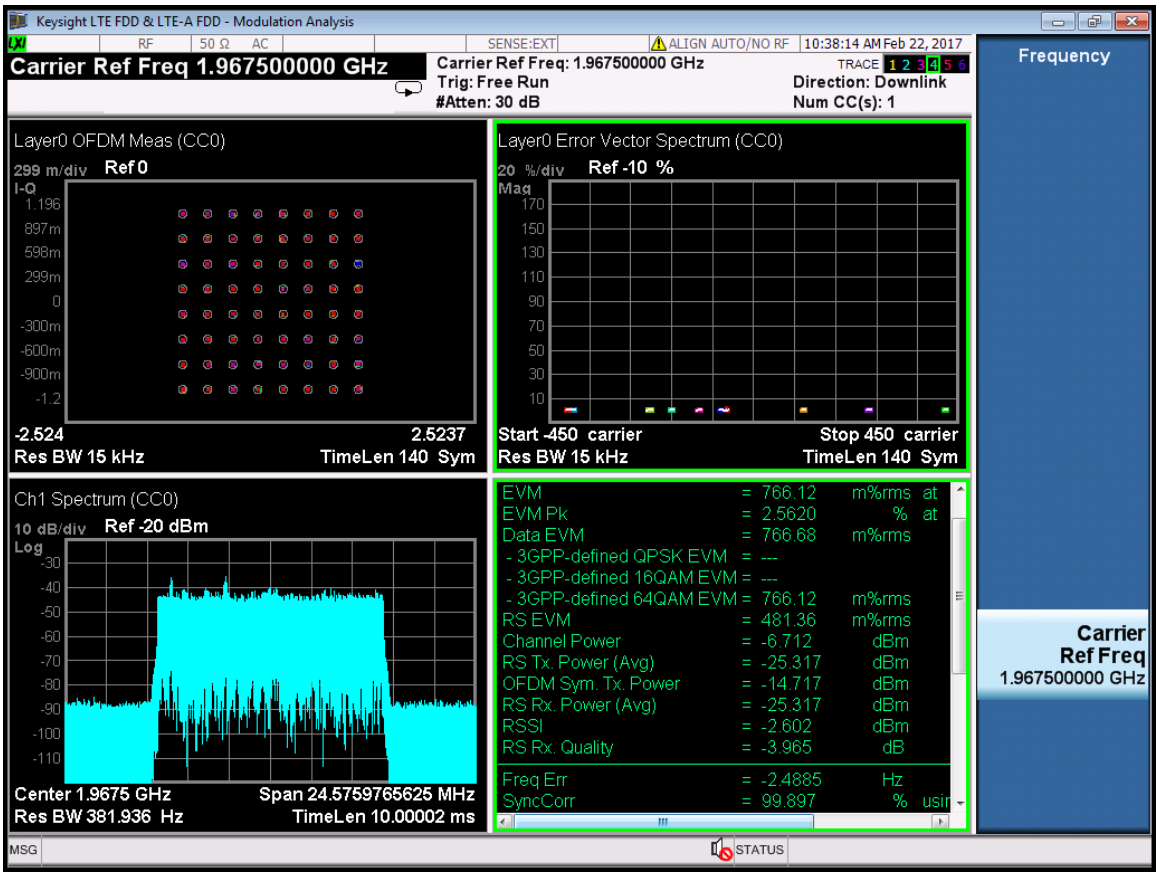
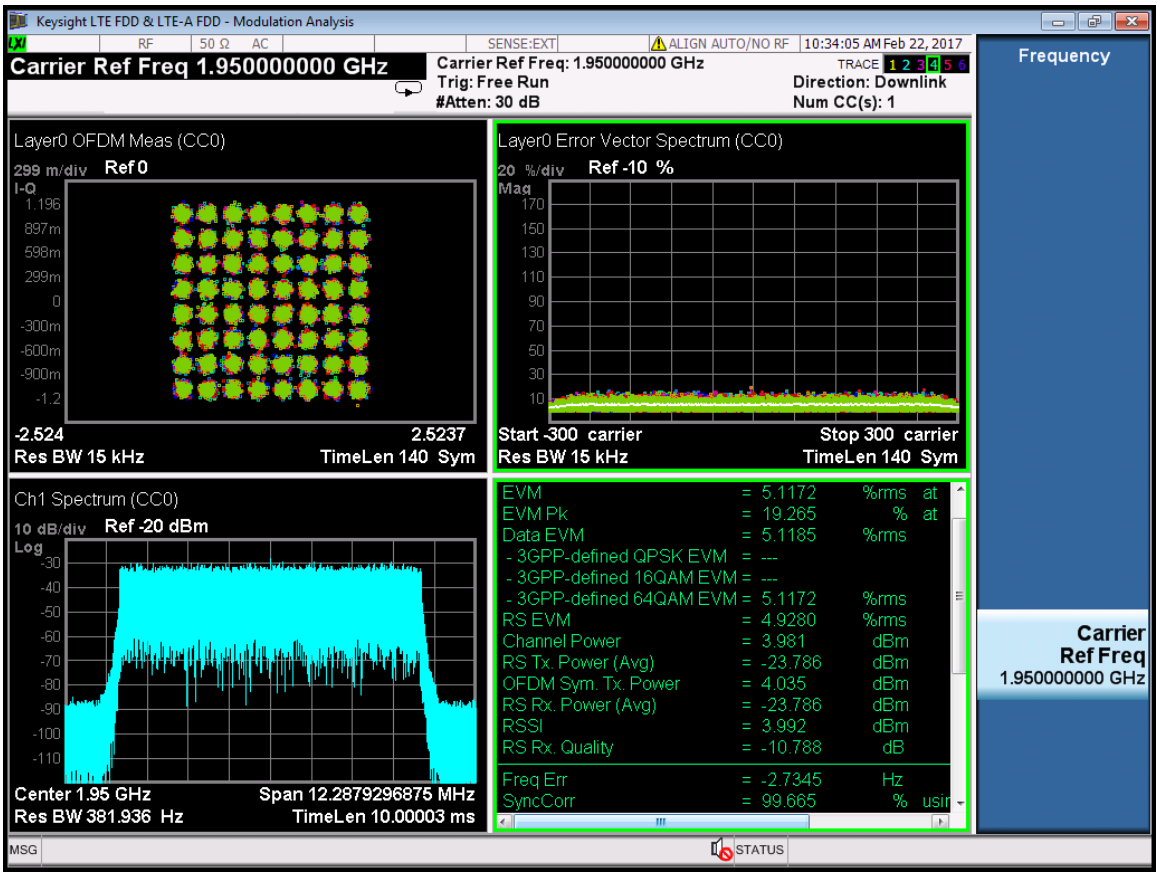
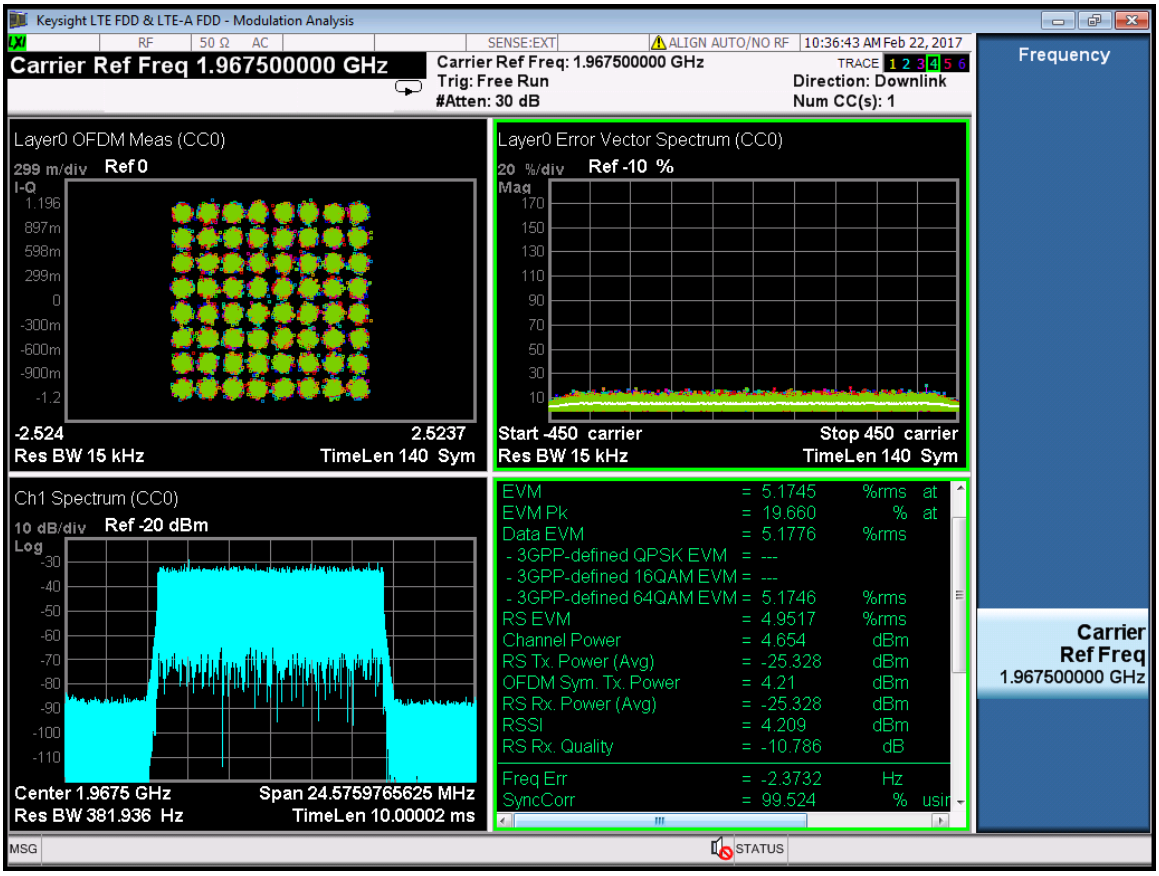
LTE 15M-Port 1-1967.5MHz- E-TM2



LTE 10M-Port 1-1950MHz-E-TM3.1



LTE 15M-Port 1-1967.5MHz- E-TM3.1



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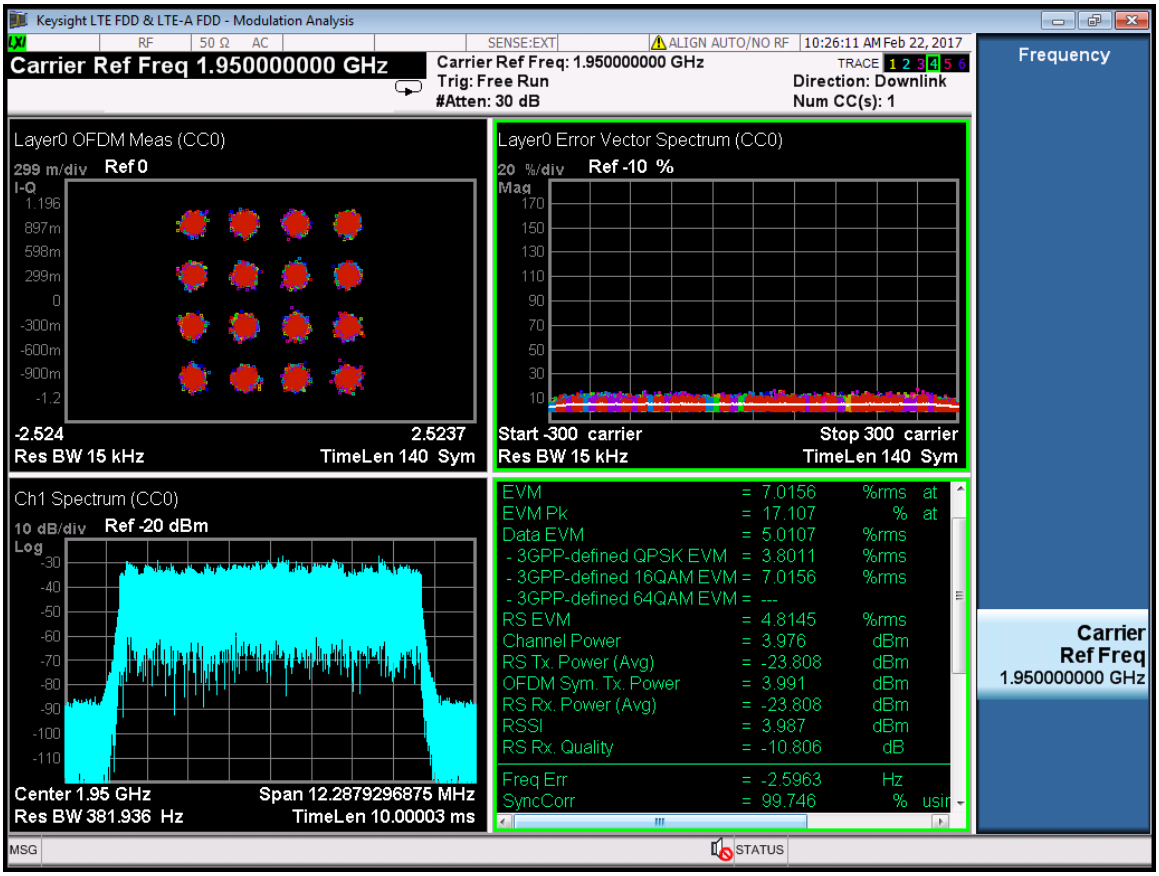

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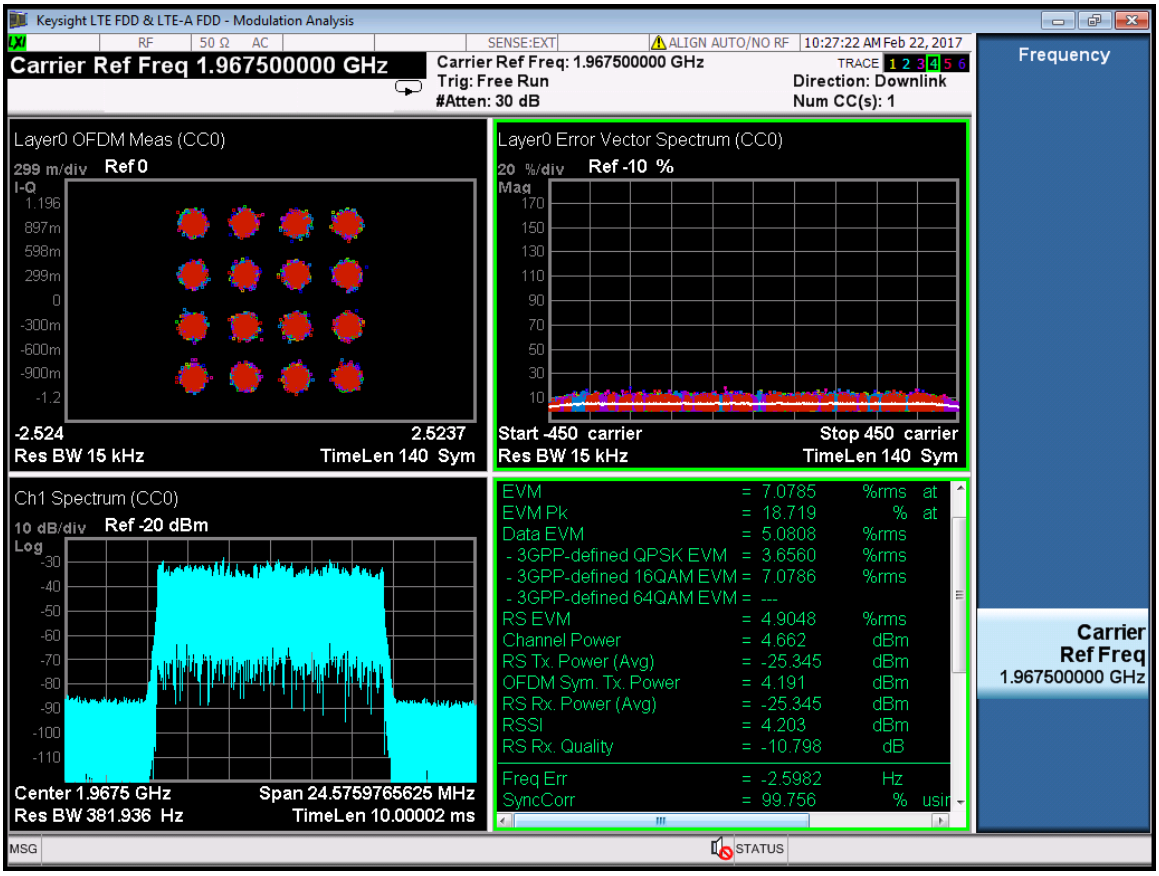

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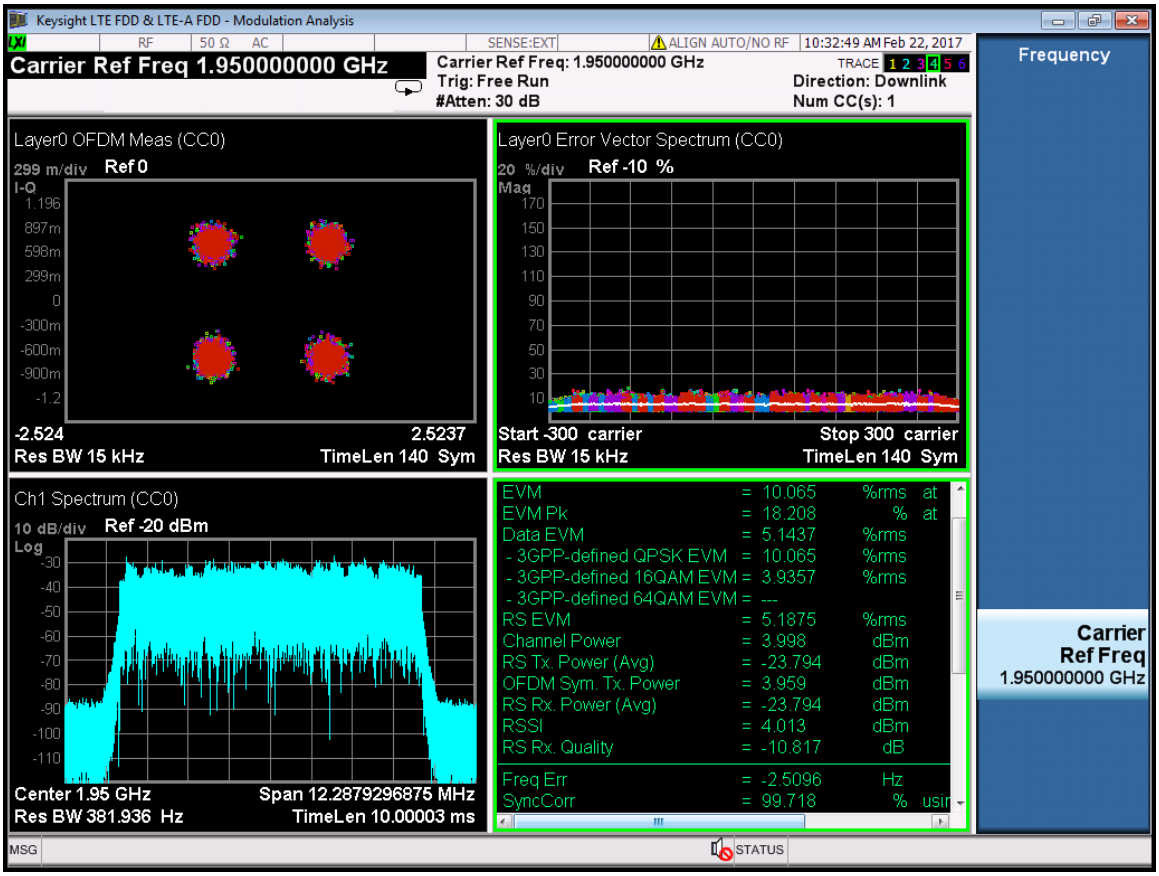

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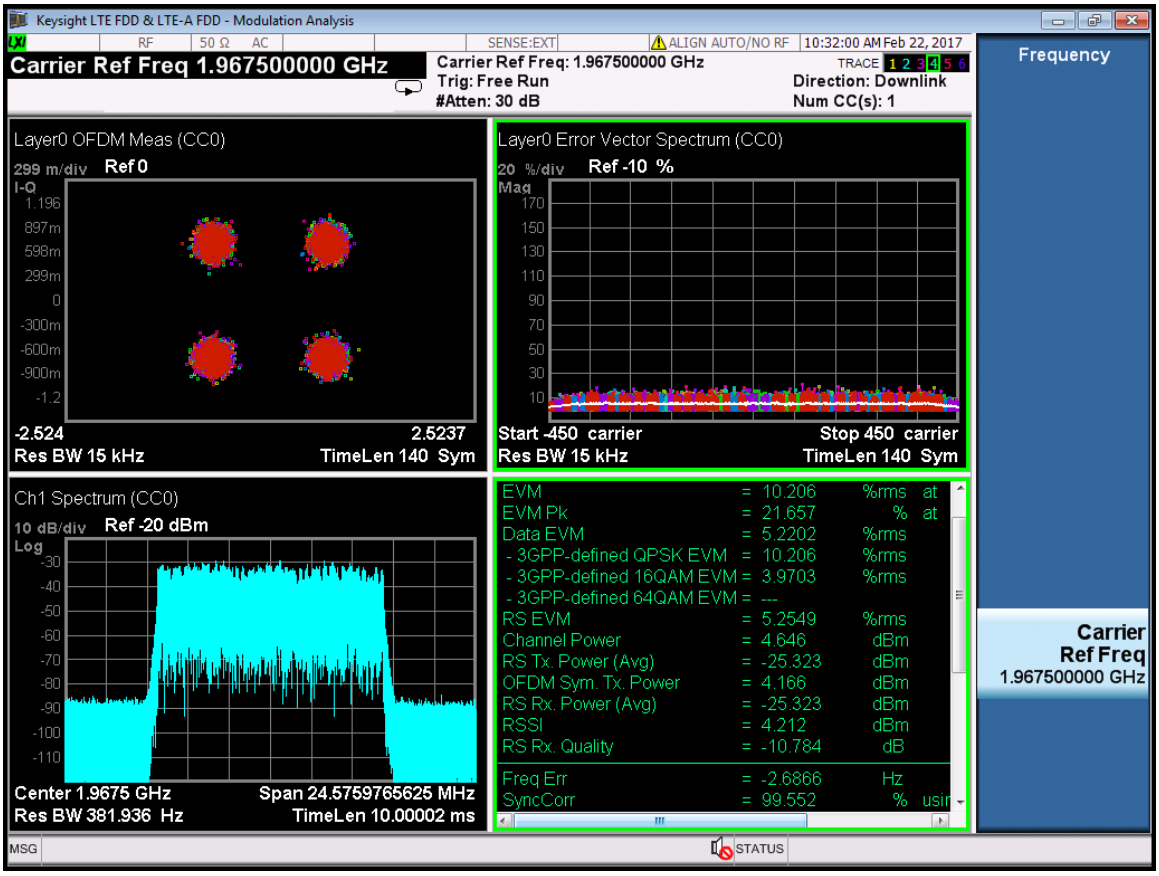
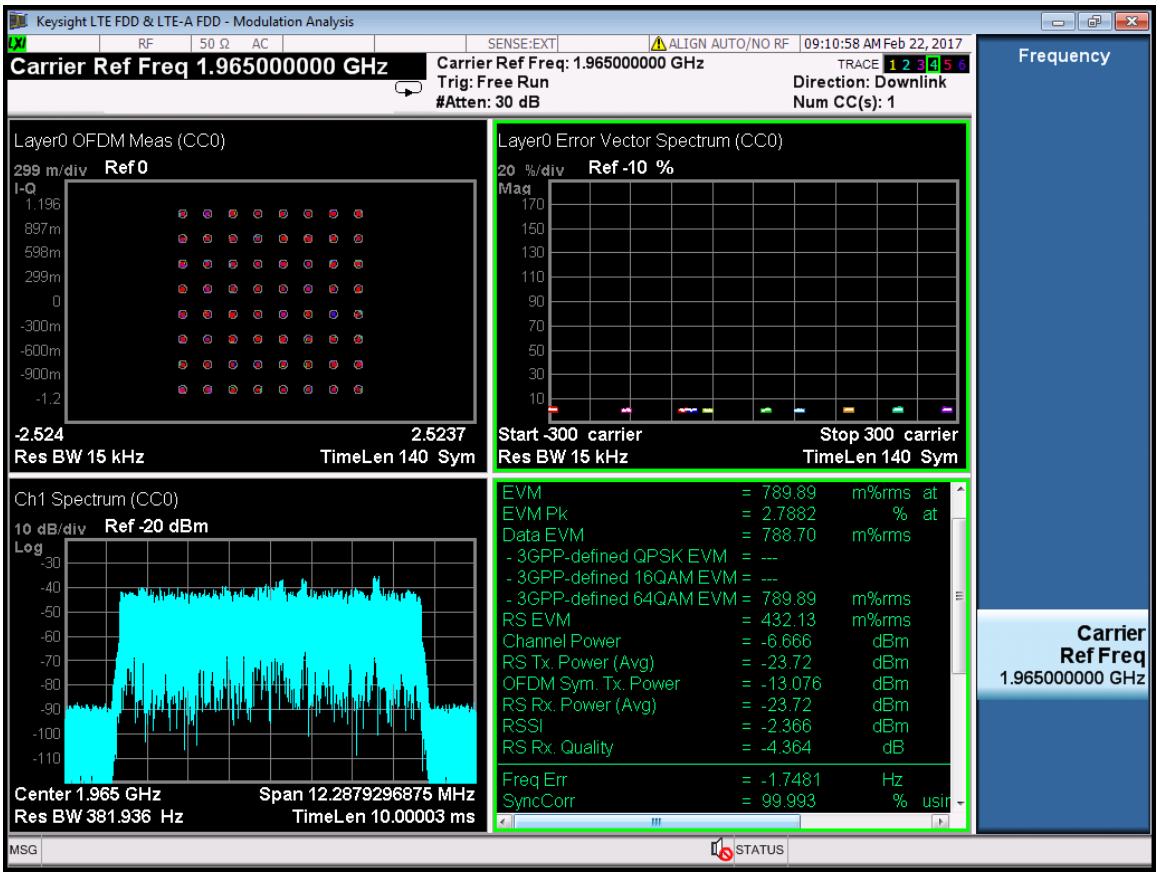


RF 1975M:
LTE 10M-Port 1-1965MHz-E-TM2



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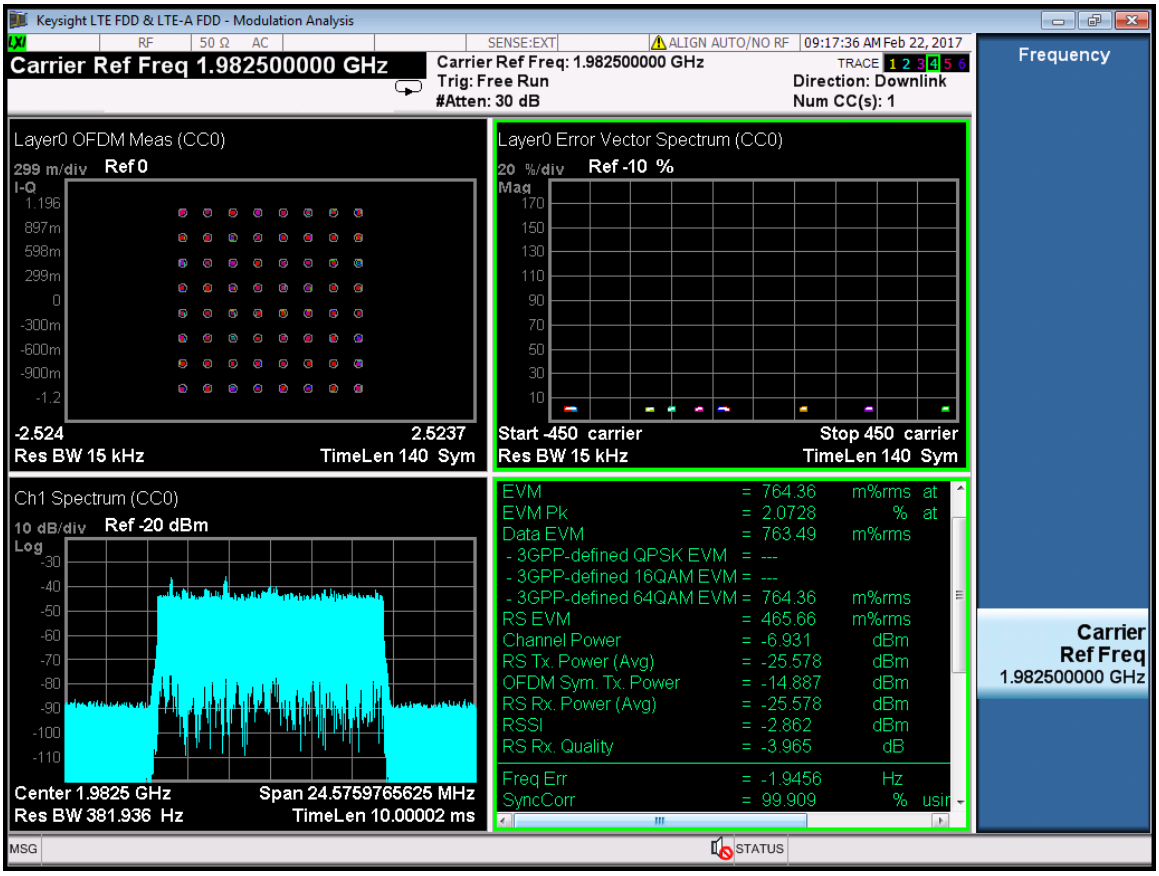
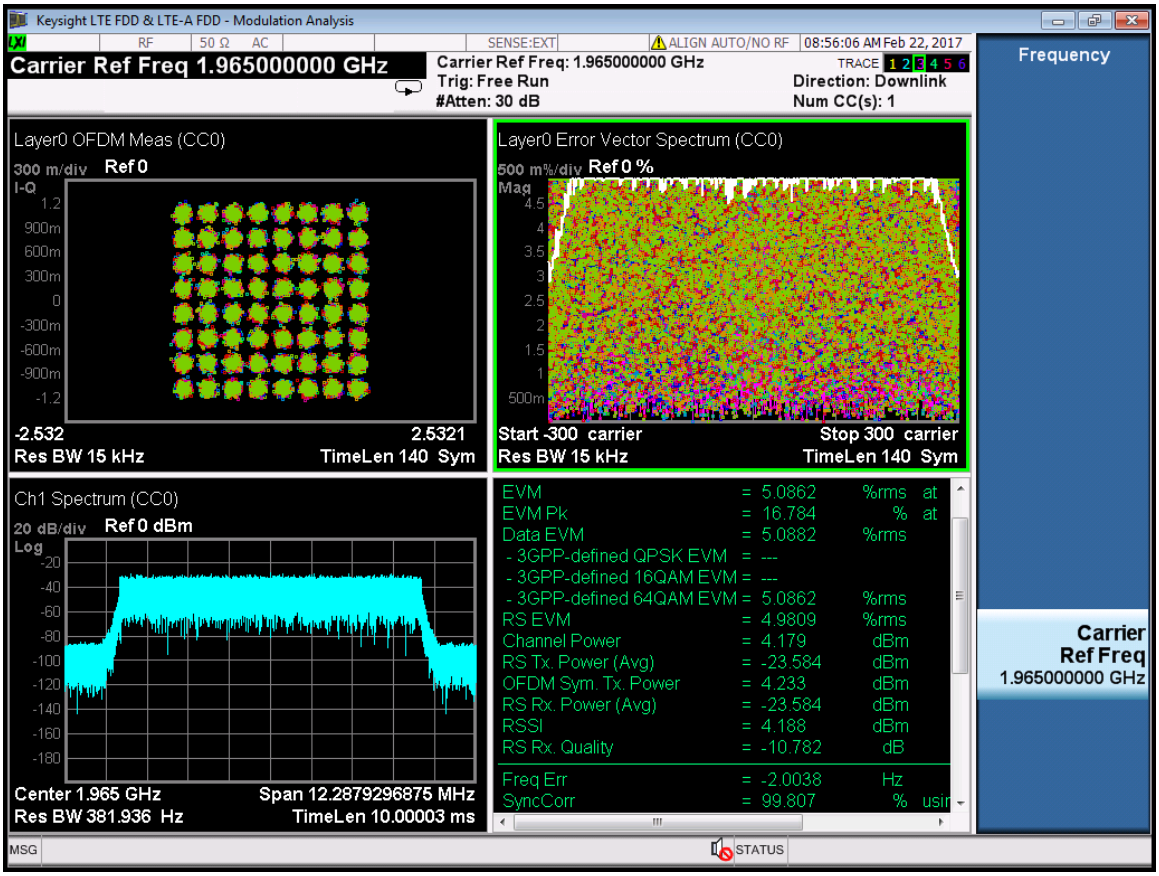
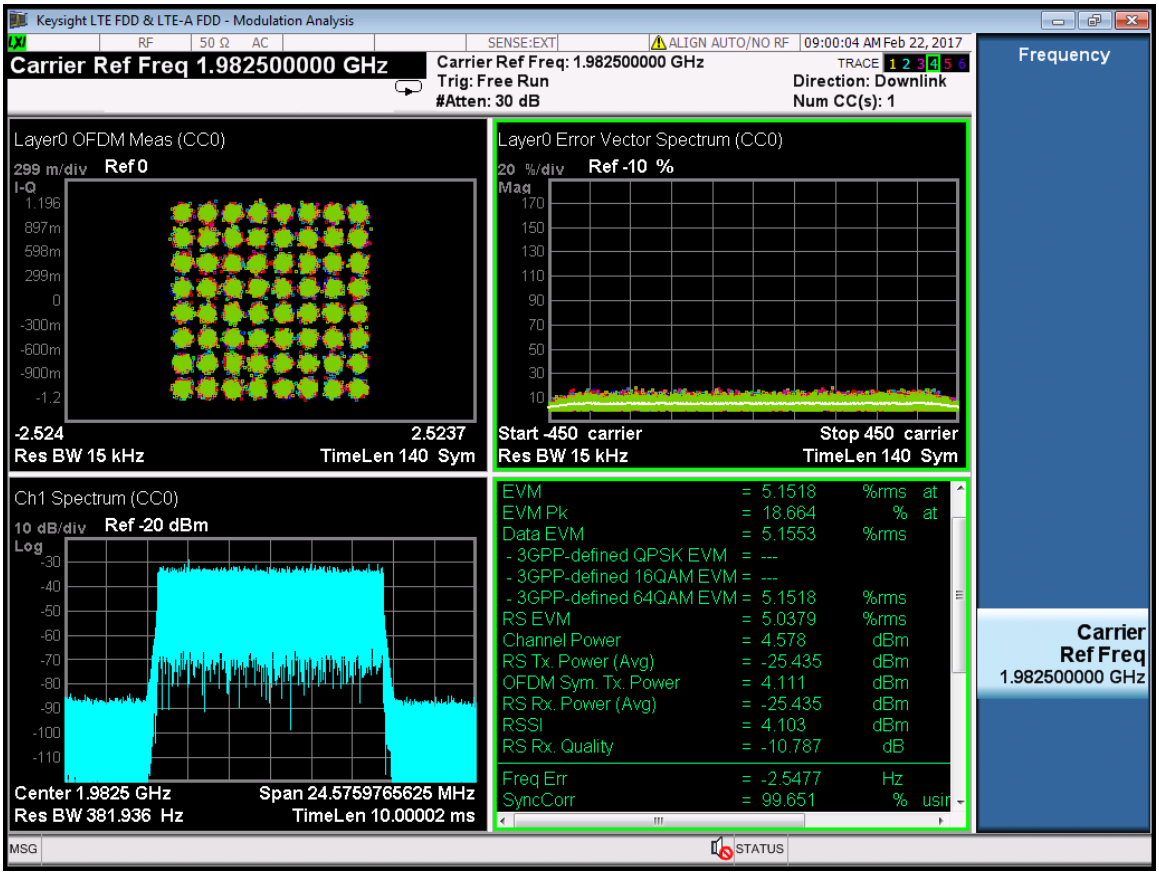


LTE 10M-Port 1-1965MHz-E-TM3.1



LTE 15M-Port 1-1982.5MHz- E-TM3.1



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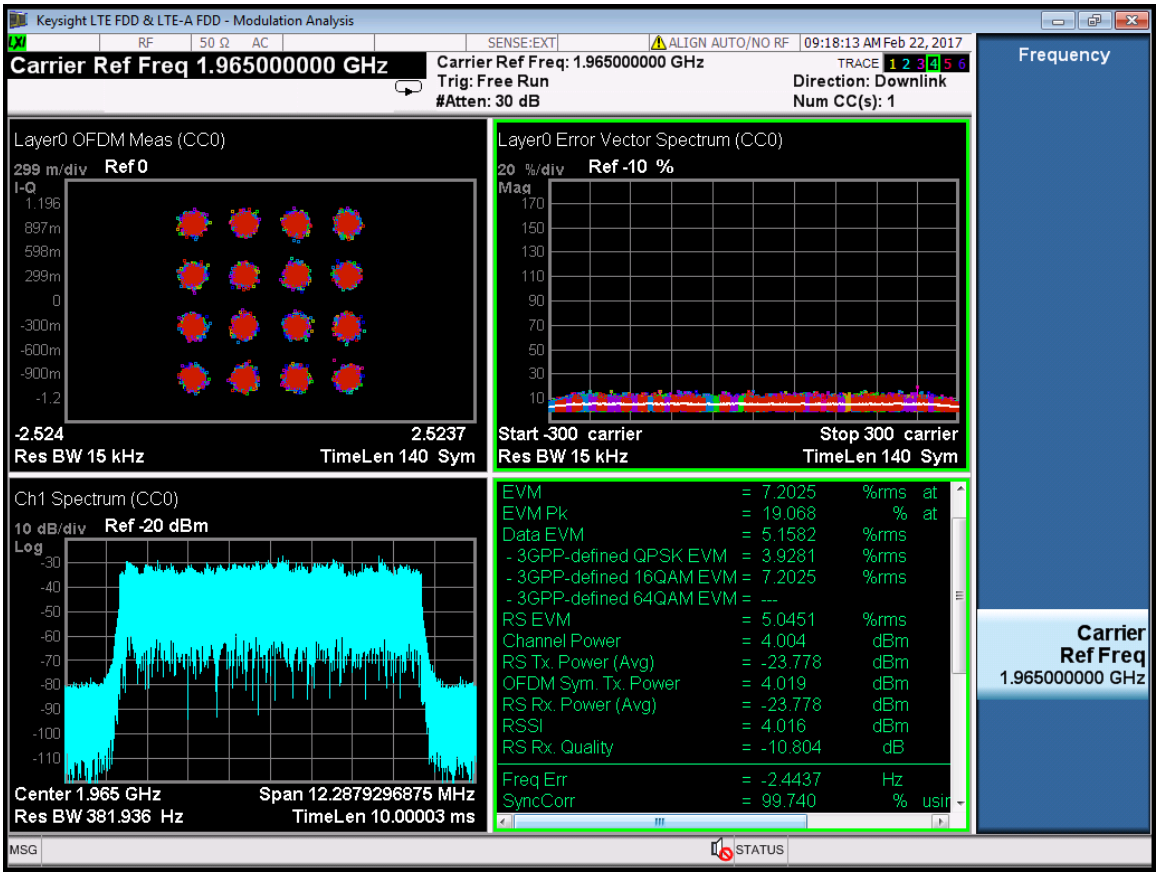
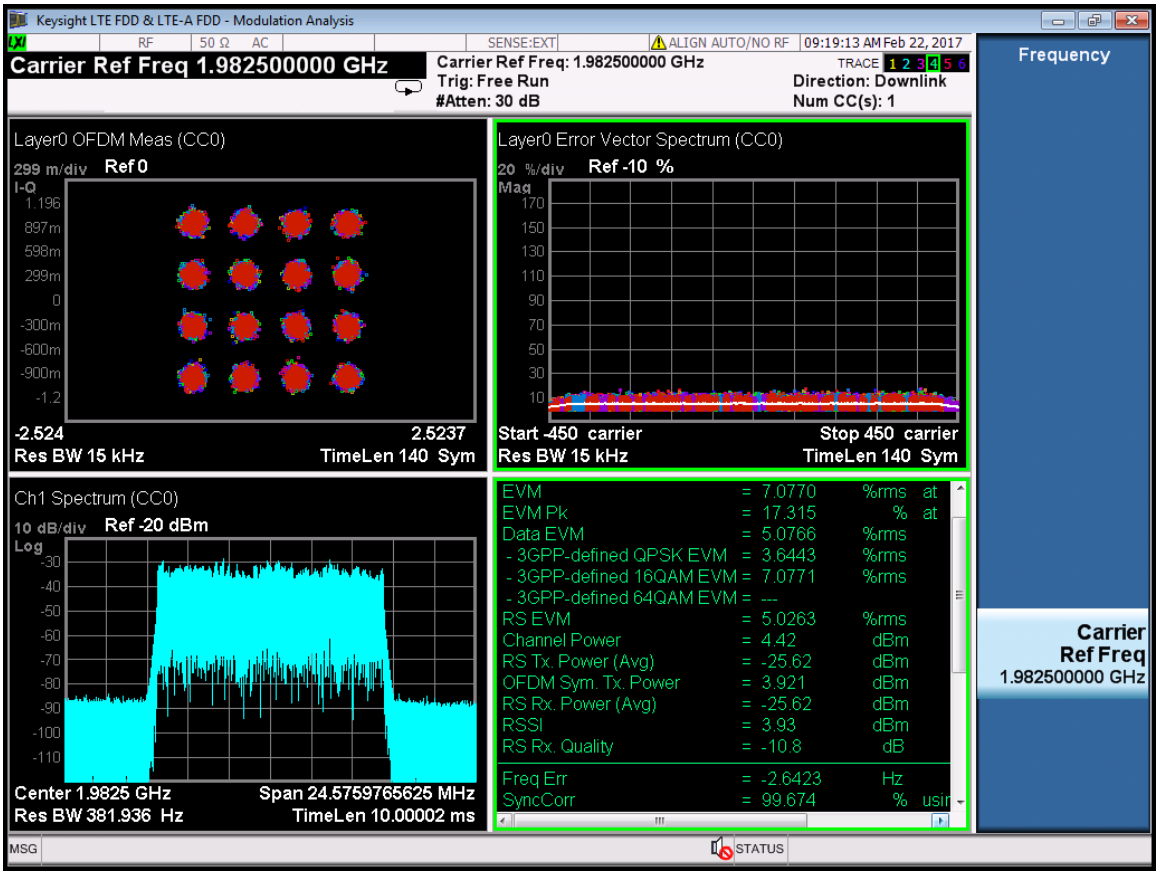


LTE 15M-Port 1-1982.5MHz- E-TM3.2



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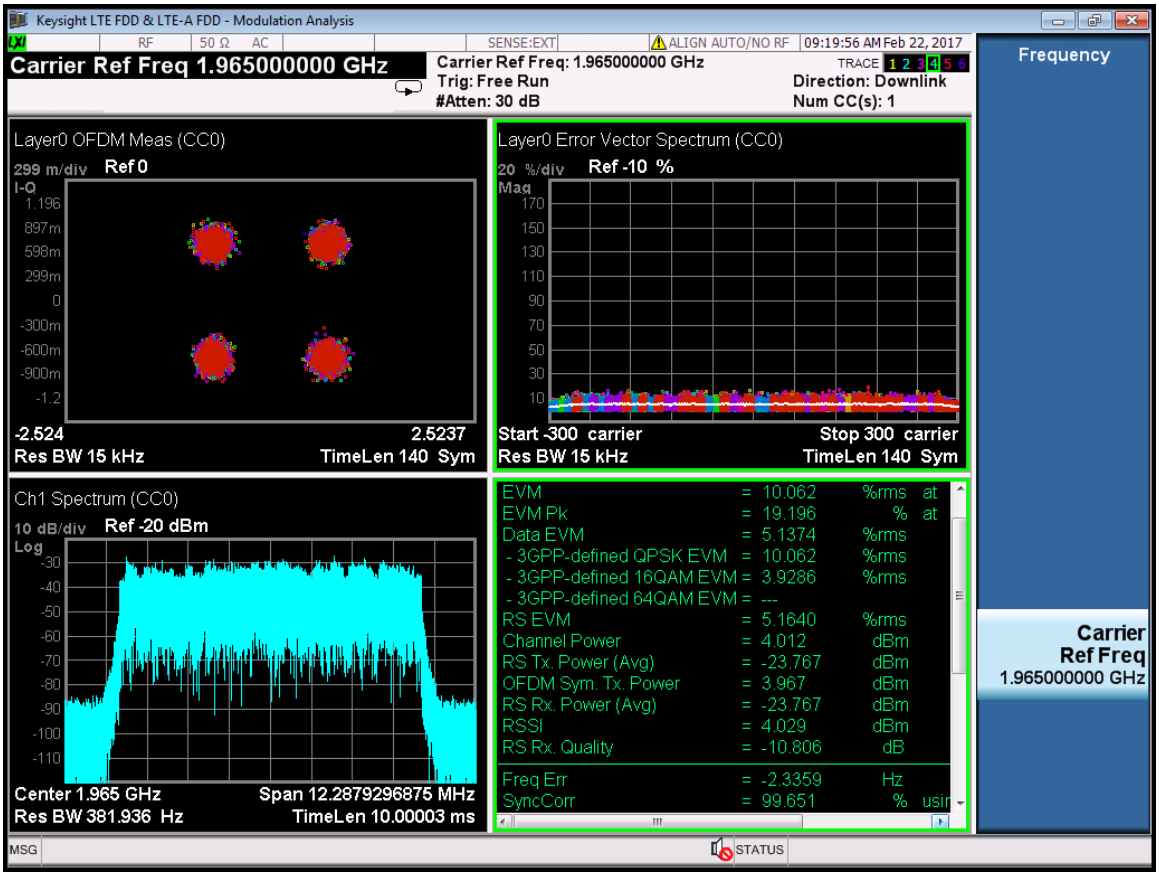
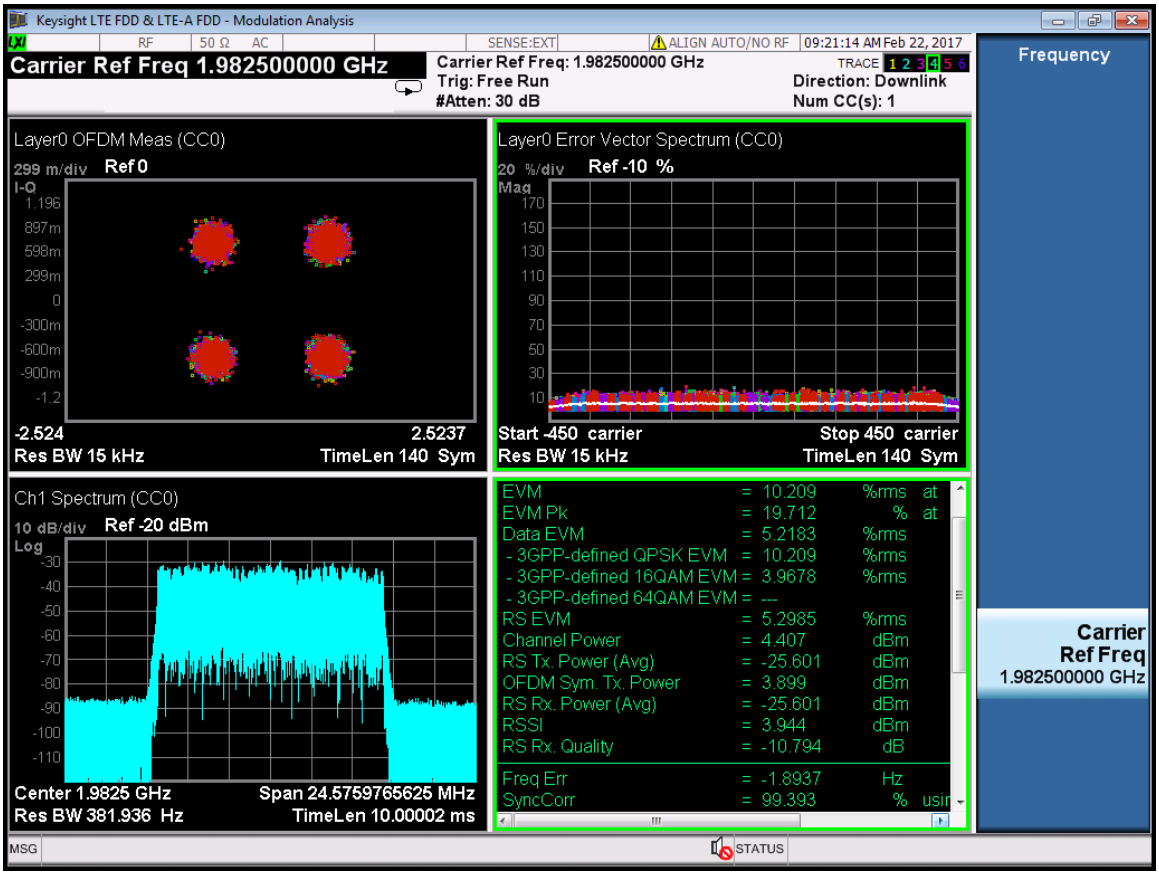
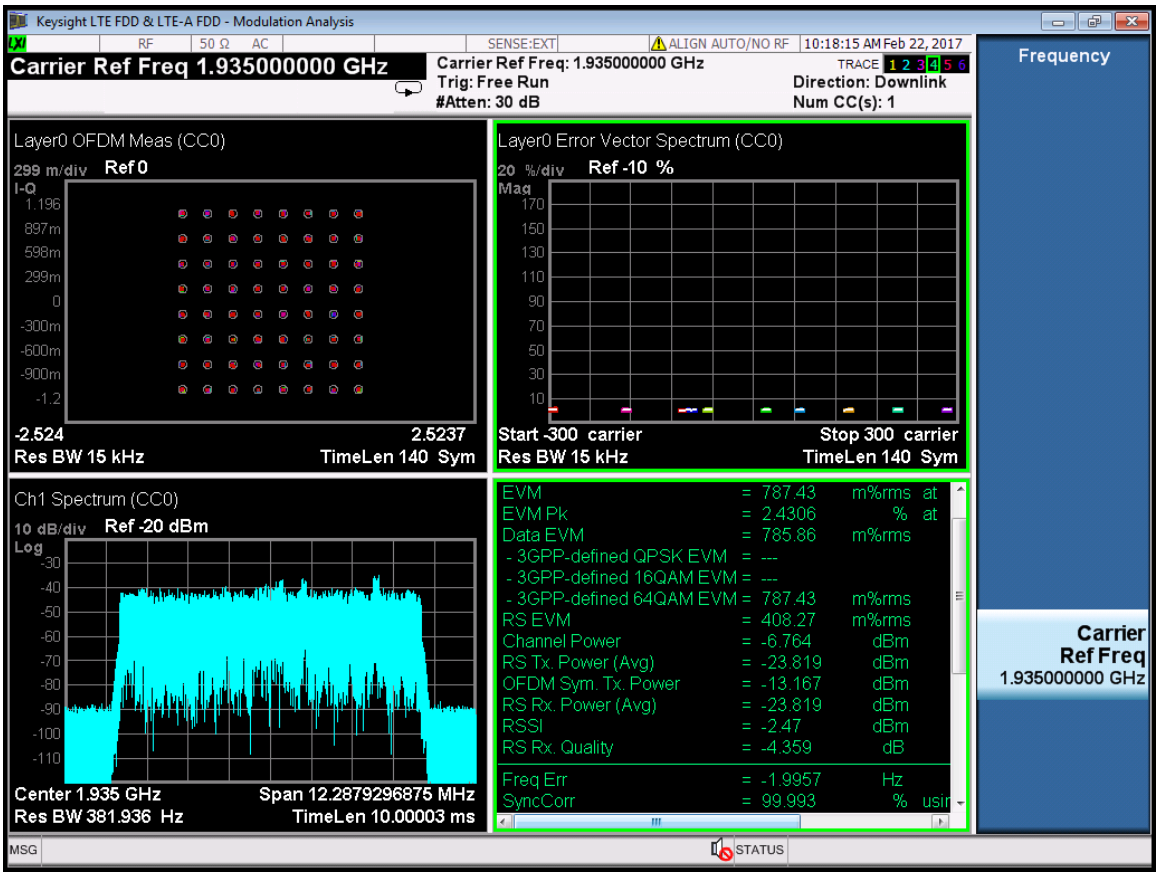


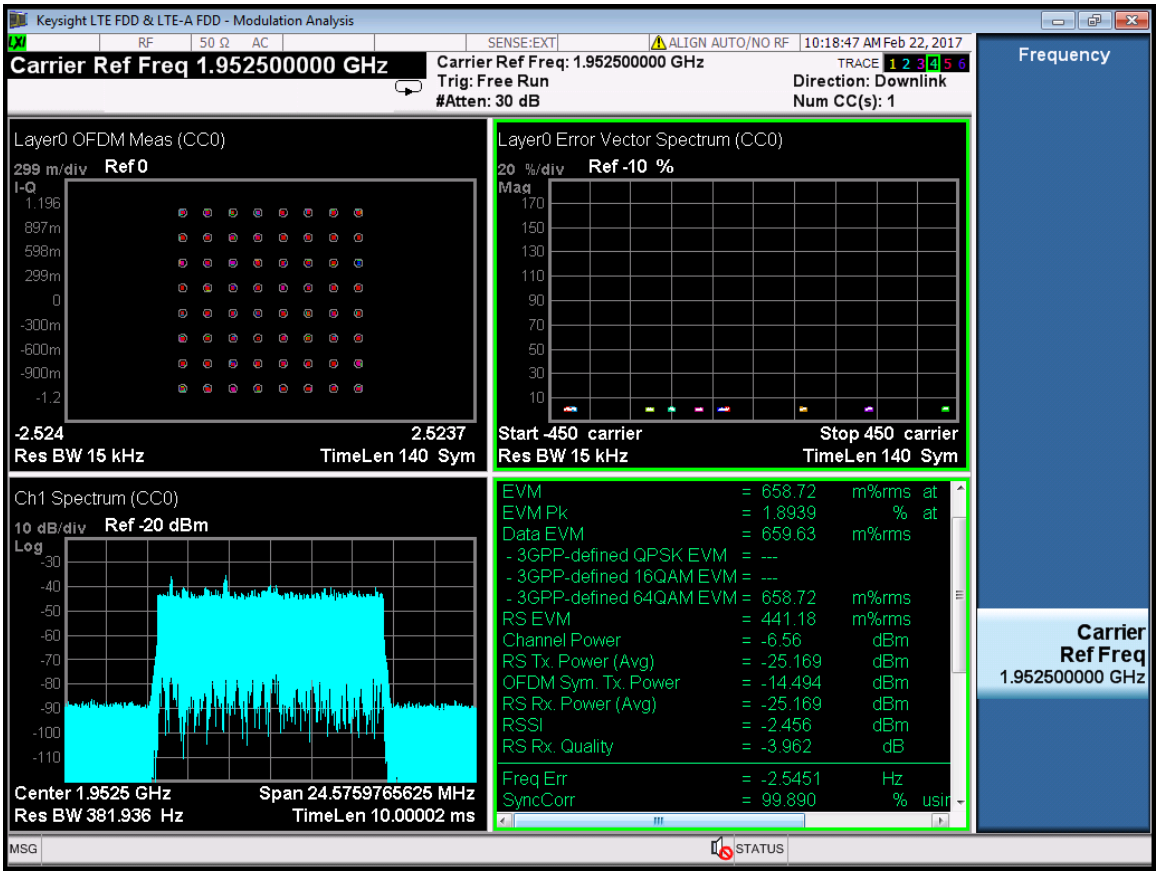
LTE 15M-Port 1-1982.5MHz- E-TM3.3



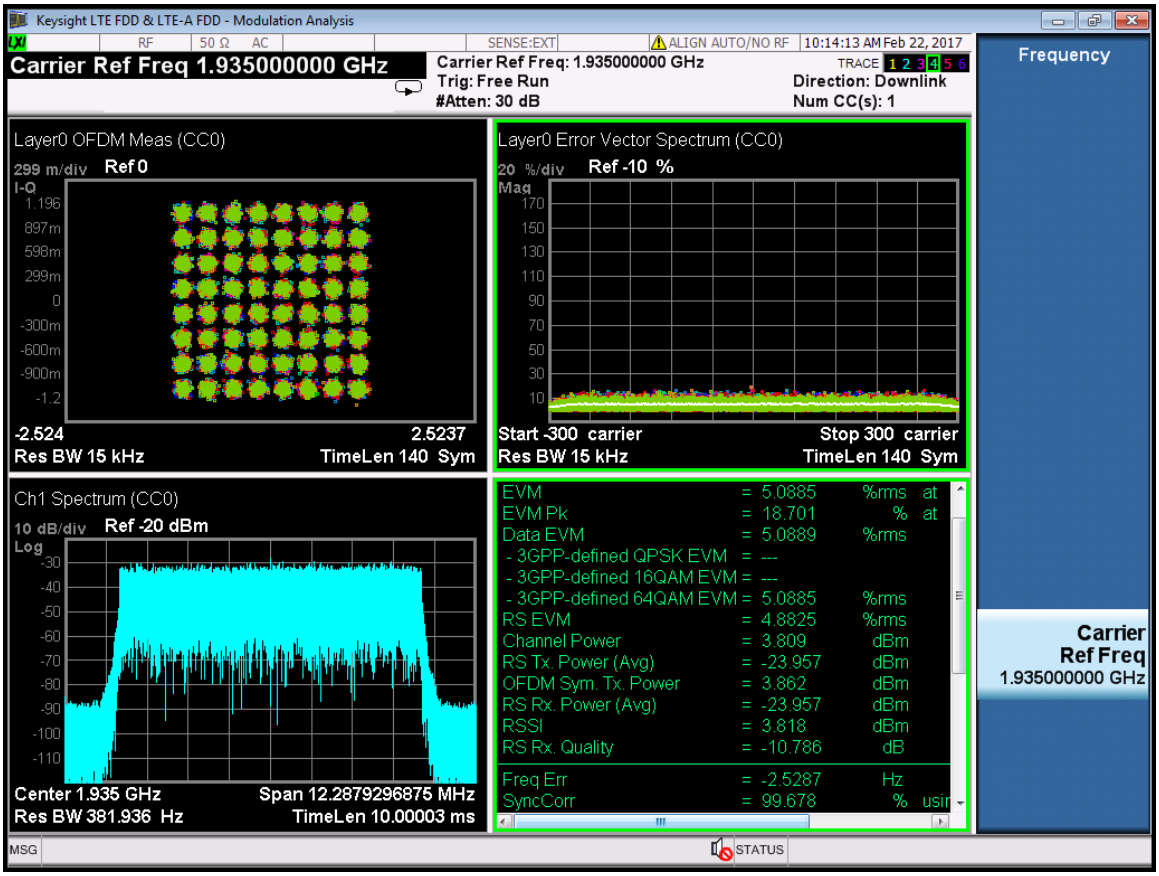
RF 1945M:
LTE 10M-Port 4-1935MHz-E-TM2



LTE 15M-Port 4-1952.5MHz- E-TM2



LTE 10M-Port 4-1935MHz-E-TM3.1



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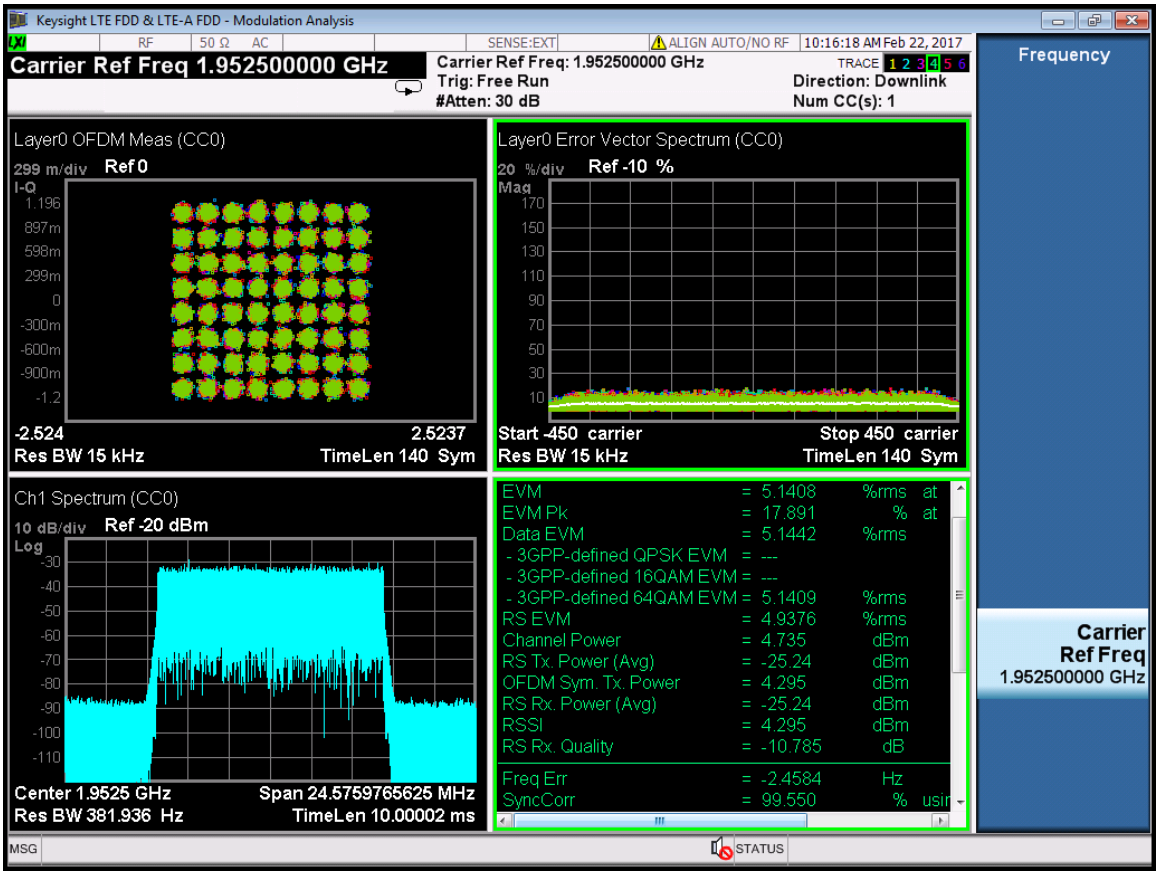
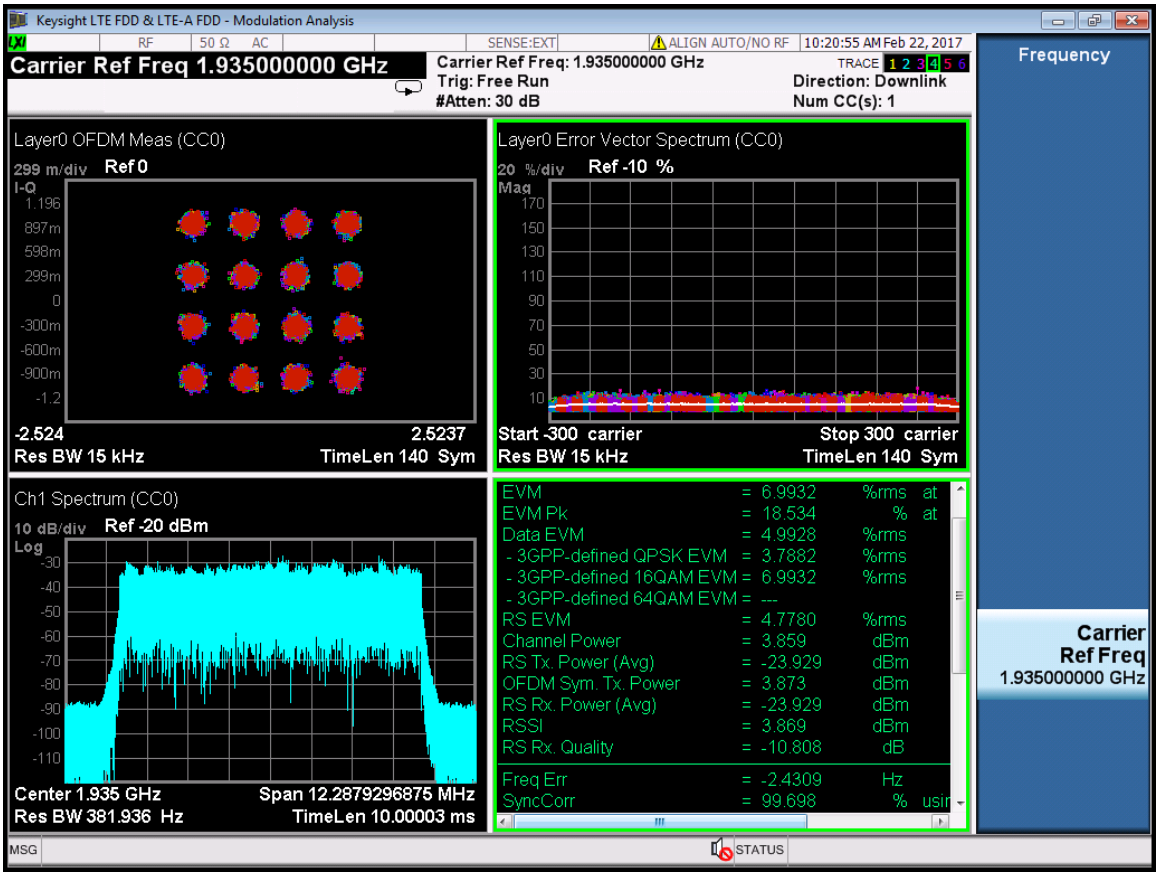


LTE 10M-Port 4-1935MHz-E-TM3.2



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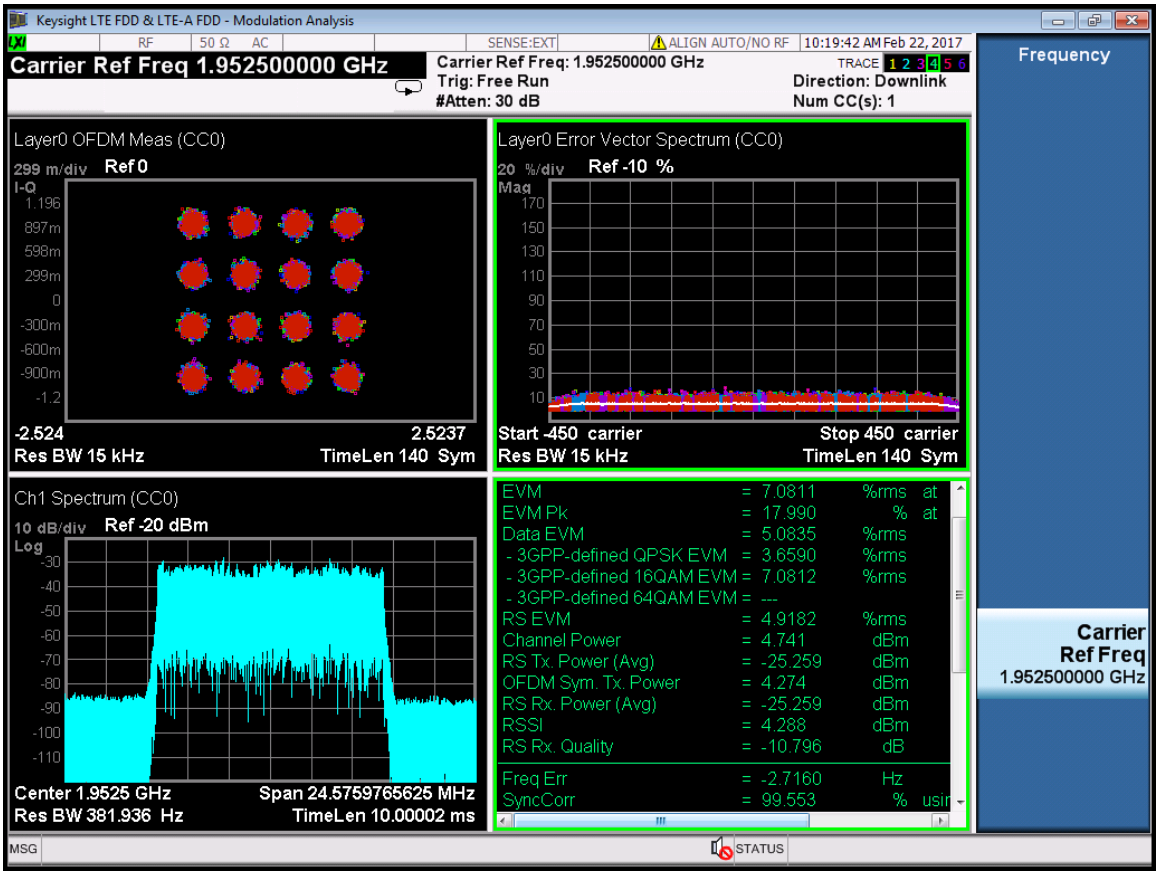

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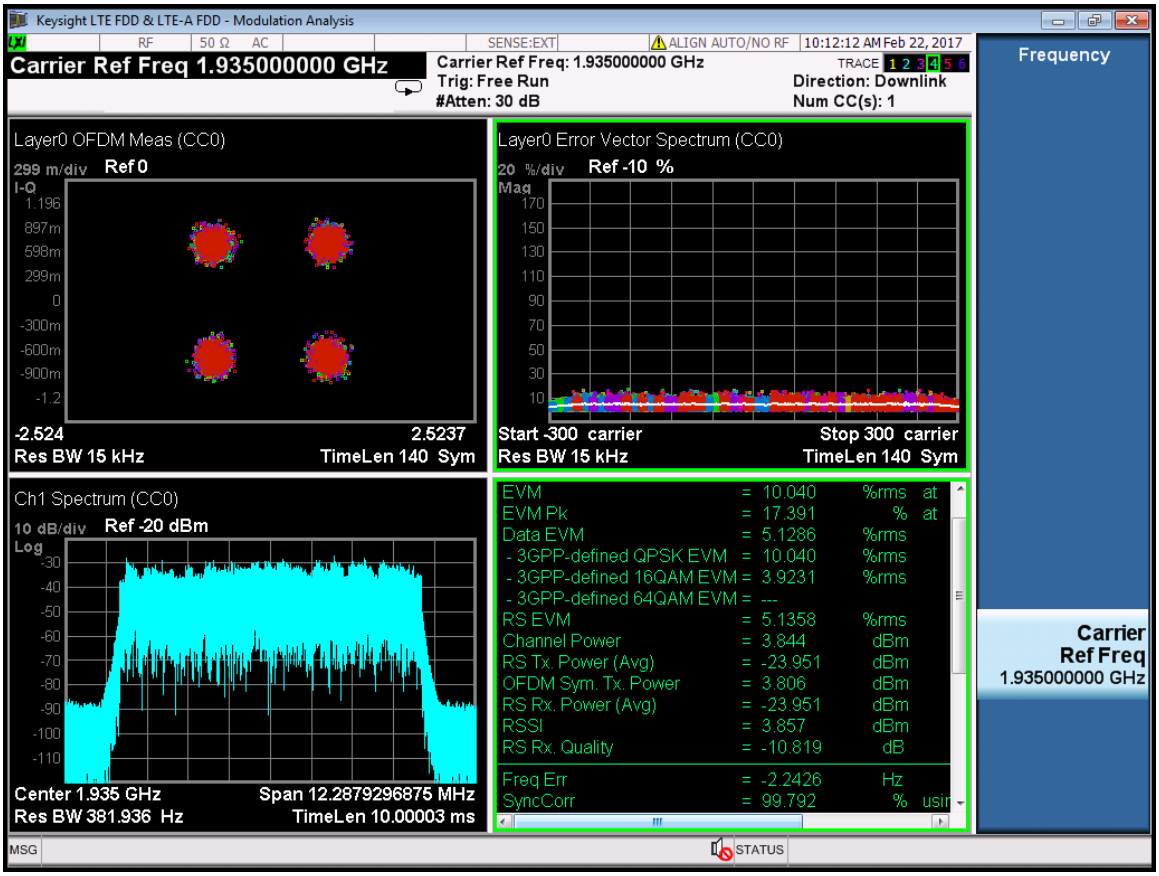
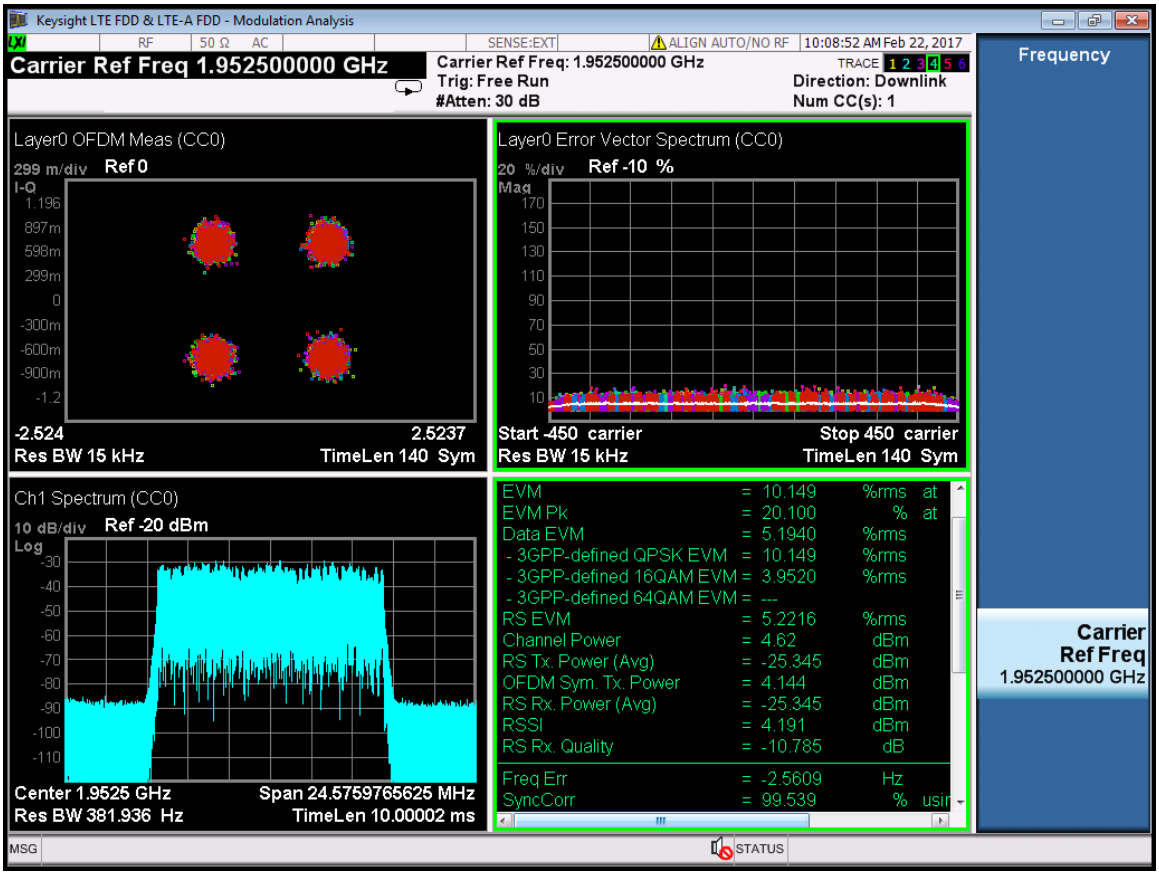
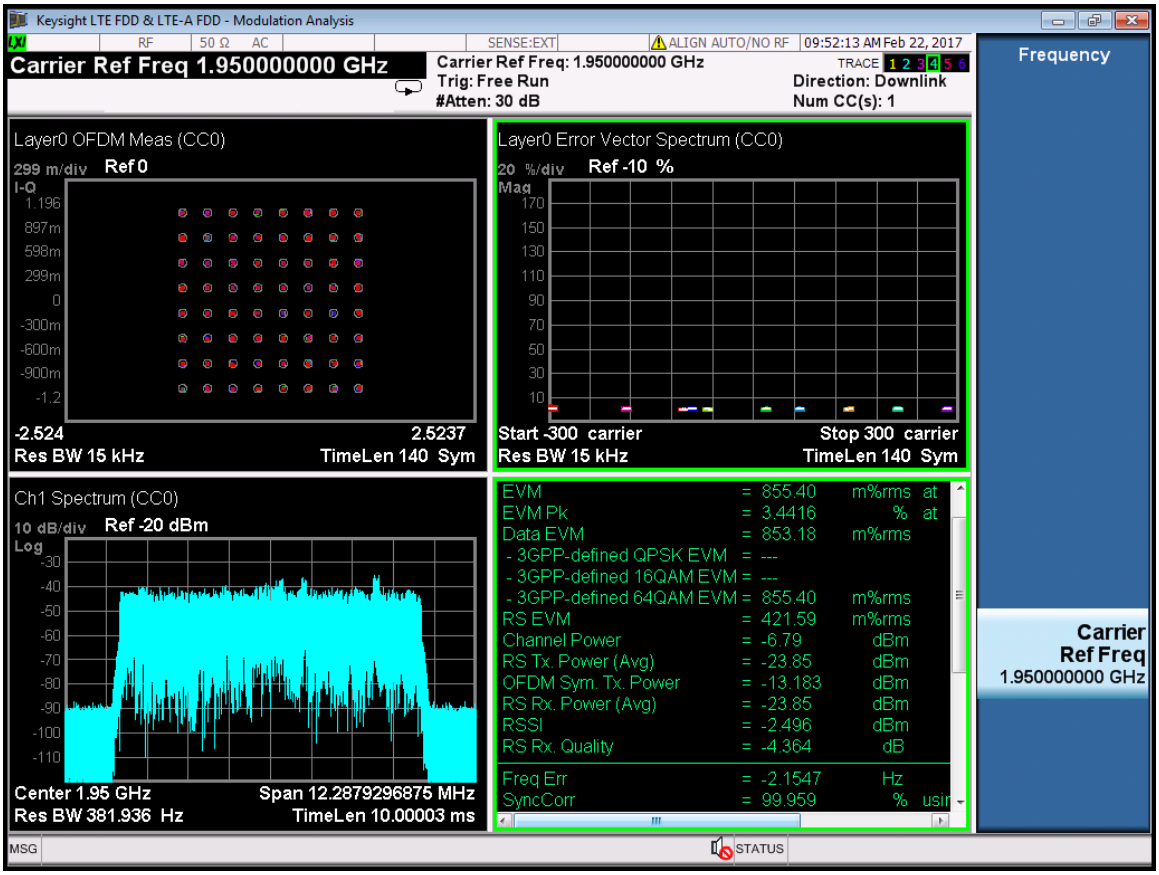


LTE 15M-Port 4-1952.5MHz- E-TM3.3



RF 1960M:
LTE 10M-Port 4-1950MHz-E-TM2



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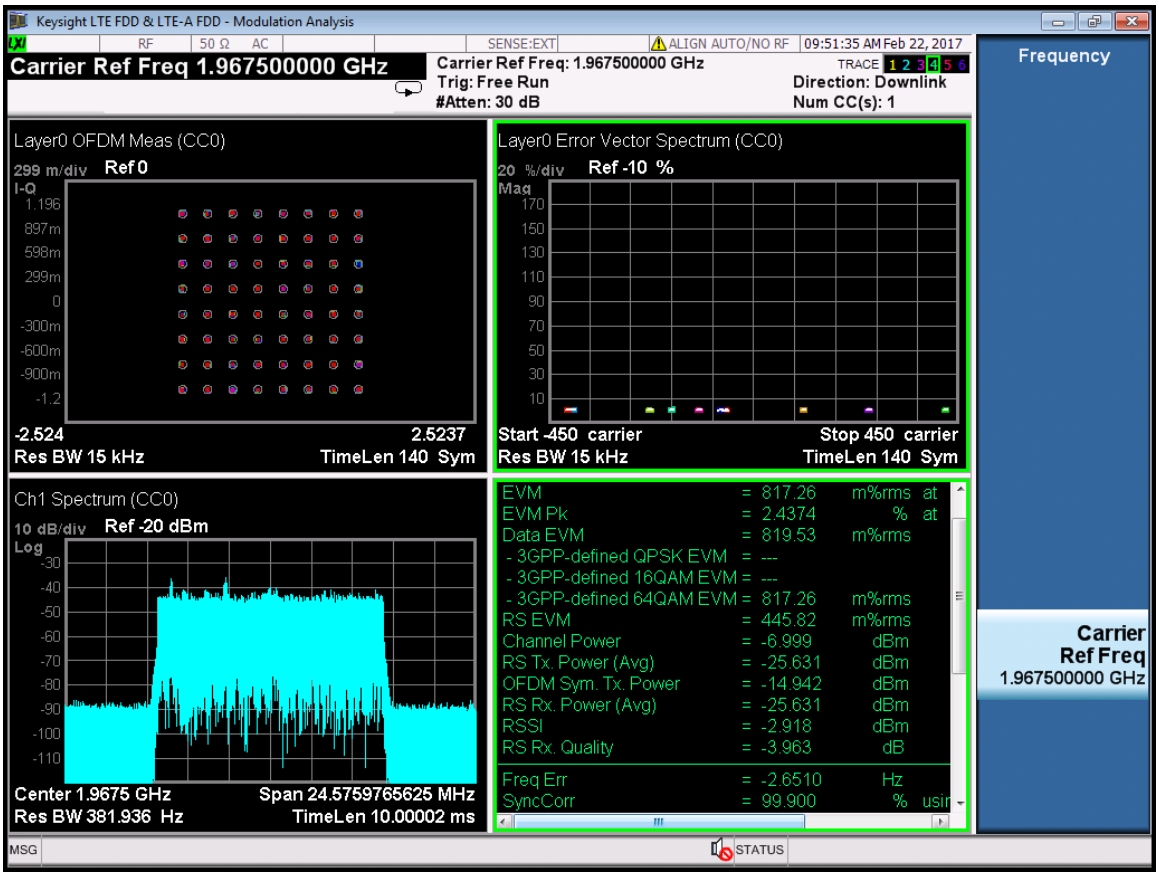
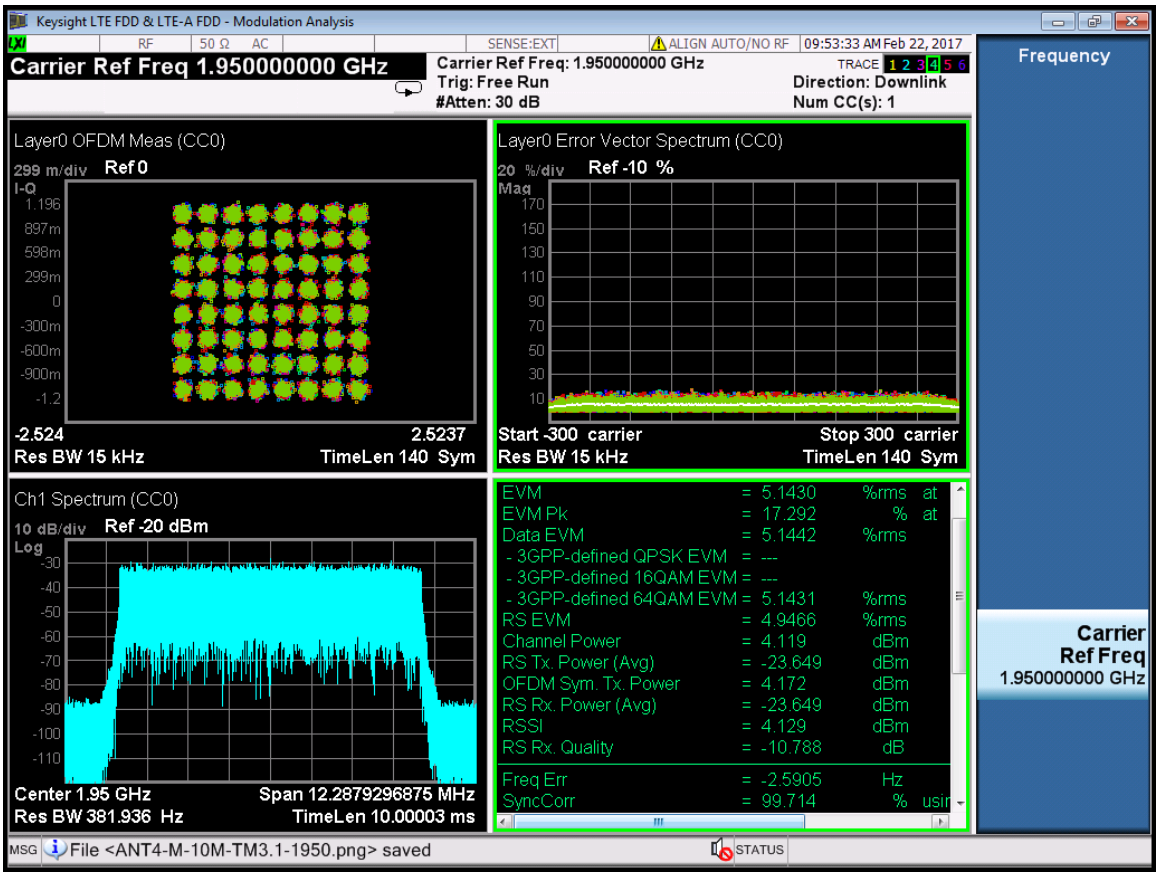


LTE 10M-Port 4-1950MHz-E-TM3.1



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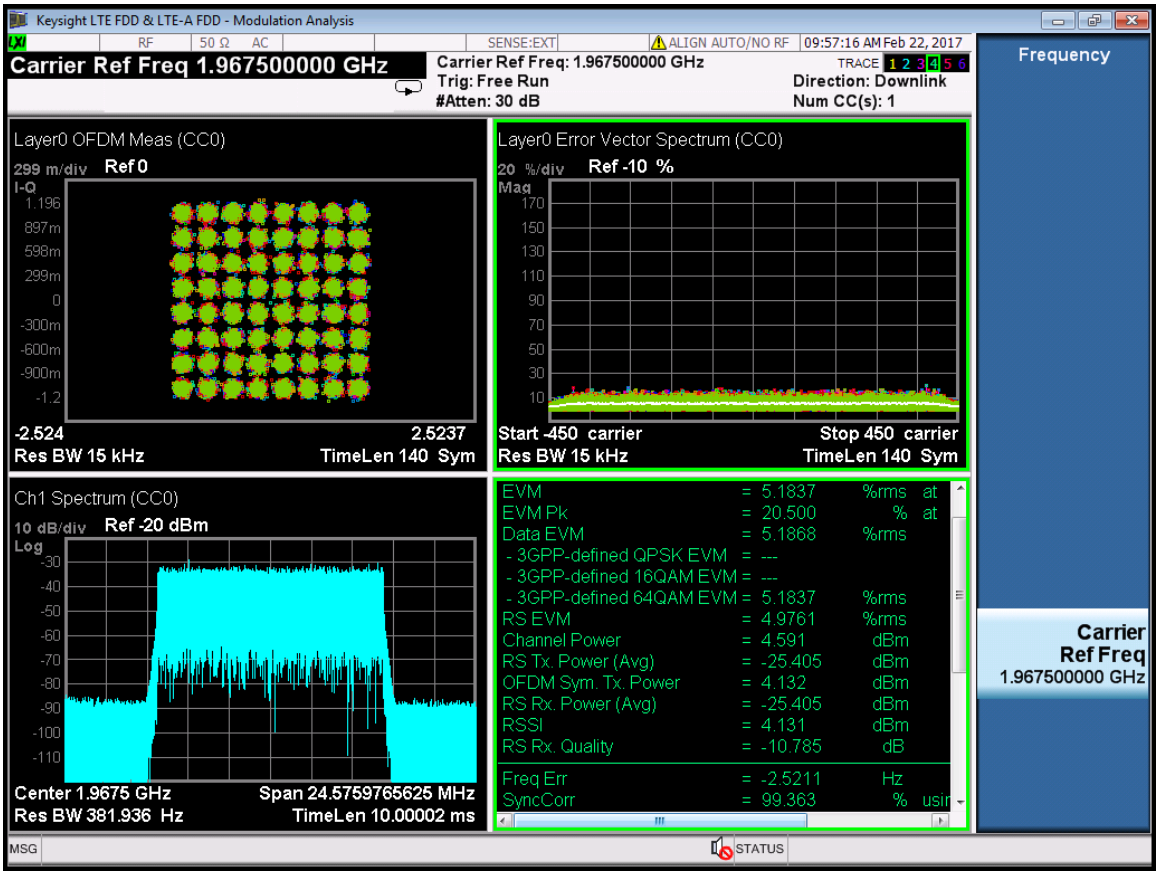

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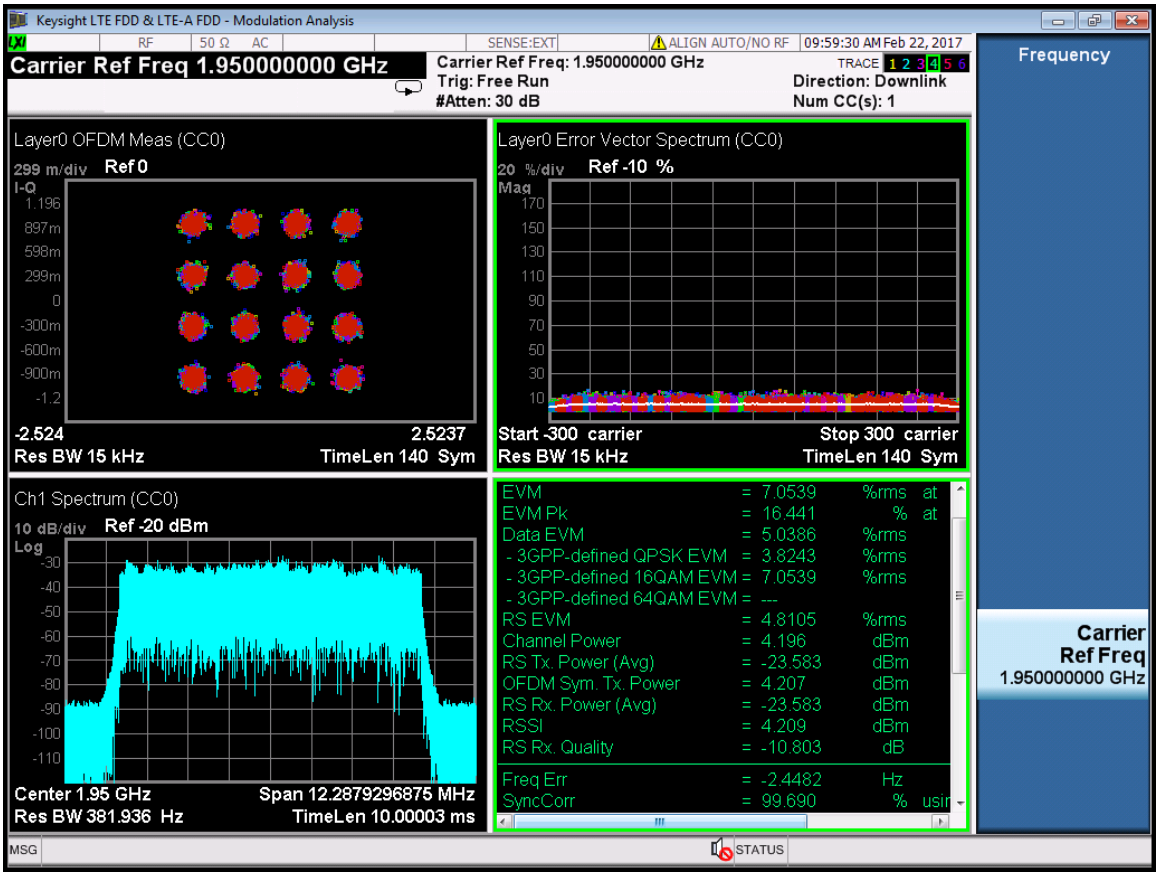
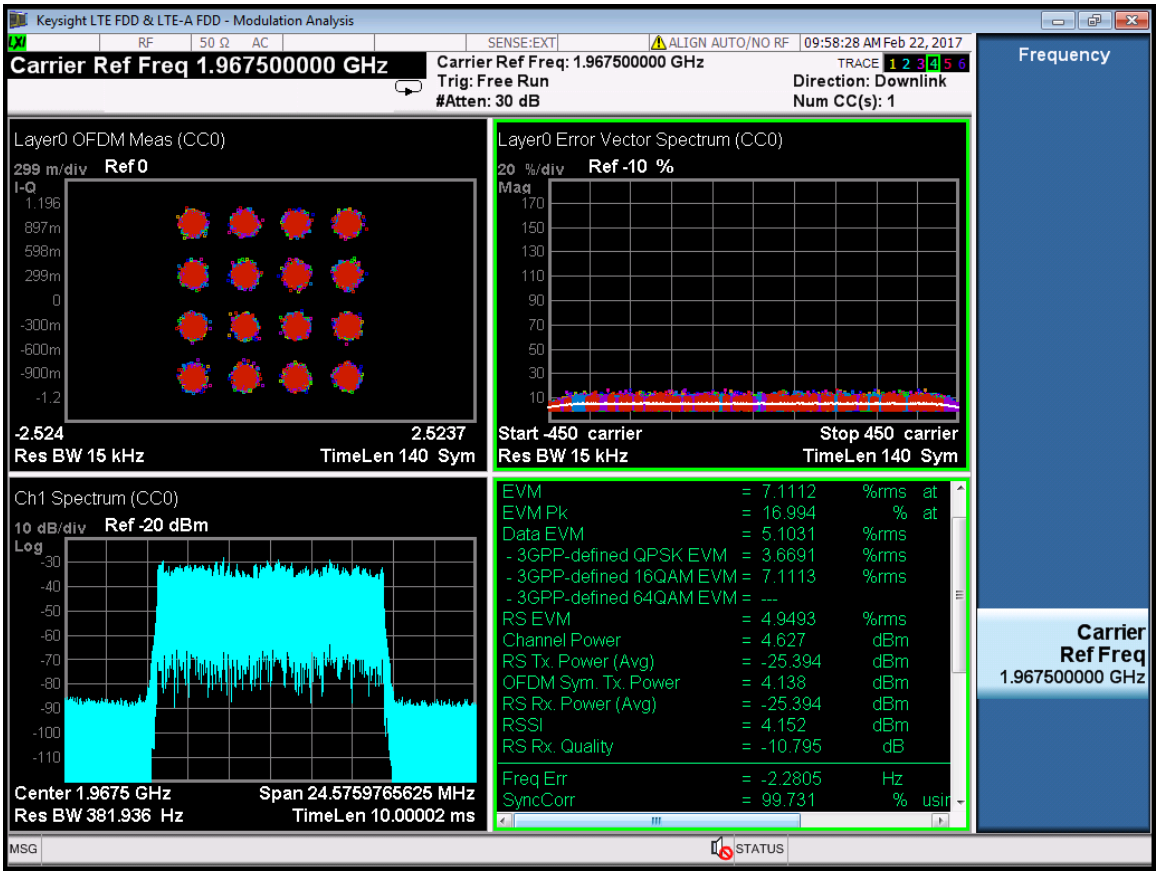
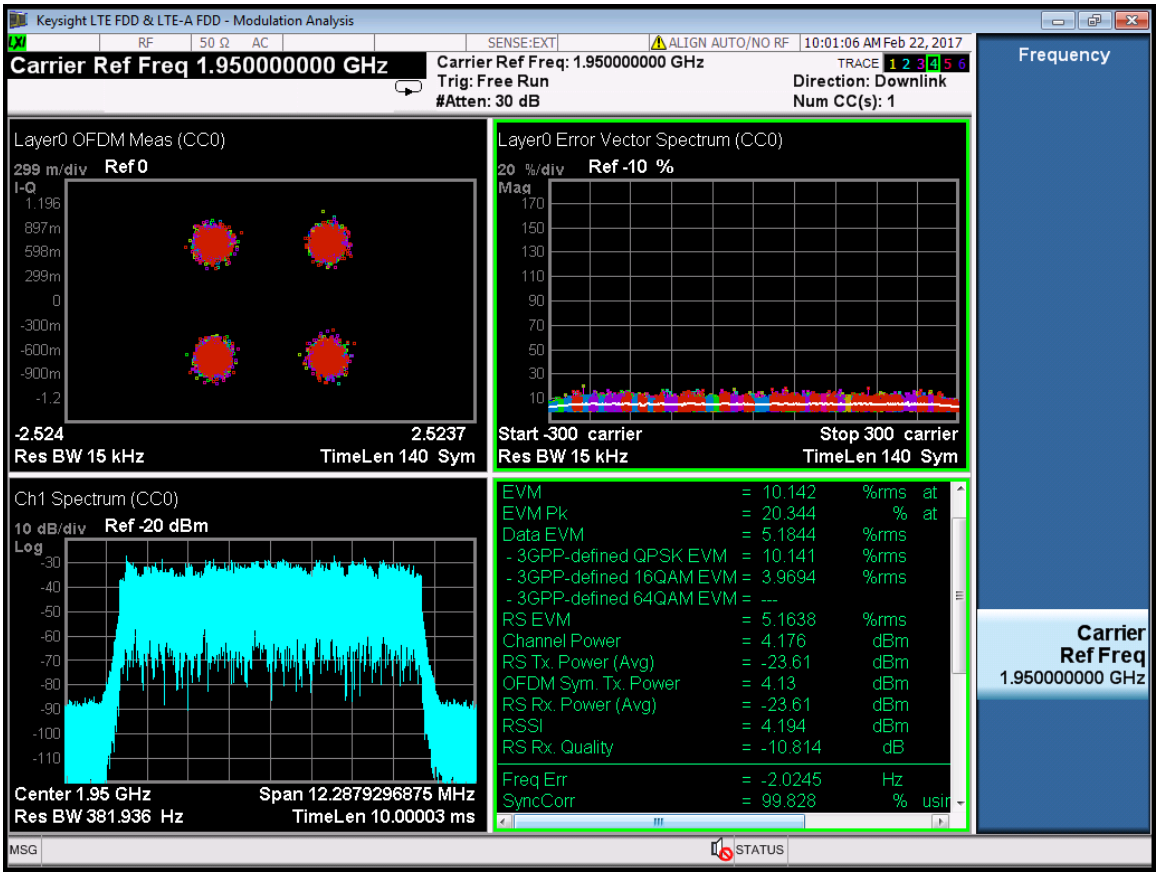


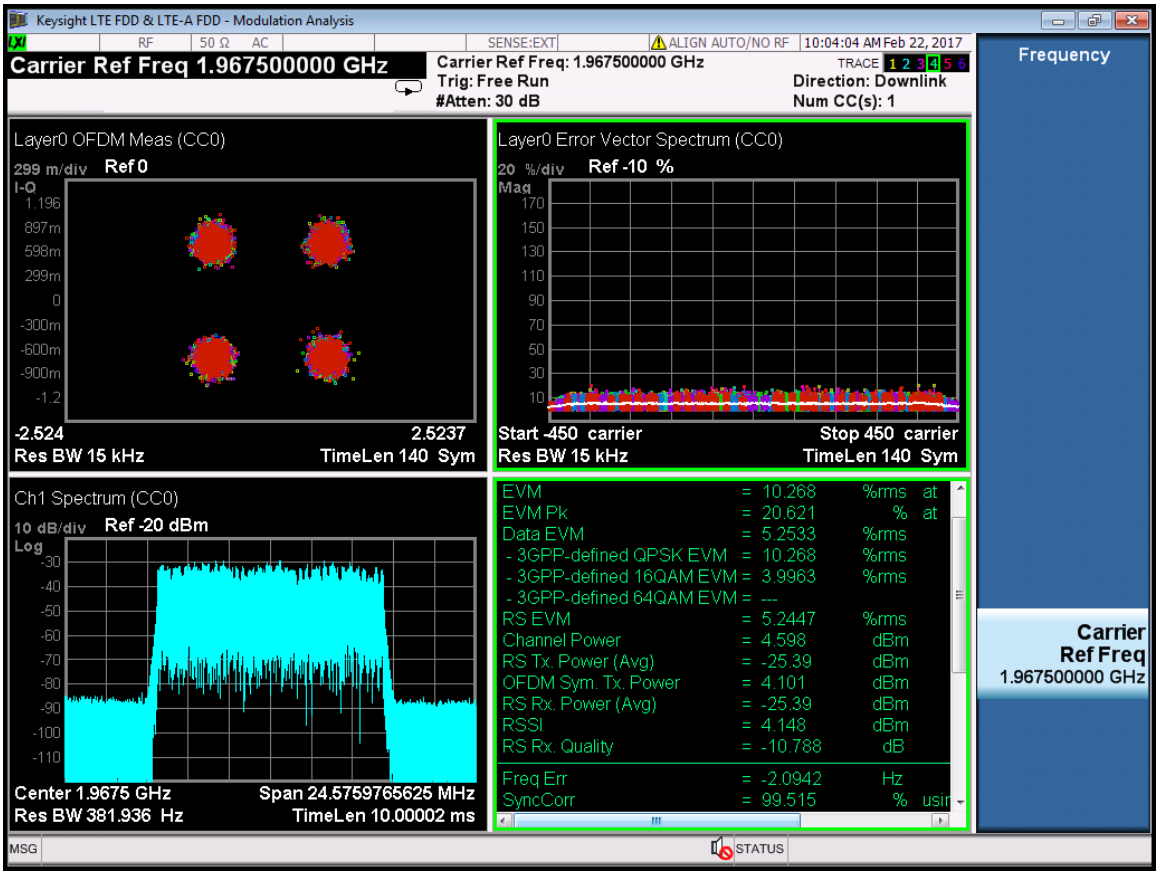
LTE 15M-Port 4-1967.5MHz- E-TM3.2



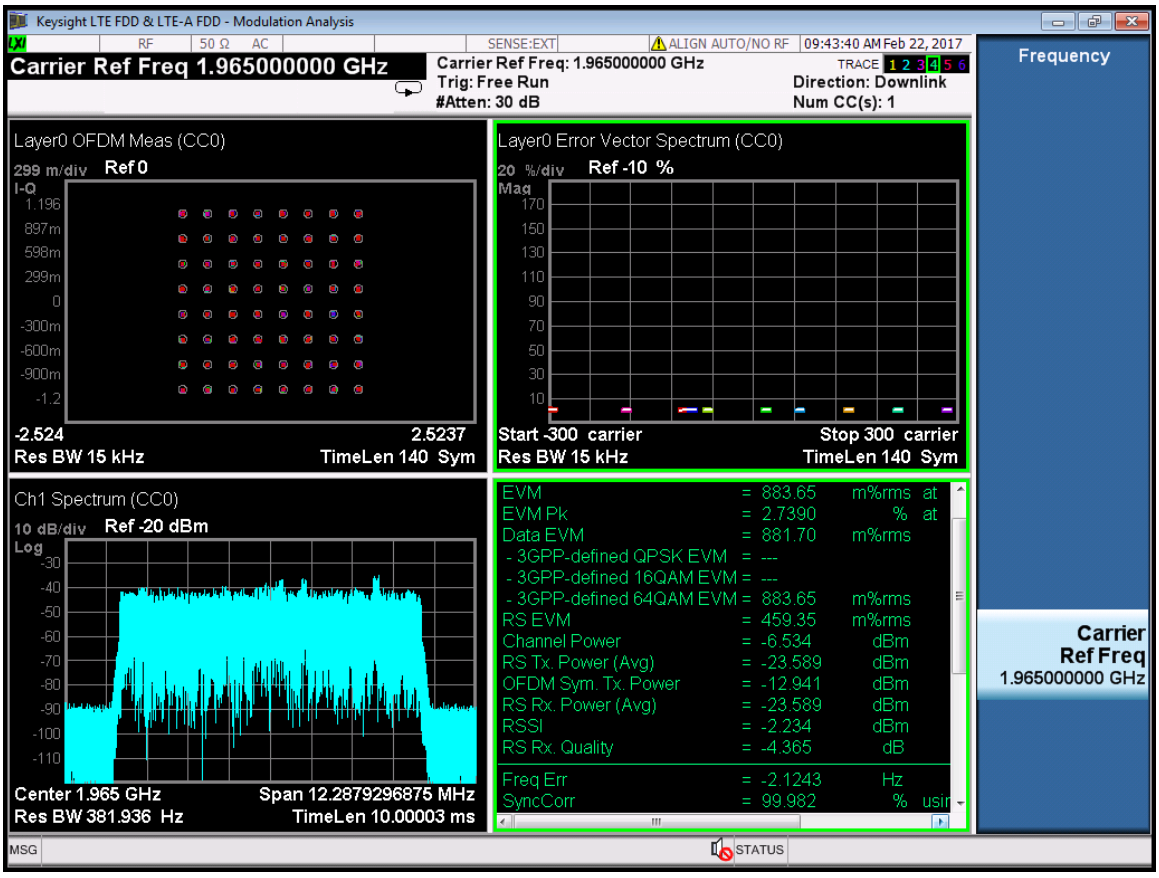
LTE 10M-Port 4-1950MHz-E-TM3.3



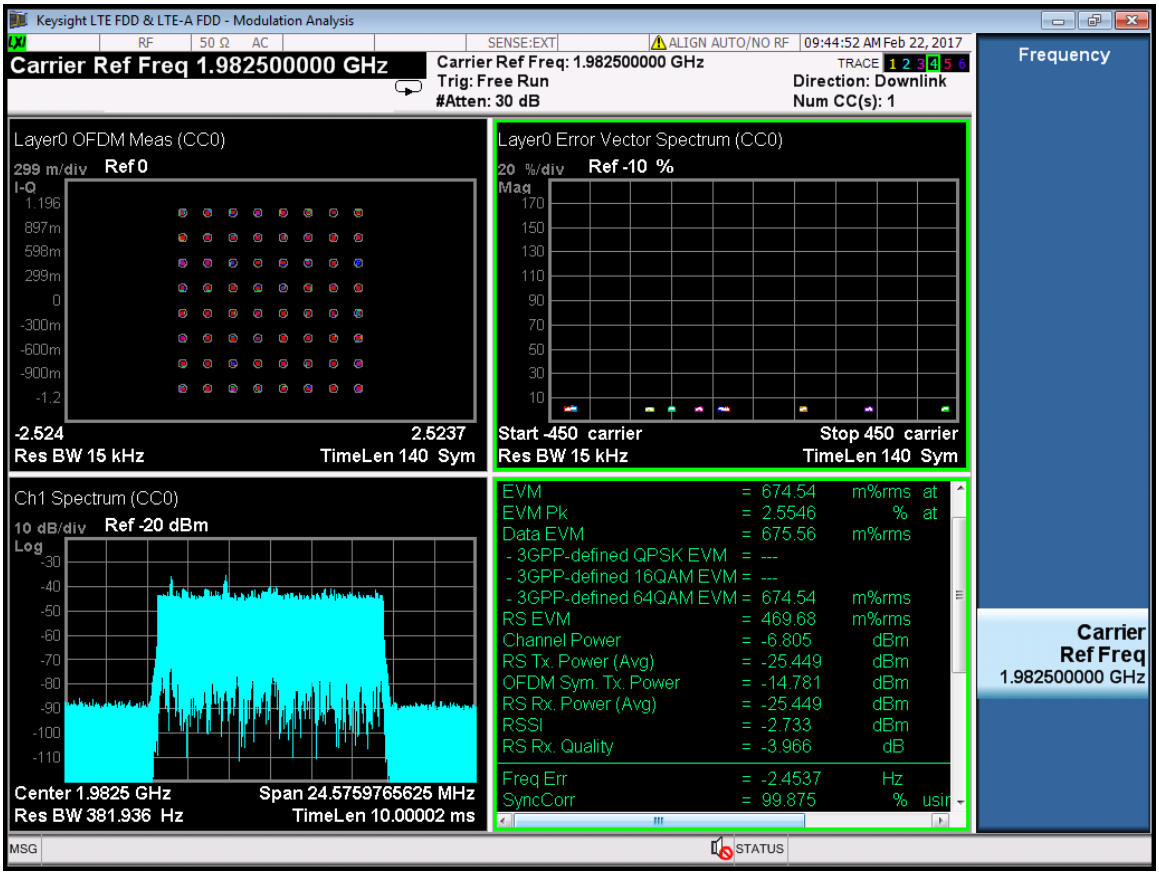
LTE 15M-Port 4-1967.5MHz- E-TM3.3



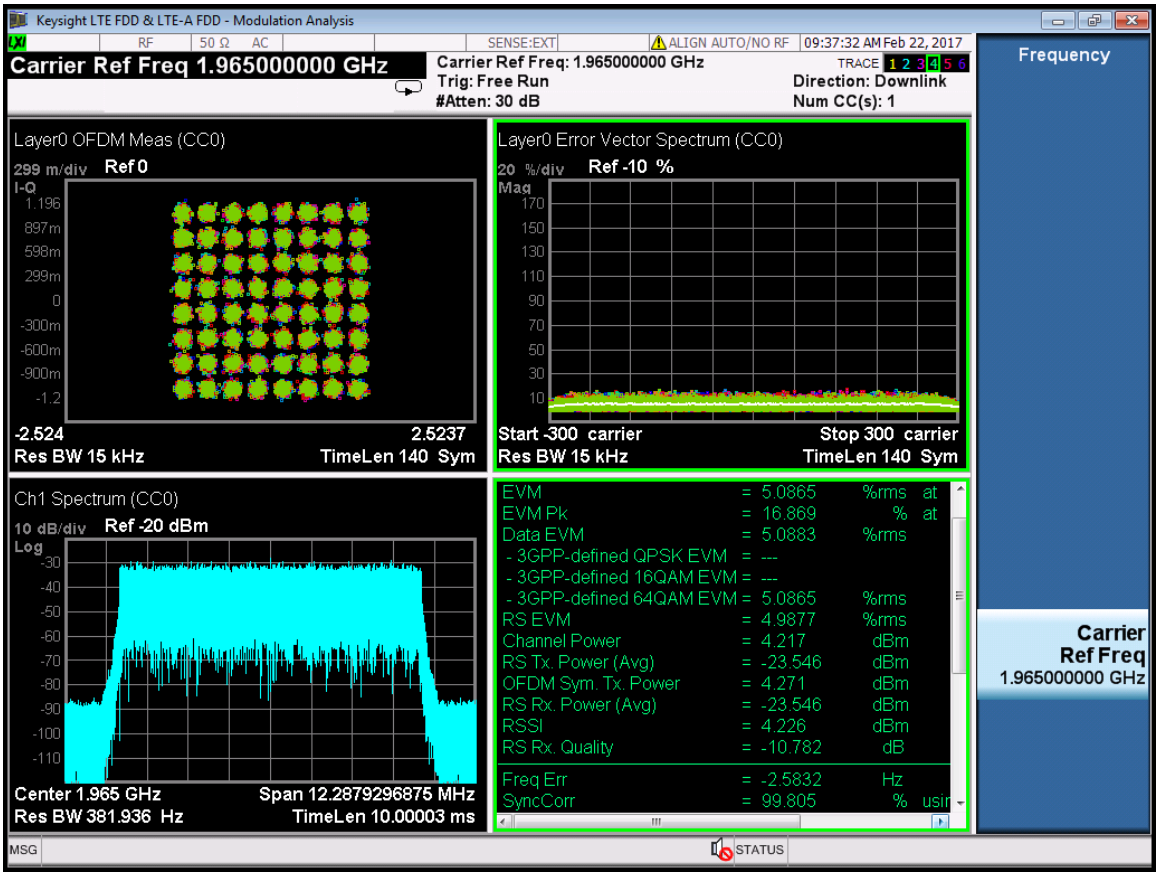
RF 1975M:
LTE 10M-Port 4-1965MHz-E-TM2



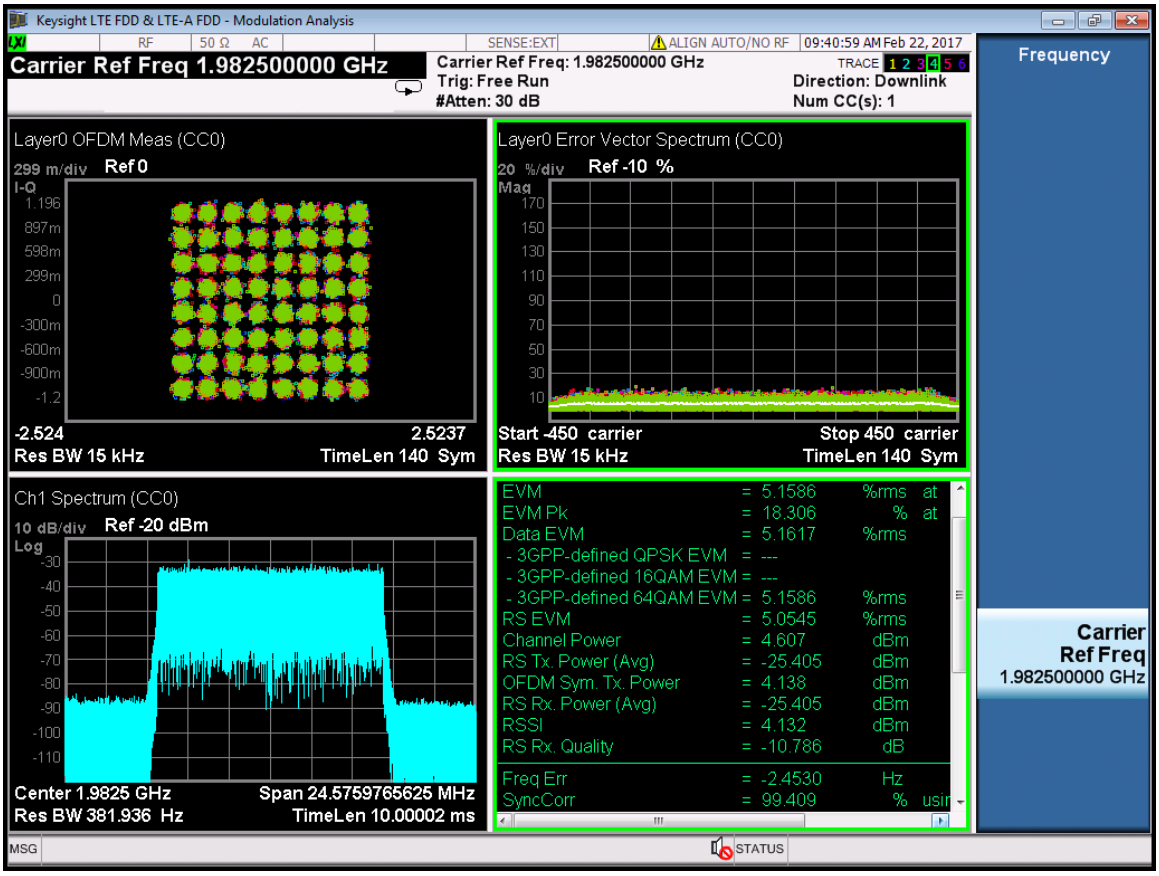
LTE 15M-Port 4-1982.5MHz- E-TM2



LTE 10M-Port 4-1965MHz-E-TM3.1



LTE 15M-Port 4-1982.5MHz- E-TM3.1



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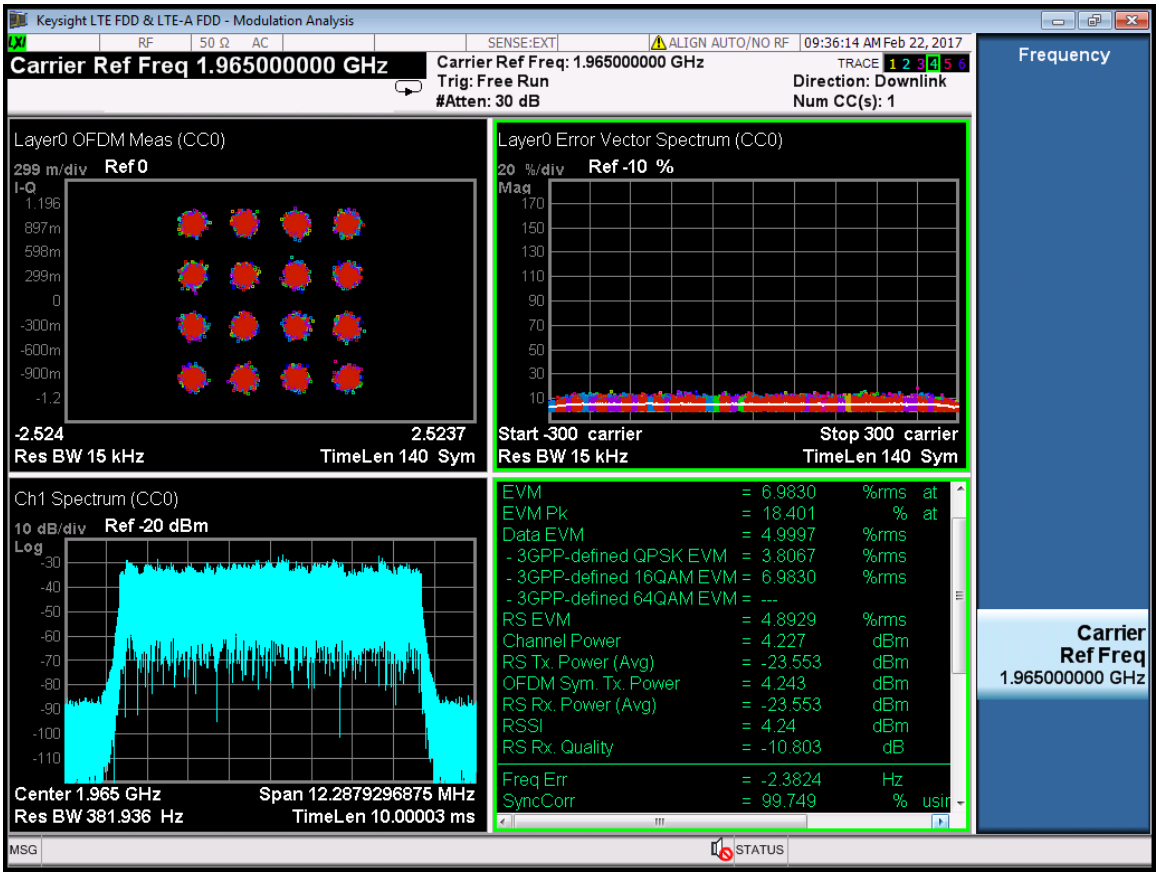
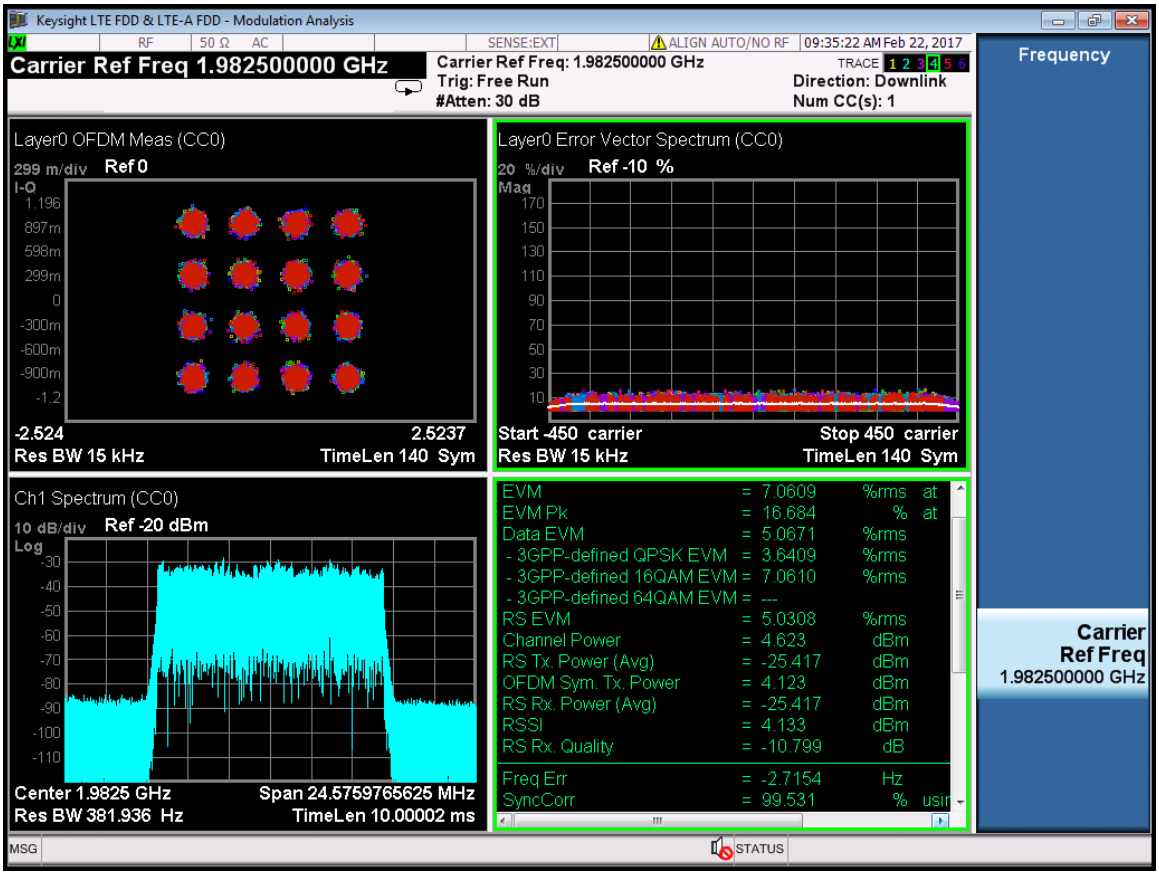
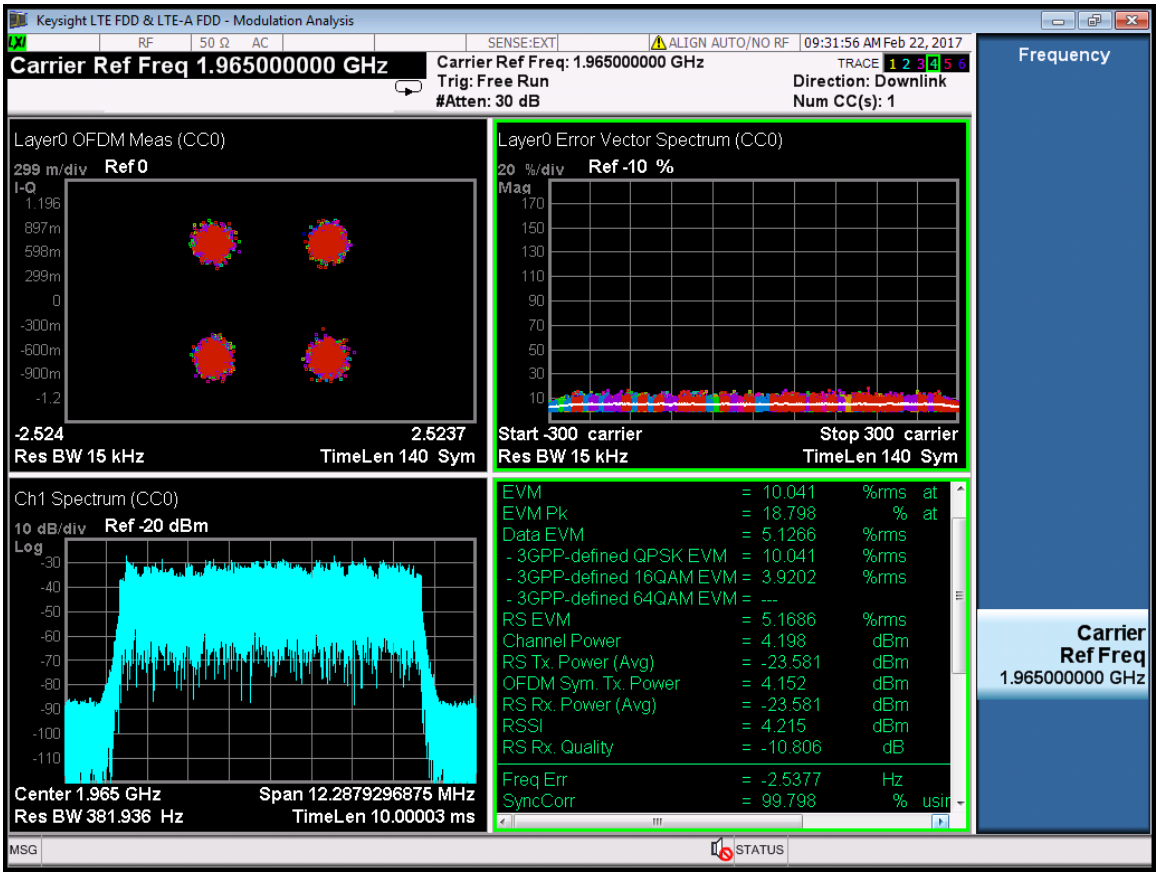


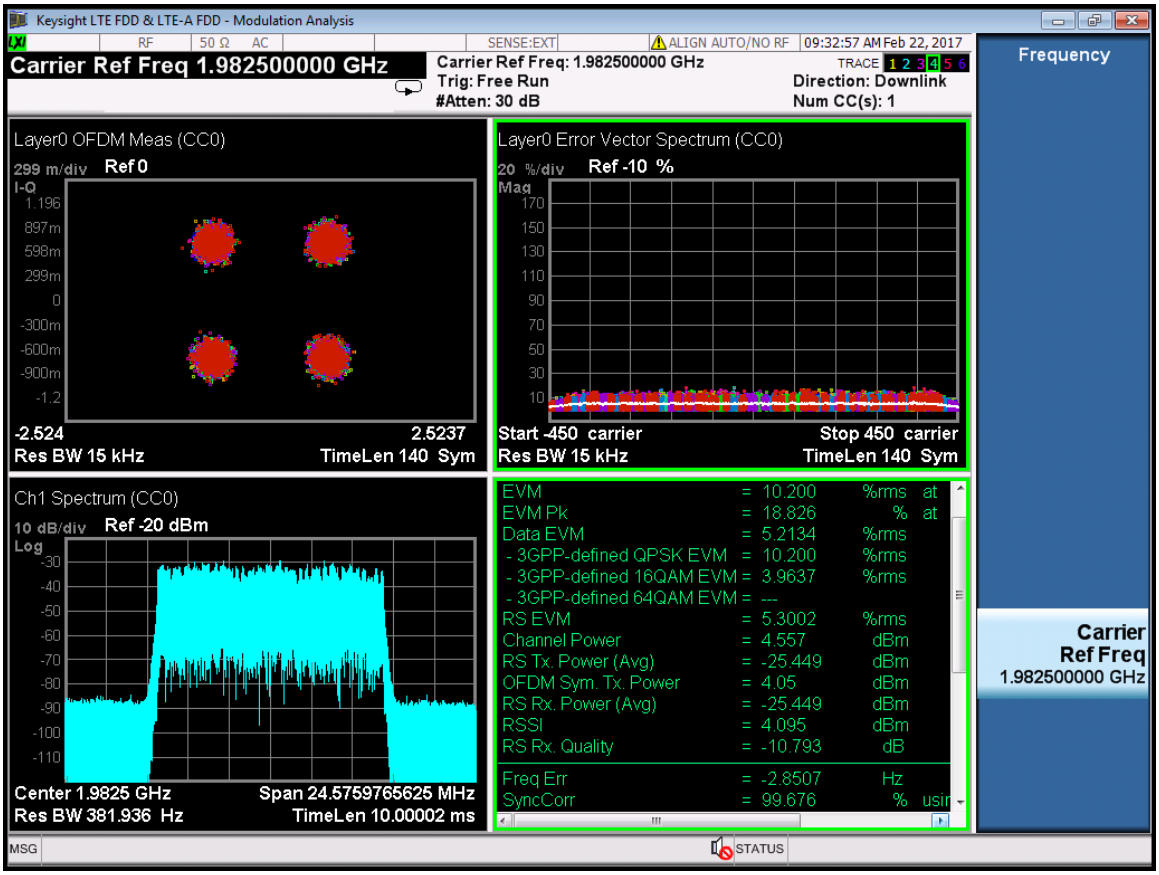
LTE 15M-Port 4-1982.5MHz- E-TM3.2



LTE 10M-Port 4-1965MHz-E-TM3.3



LTE 15M-Port 4-1982.5MHz- E-TM3.3


Keysight LTE FDD & LTE-A FDD - Modulation Analysis
RF 50 Ω AC
SENSE:EXT
ALIGN AUTO/NO RF
09:32:57 AM Feb 22, 2017
Carrier Ref Freq 1.982500000 GHz
Carrier Ref Freq: 1.982500000 GHz
Trig: Free Run
#Atten: 30 dB
TRACE 1 2 3 4 5 6
Direction: Downlink
Num CC(s): 1
Frequency
Layer0 OFDM Meas (CC0)
299 m/div Ref 0
I-Q
1.196
897m
598m
299m
0
-300m
-600m
-900m
-1.2
-2.524
2.5237
Res BW 15 kHz
TimeLen 140 Sym
Layer0 Error Vector Spectrum (CC0)
20 %/div Ref -10 %
Mag
170
150
130
110
90
70
50
30
10
Start -450 carrier
Stop 450 carrier
Res BW 15 kHz
TimeLen 140 Sym
Ch1 Spectrum (CC0)
10 dB/div Ref -20 dBm
Log
-30
-40
-50
-60
-70
-80
-90
-100
-110
Center 1.9825 GHz
Span 24.5759765625 MHz
Res BW 381.936 Hz
TimeLen 10.00002 ms
EVM = 10.200 %rms at
EVM Pk = 18.826 % at
Data EVM = 5.2134 %rms
- 3GPP-defined QPSK EVM = 10.200 %rms
- 3GPP-defined 16QAM EVM = 3.9637 %rms
- 3GPP-defined 64QAM EVM = ---
RS EVM = 5.3002 %rms
Channel Power = 4.557 dBm
RS Tx. Power (Avg) = -25.449 dBm
OFDM Sym. Tx. Power = 4.05 dBm
RS Rx. Power (Avg) = -25.449 dBm
RSSI = 4.095 dBm
RS Rx. Quality = -10.793 dB
Freq Err = -2.8507 Hz
SyncCorr = 99.676 %
Carrier
Ref Freq
1.982500000 GHz
MSG
STATUS

9 SPURIOUS RADIATED EMISSIONS

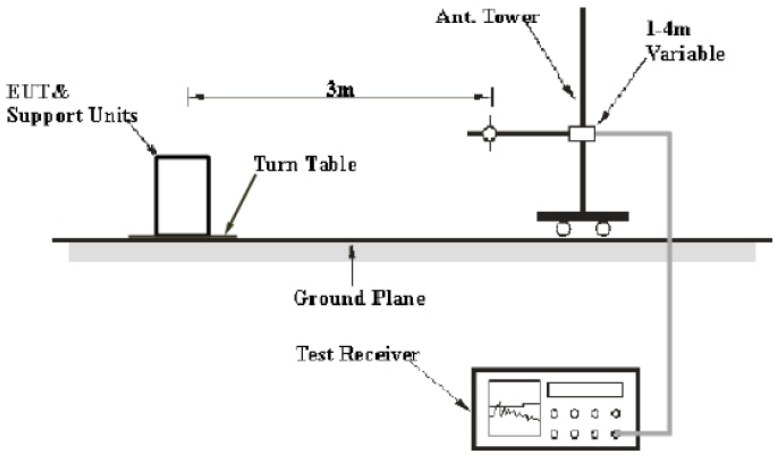
9.1 Applicable Standard: FCC CFR 47 §2.1053

9.2 Test Equipment List and Details

Manufacturer	9.2.1.1.1 Equipment	Model	Serial Number	Last Cal.	Cal. Interval
Albatross	Anechoic Chamber	3m Site	A00017354	2016-11-18	1 year
R&S	EMI Test Receiver	ESI26	100058	2016-8-1	1 year
R&S	Log periodic Antenna	SWB-VUBA9163	9163-282	2016-12-7	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906 TX	100032	2016-6-29	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.

9.3 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.

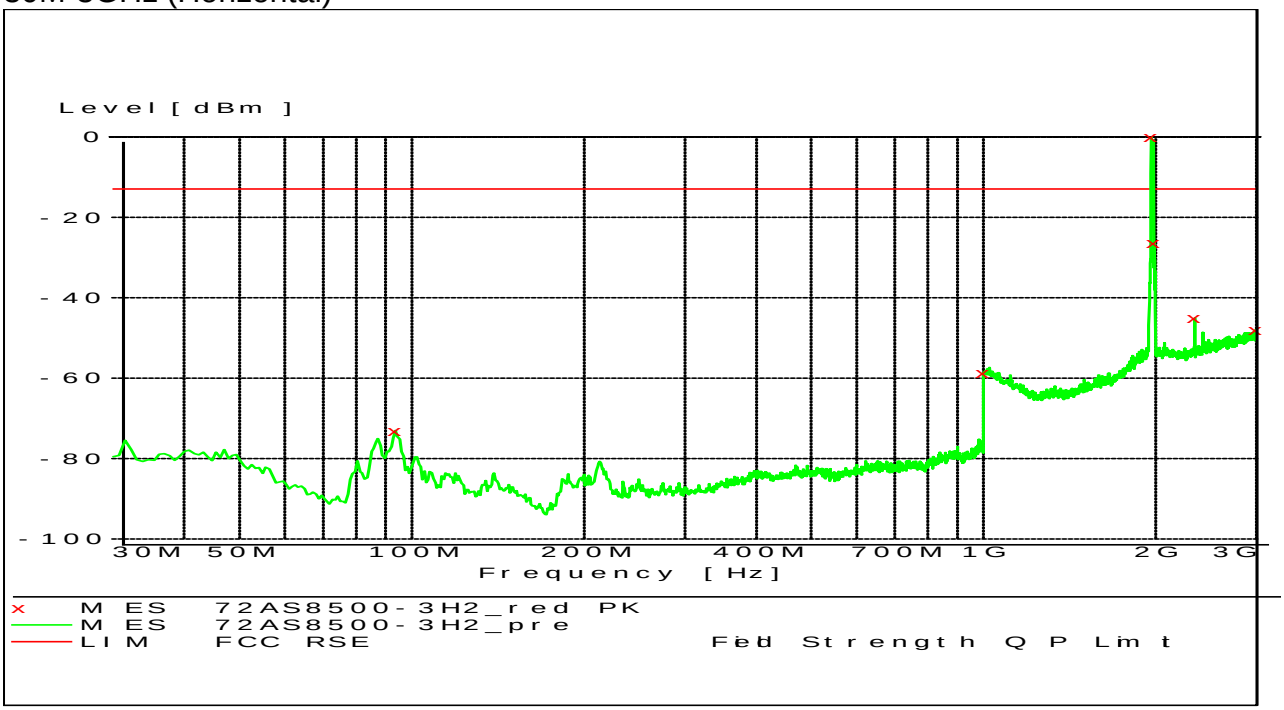
9.4 Test Results Summary: PASS

9.5 Environmental Conditions

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

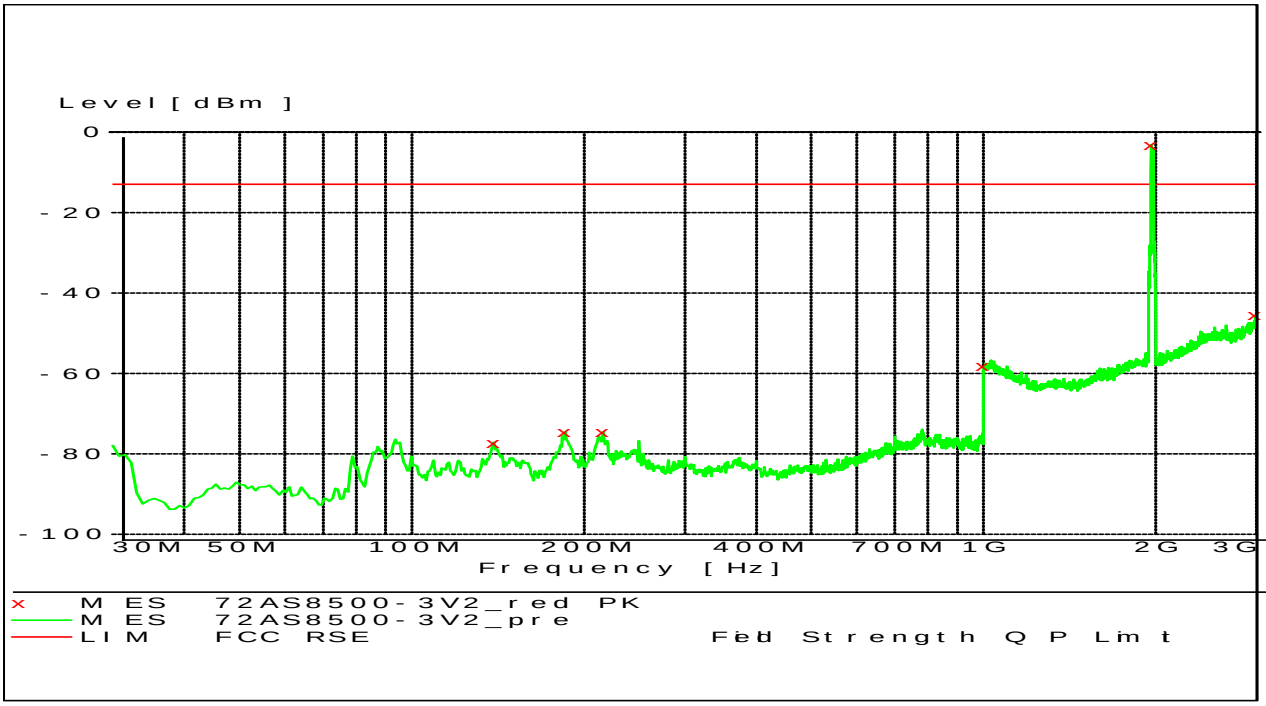
9.6 Test data

30M-3GHz (Horizontal)



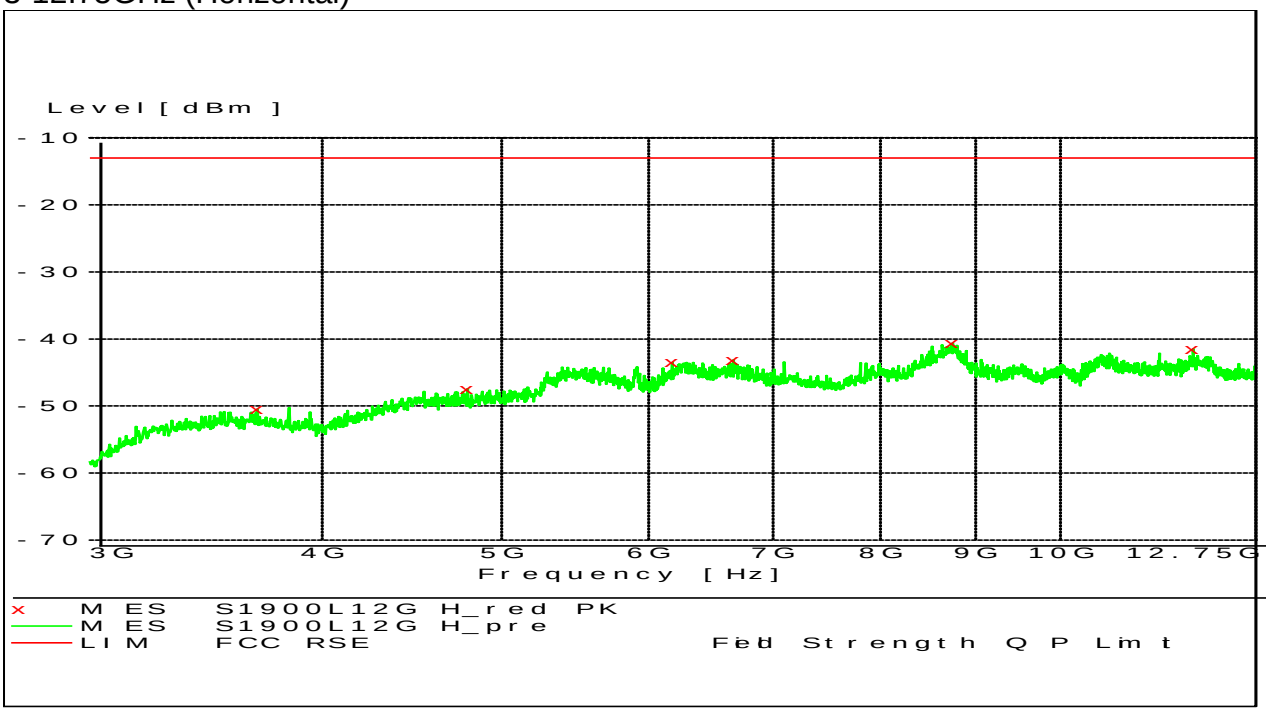
Frequency (MHz)	Level (dBm)	Azimuth (deg)	Height (cm)	Polarisation	Transd (dB)	Limit (dBm)	Margin (dB)
93.632	-72.97	143.1	200	HOR	-129.2	-13	60
1000	-58.62	143.1	200	HOR	-109.1	-13	45.6
1984	-26.3	319.9	200	HOR	-103.4	-13	13.3
2339.2	-45.06	84.4	100	HOR	-103.6	-13	32.1
2995.2	-47.98	154.1	200	HOR	-98.6	-13	35

30M-3GHz (Vertical)



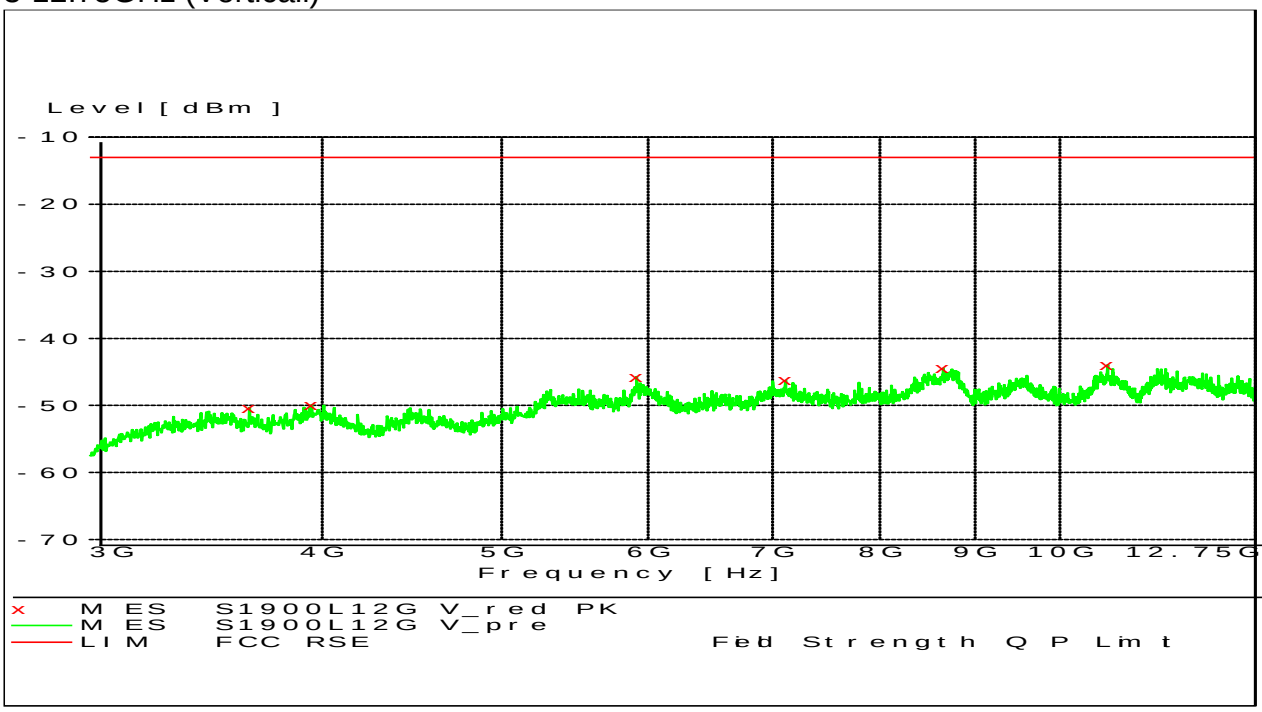
Frequency (MHz)	Level (dBm)	Azimuth (deg)	Height (cm)	Polarisation	Transd (dB)	Limit (dBm)	Margin (dB)
185.2	-74.53	69	100	VER	-131.4	-13	61.5
216.24	-74.53	335	100	VER	-127.1	-13	61.5
139.416	-77.14	56.2	200	VER	-36	-13	67.1
1000	-58.27	56.2	200	VER	-108.9	-13	45.3
2987.2	-45.55	247.9	200	VER	-97.1	-13	32.5

3-12.75GHz (Horizontal)



Frequency (MHz)	Level (dBm)	Azimuth (deg)	Height (cm)	Polarisation	Transd (dB)	Limit (dBm)	Margin (dB)
3691.2	-50.45	359.9	200	HOR	-89	-13	37.5
4792	-47.4	57.6	100	HOR	-84.4	-13	34.4
6177.6	-43.52	168.5	100	HOR	-78.2	-13	30.5
6667.2	-43.15	359.9	200	HOR	-77.6	-13	30.1
8752.6	-40.62	37.2	200	HOR	-72.4	-13	27.6
11793.2	-41.48	286.2	100	HOR	-72.7	-13	28.5

3-12.75GHz (Verticall)



Frequency (MHz)	Level (dBm)	Azimuth (deg)	Height (cm)	Polarisation	Transd (dB)	Limit (dBm)	Margin (dB)
3656	-50.31	191	100	VER	-89.5	-13	37.3
3950.4	-49.88	163.1	100	VER	-87.7	-13	36.9
5915.2	-45.7	359.1	100	VER	-81.9	-13	32.7
7115	-46.28	1.4	200	VER	-80.5	-13	33.3
8656	-44.44	315.5	100	VER	-76.6	-13	31.4
10611	-43.97	357	200	VER	-76	-13	31

10 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

10.1 Applicable Standard: FCC§2.1051, §24.238

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

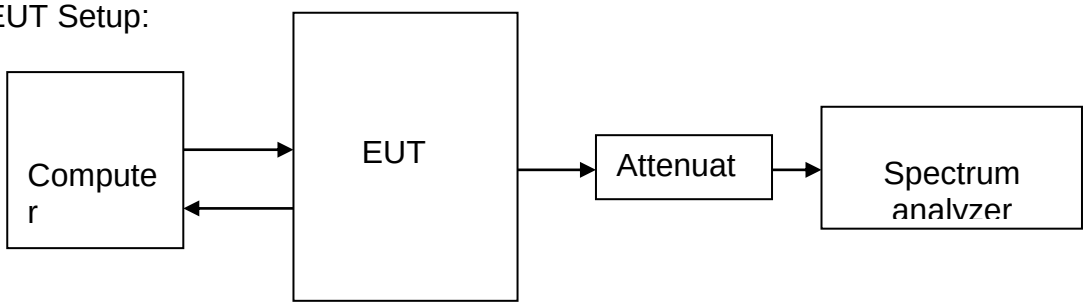
10.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9030A	MY49431143	2016.09.12	2017.09.12
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2016.09.12	2017.09.12

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

10.3 Test Procedure

EUT Setup:



REMARKS: Attenuator loss (dB)=40dB, Cable Loss (dB)=1.5dB.

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

10.4 Test Data Environmental Conditions

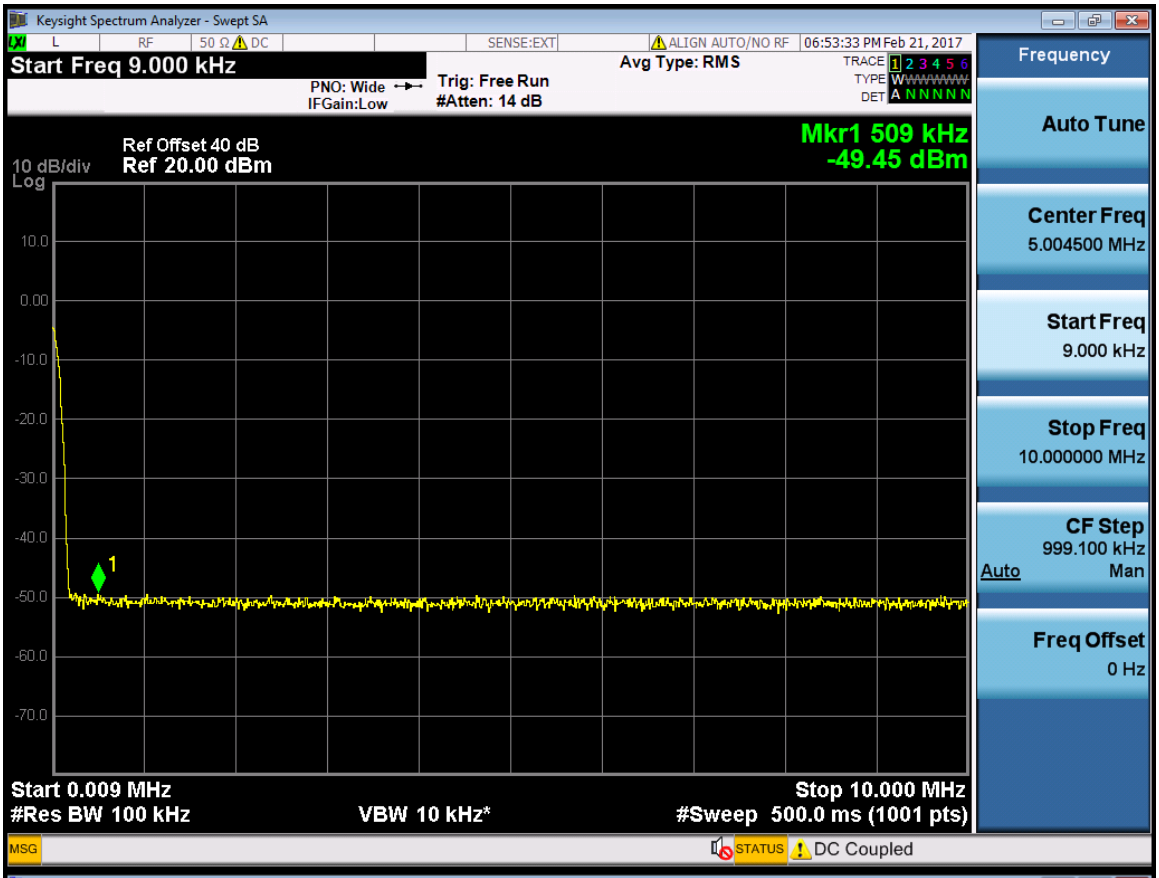
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

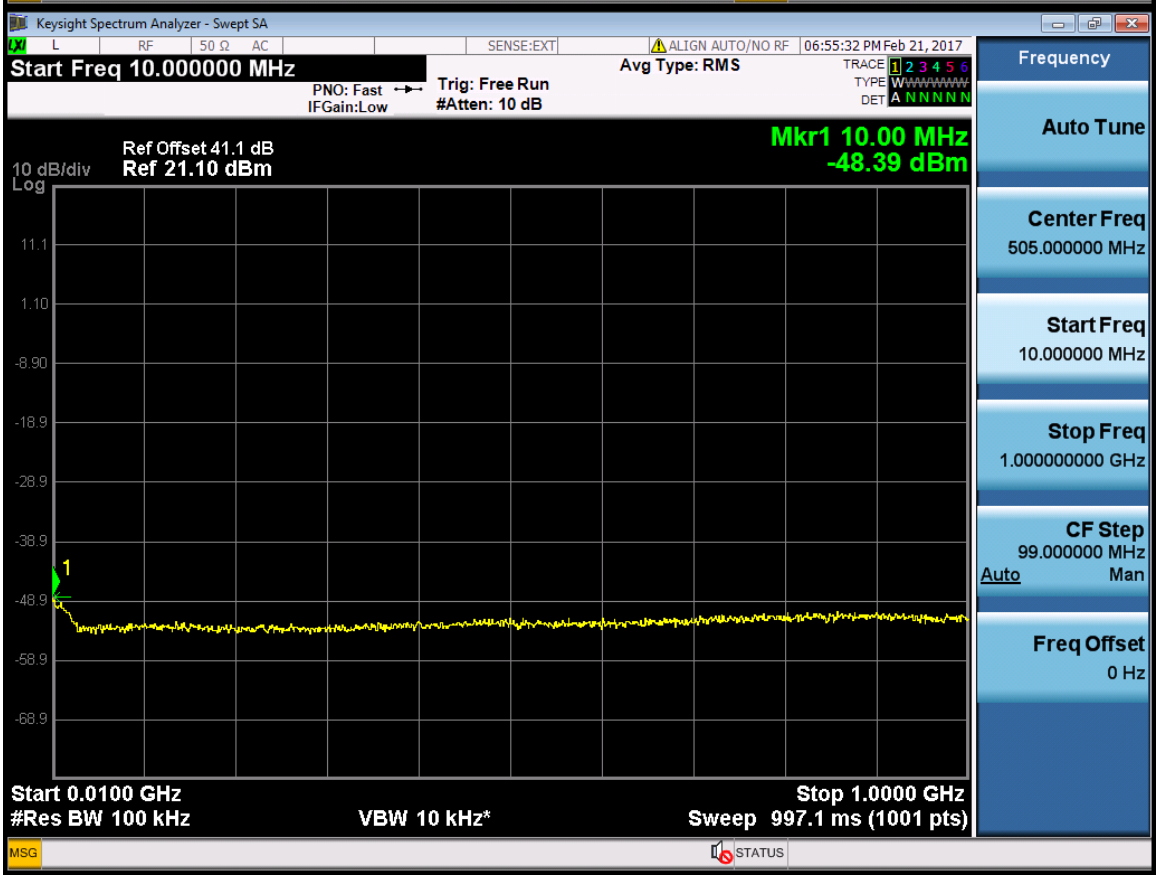
10.5 Test Result: Pass

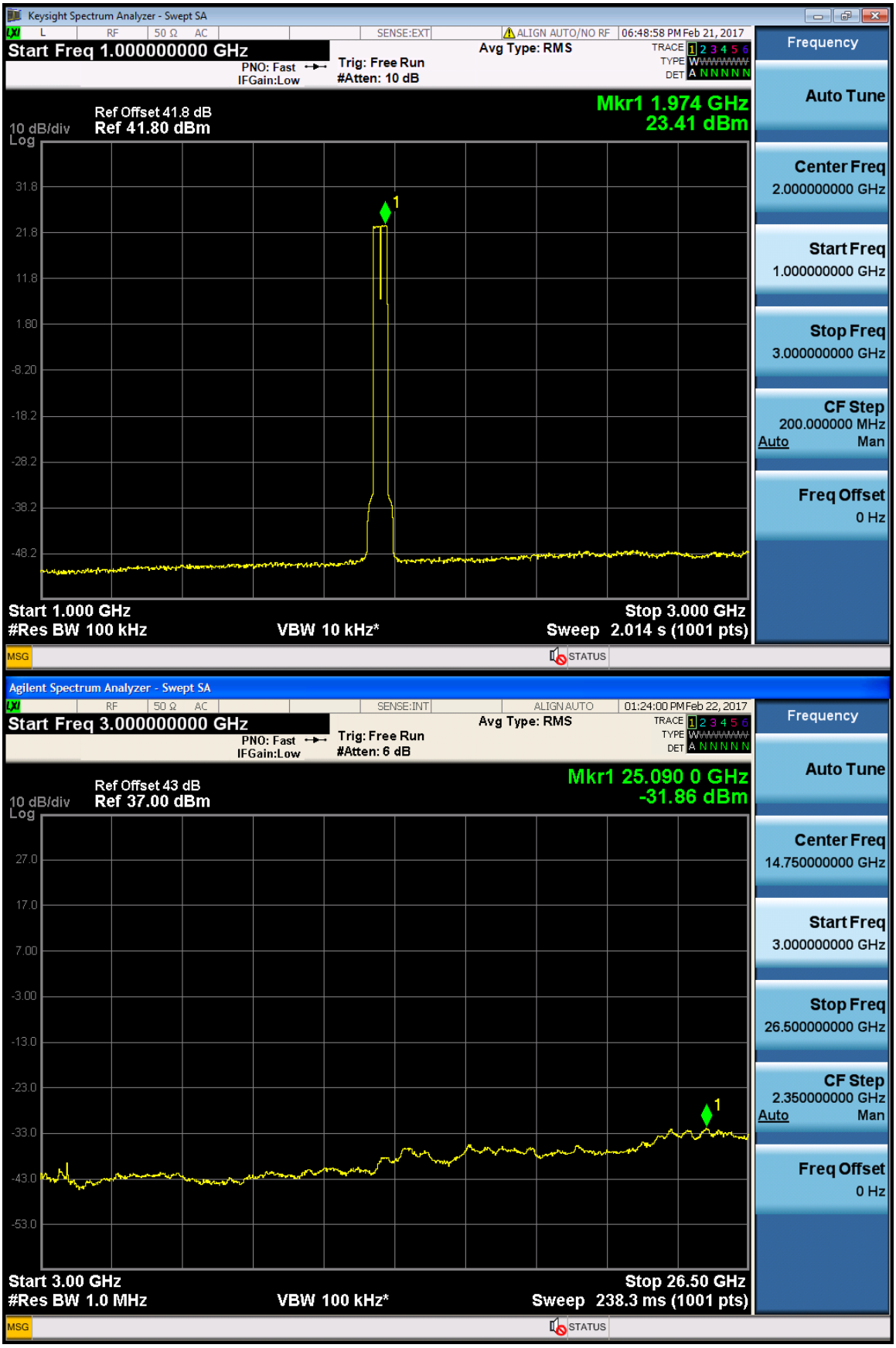
10.6 Test Mode: Transmitting LTE

10.7 Test Data

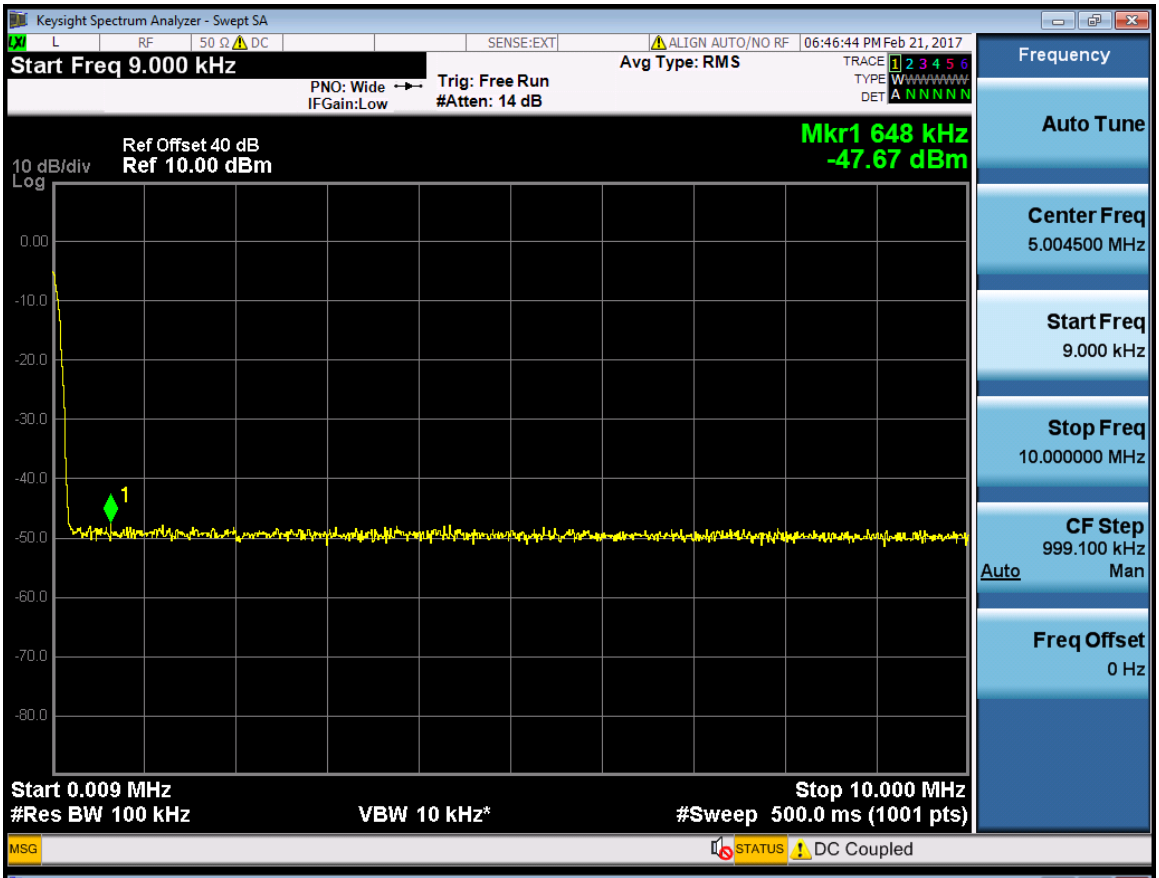
RF 40M (LTE 20M+LTE 20M):
RF 40M (LTE 20M+LTE 20M) -Port 1 -1950MHz

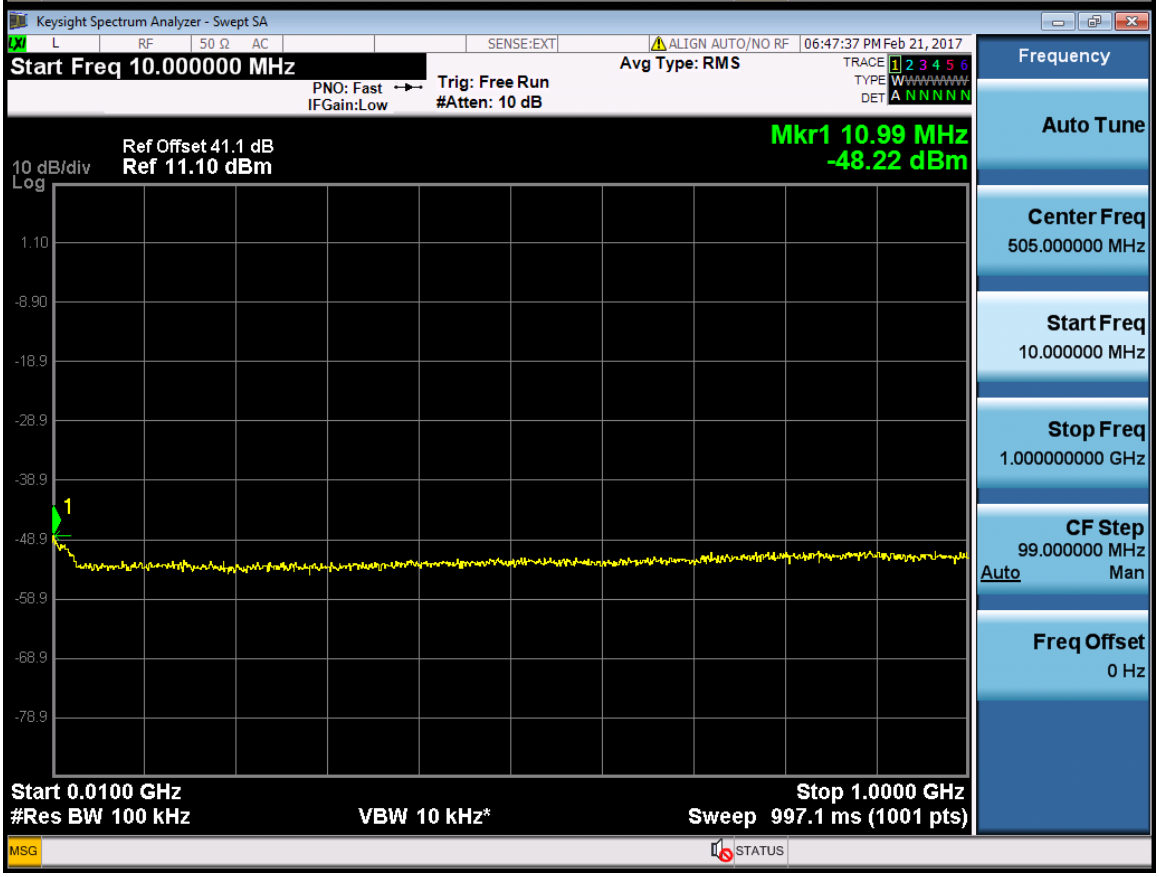

Keysight Spectrum Analyzer - Swept SA
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
06:53:33 PM Feb 21, 2017
Ref Offset 40 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 509 kHz
-49.45 dBm
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

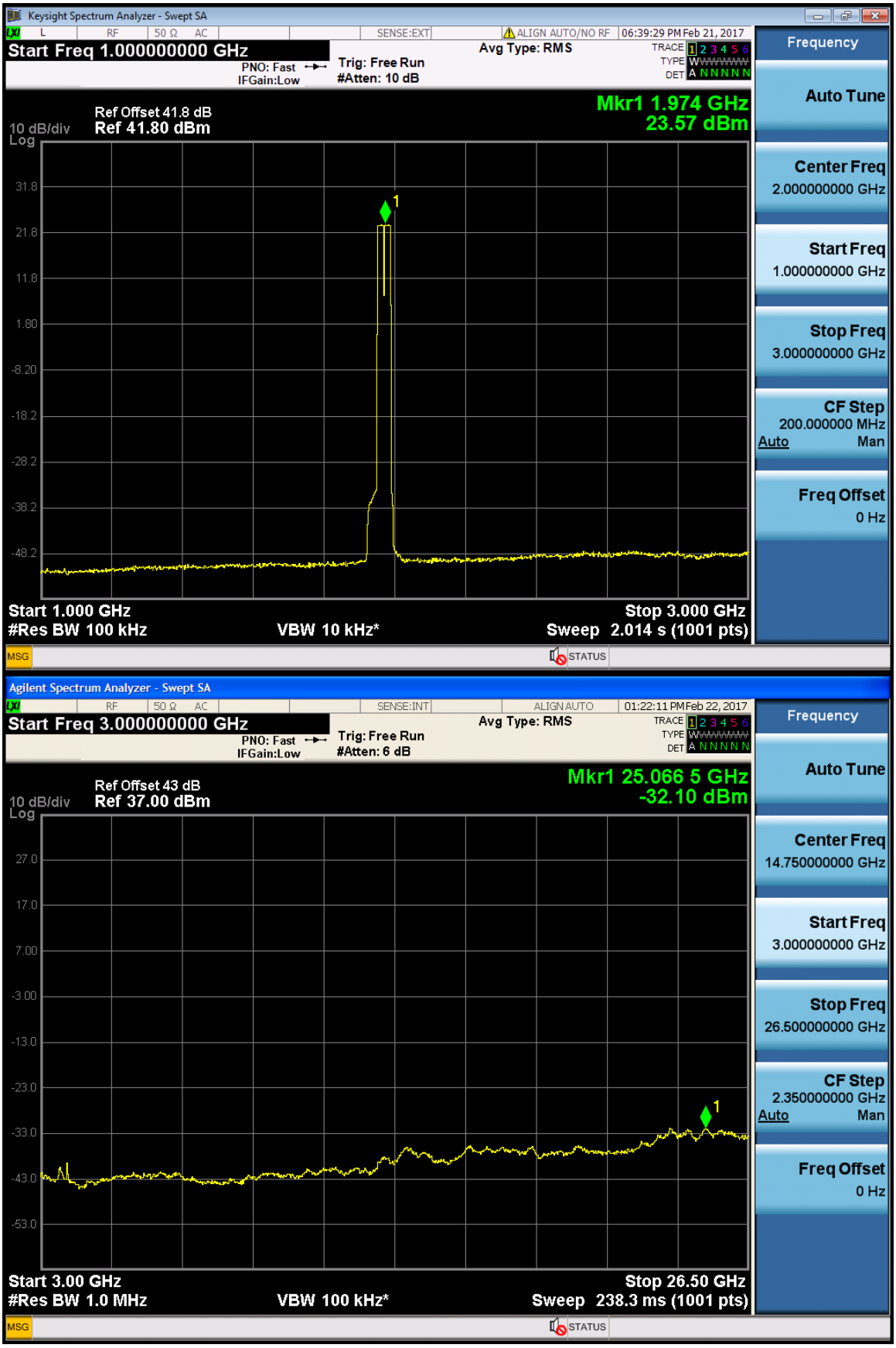

Keysight Spectrum Analyzer - Swept SA
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
06:55:32 PM Feb 21, 2017
Ref Offset 41.1 dB
10 dB/div
Ref 21.10 dBm
Log
Mkr1 10.00 MHz
-48.39 dBm
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



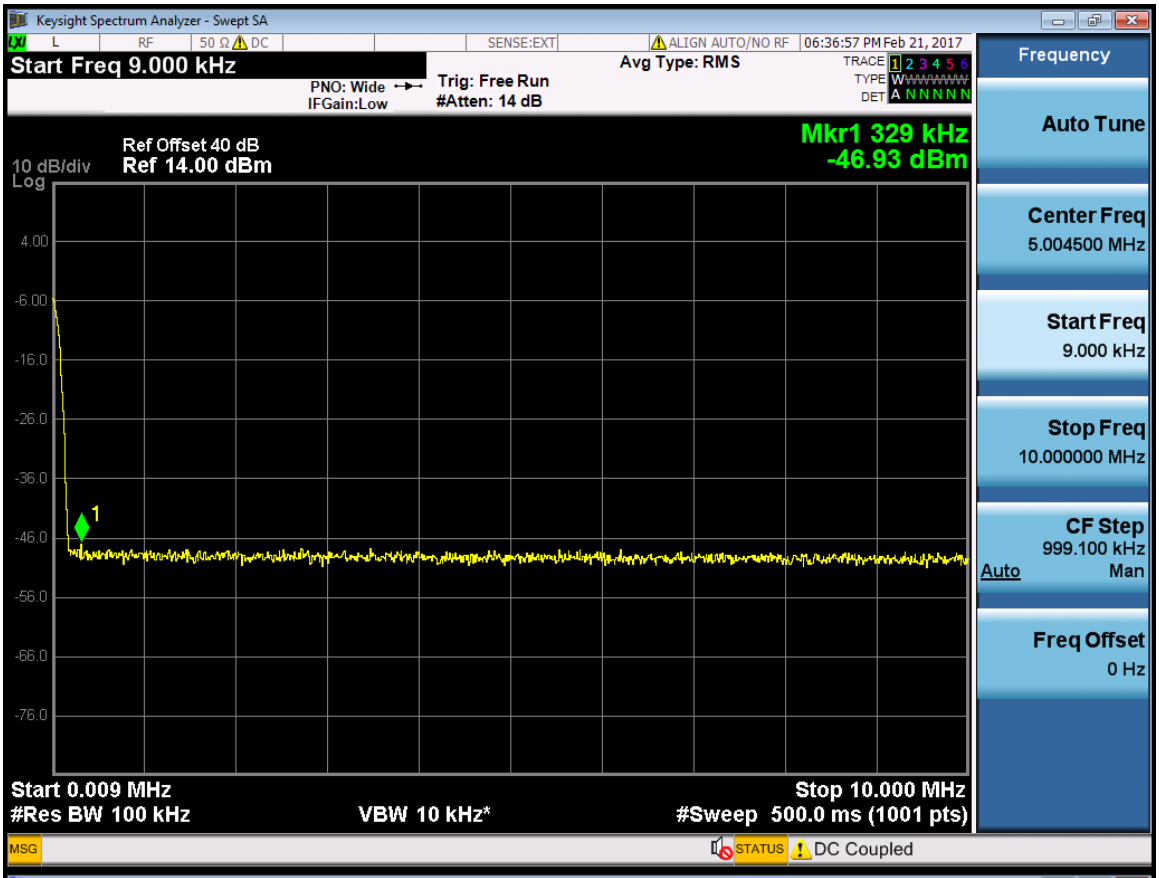
RF 40M (LTE 20M+LTE 20M) -Port 1 -1960MHz

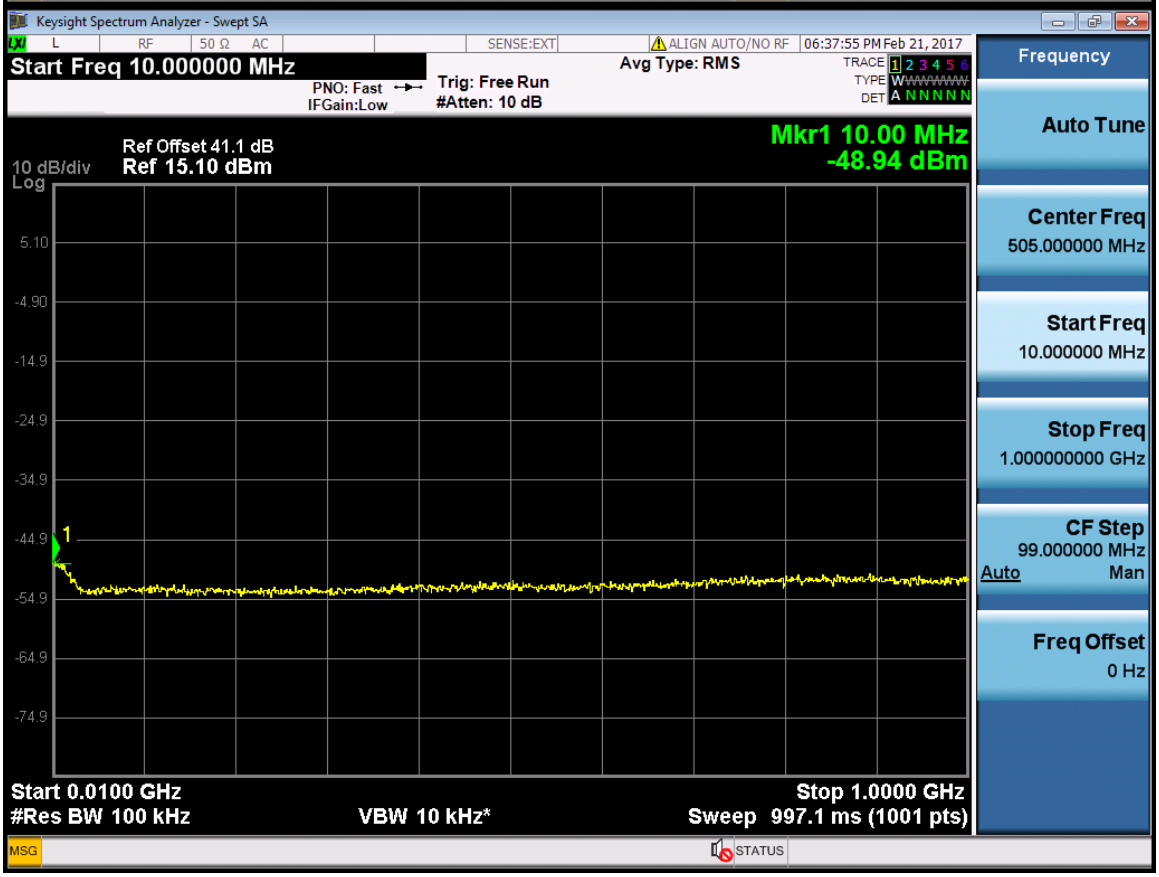

Keysight Spectrum Analyzer - Swept SA
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
06:46:44 PM Feb 21, 2017
Ref Offset 40 dB
10 dB/div
Ref 10.00 dBm
Mkr1 648 kHz
-47.67 dBm
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

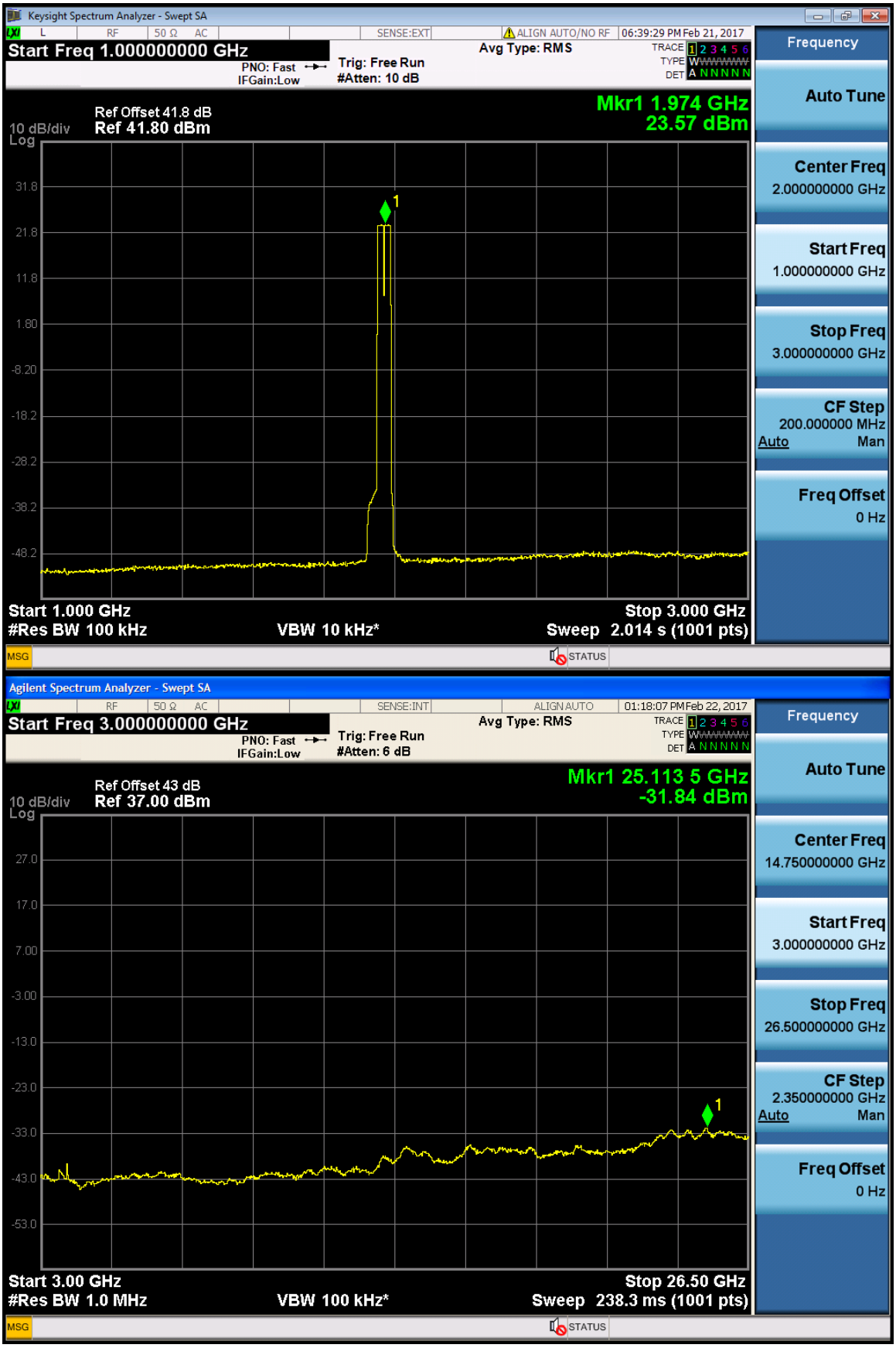

Keysight Spectrum Analyzer - Swept SA
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
06:47:37 PM Feb 21, 2017
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Mkr1 10.99 MHz
-48.22 dBm
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



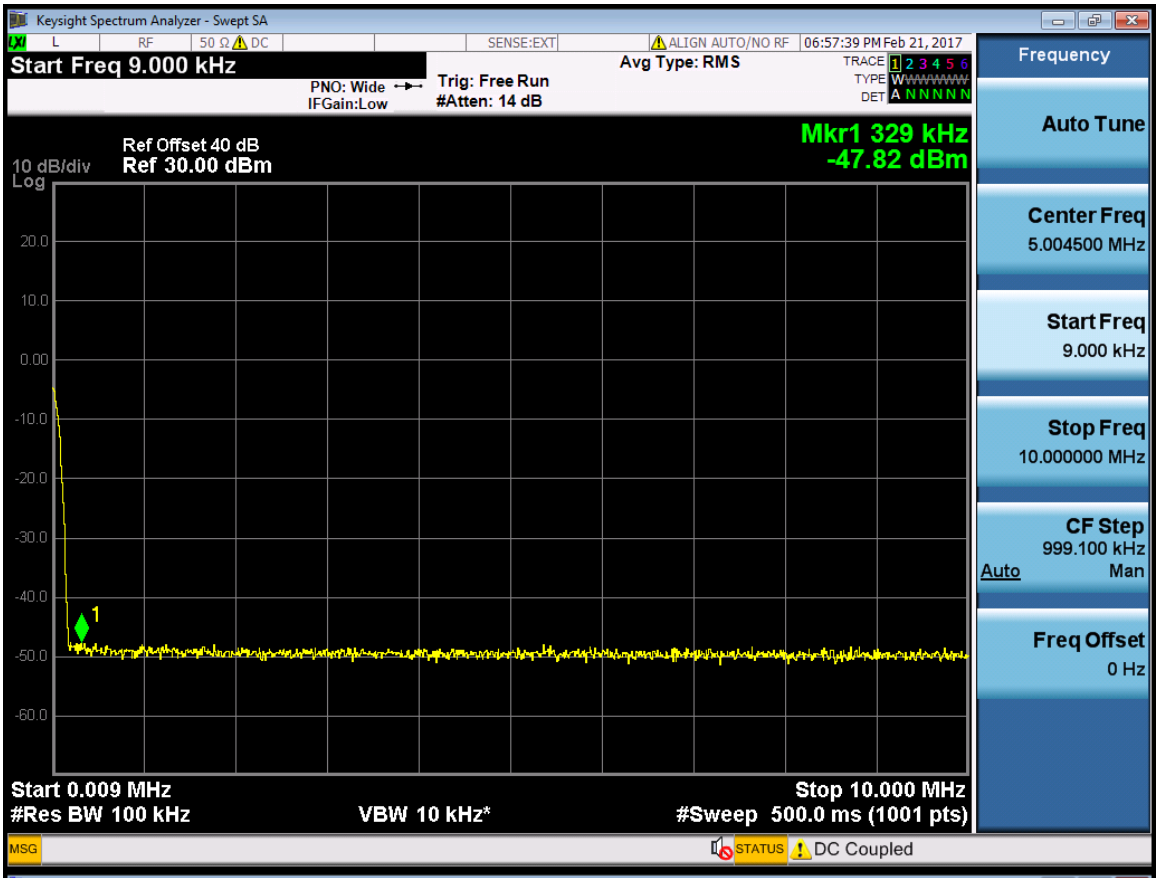
RF 40M (LTE 20M+LTE 20M) -Port 1 -1970MHz

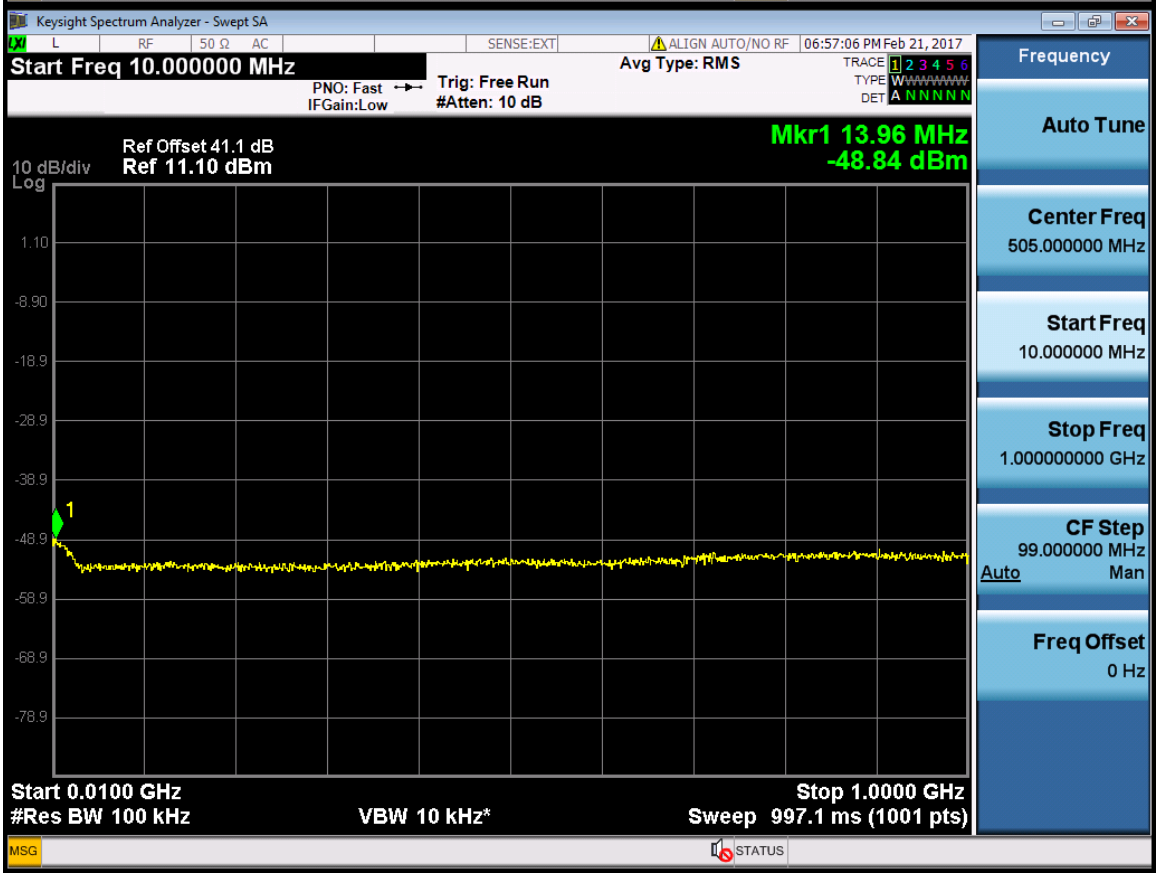

Keysight Spectrum Analyzer - Swept SA
L RF 50 Ω DC SENSE:EXT ALIGN AUTO/NO RF 06:36:57 PM Feb 21, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Ref Offset 40 dB
10 dB/div Ref 14.00 dBm
Log
Mkr1 329 kHz
-46.93 dBm
4.00
-6.00
-16.0
-26.0
-36.0
-46.0
-56.0
-66.0
-76.0
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS
DC Coupled

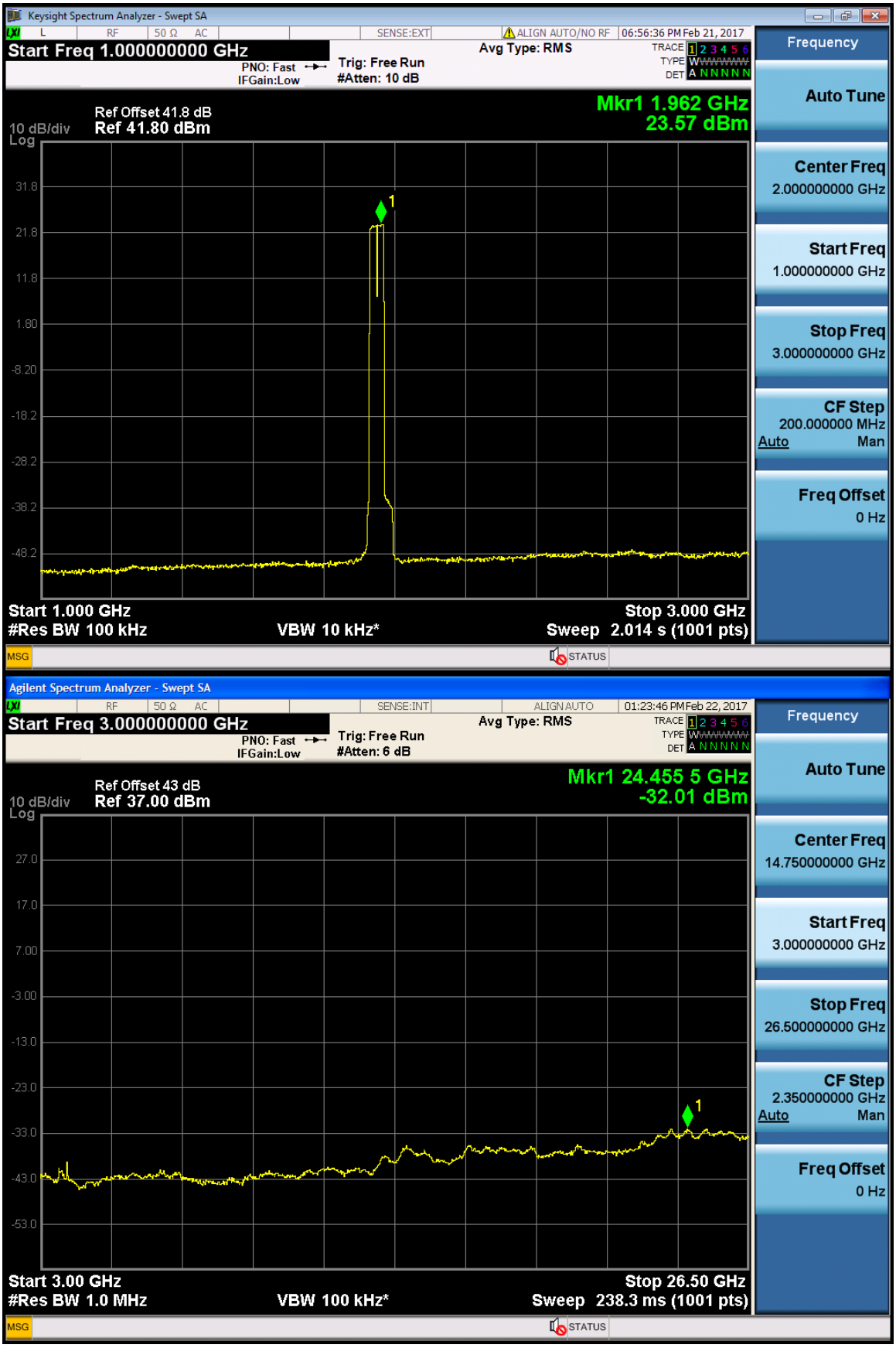

Keysight Spectrum Analyzer - Swept SA
L RF 50 Ω AC SENSE:EXT ALIGN AUTO/NO RF 06:37:55 PM Feb 21, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Ref Offset 41.1 dB
10 dB/div Ref 15.10 dBm
Log
Mkr1 10.00 MHz
-48.94 dBm
5.10
-4.90
-14.9
-24.9
-34.9
-44.9
-54.9
-64.9
-74.9
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto Man
Freq Offset
0 Hz
MSG
STATUS



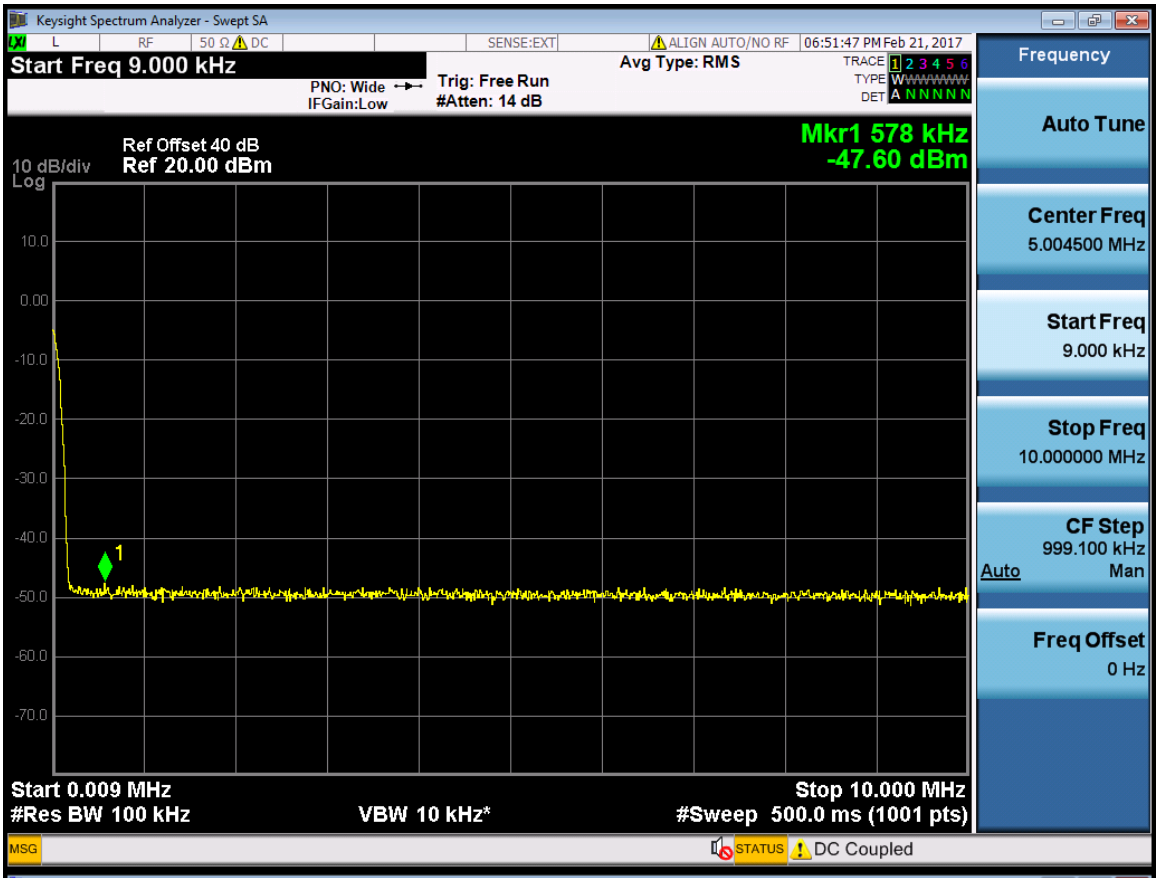
RF 40M (LTE 20M+LTE 20M) -Port 4 -1950MHz

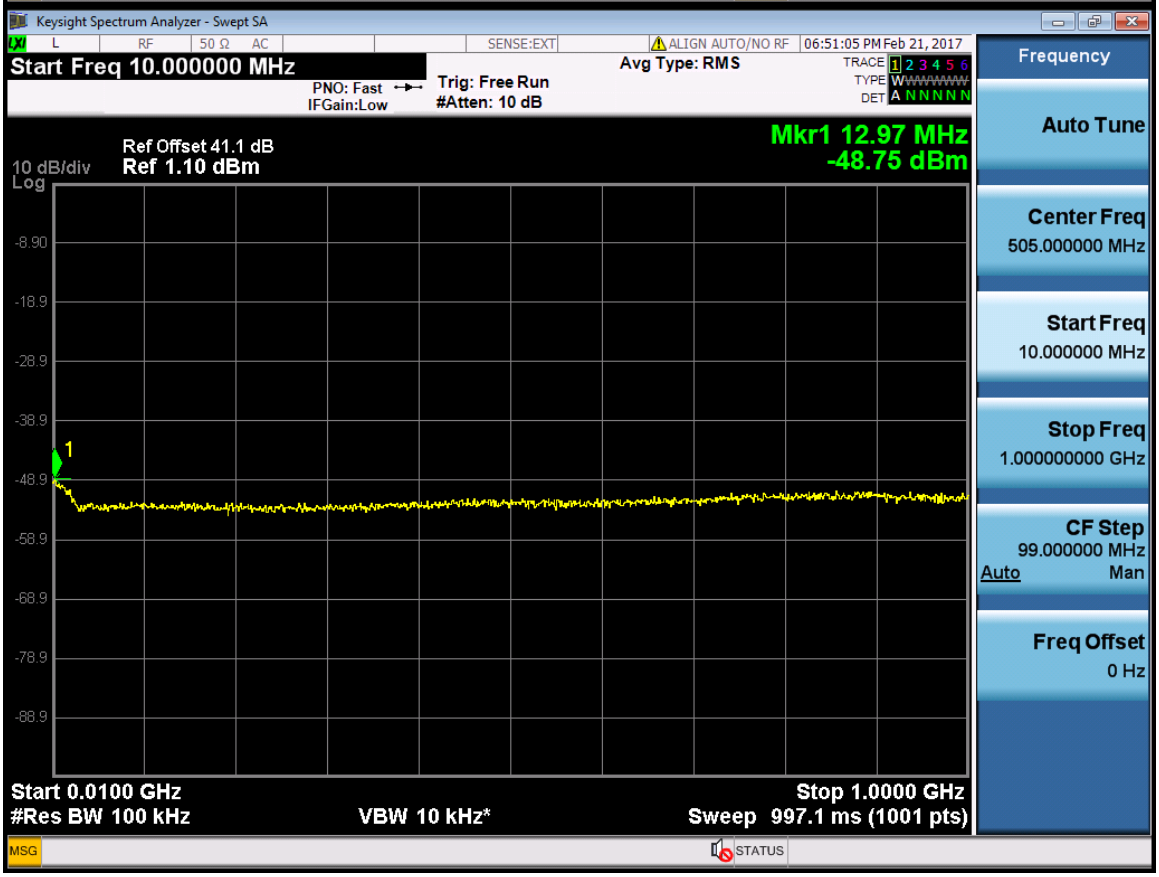

Keysight Spectrum Analyzer - Swept SA
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
06:57:39 PM Feb 21, 2017
Ref Offset 40 dB
10 dB/div
Ref 30.00 dBm
Mkr1 329 kHz
-47.82 dBm
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

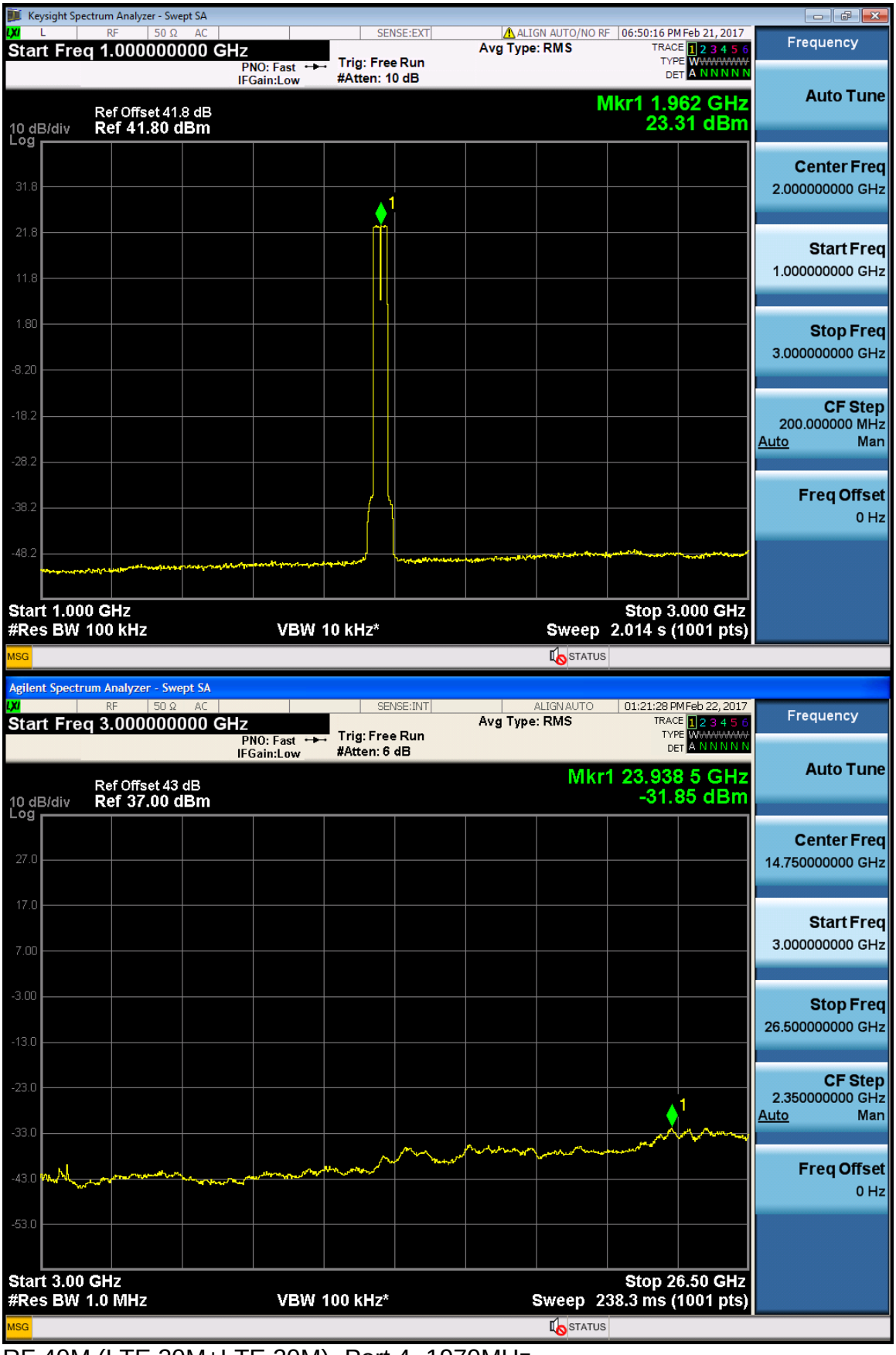

Keysight Spectrum Analyzer - Swept SA
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
06:57:06 PM Feb 21, 2017
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Mkr1 13.96 MHz
-48.84 dBm
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



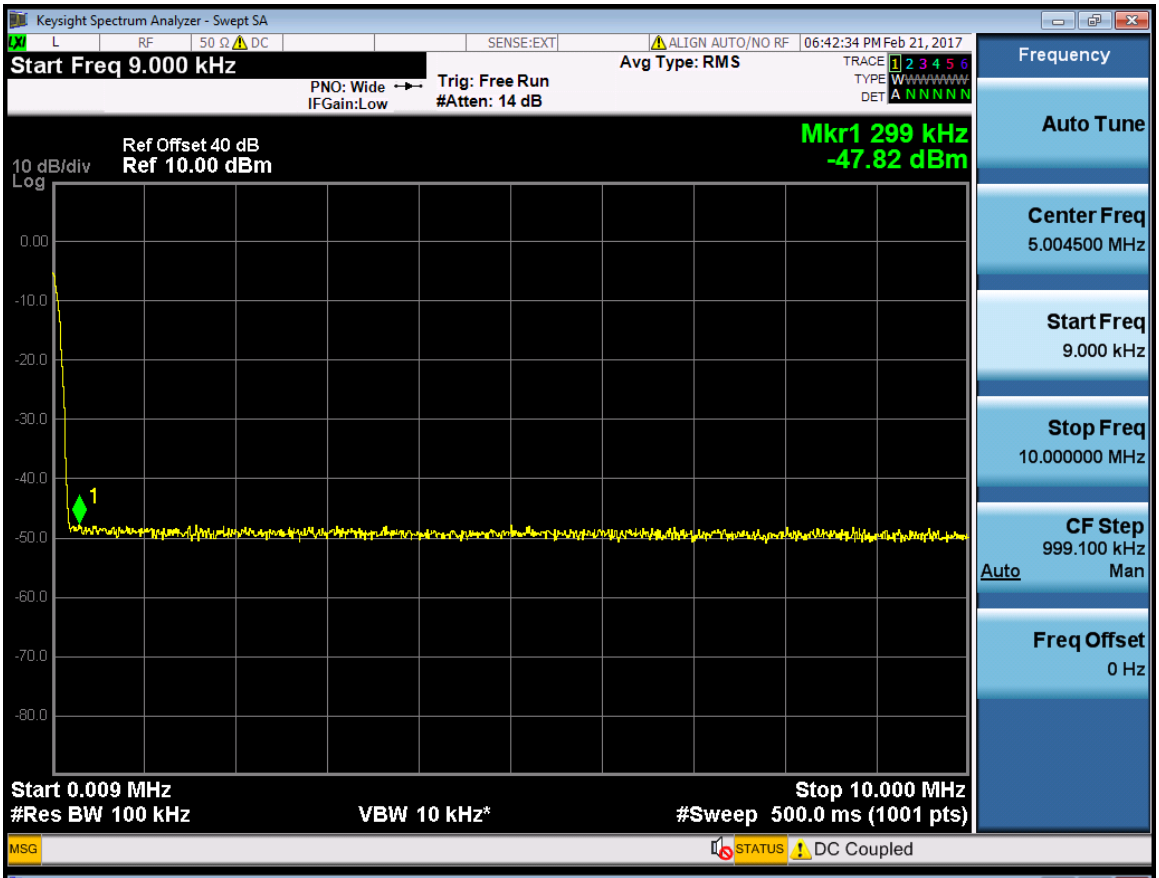
RF 40M (LTE 20M+LTE 20M) -Port 4 -1960MHz

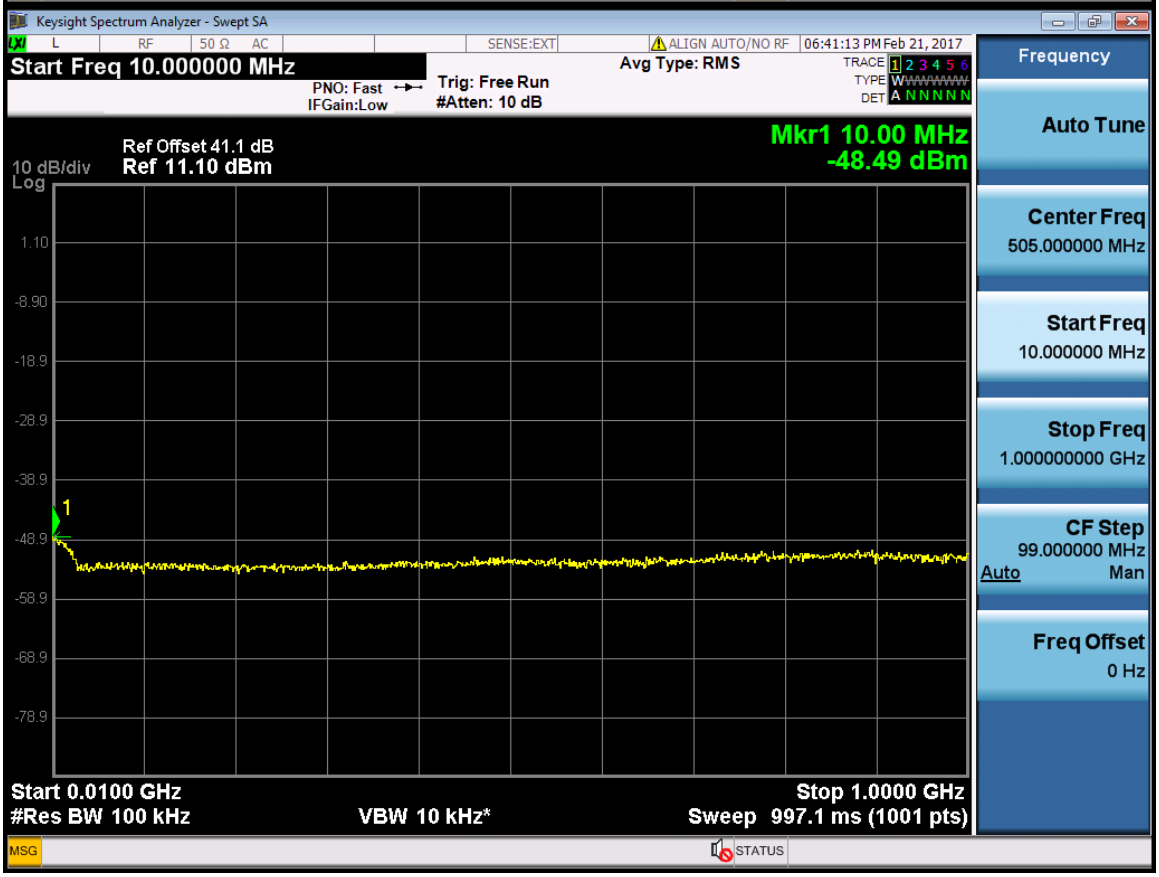

Keysight Spectrum Analyzer - Swept SA
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
06:51:47 PM Feb 21, 2017
Ref Offset 40 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 578 kHz
-47.60 dBm
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
DC Coupled
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

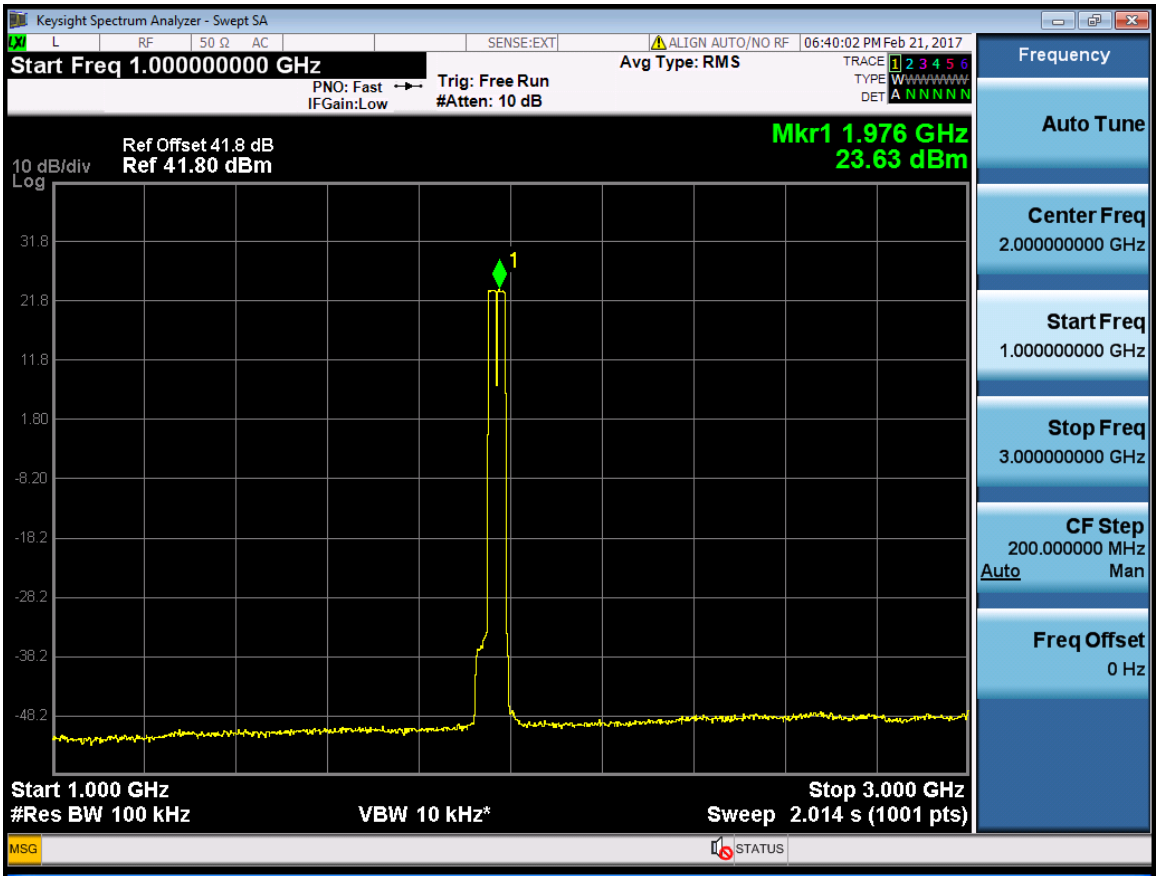

Keysight Spectrum Analyzer - Swept SA
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
06:51:05 PM Feb 21, 2017
Ref Offset 41.1 dB
10 dB/div
Ref 1.10 dBm
Log
Mkr1 12.97 MHz
-48.75 dBm
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



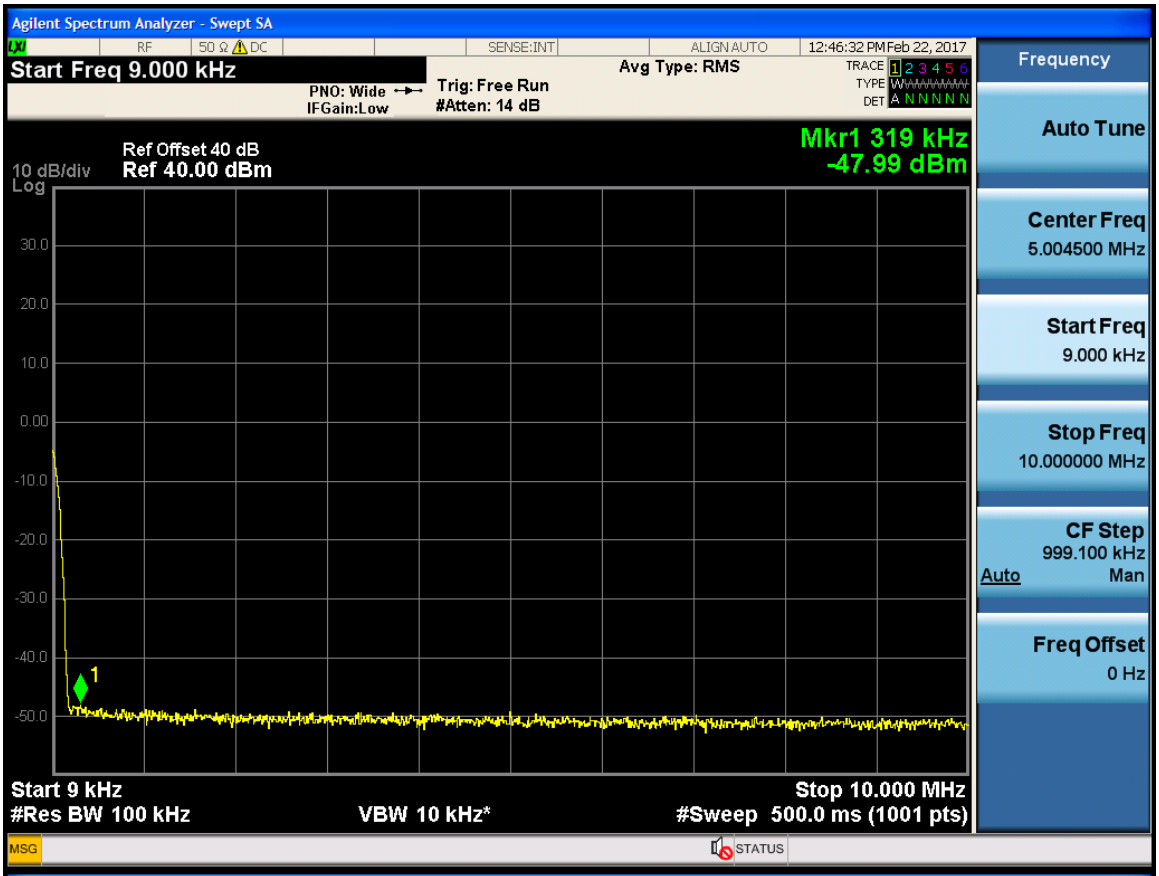
RF 40M (LTE 20M+LTE 20M) -Port 4 -1970MHz

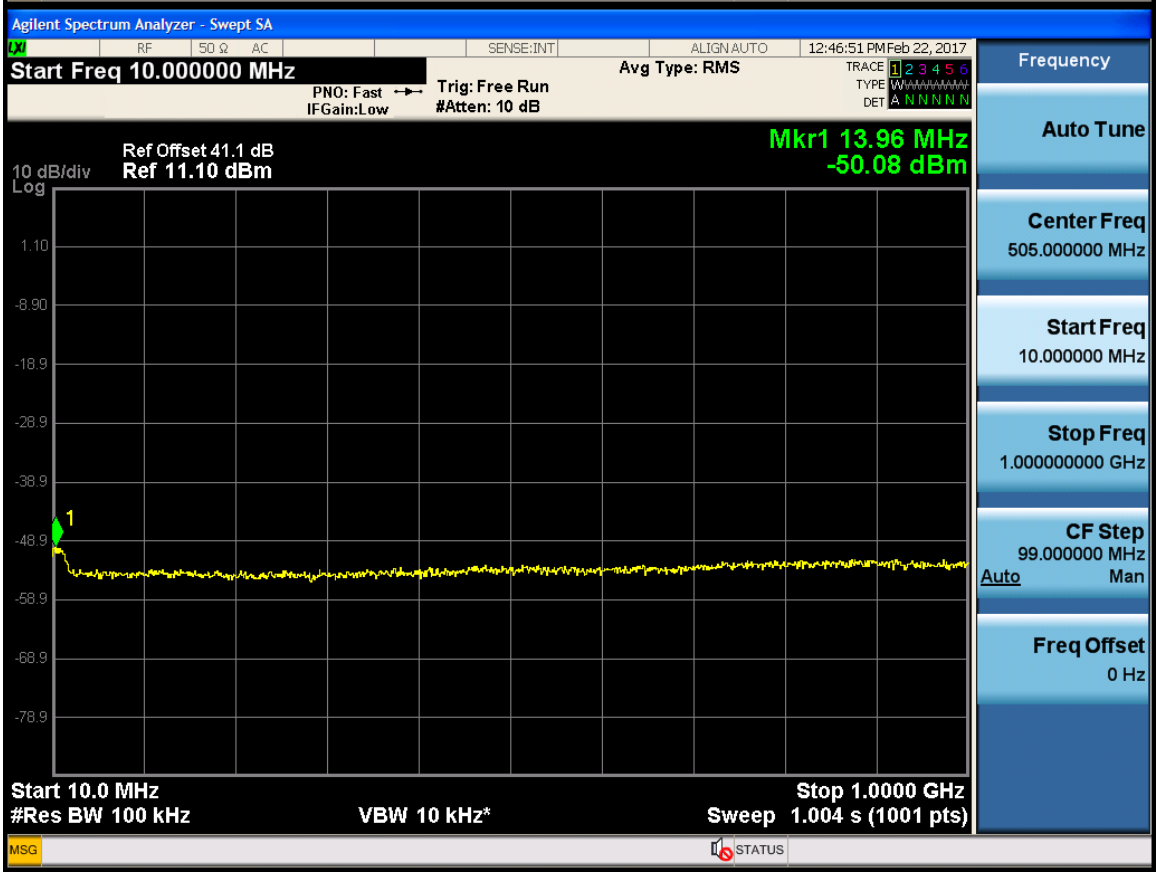

Keysight Spectrum Analyzer - Swept SA
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
06:42:34 PM Feb 21, 2017
Ref Offset 40 dB
10 dB/div
Log
Ref 10.00 dBm
Mkr1 299 kHz
-47.82 dBm
Start 0.009 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz
DC Coupled

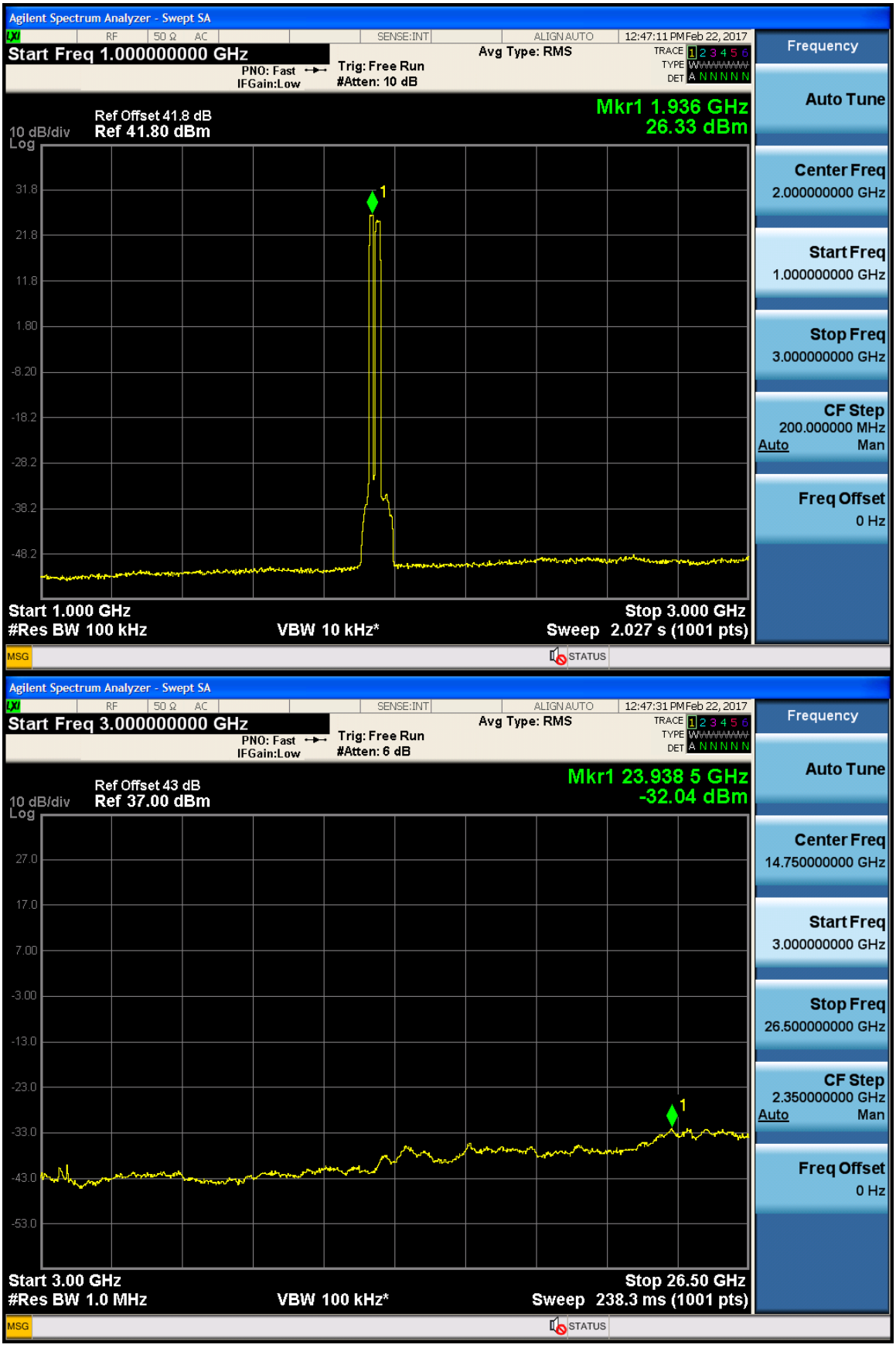

Keysight Spectrum Analyzer - Swept SA
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
06:41:13 PM Feb 21, 2017
Ref Offset 41.1 dB
10 dB/div
Log
Ref 11.10 dBm
Mkr1 10.00 MHz
-48.49 dBm
Start 0.0100 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 997.1 ms (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



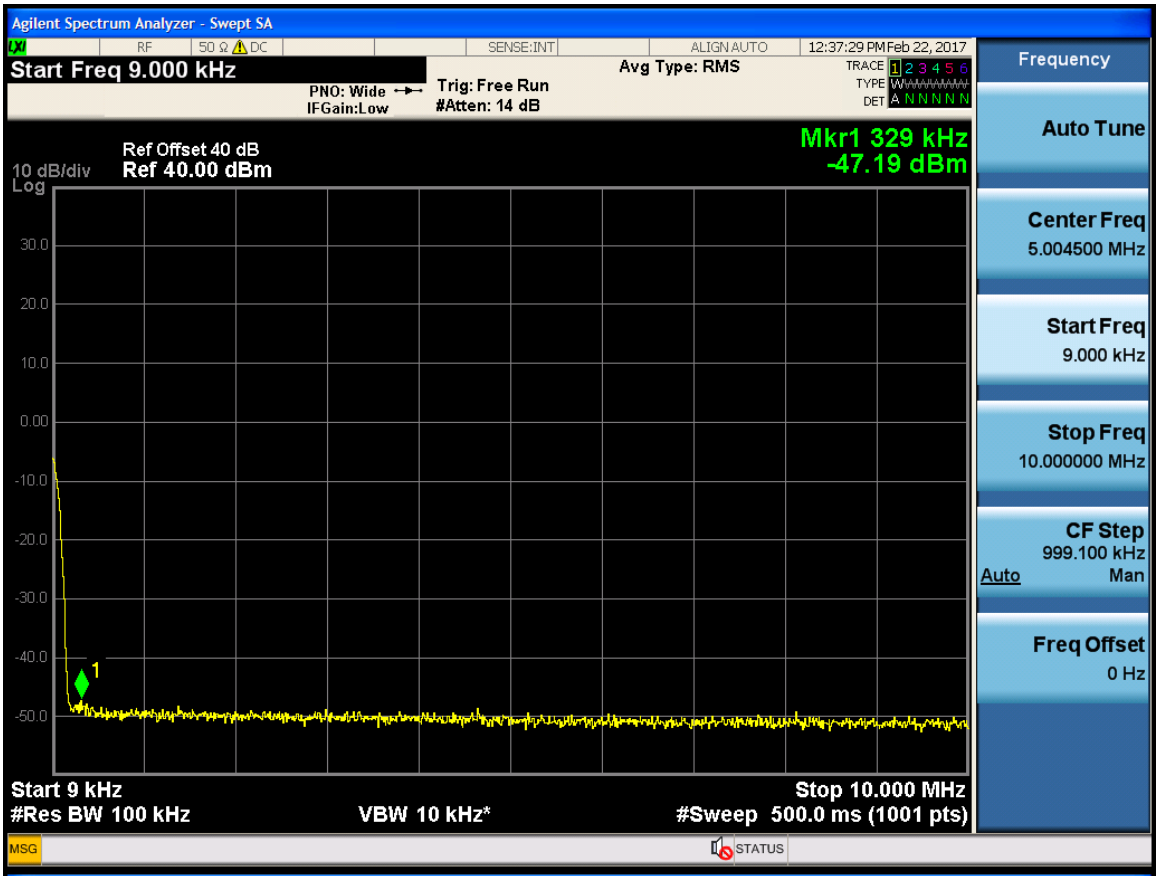
RF 30M (LTE 10M+LTE 15M):
RF 30M (LTE 10M+LTE 15M) -Port 1 -1945MHz

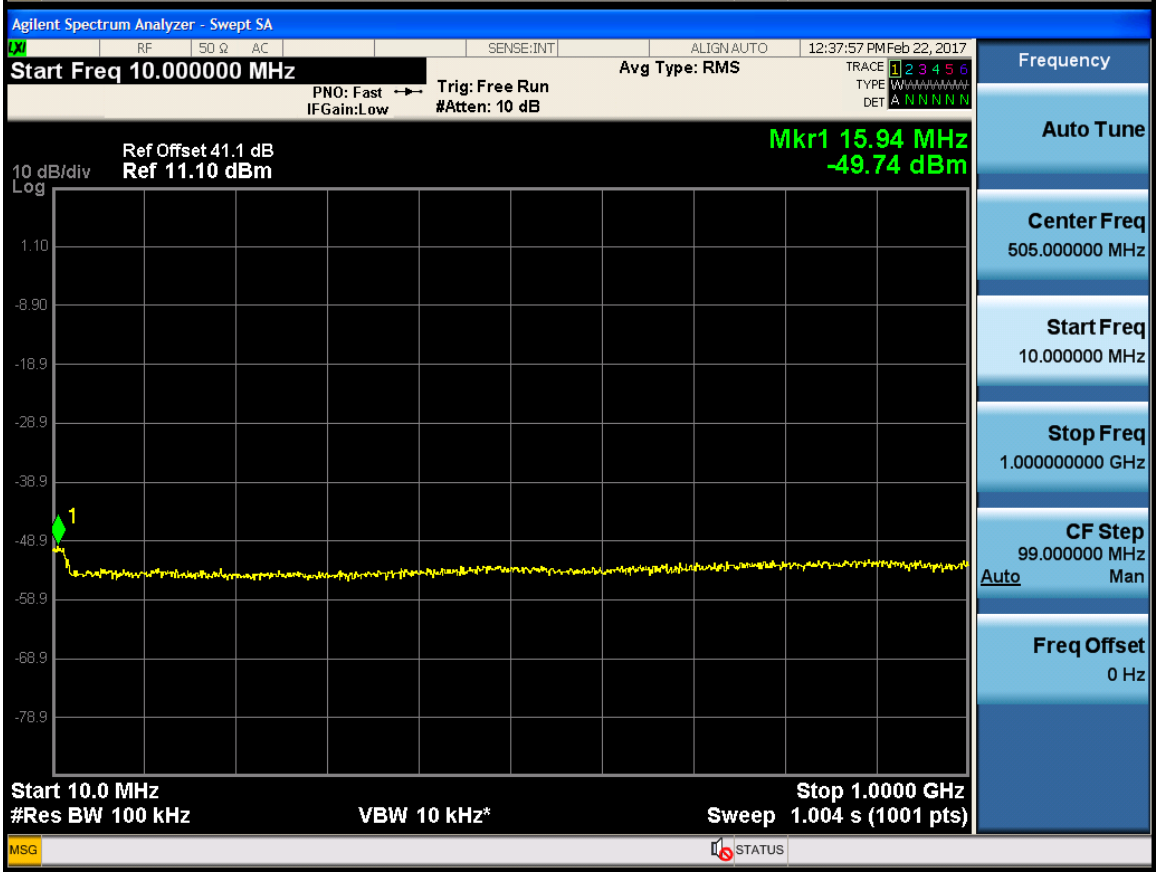

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:46:32 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 319 kHz
-47.99 dBm
Ref Offset 40 dB
10 dB/div
Ref 40.00 dBm
Log
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

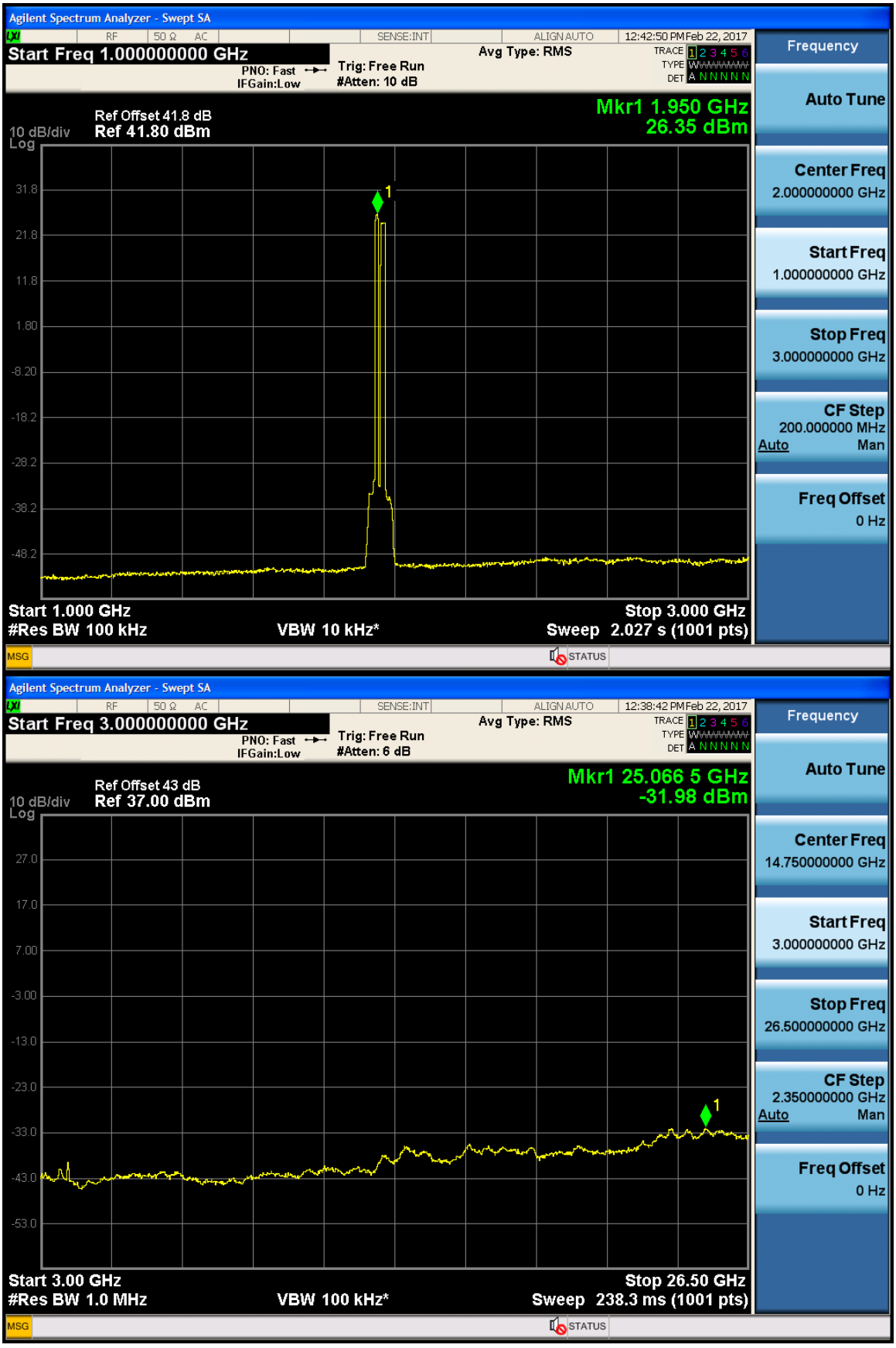

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:46:51 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 13.96 MHz
-50.08 dBm
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Log
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS



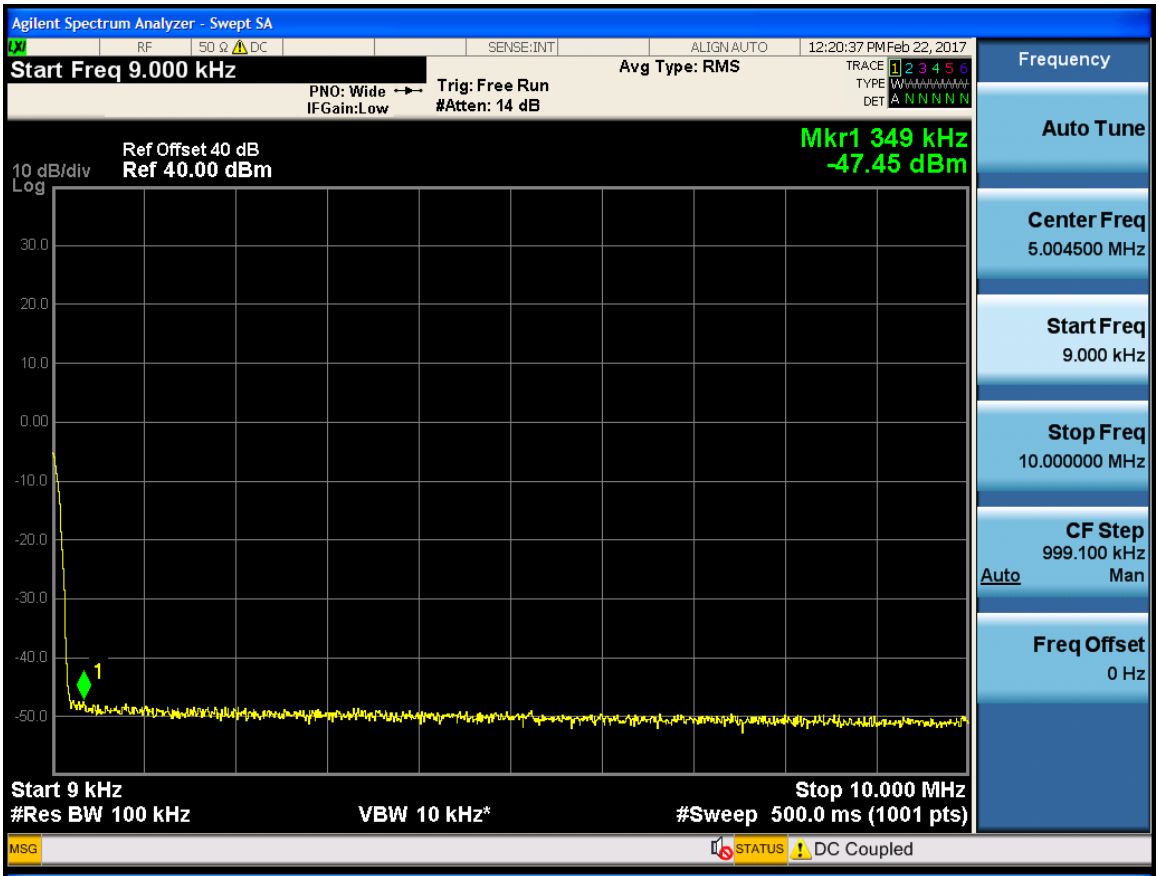
RF 30M (LTE 10M+LTE 15M) -Port 1 -1960MHz

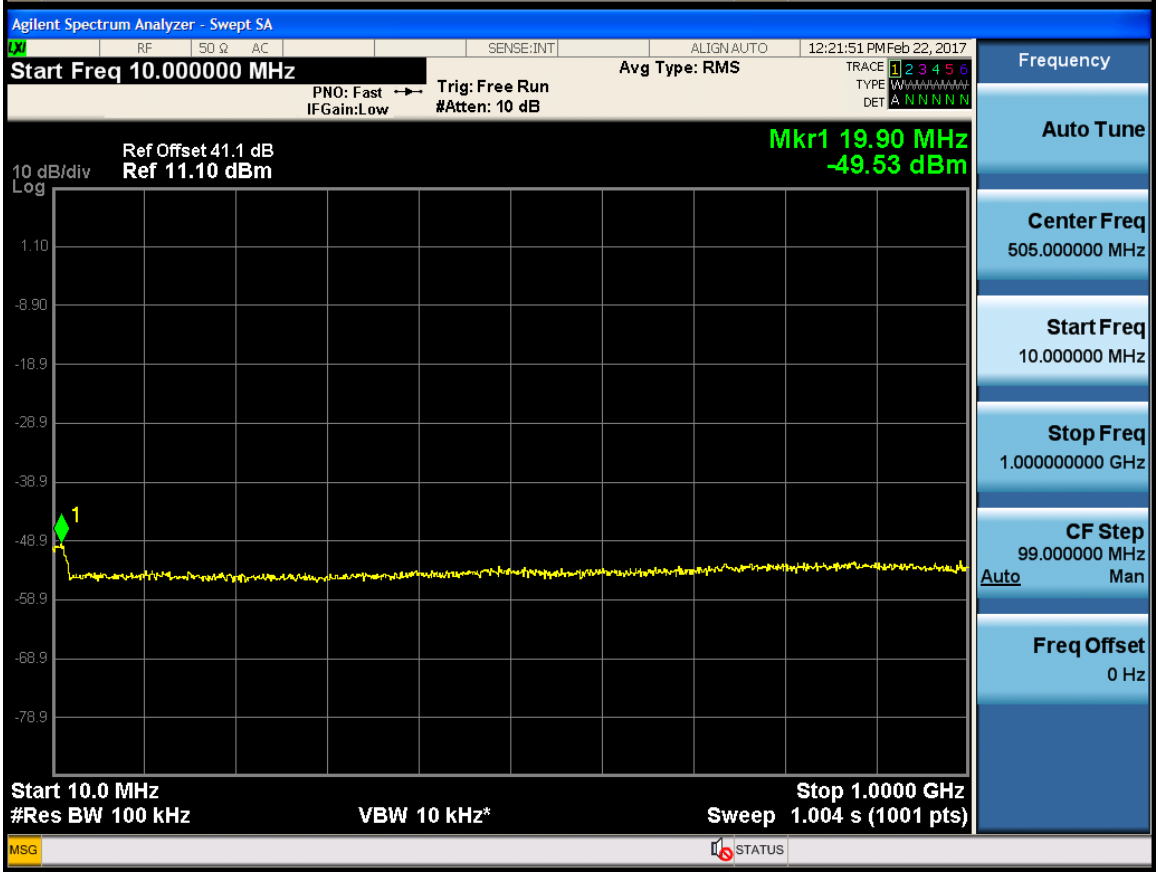

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:37:29 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 329 kHz
-47.19 dBm
Ref Offset 40 dB
10 dB/div
Ref 40.00 dBm
Log
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
1
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

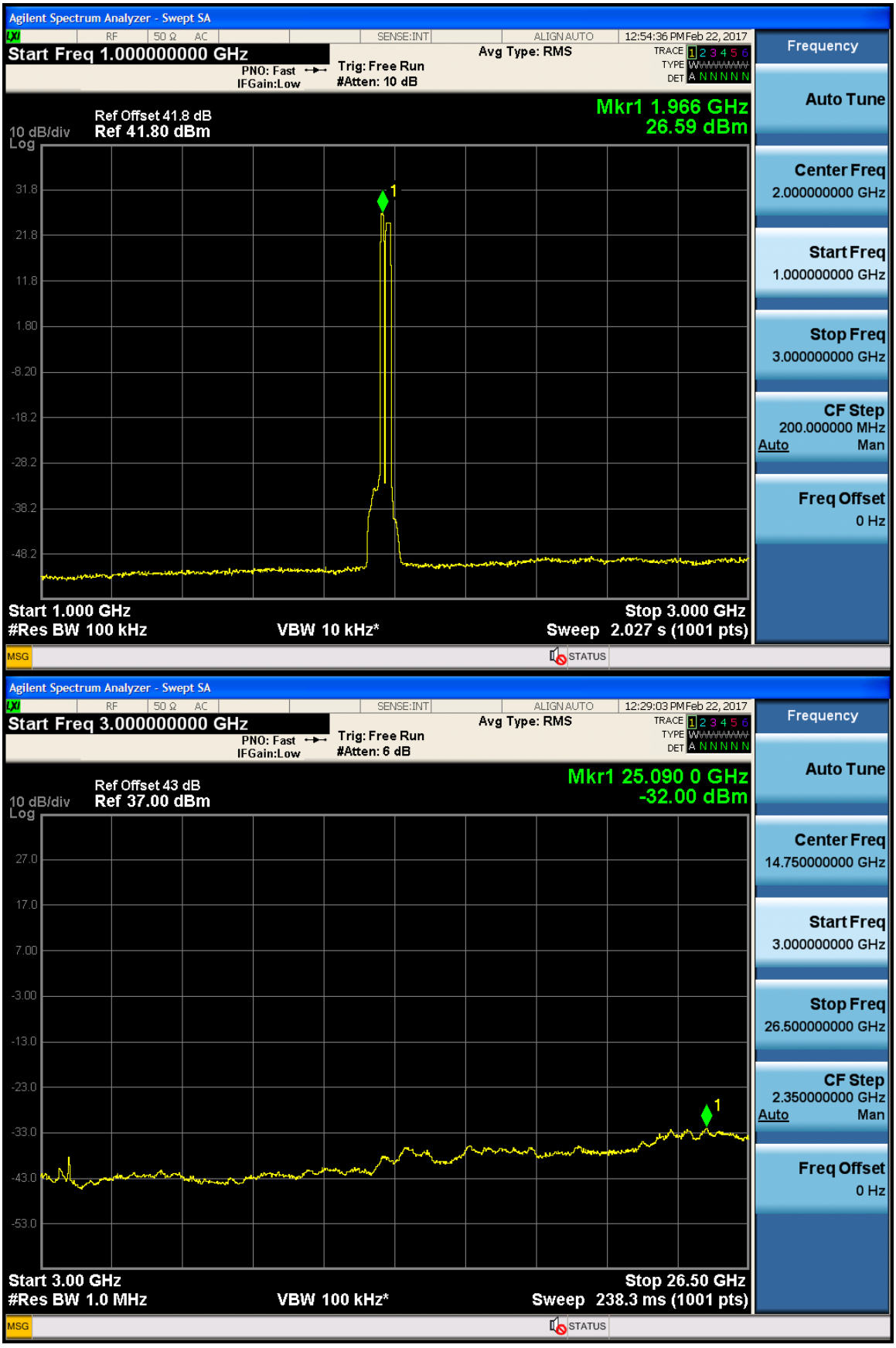

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:37:57 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 15.94 MHz
-49.74 dBm
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Log
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
1
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS



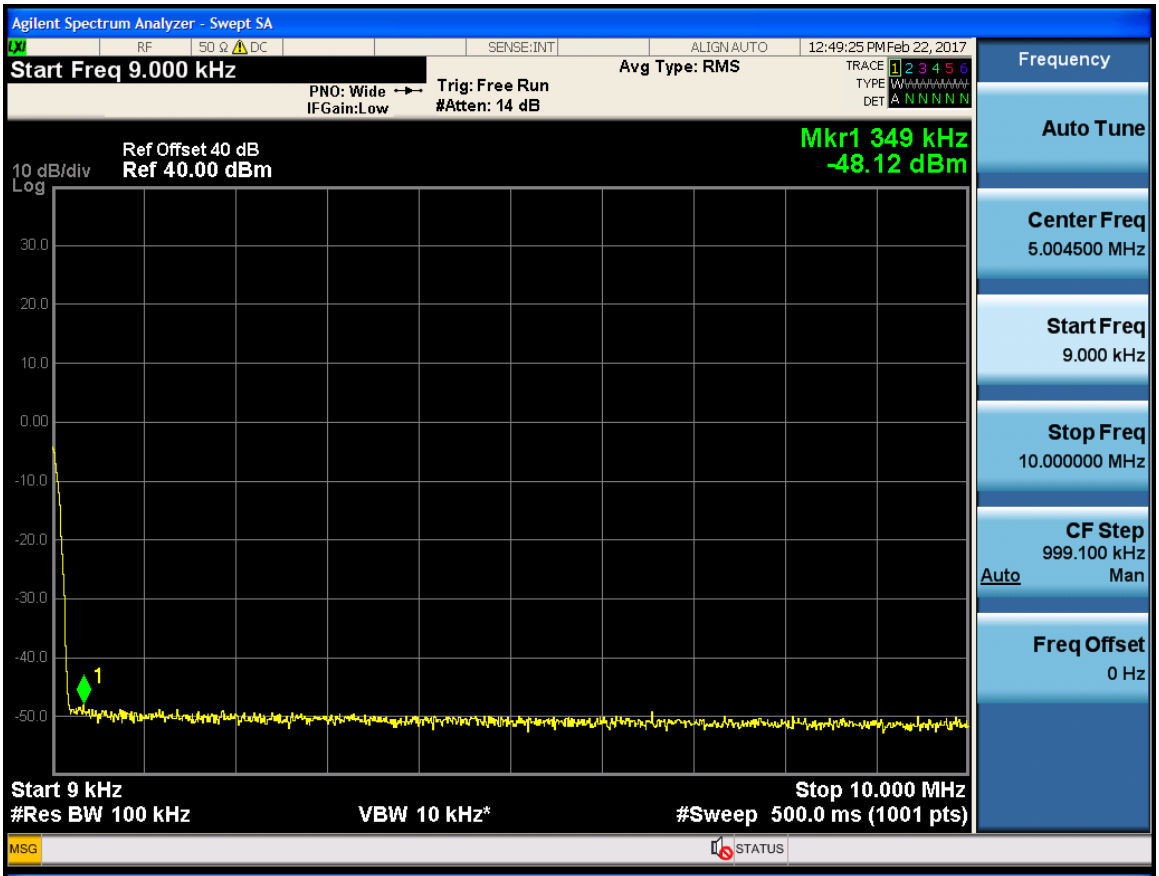
RF 30M (LTE 10M+LTE 15M) -Port 1 -1975MHz

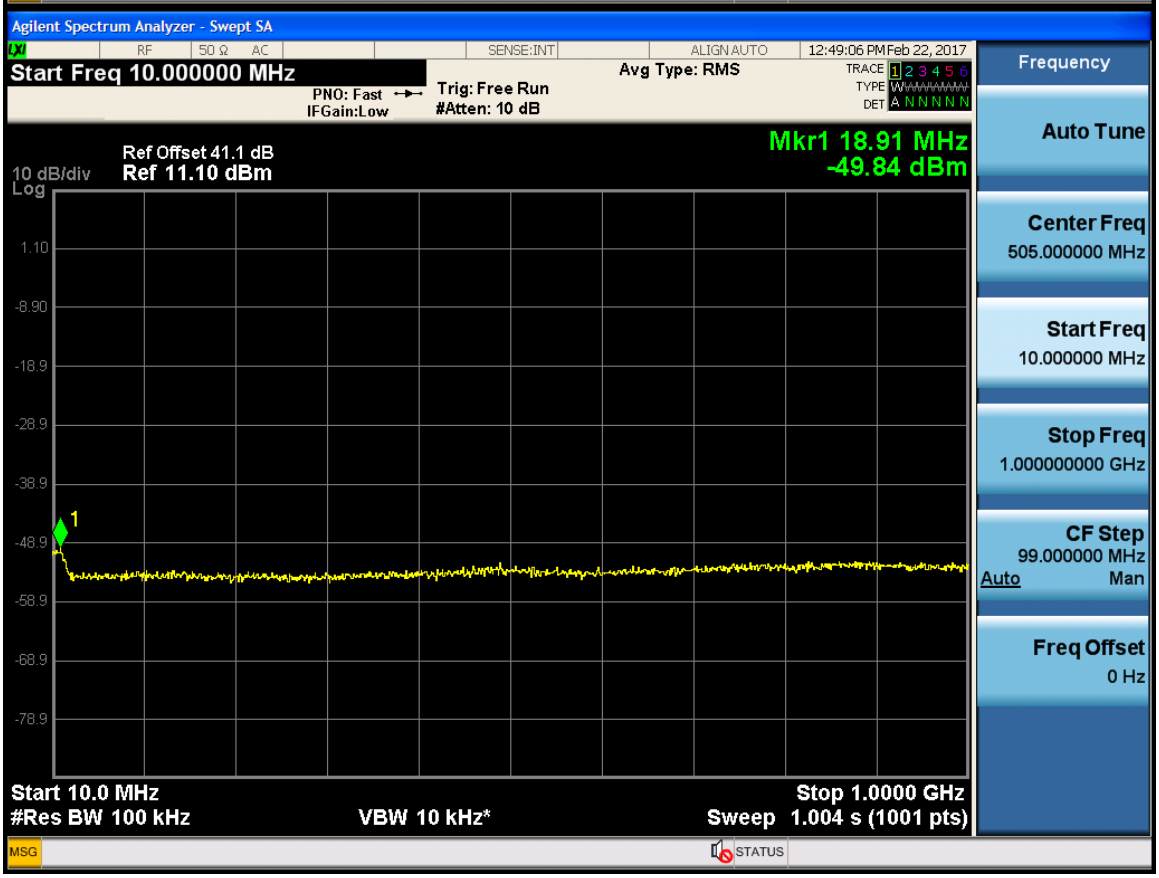

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:20:37 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Ref Offset 40 dB
10 dB/div
Ref 40.00 dBm
Log
Mkr1 349 kHz
-47.45 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
1
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
MSG
STATUS
DC Coupled
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

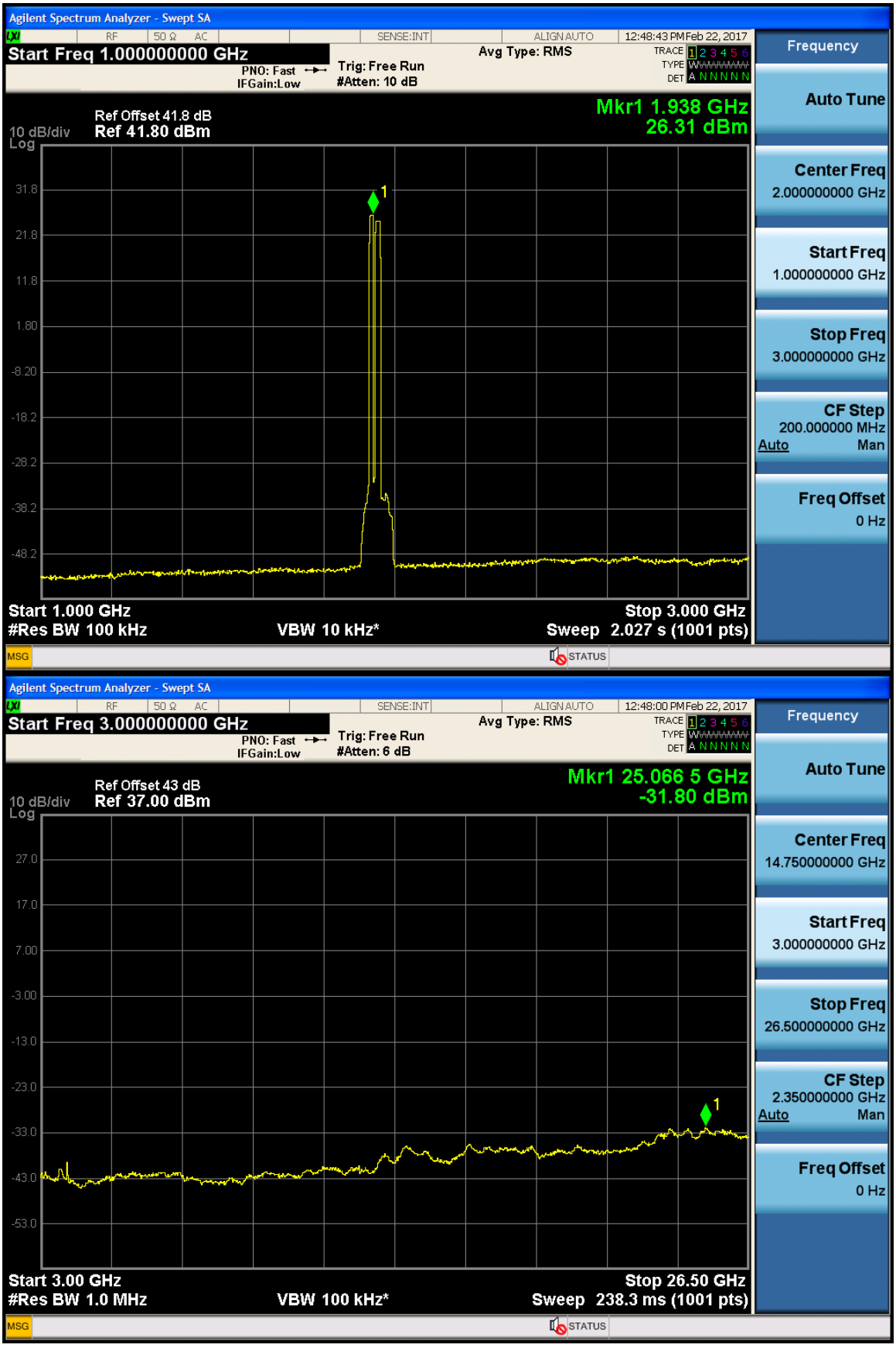

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:21:51 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Log
Mkr1 19.90 MHz
-49.53 dBm
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
1
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



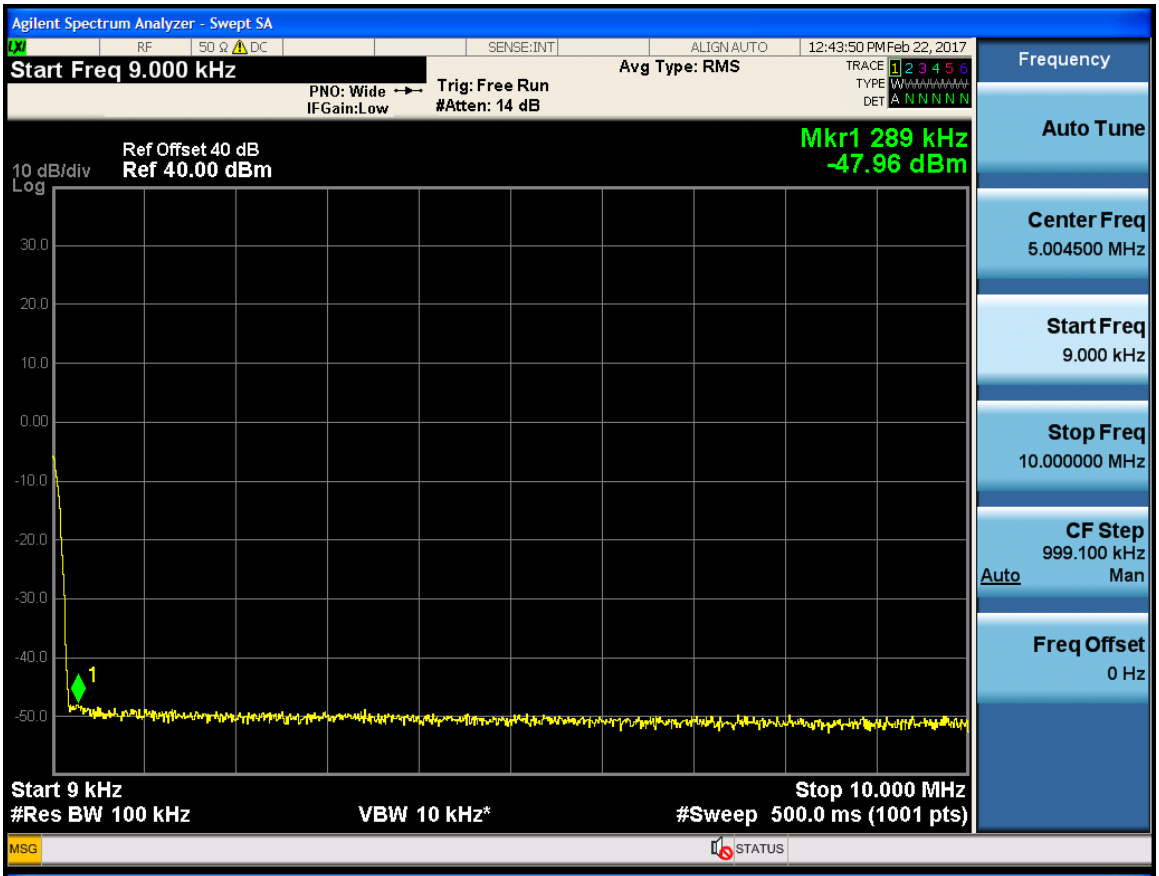
RF 30M (LTE 10M+LTE 15M) -Port 4 -1945MHz

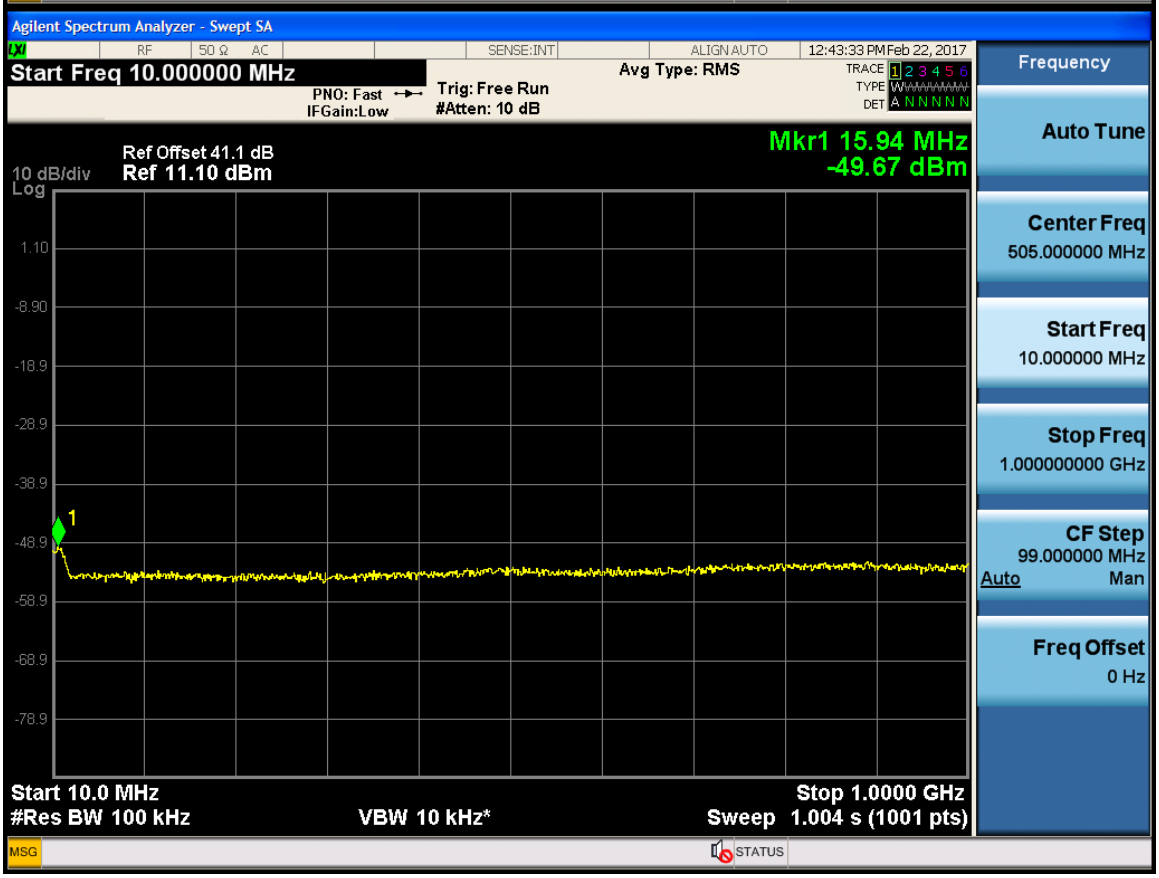

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:49:25 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 349 kHz
-48.12 dBm
Ref Offset 40 dB
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
1
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

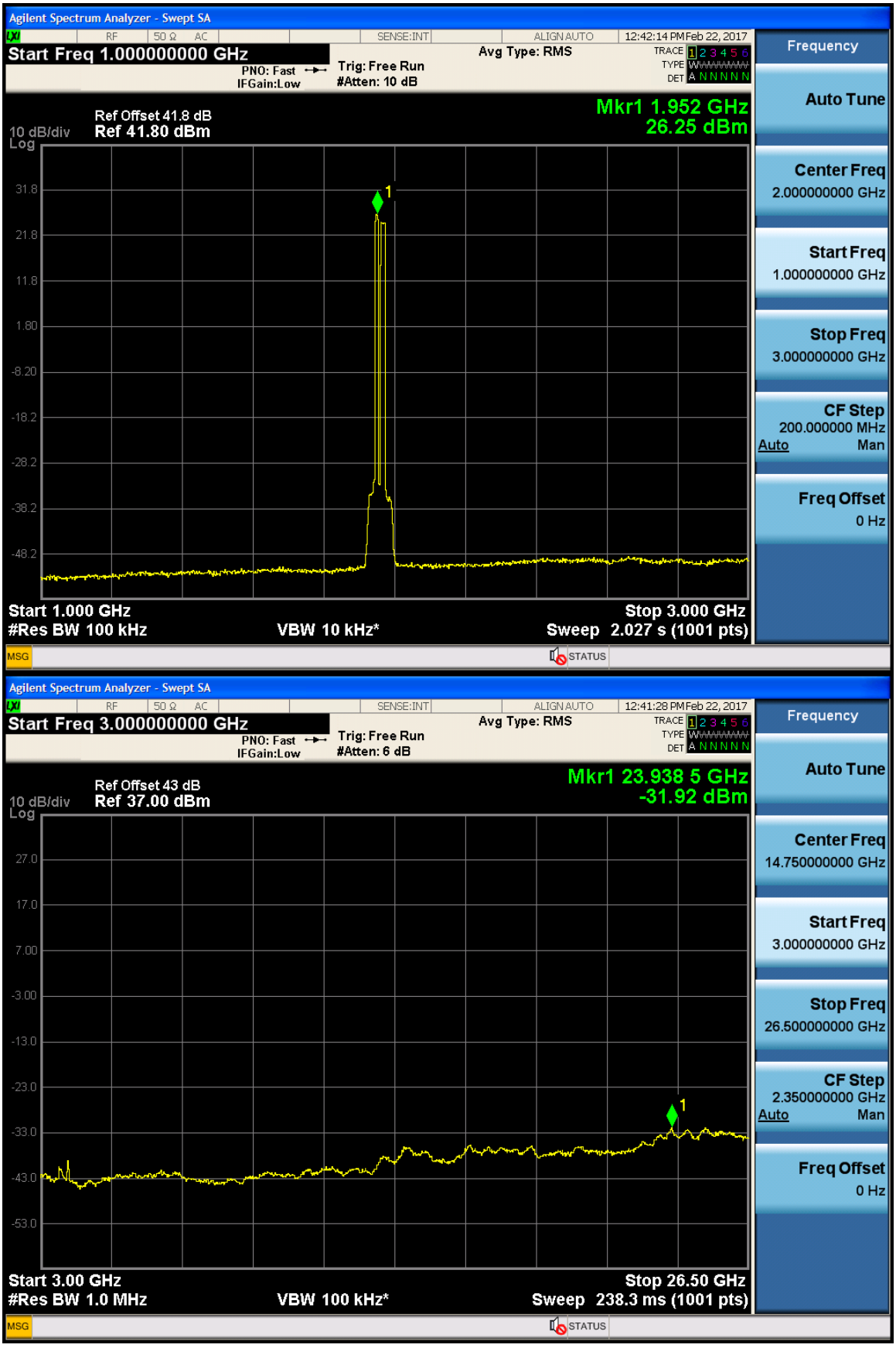

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:49:06 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 18.91 MHz
-49.84 dBm
Ref Offset 41.1 dB
10 dB/div
Log
Ref 11.10 dBm
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
1
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS



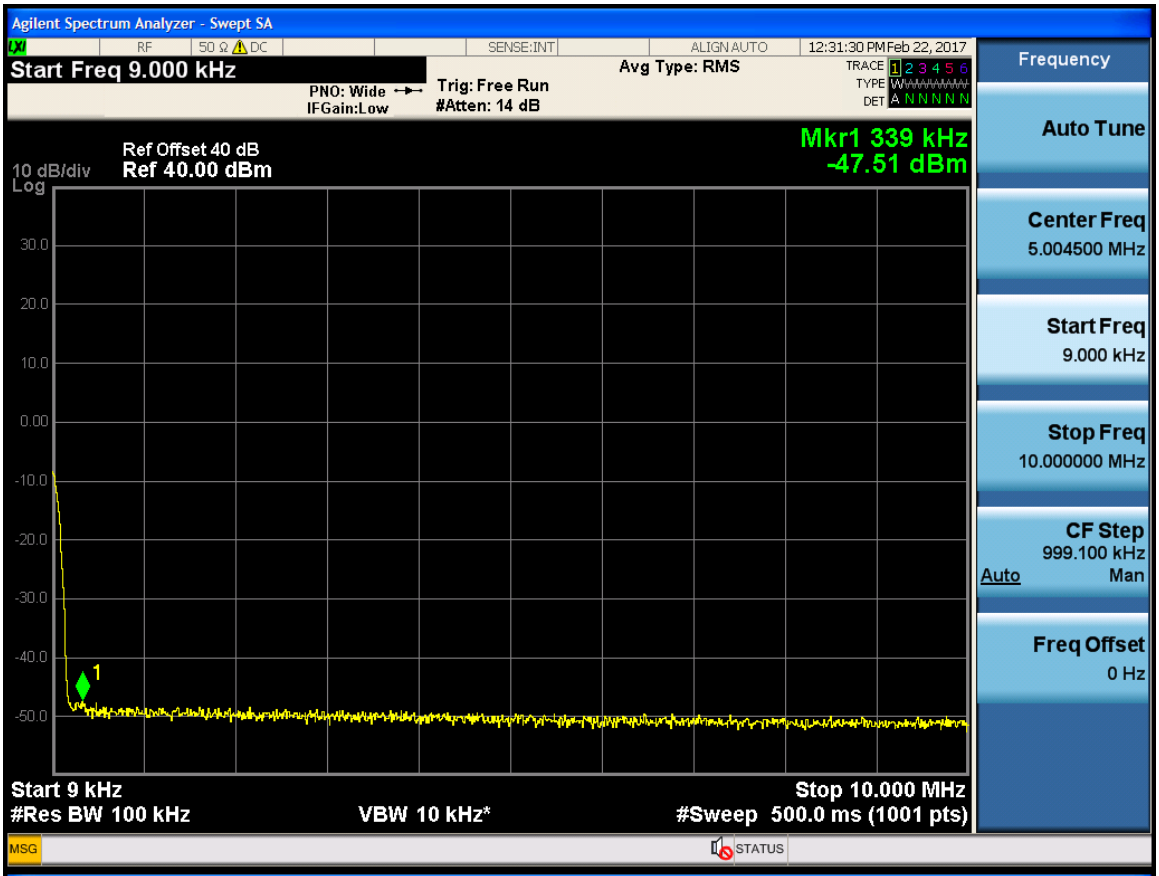
RF 30M (LTE 10M+LTE 15M) -Port 4 -1960MHz

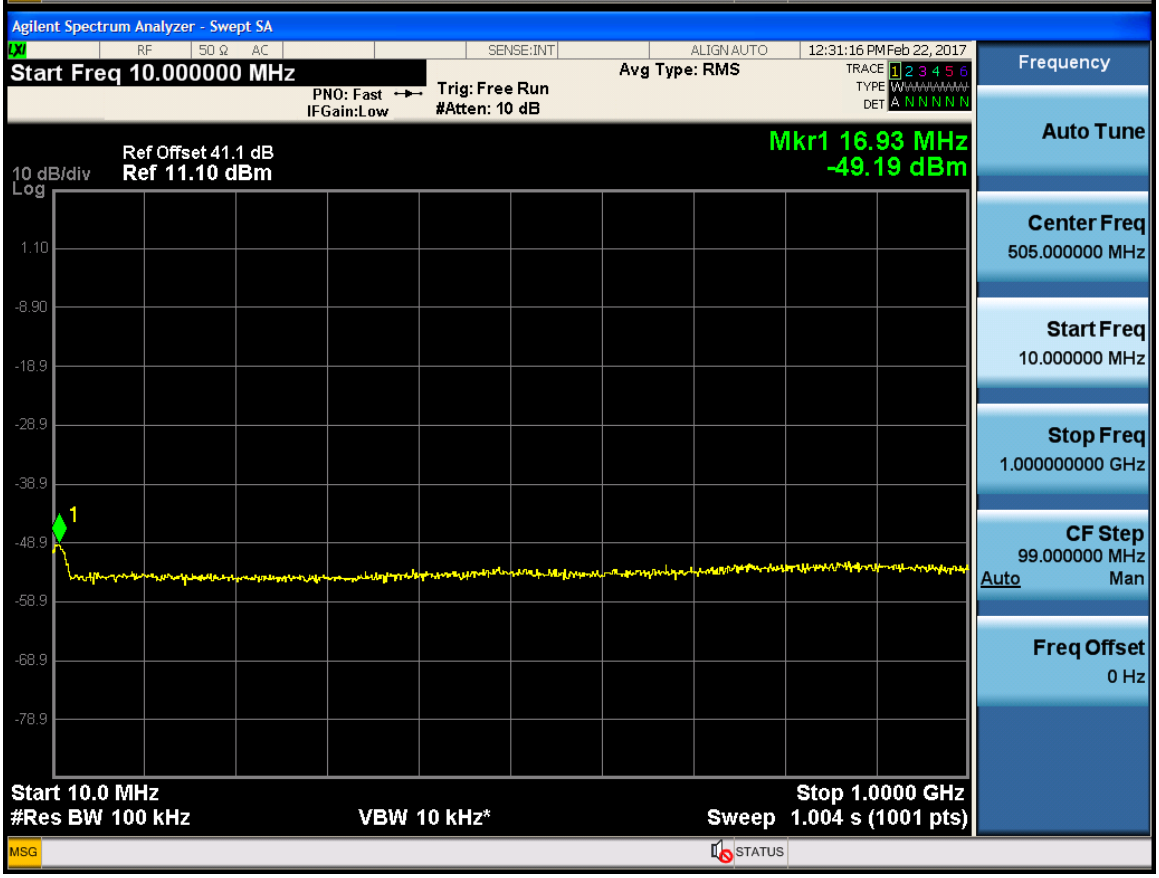

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:43:50 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 289 kHz
-47.96 dBm
Ref Offset 40 dB
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
1
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz

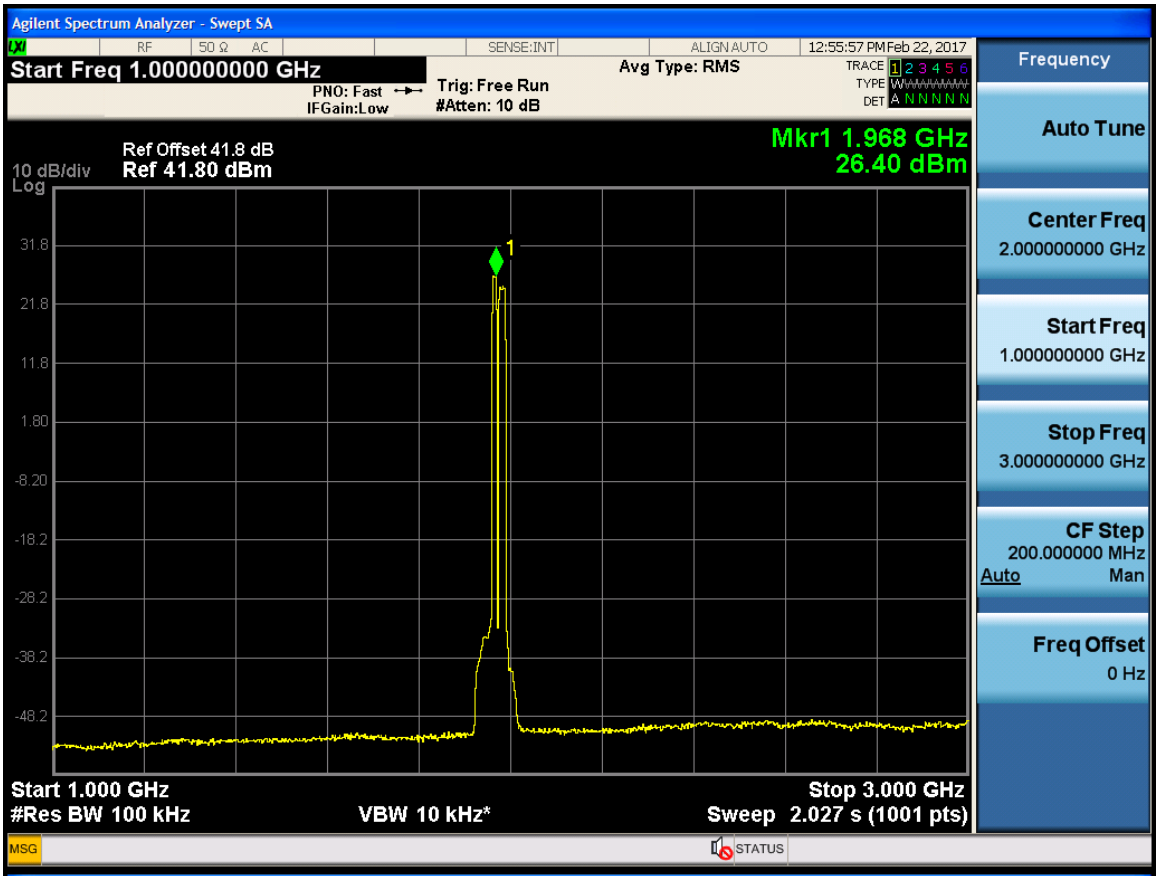

Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:43:33 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W
DET A N N N N N
Mkr1 15.94 MHz
-49.67 dBm
Ref Offset 41.1 dB
10 dB/div
Log
Ref 11.10 dBm
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
1
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz



RF 30M (LTE 10M+LTE 15M) -Port 4 -1975MHz


Agilent Spectrum Analyzer - Swept SA
RF 50 Ω DC
SENSE:INT
ALIGN AUTO
12:31:30 PM Feb 22, 2017
Start Freq 9.000 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 14 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 339 kHz
-47.51 dBm
Ref Offset 40 dB
10 dB/div
Ref 40.00 dBm
Log
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
1
Start 9 kHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 10.000 MHz
#Sweep 500.0 ms (1001 pts)
Frequency
Auto Tune
Center Freq
5.004500 MHz
Start Freq
9.000 kHz
Stop Freq
10.000000 MHz
CF Step
999.100 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:31:16 PM Feb 22, 2017
Start Freq 10.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 16.93 MHz
-49.19 dBm
Ref Offset 41.1 dB
10 dB/div
Ref 11.10 dBm
Log
1.10
-8.90
-18.9
-28.9
-38.9
-48.9
-58.9
-68.9
-78.9
1
Start 10.0 MHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 1.0000 GHz
Sweep 1.004 s (1001 pts)
Frequency
Auto Tune
Center Freq
505.000000 MHz
Start Freq
10.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
99.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:55:57 PM Feb 22, 2017
Start Freq 1.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 10 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 1.968 GHz
26.40 dBm
Ref Offset 41.8 dB
10 dB/div
Log
Ref 41.80 dBm
31.8
21.8
11.8
1.80
-8.20
-18.2
-28.2
-38.2
-48.2
Start 1.000 GHz
#Res BW 100 kHz
VBW 10 kHz*
Stop 3.000 GHz
Sweep 2.027 s (1001 pts)
Frequency
Auto Tune
Center Freq
2.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
3.000000000 GHz
CF Step
200.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
12:29:24 PM Feb 22, 2017
Start Freq 3.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 6 dB
Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE W WWWWW
DET A N N N N N
Mkr1 23.915 0 GHz
-32.03 dBm
Ref Offset 43 dB
10 dB/div
Log
Ref 37.00 dBm
27.0
17.0
7.00
-3.00
-13.0
-23.0
-33.0
-43.0
-53.0
Start 3.00 GHz
#Res BW 1.0 MHz
VBW 100 kHz*
Stop 26.50 GHz
Sweep 238.3 ms (1001 pts)
Frequency
Auto Tune
Center Freq
14.750000000 GHz
Start Freq
3.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.350000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

11 OCCUPIED BANDWIDTH

11.1 Applicable Standard: FCC §2.1049

11.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9030A	MY49431143	2016.09.12	2017.09.12
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2016.09.12	2017.09.12

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

11.3 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.

11.4 Environmental Conditions

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

11.5 Test Result: Pass

11.6 Test Mode: Transmitting LTE

11.7 Test Data

RF Bandwidth :IBW 40M(LTE 20M+LTE 20M)

Port	RF Center Freq. (MHz)	99% Power Bandwidth (MHz)	Limit (MHz)
1	1950	37.629	40M
	1960	37.656	40M
	1970	37.657	40M
4	1950	37.673	40M
	1960	37.636	40M
	1970	37.644	40M

Channel Bandwidth : LTE 20M+LTE 20M (IBW 40M)

Port	RF Center Freq. (MHz)	LTE Center Freq. (MHz)	99% Power Bandwidth (MHz)	Limit (MHz)
1	1950	1940	17.831	20M
		1960	17.836	20M
	1960	1950	17.827	20M
		1970	17.839	20M