.500006	0.001	2.5
3.70	-30	1882.500003	0.002	2.5

Reference Frequency: Cellular Mid Channel 1882.500007MHz @ 20°C				
Limit: to stay +/- 2.5 ppm = 4706.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	1882.500007	0	2.5
4.20	20	1882.500010	-0.002	2.5
3.30	20	1882.500009	-0.001	2.5
End Volt(3.2)	20	1882.500012	-0.003	2.5

LTE BAND 17 – MID CHANNEL

Reference Frequency: PCS Mid Channel 710.00003 MHz @ 20°C				
Limit: within the authorized block or +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	50	710.000003	0.000	2.5
3.70	40	710.000001	0.003	2.5
3.70	30	710.000002	0.001	2.5
3.70	20	710.000003	0	2.5
3.70	10	710.000003	0.000	2.5
3.70	0	710.000004	-0.001	2.5
3.70	-10	710.000004	-0.001	2.5
3.70	-20	710.000003	0.000	2.5
3.70	-30	710.000003	0.000	2.5

Reference Frequency: PCS Mid Channel 710.000003 MHz @ 20°C				
Limit: within the authorized block or +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.70	20	710.000003	0.00000	2.5
4.20	20	710.000003	0.00000	2.5
3.30	20	710.000004	-0.00141	2.5
End Volt(3.2)	20	710.000004	-0.00141	2.5

LTE BAND 4 – MID CHANNEL

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

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

15. RADIATED TEST RESULTS

15.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232

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.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17

The ERP/EIRP power was measured with the spectrum analyzer which attached with receiver antenna via calibrated cable. The measurements have been taken at the low, middle and high channel in each band.

- Set the spectrum analyzer span wide enough or greater than the modulated signal BW.
- Set a spectrum analyzer at peak detection mode with $VBW \geq RBW \geq 26dB$ BW, typically 3MHz for GSM and 5MHz for WCDMA modes respectively.
- Set a marker to point the corresponding peak value.

MODES TESTED

- GSM, and GPRS
- UMTS, REL 99, and HSUPA

15.1.1. RESULTS

GPRS

Mode	Channel	f (MHz)	ERP	
			dBm	mW
GPRS	128	824.20	27.38	547.02
	190	836.60	28.26	669.88
	251	848.80	28.52	711.21

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
GPRS	512	1850.20	31.23	1327.39
	661	1880.00	31.72	1485.94
	810	1909.80	32.03	1595.88

EGPRS

Mode	Channel	f (MHz)	ERP	
			dBm	mW
EGPRS	128	824.20	26.85	484.17
	190	836.60	27.35	543.25
	251	848.80	27.24	529.66

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
EGPRS	512	1850.20	30.25	1059.25
	661	1880.00	30.21	1049.54
	810	1909.80	30.64	1158.78

REL 99

Mode	Channel	f (MHz)	ERP	
			dBm	mW
REL 99	4357	826.40	17.91	61.80
	4408	836.60	18.97	78.89
	4458	846.60	18.41	69.34

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
REL 99	9662	1852.40	24.77	299.92
	9800	1880.00	25.11	324.34
	9938	1907.60	25.53	357.27

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
REL 99	1312	1712.4	26.59	456.04
	1413	1732.6	26.96	496.59
	1513	1752.6	25.95	393.55

HSDPA

Mode	Channel	f (MHz)	ERP	
			dBm	mW
HSDPA	4357	826.40	17.54	56.75
	4405	836.00	18.86	76.91
	4455	846.00	18.26	66.99

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
HSDPA	9662	1852.40	24.94	311.89
	9800	1880.00	25.66	368.13
	9938	1907.60	26.15	412.10

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
HSDPA	1312	1712.4	26.64	461.32
	1413	1732.6	26.32	428.55
	1513	1752.6	25.74	374.97

CDMA 1xRtt

Mode	Channel	f (MHz)	ERP	
			dBm	mW
CDMA 1xRtt	1013	824.70	22.00	158.49
	384	836.52	22.20	165.96
	777	848.31	21.40	138.04

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
CDMA 1xRtt	25	1851.25	29.24	839.46
	600	1880.00	29.30	851.14
	1175	1908.75	28.39	690.24

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
CDMA 1xRtt	476	817.9	22.70	186.21
	580	820.5	22.70	186.21
	684	823.1	21.80	151.36

CDMA EV-DO

Mode	Channel	f (MHz)	ERP	
			dBm	mW
CDMA EV-DO	1013	824.70	22.60	181.97
	384	836.52	24.20	263.03
	777	848.31	22.20	165.96

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
CDMA EV-DO	25	1851.25	29.24	839.46
	600	1880.00	30.00	1000.00
	1175	1908.75	29.49	889.20

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
CDMA EV-DO	476	817.9	23.10	204.17
	580	820.5	22.80	190.55
	684	823.1	22.00	158.49

LTE BAND 4

Mode	RB/RB Offset	f (MHz)	EIRP	
			dBm	mW
1.4 MHZ BAND QPSK	6/0	1710.70	23.48	222.84
		1732.50	23.99	250.61
		1754.30	23.37	217.27
1.4 MHZ BAND 16QAM		1710.70	22.58	181.13
		1732.50	23.13	205.59
		1754.30	22.39	173.38
3 MHZ BAND QPSK	15/0	1711.50	21.46	139.96
		1732.50	21.99	158.12
		1753.50	21.30	134.90
3 MHZ BAND 16QAM		1711.50	20.60	114.82
		1732.50	21.13	129.72
		1753.50	20.13	103.04
5.0 MHZ BAND QPSK	25/0	1712.50	20.10	102.33
		1732.50	20.73	118.30
		1752.50	20.57	114.02
5.0 MHZ BAND 16QAM		1712.50	19.20	83.18
		1732.50	19.83	96.16
		1752.50	19.77	94.84
10.0 MHZ BAND QPSK	50/0	1715.00	21.44	139.32
		1732.50	22.04	159.96
		1750.00	21.58	143.88
10.0 MHZ BAND 16QAM		1715.00	23.20	208.93
		1732.50	24.23	264.85
		1750.00	23.97	249.46
15.0 MHZ BAND QPSK	75/0	1717.50	21.60	144.54
		1732.50	22.13	163.31
		1747.50	21.87	153.82
15.0 MHZ BAND 16QAM		1717.50	20.50	112.20
		1732.50	21.23	132.74
		1747.50	20.97	125.03
20.0 MHZ BAND QPSK	100/0	1720.00	22.10	162.18
		1732.50	22.83	191.87
		1745.00	21.97	157.40
20.0 MHZ BAND 16QAM		1720.00	21.20	131.83
		1732.50	21.93	155.96
		1745.00	21.07	127.94

LTE BAND 17

Mode	RB/RB Offset	f (MHz)	EIRP	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	706.50	15.40	34.67
		710.00	15.30	33.88
		713.50	15.00	31.62
5.0 MHZ BAND 16QAM		706.50	14.50	28.18
		710.00	14.40	27.54
		713.50	14.10	25.70
10.0 MHZ BAND QPSK	50/0	709.00	15.70	37.15
		710.00	15.80	38.02
		711.00	15.40	34.67
10.0 MHZ BAND 16QAM		709.00	15.50	35.48
		710.00	14.90	30.90
		711.00	14.50	28.18

LTE BAND 25

Mode	RB/RB Offset	f (MHz)	EIRP	
			dBm	mW
1.4 MHZ BAND QPSK	6/0	1850.70	24.34	271.64
		1882.50	25.16	328.10
		1914.30	23.28	212.81
1.4 MHZ BAND 16QAM		1850.70	23.44	220.80
		1882.50	24.26	266.69
		1914.30	22.28	169.04
3 MHZ BAND QPSK	15/0	1851.50	24.04	253.51
		1882.50	24.66	292.42
		1913.50	24.28	267.92
3 MHZ BAND 16QAM		1851.50	23.14	206.06
		1882.50	23.76	237.68
		1913.50	23.38	217.77
5.0 MHZ BAND QPSK	25/0	1852.50	22.74	187.93
		1882.50	23.96	248.89
		1912.50	23.48	222.84
5.0 MHZ BAND 16QAM		1852.50	21.84	152.76
		1882.50	23.06	202.30
		1912.50	23.28	212.81
10.0 MHZ BAND QPSK	50/0	1855.00	23.64	231.21
		1882.50	24.36	272.90
		1910.00	23.98	250.03
10.0 MHZ BAND 16QAM		1855.00	22.57	180.72
		1882.50	23.46	221.82
		1910.00	23.08	203.24
15.0 MHZ BAND QPSK	75/0	1857.50	24.94	311.89
		1882.50	25.66	368.13
		1907.50	25.88	387.26
15.0 MHZ BAND 16QAM		1857.50	24.04	253.51
		1882.50	24.76	299.23
		1907.50	24.98	314.77
20.0 MHZ BAND QPSK	100/0	1860.00	25.39	345.94
		1882.50	25.87	386.37
		1905.00	26.14	411.15
20.0 MHZ BAND 16QAM		1860.00	24.44	277.97
		1882.50	24.96	313.33
		1905.00	25.28	337.29

LTE BAND 26

Mode	RB/RB Offset	f (MHz)	EIRP	
			dBm	mW
1.4 MHZ BAND QPSK	6/0	817.70	21.90	154.88
		831.50	22.70	186.21
		848.30	21.40	138.04
1.4 MHZ BAND 16QAM		817.70	21.00	125.89
		831.50	21.70	147.91
		848.30	20.50	112.20
3 MHZ BAND QPSK	15/0	818.50	21.60	144.54
		831.50	22.30	169.82
		847.50	21.10	128.82
3 MHZ BAND 16QAM		818.50	20.60	114.82
		831.50	21.30	134.90
		847.50	20.30	107.15
5.0 MHZ BAND QPSK	25/0	820.50	20.80	120.23
		831.50	21.20	131.83
		846.50	19.70	93.33
5.0 MHZ BAND 16QAM		820.50	19.80	95.50
		831.50	20.30	107.15
		846.50	18.60	72.44
10.0 MHZ BAND QPSK	50/0	822.00	20.10	102.33
		831.50	20.40	109.65
		844.00	19.40	87.10
10.0 MHZ BAND 16QAM		822.00	19.10	81.28
		831.50	19.50	89.13
		844.00	18.50	70.79

LTE BAND 41

Mode	RB/RB Offset	f (MHz)	EIRP	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2501.00	21.78	150.66
		2593.00	21.47	140.28
		2685.00	21.04	127.06
10.0 MHZ BAND 16QAM		2501.00	20.98	125.31
		2593.00	20.57	114.02
		2685.00	20.24	105.68
15.0 MHZ BAND QPSK	75/0	2503.50	21.58	143.88
		2593.00	21.17	130.92
		2682.50	21.34	136.14
15.0 MHZ BAND 16QAM		2503.50	20.68	116.95
		2593.00	20.27	106.41
		2682.50	20.44	110.66
20.0 MHZ BAND QPSK	100/0	2506.00	21.71	148.25
		2593.00	21.37	137.09
		2680.00	20.95	124.45
20.0 MHZ BAND 16QAM		2506.00	20.81	120.50
		2593.00	20.57	114.02
		2680.00	20.05	101.16

15.1.2. GPRS

GPRS 850 (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		GRPS 850MHz CELL Average						
Test Equipment:								
Receiving: Sunol T122, and Chamber F Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 208947003) 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								
824.20	21.39	V	0.9	0.0	20.50	38.5	-18.0	
824.20	28.28	H	0.9	0.0	27.38	38.5	-11.1	
Mid Ch								
836.60	22.07	V	0.9	0.0	21.17	38.5	-17.3	
836.60	29.16	H	0.9	0.0	28.26	38.5	-10.2	
High Ch								
848.80	22.15	V	0.9	0.0	21.25	38.5	-17.2	
848.80	29.41	H	0.9	0.0	28.52	38.5	-9.9	
Rev. 3.17.11								

GPRS 1900 (Cellular Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		GPRS 1900MHz Average						
Test Equipment:								
Receiving: T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.850	24.8	V	1.50	7.94	31.23	33.0	-1.8	
1.850	23.6	H	1.50	8.14	30.22	33.0	-2.8	
Mid Ch								
1.880	23.6	V	1.50	7.95	30.05	33.0	-2.9	
1.880	25.0	H	1.50	8.26	31.72	33.0	-1.3	
High Ch								
1.910	23.6	V	1.50	7.97	30.05	33.0	-3.0	
1.910	25.1	H	1.50	8.38	32.03	33.0	-1.0	
Rev. 3.17.11								

15.1.3. EGPRS

EGPRS 850 (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		EGRPS 850MHz CELL Average						
Test Equipment:								
Receiving: Sunol T122, and Chamber F Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 208947003) 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								
824.20	21.01	V	0.9	0.0	20.11	38.5	-18.3	
824.20	27.75	H	0.9	0.0	26.85	38.5	-11.6	
Mid Ch								
836.60	20.77	V	0.9	0.0	19.87	38.5	-18.6	
836.60	28.25	H	0.9	0.0	27.35	38.5	-11.1	
High Ch								
848.80	21.96	V	0.9	0.0	21.06	38.5	-17.4	
848.80	28.14	H	0.9	0.0	27.24	38.5	-11.2	
Rev. 3.17.11								

EGPRS 1900 (Cellular Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/09/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		EGPRS 1900MHz Average						
Test Equipment:								
Receiving: T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.850	22.8	V	1.50	7.94	29.23	33.0	-3.8	
1.850	23.6	H	1.50	8.14	30.25	33.0	-2.7	
Mid Ch								
1.880	23.3	V	1.50	7.95	29.72	33.0	-3.3	
1.880	23.5	H	1.50	8.26	30.21	33.0	-2.8	
High Ch								
1.910	23.0	V	1.50	7.97	29.50	33.0	-3.5	
1.910	23.8	H	1.50	8.38	30.64	33.0	-2.4	
Rev. 3.17.11								

15.1.1. WCDMA REL 99

REL99 BAND 5

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		WCDMA TX, UMTS REL 99 850 Average						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
826.40	12.49	V	0.9	0.0	11.59	38.5	-26.9	
826.40	18.81	H	0.9	0.0	17.91	38.5	-20.5	
Mid Ch								
836.60	13.26	V	0.9	0.0	12.36	38.5	-26.1	
836.60	19.86	H	0.9	0.0	18.97	38.5	-19.5	
High Ch								
846.60	12.79	V	0.9	0.0	11.90	38.5	-26.6	
846.60	19.31	H	0.9	0.0	18.41	38.5	-20.0	
Rev. 3.17.11								

REL99 BAND 2

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		Rel 99 1900 , PCS Average						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.852	17.4	V	1.50	7.94	23.85	33.0	-9.1	
1.852	18.1	H	1.50	8.14	24.77	33.0	-8.2	
Mid Ch								
1.880	17.1	V	1.50	7.95	23.56	33.0	-9.4	
1.880	18.4	H	1.50	8.26	25.11	33.0	-7.9	
High Ch								
1.908	17.2	V	1.50	7.97	23.71	33.0	-9.3	
1.908	18.6	H	1.50	8.38	25.53	33.0	-7.5	
Rev. 3.17.11								

REL99 BAND 4

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/08/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		AWS 1700 REL 99						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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	16.4	V	1.50	7.94	22.82	33.0	-10.2	
1.712	20.0	H	1.50	8.14	26.59	33.0	-6.4	
Mid Ch								
1.733	19.1	V	1.50	7.95	25.58	33.0	-7.4	
1.733	20.1	H	1.50	8.26	26.86	33.0	-6.1	
High Ch								
1.753	17.7	V	1.50	7.97	24.13	33.0	-8.9	
1.753	19.1	H	1.50	8.38	25.95	33.0	-7.1	
Rev. 3.17.11								

15.1.2. WCDMA HSDPA

HSDPA BAND 5

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/10/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		WCDMA TX, UMTS REL 99 850 Average						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
826.40	12.29	V	0.9	0.0	11.39	38.5	-27.1	
826.40	18.44	H	0.9	0.0	17.54	38.5	-20.9	
Mid Ch								
836.60	13.48	V	0.9	0.0	12.58	38.5	-25.9	
836.60	19.76	H	0.9	0.0	18.86	38.5	-19.6	
High Ch								
846.60	12.84	V	0.9	0.0	11.94	38.5	-26.5	
846.60	19.16	H	0.9	0.0	18.26	38.5	-20.2	
Rev. 3.17.11								

HSDPA BAND 2

High Frequency Fundamental Measurement Compliance Certification Services Chamber F									
Company: LG Project #: 13U15420 Date: 07/10/13 Test Engineer: Kiya Kedida Configuration: EUT only Mode: HSDPA 1900 , PCS Average Test Equipment: Receiving: Horn T120, and Chamber F SMA Cables Substitution: Horn T59 Substitution, 8ft 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									
1.852	18.0	V	1.50	7.94	24.41	33.0	-8.6		
1.852	18.3	H	1.50	8.14	24.94	33.0	-8.1		
Mid Ch									
1.880	17.4	V	1.50	7.95	23.88	33.0	-9.1		
1.880	18.9	H	1.50	8.26	25.66	33.0	-7.3		
High Ch									
1.908	17.5	V	1.50	7.97	23.96	33.0	-9.0		
1.908	19.3	H	1.50	8.38	26.15	33.0	-6.9		
Rev. 3.17.11									

HSDPA BAND 4

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/08/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		AWS 1700 HSPDA						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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	18.7	V	1.50	7.94	25.14	33.0	-7.9	
1.712	20.0	H	1.50	8.14	26.64	33.0	-6.4	
Mid Ch								
1.733	18.5	V	1.50	7.95	24.95	33.0	-8.1	
1.733	19.6	H	1.50	8.26	26.32	33.0	-6.7	
High Ch								
1.753	17.3	V	1.50	7.97	23.74	33.0	-9.3	
1.753	18.9	H	1.50	8.38	25.74	33.0	-7.3	
Rev. 3.17.11								

15.1.1. CDMA RTT

BC0

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company: LG Project #: 13U15420 Date: 07/12/13 Test Engineer: Kiya Kedida Configuration: EUT only Mode: CDMA 850 1xRTT Average								
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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	17.60	V	0.6	0.0	17.00	38.5	-21.4	
824.70	22.60	H	0.6	0.0	22.00	38.5	-16.4	
Mid ch								
836.52	16.80	V	0.6	0.0	16.20	38.5	-22.2	
836.52	22.80	H	0.6	0.0	22.20	38.5	-16.2	
High Ch								
848.31	16.30	V	0.6	0.0	15.70	38.5	-22.7	
848.31	22.00	H	0.6	0.0	21.40	38.5	-17.0	
Rev. 3.17.11								

BC1

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		TX, CMDA 1xRTT 1900 Average						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1851.2	19.5	V	0.85	8.38	27.03	33.0	-6.0	
1851.2	21.5	H	0.85	8.59	29.24	33.0	-3.8	
Mid Ch								
1.880	20.8	V	0.85	8.26	28.21	33.0	-4.8	
1.880	21.6	H	0.85	8.55	29.30	33.0	-3.7	
High Ch								
1908.8	19.8	V	0.85	8.21	27.16	33.0	-5.8	
1908.8	20.7	H	0.85	8.54	28.39	33.0	-4.6	
Rev. 3.17.11								

BC10

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company: LG Project #: 13U15420 Date: 07/12/13 Test Engineer: Kiya Kedida Configuration: EUT only Mode: CDMA BC10 1xRTT Average								
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
817.90	18.00	V	0.6	0.0	17.40	38.5	-21.0	
817.90	23.30	H	0.6	0.0	22.70	38.5	-15.7	
Mid ch								
820.50	17.20	V	0.6	0.0	16.60	38.5	-21.8	
820.50	23.30	H	0.6	0.0	22.70	38.5	-15.7	
High Ch								
823.10	16.30	V	0.6	0.0	15.70	38.5	-22.7	
823.10	22.40	H	0.6	0.0	21.80	38.5	-16.6	
Rev. 3.17.11								

15.1.2. CDMA EVDO

BC0

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
<p>Company: LG Project #: 13U15420 Date: 07/12/13 Test Engineer: Kiya Kedida Configuration: EUT only Mode: CDMA 850 EVDO Average</p>								
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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	17.20	V	0.6	0.0	16.60	38.5	-21.8	
824.70	22.20	H	0.6	0.0	21.60	38.5	-16.8	
Mid ch								
836.52	18.40	V	0.6	0.0	17.80	38.5	-20.6	
836.52	22.22	H	0.6	0.0	21.62	38.5	-16.8	
High Ch								
848.31	16.60	V	0.6	0.0	16.00	38.5	-22.4	
848.31	21.27	H	0.6	0.0	20.67	38.5	-17.8	
Rev. 3.17.11								

BC1

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		TX, CMTA EV-DO 1900 Average						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1851.2	21.2	V	0.85	8.38	28.73	33.0	-4.3	
1851.2	21.5	H	0.85	8.59	29.24	33.0	-3.8	
Mid Ch								
1.880	21.5	V	0.85	8.26	28.91	33.0	-4.1	
1.880	22.3	H	0.85	8.55	30.00	33.0	-3.0	
High Ch								
1908.8	20.3	V	0.85	8.21	27.66	33.0	-5.3	
1908.8	21.8	H	0.85	8.54	29.49	33.0	-3.5	
Rev. 3.17.11								

BC10

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company: LG Project #: 13U15420 Date: 07/12/13 Test Engineer: Kiya Kedida Configuration: EUT only Mode: CDMA 850 EVDO Average								
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
817.90	18.40	V	0.6	0.0	17.80	38.5	-20.6	
817.90	23.70	H	0.6	0.0	23.10	38.5	-15.3	
Mid ch								
820.50	17.30	V	0.6	0.0	16.70	38.5	-21.7	
820.50	23.40	H	0.6	0.0	22.80	38.5	-15.6	
High Ch								
823.10	16.70	V	0.6	0.0	16.10	38.5	-22.3	
823.10	22.60	H	0.6	0.0	22.00	38.5	-16.4	
Rev. 3.17.11								

15.1.3. LTE BAND 4

1.4 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 1.4MHz BW QPSK, Average, RB6-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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								
1.711	13.5	V	1.50	8.17	20.17	33.0	-12.8	
1.711	16.8	H	1.50	8.20	23.48	33.0	-9.5	
Mid Ch								
1.733	15.5	V	1.50	8.11	22.10	33.0	-10.9	
1.733	17.4	H	1.50	8.13	23.99	33.0	-9.0	
High Ch								
1.754	13.9	V	1.50	8.06	20.42	33.0	-12.6	
1.754	16.8	H	1.50	8.07	23.37	33.0	-9.6	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 1.4MHz BW 16QAM, Average, RB6-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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								
1.711	12.4	V	1.50	8.17	19.07	33.0	-13.9	
1.711	15.9	H	1.50	8.20	22.58	33.0	-10.4	
Mid Ch								
1.733	14.5	V	1.50	8.11	21.07	33.0	-11.9	
1.733	16.5	H	1.50	8.13	23.13	33.0	-9.9	
High Ch								
1.754	12.9	V	1.50	8.06	19.46	33.0	-13.5	
1.754	15.8	H	1.50	8.07	22.39	33.0	-10.6	
Rev. 3.17.11								

3 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 3MHz BW						
		QPSK, Average, RB15-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	11.3	V	1.50	8.17	18.00	33.0	-15.0	
1.712	14.8	H	1.50	8.20	21.46	33.0	-11.5	
Mid Ch								
1.733	14.1	V	1.50	8.11	20.74	33.0	-12.3	
1.733	15.4	H	1.50	8.13	21.99	33.0	-11.0	
High Ch								
1.754	13.1	V	1.50	8.06	19.69	33.0	-13.3	
1.754	14.7	H	1.50	8.07	21.30	33.0	-11.7	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 3MHz BW 16QAM, Average, RB15-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	10.4	V	1.50	8.17	17.07	33.0	-15.9	
1.712	13.9	H	1.50	8.20	20.60	33.0	-12.4	
Mid Ch								
1.733	13.2	V	1.50	8.11	19.81	33.0	-13.2	
1.733	14.5	H	1.50	8.13	21.13	33.0	-11.9	
High Ch								
1.754	12.2	V	1.50	8.06	18.76	33.0	-14.2	
1.754	13.8	H	1.50	8.07	20.37	33.0	-12.6	
Rev. 3.17.11								

5 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 5MHz BW						
		QPSK, Average, RB25-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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								
1.713	12.2	V	1.50	8.17	18.83	33.0	-14.2	
1.713	13.4	H	1.50	8.20	20.10	33.0	-12.9	
Mid Ch								
1.733	13.2	V	1.50	8.11	19.81	33.0	-13.2	
1.733	14.1	H	1.50	8.13	20.73	33.0	-12.3	
High Ch								
1.754	11.1	V	1.50	8.06	17.65	33.0	-15.3	
1.754	14.0	H	1.50	8.07	20.57	33.0	-12.4	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 5MHz BW						
		16QAM, Average, RB25-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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								
1.713	11.3	V	1.50	8.17	17.97	33.0	-15.0	
1.713	12.5	H	1.50	8.20	19.20	33.0	-13.8	
Mid Ch								
1.733	12.2	V	1.50	8.11	18.81	33.0	-14.2	
1.733	13.2	H	1.50	8.13	19.83	33.0	-13.2	
High Ch								
1.754	10.0	V	1.50	8.06	16.56	33.0	-16.4	
1.754	13.2	H	1.50	8.07	19.77	33.0	-13.2	
Rev. 3.17.11								

10 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F									
Company:		LG							
Project #:		13U15420							
Date:		07/11/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT Only							
Mode:		LTE band 4, 10MHz BW QPSK, Average, RB50-0							
Test Equipment:									
Receiving: Horn T120, and Chamber F SMA Cables									
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	12.8	V	1.50	8.17	19.48	33.0	-13.5		
1.715	14.7	H	1.50	8.20	21.44	33.0	-11.6		
Mid Ch									
1.733	12.7	V	1.50	8.11	19.30	33.0	-13.7		
1.733	15.4	H	1.50	8.13	22.04	33.0	-11.0		
High Ch									
1.750	11.4	V	1.50	8.06	18.00	33.0	-15.0		
1.750	15.0	H	1.50	8.07	21.58	33.0	-11.4		
Rev. 3.17.11									

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 10MHz BW 16QAM, Average RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	11.7	V	1.50	8.17	18.37	30.0	-11.6	
1.715	13.8	H	1.50	8.20	20.50	30.0	-9.5	
Mid Ch								
1.733	11.8	V	1.50	8.11	18.41	30.0	-11.6	
1.733	14.6	H	1.50	8.13	21.23	30.0	-8.8	
High Ch								
1.750	10.5	V	1.50	8.06	17.06	30.0	-12.9	
1.750	14.2	H	1.50	8.07	20.77	30.0	-9.2	
Rev. 3.17.11								

15 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F									
Company:		LG							
Project #:		13U15420							
Date:		07/11/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT Only							
Mode:		LTE band 4, 15MHz BW QPSK, Average, RB50-0							
Test Equipment:									
Receiving: Horn T120, and Chamber F SMA Cables									
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	13.3	V	1.50	8.17	19.97	30.0	-10.0		
1.718	14.9	H	1.50	8.20	21.60	30.0	-8.4		
Mid Ch									
1.733	13.9	V	1.50	8.11	20.49	30.0	-9.5		
1.733	15.5	H	1.50	8.13	22.13	30.0	-7.9		
High Ch									
1.748	12.6	V	1.50	8.06	19.16	30.0	-10.8		
1.748	15.3	H	1.50	8.07	21.87	30.0	-8.1		
Rev. 3.17.11									

21.20

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 15MHz BW						
		16QAM, Average, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	12.4	V	1.50	8.17	19.07	30.0	-10.9	
1.718	13.8	H	1.50	8.20	20.50	30.0	-9.5	
Mid Ch								
1.733	13.0	V	1.50	8.11	19.61	30.0	-10.4	
1.733	14.6	H	1.50	8.13	21.23	30.0	-8.8	
High Ch								
1.748	11.5	V	1.50	8.06	18.06	30.0	-11.9	
1.748	14.4	H	1.50	8.07	20.97	30.0	-9.0	
Rev. 3.17.11								

20 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 20MHz BW QPSK, Averaeg , RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	13.0	V	1.50	8.17	19.67	30.0	-10.3	
1.720	15.4	H	1.50	8.20	22.10	30.0	-7.9	
Mid Ch								
1.733	14.2	V	1.50	8.11	20.81	30.0	-9.2	
1.733	16.2	H	1.50	8.13	22.83	30.0	-7.2	
High Ch								
1.745	12.7	V	1.50	8.06	19.26	30.0	-10.7	
1.745	15.4	H	1.50	8.07	21.97	30.0	-8.0	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 4, 20MHz BW 16QAM, Average, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft SMA Cable (208955002) 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	11.8	V	1.50	8.17	18.47	30.0	-11.5	
1.720	14.5	H	1.50	8.20	21.20	30.0	-8.8	
Mid Ch								
1.733	13.3	V	1.50	8.11	19.91	30.0	-10.1	
1.733	15.3	H	1.50	8.13	21.93	30.0	-8.1	
High Ch								
1.745	11.7	V	1.50	8.06	18.26	30.0	-11.7	
1.745	14.5	H	1.50	8.07	21.07	30.0	-8.9	
Rev. 3.17.11								

15.1.1. LTE BAND 17

5 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 17, 5MHz BW QPSK, Average, RB25-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F N-type 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								
706.50	12.90	V	0.9	0.0	12.00	34.8	-22.8	
706.50	16.30	H	0.9	0.0	15.40	34.8	-19.4	
Mid Ch								
710.00	12.60	V	0.9	0.0	11.70	34.8	-23.1	
710.00	16.20	H	0.9	0.0	15.30	34.8	-19.5	
High Ch								
713.50	12.30	V	0.9	0.0	11.40	34.8	-23.4	
713.50	15.90	H	0.9	0.0	15.00	34.8	-19.8	
Rev. 3.17.11								

16QAM

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 17, 5MHz BW 16QAM, Average, RB25-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F N-type 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								
706.50	12.00	V	0.9	0.0	11.10	34.8	-23.7	
706.50	15.40	H	0.9	0.0	14.50	34.8	-20.3	
Mid Ch								
710.00	11.70	V	0.9	0.0	10.80	34.8	-24.0	
710.00	15.30	H	0.9	0.0	14.40	34.8	-20.4	
High Ch								
713.50	11.40	V	0.9	0.0	10.50	34.8	-24.3	
713.50	15.00	H	0.9	0.0	14.10	34.8	-20.7	
Rev. 3.17.11								

10 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 17, 10MHz BW QPSK, Average, RB50-0						
Test Equipment:								
Receiving: Sunoi T122, and Chamber F N-type 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								
709.00	13.10	V	0.9	0.0	12.20	34.8	-22.6	
709.00	16.60	H	0.9	0.0	15.70	34.8	-19.1	
Mid Ch								
710.00	12.80	V	0.9	0.0	11.90	34.8	-22.9	
710.00	16.70	H	0.9	0.0	15.80	34.8	-19.0	
High Ch								
711.00	12.50	V	0.9	0.0	11.60	34.8	-23.2	
711.00	16.30	H	0.9	0.0	15.40	34.8	-19.4	
Rev. 3.17.11								

16QAM

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE band 17, 10MHz BW 16QAM, Average, RB50-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F N-type 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								
709.00	12.20	V	0.9	0.0	11.30	34.8	-23.5	
709.00	16.40	H	0.9	0.0	15.50	34.8	-19.3	
Mid Ch								
710.00	11.90	V	0.9	0.0	11.00	34.8	-23.8	
710.00	15.80	H	0.9	0.0	14.90	34.8	-19.9	
High Ch								
711.00	11.60	V	0.9	0.0	10.70	34.8	-24.1	
711.00	15.40	H	0.9	0.0	14.50	34.8	-20.3	
Rev. 3.17.11								

15.1.1. LTE BAND 25

1.4 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 1.4MHz BW QPSK, Average, RB6-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.850	16.3	V	1.50	7.94	22.74	33.0	-10.3	
1.850	17.7	H	1.50	8.14	24.34	33.0	-8.7	
Mid Ch								
1.880	17.1	V	1.50	7.95	23.55	33.0	-9.5	
1.880	18.4	H	1.50	8.26	25.16	33.0	-7.8	
High Ch								
1.914	16.7	V	1.50	7.97	23.17	33.0	-9.8	
1.914	16.4	H	1.50	8.38	23.28	33.0	-9.7	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F									
Company:		LG							
Project #:		13U15420							
Date:		07/11/13							
Test Engineer:		Kiiya Kedida							
Configuration:		EUT only							
Mode:		LTE band 25, 1.4MHz BW 16QAM,Average, RB6-0							
Test Equipment:									
Receiving: Horn T120, and Chamber F SMA Cables									
Substitution: Horn T59 Substitution, 8ft 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									
1.850	15.4	V	1.50	7.94	21.84	33.0	-11.2		
1.850	16.8	H	1.50	8.14	23.44	33.0	-9.6		
Mid Ch									
1.880	16.2	V	1.50	7.95	22.65	33.0	-10.4		
1.880	17.5	H	1.50	8.26	24.26	33.0	-8.7		
High Ch									
1.914	15.8	V	1.50	7.97	22.27	33.0	-10.7		
1.914	15.4	H	1.50	8.38	22.28	33.0	-10.7		
Rev. 3.17.11									

3 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 3MHz BW						
		QPSK, Average, RB15-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.852	16.7	V	1.50	7.94	23.14	33.0	-9.9	
1.852	17.4	H	1.50	8.14	24.04	33.0	-9.0	
Mid Ch								
1.880	17.1	V	1.50	7.95	23.55	33.0	-9.5	
1.880	17.9	H	1.50	8.26	24.66	33.0	-8.3	
High Ch								
1.914	16.7	V	1.50	7.97	23.17	33.0	-9.8	
1.914	17.4	H	1.50	8.38	24.28	33.0	-8.7	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 3MHz BW 16QAM, Average, RB15-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.852	15.8	V	1.50	7.94	22.24	33.0	-10.8	
1.852	16.5	H	1.50	8.14	23.14	33.0	-9.9	
Mid Ch								
1.880	16.2	V	1.50	7.95	22.65	33.0	-10.4	
1.880	17.0	H	1.50	8.26	23.76	33.0	-9.2	
High Ch								
1.914	15.8	V	1.50	7.97	22.27	33.0	-10.7	
1.914	16.5	H	1.50	8.38	23.38	33.0	-9.6	
Rev. 3.17.11								

5 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 5MHz BW						
		QPSK, Average, RB25-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.853	14.8	V	1.50	7.94	21.24	33.0	-11.8	
1.853	16.1	H	1.50	8.14	22.74	33.0	-10.3	
Mid Ch								
1.880	15.5	V	1.50	7.95	21.95	33.0	-11.1	
1.880	17.2	H	1.50	8.26	23.96	33.0	-9.0	
High Ch								
1.913	15.0	V	1.50	7.97	21.47	33.0	-11.5	
1.913	16.6	H	1.50	8.38	23.48	33.0	-9.5	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 5MHz BW 16QAM,Average, RB25-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.853	13.9	V	1.50	7.94	20.34	33.0	-12.7	
1.853	15.2	H	1.50	8.14	21.84	33.0	-11.2	
Mid Ch								
1.883	14.6	V	1.50	7.95	21.05	33.0	-12.0	
1.883	16.3	H	1.50	8.26	23.06	33.0	-9.9	
High Ch								
1.913	14.1	V	1.50	7.97	20.57	33.0	-12.4	
1.913	16.4	H	1.50	8.38	23.28	33.0	-9.7	
Rev. 3.17.11								

10 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 10MHz BW						
		QPSK, Average, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.855	14.9	V	1.50	7.94	21.34	33.0	-11.7	
1.855	17.0	H	1.50	8.14	23.64	33.0	-9.4	
Mid Ch								
1.880	15.1	V	1.50	7.95	21.55	33.0	-11.5	
1.880	17.6	H	1.50	8.26	24.36	33.0	-8.6	
High Ch								
1.910	15.0	V	1.50	7.97	21.47	33.0	-11.5	
1.910	17.1	H	1.50	8.38	23.98	33.0	-9.0	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 10MHz BW 16 QAM,Ave, RB25-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.855	14.0	V	1.50	7.94	20.44	33.0	-12.6	
1.855	15.9	H	1.50	8.14	22.54	33.0	-10.5	
Mid Ch								
1.883	12.2	V	1.50	7.95	18.65	33.0	-14.4	
1.883	16.7	H	1.50	8.26	23.46	33.0	-9.5	
High Ch								
1.910	14.0	V	1.50	7.97	20.47	33.0	-12.5	
1.910	16.2	H	1.50	8.38	23.08	33.0	-9.9	
Rev. 3.17.11								

15 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 15MHz BW						
		QPSK, Average, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.858	17.3	V	1.50	7.94	23.74	33.0	-9.3	
1.858	18.3	H	1.50	8.14	24.94	33.0	-8.1	
Mid Ch								
1.880	17.1	V	1.50	7.95	23.55	33.0	-9.5	
1.880	18.9	H	1.50	8.26	25.66	33.0	-7.3	
High Ch								
1.908	17.4	V	1.50	7.97	23.87	33.0	-9.1	
1.908	19.0	H	1.50	8.38	25.88	33.0	-7.1	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 20MHz BW 16 QAM,Ave, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.858	16.4	V	1.50	7.94	22.84	33.0	-10.2	
1.858	17.4	H	1.50	8.14	24.04	33.0	-9.0	
Mid Ch								
1.883	16.2	V	1.50	7.95	22.65	33.0	-10.4	
1.883	18.0	H	1.50	8.26	24.76	33.0	-8.2	
High Ch								
1.908	16.5	V	1.50	7.97	22.97	33.0	-10.0	
1.908	18.1	H	1.50	8.38	24.98	33.0	-8.0	
Rev. 3.17.11								

20 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 20MHz BW						
		QPSK, Average, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.860	17.7	V	1.50	7.94	24.15	33.0	-8.9	
1.860	18.8	H	1.50	8.14	25.39	33.0	-7.6	
Mid Ch								
1.880	18.4	V	1.50	7.95	24.85	33.0	-8.2	
1.880	19.1	H	1.50	8.26	25.87	33.0	-7.1	
High Ch								
1.905	18.3	V	1.50	7.97	24.73	33.0	-8.3	
1.905	19.3	H	1.50	8.38	26.14	33.0	-6.9	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 25, 20MHz BW 16 QAM,Ave, RB50-0						
Test Equipment:								
Receiving: Horn T120, and Chamber F SMA Cables								
Substitution: Horn T59 Substitution, 8ft 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								
1.860	16.8	V	1.50	7.94	23.24	33.0	-9.8	
1.860	17.8	H	1.50	8.14	24.44	33.0	-8.6	
Mid Ch								
1.883	17.5	V	1.50	7.95	23.95	33.0	-9.1	
1.883	18.2	H	1.50	8.26	24.96	33.0	-8.0	
High Ch								
1.905	17.4	V	1.50	7.97	23.87	33.0	-9.1	
1.905	18.4	H	1.50	8.38	25.28	33.0	-7.7	
Rev. 3.17.11								

15.1.1. LTE BAND 26

1.4 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 1.4MHz BW QPSK, Average, RB6-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
814.70	17.60	V	0.9	0.0	16.70	38.5	-21.7	
814.70	22.80	H	0.9	0.0	21.90	38.5	-16.5	
Mid Ch								
831.50	17.22	V	0.9	0.0	16.32	38.5	-22.1	
831.50	23.60	H	0.9	0.0	22.70	38.5	-15.7	
High Ch								
848.30	16.10	V	0.9	0.0	15.20	38.5	-23.2	
848.30	22.30	H	0.9	0.0	21.40	38.5	-17.0	
Rev. 3.17.11								

16QAM

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 1.4MHz BW 16QAM, Average, RB6-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
819.00	16.70	V	0.9	0.0	15.80	38.5	-22.6	
819.00	21.90	H	0.9	0.0	21.00	38.5	-17.4	
Mid Ch								
831.50	16.20	V	0.9	0.0	15.30	38.5	-23.1	
831.50	22.60	H	0.9	0.0	21.70	38.5	-16.7	
High Ch								
844.00	15.20	V	0.9	0.0	14.30	38.5	-24.1	
844.00	21.40	H	0.9	0.0	20.50	38.5	-17.9	
Rev. 3.17.11								

3 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 3MHz BW QPSK, Peak, RB15-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
815.50	17.20	V	0.9	0.0	16.30	38.5	-22.1	
815.50	22.50	H	0.9	0.0	21.60	38.5	-16.8	
Mid Ch								
831.50	16.70	V	0.9	0.0	15.80	38.5	-22.6	
831.50	23.20	H	0.9	0.0	22.30	38.5	-16.1	
High Ch								
847.50	14.90	V	0.9	0.0	14.00	38.5	-24.4	
847.50	22.00	H	0.9	0.0	21.10	38.5	-17.3	
Rev. 3.17.11								

16QAM

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/11/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 3MHz BW 16 QAM, Peak, RB15-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
816.50	16.30	V	0.9	0.0	15.40	38.5	-23.0	
816.50	21.50	H	0.9	0.0	20.60	38.5	-17.8	
Mid Ch								
831.50	15.60	V	0.9	0.0	14.70	38.5	-23.7	
831.50	22.20	H	0.9	0.0	21.30	38.5	-17.1	
High Ch								
846.50	14.00	V	0.9	0.0	13.10	38.5	-25.3	
846.50	21.10	H	0.9	0.0	20.20	38.5	-18.2	
Rev. 3.17.11								

5 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 5MHz BW QPSK, Average, RB25-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
816.50	16.40	V	0.9	0.0	15.50	38.5	-22.9	
816.50	21.70	H	0.9	0.0	20.80	38.5	-17.6	
Mid Ch								
831.50	15.80	V	0.9	0.0	14.90	38.5	-23.5	
831.50	22.10	H	0.9	0.0	21.20	38.5	-17.2	
High Ch								
846.50	13.80	V	0.9	0.0	12.90	38.5	-25.5	
846.50	20.60	H	0.9	0.0	19.70	38.5	-18.7	
Rev. 3.17.11								

10 MHz

QPSK

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 10MHz BW QPSK, Average, RB50-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
819.00	15.60	V	0.9	0.0	14.70	38.5	-23.7	
819.00	21.00	H	0.9	0.0	20.10	38.5	-18.3	
Mid Ch								
831.50	15.30	V	0.9	0.0	14.40	38.5	-24.0	
831.50	21.30	H	0.9	0.0	20.40	38.5	-18.0	
High Ch								
844.00	14.00	V	0.9	0.0	13.10	38.5	-25.3	
844.00	20.30	H	0.9	0.0	19.40	38.5	-19.0	
Rev. 3.17.11								

16QAM

High Frequency Substitution Measurement Compliance Certification Services Chamber F								
Company:		LG						
Project #:		13U15420						
Date:		07/12/13						
Test Engineer:		Kiiya Kedida						
Configuration:		EUT only						
Mode:		LTE band 26, 10MHz BW 16QAM, Average, RB50-0						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
819.00	14.70	V	0.9	0.0	13.80	38.5	-24.6	
819.00	20.00	H	0.9	0.0	19.10	38.5	-19.3	
Mid Ch								
831.50	14.40	V	0.9	0.0	13.50	38.5	-24.9	
831.50	20.40	H	0.9	0.0	19.50	38.5	-18.9	
High Ch								
844.00	13.10	V	0.9	0.0	12.20	38.5	-26.2	
844.00	19.40	H	0.9	0.0	18.50	38.5	-19.9	
Rev. 3.17.11								

15.1.1. LTE BAND 41

10 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 10MHz, QPSK Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.501	12.5	V	1.07	9.35	20.78	33.0	-12.2	
2.501	13.5	H	1.07	9.35	21.78	33.0	-11.2	
Mid Ch								
2.593	12.0	V	1.10	9.40	20.28	33.0	-12.7	
2.593	13.1	H	1.10	9.47	21.47	33.0	-11.5	
High Ch								
2.685	11.1	V	1.20	9.71	19.61	33.0	-13.4	
2.685	12.5	H	1.20	9.74	21.04	33.0	-12.0	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 10MHz, 16QAM Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.501	11.6	V	1.07	9.35	19.88	33.0	-13.1	
2.501	12.7	H	1.07	9.35	20.98	33.0	-12.0	
Mid Ch								
2.593	11.2	V	1.10	9.40	19.50	33.0	-13.5	
2.593	12.2	H	1.10	9.47	20.57	33.0	-12.4	
High Ch								
2.685	10.2	V	1.20	9.71	18.71	33.0	-14.3	
2.685	11.7	H	1.20	9.74	20.24	33.0	-12.8	
Rev. 3.17.11								

15 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 15MHz, QPSK Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.504	12.0	V	1.07	9.35	20.28	33.0	-12.7	
2.504	13.3	H	1.07	9.35	21.58	33.0	-11.4	
Mid Ch								
2.593	12.4	V	1.10	9.40	20.70	33.0	-12.3	
2.593	12.8	H	1.10	9.47	21.17	33.0	-11.8	
High Ch								
2.683	11.5	V	1.20	9.71	20.01	33.0	-13.0	
2.683	12.8	H	1.20	9.74	21.34	33.0	-11.7	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 15MHz, 16QAM Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.504	12.4	V	1.07	9.35	20.68	33.0	-12.3	
2.504	11.2	H	1.07	9.35	19.48	33.0	-13.5	
Mid Ch								
2.593	11.5	V	1.10	9.40	19.80	33.0	-13.2	
2.593	11.9	H	1.10	9.47	20.27	33.0	-12.7	
High Ch								
2.683	10.6	V	1.20	9.71	19.11	33.0	-13.9	
2.683	11.9	H	1.20	9.74	20.44	33.0	-12.6	
Rev. 3.17.11								

20 MHz

QPSK

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 20MHz, QPSK Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.506	12.4	V	1.07	9.35	20.68	33.0	-12.3	
2.506	13.4	H	1.07	9.35	21.71	33.0	-11.3	
Mid Ch								
2.593	12.7	V	1.10	9.40	21.02	33.0	-12.0	
2.593	13.0	H	1.10	9.47	21.37	33.0	-11.6	
High Ch								
2.680	10.9	V	1.20	9.71	19.36	33.0	-13.6	
2.680	12.4	H	1.20	9.74	20.95	33.0	-12.1	
Rev. 3.17.11								

16QAM

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15420						
Date:		07/15/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		LTE Band 41, 20MHz, 16QAM Average						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
2.506	11.5	V	1.07	9.35	19.78	33.0	-13.2	
2.506	12.5	H	1.07	9.35	20.81	33.0	-12.2	
Mid Ch								
2.593	11.8	V	1.10	9.40	20.12	33.0	-12.9	
2.593	12.2	H	1.10	9.47	20.57	33.0	-12.4	
High Ch								
2.680	10.0	V	1.20	9.71	18.46	33.0	-14.5	
2.680	11.5	H	1.20	9.74	20.05	33.0	-13.0	
Rev. 3.17.11								

16. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238

LIMIT

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

- GPRS
- UMTS REL 99, and HSUPA

RESULTS

16.1.1. GPRS

GPRS 850 (Cellular Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/13/13							
Test Engineer:		Kiya Kedida							
Configuration:		X position, EUT w/wireless ac							
Mode:		Tx, 850MHz GPRS MODE							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber F		T34 8449B			Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (824.2MHz)									
1.648	-20.6	V	3.0	37.4	1.0	-56.9	-13.0	-43.9	
2.473	-12.3	V	3.0	36.4	1.0	-47.7	-13.0	-34.7	
1.648	-21.0	H	3.0	37.4	1.0	-57.4	-13.0	-44.4	
2.473	-15.0	H	3.0	36.4	1.0	-50.4	-13.0	-37.4	
Mid Ch, (836.6MHz)									
1.673	-20.9	V	3.0	37.3	1.0	-57.3	-13.0	-44.3	
2.510	-17.0	V	3.0	36.4	1.0	-52.4	-13.0	-39.4	
1.673	-20.8	H	3.0	37.3	1.0	-57.1	-13.0	-44.1	
2.510	-18.0	H	3.0	36.4	1.0	-53.3	-13.0	-40.3	
High Ch, (848.8MHz)									
1.698	-21.0	V	3.0	37.3	1.0	-57.3	-13.0	-44.3	
2.546	-17.3	V	3.0	36.3	1.0	-52.7	-13.0	-39.7	
1.698	-20.9	H	3.0	37.3	1.0	-57.2	-13.0	-44.2	
2.546	-18.2	H	3.0	36.3	1.0	-53.5	-13.0	-40.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

GPRS 1900 (Cellular Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/29/13
Test Engineer: Trina Noor
Configuration: x position
Mode: Tx, 1900MHz GPRS MODE

Chamber

3m Chamber

Pre-amplifer

T34 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3.700	-9.1	V	3.0	35.4	1.0	-43.5	-13.0	-30.5	
5.551	-6.2	V	3.0	34.7	1.0	-39.9	-13.0	-26.9	
7.401	-14.4	V	3.0	34.9	1.0	-48.3	-13.0	-35.3	
9.251	-15.6	V	3.0	35.2	1.0	-49.8	-13.0	-36.8	
11.101	-12.1	V	3.0	34.8	1.0	-45.9	-13.0	-32.9	
3.700	-10.9	H	3.0	35.4	1.0	-45.3	-13.0	-32.3	
5.551	-7.0	H	3.0	34.7	1.0	-40.8	-13.0	-27.8	
7.401	-13.8	H	3.0	34.9	1.0	-47.7	-13.0	-34.7	
9.251	-15.2	H	3.0	35.2	1.0	-49.4	-13.0	-36.4	
11.101	-13.9	H	3.0	34.8	1.0	-47.7	-13.0	-34.7	
Mid Ch, 1880MHz									
3.760	-7.6	V	3.0	35.3	1.0	-42.0	-13.0	-29.0	
5.640	-11.9	V	3.0	34.7	1.0	-45.7	-13.0	-32.7	
7.520	-13.8	V	3.0	34.9	1.0	-47.8	-13.0	-34.8	
9.400	-15.3	V	3.0	35.3	1.0	-49.5	-13.0	-36.5	
11.200	-12.6	V	3.0	34.8	1.0	-46.3	-13.0	-33.3	
3.760	-10.7	H	3.0	35.3	1.0	-45.0	-13.0	-32.0	
5.640	-6.1	H	3.0	34.7	1.0	-39.8	-13.0	-26.8	
7.520	-12.6	H	3.0	34.9	1.0	-46.5	-13.0	-33.5	
9.400	-15.7	H	3.0	35.3	1.0	-50.0	-13.0	-37.0	
11.200	-15.0	H	3.0	34.8	1.0	-48.8	-13.0	-35.8	
High Ch, 1909.8MHz									
3.820	-21.6	V	3.0	35.3	1.0	-55.9	-13.0	-42.9	
5.729	-18.2	V	3.0	34.7	1.0	-52.0	-13.0	-39.0	
7.639	-16.5	V	3.0	35.0	1.0	-50.5	-13.0	-37.5	
9.549	-16.7	V	3.0	35.3	1.0	-51.0	-13.0	-38.0	
11.459	-15.6	V	3.0	34.6	1.0	-49.3	-13.0	-36.3	
3.820	-21.3	H	3.0	35.3	1.0	-55.5	-13.0	-42.5	
5.729	-17.7	H	3.0	34.7	1.0	-51.5	-13.0	-38.5	
7.639	-15.7	H	3.0	35.0	1.0	-49.7	-13.0	-36.7	
9.549	-15.7	H	3.0	35.3	1.0	-50.0	-13.0	-37.0	
11.459	-16.1	H	3.0	34.6	1.0	-49.7	-13.0	-36.7	

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

16.1.2. EGPRS

EGPRS 850 (Cellular Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: X position, EUT w/wireless ac
 Mode: Tx, 850MHz EGPRS MODE

Chamber

Pre-amplifer

Filter

Limit

5m Chamber F

T34 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (824.2MHz)									
1.648	-21.3	V	3.0	37.4	1.0	-57.7	-13.0	-44.7	
2.473	-14.3	V	3.0	36.4	1.0	-49.7	-13.0	-36.7	
1.648	-21.0	H	3.0	37.4	1.0	-57.4	-13.0	-44.4	
2.473	-14.7	H	3.0	36.4	1.0	-50.1	-13.0	-37.1	
Mid Ch, (836.6MHz)									
1.673	-21.7	V	3.0	37.3	1.0	-58.1	-13.0	-45.1	
2.510	-17.0	V	3.0	36.4	1.0	-52.3	-13.0	-39.3	
1.673	-20.8	H	3.0	37.3	1.0	-57.2	-13.0	-44.2	
2.510	-19.2	H	3.0	36.4	1.0	-54.5	-13.0	-41.5	
High Ch, (848.8MHz)									
1.698	-21.0	V	3.0	37.3	1.0	-57.3	-13.0	-44.3	
2.546	-16.1	V	3.0	36.3	1.0	-51.4	-13.0	-38.4	
1.698	-21.3	H	3.0	37.3	1.0	-57.6	-13.0	-44.6	
2.546	-18.5	H	3.0	36.3	1.0	-53.9	-13.0	-40.9	

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

EGPRS 1900 (Cellular Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #:
 Date:
 Test Engineer:
 Configuration:
 Mode: Tx, 1900MHz EGPRS MODE

Chamber

Pre-amplifier

Filter

Limit

5m Chamber B

T34 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3.730	-21.0	V	3.0	35.4	1.0	-55.4	-13.0	-42.4	
5.610	-18.7	V	3.0	34.7	1.0	-52.4	-13.0	-39.4	
3.730	-20.7	H	3.0	35.4	1.0	-55.1	-13.0	-42.1	
5.610	-17.5	H	3.0	34.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1880MHz									
3.760	-7.3	V	3.0	35.3	1.0	-41.7	-13.0	-28.7	
5.640	-7.5	V	3.0	34.7	1.0	-41.2	-13.0	-28.2	
3.760	-6.1	H	3.0	35.3	1.0	-40.5	-13.0	-27.5	
5.640	-4.5	H	3.0	34.7	1.0	-38.2	-13.0	-25.2	
7.520	-13.8	V	3.0	34.9	1.0	-47.8	-13.0	-34.8	
9.420	-16.7	V	3.0	35.3	1.0	-50.9	-13.0	-37.9	
7.520	-13.8	H	3.0	34.9	1.0	-47.7	-13.0	-34.7	
9.420	-15.9	H	3.0	35.3	1.0	-50.1	-13.0	-37.1	
High Ch, 1909.8MHz									
3.820	-7.4	V	3.0	35.3	1.0	-41.7	-13.0	-28.7	
5.729	-10.0	V	3.0	34.7	1.0	-43.7	-13.0	-30.7	
3.820	-5.8	H	3.0	35.3	1.0	-40.1	-13.0	-27.1	
5.729	-2.9	H	3.0	34.7	1.0	-36.6	-13.0	-23.6	
7.639	-11.1	V	3.0	35.0	1.0	-45.1	-13.0	-32.1	
9.549	-16.5	V	3.0	35.3	1.0	-50.8	-13.0	-37.8	
7.639	-12.0	H	3.0	35.0	1.0	-46.0	-13.0	-33.0	
9.549	-16.4	H	3.0	35.3	1.0	-50.6	-13.0	-37.6	

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

16.1.3. WCDMA REL 99

REL99 BAND 5

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		James Jackson							
Configuration:		X position with wireless ac							
Mode:		Tx, 850MHz WCDMA REL 99 MODE							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber F		T145 8449B		Filter 1		FCC Part 22			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.4MHz)									
1.653	-22.4	V	3.0	35.5	1.0	-57.0	-13.0	-44.0	
1.653	-21.4	H	3.0	35.5	1.0	-55.9	-13.0	-42.9	
2.479	-25.0	V	3.0	35.4	1.0	-59.4	-13.0	-46.4	
2.479	-27.1	H	3.0	35.4	1.0	-61.5	-13.0	-48.5	
3.306	-24.5	V	3.0	35.5	1.0	-59.0	-13.0	-46.0	
3.306	-24.0	H	3.0	35.5	1.0	-58.6	-13.0	-45.6	
Mid Channel (836.6MHz)									
1.673	-24.8	V	3.0	35.5	1.0	-59.3	-13.0	-46.3	
1.673	-22.1	H	3.0	35.5	1.0	-56.7	-13.0	-43.7	
2.510	-25.0	V	3.0	35.4	1.0	-59.4	-13.0	-46.4	
2.510	-26.1	H	3.0	35.4	1.0	-60.5	-13.0	-47.5	
3.346	-25.5	V	3.0	35.5	1.0	-60.0	-13.0	-47.0	
3.346	-25.9	H	3.0	35.5	1.0	-60.4	-13.0	-47.4	
High Channel (846.8MHz)									
1.694	-22.0	V	3.0	35.5	1.0	-56.5	-13.0	-43.5	
1.694	-23.5	H	3.0	35.5	1.0	-58.0	-13.0	-45.0	
2.540	-25.8	V	3.0	35.4	1.0	-60.2	-13.0	-47.2	
2.540	-27.5	H	3.0	35.4	1.0	-61.9	-13.0	-48.9	
3.387	-24.6	V	3.0	35.5	1.0	-59.1	-13.0	-46.1	
3.387	-24.7	H	3.0	35.5	1.0	-59.2	-13.0	-46.2	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

REL99 BAND 2

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		Trina/Kiya Kedida							
Configuration:		Z position with wireless ac							
Mode:		Tx, WCDMA PCS							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber F		T34 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
5.557	-10.9	V	3.0	34.7	1.0	-44.6	-13.0	-31.6	
7.409	-15.4	V	3.0	34.9	1.0	-49.3	-13.0	-36.3	
3.705	-17.8	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
5.557	-12.8	H	3.0	34.7	1.0	-46.5	-13.0	-33.5	
7.409	-15.4	H	3.0	34.9	1.0	-49.3	-13.0	-36.3	
Mid Ch, 1880MHz									
3.760	-18.2	V	3.0	35.3	1.0	-52.5	-13.0	-39.5	
5.640	-11.4	V	3.0	34.7	1.0	-45.1	-13.0	-32.1	
7.520	-17.0	V	3.0	34.9	1.0	-50.9	-13.0	-37.9	
3.760	-17.9	H	3.0	35.3	1.0	-52.2	-13.0	-39.2	
5.640	-10.8	H	3.0	34.7	1.0	-44.6	-13.0	-31.6	
7.520	-15.3	H	3.0	34.9	1.0	-49.2	-13.0	-36.2	
High Ch, 1907.6MHz									
3.815	-17.7	V	3.0	35.3	1.0	-52.0	-13.0	-39.0	
5.723	-10.4	V	3.0	34.7	1.0	-44.1	-13.0	-31.1	
7.630	-15.6	V	3.0	34.9	1.0	-49.6	-13.0	-36.6	
3.815	-14.8	H	3.0	35.3	1.0	-49.1	-13.0	-36.1	
5.723	-5.0	H	3.0	34.7	1.0	-38.8	-13.0	-25.8	
7.630	-14.4	H	3.0	34.9	1.0	-48.3	-13.0	-35.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

REL99 BAND 4

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U5420							
Date:		07/30/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		WCDMA, AWS, 1700 Rel 99							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber F		T145 8449B			Filter 1		Part 27		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.4MHz)									
3.424	-20.1	V	3.0	35.5	1.0	-54.6	-13.0	-41.6	
5.137	-18.2	V	3.0	35.3	1.0	-52.5	-13.0	-39.5	
6.848	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3.425	-21.8	H	3.0	35.5	1.0	-56.3	-13.0	-43.3	
5.137	-17.9	H	3.0	35.3	1.0	-52.2	-13.0	-39.2	
6.850	-16.1	H	3.0	35.7	1.0	-50.8	-13.0	-37.8	
Mid Ch, (1732.6MHz)									
3.465	-21.9	V	3.0	35.5	1.0	-56.4	-13.0	-43.4	
5.198	-18.4	V	3.0	35.3	1.0	-52.7	-13.0	-39.7	
6.930	-18.0	V	3.0	35.7	1.0	-52.7	-13.0	-39.7	
3.465	-22.8	H	3.0	35.5	1.0	-57.2	-13.0	-44.2	
5.198	-16.5	H	3.0	35.3	1.0	-50.8	-13.0	-37.8	
6.930	-15.3	H	3.0	35.7	1.0	-50.0	-13.0	-37.0	
High Ch, (1752.5MHz)									
3.505	-20.9	V	3.0	35.4	1.0	-55.3	-13.0	-42.3	
5.258	-18.3	V	3.0	35.3	1.0	-52.7	-13.0	-39.7	
7.010	-17.7	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3.505	-21.7	H	3.0	35.4	1.0	-56.2	-13.0	-43.2	
5.258	-17.9	H	3.0	35.3	1.0	-52.2	-13.0	-39.2	
7.010	-16.3	H	3.0	35.7	1.0	-51.0	-13.0	-38.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16.1.4. WCDMA HSDPA

HSDPA BAND 5

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		James Jackson							
Configuration:		X Configuration, w/ wireless AC							
Mode:		TX, UMTS 850MHz, HSDPA							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber F		T145 8449B			Filter 1		FCC Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.4MHz)									
1.653	-23.9	V	3.0	35.5	1.0	-58.4	-13.0	-45.4	
1.653	-21.4	H	3.0	35.5	1.0	-55.9	-13.0	-42.9	
2.479	-24.1	V	3.0	35.4	1.0	-58.5	-13.0	-45.5	
2.479	-27.0	H	3.0	35.4	1.0	-61.4	-13.0	-48.4	
3.306	-24.9	V	3.0	35.5	1.0	-59.4	-13.0	-46.4	
3.306	-24.9	H	3.0	35.5	1.0	-59.4	-13.0	-46.4	
Mid Channel (836.6MHz)									
1.673	-24.1	V	3.0	35.5	1.0	-58.6	-13.0	-45.6	
1.673	-20.4	H	3.0	35.5	1.0	-54.9	-13.0	-41.9	
2.510	-24.5	V	3.0	35.4	1.0	-58.9	-13.0	-45.9	
2.510	-26.6	H	3.0	35.4	1.0	-61.0	-13.0	-48.0	
3.346	-25.0	V	3.0	35.5	1.0	-59.5	-13.0	-46.5	
3.346	-25.9	H	3.0	35.5	1.0	-60.4	-13.0	-47.4	
High Channel (846.8MHz)									
1.694	-23.3	V	3.0	35.5	1.0	-57.8	-13.0	-44.8	
1.694	-21.5	H	3.0	35.5	1.0	-56.0	-13.0	-43.0	
2.540	-25.1	V	3.0	35.4	1.0	-59.5	-13.0	-46.5	
2.540	-27.5	H	3.0	35.4	1.0	-61.9	-13.0	-48.9	
3.387	-24.2	V	3.0	35.5	1.0	-58.7	-13.0	-45.7	
3.387	-24.4	H	3.0	35.5	1.0	-58.9	-13.0	-45.9	
Note: No other emissions were detected above the system noise floor.									

HSDPA BAND 2

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		Kiya Kedida							
Configuration:		Z pos. with wireless							
Mode:		Tx, 1900MHz WCDMA HSDPA MODE							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber F		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-20.0	V	3.0	35.4	1.0	-54.3	-13.0	-41.3	
3.705	-19.5	H	3.0	35.4	1.0	-53.8	-13.0	-40.8	
5.557	-15.5	V	3.0	35.4	1.0	-49.9	-13.0	-36.9	
5.557	-17.6	H	3.0	35.4	1.0	-52.0	-13.0	-39.0	
7.409	-14.4	V	3.0	35.7	1.0	-49.1	-13.0	-36.1	
7.409	-15.8	H	3.0	35.7	1.0	-50.5	-13.0	-37.5	
Mid Ch, 1880.0MHz									
3.760	-19.1	V	3.0	35.3	1.0	-53.4	-13.0	-40.4	
3.760	-18.7	H	3.0	35.3	1.0	-53.0	-13.0	-40.0	
5.640	-15.9	V	3.0	35.4	1.0	-50.3	-13.0	-37.3	
5.640	-15.5	H	3.0	35.4	1.0	-50.0	-13.0	-37.0	
7.520	-15.4	V	3.0	35.7	1.0	-50.1	-13.0	-37.1	
7.520	-16.3	H	3.0	35.7	1.0	-51.0	-13.0	-38.0	
High Ch, 1907.6MHz									
3.815	-19.2	V	3.0	35.3	1.0	-53.5	-13.0	-40.5	
3.815	-16.5	H	3.0	35.3	1.0	-50.8	-13.0	-37.8	
5.723	-17.9	V	3.0	35.4	1.0	-52.4	-13.0	-39.4	
5.723	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
7.630	-16.5	V	3.0	35.7	1.0	-51.2	-13.0	-38.2	
7.630	-14.3	H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

HSDPA BAND 4

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		Kiya Kedida							
Configuration:		X Configuration, w/ wireless AC							
Mode:		WCDMA, AWS, 1700 HSDPA							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber F		T145 8449B			Filter 1		Part 27		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.4MHz)									
3.424	-21.3	V	3.0	35.5	1.0	-55.8	-13.0	-42.8	
5.137	-18.2	V	3.0	35.3	1.0	-52.5	-13.0	-39.5	
6.848	-16.6	V	3.0	35.7	1.0	-51.3	-13.0	-38.3	
3.425	-19.3	H	3.0	35.5	1.0	-53.8	-13.0	-40.8	
5.137	-18.2	H	3.0	35.3	1.0	-52.6	-13.0	-39.6	
6.850	-16.1	H	3.0	35.7	1.0	-50.8	-13.0	-37.8	
Mid Ch, (1732.6MHz)									
3.465	-20.7	V	3.0	35.5	1.0	-55.2	-13.0	-42.2	
5.198	-18.4	V	3.0	35.3	1.0	-52.7	-13.0	-39.7	
6.930	-17.7	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3.465	-19.2	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
5.198	-17.8	H	3.0	35.3	1.0	-52.1	-13.0	-39.1	
6.930	-16.1	H	3.0	35.7	1.0	-50.8	-13.0	-37.8	
High Ch, (1752.5MHz)									
3.505	-19.1	V	3.0	35.4	1.0	-53.6	-13.0	-40.6	
5.258	-18.8	V	3.0	35.3	1.0	-53.2	-13.0	-40.2	
7.010	-17.1	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
3.505	-18.8	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
5.258	-17.7	H	3.0	35.3	1.0	-52.0	-13.0	-39.0	
7.010	-15.4	H	3.0	35.7	1.0	-50.1	-13.0	-37.1	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16.1.5. CDMA RTT

BC0

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/11/13							
Test Engineer:		Trina Noor							
Configuration:									
Mode:		Tx, BC0 CDMA RTT							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T34 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.07MHz									
1.649	-26.6	V	3.0	37.4	1.0	-63.0	-13.0	-50.0	
2.474	-23.9	V	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3.296	-18.6	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
1.649	-29.2	H	3.0	37.4	1.0	-65.6	-13.0	-52.6	
2.474	-25.6	H	3.0	36.4	1.0	-61.0	-13.0	-48.0	
3.296	-18.9	H	3.0	35.8	1.0	-53.7	-13.0	-40.7	
Mid Ch, 836.52MHz									
1.661	-27.1	V	3.0	37.4	1.0	-63.5	-13.0	-50.5	
2.485	-23.0	V	3.0	36.4	1.0	-58.4	-13.0	-45.4	
3.311	-18.6	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
1.661	-26.6	H	3.0	37.4	1.0	-63.0	-13.0	-50.0	
2.485	-25.3	H	3.0	36.4	1.0	-60.7	-13.0	-47.7	
3.311	-18.9	H	3.0	35.8	1.0	-53.7	-13.0	-40.7	
High Ch, 848.31MHz									
1.673	-26.8	V	3.0	37.3	1.0	-63.2	-13.0	-50.2	
2.492	-23.4	V	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3.322	-18.9	V	3.0	35.8	1.0	-53.6	-13.0	-40.6	
1.673	-26.5	H	3.0	37.3	1.0	-62.9	-13.0	-49.9	
2.492	-25.3	H	3.0	36.4	1.0	-60.7	-13.0	-47.7	
3.322	-18.5	H	3.0	35.8	1.0	-53.3	-12.0	-41.3	
Note: No other emissions were detected above the system noise floor.									

BC1

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/12/13							
Test Engineer:		Trina Noor							
Configuration:		W/Wireless AC							
Mode:		Tx, BC1 CDMA RTT							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber B		T34 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3.702	-17.8	V	3.0	35.4	1.0	-52.2	-13.0	-39.2	
5.554	-11.0	V	3.0	34.7	1.0	-44.8	-13.0	-31.8	
7.405	-14.8	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
9.256	-14.1	V	3.0	35.2	1.0	-48.4	-13.0	-35.4	
11.452	-12.3	V	3.0	34.6	1.0	-45.9	-13.0	-32.9	
3.702	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
5.554	-12.6	H	3.0	34.7	1.0	-46.3	-13.0	-33.3	
7.405	-14.1	H	3.0	34.9	1.0	-48.0	-13.0	-35.0	
9.256	-13.3	H	3.0	35.2	1.0	-47.5	-13.0	-34.5	
11.452	-12.3	H	3.0	34.6	1.0	-46.0	-13.0	-33.0	
Mid Ch, 1880MHz									
3.760	-17.1	V	3.0	35.3	1.0	-51.4	-13.0	-38.4	
5.640	-4.6	V	3.0	34.7	1.0	-38.4	-13.0	-25.4	
7.520	-15.4	V	3.0	34.9	1.0	-49.3	-13.0	-36.3	
9.400	-13.1	V	3.0	35.3	1.0	-47.3	-13.0	-34.3	
11.280	-9.6	V	3.0	34.7	1.0	-43.4	-13.0	-30.4	
3.760	-14.2	H	3.0	35.3	1.0	-48.6	-13.0	-35.6	
5.640	6.1	H	3.0	34.7	1.0	-27.6	-13.0	-14.6	
7.520	-13.4	H	3.0	34.9	1.0	-47.3	-13.0	-34.3	
9.400	-13.0	H	3.0	35.3	1.0	-47.2	-13.0	-34.2	
11.280	-10.7	H	3.0	34.7	1.0	-44.4	-13.0	-31.4	
High Ch, 1909.8MHz									
3.817	-16.9	V	3.0	35.3	1.0	-51.2	-13.0	-38.2	
5.726	-10.9	V	3.0	34.7	1.0	-44.6	-13.0	-31.6	
7.635	-14.8	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
9.543	-12.5	V	3.0	35.3	1.0	-46.8	-13.0	-33.8	
11.452	-8.0	V	3.0	34.6	1.0	-41.6	-13.0	-28.6	
3.817	-16.8	H	3.0	35.3	1.0	-51.1	-13.0	-38.1	
5.726	-11.6	H	3.0	34.7	1.0	-45.3	-13.0	-32.3	
7.635	-13.5	H	3.0	34.9	1.0	-47.5	-13.0	-34.5	
9.543	-13.7	H	3.0	35.3	1.0	-47.9	-13.0	-34.9	
11.452	-12.3	H	3.0	34.6	1.0	-45.9	-13.0	-32.9	
Note: No other emissions were detected above the system noise floor.									

BC10

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13u15420
 Date: 07/29/13
 Test Engineer: James Jackson
 Configuration: x pos. w/wireless ac
 Mode: Tx, BC10 CDMA RTT

Chamber
5m Chamber B

Pre-amplifier
T34 8449B

Filter
Filter 1

Limit
Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.90MHz									
1.635	-21.3	V	3.0	37.4	1.0	-57.7	-13.0	-44.7	
2.454	-18.3	V	3.0	36.4	1.0	-53.7	-13.0	-40.7	
3.271	-14.0	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
1.635	-21.1	H	3.0	37.4	1.0	-57.5	-13.0	-44.5	
2.454	-20.9	H	3.0	36.4	1.0	-56.4	-13.0	-43.4	
3.271	-13.9	H	3.0	35.8	1.0	-48.7	-13.0	-35.7	
Mid Ch, 820.50MHz									
1.641	-25.4	V	3.0	37.4	1.0	-61.7	-13.0	-48.7	
2.462	-25.6	V	3.0	36.4	1.0	-61.0	-13.0	-48.0	
3.282	-25.5	V	3.0	35.8	1.0	-60.4	-13.0	-47.4	
1.641	-24.5	H	3.0	37.4	1.0	-60.9	-13.0	-47.9	
2.462	-26.3	H	3.0	36.4	1.0	-61.7	-13.0	-48.7	
3.282	-26.0	H	3.0	35.8	1.0	-60.8	-13.0	-47.8	
High Ch, 823.10MHz									
1.646	-27.0	V	3.0	37.4	1.0	-63.3	-13.0	-50.3	
2.469	-25.4	V	3.0	36.4	1.0	-60.8	-13.0	-47.8	
3.292	-25.1	V	3.0	35.8	1.0	-59.9	-13.0	-46.9	
1.646	-24.4	H	3.0	37.4	1.0	-60.8	-13.0	-47.8	
2.469	-26.5	H	3.0	36.4	1.0	-61.9	-13.0	-48.9	
3.292	-25.2	H	3.0	35.8	1.0	-60.0	-13.0	-47.0	

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

16.1.6. CDMA EVDO

BC0

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13u15420
 Date: 07/29/13
 Test Engineer: Trina Noor
 Configuration: x pos. w/wireless ac
 Mode: Tx, EV-Do Rel.0 BC 0 MODE

Chamber

5m Chamber B

Pre-amplifer

T34 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.70MHz									
1.649	-28.3	V	3.0	37.4	1.0	-64.7	-13.0	-51.7	
1.649	-28.1	H	3.0	37.4	1.0	-64.4	-13.0	-51.4	
2.473	-24.9	V	3.0	36.4	1.0	-60.3	-13.0	-47.3	
2.473	-26.3	H	3.0	36.4	1.0	-61.7	-13.0	-48.7	
3.299	-25.2	V	3.0	35.8	1.0	-60.0	-13.0	-47.0	
3.299	-25.8	H	3.0	35.8	1.0	-60.6	-13.0	-47.6	
Mid Ch, 836.52MHz									
1.673	-26.9	V	3.0	37.3	1.0	-63.3	-13.0	-50.3	
1.673	-25.1	H	3.0	37.3	1.0	-61.4	-13.0	-48.4	
2.510	-24.7	V	3.0	36.4	1.0	-60.0	-13.0	-47.0	
2.510	-25.9	H	3.0	36.4	1.0	-61.2	-13.0	-48.2	
3.346	-24.3	V	3.0	35.8	1.0	-59.0	-13.0	-46.0	
3.346	-25.6	H	3.0	35.8	1.0	-60.4	-13.0	-47.4	
High Ch, 848.31MHz									
1.696	-23.1	V	3.0	37.3	1.0	-59.4	-13.0	-46.4	
1.696	-17.2	H	3.0	37.3	1.0	-53.5	-13.0	-40.5	
2.545	-25.5	V	3.0	36.3	1.0	-60.8	-13.0	-47.8	
2.545	-26.5	H	3.0	36.3	1.0	-61.9	-13.0	-48.9	
3.393	-24.7	V	3.0	35.7	1.0	-59.4	-13.0	-46.4	
3.393	-24.3	H	3.0	35.7	1.0	-59.0	-13.0	-46.0	

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

BC1

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13u15420							
Date:		07/29/13							
Test Engineer:		James Jackson							
Configuration:		x pos. w/wireless ac							
Mode:		Tx, EV-Do Rel.0 BC 1 MODE							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T34 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25MHz									
3.703	-16.4	V	3.0	35.4	1.0	-50.8	-13.0	-37.8	
3.703	-14.3	H	3.0	35.4	1.0	-48.7	-13.0	-35.7	
5.554	-7.1	V	3.0	34.7	1.0	-40.9	-13.0	-27.9	
5.554	-6.2	H	3.0	34.7	1.0	-39.9	-13.0	-26.9	
7.405	-20.7	V	3.0	34.9	1.0	-54.6	-13.0	-41.6	
7.405	-20.1	H	3.0	34.9	1.0	-54.0	-13.0	-41.0	
Mid Ch, 1880.00MHz									
3.760	-18.0	V	3.0	35.3	1.0	-52.3	-13.0	-39.3	
3.760	-13.4	H	3.0	35.3	1.0	-47.8	-13.0	-34.8	
5.640	-16.3	V	3.0	34.7	1.0	-50.0	-13.0	-37.0	
5.640	-15.5	H	3.0	34.7	1.0	-49.3	-13.0	-36.3	
7.520	-21.3	V	3.0	34.9	1.0	-55.2	-13.0	-42.2	
7.520	-18.1	H	3.0	34.9	1.0	-52.0	-13.0	-39.0	
High Ch, 1908.75MHz									
3.816	-16.5	V	3.0	35.3	1.0	-50.8	-13.0	-37.8	
3.816	-11.4	H	3.0	35.3	1.0	-45.7	-13.0	-32.7	
5.726	-6.9	V	3.0	34.7	1.0	-40.6	-13.0	-27.6	
5.726	-8.3	H	3.0	34.7	1.0	-42.1	-13.0	-29.1	
7.635	-21.2	V	3.0	34.9	1.0	-55.1	-13.0	-42.1	
7.635	-20.2	H	3.0	34.9	1.0	-54.2	-13.0	-41.2	
Note: No other emissions were detected above the system noise floor.									

BC10

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13u15420
Date: 07/29/13
Test Engineer: James Jackson
Configuration: x pos. w/wireless ac
Mode: Tx, EV-Do Rel.0 BC 10 MODE

Chamber

Pre-amplifier

Filter

Limit

5m Chamber B

T34 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.90MHz									
1.635	-28.3	V	3.0	37.4	1.0	-64.7	-13.0	-51.7	
1.635	-18.5	H	3.0	37.4	1.0	-54.9	-13.0	-41.9	
2.454	-25.6	V	3.0	36.4	1.0	-61.0	-13.0	-48.0	
2.454	-25.2	H	3.0	36.4	1.0	-60.6	-13.0	-47.6	
3.272	-25.0	V	3.0	35.8	1.0	-59.9	-13.0	-46.9	
3.272	-25.5	H	3.0	35.8	1.0	-60.3	-13.0	-47.3	
Mid Ch, 820.50MHz									
1.641	-26.1	V	3.0	37.4	1.0	-62.5	-13.0	-49.5	
1.641	-24.4	H	3.0	37.4	1.0	-60.8	-13.0	-47.8	
2.462	-25.8	V	3.0	36.4	1.0	-61.2	-13.0	-48.2	
2.462	-26.1	H	3.0	36.4	1.0	-61.5	-13.0	-48.5	
3.282	-25.2	V	3.0	35.8	1.0	-60.0	-13.0	-47.0	
3.282	-26.5	H	3.0	35.8	1.0	-61.3	-13.0	-48.3	
High Ch, 823.10MHz									
1.646	-25.0	V	3.0	37.4	1.0	-61.4	-13.0	-48.4	
1.646	-25.7	H	3.0	37.4	1.0	-62.1	-13.0	-49.1	
2.470	-25.6	V	3.0	36.4	1.0	-61.0	-13.0	-48.0	
2.470	-27.2	H	3.0	36.4	1.0	-62.6	-13.0	-49.6	
3.292	-25.2	V	3.0	35.8	1.0	-60.0	-13.0	-47.0	
3.292	-24.3	H	3.0	35.8	1.0	-59.1	-13.0	-46.1	

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

16.1.7. LTE BAND 4

1.4 MHz

QPSK

Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/30/13
Test Engineer: James Jackson/Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 4, 1.4MHz BW, QPSK w/ wireless ac

Chamber

Pre-amplifer

Filter

Limit

5m Chamber B

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1710.7 MHz)									
3.421	-20.9	V	3.0	30.4	1.0	-50.3	-13.0	-37.3	
5.132	-13.7	V	3.0	28.8	1.0	-41.4	-12.0	-29.4	
3.421	-21.3	H	3.0	30.4	1.0	-50.7	-13.0	-37.7	
5.132	-14.6	H	3.0	28.8	1.0	-42.3	-12.0	-30.3	
Mid Ch, (1732.5 MHz)									
3.465	-20.5	V	3.0	30.4	1.0	-49.9	-13.0	-36.9	
5.198	-12.7	V	3.0	28.7	1.0	-40.4	-12.0	-28.4	
3.465	-21.2	H	3.0	30.4	1.0	-50.6	-13.0	-37.6	
5.198	-13.5	H	3.0	28.7	1.0	-41.2	-12.0	-29.2	
High Ch, (1754.3 MHz)									
3.507	-19.2	V	3.0	30.4	1.0	-48.6	-13.0	-35.6	
5.263	-10.8	V	3.0	28.6	1.0	-38.5	-12.0	-26.5	
3.507	-20.4	H	3.0	30.4	1.0	-49.7	-13.0	-36.7	
5.263	-13.0	H	3.0	28.6	1.0	-40.6	-12.0	-28.6	

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

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		James Jackson/Kiya Kedida							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 1.4MHz BW, 16QAM w/ wireless ac							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1710.7 MHz)									
3.421	-21.9	V	3.0	30.4	1.0	-51.3	-13.0	-38.3	
5.132	-16.7	V	3.0	28.8	1.0	-44.4	-12.0	-32.4	
3.421	-22.3	H	3.0	30.4	1.0	-51.7	-13.0	-38.7	
5.132	-15.6	H	3.0	28.8	1.0	-43.3	-12.0	-31.3	
Mid Ch, (1732.5 MHz)									
3.465	-21.5	V	3.0	30.4	1.0	-50.9	-13.0	-37.9	
5.198	-13.6	V	3.0	28.7	1.0	-41.3	-12.0	-29.3	
3.465	-22.2	H	3.0	30.4	1.0	-51.6	-13.0	-38.6	
5.198	-14.4	H	3.0	28.7	1.0	-42.1	-12.0	-30.1	
High Ch, (1754.3 MHz)									
3.507	-20.2	V	3.0	30.4	1.0	-49.6	-13.0	-36.6	
5.263	-12.7	V	3.0	28.6	1.0	-40.4	-12.0	-28.4	
3.507	-21.4	H	3.0	30.4	1.0	-50.7	-13.0	-37.7	
5.263	-13.9	H	3.0	28.6	1.0	-41.5	-12.0	-29.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

3 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 3MHz BW, QPSK							
Chamber		Pre-amplifer			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1711.5 MHz)									
3.423	-23.6	V	3.0	30.4	1.0	-53.0	-13.0	-40.0	
5.135	-24.3	V	3.0	28.8	1.0	-52.1	-13.0	-39.1	
3.423	-22.7	H	3.0	30.4	1.0	-52.2	-13.0	-39.2	
5.135	-22.9	H	3.0	28.8	1.0	-50.7	-13.0	-37.7	
Mid Ch, (1732.5 MHz)									
3.465	-23.8	V	3.0	30.4	1.0	-53.2	-13.0	-40.2	
5.198	-21.6	V	3.0	28.7	1.0	-49.3	-13.0	-36.3	
3.465	-23.1	H	3.0	30.4	1.0	-52.5	-13.0	-39.5	
5.198	-24.2	H	3.0	28.7	1.0	-51.9	-13.0	-38.9	
High Ch, (1753.5 MHz)									
3.507	-23.7	V	3.0	30.4	1.0	-53.1	-13.0	-40.1	
5.261	-22.8	V	3.0	28.6	1.0	-50.4	-13.0	-37.4	
3.507	-24.0	H	3.0	30.4	1.0	-53.4	-13.0	-40.4	
5.261	-23.8	H	3.0	28.6	1.0	-51.5	-13.0	-38.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/02/13
Test Engineer: Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 4, 3MHz BW, 16QAM

Chamber
 3m Chamber F

Pre-amplifier
 T145 8449B

Filter
 Filter 1

Limit
 Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1711.5 MHz)									
3.423	-24.6	V	3.0	30.4	1.0	-54.0	-13.0	-41.0	
5.135	-25.7	V	3.0	28.8	1.0	-53.4	-13.0	-40.4	
3.423	-23.8	H	3.0	30.4	1.0	-53.3	-13.0	-40.3	
5.135	-24.0	H	3.0	28.8	1.0	-51.8	-13.0	-38.8	
Mid Ch, (1732.5 MHz)									
3.465	-24.8	V	3.0	30.4	1.0	-54.2	-13.0	-41.2	
5.198	-22.7	V	3.0	28.7	1.0	-50.4	-13.0	-37.4	
3.465	-24.2	H	3.0	30.4	1.0	-53.6	-13.0	-40.6	
5.198	-25.4	H	3.0	28.7	1.0	-53.1	-13.0	-40.1	
High Ch, (1753.5 MHz)									
3.507	-24.8	V	3.0	30.4	1.0	-54.2	-13.0	-41.2	
5.261	-23.9	V	3.0	28.6	1.0	-51.6	-13.0	-38.6	
3.507	-25.0	H	3.0	30.4	1.0	-54.4	-13.0	-41.4	
5.261	-25.2	H	3.0	28.6	1.0	-52.8	-13.0	-39.8	

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

5 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/02/13
 Test Engineer: Kiya Kedida
 Configuration: EUT , wireless AC Adapter and Headphone
 Mode: TX, LTE band 4, 5MHz BW, QPSK

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 24

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)									
3.425	-24.2	V	3.0	30.4	1.0	-53.6	-13.0	-40.6	
5.138	-25.2	V	3.0	28.8	1.0	-53.0	-13.0	-40.0	
3.425	-23.3	H	3.0	30.4	1.0	-52.7	-13.0	-39.7	
5.138	-23.6	H	3.0	28.8	1.0	-51.4	-13.0	-38.4	
Mid Ch, (1732.5 MHz)									
3.465	-22.2	V	3.0	30.4	1.0	-51.6	-13.0	-38.6	
5.198	-25.9	V	3.0	28.7	1.0	-53.6	-13.0	-40.6	
3.465	-24.6	H	3.0	30.4	1.0	-54.0	-13.0	-41.0	
5.198	-24.5	H	3.0	28.7	1.0	-52.2	-13.0	-39.2	
High Ch, (1752.5 MHz)									
3.505	-24.1	V	3.0	30.4	1.0	-53.5	-13.0	-40.5	
5.258	-24.7	V	3.0	28.6	1.0	-52.3	-13.0	-39.3	
3.505	-23.0	H	3.0	30.4	1.0	-52.4	-13.0	-39.4	
5.258	-25.3	H	3.0	28.6	1.0	-53.0	-13.0	-40.0	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/02/13
Test Engineer: Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 4, 5MHz BW, 16QAM

Chamber
 3m Chamber F

Pre-amplifier
 T145 8449B

Filter
 Filter 1

Limit
 Part 24

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)									
3.425	-25.0	V	3.0	30.4	1.0	-54.5	-13.0	-41.5	
5.138	-26.4	V	3.0	28.8	1.0	-54.2	-13.0	-41.2	
3.425	-24.4	H	3.0	30.4	1.0	-53.9	-13.0	-40.9	
5.138	-24.7	H	3.0	28.8	1.0	-52.5	-13.0	-39.5	
Mid Ch, (1732.5 MHz)									
3.465	-23.3	V	3.0	30.4	1.0	-52.7	-13.0	-39.7	
5.198	-26.8	V	3.0	28.7	1.0	-54.5	-13.0	-41.5	
3.465	-25.6	H	3.0	30.4	1.0	-55.0	-13.0	-42.0	
5.198	-25.5	H	3.0	28.7	1.0	-53.2	-13.0	-40.2	
High Ch, (1752.5 MHz)									
3.505	-25.1	V	3.0	30.4	1.0	-54.5	-13.0	-41.5	
5.258	-26.7	V	3.0	28.6	1.0	-54.3	-13.0	-41.3	
3.505	-24.0	H	3.0	30.4	1.0	-53.4	-13.0	-40.4	
5.258	-26.3	H	3.0	28.6	1.0	-53.9	-13.0	-40.9	

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

10 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 10MHz BW, QPSK							
Chamber		Pre-amplifer			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 24		
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	-23.7	V	3.0	30.4	1.0	-53.1	-13.0	-40.1	
5.145	-25.3	V	3.0	28.8	1.0	-53.1	-13.0	-40.1	
3.430	-24.1	H	3.0	30.4	1.0	-53.5	-13.0	-40.5	
5.145	-23.4	H	3.0	28.8	1.0	-51.2	-13.0	-38.2	
Mid Ch, (1732.5 MHz)									
3.465	-24.1	V	3.0	30.4	1.0	-53.5	-13.0	-40.5	
5.198	-25.0	V	3.0	28.7	1.0	-52.7	-13.0	-39.7	
3.465	-23.4	H	3.0	30.4	1.0	-52.8	-13.0	-39.8	
5.198	-24.4	H	3.0	28.7	1.0	-52.1	-13.0	-39.1	
High Ch, (1750 MHz)									
3.500	-23.6	V	3.0	30.4	1.0	-53.0	-13.0	-40.0	
5.250	-26.1	V	3.0	28.7	1.0	-53.7	-13.0	-40.7	
3.500	-23.9	H	3.0	30.4	1.0	-53.3	-13.0	-40.3	
5.250	-25.7	H	3.0	28.7	1.0	-53.3	-13.0	-40.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/02/13
Test Engineer: Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 4, 10MHz BW, 16QAM

Chamber
 3m Chamber F

Pre-amplifier
 T145 8449B

Filter
 Filter 1

Limit
 Part 24

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	-24.6	V	3.0	30.4	1.0	-54.1	-13.0	-41.1	
5.145	-26.6	V	3.0	28.8	1.0	-54.4	-13.0	-41.4	
3.430	-25.1	H	3.0	30.4	1.0	-54.5	-13.0	-41.5	
5.145	-24.6	H	3.0	28.8	1.0	-52.3	-13.0	-39.3	
Mid Ch, (1732.5 MHz)									
3.465	-25.0	V	3.0	30.4	1.0	-54.4	-13.0	-41.4	
5.198	-26.2	V	3.0	28.7	1.0	-53.9	-13.0	-40.9	
3.465	-24.3	H	3.0	30.4	1.0	-53.7	-13.0	-40.7	
5.198	-25.4	H	3.0	28.7	1.0	-53.1	-13.0	-40.1	
High Ch, (1750 MHz)									
3.500	-24.7	V	3.0	30.4	1.0	-54.0	-13.0	-41.0	
5.250	-27.0	V	3.0	28.7	1.0	-54.7	-13.0	-41.7	
3.500	-24.8	H	3.0	30.4	1.0	-54.2	-13.0	-41.2	
5.250	-26.6	H	3.0	28.7	1.0	-54.2	-13.0	-41.2	

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

15 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		James Jackson/Kiya Kedida							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 15MHz BW, QPSK w/ wireless ac							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1717.5 MHz)									
3.435	-21.0	V	3.0	30.4	1.0	-50.4	-13.0	-37.4	
4.435	-14.7	V	3.0	29.5	1.0	-43.2	-12.0	-31.2	
3.435	-21.5	H	3.0	30.4	1.0	-50.9	-13.0	-37.9	
4.435	-16.1	H	3.0	29.5	1.0	-44.6	-12.0	-32.6	
Mid Ch, (1732.5 MHz)									
3.465	-19.3	V	3.0	30.4	1.0	-48.7	-13.0	-35.7	
4.465	-15.4	V	3.0	29.5	1.0	-43.9	-12.0	-31.9	
3.465	-21.7	H	3.0	30.4	1.0	-51.1	-13.0	-38.1	
4.465	-16.7	H	3.0	29.5	1.0	-45.1	-12.0	-33.1	
High Ch, (1747.5 MHz)									
3.495	-20.8	V	3.0	30.4	1.0	-50.2	-13.0	-37.2	
4.495	-16.7	V	3.0	29.4	1.0	-45.2	-12.0	-33.2	
3.495	-20.8	H	3.0	30.4	1.0	-50.2	-13.0	-37.2	
4.495	-16.6	H	3.0	29.4	1.0	-45.0	-12.0	-33.0	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 15MHz BW, 16QAM w/ wireless ac							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1717.5 MHz)									
3.435	-22.0	V	3.0	30.4	1.0	-51.4	-13.0	-38.4	
4.435	-15.6	V	3.0	29.5	1.0	-44.1	-12.0	-32.1	
3.435	-22.5	H	3.0	30.4	1.0	-51.9	-13.0	-38.9	
4.435	-19.3	H	3.0	29.5	1.0	-47.8	-12.0	-35.8	
Mid Ch, (1732.5 MHz)									
3.465	-20.3	V	3.0	30.4	1.0	-49.7	-13.0	-36.7	
4.465	-16.7	V	3.0	29.5	1.0	-45.2	-12.0	-33.2	
3.465	-22.7	H	3.0	30.4	1.0	-52.1	-13.0	-39.1	
4.465	-16.6	H	3.0	29.5	1.0	-45.0	-12.0	-33.0	
High Ch, (1747.5 MHz)									
3.495	-21.8	V	3.0	30.4	1.0	-51.2	-13.0	-38.2	
4.495	-17.6	V	3.0	29.4	1.0	-46.1	-12.0	-34.1	
3.495	-21.8	H	3.0	30.4	1.0	-51.2	-13.0	-38.2	
4.495	-17.5	H	3.0	29.4	1.0	-45.9	-12.0	-33.9	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

20 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/29/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 20MHz BW, QPSK w/ wireless ac							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
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	-20.6	V	3.0	30.4	1.0	-50.0	-13.0	-37.0	
4.440	-17.6	V	3.0	29.5	1.0	-46.1	-12.0	-34.1	
3.440	-20.7	H	3.0	30.4	1.0	-50.1	-13.0	-37.1	
4.440	-15.7	H	3.0	29.5	1.0	-44.2	-12.0	-32.2	
Mid Ch, (1732.5 MHz)									
3.465	-20.2	V	3.0	30.4	1.0	-49.6	-13.0	-36.6	
4.465	110.5	V	3.0	29.5	1.0	82.0	-12.0	94.0	
3.465	-20.2	H	3.0	30.4	1.0	-49.6	-13.0	-36.6	
4.465	-16.6	H	3.0	29.5	1.0	-45.0	-12.0	-33.0	
High Ch, (1745 MHz)									
3.490	-19.5	V	3.0	30.4	1.0	-48.9	-13.0	-35.9	
4.490	-15.7	V	3.0	29.4	1.0	-44.2	-12.0	-32.2	
3.490	-20.7	H	3.0	30.4	1.0	-50.1	-13.0	-37.1	
4.490	-16.1	H	3.0	29.4	1.0	-44.5	-12.0	-32.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 4, 20MHz BW, 16QAM w/ wireless ac							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
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	-21.6	V	3.0	30.4	1.0	-51.0	-13.0	-38.0	
4.440	-18.5	V	3.0	29.5	1.0	-47.0	-12.0	-35.0	
3.440	-21.7	H	3.0	30.4	1.0	-51.1	-13.0	-38.1	
4.440	-16.6	H	3.0	29.5	1.0	-45.1	-12.0	-33.1	
Mid Ch, (1732.5 MHz)									
3.465	-21.2	V	3.0	30.4	1.0	-50.6	-13.0	-37.6	
4.465	-17.4	V	3.0	29.5	1.0	-45.9	-12.0	-33.9	
3.465	-21.2	H	3.0	30.4	1.0	-50.6	-13.0	-37.6	
4.465	-17.5	H	3.0	29.5	1.0	-45.9	-12.0	-33.9	
High Ch, (1745 MHz)									
3.490	-20.5	V	3.0	30.4	1.0	-49.9	-13.0	-36.9	
4.490	-16.6	V	3.0	29.4	1.0	-45.1	-12.0	-33.1	
3.490	-21.7	H	3.0	30.4	1.0	-51.1	-13.0	-38.1	
4.490	-16.9	H	3.0	29.4	1.0	-45.3	-12.0	-33.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16.1.8. LTE BAND 17

5 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:									
Project #:	LG								
Date:	13U15420								
Test Engineer:	07/13/13								
Configuration:	Kiya Kedida								
Mode:	EUT with Wireless charger								
	TX, LTE B17 5MHz har QPSK								
Chamber		Pre-amplifier			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (706.5MHz)									
1.413	-23.2	V	3.0	33.1	1.0	-55.3	-13.0	-42.3	
2.120	-23.4	V	3.0	31.6	1.0	-54.0	-13.0	-41.0	
1.413	-23.6	H	3.0	33.1	1.0	-55.6	-13.0	-42.6	
2.120	-25.2	H	3.0	31.6	1.0	-55.8	-13.0	-42.8	
Mid Ch, (710MHz)									
1.420	-23.9	V	3.0	33.1	1.0	-56.0	-13.0	-43.0	
2.130	-23.6	V	3.0	31.6	1.0	-54.2	-13.0	-41.2	
1.420	-23.7	H	3.0	33.1	1.0	-55.8	-13.0	-42.8	
2.130	-25.3	H	3.0	31.6	1.0	-55.9	-13.0	-42.9	
High Ch, (713.5MHz)									
1.427	-23.8	V	3.0	33.1	1.0	-55.9	-13.0	-42.9	
2.141	-23.5	V	3.0	31.6	1.0	-54.0	-13.0	-41.0	
1.427	-24.6	H	3.0	33.1	1.0	-56.7	-13.0	-43.7	
2.141	-25.4	H	3.0	31.6	1.0	-55.9	-13.0	-42.9	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B17 5MHz har 16QAM

Chamber
 3m Chamber F

Pre-amplifier
 T145 8449B

Filter
 Filter 1

Limit
 Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (706.5MHz)									
1.413	-24.1	V	3.0	33.1	1.0	-56.2	-13.0	-43.2	
2.120	-24.4	V	3.0	31.6	1.0	-55.0	-13.0	-42.0	
1.413	-24.4	H	3.0	33.1	1.0	-56.5	-13.0	-43.5	
2.120	-26.1	H	3.0	31.6	1.0	-56.7	-13.0	-43.7	
Mid Ch, (710MHz)									
1.420	-24.8	V	3.0	33.1	1.0	-56.9	-13.0	-43.9	
2.130	-24.5	V	3.0	31.6	1.0	-55.1	-13.0	-42.1	
1.420	-24.6	H	3.0	33.1	1.0	-56.7	-13.0	-43.7	
2.130	-26.2	H	3.0	31.6	1.0	-56.8	-13.0	-43.8	
High Ch, (713.5MHz)									
1.427	-24.8	V	3.0	33.1	1.0	-56.8	-13.0	-43.8	
2.141	-24.4	V	3.0	31.6	1.0	-54.9	-13.0	-41.9	
1.427	-26.5	H	3.0	33.1	1.0	-58.6	-13.0	-45.6	
2.141	-26.4	H	3.0	31.6	1.0	-56.9	-13.0	-43.9	

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

10 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B17 10MHz har QPSK

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (709MHz)									
1.418	-23.4	V	3.0	33.1	1.0	-55.5	-13.0	-42.5	
2.127	-23.9	V	3.0	31.6	1.0	-54.4	-13.0	-41.4	
1.418	-24.1	H	3.0	33.1	1.0	-56.2	-13.0	-43.2	
2.127	-25.2	H	3.0	31.6	1.0	-55.8	-13.0	-42.8	
Mid Ch, (710MHz)									
1.420	-23.3	V	3.0	33.1	1.0	-55.4	-13.0	-42.4	
2.130	-23.9	V	3.0	31.6	1.0	-54.5	-13.0	-41.5	
1.420	-23.3	H	3.0	33.1	1.0	-55.4	-13.0	-42.4	
2.130	-25.6	H	3.0	31.6	1.0	-56.1	-13.0	-43.1	
High Ch, (711MHz)									
1.422	-23.5	V	3.0	33.1	1.0	-55.6	-13.0	-42.6	
2.133	-23.8	V	3.0	31.6	1.0	-54.4	-13.0	-41.4	
1.422	-24.8	H	3.0	33.1	1.0	-56.8	-13.0	-43.8	
2.133	-25.5	H	3.0	31.6	1.0	-56.1	-13.0	-43.1	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B17 10MHz har 16QAM

Chamber

3m Chamber F

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (709MHz)									
1.418	-24.4	V	3.0	33.1	1.0	-56.5	-13.0	-43.5	
2.127	-24.8	V	3.0	31.6	1.0	-55.4	-13.0	-42.4	
1.418	-25.0	H	3.0	33.1	1.0	-57.1	-13.0	-44.1	
2.127	-26.1	H	3.0	31.6	1.0	-56.7	-13.0	-43.7	
Mid Ch, (710MHz)									
1.420	-24.5	V	3.0	33.1	1.0	-56.6	-13.0	-43.6	
2.130	-24.8	V	3.0	31.6	1.0	-55.4	-13.0	-42.4	
1.420	-24.2	H	3.0	33.1	1.0	-56.3	-13.0	-43.3	
2.130	-26.5	H	3.0	31.6	1.0	-57.1	-13.0	-44.1	
High Ch, (711MHz)									
1.422	-24.5	V	3.0	33.1	1.0	-56.6	-13.0	-43.6	
2.133	-24.7	V	3.0	31.6	1.0	-55.2	-13.0	-42.2	
1.422	-25.7	H	3.0	33.1	1.0	-57.8	-13.0	-44.8	
2.133	-26.4	H	3.0	31.6	1.0	-57.0	-13.0	-44.0	

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

16.1.9. LTE BAND 25

1.4 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 25, 1.4MHz, QPSK							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1850.7 MHz)									
3.701	-18.0	V	3.0	30.2	1.0	-47.2	-13.0	-34.2	
5.552	-7.4	V	3.0	28.4	1.0	-34.8	-13.0	-21.8	
3.701	-17.3	H	3.0	30.2	1.0	-46.5	-13.0	-33.5	
5.552	-7.6	H	3.0	28.4	1.0	-35.0	-13.0	-22.0	
Mid Ch, (1882.5 MHz)									
3.765	-16.6	V	3.0	30.1	1.0	-45.7	-13.0	-32.7	
5.647	-10.7	V	3.0	28.3	1.0	-38.0	-13.0	-25.0	
3.765	-17.0	H	3.0	30.1	1.0	-46.1	-13.0	-33.1	
5.647	-13.2	H	3.0	28.3	1.0	-40.5	-13.0	-27.5	
High Ch, (1914.3 MHz)									
3.828	-17.9	V	3.0	30.1	1.0	-46.9	-13.0	-33.9	
5.743	-8.5	V	3.0	28.2	1.0	-35.7	-13.0	-22.7	
3.828	-16.4	H	3.0	30.1	1.0	-45.5	-13.0	-32.5	
5.743	-6.7	H	3.0	28.2	1.0	-33.9	-13.0	-20.9	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/15/13
Test Engineer: James Jackson
Configuration: EUT , wireless AC Adapter
Mode: TX, LTE band 25, 1.4MHz, 16QAM

Chamber

5m Chamber B

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1850.7 MHz)									
3.701	-17.0	V	3.0	30.2	1.0	-46.2	-13.0	-33.2	
5.552	-6.4	V	3.0	28.4	1.0	-33.8	-13.0	-20.8	
3.701	-16.3	H	3.0	30.2	1.0	-45.5	-13.0	-32.5	
5.552	-6.6	H	3.0	28.4	1.0	-34.0	-13.0	-21.0	
Mid Ch, (1882.5 MHz)									
3.765	-15.6	V	3.0	30.1	1.0	-44.7	-13.0	-31.7	
5.647	-9.7	V	3.0	28.3	1.0	-37.0	-13.0	-24.0	
3.765	-16.0	H	3.0	30.1	1.0	-45.1	-13.0	-32.1	
5.647	-12.2	H	3.0	28.3	1.0	-39.5	-13.0	-26.5	
High Ch, (1914.3 MHz)									
3.828	-16.9	V	3.0	30.1	1.0	-45.9	-13.0	-32.9	
5.743	-7.5	V	3.0	28.2	1.0	-34.7	-13.0	-21.7	
3.828	-15.4	H	3.0	30.1	1.0	-44.5	-13.0	-31.5	
5.743	-5.7	H	3.0	28.2	1.0	-32.9	-13.0	-19.9	

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

3 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/15/13
 Test Engineer: James Jackson
 Configuration: EUT , wireless AC Adapter
 Mode: TX, LTE band 25, 3MHz, QPSK

Chamber

Pre-amplifer

Filter

Limit

5m Chamber B

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1851.5 MHz)									
3.703	-16.6	V	3.0	30.2	1.0	-45.8	-13.0	-32.8	
5.555	-11.7	V	3.0	28.4	1.0	-39.1	-13.0	-26.1	
3.703	-17.6	H	3.0	30.2	1.0	-46.8	-13.0	-33.8	
5.555	-14.2	H	3.0	28.4	1.0	-41.6	-13.0	-28.6	
Mid Ch, (1882.5 MHz)									
3.765	-17.7	V	3.0	30.1	1.0	-46.8	-13.0	-33.8	
5.647	-14.9	V	3.0	28.3	1.0	-42.2	-13.0	-29.2	
3.765	-16.6	H	3.0	30.1	1.0	-45.7	-13.0	-32.7	
5.647	-15.3	H	3.0	28.3	1.0	-42.5	-13.0	-29.5	
High Ch, (1913.5 MHz)									
3.828	-19.0	V	3.0	30.1	1.0	-48.1	-13.0	-35.1	
5.741	-10.6	V	3.0	28.2	1.0	-37.7	-13.0	-24.7	
3.828	-18.6	H	3.0	30.1	1.0	-47.7	-13.0	-34.7	
5.743	-12.9	H	3.0	28.2	1.0	-40.1	-13.0	-27.1	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/15/13
 Test Engineer: James Jackson
 Configuration: EUT , wireless AC Adapter
 Mode: TX, LTE band 25, 3MHz, 16QAM

Chamber

Pre-amplifier

Filter

Limit

5m Chamber B

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1851.5 MHz)									
3.703	-15.6	V	3.0	30.2	1.0	-44.8	-13.0	-31.8	
5.555	-10.7	V	3.0	28.4	1.0	-38.1	-13.0	-25.1	
3.703	-16.6	H	3.0	30.2	1.0	-45.8	-13.0	-32.8	
5.555	-13.2	H	3.0	28.4	1.0	-40.6	-13.0	-27.6	
Mid Ch, (1882.5 MHz)									
3.765	-16.7	V	3.0	30.1	1.0	-45.8	-13.0	-32.8	
5.647	-13.9	V	3.0	28.3	1.0	-41.2	-13.0	-28.2	
3.765	-15.6	H	3.0	30.1	1.0	-44.7	-13.0	-31.7	
5.647	-14.3	H	3.0	28.3	1.0	-41.5	-13.0	-28.5	
High Ch, (1913.5 MHz)									
3.828	-18.0	V	3.0	30.1	1.0	-47.1	-13.0	-34.1	
5.741	-9.6	V	3.0	28.2	1.0	-36.7	-13.0	-23.7	
3.828	-17.6	H	3.0	30.1	1.0	-46.7	-13.0	-33.7	
5.743	-11.9	H	3.0	28.2	1.0	-39.1	-13.0	-26.1	

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

5 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/02/13
 Test Engineer: Kiya Kedida
 Configuration: EUT , wireless AC Adapter and Headphone
 Mode: TX, LTE band 25, 5MHz, QPSK

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1852.5 MHz)									
3.705	-22.7	V	3.0	30.2	1.0	-51.9	-13.0	-38.9	
7.410	-22.8	V	3.0	26.5	1.0	-48.3	-13.0	-35.3	
3.705	-21.8	H	3.0	30.2	1.0	-51.0	-13.0	-38.0	
7.410	-20.2	H	3.0	26.5	1.0	-45.6	-13.0	-32.6	
Mid Ch, (1882.5 MHz)									
3.765	-20.7	V	3.0	30.1	1.0	-49.9	-13.0	-36.9	
7.530	-21.0	V	3.0	26.3	1.0	-46.3	-13.0	-33.3	
3.765	-21.2	H	3.0	30.1	1.0	-50.4	-13.0	-37.4	
7.530	-20.3	H	3.0	26.3	1.0	-45.6	-13.0	-32.6	
High Ch, (1912.5 MHz)									
3.825	-20.7	V	3.0	30.1	1.0	-49.8	-13.0	-36.8	
7.650	-22.5	V	3.0	26.2	1.0	-47.6	-13.0	-34.6	
3.825	-21.6	H	3.0	30.1	1.0	-50.7	-13.0	-37.7	
7.650	-20.4	H	3.0	26.2	1.0	-45.5	-13.0	-32.5	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/02/13
Test Engineer: Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 25, 5MHz, 16QAM

Chamber

3m Chamber F

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1852.5 MHz)									
3.705	-23.6	V	3.0	30.2	1.0	-52.8	-13.0	-39.8	
7.410	-23.7	V	3.0	26.5	1.0	-49.2	-13.0	-36.2	
3.705	-22.9	H	3.0	30.2	1.0	-52.0	-13.0	-39.0	
7.410	-21.2	H	3.0	26.5	1.0	-46.7	-13.0	-33.7	
Mid Ch, (1882.5 MHz)									
3.765	-21.6	V	3.0	30.1	1.0	-50.7	-13.0	-37.7	
7.530	-22.2	V	3.0	26.3	1.0	-47.5	-13.0	-34.5	
3.765	-22.3	H	3.0	30.1	1.0	-51.5	-13.0	-38.5	
7.530	-21.2	H	3.0	26.3	1.0	-46.6	-13.0	-33.6	
High Ch, (1912.5 MHz)									
3.825	-21.5	V	3.0	30.1	1.0	-50.6	-13.0	-37.6	
7.650	-23.4	V	3.0	26.2	1.0	-48.6	-13.0	-35.6	
3.825	-22.6	H	3.0	30.1	1.0	-51.6	-13.0	-38.6	
7.650	-21.4	H	3.0	26.2	1.0	-46.5	-13.0	-33.5	

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

10 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/02/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT , wireless AC Adapter and Headphone							
Mode:		TX, LTE band 25, 10MHz, QPSK							
Chamber		Pre-amplifier			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1855 MHz)									
3.710	-22.1	V	3.0	30.2	1.0	-51.3	-13.0	-38.3	
7.420	-23.1	V	3.0	26.5	1.0	-48.5	-13.0	-35.5	
3.710	-21.4	H	3.0	30.2	1.0	-50.6	-13.0	-37.6	
7.420	-21.1	H	3.0	26.5	1.0	-46.5	-13.0	-33.5	
Mid Ch, (1882.5 MHz)									
3.765	-21.0	V	3.0	30.1	1.0	-50.1	-13.0	-37.1	
7.530	-22.3	V	3.0	26.3	1.0	-47.6	-13.0	-34.6	
3.765	-21.8	H	3.0	30.1	1.0	-50.9	-13.0	-37.9	
7.530	-20.7	H	3.0	26.3	1.0	-46.0	-13.0	-33.0	
High Ch, (1909.8 MHz)									
3.820	-22.0	V	3.0	30.1	1.0	-51.1	-13.0	-38.1	
7.639	-22.5	V	3.0	26.2	1.0	-47.7	-13.0	-34.7	
3.820	-21.8	H	3.0	30.1	1.0	-50.9	-13.0	-37.9	
7.639	-21.7	H	3.0	26.2	1.0	-46.9	-13.0	-33.9	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 13U15420
Date: 07/02/13
Test Engineer: Kiya Kedida
Configuration: EUT , wireless AC Adapter and Headphone
Mode: TX, LTE band 25, 10MHz, 16QAM

Chamber

3m Chamber F

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1855 MHz)									
3.710	-23.1	V	3.0	30.2	1.0	-52.3	-13.0	-39.3	
7.420	-23.2	V	3.0	26.5	1.0	-48.7	-13.0	-35.7	
3.710	-22.6	H	3.0	30.2	1.0	-51.8	-13.0	-38.8	
7.420	-22.3	H	3.0	26.5	1.0	-47.8	-13.0	-34.8	
Mid Ch, (1882.5 MHz)									
3.765	-22.2	V	3.0	30.1	1.0	-51.3	-13.0	-38.3	
7.530	-23.3	V	3.0	26.3	1.0	-48.6	-13.0	-35.6	
3.765	-22.7	H	3.0	30.1	1.0	-51.9	-13.0	-38.9	
7.530	-21.9	H	3.0	26.3	1.0	-47.2	-13.0	-34.2	
High Ch, (1909.8 MHz)									
3.820	-23.1	V	3.0	30.1	1.0	-52.2	-13.0	-39.2	
7.639	-23.5	V	3.0	26.2	1.0	-48.7	-13.0	-35.7	
3.820	-23.0	H	3.0	30.1	1.0	-52.1	-13.0	-39.1	
7.639	-22.4	H	3.0	26.2	1.0	-47.5	-13.0	-34.5	

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

15 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 25, 15MHz, QPSK							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1857.5 MHz)									
3.715	-18.6	V	3.0	30.2	1.0	-47.7	-13.0	-34.7	
5.573	-17.4	V	3.0	28.3	1.0	-44.8	-13.0	-31.8	
3.703	-19.5	H	3.0	30.2	1.0	-48.7	-13.0	-35.7	
5.555	-17.0	H	3.0	28.4	1.0	-44.3	-13.0	-31.3	
Mid Ch, (1882.5 MHz)									
3.765	-19.0	V	3.0	30.1	1.0	-48.2	-13.0	-35.2	
5.648	-17.0	V	3.0	28.3	1.0	-44.3	-13.0	-31.3	
3.765	-19.0	H	3.0	30.1	1.0	-48.1	-13.0	-35.1	
5.648	-16.2	H	3.0	28.3	1.0	-43.4	-13.0	-30.4	
High Ch, (1907.5 MHz)									
3.815	-20.3	V	3.0	30.1	1.0	-49.4	-13.0	-36.4	
5.723	-17.1	V	3.0	28.2	1.0	-44.3	-13.0	-31.3	
3.815	-19.7	H	3.0	30.1	1.0	-48.8	-13.0	-35.8	
5.723	-16.2	H	3.0	28.2	1.0	-43.4	-13.0	-30.4	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 25, 15MHz, 16QAM							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1857.5 MHz)									
3.715	-19.6	V	3.0	30.2	1.0	-48.7	-13.0	-35.7	
5.573	-18.4	V	3.0	28.3	1.0	-45.8	-13.0	-32.8	
3.703	-20.5	H	3.0	30.2	1.0	-49.7	-13.0	-36.7	
5.555	-18.0	H	3.0	28.4	1.0	-45.3	-13.0	-32.3	
Mid Ch, (1882.5 MHz)									
3.765	-20.0	V	3.0	30.1	1.0	-49.2	-13.0	-36.2	
5.648	-18.0	V	3.0	28.3	1.0	-45.3	-13.0	-32.3	
3.765	-20.0	H	3.0	30.1	1.0	-49.1	-13.0	-36.1	
5.648	-17.2	H	3.0	28.3	1.0	-44.4	-13.0	-31.4	
High Ch, (1907.5 MHz)									
3.815	-21.3	V	3.0	30.1	1.0	-50.4	-13.0	-37.4	
5.723	-18.1	V	3.0	28.2	1.0	-45.3	-13.0	-32.3	
3.815	-20.7	H	3.0	30.1	1.0	-49.8	-13.0	-36.8	
5.723	-17.2	H	3.0	28.2	1.0	-44.4	-13.0	-31.4	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

20 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/15/13
 Test Engineer: James Jackson
 Configuration: EUT , wireless AC Adapter
 Mode: TX, LTE band 25, 20MHz, QPSK

Chamber

Pre-amplifer

Filter

Limit

5m Chamber B

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1860 MHz)									
3.720	-19.9	V	3.0	30.2	1.0	-49.1	-13.0	-36.1	
5.580	-17.6	V	3.0	28.3	1.0	-44.9	-13.0	-31.9	
3.720	-19.6	H	3.0	30.2	1.0	-48.8	-13.0	-35.8	
5.580	-16.3	H	3.0	28.3	1.0	-43.6	-13.0	-30.6	
Mid Ch, (1882.5 MHz)									
3.765	-19.8	V	3.0	30.1	1.0	-49.0	-13.0	-36.0	
5.648	-17.5	V	3.0	28.3	1.0	-44.8	-13.0	-31.8	
3.765	-18.9	H	3.0	30.1	1.0	-48.0	-13.0	-35.0	
5.648	-16.8	H	3.0	28.3	1.0	-44.1	-13.0	-31.1	
High Ch, (1905 MHz)									
3.810	-19.9	V	3.0	30.1	1.0	-49.0	-13.0	-36.0	
5.715	-18.0	V	3.0	28.2	1.0	-45.3	-13.0	-32.3	
3.810	-19.7	H	3.0	30.1	1.0	-48.8	-13.0	-35.8	
5.715	-16.5	H	3.0	28.2	1.0	-43.7	-13.0	-30.7	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/15/13
 Test Engineer: James Jackson
 Configuration: EUT , wireless AC Adapter
 Mode: TX, LTE band 25, 20MHz, 16QAM

Chamber

5m Chamber B

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1860 MHz)									
3.720	-20.9	V	3.0	30.2	1.0	-50.1	-13.0	-37.1	
5.580	-18.6	V	3.0	28.3	1.0	-45.9	-13.0	-32.9	
3.720	-20.6	H	3.0	30.2	1.0	-49.8	-13.0	-36.8	
5.580	-17.3	H	3.0	28.3	1.0	-44.6	-13.0	-31.6	
Mid Ch, (1882.5 MHz)									
3.765	-20.8	V	3.0	30.1	1.0	-50.0	-13.0	-37.0	
5.648	-18.5	V	3.0	28.3	1.0	-45.8	-13.0	-32.8	
3.765	-19.9	H	3.0	30.1	1.0	-49.0	-13.0	-36.0	
5.648	-17.8	H	3.0	28.3	1.0	-45.1	-13.0	-32.1	
High Ch, (1905 MHz)									
3.810	-20.9	V	3.0	30.1	1.0	-50.0	-13.0	-37.0	
5.715	-19.0	V	3.0	28.2	1.0	-46.3	-13.0	-33.3	
3.810	-20.7	H	3.0	30.1	1.0	-49.8	-13.0	-36.8	
5.715	-17.5	H	3.0	28.2	1.0	-44.7	-13.0	-31.7	

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

16.1.10. LTE BAND 26

1.4 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/13/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with Wireless charger							
Mode:		TX, LTE B26 1.4MHz har QPSK							
Chamber		Pre-amplifier			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (814.7MHz)									
1.629	-23.5	V	3.0	32.7	1.0	-55.2	-13.0	-42.2	
2.444	-22.6	V	3.0	31.2	1.0	-52.8	-13.0	-39.8	
1.629	-23.0	H	3.0	32.7	1.0	-54.7	-13.0	-41.7	
2.444	-24.7	H	3.0	31.2	1.0	-54.9	-13.0	-41.9	
Mid Ch, (831.5MHz)									
1.663	-23.7	V	3.0	32.6	1.0	-55.3	-13.0	-42.3	
2.495	-22.4	V	3.0	31.5	1.0	-52.8	-13.0	-39.8	
1.663	-23.7	H	3.0	32.6	1.0	-55.3	-13.0	-42.3	
2.495	-23.5	H	3.0	31.5	1.0	-54.0	-13.0	-41.0	
High Ch, (848.3MHz)									
1.697	-24.3	V	3.0	32.6	1.0	-55.9	-13.0	-42.9	
2.545	-22.5	V	3.0	31.4	1.0	-52.9	-13.0	-39.9	
1.697	-26.3	H	3.0	32.6	1.0	-57.9	-13.0	-44.9	
2.545	-25.0	H	3.0	31.4	1.0	-55.4	-13.0	-42.4	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 1.4MHz har 16QAM

Chamber

3m Chamber F

Pre-amplifier

T145 8449B

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (814.7MHz)									
1.629	-24.4	V	3.0	32.7	1.0	-56.1	-13.0	-43.1	
2.444	-23.5	V	3.0	31.2	1.0	-53.7	-13.0	-40.7	
1.629	-23.9	H	3.0	32.7	1.0	-55.6	-13.0	-42.6	
2.444	-25.7	H	3.0	31.2	1.0	-55.9	-13.0	-42.9	
Mid Ch, (831.5MHz)									
1.663	-24.8	V	3.0	32.6	1.0	-56.4	-13.0	-43.4	
2.495	-23.4	V	3.0	31.5	1.0	-53.9	-13.0	-40.9	
1.663	-24.6	H	3.0	32.6	1.0	-56.2	-13.0	-43.2	
2.495	-24.5	H	3.0	31.5	1.0	-55.0	-13.0	-42.0	
High Ch, (848.3MHz)									
1.697	-25.3	V	3.0	32.6	1.0	-56.8	-13.0	-43.8	
2.545	-23.3	V	3.0	31.4	1.0	-53.8	-13.0	-40.8	
1.697	-27.3	H	3.0	32.6	1.0	-58.8	-13.0	-45.8	
2.545	-26.2	H	3.0	31.4	1.0	-56.6	-13.0	-43.6	

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

3 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 3MHz har QPSK

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (815.5MHz)									
1.631	-24.1	V	3.0	32.7	1.0	-55.8	-13.0	-42.8	
2.447	-22.4	V	3.0	31.2	1.0	-52.7	-13.0	-39.7	
1.631	-22.3	H	3.0	32.7	1.0	-54.0	-13.0	-41.0	
2.447	-24.3	H	3.0	31.2	1.0	-54.6	-13.0	-41.6	
Mid Ch, (831.5MHz)									
1.663	-23.5	V	3.0	32.6	1.0	-55.1	-13.0	-42.1	
2.495	-22.2	V	3.0	31.5	1.0	-52.7	-13.0	-39.7	
1.663	-23.5	H	3.0	32.6	1.0	-55.2	-13.0	-42.2	
2.495	-24.2	H	3.0	31.5	1.0	-54.7	-13.0	-41.7	
High Ch, (847.5MHz)									
1.695	-24.3	V	3.0	32.6	1.0	-55.8	-13.0	-42.8	
2.543	-22.6	V	3.0	31.4	1.0	-53.0	-13.0	-40.0	
1.695	-24.6	H	3.0	32.6	1.0	-56.1	-13.0	-43.1	
2.543	-24.9	H	3.0	31.4	1.0	-55.3	-13.0	-42.3	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 3MHz har 16QAM

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (815.5MHz)									
1.631	-25.0	V	3.0	32.7	1.0	-56.7	-13.0	-43.7	
2.447	-23.5	V	3.0	31.2	1.0	-53.7	-13.0	-40.7	
1.631	92.9	H	3.0	32.7	1.0	61.2	-13.0	74.2	
2.447	-25.2	H	3.0	31.2	1.0	-55.4	-13.0	-42.4	
Mid Ch, (831.5MHz)									
1.663	-24.3	V	3.0	32.6	1.0	-55.9	-13.0	-42.9	
2.495	-23.3	V	3.0	31.5	1.0	-53.8	-13.0	-40.8	
1.663	-24.6	H	3.0	32.6	1.0	-56.2	-13.0	-43.2	
2.495	-25.1	H	3.0	31.5	1.0	-55.6	-13.0	-42.6	
High Ch, (847.5MHz)									
1.695	-25.2	V	3.0	32.6	1.0	-56.7	-13.0	-43.7	
2.543	-23.6	V	3.0	31.4	1.0	-54.0	-13.0	-41.0	
1.695	-26.4	H	3.0	32.6	1.0	-57.9	-13.0	-44.9	
2.543	-26.0	H	3.0	31.4	1.0	-56.4	-13.0	-43.4	

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

5 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/13/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with Wireless charger							
Mode:		TX, LTE B26 5MHZ har QPSK							
Chamber		Pre-amplifer			Filter		Limit		
3m Chamber F		T145 8449B			Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (816.5MHz)									
1.633	-22.7	V	3.0	32.7	1.0	-54.4	-13.0	-41.4	
2.450	-23.0	V	3.0	31.2	1.0	-53.2	-13.0	-40.2	
1.633	-21.5	H	3.0	32.7	1.0	-53.2	-13.0	-40.2	
2.450	-24.1	H	3.0	31.2	1.0	-54.3	-13.0	-41.3	
Mid Ch, (831.5MHz)									
1.663	-24.4	V	3.0	32.6	1.0	-56.0	-13.0	-43.0	
2.495	-22.7	V	3.0	31.5	1.0	-53.2	-13.0	-40.2	
1.663	-23.8	H	3.0	32.6	1.0	-55.5	-13.0	-42.5	
2.495	-24.5	H	3.0	31.5	1.0	-55.0	-13.0	-42.0	
High Ch, (846.5MHz)									
1.693	-23.9	V	3.0	32.6	1.0	-55.4	-13.0	-42.4	
2.540	-22.4	V	3.0	31.4	1.0	-52.8	-13.0	-39.8	
1.693	-24.7	H	3.0	32.6	1.0	-56.2	-13.0	-43.2	
2.540	-24.5	H	3.0	31.4	1.0	-55.0	-13.0	-42.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 5MHz har 16QAM

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (816.5MHz)									
1.633	-23.6	V	3.0	32.7	1.0	-55.3	-13.0	-42.3	
2.450	-23.9	V	3.0	31.2	1.0	-54.1	-13.0	-41.1	
1.633	-22.4	H	3.0	32.7	1.0	-54.1	-13.0	-41.1	
2.450	-25.0	H	3.0	31.2	1.0	-55.2	-13.0	-42.2	
Mid Ch, (831.5MHz)									
1.663	-25.3	V	3.0	32.6	1.0	-56.9	-13.0	-43.9	
2.495	-23.8	V	3.0	31.5	1.0	-54.3	-13.0	-41.3	
1.663	-24.8	H	3.0	32.6	1.0	-56.4	-13.0	-43.4	
2.495	-25.4	H	3.0	31.5	1.0	-55.9	-13.0	-42.9	
High Ch, (846.5MHz)									
1.693	-25.0	V	3.0	32.6	1.0	-56.5	-13.0	-43.5	
2.540	-23.3	V	3.0	31.4	1.0	-53.7	-13.0	-40.7	
1.693	-26.6	H	3.0	32.6	1.0	-58.1	-13.0	-45.1	
2.540	-25.5	H	3.0	31.4	1.0	-56.0	-13.0	-43.0	

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

10 MHz

QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 10MHz har QPSK

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (819MHz)									
1.638	-24.3	V	3.0	32.7	1.0	-56.0	-13.0	-43.0	
2.457	-21.4	V	3.0	31.3	1.0	-51.7	-13.0	-38.7	
1.638	-22.6	H	3.0	32.7	1.0	-54.3	-13.0	-41.3	
2.457	-24.3	H	3.0	31.3	1.0	-54.5	-13.0	-41.5	
Mid Ch, (831.5MHz)									
1.663	-23.6	V	3.0	32.6	1.0	-55.2	-13.0	-42.2	
2.495	-22.5	V	3.0	31.5	1.0	-53.0	-13.0	-40.0	
1.663	-24.1	H	3.0	32.6	1.0	-55.7	-13.0	-42.7	
2.495	-23.9	H	3.0	31.5	1.0	-54.4	-13.0	-41.4	
High Ch, (844MHz)									
1.688	-24.6	V	3.0	32.6	1.0	-56.1	-13.0	-43.1	
2.532	-21.9	V	3.0	31.5	1.0	-52.4	-13.0	-39.4	
1.688	-25.9	H	3.0	32.6	1.0	-57.4	-13.0	-44.4	
2.532	-24.5	H	3.0	31.5	1.0	-55.0	-13.0	-42.0	

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

16QAM

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
 Project #: 13U15420
 Date: 07/13/13
 Test Engineer: Kiya Kedida
 Configuration: EUT with Wireless charger
 Mode: TX, LTE B26 10MHz har 16QAM

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

T145 8449B

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (819MHz)									
1.638	-25.1	V	3.0	32.7	1.0	-56.8	-13.0	-43.8	
2.457	-22.3	V	3.0	31.3	1.0	-52.6	-13.0	-39.6	
1.638	-23.5	H	3.0	32.7	1.0	-55.2	-13.0	-42.2	
2.457	-25.1	H	3.0	31.3	1.0	-55.4	-13.0	-42.4	
Mid Ch, (831.5MHz)									
1.663	-24.5	V	3.0	32.6	1.0	-56.1	-13.0	-43.1	
2.495	-23.4	V	3.0	31.5	1.0	-53.9	-13.0	-40.9	
1.663	-25.2	H	3.0	32.6	1.0	-56.8	-13.0	-43.8	
2.495	-24.8	H	3.0	31.5	1.0	-55.3	-13.0	-42.3	
High Ch, (844MHz)									
1.688	-25.5	V	3.0	32.6	1.0	-57.0	-13.0	-44.0	
2.532	-24.0	V	3.0	31.5	1.0	-54.5	-13.0	-41.5	
1.688	-27.1	H	3.0	32.6	1.0	-58.7	-13.0	-45.7	
2.532	-25.4	H	3.0	31.5	1.0	-55.9	-13.0	-42.9	

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

16.1.11. LTE BAND 41

10 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 10MHz, QPSK							
Chamber		Pre-amplifer			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2501 MHz)									
5.002	-15.4	V	3.0	28.9	1.0	-43.3	-25.0	-18.3	
7.503	-16.2	V	3.0	26.3	1.0	-41.6	-25.0	-16.6	
5.002	-15.6	H	3.0	28.9	1.0	-43.5	-25.0	-18.5	
7.503	-14.4	H	3.0	26.3	1.0	-39.7	-25.0	-14.7	
Mid Ch, (2593 MHz)									
5.186	-14.0	V	3.0	28.7	1.0	-41.7	-25.0	-16.7	
7.779	-15.7	V	3.0	26.0	1.0	-40.7	-25.0	-15.7	
5.186	-14.6	H	3.0	28.7	1.0	-42.3	-25.0	-17.3	
7.779	-13.8	H	3.0	26.0	1.0	-38.8	-25.0	-13.8	
High Ch, (2685 MHz)									
5.375	-16.5	V	3.0	28.5	1.0	-44.0	-25.0	-19.0	
8.055	-15.4	V	3.0	25.6	1.0	-40.0	-25.0	-15.0	
5.375	-16.0	H	3.0	28.5	1.0	-43.5	-25.0	-18.5	
8.055	-13.9	H	3.0	25.6	1.0	-38.5	-25.0	-13.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 10MHz, 16QAM							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2501 MHz)									
5.002	-16.4	V	3.0	28.9	1.0	-44.3	-25.0	-19.3	
7.503	-17.2	V	3.0	26.3	1.0	-42.6	-25.0	-17.6	
5.002	-16.6	H	3.0	28.9	1.0	-44.5	-25.0	-19.5	
7.503	-15.4	H	3.0	26.3	1.0	-40.7	-25.0	-15.7	
Mid Ch, (2593 MHz)									
5.186	-15.0	V	3.0	28.7	1.0	-42.7	-25.0	-17.7	
7.779	-16.7	V	3.0	26.0	1.0	-41.7	-25.0	-16.7	
5.186	-15.6	H	3.0	28.7	1.0	-43.3	-25.0	-18.3	
7.779	-14.8	H	3.0	26.0	1.0	-39.8	-25.0	-14.8	
High Ch, (2685 MHz)									
5.375	-16.2	V	3.0	28.5	1.0	-43.7	-25.0	-18.7	
8.055	-15.4	V	3.0	25.6	1.0	-40.0	-25.0	-15.0	
5.375	-15.5	H	3.0	28.5	1.0	-43.0	-25.0	-18.0	
8.055	-14.0	H	3.0	25.6	1.0	-38.6	-25.0	-13.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

15 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 15MHz, QPSK							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2503.5 MHz)									
5.007	-16.9	V	3.0	28.9	1.0	-44.8	-25.0	-19.8	
7.511	-16.1	V	3.0	26.3	1.0	-41.4	-25.0	-16.4	
5.007	-17.0	H	3.0	28.9	1.0	-44.9	-25.0	-19.9	
7.511	-14.4	H	3.0	26.3	1.0	-39.8	-25.0	-14.8	
Mid Ch, (2593 MHz)									
5.186	-16.2	V	3.0	28.7	1.0	-43.9	-25.0	-18.9	
7.779	-15.6	V	3.0	26.0	1.0	-40.6	-25.0	-15.6	
5.186	-14.6	H	3.0	28.7	1.0	-42.3	-25.0	-17.3	
7.779	-14.0	H	3.0	26.0	1.0	-38.9	-25.0	-13.9	
High Ch, (2682.5 MHz)									
5.365	-16.0	V	3.0	28.5	1.0	-43.5	-25.0	-18.5	
8.052	-15.3	V	3.0	25.6	1.0	-39.9	-25.0	-14.9	
5.365	-15.7	H	3.0	28.5	1.0	-43.2	-25.0	-18.2	
8.052	-14.1	H	3.0	25.6	1.0	-38.7	-25.0	-13.7	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 15MHz, 16QAM							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2503.5 MHz)									
5.007	-17.9	V	3.0	28.9	1.0	-45.8	-25.0	-20.8	
7.511	-17.1	V	3.0	26.3	1.0	-42.4	-25.0	-17.4	
5.007	-18.0	H	3.0	28.9	1.0	-45.9	-25.0	-20.9	
7.511	-15.4	H	3.0	26.3	1.0	-40.8	-25.0	-15.8	
Mid Ch, (2593 MHz)									
5.186	-17.2	V	3.0	28.7	1.0	-44.9	-25.0	-19.9	
7.779	-16.6	V	3.0	26.0	1.0	-41.6	-25.0	-16.6	
5.186	-15.6	H	3.0	28.7	1.0	-43.3	-25.0	-18.3	
7.779	-15.0	H	3.0	26.0	1.0	-39.9	-25.0	-14.9	
High Ch, (2682.5 MHz)									
5.365	-16.5	V	3.0	28.5	1.0	-44.1	-25.0	-19.1	
8.052	-15.4	V	3.0	25.6	1.0	-40.0	-25.0	-15.0	
5.365	-15.2	H	3.0	28.5	1.0	-42.8	-25.0	-17.8	
8.052	-14.0	H	3.0	25.6	1.0	-38.7	-25.0	-13.7	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

20 MHz

QPSK

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 20MHz, QPSK							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2506 MHz)									
5.012	-15.6	V	3.0	28.9	1.0	-43.5	-25.0	-18.5	
7.518	-16.5	V	3.0	26.3	1.0	-41.8	-25.0	-16.8	
5.012	-15.1	H	3.0	28.9	1.0	-43.0	-25.0	-18.0	
7.518	-13.8	H	3.0	26.3	1.0	-39.2	-25.0	-14.2	
Mid Ch, (2593 MHz)									
5.186	-16.0	V	3.0	28.7	1.0	-43.7	-25.0	-18.7	
7.779	-18.1	V	3.0	26.0	1.0	-43.0	-25.0	-18.0	
5.186	-14.9	H	3.0	28.7	1.0	-42.6	-25.0	-17.6	
7.779	-14.2	H	3.0	26.0	1.0	-39.2	-25.0	-14.2	
High Ch, (2680 MHz)									
5.360	-16.0	V	3.0	28.5	1.0	-43.6	-25.0	-18.6	
8.040	-15.0	V	3.0	25.6	1.0	-39.7	-25.0	-14.7	
5.360	-14.5	H	3.0	28.5	1.0	-42.1	-25.0	-17.1	
8.040	-12.9	H	3.0	25.6	1.0	-37.6	-25.0	-12.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

16QAM

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15420							
Date:		07/15/13							
Test Engineer:		James Jackson							
Configuration:		EUT , wireless AC Adapter							
Mode:		TX, LTE band 41, 20MHz, 16QAM							
Chamber		Pre-amplifier			Filter		Limit		
5m Chamber B		T145 8449B			Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (2506 MHz)									
5.012	-16.6	V	3.0	28.9	1.0	-44.5	-25.0	-19.5	
7.518	-17.5	V	3.0	26.3	1.0	-42.8	-25.0	-17.8	
5.012	-16.1	H	3.0	28.9	1.0	-44.0	-25.0	-19.0	
7.518	-14.8	H	3.0	26.3	1.0	-40.2	-25.0	-15.2	
Mid Ch, (2593 MHz)									
5.186	-17.0	V	3.0	28.7	1.0	-44.7	-25.0	-19.7	
7.779	-19.1	V	3.0	26.0	1.0	-44.0	-25.0	-19.0	
5.186	-15.9	H	3.0	28.7	1.0	-43.6	-25.0	-18.6	
7.779	-15.2	H	3.0	26.0	1.0	-40.2	-25.0	-15.2	
High Ch, (2680 MHz)									
5.360	-15.8	V	3.0	28.5	1.0	-43.3	-25.0	-18.3	
8.040	-14.8	V	3.0	25.6	1.0	-39.4	-25.0	-14.4	
5.360	-14.9	H	3.0	28.5	1.0	-42.4	-25.0	-17.4	
8.040	-13.8	H	3.0	25.6	1.0	-38.5	-25.0	-13.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									