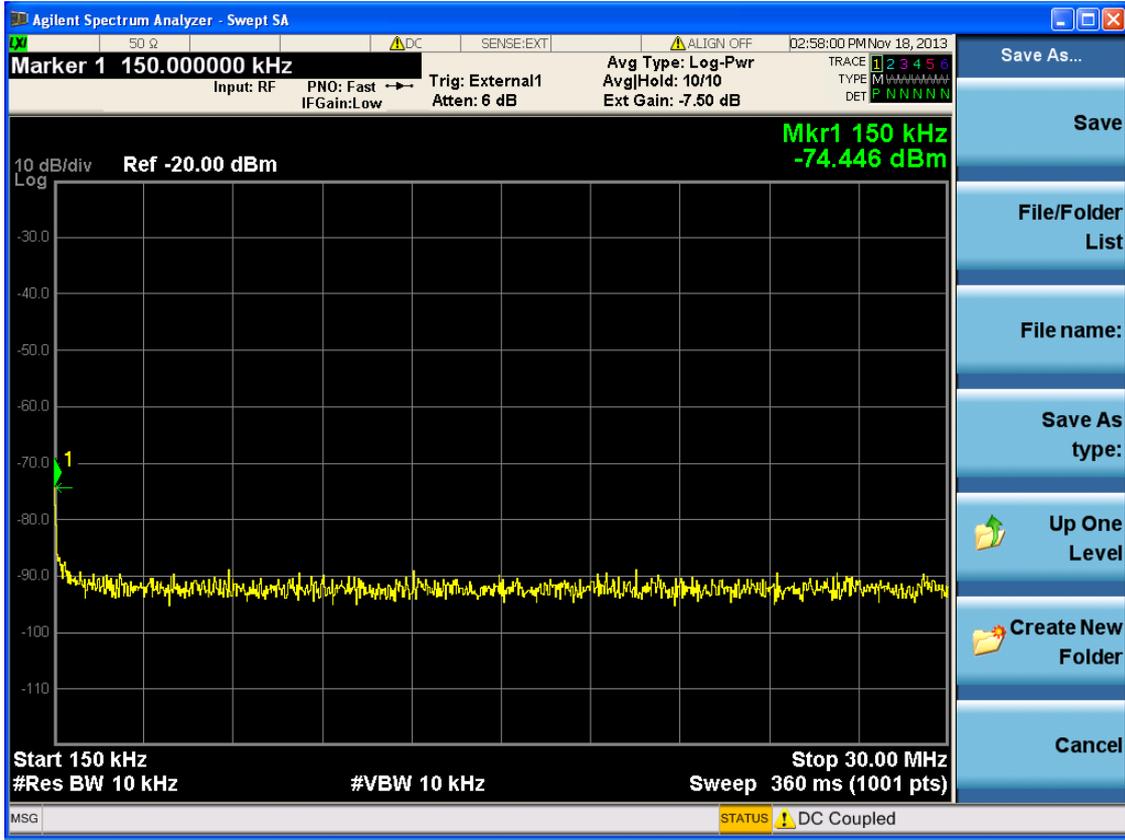


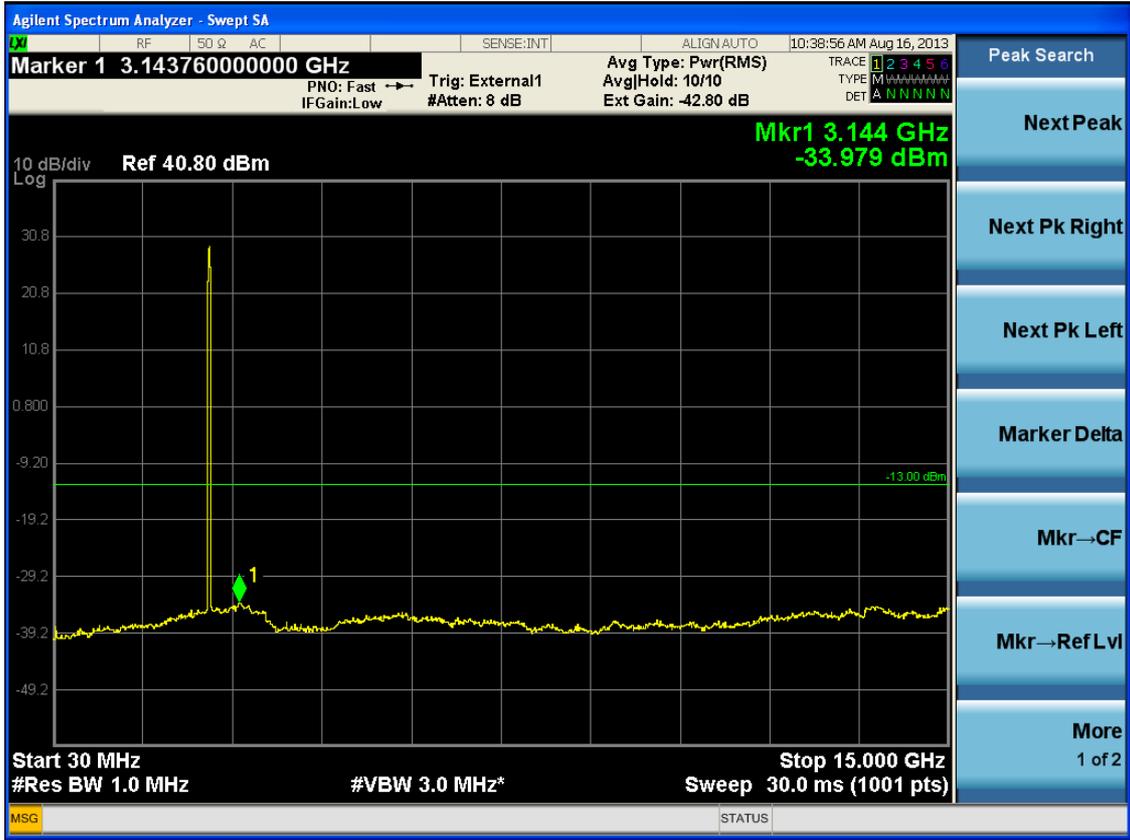
20M+20M-2633.5+2653.5MHz-16QAM -Band Edge-Port1



20M+20M-2633.5+2653.5MHz -64QAM-9k-Port1



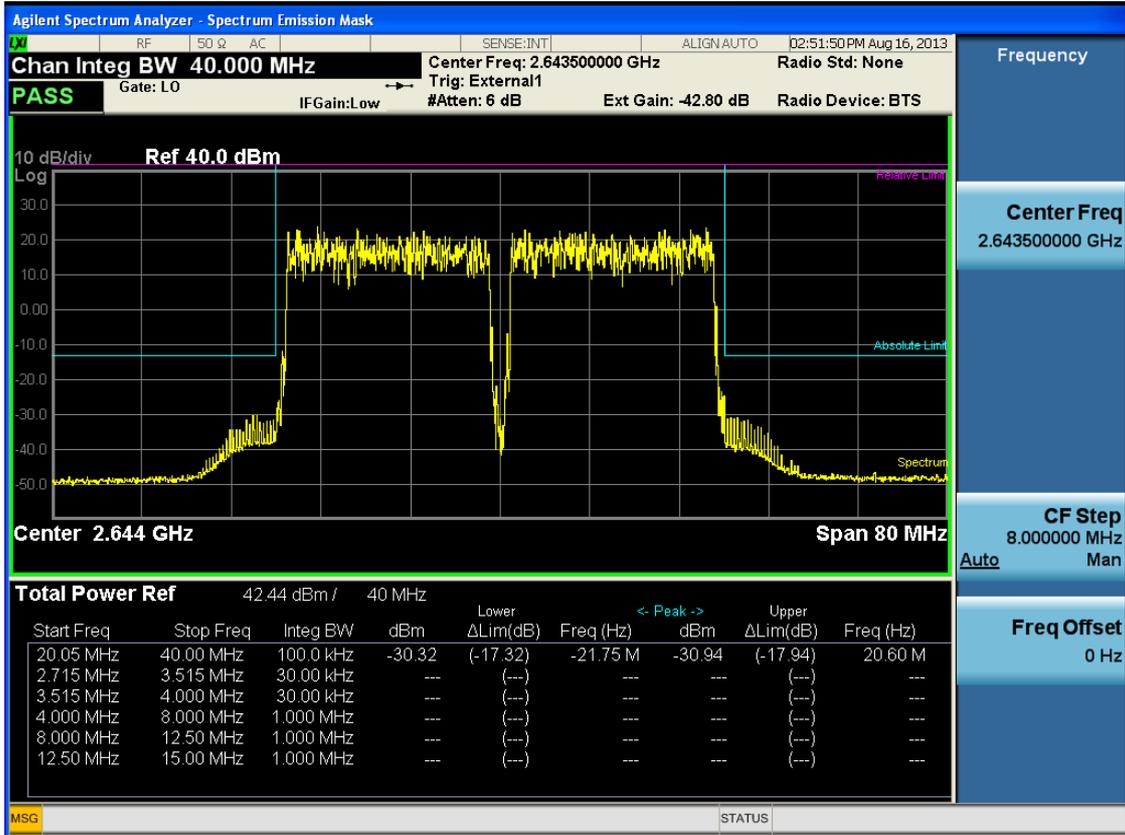
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20M+20M-2633.5+2653.5MHz -64QAM-30M-Port1



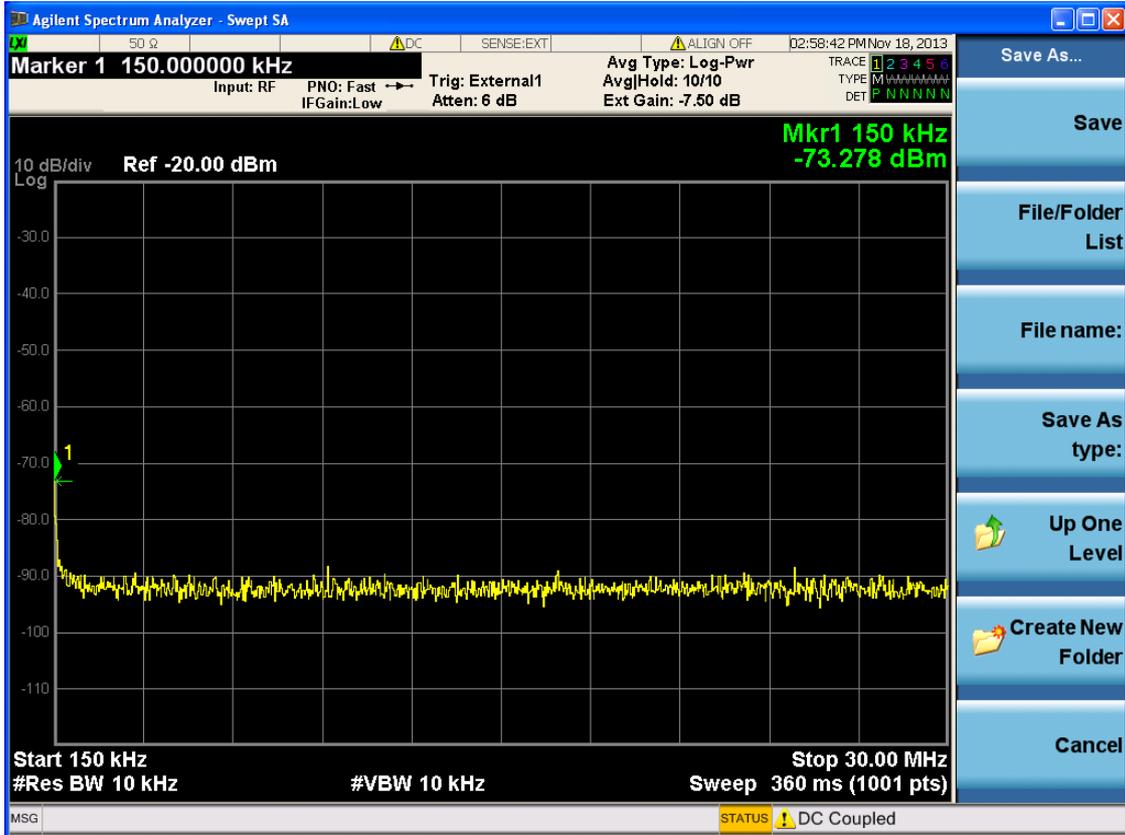
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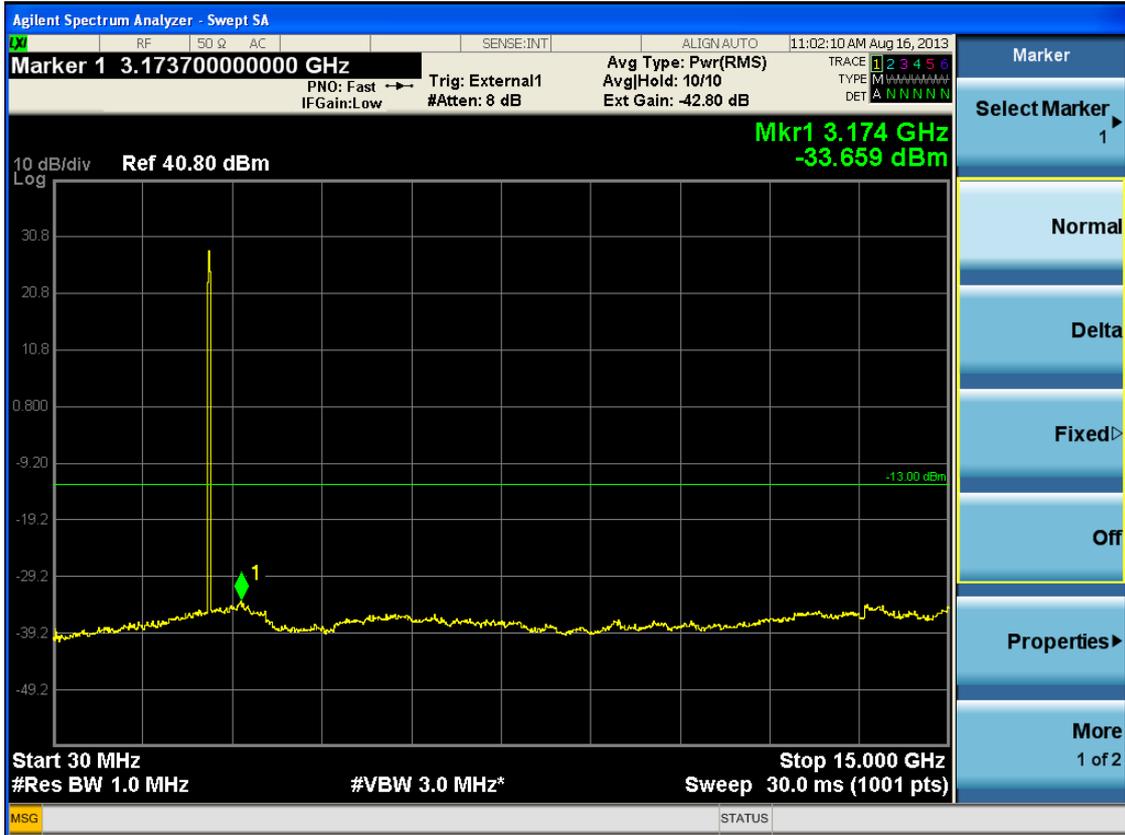
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20M+20M-2633.5+2653.5MHz -QPSK-9k-Port2



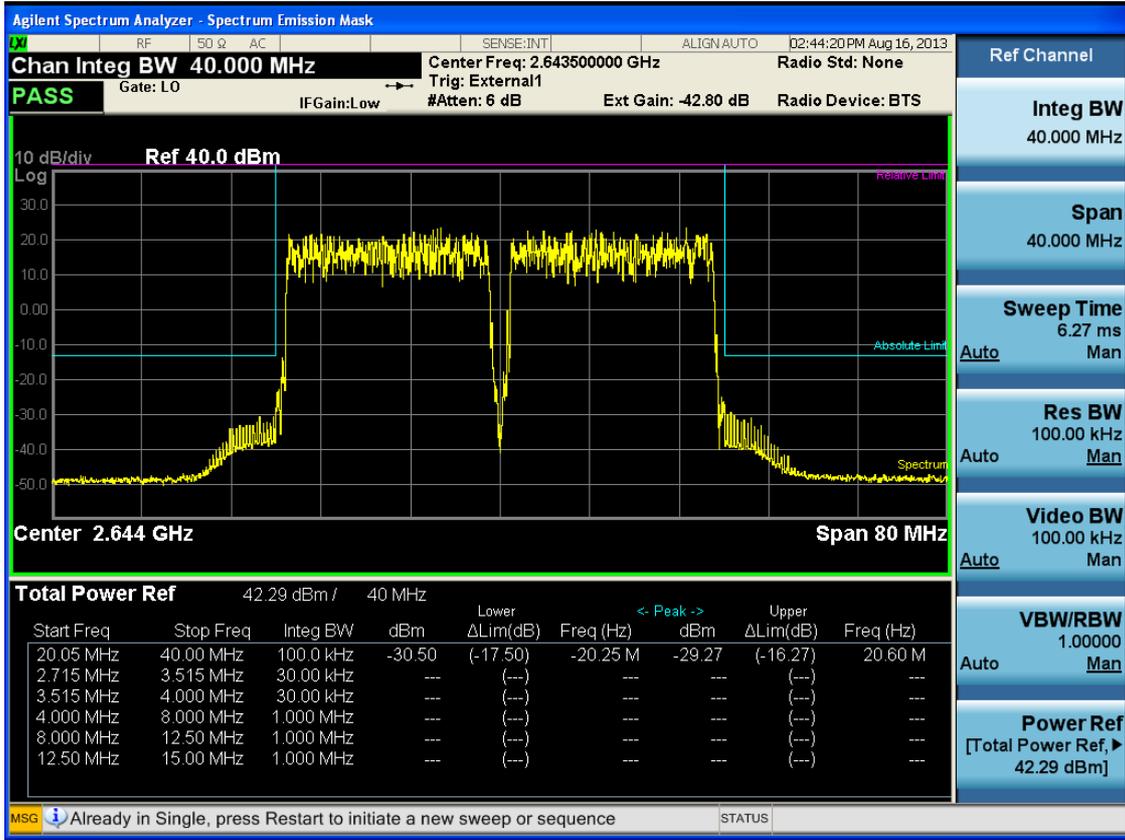
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20M+20M-2633.5+2653.5MHz -QPSK-30M-Port2



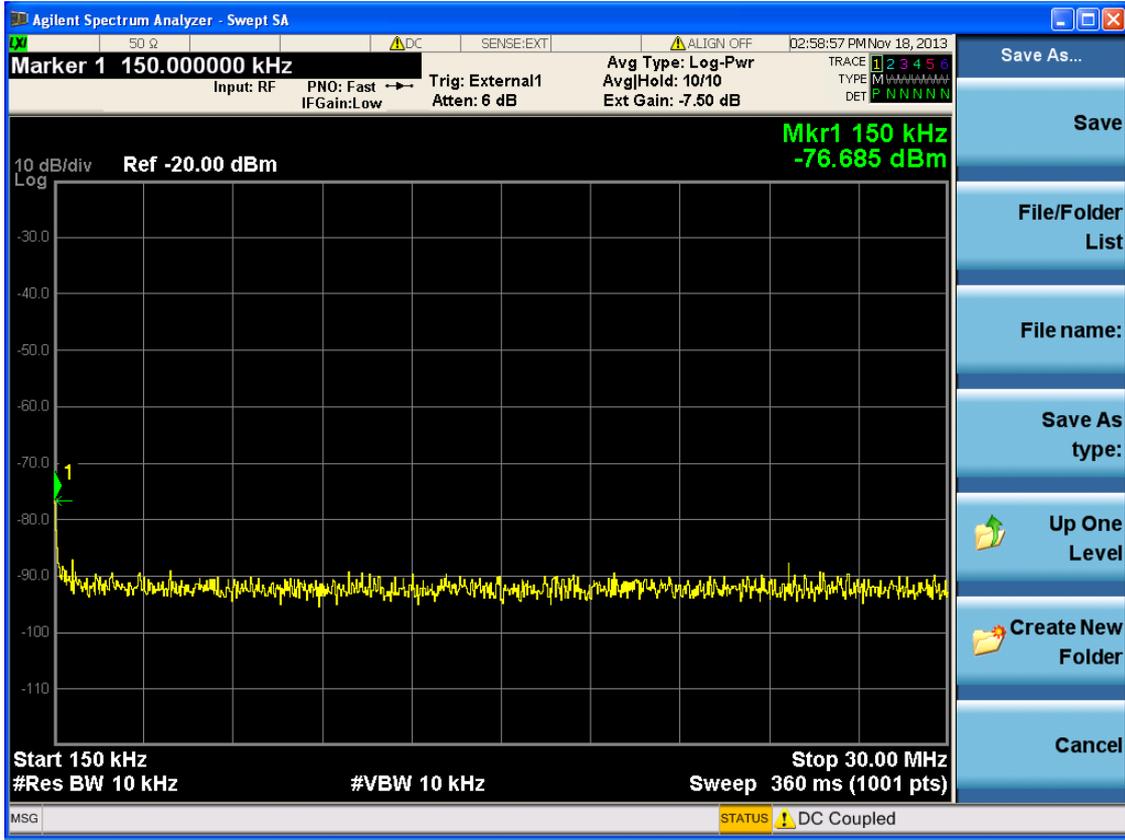
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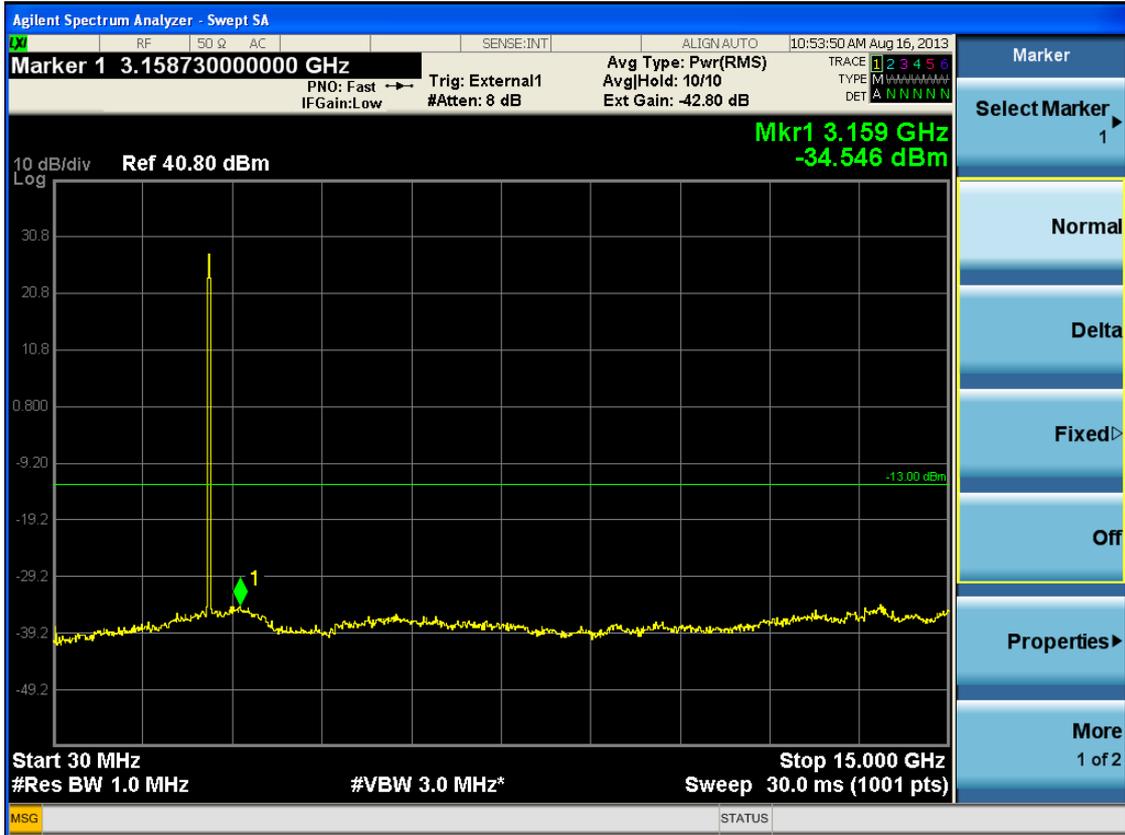
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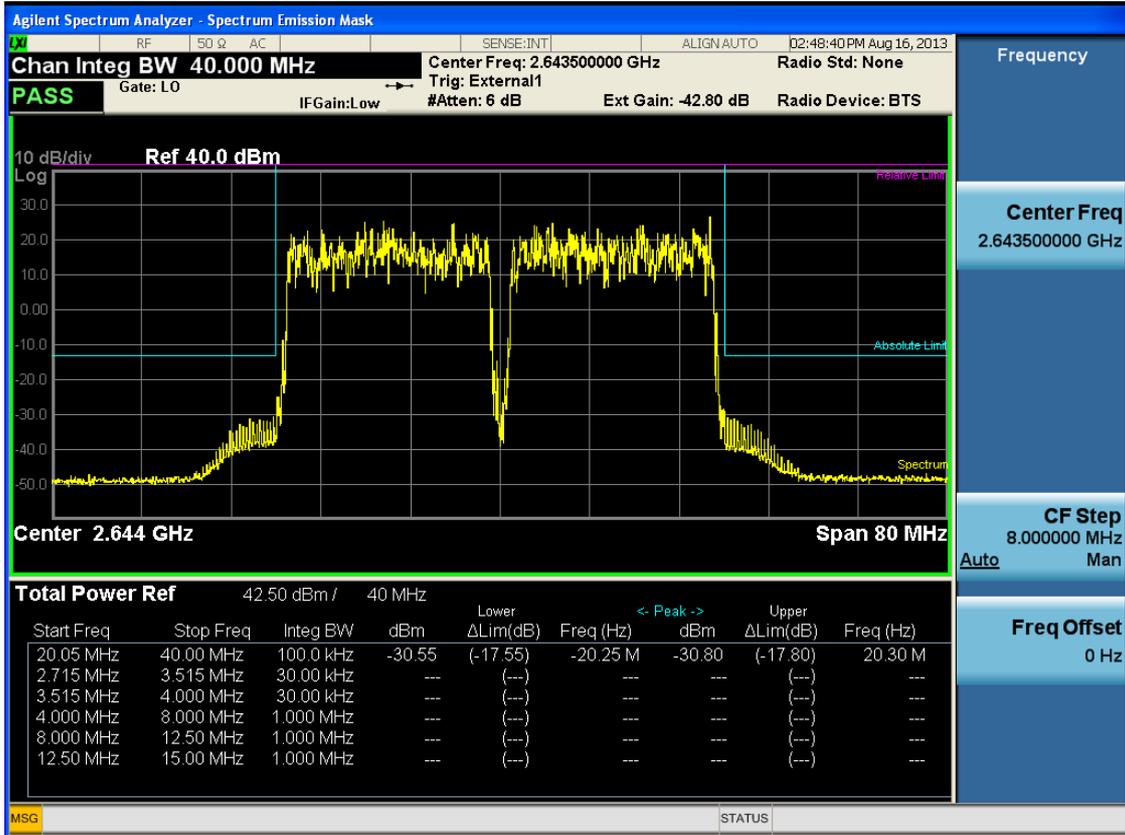
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20M+20M-2633.5+2653.5MHz -16QAM-30M-Port2



20M+20M-2633.5+2653.5MHz -16QAM -15G-Port2

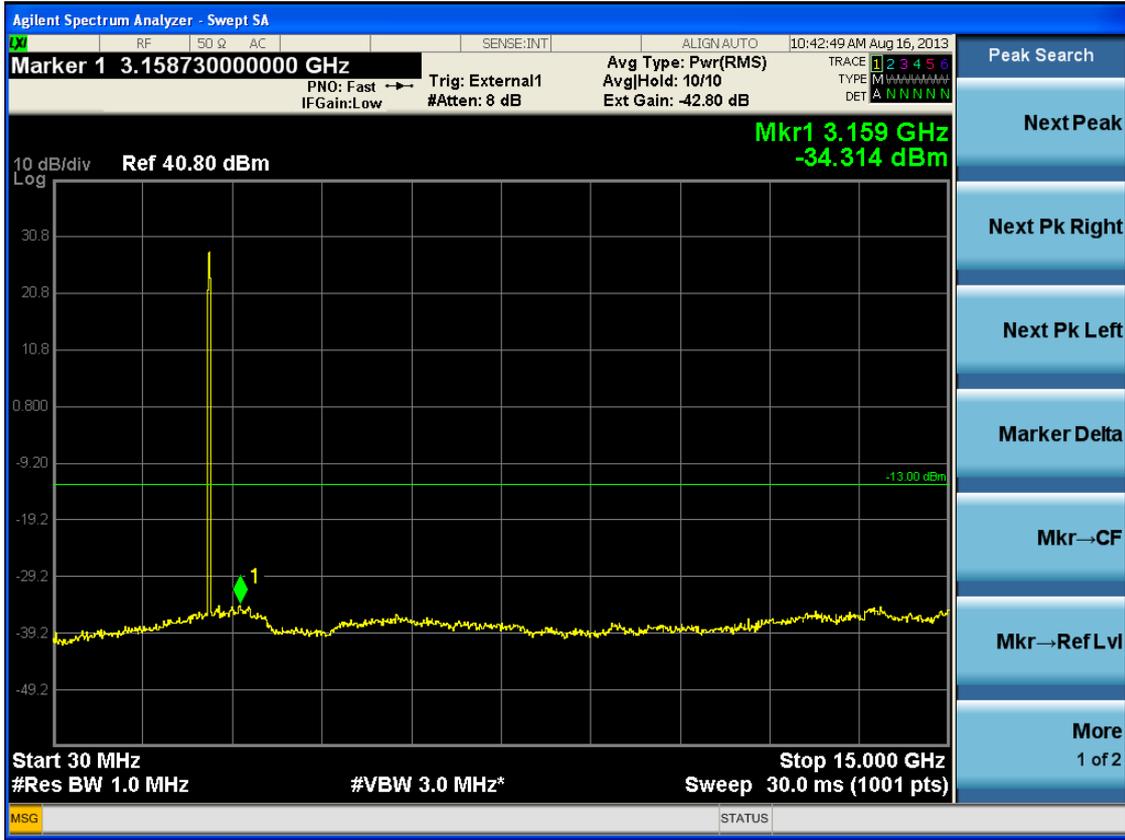


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20M+20M-2633.5+2653.5MHz -64QAM-9k-Port2

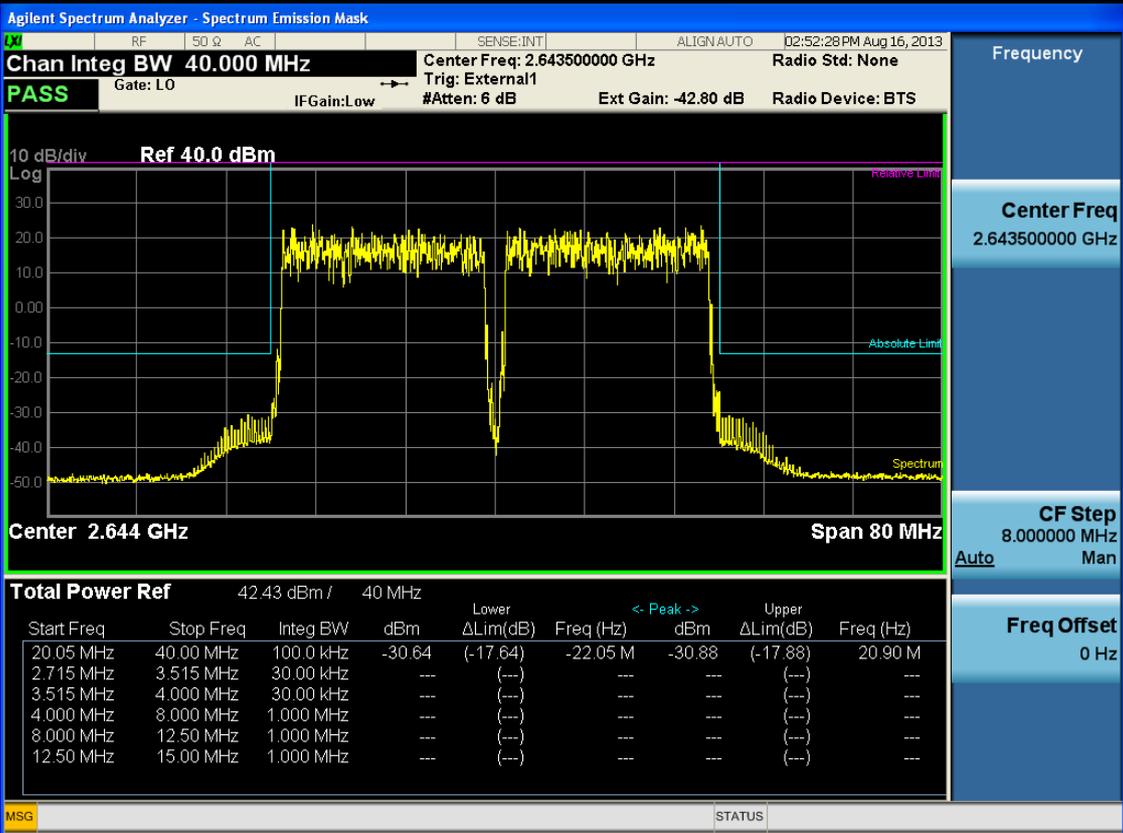




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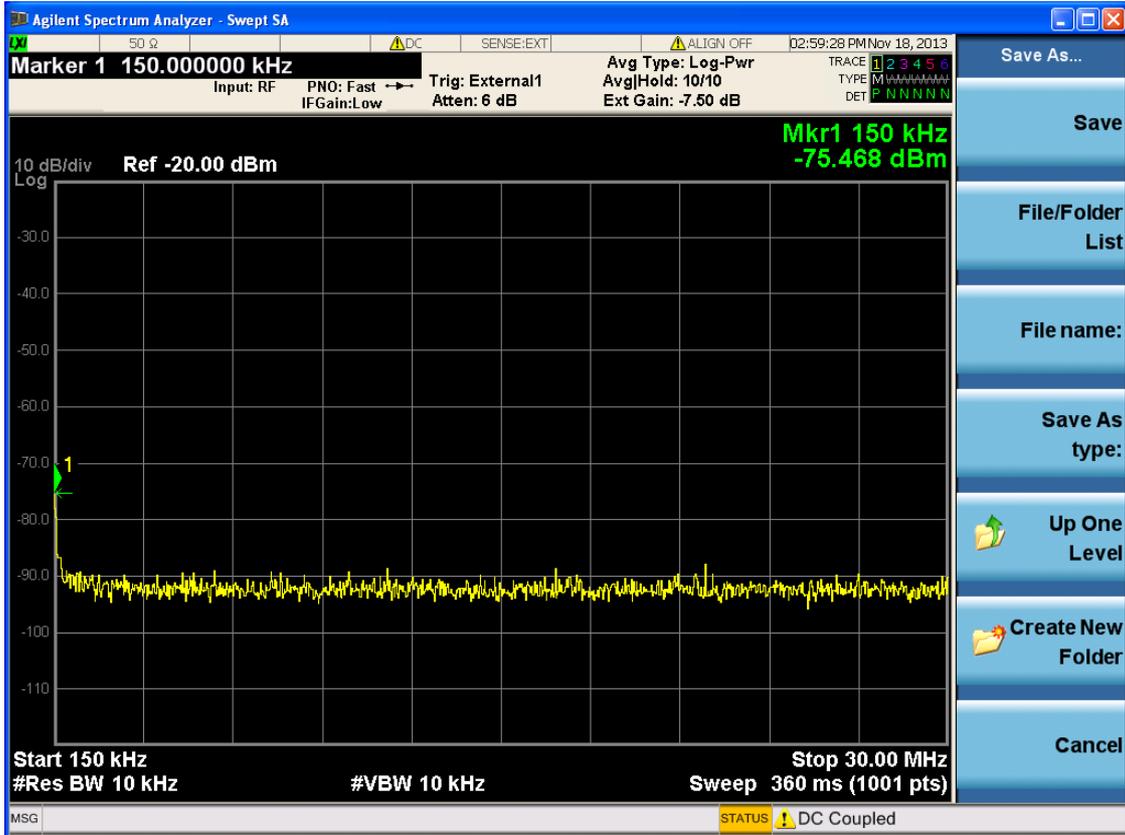
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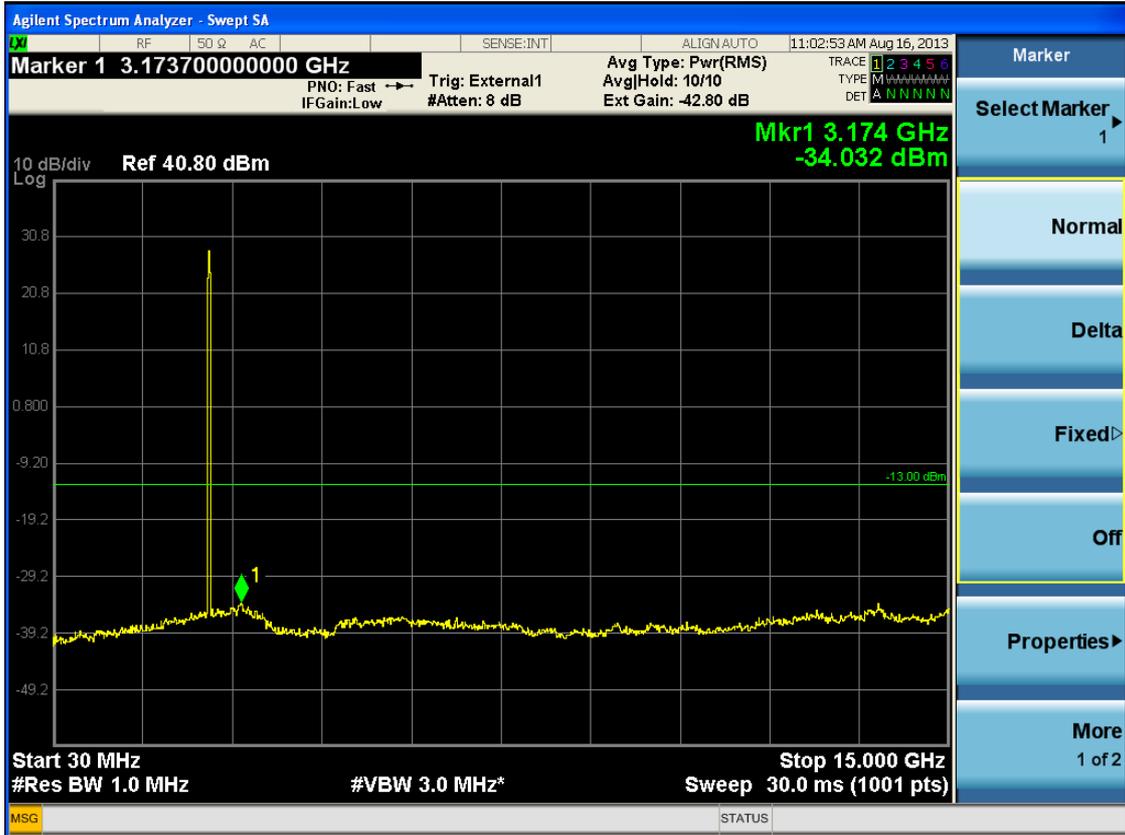
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20M+20M-2633.5+2653.5MHz -QPSK-9k-Port3



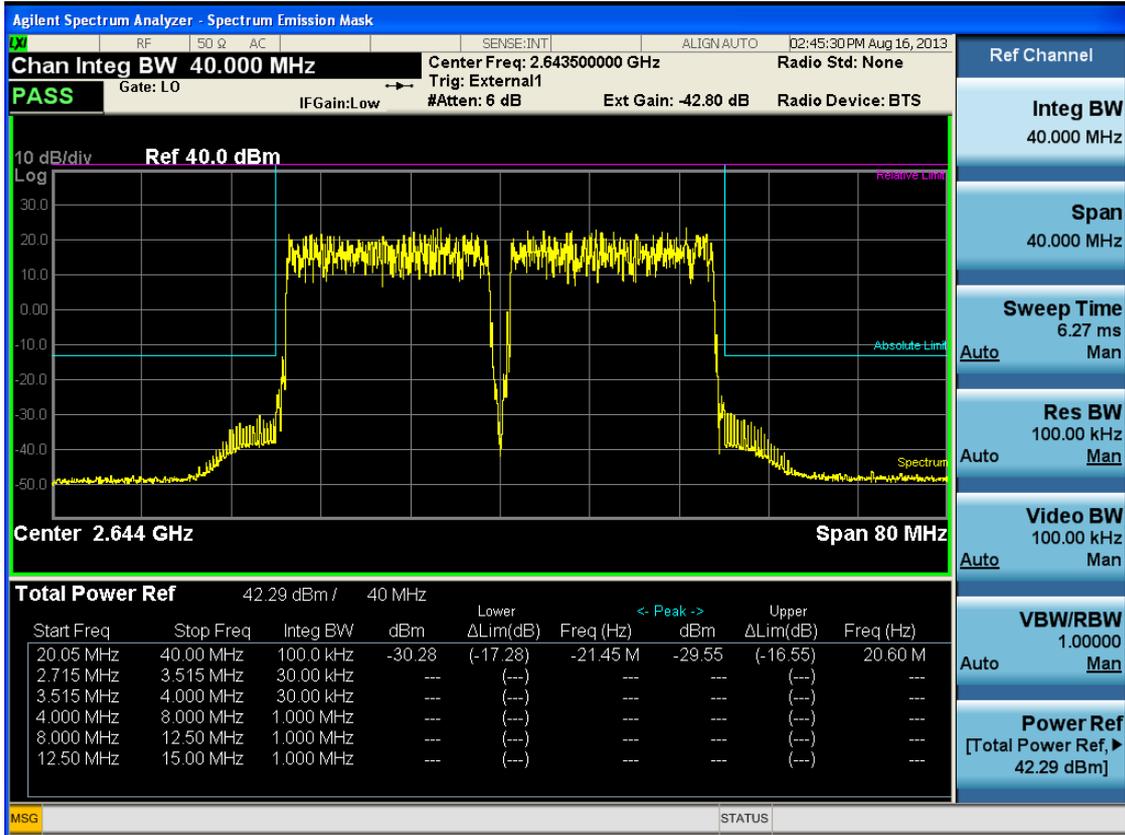
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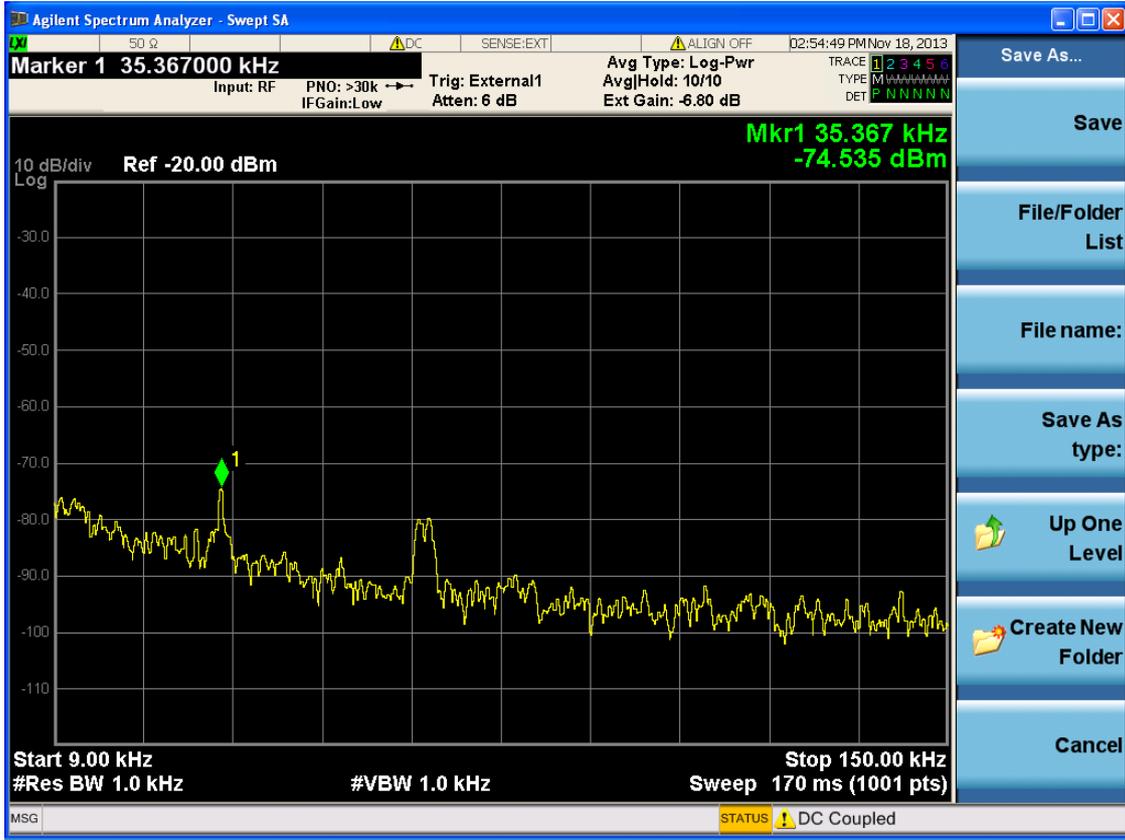
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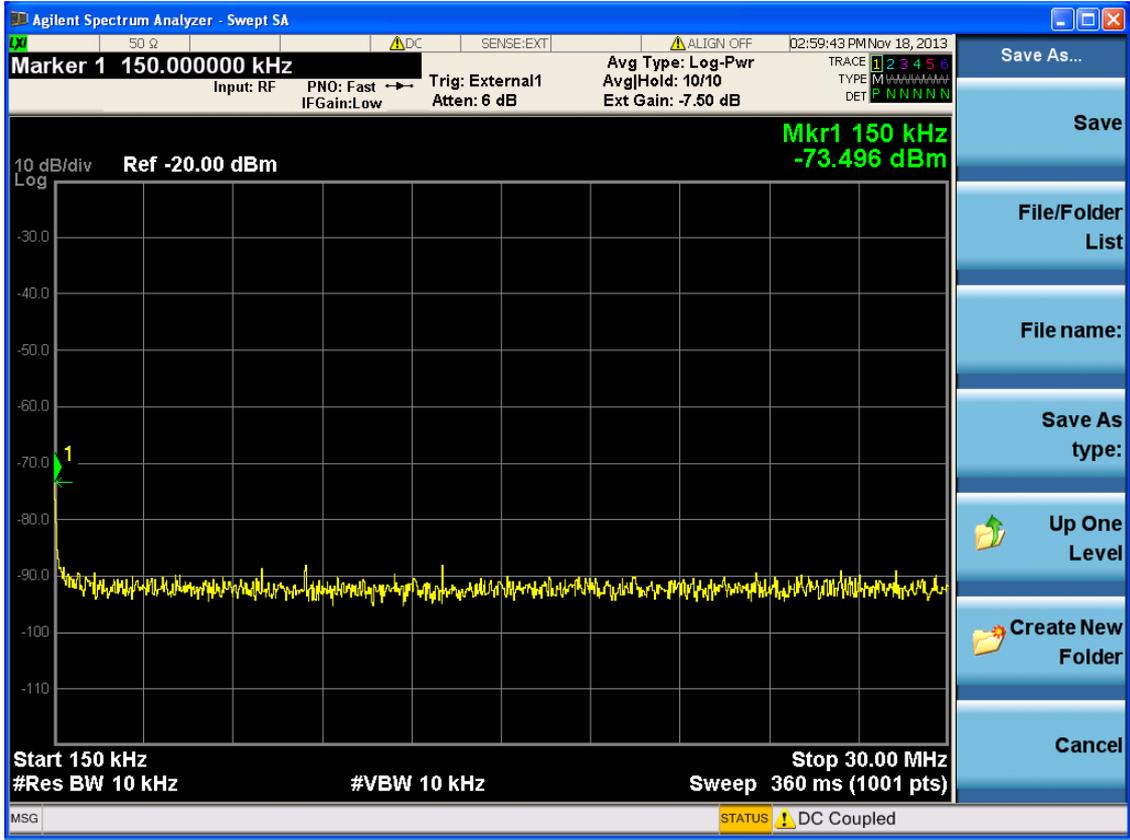
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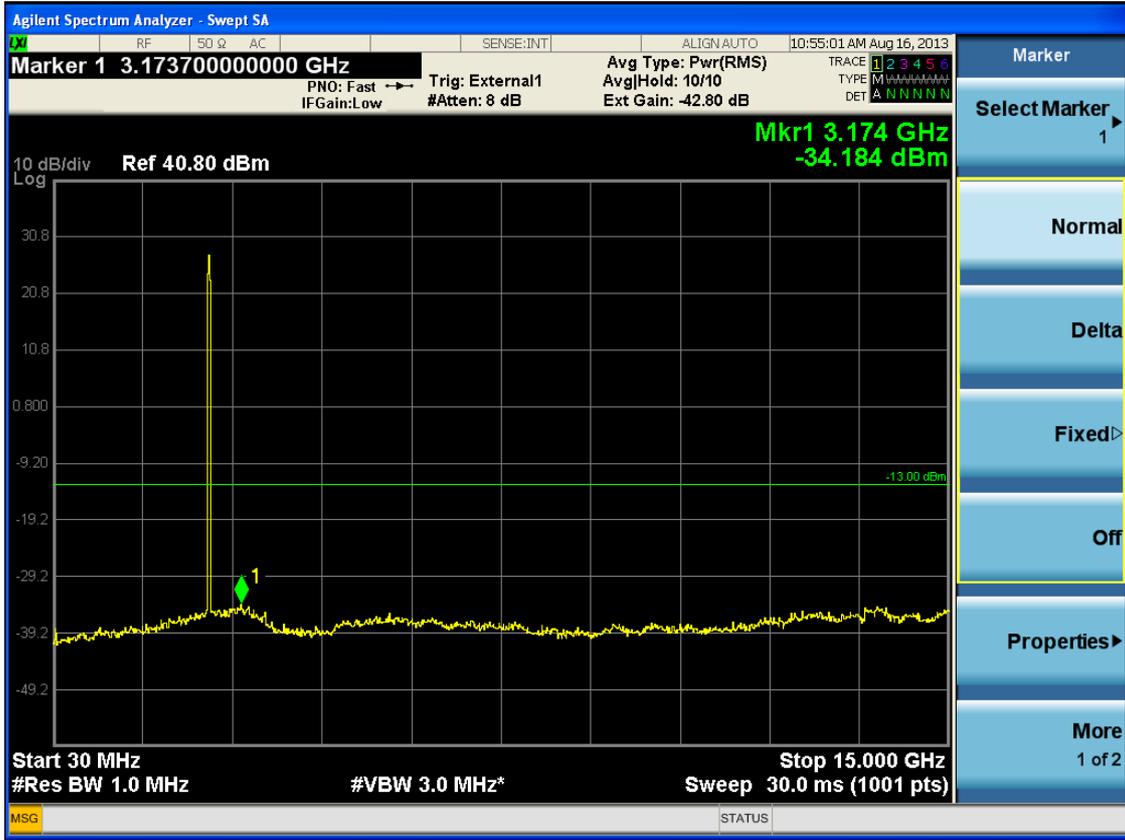
20M+20M-2633.5+2653.5MHz-QPSK-Band Edge-Port3



20M+20M-2633.5+2653.5MHz -16QAM-9k-Port3



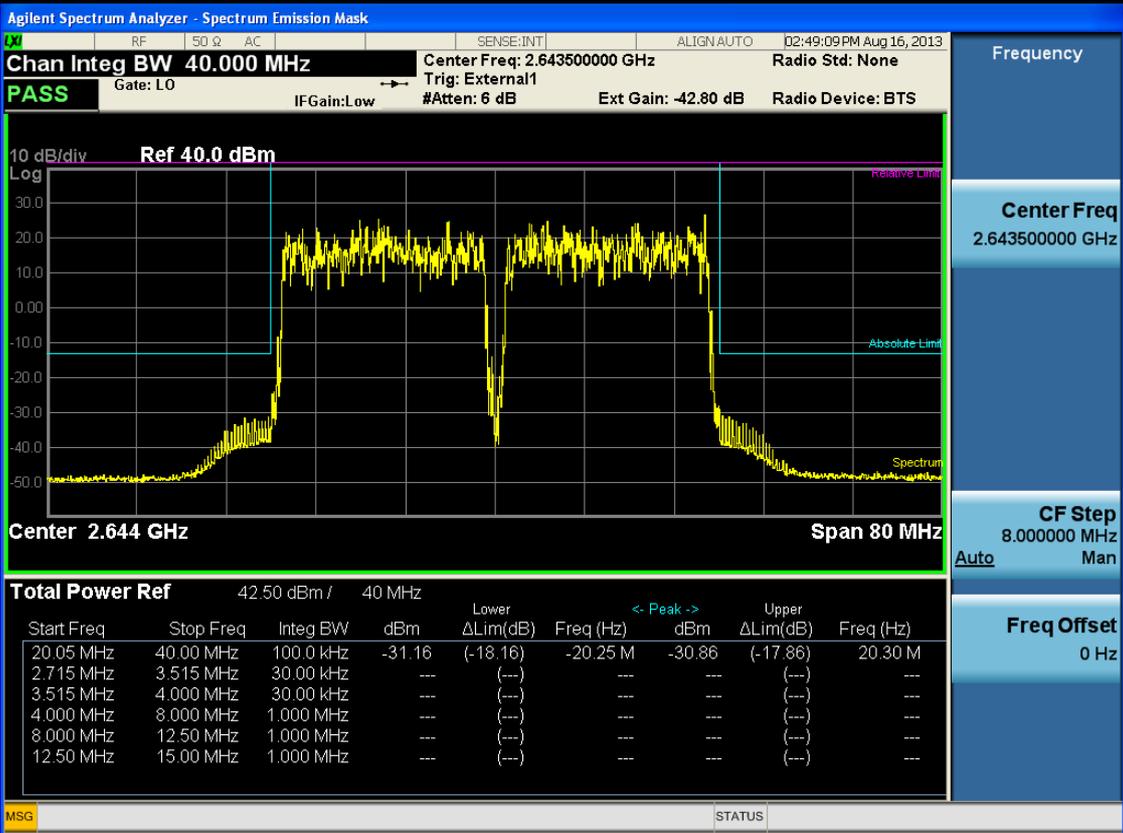
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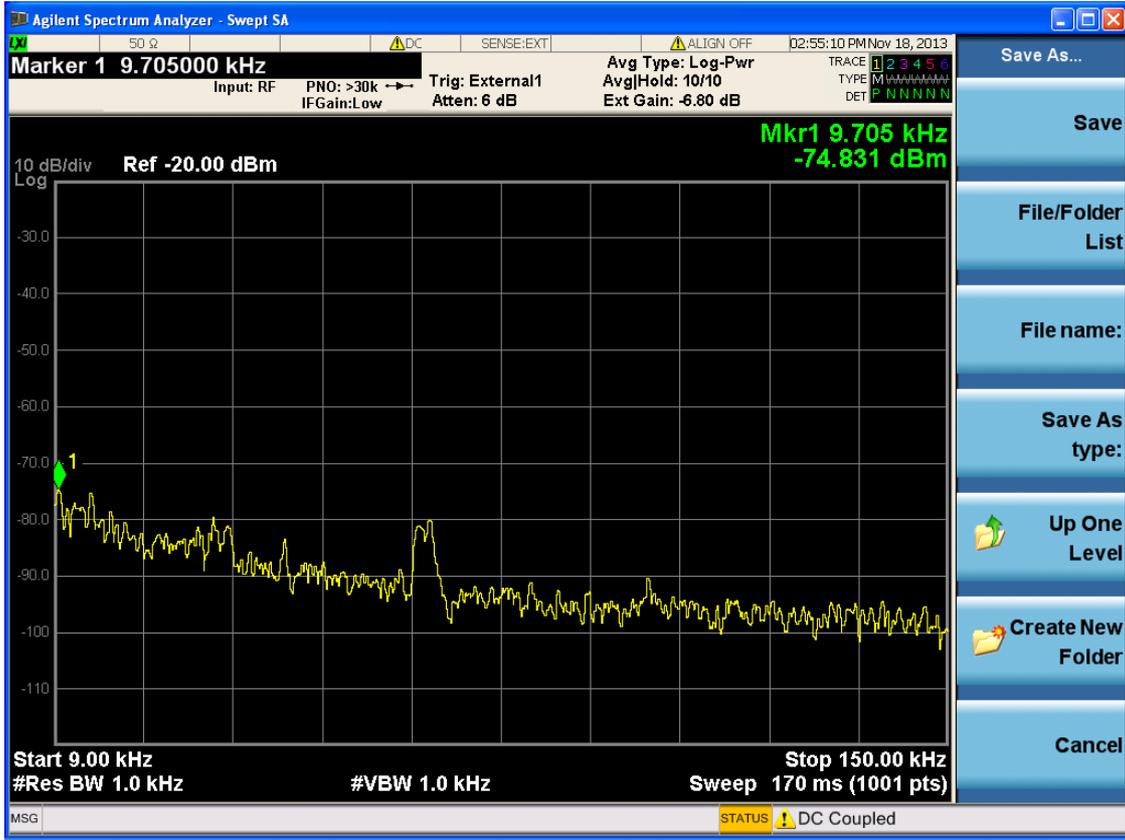
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20M+20M-2633.5+2653.5MHz -16QAM -15G-Port3

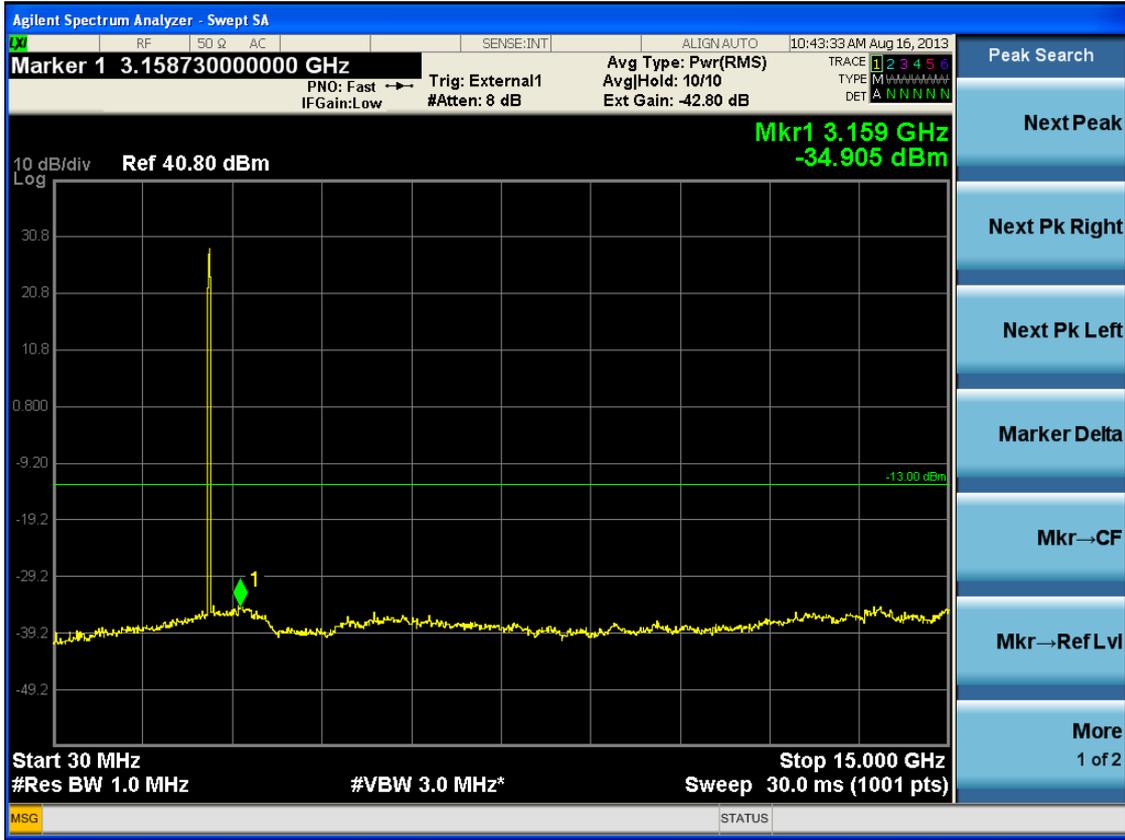


20M+20M-2633.5+2653.5MHz-16QAM -Band Edge-Port3



20M+20M-2633.5+2653.5MHz -64QAM-9k-Port3

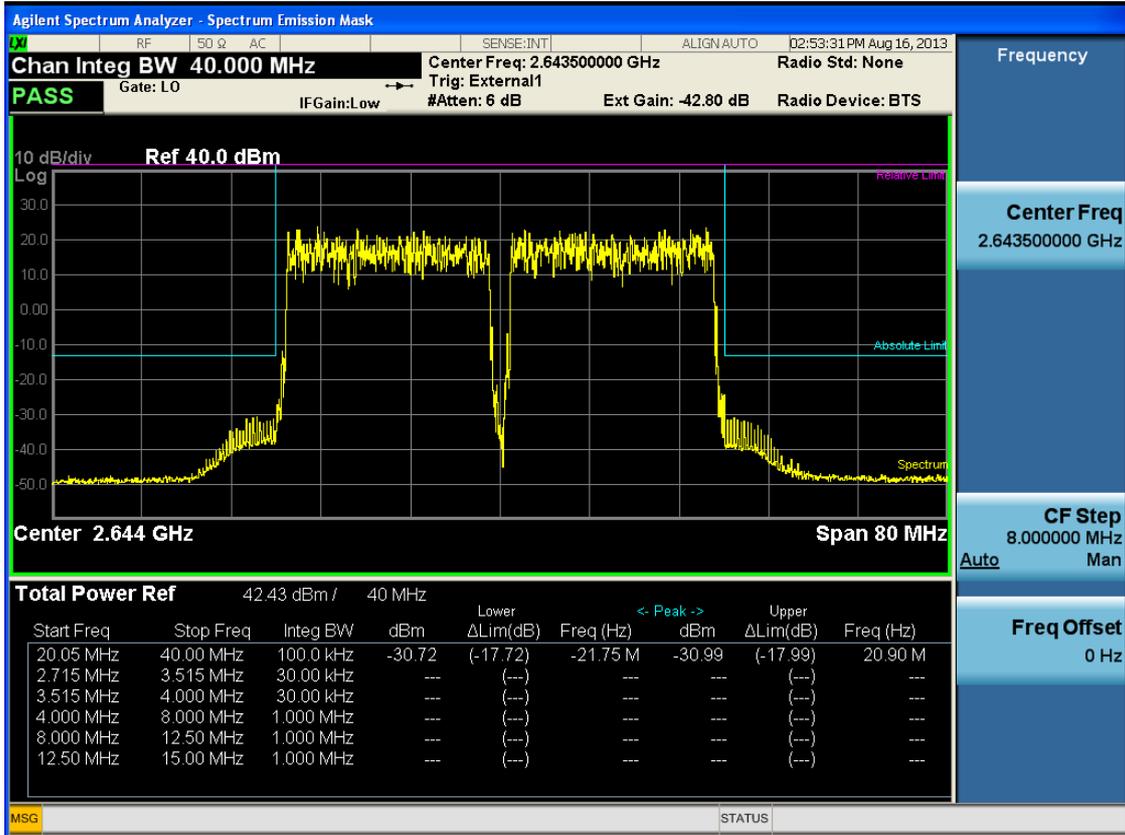




20M+20M-2633.5+2653.5MHz -64QAM-30M-Port3



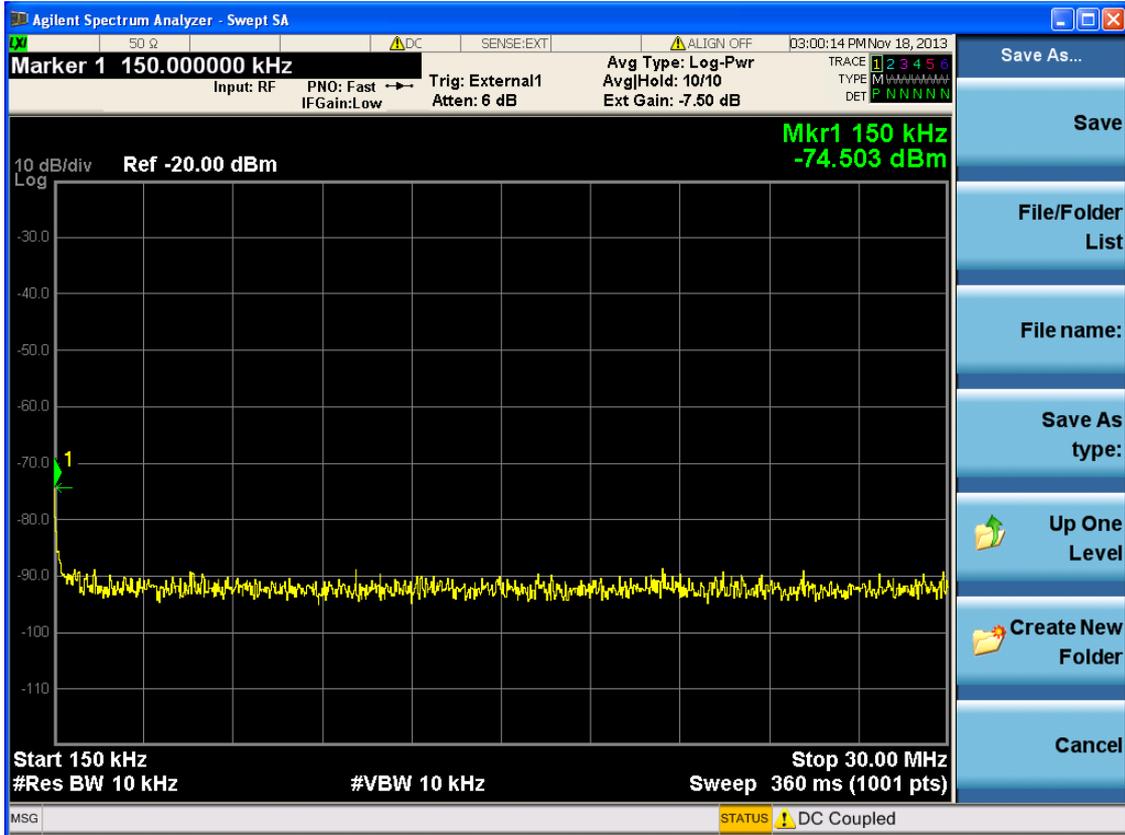
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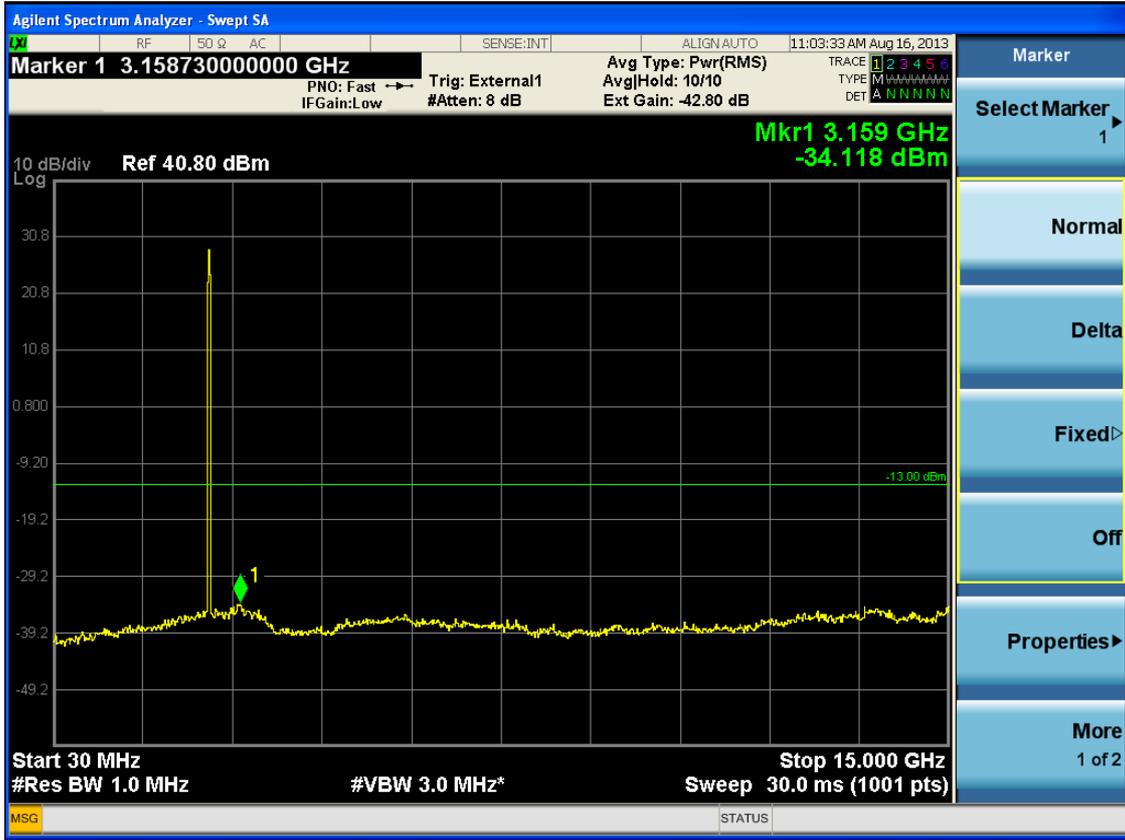
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20M+20M-2633.5+2653.5MHz -QPSK-9k-Port4



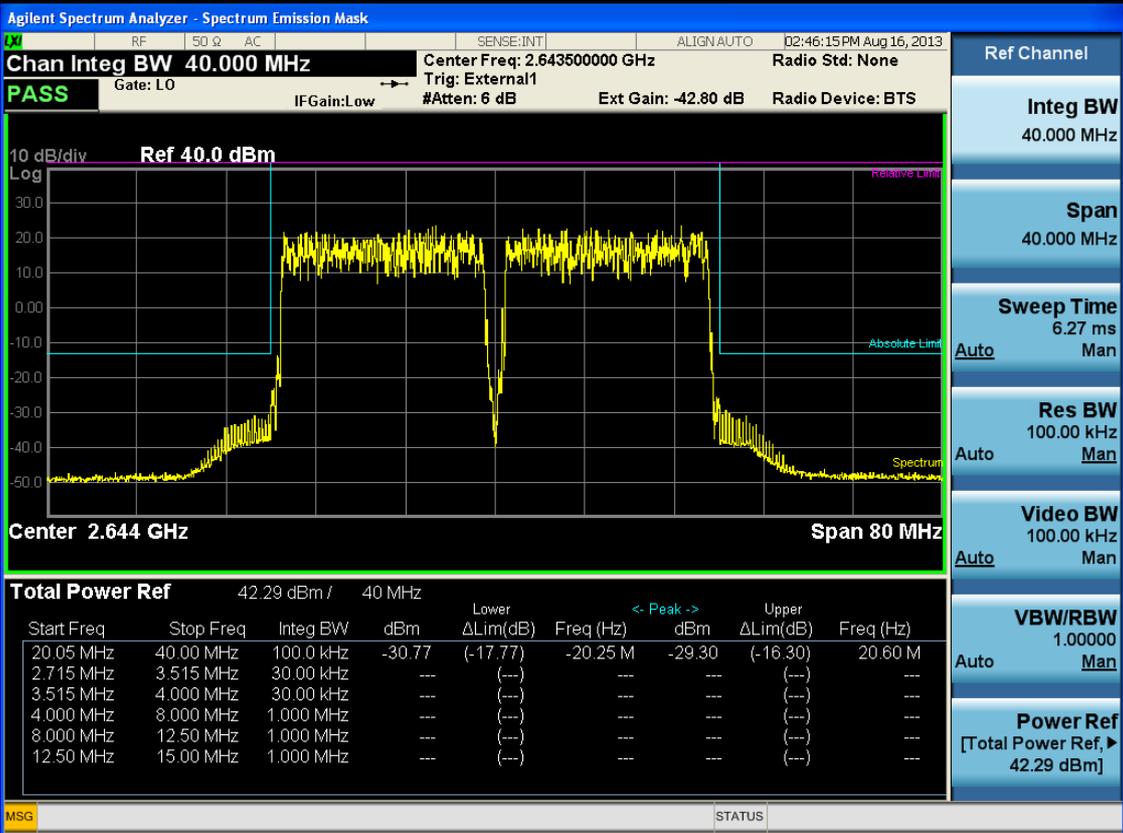
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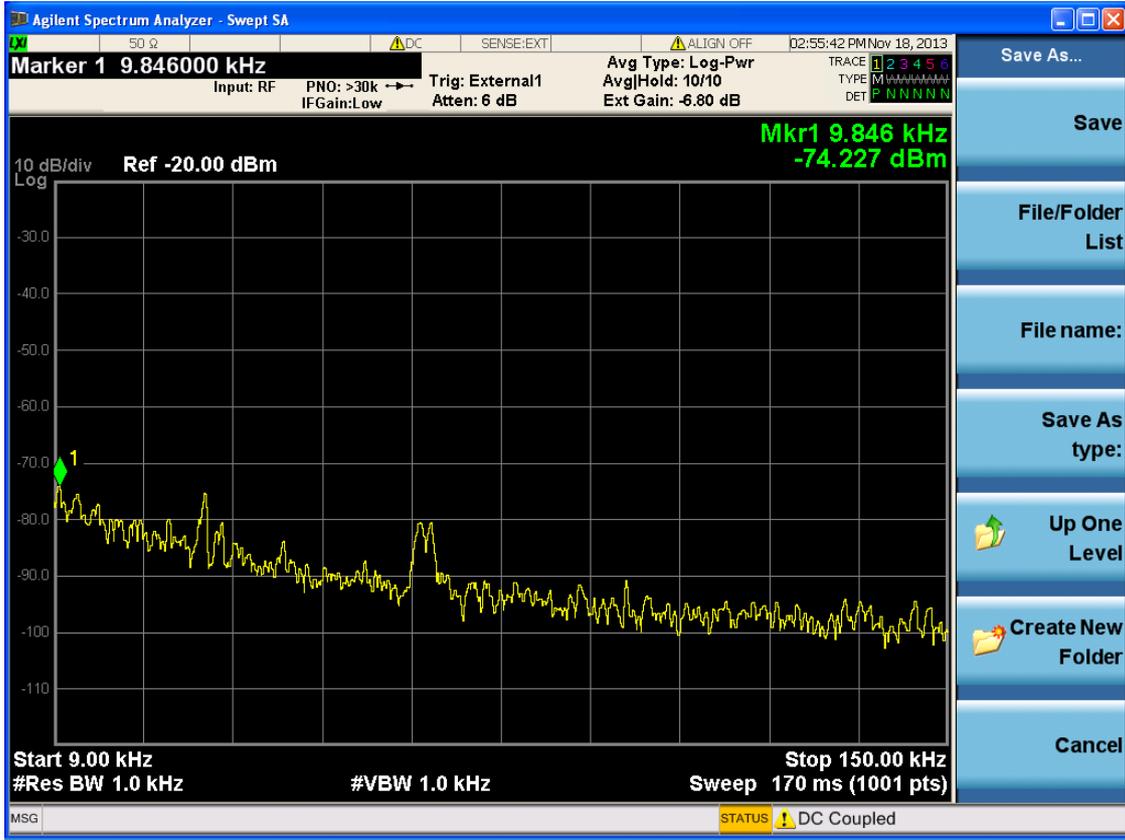
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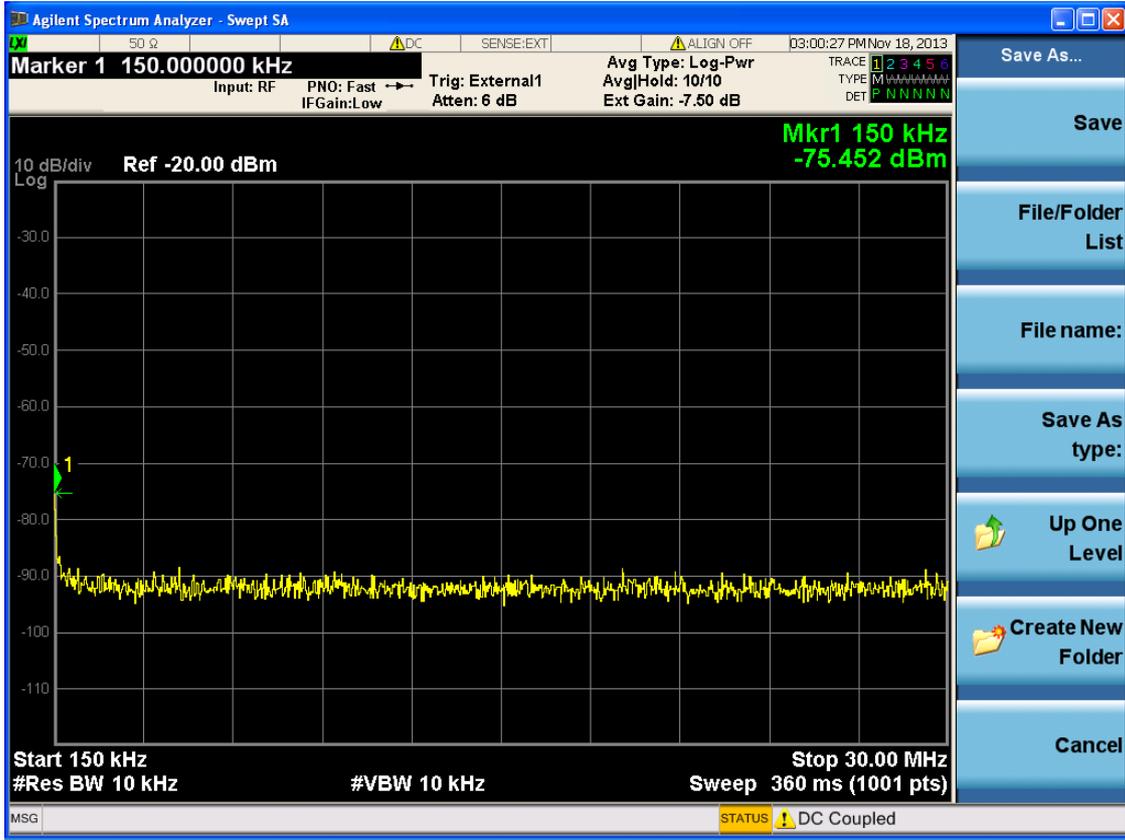
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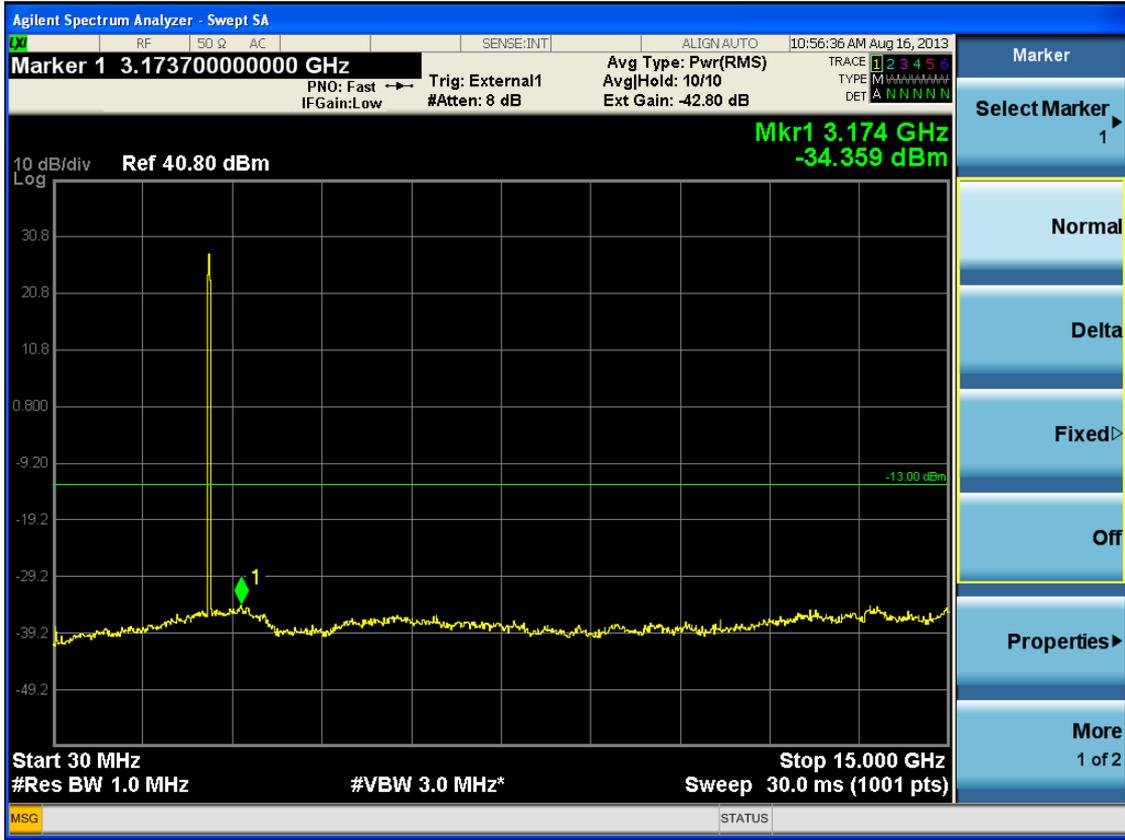
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20M+20M-2633.5+2653.5MHz -16QAM-9k-Port4



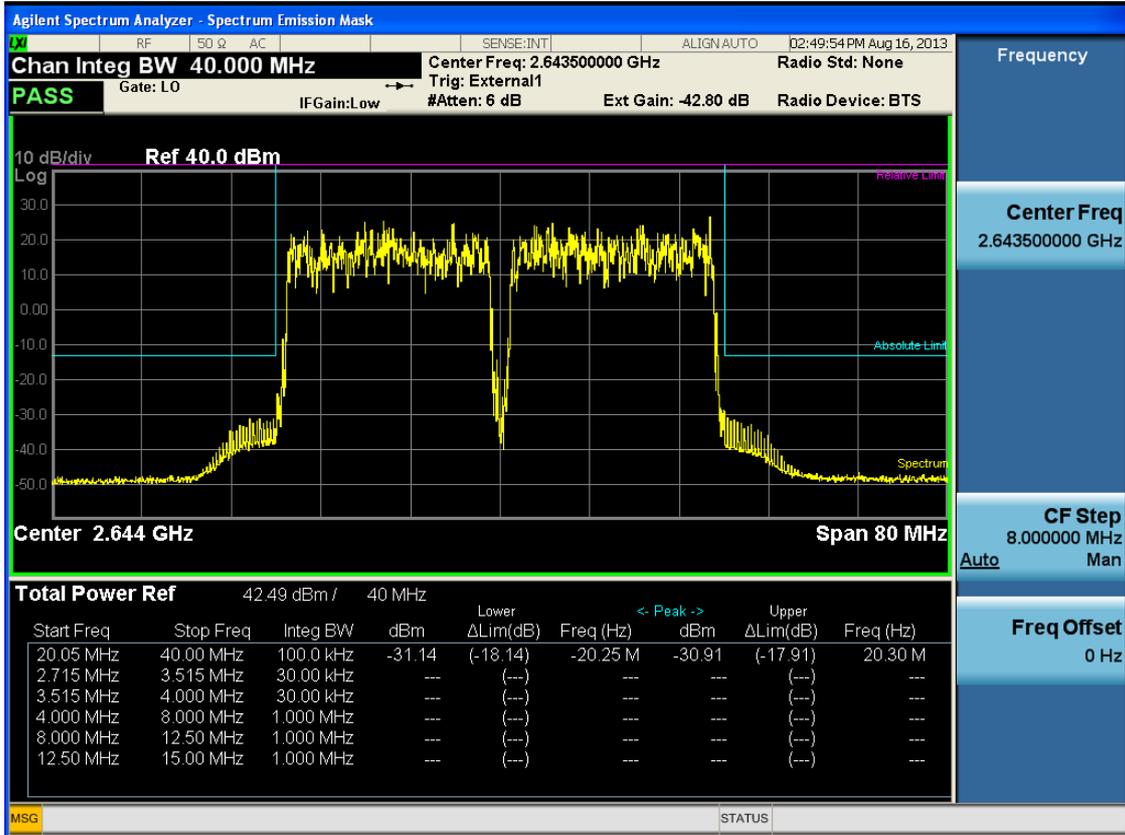
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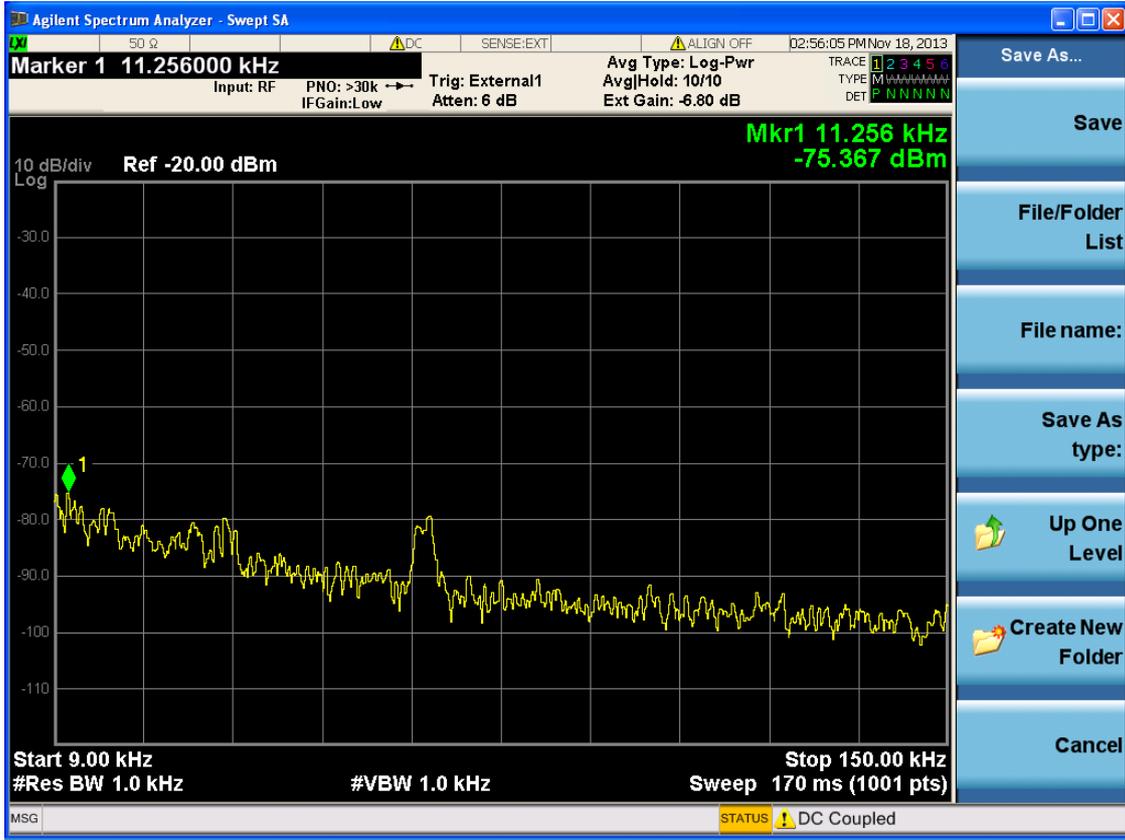
20M+20M-2633.5+2653.5MHz -16QAM-30M-Port4



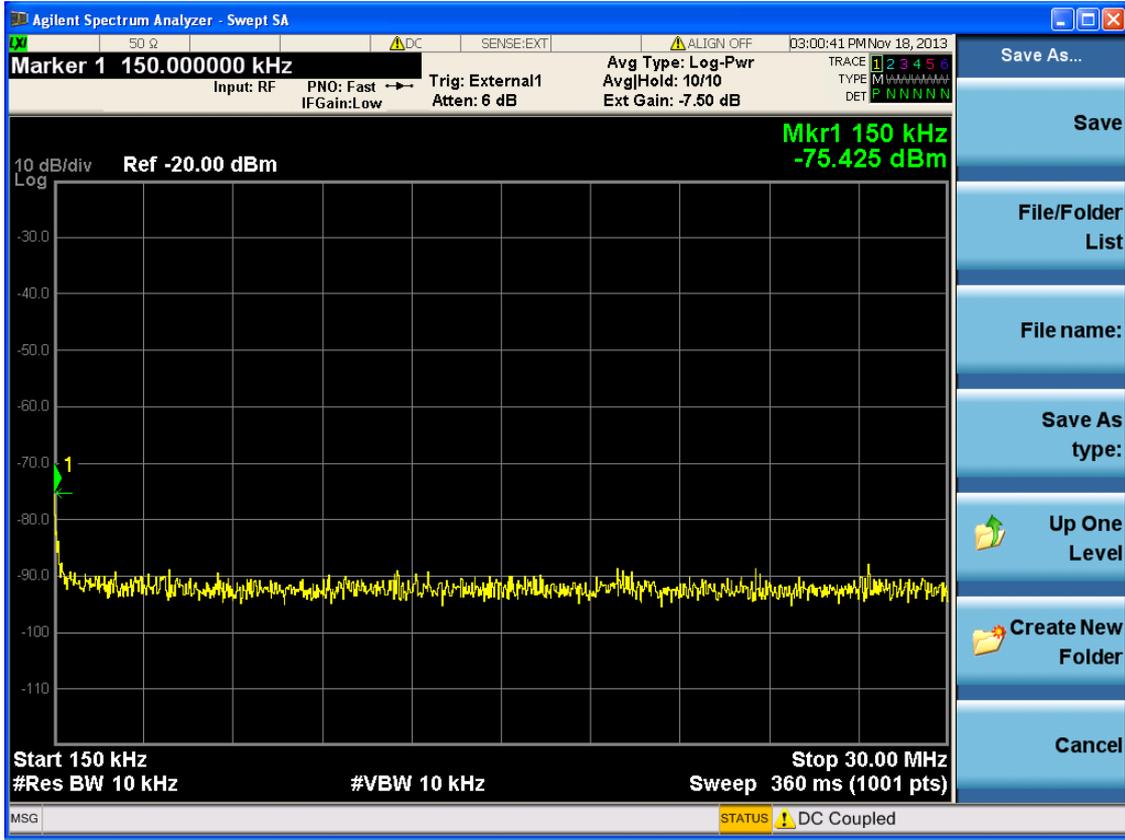
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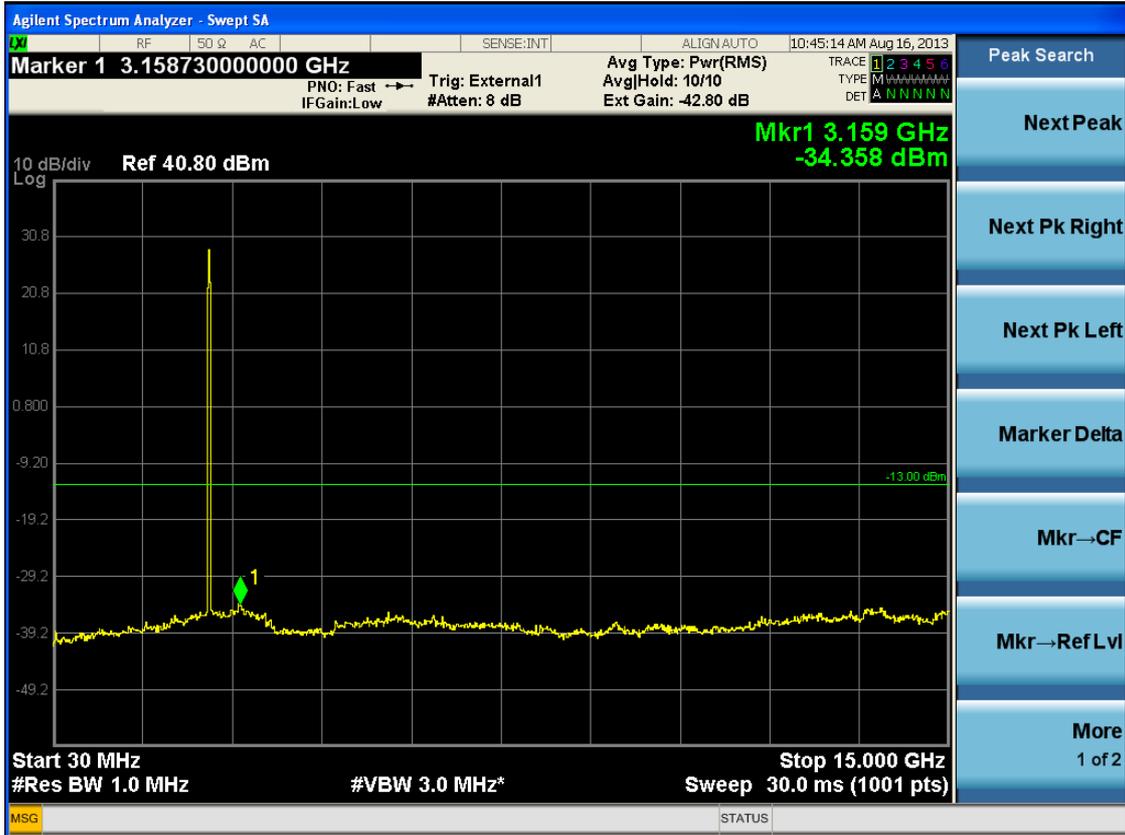
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20M+20M-2633.5+2653.5MHz -64QAM-9k-Port4



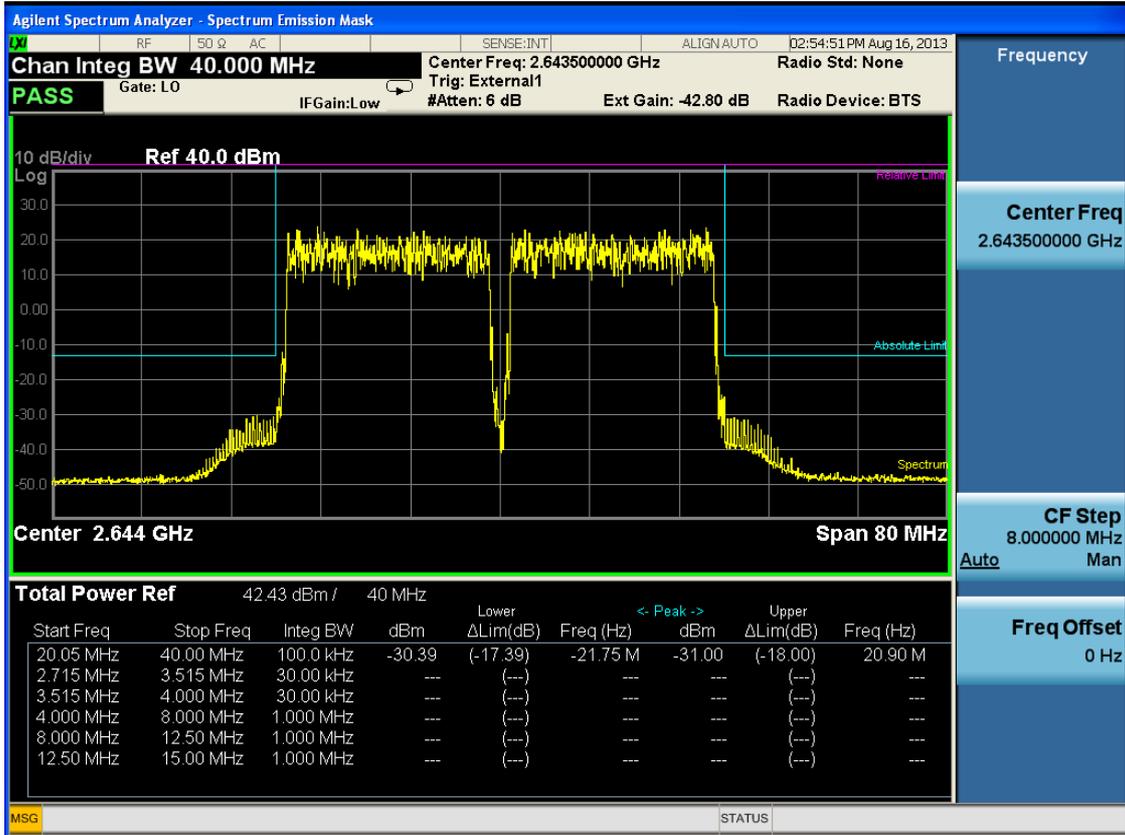
20M+20M-2633.5+2653.5MHz -64QAM-150k-Port4



20M+20M-2633.5+2653.5MHz -64QAM-30M-Port4



20M+20M-2633.5+2653.5MHz -64QAM -15G-Port4



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

## 8 SPURIOUS RADIATED EMISSIONS

**Applicable Standard:** FCC CFR 47 §2.1053

### Test Equipment List and Details

Manufacturer	Equipment	Model	Serial Number	Last Cal.	Cal. Interval
R&S	SIGNAL GENERATOR	SMR20	A00017351	2012-9-19	1 year
Albatross	Anechoic Chamber	3m Site	A00017354	2012-12-10	1 year
R&S	EMI Test Receiver	ESIB26	100058	2012-10-17	1 year
R&S	Log periodic Antenna	SAS-521-4	A10072365	2013-7-17	1 year

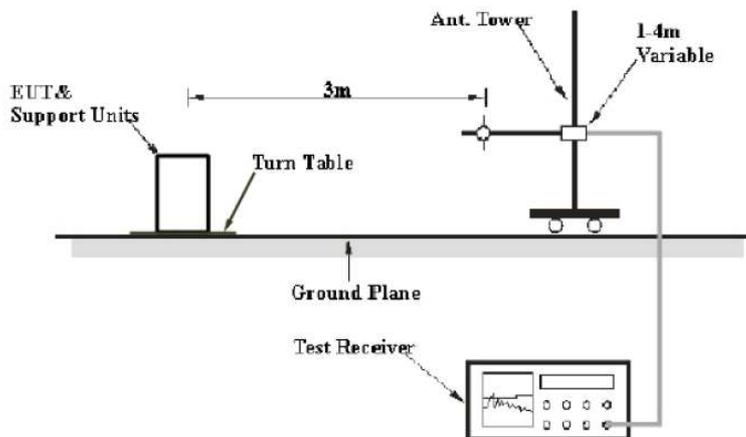
Manufacturer	Equipment	Model	Serial Number	Last Cal.	Cal. Interval
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100032	2013-7-17	1 year
R&S	Double-Ridged Waveguide Horn Antenna	HF906	100446	2013-7-17	1 year
SCHWARZ-BECK K	Biconical Antenna	VUBA9117	9117-122	2013-7-17	1 year

**Measurement Uncertainty**

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiated emissions measurement at the EMC lab. is 3.6dB.

**EUT Setup**



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

**Test Procedure**

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis. The frequency range up to teeth harmonic of the fundamental frequency was investigated.



Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

RRU 4 ports are simultaneous transmission, The detector type is peak.  
Spurious emissions in dB =10 lg (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 1MHz.

### Test Results: Pass

### Environmental Conditions

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

### Test data

20M: 2635MHz:

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
832.578000	H	-57.6	-13	44.6
841.566667	H	-56.7	-13	43.7
872.606667	H	-57.2	-13	44.2
879.978667	H	-57.5	-13	44.5
960.876667	H	-57.5	-13	44.5
973.292667	H	-57.4	-13	44.4
922.820333	V	-58.2	-13	45.2
933.393333	V	-57.7	-13	44.7
941.638333	V	-57.8	-13	44.8
964.142333	V	-55.4	-13	42.4
974.780000	V	-54.4	-13	41.4
94.763667	V	-60.1	-13	47.1

Radiation emission spurious below 1GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
5628.266667	H	-54.6	-13	41.6
5243.866667	H	-47.6	-13	34.6
4636.000000	H	-54.7	-13	41.7
3899.733333	H	-51.0	-13	38
6217.466667	H	-50.3	-13	37.3



FCC ID: Q78-R8964S2600

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
3191.466667	H	-55.7	-13	42.7
5268.133333	V	-53.1	-13	40.1
4760.400000	V	-50.6	-13	37.6
5856.533333	V	-55.2	-13	42.2
3911.066667	V	-47.5	-13	34.5
6618.533333	V	-49.0	-13	36
6248.133333	V	-52.4	-13	39.4

Radiation emission spurious 1GHz-7GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
13852.266667	H	-45.1	-13	32.1
14894.333333	H	-44.9	-13	31.9
16372.733333	H	-41.6	-13	28.6
16409.033333	H	-41.5	-13	28.5
16957.566667	H	-41.1	-13	28.1
17934.733333	H	-38.8	-13	25.8
13104.633333	V	-47.3	-13	34.3
14855.100000	V	-45.2	-13	32.2
15475.133333	V	-43.6	-13	30.6
15872.966667	V	-42.5	-13	29.5
16372.366667	V	-41.7	-13	28.7
17994.866667	V	-40.5	-13	27.5

Radiation emission spurious above 7GHz

20M: 2645MHz:

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
831.543333	H	-56.8	-13	43.8
841.469667	H	-56.5	-13	43.5
860.126000	H	-57.2	-13	44.2
867.465667	H	-57.2	-13	44.2
945.744667	H	-57.4	-13	44.4
47.557000	H	-63.0	-13	50
756.336000	V	-58.2	-13	45.2
785.565333	V	-57.9	-13	44.9
973.486667	V	-53.5	-13	40.5
983.057333	V	-54.9	-13	41.9
996.799000	V	-56.3	-13	43.3
94.343333	V	-59.1	-13	46.1

Radiation emission spurious below 1GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
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Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
5306.266667	H	-52.3	-13	39.3
3902.400000	H	-57.0	-13	44
6586.800000	H	-51.3	-13	38.3
6206.000000	H	-45.7	-13	32.7
4834.666667	H	-52.1	-13	39.1
5720.000000	H	-53.6	-13	40.6
5307.466667	V	-53.3	-13	40.3
4772.266667	V	-52.6	-13	39.6
5802.266667	V	-51.0	-13	38
6531.200000	V	-50.7	-13	37.7
4218.400000	V	-53.5	-13	40.5
6244.266667	V	-50.1	-13	37.1

Radiation emission spurious 1GHz-7GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
10294.520167	H	-52.2	-13	39.2
12200.167500	H	-51.4	-13	38.4
13524.126333	H	-50.1	-13	37.1
14687.825000	H	-48.2	-13	35.2
16351.839666	H	-44.7	-13	31.7
17945.229167	H	-43.3	-13	30.3
11019.953667	V	-51.2	-13	38.2
11626.671000	V	-50.8	-13	37.8
12863.594000	V	-51.1	-13	38.1
14710.016333	V	-49.2	-13	36.2
15981.573333	V	-45.6	-13	32.6
17919.943000	V	-44.7	-13	31.7

Radiation emission spurious above 7GHz

**20M: 2655MHz:**

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
833.095333	H	-57.0	-13	44
859.220667	H	-55.8	-13	42.8
866.140000	H	-56.6	-13	43.6
925.180667	H	-56.9	-13	43.9
966.987667	H	-56.9	-13	43.9
998.351000	H	-57.0	-13	44
94.644446	V	-60.0	-13	47
890.220667	V	-57.8	-13	44.8
896.140000	V	-57.6	-13	44.6
966.180667	V	-55.0	-13	42

969.987667	V	-55.0	-13	42
998.351000	V	-56.4	-13	43.4

## Radiation emission spurious below 1GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
5305.333333	H	-49.9	-13	36.9
3883.200000	H	-54.5	-13	41.5
5885.466667	H	-51.8	-13	38.8
6390.666667	H	-53.0	-13	40
6581.333333	H	-48.3	-13	35.3
4846.400000	H	-54.2	-13	41.2
5306.666667	V	-55.0	-13	42
4618.800000	V	-48.9	-13	35.9
5977.733333	V	-51.9	-13	38.9
3919.866667	V	-54.5	-13	41.5
6205.066667	V	-48.1	-13	35.1
6572.266667	V	-53.3	-13	40.3

## Radiation emission spurious 1GHz-7GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
13451.866667	H	-47.2	-13	34.2
13807.900000	H	-45.2	-13	32.2
15378.333333	H	-43.6	-13	30.6
16343.766667	H	-41.7	-13	28.7
17244.300000	H	-40.4	-13	27.4
17965.900000	H	-39.2	-13	26.2
11941.933333	V	-47.9	-13	34.9
13534.366667	V	-47.7	-13	34.7
14291.900000	V	-45.0	-13	32
15293.633333	V	-43.9	-13	30.9
15930.900000	V	-42.2	-13	29.2
17986.433333	V	-40.3	-13	27.3

## Radiation emission spurious above 7GHz

**20M+20M: 2635+2655MHz:**

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
823.095223	H	-55.0	-13	42
859.220667	H	-57.8	-13	44.8
925.140000	H	-57.6	-13	44.6
955.180667	H	-57.9	-13	44.9
968.987667	H	-57.7	-13	44.7
998.351000	H	-57.0	-13	44

930.030667	V	-57.3	-13	44.3
932.714333	V	-58.1	-13	45.1
936.044667	V	-57.9	-13	44.9
972.096333	V	-54.6	-13	41.6
983.768667	V	-55.3	-13	42.3
990.494000	V	-56.9	-13	43.9

Radiation emission spurious below 1GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
5268.400000	H	-51.6	-13	38.6
5285.066667	H	-54.6	-13	41.6
5746.800000	H	-47.2	-13	34.2
6252.266667	H	-48.7	-13	35.7
4486.800000	H	-47.5	-13	34.5
5978.800000	H	-45.1	-13	32.1
5266.133333	V	-48.8	-13	35.8
5287.066667	V	-52.1	-13	39.1
4734.666667	V	-54.2	-13	41.2
4018.533333	V	-54.1	-13	41.1
6365.600000	V	-52.9	-13	39.9
6669.600000	V	-47.3	-13	34.3

Radiation emission spurious 1GHz-7GHz

Frequency MHz	Polar H/V	Measurement result (dBm)	Limit (dBm)	Margin (dB)
11060.455167	H	-51.3	-13	38.3
11750.933667	H	-50.7	-13	37.7
13553.321667	H	-49.7	-13	36.7
14543.927833	H	-48.5	-13	35.5
16374.289667	H	-44.7	-13	31.7
17777.141166	H	-44.3	-13	31.3
10928.100000	V	-48.2	-13	35.2
11536.766667	V	-47.3	-13	34.3
12862.633333	V	-47.3	-13	34.3
14004.066667	V	-45.5	-13	32.5
15919.533333	V	-41.9	-13	28.9
17947.566667	V	-40.1	-13	27.1

Radiation emission spurious above 7GHz

# 9 FREQUENCY STABILITY

## Applicable Standard: FCC § 2.1055

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

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
GZ-ESPEC	Temperature Chamber	EW0470	06113028	2013.02.25	2014.02.25
Agilent	MXA Series Spectrum Analyzer	N9030A	MY49431608	2013.02.28	2014.02.28
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

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Spectrum Analyzer via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 150 minutes, the frequency output was recorded from the counter.

Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the end point. The output frequency was recorded for each voltage.

### Environmental Conditions

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

**Test Result:** Pass

**Test Mode:** Transmitting LTE

**Test Data**

**Frequency Stability versus Temperature**

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2633.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error (Hz)	Limit (ppm)	Limit (Hz)	Result
-40	-48	1	QPSK	-1.1	0.05	131.675	Pass
			16QAM	-0.83	0.05	131.675	Pass
			64QAM	-2.37	0.05	131.675	Pass
		2	QPSK	-3.62	0.05	131.675	Pass
			16QAM	-0.93	0.05	131.675	Pass
			64QAM	-2.81	0.05	131.675	Pass
		3	QPSK	-1.38	0.05	131.675	Pass
			16QAM	-2.02	0.05	131.675	Pass
			64QAM	-0.92	0.05	131.675	Pass
		4	QPSK	-1.28	0.05	131.675	Pass
			16QAM	-0.03	0.05	131.675	Pass
			64QAM	-3.85	0.05	131.675	Pass
-30	-48	1	QPSK	-0.43	0.05	131.675	Pass
			16QAM	-1.35	0.05	131.675	Pass
			64QAM	-0.28	0.05	131.675	Pass
		2	QPSK	-1.22	0.05	131.675	Pass
			16QAM	-2.39	0.05	131.675	Pass
			64QAM	-3.17	0.05	131.675	Pass
		3	QPSK	-2.64	0.05	131.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2633.5MHz)									
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
			16QAM	-0.31	0.05	131.675	Pass		
			64QAM	-3.81	0.05	131.675	Pass		
		4	QPSK	-1.92	0.05	131.675	Pass		
			16QAM	-0.37	0.05	131.675	Pass		
			64QAM	-0.99	0.05	131.675	Pass		
-20	-48	1	QPSK	-3.82	0.05	131.675	Pass		
			16QAM	-3.17	0.05	131.675	Pass		
			64QAM	-2.91	0.05	131.675	Pass		
		2	QPSK	-1.82	0.05	131.675	Pass		
			16QAM	-2.25	0.05	131.675	Pass		
			64QAM	-3.1	0.05	131.675	Pass		
		3	QPSK	-0.15	0.05	131.675	Pass		
			16QAM	-2.81	0.05	131.675	Pass		
			64QAM	-1.38	0.05	131.675	Pass		
		4	QPSK	-0.29	0.05	131.675	Pass		
			16QAM	-1.38	0.05	131.675	Pass		
			64QAM	-1.91	0.05	131.675	Pass		
		-10	-48	1	QPSK	-0.39	0.05	131.675	Pass
					16QAM	-2.37	0.05	131.675	Pass
					64QAM	-3.72	0.05	131.675	Pass
2	QPSK			-2.03	0.05	131.675	Pass		
	16QAM			-1.34	0.05	131.675	Pass		
	64QAM			-2.05	0.05	131.675	Pass		
3	QPSK			-2.81	0.05	131.675	Pass		
	16QAM			-3.82	0.05	131.675	Pass		
	64QAM			-0.09	0.05	131.675	Pass		
4	QPSK			-1.84	0.05	131.675	Pass		
	16QAM			-1.93	0.05	131.675	Pass		
	64QAM			-2.84	0.05	131.675	Pass		
0	-48	1	QPSK	-1.38	0.05	131.675	Pass		
			16QAM	-0.82	0.05	131.675	Pass		
			64QAM	-2.98	0.05	131.675	Pass		
		2	QPSK	-3.22	0.05	131.675	Pass		
			16QAM	-1.38	0.05	131.675	Pass		

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2633.5MHz)								
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result	
		3	64QAM	-3.51	0.05	131.675	Pass	
			QPSK	-1.92	0.05	131.675	Pass	
			16QAM	-2.91	0.05	131.675	Pass	
		4		64QAM	-3.72	0.05	131.675	Pass
				QPSK	-1.93	0.05	131.675	Pass
				16QAM	-2.02	0.05	131.675	Pass
				64QAM	-0.37	0.05	131.675	Pass
10	-48	1	QPSK	-3.81	0.05	131.675	Pass	
			16QAM	-2.85	0.05	131.675	Pass	
			64QAM	-2.93	0.05	131.675	Pass	
		2		QPSK	-0.47	0.05	131.675	Pass
				16QAM	-3.9	0.05	131.675	Pass
				64QAM	-2.38	0.05	131.675	Pass
		3		QPSK	-2.43	0.05	131.675	Pass
				16QAM	-1.83	0.05	131.675	Pass
				64QAM	-2.99	0.05	131.675	Pass
		4		QPSK	-0.73	0.05	131.675	Pass
				16QAM	-0.92	0.05	131.675	Pass
				64QAM	-3.82	0.05	131.675	Pass
20	-48	1	QPSK	-3.11	0.05	131.675	Pass	
			16QAM	-0.44	0.05	131.675	Pass	
			64QAM	-2.72	0.05	131.675	Pass	
		2		QPSK	-0.31	0.05	131.675	Pass
				16QAM	-2.46	0.05	131.675	Pass
				64QAM	-3.83	0.05	131.675	Pass
		3		QPSK	-2.75	0.05	131.675	Pass
				16QAM	-0.92	0.05	131.675	Pass
				64QAM	-2.74	0.05	131.675	Pass
		4		QPSK	-2.57	0.05	131.675	Pass
				16QAM	-1.83	0.05	131.675	Pass
				64QAM	-0.38	0.05	131.675	Pass
30	-48	1	QPSK	-2.58	0.05	131.675	Pass	
			16QAM	-2.91	0.05	131.675	Pass	
			64QAM	-0.38	0.05	131.675	Pass	

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2633.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
		2	QPSK	-2.48	0.05	131.675	Pass
			16QAM	-0.37	0.05	131.675	Pass
			64QAM	-3.75	0.05	131.675	Pass
		3	QPSK	-2.75	0.05	131.675	Pass
			16QAM	-0.76	0.05	131.675	Pass
			64QAM	-1.33	0.05	131.675	Pass
		4	QPSK	-2.46	0.05	131.675	Pass
			16QAM	-0.3	0.05	131.675	Pass
			64QAM	-2.09	0.05	131.675	Pass
40	-48	1	QPSK	-2.14	0.05	131.675	Pass
			16QAM	-3.25	0.05	131.675	Pass
			64QAM	-3.33	0.05	131.675	Pass
		2	QPSK	-2.06	0.05	131.675	Pass
			16QAM	-2.81	0.05	131.675	Pass
			64QAM	-3.92	0.05	131.675	Pass
		3	QPSK	-0.82	0.05	131.675	Pass
			16QAM	-3.76	0.05	131.675	Pass
			64QAM	-2.91	0.05	131.675	Pass
		4	QPSK	-3.02	0.05	131.675	Pass
			16QAM	-2.11	0.05	131.675	Pass
			64QAM	-3.2	0.05	131.675	Pass
50	-48	1	QPSK	-2.91	0.05	131.675	Pass
			16QAM	-3.02	0.05	131.675	Pass
			64QAM	-2.22	0.05	131.675	Pass
		2	QPSK	-0.39	0.05	131.675	Pass
			16QAM	-0.82	0.05	131.675	Pass
			64QAM	-1.38	0.05	131.675	Pass
		3	QPSK	-0.4	0.05	131.675	Pass
			16QAM	-0.82	0.05	131.675	Pass
			64QAM	-1.93	0.05	131.675	Pass
		4	QPSK	-2.65	0.05	131.675	Pass
			16QAM	-2.52	0.05	131.675	Pass
			64QAM	-3.91	0.05	131.675	Pass
55	-48	1	QPSK	-0.51	0.05	131.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2633.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
			16QAM	-2.93	0.05	131.675	Pass
			64QAM	-1.24	0.05	131.675	Pass
		2	QPSK	-0.39	0.05	131.675	Pass
			16QAM	-1.02	0.05	131.675	Pass
			64QAM	-2.03	0.05	131.675	Pass
		3	QPSK	-0.42	0.05	131.675	Pass
			16QAM	-1.03	0.05	131.675	Pass
			64QAM	-2.03	0.05	131.675	Pass
		4	QPSK	-3.92	0.05	131.675	Pass
			16QAM	-2.37	0.05	131.675	Pass
			64QAM	-0.58	0.05	131.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2643.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
-40	-48	1	QPSK	-1.57	0.05	132.175	Pass
			16QAM	-0.3	0.05	132.175	Pass
			64QAM	-2.03	0.05	132.175	Pass
		2	QPSK	-1.93	0.05	132.175	Pass
			16QAM	-3.02	0.05	132.175	Pass
			64QAM	-3.48	0.05	132.175	Pass
		3	QPSK	-2.03	0.05	132.175	Pass
			16QAM	-3.44	0.05	132.175	Pass
			64QAM	-2.38	0.05	132.175	Pass
		4	QPSK	-3.06	0.05	132.175	Pass
			16QAM	-2.43	0.05	132.175	Pass
			64QAM	-1.58	0.05	132.175	Pass
-30	-48	1	QPSK	-2.32	0.05	132.175	Pass
			16QAM	-1.03	0.05	132.175	Pass
			64QAM	-2.83	0.05	132.175	Pass
		2	QPSK	-2.87	0.05	132.175	Pass
			16QAM	-2.22	0.05	132.175	Pass
			64QAM	-1.03	0.05	132.175	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2643.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
		3	QPSK	-3.72	0.05	132.175	Pass
			16QAM	-2.65	0.05	132.175	Pass
			64QAM	-2.37	0.05	132.175	Pass
		4	QPSK	-3.21	0.05	132.175	Pass
			16QAM	-2.03	0.05	132.175	Pass
			64QAM	-2.32	0.05	132.175	Pass
-20	-48	1	QPSK	-1.36	0.05	132.175	Pass
			16QAM	-0.58	0.05	132.175	Pass
			64QAM	-0.36	0.05	132.175	Pass
		2	QPSK	-4.62	0.05	132.175	Pass
			16QAM	-0.37	0.05	132.175	Pass
			64QAM	-3.27	0.05	132.175	Pass
		3	QPSK	-0.37	0.05	132.175	Pass
			16QAM	-2.63	0.05	132.175	Pass
			64QAM	-2.36	0.05	132.175	Pass
		4	QPSK	-1.36	0.05	132.175	Pass
			16QAM	-0.27	0.05	132.175	Pass
			64QAM	-0.33	0.05	132.175	Pass
-10	-48	1	QPSK	-3.29	0.05	132.175	Pass
			16QAM	-1.46	0.05	132.175	Pass
			64QAM	-3.28	0.05	132.175	Pass
		2	QPSK	-2.91	0.05	132.175	Pass
			16QAM	-0.37	0.05	132.175	Pass
			64QAM	-2.38	0.05	132.175	Pass
		3	QPSK	-0.27	0.05	132.175	Pass
			16QAM	-3.21	0.05	132.175	Pass
			64QAM	-2.37	0.05	132.175	Pass
		4	QPSK	-0.73	0.05	132.175	Pass
			16QAM	-3.62	0.05	132.175	Pass
			64QAM	-2.36	0.05	132.175	Pass
0	-48	1	QPSK	-1.02	0.05	132.175	Pass
			16QAM	-0.44	0.05	132.175	Pass
			64QAM	-2.39	0.05	132.175	Pass
		2	QPSK	-3.09	0.05	132.175	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2643.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
			16QAM	-2.37	0.05	132.175	Pass
			64QAM	-3.92	0.05	132.175	Pass
		3	QPSK	-2.92	0.05	132.175	Pass
			16QAM	-3.82	0.05	132.175	Pass
			64QAM	-0.43	0.05	132.175	Pass
		4	QPSK	-2.31	0.05	132.175	Pass
			16QAM	-2.22	0.05	132.175	Pass
			64QAM	-2.63	0.05	132.175	Pass
		10	-48	1	QPSK	-1.52	0.05
16QAM	-2.65				0.05	132.175	Pass
64QAM	-1.63				0.05	132.175	Pass
2	QPSK			-3.02	0.05	132.175	Pass
	16QAM			-2.78	0.05	132.175	Pass
	64QAM			-0.62	0.05	132.175	Pass
3	QPSK			-3.62	0.05	132.175	Pass
	16QAM			-2.63	0.05	132.175	Pass
	64QAM			-1.91	0.05	132.175	Pass
4	QPSK			-0.73	0.05	132.175	Pass
	16QAM			-3.26	0.05	132.175	Pass
	64QAM			-2.78	0.05	132.175	Pass
20	-48	1	QPSK	-3.02	0.05	132.175	Pass
			16QAM	-0.35	0.05	132.175	Pass
			64QAM	-2.91	0.05	132.175	Pass
		2	QPSK	-0.37	0.05	132.175	Pass
			16QAM	-2.36	0.05	132.175	Pass
			64QAM	-2.83	0.05	132.175	Pass
		3	QPSK	-3.1	0.05	132.175	Pass
			16QAM	-0.92	0.05	132.175	Pass
			64QAM	-1.83	0.05	132.175	Pass
		4	QPSK	-2.03	0.05	132.175	Pass
			16QAM	-3.12	0.05	132.175	Pass
			64QAM	-0.72	0.05	132.175	Pass
30	-48	1	QPSK	-3.12	0.05	132.175	Pass
			16QAM	-0.33	0.05	132.175	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2643.5MHz)									
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
		2	64QAM	-2.81	0.05	132.175	Pass		
			QPSK	-3.28	0.05	132.175	Pass		
			16QAM	-0.32	0.05	132.175	Pass		
		3	64QAM	-2.63	0.05	132.175	Pass		
			QPSK	-1.03	0.05	132.175	Pass		
			16QAM	-0.38	0.05	132.175	Pass		
		4	64QAM	-2.71	0.05	132.175	Pass		
			QPSK	-3.82	0.05	132.175	Pass		
			16QAM	-0.47	0.05	132.175	Pass		
		40	-48	1	64QAM	-2.17	0.05	132.175	Pass
					QPSK	-3.82	0.05	132.175	Pass
					16QAM	-2.71	0.05	132.175	Pass
2	QPSK			-1.82	0.05	132.175	Pass		
	16QAM			-2.12	0.05	132.175	Pass		
	64QAM			-3.91	0.05	132.175	Pass		
3	QPSK			-0.93	0.05	132.175	Pass		
	16QAM			-2.87	0.05	132.175	Pass		
	64QAM			-2.91	0.05	132.175	Pass		
4	64QAM			-0.38	0.05	132.175	Pass		
	QPSK			-2.03	0.05	132.175	Pass		
	16QAM			-0.2	0.05	132.175	Pass		
50	-48	1	64QAM	-2.81	0.05	132.175	Pass		
			QPSK	-2.73	0.05	132.175	Pass		
			16QAM	-2.74	0.05	132.175	Pass		
		2	64QAM	-3.72	0.05	132.175	Pass		
			QPSK	-0.25	0.05	132.175	Pass		
			16QAM	-3.82	0.05	132.175	Pass		
		3	64QAM	-1.37	0.05	132.175	Pass		
			QPSK	-0.42	0.05	132.175	Pass		
			16QAM	-2.83	0.05	132.175	Pass		
		4	64QAM	-3.87	0.05	132.175	Pass		
			QPSK	-2.84	0.05	132.175	Pass		
			16QAM	-2.81	0.05	132.175	Pass		
			64QAM	-0.83	0.05	132.175	Pass		

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2643.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
55	-48	1	QPSK	-1.11	0.05	132.175	Pass
			16QAM	-2.81	0.05	132.175	Pass
			64QAM	-2.03	0.05	132.175	Pass
		2	QPSK	-3.82	0.05	132.175	Pass
			16QAM	-2.57	0.05	132.175	Pass
			64QAM	-2.38	0.05	132.175	Pass
		3	QPSK	-2.71	0.05	132.175	Pass
			16QAM	-2.38	0.05	132.175	Pass
			64QAM	-0.38	0.05	132.175	Pass
		4	QPSK	-2.02	0.05	132.175	Pass
			16QAM	-1.03	0.05	132.175	Pass
			64QAM	-2.53	0.05	132.175	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
-40	-48	1	QPSK	-2.3	0.05	132.675	Pass
			16QAM	-2.81	0.05	132.675	Pass
			64QAM	-0.39	0.05	132.675	Pass
		2	QPSK	-2.37	0.05	132.675	Pass
			16QAM	-0.39	0.05	132.675	Pass
			64QAM	-2.38	0.05	132.675	Pass
		3	QPSK	-1.38	0.05	132.675	Pass
			16QAM	-3.71	0.05	132.675	Pass
			64QAM	-0.39	0.05	132.675	Pass
		4	QPSK	-1.93	0.05	132.675	Pass
			16QAM	-2.05	0.05	132.675	Pass
			64QAM	-2.95	0.05	132.675	Pass
-30	-48	1	QPSK	-1.03	0.05	132.675	Pass
			16QAM	-2.84	0.05	132.675	Pass
			64QAM	-1.09	0.05	132.675	Pass
		2	QPSK	-2.48	0.05	132.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
			16QAM	-1.3	0.05	132.675	Pass
			64QAM	-0.39	0.05	132.675	Pass
		3	QPSK	-2.38	0.05	132.675	Pass
			16QAM	-2.08	0.05	132.675	Pass
			64QAM	-3.71	0.05	132.675	Pass
		4	QPSK	-3.12	0.05	132.675	Pass
			16QAM	-0.34	0.05	132.675	Pass
			64QAM	-3.66	0.05	132.675	Pass
		-20	-48	1	QPSK	-3.19	0.05
16QAM	-0.21				0.05	132.675	Pass
64QAM	-2.83				0.05	132.675	Pass
2	QPSK			-0.38	0.05	132.675	Pass
	16QAM			-3.72	0.05	132.675	Pass
	64QAM			-1.9	0.05	132.675	Pass
3	QPSK			-2.74	0.05	132.675	Pass
	16QAM			-2.83	0.05	132.675	Pass
	64QAM			-2.91	0.05	132.675	Pass
4	QPSK			-0.98	0.05	132.675	Pass
	16QAM			-3.2	0.05	132.675	Pass
	64QAM			-2.14	0.05	132.675	Pass
-10	-48	1	QPSK	-2.22	0.05	132.675	Pass
			16QAM	-3.9	0.05	132.675	Pass
			64QAM	-2.81	0.05	132.675	Pass
		2	QPSK	-3.02	0.05	132.675	Pass
			16QAM	-3.28	0.05	132.675	Pass
			64QAM	-2.91	0.05	132.675	Pass
		3	QPSK	-2.93	0.05	132.675	Pass
			16QAM	-0.64	0.05	132.675	Pass
			64QAM	-2.88	0.05	132.675	Pass
		4	QPSK	-1.93	0.05	132.675	Pass
			16QAM	-2.22	0.05	132.675	Pass
			64QAM	-1.83	0.05	132.675	Pass
0	-48	1	QPSK	-2.93	0.05	132.675	Pass
			16QAM	-2.11	0.05	132.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2653.5MHz)									
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
		2	64QAM	-2.38	0.05	132.675	Pass		
			QPSK	-3.8	0.05	132.675	Pass		
			16QAM	-1.09	0.05	132.675	Pass		
		3	64QAM	-2.37	0.05	132.675	Pass		
			QPSK	-1.51	0.05	132.675	Pass		
			16QAM	-3.27	0.05	132.675	Pass		
		4	64QAM	-3.23	0.05	132.675	Pass		
			QPSK	-1.7	0.05	132.675	Pass		
			16QAM	-2.83	0.05	132.675	Pass		
		10	-48	1	64QAM	-0.33	0.05	132.675	Pass
					QPSK	-1.93	0.05	132.675	Pass
					16QAM	-2.09	0.05	132.675	Pass
2	64QAM			-1.99	0.05	132.675	Pass		
	QPSK			-2.31	0.05	132.675	Pass		
	16QAM			-3.92	0.05	132.675	Pass		
3	64QAM			-3.88	0.05	132.675	Pass		
	QPSK			-2.64	0.05	132.675	Pass		
	16QAM			-1.07	0.05	132.675	Pass		
4	64QAM			-2.11	0.05	132.675	Pass		
	QPSK			-3.26	0.05	132.675	Pass		
	16QAM			-2.57	0.05	132.675	Pass		
20	-48	1	64QAM	-3.92	0.05	132.675	Pass		
			QPSK	-1.58	0.05	132.675	Pass		
			16QAM	-2.83	0.05	132.675	Pass		
		2	64QAM	-0.38	0.05	132.675	Pass		
			QPSK	-1.28	0.05	132.675	Pass		
			16QAM	-0.83	0.05	132.675	Pass		
		3	64QAM	-1	0.05	132.675	Pass		
			QPSK	-3.92	0.05	132.675	Pass		
			16QAM	-3.58	0.05	132.675	Pass		
		4	64QAM	-2.96	0.05	132.675	Pass		
			QPSK	-2.34	0.05	132.675	Pass		
			16QAM	-1.03	0.05	132.675	Pass		
			64QAM	-2.68	0.05	132.675	Pass		

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
30	-48	1	QPSK	-2.61	0.05	132.675	Pass
			16QAM	-3.82	0.05	132.675	Pass
			64QAM	-2.81	0.05	132.675	Pass
		2	QPSK	-1.01	0.05	132.675	Pass
			16QAM	-2.38	0.05	132.675	Pass
			64QAM	-1.09	0.05	132.675	Pass
		3	QPSK	-2.38	0.05	132.675	Pass
			16QAM	-0.34	0.05	132.675	Pass
			64QAM	-1.86	0.05	132.675	Pass
		4	QPSK	-2.81	0.05	132.675	Pass
			16QAM	-3.34	0.05	132.675	Pass
			64QAM	-3.29	0.05	132.675	Pass
40	-48	1	QPSK	-4.82	0.05	132.675	Pass
			16QAM	-2.09	0.05	132.675	Pass
			64QAM	-0.92	0.05	132.675	Pass
		2	QPSK	-1.02	0.05	132.675	Pass
			16QAM	-3.92	0.05	132.675	Pass
			64QAM	-3.1	0.05	132.675	Pass
		3	QPSK	-3.02	0.05	132.675	Pass
			16QAM	-2.58	0.05	132.675	Pass
			64QAM	-1.03	0.05	132.675	Pass
		4	QPSK	-0.83	0.05	132.675	Pass
			16QAM	-1.93	0.05	132.675	Pass
			64QAM	-2.99	0.05	132.675	Pass
50	-48	1	QPSK	-3.78	0.05	132.675	Pass
			16QAM	-0.51	0.05	132.675	Pass
			64QAM	-3.82	0.05	132.675	Pass
		2	QPSK	-0.37	0.05	132.675	Pass
			16QAM	-2.56	0.05	132.675	Pass
			64QAM	-3.77	0.05	132.675	Pass
		3	QPSK	-0.52	0.05	132.675	Pass
			16QAM	-2.82	0.05	132.675	Pass
			64QAM	-2.62	0.05	132.675	Pass
		4	QPSK	-2.9	0.05	132.675	Pass

Frequency Stability vs. Temperature ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
55	-48		16QAM	-0.47	0.05	132.675	Pass
			64QAM	-0.81	0.05	132.675	Pass
		1	QPSK	-2.39	0.05	132.675	Pass
			16QAM	-3.92	0.05	132.675	Pass
			64QAM	-0.71	0.05	132.675	Pass
		2	QPSK	-3.73	0.05	132.675	Pass
			16QAM	-2.01	0.05	132.675	Pass
			64QAM	-3.22	0.05	132.675	Pass
		3	QPSK	-3.43	0.05	132.675	Pass
			16QAM	-2.65	0.05	132.675	Pass
			64QAM	-1.7	0.05	132.675	Pass
		4	QPSK	-3.01	0.05	132.675	Pass
16QAM	-2.78		0.05	132.675	Pass		
64QAM	-1.94		0.05	132.675	Pass		

Frequency Stability vs. Temperature ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)							
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
-40	-48	1	QPSK	-1.66	0.05	131.675	Pass
			16QAM	-2.56	0.05	131.675	Pass
			64QAM	-1.93	0.05	131.675	Pass
		2	QPSK	-2.64	0.05	131.675	Pass
			16QAM	-2.43	0.05	131.675	Pass
			64QAM	-2.89	0.05	131.675	Pass
		3	QPSK	-1.93	0.05	131.675	Pass
			16QAM	-3.02	0.05	131.675	Pass
			64QAM	-1.23	0.05	131.675	Pass
		4	QPSK	-2.09	0.05	131.675	Pass
			16QAM	-2.03	0.05	131.675	Pass
			64QAM	-0.03	0.05	131.675	Pass
-30	-48	1	QPSK	-1.26	0.05	131.675	Pass
			16QAM	-1.74	0.05	131.675	Pass

**Frequency Stability vs. Temperature ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)**

Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
		2	64QAM	-1.4	0.05	131.675	Pass		
			QPSK	-2.19	0.05	131.675	Pass		
			16QAM	-3.29	0.05	131.675	Pass		
		3	64QAM	-1.68	0.05	131.675	Pass		
			QPSK	-1.59	0.05	131.675	Pass		
			16QAM	-1.68	0.05	131.675	Pass		
		4	64QAM	-2.91	0.05	131.675	Pass		
			QPSK	-0.39	0.05	131.675	Pass		
			16QAM	-0.09	0.05	131.675	Pass		
		-20	-48	1	64QAM	-2.33	0.05	131.675	Pass
					16QAM	-1.98	0.05	131.675	Pass
					QPSK	-2.93	0.05	131.675	Pass
2	QPSK			-2.39	0.05	131.675	Pass		
	16QAM			-3.92	0.05	131.675	Pass		
	64QAM			-2.93	0.05	131.675	Pass		
3	QPSK			-1.08	0.05	131.675	Pass		
	16QAM			-2.77	0.05	131.675	Pass		
	64QAM			-2.22	0.05	131.675	Pass		
4	QPSK			-0.93	0.05	131.675	Pass		
	16QAM			-2.01	0.05	131.675	Pass		
	64QAM			-3.93	0.05	131.675	Pass		
-10	-48	1	QPSK	-1.93	0.05	131.675	Pass		
			16QAM	-2.91	0.05	131.675	Pass		
			64QAM	-2.39	0.05	131.675	Pass		
		2	QPSK	-2.96	0.05	131.675	Pass		
			16QAM	-2.91	0.05	131.675	Pass		
			64QAM	-3.19	0.05	131.675	Pass		
		3	QPSK	-2.03	0.05	131.675	Pass		
			16QAM	-2.56	0.05	131.675	Pass		
			64QAM	-1.78	0.05	131.675	Pass		
		4	QPSK	-1.09	0.05	131.675	Pass		
			16QAM	-2.93	0.05	131.675	Pass		
			64QAM	-2.33	0.05	131.675	Pass		

**Frequency Stability vs. Temperature ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)**

Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
0	-48	1	QPSK	-1.38	0.05	131.675	Pass
			16QAM	-1.11	0.05	131.675	Pass
			64QAM	-2.29	0.05	131.675	Pass
		2	QPSK	-3.92	0.05	131.675	Pass
			16QAM	-1.02	0.05	131.675	Pass
			64QAM	-3.29	0.05	131.675	Pass
		3	QPSK	-3.98	0.05	131.675	Pass
			16QAM	-3.91	0.05	131.675	Pass
			64QAM	-2.46	0.05	131.675	Pass
		4	QPSK	-1.98	0.05	131.675	Pass
			16QAM	-3.68	0.05	131.675	Pass
			64QAM	-1.11	0.05	131.675	Pass
10	-48	1	QPSK	-2.42	0.05	131.675	Pass
			16QAM	-2.53	0.05	131.675	Pass
			64QAM	-2.38	0.05	131.675	Pass
		2	QPSK	-2.9	0.05	131.675	Pass
			16QAM	-2.91	0.05	131.675	Pass
			64QAM	-3.6	0.05	131.675	Pass
		3	QPSK	-2.91	0.05	131.675	Pass
			16QAM	-0.29	0.05	131.675	Pass
			64QAM	-3.48	0.05	131.675	Pass
		4	QPSK	-1.19	0.05	131.675	Pass
			16QAM	-2.25	0.05	131.675	Pass
			64QAM	-3.84	0.05	131.675	Pass
20	-48	1	QPSK	-2.57	0.05	131.675	Pass
			16QAM	-2.38	0.05	131.675	Pass
			64QAM	-0.39	0.05	131.675	Pass
		2	QPSK	-1.71	0.05	131.675	Pass
			16QAM	-3.02	0.05	131.675	Pass
			64QAM	-1.84	0.05	131.675	Pass
		3	QPSK	-0.92	0.05	131.675	Pass
			16QAM	-1.86	0.05	131.675	Pass
			64QAM	-2.51	0.05	131.675	Pass
		4	QPSK	-2.84	0.05	131.675	Pass

**Frequency Stability vs. Temperature ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)**

Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
30	-48		16QAM	-2.81	0.05	131.675	Pass		
			64QAM	-1.26	0.05	131.675	Pass		
		1	QPSK	-2.77	0.05	131.675	Pass		
			16QAM	-3.98	0.05	131.675	Pass		
			64QAM	-2.39	0.05	131.675	Pass		
		2	QPSK	-3.81	0.05	131.675	Pass		
			16QAM	-3.85	0.05	131.675	Pass		
			64QAM	-2.49	0.05	131.675	Pass		
		3	QPSK	-3.92	0.05	131.675	Pass		
			16QAM	-2.39	0.05	131.675	Pass		
			64QAM	-0.81	0.05	131.675	Pass		
		4	QPSK	-3.03	0.05	131.675	Pass		
			16QAM	-1.37	0.05	131.675	Pass		
			64QAM	-3.02	0.05	131.675	Pass		
		40	-48	1	QPSK	-3.22	0.05	131.675	Pass
					16QAM	-0.61	0.05	131.675	Pass
					64QAM	-2.7	0.05	131.675	Pass
				2	QPSK	-1.73	0.05	131.675	Pass
16QAM	-2.95				0.05	131.675	Pass		
64QAM	-0.81				0.05	131.675	Pass		
3	QPSK			-2.93	0.05	131.675	Pass		
	16QAM			-0.71	0.05	131.675	Pass		
	64QAM			-1.52	0.05	131.675	Pass		
4	QPSK			-1.96	0.05	131.675	Pass		
	16QAM			-0.32	0.05	131.675	Pass		
	64QAM			-3.81	0.05	131.675	Pass		
50	-48	1	QPSK	-3.14	0.05	131.675	Pass		
			16QAM	-2.09	0.05	131.675	Pass		
			64QAM	-2.71	0.05	131.675	Pass		
		2	QPSK	-0.36	0.05	131.675	Pass		
			16QAM	-2.4	0.05	131.675	Pass		
			64QAM	-3.01	0.05	131.675	Pass		
		3	QPSK	-0.33	0.05	131.675	Pass		
16QAM	-2.93	0.05	131.675	Pass					

**Frequency Stability vs. Temperature ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)**

Temperature (°C)	Power Supplied (V <sub>DC</sub> )	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
55		4	64QAM	-2.01	0.05	131.675	Pass
			QPSK	-0.82	0.05	131.675	Pass
			16QAM	-2.51	0.05	131.675	Pass
			64QAM	-1.85	0.05	131.675	Pass
	-48	1	QPSK	-3.91	0.05	131.675	Pass
			16QAM	-3.22	0.05	131.675	Pass
			64QAM	-2.22	0.05	131.675	Pass
		2	QPSK	-1.73	0.05	131.675	Pass
			16QAM	-1.92	0.05	131.675	Pass
			64QAM	-2.03	0.05	131.675	Pass
		3	QPSK	-0.12	0.05	131.675	Pass
			16QAM	-3.92	0.05	131.675	Pass
64QAM			-1.37	0.05	131.675	Pass	
4		QPSK	-1.47	0.05	131.675	Pass	
		16QAM	-2.06	0.05	131.675	Pass	
		64QAM	-1.02	0.05	131.675	Pass	

## Frequency Stability versus Voltage

**Frequency Stability vs. Voltage ( Channel Bandwidth:20M Frequency :2633.5MHz)**

Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
85%	25°C	1	QPSK	-1.52	0.05	131.675	Pass
			16QAM	-2.39	0.05	131.675	Pass
			64QAM	-0.39	0.05	131.675	Pass
		2	QPSK	-1.39	0.05	131.675	Pass
			16QAM	-3.02	0.05	131.675	Pass
			64QAM	-0.39	0.05	131.675	Pass
		3	QPSK	-2.01	0.05	131.675	Pass
			16QAM	-2.22	0.05	131.675	Pass
			64QAM	-3.62	0.05	131.675	Pass
		4	QPSK	-0.28	0.05	131.675	Pass

Frequency Stability vs. Voltage ( Channel Bandwidth:20M Frequency :2633.5MHz)									
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result		
100%	25°C		16QAM	-1.92	0.05	131.675	Pass		
			64QAM	-3.02	0.05	131.675	Pass		
		1	QPSK	-1.11	0.05	131.675	Pass		
			16QAM	-3.82	0.05	131.675	Pass		
			64QAM	-2.07	0.05	131.675	Pass		
		2	QPSK	-3.32	0.05	131.675	Pass		
			16QAM	-2.91	0.05	131.675	Pass		
			64QAM	-0.88	0.05	131.675	Pass		
		3	QPSK	-1.91	0.05	131.675	Pass		
			16QAM	-0.38	0.05	131.675	Pass		
			64QAM	-0.11	0.05	131.675	Pass		
		4	QPSK	-3.26	0.05	131.675	Pass		
			16QAM	-3.61	0.05	131.675	Pass		
			64QAM	-1.5	0.05	131.675	Pass		
		115%	25°C	1	QPSK	-3.18	0.05	131.675	Pass
					16QAM	-2.91	0.05	131.675	Pass
					64QAM	-2.03	0.05	131.675	Pass
				2	QPSK	-3.55	0.05	131.675	Pass
16QAM	-2.93				0.05	131.675	Pass		
64QAM	-0.92				0.05	131.675	Pass		
3	QPSK			-1.86	0.05	131.675	Pass		
	16QAM			-1.33	0.05	131.675	Pass		
	64QAM			-0.92	0.05	131.675	Pass		
4	QPSK			-3.11	0.05	131.675	Pass		
	16QAM			-3.98	0.05	131.675	Pass		
	64QAM			-1.16	0.05	131.675	Pass		

Frequency Stability vs. Voltage ( Channel Bandwidth:20M Frequency :2643.5MHz)							
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
85%	25°C	1	QPSK	-2.45	0.05	132.175	Pass
			16QAM	-2.86	0.05	132.175	Pass

Frequency Stability vs. Voltage (Channel Bandwidth:20M Frequency :2643.5MHz)									
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error (Hz)	Limit (ppm)	Limit (Hz)	Result		
		2	64QAM	-0.15	0.05	132.175	Pass		
			QPSK	-2.32	0.05	132.175	Pass		
			16QAM	-0.92	0.05	132.175	Pass		
		3	64QAM	-2.54	0.05	132.175	Pass		
			QPSK	-1.93	0.05	132.175	Pass		
			16QAM	-0.03	0.05	132.175	Pass		
		4	64QAM	-2.38	0.05	132.175	Pass		
			QPSK	-2.01	0.05	132.175	Pass		
			16QAM	-1.93	0.05	132.175	Pass		
		100%	25°C	1	QPSK	-1.93	0.05	132.175	Pass
					16QAM	-0.55	0.05	132.175	Pass
					64QAM	-1.72	0.05	132.175	Pass
2	QPSK			-2.69	0.05	132.175	Pass		
	16QAM			-2.34	0.05	132.175	Pass		
	64QAM			-1.09	0.05	132.175	Pass		
3	QPSK			-2.88	0.05	132.175	Pass		
	16QAM			-1.92	0.05	132.175	Pass		
	64QAM			-3.92	0.05	132.175	Pass		
4	QPSK			-3.22	0.05	132.175	Pass		
	16QAM			-1.03	0.05	132.175	Pass		
	64QAM			-2.38	0.05	132.175	Pass		
115%	25°C	1	QPSK	-2.9	0.05	132.175	Pass		
			16QAM	-1.72	0.05	132.175	Pass		
			64QAM	-2.62	0.05	132.175	Pass		
		2	QPSK	-1.93	0.05	132.175	Pass		
			16QAM	-2.69	0.05	132.175	Pass		
			64QAM	-2.01	0.05	132.175	Pass		
		3	QPSK	-2.88	0.05	132.175	Pass		
			16QAM	-1.04	0.05	132.175	Pass		
			64QAM	-2.43	0.05	132.175	Pass		
		4	QPSK	-2.06	0.05	132.175	Pass		
			16QAM	-1.93	0.05	132.175	Pass		
			64QAM	-2.85	0.05	132.175	Pass		

Frequency Stability vs. Voltage ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
85%	25°C	1	QPSK	-0.06	0.05	132.675	Pass
			16QAM	-1.37	0.05	132.675	Pass
			64QAM	-0.99	0.05	132.675	Pass
		2	QPSK	-1.56	0.05	132.675	Pass
			16QAM	-2.91	0.05	132.675	Pass
			64QAM	-2.09	0.05	132.675	Pass
		3	QPSK	-3.06	0.05	132.675	Pass
			16QAM	-2.58	0.05	132.675	Pass
			64QAM	-3.23	0.05	132.675	Pass
		4	QPSK	-1.43	0.05	132.675	Pass
			16QAM	-2.06	0.05	132.675	Pass
			64QAM	-1.49	0.05	132.675	Pass
100%	25°C	1	QPSK	-2.81	0.05	132.675	Pass
			16QAM	-2.32	0.05	132.675	Pass
			64QAM	-1.95	0.05	132.675	Pass
		2	QPSK	-2.03	0.05	132.675	Pass
			16QAM	-1.05	0.05	132.675	Pass
			64QAM	-2.38	0.05	132.675	Pass
		3	QPSK	-2.16	0.05	132.675	Pass
			16QAM	-1.59	0.05	132.675	Pass
			64QAM	-2.82	0.05	132.675	Pass
		4	QPSK	-1.04	0.05	132.675	Pass
			16QAM	-3.86	0.05	132.675	Pass
			64QAM	-0.59	0.05	132.675	Pass
115%	25°C	1	QPSK	-1.84	0.05	132.675	Pass
			16QAM	-2.38	0.05	132.675	Pass
			64QAM	-3.92	0.05	132.675	Pass
		2	QPSK	-1.06	0.05	132.675	Pass
			16QAM	-2.92	0.05	132.675	Pass
			64QAM	-1.96	0.05	132.675	Pass
3	QPSK	-2.38	0.05	132.675	Pass		
	16QAM	-1.87	0.05	132.675	Pass		

Frequency Stability vs. Voltage ( Channel Bandwidth:20M Frequency :2653.5MHz)							
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
		4	64QAM	-1.49	0.05	132.675	Pass
			QPSK	-3.82	0.05	132.675	Pass
			16QAM	-2.38	0.05	132.675	Pass
			64QAM	-2.1	0.05	132.675	Pass

Frequency Stability vs. Voltage ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)							
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
85%	25°C	1	QPSK	-3.98	0.05	131.675	Pass
			16QAM	-3.02	0.05	131.675	Pass
			64QAM	-3.54	0.05	131.675	Pass
		2	QPSK	-1.06	0.05	131.675	Pass
			16QAM	-2.92	0.05	131.675	Pass
			64QAM	-1.46	0.05	131.675	Pass
		3	QPSK	-2.63	0.05	131.675	Pass
			16QAM	-2.2	0.05	131.675	Pass
			64QAM	-1.96	0.05	131.675	Pass
		4	QPSK	-2.91	0.05	131.675	Pass
			16QAM	-3.28	0.05	131.675	Pass
			64QAM	-3.98	0.05	131.675	Pass
100%	25°C	1	QPSK	-2.51	0.05	131.675	Pass
			16QAM	-2.62	0.05	131.675	Pass
			64QAM	-1.84	0.05	131.675	Pass
		2	QPSK	-2.86	0.05	131.675	Pass
			16QAM	-1.94	0.05	131.675	Pass
			64QAM	-2.48	0.05	131.675	Pass
		3	QPSK	-1.86	0.05	131.675	Pass
			16QAM	-3.82	0.05	131.675	Pass
			64QAM	-1.48	0.05	131.675	Pass
		4	QPSK	-2.81	0.05	131.675	Pass
			16QAM	-3.82	0.05	131.675	Pass
			64QAM	-3.05	0.05	131.675	Pass



Frequency Stability vs. Voltage ( Channel Bandwidth:20M+20M Frequency :2633.5+2653.5MHz)							
Voltage: Ref=-48V (%)	Temperature (°C)	Port	Modulation	Frequency Measure Error ( Hz)	Limit ( ppm)	Limit ( Hz)	Result
115%	25°C	1	QPSK	-1.56	0.05	131.675	Pass
			16QAM	-3.29	0.05	131.675	Pass
			64QAM	-0.03	0.05	131.675	Pass
		2	QPSK	-1.86	0.05	131.675	Pass
			16QAM	-1.11	0.05	131.675	Pass
			64QAM	-2.06	0.05	131.675	Pass
		3	QPSK	-1.95	0.05	131.675	Pass
			16QAM	-2.87	0.05	131.675	Pass
			64QAM	-1.92	0.05	131.675	Pass
		4	QPSK	-1.06	0.05	131.675	Pass
			16QAM	-2.39	0.05	131.675	Pass
			64QAM	-2.45	0.05	131.675	Pass