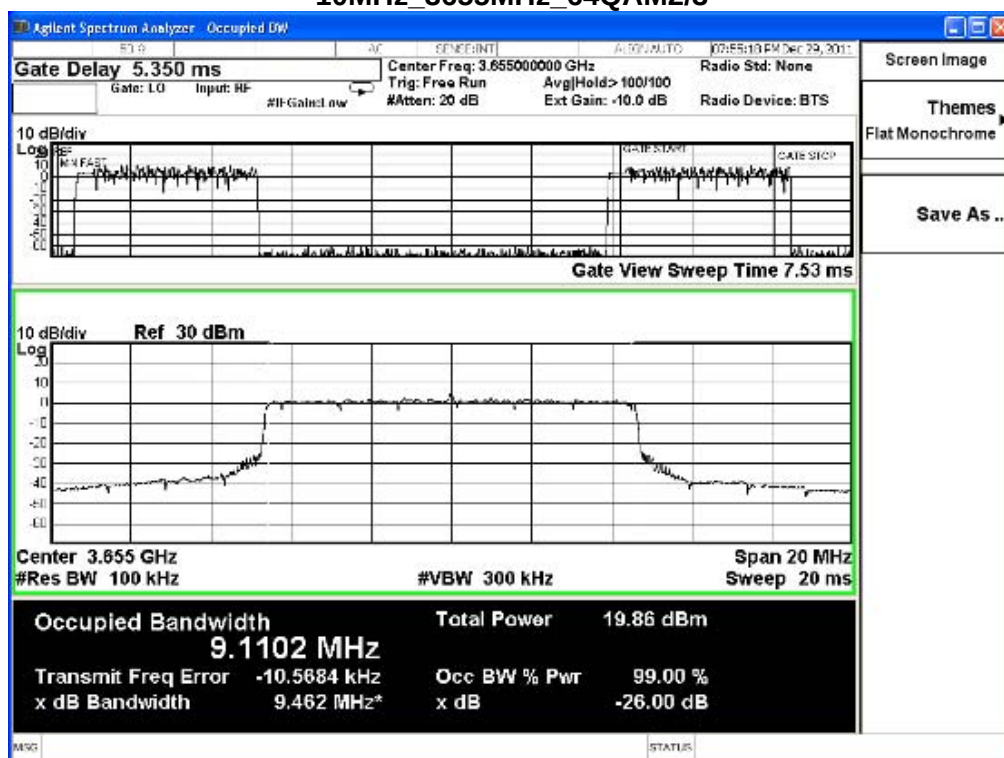


Product	CPE 3.65GHz Outdoor		
Test Item	Occupied Bandwidth		
Test Mode	Mode 9: Transmit (10MHz BW_64QAM2/3)		
Date of Test	2011/12/29	Test Site	SR7

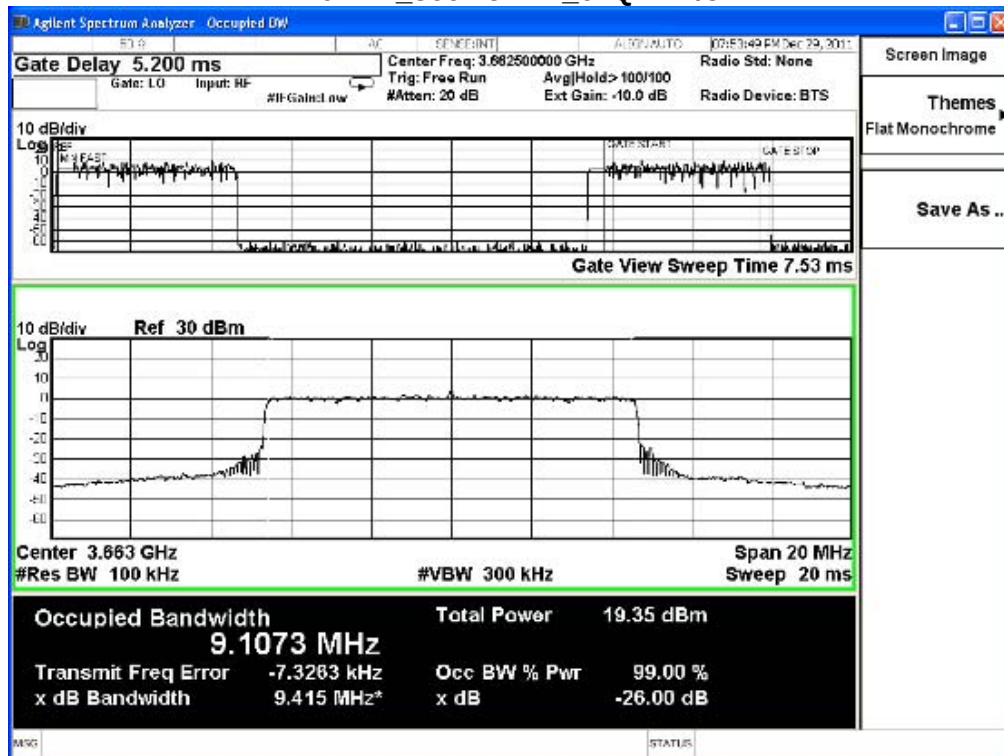
10MHz Bandwidth, Antenna Gain: 14dBi

Frequency (MHz)	Modulation	Measure Value (MHz)	Limit (MHz)
3655.0	64QAM2/3	9.462	NA
3662.5	64QAM2/3	9.415	NA
3670.0	64QAM2/3	9.418	NA

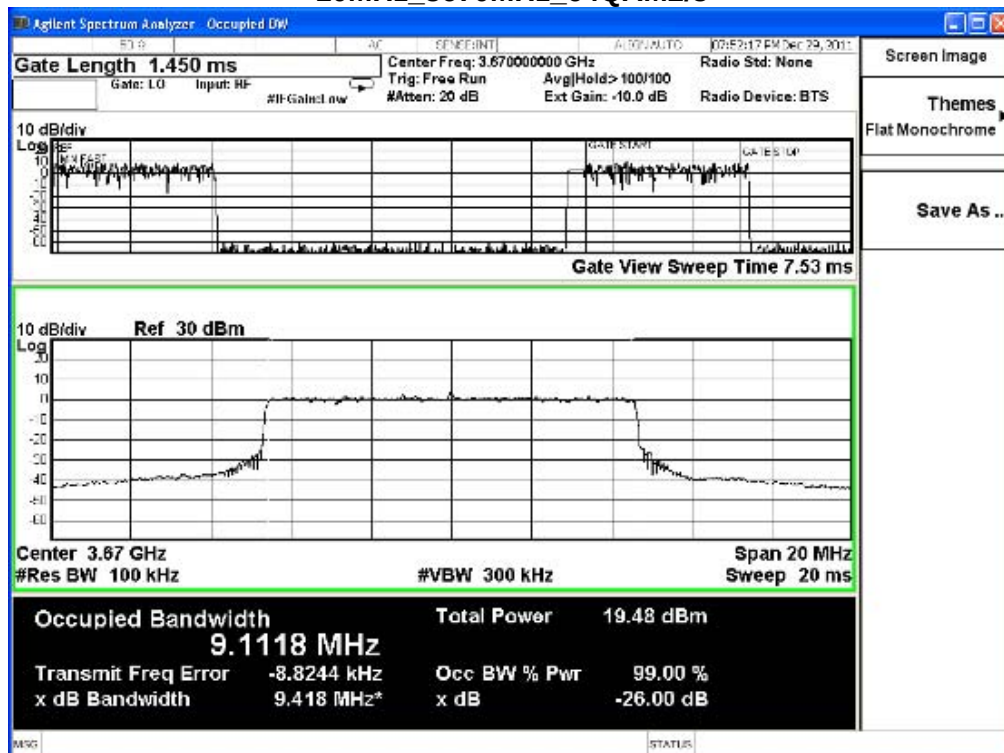
10MHz_3655MHz_64QAM2/3



10MHz_3662.5MHz_64QAM2/3



10MHz_3670MHz_64QAM2/3



5. Spectrum Emission Mask

5.1. Test Equipment

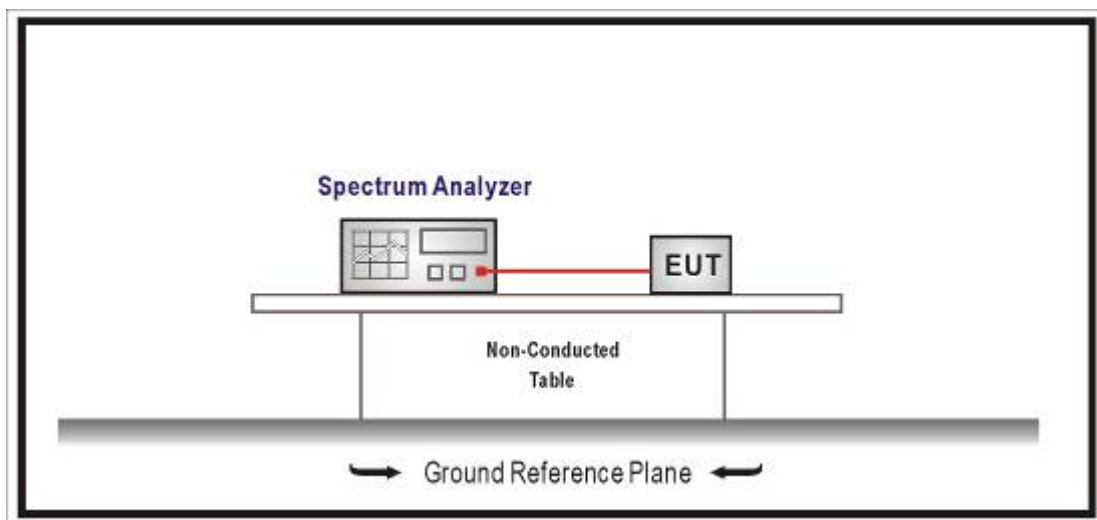
The following test equipments are used during the test:

Spectrum Emission Mask / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2012/07/13

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

For transmitters that are equipped with an audio lowpass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

- (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.
- (2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.
- (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log (P)$ dB.

5.4. Test Procedure

The Spectrum Emission Mask is measured using Spectrum Analyzer with a resolution bandwidth of the instrumentation must be at least 1 MHz. The EUT was set up for the rated peak power under unmodulation mode and record the level as refer level. The standards required a Spectrum Emission Mask is the power of any emission must be attenuated below the refer level as limit under all modulation types and emission bandwidths.

5.5. Test Specification:

FCC CFR Title 47 Part 90 Subpart Z

5.6. Uncertainty

The measurement uncertainty is defined as $\pm 1.27\text{dB}$

5.7. Test Result

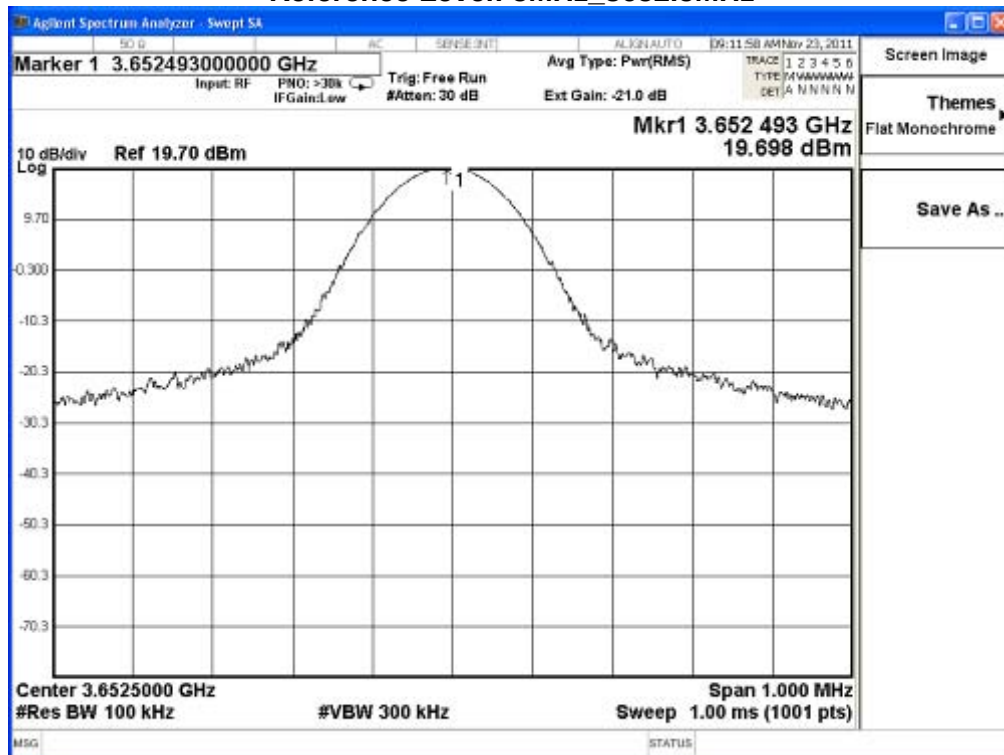
Product	CPE 3.65GHz Outdoor		
Test Item	Spectrum Emission Mask		
Test Mode	Mode 1: Transmit (5MHz BW_QPSK1/2) Mode 2: Transmit (5MHz BW_16QAM1/2) Mode 3: Transmit (5MHz BW_64QAM2/3)		
Date of Test	2011/11/17	Test Site	SR7

5MHz Bandwidth, Antenna Gain: 14dBi

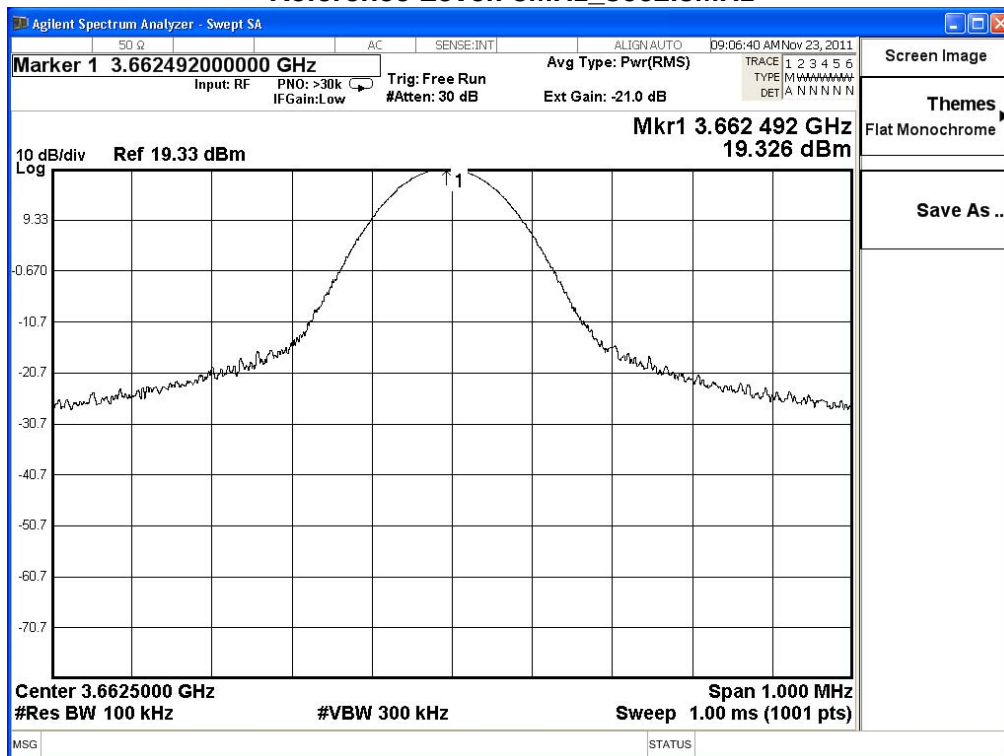
Frequency (MHz)	Modulation	Test Result
3652.5	QPSK1/2	PASS
3662.5	QPSK1/2	PASS
3672.5	QPSK1/2	PASS
Frequency (MHz)	Modulation	Test Result
3652.5	16QAM1/2	PASS
3662.5	16QAM1/2	PASS
3672.5	16QAM1/2	PASS
Frequency (MHz)	Modulation	Test Result
3652.5	64QAM2/3	PASS
3662.5	64QAM2/3	PASS
3672.5	64QAM2/3	PASS

Note: Set the RBW to 100kHz, and the mask limit was be reduced $10\log(1\text{MHz}/100\text{kHz})=10\text{dB}$.

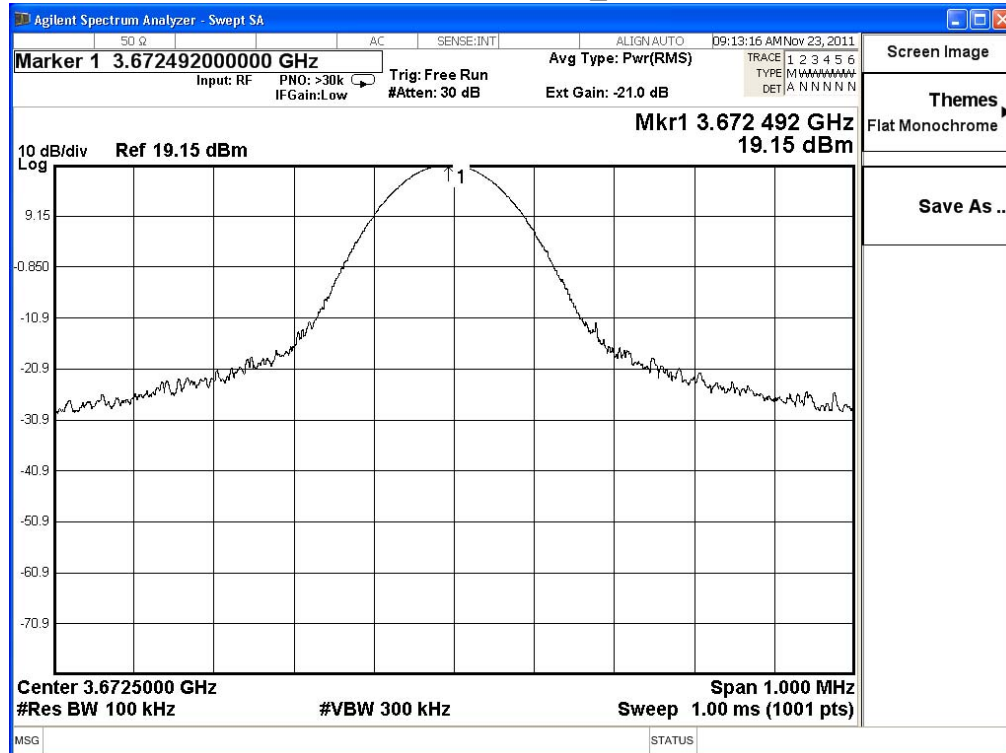
Reference Level: 5MHz_3652.5MHz



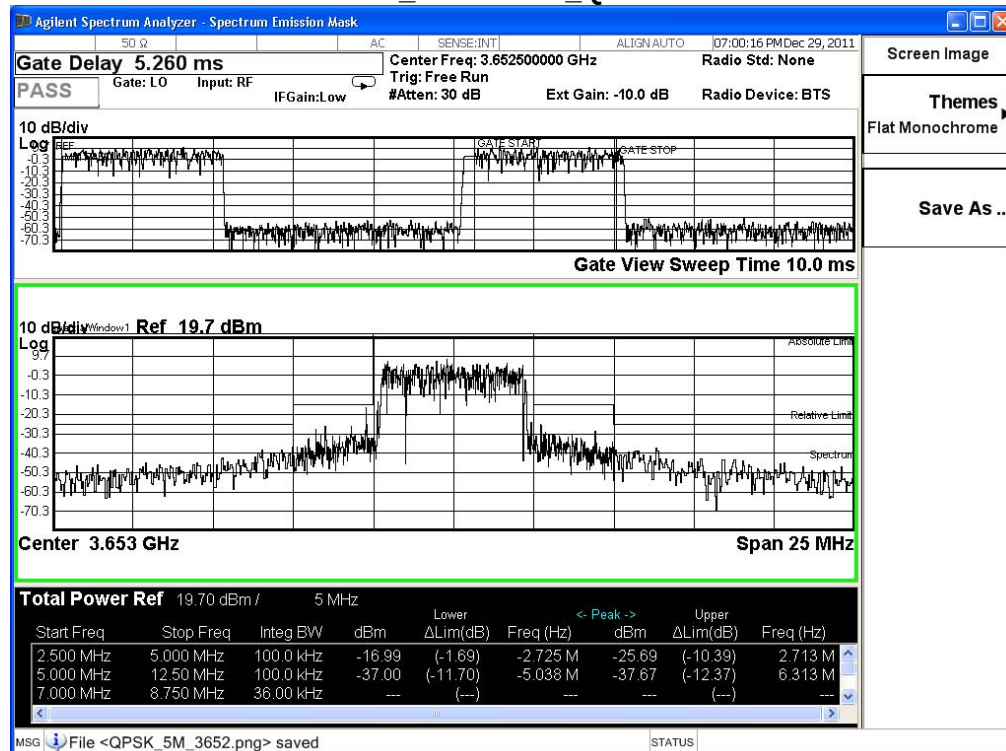
Reference Level: 5MHz_3662.5MHz



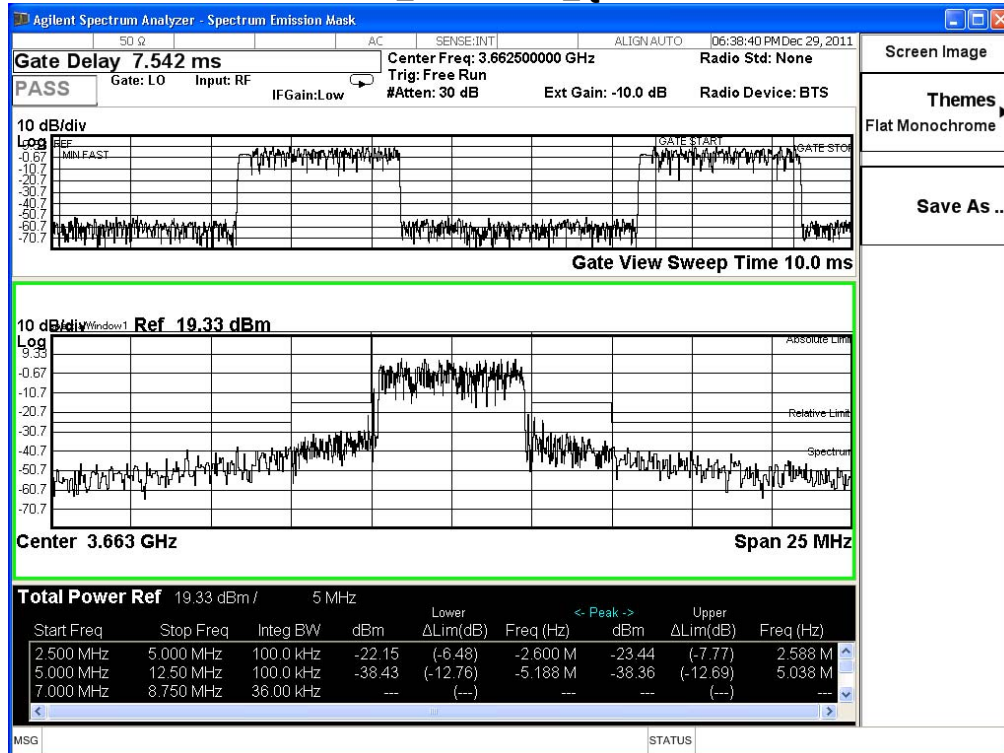
Reference Level: 5MHz_3672.5MHz



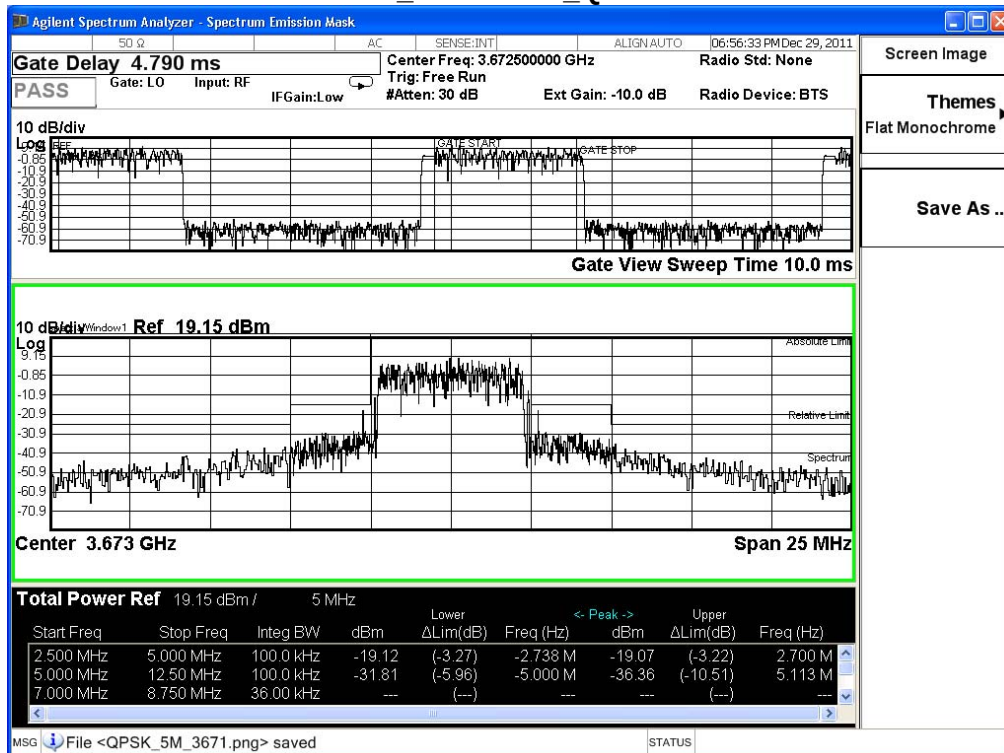
5MHz_3652.5MHz_QPSK1/2



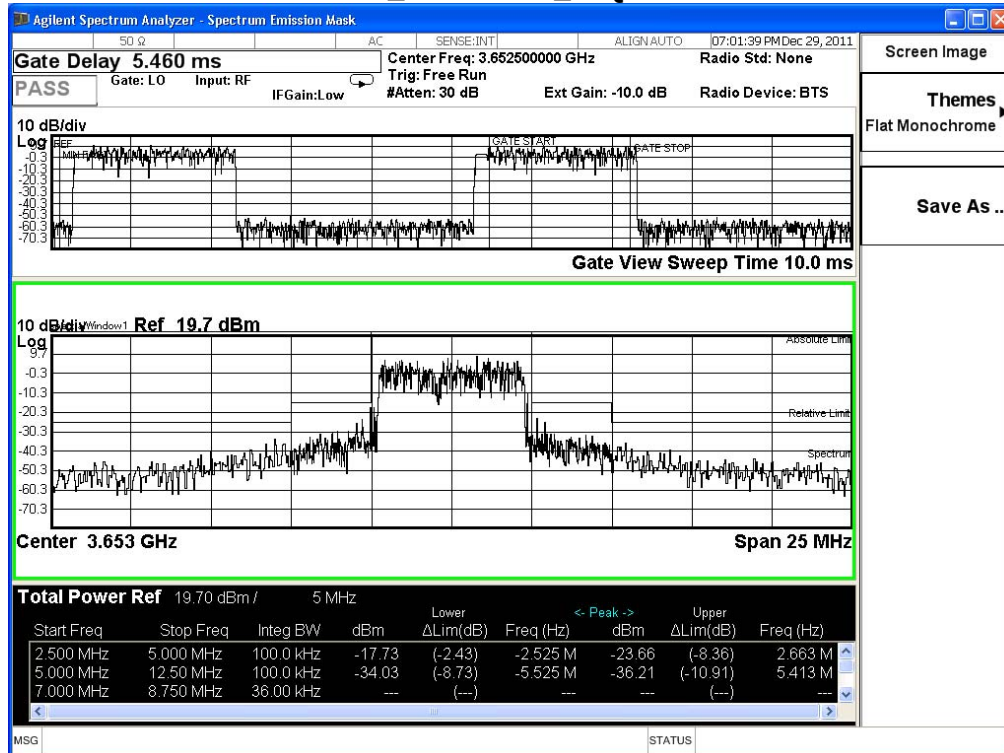
5MHz_3662.5MHz_QPSK1/2



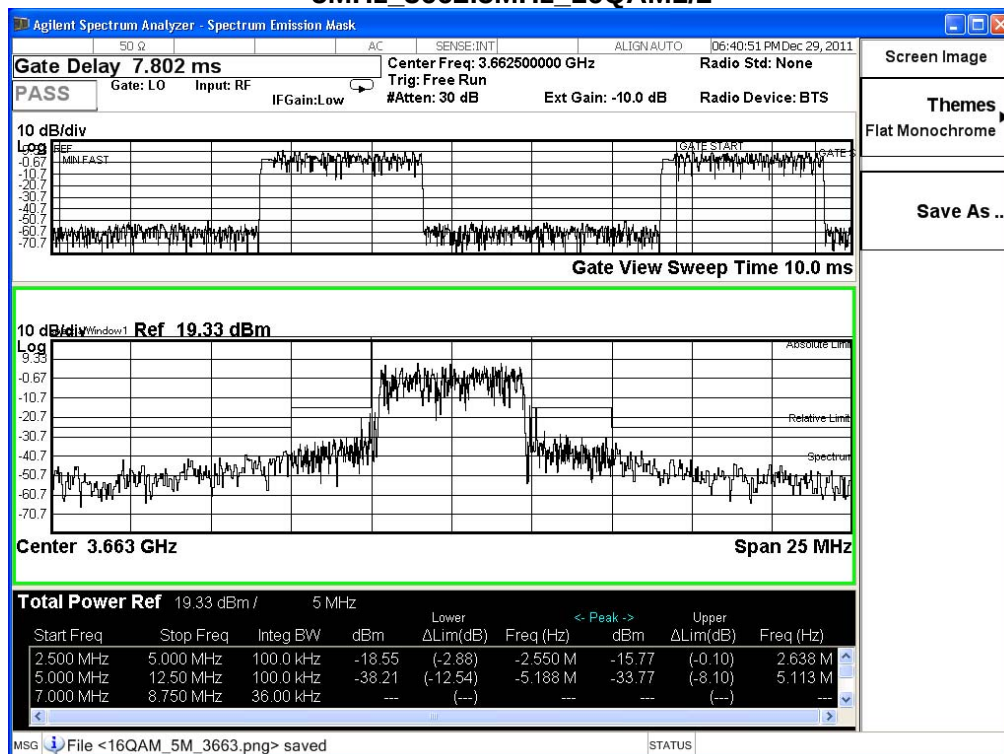
5MHz_3672.5MHz_QPSK1/2



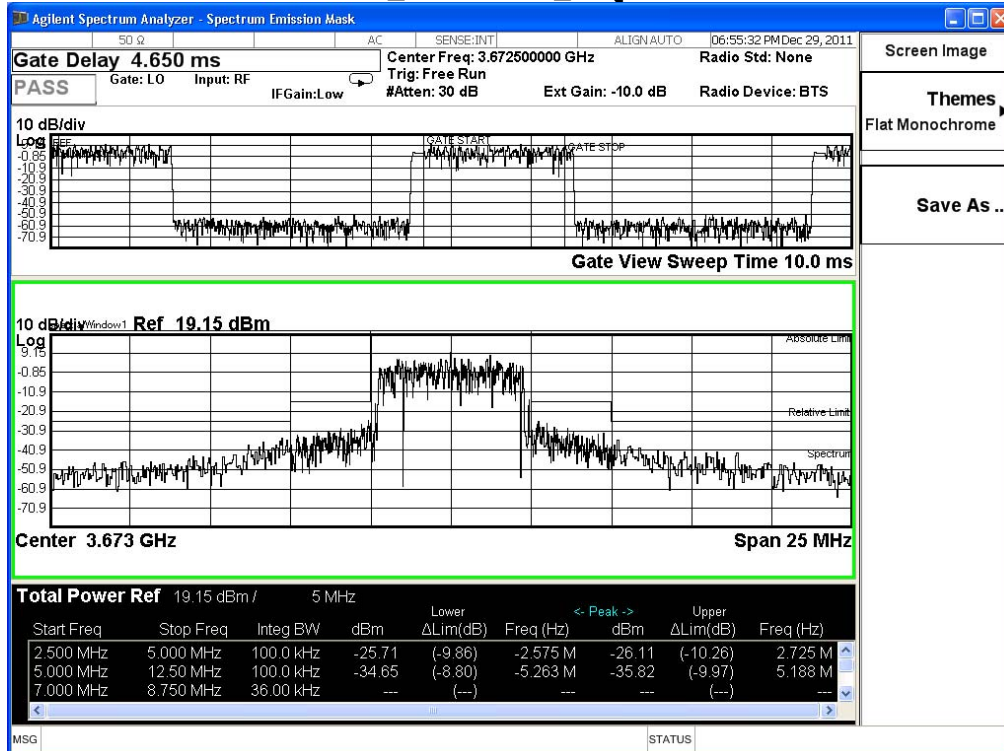
5MHz_3652.5MHz_16QAM1/2



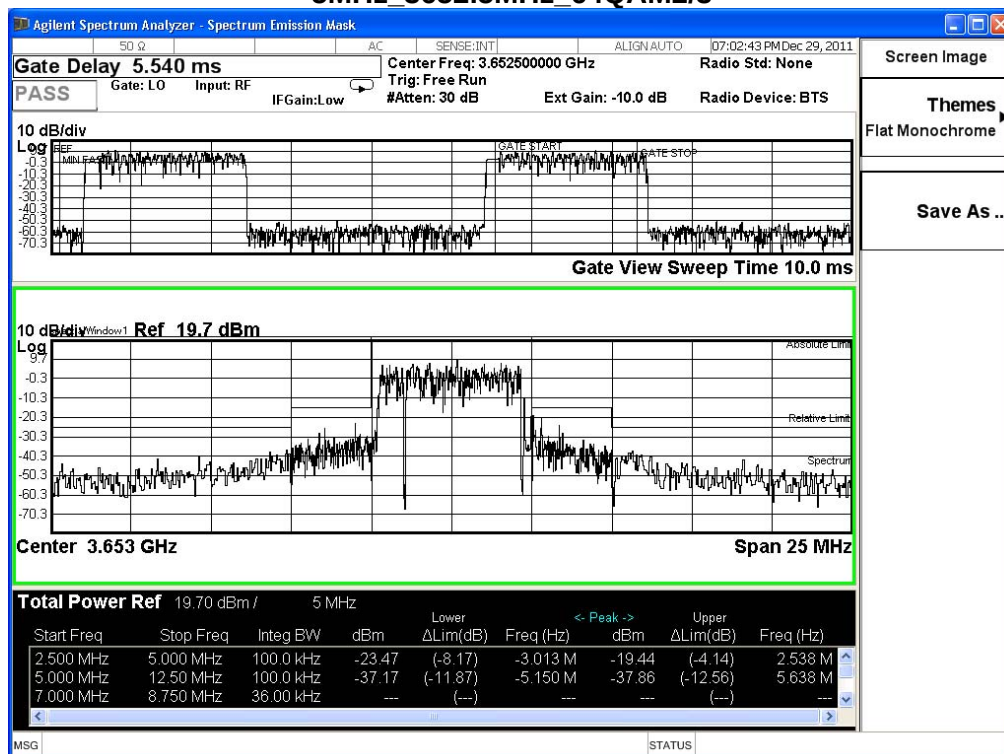
5MHz_3662.5MHz_16QAM1/2



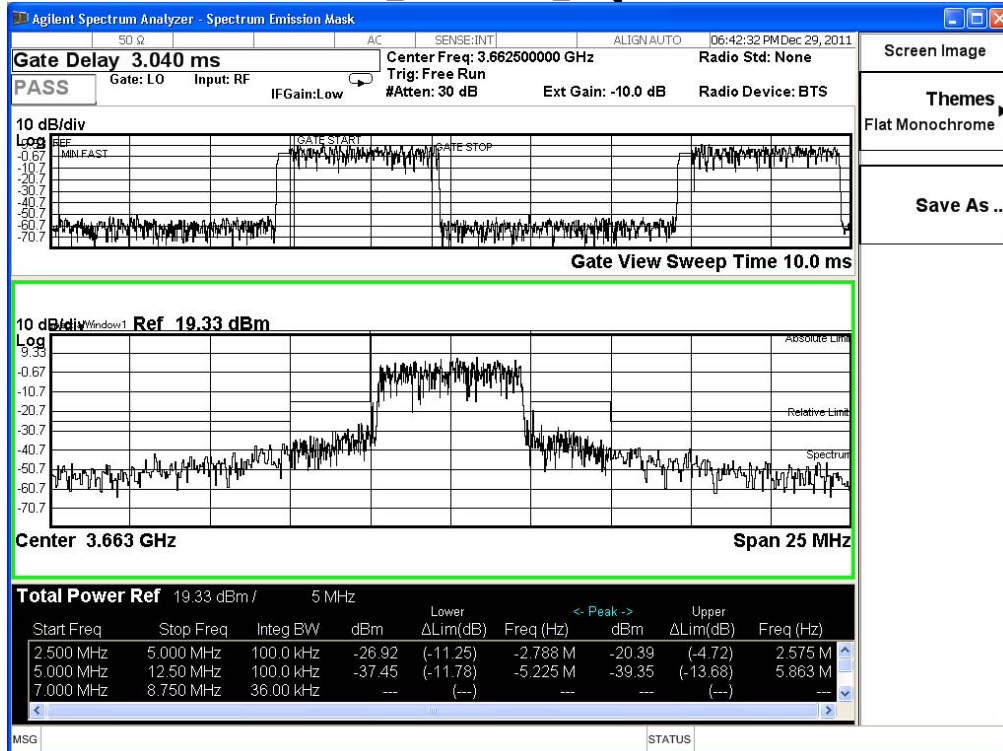
5MHz_3672.5MHz_16QAM1/2



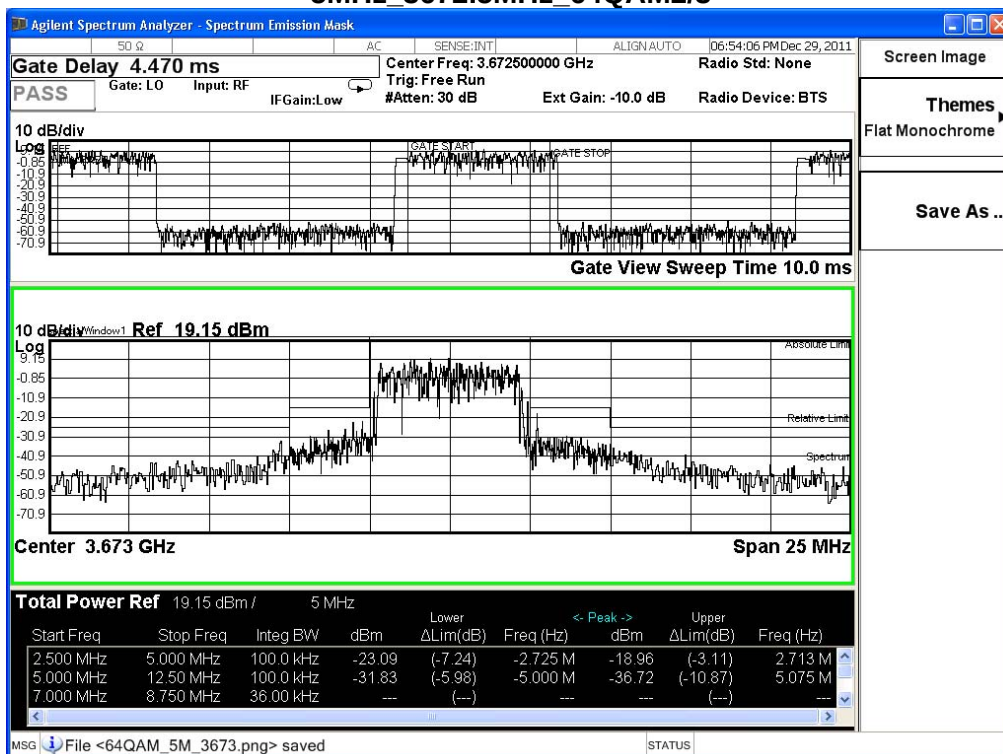
5MHz_3652.5MHz_64QAM2/3



5MHz_3662.5MHz_64QAM2/3



5MHz_3672.5MHz_64QAM2/3



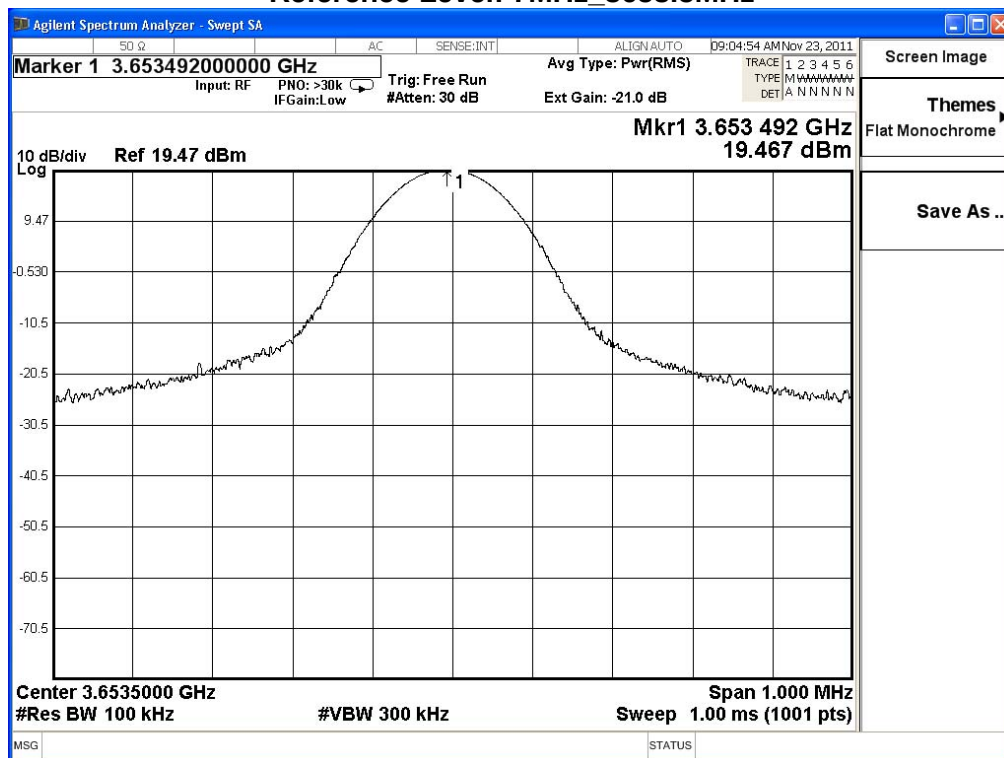
Product	CPE 3.65GHz Outdoor		
Test Item	Spectrum Emission Mask		
Test Mode	Mode 4: Transmit (7MHz BW_QPSK1/2) Mode 5: Transmit (7MHz BW_16QAM1/2) Mode 6: Transmit (7MHz BW_64QAM2/3)		
Date of Test	2011/11/17	Test Site	SR7

7MHz Bandwidth, Antenna Gain: 14dBi

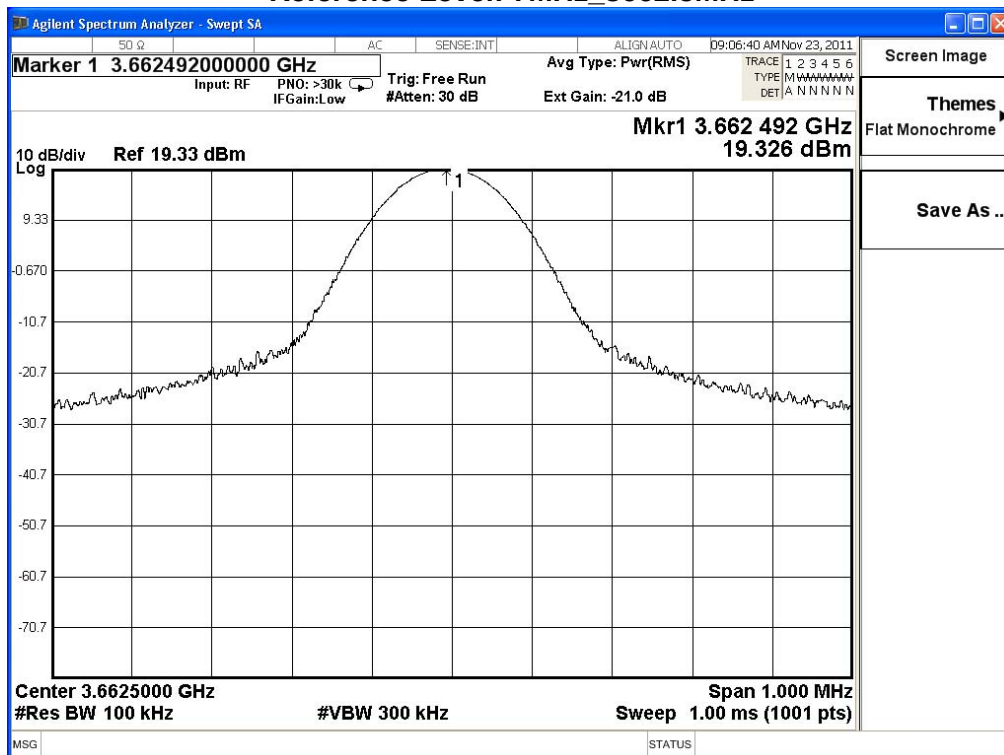
Frequency (MHz)	Modulation	Test Result
3653.5	QPSK1/2	PASS
3662.5	QPSK1/2	PASS
3671.5	QPSK1/2	PASS
Frequency (MHz)	Modulation	Test Result
3653.5	16QAM1/2	PASS
3662.5	16QAM1/2	PASS
3671.5	16QAM1/2	PASS
Frequency (MHz)	Modulation	Test Result
3653.5	64QAM2/3	PASS
3662.5	64QAM2/3	PASS
3671.5	64QAM2/3	PASS

Note: Set the RBW to 100kHz, and the mask limit was be reduced $10\log(1\text{MHz}/100\text{kHz})=10\text{dB}$.

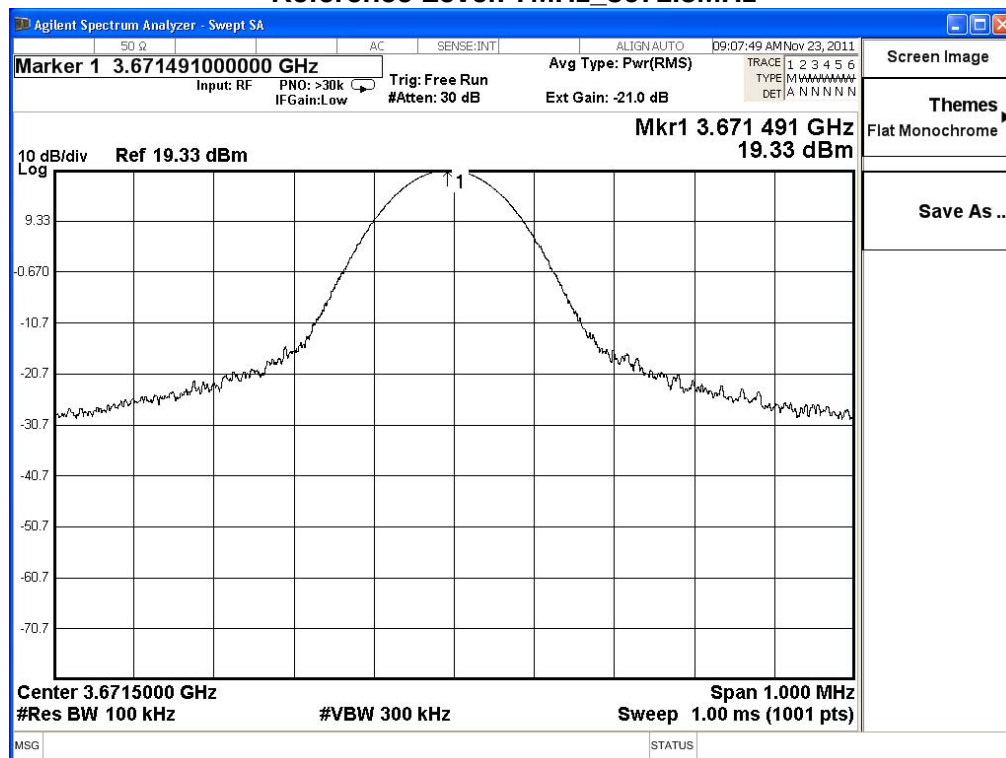
Reference Level: 7MHz_3653.5MHz



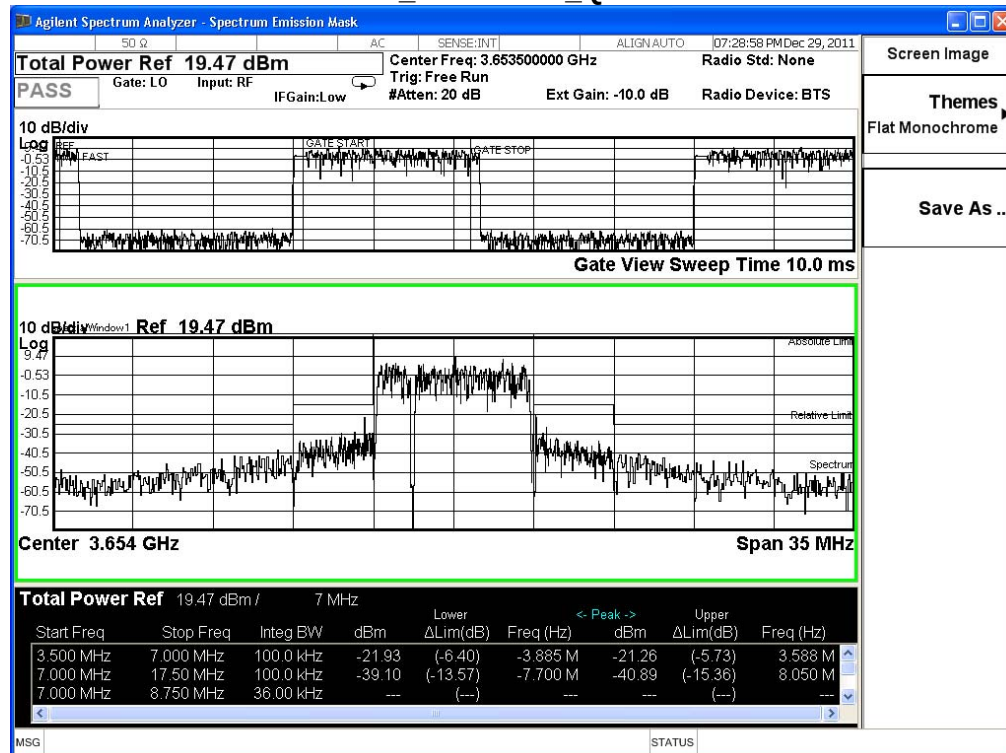
Reference Level: 7MHz_3662.5MHz



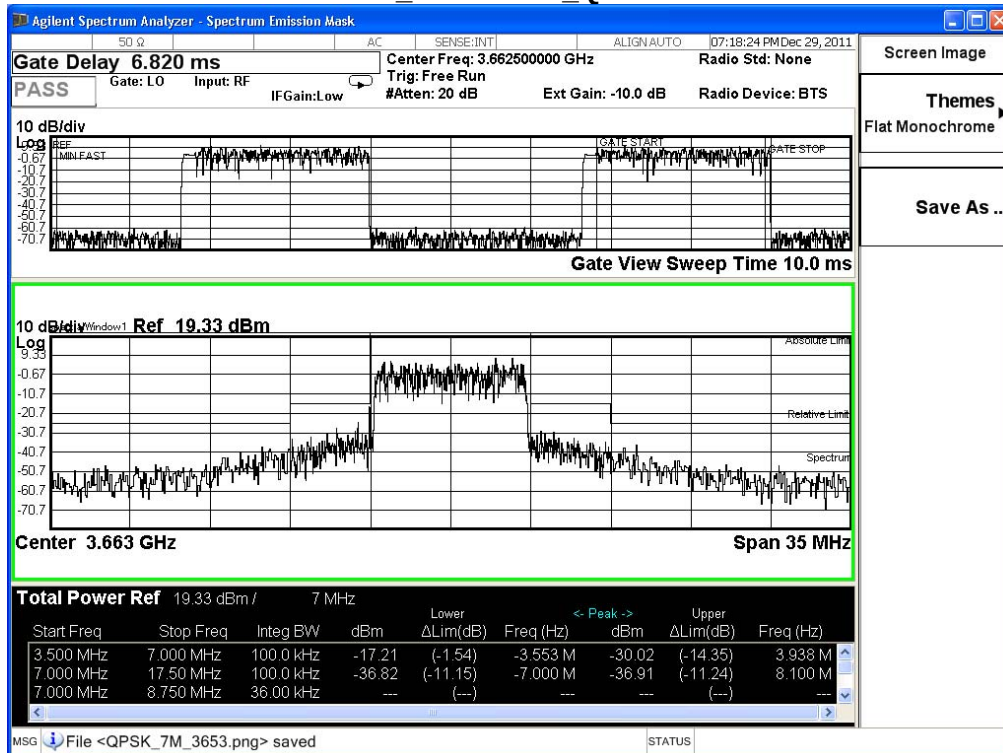
Reference Level: 7MHz_3671.5MHz



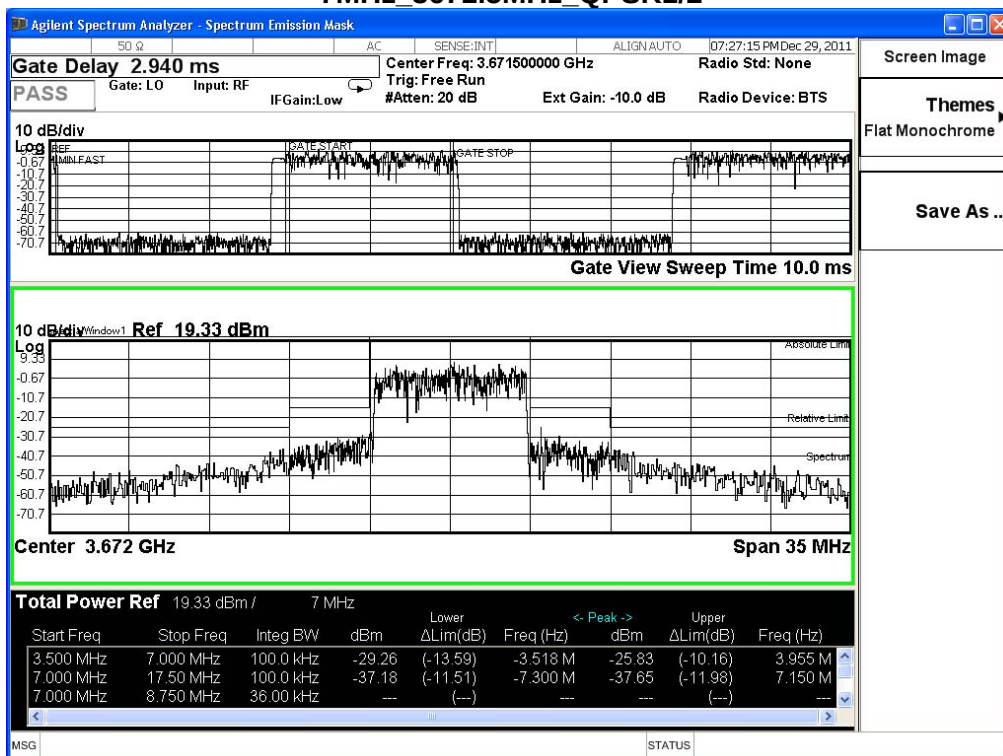
7MHz_3653.5MHz_QPSK1/2



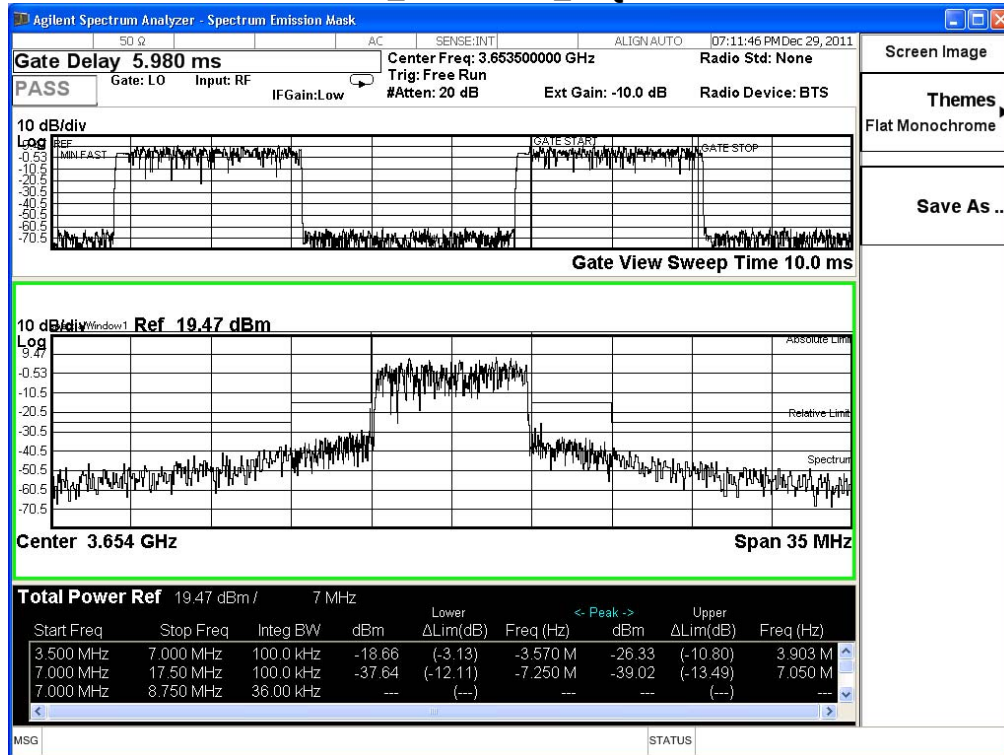
7MHz_3662.5MHz_QPSK1/2



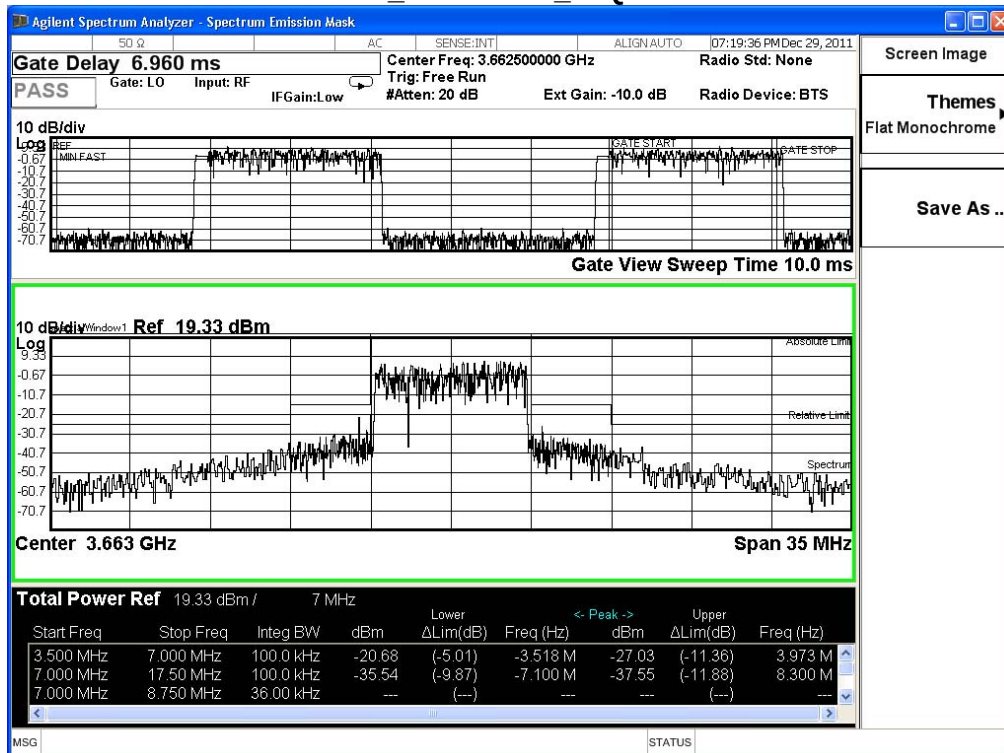
7MHz_3671.5MHz_QPSK1/2



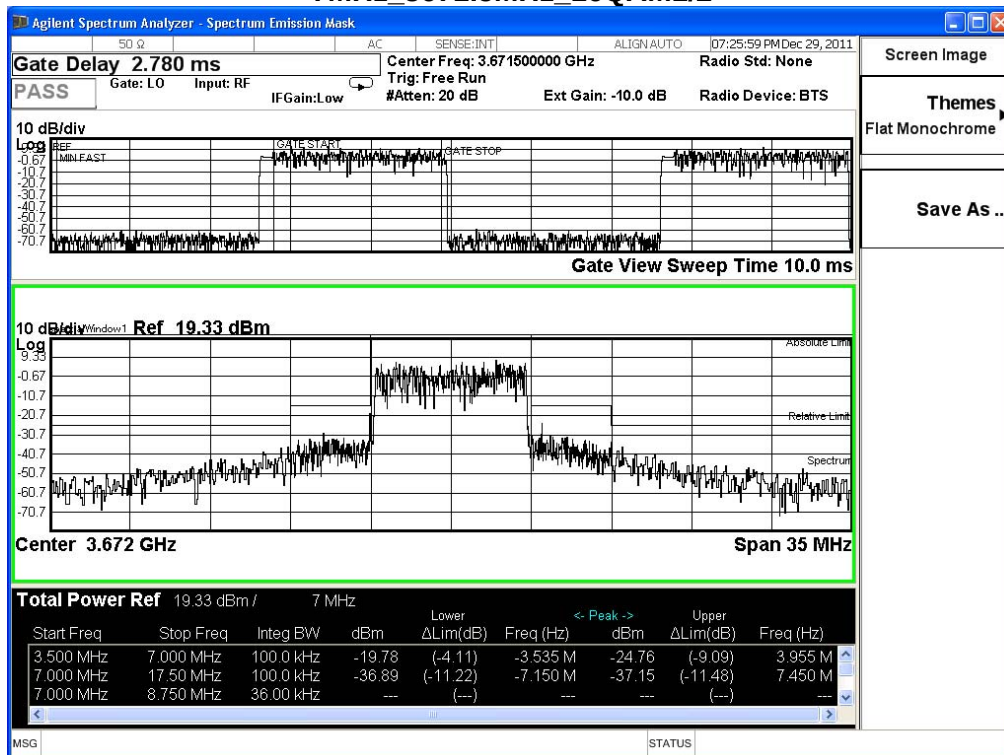
7MHz_3653.5MHz_16QAM1/2



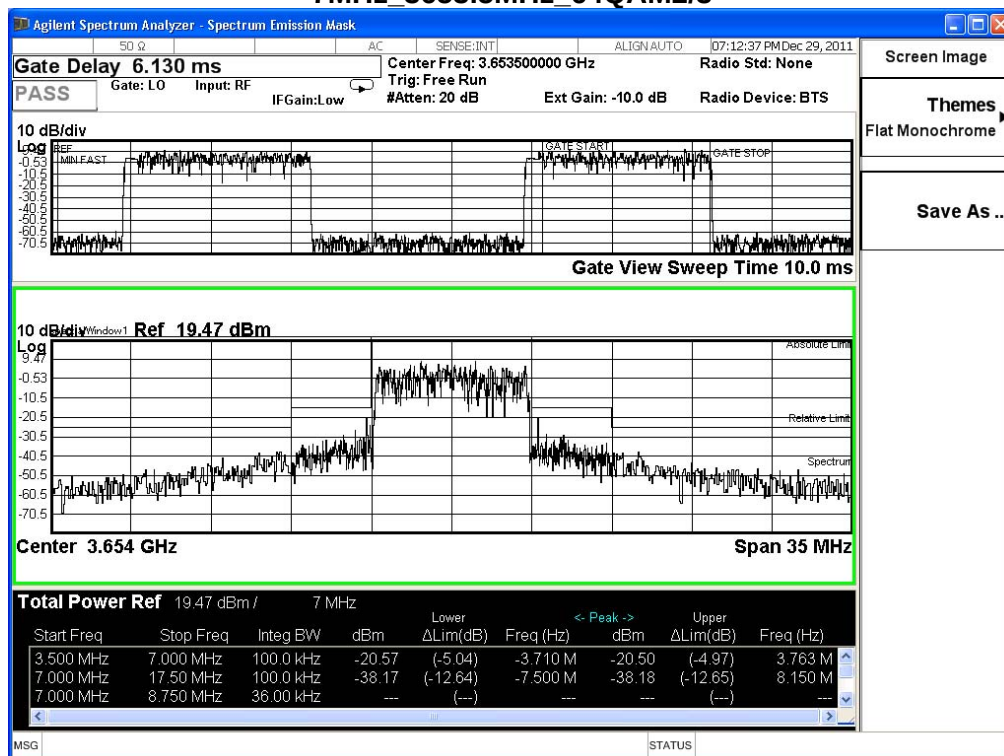
7MHz_3662.5MHz_16QAM1/2



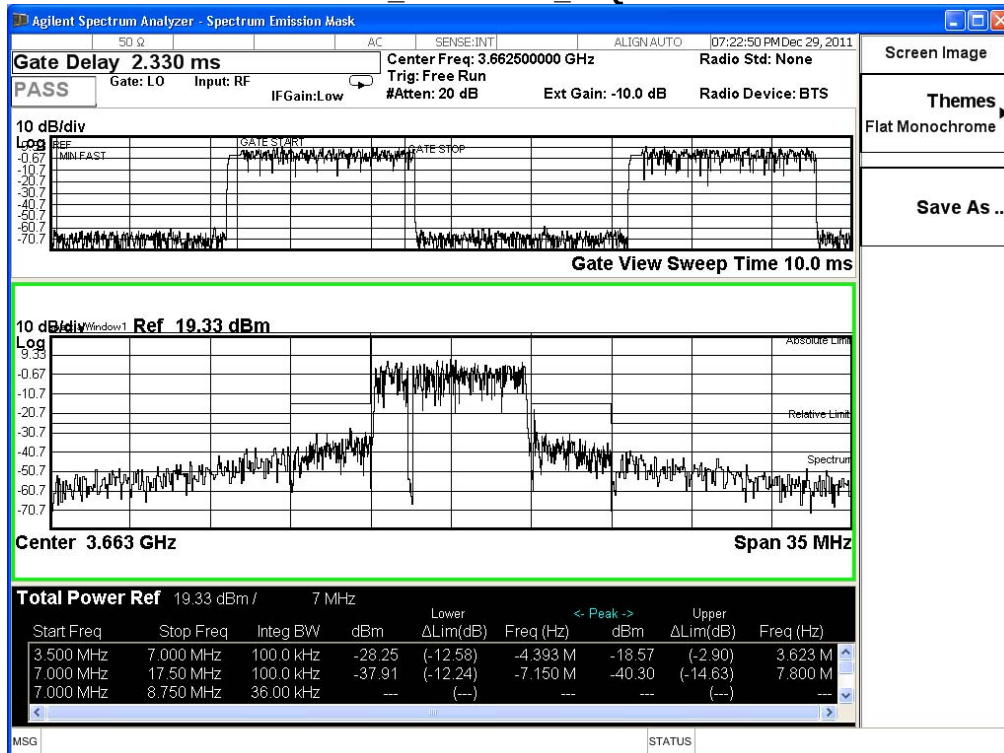
7MHz_3671.5MHz_16QAM1/2



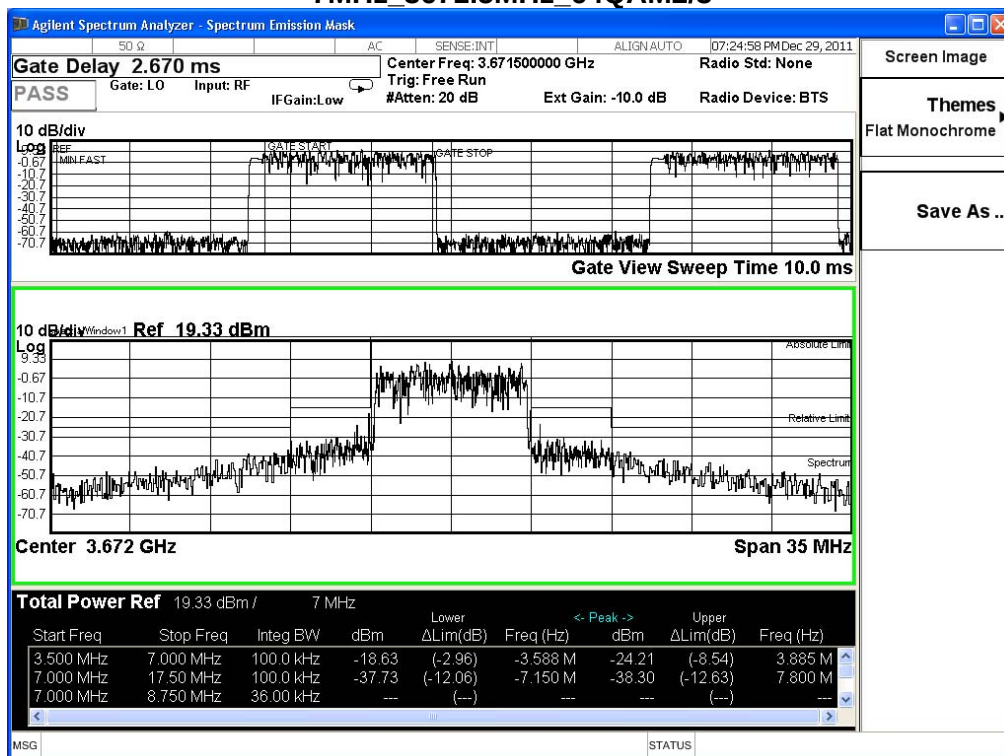
7MHz_3653.5MHz_64QAM2/3



7MHz_3662.5MHz_64QAM2/3



7MHz_3671.5MHz_64QAM2/3



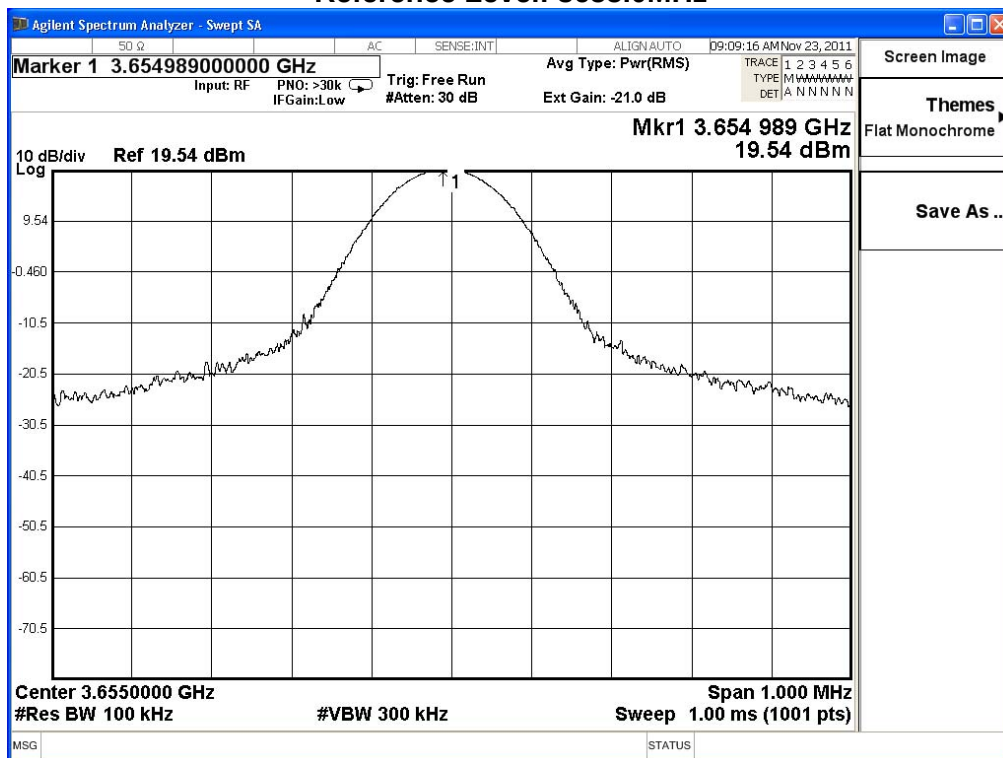
Product	CPE 3.65GHz Outdoor		
Test Item	Spectrum Emission Mask		
Test Mode	Mode 7: Transmit (10MHz BW_QPSK1/2) Mode 8: Transmit (10MHz BW_16QAM1/2) Mode 9: Transmit (10MHz BW_64QAM2/3)		
Date of Test	2011/11/17	Test Site	SR7

10MHz Bandwidth, Antenna Gain: 14dBi

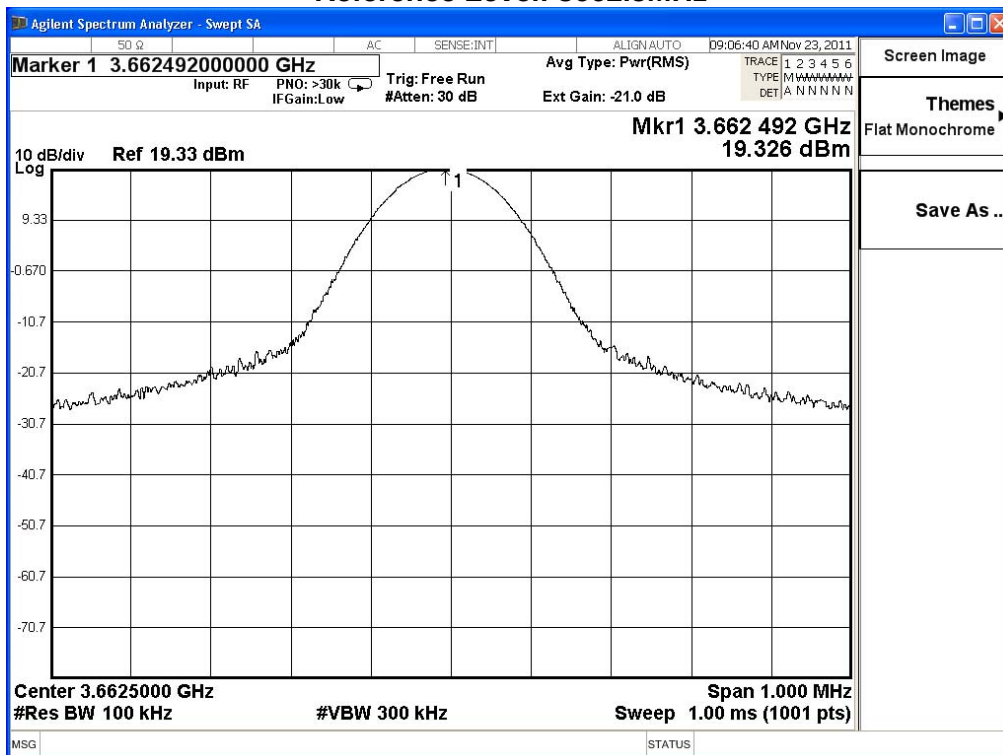
Frequency (MHz)	Modulation	Test Result
3655.0	QPSK1/2	PASS
3662.5	QPSK1/2	PASS
3670.0	QPSK1/2	PASS
Frequency (MHz)	Modulation	Test Result
3655.0	16QAM1/2	PASS
3662.5	16QAM1/2	PASS
3670.0	16QAM1/2	PASS
Frequency (MHz)	Modulation	Test Result
3655.0	64QAM2/3	PASS
3662.5	64QAM2/3	PASS
3670.0	64QAM2/3	PASS

Note: Set the RBW to 100kHz, and the mask limit was be reduced $10\log(1\text{MHz}/100\text{kHz})=10\text{dB}$.

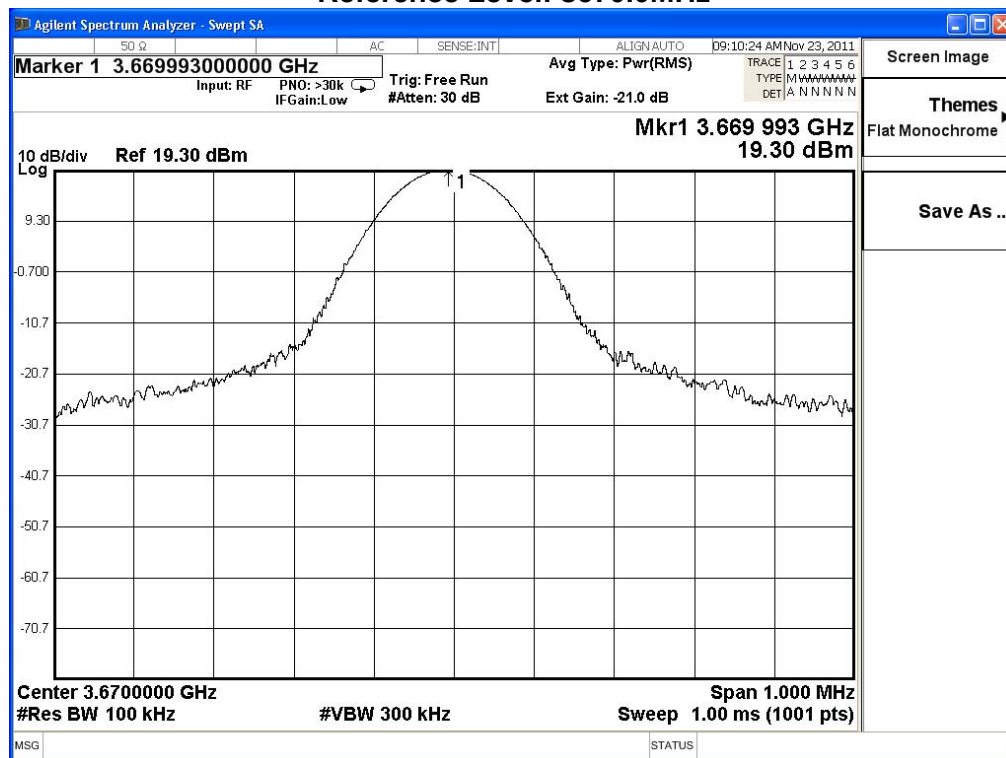
Reference Level: 3655.0MHz



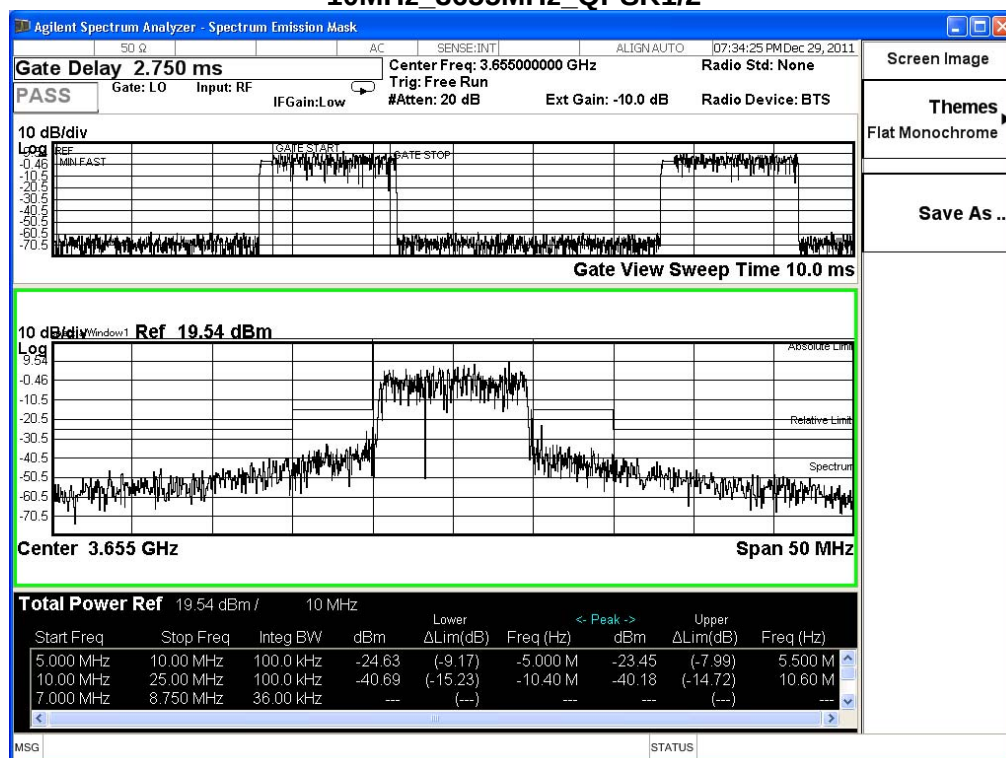
Reference Level: 3662.5MHz



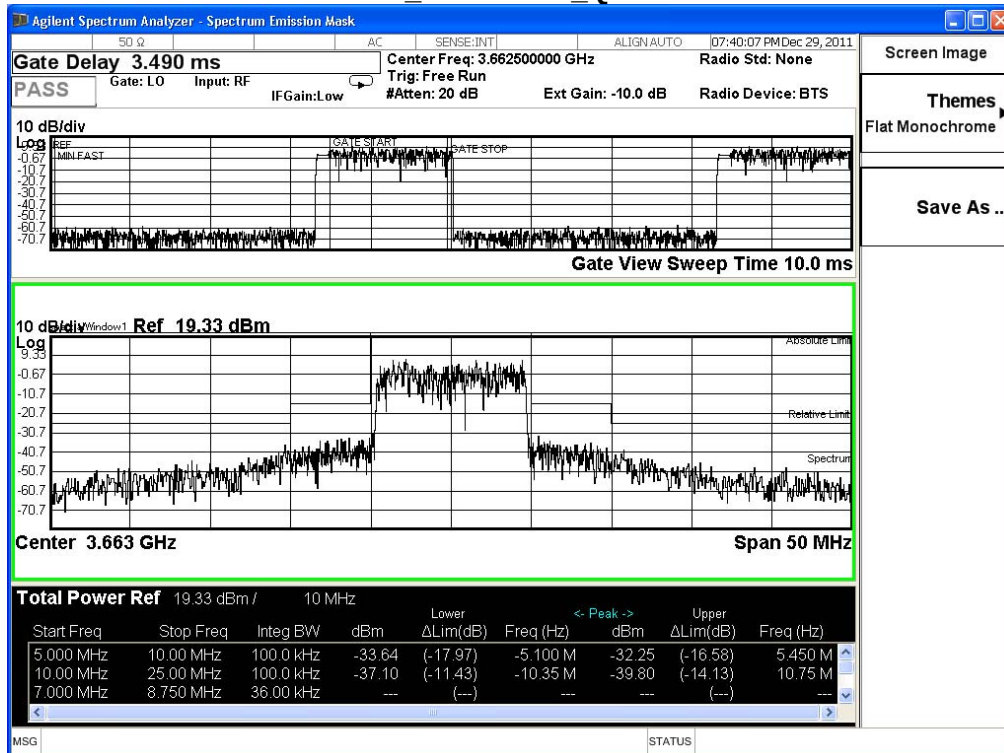
Reference Level: 3670.0MHz



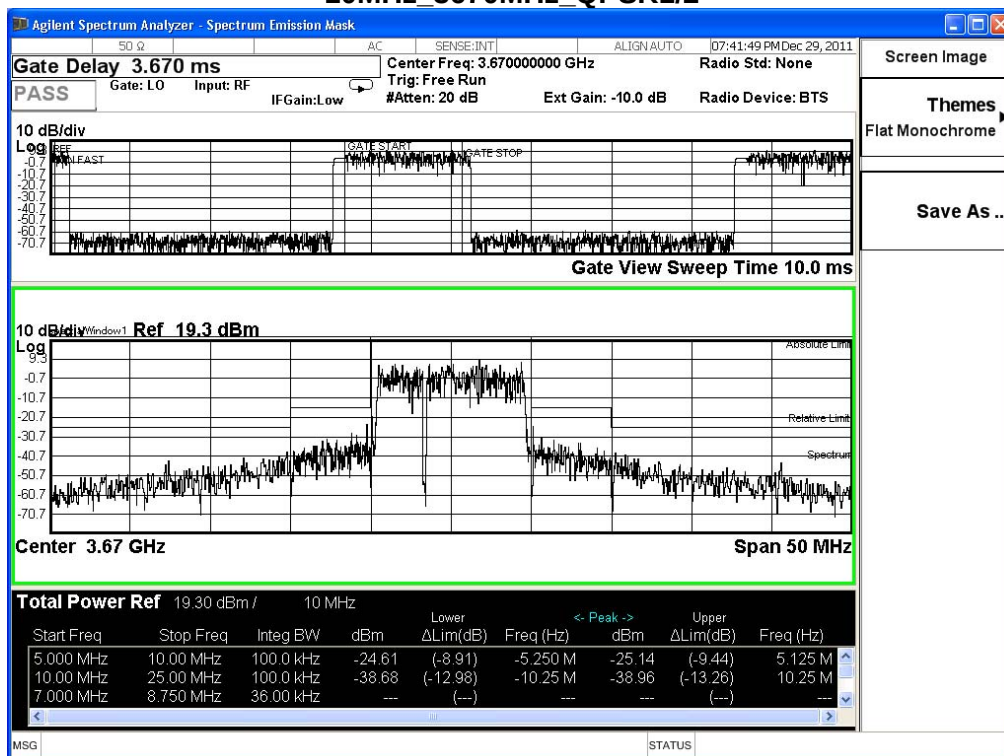
10MHz_3655MHz_QPSK1/2



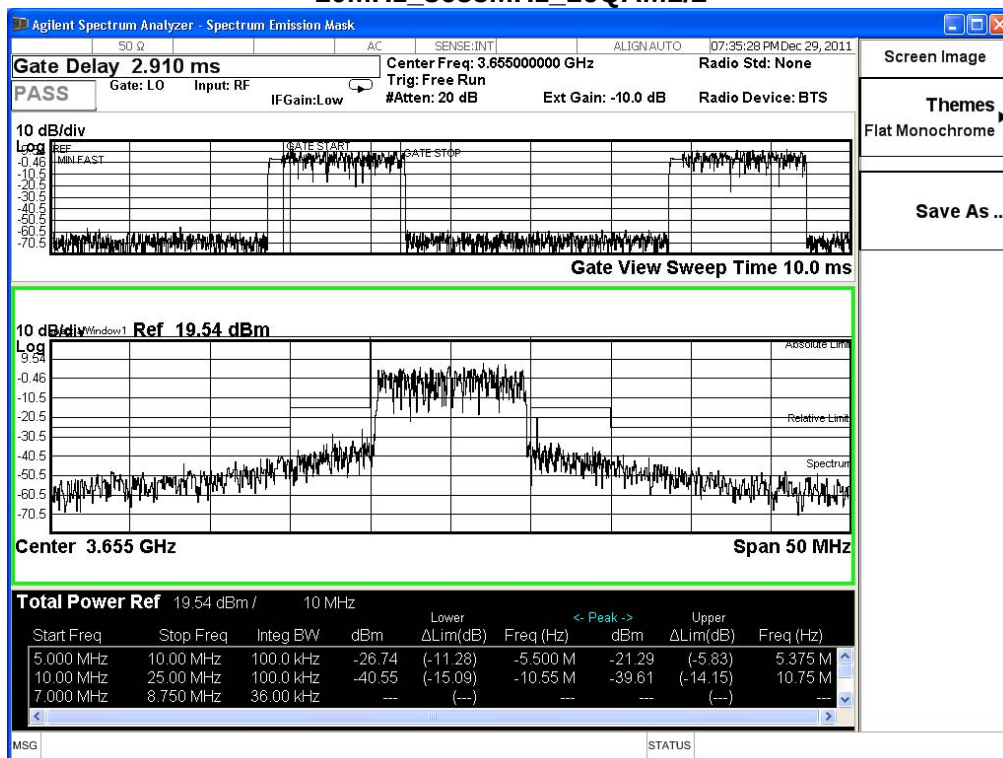
10MHz_3662.5MHz_QPSK1/2



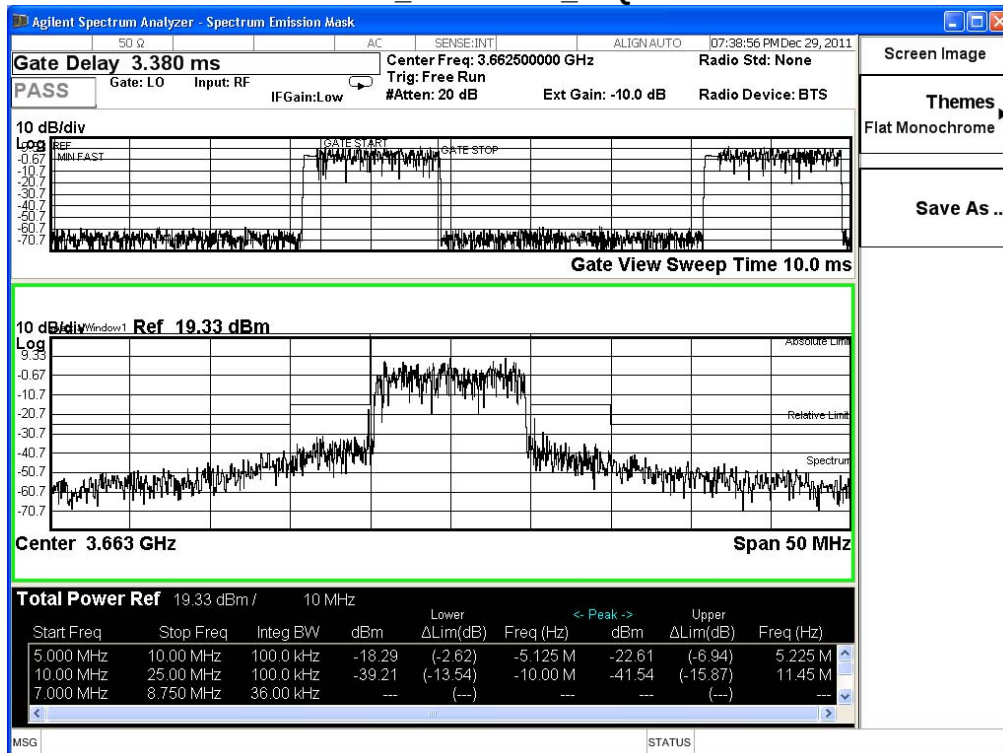
10MHz_3670MHz_QPSK1/2



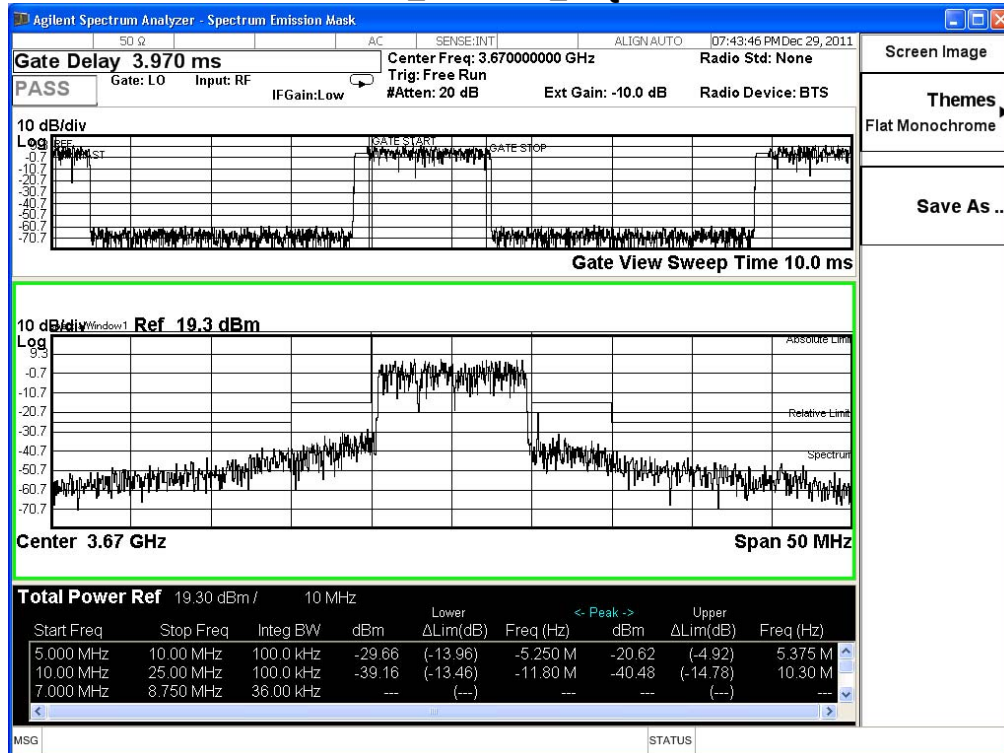
10MHz_3655MHz_16QAM1/2



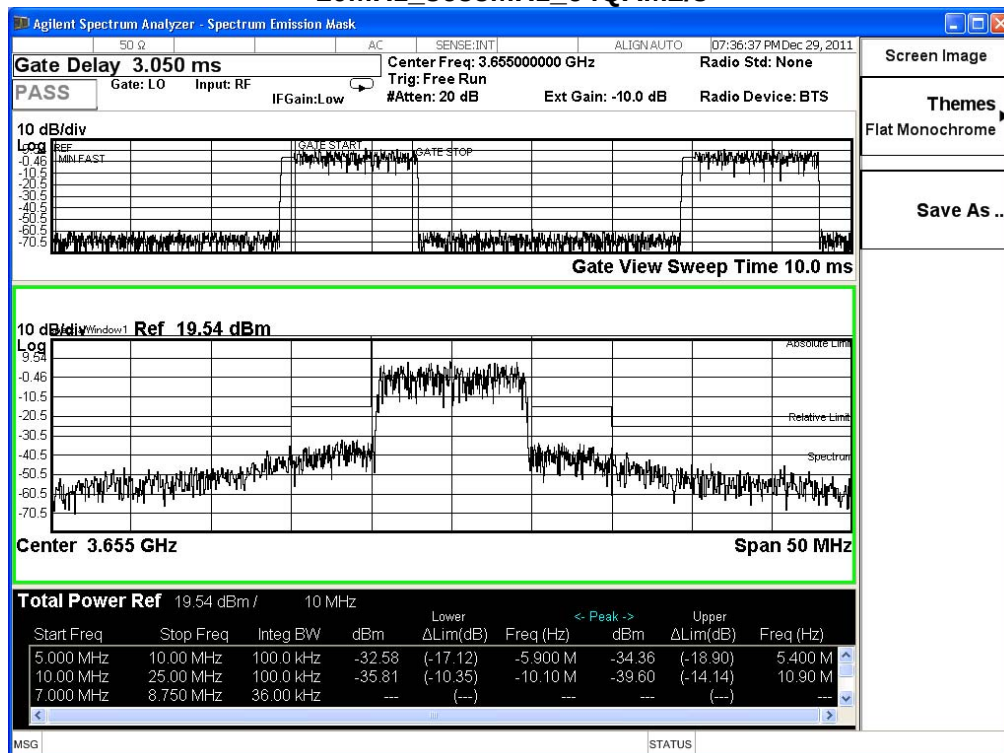
10MHz_3662.5MHz_16QAM1/2



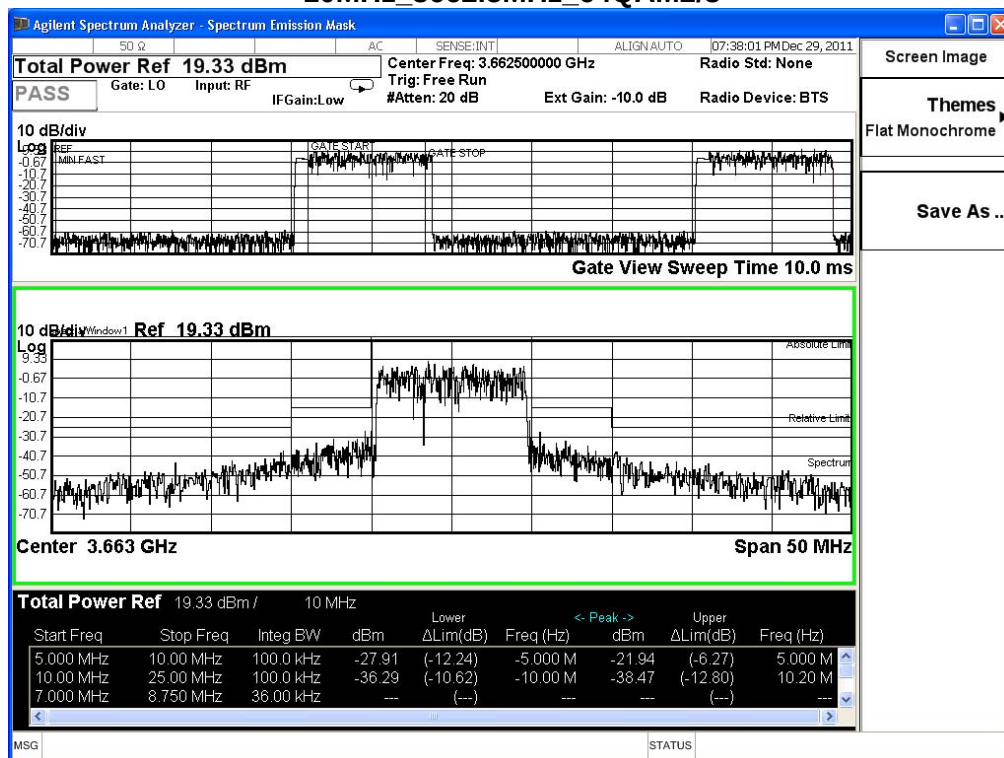
10MHz_3670MHz_16QAM1/2



10MHz_3655MHz_64QAM2/3



10MHz_3662.5MHz_64QAM2/3



10MHz_3670MHz_64QAM2/3

