



Appendix for test report



1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP[dBm]	Limit [dBm]	Verdict
BC0	CDMA/1X/TM1	LCH	23.58	20.48	38.5	PASS
		MCH	23.72	20.62	38.5	PASS
		HCH	23.8	20.7	38.5	PASS
	CDMA/1X/TM3	LCH	23.57	20.47	38.5	PASS
		MCH	23.72	20.62	38.5	PASS
		HCH	23.79	20.69	38.5	PASS
BC0	CDMA/EV-DO/Su btype0	LCH	23.55	20.45	38.5	PASS
		MCH	23.6	20.5	38.5	PASS
		HCH	23.94	20.84	38.5	PASS
	CDMA/EV-DO/Su btype2	LCH	23.53	20.43	38.5	PASS
		MCH	23.6	20.5	38.5	PASS
		HCH	23.78	20.68	38.5	PASS



Test Band	Test Mode	Test Channel	Measured[dBm]	EIRP[dBm]	Limit [dBm]	Verdict
BC1	CDMA/1X/TM1	LCH	23.26	21.94	33	PASS
		MCH	23.15	21.83	33	PASS
		HCH	23.13	21.81	33	PASS
	CDMA/1X/TM3	LCH	23.22	21.9	33	PASS
		MCH	23.10	21.78	33	PASS
		HCH	23.09	21.77	33	PASS
BC1	CDMA/EV-DO/Su btype0	LCH	23.24	21.92	33	PASS
		MCH	23.10	21.78	33	PASS
		HCH	23.11	21.79	33	PASS
	CDMA/EV-DO/Su btype2	LCH	23.31	21.99	33	PASS
		MCH	23.16	21.84	33	PASS
		HCH	23.13	21.81	33	PASS



Note1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level

Note2: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
BC1	CDMA/1X/TM1	LCH	4.66	13	PASS
		MCH	4.74	13	PASS
		HCH	4.54	13	PASS
	CDMA/1X/TM3	LCH	4.11	13	PASS
		MCH	4.14	13	PASS
		HCH	3.94	13	PASS
BC1	CDMA/EV-DO/Subtype0	LCH	4.18	13	PASS
		MCH	4.38	13	PASS
		HCH	4.37	13	PASS
	CDMA/EV-DO/Subtype2	LCH	5.23	13	PASS
		MCH	5.76	13	PASS
		HCH	6.83	13	PASS

3Appendix_C: Modulation Characteristics

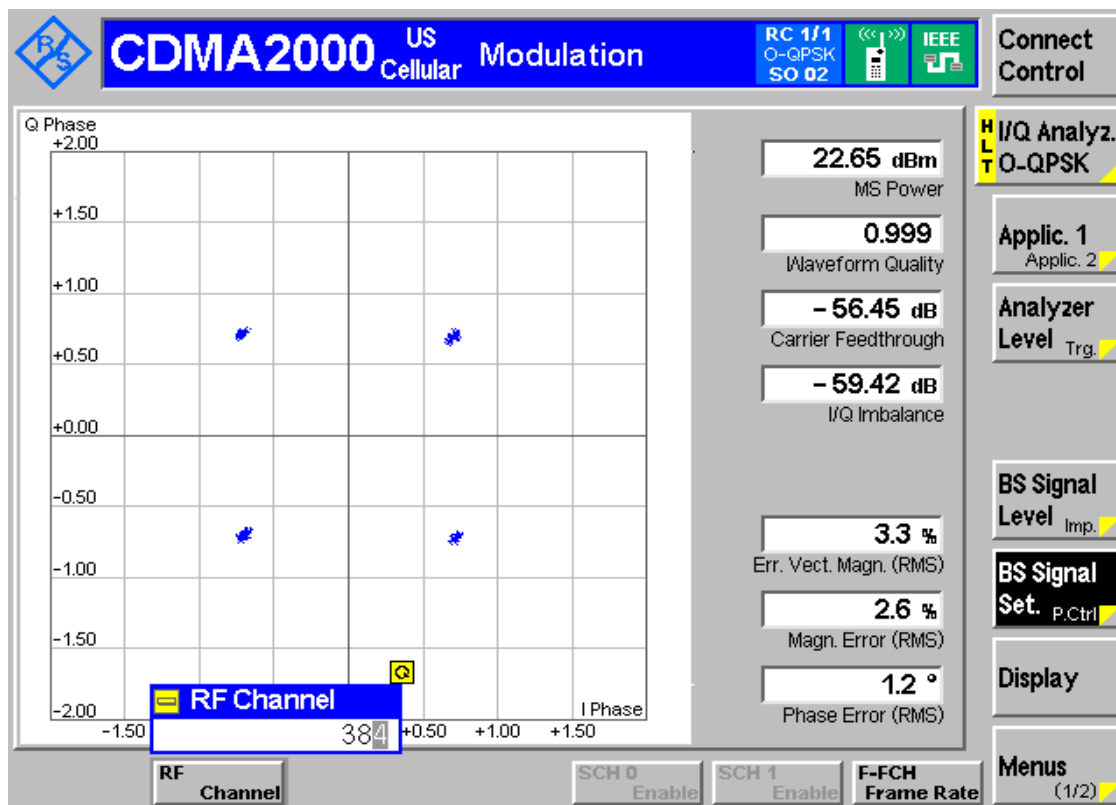
Part I - Test Plots

3.1 For CDMA/1X

3.1.1 Test Band = BC0

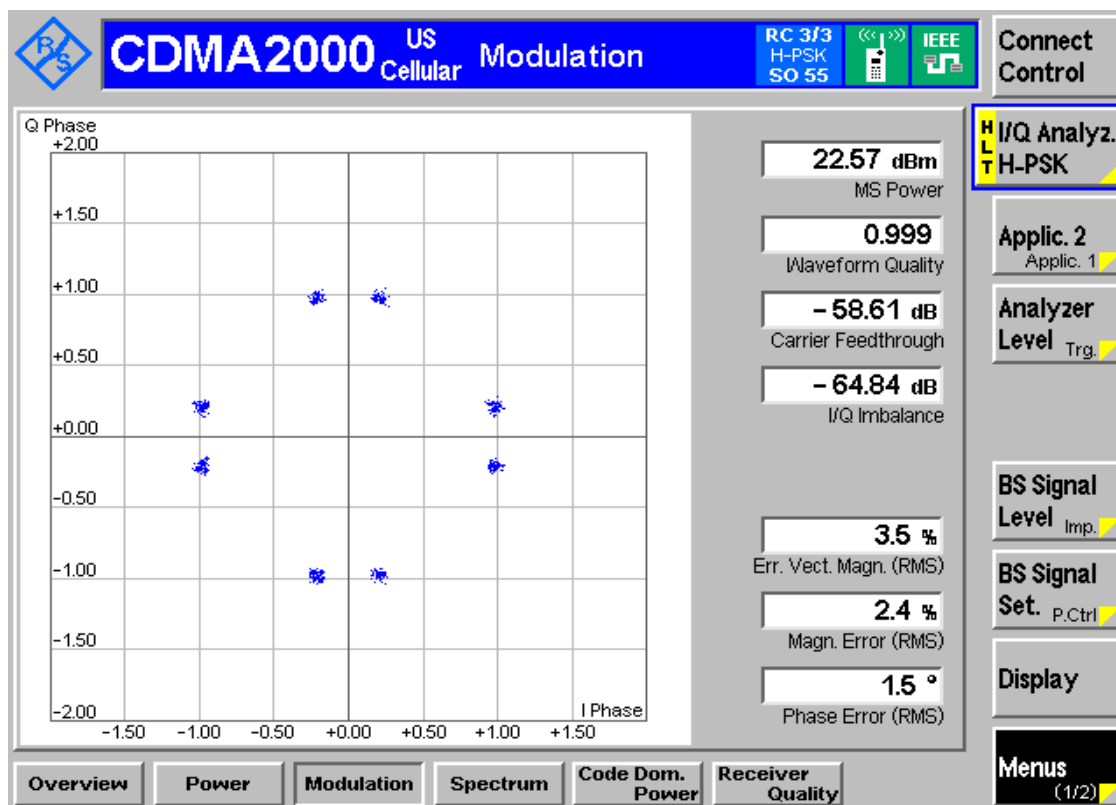
3.1.1.1 Test Mode = CDMA/1X/TM1

3.1.1.1.1 Test Channel = MCH



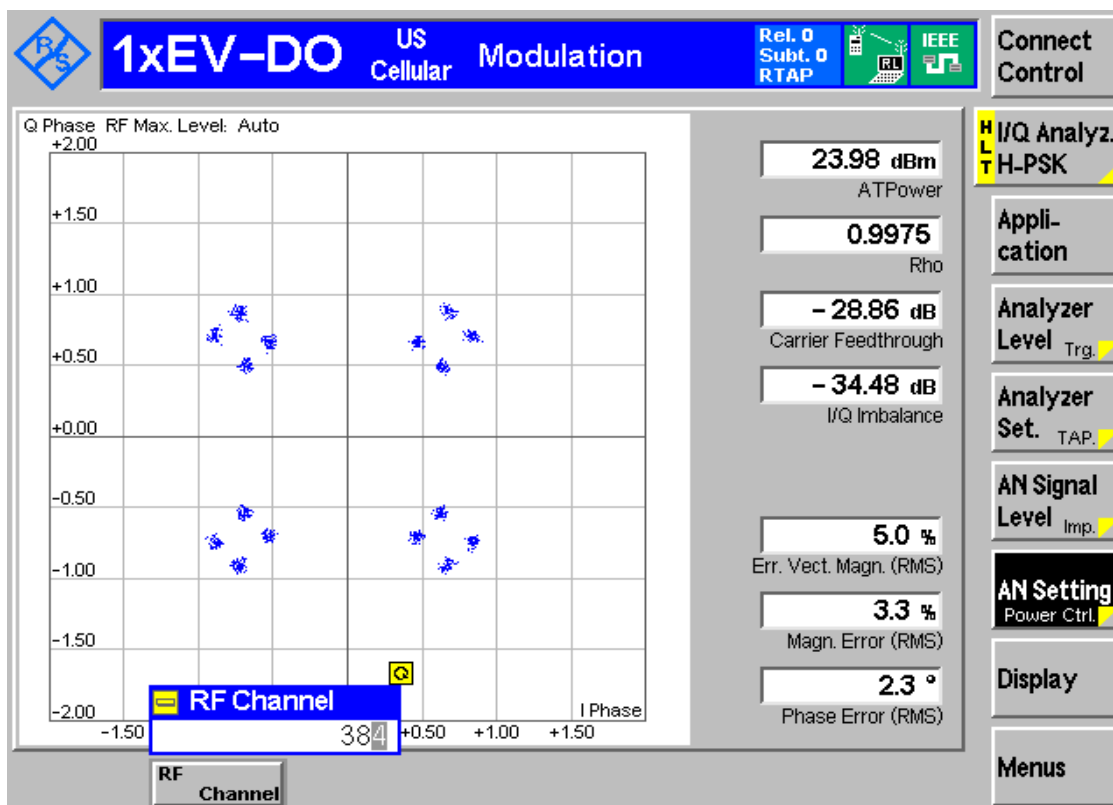
3.1.1.2 Test Mode = CDMA/1X/TM3

3.1.1.2.1 Test Channel = MCH

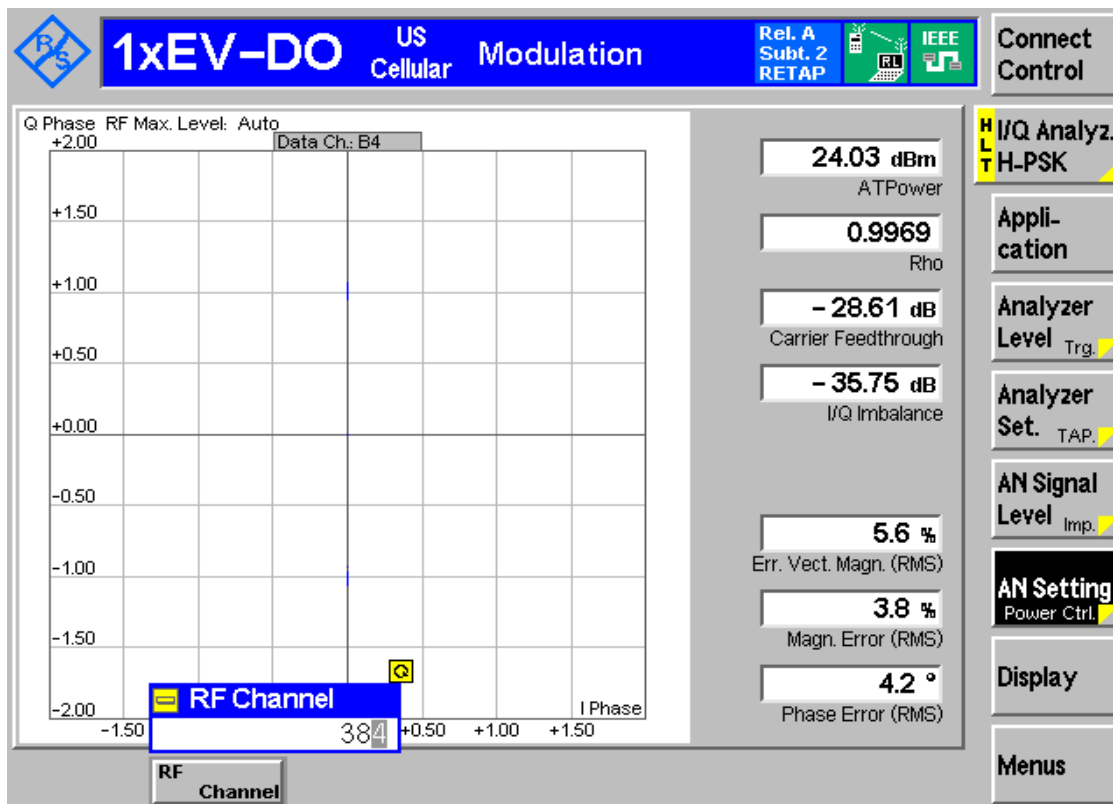


3.1.2 Test Band = BC0

3.1.2.1 Test Mode = CDMA/EV-DO/Subtype0



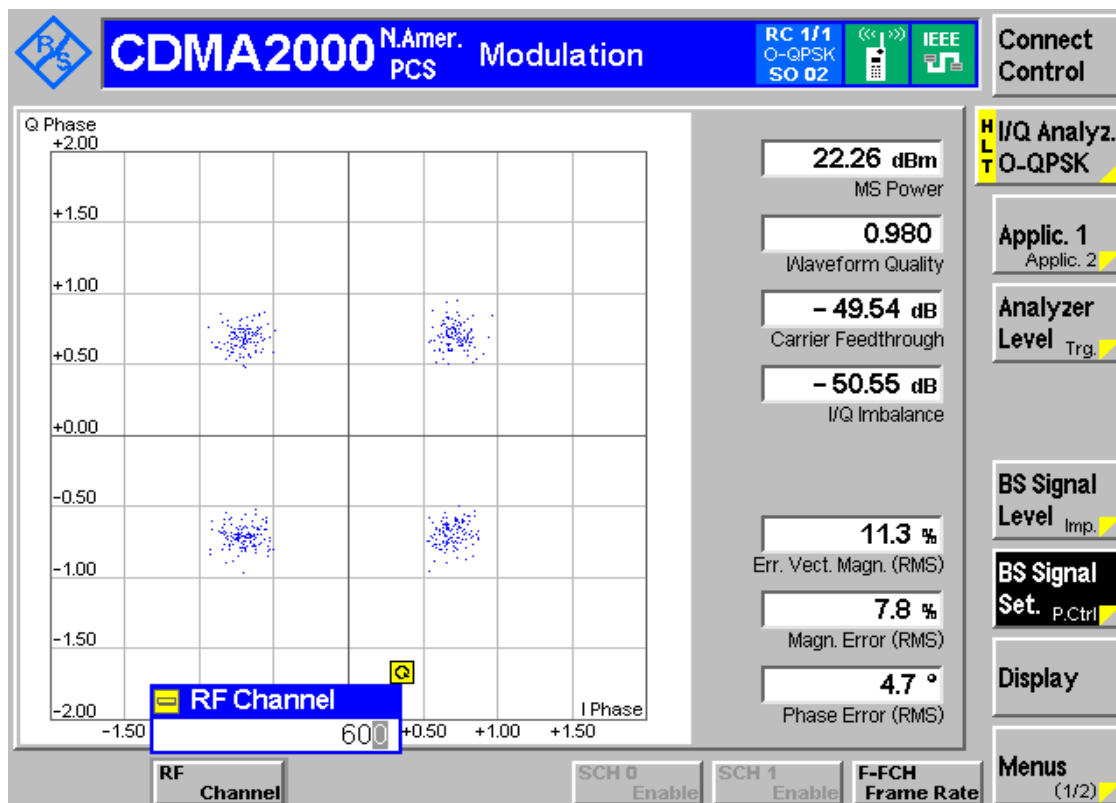
3.1.2.2 Test Mode = CDMA/EV-DO/Subtype2



3.1.3 Test Band = BC1

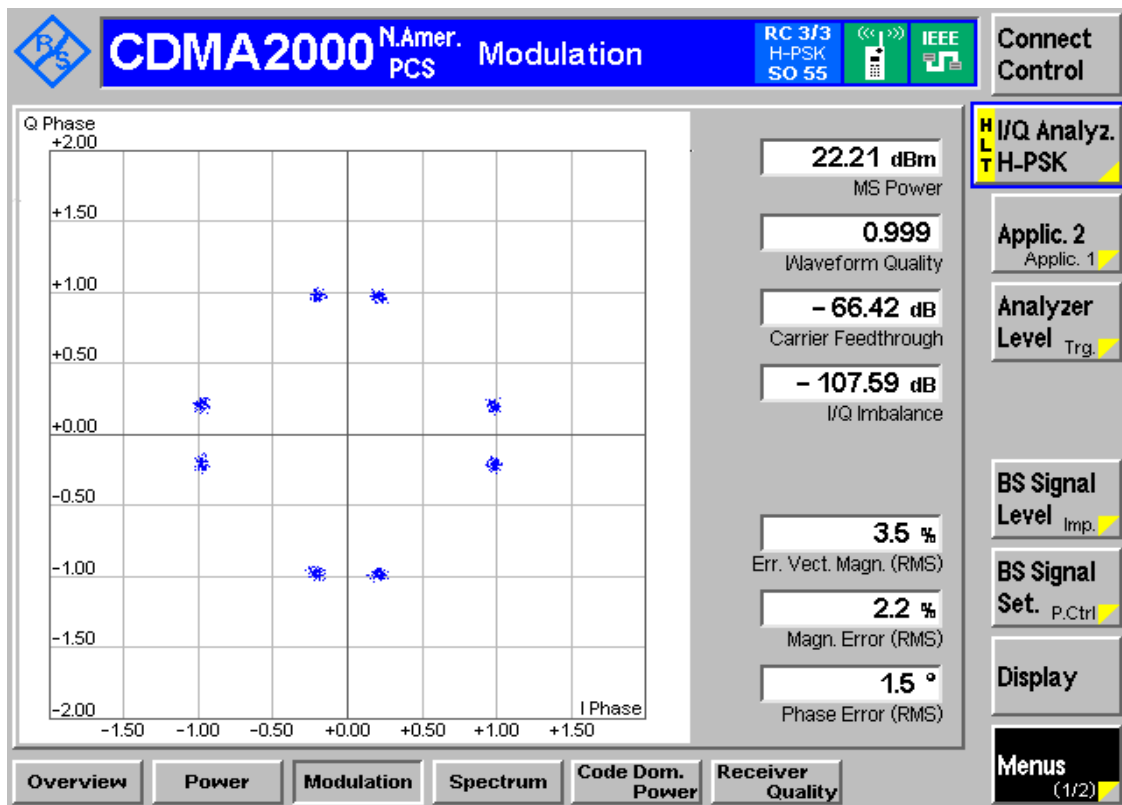
3.1.3.1 Test Mode = CDMA/1X/TM1

3.1.3.1.1 Test Channel = MCH



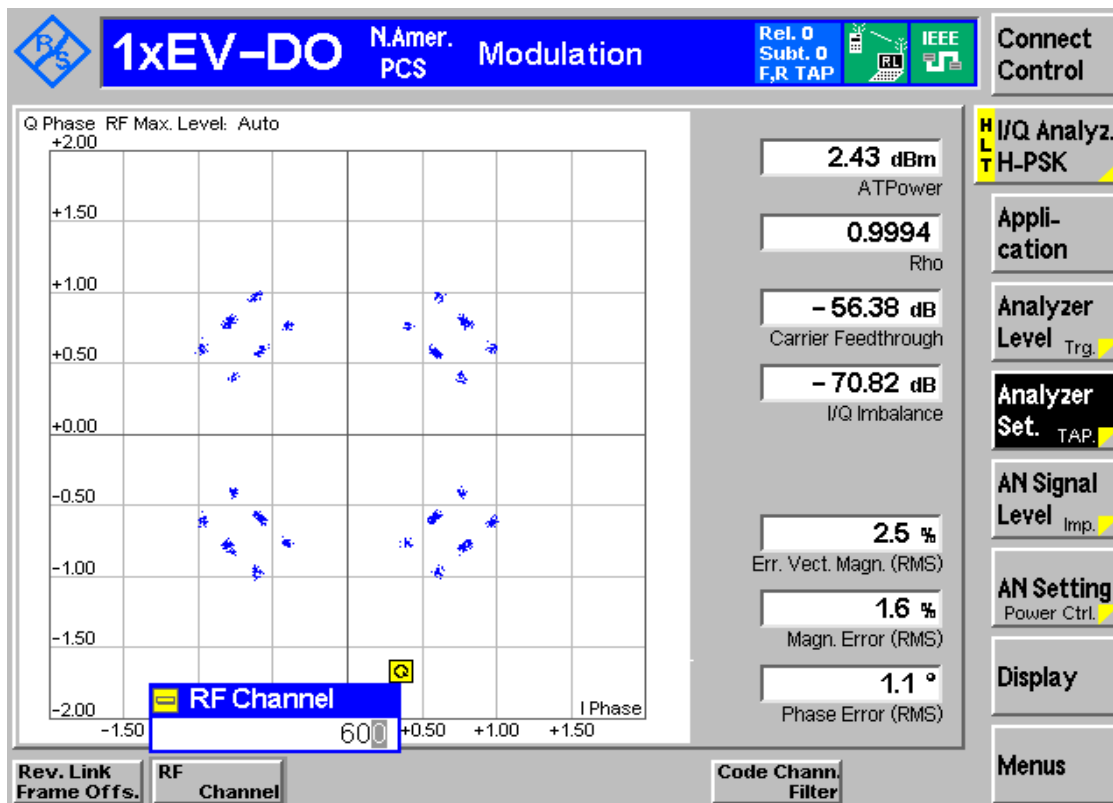
3.1.3.2 Test Mode = CDMA/1X/TM3

3.1.3.2.1 Test Channel = MCH

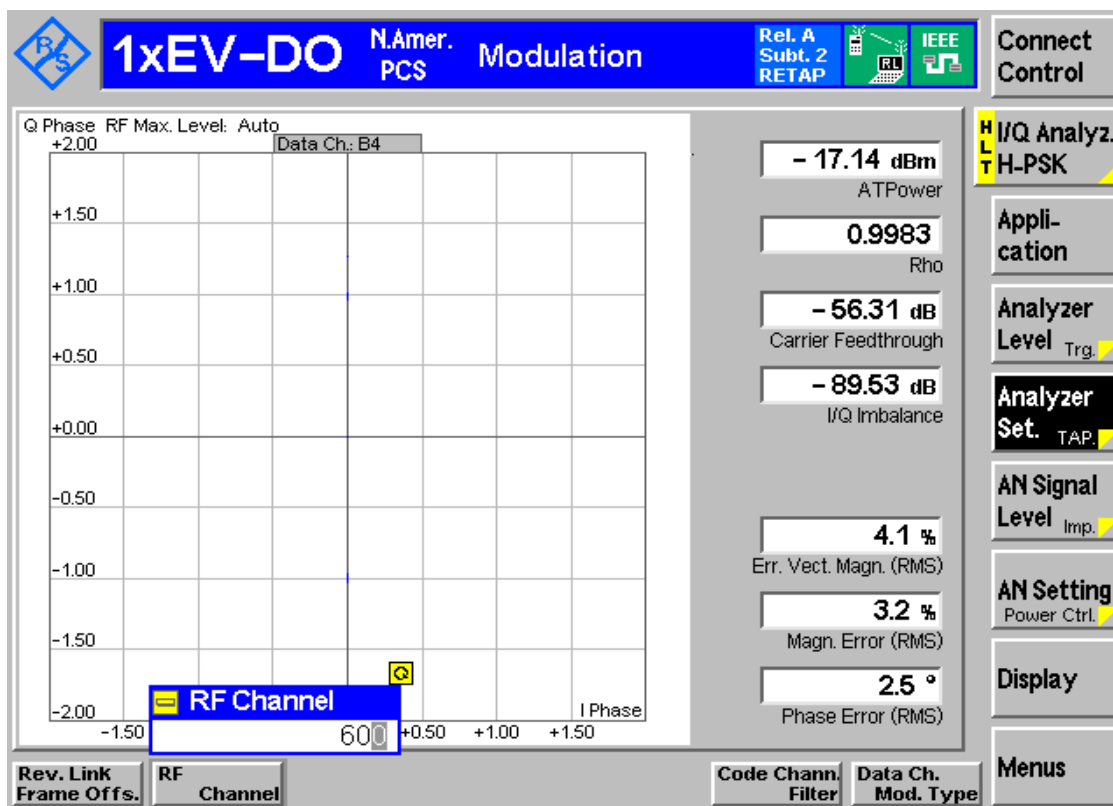


3.1.4 Test Band = BC1

3.1.4.1 Test Mode = CDMA/EV-DO/Subtype0



3.1.4.2 Test Mode = CDMA/EV-DO/Subtype2



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BC0	CDMA/1X/TM1	LCH	1.30	1.46	Pass
		MCH	1.29	1.46	Pass
		HCH	1.30	1.46	Pass
	CDMA/1X/TM3	LCH	1.28	1.46	Pass
		MCH	1.28	1.45	Pass
		HCH	1.28	1.45	Pass
BC1	CDMA/1X/TM1	LCH	1.29	1.46	Pass
		MCH	1.30	1.46	Pass
		HCH	1.30	1.47	Pass
	CDMA/1X/TM3	LCH	1.28	1.45	Pass
		MCH	1.29	1.46	Pass
		HCH	1.29	1.46	Pass

Test Band	Test Mode	Test Modulation(R-Data)	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BC0	CDMA/EV-DO/Subtype0	HPSK	LCH	1.28	1.45	Pass
			MCH	1.28	1.46	Pass
			HCH	1.28	1.45	Pass
	CDMA/EV-DO/Subtype2	BPSK(256 bits)	LCH	1.29	1.46	Pass
			MCH	1.28	1.45	Pass
			HCH	1.28	1.46	Pass
		QPSK(4096 bits)	LCH	1.28	1.45	Pass
			MCH	1.28	1.46	Pass
			HCH	1.28	1.45	Pass
		8-PSK(12288 bits)	LCH	1.29	1.46	Pass
			MCH	1.28	1.45	Pass
			HCH	1.28	1.45	Pass



Test Band	Test Mode	Test Modulation(R-Data)	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BC1	CDMA/EV-DO/Subtype0	HPSK	LCH	1.28	1.45	Pass
			MCH	1.28	1.46	Pass
			HCH	1.29	1.46	Pass
	CDMA/EV-DO/Subtype2	BPSK(256 bits)	LCH	1.29	1.46	Pass
			MCH	1.28	1.46	Pass
			HCH	1.29	1.47	Pass
		QPSK(4096 bits)	LCH	1.29	1.46	Pass
			MCH	1.28	1.46	Pass
			HCH	1.28	1.46	Pass
		8-PSK(12288 bits)	LCH	1.29	1.46	Pass
			MCH	1.28	1.46	Pass
			HCH	1.29	1.47	Pass

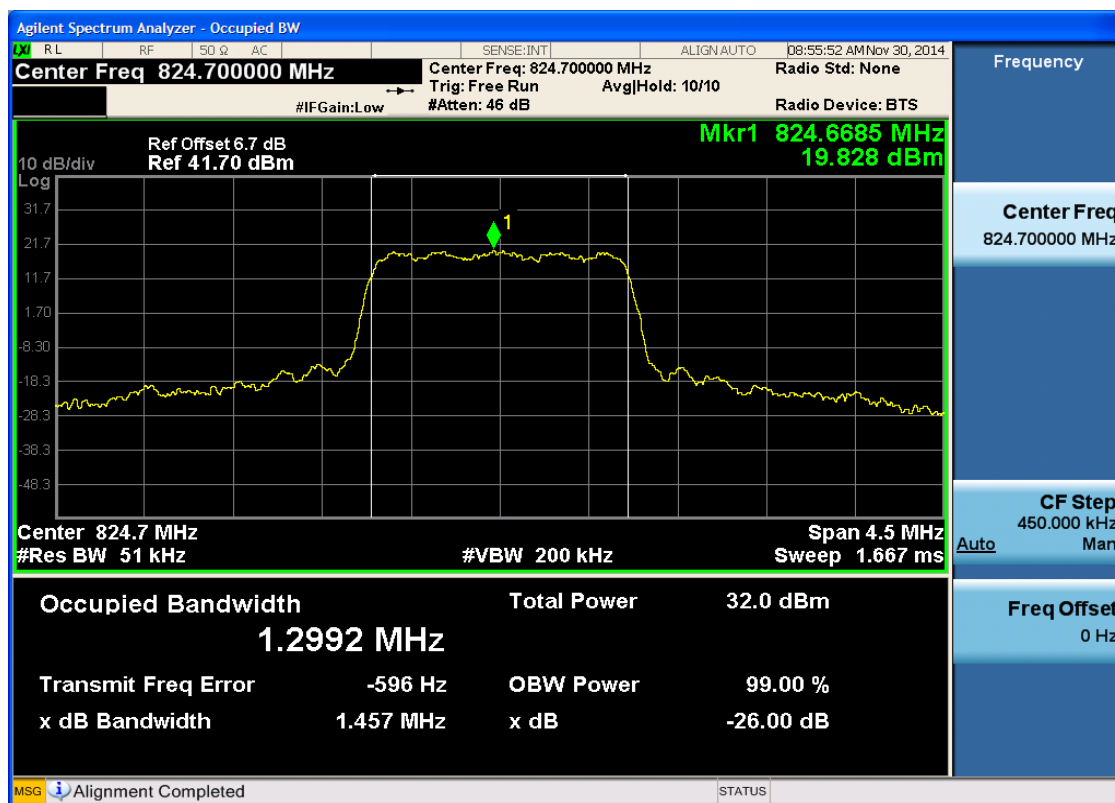
Part II - Test Plots

4.1 For CDMA/1X

4.1.1 Test Band = BC0

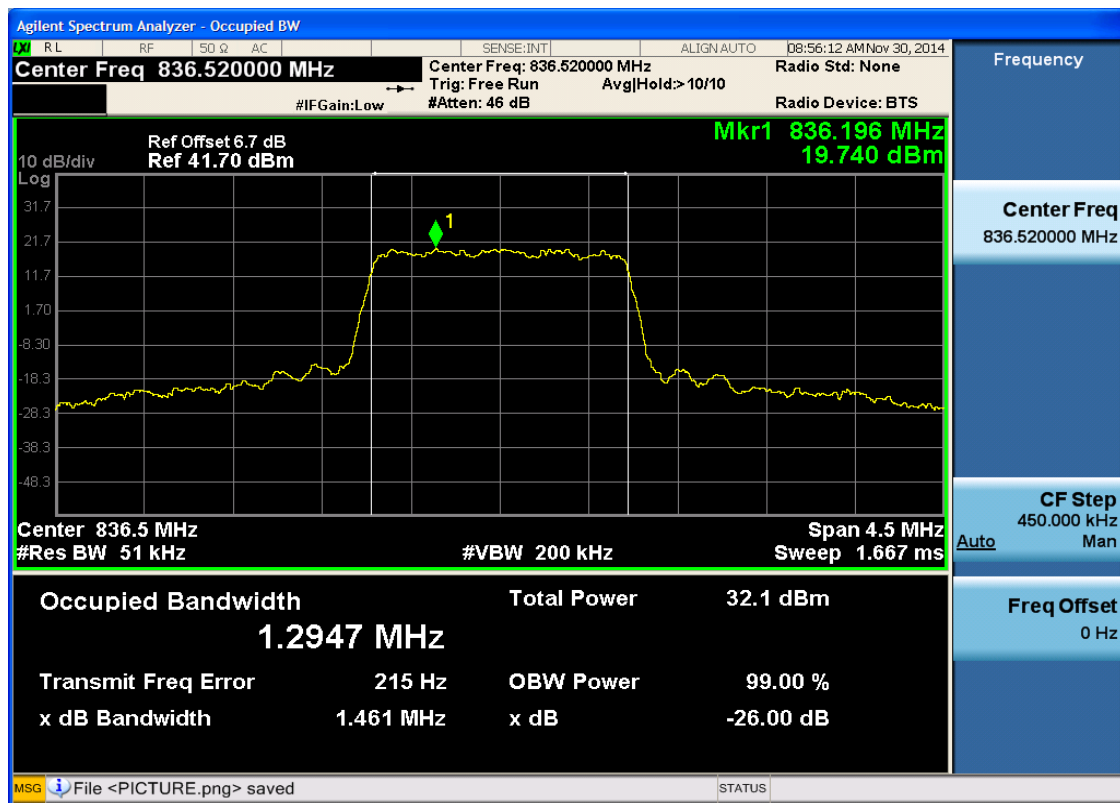
4.1.1.1 Test Mode = CDMA/1X/TM1

4.1.1.1.1 Test Channel = LCH



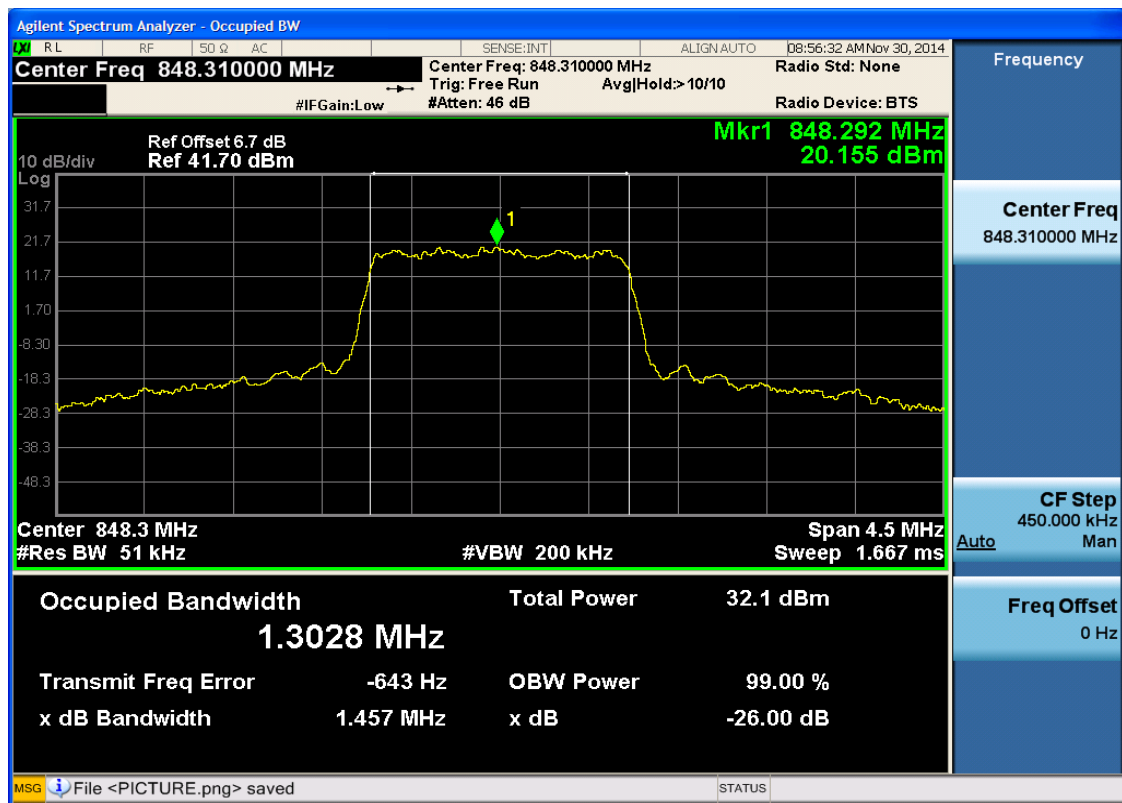


4.1.1.1.2 Test Channel = MCH





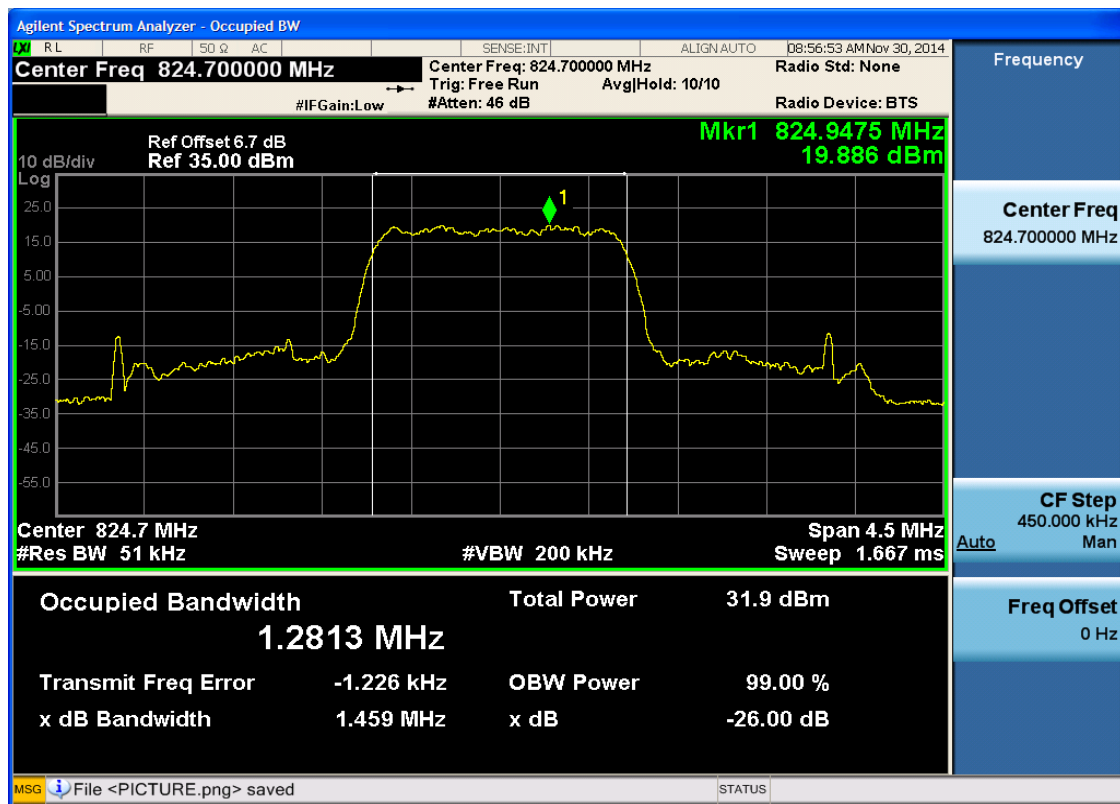
4.1.1.1.3 Test Channel = HCH





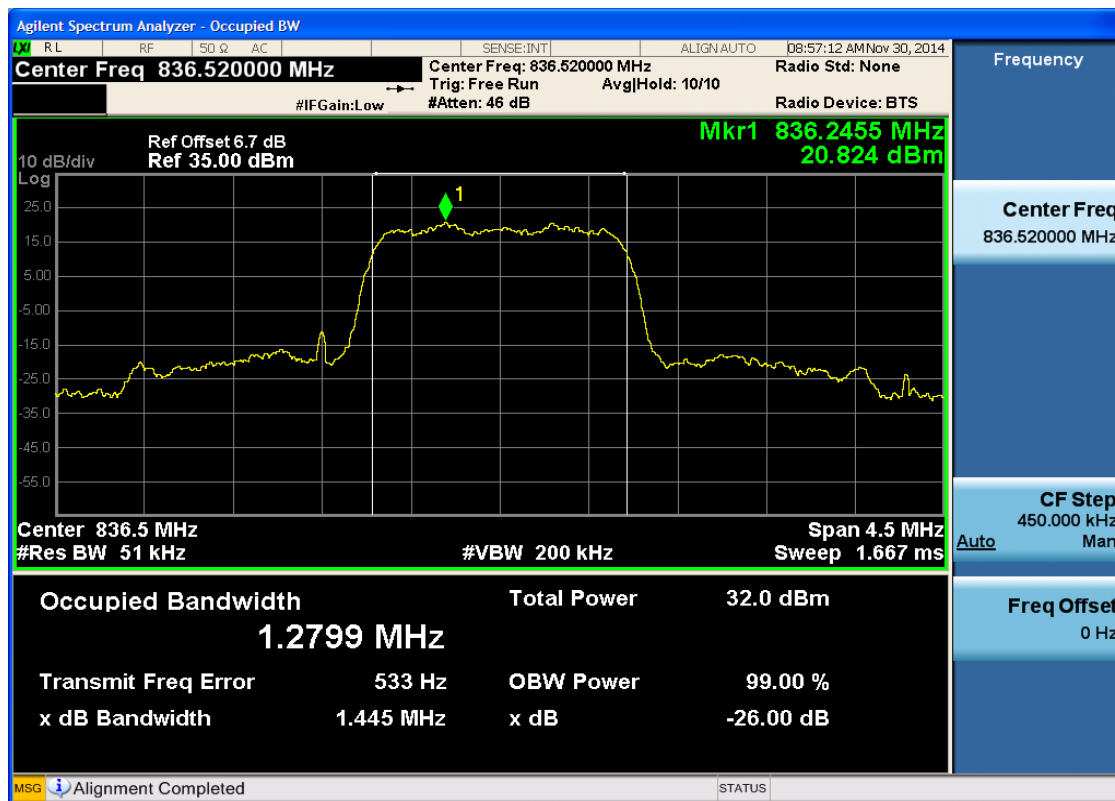
4.1.1.2 Test Mode = CDMA/1X/TM3

4.1.1.2.1 Test Channel = LCH



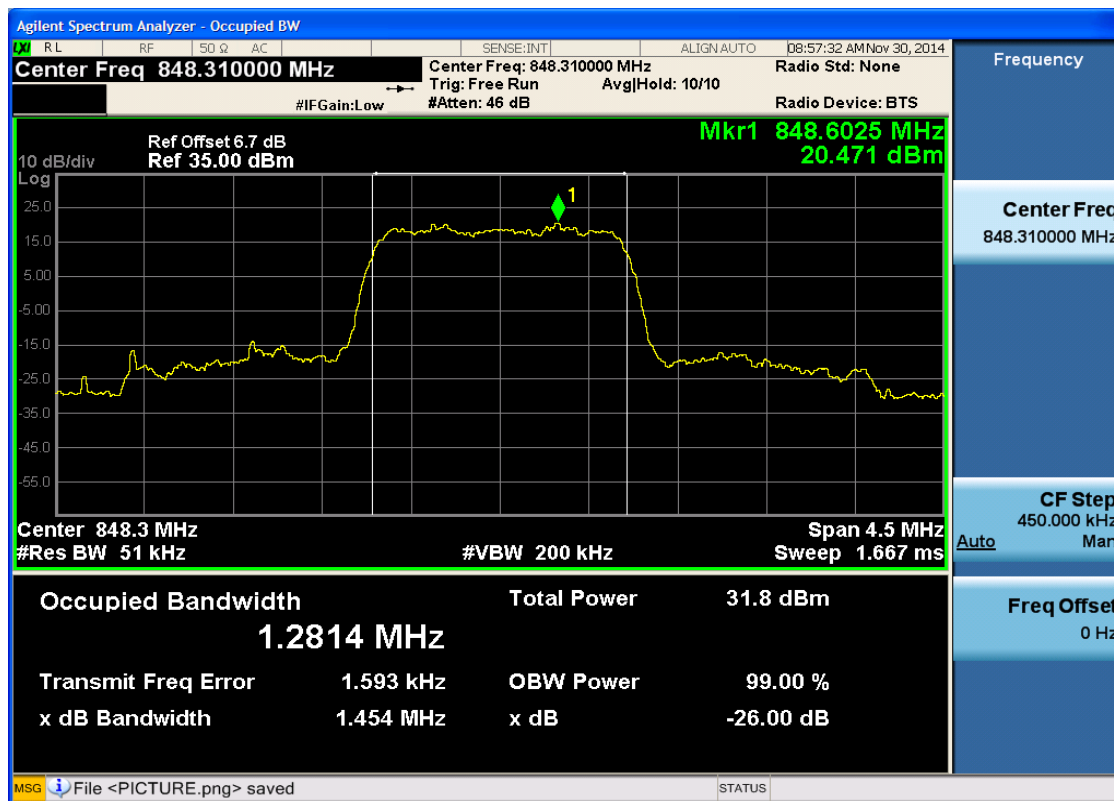


4.1.1.2.2 Test Channel = MCH





4.1.1.2.3 Test Channel = HCH



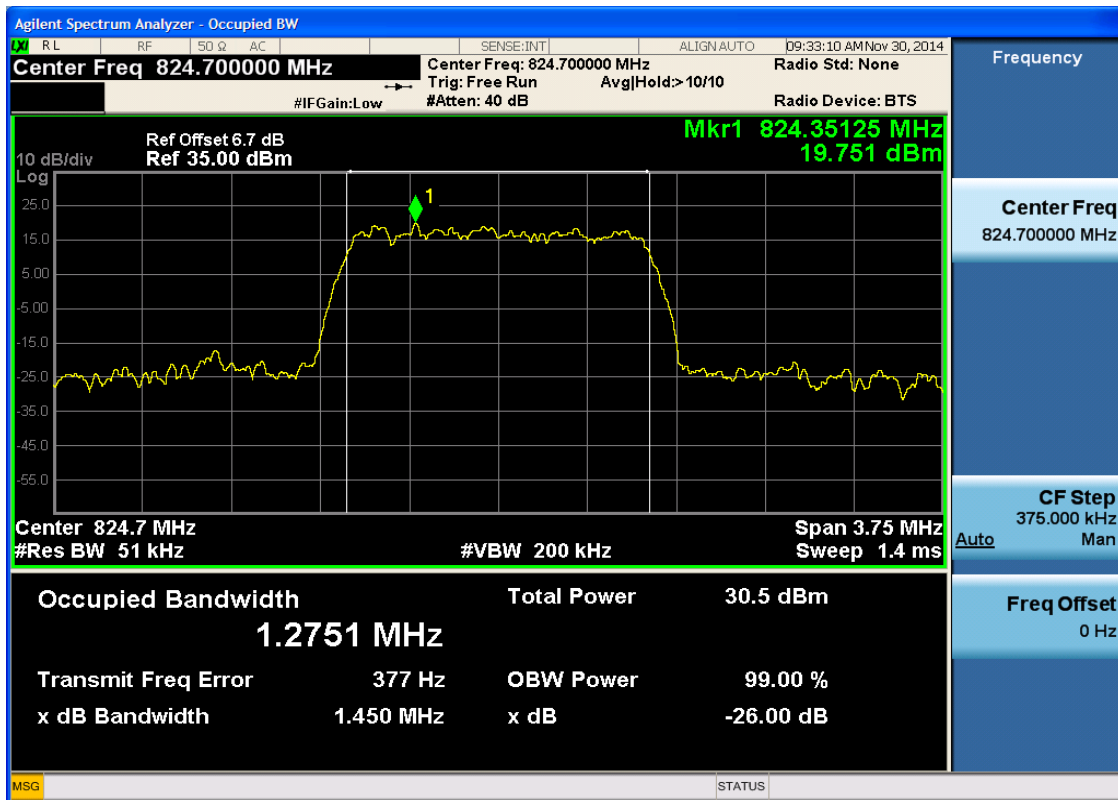


4.1.2 Test Band = BC0

4.1.2.1 Test Mode = CDMA/EV-DO/Subtype0

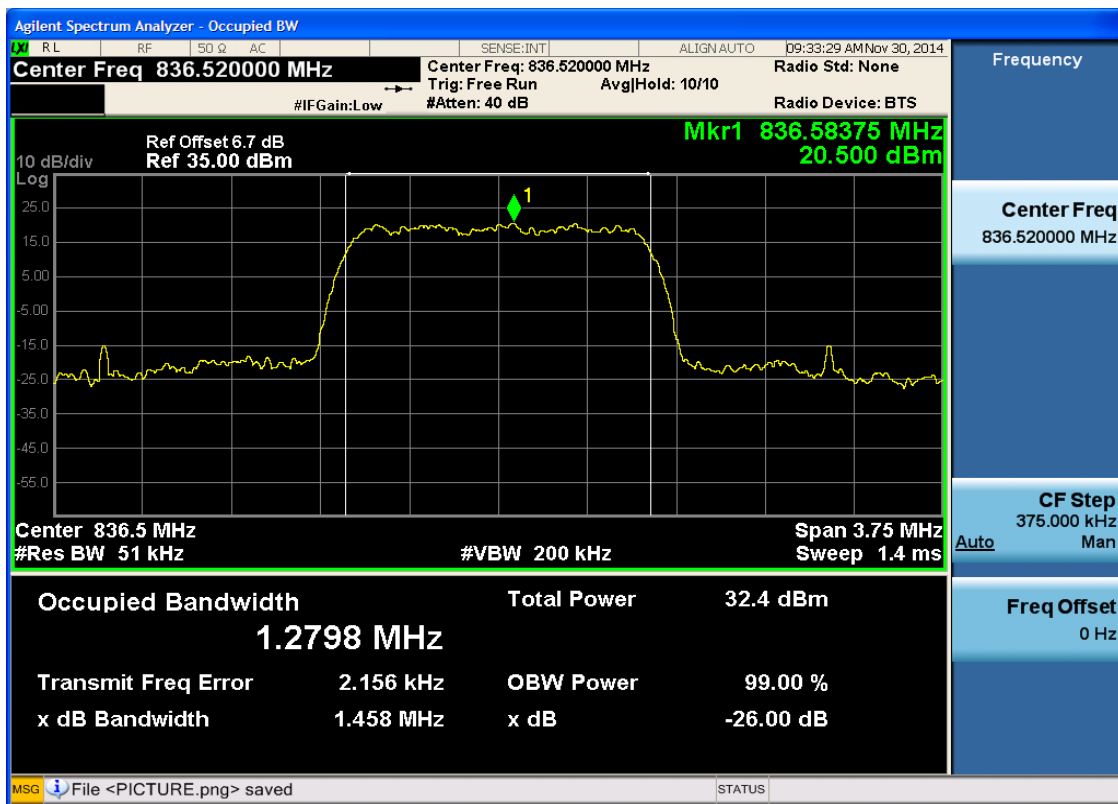
4.1.2.1.1 Test Modulation = HPSK

4.1.2.1.1.1 Test Channel = LCH



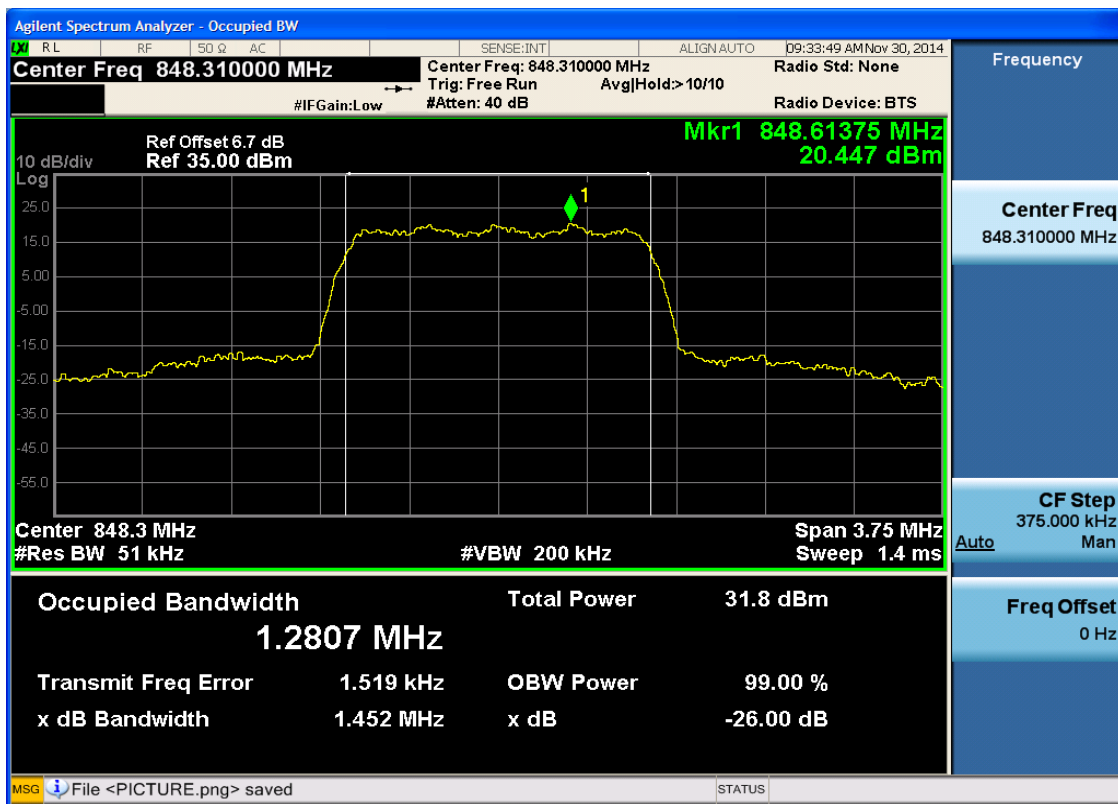


4.1.2.1.1.2 Test Channel = MCH





4.1.2.1.1.3 Test Channel = HCH

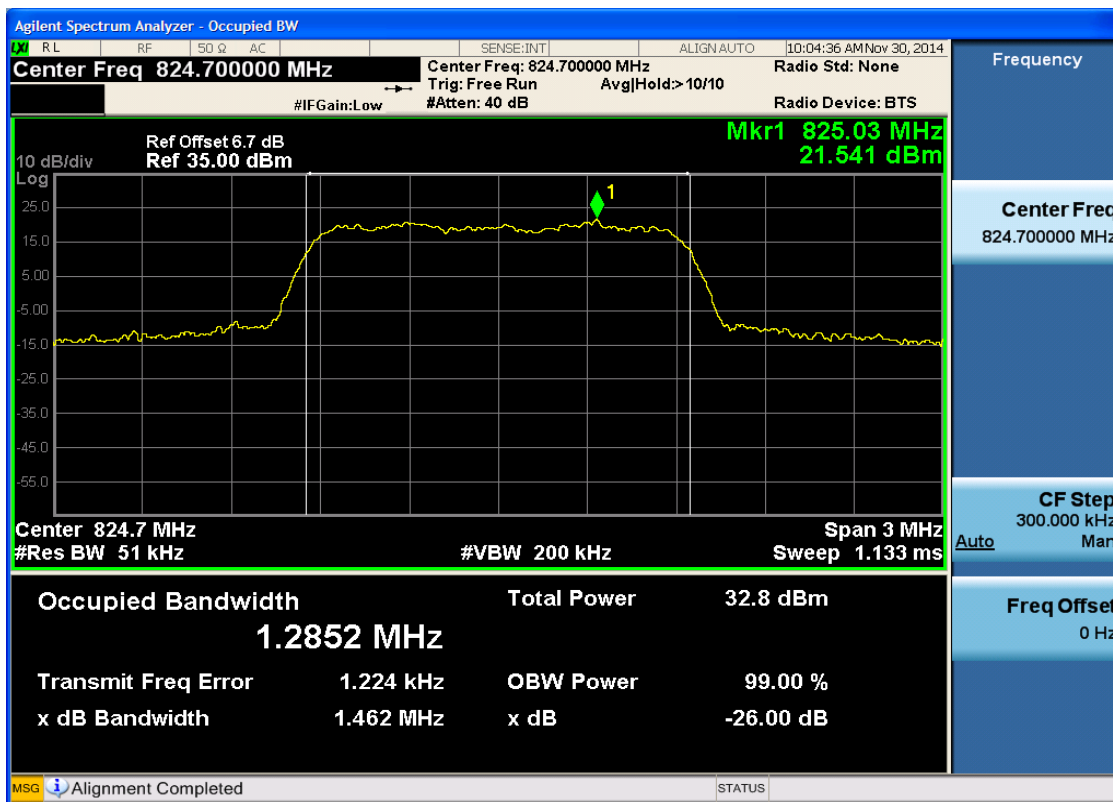




4.1.2.2 Test Mode = CDMA/EV-DO/Subtype2

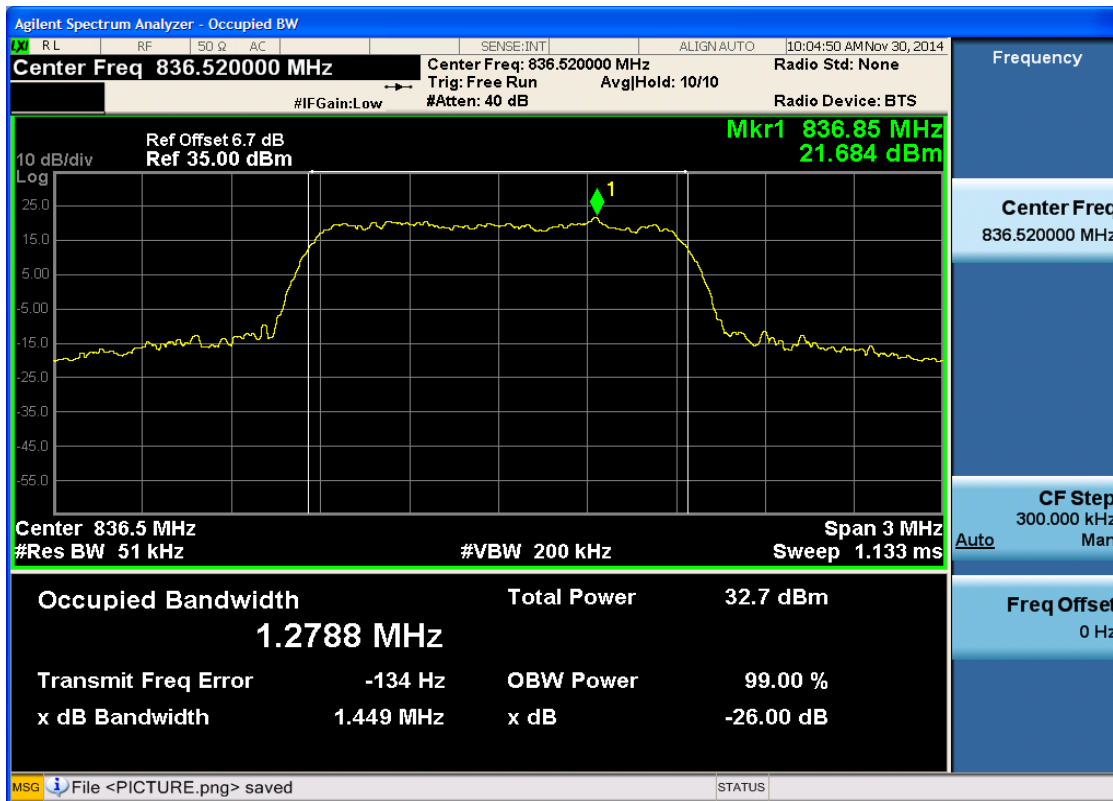
4.1.2.2.1 Test Modulation = BPSK (256 bits)

4.1.2.2.1.1 Test Channel = LCH



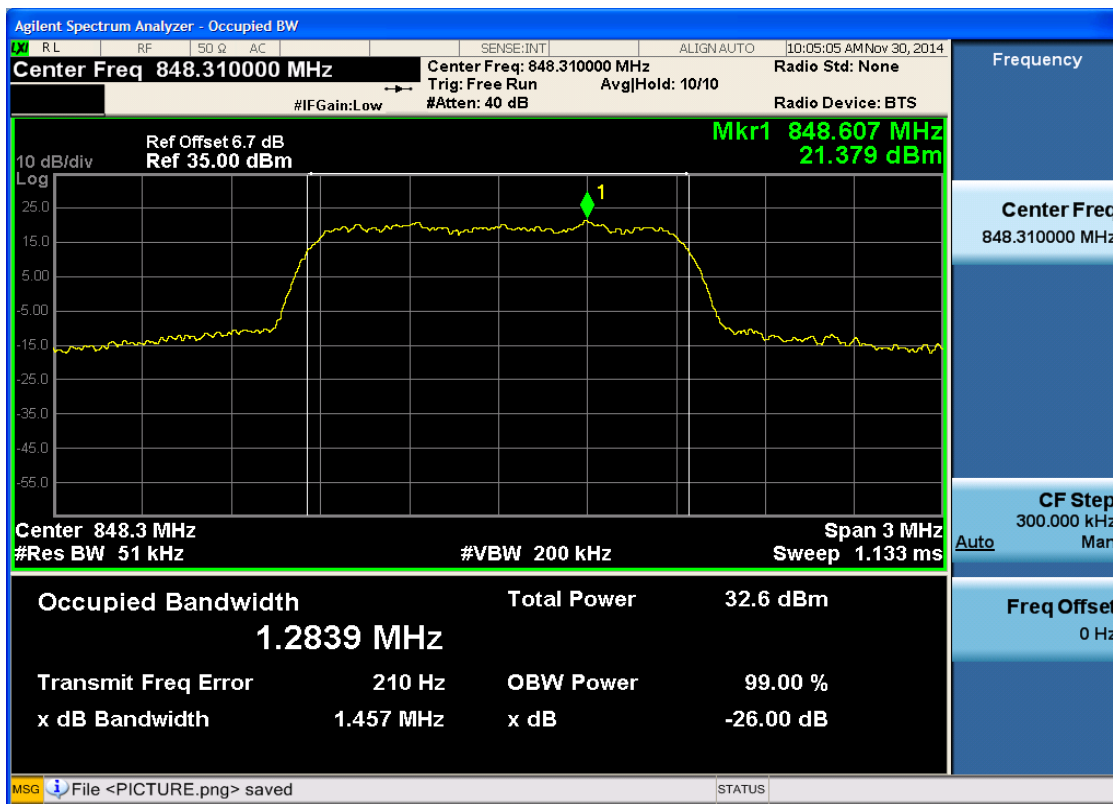


4.1.2.2.1.2 Test Channel = MCH





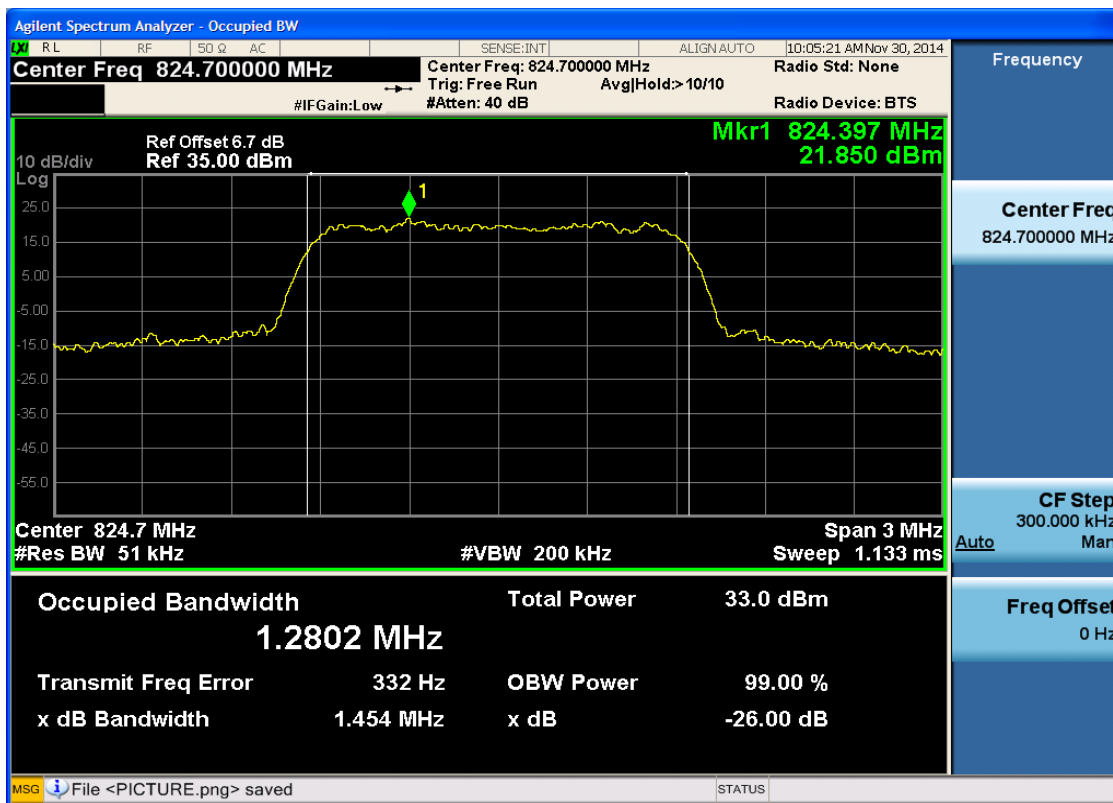
4.1.2.2.1.3 Test Channel = HCH





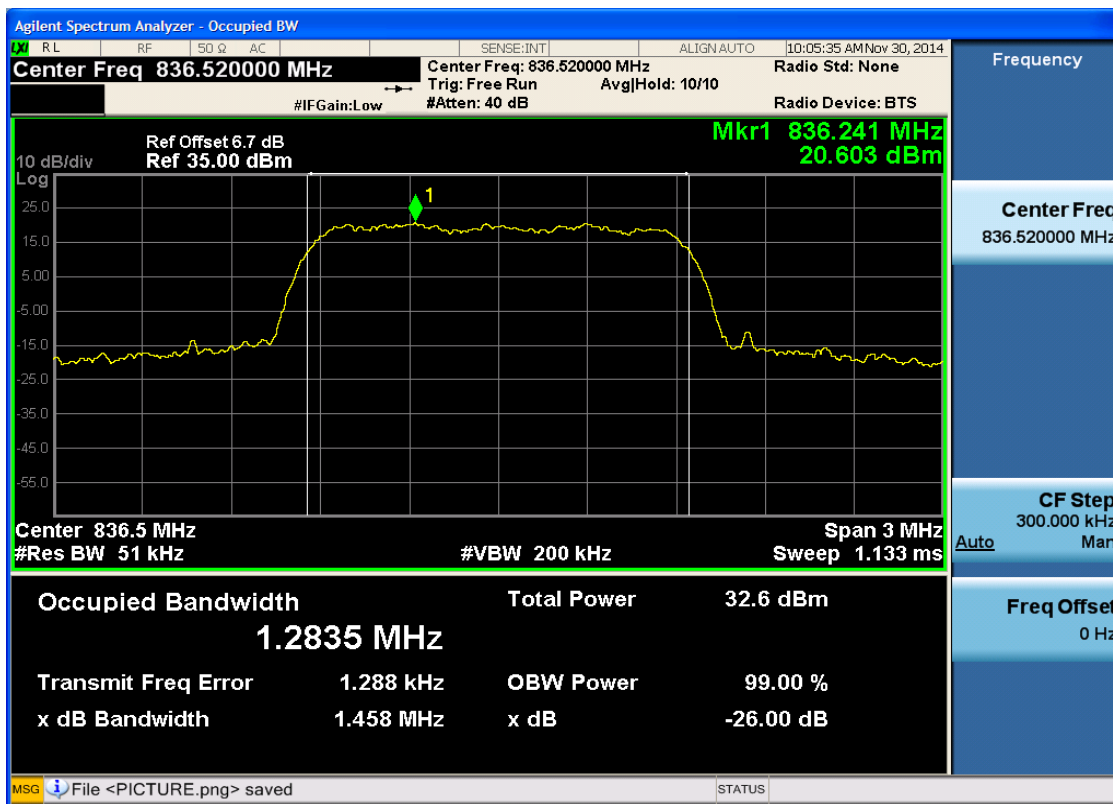
4.1.2.2.2 Test Modulation = QPSK (4096 bits)

4.1.2.2.2.1 Test Channel = LCH



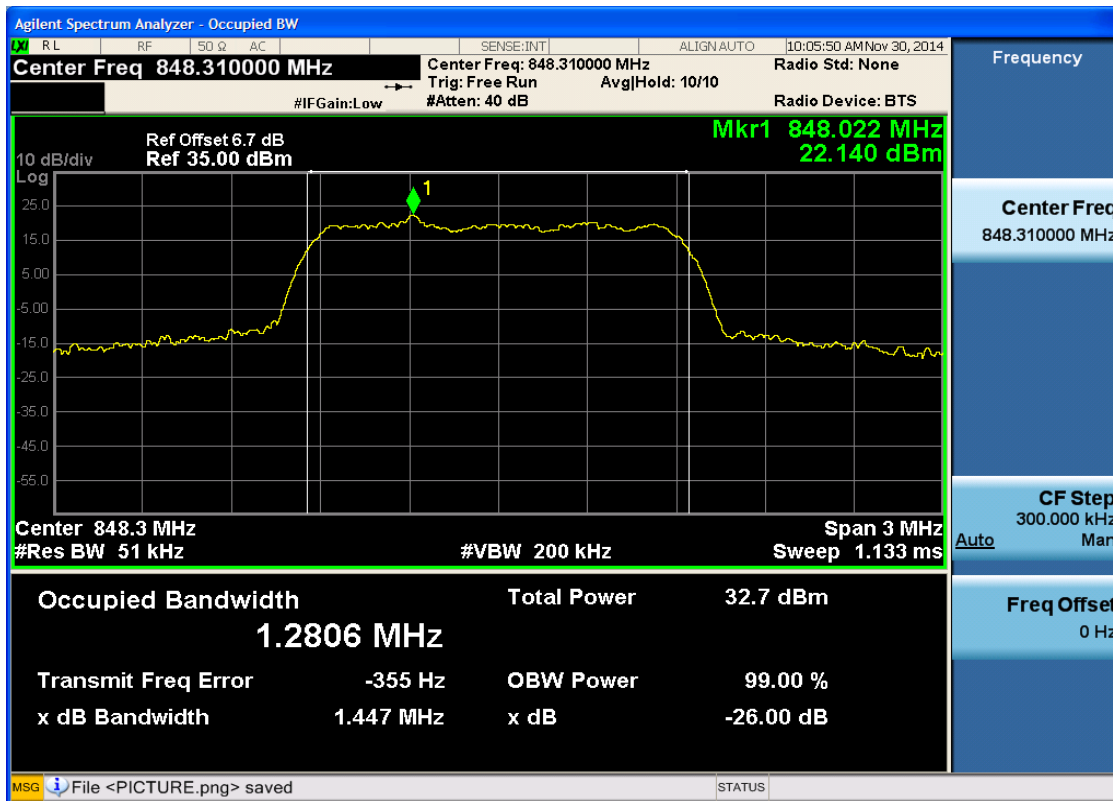


4.1.2.2.2 Test Channel = MCH





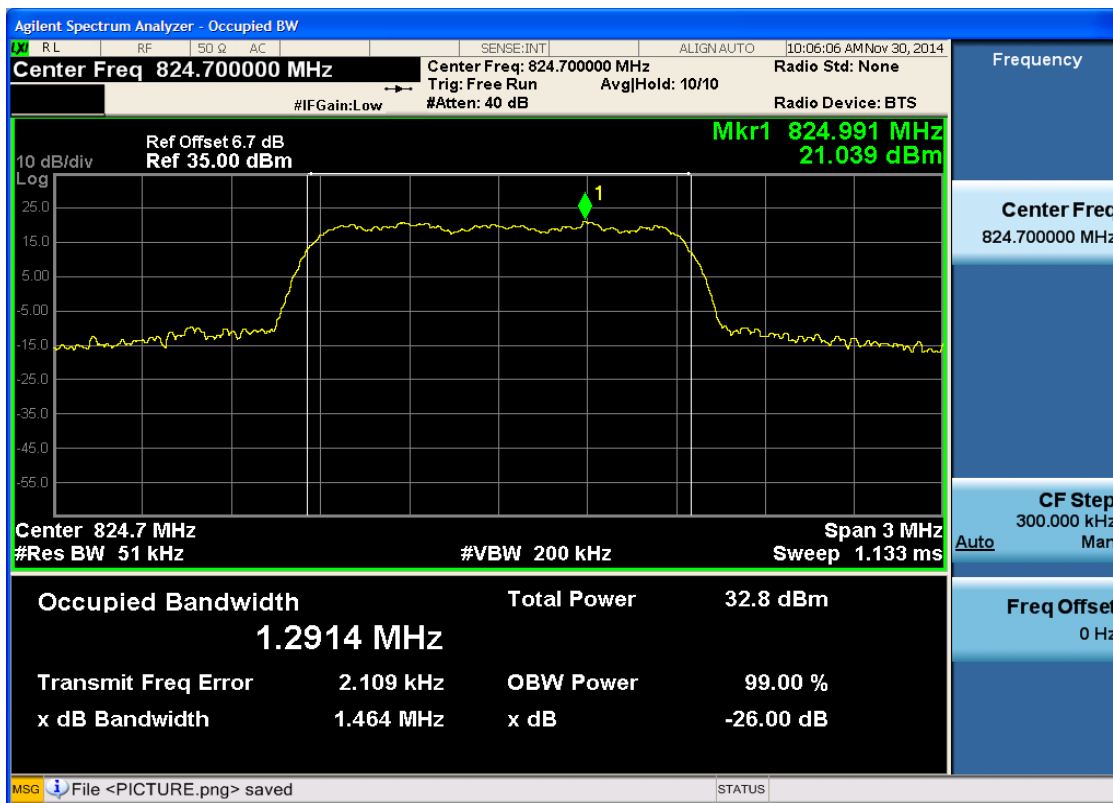
4.1.2.2.3 Test Channel = HCH





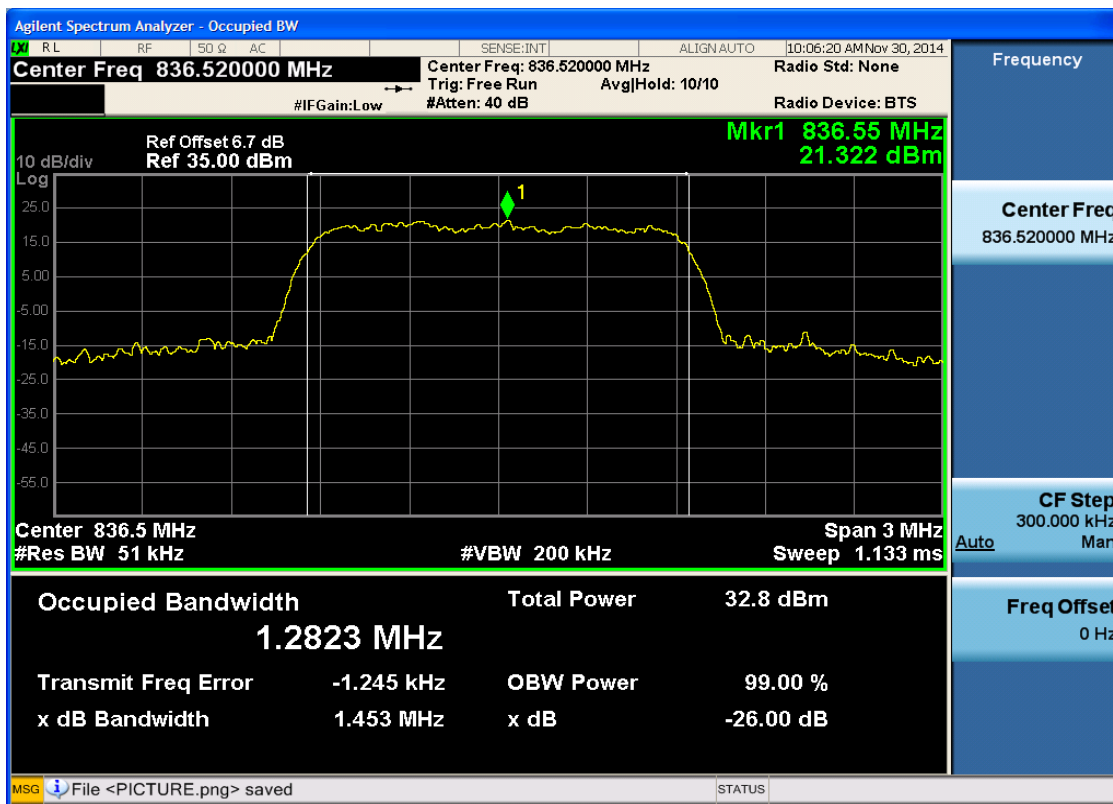
4.1.2.2.3 Test Modulation = 8-PSK (12288 bits)

4.1.2.2.3.1 Test Channel = LCH



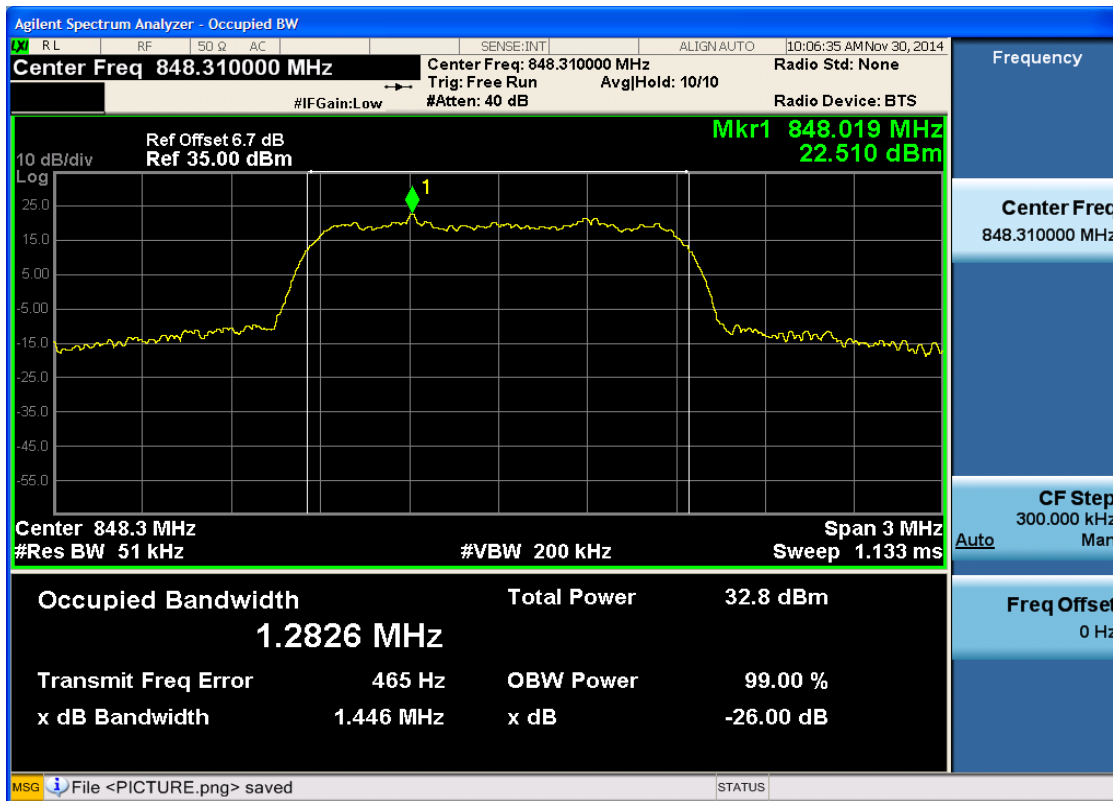


4.1.2.2.3.2 Test Channel = MCH





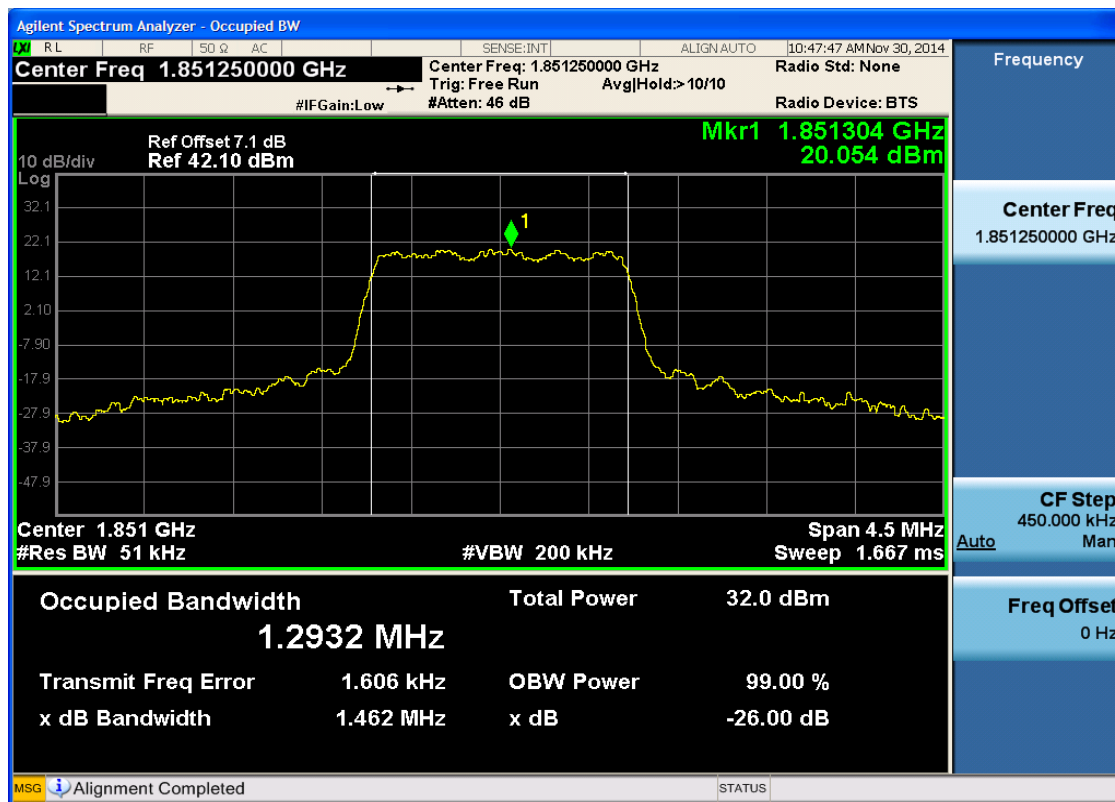
4.1.2.2.3.3 Test Channel = HCH



4.1.3 Test Band = BC1

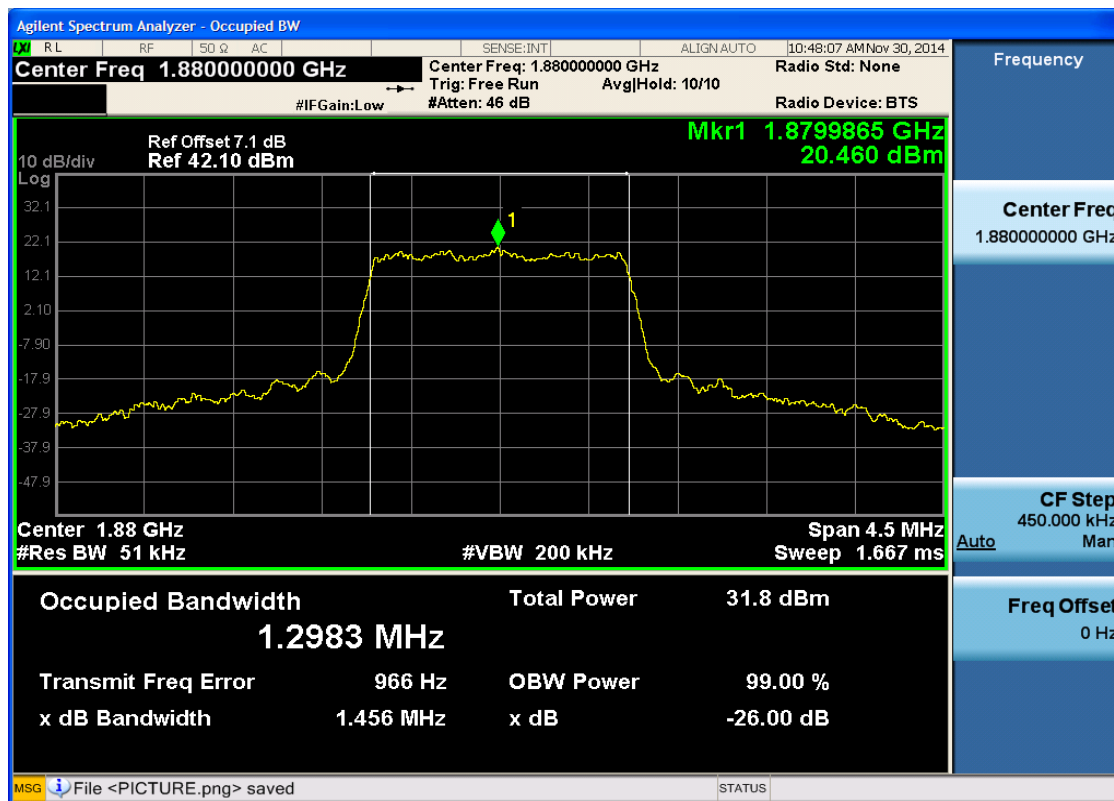
4.1.3.1 Test Mode = CDMA/1X/TM1

4.1.3.1.1 Test Channel = LCH



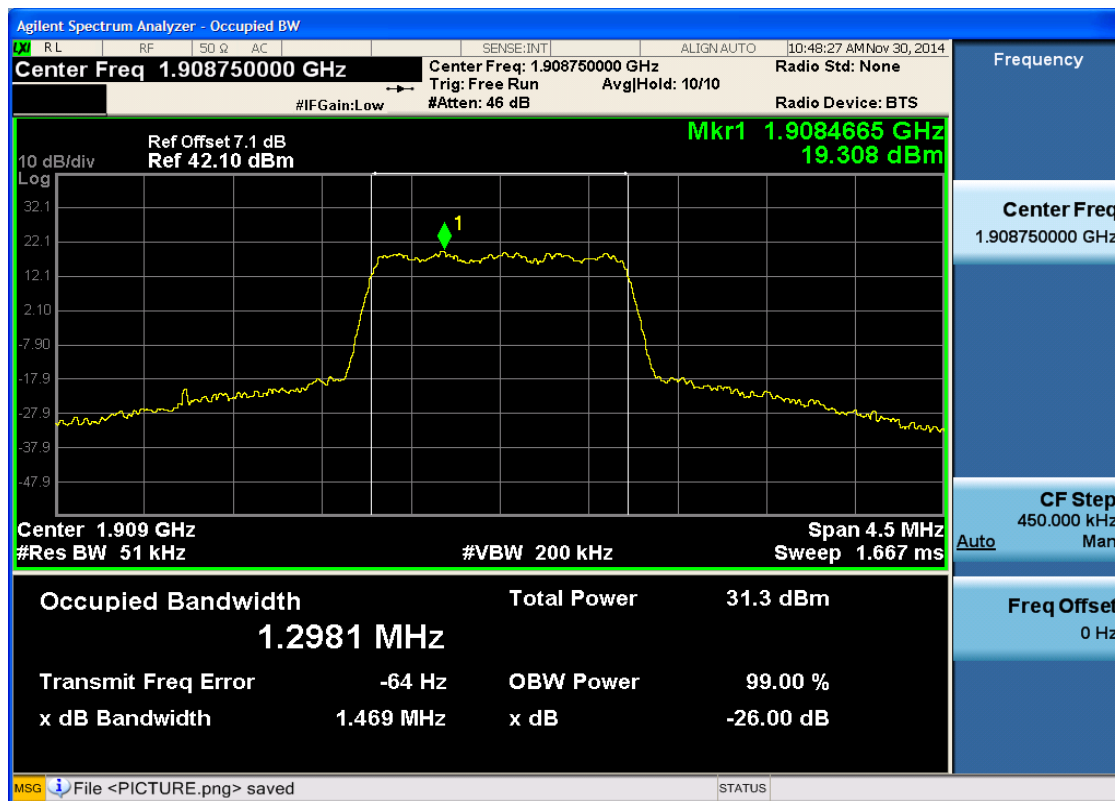


4.1.3.1.2 Test Channel = MCH





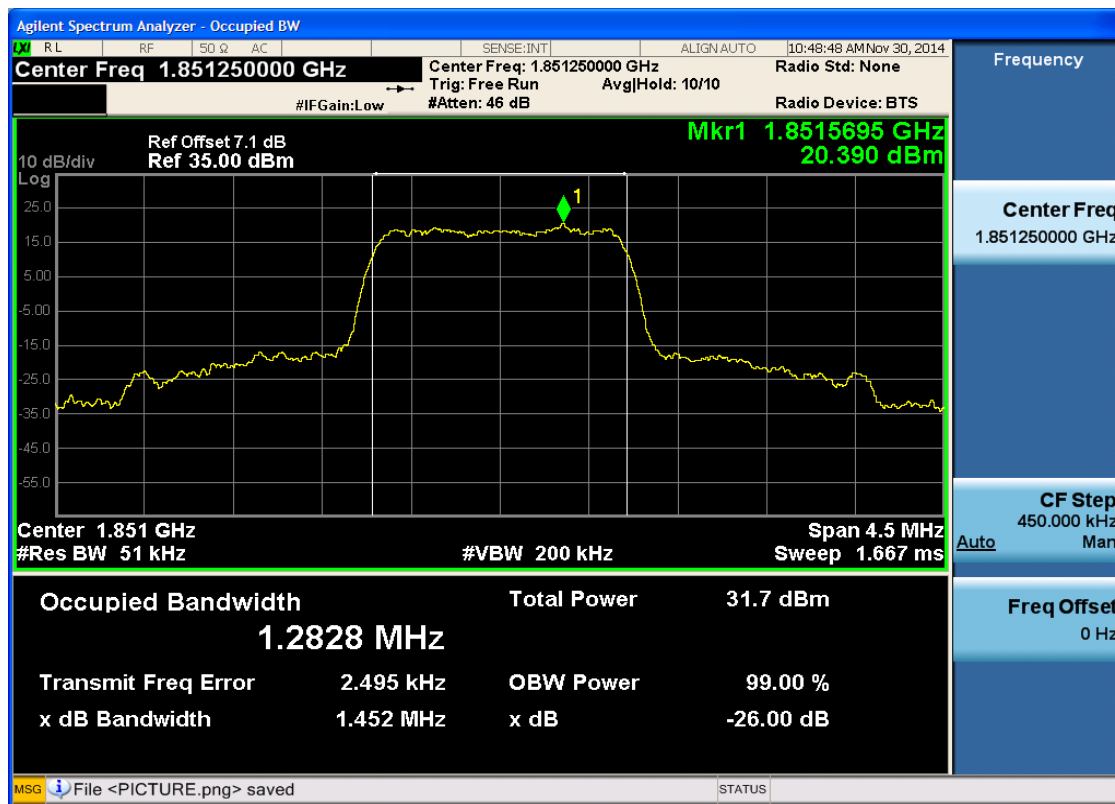
4.1.3.1.3 Test Channel = HCH





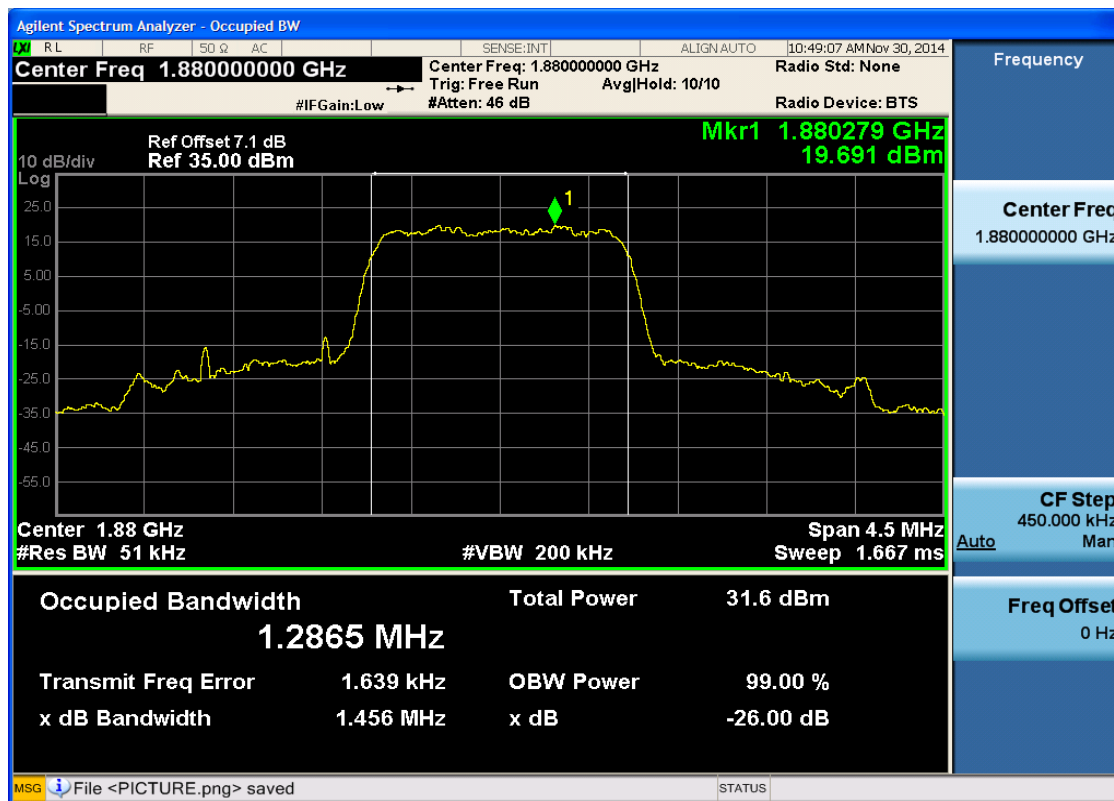
4.1.3.2 Test Mode = CDMA/1X/TM3

4.1.3.2.1 Test Channel = LCH



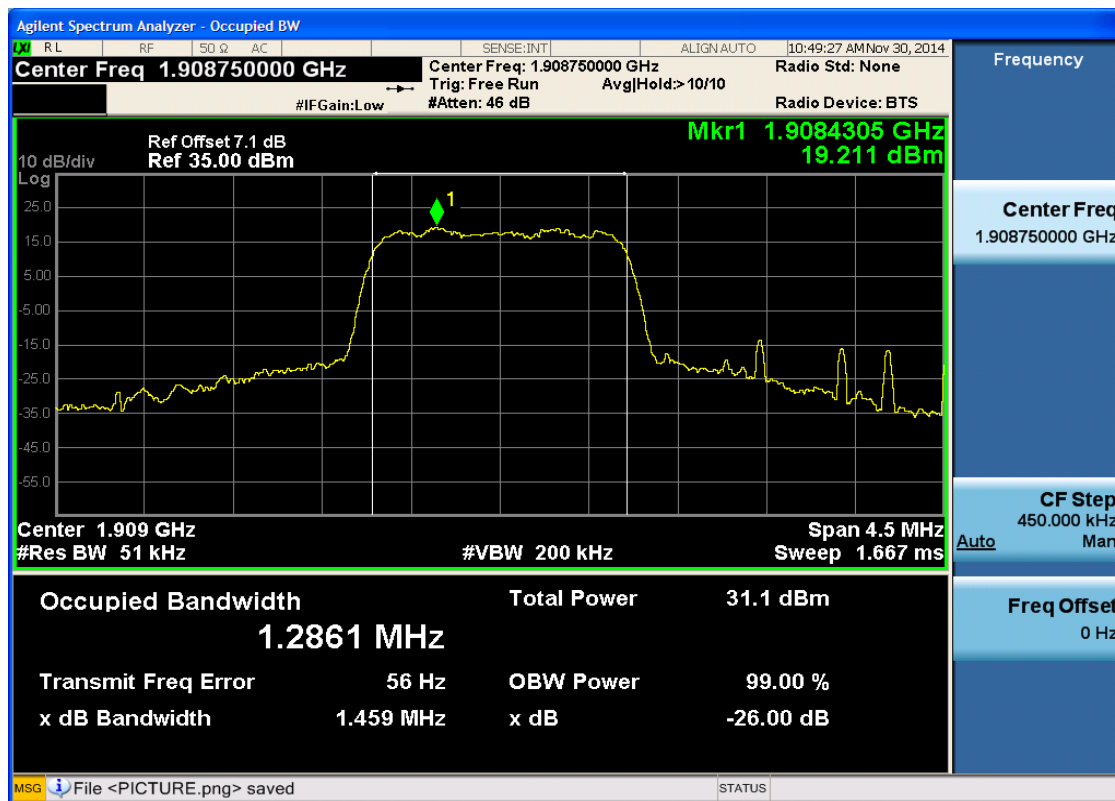


4.1.3.2.2 Test Channel = MCH





4.1.3.2.3 Test Channel = HCH



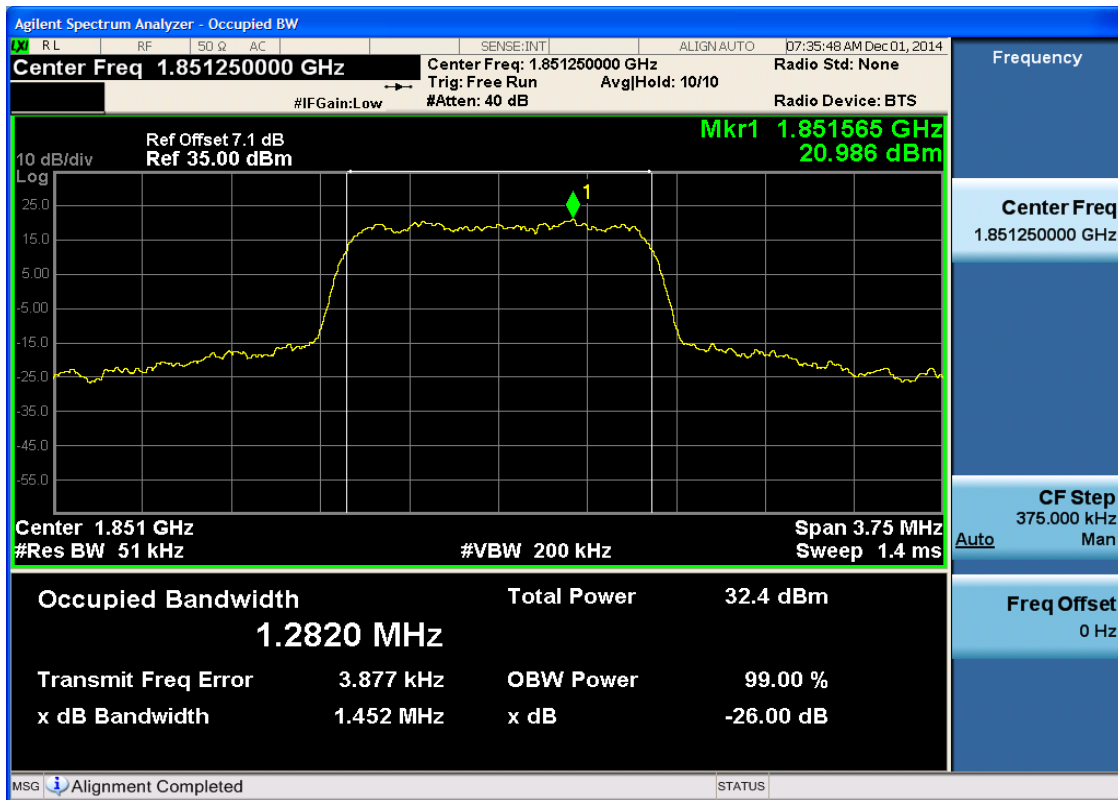


4.1.4 Test Band = BC1

4.1.4.1 Test Mode = CDMA/EV-DO/Subtype0

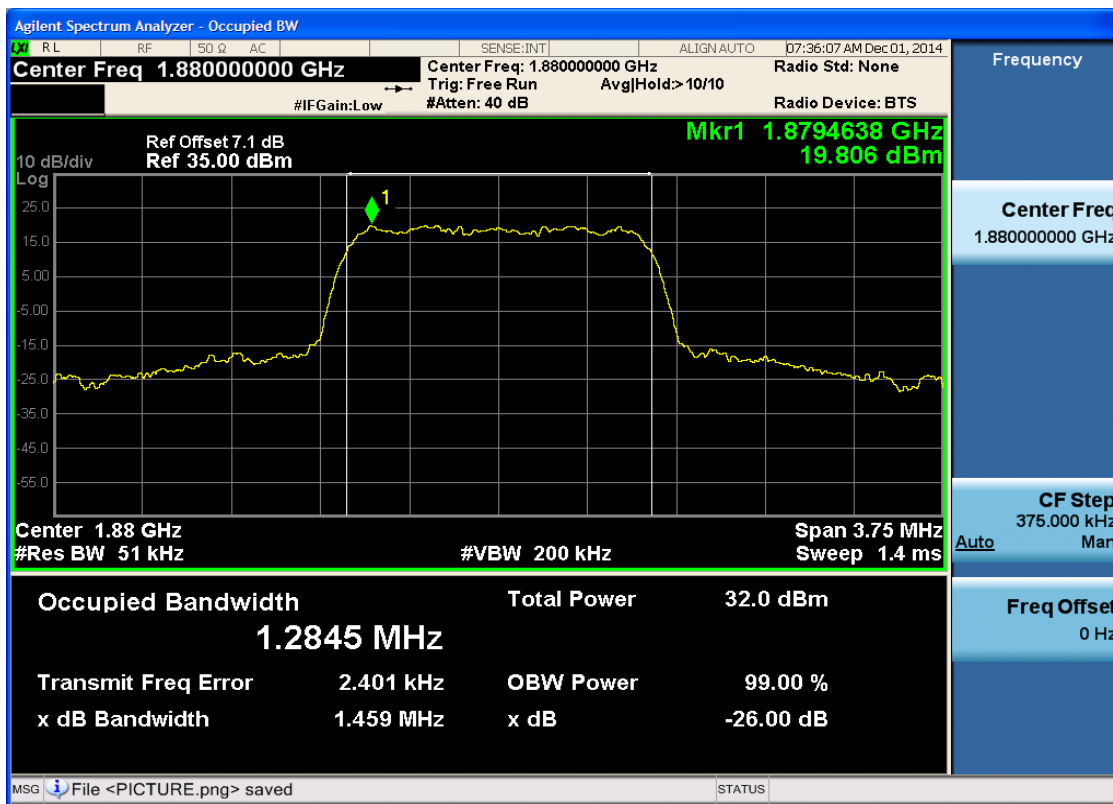
4.1.4.1.1 Test Modulation = HPSK

4.1.4.1.1.1 Test Channel = LCH



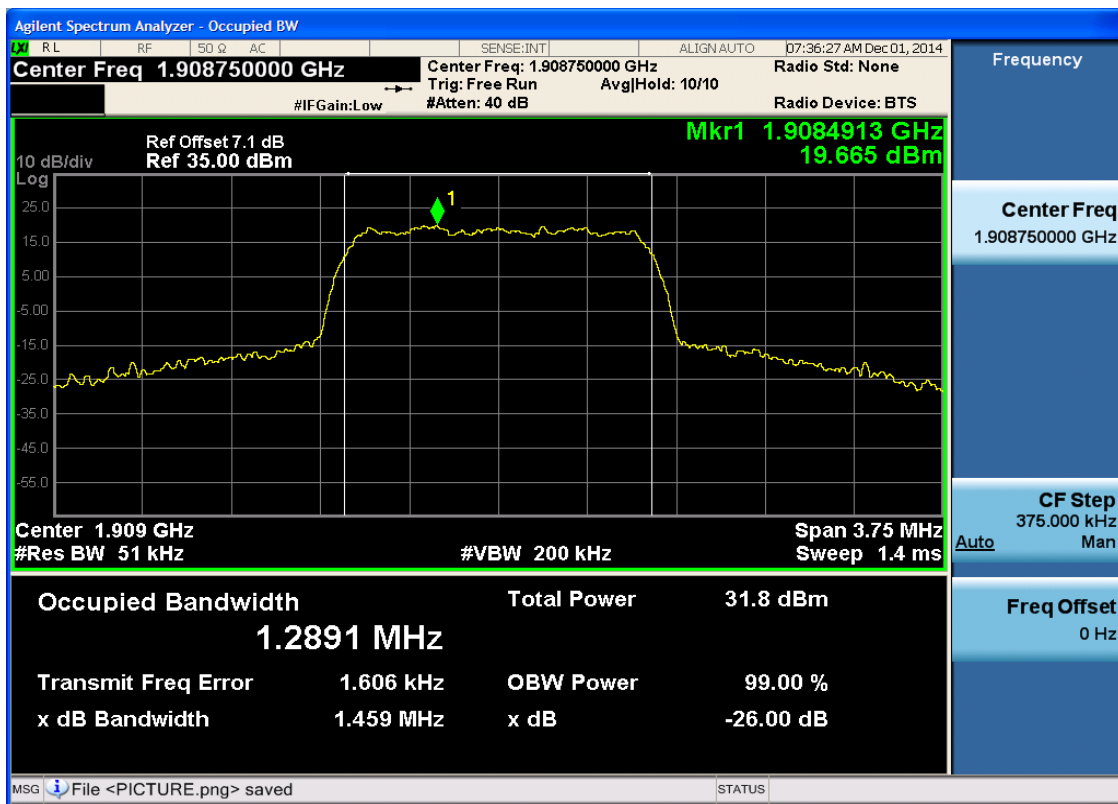


4.1.4.1.1.2 Test Channel = MCH





4.1.4.1.1.3 Test Channel = HCH

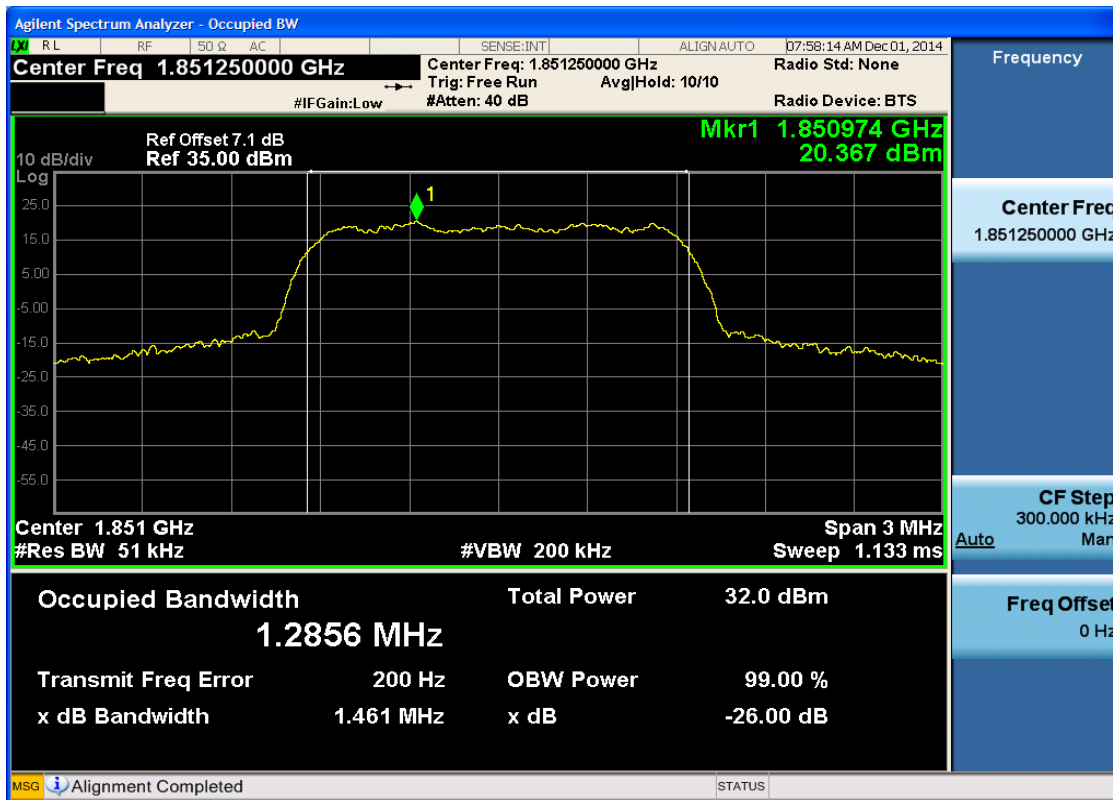




4.1.4.2 Test Mode = CDMA/EV-DO/Subtype2

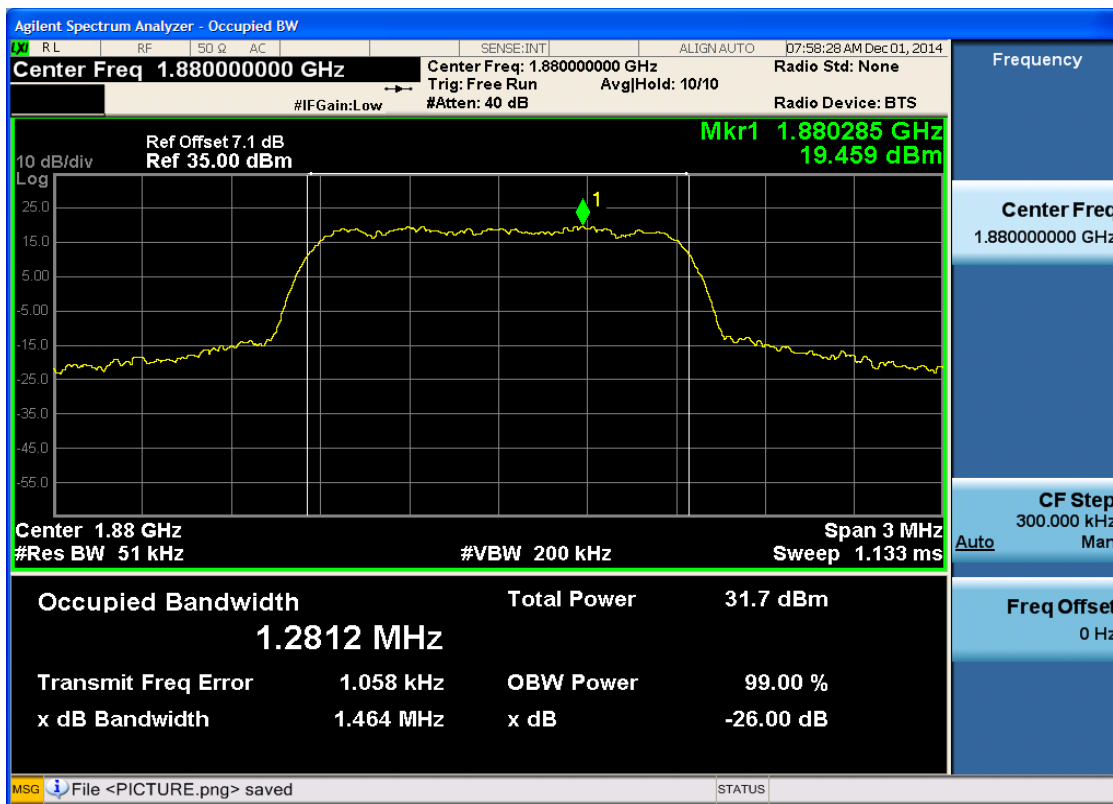
4.1.4.2.1 Test Modulation = BPSK (256 bits)

4.1.4.2.1.1 Test Channel = LCH



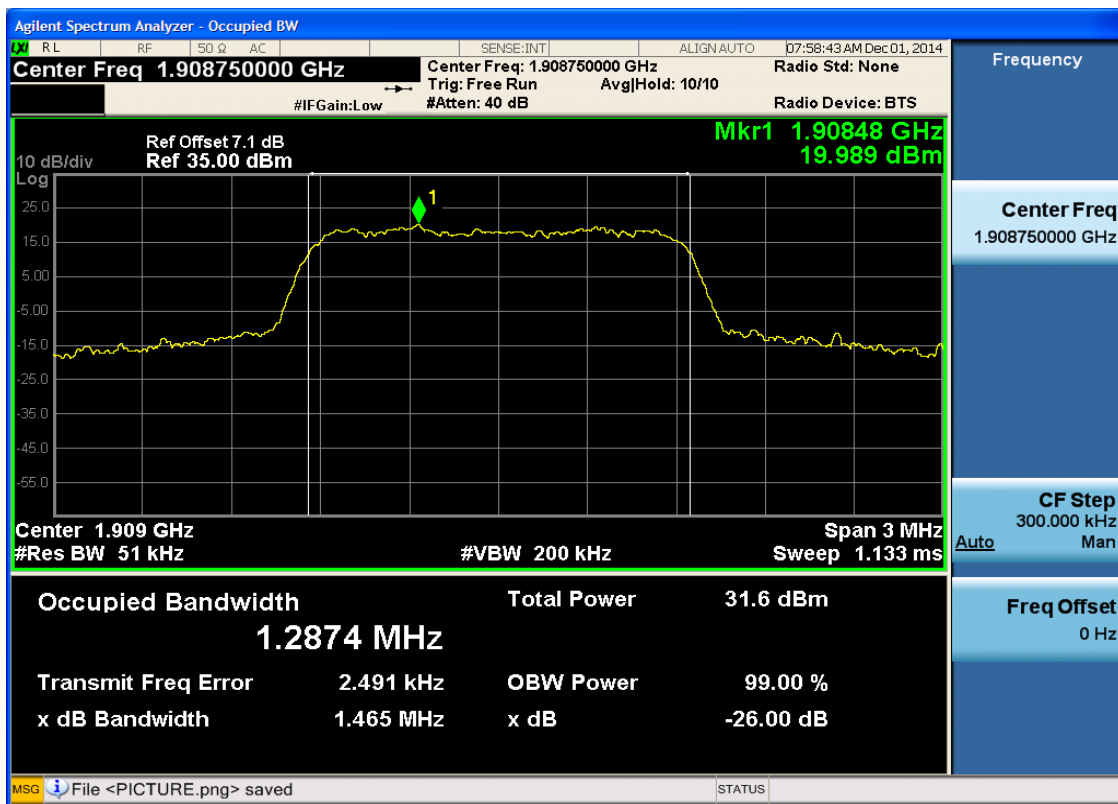


4.1.4.2.1.2 Test Channel = MCH





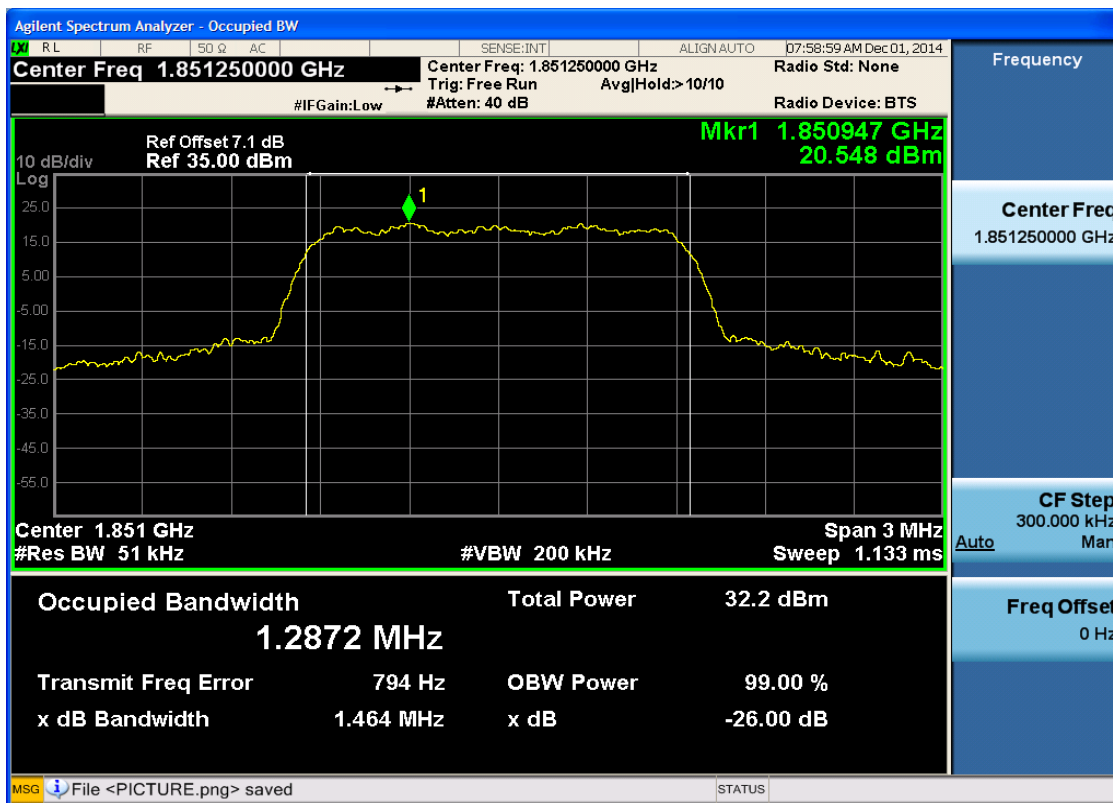
4.1.4.2.1.3 Test Channel = HCH





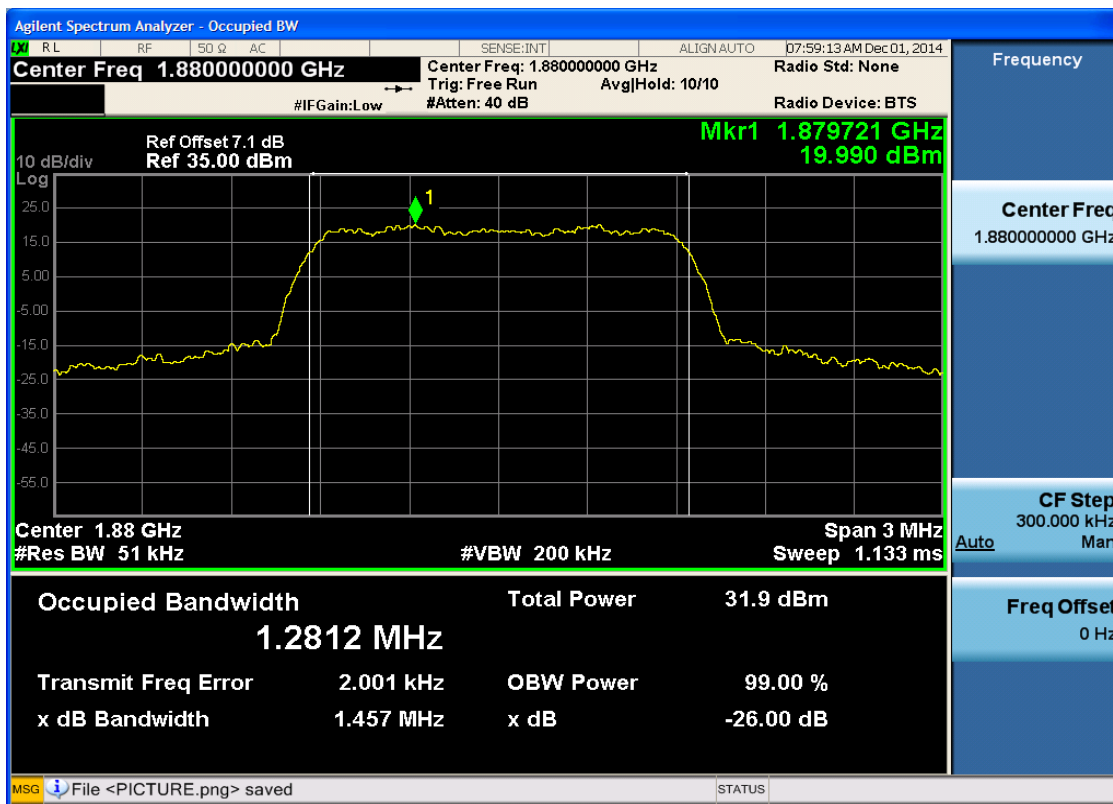
4.1.4.2.2 Test Modulation = QPSK (4096 bits)

4.1.4.2.2.1 Test Channel = LCH



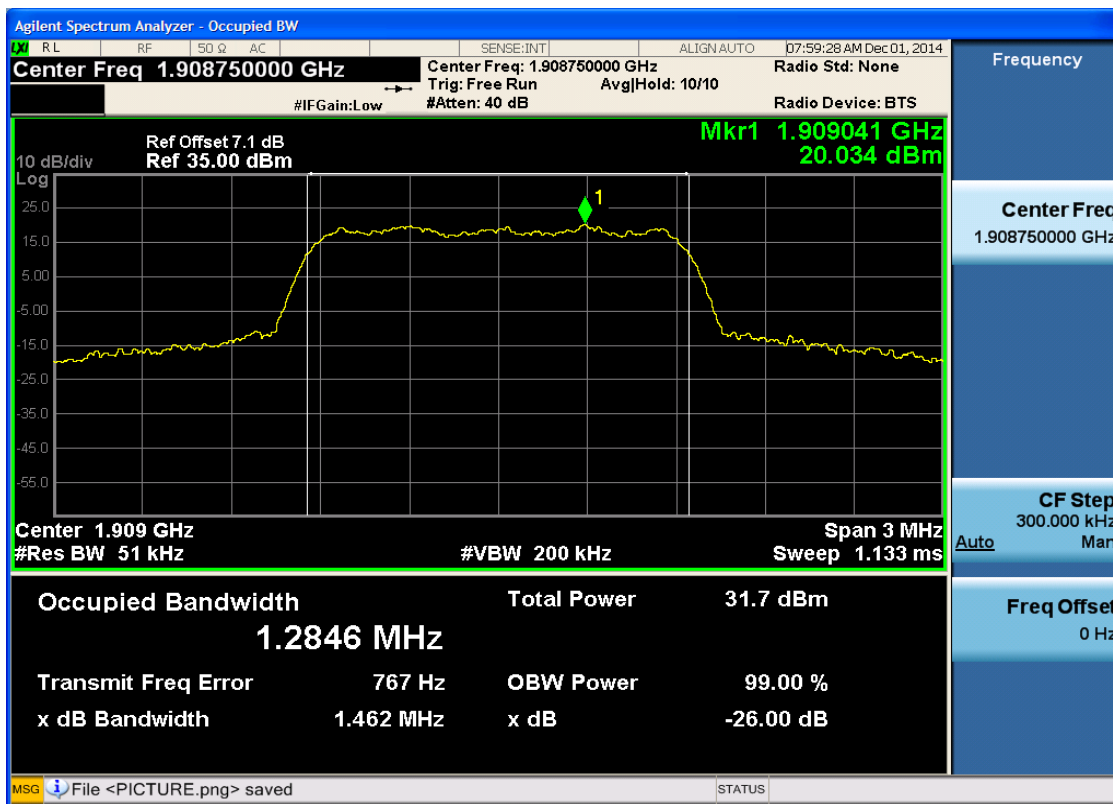


4.1.4.2.2.2 Test Channel = MCH





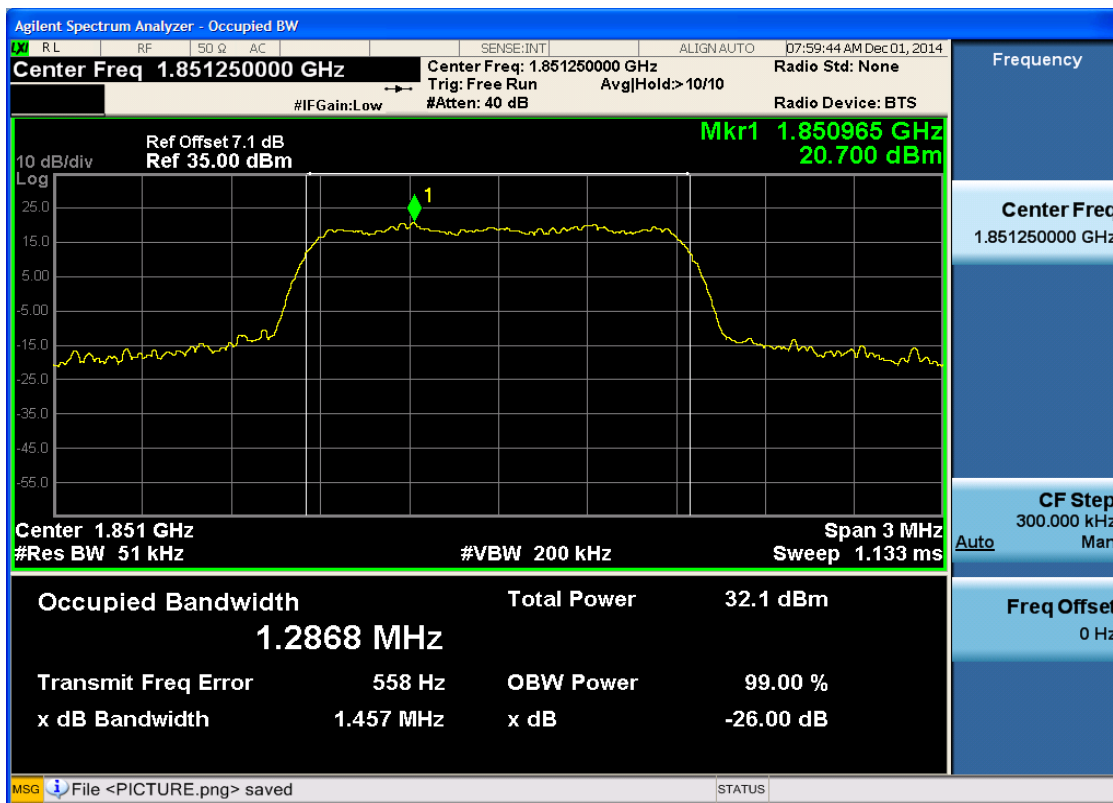
4.1.4.2.2.3 Test Channel = HCH





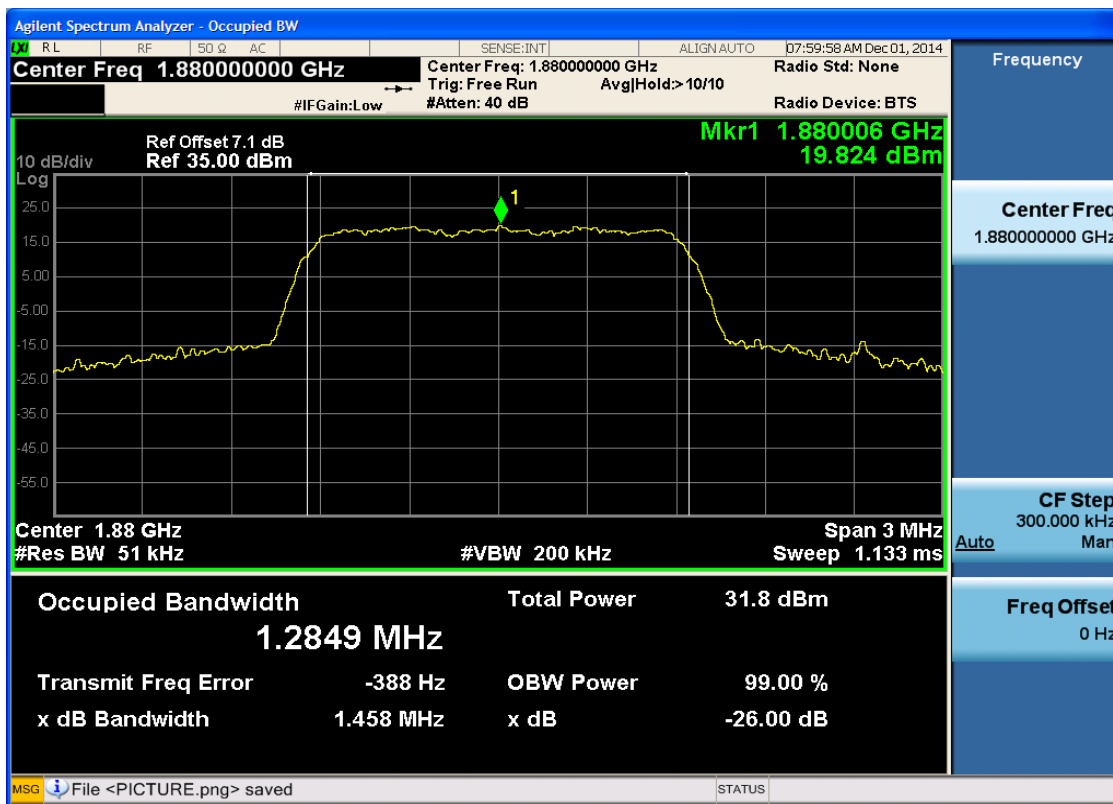
4.1.4.2.3 Test Modulation = 8-PSK (12288 bits)

4.1.4.2.3.1 Test Channel = LCH



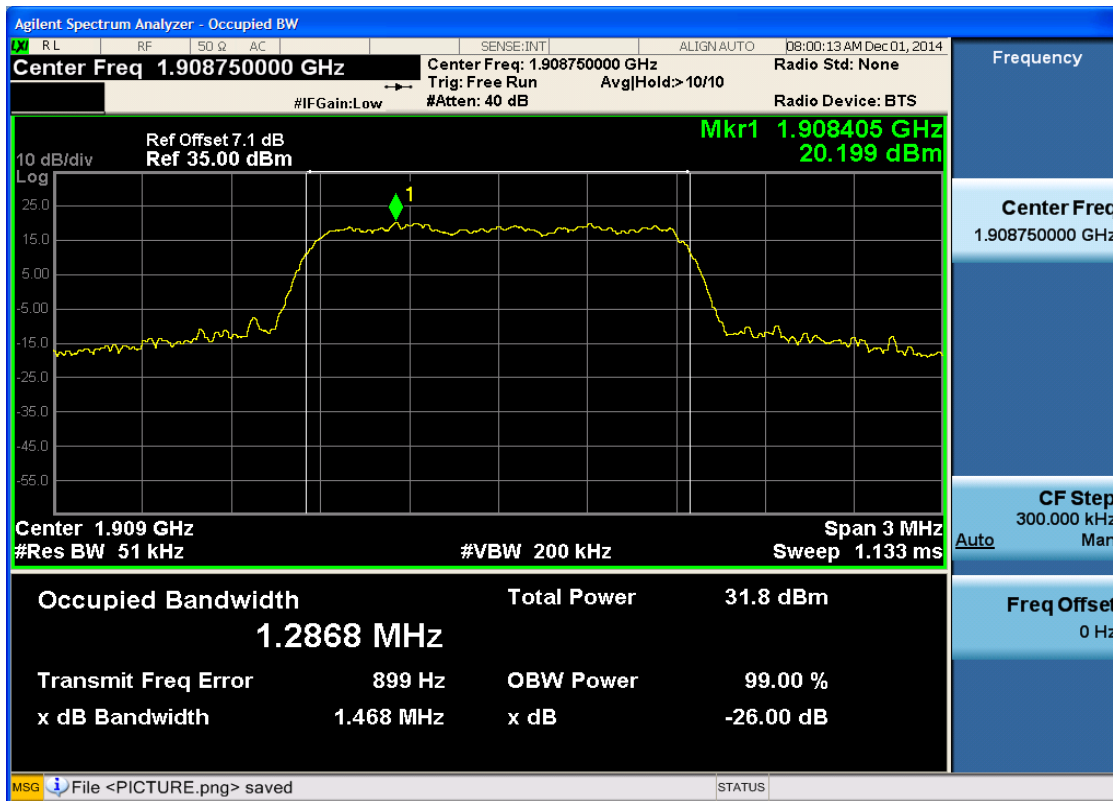


4.1.4.2.3.2 Test Channel = MCH





4.1.4.2.3.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.1 For CDMA/1X

5.1.1 Test Band = BC0

5.1.1.1 Test Mode = CDMA/1X/TM1

5.1.1.1.1 Test Channel = LCH



5.1.1.1.2 Test Channel = HCH



5.1.1.2 Test Mode = CDMA/1X/TM3

5.1.1.2.1 Test Channel = LCH



5.1.1.2.2 Test Channel = HCH





5.1.2 Test Band = BC0

5.1.2.1 Test Mode = CDMA/EV-DO/Subtype0

5.1.2.1.1 Test Modulation = HPSK

5.1.2.1.1.1 Test Channel = LCH





5.1.2.1.1.2 Test Channel = HCH



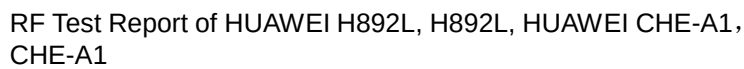


5.1.2.2 Test Mode = CDMA/EV-DO/Subtype2

5.1.2.2.1 Test Modulation = BPSK (256 bits)

5.1.2.2.1.1 Test Channel = LCH





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT 01:22:14 PM Dec 08, 2014

Center Freq 849.000000 MHz Avg Type: Pwr(RMS) Avg|Hold: 14/100

PNO: Far → Trig: Free Run Atten: 40 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET A A A A A A

Ref Offset 6.7 dB
Ref 35.00 dBm

Mkr1 849.010 MHz
-13.549 dBm

10 dB/div
Log

Center 849.000 MHz
#Res BW 20 kHz #VBW 200 kHz

Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

MSG [icon] File <PICTURE.png> saved

STATUS

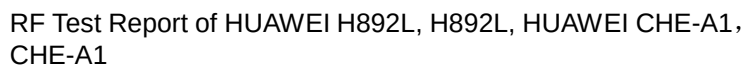
Frequency
Auto Tune
Center Freq
849.000000 MHz
Start Freq
848.000000 MHz
Stop Freq
850.000000 MHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz



5.1.2.2.2 Test Modulation = QPSK (4096 bits)

5.1.2.2.2.1 Test Channel = LCH





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 01:22:50 PM Dec 08, 2014

Center Freq 849.000000 MHz Avg Type: Pwr(RMS) Avg|Hold: 14/100

PNO: Far Trig: Free Run IFGain:Low Atten: 40 dB

TRACE 1 2 3 4 5 6 TYPE M DET A A A A A A

Ref Offset 6.7 dB Mkr1 849.010 MHz Ref 35.00 dBm -14.325 dBm

10 dB/div Log

25.0
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0

Center Freq 849.000 MHz Span 2.000 MHz
#Res BW 20 kHz #VBW 200 kHz* #Sweep 1.00 s (1001 pts)

MSG File <PICTURE.png> saved STATUS

Frequency

Auto Tune

Center Freq 849.000000 MHz

Start Freq 848.000000 MHz

Stop Freq 850.000000 MHz

CF Step 200.000 kHz

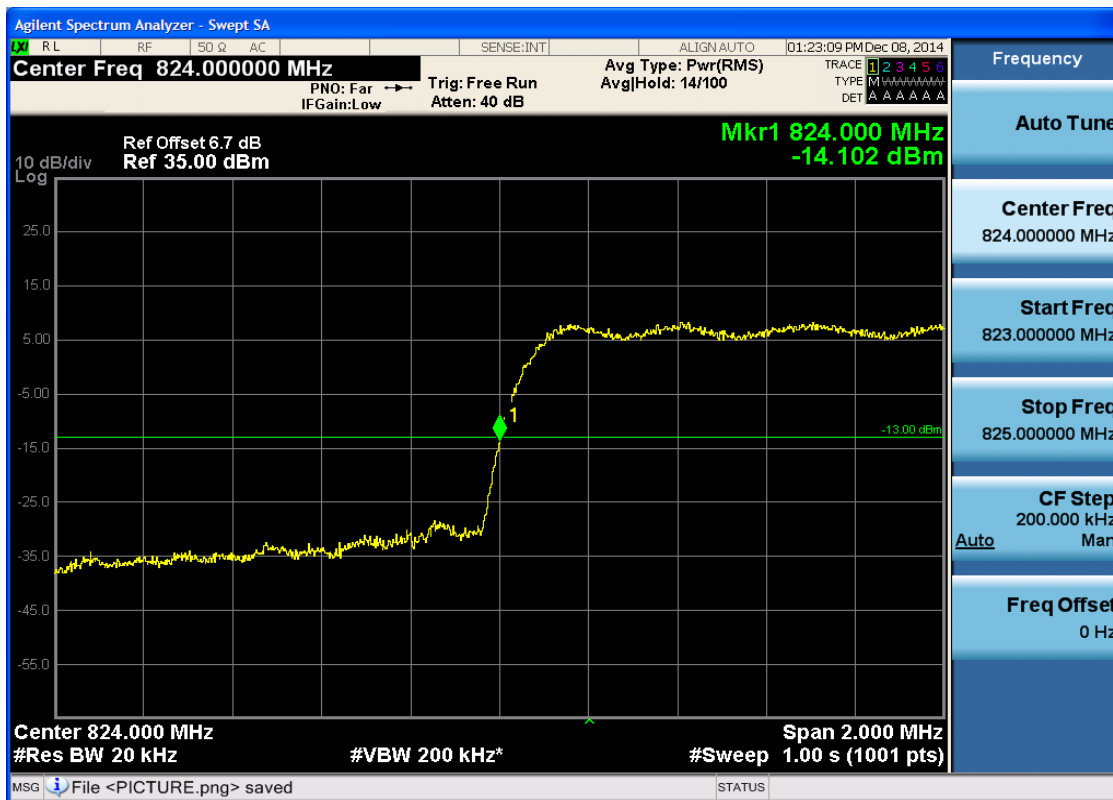
Auto

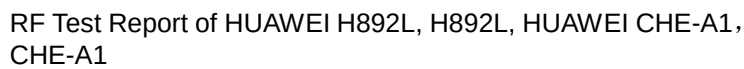
Freq Offset 0 Hz



5.1.2.2.3 Test Modulation = 8-PSK (12288 bits)

5.1.2.2.3.1 Test Channel = LCH





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 01:23:27 PM Dec 08, 2014

Center Freq 849.000000 MHz Avg Type: Pwr(RMS) Avg|Hold: 15/100

PNO: Far Trig: Free Run IFGain: Low Atten: 40 dB

TRACE 1 2 3 4 5 6 TYPE M DET A A A A A A

Ref Offset 6.7 dB Mkr1 849.010 MHz Ref 35.00 dBm -14.493 dBm

10 dB/div Log

25.0
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0

848.000000 849.000000 850.000000 MHz

-13.00 dBm

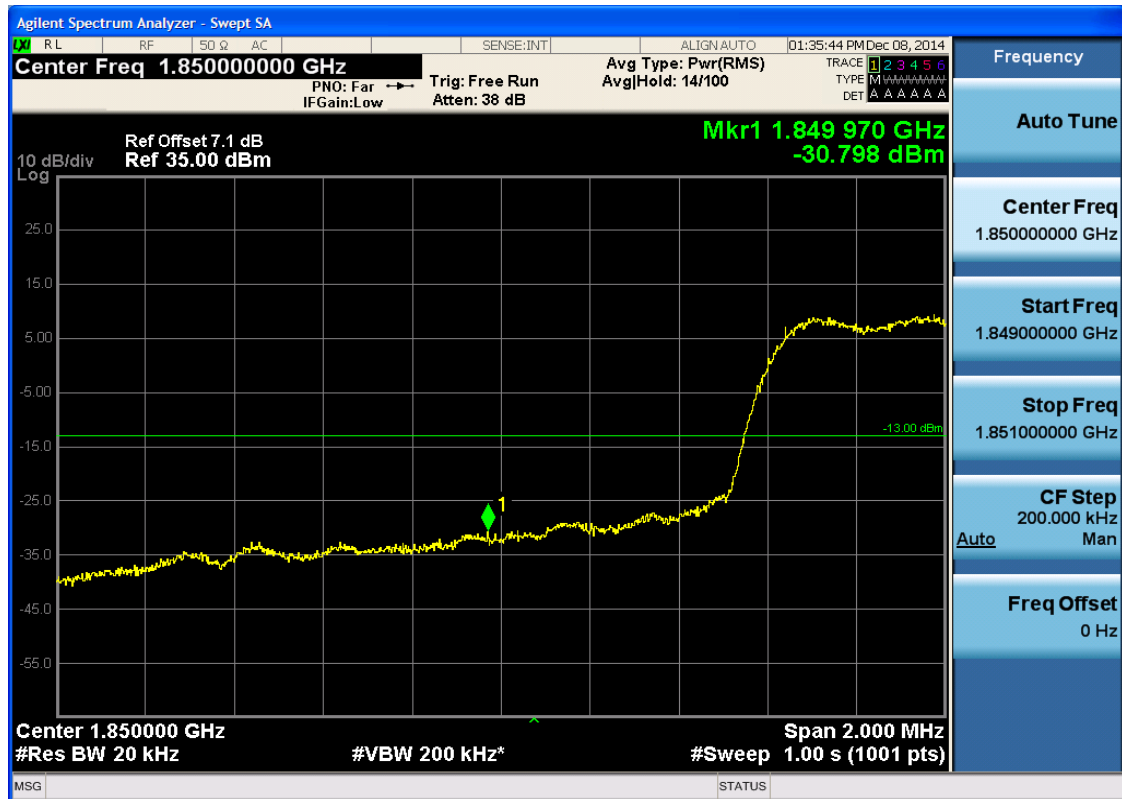
Center 849.000 MHz Span 2.000 MHz
#Res BW 20 kHz #VBW 200 kHz* #Sweep 1.00 s (1001 pts)

MSG File <PICTURE.png> saved STATUS

5.1.3 Test Band = BC1

5.1.3.1 Test Mode = CDMA/1X/TM1

5.1.3.1.1 Test Channel = LCH



5.1.3.1.2 Test Channel = HCH



5.1.3.2 Test Mode = CDMA/1X/TM3

5.1.3.2.1 Test Channel = LCH



5.1.3.2.2 Test Channel = HCH



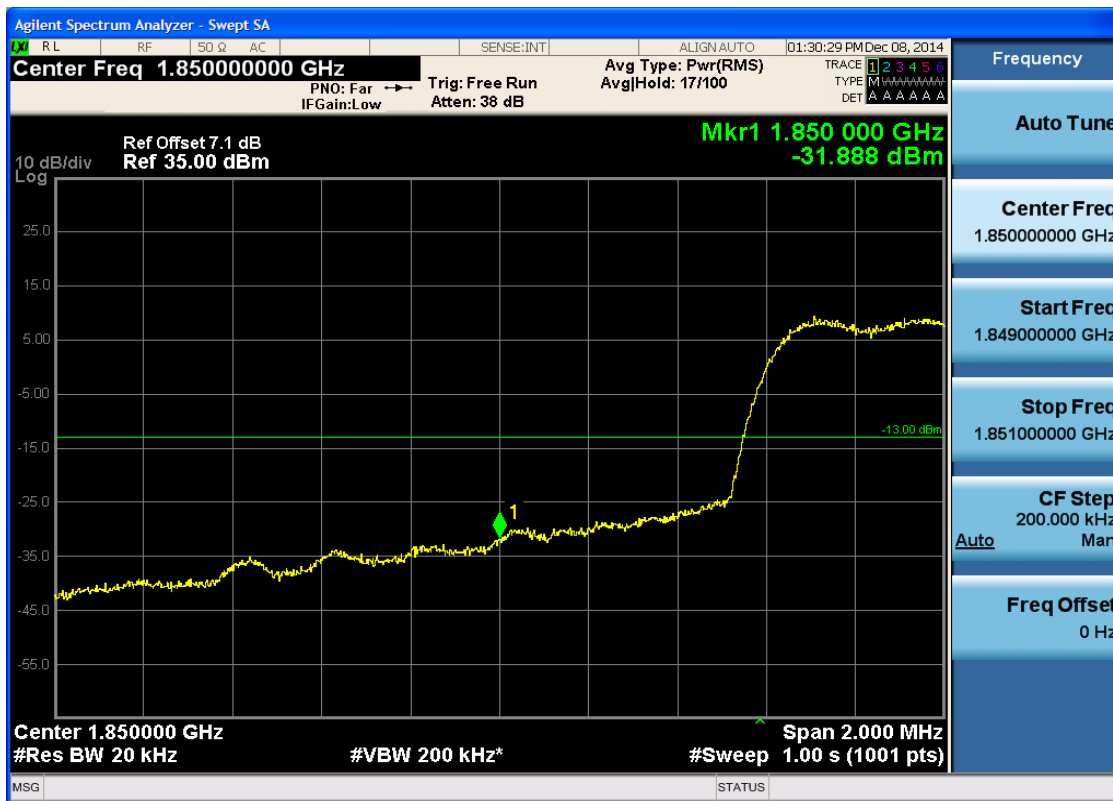


5.1.4 Test Band = BC1

5.1.4.1 Test Mode = CDMA/EV-DO/Subtype0

5.1.4.1.1 Test Modulation = HPSK

5.1.4.1.1.1 Test Channel = LCH





5.1.4.1.1.2 Test Channel = HCH

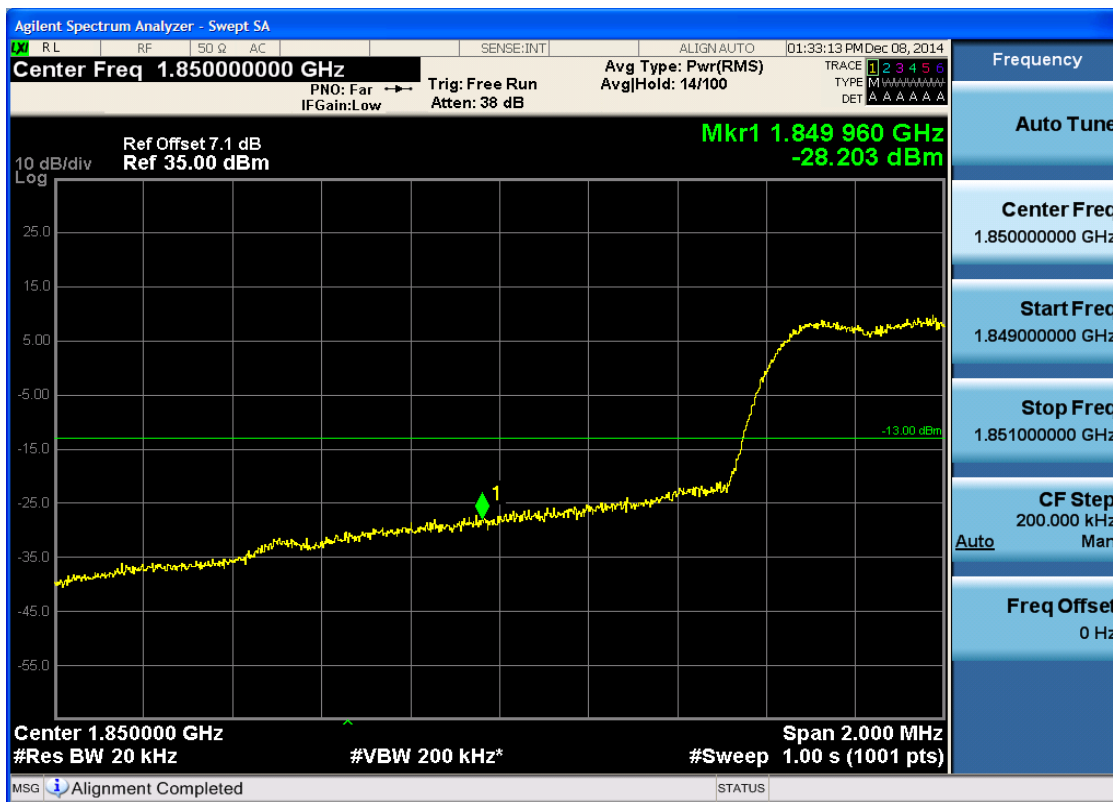




5.1.4.2 Test Mode = CDMA/EV-DO/Subtype2

5.1.4.2.1 Test Modulation = BPSK (256 bits)

5.1.4.2.1.1 Test Channel = LCH





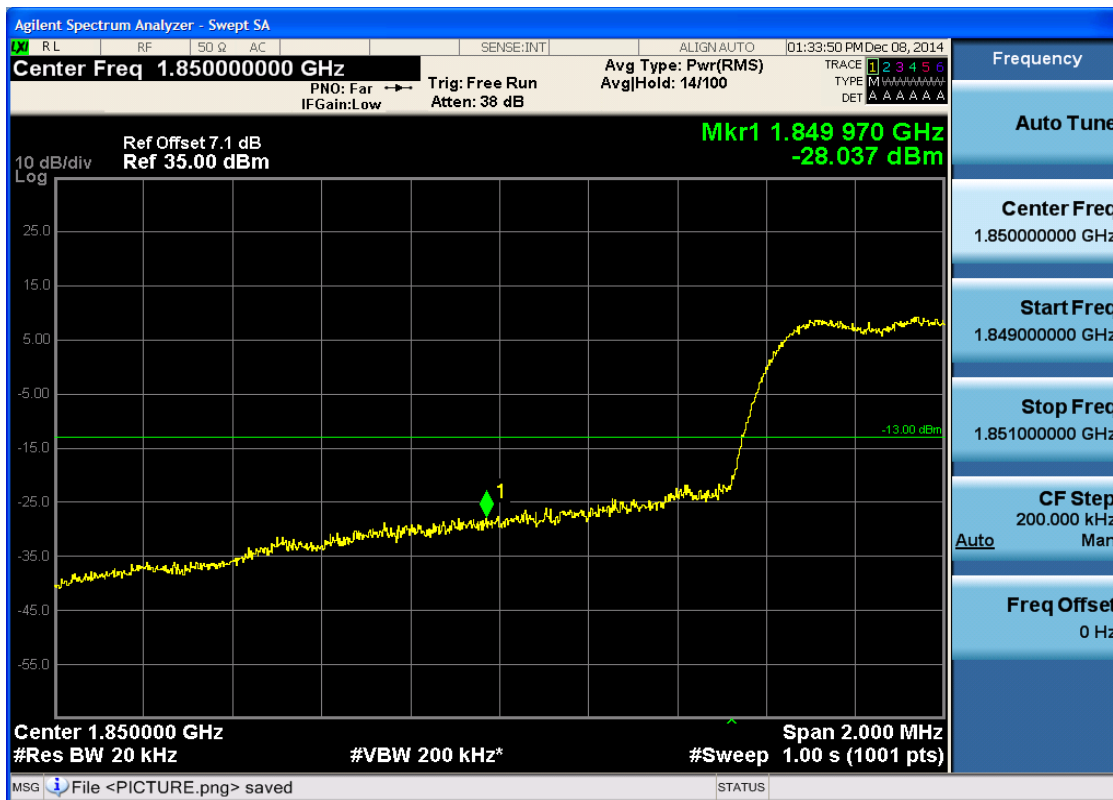
5.1.4.2.1.2 Test Channel = HCH

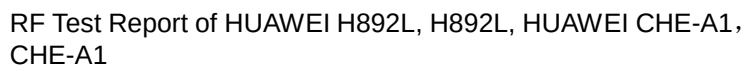




5.1.4.2.2 Test Modulation = QPSK (4096 bits)

5.1.4.2.2.1 Test Channel = LCH





Agilent Spectrum Analyzer - Swept SA

☒ R L RF 50 Ω AC SENSE:INT ALIGN:AUTO 01:34:07 PM Dec 08, 2014

Center Freq 1.91000000 GHz PNO: Far $\rightarrow$ Trig: Free Run Avg Type: Pwr(RMS) TYPE M DET A A A A A
 IF Gain: Low Atten: 38 dB Avg Hold: 14/100

Ref Offset 7.1 dB **Mkr1 1.910 060 GHz**
 Ref 35.00 dBm **-25.027 dBm**

10 dB/div
Log

Center Freq 1.91000000 GHz
 Start Freq 1.90900000 GHz
 Stop Freq 1.91100000 GHz
 CF Step 200.000 kHz
 Man

Auto
 Freq Offset 0 Hz

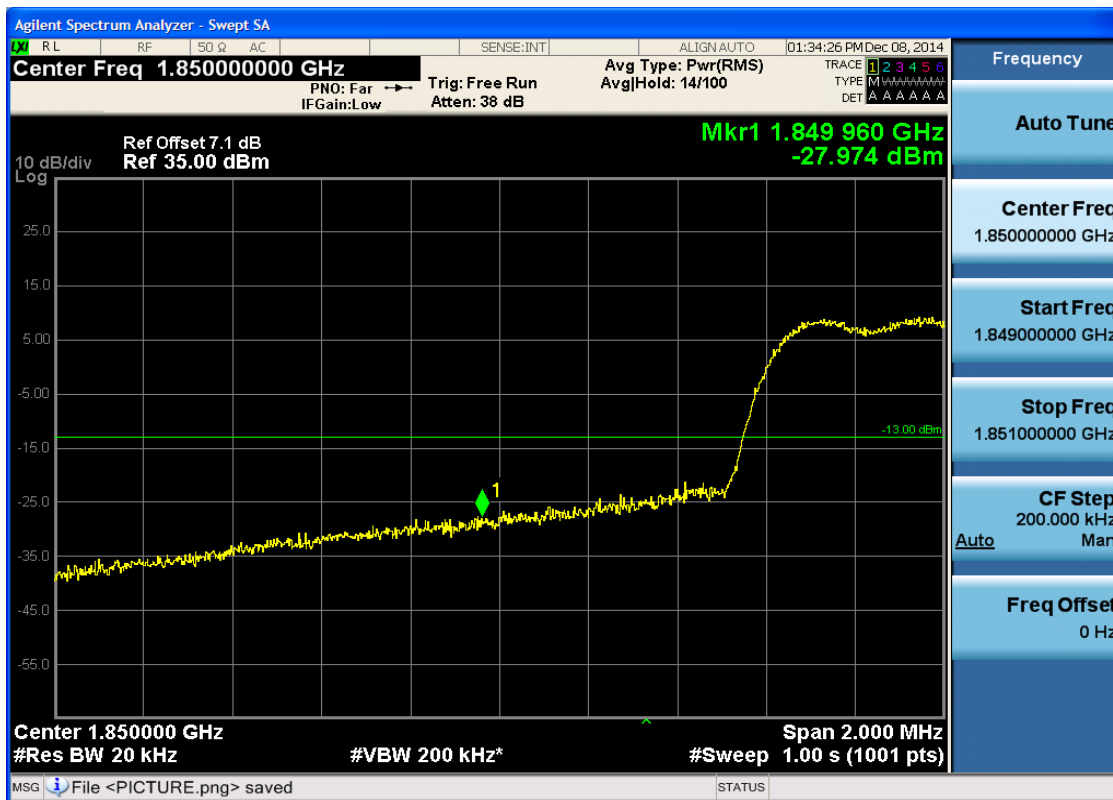
Center 1.910000 GHz **Span 2.000 MHz**
#Res BW 20 kHz **#VBW 200 kHz*** **#Sweep 1.00 s (1001 pts)**

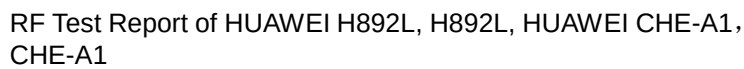
MSG File <PICTURE.png> saved STATUS



5.1.4.2.3 Test Modulation = 8-PSK (12288 bits)

5.1.4.2.3.1 Test Channel = LCH





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 01:34:44 PM Dec 08, 2014

Center Freq 1.91000000 GHz Avg Type: Pwr(RMS) Avg|Hold: 14/100

PNO: Far Trig: Free Run IFGain:Low Atten: 38 dB

TRACE 1 2 3 4 5 6 TYPE M DET A A A A A A

Frequency

Auto Tune

Center Freq 1.91000000 GHz

Start Freq 1.90900000 GHz

Stop Freq 1.91100000 GHz

CF Step 200.000 kHz

Auto

Freq Offset 0 Hz

10 dB/div Log

Ref Offset 7.1 dB Ref 35.00 dBm

Mkr1 1.910 000 GHz -24.822 dBm

-13.00 dBm

1

Center 1.910000 GHz Span 2.000 MHz

#Res BW 20 kHz #VBW 200 kHz* #Sweep 1.00 s (1001 pts)

MSG File <PICTURE.png> saved STATUS

6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

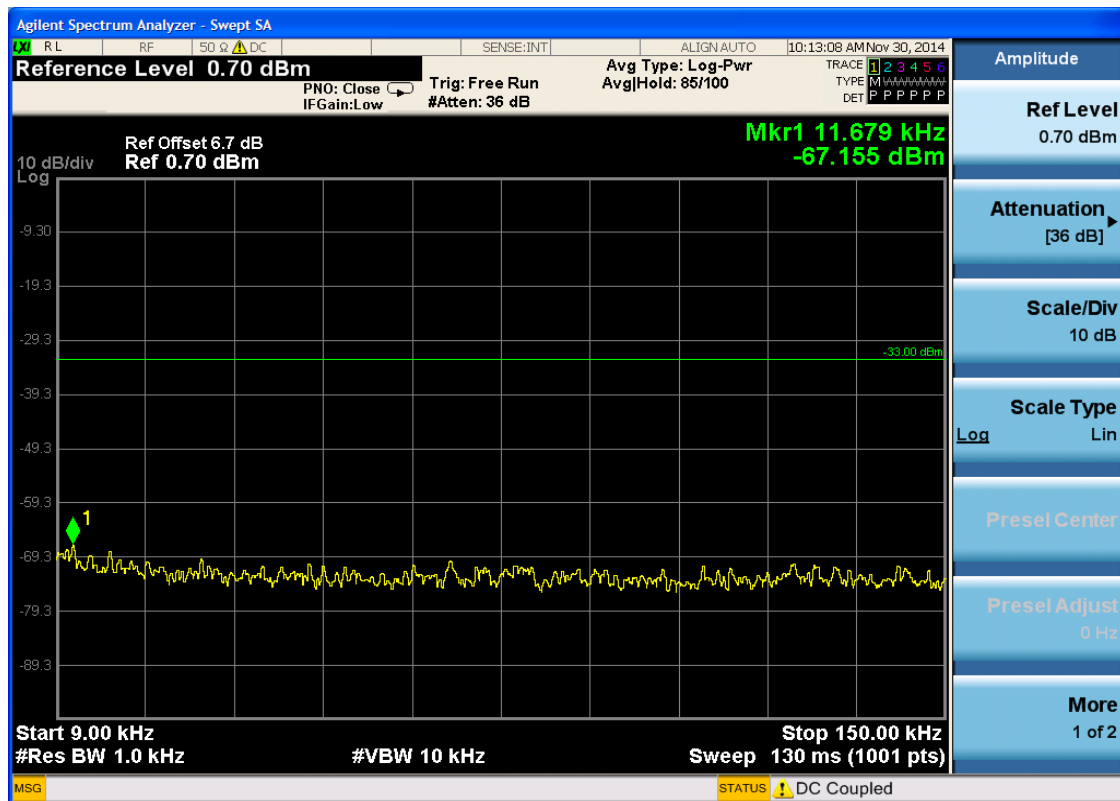
Part I - Test Plots

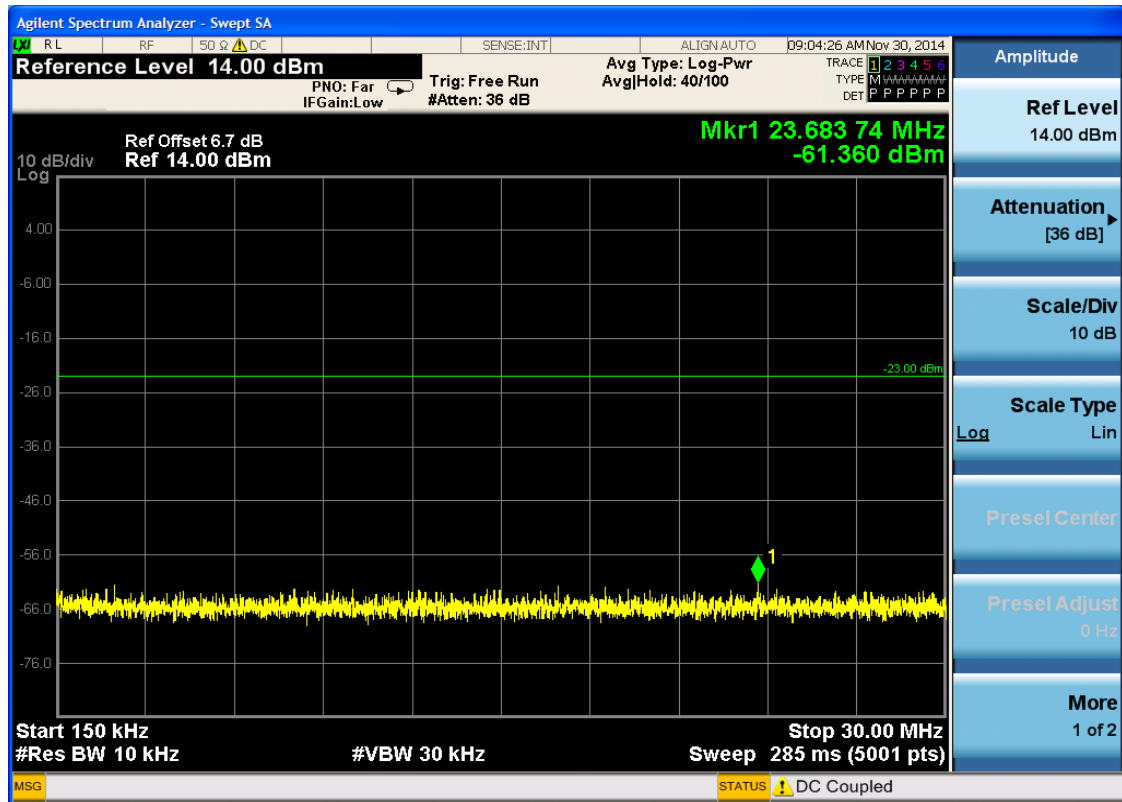
6.1 For CDMA/1X

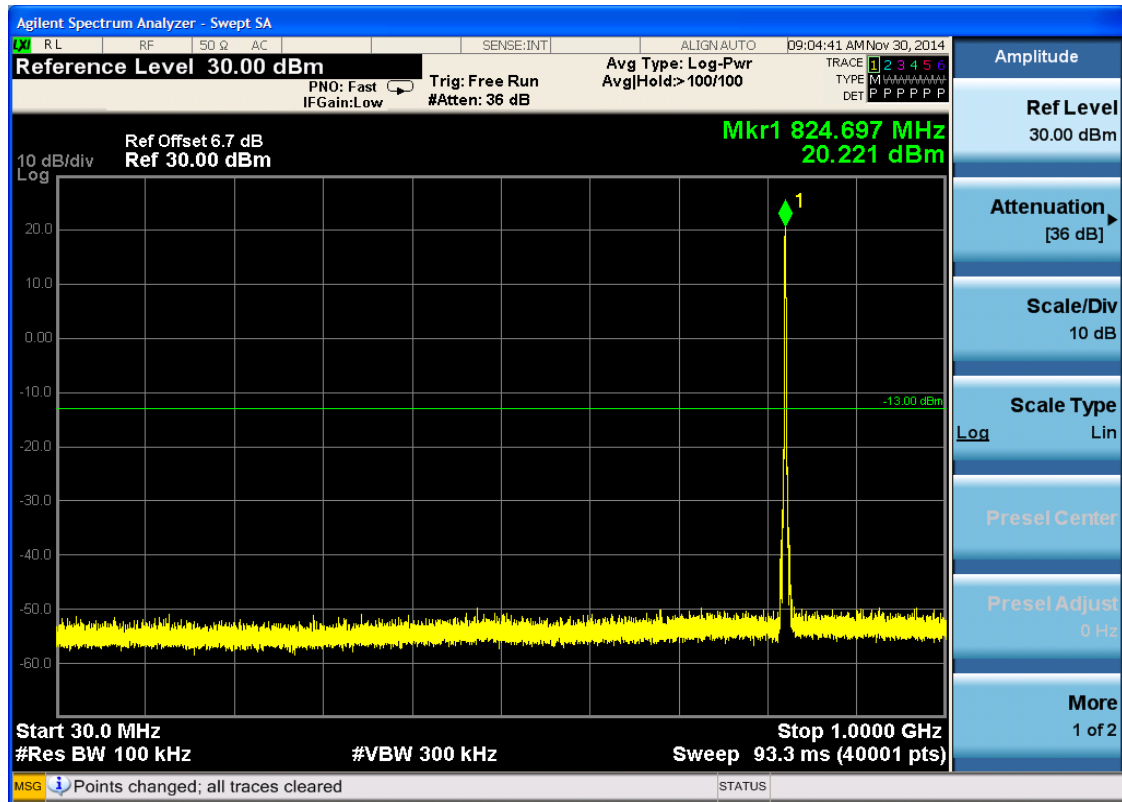
6.1.1 Test Band = BC0

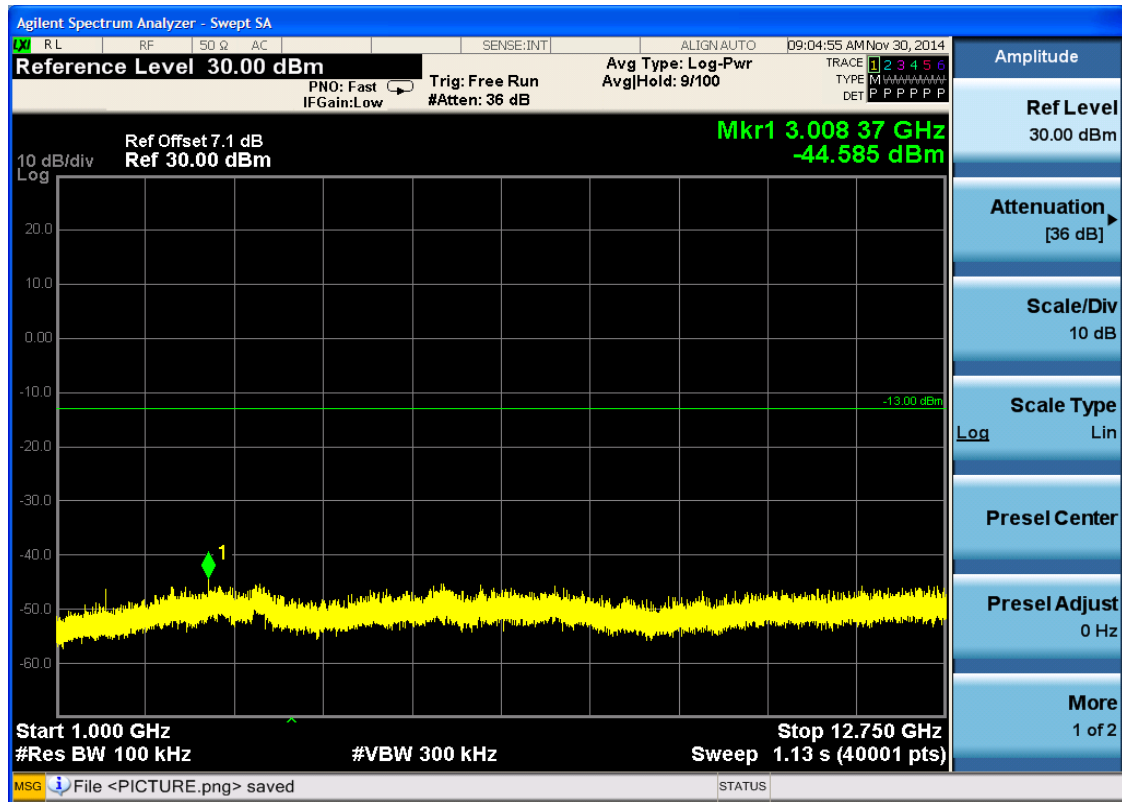
6.1.1.1 Test Mode = CDMA/1X/TM1

6.1.1.1.1 Test Channel = LCH



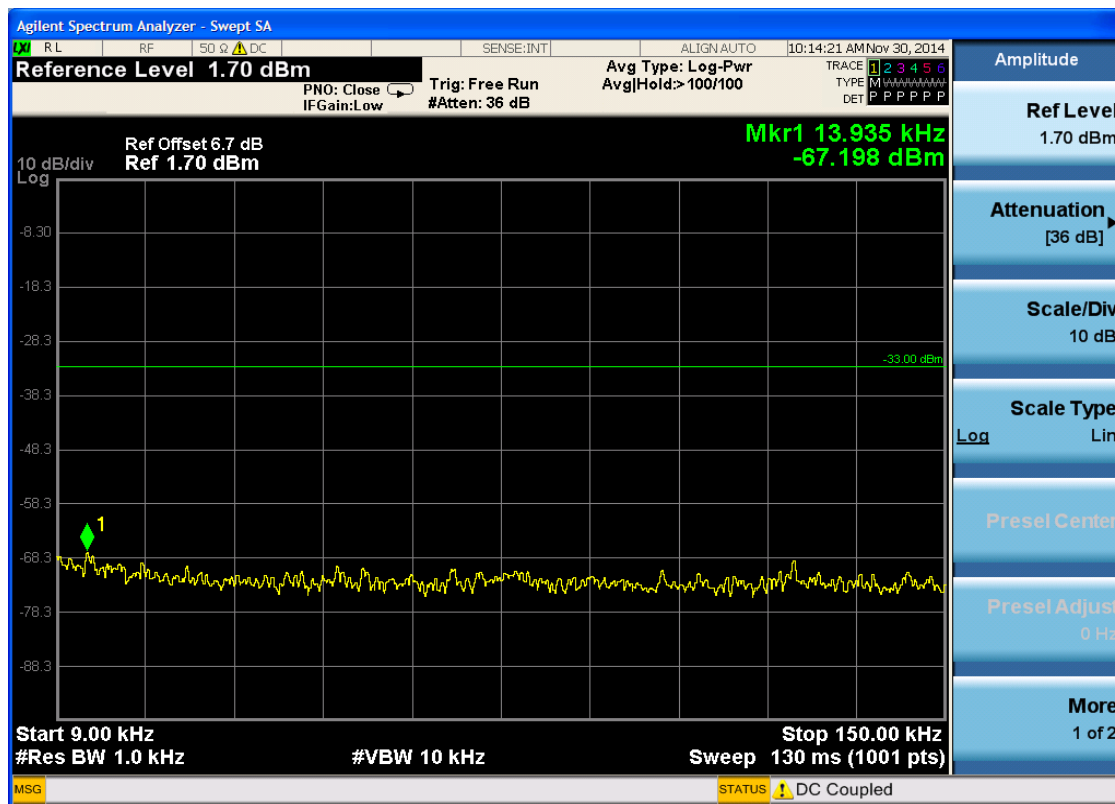


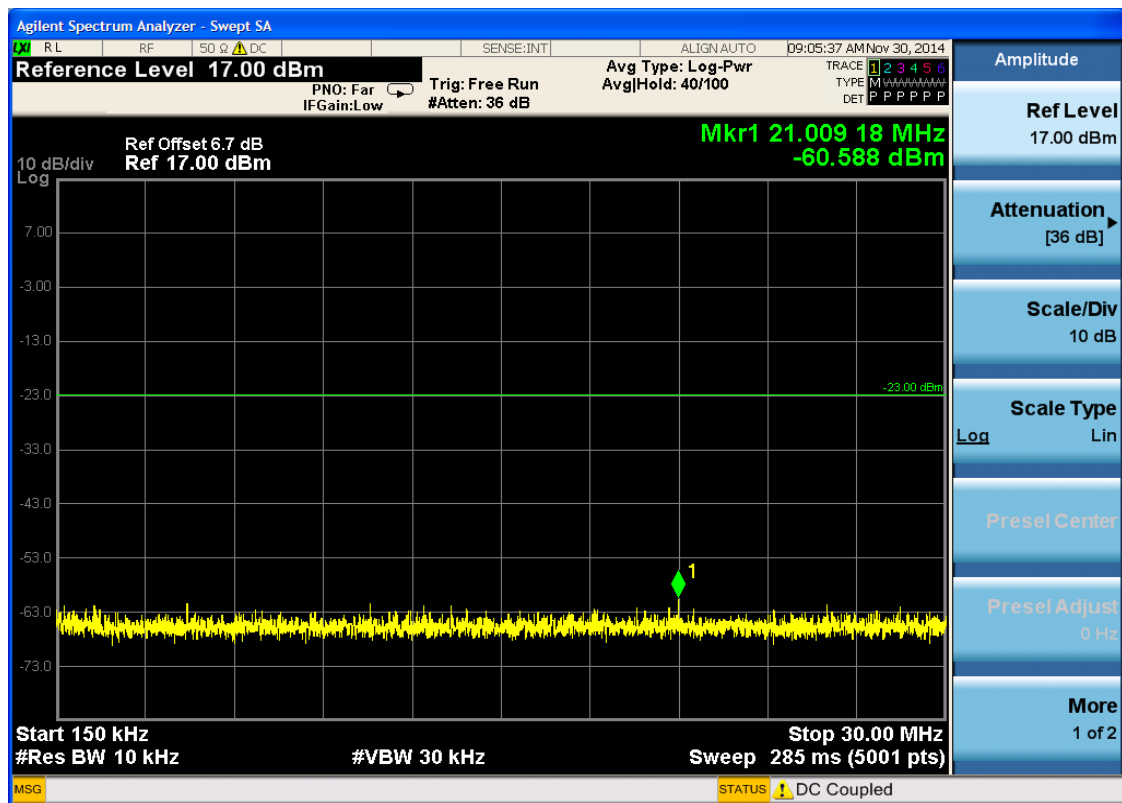


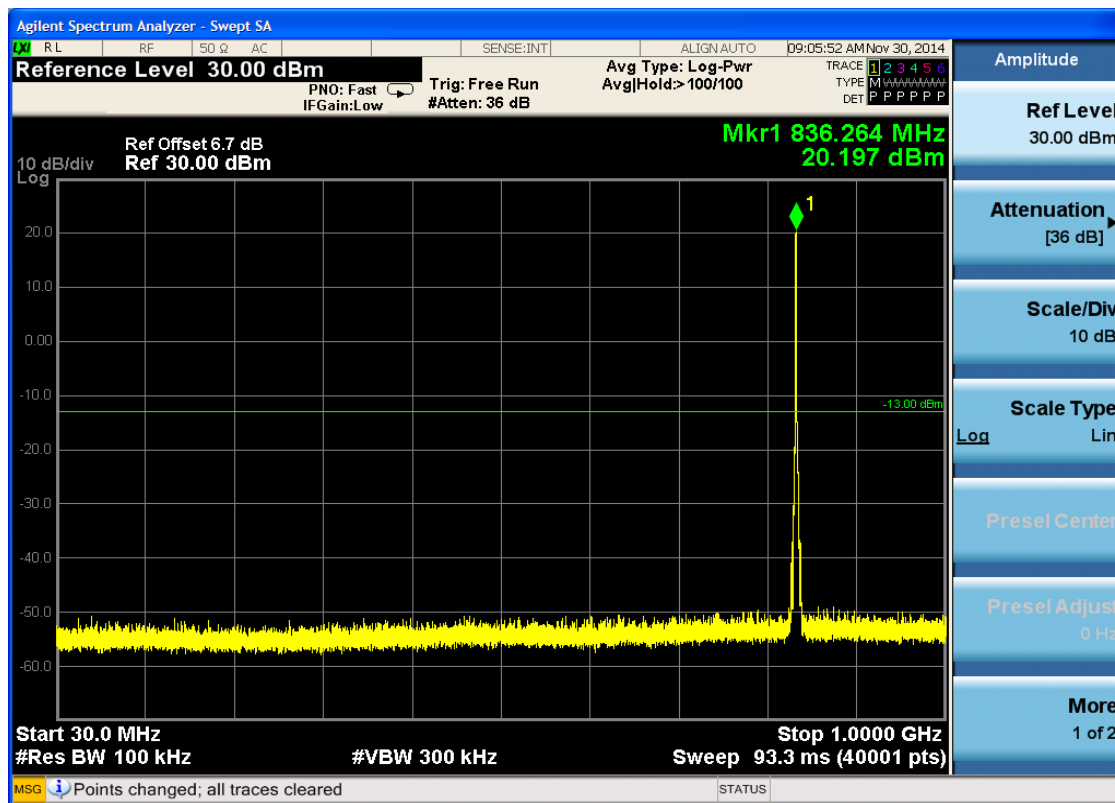


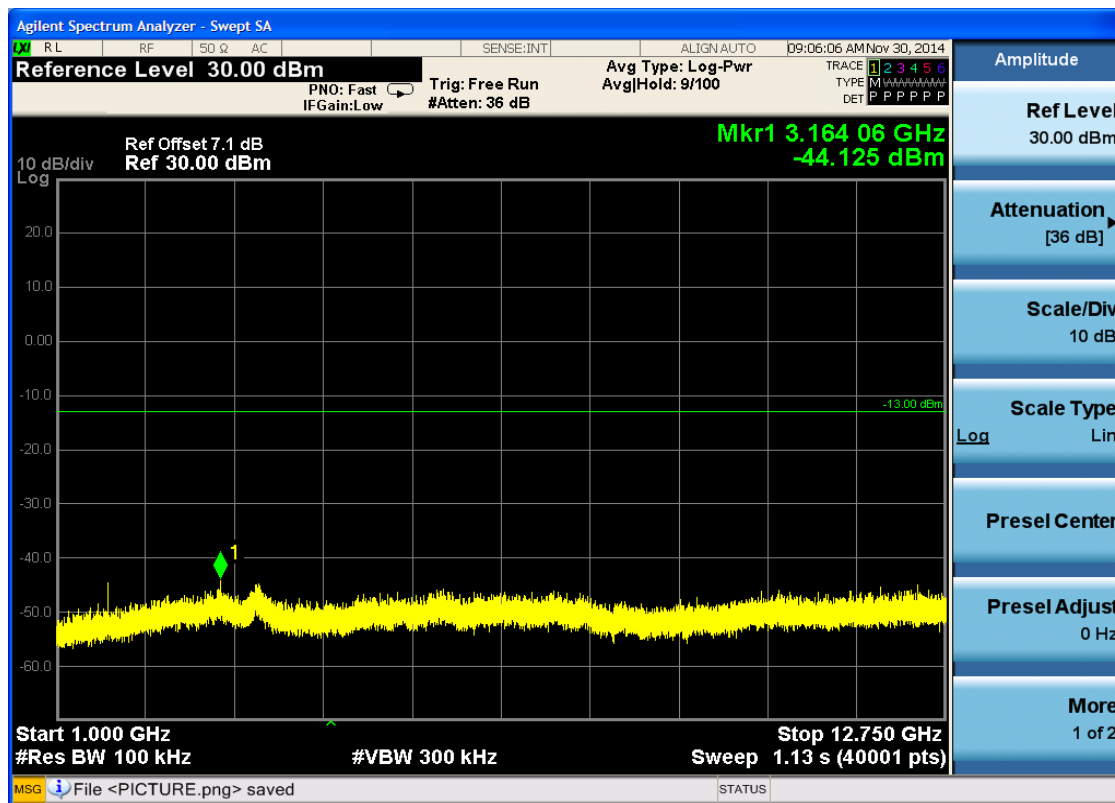


6.1.1.1.2 Test Channel = MCH



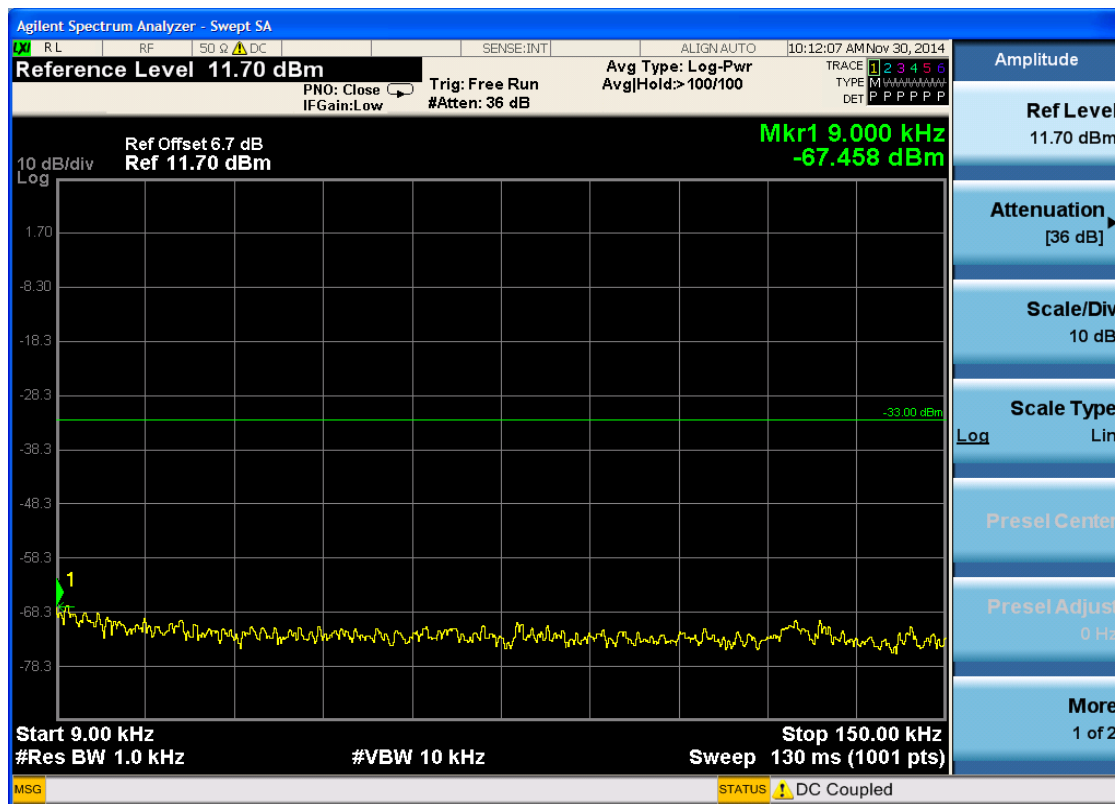


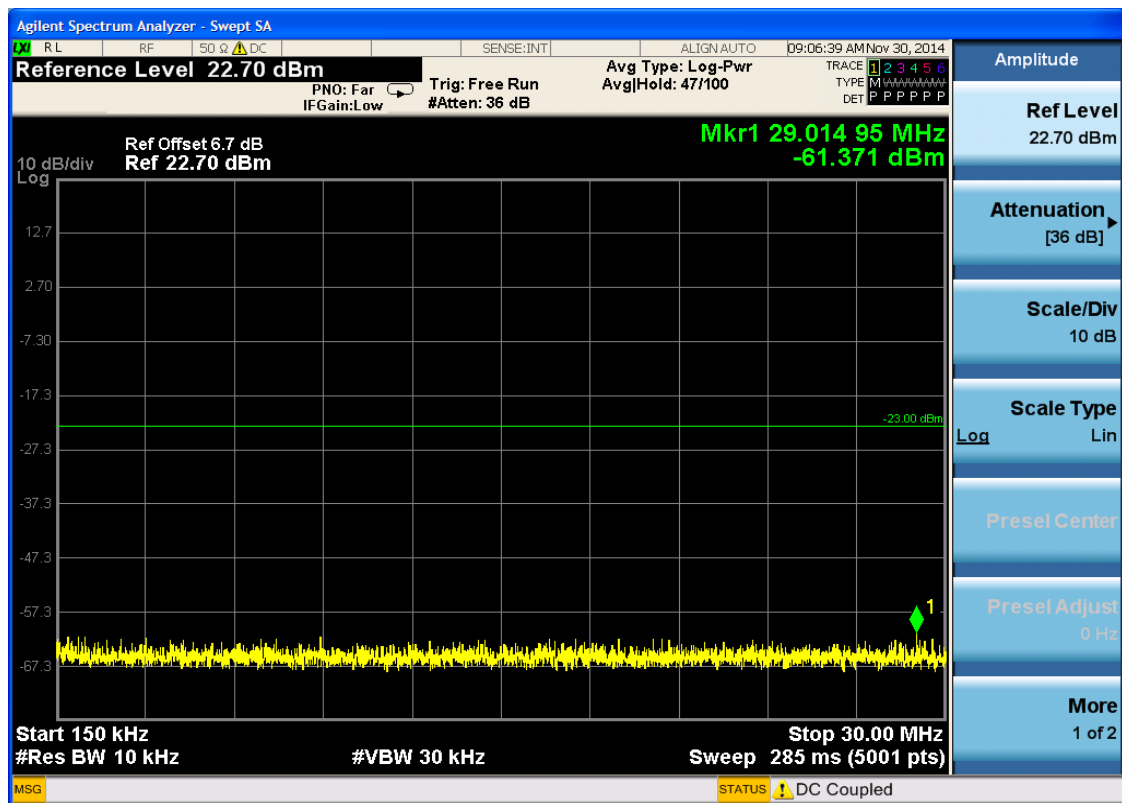


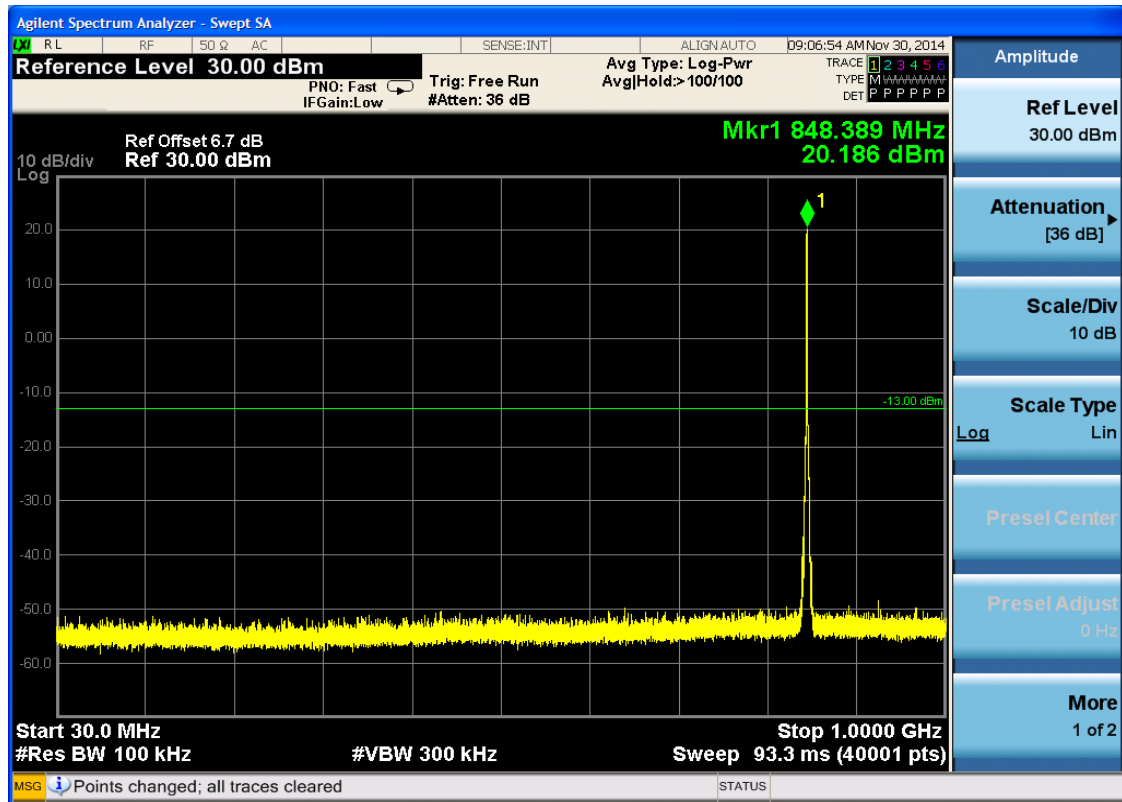


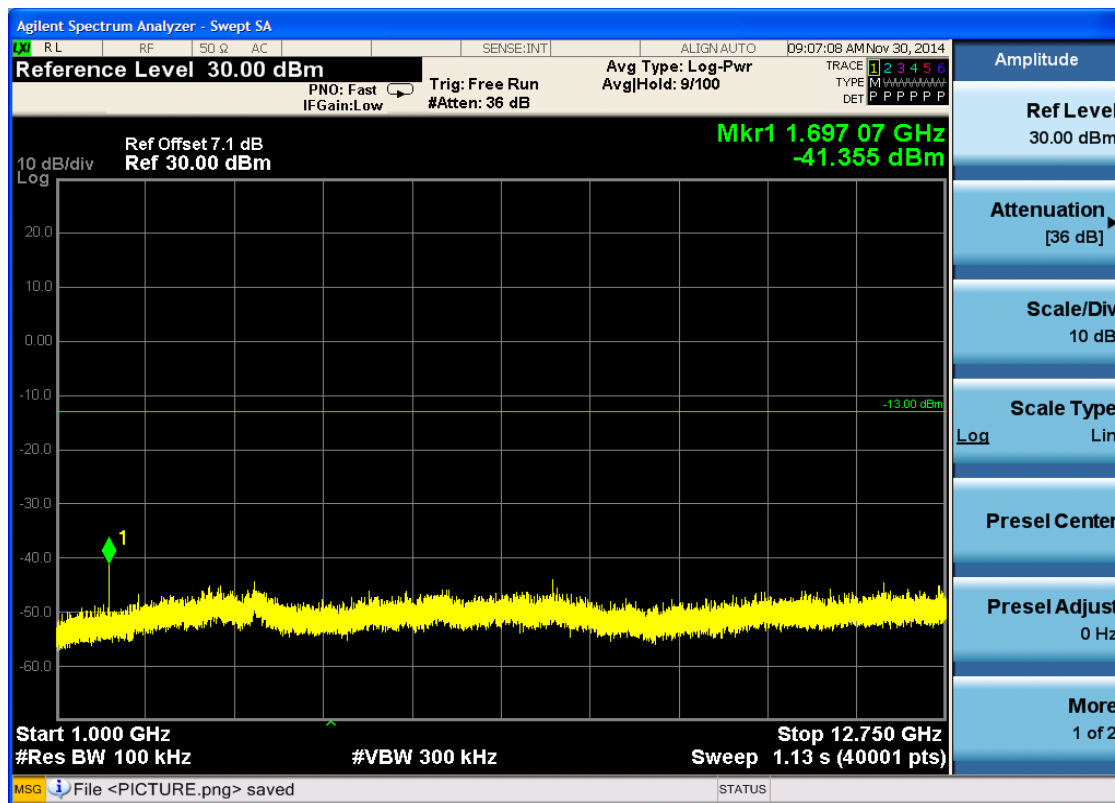


6.1.1.1.3 Test Channel = HCH



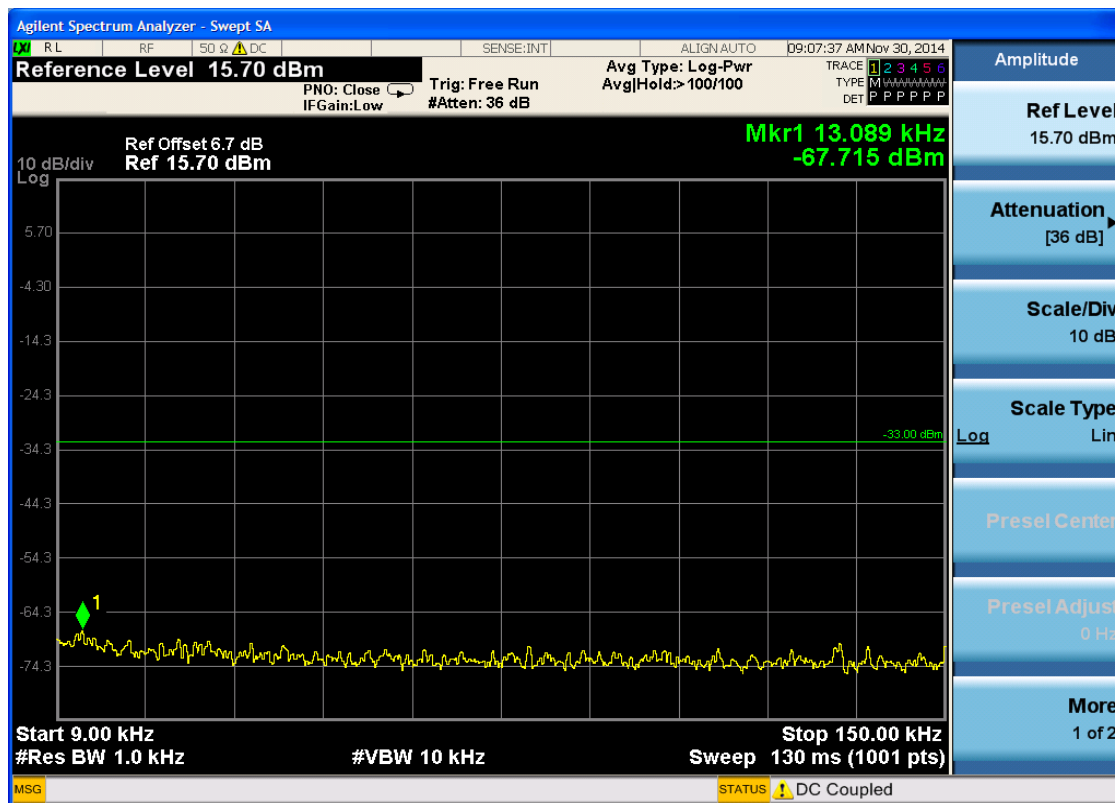


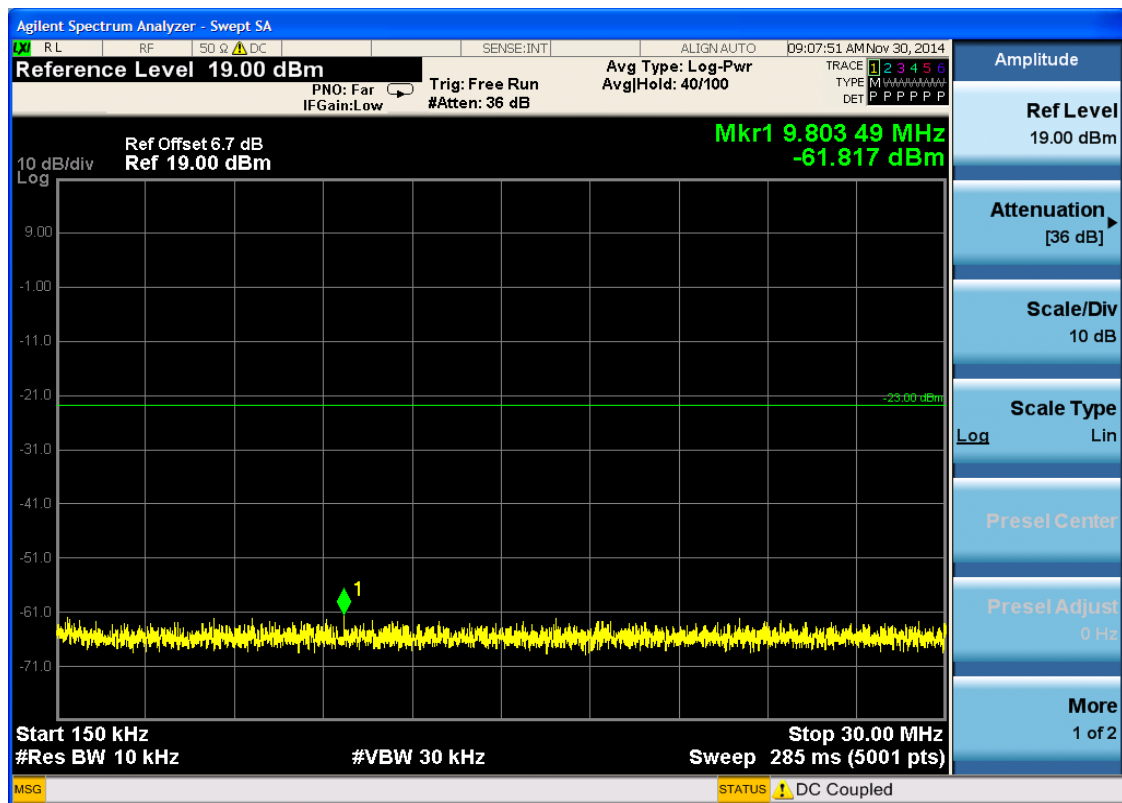


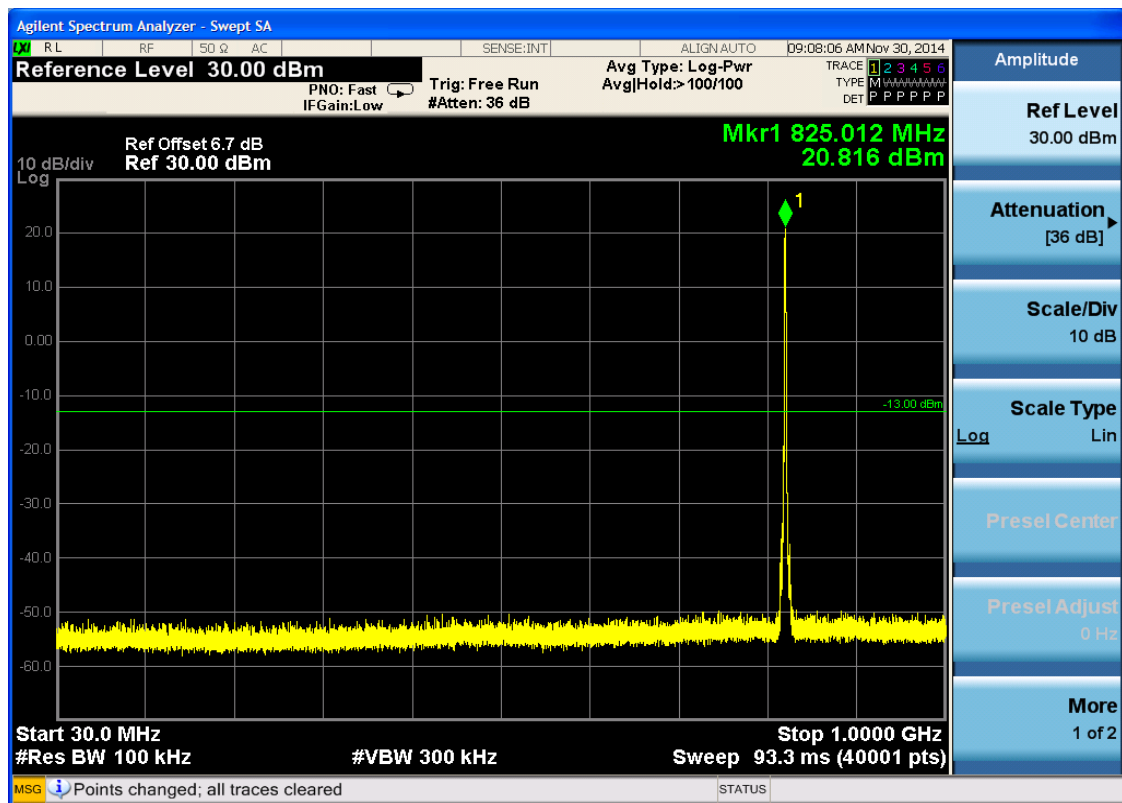


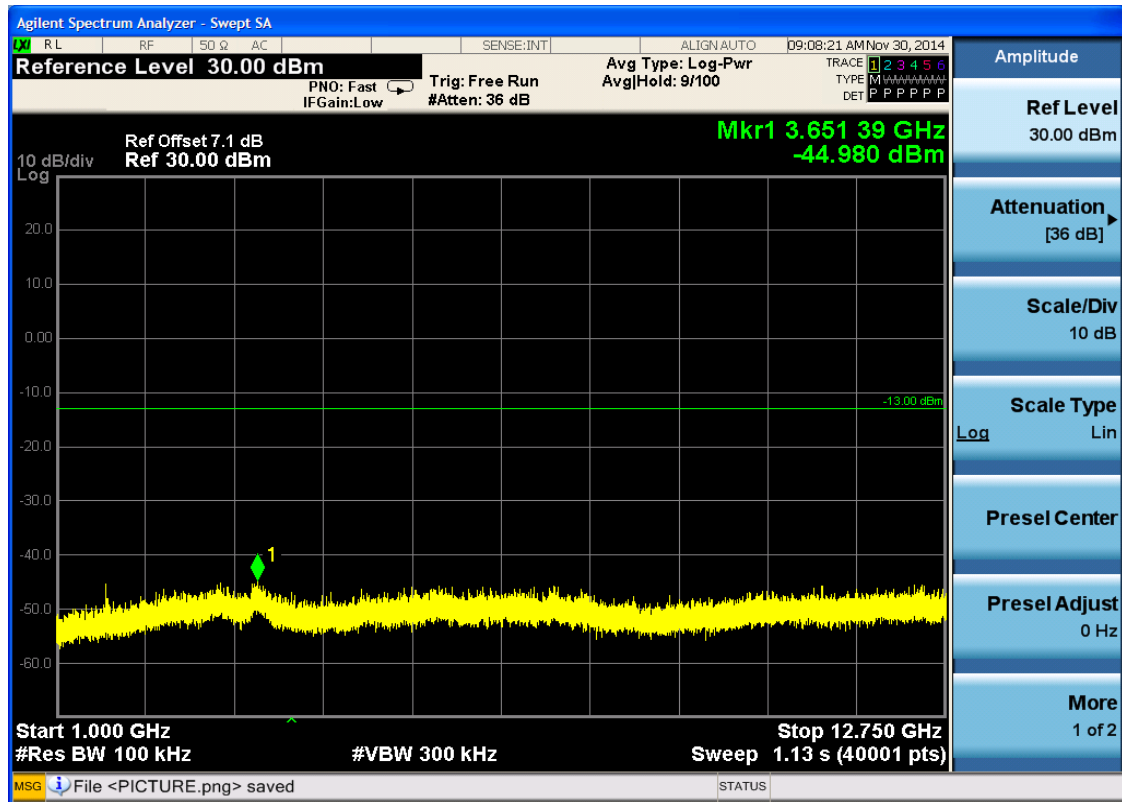
6.1.1.2 Test Mode = CDMA/1X/TM3

6.1.1.2.1 Test Channel = LCH



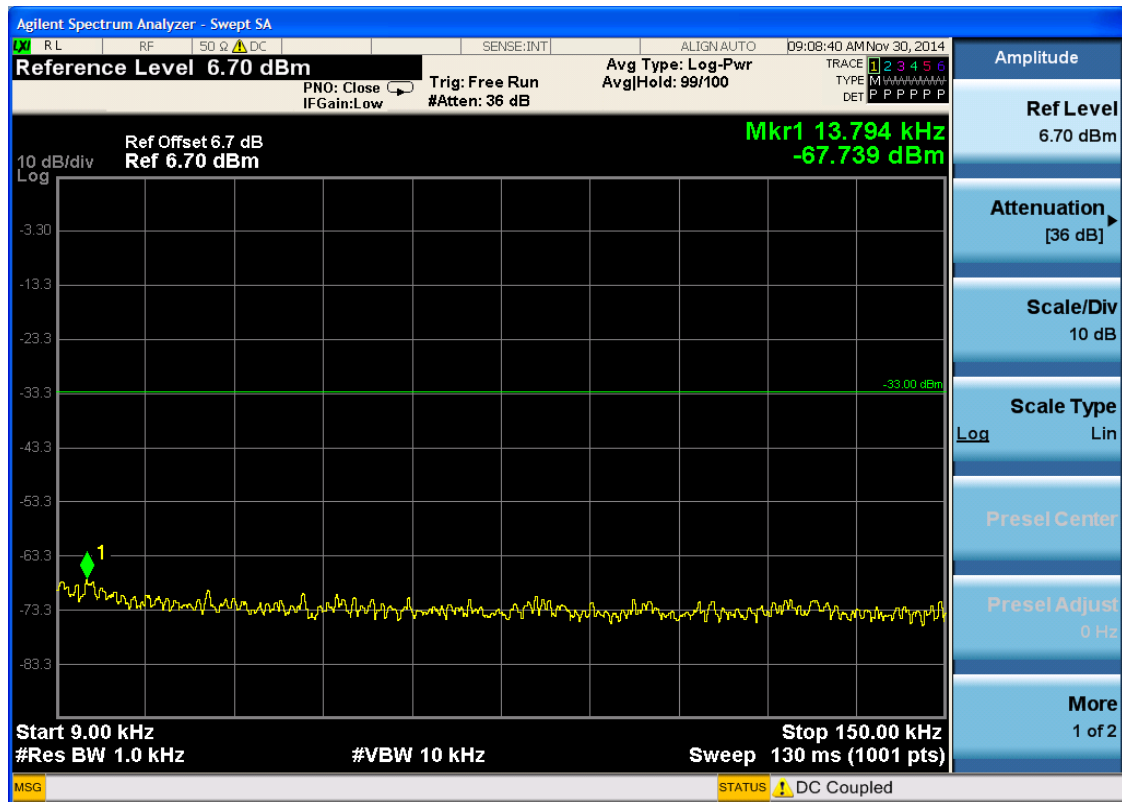


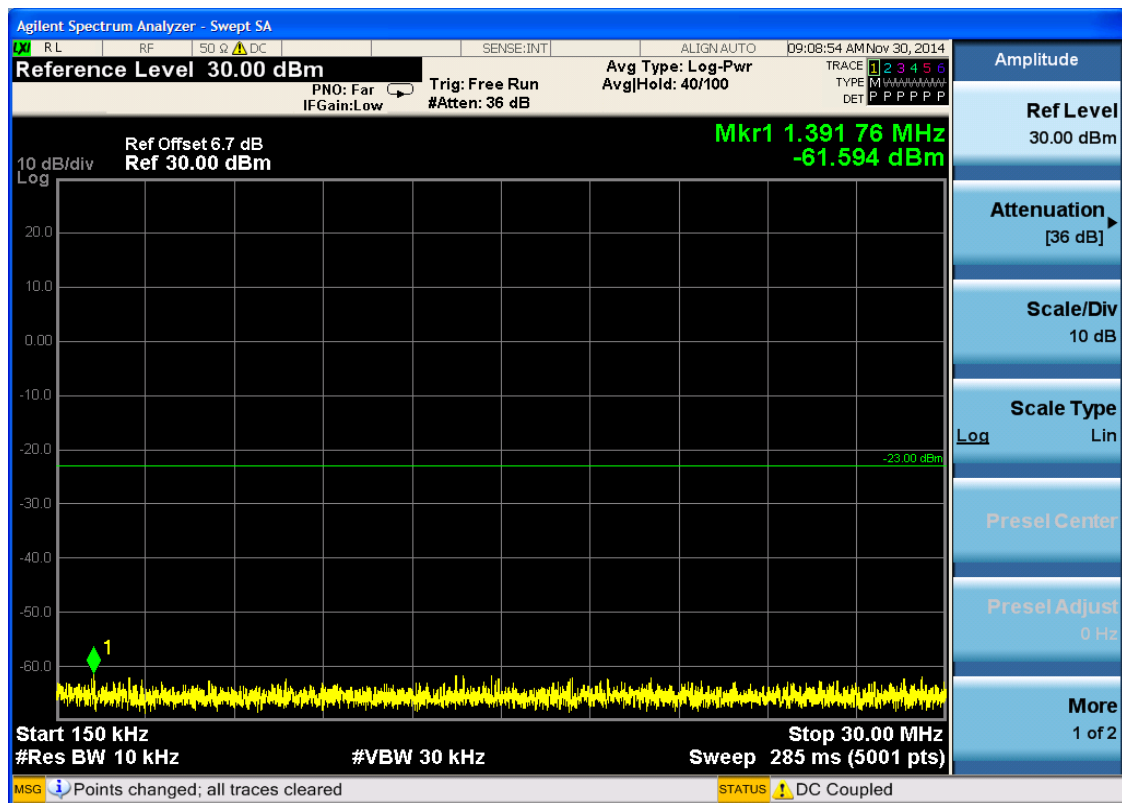


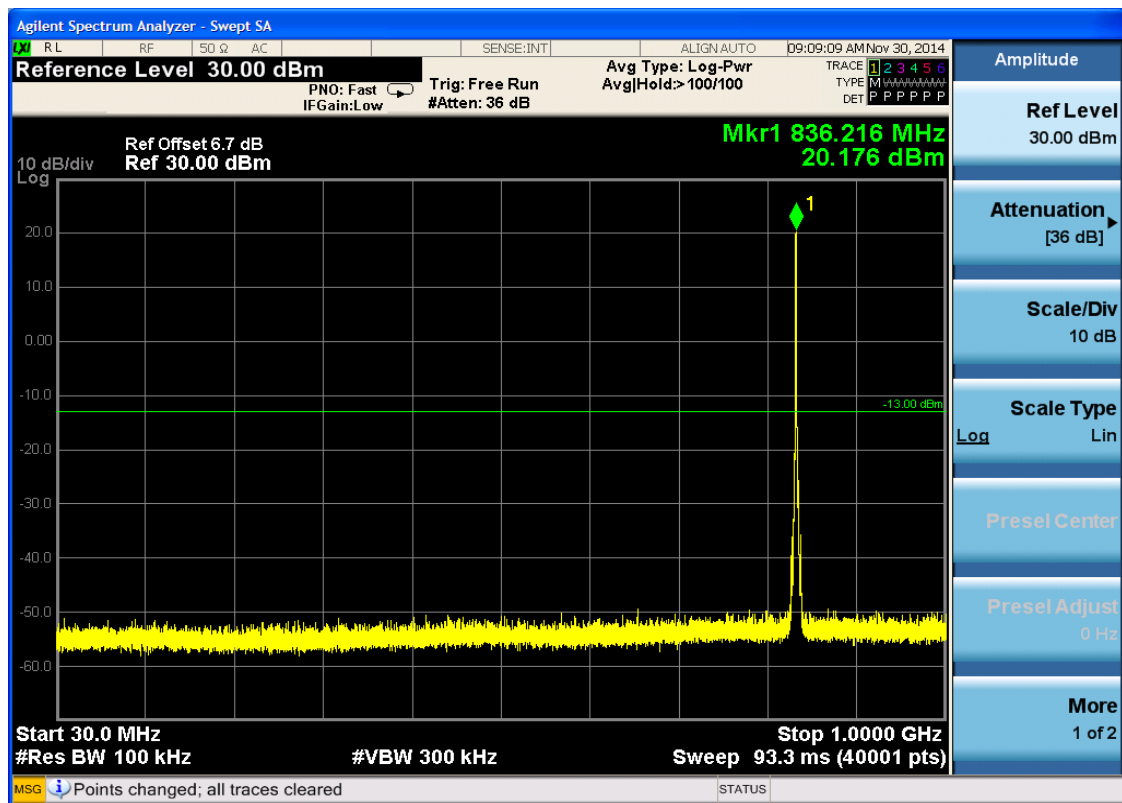


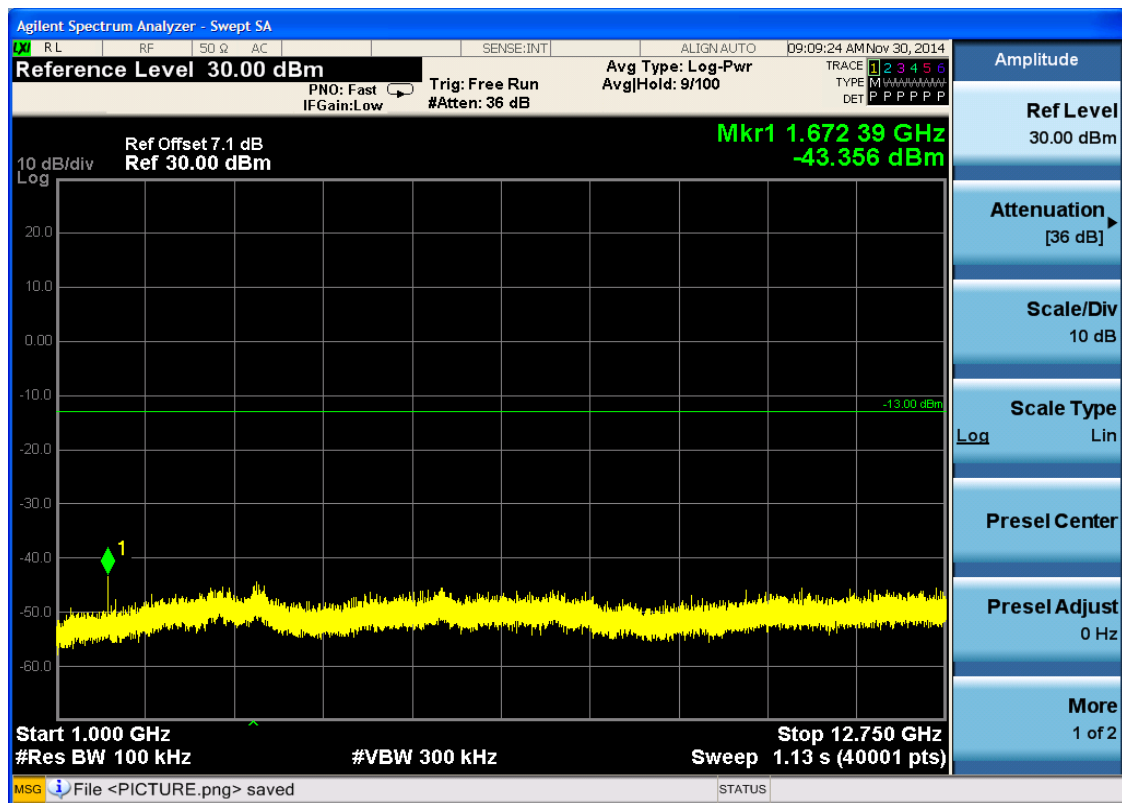


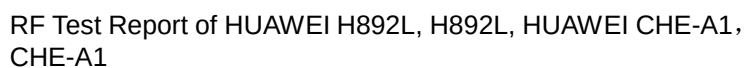
6.1.1.2.2 Test Channel = MCH











Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC SENSE:INT ALIGN AUTO 09:09:51 AM Nov 30, 2014

Reference Level 1.00 dBm PNO: Close Trig: Free Run Avg Type: Log-Pwr Avg|Hold: 77/100

IFGain:Low #Atten: 36 dB TRACE 1 2 3 4 5 6 TYPE M P P P P P P DET P P P P P P P

Ref Offset 6.7 dB Mkr1 9.564 kHz
Ref 1.00 dBm -67.874 dBm

10 dB/div Log

Start 9.00 kHz Stop 150.00 kHz
#Res BW 1.0 kHz #VBW 10 kHz Sweep 130 ms (1001 pts)

MSG STATUS DC Coupled

Amplitude
Ref Level 1.00 dBm
Attenuation [36 dB]
Scale/Div 10 dB
Scale Type Log
Presel Center
Presel Adjust 0 Hz
More 1 of 2