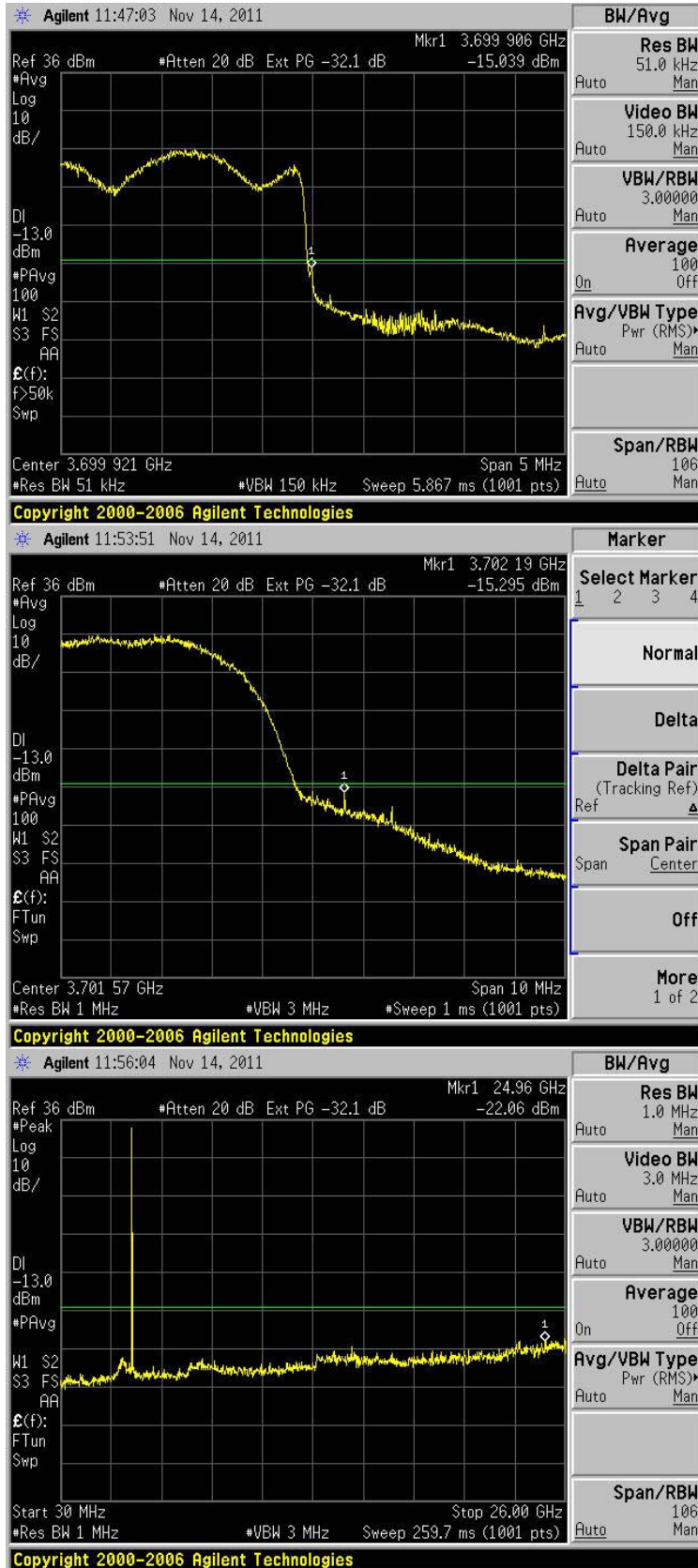
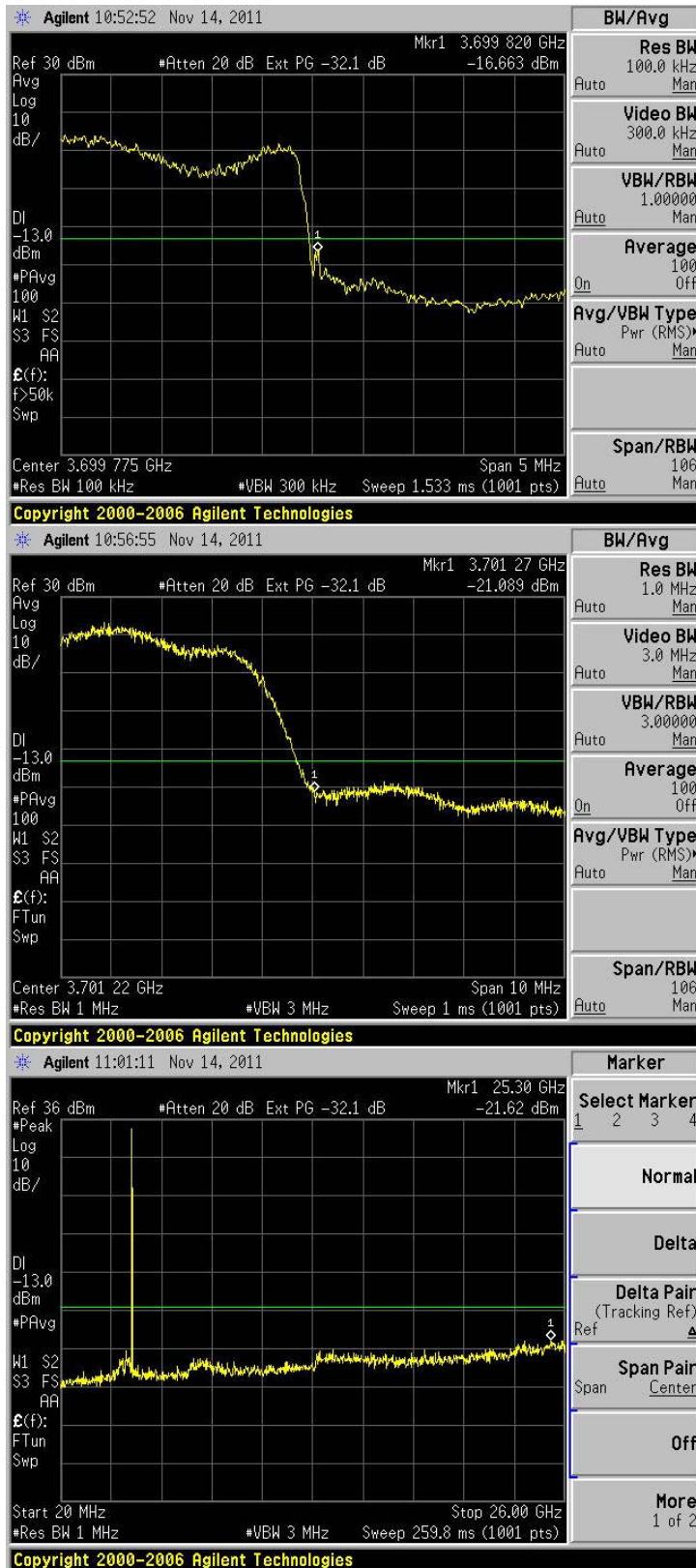


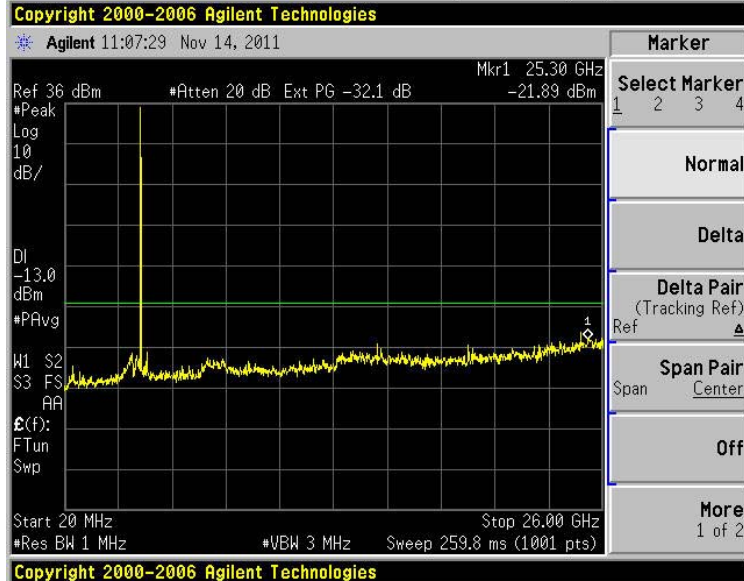
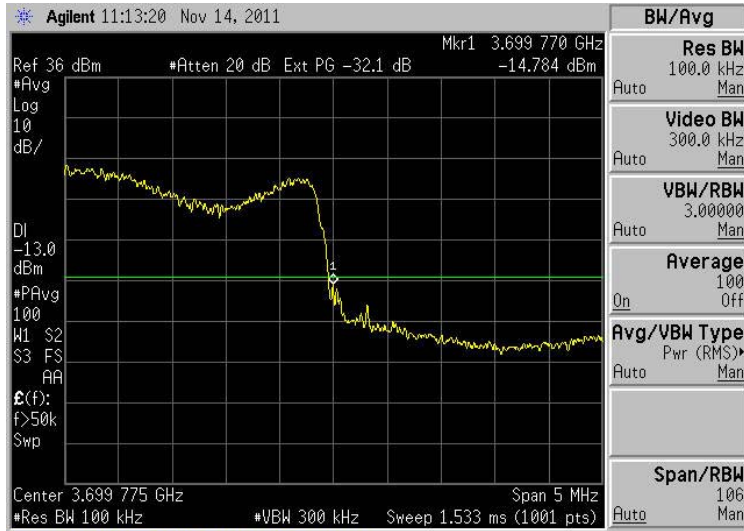
5 MHz 64QAM CONDUCTED SPURIOUS, HIGH CHANNEL P=30



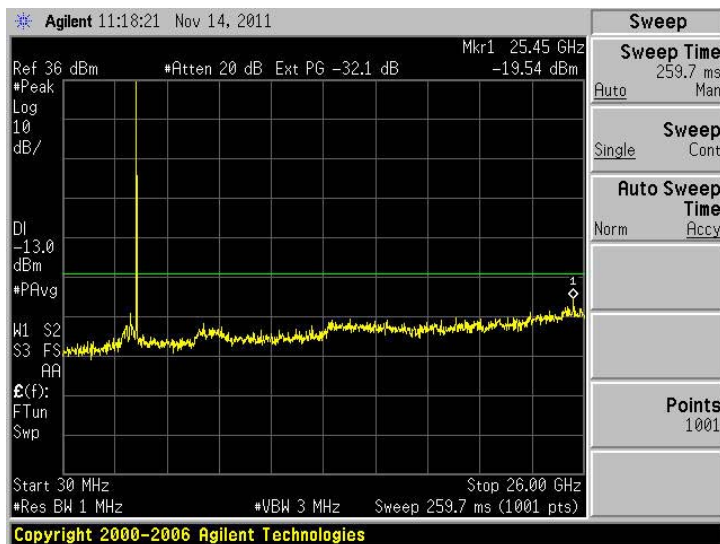
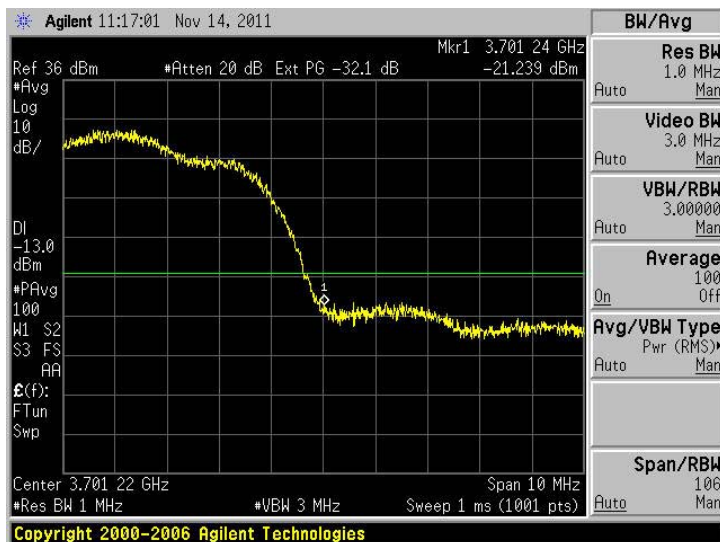
10 MHz QPSK CONDUCTED SPURIOUS, HIGH CHANNEL, P=33



10 MHz 16QAM CONDUCTED SPURIOUS, HIGH CHANNEL, P=33



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										
Company:		Purewave Networks, Inc.								
Project #:		10U13276								
Date:		6/22/10								
Test Engineer:		Thanh Nguyen								
Configuration:		EUT and remote support equipment								
Mode:		Tx QPSK, 5 MHz BW								
Chamber		Pre-amplifier			Filter			Limit		
5m Chamber A		T144 8449B								
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
Tx QPSK, 5 MHz BW										
Low Ch 3.652.5GHz										
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	
Harmonis Spurious										
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
Mid Ch 3662.5MHZ										
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
High Ch 3672.5MHz										
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

Rev. 03.03.09