FCC TEST REPORT

Product Name	Portable Data Collection Terminal
Model Name	MM3
Applicant	M3 Mobile Co., Ltd.
FCC ID	U7X-MM3

ESTECH CO., LTD

Rm. 1015 World Venture Center, 426-5 Gasan-dong, Geumcheon-gu,
Seoul, 153-803, Korea. Tel:82-2-867-3201, Fax:82-2-867-3204

FCC Test Report

Report Number	ESTR0908-020			
Applicant	Company Name	M3 Mobile Co., Ltd.		
	Address	DongWon B/D, 725-30, Yeoksam-dong, Gangnam-gu, Seoul, 135-080, Korea		
Product	Product Name	Portable Data Collection Terminal		
	Model No.	MM3	Manufacturer	M3 Mobile Co., Ltd.
	Serial No.	NONE	Country of origin	KOREA
Other	Issued Date	2009-08-11	Tested Date	2009-04-09 ~ 2009-08-11
Test Result	**Pass**			
Standard	**FCC PART 24 Subpart E & PART 22 Subpart H**			
Tested by	I.K.Hong/ Engineer (Signature)			
Approved by	Tag-Sun Park/Manager (Signature)			

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Contents

1. General Information

1.1 EUT Description

FCC ID	**U7X-MM3**
Product Name	**Portable Data Collection Terminal**
Model Name	**MM3**
Frequency	**Tx :1850.20 ~ 1909.80MHz(PCS1900), 824.2 ~ 848.8MHz(GSM850),826.4 ~ 846.6MHz(WCDMA850) 1852.4 ~ 1907.6MHz(WCDMA1900)**
Channel	**PCS1900(512/661/810), GSM850 (128/190/251),WCDMA1900 (9262/9400/9538),WCDMA850(4132/4183/4233)**
Modulation Type	**GSM , EDGE , GPRS , WCDMA , WCDMA(HSDPA)**
Power Rating	**3.7 Vdc**

2. Laboratory Information

2.1 Laboratory Name Estech Co., Ltd.

2.2 Location

Head Office Rm. 1015, World Venture Center II, 426-5 Gasan-dong Geumcheon-gu, Seoul, 153-803. Korea.

EMC Lab(Ichon) 58-1, Osan-Ri, GaNam-Myon, YeoJoo-Gun, KyungKi-Do, Korea

EMC Lab(Yanggi) 97-1, Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea

2.3 Quality System Accredited by KOLAS(ISO/IEC 17025)

2.4 Major Accredited Mark

3. Summary of Test Results

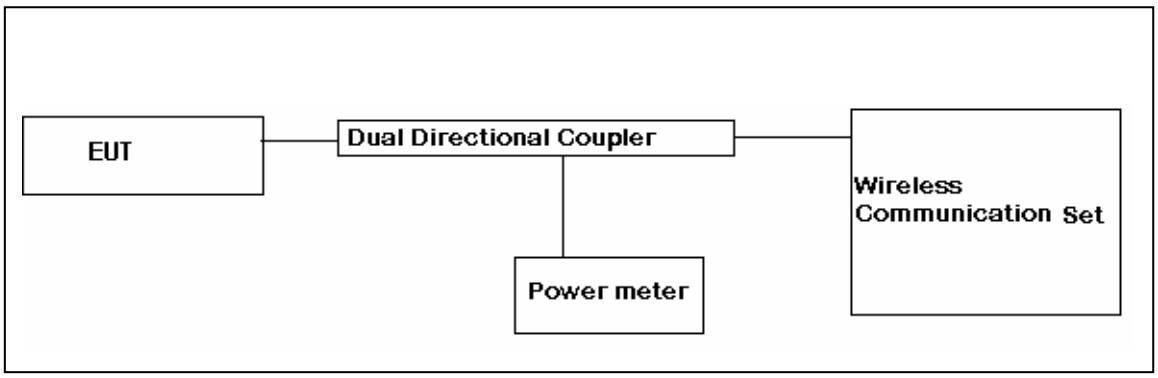
Test Item	Standard	Result
RF Output Power	Part 22 & 24	PASS
Occupied Bandwidth		PASS
Spurious and Harmonic Emission at Antenna Terminal		PASS
Field Strength of Spurious Radiation		PASS
Frequency stability		PASS

4. RF Output Power

4.1 Test Procedure according to ANSI/TIA/EIA 603 Clause 2.2.17

The EUT was placed on a wooden turn table 3 meters from the receive antenna. The receive antenna height and turn table rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1MHz, A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For reading 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

*Test setup for RF Conducted measurement



4.2 Test Equipments

The following test equipments are used during tests

Equipment	Manufacturer	Model	Cal. Due Date
Receiver	Rohde & Schwarz	ESPI7	2009-08-24
Signal Generator	HP	83620B	2009-09-12
Power Meter	Rohde & Schwarz	NRVS	2010-02-11
Wireless Communications Test Set	Agilent	E5515C	2010-05-12
Pre Amplifier	HP	8449B	2010-03-06
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2010-06-17
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2010-06-17

4.3. Test Results

4.3.1 PCS1900

(GSM)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power EIRP(dBm)
512	1850.20	29.53	26.20
661	1880.00	29.64	24.93
810	1909.80	29.23	26.74

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	EIRP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
1850.20	87.22	10.40	12.50	28.30	26.20	33	V
1880.00	86.17	10.43	12.60	27.10	24.93	33	V
1909.80	87.17	10.44	12.70	29.00	26.74	33	V

(EDGE)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power EIRP(dBm)
128	1850.20	24.32	20.20
190	1880.00	24.42	21.23
251	1909.80	24.06	20.54

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	EIRP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
1850.20	81.17	10.40	12.50	22.30	20.20	33	V
1880.00	82.50	10.43	12.60	23.40	21.23	33	V
1909.80	81.50	10.44	12.70	22.80	20.54	33	V

(GPRS)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power EIRP(dBm)
512	1850.20	27.96	22.60
661	1880.00	28.07	24.33
810	1909.80	27.68	25.94

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	EIRP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
1850.20	83.64	10.40	12.50	24.70	22.60	33	V
1880.00	85.61	10.43	12.60	26.50	24.33	33	V
1909.80	86.94	10.44	12.70	28.20	25.94	33	V

(WCDMA1900)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power EIRP(dBm)
9262	1852.40	23.58	18.20
9400	1880.00	23.68	19.23
9538	1907.60	23.41	19.74

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	EIRP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
1852.40	79.14	10.40	12.50	20.30	18.20	33	V
1880.00	80.54	10.43	12.60	21.40	19.23	33	V
1907.60	80.70	10.44	12.70	22.00	19.74	33	V

(WCDMA1900-HSDPA)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power EIRP(dBm)
9262	1852.40	23.56	17.10
9400	1880.00	23.71	18.23
9538	1907.60	23.38	19.64

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	EIRP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
9262.00	78.14	10.40	12.50	19.20	17.10	33	V
9400.00	79.56	10.43	12.60	20.40	18.23	33	V
9538.00	80.56	10.44	12.70	21.90	19.64	33	V

4.3.2 GSM850

(GSM)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power ERP(dBm)
128	824.20	32.25	25.69
190	836.60	32.23	26.21
251	848.80	32.21	26.12

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	ERP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
824.20	94.76	0.99	8.90	33.60	25.69	38.5	V
836.60	95.09	1.31	9.20	34.10	26.21	38.5	V
848.80	95.58	1.62	9.20	33.70	26.12	38.5	V

(EDGE)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power ERP(dBm)
128	824.20	27.33	22.49
190	836.60	27.22	24.91
251	848.80	27.30	25.42

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	ERP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
824.20	91.42	0.99	8.90	30.40	22.49	38.5	V
836.60	93.83	1.31	9.20	32.80	24.91	38.5	V
848.80	94.83	1.62	9.20	33.00	25.42	38.5	V

(GPRS)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power ERP(dBm)
128	824.20	30.70	22.59
190	836.60	30.18	24.21
251	848.80	30.67	25.32

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	ERP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
824.20	91.64	0.99	8.90	30.50	22.59	38.5	V
836.60	93.14	1.31	9.20	32.10	24.21	38.5	V
848.80	94.83	1.62	9.20	32.90	25.32	38.5	V

(WDMA850)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power ERP(dBm)
4132	826.40	23.18	21.99
4183	836.60	23.30	22.51
4233	846.60	23.42	21.02

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	ERP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
826.40	90.96	0.99	8.90	29.90	21.99	38.5	V
836.60	91.41	1.31	9.20	30.40	22.51	38.5	V
846.60	90.54	1.62	9.20	28.60	21.02	38.5	V

(WCDMA850-HSDPA)

Ch No.	Freq (MHz)	Peak Power Meter(dBm)	Peak Power ERP(dBm)
4132	826.40	23.22	20.80
4183	836.60	23.30	22.92
4233	846.60	23.44	21.94

FREQ (MHz)	Receiver Reading (dBuV)	Correction Factor (dB)		SG Reading (dBm)	ERP (dBm)	Limit (dBm)	POL (H/V)
		Antenna gain(dBi)	Cable Loss (dB)				
826.40	89.17	0.99	8.90	28.71	20.80	38.5	V
836.60	90.50	1.31	9.20	30.81	22.92	38.5	V
846.60	89.87	1.62	9.20	29.52	21.94	38.5	V

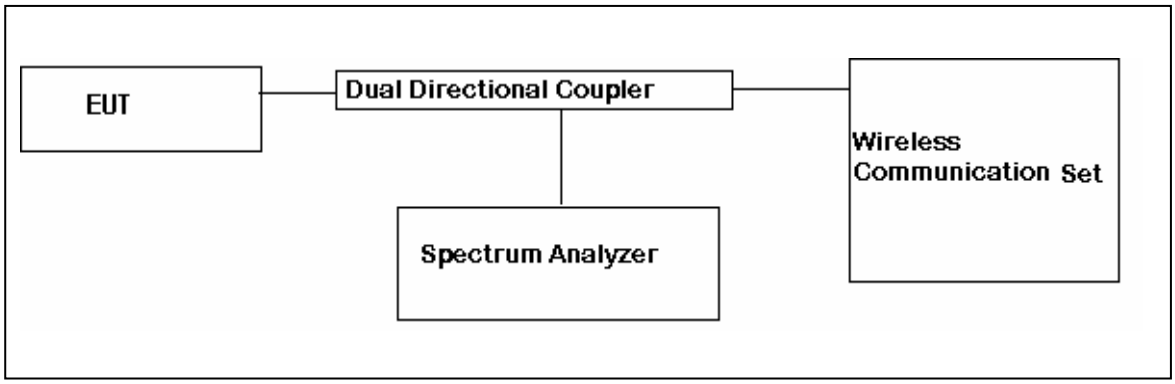
5. Occupied Bandwidth

5.1 Test Procedure

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% of the Emission bandwidth.

The VBW is set to 3 times the RBW. The sweep time is coupled.

Test setup



5.2 Test Equipments

The following test equipments are used during tests

Equipment	Manufacturer	Model	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	2009-09-11
Dual Directional Coupler	HP	778D	2010-02-26
Wireless Communications Test Set	Agilent	E5515C	2010-05-12

5.3 Test Results

5.3.1 PCS1900

(GSM)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
512	1850.20	300.37
661	1880.00	304.97
810	1909.80	300.46

(EDGE)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
512	1850.20	300.51
661	1880.00	304.08
810	1909.80	300.91

(GPRS)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
512	1850.20	303.18
661	1880.00	300.43
810	1909.80	300.02

(WCDMA1900)

Channel	Frequency(MHz)	26dB Bandwidth(MHz)
9262	1852.40	4.609
9400	1880.00	4.594
9538	1907.60	4.602

(WCDMA1900-HSDPA)

Channel	Frequency(MHz)	26dB Bandwidth(MHz)
9262	1852.40	4.585
9400	1880.00	4.601
9538	1907.60	4.576

5.3.2 GSM850

(GSM)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
128	824.20	300.94
190	836.60	300.68
251	848.80	300.57

(EDGE)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
128	824.20	294.741
190	836.60	297.832
251	848.80	302.250

(GPRS)

Channel	Frequency(MHz)	26dB Bandwidth(kHz)
128	824.20	300.62
190	836.60	300.53
251	848.80	300.31

(WCDMA850)

Channel	Frequency(MHz)	26dB Bandwidth(MHz)
4132	826.40	4.600
4183	836.60	4.594
4233	846.60	4.602

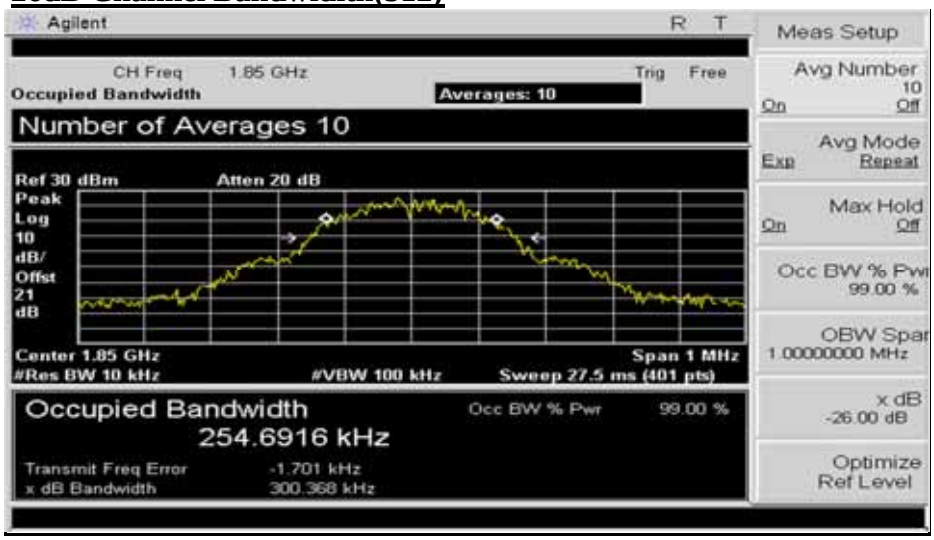
(WCDMA850-HSDPA)

Channel	Frequency(MHz)	26dB Bandwidth(MHz)
4132	826.40	4.602
4183	836.60	4.601
4233	846.60	4.597

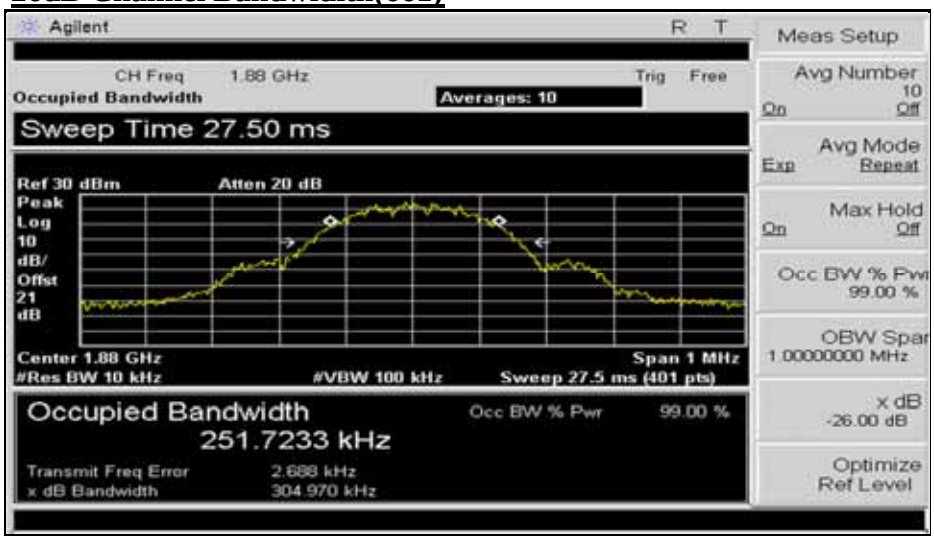
5.4 Test Plot

PCS1900 GSM

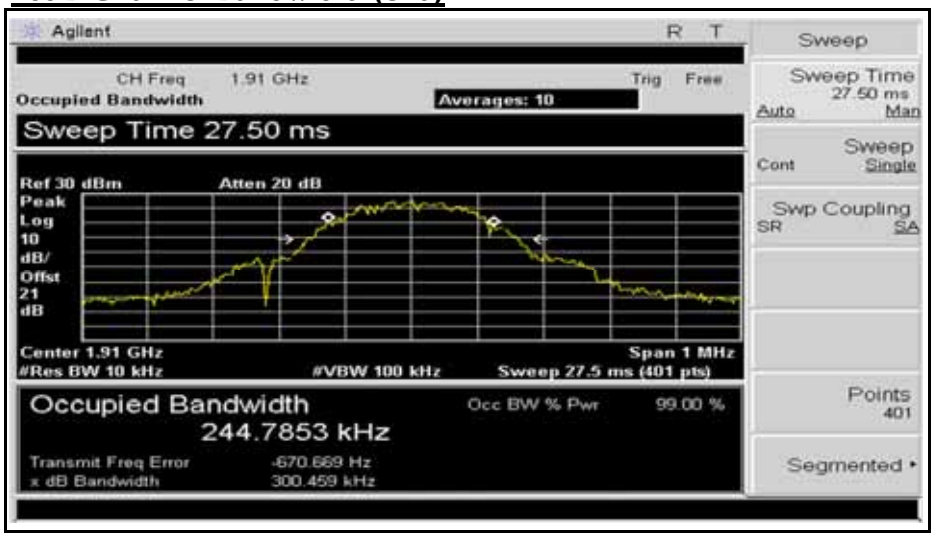
26dB Channel Bandwidith(512)



26dB Channel Bandwidith(661)

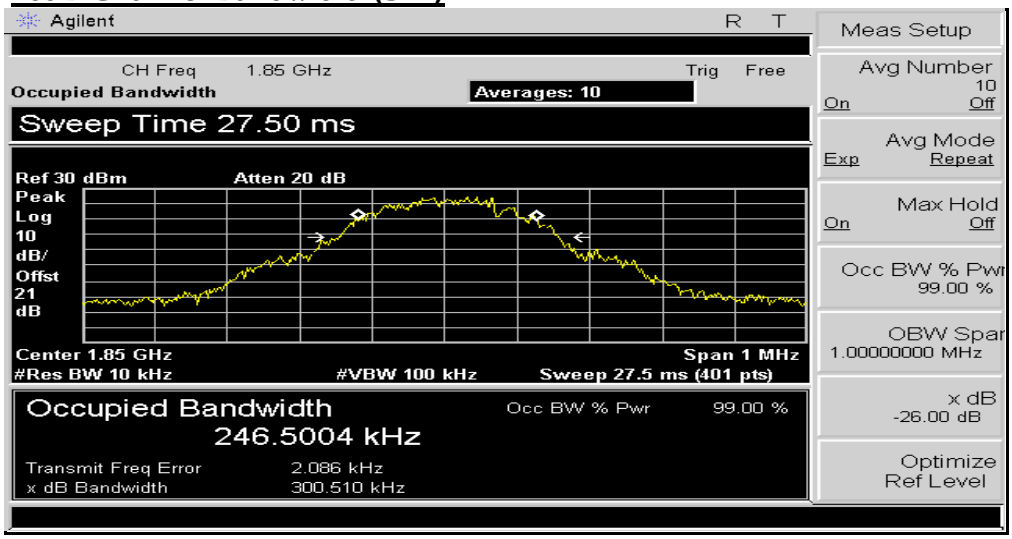


26dB Channel Bandwidith(810)



PCS1900 EDGE

26dB Channel Bandwidith(512)

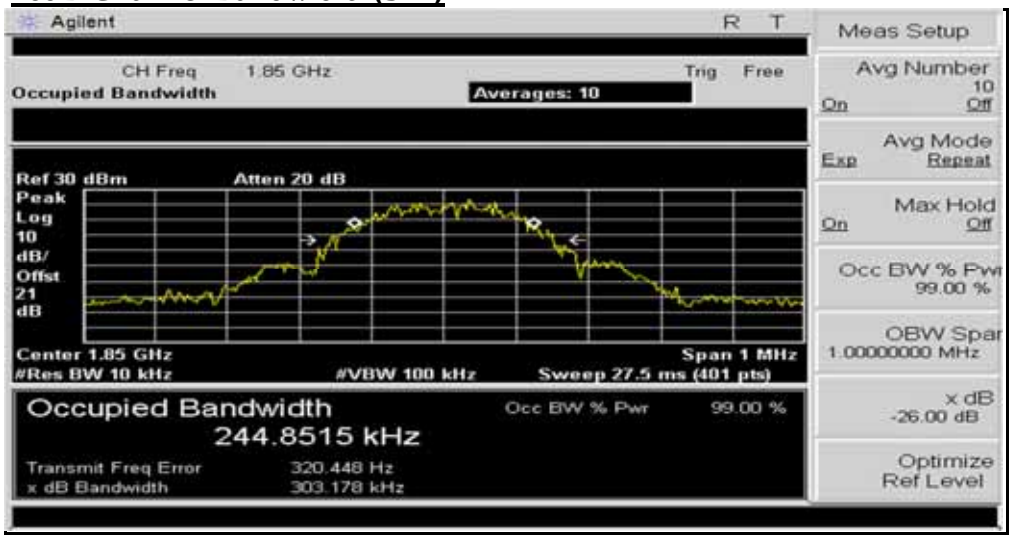


26dB Channel Bandwidith(661)

26dB Channel Bandwidith(810)

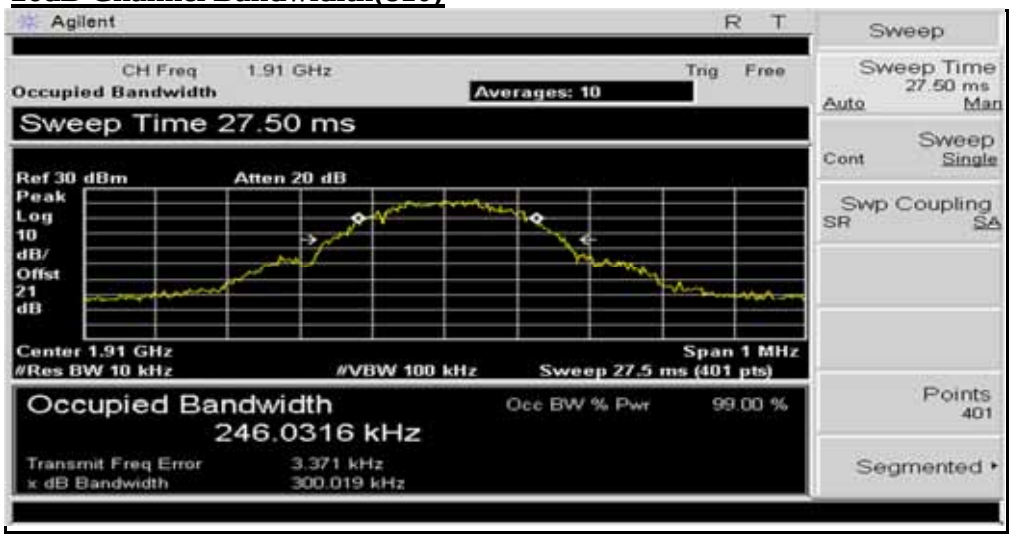
PCS1900 GRPS

26dB Channel Bandwidith(512)



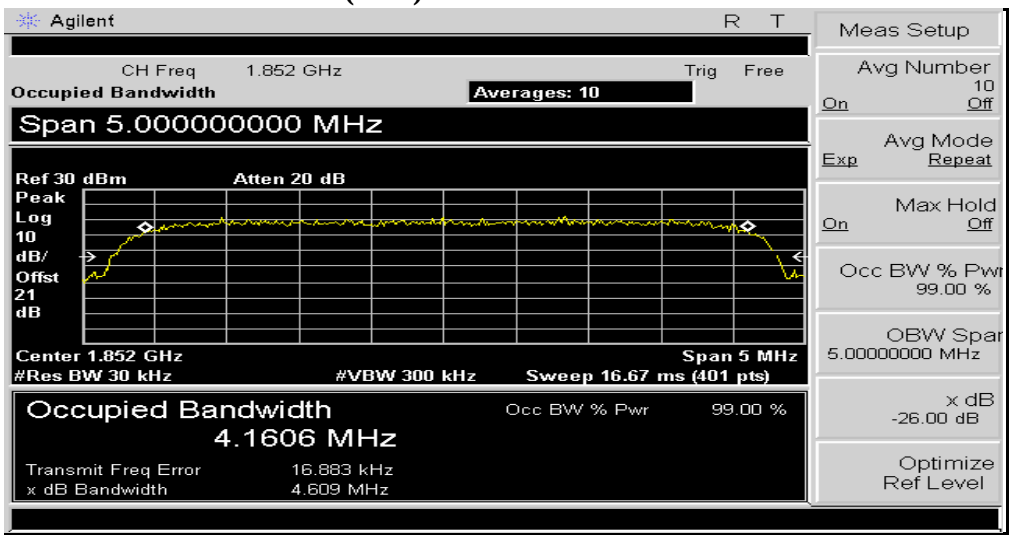
26dB Channel Bandwidith(661)

26dB Channel Bandwidith(810)



WCDMA1900

26dB Channel Bandwidith(9262)



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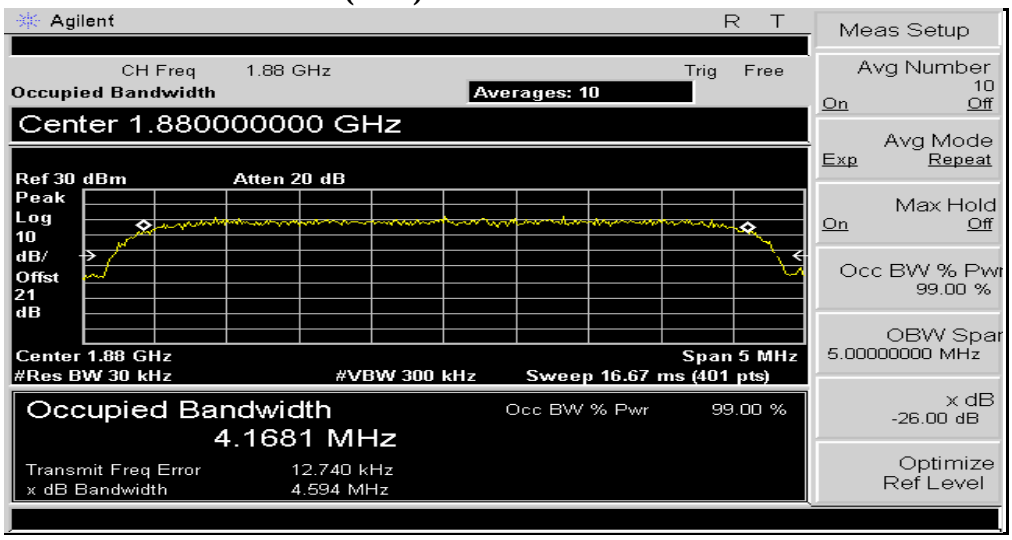
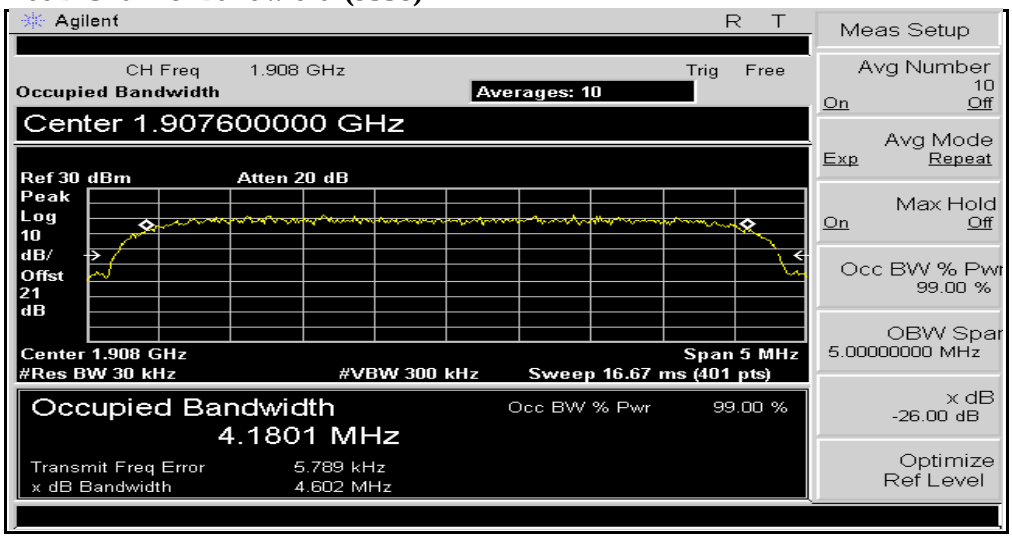
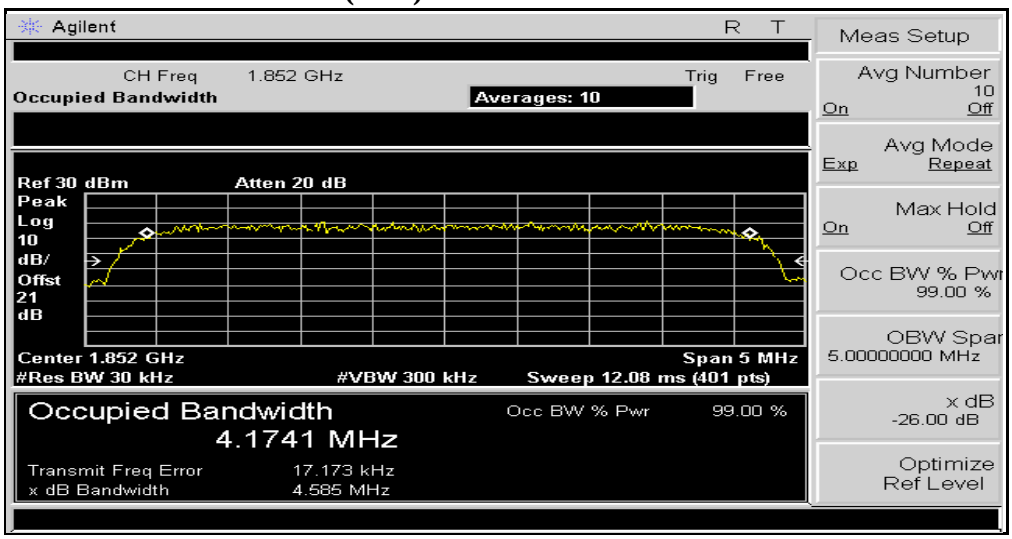


26dB Channel Bandwidith(9538)

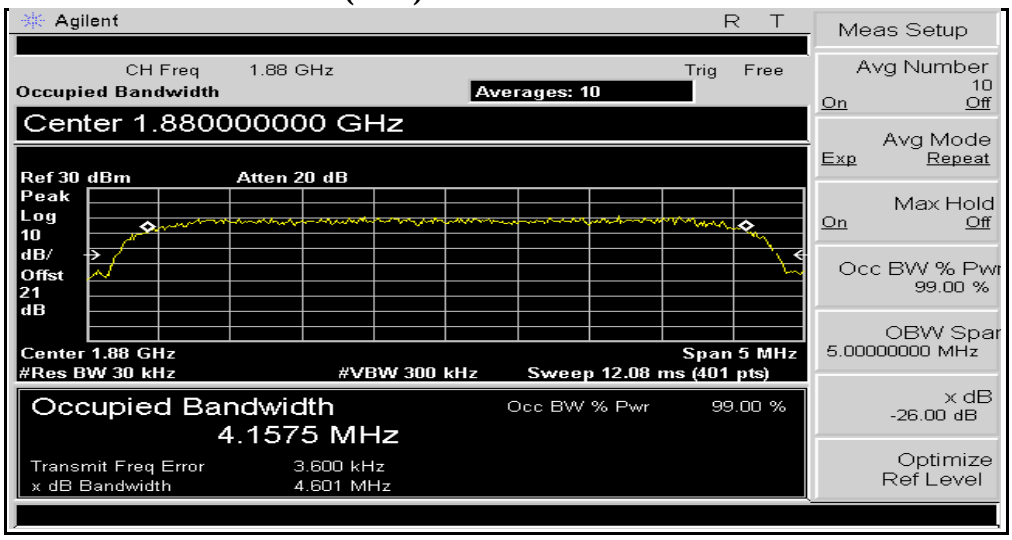


WCDMA1900-HSDPA

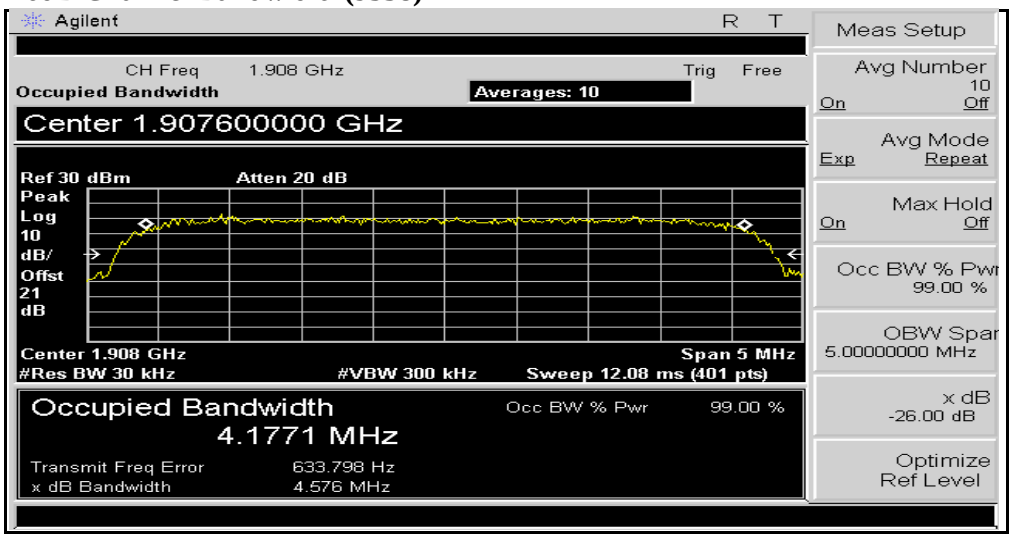
26dB Channel Bandwidith(9262)



26dB Channel Bandwidith(9400)

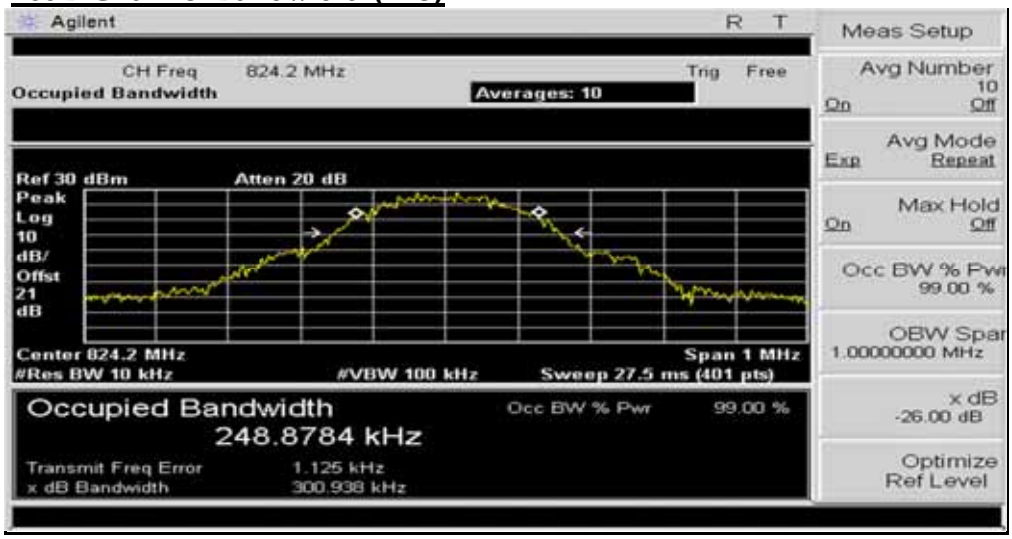


26dB Channel Bandwidith(9538)

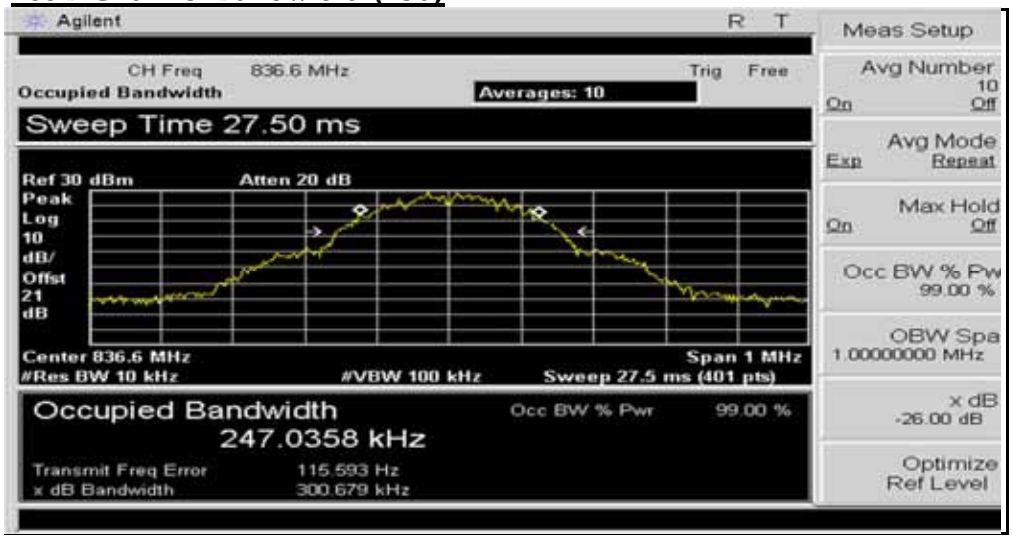


GSM850

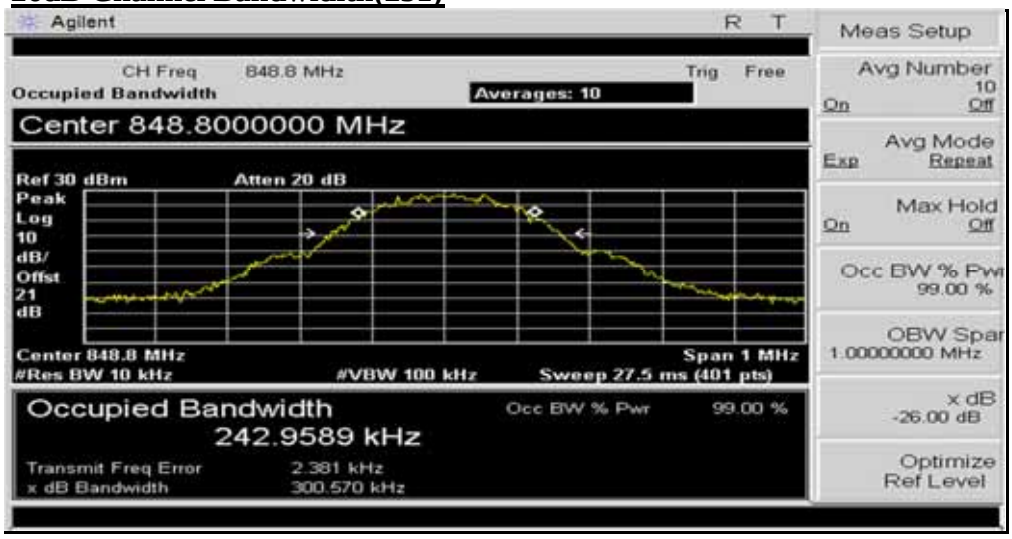
26dB Channel Bandwidith(128)



26dB Channel Bandwidith(190)



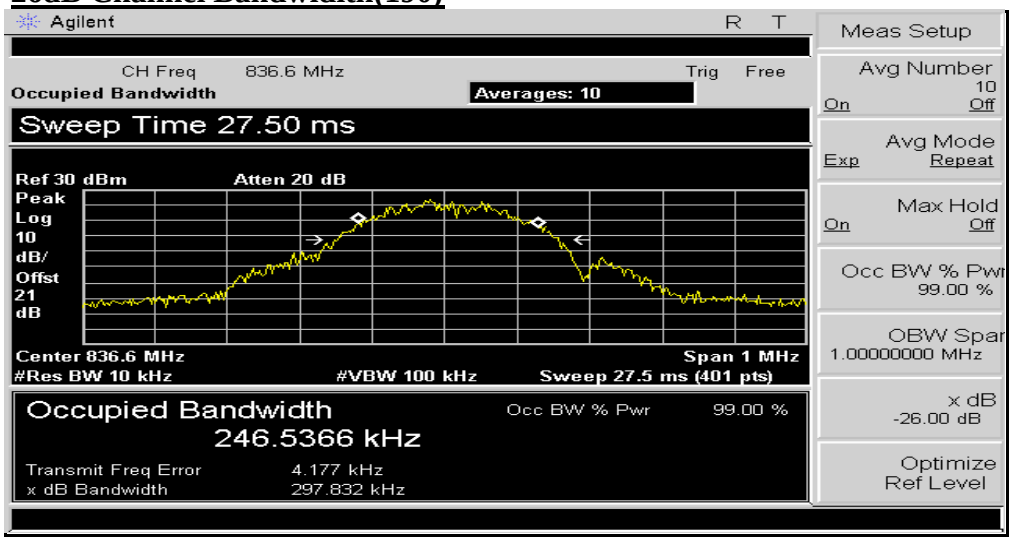
26dB Channel Bandwidith(251)



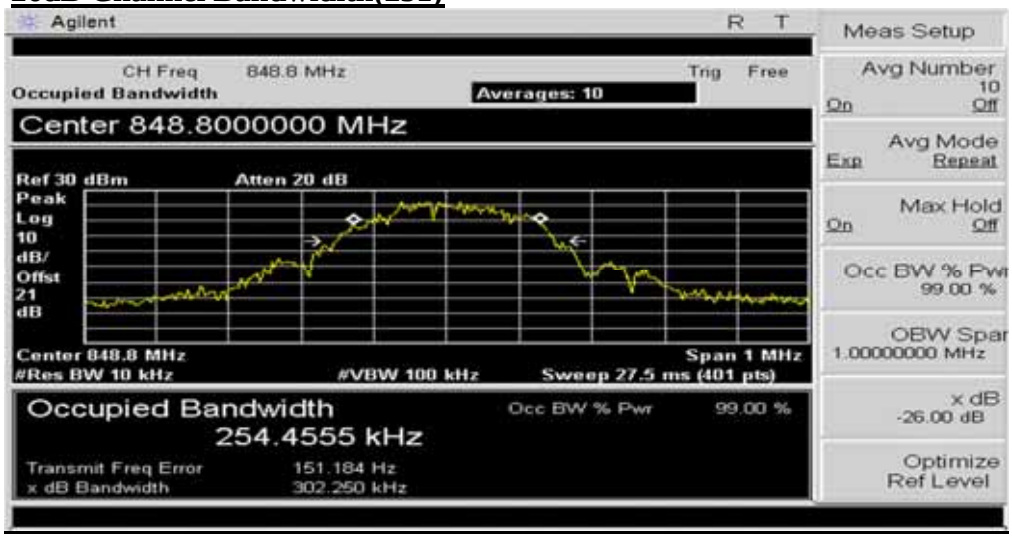
GSM850 EDGE

26dB Channel Bandwidith(128)

26dB Channel Bandwidith(190)

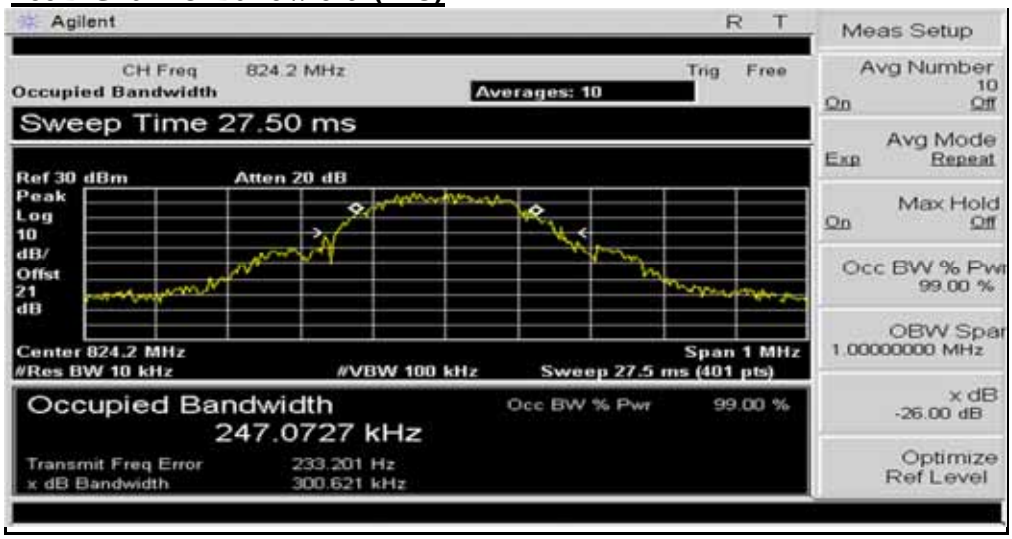


26dB Channel Bandwidith(251)

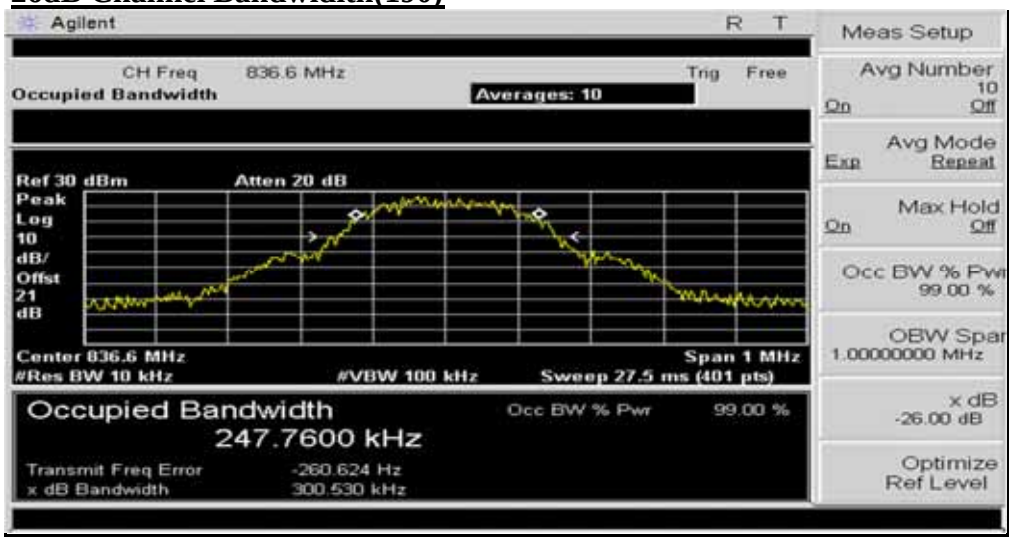


GSM850 GPRS

26dB Channel Bandwidith(128)



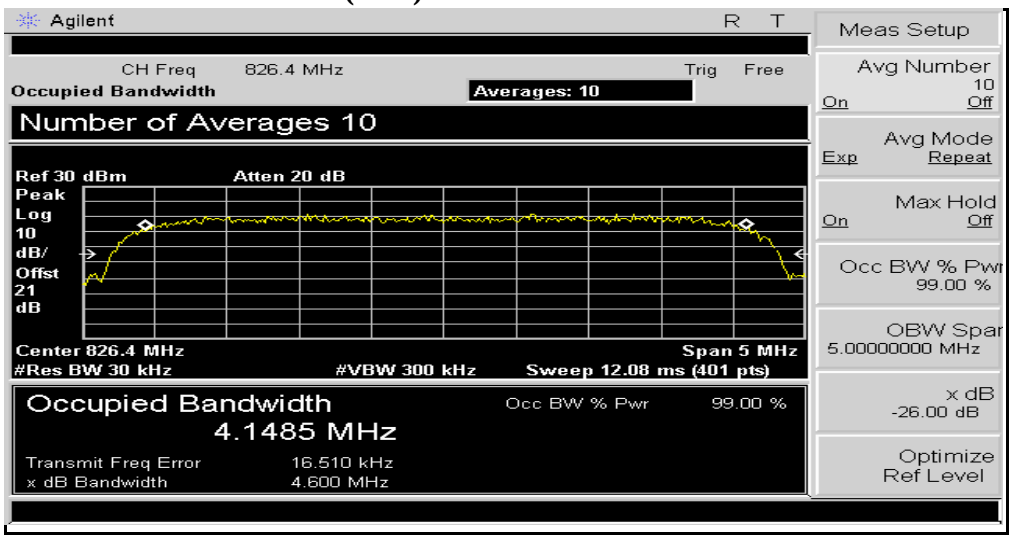
26dB Channel Bandwidith(190)



26dB Channel Bandwidith(251)

WCDMA850

26dB Channel Bandwidith(4132)



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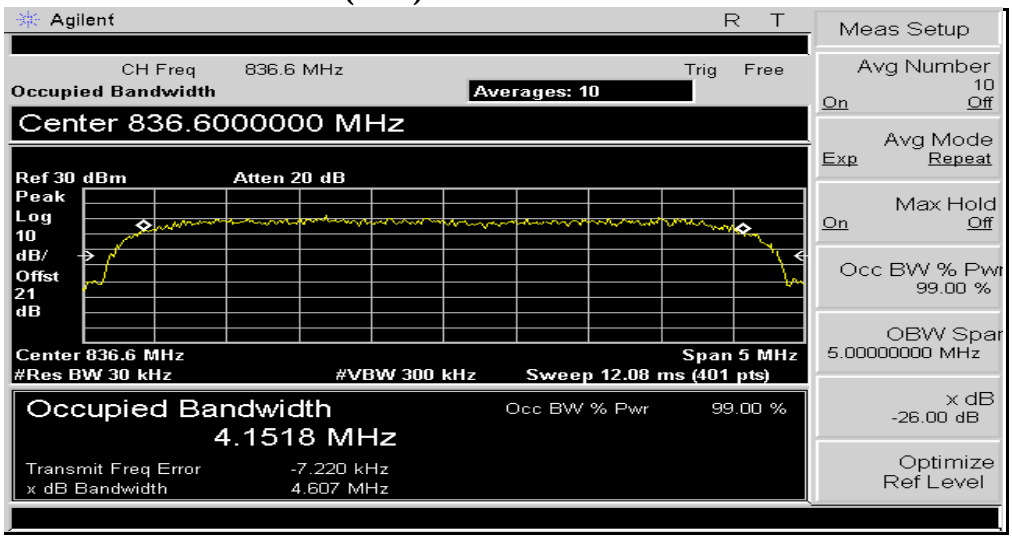

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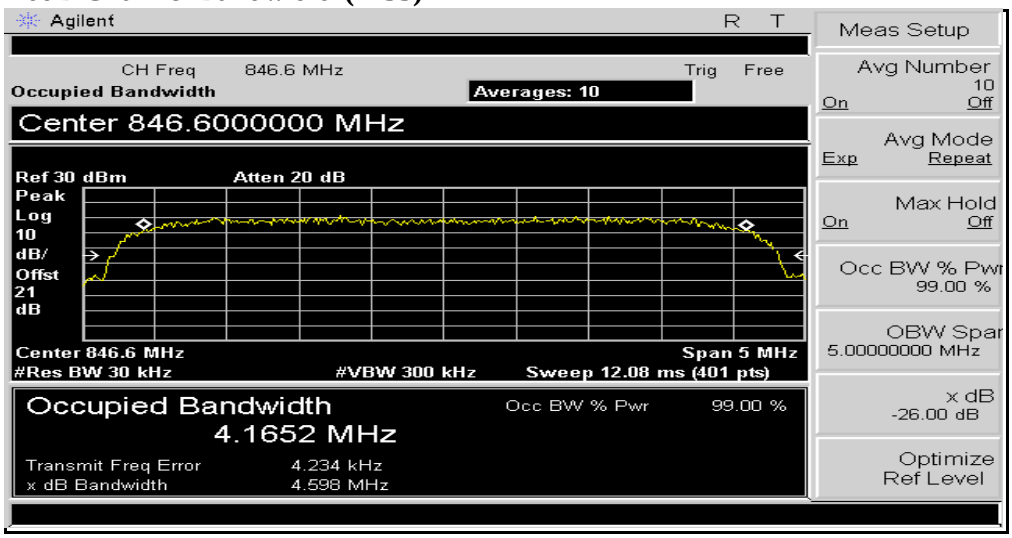
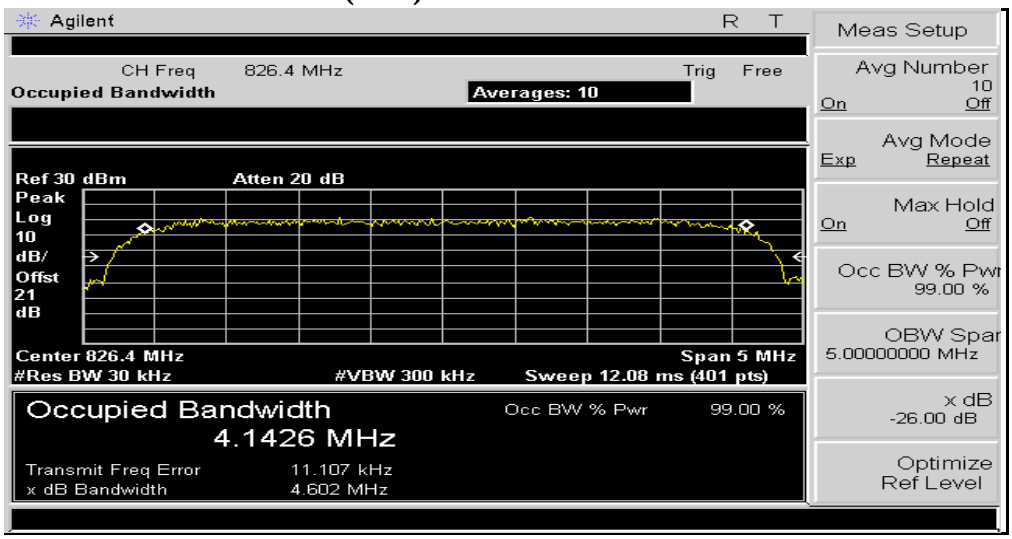
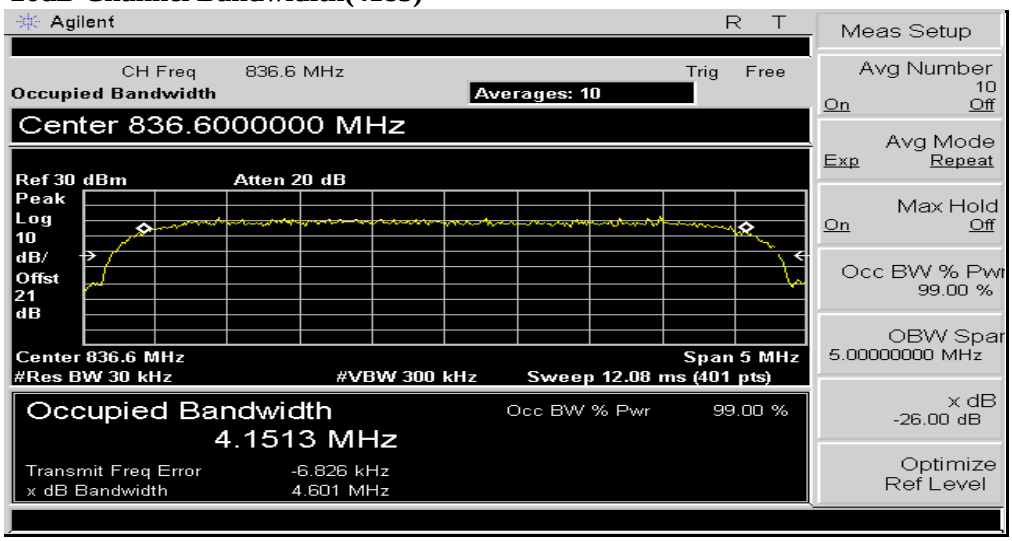


WCDMA850-HSDPA

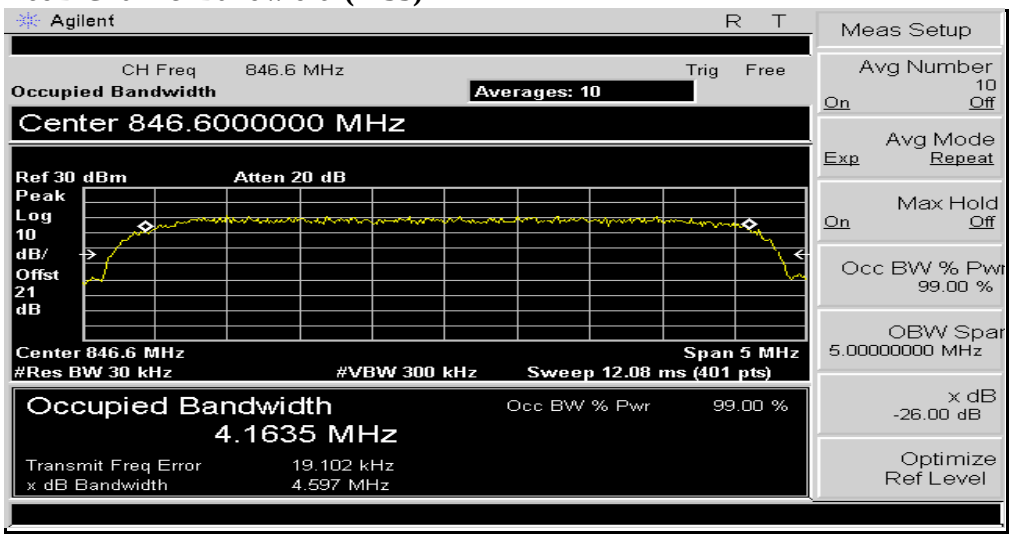
26dB Channel Bandwidith(4132)



26dB Channel Bandwidith(4183)



26dB Channel Bandwidith(4233)



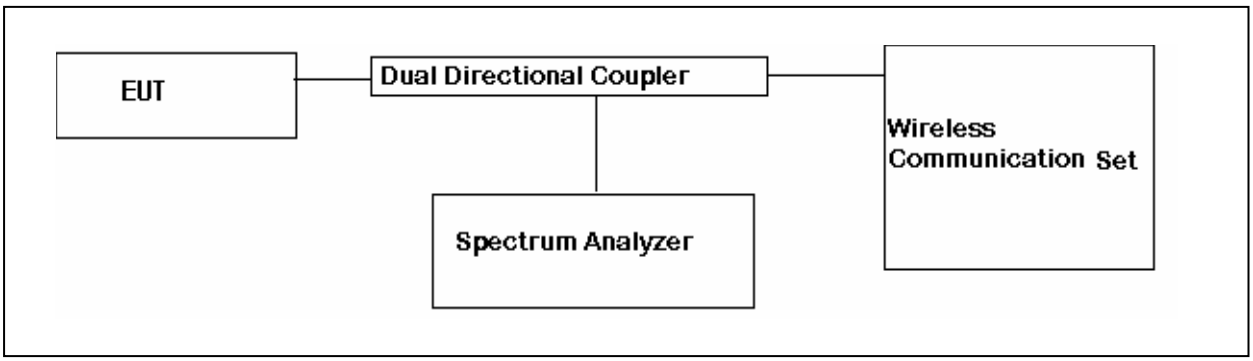
6. Spurious and Harmonic Emission at Antenna Terminal

6.1 Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to 10GHz. Set the RES BW to 1% of the emission bandwidth to show compliance with the -13dBm, limit, in the 1MHz bands immediately outside and adjacent to the top and bottom edges of the frequency block.

For the Out-of-Band measurements a 1MHz RBW was used to scan from 10MHz to 10xfo of the fundamental carrier for all frequency block. A display line was placed at -13dBm to show compliance for spurious, and harmonics.

22.917(f): Mobile emission in base frequency range. The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitter operated must be attenuated to a level not to exceed -80dBm at the transmit antenna connector.



6.2 Test Equipments

The following test equipments are used during tests

Equipment	Manufacturer	Model	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	2009-09-11
Dual Directional Coupler	HP	778D	2010-02-26
Wireless Communications Test Set	Agilent	E5515C	2010-05-12

6.3 Test Results

6.3.1 PCS1900

PCS1900 GSM(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-19.49	-13.00	6.49
810	1909.80	-16.61	-13.00	3.61

PCS1900 GSM (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-25.74	-13.00	12.74
661	1880.00	-25.29	-13.00	12.29
810	1909.80	-26.57	-13.00	13.57

(PCS1900 EDGE)

PCS1900 EDGE(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-18.68	-13.00	5.68
661	1880.00	-20.69	-13.00	7.69

PCS1900 EDGE (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-26.36	-13.00	13.36
661	1880.00	-26.12	-13.00	13.12
810	1909.80	-25.20	-13.00	12.20

(PCS1900 GPRS)

PCS1900 GPRS(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-21.96	-13.00	8.96
810	1909.80	-23.38	-13.00	10.38

PCS1900 GPRS (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
512	1850.20	-26.06	-13.00	13.06
661	1880.00	-26.27	-13.00	13.27
810	1909.80	-25.57	-13.00	12.57

(WCDMA1900)

WCDMA1900(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
9262	1852.40	-17.62	-13.00	4.62
9538	1907.60	-16.12	-13.00	3.12

WCDMA1900 (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
9262	1852.40	-26.09	-13.00	13.09
9400	1880.00	-25.77	-13.00	12.77
9538	1907.60	-25.73	-13.00	12.73

(WCDMA1900-HSDPA)

WCDMA1900-HSDPA(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
9262	1852.4	-17.46	-13.00	4.46
9538	1907.6	-16.30	-13.00	3.30

WCDMA1900-HSDPA (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
9262	1852.40	-25.92	-13.00	12.92
9400	1880.00	-25.12	-13.00	12.12
9538	1907.60	-25.96	-13.00	12.96

GSM850

(GSM850 EDGE)

GSM850 (Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
128	824.20	-15.98	-13.00	2.98
251	848.80	-15.72	-13.00	2.72

GSM850 (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
128	824.20	-26.22	-13.00	13.22
190	836.60	-26.27	-13.00	13.27
251	848.80	-25.57	-13.00	12.57

(GSM850 EDGE)

GSM850 EDGE(Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
128	824.20	-23.77	-13.00	10.77
251	848.80	-18.64	-13.00	5.64

GSM850 EDGE (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
128	824.20	-26.25	-13.00	13.25
190	836.60	-25.69	-13.00	12.69
251	848.80	-25.76	-13.00	12.76

(GSM850 GPRS)

GSM850 GPRS (Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
128	824.20	-14.95	-13.00	1.95
251	848.80	-16.23	-13.00	3.23

GSM850 GPRS (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
128	824.2	-25.53	-13.00	12.53
190	836.6	-26.09	-13.00	13.09
251	848.8	-26.00	-13.00	13.00

(WCDMA850)

WCDMA850 (Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
4132	826.40	-18.84	-13.00	5.84
4233	846.60	-18.27	-13.00	5.27

WCDMA850 (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
4132	826.40	-25.21	-13.00	12.21
4183	836.60	-27.08	-13.00	14.08
4233	846.60	-26.93	-13.00	13.93

(WCDMA850-HSDPA)

WCDMA850-HSDPA (Spurious Emission: Band Edge)

Channel	Frequency	Result	Limit	Margin
4132	826.4	-20.14	-13.00	7.14
4233	846.6	-16.75	-13.00	3.75

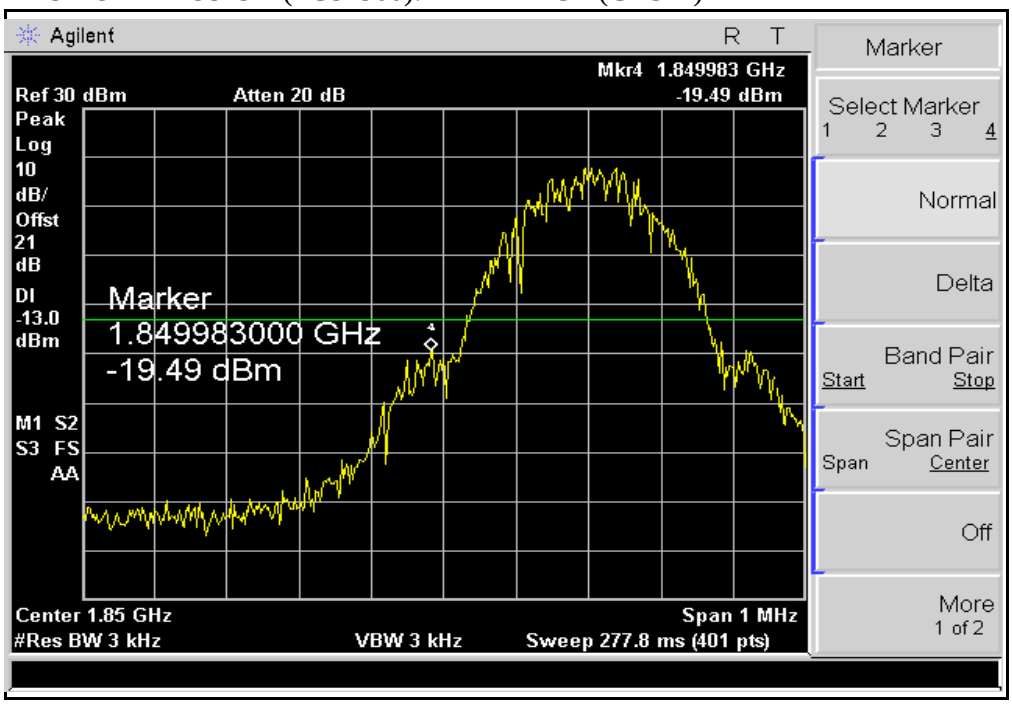
WCDMA850-HSDPA (Spurious Emission: Out of Band)

Channel	Frequency	Result	Limit	Margin
4132	826.4	-25.81	-13.00	12.81
4183	836.6	-25.22	-13.00	12.22
4233	846.6	-25.93	-13.00	12.93

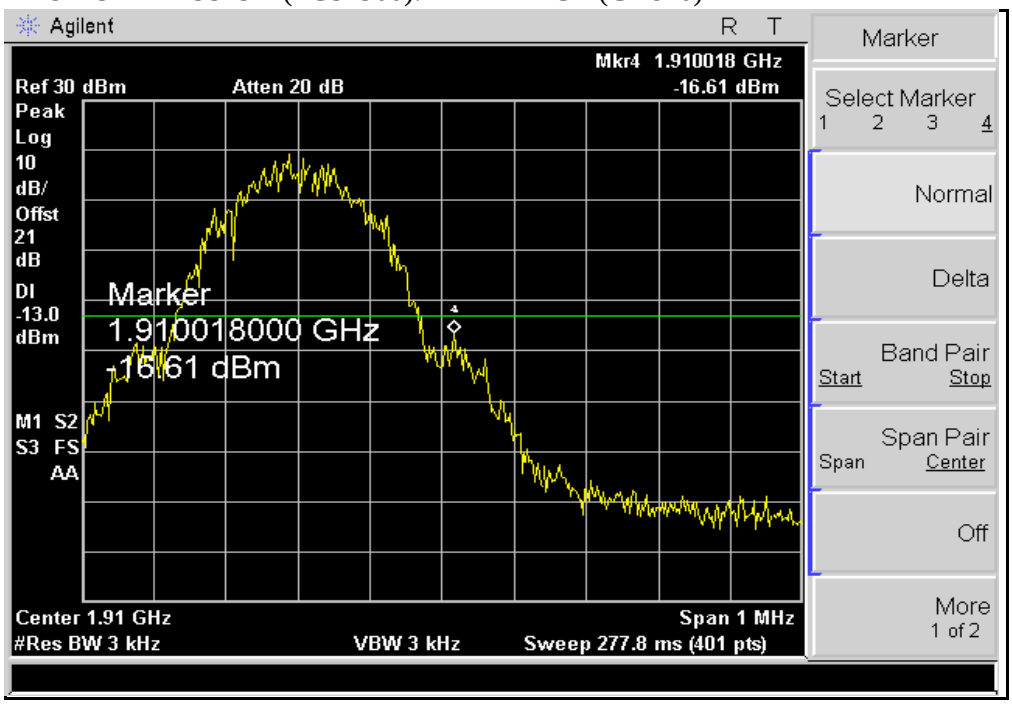
6.5 Test Plot

PCS1900

PLOT OF EMISSION (PCS1900):BAND EDGE (CH512)

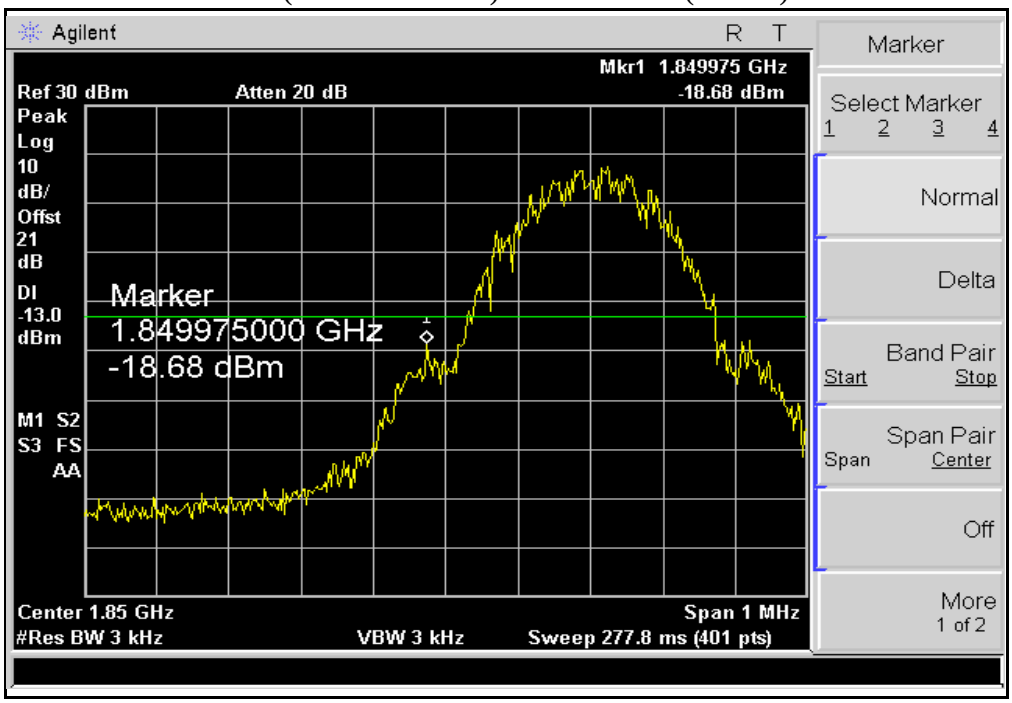


PLOT OF EMISSION (PCS1900):BAND EDGE (CH810)

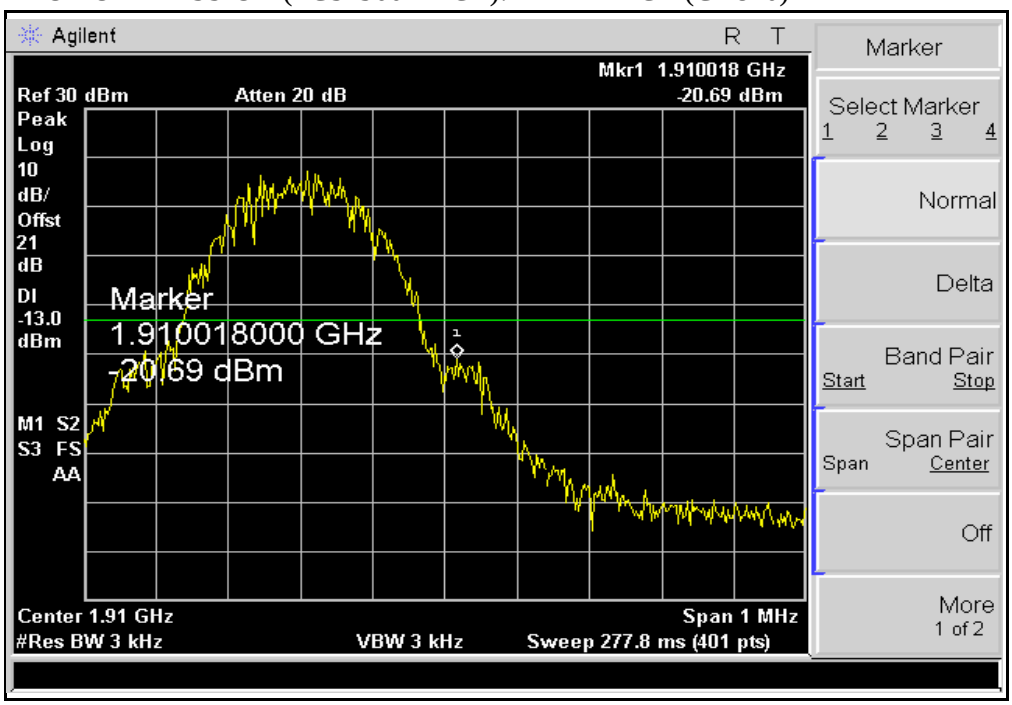


PCS1900 EDGE

PLOT OF EMISSION (PCS1900 EDGE):BAND EDGE (CH512)



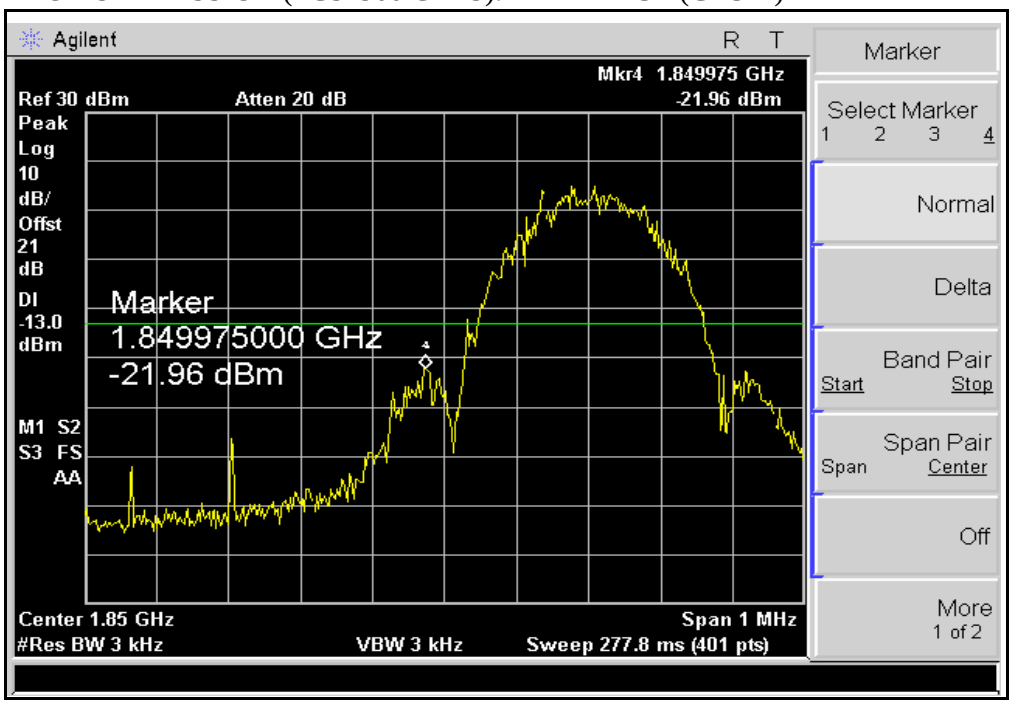
PLOT OF EMISSION (PCS1900 EDGE):BAND EDGE (CH810)



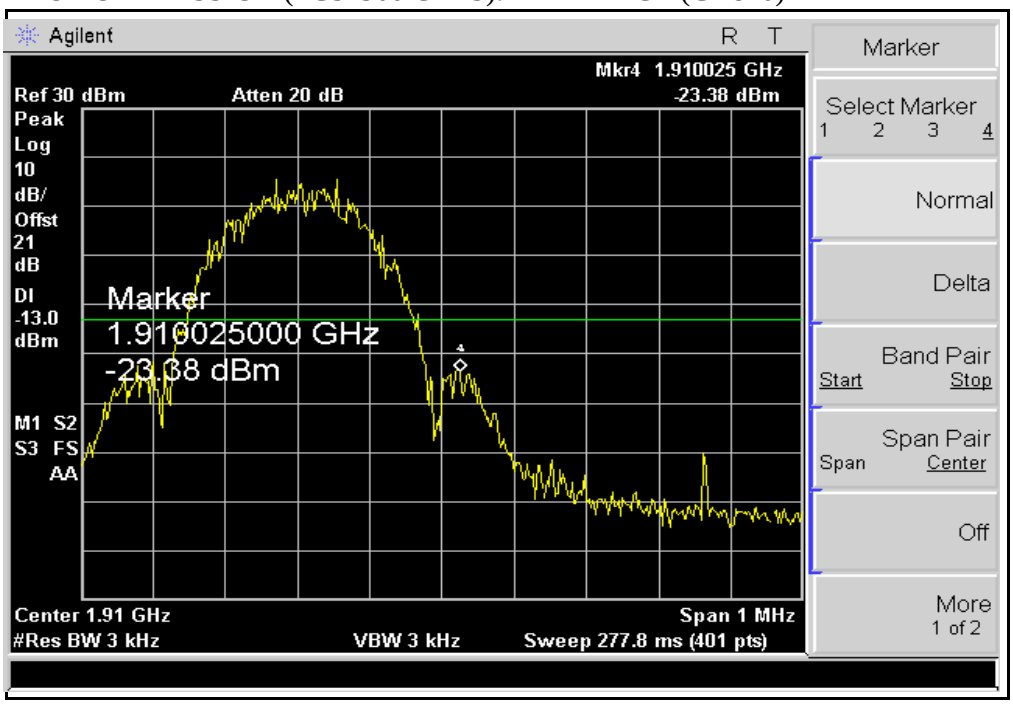
6.5 Test Plot

PCS1900 GPRS

PLOT OF EMISSION (PCS1900 GPRS):BAND EDGE (CH512)

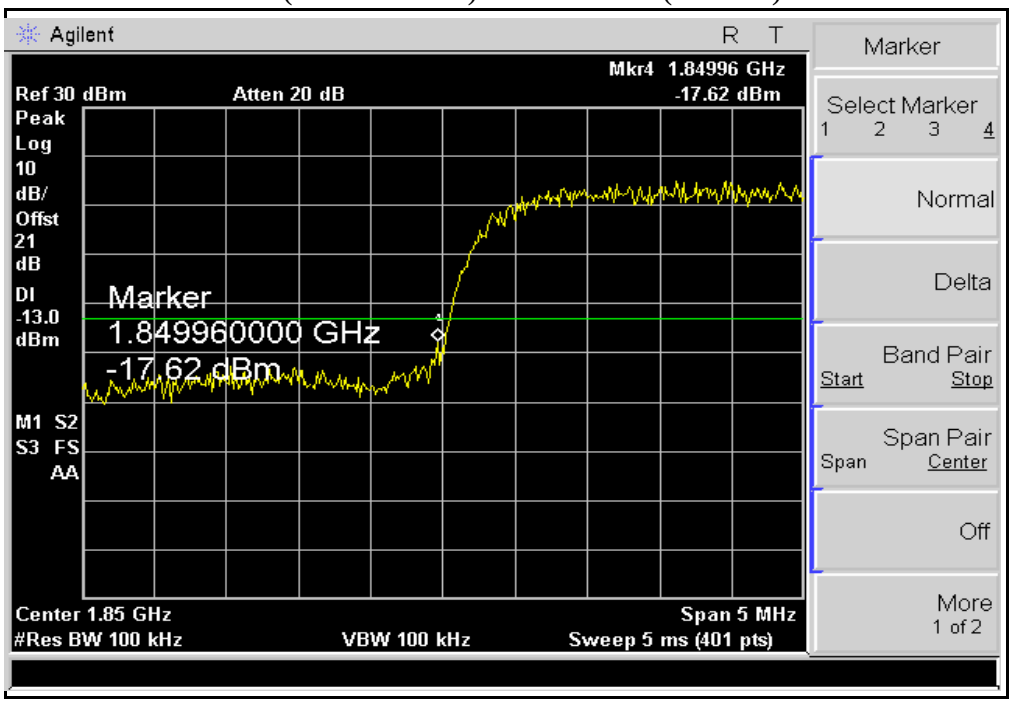


PLOT OF EMISSION (PCS1900 GPRS):BAND EDGE (CH810)

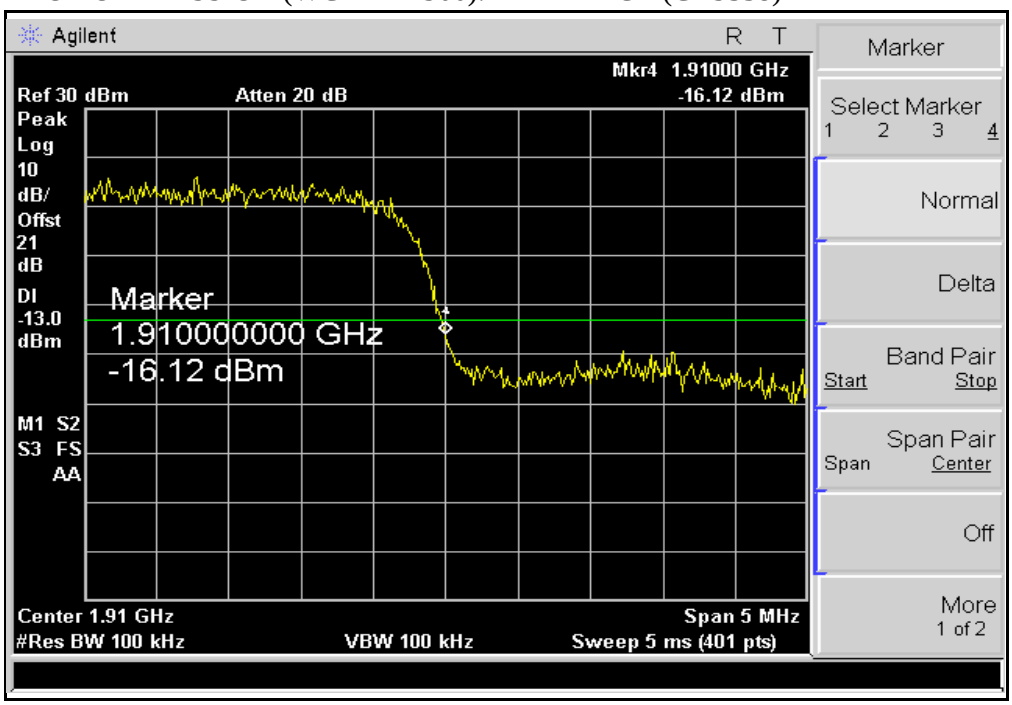


WCDMA1900

PLOT OF EMISSION (WCDMA1900):BAND EDGE (CH9262)

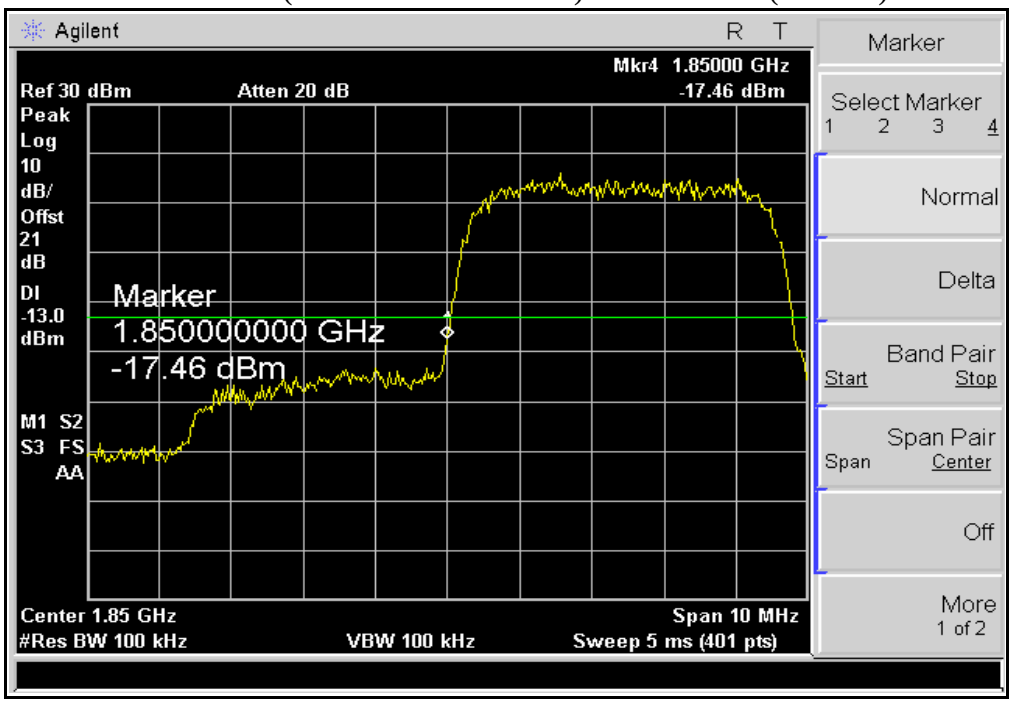


PLOT OF EMISSION (WCDMA1900):BAND EDGE (CH9538)

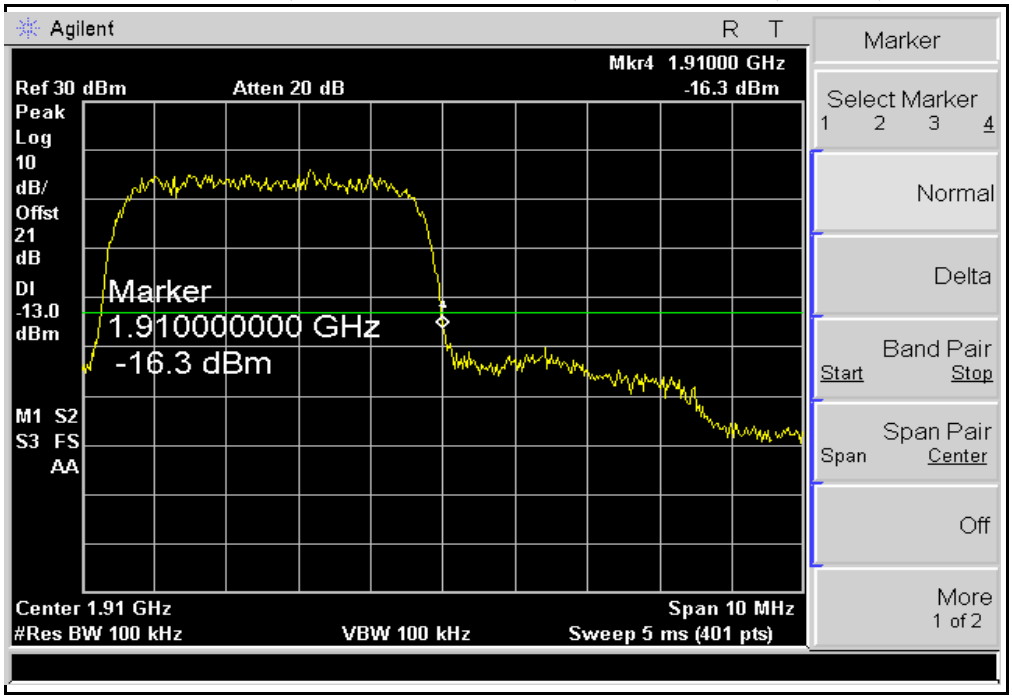


WCDMA1900-HSDPA

PLOT OF EMISSION (WCDMA1900-HSDPA):BAND EDGE (CH9262)

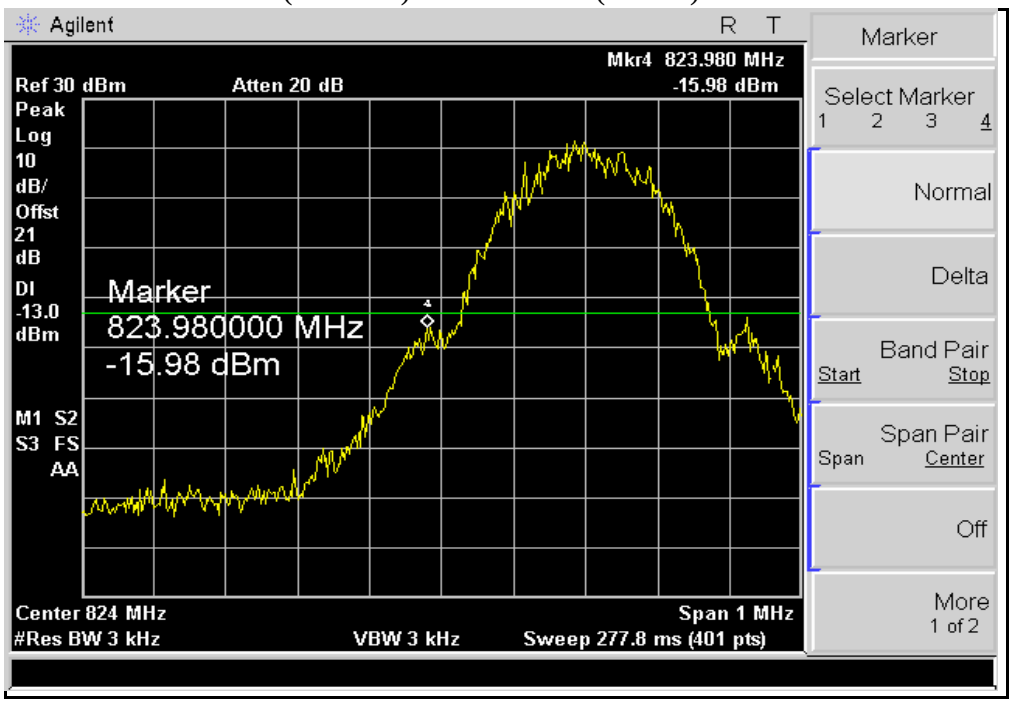


PLOT OF EMISSION (WCDMA1900-HSDPA):BAND EDGE (CH9538)

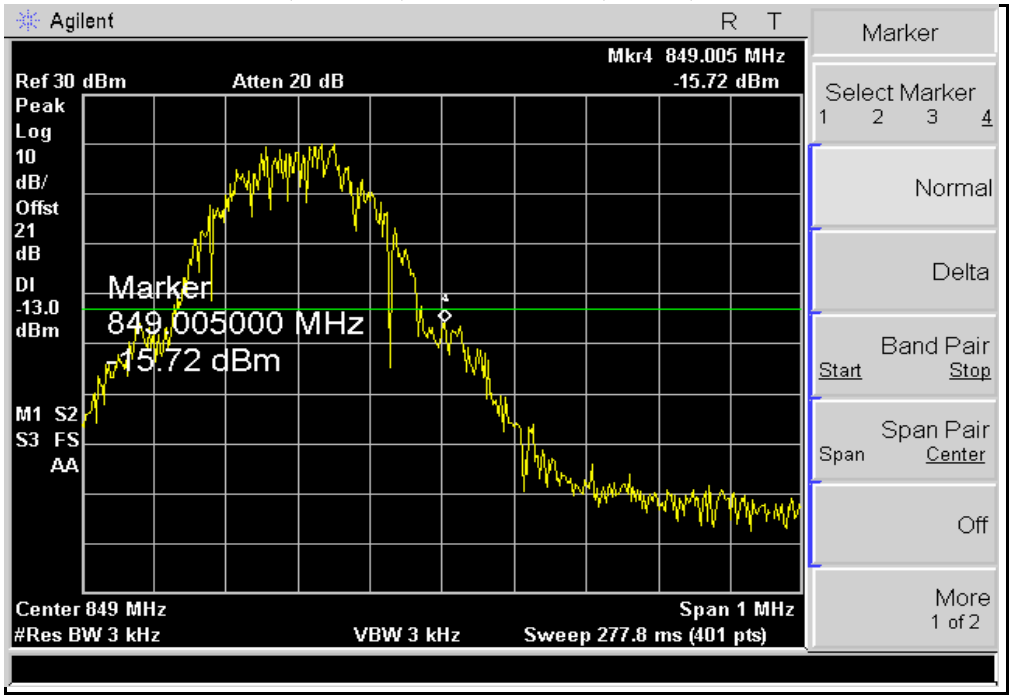


GSM850

PLOT OF EMISSION (GSM850):BAND EDGE (CH128)

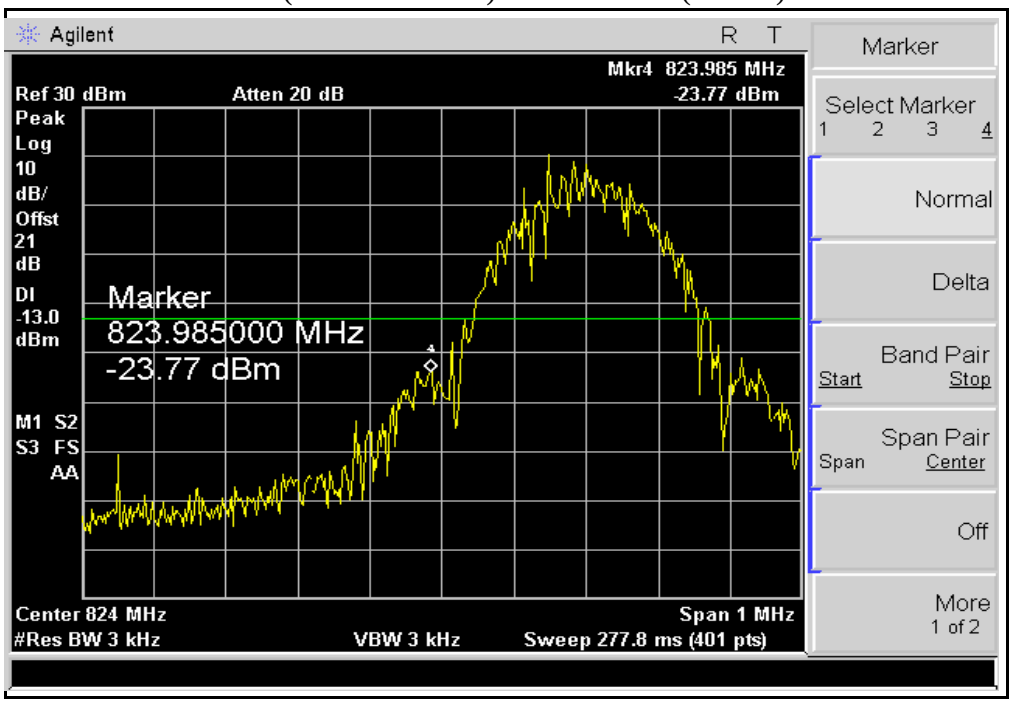


PLOT OF EMISSION (GSM850):BAND EDGE (CH251)

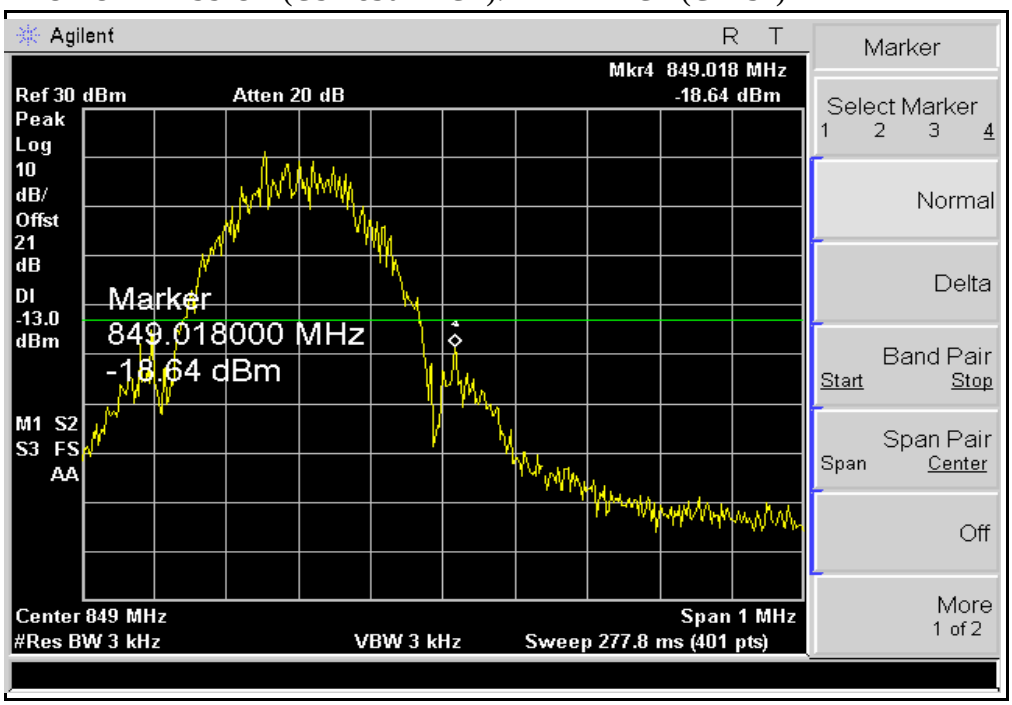


GSM850 EDGE

PLOT OF EMISSION (GSM850 EDGE):BAND EDGE (CH128)

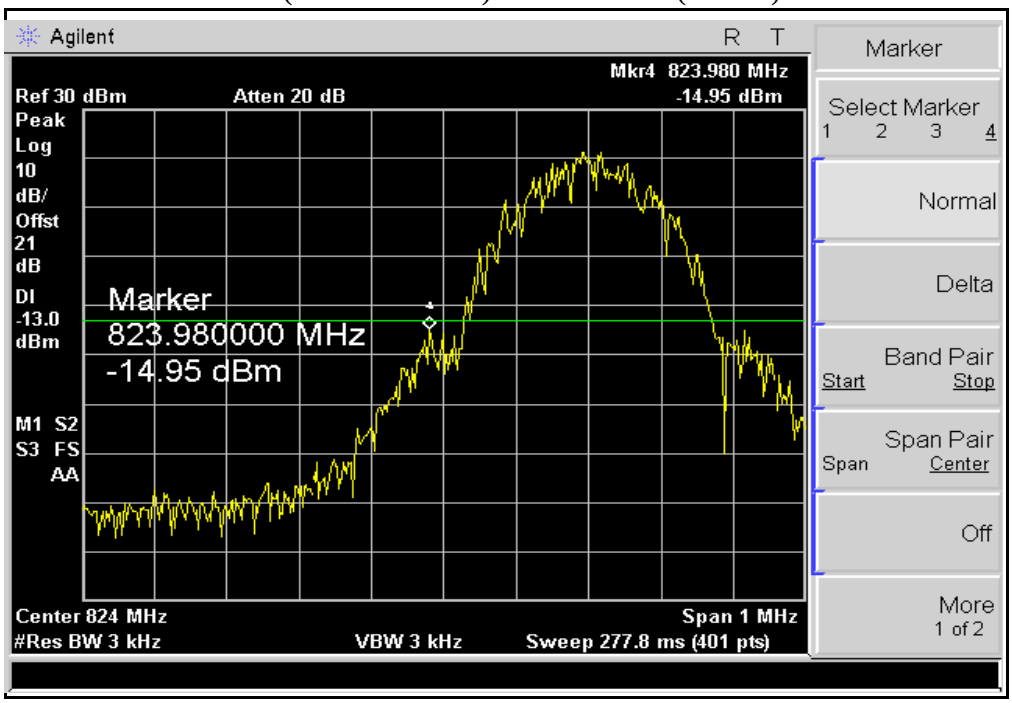


PLOT OF EMISSION (GSM850 EDGE):BAND EDGE (CH251)

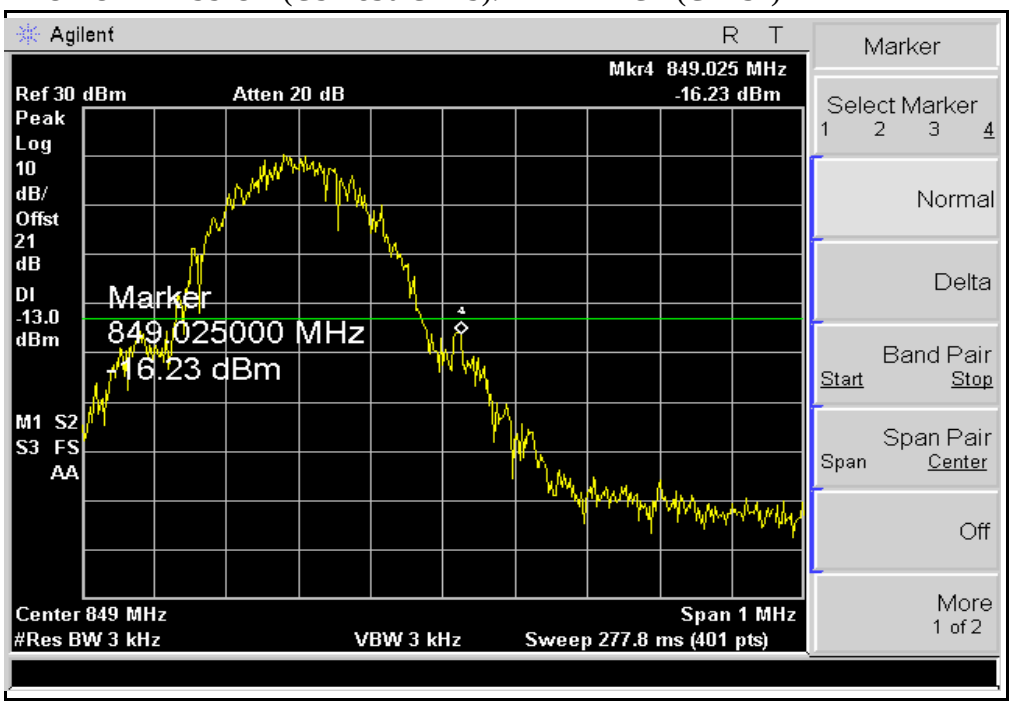


GSM850 GPRS

PLOT OF EMISSION (GSM850 GPRS):BAND EDGE (CH128)

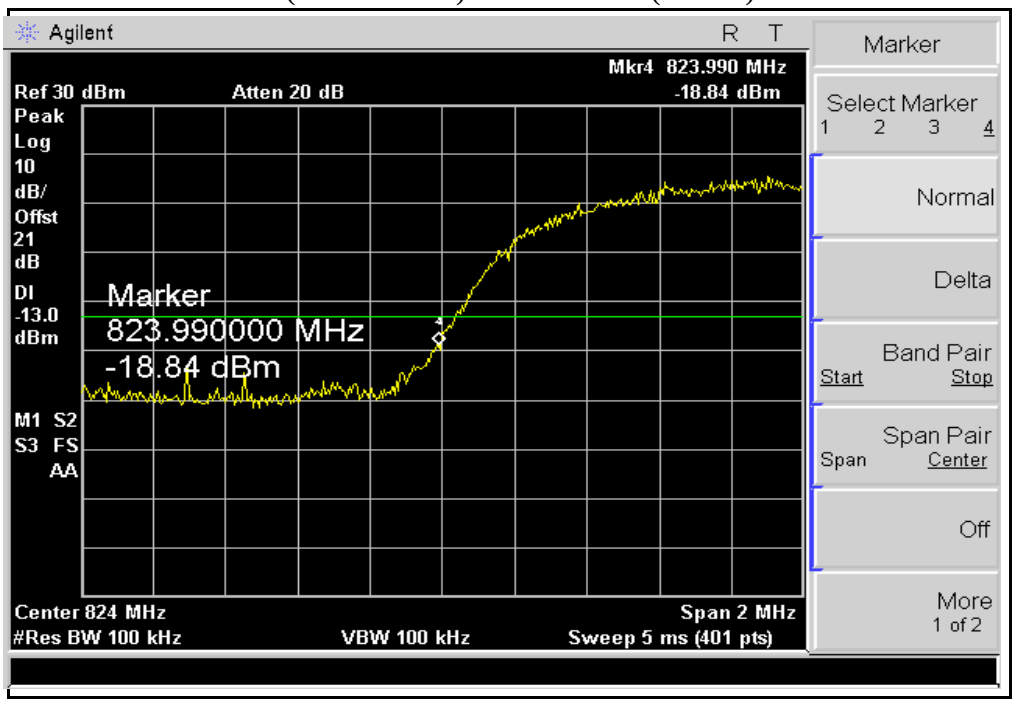


PLOT OF EMISSION (GSM850 GPRS):BAND EDGE (CH251)

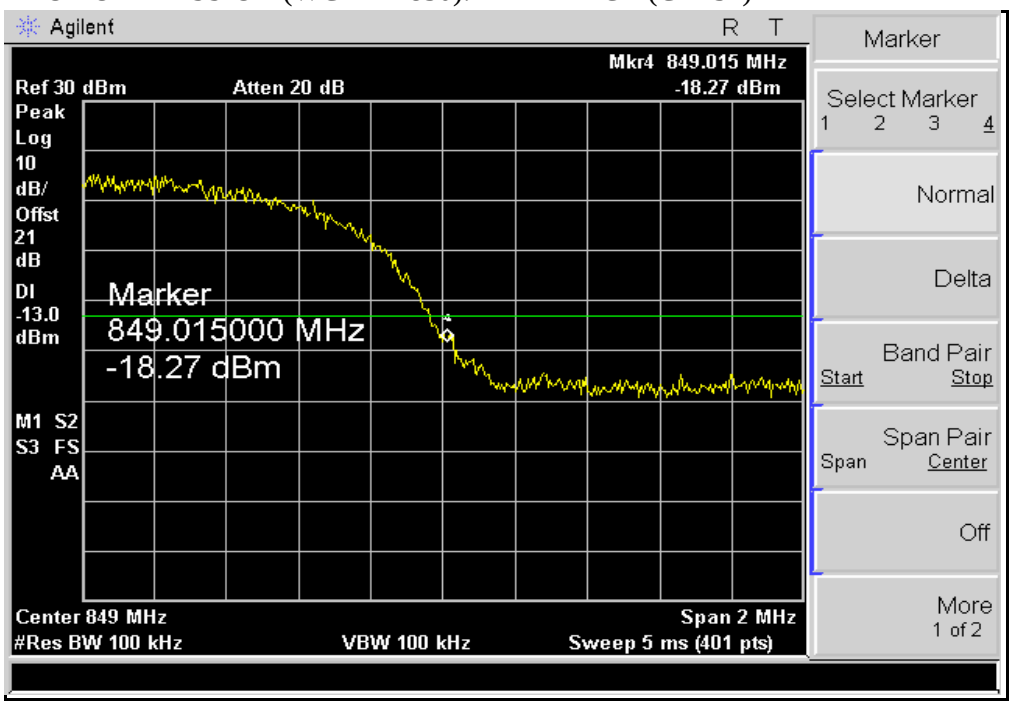


WCDMA850

PLOT OF EMISSION (WCDMA850):BAND EDGE (CH128)

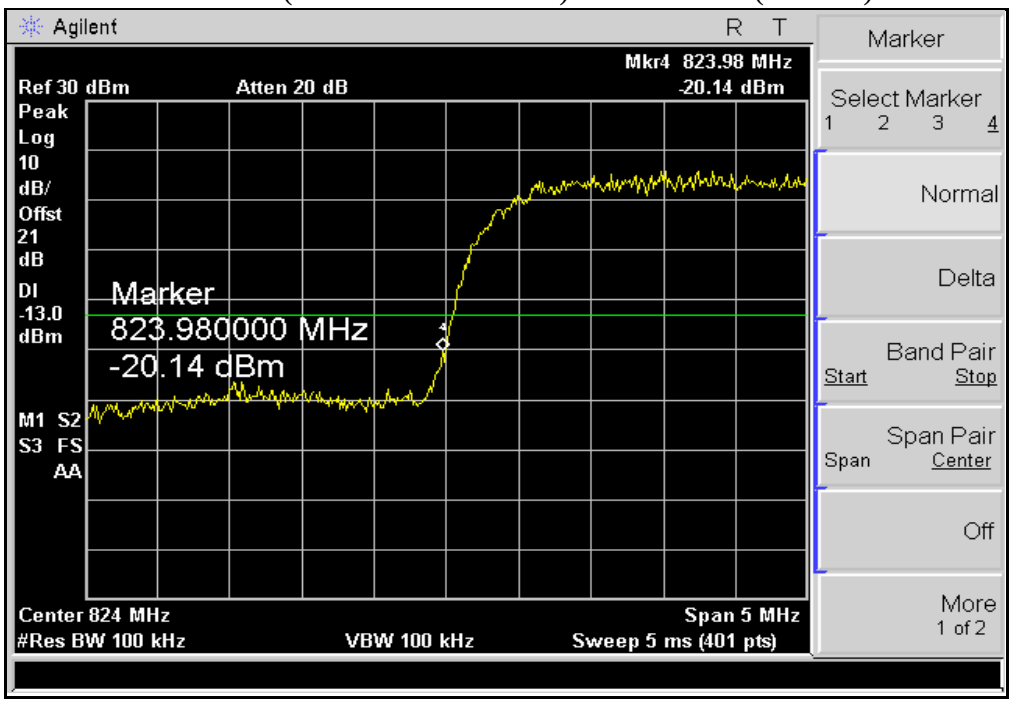


PLOT OF EMISSION (WCDMA850):BAND EDGE (CH251)

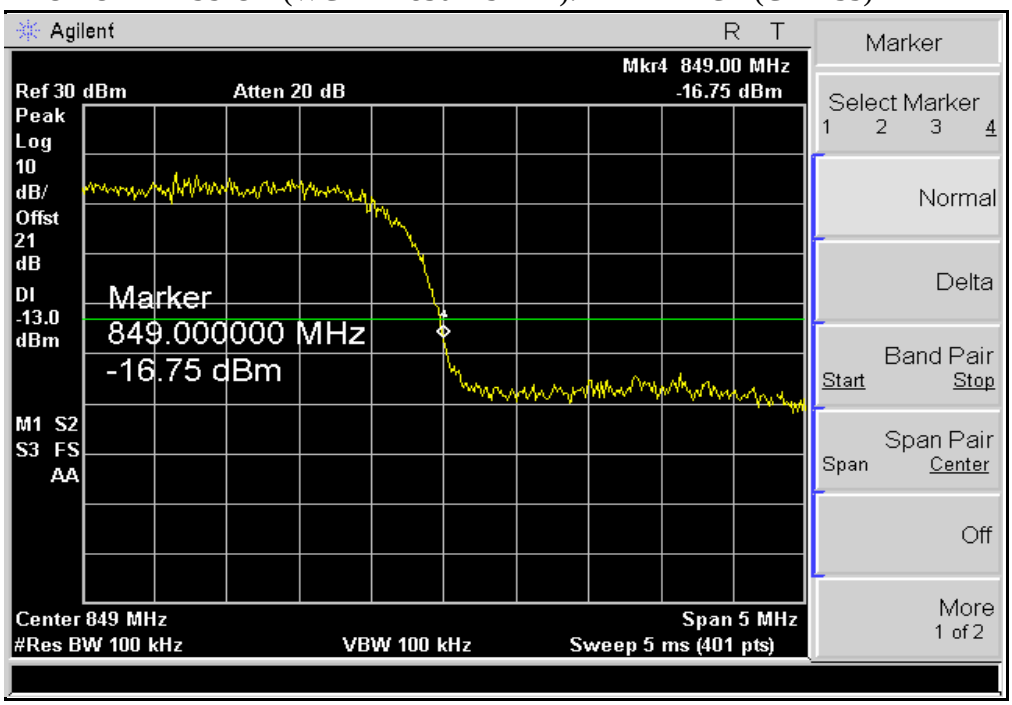


WCDMA850-HSDPA

PLOT OF EMISSION (WCDMA850-HSDPA):BAND EDGE (CH4132)

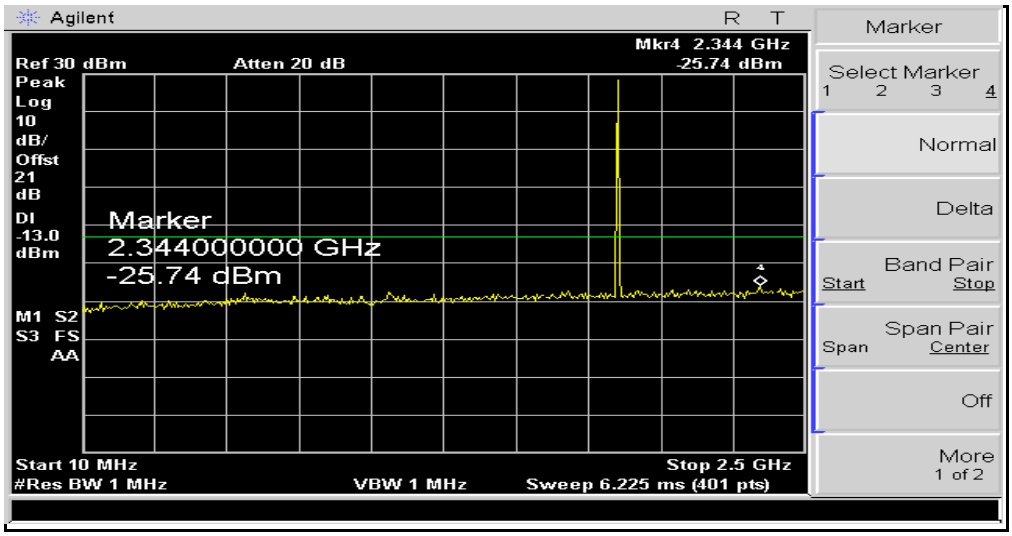


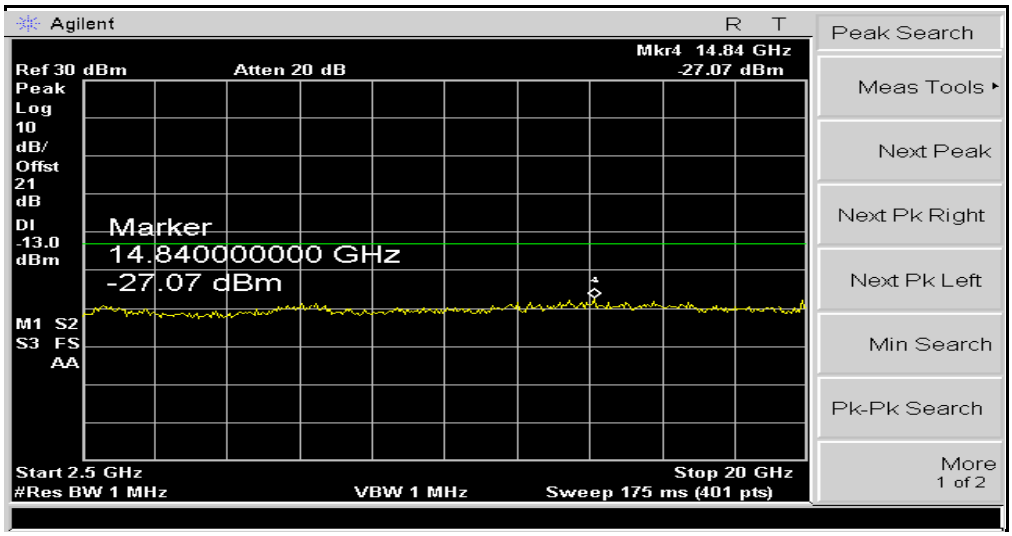
PLOT OF EMISSION (WCDMA850-HSDPA):BAND EDGE (CH4233)



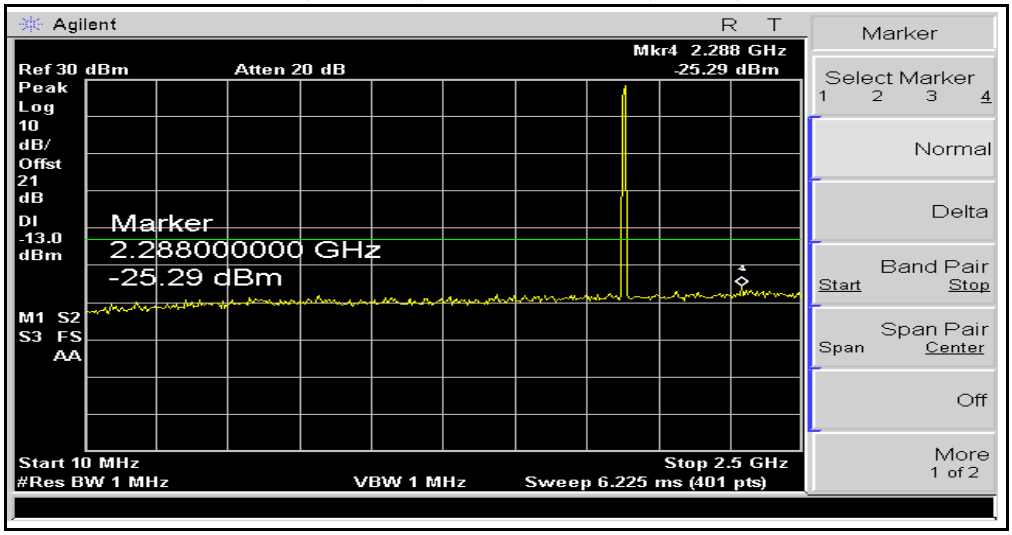
PCS1900

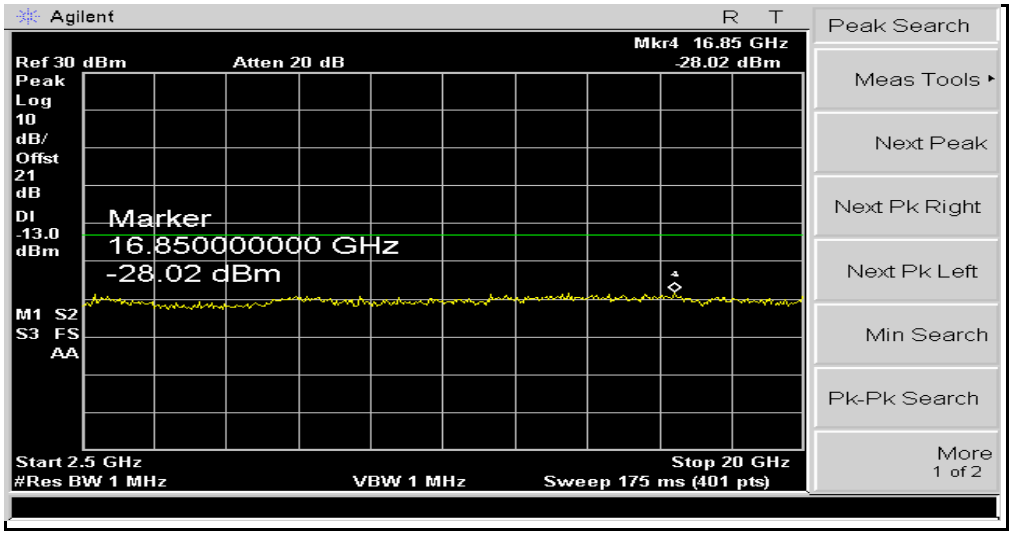
PLOTS OF EMISSION (PCS1900): OUT OF BAND(CH512)



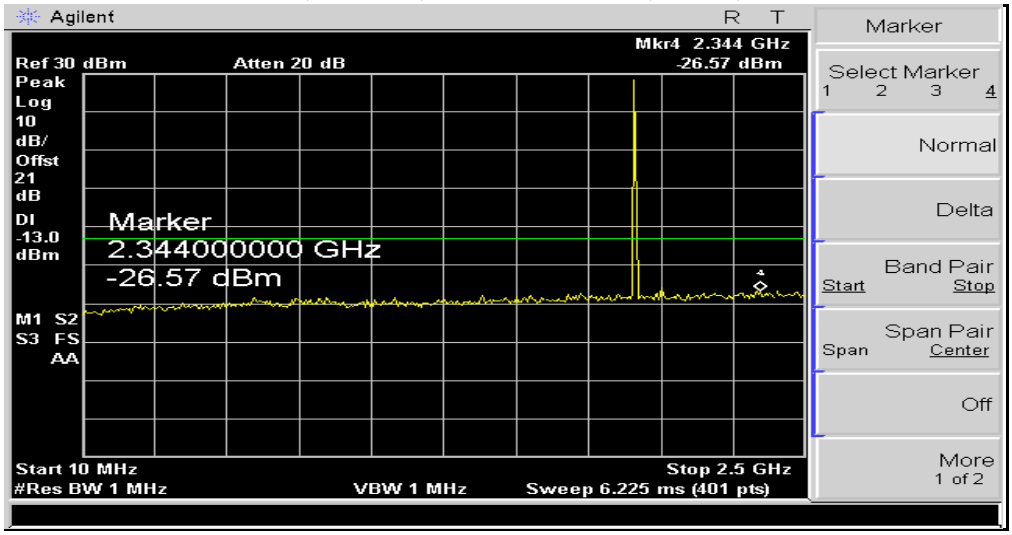


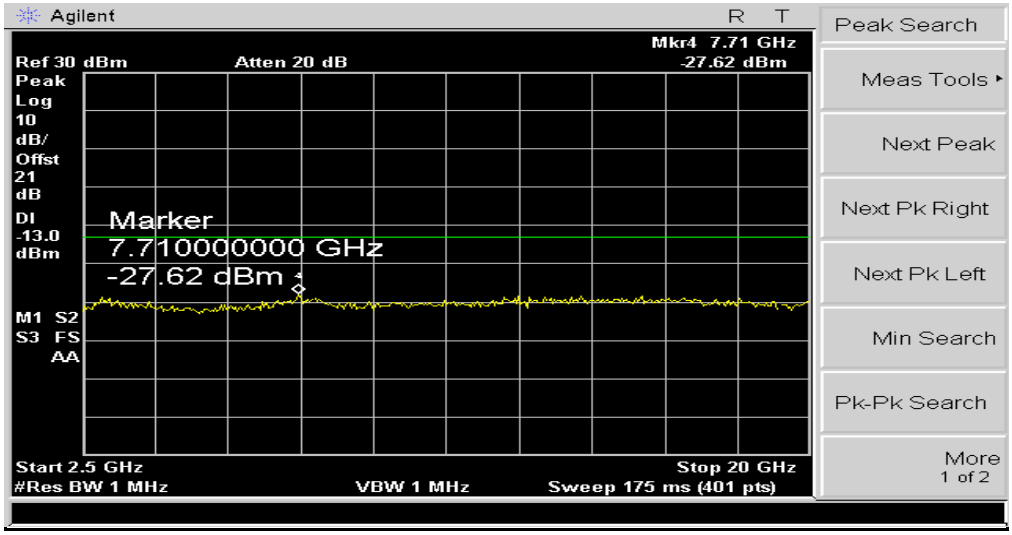
PLOTS OF EMISSION (PCS1900): OUT OF BAND(CH661)





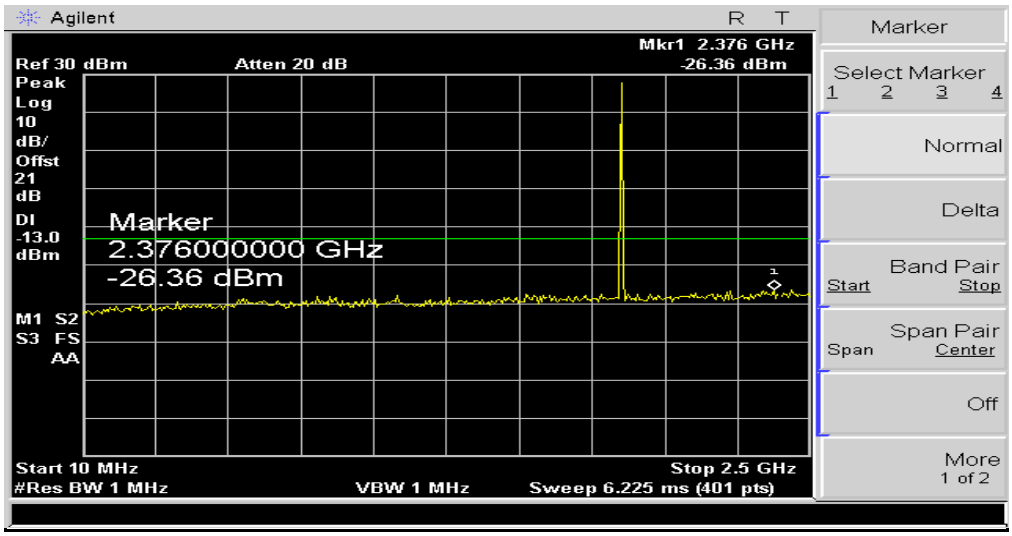
PLOTS OF EMISSION (PCS1900): OUT OF BAND(CH810)

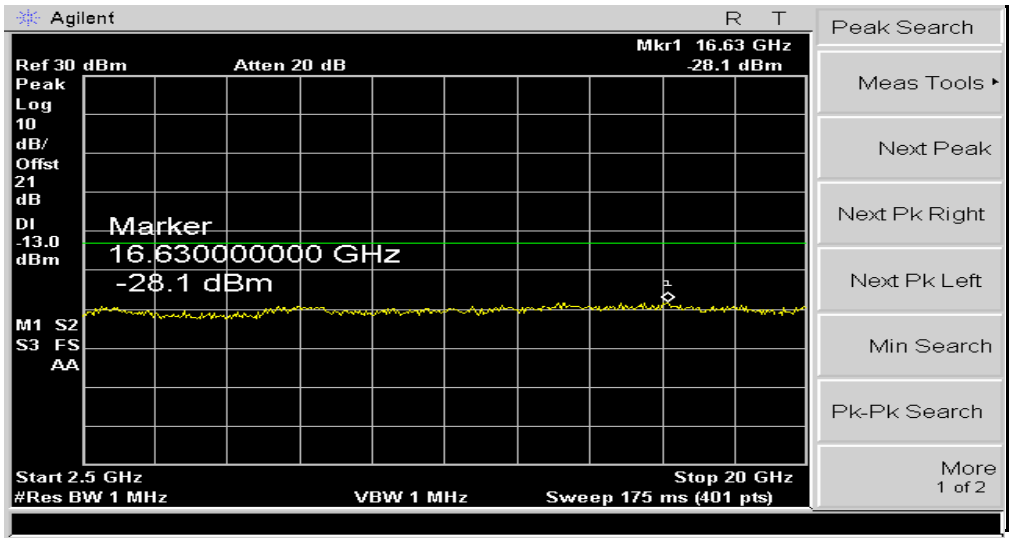




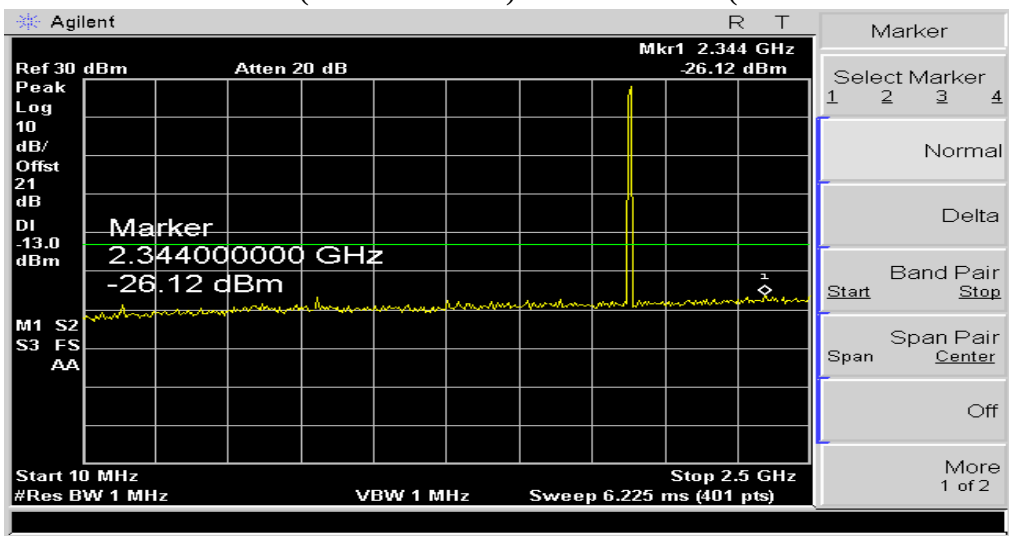
PCS1900 EDGE

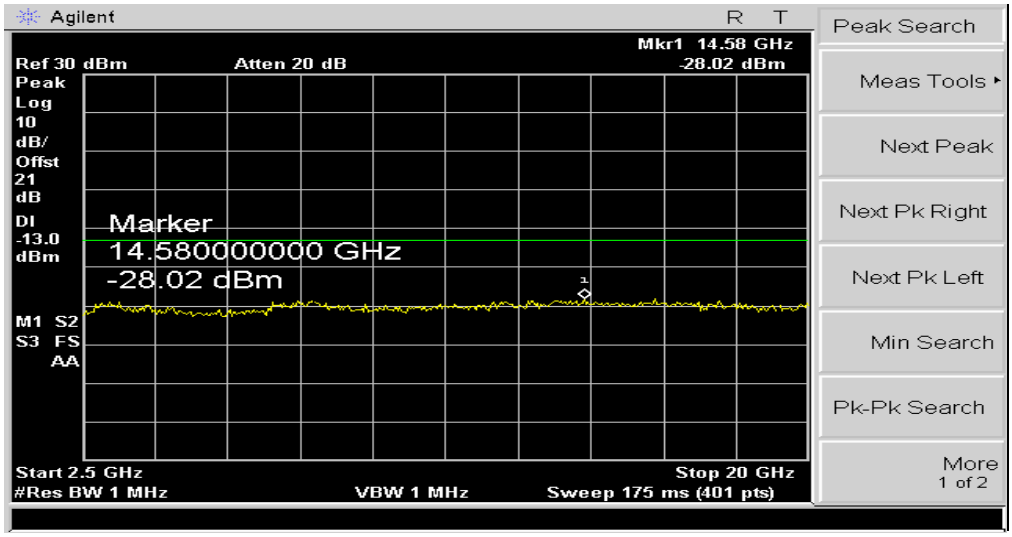
PLOTS OF EMISSION (PCS1900 EDGE): OUT OF BAND(CH512



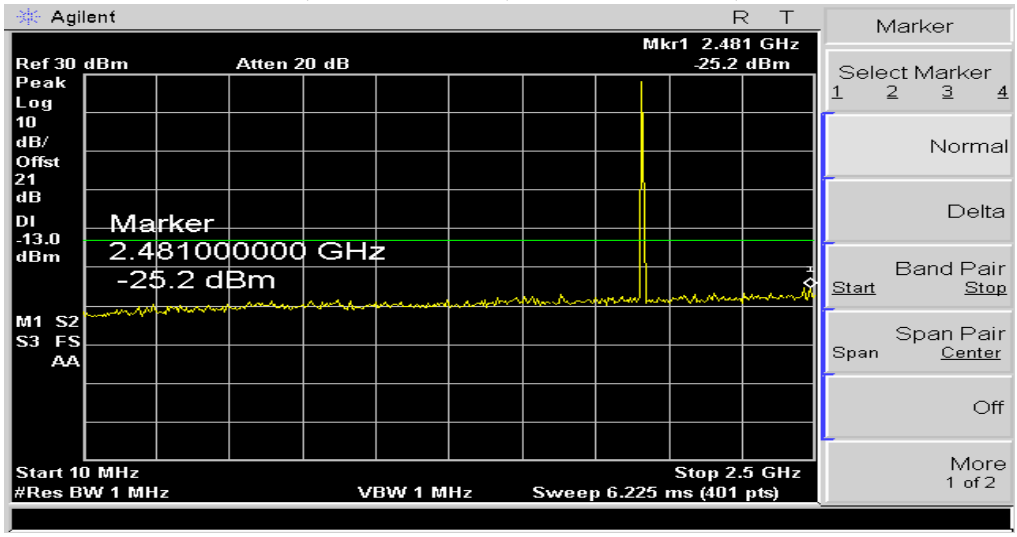


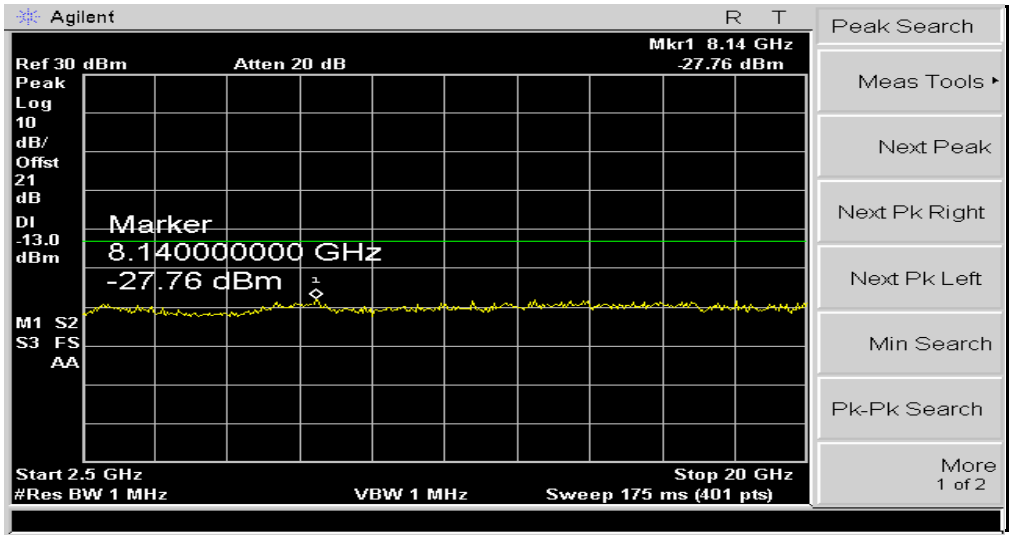
PLOTS OF EMISSION (PCS1900 EDGE): OUT OF BAND(CH661





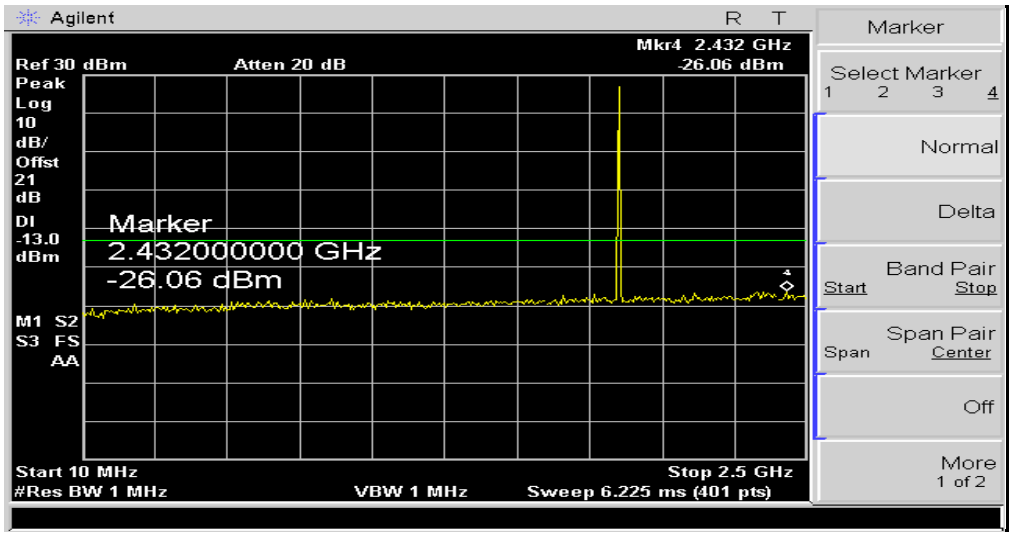
PLOTS OF EMISSION (PCS1900 EDGE): OUT OF BAND(CH810

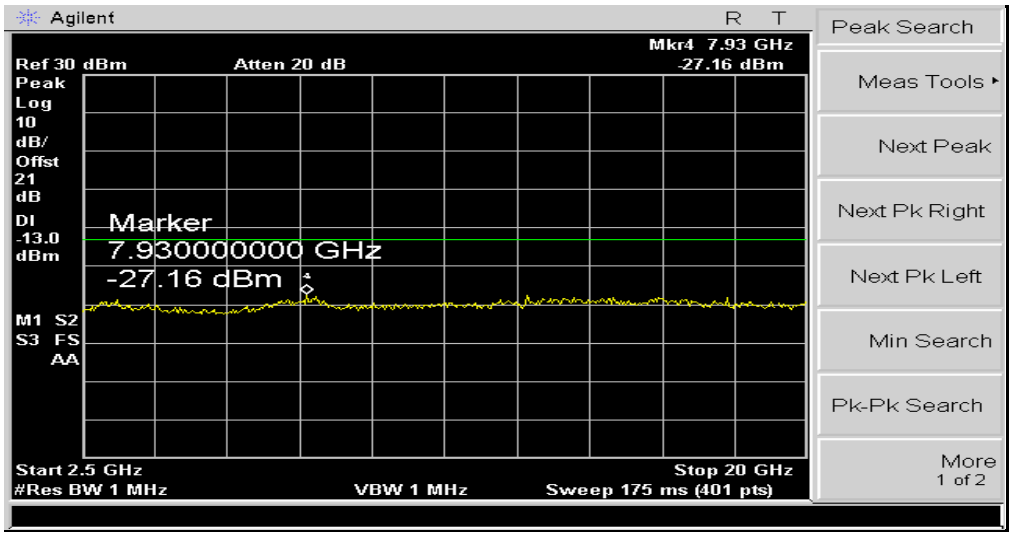




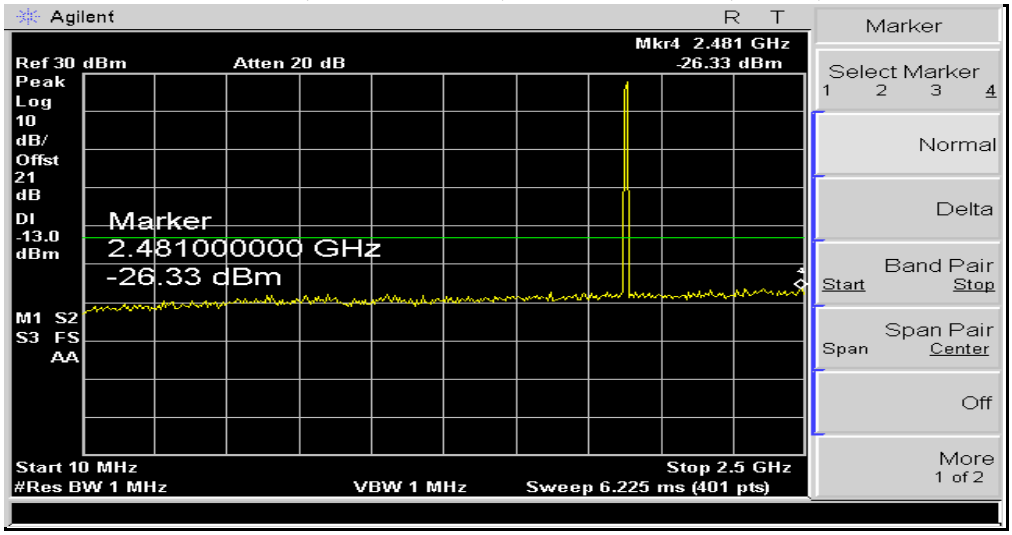
PCS1900 GPRS

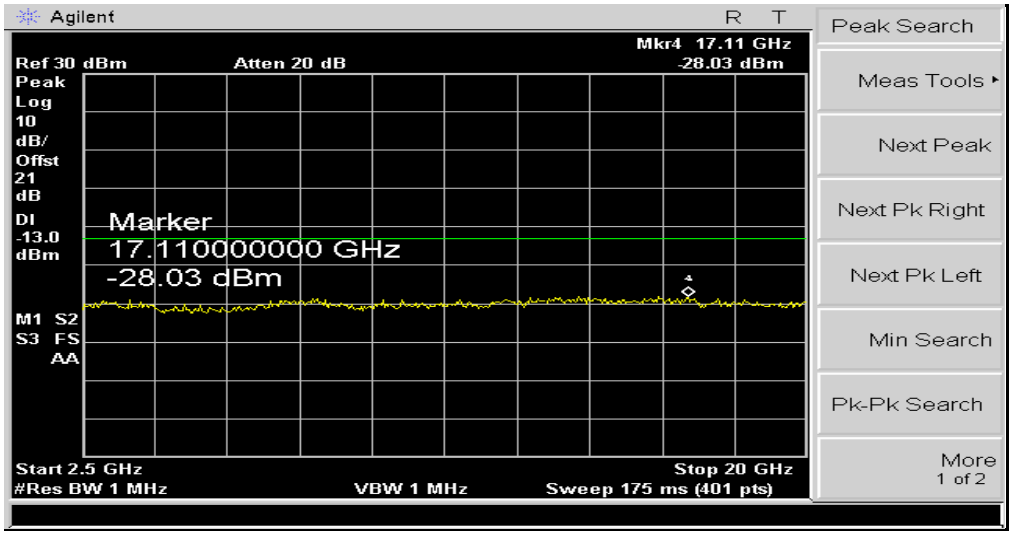
PLOTS OF EMISSION (PCS1900 GPRS): OUT OF BAND(CH512)



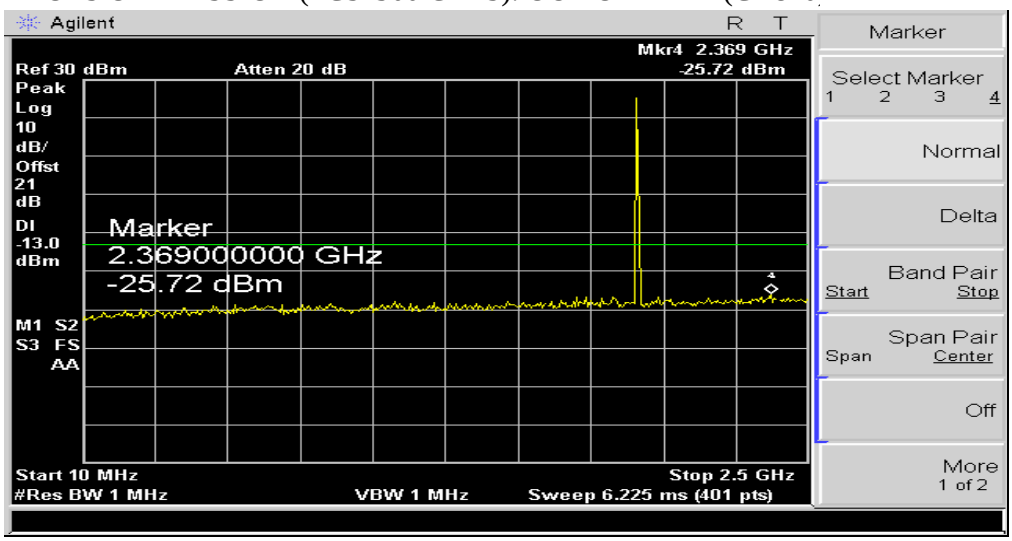


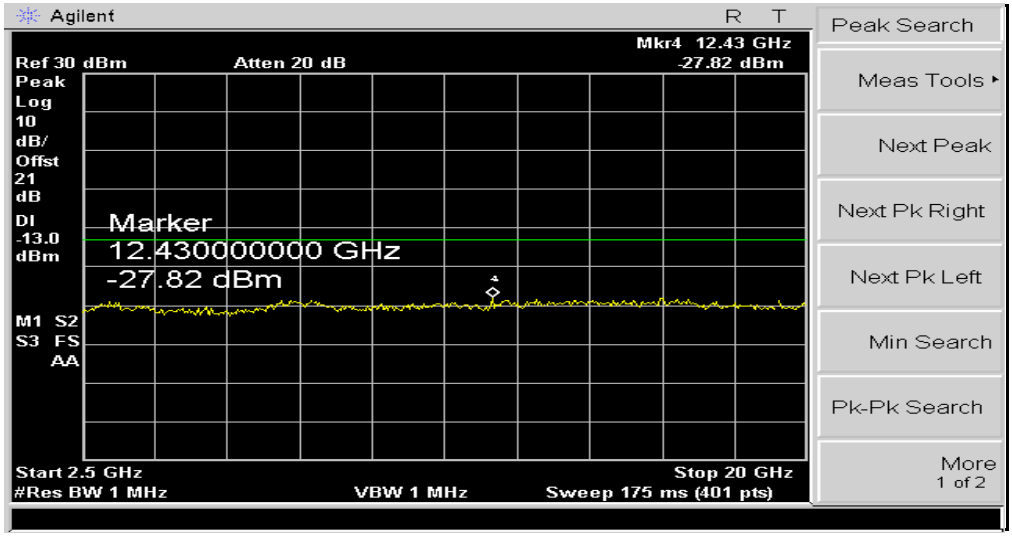
PLOTS OF EMISSION (PCS1900 GPRS): OUT OF BAND(CH661)





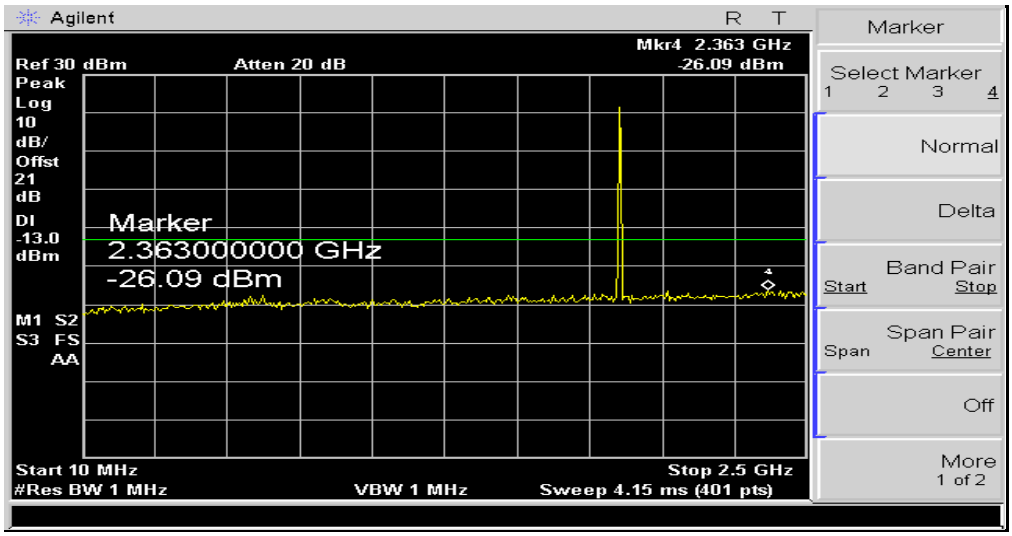
PLOTS OF EMISSION (PCS1900 GPRS): OUT OF BAND(CH810

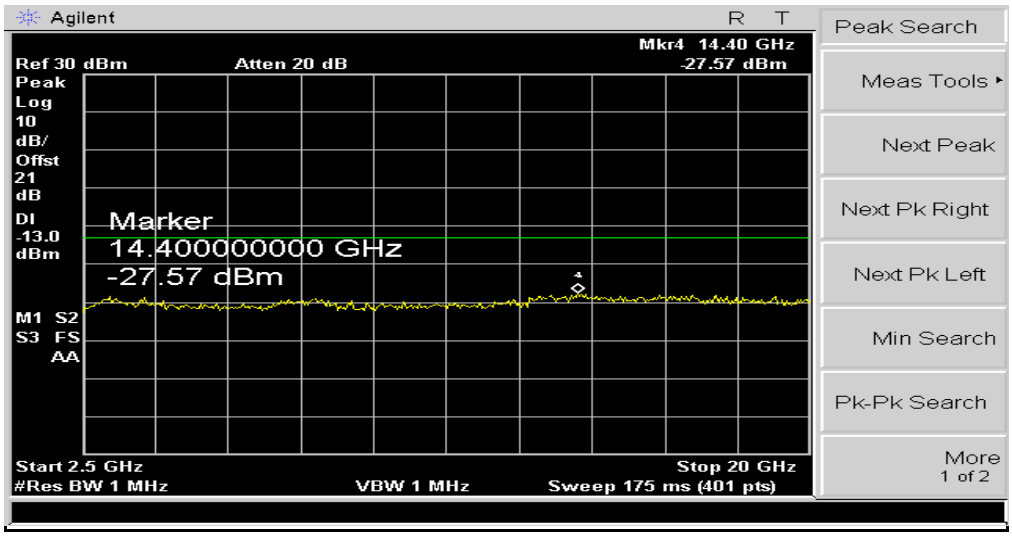




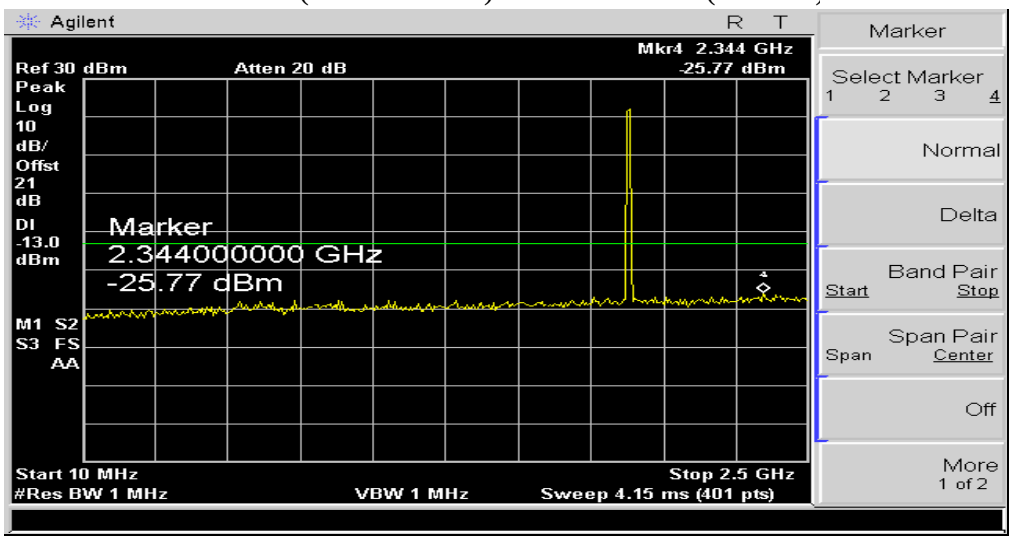
WCDMA1900

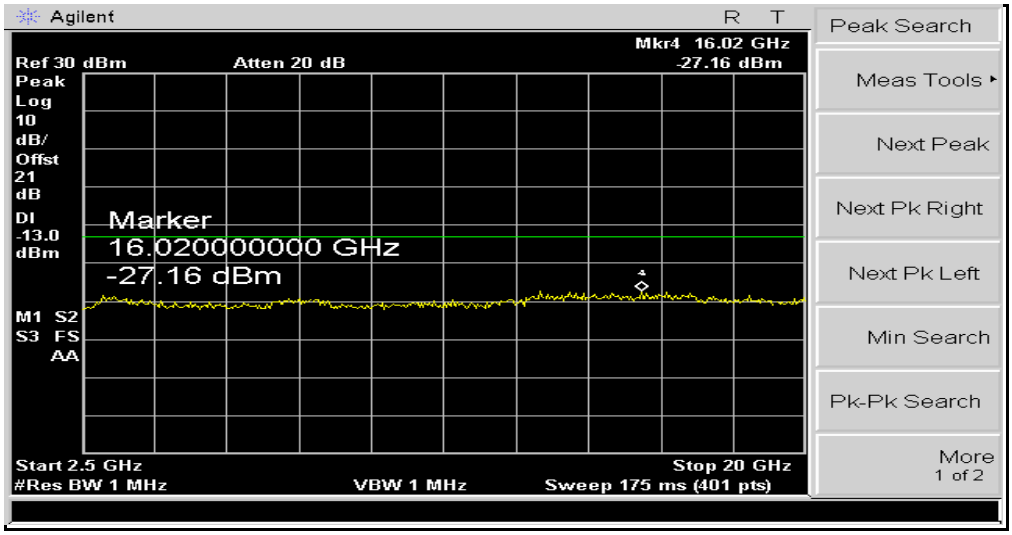
PLOTS OF EMISSION (WCDMA1900): OUT OF BAND(CH9262)



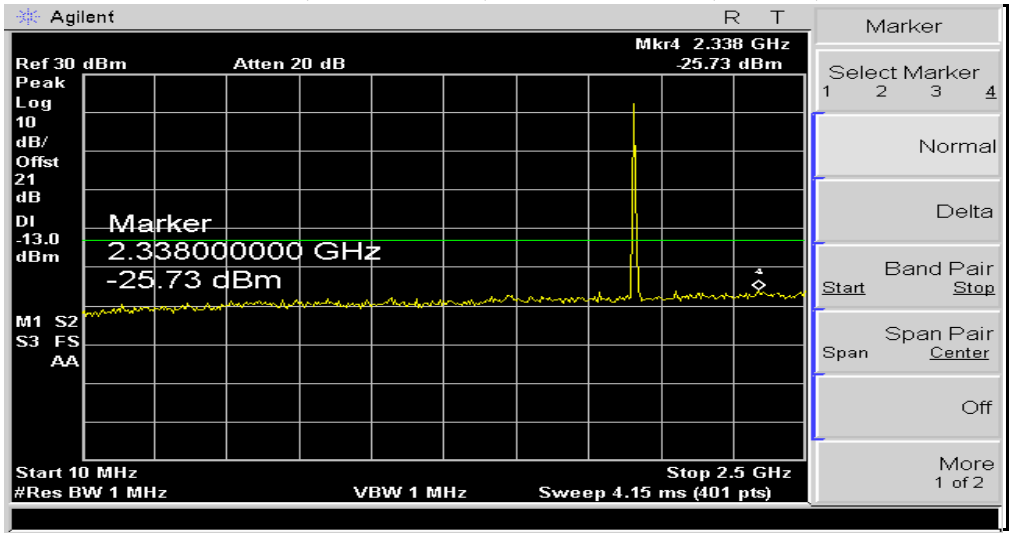


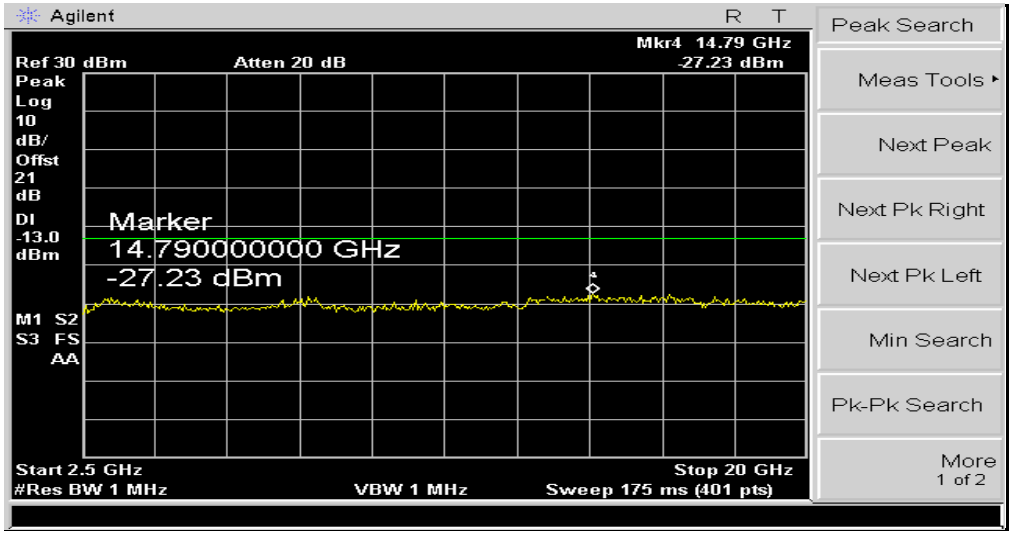
PLOTS OF EMISSION (WCDMA1900): OUT OF BAND(CH9400)





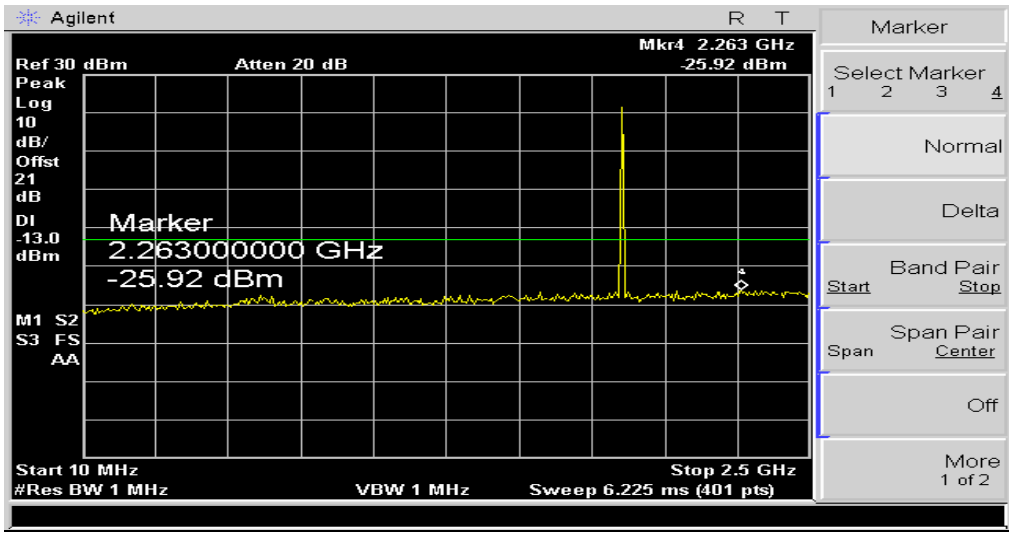
PLOTS OF EMISSION (WCDMA1900): OUT OF BAND(CH9538)

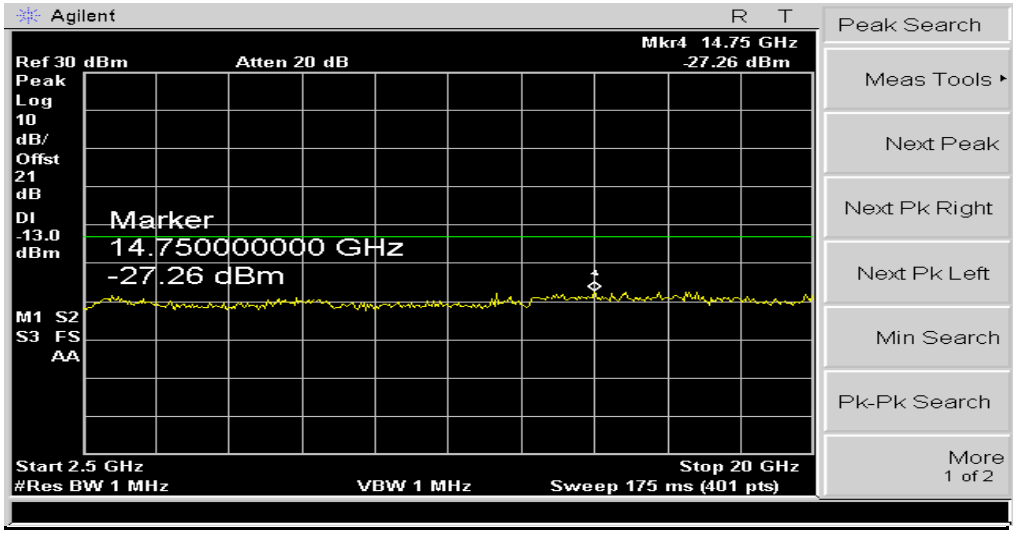




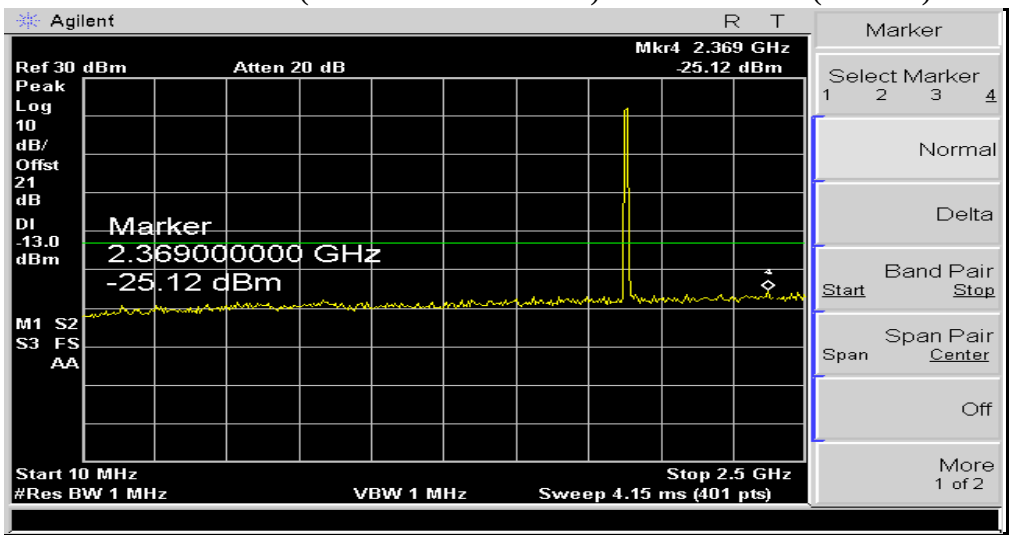
WCDMA1900-HSDPA

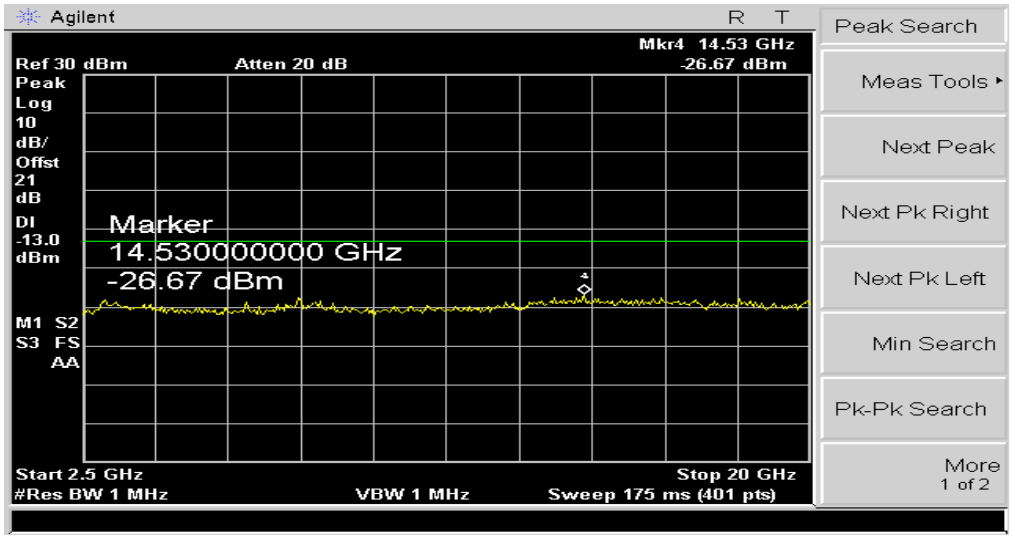
PLOTS OF EMISSION (WCDMA1900-HSDPA): OUT OF BAND(CH9262)



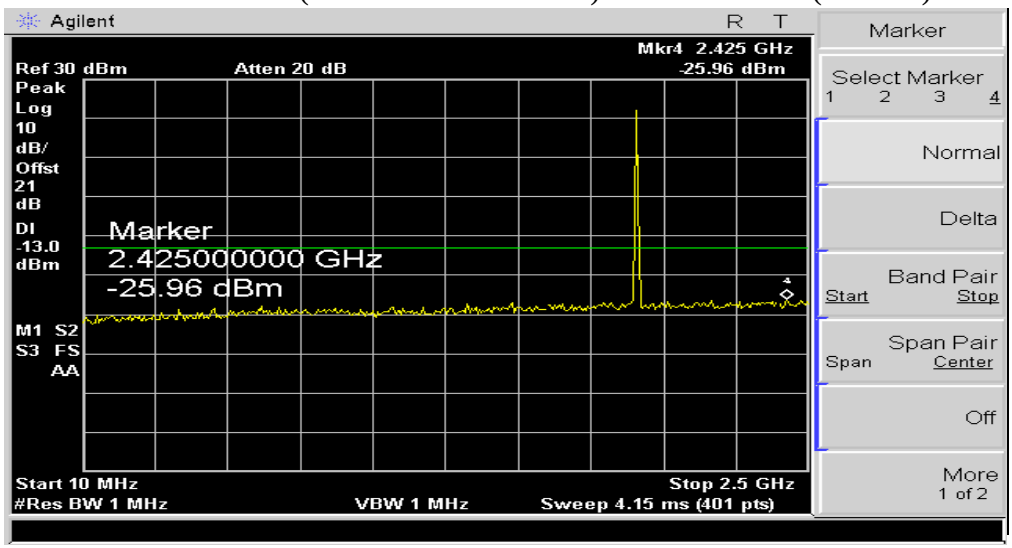


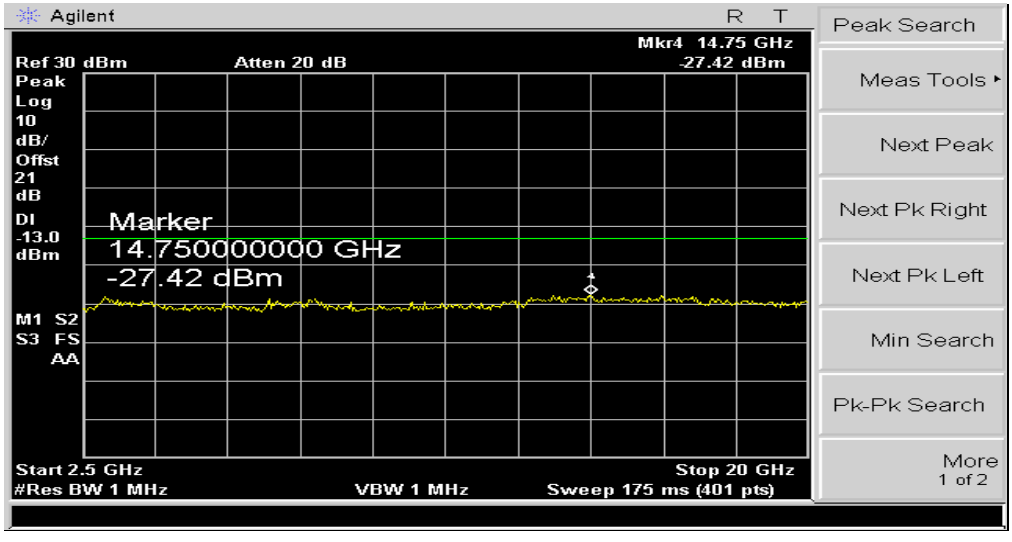
PLOTS OF EMISSION (WCDMA1900-HSDPA): OUT OF BAND(CH9400)





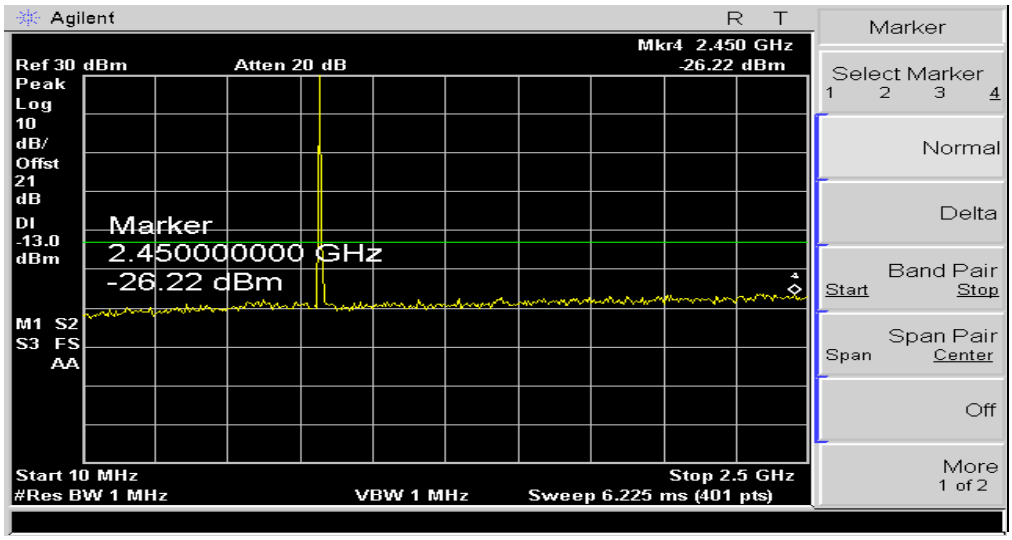
PLOTS OF EMISSION (WCDMA1900-HSDPA): OUT OF BAND(CH9538)

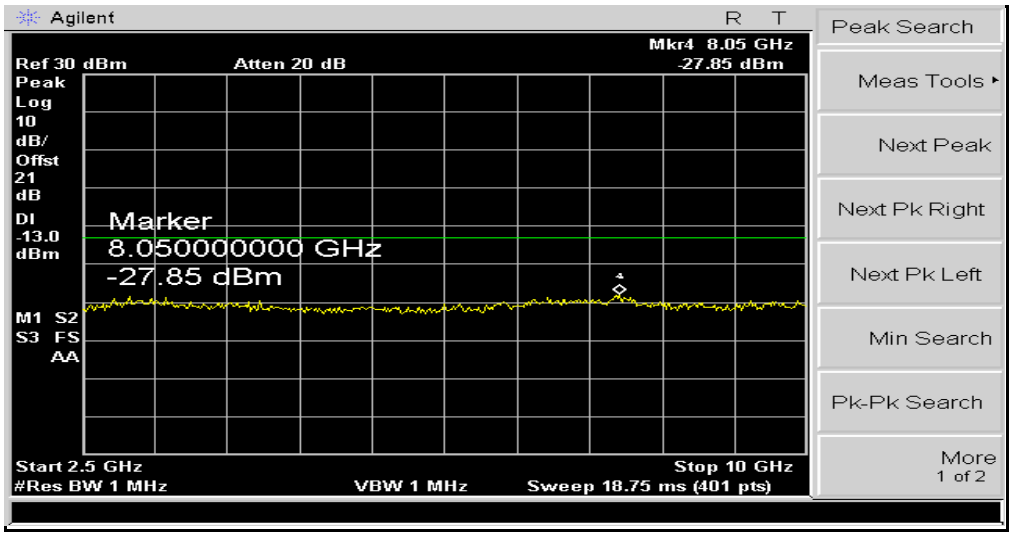




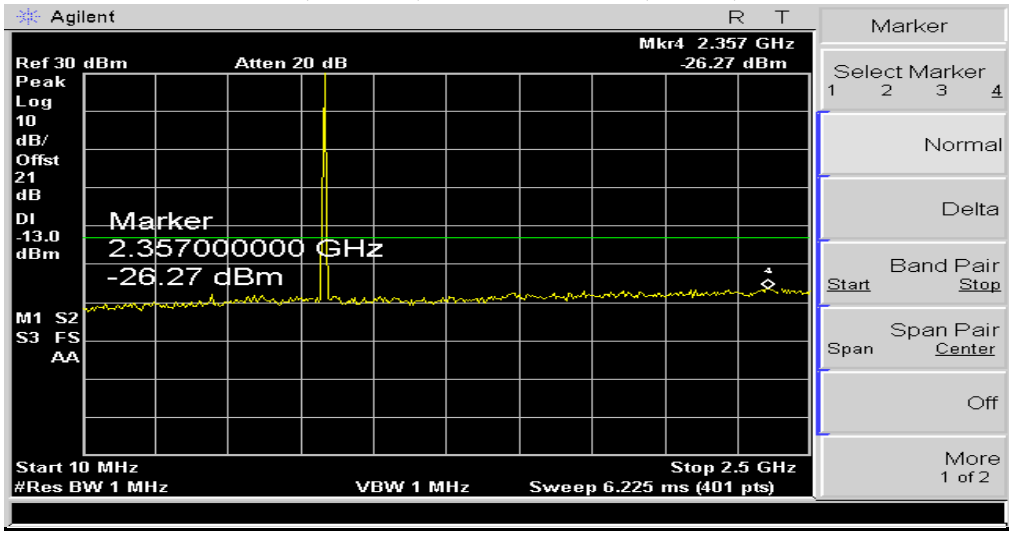
GSM850

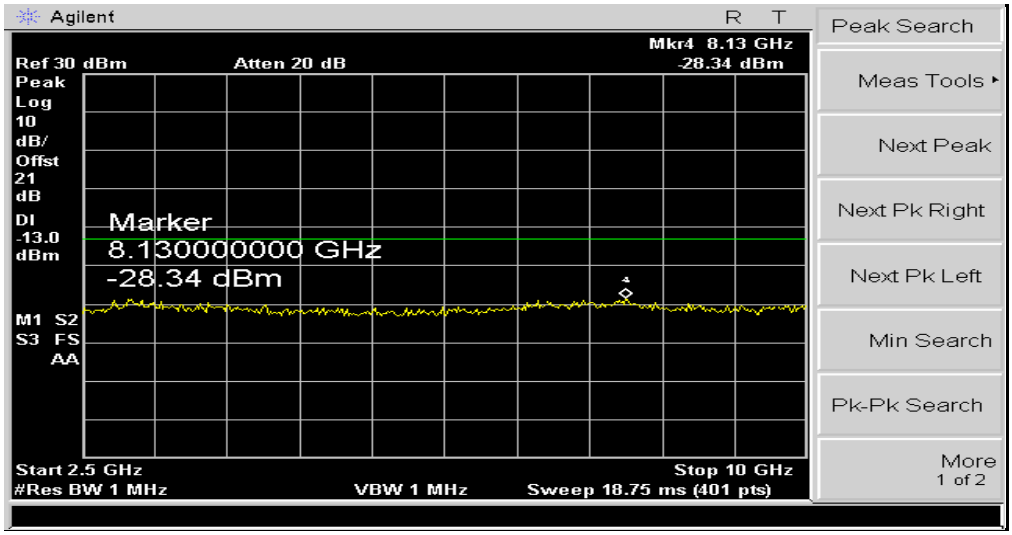
PLOTS OF EMISSION (GSM850): OUT OF BAND(CH128)



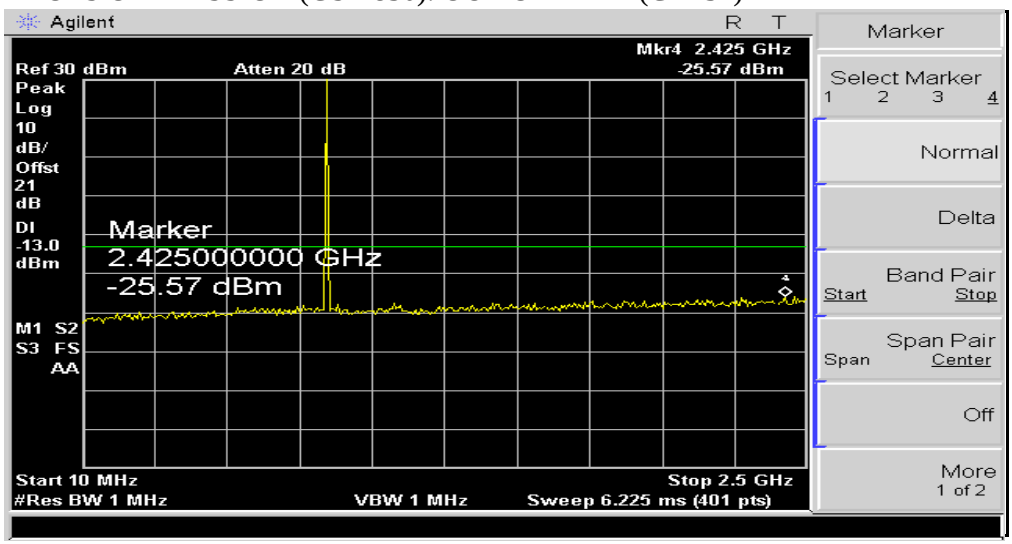


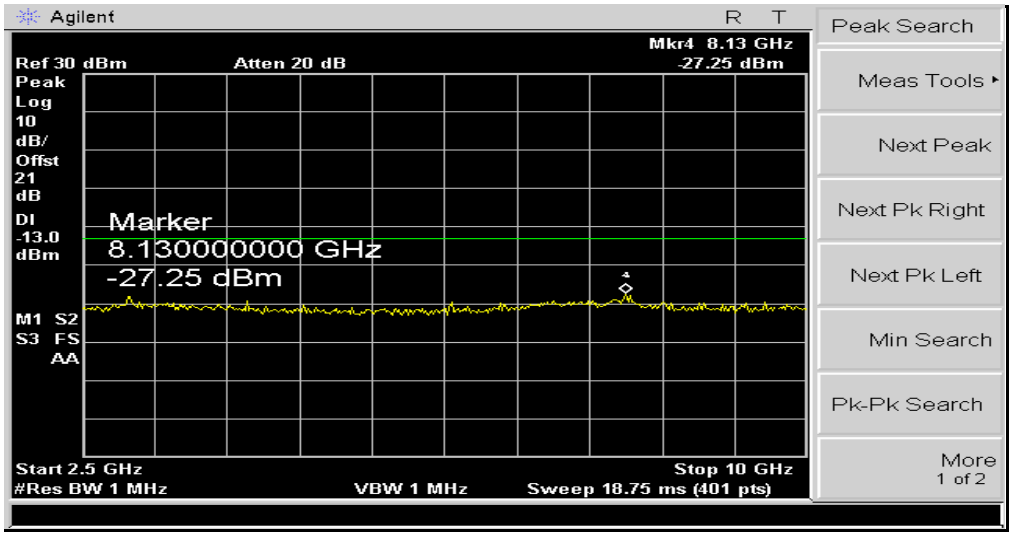
PLOTS OF EMISSION (GSM850): OUT OF BAND(CH190)





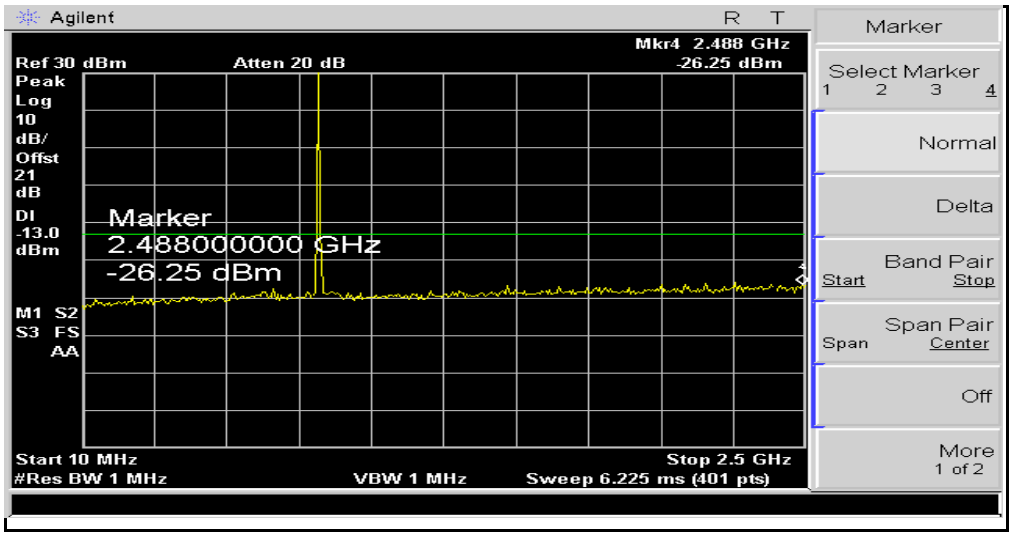
PLOTS OF EMISSION (GSM850): OUT OF BAND(CH251)

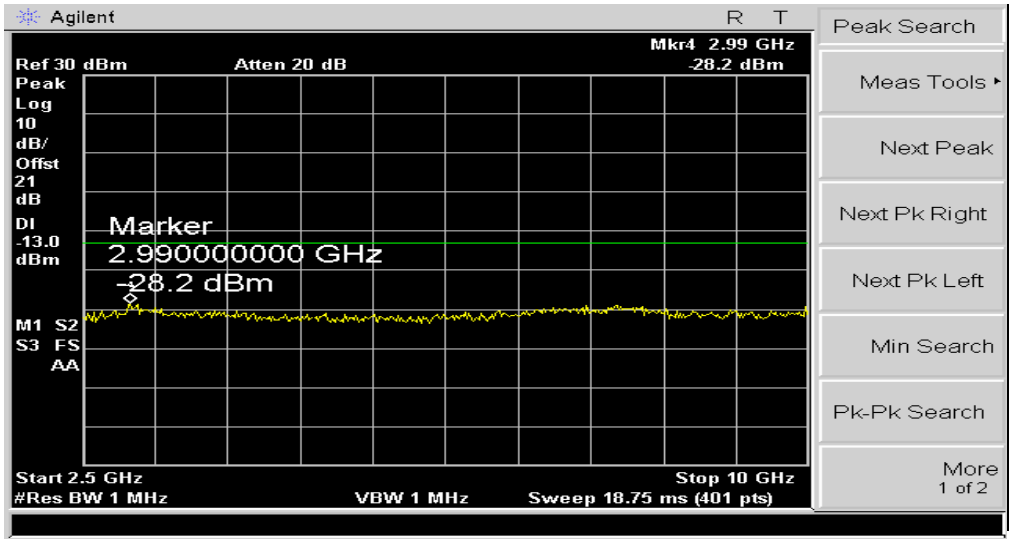




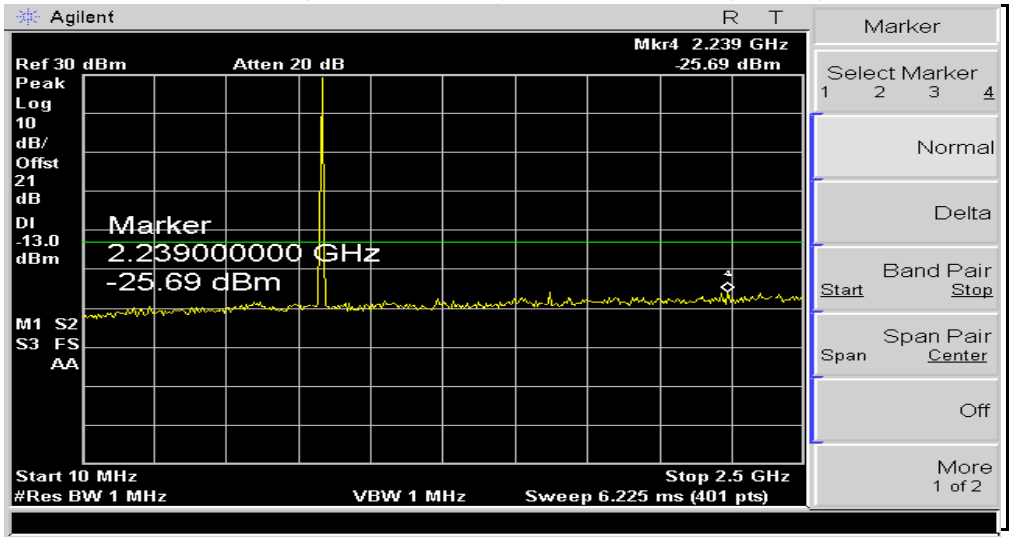
GSM850 EDGE

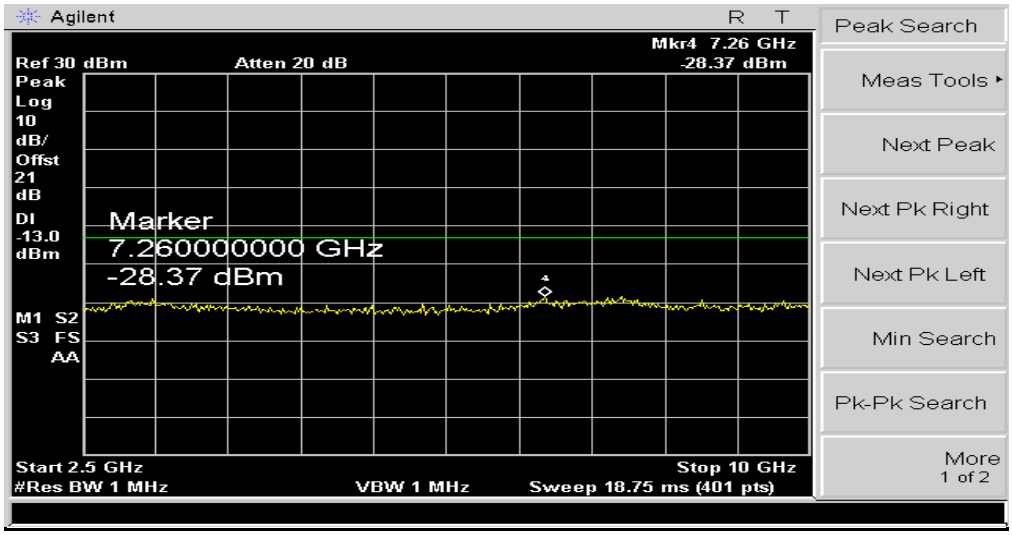
PLOTS OF EMISSION (GSM850 EDGE): OUT OF BAND(CH128)



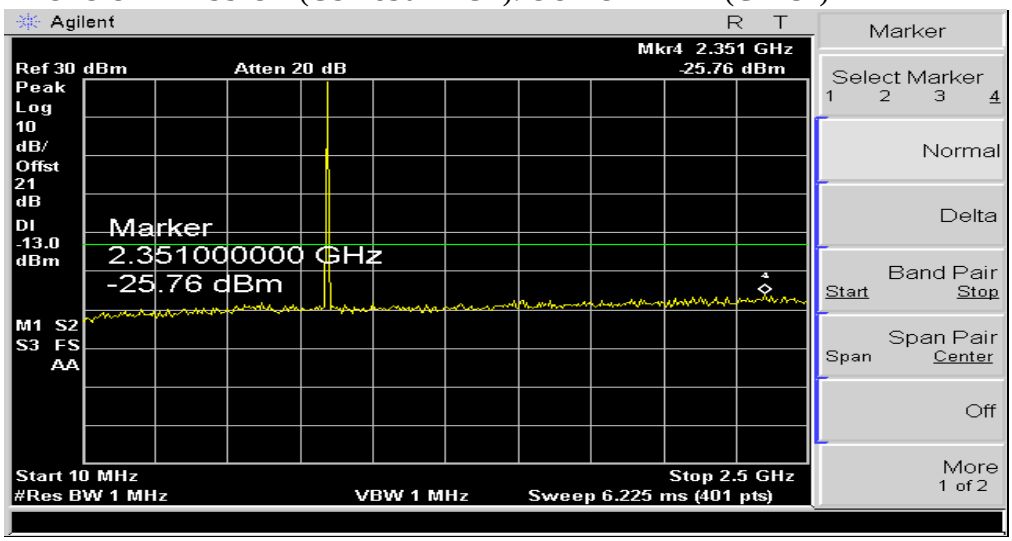


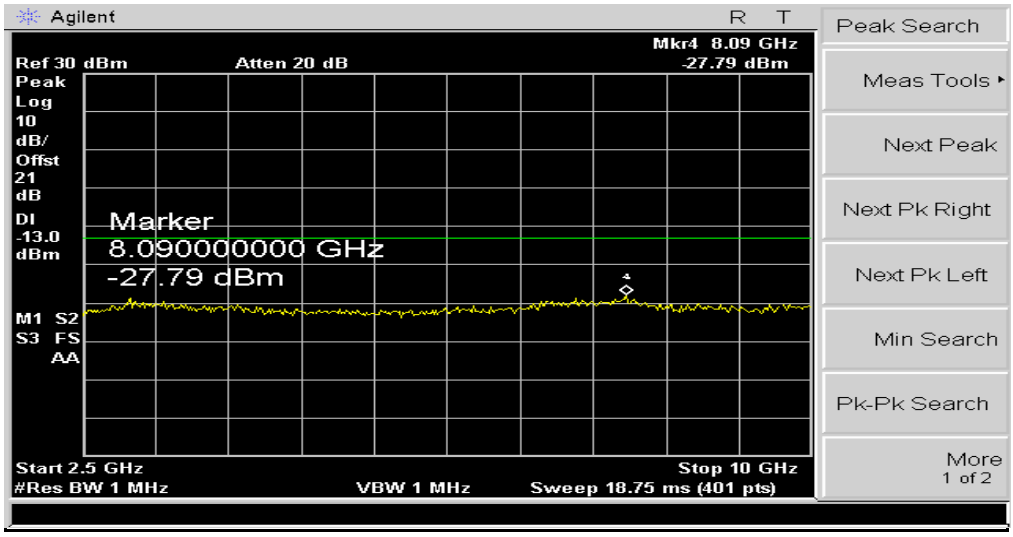
PLOTS OF EMISSION (GSM850 EDGE): OUT OF BAND(CH190)





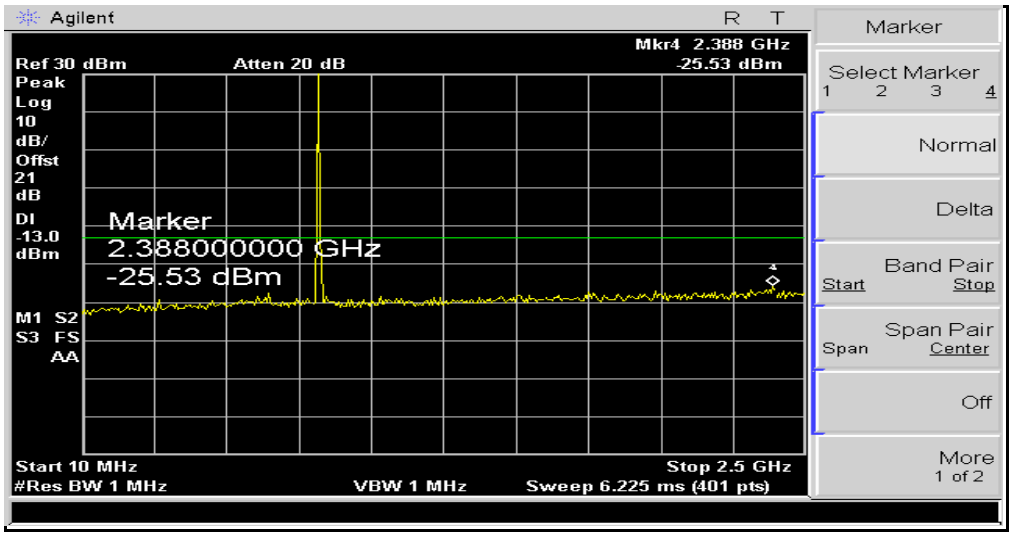
PLOTS OF EMISSION (GSM850 EDGE): OUT OF BAND(CH251)

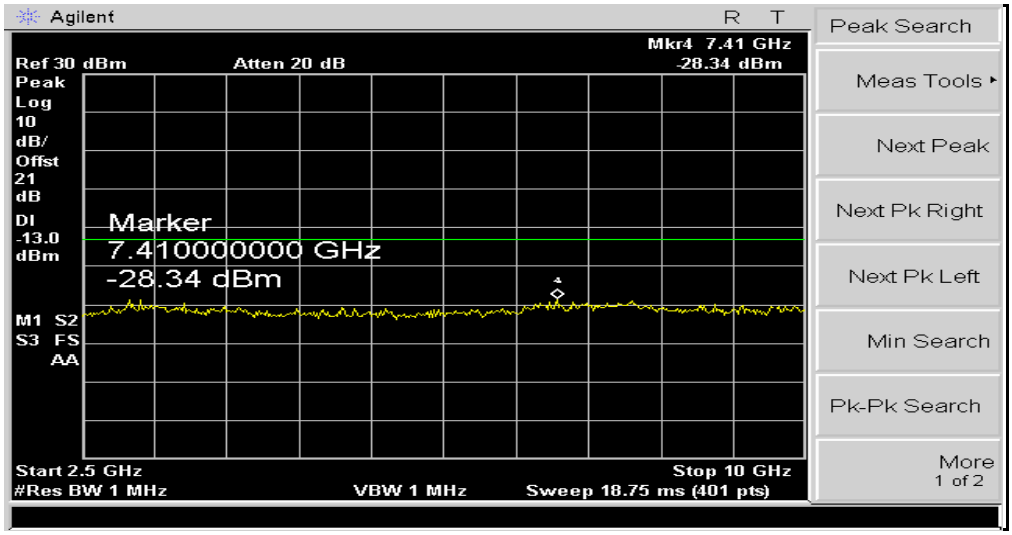




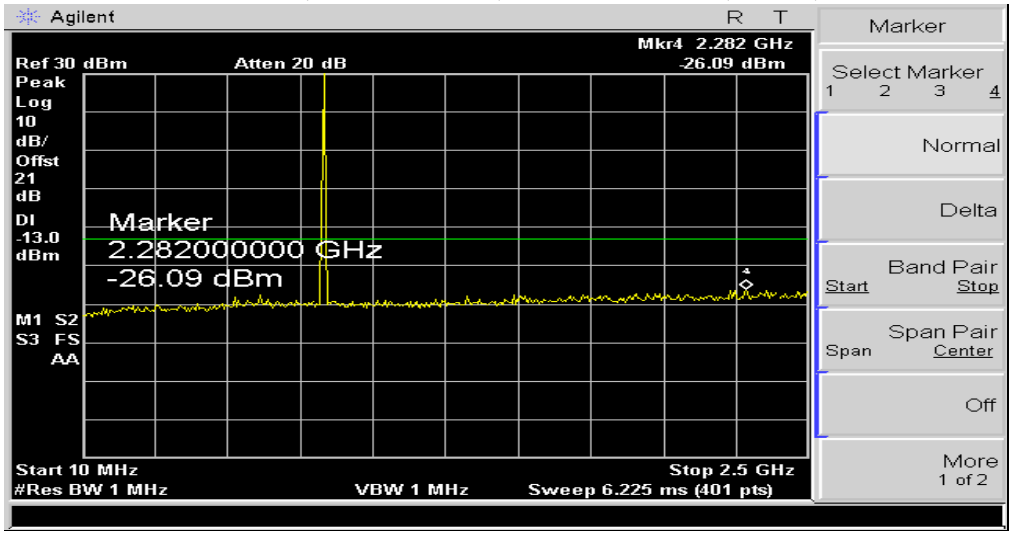
GSM850 GPRS

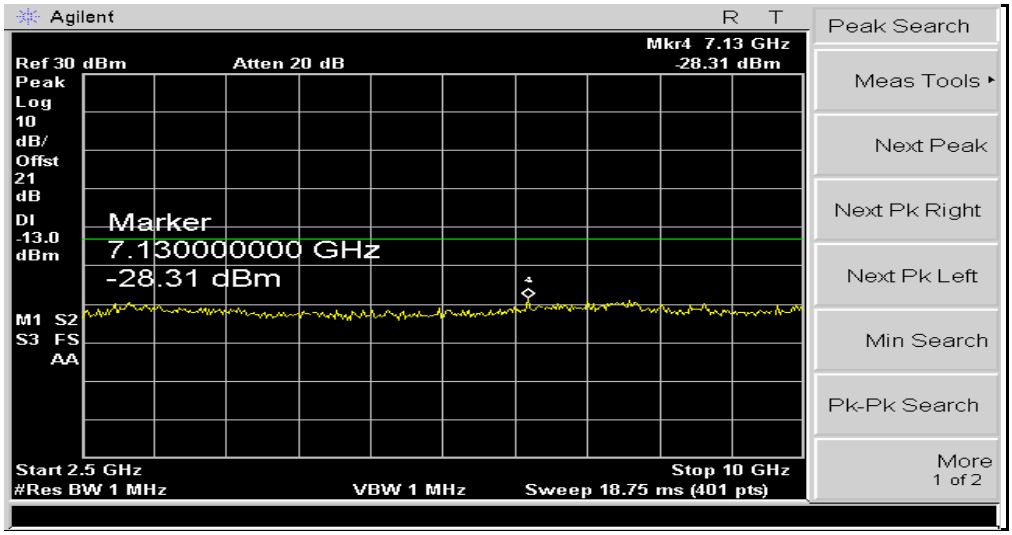
PLOTS OF EMISSION (GSM850 GPRS): OUT OF BAND(CH128)



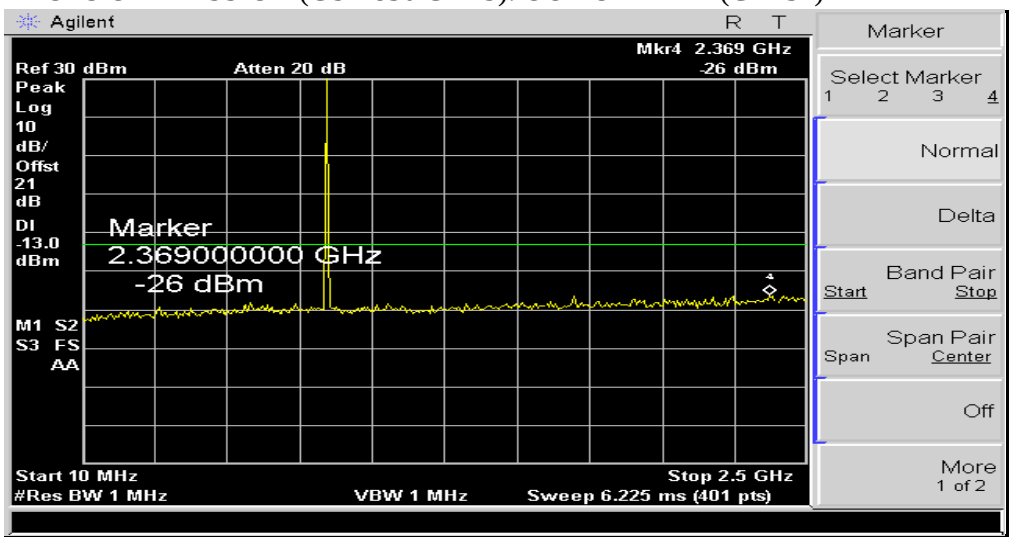


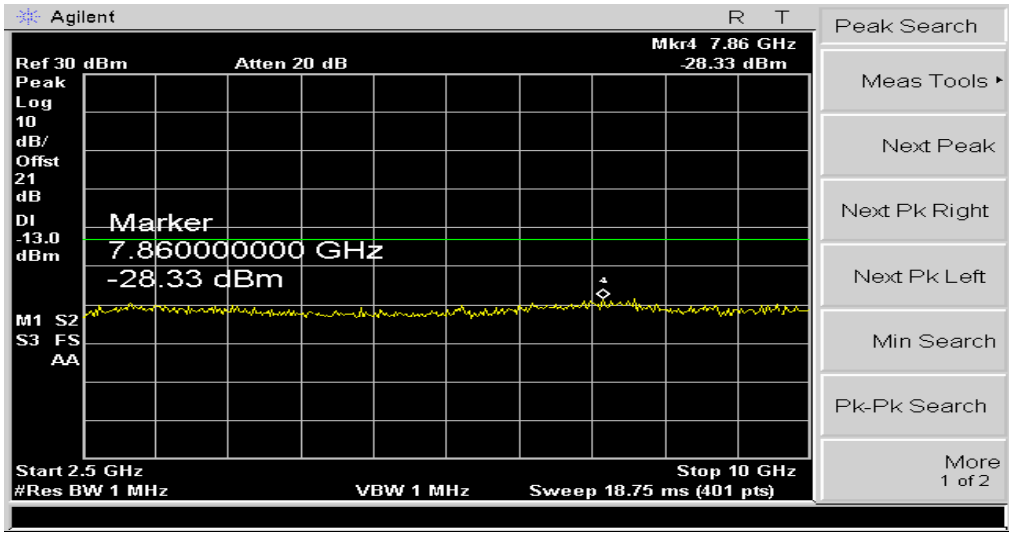
PLOTS OF EMISSION (GSM850 GPRS): OUT OF BAND(CH190)

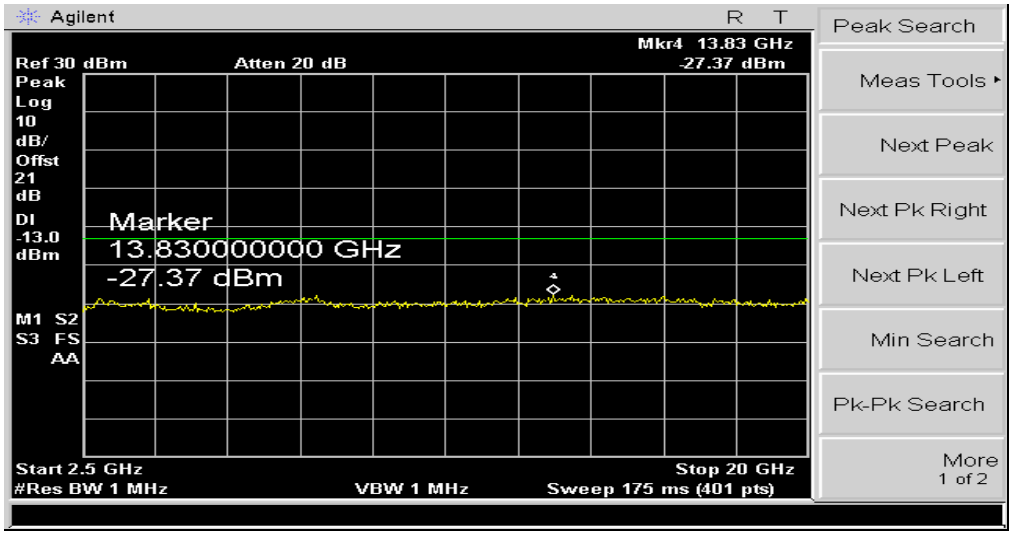




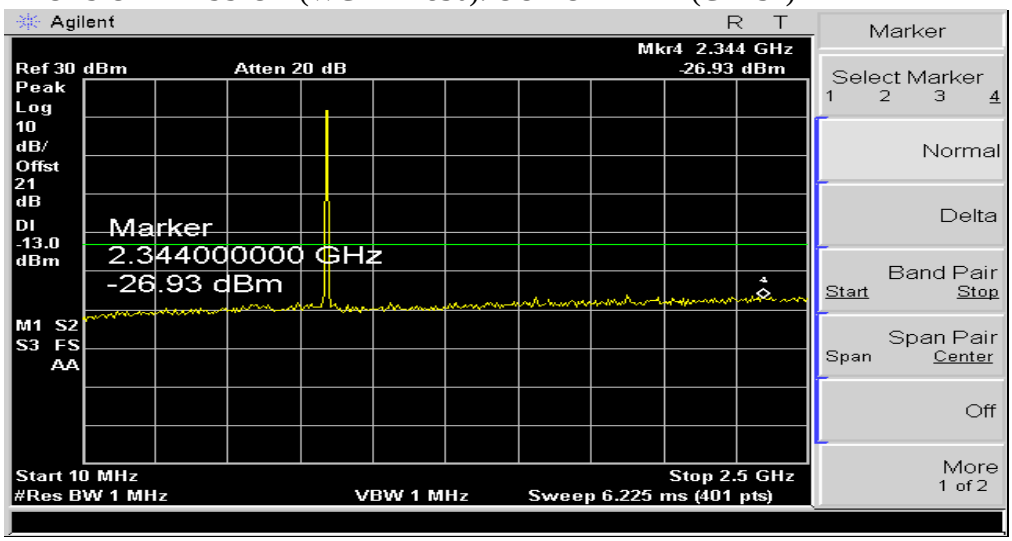
PLOTS OF EMISSION (GSM850 GPRS): OUT OF BAND(CH251)

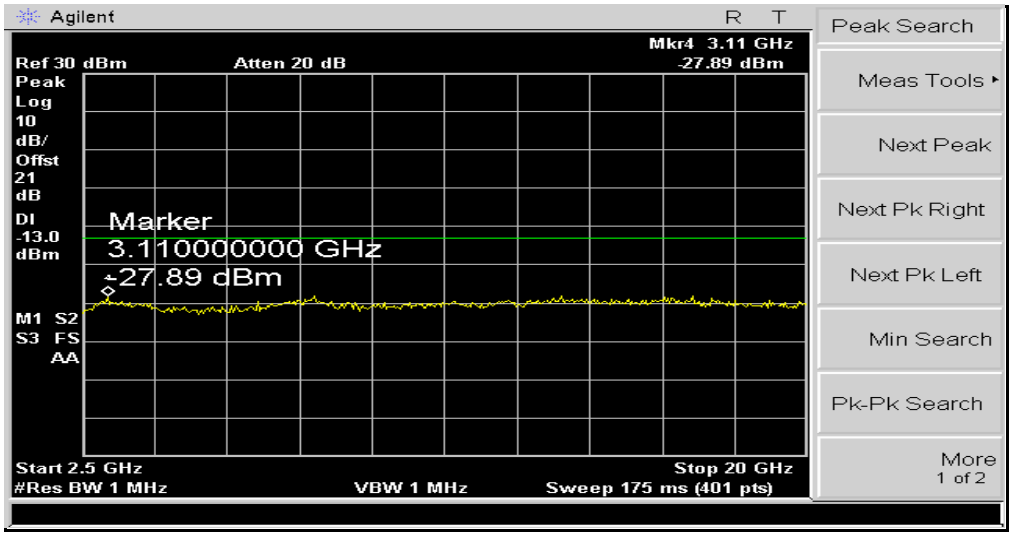






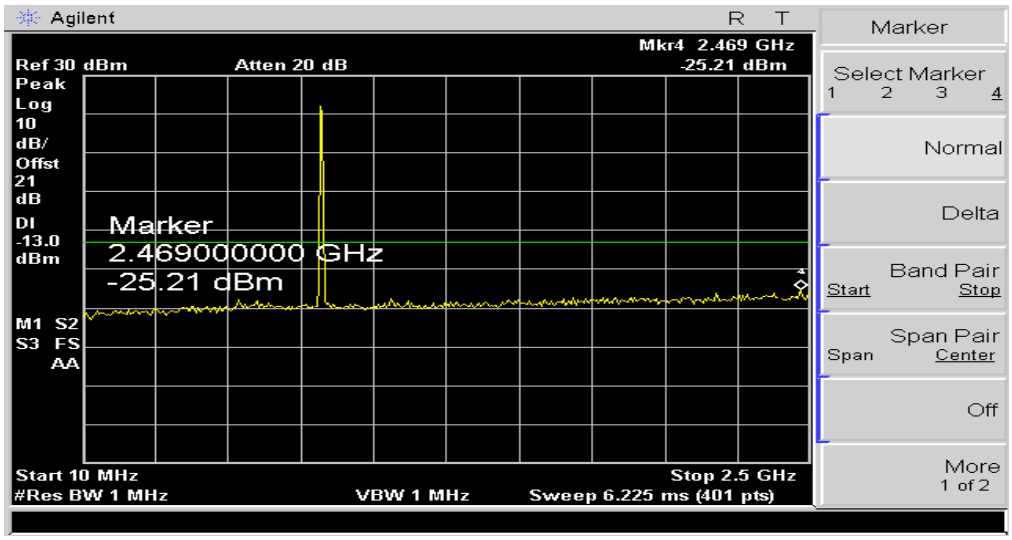
PLOTS OF EMISSION (WCDMA850): OUT OF BAND(CH251)

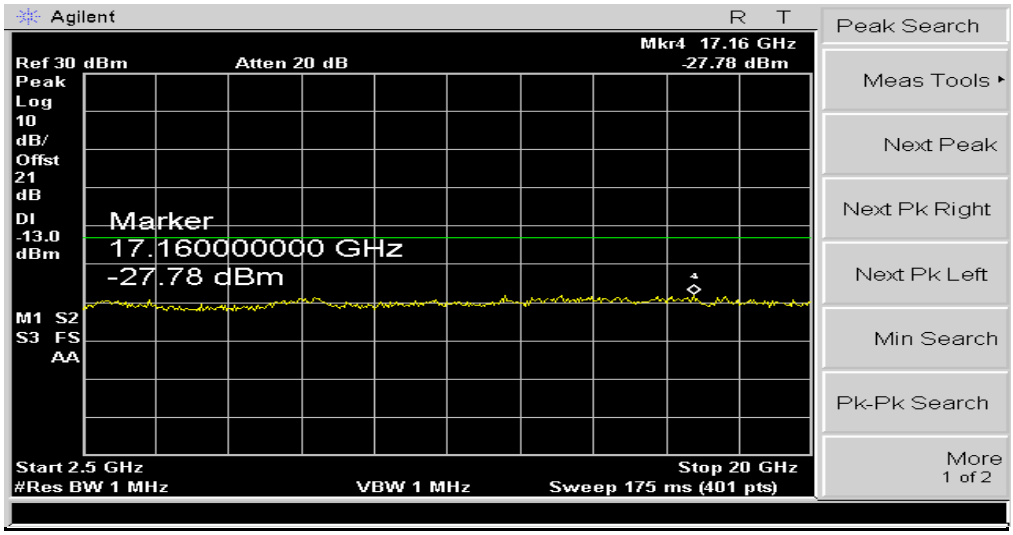




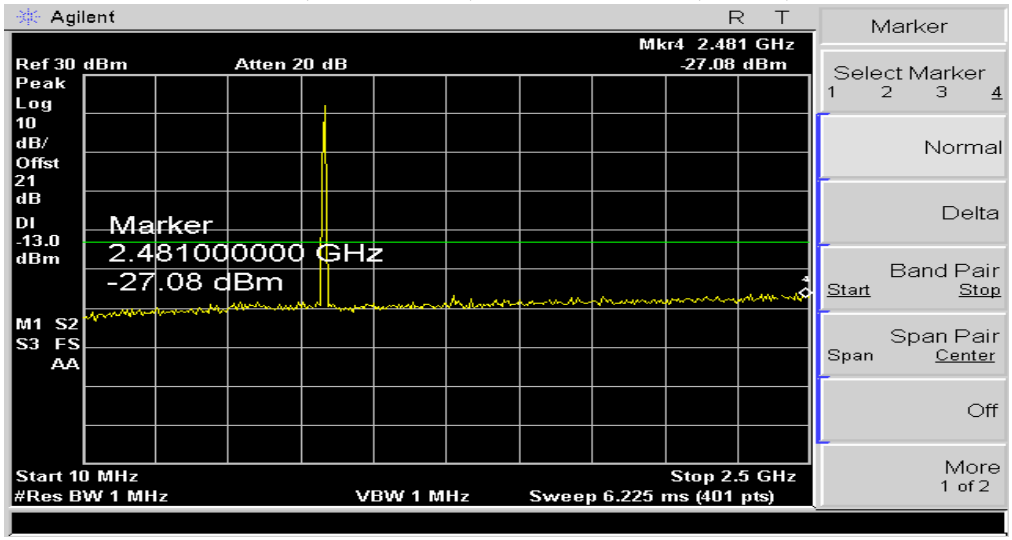
WCDMA850

PLOTS OF EMISSION (WCDMA850): OUT OF BAND(CH128)



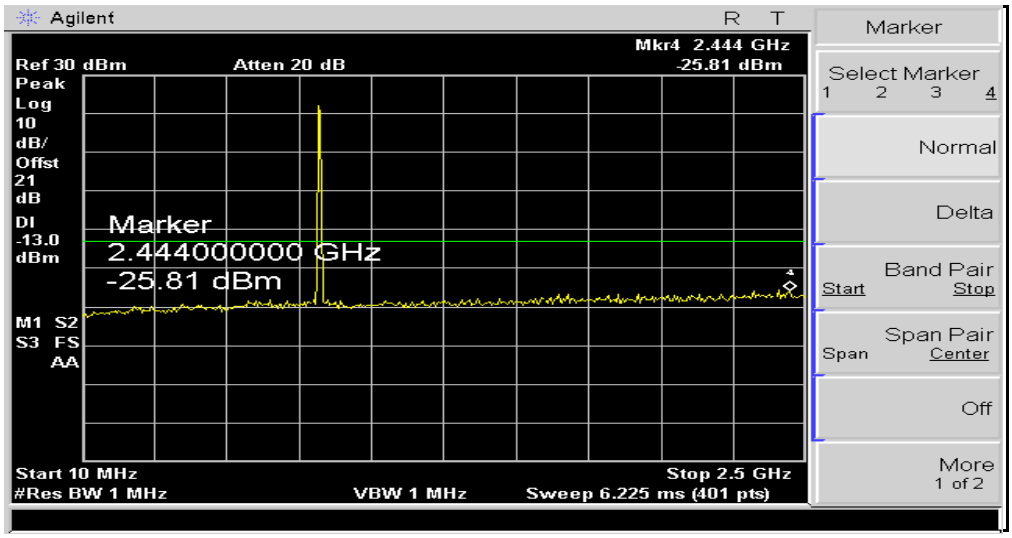


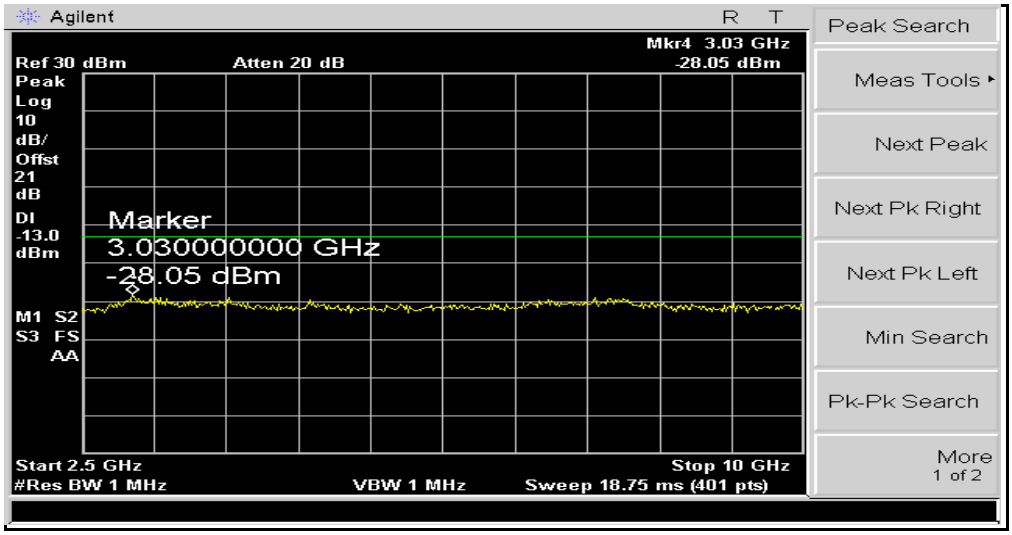
PLOTS OF EMISSION (WCDMA850): OUT OF BAND(CH190)



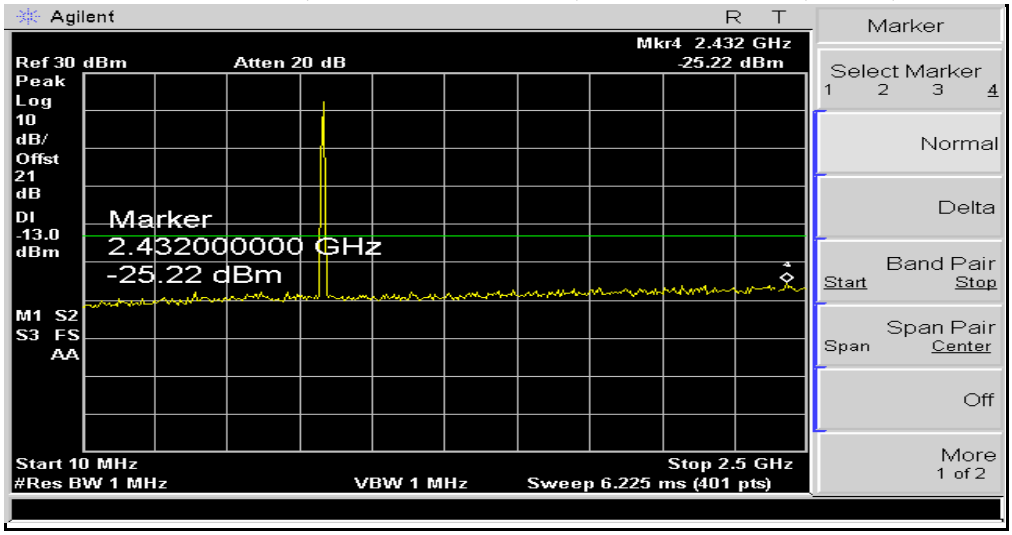
WCDMA850-HSDPA

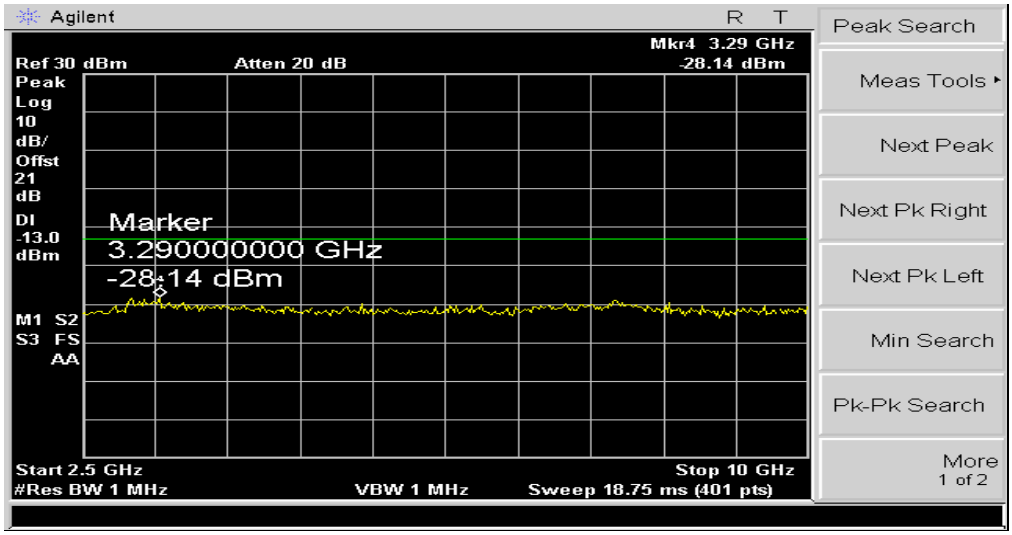
PLOTS OF EMISSION (WCDMA850-HSDPA): OUT OF BAND(CH128)



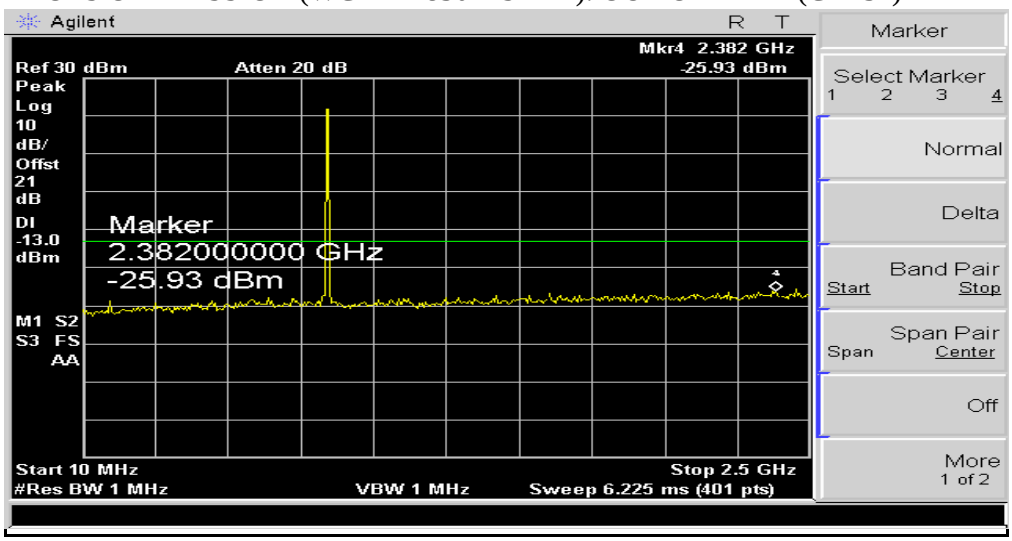


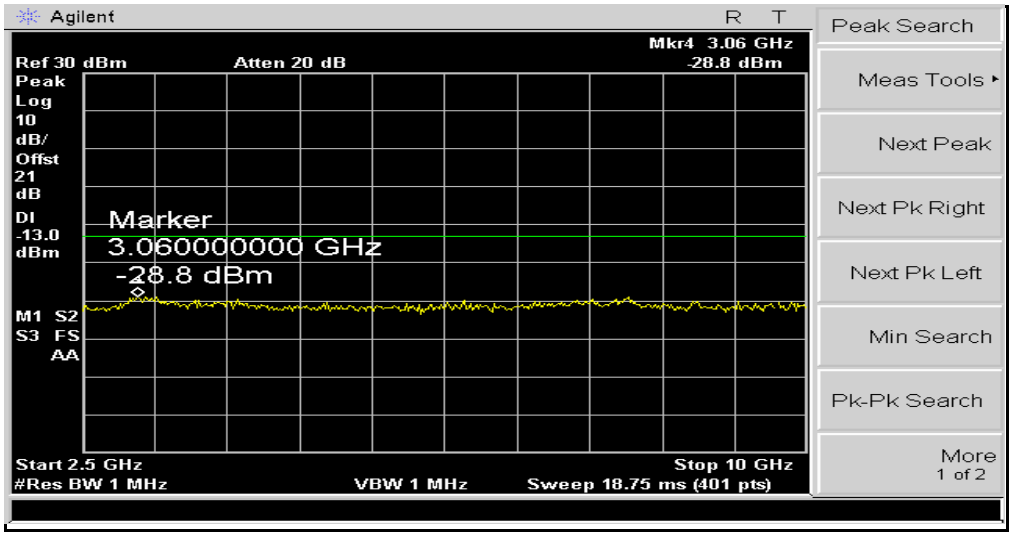
PLOTS OF EMISSION (WCDMA850-HSDPA): OUT OF BAND(CH190)



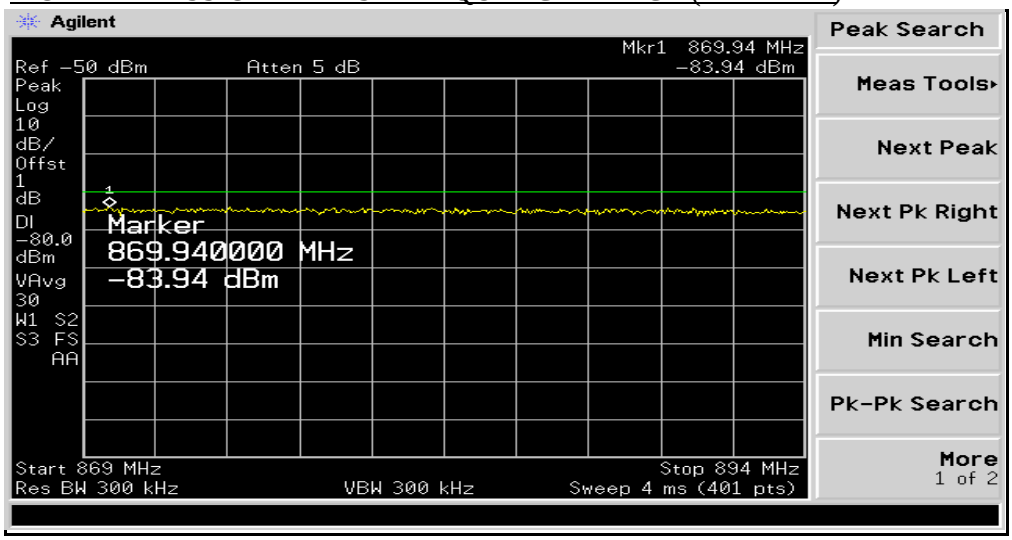


PLOTS OF EMISSION (WCDMA850-HSDPA): OUT OF BAND(CH251)





MOBILE EMISSION IN BASE FREQUENCY RANGE (RX BAND)



7. Field Strength of Spurious Radiation

7.1 Test Procedure according to ANSI/TIA/EIA 603 Clause 3.2.12 & FCC 22.917(h)

Radiation and harmonic emission are measured outdoors at our 3 meters test range. The equipment under test is placed on a wooden turntable 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer (or receiver). A half wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

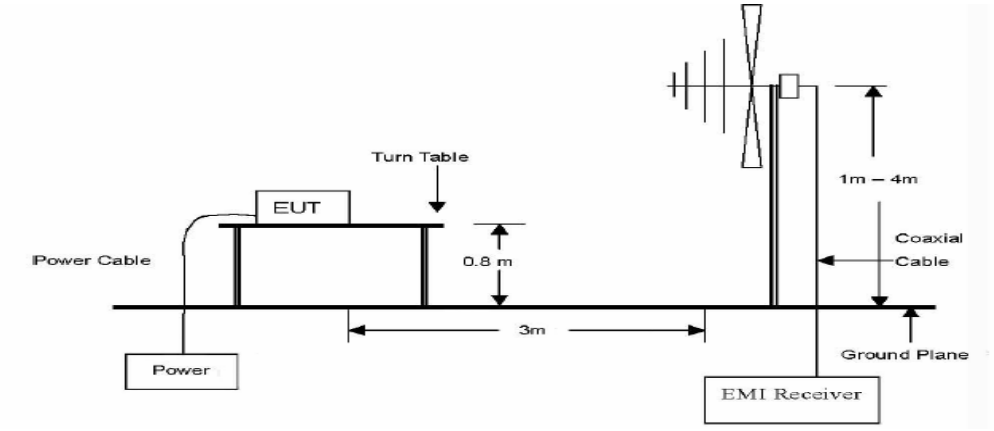
7.2 Test Equipments

The following test equipments are used during tests

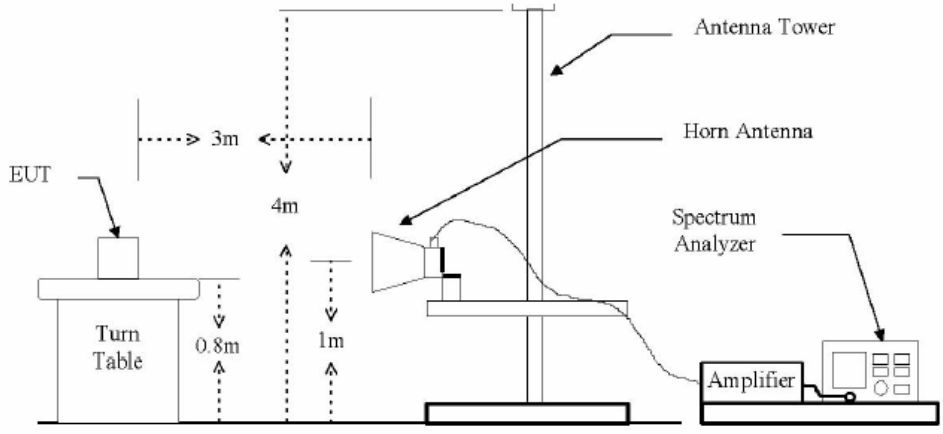
Equipment	Manufacturer	Model	Cal. Due Date
Receiver	Rohde & Schwarz	ESPI7	2009-08-27
Signal Generator	HP	83620B	2009-09-11
Wireless Communications Test Set	Agilent	E5515C	2010-05-12
Pre Amplifier	HP	847F	2010-03-06
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2010-06-17
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2010-06-17

* The TX signal isn't detected from 3rd harmonics.

Test setup for 30MHz to 1GHz



Test setup for above1GHz



7.3 Test Results

PCS1900

GSM(Ch 512)

Mesured output power: 29.53dBm = 0.897W, Limit: 43+10log$_{10}$(W)= 42.53dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3700.40	44.90	12.69	19.10	-32.80	-39.21	65.41	V
5550.60	43.10	13.15	25.30	-16.80	-28.95	55.15	H

GSM(Ch 661)

Mesured output power: 29.64dBm = 0.920W, Limit: 43+10log$_{10}$(W)= 42.64dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3760.00	45.70	12.75	19.50	-30.60	-37.35	62.28	V
5640.00	43.00	13.15	25.70	-16.40	-28.95	53.88	H

GSM(Ch 810)

Mesured output power: 29.23dBm = 0.838W, Limit: 43+10log$_{10}$(W)= 42.23dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3819.60	45.70	12.75	19.50	-31.20	-37.95	64.69	V
5729.40	42.10	13.09	26.00	-17.30	-30.21	56.95	H

EDGE(Ch 512)

Mesured output power:24.32dBm = 0.270W, Limit: 43+10log$_{10}$(W)= 37.32dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3700.40	43.17	12.69	19.10	-34.50	-40.91	61.11	V
5550.60	41.27	13.15	25.30	-18.70	-30.85	51.05	V

EDGE(Ch 661)

Mesured output power: 24.42dBm = 0.277W, Limit: 43+10log$_{10}$(W)= 37.42dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3760.00	43.88	12.75	19.50	-32.50	-39.25	60.48	V
5640.00	41.50	13.15	25.70	-17.90	-30.45	51.68	H

EDGE(Ch 810)

Mesured output power: 24.06dBm = 0.255W, Limit: 43+10log$_{10}$(W)= 37.06dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3819.60	43.74	12.75	19.50	-33.20	-39.95	60.49	V
3819.60	41.83	13.09	26.00	-17.60	-30.51	51.05	H

GPRS(512)

Mesured output power:27.96dBm = 0.625W, Limit: 43+10log$_{10}$(W)= 40.96dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3700.40	43.14	12.69	19.10	-34.50	-40.91	63.51	V
5550.60	43.69	13.15	25.30	-16.30	-28.45	51.05	H

GPRS(661)

Mesured output power: 28.07dBm = 0.641W, Limit: 43+10log$_{10}$(W)= 41.07dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3760.00	46.70	12.75	19.50	-29.60	-36.35	60.68	V
5640.00	43.90	13.15	25.70	-12.93	-25.48	49.81	H

GPRS(810)

Mesured output power: 27.68dBm = 0.586W, Limit: 43+10log$_{10}$(W)= 40.68dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3819.60	47.10	12.75	19.50	-29.80	-36.55	62.49	V
5729.40	41.10	13.09	26.00	-18.30	-31.21	57.15	H

WCDMA1900(9262)

Mesured output power:23.58dBm = 0.228W, Limit: 43+10log$_{10}$(W)= 36.58dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3704.80	43.10	12.69	19.10	-34.50	-40.91	63.51	V

WCDMA1900(9400)

Mesured output power: 23.68dBm = 0.233W, Limit: 43+10log$_{10}$(W)= 36.68dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
5640.00	42.30	12.75	19.50	-29.60	-36.35	60.68	V

WCDMA1900(9538)

Mesured output power: 23.41dBm = 0.219W, Limit: 43+10log$_{10}$(W)= 36.41dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3815.20	42.80	12.75	19.50	-29.80	-36.55	62.49	V

WCDMA1900-HSDPA(9262)

Mesured output power:23.56dBm = 0.227W, Limit: 43+10log$_{10}$(W)= 36.56dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3704.80	43.10	12.69	19.10	-35.00	-41.41	58.51	V

WCDMA1900-HSDPA(9400)

Mesured output power: 24.42dBm = 0.235W, Limit: 43+10log$_{10}$(W)= 36.71dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3760.00	42.30	12.75	19.50	-34.80	-41.55	59.78	V

WCDMA1900-HSDPA(9538)

Mesured output power: 24.06dBm = 0.218W, Limit: 43+10log$_{10}$(W)= 36.38dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBi)	CL(dB)	SG Reading	Result		
3815.20	42.80	12.75	19.50	-34.50	-41.25	60.89	V

GSM850

GSM(Ch 128)

Mesured output power:32.25dBm = 1.679W, Limit: 43+10log$_{10}$(W)= 45.25dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1648.40	71.11	9.77	11.60	-23.80	-25.63	51.32	V
2472.60	63.00	10.49	14.80	-21.40	-25.71	51.40	H

GSM(Ch 190)

Mesured output power: 32.23dBm = 1.671W, Limit: 43+10log$_{10}$(W)= 45.23dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1673.20	71.11	9.94	11.70	-23.70	-25.46	51.67	V
2509.80	62.90	10.62	15.00	-21.80	-26.18	52.39	H

GSM(Ch 251)

Mesured output power: 32.21dBm = 1.663W, Limit: 43+10log$_{10}$(W)= 45.21dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1697.60	71.22	10.12	11.80	-23.20	-24.88	51.00	V
2546.40	63.77	10.68	15.10	-21.50	-25.92	52.04	H

EDGE(128)

Mesured output power: 27.33dBm = 0.540W, Limit: 43+10log$_{10}$(W)= 40.33dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1648.40	65.71	9.77	11.60	-28.90	-30.73	53.22	V
2472.60	64.31	10.49	14.80	-21.20	-25.51	48.00	H

EDGE(190)

Mesured output power: 27.22dBm = 0.527W, Limit: 43+10log$_{10}$(W)= 40.22dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1673.20	65.87	9.94	11.70	-29.00	-30.76	55.67	V
2509.80	64.04	10.62	15.00	-21.80	-26.18	51.09	H

EDGE(251)

Mesured output power: 27.30dBm = 0.537W, Limit: 43+10log$_{10}$(W)= 40.30dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1697.60	69.66	10.12	11.80	-25.00	-26.68	52.10	V
2546.40	64.04	10.68	15.10	-20.60	-25.02	50.44	H

GPRS(128)

Mesured output power: 30.70dBm = 1.175W, Limit: 43+10log$_{10}$(W)= 43.70dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1648.40	69.14	9.77	11.60	-25.50	-27.33	49.92	V
2472.60	63.41	10.49	14.80	-22.10	-26.41	49.00	H

GPRS(190)

Mesured output power: 30.18dBm = 1.042W, Limit: 43+10log$_{10}$(W)= 43.18dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1673.20	66.41	9.94	11.70	-28.40	-30.16	54.37	V
2509.80	64.14	10.62	15.00	-18.70	-23.08	48.40	H

GPRS(251)

Mesured output power: 30.67dBm = 1.167W, Limit: 43+10log$_{10}$(W)= 43.67dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1697.60	70.14	10.12	11.80	-24.60	-26.28	51.60	V
2546.40	67.14	10.68	15.10	-17.50	-21.92	47.24	H

WCDMA850(4132)

Mesured output power: 23.18dBm = 0.208W, Limit: 43+10log$_{10}$(W)= 36.18dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1652.80	69.11	9.77	11.60	-25.50	-27.33	49.32	V
2479.20	58.41	10.49	14.80	-27.10	-31.41	53.40	H

WCDMA850(4183)

Mesured output power: 23.30dBm = 0.214W, Limit: 43+10log$_{10}$(W)= 36.30dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1673.20	68.87	9.94	11.70	-26.00	-27.76	50.27	V
2539.80	57.17	10.62	15.00	-28.00	-32.38	54.89	H

WCDMA850(4233)

Mesured output power: 23.42dBm = 0.220W, Limit: 43+10log$_{10}$(W)= 36.42dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1693.20	67.54	10.12	11.80	-27.20	-28.88	49.90	V
2509.80	56.11	10.68	15.10	-28.50	-32.92	53.94	H

WCDMA850-HSDPA(4132)

Mesured output power: 23.22dBm = 0.210W, Limit: 43+10log$_{10}$(W)= 36.22dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1652.80	65.17	9.77	11.60	-29.40	-31.23	52.03	V
2479.20	54.90	10.49	14.80	-30.60	-34.91	55.71	H

WCDMA850-HSDPA(4183)

Mesured output power: 23.30dBm = 0.214W, Limit: 43+10log$_{10}$(W)= 36.30dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1673.20	67.00	9.94	11.70	-27.80	-29.56	52.48	V
2509.80	55.17	10.62	15.00	-30.00	-34.38	56.32	H

WCDMA850-HSDPA(4233)

Mesured output power: 23.44dBm = 0.221W, Limit: 43+10log$_{10}$(W)= 36.44dBc

Frequency (MHz)	Receiver Reading(dBuV	Correction Factor(dB)		EIRP(dBm)		dBc	Polarity
		AG(dBd)	CL(dB)	SG Reading	Result		
1693.20	67.00	9.94	11.70	-30.42	-32.18	54.12	V
2539.80	55.17	10.68	15.00	-30.90	-35.22	57.16	H

8. Frequency stability

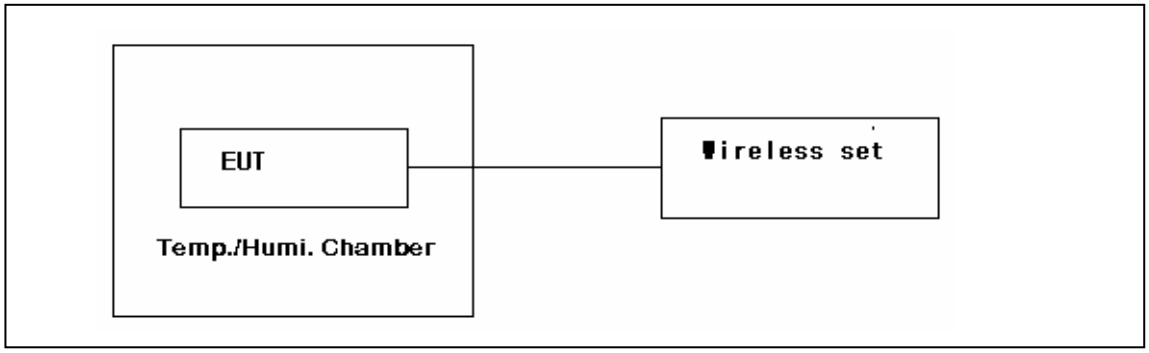
8.1 Test Procedure

The frequency stability of the transmitter is measured by:

a) Temperature: The temperature is varied from -30℃ to +60℃ using an environmental chamber.

b) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

※ The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±2.5ppm of the center frequency.



8.2 Test Equipments

The following test equipments are used during tests

Equipment	Manufacturer	Model	Cal. Due Date
Communications Test	Agilent	E5515C	2010-02-17
DC Power Supply	INTERACT	AK-3010	2010-02-28
Tem/Hum Chamber	Myung Technology	SM-150-2	2010-02-10

8.3 Test Results

PCS1900

Operting Frequency :	1,880,000,000
Channel :	661
Reference Voltage :	3.70
Deviatin Limit :	0.00025

Voltage (%)	Power (VDC)	Temperature (℃)	Frequency (Hz)	Deviation
100	3.70	+20℃(Ref)	1,880,000,001	0.000000
100		-30	1,879,999,977	0.000001
100		-20	1,879,999,975	0.000001
100		-10	1,879,999,976	0.000001
100		**0**	1,879,999,975	0.000001
100		10	1,879,999,986	0.000001
100		20	1,880,000,001	0.000000
100		25	1,879,999,972	0.000002
100		30	1,879,999,975	0.000001
100		40	1,879,999,980	0.000001
100		50	1,879,999,974	0.000001
100		60	1,879,999,972	0.000002
85	3.15	20	1,879,999,971	0.000002
115	4.26	20	1,879,999,978	0.000001
Batt EndPoint	3.00	20	1,879,999,972	0.000002

GSM850

Operting Frequency :	836,600,000
Channel :	190
Reference Voltage :	3.70
Deviatin Limit :	0.00025

Voltage (%)	Power (VDC)	Temperature (℃)	Frequency (Hz)	Deviation
100	3.70	+20℃(Ref)	836,600,001	0.000000
100		-30	836,599,972	0.000003
100		-20	836,599,974	0.000003
100		-10	836,599,982	0.000002
100		**0**	836,599,984	0.000002
100		10	836,599,973	0.000003
100		20	836,600,001	0.000000
100		25	836,599,981	0.000002
100		30	836,599,985	0.000002
100		40	836,599,977	0.000003
100		50	836,599,979	0.000003
100		60	836,599,972	0.000003
85	3.15	20	836,599,973	0.000003
115	4.26	20	836,599,984	0.000002
Batt EndPoint	3.00	20	836,599,973	0.000003

WCDMA1900

Operting Frequency :	1,880,000,000
Channel :	9400
Reference Voltage :	3.70
Deviatin Limit :	0.00025

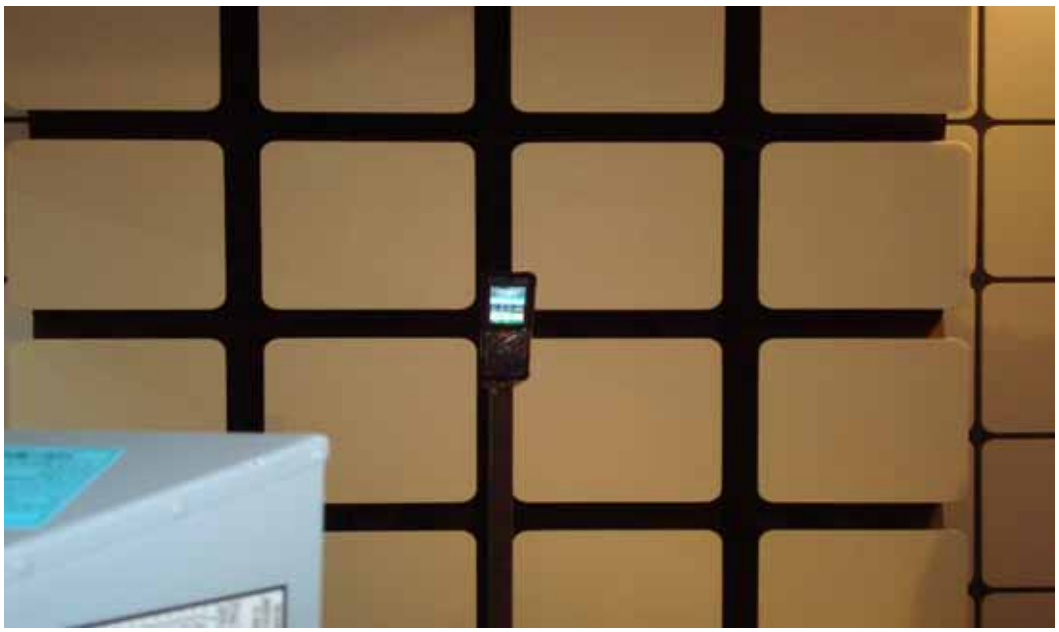
Voltage (%)	Power (VDC)	Temperature (℃)	Frequency (Hz)	Deviation
100	3.70	+20℃(Ref)	1,880,000,001	0.000000
100		-30	1,879,999,975	0.000001
100		-20	1,879,999,977	0.000001
100		-10	1,879,999,979	0.000001
100		**0**	1,879,999,983	0.000001
100		10	1,879,999,972	0.000002
100		20	1,880,000,001	0.000000
100		25	1,879,999,979	0.000001
100		30	1,879,999,974	0.000001
100		40	1,879,999,972	0.000002
100		50	1,879,999,971	0.000002
100		60	1,879,999,974	0.000001
85	3.15	20	1,879,999,974	0.000001
115	4.26	20	1,879,999,975	0.000001
Batt EndPoint	3.00	20	1,879,999,975	0.000001

WCDMA850

Operting Frequency :	836,600,000
Channel :	4183
Reference Voltage :	3.70
Deviatin Limit :	0.00025

Voltage (%)	Power (VDC)	Temperature (℃)	Frequency (Hz)	Deviation
100	3.70	+20℃(Ref)	836,600,000	0.000000
100		-30	836,599,971	0.000003
100		-20	836,599,982	0.000002
100		-10	836,599,972	0.000003
100		**0**	836,599,984	0.000002
100		10	836,599,975	0.000003
100		20	836,600,000	0.000000
100		25	836,599,982	0.000002
100		30	836,599,975	0.000003
100		40	836,599,974	0.000003
100		50	836,599,974	0.000003
100		60	836,599,974	0.000003
85	3.15	20	836,599,972	0.000003
115	4.26	20	836,599,971	0.000003
Batt EndPoint	3.00	20	836,599,973	0.000003

Attachment 1 : EUT Test Photographs



Attachment 2 : EUT Photographs