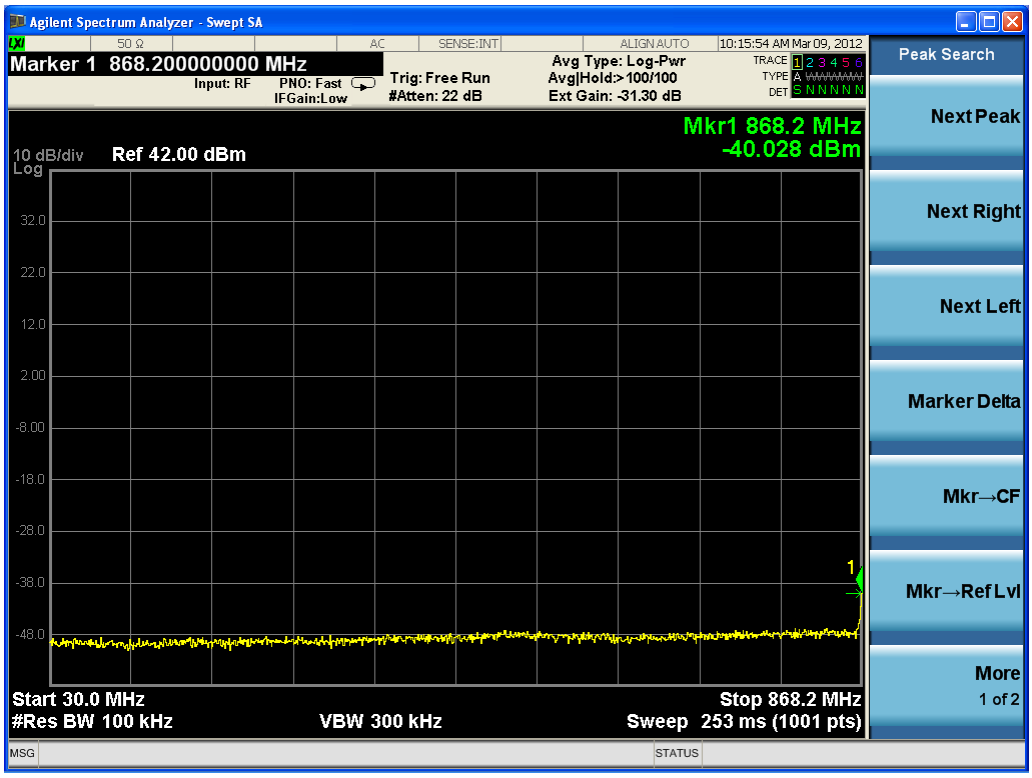
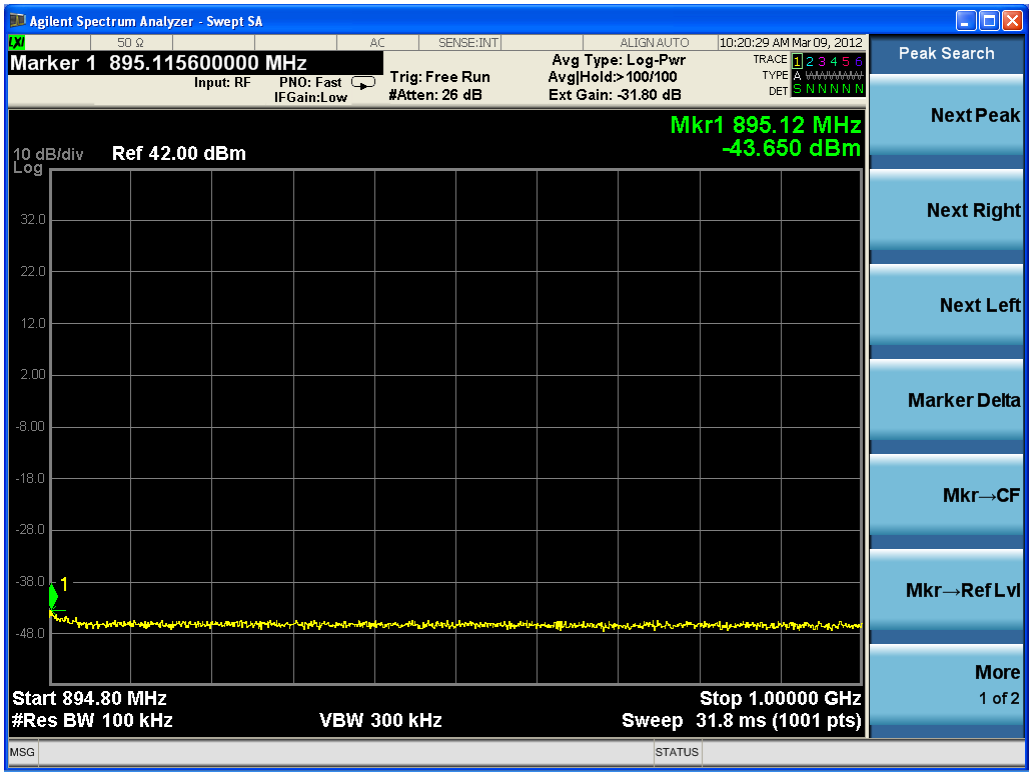
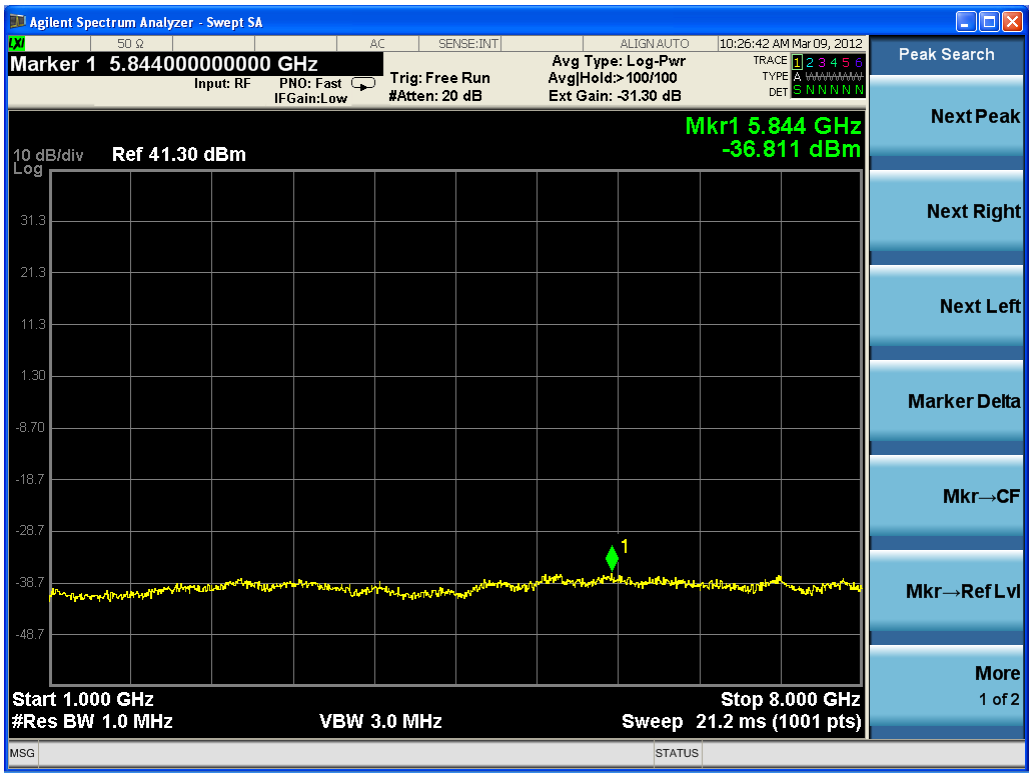
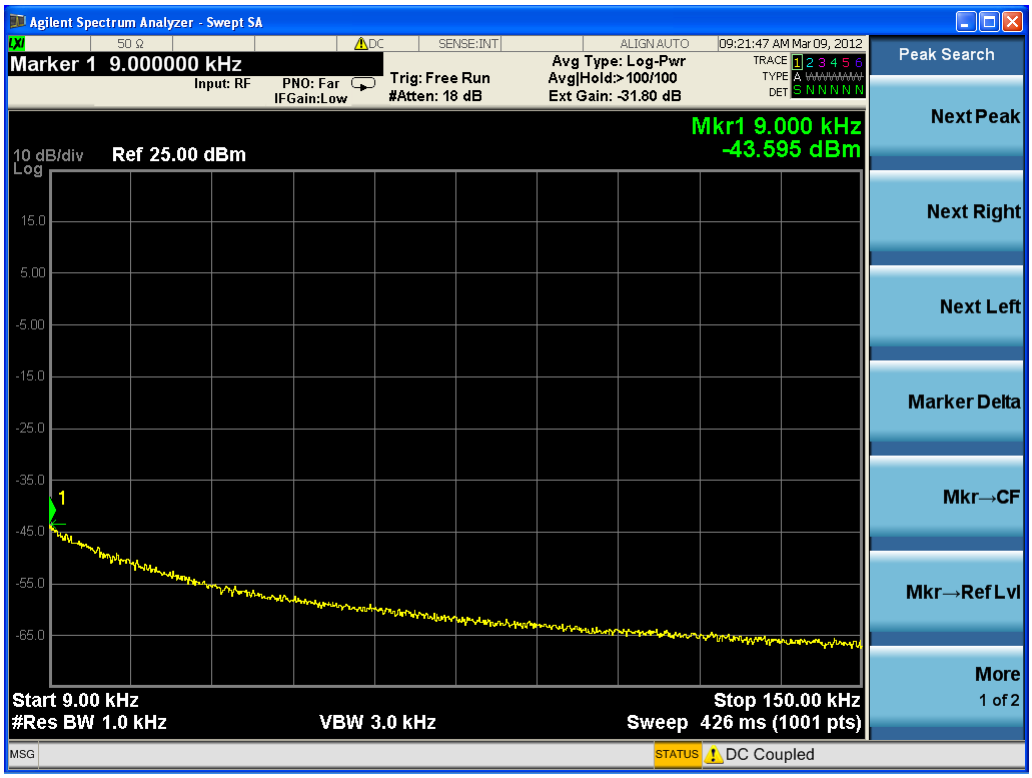
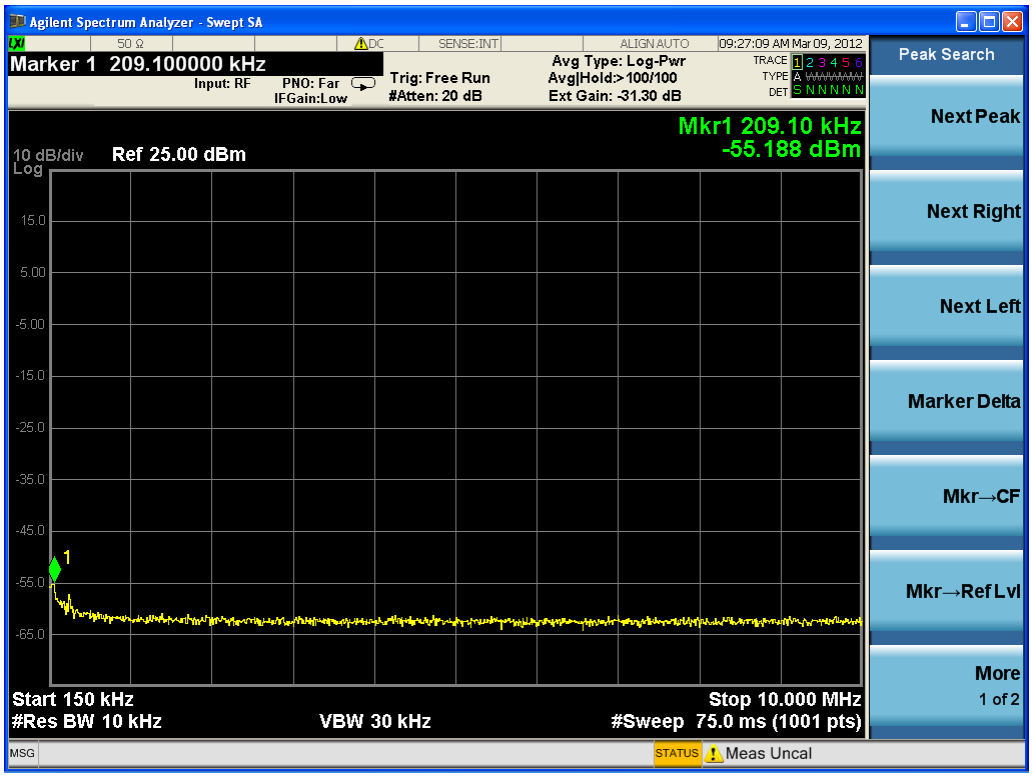

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.200000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:15:54 AM Mar 09, 2012
Mkr1 868.2 MHz -40.028 dBm
10 dB/div Log
Ref 42.00 dBm
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

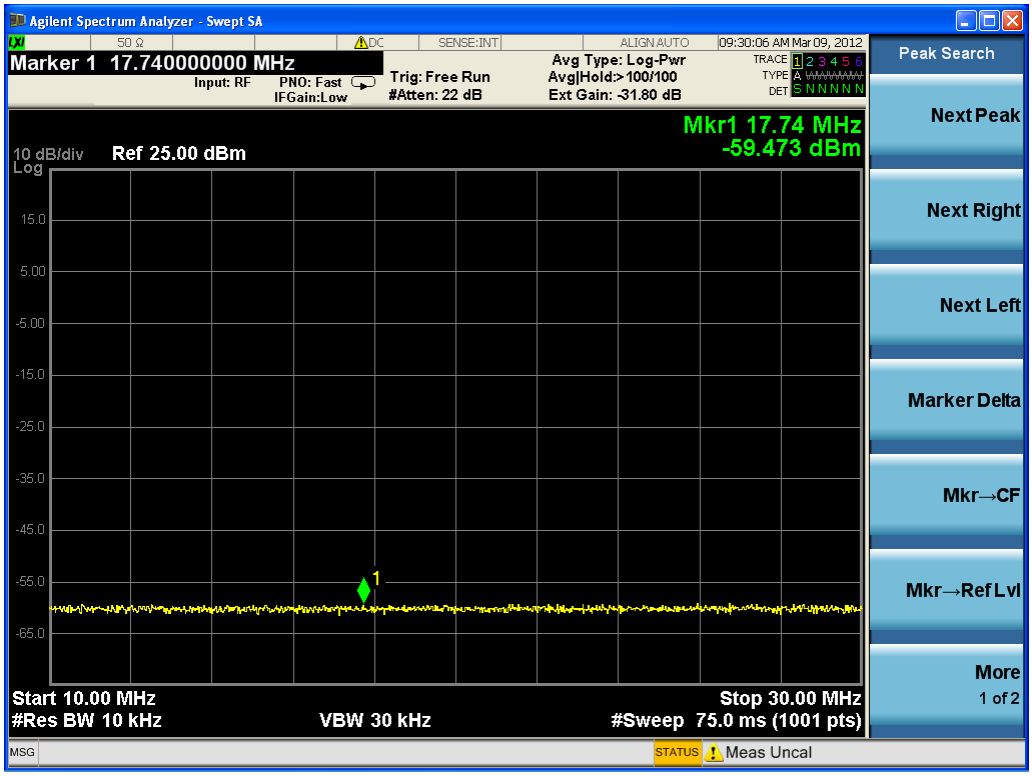

Agilent Spectrum Analyzer - Swept SA
Marker 1 895.115600000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:20:29 AM Mar 09, 2012
Mkr1 895.12 MHz -43.650 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

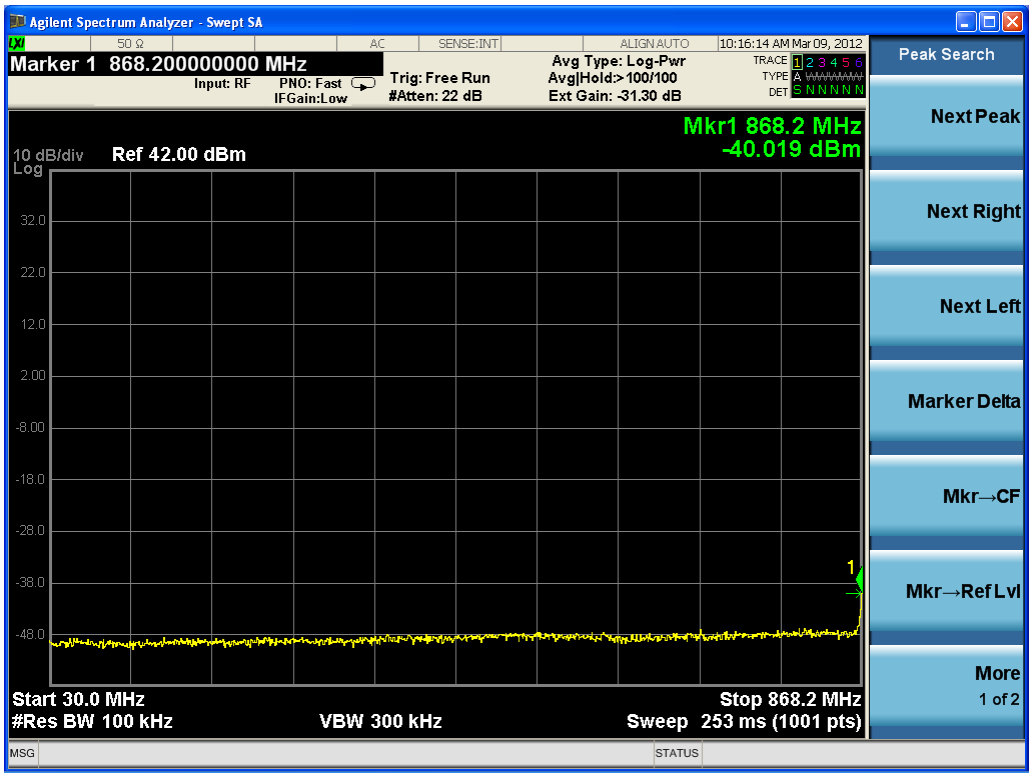


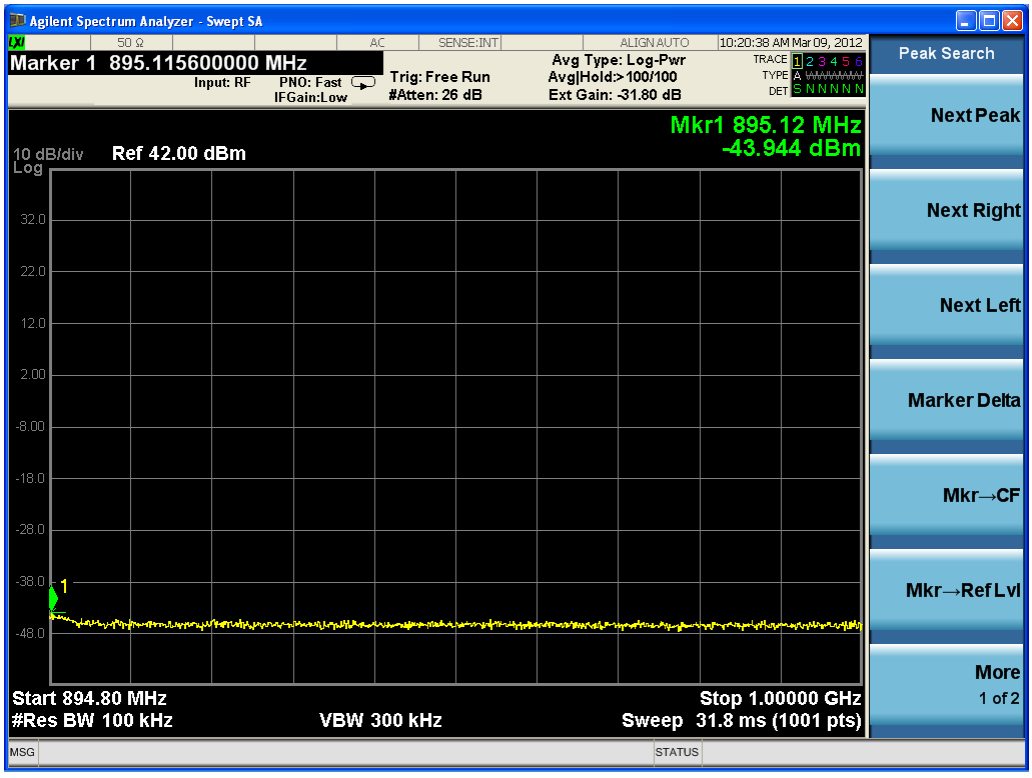
Five carriers

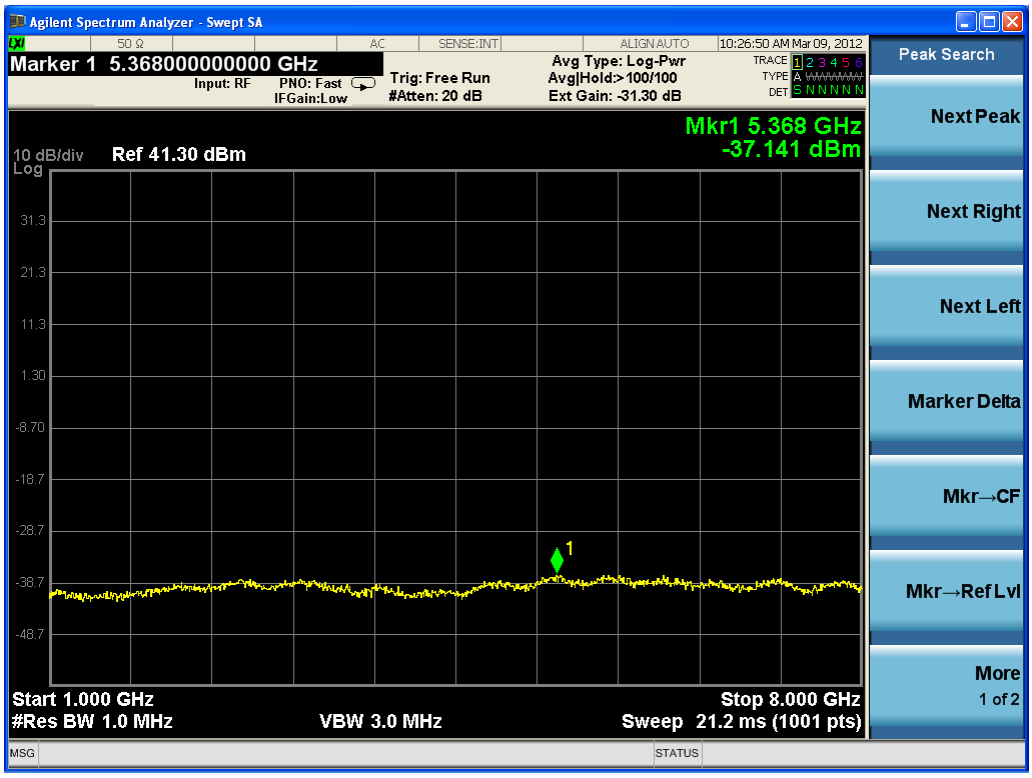



Agilent Spectrum Analyzer - Swept SA
Marker 1 209.100000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 20 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
09:27:09 AM Mar 09, 2012
Mkr1 209.10 kHz -55.188 dBm
10 dB/div Log
Ref 25.00 dBm
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

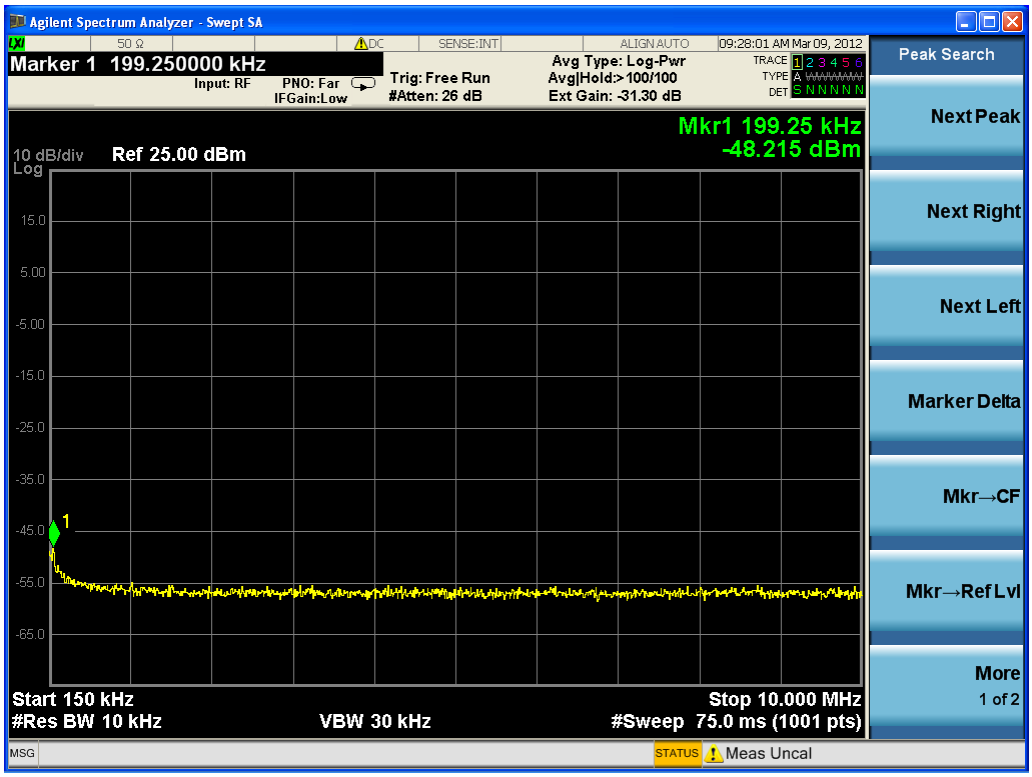

Agilent Spectrum Analyzer - Swept SA
Marker 1 17.740000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:30:06 AM Mar 09, 2012
Mkr1 17.74 MHz -59.473 dBm
10 dB/div Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

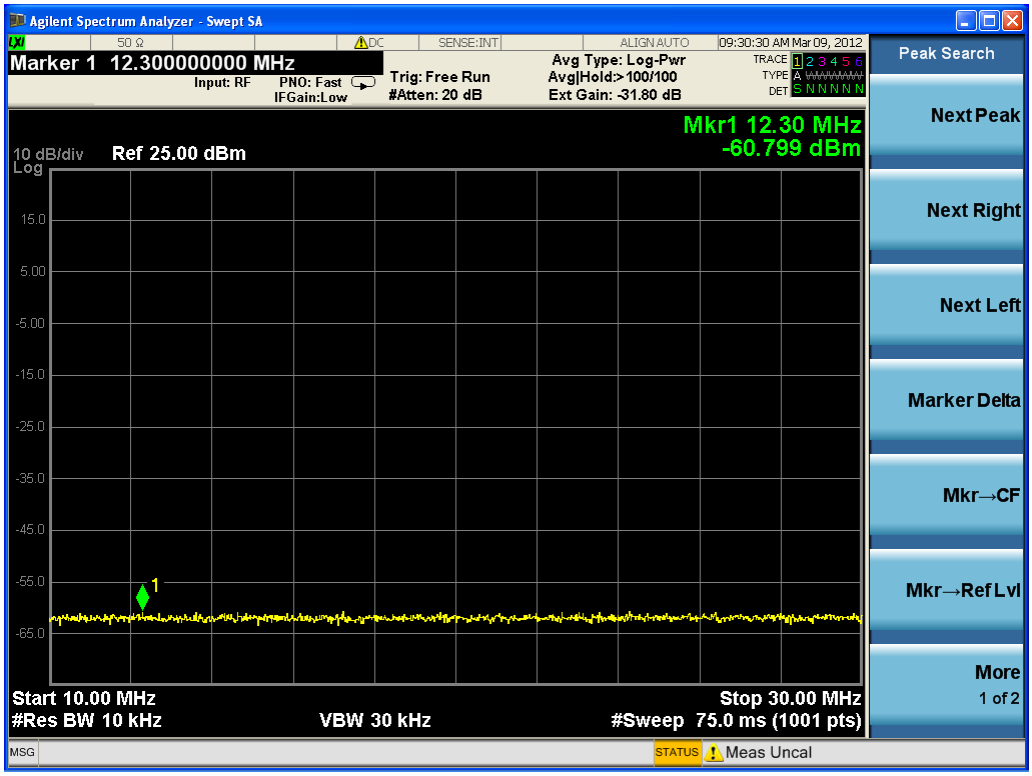

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.200000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:16:14 AM Mar 09, 2012
Mkr1 868.2 MHz -40.019 dBm
10 dB/div Log
Ref 42.00 dBm
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

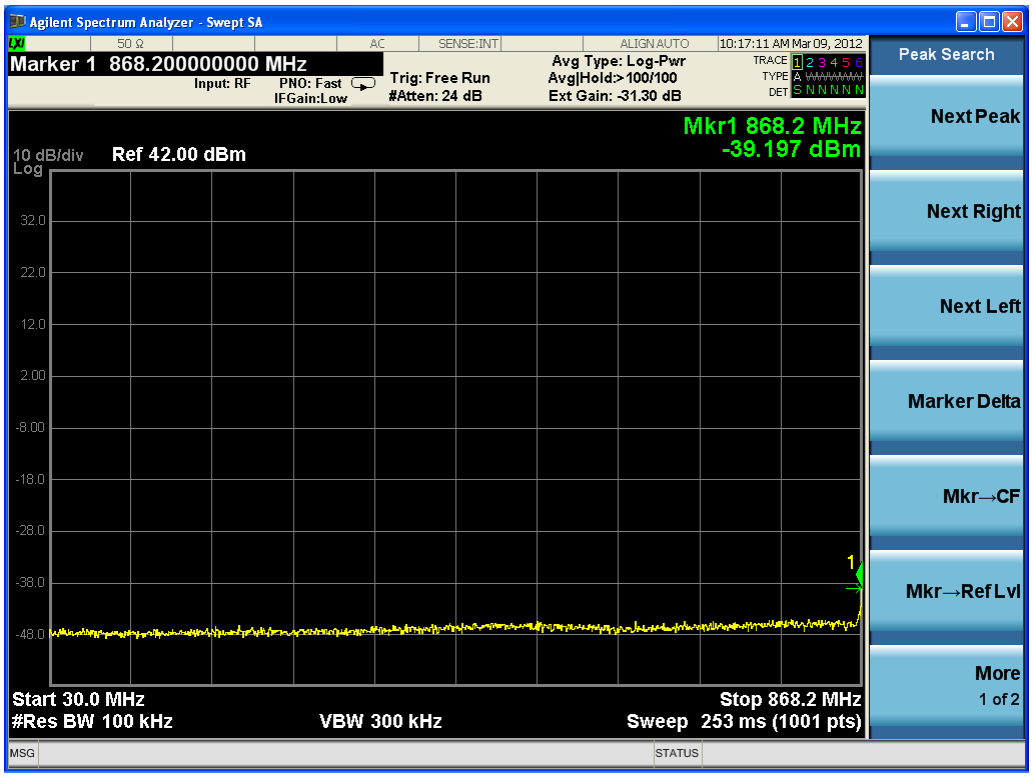

Agilent Spectrum Analyzer - Swept SA
Marker 1 895.115600000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:20:38 AM Mar 09, 2012
Mkr1 895.12 MHz -43.944 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

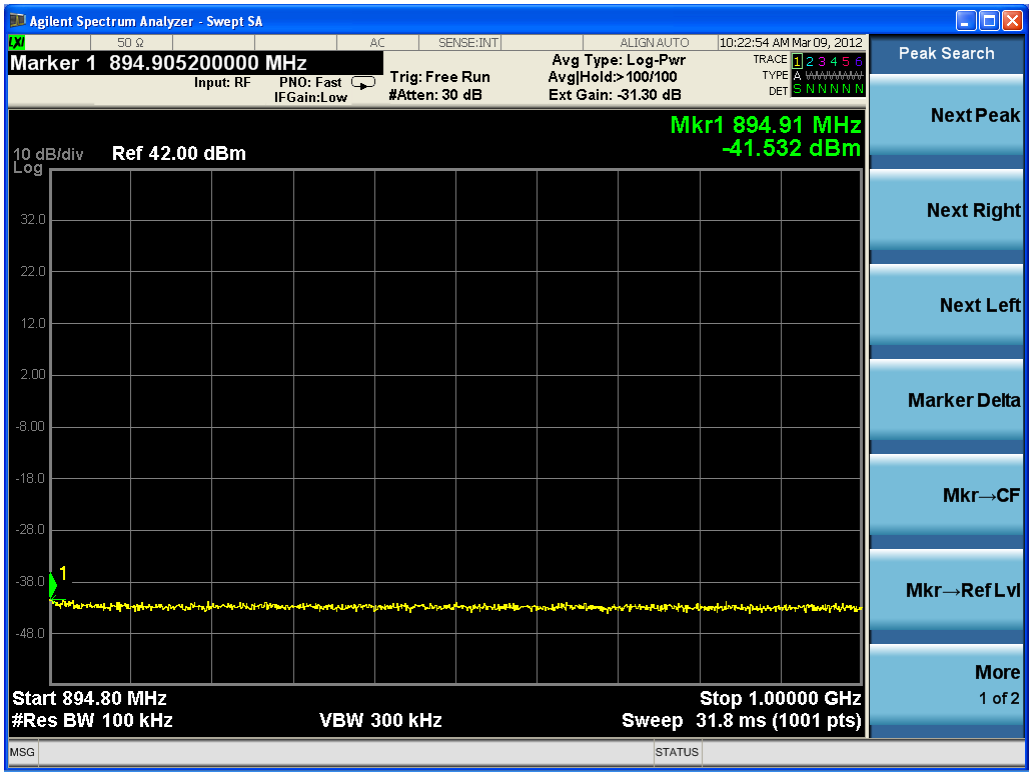


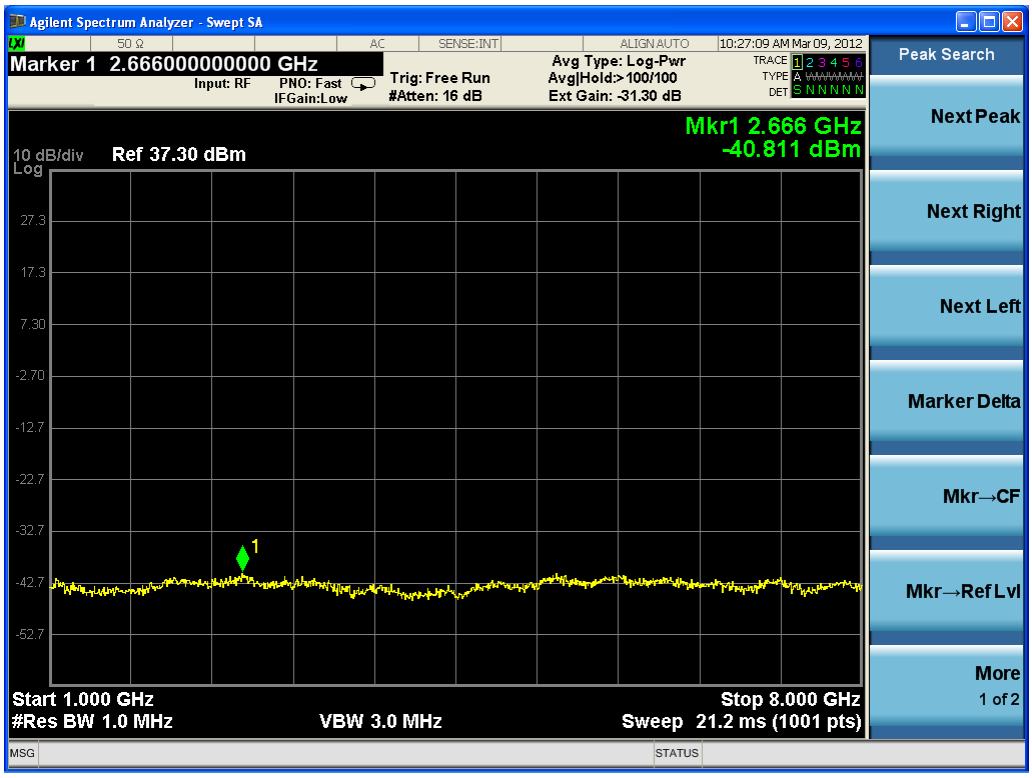
Four carriers


Agilent Spectrum Analyzer - Swept SA
Marker 1 199.250000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
09:28:01 AM Mar 09, 2012
Mkr1 199.25 kHz -48.215 dBm
10 dB/div Log
Ref 25.00 dBm
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

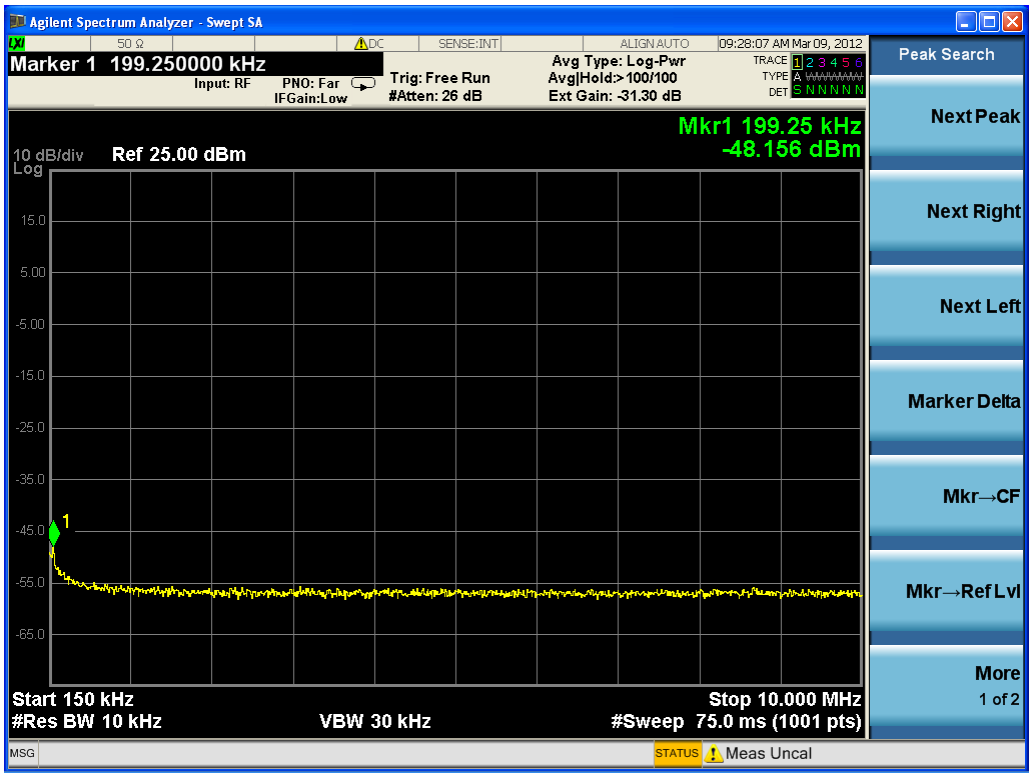

Agilent Spectrum Analyzer - Swept SA
Marker 1 12.300000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 20 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:30:30 AM Mar 09, 2012
Mkr1 12.30 MHz -60.799 dBm
10 dB/div Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

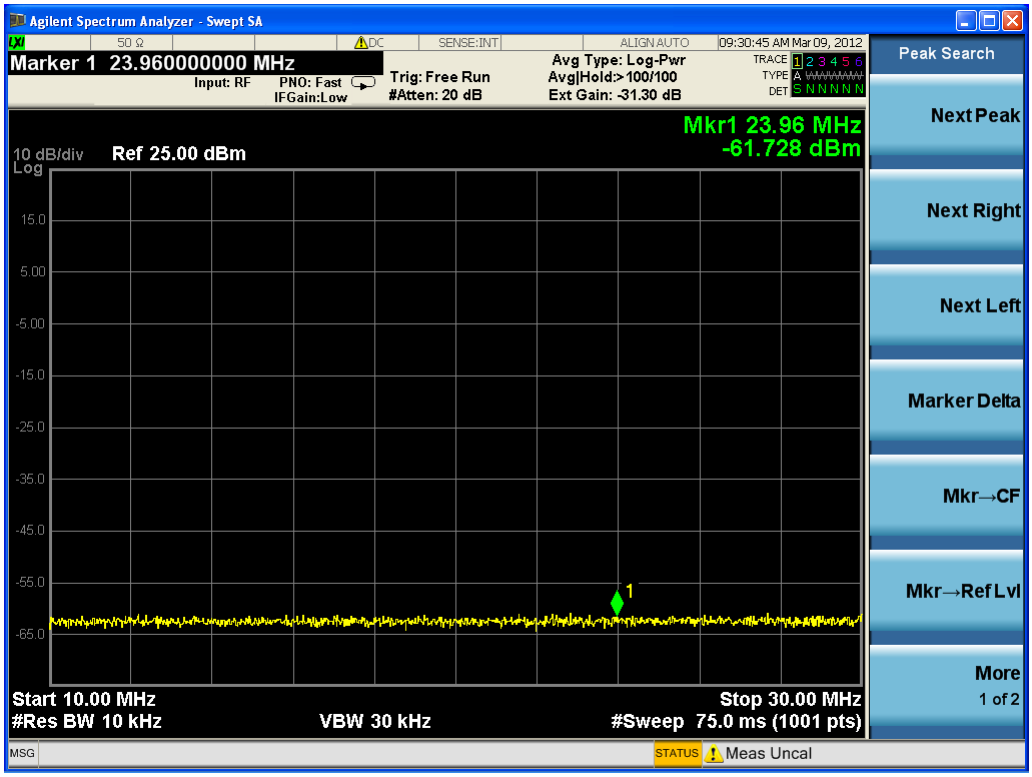

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:17:11 AM Mar 09, 2012
Marker 1 868.200000000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 24 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 868.2 MHz
-39.197 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

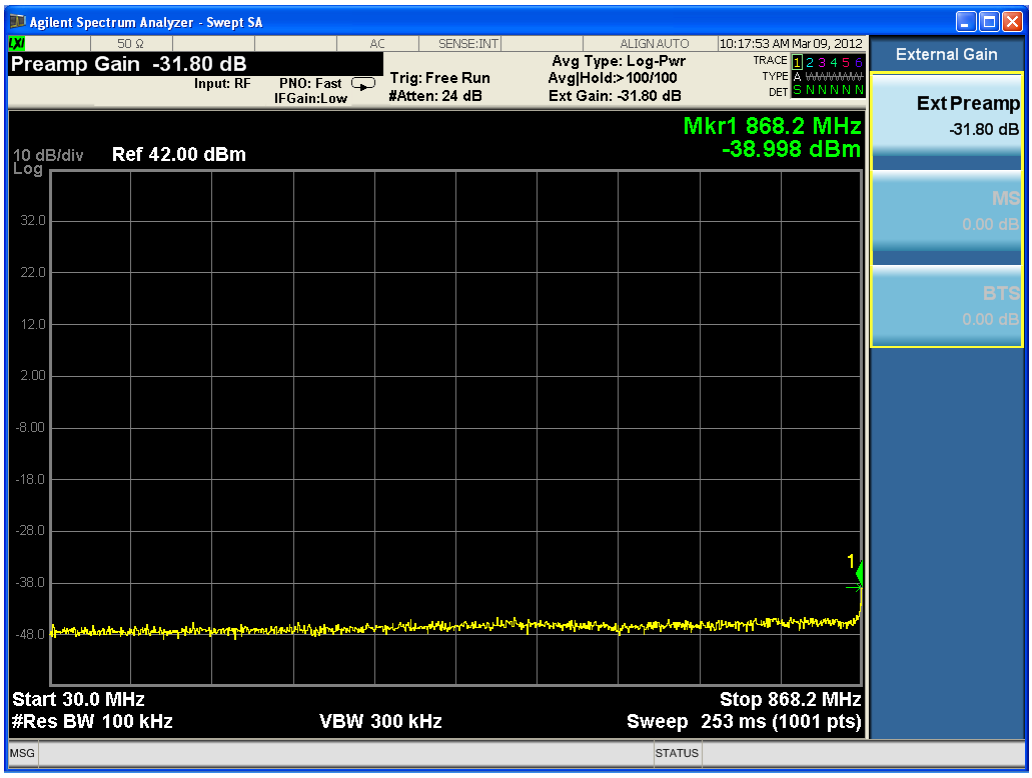

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:22:54 AM Mar 09, 2012
Marker 1 894.905200000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 894.91 MHz
-41.532 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

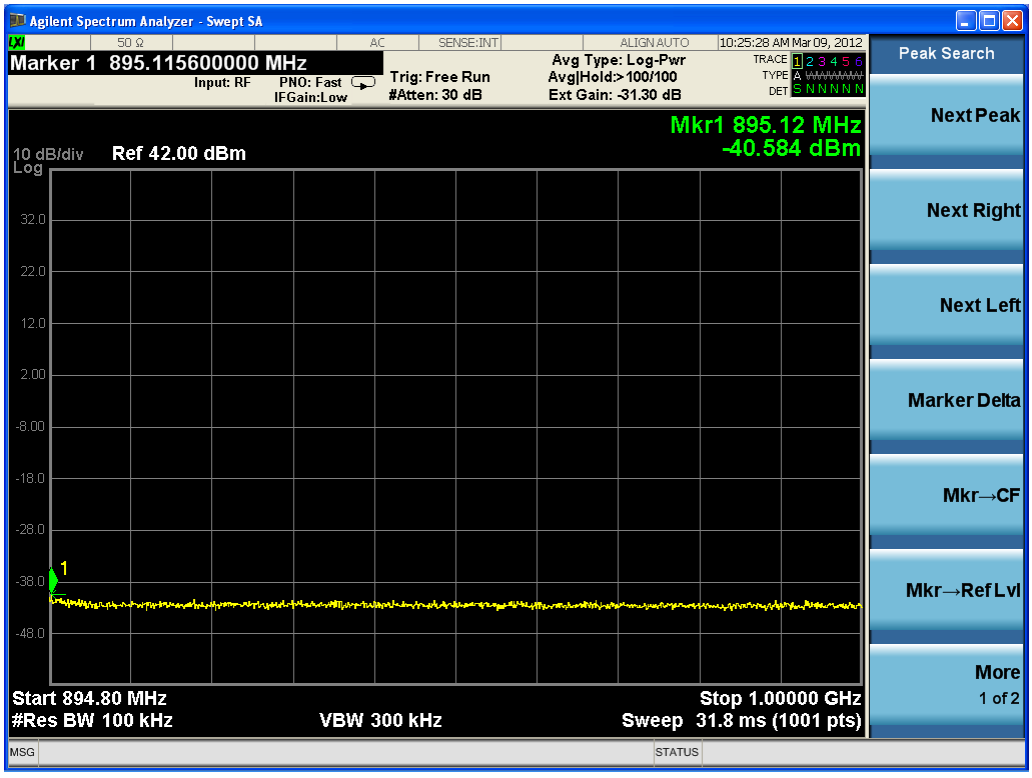


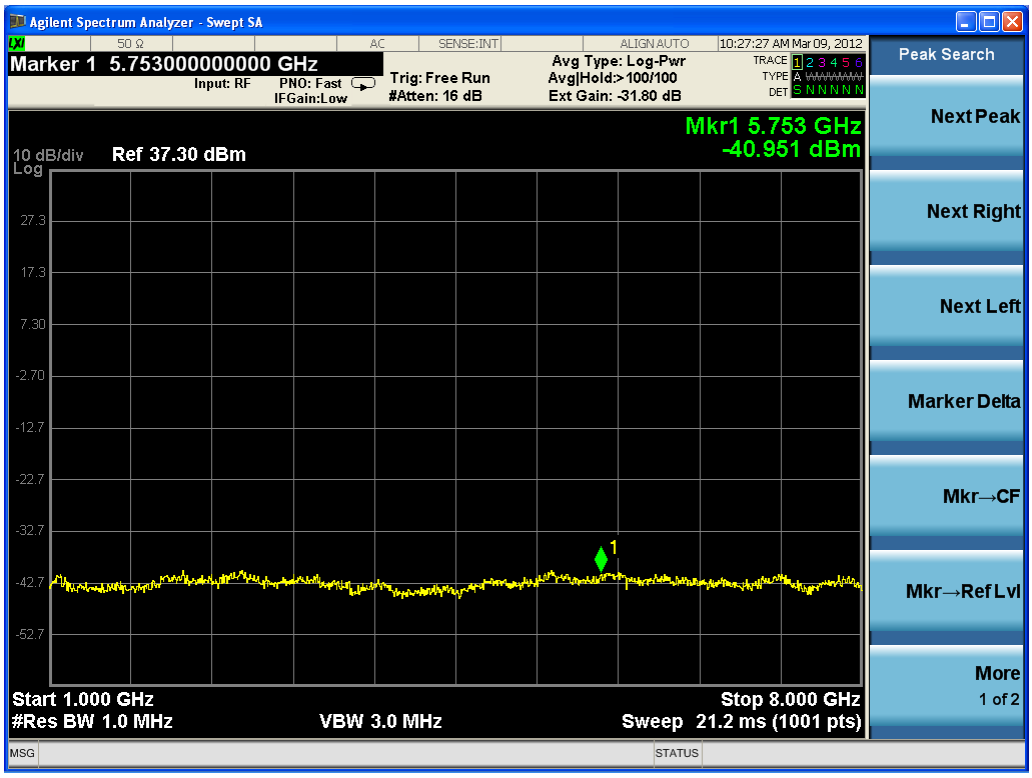
Three carriers


Agilent Spectrum Analyzer - Swept SA
50 Ω
DC
SENSE:INT
ALIGN AUTO
09:28:07 AM Mar 09, 2012
Marker 1 199.250000 kHz
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 199.25 kHz
-48.156 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
1
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
MSG
STATUS
Meas Uncal
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

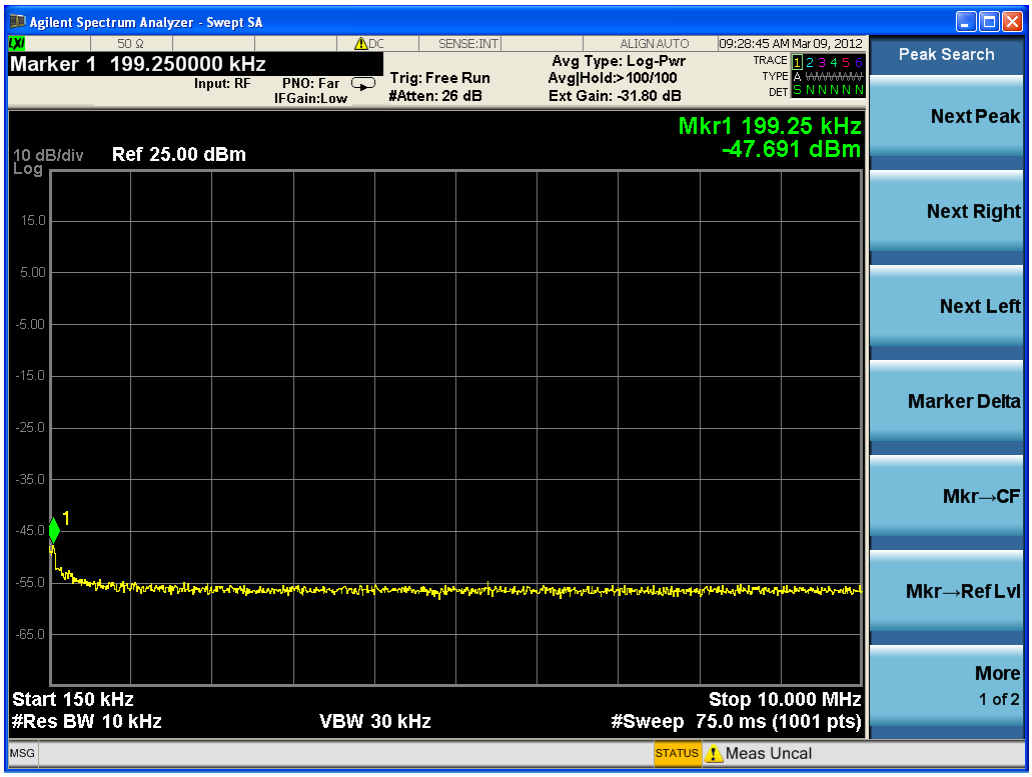

Agilent Spectrum Analyzer - Swept SA
50 Ω
DC
SENSE:INT
ALIGN AUTO
09:30:45 AM Mar 09, 2012
Marker 1 23.960000000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 23.96 MHz
-61.728 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
1
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
MSG
STATUS
Meas Uncal
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

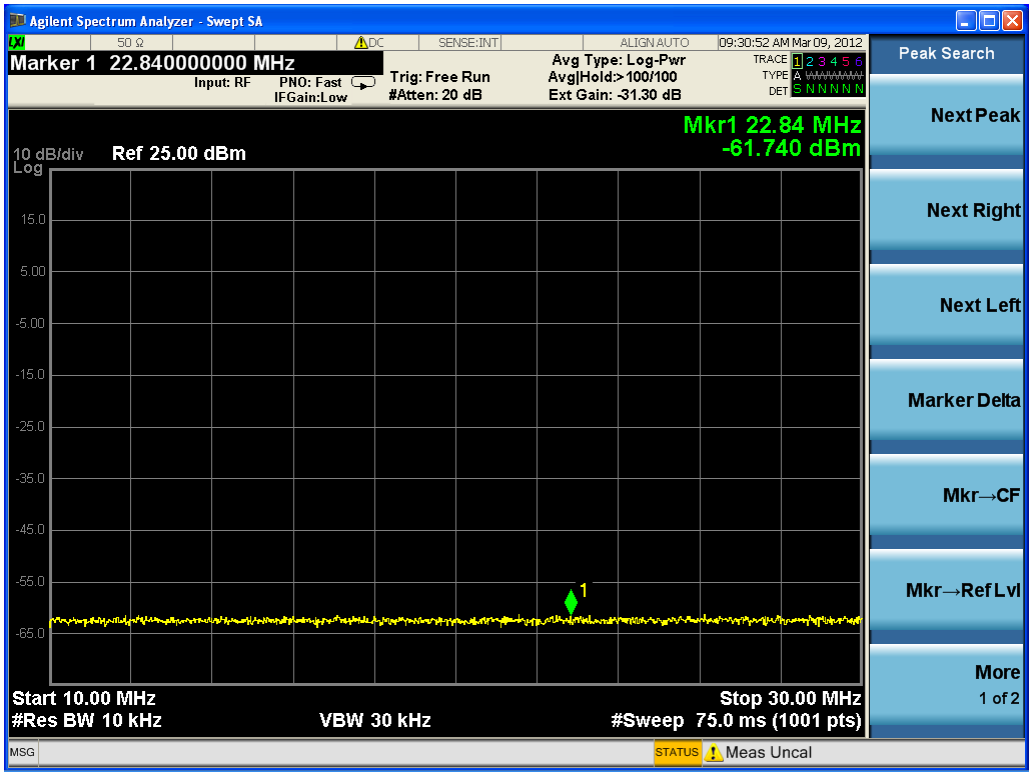

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:17:53 AM Mar 09, 2012
Preamp Gain -31.80 dB
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 24 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 868.2 MHz
-38.998 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
MSG
STATUS
External Gain
Ext Preamp
-31.80 dB
MS
0.00 dB
BTS
0.00 dB

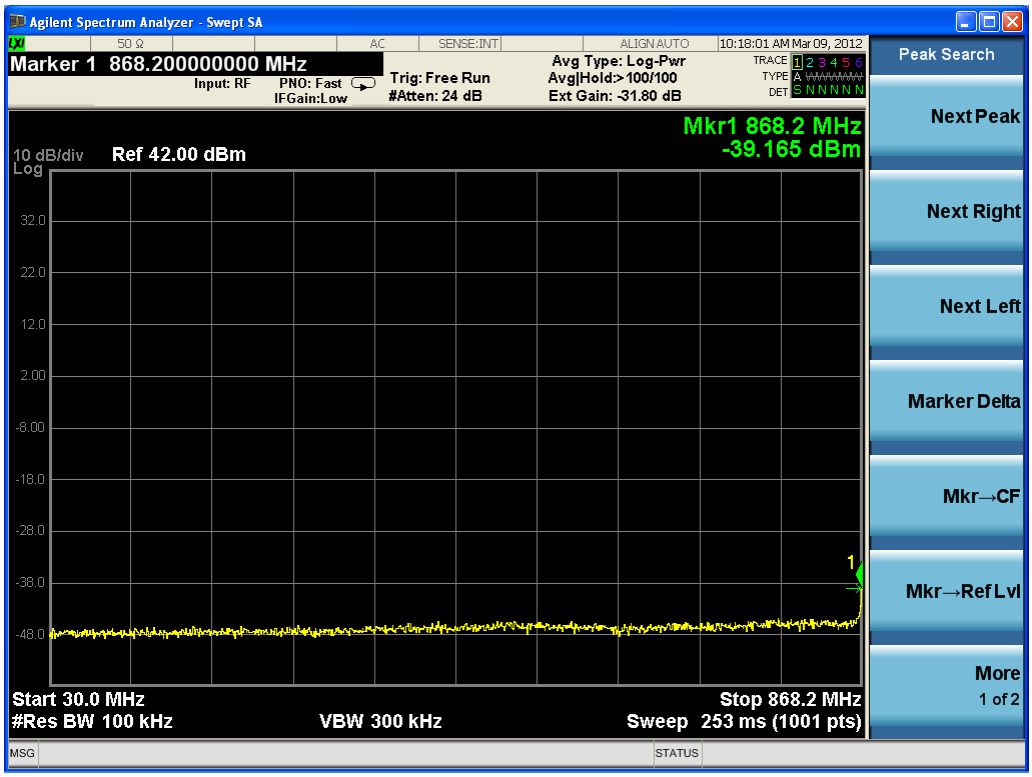

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:25:28 AM Mar 09, 2012
Marker 1 895.115600000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 895.12 MHz
-40.584 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

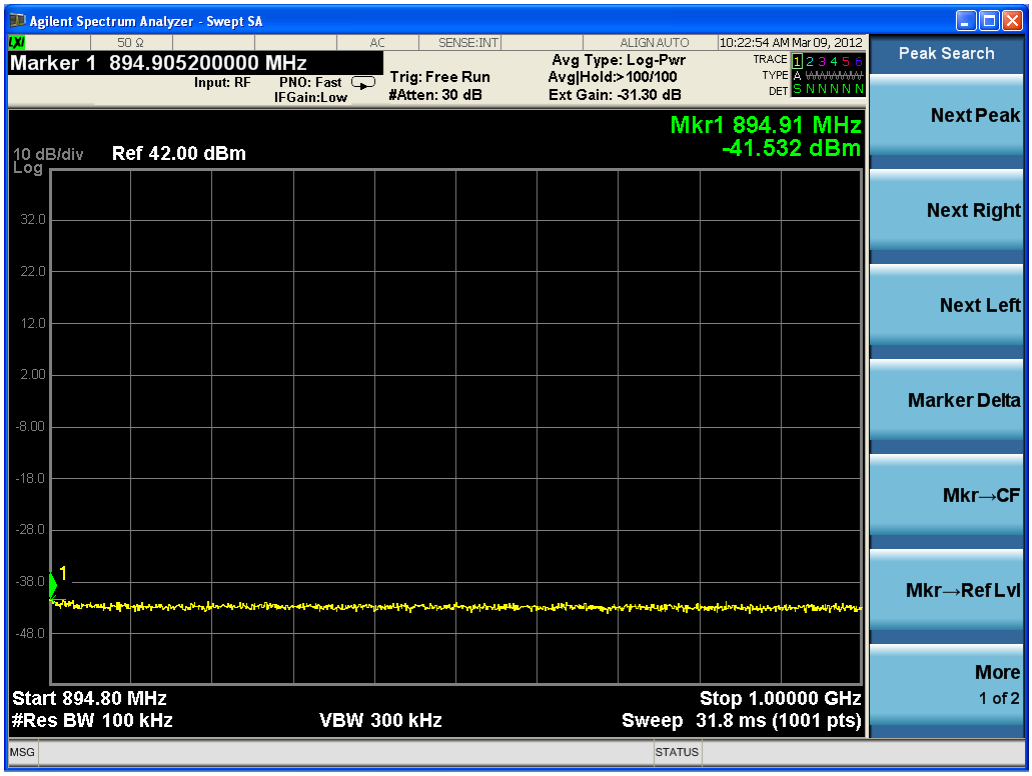


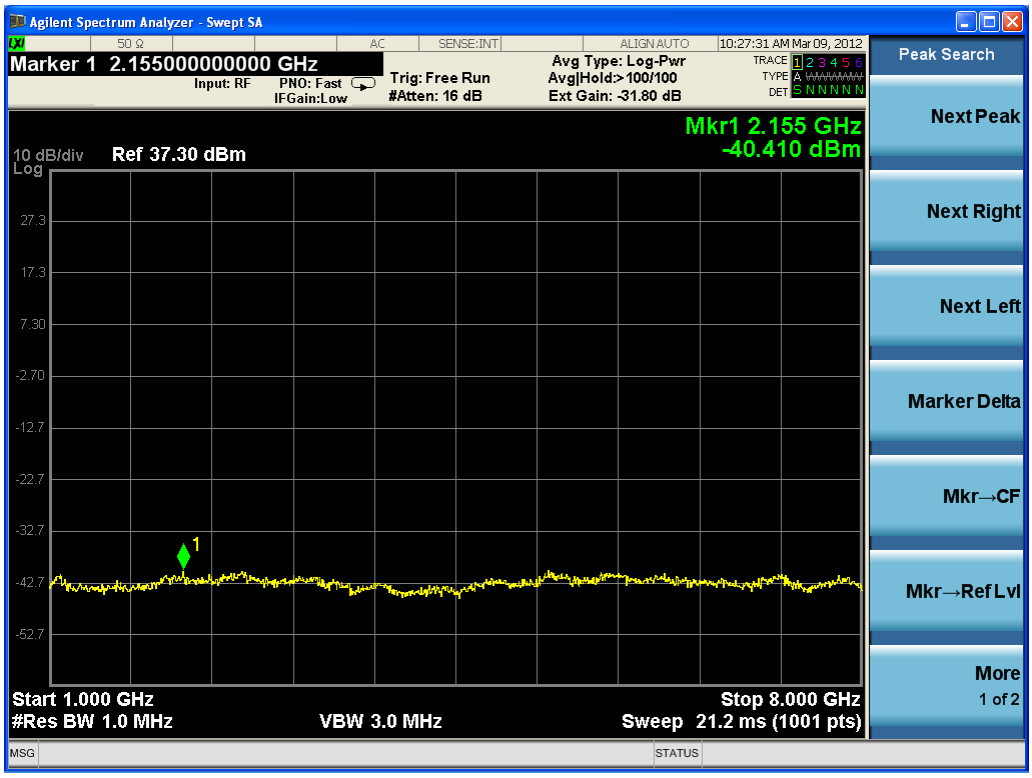
Two carriers


Agilent Spectrum Analyzer - Swept SA
Marker 1 199.250000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:28:45 AM Mar 09, 2012
Mkr1 199.25 kHz -47.691 dBm
10 dB/div Log
Ref 25.00 dBm
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal


Agilent Spectrum Analyzer - Swept SA
Marker 1 22.840000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 20 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
09:30:52 AM Mar 09, 2012
Mkr1 22.84 MHz -61.740 dBm
10 dB/div Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

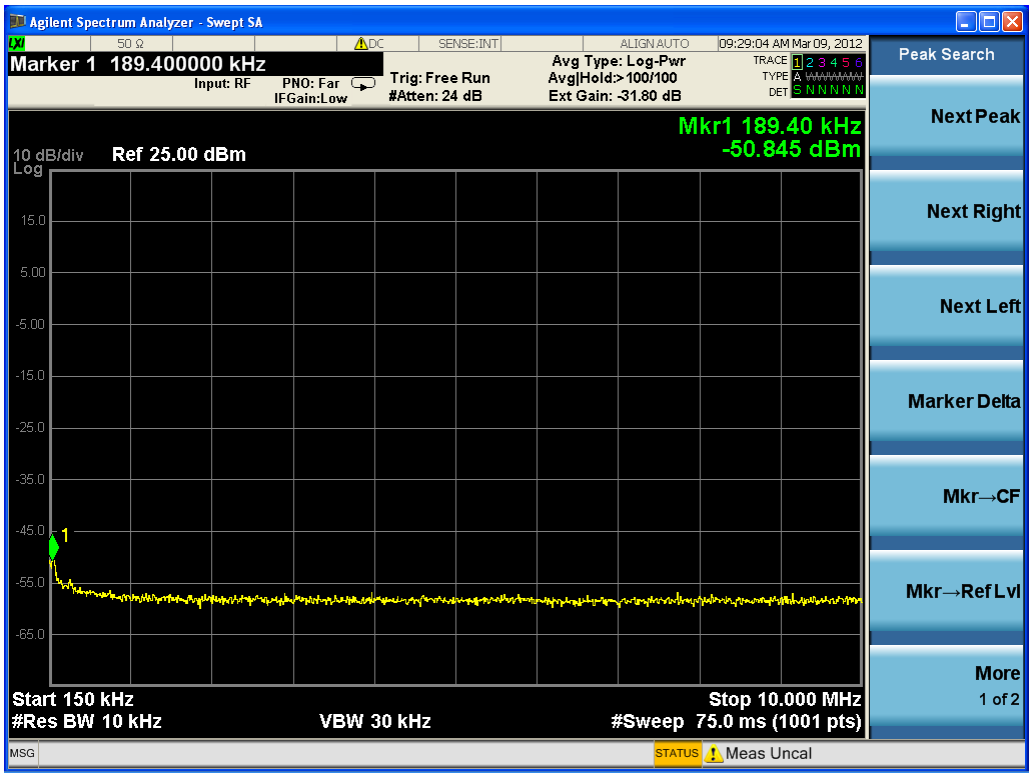

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.200000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 24 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:18:01 AM Mar 09, 2012
Mkr1 868.2 MHz -39.165 dBm
10 dB/div Log
Ref 42.00 dBm
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

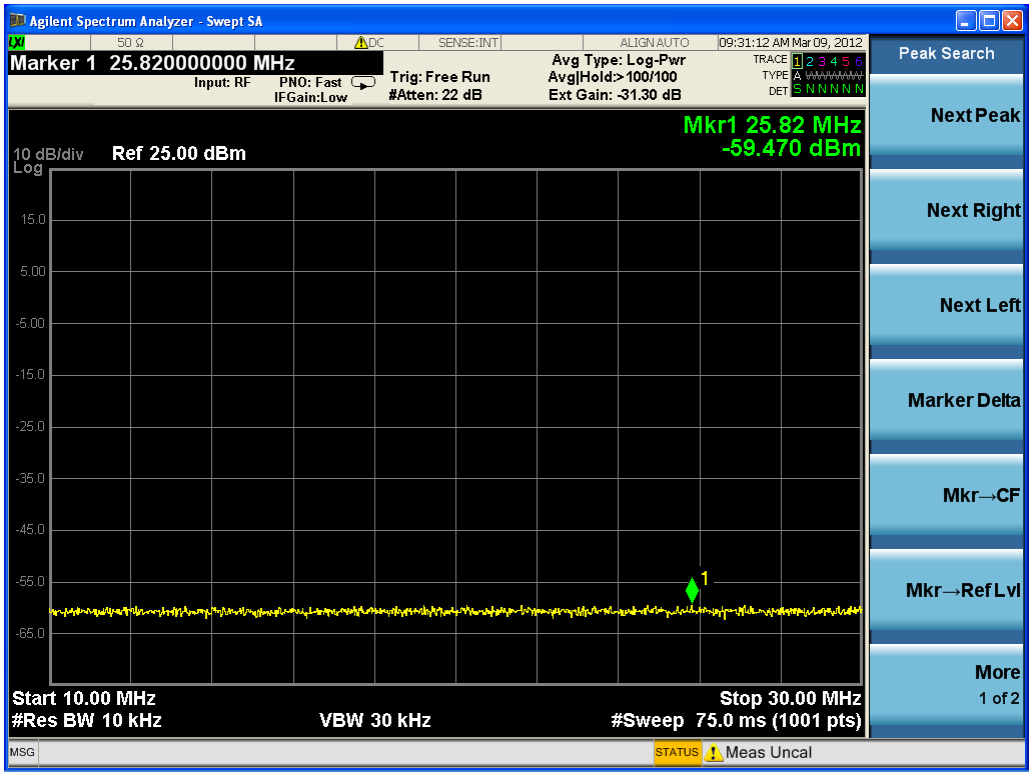

Agilent Spectrum Analyzer - Swept SA
Marker 1 894.905200000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 30 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:22:54 AM Mar 09, 2012
Mkr1 894.91 MHz -41.532 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

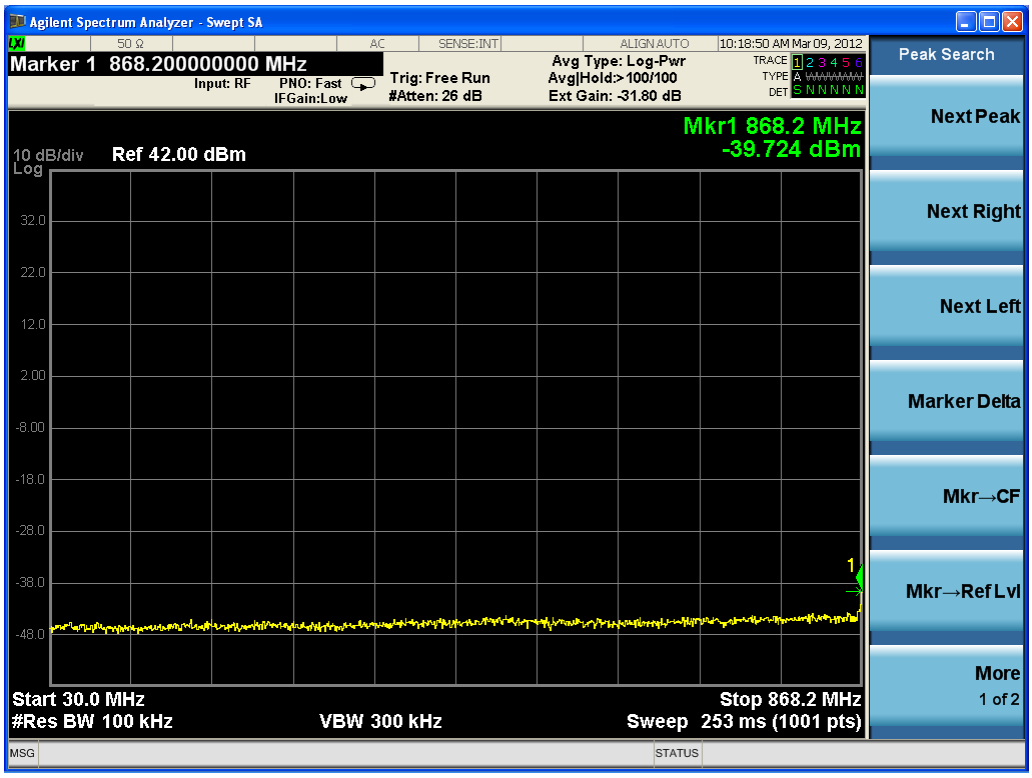

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.155000000000 GHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 16 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:27:31 AM Mar 09, 2012
Mkr1 2.155 GHz -40.410 dBm
10 dB/div Log
Ref 37.30 dBm
27.3
17.3
7.30
-2.70
-12.7
-22.7
-32.7
-42.7
-52.7
Start 1.000 GHz
#Res BW 1.0 MHz
VBW 3.0 MHz
Stop 8.000 GHz
Sweep 21.2 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
MSG
STATUS

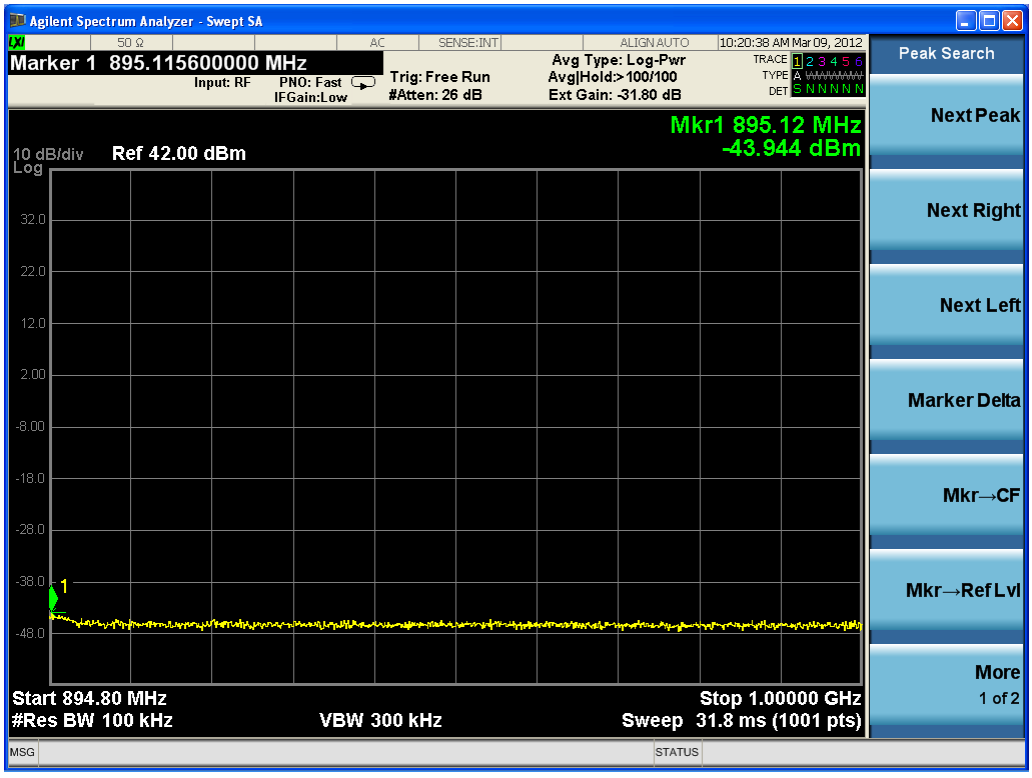
One carrier

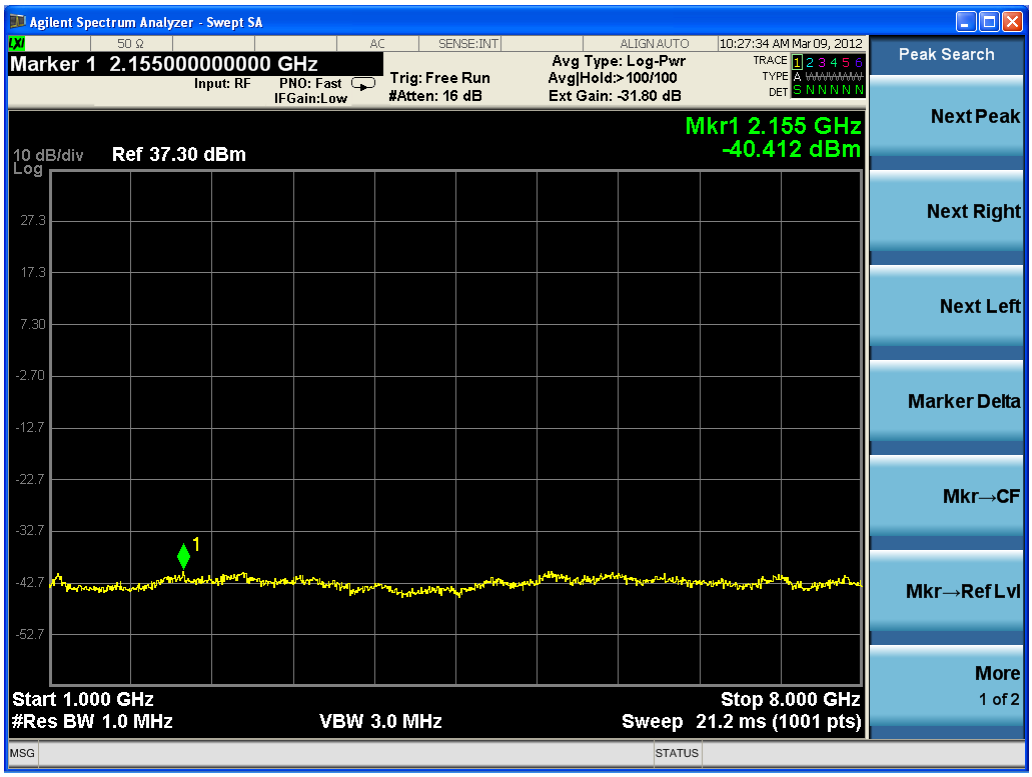

Agilent Spectrum Analyzer - Swept SA
Marker 1 9.282000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 20 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
09:26:11 AM Mar 09, 2012
Mkr1 9.282 kHz -42.781 dBm
10 dB/div Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
Start 9.00 kHz
#Res BW 1.0 kHz
VBW 3.0 kHz
Stop 150.00 kHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
MSG
STATUS Meas Uncal


Agilent Spectrum Analyzer - Swept SA
50 Ω
DC
SENSE:INT
ALIGN AUTO
09:29:04 AM Mar 09, 2012
Marker 1 189.400000 kHz
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 24 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 189.40 kHz
-50.845 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
1
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Meas Uncal


Agilent Spectrum Analyzer - Swept SA
50 Ω
DC
SENSE:INT
ALIGN AUTO
09:31:12 AM Mar 09, 2012
Marker 1 25.820000000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 22 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 25.82 MHz
-59.470 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
1
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Meas Uncal


Agilent Spectrum Analyzer - Swept SA
Marker 1 868.200000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:18:50 AM Mar 09, 2012
Mkr1 868.2 MHz -39.724 dBm
10 dB/div Log
Ref 42.00 dBm
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 895.115600000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:20:38 AM Mar 09, 2012
Mkr1 895.12 MHz -43.944 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:27:34 AM Mar 09, 2012
Marker 1 2.155000000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 2.155 GHz
-40.412 dBm
10 dB/div
Log
Ref 37.30 dBm
27.3
17.3
7.30
-2.70
-12.7
-22.7
-32.7
-42.7
-52.7
1
Start 1.000 GHz
#Res BW 1.0 MHz
VBW 3.0 MHz
Stop 8.000 GHz
Sweep 21.2 ms (1001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

5.6 OCCUPIED BANDWIDTH

Applicable Standard: FCC §2.1049 §22.917

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

***statement of traceability:**ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

The RF out of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. 99%Power bandwidth was recorded.

Environmental Conditions

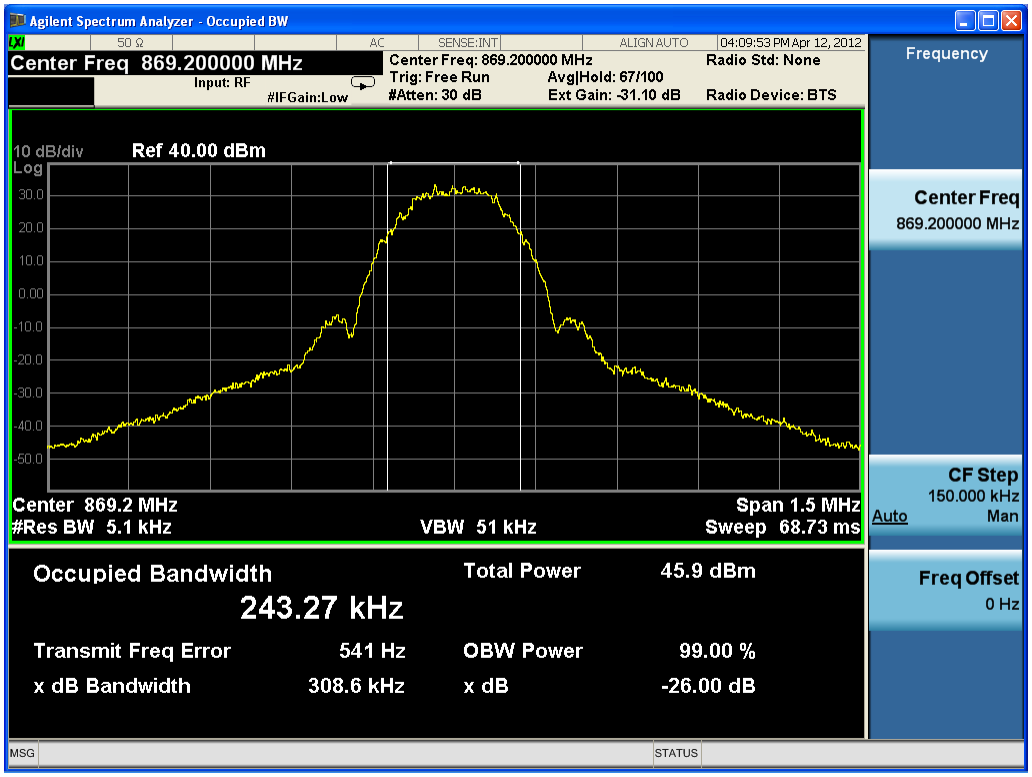
Temperature:	20 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

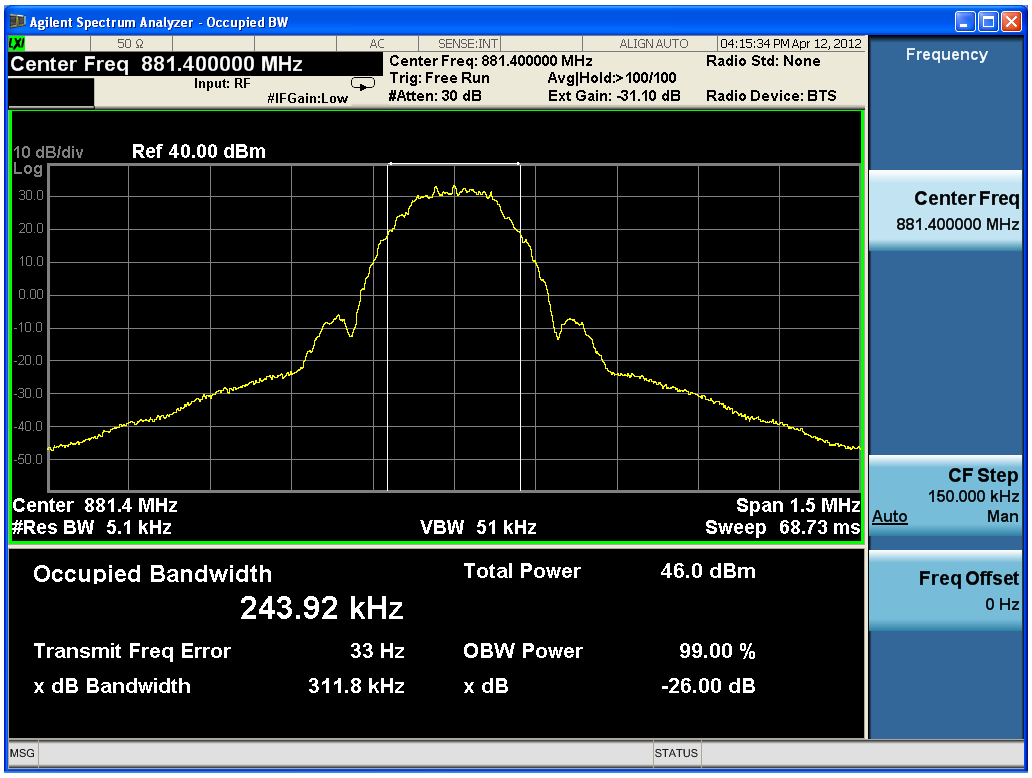
Test Result: Pass

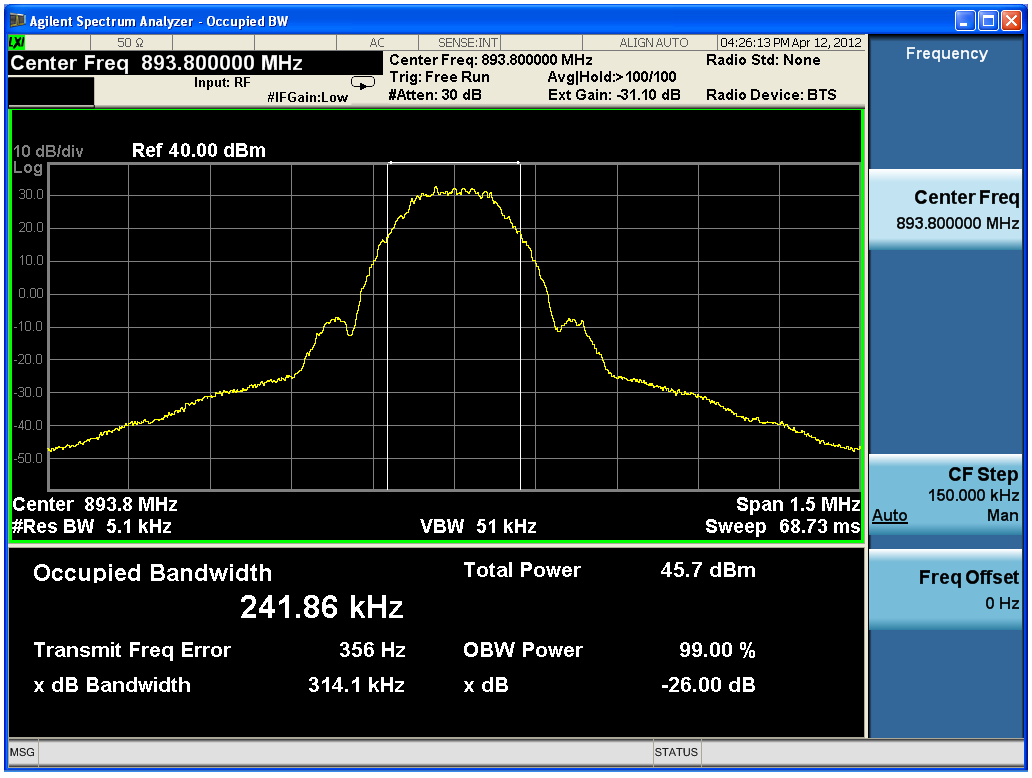
Test Mode: Transmitting GSM

Test Data

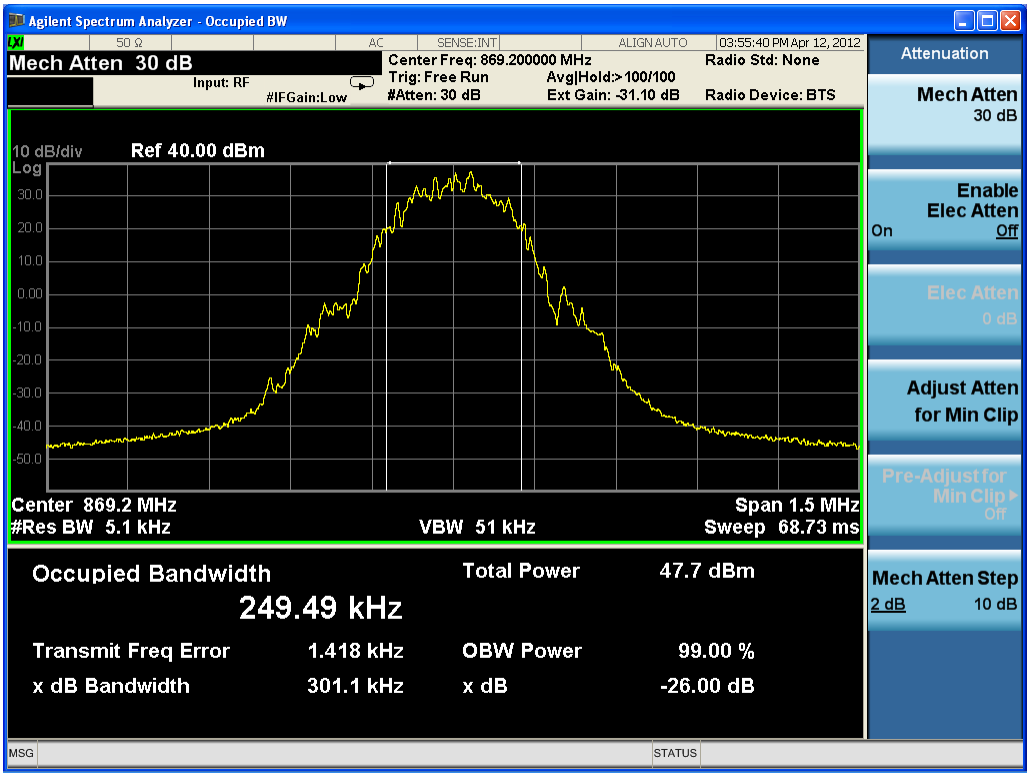
Modulation	Frequency (MHz)	99% Power Bandwidth (KHz)	Limit (KHz)
8PSK	869.2/881.4/893.8	243.27/243.92/241.86	250

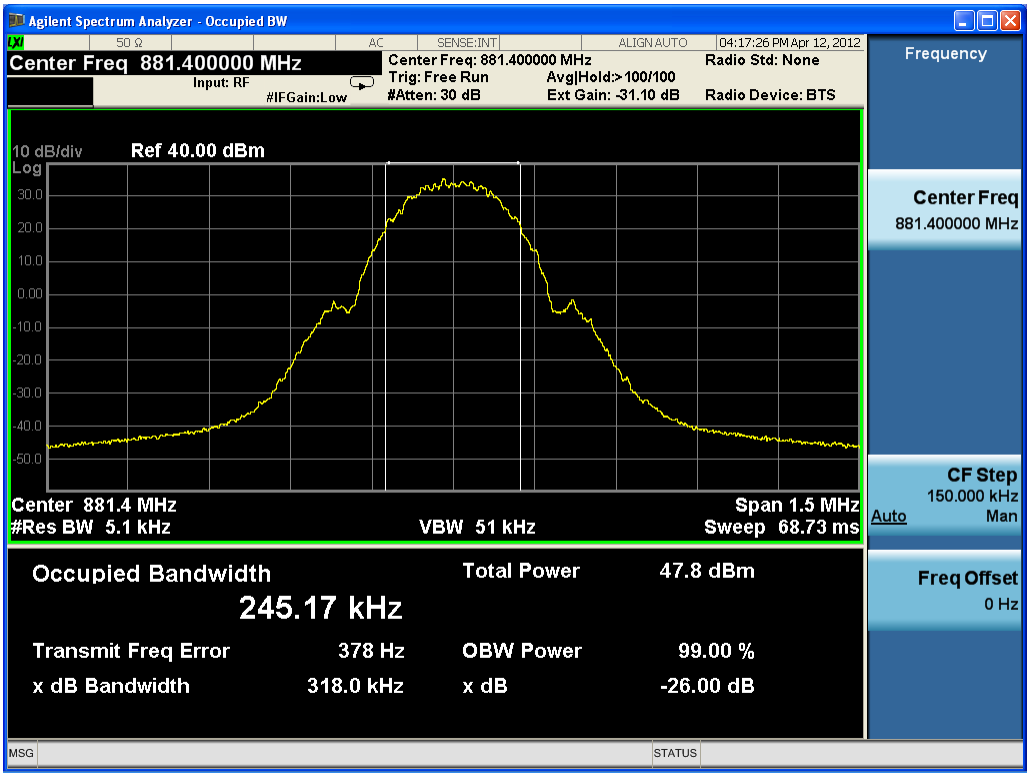


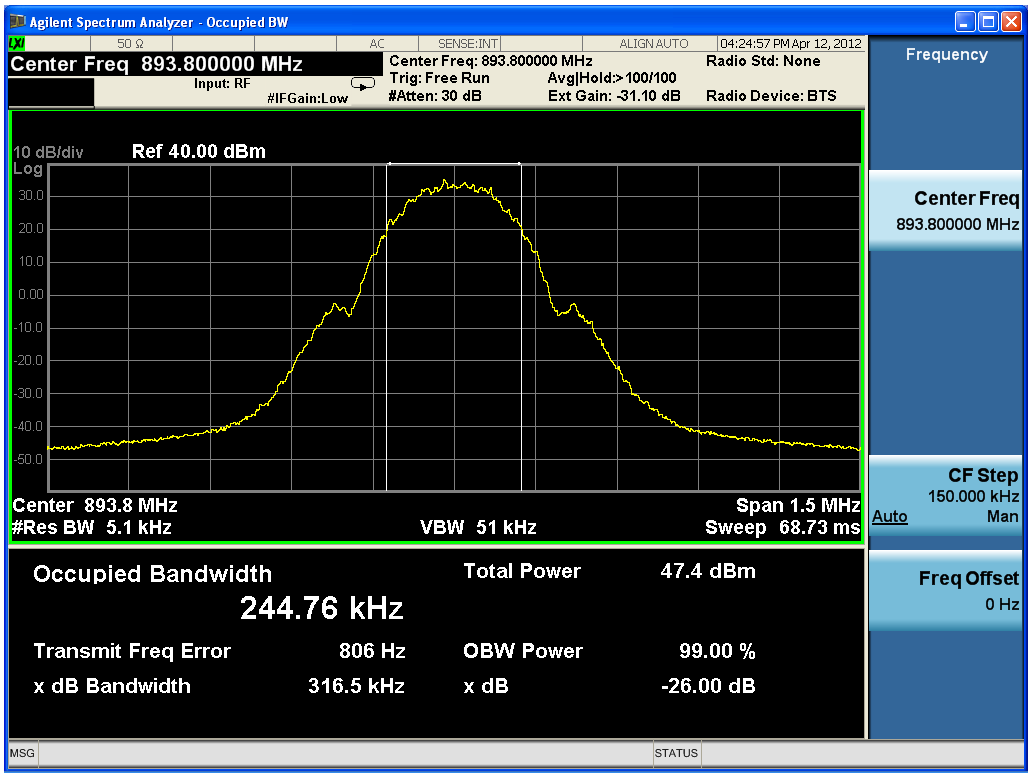

Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:15:34 PM Apr 12, 2012
Center Freq 881.400000 MHz
Input: RF
#IFGain:Low
Center Freq: 881.400000 MHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>100/100
Ext Gain: -31.10 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Center 881.4 MHz
#Res BW 5.1 kHz
VBW 51 kHz
Span 1.5 MHz
Sweep 68.73 ms
Occupied Bandwidth
243.92 kHz
Total Power 46.0 dBm
Transmit Freq Error 33 Hz
OBW Power 99.00 %
x dB Bandwidth 311.8 kHz
x dB -26.00 dB
Center Freq
881.400000 MHz
CF Step
150.000 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:26:13 PM Apr 12, 2012
Center Freq 893.800000 MHz
Input: RF
#IFGain:Low
Center Freq: 893.800000 MHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>100/100
Ext Gain: -31.10 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Center 893.8 MHz
#Res BW 5.1 kHz
VBW 51 kHz
Span 1.5 MHz
Sweep 68.73 ms
Occupied Bandwidth
241.86 kHz
Total Power 45.7 dBm
Transmit Freq Error 356 Hz
OBW Power 99.00 %
x dB Bandwidth 314.1 kHz
x dB -26.00 dB
Center Freq
893.800000 MHz
CF Step
150.000 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Modulation	Frequency (MHz)	99% Power Bandwidth (KHz)	Limit (KHz)
GMSK	869.2/881.4/893.8	249.49/245.17/244.76	250






Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:24:57 PM Apr 12, 2012
Center Freq 893.800000 MHz
Input: RF
#IFGain:Low
Center Freq: 893.800000 MHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>100/100
Ext Gain: -31.10 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Center Freq
893.800000 MHz
CF Step
150.000 kHz
Auto
Man
Center 893.8 MHz
#Res BW 5.1 kHz
VBW 51 kHz
Span 1.5 MHz
Sweep 68.73 ms
Occupied Bandwidth
244.76 kHz
Total Power 47.4 dBm
Transmit Freq Error 806 Hz
OBW Power 99.00 %
x dB Bandwidth 316.5 kHz
x dB -26.00 dB
Freq Offset
0 Hz
MSG
STATUS

5.7 BAND EDGES

Applicable Standard: FCC §2.1051

According to §2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (p) by a factor of at least 43 + 10 log (p) dB. The limit (dBm) should < P –(43+10log(P)) = -13dBm.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

*__statement of traceability:__ ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements , traceable to NIST.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
The center of the spectrum analyzer was set to block edge frequency.

Test Data Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53%
ATM Pressure:	1009mbar

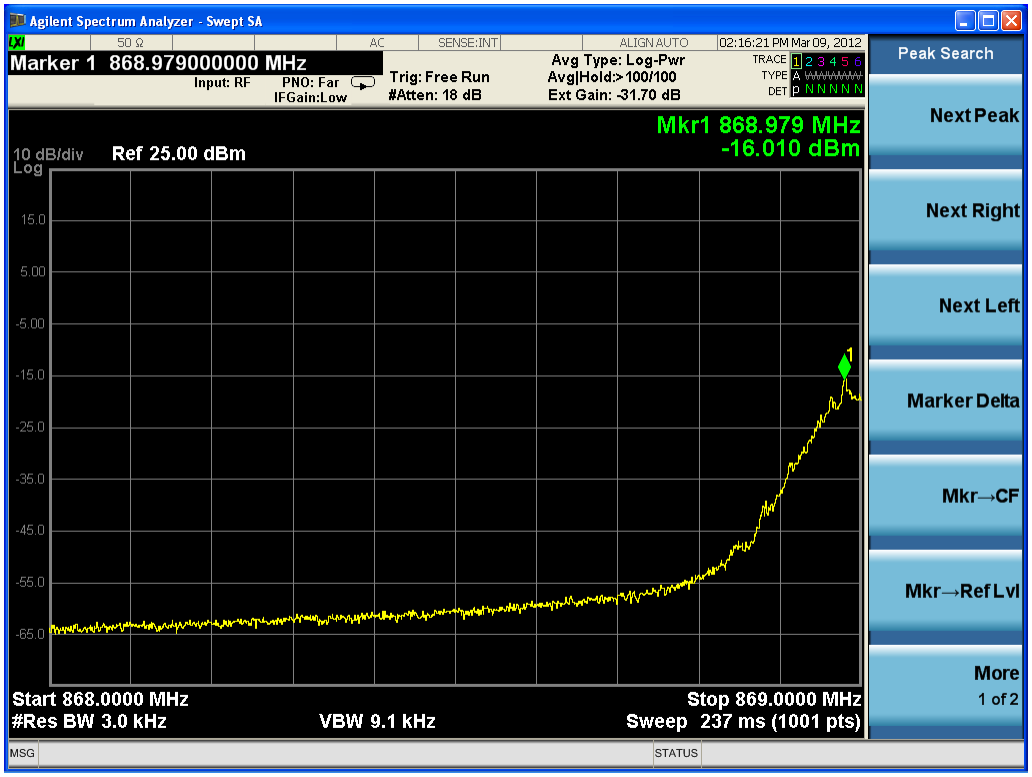
Test Result: Pass

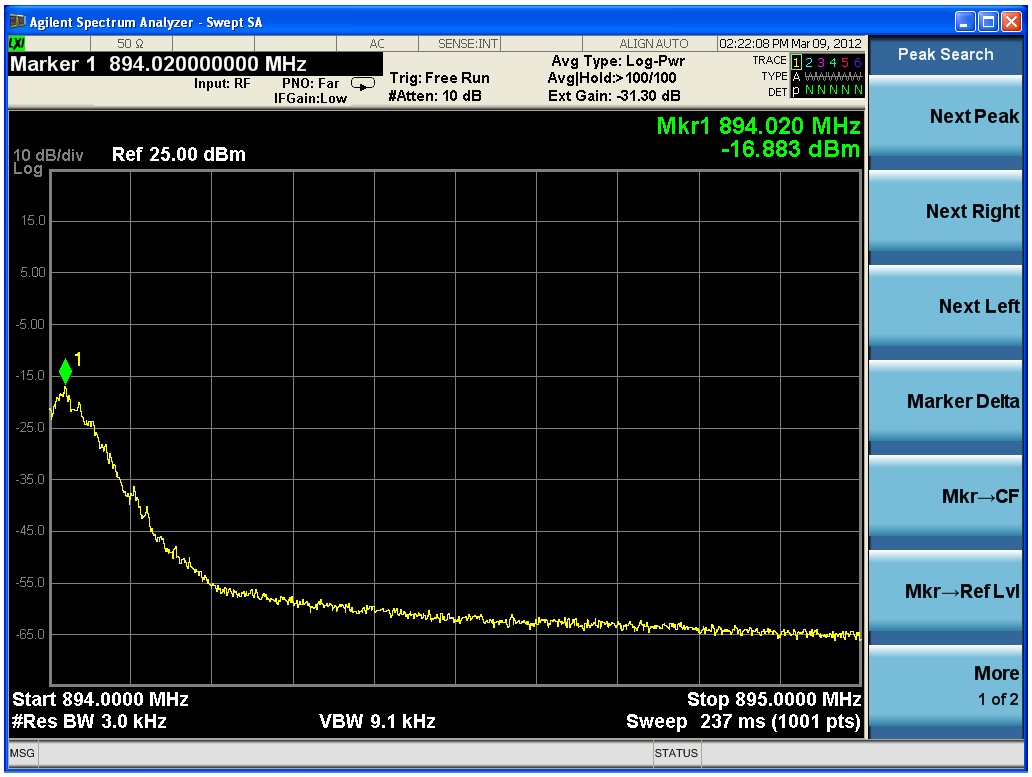
Test Mode: Transmitting GSM

Test Data

For six carriers

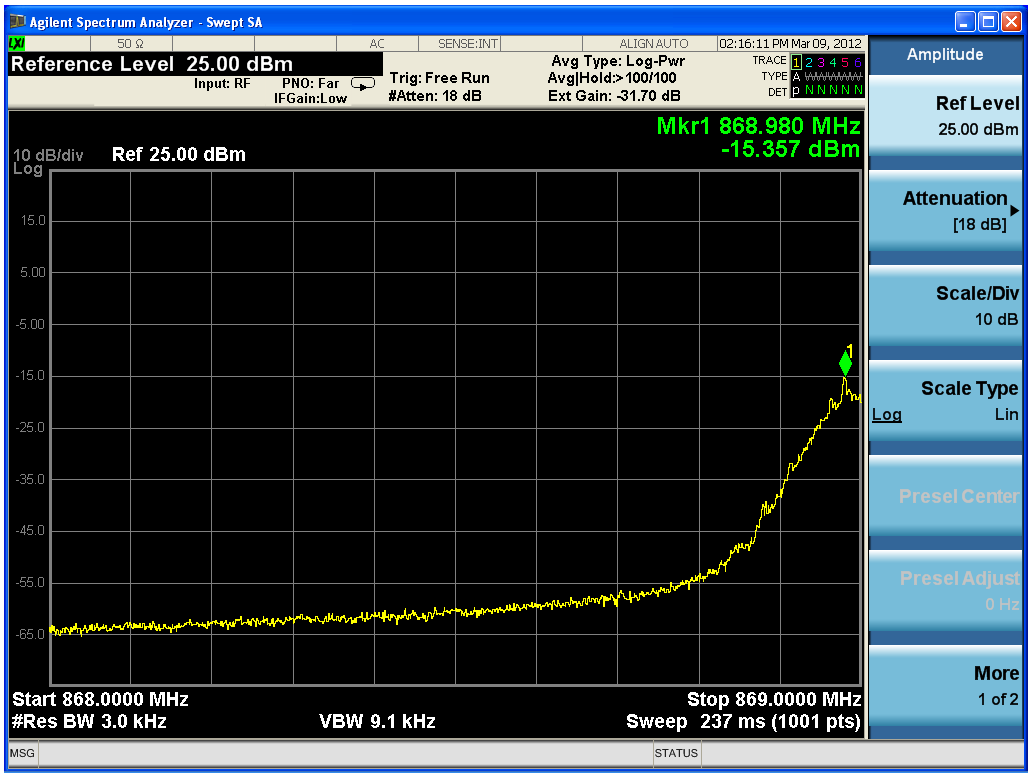
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871 /871.6/ 872.2	-16.010	-13.00
890.8/891.4/892/892.6/893.2/893.8	-16.883	-13.00

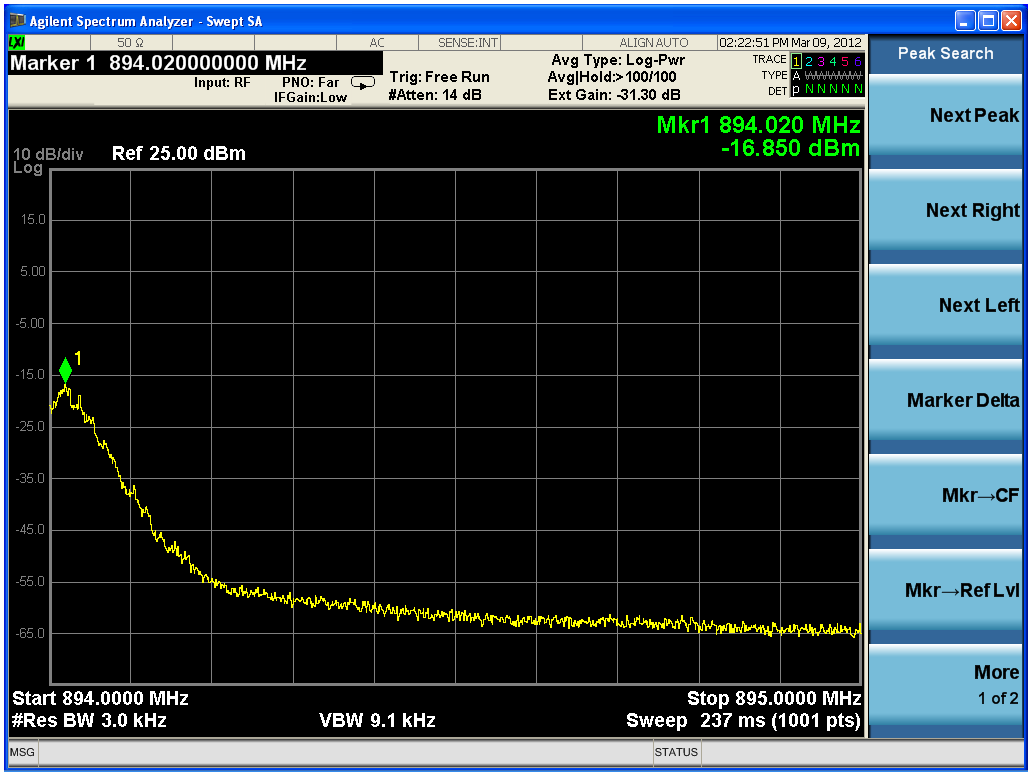




For five carriers

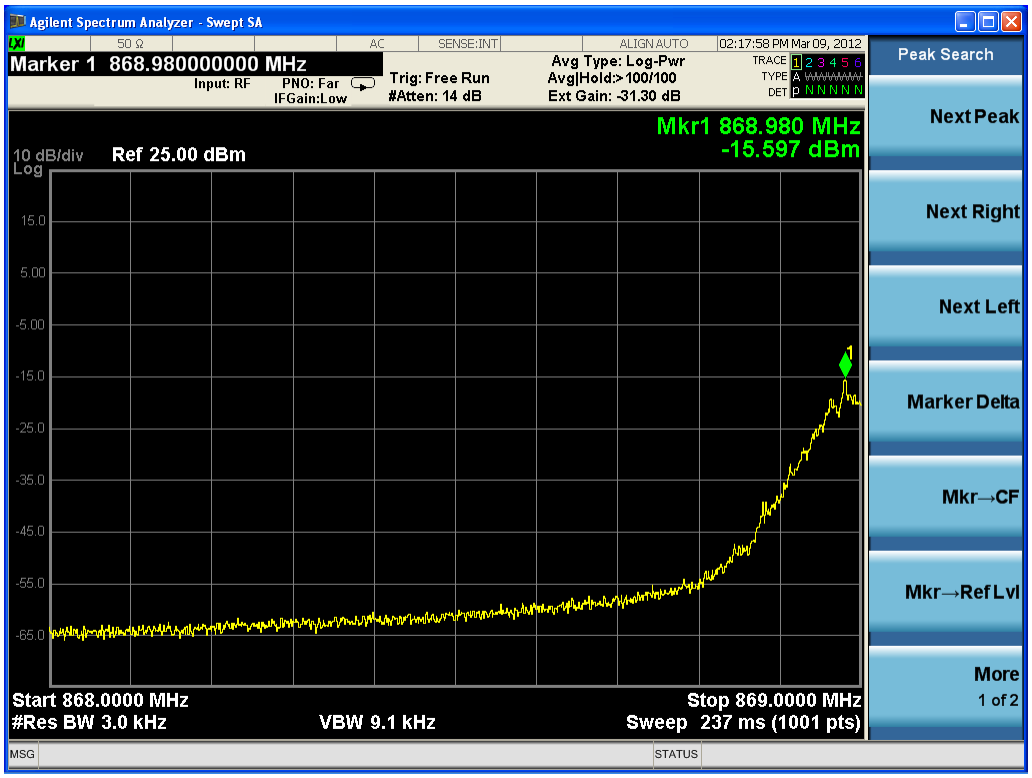
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871 /871.6	-15.357	-13.00
891.4/892/892.6/893.2/893.8	-16.850	-13.00

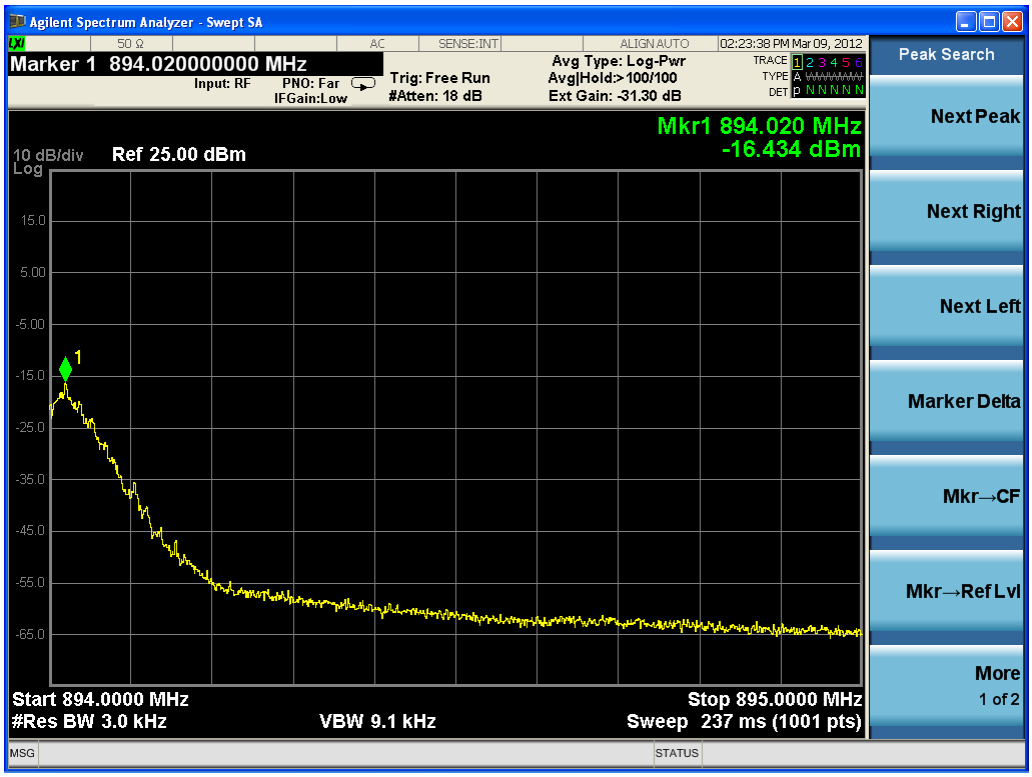

Agilent Spectrum Analyzer - Swept SA
Reference Level 25.00 dBm
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 18 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.70 dB
02:16:11 PM Mar 09, 2012
Mkr1 868.980 MHz -15.357 dBm
10 dB/div Log
Ref 25.00 dBm
Start 868.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 869.0000 MHz
Sweep 237 ms (1001 pts)
Amplitude
Ref Level 25.00 dBm
Attenuation [18 dB]
Scale/Div 10 dB
Scale Type Log Lin
Presel Center
Presel Adjust 0 Hz
More 1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 894.020000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 14 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
02:22:51 PM Mar 09, 2012
Mkr1 894.020 MHz -16.850 dBm
10 dB/div Log
Ref 25.00 dBm
Start 894.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 895.0000 MHz
Sweep 237 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

For four carriers

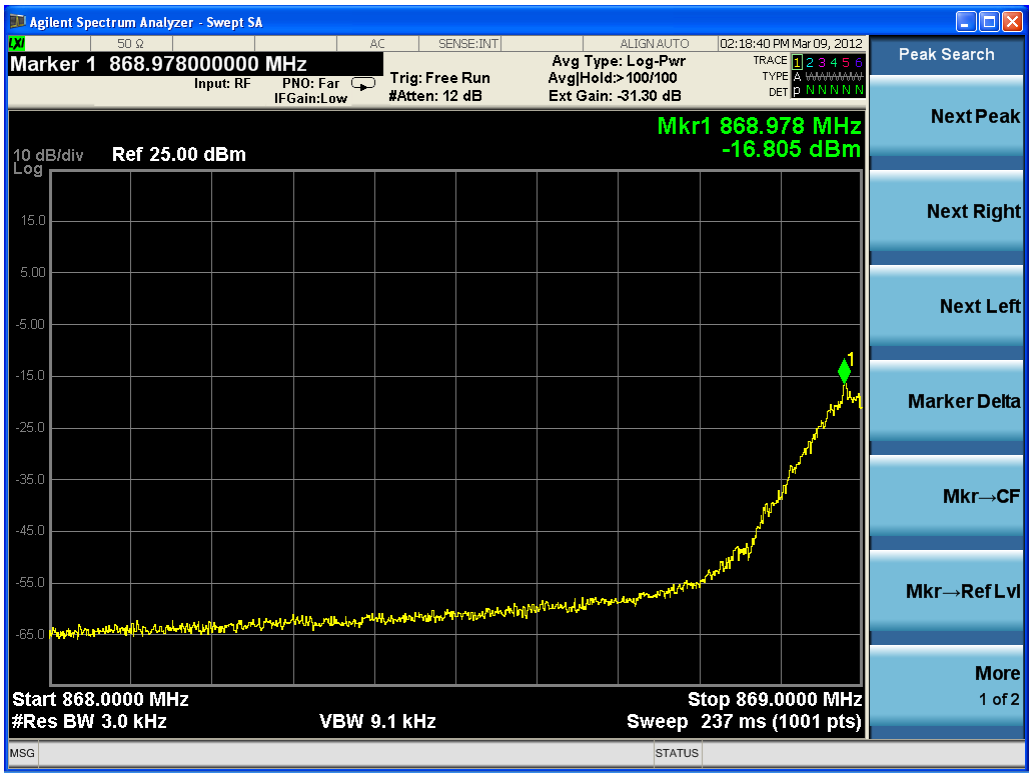
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871	-15.597	-13.00
892/892.6/893.2/893.8	-16.434	-13.00

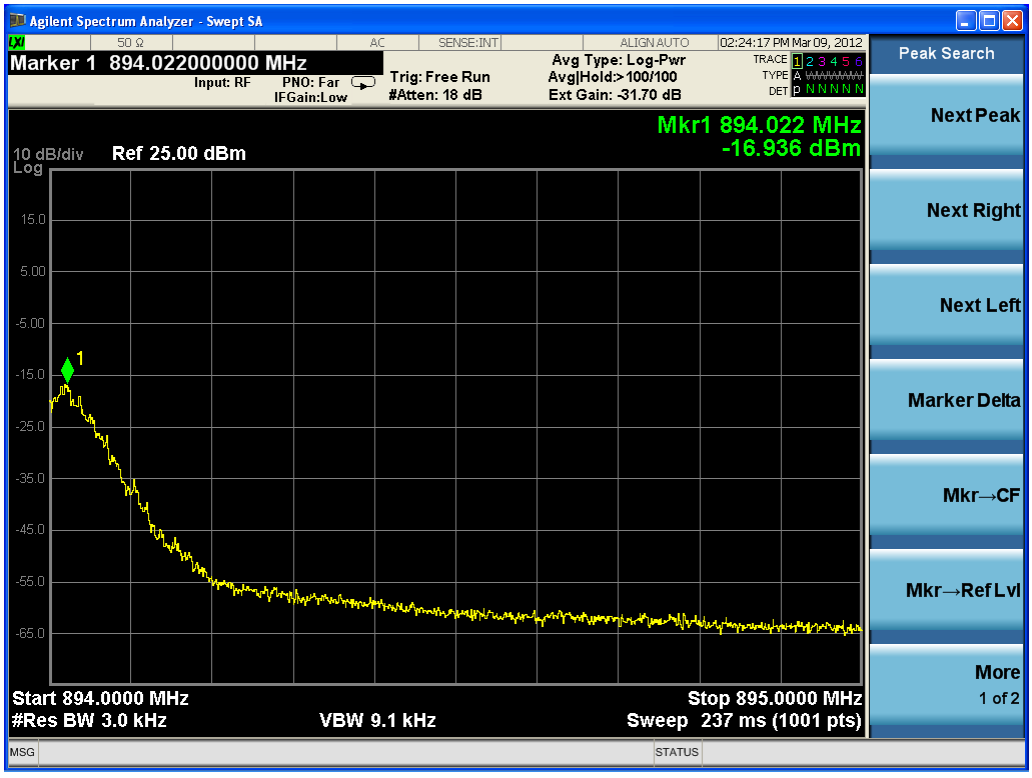




For three carriers

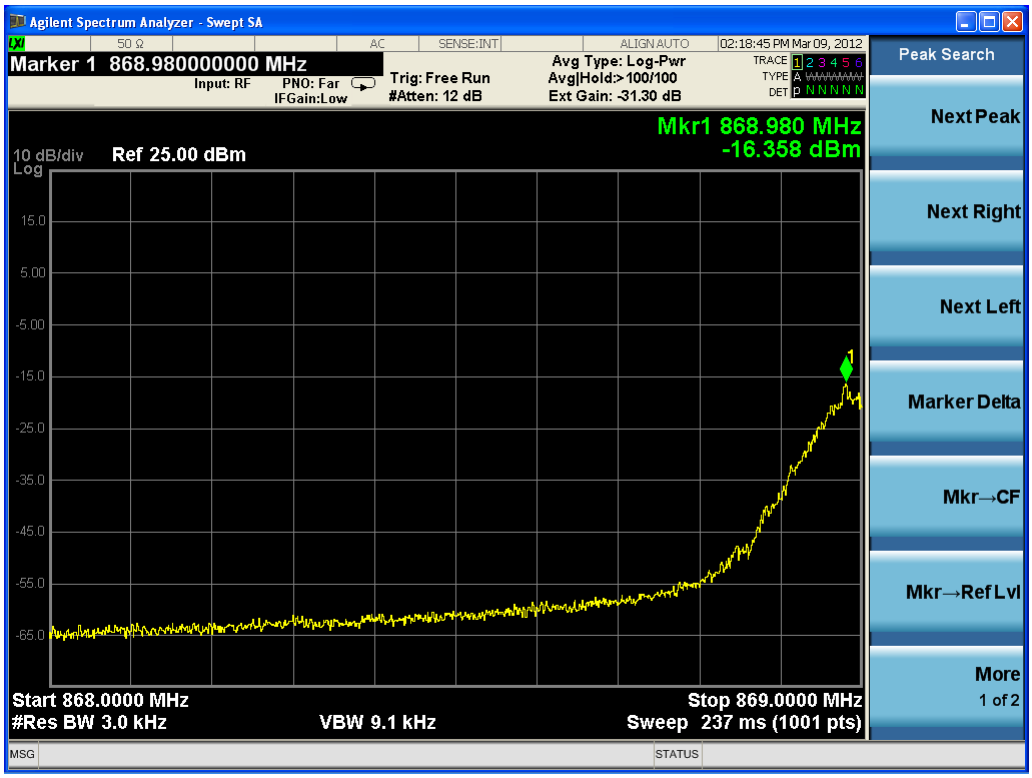
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4	-16.805	-13.00
892.6/893.2/893.8	-16.936	-13.00

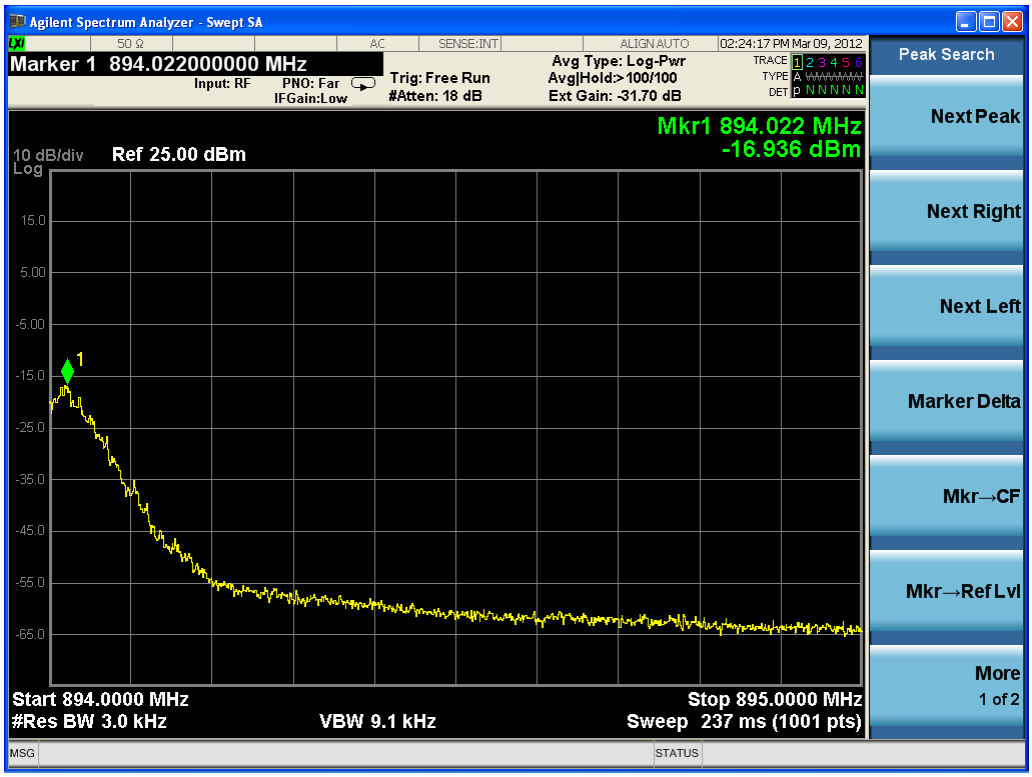

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:18:40 PM Mar 09, 2012
Marker 1 868.978000000 MHz
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 12 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 868.978 MHz
-16.805 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
Start 868.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 869.0000 MHz
Sweep 237 ms (1001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:24:17 PM Mar 09, 2012
Marker 1 894.022000000 MHz
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 18 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.70 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 894.022 MHz
-16.936 dBm
10 dB/div
Log
Ref 25.00 dBm
15.0
5.00
-5.00
-15.0
-25.0
-35.0
-45.0
-55.0
-65.0
Start 894.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 895.0000 MHz
Sweep 237 ms (1001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

For two carriers

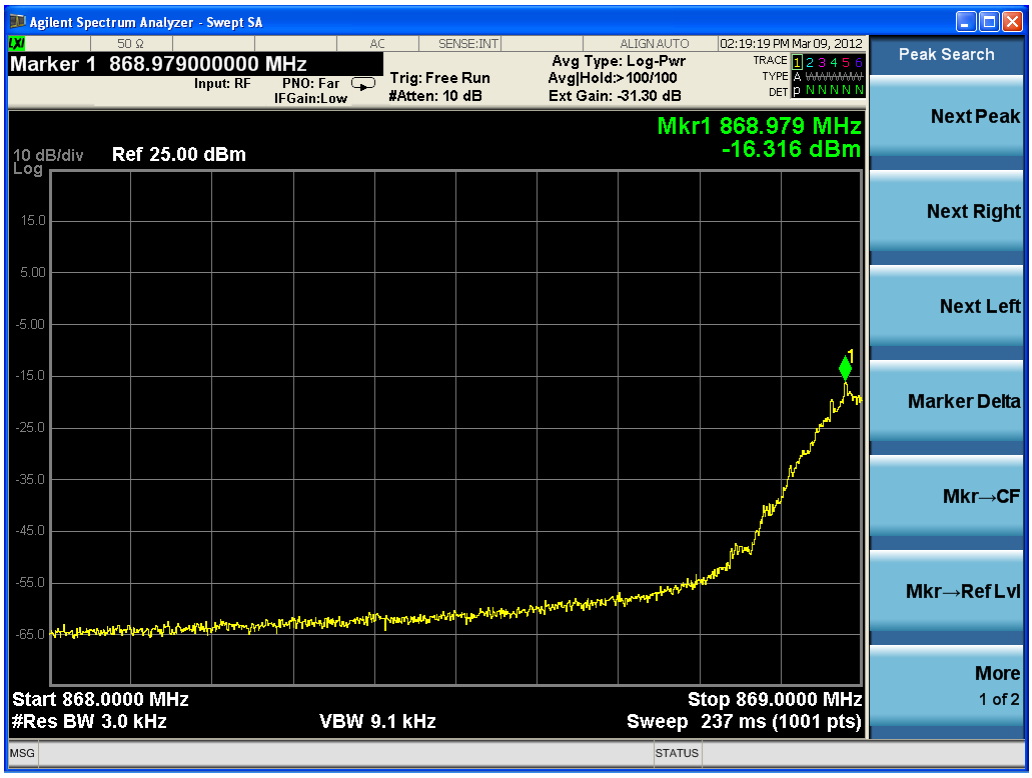
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8	-16.358	-13.00
893.2/893.8	-16.936	-13.00





For One carrier

Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2	-16.316	-13.00
893.8	-16.670	-13.00


Agilent Spectrum Analyzer - Swept SA
Marker 1 868.979000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 10 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
02:19:19 PM Mar 09, 2012
Mkr1 868.979 MHz -16.316 dBm
10 dB/div Log
Ref 25.00 dBm
Start 868.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 869.0000 MHz
Sweep 237 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 894.021000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 10 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.70 dB
02:25:27 PM Mar 09, 2012
Mkr1 894.021 MHz -16.670 dBm
10 dB/div Log
Ref 25.00 dBm
Start 894.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 895.0000 MHz
Sweep 237 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

5.8 FREQUENCY STABILITY

Applicable Standard: FCC § 2.1055, § 22.355

Requirements: FCC § 2.1055 (a)(d), The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
GZ-ESPEC	Temperature Chamber	EW0470	06113028	2012-1-26	2013-1-26
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

*__statement of traceability:__ ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Spectrum Analyzer via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.
After the temperature stabilized for approximately 150 minutes, the frequency output was recorded from the counter.
Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the end point. The output frequency was recorded for each voltage.

Environmental Conditions

Normal condition:	25° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Test Result: Pass

Test Mode: Transmitting GSM

Test Data

Frequency Stability Versus Temperature

Frequency Stability vs Temperature					
Temperature (℃)	**Power Supplied (V_{dc})**	**Frequency Measure Error (Hz)**	**Error (ppm)**	**Limit (ppm)**	**Result**
B(869.2MHz)					
-40	-48	-0.69	-0.00079	0.02	PASS
-30	-48	0.77	0.00089	0.02	PASS
-20	-48	-0.56	-0.00064	0.02	PASS
-10	-48	-0.54	-0.00062	0.02	PASS
0	-48	-0.45	-0.00052	0.02	PASS
10	-48	0.44	0.00051	0.02	PASS
20	-48	0.47	0.00054	0.02	PASS
30	-48	0.37	0.00043	0.02	PASS
40	-48	-0.69	-0.00079	0.02	PASS
50	-48	-1.06	-0.00122	0.02	PASS
55	-48	-1.16	-0.00133	0.02	PASS
M(881.4M)					
-40	-48	0.48	0.00054	0.02	PASS
-30	-48	0.69	0.00078	0.02	PASS
-20	-48	-0.55	-0.00062	0.02	PASS

-10	-48	-0.79	-0.00090	0.02	PASS
0	-48	-1.42	-0.00161	0.02	PASS
10	-48	1.58	0.00179	0.02	PASS
20	-48	0.38	0.00043	0.02	PASS
30	-48	1.35	0.00153	0.02	PASS
40	-48	-0.42	-0.00048	0.02	PASS
50	-48	1.86	0.00211	0.02	PASS
55	-48	1.93	0.00219	0.02	PASS
T(893.8M)					
-40	-48	0.69	0.00077	0.02	PASS
-30	-48	0.57	0.00064	0.02	PASS
-20	-48	-0.64	-0.00072	0.02	PASS
-10	-48	-0.75	-0.00084	0.02	PASS
0	-48	1.18	0.00132	0.02	PASS
10	-48	-1.41	-0.00158	0.02	PASS
20	-48	-0.43	-0.00048	0.02	PASS
30	-48	0.47	0.00053	0.02	PASS
40	-48	-0.77	-0.00086	0.02	PASS
50	-48	-1.24	-0.00139	0.02	PASS
55	-48	0.62	0.00069	0.02	PASS

Frequency Stability Versus Voltage

Frequency Stability vs. Voltage					
Voltage V_{dc}	**Temperature ℃**	**Frequency Measure Error Hz**	**Error ppm**	**Limit ppm**	**Result**
B(869.2MHz)					
40	20	0.46	0.00053	0.02	PASS
43	20	-0.78	-0.00090	0.02	PASS
45	20	0.54	0.00062	0.02	PASS
47	20	-1.68	-0.00193	0.02	PASS
49	20	-0.96	-0.00110	0.02	PASS
51	20	-0.53	-0.00061	0.02	PASS
53	20	-1.51	-0.00174	0.02	PASS
55	20	-0.77	-0.00089	0.02	PASS
57	20	-0.58	-0.00067	0.02	PASS

M(881.4M)					
40	20	-1.89	-0.00214	0.02	PASS
43	20	-1.45	-0.00165	0.02	PASS
45	20	-1.36	-0.00154	0.02	PASS
47	20	1.68	0.00191	0.02	PASS
49	20	1.56	0.00177	0.02	PASS
51	20	0.58	0.00066	0.02	PASS
53	20	0.96	0.00109	0.02	PASS
55	20	-1.69	-0.00192	0.02	PASS
57	20	-1.94	-0.00220	0.02	PASS
T(893.8M)					
40	20	-0.69	-0.00077	0.02	PASS
43	20	1.22	0.00136	0.02	PASS
45	20	-0.35	-0.00039	0.02	PASS
47	20	-0.49	-0.00055	0.02	PASS
49	20	-0.69	-0.00077	0.02	PASS
51	20	1.05	0.00117	0.02	PASS
53	20	-0.68	-0.00076	0.02	PASS
55	20	-0.83	-0.00093	0.02	PASS
57	20	-0.91	-0.00102	0.02	PASS

6 DUAL-MODE OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§2.1046 ,§22.913	Transmitter output Power	Compliant
§2.1091 ,§1.1037	RF Exposure	Compliant
§2.1047 §2.1053, §22.917	Modulation Characteristic Spurious Radiated Emissions	Compliant Compliant
§2.1051, §22.917	Spurious Emissions AT Antenna Terminals	Compliant
§2.1049 §22.917	Occupied Bandwidth	Compliant
§2.1051, §22.917	Band Edge	Compliant
§ 2.1055, §22.355	Frequency stability	Compliant

6.1 TRANSMITTER OUTPUT POWER

Applicable Standard： FCC §2.1046 §22.913

According to FCC §2.1046 &22.913, the ERP(equivalent radiated power) must not exceed 500 Watts.

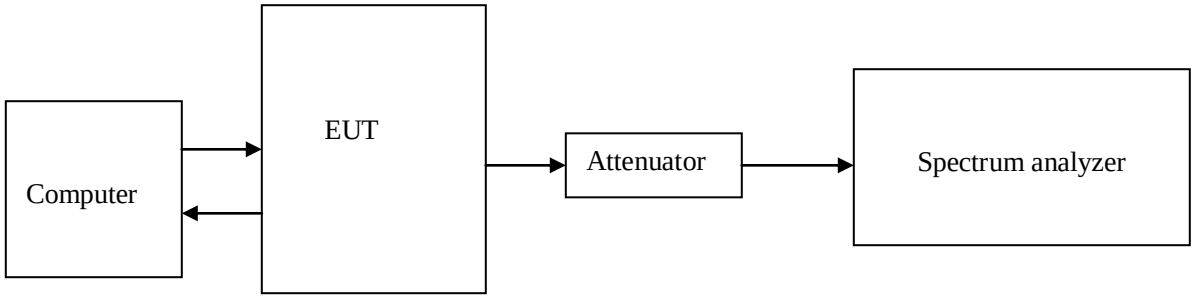
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

*__statement of traceability:__ ZTE Corporation Reliability Testing Center attests that all

calibration has been performed per the NVLAP requirements, traceable to NIST.

Test Procedure



The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. External attenuation Loss is 30dB, Cable Loss is about 2dB

Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

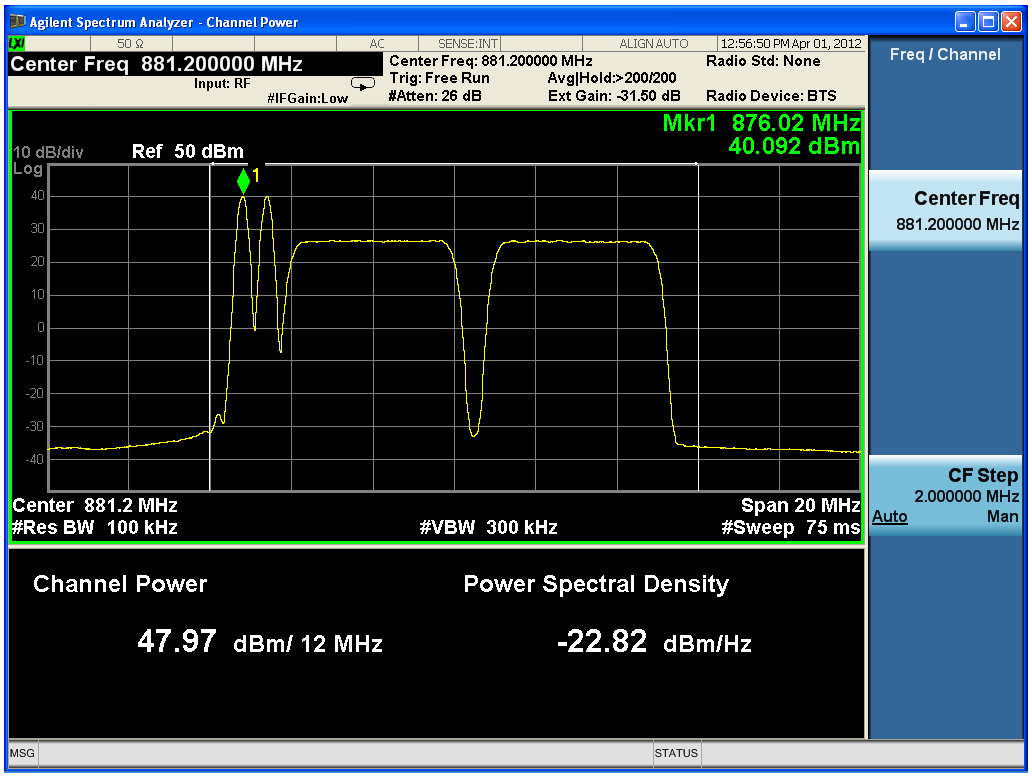
Test Result: Pass

Test Mode: Transmitting 2GSMTRX and 2UMTS carriers and 4GSMTRX and 1UMTS carriers

Test Data:

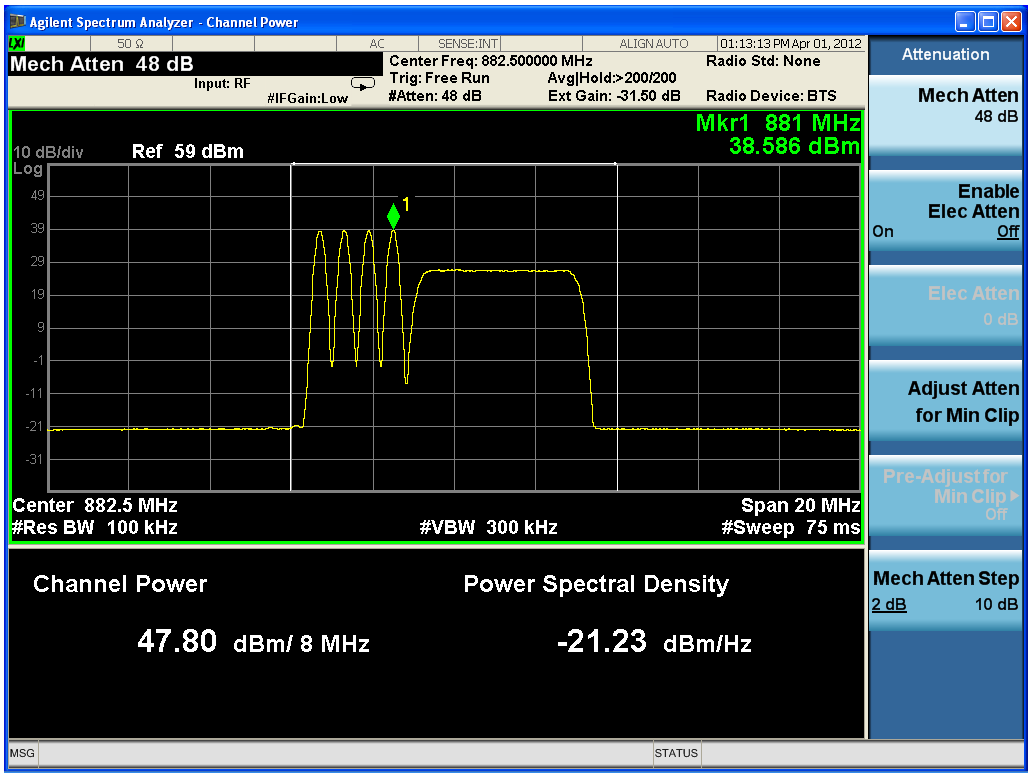
2GSMTRX and 2UMTS carriers

Center Freq. (MHz)	Frequency (MHz)	Max output Power (dBm)
881.2	881.2	47.97



4GSMTRX and 1UMTS carriers

Center Freq. (MHz)	Frequency (MHz)	Max output Power (dBm)
882.5	882.5	47.80


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:13:13 PM Apr 01, 2012
Mech Atten 48 dB
Input: RF
#IFGain:Low
Center Freq: 882.500000 MHz
Trig: Free Run
#Atten: 48 dB
Avg|Hold:>200/200
Ext Gain: -31.50 dB
Radio Std: None
Radio Device: BTS
Mkr1 881 MHz
38.586 dBm
10 dB/div
Log
Ref 59 dBm
49
39
29
19
9
-1
-11
-21
-31
1
Center 882.5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 20 MHz
#Sweep 75 ms
Channel Power
47.80 dBm/ 8 MHz
Power Spectral Density
-21.23 dBm/Hz
MSG
STATUS
Attenuation
Mech Atten
48 dB
Enable
Elec Atten
On
Off
Elec Atten
0 dB
Adjust Atten
for Min Clip
Pre-Adjust for
Min Clip
Off
Mech Atten Step
2 dB
10 dB

6.2 RF EXPOSURE

Applicable standard: FCC §2.1091 §1.1037

Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated. Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

Test Data

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01
$S = EIRP/ 4\pi R^2$
Where: S = power density
EIRP= equivalent isotropically radiated power=ERP+2.15dB
R = distance to the center of radiation of the antenna= $[(ERP+2.15dB)/4\pi S]^{1/2}$

Maximum EIRP, In general, the equivalent isotropically radiated power (EIRP) of base transmitters and cellular repeaters must not exceed 500 Watts.

Frequency is between 300MHz and 1500MHz, and the Maximum
$S=894/1500=0.596mW/cm^2$, R=3.31m.
This equipment should be installed and operated with minimum distance 3.31m between the radiator& your body.

Test Result: pass

6.3 SPURIOUS RADIATED EMISSIONS

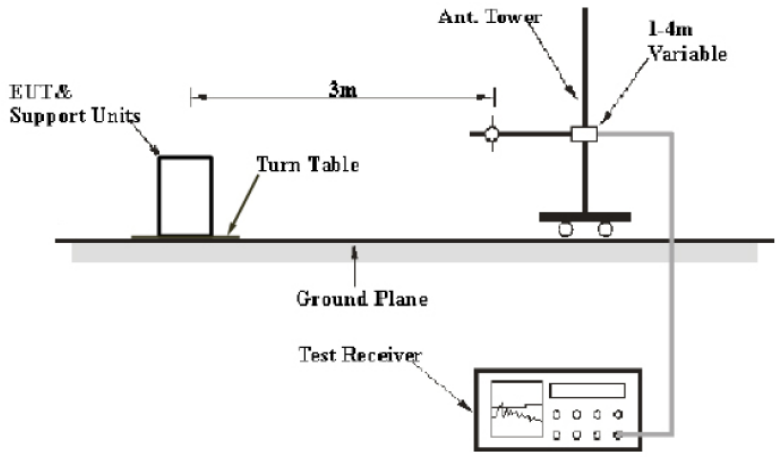
Applicable Standard: FCC CFR 47, §2.1053

Test Equipment List and Details

Manufacturer	Equipment	Model	Serial Number	Last Cal.	Cal. Interval
R&S	SIGNAL GENERATOR	SMR20	A00017351	2011-9-26	1 year
Albatross	Anechoic Chamber	3m Site	A00017354	2011-11-2	1 year
R&S	EMI Test Receiver	ESIB26	100058	2011-10-29	1 year
R&S	Ultra Breitband Antennas	HL562	100022	2011-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100032	2011-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100446	2011-7-29	1 year
SCHWARZ-BECK	Biconical Antenna	VUBA9117	9117-122	2011-7-29	1 year

Measurement Uncertainty
All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiated emissions measurement at the EMC lab. is 3.6dB.

EUT Setup



The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with the FCC part 2.1053.The specification used was the FCC 2.1053 limits.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.
The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
The frequency range up to teeth harmonic of the fundamental frequency was investigated.
Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.
Spurious emissions in dB =10 1g (TX pwr in Watts/0.001)-the absolute level
Spurious attenuation limit in dB =43+10 Lg P (power out in Watts)
The resolution bandwidth of the spectrum analyzer was set at 1 percent as specified for 30MHz to 1GHz scaning, set at 1MHz for 1GHz to 20GHz scaning.

Test Results Summary: PASS

Environmental Conditions

Temperature:	26°C
Relative Humidity:	60 %
ATM Pressure:	1009 mbar

Test data

Indicated		Test Antenna	Substituted		Cable Loss(dB)	Effective radiated power（dBm）	Dipole Antenna	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (GHz)	Amp. (dBμV)	Polar H/V	Level (dBm)	Antenna Gain Correction						
33.887776	23.08	V	-36	-42.03	0.3	-78.33	2.15	-80.48	-13	67.48
125.250501	22.74	V	-64.26	-10.46	0.8	-75.52	2.15	-77.67	-13	64.67
148.577154	23.36	V	-62.59	-6.46	1	-70.05	2.15	-72.2	-13	59.2
593.727455	27.02	V	-68.97	-1.21	2	-72.18	2.15	-74.33	-13	61.33
895.03006	78.46	V	-18.73	-1.54	2.5	-22.77	2.15	-24.92	-13	11.92
2755.51102	53.66	V	-48.59	7.95	4.4	-45.04	2.15	-47.19	-13	34.19
30	22.38	H	-30.36	-43.49	0.3	-74.15	2.15	-76.3	-13	63.3
138.857715	22.27	H	-69.77	-8.42	1	-79.19	2.15	-81.34	-13	68.34
150.521042	23.61	H	-68.43	-5.7	1	-75.13	2.15	-77.28	-13	64.28
644.268537	26.85	H	-74.04	-1.09	2.1	-77.23	2.15	-79.38	-13	66.38
893.086172	78.5	H	-18.59	-1.54	2.5	-22.63	2.15	-24.78	-13	11.78
2791.58317	53.68	H	-54.72	7.95	4.5	-51.27	2.15	-53.42	-13	40.42

Radiation emission spurious below 3GHz

Indicated		Test Antenna	Substituted		Cable Loss(dB)	Effective radiated power（dBm）	Dipole Antenna	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (GHz)	Amp. (dBμV)	Polar H/V	Level (dBm)	Antenna Gain Correction						
4811.62325	41.88	V	-65.72	9.15	5.9	-62.47	2.15	-64.62	-13	51.62
6142.28457	47.82	V	-59.65	9.05	6.8	-57.4	2.15	-59.55	-13	46.55
6991.98397	48.96	V	-59.21	9.25	7.3	-57.26	2.15	-59.41	-13	46.41
7541.58317	50.02	V	-62.33	9.25	7.7	-60.78	2.15	-62.93	-13	49.93
9846.19239	55.41	V	-53.41	9.95	8.9	-52.36	2.15	-54.51	-13	41.51
12646.2926	56.48	V	-53.22	12.15	9.9	-50.97	2.15	-53.12	-13	40.12
3801.60321	40.63	H	-63.06	7.75	5.2	-60.51	2.15	-62.66	-13	49.66
4731.46293	42.01	H	-61.42	9.15	5.8	-58.07	2.15	-60.22	-13	47.22
6182.36473	47.9	H	-55.49	9.05	6.9	-53.34	2.15	-55.49	-13	42.49
7622.24449	49.3	H	-59.33	9.25	7.8	-57.88	2.15	-60.03	-13	47.03
9869.23848	55.92	H	-53.02	9.95	8.8	-51.87	2.15	-54.02	-13	41.02
12404.3086	56.89	H	-55.26	12.05	9.9	-53.11	2.15	-55.26	-13	42.26

Radiation emission spurious above 3GHz

6.4 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard: FCC§2.1051, §22.917

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified.

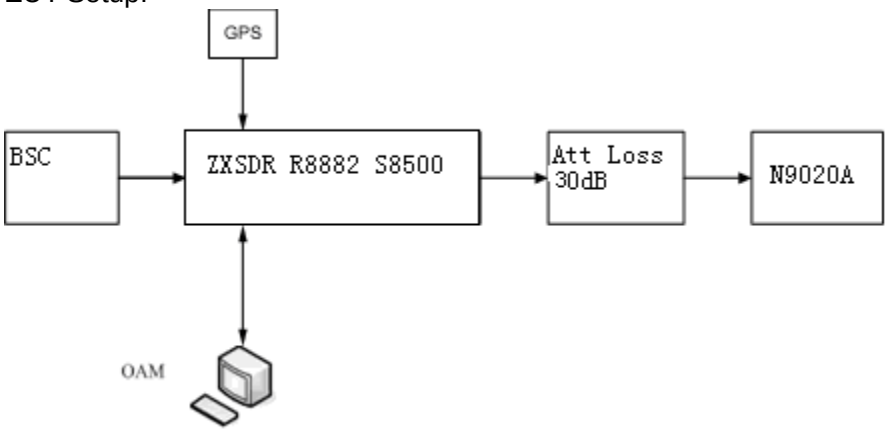
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

*__statement of traceability:__ ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

EUT Setup:



REMARKS: Attenuator loss (dB)=30dB, Cable Loss (dB)=2dB.

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100KHz for 30MHz to 1GHz band, set at 1MHz for 1GHz to 10GHz band. Sufficient scans were taken to

show any out of band emissions up to 10th harmonic.

Test Data Environmental Conditions

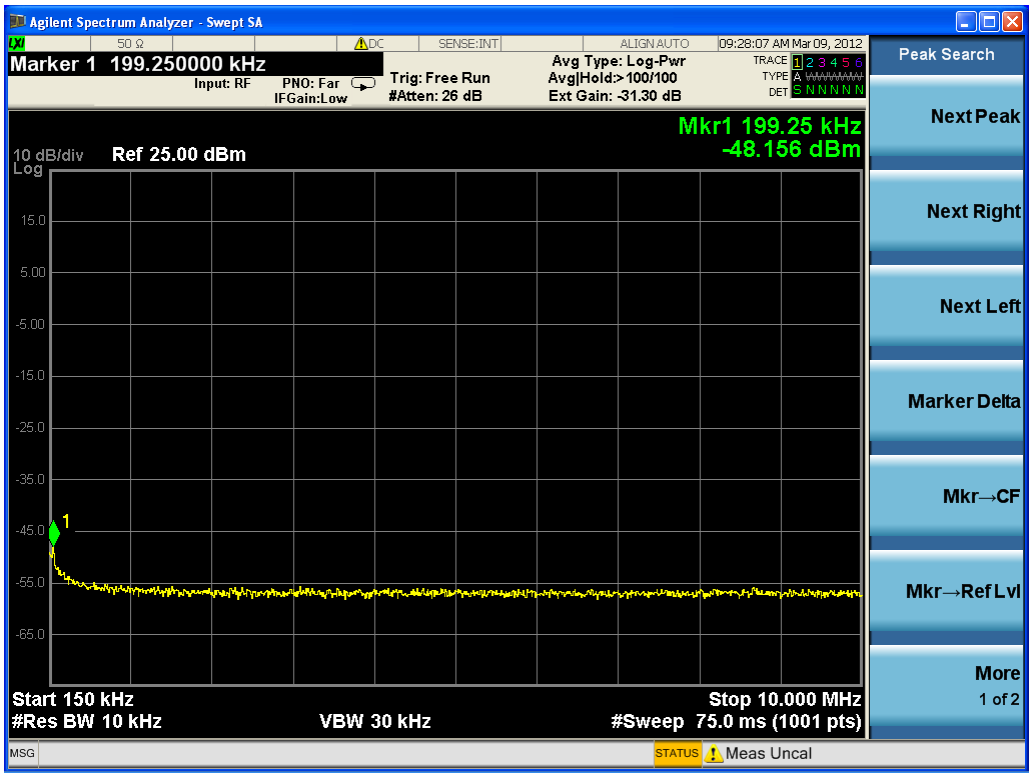
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

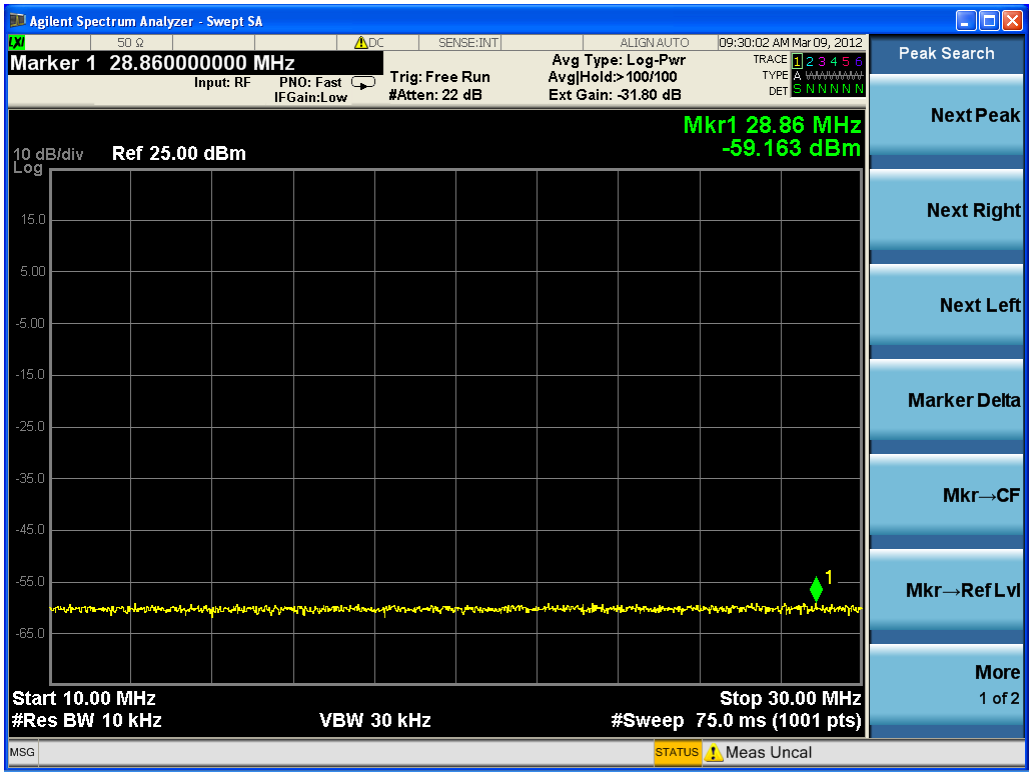
Test Result: Pass

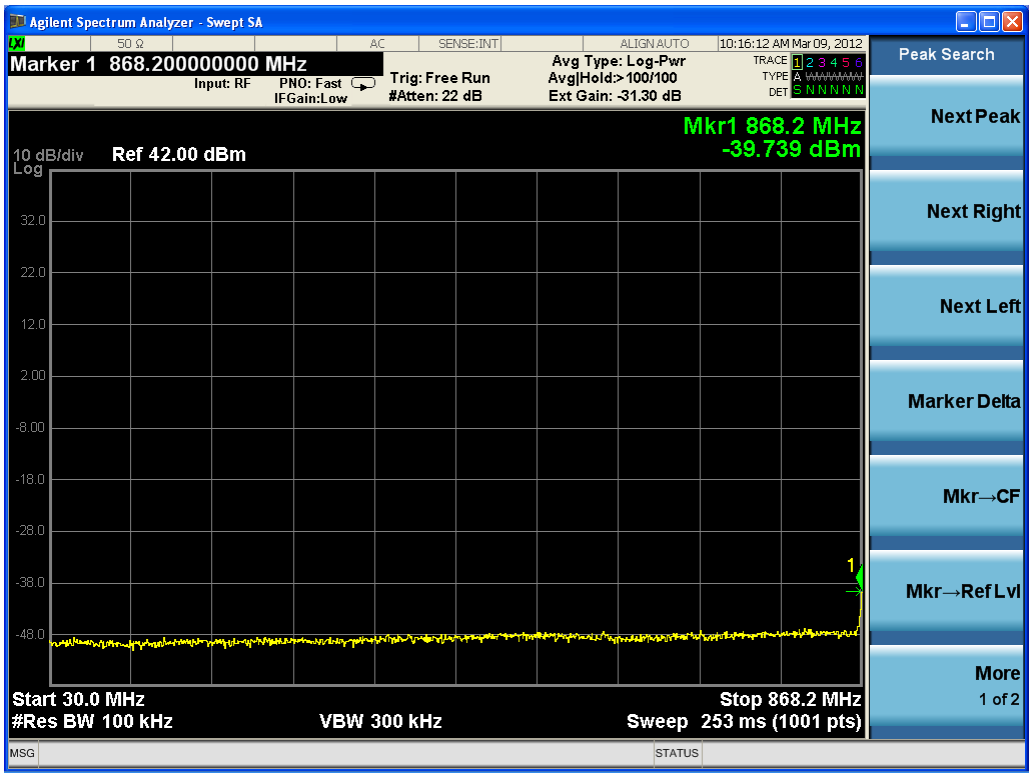
Test Mode: Transmitting 2GSMTRX and 2UMTS carriers and 4GSMTRX and 1UMTS carriers

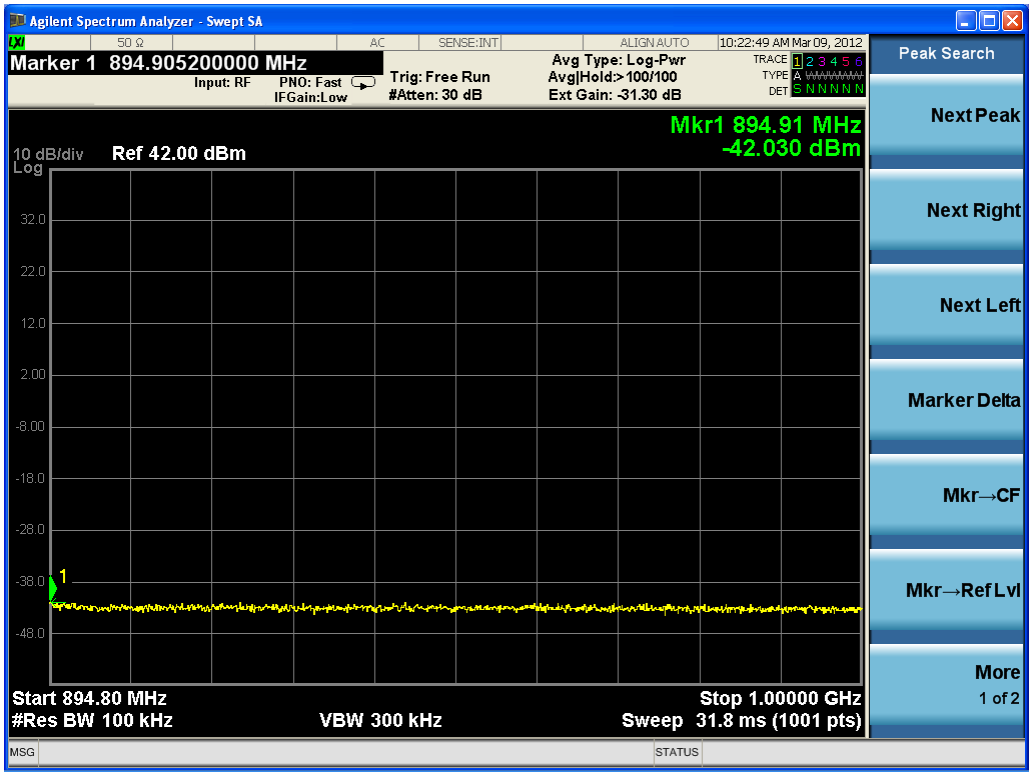
Test Data:

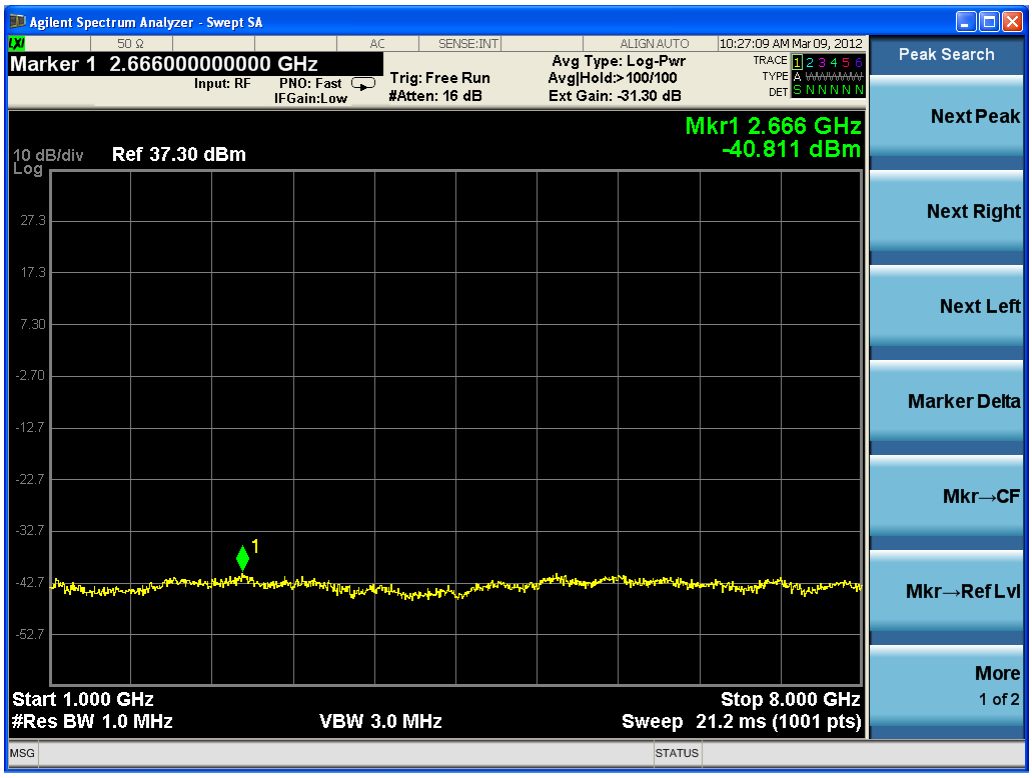
2GSMTRX and 2UMTS carriers


Agilent Spectrum Analyzer - Swept SA
Marker 1 199.250000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
09:28:07 AM Mar 09, 2012
Mkr1 199.25 kHz -48.156 dBm
10 dB/div Log
Ref 25.00 dBm
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

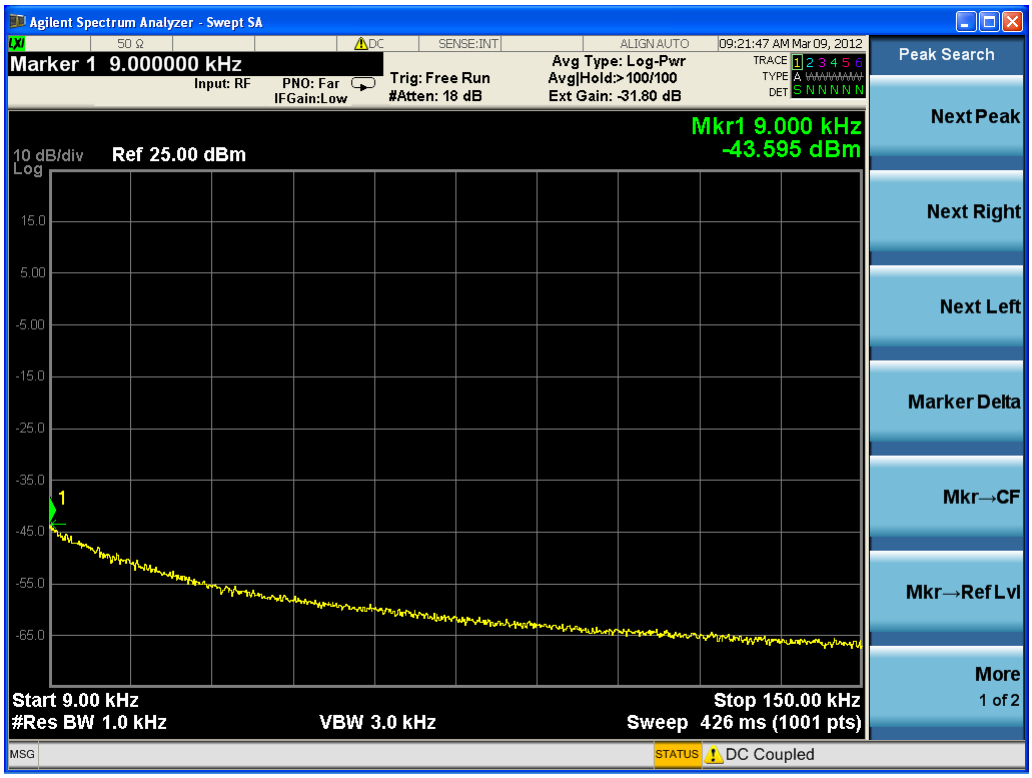

Agilent Spectrum Analyzer - Swept SA
Marker 1 28.860000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:30:02 AM Mar 09, 2012
Mkr1 28.86 MHz -59.163 dBm
10 dB/div Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal

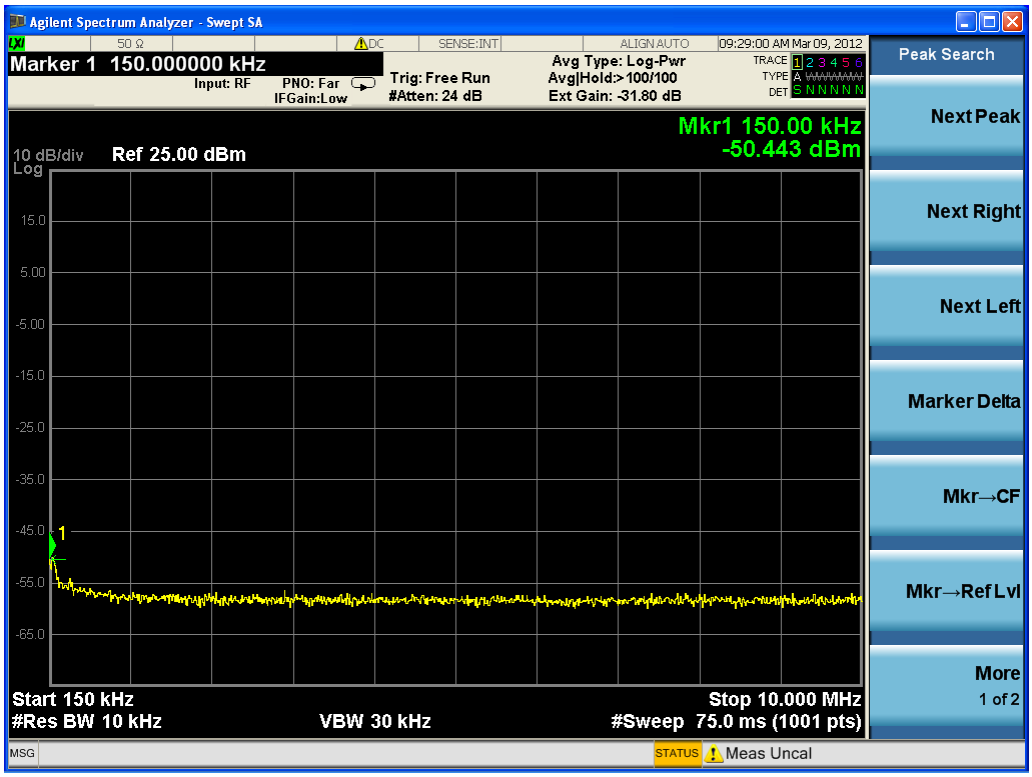

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.200000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:16:12 AM Mar 09, 2012
Mkr1 868.2 MHz -39.739 dBm
10 dB/div Log
Ref 42.00 dBm
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

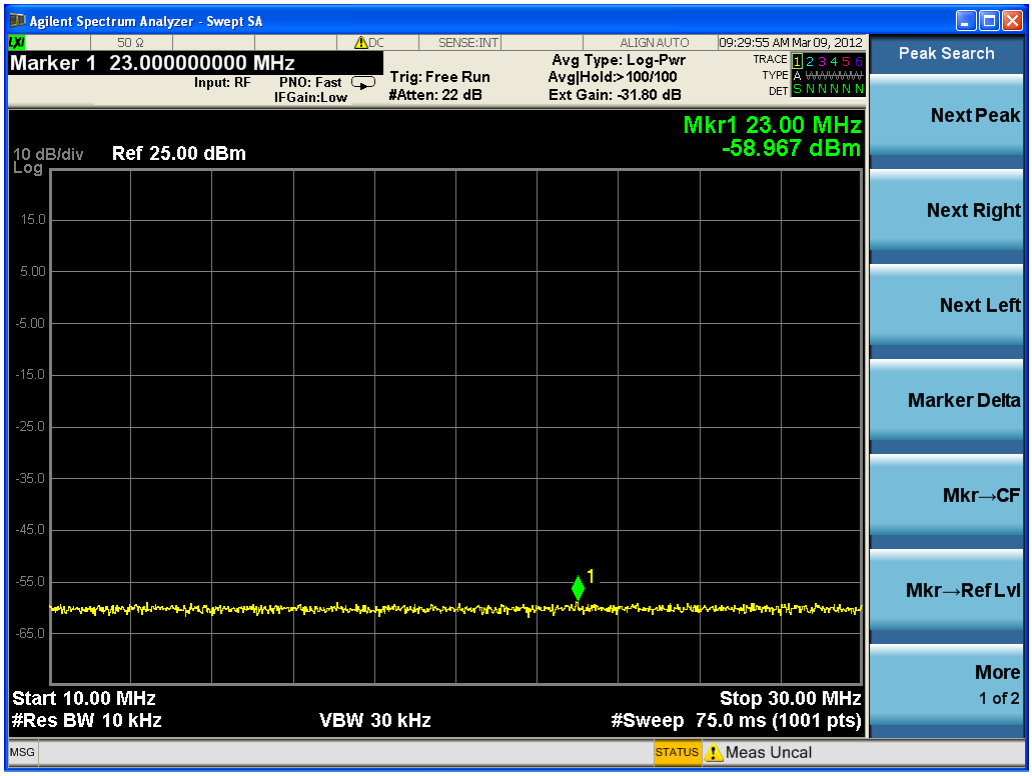

Agilent Spectrum Analyzer - Swept SA
Marker 1 894.905200000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 30 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:22:49 AM Mar 09, 2012
Mkr1 894.91 MHz -42.030 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

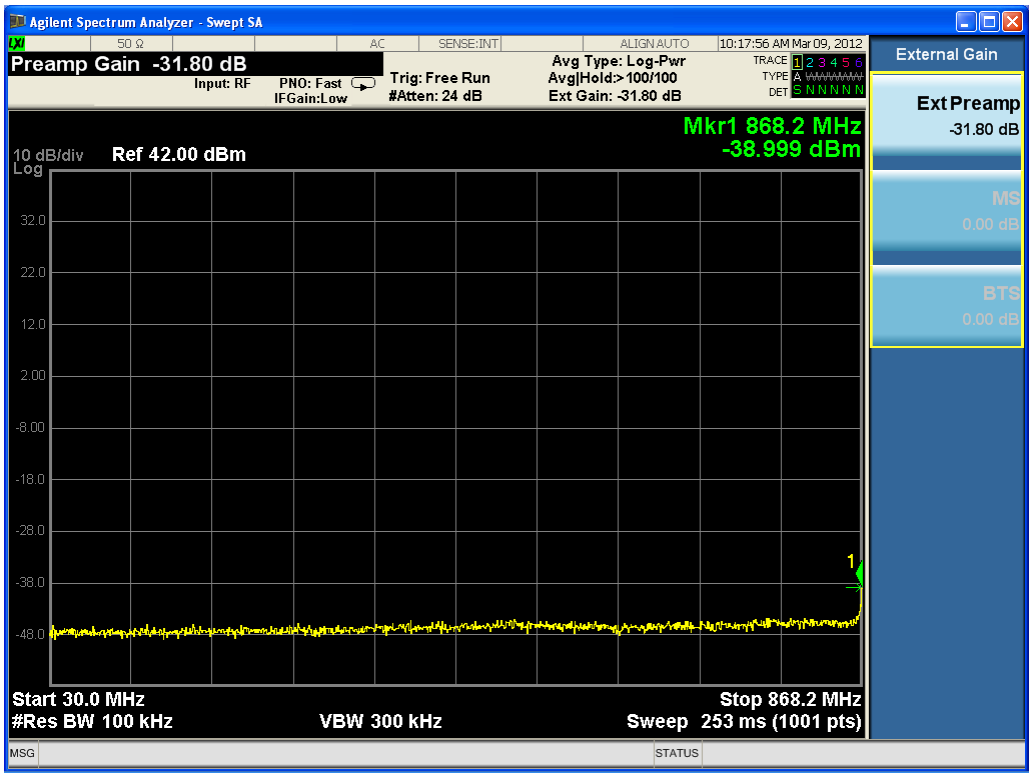


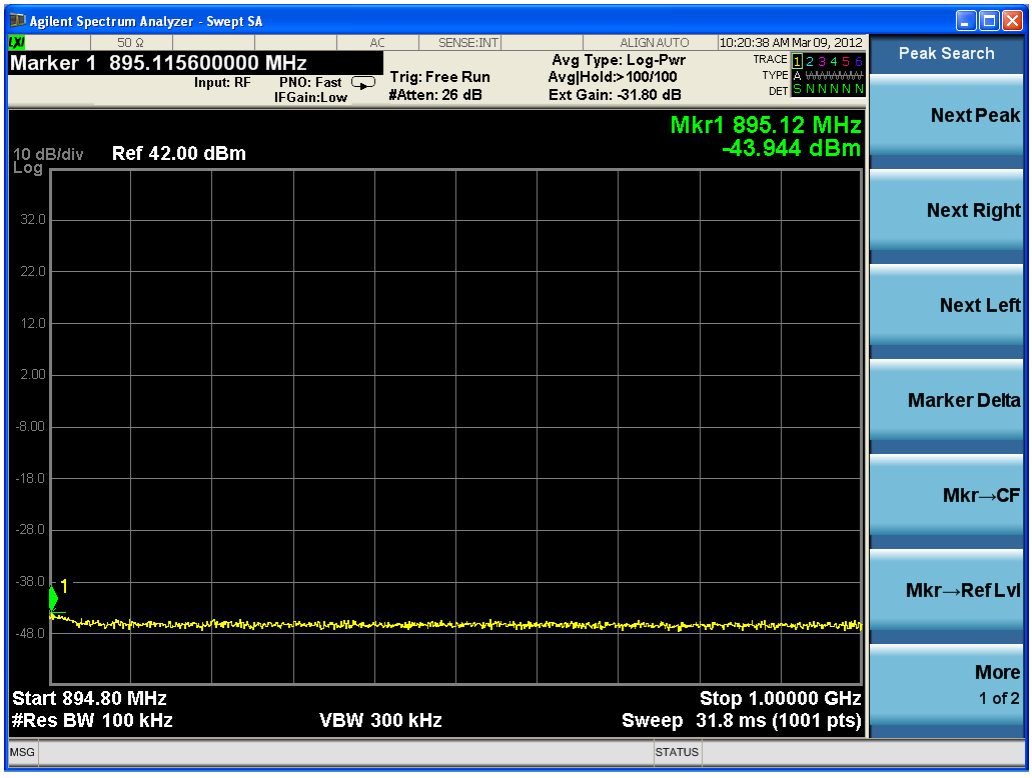
4GSMTRX and 1UMTS carriers

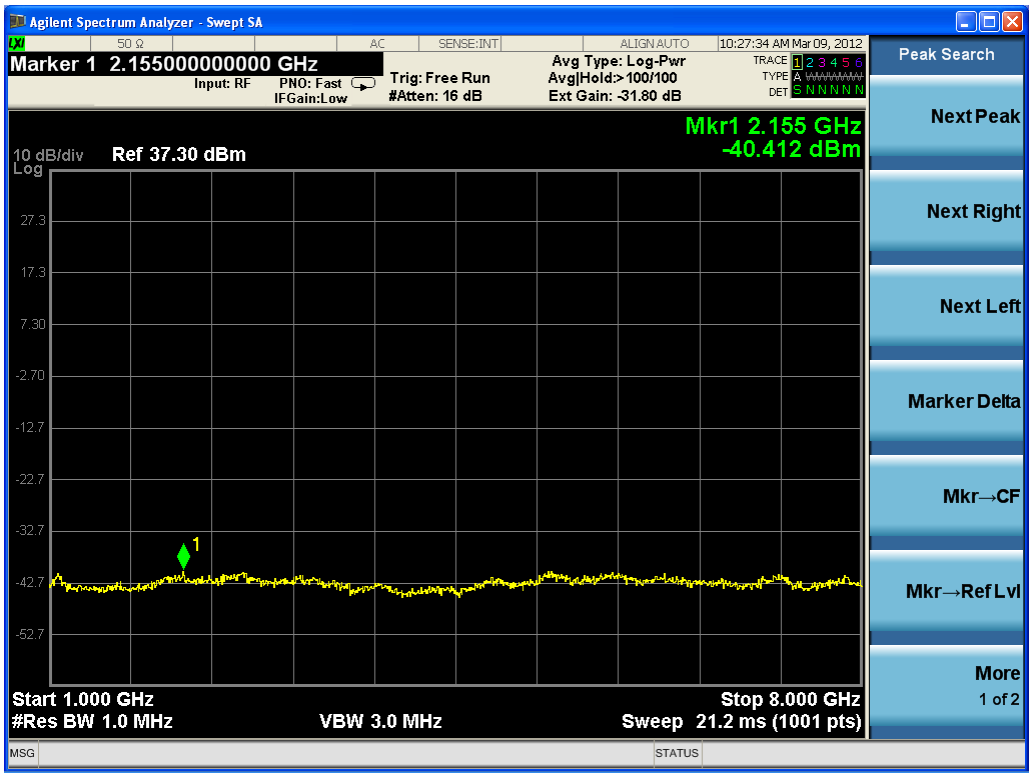



Agilent Spectrum Analyzer - Swept SA
Marker 1 150.000000 kHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 24 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:29:00 AM Mar 09, 2012
Mkr1 150.00 kHz -50.443 dBm
10 dB/div Log
Ref 25.00 dBm
Start 150 kHz
#Res BW 10 kHz
VBW 30 kHz
Stop 10.000 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal


Agilent Spectrum Analyzer - Swept SA
Marker 1 23.000000000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 22 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
09:29:55 AM Mar 09, 2012
Mkr1 23.00 MHz -58.967 dBm
10 dB/div Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 30.00 MHz
#Sweep 75.0 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2
Meas Uncal


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:17:56 AM Mar 09, 2012
Preamp Gain -31.80 dB
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 24 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 868.2 MHz
-38.999 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 30.0 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 868.2 MHz
Sweep 253 ms (1001 pts)
MSG
STATUS
External Gain
Ext Preamp
-31.80 dB
MS
0.00 dB
BTS
0.00 dB


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:20:38 AM Mar 09, 2012
Marker 1 895.115600000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 895.12 MHz
-43.944 dBm
10 dB/div
Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 kHz
Stop 1.00000 GHz
Sweep 31.8 ms (1001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:27:34 AM Mar 09, 2012
Marker 1 2.155000000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 2.155 GHz
-40.412 dBm
10 dB/div
Log
Ref 37.30 dBm
27.3
17.3
7.30
-2.70
-12.7
-22.7
-32.7
-42.7
-52.7
1
Start 1.000 GHz
#Res BW 1.0 MHz
VBW 3.0 MHz
Stop 8.000 GHz
Sweep 21.2 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

6.5 OCCUPIED BANDWIDTH

Applicable Standard: FCC §2.1049 §22.917

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

***statement of traceability:**ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

The RF out of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. 99%Power bandwidth was recorded.

Environmental Conditions

Temperature:	20 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

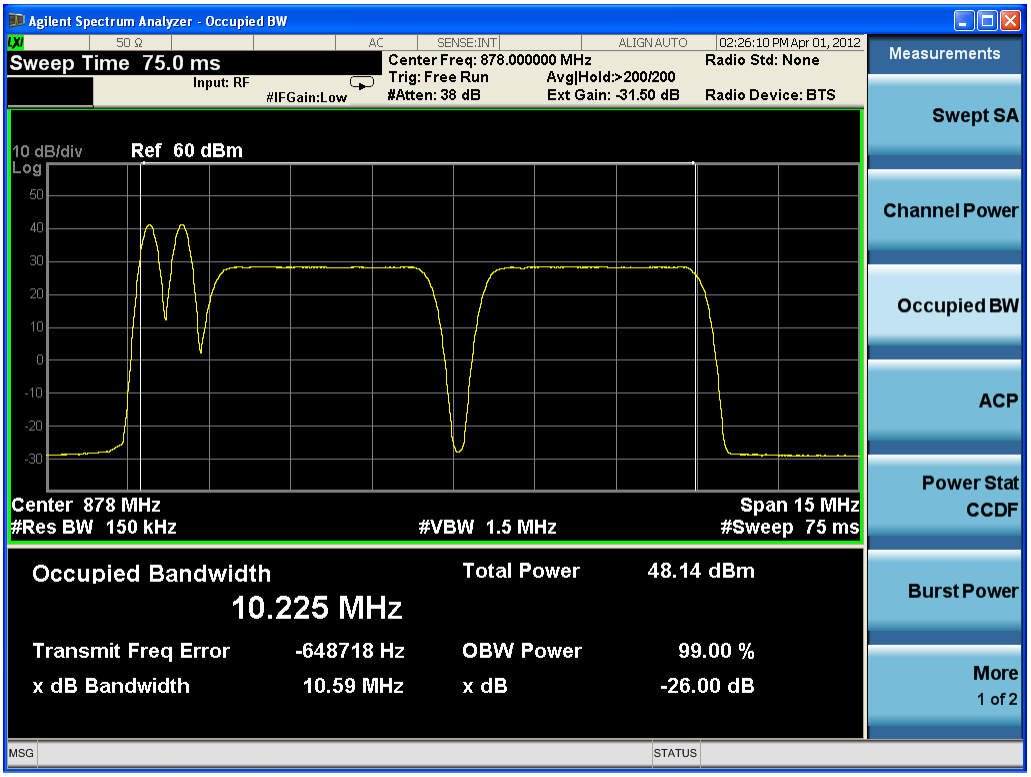
Test Result: Pass

Test Mode: Transmitting 2GSMTRX and 2UMTS carriers and 4GSMTRX and 1UMTS carriers

Test Data

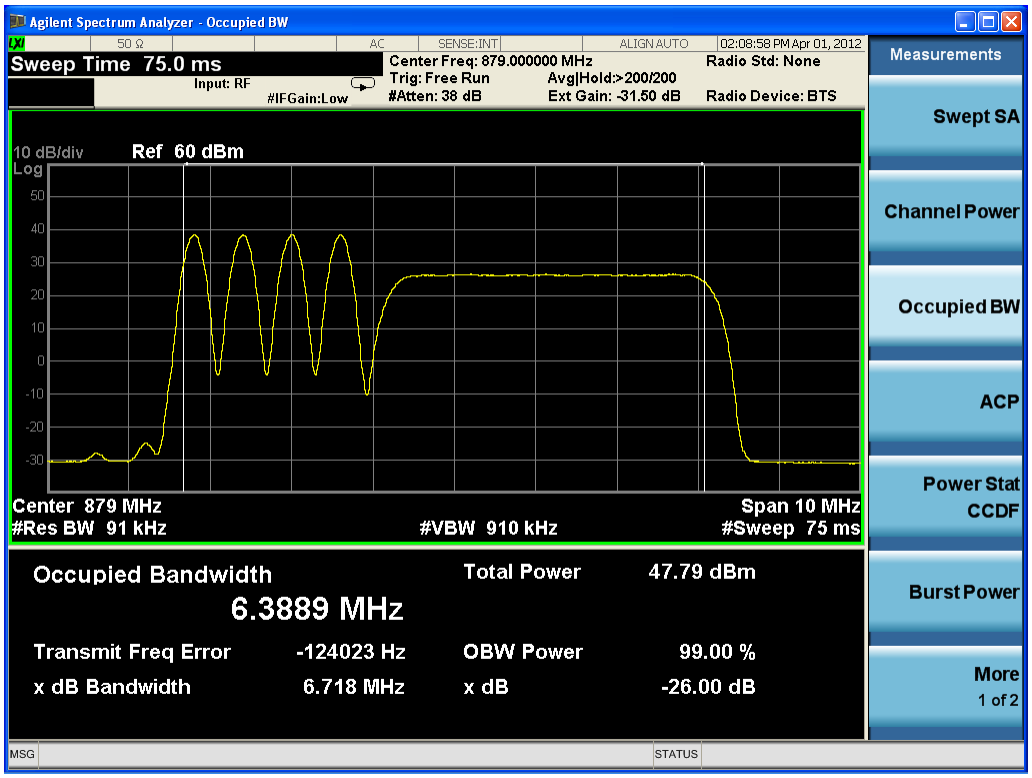
2GSMTRX and 2UMTS carriers

Frequency (MHz)	99% Power Bandwidth (MHz)
878	10.225



4GSMTRX and 1UMTS carrier

Frequency (MHz)	99% Power Bandwidth (MHz)
879	6.3889



6.6 BAND EDGES

Applicable Standard: FCC §2.1051

According to §2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (p) by a factor of at least 43 + 10 log (p) dB. The limit (dBm) should < P –(43+10log(P)) = -13dBm.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	30dB Attenuator	ATSI150-4-30	11300110201221	2011-7-11	2012-7-11
Forstar	Forstar RF Cable	002	1034	2011-4-8	2012-4-7

*__statement of traceability:__ ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
The center of the spectrum analyzer was set to block edge frequency.

Test Data Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53%
ATM Pressure:	1009mbar

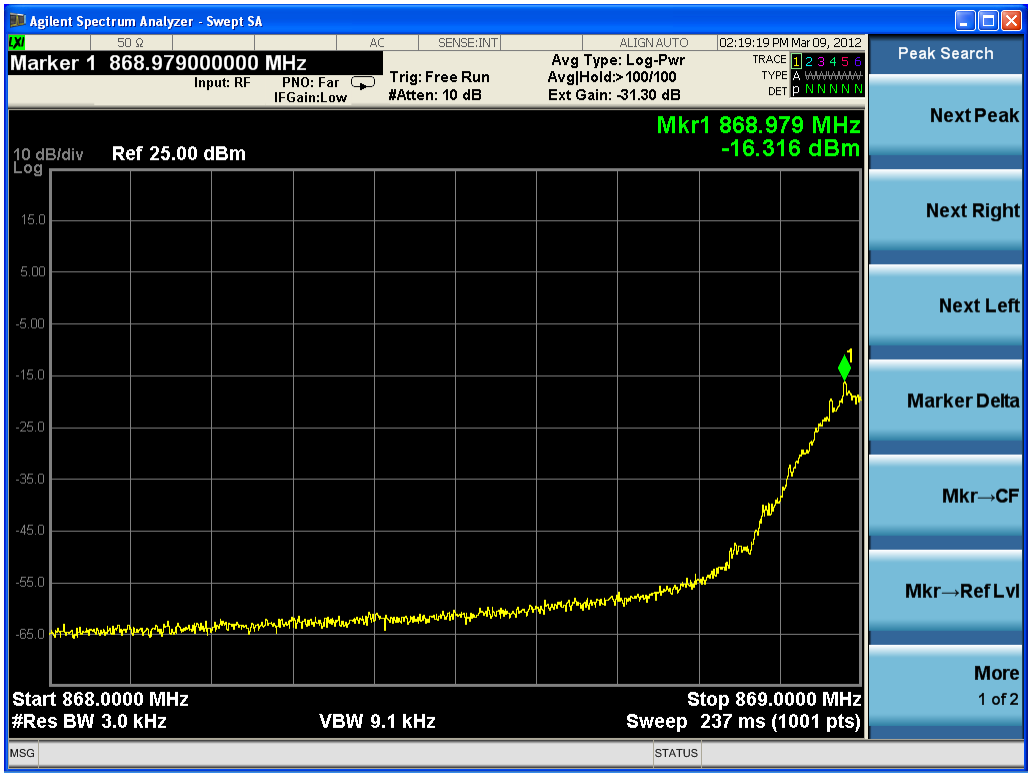
Test Result: Pass

Test Mode: Transmitting 2GSMTRX and 2UMTS carriers and 4GSMTRX and 1UMTS carriers

Test Data

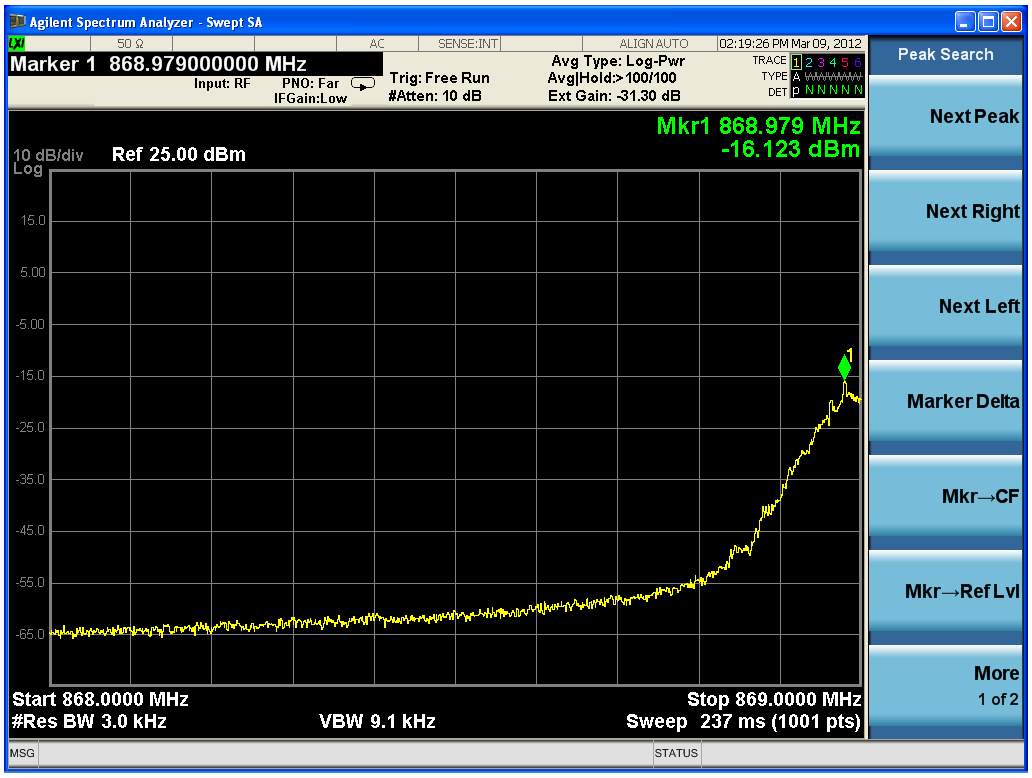
2GSMTRX and 2UMTS carriers

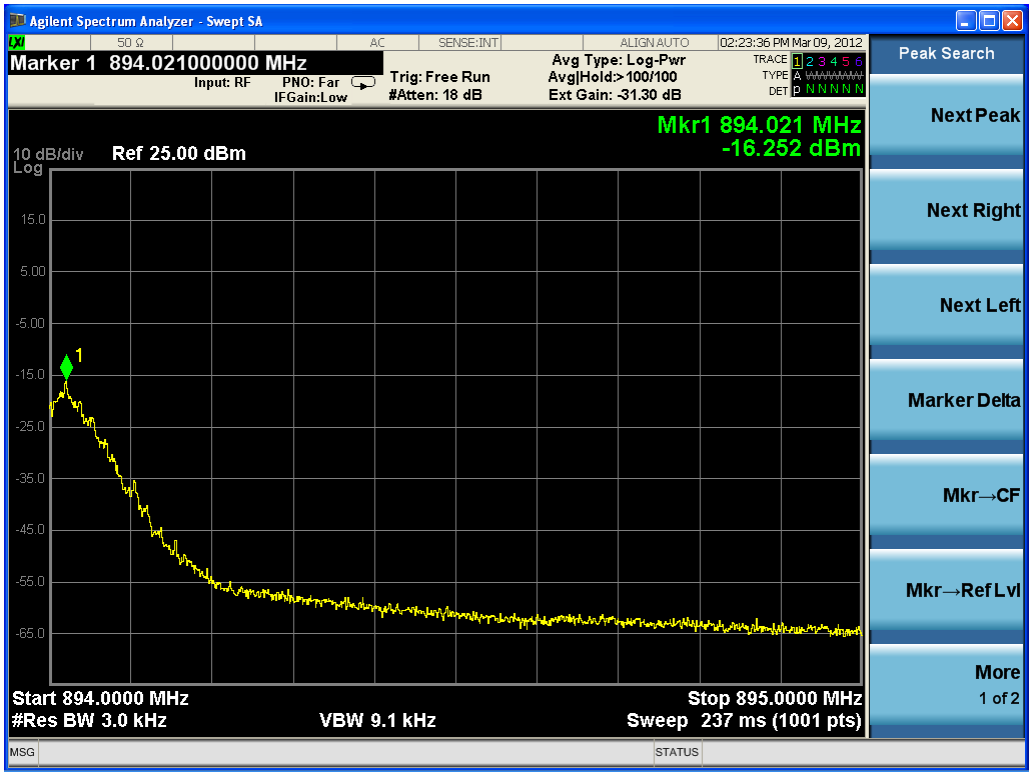
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
868-869	-16.316	-13.00
894-895	-16.670	-13.00



4GSMTRX and 1UMTS carrier

Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
868-869	-16.123	-13.00
894-895	-16.252	-13.00


Agilent Spectrum Analyzer - Swept SA
Marker 1 868.979000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 10 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
02:19:26 PM Mar 09, 2012
Mkr1 868.979 MHz -16.123 dBm
10 dB/div Log
Ref 25.00 dBm
Start 868.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 869.0000 MHz
Sweep 237 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 894.021000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 18 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
02:23:36 PM Mar 09, 2012
Mkr1 894.021 MHz -16.252 dBm
10 dB/div Log
Ref 25.00 dBm
Start 894.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 kHz
Stop 895.0000 MHz
Sweep 237 ms (1001 pts)
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2