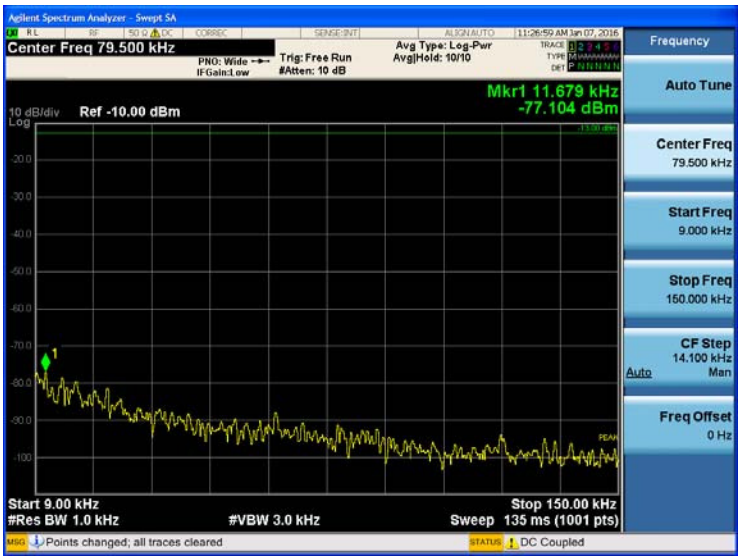
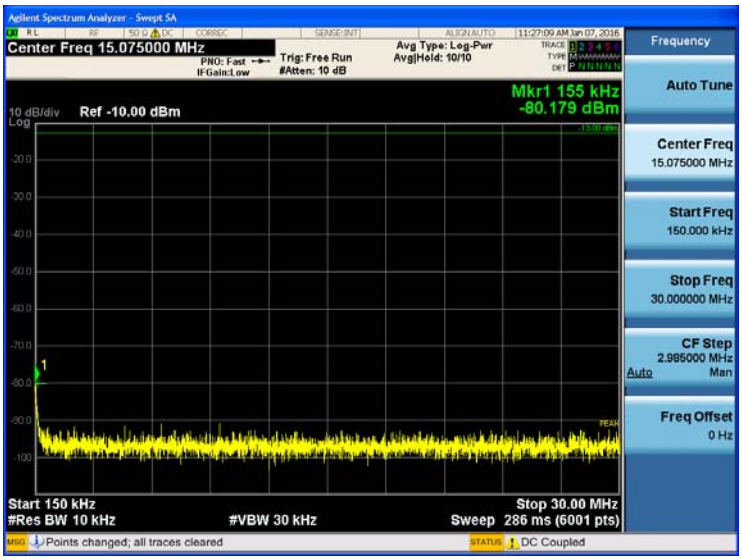
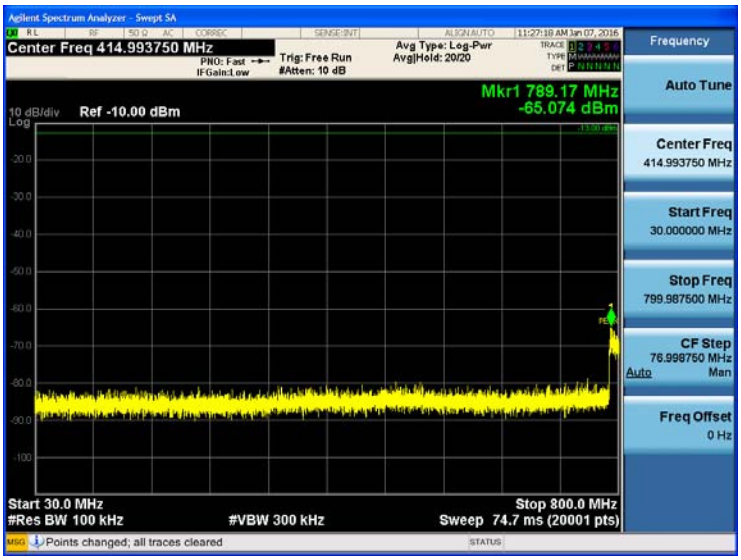
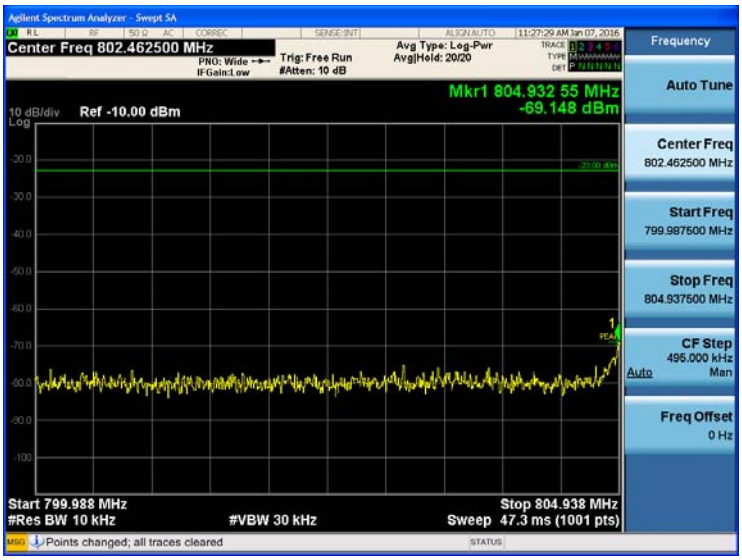
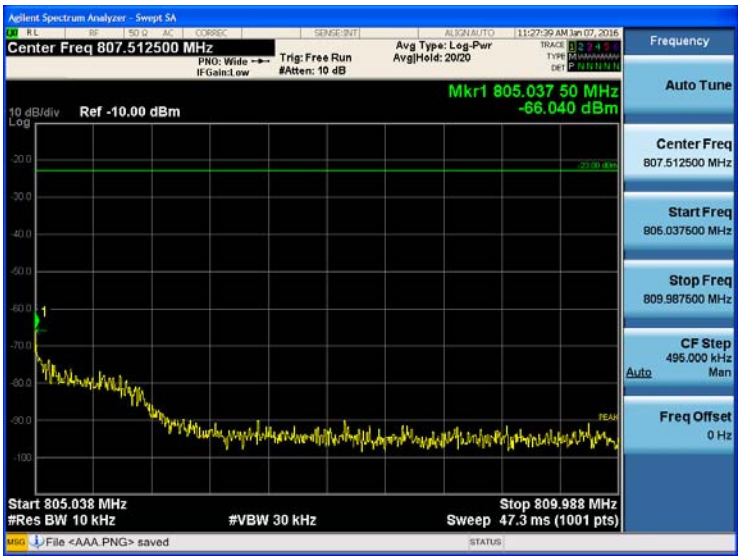
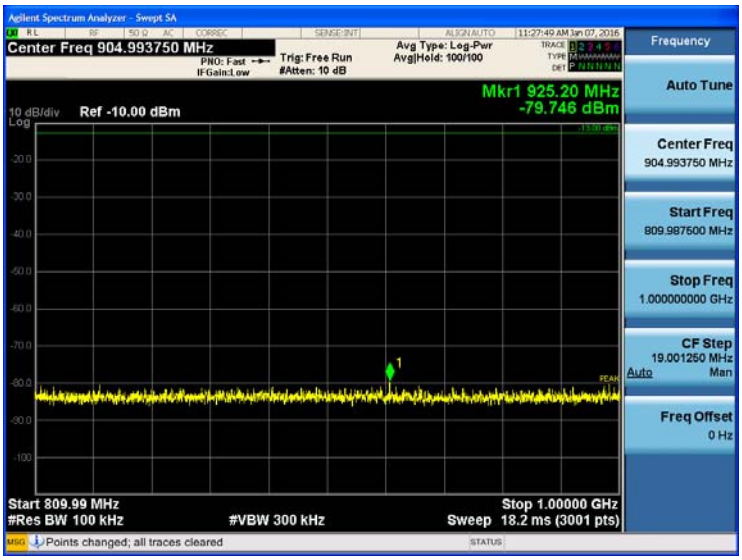
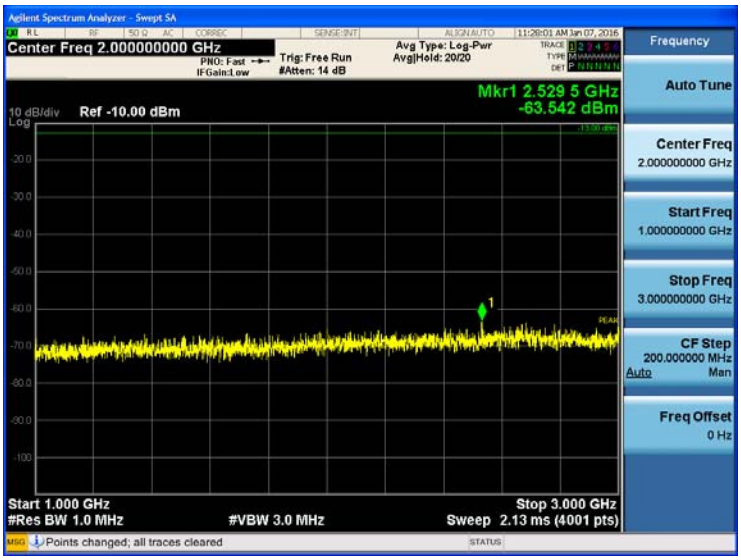
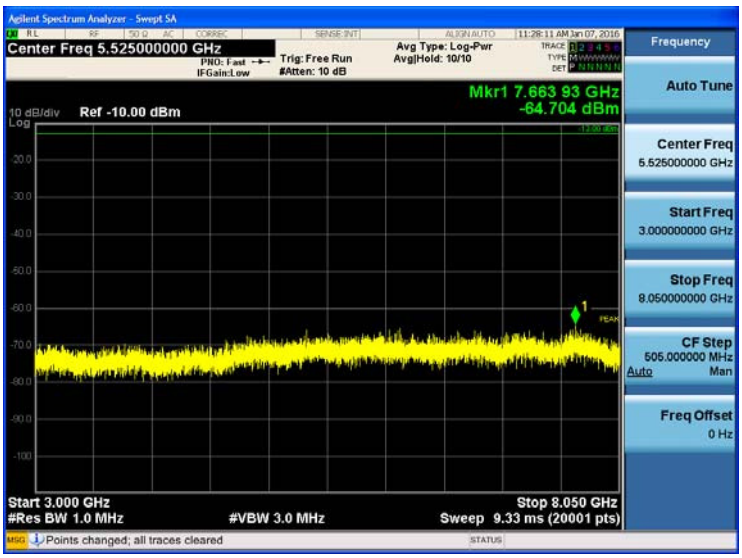
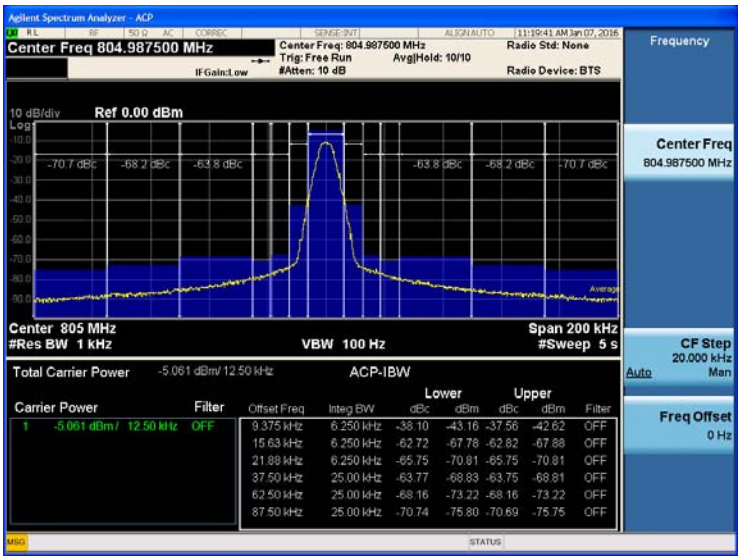
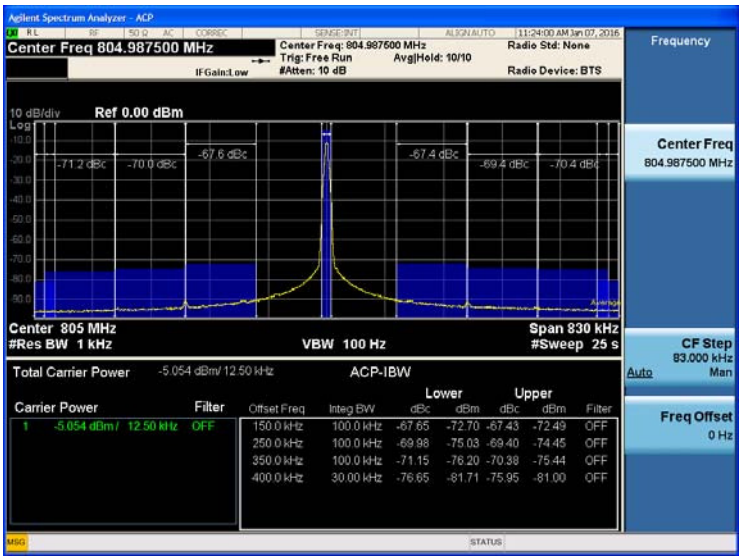
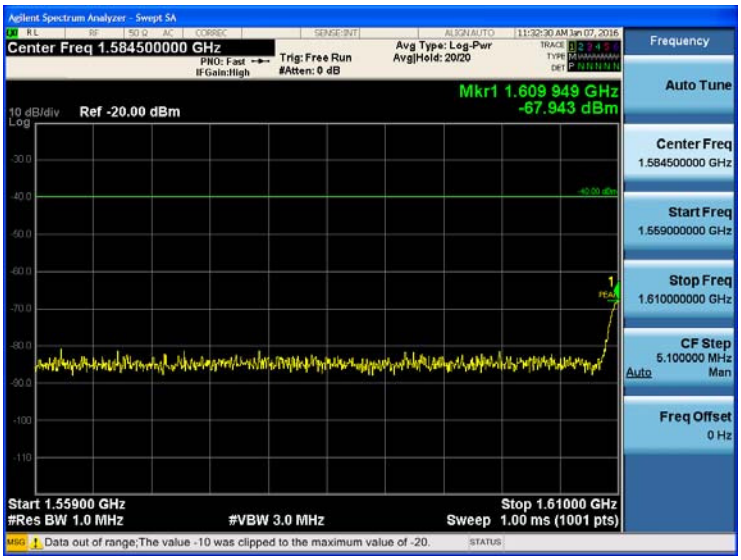
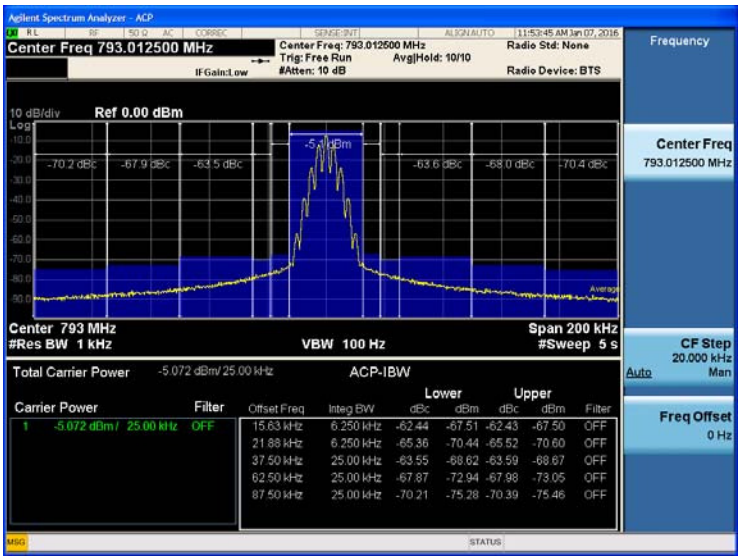
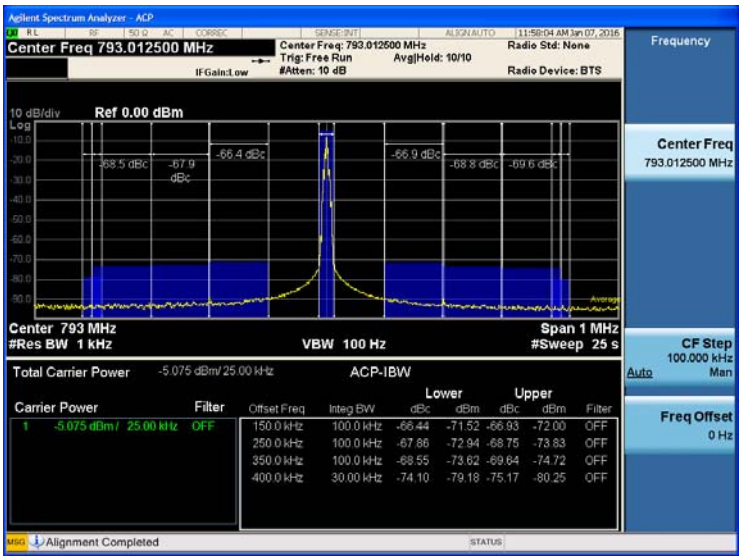
[P25 12.5 kHz Uplink High]

9kHz ~ 150kHz	150kHz ~ 30MHz
	
30MHz ~ 1GHz-1	**30MHz ~ 1GHz-2**
	

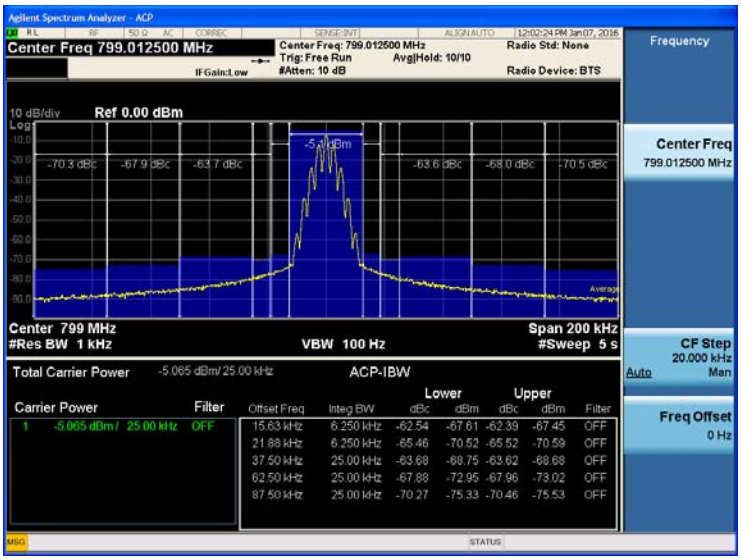
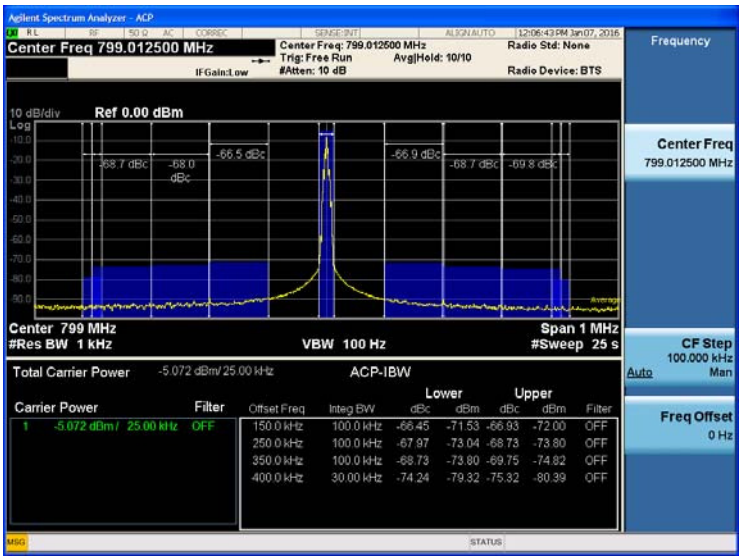
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 10th Harmonic**
	

ACP1	ACP2
	
1559MHz ~ 1610MHz	
	

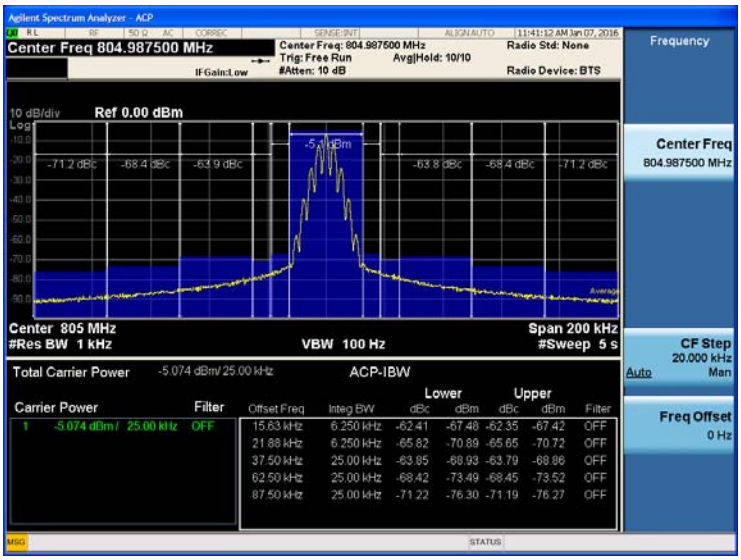
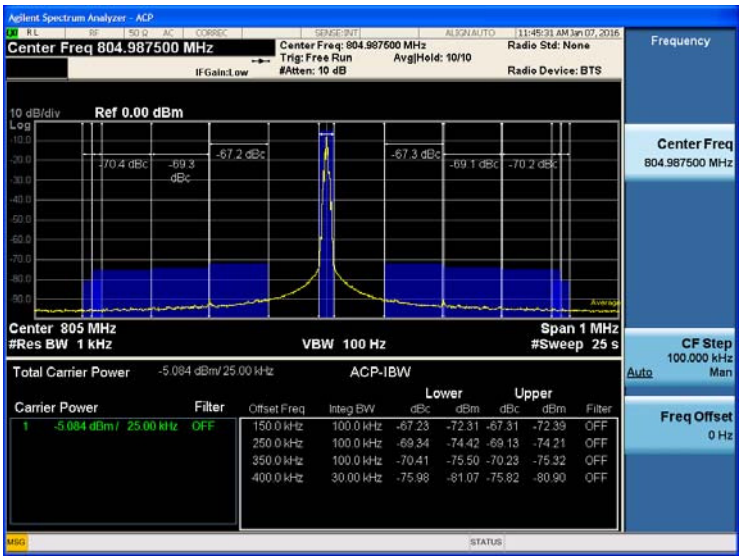
[FM Uplink Low]

ACP1	ACP2
	

[FM Uplink Middle]

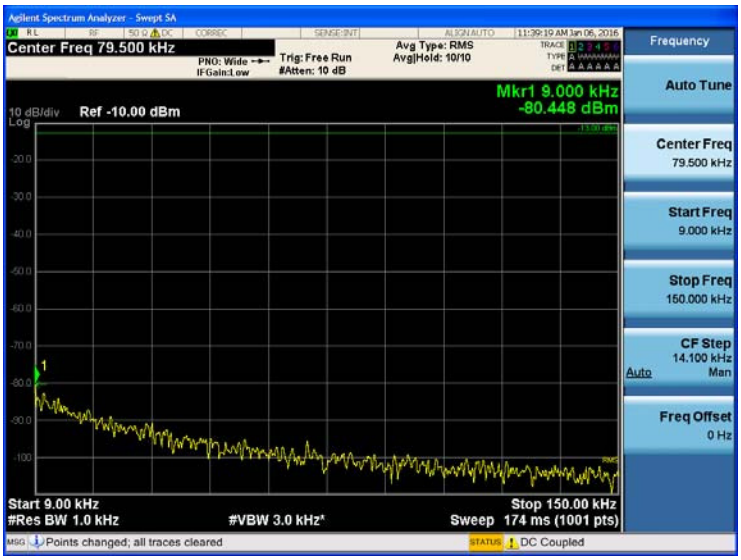
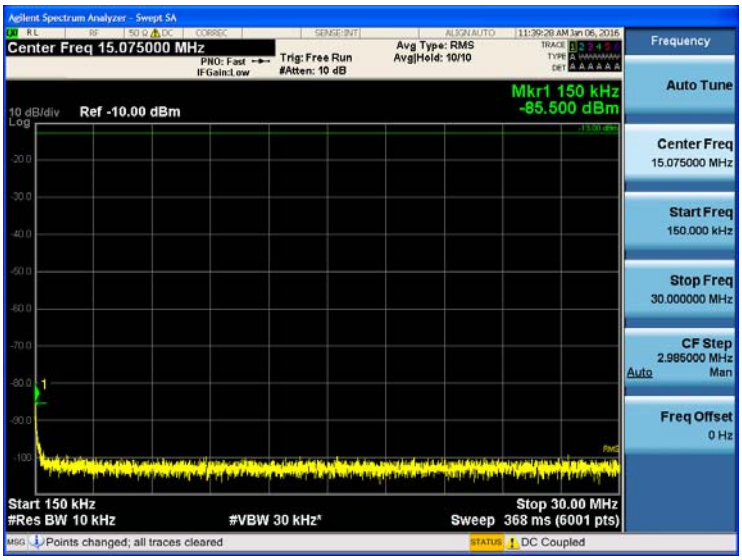
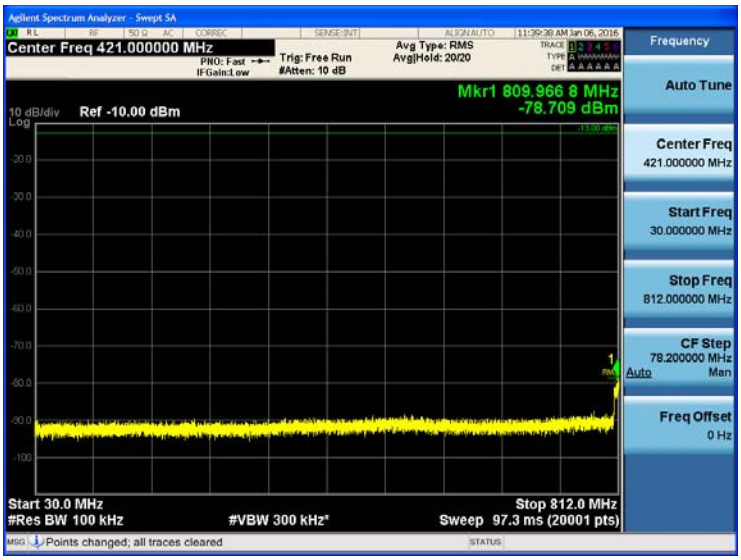
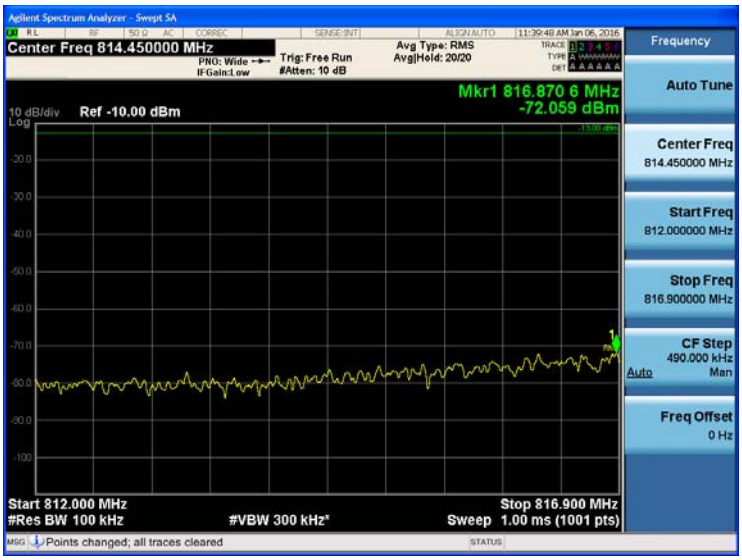
ACP1	ACP2
	

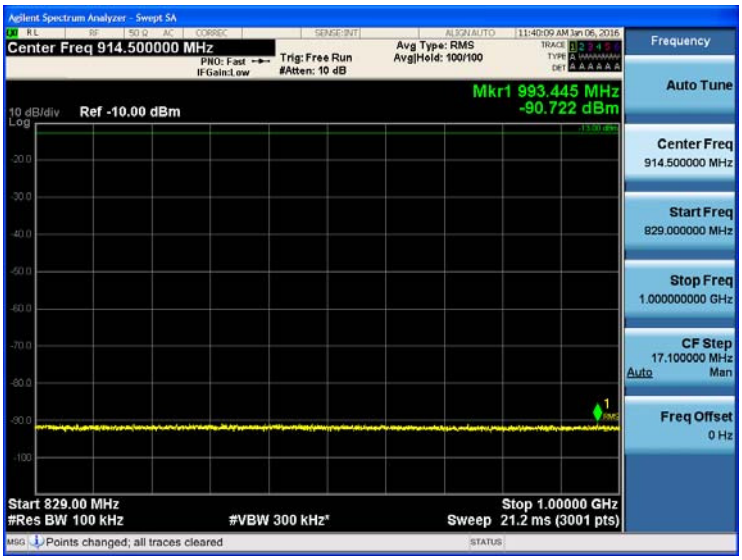
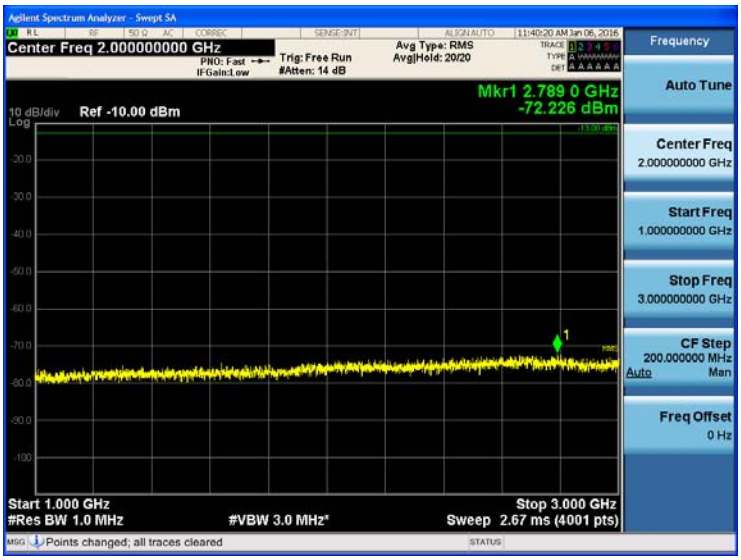
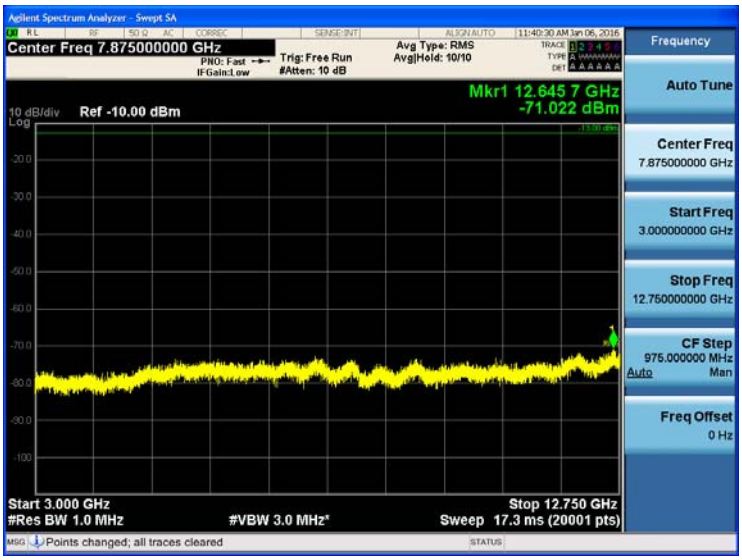
[FM Uplink High]

ACP1	ACP2
	

800 MHz Band_LTE, CDMA

[LTE 5 MHz Uplink Low]

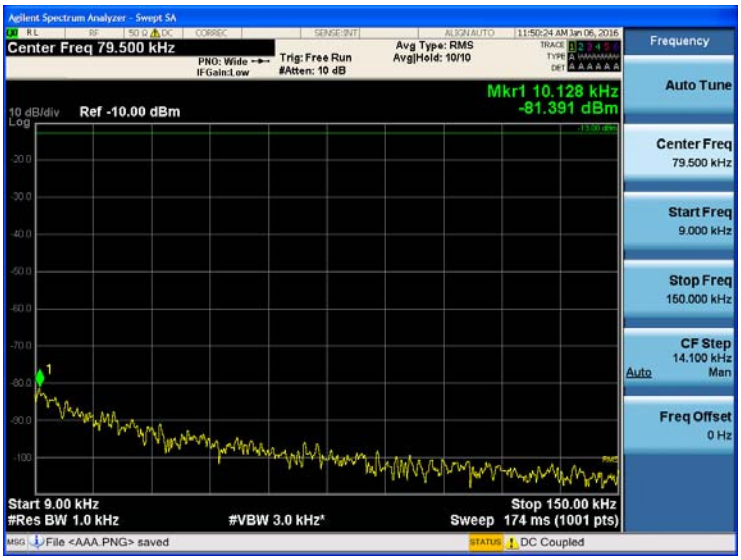
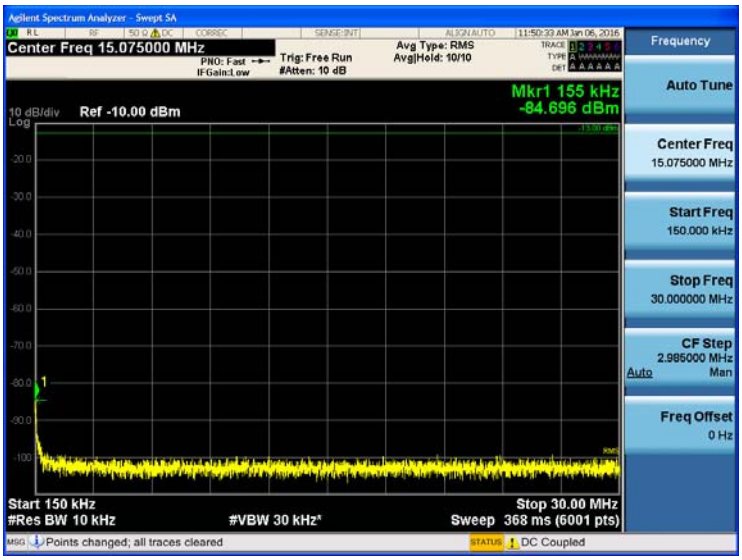
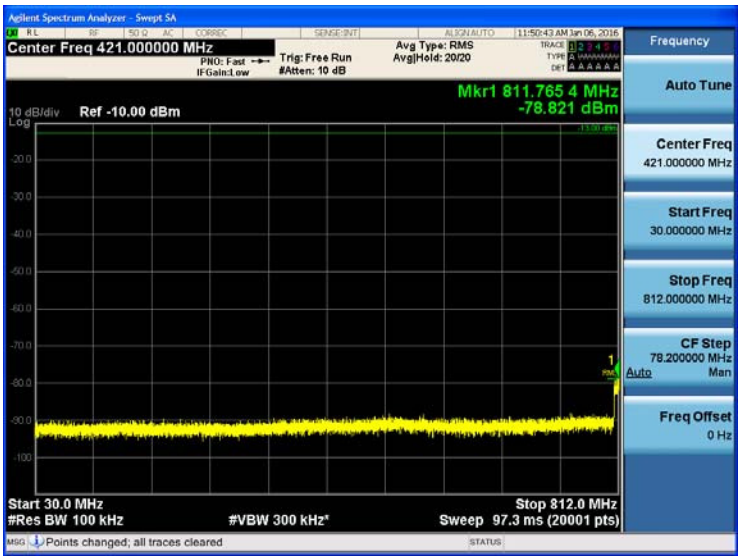
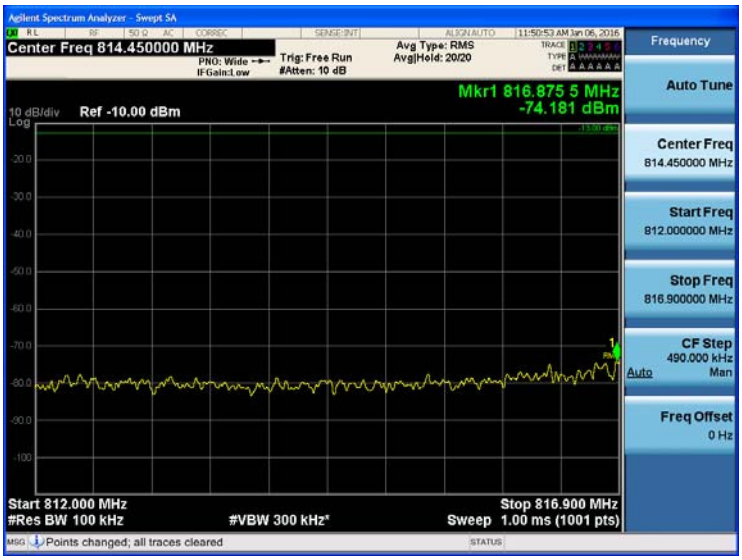
9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

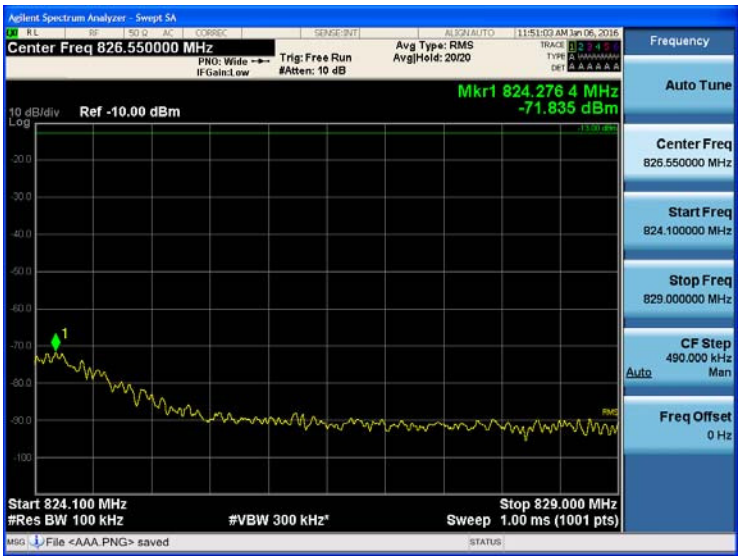
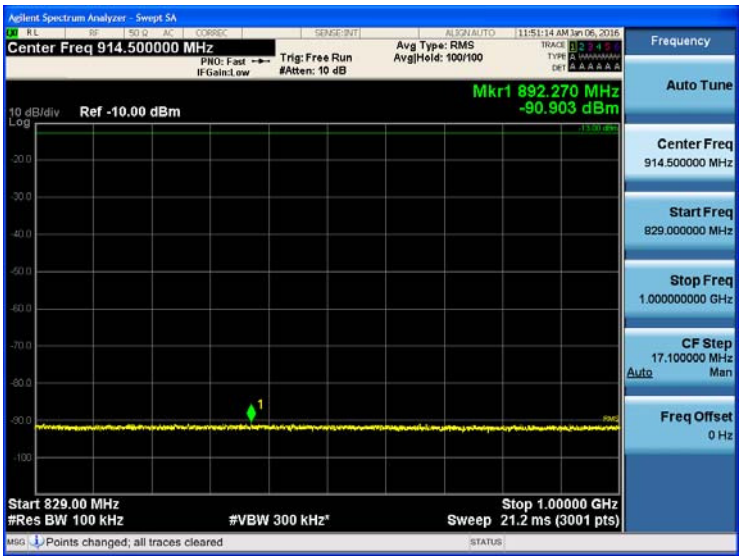
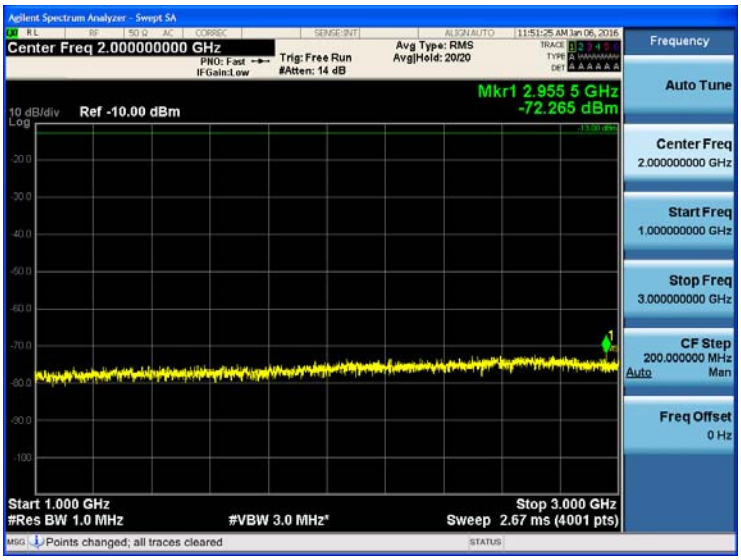
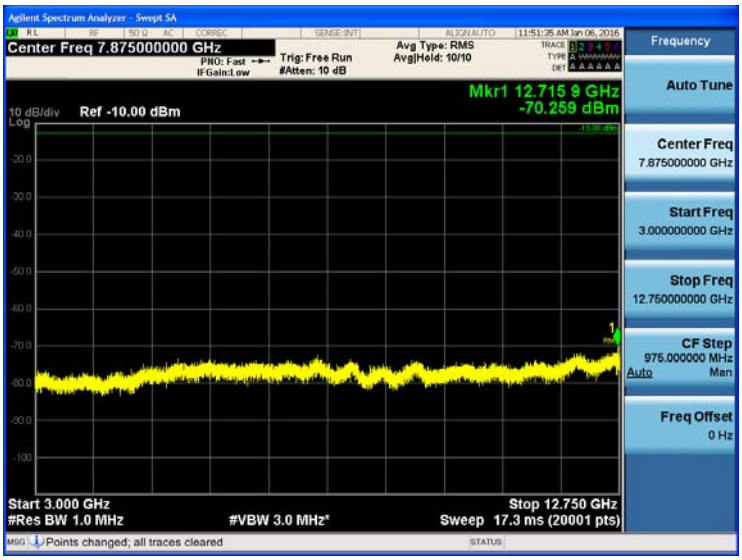
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 12.75GHz**
	

Band Edge	

Agilent Spectrum Analyzer - Swept SA
Center Freq 817.000000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 10/10
11:35:43 AM Jan 06, 2016
Mkr1 816.91 MHz
-72.017 dBm
10 dB/div
Ref 0.00 dBm
Log
Start 812.000 MHz
#Res BW 56 kHz
#VBW 160 kHz*
Stop 822.000 MHz
#Sweep 1.00 s (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
817.000000 MHz
Start Freq
812.000000 MHz
Stop Freq
822.000000 MHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

[LTE 5 MHz Uplink High]

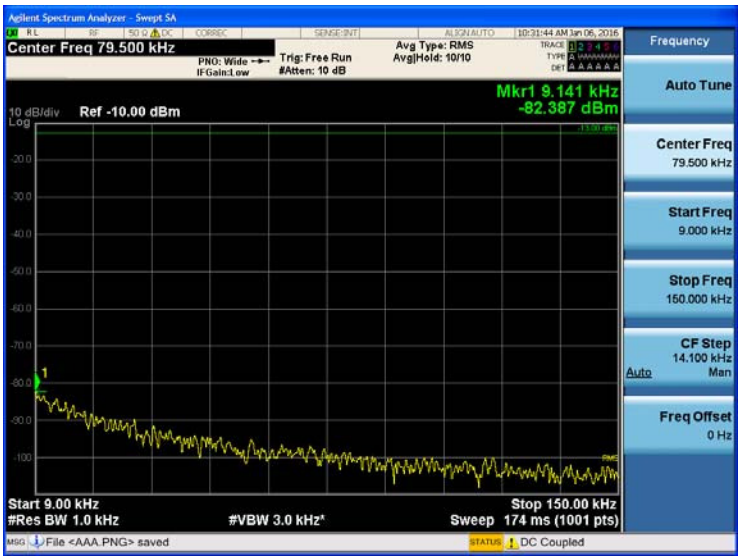
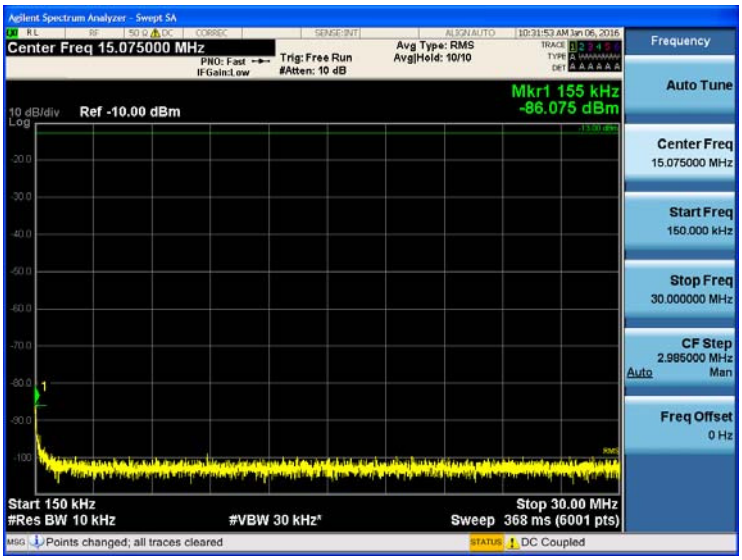
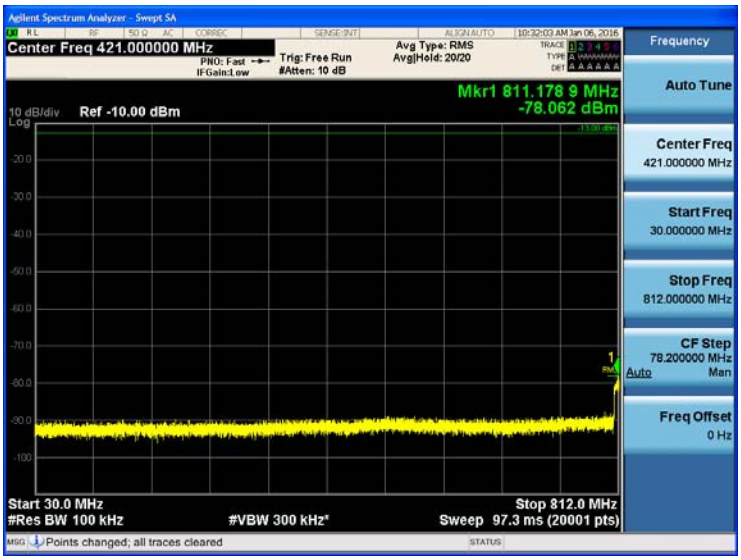
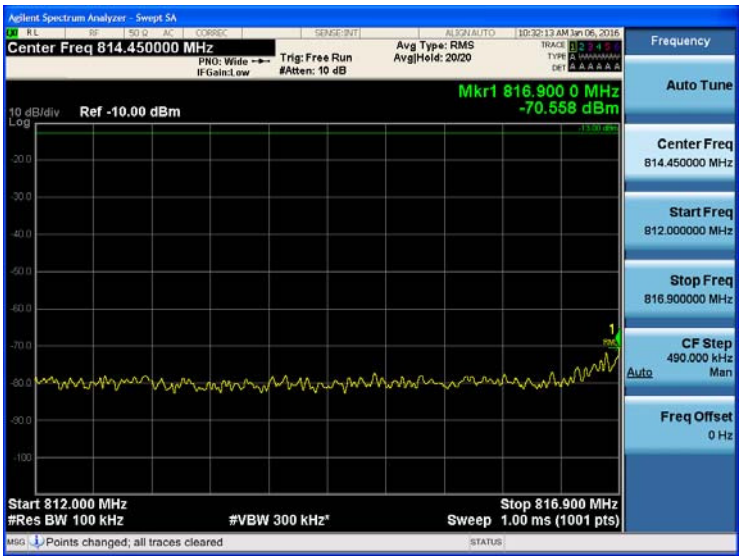
9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

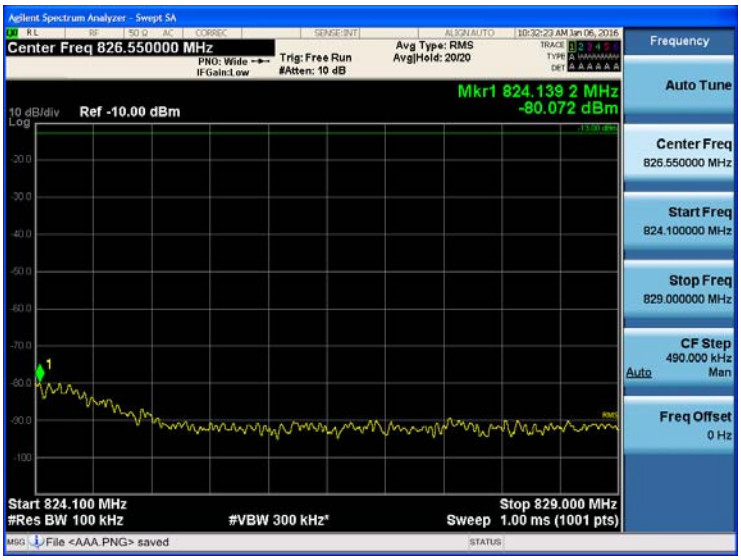
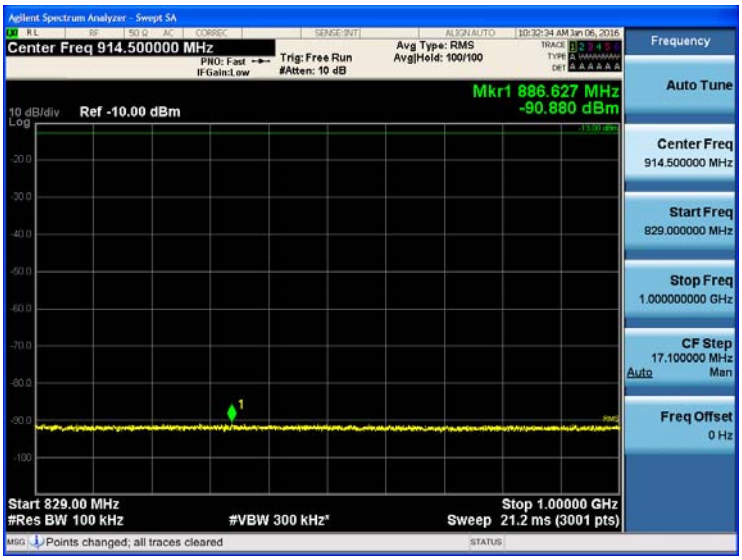
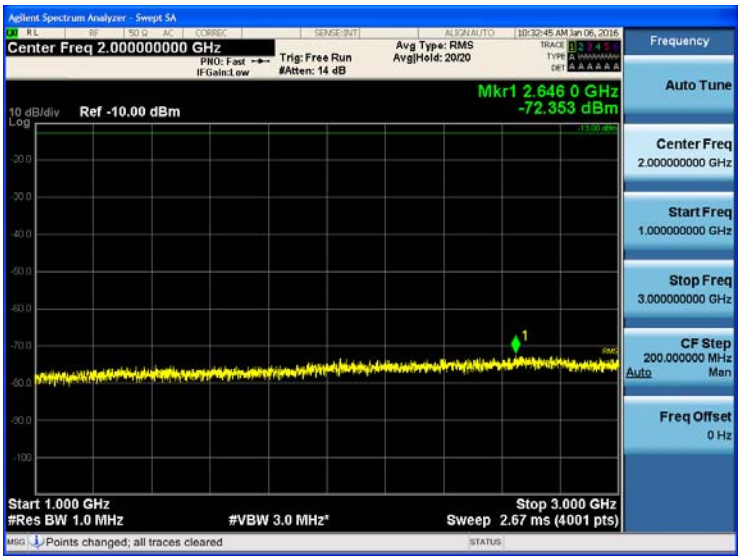
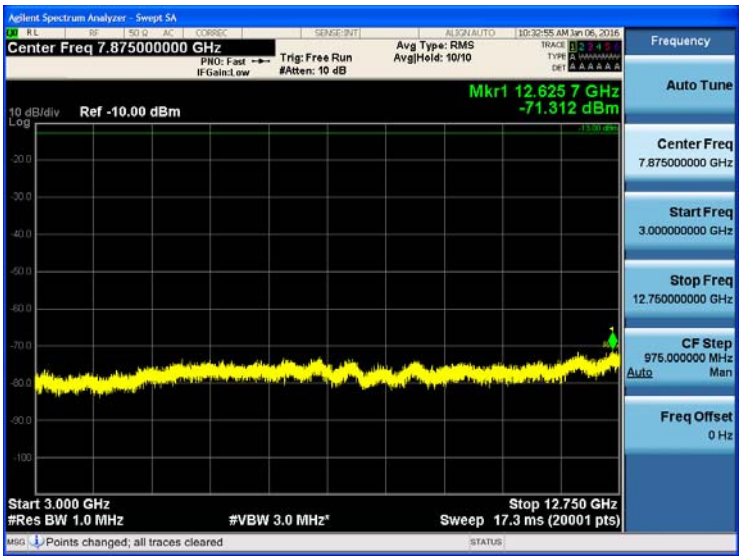
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 12.75GHz**
	

Band Edge	

Agilent Spectrum Analyzer - Swept SA
Center Freq 824.000000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 10/10
12:01:43 PM Jan 06, 2016
Mkr1 824.07 MHz
-71.534 dBm
10 dB/div
Ref 0.00 dBm
Log
Start 819.000 MHz
#Res BW 56 kHz
#VBW 160 kHz*
Stop 829.000 MHz
#Sweep 1.00 s (1001 pts)
Frequency
Auto Tune
Center Freq
824.000000 MHz
Start Freq
819.000000 MHz
Stop Freq
829.000000 MHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

[CDMA 1.25 MHz Uplink Low]

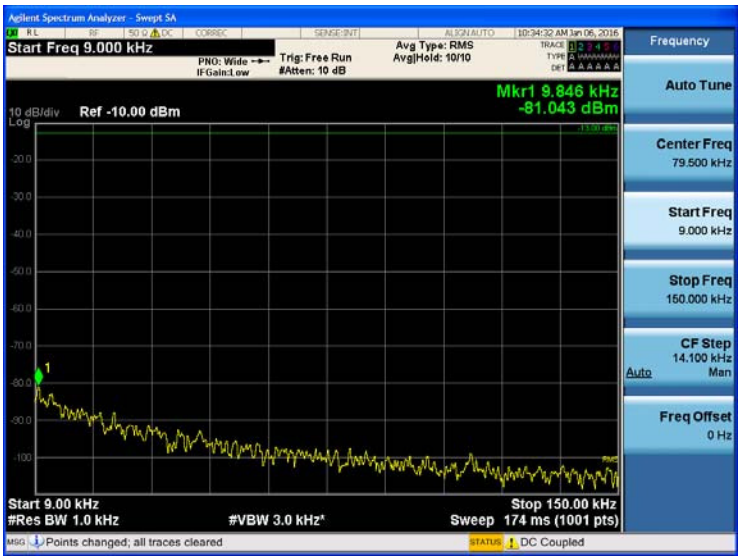
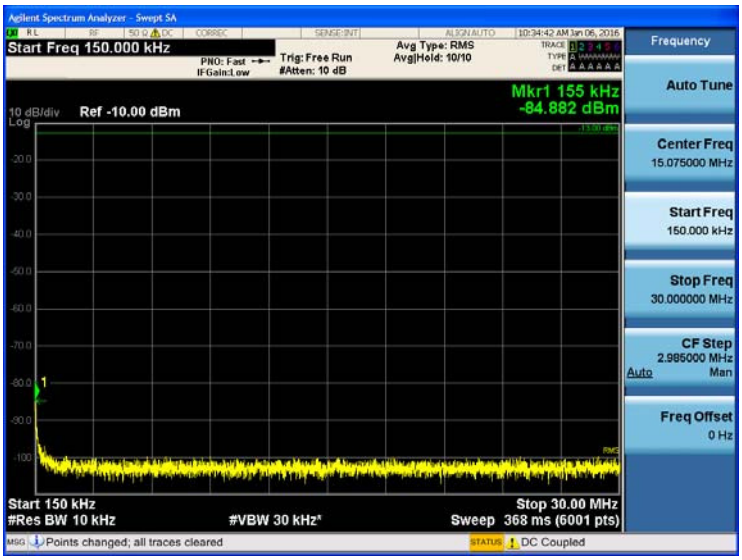
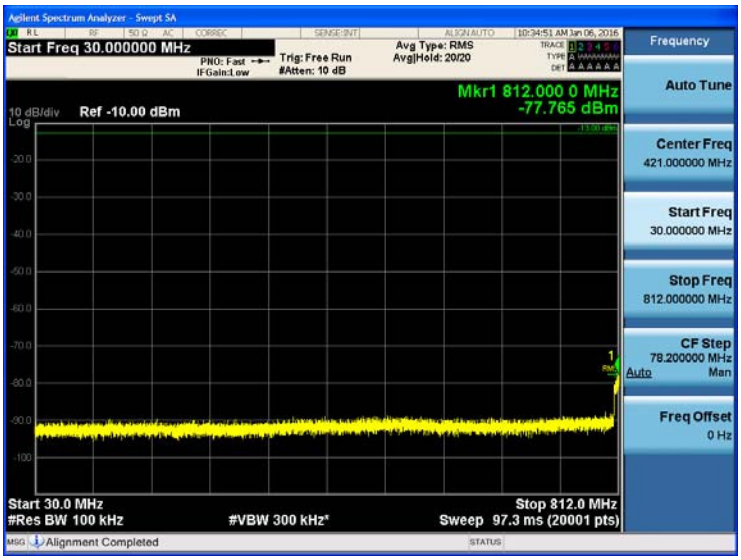
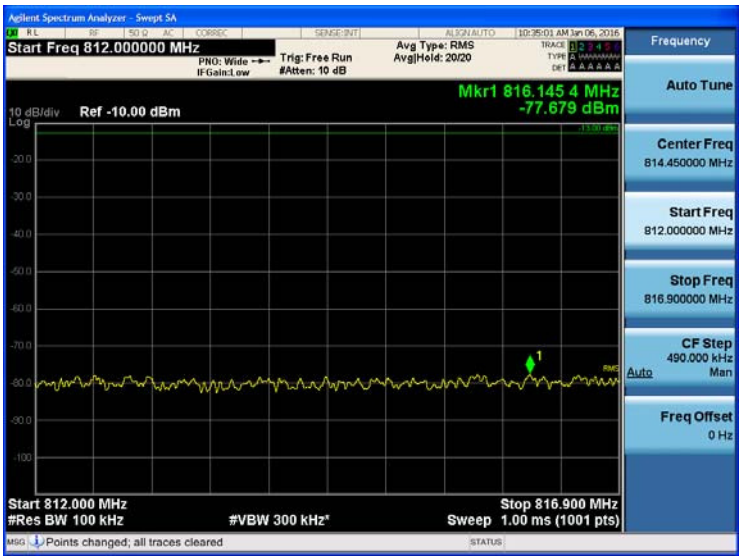
9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

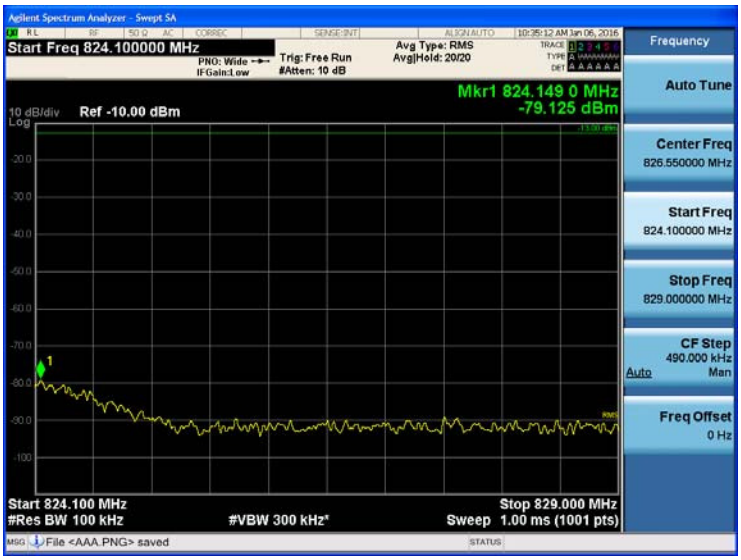
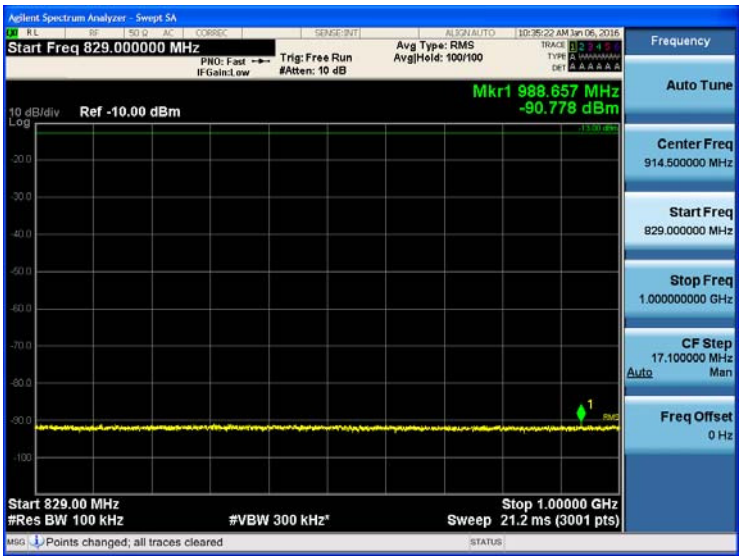
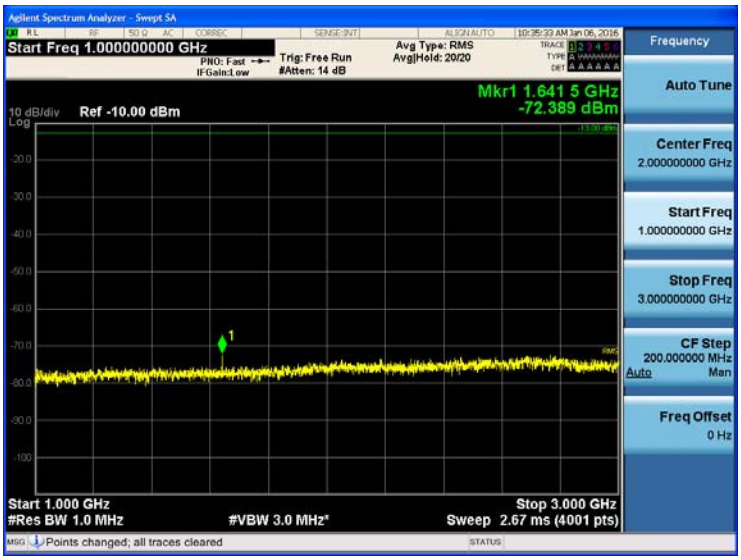
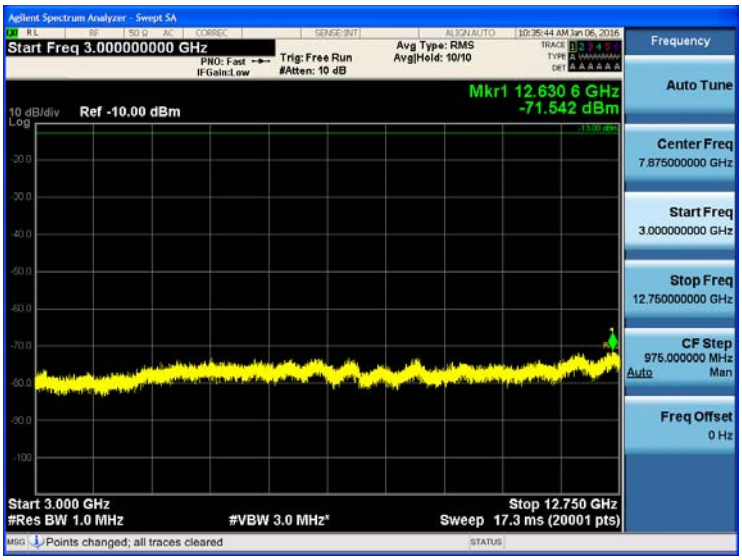
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 12.75GHz**
	

Band Edge	

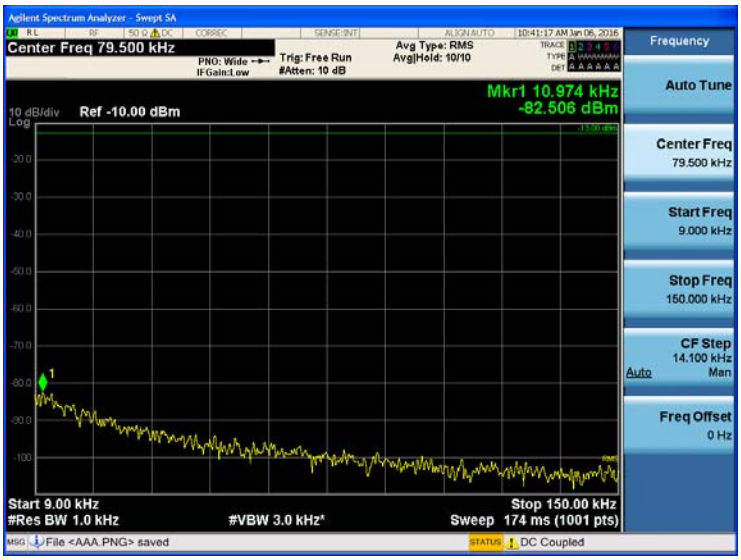
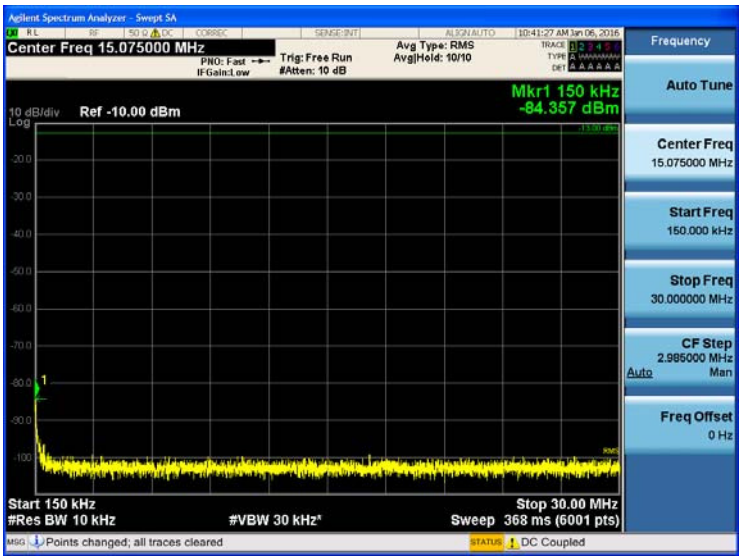
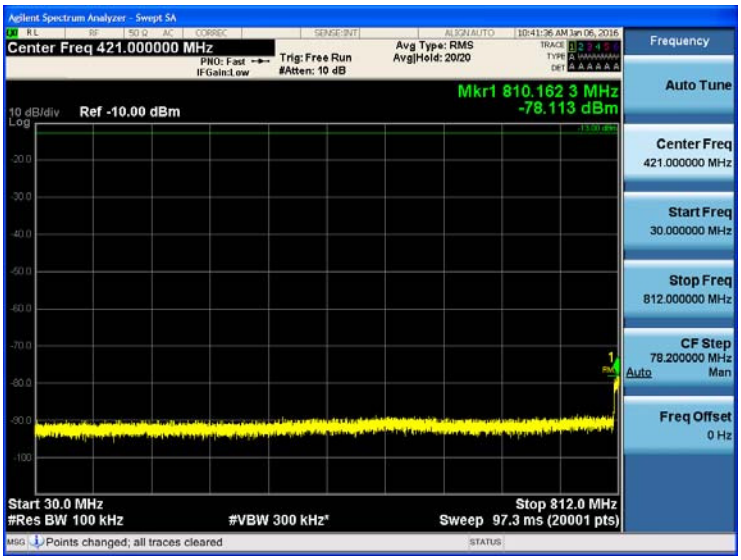
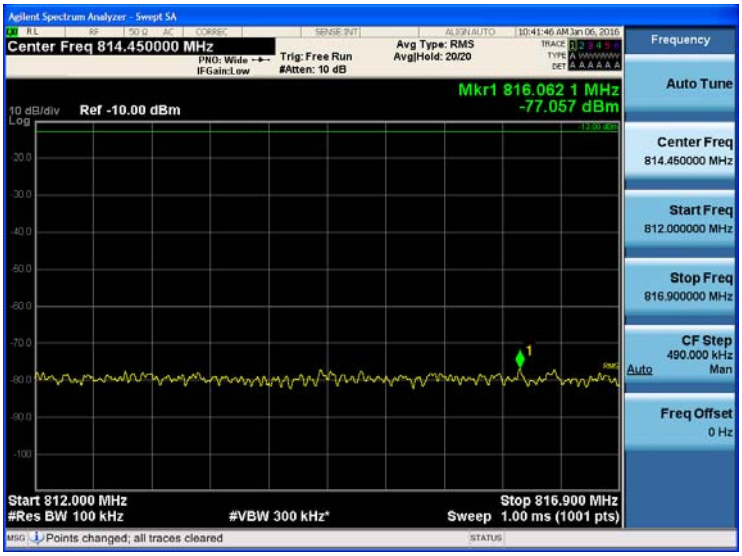
Agilent Spectrum Analyzer - Swept SA
Center Freq 817.000000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 10/10
Mkr1 816.992 5 MHz
-76.420 dBm
10 dB/div
Ref 0.00 dBm
Log
Start 815.750 MHz
#Res BW 18 kHz
#VBW 56 kHz*
Stop 818.250 MHz
#Sweep 1.00 s (1001 pts)
Frequency
Auto Tune
Center Freq
817.000000 MHz
Start Freq
815.750000 MHz
Stop Freq
818.250000 MHz
CF Step
250.000 kHz
Auto
Man
Freq Offset
0 Hz

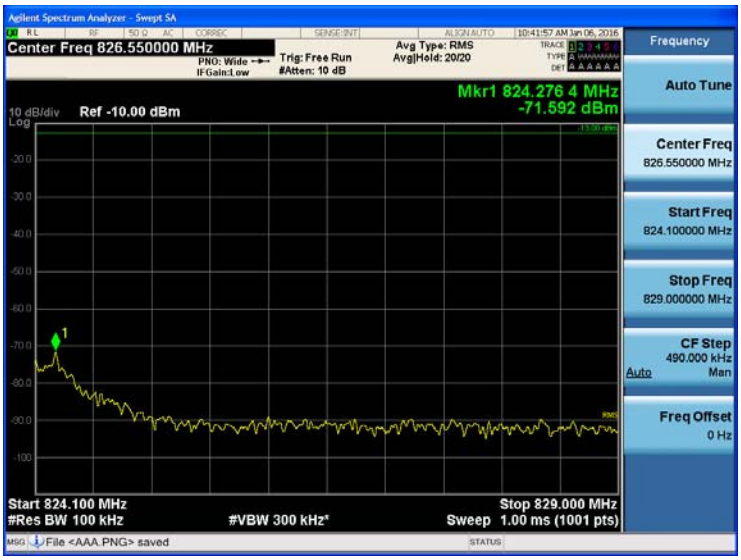
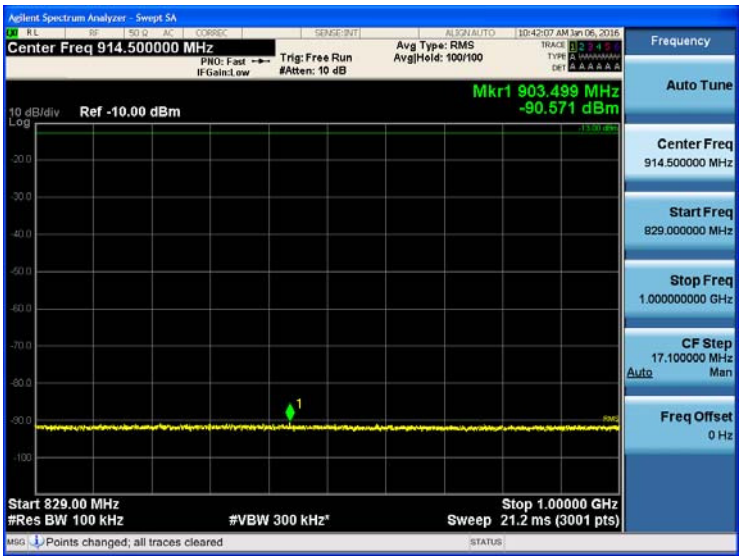
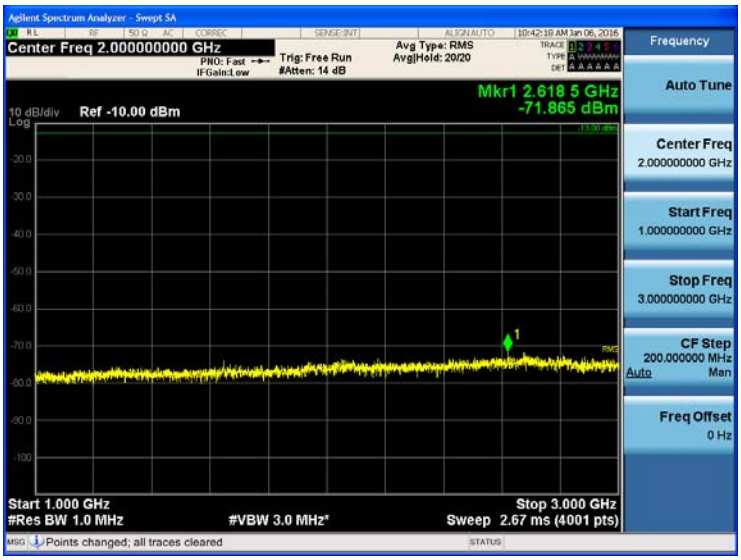
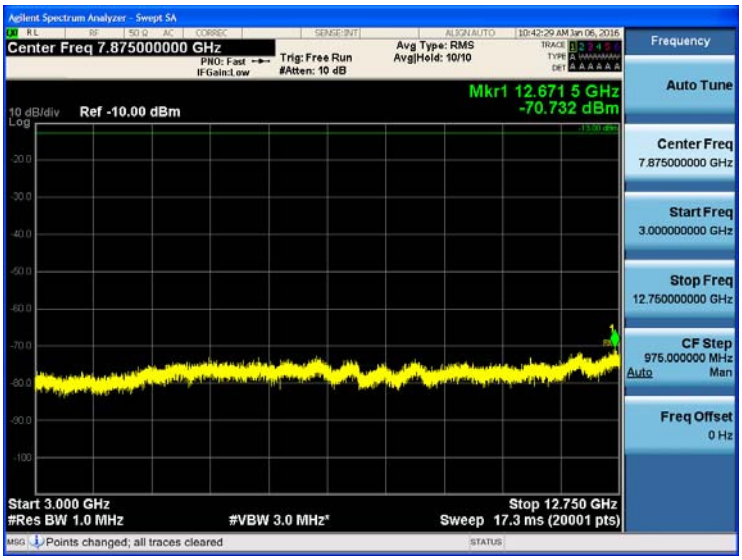
[CDMA 1.25 MHz Uplink Middle]

9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 12.75GHz**
	

[CDMA 1.25 MHz Uplink High]

9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

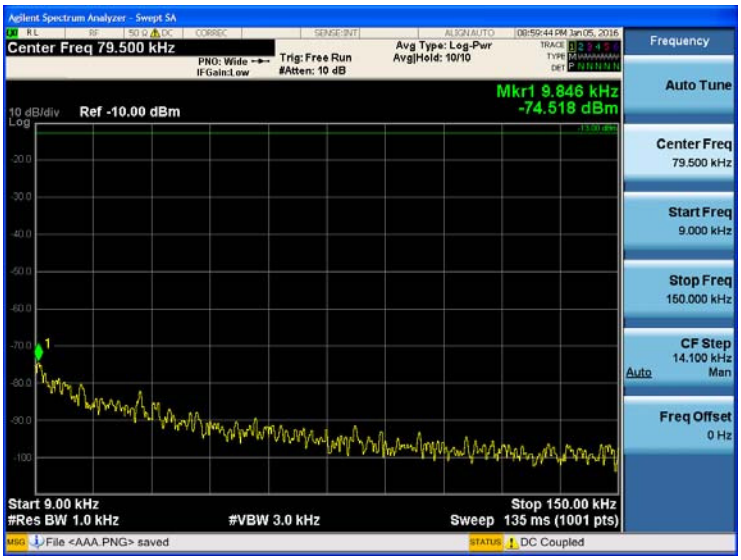
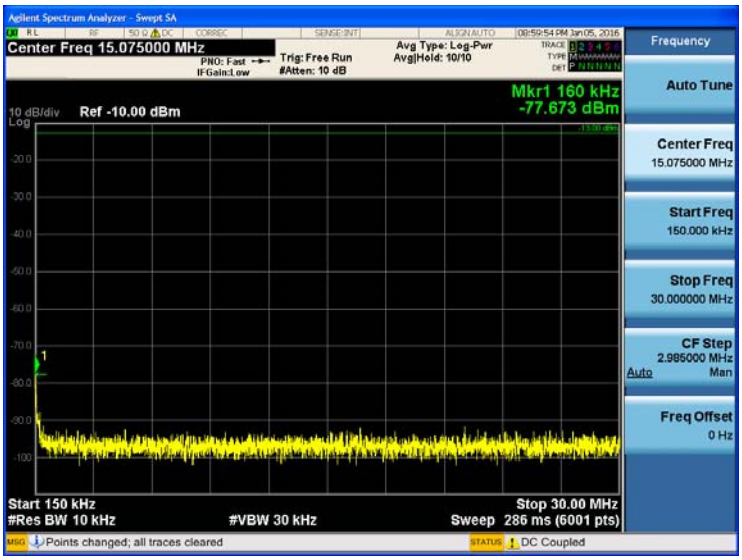
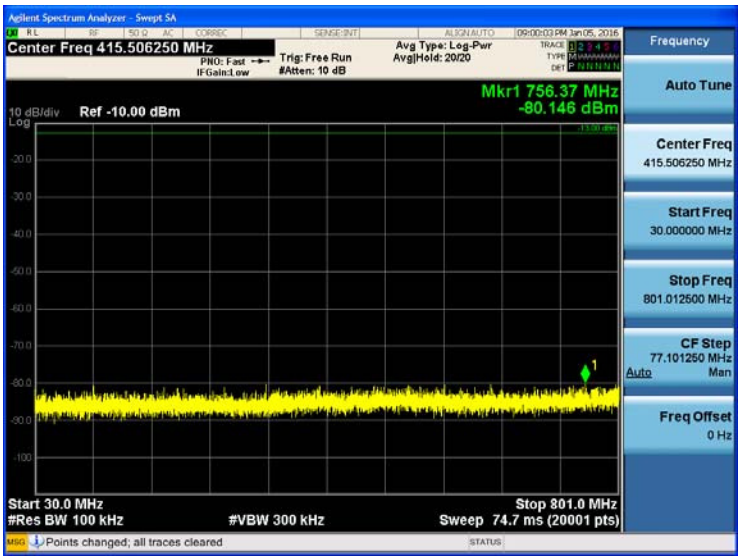
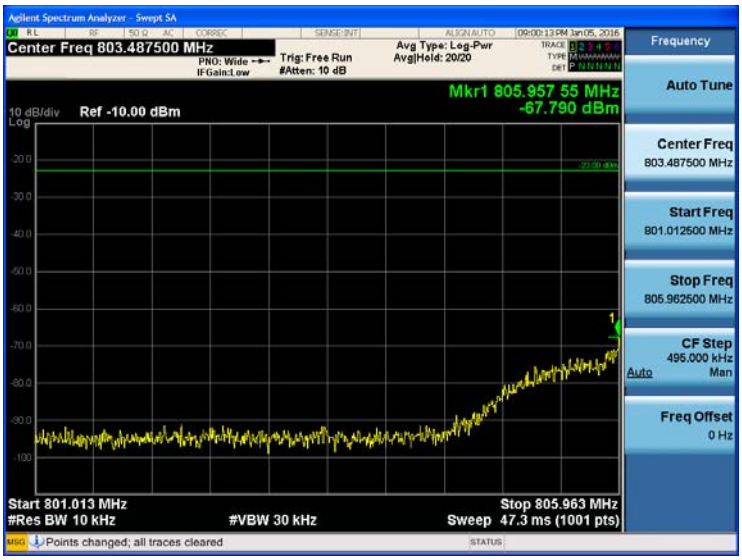
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 12.75GHz**
	

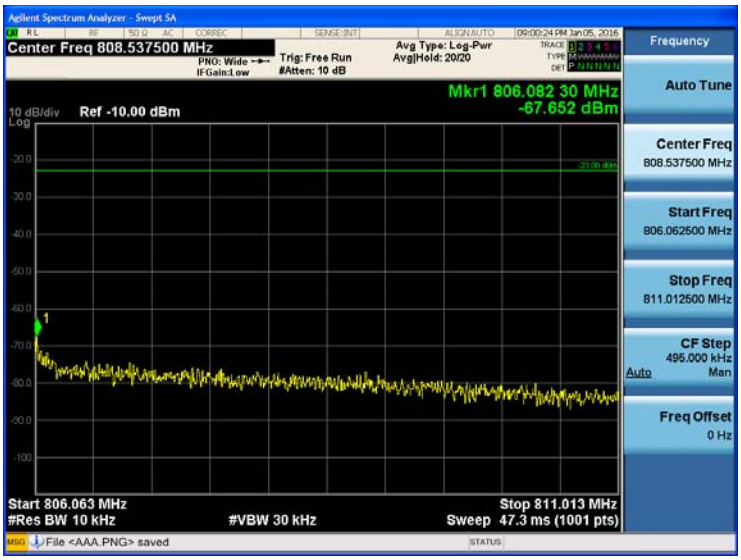
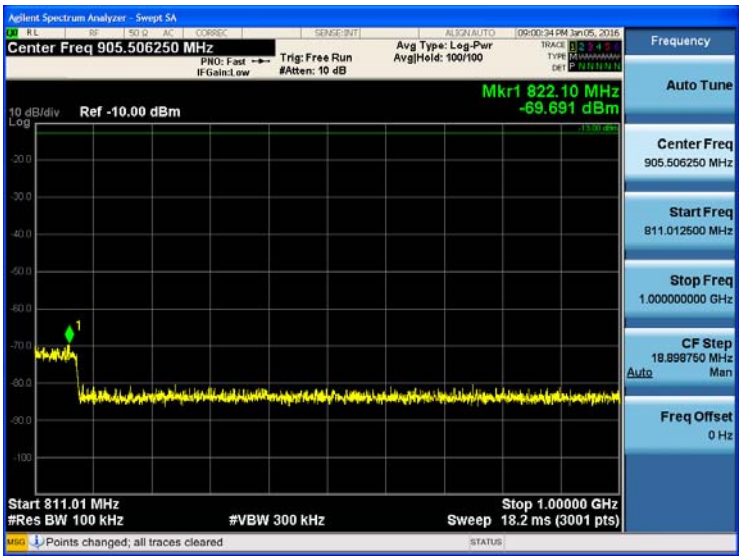
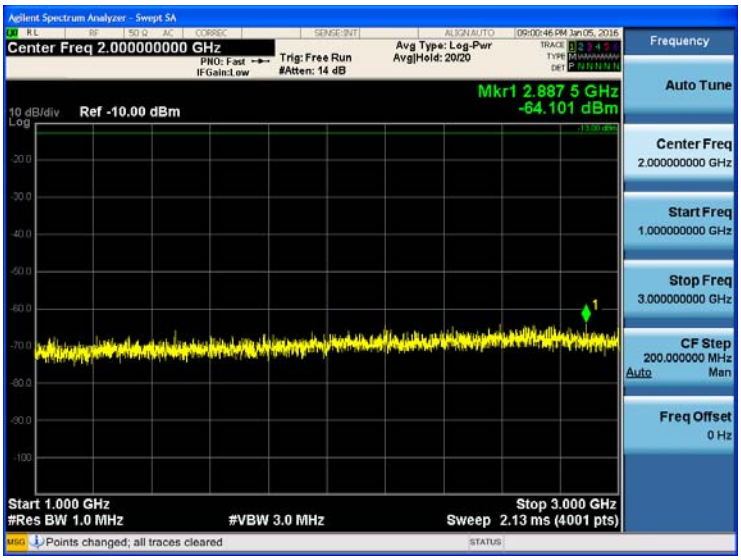
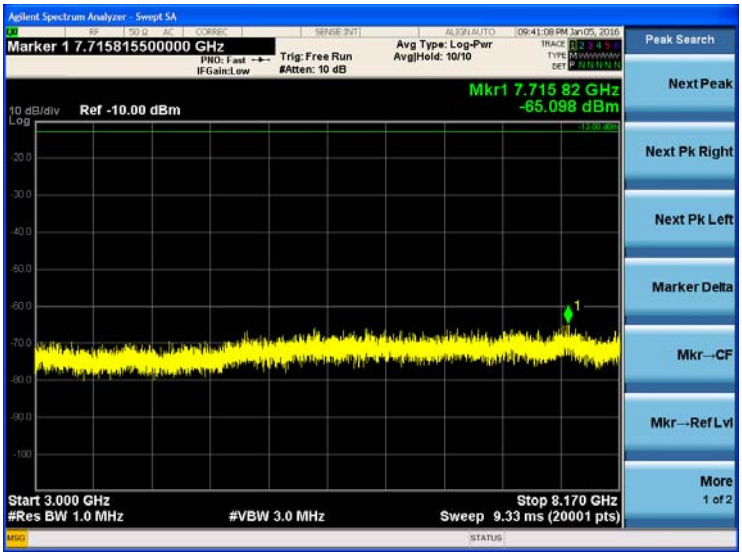
Band Edge	

Agilent Spectrum Analyzer - Swept SA
Center Freq 824.000000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: RMS
Avg|Hold: 10/10
Mkr1 824.037 5 MHz
-77.585 dBm
10 dB/div
Ref 0.00 dBm
Log
Start 822.750 MHz
#Res BW 18 kHz
#VBW 56 kHz*
Stop 825.250 MHz
#Sweep 1.00 s (1001 pts)
Frequency
Auto Tune
Center Freq
824.000000 MHz
Start Freq
822.750000 MHz
Stop Freq
825.250000 MHz
CF Step
250.000 kHz
Auto
Man
Freq Offset
0 Hz

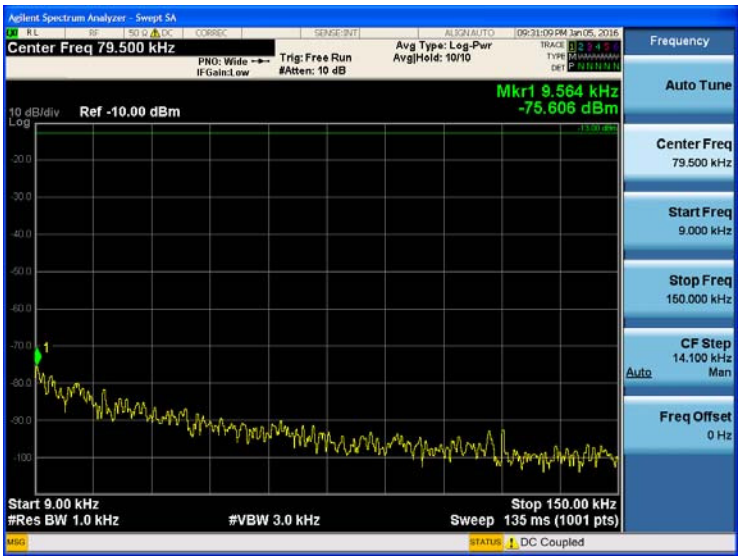
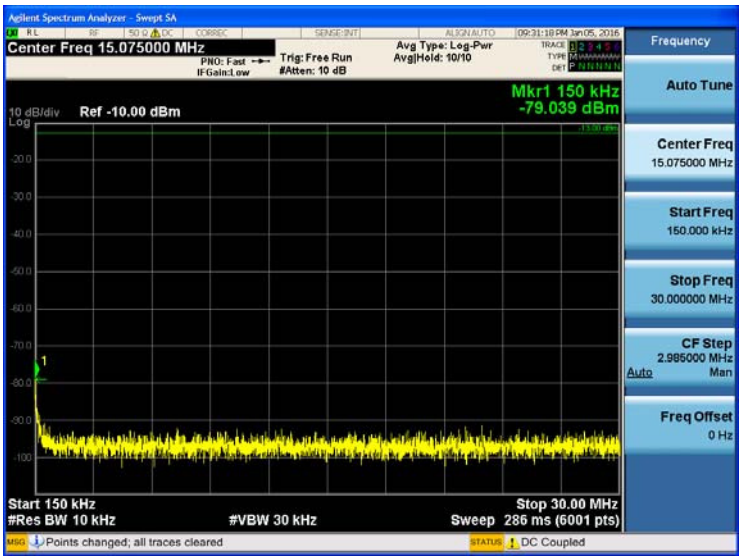
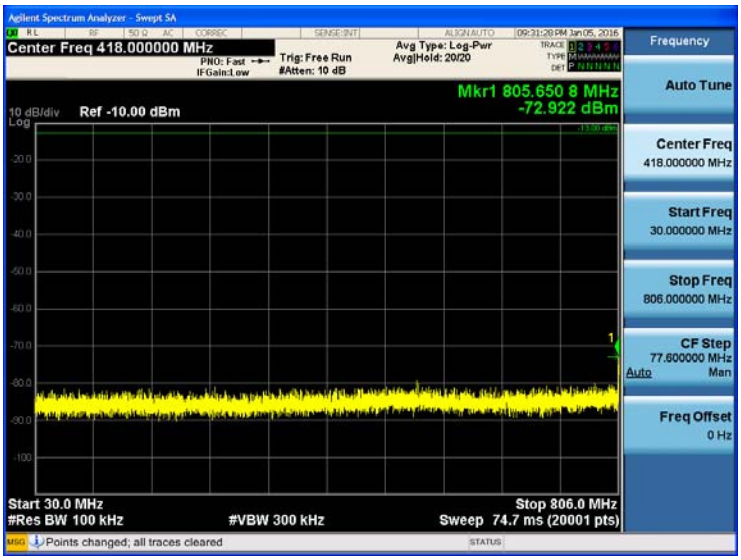
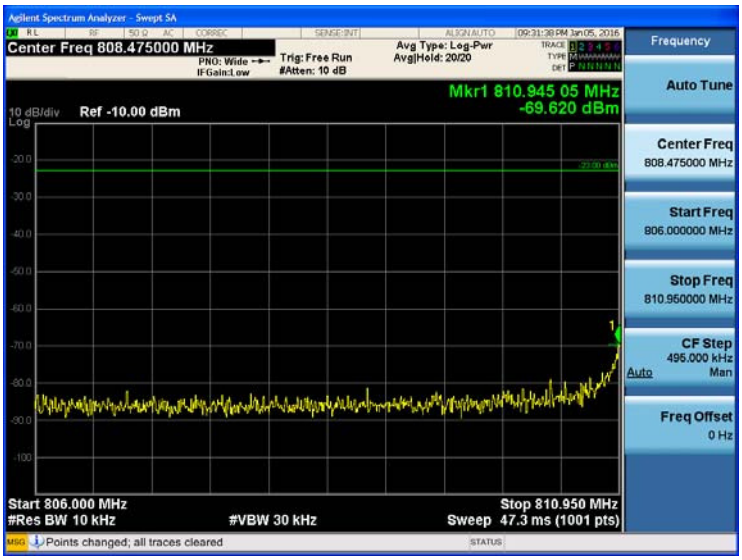
800 MHz Band P25, FM

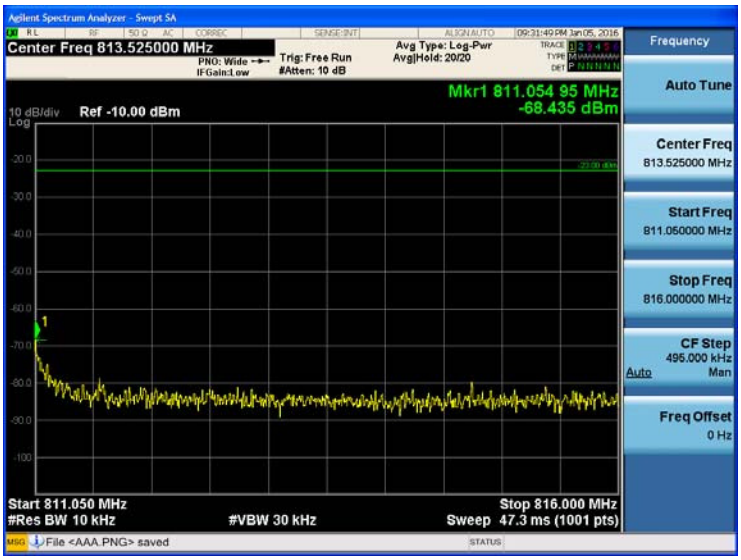
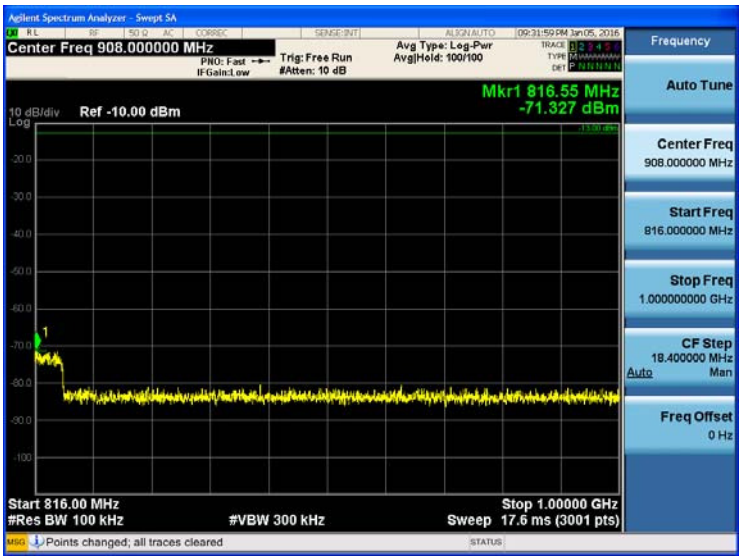
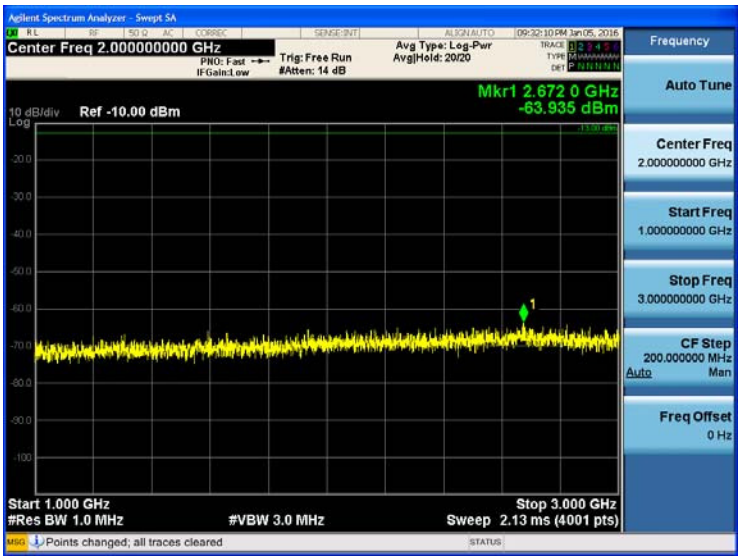
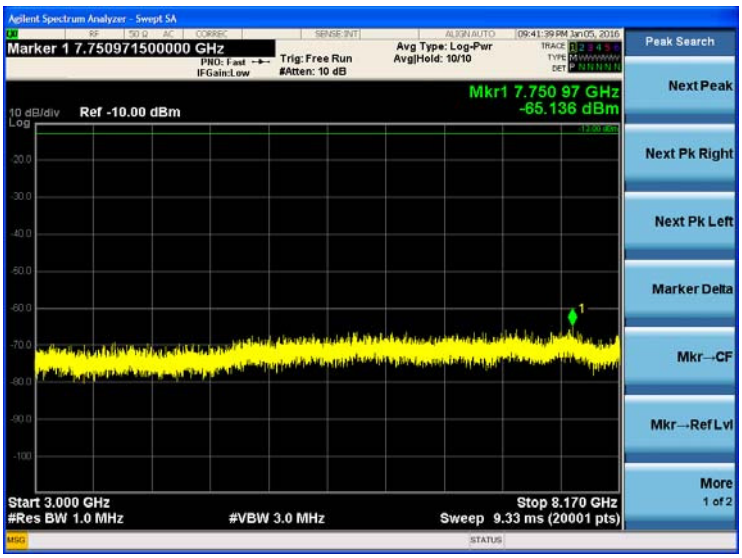
[Uplink Low]

9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

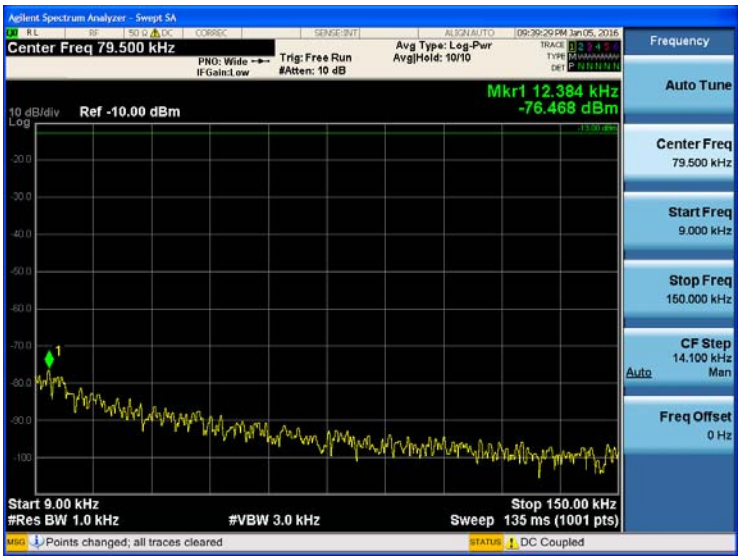
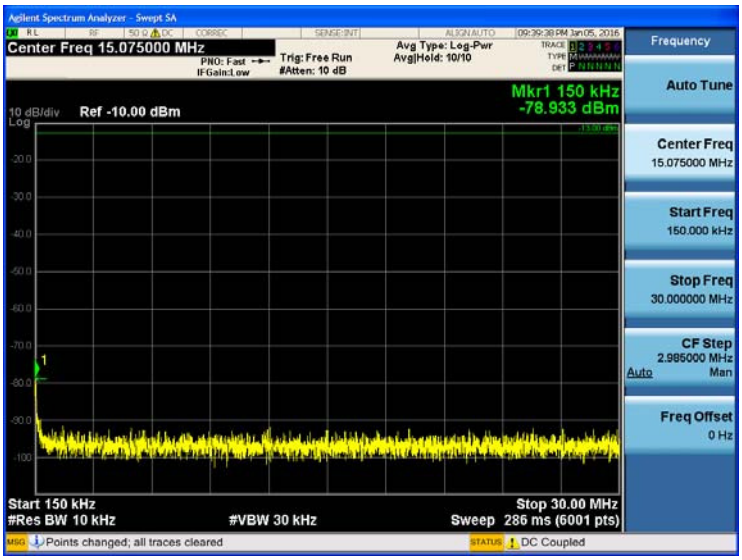
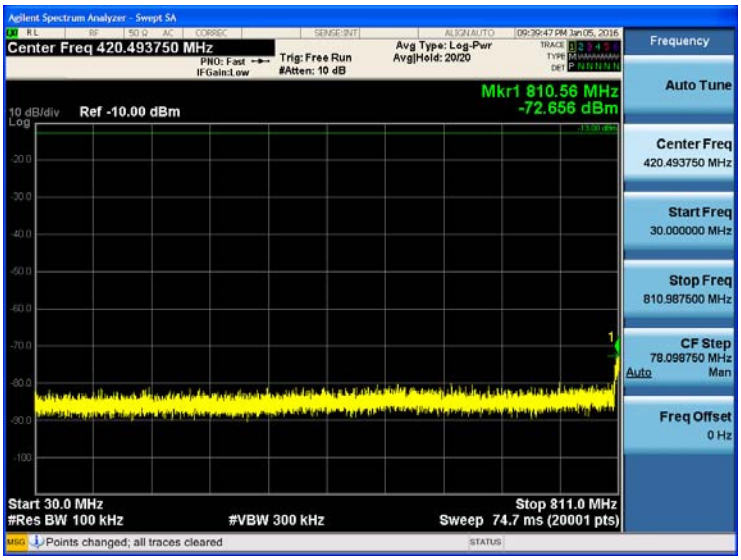
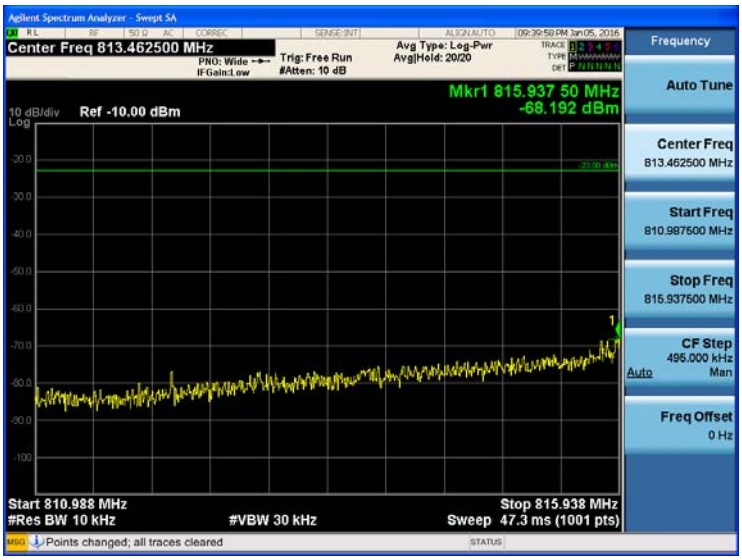
30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 10th Harmonic**
	

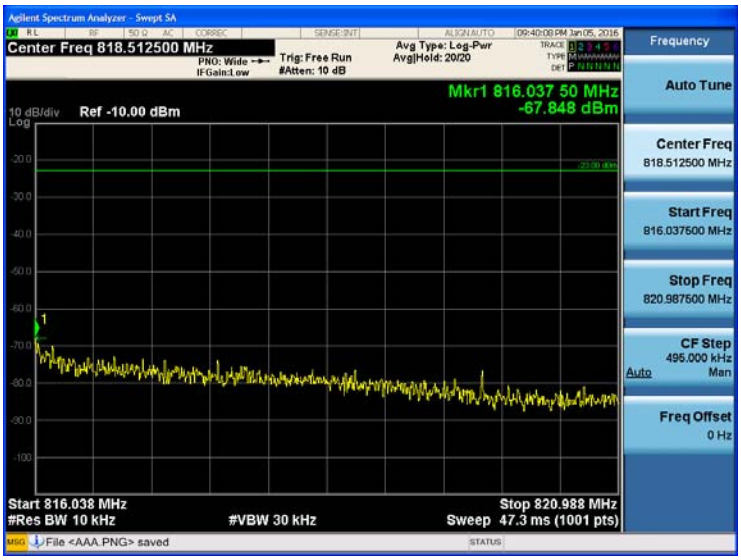
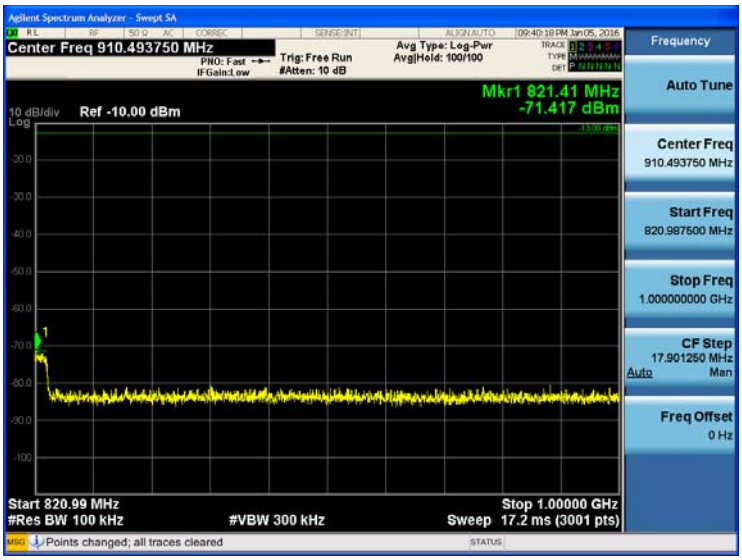
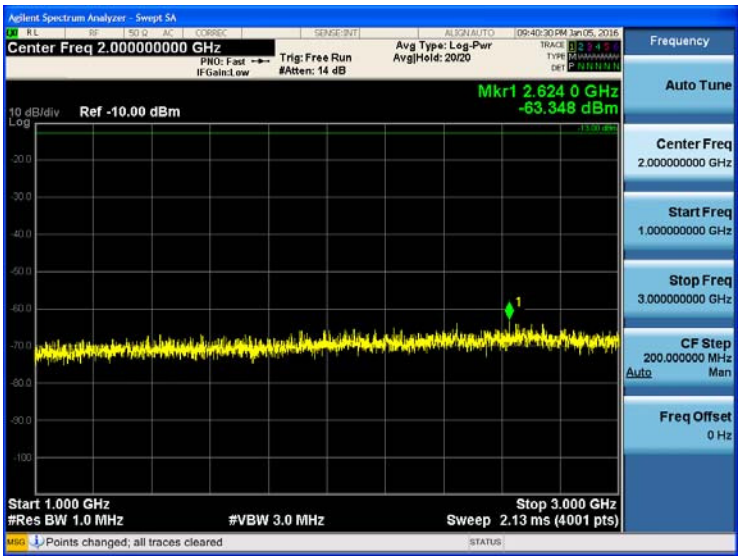
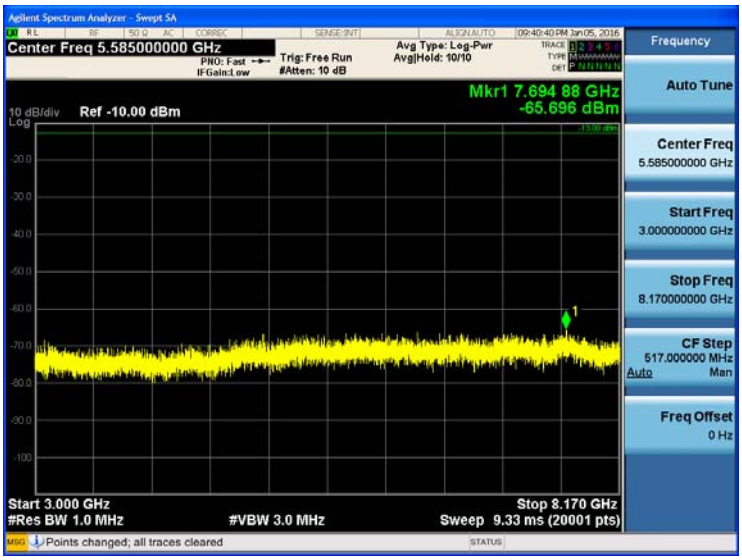
[Uplink Middle]

9kHz ~ 150kHz	150kHz ~ 30MHz
	
30MHz ~ 1GHz-1	**30MHz ~ 1GHz-2**
	

30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 10th harmonic**
	

[Uplink High]

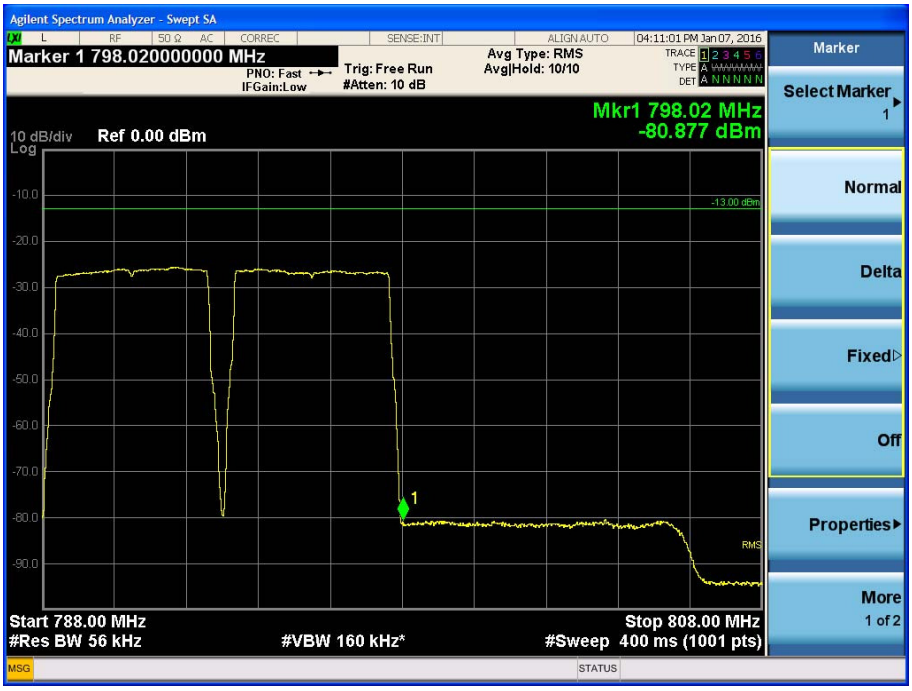
9㎑ ~ 150㎑	150㎑ ~ 30㎒
	
30㎒ ~ 1㎓-1	**30㎒ ~ 1㎓-2**
	

30MHz ~ 1GHz-3	30MHz ~ 1GHz-4
	
1GHz ~ 3GHz	**3GHz ~ 10th Harmonic**
	

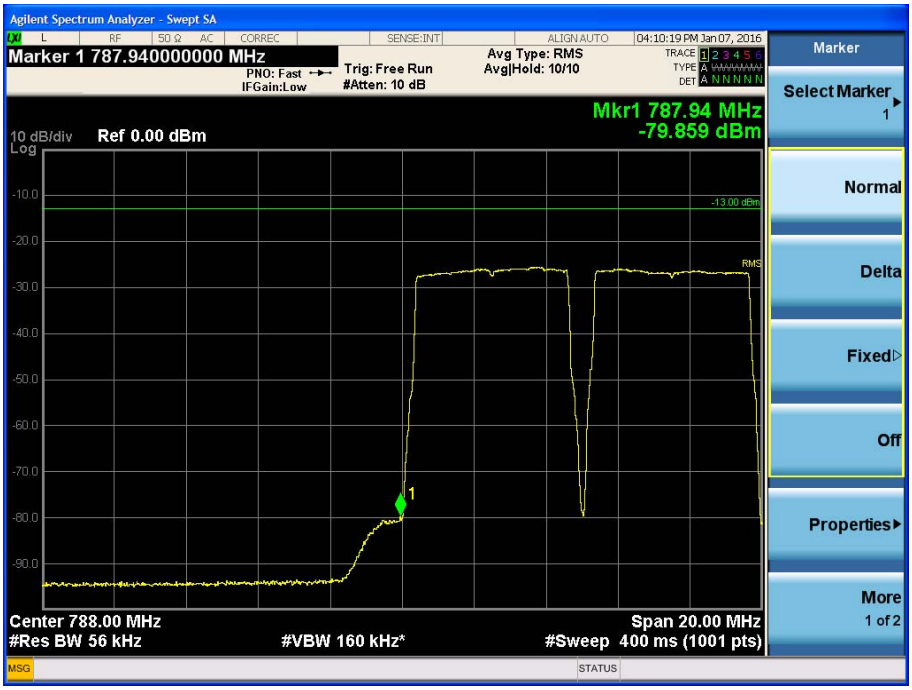
Intermodulation Spurious Emissions for FCC

700 MHz Band_LTE

[700 Band LTE 5 MHz Uplink Low]



[700 Band LTE 5 MHz Uplink High]

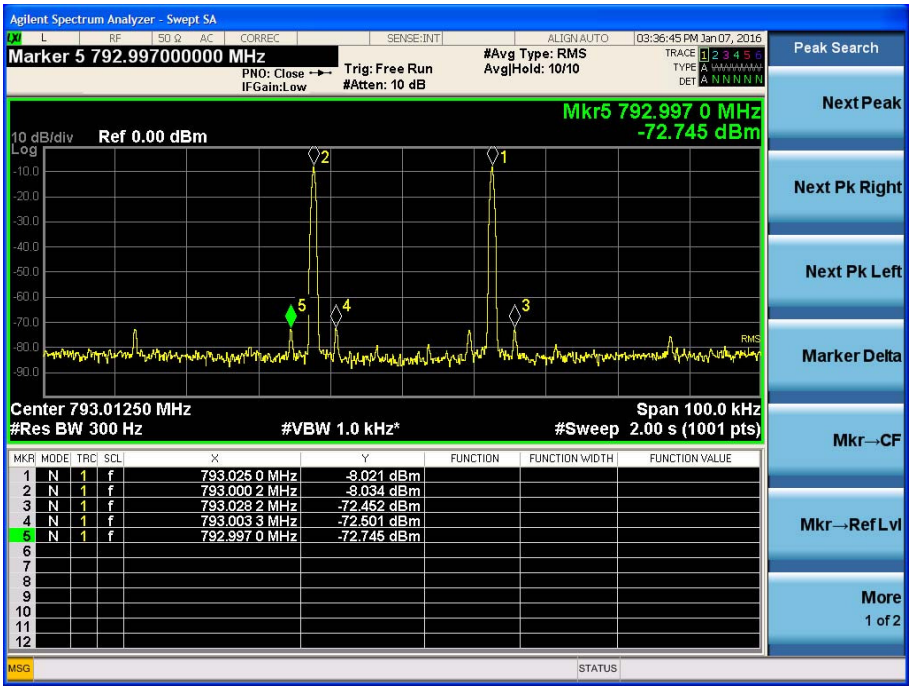


[LTE 10 MHz Uplink]

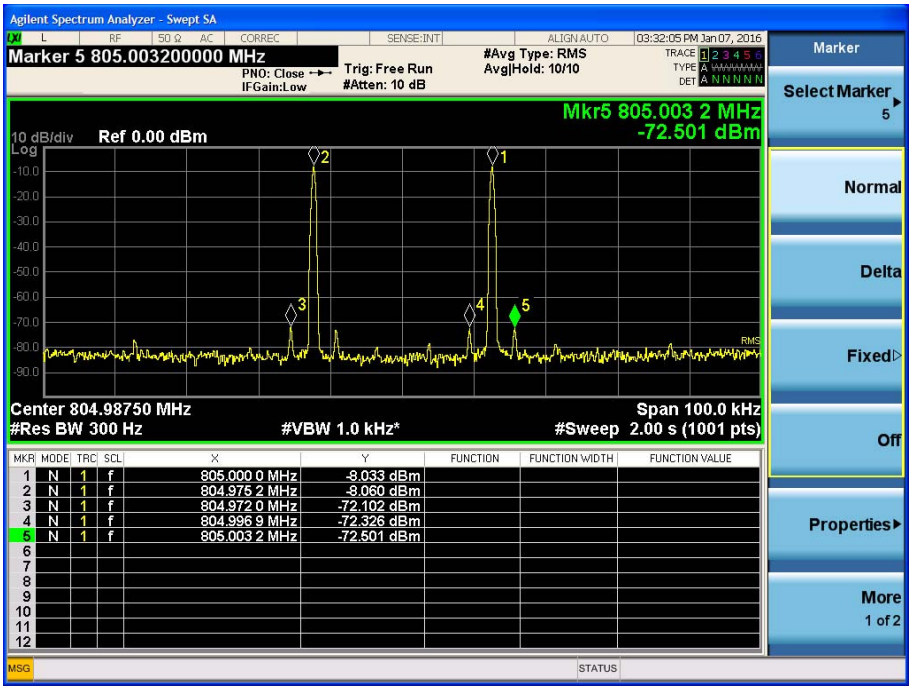
*** Were omitted test because the device amplifies only one selected channel.**

700 MHz P25, FM

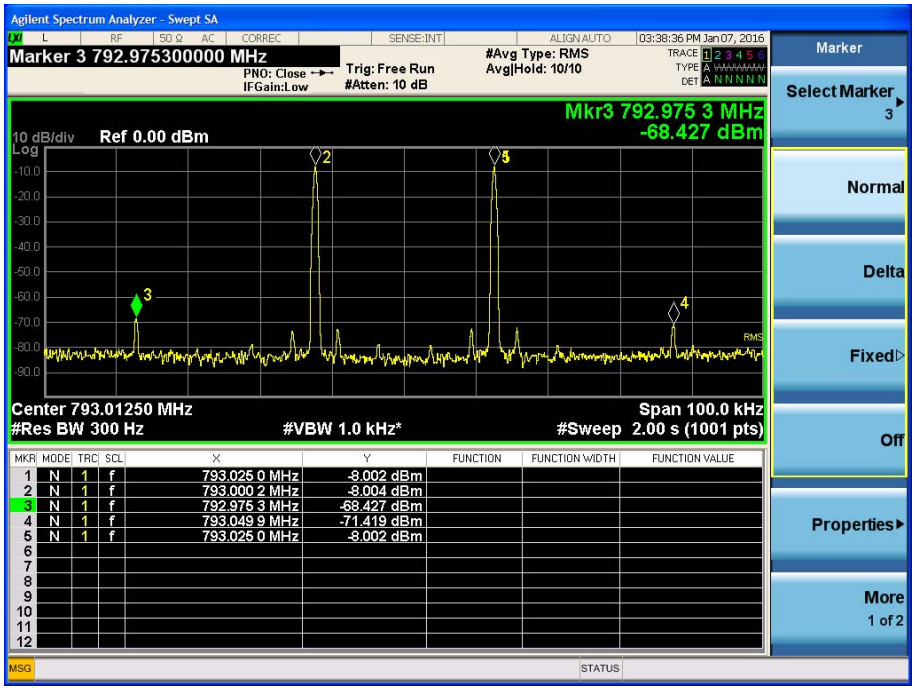
[700 Band AGC threshold Uplink Low]



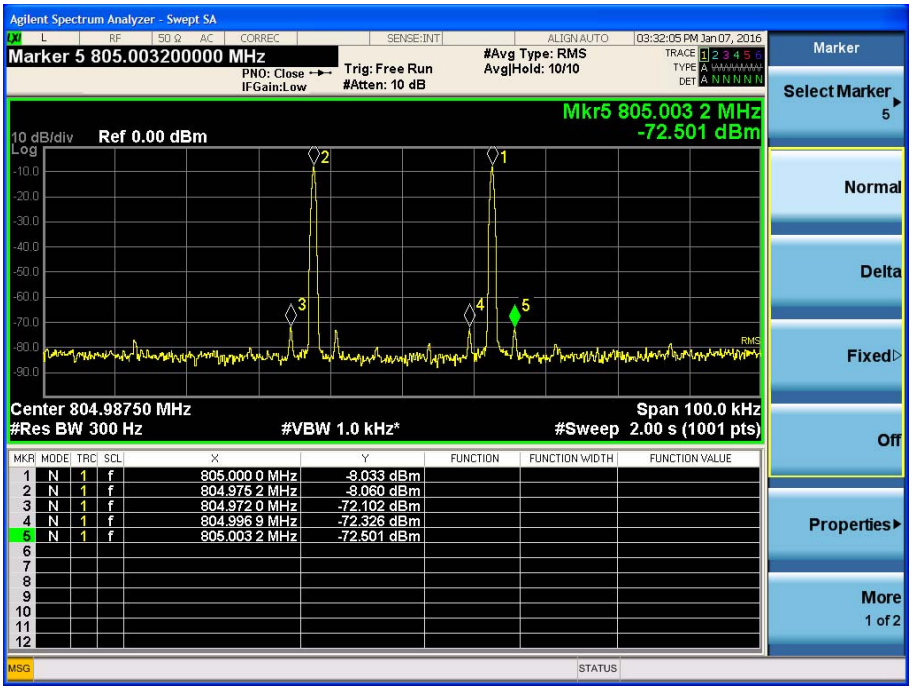
[700 Band AGC threshold Uplink High]



[700 Band +3dB above the AGC threshold Uplink Low]



[700 Band +3dB above the AGC threshold Uplink High]

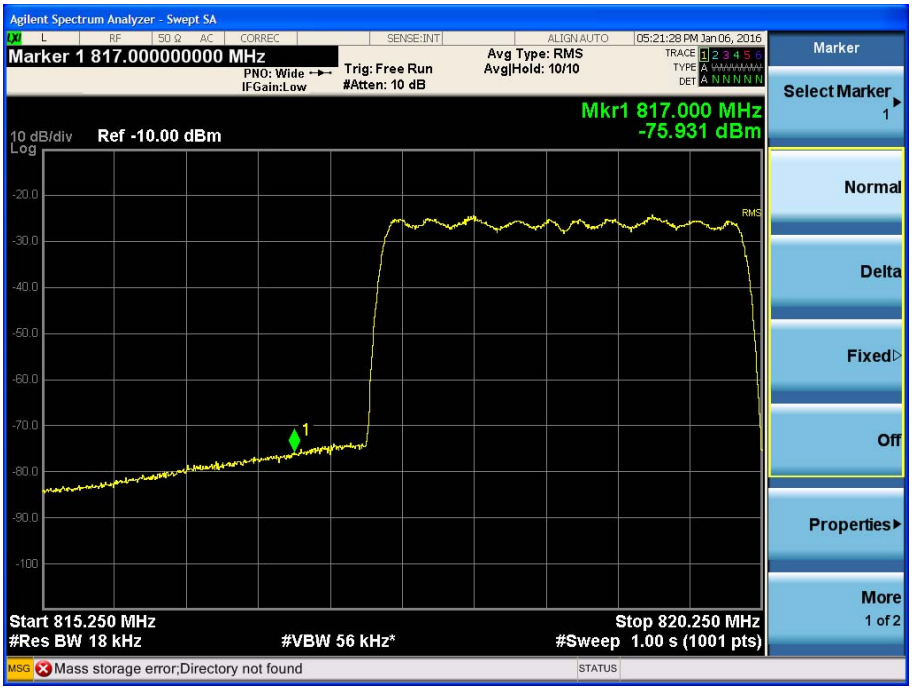


800 MHz Band LTE, CDMA

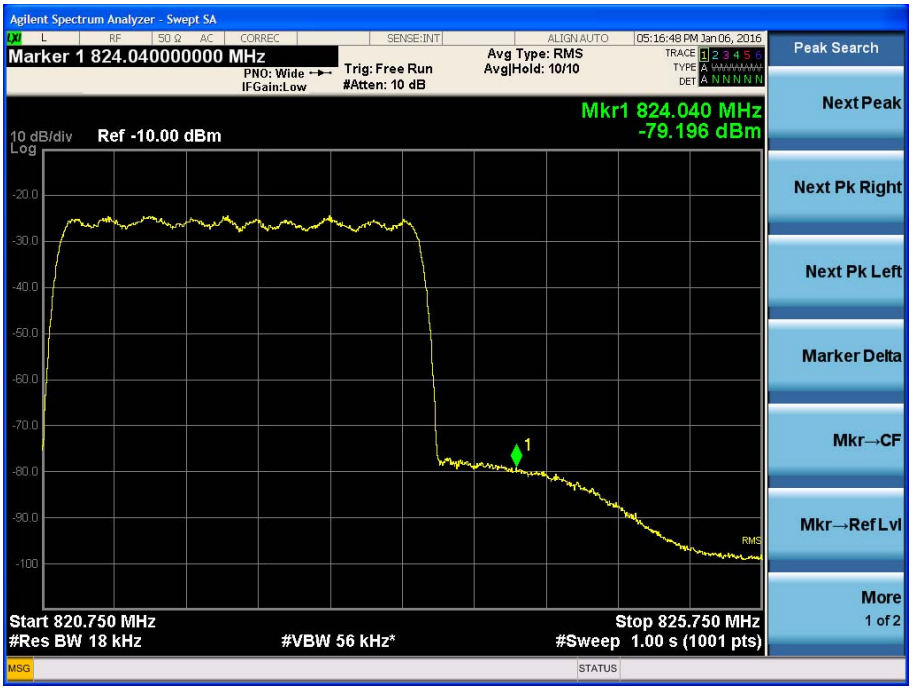
[800 Band LTE 5 MHz Uplink]

*** Were omitted test because the device amplifies only one selected channel.**

[800 Band CDMA 1.25 MHz Uplink Low]

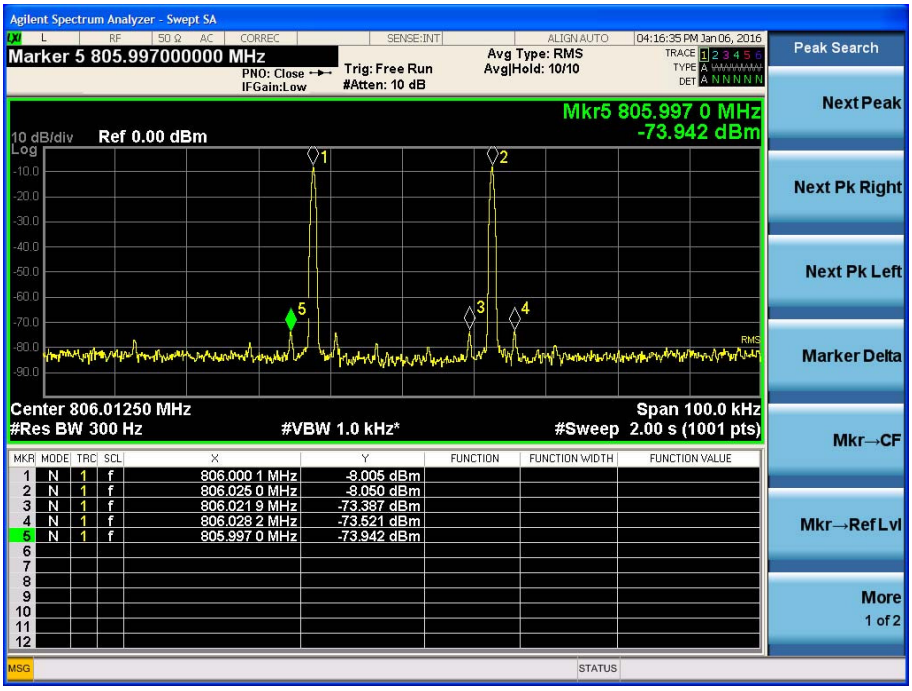


[800 Band CDMA 1.25 MHz Uplink High]

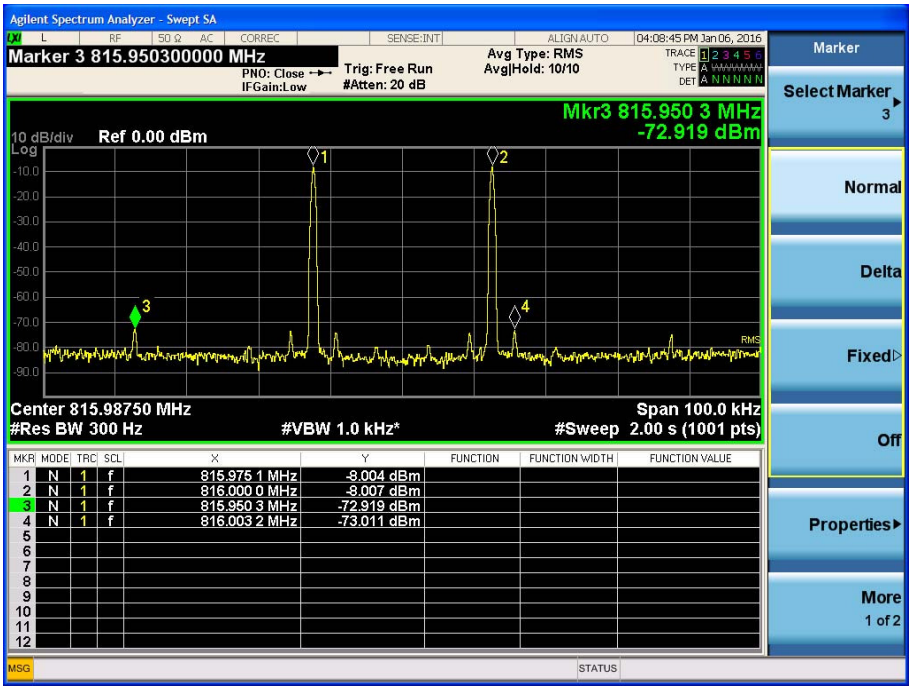


800 MHz Band P25, FM

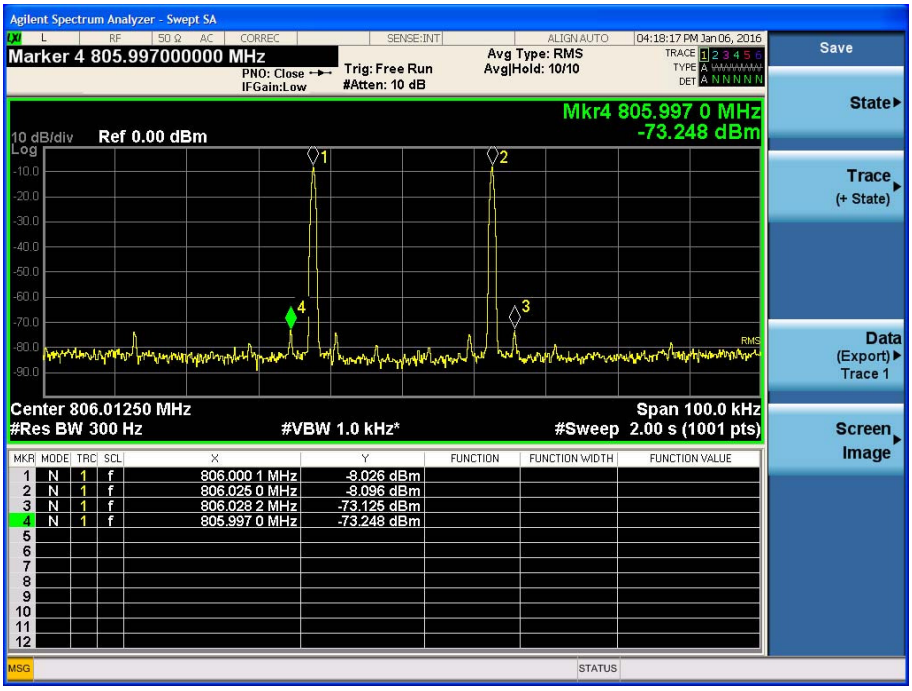
[800 Band AGC threshold Uplink High]



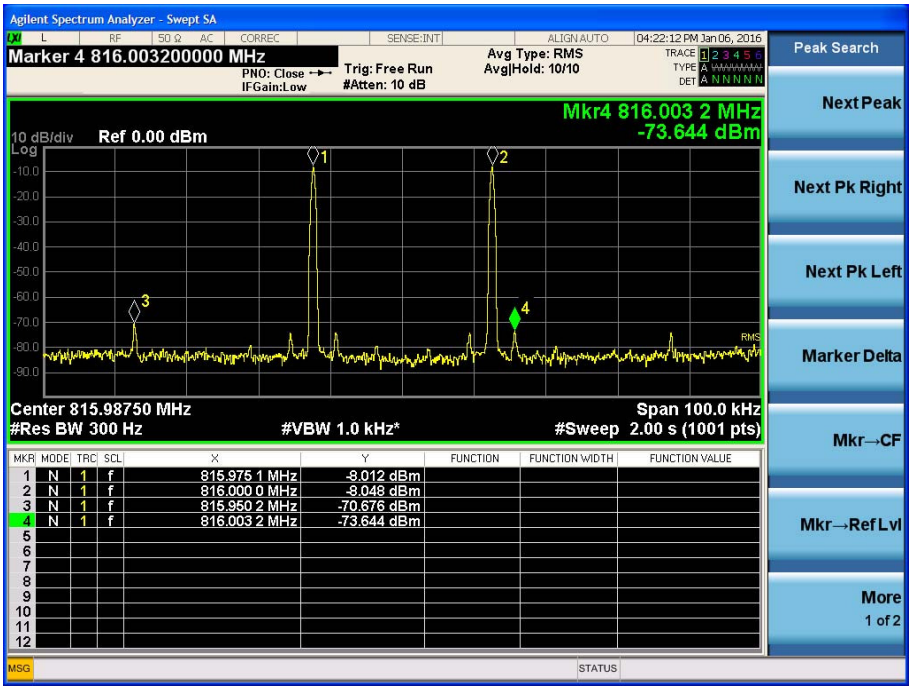
[800 Band AGC threshold Uplink High]



[800 Band +3dB above the AGC threshold Uplink High]



[800 Band +3dB above the AGC threshold Uplink High]



10. RADIATED SPURIOUS EMISSIONS

Test Requirement(s): § 2.1053 Measurements required: Field strength of spurious radiation.

§ 2.1053 (a) Measurements shall be made to detect spurious emissions that may be Radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of § 2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field strength measurements. Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from half-wave dipole antennas.

§ 2.1053 (b): The measurements specified in paragraph (a) of this section shall be made for the following equipment:

(1) Those in which the spurious emissions are required to be 60 dB or more below the mean power of the transmitter.

(2) All equipment operating on frequencies higher than 25 MHz.

(3) All equipment where the antenna is an integral part of, and attached directly to The transmitter.

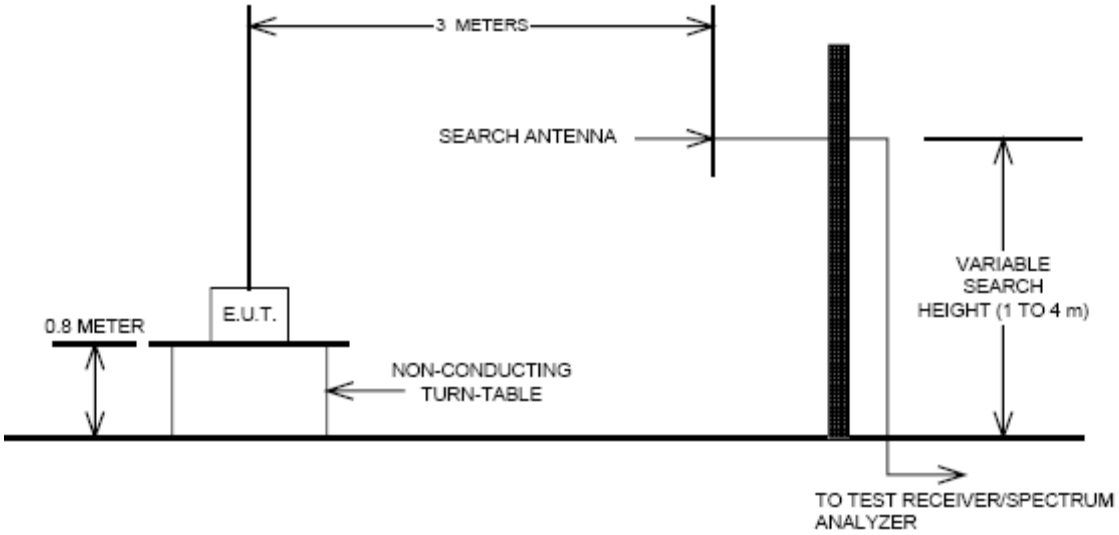
(4) Other types of equipment as required, when deemed necessary by the Commission.

Test Procedures: As required by 47 CFR 2.1053, *field strength of radiated spurious measurements* were made in accordance with the procedures of ANSI/TIA-603-C-2004 "Land Mobile FM or PM Communications Equipment Measurement and Performance Standards".

Radiated emission measurements were performed inside a 3 meter semi-anechoic chamber. The EUT was set at a distance of 3m from the receiving antenna. The EUT's RF ports were terminated to 50ohm load. The EUT was set to transmit at the low, mid and high channels of the transmitter frequency range at its maximum power level. The EUT was rotated about 360 and the receiving antenna scanned from 1-3m in order to capture the maximum

emission. A calibrated antenna source was positioned in place of the EUT and the previously recorded signal was duplicated. The maximum EIRP of the emission was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried. out with the receiving antenna in both vertical and horizontal polarization. Harmonic emissions up to the 10th or 40GHz, whichever was the lesser, were investigated.

Radiated Spurious Emissions Test Setup



Test Result:

Note.

Input signal is the CW signal.

700 MHz band

[Uplink]

Voltage supplied to EUT	Tx Freq.(MHz)	Freq.(MHz)	Substitute Level [dBm]	Ant. Gain (dBi)	C.L	Pol.	EIRP (dBm)	Margin (dB)
120 Vac	758	No Peak Found						
	766.5							
	775							

800 MHz band

[Uplink]

Voltage supplied to EUT	Tx Freq.(MHz)	Freq.(MHz)	Substitute Level [dBm]	Amp. Gain (dB)	Ant Factor. (dB/m)	C.L (dB)	Pol.	EIRP (dBm)	Margin (dB)
120 Vac	851	1702.035	-32.07	41.10	25.760	3.050	H	-44.36	14.36
	860	1719.960	-34.32	41.10	25.774	3.072	H	-46.57	16.57
	869	1738.055	-36.43	41.02	25.788	3.073	H	-48.59	18.59