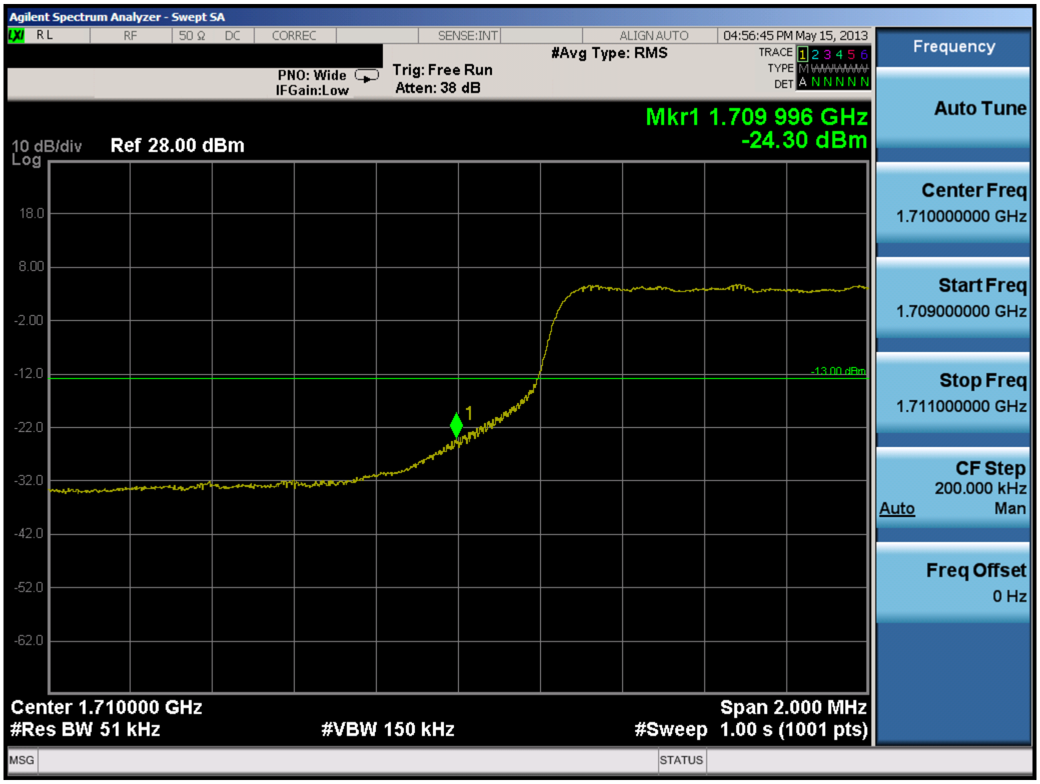
9.0 BAND 4 PLOTS OF EMISSIONS

Note: All bandwidths, RB configurations, and modulations were investigated. The worst case test results are reported below.



Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:56:45 PM May 15, 2013

PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

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

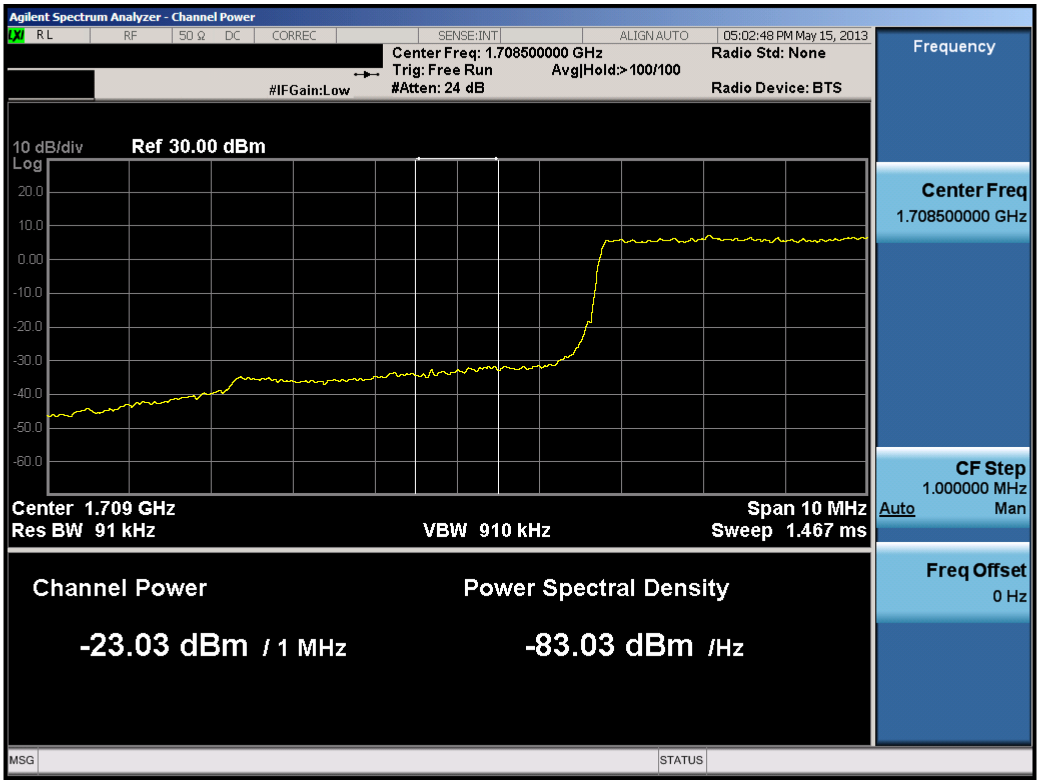
Mkr1 1.709 996 GHz
-24.30 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.710000 GHz
#Res BW 51 kHz
#VBW 150 kHz
Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Frequency
Auto Tune
Center Freq 1.710000000 GHz
Start Freq 1.709000000 GHz
Stop Freq 1.711000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

Plot 9-1. Lower Band Edge Plot (5.0MHz QPSK – RB Size 25)



Center Freq: 1.708500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 24 dB
Radio Std: None
Radio Device: BTS

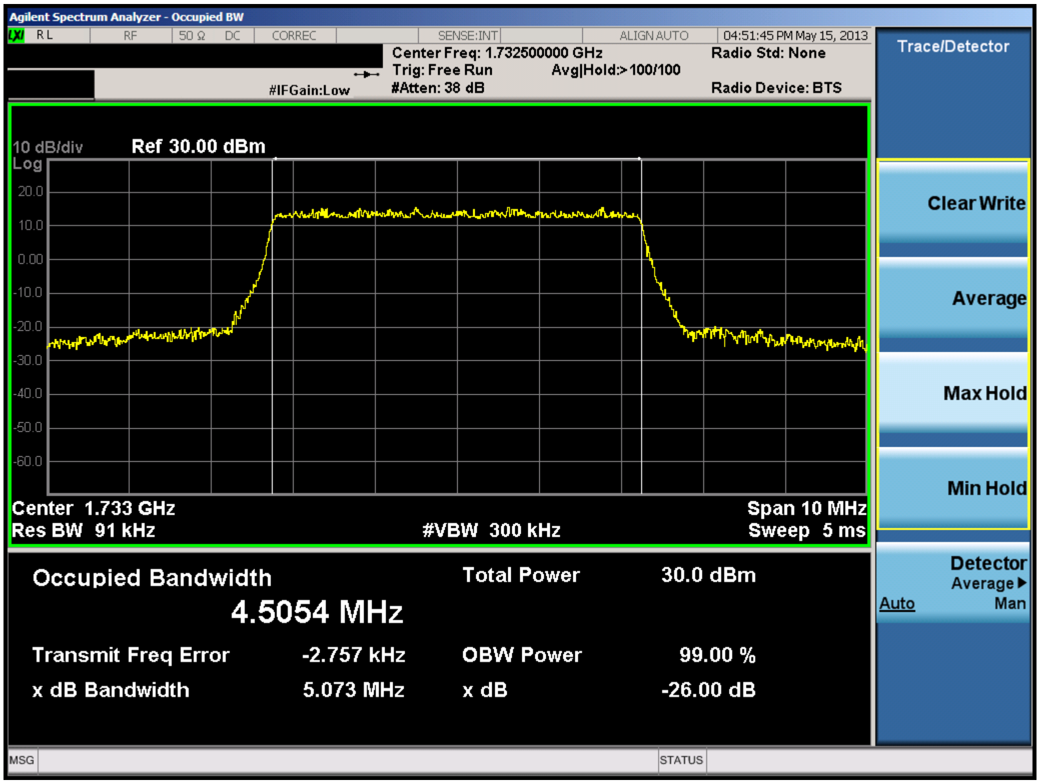
Center Freq
1.708500000 GHz

Center 1.709 GHz
Res BW 91 kHz
VBW 910 kHz
Span 10 MHz
Sweep 1.467 ms

Channel Power
-23.03 dBm / 1 MHz

Power Spectral Density
-83.03 dBm /Hz

Plot 9-2. Lower Extended Band Edge Plot (5.0MHz QPSK – RB Size 25)



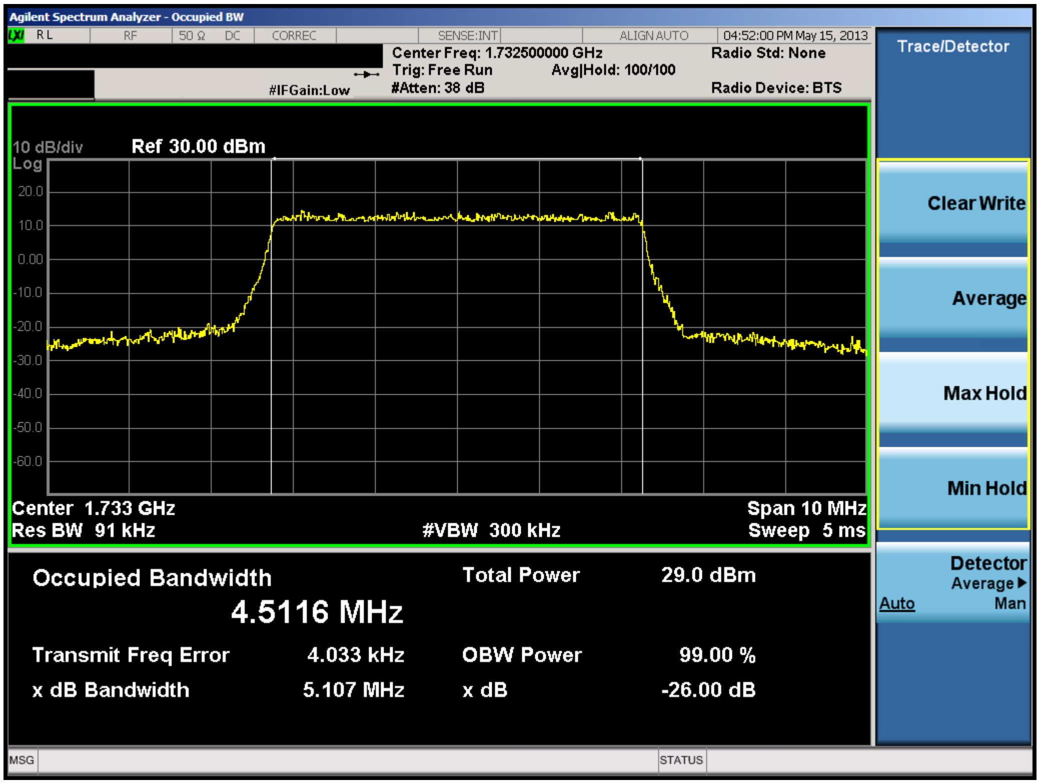
Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

Center 1.733 GHz
Res BW 91 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 5 ms

Occupied Bandwidth
4.5054 MHz

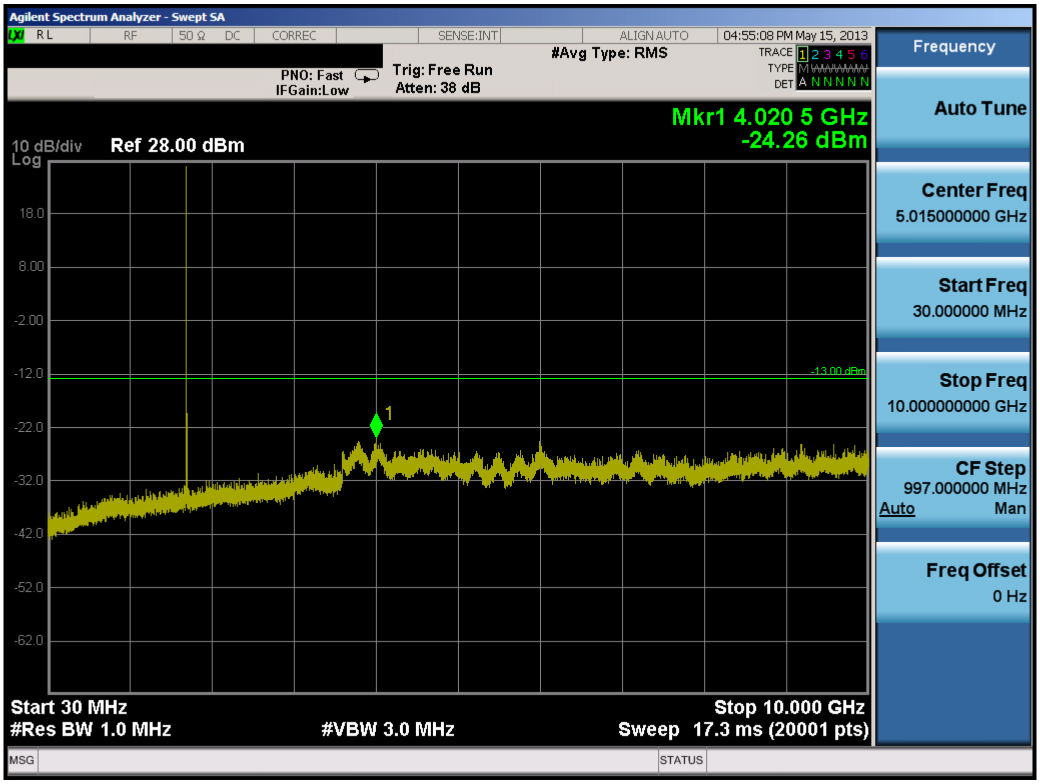
		Total Power	30.0 dBm
Transmit Freq Error	-2.757 kHz	OBW Power	99.00 %
x dB Bandwidth	5.073 MHz	x dB	-26.00 dB

Plot 9-3. Occupied Bandwidth Plot (5.0MHz QPSK – RB Size 25)

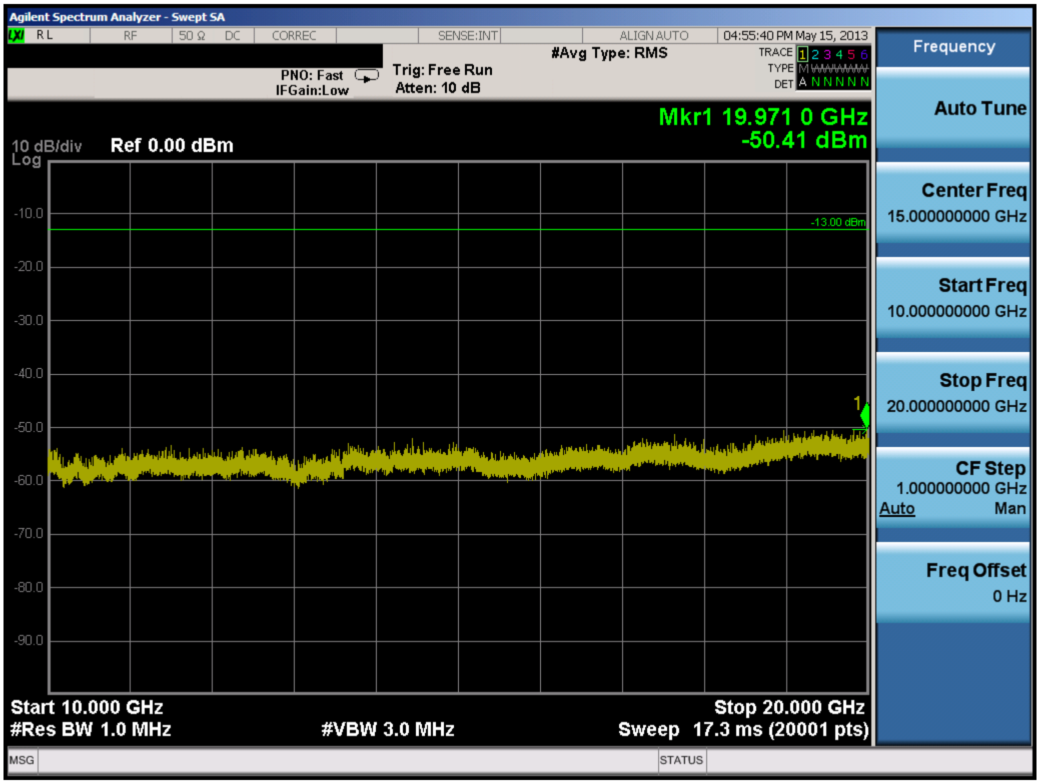

Agilent Spectrum Analyzer - Occupied BW
RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:52:00 PM May 15, 2013
Center Freq: 1.732500000 GHz
Trig: Free Run Avg|Hold: 100/100
#IFGain:Low #Atten: 38 dB
Radio Std: None
Radio Device: BTS
10 dB/div Ref 30.00 dBm
Center 1.733 GHz
Res BW 91 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 5 ms

Occupied Bandwidth
4.5116 MHz
Total Power 29.0 dBm
Transmit Freq Error 4.033 kHz
OBW Power 99.00 %
x dB Bandwidth 5.107 MHz
x dB -26.00 dB
Detector Average Auto Man

Plot 9-4. Occupied Bandwidth Plot (5.0MHz 16-QAM – RB Size 25)


Agilent Spectrum Analyzer - Swept SA
RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:55:08 PM May 15, 2013
#Avg Type: RMS
PNO: Fast IFGain:Low
Trig: Free Run
Atten: 38 dB
TRACE 1 2 3 4 5 6
TYPE M W W W W W
DET A N N N N N
Mkr1 4.020 5 GHz
-24.26 dBm
10 dB/div Ref 28.00 dBm
Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)
Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-5. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:55:40 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB

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

Mkr1 19.971 0 GHz -50.41 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

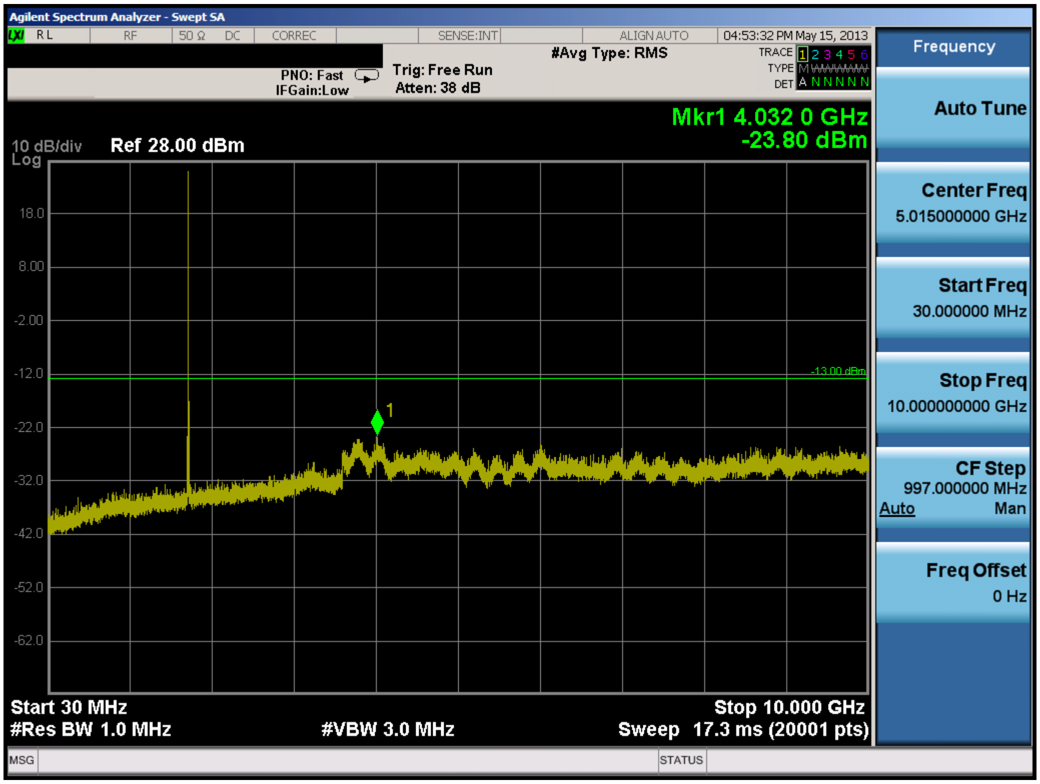
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-6. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:53:32 PM May 15, 2013

#Avg Type: RMS

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

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

Mkr1 4.032 0 GHz -23.80 dBm

10 dB/div Log Ref 28.00 dBm

Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

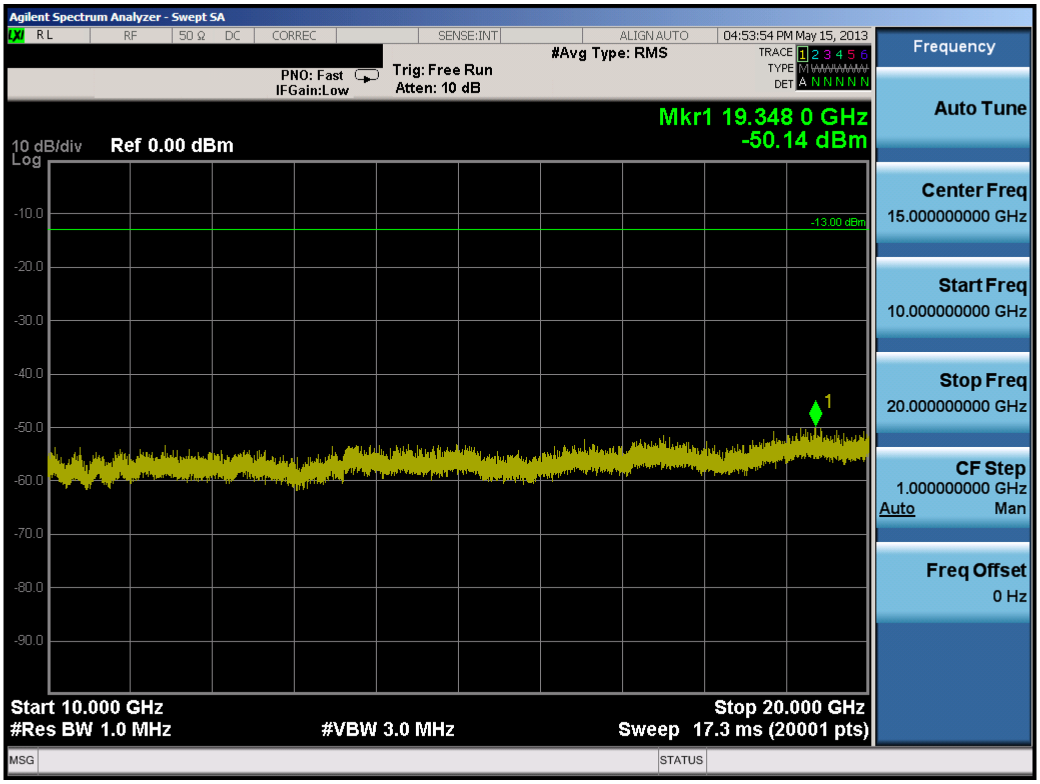
Start Freq 30.000000 MHz

Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-7. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:53:54 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

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

Mkr1 19.348 0 GHz -50.14 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

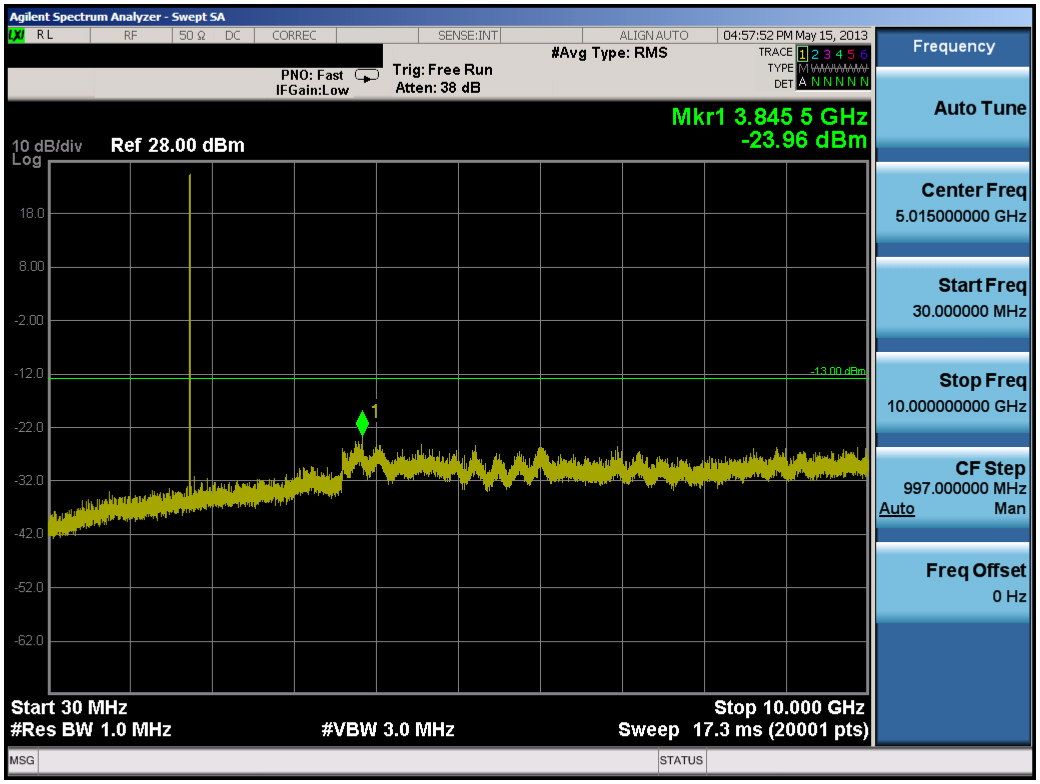
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-8. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:57:52 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 38 dB

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

Mkr1 3.845 5 GHz -23.96 dBm

10 dB/div Log Ref 28.00 dBm

Start 30 MHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 10.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

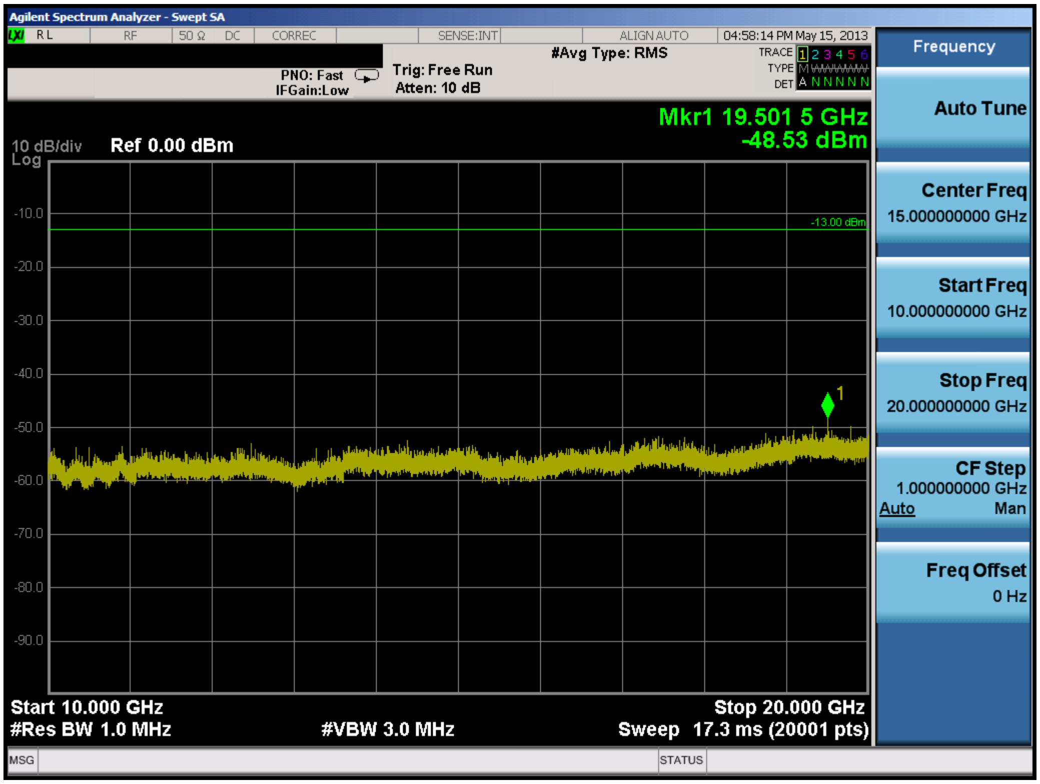
Start Freq 30.000000 MHz

Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-9. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:58:14 PM May 15, 2013

#Avg Type: RMS

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

Mkr1 19.501 5 GHz
-48.53 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 9-10. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:58:45 PM May 15, 2013

#Avg Type: RMS

PNO: Wide
IFGain:Low

Trig: Free Run
Atten: 38 dB

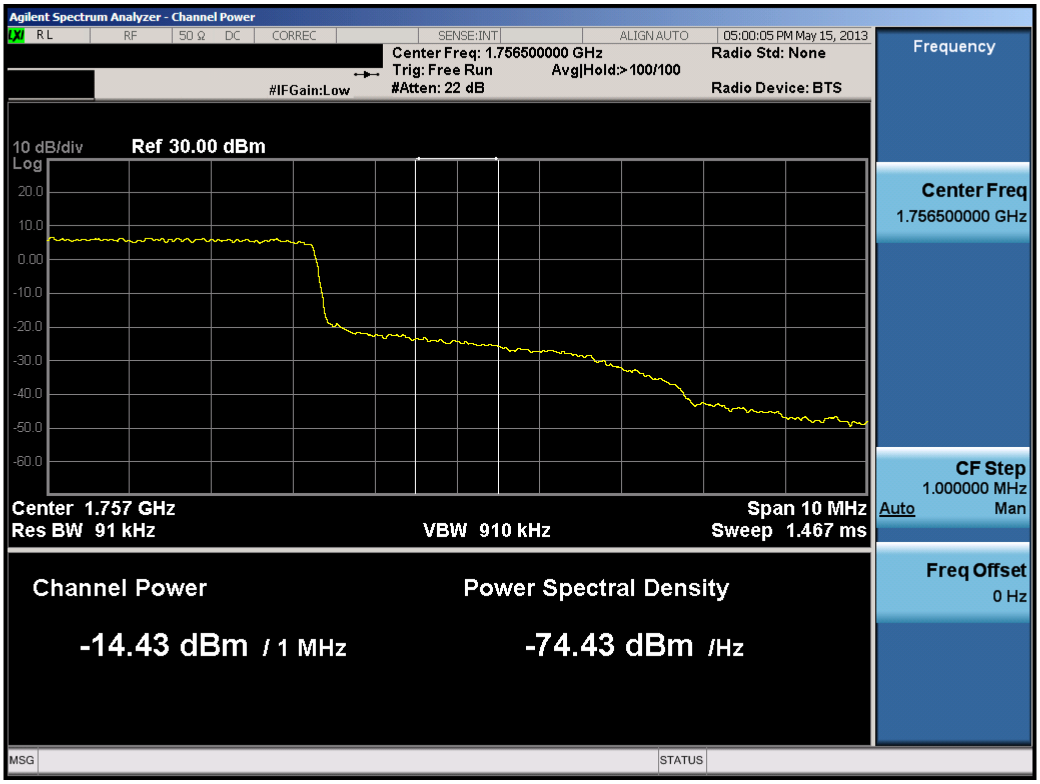
Mkr1 1.755 002 GHz
-21.14 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.755000 GHz
#Res BW 51 kHz
#VBW 150 kHz
Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Frequency
Auto Tune
Center Freq 1.755000000 GHz
Start Freq 1.754000000 GHz
Stop Freq 1.756000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

Plot 9-11. Upper Band Edge Plot (5.0MHz QPSK – RB Size 25)



05:00:05 PM May 15, 2013

Center Freq: 1.756500000 GHz
Trig: Free Run
#IFGain:Low
#Atten: 22 dB
Avg|Hold:> 100/100
Radio Std: None
Radio Device: BTS

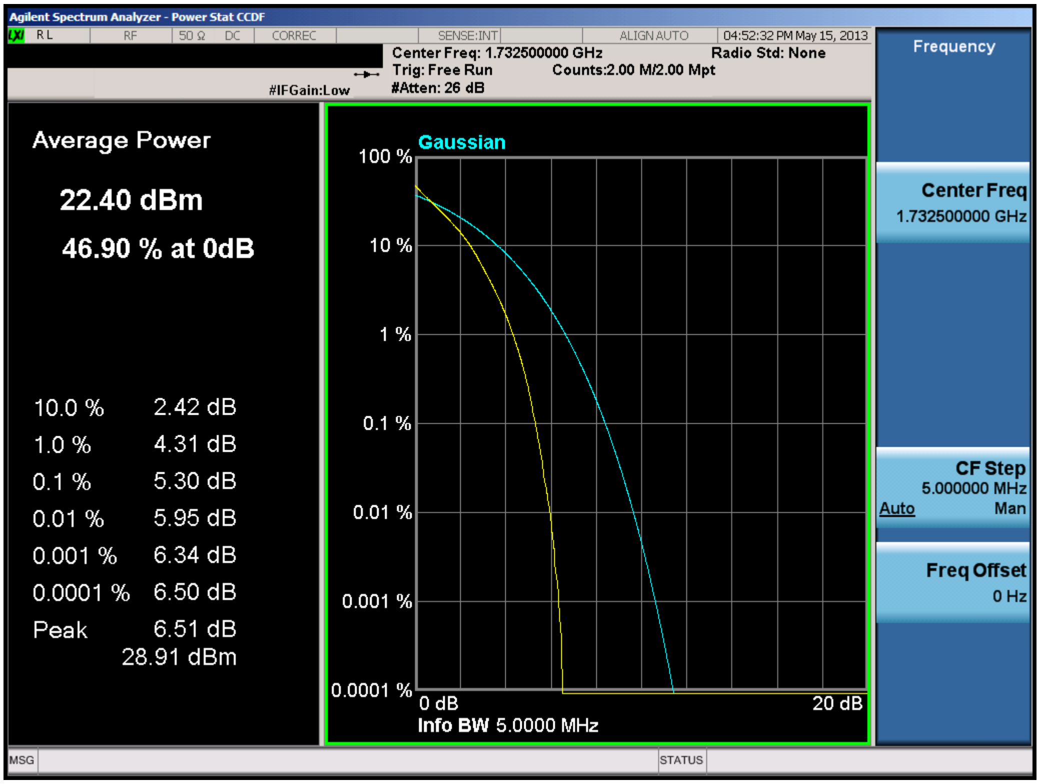
Center Freq 1.756500000 GHz
CF Step 1.000000 MHz
Freq Offset 0 Hz

Center 1.757 GHz
Res BW 91 kHz
VBW 910 kHz
Span 10 MHz
Sweep 1.467 ms

Channel Power: -14.43 dBm / 1 MHz

Power Spectral Density: -74.43 dBm /Hz

Plot 9-12. Upper Extended Band Edge Plot (5.0MHz QPSK – RB Size 25)



04:52:32 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
#IFGain:Low
#Atten: 26 dB
Counts:2.00 M/2.00 Mpt
Radio Std: None

Center Freq 1.732500000 GHz
CF Step 5.000000 MHz
Freq Offset 0 Hz

Info BW 5.0000 MHz

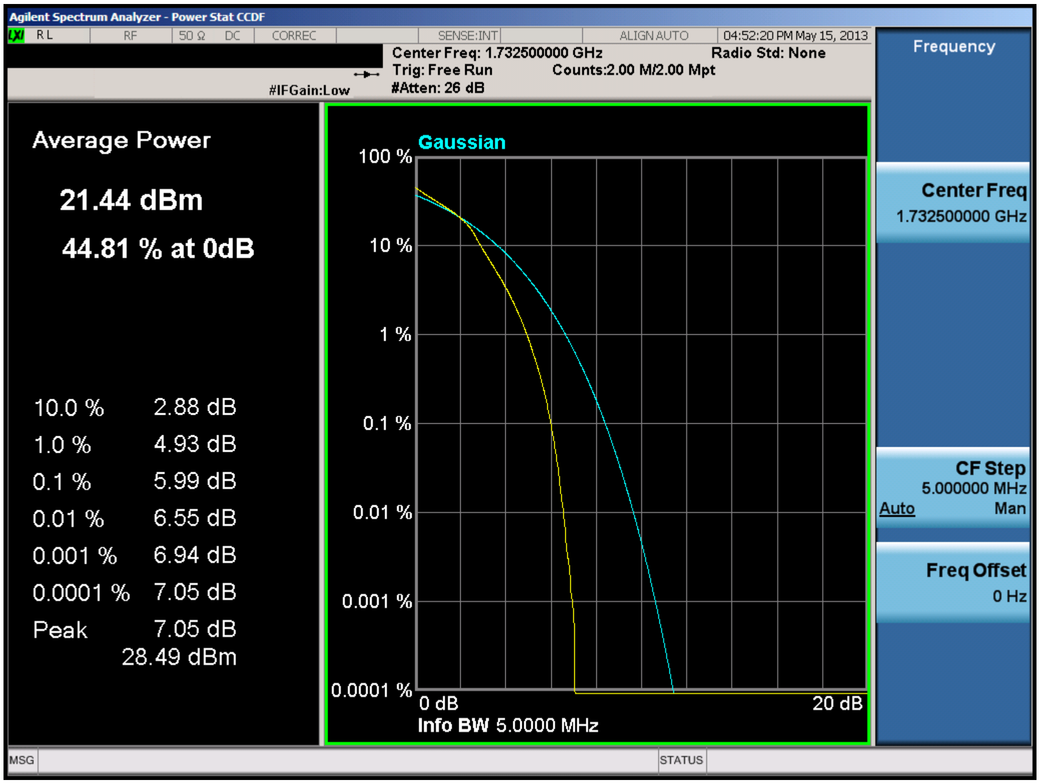
Average Power

22.40 dBm

46.90 % at 0dB

10.0 %	2.42 dB
1.0 %	4.31 dB
0.1 %	5.30 dB
0.01 %	5.95 dB
0.001 %	6.34 dB
0.0001 %	6.50 dB
Peak	6.51 dB 28.91 dBm

Plot 9-13. PAR Plot (5.0MHz QPSK – RB Size 25)


Agilent Spectrum Analyzer - Power Stat CCDF

04:52:20 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
#Atten: 26 dB
#IFGain:Low
Radio Std: None
Counts:2.00 M/2.00 Mpt

Average Power

21.44 dBm

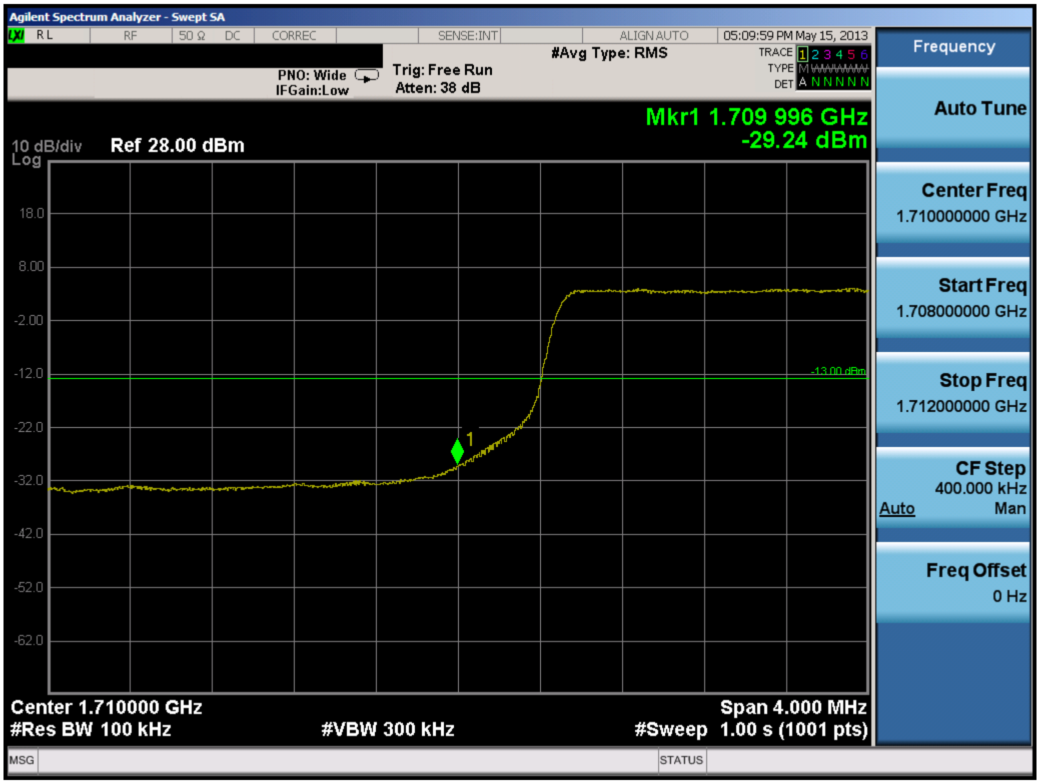
44.81 % at 0dB

10.0 %	2.88 dB
1.0 %	4.93 dB
0.1 %	5.99 dB
0.01 %	6.55 dB
0.001 %	6.94 dB
0.0001 %	7.05 dB
Peak	7.05 dB 28.49 dBm

Info BW 5.0000 MHz

Center Freq 1.732500000 GHz
CF Step 5.000000 MHz
Freq Offset 0 Hz

Plot 9-14. PAR Plot (5.0MHz 16-QAM – RB Size 25)


Agilent Spectrum Analyzer - Swept SA

05:09:59 PM May 15, 2013

PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

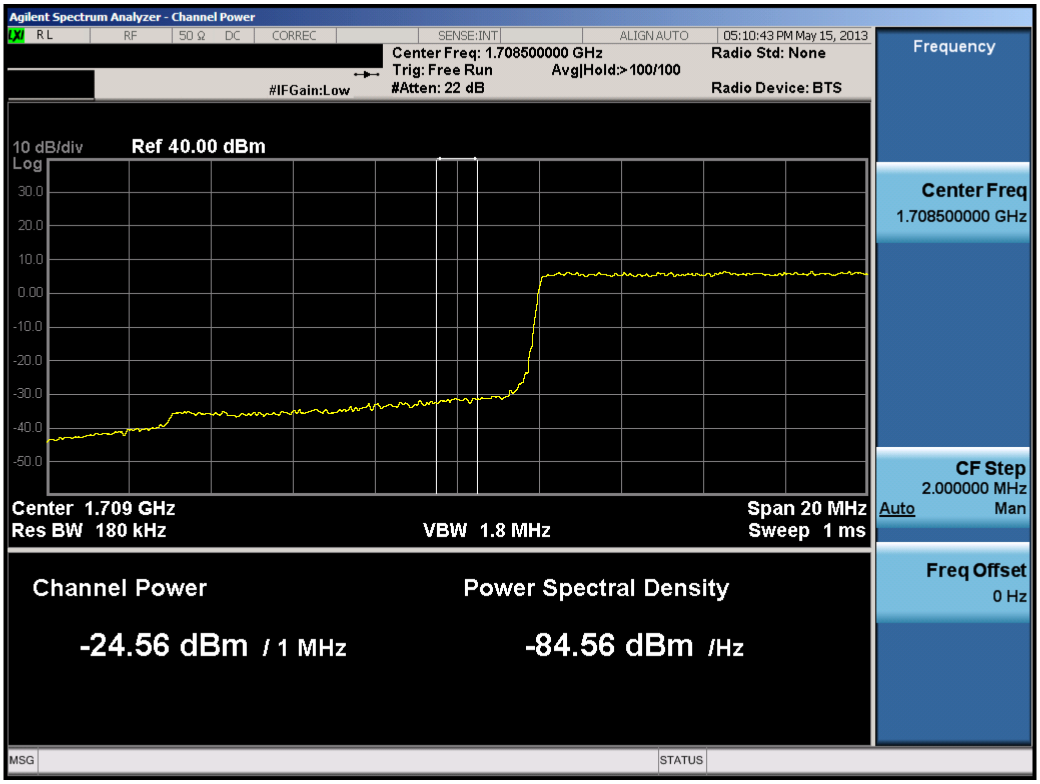
Mkr1 1.709 996 GHz
-29.24 dBm

10 dB/div Ref 28.00 dBm

Center 1.710000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
#Sweep 1.00 s (1001 pts)

Center Freq 1.710000000 GHz
Start Freq 1.708000000 GHz
Stop Freq 1.712000000 GHz
CF Step 400.000 kHz
Freq Offset 0 Hz

Plot 9-15. Lower Band Edge Plot (10.0MHz QPSK – RB Size 50)



Agilent Spectrum Analyzer - Channel Power

Center Freq: 1.708500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 22 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
05:10:43 PM May 15, 2013

Center 1.709 GHz
Res BW 180 kHz
VBW 1.8 MHz
Span 20 MHz
Sweep 1 ms

Channel Power
-24.56 dBm / 1 MHz

Power Spectral Density
-84.56 dBm /Hz

Center Freq 1.708500000 GHz
CF Step 2.000000 MHz
Freq Offset 0 Hz

Plot 9-16. Lower Extended Band Edge Plot (10.0MHz QPSK – RB Size 50)

Agilent Spectrum Analyzer - Occupied BW

Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 38 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
05:03:27 PM May 15, 2013

Center 1.733 GHz
Res BW 180 kHz
#VBW 620 kHz
Span 20 MHz
Sweep 1 ms

Occupied Bandwidth
9.0220 MHz

Total Power 30.5 dBm

Transmit Freq Error 23.974 kHz
OBW Power 99.00 %
x dB Bandwidth 9.944 MHz
x dB -26.00 dB

Detector Average

Plot 9-17. Occupied Bandwidth Plot (10.0MHz QPSK – RB Size 50)


Agilent Spectrum Analyzer - Occupied BW

05:03:39 PM May 15, 2013

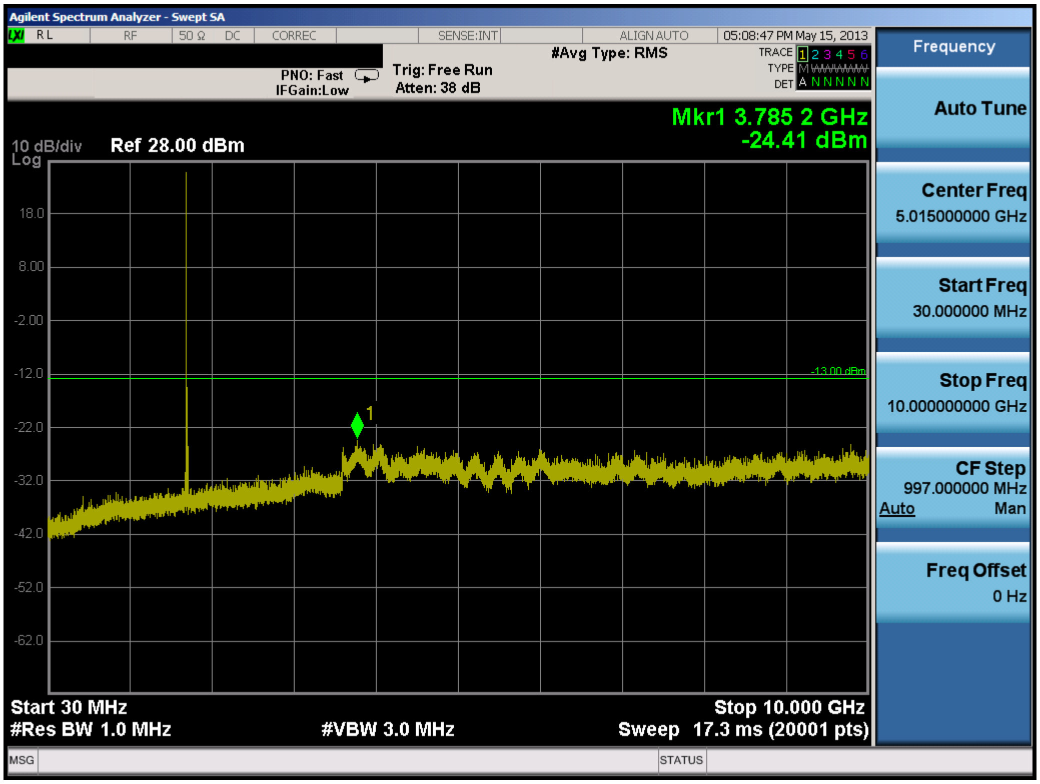
Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 38 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS

10 dB/div Ref 30.00 dBm

Center 1.733 GHz
Res BW 180 kHz
#VBW 620 kHz
Span 20 MHz
Sweep 1 ms

Occupied Bandwidth 8.9765 MHz
Total Power 29.4 dBm
Transmit Freq Error 23.591 kHz
OBW Power 99.00 %
x dB Bandwidth 9.958 MHz
x dB -26.00 dB

Plot 9-18. Occupied Bandwidth Plot (10.0MHz 16-QAM – RB Size 50)


Agilent Spectrum Analyzer - Swept SA

05:08:47 PM May 15, 2013

#Avg Type: RMS
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB

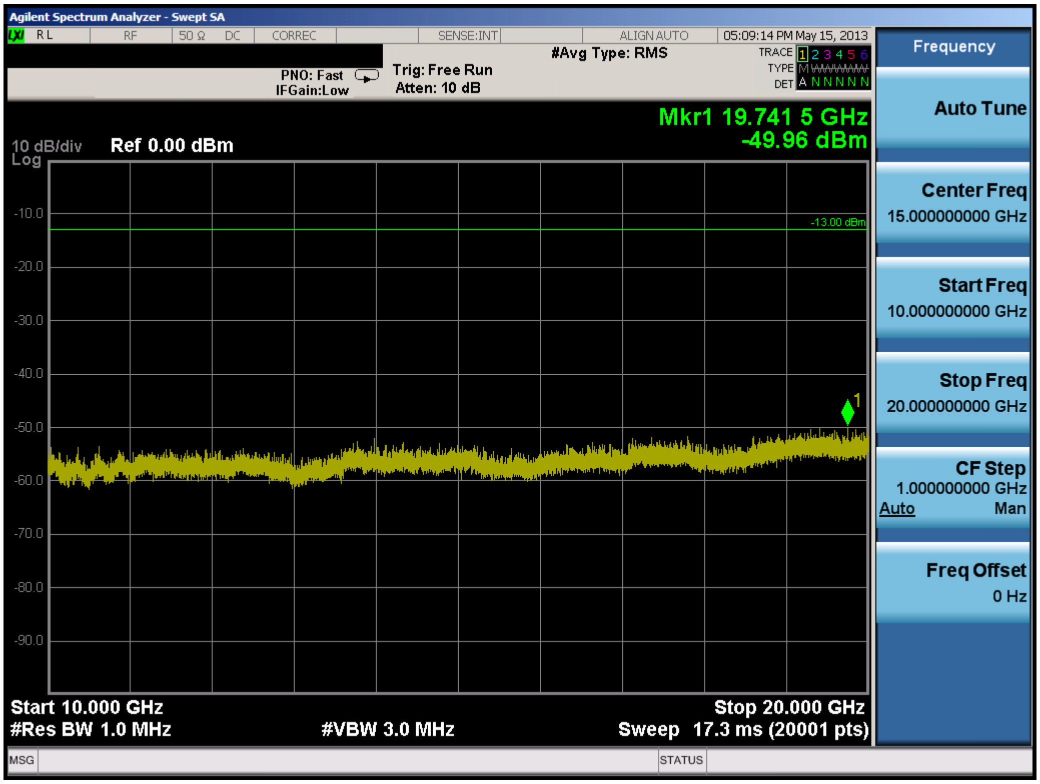
Mkr1 3.785 2 GHz
-24.41 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Freq Offset 0 Hz

Plot 9-19. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)



Agilent Spectrum Analyzer - Swept SA

05:09:14 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

#Avg Type: RMS

Mkr1 19.741 5 GHz

-49.96 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

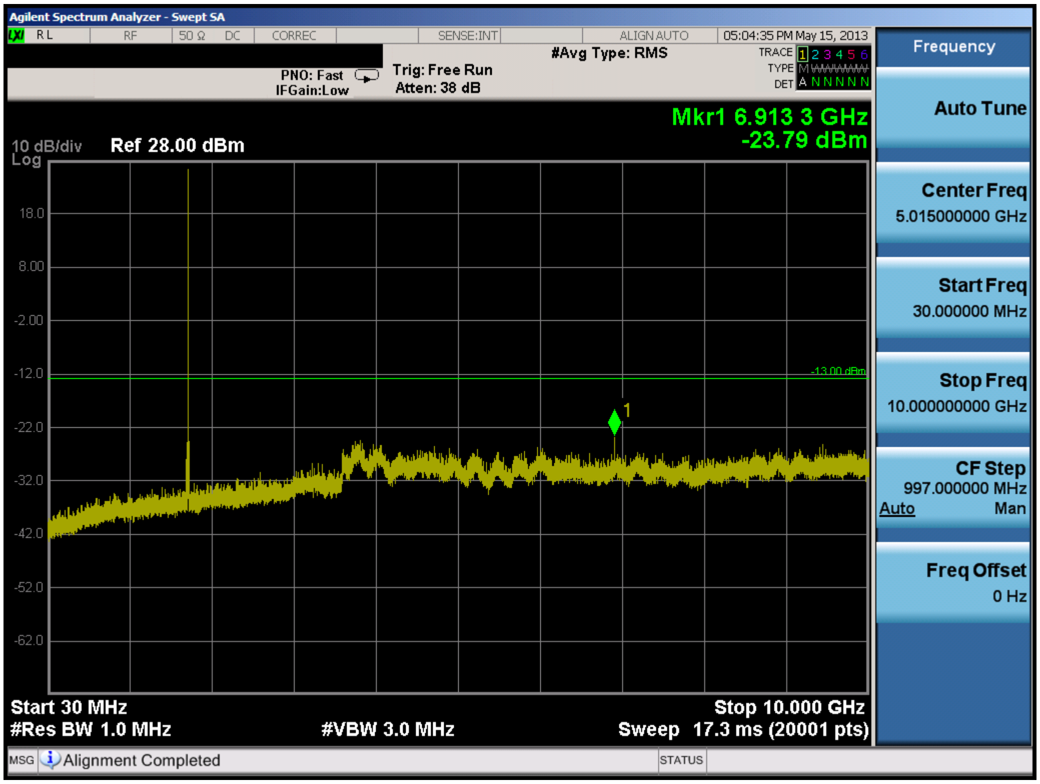
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-20. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Agilent Spectrum Analyzer - Swept SA

05:04:35 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 38 dB

#Avg Type: RMS

Mkr1 6.913 3 GHz

-23.79 dBm

10 dB/div Log Ref 28.00 dBm

Start 30 MHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 10.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

Start Freq 30.000000 MHz

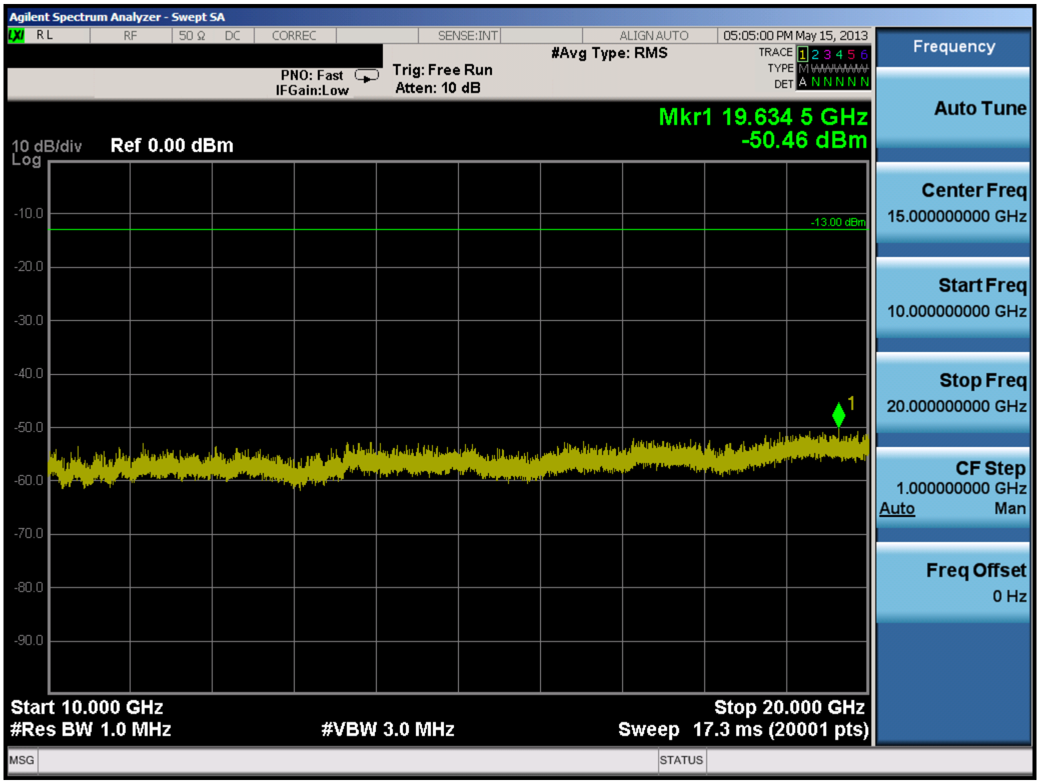
Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

MSG Alignment Completed

Plot 9-21. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 05:05:00 PM May 15, 2013

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
#Avg Type: RMS

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

Mkr1 19.634 5 GHz
-50.46 dBm

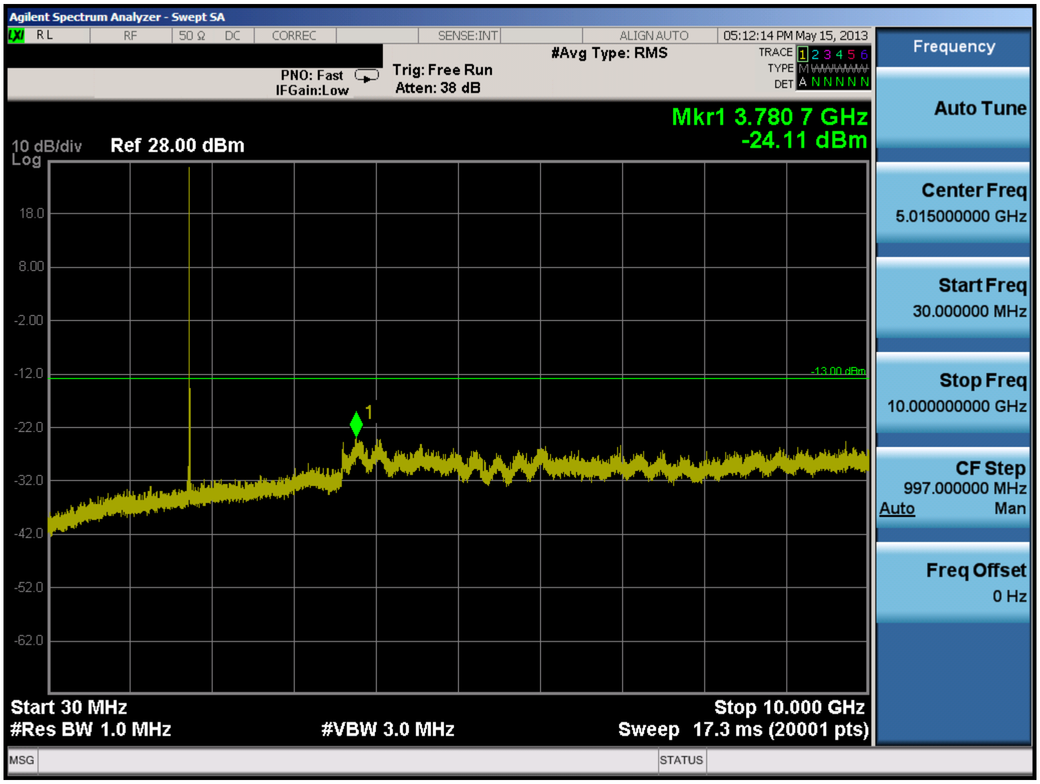
10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz
Auto Man
Freq Offset 0 Hz

MSG
STATUS

Plot 9-22. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 05:12:14 PM May 15, 2013

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

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

Mkr1 3.780 7 GHz
-24.11 dBm

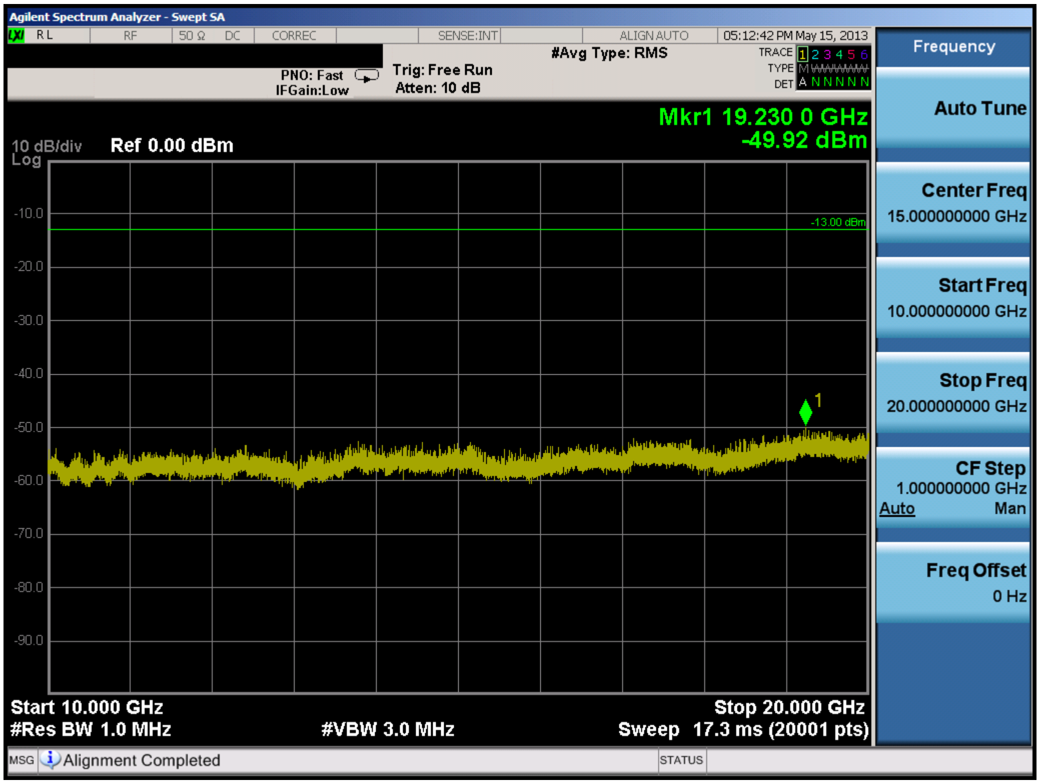
10 dB/div Log Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Auto Man
Freq Offset 0 Hz

MSG
STATUS

Plot 9-23. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:12:42 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB

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

Mkr1 19.230 0 GHz -49.92 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

MSG Alignment Completed STATUS

Frequency

Auto Tune

Center Freq 15.000000000 GHz

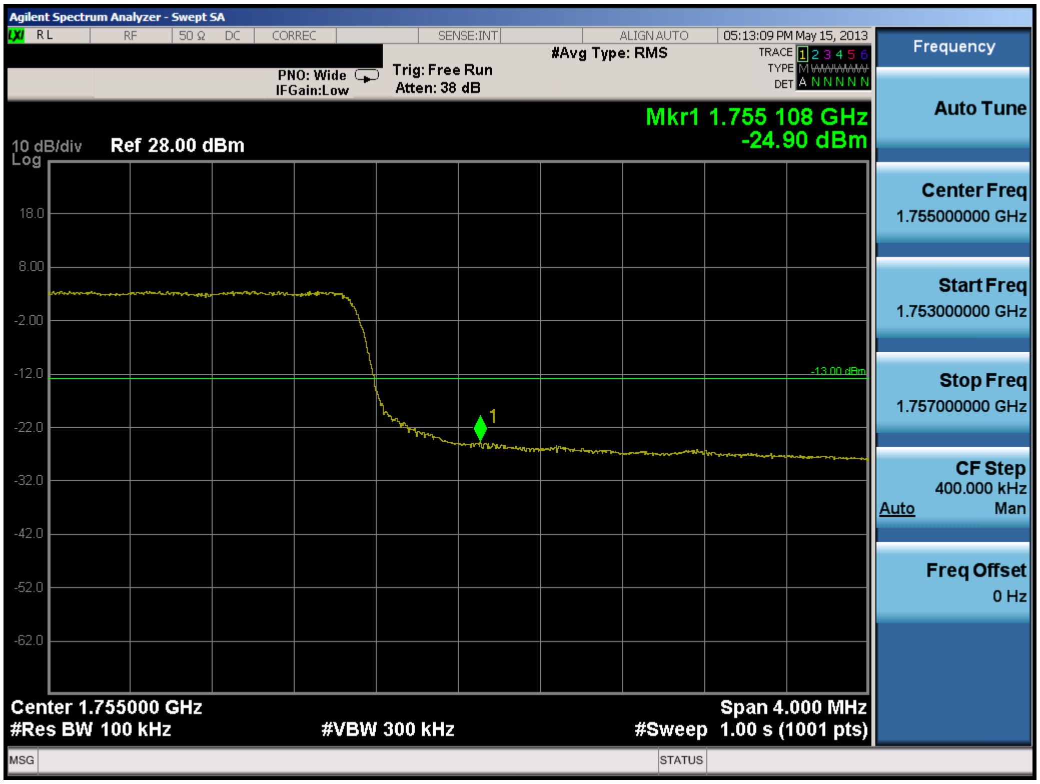
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-24. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:13:09 PM May 15, 2013

#Avg Type: RMS

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

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

Mkr1 1.755 108 GHz -24.90 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.755000 GHz #Res BW 100 kHz #VBW 300 kHz Span 4.000 MHz #Sweep 1.00 s (1001 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq 1.755000000 GHz

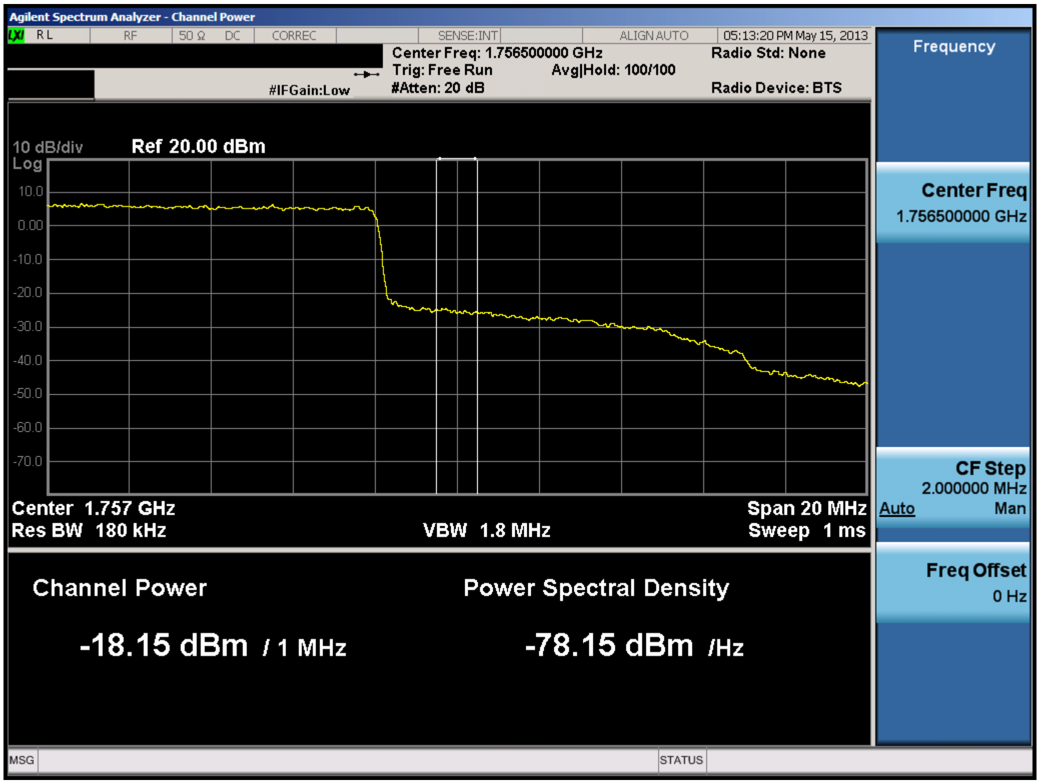
Start Freq 1.753000000 GHz

Stop Freq 1.757000000 GHz

CF Step 400.000 kHz Auto Man

Freq Offset 0 Hz

Plot 9-25. Upper Band Edge Plot (10.0MHz QPSK – RB Size 50)



05:13:20 PM May 15, 2013

Center Freq: 1.756500000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 20 dB
Radio Std: None
Radio Device: BTS

Ref 20.00 dBm

Center 1.757 GHz
Res BW 180 kHz
VBW 1.8 MHz
Span 20 MHz
Sweep 1 ms

Channel Power: -18.15 dBm / 1 MHz

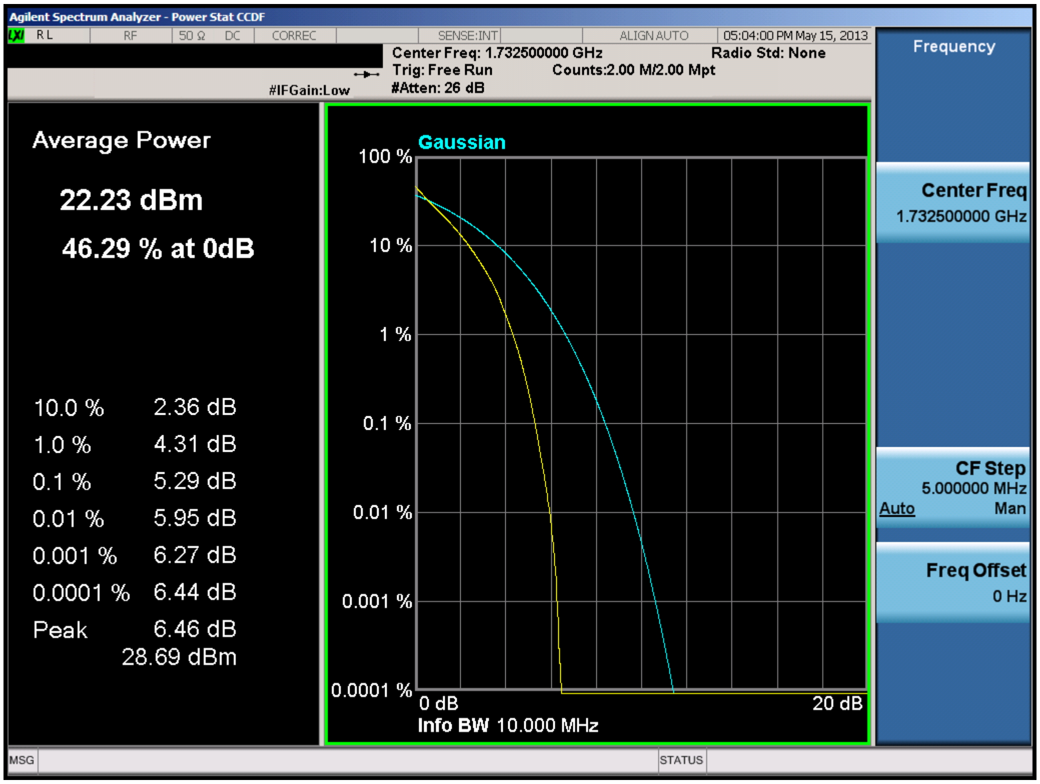
Power Spectral Density: -78.15 dBm /Hz

Center Freq: 1.756500000 GHz

CF Step: 2.000000 MHz

Freq Offset: 0 Hz

Plot 9-26. Upper Extended Band Edge Plot (10.0MHz QPSK – RB Size 50)



05:04:00 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
Counts:2.00 M/2.00 Mpt
#Atten: 26 dB
Radio Std: None

Average Power

22.23 dBm

46.29 % at 0dB

10.0 %	2.36 dB
1.0 %	4.31 dB
0.1 %	5.29 dB
0.01 %	5.95 dB
0.001 %	6.27 dB
0.0001 %	6.44 dB
Peak	6.46 dB 28.69 dBm

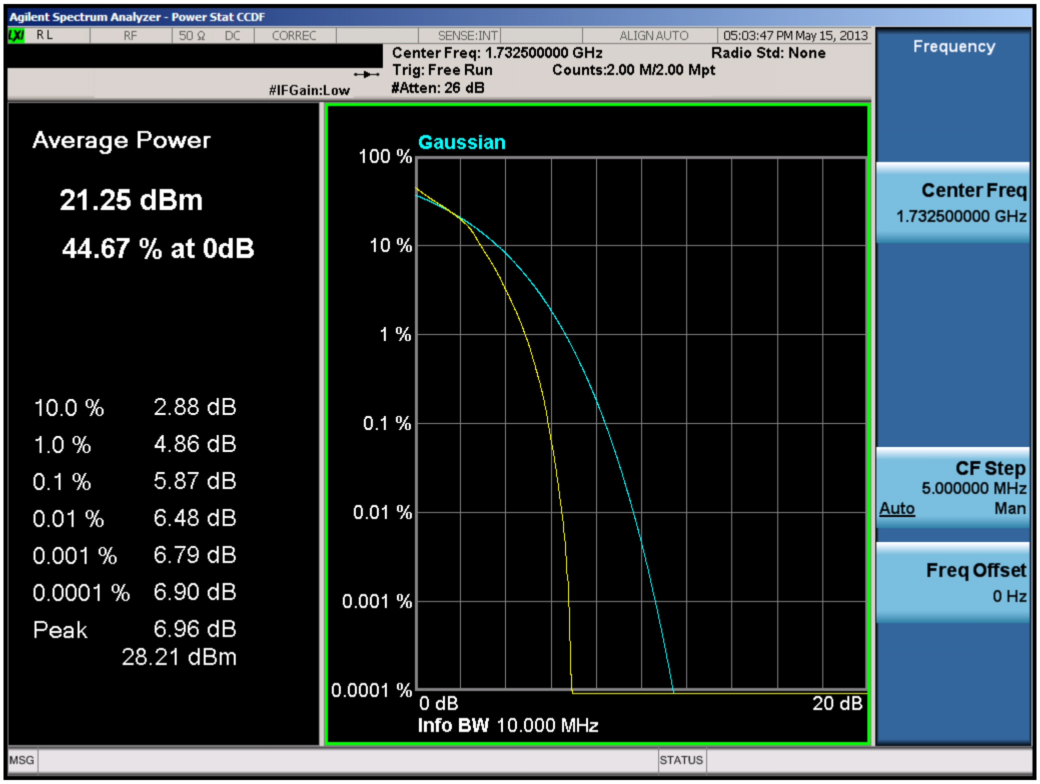
Info BW 10.000 MHz

Center Freq: 1.732500000 GHz

CF Step: 5.000000 MHz

Freq Offset: 0 Hz

Plot 9-27. PAR Plot (10.0MHz QPSK – RB Size 50)


Agilent Spectrum Analyzer - Power Stat CCDF
RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:03:47 PM May 15, 2013
Center Freq: 1.732500000 GHz Radio Std: None
Trig: Free Run Counts:2.00 M/2.00 Mpt
#IFGain:Low #Atten: 26 dB

Average Power

21.25 dBm

44.67 % at 0dB

10.0 %	2.88 dB
1.0 %	4.86 dB
0.1 %	5.87 dB
0.01 %	6.48 dB
0.001 %	6.79 dB
0.0001 %	6.90 dB
Peak	6.96 dB 28.21 dBm

Info BW 10.000 MHz

Center Freq 1.732500000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz
MSG STATUS

Plot 9-28. PAR Plot (10.0MHz 16-QAM – RB Size 50)


Agilent Spectrum Analyzer - Swept SA
RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:18:31 PM May 15, 2013
#Avg Type: RMS
PNO: Wide IFGain:Low
Trig: Free Run
Atten: 38 dB
TRACE 1 2 3 4 5 6
TYPE M W W W W W
DET A N N N N N

Mkr1 1.710 000 GHz
-30.130 dBm

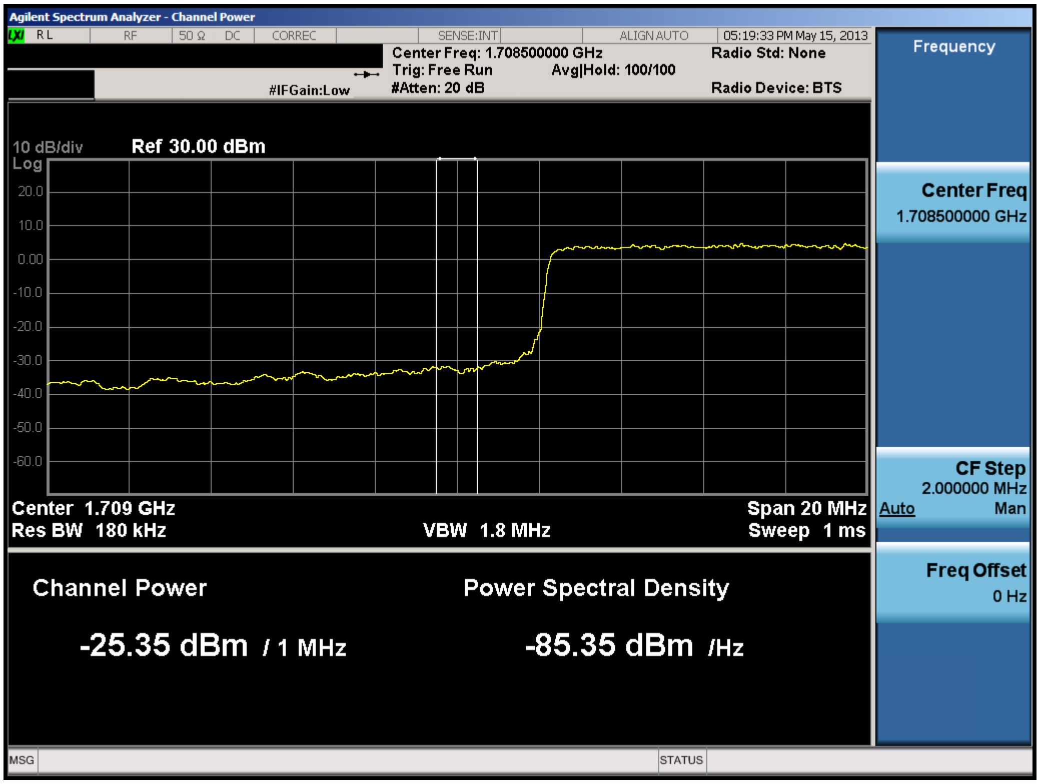
10 dB/div Log Ref 28.00 dBm

Center 1.710000 GHz
#Res BW 150 kHz #VBW 470 kHz
Span 6.000 MHz
#Sweep 1.00 s (1001 pts)

Center Freq 1.710000000 GHz
Start Freq 1.707000000 GHz
Stop Freq 1.713000000 GHz
CF Step 600.000 kHz Auto Man
Freq Offset 0 Hz

MSG Alignment Completed STATUS

Plot 9-29. Lower Band Edge Plot (15.0MHz QPSK – RB Size 75)



05:19:33 PM May 15, 2013

Center Freq: 1.708500000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 20 dB
Radio Std: None
Radio Device: BTS

Ref 30.00 dBm

Center 1.709 GHz
Res BW 180 kHz
VBW 1.8 MHz
Span 20 MHz
Sweep 1 ms

Channel Power
-25.35 dBm / 1 MHz

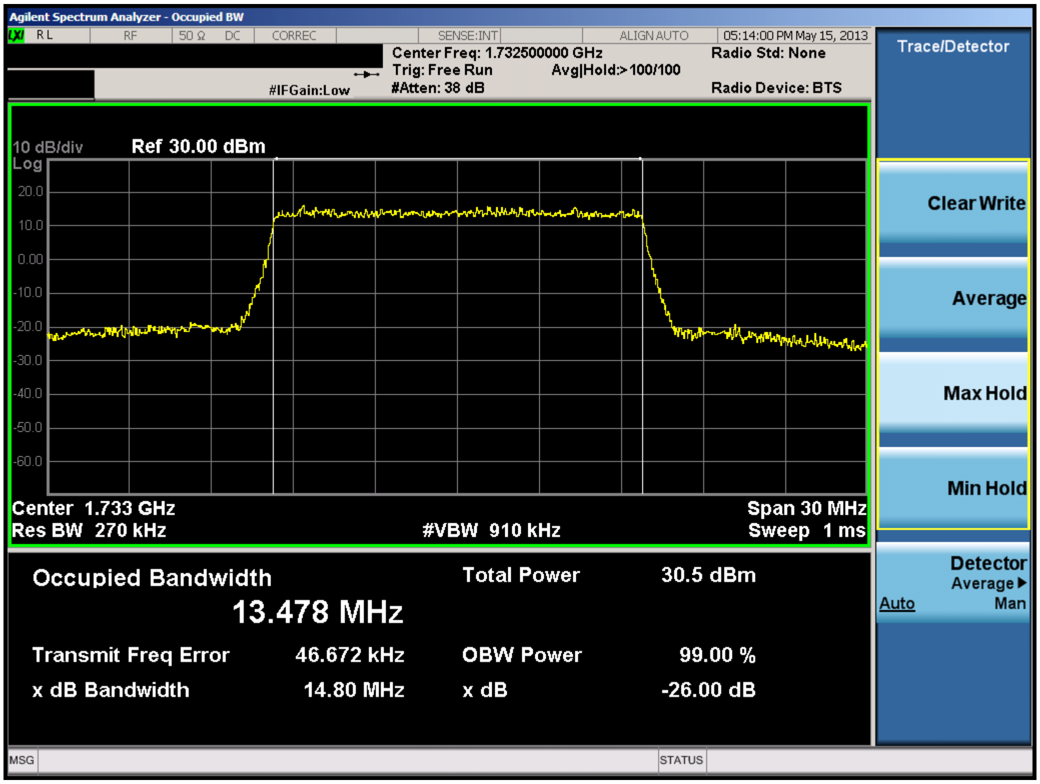
Power Spectral Density
-85.35 dBm /Hz

Center Freq
1.708500000 GHz

CF Step
2.000000 MHz

Freq Offset
0 Hz

Plot 9-30. Lower Extended Band Edge Plot (15.0MHz QPSK – RB Size 75)



05:14:00 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

Ref 30.00 dBm

Center 1.733 GHz
Res BW 270 kHz
#VBW 910 kHz
Span 30 MHz
Sweep 1 ms

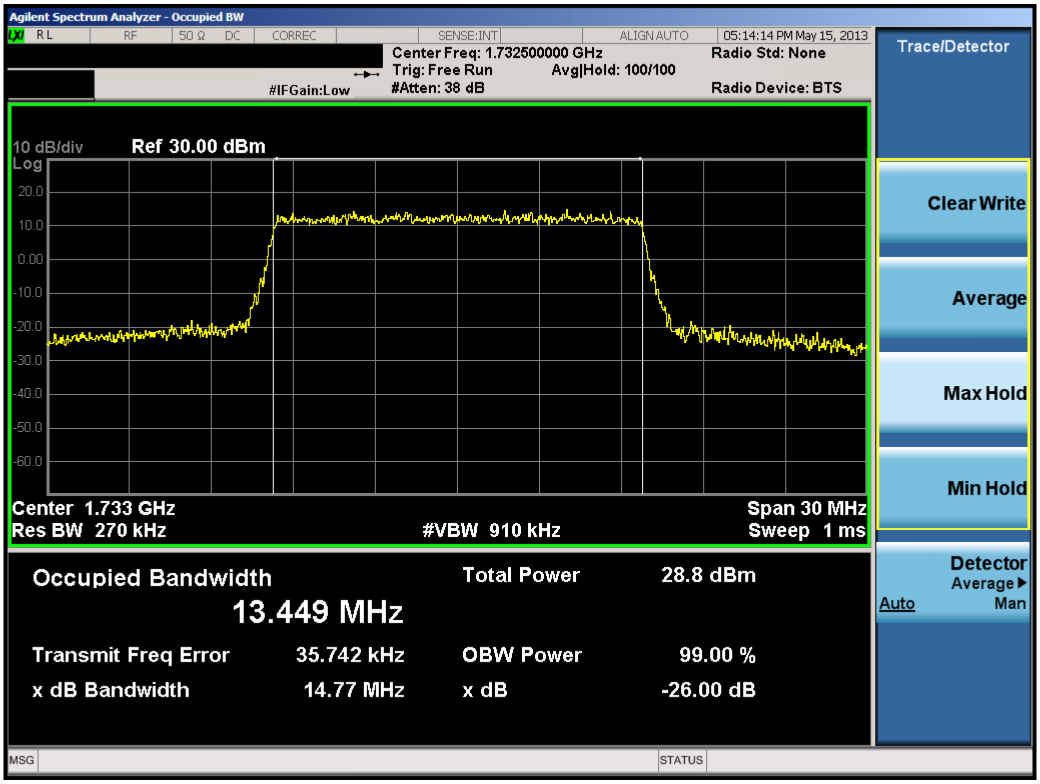
Occupied Bandwidth
13.478 MHz

Total Power 30.5 dBm

Transmit Freq Error 46.672 kHz
OBW Power 99.00 %
x dB Bandwidth 14.80 MHz
x dB -26.00 dB

Detector
Average ▶

Plot 9-31. Occupied Bandwidth Plot (15.0MHz QPSK – RB Size 75)



Agilent Spectrum Analyzer - Occupied BW

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:14:14 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run Avg|Hold: 100/100
#IFGain:Low #Atten: 38 dB

Radio Std: None
Radio Device: BTS

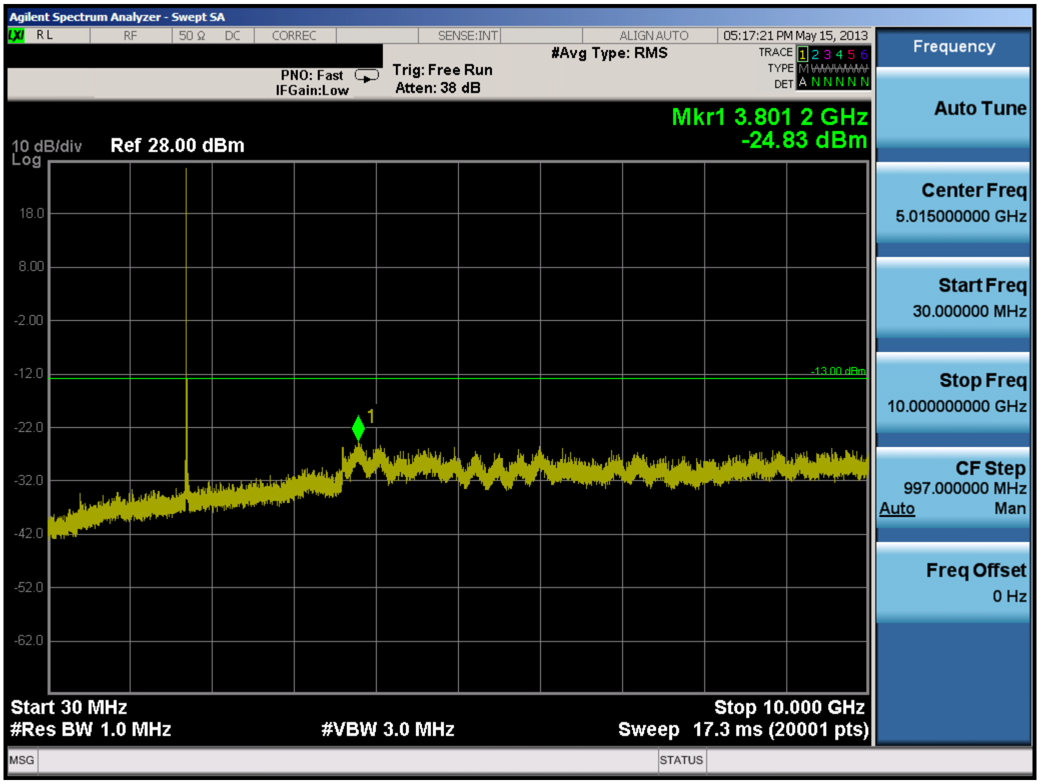
10 dB/div Ref 30.00 dBm

Center 1.733 GHz Span 30 MHz
Res BW 270 kHz #VBW 910 kHz Sweep 1 ms

Occupied Bandwidth		Total Power	28.8 dBm
	13.449 MHz		
Transmit Freq Error	35.742 kHz	OBW Power	99.00 %
x dB Bandwidth	14.77 MHz	x dB	-26.00 dB

Detector Average Auto Man

Plot 9-32. Occupied Bandwidth Plot (15.0MHz 16-QAM – RB Size 75)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:17:21 PM May 15, 2013

#Avg Type: RMS

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

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

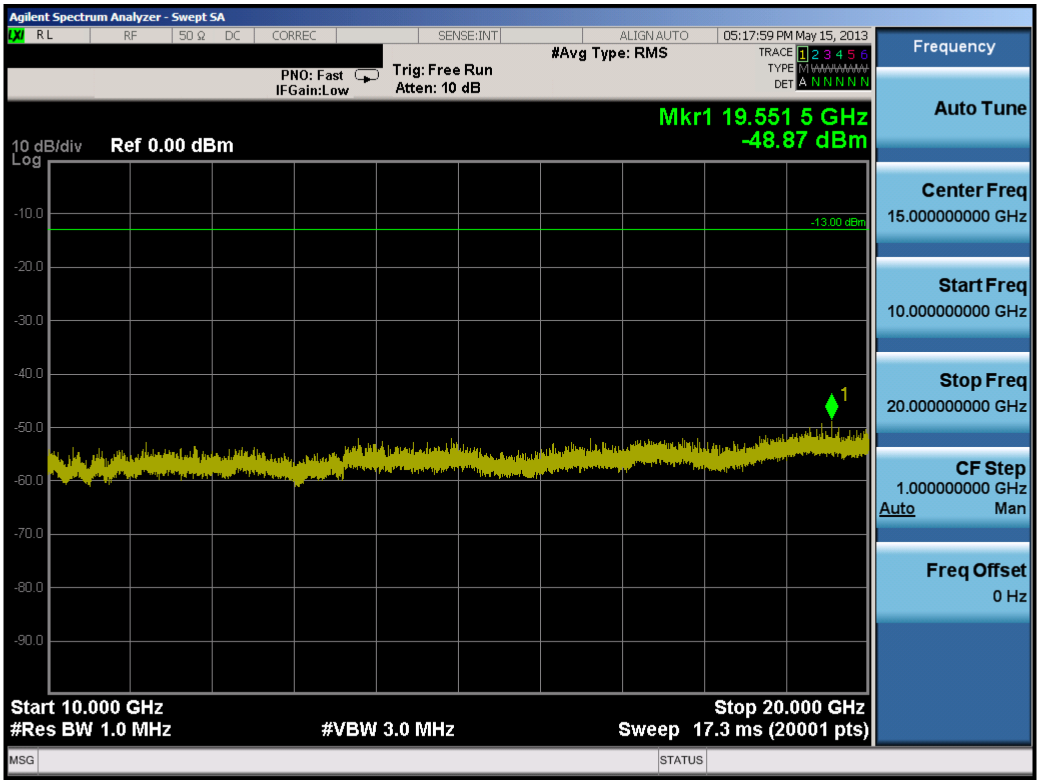
Mkr1 3.801 2 GHz
-24.83 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz Stop 10.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-33. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:17:59 PM May 15, 2013

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB #Avg Type: RMS

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

Mkr1 19.551 5 GHz -48.87 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

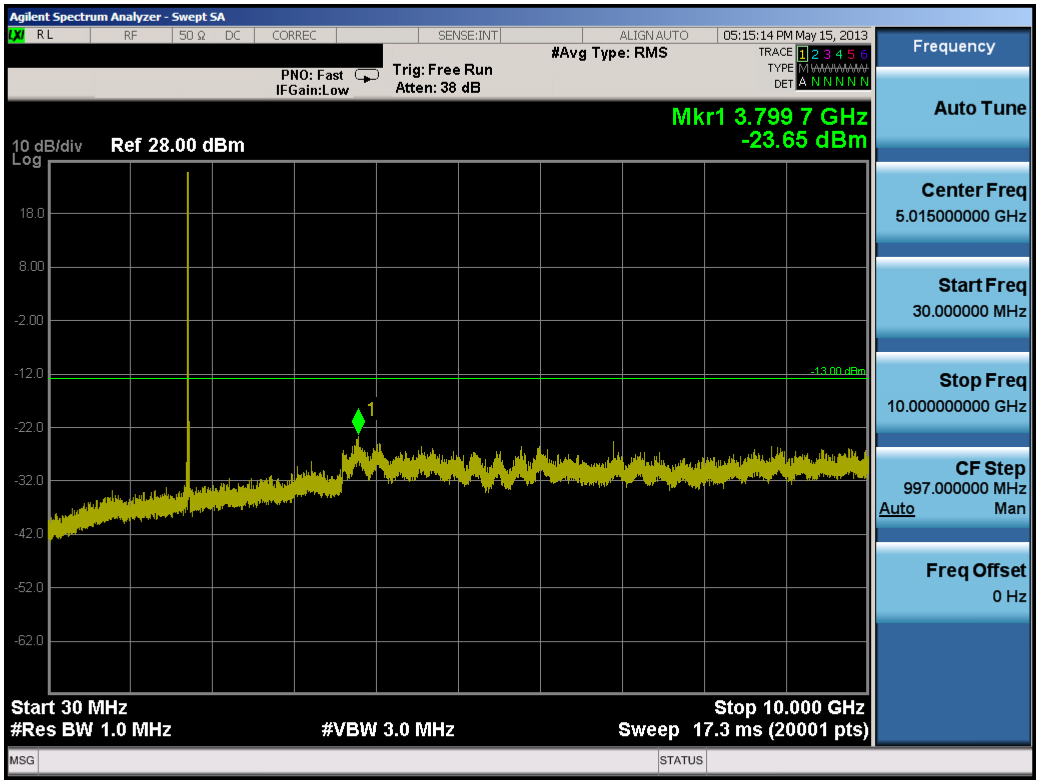
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-34. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:15:14 PM May 15, 2013

PNO: Fast IFGain:Low Trig: Free Run Atten: 38 dB #Avg Type: RMS

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

Mkr1 3.799 7 GHz -23.65 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

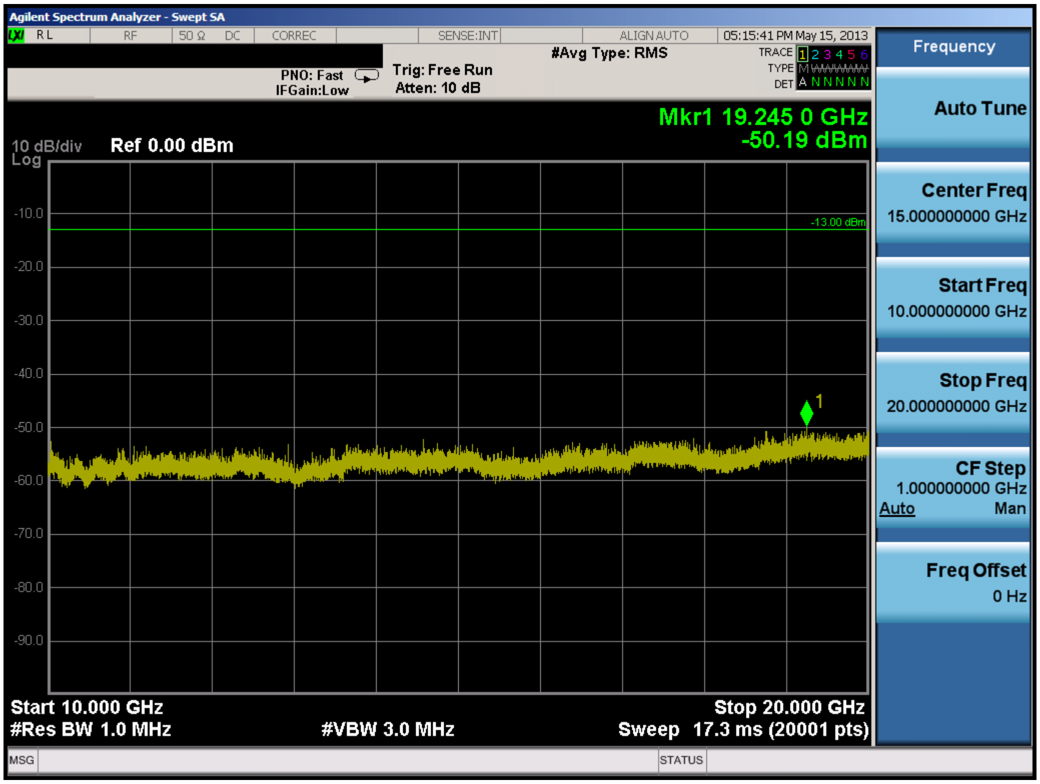
Start Freq 30.000000 MHz

Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-35. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:15:41 PM May 15, 2013

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB #Avg Type: RMS

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

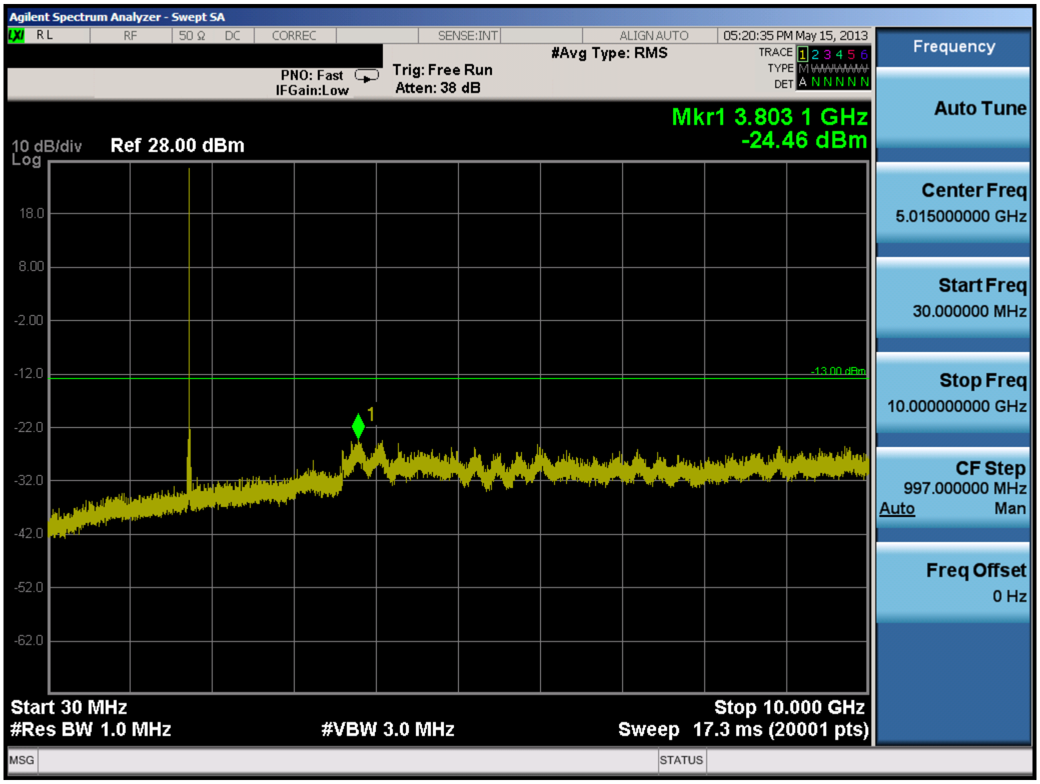
Mkr1 19.245 0 GHz
-50.19 dBm

10 dB/div Ref 0.00 dBm
Log

Start 10.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 9-36. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:20:35 PM May 15, 2013

PNO: Fast IFGain:Low Trig: Free Run Atten: 38 dB #Avg Type: RMS

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

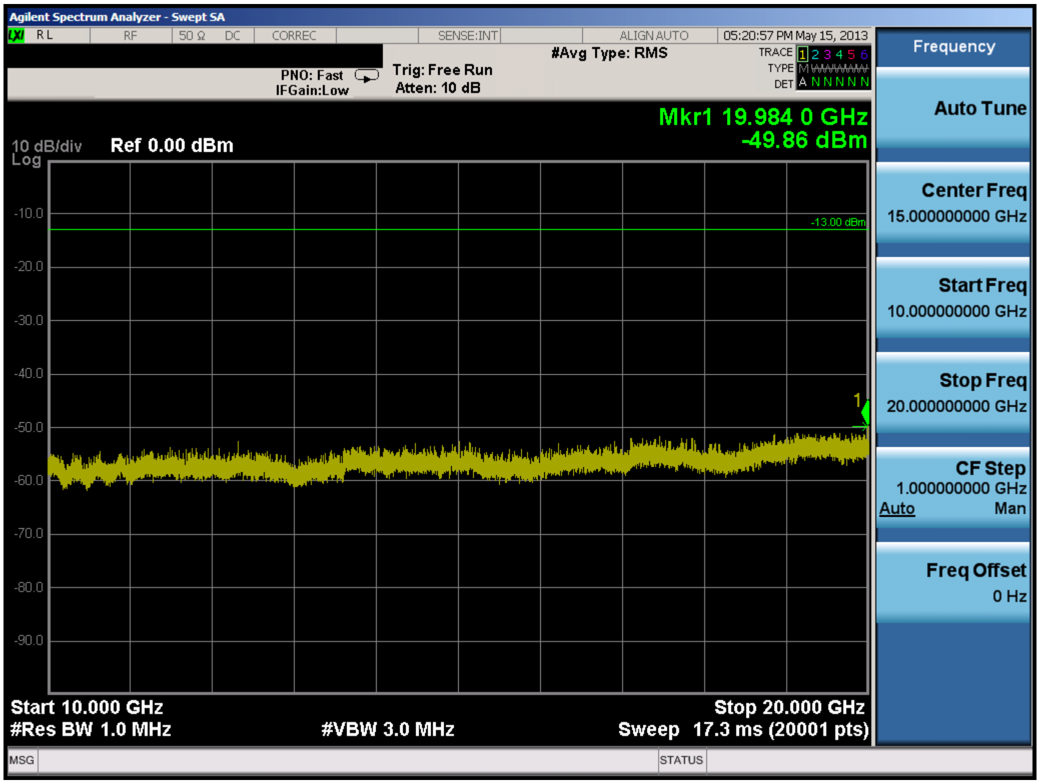
Mkr1 3.803 1 GHz
-24.46 dBm

10 dB/div Ref 28.00 dBm
Log

Start 30 MHz
#Res BW 1.0 MHz #VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-37. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:20:57 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

Mkr1 19.984 0 GHz

-49.86 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Frequency

Auto Tune

Center Freq 15.000000000 GHz

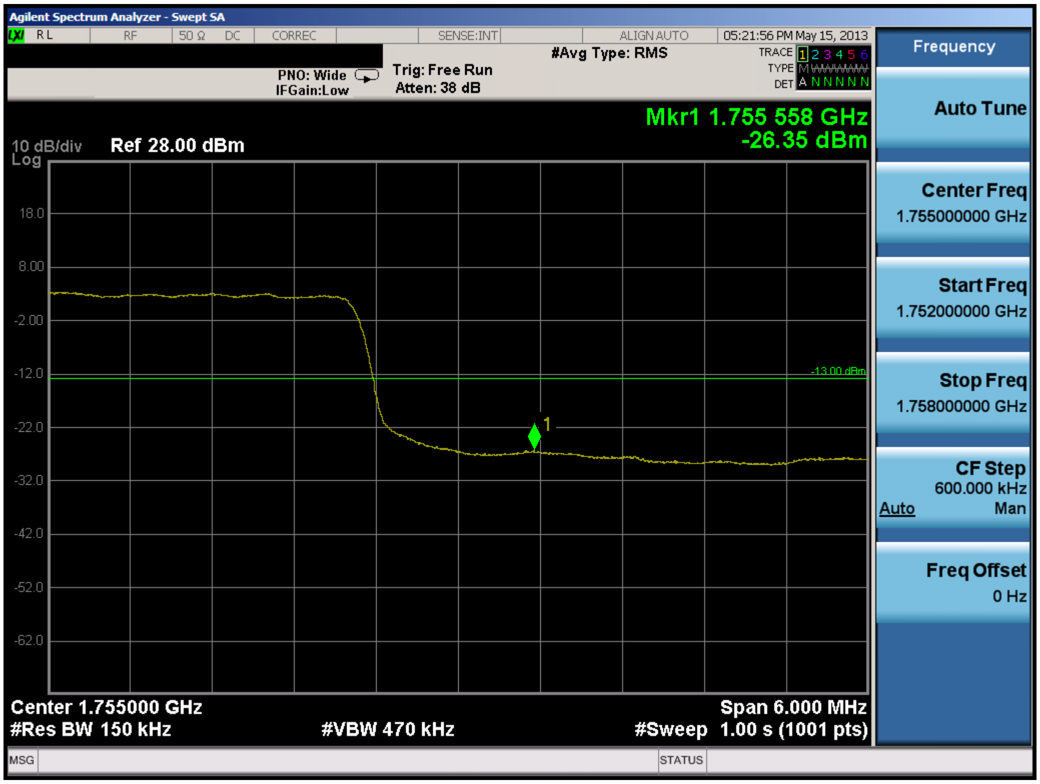
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 9-38. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:21:56 PM May 15, 2013

#Avg Type: RMS

PNO: Wide IFGain:Low

Trig: Free Run

Atten: 38 dB

Mkr1 1.755 558 GHz

-26.35 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.755000 GHz

#Res BW 150 kHz

#VBW 470 kHz

Span 6.000 MHz

#Sweep 1.00 s (1001 pts)

Frequency

Auto Tune

Center Freq 1.755000000 GHz

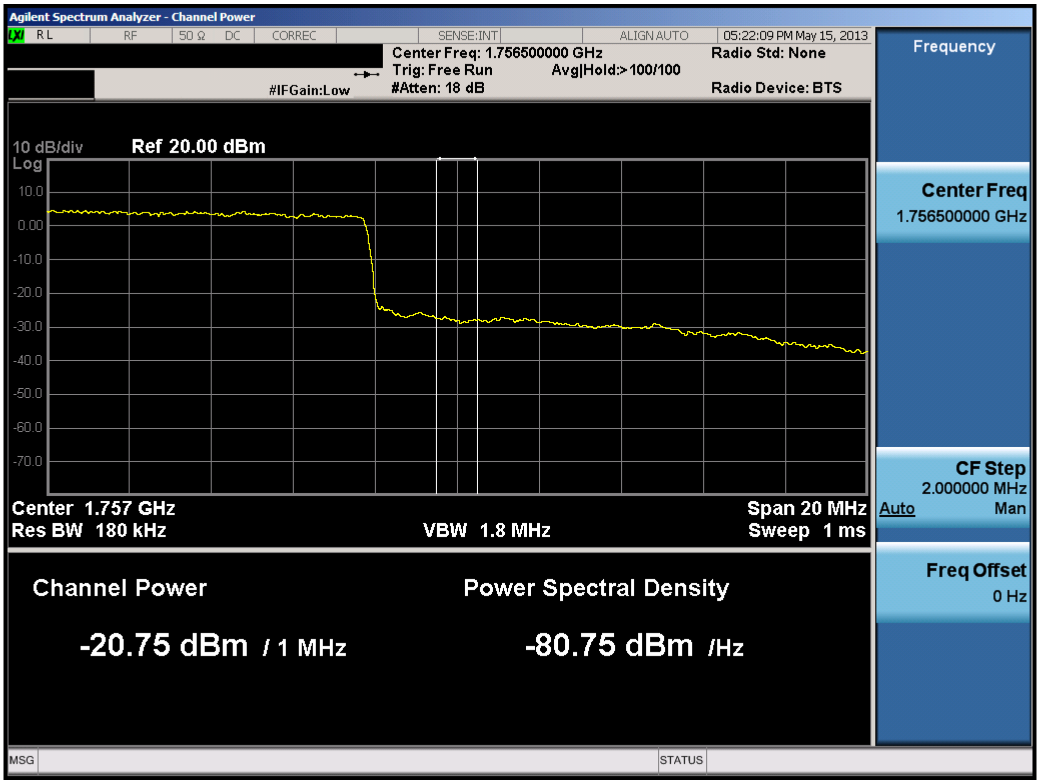
Start Freq 1.752000000 GHz

Stop Freq 1.758000000 GHz

CF Step 600.000 kHz Auto Man

Freq Offset 0 Hz

Plot 9-39. Upper Band Edge Plot (15.0MHz QPSK – RB Size 75)



Agilent Spectrum Analyzer - Channel Power

05:22:09 PM May 15, 2013

Center Freq: 1.756500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#IFGain:Low
#Atten: 18 dB
Radio Std: None
Radio Device: BTS

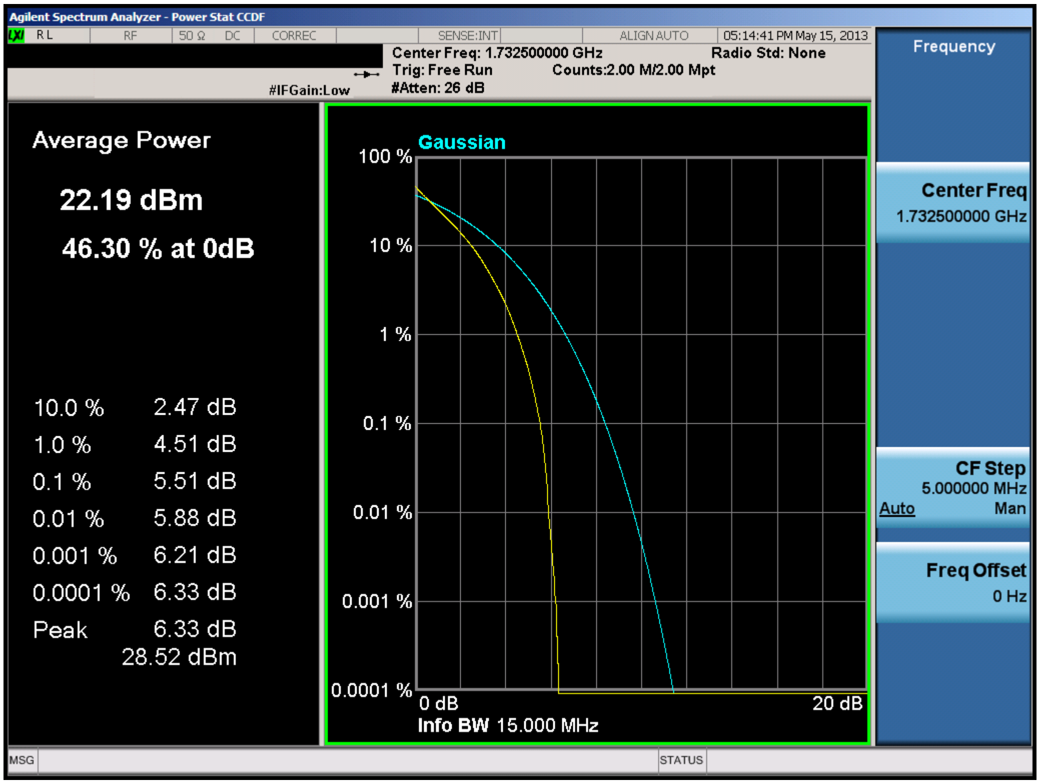
Ref 20.00 dBm

Center 1.757 GHz
Res BW 180 kHz
VBW 1.8 MHz
Span 20 MHz
Sweep 1 ms

Channel Power: -20.75 dBm / 1 MHz

Power Spectral Density: -80.75 dBm /Hz

Plot 9-40. Upper Extended Band Edge Plot (15.0MHz QPSK – RB Size 75)



Agilent Spectrum Analyzer - Power Stat CCDF

05:14:41 PM May 15, 2013

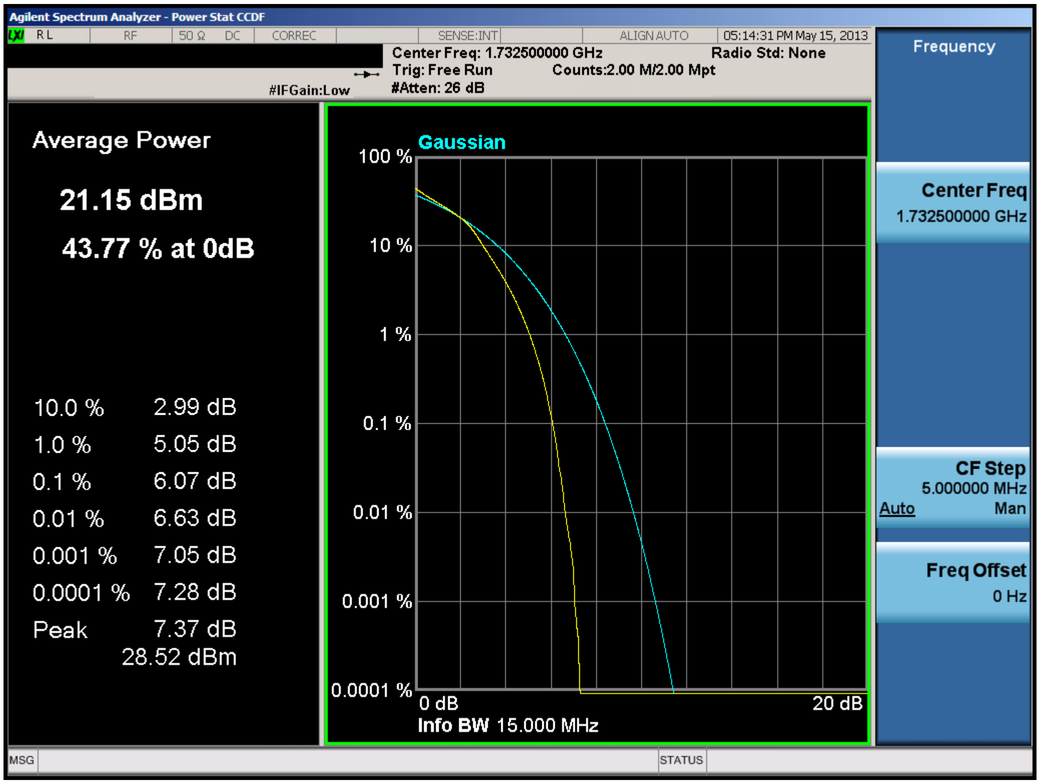
Center Freq: 1.732500000 GHz
Trig: Free Run
Counts:2.00 M/2.00 Mpt
#IFGain:Low
#Atten: 26 dB
Radio Std: None

Average Power
22.19 dBm
46.30 % at 0dB

10.0 %	2.47 dB
1.0 %	4.51 dB
0.1 %	5.51 dB
0.01 %	5.88 dB
0.001 %	6.21 dB
0.0001 %	6.33 dB
Peak	6.33 dB 28.52 dBm

Info BW 15.000 MHz

Plot 9-41. PAR Plot (15.0MHz QPSK – RB Size 75)



05:14:31 PM May 15, 2013

Center Freq: 1.732500000 GHz

Trig: Free Run

#Atten: 26 dB

Radio Std: None

Counts:2.00 M/2.00 Mpt

#IFGain:Low

Average Power

21.15 dBm

43.77 % at 0dB

10.0 %	2.99 dB
1.0 %	5.05 dB
0.1 %	6.07 dB
0.01 %	6.63 dB
0.001 %	7.05 dB
0.0001 %	7.28 dB
Peak	7.37 dB 28.52 dBm

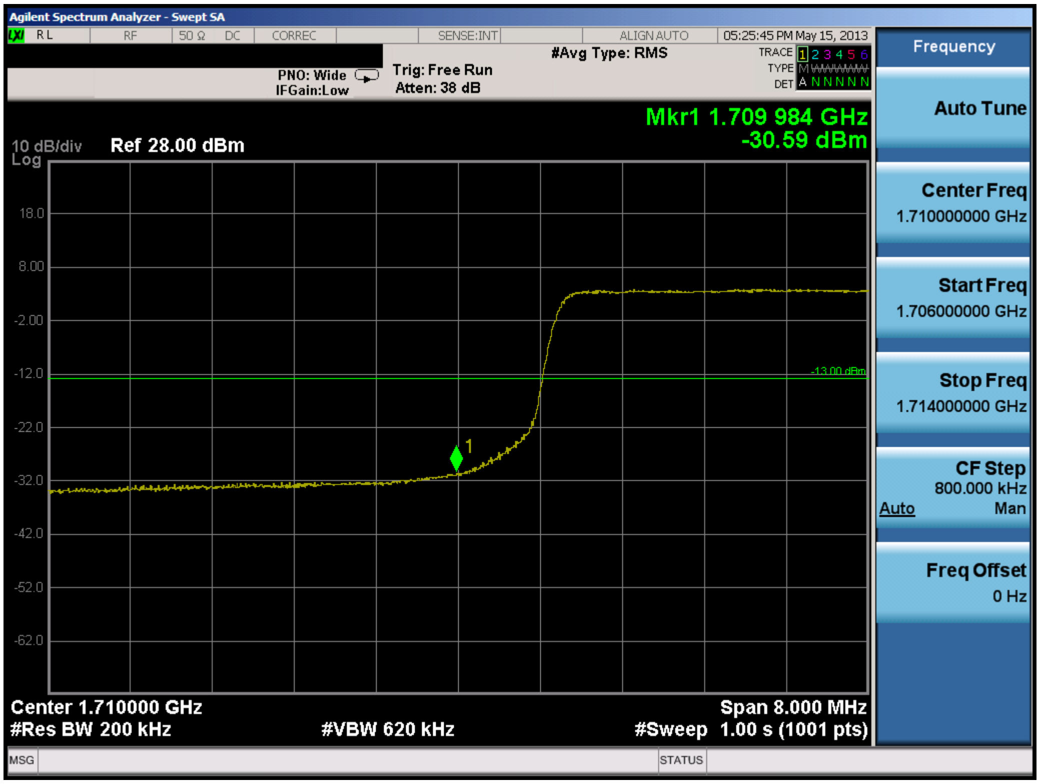
Info BW 15.000 MHz

Center Freq 1.732500000 GHz

CF Step 5.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-42. PAR Plot (15.0MHz 16-QAM – RB Size 75)



05:25:45 PM May 15, 2013

#Avg Type: RMS

PNO: Wide

IFGain:Low

Trig: Free Run

Atten: 38 dB

Mkr1 1.709 984 GHz
-30.59 dBm

Ref 28.00 dBm

Center 1.710000 GHz

#Res BW 200 kHz

#VBW 620 kHz

Span 8.000 MHz

#Sweep 1.00 s (1001 pts)

Center Freq 1.710000000 GHz

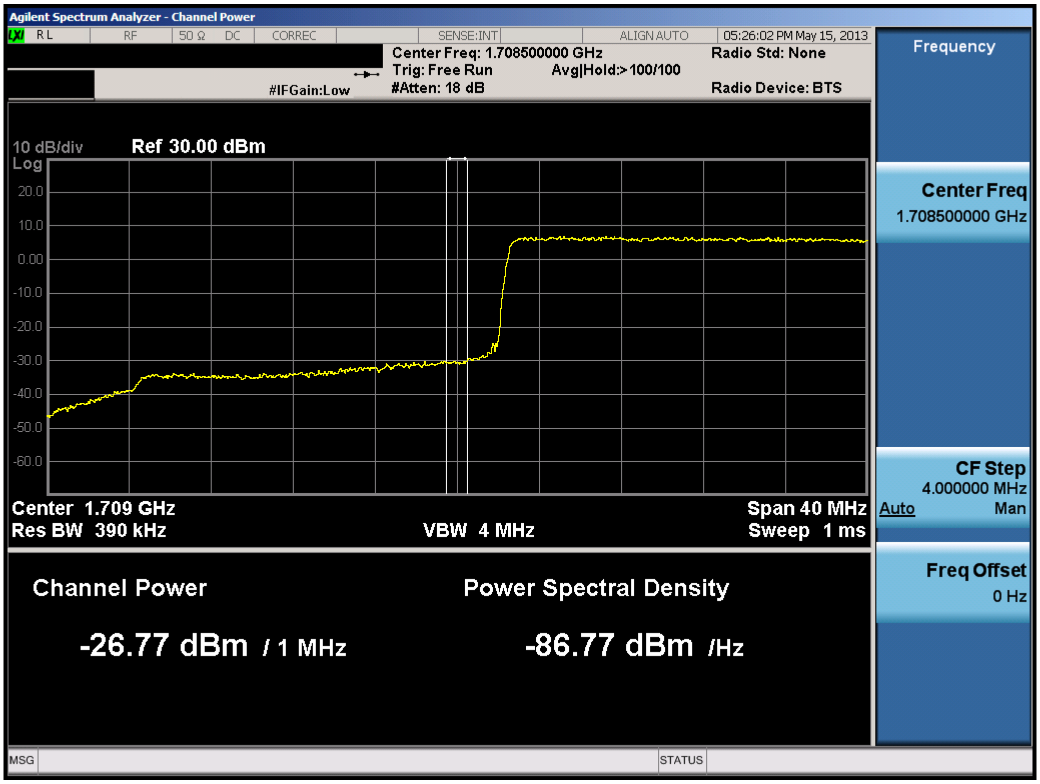
Start Freq 1.706000000 GHz

Stop Freq 1.714000000 GHz

CF Step 800.000 kHz Auto Man

Freq Offset 0 Hz

Plot 9-43. Lower Band Edge Plot (20.0MHz QPSK – RB Size 100)



05:26:02 PM May 15, 2013

Center Freq: 1.708500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 18 dB
Radio Std: None
Radio Device: BTS

Ref 30.00 dBm

Center 1.709 GHz
Res BW 390 kHz
VBW 4 MHz
Span 40 MHz
Sweep 1 ms

Channel Power -26.77 dBm / 1 MHz

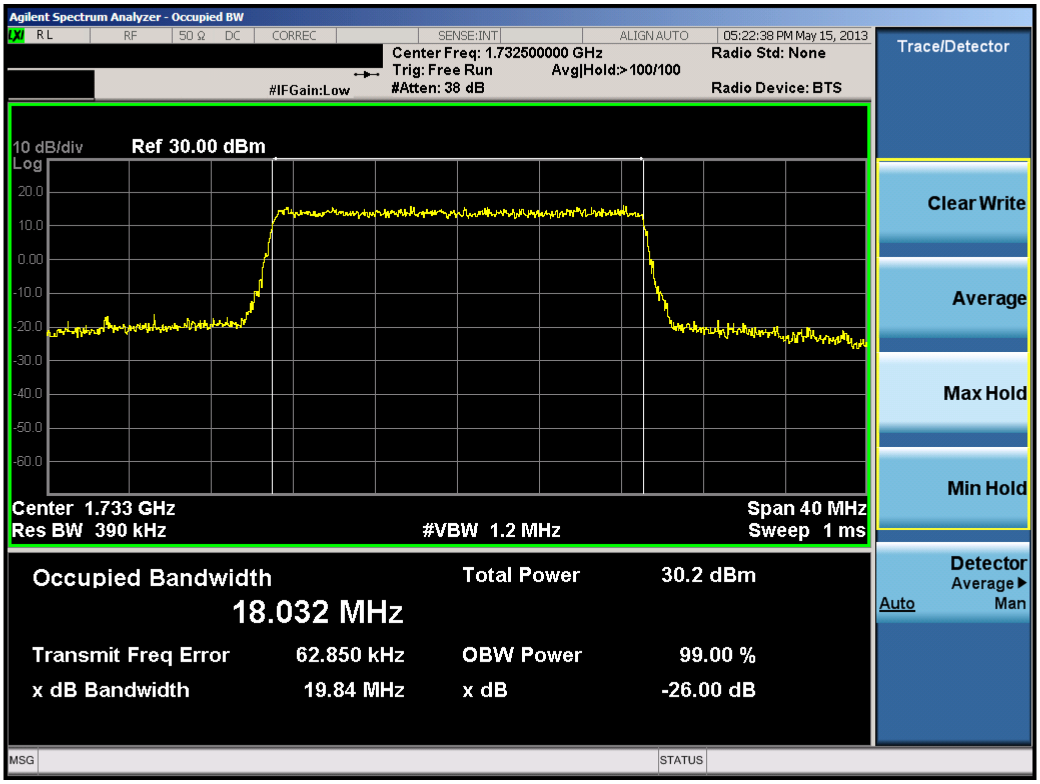
Power Spectral Density -86.77 dBm /Hz

Center Freq 1.708500000 GHz

CF Step 4.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-44. Lower Extended Band Edge Plot (20.0MHz QPSK – RB Size 100)



05:22:38 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

Ref 30.00 dBm

Center 1.733 GHz
Res BW 390 kHz
#VBW 1.2 MHz
Span 40 MHz
Sweep 1 ms

Occupied Bandwidth 18.032 MHz

Total Power 30.2 dBm

Transmit Freq Error 62.850 kHz

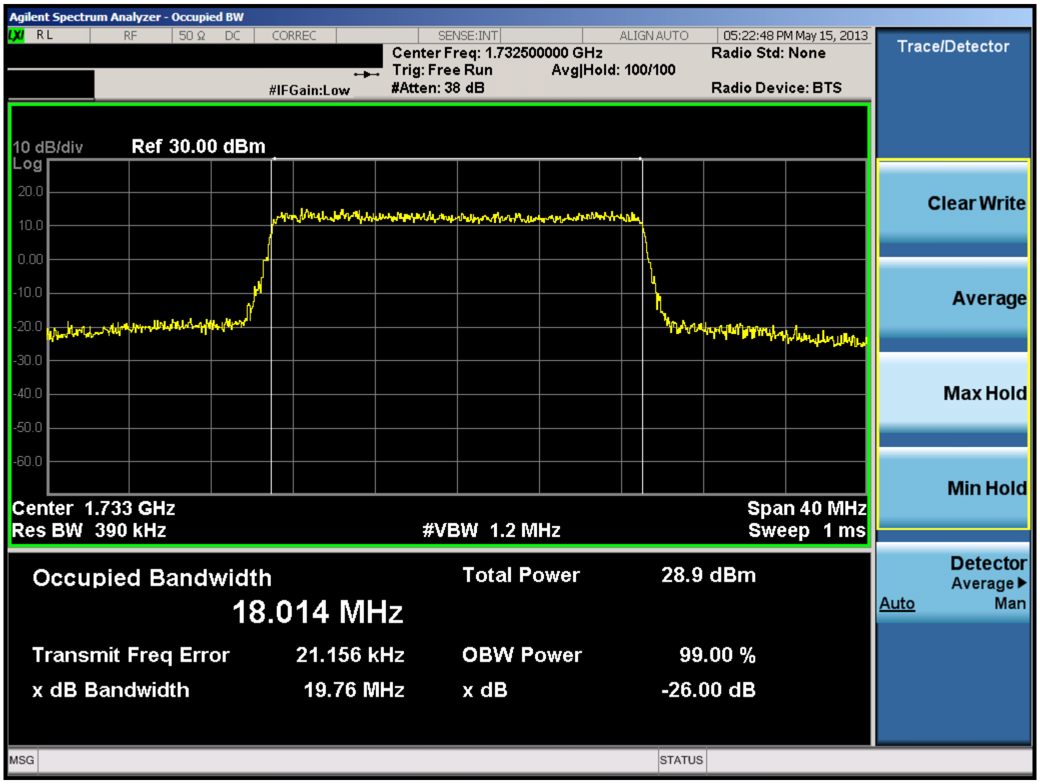
OBW Power 99.00 %

x dB Bandwidth 19.84 MHz

x dB -26.00 dB

Detector Average ▶ Auto Man

Plot 9-45. Occupied Bandwidth Plot (20.0MHz QPSK – RB Size 100)


Agilent Spectrum Analyzer - Occupied BW

Center Freq: 1.732500000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 38 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
05:22:48 PM May 15, 2013

Center 1.733 GHz
Res BW 390 kHz
#VBW 1.2 MHz
Span 40 MHz
Sweep 1 ms

Occupied Bandwidth
18.014 MHz

Total Power 28.9 dBm

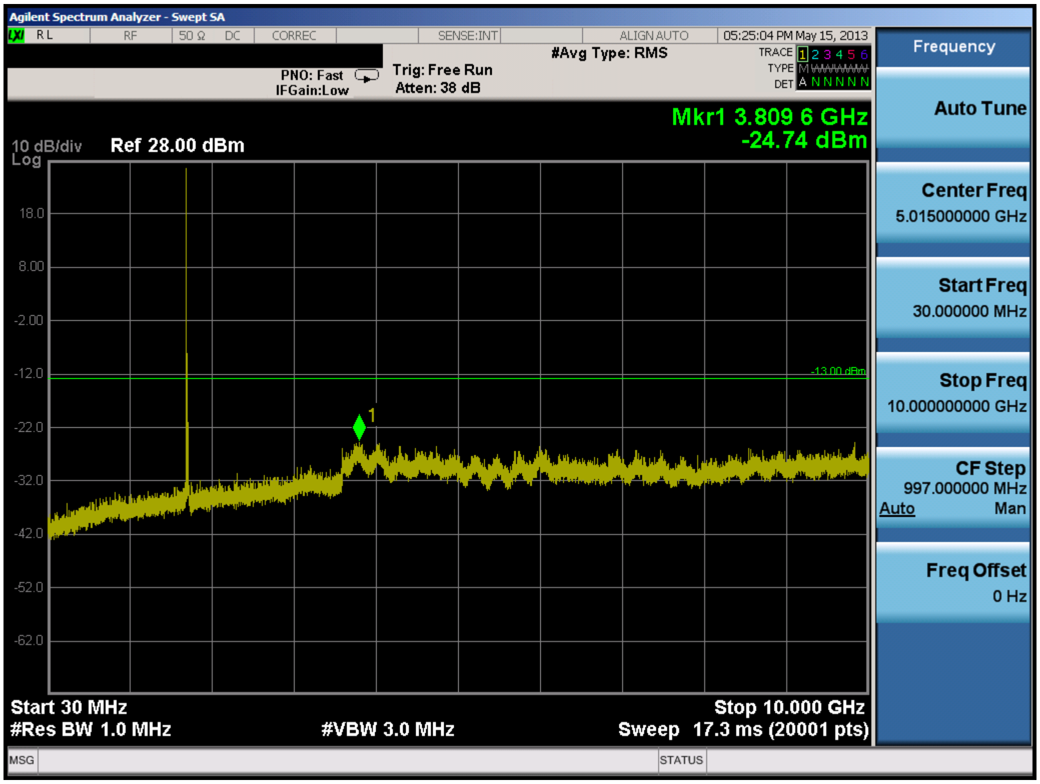
Transmit Freq Error 21.156 kHz

OBW Power 99.00 %

x dB Bandwidth 19.76 MHz

x dB -26.00 dB

Plot 9-46. Occupied Bandwidth Plot (20.0MHz 16-QAM – RB Size 100)


Agilent Spectrum Analyzer - Swept SA

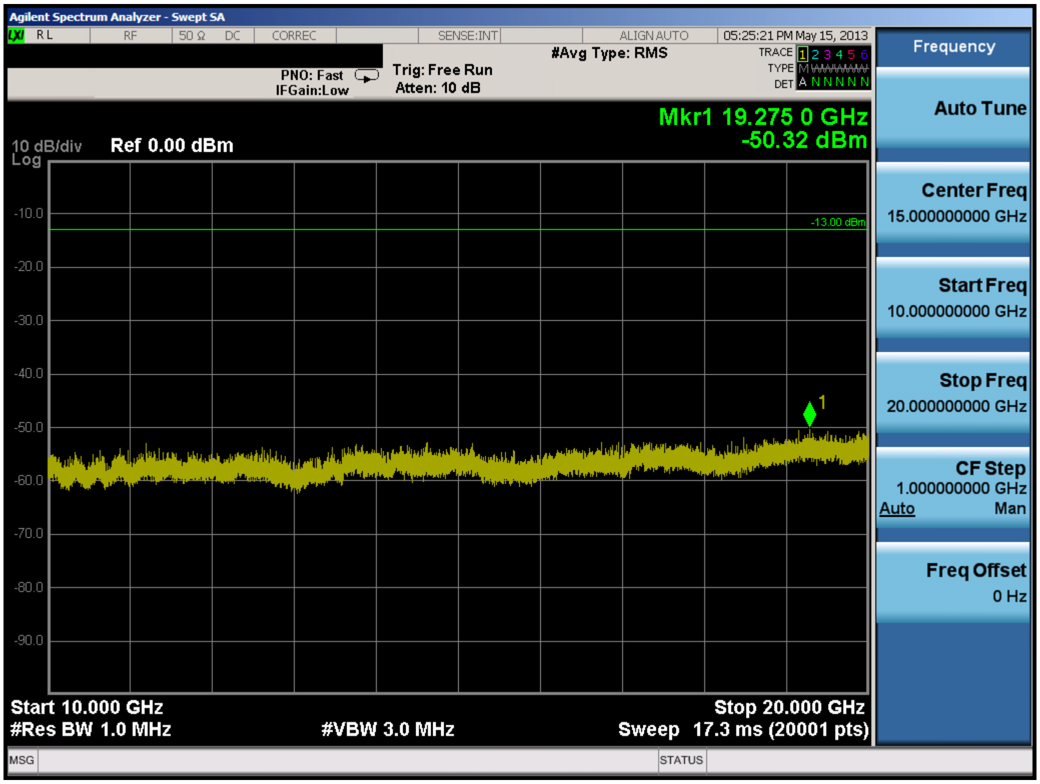
#Avg Type: RMS
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB
05:25:04 PM May 15, 2013

Mkr1 3.809 6 GHz
-24.74 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Freq Offset 0 Hz

Plot 9-47. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:25:21 PM May 15, 2013

#Avg Type: RMS

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

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

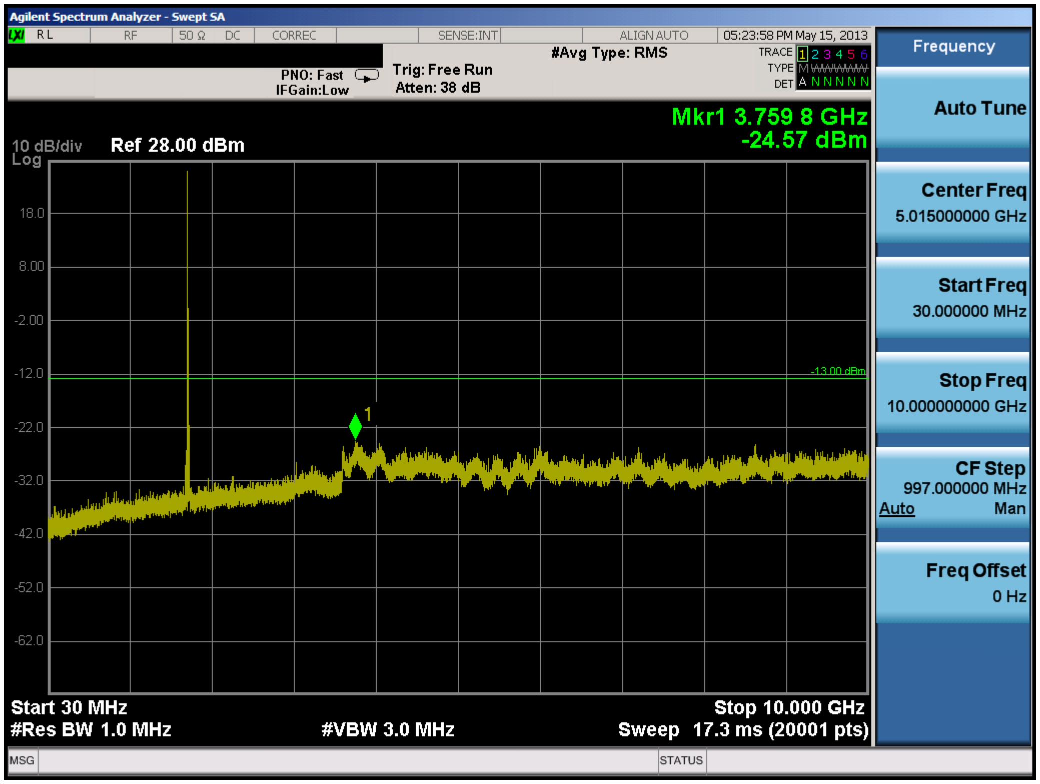
Mkr1 19.275 0 GHz
-50.32 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 9-48. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:23:58 PM May 15, 2013

#Avg Type: RMS

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 38 dB

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

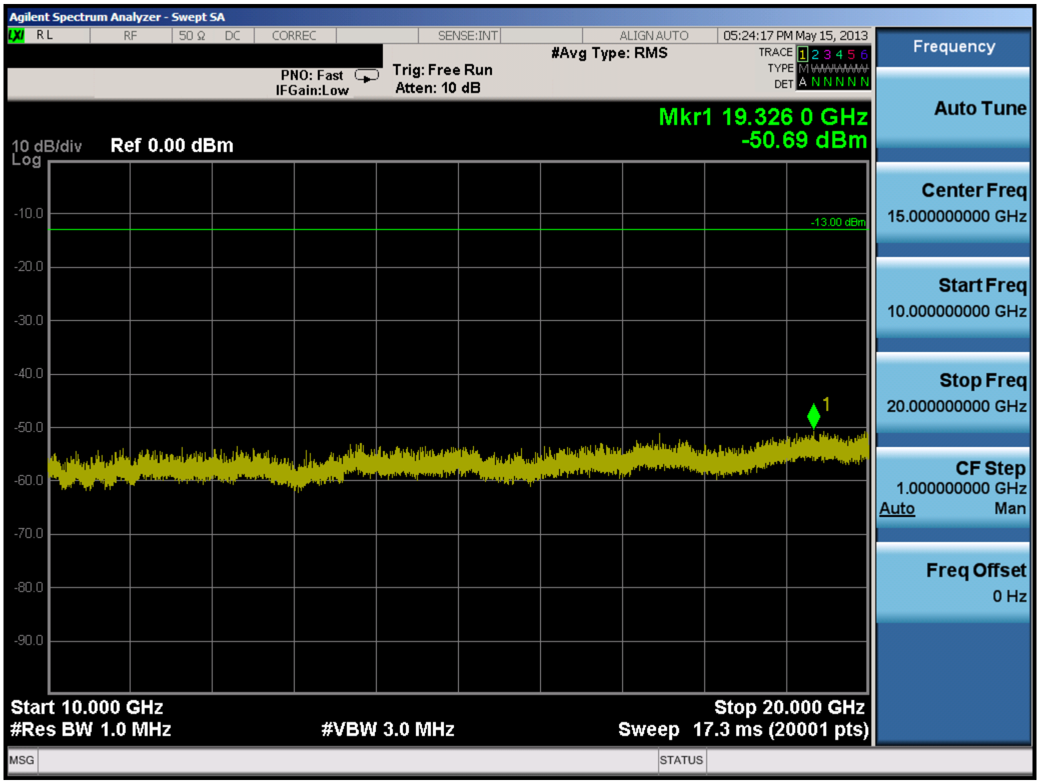
Mkr1 3.759 8 GHz
-24.57 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-49. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Agilent Spectrum Analyzer - Swept SA

05:24:17 PM May 15, 2013

#Avg Type: RMS

PNO: Fast

IFGain:Low

Trig: Free Run

Atten: 10 dB

Mkr1 19.326 0 GHz

-50.69 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

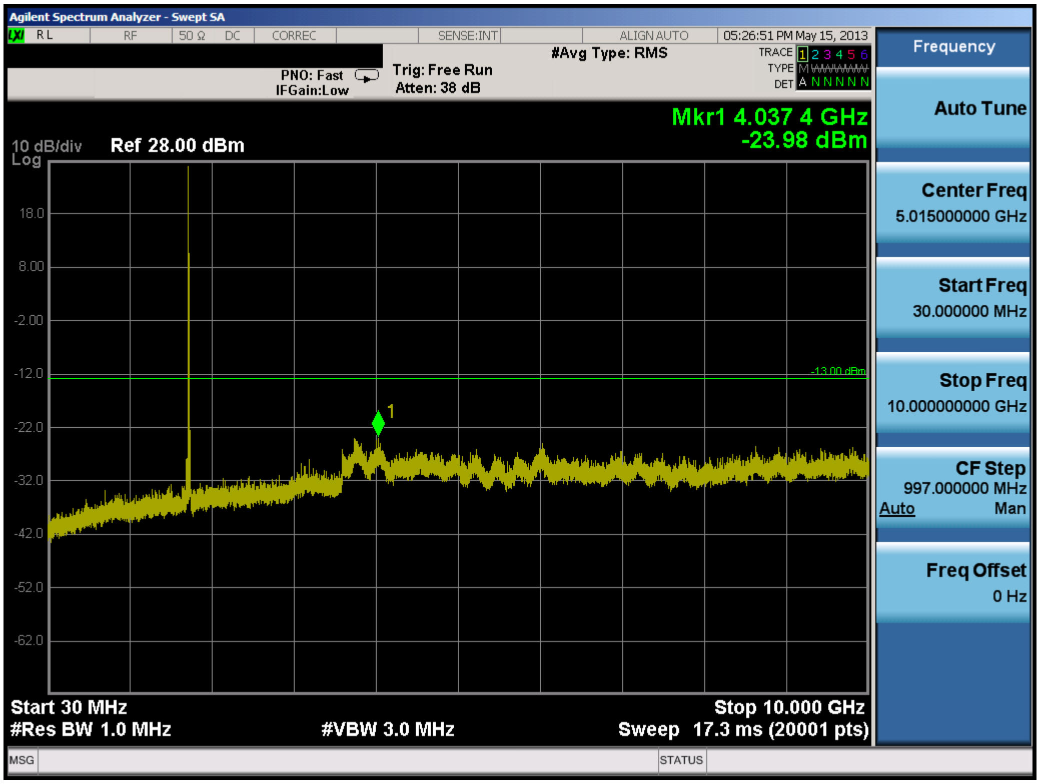
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz

Freq Offset 0 Hz

Plot 9-50. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Agilent Spectrum Analyzer - Swept SA

05:26:51 PM May 15, 2013

#Avg Type: RMS

PNO: Fast

IFGain:Low

Trig: Free Run

Atten: 38 dB

Mkr1 4.037 4 GHz

-23.98 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 10.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

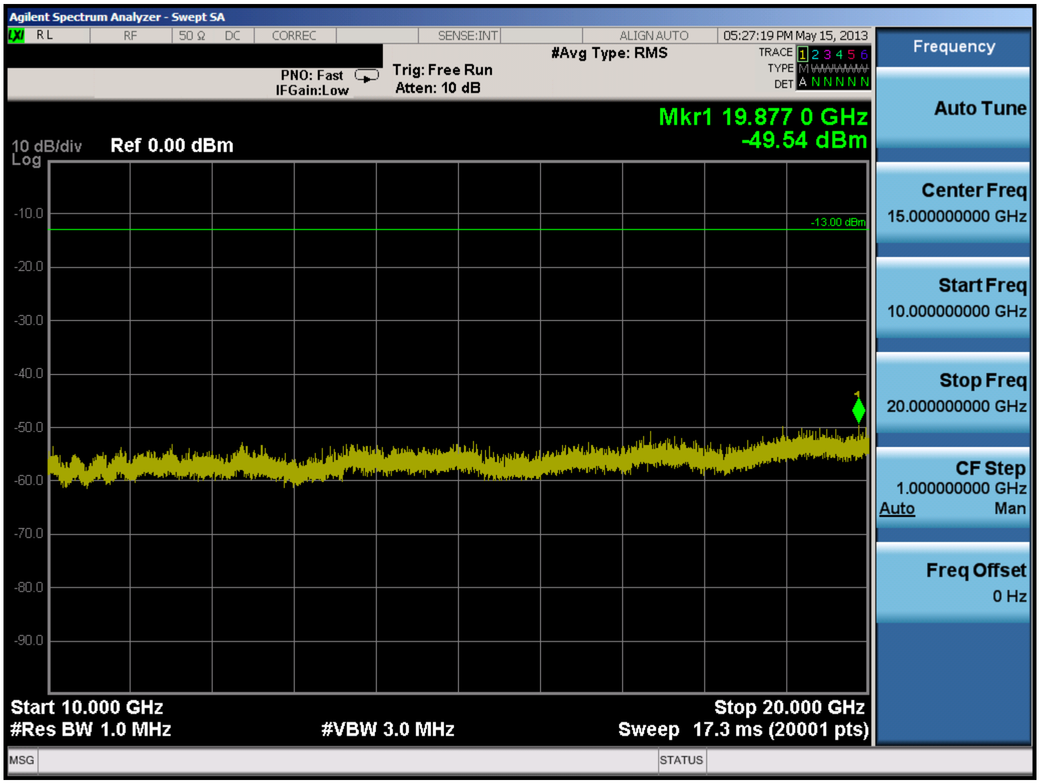
Start Freq 30.000000 MHz

Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz

Freq Offset 0 Hz

Plot 9-51. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:27:19 PM May 15, 2013

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB #Avg Type: RMS

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

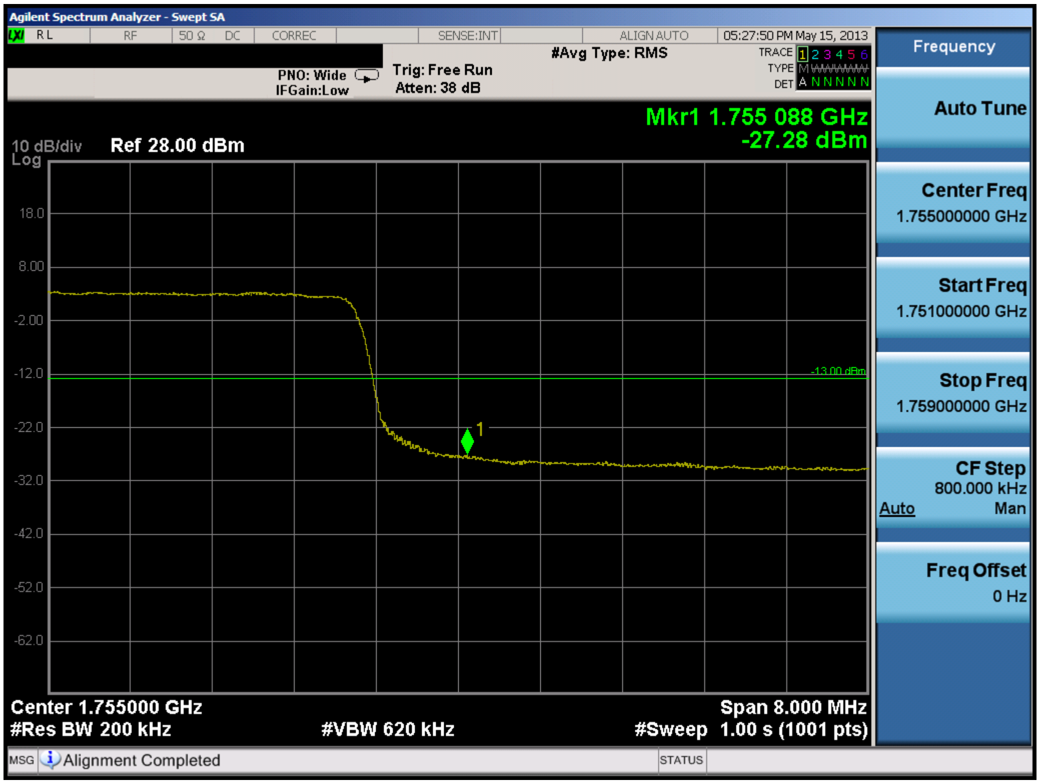
Mkr1 19.877 0 GHz -49.54 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 9-52. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:27:50 PM May 15, 2013

PNO: Wide IFGain:Low Trig: Free Run Atten: 38 dB #Avg Type: RMS

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

Mkr1 1.755 088 GHz -27.28 dBm

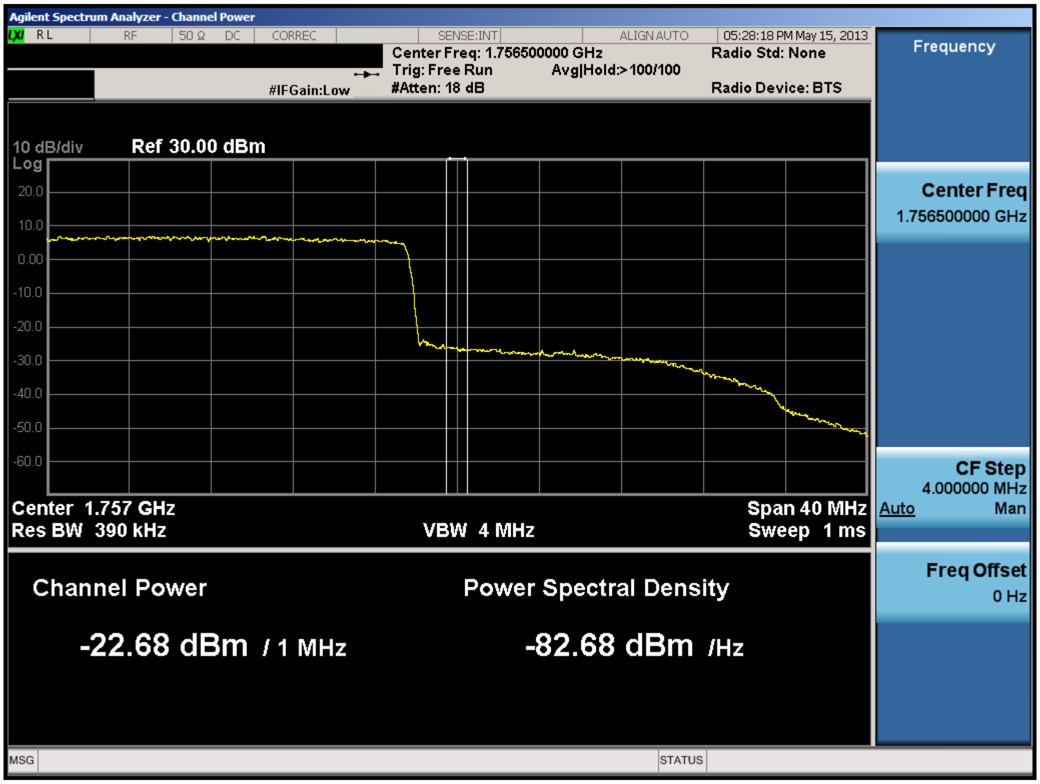
10 dB/div Log Ref 28.00 dBm

Center 1.755000 GHz #Res BW 200 kHz #VBW 620 kHz Span 8.000 MHz #Sweep 1.00 s (1001 pts)

Frequency
Auto Tune
Center Freq 1.755000000 GHz
Start Freq 1.751000000 GHz
Stop Freq 1.759000000 GHz
CF Step 800.000 kHz Auto Man
Freq Offset 0 Hz

MSG Alignment Completed

Plot 9-53. Upper Band Edge Plot (20.0MHz QPSK – RB Size 100)



05:28:18 PM May 15, 2013

Center Freq: 1.756500000 GHz
Trig: Free Run
Avg|Hold:>100/100
#IFGain:Low
#Atten: 18 dB
Radio Std: None
Radio Device: BTS

Ref 30.00 dBm

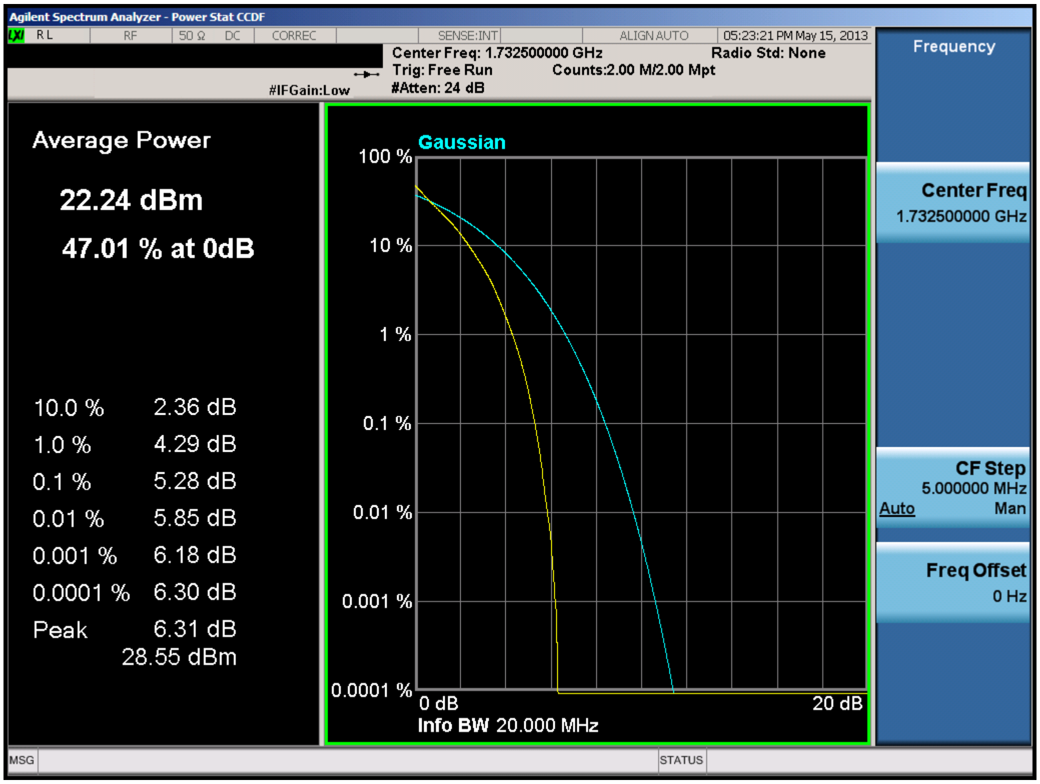
Center 1.757 GHz
Res BW 390 kHz
VBW 4 MHz
Span 40 MHz
Sweep 1 ms

Channel Power
-22.68 dBm / 1 MHz

Power Spectral Density
-82.68 dBm /Hz

Center Freq 1.756500000 GHz
CF Step 4.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-54. Upper Extended Band Edge Plot (20.0MHz QPSK – RB Size 100)



05:23:21 PM May 15, 2013

Center Freq: 1.732500000 GHz
Trig: Free Run
Counts:2.00 M/2.00 Mpt
#IFGain:Low
#Atten: 24 dB
Radio Std: None

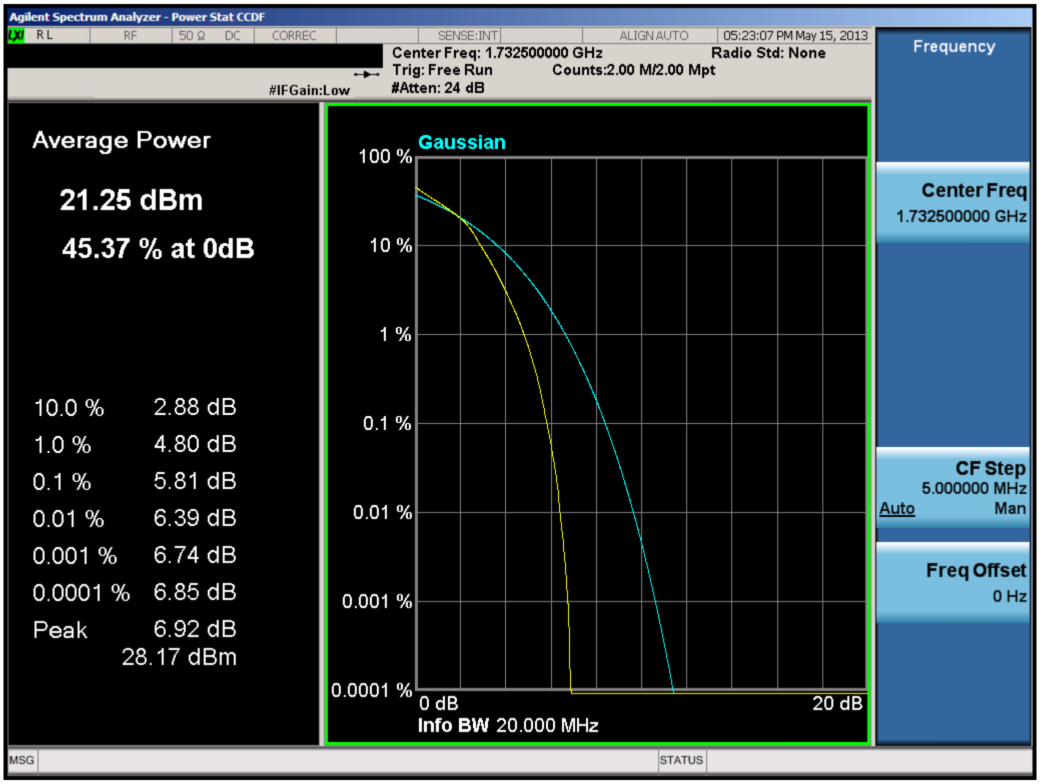
Average Power
22.24 dBm
47.01 % at 0dB

10.0 %	2.36 dB
1.0 %	4.29 dB
0.1 %	5.28 dB
0.01 %	5.85 dB
0.001 %	6.18 dB
0.0001 %	6.30 dB
Peak	6.31 dB 28.55 dBm

Info BW 20.000 MHz

Center Freq 1.732500000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 9-55. PAR Plot (20.0MHz QPSK – RB Size 100)



Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 05:23:07 PM May 15, 2013

Center Freq: 1.732500000 GHz Radio Std: None
Trig: Free Run Counts:2.00 M/2.00 Mpt
#IFGain:Low #Atten: 24 dB

Average Power

21.25 dBm

45.37 % at 0dB

10.0 %	2.88 dB
1.0 %	4.80 dB
0.1 %	5.81 dB
0.01 %	6.39 dB
0.001 %	6.74 dB
0.0001 %	6.85 dB
Peak	6.92 dB 28.17 dBm

Info BW 20.000 MHz

Frequency

Center Freq 1.732500000 GHz

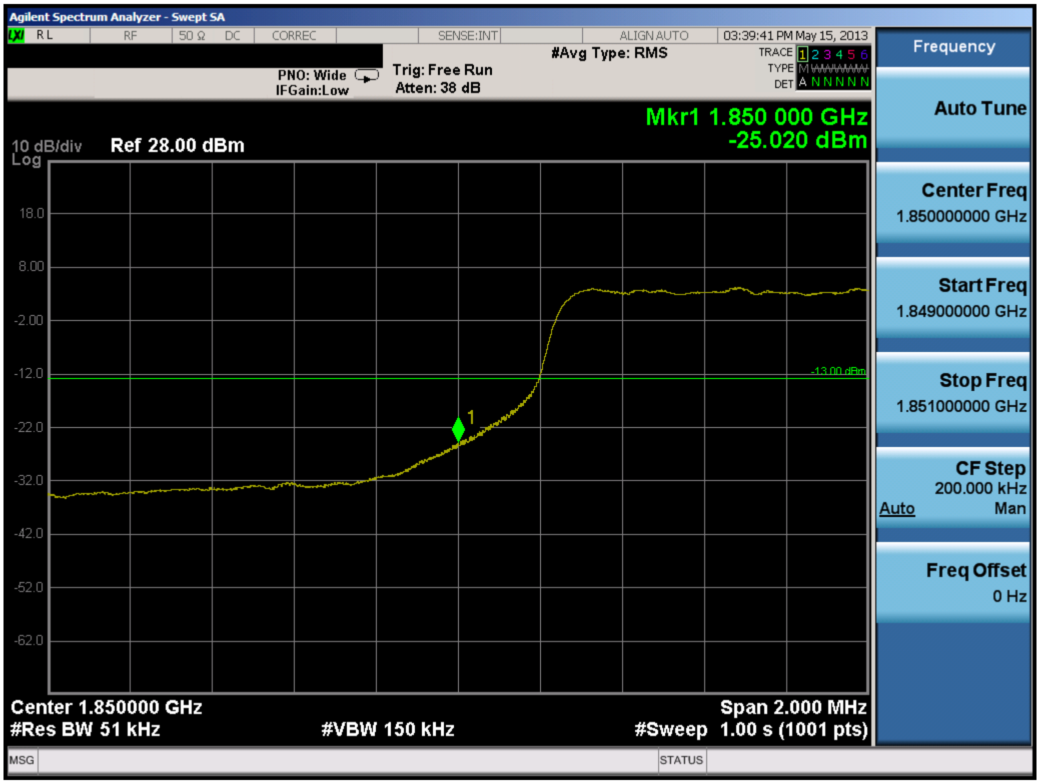
CF Step 5.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 9-56. PAR Plot (20.0MHz 16-QAM – RB Size 100)

10.0 BAND 2 PLOTS OF EMISSIONS

Note: All bandwidths, RB configurations, and modulations were investigated. The worst case test results are reported below.



03:39:41 PM May 15, 2013

#Avg Type: RMS

PNO: Wide
IFGain:Low

Trig: Free Run
Atten: 38 dB

Mkr1 1.850 000 GHz
-25.020 dBm

Ref 28.00 dBm

Center 1.850000 GHz
#Res BW 51 kHz
#VBW 150 kHz
Span 2.000 MHz
#Sweep 1.00 s (1001 pts)

Center Freq 1.850000000 GHz

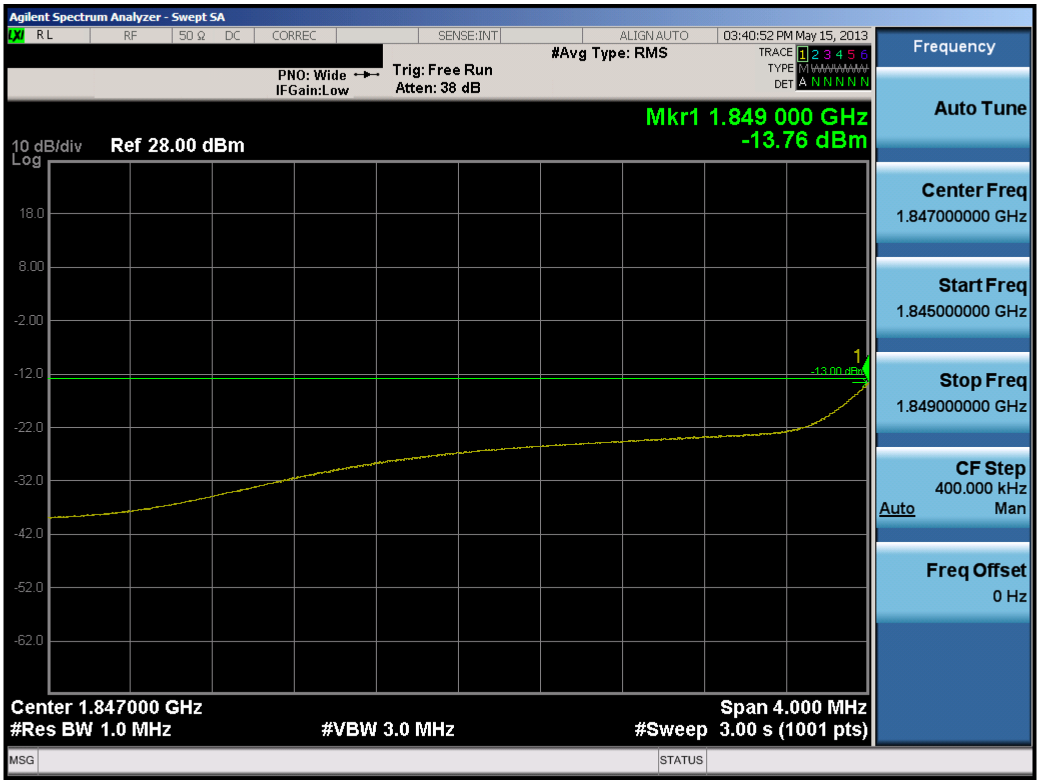
Start Freq 1.849000000 GHz

Stop Freq 1.851000000 GHz

CF Step 200.000 kHz
Auto Man

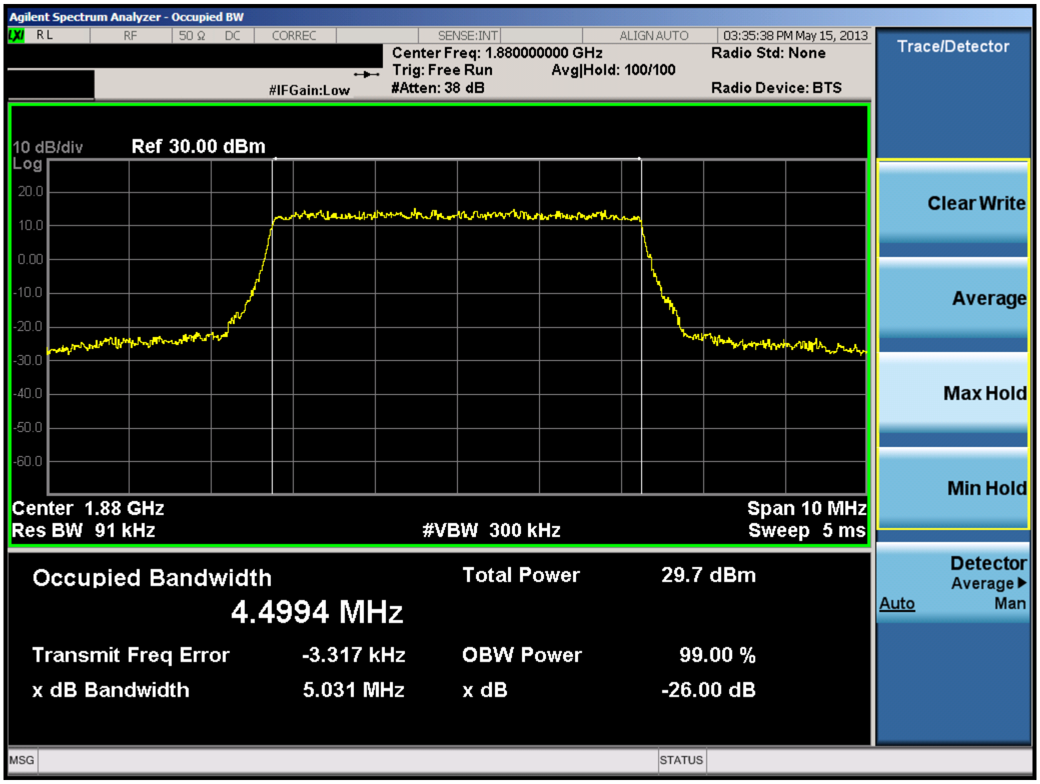
Freq Offset 0 Hz

Plot 10-1. Lower Band Edge Plot (5.0MHz QPSK – RB Size 25)



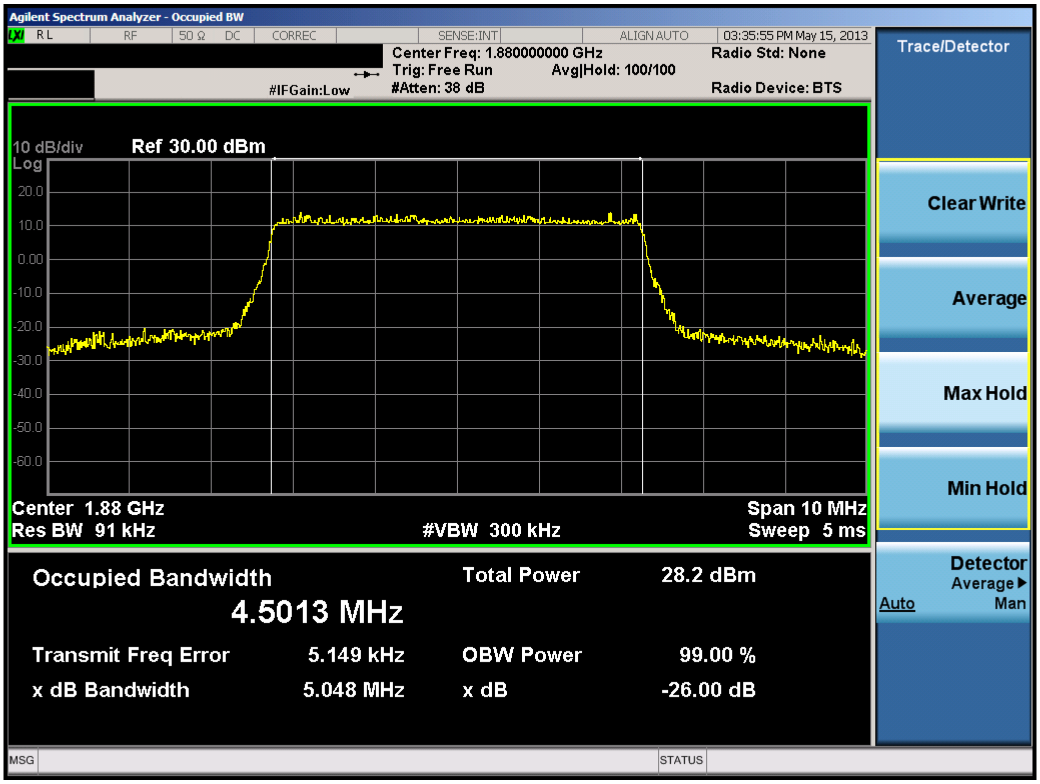
```
Agilent Spectrum Analyzer - Swept SA
RL    RF    50 Ω  DC    CORREC    SENSE:INT    ALIGN AUTO    03:40:52 PM May 15, 2013
                                            #Avg Type: RMS      TRACE 1 2 3 4 5 6
        PNO: Wide     Trig: Free Run                           TYPE M WWWWW
        IFGain:Low    Atten: 38 dB                              DET A N N N N N
                                                      Mkr1 1.849 000 GHz
10 dB/div   Ref 28.00 dBm                                     -13.76 dBm
Log

Center 1.847000 GHz                                           Span 4.000 MHz
#Res BW 1.0 MHz            #VBW 3.0 MHz             #Sweep  3.00 s (1001 pts)
MSG                                        STATUS
```

Plot 10-2. Lower Extended Band Edge Plot (5.0MHz QPSK – RB Size 25)



```
Agilent Spectrum Analyzer - Occupied BW
RL    RF    50 Ω  DC    CORREC    SENSE:INT    ALIGN AUTO    03:35:38 PM May 15, 2013
                    Center Freq: 1.880000000 GHz          Radio Std: None
                    Trig: Free Run     Avg|Hold: 100/100
      #IFGain:Low   #Atten: 38 dB                         Radio Device: BTS

10 dB/div   Ref 30.00 dBm
Log

Center  1.88 GHz                                          Span 10 MHz
Res BW  91 kHz                #VBW  300 kHz               Sweep  5 ms

Occupied Bandwidth                   Total Power        29.7 dBm
                4.4994 MHz

Transmit Freq Error     -3.317 kHz   OBW Power          99.00 %
x dB Bandwidth          5.031 MHz    x dB               -26.00 dB
MSG                                        STATUS
```

Plot 10-3. Occupied Bandwidth Plot (5.0MHz QPSK – RB Size 25)


Agilent Spectrum Analyzer - Occupied BW

03:35:55 PM May 15, 2013

Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#IFGain:Low
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

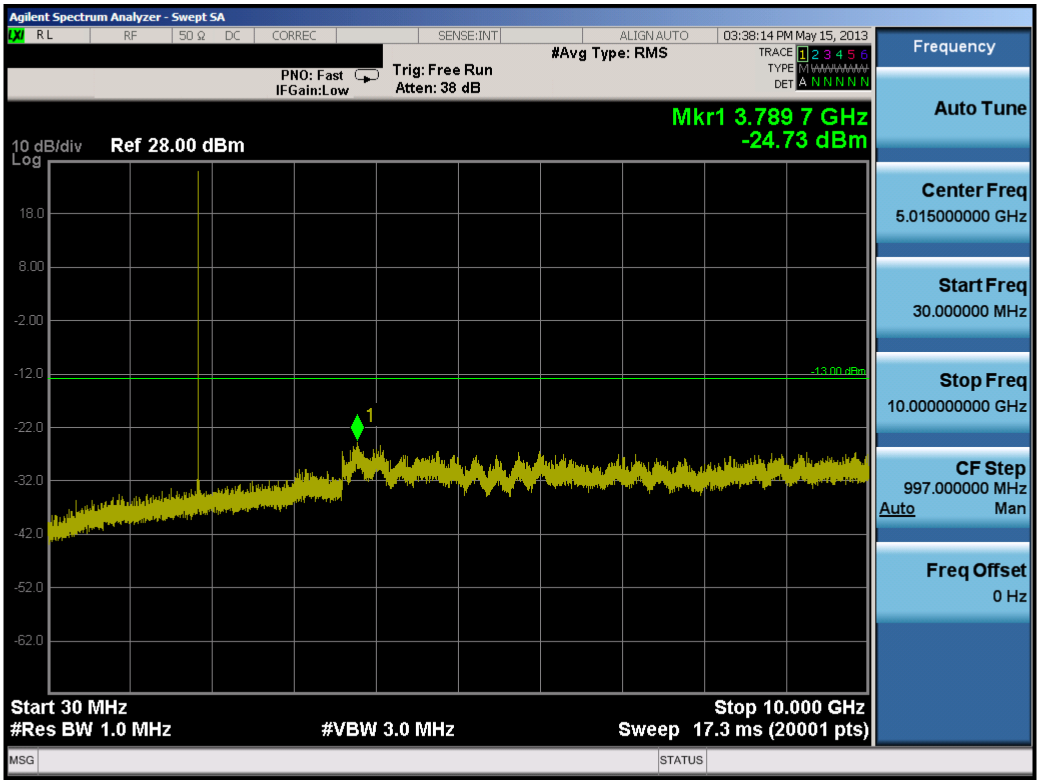
10 dB/div Ref 30.00 dBm

Center 1.88 GHz
Res BW 91 kHz
#VBW 300 kHz
Span 10 MHz
Sweep 5 ms

Occupied Bandwidth
4.5013 MHz

Total Power	28.2 dBm		
Transmit Freq Error	5.149 kHz	OBW Power	99.00 %
x dB Bandwidth	5.048 MHz	x dB	-26.00 dB

Plot 10-4. Occupied Bandwidth Plot (5.0MHz 16-QAM – RB Size 25)


Agilent Spectrum Analyzer - Swept SA

03:38:14 PM May 15, 2013

#Avg Type: RMS
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB

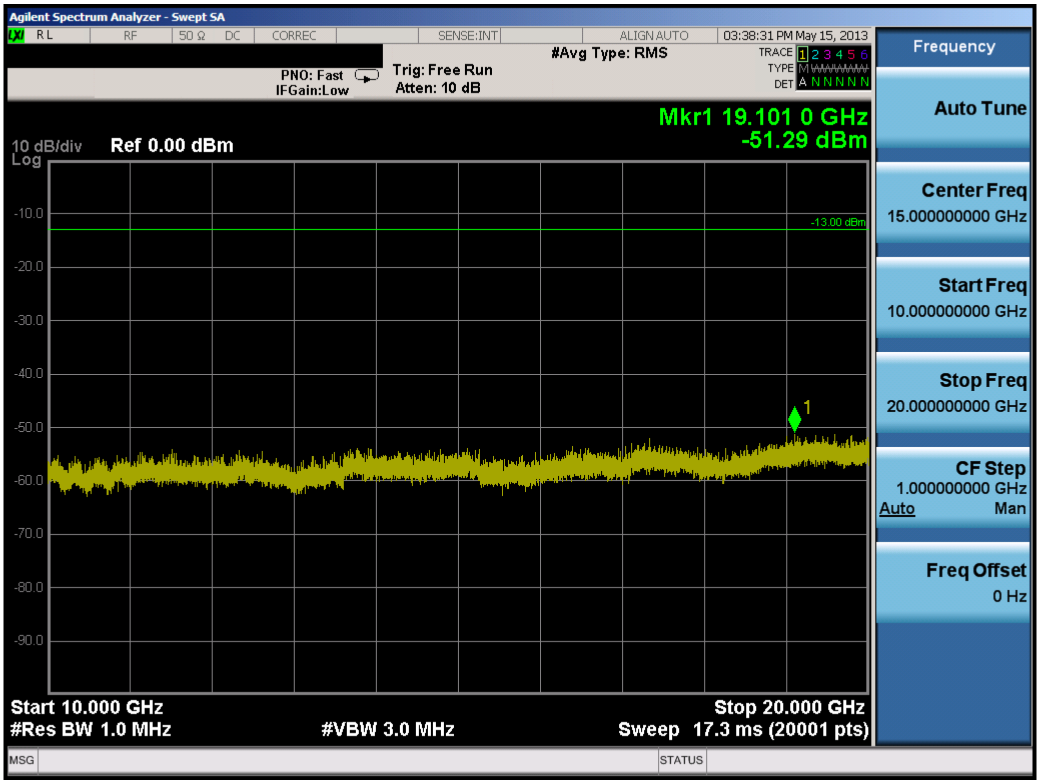
Mkr1 3.789 7 GHz
-24.73 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Freq Offset 0 Hz

Plot 10-5. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:38:31 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB

Mkr1 19.101 0 GHz -51.29 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

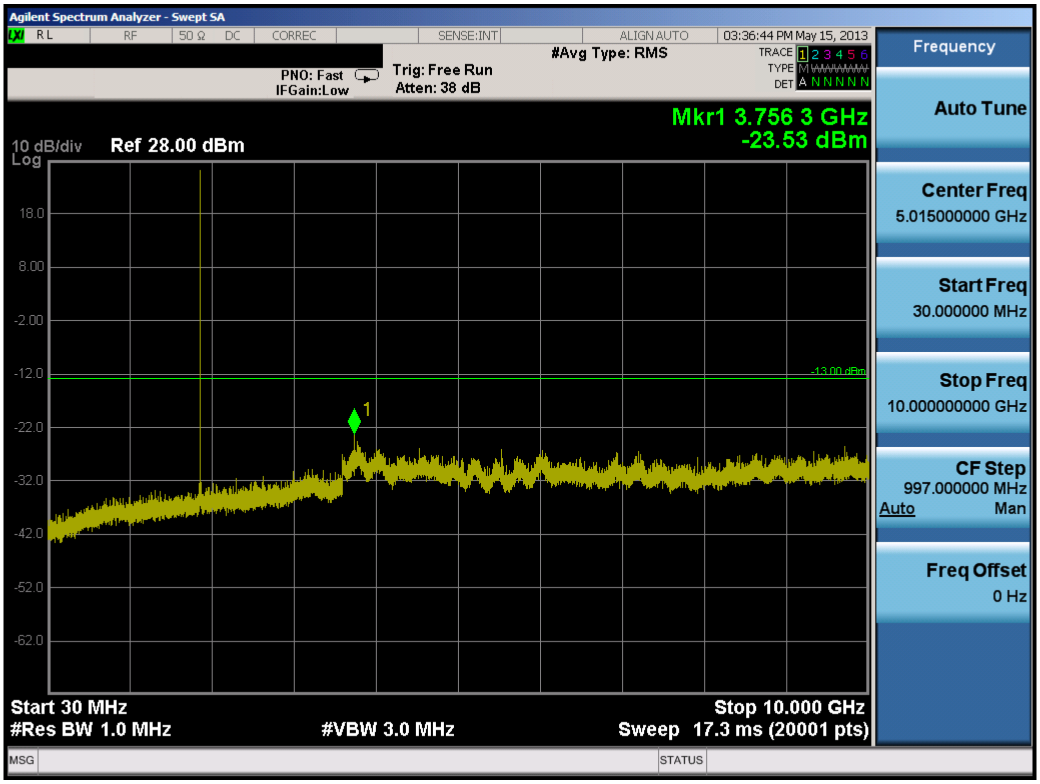
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 10-6. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:36:44 PM May 15, 2013

#Avg Type: RMS

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

Mkr1 3.756 3 GHz -23.53 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

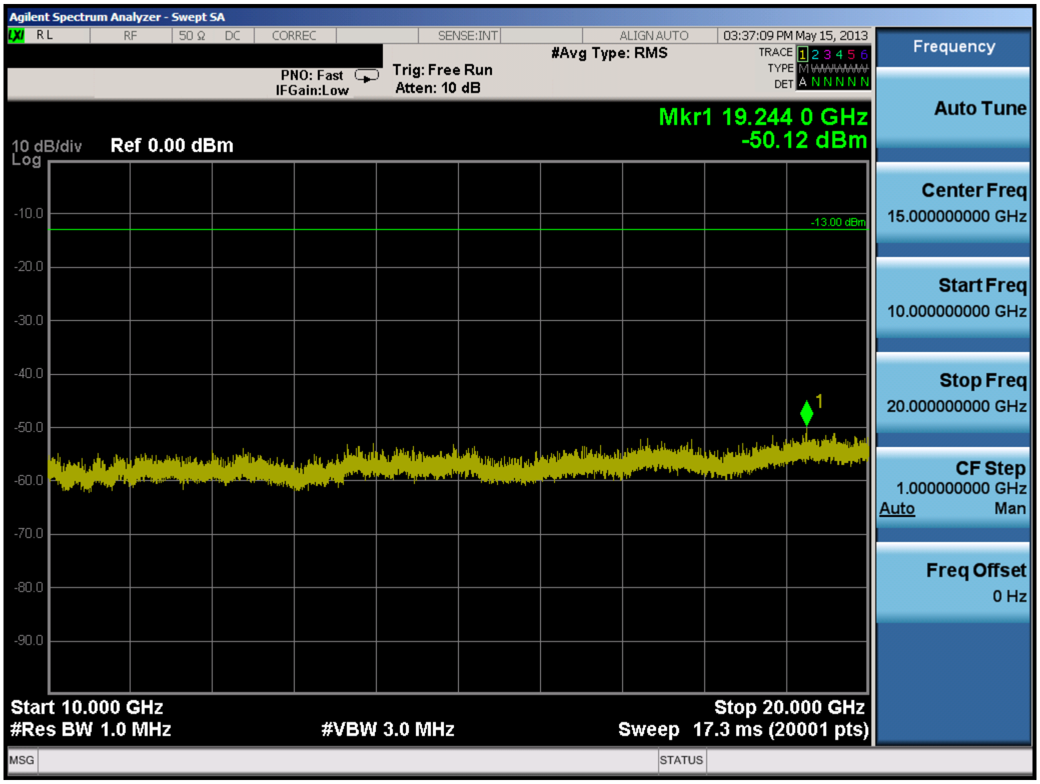
Start Freq 30.000000 MHz

Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 10-7. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



03:37:09 PM May 15, 2013

#Avg Type: RMS

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

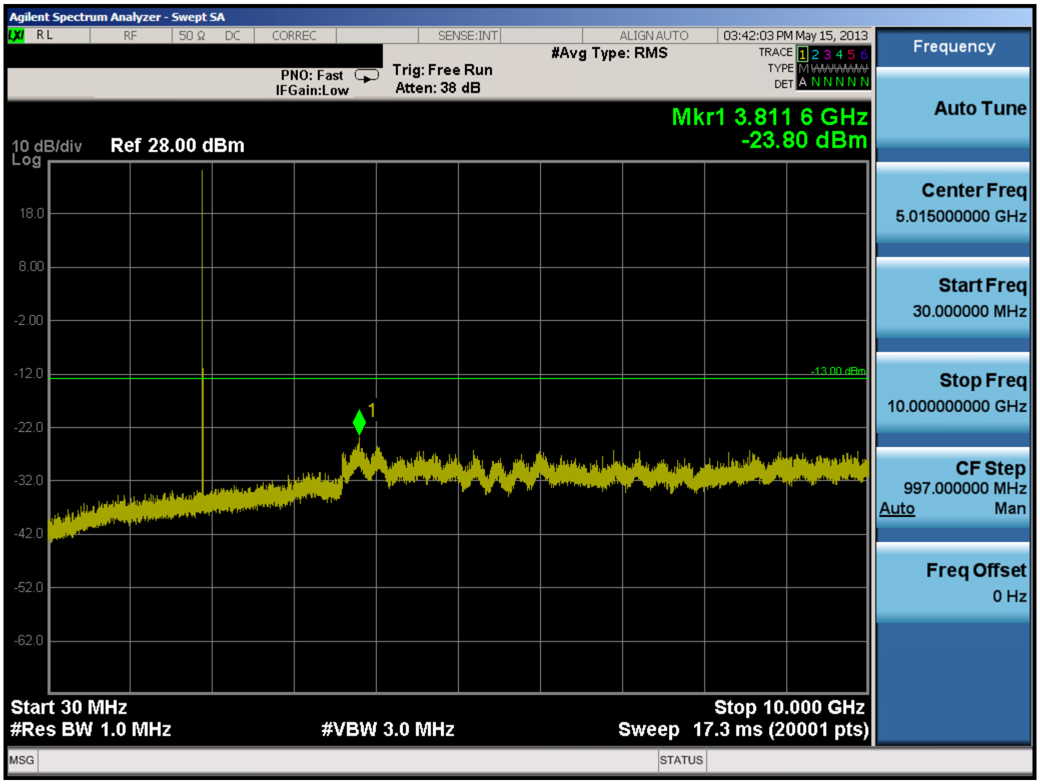
Mkr1 19.244 0 GHz
-50.12 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-8. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



03:42:03 PM May 15, 2013

#Avg Type: RMS

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 38 dB

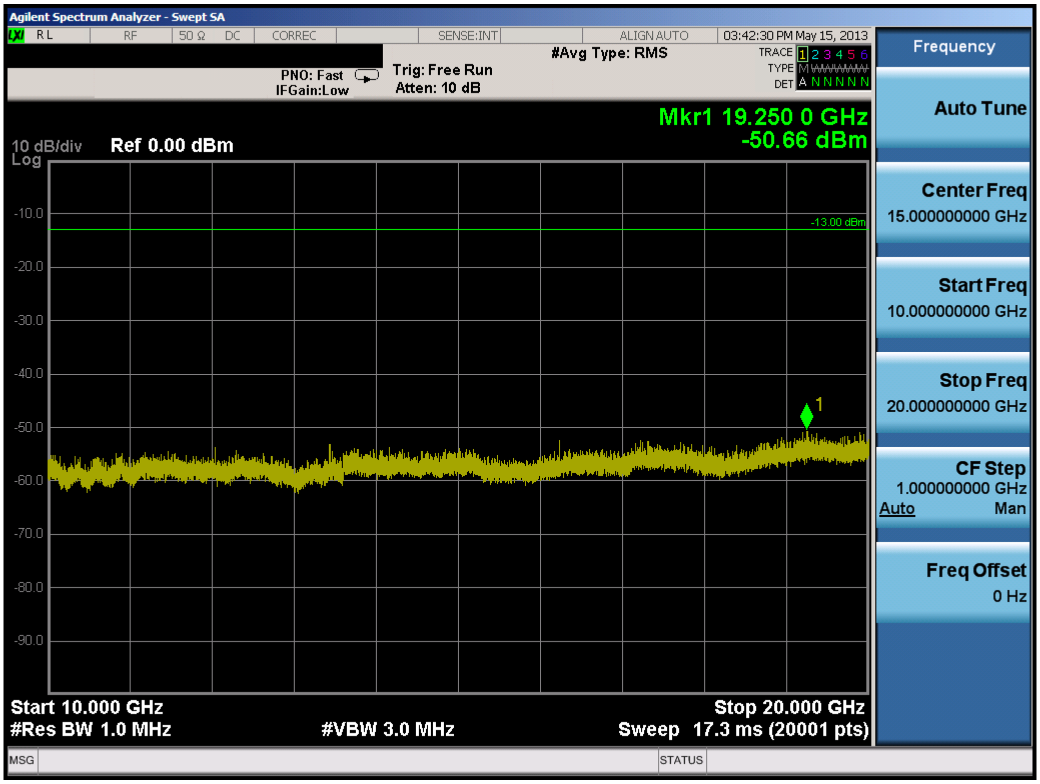
Mkr1 3.811 6 GHz
-23.80 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 10-9. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

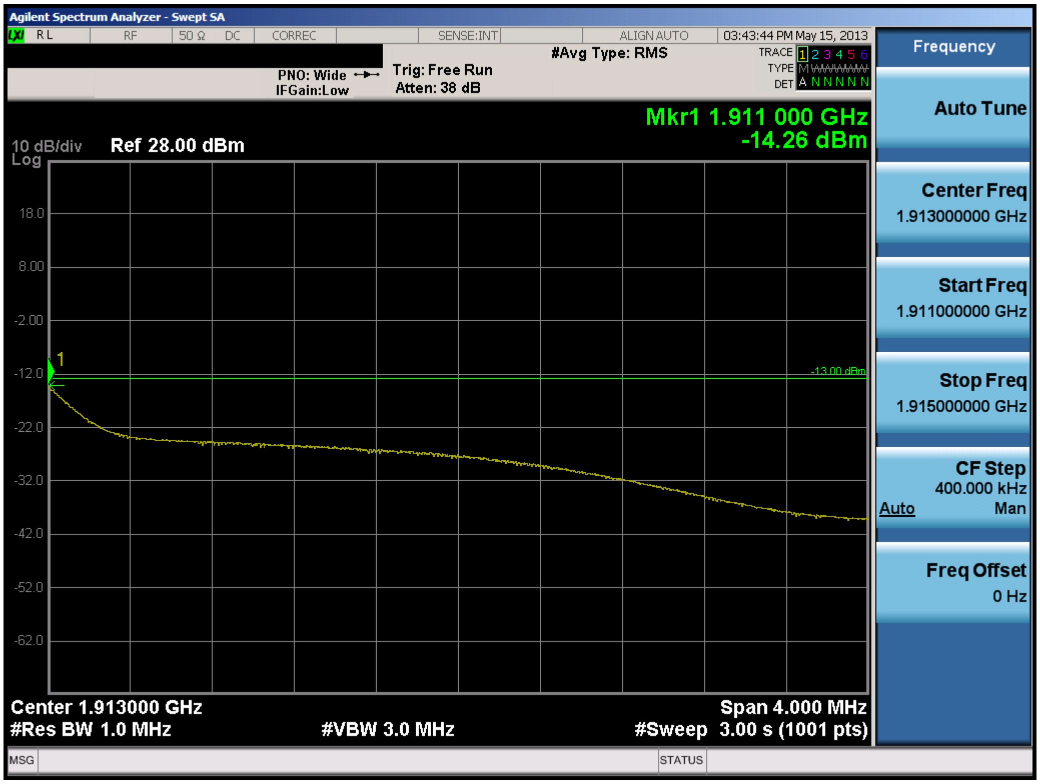


R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:42:30 PM May 15, 2013
#Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A N N N N N
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Mkr1 19.250 0 GHz
-50.66 dBm
10 dB/div Ref 0.00 dBm
Log
Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz
Freq Offset 0 Hz

Plot 10-10. Conducted Spurious Plot (5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:43:19 PM May 15, 2013
#Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A N N N N N
PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
Mkr1 1.910 002 GHz
-26.32 dBm
10 dB/div Ref 28.00 dBm
Log
Center 1.910000 GHz
#Res BW 51 kHz
#VBW 150 kHz
Span 2.000 MHz
#Sweep 1.00 s (1001 pts)
Center Freq 1.910000000 GHz
Start Freq 1.909000000 GHz
Stop Freq 1.911000000 GHz
CF Step 200.000 kHz
Freq Offset 0 Hz

Plot 10-11. Upper Band Edge Plot (5.0MHz QPSK – RB Size 25)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:43:44 PM May 15, 2013

PNO: Wide IFGain:Low Trig: Free Run Atten: 38 dB #Avg Type: RMS

Mkr1 1.911 000 GHz
-14.26 dBm

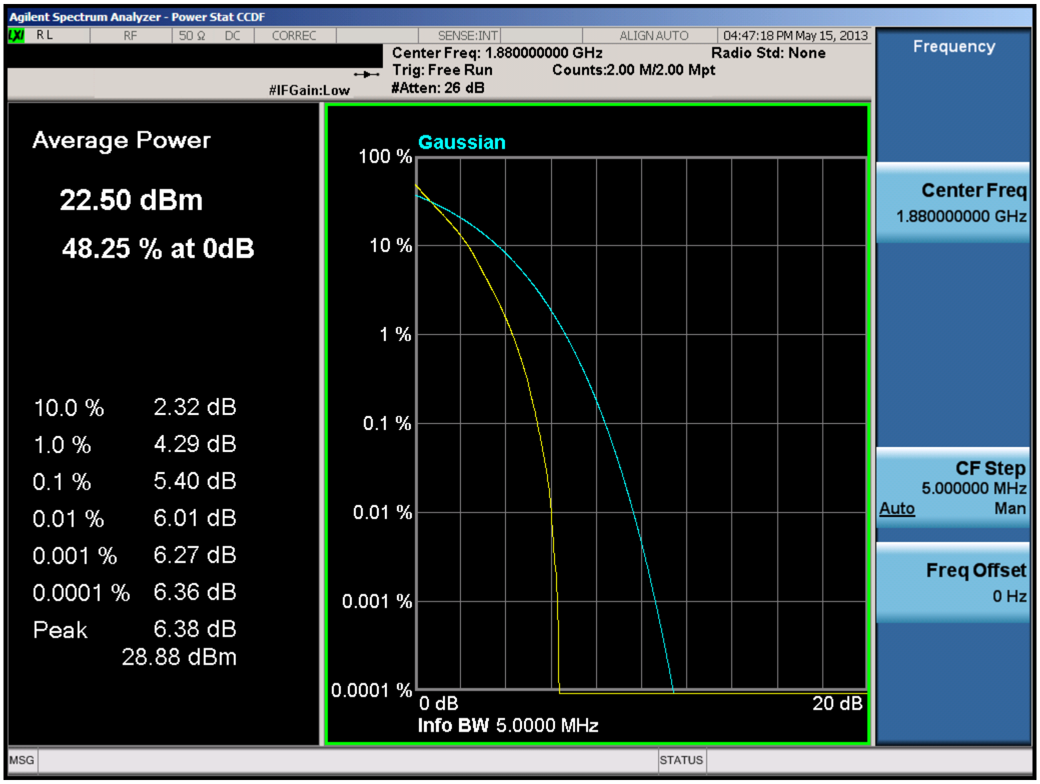
10 dB/div Log Ref 28.00 dBm

Center 1.913000 GHz Span 4.000 MHz
#Res BW 1.0 MHz #VBW 3.0 MHz #Sweep 3.00 s (1001 pts)

Frequency
Auto Tune
Center Freq 1.913000000 GHz
Start Freq 1.911000000 GHz
Stop Freq 1.915000000 GHz
CF Step 400.000 kHz Auto Man
Freq Offset 0 Hz

MSG STATUS

Plot 10-12. Upper Extended Band Edge Plot (5.0MHz QPSK – RB Size 25)



Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:47:18 PM May 15, 2013

#IFGain:Low Center Freq: 1.880000000 GHz Trig: Free Run #Atten: 26 dB Radio Std: None Counts:2.00 M/2.00 Mpt

Average Power

22.50 dBm

48.25 % at 0dB

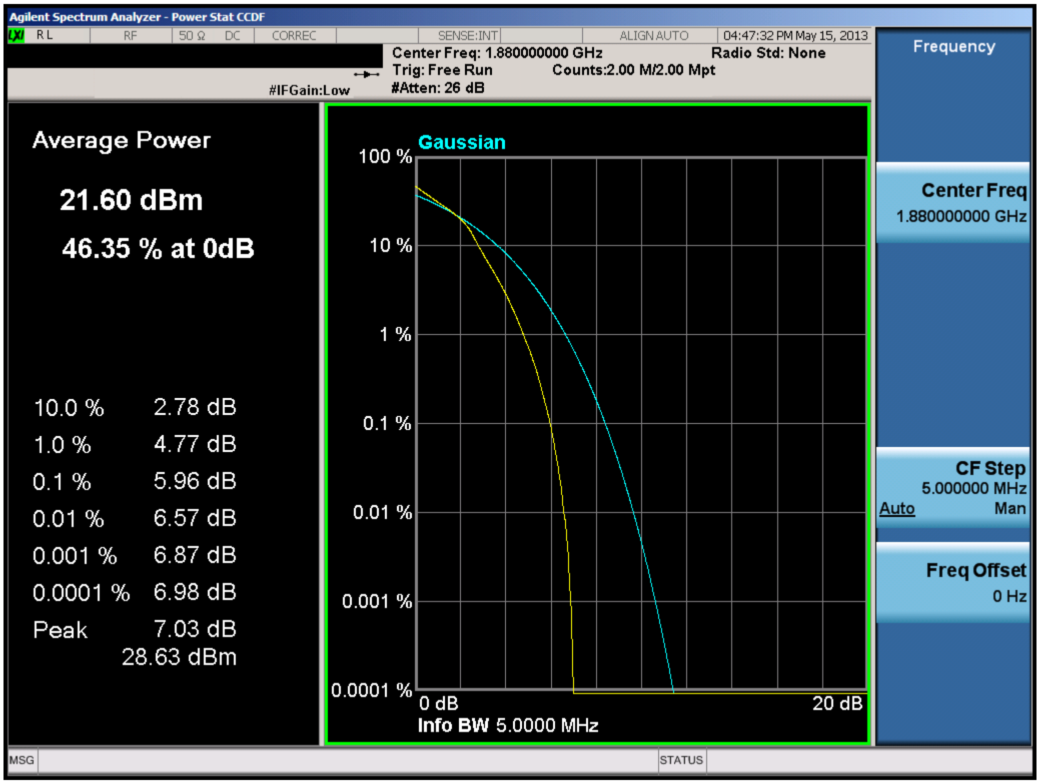
10.0 %	2.32 dB
1.0 %	4.29 dB
0.1 %	5.40 dB
0.01 %	6.01 dB
0.001 %	6.27 dB
0.0001 %	6.36 dB
Peak	6.38 dB 28.88 dBm

Info BW 5.0000 MHz

Frequency
Center Freq 1.880000000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz

MSG STATUS

Plot 10-13. PAR Plot (5.0MHz QPSK – RB Size 25)



Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:47:32 PM May 15, 2013

Center Freq: 1.880000000 GHz
Trig: Free Run
#IFGain:Low
#Atten: 26 dB
Radio Std: None
Counts:2.00 M/2.00 Mpt

Average Power

21.60 dBm

46.35 % at 0dB

10.0 %	2.78 dB
1.0 %	4.77 dB
0.1 %	5.96 dB
0.01 %	6.57 dB
0.001 %	6.87 dB
0.0001 %	6.98 dB
Peak	7.03 dB 28.63 dBm

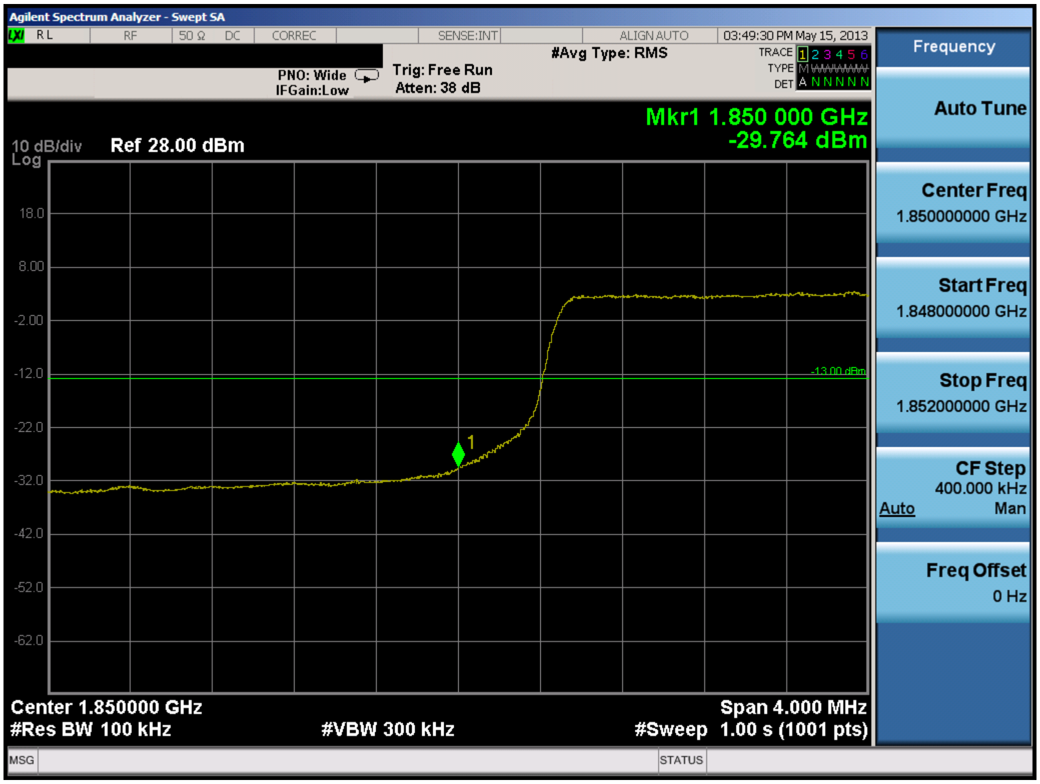
Info BW 5.0000 MHz

Center Freq 1.880000000 GHz

CF Step 5.000000 MHz

Freq Offset 0 Hz

Plot 10-14. PAR Plot (5.0MHz 16-QAM – RB Size 25)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:49:30 PM May 15, 2013

PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

Mkr1 1.850 000 GHz
-29.764 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.850000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
#Sweep 1.00 s (1001 pts)

Center Freq 1.850000000 GHz

Start Freq 1.848000000 GHz

Stop Freq 1.852000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

Plot 10-15. Lower Band Edge Plot (10.0MHz QPSK – RB Size 50)

Agilent Spectrum Analyzer - Swept SA

03:49:56 PM May 15, 2013

PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

Mkr1 1.848 996 GHz
-22.35 dBm

10 dB/div Ref 28.00 dBm

Center 1.847000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 4.000 MHz
#Sweep 3.00 s (1001 pts)

Center Freq 1.847000000 GHz
Start Freq 1.845000000 GHz
Stop Freq 1.849000000 GHz
CF Step 400.000 kHz
Freq Offset 0 Hz

Plot 10-16. Lower Extended Band Edge Plot (10.0MHz QPSK – RB Size 50)

Agilent Spectrum Analyzer - Occupied BW

03:44:25 PM May 15, 2013

Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#IFGain:Low
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

10 dB/div Ref 30.00 dBm

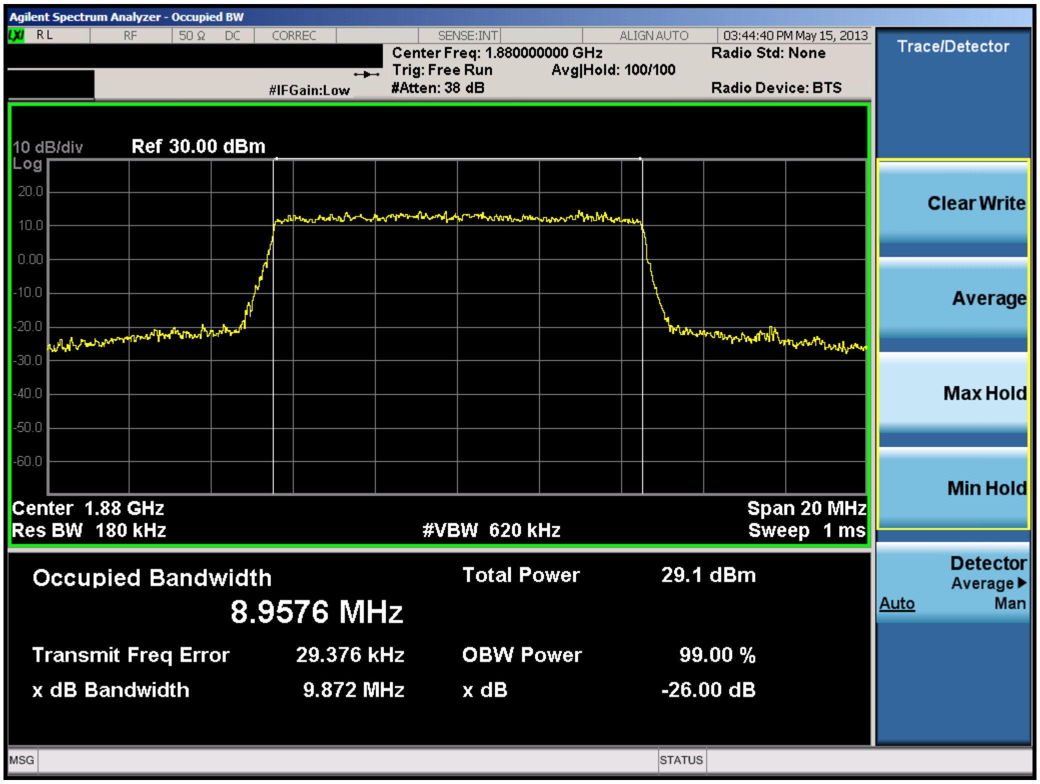
Center 1.88 GHz
Res BW 180 kHz
#VBW 620 kHz
Span 20 MHz
Sweep 1 ms

Occupied Bandwidth
8.9729 MHz

Transmit Freq Error	23.843 kHz	Total Power	30.3 dBm
		OBW Power	99.00 %
x dB Bandwidth	9.880 MHz	x dB	-26.00 dB

Detector Average

Plot 10-17. Occupied Bandwidth Plot (10.0MHz QPSK – RB Size 50)



Agilent Spectrum Analyzer - Occupied BW

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 03:44:40 PM May 15, 2013

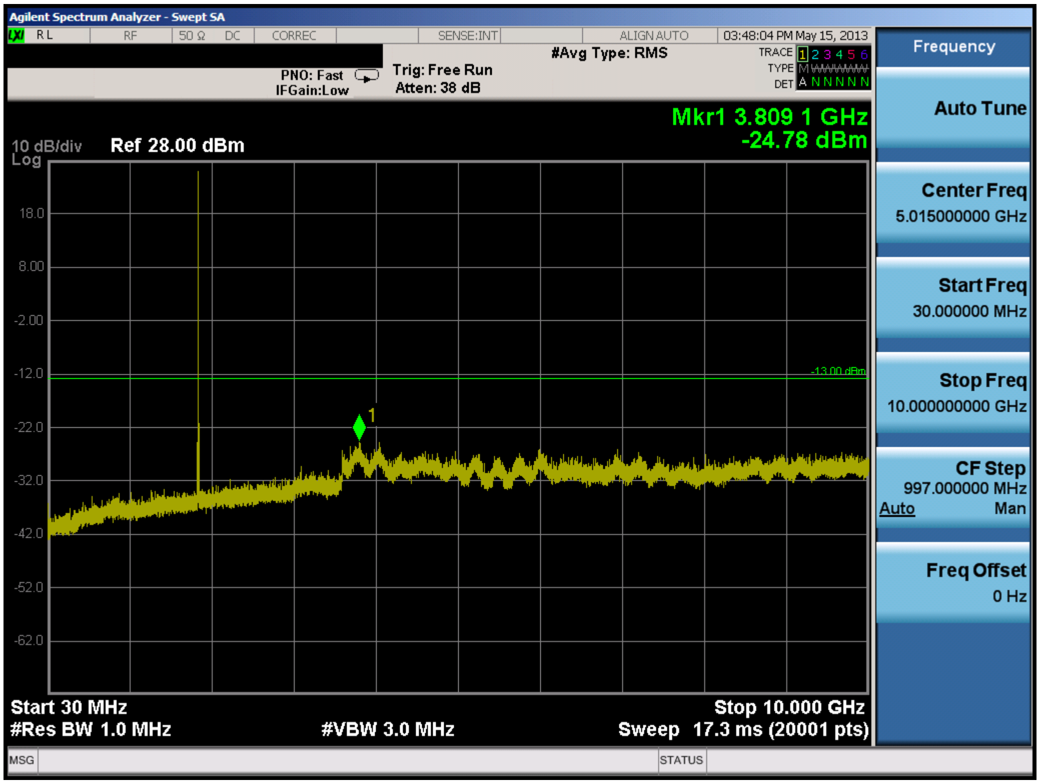
Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#IFGain:Low
#Atten: 38 dB
Radio Std: None
Radio Device: BTS

10 dB/div Ref 30.00 dBm
Log

Center 1.88 GHz
Res BW 180 kHz
#VBW 620 kHz
Span 20 MHz
Sweep 1 ms

Occupied Bandwidth
8.9576 MHz
Total Power 29.1 dBm
Transmit Freq Error 29.376 kHz
OBW Power 99.00 %
x dB Bandwidth 9.872 MHz
x dB -26.00 dB

Plot 10-18. Occupied Bandwidth Plot (10.0MHz 16-QAM – RB Size 50)



Agilent Spectrum Analyzer - Swept SA

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 03:48:04 PM May 15, 2013

#Avg Type: RMS
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A N N N N N

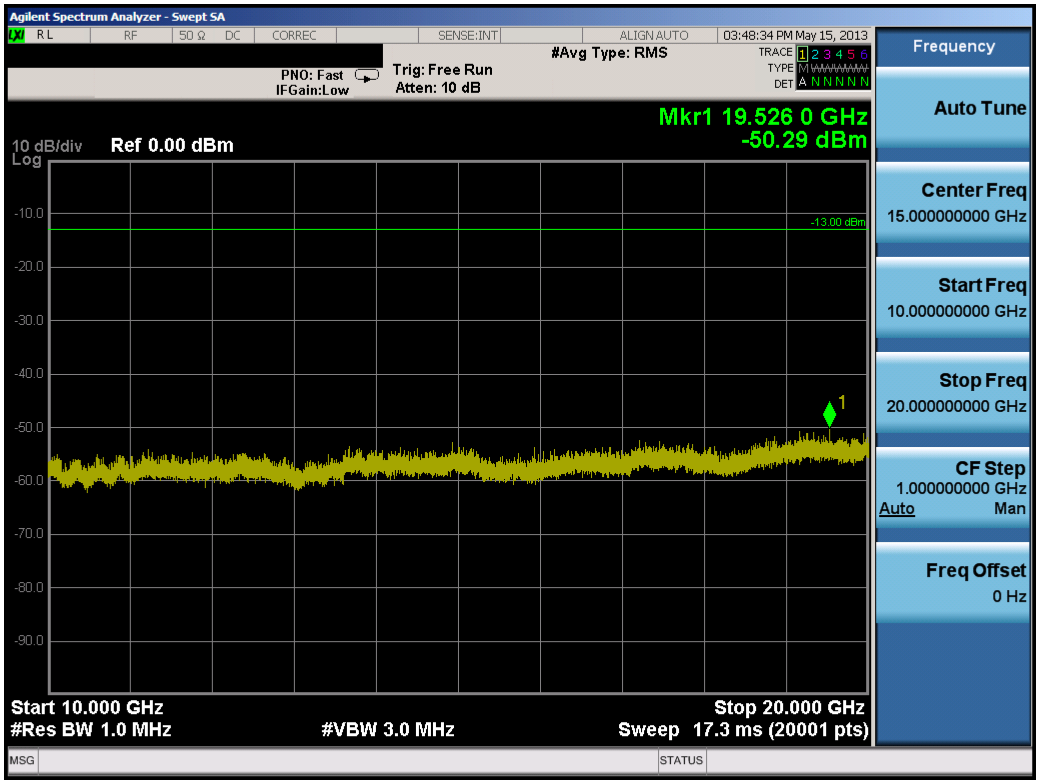
Mkr1 3.809 1 GHz
-24.78 dBm

10 dB/div Ref 28.00 dBm
Log

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Freq Offset 0 Hz

Plot 10-19. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:48:34 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

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

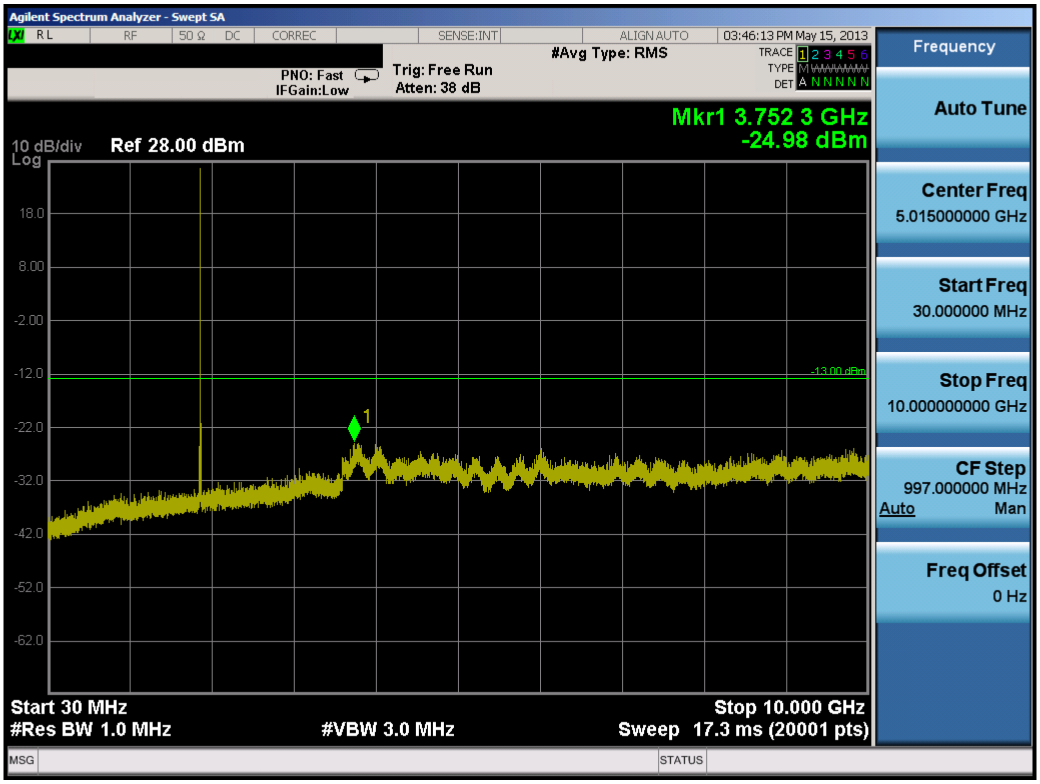
Mkr1 19.526 0 GHz
-50.29 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-20. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:46:13 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 38 dB

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

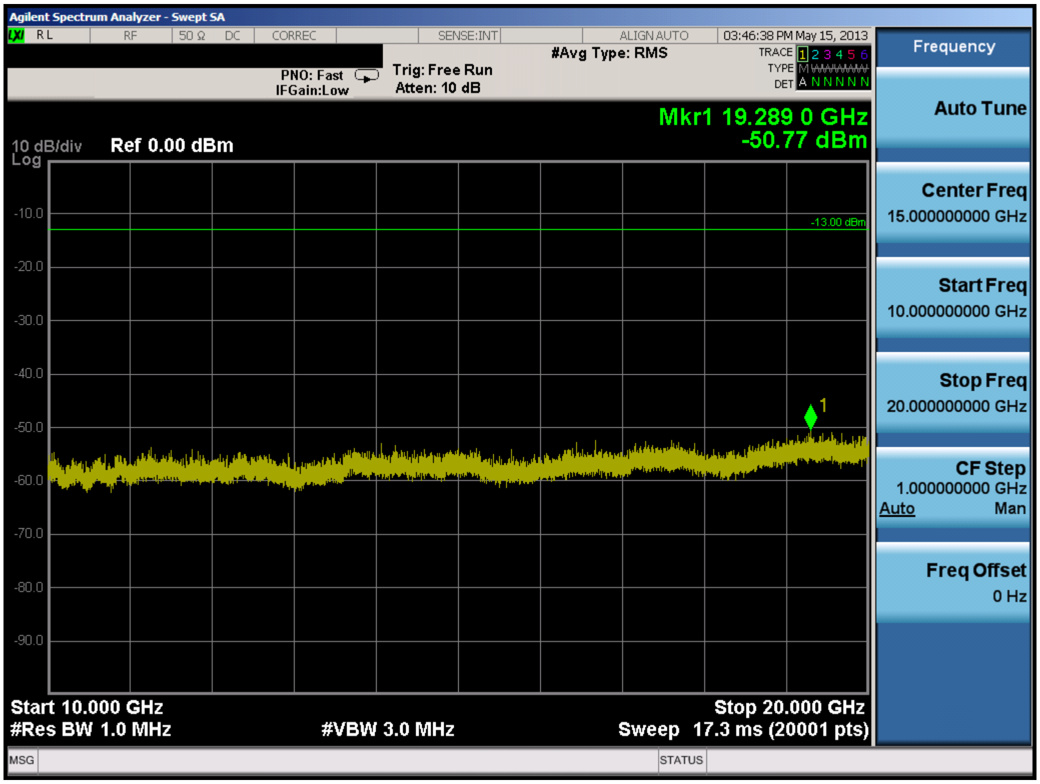
Mkr1 3.752 3 GHz
-24.98 dBm

10 dB/div Log Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 10-21. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:46:38 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run
Atten: 10 dB

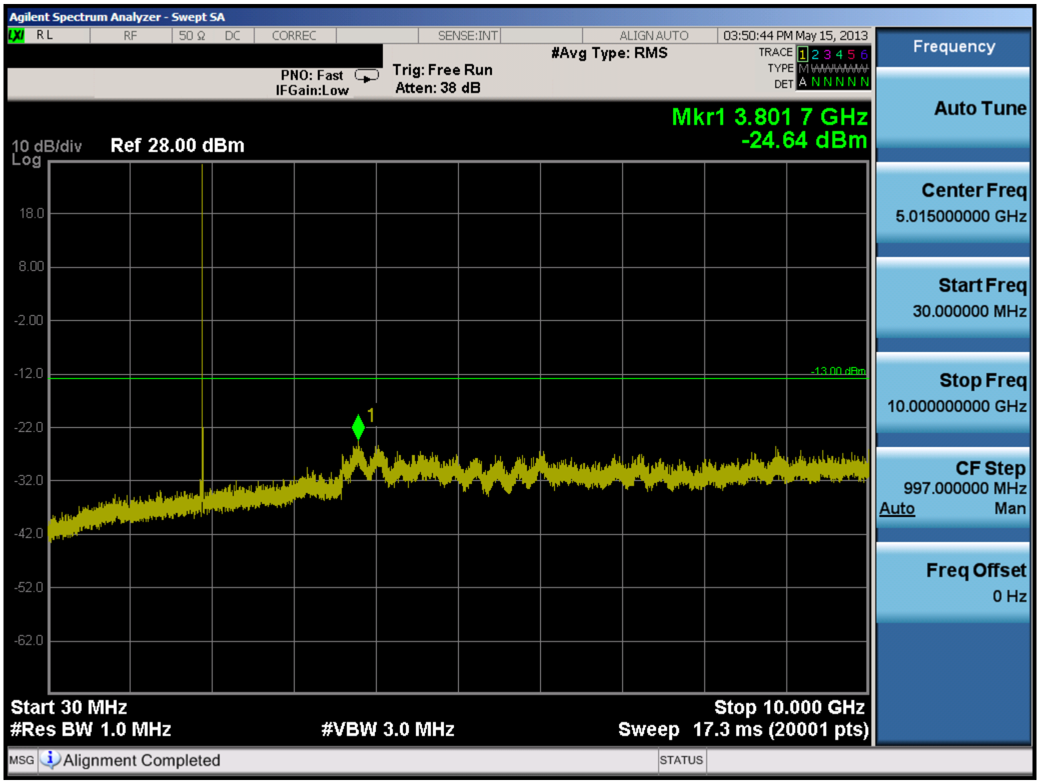
Mkr1 19.289 0 GHz
-50.77 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-22. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:50:44 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run
Atten: 38 dB

Mkr1 3.801 7 GHz
-24.64 dBm

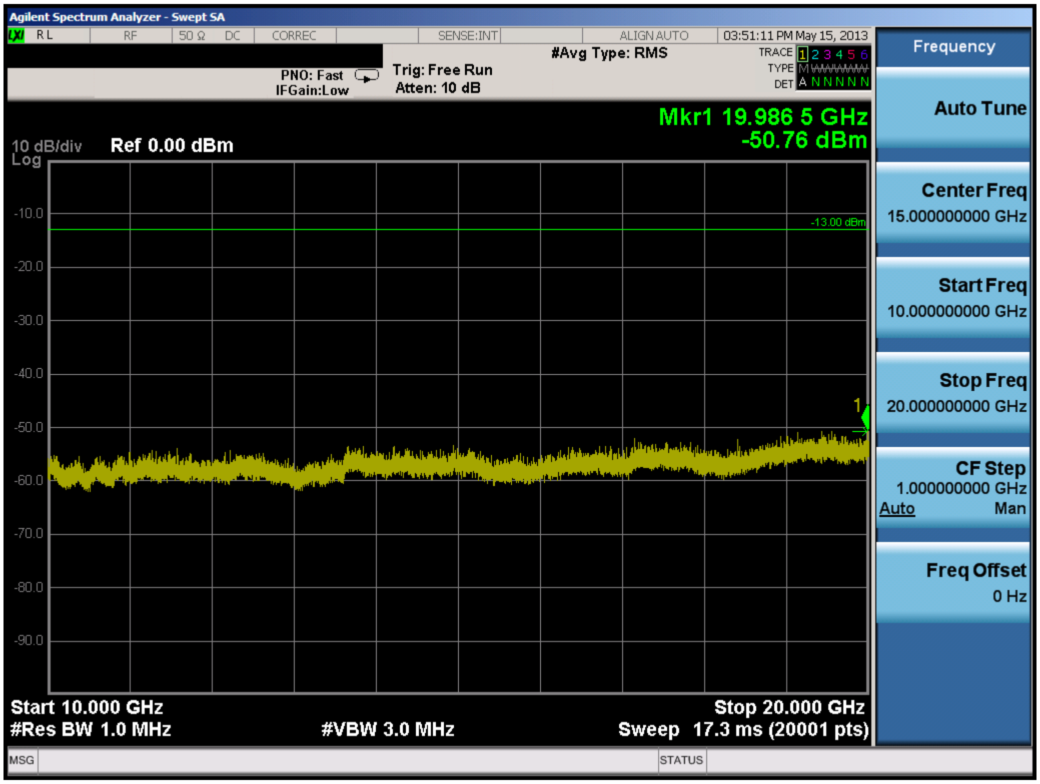
10 dB/div Log Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

MSG Alignment Completed

Plot 10-23. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:51:11 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB

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

Mkr1 19.986 5 GHz -50.76 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 20.000 GHz Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

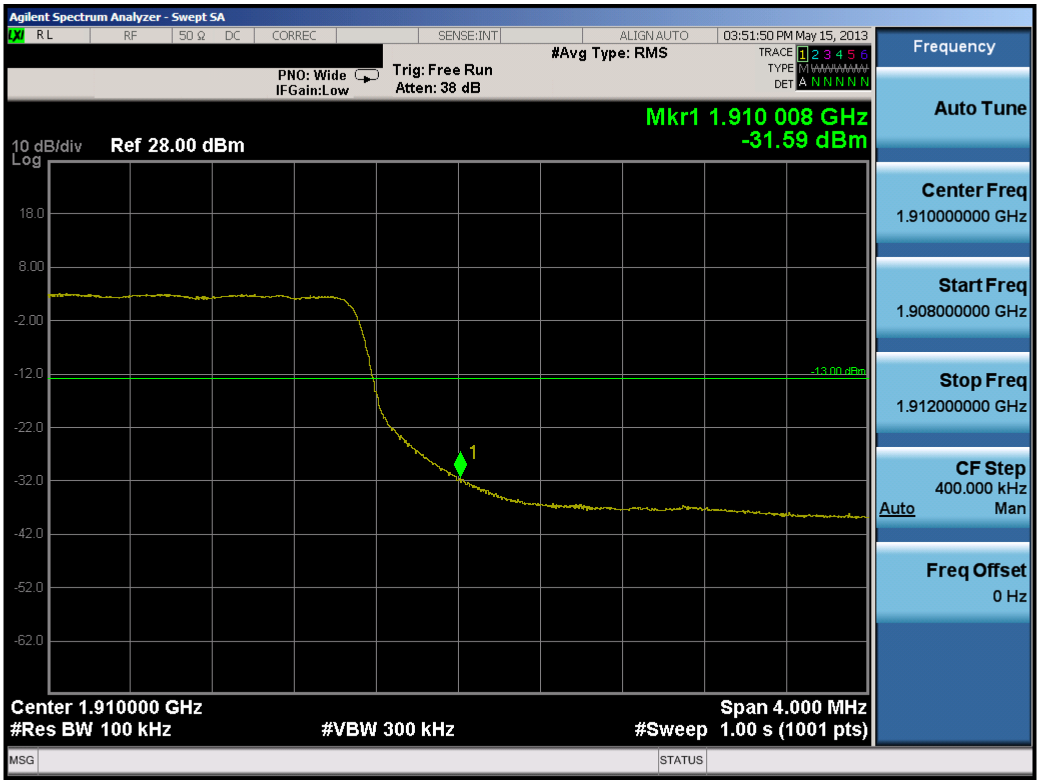
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 10-24. Conducted Spurious Plot (10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:51:50 PM May 15, 2013

#Avg Type: RMS

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

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

Mkr1 1.910 008 GHz -31.59 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.910000 GHz #Res BW 100 kHz #VBW 300 kHz Span 4.000 MHz #Sweep 1.00 s (1001 pts)

Center Freq 1.910000000 GHz

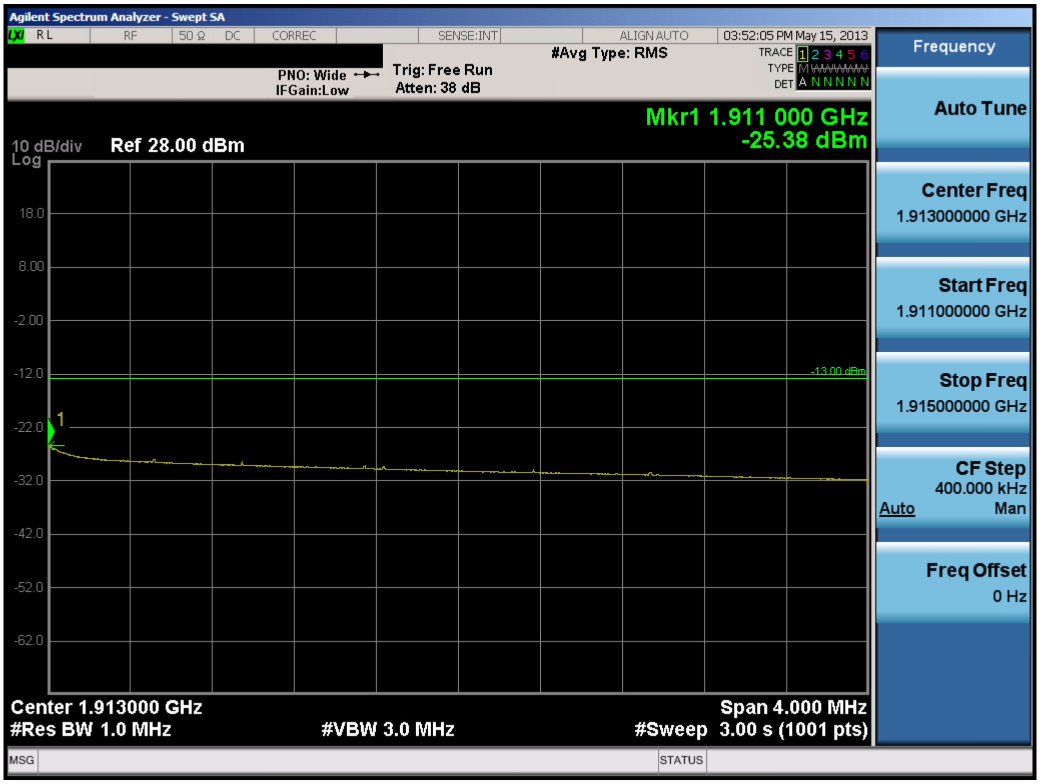
Start Freq 1.908000000 GHz

Stop Freq 1.912000000 GHz

CF Step 400.000 kHz Auto Man

Freq Offset 0 Hz

Plot 10-25. Upper Band Edge Plot (10.0MHz QPSK – RB Size 50)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 03:52:05 PM May 15, 2013

PNO: Wide IFGain:Low Trig: Free Run Atten: 38 dB #Avg Type: RMS

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

Mkr1 1.911 000 GHz -25.38 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.913000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 4.000 MHz #Sweep 3.00 s (1001 pts)

Center Freq 1.913000000 GHz

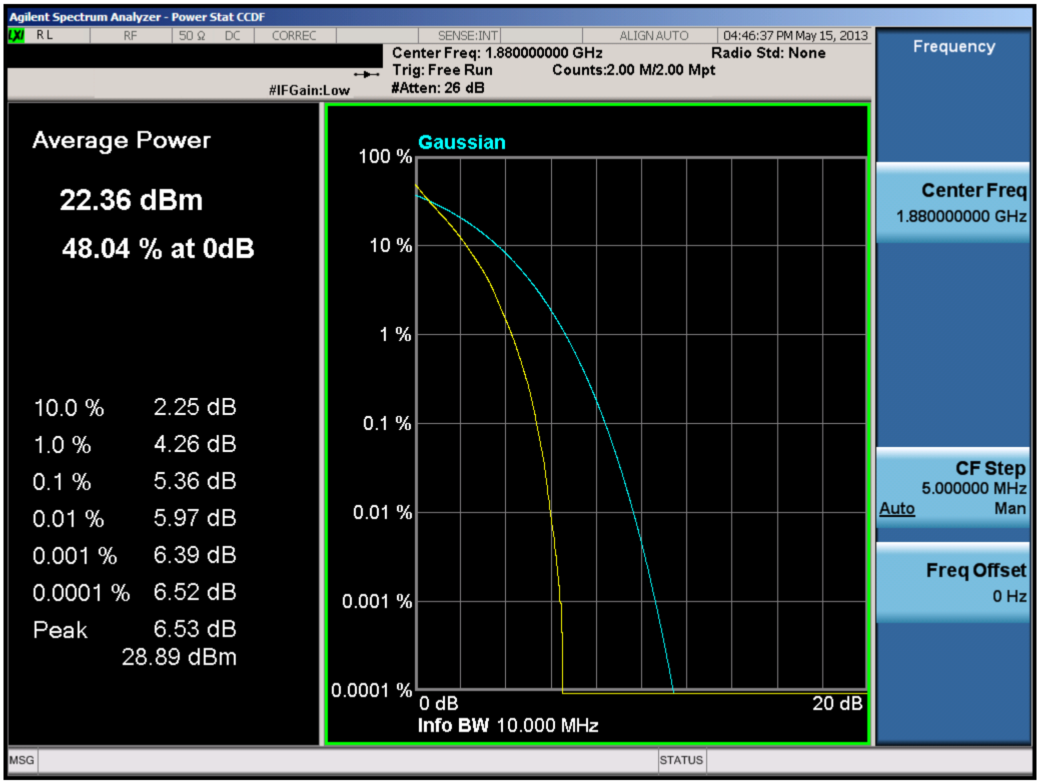
Start Freq 1.911000000 GHz

Stop Freq 1.915000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

Plot 10-26. Upper Extended Band Edge Plot (10.0MHz QPSK – RB Size 50)


Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:46:37 PM May 15, 2013

#IFGain:Low Center Freq: 1.880000000 GHz Trig: Free Run #Atten: 26 dB Radio Std: None Counts:2.00 M/2.00 Mpt

Average Power

22.36 dBm

48.04 % at 0dB

10.0 %	2.25 dB
1.0 %	4.26 dB
0.1 %	5.36 dB
0.01 %	5.97 dB
0.001 %	6.39 dB
0.0001 %	6.52 dB
Peak	6.53 dB 28.89 dBm

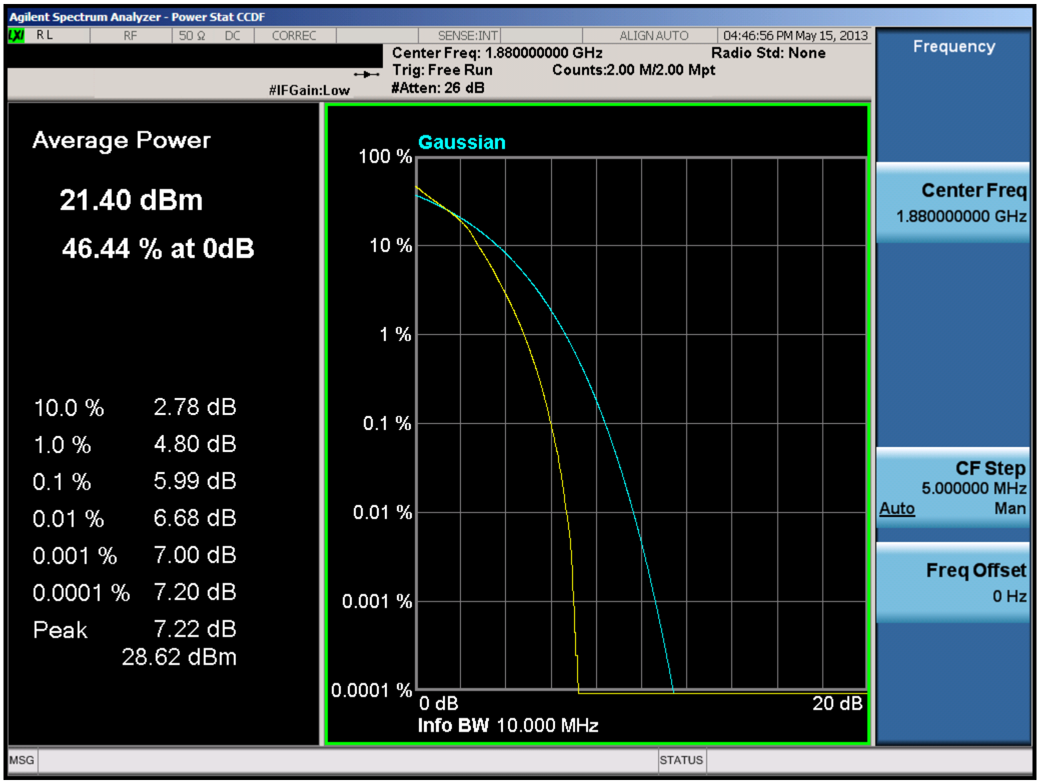
Info BW 10.000 MHz

Center Freq 1.880000000 GHz

CF Step 5.000000 MHz

Freq Offset 0 Hz

Plot 10-27. PAR Plot (10.0MHz QPSK – RB Size 50)


Agilent Spectrum Analyzer - Power Stat CCDF

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:46:56 PM May 15, 2013

Center Freq: 1.880000000 GHz Radio Std: None
Trig: Free Run Counts:2.00 M/2.00 Mpt
#IFGain:Low #Atten: 26 dB

Average Power

21.40 dBm

46.44 % at 0dB

10.0 %	2.78 dB
1.0 %	4.80 dB
0.1 %	5.99 dB
0.01 %	6.68 dB
0.001 %	7.00 dB
0.0001 %	7.20 dB
Peak	7.22 dB 28.62 dBm

Info BW 10.000 MHz

Plot 10-28. PAR Plot (10.0MHz 16-QAM – RB Size 50)


Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:37:57 PM May 15, 2013

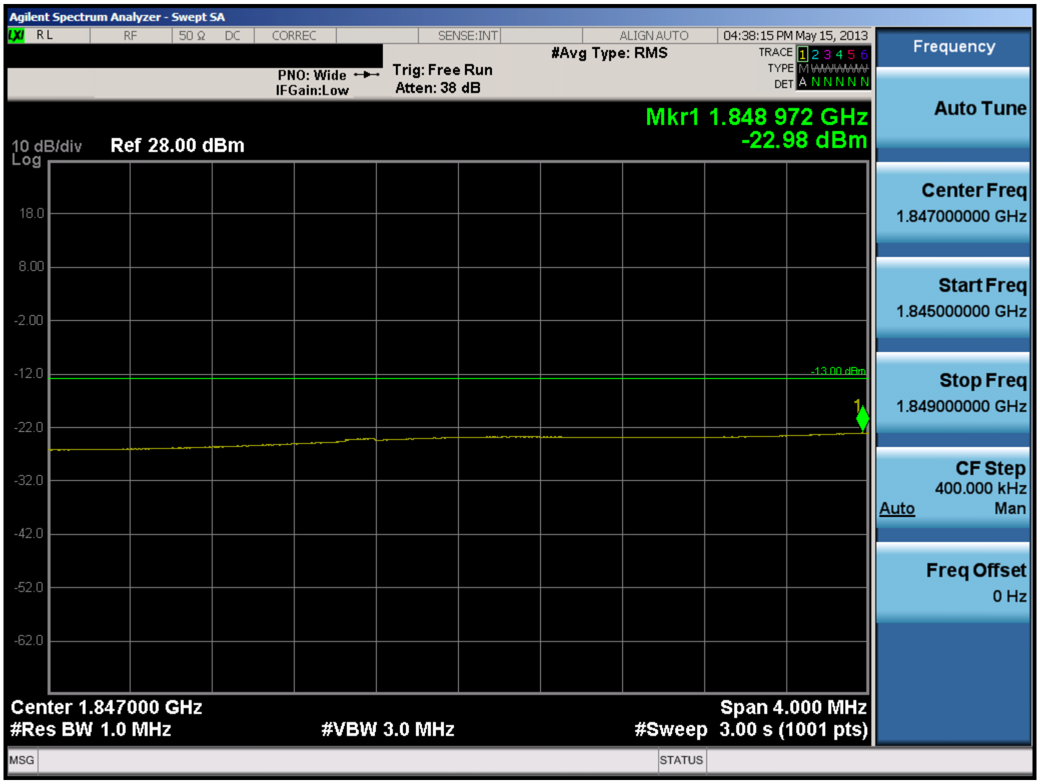
#Avg Type: RMS
PNO: Wide Trig: Free Run
IFGain:Low Atten: 38 dB

Mkr1 1.849 976 GHz
-28.79 dBm

10 dB/div Ref 28.00 dBm
Log

Center 1.850000 GHz Span 6.000 MHz
#Res BW 150 kHz #VBW 470 kHz #Sweep 1.00 s (1001 pts)

Plot 10-29. Lower Band Edge Plot (15.0MHz QPSK – RB Size 75)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:38:15 PM May 15, 2013

PNO: Wide

IFGain:Low

Trig: Free Run

Atten: 38 dB

#Avg Type: RMS

Mkr1 1.848 972 GHz

-22.98 dBm

10 dB/div Ref 28.00 dBm

Center 1.847000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Span 4.000 MHz

#Sweep 3.00 s (1001 pts)

Center Freq 1.847000000 GHz

Start Freq 1.845000000 GHz

Stop Freq 1.849000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

Plot 10-30. Lower Extended Band Edge Plot (15.0MHz QPSK – RB Size 75)


Agilent Spectrum Analyzer - Occupied BW

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:33:18 PM May 15, 2013

#IFGain:Low

Center Freq: 1.880000000 GHz

Trig: Free Run

Avg|Hold: 100/100

#Atten: 38 dB

Radio Std: None

Radio Device: BTS

10 dB/div Ref 30.00 dBm

Center 1.88 GHz

Res BW 270 kHz

#VBW 910 kHz

Span 30 MHz

Sweep 1 ms

Occupied Bandwidth

13.420 MHz

Total Power 30.6 dBm

Transmit Freq Error 40.864 kHz

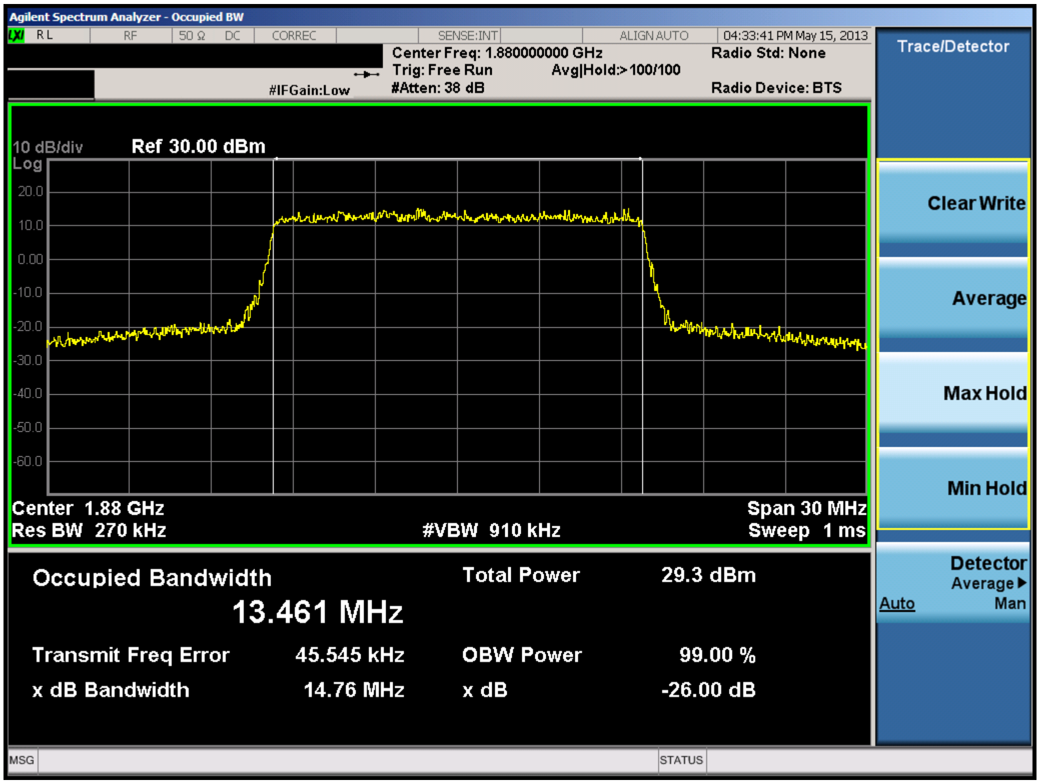
OBW Power 99.00 %

x dB Bandwidth 14.77 MHz

x dB -26.00 dB

Detector Average

Plot 10-31. Occupied Bandwidth Plot (15.0MHz QPSK – RB Size 75)


Agilent Spectrum Analyzer - Occupied BW

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:33:41 PM May 15, 2013

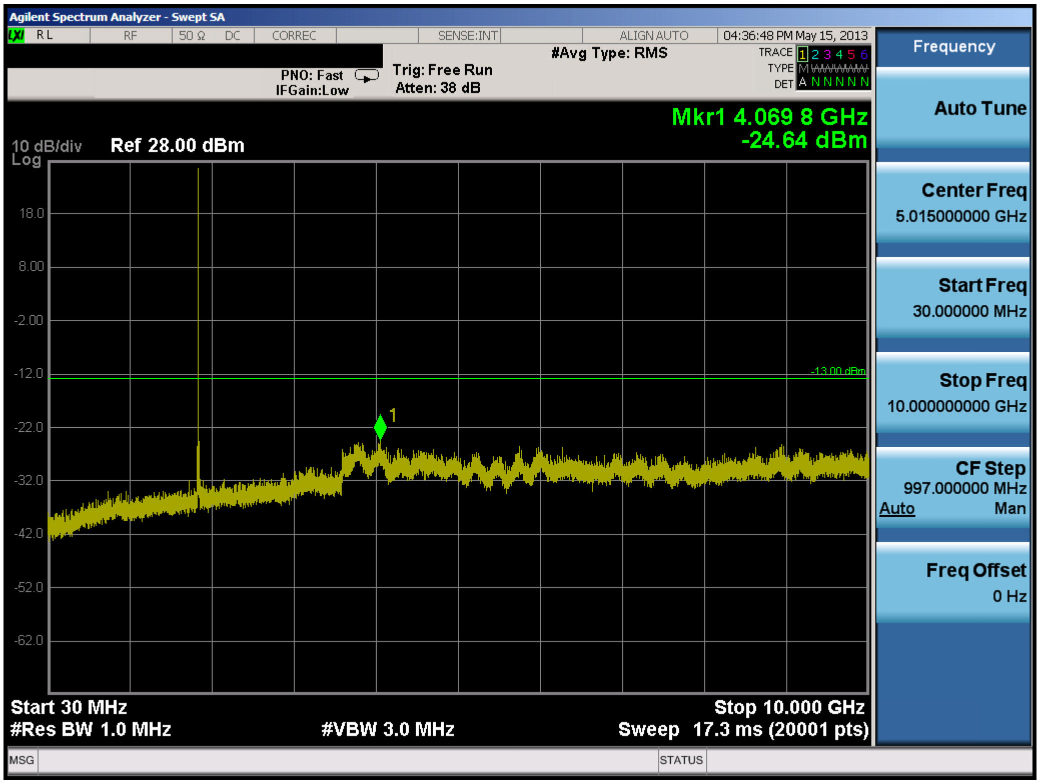
Center Freq: 1.880000000 GHz
Trig: Free Run Avg|Hold:>100/100
#IFGain:Low #Atten: 38 dB
Radio Std: None
Radio Device: BTS

10 dB/div Ref 30.00 dBm
Log

Center 1.88 GHz Span 30 MHz
Res BW 270 kHz #VBW 910 kHz Sweep 1 ms

Occupied Bandwidth		Total Power	29.3 dBm
13.461 MHz			
Transmit Freq Error	45.545 kHz	OBW Power	99.00 %
x dB Bandwidth	14.76 MHz	x dB	-26.00 dB

Plot 10-32. Occupied Bandwidth Plot (15.0MHz 16-QAM – RB Size 75)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:36:48 PM May 15, 2013

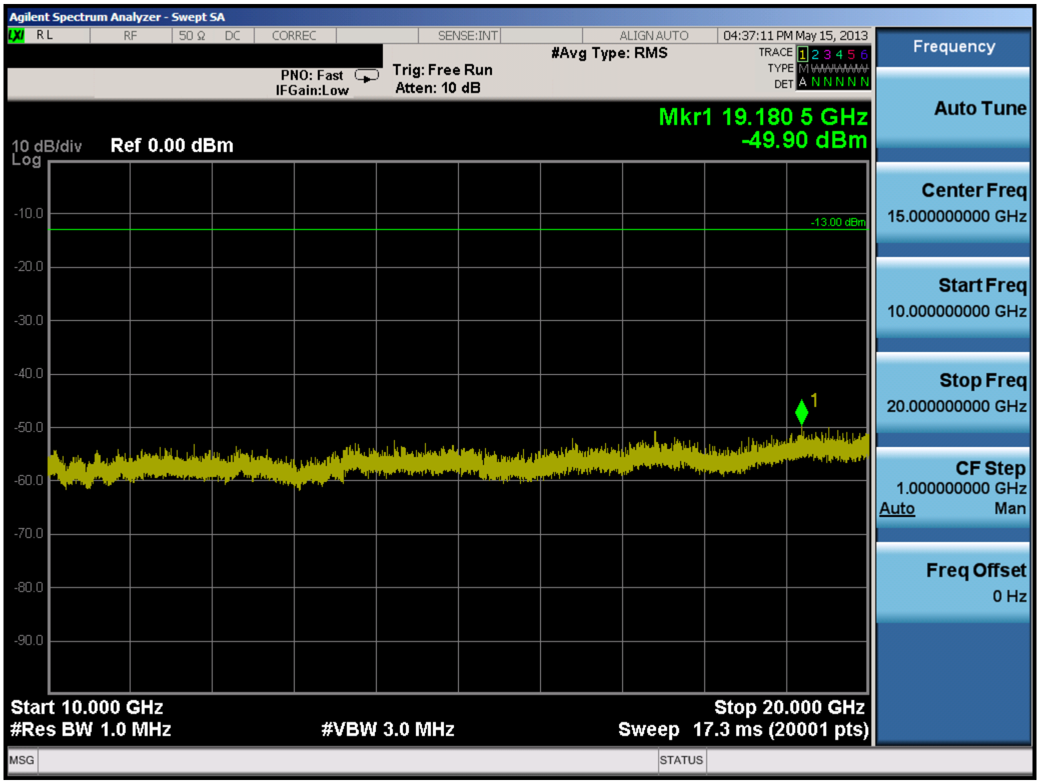
#Avg Type: RMS
PNO: Fast Trig: Free Run
IFGain:Low Atten: 38 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A N N N N N

Mkr1 4.069 8 GHz
-24.64 dBm

10 dB/div Ref 28.00 dBm
Log

Start 30 MHz Stop 10.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 17.3 ms (20001 pts)

Plot 10-33. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 04:37:11 PM May 15, 2013

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
#Avg Type: RMS

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

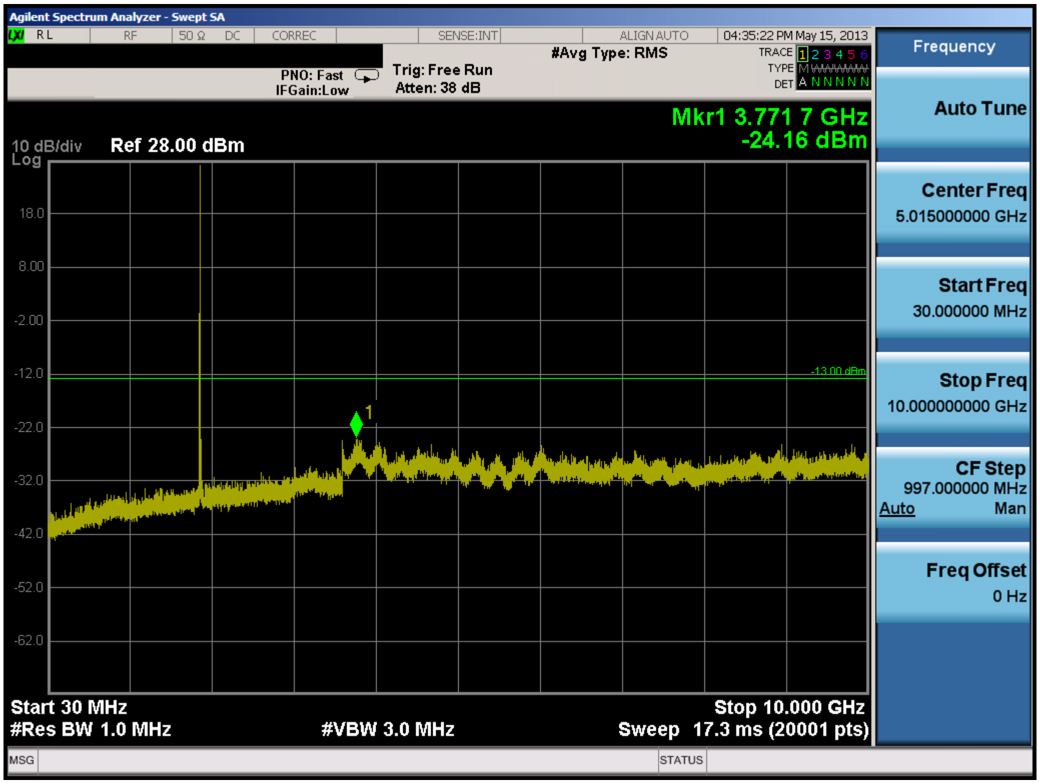
Mkr1 19.180 5 GHz
-49.90 dBm

10 dB/div
Log
Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz
Freq Offset 0 Hz

Plot 10-34. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)


Agilent Spectrum Analyzer - Swept SA

R L | RF | 50 Ω | DC | CORREC | SENSE:INT | ALIGN AUTO | 04:35:22 PM May 15, 2013

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

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

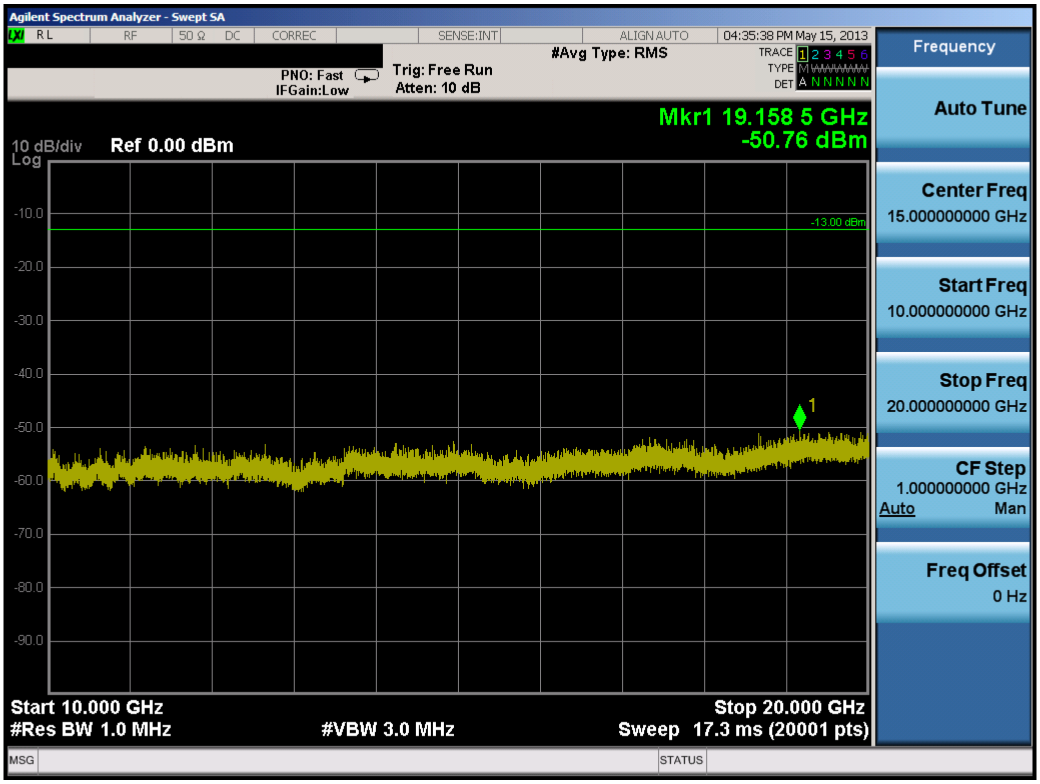
Mkr1 3.771 7 GHz
-24.16 dBm

10 dB/div
Log
Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz
Freq Offset 0 Hz

Plot 10-35. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:35:38 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

#Avg Type: RMS

TRACE 1 2 3 4 5 6

TYPE M WWWWW

DET A N N N N N

Mkr1 19.158 5 GHz

-50.76 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

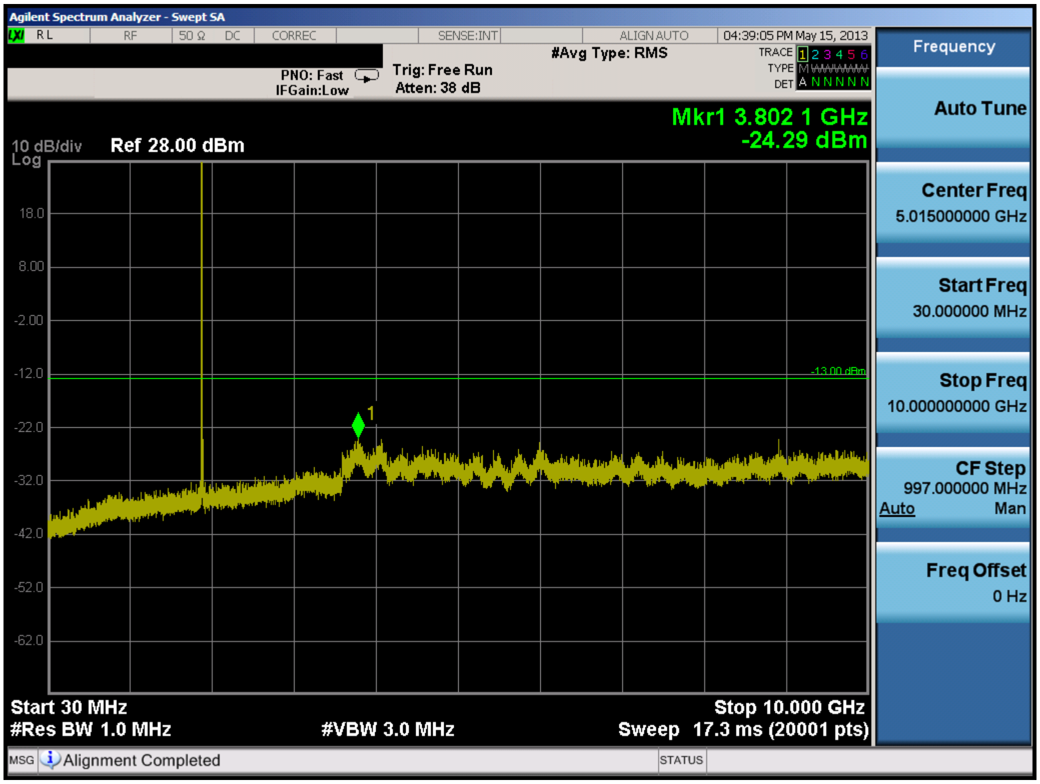
Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 10-36. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:39:05 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 38 dB

#Avg Type: RMS

TRACE 1 2 3 4 5 6

TYPE M WWWWW

DET A N N N N N

Mkr1 3.802 1 GHz

-24.29 dBm

10 dB/div Log Ref 28.00 dBm

Start 30 MHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 10.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz

Start Freq 30.000000 MHz

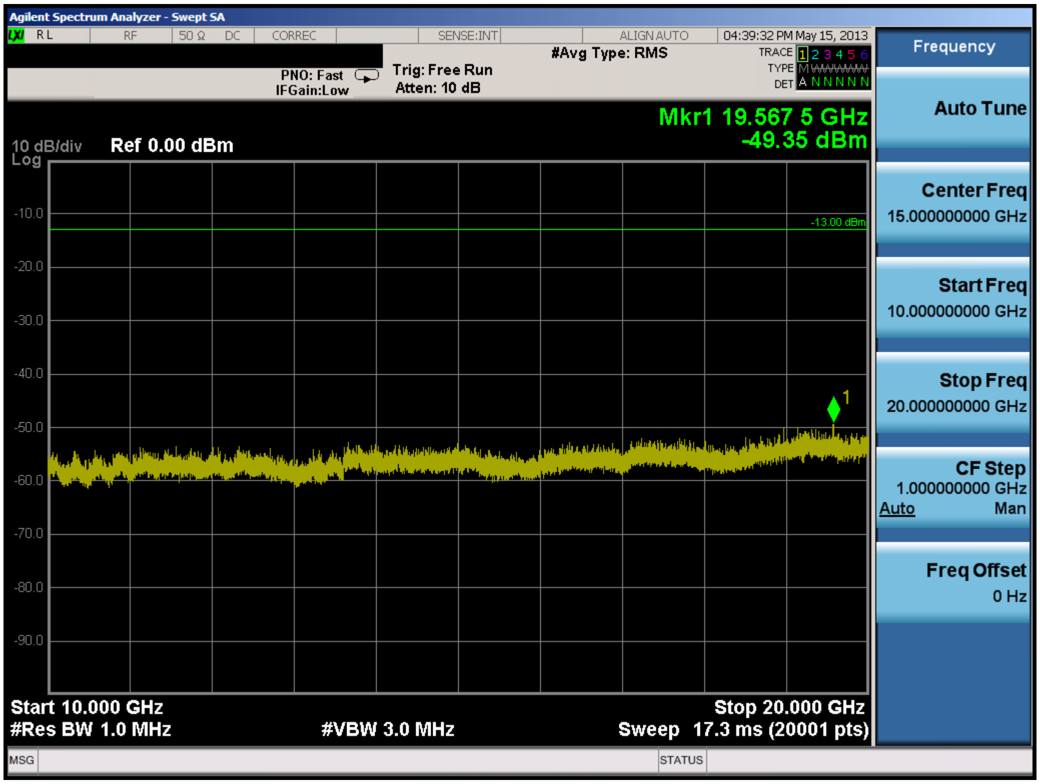
Stop Freq 10.000000000 GHz

CF Step 997.000000 MHz Auto Man

Freq Offset 0 Hz

MSG Alignment Completed

Plot 10-37. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:39:32 PM May 15, 2013

#Avg Type: RMS

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

TRACE 1 2 3 4 5 6

TYPE M WWWWW

DET A N N N N N

Mkr1 19.567 5 GHz

-49.35 dBm

10 dB/div Log Ref 0.00 dBm

Start 10.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 20.000 GHz

Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz

Start Freq 10.000000000 GHz

Stop Freq 20.000000000 GHz

CF Step 1.000000000 GHz Auto Man

Freq Offset 0 Hz

Plot 10-38. Conducted Spurious Plot (15.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:40:07 PM May 15, 2013

#Avg Type: RMS

PNO: Wide IFGain:Low

Trig: Free Run

Atten: 38 dB

TRACE 1 2 3 4 5 6

TYPE M WWWWW

DET A N N N N N

Mkr1 1.910 006 GHz

-32.16 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.910000 GHz

#Res BW 150 kHz

#VBW 470 kHz

Span 6.000 MHz

#Sweep 1.00 s (1001 pts)

Center Freq 1.910000000 GHz

Start Freq 1.907000000 GHz

Stop Freq 1.913000000 GHz

CF Step 600.000 kHz Auto Man

Freq Offset 0 Hz

Plot 10-39. Upper Band Edge Plot (15.0MHz QPSK – RB Size 75)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:40:21 PM May 15, 2013

PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 38 dB
#Avg Type: RMS

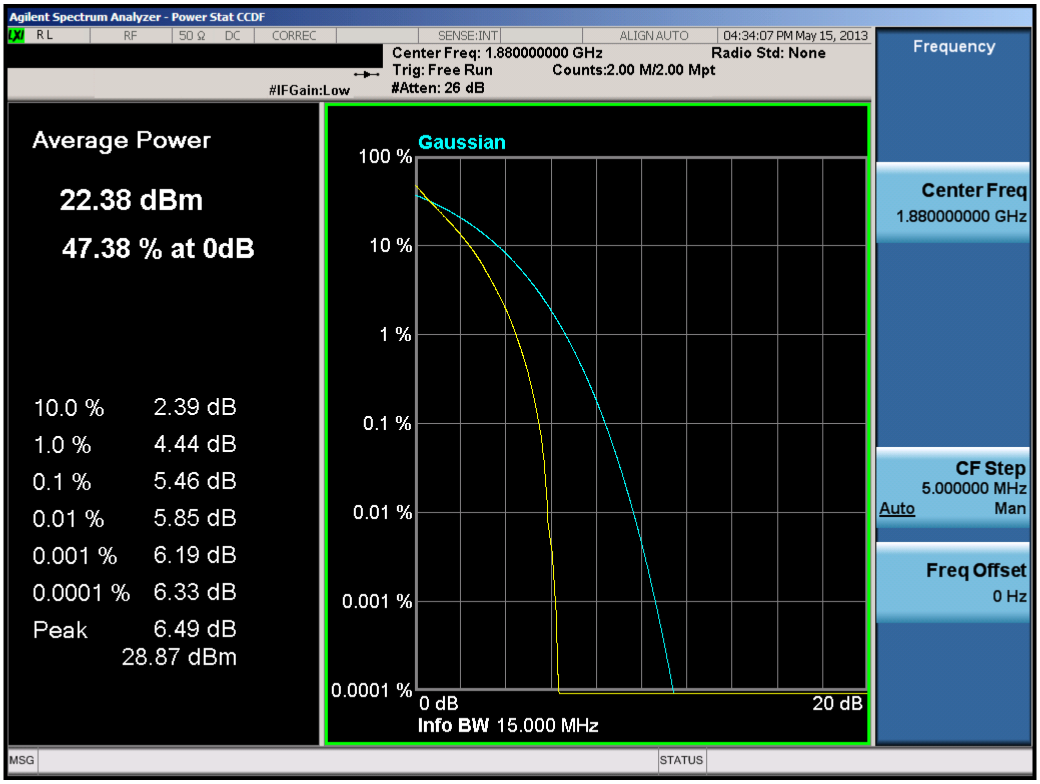
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET A N N N N N

Mkr1 1.911 000 GHz
-27.91 dBm

10 dB/div Log Ref 28.00 dBm

Center 1.913000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 4.000 MHz
#Sweep 3.00 s (1001 pts)

Plot 10-40. Upper Extended Band Edge Plot (15.0MHz QPSK – RB Size 75)


Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:34:07 PM May 15, 2013

#IFGain:Low
Center Freq: 1.880000000 GHz
Trig: Free Run
#Atten: 26 dB
Radio Std: None
Counts:2.00 M/2.00 Mpt

Average Power

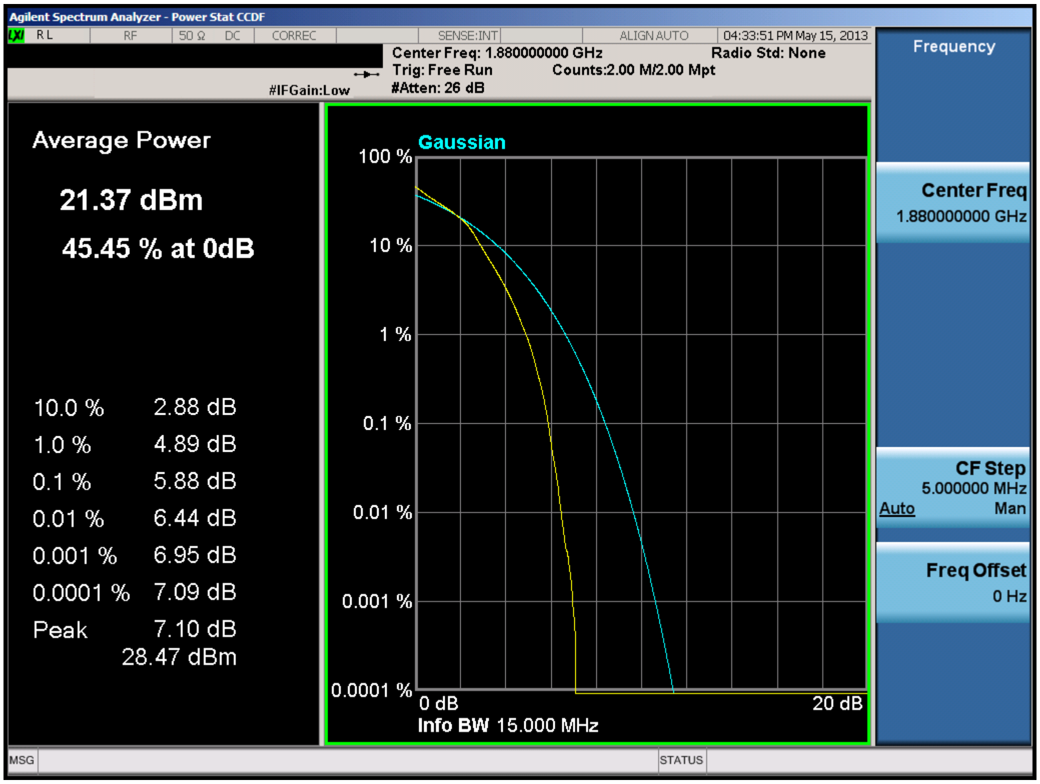
22.38 dBm

47.38 % at 0dB

10.0 %	2.39 dB
1.0 %	4.44 dB
0.1 %	5.46 dB
0.01 %	5.85 dB
0.001 %	6.19 dB
0.0001 %	6.33 dB
Peak	6.49 dB 28.87 dBm

Info BW 15.000 MHz

Plot 10-41. PAR Plot (15.0MHz QPSK – RB Size 75)



Agilent Spectrum Analyzer - Power Stat CCDF

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:33:51 PM May 15, 2013

Center Freq: 1.880000000 GHz Radio Std: None

Trig: Free Run Counts:2.00 M/2.00 Mpt

#IFGain:Low #Atten: 26 dB

Average Power

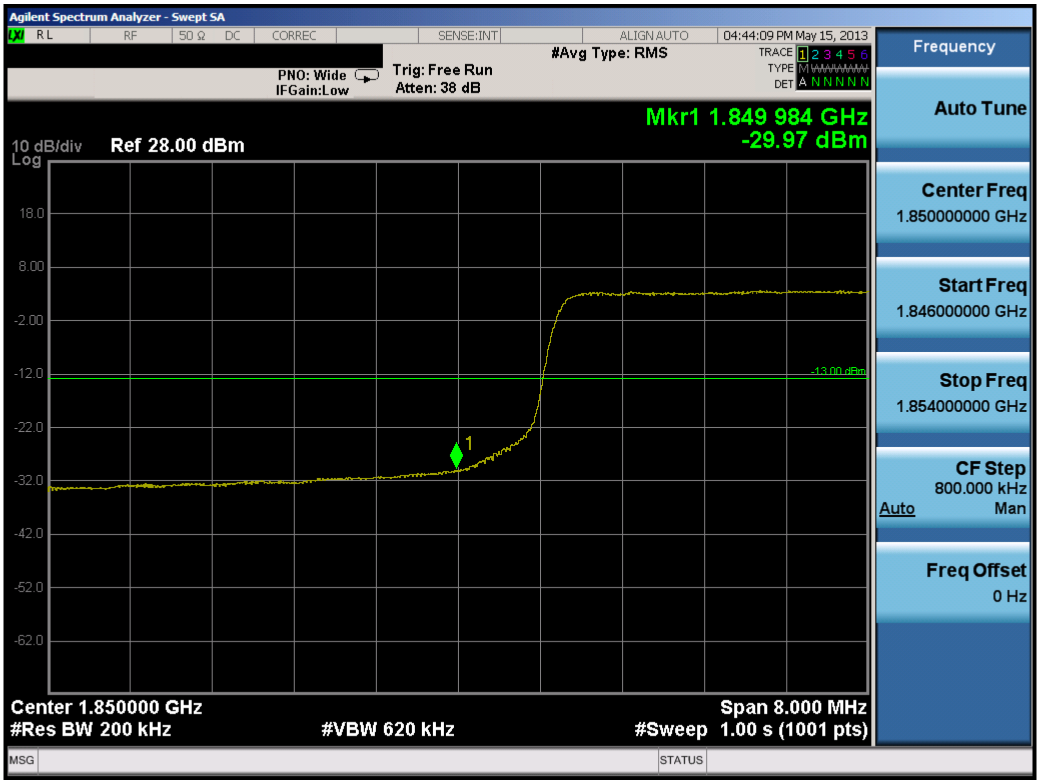
21.37 dBm

45.45 % at 0dB

10.0 %	2.88 dB
1.0 %	4.89 dB
0.1 %	5.88 dB
0.01 %	6.44 dB
0.001 %	6.95 dB
0.0001 %	7.09 dB
Peak	7.10 dB 28.47 dBm

Info BW 15.000 MHz

Plot 10-42. PAR Plot (15.0MHz 16-QAM – RB Size 75)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:44:09 PM May 15, 2013

#Avg Type: RMS

PNO: Wide Trig: Free Run

IFGain:Low Atten: 38 dB

Mkr1 1.849 984 GHz

-29.97 dBm

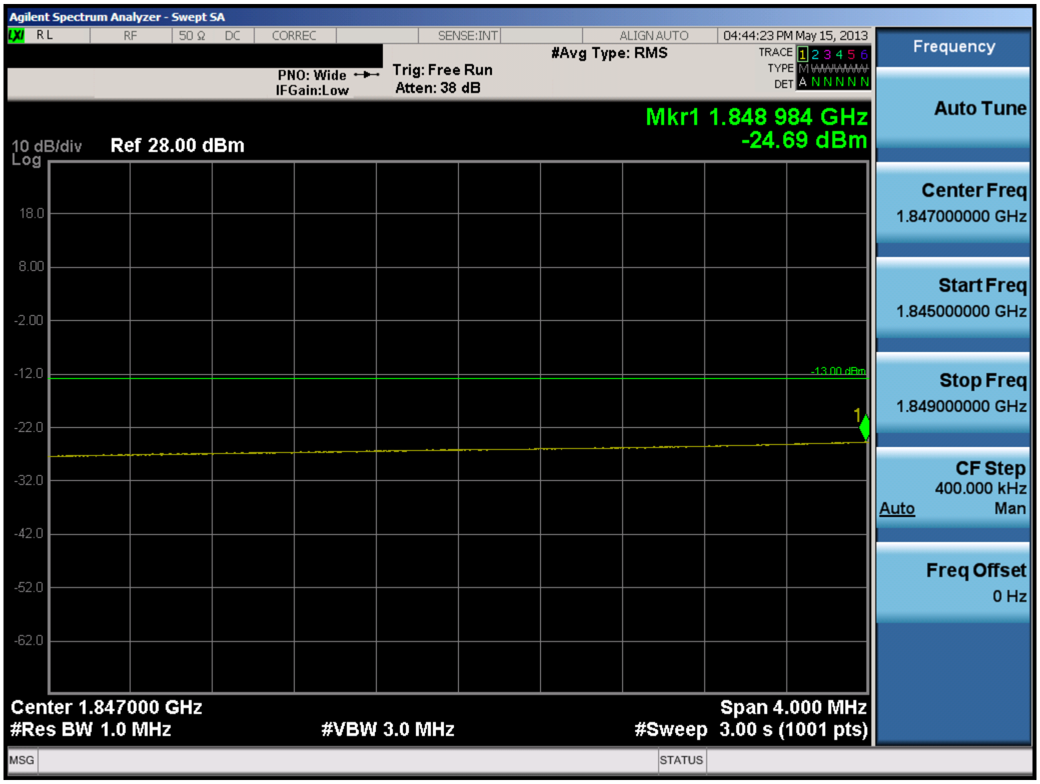
10 dB/div Ref 28.00 dBm

Log

Center 1.850000 GHz Span 8.000 MHz

#Res BW 200 kHz #VBW 620 kHz #Sweep 1.00 s (1001 pts)

Plot 10-43. Lower Band Edge Plot (20.0MHz QPSK – RB Size 100)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:44:23 PM May 15, 2013

#Avg Type: RMS

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

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

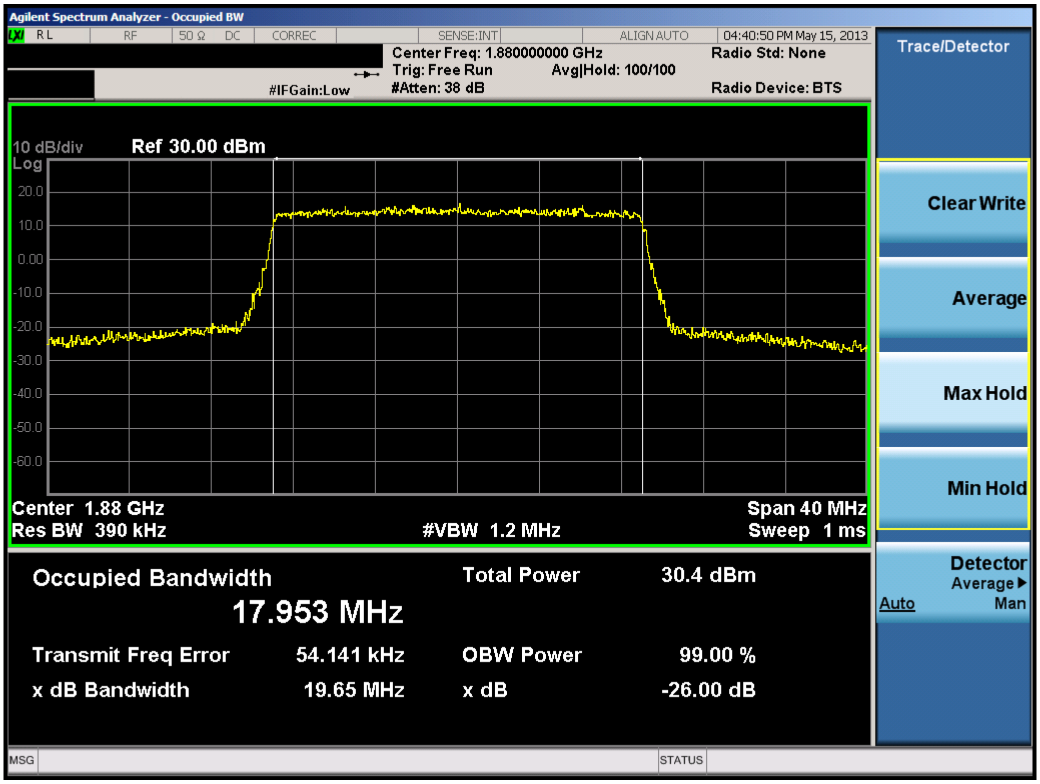
Mkr1 1.848 984 GHz
-24.69 dBm

10 dB/div Ref 28.00 dBm

Center 1.847000 GHz Span 4.000 MHz
#Res BW 1.0 MHz #VBW 3.0 MHz #Sweep 3.00 s (1001 pts)

Center Freq 1.847000000 GHz
Start Freq 1.845000000 GHz
Stop Freq 1.849000000 GHz
CF Step 400.000 kHz Auto Man
Freq Offset 0 Hz

Plot 10-44. Lower Extended Band Edge Plot (20.0MHz QPSK – RB Size 100)



Agilent Spectrum Analyzer - Occupied BW

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:40:50 PM May 15, 2013

Center Freq: 1.880000000 GHz Radio Std: None
Trig: Free Run Avg|Hold: 100/100
#IFGain:Low #Atten: 38 dB Radio Device: BTS

10 dB/div Ref 30.00 dBm

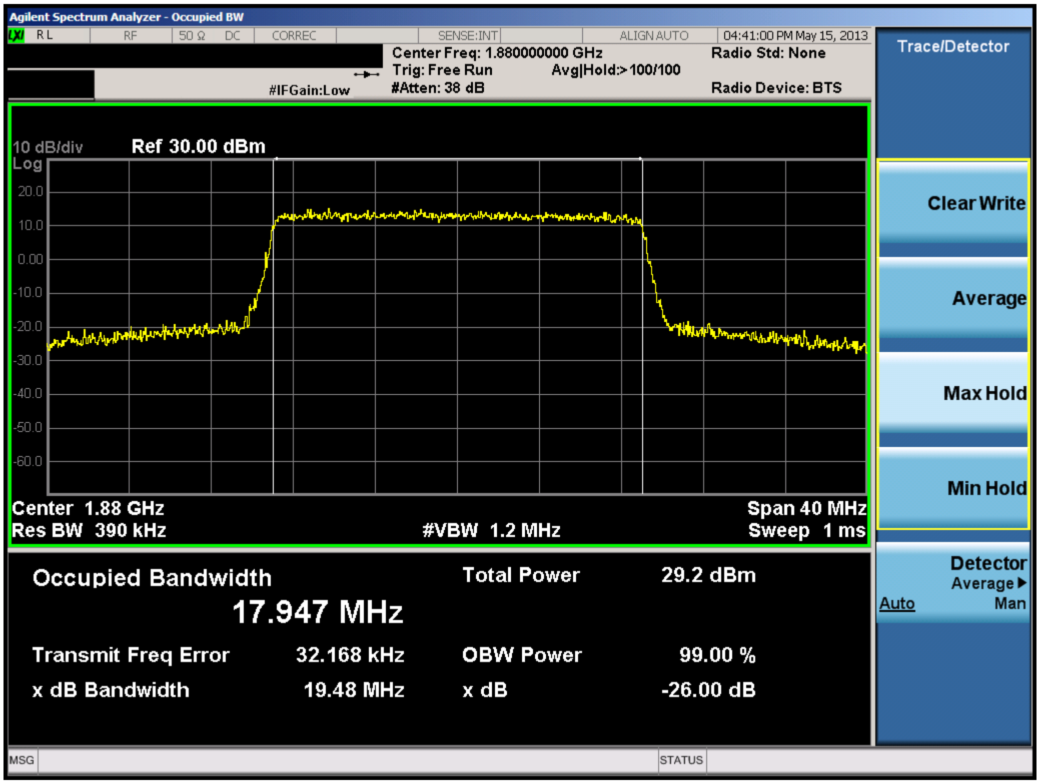
Center 1.88 GHz Span 40 MHz
Res BW 390 kHz #VBW 1.2 MHz Sweep 1 ms

Occupied Bandwidth Total Power 30.4 dBm
17.953 MHz

Transmit Freq Error 54.141 kHz OBW Power 99.00 %
x dB Bandwidth 19.65 MHz x dB -26.00 dB

Detector Average Auto Man

Plot 10-45. Occupied Bandwidth Plot (20.0MHz QPSK – RB Size 100)



04:41:00 PM May 15, 2013

Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold:> 100/100
#IFGain:Low
#Atten: 38 dB

Radio Std: None
Radio Device: BTS

10 dB/div
Log
Ref 30.00 dBm

Center 1.88 GHz
Res BW 390 kHz
#VBW 1.2 MHz
Span 40 MHz
Sweep 1 ms

Occupied Bandwidth
17.947 MHz

Total Power 29.2 dBm

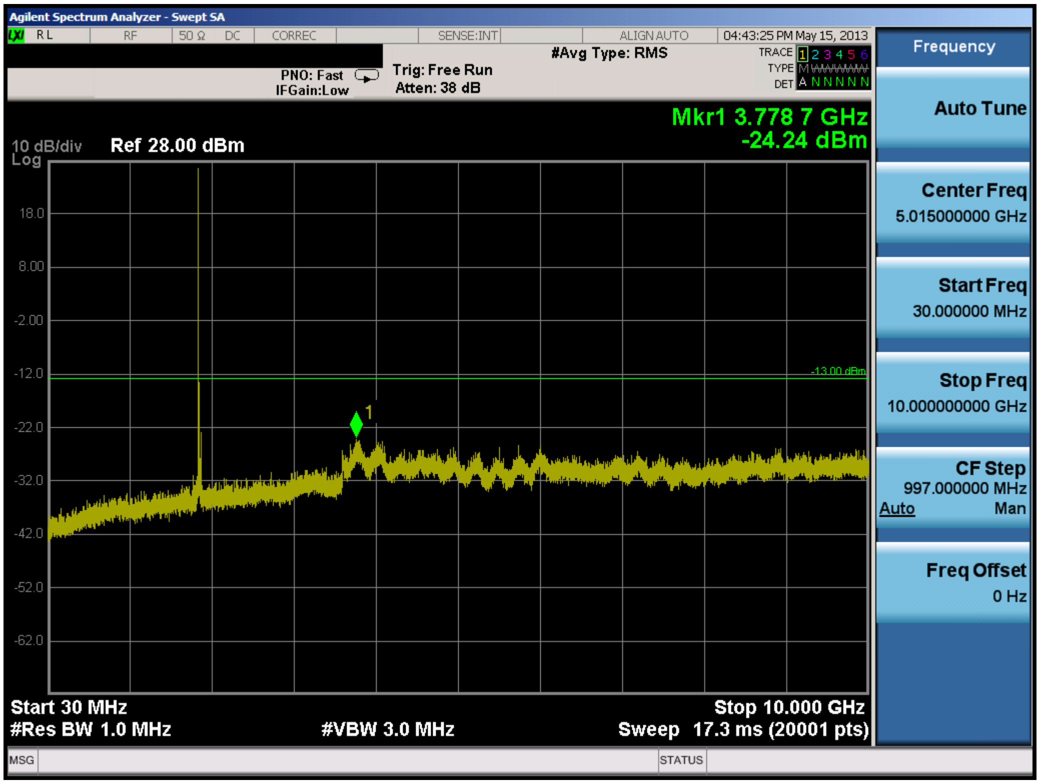
Transmit Freq Error 32.168 kHz

OBW Power 99.00 %

x dB Bandwidth 19.48 MHz

x dB -26.00 dB

Plot 10-46. Occupied Bandwidth Plot (20.0MHz 16-QAM – RB Size 100)



04:43:25 PM May 15, 2013

#Avg Type: RMS

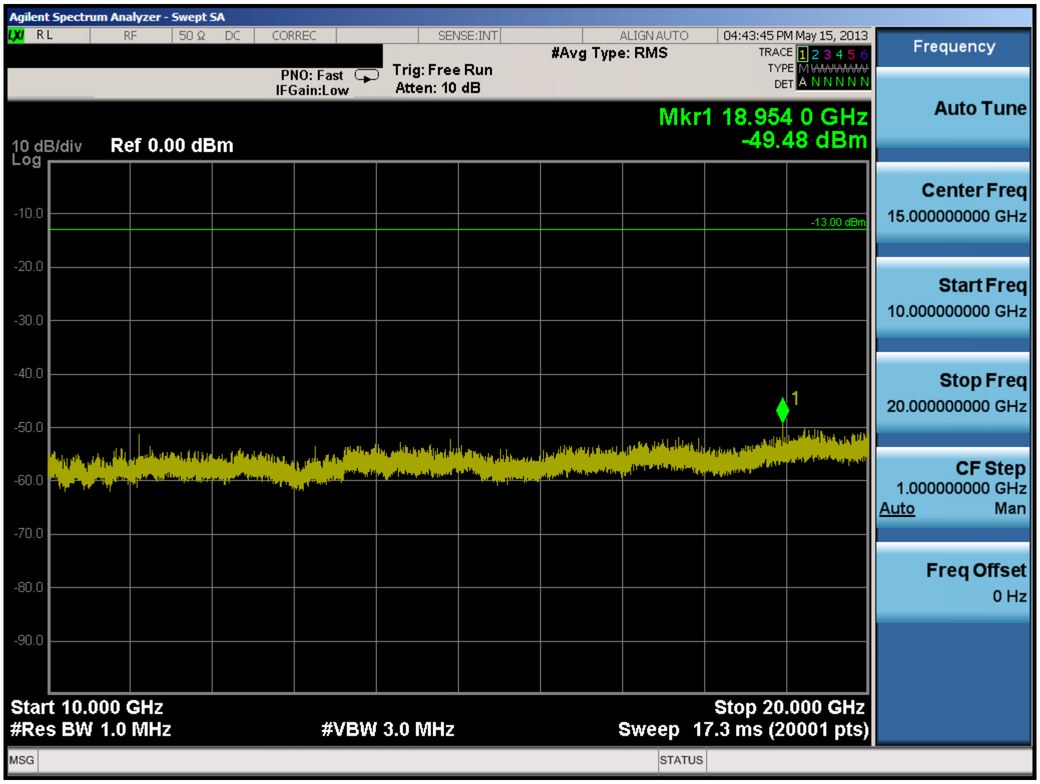
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 38 dB

Mkr1 3.778 7 GHz
-24.24 dBm

10 dB/div
Log
Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Plot 10-47. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:43:45 PM May 15, 2013

#Avg Type: RMS

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

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

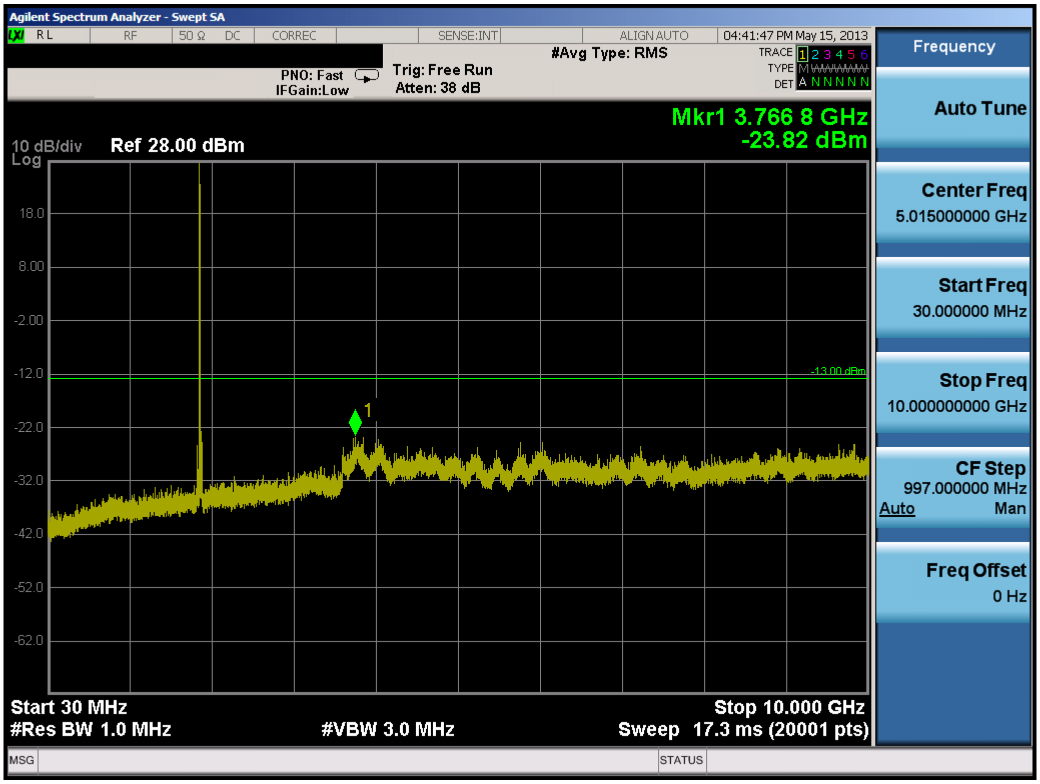
Mkr1 18.954 0 GHz
-49.48 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-48. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:41:47 PM May 15, 2013

#Avg Type: RMS

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

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 38 dB

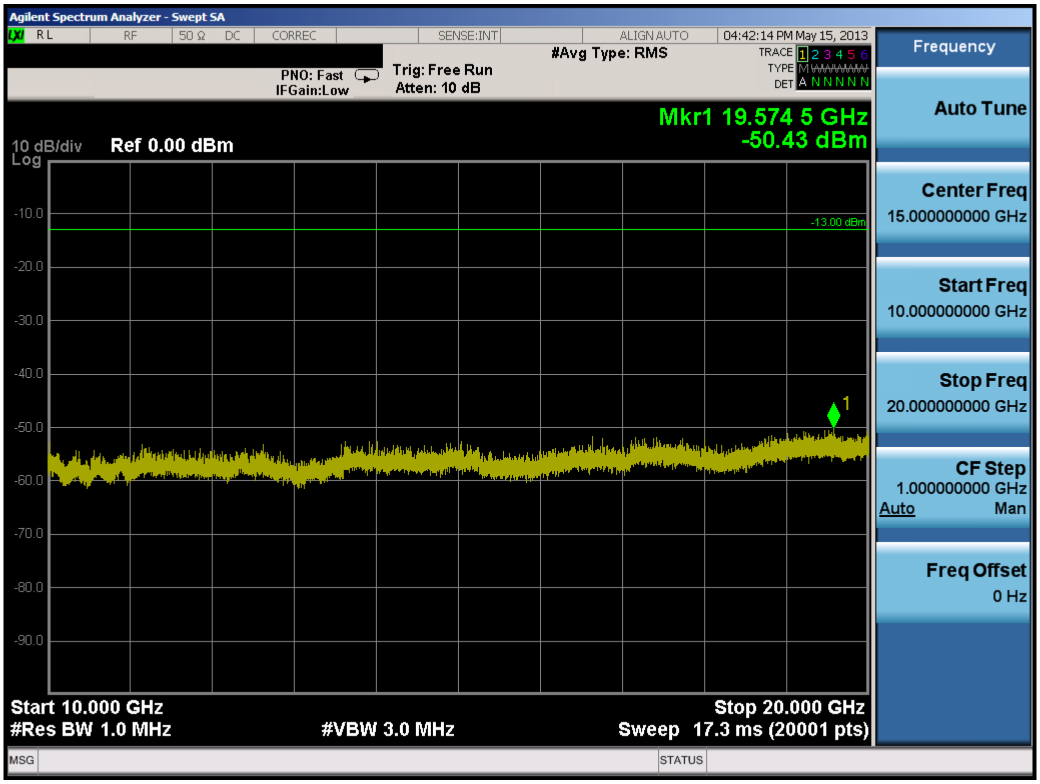
Mkr1 3.766 8 GHz
-23.82 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz #VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 10-49. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:42:14 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

#Avg Type: RMS

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

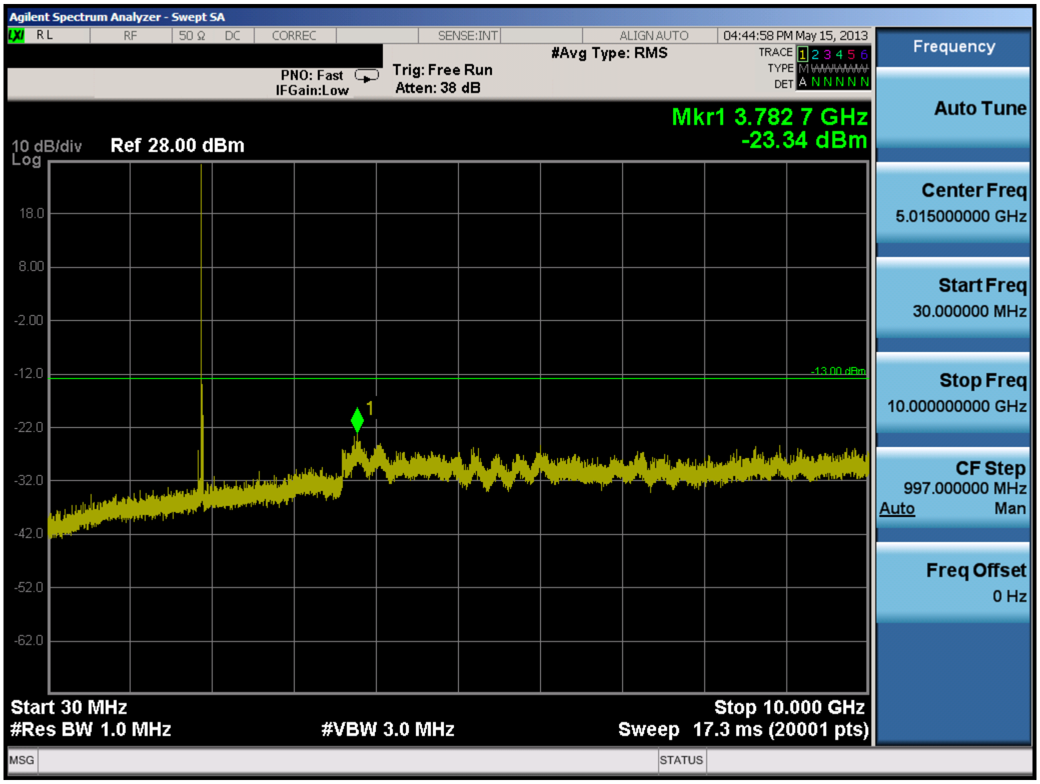
Mkr1 19.574 5 GHz
-50.43 dBm

10 dB/div Ref 0.00 dBm

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-50. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:44:58 PM May 15, 2013

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 38 dB

#Avg Type: RMS

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

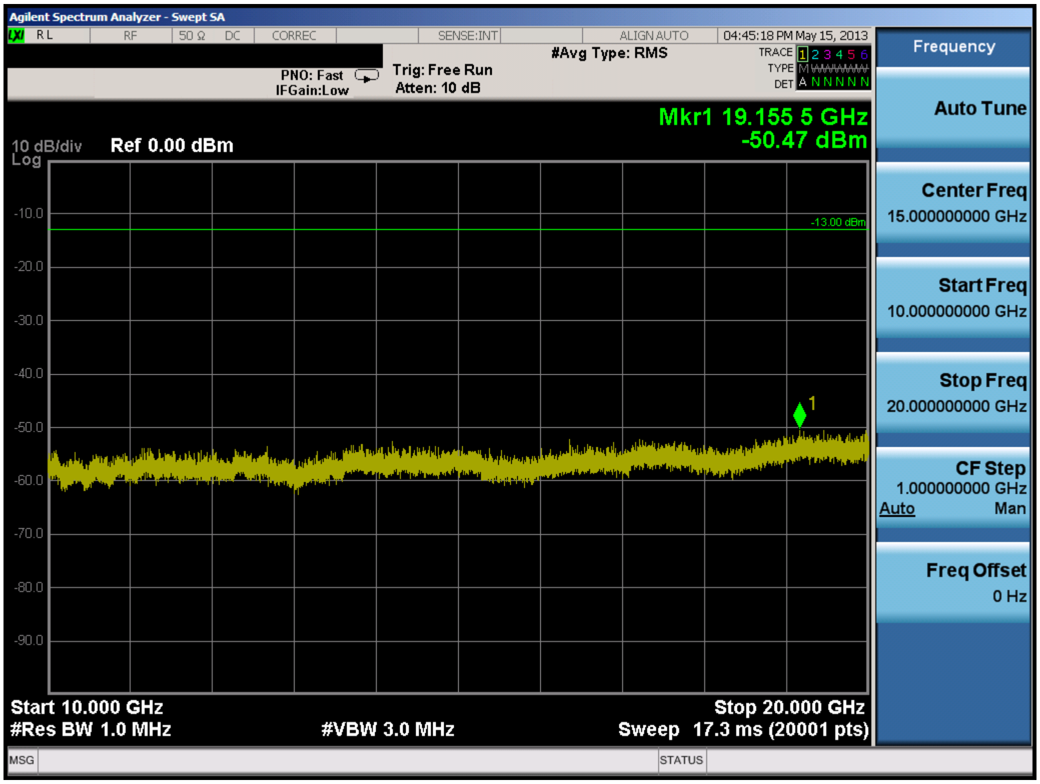
Mkr1 3.782 7 GHz
-23.34 dBm

10 dB/div Ref 28.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 17.3 ms (20001 pts)

Center Freq 5.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 10.000000000 GHz
CF Step 997.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 10-51. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:45:18 PM May 15, 2013

#Avg Type: RMS

PNO: Fast Trig: Free Run

IFGain:Low Atten: 10 dB

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

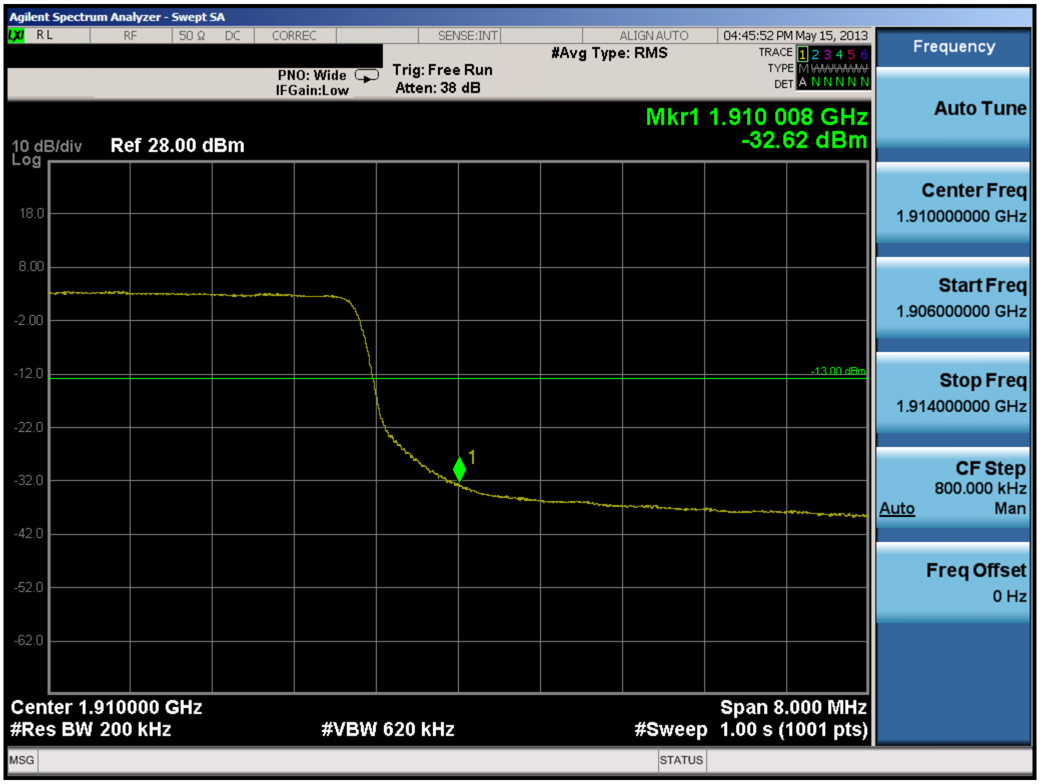
Mkr1 19.155 5 GHz
-50.47 dBm

10 dB/div Ref 0.00 dBm
Log

Start 10.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 20.000 GHz
Sweep 17.3 ms (20001 pts)

Frequency
Auto Tune
Center Freq 15.000000000 GHz
Start Freq 10.000000000 GHz
Stop Freq 20.000000000 GHz
CF Step 1.000000000 GHz Auto Man
Freq Offset 0 Hz

Plot 10-52. Conducted Spurious Plot (20.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)


Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 04:45:52 PM May 15, 2013

#Avg Type: RMS

PNO: Wide Trig: Free Run

IFGain:Low Atten: 38 dB

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

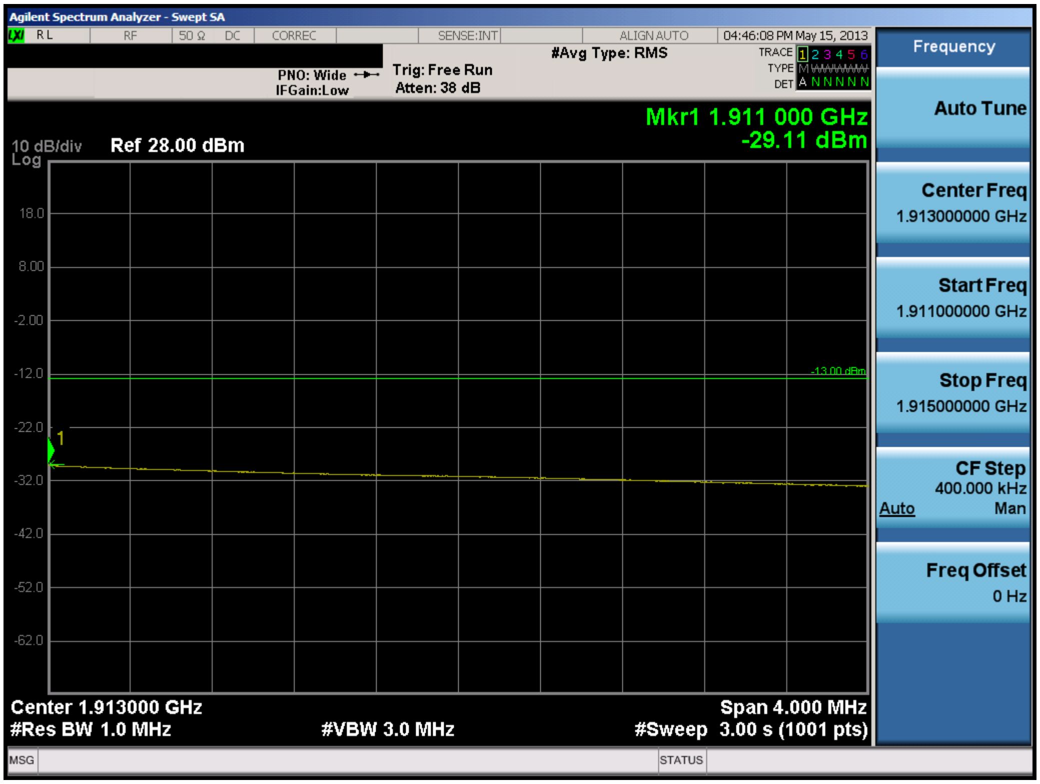
Mkr1 1.910 008 GHz
-32.62 dBm

10 dB/div Ref 28.00 dBm
Log

Center 1.910000 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 8.000 MHz
#Sweep 1.00 s (1001 pts)

Frequency
Auto Tune
Center Freq 1.910000000 GHz
Start Freq 1.906000000 GHz
Stop Freq 1.914000000 GHz
CF Step 800.000 kHz Auto Man
Freq Offset 0 Hz

Plot 10-53. Upper Band Edge Plot (20.0MHz QPSK – RB Size 100)



04:46:08 PM May 15, 2013

PNO: Wide
IFGain:Low

Trig: Free Run
Atten: 38 dB

#Avg Type: RMS

Mkr1 1.911 000 GHz
-29.11 dBm

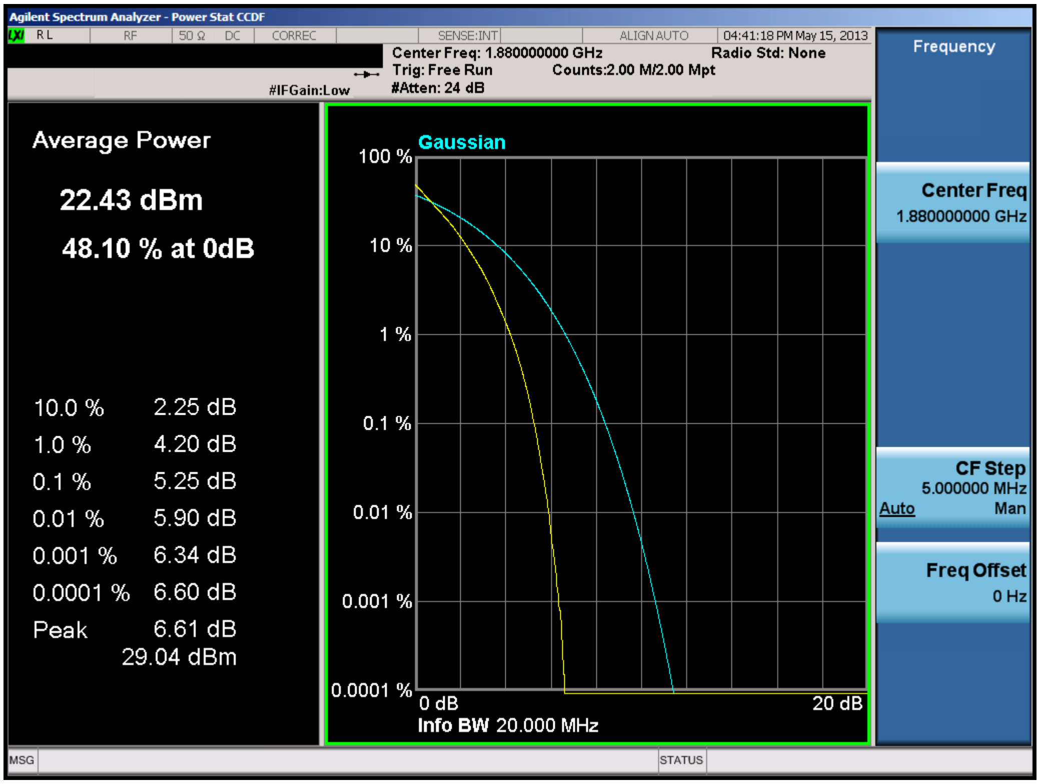
10 dB/div
Log

Ref 28.00 dBm

Center 1.913000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 4.000 MHz
#Sweep 3.00 s (1001 pts)

Center Freq 1.913000000 GHz
Start Freq 1.911000000 GHz
Stop Freq 1.915000000 GHz
CF Step 400.000 kHz Auto Man
Freq Offset 0 Hz

Plot 10-54. Upper Extended Band Edge Plot (20.0MHz QPSK – RB Size 100)



04:41:18 PM May 15, 2013

#IFGain:Low

Center Freq: 1.880000000 GHz
Trig: Free Run
#Atten: 24 dB

Radio Std: None
Counts:2.00 M/2.00 Mpt

Average Power

22.43 dBm

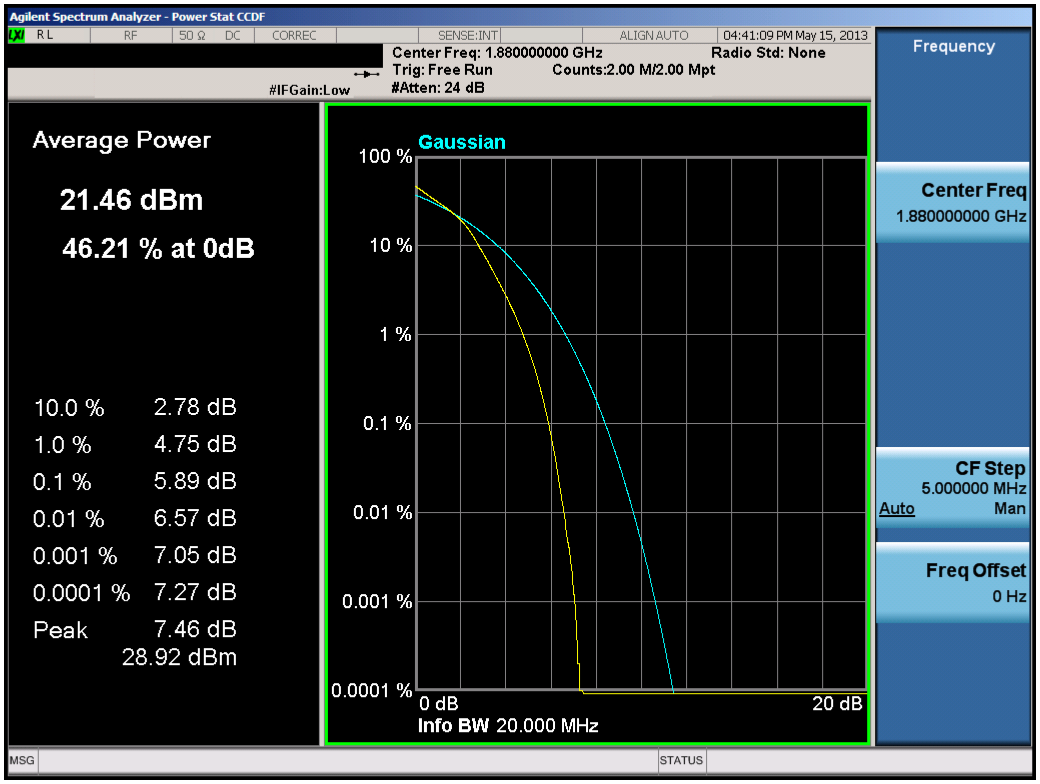
48.10 % at 0dB

10.0 %	2.25 dB
1.0 %	4.20 dB
0.1 %	5.25 dB
0.01 %	5.90 dB
0.001 %	6.34 dB
0.0001 %	6.60 dB
Peak	6.61 dB 29.04 dBm

Info BW 20.000 MHz

Center Freq 1.880000000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz

Plot 10-55. PAR Plot (20.0MHz QPSK – RB Size 100)



04:41:09 PM May 15, 2013

Center Freq: 1.880000000 GHz
Radio Std: None
Trig: Free Run
Counts:2.00 M/2.00 Mpt
#IFGain:Low
#Atten: 24 dB

Average Power

21.46 dBm

46.21 % at 0dB

10.0 %	2.78 dB
1.0 %	4.75 dB
0.1 %	5.89 dB
0.01 %	6.57 dB
0.001 %	7.05 dB
0.0001 %	7.27 dB
Peak	7.46 dB 28.92 dBm

Info BW 20.000 MHz

Center Freq 1.880000000 GHz

CF Step 5.000000 MHz Auto Man

Freq Offset 0 Hz

Plot 10-56. PAR Plot (20.0MHz 16-QAM – RB Size 100)

11.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSGHI527** complies with all the requirements of Parts 2, 22, 24, 27 of the FCC rules for LTE operation only.