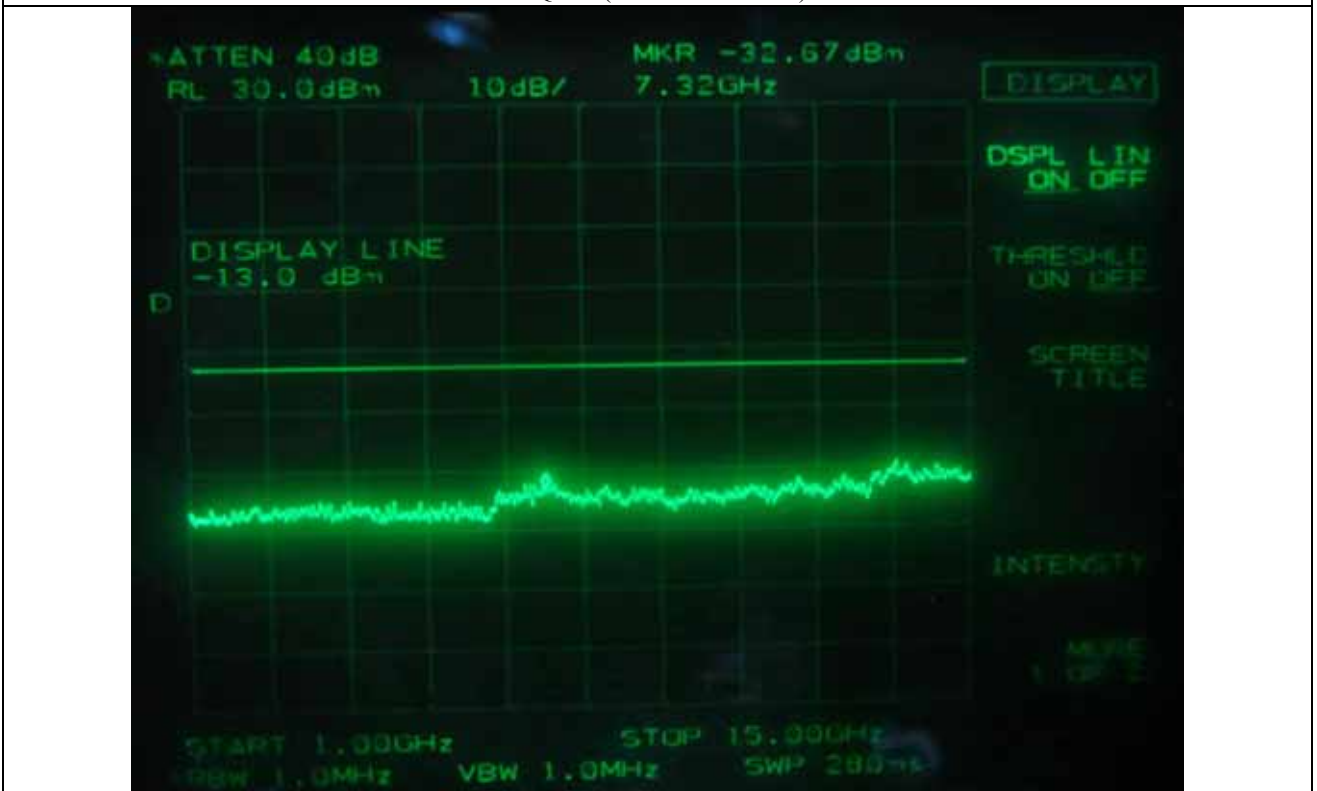
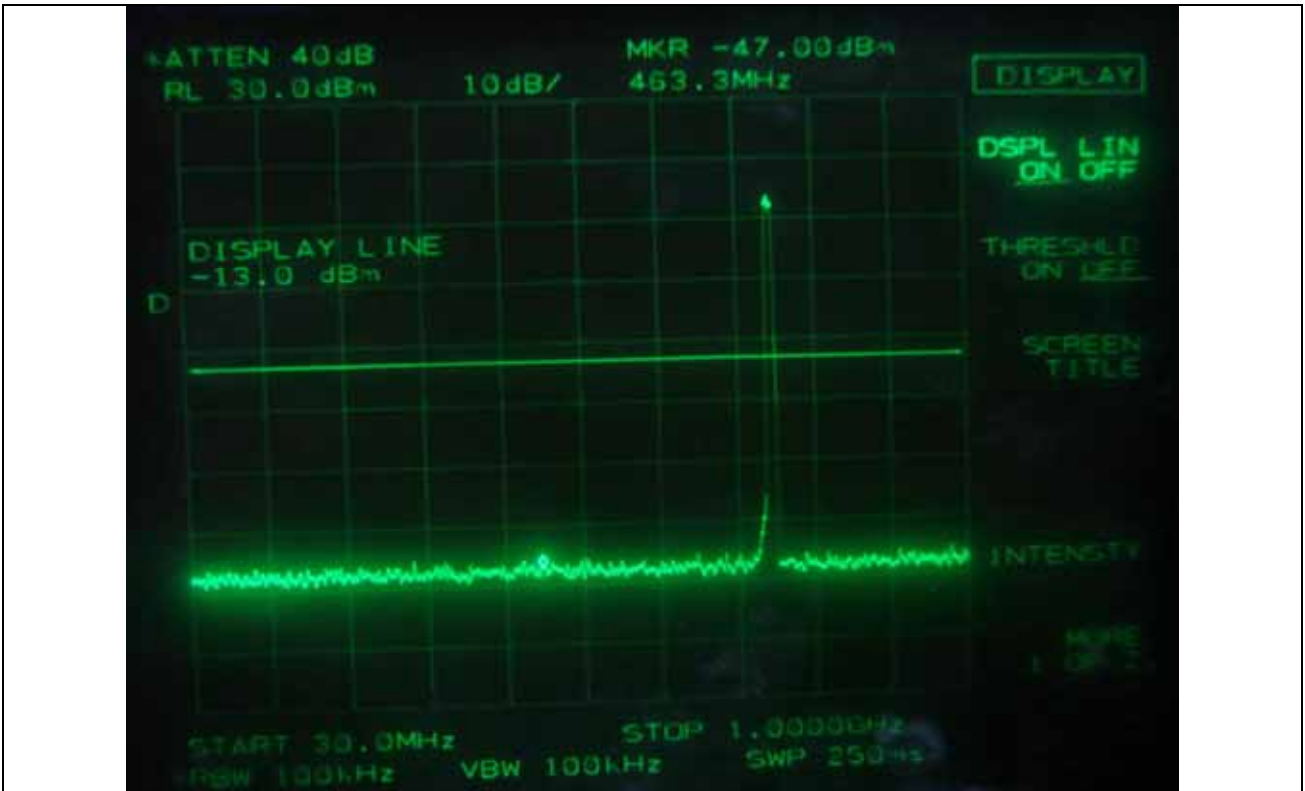


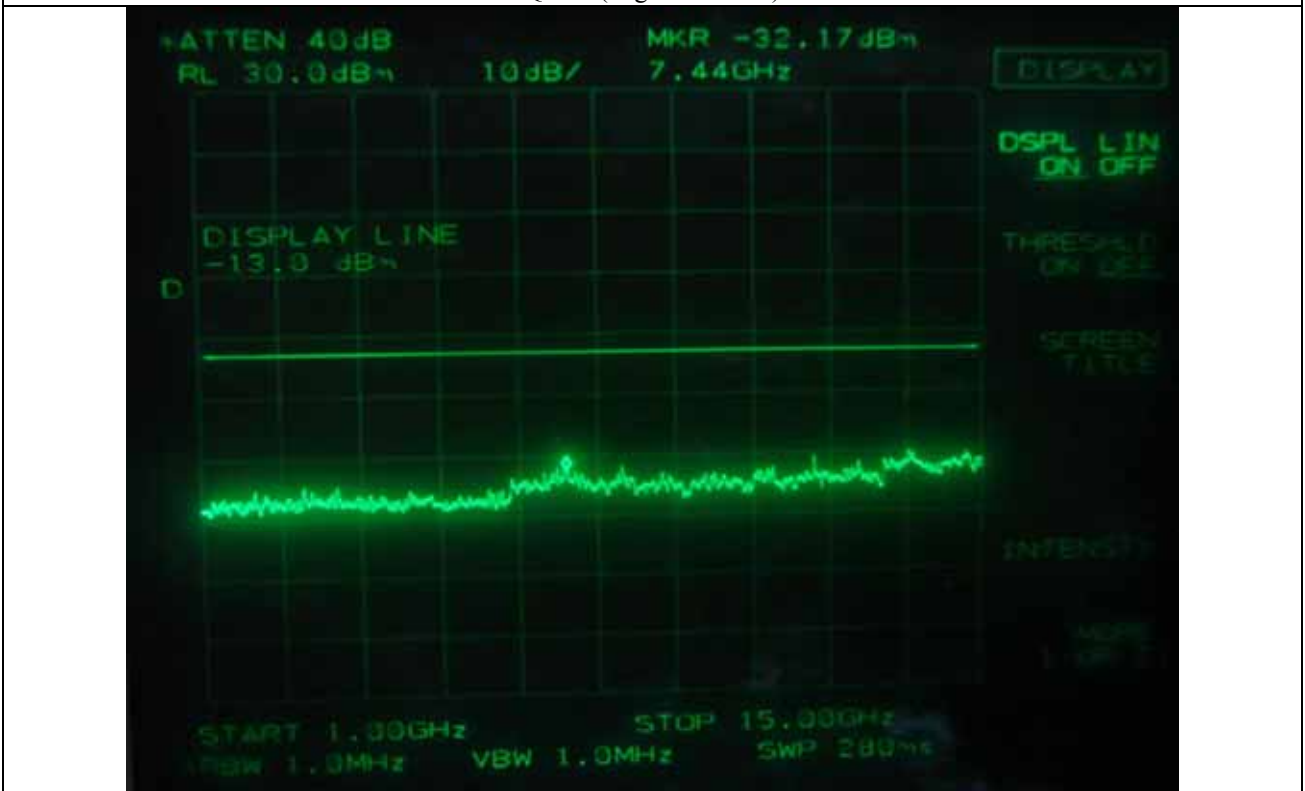
64QAM (Middle channel 1)



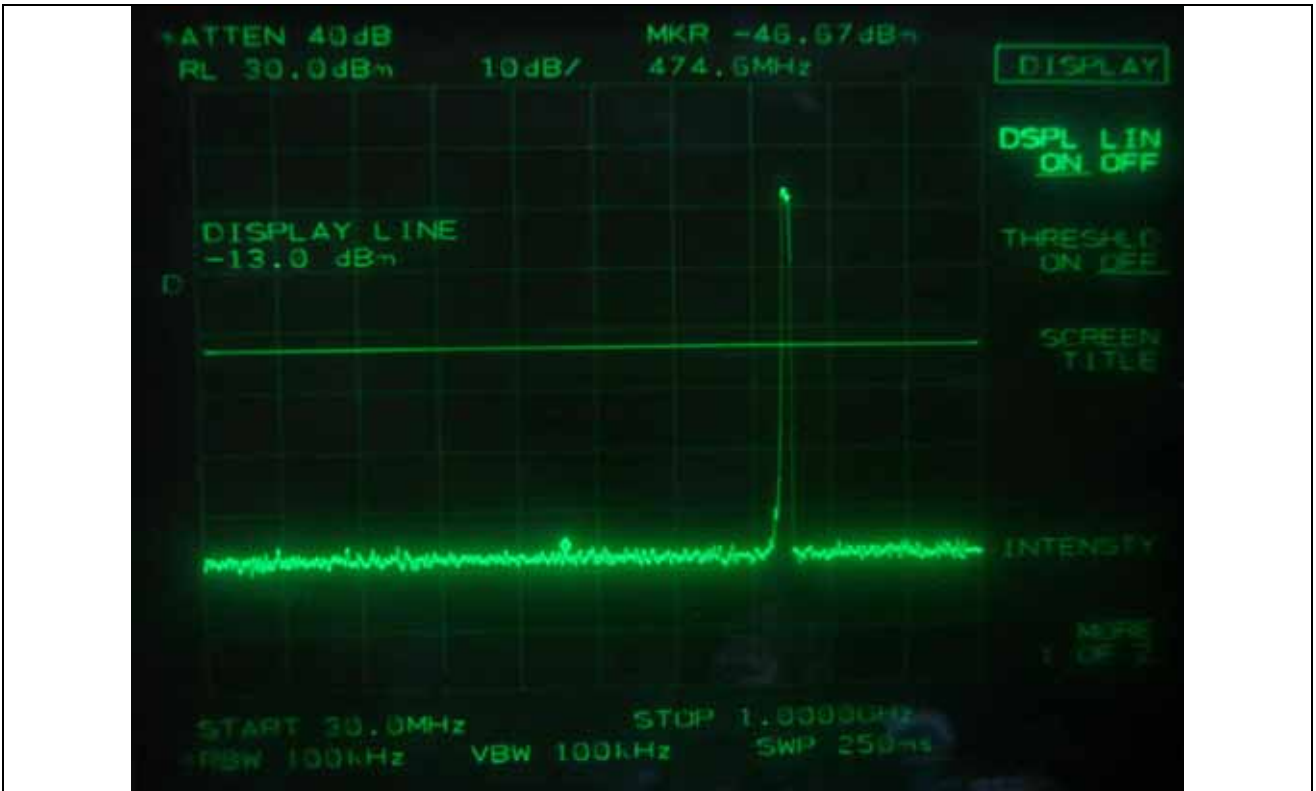
64QAM (Middle channel 2)



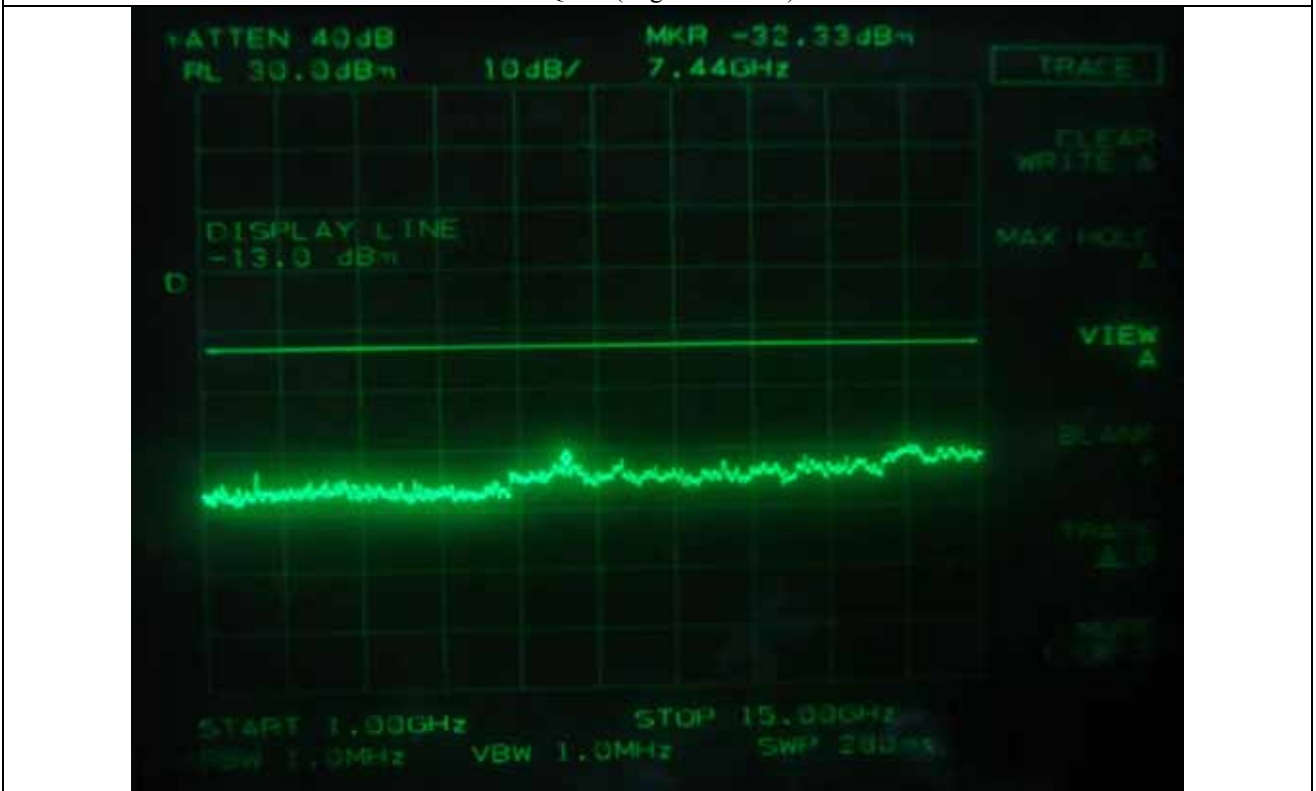
QPSK (High channel 1)



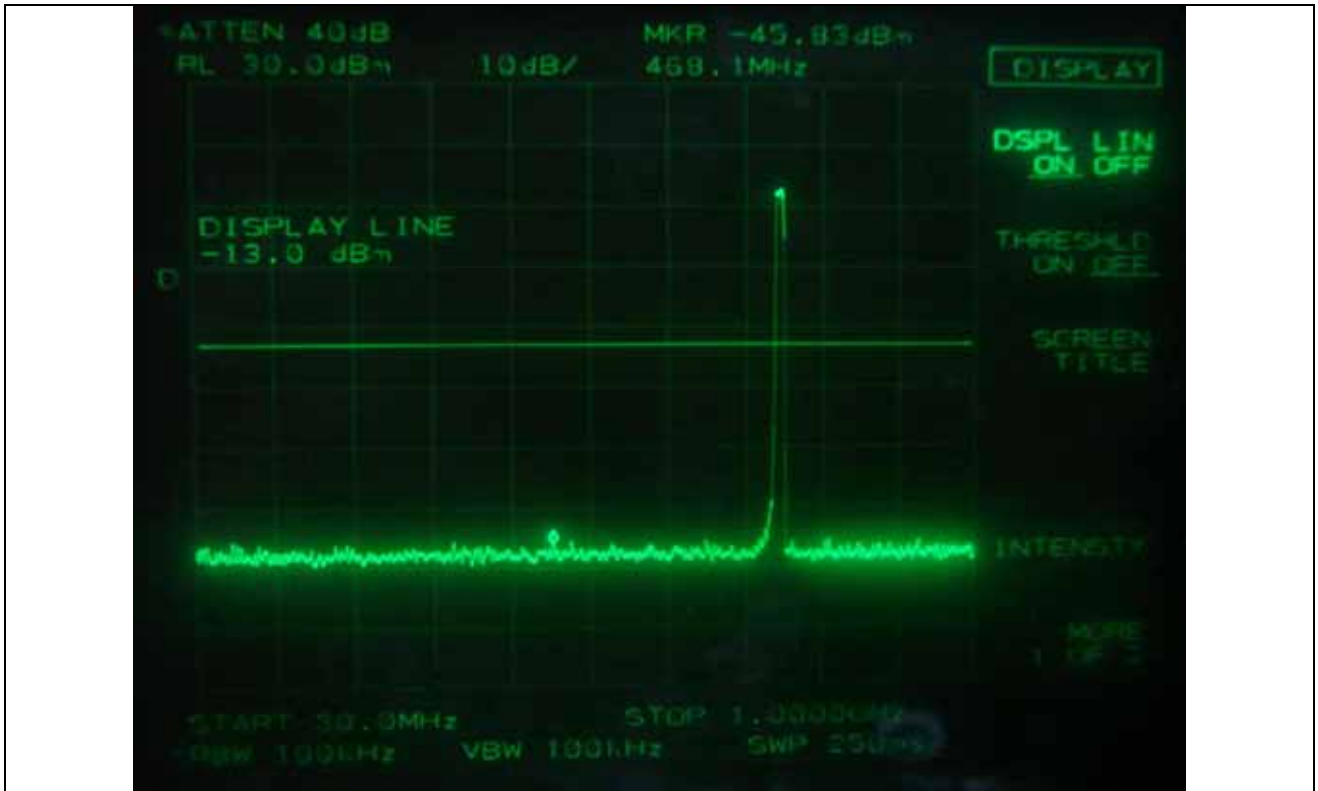
QPSK (High channel 2)



16QAM (High channel 1)



16QAM (High channel 2)



64QAM (High channel 1)



64QAM (High channel 2)

**7.3.3.2 Test Result for §27.53 (c)(3)**

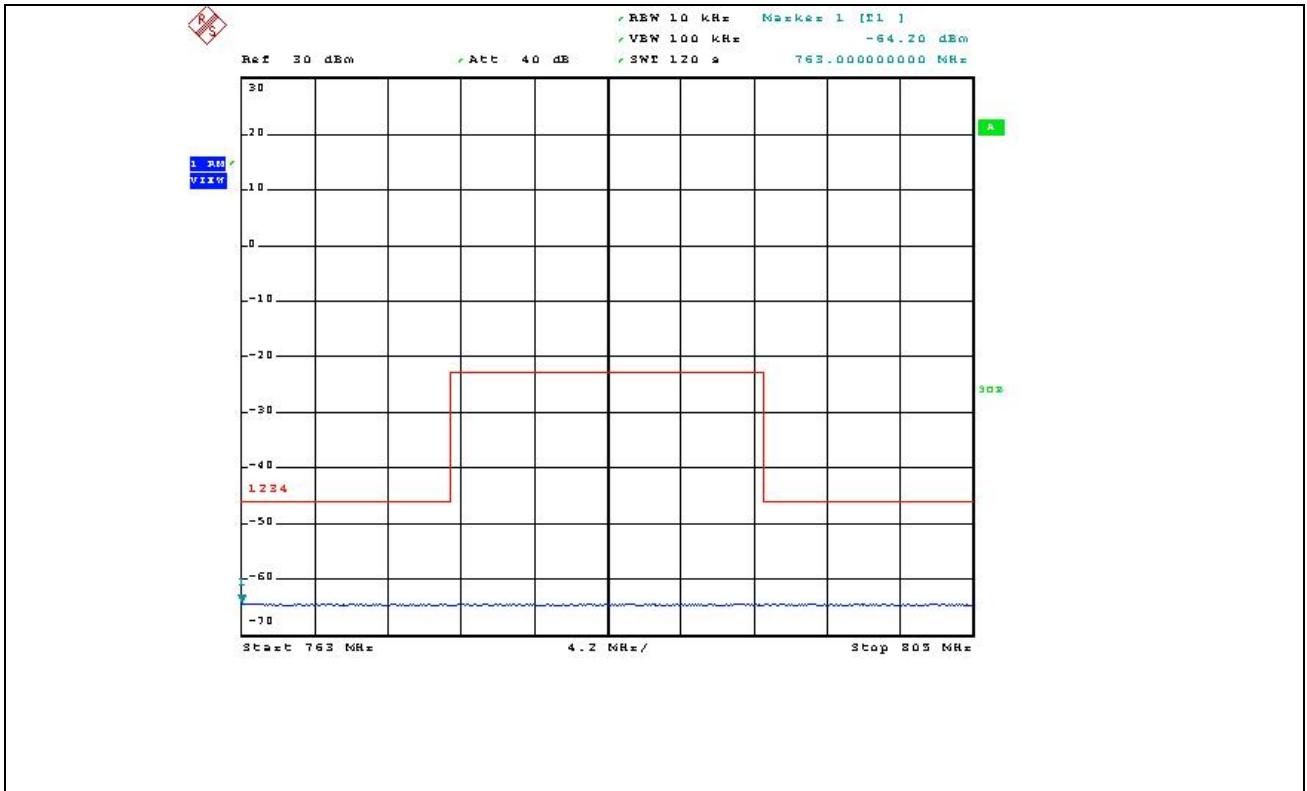
- Test Date : April 11 ~ 12, 2011
- Temperature : 24 °C
- Relative humidity : 50 % R.H.
- Frequency range : 763 MHz ~ 775 MHz and 793 MHz ~ 805 MHz
- Result : PASSED BY -17.53 dB at QPSK Mode

Channel	Modulation	Measured Frequency (MHz)	Measured Value (dBm)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Low	QPSK	763.000	-64.20	0.67	-63.53	-46.00	-17.53
	16QAM	763.000	-64.25	0.67	-63.58		-17.58
	64QAM	763.000	-64.28	0.67	-63.61		-17.61
Middle	QPSK	763.000	-64.29	0.67	-63.62		-17.62
	16QAM	763.000	-64.35	0.67	-63.68		-17.68
	64QAM	763.000	-64.41	0.67	-63.74		-17.74
High	QPSK	763.000	-64.30	0.67	-63.63		-17.63
	16QAM	763.000	-64.36	0.67	-63.69		-17.69
	64QAM	763.000	-64.34	0.67	-63.67		-17.67

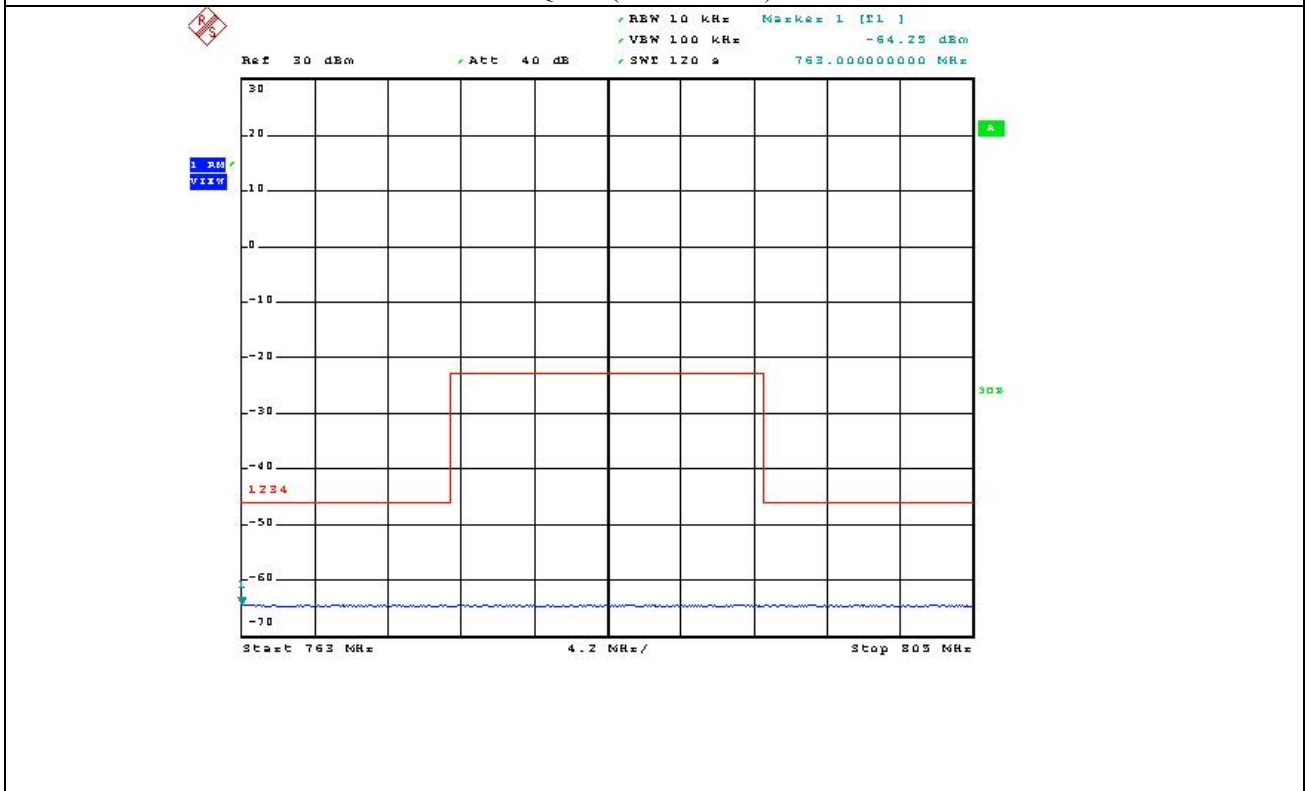
From CFR 27.53(c)(3)&(c)(6): On all frequency between the 763 MHz ~ 775 MHz and 793 MHz ~ 805 MHz, by a factor not less than  $76 + 10\log(P)$  dB in a 6.25 kHz band segment, for base and fixed stations, resulting in a limit of -46 dBm (per 6.25 kHz measurement bandwidth)

기홍

**Tested by: Ki-Hong, Nam / Senior Engineer**



QPSK (Low Channel)



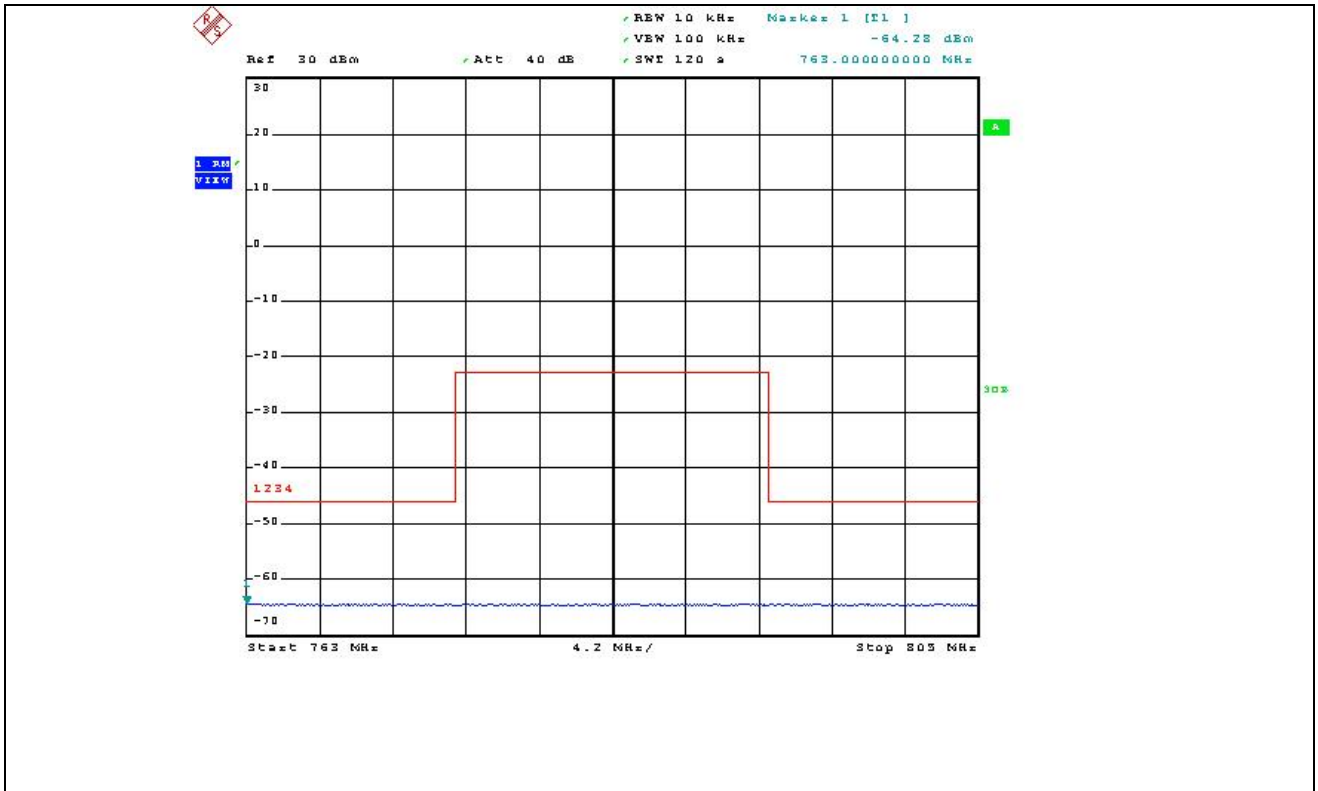
16QAM (Low Channel)

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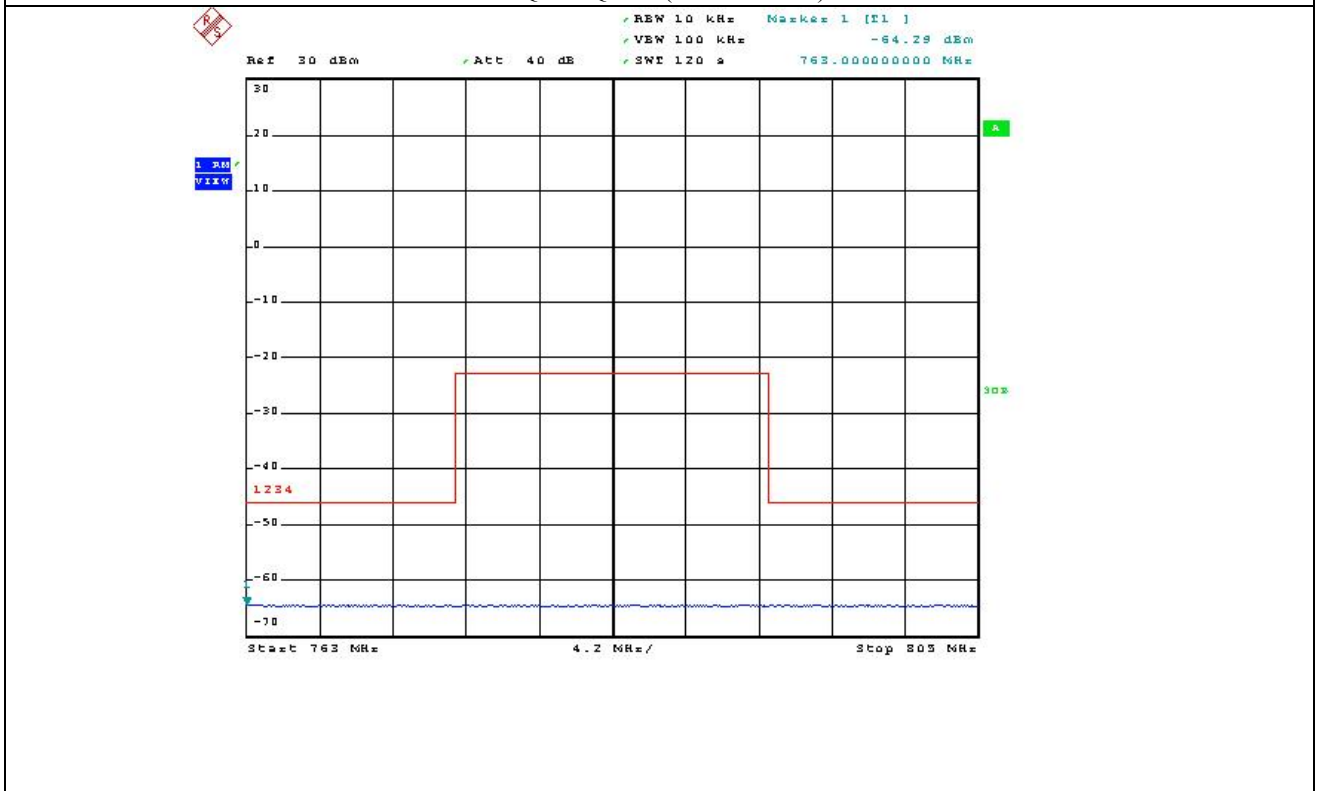
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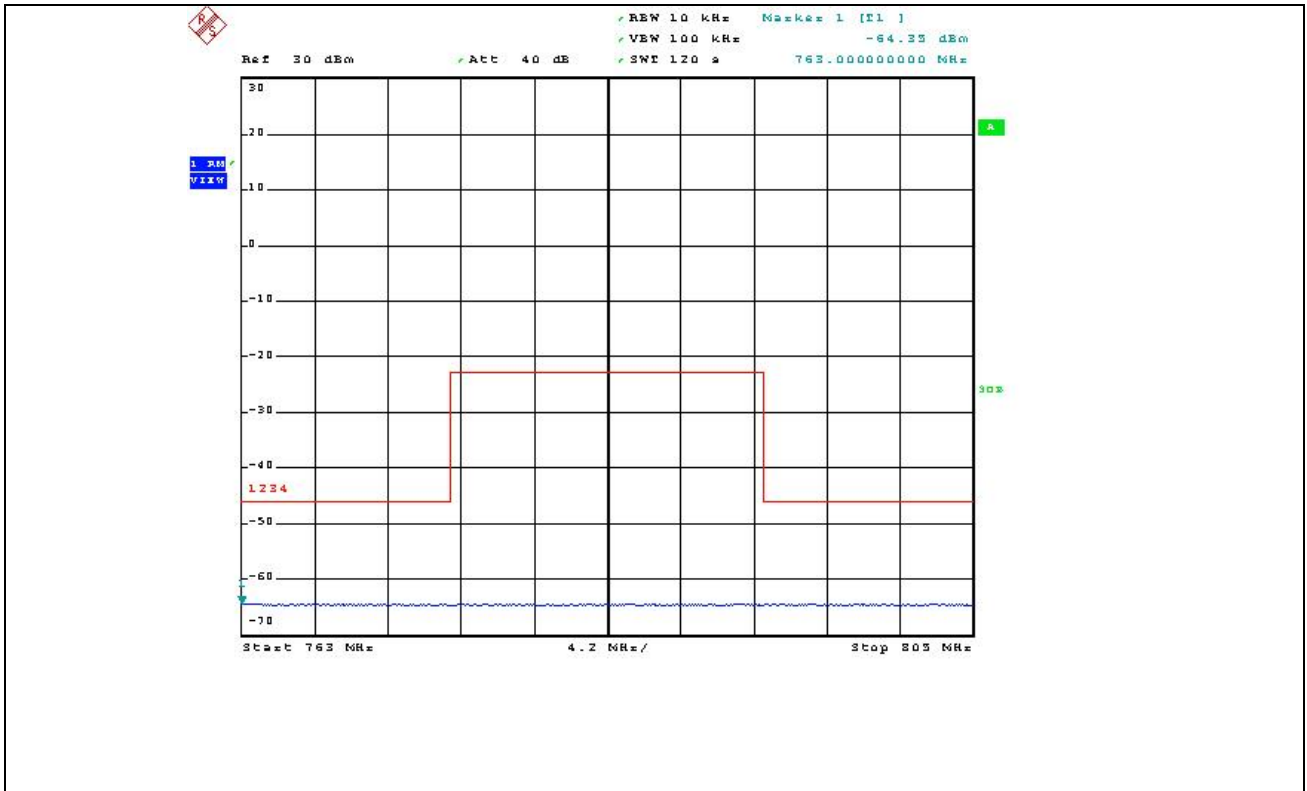
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)



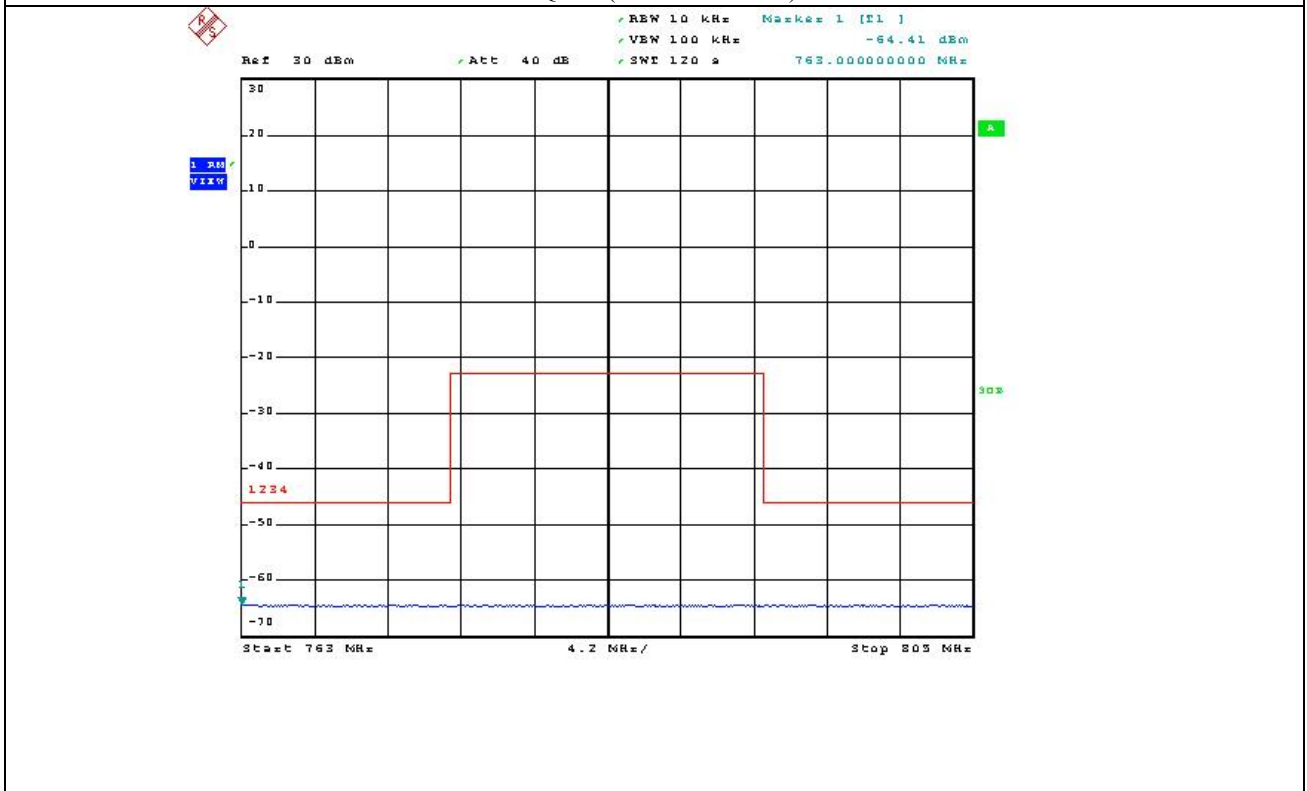
64QAM QPSK (Low Channel)



QPSK (Middle Channel)



16QAM (Middle Channel)



64QAM QPSK (Middle Channel)

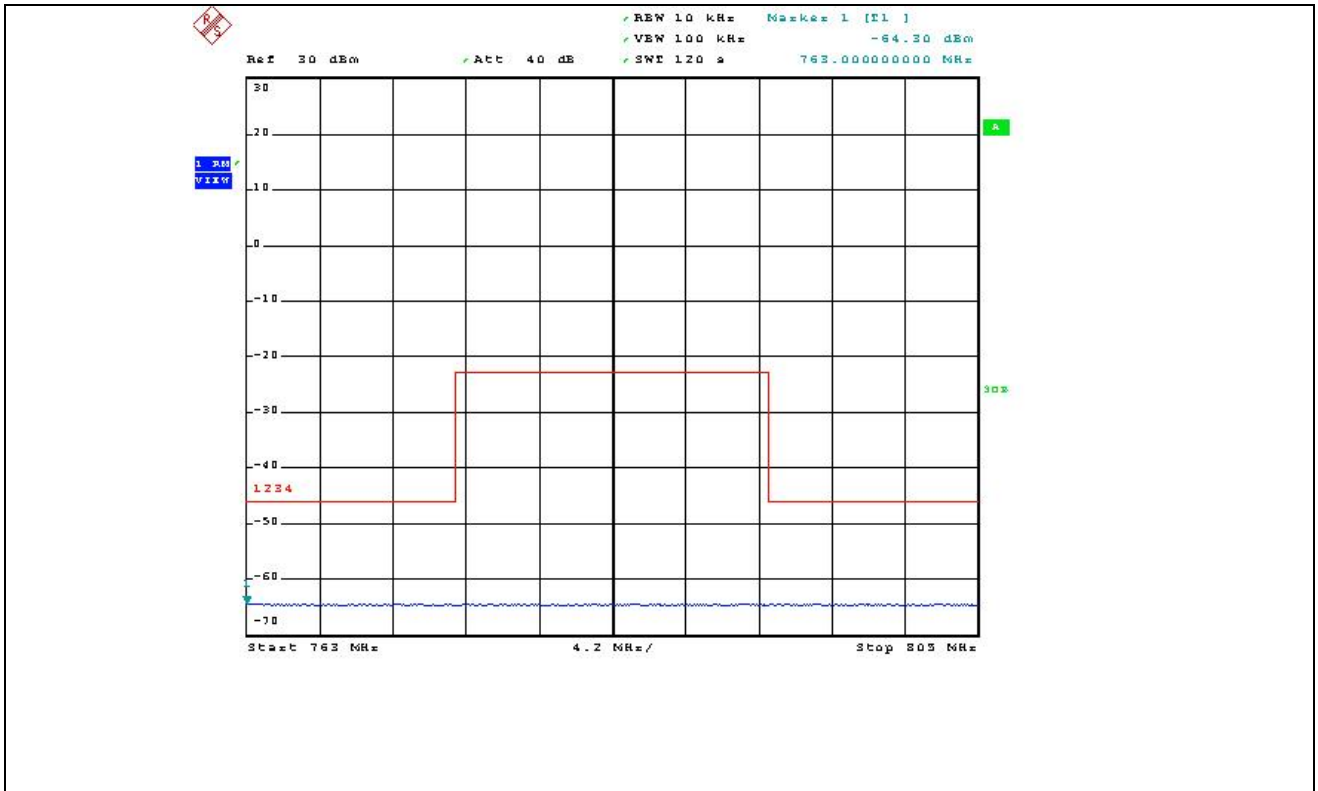
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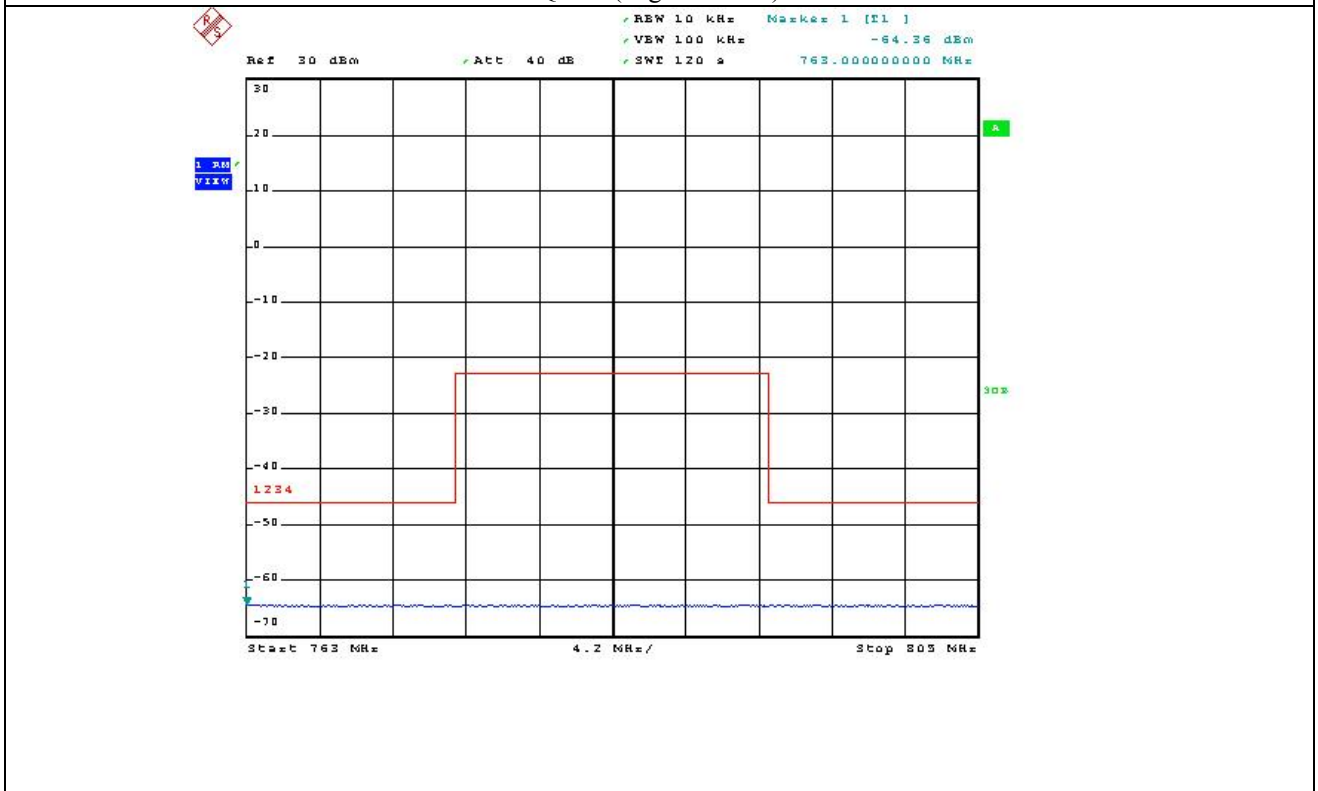
HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 Korea  
(TEL: +82-31-746-8500, FAX: +82-31-746-8700)

EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)





QPSK (High Channel)



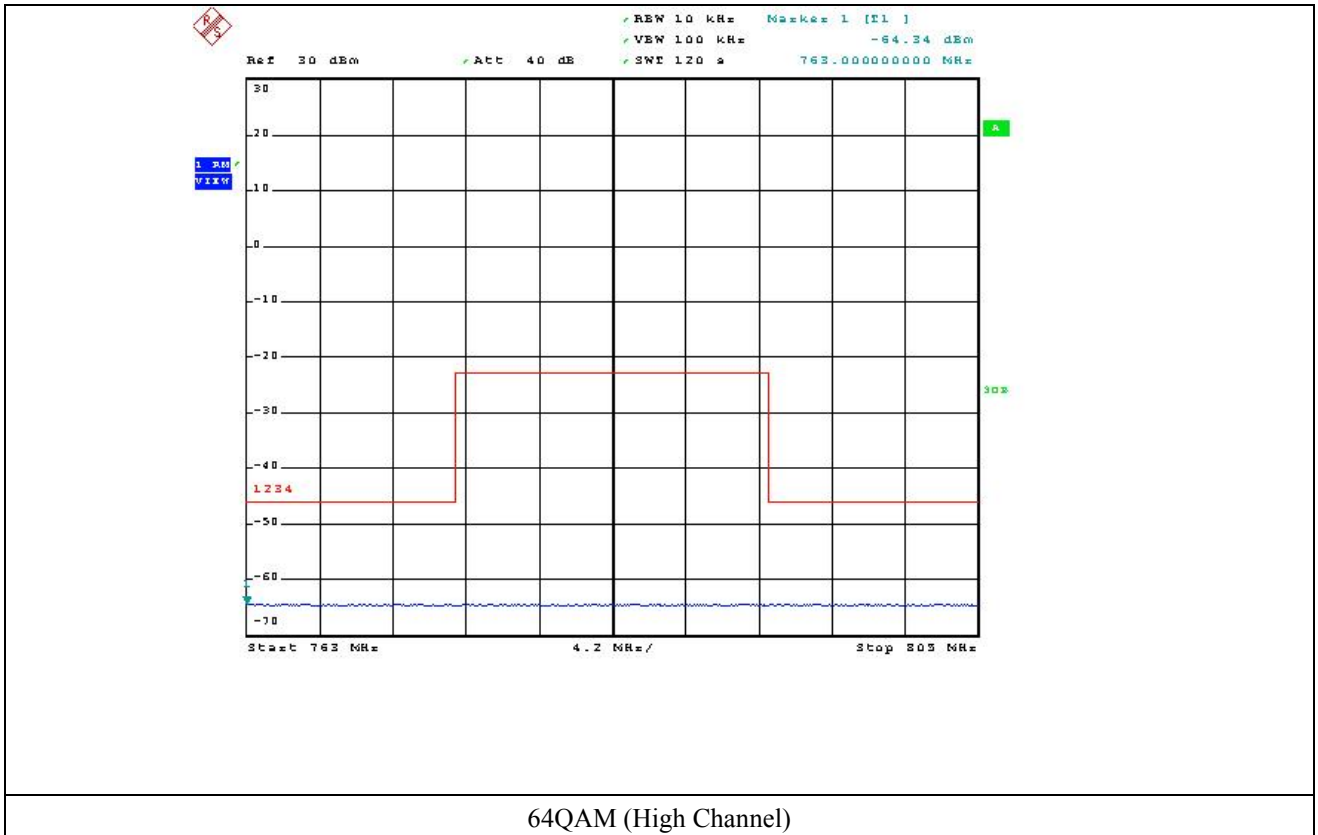
16QAM (High Channel)

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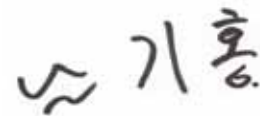


**7.3.3.3 Test Result for §27.53 (f)**

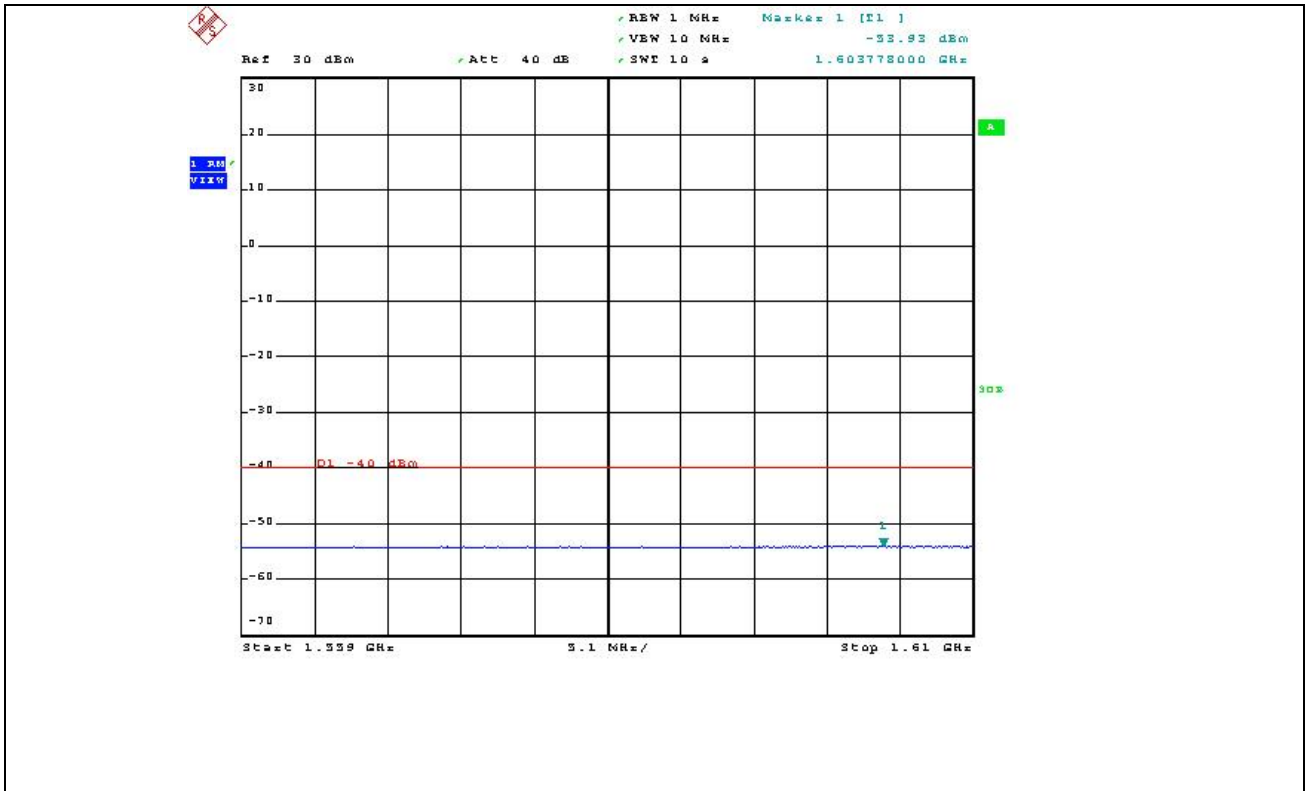
- Test Date : April 11 ~ 12, 2011
- Temperature : 24 °C
- Relative humidity : 50 % R.H.
- Frequency range : 1 559 MHz ~ 1 610 MHz
- Result : PASSED BY -12.74 dB at 16QAM Mode

Channel	Modulation	Measured Frequency (MHz)	Measured Value (dBm)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Low	QPSK	1603.778	-53.93	1.17	-52.76	-40.00	-12.76
	16QAM	1603.880	-53.93	1.17	-52.76		-12.76
	64QAM	1602.146	-53.94	1.17	-52.77		-12.77
Middle	QPSK	1600.106	-53.93	1.17	-52.76		-12.76
	16QAM	1607.654	-53.93	1.17	-52.76		-12.76
	64QAM	1600.820	-53.93	1.17	-52.76		-12.76
High	QPSK	1604.084	-53.95	1.17	-52.78		-12.78
	16QAM	1608.470	-53.91	1.17	-52.74		-12.74
	64QAM	1604.186	-53.96	1.17	-52.79		-12.79

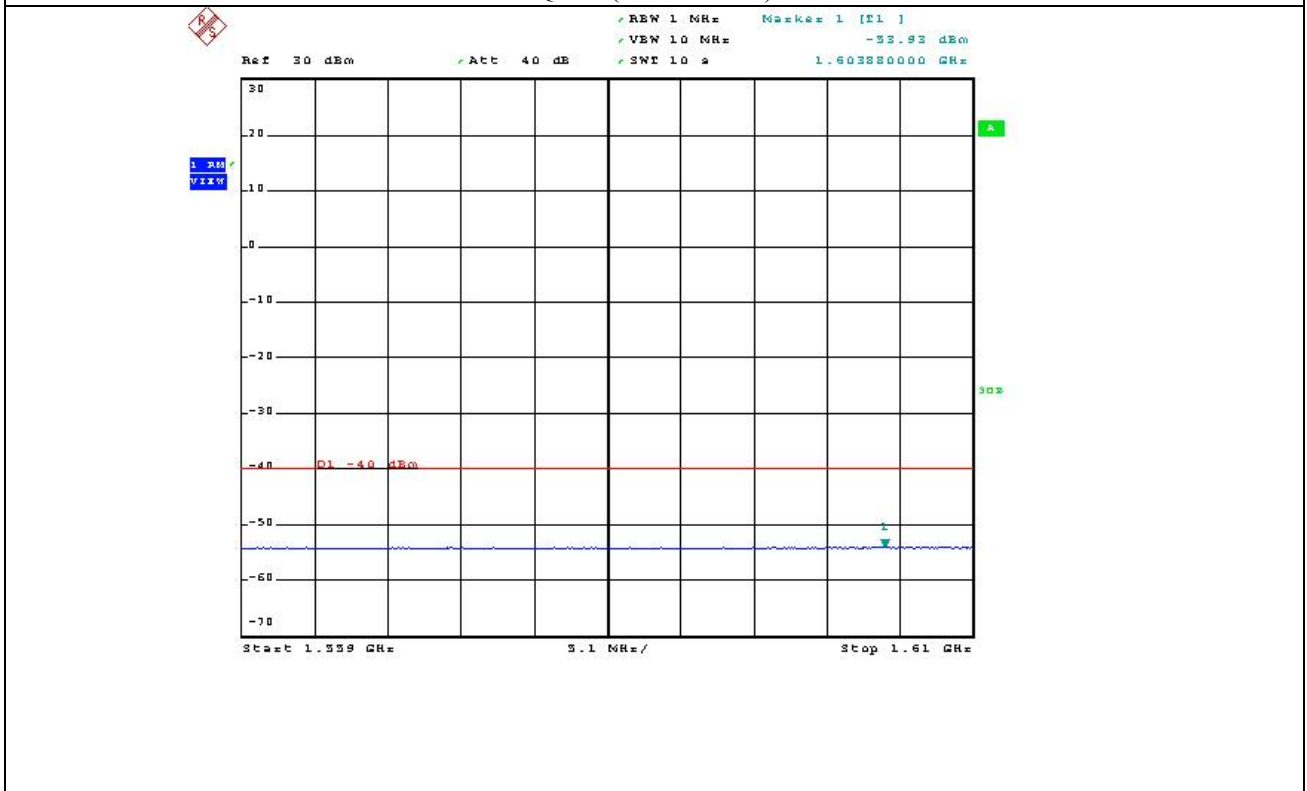
From CFR 27.53(f): For operations in the 746 MHz ~ 763 MHz, 775 MHz ~ 793 MHz, and 805 MHz ~ 806 MHz bands, emissions in the band 1 559 MHz ~ 1 610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



**Tested by: Ki-Hong, Nam / Senior Engineer**



QPSK (Low Channel)



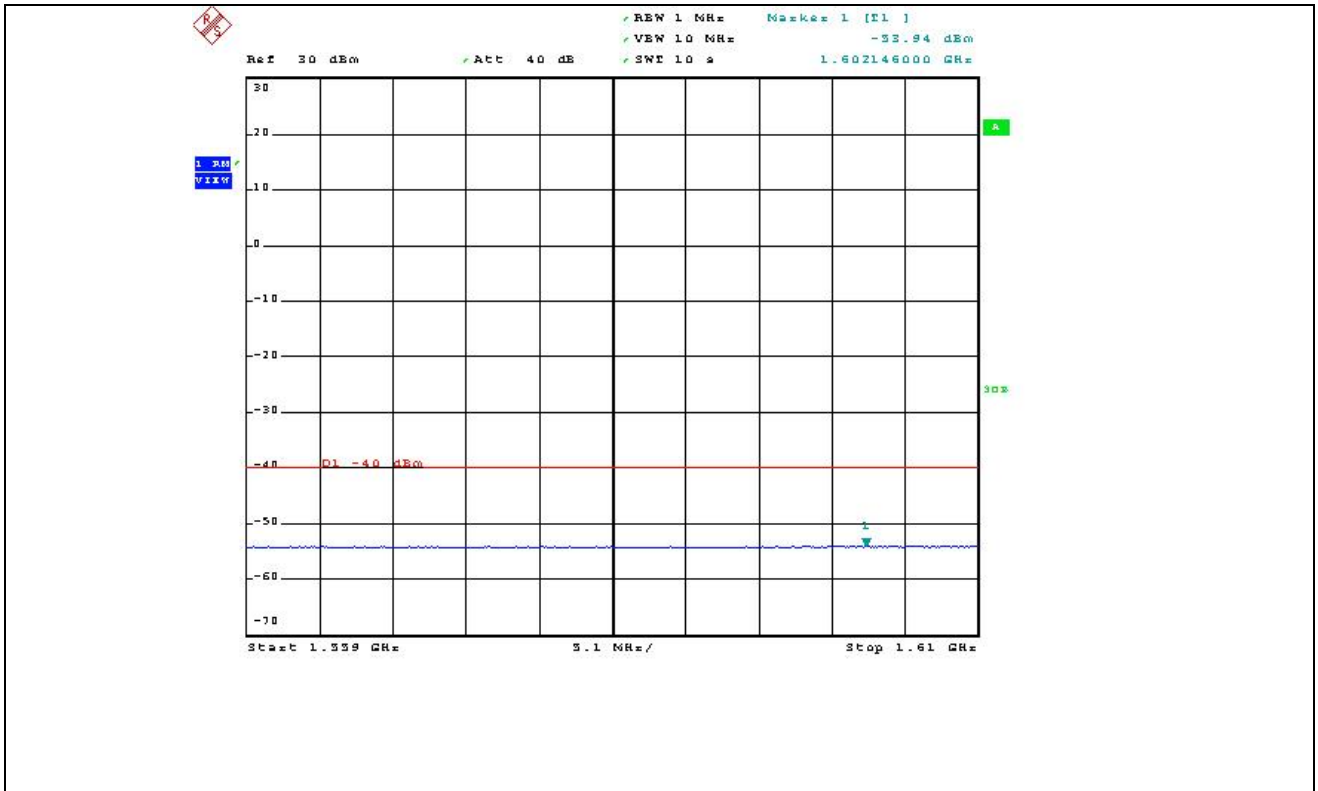
16QAM (Low Channel)

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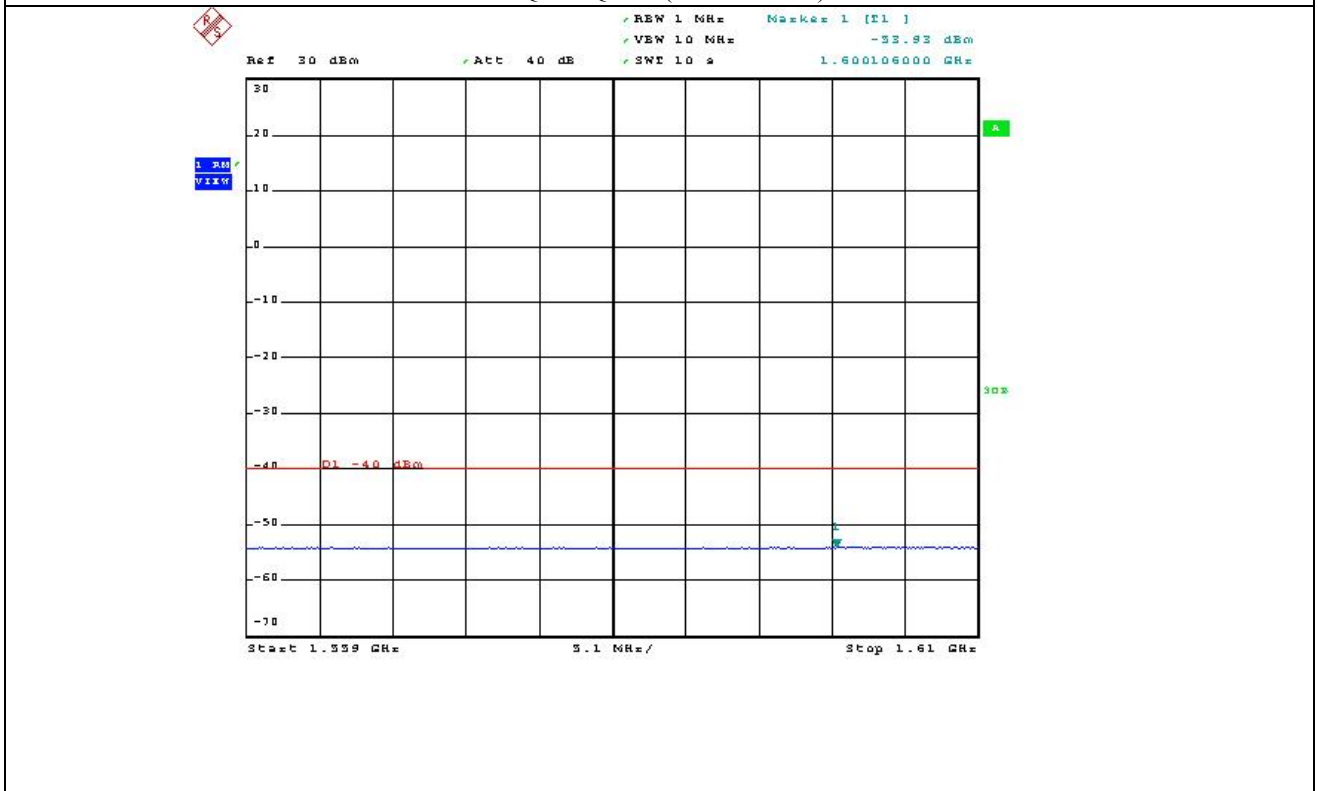
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(TEL: +82-31-746-8500, FAX: +82-31-746-8700)

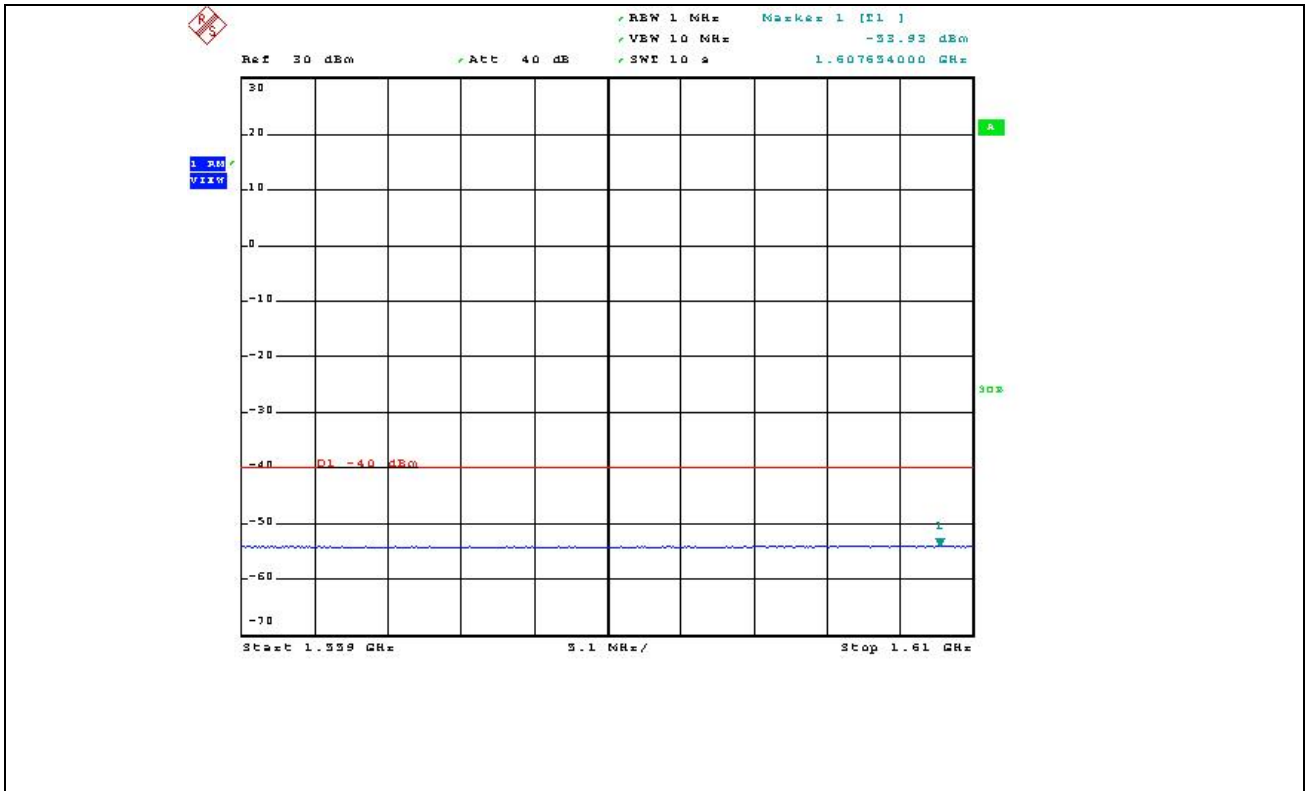
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)



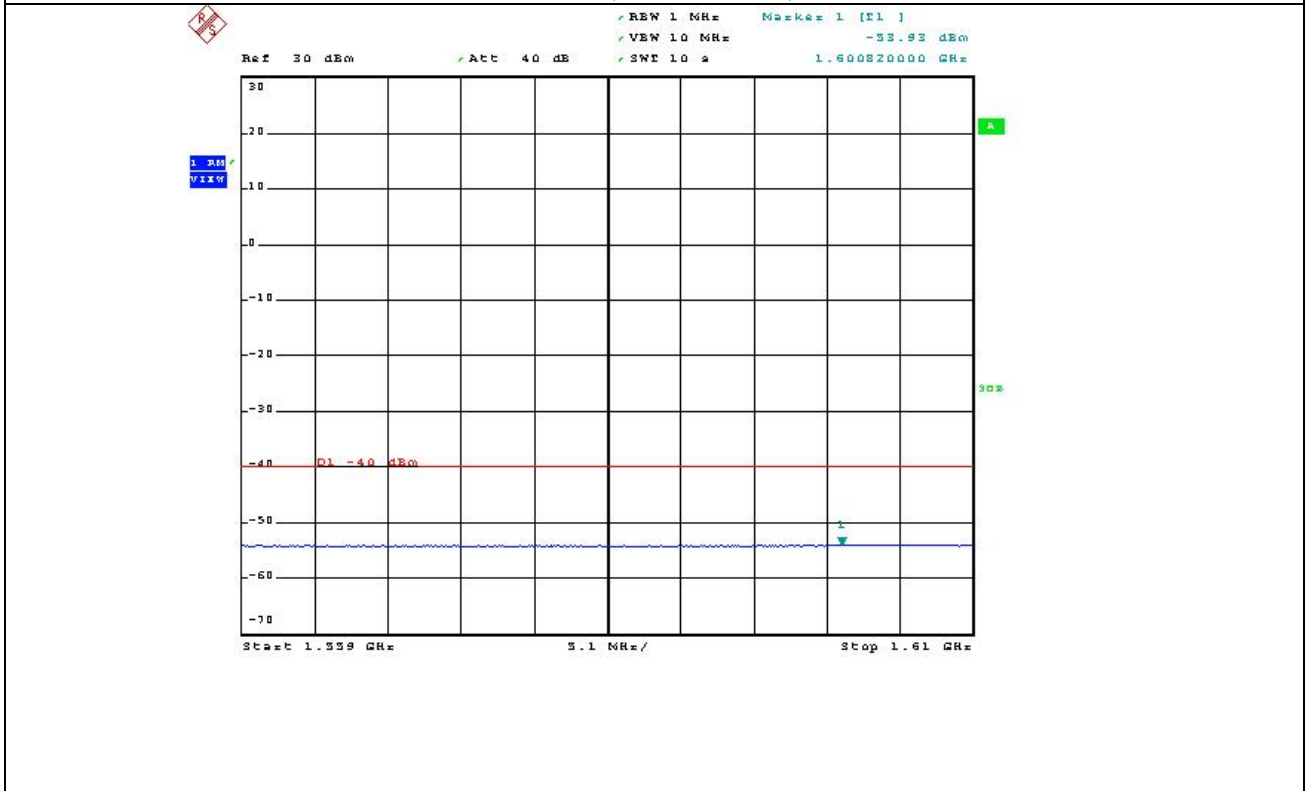
64QAM QPSK (Low Channel)



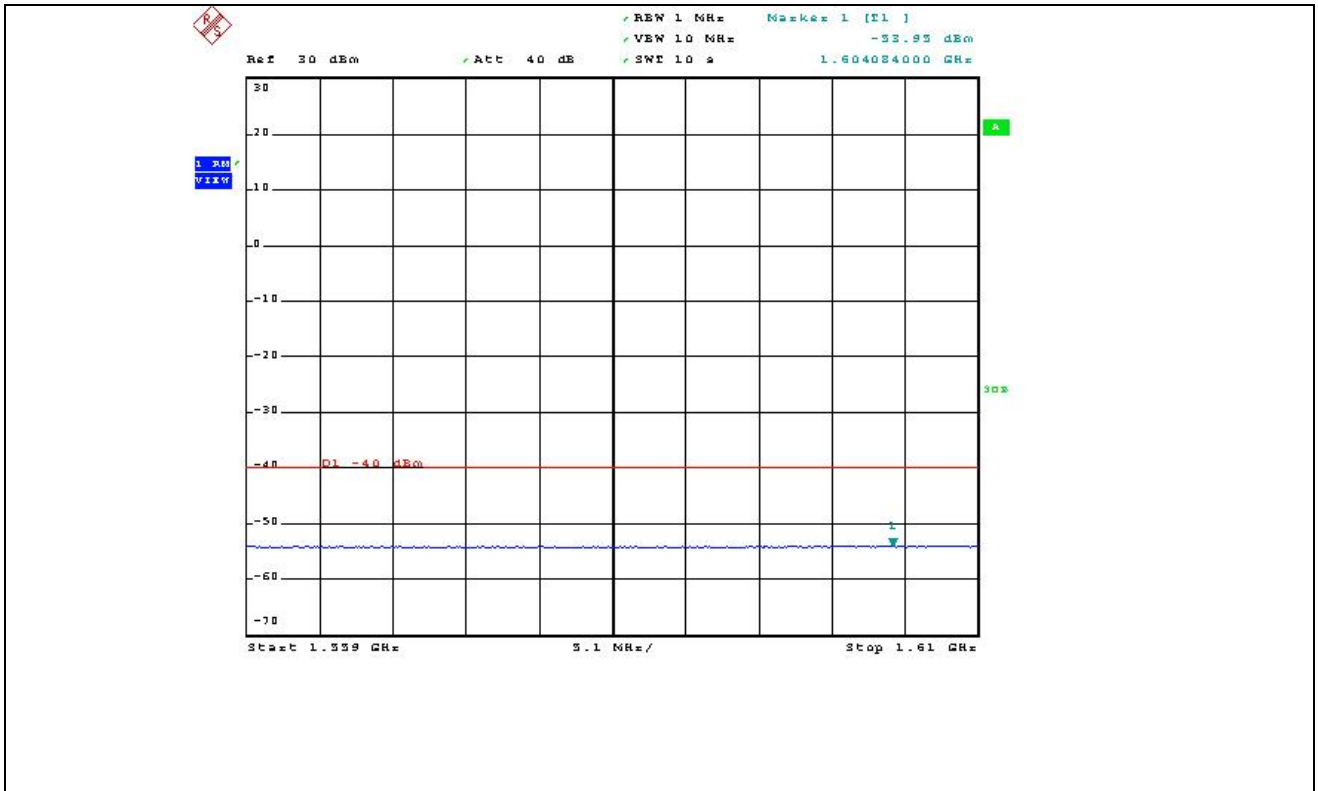
QPSK (Middle Channel)



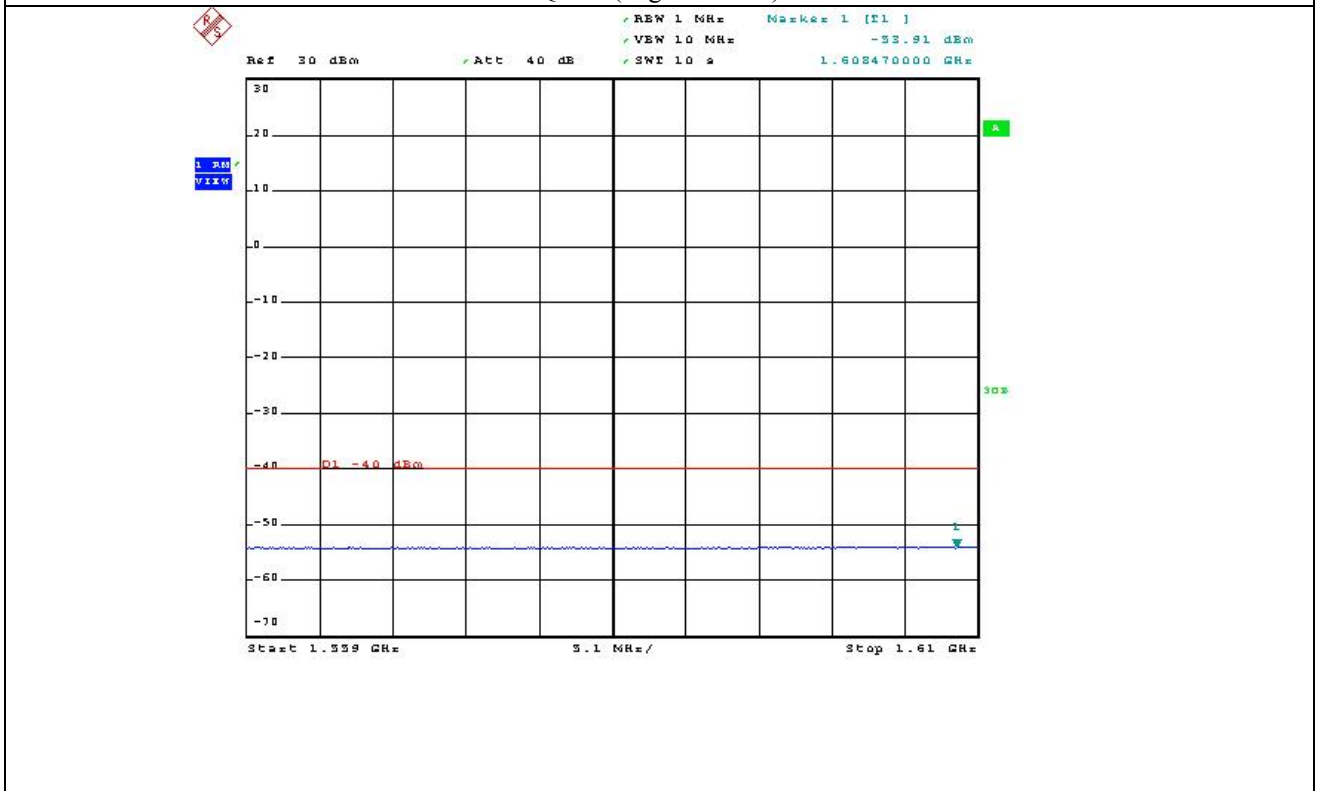
16QAM (Middle Channel)



64QAM QPSK (Middle Channel)



QPSK (High Channel)



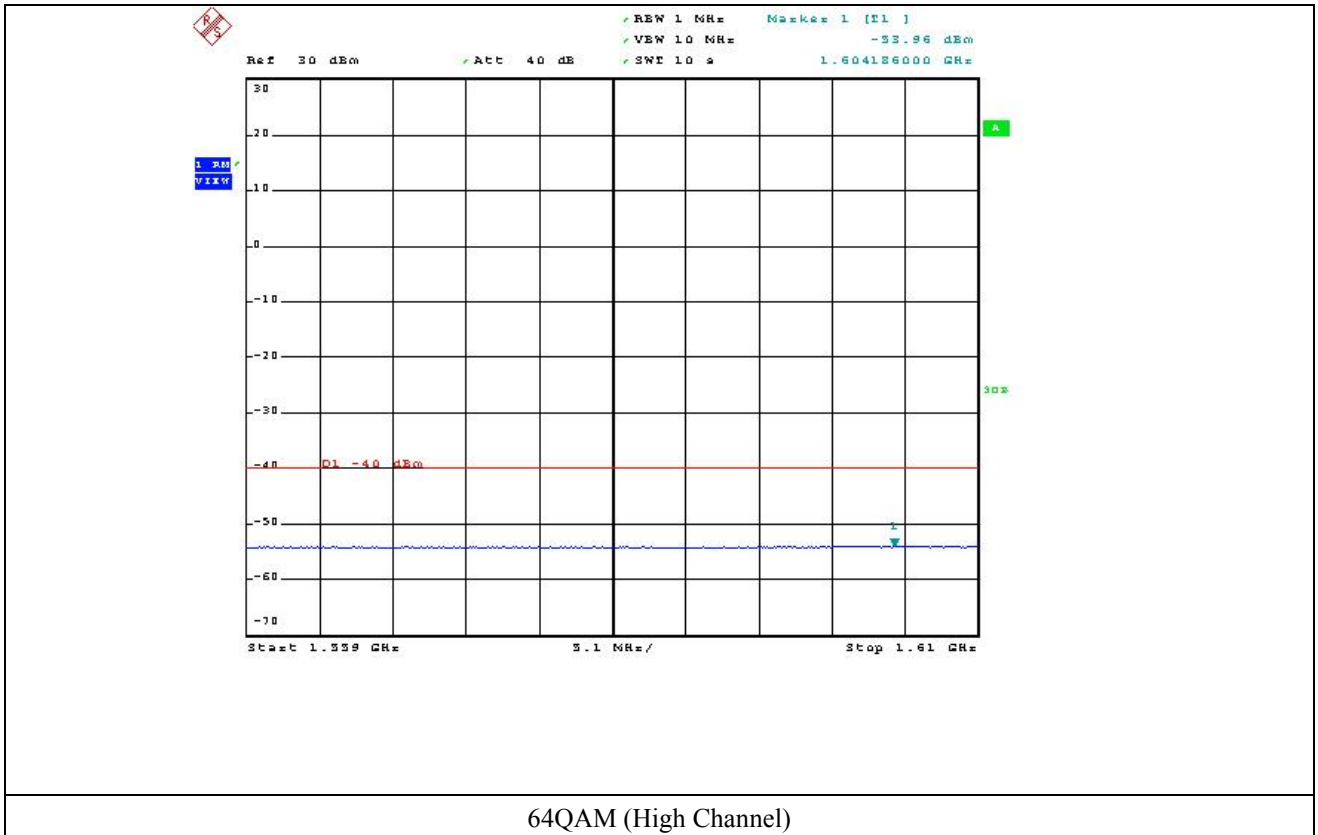
16QAM (High Channel)

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64QAM (High Channel)



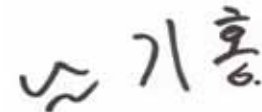
**7.3.4 Test Result for Part 27 C (AWS-1)**

- Test Date : April 13 ~ 14, 2011
- Temperature : 25 °C
- Relative humidity : 50 % R.H.
- Frequency range : 30 MHz ~ 20 GHz
- Result : PASSED BY -15.34 dB at GSM and EDGE Modes

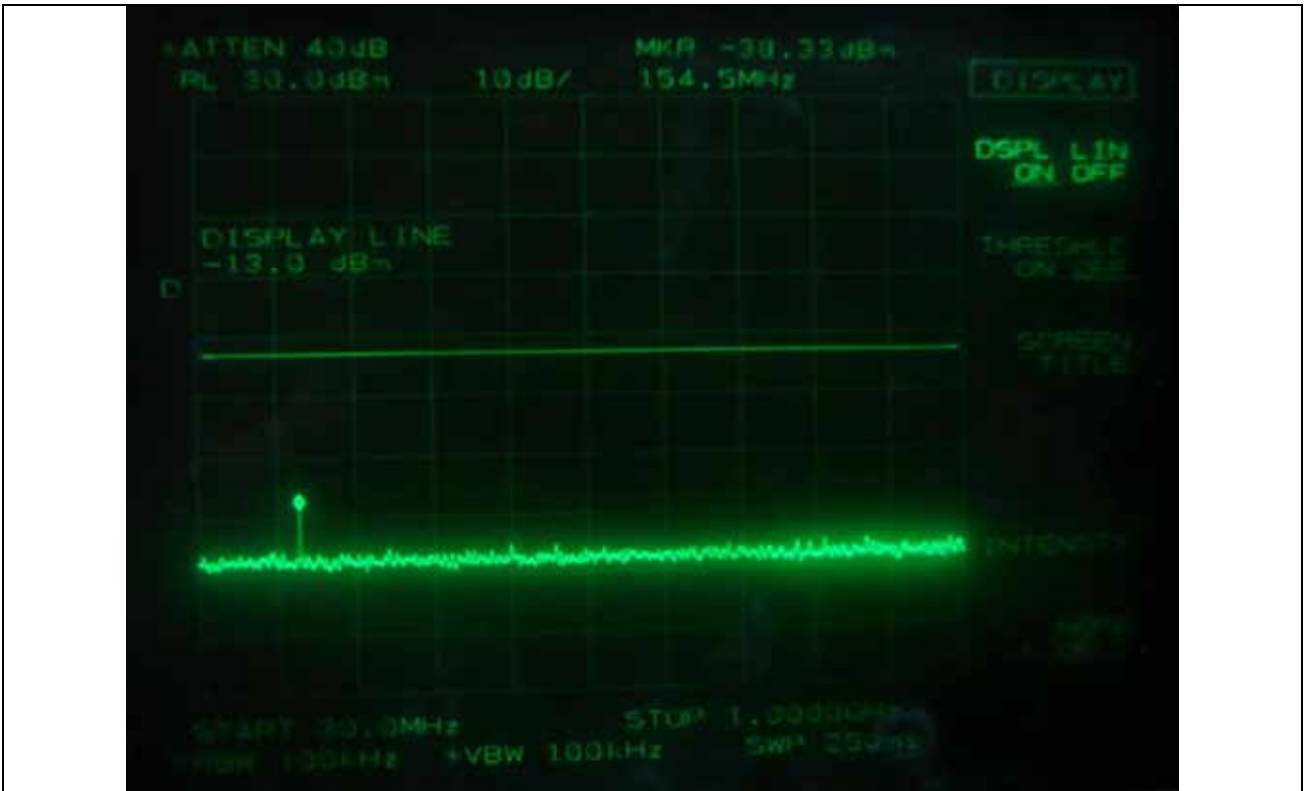
Modulation	Harmonic Frequency (MHz)		Measured Value (dBm)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
TDMA	Low	154.50	-38.33	0.33	-38.00	-13.00	-25.00
		7 500.00	-32.33	3.33	-29.00		-16.00
	Middle	177.10	-37.67	0.33	-37.34		-24.34
		7 550.00	-32.50	3.33	-29.17		-16.17
	High	199.80	-39.33	0.33	-39.00		-26.00
		7 250.00	-32.83	3.33	-29.50		-16.50
GSM	Low	154.50	-38.17	0.33	-37.84	-13.00	-24.84
		7 420.00	-32.00	3.33	-28.67		-15.67
	Middle	177.10	-37.67	0.33	-37.34		-24.34
		7 590.00	-32.33	3.33	-29.00		-16.00
	High	199.80	-39.50	0.33	-39.17		-26.17
		7 290.00	-31.67	3.33	-28.34		-15.34
EDGE	Low	154.50	-38.67	0.33	-38.34	-13.00	-25.34
		7 550.00	-31.67	3.33	-28.34		-15.34
	Middle	177.10	-38.50	0.33	-38.17		-25.17
		7 420.00	-33.50	3.33	-30.17		-17.17
	High	199.80	-39.67	0.33	-39.34		-26.34
		7 590.00	-32.00	3.33	-28.67		-15.67
CDMA	Low	156.10	-39.67	0.33	-39.34	-13.00	-26.34
		7 330.00	-33.17	3.33	-29.84		-16.84
	Middle	177.10	-39.00	0.33	-38.67		-25.67
		7 330.00	-32.83	3.33	-29.50		-16.50
	High	198.10	-39.50	0.33	-39.17		-26.17
		7 630.00	-32.00	3.33	-28.67		-15.67

Modulation	Harmonic Frequency (MHz)	Measured Value (dBm)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)	
1xEVDO	Low	156.10	-38.67	0.33	-38.34	-13.00	-25.34
		7 500.00	-32.83	3.33	-29.50		-16.50
	Middle	177.10	-39.00	0.33	-38.67		-25.67
		7 290.00	-32.17	3.33	-28.84		-15.84
	High	198.10	-39.33	0.33	-39.00		-26.00
		7 460.00	-32.83	3.33	-29.50		-16.50
WCDMA	Low	156.10	-43.50	0.33	-43.17	-13.00	-30.17
		7 250.00	-31.83	3.33	-28.50		-15.50
	Middle	182.00	-43.00	0.33	-42.67		-29.67
		7 590.00	-32.50	3.33	-29.17		-16.17
	High	196.50	-43.17	0.33	-42.84		-29.84
		7 550.00	-31.83	3.33	-28.50		-15.50

According to Part 27, out of band emission shall be attenuated by  $43 + 10 \log (P)$  dBc, equates to -13.0 dBm.



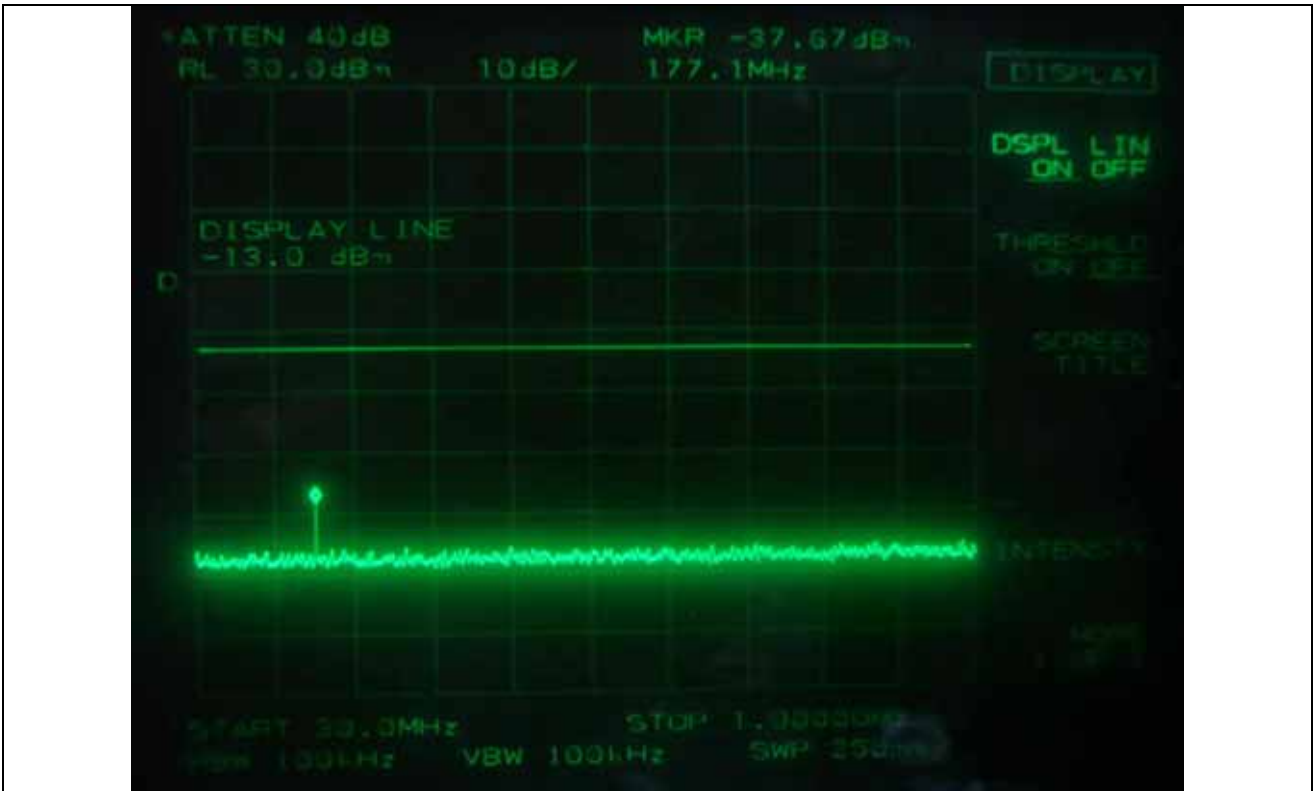
**Tested by: Ki-Hong, Nam / Project Engineer**



TDMA – Low Channel



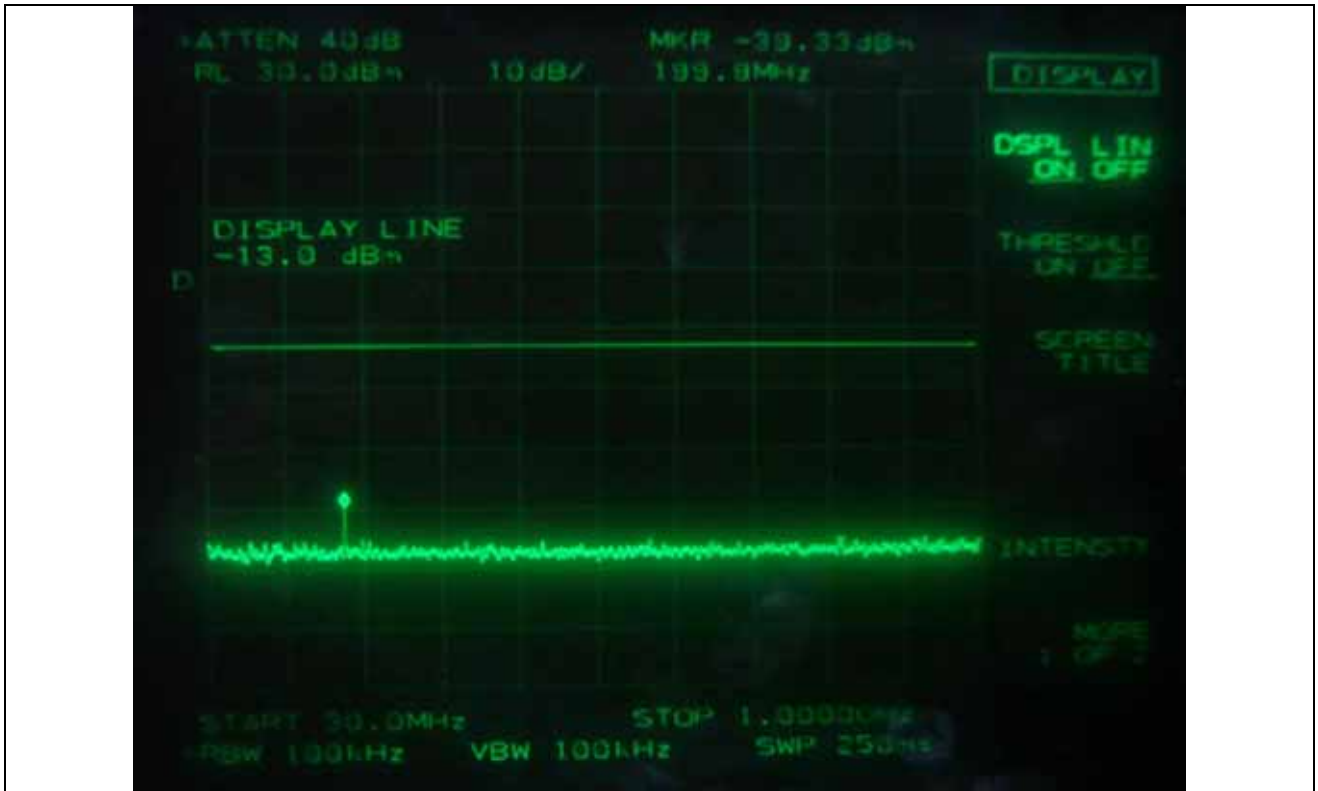
TDMA – Low Channel



TDMA – Middle Channel



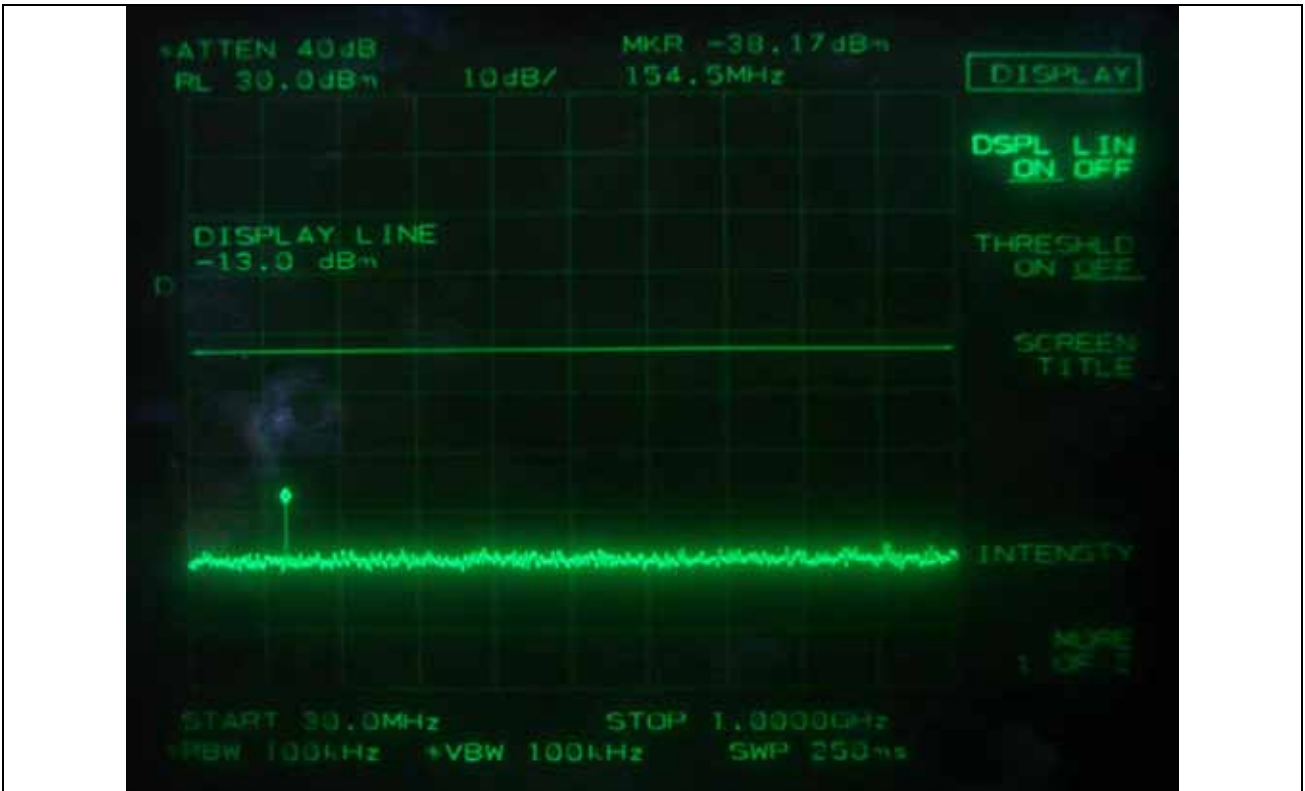
TDMA – Middle Channel



TDMA – High Channel



TDMA – High Channel



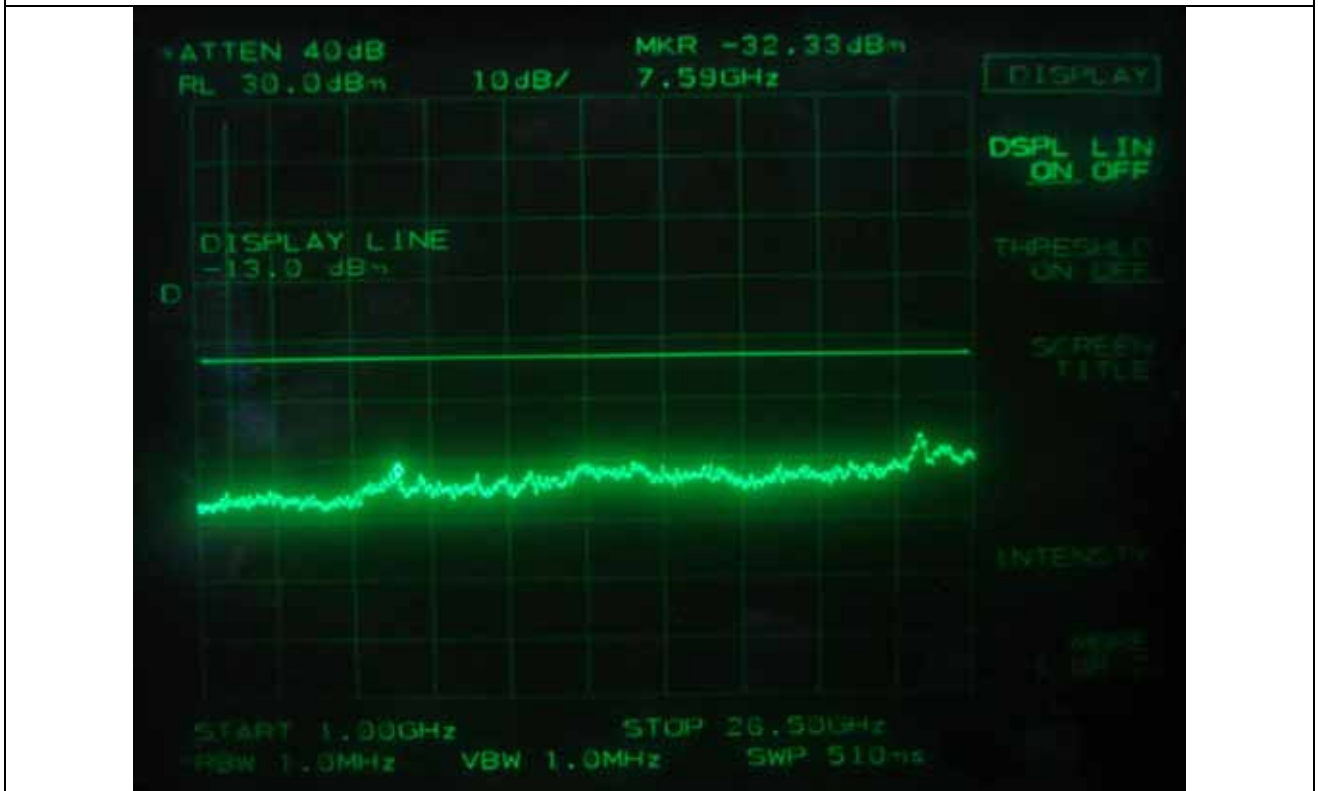
GSM – Low Channel



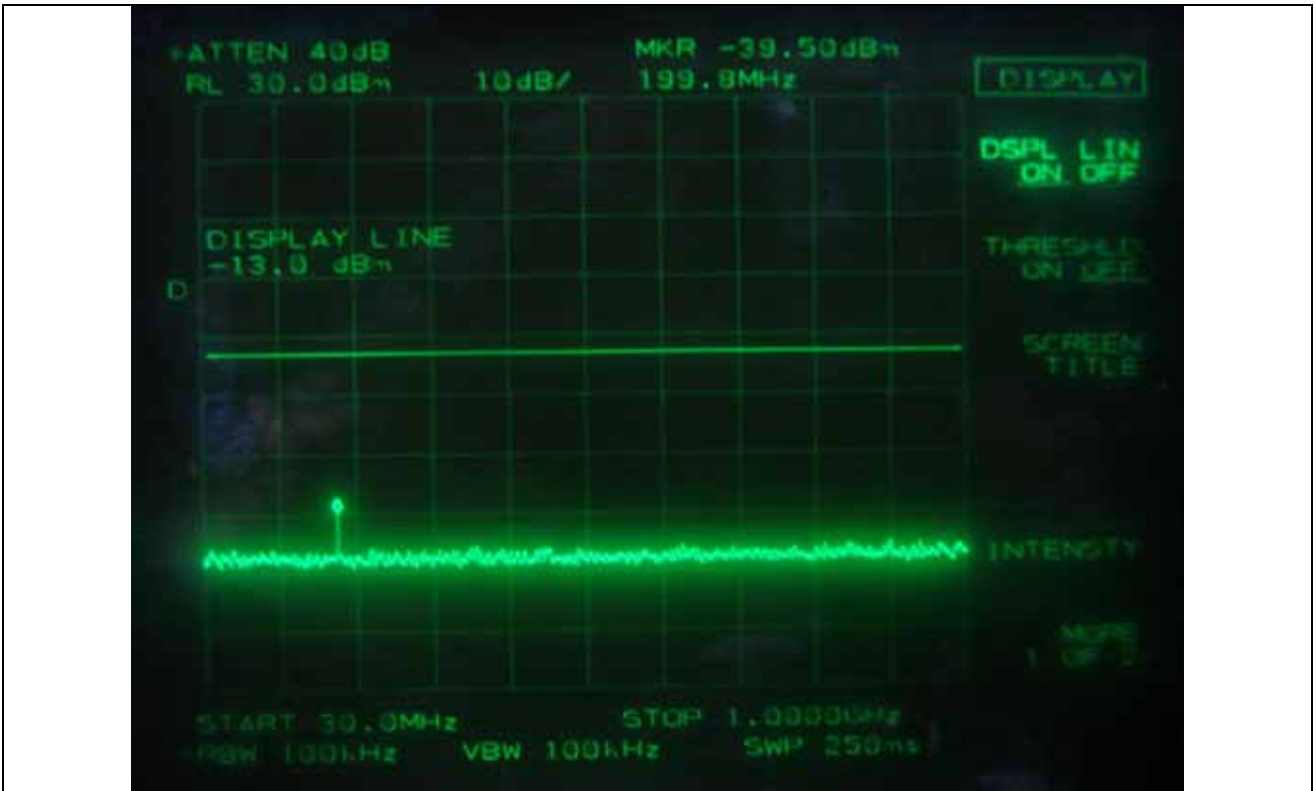
GSM – Low Channel



GSM – Middle Channel



GSM – Middle Channel

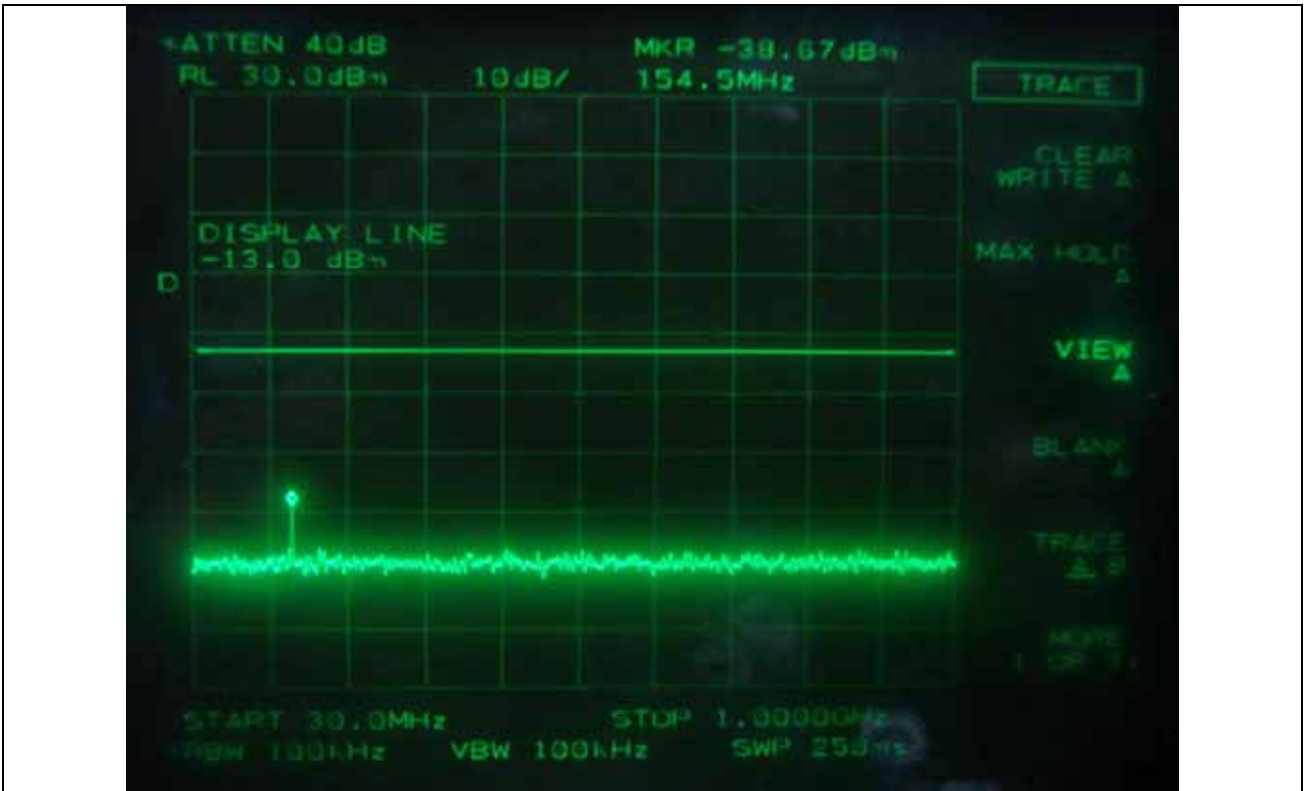


GSM – High Channel

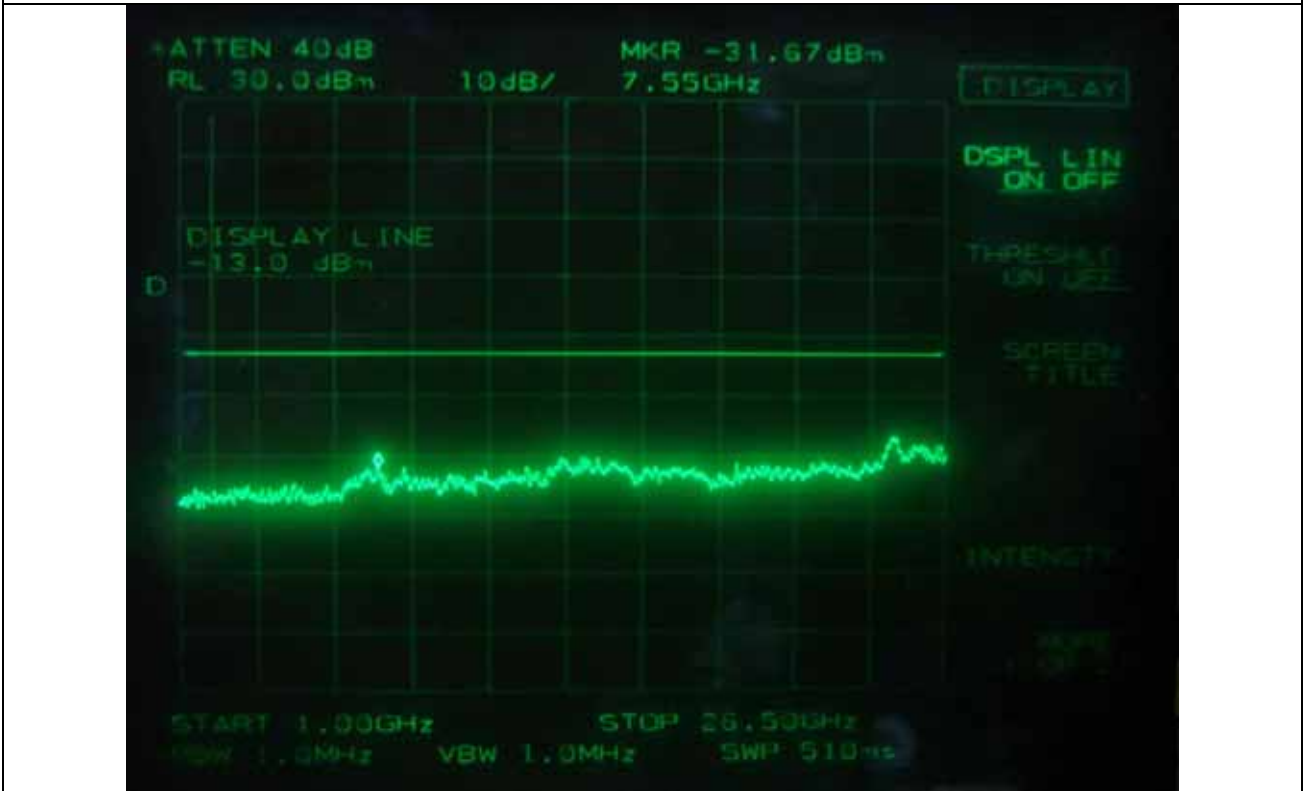


GSM – High Channel





EDGE – Low Channel



EDGE – Low Channel

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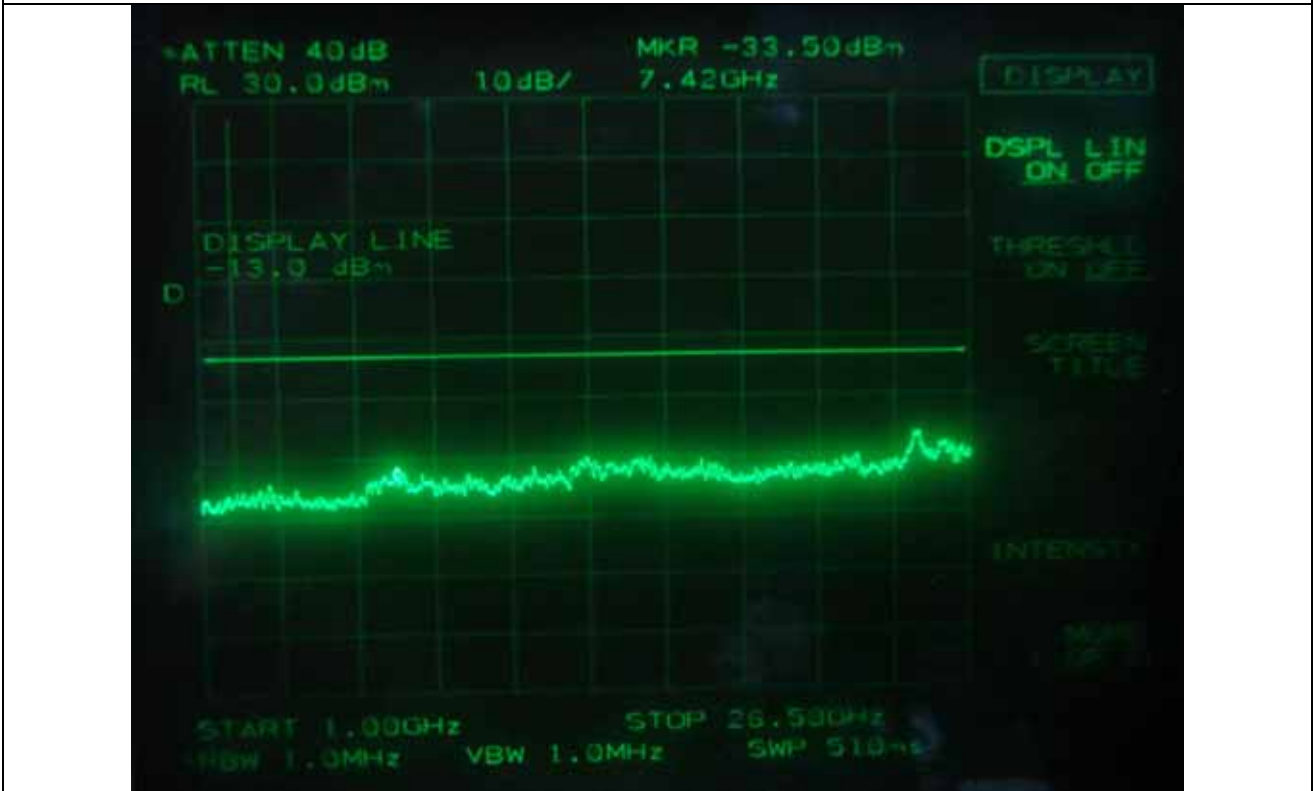
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EDGE – Middle Channel



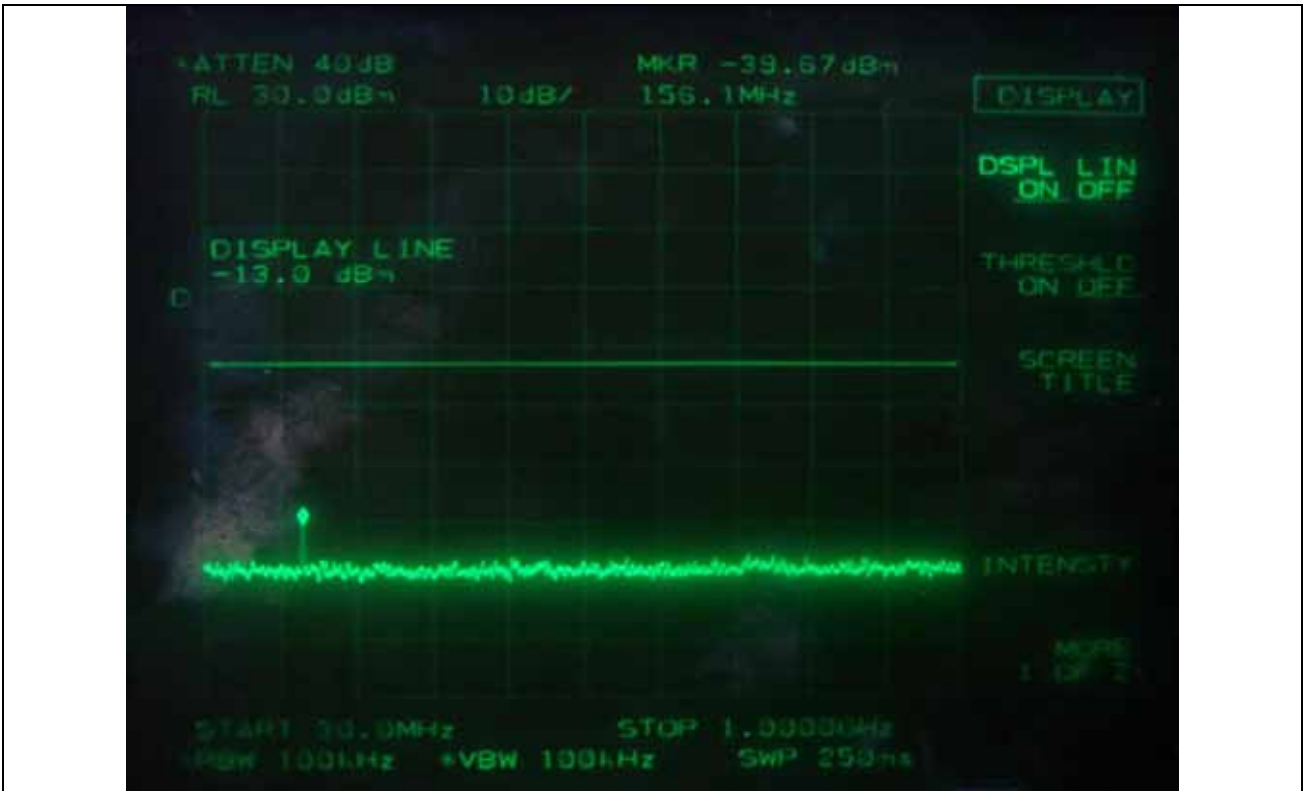
EDGE – Middle Channel



EDGE – High Channel



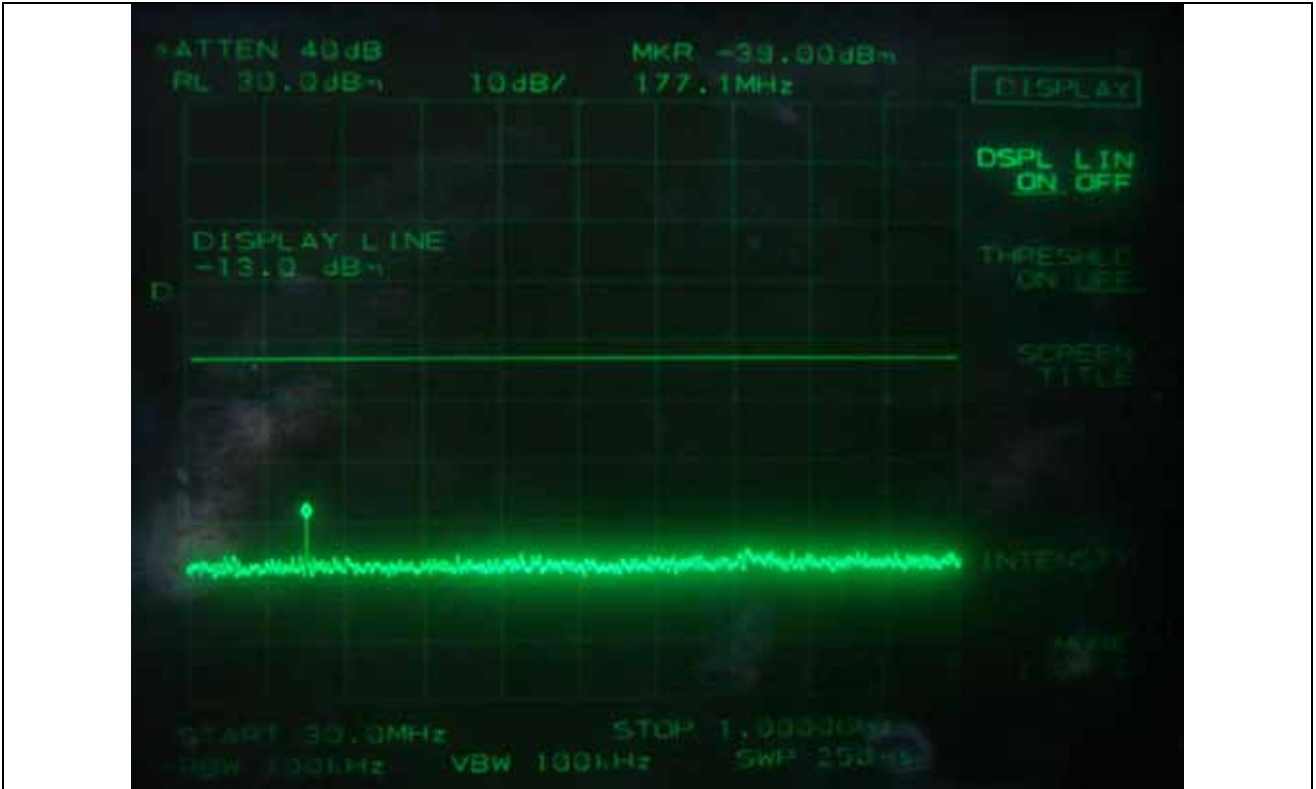
EDGE – High Channel



CDMA – Low Channel



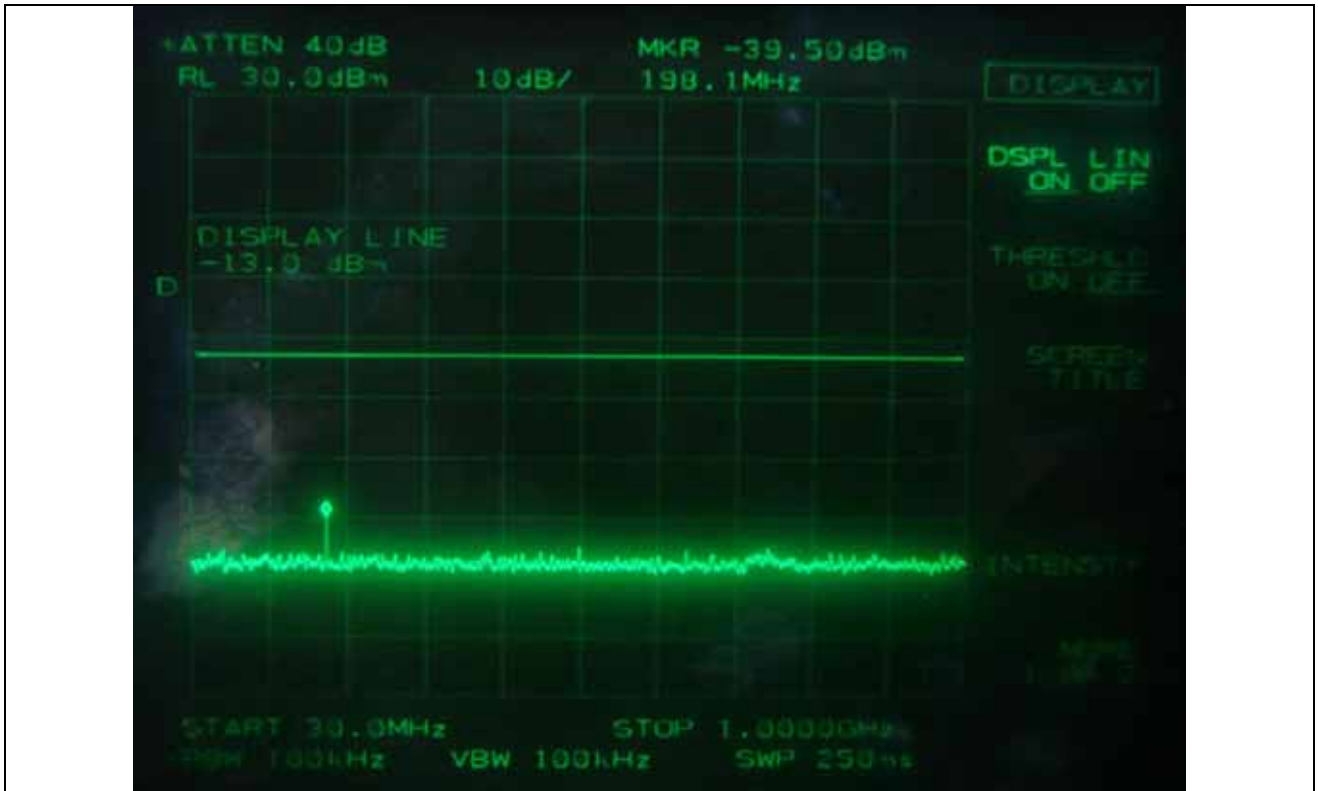
CDMA – Low Channel



CDMA – Middle Channel



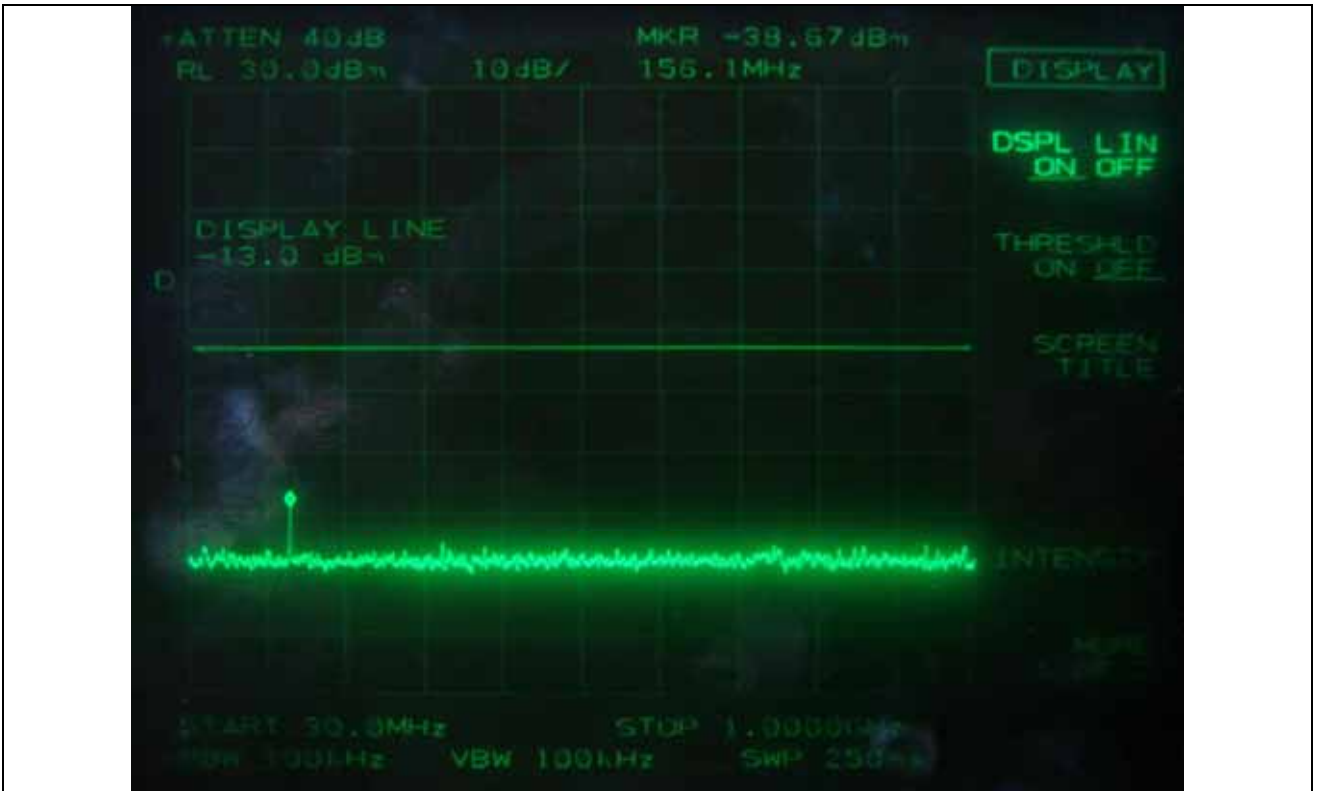
CDMA – Middle Channel



CDMA – High Channel



CDMA – High Channel



1xEVDO – Low Channel



1xEVDO – Low Channel



1xEVDO – Middle Channel



1xEVDO – Middle Channel

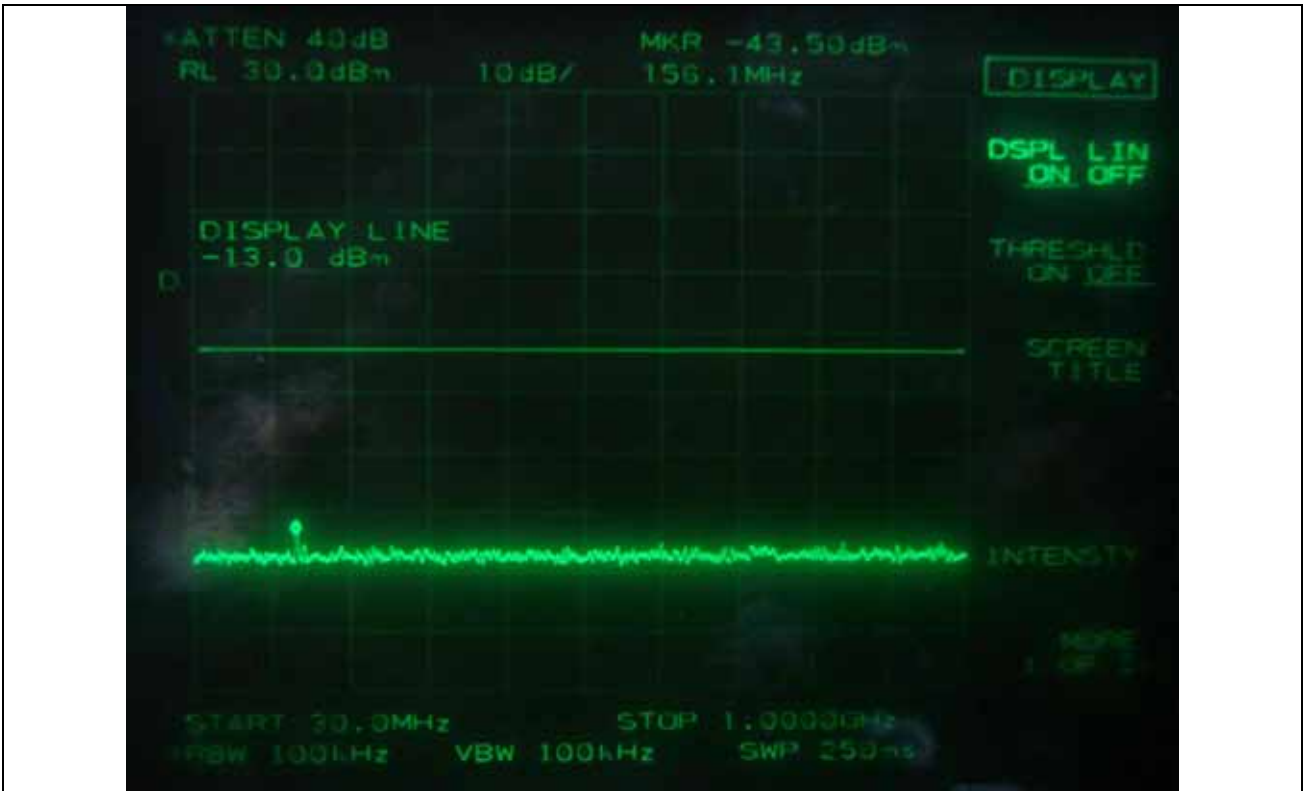




1xEVDO – High Channel



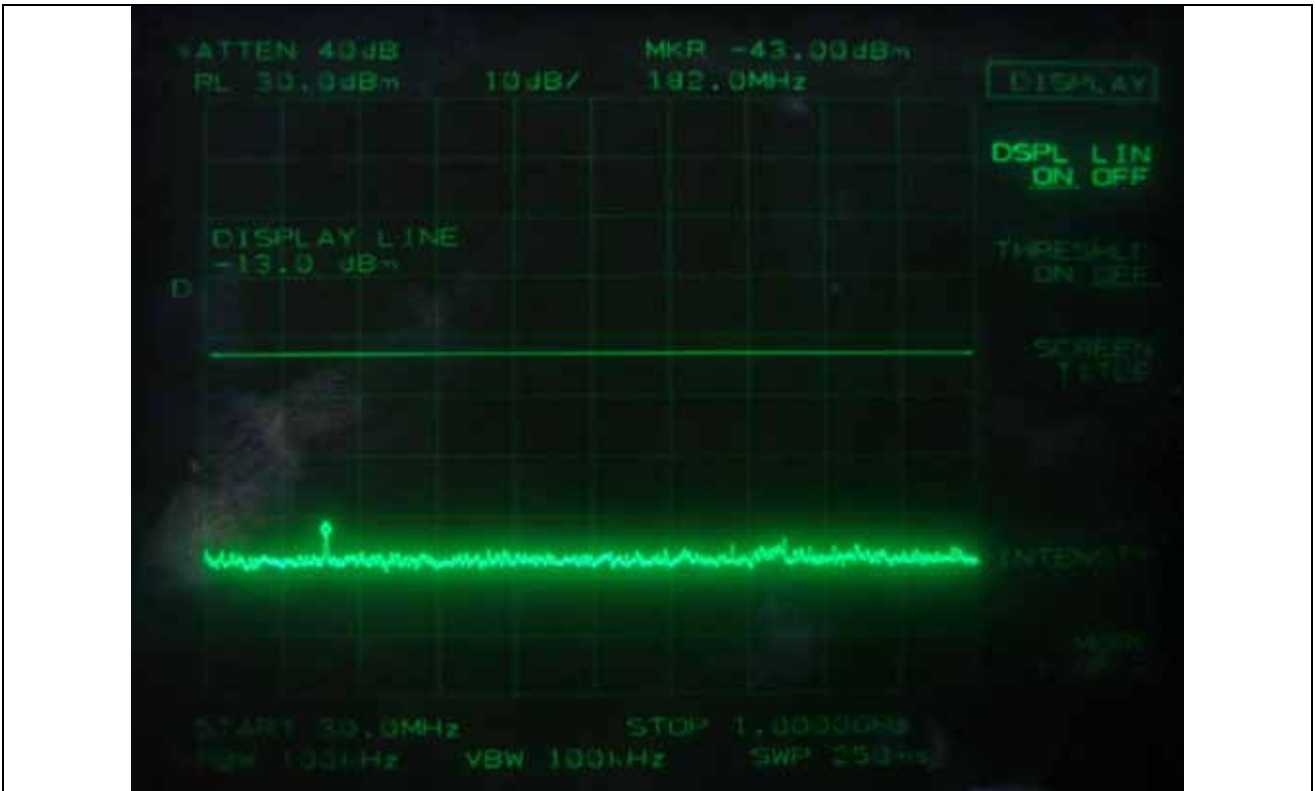
1xEVDO – High Channel



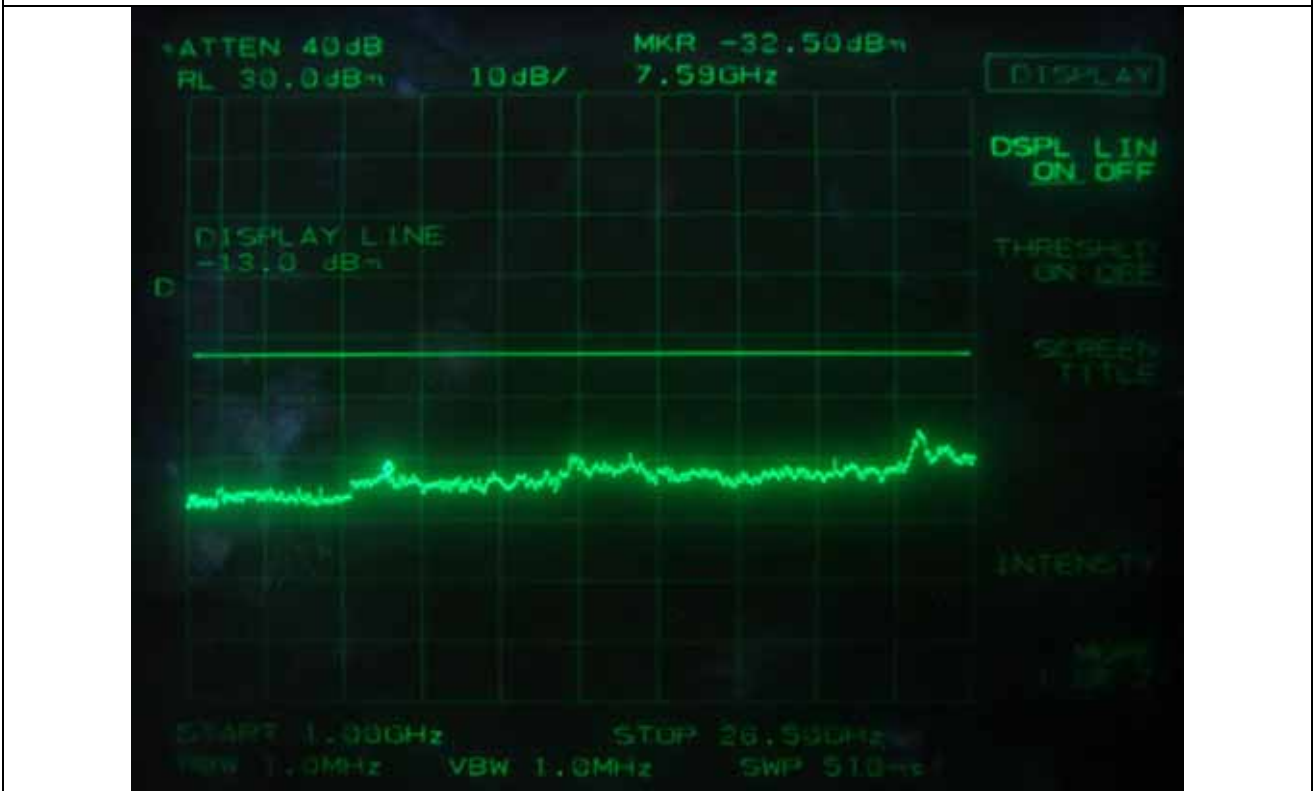
WCDMA – Low Channel



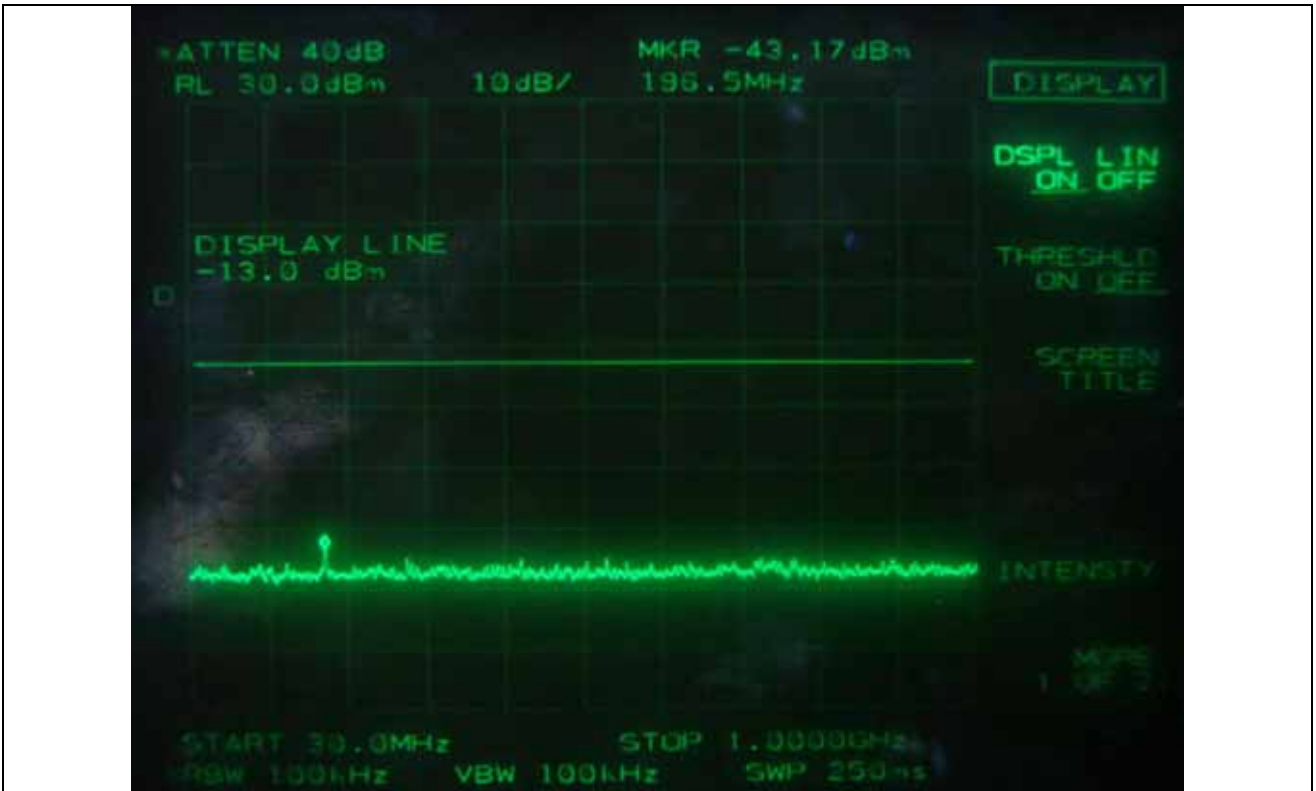
WCDMA – Low Channel



WCDMA – Middle Channel



WCDMA – Middle Channel



WCDMA – High Channel



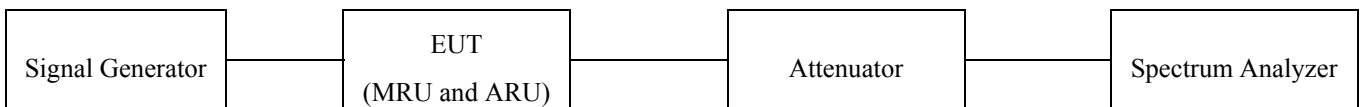
WCDMA – High Channel

## 8. BAND EDGE MEASUREMENT

### 8.1 Test set-up for conducted measurement

The RF signal from the signal generator(s) was injected to the EUT and the amplified RF signal at the output of the EUT was connected to the power meter or spectrum analyzer. The test was performed at three frequencies (low, middle, and high channels) at each band using all applicable modulation.

The resolution bandwidth and video bandwidth of the spectrum analyzer was set according to the regulation and sufficient scans were taken to show any out of band emissions.



### 8.2 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2010 (1Y)
■ -	E4432B	HP	Signal Generator	US38440950	Jun. 10, 2010 (1Y)
■ -	SMJ100A	R/S	Signal Generator	101038	Feb. 01, 2011 (1Y)
■ -	AMU200A	R/S	Baseband signal generator and fading simulator	100360	Aug. 28, 2010 (1Y)
■ -	FSP	R/S	Spectrum Analyzer	100017	Mar. 15, 2011 (1Y)

All test equipment used is calibrated on a regular basis.

### 8.3 Test data

#### 8.3.1 Test Result for Part 22 H (850C)

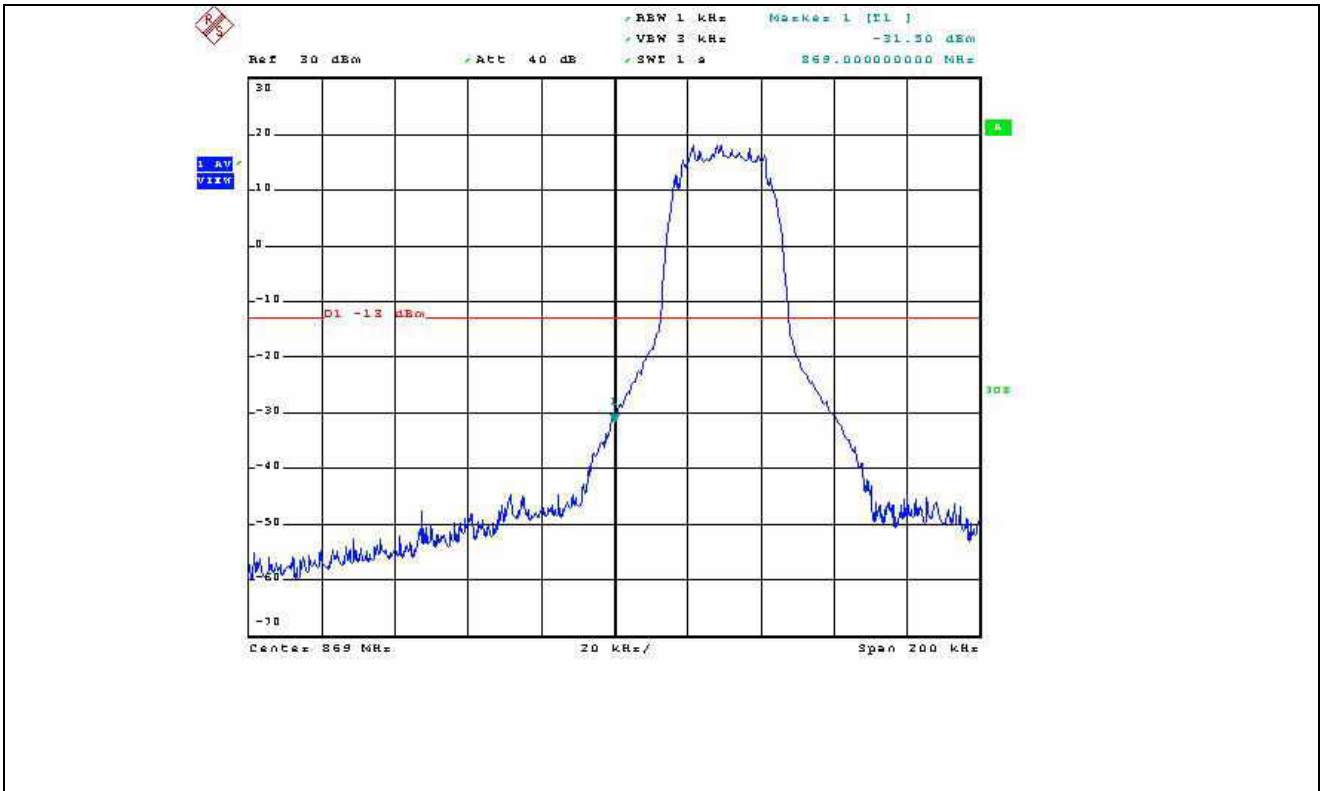
- . Test Date : April 15 ~ 18, 2011
- . Temperature : 24 °C
- . Relative humidity : 48 % R.H.
- . Result : PASSED BY -15.27 dB at WCDMA Mode

Modulation	Channel	Measured Frequency (MHz)	Max. Measured Value (dBm)	Limit (dBm)	Margin (dB)
TDMA	Low	869.000	-31.50	-13.00	-18.50
	High	894.000	-30.56		-17.56
GSM	Low	869.000	-31.51		-18.51
	High	894.030	-31.35		-18.35
EDGE	Low	898.970	-33.97		-20.97
	High	894.000	-33.00		-20.00
CDMA	Low	869.000	-43.46		-30.46
	High	894.000	-44.55		-31.55
1xEVDO	Low	869.000	-44.16		-31.16
	High	894.000	-45.11		-32.11
WCDMA	Low	869.000	-28.59		-15.59
	High	894.000	-28.27		-15.27

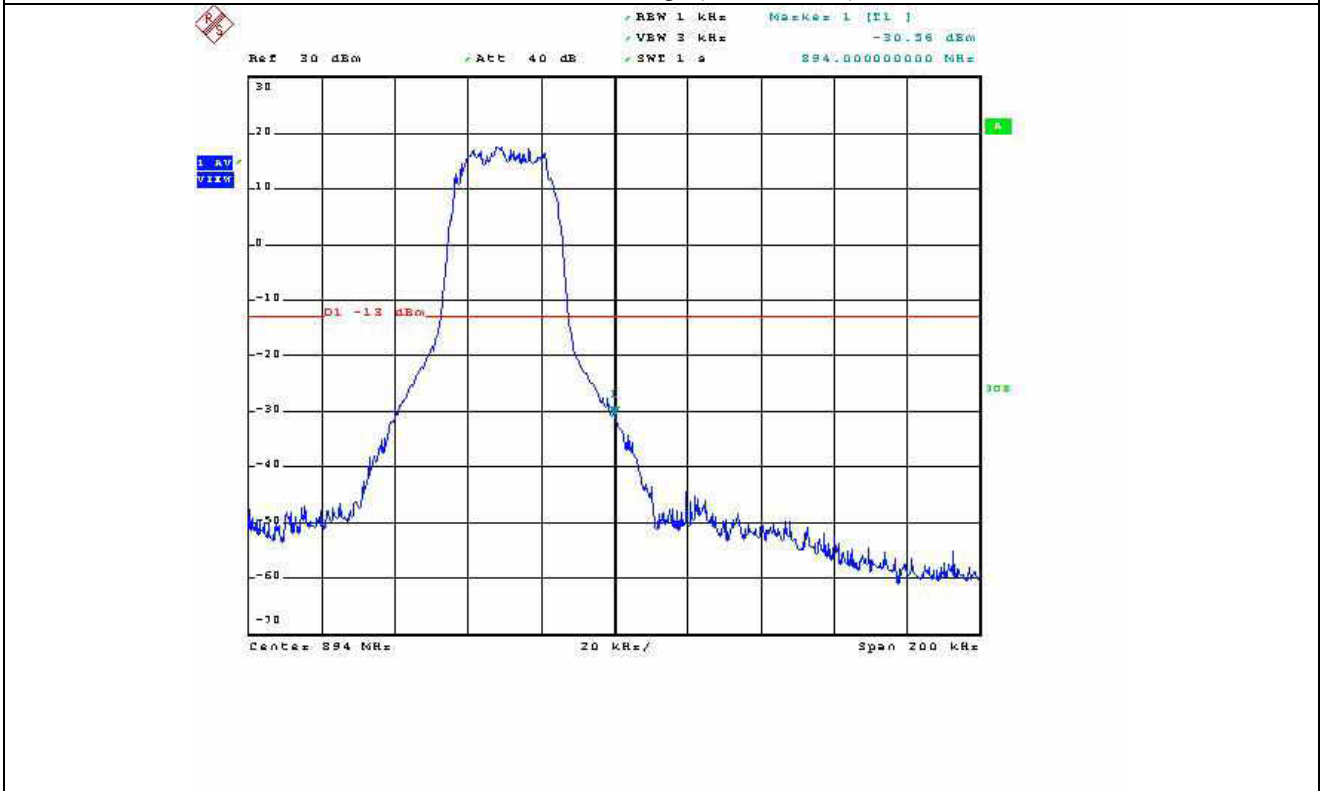
According to Part 22H, out of band emission shall be attenuated by  $43 + 10 \log (P)$  dBc, equates to -13.0dBm.

Ki-Hong

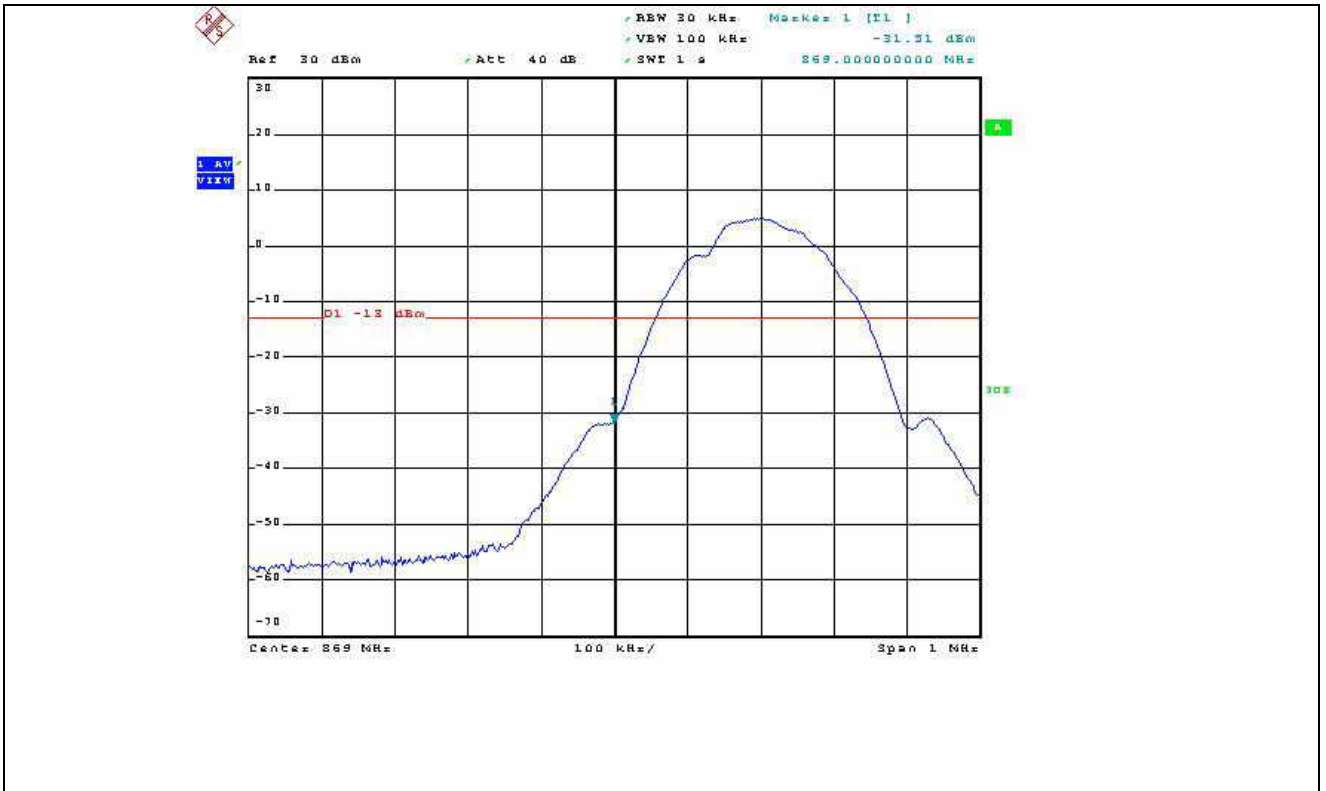
**Tested by: Ki-Hong, Nam / Senior Engineer**



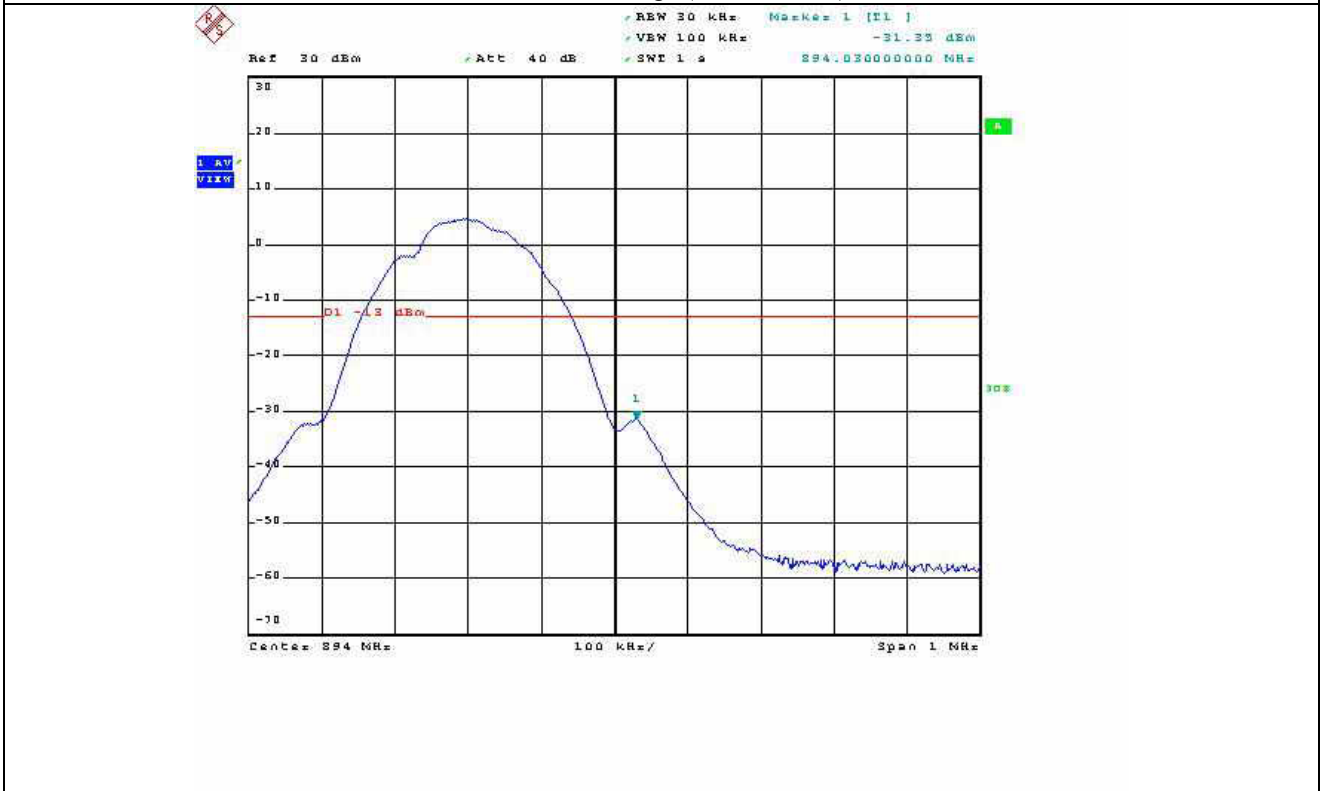
TDMA – Band Edge (Low Channel)



TDMA – Band Edge (High Channel)



GSM – Band Edge (Low Channel)



GSM – Band Edge (High Channel)





EDGE – Band Edge (Low Channel)



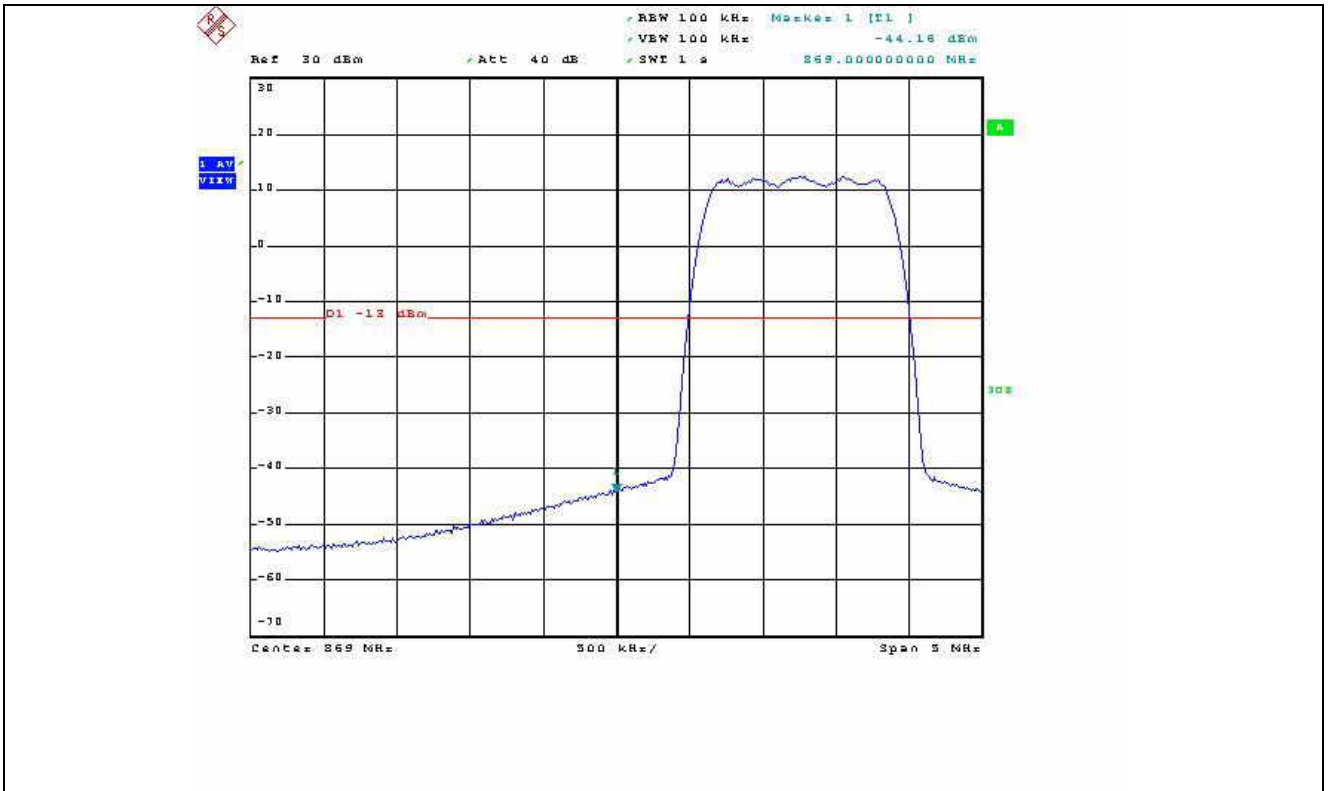
EDGE – Band Edge (High Channel)



CDMA – Band Edge (Low Channel)



CDMA – Band Edge (High Channel)



1xEVDO – Band Edge (Low Channel)



1xEVDO – Band Edge (High Channel)



WCDMA – Band Edge (Low Channel)



WCDMA – Band Edge (High Channel)

**8.3.2 Test Result for Part 24 E (1900P)**

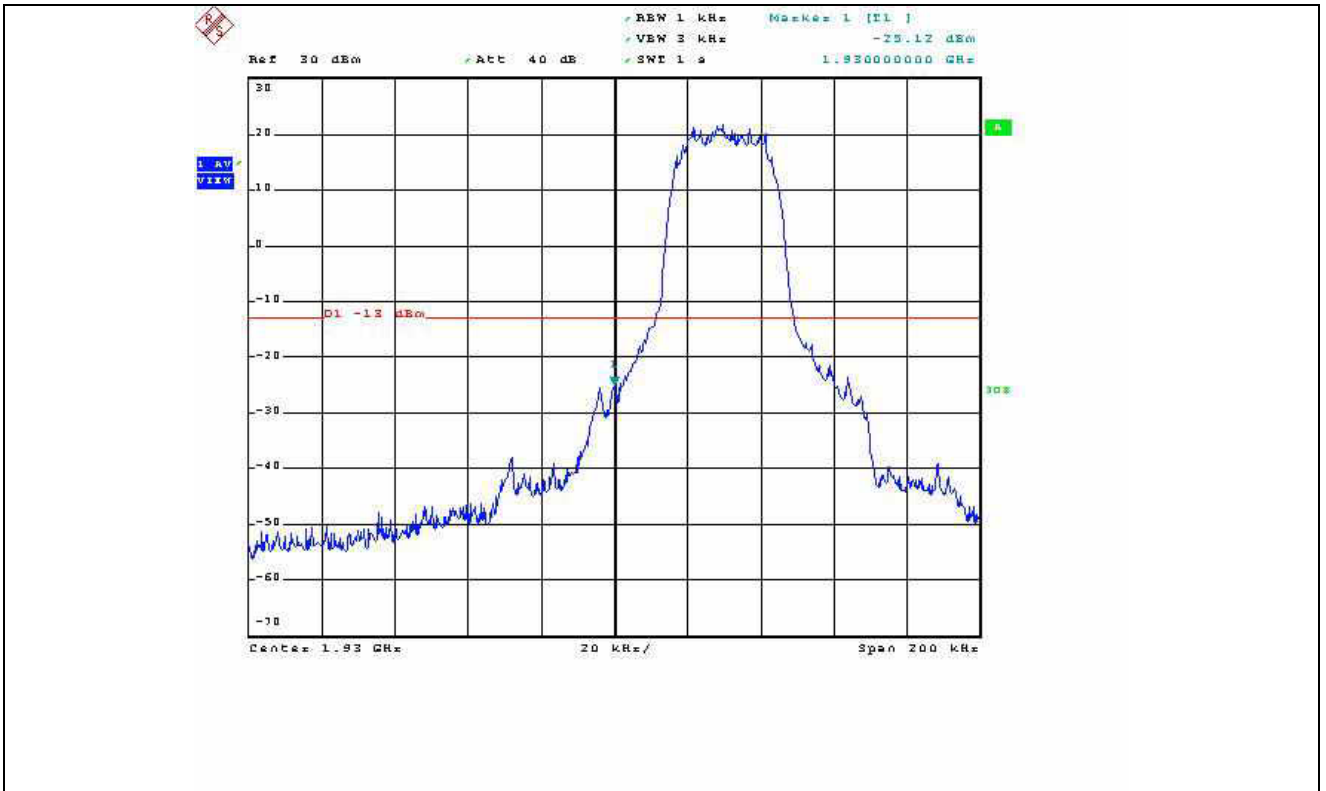
- . Test Date : April 19 ~ 20, 2011
- . Temperature : 24 °C
- . Relative humidity : 48 % R.H.
- . Result : PASSED BY -9.23 dB at TDMA Mode

Modulation	Channel	Measured Frequency (MHz)	Max. Measured Value (dBm)	Limit (dBm)	Margin (dB)
TDMA	Low	1 930.000	-25.12	-13.00	-12.12
	High	1 995.004	-22.23		-9.23
GSM	Low	1 930.000	-27.74		-14.74
	High	1 995.024	-27.73		-14.73
EDGE	Low	1 929.966	-30.73		-17.73
	High	1 995.000	-29.39		-16.39
CDMA	Low	1 930.000	-37.86		-24.86
	High	1 995.000	-40.69		-27.69
1xEVDO	Low	1 930.000	-38.24		-25.24
	High	1 995.000	-40.13		-27.13
WCDMA	Low	1 930.000	-24.88		-11.88
	High	1 995.000	-24.66		-11.66

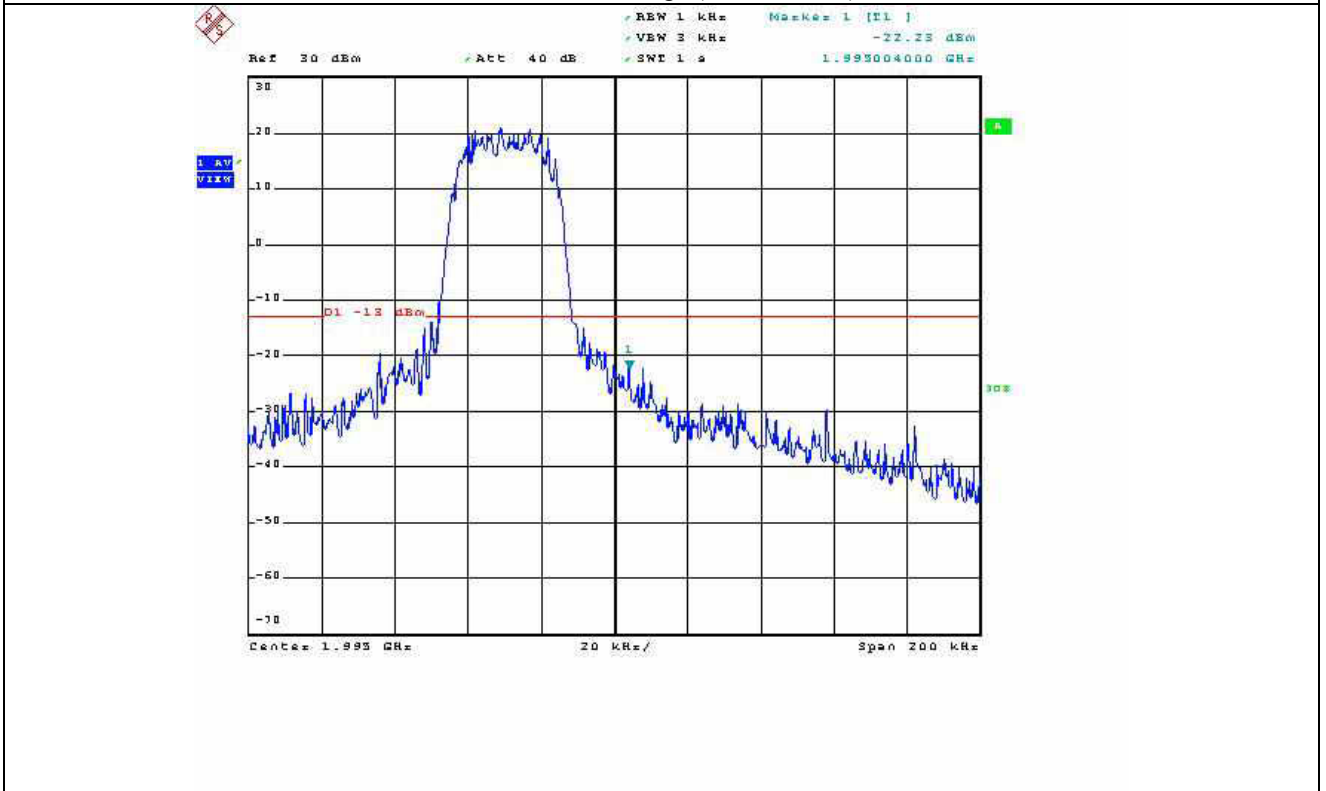
According to Part 22H, out of band emission shall be attenuated by  $43 + 10 \log (P)$  dBc, equates to -13.0dBm.

~ 기홍

**Tested by: Ki-Hong, Nam / Senior Engineer**



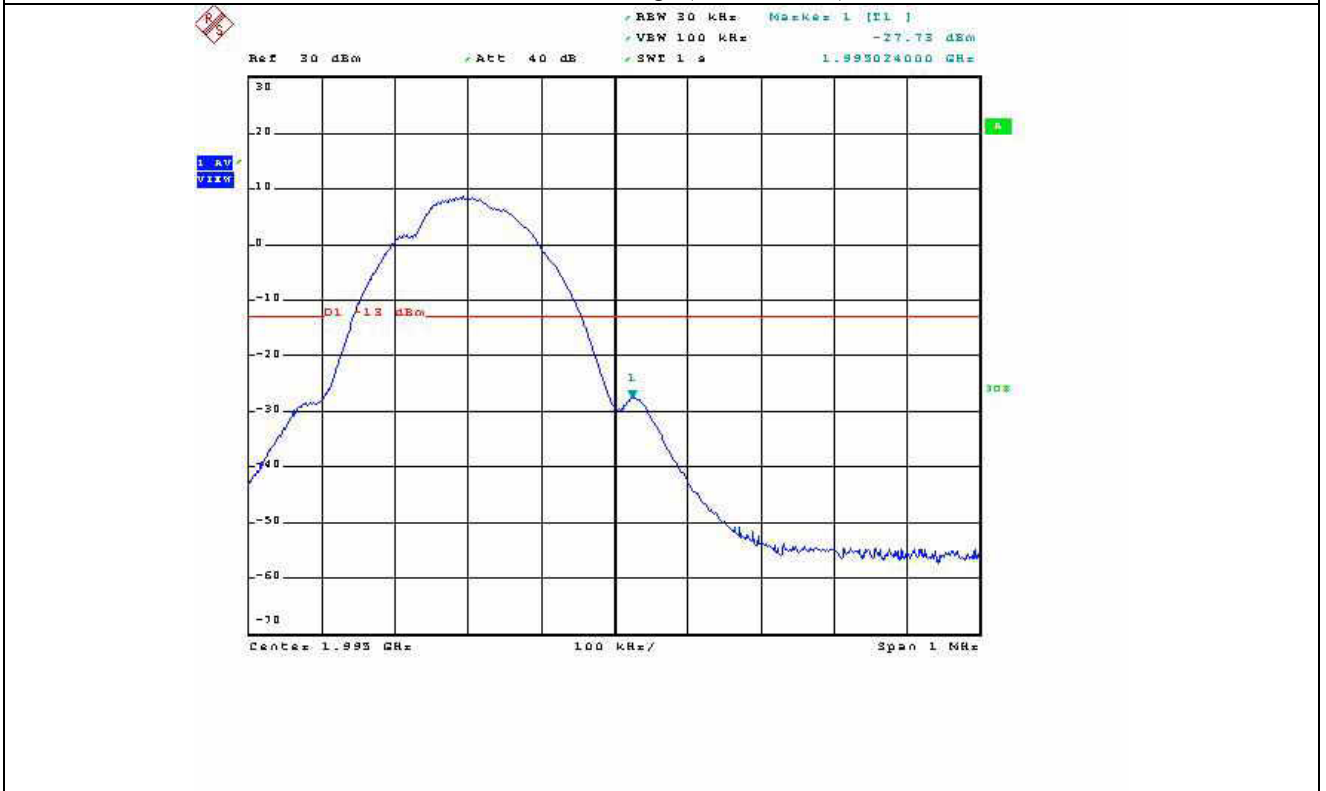
TDMA – Band Edge (Low Channel)



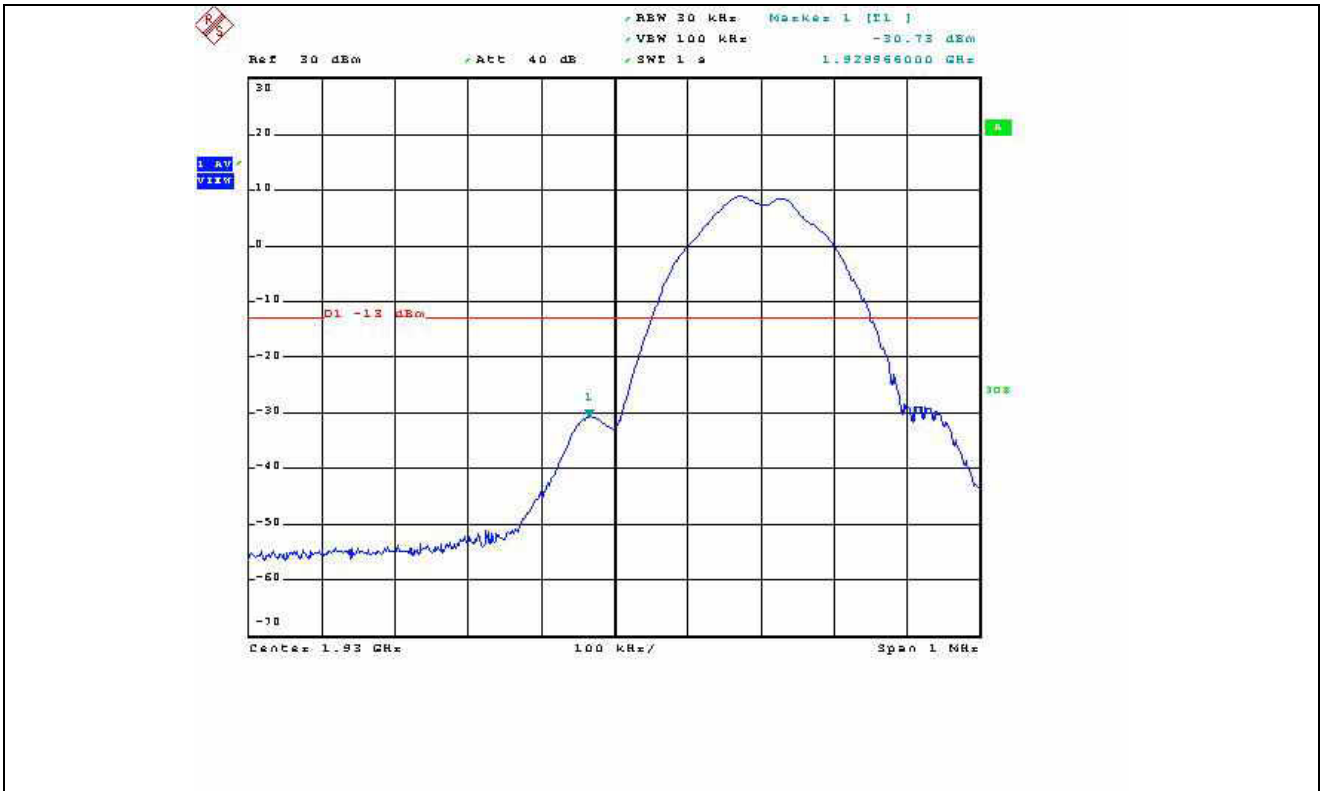
TDMA – Band Edge (High Channel)



GSM – Band Edge (Low Channel)



GSM – Band Edge (High Channel)



EDGE – Band Edge (Low Channel)



EDGE – Band Edge (High Channel)





CDMA – Band Edge (Low Channel)



CDMA – Band Edge (High Channel)



1xEVDO – Band Edge (Low Channel)



1xEVDO – Band Edge (High Channel)



WCDMA – Band Edge (Low Channel)



WCDMA – Band Edge (High Channel)