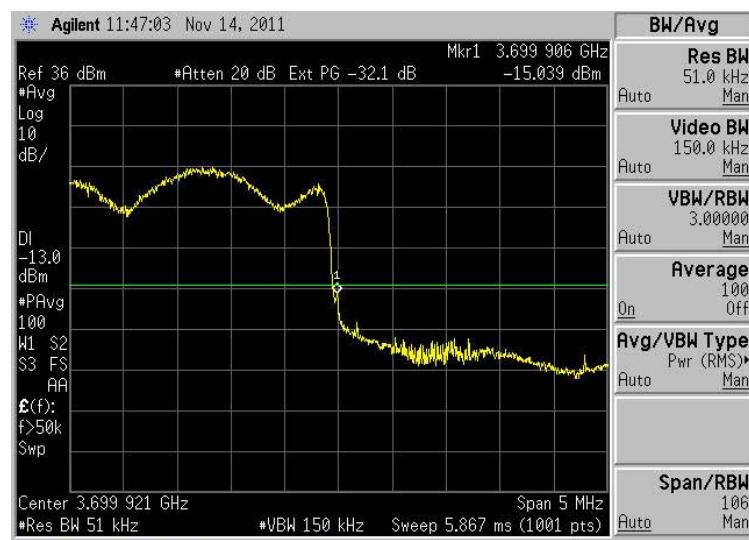
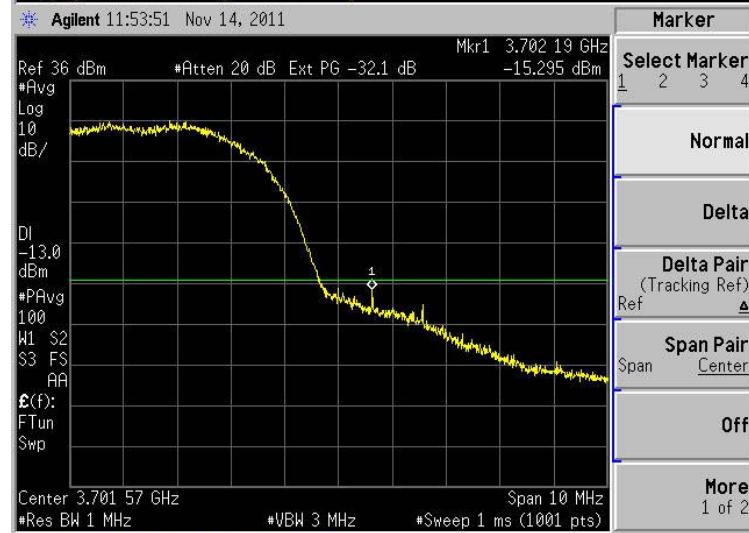
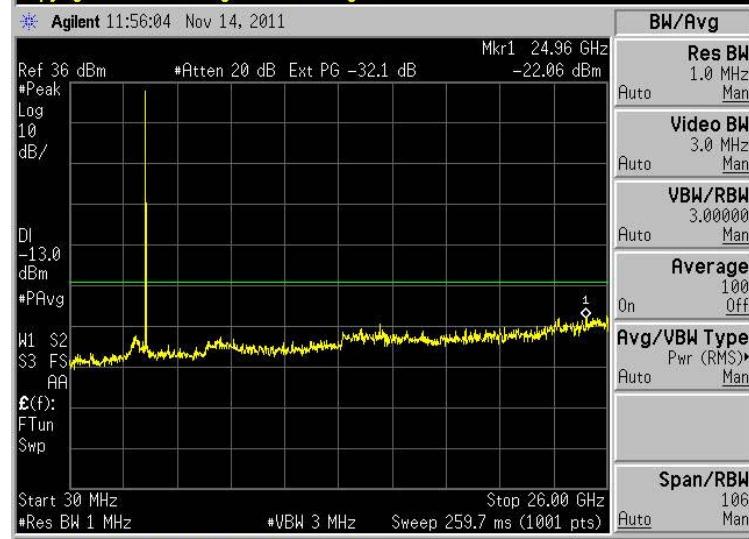


**5 MHZ 64QAM CONDUCTED SPURIOUS, HIGH CHANNEL P=30**

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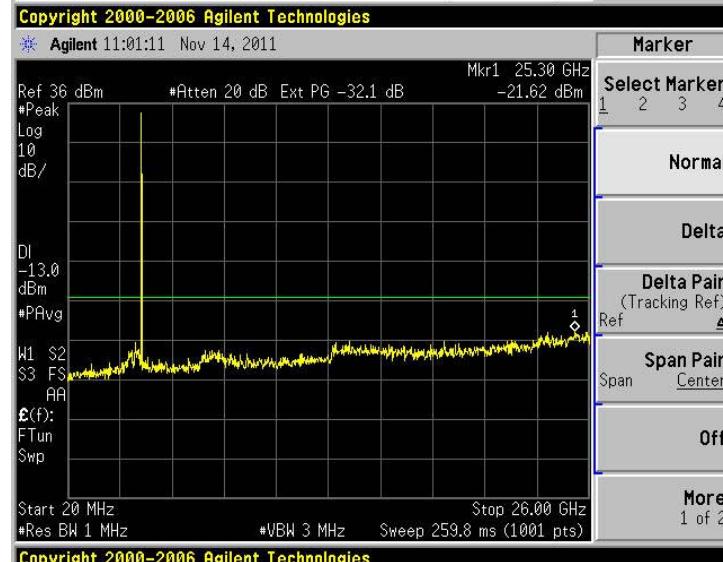
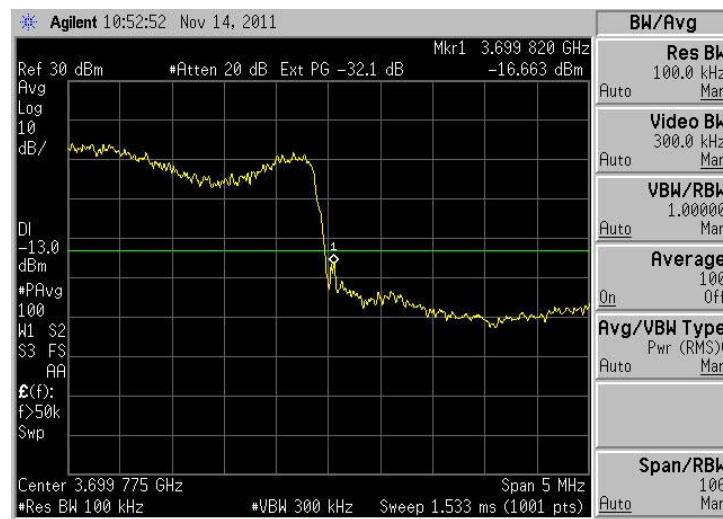


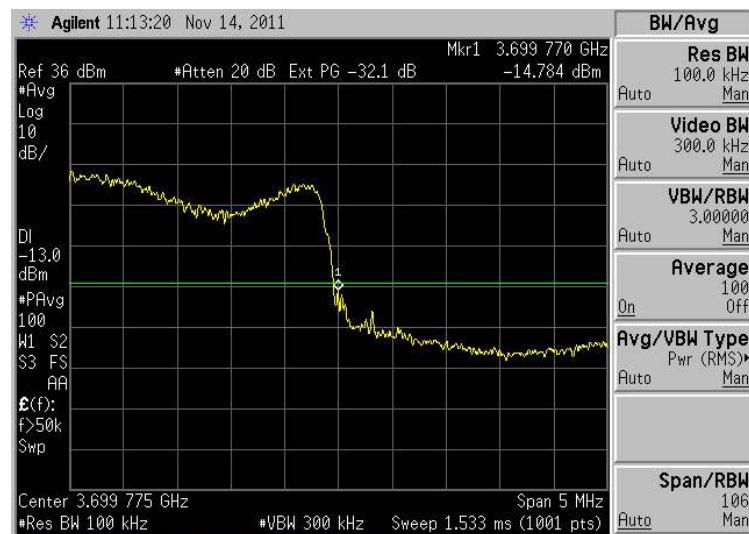
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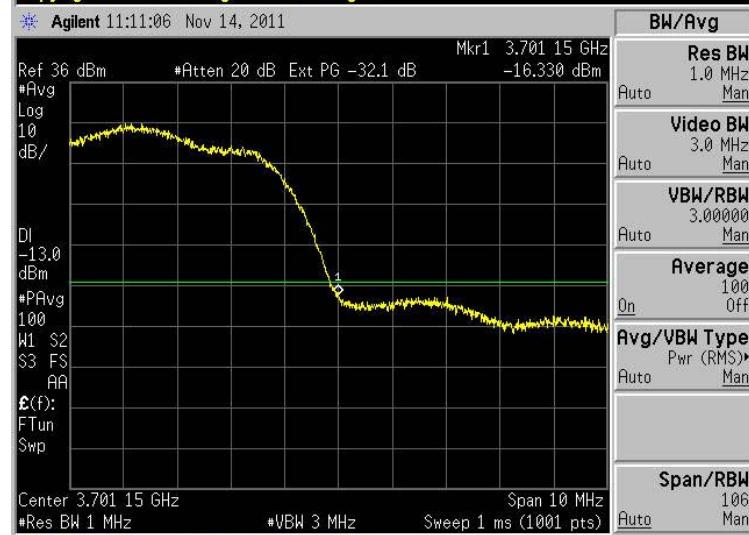
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**10 MHZ QPSK CONDUCTED SPURIOUS, HIGH CHANNEL, P=33**

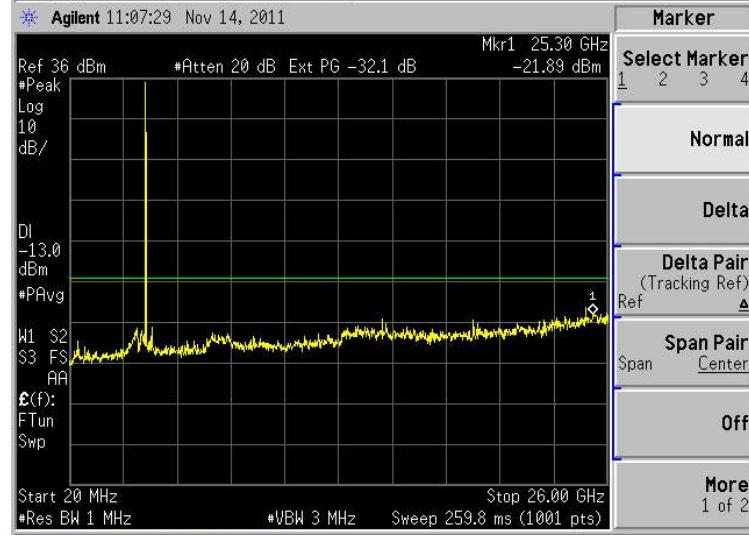


**10 MHZ 16QAM CONDUCTED SPURIOUS, HIGH CHANNEL, P=33**

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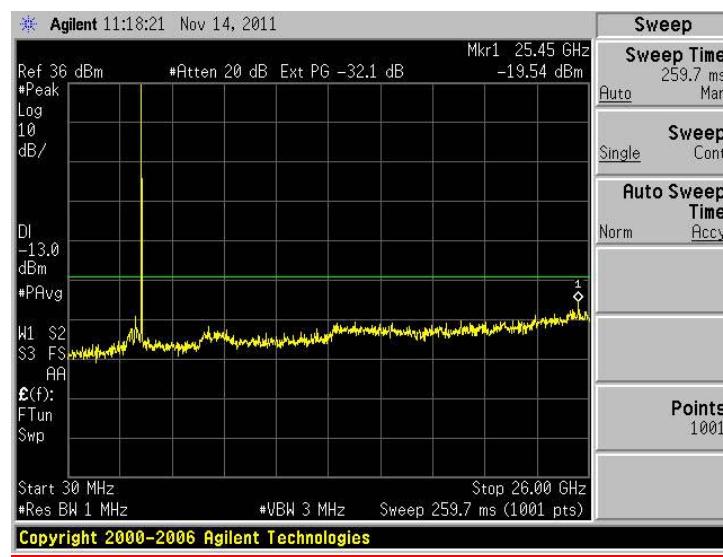


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**10 MHZ 64QAM CONDUCTED SPURIOUS, HIGH CHANNEL, P=33**



## 3.8. RADIATED EMISSIONS

### 3.8.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

#### REQUIREMENT

##### **2.1053 Measurements required: Field strength of spurious radiation**

Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from half wave dipole antennas.

##### **90.1323(a) Emission limits.**

(a) The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

#### TEST PROCEDURE

Testing was performed using the substitution method.

1. The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna port was terminated with a resistive non-radiating 50 ohm termination.
2. The spectrum from 30 MHz to 37 GHz was investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.
3. The frequency range of interest was monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.
4. The EUT was replaced by a signal generator and antenna. The signal generator was set to produce field strengths matching the levels obtained in step 3 above. The equivalent eirp was calculated from the signal generator output and antenna gain with respect to isotropic.

Note: For emissions below 1 GHz, the field strength of the emission is also compared against the EN55022 class A limits for digital devices

#### TEST RESULTS

##### TEST NOT PERFORMED AT 3697.5 MHz and 3695 MHz.

Refer to plots and tabulated data below from previous testing done on this product. All emissions below 1 GHz were at least 20 dB below -13 dBm limit and were determined to be from the digital section of the product. For all modulations for 5/10 MHz bandwidths, worst-case emissions above 1 GHz are at least 24 dB below limits. Engineering judgement indicates that test results at the new high channels would exhibit similar compliance levels. Data for previous test results are reproduced below.

### 3.8.2. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ HARMONICS AND SPURIOUS EMISSIONS

#### QPSK 5 MHz Channels

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement										
Chamber		Pre-amplifier		Filter		Limit				
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Tx QPSK, 5 MHz BW</b>										
<b>Low Ch 3.652.5GHz</b>										
1.08	-50.6	V	3.0	31.4	39.4		-58.5	-13.0	-45.5	
1.25	-49.3	V	3.0	32.9	38.9		-55.3	-13.0	-42.3	
1.87	-56.5	V	3.0	39.3	37.9		-55.0	-13.0	-42.0	
2.49	-58.6	V	3.0	41.8	37.5		-54.3	-13.0	-41.3	
3.02	-60.3	V	3.0	43.4	37.3		-54.3	-13.0	-41.3	
<b>Harmonics Spurious</b>										
7.31	-59.0	V	3.0	51.7	36.6		-43.8	-13.0	-30.8	
10.96	-59.7	V	3.0	56.2	36.9		-40.5	-13.0	-27.5	
14.61	-65.9	V	3.0	59.9	35.0		-41.0	-13.0	-28.0	Noise floor
			3.0							
7.31	-59.8	H	3.0	52.8	36.6		-43.6	-13.0	-30.6	
10.96	-58.6	H	3.0	55.9	36.9		-39.7	-13.0	-26.7	
14.61	-64.0	H	3.0	60.1	35.0		-38.9	-13.0	-25.9	Noise floor
			3.0							
<b>Mid Ch 3662.5MHz</b>										
7.33	-57.9	V	3.0	51.7	36.6		-42.7	-13.0	-29.7	
10.99	-61.3	V	3.0	56.2	36.9		-42.0	-13.0	-29.0	
14.65	-64.0	V	3.0	59.9	34.9		-39.1	-13.0	-26.1	Noise floor
7.33	-58.1	H	3.0	52.8	36.6		-41.9	-13.0	-28.9	
10.99	-56.0	H	3.0	55.9	36.9		-37.0	-13.0	-24.0	
14.65	-63.5	H	3.0	60.2	34.9		-38.3	-13.0	-25.3	Noise floor
			3.0							
<b>High Ch 3672.5MHz</b>										
7.35	-57.1	V	3.0	51.8	36.6		-41.9	-13.0	-28.9	
11.01	-61.7	V	3.0	56.2	36.9		-42.4	-13.0	-29.4	
14.68	-62.8	V	3.0	59.9	34.9		-37.7	-13.0	-24.7	Noise floor
7.35	-63.4	H	3.0	52.8	36.6		-47.1	-13.0	-34.1	
11.02	-57.8	H	3.0	55.9	36.9		-38.8	-13.0	-25.8	
14.69	-64.0	H	3.0	60.2	34.9		-38.7	-13.0	-25.7	Noise floor
			3.0							
Rev. 03.03.09										