4.7 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	40dB Attenuator	ATSI150-4-40	11300100204204	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

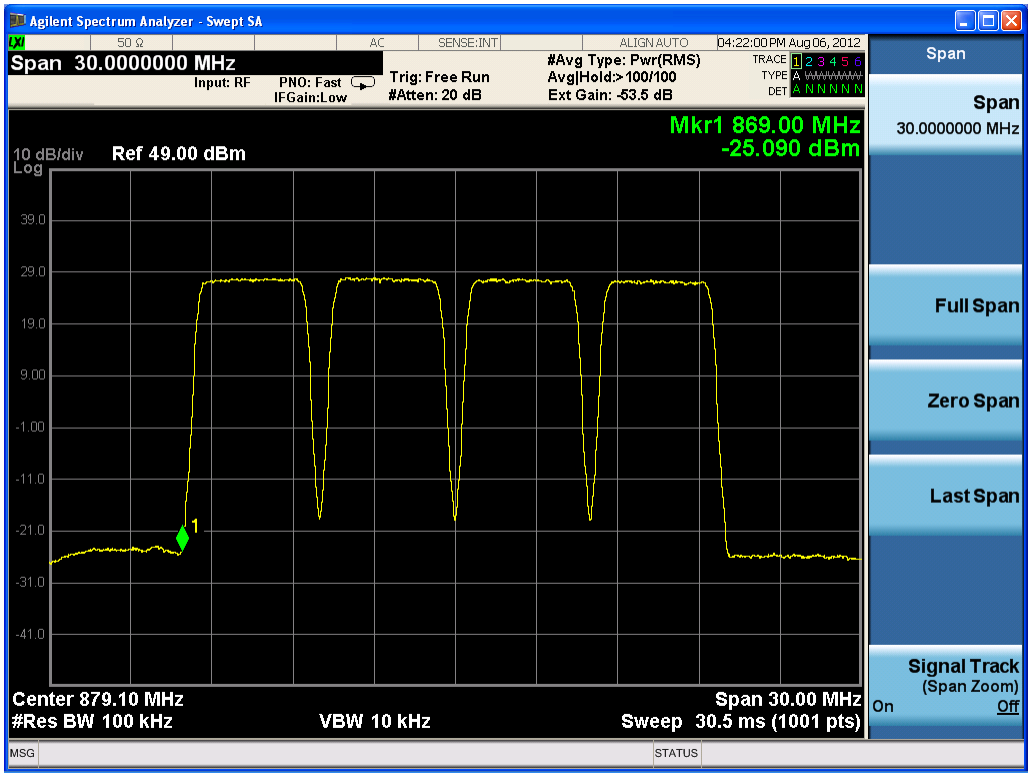
Test Result: Pass

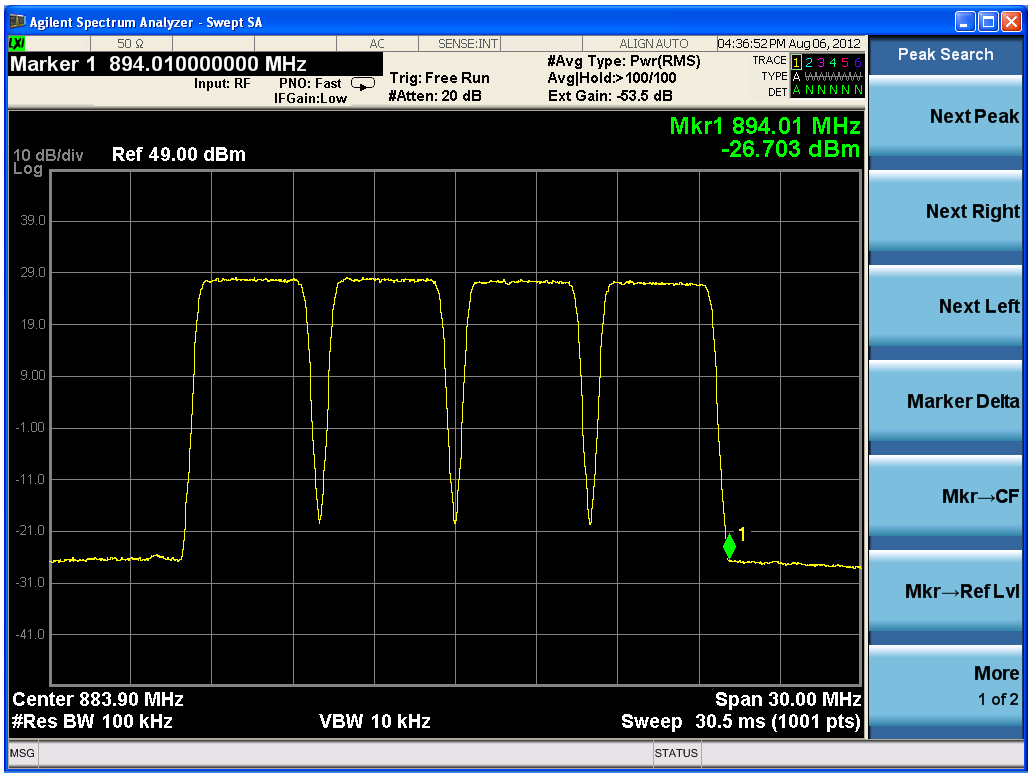
Test Mode: Transmitting UMTS

Test Data

For four carriers

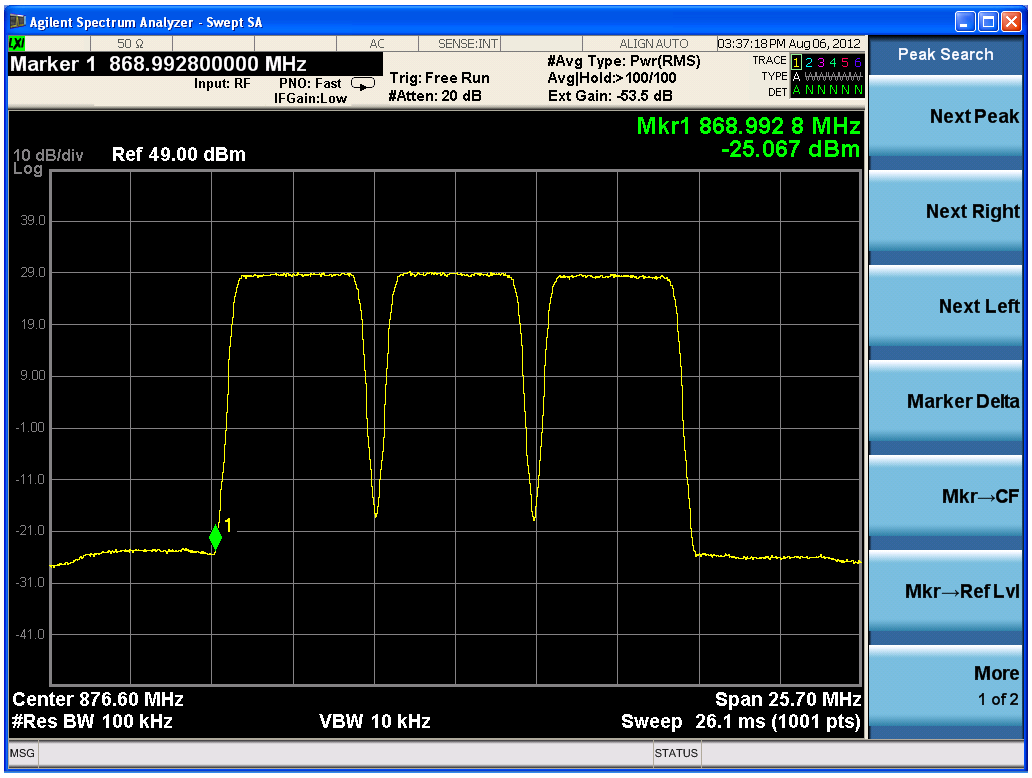
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
871.6/876.6/881.6/886.6	-25.090	-13.00
876.4/881.4/886.4/891.4	-26.703	-13.00

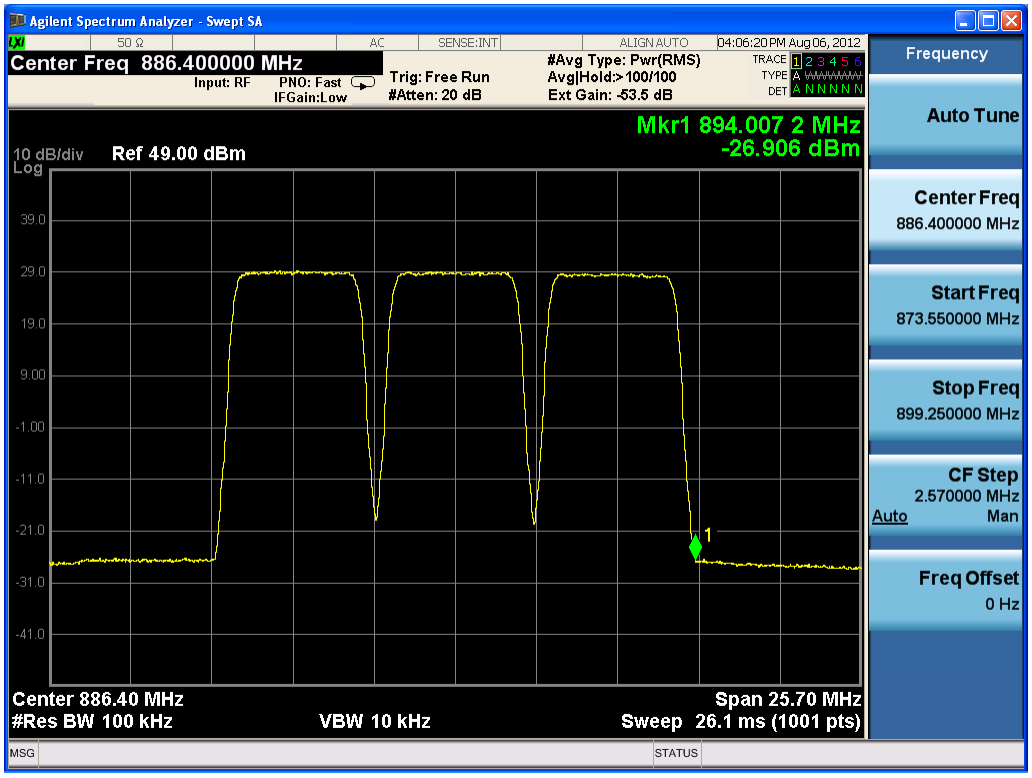




For three carriers

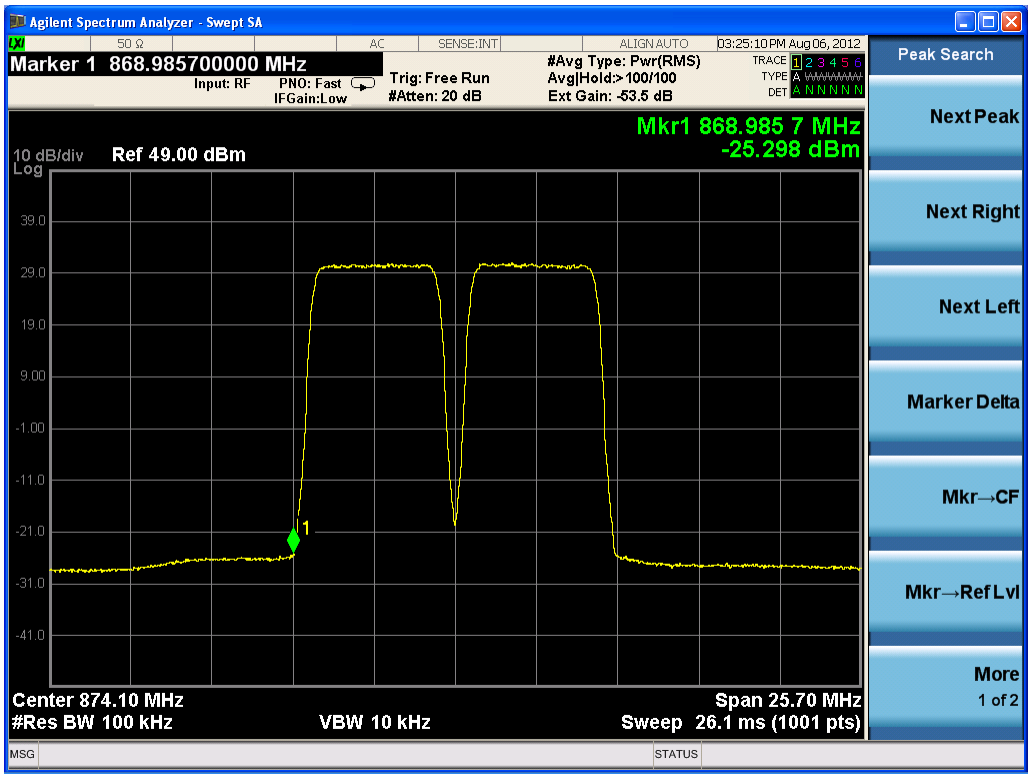
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
871.6/876.6/881.6	-25.067	-13.00
876.4/881.4/886.4	-26.906	-13.00

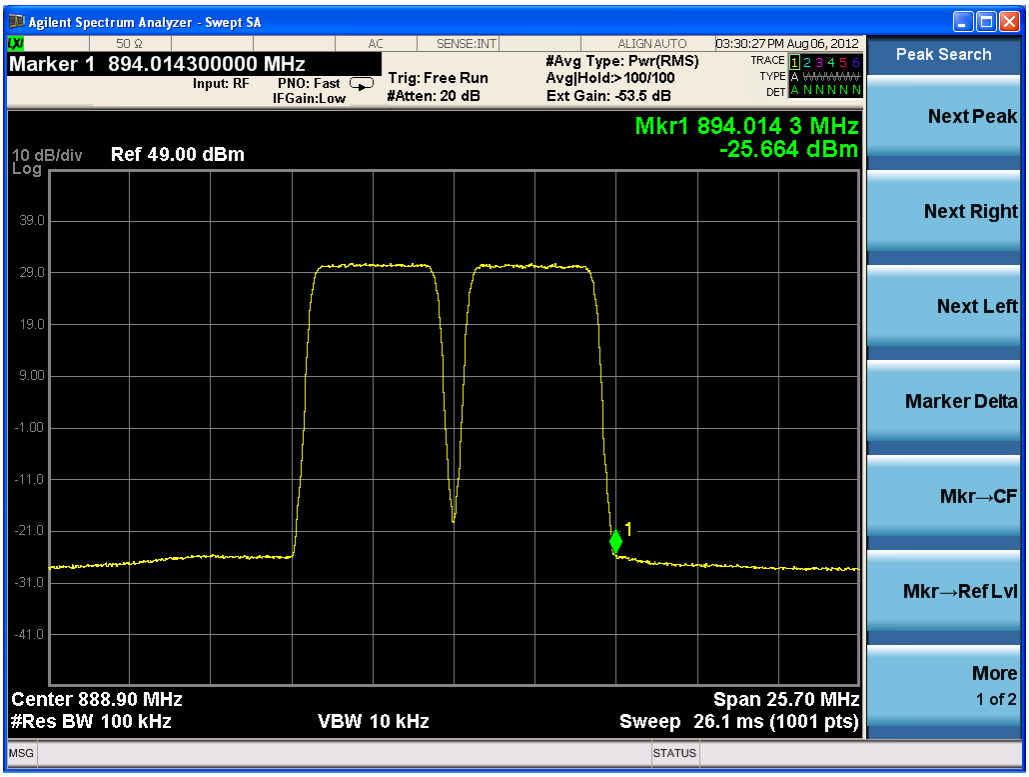

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.992800000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 20 dB
#Avg Type: Pwr(RMS) Avg|Hold:>100/100 Ext Gain: -53.5 dB
03:37:18 PM Aug 06, 2012
Mkr1 868.992 8 MHz -25.067 dBm
10 dB/div Log
Ref 49.00 dBm
Center 876.60 MHz
#Res BW 100 kHz
VBW 10 kHz
Span 25.70 MHz
Sweep 26.1 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
Center Freq 886.400000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 20 dB
#Avg Type: Pwr(RMS) Avg|Hold:>100/100 Ext Gain: -53.5 dB
04:06:20 PM Aug 06, 2012
Mkr1 894.007 2 MHz -26.906 dBm
10 dB/div Log
Ref 49.00 dBm
Center 886.40 MHz
#Res BW 100 kHz
VBW 10 kHz
Span 25.70 MHz
Sweep 26.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq 886.400000 MHz
Start Freq 873.550000 MHz
Stop Freq 899.250000 MHz
CF Step 2.570000 MHz
Auto Man
Freq Offset 0 Hz

For two carriers

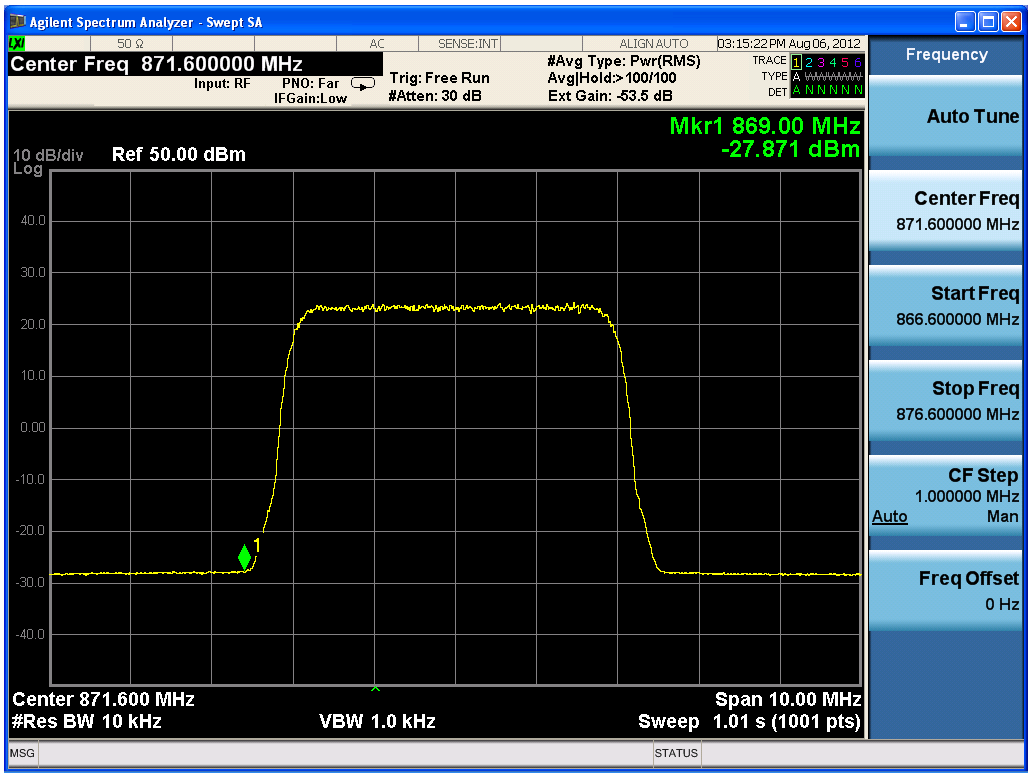
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
871.6/876.6	-25.298	-13.00
886.4/891.4	-25.664	-13.00

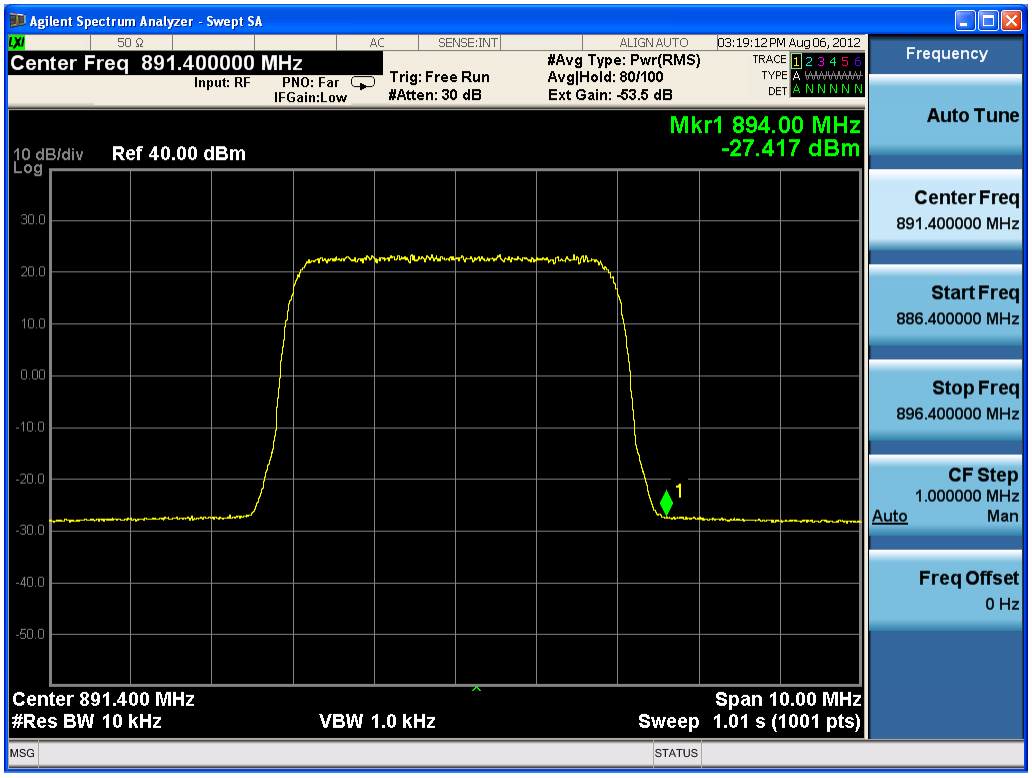




For One carrier

Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
871.6	-27.871	-13.00
891.4	-27.417	-13.00


Agilent Spectrum Analyzer - Swept SA
Center Freq 871.600000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 30 dB
#Avg Type: Pwr(RMS) Avg|Hold:>100/100 Ext Gain: -53.5 dB
03:15:22 PM Aug 06, 2012
Mkr1 869.00 MHz -27.871 dBm
10 dB/div Log
Ref 50.00 dBm
Center 871.600 MHz
#Res BW 10 kHz
VBW 1.0 kHz
Span 10.00 MHz
Sweep 1.01 s (1001 pts)
Frequency
Auto Tune
Center Freq 871.600000 MHz
Start Freq 866.600000 MHz
Stop Freq 876.600000 MHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 891.400000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 30 dB
#Avg Type: Pwr(RMS) Avg|Hold: 80/100 Ext Gain: -53.5 dB
03:19:12 PM Aug 06, 2012
Mkr1 894.00 MHz -27.417 dBm
10 dB/div Log
Ref 40.00 dBm
Center 891.400 MHz
#Res BW 10 kHz
VBW 1.0 kHz
Span 10.00 MHz
Sweep 1.01 s (1001 pts)
Frequency
Auto Tune
Center Freq 891.400000 MHz
Start Freq 886.400000 MHz
Stop Freq 896.400000 MHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz

4.8 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	2011-1-26	2012-1-26
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2011-4-8	2012-4-7
Atten	40dB Attenuator	ATSI150-4-40	11300100204204	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 UMTS

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(871.6MHz)					
-40	-48	3.8	0.0044	0.02	PASS
-30	-48	-2.6	-0.0029	0.02	PASS
-20	-48	-4.4	-0.0051	0.02	PASS
-10	-48	2.8	0.0032	0.02	PASS
0	-48	-3.6	-0.0041	0.02	PASS
10	-48	3.3	0.0038	0.02	PASS
20	-48	3.3	0.0038	0.02	PASS
30	-48	2.8	0.0032	0.02	PASS
40	-48	-1.7	-0.0019	0.02	PASS
50	-48	-4.4	-0.0051	0.02	PASS
55	-48	4.2	0.0048	0.02	PASS
M(881.4MHz)					
-40	-48	3.3	0.0037	0.02	PASS
-30	-48	3.3	0.0037	0.02	PASS
-20	-48	-2.9	-0.0033	0.02	PASS

-10	-48	4.4	0.0049	0.02	PASS
0	-48	-2.6	-0.0029	0.02	PASS
10	-48	4.6	0.0052	0.02	PASS
20	-48	-2.7	-0.0031	0.02	PASS
30	-48	-3.8	-0.0043	0.02	PASS
40	-48	-3.2	-0.0036	0.02	PASS
50	-48	4.4	0.0049	0.02	PASS
55	-48	4.5	0.0051	0.02	PASS
T(891.4MHz)					
-40	-48	-4.6	-0.0052	0.02	PASS
-30	-48	-4.9	-0.0055	0.02	PASS
-20	-48	3.2	0.0036	0.02	PASS
-10	-48	3.2	0.0036	0.02	PASS
0	-48	2.5	0.0028	0.02	PASS
10	-48	2.9	0.0033	0.02	PASS
20	-48	-2.3	-0.0026	0.02	PASS
30	-48	-2.7	-0.0030	0.02	PASS
40	-48	3.5	0.0039	0.02	PASS
50	-48	4.3	0.0048	0.02	PASS
55	-48	3.2	0.0036	0.02	PASS

Frequency Stability Versus Voltage

Frequency Stability vs. Voltage					
VoltageV_{dc}	**Temperature ℃**	**Frequency Measure Error Hz**	**Error ppm**	**Limit ppm**	**Result**
B(871.6MHz)					
40	20	2.6	0.0029	0.02	PASS
44	20	2.7	0.0031	0.02	PASS
47	20	-2.4	-0.0028	0.02	PASS
50	20	-3.9	-0.0045	0.02	PASS
53	20	-4.1	-0.0047	0.02	PASS
56	20	-3.7	-0.0043	0.02	PASS
57	20	-1.7	-0.0019	0.02	PASS
M(881.4MHz)					
40	20	3.4	0.0039	0.02	PASS

44	20	2.4	0.0027	0.02	PASS
47	20	-2.7	-0.0031	0.02	PASS
50	20	-2.3	-0.0026	0.02	PASS
53	20	3.8	0.0043	0.02	PASS
56	20	-2.8	-0.0032	0.02	PASS
57	20	-3.9	-0.0044	0.02	PASS
T(891.4MHz)					
40	20	2. 3	0.0026	0.02	PASS
44	20	-2.5	-0.0028	0.02	PASS
47	20	3.8	0.0043	0.02	PASS
50	20	-2.8	-0.0031	0.02	PASS
53	20	-2.7	-0.0030	0.02	PASS
56	20	4.2	0.0047	0.02	PASS
57	20	3.1	0.0035	0.02	PASS

5 GSM 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

5.1 TRANSMITTER OUTPUT POWER

Applicable Standard： FCC §2.1046 §22.913

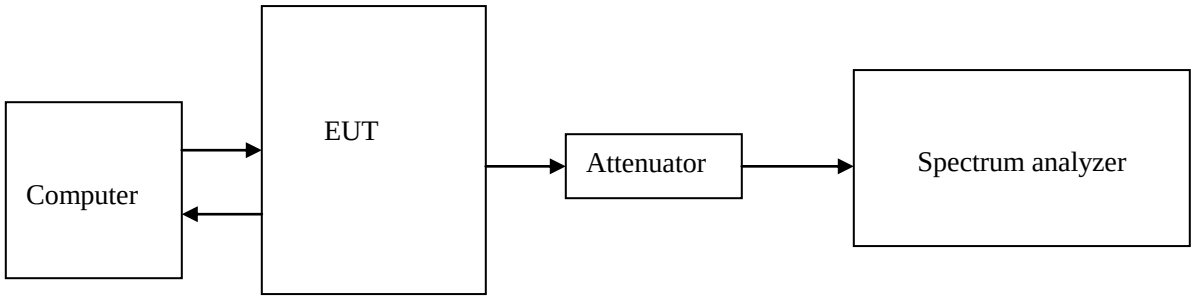
According to FCC §2.1046 &22.913, the ERP(equivalent radiated power) must not exceed 500 Watts.

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

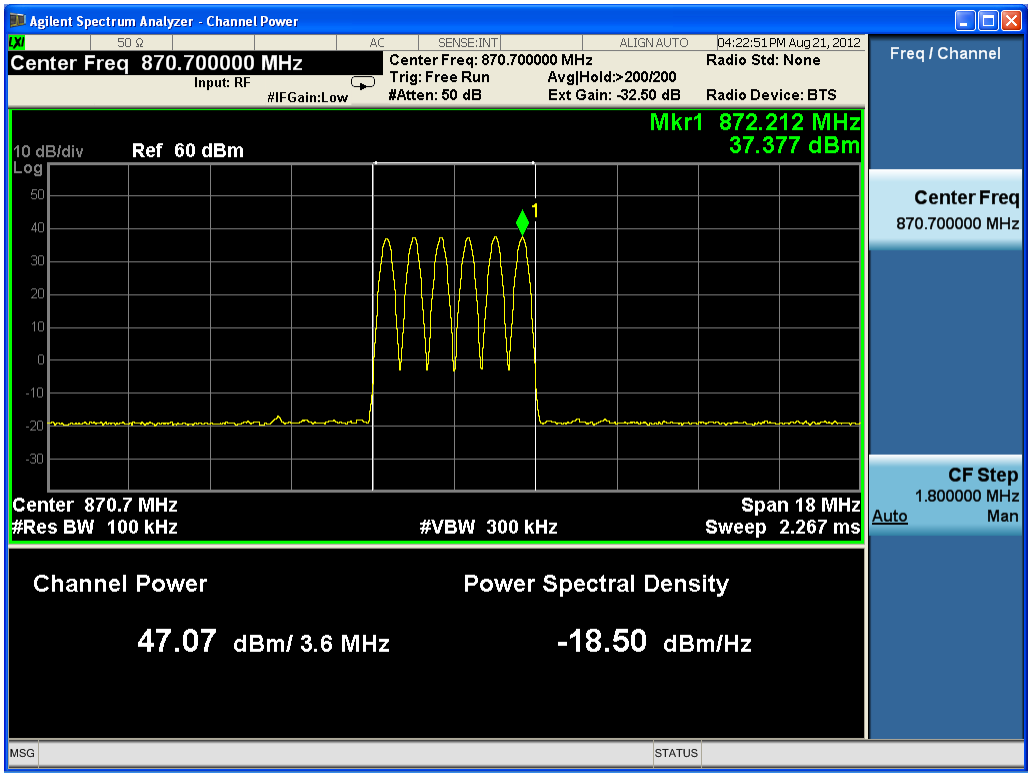
Test Result: Pass

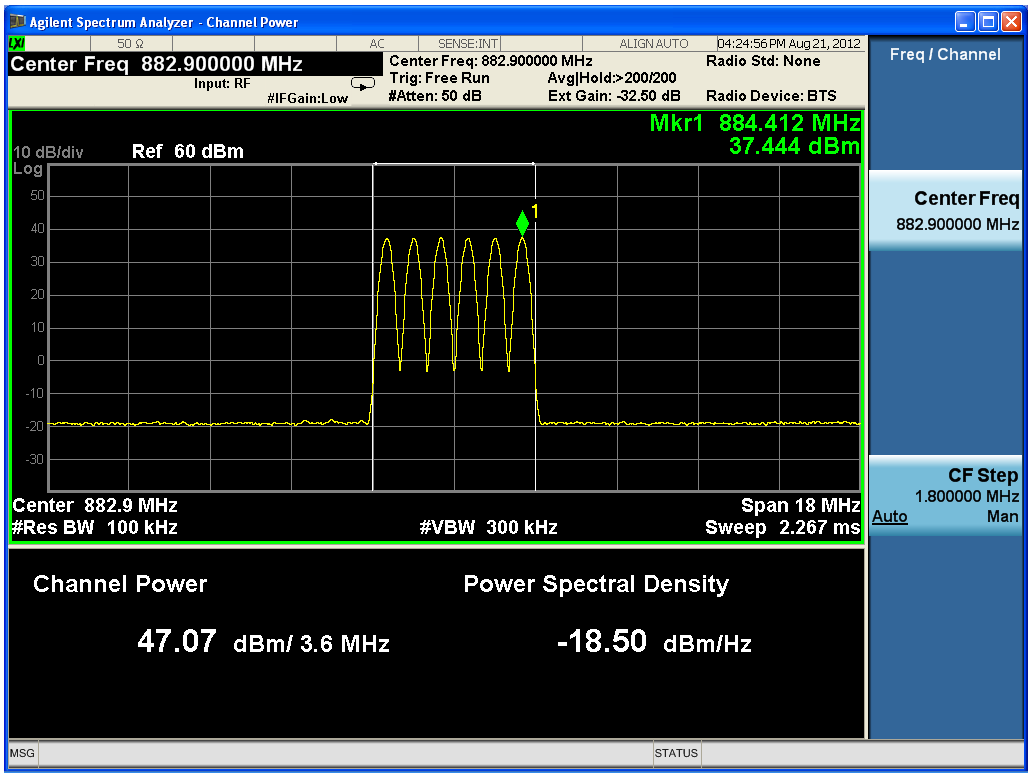
Test Mode: Transmitting GSM

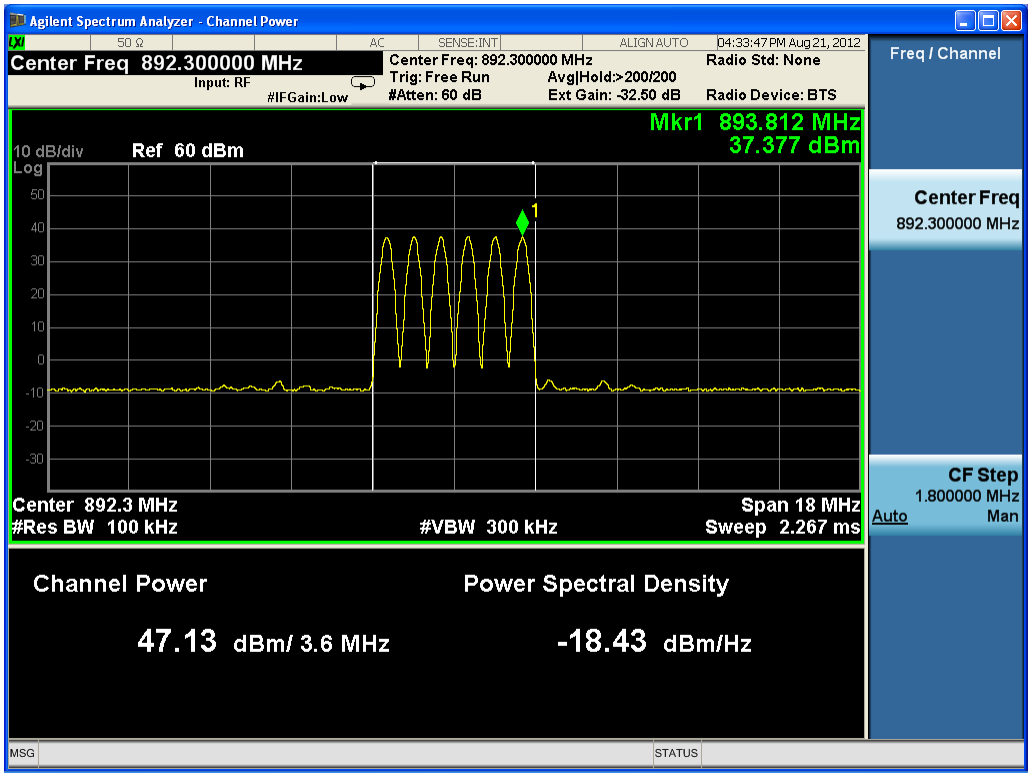
Test Data:

Six carriers

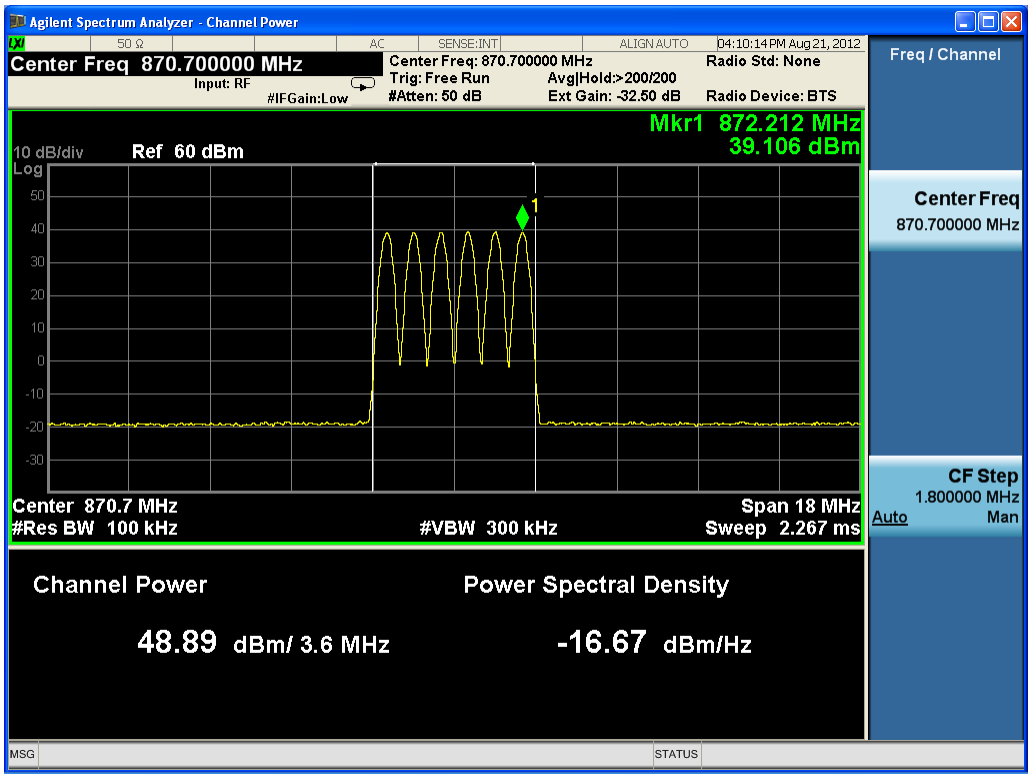
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	870.7	869.2/869.8/ 870.4 /871 /871.6/ 872.2	47.07
	882.9	881.4/882/882.6/883.2/883.8/884.4	47.07
	892.3	890.8/891.4/892/892.6/893.2/893.8	47.13

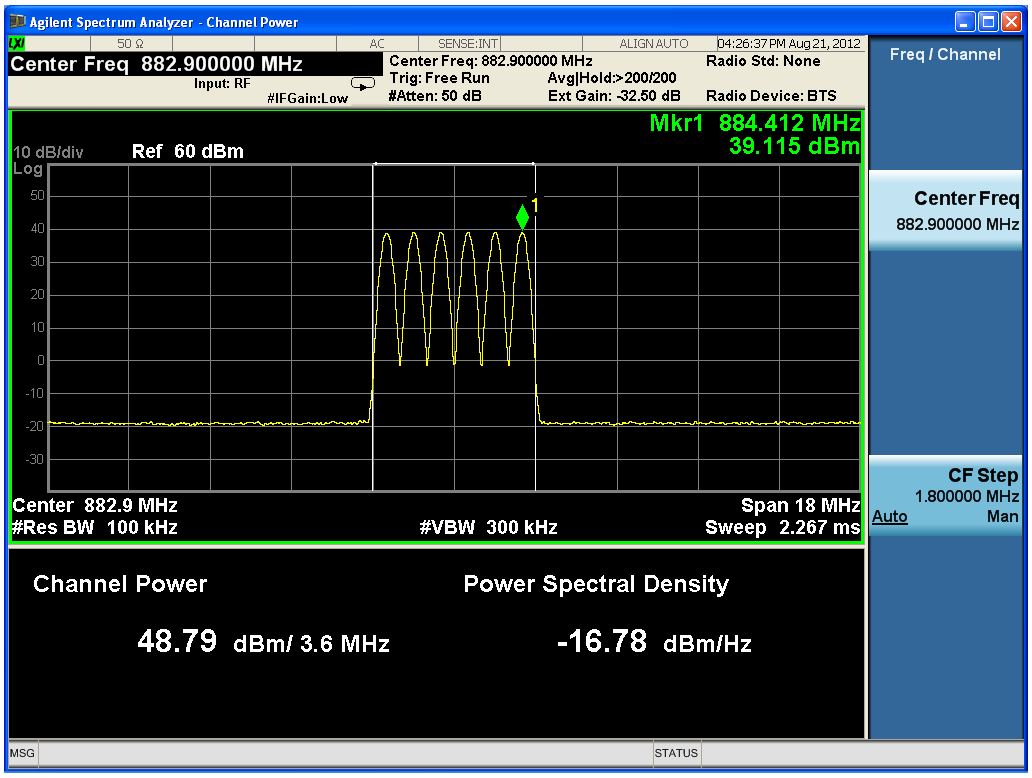


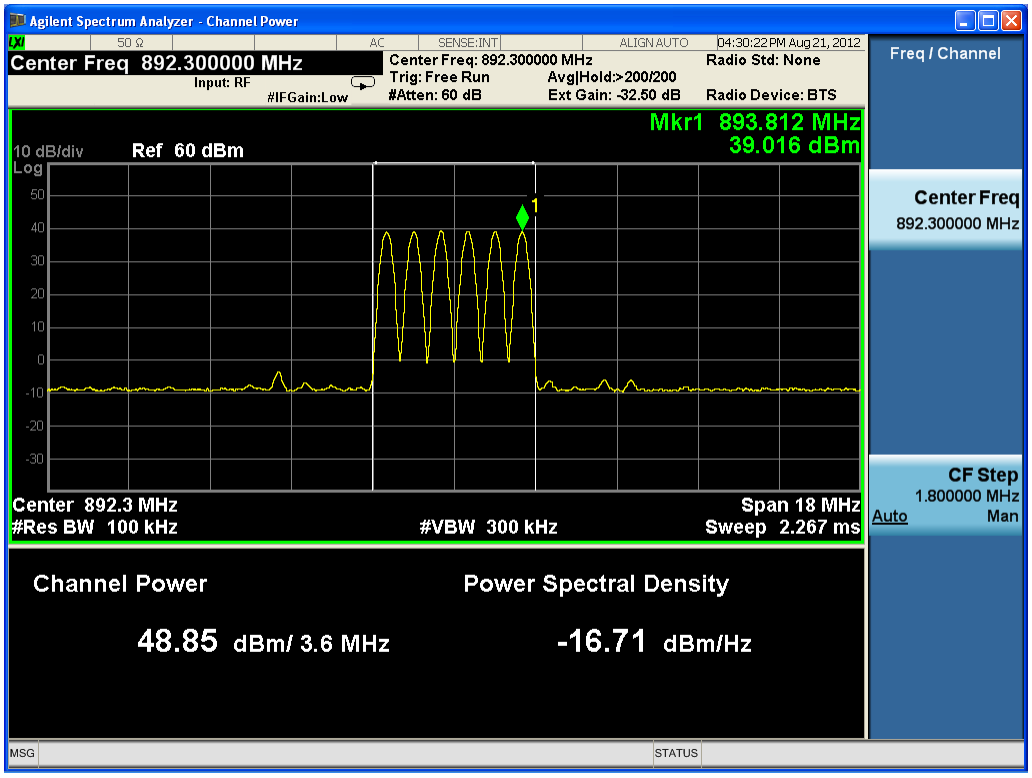

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:24:56 PM Aug 21, 2012
Center Freq 882.900000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.900000 MHz
Trig: Free Run
#Atten: 50 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 884.412 MHz
37.444 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
Center Freq
882.900000 MHz
CF Step
1.800000 MHz
Auto
Man
Center 882.9 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 18 MHz
Sweep 2.267 ms
Channel Power
47.07 dBm/ 3.6 MHz
Power Spectral Density
-18.50 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:33:47 PM Aug 21, 2012
Center Freq 892.300000 MHz
Input: RF
#IFGain:Low
Center Freq: 892.300000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.812 MHz
37.377 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
Center Freq
892.300000 MHz
CF Step
1.800000 MHz
Auto
Man
Center 892.3 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 18 MHz
Sweep 2.267 ms
Channel Power
47.13 dBm/ 3.6 MHz
Power Spectral Density
-18.43 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	870.7	869.2/869.8/ 870.4 /871 /871.6/ 872.2	48.89
	882.9	881.4/882/882.6/883.2/883.8/884.4	48.79
	892.3	890.8/891.4/892/892.6/893.2/893.8	48.85

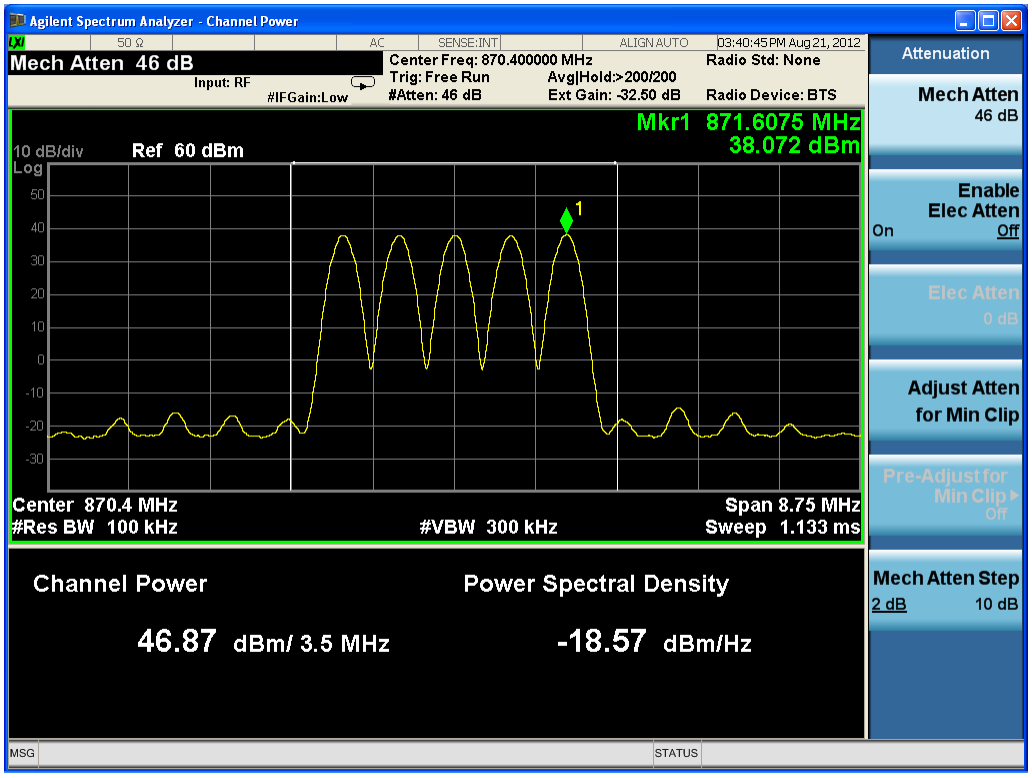


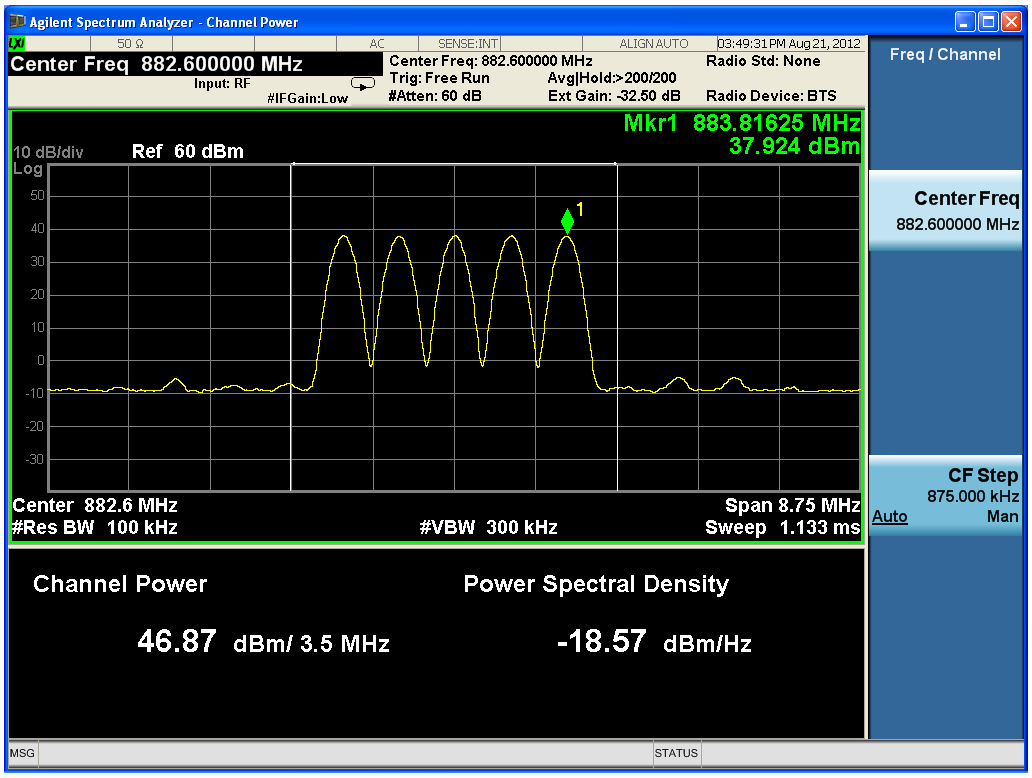

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:26:37 PM Aug 21, 2012
Center Freq 882.900000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.900000 MHz
Trig: Free Run
#Atten: 50 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 884.412 MHz
39.115 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.900000 MHz
CF Step
1.800000 MHz
Auto
Man
Center 882.9 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 18 MHz
Sweep 2.267 ms
Channel Power
48.79 dBm/ 3.6 MHz
Power Spectral Density
-16.78 dBm/Hz
MSG
STATUS

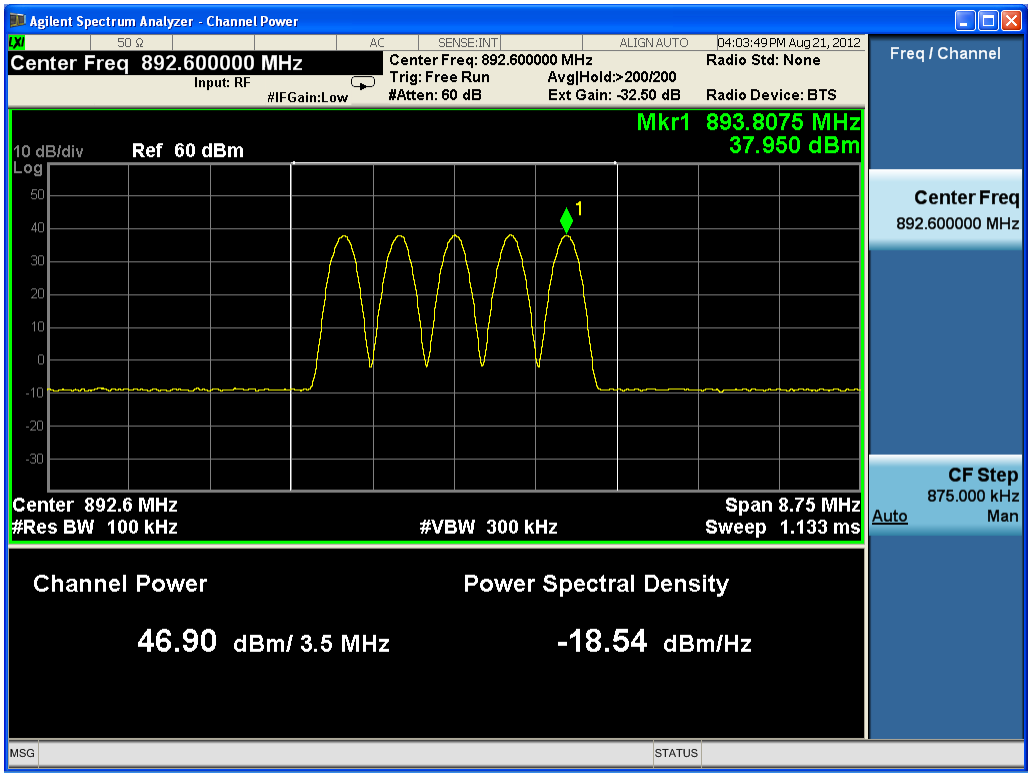

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:30:22 PM Aug 21, 2012
Center Freq 892.300000 MHz
Input: RF
#IFGain:Low
Center Freq: 892.300000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.812 MHz
39.016 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
892.300000 MHz
CF Step
1.800000 MHz
Auto
Man
Center 892.3 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 18 MHz
Sweep 2.267 ms
Channel Power
48.85 dBm/ 3.6 MHz
Power Spectral Density
-16.71 dBm/Hz
MSG
STATUS

Five Carriers

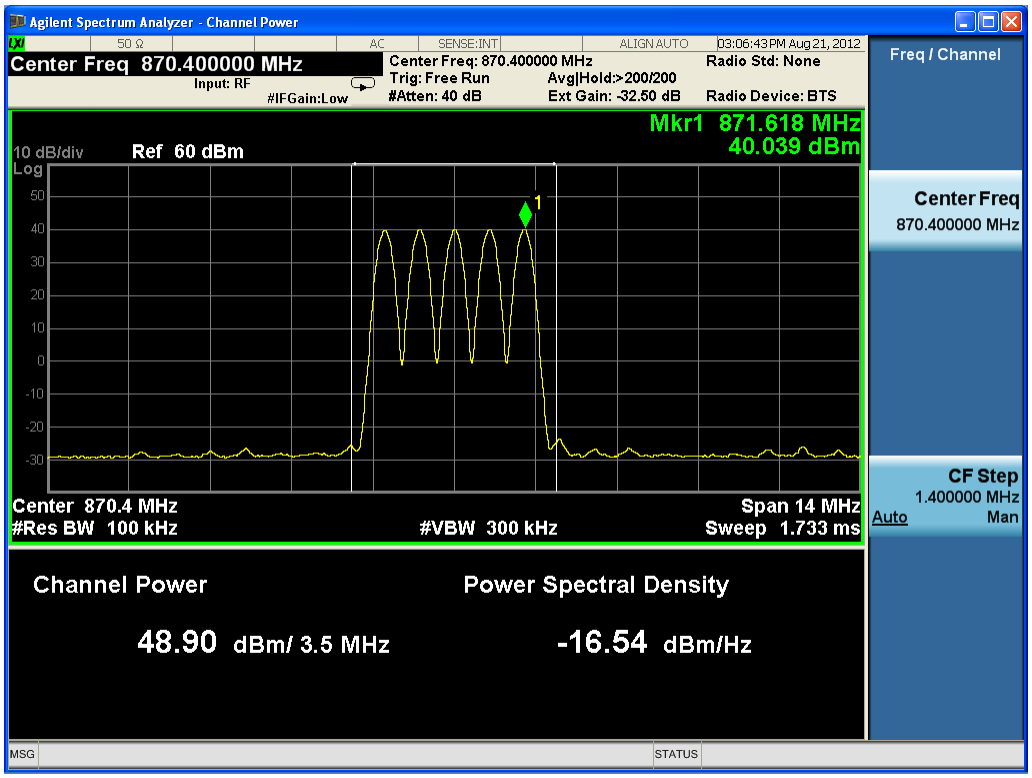
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	870.4	869.2/869.8/ 870.4 /871 /871.6	46.87
	882.6	881.4/882/882.6/883.2/883.8	46.87
	892.6	891.4/892/892.6/893.2/893.8	46.90

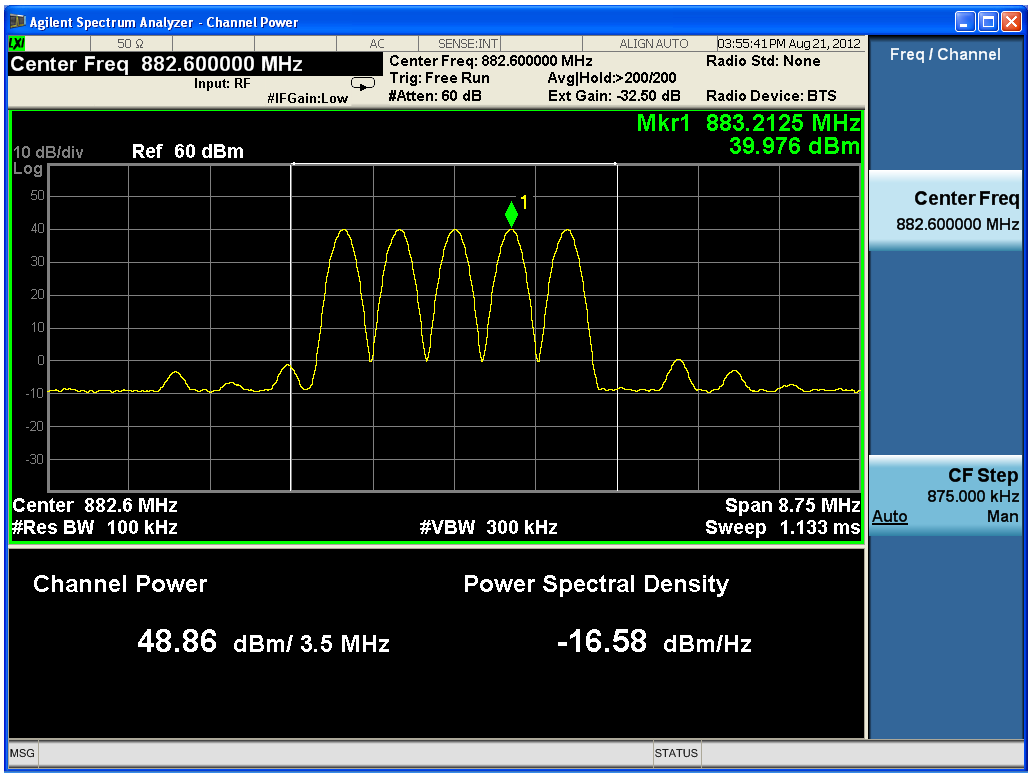


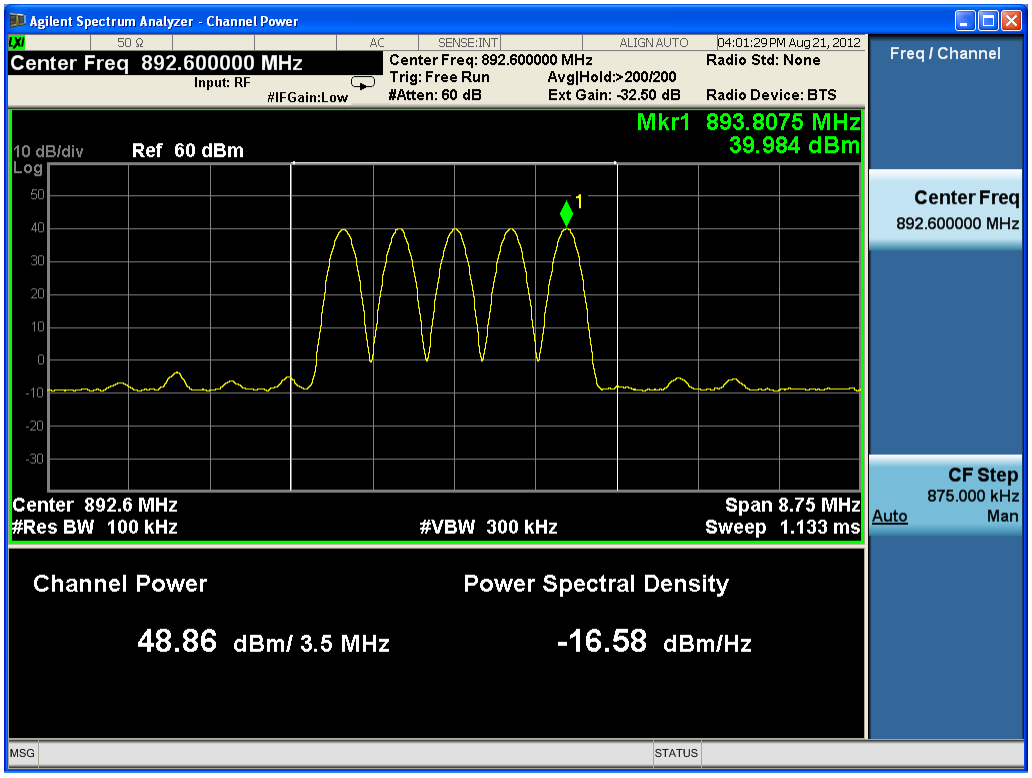

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:49:31 PM Aug 21, 2012
Center Freq 882.600000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.600000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 883.81625 MHz
37.924 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.600000 MHz
CF Step
875.000 kHz
Auto
Man
Center 882.6 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8.75 MHz
Sweep 1.133 ms
Channel Power
46.87 dBm/ 3.5 MHz
Power Spectral Density
-18.57 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:03:49 PM Aug 21, 2012
Center Freq 892.600000 MHz
Input: RF
#IFGain:Low
Center Freq: 892.600000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.8075 MHz
37.950 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
892.600000 MHz
CF Step
875.000 kHz
Auto
Man
Center 892.6 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8.75 MHz
Sweep 1.133 ms
Channel Power
46.90 dBm/ 3.5 MHz
Power Spectral Density
-18.54 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	870.4	869.2/869.8/ 870.4 /871 /871.6	48.90
	882.6	881.4/882/882.6/883.2/883.8	48.86
	892.6	891.4/892/892.6/893.2/893.8	48.86

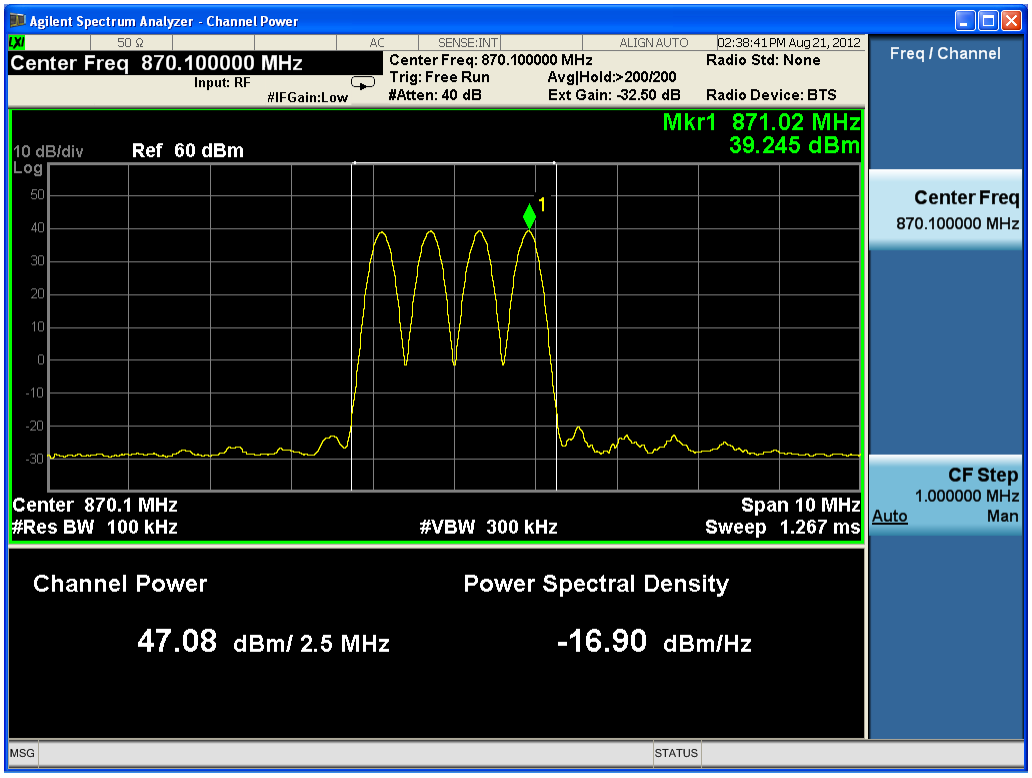


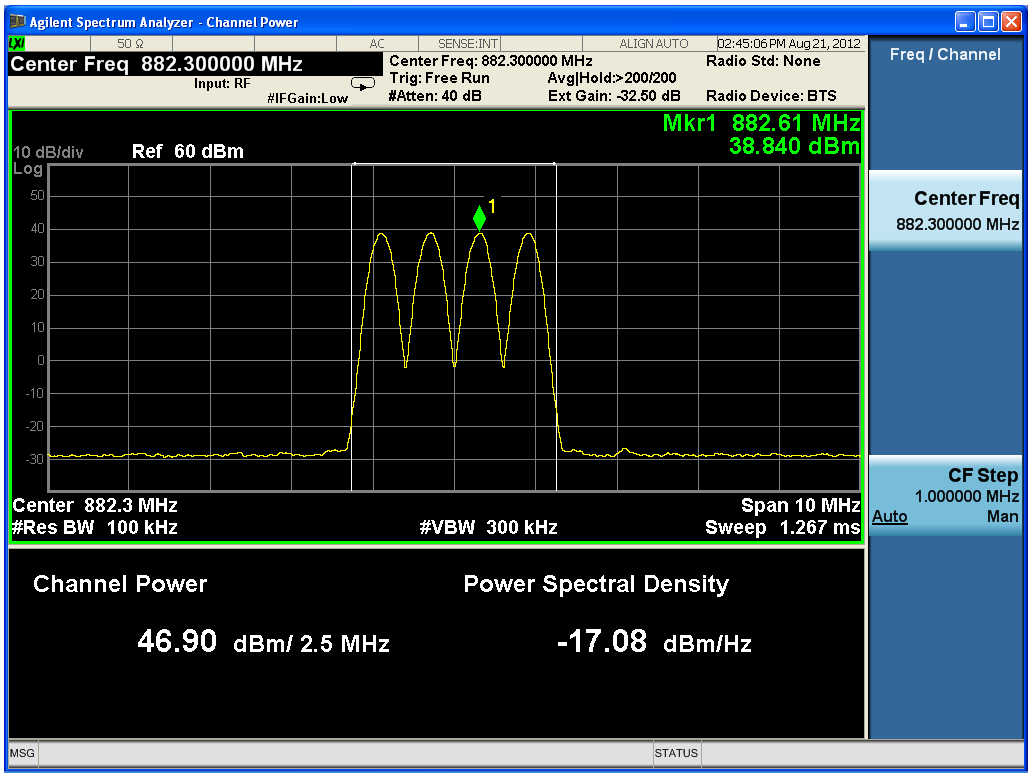

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:55:41 PM Aug 21, 2012
Center Freq 882.600000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.600000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 883.2125 MHz
39.976 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
Center Freq
882.600000 MHz
Center 882.6 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8.75 MHz
Sweep 1.133 ms
CF Step
875.000 kHz
Auto
Man
Channel Power
48.86 dBm/ 3.5 MHz
Power Spectral Density
-16.58 dBm/Hz
MSG
STATUS

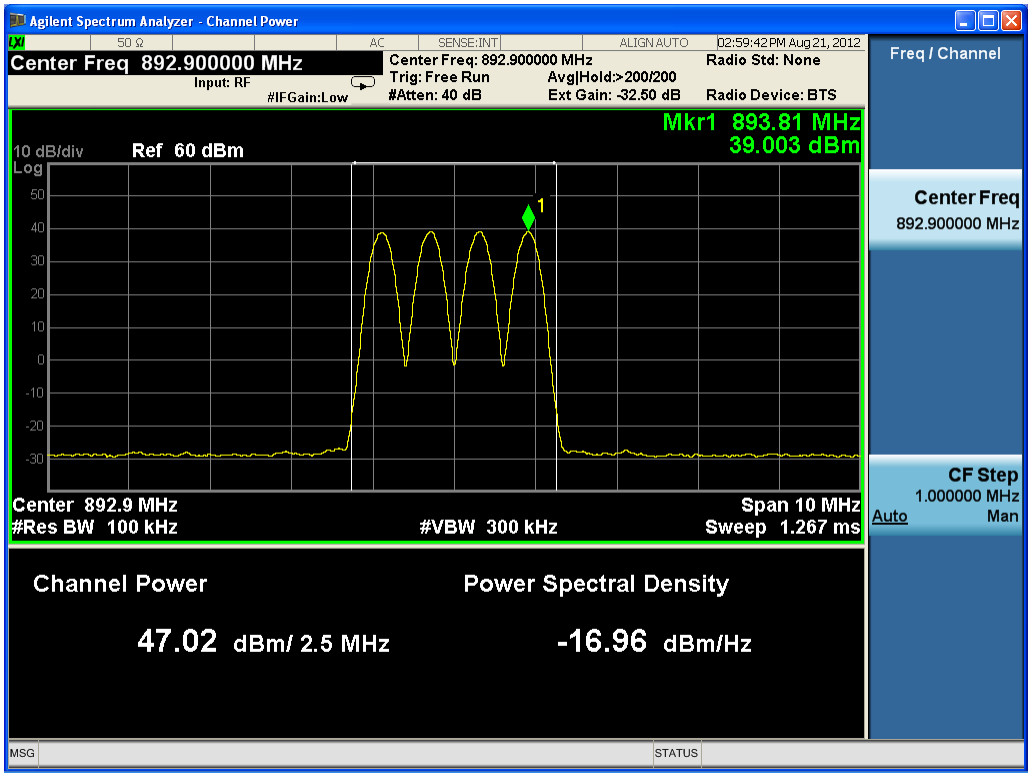

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:01:29 PM Aug 21, 2012
Center Freq 892.600000 MHz
Input: RF
#IFGain:Low
Center Freq: 892.600000 MHz
Trig: Free Run
#Atten: 60 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.8075 MHz
39.984 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
Center Freq
892.600000 MHz
Center 892.6 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8.75 MHz
Sweep 1.133 ms
CF Step
875.000 kHz
Auto
Man
Channel Power
48.86 dBm/ 3.5 MHz
Power Spectral Density
-16.58 dBm/Hz
MSG
STATUS

Four carriers

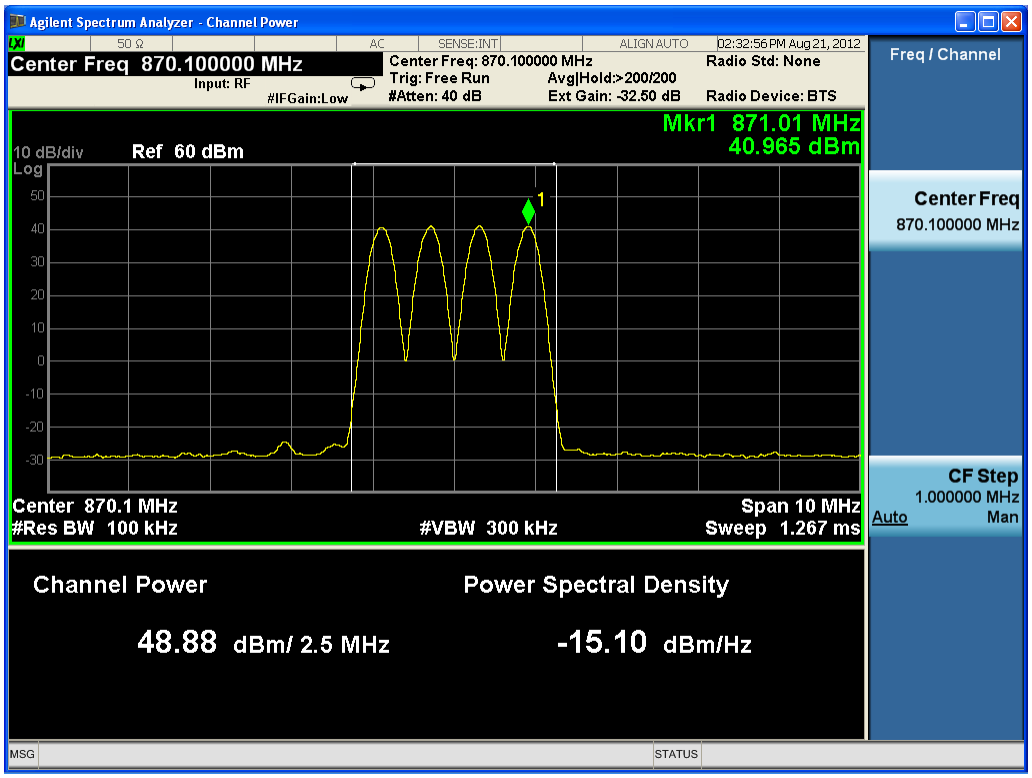
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	870.1	869.2/869.8/ 870.4 /871	47.08
	882.3	881.4/882/882.6/883.2	46.90
	892.9	892/892.6/893.2/893.8	47.02

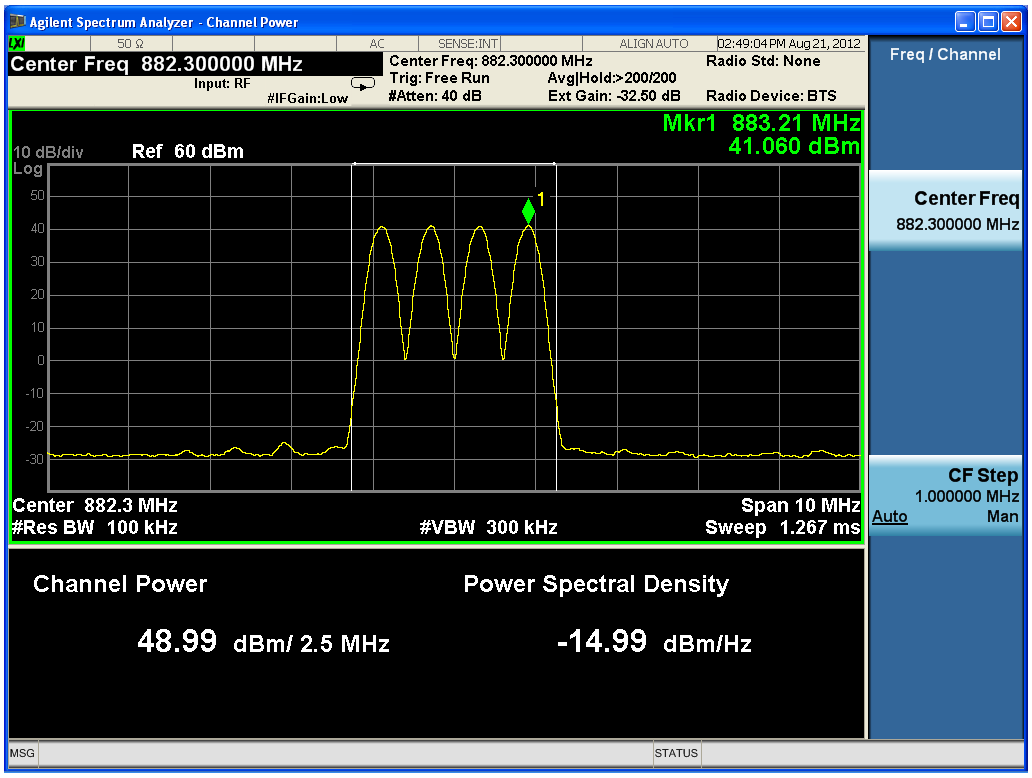


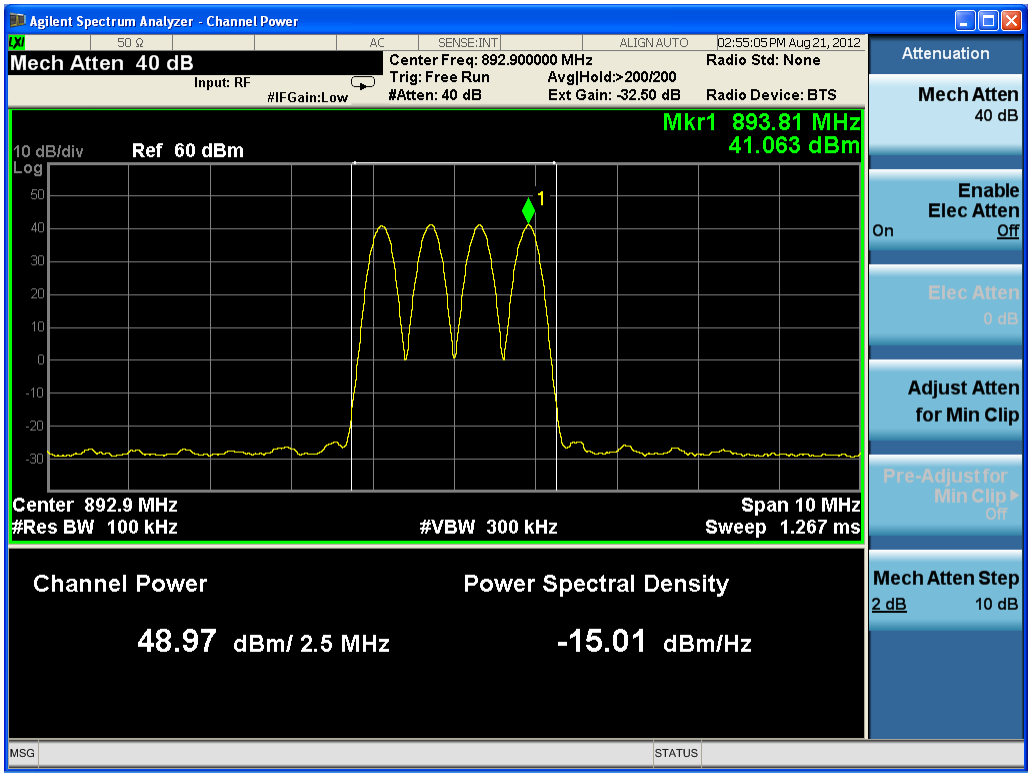

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:45:06 PM Aug 21, 2012
Center Freq 882.300000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.300000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 882.61 MHz
38.840 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.300000 MHz
CF Step
1.000000 MHz
Auto
Man
Center 882.3 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 1.267 ms
Channel Power
46.90 dBm/ 2.5 MHz
Power Spectral Density
-17.08 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:59:42 PM Aug 21, 2012
Center Freq 892.900000 MHz
Input: RF
#IFGain:Low
Center Freq: 892.900000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.81 MHz
39.003 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
892.900000 MHz
CF Step
1.000000 MHz
Auto
Man
Center 892.9 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 1.267 ms
Channel Power
47.02 dBm/ 2.5 MHz
Power Spectral Density
-16.96 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	870.1	869.2/869.8/ 870.4 /871	48.88
	882.3	881.4/882/882.6/883.2	48.99
	892.9	892/892.6/893.2/893.8	48.97

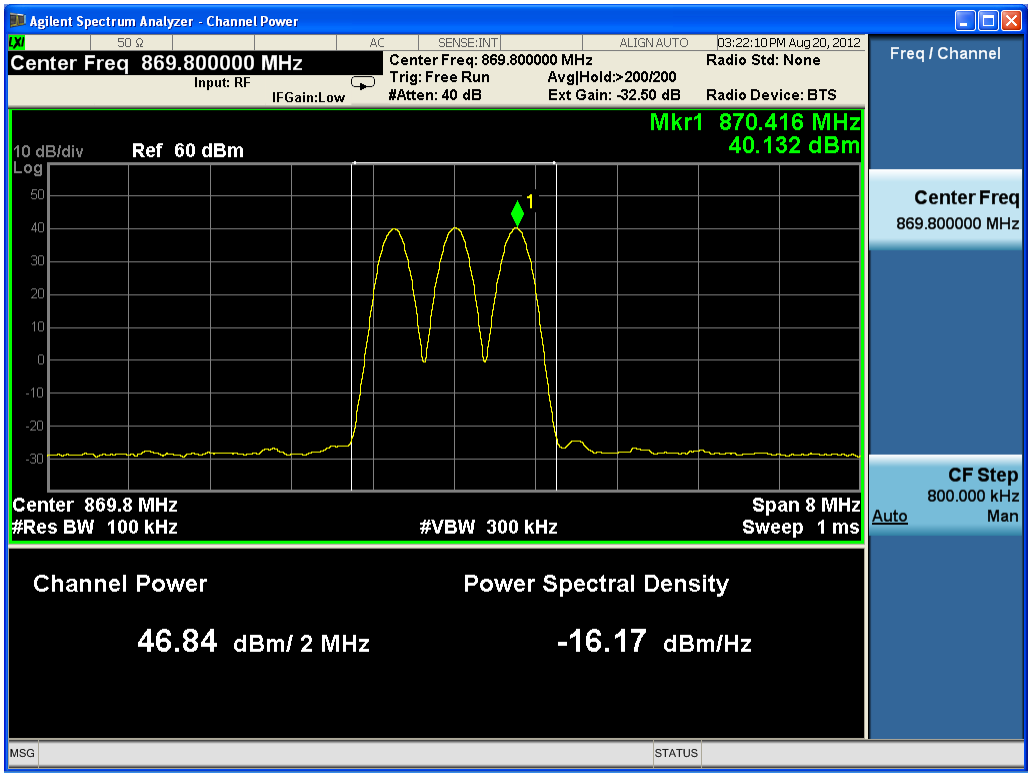


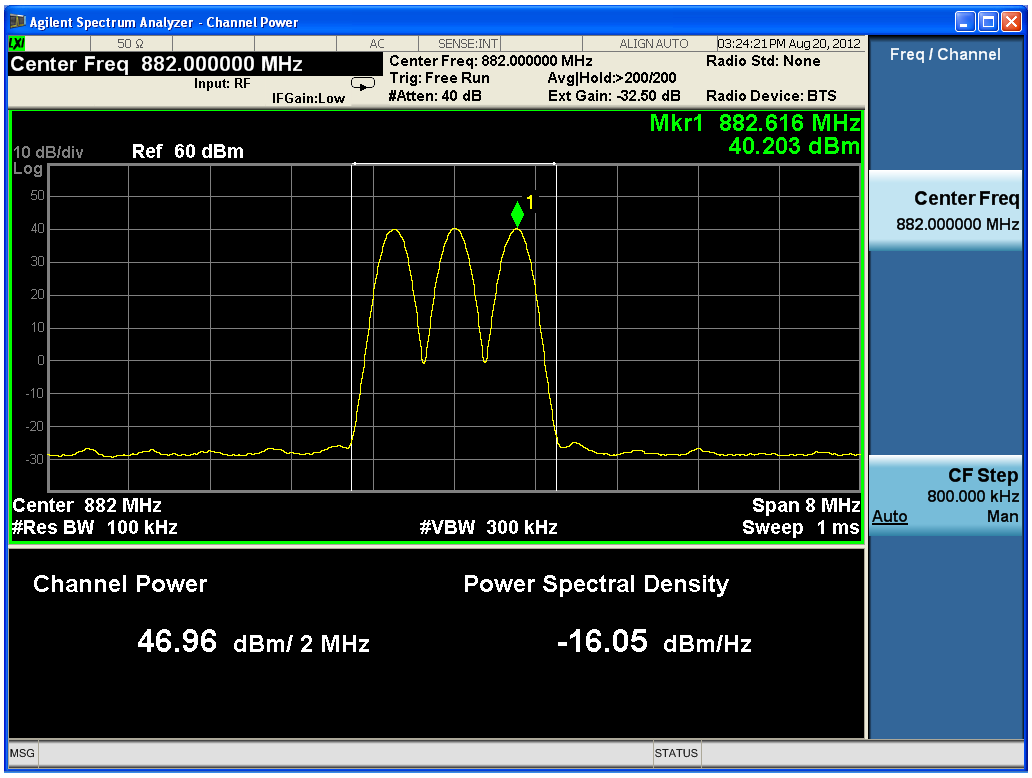

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:49:04 PM Aug 21, 2012
Center Freq 882.300000 MHz
Input: RF
#IFGain:Low
Center Freq: 882.300000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 883.21 MHz
41.060 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.300000 MHz
CF Step
1.000000 MHz
Auto
Man
Center 882.3 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 1.267 ms
Channel Power
48.99 dBm/ 2.5 MHz
Power Spectral Density
-14.99 dBm/Hz
MSG
STATUS

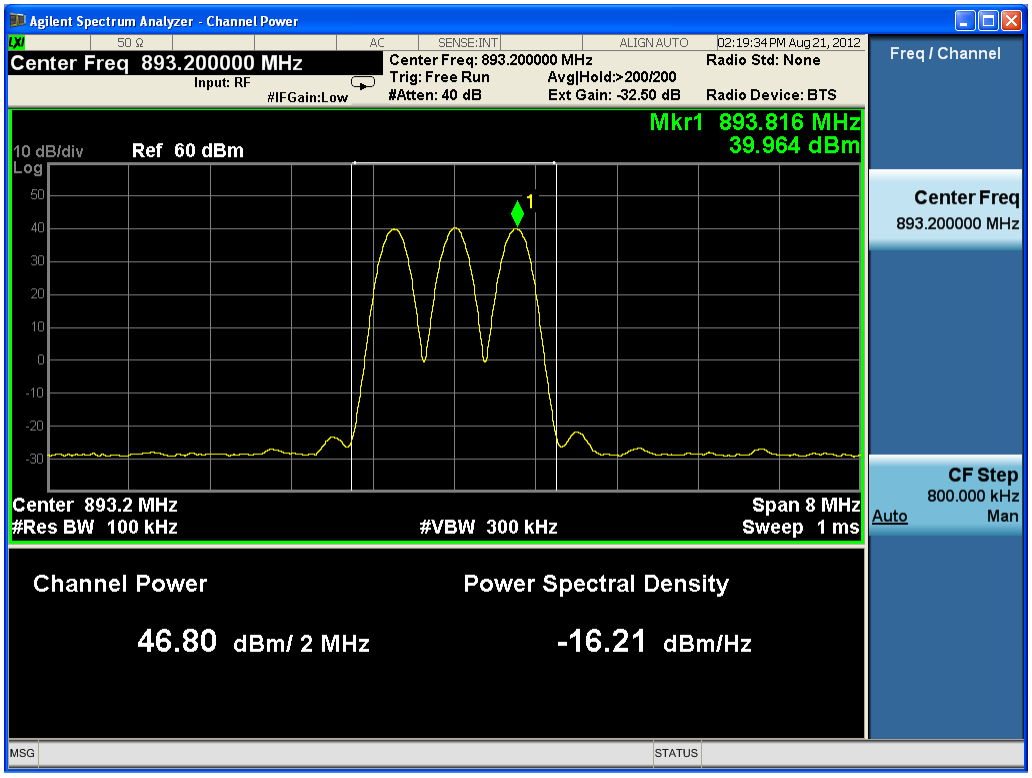

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:55:05 PM Aug 21, 2012
Mech Atten 40 dB
Input: RF
#IFGain:Low
Center Freq: 892.900000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Attenuation
Mkr1 893.81 MHz
41.063 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Mech Atten
40 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
Center 892.9 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 1.267 ms
Channel Power
48.97 dBm/ 2.5 MHz
Power Spectral Density
-15.01 dBm/Hz
MSG
STATUS

Three carriers

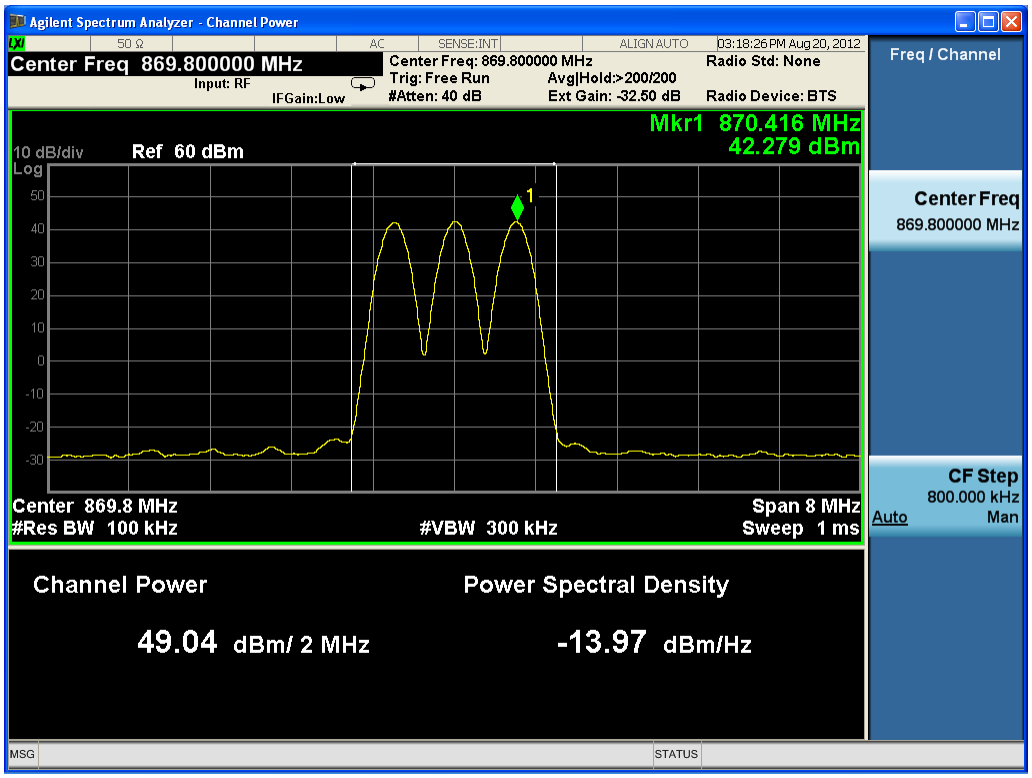
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	869.8	869.2/869.8/ 870.4	46.84
	882	881.4/882/882.6	46.96
	893.2	892.6/893.2/893.8	46.80

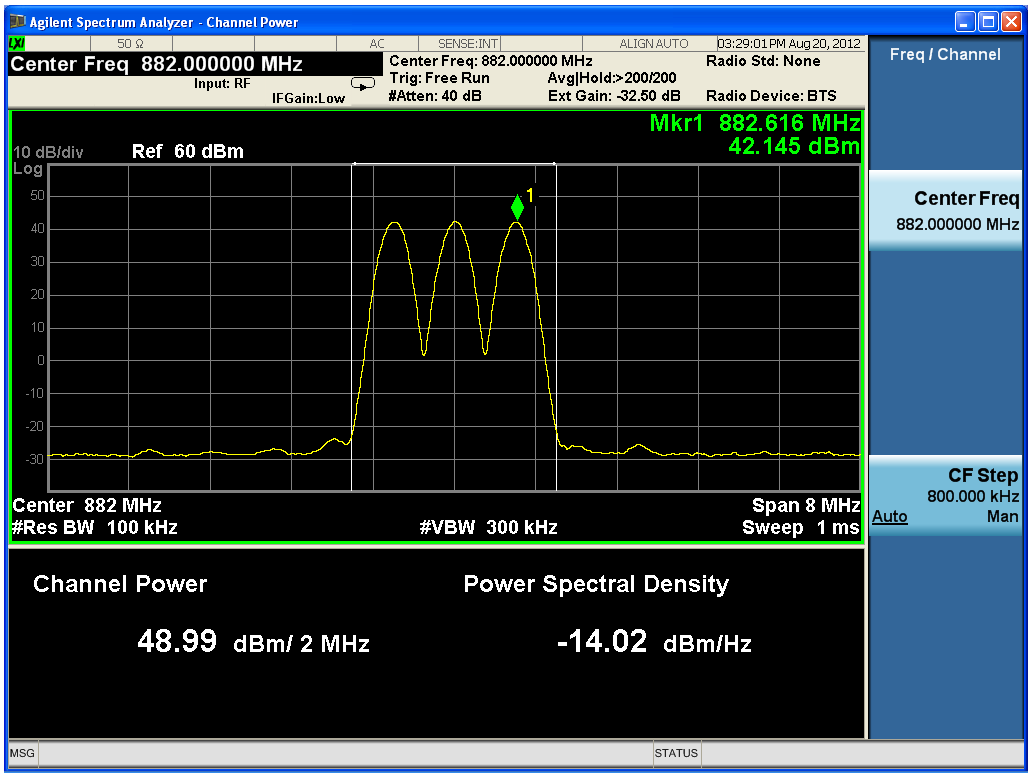


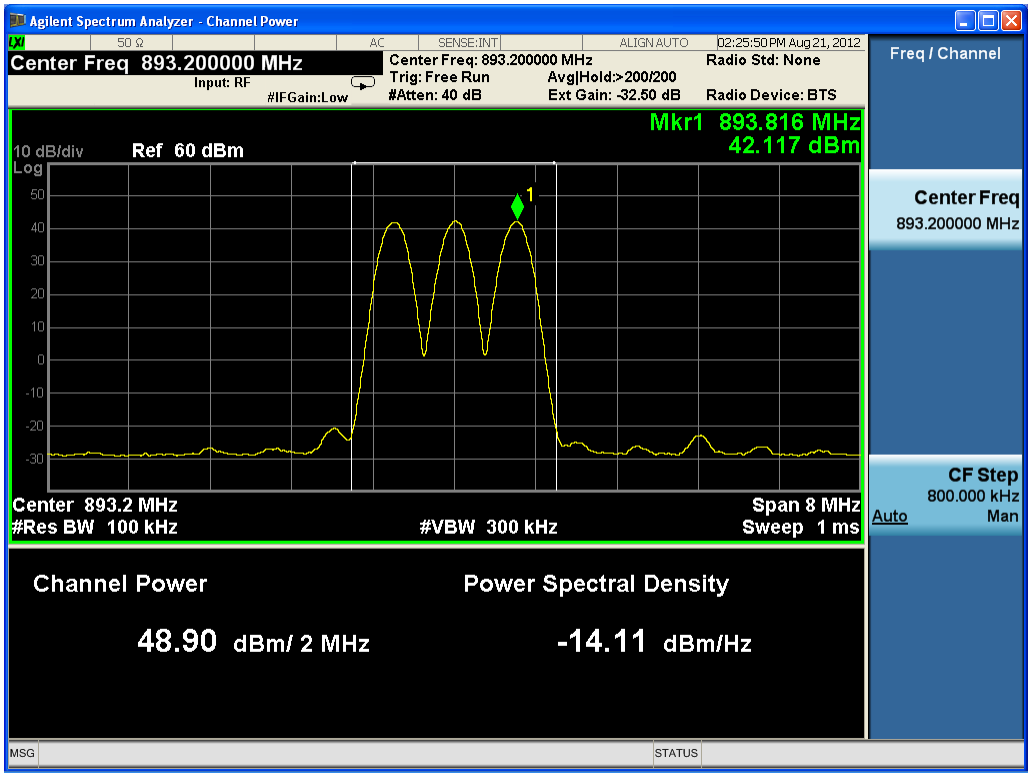

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:24:21 PM Aug 20, 2012
Center Freq 882.000000 MHz
Input: RF
IFGain:Low
Center Freq: 882.000000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 882.616 MHz
40.203 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.000000 MHz
Center 882 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
CF Step
800.000 kHz
Auto
Man
Channel Power
46.96 dBm/ 2 MHz
Power Spectral Density
-16.05 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:19:34 PM Aug 21, 2012
Center Freq 893.200000 MHz
Input: RF
#IFGain:Low
Center Freq: 893.200000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.816 MHz
39.964 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
893.200000 MHz
Center 893.2 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
CF Step
800.000 kHz
Auto
Man
Channel Power
46.80 dBm/ 2 MHz
Power Spectral Density
-16.21 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	869.8	869.2/869.8/ 870.4	49.04
	882	881.4/882/882.6	48.99
	893.2	892.6/893.2/893.8	48.90

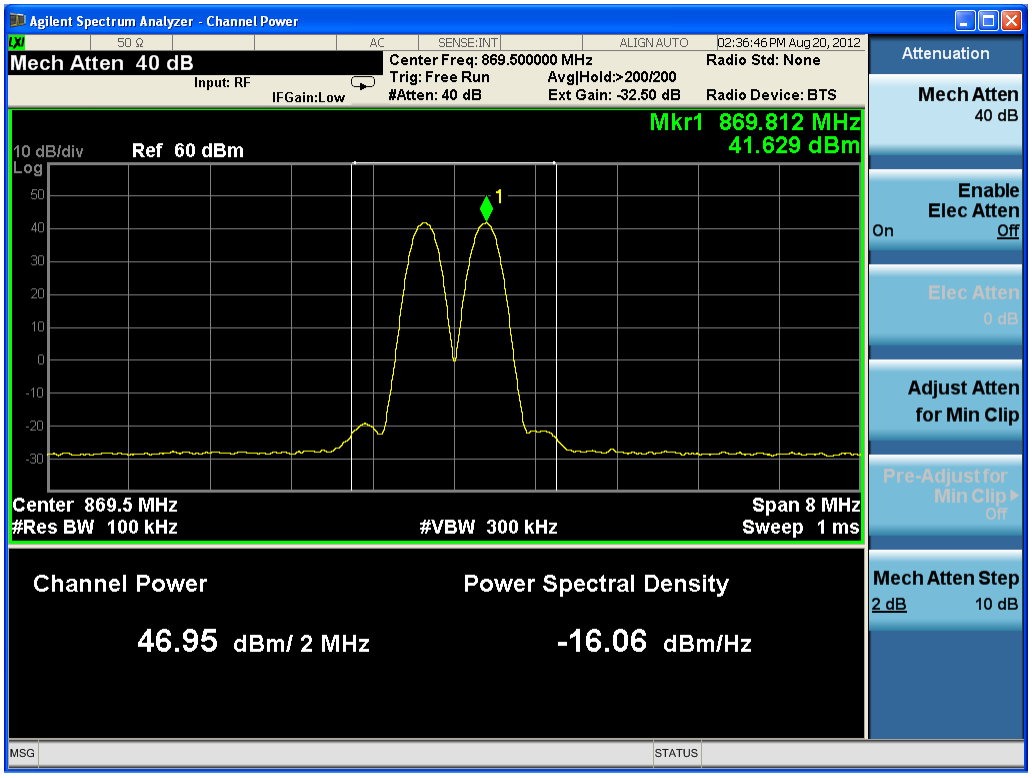


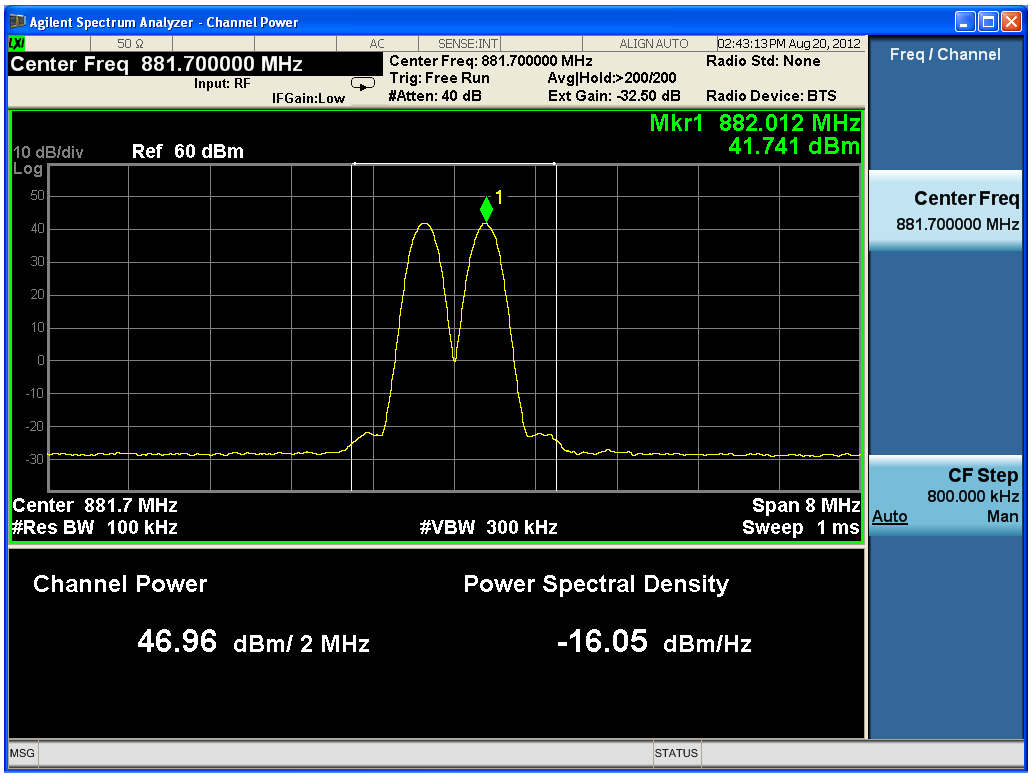

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:29:01 PM Aug 20, 2012
Center Freq 882.000000 MHz
Input: RF
IFGain:Low
Center Freq: 882.000000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 882.616 MHz
42.145 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
882.000000 MHz
CF Step
800.000 kHz
Auto
Man
Center 882 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
48.99 dBm/ 2 MHz
Power Spectral Density
-14.02 dBm/Hz
MSG
STATUS

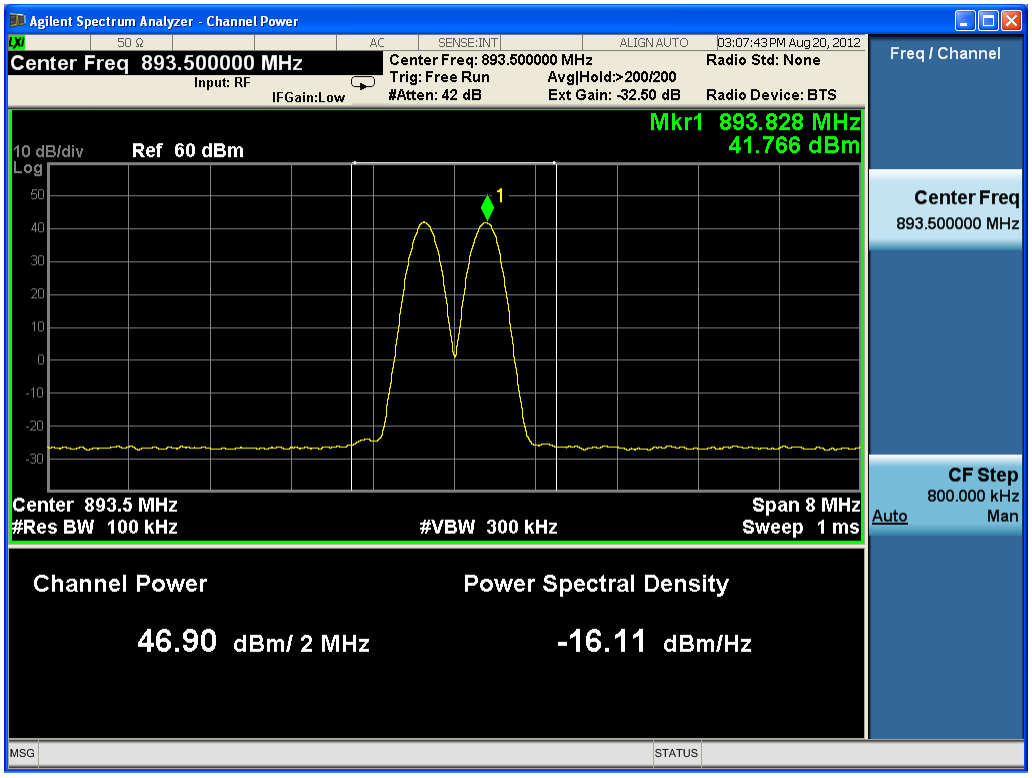

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:25:50 PM Aug 21, 2012
Center Freq 893.200000 MHz
Input: RF
#IFGain:Low
Center Freq: 893.200000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.816 MHz
42.117 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
893.200000 MHz
CF Step
800.000 kHz
Auto
Man
Center 893.2 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
48.90 dBm/ 2 MHz
Power Spectral Density
-14.11 dBm/Hz
MSG
STATUS

Two carriers

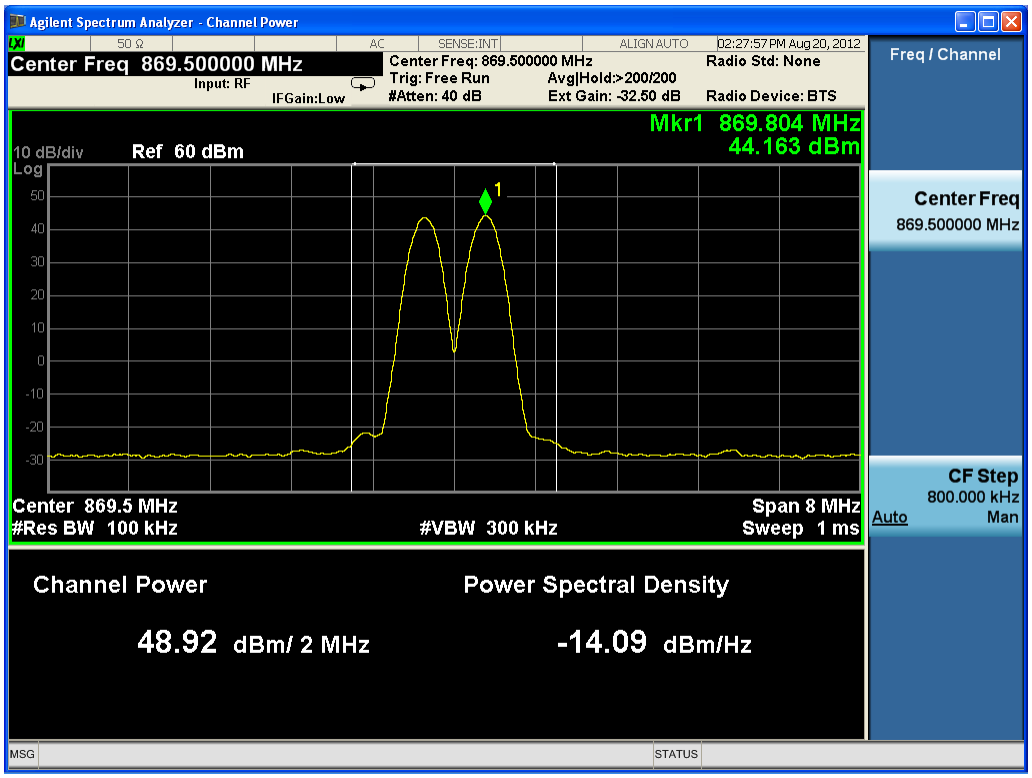
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	869.5	869.2/869.8	46.95
	881.7	881.4/882	46.96
	893.5	893.2/893.8	46.90

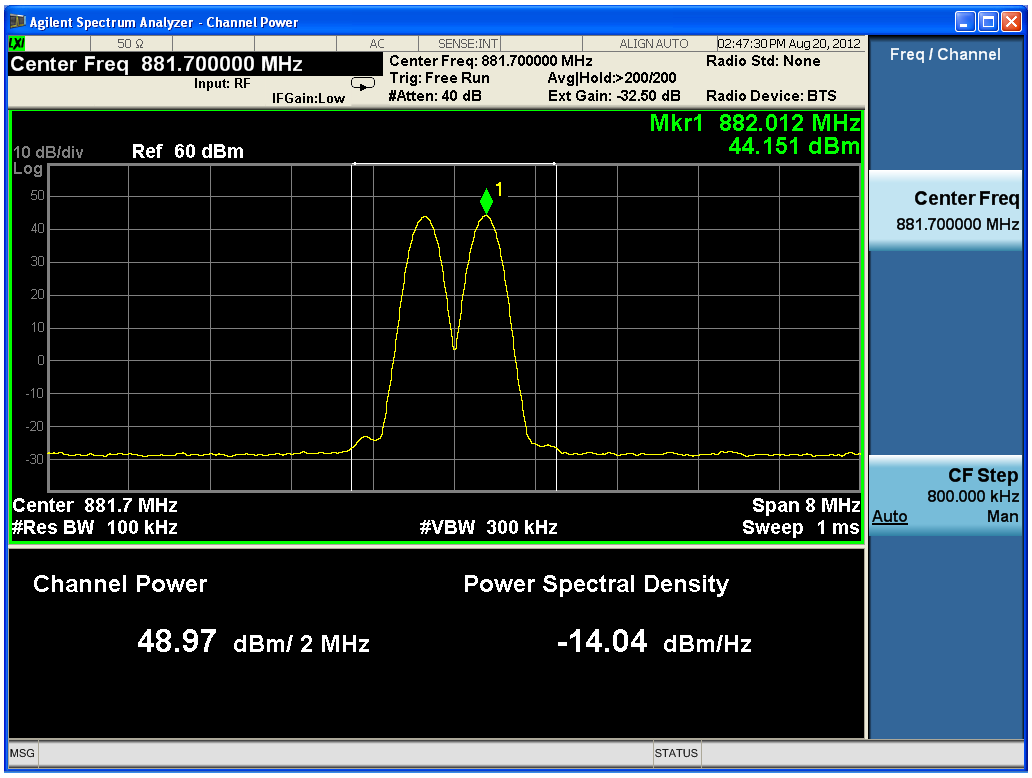


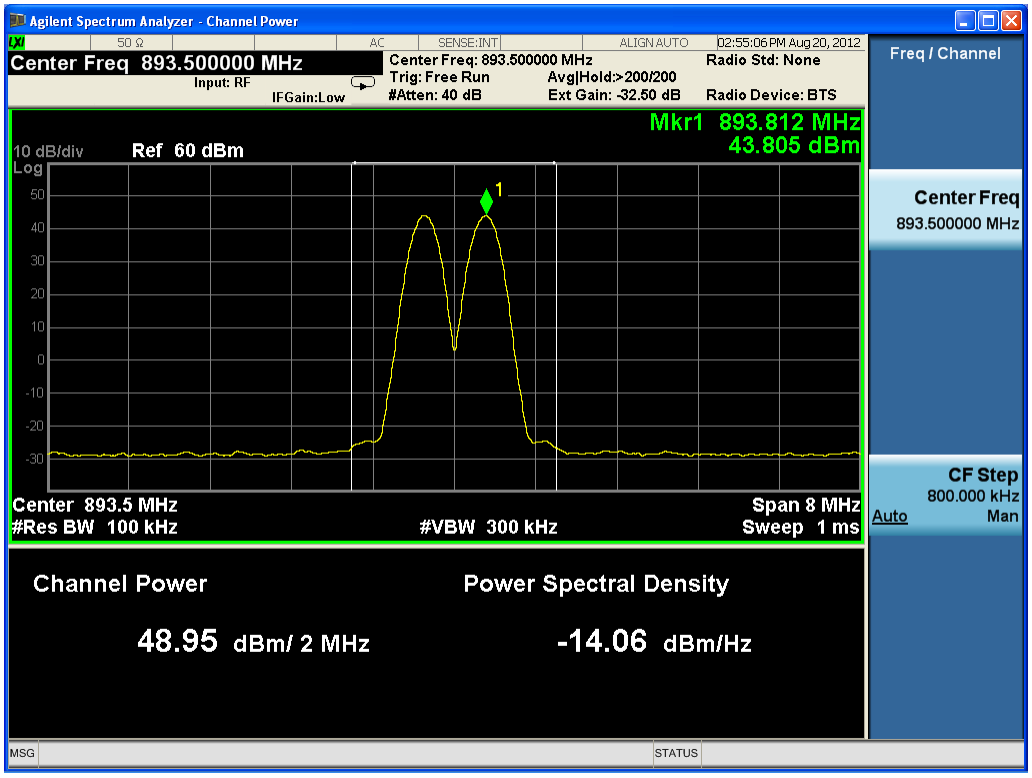

Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:43:13 PM Aug 20, 2012
Center Freq 881.700000 MHz
Input: RF
IFGain:Low
Center Freq: 881.700000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 882.012 MHz
41.741 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
881.700000 MHz
CF Step
800.000 kHz
Auto
Man
Center 881.7 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
46.96 dBm/ 2 MHz
Power Spectral Density
-16.05 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:07:43 PM Aug 20, 2012
Center Freq 893.500000 MHz
Input: RF
IFGain:Low
Center Freq: 893.500000 MHz
Trig: Free Run
#Atten: 42 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
Freq / Channel
Mkr1 893.828 MHz
41.766 dBm
10 dB/div
Log
Ref 60 dBm
50
40
30
20
10
0
-10
-20
-30
1
Center Freq
893.500000 MHz
CF Step
800.000 kHz
Auto
Man
Center 893.5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
46.90 dBm/ 2 MHz
Power Spectral Density
-16.11 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	869.5	869.2/869.8	48.92
	881.7	881.4/882	48.97
	893.5	893.2/893.8	48.95

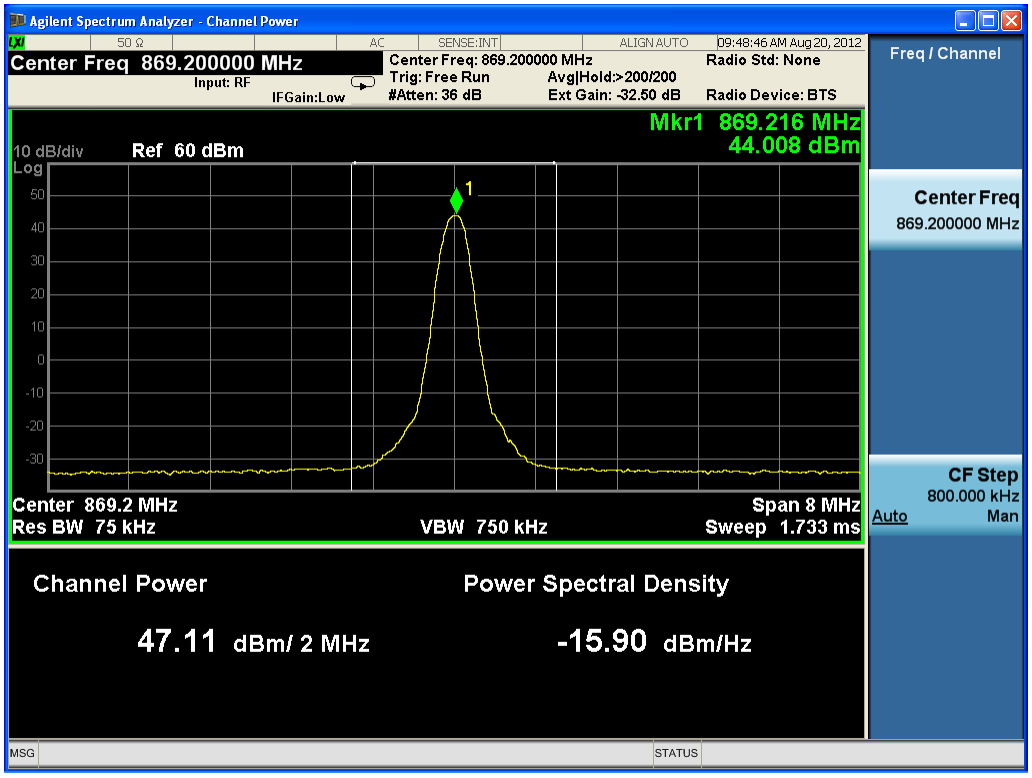


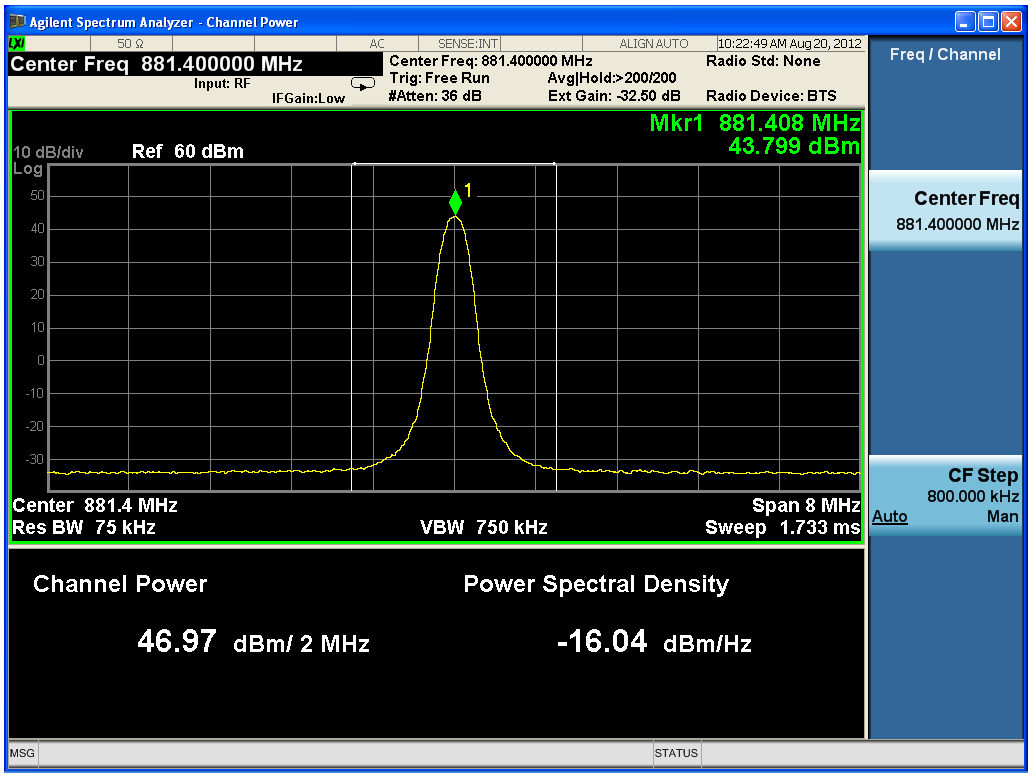

Agilent Spectrum Analyzer - Channel Power
Center Freq 881.700000 MHz
Input: RF
IFGain:Low
Center Freq: 881.700000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
02:47:30 PM Aug 20, 2012
Freq / Channel
Mkr1 882.012 MHz
44.151 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
881.700000 MHz
CF Step
800.000 kHz
Auto
Man
Center 881.7 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
48.97 dBm/ 2 MHz
Power Spectral Density
-14.04 dBm/Hz
MSG
STATUS

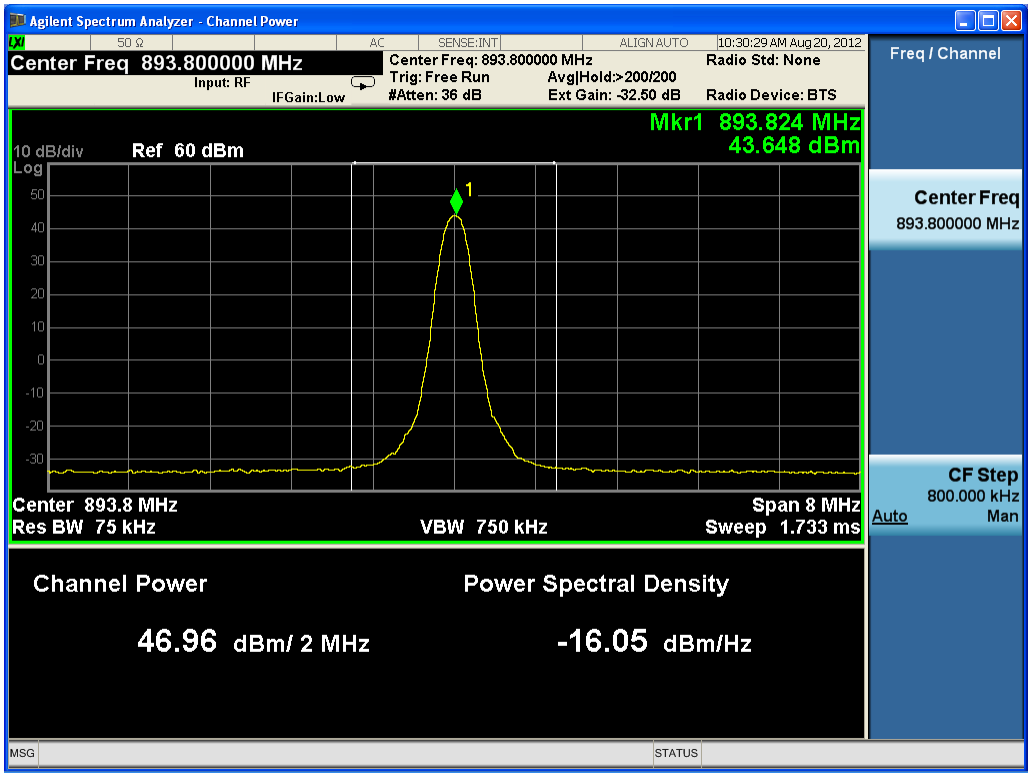

Agilent Spectrum Analyzer - Channel Power
Center Freq 893.500000 MHz
Input: RF
IFGain:Low
Center Freq: 893.500000 MHz
Trig: Free Run
#Atten: 40 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
02:55:06 PM Aug 20, 2012
Freq / Channel
Mkr1 893.812 MHz
43.805 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
893.500000 MHz
CF Step
800.000 kHz
Auto
Man
Center 893.5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Span 8 MHz
Sweep 1 ms
Channel Power
48.95 dBm/ 2 MHz
Power Spectral Density
-14.06 dBm/Hz
MSG
STATUS

One carrier

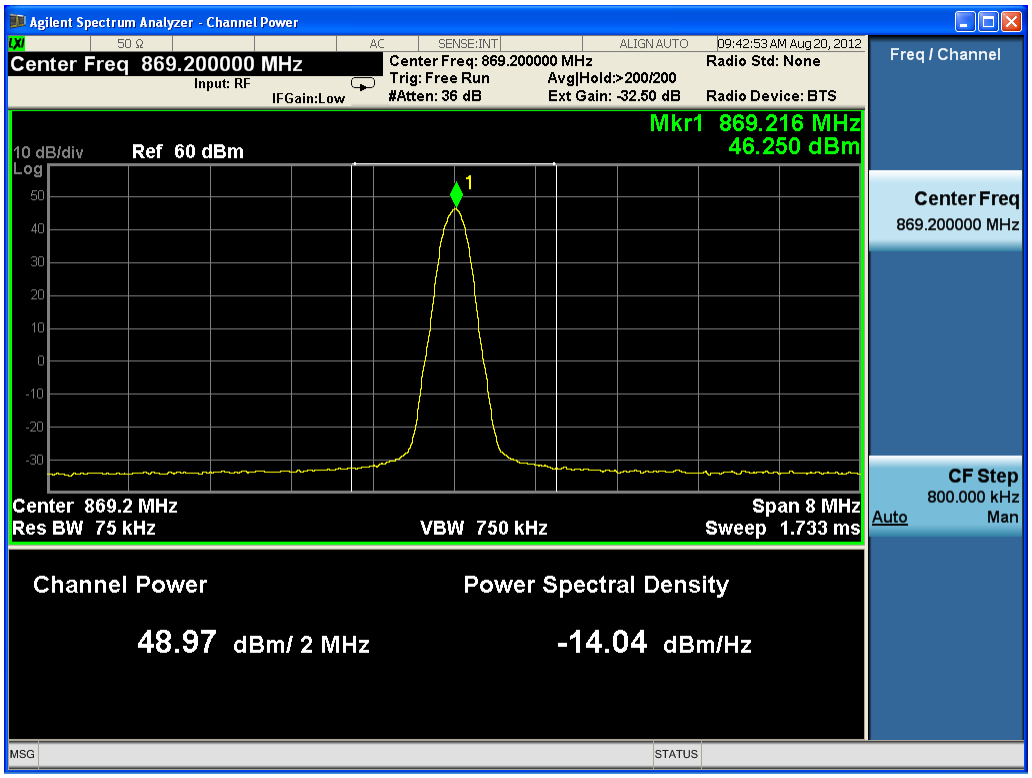
Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
8PSK	869.2	869.2	47.11
	881.4	881.4	46.97
	893.8	893.8	46.96

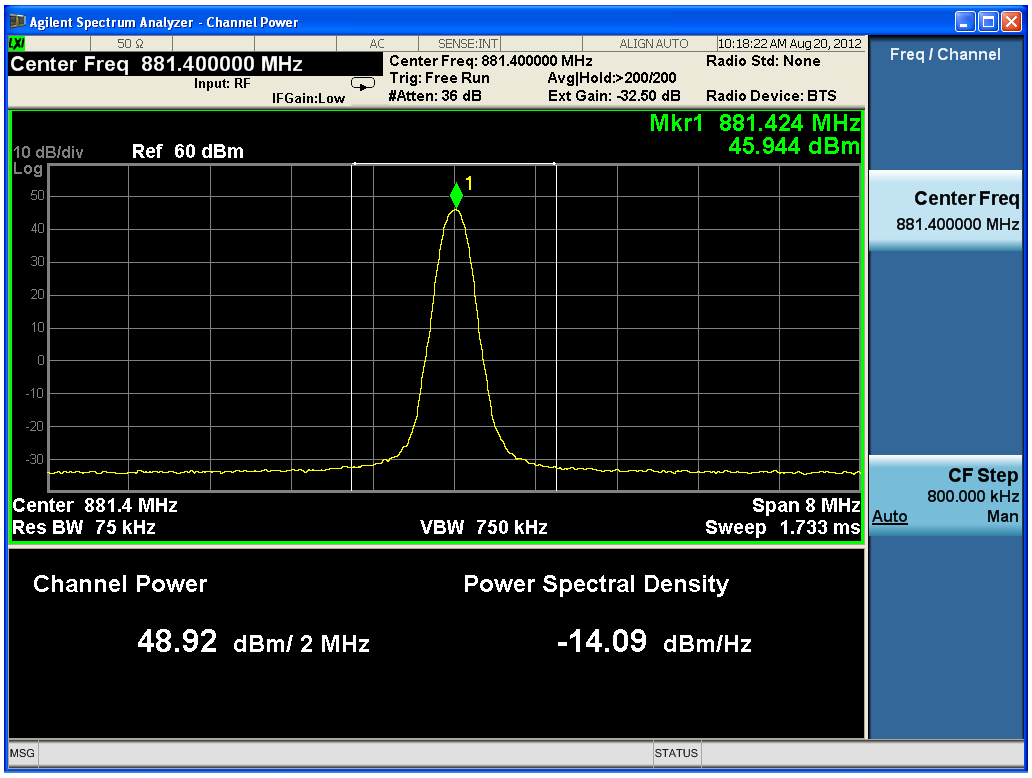


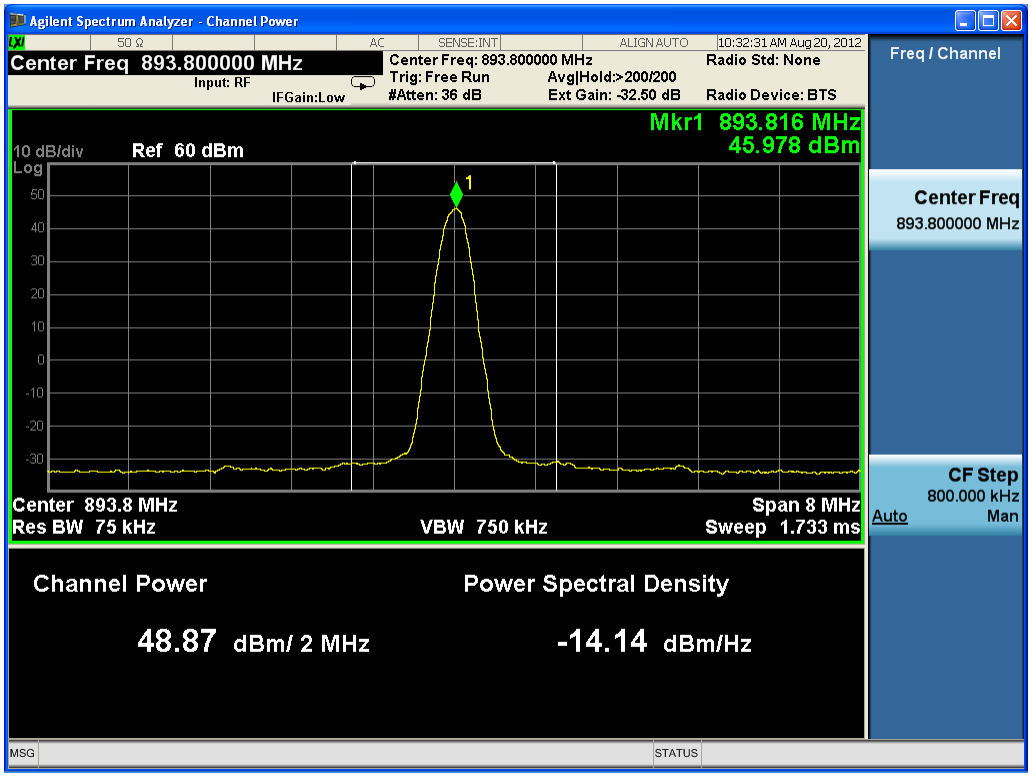

Agilent Spectrum Analyzer - Channel Power
Center Freq 881.400000 MHz
Input: RF
IFGain:Low
Center Freq: 881.400000 MHz
Trig: Free Run
#Atten: 36 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
10:22:49 AM Aug 20, 2012
Freq / Channel
Mkr1 881.408 MHz
43.799 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
881.400000 MHz
CF Step
800.000 kHz
Auto
Man
Center 881.4 MHz
Res BW 75 kHz
VBW 750 kHz
Span 8 MHz
Sweep 1.733 ms
Channel Power
46.97 dBm/ 2 MHz
Power Spectral Density
-16.04 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
Center Freq 893.800000 MHz
Input: RF
IFGain:Low
Center Freq: 893.800000 MHz
Trig: Free Run
#Atten: 36 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
10:30:29 AM Aug 20, 2012
Freq / Channel
Mkr1 893.824 MHz
43.648 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
893.800000 MHz
CF Step
800.000 kHz
Auto
Man
Center 893.8 MHz
Res BW 75 kHz
VBW 750 kHz
Span 8 MHz
Sweep 1.733 ms
Channel Power
46.96 dBm/ 2 MHz
Power Spectral Density
-16.05 dBm/Hz
MSG
STATUS

Modulation	Center Freq. (MHz)	Frequency (MHz)	Max output Power in dBm
GMSK	869.2	869.2	48.97
	881.4	881.4	48.92
	893.8	893.8	48.87




Agilent Spectrum Analyzer - Channel Power
Center Freq 881.400000 MHz
Input: RF
IFGain:Low
Center Freq: 881.400000 MHz
Trig: Free Run
#Atten: 36 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
10:18:22 AM Aug 20, 2012
Freq / Channel
Mkr1 881.424 MHz
45.944 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
881.400000 MHz
CF Step
800.000 kHz
Auto
Man
Center 881.4 MHz
Res BW 75 kHz
VBW 750 kHz
Span 8 MHz
Sweep 1.733 ms
Channel Power
48.92 dBm/ 2 MHz
Power Spectral Density
-14.09 dBm/Hz
MSG
STATUS


Agilent Spectrum Analyzer - Channel Power
Center Freq 893.800000 MHz
Input: RF
IFGain:Low
Center Freq: 893.800000 MHz
Trig: Free Run
#Atten: 36 dB
Avg|Hold:>200/200
Ext Gain: -32.50 dB
Radio Std: None
Radio Device: BTS
10:32:31 AM Aug 20, 2012
Freq / Channel
Mkr1 893.816 MHz
45.978 dBm
10 dB/div
Log
Ref 60 dBm
Center Freq
893.800000 MHz
CF Step
800.000 kHz
Auto
Man
Center 893.8 MHz
Res BW 75 kHz
VBW 750 kHz
Span 8 MHz
Sweep 1.733 ms
Channel Power
48.87 dBm/ 2 MHz
Power Spectral Density
-14.14 dBm/Hz
MSG
STATUS

5.2 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

5.3 MODULATION CHARACTERISTIC

Applicable Standard: FCC §2.1047

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

CDMA digital mode is used by EUT.

Test Data Environmental Conditions

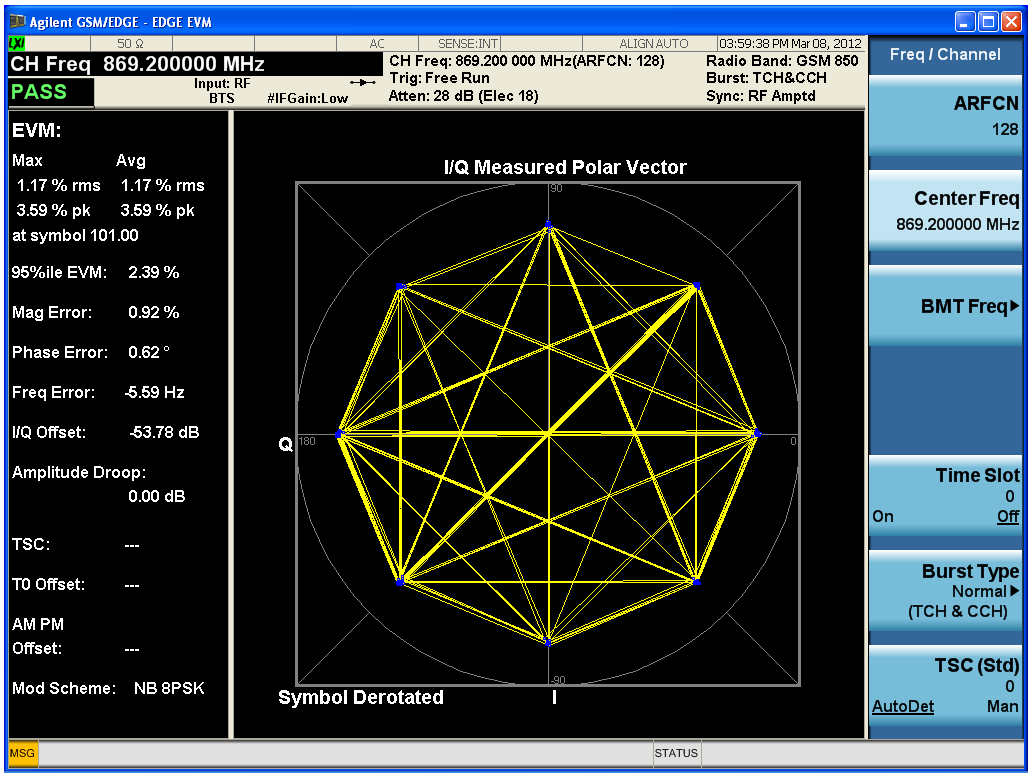
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

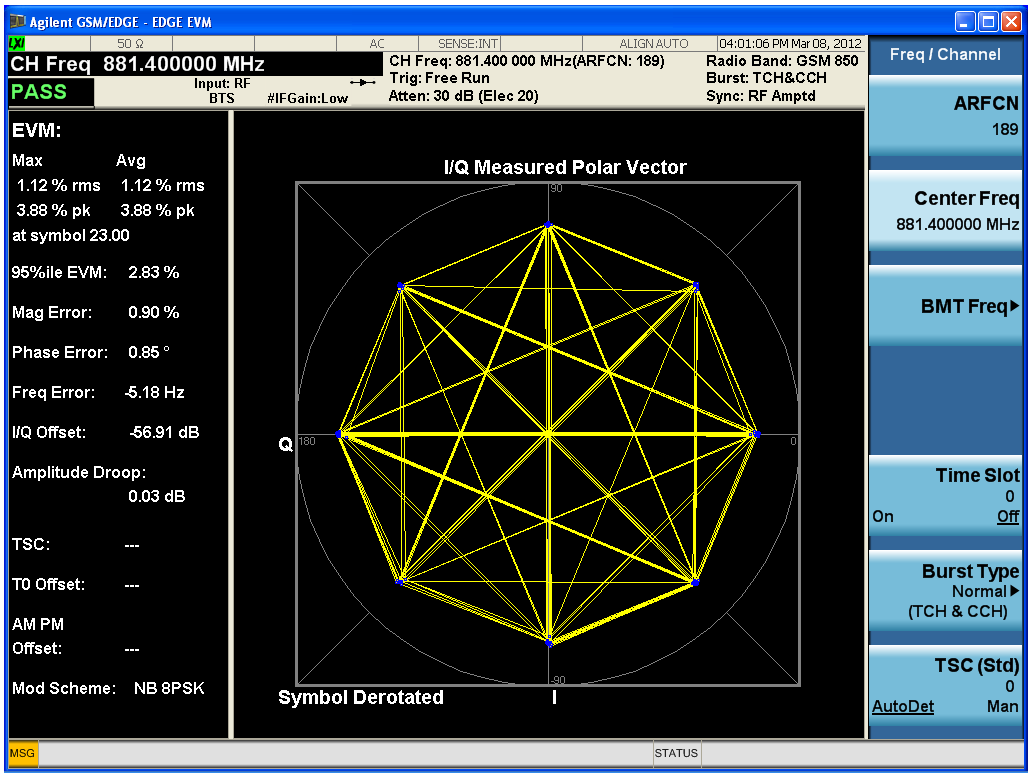
Test Result: Pass

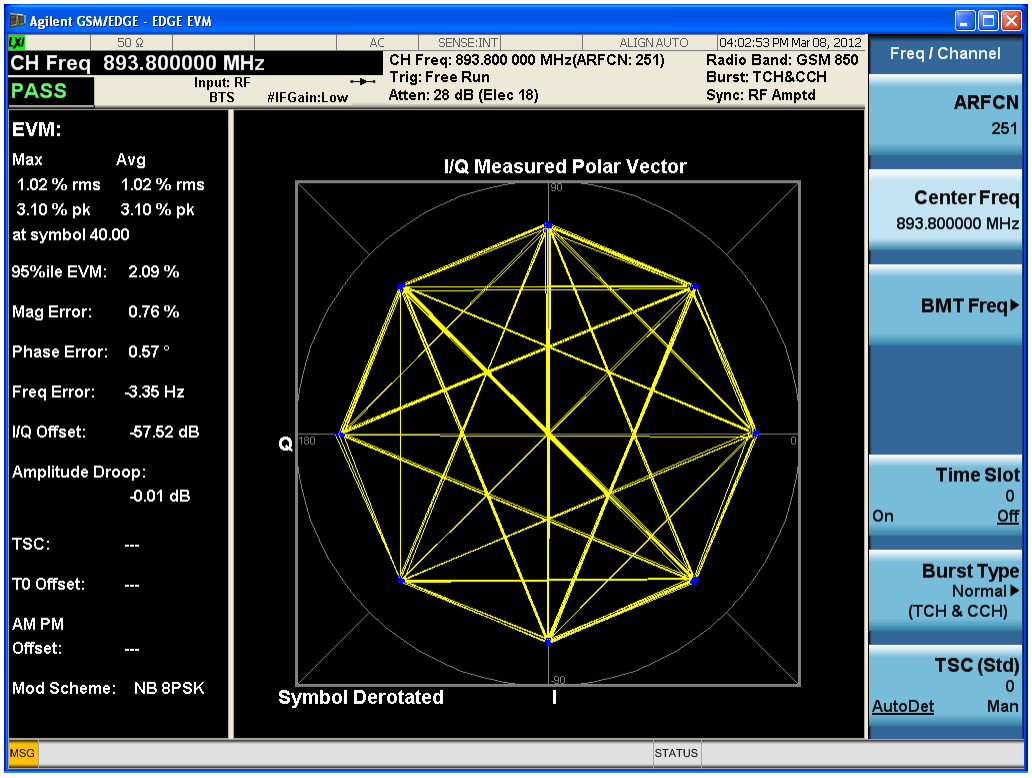
Test Mode: Transmitting GSM

Test Data:

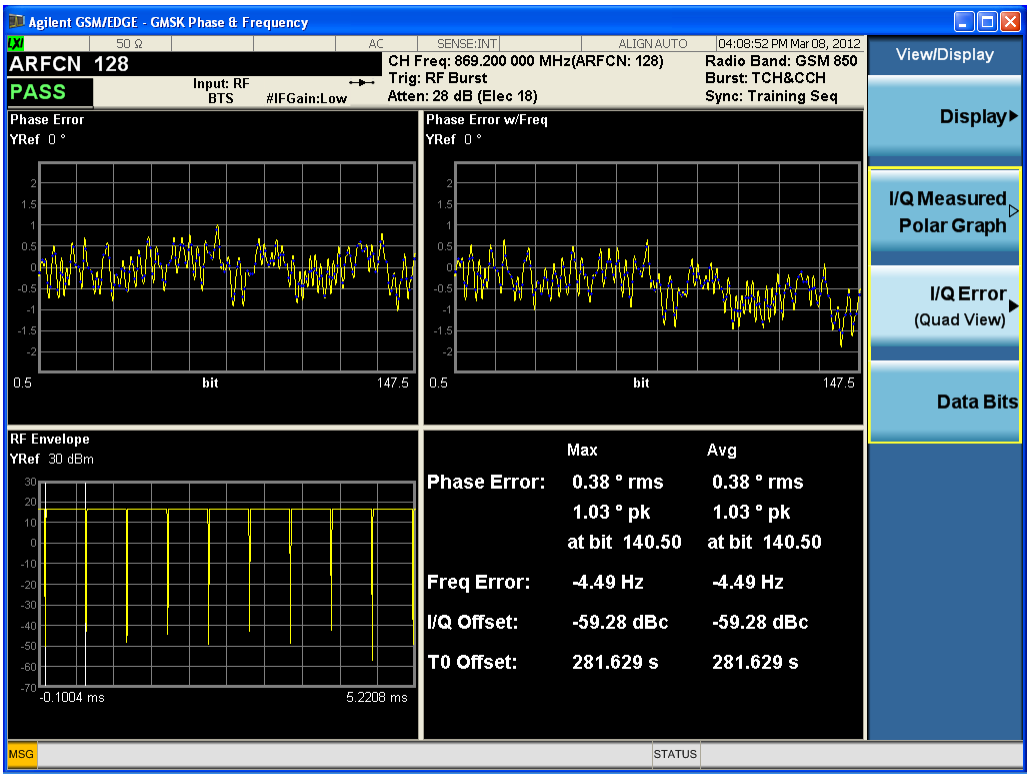
Modulation	Frequency (MHz)	EVM
8PSK	869.2	2.39%
	881.4	2.83%
	893.8	2.09%

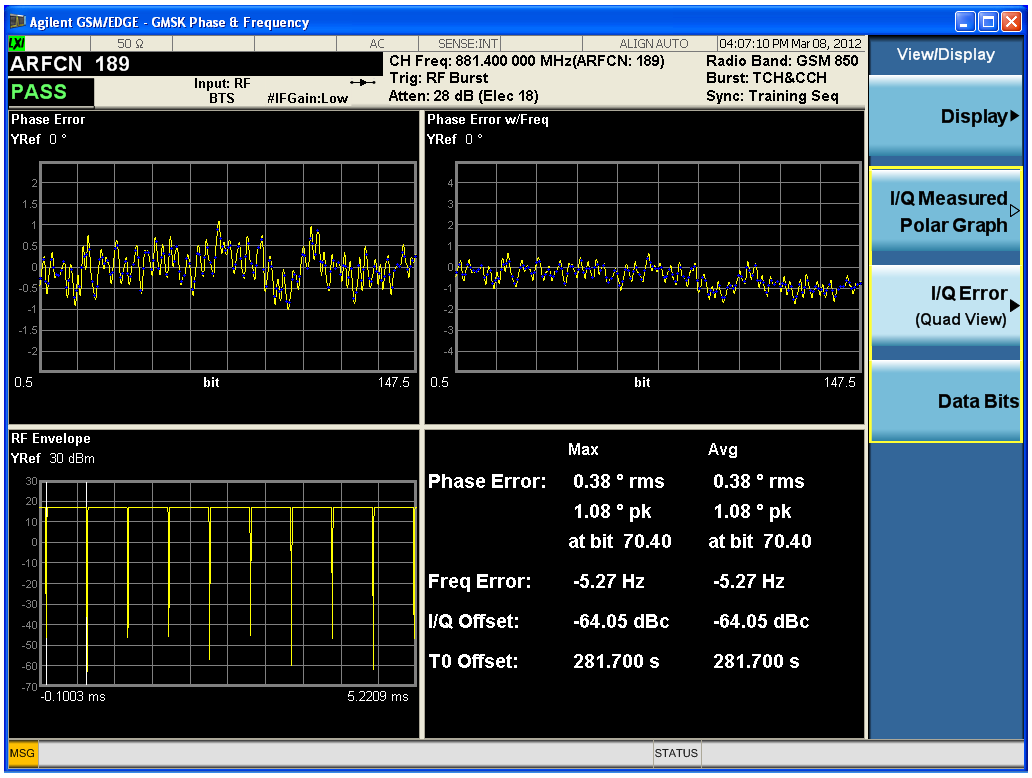


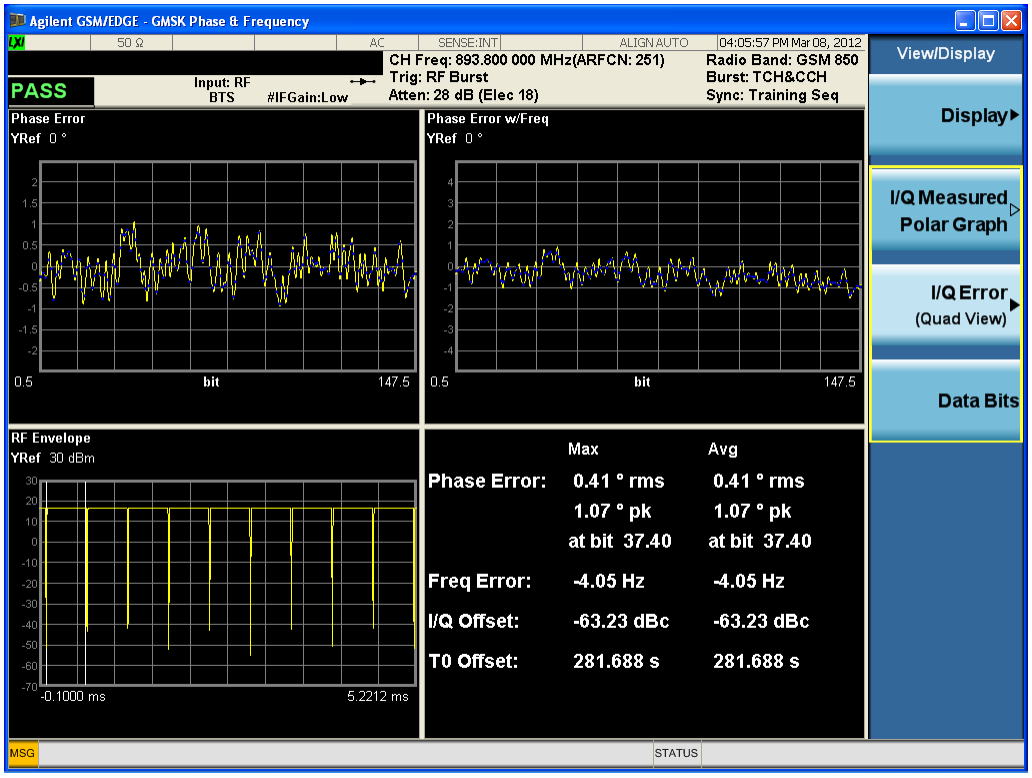

Agilent GSM/EDGE - EDGE EVM
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:01:06 PM Mar 08, 2012
CH Freq 881.400000 MHz
PASS
Input: RF
BTS
#IFGain:Low
CH Freq: 881.400 000 MHz(ARFCN: 189)
Trig: Free Run
Atten: 30 dB (Elec 20)
Radio Band: GSM 850
Burst: TCH&CCH
Sync: RF Amptd
EVM:
Max
Avg
1.12 % rms
1.12 % rms
3.88 % pk
3.88 % pk
at symbol 23.00
95%ile EVM: 2.83 %
Mag Error: 0.90 %
Phase Error: 0.85 °
Freq Error: -5.18 Hz
I/Q Offset: -56.91 dB
Amplitude Droop:
0.03 dB
TSC: ---
T0 Offset: ---
AM PM
Offset: ---
Mod Scheme: NB 8PSK
I/Q Measured Polar Vector
90
180
0
-90
Q
Symbol Derotated
I
Freq / Channel
ARFCN
189
Center Freq
881.400000 MHz
BMT Freq
Time Slot
0
On
Off
Burst Type
Normal
(TCH & CCH)
TSC (Std)
0
AutoDet
Man
MSG
STATUS


Agilent GSM/EDGE - EDGE EVM
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:02:53 PM Mar 08, 2012
CH Freq 893.800000 MHz
PASS
Input: RF
BTS
#IFGain:Low
CH Freq: 893.800 000 MHz(ARFCN: 251)
Trig: Free Run
Atten: 28 dB (Elec 18)
Radio Band: GSM 850
Burst: TCH&CCH
Sync: RF Amptd
EVM:
Max
Avg
1.02 % rms
1.02 % rms
3.10 % pk
3.10 % pk
at symbol 40.00
95%ile EVM: 2.09 %
Mag Error: 0.76 %
Phase Error: 0.57 °
Freq Error: -3.35 Hz
I/Q Offset: -57.52 dB
Amplitude Droop:
-0.01 dB
TSC: ---
T0 Offset: ---
AM PM
Offset: ---
Mod Scheme: NB 8PSK
I/Q Measured Polar Vector
90
180
0
-90
Q
Symbol Derotated
I
Freq / Channel
ARFCN
251
Center Freq
893.800000 MHz
BMT Freq
Time Slot
0
On
Off
Burst Type
Normal
(TCH & CCH)
TSC (Std)
0
AutoDet
Man
MSG
STATUS

Modulation	Frequency (MHz)	Phase Error(°)	Frequency Error(Hz)
GMSK	869.2	0.38	-4.49
	881.4	0.38	-5.27
	893.8	0.41	-4.05




Agilent GSM/EDGE - GMSK Phase & Frequency
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:07:10 PM Mar 08, 2012
ARFCN 189
PASS
Input: RF
BTS
#IFGain:Low
CH Freq: 881.400 000 MHz(ARFCN: 189)
Trig: RF Burst
Atten: 28 dB (Elec 18)
Radio Band: GSM 850
Burst: TCH&CCH
Sync: Training Seq
View/Display
Display
I/Q Measured Polar Graph
I/Q Error (Quad View)
Data Bits
Phase Error
YRef 0 °
Phase Error w/Freq
YRef 0 °
0.5
bit
147.5
RF Envelope
YRef 30 dBm
-0.1003 ms
5.2209 ms
Max
Avg
Phase Error:
0.38 ° rms
1.08 ° pk
at bit 70.40
0.38 ° rms
1.08 ° pk
at bit 70.40
Freq Error:
-5.27 Hz
-5.27 Hz
I/Q Offset:
-64.05 dBc
-64.05 dBc
T0 Offset:
281.700 s
281.700 s
MSG
STATUS


Agilent GSM/EDGE - GMSK Phase & Frequency
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:05:57 PM Mar 08, 2012
PASS
Input: RF
BTS
#IFGain:Low
CH Freq: 893.800 000 MHz(ARFCN: 251)
Trig: RF Burst
Atten: 28 dB (Elec 18)
Radio Band: GSM 850
Burst: TCH&CCH
Sync: Training Seq
View/Display
Display
I/Q Measured Polar Graph
I/Q Error (Quad View)
Data Bits
Phase Error
YRef 0 °
Phase Error w/Freq
YRef 0 °
0.5
bit
147.5
RF Envelope
YRef 30 dBm
-0.1000 ms
5.2212 ms
Max
Avg
Phase Error:
0.41 ° rms
1.07 ° pk
at bit 37.40
0.41 ° rms
1.07 ° pk
at bit 37.40
Freq Error:
-4.05 Hz
-4.05 Hz
I/Q Offset:
-63.23 dBc
-63.23 dBc
T0 Offset:
281.688 s
281.688 s
MSG
STATUS

5.4 SPURIOUS RADIATED EMISSIONS

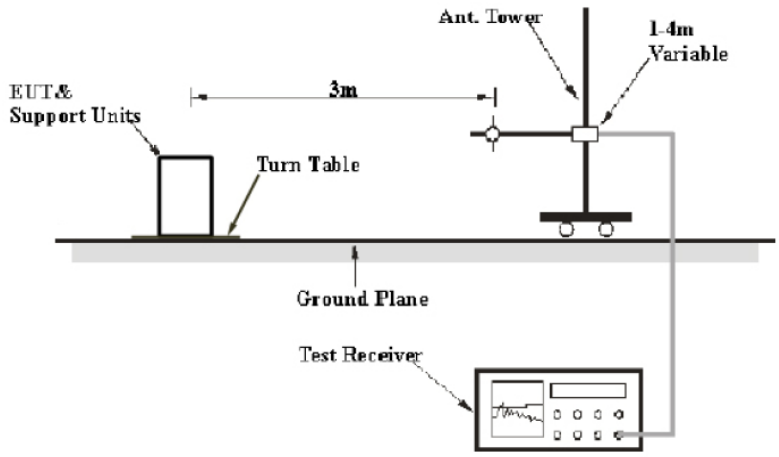
Applicable Standard: FCC CFR 47, §2.1053

Test Equipment List and Details

Manufacturer	Equipment	Model	Serial Number	Last Cal.	Cal. Interval
R&S	SIGNAL GENERATOR	SMR20	A00017351	2012-9-26	1 year
Albatross	Anechoic Chamber	3m Site	A00017354	2012-10-29	1 year
R&S	EMI Test Receiver	ESIB26	100058	2012-10-29	1 year
R&S	Ultra Breitband Antennas	HL562	100022	2012-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100032	2012-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100446	2012-7-29	1 year
SCHWARZ-BECK	Biconical Antenna	VUBA9117	9117-122	2012-7-29	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. (dB μ V)	Polar H/V	Level (dBm)	Antenna Gain Correction						
33.887776	27.91	V	-64.17	-41.94	0.31	-106.42	2.15	-108.57	-13	95.57
134.96994	28.75	V	-68.67	-9.56	0.81	-79.04	2.15	-81.19	-13	68.19
173.8477	29.65	V	-66.89	-2.22	1.11	-70.21	2.15	-72.36	-13	59.36
618.998	32.45	V	-63.50	-1.38	2.11	-66.99	2.15	-69.14	-13	56.14
871.70341	72.58	V	-36.16	-1.31	2.51	-39.97	2.15	-42.12	-13	29.12
3000	59.3	V	-50.66	7.74	4.60	-47.51	2.15	-49.66	-13	36.66
33.887776	28.82	H	-57.21	-41.94	0.31	-99.45	2.15	-101.60	-13	88.60
138.85772	27.81	H	-69.12	-8.39	1.01	-78.52	2.15	-80.67	-13	67.67
177.73547	29.92	H	-66.70	-1.64	1.11	-69.44	2.15	-71.59	-13	58.59
599.55912	33.34	H	-64.13	-1.20	2.01	-67.34	2.15	-69.49	-13	56.49
871.70341	69.93	H	-28.94	-1.31	2.51	-32.75	2.15	-34.90	-13	21.90
2839.6794	59.3	H	-47.19	7.94	4.50	-43.74	2.15	-45.89	-13	32.89

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. (dB μ V)	Polar H/V	Level (dBm)	Antenna Gain Correction						
4042.0842	41.2	V	-50.91	7.94	5.30	-48.26	2.15	-50.41	-13	37.41
5412.8257	45.07	V	-52.38	8.54	6.30	-50.14	2.15	-52.29	-13	39.29
6927.8557	49.58	V	-47.00	9.24	7.30	-45.05	2.15	-47.20	-13	34.20
9821.6433	54.34	V	-41.66	9.94	8.89	-40.61	2.15	-42.76	-13	29.76
10196.393	59	V	-49.71	11.34	8.89	-47.27	2.15	-49.42	-13	36.42
17977.956	71.86	V	-38.12	8.94	12.19	-41.37	2.15	-43.52	-13	30.52
3881.7635	42.38	H	-43.67	7.74	5.20	-41.13	2.15	-43.28	-13	30.28
5380.7615	44.67	H	-52.30	8.54	6.30	-50.05	2.15	-52.20	-13	39.20
6903.8076	50.01	H	-46.65	9.24	7.30	-44.70	2.15	-46.85	-13	33.85
9821.6433	53.54	H	-43.97	9.94	8.89	-42.92	2.15	-45.07	-13	32.07
13348.697	58.45	H	-40.40	11.84	10.19	-38.75	2.15	-40.90	-13	27.90
17911.824	71.57	H	-34.94	8.94	12.19	-38.18	2.15	-40.33	-13	27.33

Radiation emission spurious above 3GHz

5.5 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.

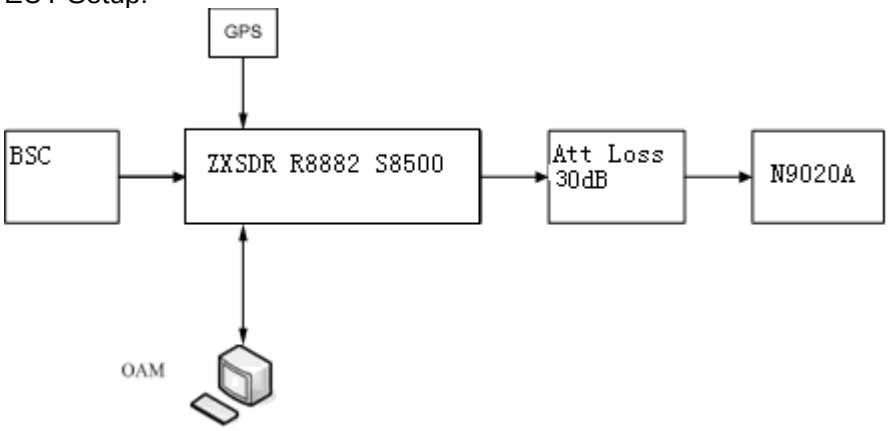
Test Equipment List and Details

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

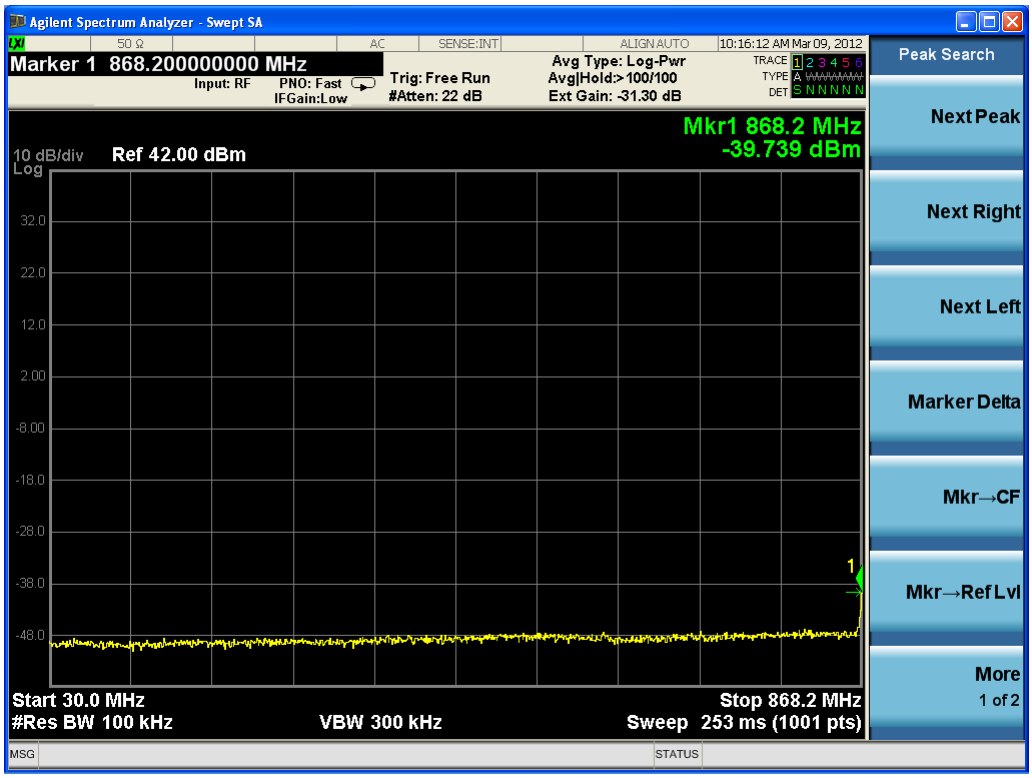
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

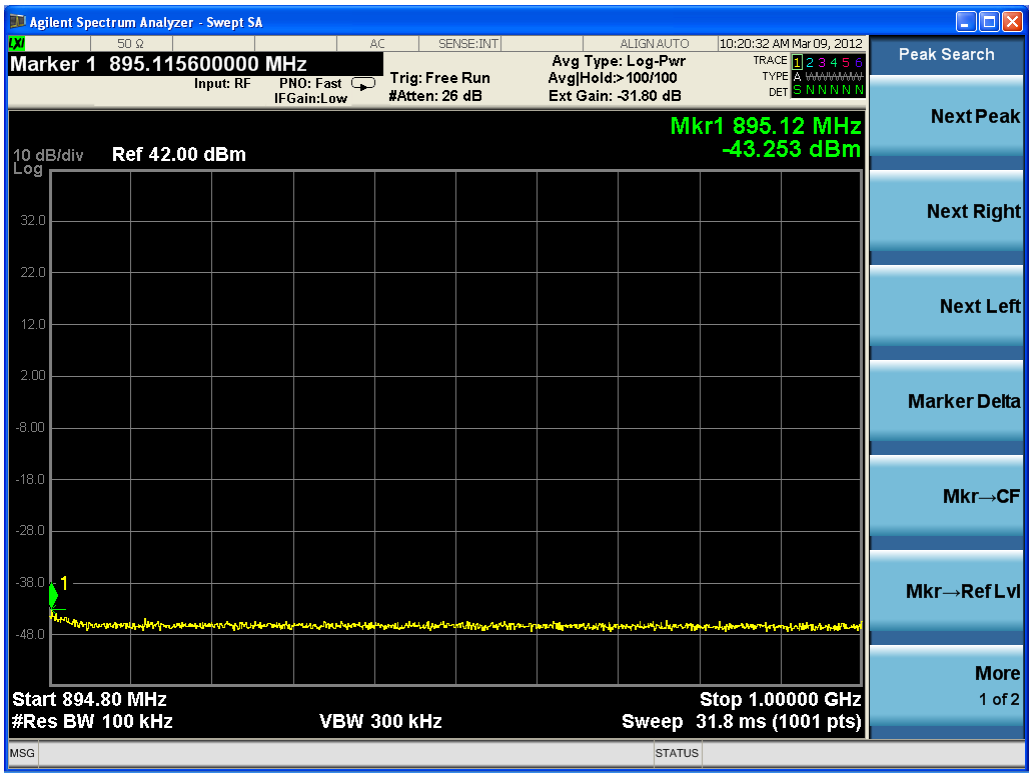
Test Result: Pass

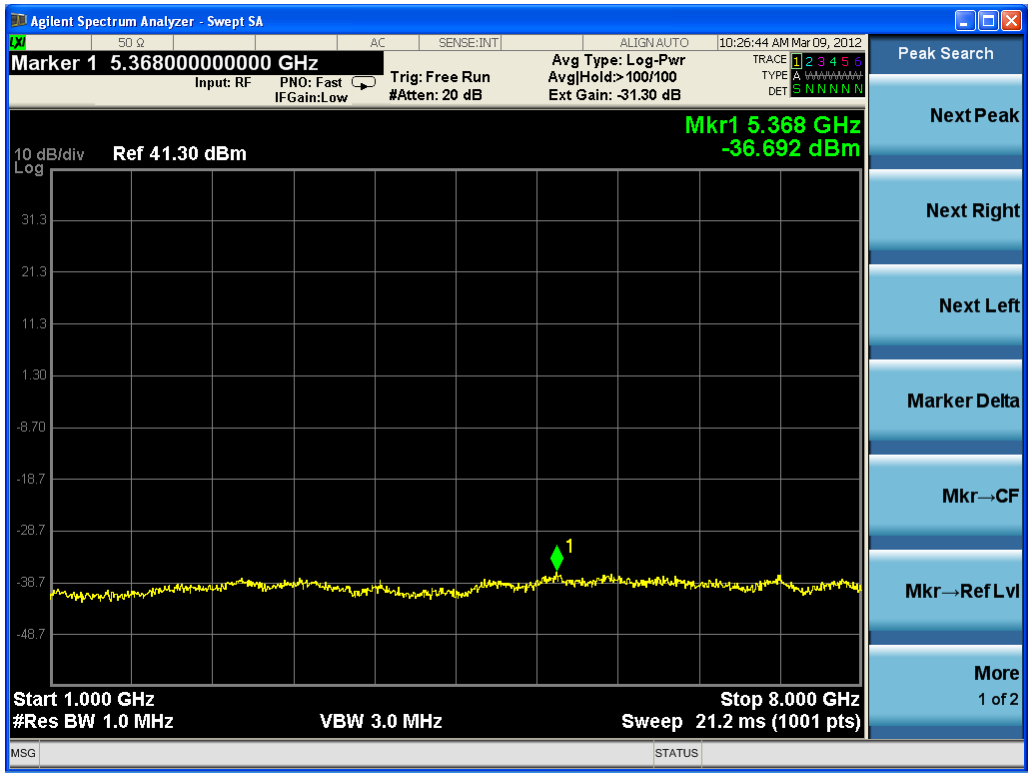
Test Mode: Transmitting GSM

Test Data:

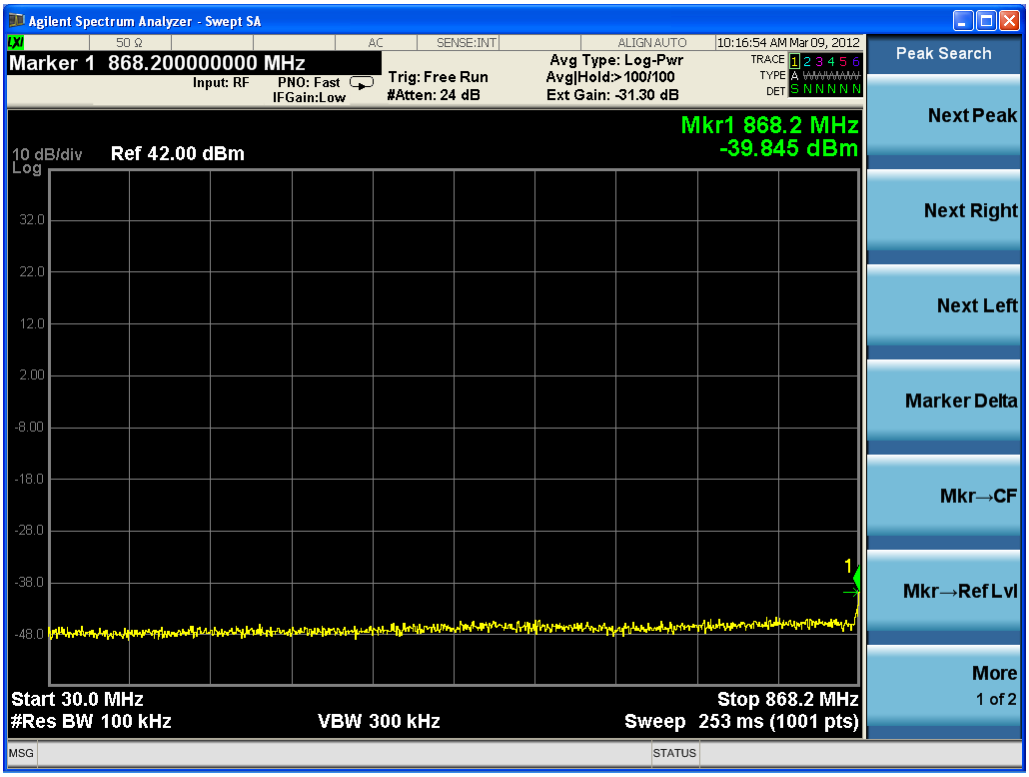
Six carriers

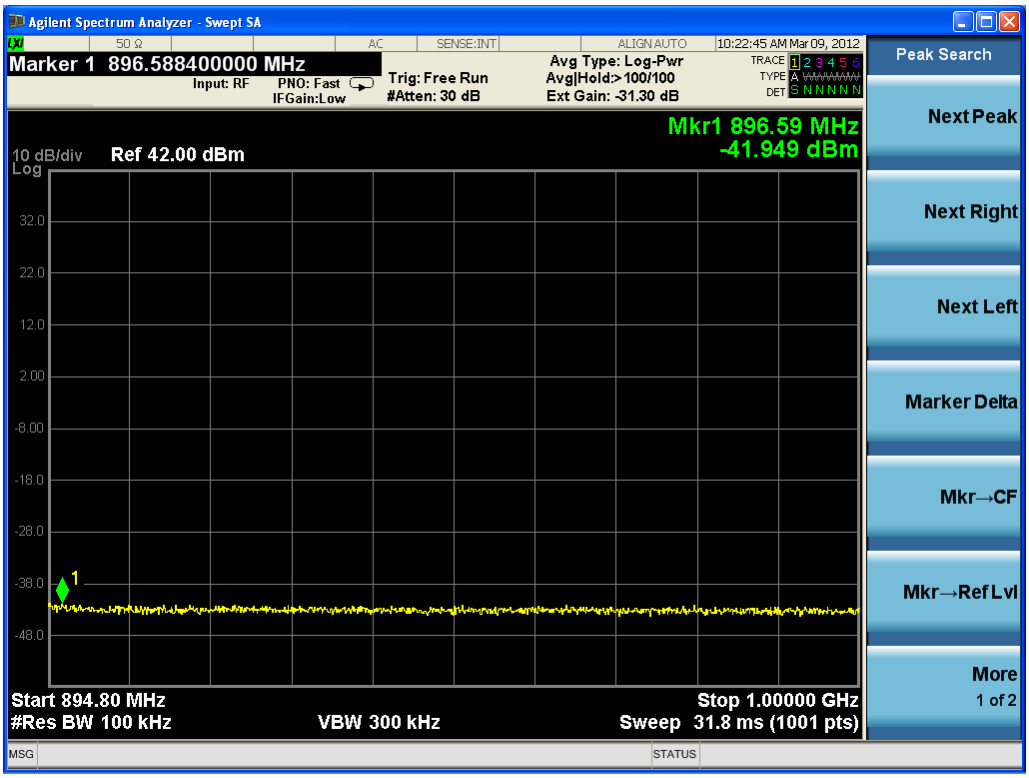


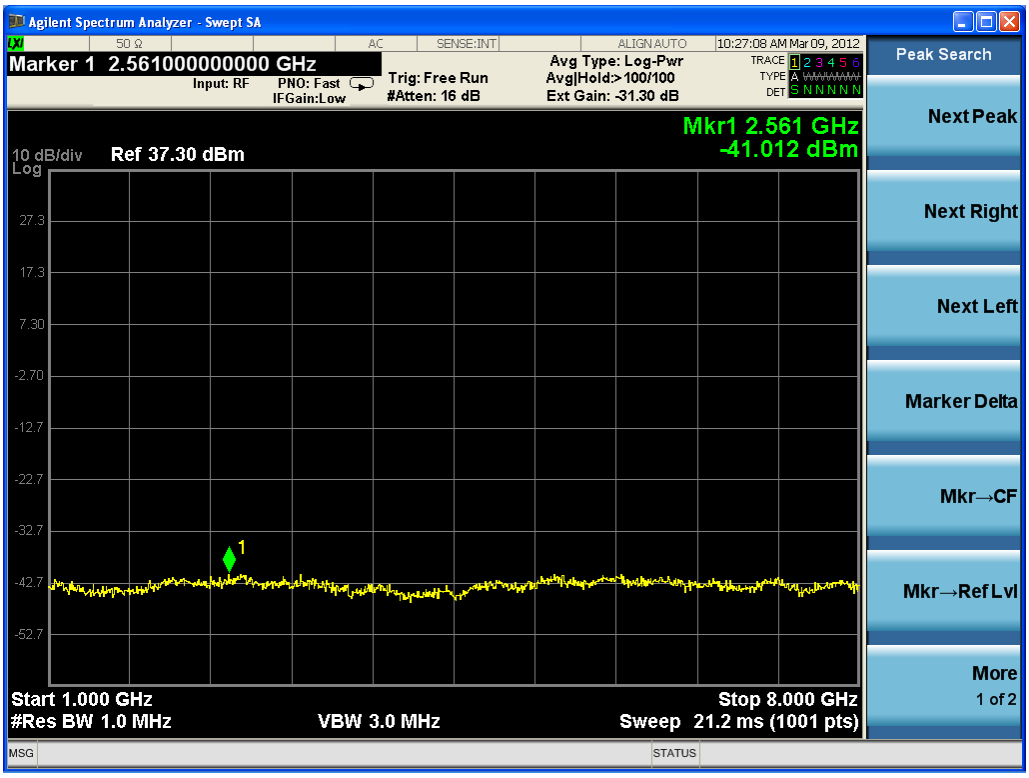

Agilent Spectrum Analyzer - Swept SA
Marker 1 895.115600000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 26 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.80 dB
10:20:32 AM Mar 09, 2012
Mkr1 895.12 MHz -43.253 dBm
10 dB/div Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 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 5.368000000000 GHz
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
10:26:44 AM Mar 09, 2012
Mkr1 5.368 GHz -36.692 dBm
10 dB/div Log
Ref 41.30 dBm
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

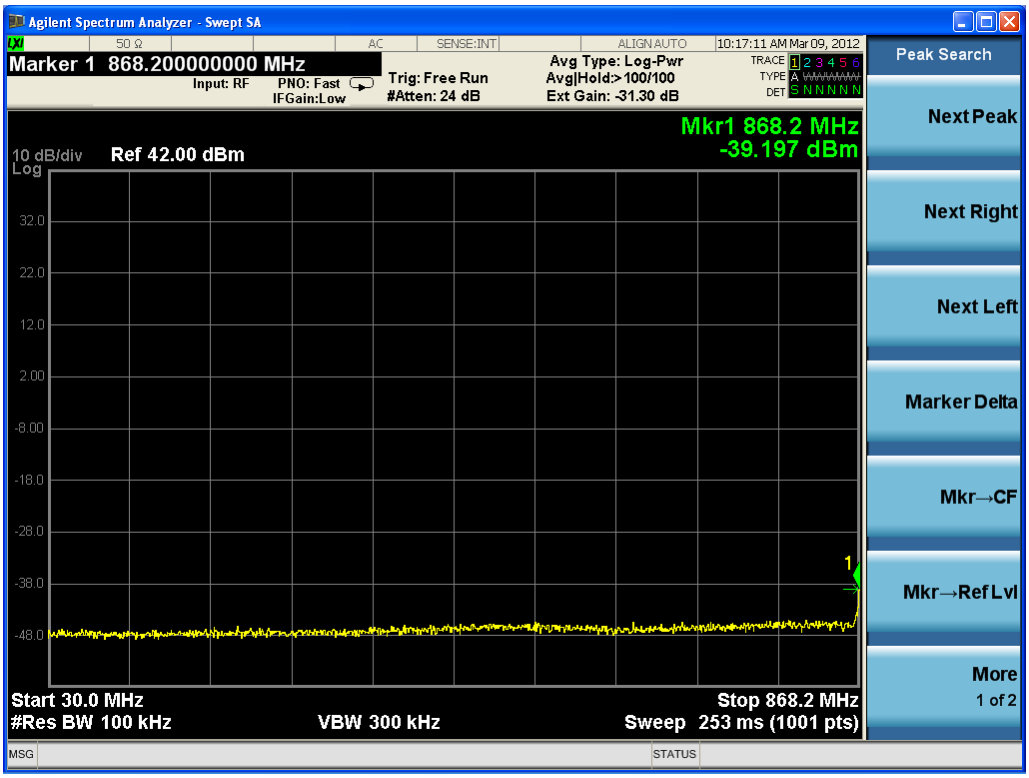
Five carriers

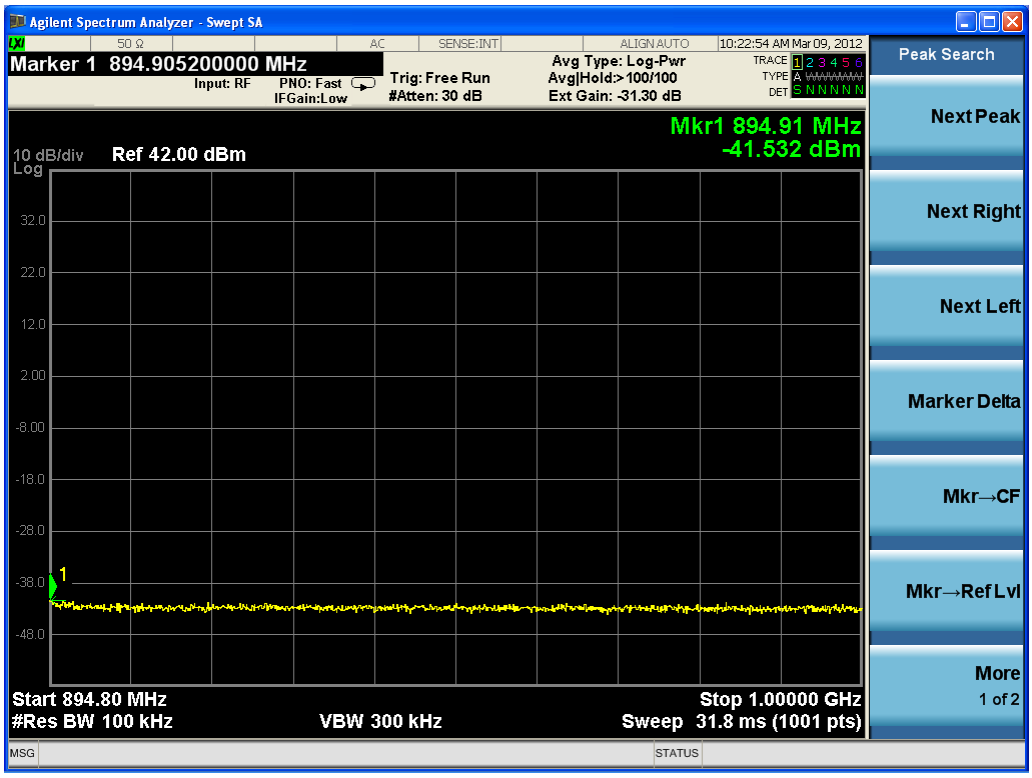


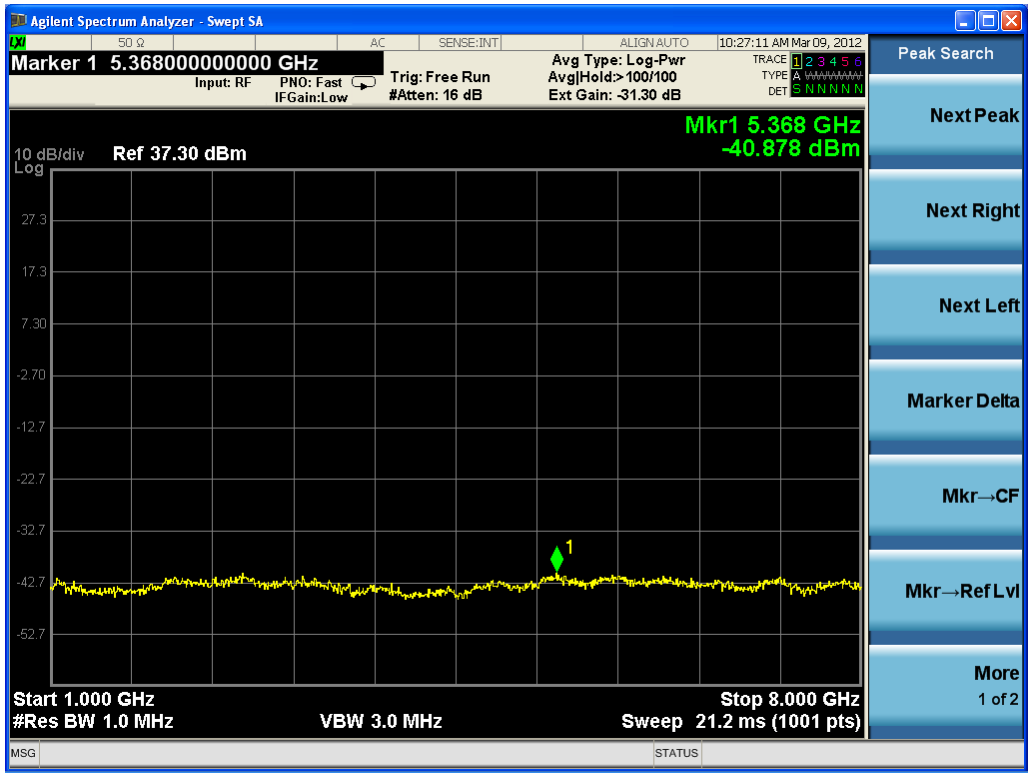




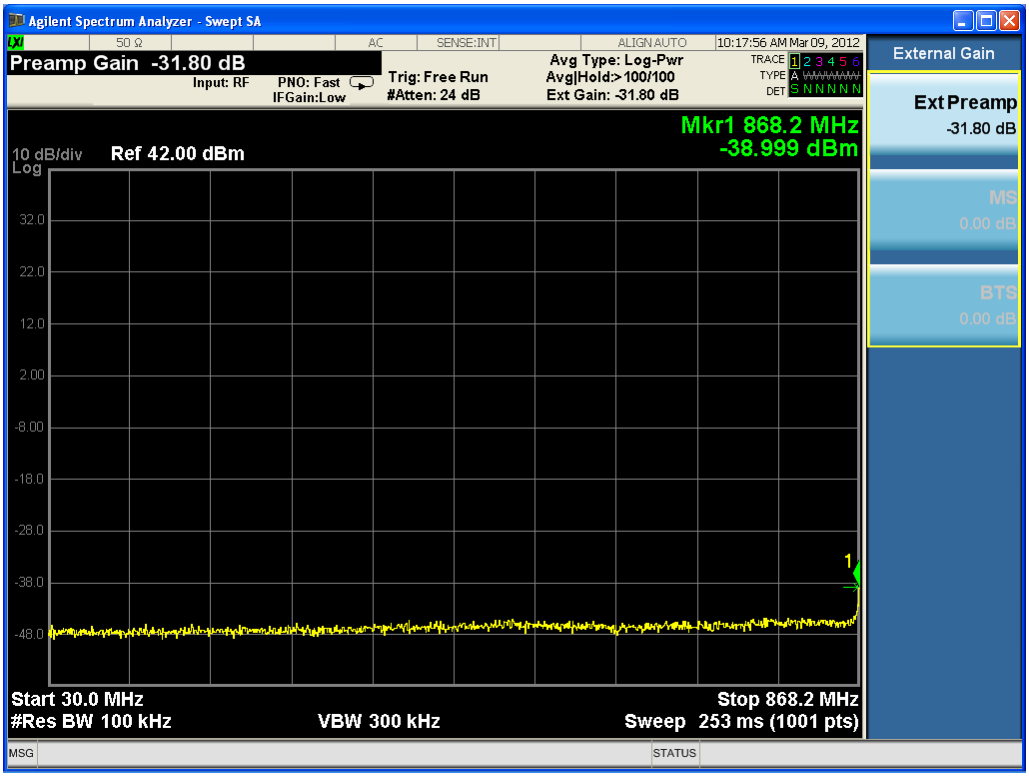
Four carriers

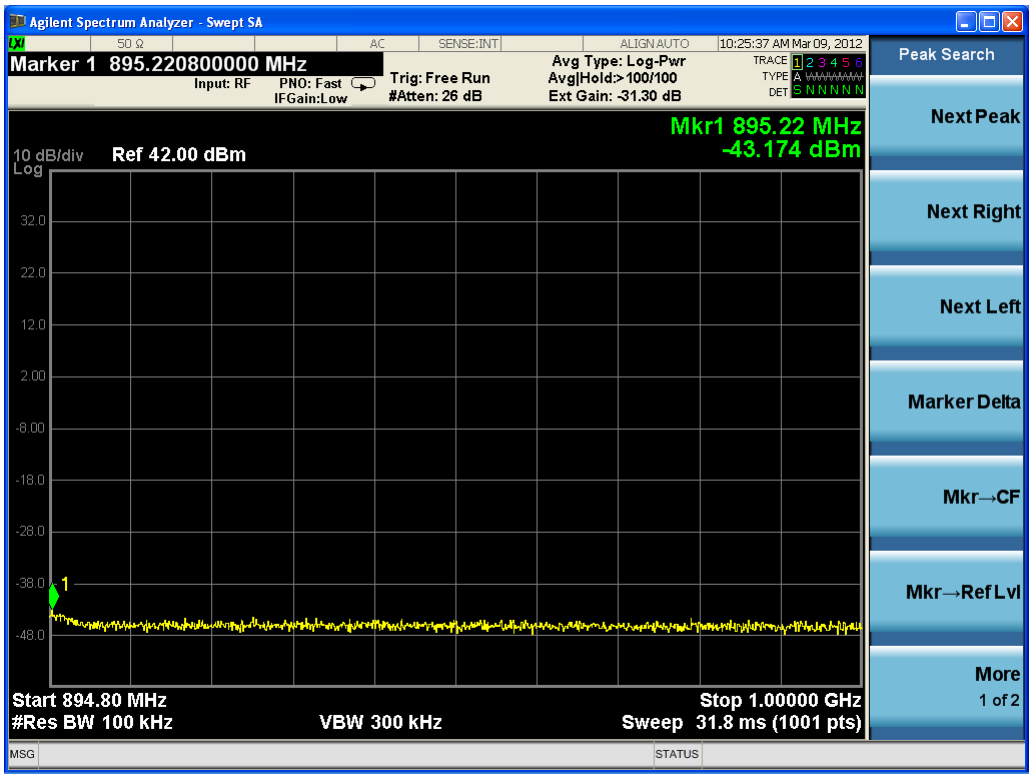


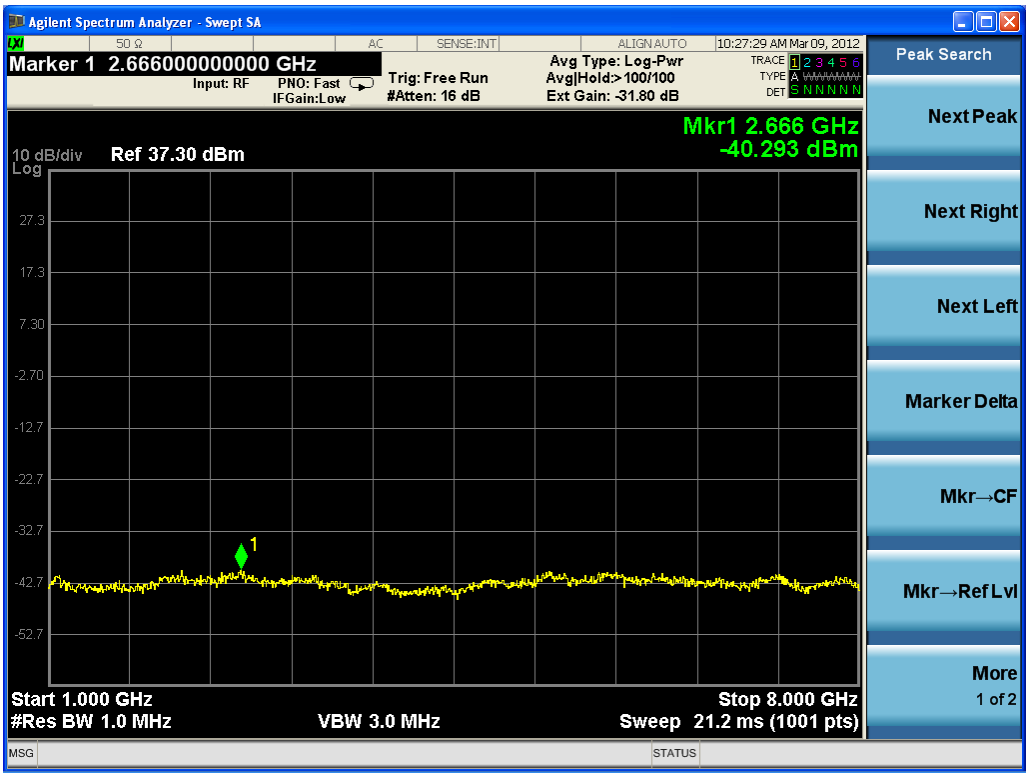

Agilent Spectrum Analyzer - Swept SA
Marker 1 894.905200000 MHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 30 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:22:54 AM Mar 09, 2012
Mkr1 894.91 MHz -41.532 dBm
10 dB/div Log
Ref 42.00 dBm
32.0
22.0
12.0
2.00
-8.00
-18.0
-28.0
-38.0
-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


Agilent Spectrum Analyzer - Swept SA
Marker 1 5.368000000000 GHz
Input: RF PNO: Fast IFGain:Low
Trig: Free Run #Atten: 16 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
10:27:11 AM Mar 09, 2012
Mkr1 5.368 GHz -40.878 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

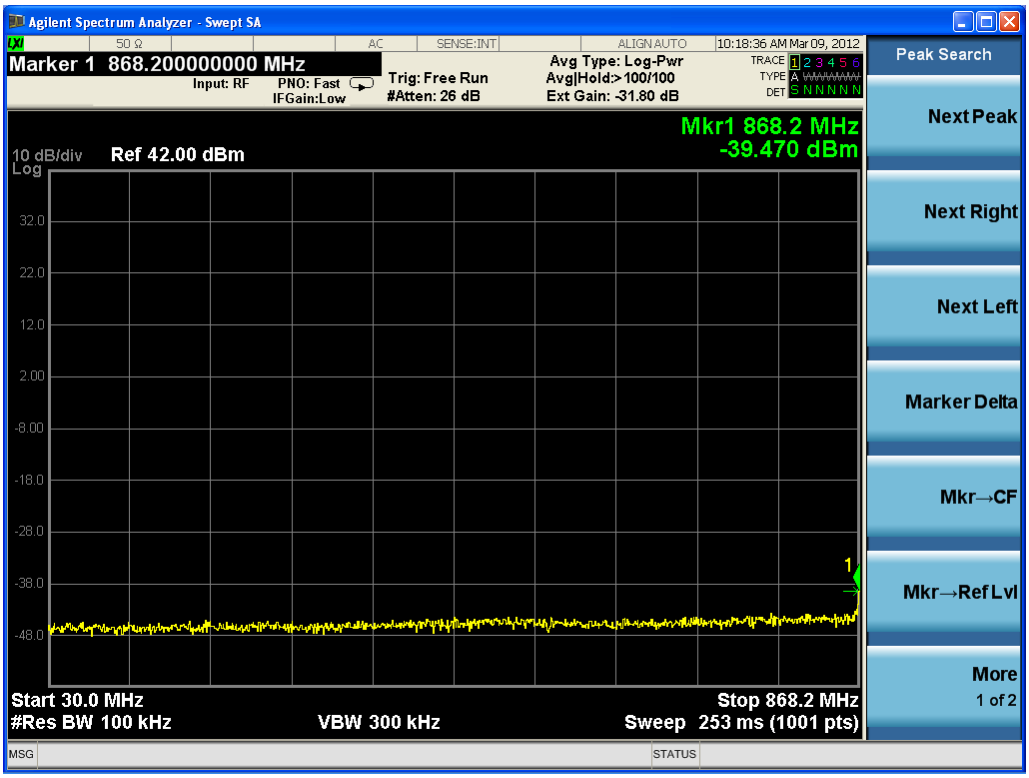
Three carriers

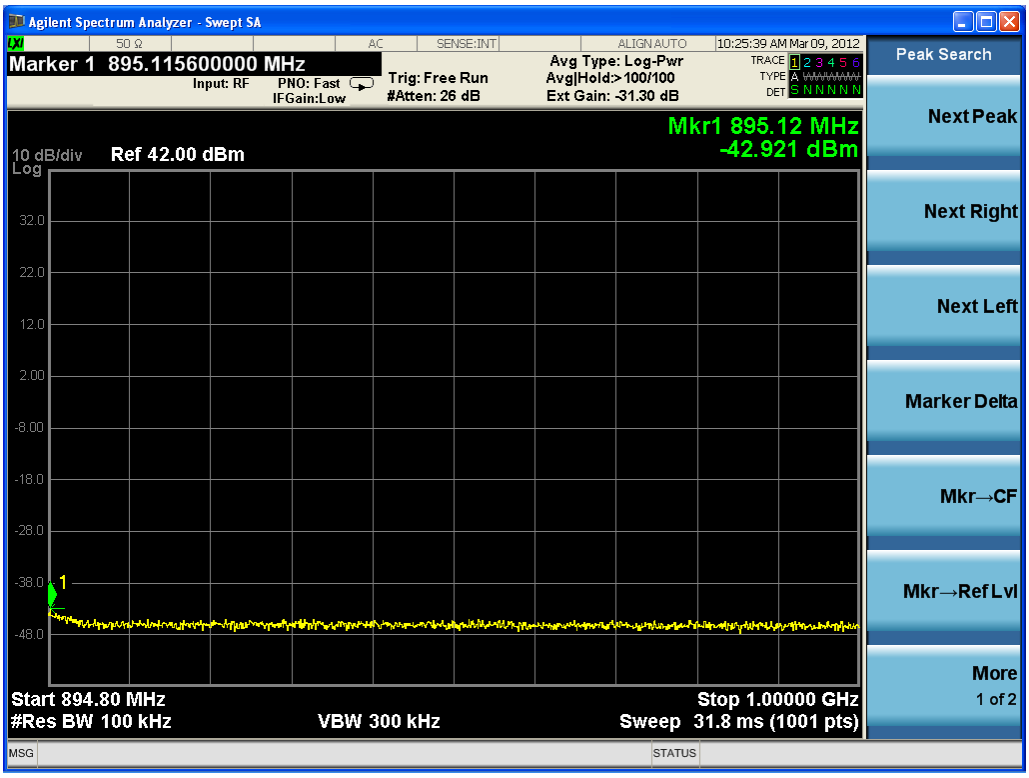


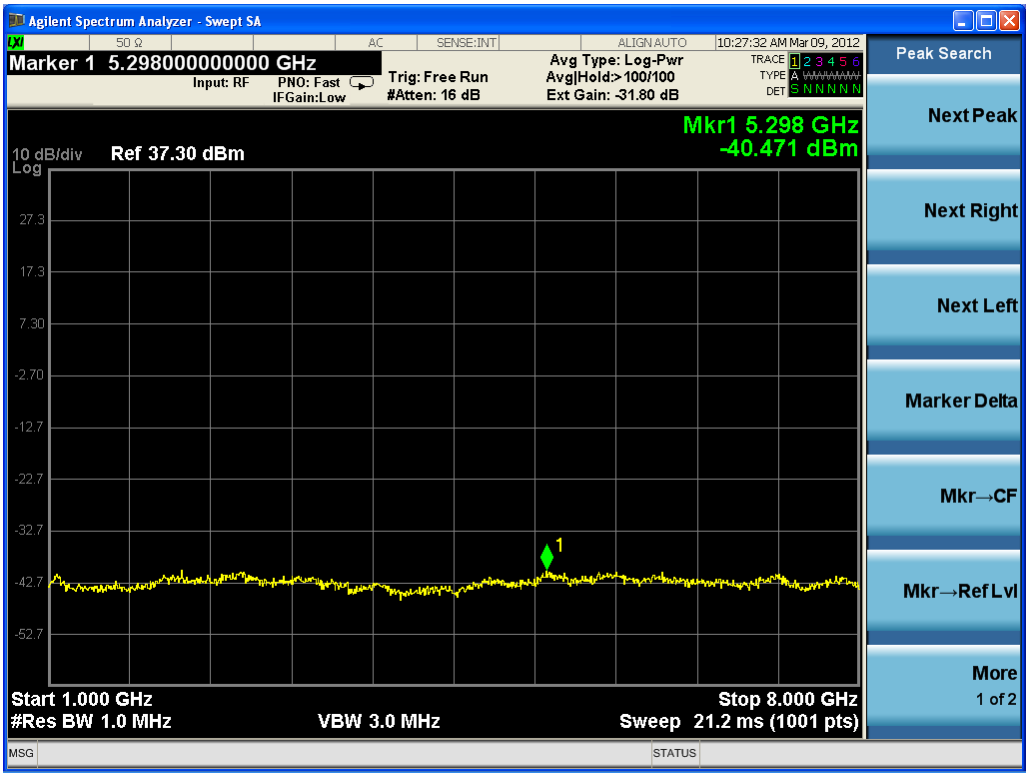




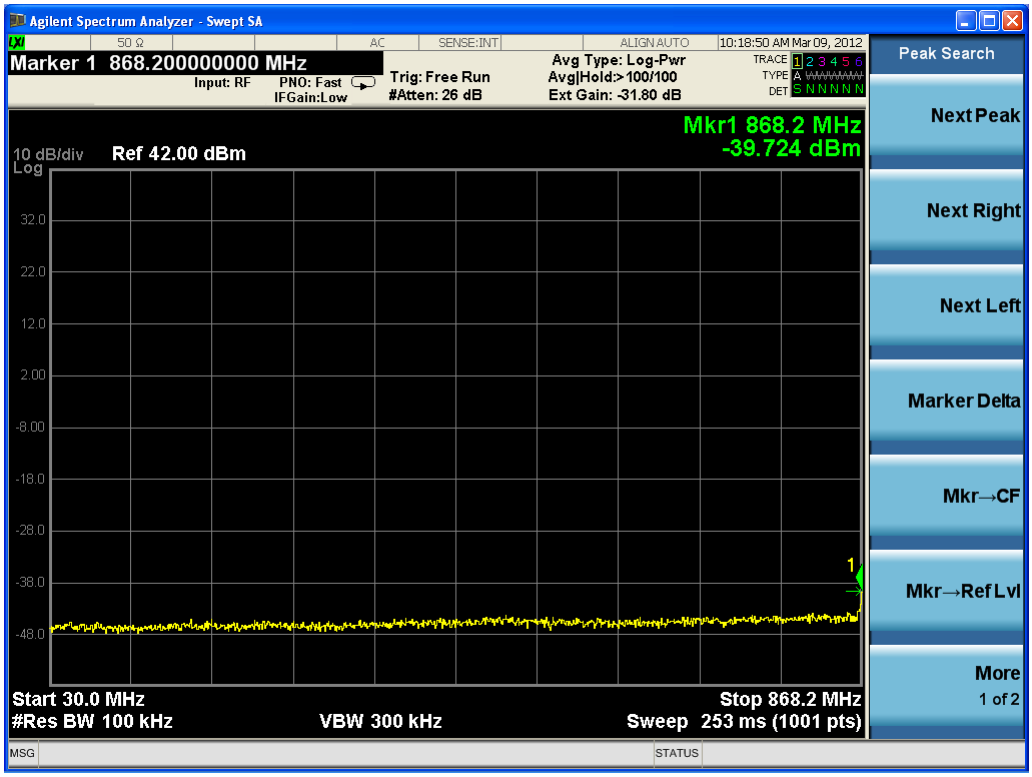
Two carriers

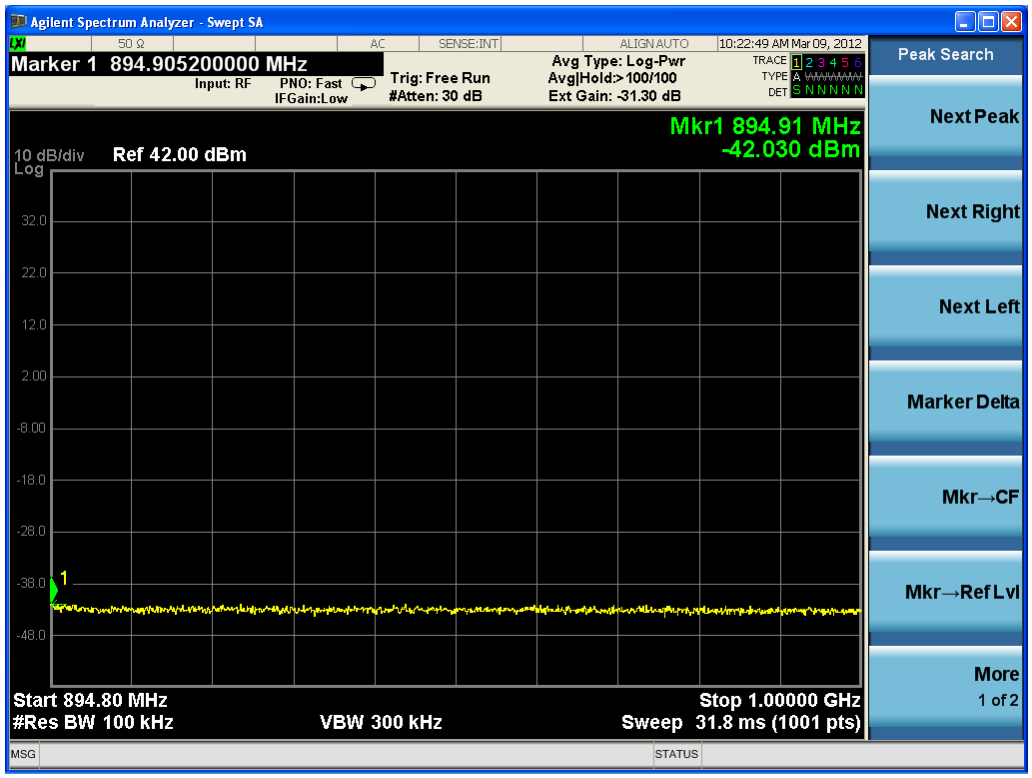


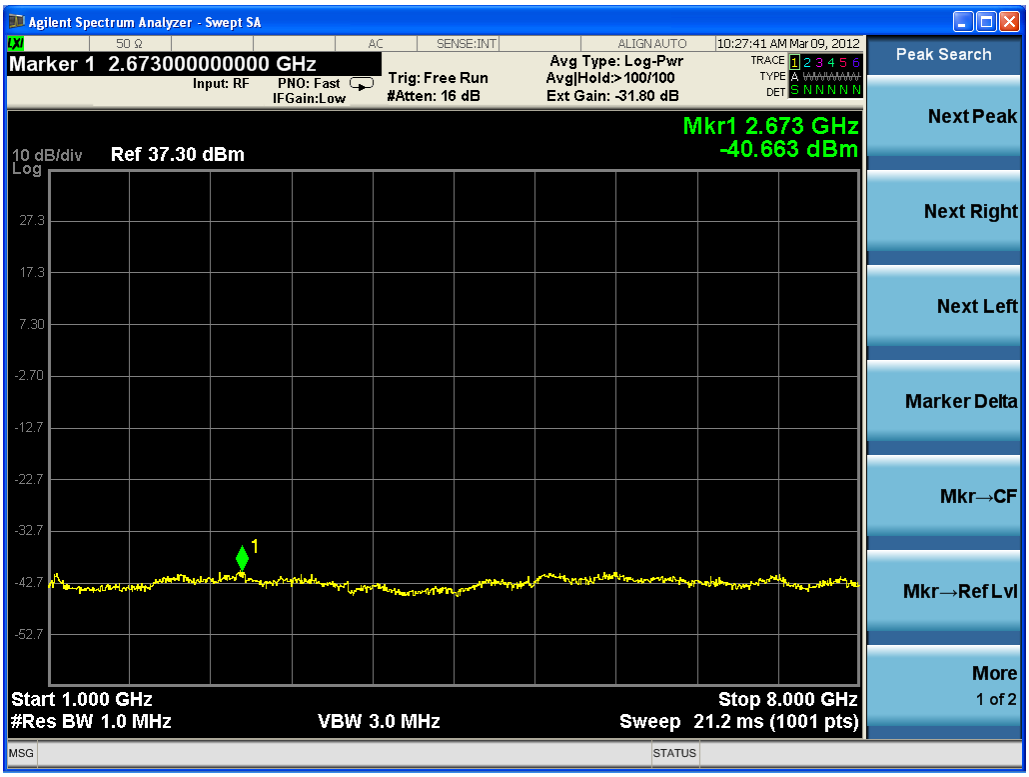

Agilent Spectrum Analyzer - Swept SA
Marker 1 895.115600000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 26 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
10:25:39 AM Mar 09, 2012
Mkr1 895.12 MHz
-42.921 dBm
10 dB/div
Log
Ref 42.00 dBm
Start 894.80 MHz
#Res BW 100 kHz
VBW 300 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 5.298000000000 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
10:27:32 AM Mar 09, 2012
Mkr1 5.298 GHz
-40.471 dBm
10 dB/div
Log
Ref 37.30 dBm
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

One carrier


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 1 894.905200000 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


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:27:41 AM Mar 09, 2012
Marker 1 2.673000000000 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 2.673 GHz
-40.663 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

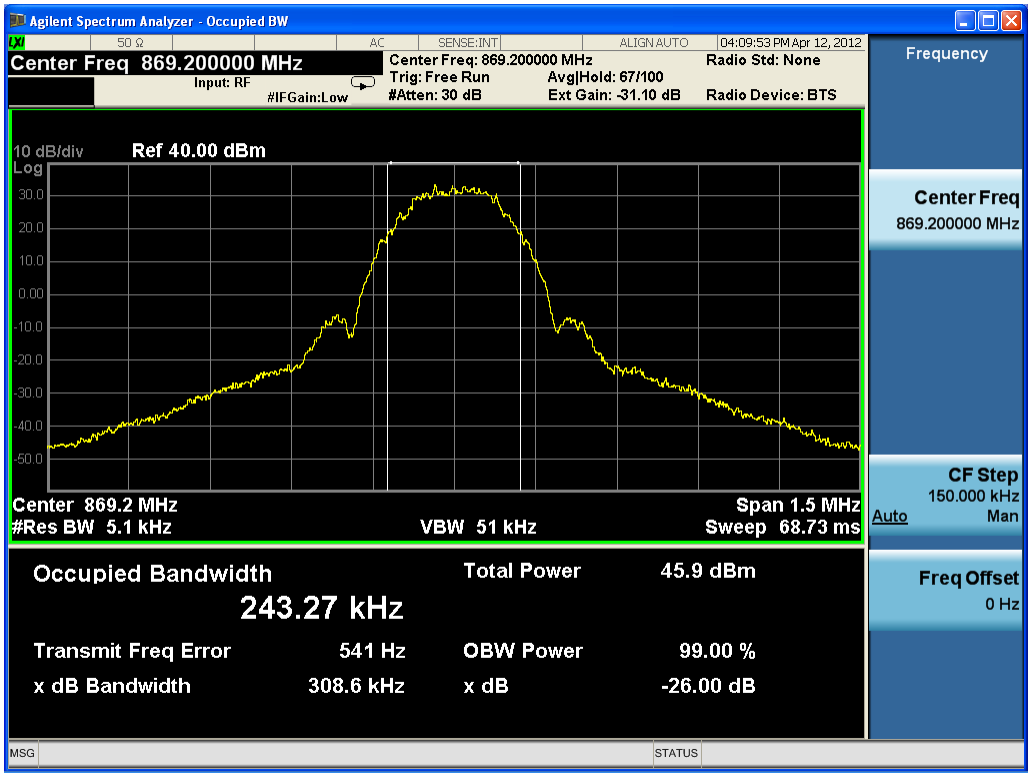
Temperature:	20 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

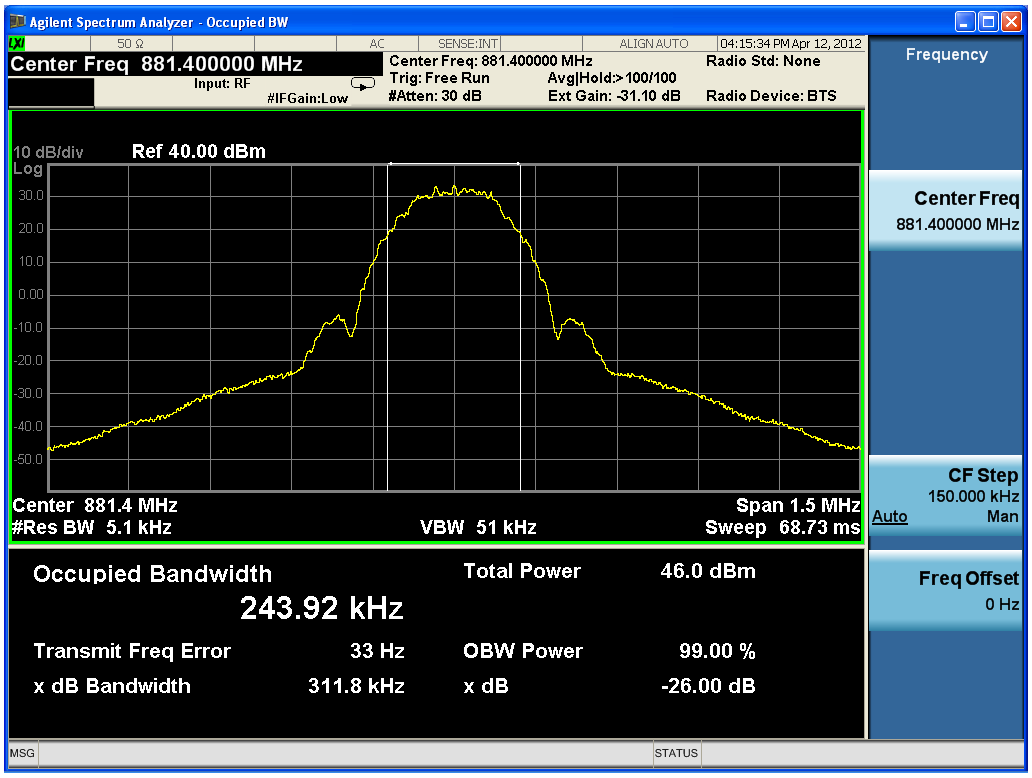
Test Result: Pass

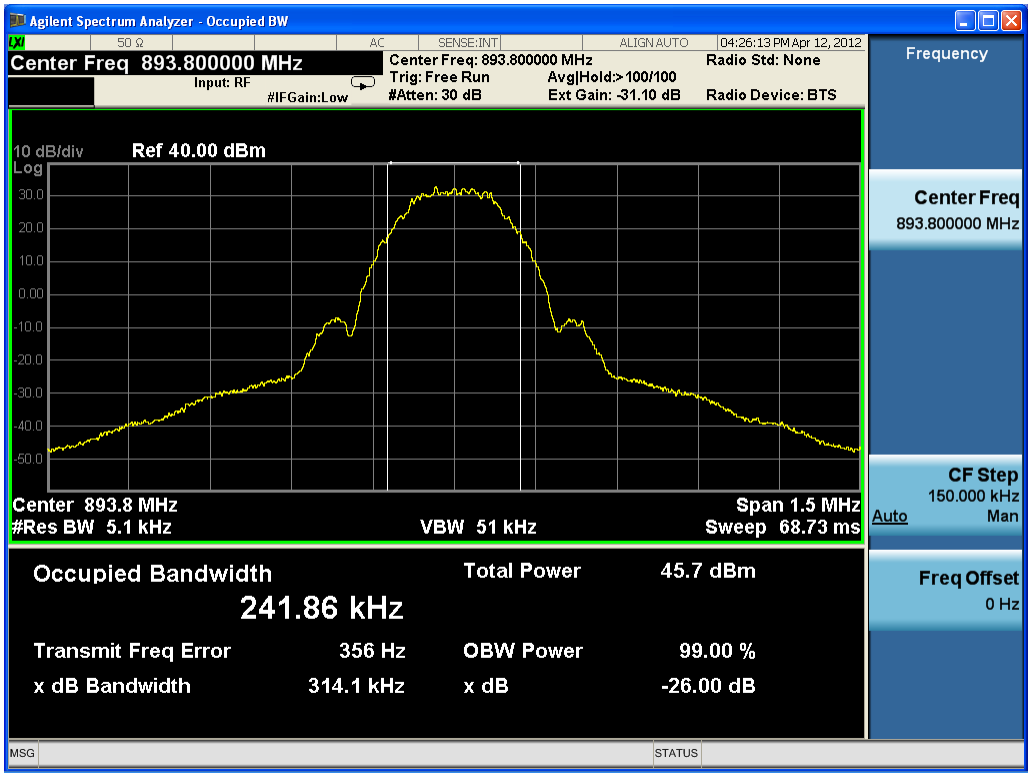
Test Mode: Transmitting GSM

Test Data

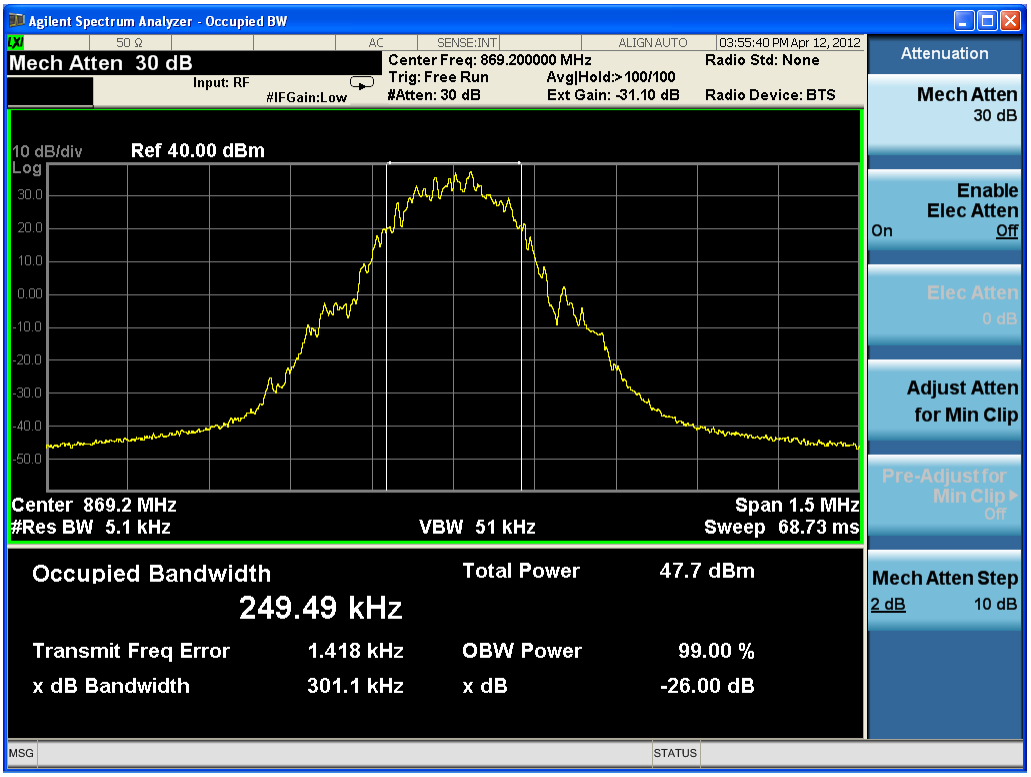
Modulation	Frequency (MHz)	99% Power Bandwidth (KHz)	Limit (KHz)
8PSK	869.2/881.4/893.8	243.27/243.92/241.86	250

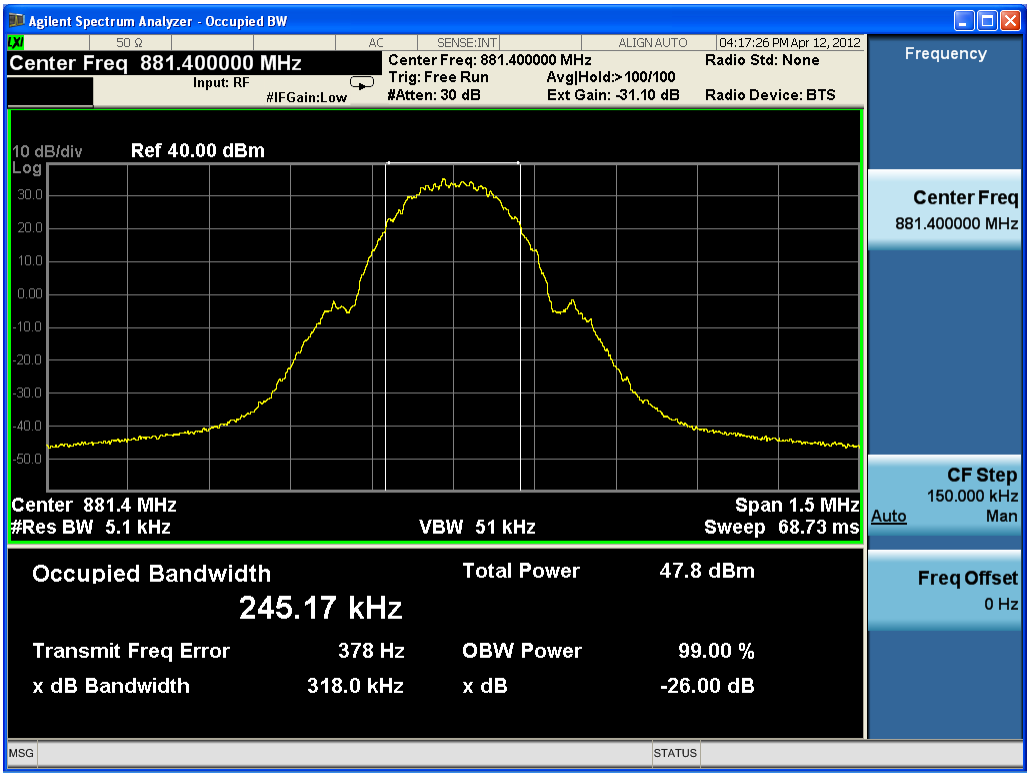


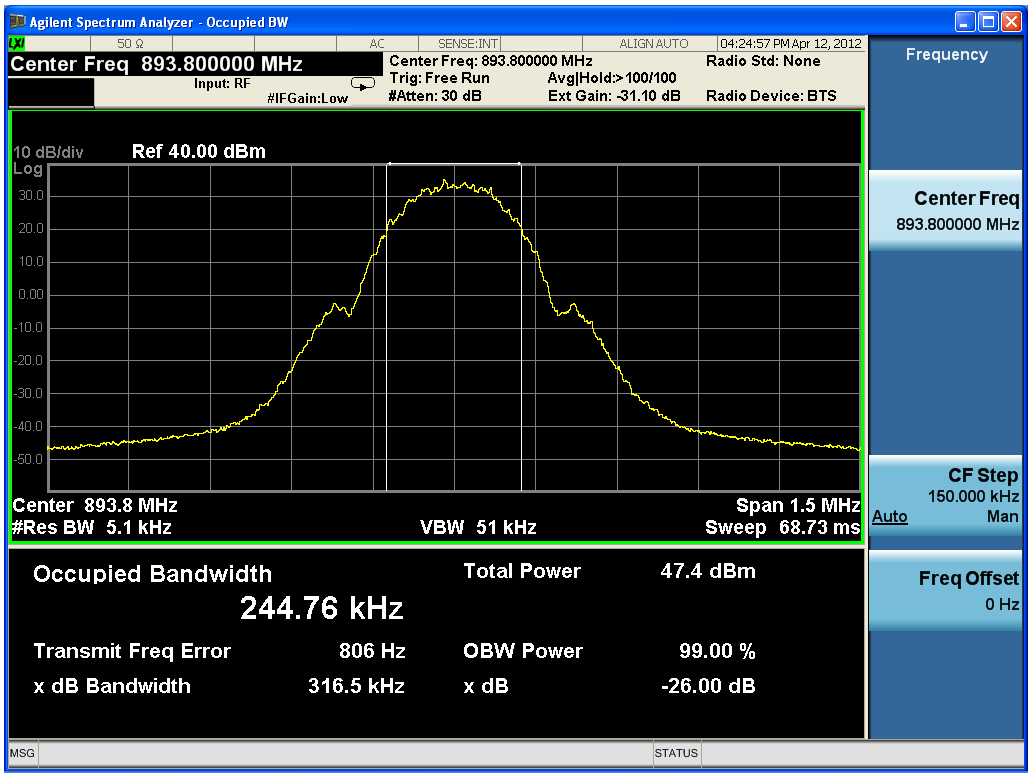

Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:15:34 PM Apr 12, 2012
Center Freq 881.400000 MHz
Input: RF
#IFGain:Low
Center Freq: 881.400000 MHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>100/100
Ext Gain: -31.10 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 40.00 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 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
Center Freq
893.800000 MHz
CF Step
150.000 kHz
Auto
Man
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

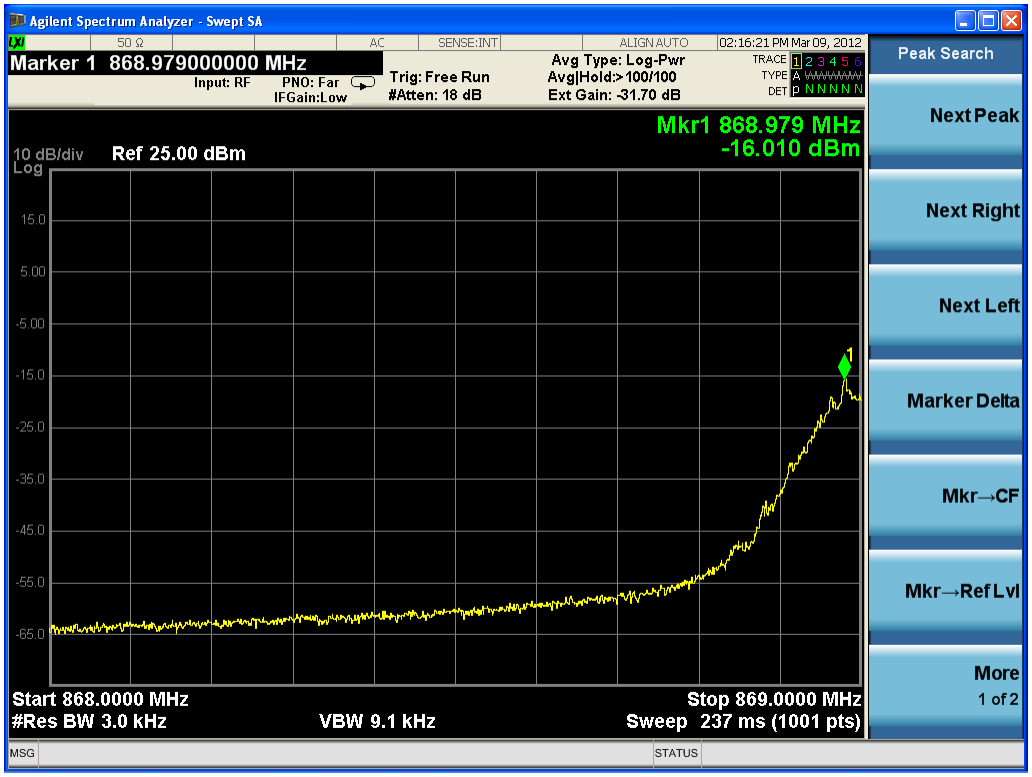
Test Result: Pass

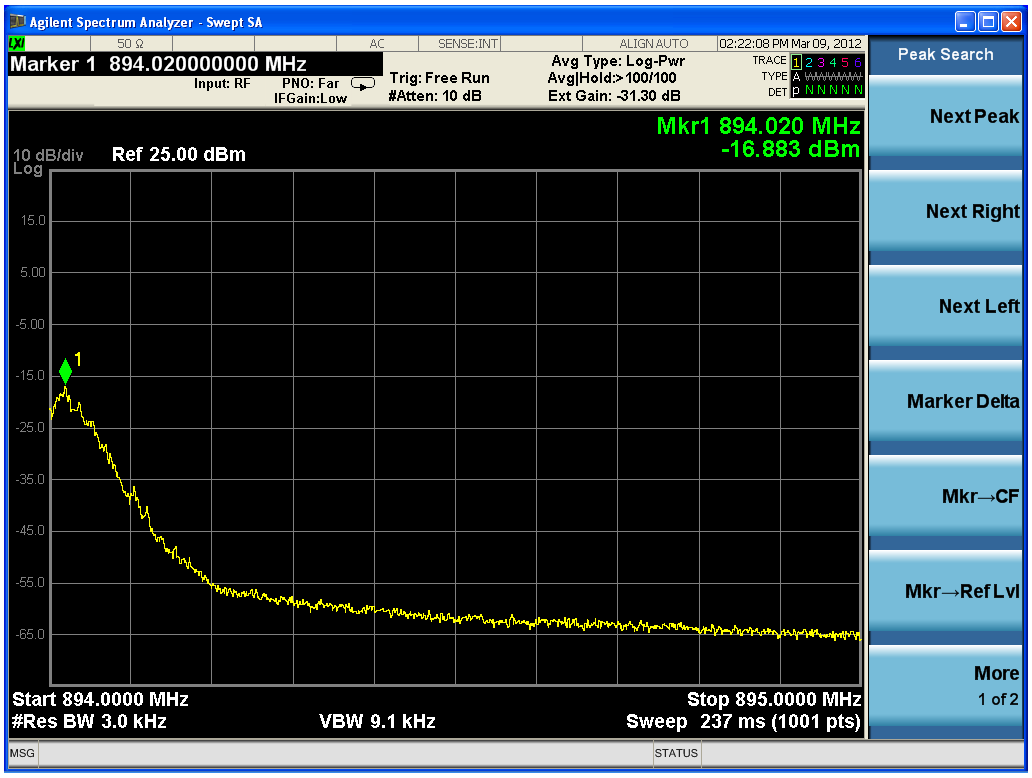
Test Mode: Transmitting GSM

Test Data

For six carriers

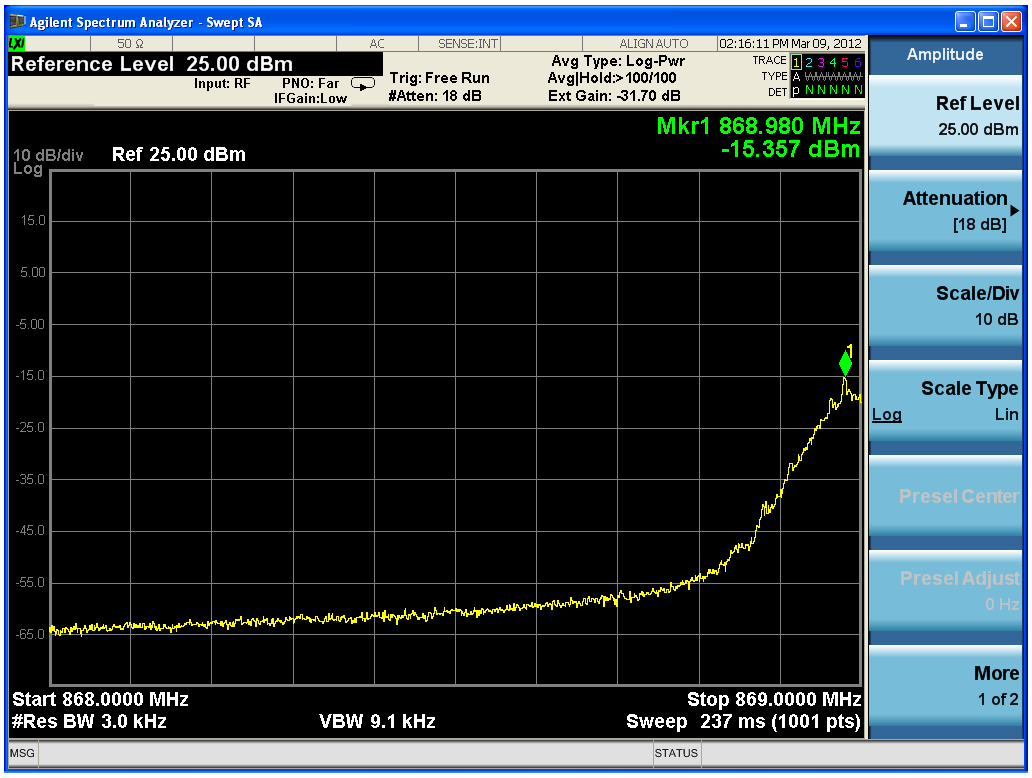
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871 /871.6/ 872.2	-16.010	-13.00
890.8/891.4/892/892.6/893.2/893.8	-16.883	-13.00

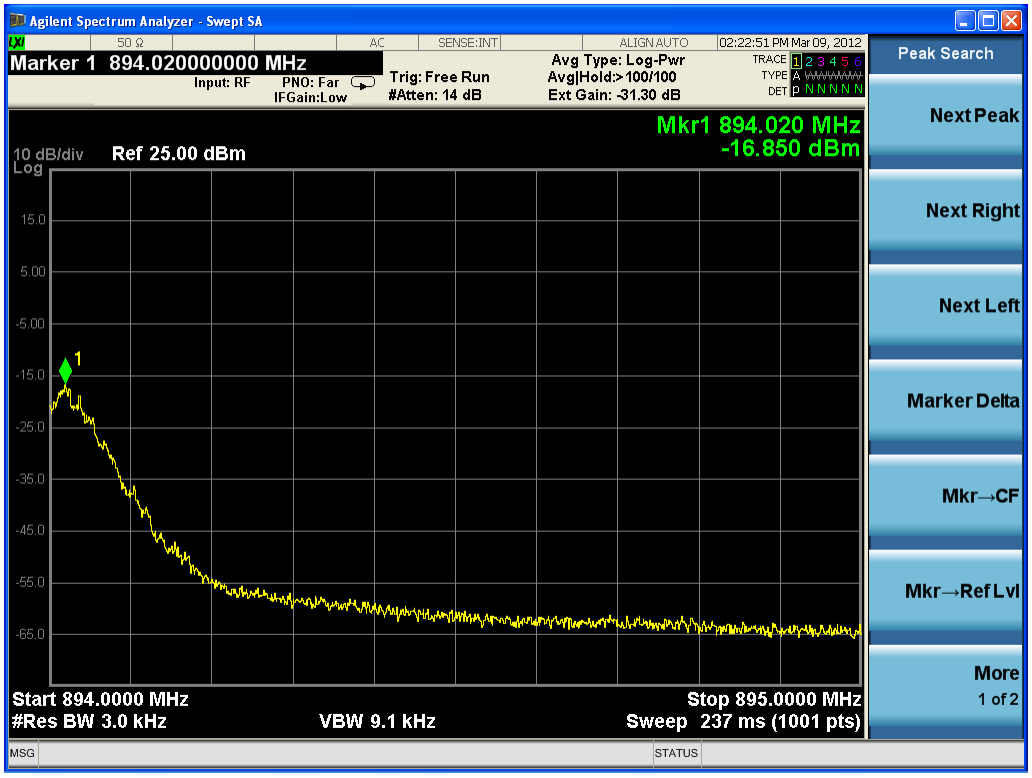




For five carriers

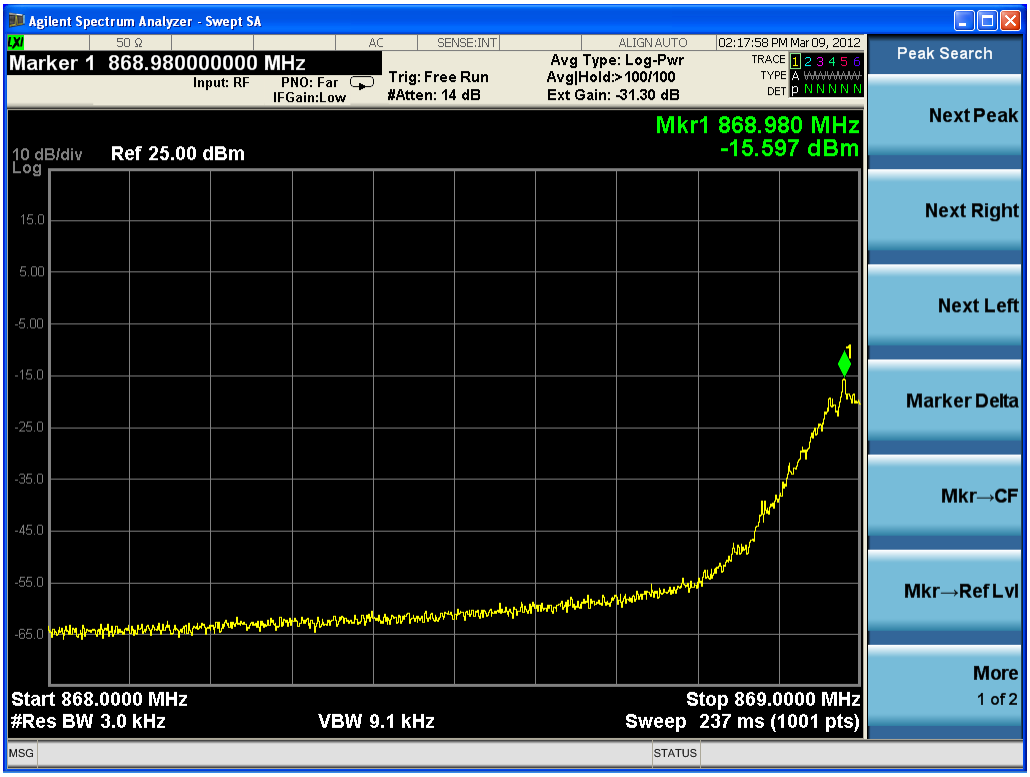
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871 /871.6	-15.357	-13.00
891.4/892/892.6/893.2/893.8	-16.850	-13.00

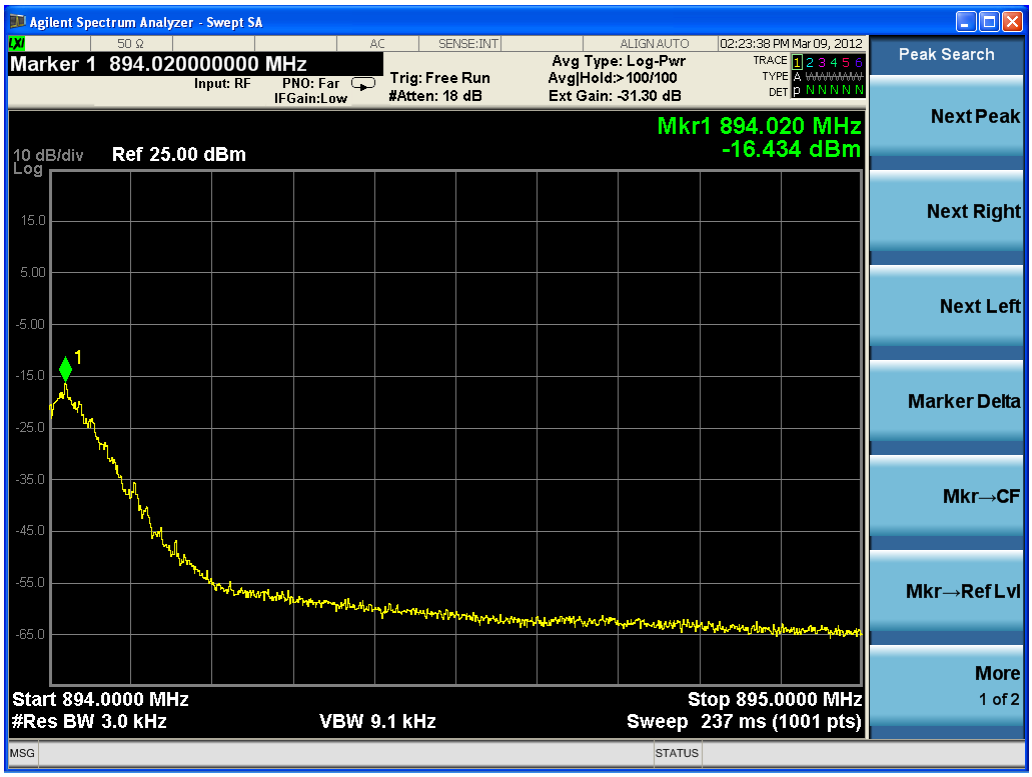

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:16:11 PM Mar 09, 2012
Reference Level 25.00 dBm
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 18 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.70 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 868.980 MHz
-15.357 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
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
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:22:51 PM Mar 09, 2012
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
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 894.020 MHz
-16.850 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 four carriers

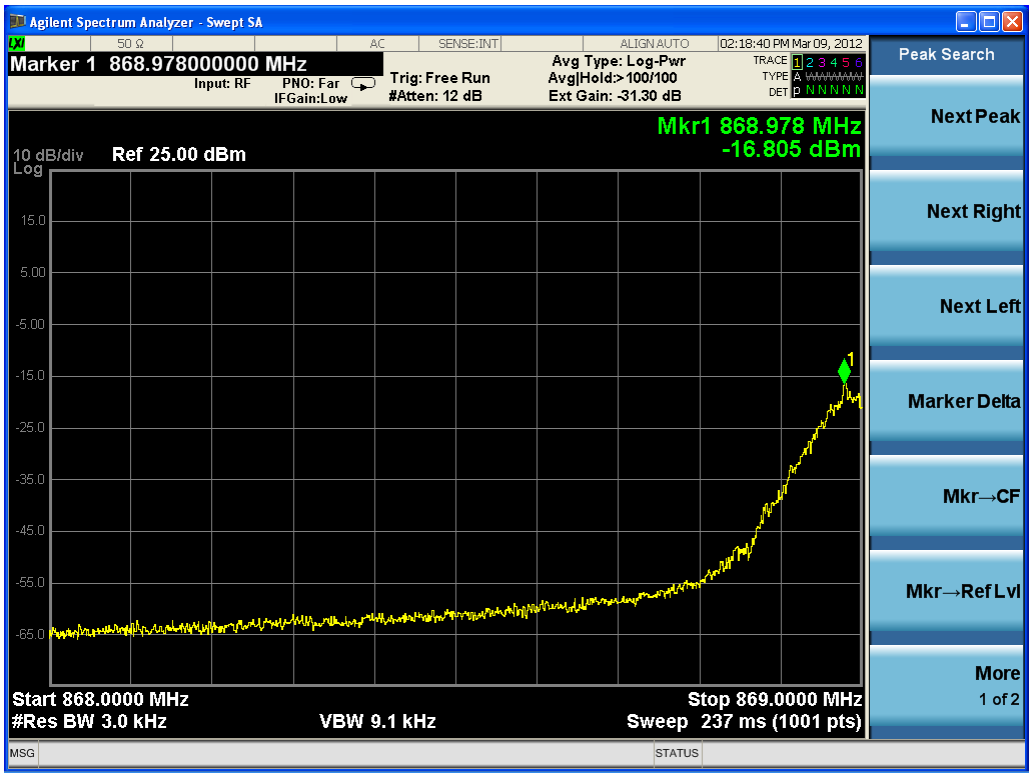
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4 /871	-15.597	-13.00
892/892.6/893.2/893.8	-16.434	-13.00

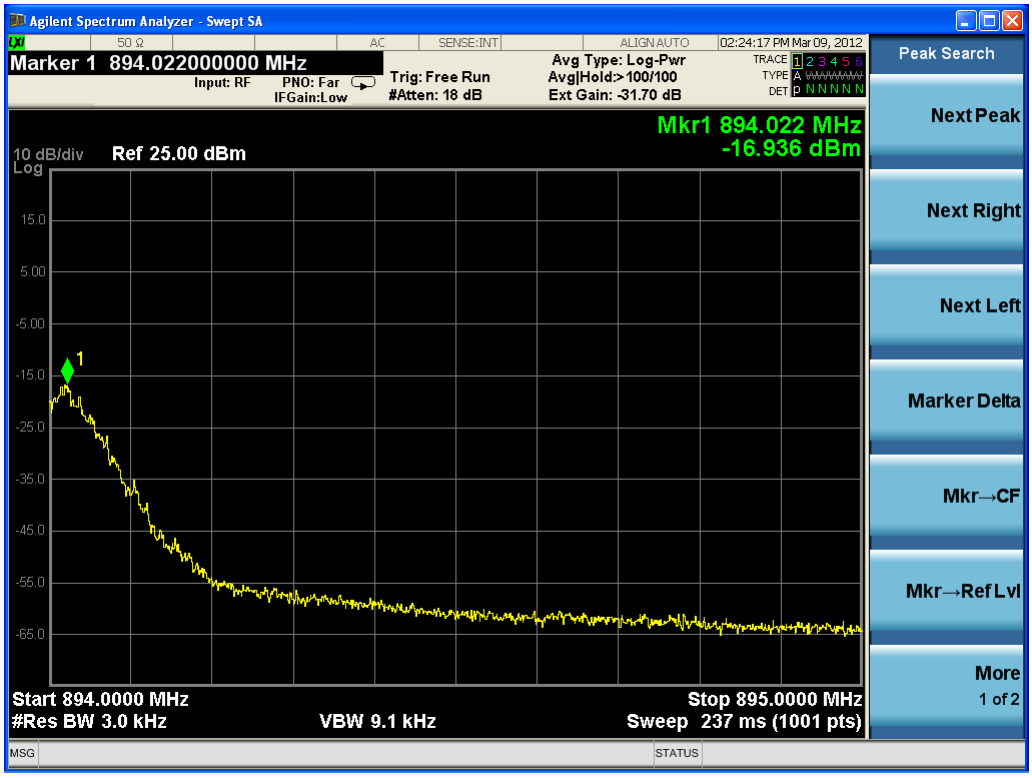




For three carriers

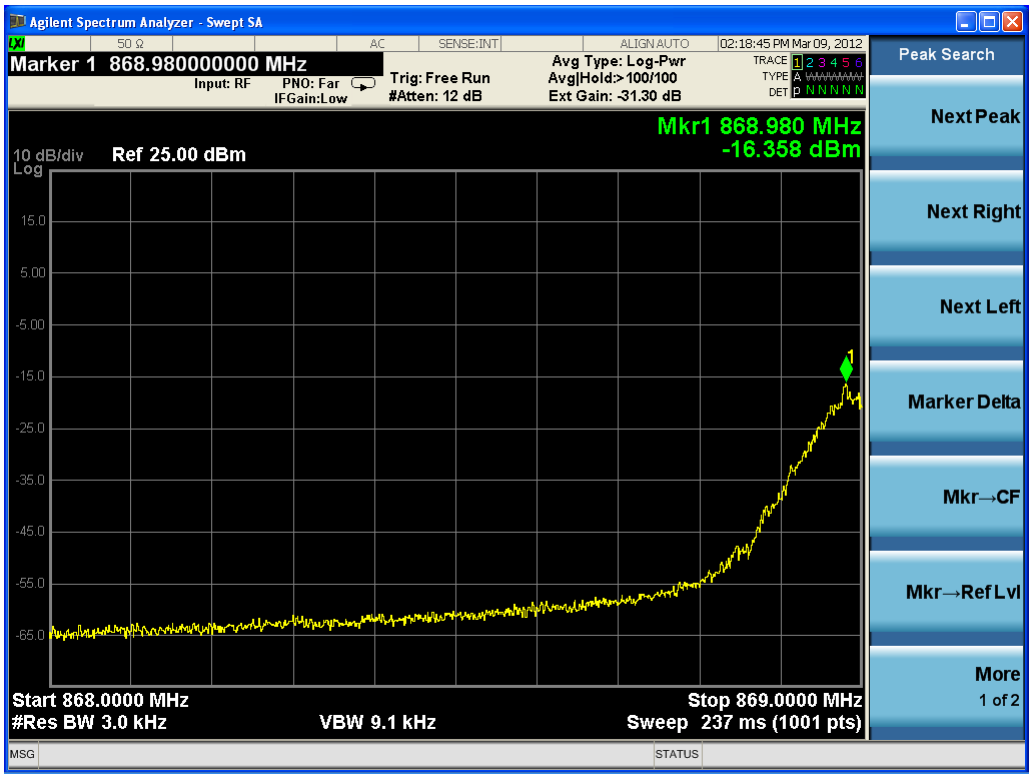
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8/ 870.4	-16.805	-13.00
892.6/893.2/893.8	-16.936	-13.00

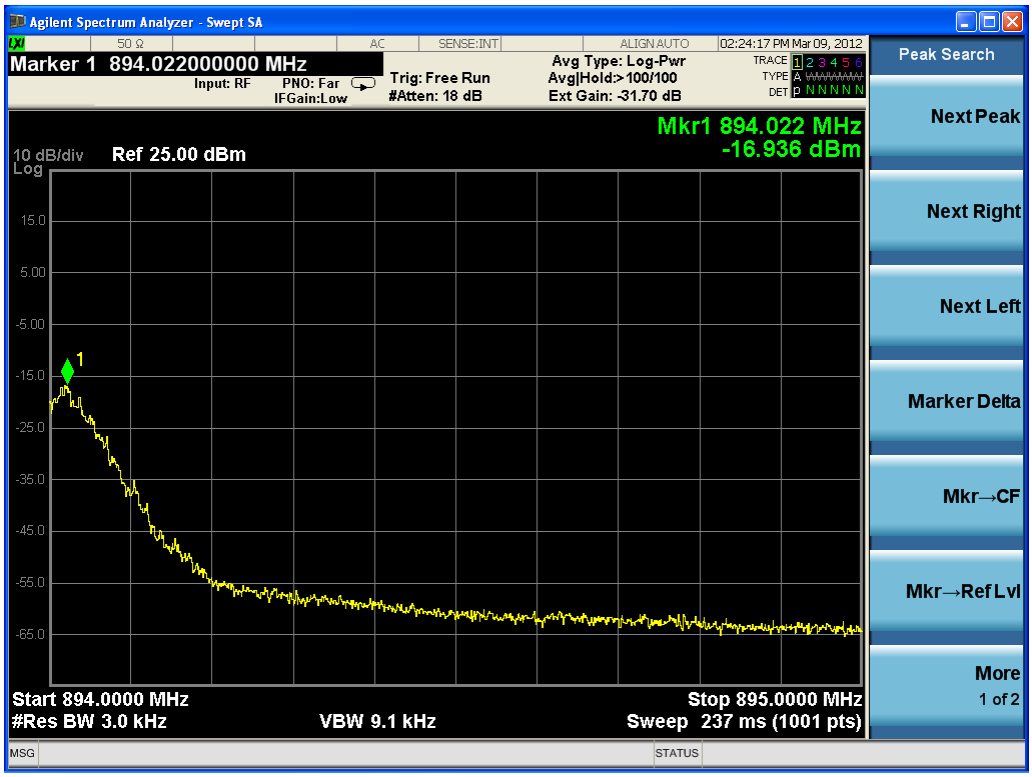

Agilent Spectrum Analyzer - Swept SA
Marker 1 868.978000000 MHz
Input: RF PNO: Far IFGain:Low
Trig: Free Run #Atten: 12 dB
Avg Type: Log-Pwr Avg|Hold:>100/100 Ext Gain: -31.30 dB
02:18:40 PM Mar 09, 2012
Mkr1 868.978 MHz -16.805 dBm
10 dB/div Log
Ref 25.00 dBm
Start 868.0000 MHz
#Res BW 3.0 kHz
VBW 9.1 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 1 894.022000000 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
02:24:17 PM Mar 09, 2012
Mkr1 894.022 MHz -16.936 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 two carriers

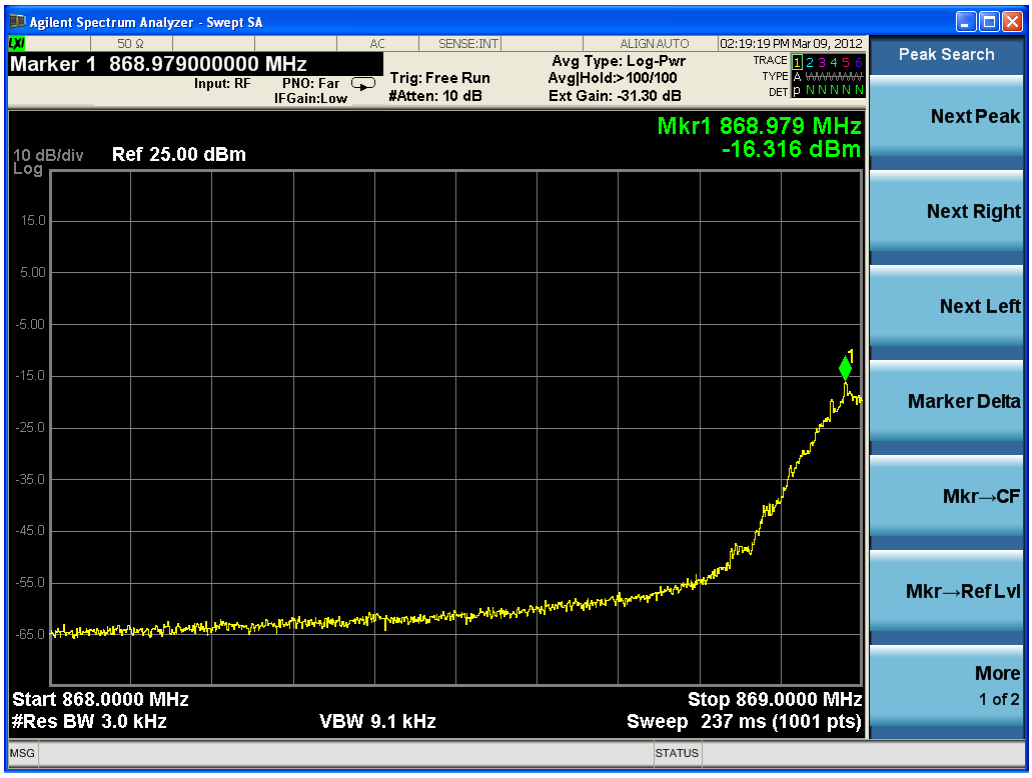
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
869.2/869.8	-16.358	-13.00
893.2/893.8	-16.936	-13.00





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					
VoltageV_{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

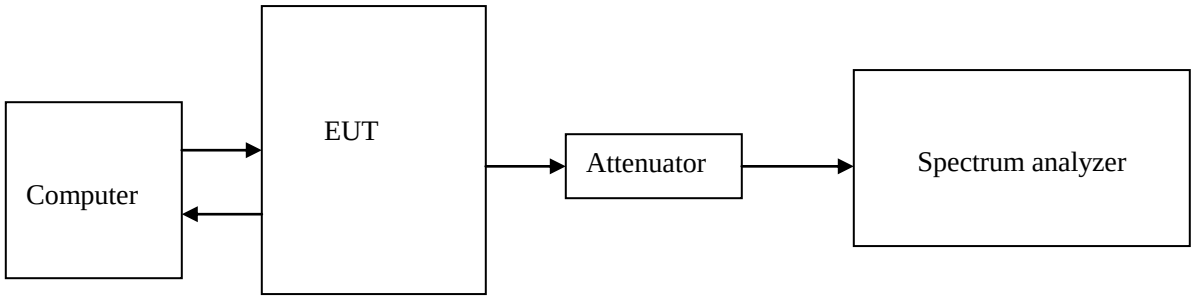
According to FCC §2.1046 &22.913, the ERP(equivalent radiated power) must not exceed 500 Watts.

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

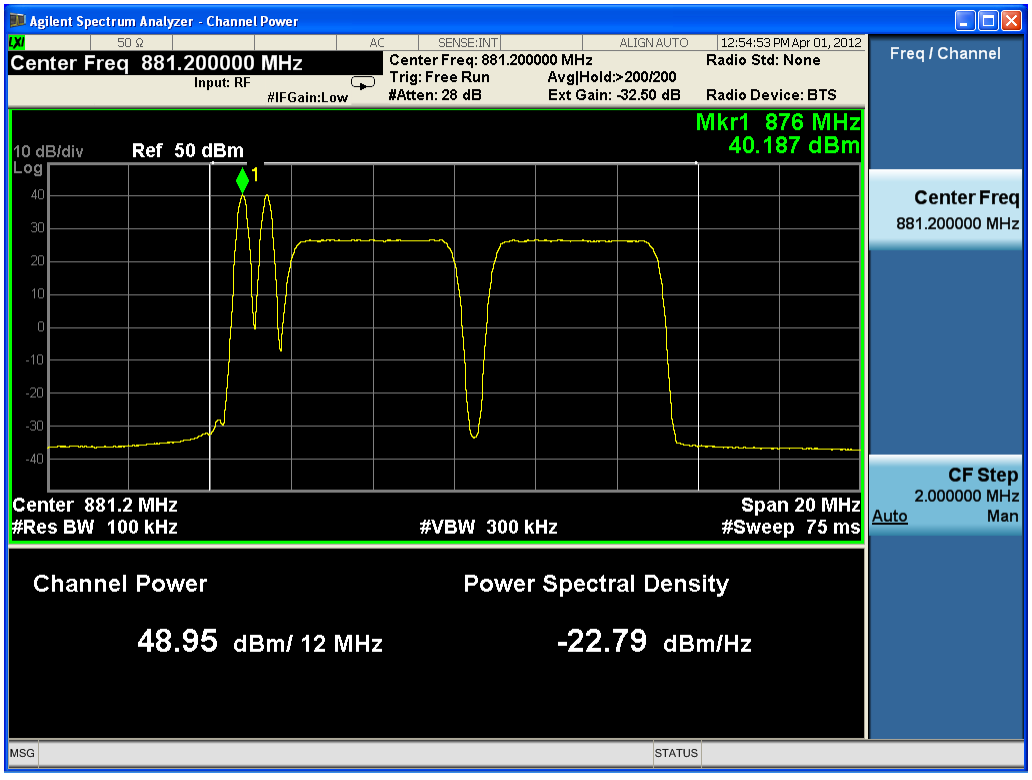
Test Result: Pass

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

Test Data:

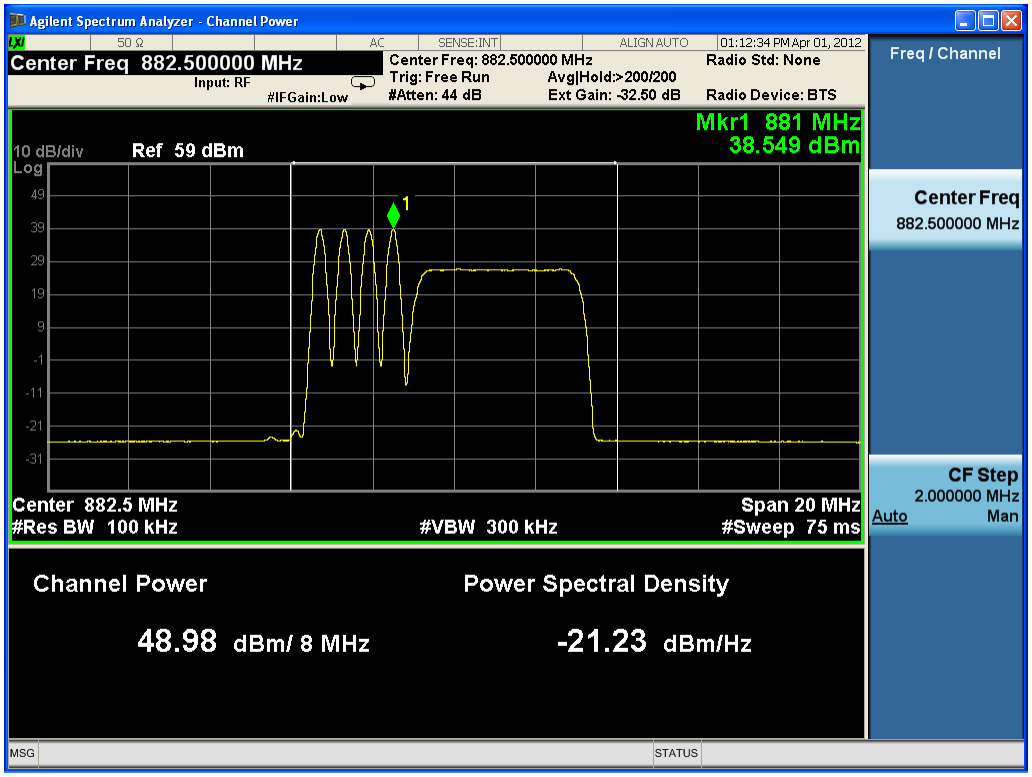
2GSMTRX and 2UMTS carriers

Center Freq. (MHz)	Frequency (MHz)	Max output Power (dBm)
881.2	881.2	48.95



4GSMTRX and 1UMTS carriers

Center Freq. (MHz)	Frequency (MHz)	Max output Power (dBm)
882.5	882.5	48.98



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

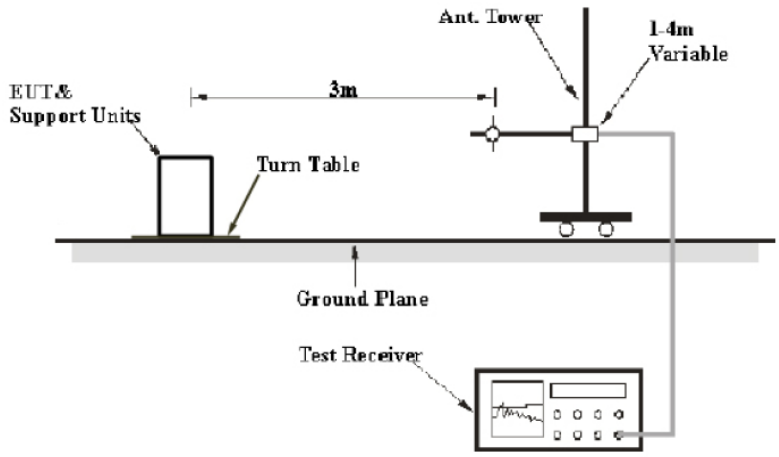
Applicable Standard: FCC CFR 47, §2.1053

Test Equipment List and Details

Manufacturer	Equipment	Model	Serial Number	Last Cal.	Cal. Interval
R&S	SIGNAL GENERATOR	SMR20	A00017351	2012-9-26	1 year
Albatross	Anechoic Chamber	3m Site	A00017354	2012-10-29	1 year
R&S	EMI Test Receiver	ESIB26	100058	2012-10-29	1 year
R&S	Ultra Breitband Antennas	HL562	100022	2012-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100032	2012-7-29	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100446	2012-7-29	1 year
SCHWARZ-BECK	Biconical Antenna	VUBA9117	9117-122	2012-7-29	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. (dB μ V)	Polar H/V	Level (dBm)	Antenna Gain Correction						
33.887776	27.91	V	-64.04	-41.97	0.29	-106.30	2.15	-108.45	-13	95.45
134.96994	28.75	V	-68.53	-9.56	0.80	-78.89	2.15	-81.04	-13	68.04
173.8477	29.65	V	-66.75	-2.21	1.10	-70.06	2.15	-72.21	-13	59.21
618.998	32.45	V	-63.38	-1.37	2.11	-66.86	2.15	-69.01	-13	56.01
871.70341	72.58	V	-36.09	-1.30	2.52	-39.90	2.15	-42.05	-13	29.05
3000	59.3	V	-50.56	7.76	4.64	-47.43	2.15	-49.58	-13	36.58
33.887776	28.82	H	-57.09	-41.97	0.29	-99.35	2.15	-101.50	-13	88.50
138.85772	27.81	H	-68.98	-8.39	1.00	-78.37	2.15	-80.52	-13	67.52
177.73547	29.92	H	-66.56	-1.63	1.10	-69.29	2.15	-71.44	-13	58.44
599.55912	33.34	H	-64.00	-1.19	2.01	-67.20	2.15	-69.35	-13	56.35
871.70341	69.93	H	-28.88	-1.30	2.52	-32.70	2.15	-34.85	-13	21.85
2839.6794	59.3	H	-47.09	7.96	4.54	-43.66	2.15	-45.81	-13	32.81

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. (dB μ V)	Polar H/V	Level (dBm)	Antenna Gain Correction						
4042.0842	41.2	V	-50.81	7.96	5.34	-48.19	2.15	-50.34	-13	37.34
5412.8257	45.07	V	-52.28	8.56	6.35	-50.07	2.15	-52.22	-13	39.22
6927.8557	49.58	V	-46.90	9.26	7.36	-45.00	2.15	-47.15	-13	34.15
9821.6433	54.34	V	-41.57	9.96	8.98	-40.59	2.15	-42.74	-13	29.74
10196.393	59	V	-49.61	11.36	8.98	-47.23	2.15	-49.38	-13	36.38
17977.956	71.86	V	-38.05	8.96	12.31	-41.40	2.15	-43.55	-13	30.55
3881.7635	42.38	H	-43.58	7.76	5.24	-41.06	2.15	-43.21	-13	30.21
5380.7615	44.67	H	-52.19	8.56	6.35	-49.98	2.15	-52.13	-13	39.13
6903.8076	50.01	H	-46.55	9.26	7.36	-44.66	2.15	-46.81	-13	33.81
9821.6433	53.54	H	-43.88	9.96	8.98	-42.90	2.15	-45.05	-13	32.05
13348.697	58.45	H	-40.32	11.86	10.29	-38.75	2.15	-40.90	-13	27.90
17911.824	71.57	H	-34.87	8.96	12.31	-38.22	2.15	-40.37	-13	27.37

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.

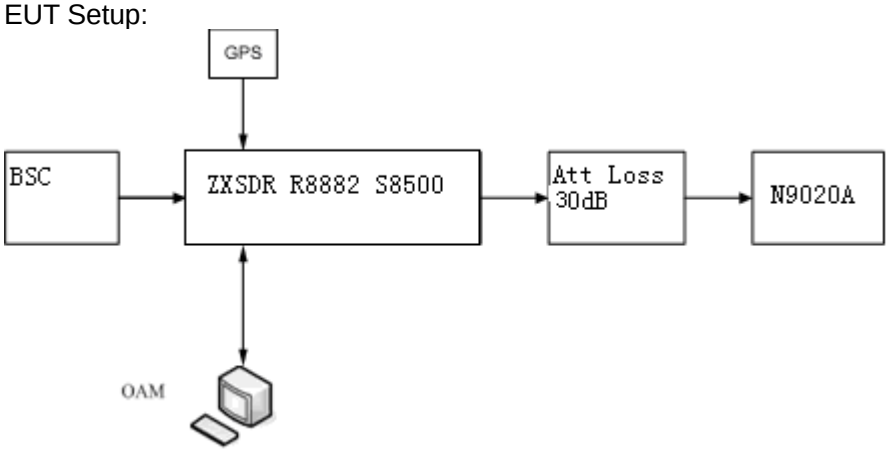
Test Equipment List and Details

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

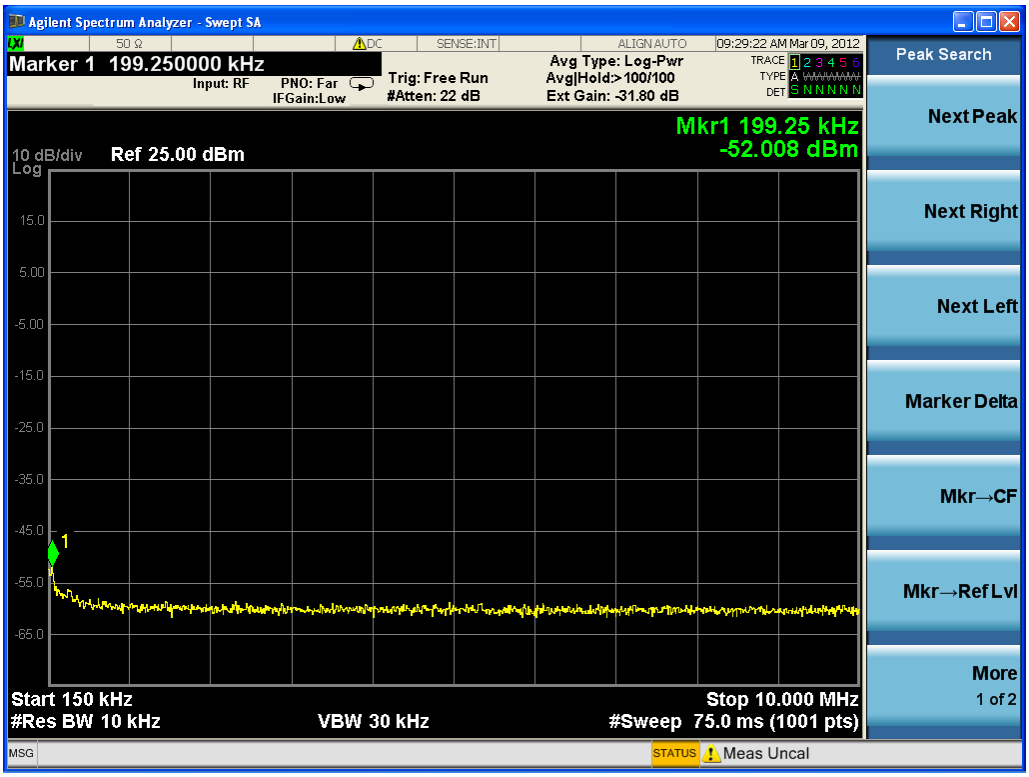
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

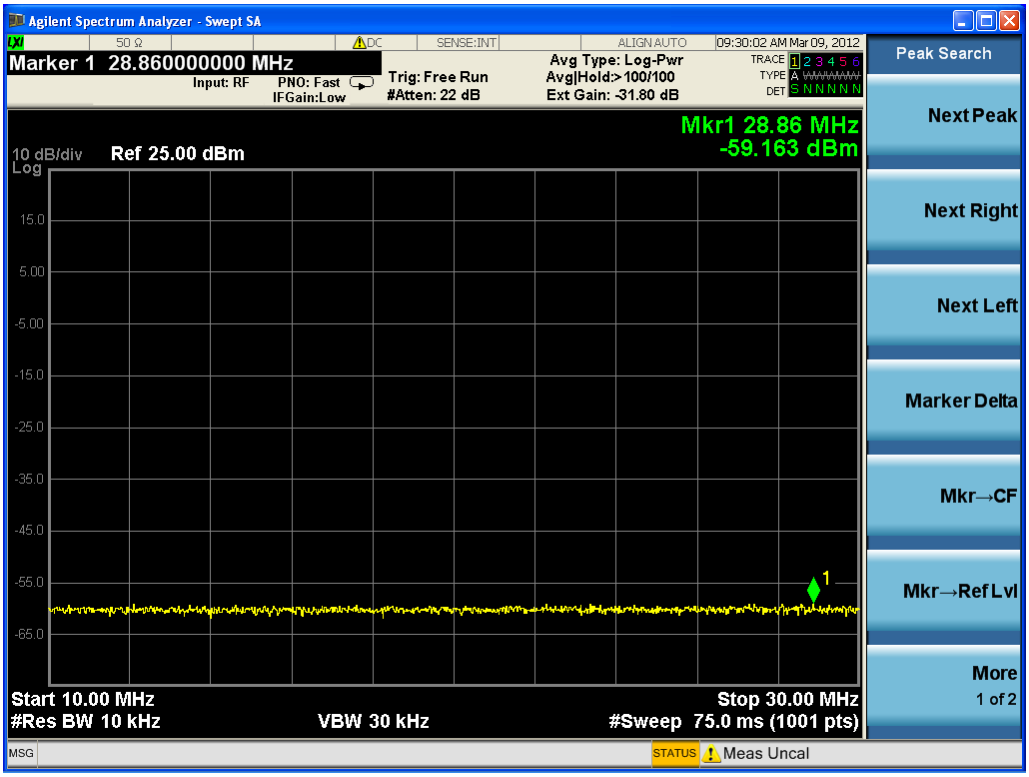
Test Result: Pass

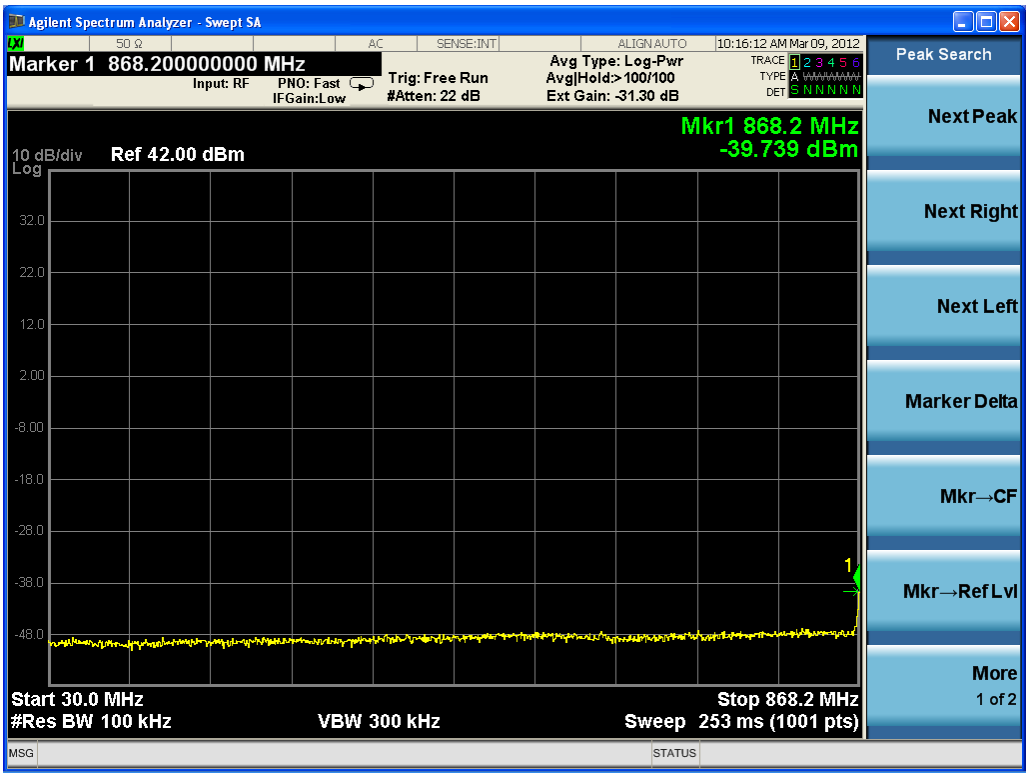
Test Mode: Transmitting 2GSMTRX and 2UMTS carriers and 4GSMTRX and 1UMTS carriers

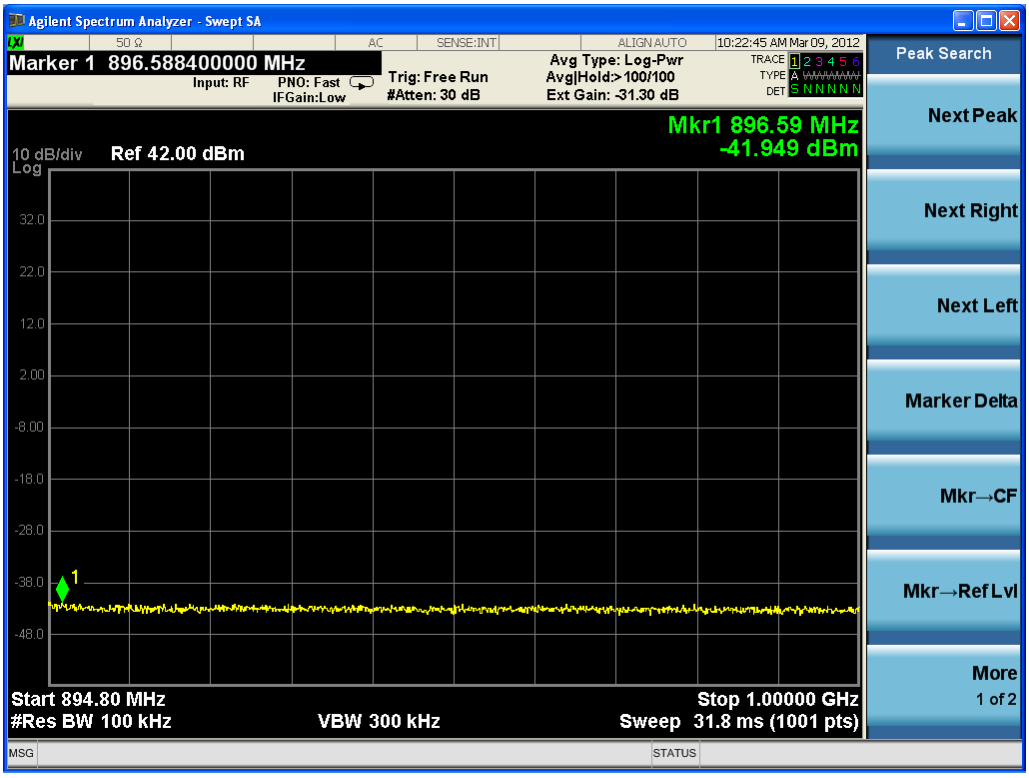
Test Data:

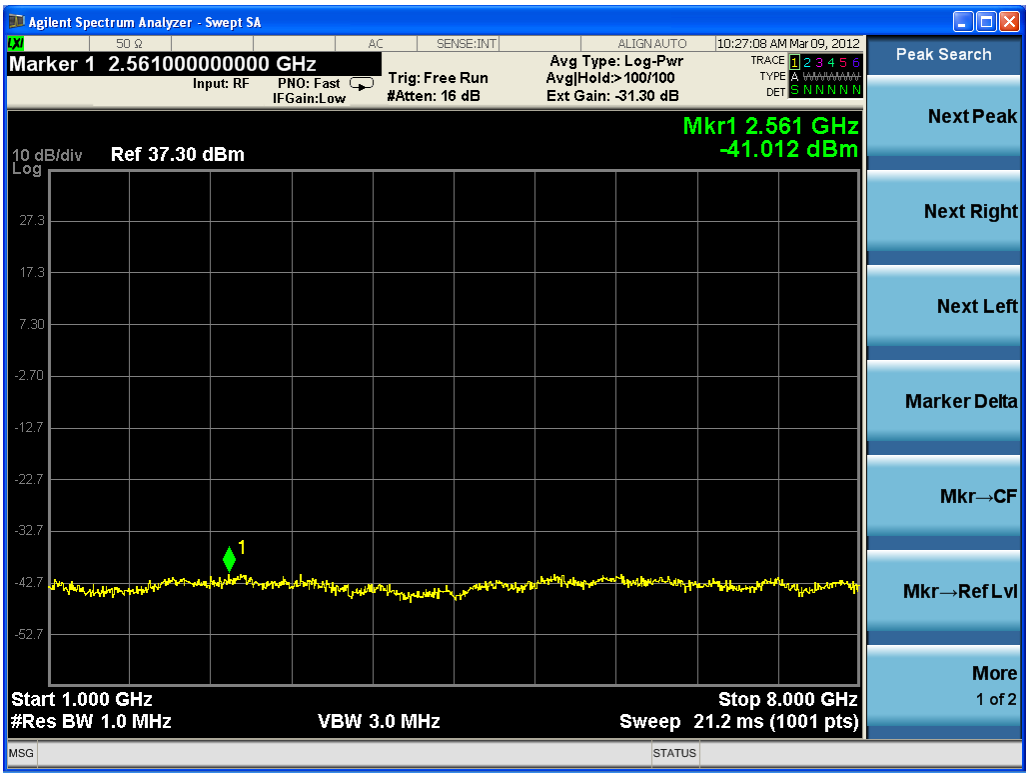
2GSMTRX and 2UMTS carriers


Agilent Spectrum Analyzer - Swept SA
Marker 1 199.250000 kHz
Input: RF
PNO: Far
IFGain:Low
Trig: Free Run
#Atten: 22 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
09:29:22 AM Mar 09, 2012
Mkr1 199.25 kHz
-52.008 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

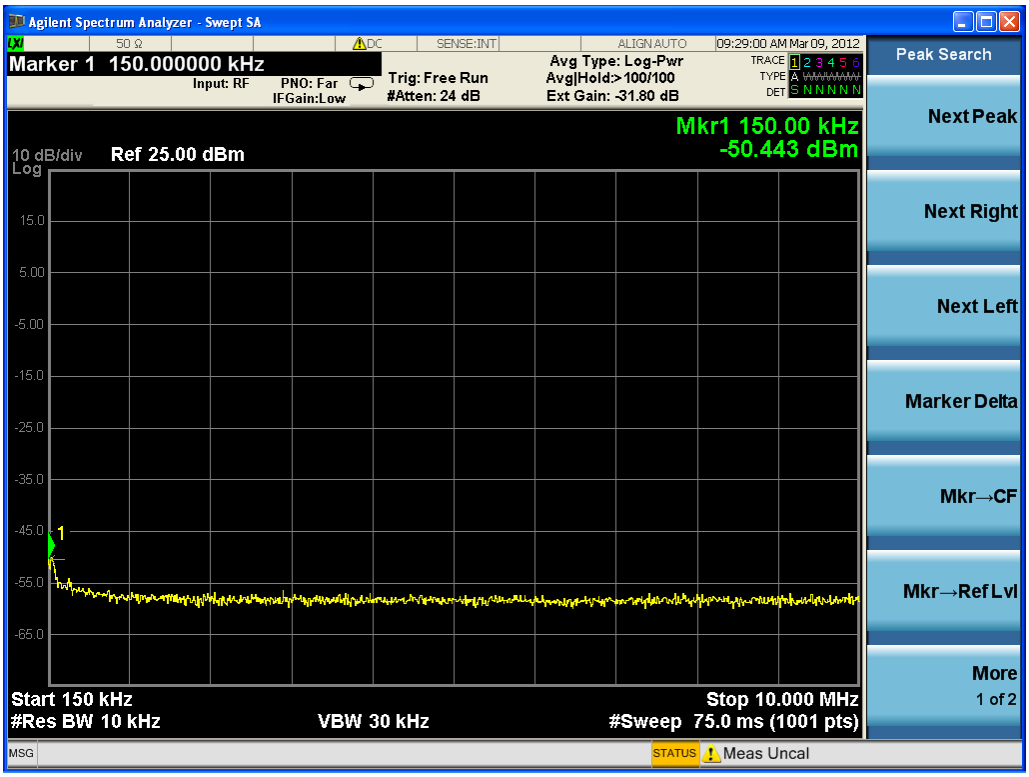

Agilent Spectrum Analyzer - Swept SA
Marker 1 28.860000000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 22 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.80 dB
09:30:02 AM Mar 09, 2012
Mkr1 28.86 MHz
-59.163 dBm
10 dB/div
Log
Ref 25.00 dBm
Start 10.00 MHz
#Res BW 10 kHz
VBW 30 kHz
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

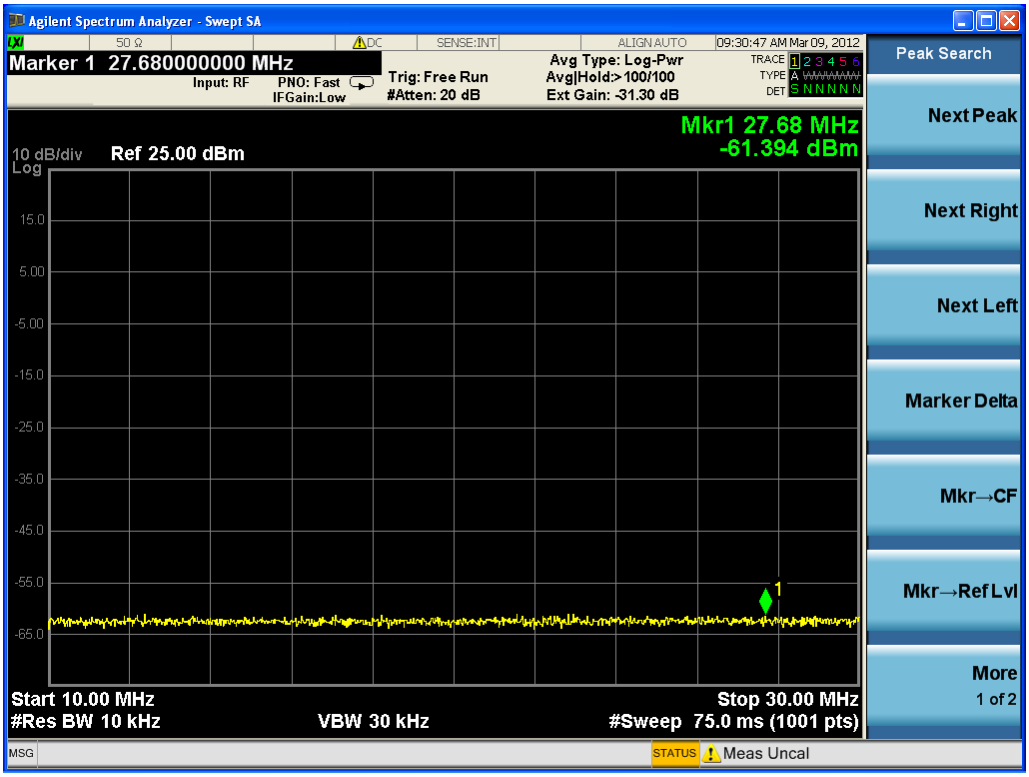

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:16:12 AM Mar 09, 2012
Marker 1 868.200000000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 22 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 868.2 MHz
-39.739 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
Peak Search
Next Peak
Next Right
Next Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

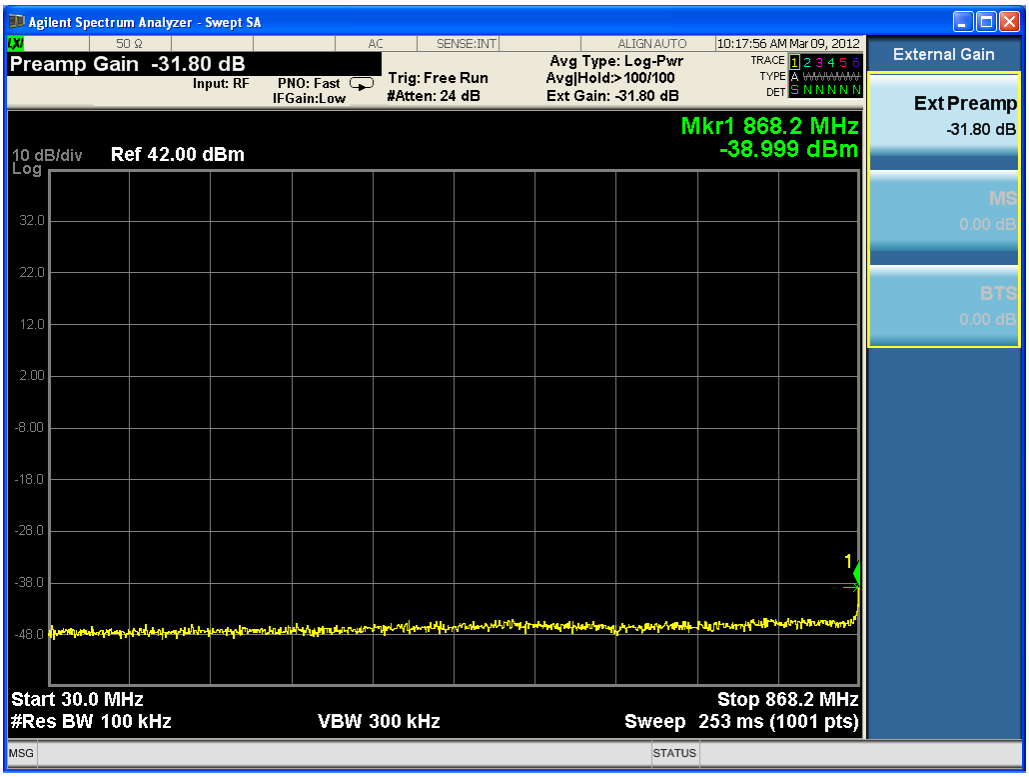

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:22:45 AM Mar 09, 2012
Marker 1 896.588400000 MHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -31.30 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 896.59 MHz
-41.949 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

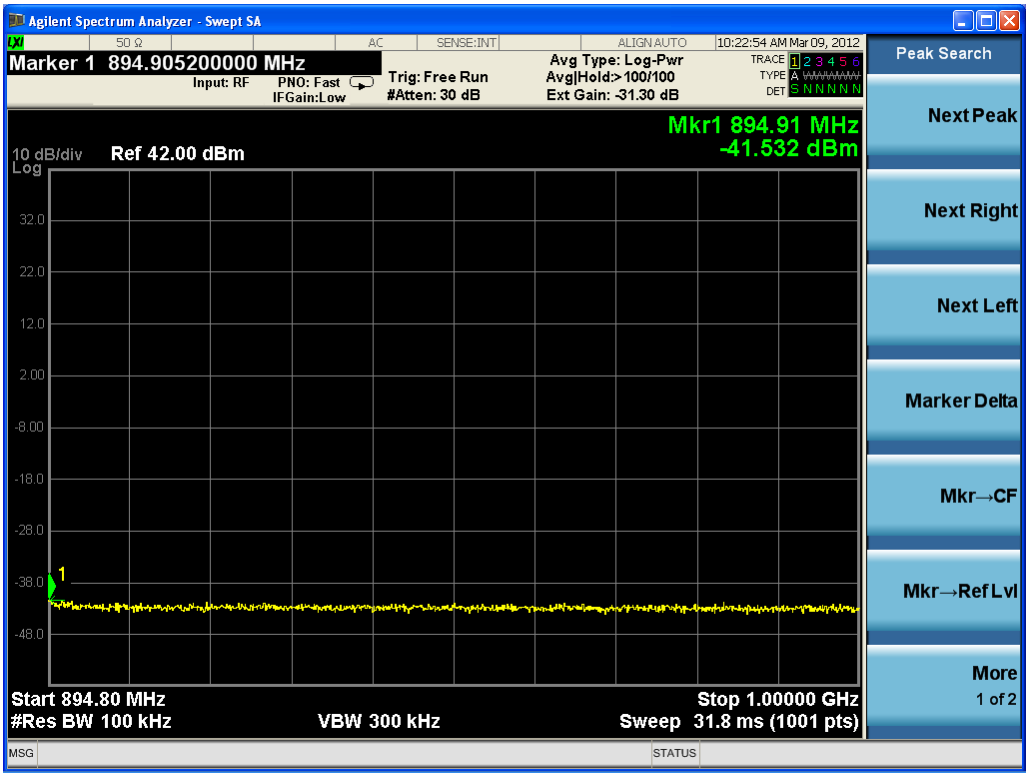


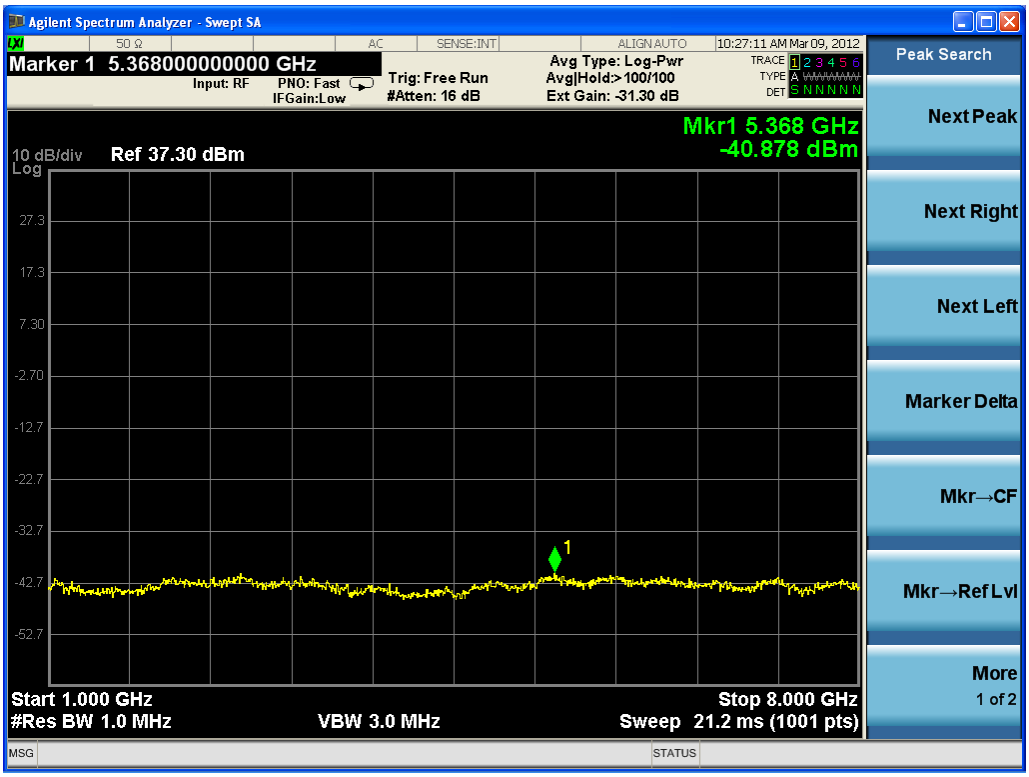
4GSMTRX and 1UMTS carriers


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 27.680000000 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
09:30:47 AM Mar 09, 2012
Mkr1 27.68 MHz
-61.394 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
10:22:54 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)
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
10:27:11 AM Mar 09, 2012
Marker 1 5.368000000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 16 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 5.368 GHz
-40.878 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

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

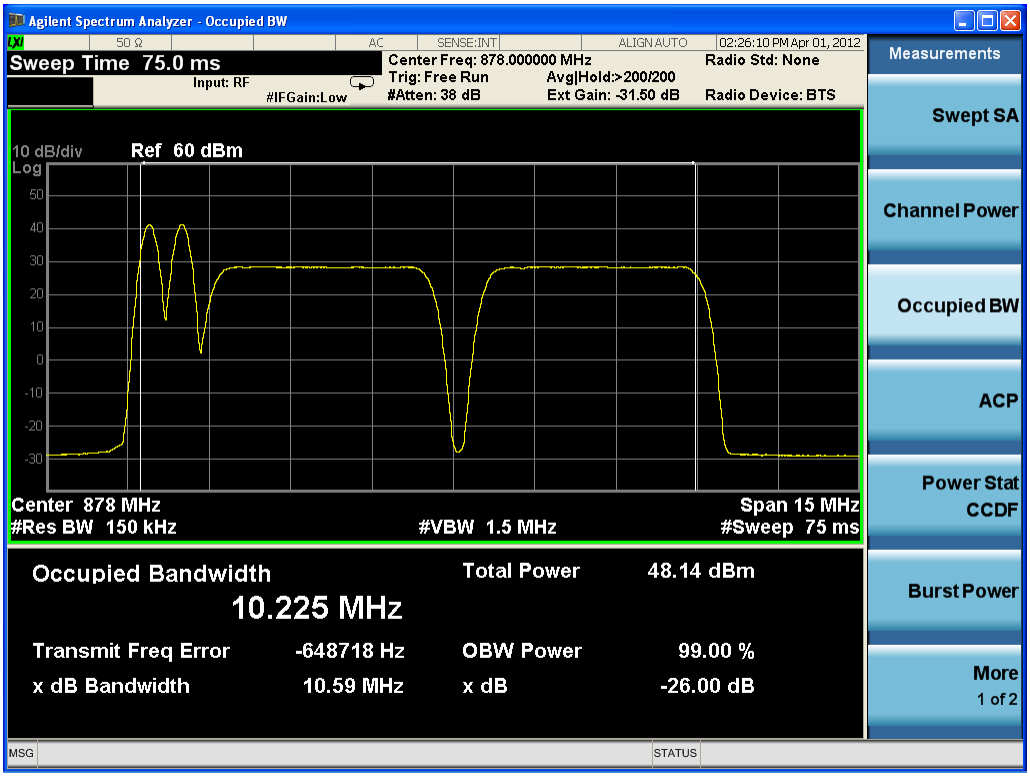
Test Result: Pass

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

Test Data

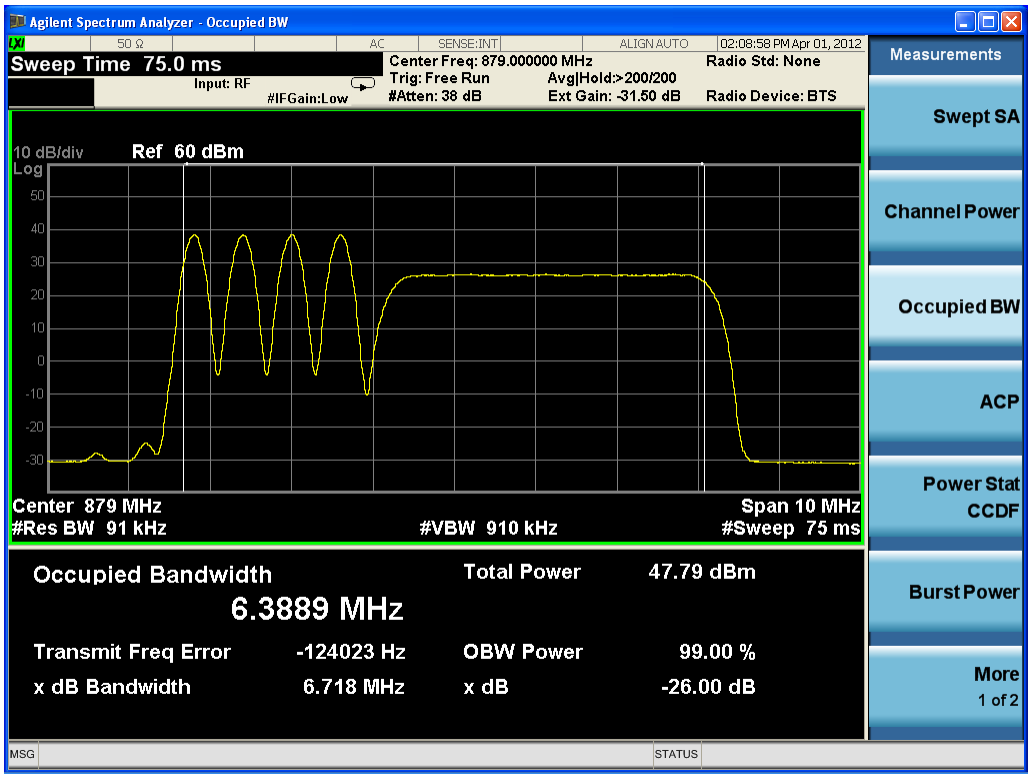
2GSMTRX and 2UMTS carriers

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

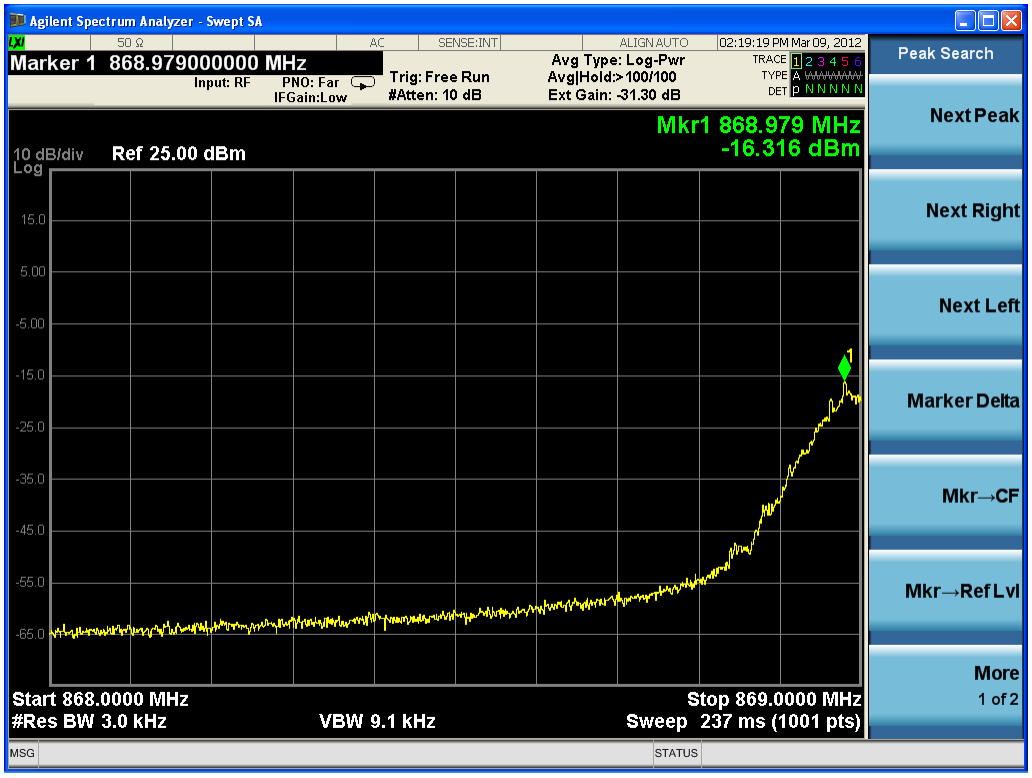
Test Result: Pass

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

Test Data

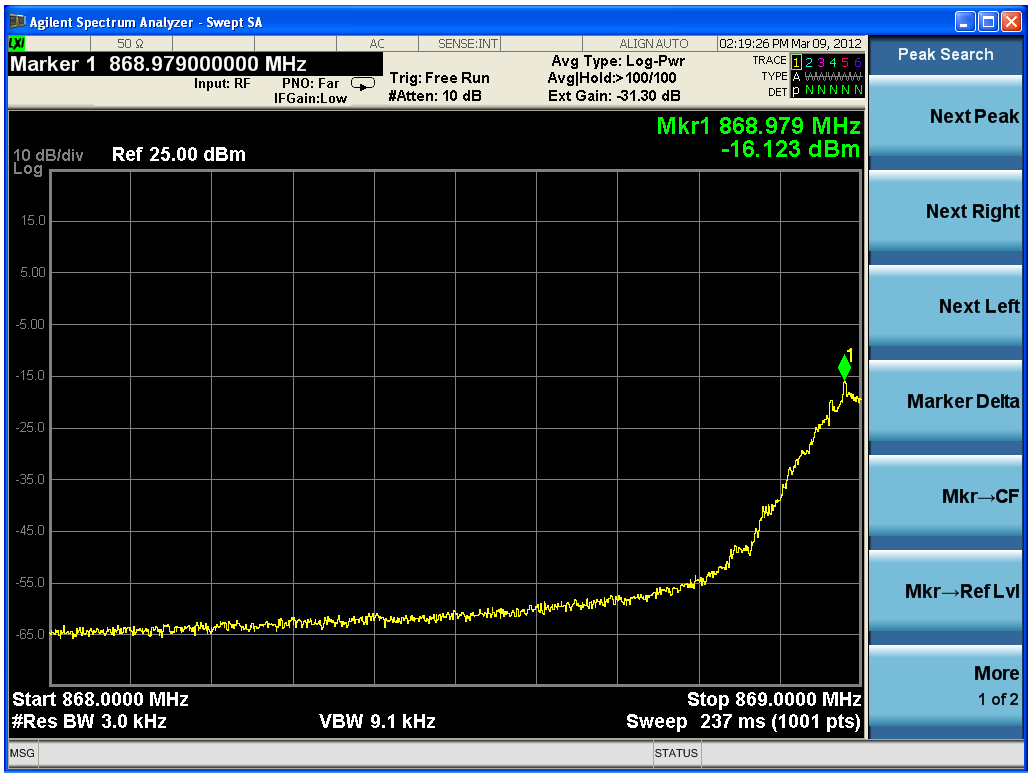
2GSMTRX and 2UMTS carriers

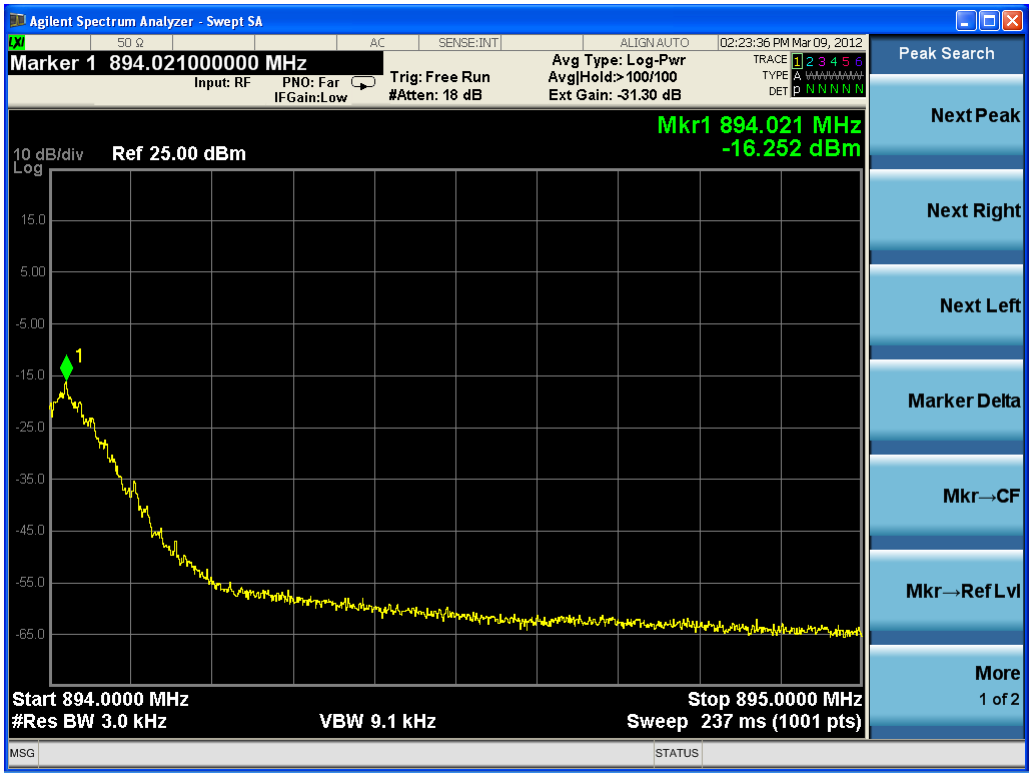
Frequency channel	Max bandedge Emission (dBm)	Limit (dBm)
868-869	-16.316	-13.00
894-895	-16.670	-13.00



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
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:19:26 PM Mar 09, 2012
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
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 868.979 MHz
-16.123 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
02:23:36 PM Mar 09, 2012
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
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET P N N N N N
Mkr1 894.021 MHz
-16.252 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