HERMON LABORATORIES

839.01
Electrical

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TEST REPORT

ACCORDING TO: FCC CFR 47 PART 90 subpart Z; RSS-197 Issue 1:2010

FOR:

RADWIN Ltd.

Outdoor radio unit operating in the 3.65 GHz band

Models: RADWIN 1000 3GHz BAND, RADWIN 2000 3GHz BAND, RADWIN 5000 3GHz BAND

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1 Applicant information

Client name:	RADWIN Ltd.
Address:	27 Habarzel street, Tel Aviv 69710, Israel
Telephone:	+972 3766 2988
Fax:	+972 3766 2902
E-mail:	shlomo_weiss@radwin.com
Contact name:	Mr. Shlomo Weiss

2 Equipment under test attributes

Product name:	Outdoor radio unit operating in 3.65 GHz band
Product type:	Point to point or point to multipoint transceiver
Model(s):	RADWIN 2000 3GHz BAND
Serial number:	PCF350E000Z99999
Receipt date	5/31/2010

3 Manufacturer information

Manufacturer name:	RADWIN Ltd.
Address:	27 Habarzel street, Tel Aviv 69710, Israel
Telephone:	+972 3766 2988
Fax:	+972 3766 2902
E-Mail:	shlomo_weiss@radwin.com
Contact name:	Mr. Shlomo Weiss

4 Test details

Project ID:	20845
Location:	Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started:	5/31/2010
Test completed:	8/12/2010, 10/27/2010
Test specification(s):	47CFR part 90 subpart Z; RSS-197 issue 1:2010

5 Tests summary

Test	Status
Transmitter characteristics	
FCC Section 90.205, 90.1321/ RSS-197 Section 5.6 Maximum output power and peak power spectral density	Pass
FCC Section 90.209/ RSS-197 Section 5.2, Occupied bandwidth	Pass
FCC Section 90.210 (b), Emission mask	Pass
FCC Section 90.1323/ RSS-197 Section 5.7, Conducted spurious emissions	Pass
FCC Section 90.1323/ RSS-197 Section 5.7, Radiated spurious emissions	Pass
FCC Section 90.213/ RSS-197 Section 5.3, Frequency stability	Pass
FCC Section 90.203 (o)/ RSS-197 Section 5.4, Contention based protocol	Pass, exhibit to application for certification attached
FCC Section 90.1335/ RSS-Gen Section 5.5, RF radiation exposure evaluation	Pass, exhibit to application for certification attached
Receiver characteristics	
RSS-197 Section 5.8, Receiver spurious emissions	Pass

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.
The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

	Name and Title	Date	Signature
Tested by:	Mr. E. Plotnichenko, test engineer	October 27, 2010	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	September 18, 2011	
Approved by:	Mr. M. Nikishin, EMC and Radio group manager	September 19, 2011	

6 EUT description

6.1 General information

The EUT, “RADWIN 1000 3GHz BAND”, “RADWIN 2000 3GHz BAND”, and “RADWIN 5000 3GHz BAND”, is an outdoor radio unit (ODU). The power and Ethernet communication are supplied by an indoor unit (IDU) or PoE device. It has connectorized and integrated antenna configurations that can support dual pole antenna type. The “RADWIN 1000 3GHz BAND” activates one RF port, “RADWIN 2000 3GHz BAND” activates two RF ports and “RADWIN 5000 3GHz BAND” is identifier for software configured Point to Multipoint devices.

6.2 Ports and lines

Port type	Port description	Conn. from	Conn. to	Qty.	Cable type	Cable length	Indoor / outdoor
Power	DC Power+ Ethernet	IDU	EUT	1	Shielded	20	Outdoor
RF1	RF1 (Antenna 1)	EUT	Antenna	1	Coax	x*	Outdoor
RF2	RF2 (Antenna 2)	EUT	Antenna	1	Coax	x*	Outdoor
Power	DC Power	AC/DC adaptor	IDU	1	Unshielded	1.5	Indoor
Power	AC Power	mains	AC/DC adaptor	1	Unshielded	1.5	Indoor
Signal	Ethernet	Laptop	IDU	1	FTP	1.5	Indoor

*- up to length to ensure antenna assembly gain of 13.5 dBi

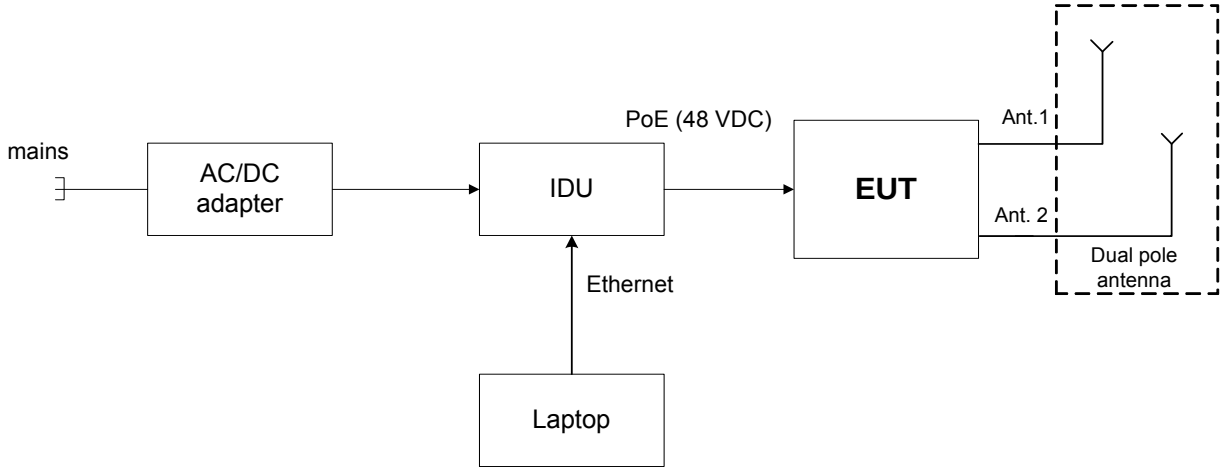
6.3 Support and test equipment

Description	Manufacturer	Model number	Serial number
Laptop	IBM	R50e	99-DYCR3
AC/DC adapter	IBM	08K8202	11S0K8202Z1ZAC755Y4F5
IDU	RADWIN Ltd.	IDU-E	DE000201267
AC/DC adapter	Hitron	HES51-58007	0135

6.4 Changes made in the EUT

No changes were implemented.

6.5 Test configuration



6.6 Transmitter characteristics

Type of equipment	
X	Stand-alone (Equipment with or without its own control provisions)

Intended use	**Condition of use**
X fixed	Always at a distance more than 2 m from all people

Assigned frequency range	3650.0 – 3700.0 MHz
Operating frequency range	3652.5 – 3697.5 MHz (refer to Table 6.6.1)

Maximum rated output power	**Peak (conducted)**	25.66 dBm

Antenna connection				
unique coupling	X	standard connector, N-type	integral	X with temporary RF connector without temporary RF connector

Antenna/s technical characteristics

Type	Manufacturer	Model number	Gain
Flat Panel – Dual polarized external	Radwin Ltd.	RW-9612-3001	22 dBi (21 dBi antenna assembly)
Flat Panel – Dual polarized external	Radwin Ltd.	RW-9612-3001	22dBi (13.5 dBi antenna assembly)
Flat Panel – Dual polarized external	Radwin Ltd.	RW-9612-3001	22dBi (17 dBi antenna assembly)
Flat Panel – Dual polarized external	Radwin Ltd.	RW-9061-3001	14dBi (13 dBi antenna assembly)
Flat Panel – Dual polarized integrated	Radwin Ltd.	RW-9612-3001INT	21 dBi
Dish – Dual polarized external	Radwin Ltd.	RW-9722-3001	25 dBi (24 dBi antenna assembly)
Dish – Dual polarized external	Radwin Ltd.	RW-9722-3001	25 dBi (13.5 dBi antenna assembly)
Dish – Dual polarized external	Radwin Ltd.	RW-9722-3001	25 dBi (17 dBi antenna assembly)

Nominal channel bandwidth	**Transmitter aggregate data rate/s, MBps**	**Type of modulation**
5 MHz	3.25 32.5	BPSK 64QAM
10 MHz	6.5 65	BPSK 64QAM
20 MHz	13 130	BPSK 64QAM

Maximum transmitter duty cycle in normal use	92%
Transmitter duty cycle supplied for test	100%

Transmitter power source

		Nominal rated voltage		Battery type	
V	DC (PoE)	**Nominal rated voltage**	48 VDC from IDU unit powered by 120 VAC		
	AC mains	**Nominal rated voltage**		Frequency	Hz

Common power source for transmitter and receiver	**V**	yes	no

Table 6.6.1 Measurement frequencies

Channel bandwidth, MHz	Channel frequency, MHz		
	Low	**Mid**	**High**
5	3652.5	3675	3697.5
10	3655	3675	3695
10 (with 13 dBi and 13.5 dBi antenna assembly)	3656	3675	3694
20	3660	3675	3690
20 (with 13 dBi and 13.5 dBi antenna assembly)	3661	3675	3689

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/01/2010 – 8/11/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks:			

7 Transmitter tests according to 47CFR part 90 and RSS-197 issue 1 requirements

7.1 Maximum output power

7.1.1 General

This test was performed to measure the maximum output power at the transmitter RF antenna connector. Specification test limits are given in Table 7.1.1.

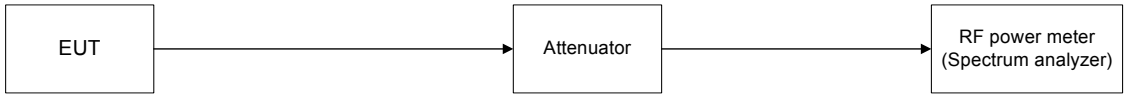
Table 7.1.1 Maximum output power limits

Assigned frequency range, MHz	Occupied bandwidth, MHz	Maximum peak output power, EIRP	
		W	dBm
Base and fixed stations			
3650.0 – 3700.0	25	25	44
Mobile and portable stations			
3650.0 – 3700.0	25	1	30

7.1.2 Test procedure

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.
7.1.2.2 The entire emission bandwidth was measured with a spectrum analyzer. The results provided in the associated tables and plots.
7.1.2.3 The EUT was adjusted to produce maximum available for end user RF output power.
7.1.2.4 The peak output power was measured with a power meter as provided in the associated tables and plots.

Figure 7.1.1 Transmitter output power test setup



Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/02/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Table 7.1.2 The 26dB EBW test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Power meter
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 21dBi
EBW: 5 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3652.5	BPSK	6.713	25	38.269	17.269
3675.0	BPSK	6.580	25	38.182	17.182
3697.5	BPSK	6.663	25	38.237	17.237
3652.5	64QAM	6.568	25	38.174	17.174
3675.0	64QAM	6.517	25	38.140	17.140
3697.5	64QAM	6.568	25	38.174	17.174

EBW: 10 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3655.0	BPSK	12.182	25	40.857	19.857
3675.0	BPSK	12.265	25	40.887	19.887
3695.0	BPSK	12.247	25	40.880	19.880
3655.0	64QAM	12.171	25	40.853	19.853
3675.0	64QAM	12.140	25	40.842	19.842
3695.0	64QAM	12.171	25	40.853	19.853

EBW: 20 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3660.0	BPSK	23.517	25	43.714	22.714
3675.0	BPSK	23.102	25	43.636	22.636
3690.0	BPSK	23.228	25	43.660	22.660
3660.0	64QAM	23.029	25	43.623	22.623
3675.0	64QAM	23.142	25	43.644	22.644
3690.0	64QAM	23.418	25	43.695	22.695

* - Limit for EBW = 10*LOG((1000 * [Output power limit, W] / 25MHz) / (25MHz / EBW, MHz)), dBm
** - Limit for EBW – Antenna assembly gain.

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/02/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Table 7.1.3 Peak EIRP output power test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)

Channel, MHz	Modulation	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	P_{meas}*, dBm	Antenna assembly gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB	Verdict
EBW:				**5 MHz**					
3652.5	BPSK	10.68	11.53	14.14	21.00	35.14	38.27	-3.13	Pass
3675.0	BPSK	10.30	11.41	13.90	21.00	34.90	38.18	-3.28	Pass
3697.5	BPSK	10.31	11.45	13.93	21.00	34.93	38.24	-3.31	Pass
3652.5	64QAM	10.48	11.05	13.78	21.00	34.78	38.17	-3.39	Pass
3675.0	64QAM	10.81	10.97	13.90	21.00	34.90	38.14	-3.24	Pass
3697.5	64QAM	10.49	11.44	14.00	21.00	35.00	38.17	-3.17	Pass
EBW:				**10 MHz**					
3655.0	BPSK	13.52	14.62	17.12	21.00	38.12	40.86	-2.74	Pass
3675.0	BPSK	13.27	14.79	17.11	21.00	38.11	40.89	-2.78	Pass
3695.0	BPSK	13.56	14.83	17.25	21.00	38.25	40.88	-2.63	Pass
3655.0	64QAM	13.97	14.88	17.46	21.00	38.46	40.85	-2.39	Pass
3675.0	64QAM	13.58	14.77	17.23	21.00	38.23	40.84	-2.62	Pass
3695.0	64QAM	13.51	14.82	17.22	21.00	38.22	40.85	-2.63	Pass
EBW:				**20 MHz**					
3660.0	BPSK	16.18	17.96	20.17	21.00	41.17	43.71	-2.54	Pass
3675.0	BPSK	15.57	18.22	20.10	21.00	41.10	43.63	-2.53	Pass
3690.0	BPSK	15.65	18.44	20.28	21.00	41.28	43.66	-2.38	Pass
3660.0	64QAM	15.71	17.95	19.98	21.00	40.98	43.62	-2.64	Pass
3675.0	64QAM	16.04	18.35	20.36	21.00	41.36	43.64	-2.28	Pass
3690.0	64QAM	15.86	18.14	20.16	21.00	41.16	43.70	-2.54	Pass

* - Pmeas, dBm = 10 log {10^[P(dBm,RF#1)/10]+ 10^([P(dBm, RF#2)/10]}

NOTE1: the EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits comply with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

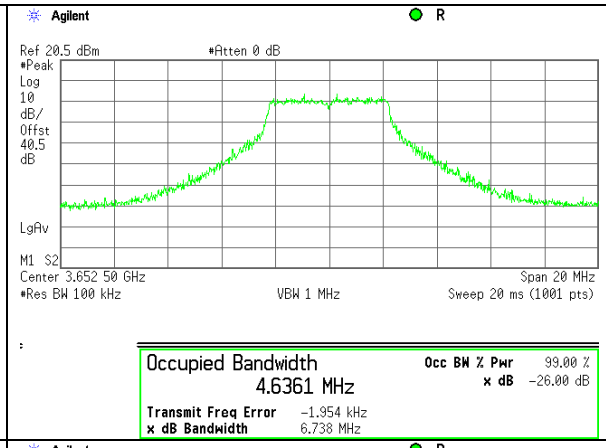
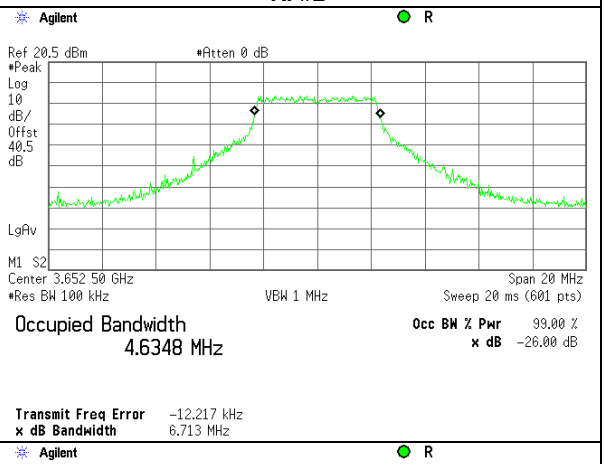
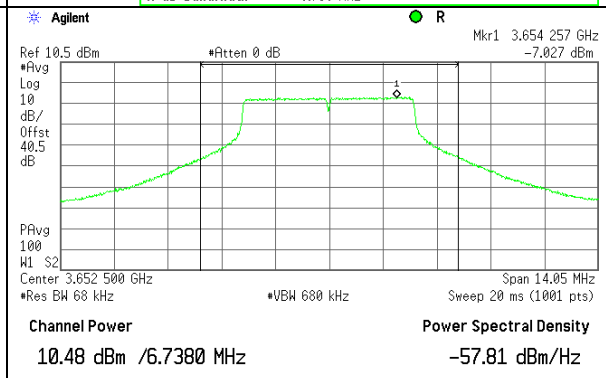
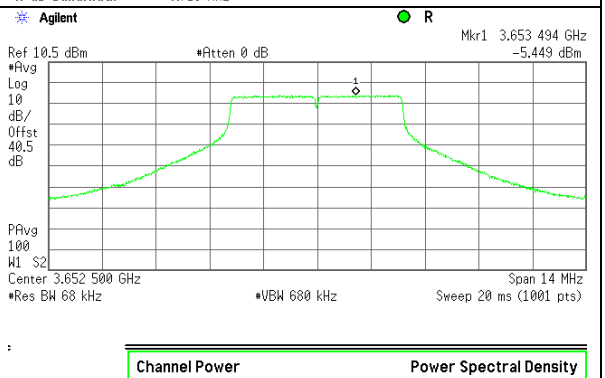
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

Full description is given in Appendix A.

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.1 The 26 dB EBW, band power and peak output power density test results at low frequency

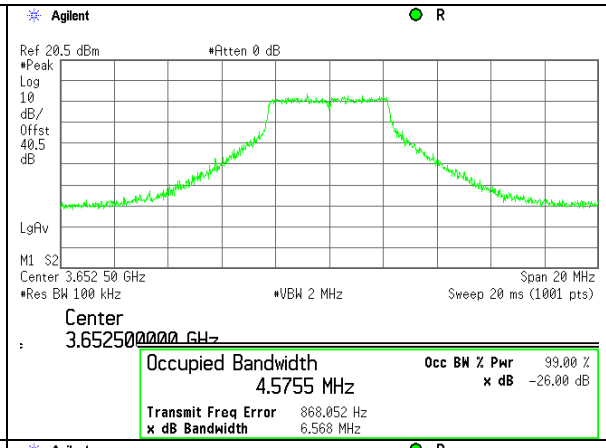
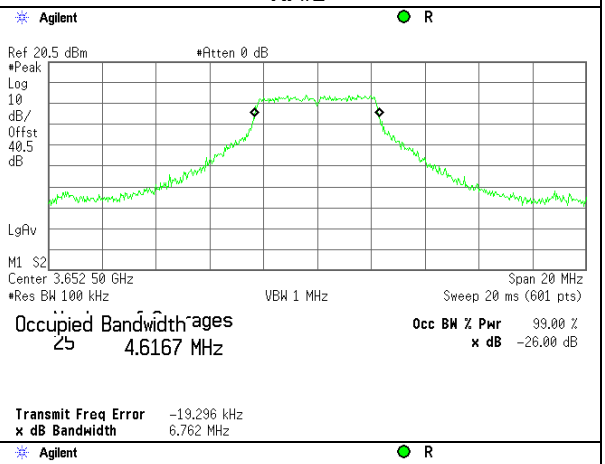
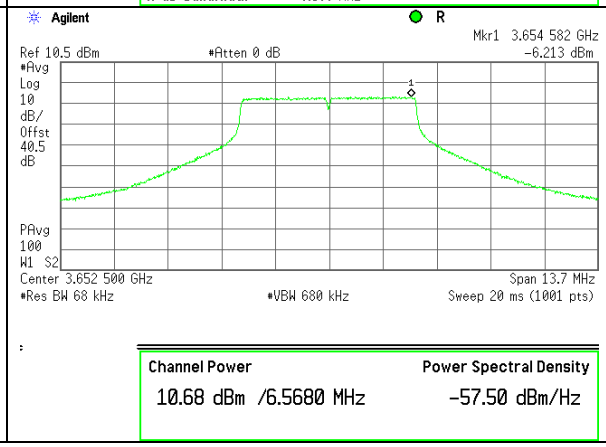
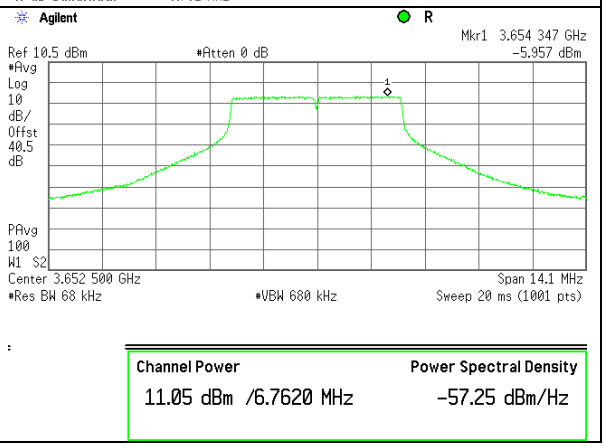
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.2 The 26 dB EBW, band power and peak output power density test results at low frequency

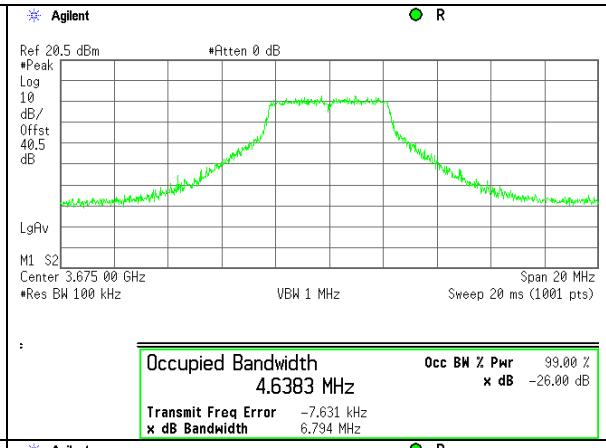
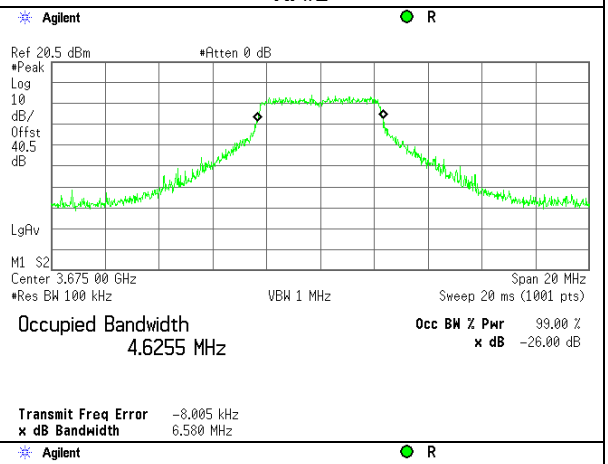
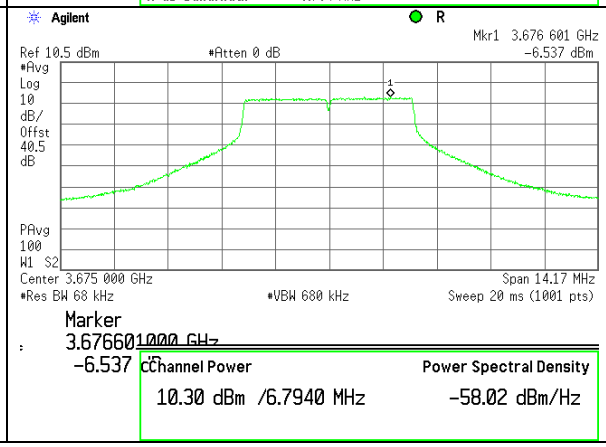
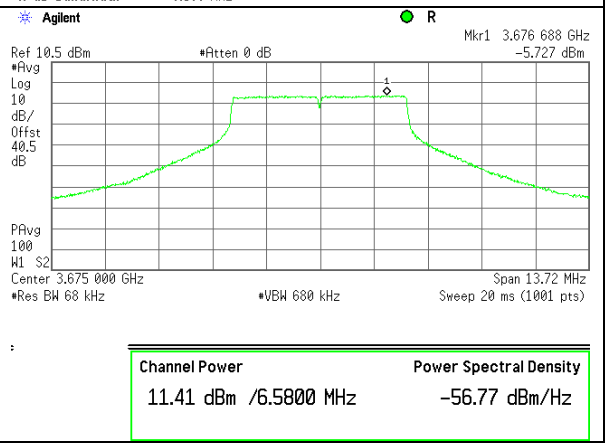
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.3 The 26 dB EBW, band power and peak output power density test results at mid frequency

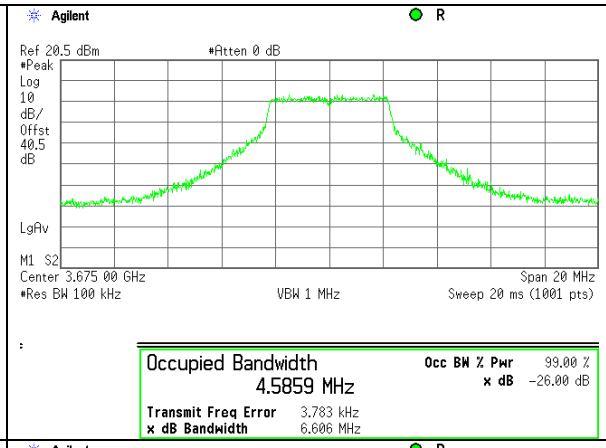
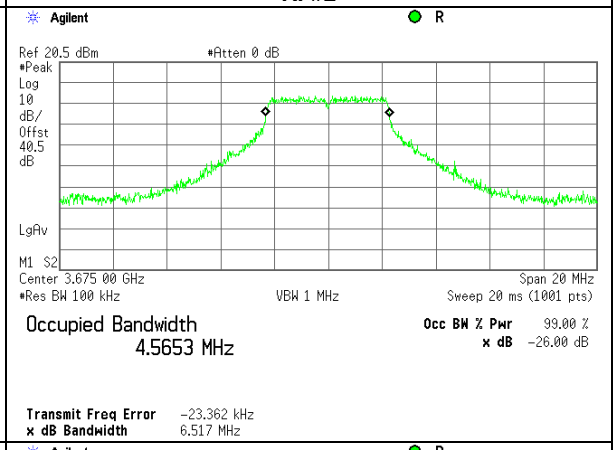
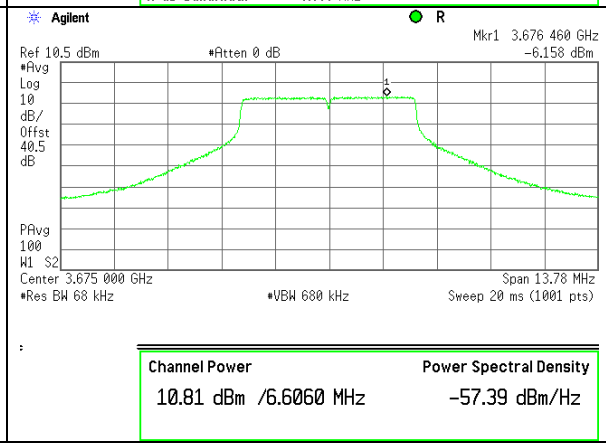
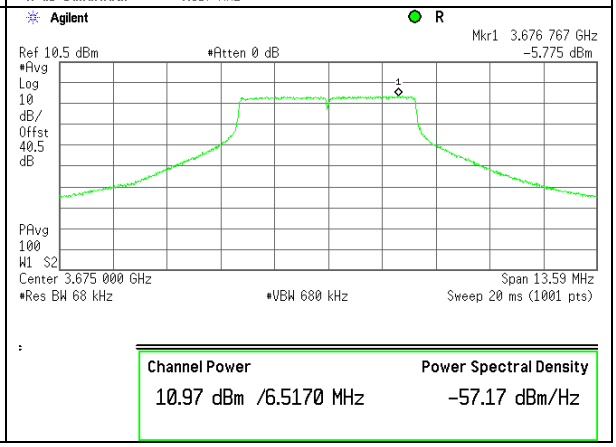
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.4 The 26 dB EBW, band power and peak output power density test results at mid frequency

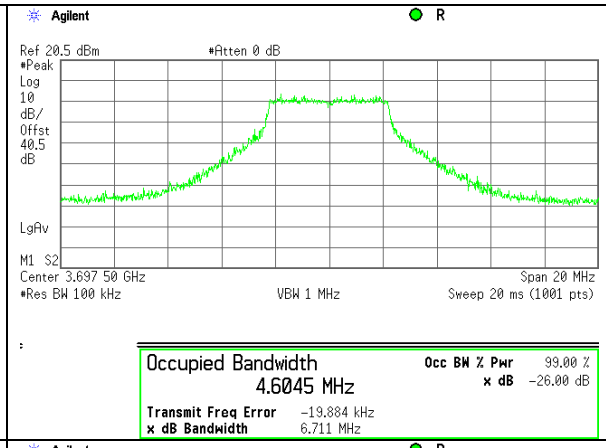
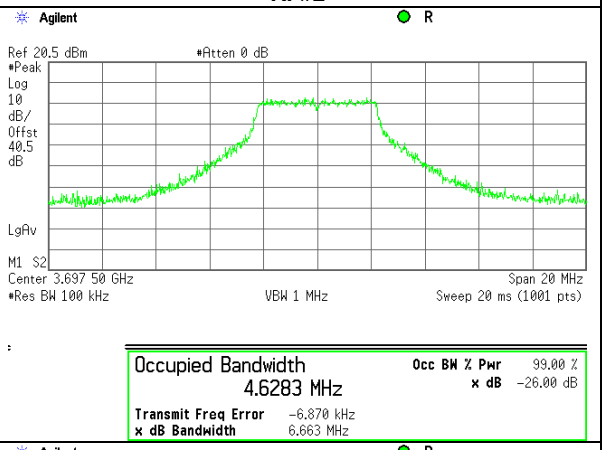
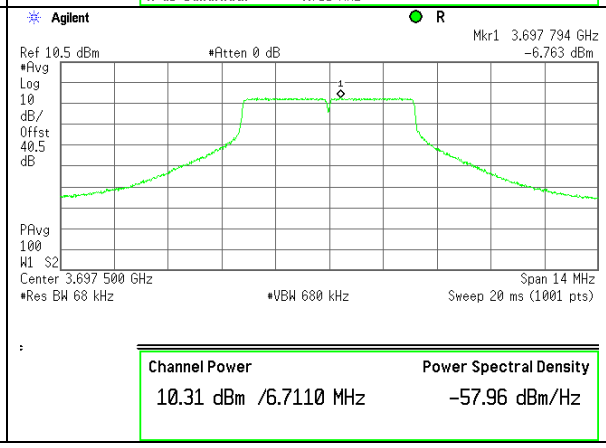
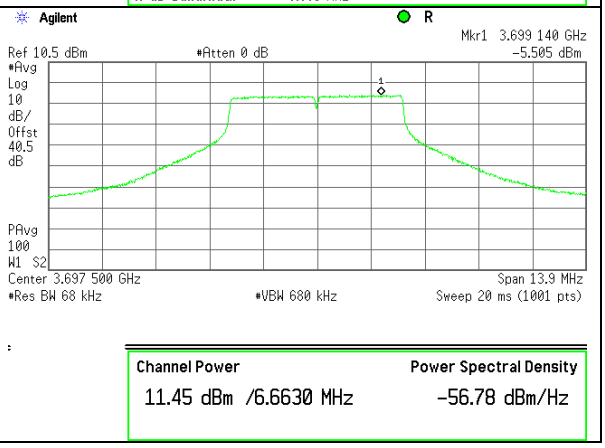
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.5 The 26 dB EBW, band power and peak output power density test results at high frequency

CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

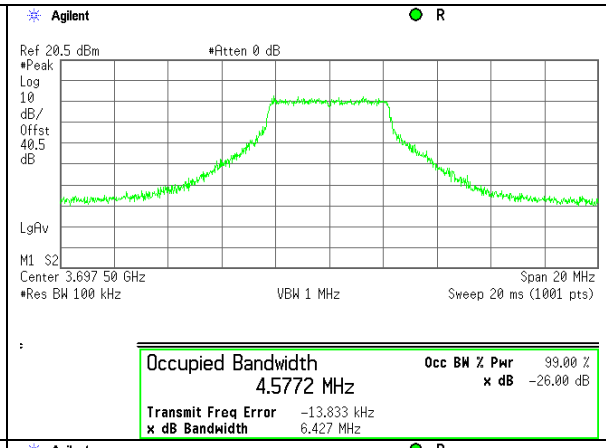
	RF#1	RF#2
26dB EBW		
Band Power		

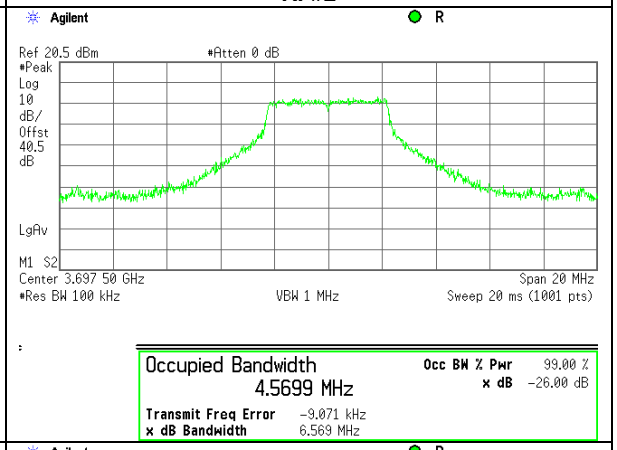
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.6 The 26 dB EBW, band power and peak output power density test results at high frequency

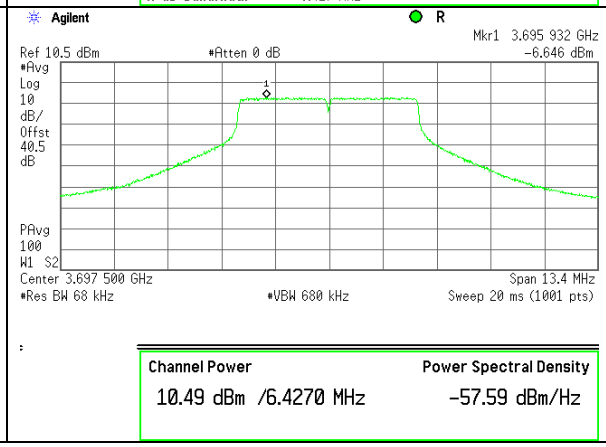
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi
RF#1	**RF#2**

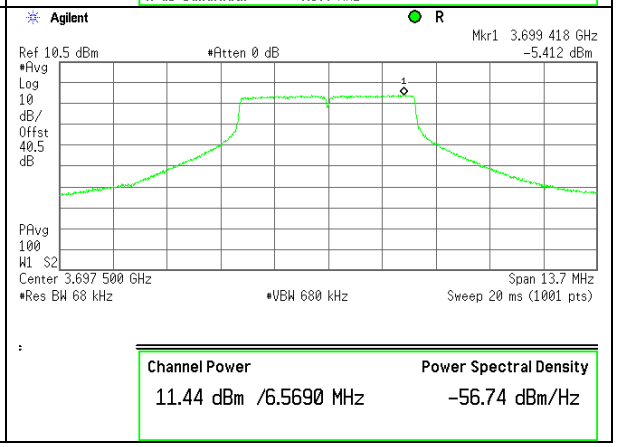
26dB EBW





Band Power

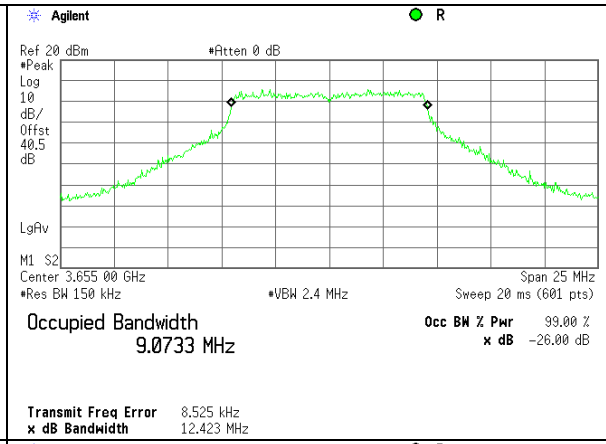
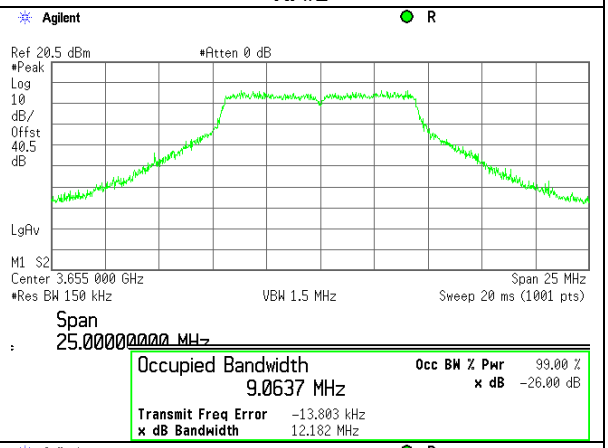
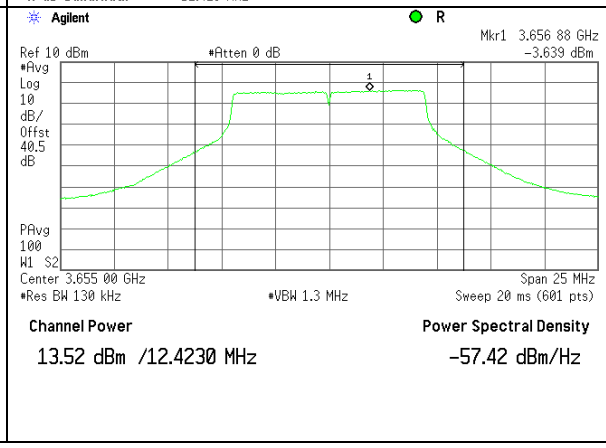
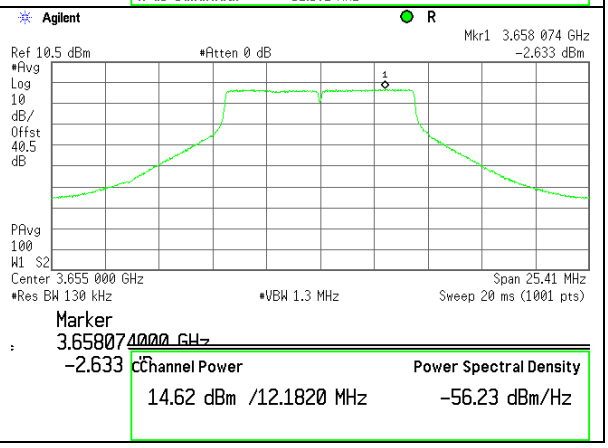




Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.7 The 26 dB EBW, band power and peak output power density test results at low frequency

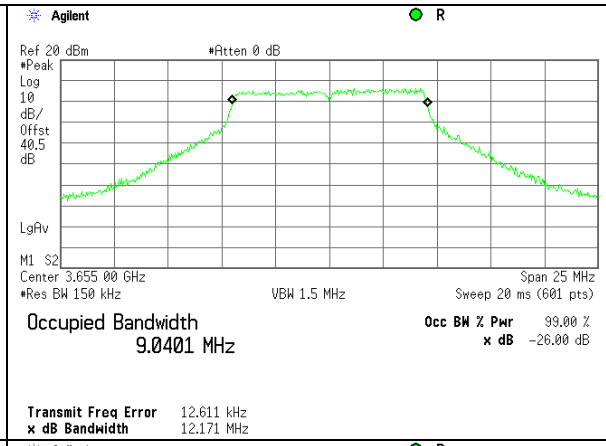
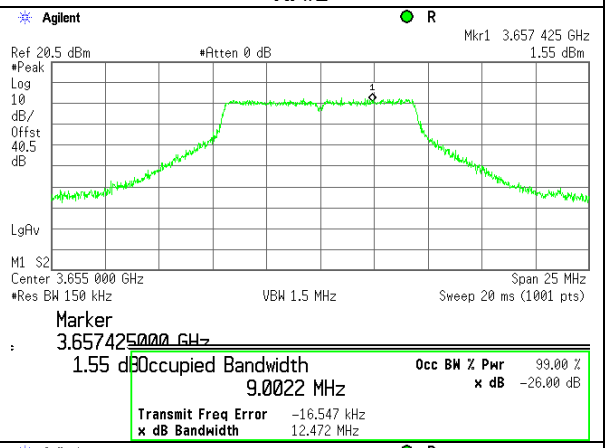
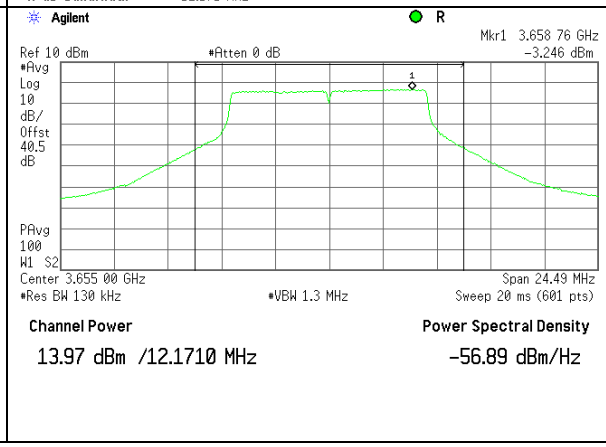
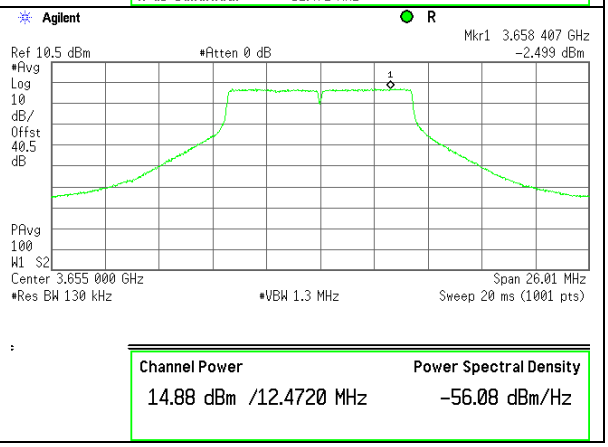
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.8 The 26 dB EBW, band power and peak output power density test results at low frequency

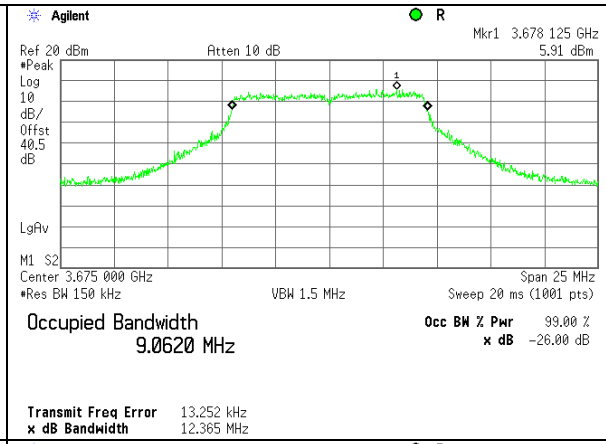
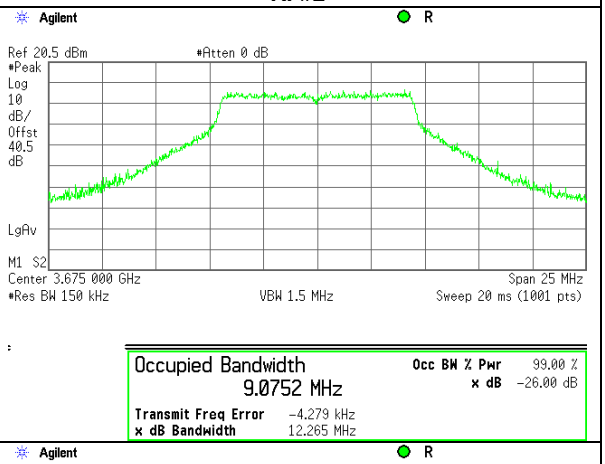
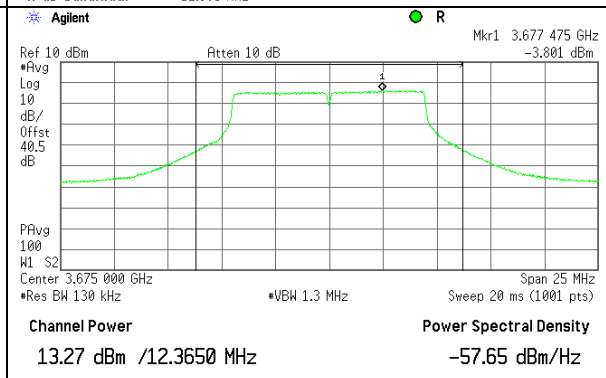
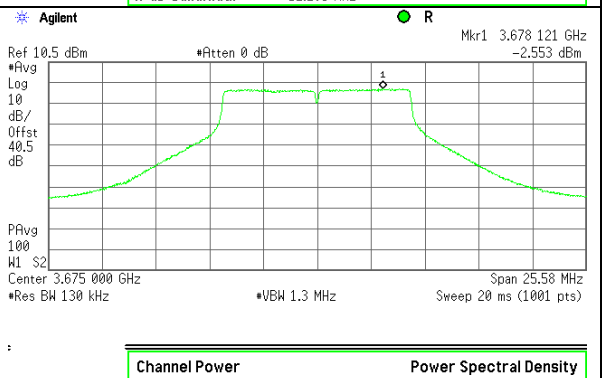
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.9 The 26 dB EBW, band power and peak output power density test results at mid frequency

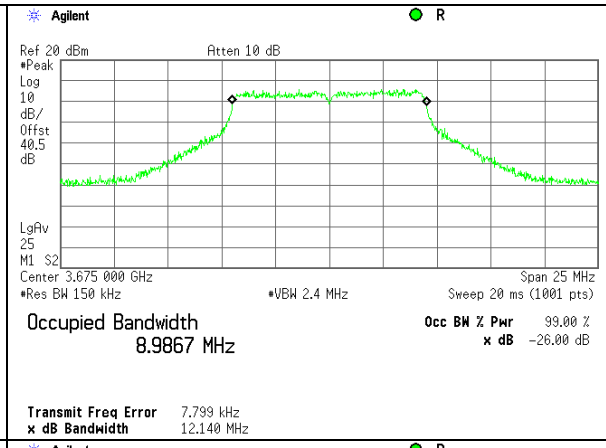
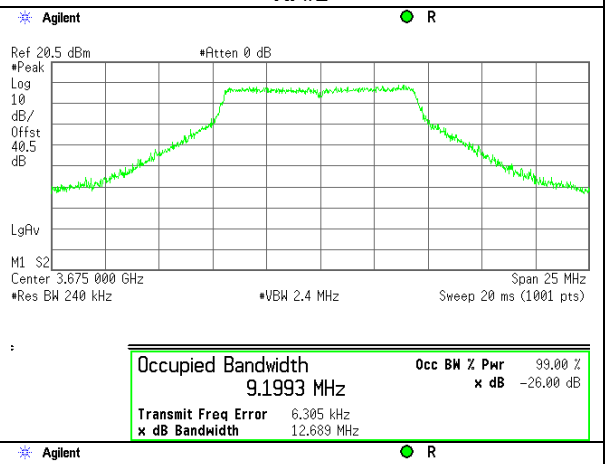
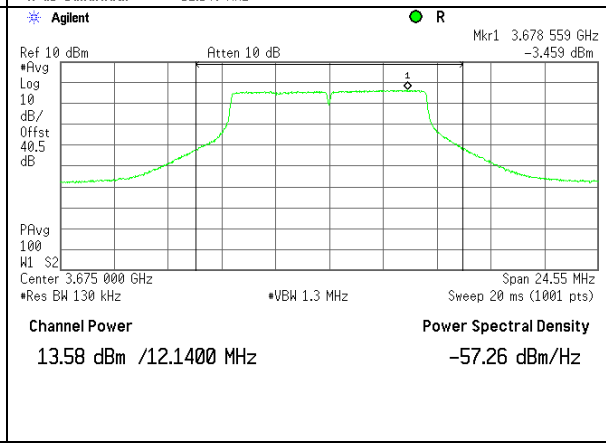
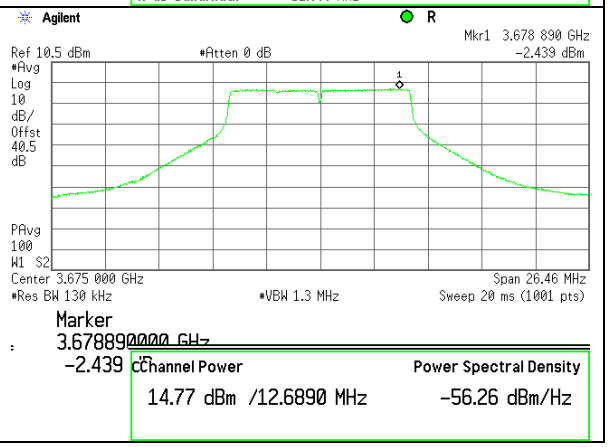
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.10 The 26 dB EBW, band power and peak output power density test results at mid frequency

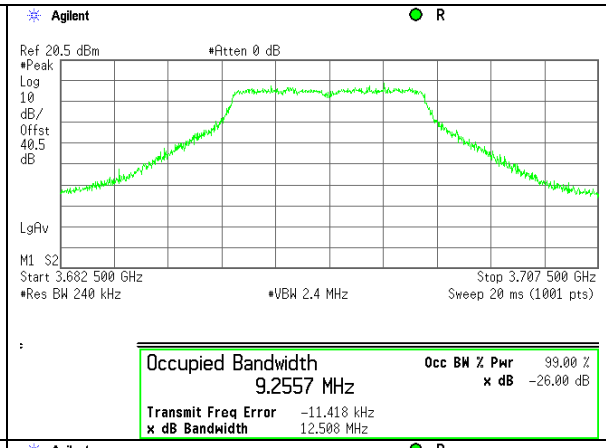
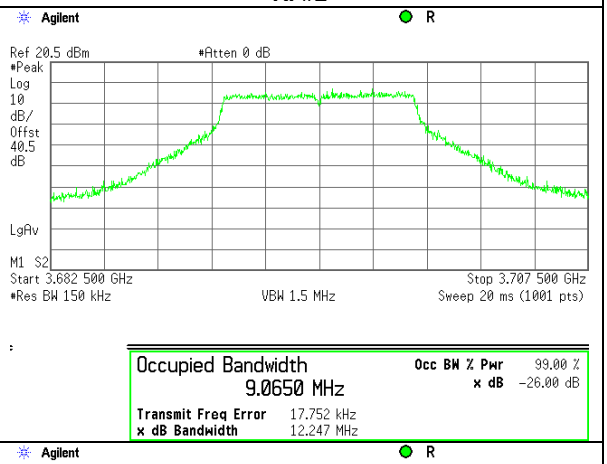
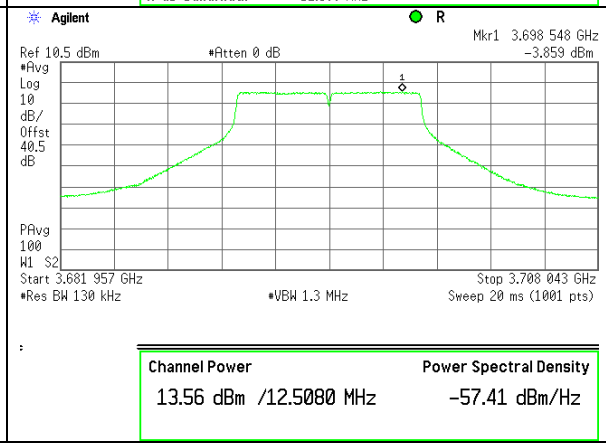
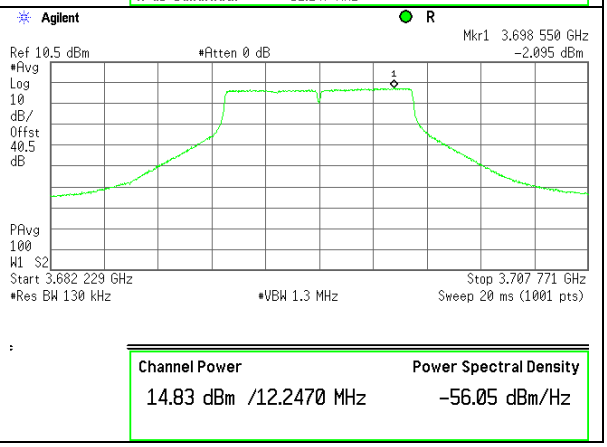
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.11 The 26 dB EBW, band power and peak output power density test results at high frequency

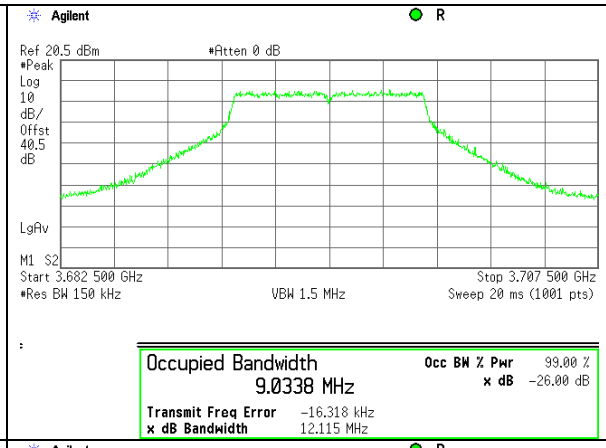
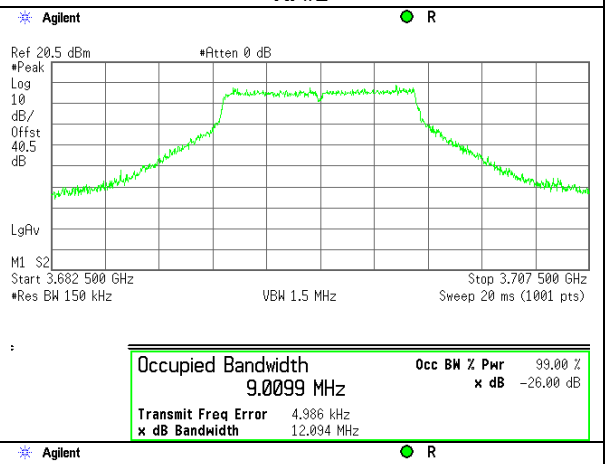
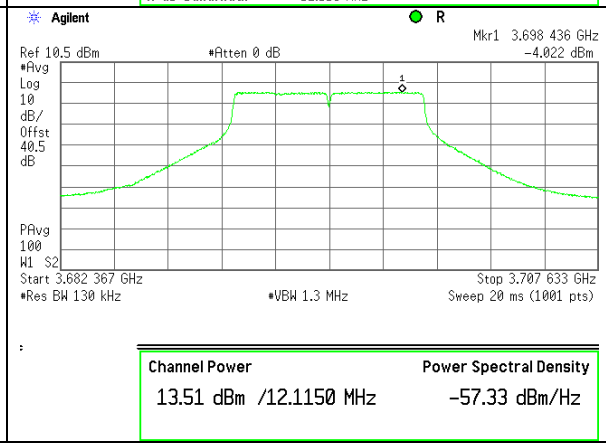
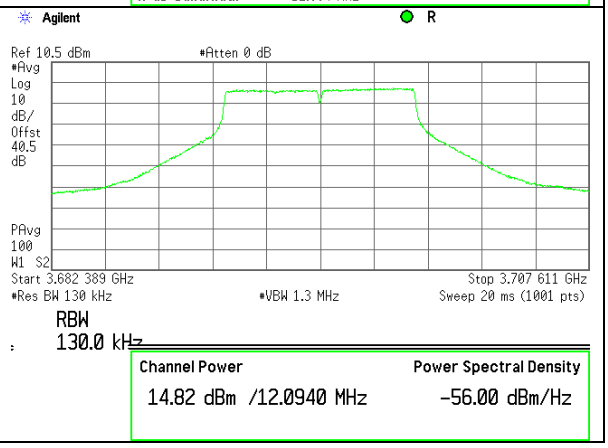
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.12 The 26 dB EBW, band power and peak output power density test results at high frequency

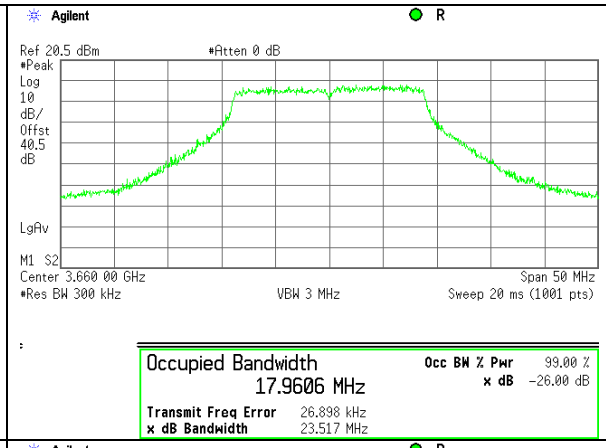
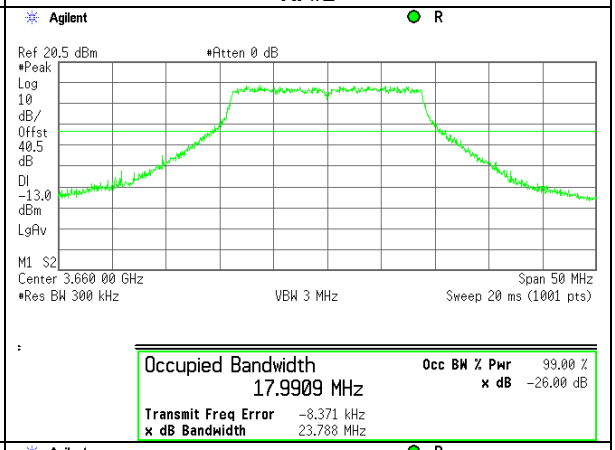
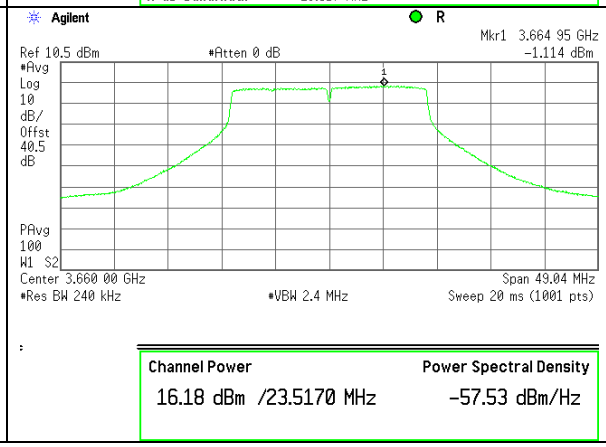
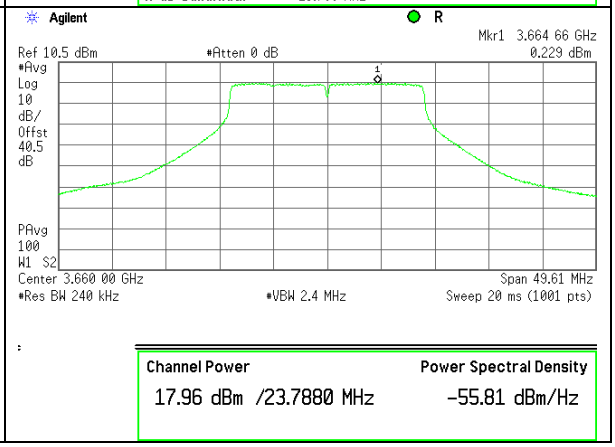
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.13 The 26 dB EBW, band power and peak output power density test results at low frequency

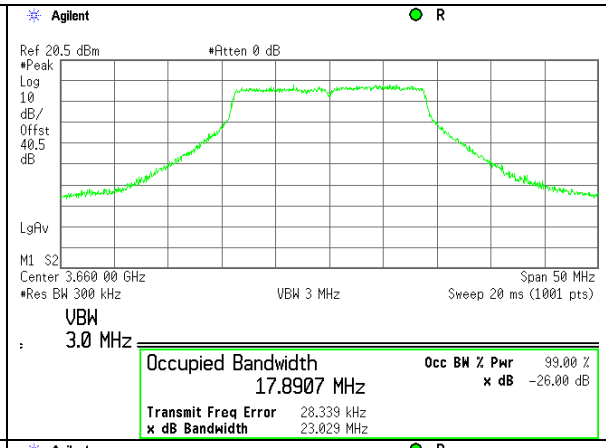
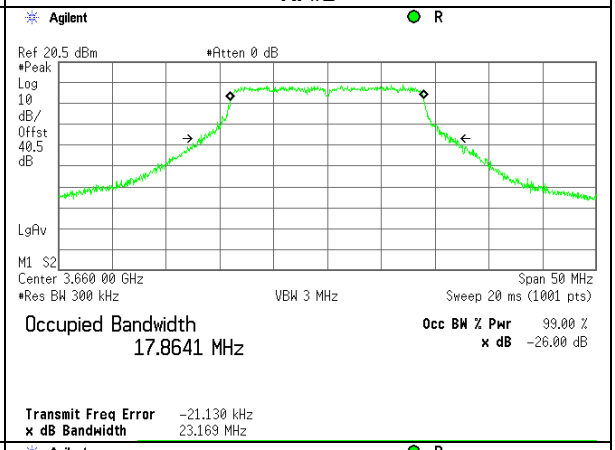
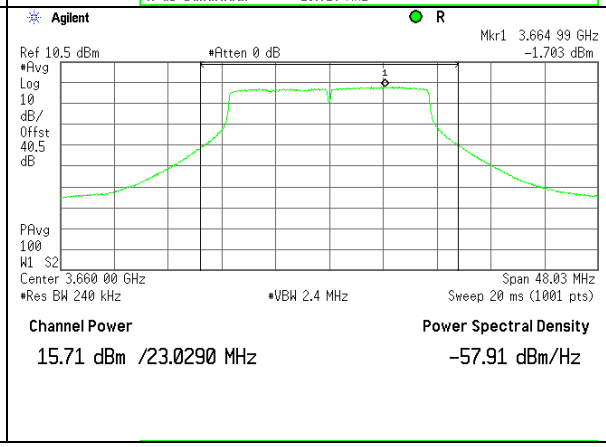
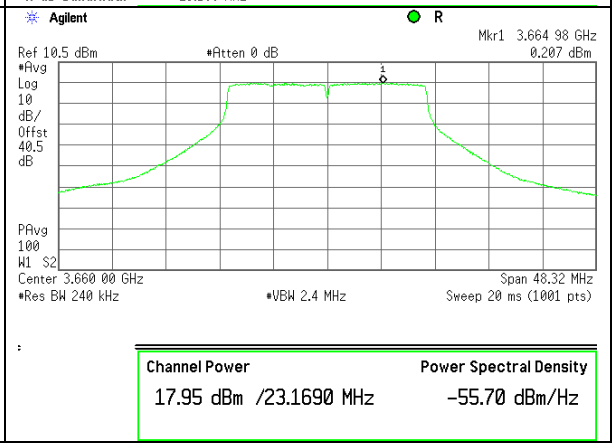
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.14 The 26 dB EBW, band power and peak output power density test results at low frequency

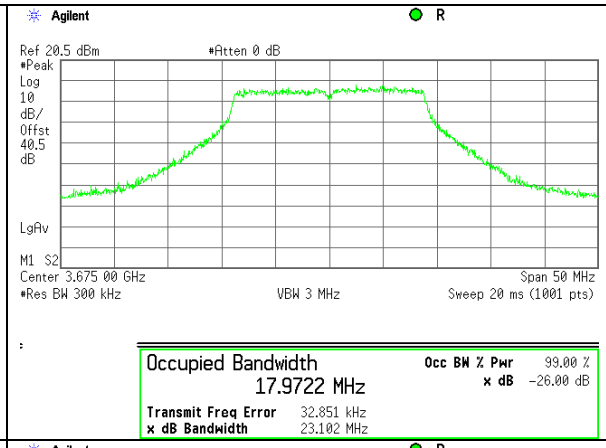
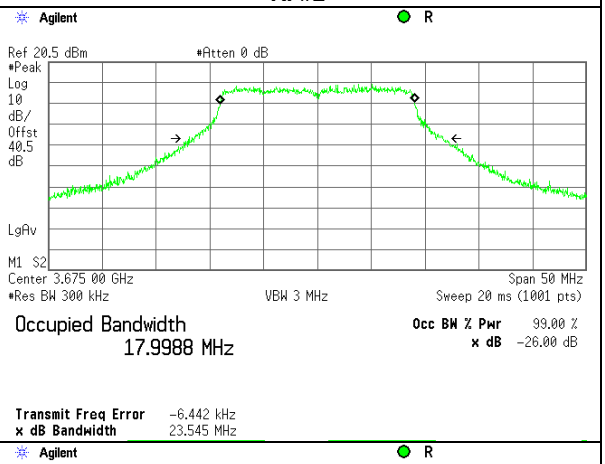
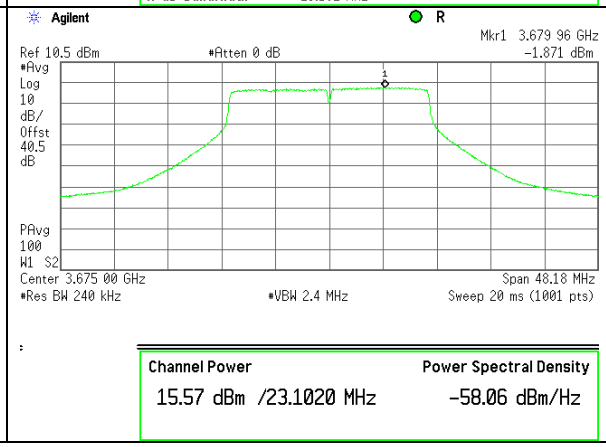
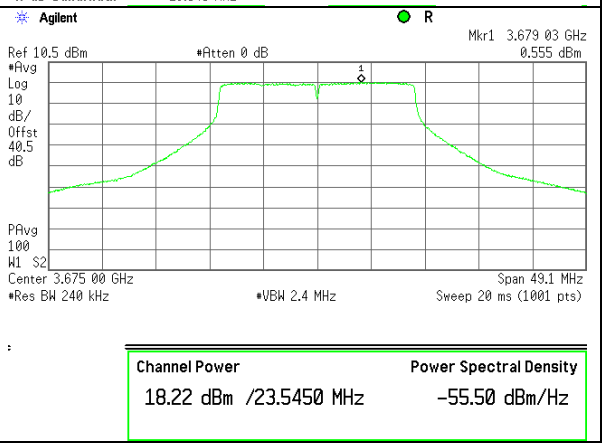
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.15 The 26 dB EBW, band power and peak output power density test results at mid frequency

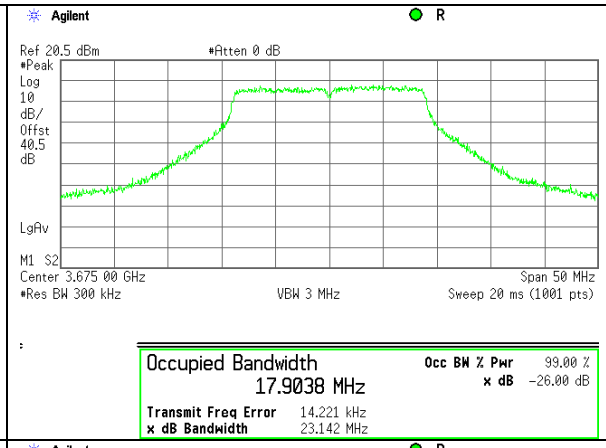
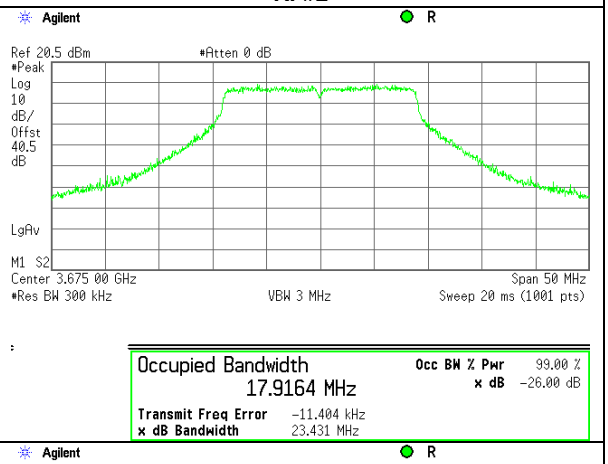
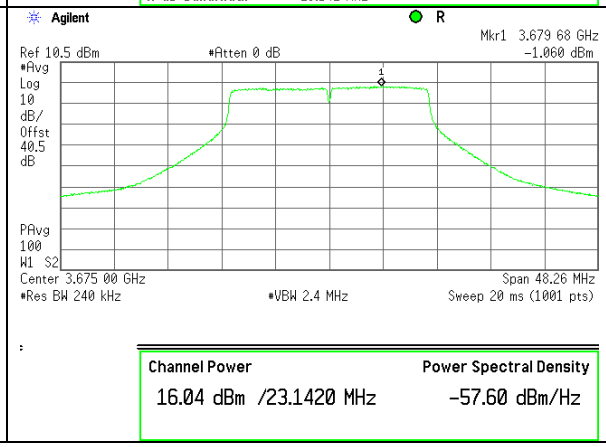
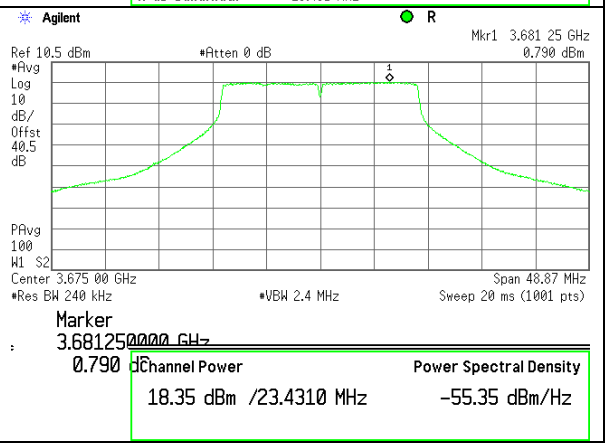
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.16 The 26 dB EBW, band power and peak output power density test results at mid frequency

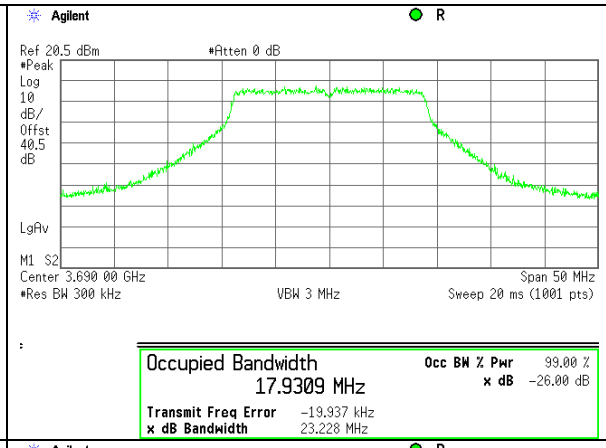
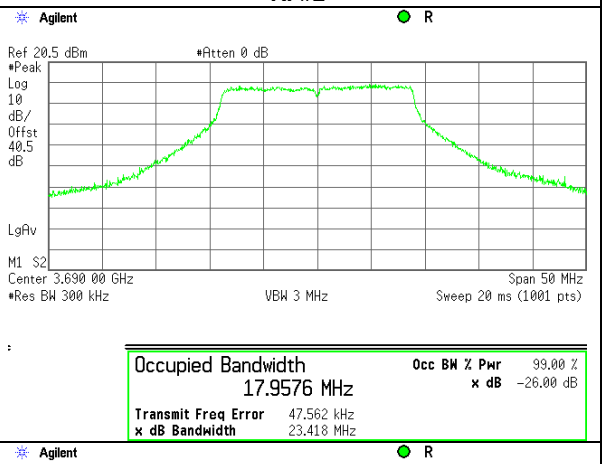
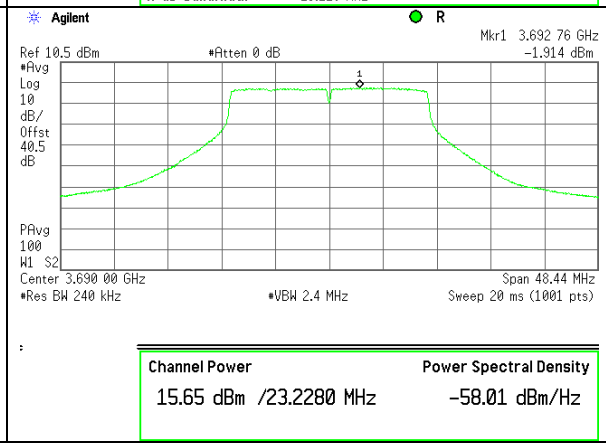
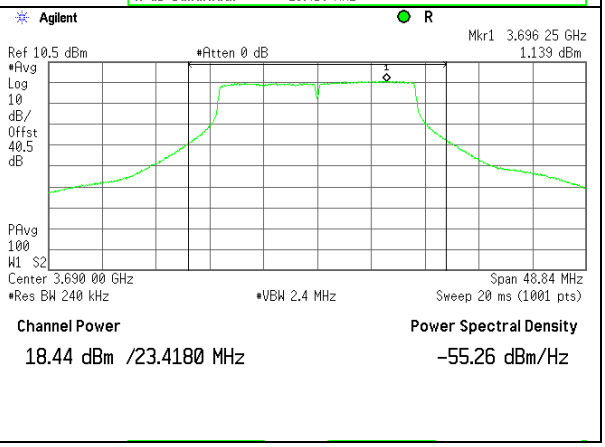
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.17 The 26 dB EBW, band power and peak output power density test results at high frequency

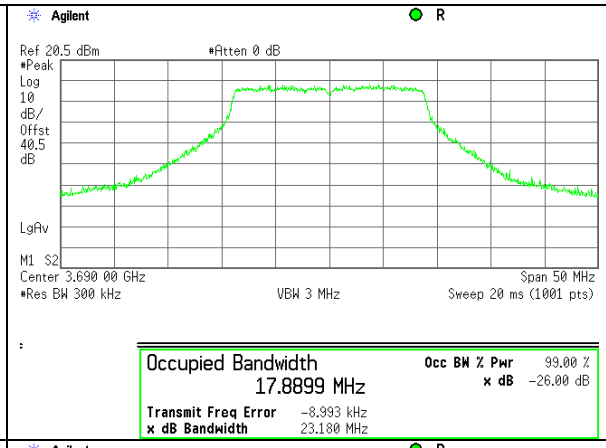
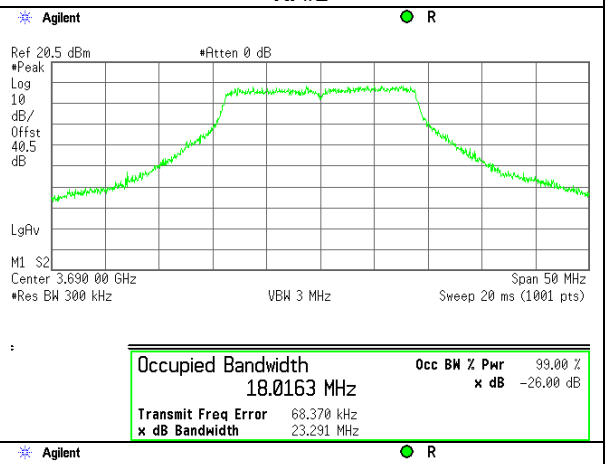
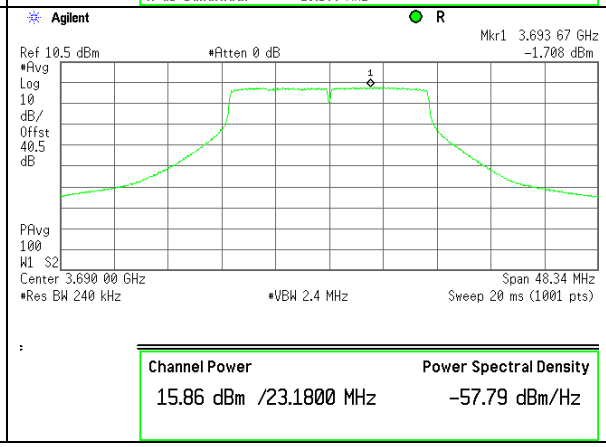
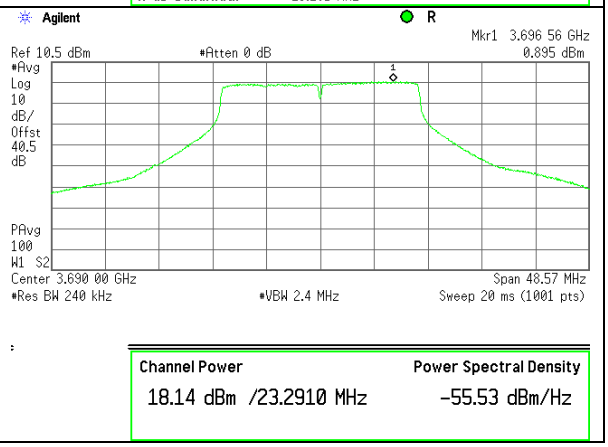
CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.18 The 26 dB EBW, band power and peak output power density test results at high frequency

CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0dBi

	RF#1	**RF#2**
26dB EBW		
Band Power		

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/03/2010		
Temperature: 23 ºC	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

Table 7.1.4 The 26dB EBW test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Power meter
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 17dBi

EBW: 5 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3652.5	BPSK	6.652	25	38.230	21.230
3675.0	BPSK	6.407	25	38.067	21.067
3697.5	BPSK	6.616	25	38.206	21.206
3652.5	64QAM	6.68	25	38.248	21.248
3675.0	64QAM	6.676	25	38.245	21.245
3697.5	64QAM	6.606	25	38.199	21.199

EBW: 10 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3655.0	BPSK	12.156	25	40.848	23.848
3675.0	BPSK	12.294	25	40.897	23.897
3695.0	BPSK	12.317	25	40.905	23.905
3655.0	64QAM	12.13	25	40.839	23.839
3675.0	64QAM	12.324	25	40.908	23.908
3695.0	64QAM	12.197	25	40.863	23.863

EBW: 20 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3660.0	BPSK	23.091	25	43.634	26.634
3675.0	BPSK	23.485	25	43.708	26.708
3690.0	BPSK	23.24	25	43.662	26.662
3660.0	64QAM	23.19	25	43.653	26.653
3675.0	64QAM	23.145	25	43.645	26.645
3690.0	64QAM	23.322	25	43.678	26.678

* - Limit for EBW = 10*LOG((1000 * [Output power limit, W] / 25MHz) / (25MHz / EBW, MHz)), dBm
** - Limit for EBW – Antenna assembly gain.

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/03/2010		
Temperature: 23 ºC	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

Table 7.1.5 Peak EIRP output power test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)

Channel, MHz	Modulation	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	P_{meas} *, dBm	Antenna assembly gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB	Verdict
EBW:					**5 MHz**				
3652.5	BPSK	15.07	16.03	18.59	17.00	35.59	38.23	-2.64	Pass
3675.0	BPSK	14.81	15.82	18.35	17.00	35.35	38.07	-2.71	Pass
3697.5	BPSK	14.64	16.20	18.50	17.00	35.50	38.21	-2.71	Pass
3652.5	64QAM	15.11	16.03	18.60	17.00	35.60	38.25	-2.64	Pass
3675.0	64QAM	14.72	15.80	18.30	17.00	35.30	38.25	-2.94	Pass
3697.5	64QAM	15.02	16.09	18.60	17.00	35.60	38.20	-2.60	Pass
EBW:					**10 MHz**				
3655.0	BPSK	17.88	19.23	21.62	17.00	38.62	40.85	-2.64	Pass
3675.0	BPSK	18.13	19.03	21.61	17.00	38.61	40.90	-2.71	Pass
3695.0	BPSK	17.88	19.32	21.67	17.00	38.67	40.91	-2.71	Pass
3655.0	64QAM	18.06	18.98	21.55	17.00	38.55	40.84	-2.64	Pass
3675.0	64QAM	17.98	18.98	21.52	17.00	38.52	40.91	-2.94	Pass
3695.0	64QAM	18.08	19.20	21.69	17.00	38.69	40.86	-2.60	Pass
EBW:					**20 MHz**				
3660	BPSK	19.88	21.77	23.94	17.00	40.94	43.63	-2.69	Pass
3675	BPSK	20.46	21.78	24.18	17.00	41.18	43.71	-2.53	Pass
3690	BPSK	19.91	21.52	23.80	17.00	40.80	43.66	-2.86	Pass
3660.0	64QAM	20.07	21.59	23.91	17.00	40.91	43.65	-2.74	Pass
3675.0	64QAM	20.16	21.36	23.81	17.00	40.81	43.65	-2.84	Pass
3690.0	64QAM	19.67	21.42	23.64	17.00	40.64	43.68	-3.04	Pass

* - Pmeas, dBm = 10 log {10^[P(dBm,RF#1)/10]+ 10^([P(dBm, RF#2)/10]}

NOTE1: the EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits comply with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

Full description is given in Appendix A.

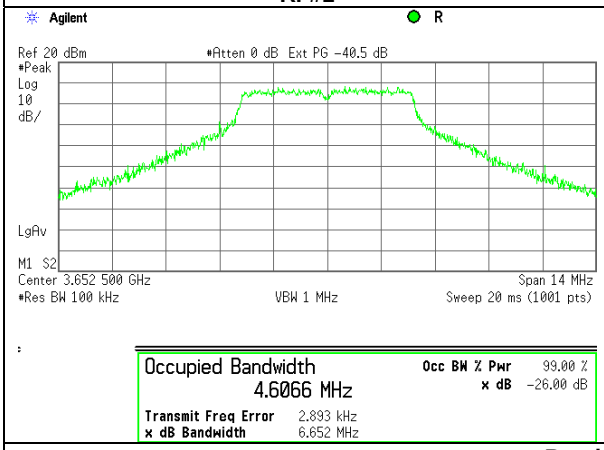
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.19 The 26 dB EBW, band power test results at high frequency

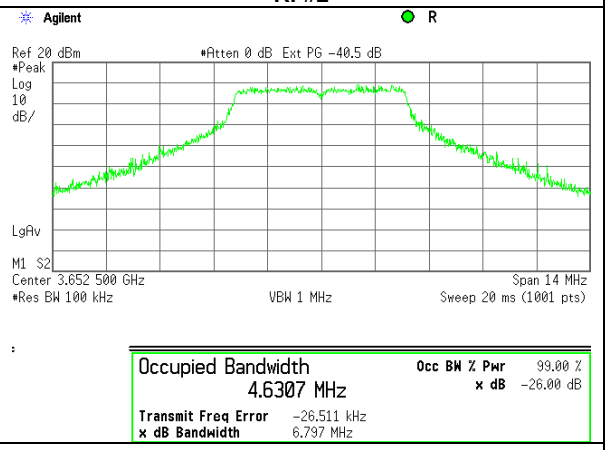
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

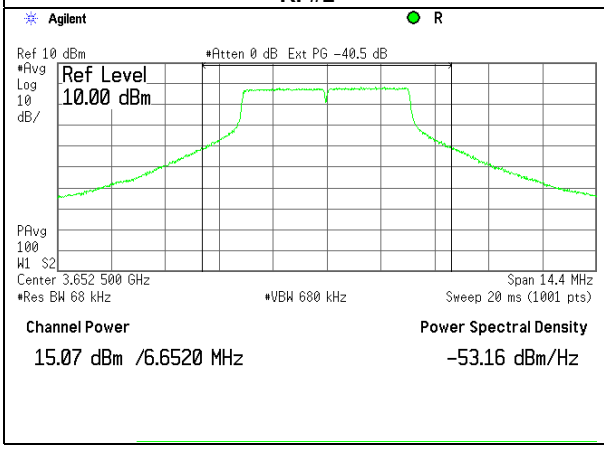


RF#2

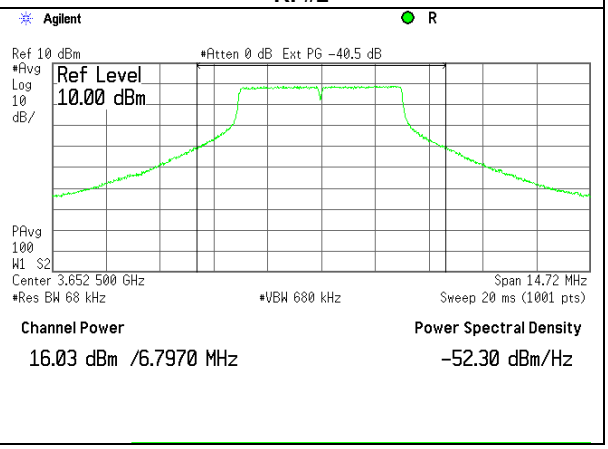


Band power

RF#1



RF#2



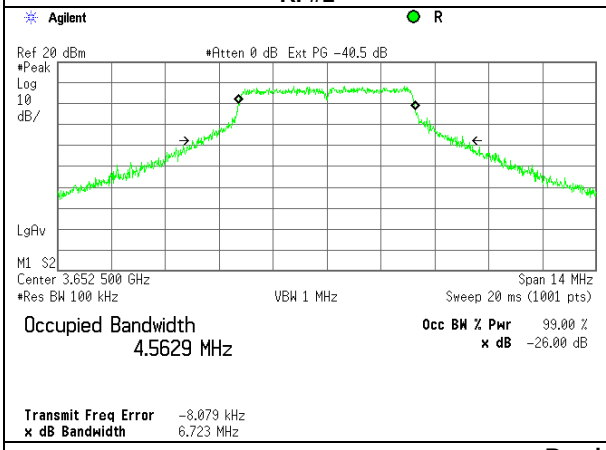
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.20 The 26 dB EBW, band power test results at high frequency

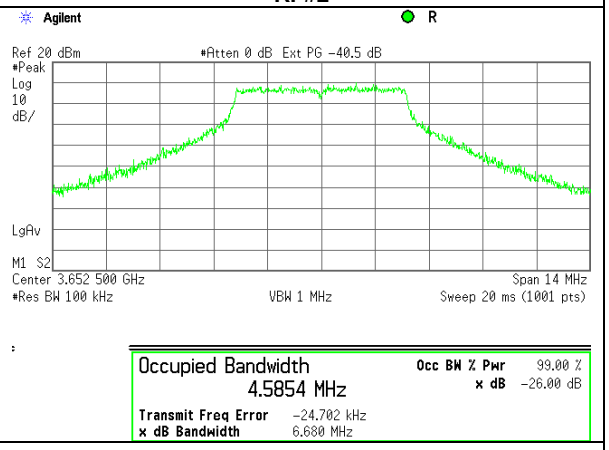
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

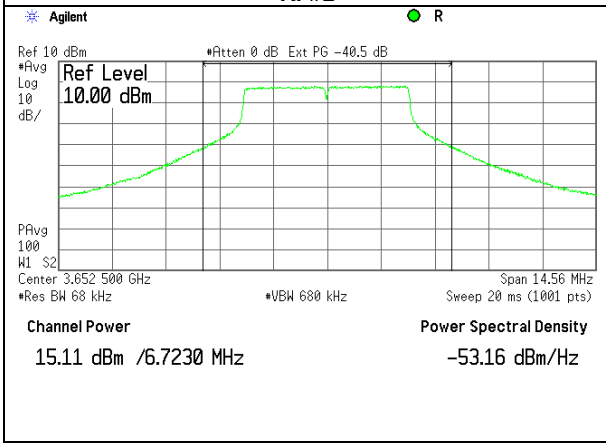


RF#2

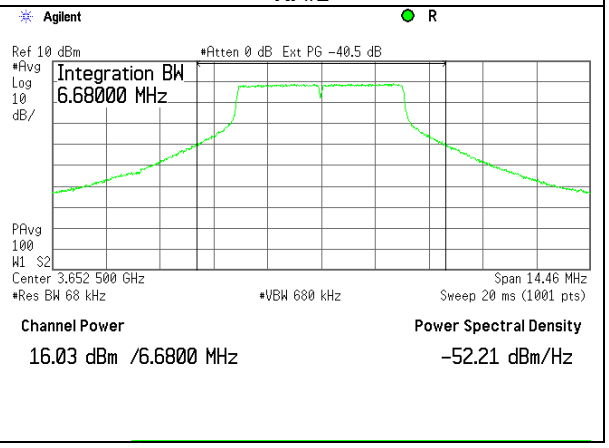


Band power

RF#1



RF#2



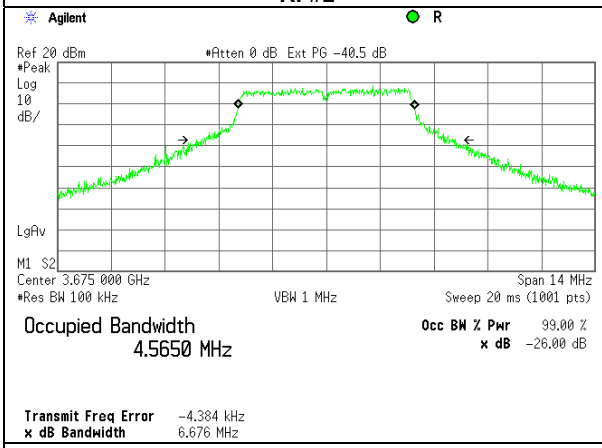
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.21 The 26 dB EBW, band power test results at high frequency

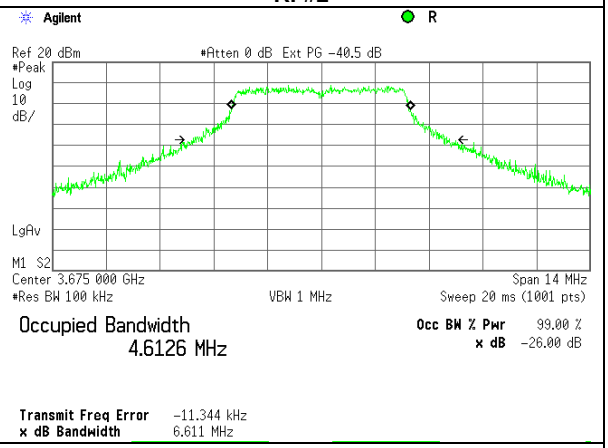
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

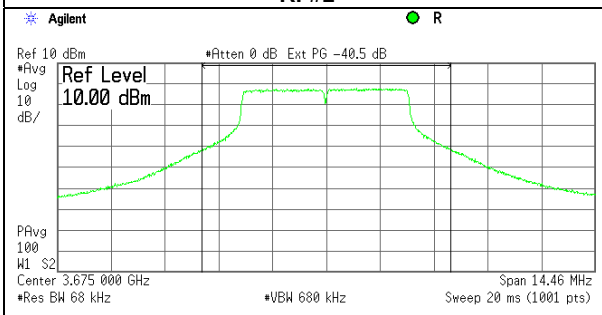


RF#2

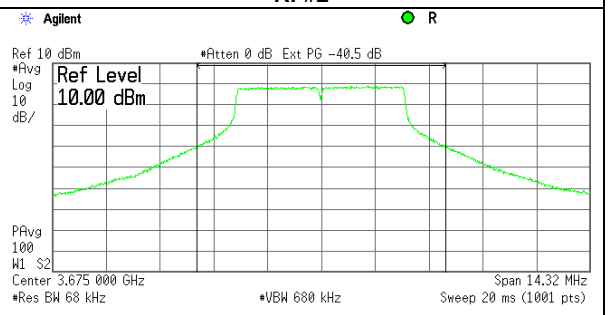


Band power

RF#1



RF#2



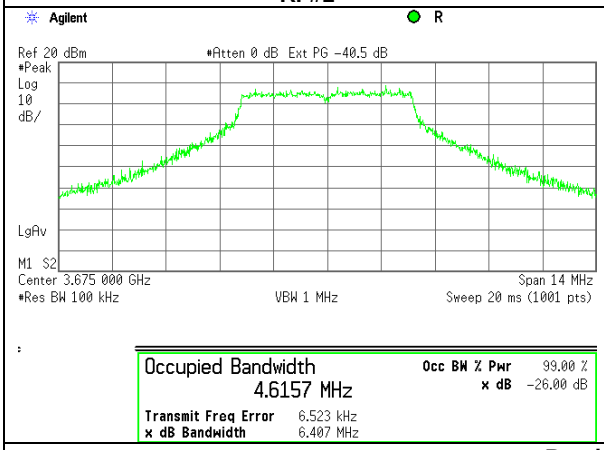
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.22 The 26 dB EBW, band power test results at high frequency

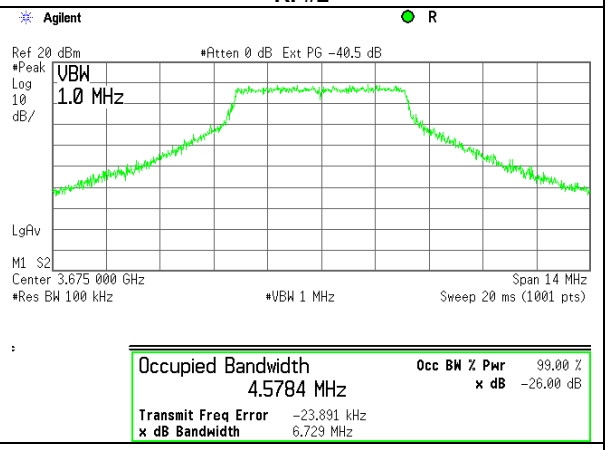
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

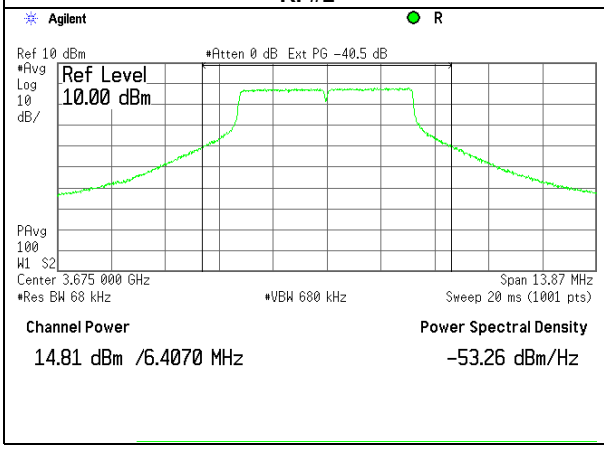


RF#2

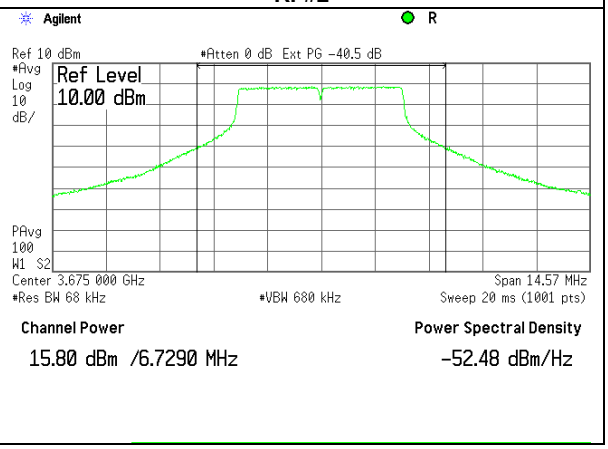


Band power

RF#1



RF#2



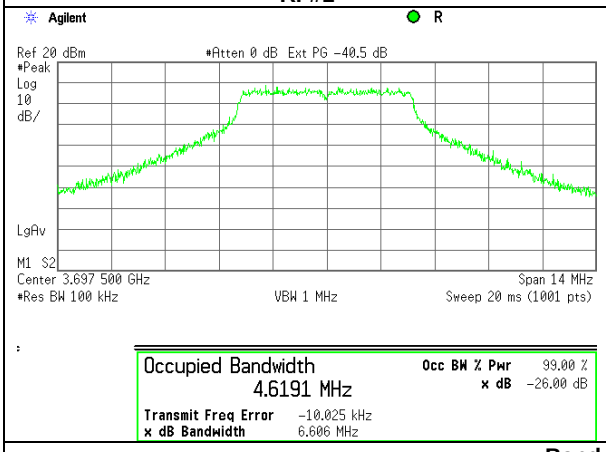
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.23 The 26 dB EBW, band power test results at high frequency

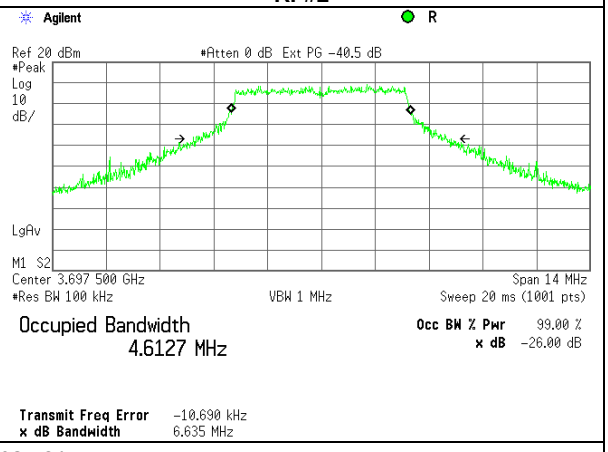
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

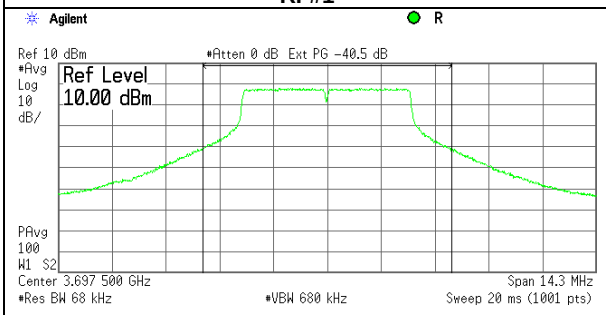


RF#2

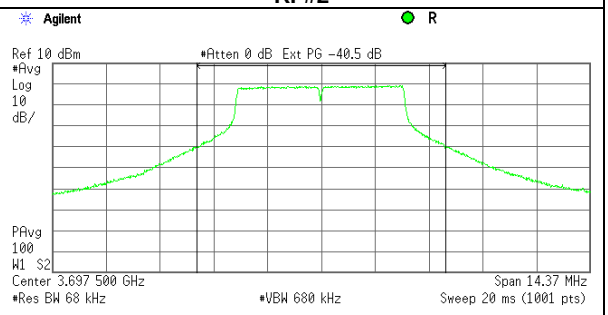


Band power

RF#1



RF#2



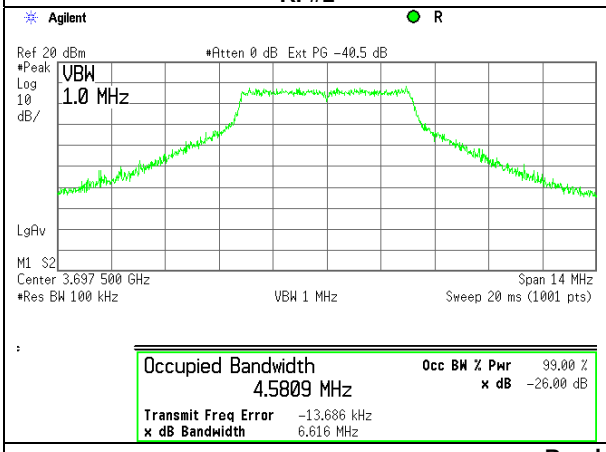
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.24 The 26 dB EBW, band power test results at high frequency

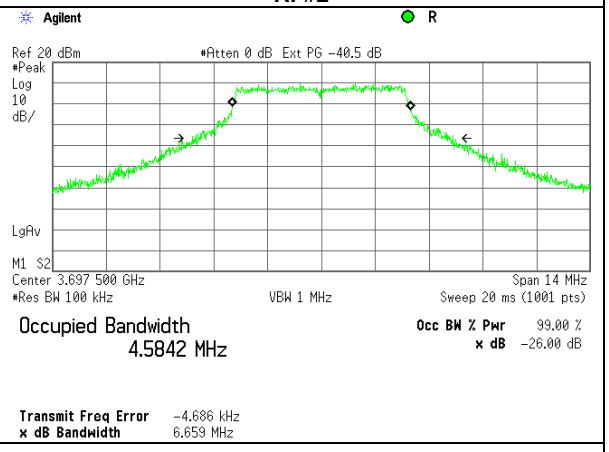
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

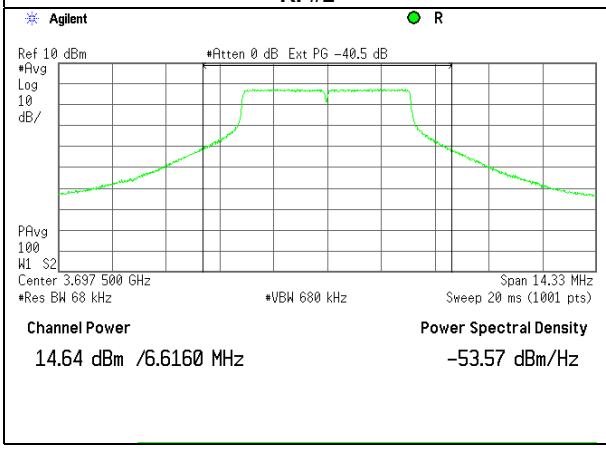


RF#2

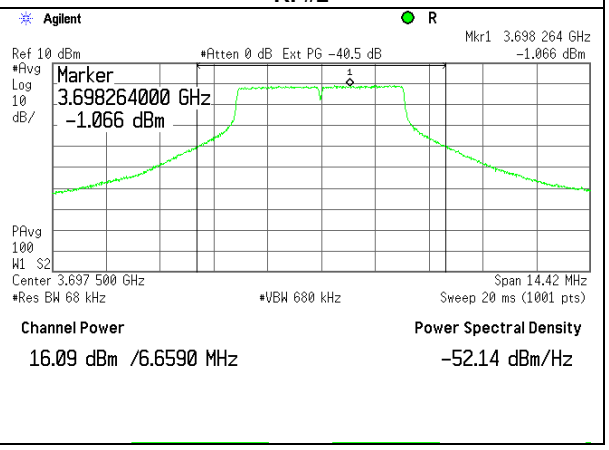


Band power

RF#1



RF#2



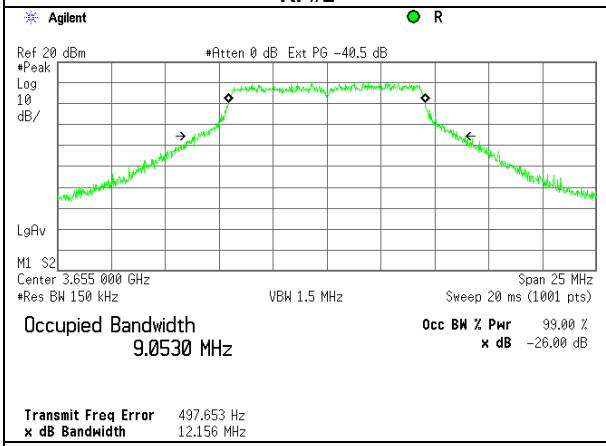
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.25 The 26 dB EBW, band power test results at high frequency

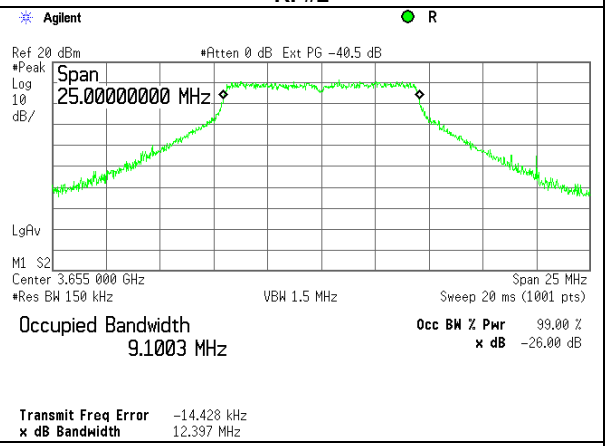
CARRIER FREQUENCY:	3655.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

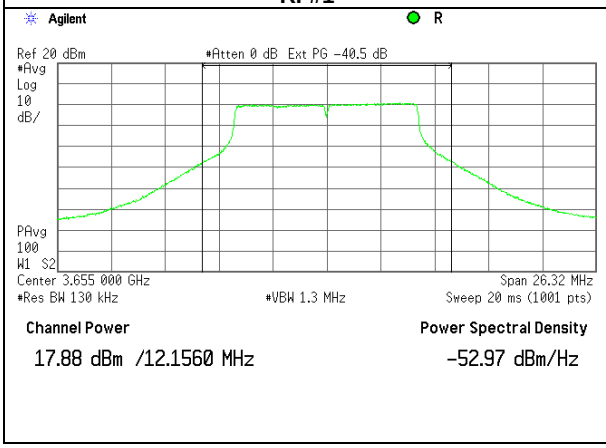


RF#2

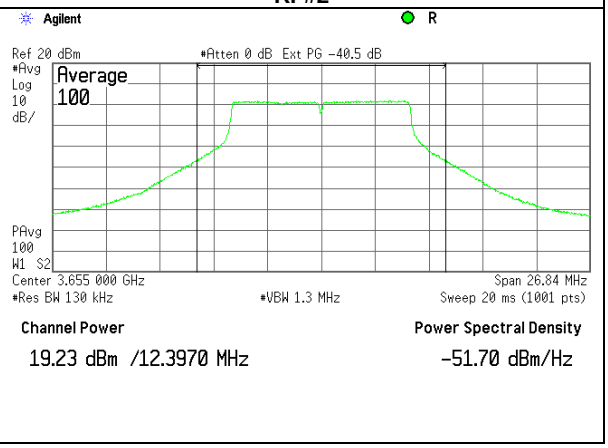


Band power

RF#1



RF#2



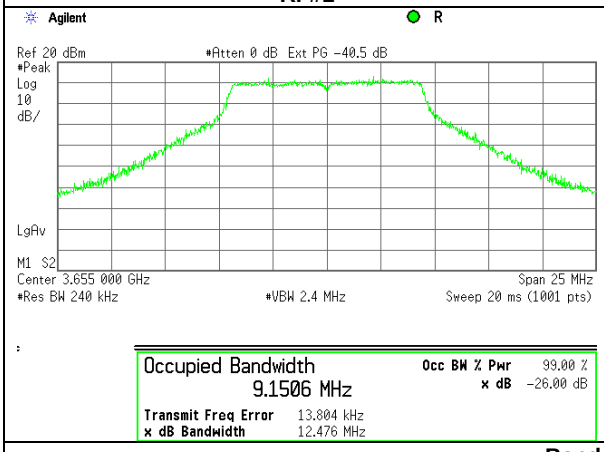
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.26 The 26 dB EBW, band power test results at high frequency

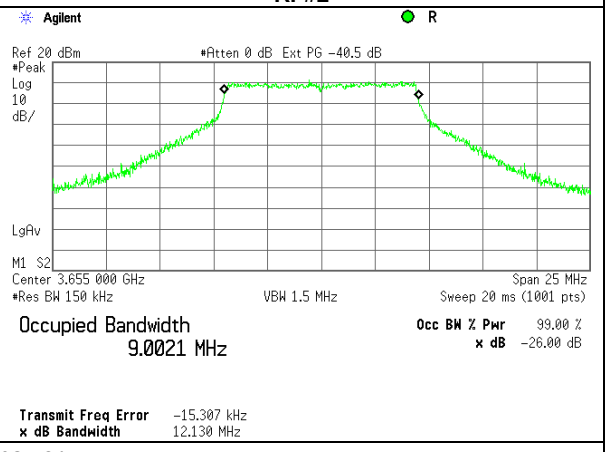
CARRIER FREQUENCY:	3655.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

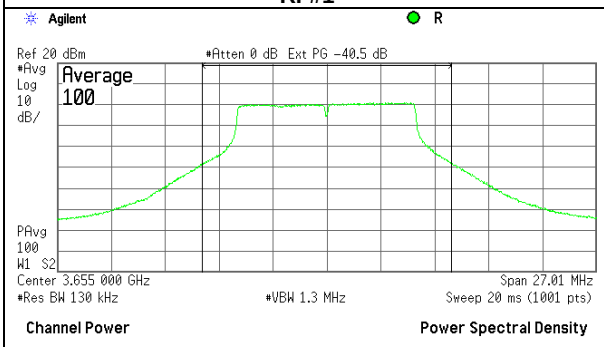


RF#2

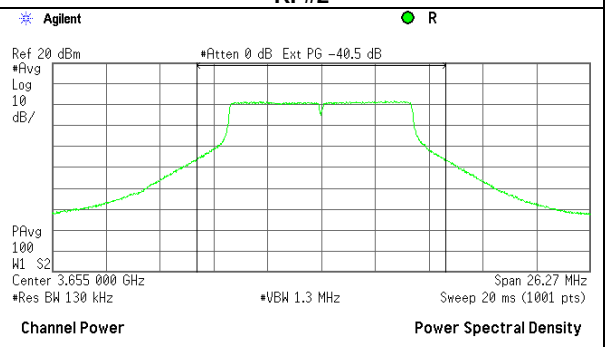


Band power

RF#1



RF#2



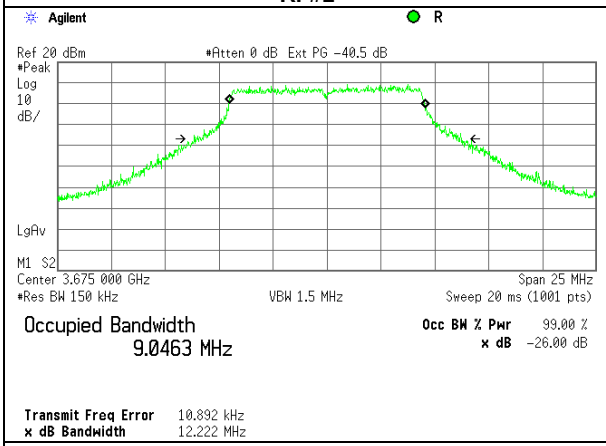
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.27 The 26 dB EBW, band power test results at high frequency

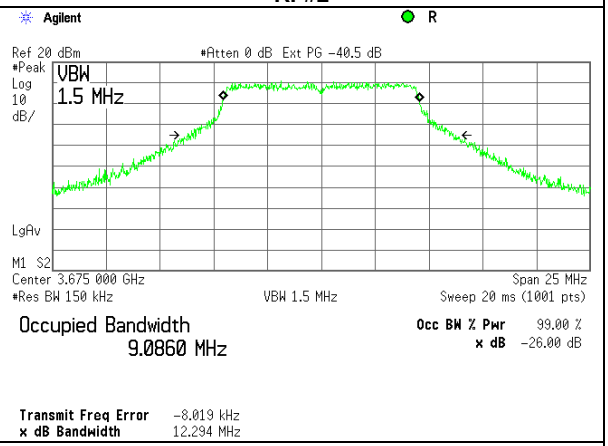
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

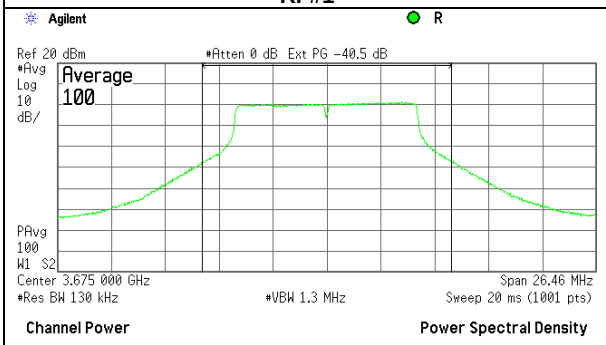


RF#2

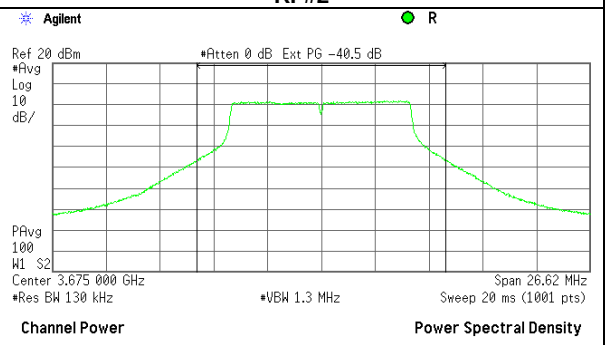


Band power

RF#1



RF#2



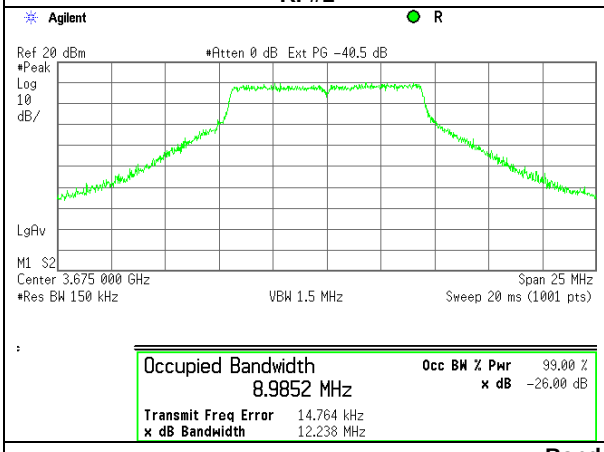
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.28 The 26 dB EBW, band power test results at high frequency

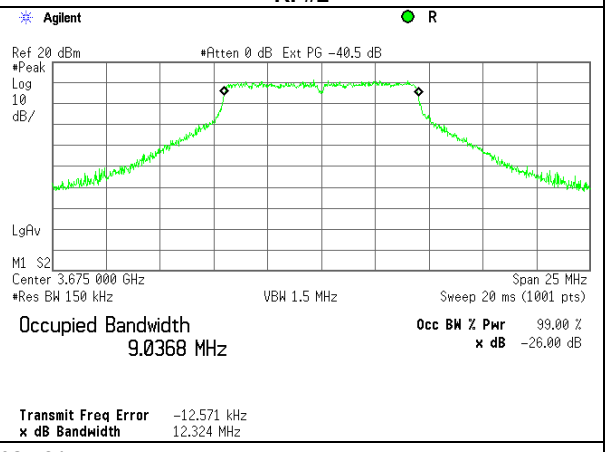
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

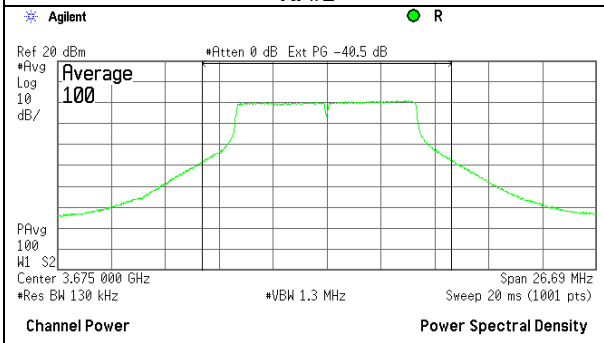


RF#2

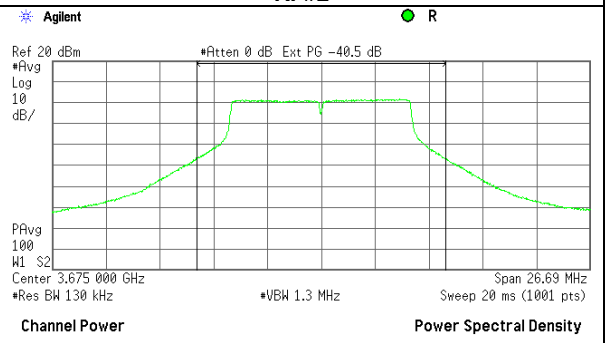


Band power

RF#1



RF#2



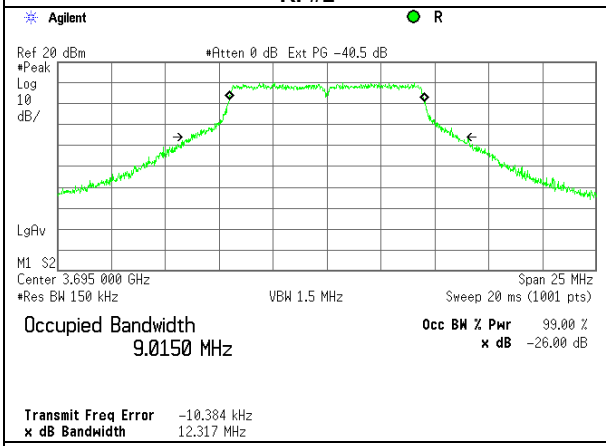
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.29 The 26 dB EBW, band power test results at high frequency

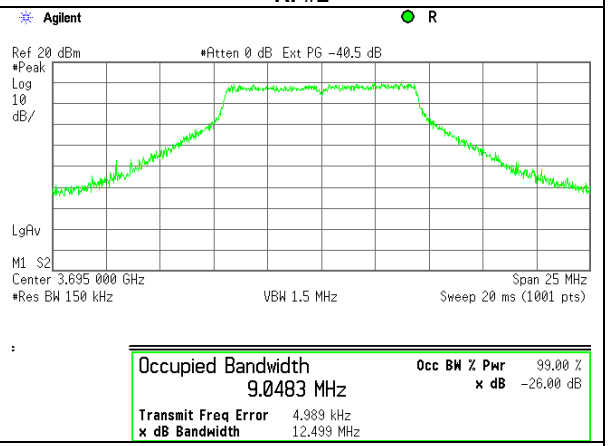
CARRIER FREQUENCY:	3695.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

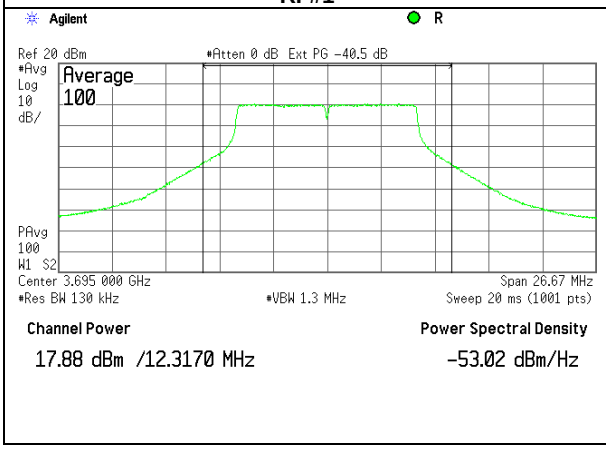


RF#2

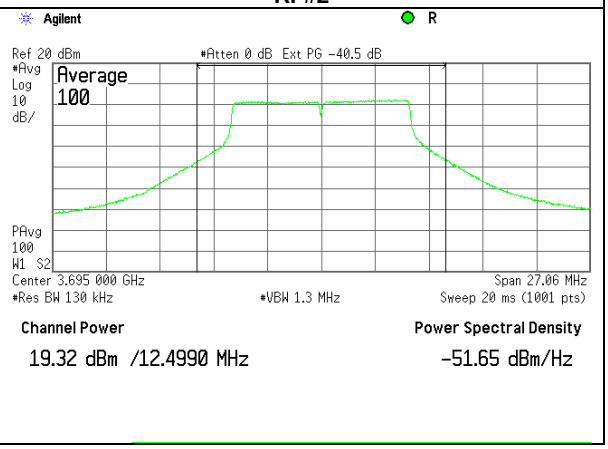


Band power

RF#1



RF#2



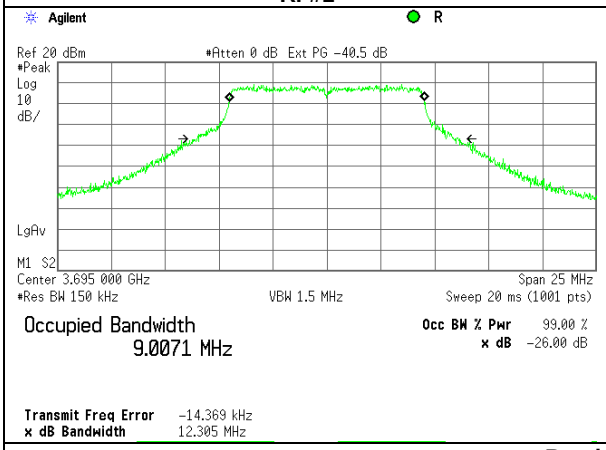
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.30 The 26 dB EBW, band power test results at high frequency

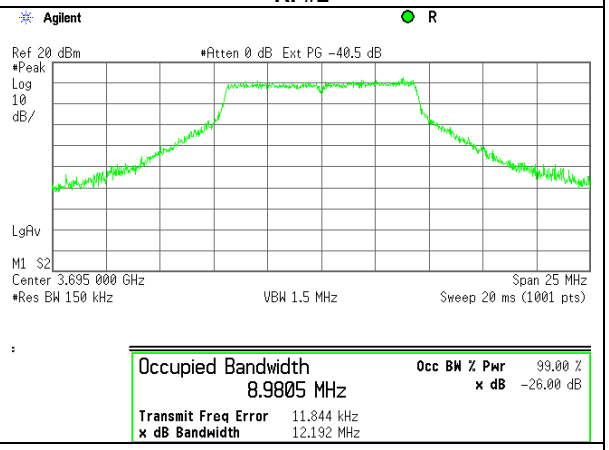
CARRIER FREQUENCY:	3695.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

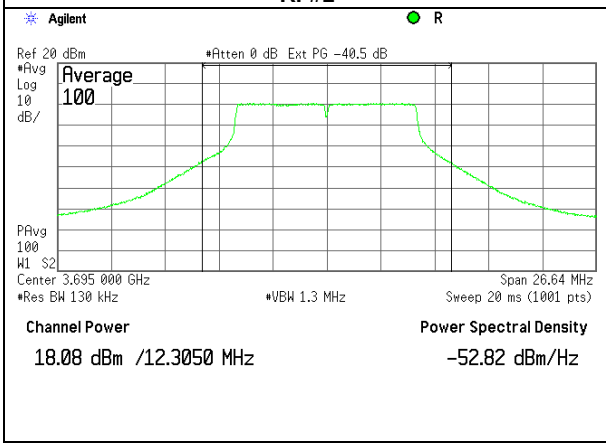


RF#2

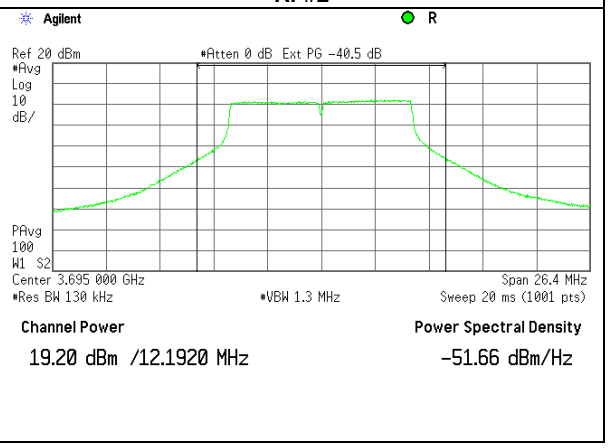


Band power

RF#1



RF#2



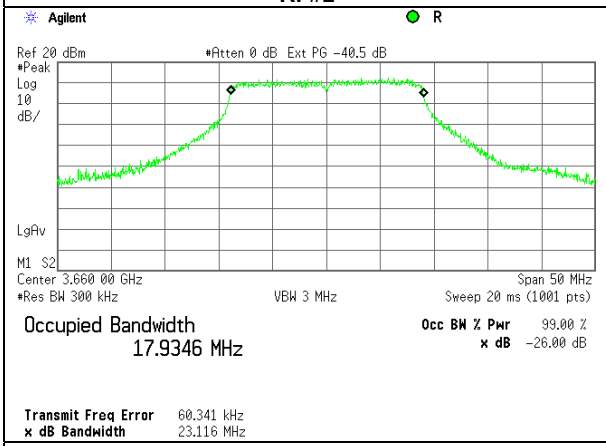
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.31 The 26 dB EBW, band power test results at high frequency

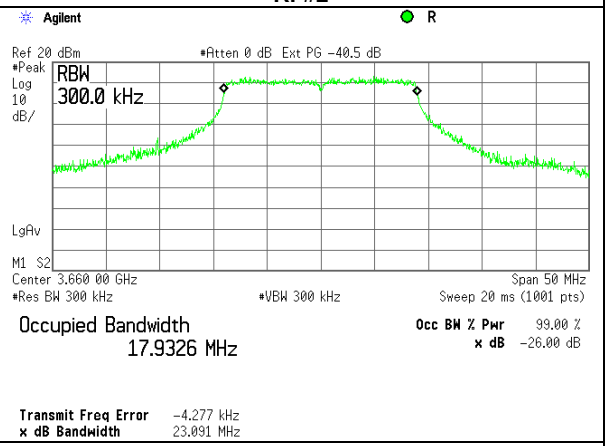
CARRIER FREQUENCY:	3660.0MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

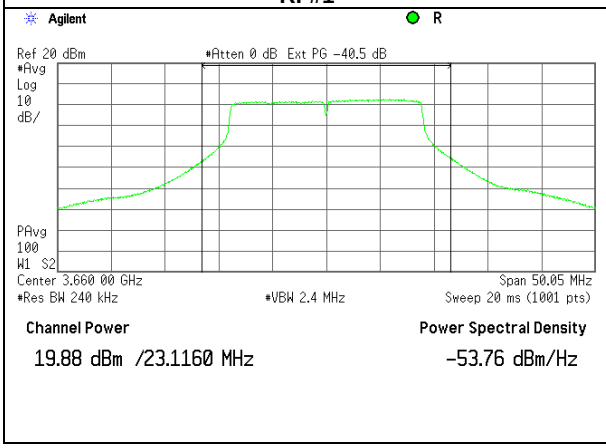


RF#2

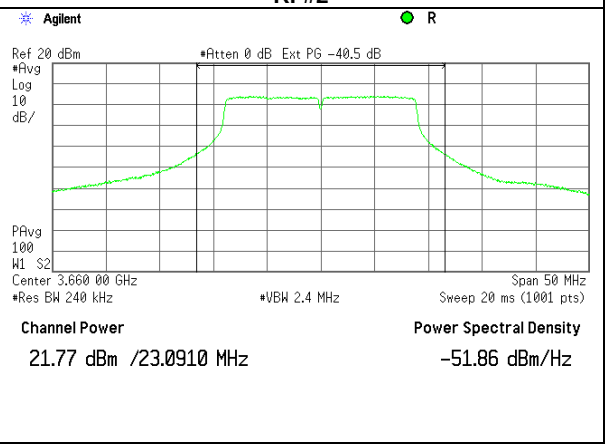


Band power

RF#1



RF#2



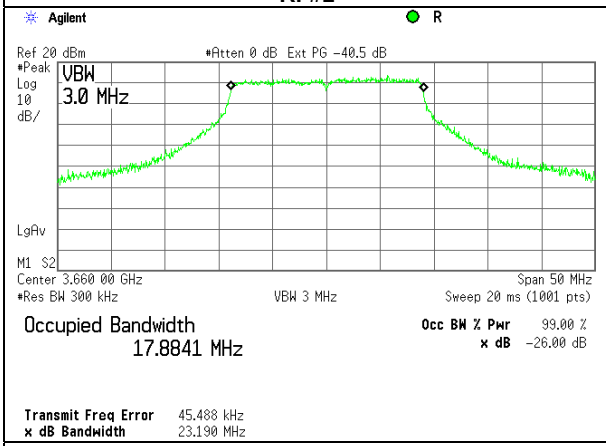
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.32 The 26 dB EBW, band power test results at high frequency

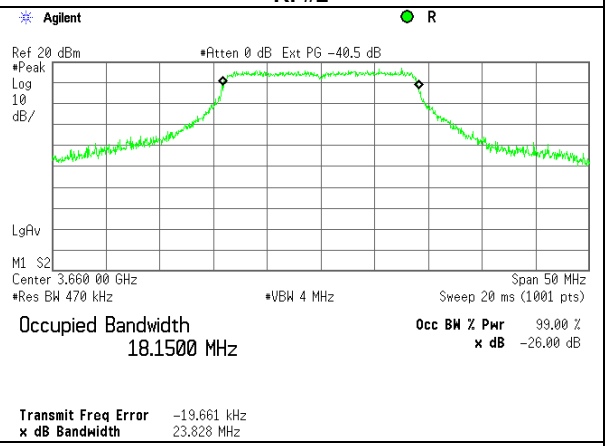
CARRIER FREQUENCY:	3660.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

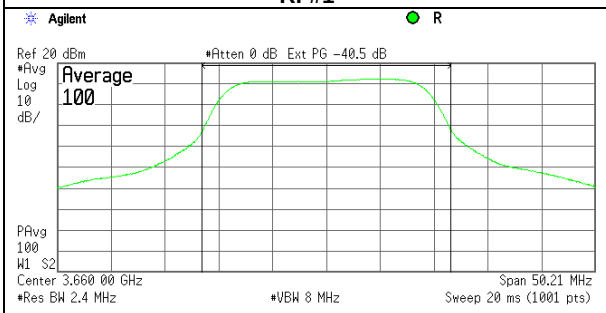


RF#2

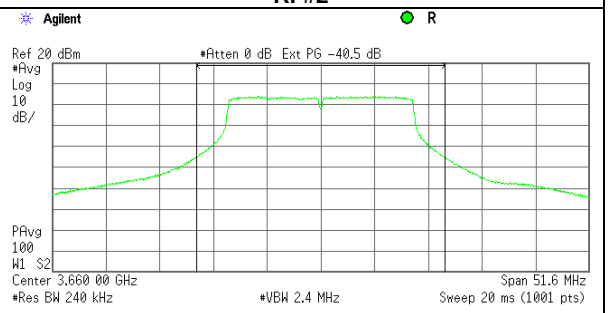


Band power

RF#1



RF#2



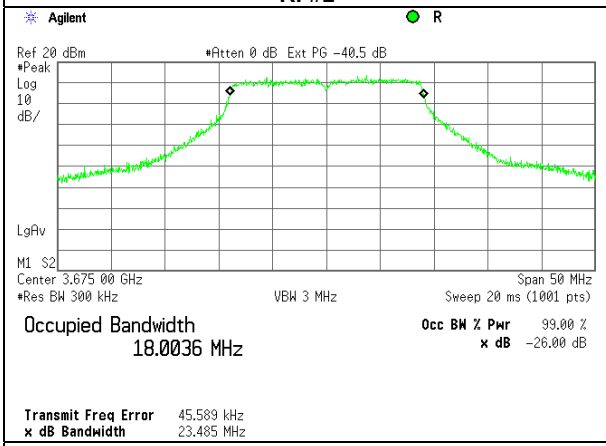
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.33 The 26 dB EBW, band power test results at high frequency

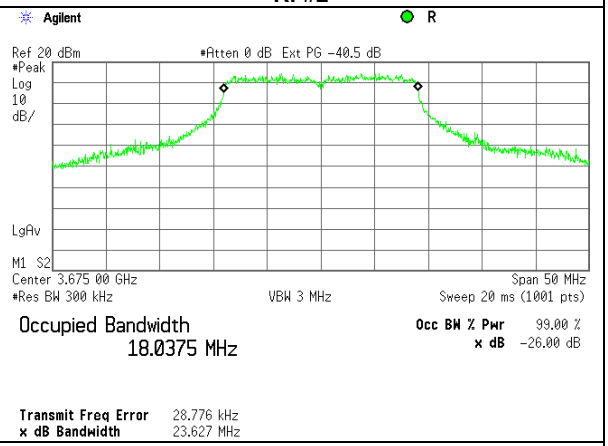
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

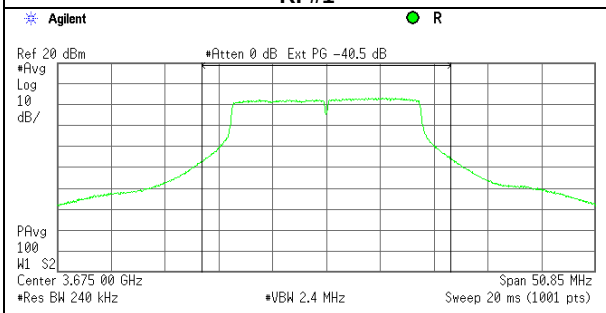


RF#2

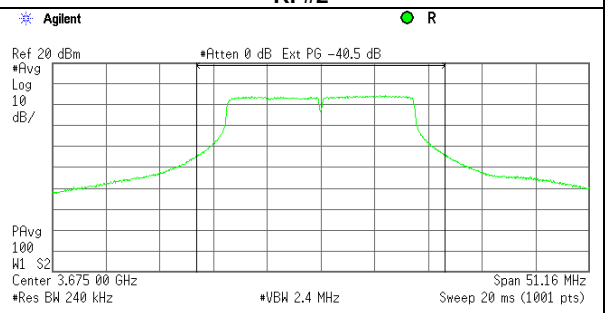


Band power

RF#1



RF#2



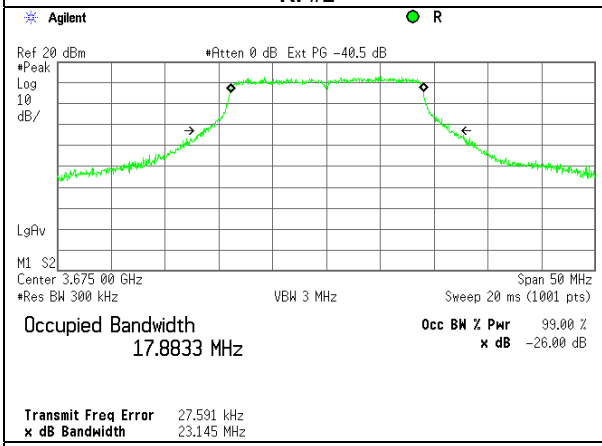
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.34 The 26 dB EBW, band power test results at high frequency

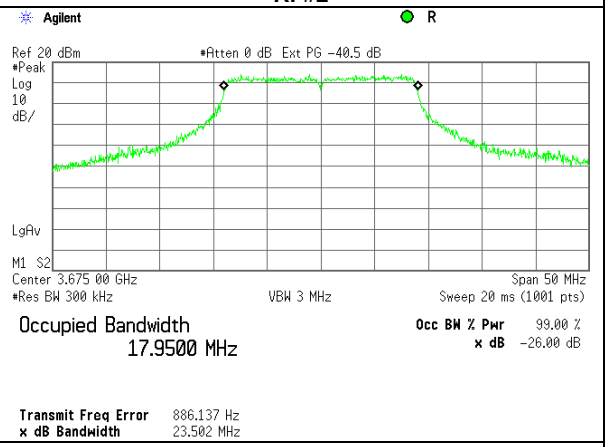
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

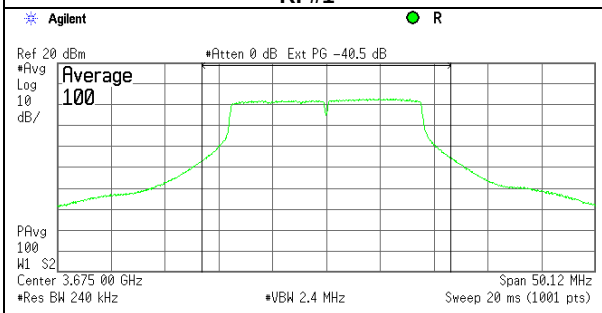


RF#2

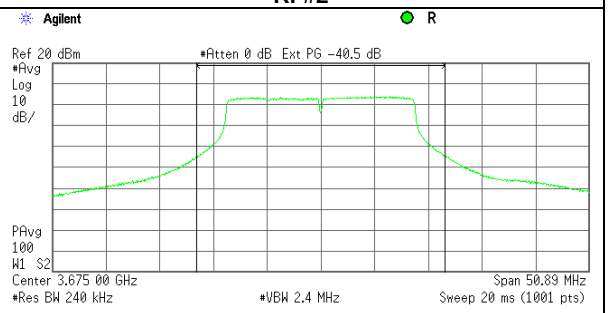


Band power

RF#1



RF#2



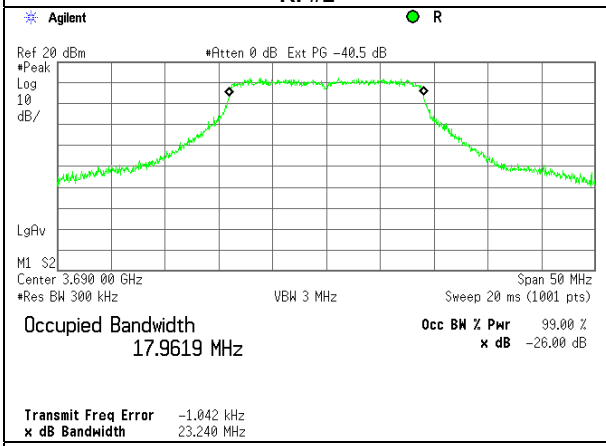
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.35 The 26 dB EBW, band power test results at high frequency

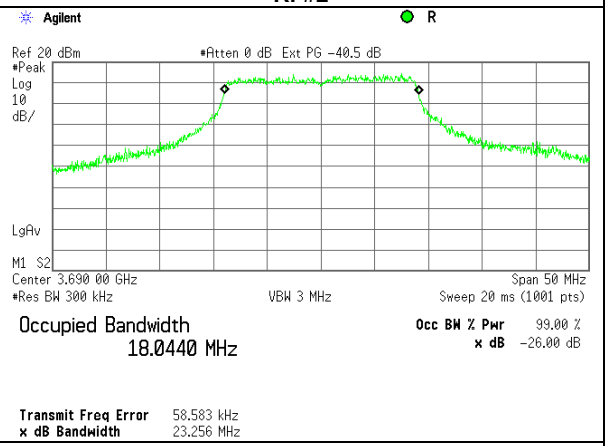
CARRIER FREQUENCY:	3690.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

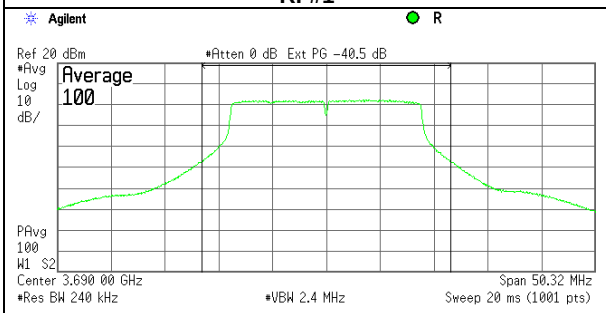


RF#2

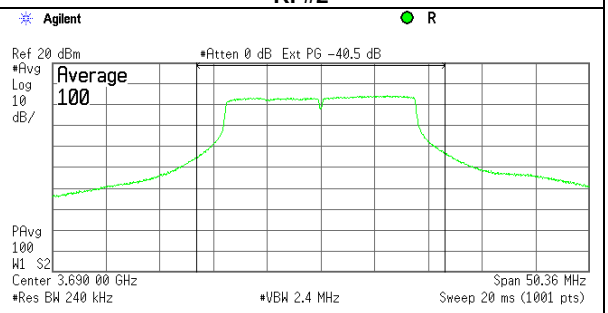


Band power

RF#1



RF#2



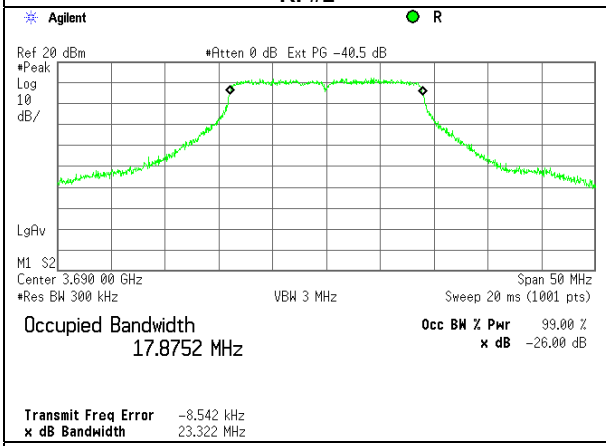
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks: with 17dBi gain antenna assembly			

Plot 7.1.36 The 26 dB EBW, band power test results at high frequency

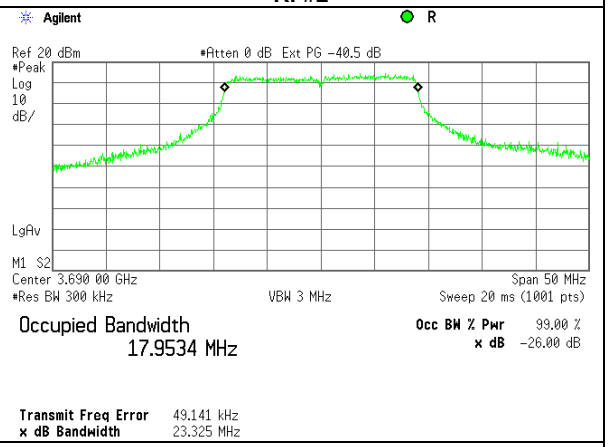
CARRIER FREQUENCY:	3690.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17 dBi

26dB EBW

RF#1

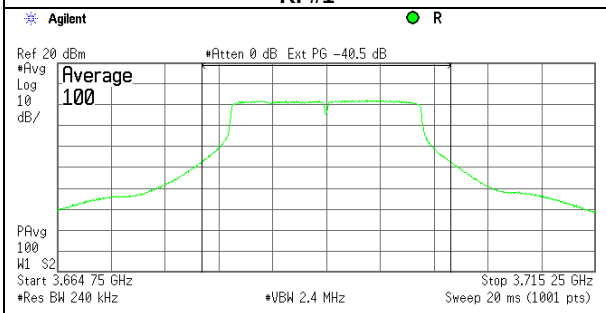


RF#2

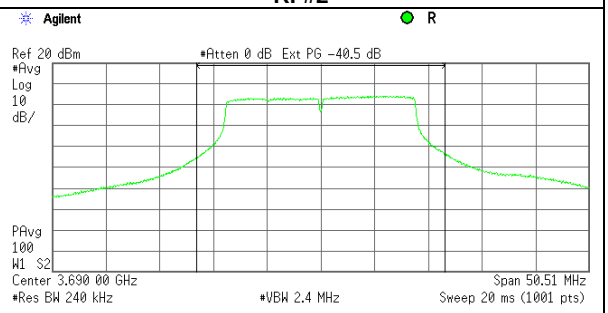


Band power

RF#1



RF#2



Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/01/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Table 7.1.6 The 26 dB EBW test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Power meter
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 24 dBi
EBW: 5 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3652.5	BPSK	6.583	25	38.184	14.184
3675.0	BPSK	6.459	25	38.102	14.102
3697.5	BPSK	6.557	25	38.167	14.167
3652.5	64QAM	6.549	25	38.162	14.162
3675.0	64QAM	6.781	25	38.313	14.313
3697.5	64QAM	6.635	25	38.218	14.218

EBW: 10 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3655.0	BPSK	12.406	25	40.936	16.936
3675.0	BPSK	12.157	25	40.848	16.848
3695.0	BPSK	12.248	25	40.881	16.881
3655.0	64QAM	12.261	25	40.885	16.885
3675.0	64QAM	12.068	25	40.816	16.816
3695.0	64QAM	12.317	25	40.905	16.905

EBW: 20 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3660.0	BPSK	23.067	25	43.630	19.630
3675.0	BPSK	23.207	25	43.656	19.656
3690.0	BPSK	23.060	25	43.629	19.629
3660.0	64QAM	23.127	25	43.641	19.641
3675.0	64QAM	23.187	25	43.652	19.652
3690.0	64QAM	23.145	25	43.645	19.645

* - Limit for EBW = 10*LOG((1000 * [Output power limit, W] / 25MHz) / (25MHz / EBW, MHz)), dBm
** - Limit for EBW – Antenna assembly gain.

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/01/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Table 7.1.7 Peak EIRP output power test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)

Channel, MHz	Modulation	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	P_{meas} *, dBm	Antenna assembly gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB	Verdict
EBW:					**5 MHz**				
3652.5	BPSK	8.58	8.7	11.65	24.00	35.65	38.18	-2.53	Pass
3675.0	BPSK	7.53	7.87	10.71	24.00	34.71	38.10	-3.39	Pass
3697.5	BPSK	7.57	8.18	10.90	24.00	34.90	38.17	-3.27	Pass
3652.5	64QAM	7.85	8.07	10.97	24.00	34.97	38.16	-3.19	Pass
3675.0	64QAM	7.48	8.66	11.12	24.00	35.12	38.31	-3.19	Pass
3697.5	64QAM	7.98	8.12	11.06	24.00	35.06	38.22	-3.16	Pass
EBW:					**10 MHz**				
3655.0	BPSK	10.83	11.28	14.07	24.00	38.07	40.94	-2.87	Pass
3675.0	BPSK	10.19	11.61	13.97	24.00	37.97	40.85	-2.88	Pass
3695.0	BPSK	11.14	11.55	14.36	24.00	38.36	40.88	-2.52	Pass
3655.0	64QAM	10.50	10.86	13.69	24.00	37.69	40.89	-3.20	Pass
3675.0	64QAM	10.67	11.54	14.14	24.00	38.14	40.82	-2.68	Pass
3695.0	64QAM	10.64	11.11	13.89	24.00	37.89	40.91	-3.02	Pass
EBW:					**20 MHz**				
3660	BPSK	12.16	13.73	16.03	24.00	40.03	43.63	-3.60	Pass
3675	BPSK	12.09	13.96	16.14	24.00	40.14	43.66	-3.52	Pass
3690	BPSK	12.47	13.73	16.16	24.00	40.16	43.63	-3.47	Pass
3660.0	64QAM	12.52	14.12	16.40	24.00	40.40	43.64	-3.24	Pass
3675.0	64QAM	12.07	13.95	16.12	24.00	40.12	43.65	-3.53	Pass
3690.0	64QAM	13.08	14.28	16.73	24.00	40.73	43.65	-2.92	Pass

* - Pmeas, dBm = 10 log {10^[P(dBm,RF#1)/10]+ 10^([P(dBm, RF#2)/10]}

NOTE1: the EUT was configured to produce maximum conducted RF power for declared Antenna gain of 25 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits comply with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

Full description is given in Appendix A.

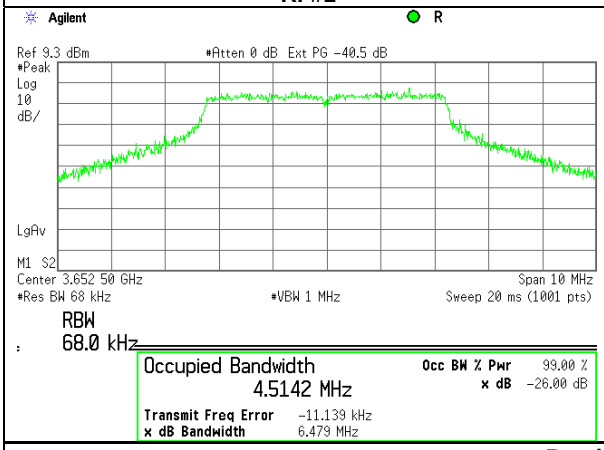
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.37 The 26 dB EBW, band power and peak output power density test results at low frequency

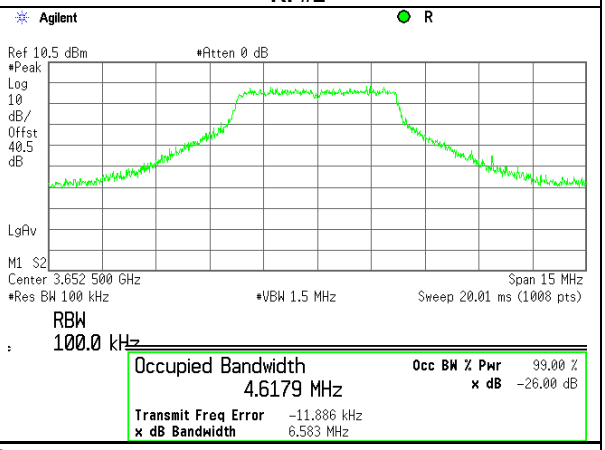
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

26dB EBW

RF#1

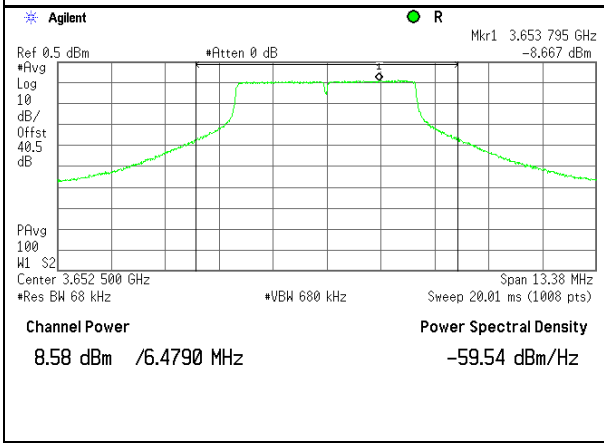


RF#2

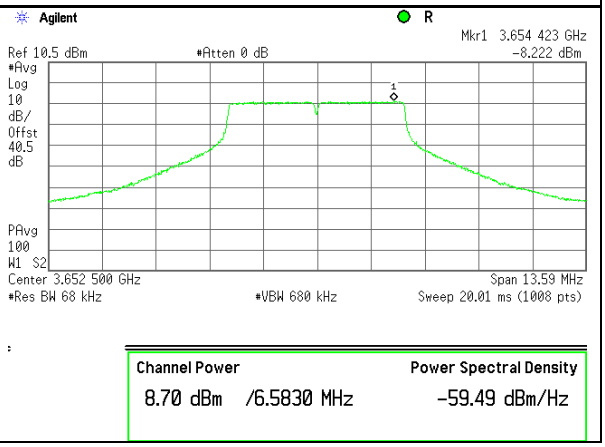


Band Power

RF#1



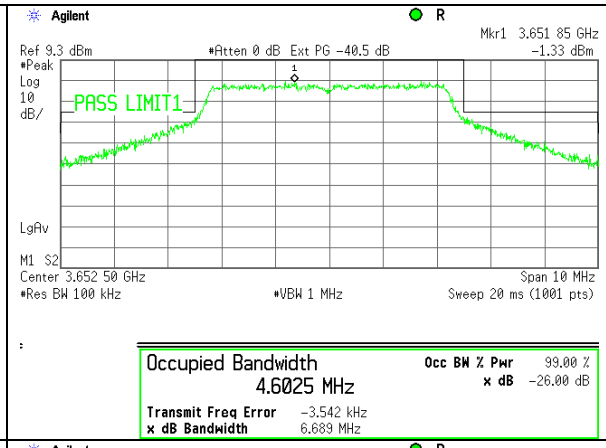
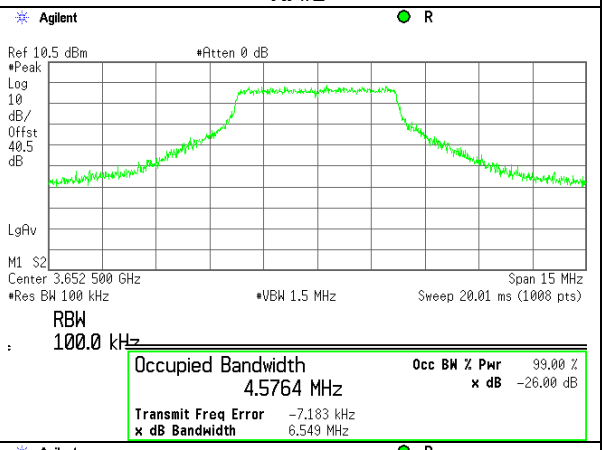
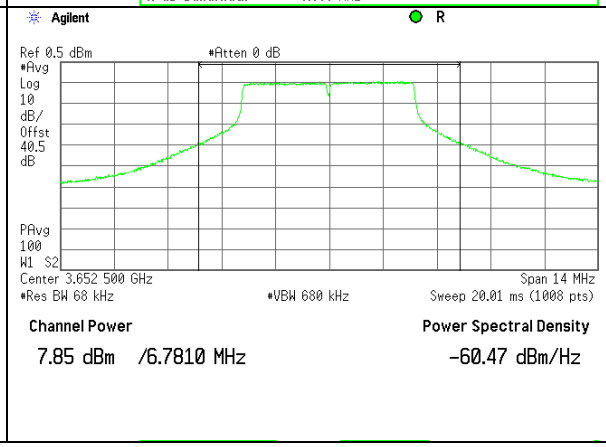
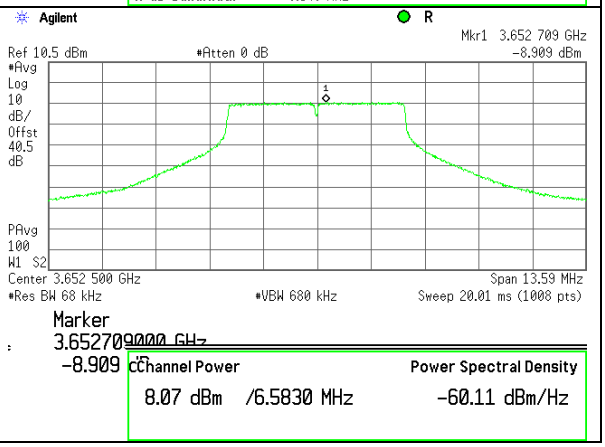
RF#2



Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.38 The 26 dB EBW, band power and peak output power density test results at low frequency

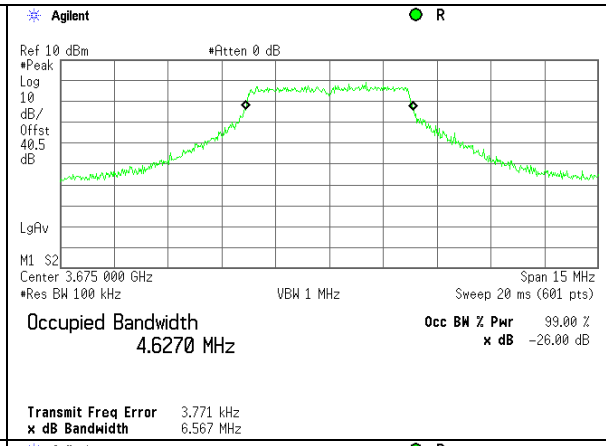
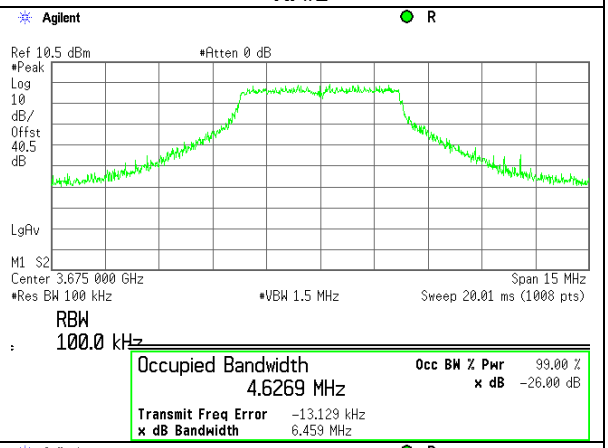
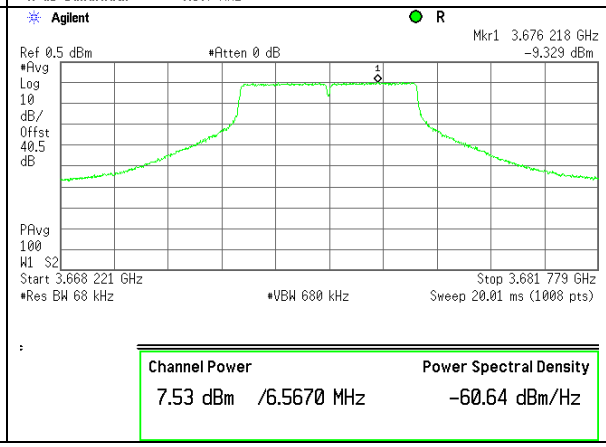
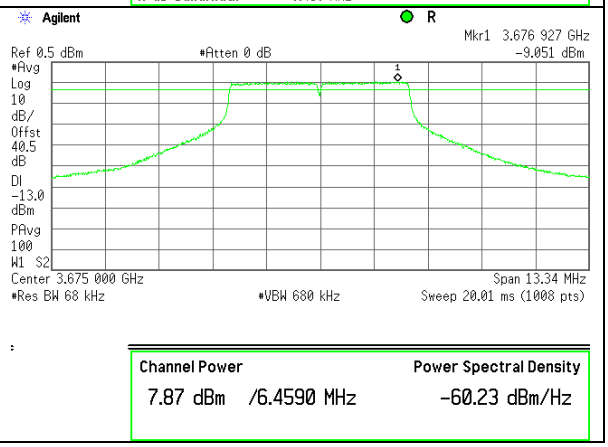
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.39 The 26 dB EBW, band power and peak output power density test results at mid frequency

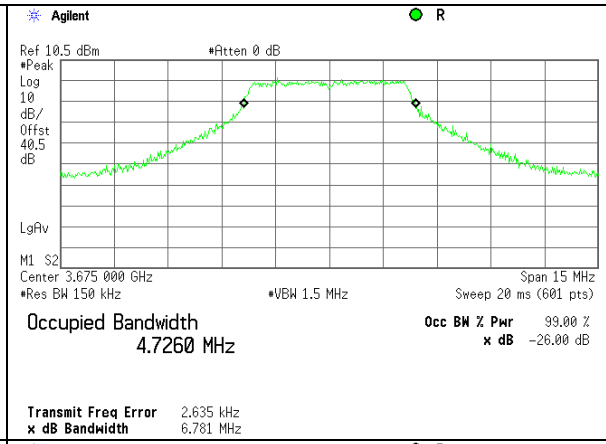
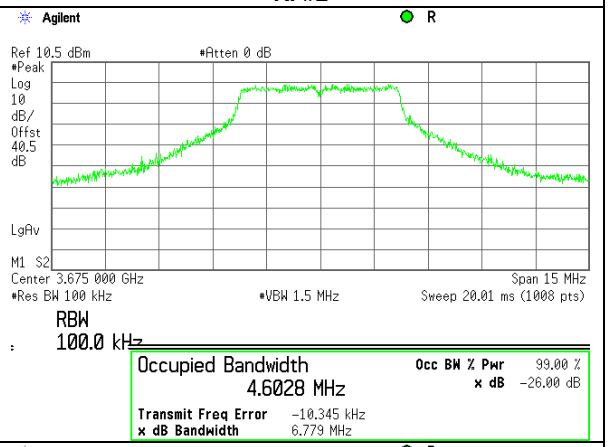
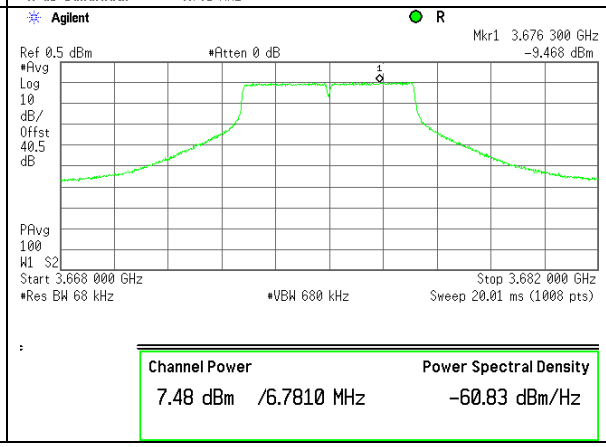
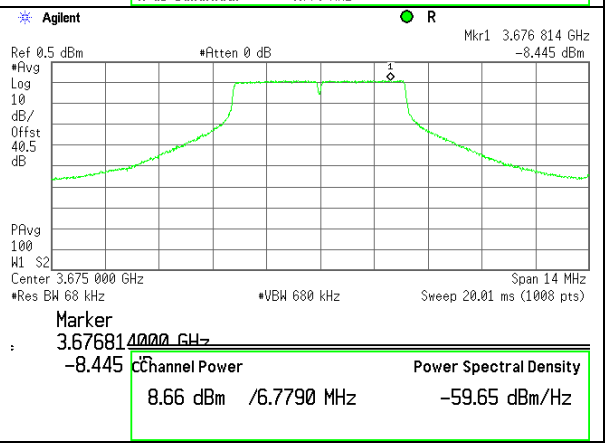
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.40 The 26 dB EBW, band power and peak output power density test results at mid frequency

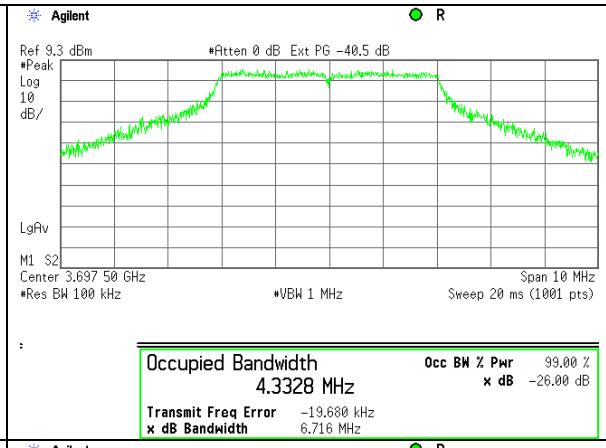
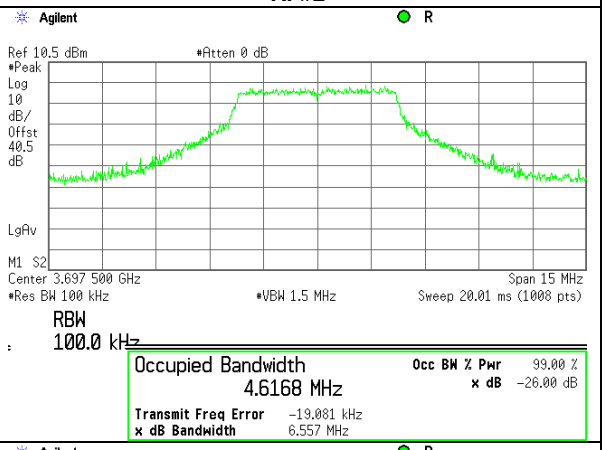
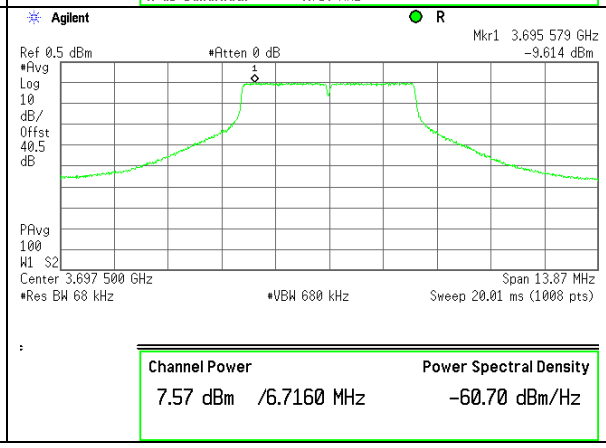
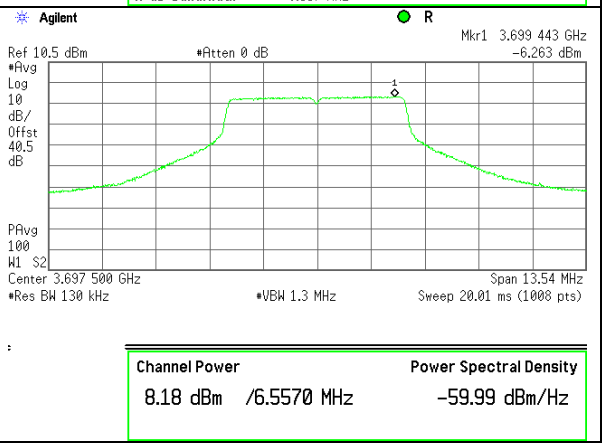
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.41 The 26 dB EBW, band power and peak output power density test results at high frequency

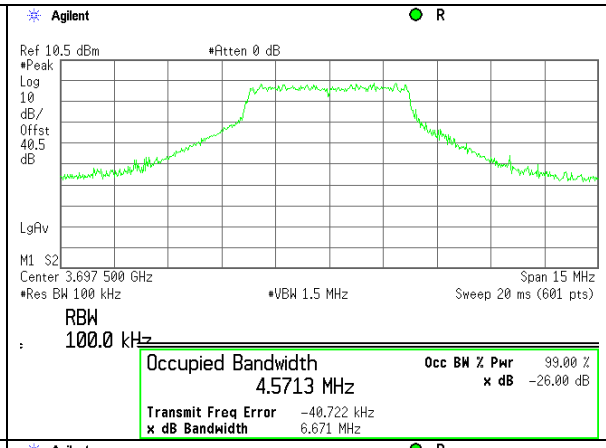
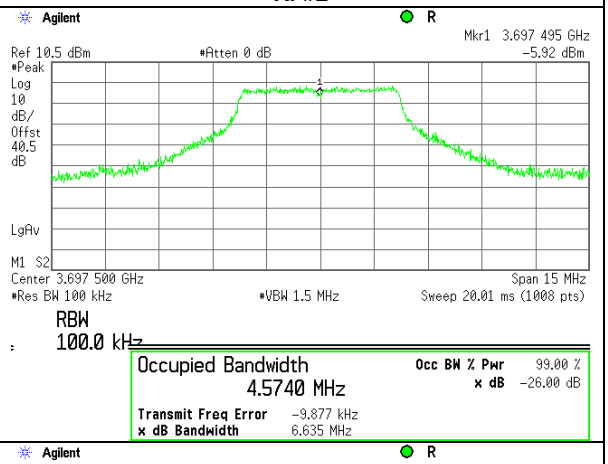
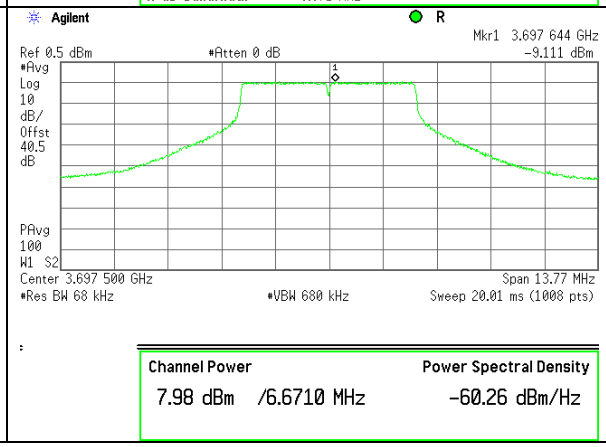
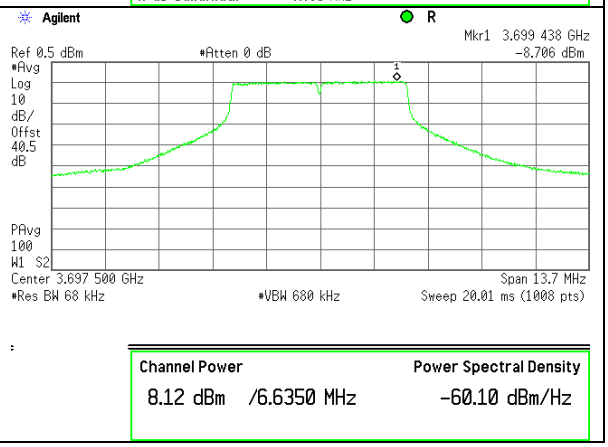
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.42 The 26 dB EBW, band power and peak output power density test results at high frequency

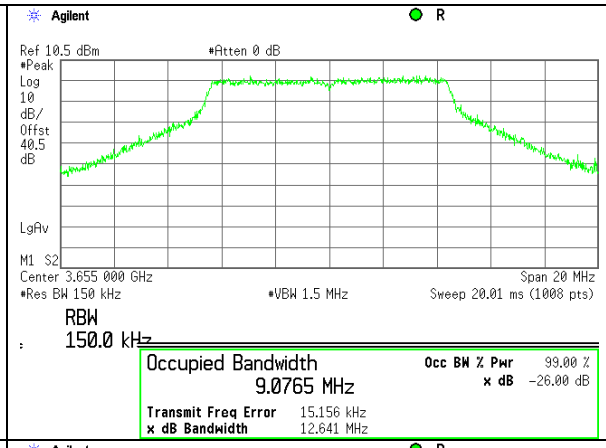
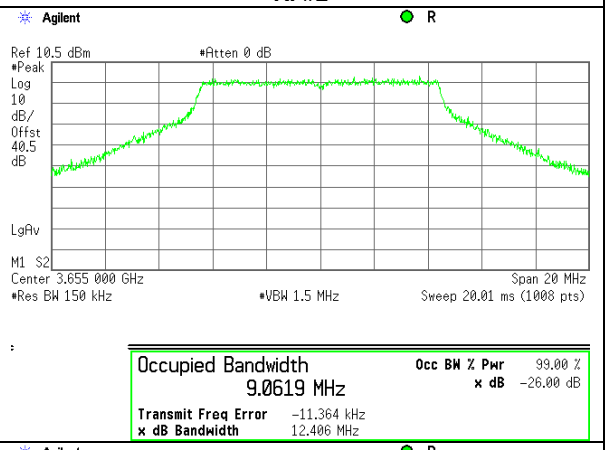
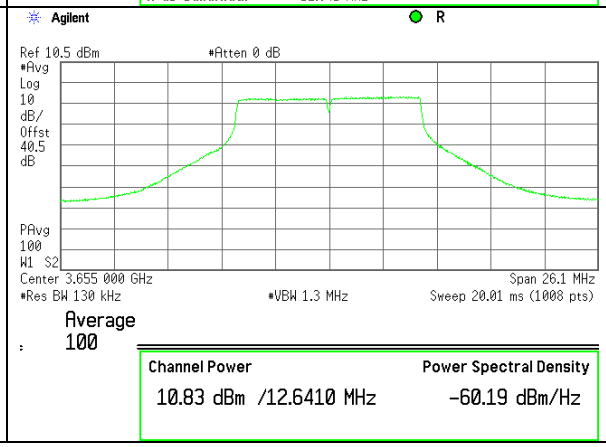
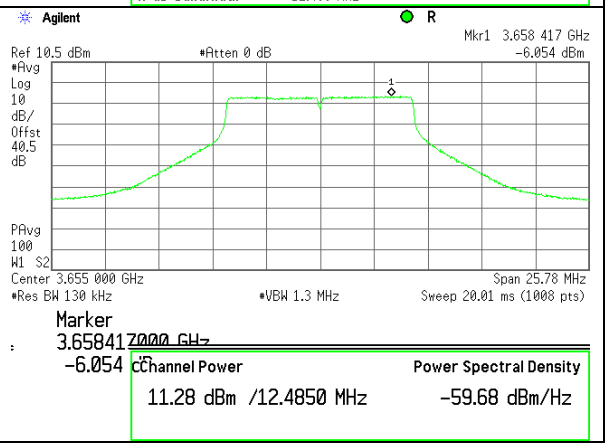
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power (P.W. "6.5")		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.43 The 26 dB EBW, band power and peak output power density test results at low frequency

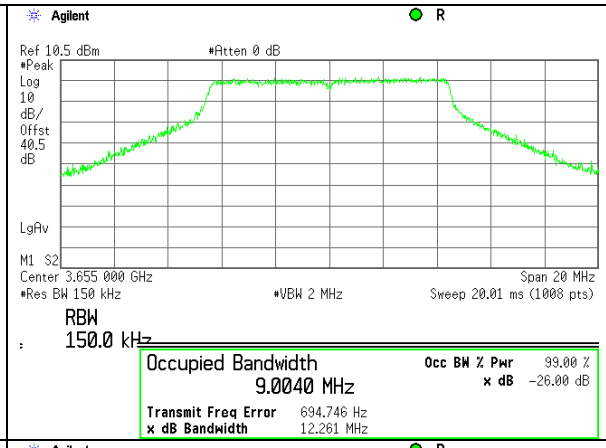
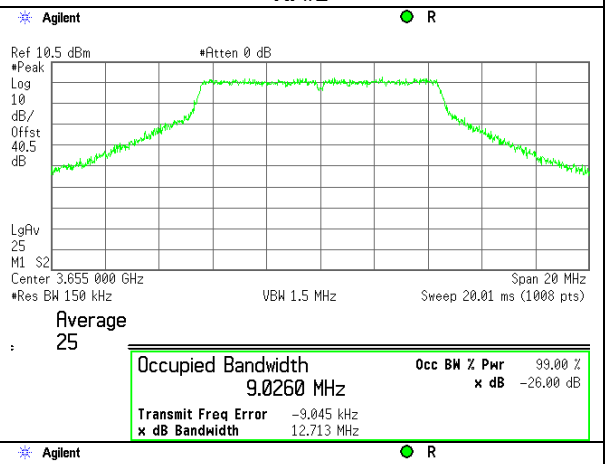
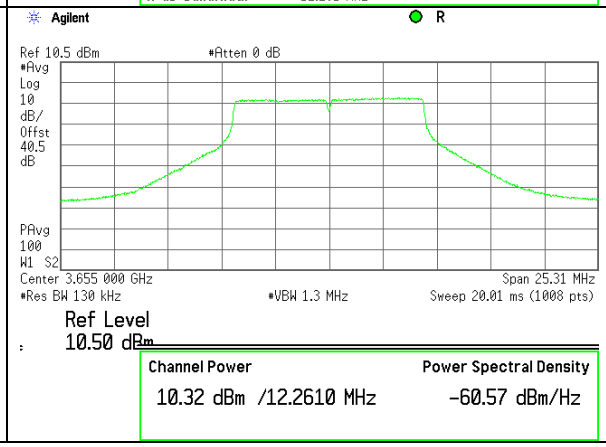
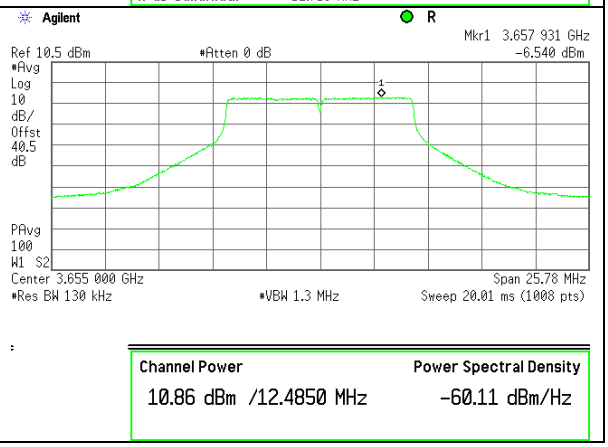
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.44 The 26 dB EBW, band power and peak output power density test results at low frequency

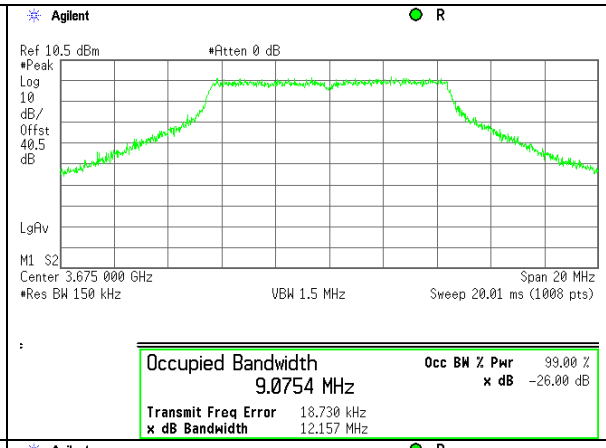
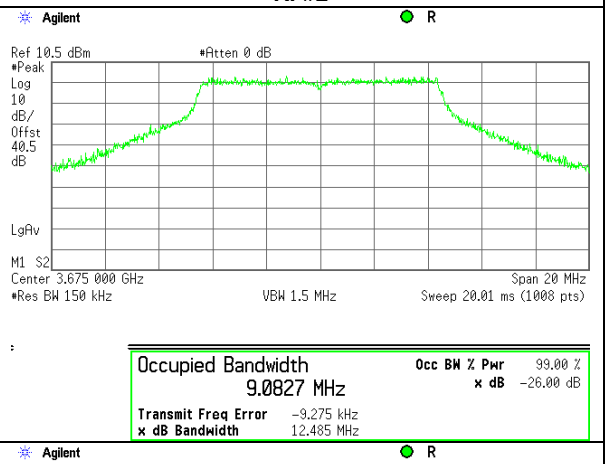
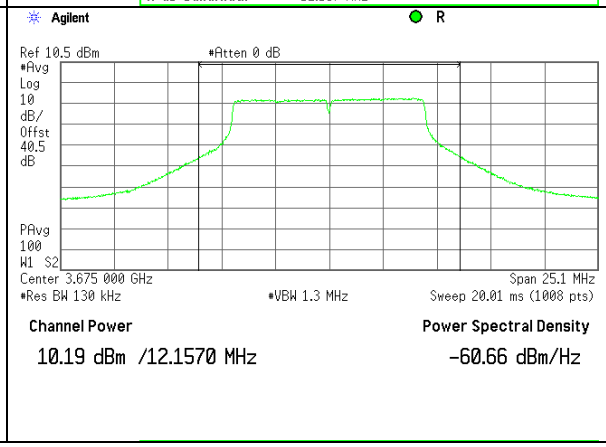
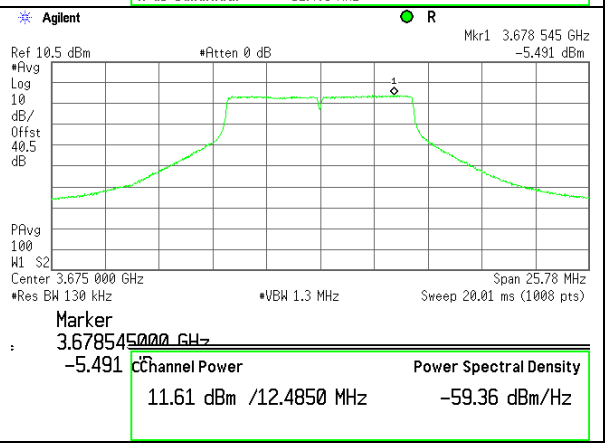
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.45 The 26 dB EBW, band power and peak output power density test results at mid frequency

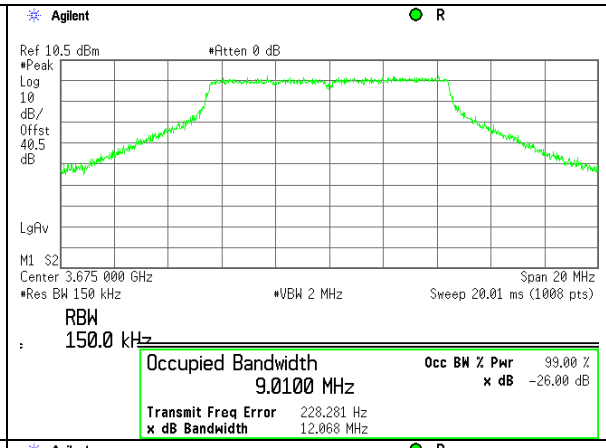
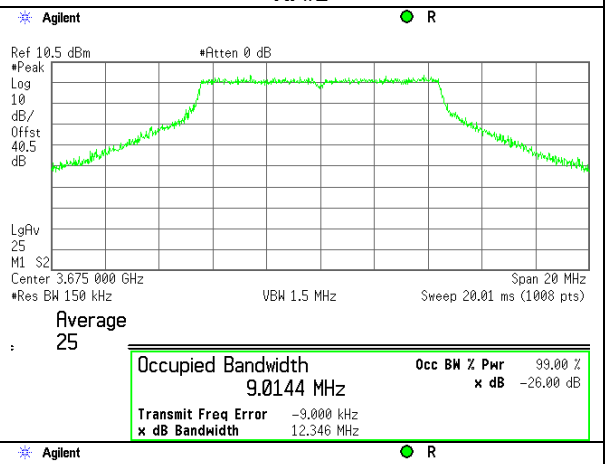
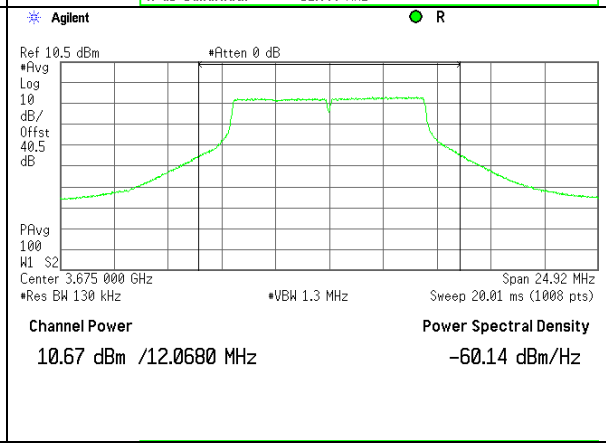
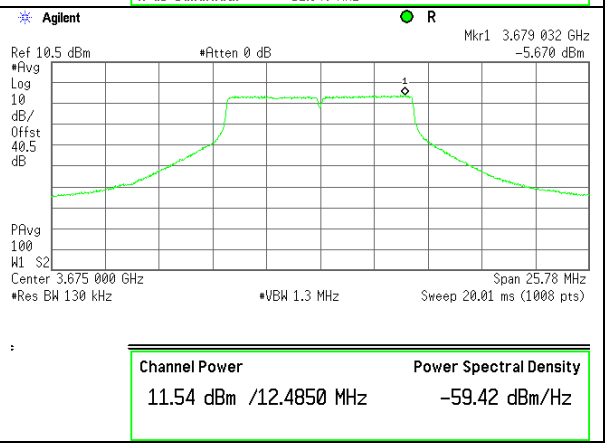
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.46 The 26 dB EBW, band power and peak output power density test results at mid frequency

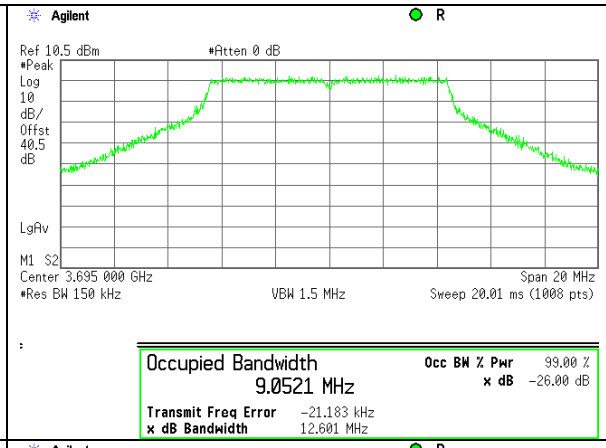
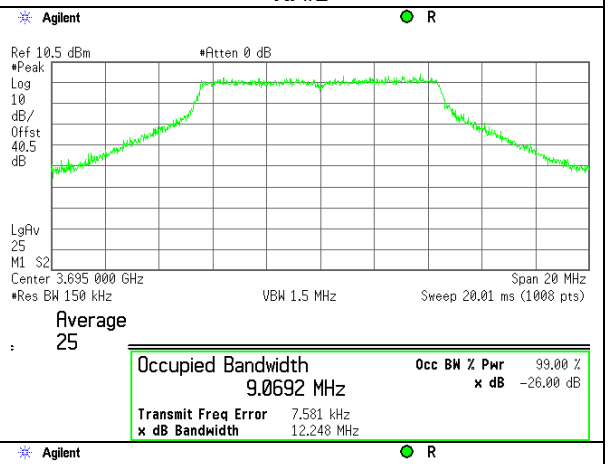
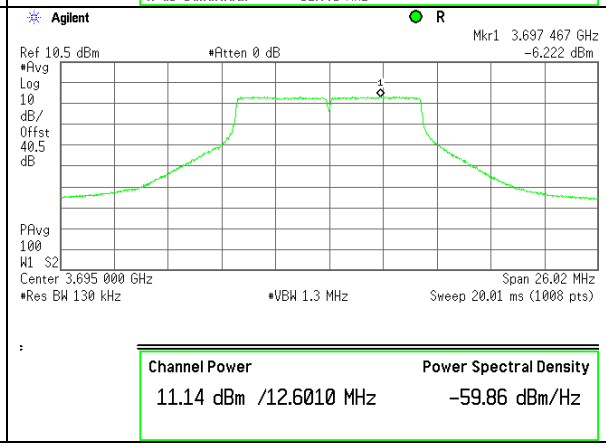
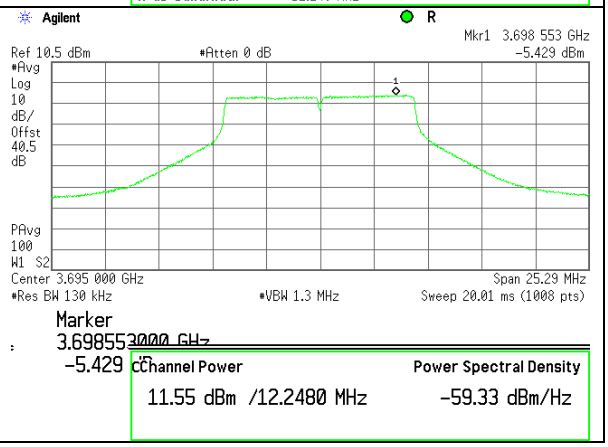
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.47 The 26 dB EBW, band power and peak output power density test results at high frequency

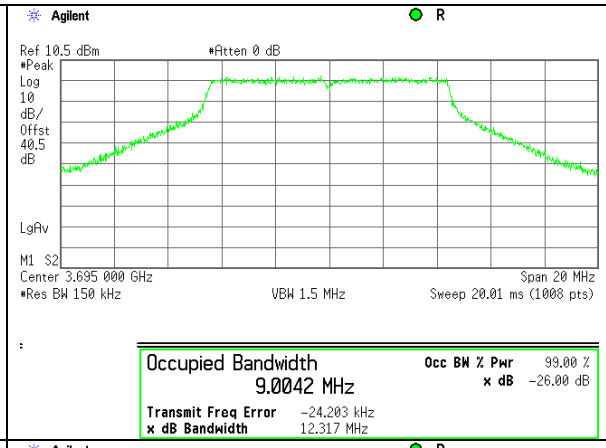
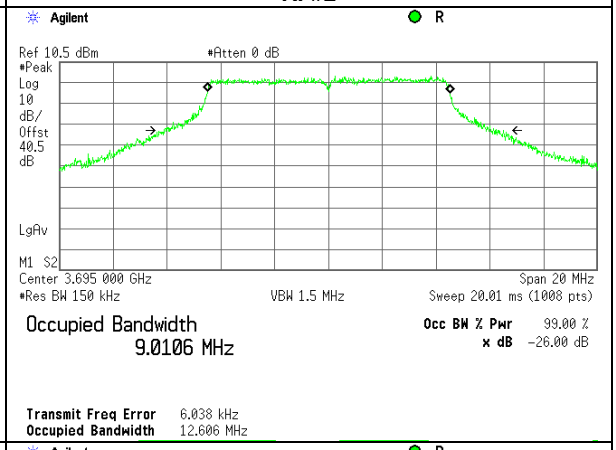
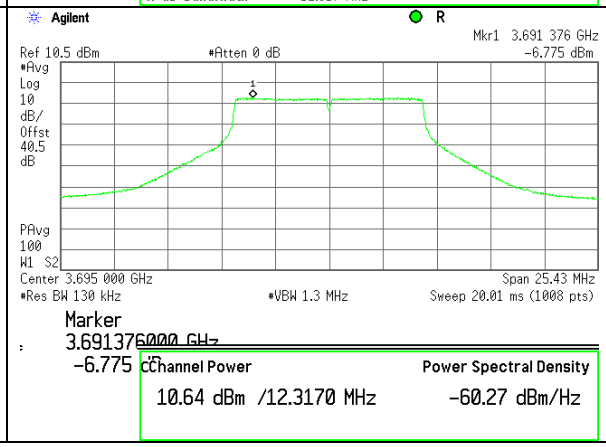
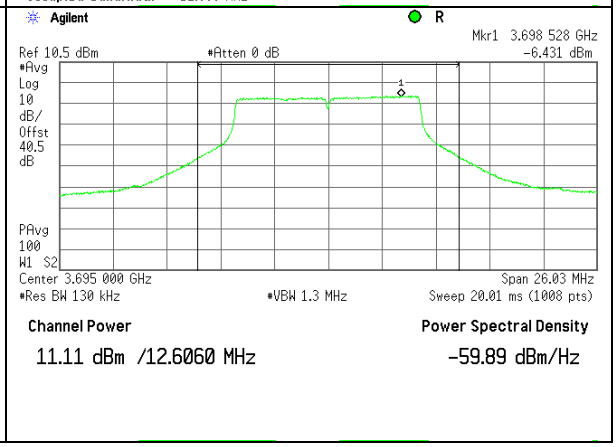
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.48 The 26 dB EBW, band power and peak output power density test results at high frequency

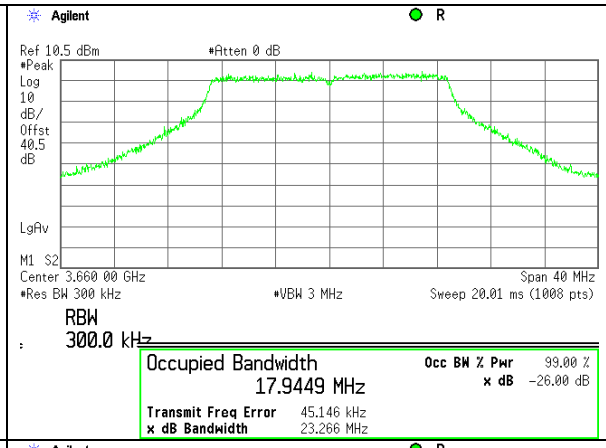
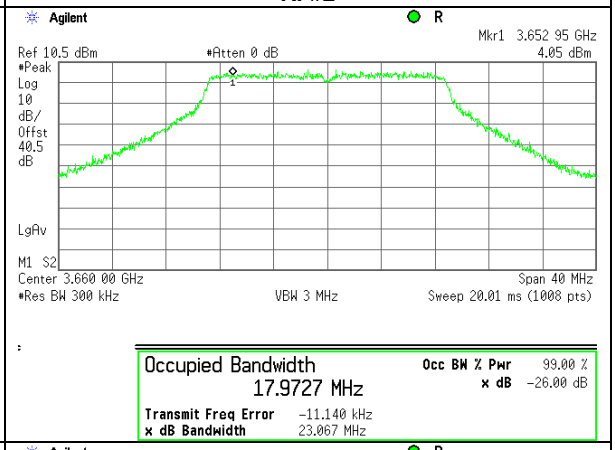
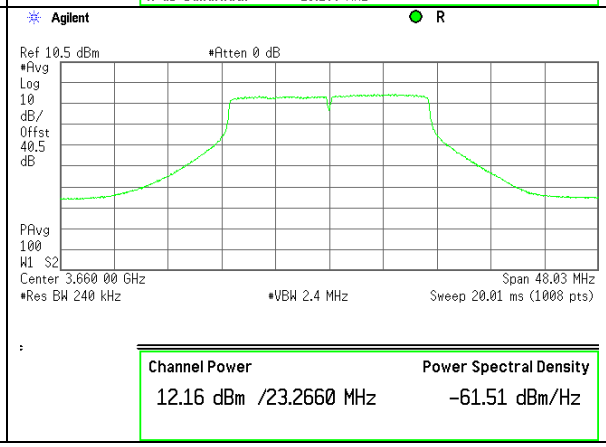
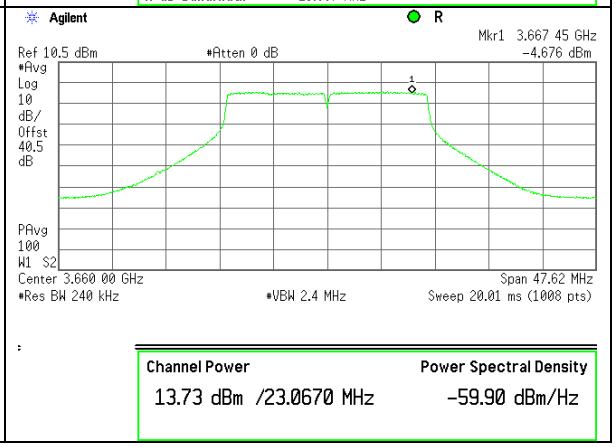
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.49 The 26 dB EBW, band power and peak output power density test results at low frequency

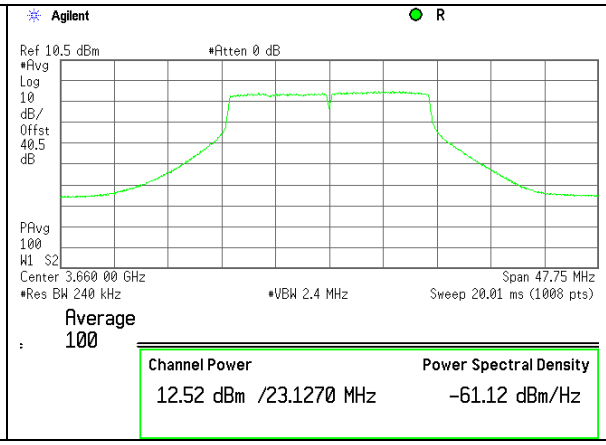
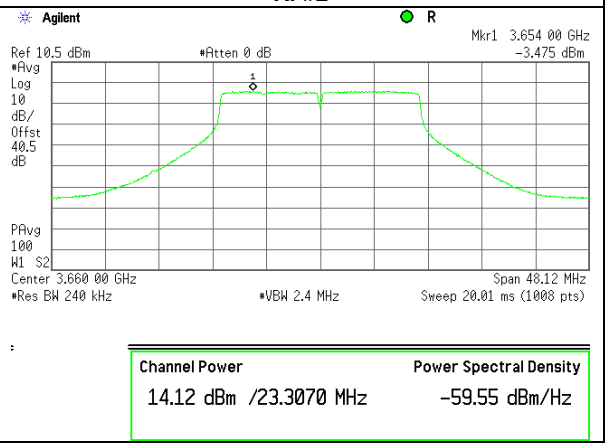
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.50 The 26 dB EBW, band power and peak output power density test results at low frequency

CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

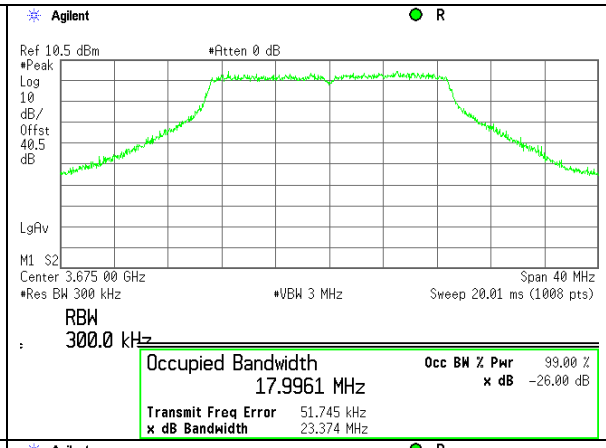
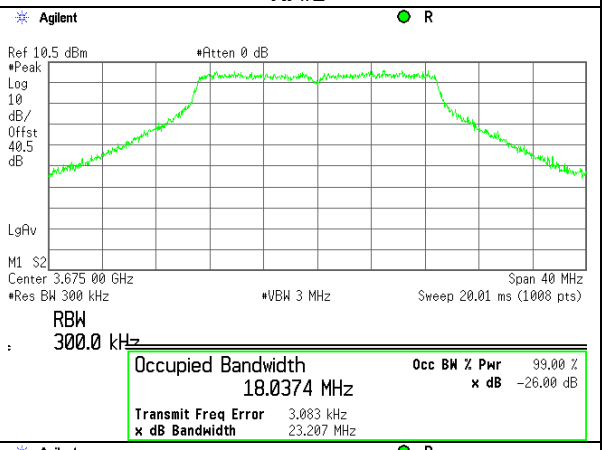
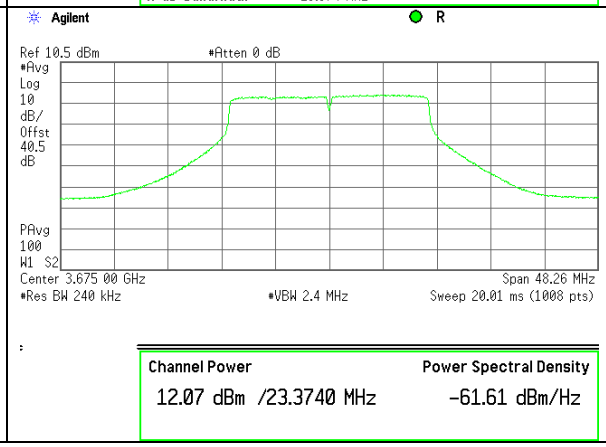
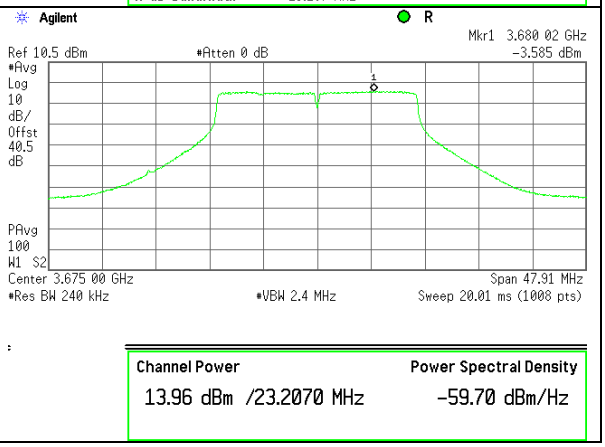
RF#1	**RF#2**
	

Band Power

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.51 The 26 dB EBW, band power and peak output power density test results at mid frequency

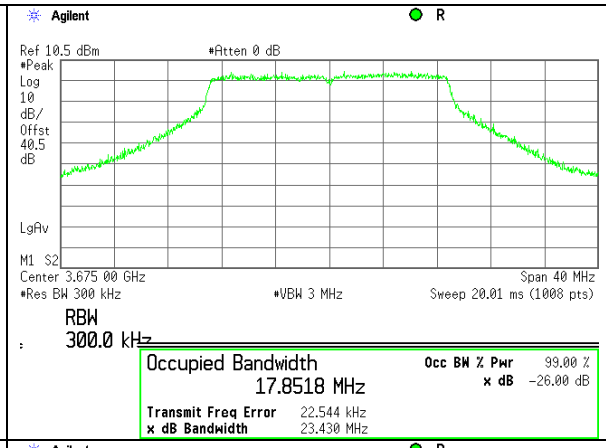
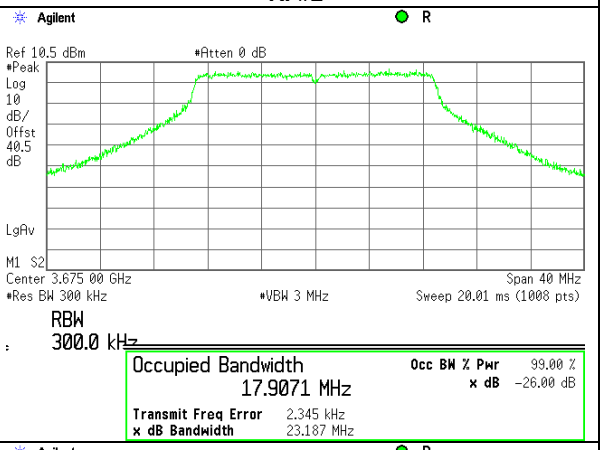
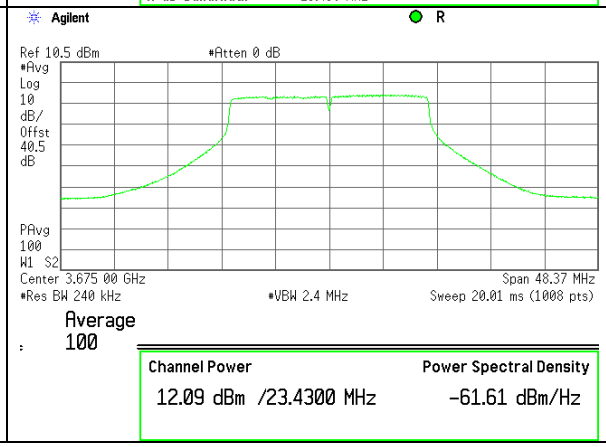
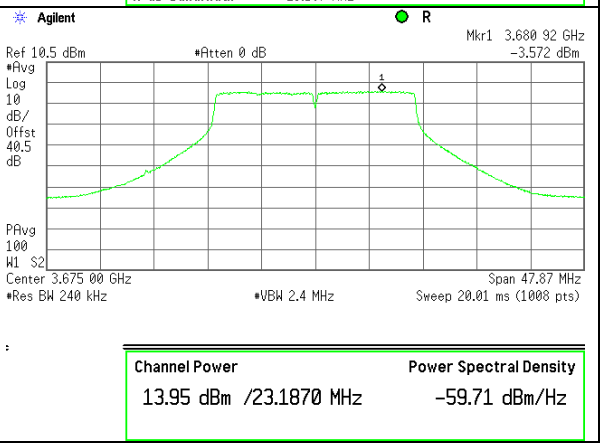
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.52 The 26 dB EBW, band power and peak output power density test results at mid frequency

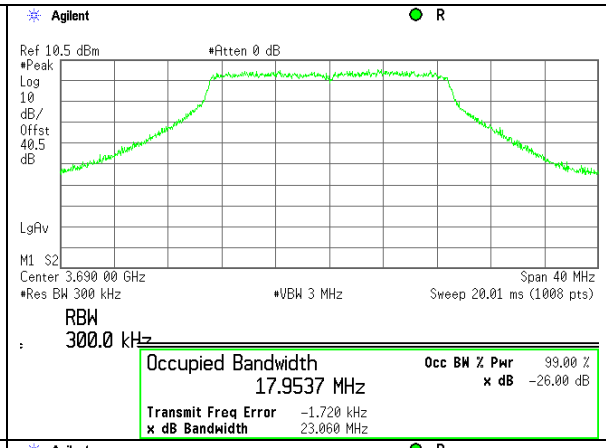
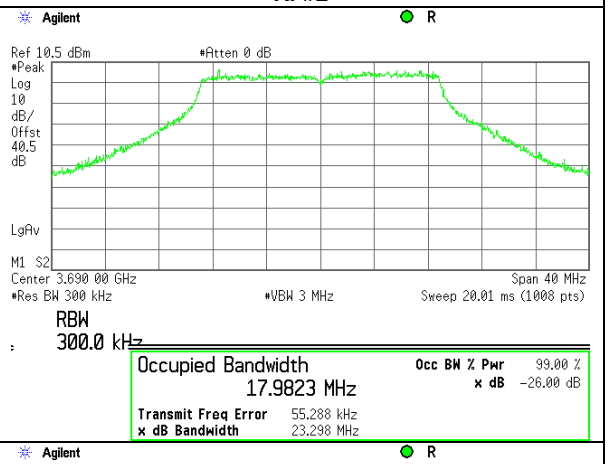
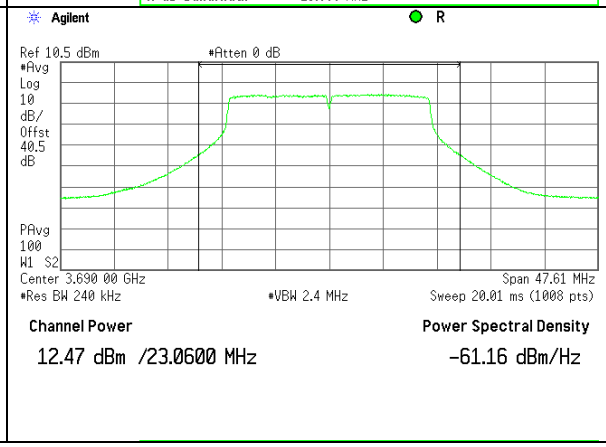
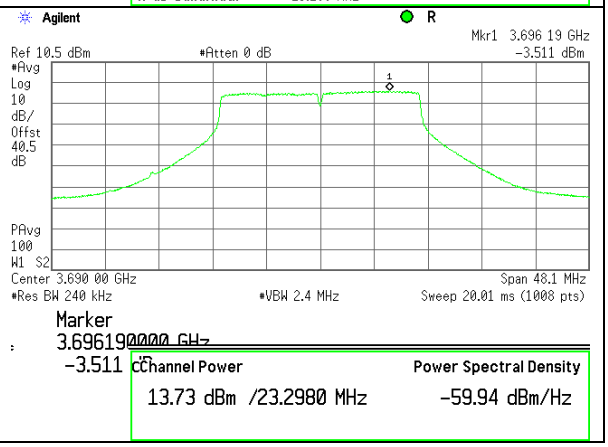
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.53 The 26 dB EBW, band power and peak output power density test results at high frequency

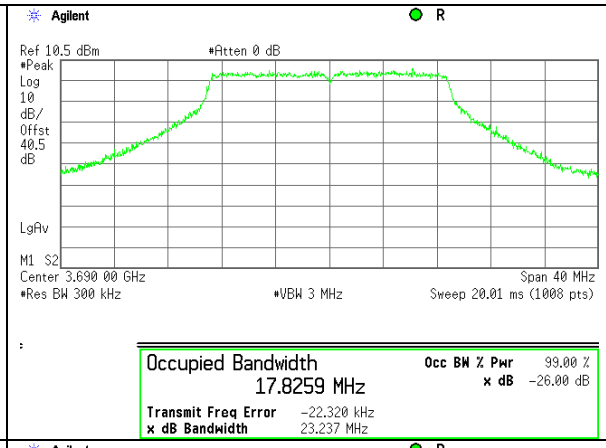
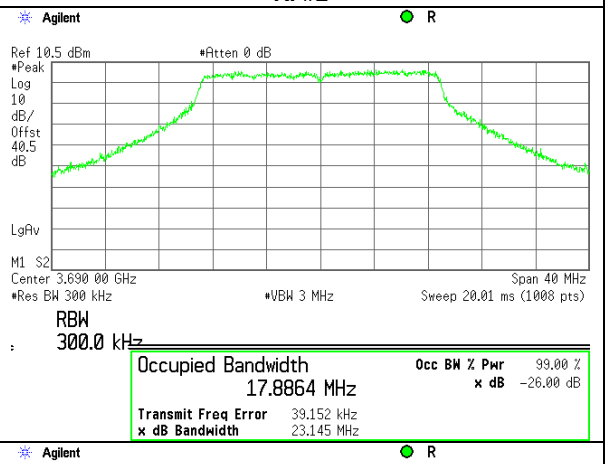
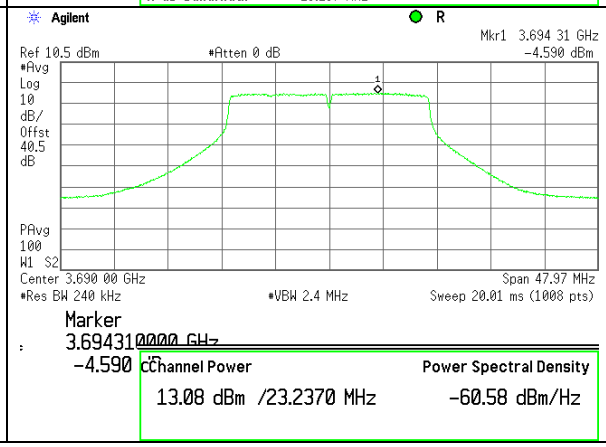
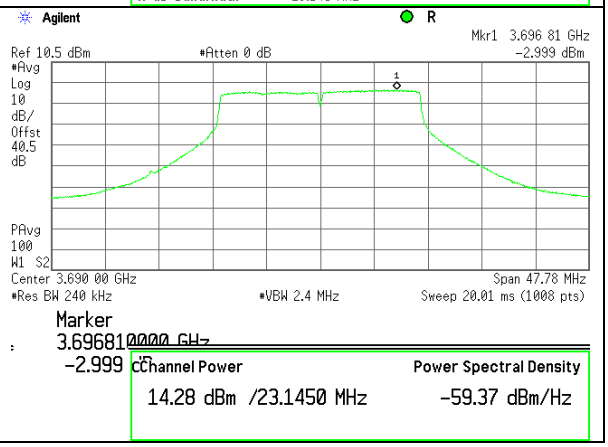
CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.54 The 26 dB EBW, band power and peak output power density test results at high frequency

CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi

	RF#1	RF#2
26dB EBW		
Band Power		

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	8/11/2010		
Temperature: 25 ºC	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Table 7.1.8 The 26 dB EBW test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Power meter
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 13.5 dBi

EBW: 5 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3652.5	BPSK	6.652	25	38.230	24.730
3675.0	BPSK	6.407	25	38.067	24.567
3697.5	BPSK	6.616	25	38.206	24.706
3652.5	64QAM	6.68	25	38.248	24.748
3675.0	64QAM	6.676	25	38.245	24.745
3697.5	64QAM	6.606	25	38.199	24.699

EBW: 10 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3656.0	BPSK	12.117	25	40.834	27.334
3675.0	BPSK	12.047	25	40.809	27.309
3694.0	BPSK	12.065	25	40.815	27.315
3656.0	64QAM	11.934	25	40.768	27.268
3675.0	64QAM	11.936	25	40.769	27.269
3694.0	64QAM	11.896	25	40.754	27.254

EBW: 20 MHz

Channel, MHz	Modulation	EBW, MHz	Output power limit, W/25MHz	Limit for measured EBW*, dBm	Limit with respect to the antenna assembly gain**, dBm
3661.0	BPSK	22.561	25	43.534	30.034
3675.0	BPSK	22.63	25	43.547	30.047
3689.0	BPSK	22.815	25	43.582	30.082
3661.0	64QAM	22.418	25	43.506	30.006
3675.0	64QAM	22.605	25	43.542	30.042
3689.0	64QAM	23.301	25	43.674	30.174

* - Limit for EBW = 10*LOG((1000 * [Output power limit, W] / 25MHz) / (25MHz / EBW, MHz)), dBm
** - Limit for EBW – Antenna assembly gain.

Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	8/11/2010		
Temperature: 25 ºC	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Table 7.1.9 Peak EIRP output power test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)

Channel, MHz	Modulation	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	P_{meas} *, dBm	Antenna assembly gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB	Verdict
EBW:					**5 MHz**				
3652.5	BPSK	15.07	16.03	18.59	13.50	32.09	38.23	-6.14	Pass
3675.0	BPSK	14.81	15.82	18.35	13.50	31.85	38.07	-6.22	Pass
3697.5	BPSK	14.64	16.20	18.50	13.50	32.00	38.21	-6.21	Pass
3652.5	64QAM	15.11	16.03	18.60	13.50	32.10	38.25	-6.15	Pass
3675.0	64QAM	14.72	15.80	18.30	13.50	31.80	38.25	-6.45	Pass
3697.5	64QAM	15.02	16.09	18.60	13.50	32.10	38.20	-6.10	Pass
EBW:					**10 MHz**				
3656.0	BPSK	21.39	22.53	25.01	13.50	38.51	40.83	-2.32	Pass
3675.0	BPSK	21.42	22.74	25.14	13.50	38.64	40.81	-2.17	Pass
3694.0	BPSK	21.22	22.21	24.75	13.50	38.25	40.82	-2.57	Pass
3656.0	64QAM	21.43	22.39	24.95	13.50	38.45	40.77	-2.32	Pass
3675.0	64QAM	21.79	22.23	25.03	13.50	38.53	40.77	-2.24	Pass
3694.0	64QAM	21.33	22.55	24.99	13.50	38.49	40.75	-2.26	Pass
EBW:					**20 MHz**				
3661	BPSK	21.47	23.32	25.50	13.50	39.00	43.53	-4.53	Pass
3675	BPSK	21.33	23.00	25.26	13.50	38.76	43.55	-4.79	Pass
3689	BPSK	21.29	22.72	25.07	13.50	38.57	43.58	-5.01	Pass
3661.0	64QAM	21.98	23.23	25.66	13.50	39.16	43.51	-4.35	Pass
3675.0	64QAM	21.83	22.86	25.39	13.50	38.89	43.54	-4.65	Pass
3689.0	64QAM	21.54	22.95	25.31	13.50	38.81	43.67	-4.86	Pass

* - Pmeas, dBm = 10 log {10^[P(dBm,RF#1)/10]+ 10^([P(dBm, RF#2)/10]}

NOTE1: the EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits comply with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

Full description is given in Appendix A.

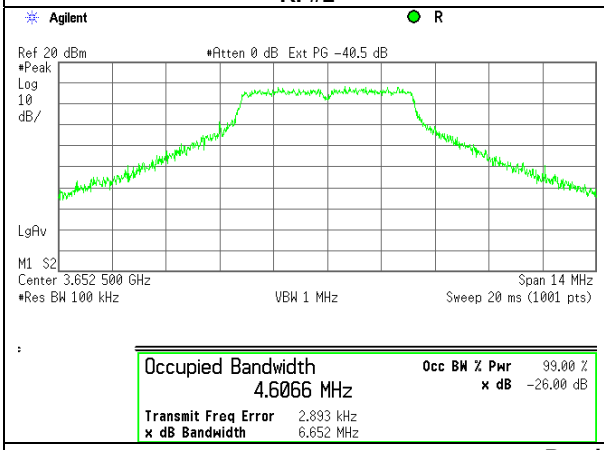
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.55 The 26 dB EBW, band power test results at high frequency

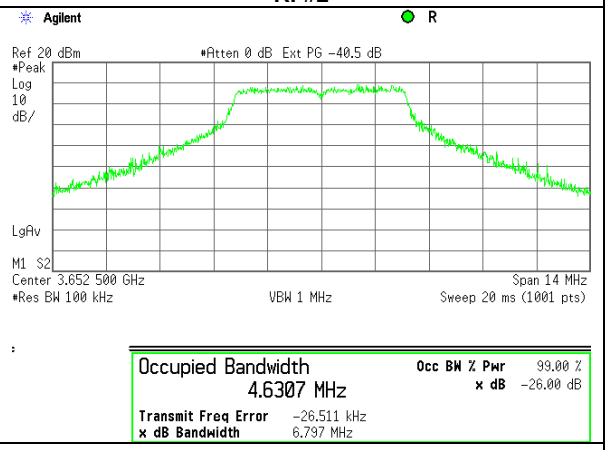
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

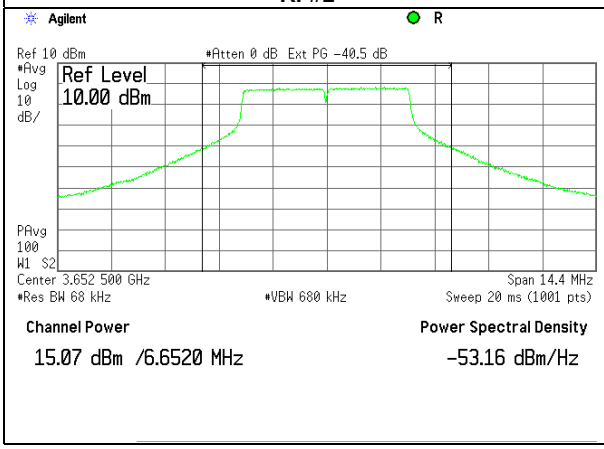


RF#2

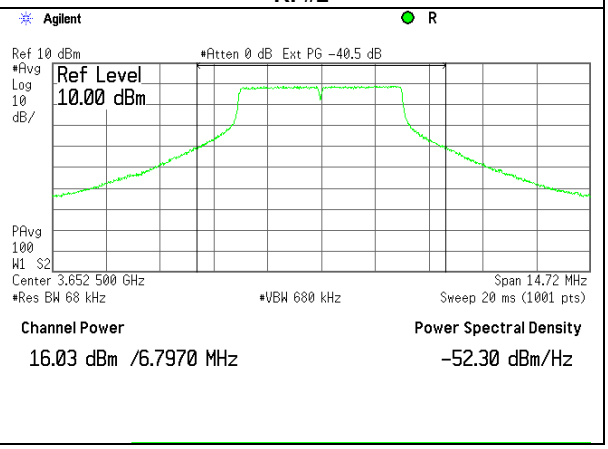


Band power

RF#1



RF#2



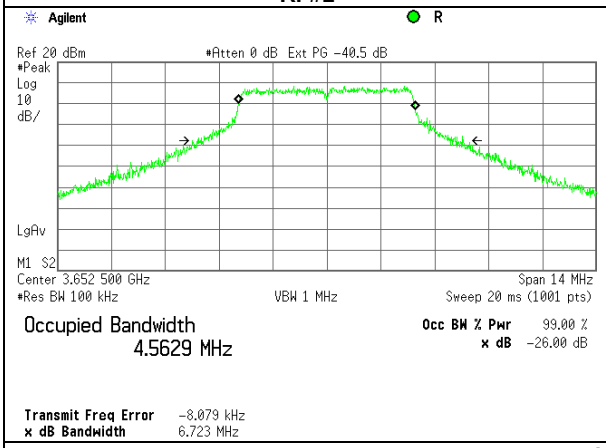
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.56 The 26 dB EBW, band power test results at high frequency

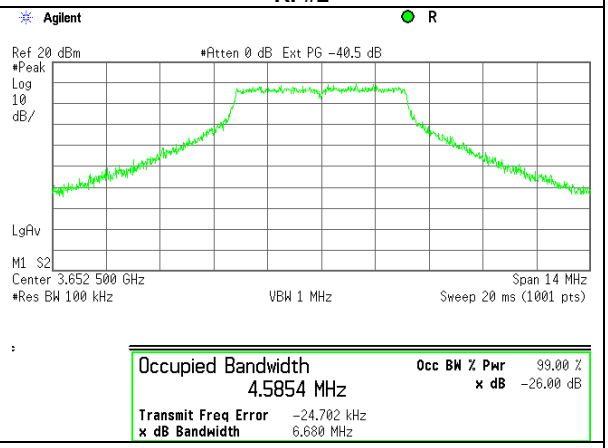
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

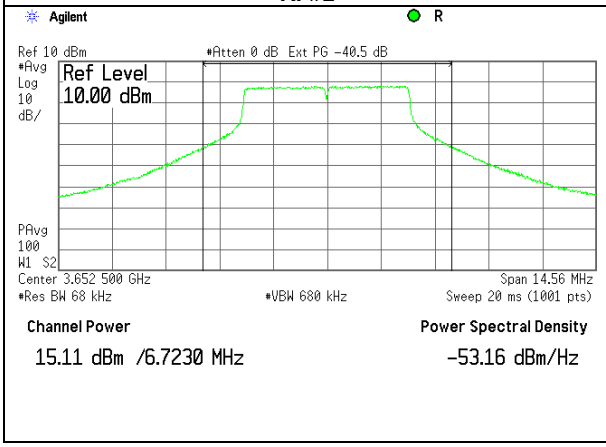


RF#2

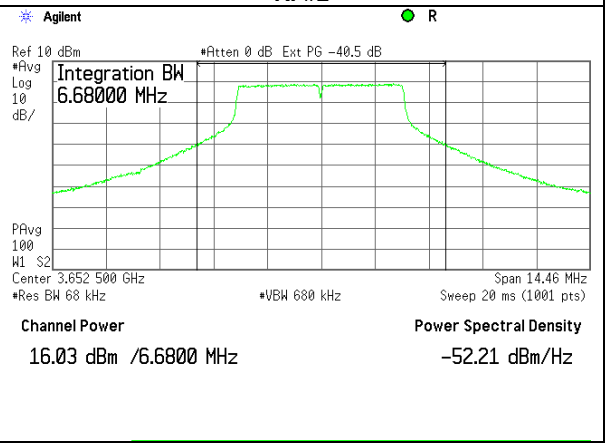


Band power

RF#1



RF#2



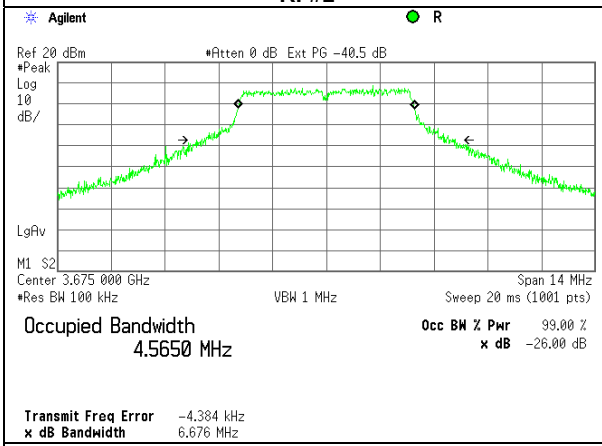
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.57 The 26 dB EBW, band power test results at high frequency

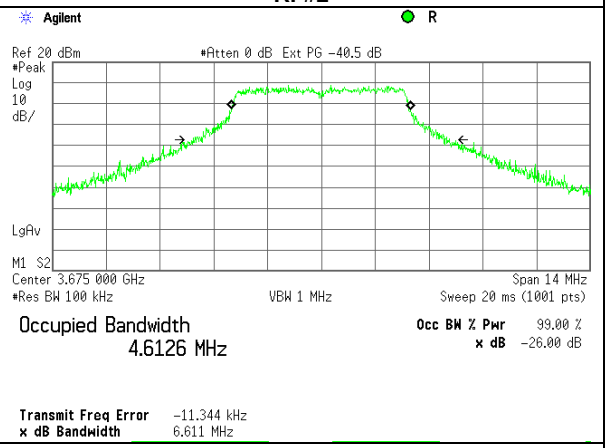
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

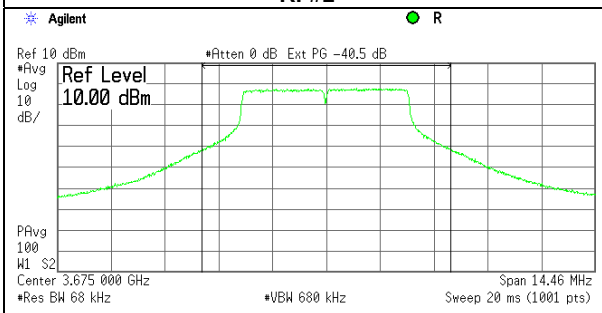


RF#2

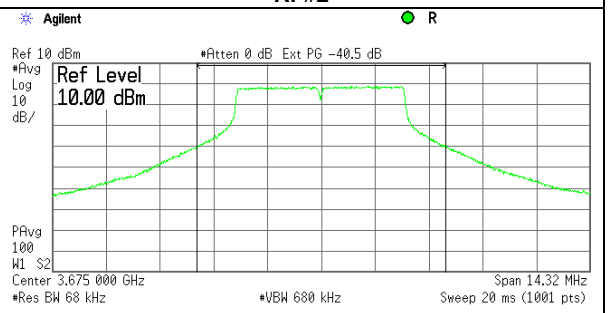


Band power

RF#1



RF#2



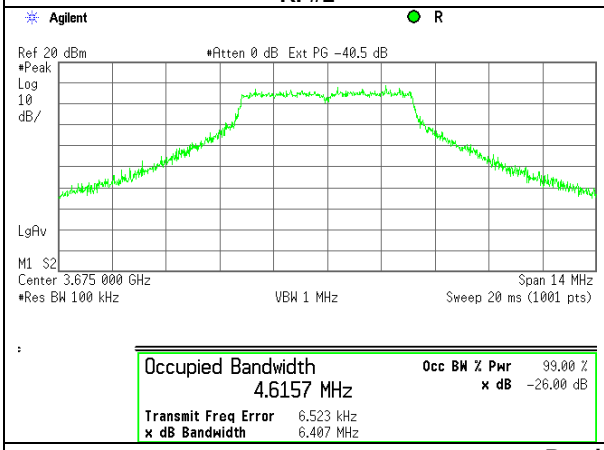
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.58 The 26 dB EBW, band power test results at high frequency

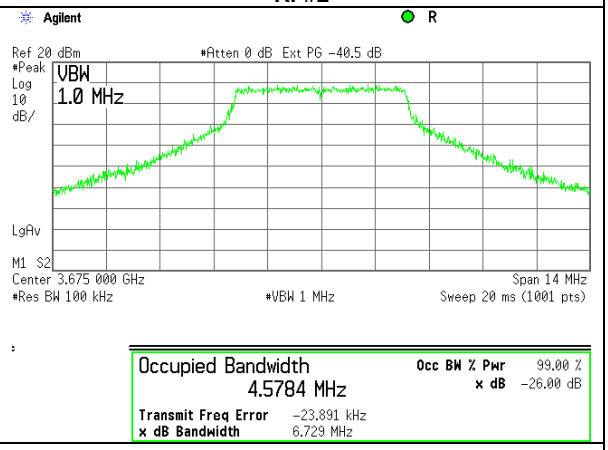
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

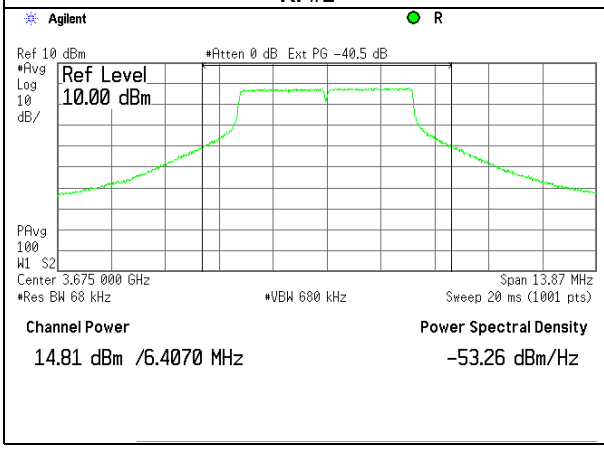


RF#2

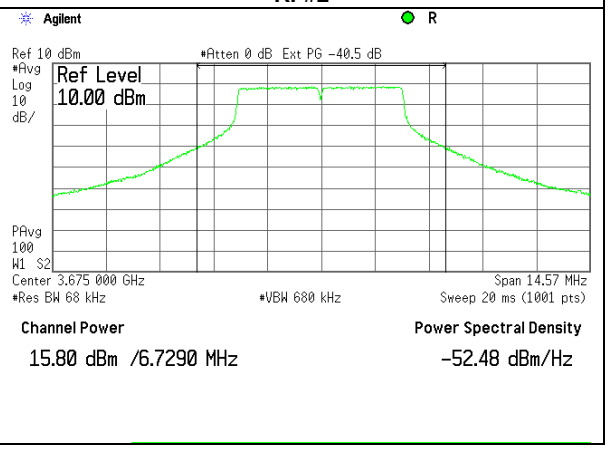


Band power

RF#1



RF#2



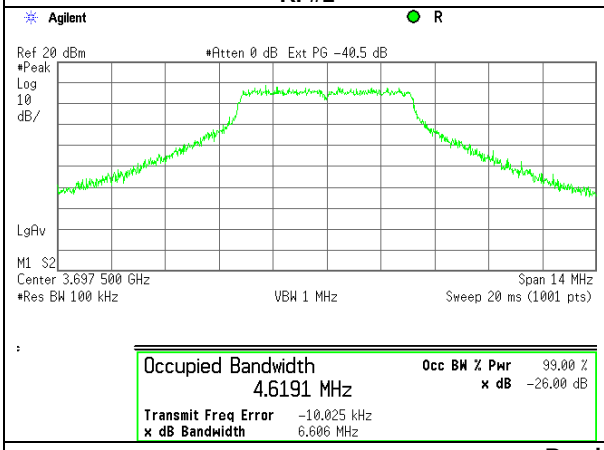
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.59 The 26 dB EBW, band power test results at high frequency

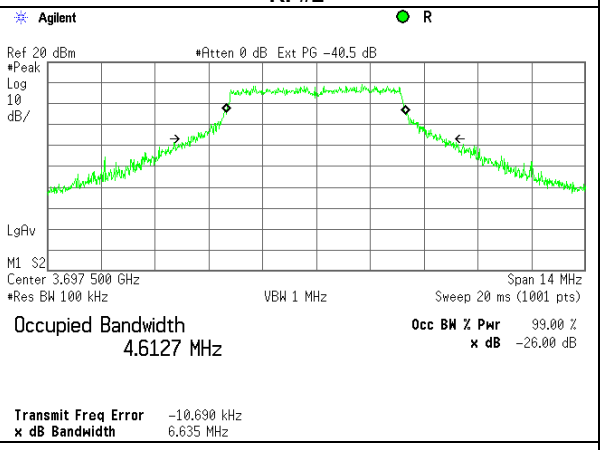
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

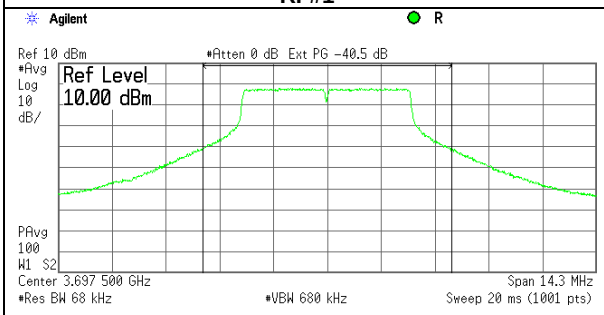


RF#2

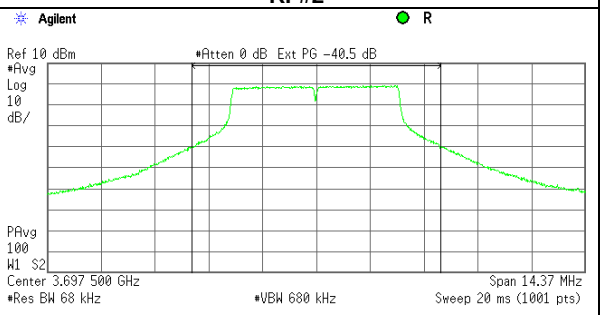


Band power

RF#1



RF#2



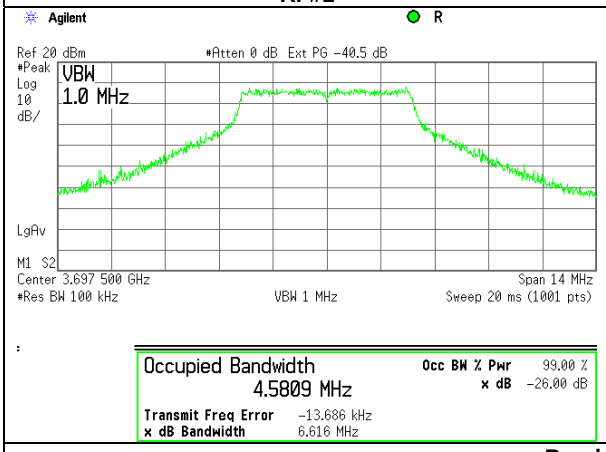
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.60 The 26 dB EBW, band power test results at high frequency

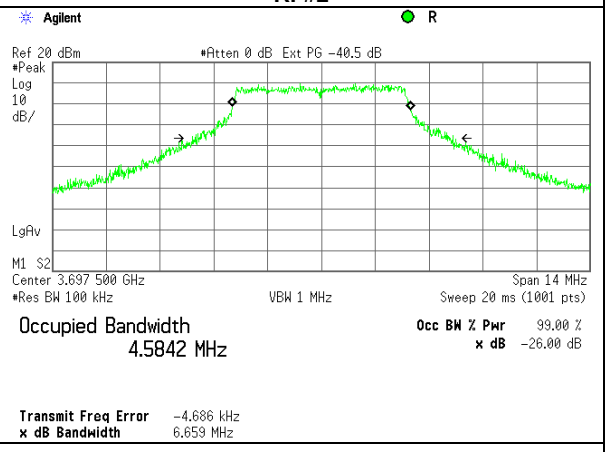
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

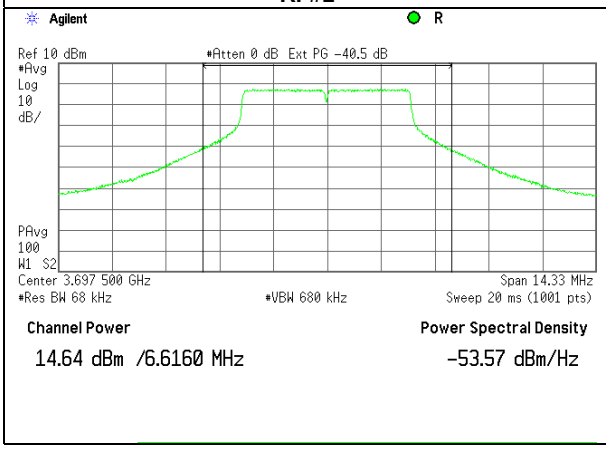


RF#2

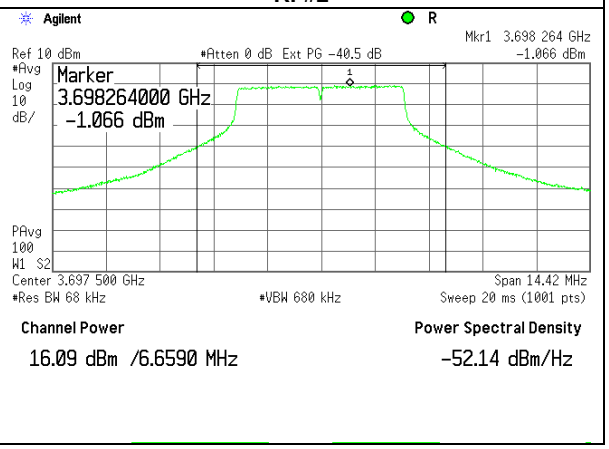


Band power

RF#1



RF#2



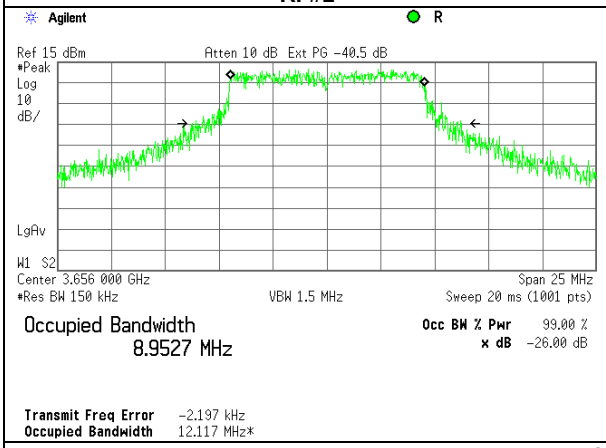
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.61 The 26 dB EBW, band power test results at high frequency

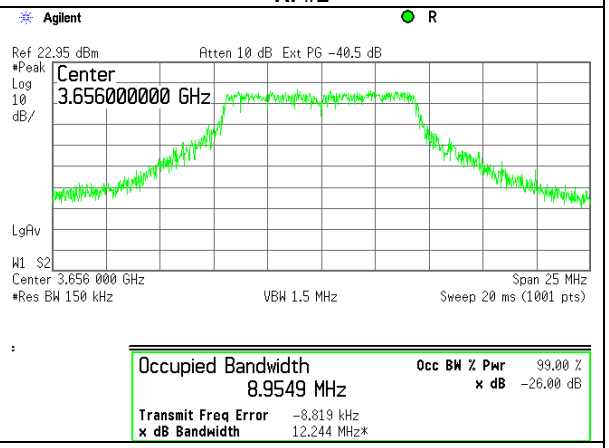
CARRIER FREQUENCY:	3656.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

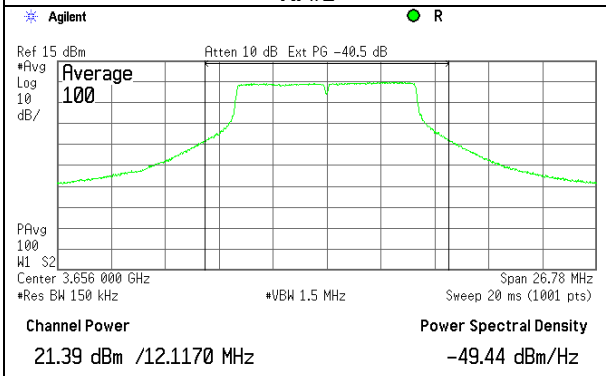


RF#2

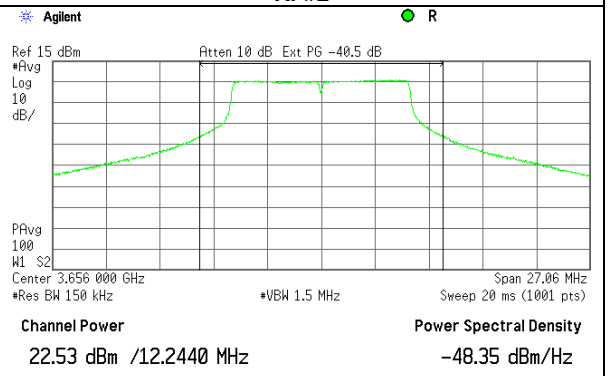


Band power

RF#1



RF#2



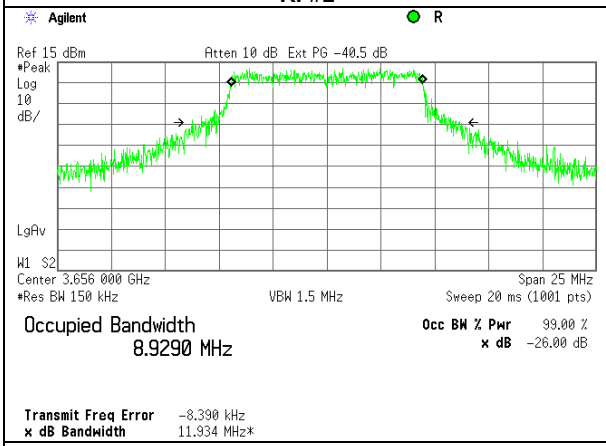
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.62 The 26 dB EBW, band power test results at high frequency

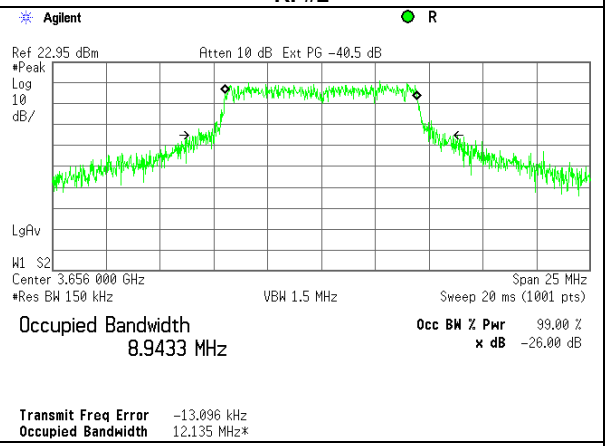
CARRIER FREQUENCY:	3656.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

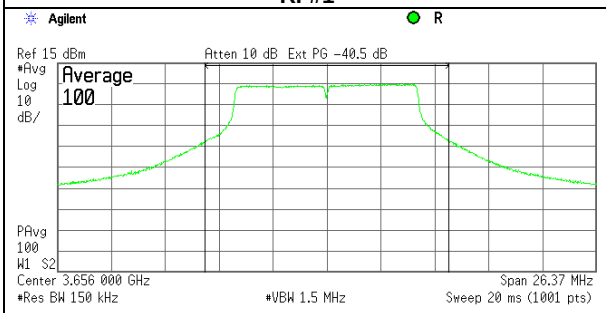


RF#2

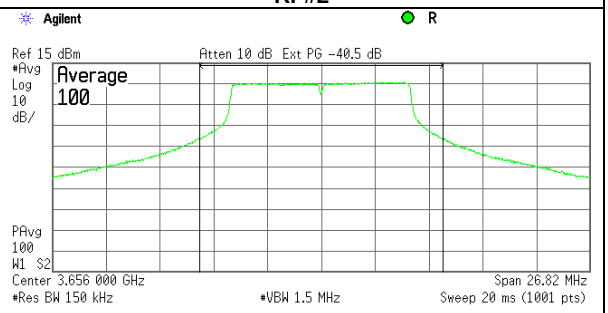


Band power

RF#1



RF#2



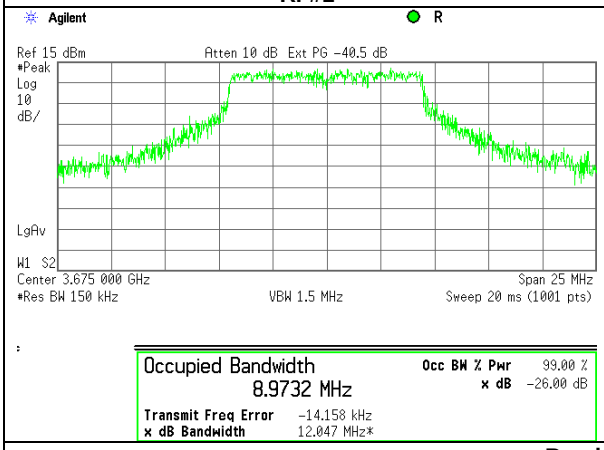
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.63 The 26 dB EBW, band power test results at high frequency

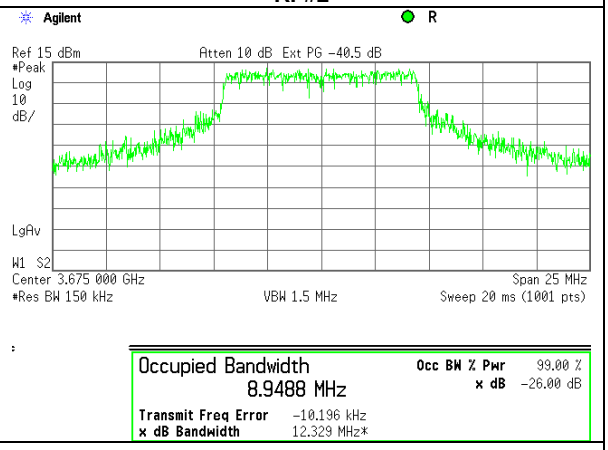
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

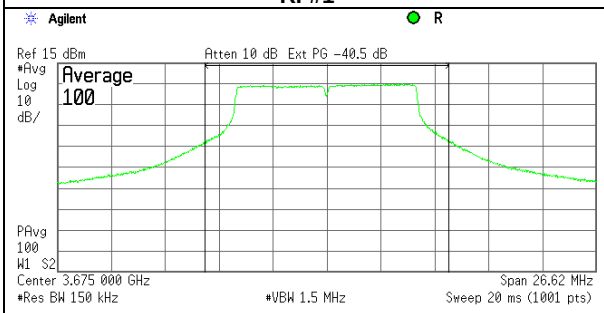


RF#2

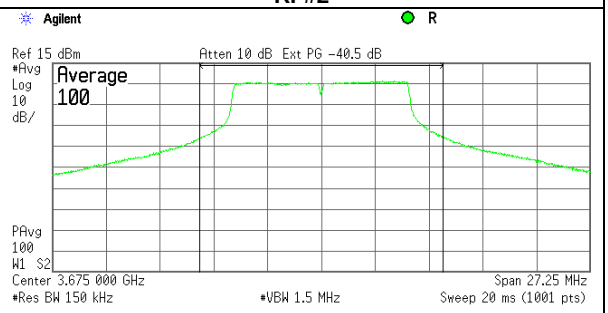


Band power

RF#1



RF#2



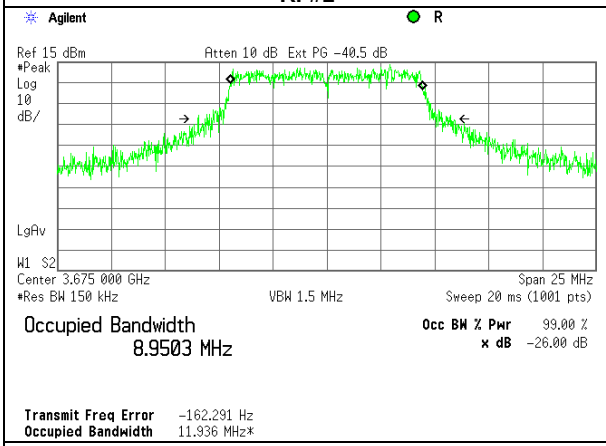
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.64 The 26 dB EBW, band power test results at high frequency

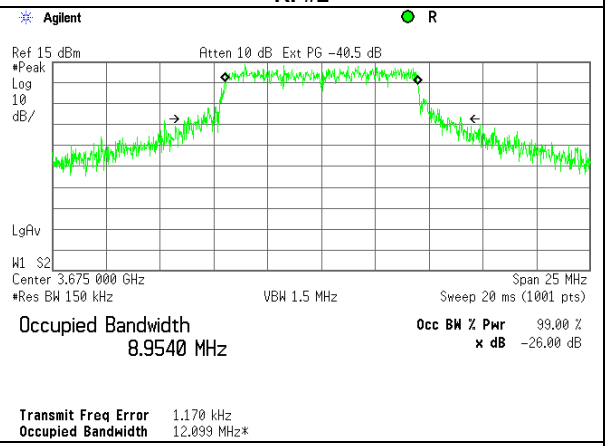
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

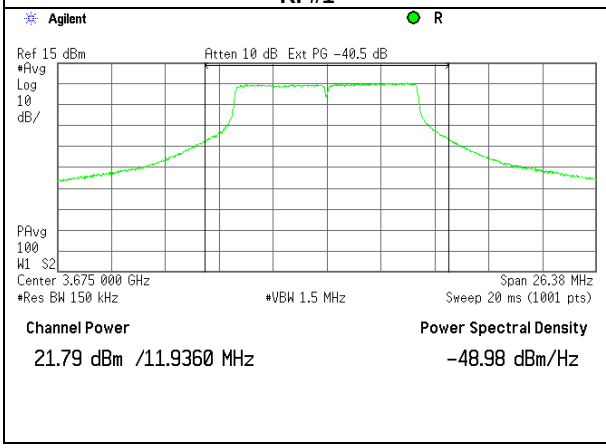


RF#2

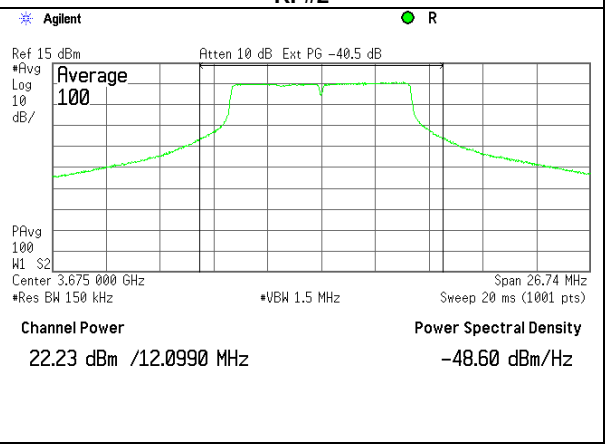


Band power

RF#1



RF#2



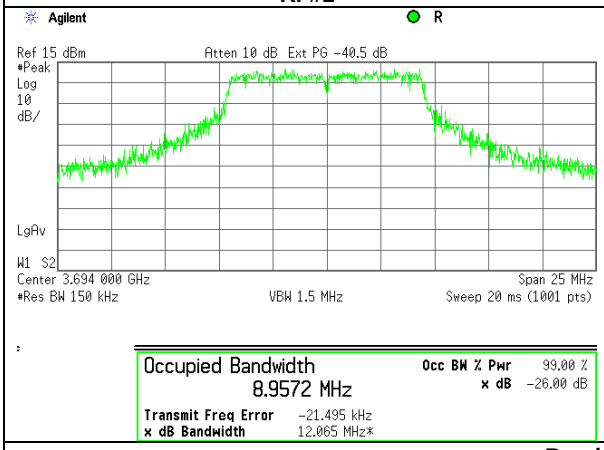
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.65 The 26 dB EBW, band power test results at high frequency

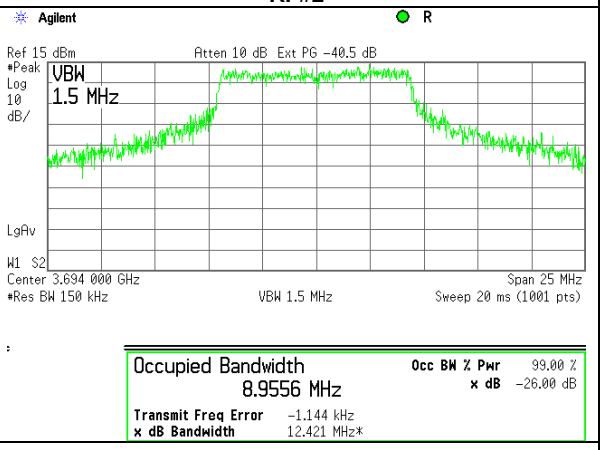
CARRIER FREQUENCY:	3694.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

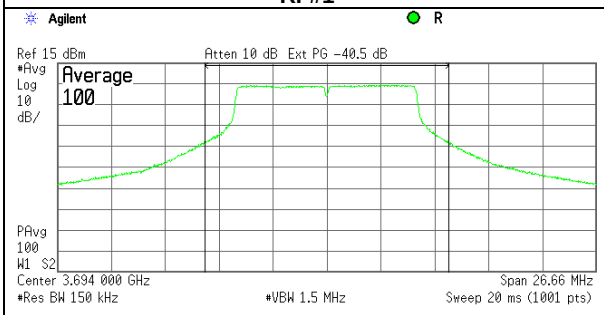


RF#2

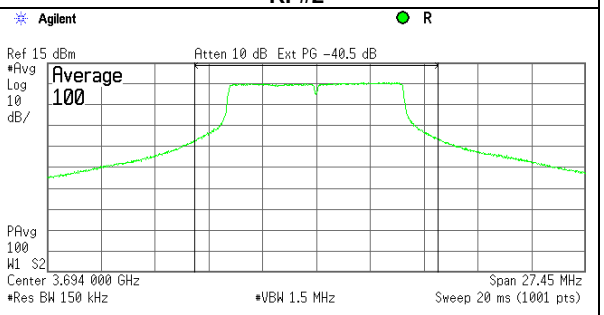


Band power

RF#1



RF#2



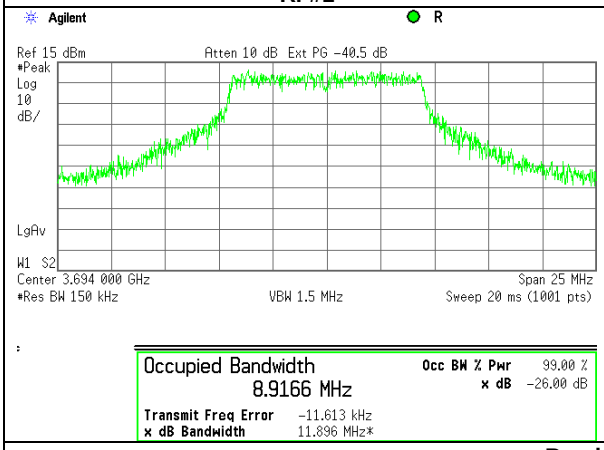
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.66 The 26 dB EBW, band power test results at high frequency

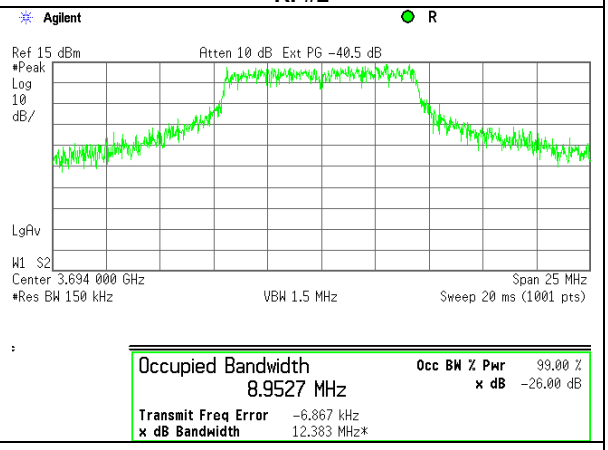
CARRIER FREQUENCY:	3694.0 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

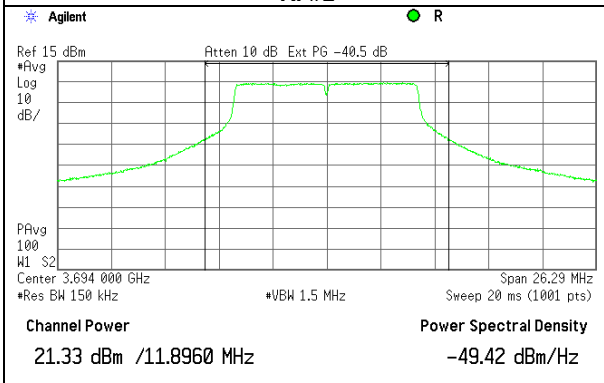


RF#2

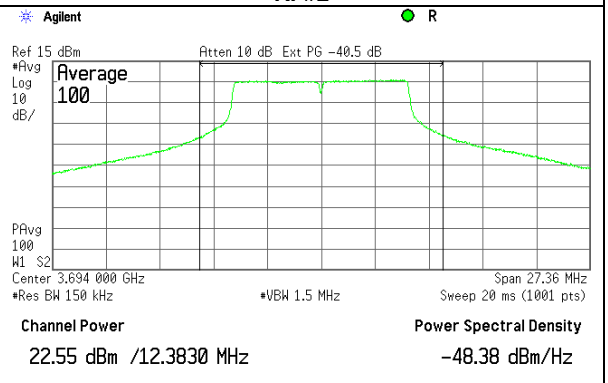


Band power

RF#1



RF#2



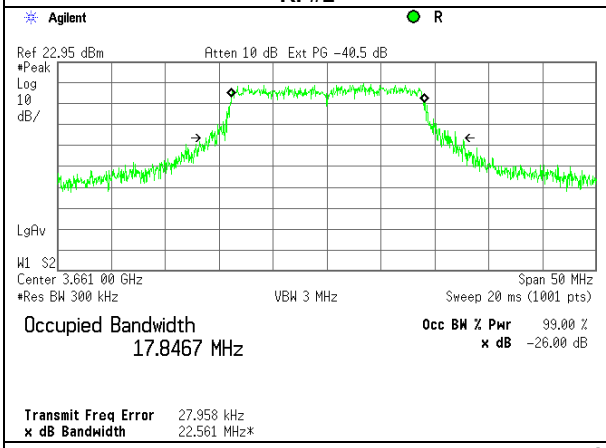
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.67 The 26 dB EBW, band power test results at low frequency

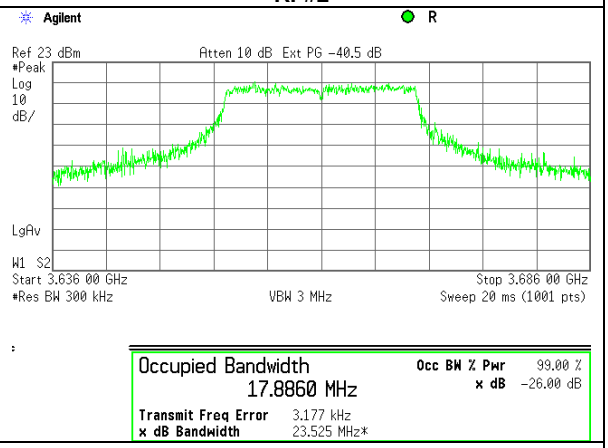
CARRIER FREQUENCY:	3661.0MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

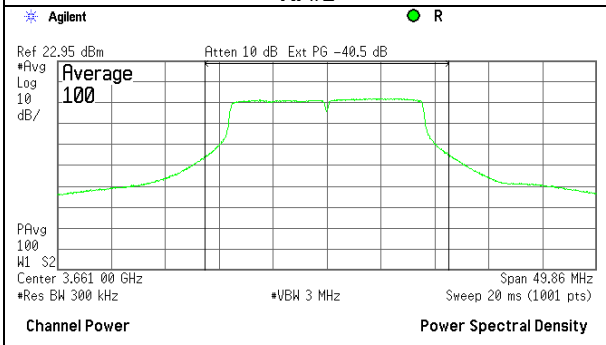


RF#2

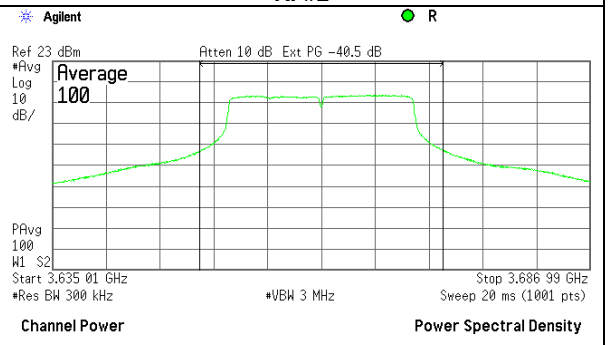


Band power

RF#1



RF#2



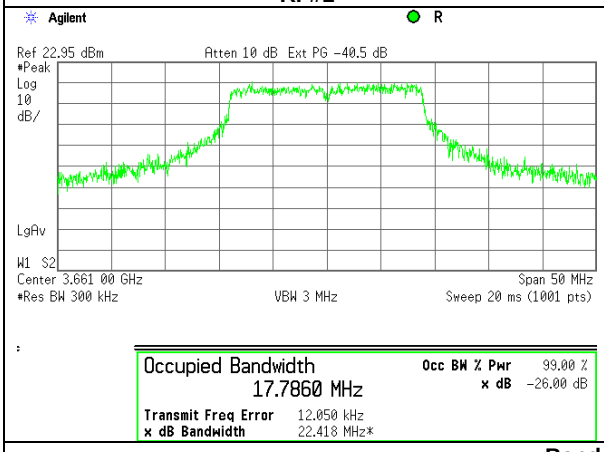
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.68 The 26 dB EBW, band power test results at low frequency

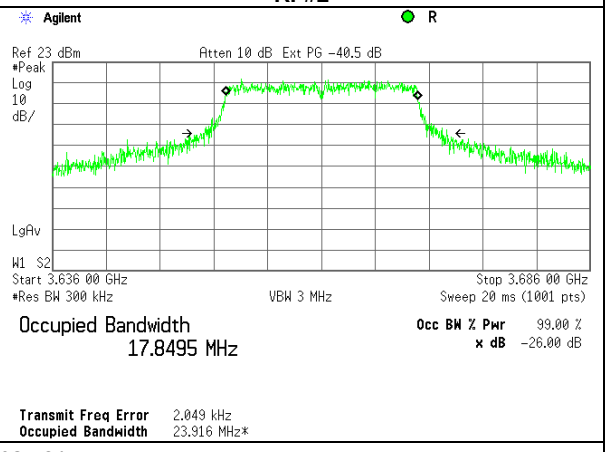
CARRIER FREQUENCY:	3661.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

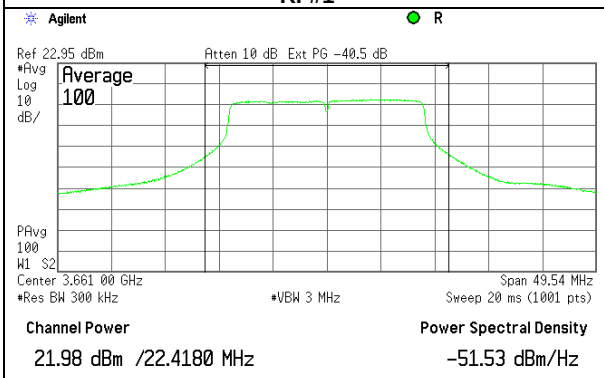


RF#2

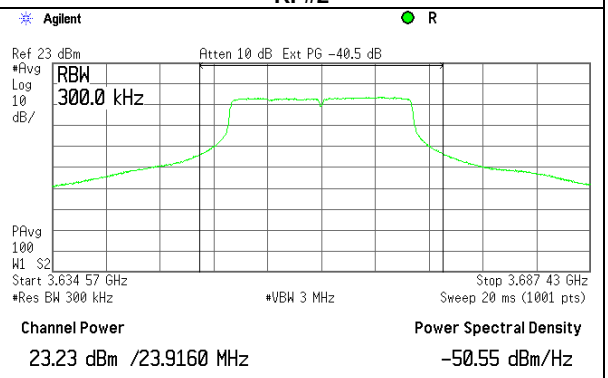


Band power

RF#1



RF#2



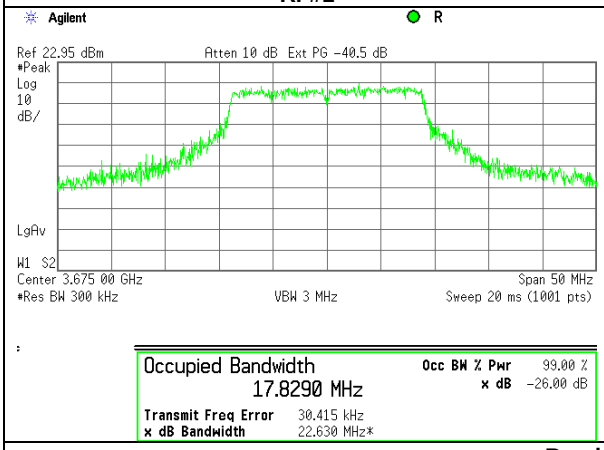
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.69 The 26 dB EBW, band power test results at mid frequency

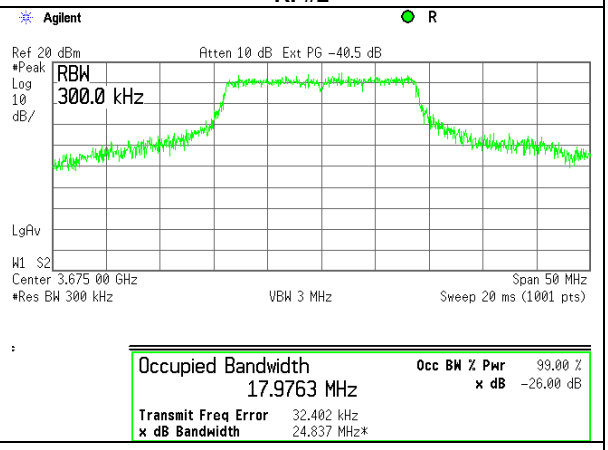
CARRIER FREQUENCY:	3675.0MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

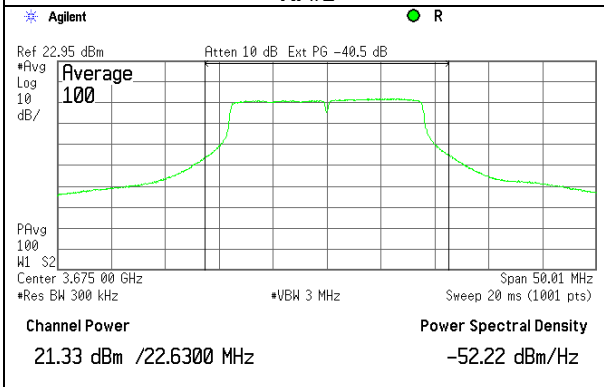


RF#2

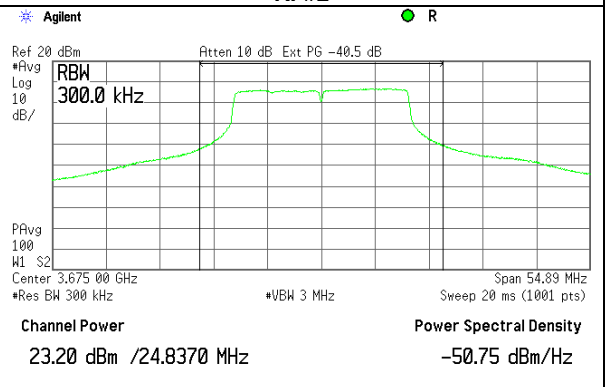


Band power

RF#1



RF#2



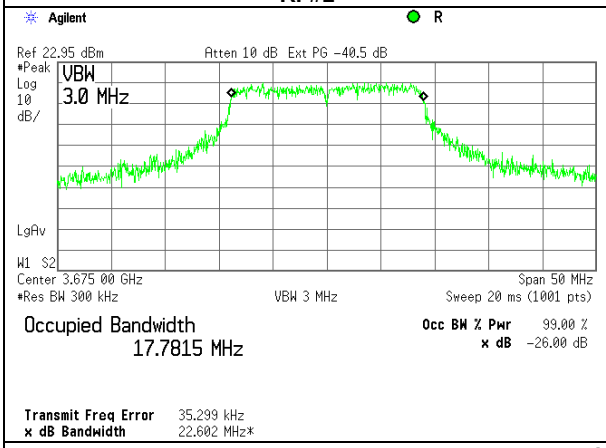
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.70 The 26 dB EBW, band power test results at mid frequency

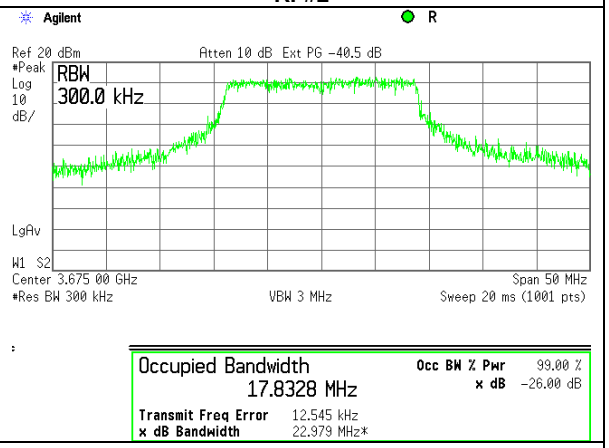
CARRIER FREQUENCY:	3675.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

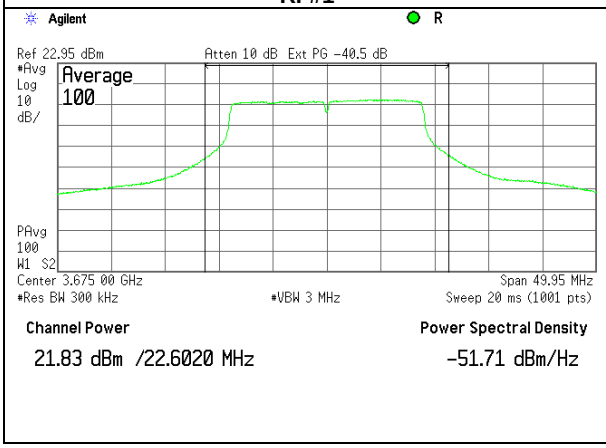


RF#2

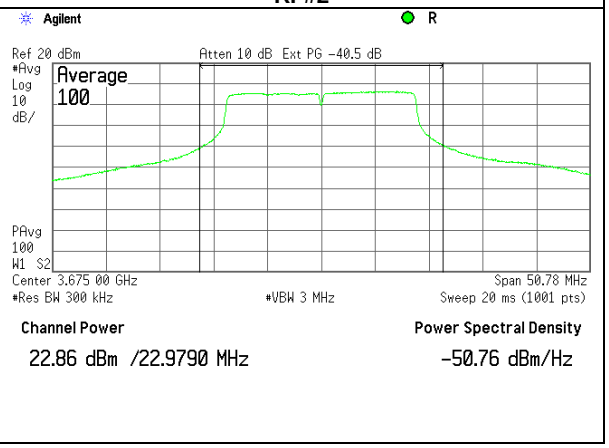


Band power

RF#1



RF#2



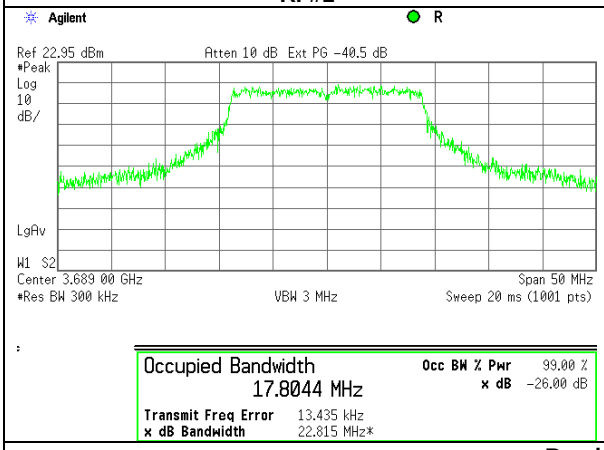
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.71 The 26 dB EBW, band power test results at high frequency

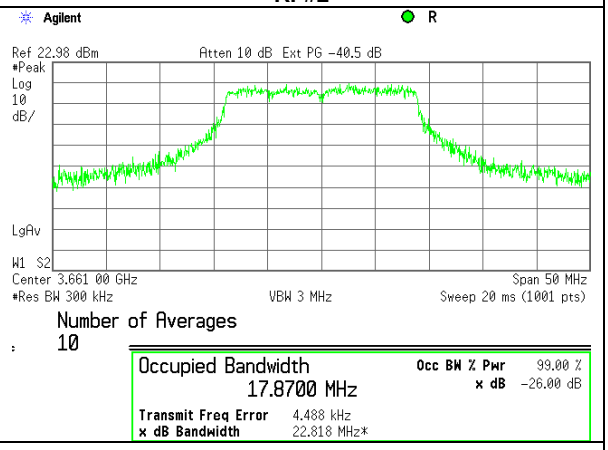
CARRIER FREQUENCY:	3689.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

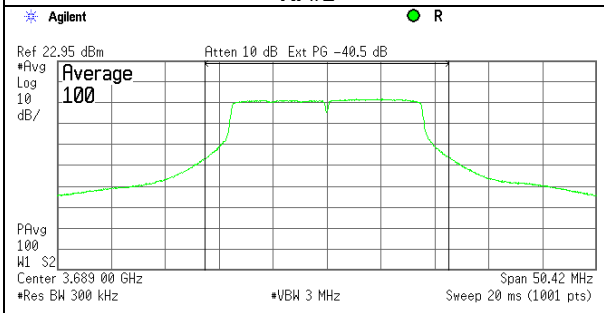


RF#2

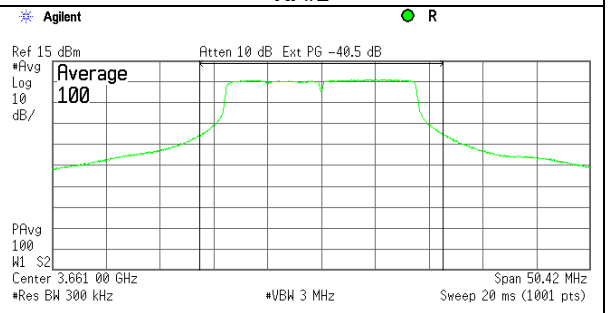


Band power

RF#1



RF#2



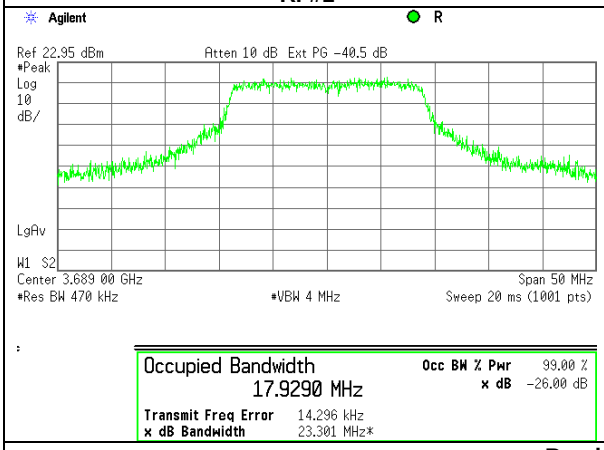
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.1.72 The 26 dB EBW, band power test results at high frequency

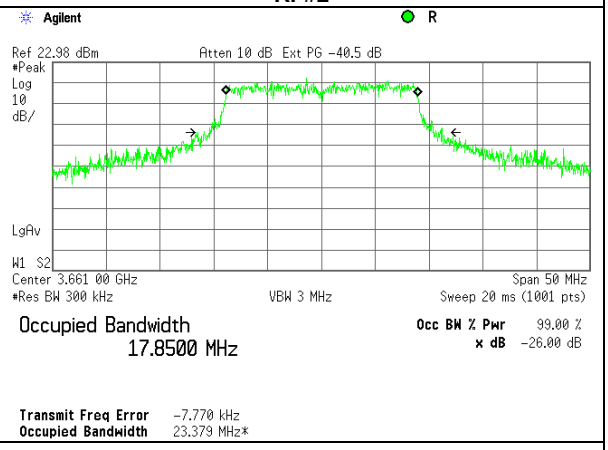
CARRIER FREQUENCY:	3689.0 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5 dBi

26dB EBW

RF#1

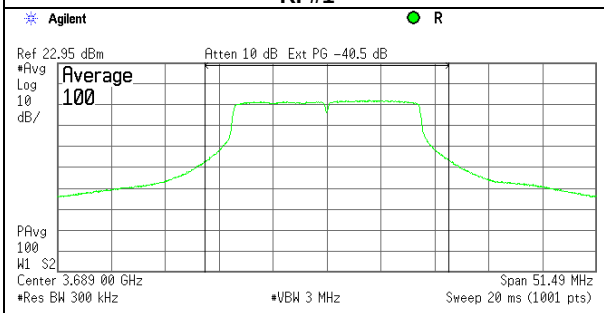


RF#2

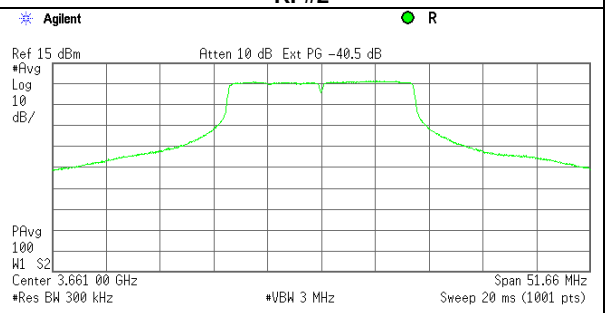


Band power

RF#1



RF#2



Test specification:	Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	6/01/2010 – 8/11/2010		
Temperature: 25 ºC	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks:			

7.2 Peak EIRP power density

7.2.1 General

This test was performed to measure the peak EIRP density at the transmitter RF antenna connector. Specification test limits are given in Table 7.1.1.

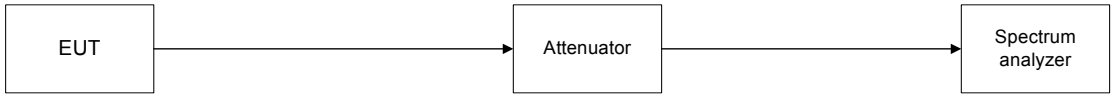
Table 7.2.1 Peak power density limits

Assigned frequency range, MHz	Occupied bandwidth, MHz	Maximum peak power spectral density, EIRP	
		W/MHz	dBm/MHz
Base and fixed stations			
3650.0 – 3700.0	Any	1	30
Mobile and portable stations			
3650.0 – 3700.0	Any	0.04	16

7.2.2 Test procedure

7.2.2.1 The EUT was set up as shown in Figure 7.2.1, energized and its proper operation was checked.
7.2.2.2 The EUT was adjusted to produce maximum available for end user RF output power.
7.2.2.3 The peak output power density was measured with spectrum analyzer as provided in Table 7.2.2 and the associated plots.

Figure 7.2.1 Peak power density test setup



Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Table 7.2.2 Peak EIRP power density test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: 3000 kHz
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 21 dBi
EBW: 5 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3652.5	BPSK	4.931	5.422	8.19	29.19	30	-0.81	Pass
3675.0	BPSK	4.451	5.527	8.03	29.03	30	-0.97	Pass
3697.5	BPSK	4.443	5.439	7.98	28.98	30	-1.02	Pass
3652.5	64QAM	4.755	5.09	7.94	28.94	30	-1.06	Pass
3675.0	64QAM	5.064	4.904	8.00	29.00	30	-1.00	Pass
3697.5	64QAM	4.420	5.697	8.12	29.12	30	-0.88	Pass

EBW: 10 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3655.0	BPSK	4.85	6.091	8.52	29.52	30	-0.48	Pass
3675.0	BPSK	4.785	6.131	8.52	29.52	30	-0.48	Pass
3695.0	BPSK	4.868	6.375	8.70	29.70	30	-0.30	Pass
3655.0	64QAM	4.905	6.126	8.57	29.57	30	-0.43	Pass
3675.0	64QAM	4.992	6.183	8.64	29.64	30	-0.36	Pass
3695.0	64QAM	4.906	6.375	8.71	29.71	30	-0.29	

EBW: 20 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3660.0	BPSK	4.892	6.298	8.66	29.66	30	-0.34	Pass
3675.0	BPSK	4.935	6.587	8.85	29.85	30	-0.15	Pass
3690.0	BPSK	4.089	6.503	8.47	29.47	30	-0.53	Pass
3660.0	64QAM	4.367	6.269	8.43	29.43	30	-0.57	Pass
3675.0	64QAM	4.64	6.657	8.77	29.77	30	-0.23	Pass
3690.0	64QAM	4.164	6.731	8.64	29.64	30	-0.36	Pass

* - Power density, dBm/MHz = 10 log{10^[P(dBm/MHz,RF#1)/10]+ 10^[P(dBm/MHz, RF#2)/10]}
** - EIRP power density, dBm/MHz = Power density*, dBm/MHz + Antenna Assembly Gain, dBi
NOTE1: EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits withstand with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

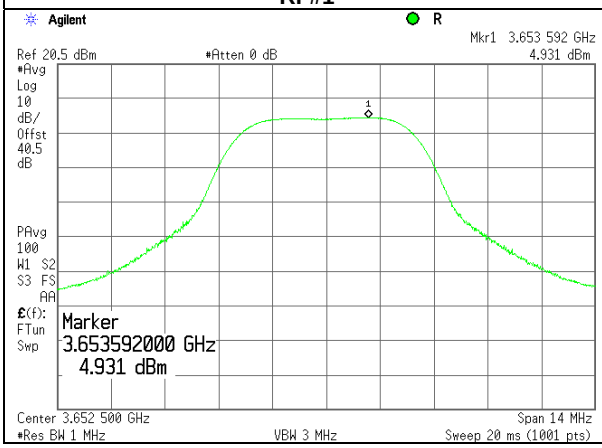
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

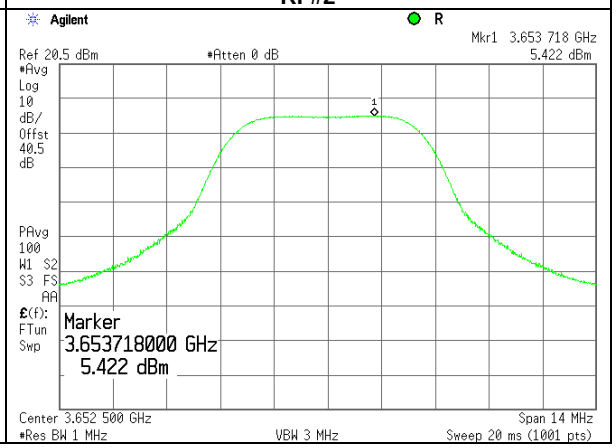
Full description is given in Appendix A.

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.1 Peak output power density test results at low frequency

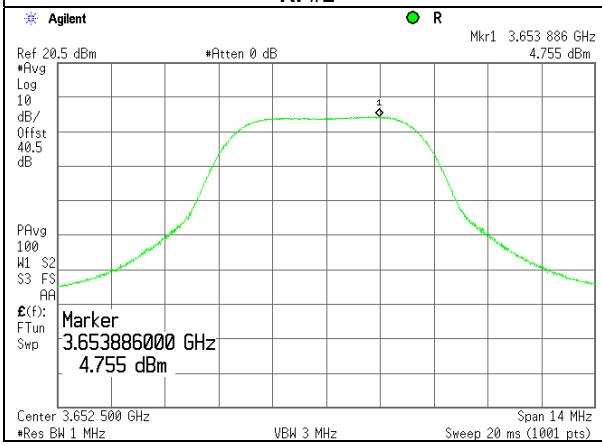
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

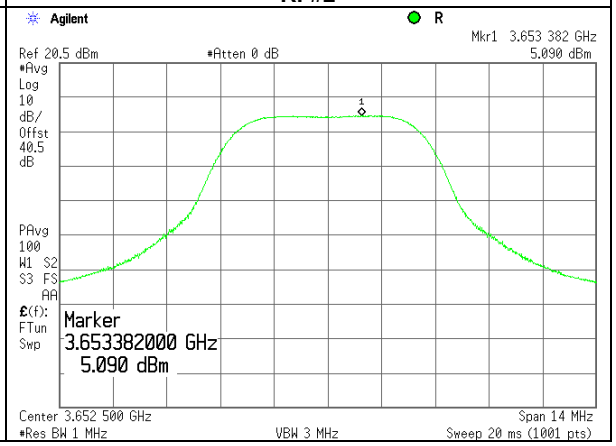




Plot 7.2.2 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

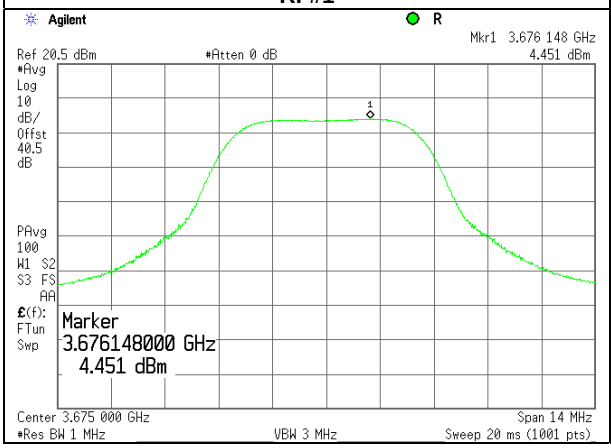


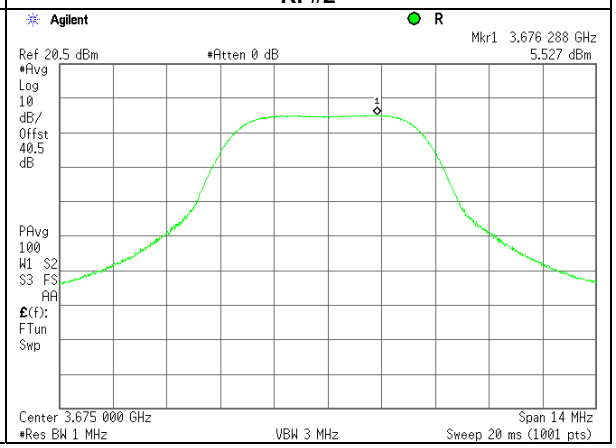


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.3 Peak output power density test results at mid frequency

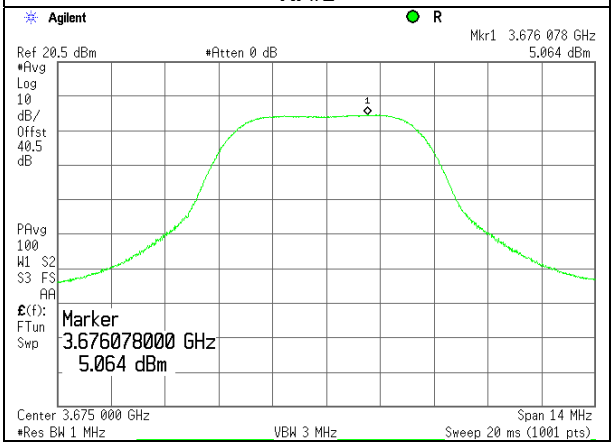
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

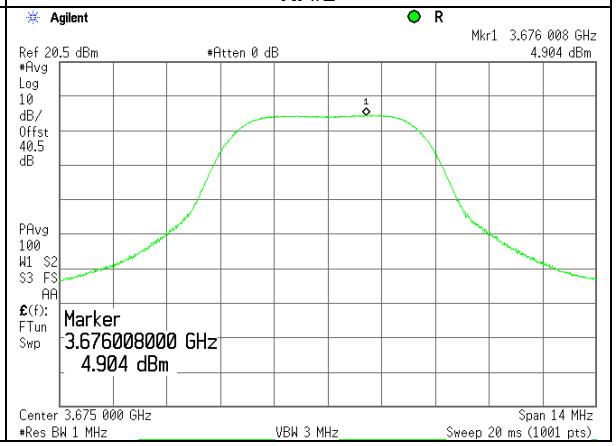




Plot 7.2.4 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

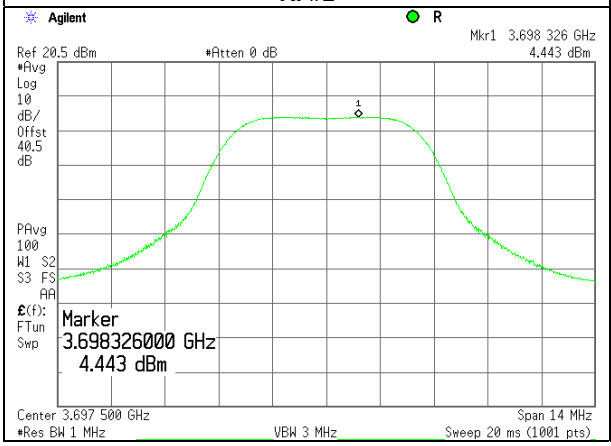


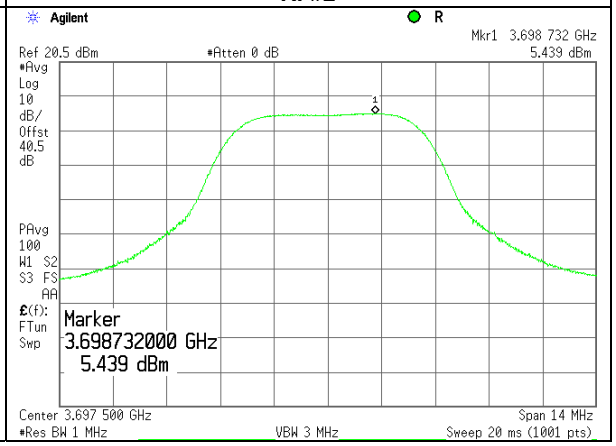


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.5 Peak output power density test results at high frequency

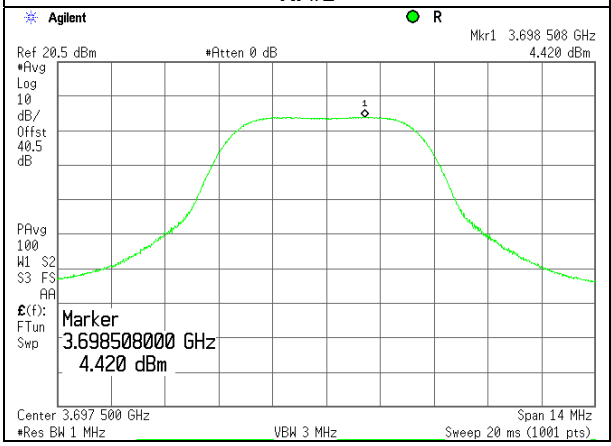
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

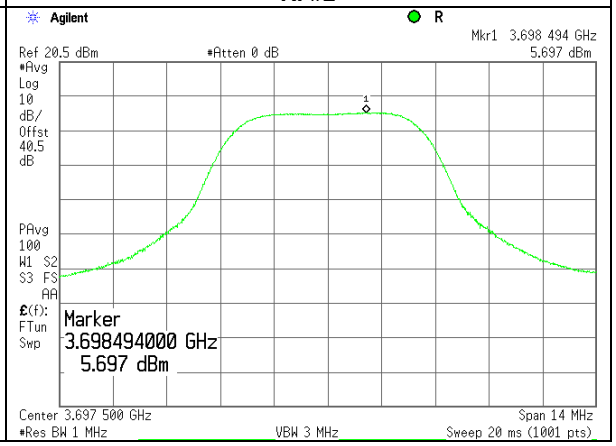




Plot 7.2.6 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

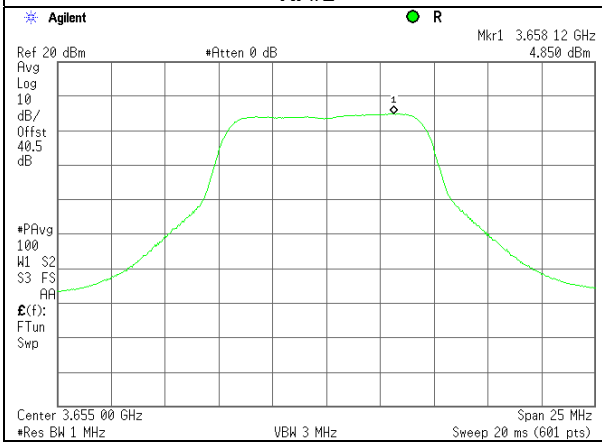


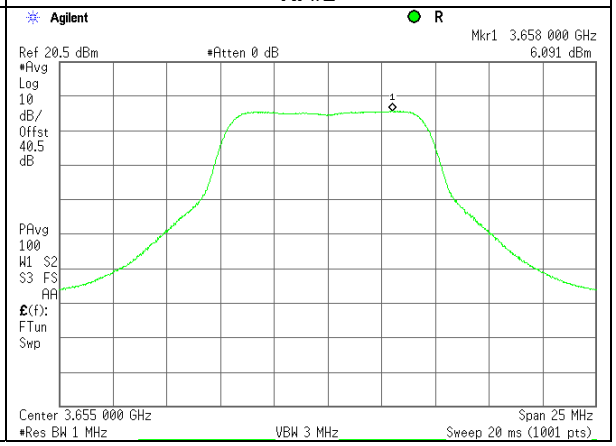


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.7 Peak output power density test results at low frequency

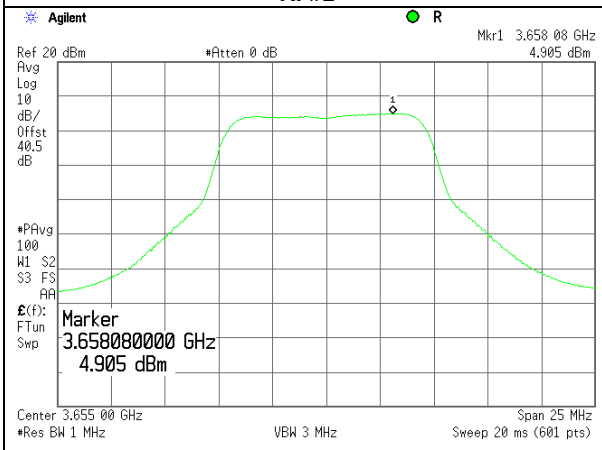
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

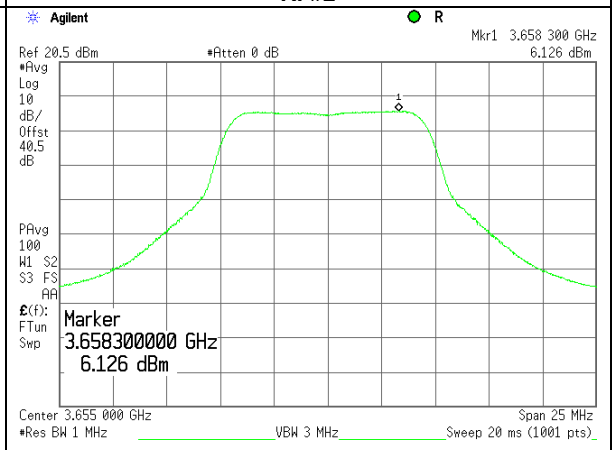




Plot 7.2.8 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

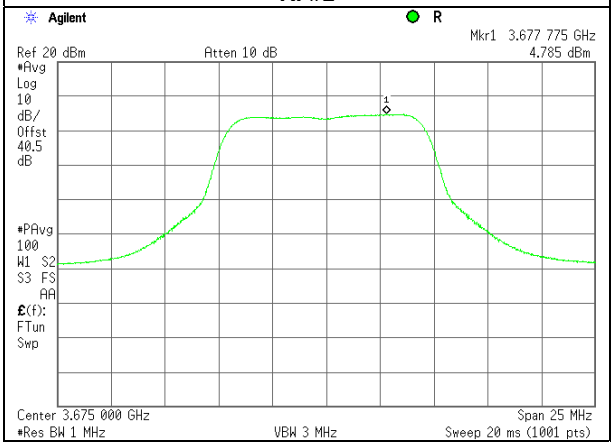


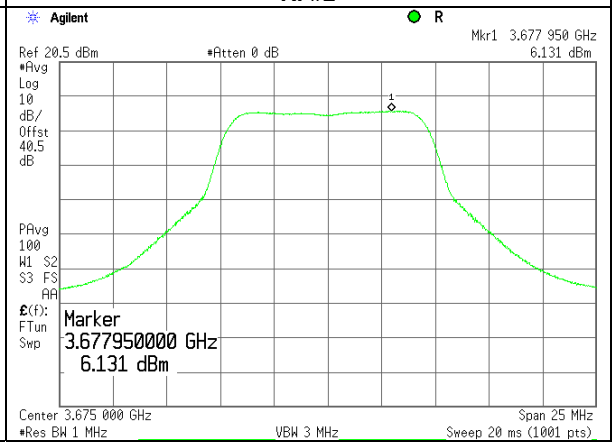


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.9 Peak output power density test results at mid frequency

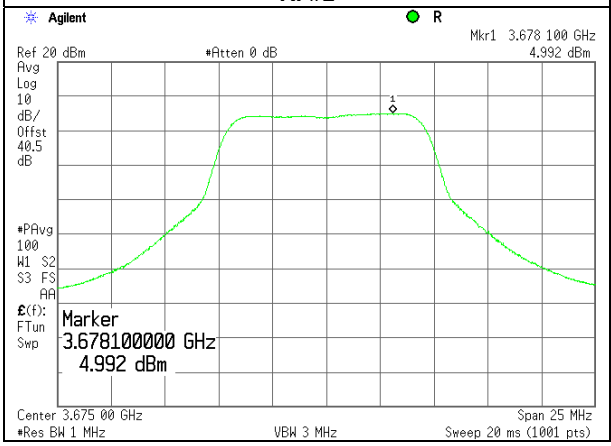
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

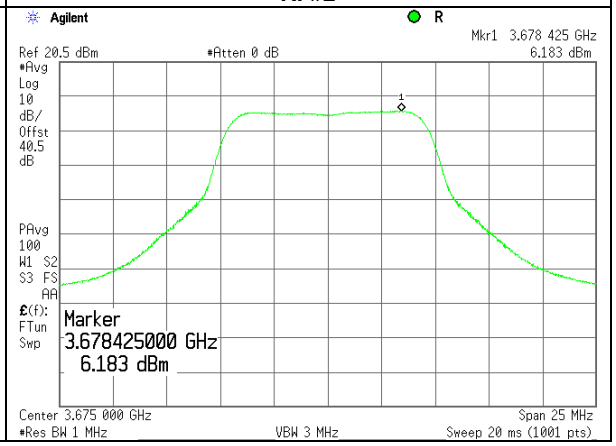




Plot 7.2.10 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

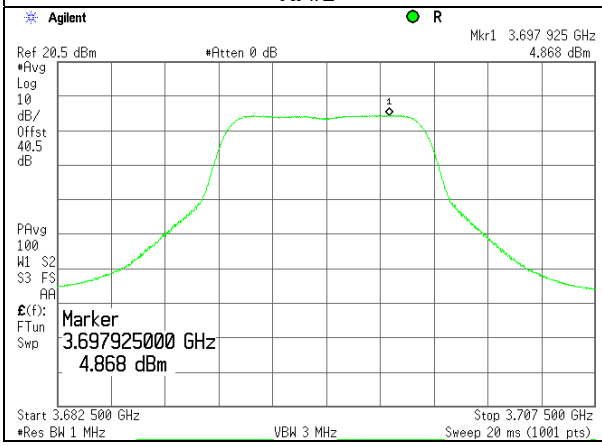


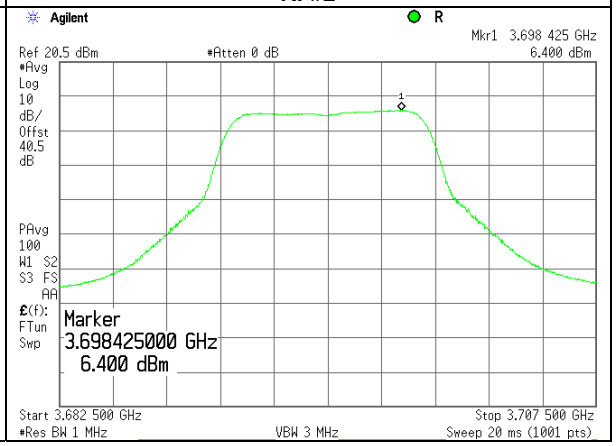


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.11 Peak output power density test results at high frequency

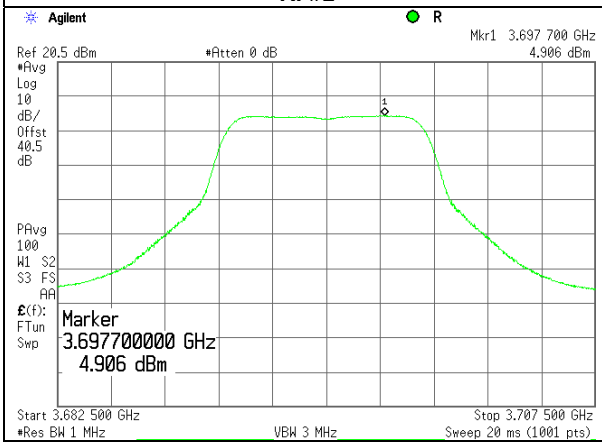
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

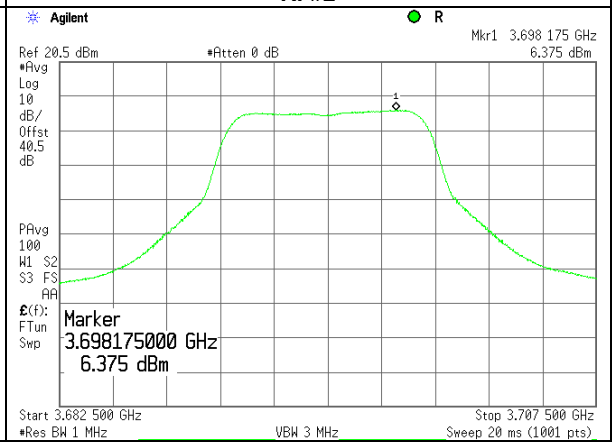




Plot 7.2.12 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

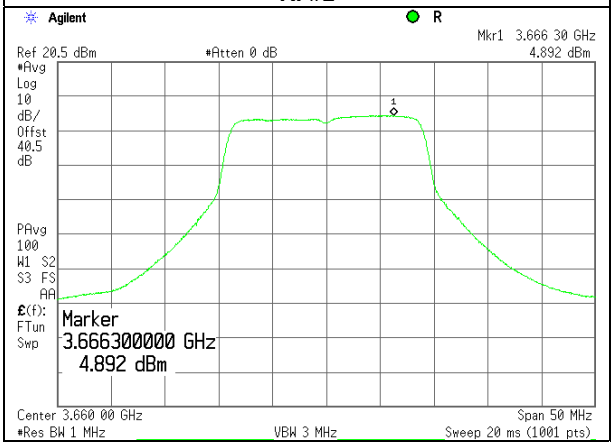


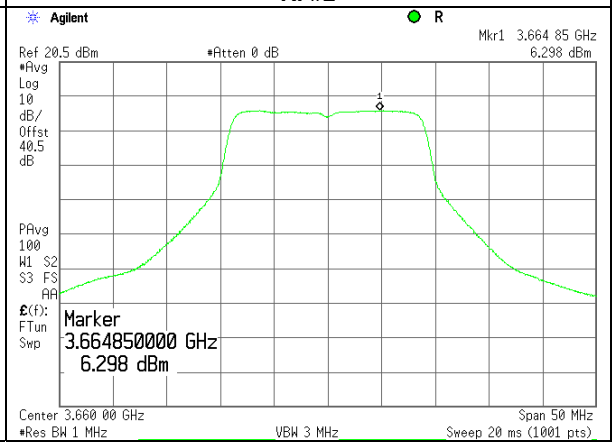


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.13 Peak output power density test results at low frequency

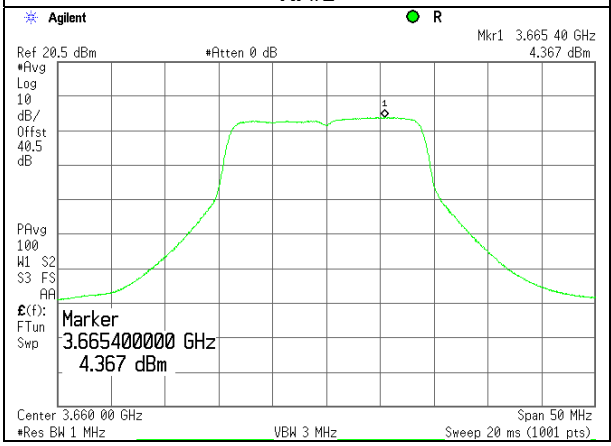
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

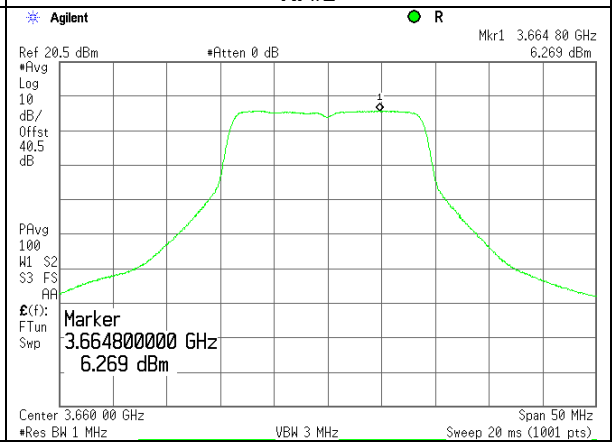




Plot 7.2.14 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

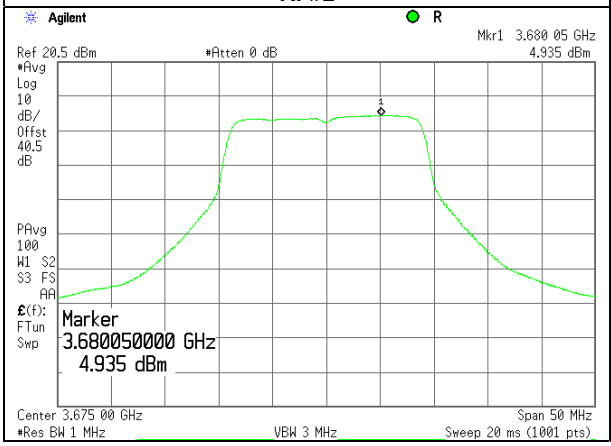


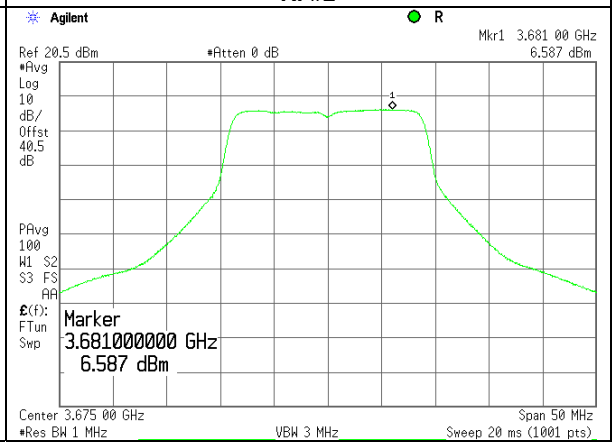


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.15 Peak output power density test results at mid frequency

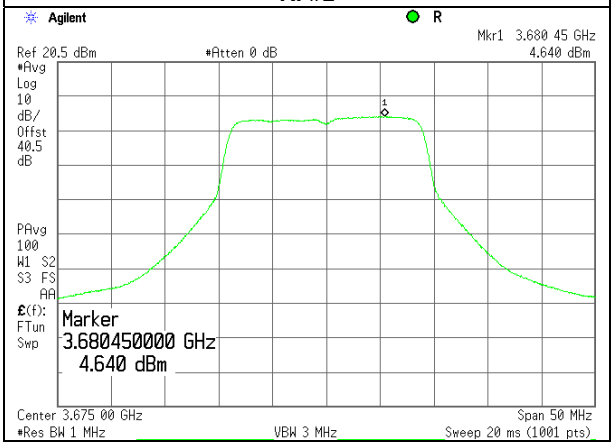
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

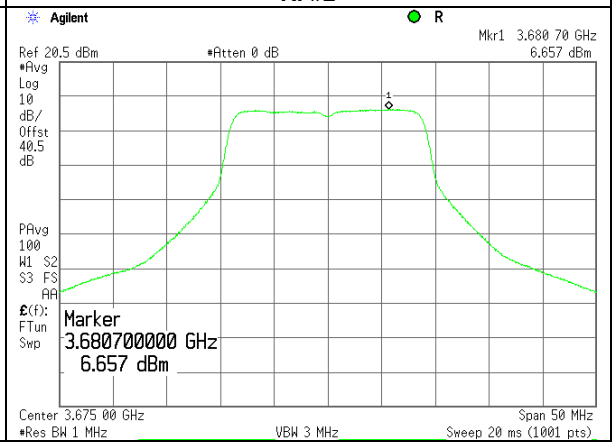




Plot 7.2.16 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

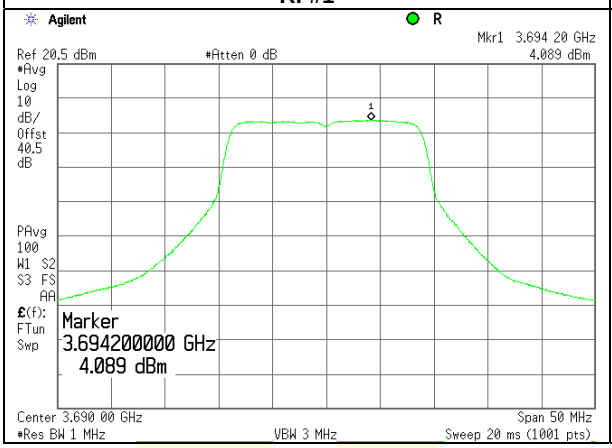


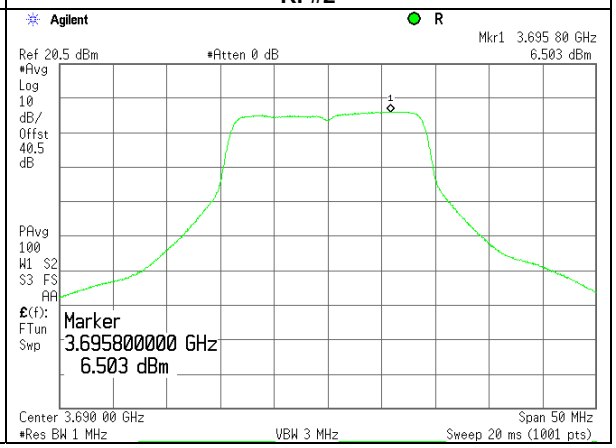


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/01/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.17 Peak output power density test results at high frequency

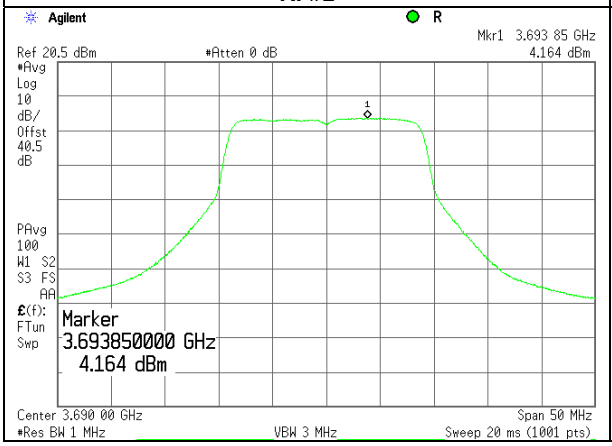
CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**

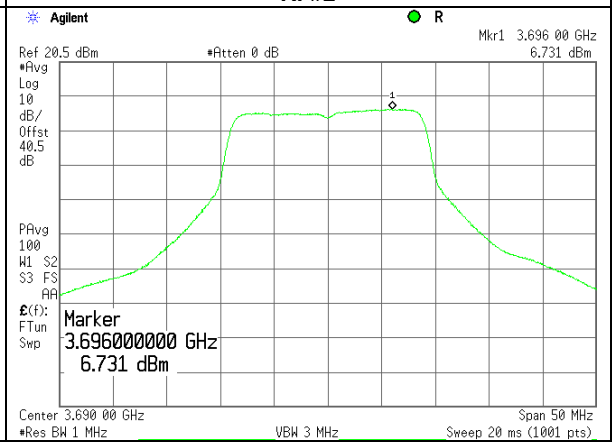




Plot 7.2.18 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	21.0 dBi
RF#1	**RF#2**





Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Table 7.2.3 Peak EIRP power density test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: 3000 kHz
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 17.0dBi
EBW: 5 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3652.5	BPSK	8.898	9.512	12.23	29.23	30	-0.77	Pass
3675.0	BPSK	8.65	10.032	12.41	29.41	30	-0.59	Pass
3697.5	BPSK	8.643	9.878	12.31	29.31	30	-0.69	Pass
3652.5	64QAM	8.794	9.557	12.20	29.20	30	-0.80	Pass
3675.0	64QAM	8.622	9.898	12.32	29.32	30	-0.68	Pass
3697.5	64QAM	8.591	9.782	12.24	29.24	30	-0.76	Pass

EBW: 10 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3655.0	BPSK	9.19	10.104	12.68	29.68	30	-0.32	Pass
3675.0	BPSK	8.88	10.337	12.68	29.68	30	-0.32	Pass
3695.0	BPSK	8.842	10.056	12.50	29.50	30	-0.50	Pass
3655.0	64QAM	9.239	10.151	12.73	29.73	30	-0.27	Pass
3675.0	64QAM	8.885	10.316	12.67	29.67	30	-0.33	Pass
3695.0	64QAM	8.735	10.091	12.48	29.48	30	-0.52	Pass

EBW: 20 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3660.0	BPSK	8.876	10.252	12.63	29.63	30	-0.37	Pass
3675.0	BPSK	8.881	9.97	12.47	29.47	30	-0.53	Pass
3690.0	BPSK	8.147	10.492	12.49	29.49	30	-0.51	Pass
3660.0	64QAM	9.26	10.178	12.75	29.75	30	-0.25	Pass
3675.0	64QAM	9.052	9.994	12.56	29.56	30	-0.44	Pass
3690.0	64QAM	8.183	10.541	12.53	29.53	30	-0.47	Pass

* - Power density, dBm/MHz = 10 log{10^[P(dBm/MHz,RF#1)/10]+ 10^[P(dBm/MHz, RF#2)/10]}
** - EIRP power density, dBm/MHz = Power density*, dBm/MHz + Antenna Assembly Gain, dBi
NOTE1: EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits withstand with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

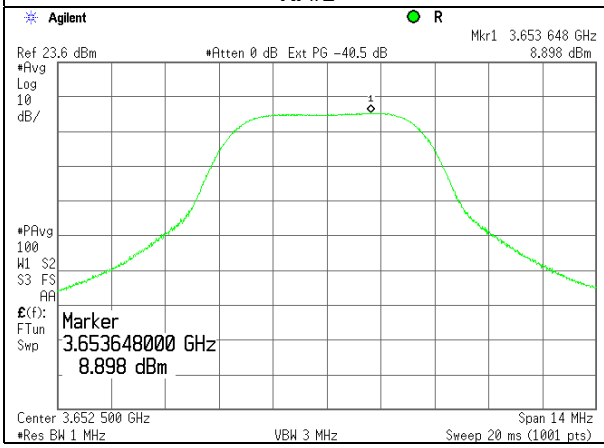
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

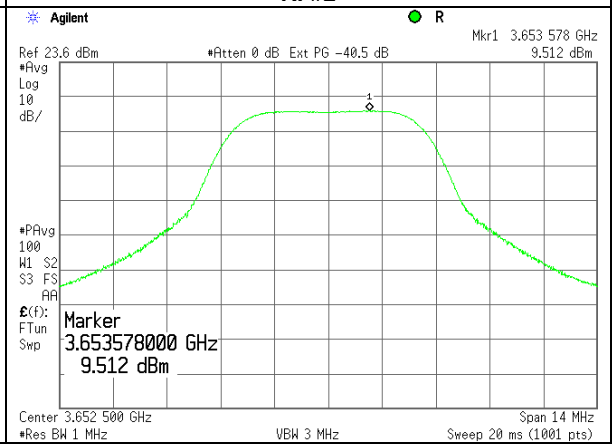
Full description is given in Appendix A.

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.19 Peak output power density test results at low frequency

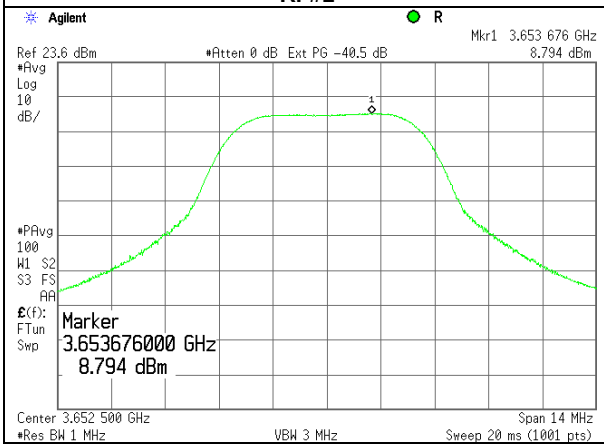
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

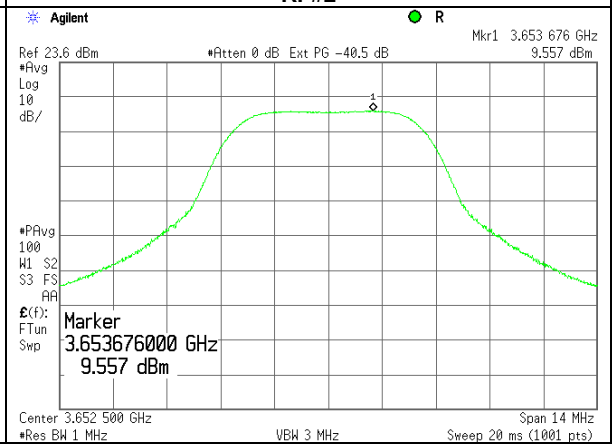




Plot 7.2.20 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

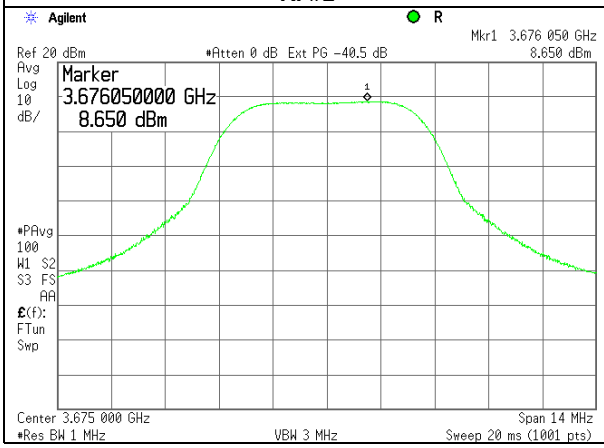


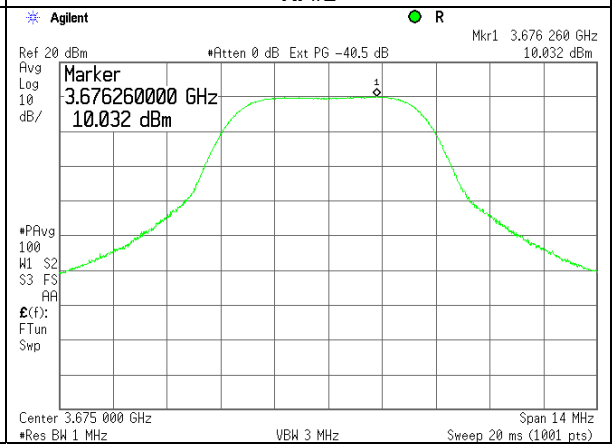


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.21 Peak output power density test results at mid frequency

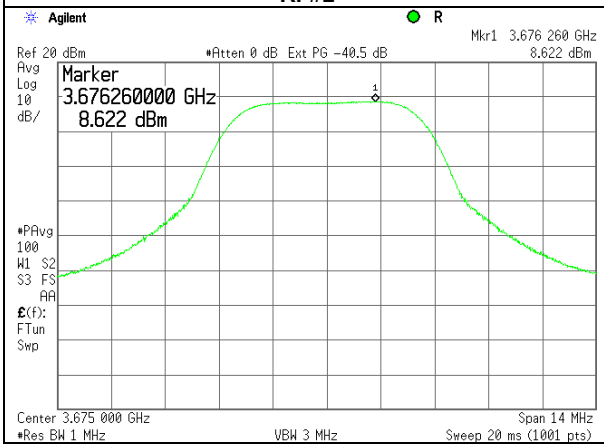
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

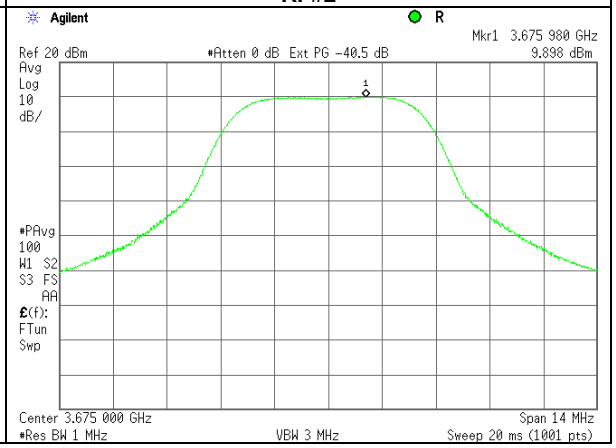




Plot 7.2.22 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

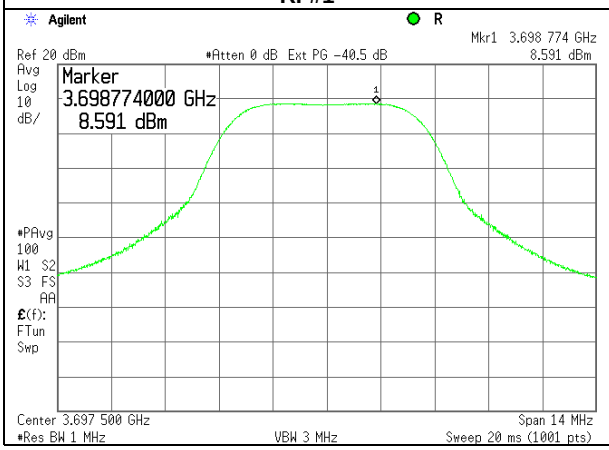


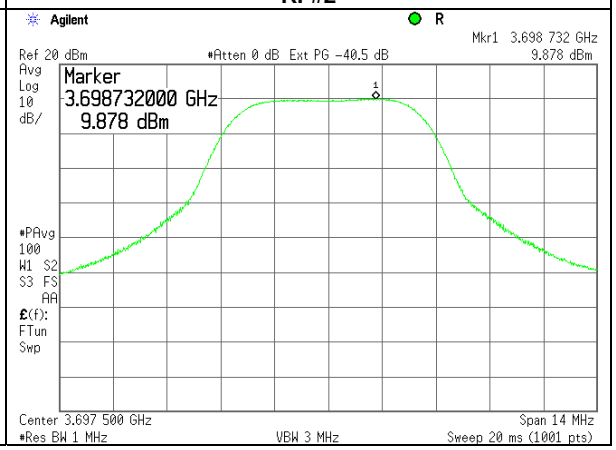


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.23 Peak output power density test results at high frequency

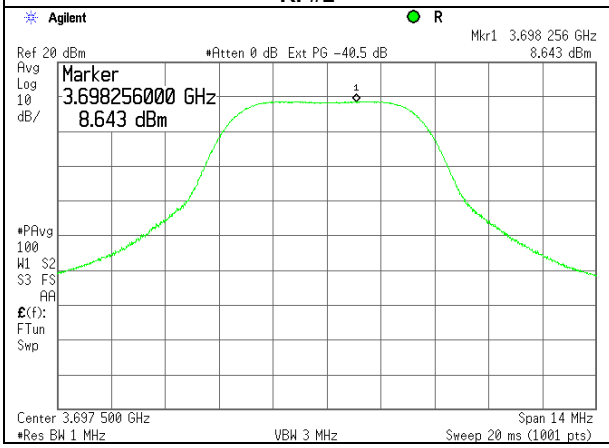
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

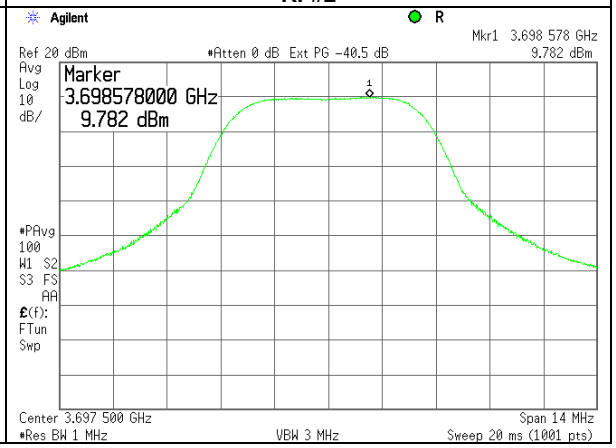




Plot 7.2.24 Peak output power density test results at high frequency

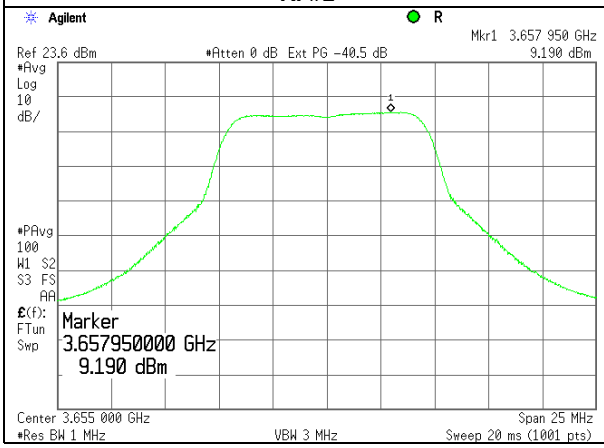
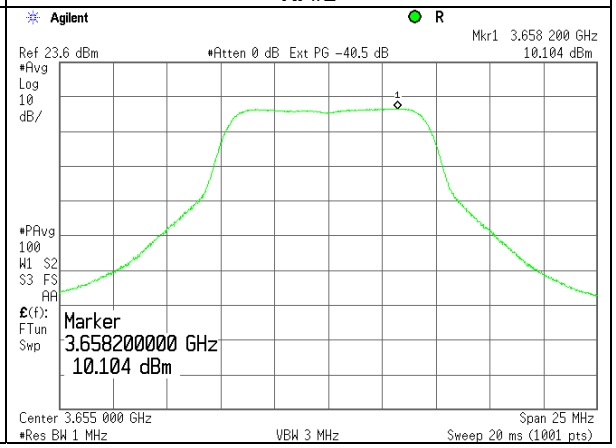
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**



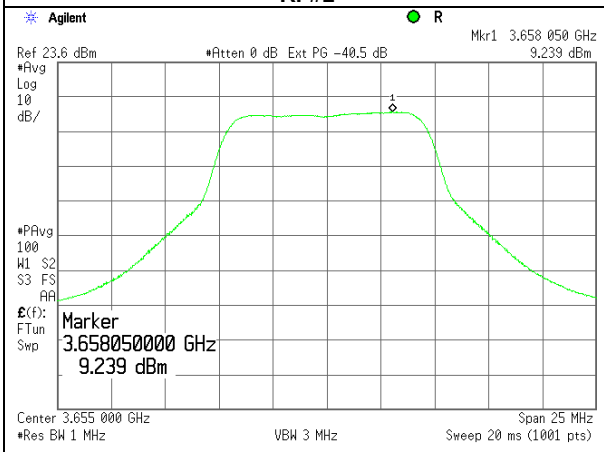
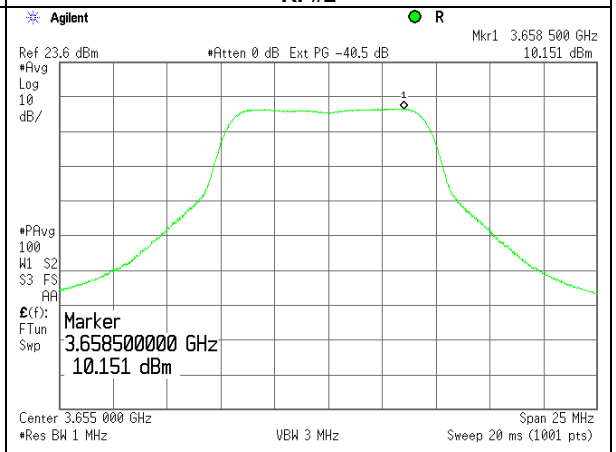


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.25 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**
	

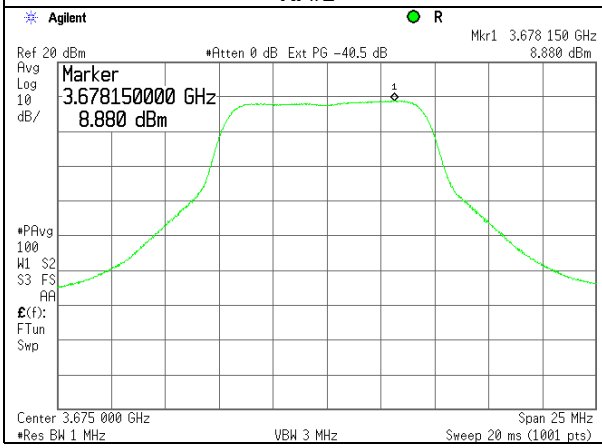
Plot 7.2.26 Peak output power density test results at low frequency

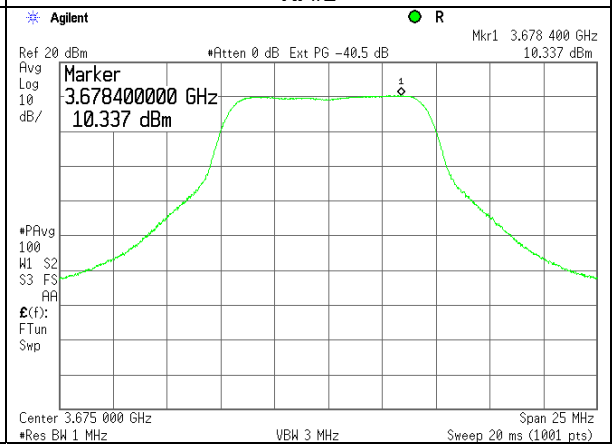
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**
	

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.27 Peak output power density test results at mid frequency

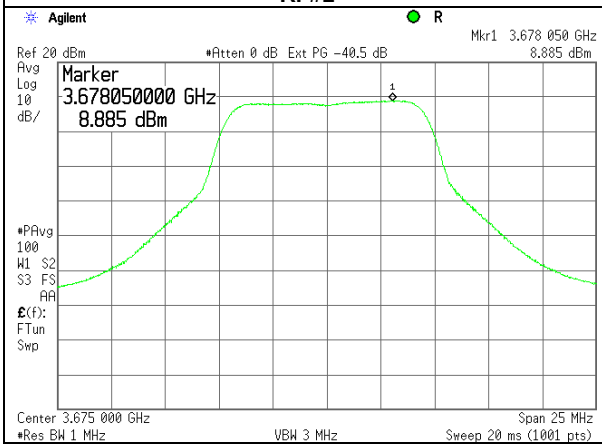
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

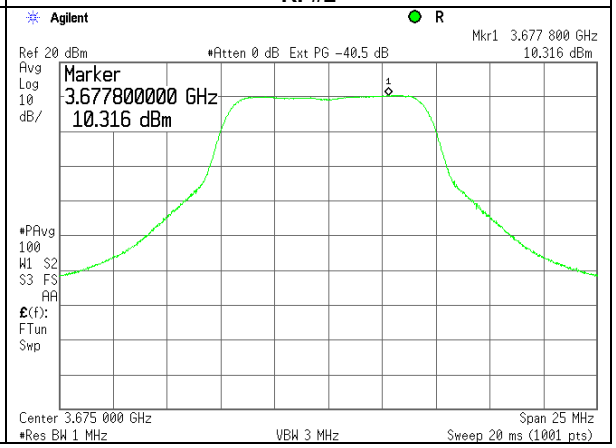




Plot 7.2.28 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

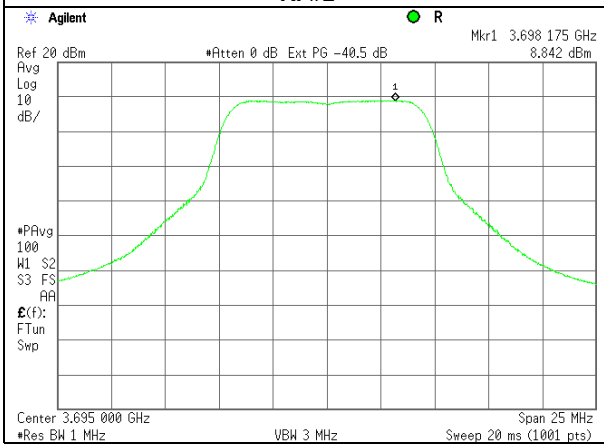


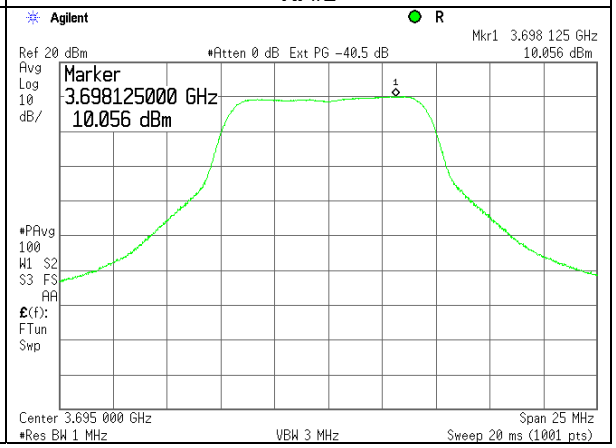


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.29 Peak output power density test results at high frequency

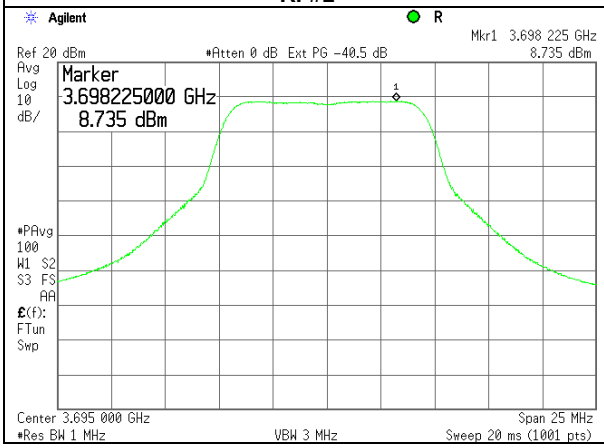
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

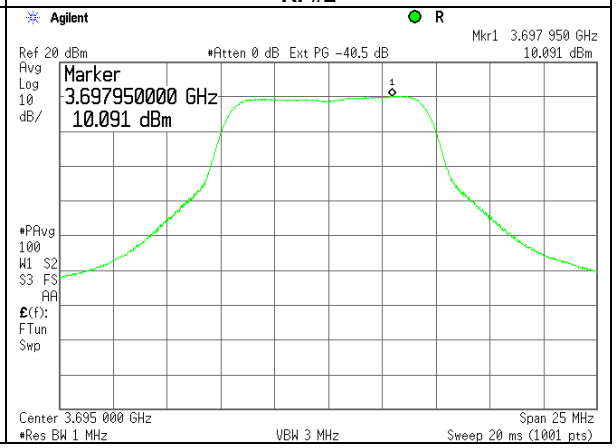




Plot 7.2.30 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

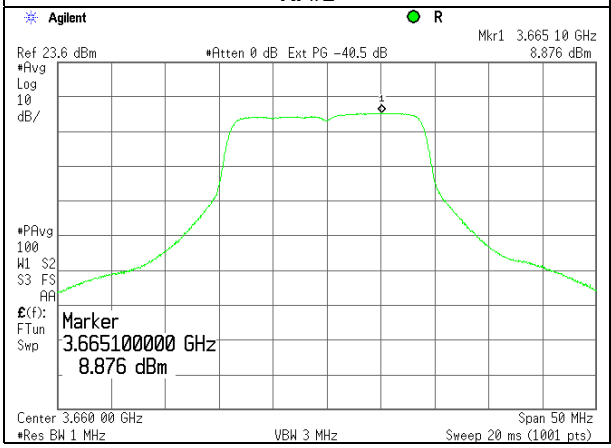


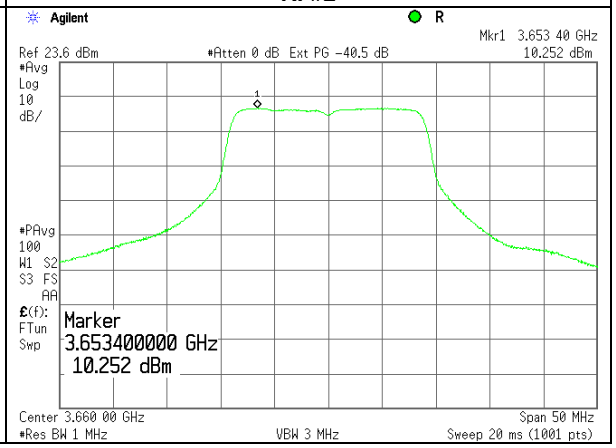


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.31 Peak output power density test results at low frequency

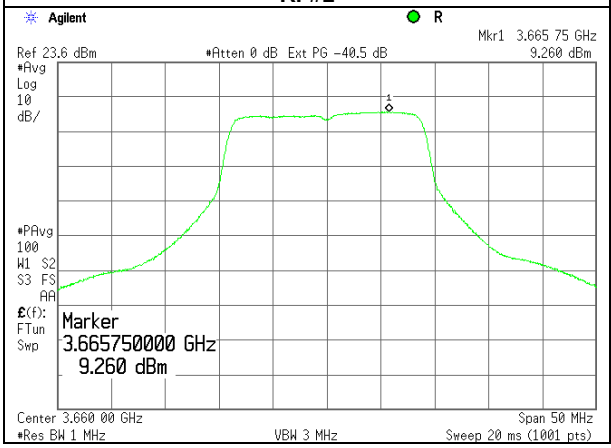
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

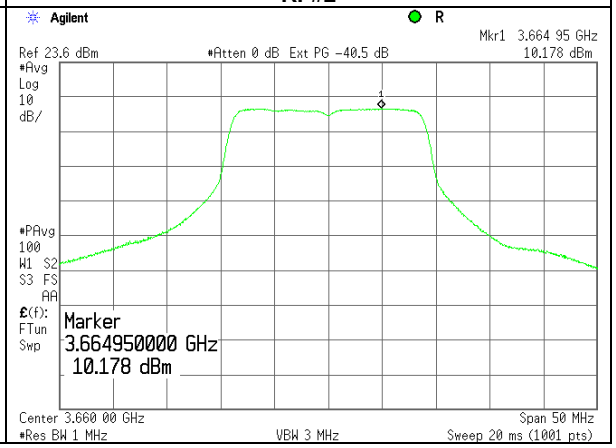




Plot 7.2.32 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

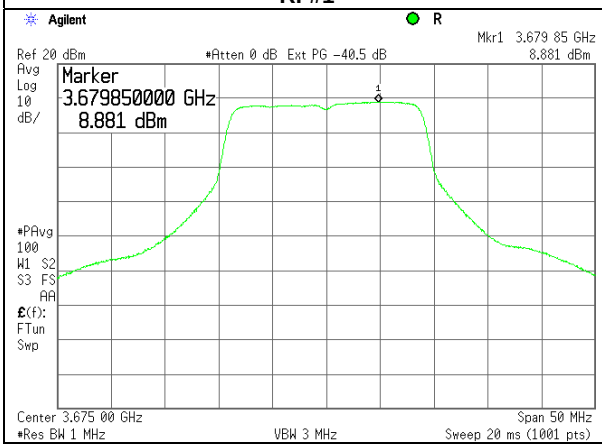


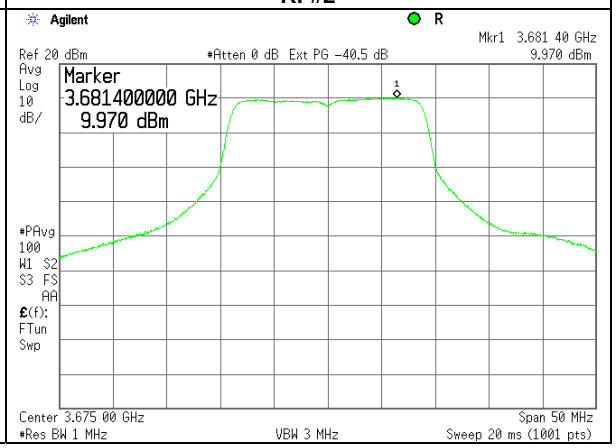


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.33 Peak output power density test results at mid frequency

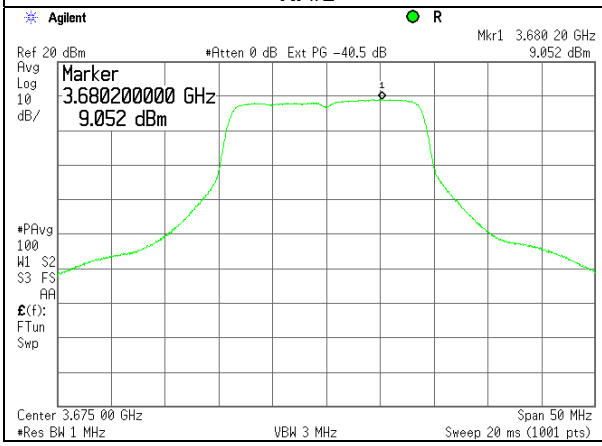
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

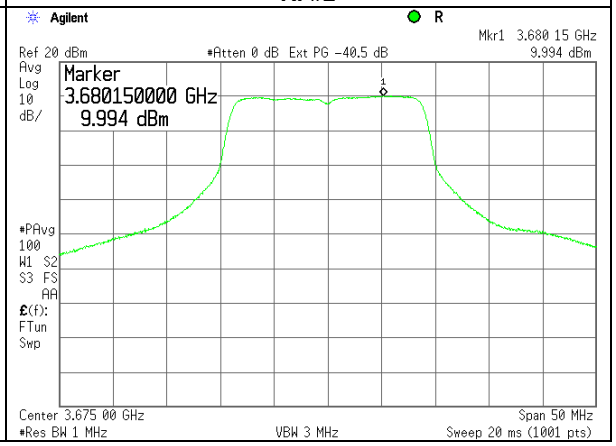




Plot 7.2.34 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

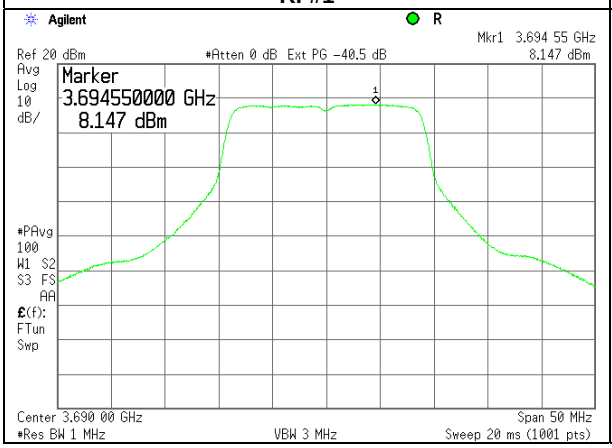


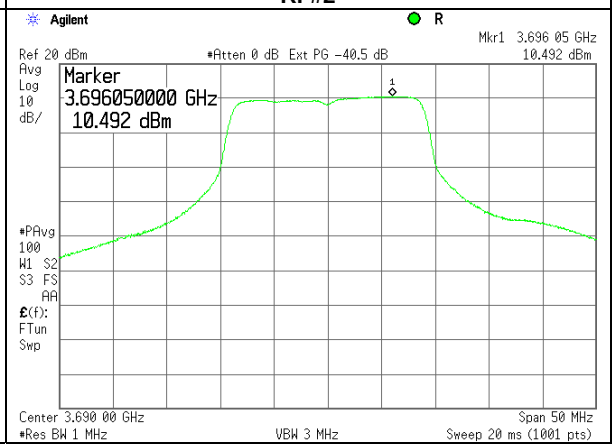


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/03/2010		
Temperature: 23 ºC	**Air Pressure:** 1009 hPa	**Relative Humidity:** 40 %	**Power Supply:** -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.35 Peak output power density test results at high frequency

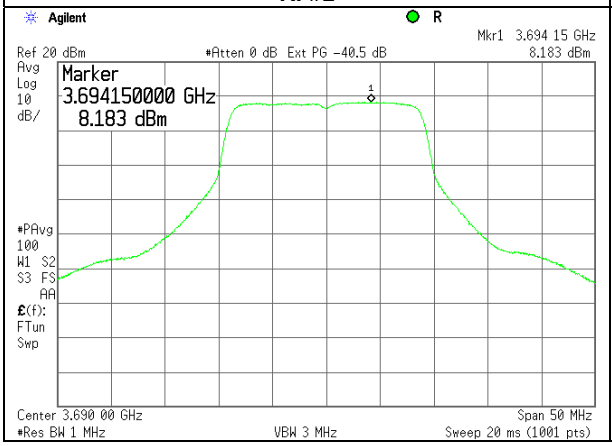
CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**

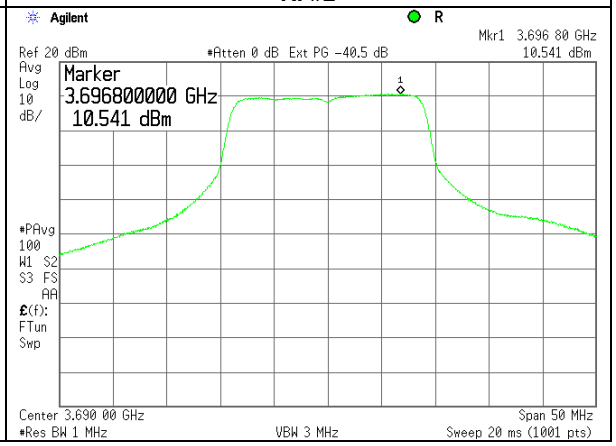




Plot 7.2.36 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	17.0dBi
RF#1	**RF#2**





Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Table 7.2.4 Peak EIRP power density test results

ASSIGNED FREQUENCY RANGE:	3650.0 – 3700.0 MHz
DETECTOR USED:	Average (RMS)
RESOLUTION BANDWIDTH:	1000 kHz
VIDEO BANDWIDTH:	3000 kHz
MODULATING SIGNAL:	PRBS
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN:	24 dBi
EBW:	**5 MHz**

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3652.5	BPSK	2.664	2.774	5.73	29.73	30.00	-0.27	Pass
3675.0	BPSK	1.625	2.695	5.20	29.20	30.00	-0.80	Pass
3697.5	BPSK	1.664	2.351	5.03	29.03	30.00	-0.97	Pass
3652.5	64QAM	1.953	2.361	5.17	29.17	30.00	-0.83	Pass
3675.0	64QAM	1.636	2.149	4.91	28.91	30.00	-1.09	Pass
3697.5	64QAM	2.09	2.326	5.22	29.22	30.00	-0.78	Pass

EBW: 10 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3655.0	BPSK	2.435	2.603	5.53	29.53	30.00	-0.47	Pass
3675.0	BPSK	1.612	2.875	5.30	29.30	30.00	-0.70	Pass
3695.0	BPSK	2.213	3.069	5.67	29.67	30.00	-0.33	Pass
3655.0	64QAM	1.785	2.921	5.40	29.40	30.00	-0.60	Pass
3675.0	64QAM	2.154	2.882	5.54	29.54	30.00	-0.46	Pass
3695.0	64QAM	1.841	2.909	5.42	29.42	30.00	-0.58	Pass

EBW: 20 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3660.0	BPSK	0.994	2.45	4.79	28.79	30.00	-1.21	Pass
3675.0	BPSK	0.974	2.33	4.72	28.72	30.00	-1.28	Pass
3690.0	BPSK	1.327	2.548	4.99	28.99	30.00	-1.01	Pass
3660.0	64QAM	1.362	2.426	4.94	28.94	30.00	-1.06	Pass
3675.0	64QAM	0.962	2.495	4.81	28.81	30.00	-1.19	Pass
3690.0	64QAM	1.609	2.943	5.34	29.34	30.00	-0.66	Pass

* - Power density, dBm/MHz = 10 log{10^[P(dBm/MHz,RF#1)/10]+ 10^[P(dBm/MHz, RF#2)/10]}
** - EIRP power density, dBm/MHz = Power density*, dBm/MHz + Antenna Assembly Gain, dBi
NOTE1: EUT was configured to produce maximum conducted RF power for declared Antenna gain of 25 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits withstand with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

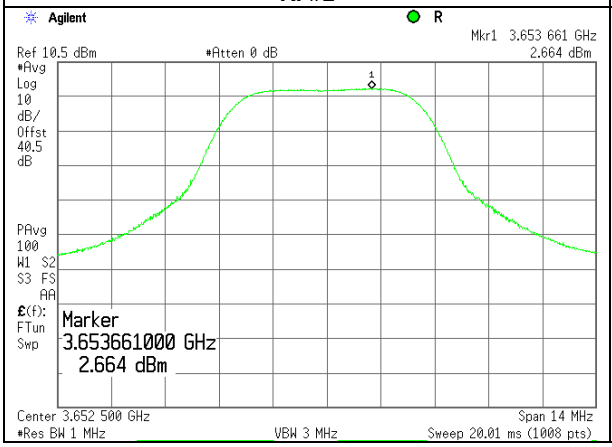
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

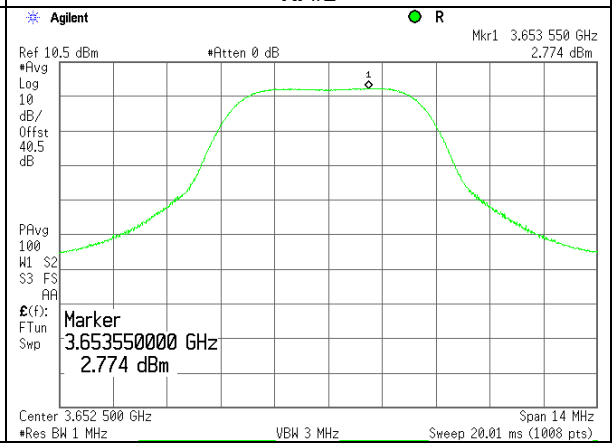
Full description is given in Appendix A.

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.37 Peak output power density test results at low frequency

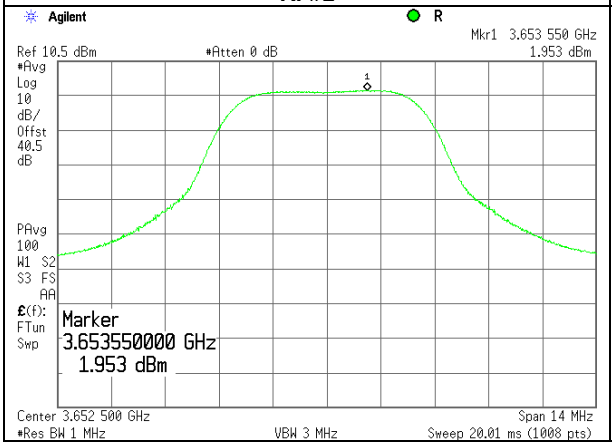
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

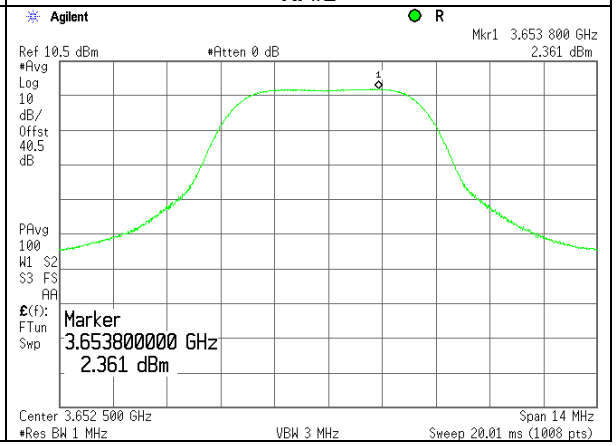




Plot 7.2.38 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

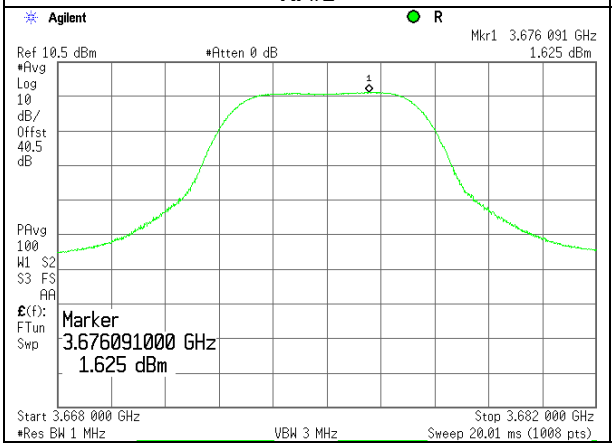


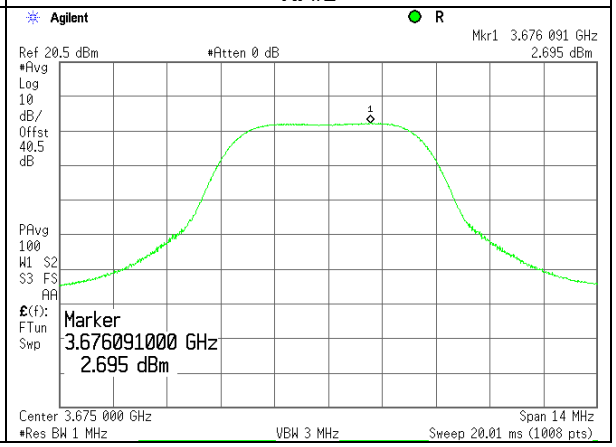


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.39 Peak output power density test results at mid frequency

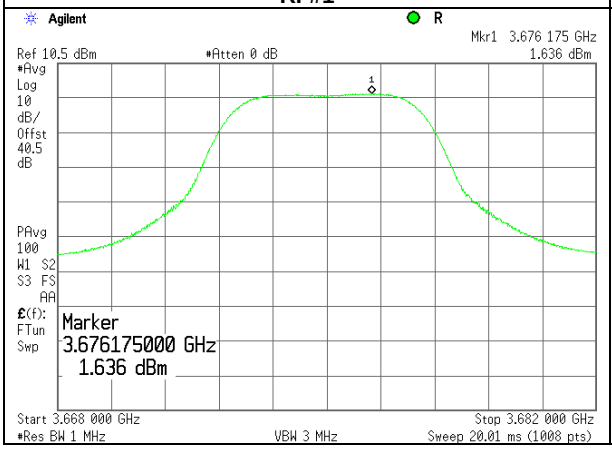
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

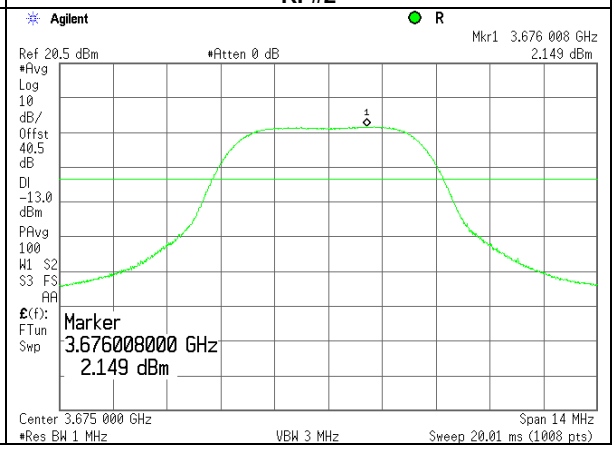




Plot 7.2.40 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

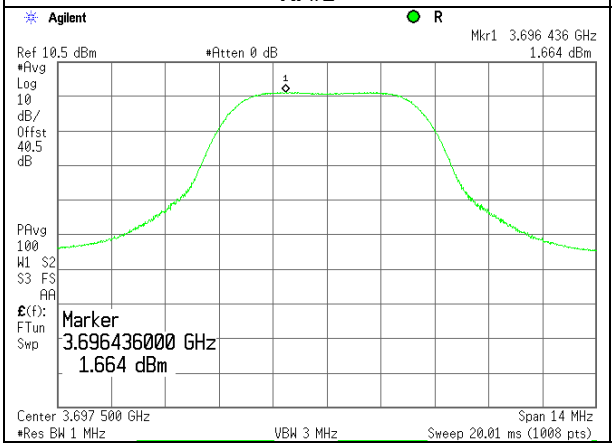


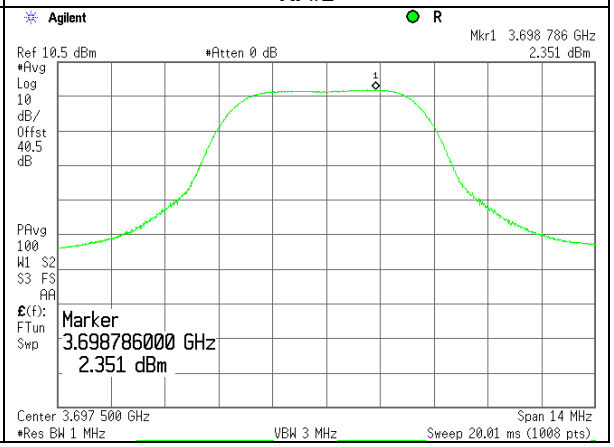


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.41 Peak output power density test results at high frequency

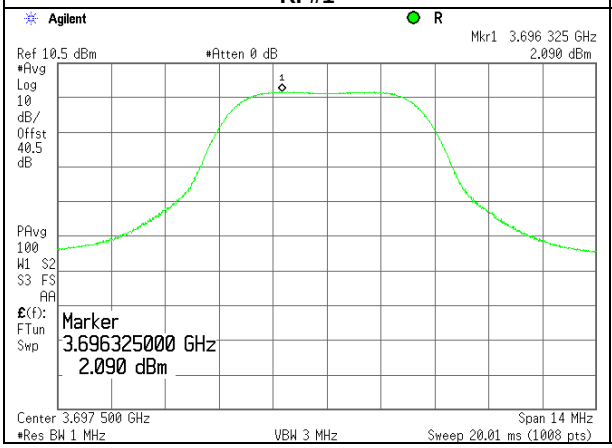
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

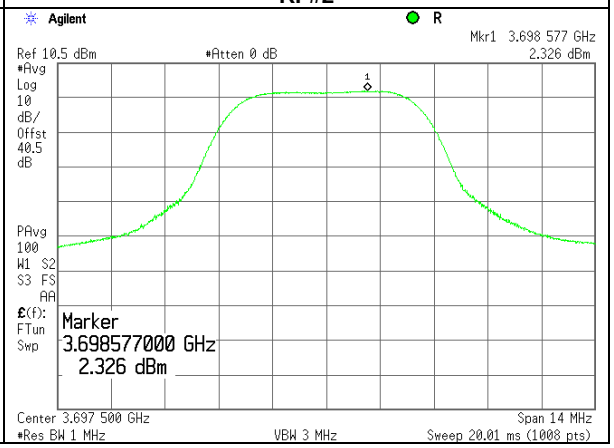




Plot 7.2.42 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

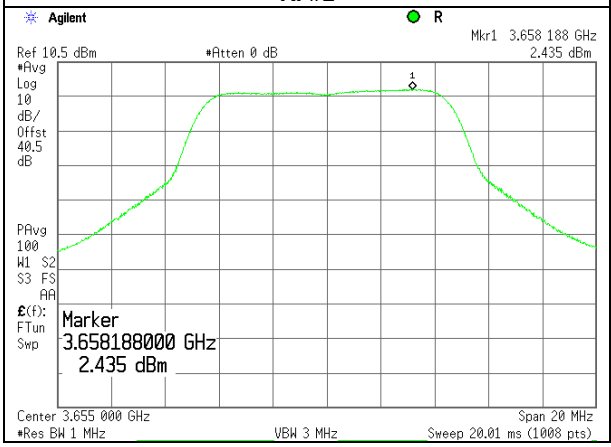


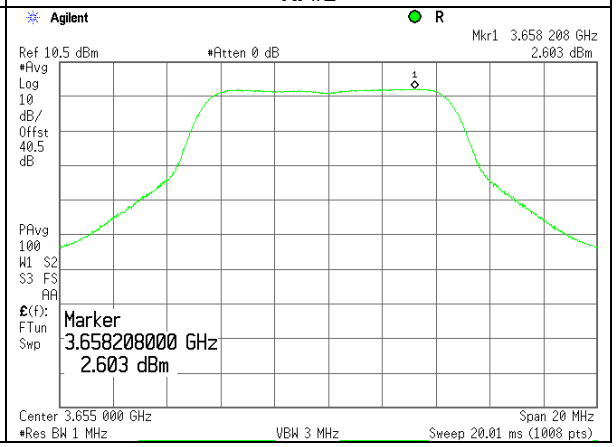


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.43 Peak output power density test results at low frequency

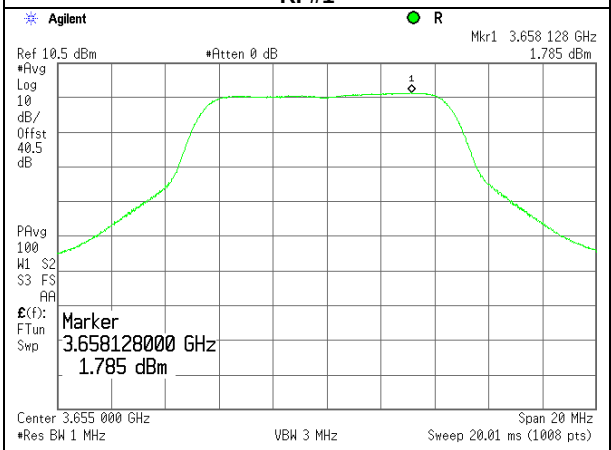
CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

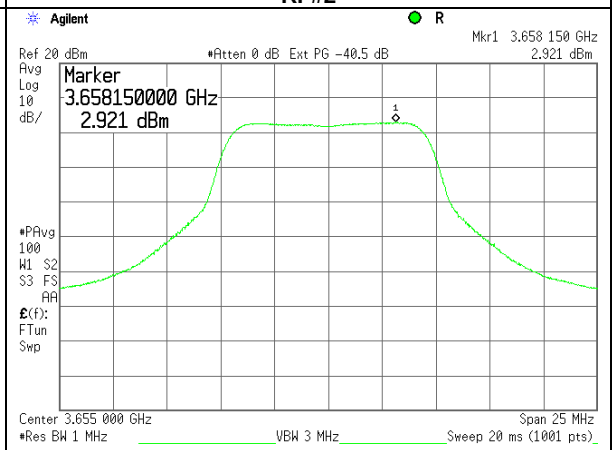




Plot 7.2.44 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3655 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

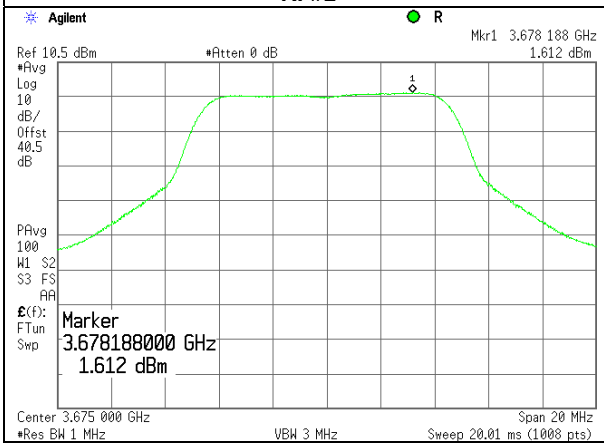


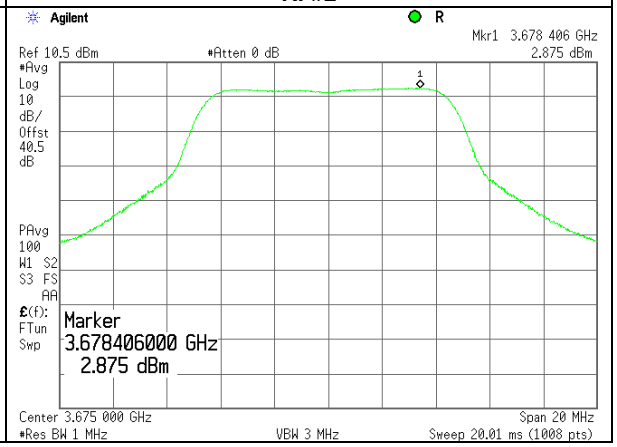


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.45 Peak output power density test results at mid frequency

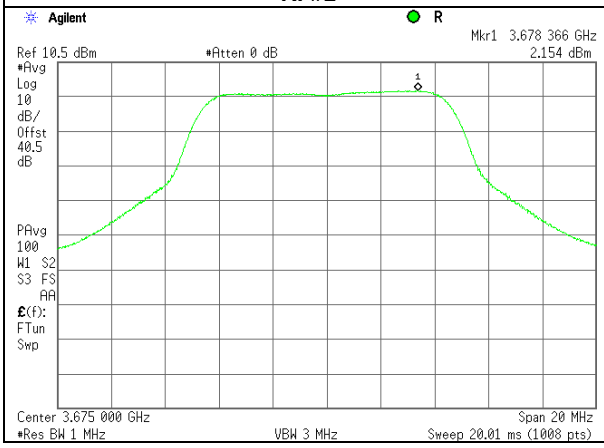
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

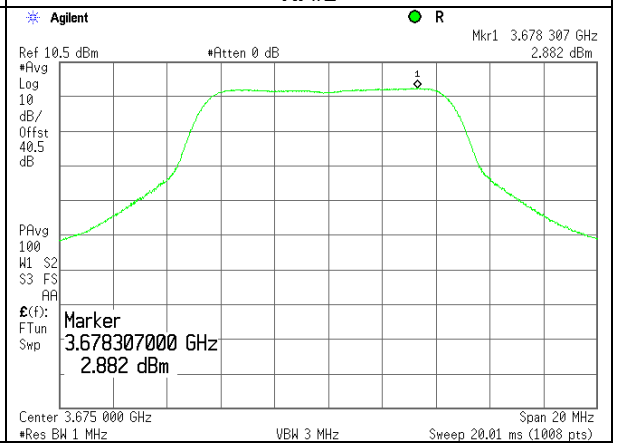




Plot 7.2.46 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

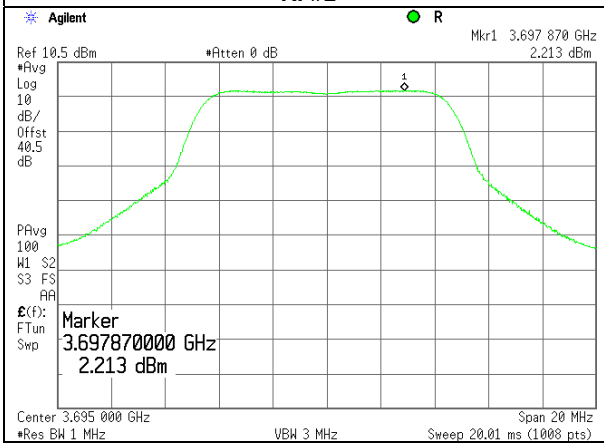


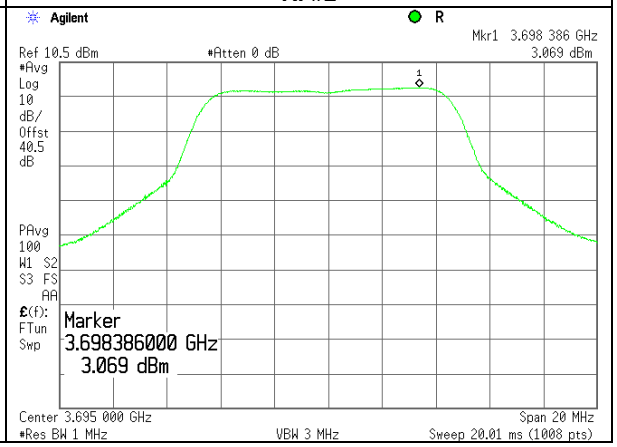


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.47 Peak output power density test results at high frequency

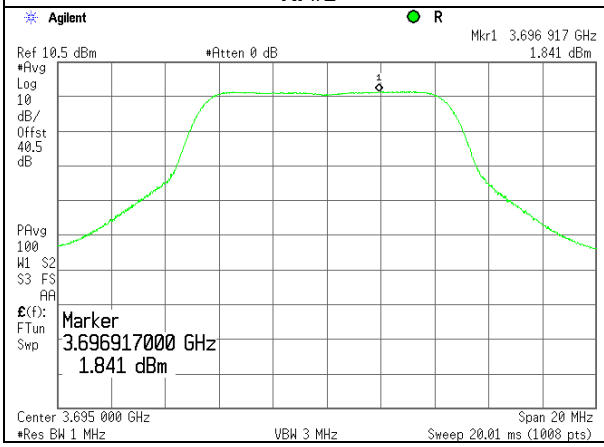
CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

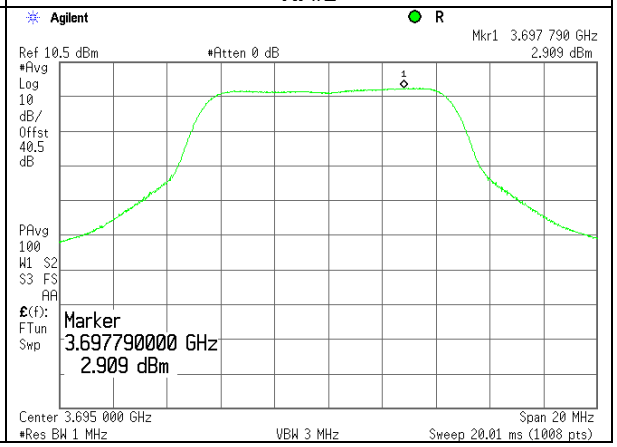




Plot 7.2.48 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3695 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

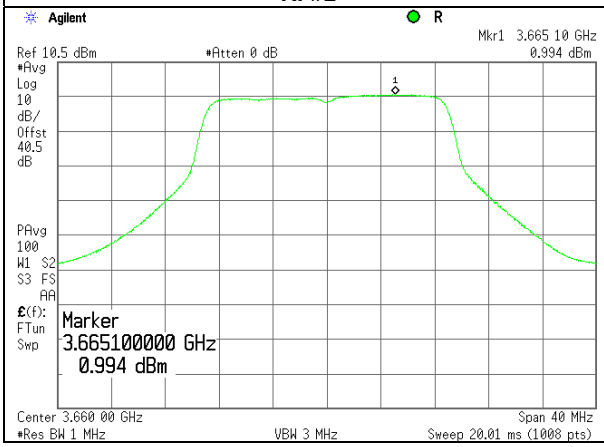


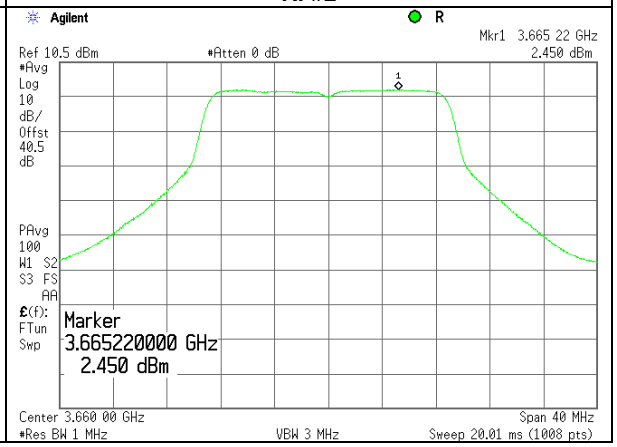


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.49 Peak output power density test results at low frequency

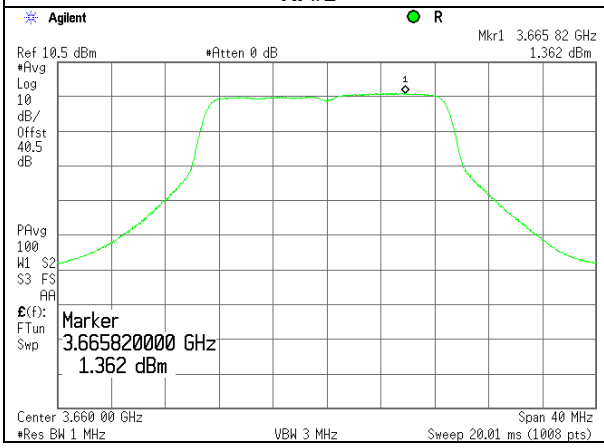
CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

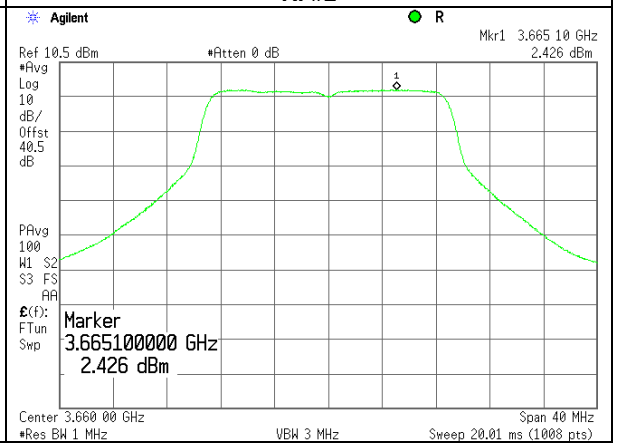




Plot 7.2.50 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3660 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

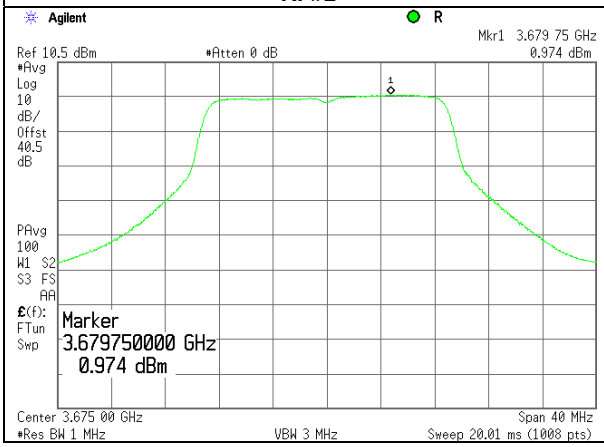


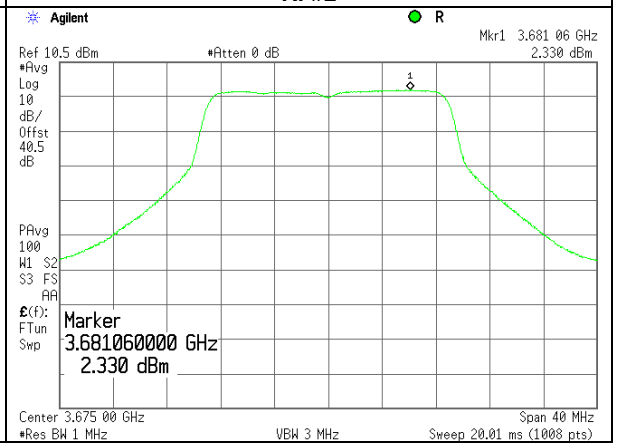


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.51 Peak output power density test results at mid frequency

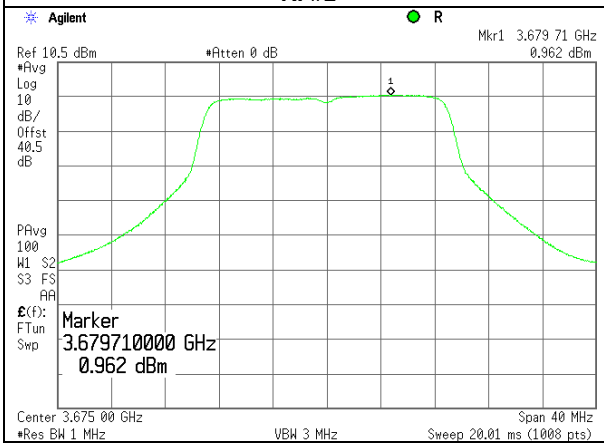
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

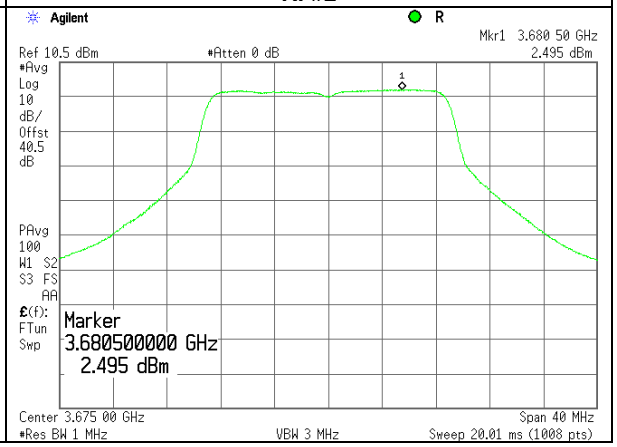




Plot 7.2.52 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

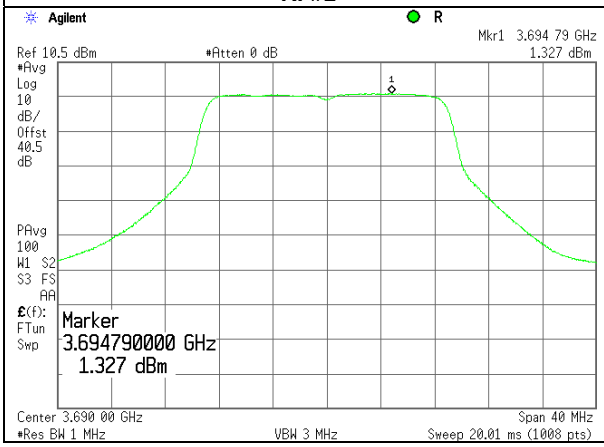


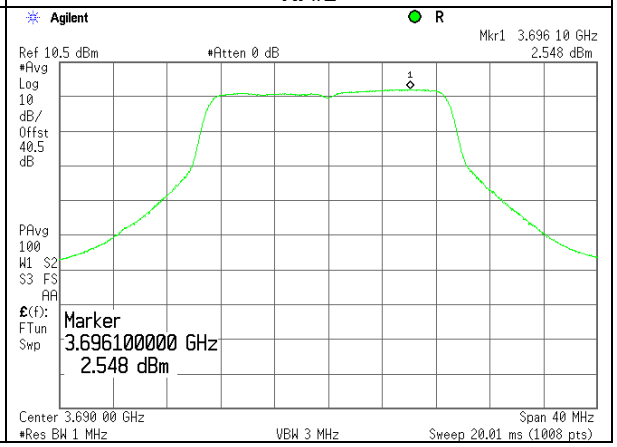


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	6/02/2010		
Temperature: 25 ºC	**Air Pressure:** 1005 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.53 Peak output power density test results at high frequency

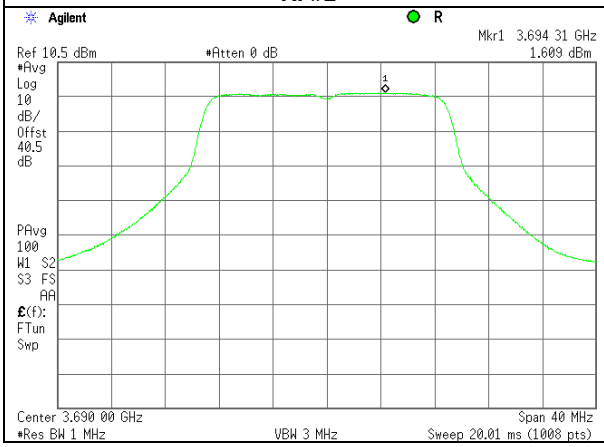
CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**

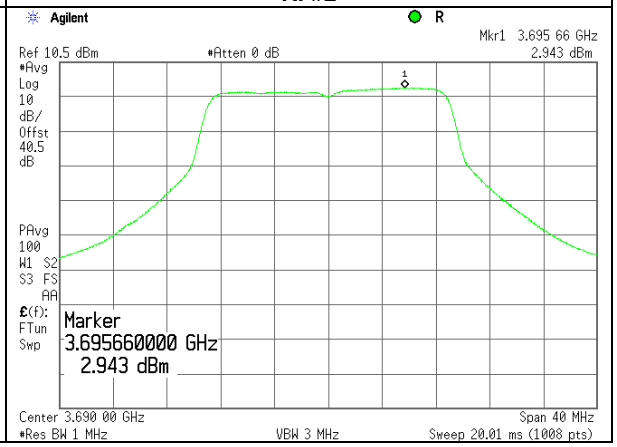




Plot 7.2.54 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3690 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	24.0dBi
RF#1	**RF#2**





Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Table 7.2.5 Peak EIRP power density test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3700.0 MHz
DETECTOR USED: Average (RMS)
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: 3000 kHz
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
ANTENNA ASSEMBLY GAIN: 13.5dBi
EBW: 5 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3652.5	BPSK	8.898	9.512	12.23	25.73	30	-4.27	Pass
3675.0	BPSK	8.65	10.032	12.41	25.91	30	-4.09	Pass
3697.5	BPSK	8.643	9.878	12.31	25.81	30	-4.19	Pass
3652.5	64QAM	8.794	9.557	12.20	25.70	30	-4.30	Pass
3675.0	64QAM	8.622	9.898	12.32	25.82	30	-4.18	Pass
3697.5	64QAM	8.591	9.782	12.24	25.74	30	-4.26	Pass

EBW: 10 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3656.0	BPSK	13.033	13.519	16.29	29.79	30	-0.21	Pass
3675.0	BPSK	12.685	13.848	16.32	29.82	30	-0.18	Pass
3694.0	BPSK	12.753	13.638	16.23	29.73	30	-0.27	Pass
3656.0	64QAM	12.657	13.354	16.03	29.53	30	-0.47	Pass
3675.0	64QAM	12.908	13.465	16.21	29.71	30	-0.29	Pass
3694.0	64QAM	12.658	13.56	16.14	29.64	30	-0.36	Pass

EBW: 20 MHz

Channel, MHz	Modulation	Pmeas (RF#1), dBm/MHz	Pmeas (RF#2), dBm/MHz	Power density*, dBm/MHz	EIRP power density**, dBm/MHz	Limit, dBm/MHz	Margin, dB	Verdict
3661.0	BPSK	10.354	11.34	13.89	27.39	30	-2.61	Pass
3675.0	BPSK	10.674	11.647	14.20	27.70	30	-2.30	Pass
3689.0	BPSK	10.149	11.579	13.93	27.43	30	-2.57	Pass
3661.0	64QAM	10.546	11.789	14.22	27.72	30	-2.28	Pass
3675.0	64QAM	10.392	11.556	14.02	27.52	30	-2.48	Pass
3689.0	64QAM	10.232	11.606	13.98	27.48	30	-2.52	Pass

* - Power density, dBm/MHz = 10 log{10^[P(dBm/MHz,RF#1)/10]+ 10^[P(dBm/MHz, RF#2)/10]}
** - EIRP power density, dBm/MHz = Power density*, dBm/MHz + Antenna Assembly Gain, dBi
NOTE1: EUT was configured to produce maximum conducted RF power for minimum declared Antenna gain of 22 dBi. RF output power will vary depending on the antenna assembly gain to ensure that the total EIRP power and power limits withstand with EIRP limits. For actual settings of power levels with respect to actual antenna assembly used, please refer to the User's Manual.

Reference numbers of test equipment used

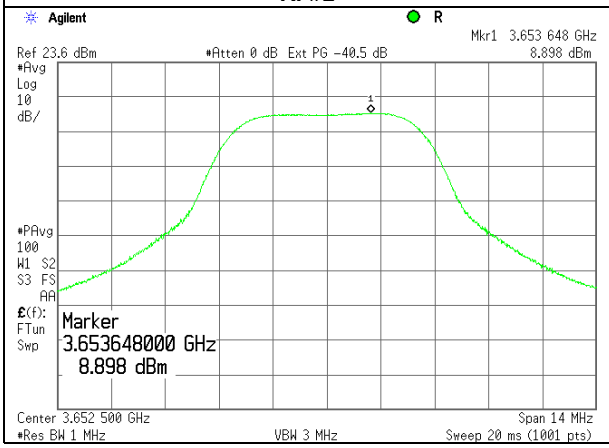
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			

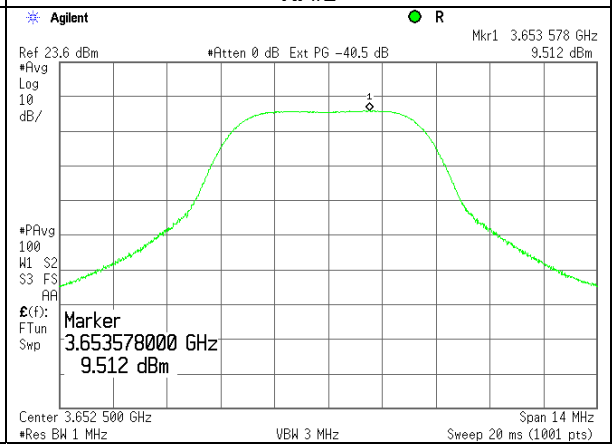
Full description is given in Appendix A.

Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.55 Peak output power density test results at low frequency

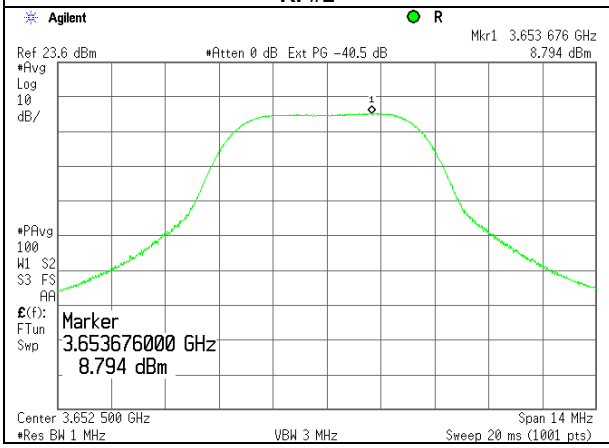
CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

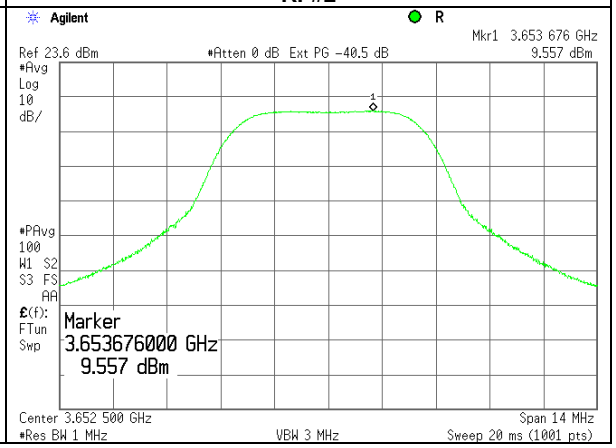




Plot 7.2.56 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3652.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

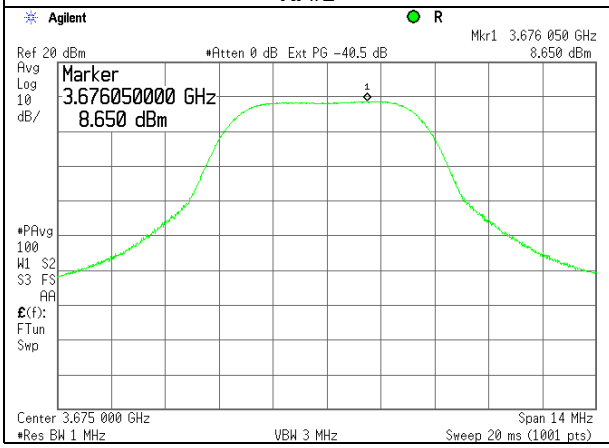


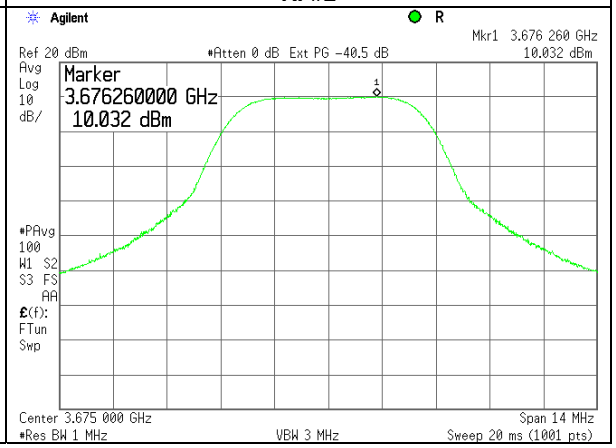


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.57 Peak output power density test results at mid frequency

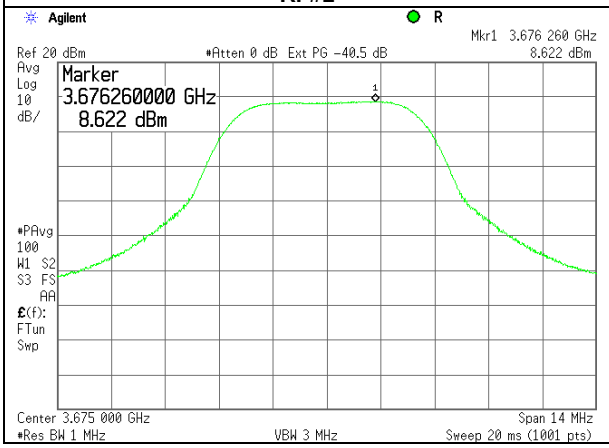
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

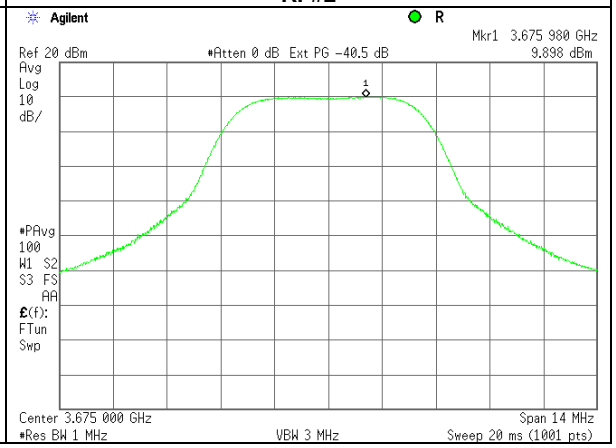




Plot 7.2.58 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

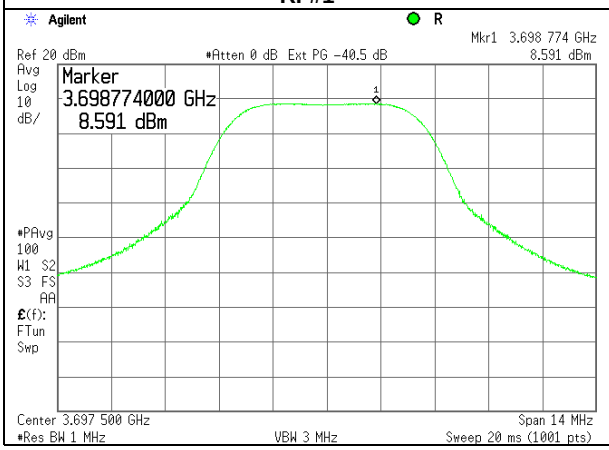


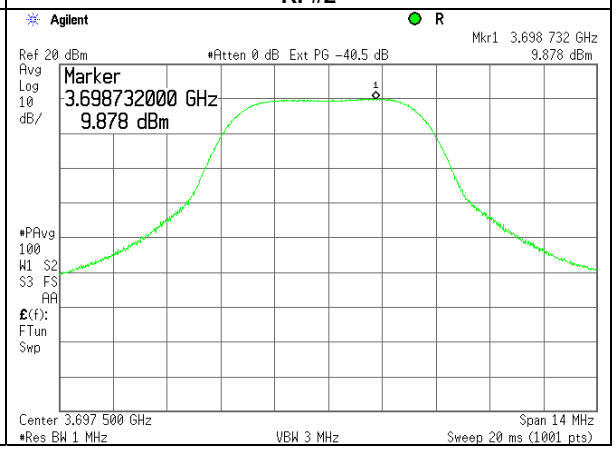


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.59 Peak output power density test results at high frequency

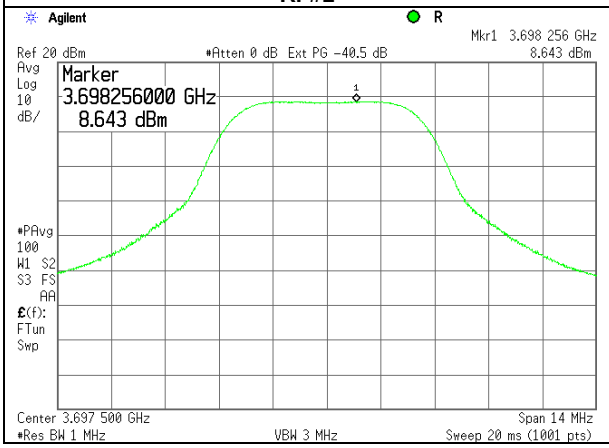
CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

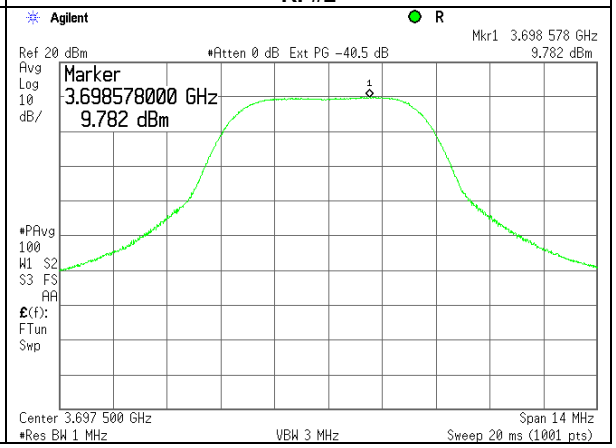




Plot 7.2.60 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3697.5 MHz
EMISSION BANDWIDTH:	5 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

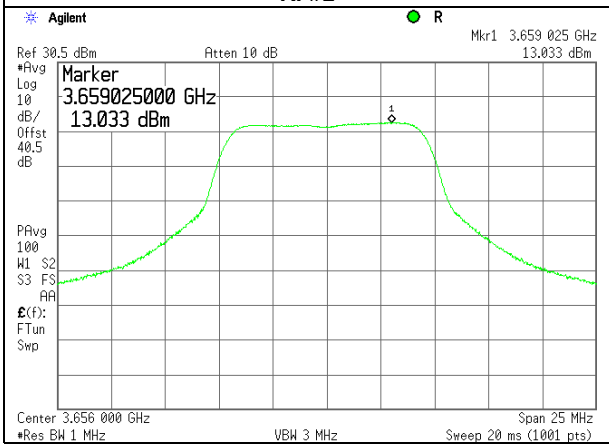


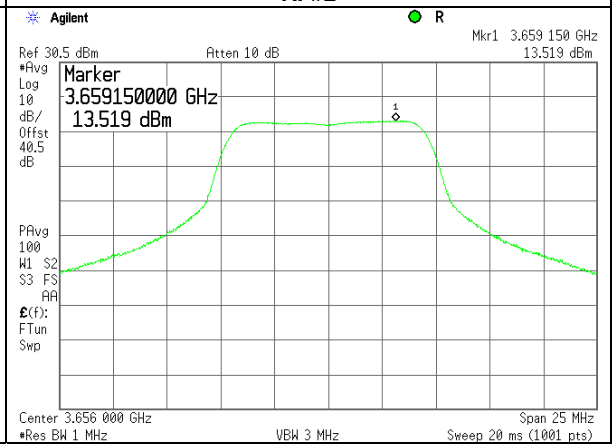


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.61 Peak output power density test results at low frequency

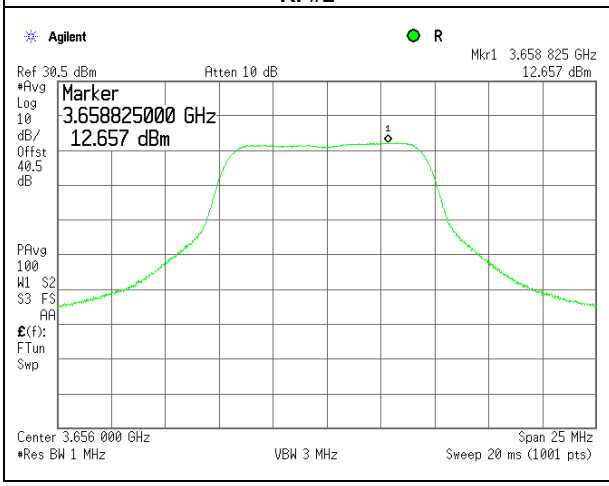
CARRIER FREQUENCY:	3656 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

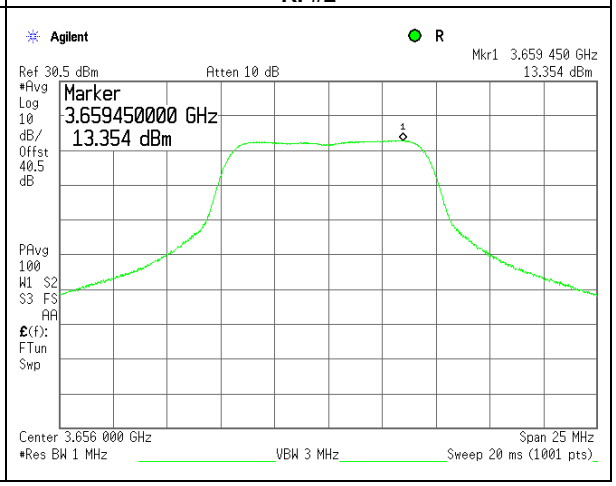




Plot 7.2.62 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3656 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

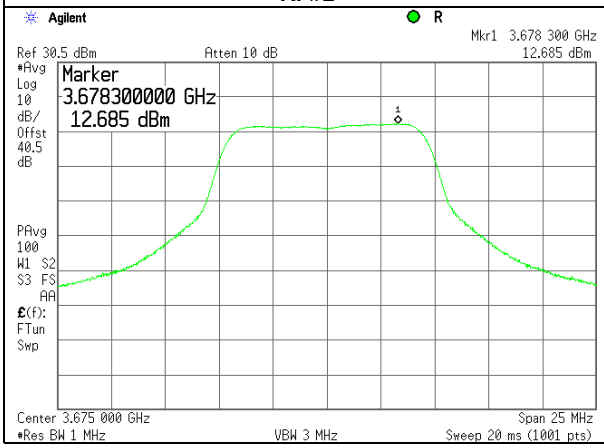


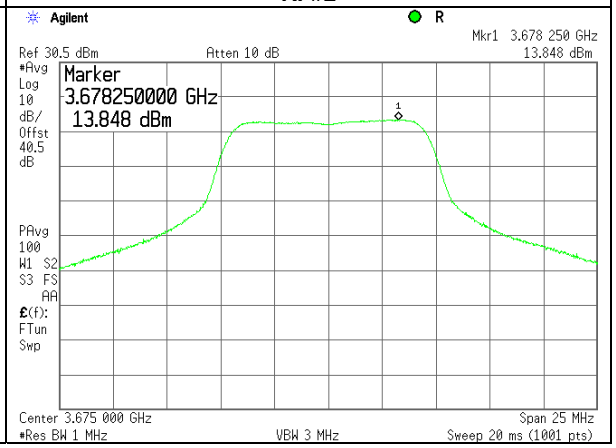


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.63 Peak output power density test results at mid frequency

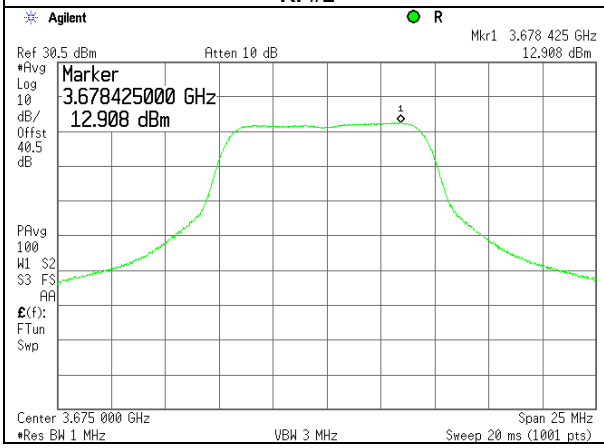
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

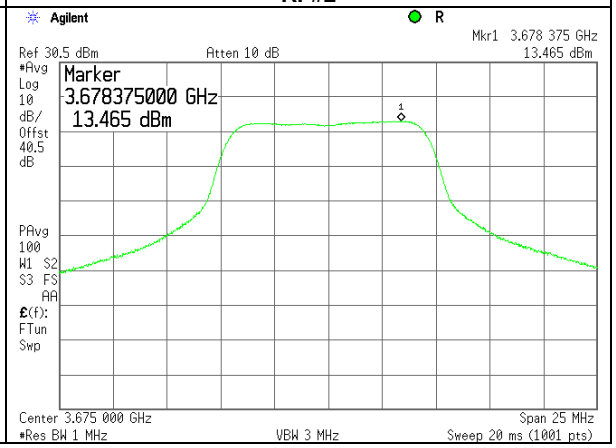




Plot 7.2.64 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

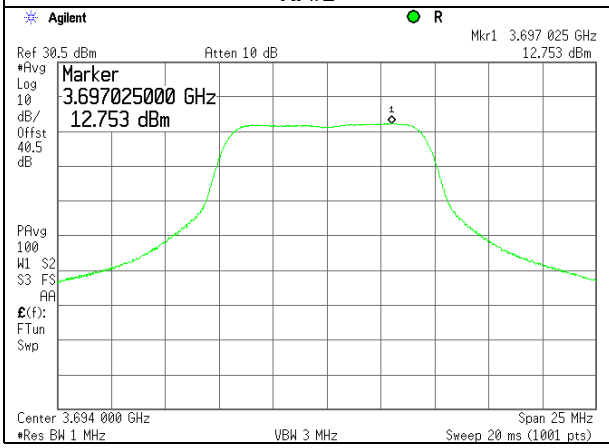


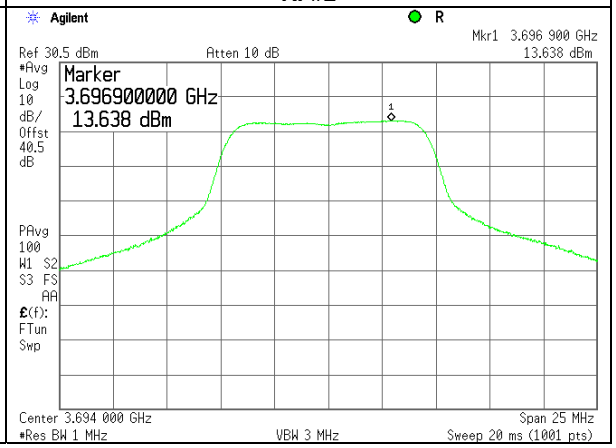


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.65 Peak output power density test results at high frequency

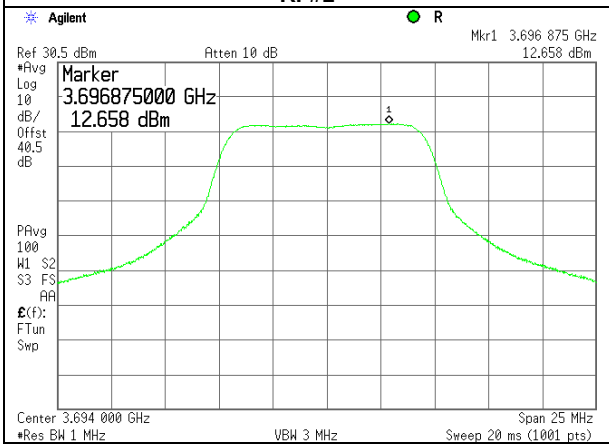
CARRIER FREQUENCY:	3694 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

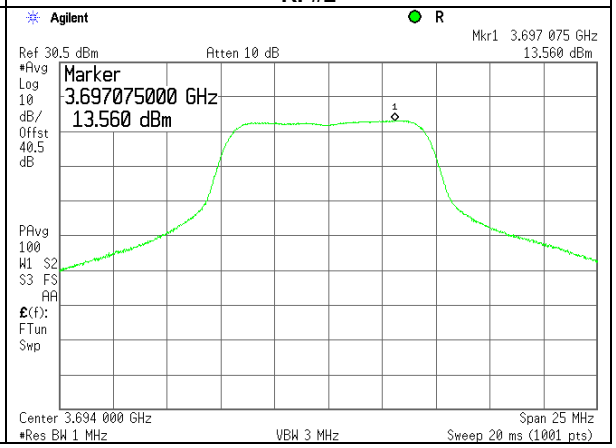




Plot 7.2.66 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3694 MHz
EMISSION BANDWIDTH:	10 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

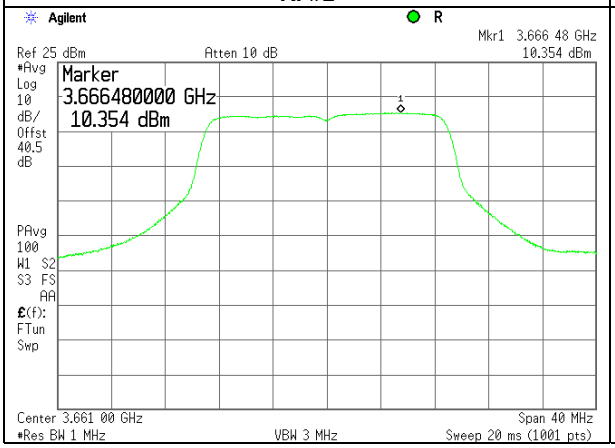


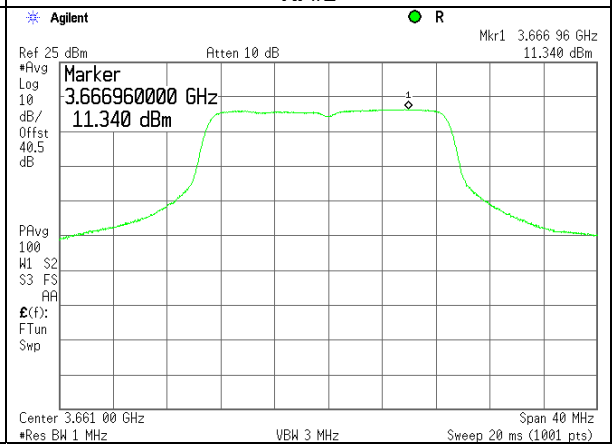


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.67 Peak output power density test results at low frequency

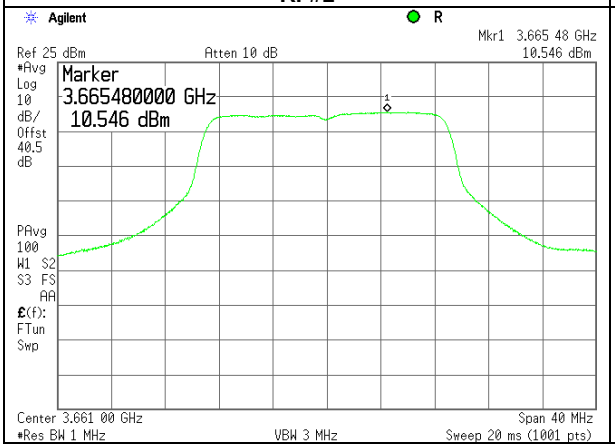
CARRIER FREQUENCY:	3661 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

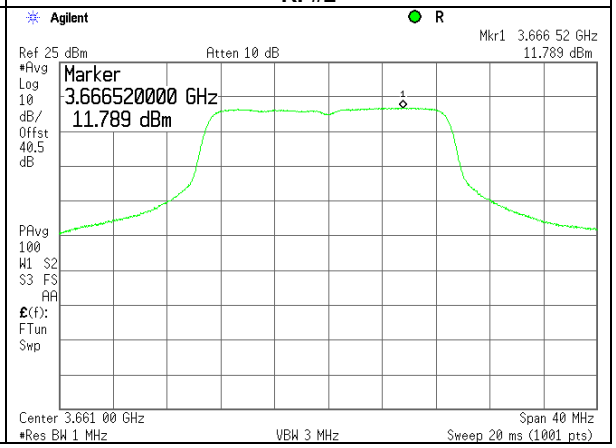




Plot 7.2.68 Peak output power density test results at low frequency

CARRIER FREQUENCY:	3661 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

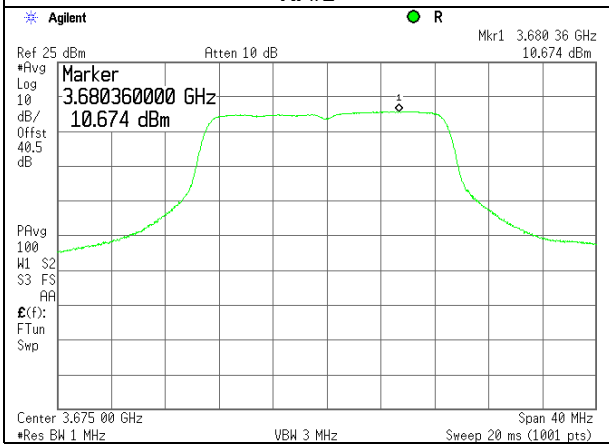


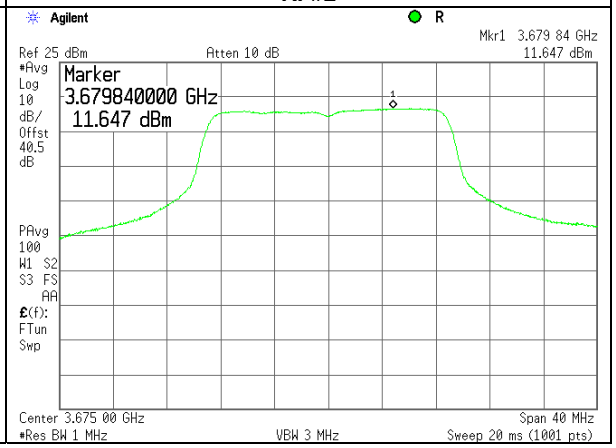


Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.69 Peak output power density test results at mid frequency

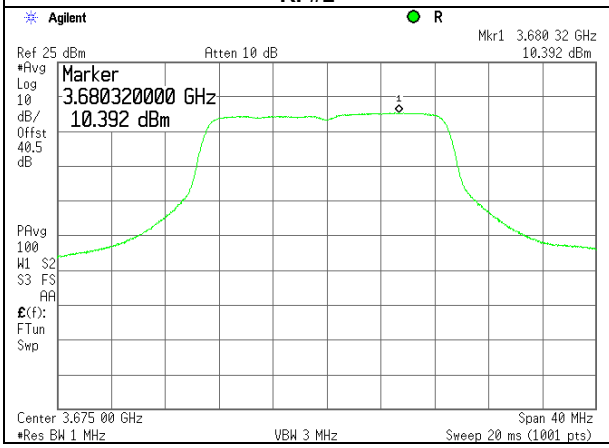
CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

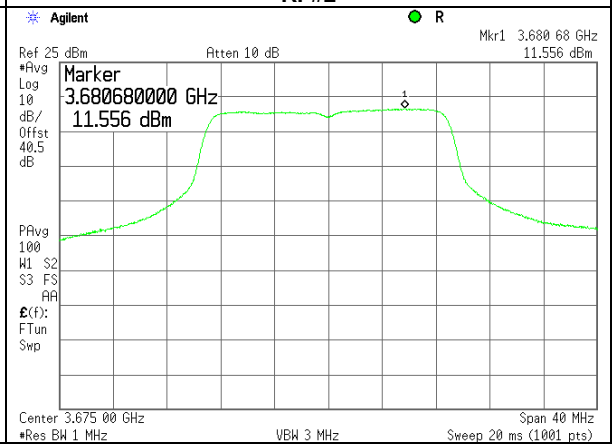




Plot 7.2.70 Peak output power density test results at mid frequency

CARRIER FREQUENCY:	3675 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**

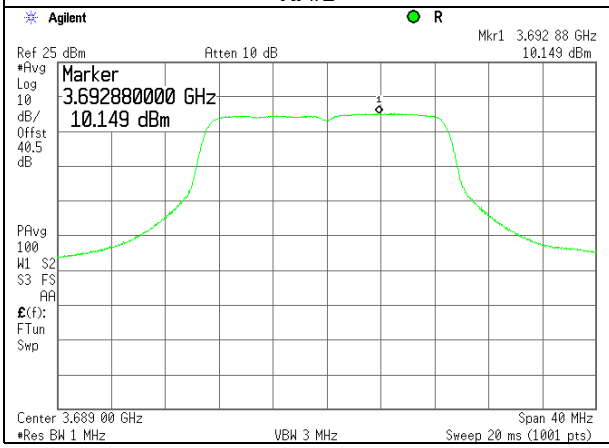


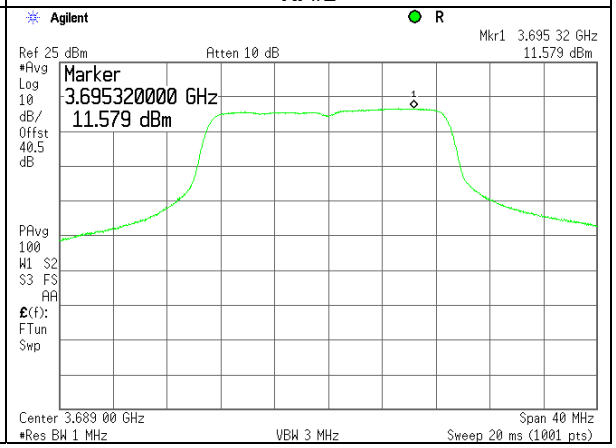


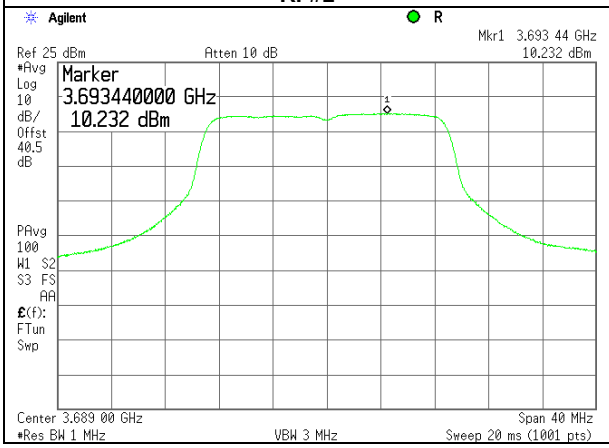
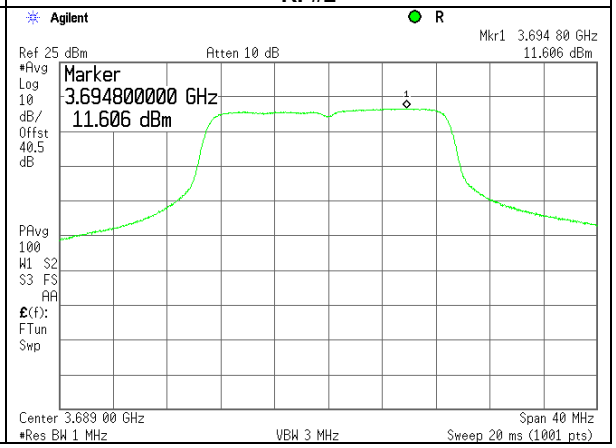
Test specification:	**Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density**		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date:	8/11/2010		
Temperature: 25 ºC	**Air Pressure:** 1007 hPa	**Relative Humidity:** 45 %	**Power Supply:** -48 VDC
Remarks: with 13 dBi and 13.5 dBi gain antenna assembly			

Plot 7.2.71 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3689 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	BPSK
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**





Plot 7.2.72 Peak output power density test results at high frequency

CARRIER FREQUENCY:	3689 MHz
EMISSION BANDWIDTH:	20 MHz
MODULATION:	64QAM
ANTENNA ASSEMBLY GAIN:	13.5dBi
RF#1	**RF#2**