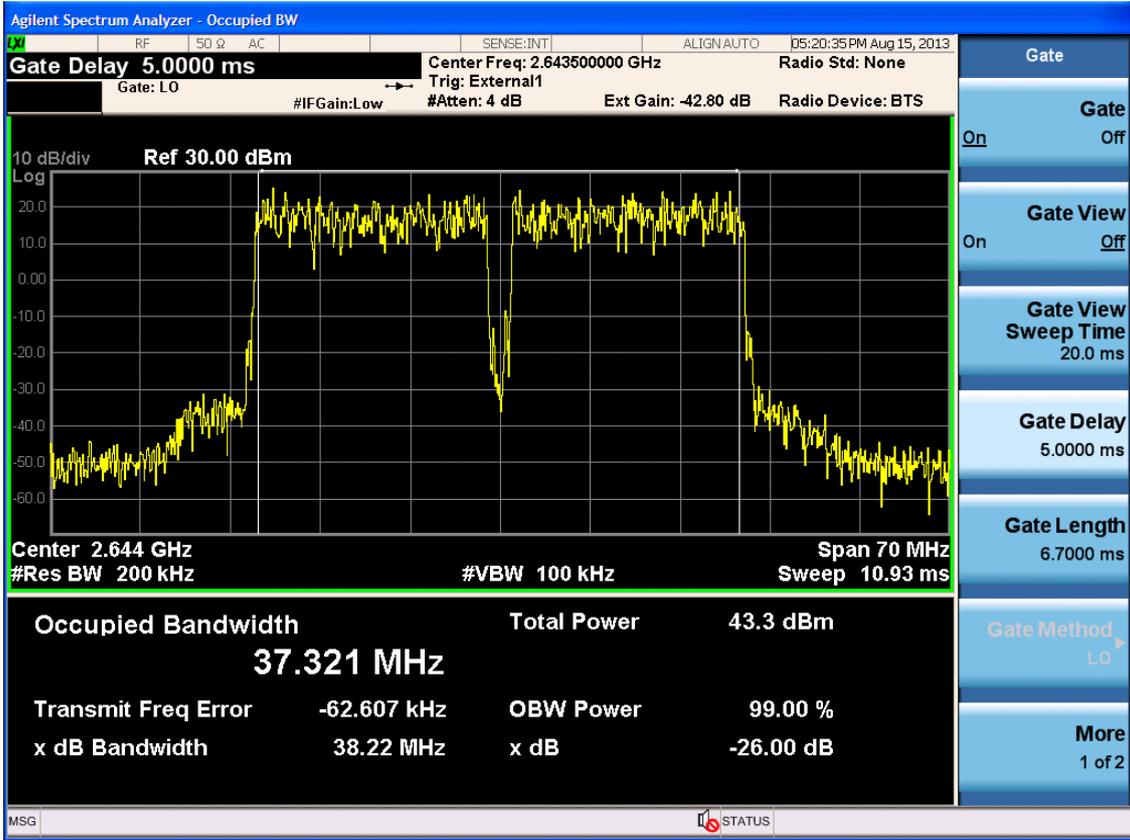
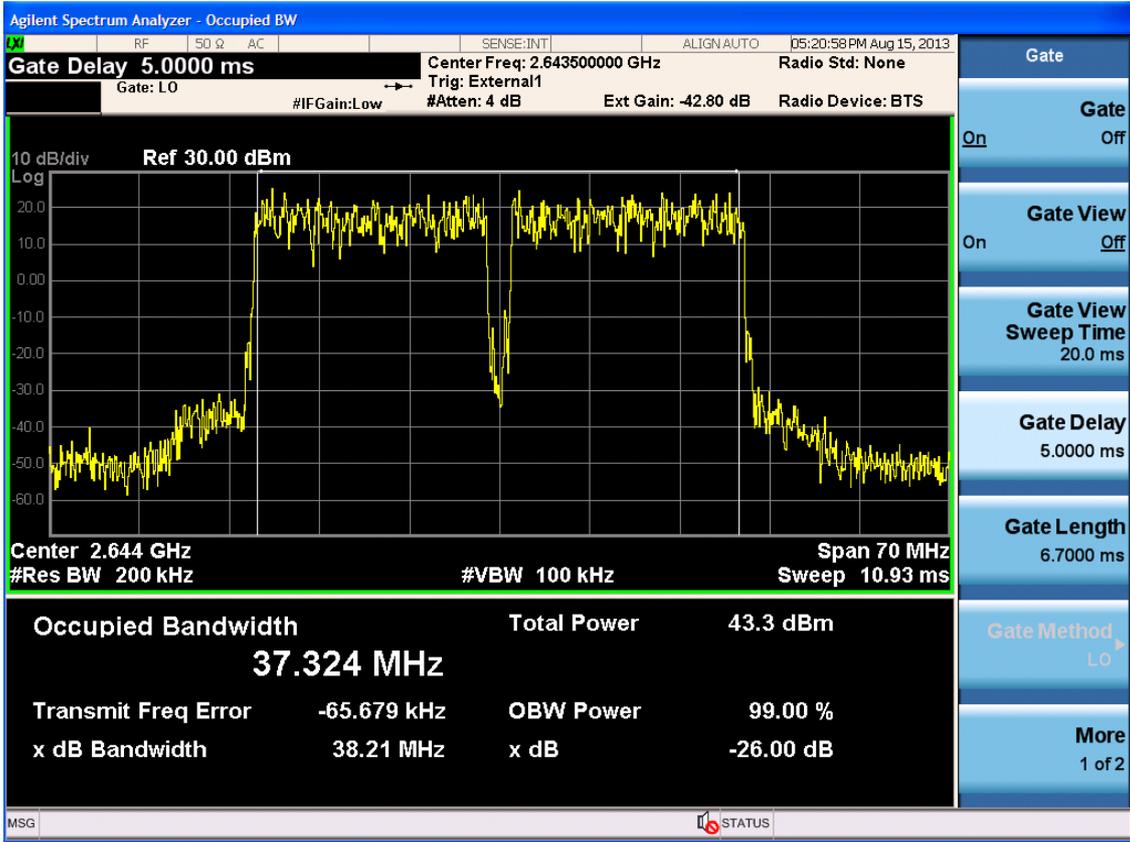


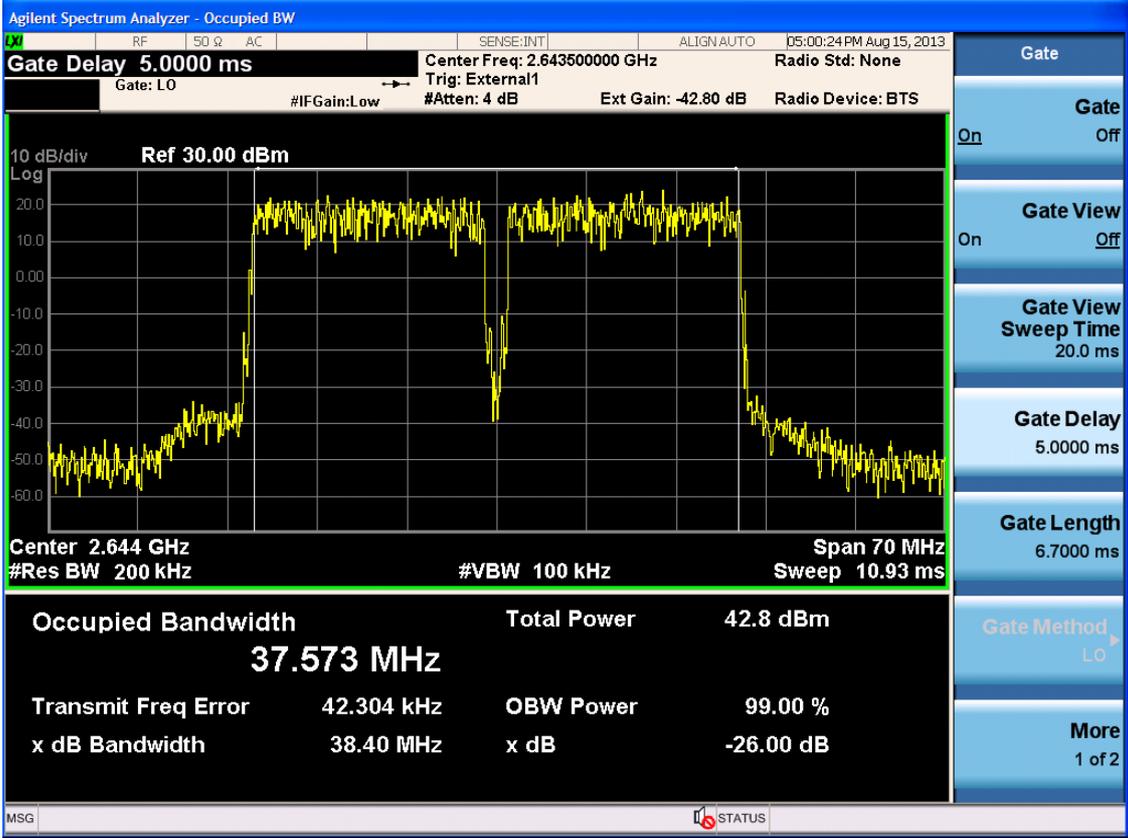
20M+20M-2633.5+2653.5MHz -16QAM-Port2



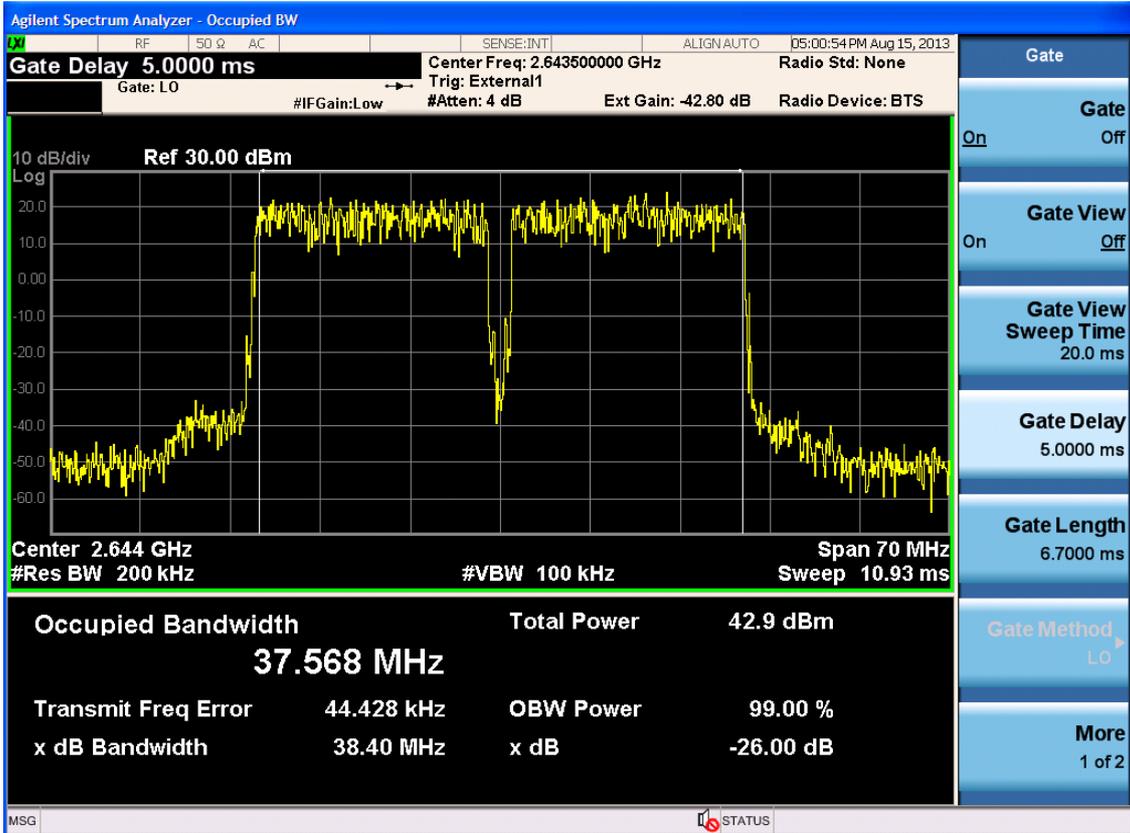
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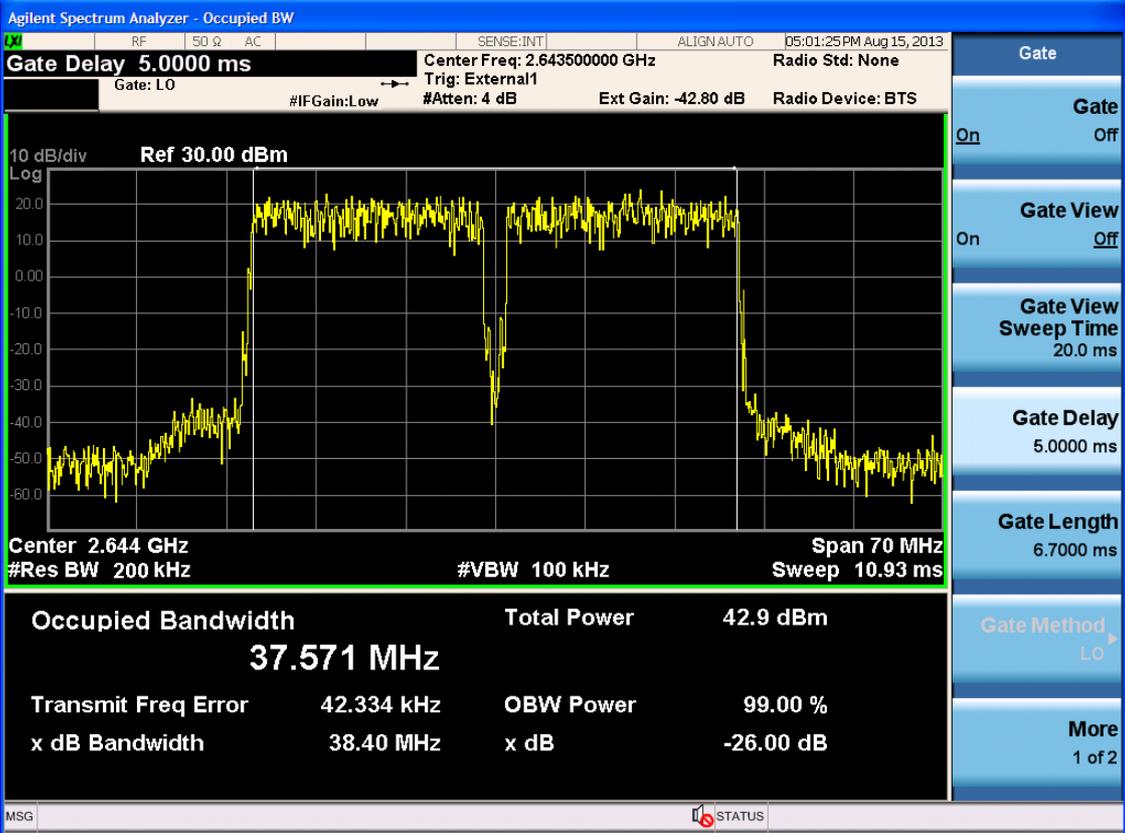
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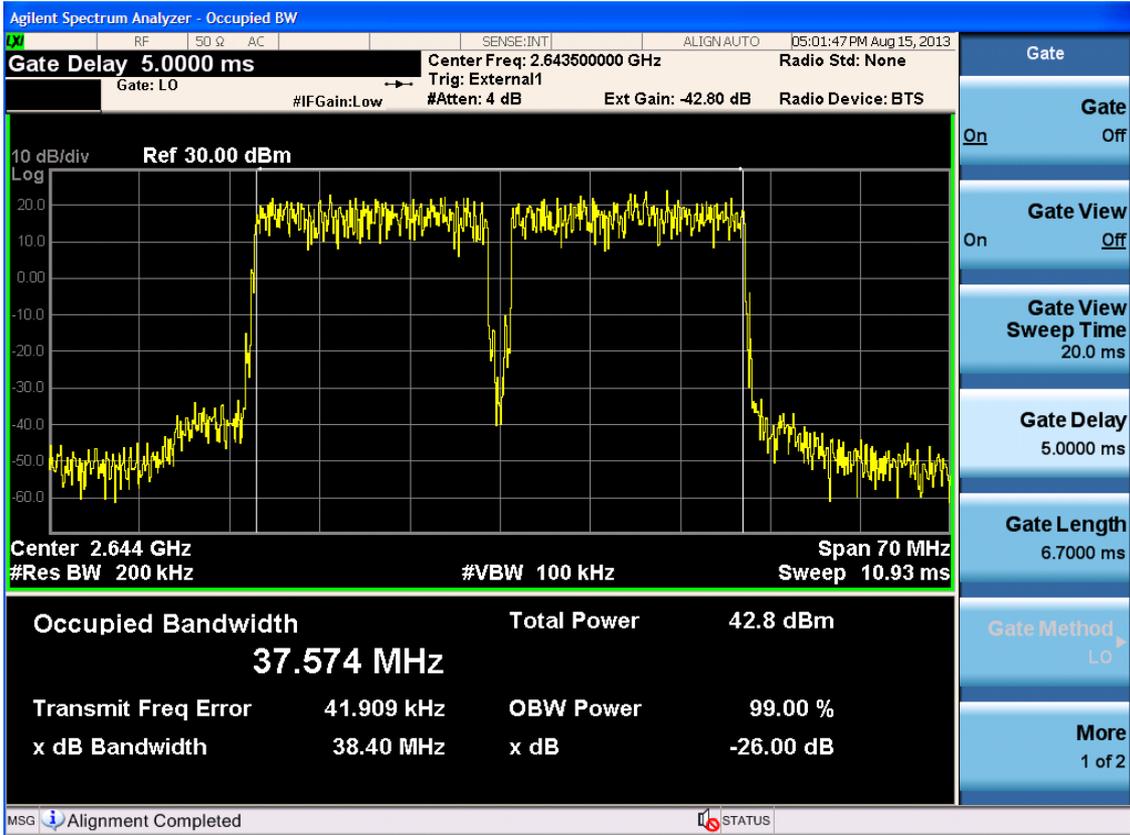
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20M+20M-2633.5+2653.5MHz -64QAM-Port2



20M+20M-2633.5+2653.5MHz -64QAM-Port3



20M+20M-2633.5+2653.5MHz -64QAM-Port4

# 7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Applicable Standard:** FCC§2.1051, §27.53

For digital base stations, the attenuation shall be not less than  $43+10\log(P)$  dB, unless a documented interference complaint is received from an adjacent channel licensee with an overlapping Geographic Service Area. Mobile Satellite Service licensees operating on frequencies below 2495MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS No.1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Provided applicable deadline, then the following additional attenuation requirements shall apply.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in §2.1051.

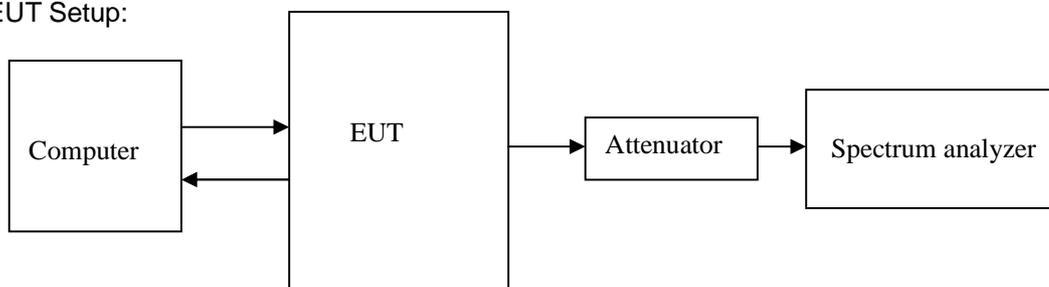
## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY49100675	2012.12.20	2013.12.20
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2012.09.26	2013.09.26

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

## Test Procedure

EUT Setup:





FCC ID: Q78-R8964S2600

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

Sufficient scans were taken to show any out of band emissions up to 10th harmonic. For 9KHz~30MHz, measurement is carried out at a lower RBW and the worst case test result is converted to 1 MHz RBW data by addition of the factor: 10 log (RBW1/RBW2).

### Test Data Environmental Conditions

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

**Test Result:** Pass

**Test Mode:** Transmitting LTE

### Test Data:

Channel Bandwidth: 20M (1 port)(9K-30M)

Port	Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)					
		QPSK		16QAM		64QAM	
		9k-150k	150k-30M	9k-150k	150k-30M	9k-150k	150k-30M
1	2633.5	-45.36	-54.34	-45.96	-53.06	-45.46	-54.88
	2643.5	-45.71	-55.19	-45.73	-55.11	-46.13	-54.38
	2653.5	-46.94	-54.7	-45.52	-53.42	-45.42	-54.75
2	2633.5	-46.34	-56.21	-46.22	-54.94	-45.33	-52.9

Port	Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)					
		QPSK		16QAM		64QAM	
		9k-150k	150k-30M	9k-150k	150k-30M	9k-150k	150k-30M
	2643.5	-45.38	-53.52	-46.47	-54.51	-46.24	-54.27
	2653.5	-46.9	-55.46	-46.37	-54.58	-46.04	-55.21
3	2633.5	-46.21	-54.79	-44.41	-56.1	-44.52	-54.3
	2643.5	-46.92	-54.86	-46.47	-55.76	-47.41	-55.16
	2653.5	-44.02	-54.66	-45.53	-55.58	-45.37	-55.01
4	2633.5	-46.6	-52.97	-46.04	-56.1	-46.15	-54.3
	2643.5	-45.78	-54.28	-46	-55.24	-46.69	-54.11
	2653.5	-44.19	-51.78	-45.5	-56.2	-45.04	-54.77

Channel Bandwidth: 20M (1 port)( 30M-26.5G)

Port	Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)								
		QPSK			16QAM			64QAM		
		30M-15 G	15G-2 6.5G	Band Edge	30M-15 G	15G-26. 5G	Band Edge	30M-15 G	15G-26. 5G	Band Edge
1	2633.5	-34.27	-27.05	-30.51	-34.19	-25.67	-28.3	-33.55	-26.19	-28.26
	2643.5	-33.87	-25.94	-29.28	-33.64	-25.93	-26.64	-34.1	-26.59	-29.04
	2653.5	-33.88	-26.92	-29.45	-33.53	-26.59	-27.89	-34.27	-26.81	-28.03
2	2633.5	-34.77	-27.28	-29.96	-34.06	-26.59	-30.1	-34	-26.6	-30.06
	2643.5	-34.27	-26.49	-29.52	-34.55	-26.46	-28.76	-33.52	-26.49	-28.84
	2653.5	-34.5	-26.49	-29.39	-34	-26.54	-27.91	-33.93	-26.98	-27.92
3	2633.5	-34.85	-27.63	-30.26	-34.06	-27.04	-29.75	-34.37	-26.43	-29.23
	2643.5	-33.81	-26.79	-29.16	-33.9	-26.65	-28.27	-34.17	-27.11	-29.37
	2653.5	-34.3	-26.9	-30.09	-33.57	-26.55	-28.09	-34.3	-26.72	-28.48
4	2633.5	-34.55	-27.52	-29.7	-34.28	-26.75	-29.92	-33.58	-26.48	-29.62
	2643.5	-34.86	-26.71	-29.67	-34.23	-26.58	-27.86	-34.69	-26.73	-29.43
	2653.5	-33.96	-27.04	-27.37	-34.6	-26.63	-28.17	-33.83	-26.49	-28.16

Channel Bandwidth: 20M (4 ports)(9k-30M)

Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)						Req.
	QPSK		16QAM		64QAM		
	9k-150k	150k-30M	9k-150k	150k-30M	9k-150k	150k-30M	
2633.5	-40.08	-48.4	-39.57	-48.84	-39.31	-48.01	<-13
2643.5	-39.89	-48.39	-40.14	-49.11	-40.57	-48.44	<-13
2653.5	-39.27	-47.88	-39.69	-48.79	-39.43	-48.91	<-13

Channel Bandwidth: 20M (4 ports) ( 30M-26.5G)

Carrier Freq. (MHz)	Spurious Emissions									Req.
	QPSK			16QAM			64QAM			
	30M-15G	15G-26.5G	Band Edge	30M-15G	15G-26.5G	Band Edge	30M-15G	15G-26.5G	Band Edge	
2633.5	-28.6	-21.3	-24.1	-28.1	-20.5	-23.4	-27.8	-20.4	-23.2	<-13
2643.5	-28.2	-20.4	-23.4	-28	-20.4	-21.8	-28.1	-20.7	-23.1	<-13
2653.5	-28.1	-20.8	-22.9	-27.9	-20.6	-22	-28.1	-20.7	-22.1	<-13

Channel Bandwidth: 20M+20M (1 port)(9k-30M)

Port	Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)					
		QPSK		16QAM		64QAM	
		9k-150k	150k-30M	9k-150k	150k-30M	9k-150k	150k-30M
1	2633.5+2653.5	-46.61	-53.85	-43.71	-55.26	-44.68	-54.47
2		-46.46	-53.28	-46.31	-56.69	-45.09	-53.51
3		-45.3	-55.47	-44.54	-53.5	-44.83	-54.92
4		-45.73	-54.5	-44.23	-55.45	-45.37	-55.43

Channel Bandwidth: 20M+20M (1 port)(30M-26.5G)

Port	Carrier Freq. (MHz)	Spurious Emissions(dBm/MHz)								
		QPSK			16QAM			64QAM		
		30M-15G	15G-26.5G	Band Edge	30M-15G	15G-26.5G	Band Edge	30M-15G	15G-26.5G	Band Edge
1	2633.5+2653.5	-33.96	-26.68	-28.92	-33.72	-26.41	-30.75	-33.98	-26.8	-30.32
2		-33.66	-26.62	-29.27	-34.55	-27.08	-30.55	-34.31	-26.3	-30.64
3		-34.03	-26.79	-29.55	-34.18	-27	-30.86	-34.91	-27	-30.72
4		-34.12	-27.18	-29.3	-34.36	-27	-30.39	-34.36	-26.7	-30.91

Channel Bandwidth: 20M+20M (4 ports) (9k-30M)

Carrier Freq. (MHz)	Spurious Emissions						Req.
	QPSK		16QAM		64QAM		
	30M-15G	15G-26.5G	30M-15G	15G-26.5G	30M-15G	15G-26.5G	
2633.5+2653.5	-39.97	-48.18	-38.57	-49.05	-38.96	-48.5	<-13

Channel Bandwidth: 20M+20M (4 ports) (30M-26.5G)

Carrier Freq. (MHz)	Spurious Emissions						Req.
	QPSK		16QAM		64QAM		

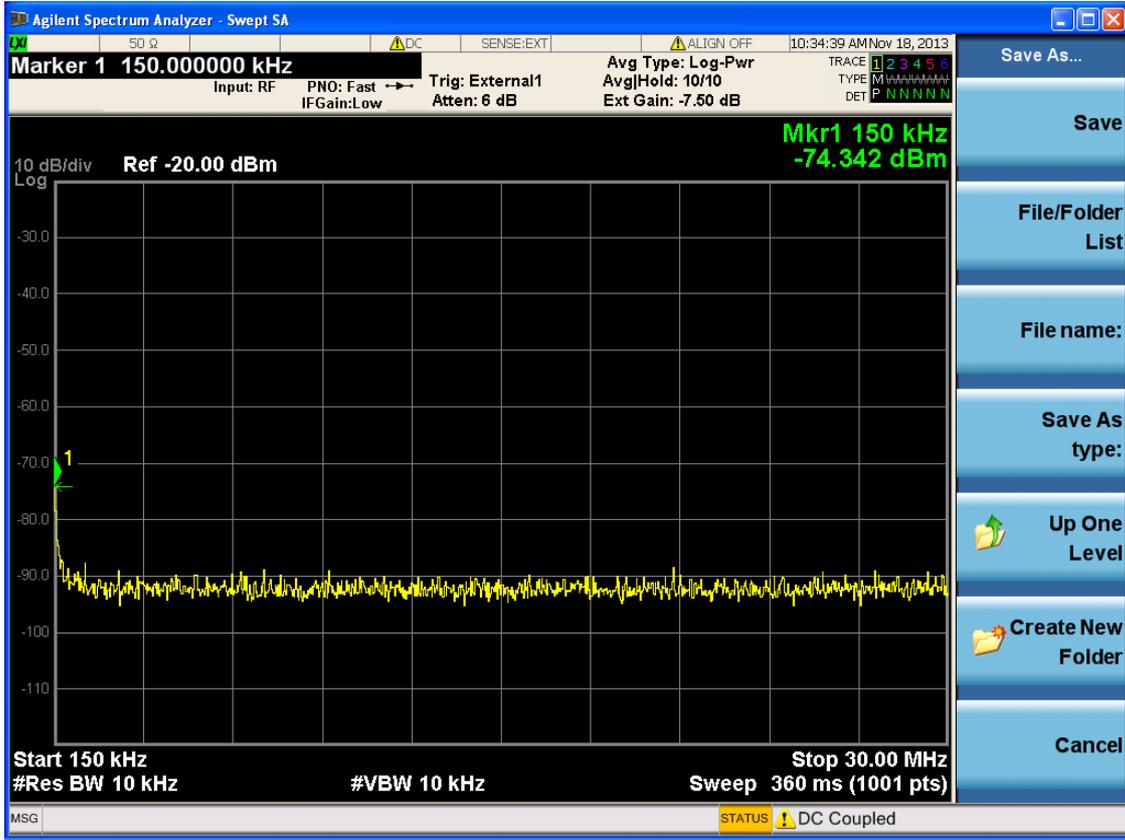


FCC ID: Q78-R8964S2600

	30M-15 G	15G-2 6.5G	Band Edge	30M-15 G	15G-2 6.5G	Band Edge	30M-15 G	15G-2 6.5G	Band Edge	
2633.5+265 3.5	-27.9	-20.8	-23.2	-28.2	-20.8	-24.6	-28.4	-20.7	-24.6	<-1 3



20M-2633.5MHz-QPSK-9k-Port1



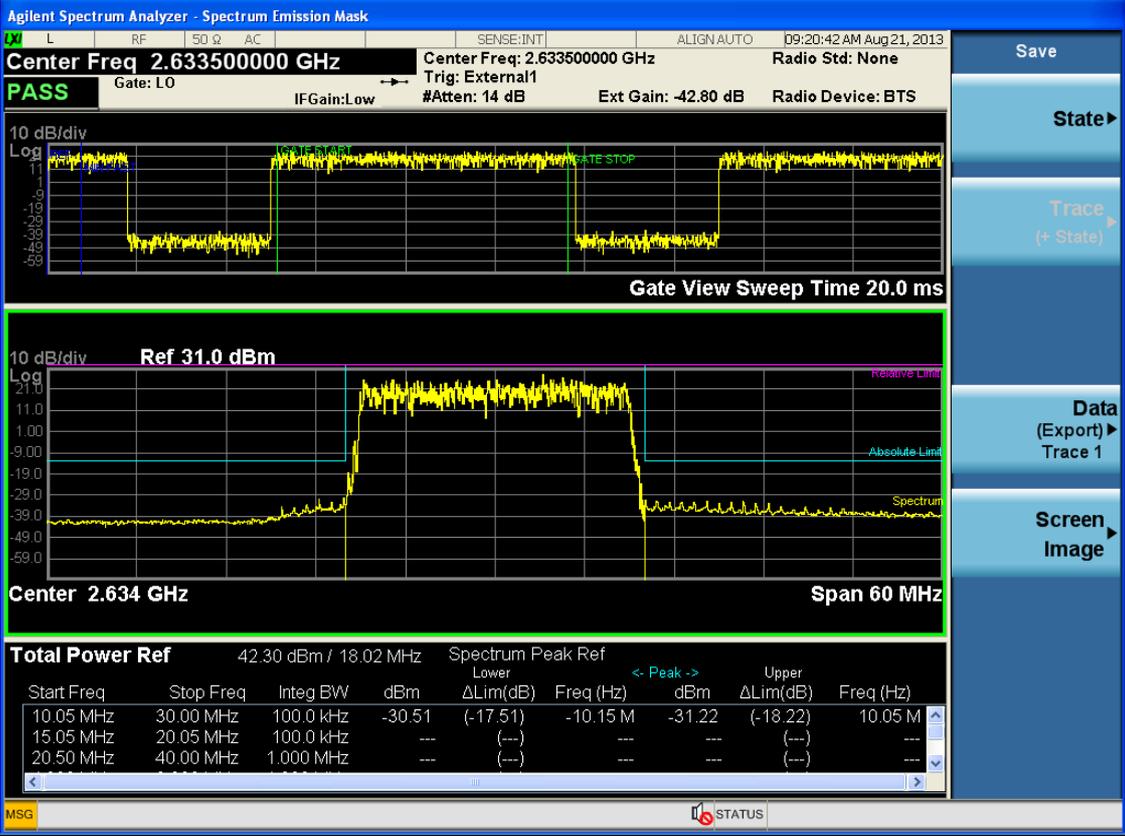
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20M-2633.5MHz-QPSK-30M-Port1



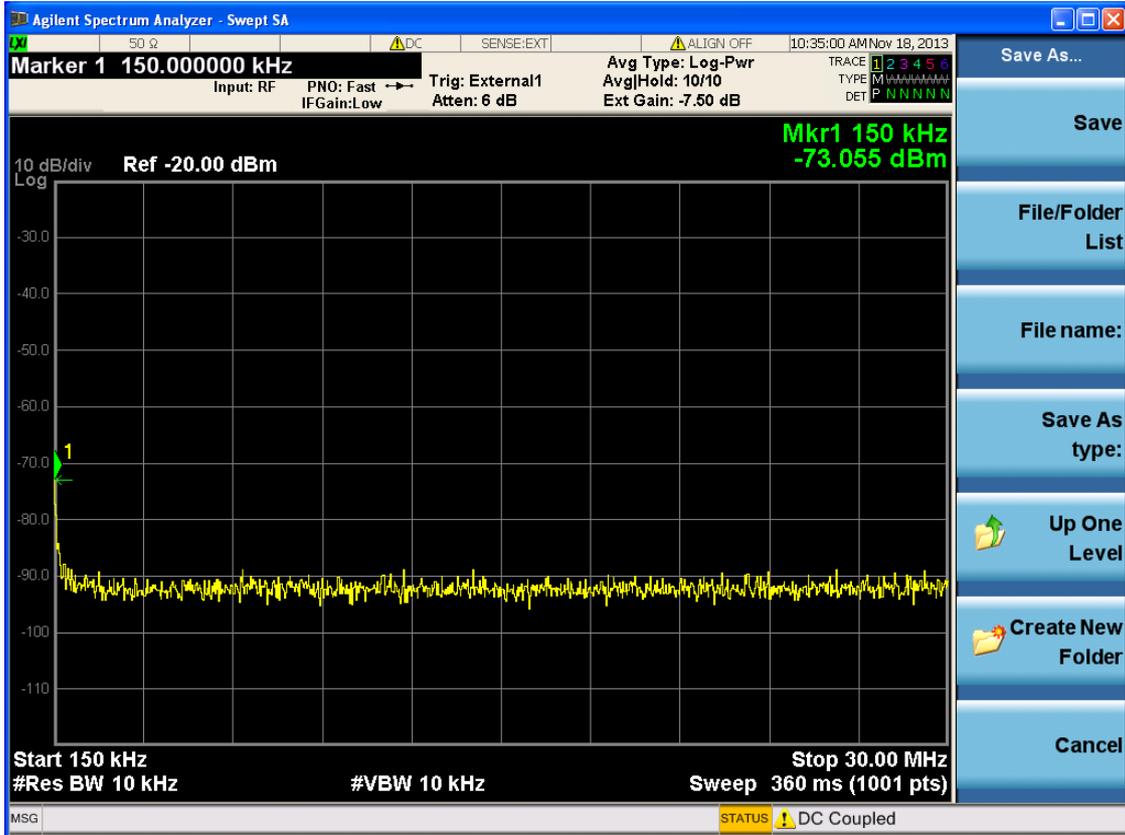
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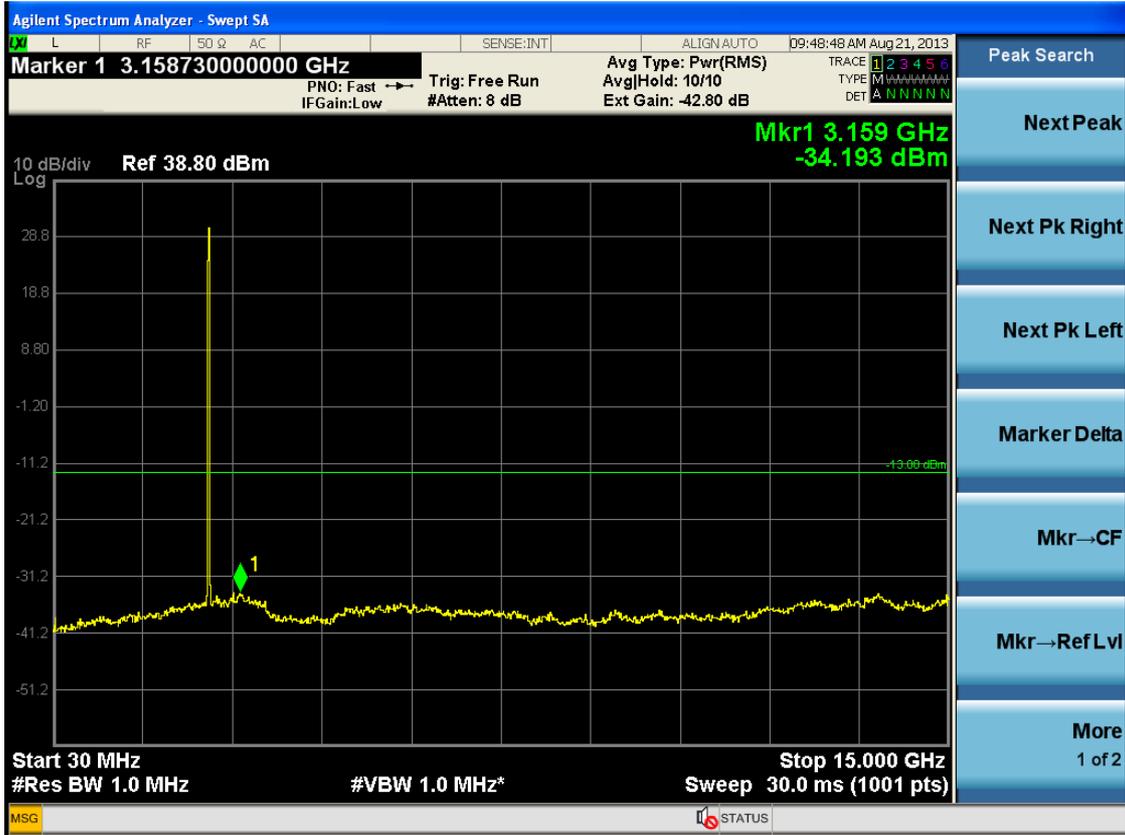
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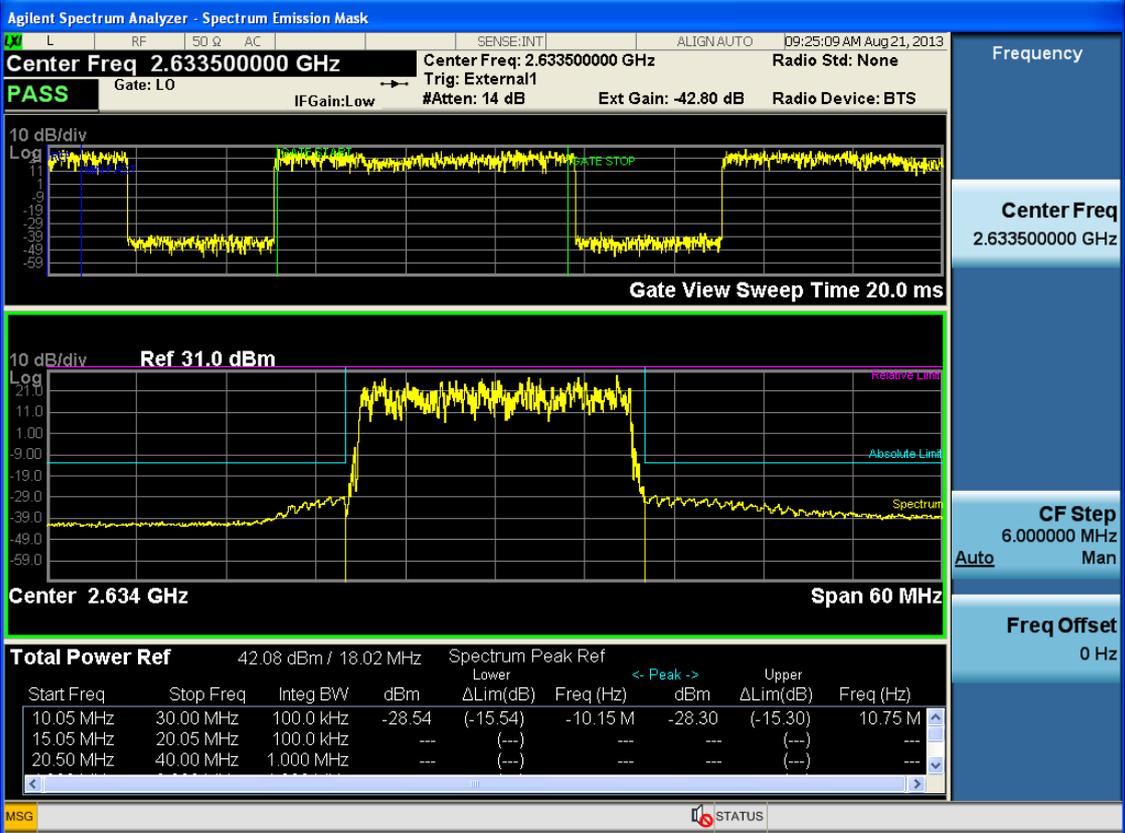
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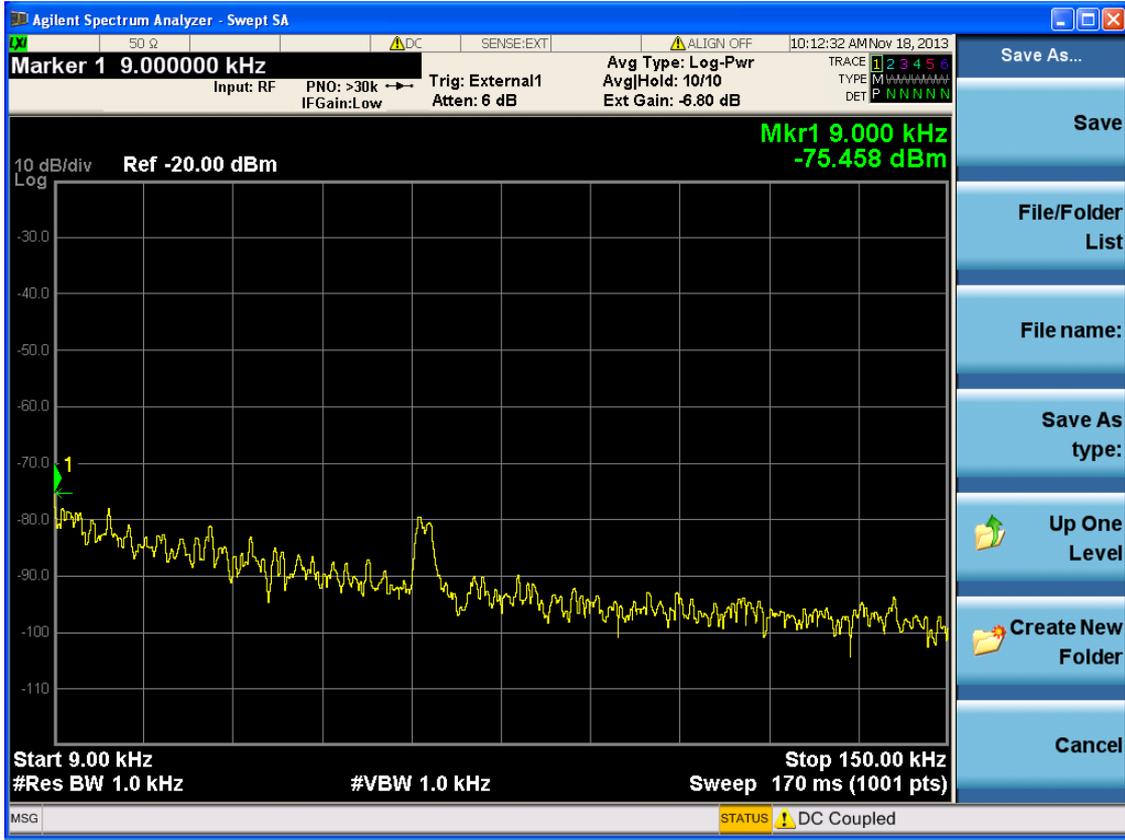
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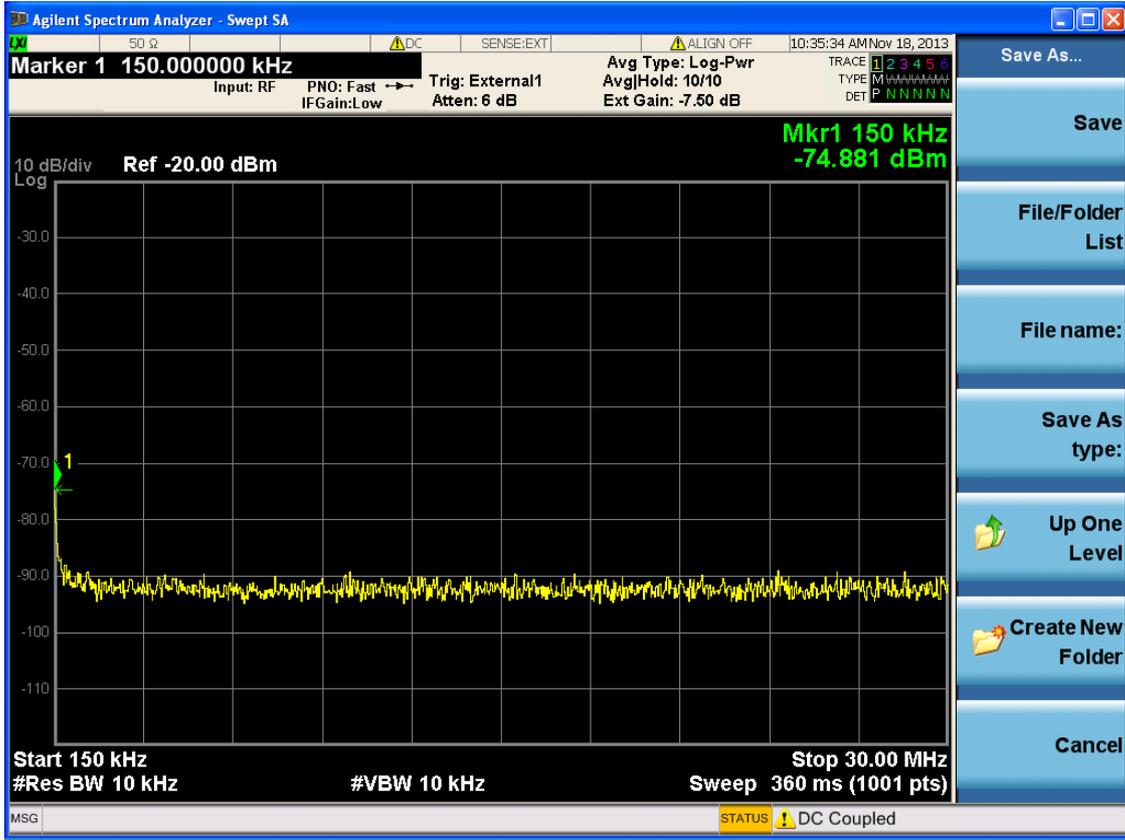
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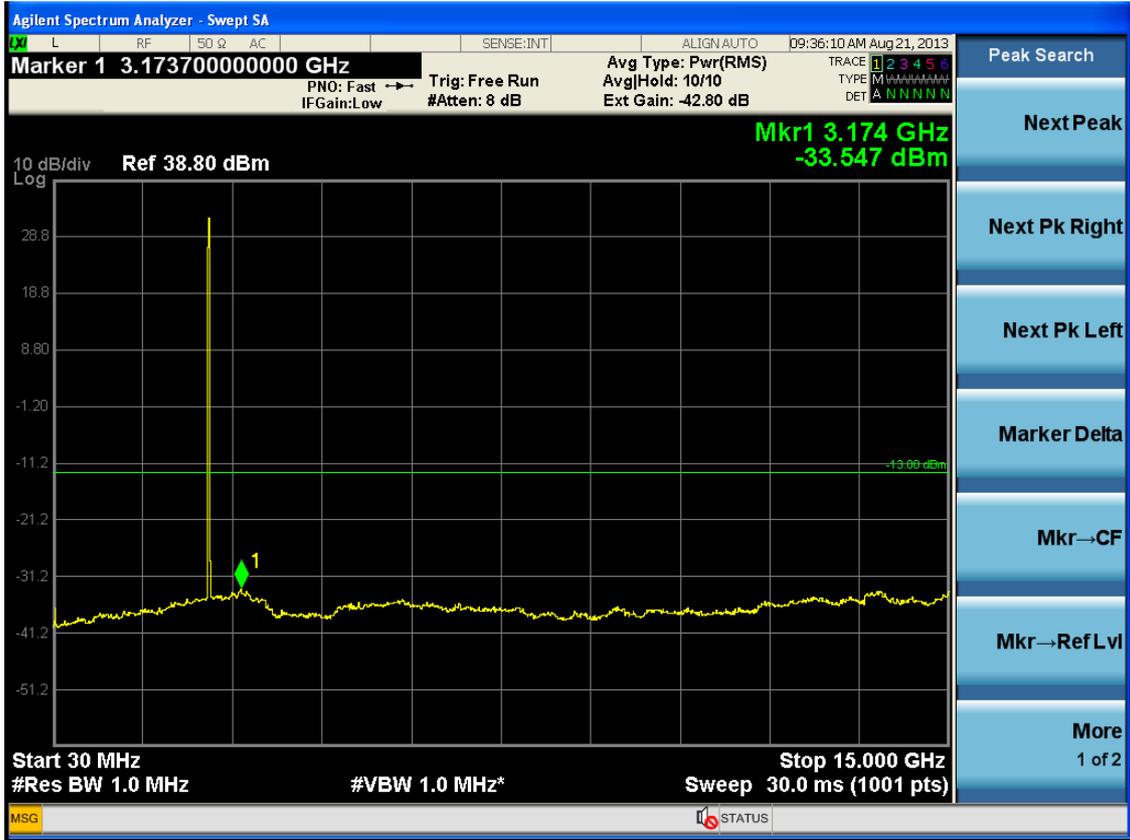
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20M-2633.5MHz-64QAM-9k-Port1



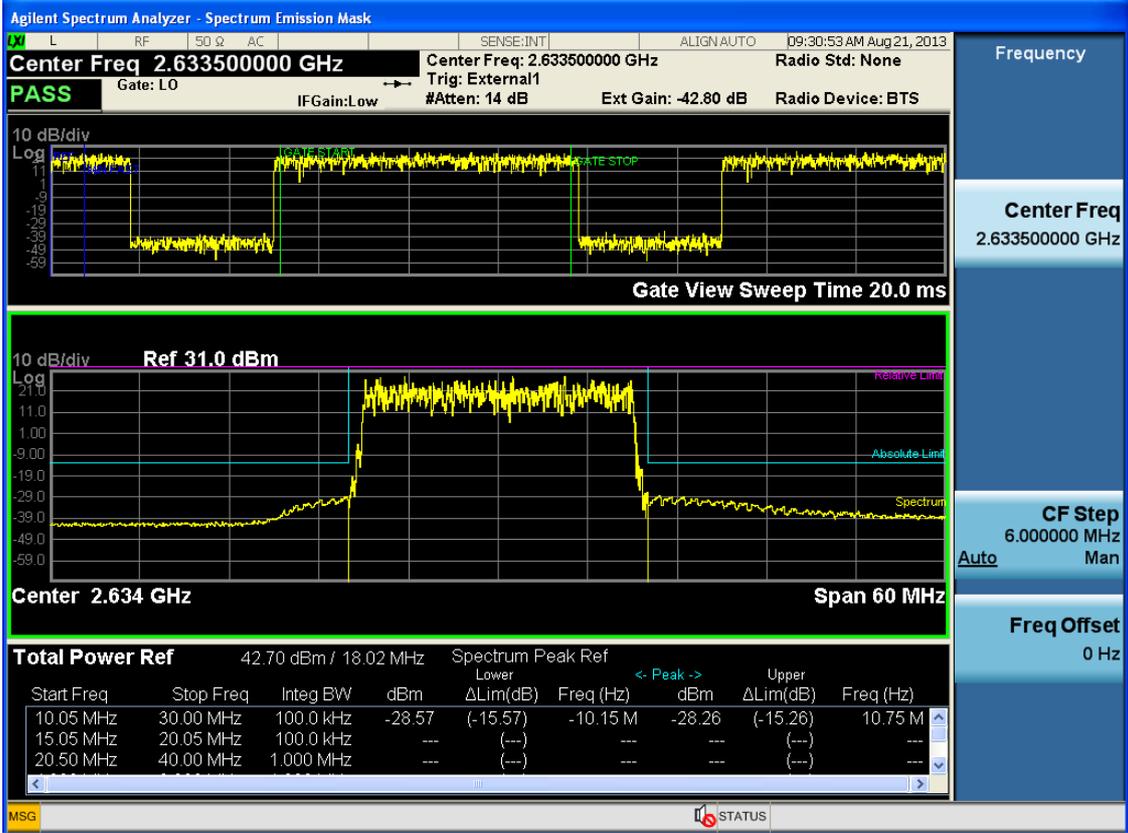
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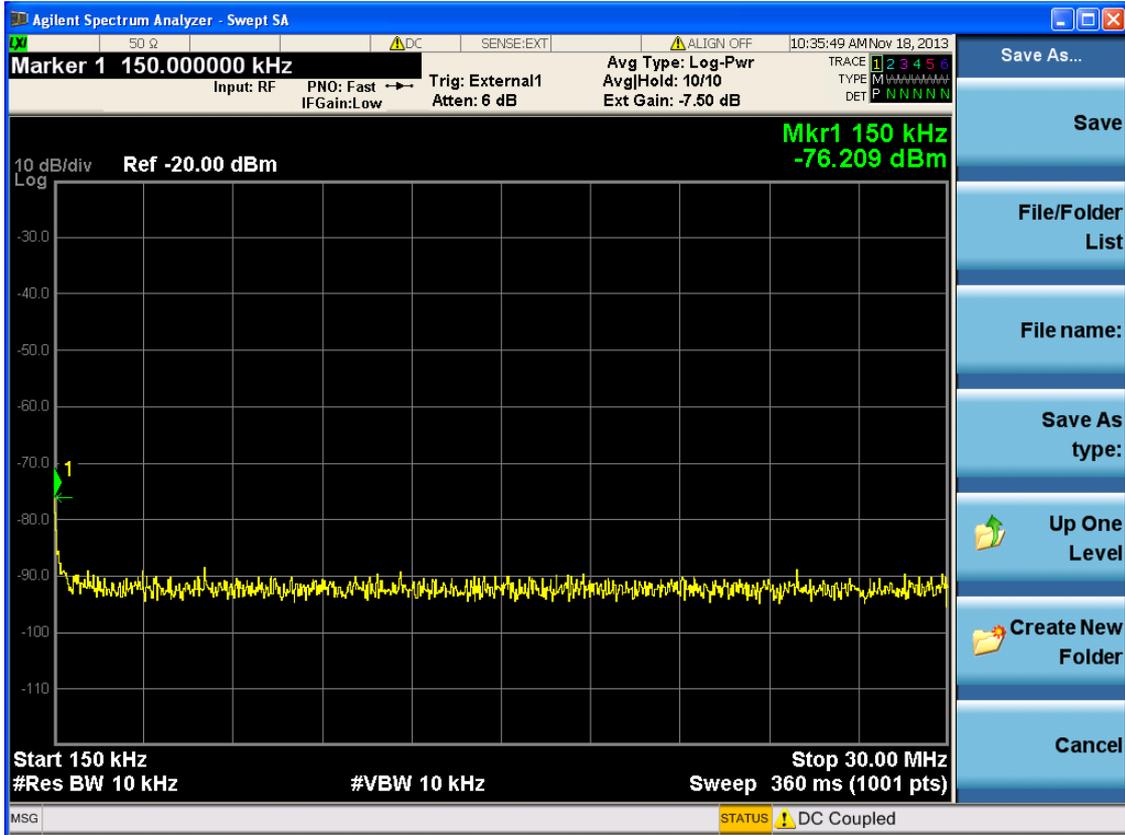
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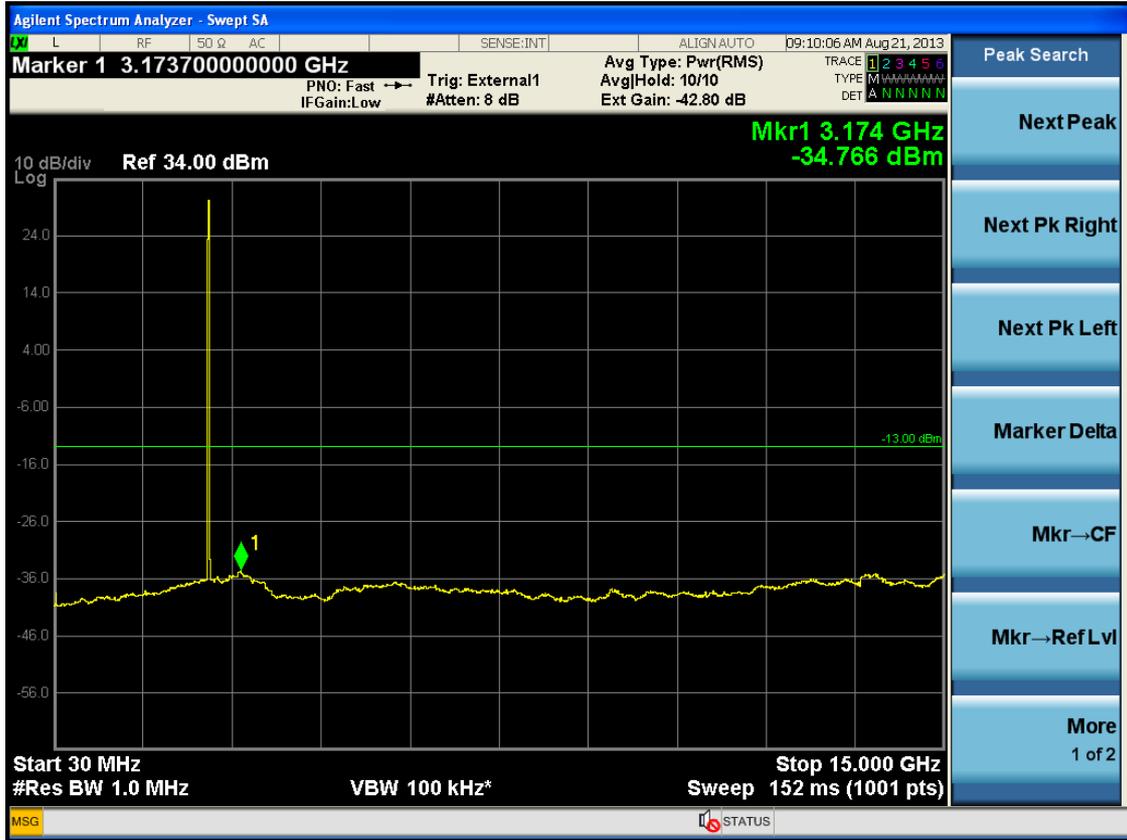
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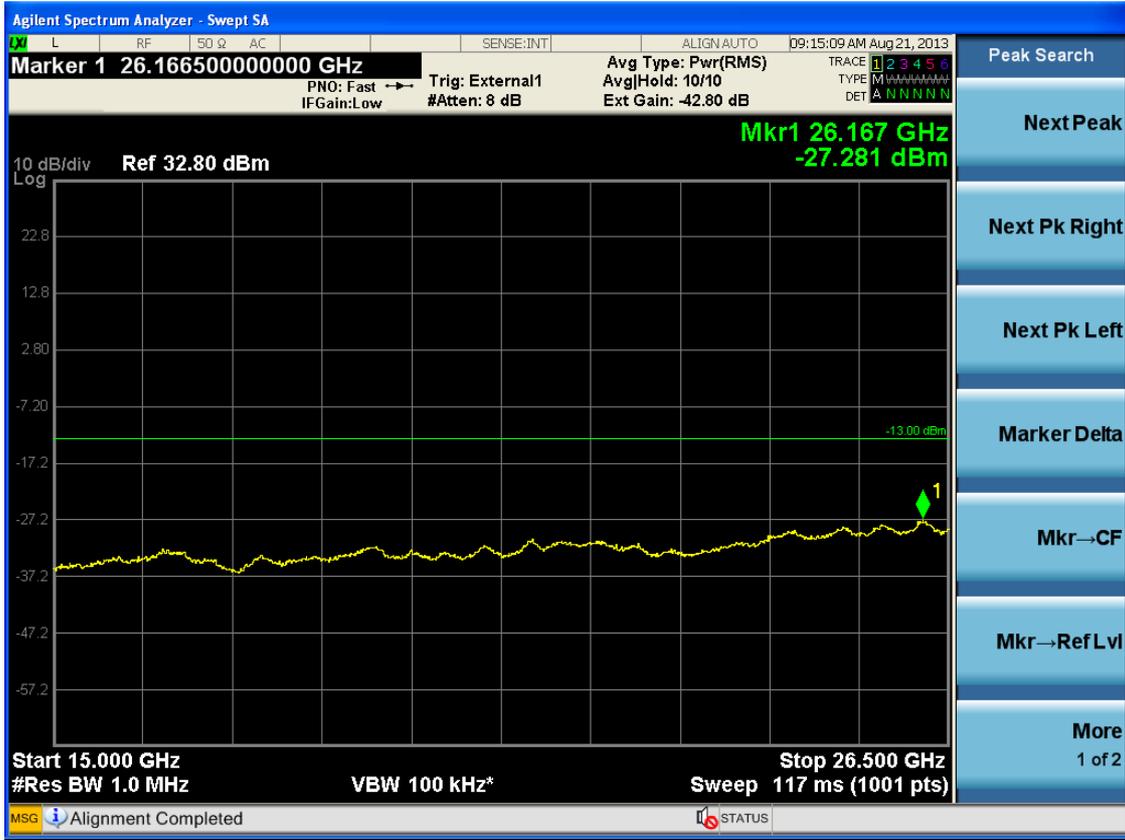
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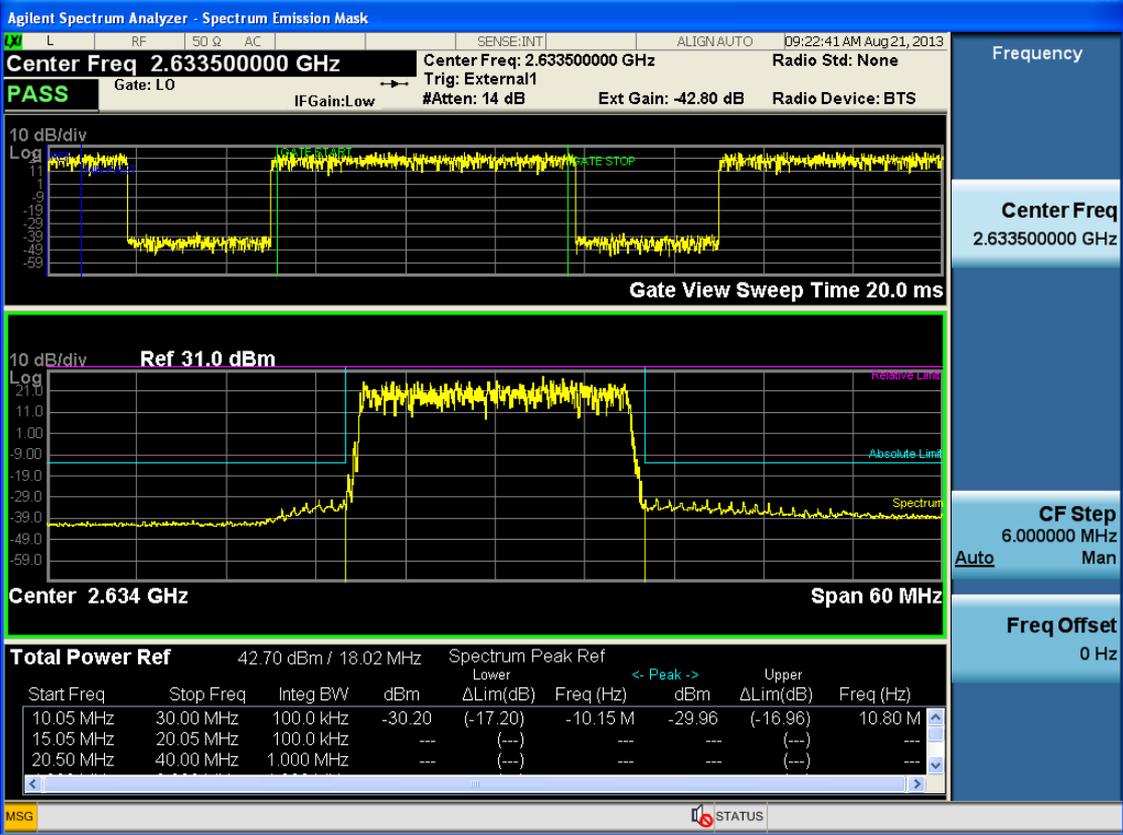
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20M-2633.5MHz-QPSK-30M-Port2



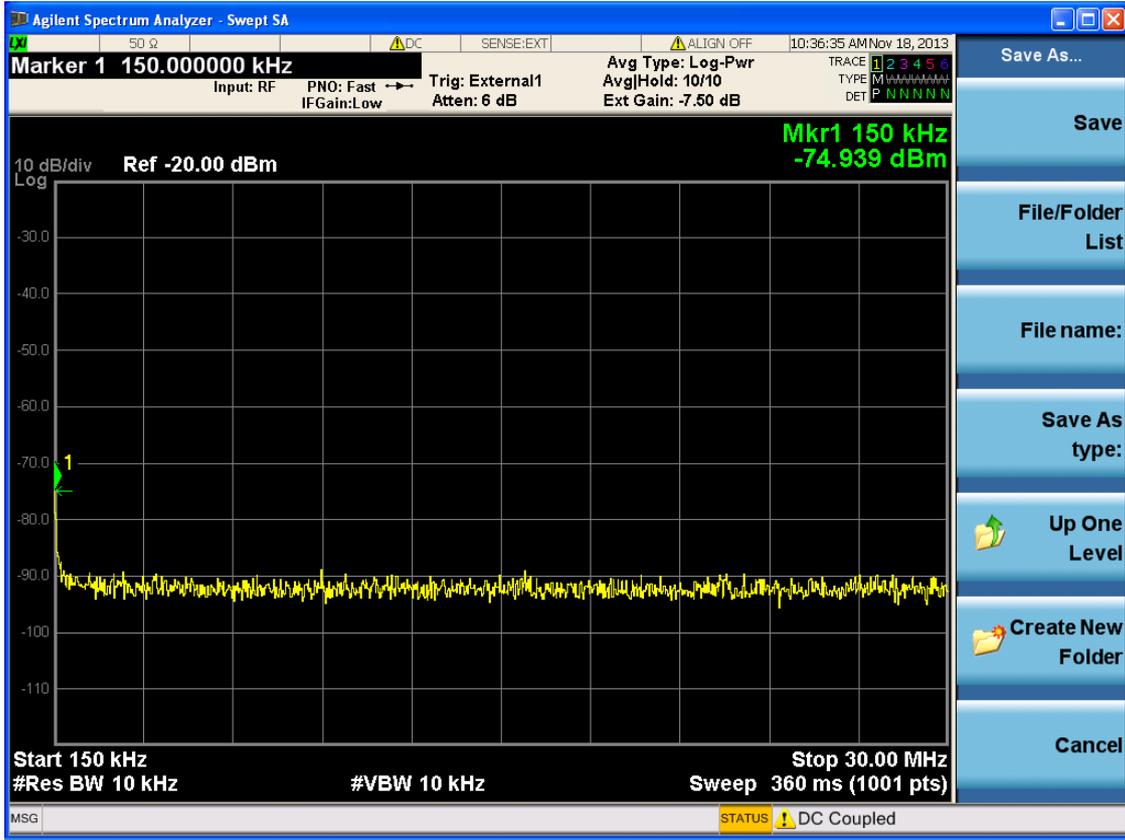
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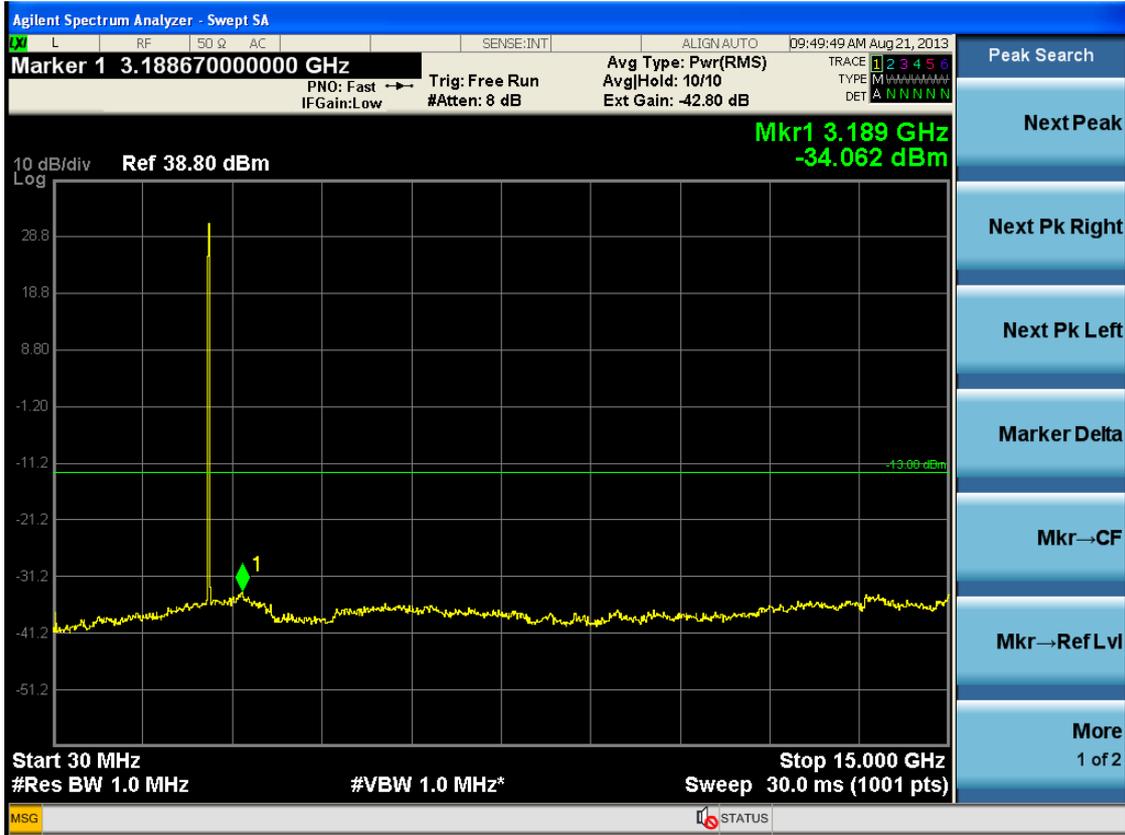
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20M-2633.5MHz-16QAM-9k-Port2



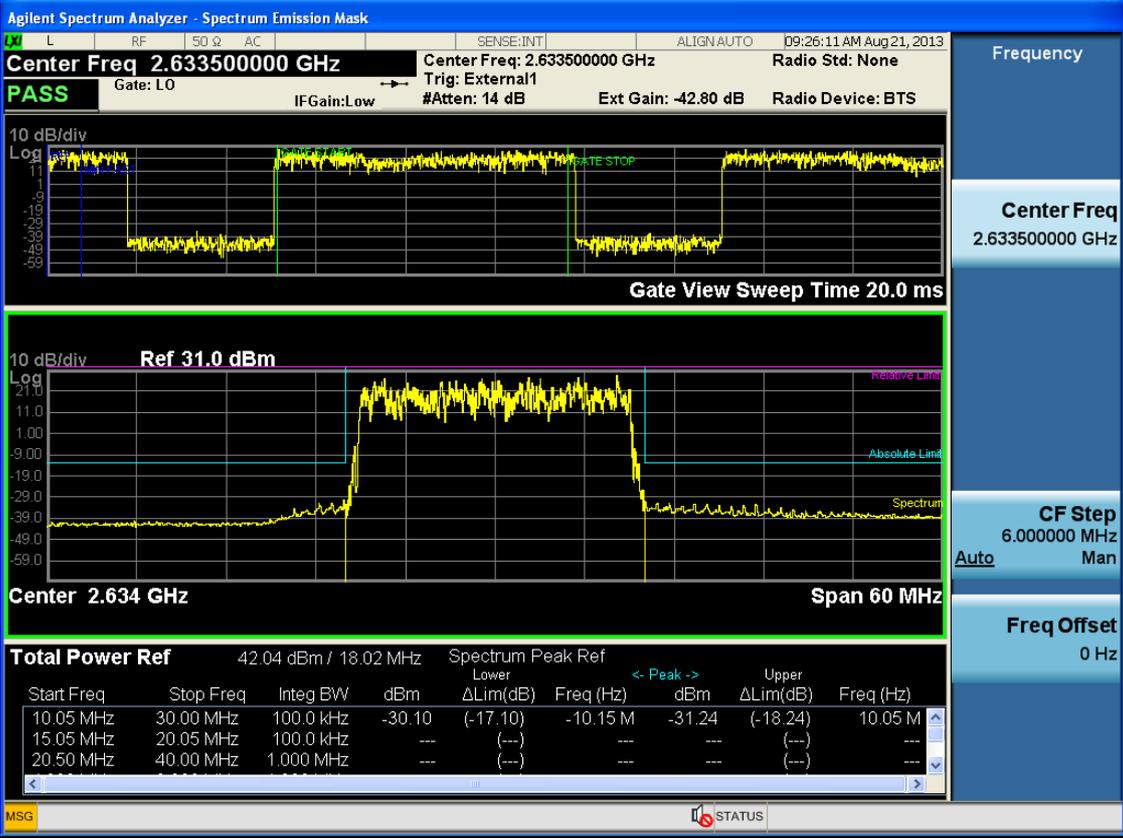
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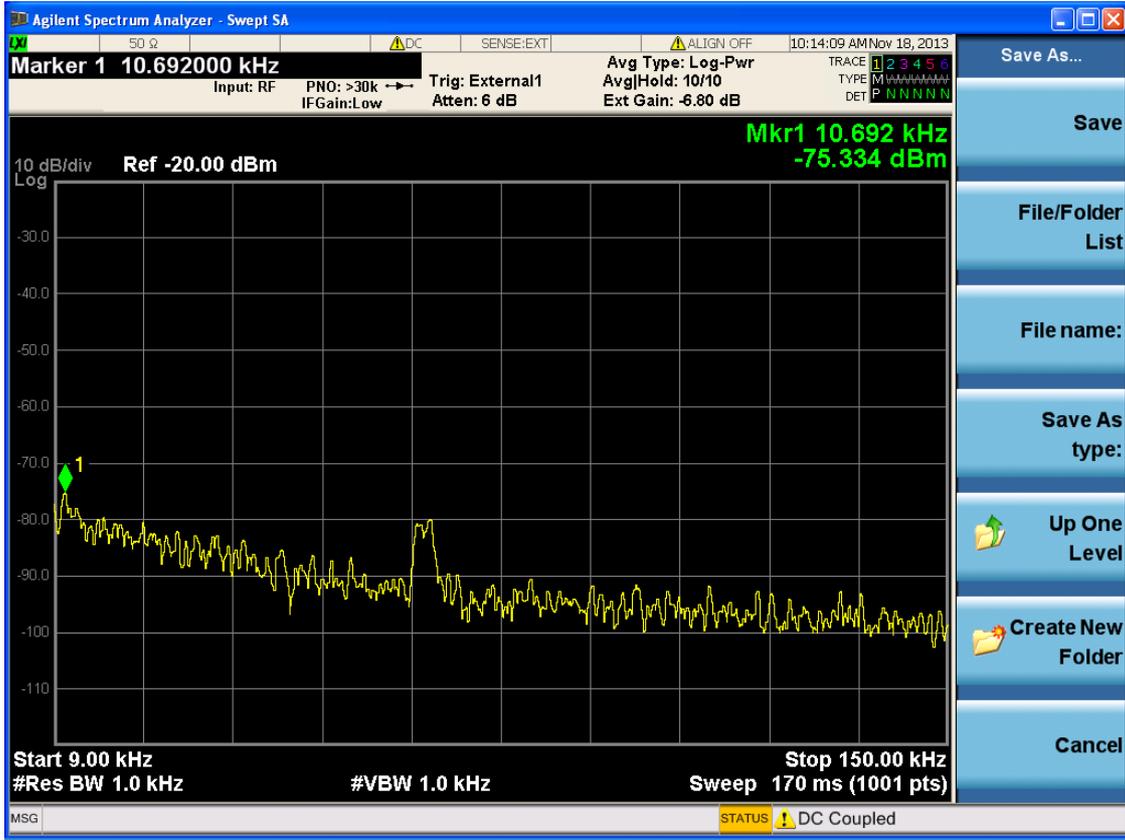
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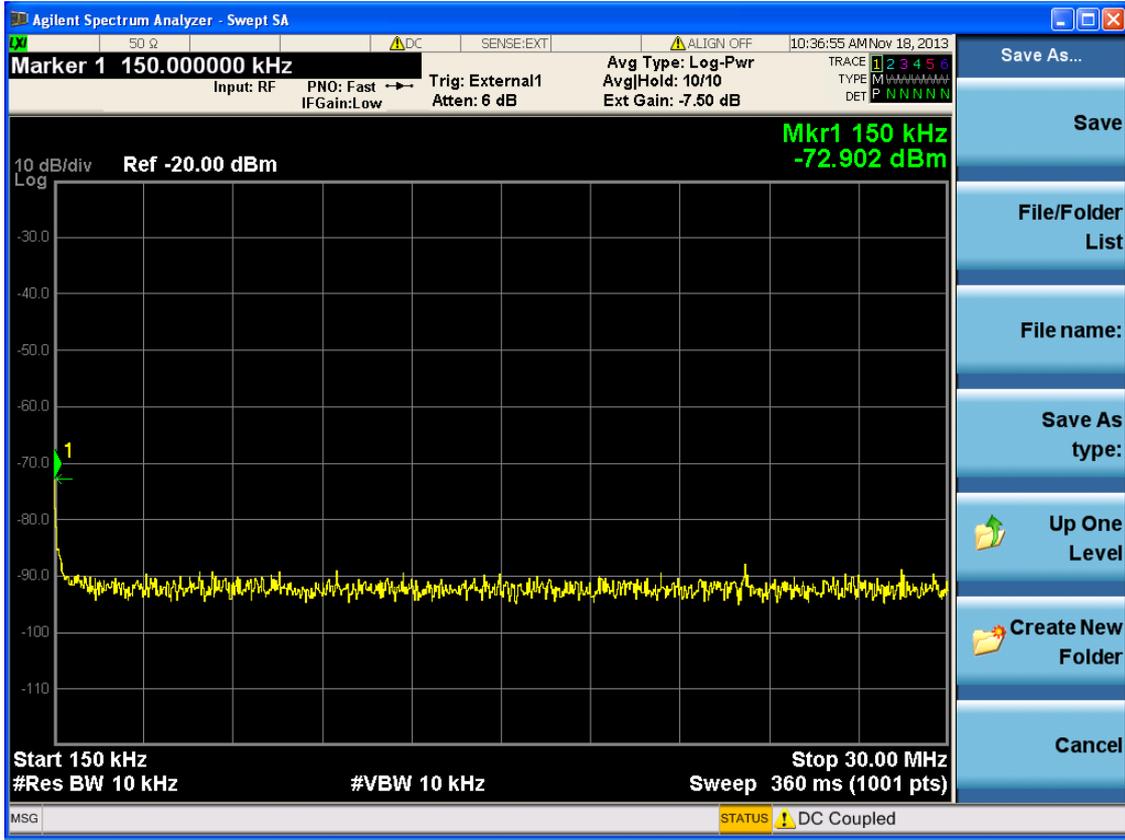
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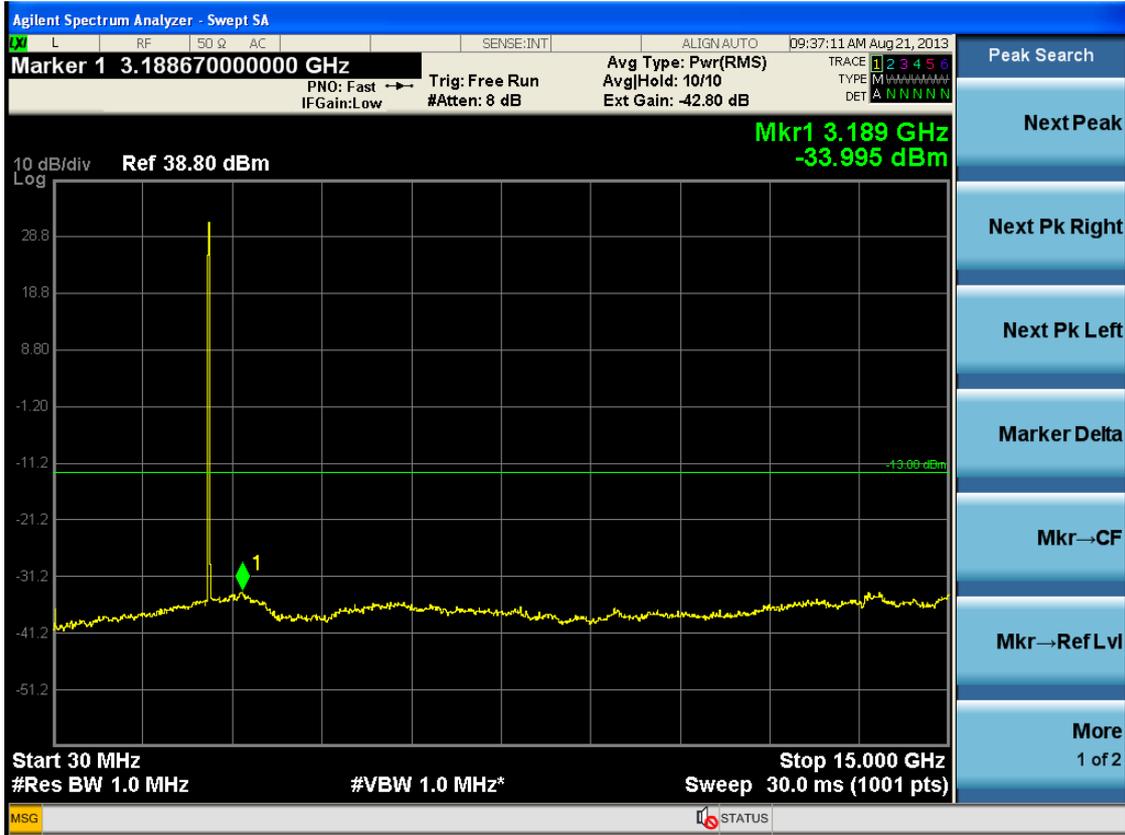
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20M-2633.5MHz-64QAM-9k-Port2



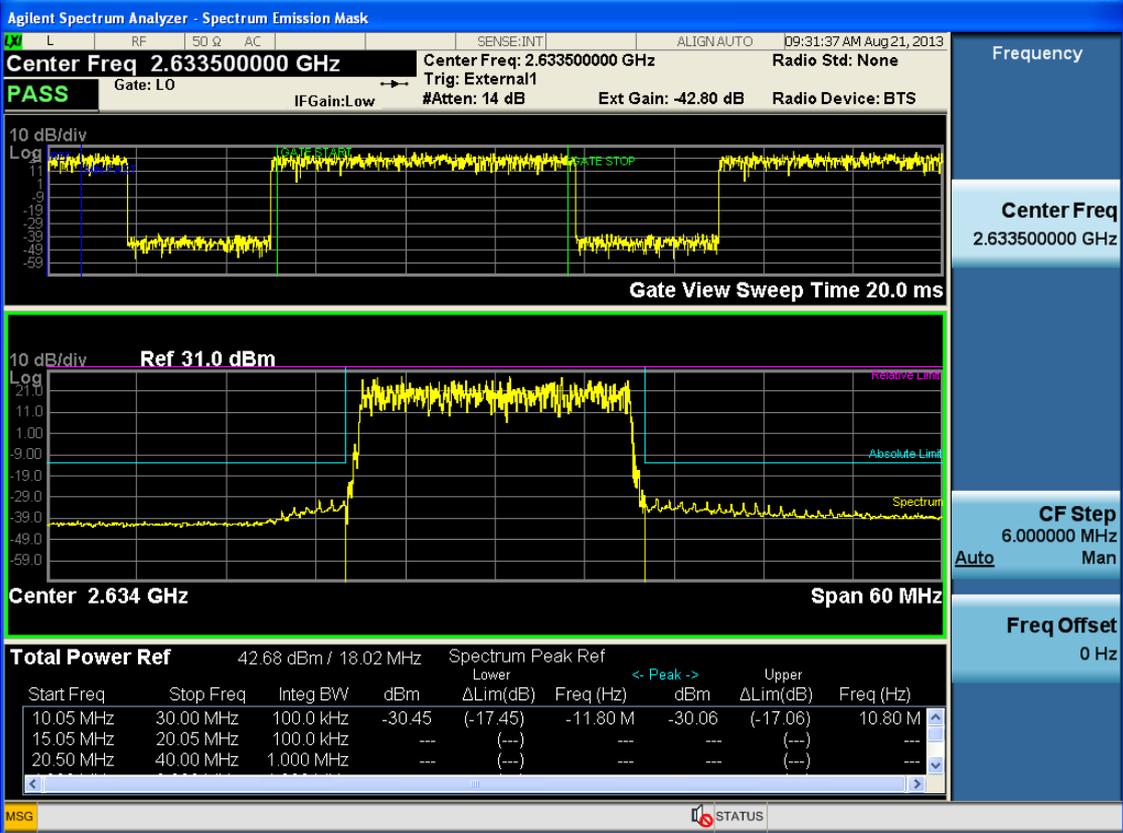
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20M-2633.5MHz-64QAM-30M-Port2



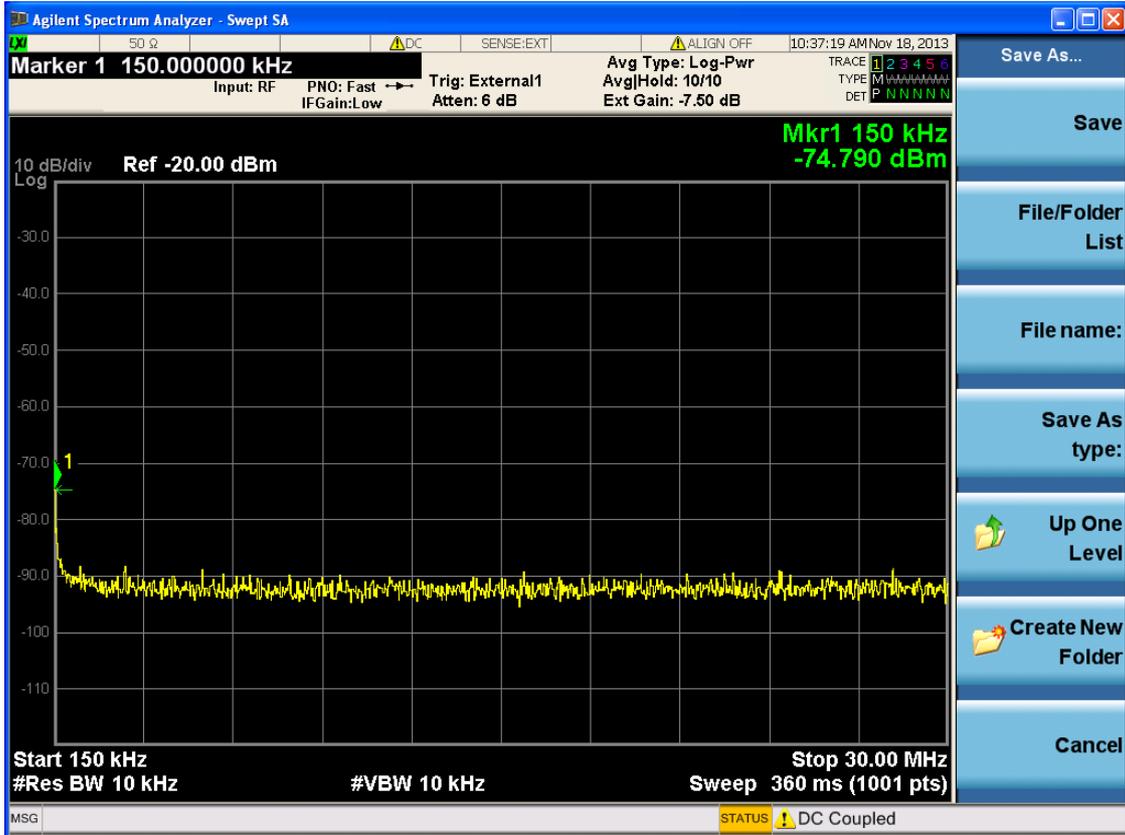
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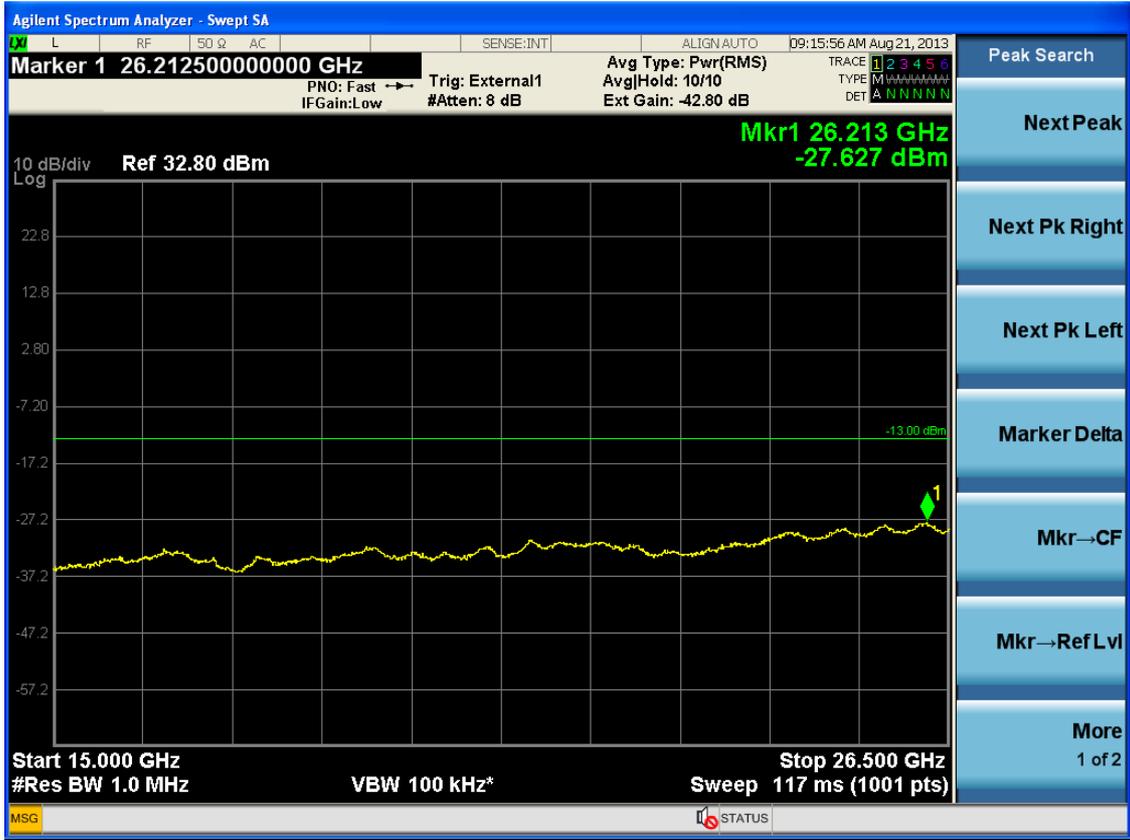
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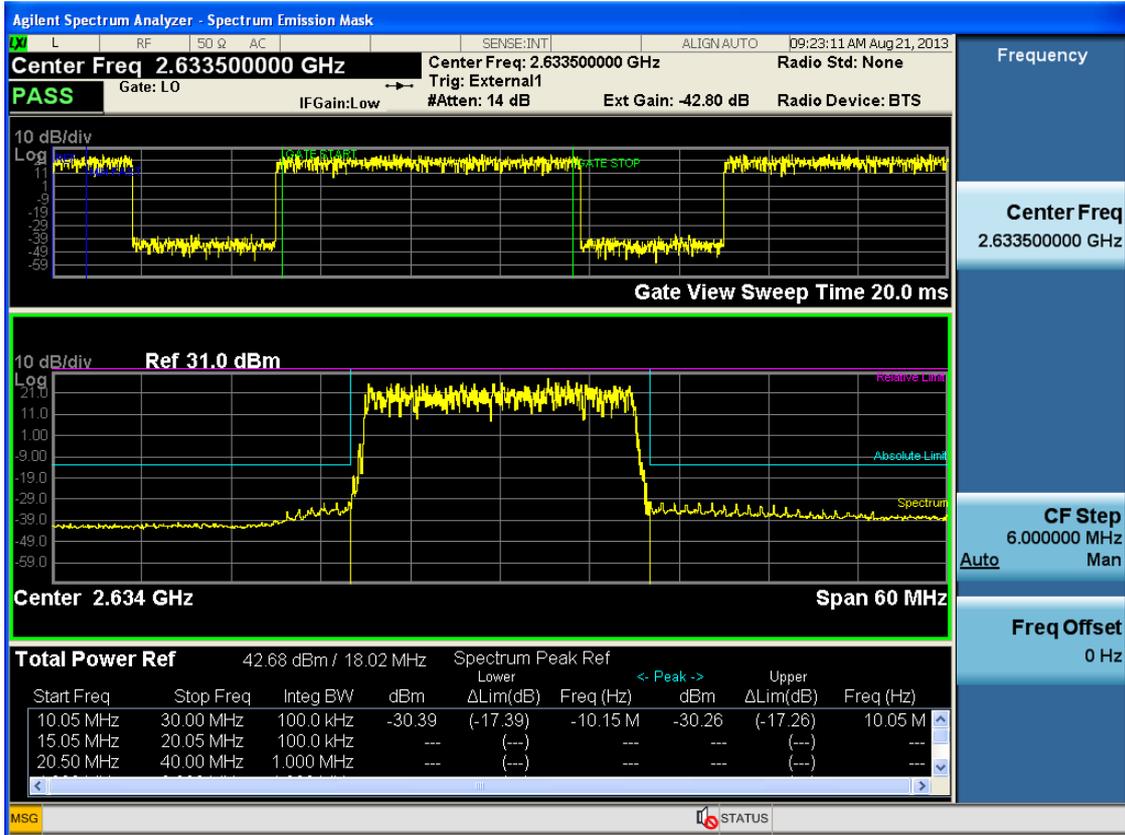
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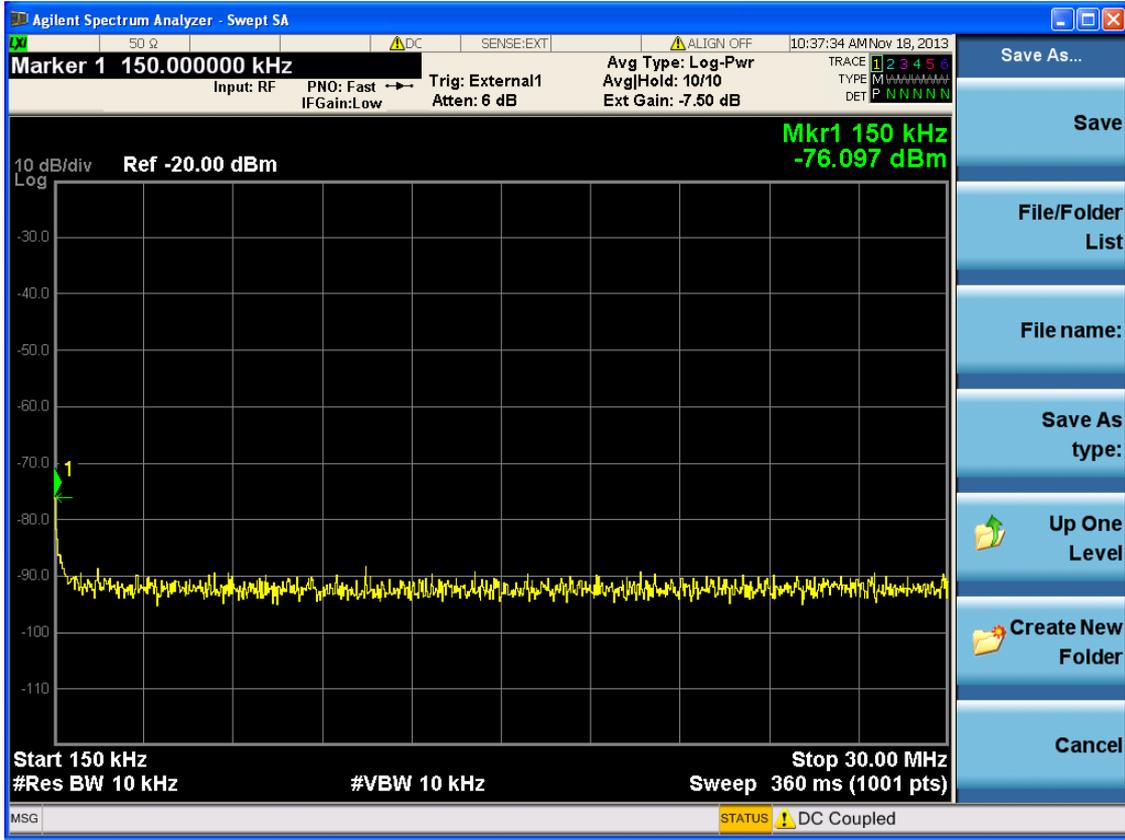
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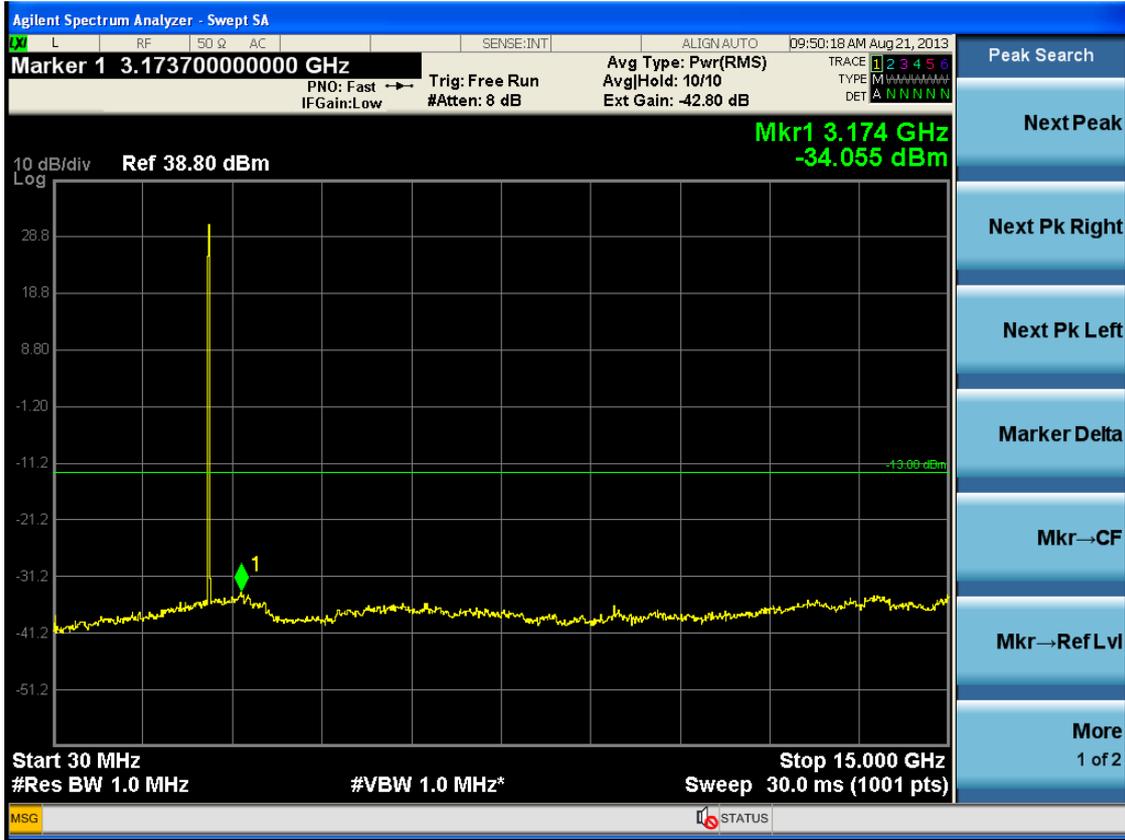
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20M-2633.5MHz-16QAM-9k-Port3



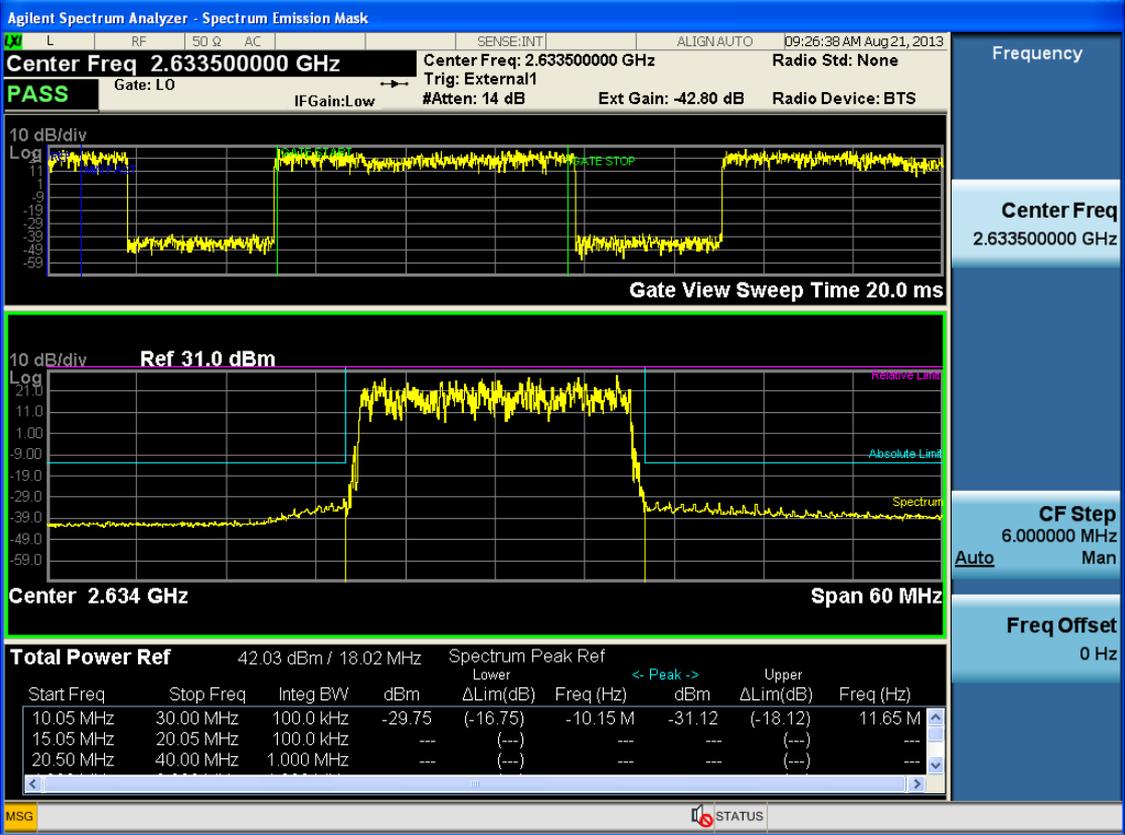
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20M-2633.5MHz-16QAM-30M-Port3



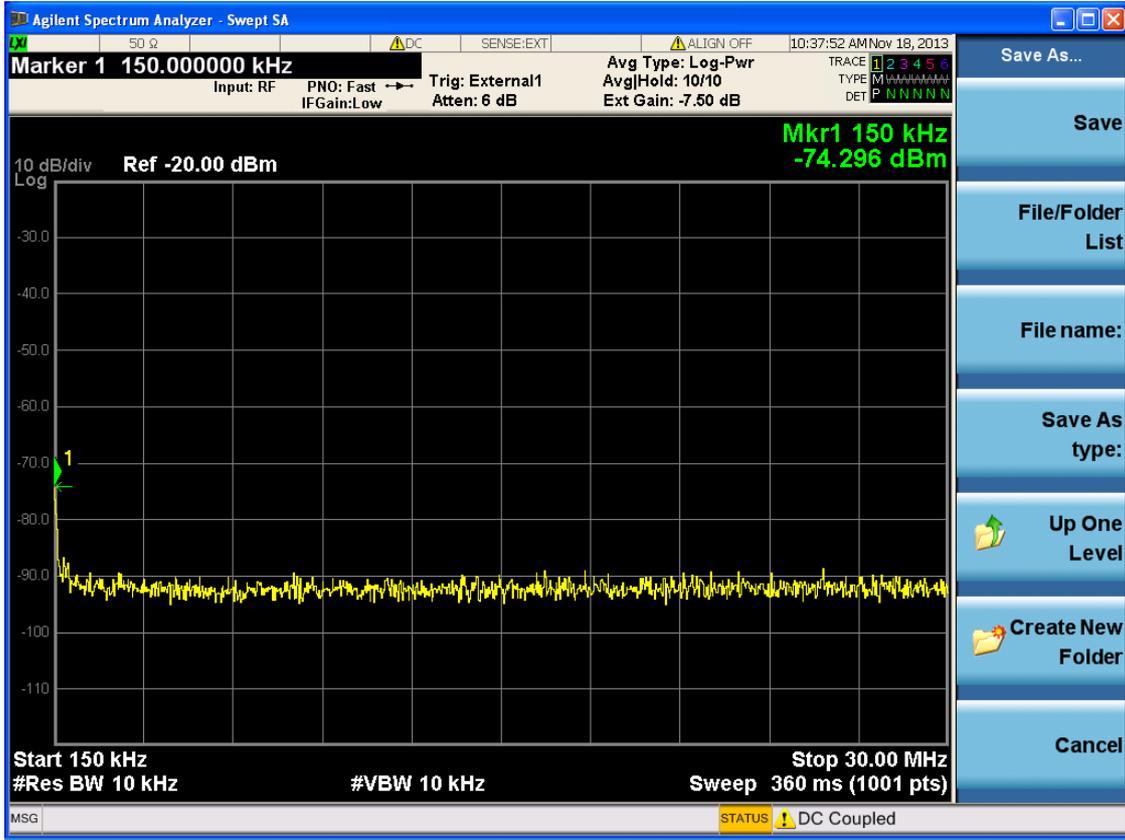
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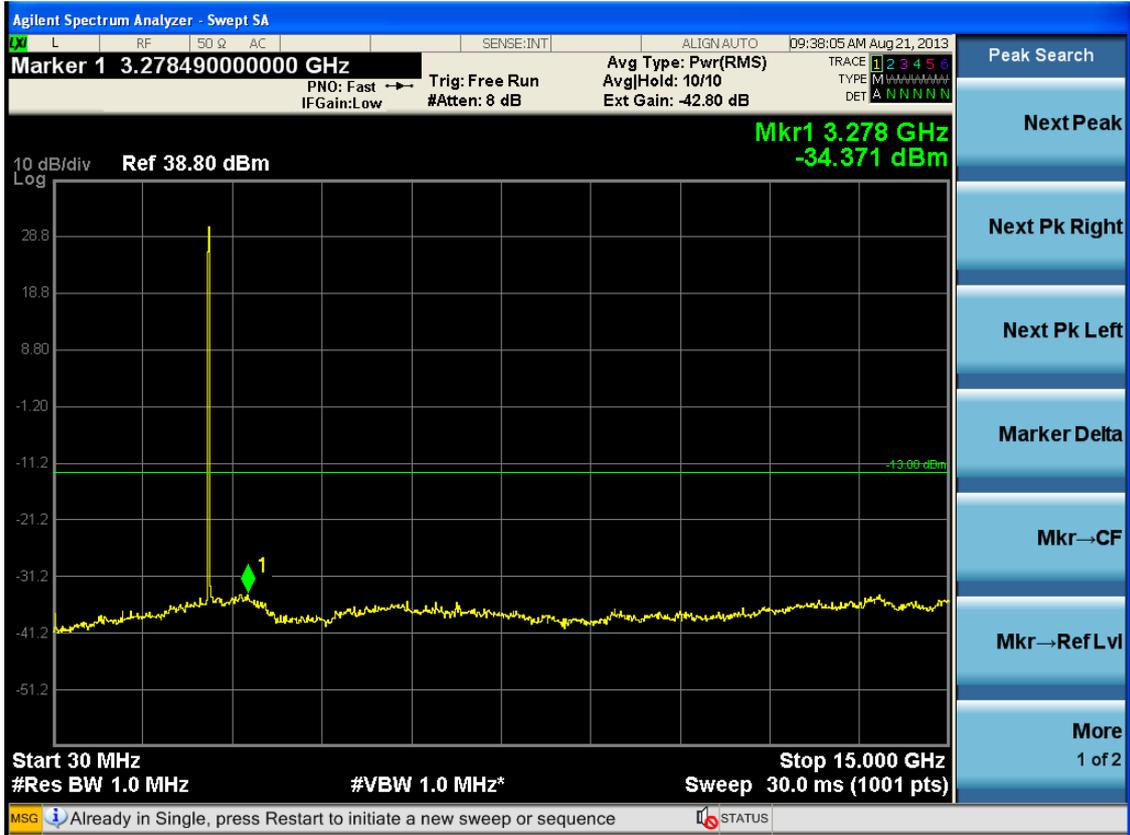
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20M-2633.5MHz-64QAM-9k-Port3



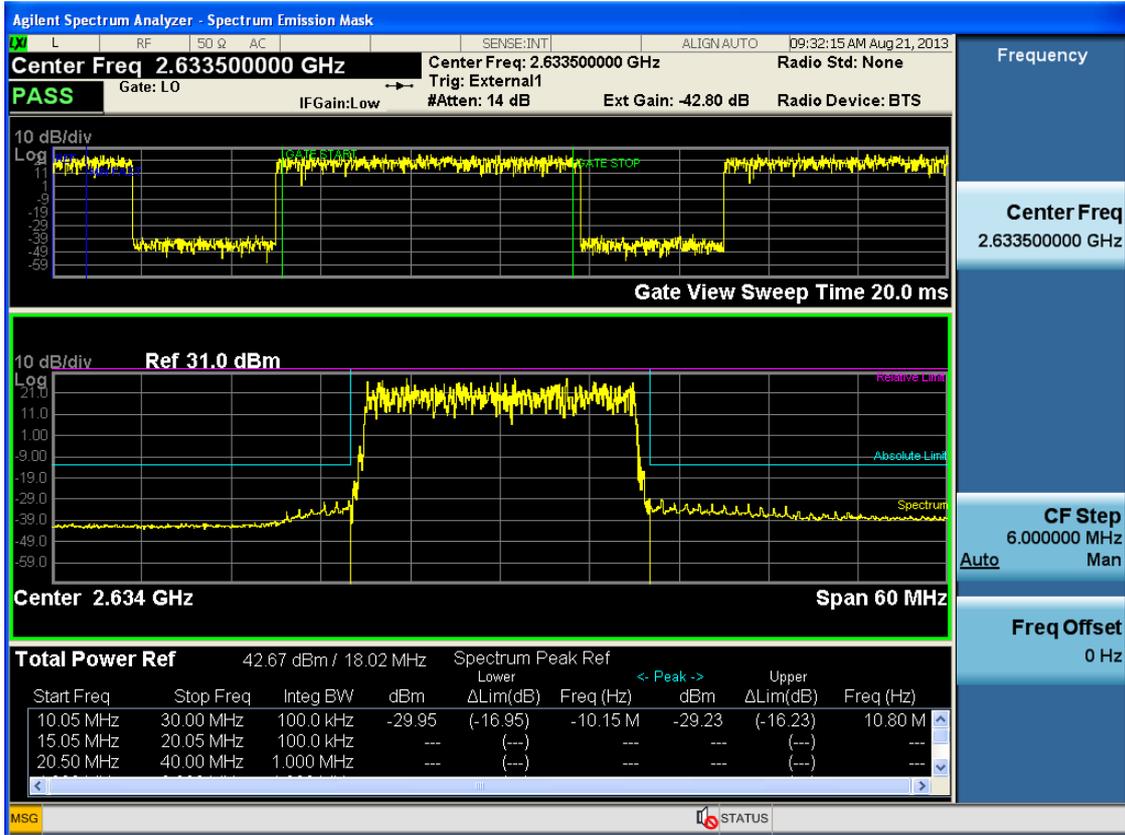
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20M-2633.5MHz-64QAM-15G-Port3

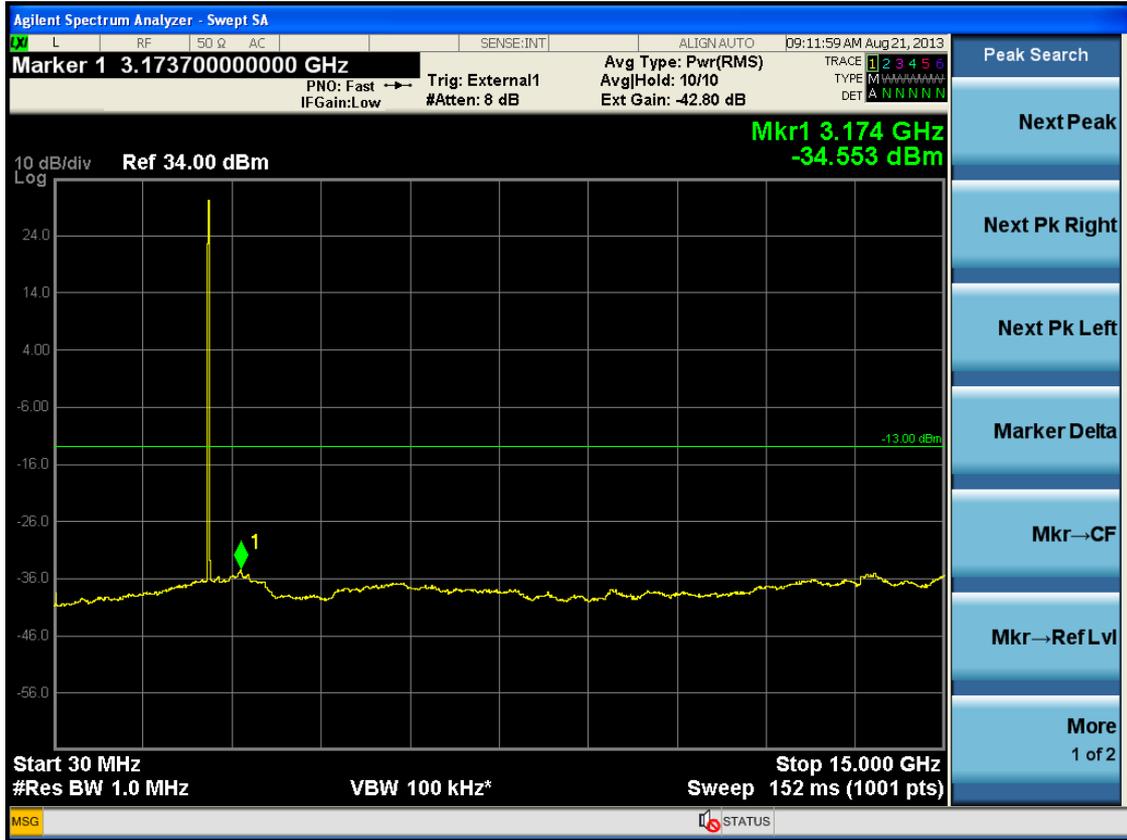


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20M-2633.5MHz-64QAM-9k-Port4

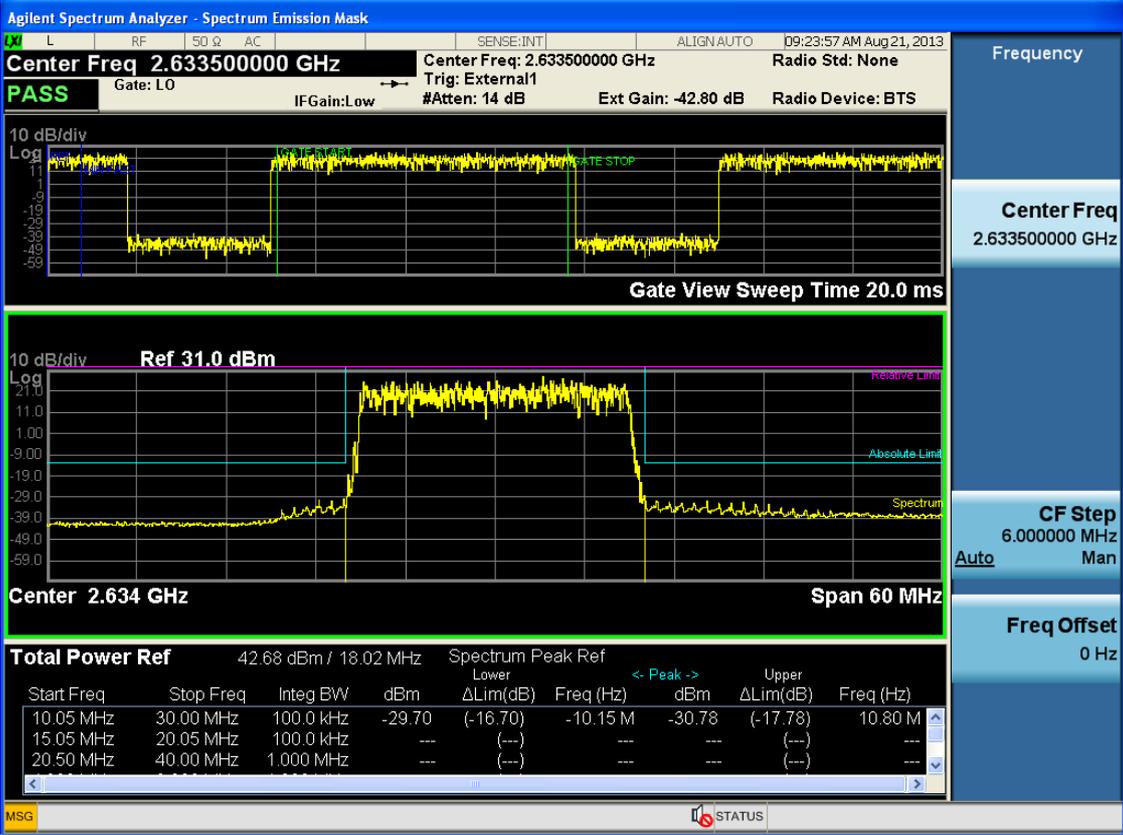




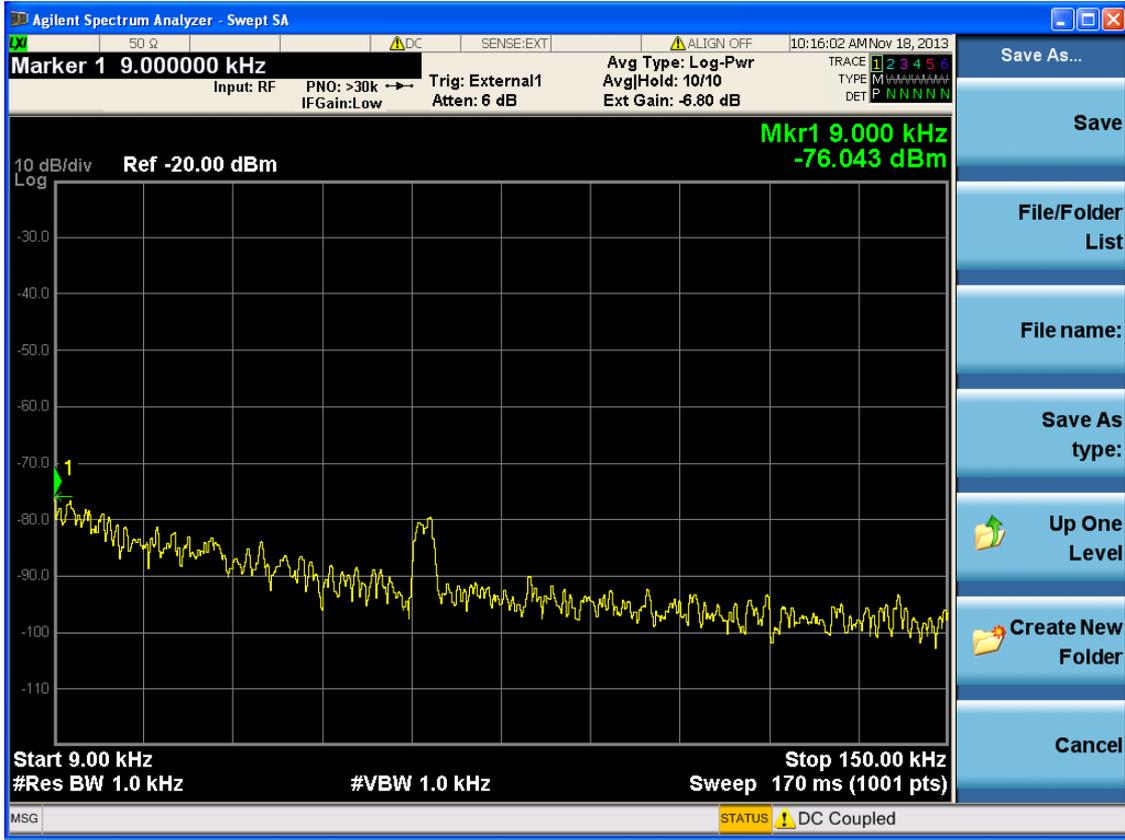
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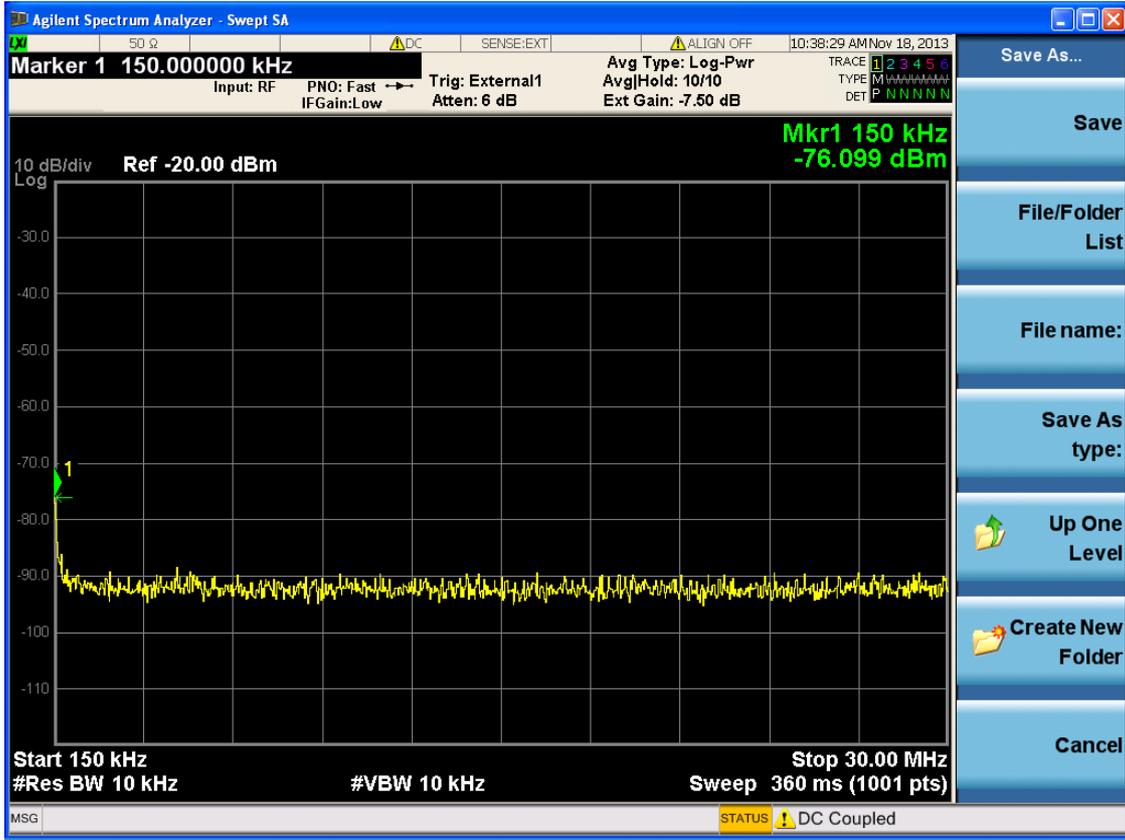
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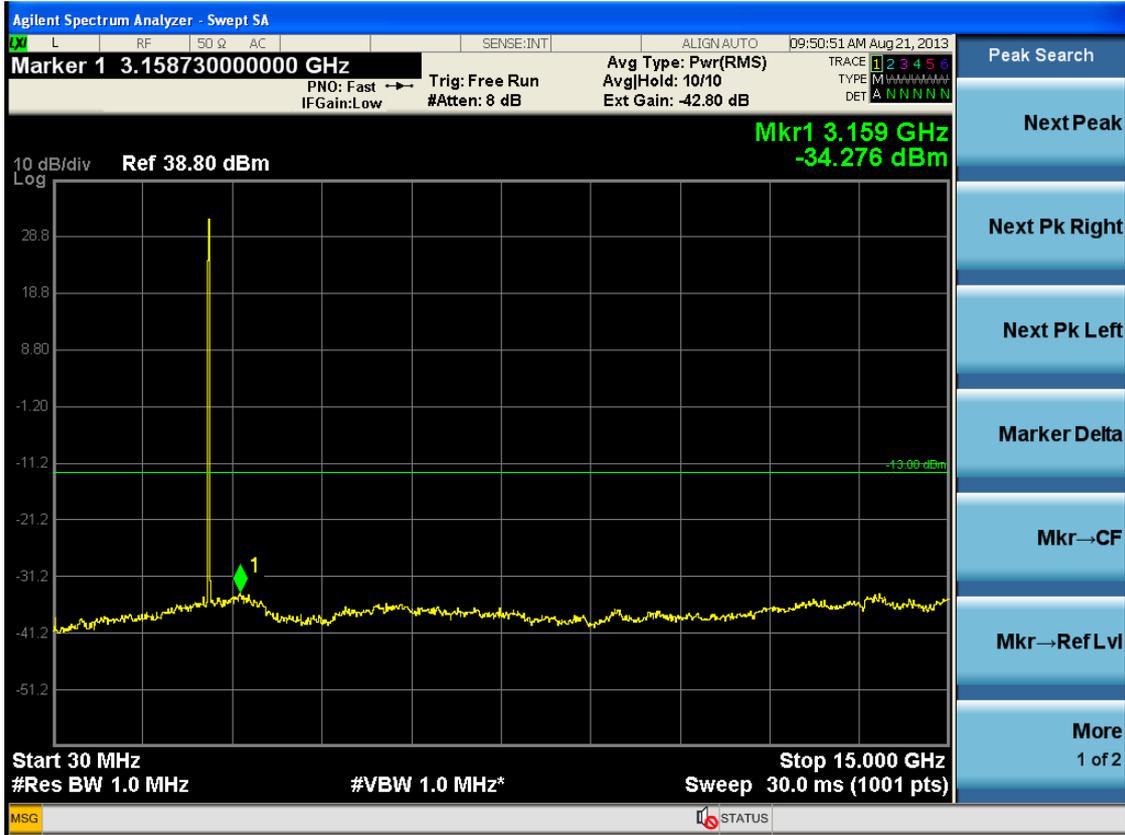
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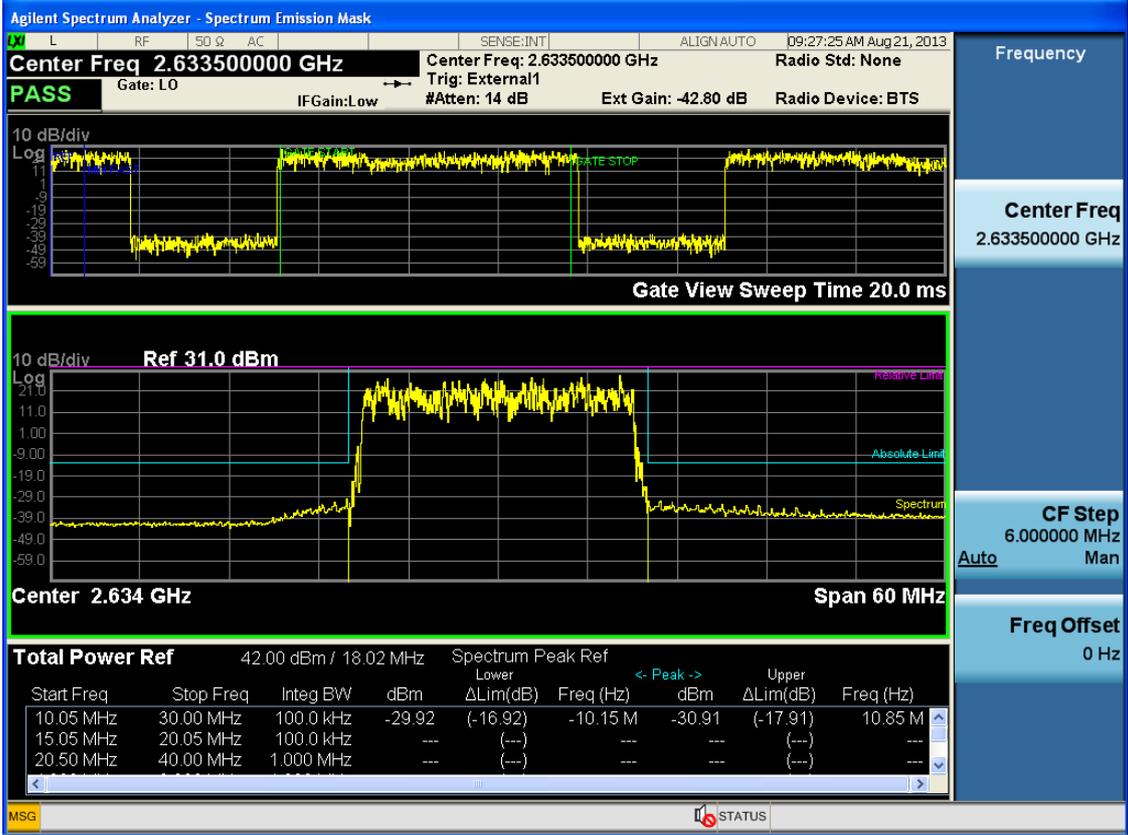
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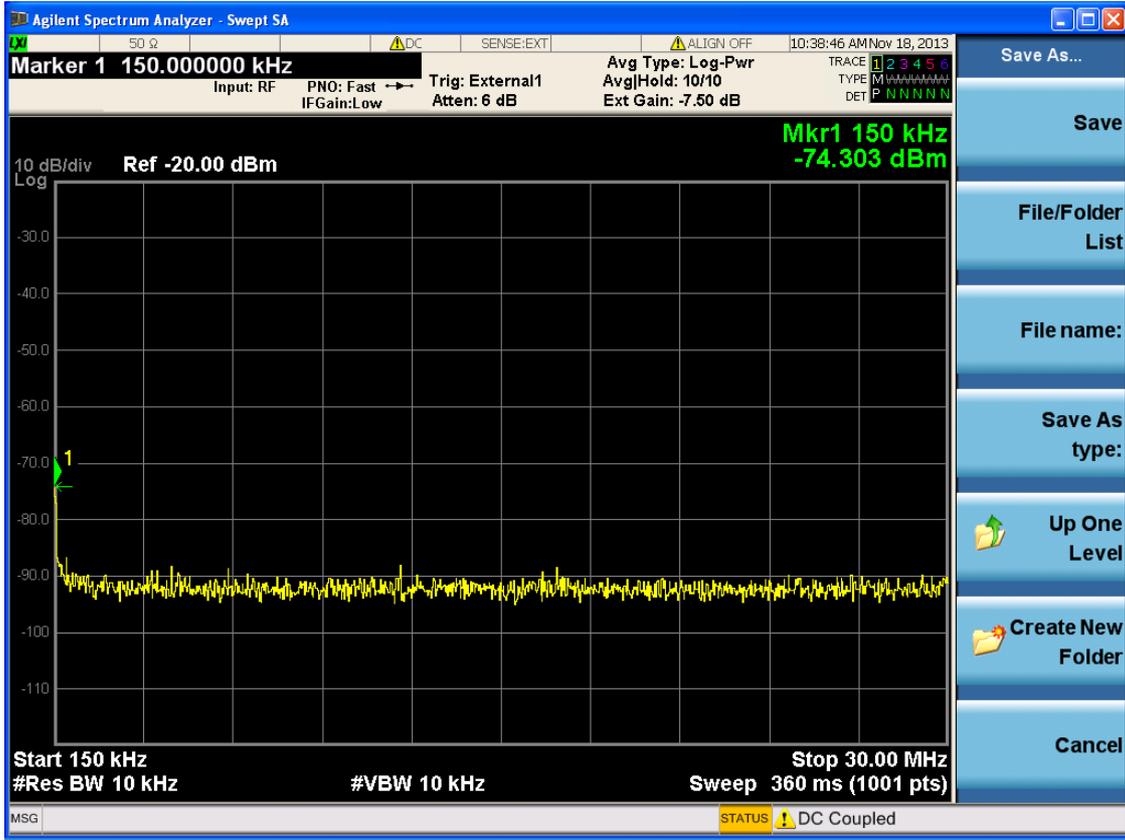
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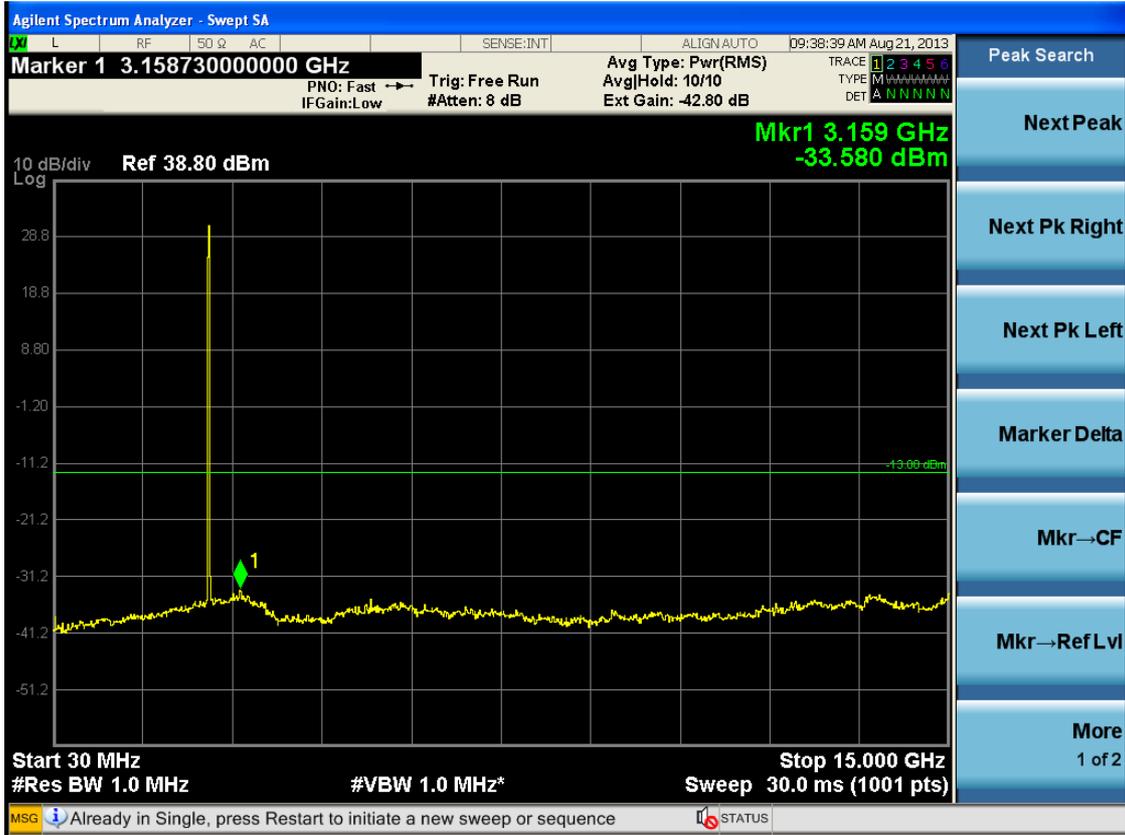
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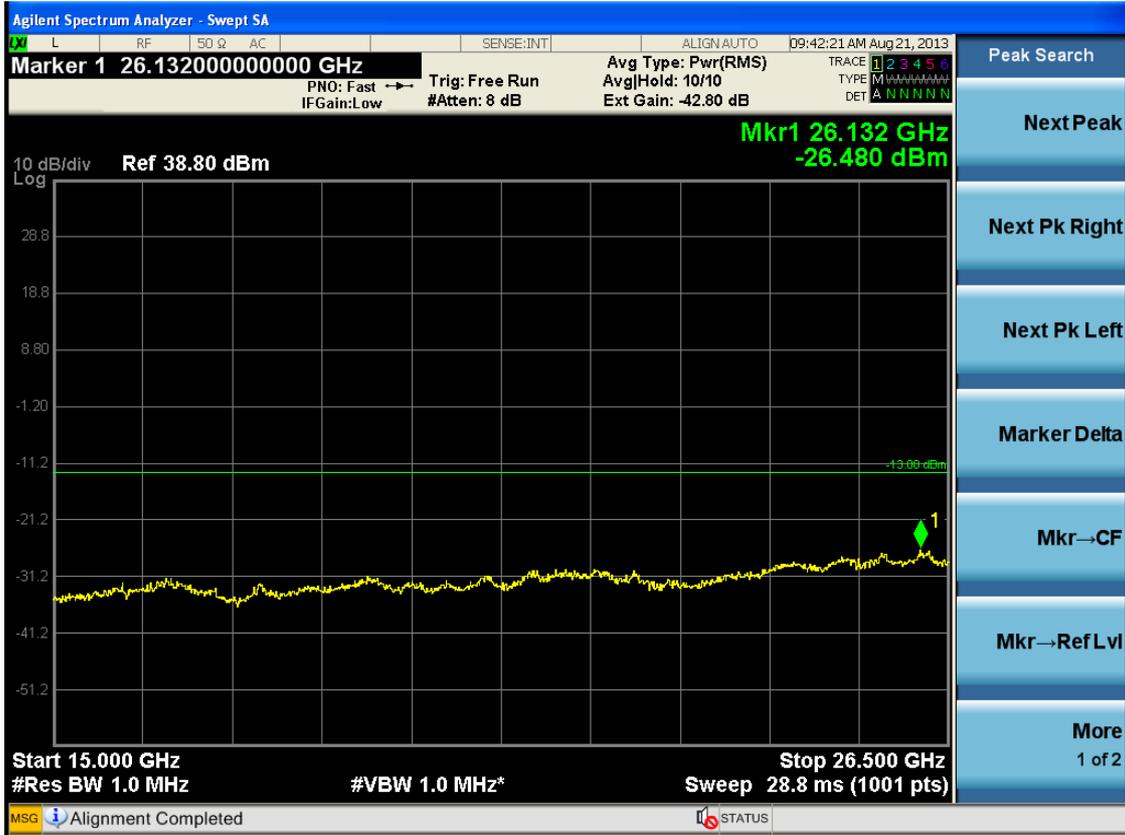
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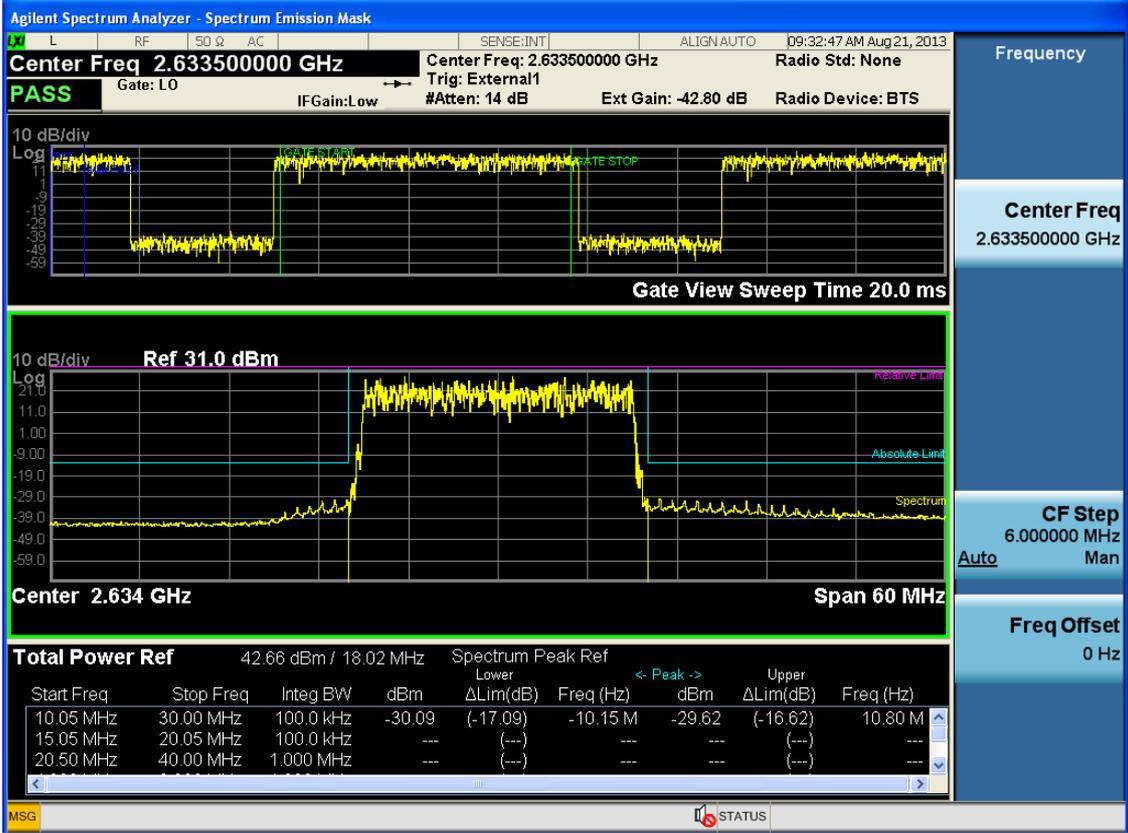
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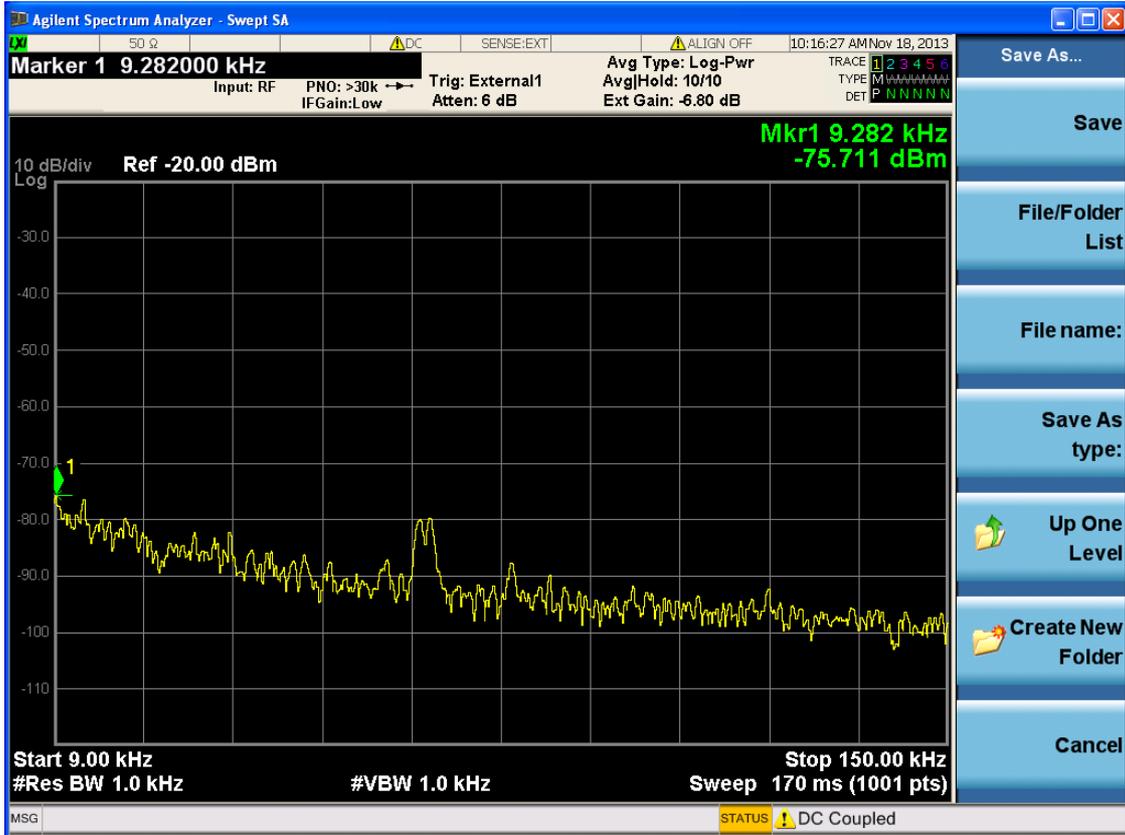
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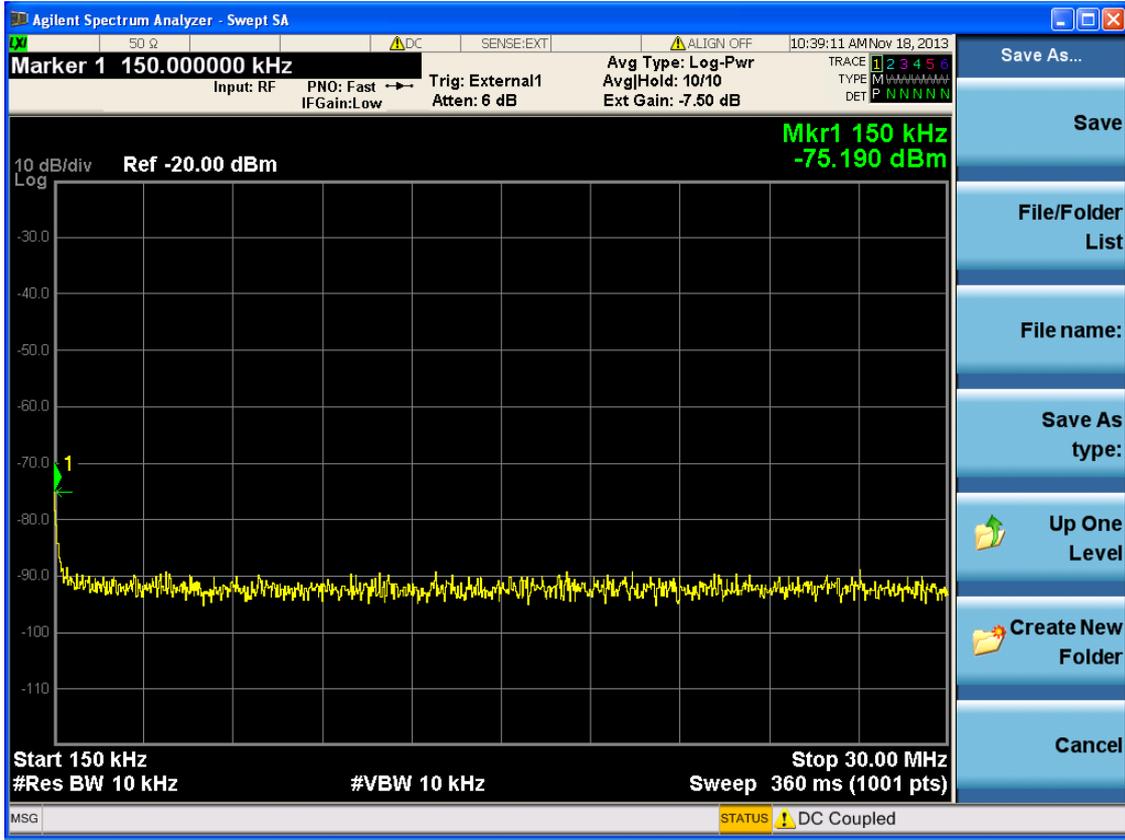
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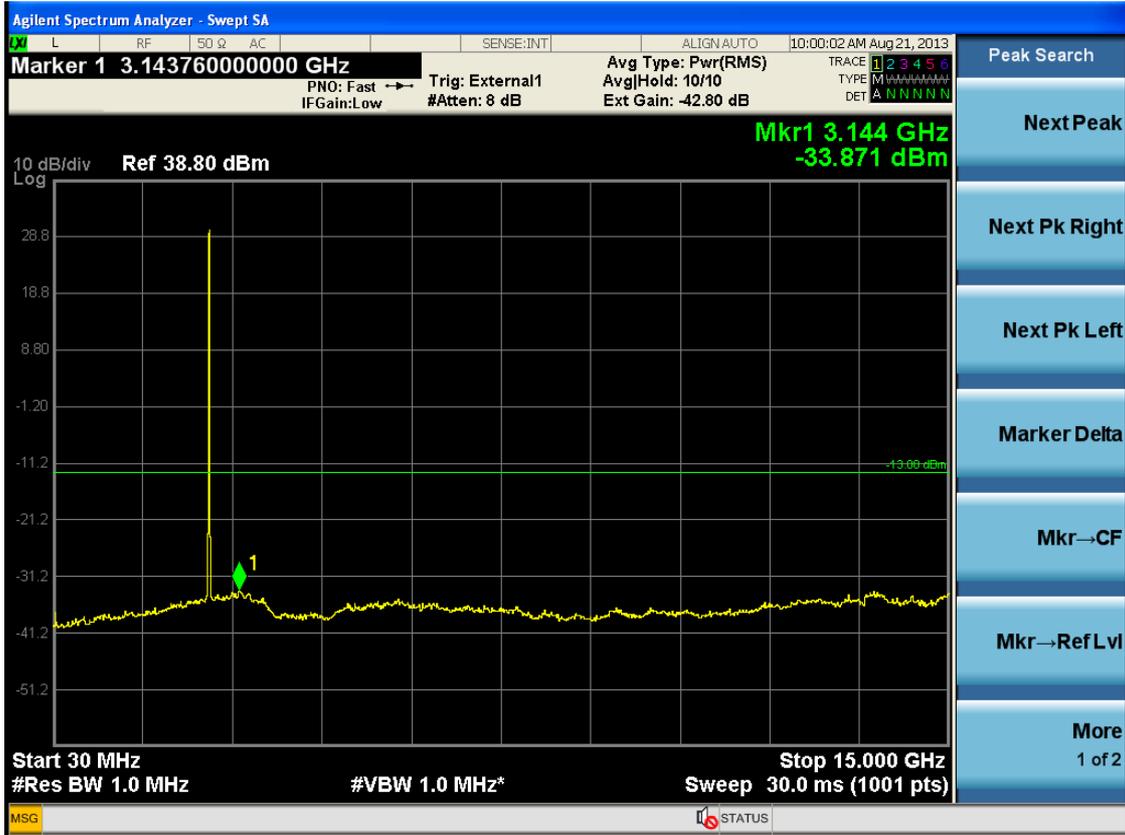
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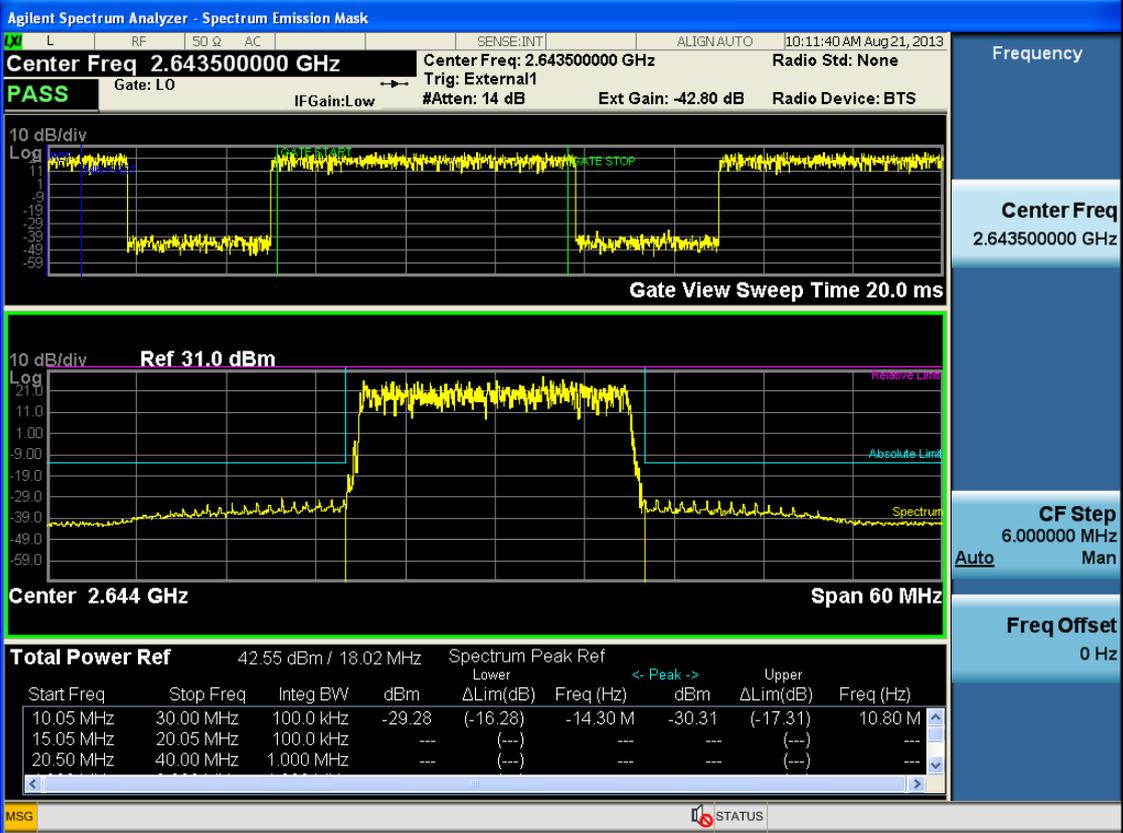
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20M-2643.5MHz-QPSK-30M-Port1



20M-2643.5MHz-QPSK-15G-Port1

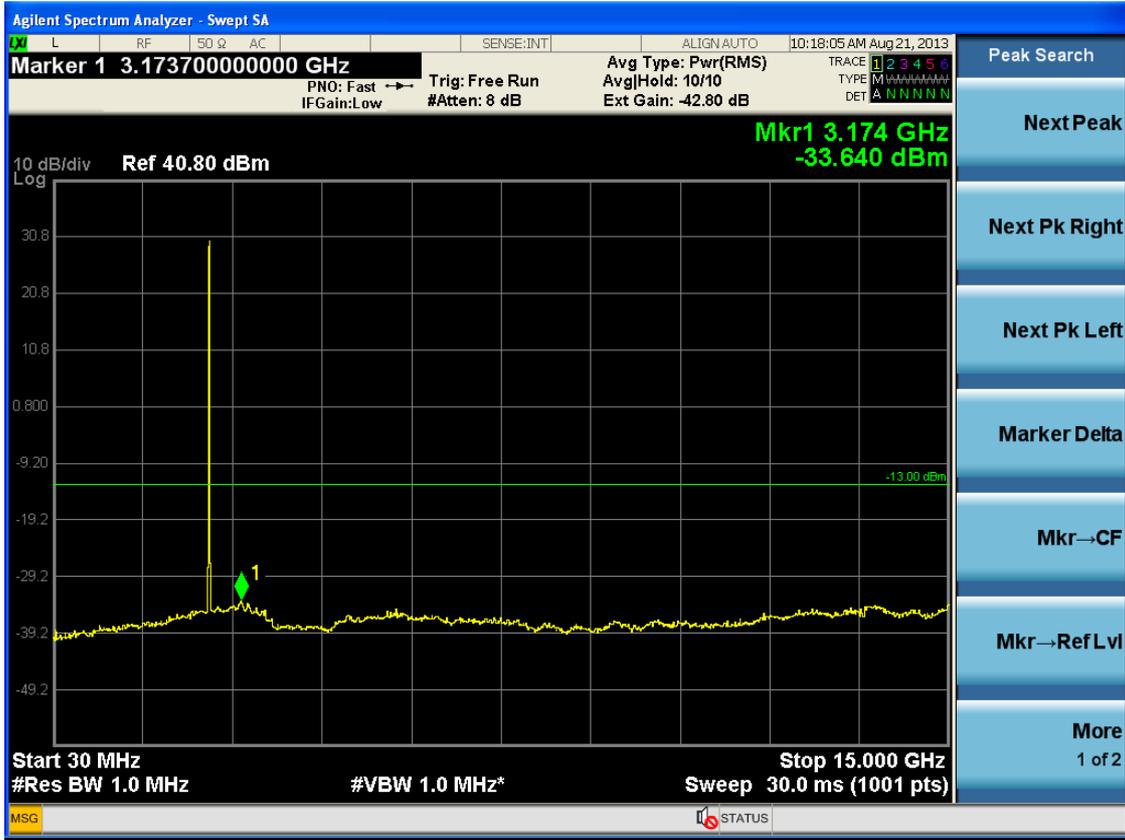


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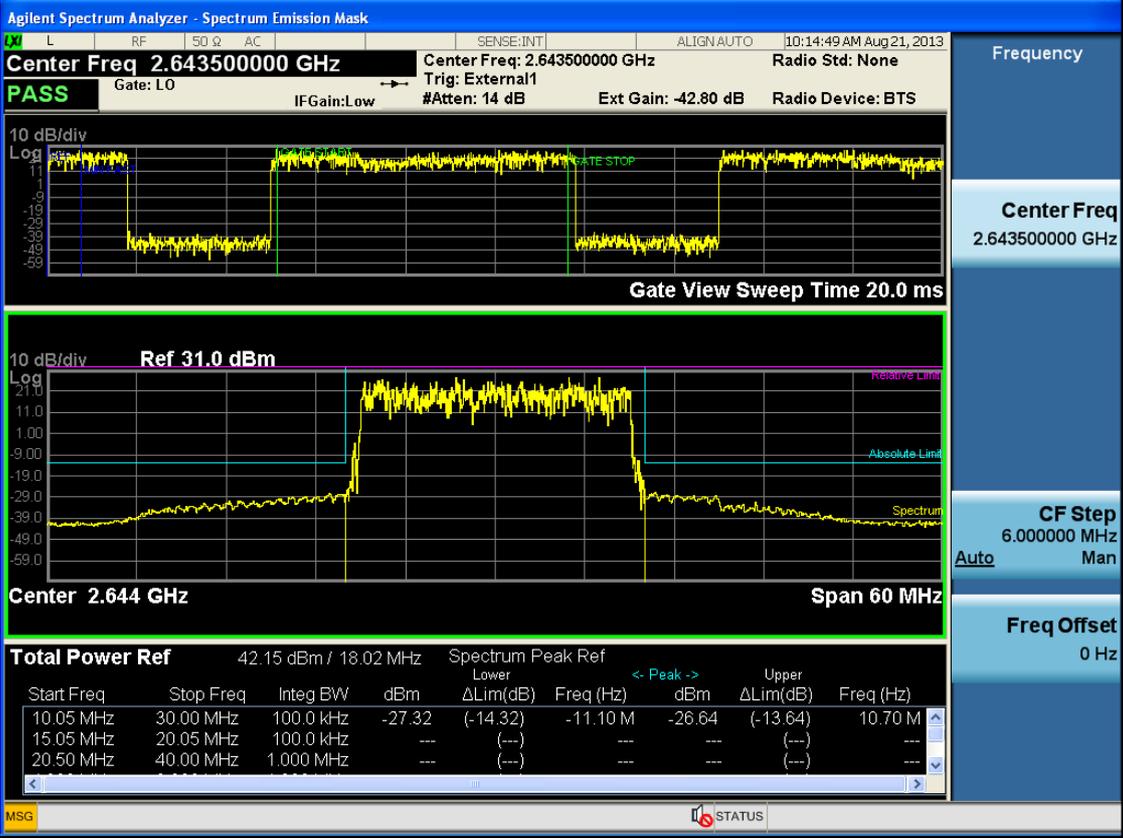




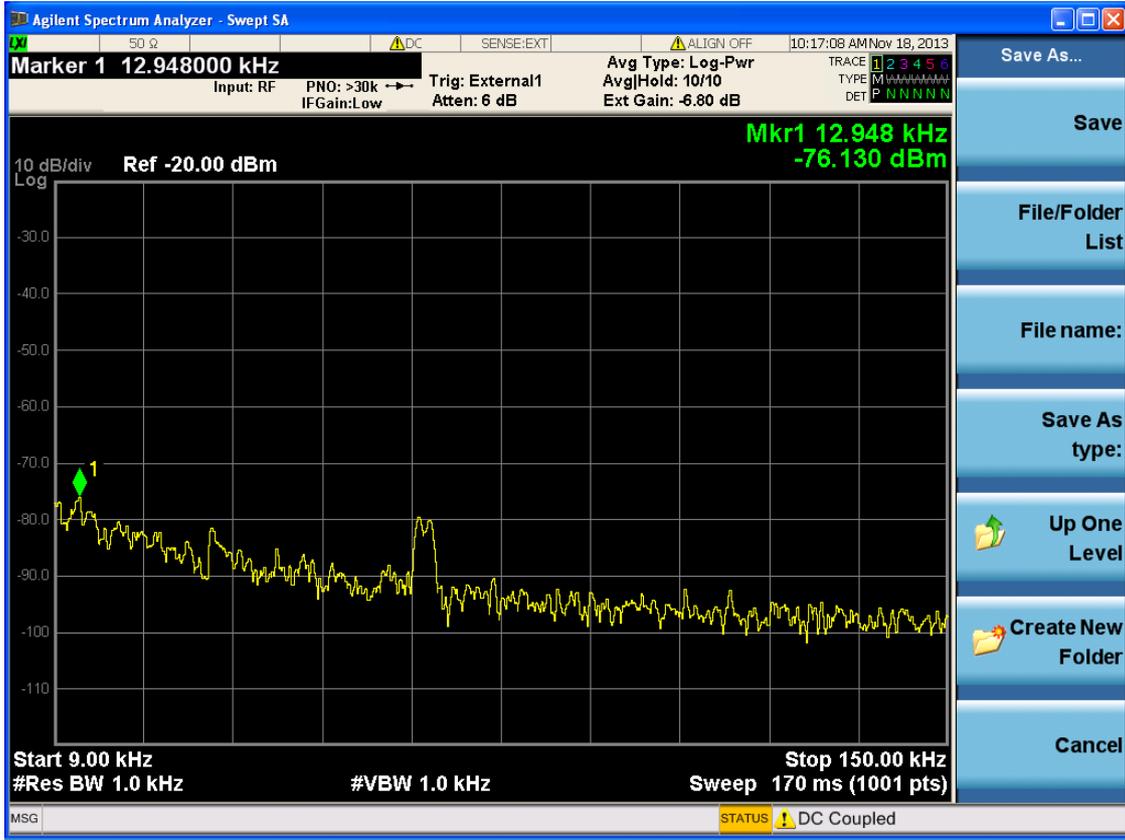
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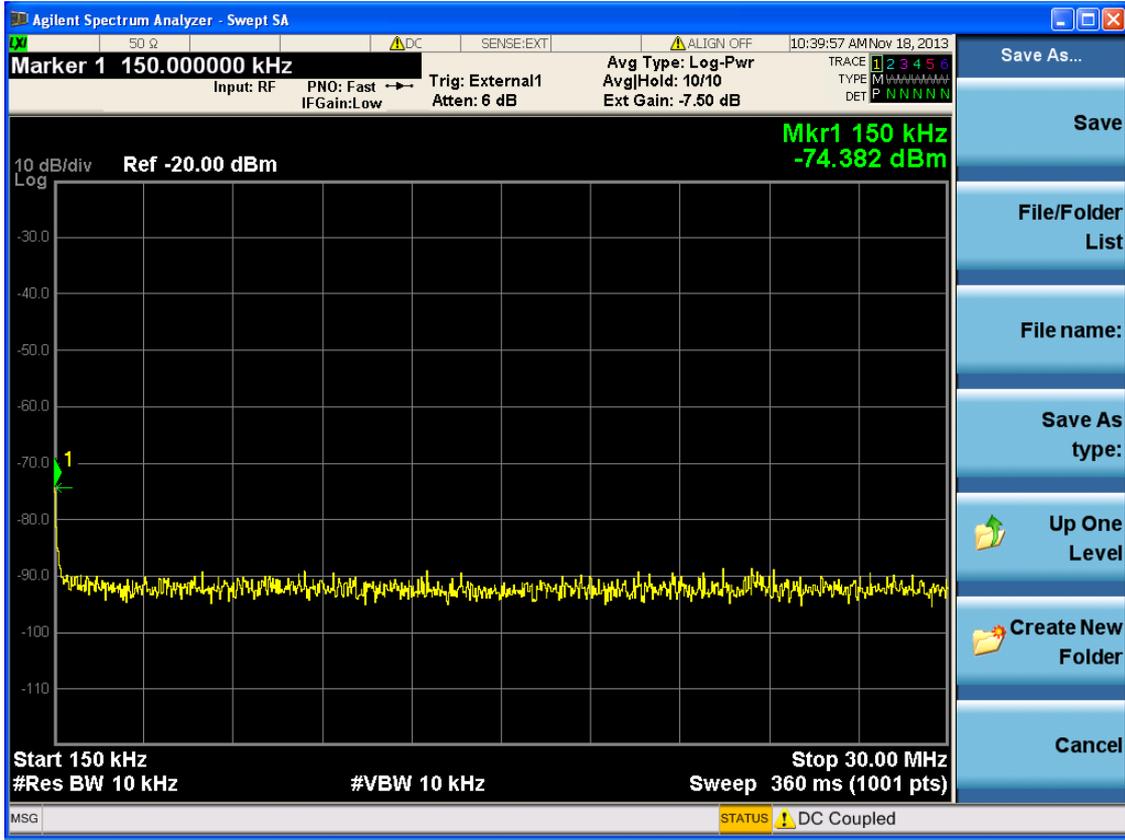
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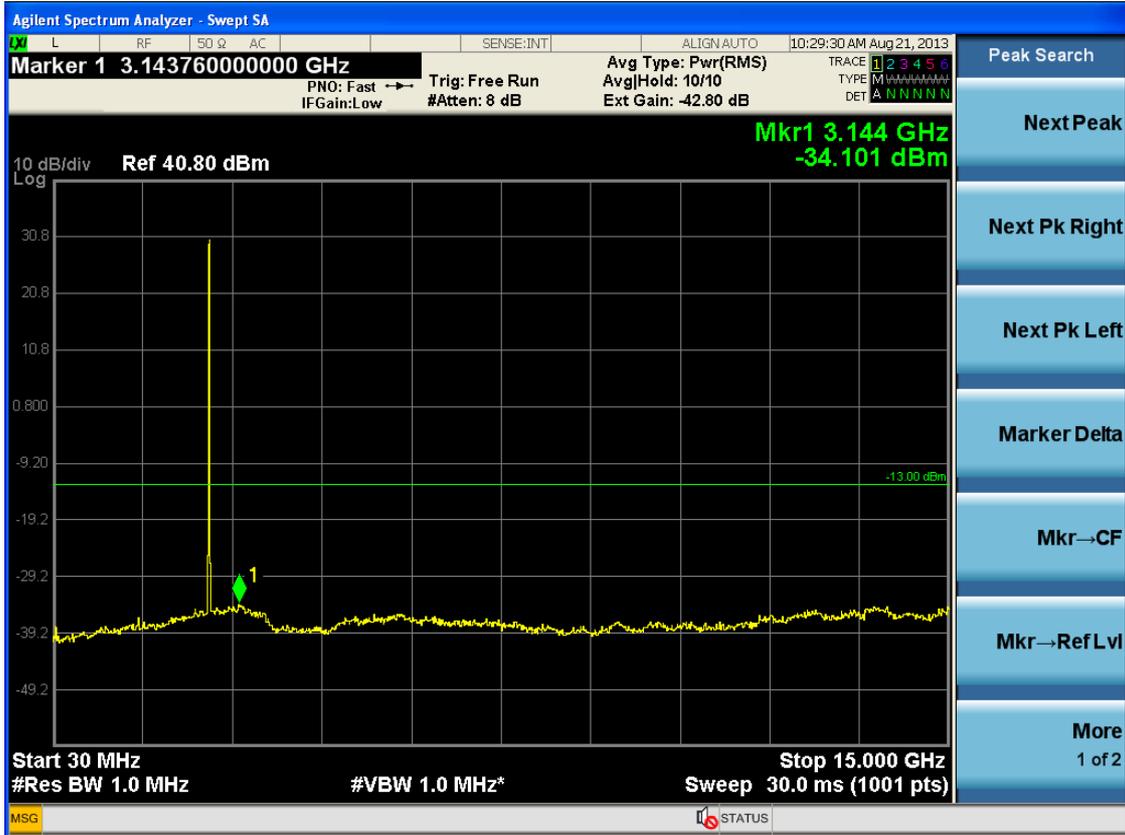
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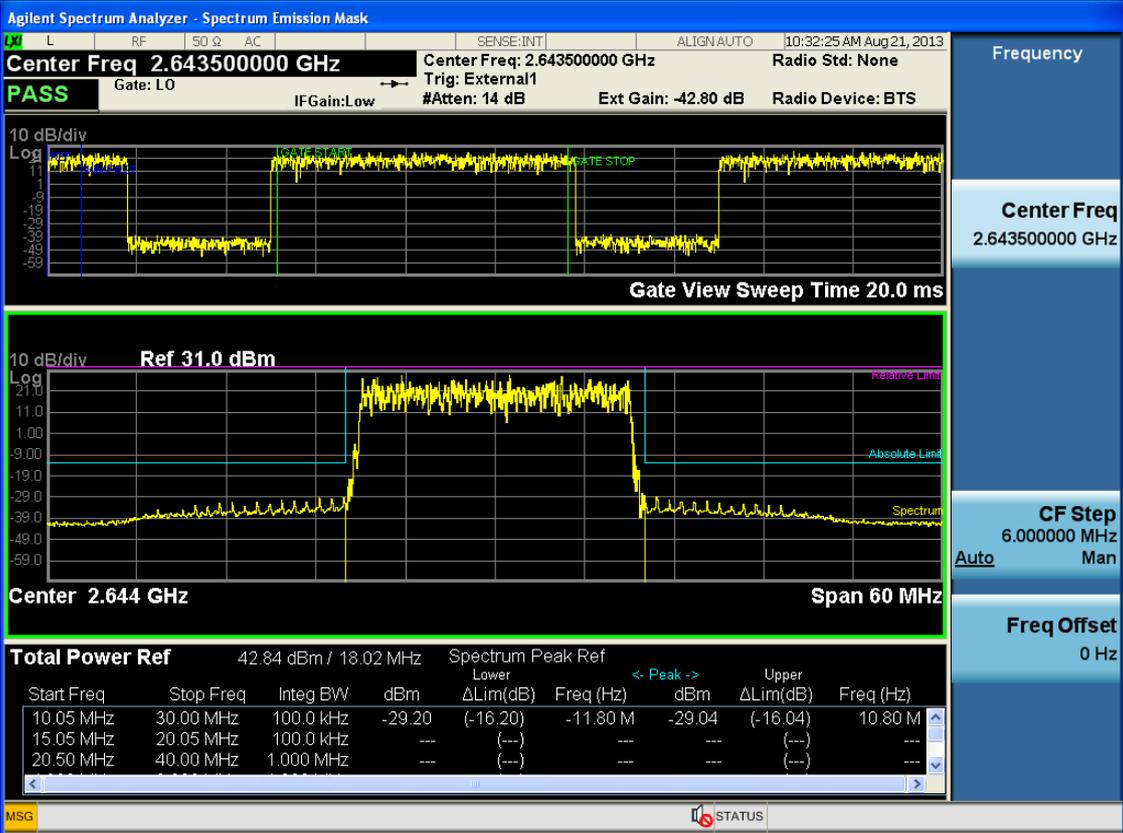
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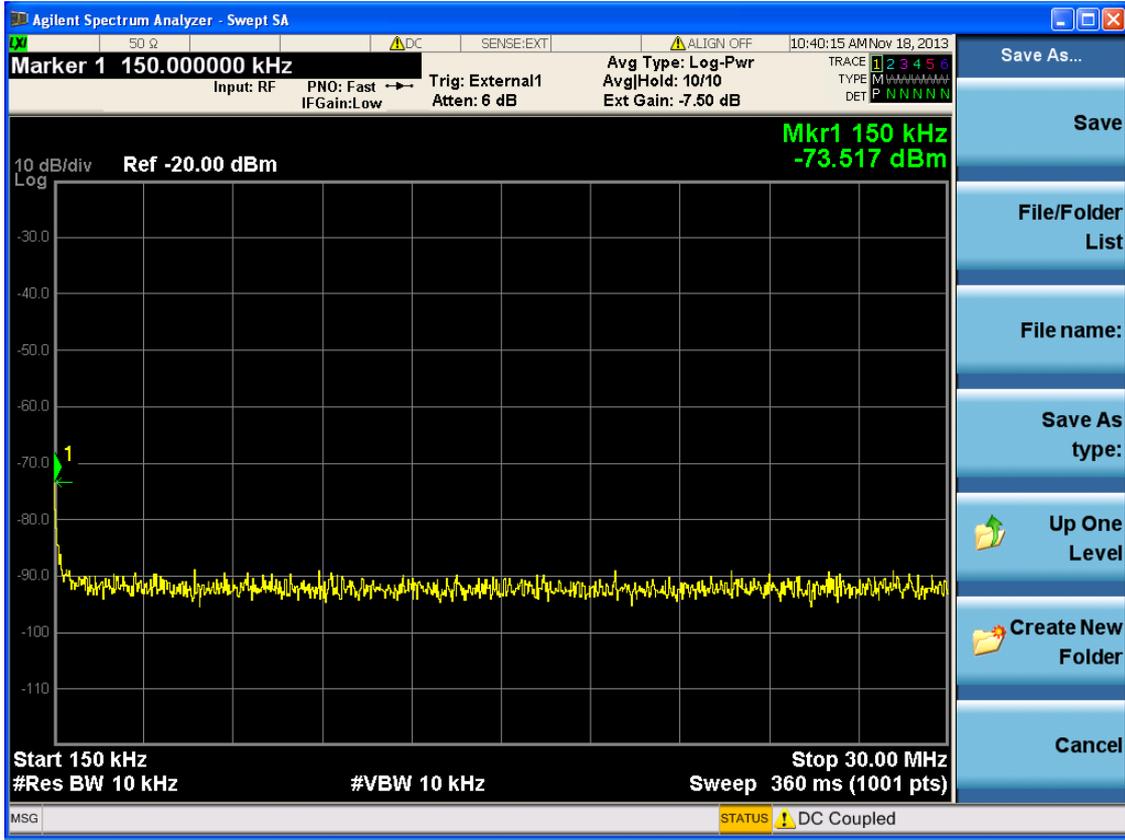
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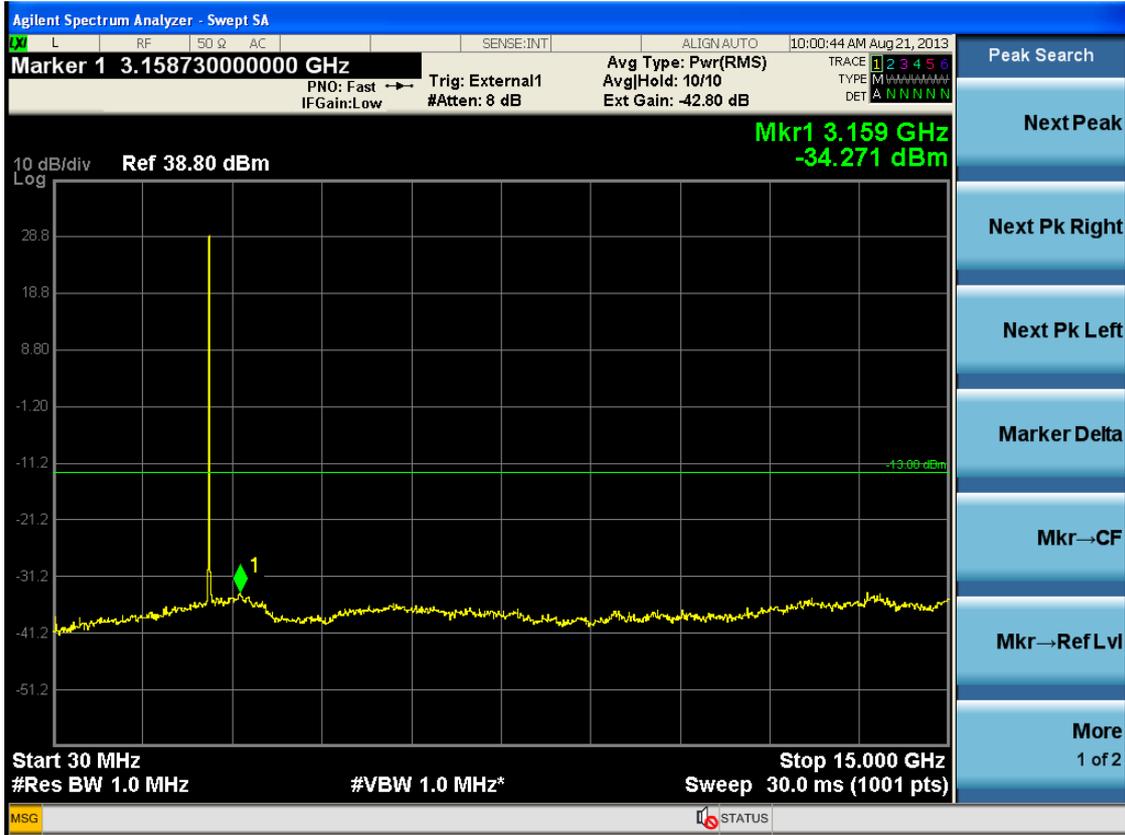
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20M-2643.5MHz-QPSK-9k-Port2



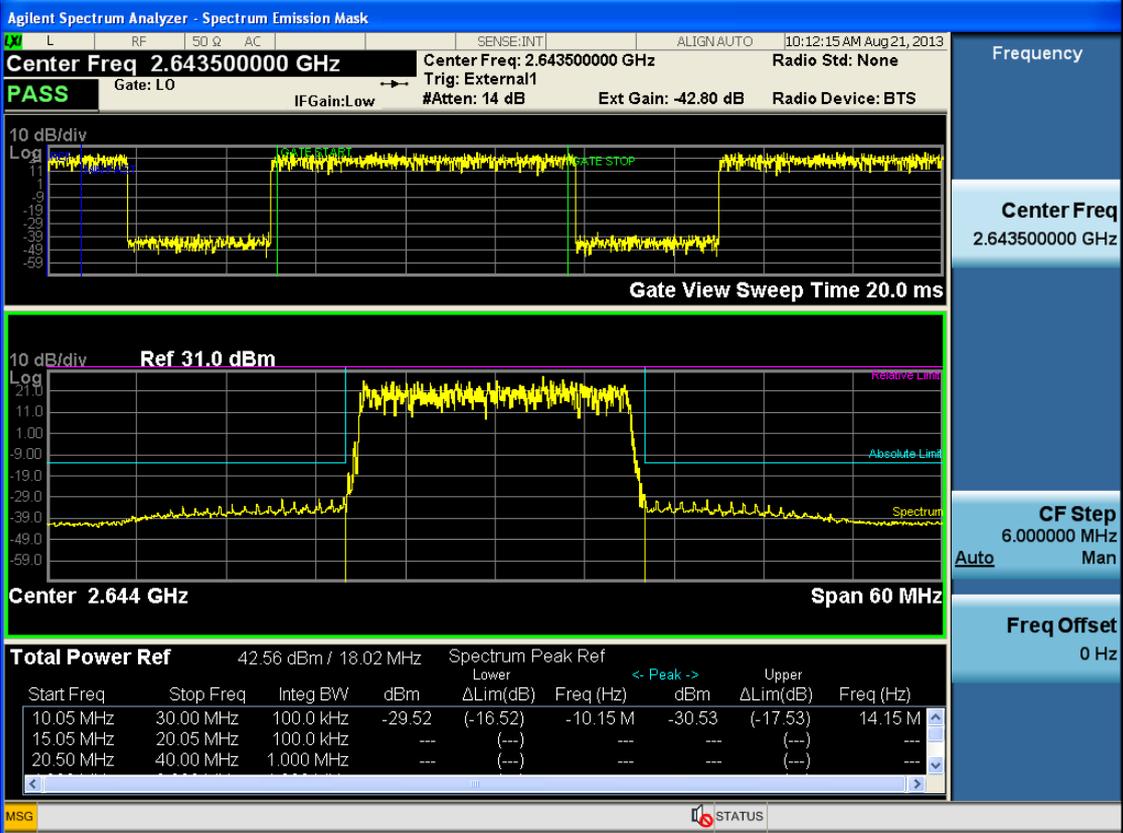
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20M-2643.5MHz-QPSK-30M-Port2



20M-2643.5MHz-QPSK-15G-Port2

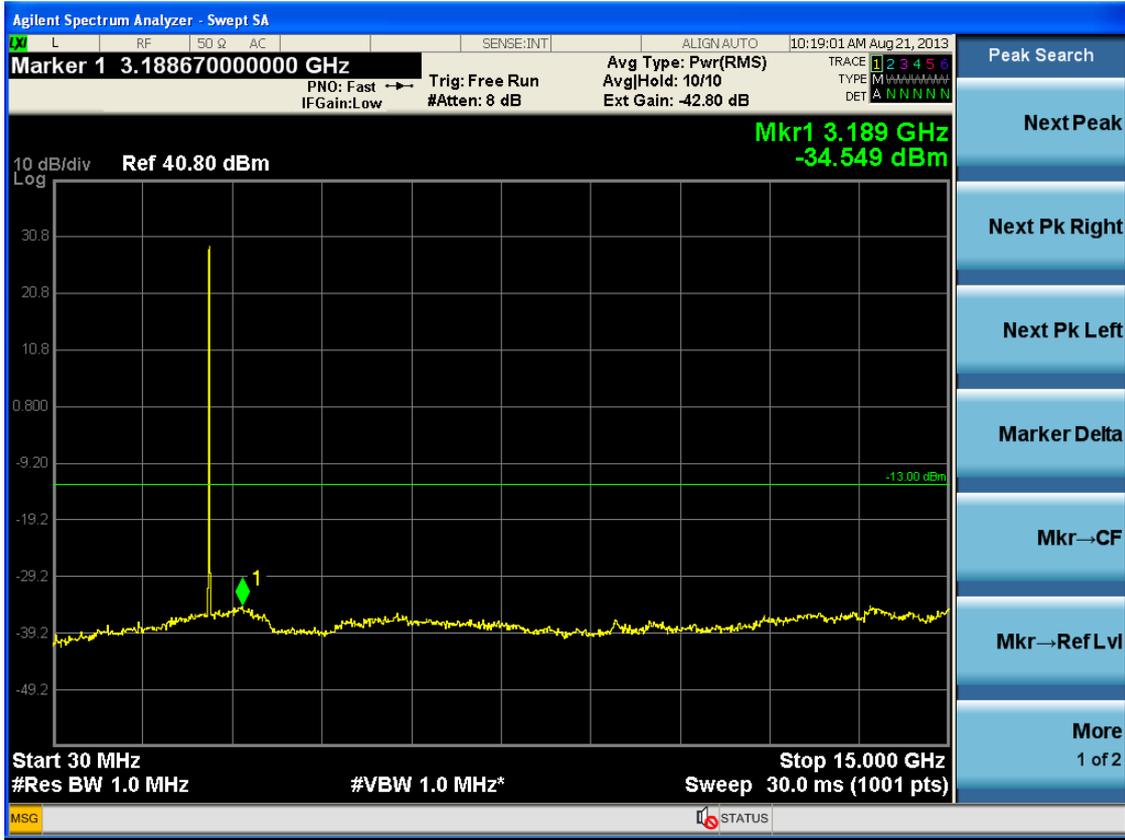


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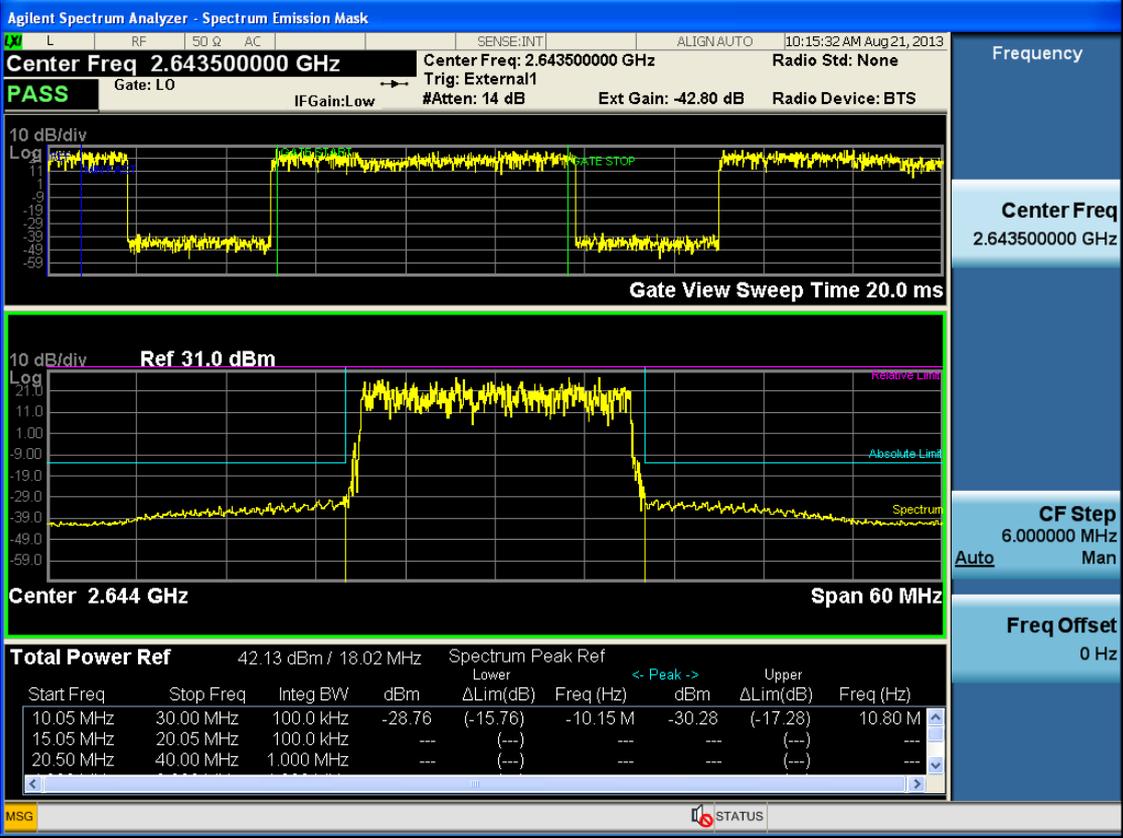




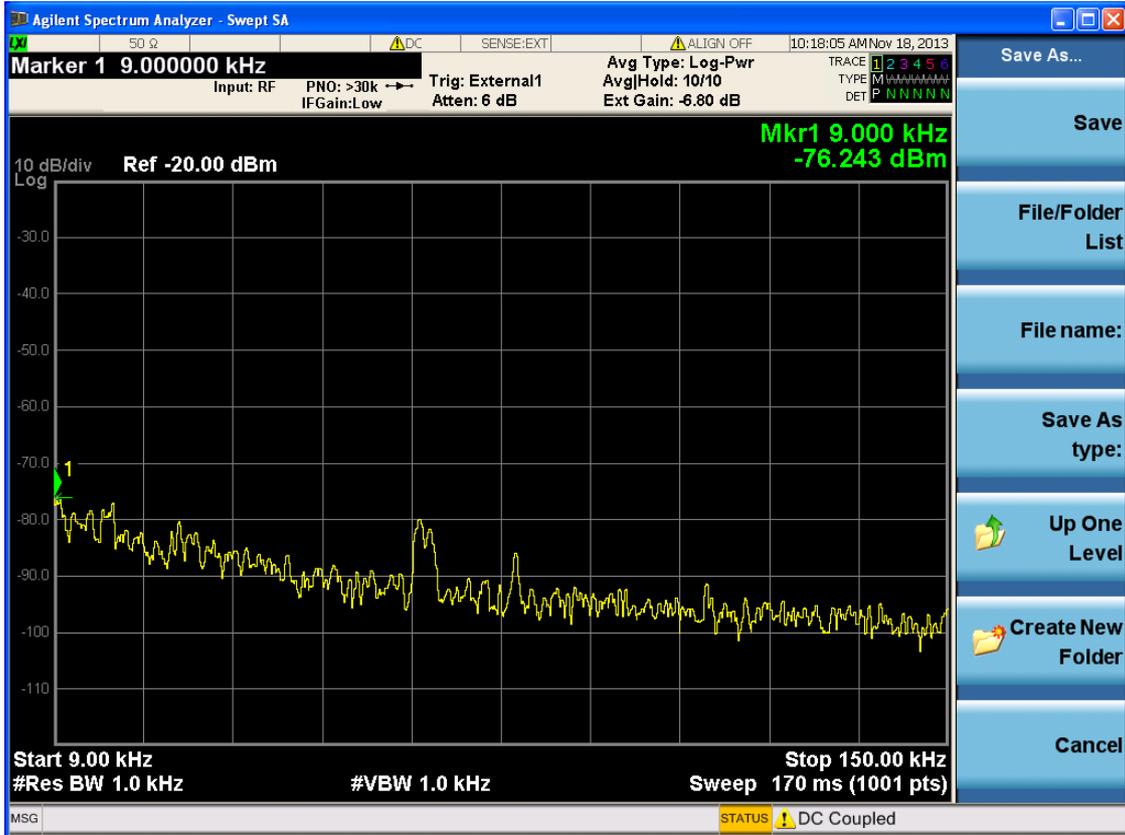
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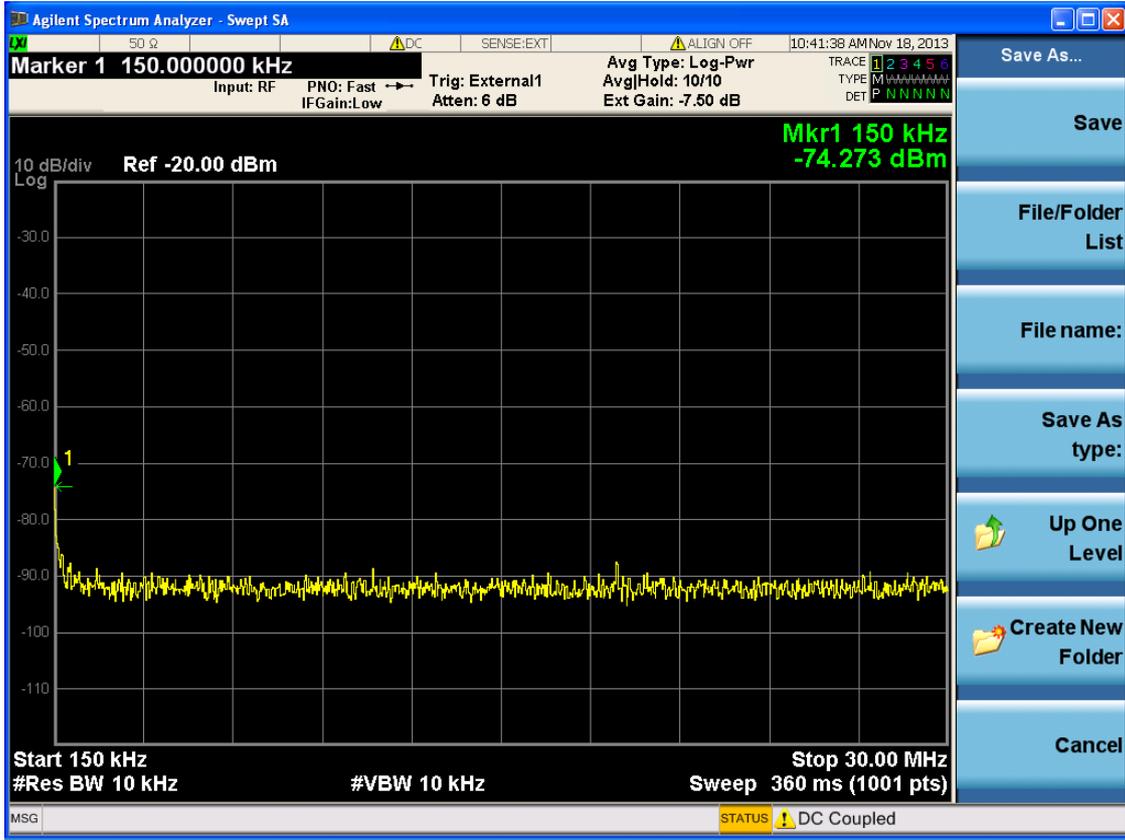
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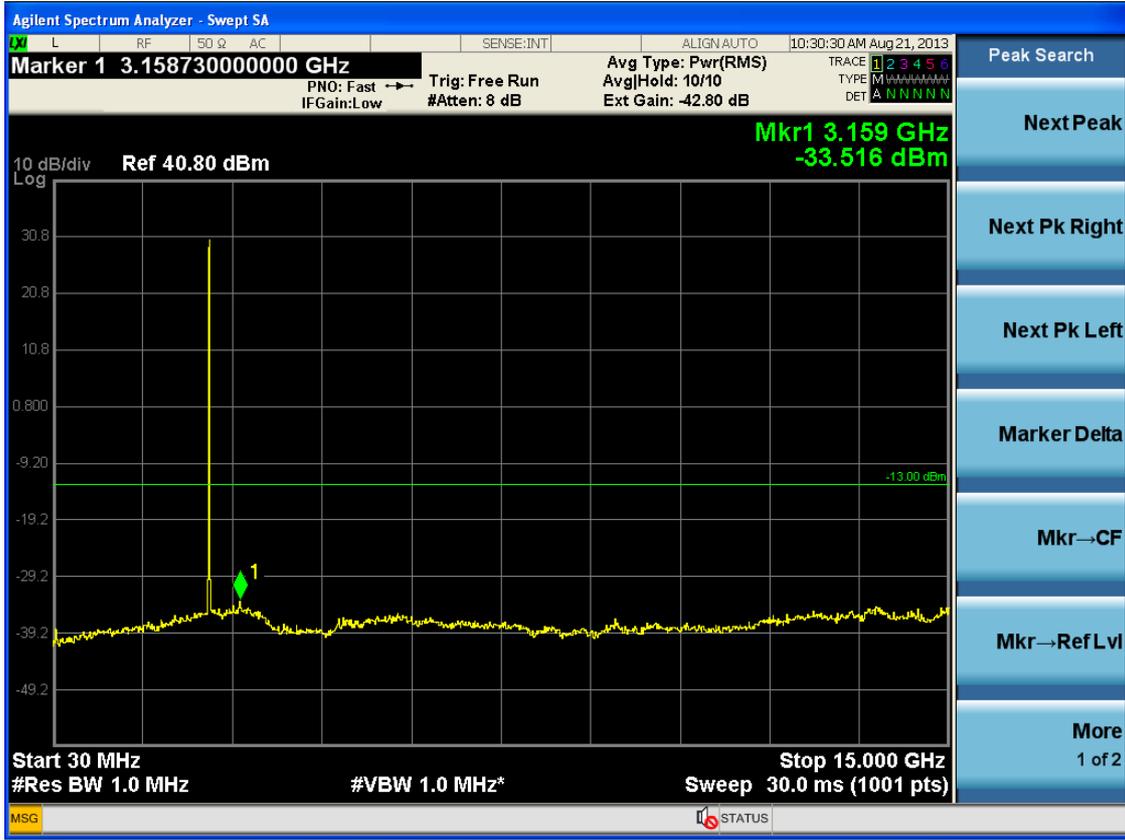
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20M-2643.5MHz-64QAM-9k-Port2



20M-2643.5MHz-64QAM-150k-Port2



20M-2643.5MHz-64QAM-30M-Port2



20M-2643.5MHz-64QAM-15G-Port2