

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 3000 3GHz BAND**

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1 Applicant information

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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: 11/15/2010
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	November 15, 2010	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	November 15, 2010	
Approved by:	Mr. M. Nikishin, EMC and Radio group manager	November 16, 2010	

6 EUT description

6.1 General information

The EUT, "RADWIN 1000 3GHz BAND", "RADWIN 2000 3GHz BAND", and "RADWIN 3000 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 3000 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

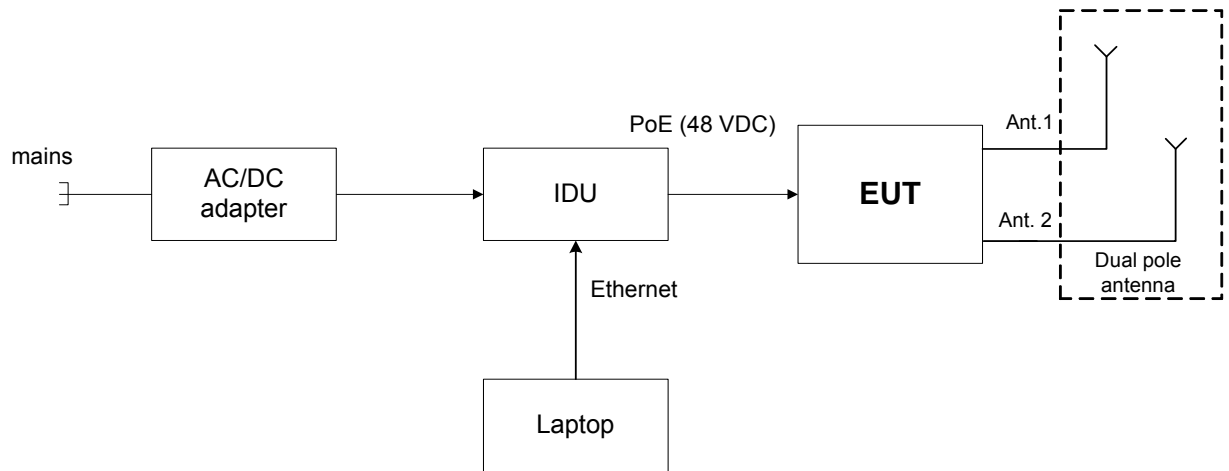
6.3 Support and test equipment

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 – 3675.0 MHz	
Operating frequency range		3652.5 – 3672.5 MHz (refer to Table 6.6.1)	
Maximum rated output power		Peak (conducted)	26 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 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	3663	3672.5
10	3655	3663	3670
10 (with 13.5 dBi antenna assembly)	3656	3663	3669
20	3660	3663	3665
20 (with 13.5 dBi antenna assembly)	3661	3663	3664

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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0	25	25	44
Mobile and portable stations			
3650.0 – 3675.0	25	1	30

7.1.2 Test procedure

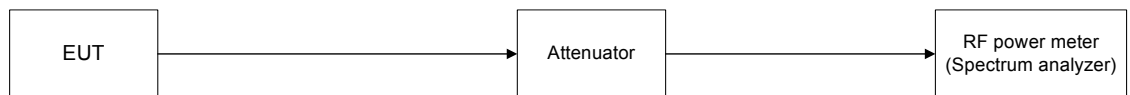
7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.

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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 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
3663.0	BPSK	6.639	25	38.221	17.221
3672.5	BPSK	6.650	25	38.228	17.228
EBW: 5 MHz					
3652.5	64QAM	6.568	25	38.174	17.174
3663.0	64QAM	6.598	25	38.194	17.194
3672.5	64QAM	6.557	25	38.167	17.167

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
3663.0	BPSK	12.406	25	40.936	19.936
3670.0	BPSK	12.703	25	41.039	20.039
EBW: 10 MHz					
3655.0	64QAM	12.171	25	40.853	19.853
3663.0	64QAM	12.375	25	40.925	19.925
3670.0	64QAM	12.412	25	40.938	19.938

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
3663.0	BPSK	22.609	25	43.543	22.543
3665.0	BPSK	22.945	25	43.607	22.607
EBW: 20 MHz					
3660.0	64QAM	23.029	25	43.623	22.623
3663.0	64QAM	22.674	25	43.555	22.555
3665.0	64QAM	22.653	25	43.551	22.551

* - Limit for EBW = $10 \cdot \text{LOG}((1000 \cdot [\text{Output power limit, W}] / 25\text{MHz}) / (25\text{MHz} / \text{EBW, MHz}))$, 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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
EBW: 5 MHz

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
3652.5	BPSK	10.68	11.53	14.14	21.00	35.14	38.27	-3.13	Pass
3663.0	BPSK	11.95	11.77	14.87	21.00	35.87	38.22	-2.35	Pass
3672.5	BPSK	11.59	12.13	14.88	21.00	35.88	38.23	-2.35	Pass
EBW: 5 MHz									
3652.5	64QAM	10.48	11.05	13.78	21.00	34.78	38.17	-3.39	Pass
3663.0	64QAM	11.49	11.33	14.42	21.00	35.42	38.19	-2.77	Pass
3672.5	64QAM	11.54	11.44	14.50	21.00	35.50	38.17	-2.67	Pass
EBW: 10 MHz									
3655.0	BPSK	13.52	14.62	17.12	21.00	37.12	40.86	-2.74	Pass
3663.0	BPSK	13.53	13.86	16.71	21.00	37.71	40.94	-3.23	Pass
3670.0	BPSK	14.13	14.01	17.08	21.00	38.08	41.04	-2.96	Pass
3655.0	64QAM	13.97	14.88	17.46	21.00	37.46	40.85	-2.39	Pass
3663.0	64QAM	14.01	13.82	16.93	21.00	37.93	40.93	-3.00	Pass
3670.0	64QAM	14.34	14.33	17.35	21.00	38.35	40.94	-2.59	Pass
EBW: 20 MHz									
3660.0	64QAM	16.18	17.96	20.17	21.00	41.17	43.714	-2.54	Pass
3663.0	BPSK	16.40	17.05	19.75	21.00	40.75	43.543	-2.80	Pass
3665.0	BPSK	16.61	17.73	20.22	21.00	41.22	43.607	-2.39	Pass
3660.0	64QAM	15.71	17.95	19.98	21.00	40.98	43.623	-2.64	Pass
3663.0	64QAM	16.43	17.51	20.01	21.00	41.01	43.555	-2.54	Pass
3665.0	64QAM	16.60	17.68	20.18	21.00	41.18	43.551	-2.37	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			
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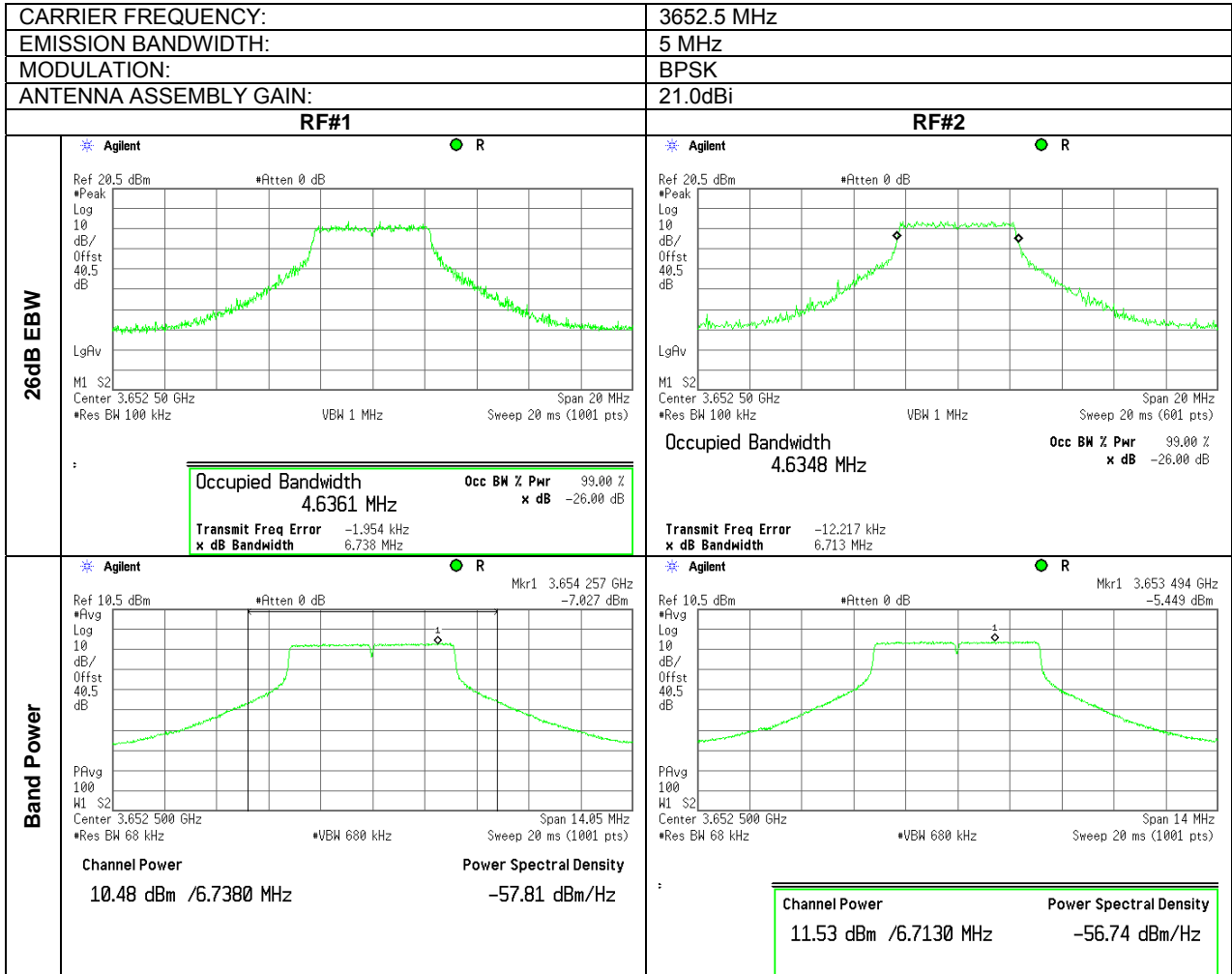
Full description is given in Appendix A.



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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: 11/14/2010			
Temperature: 25 °C	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 test results at low frequency

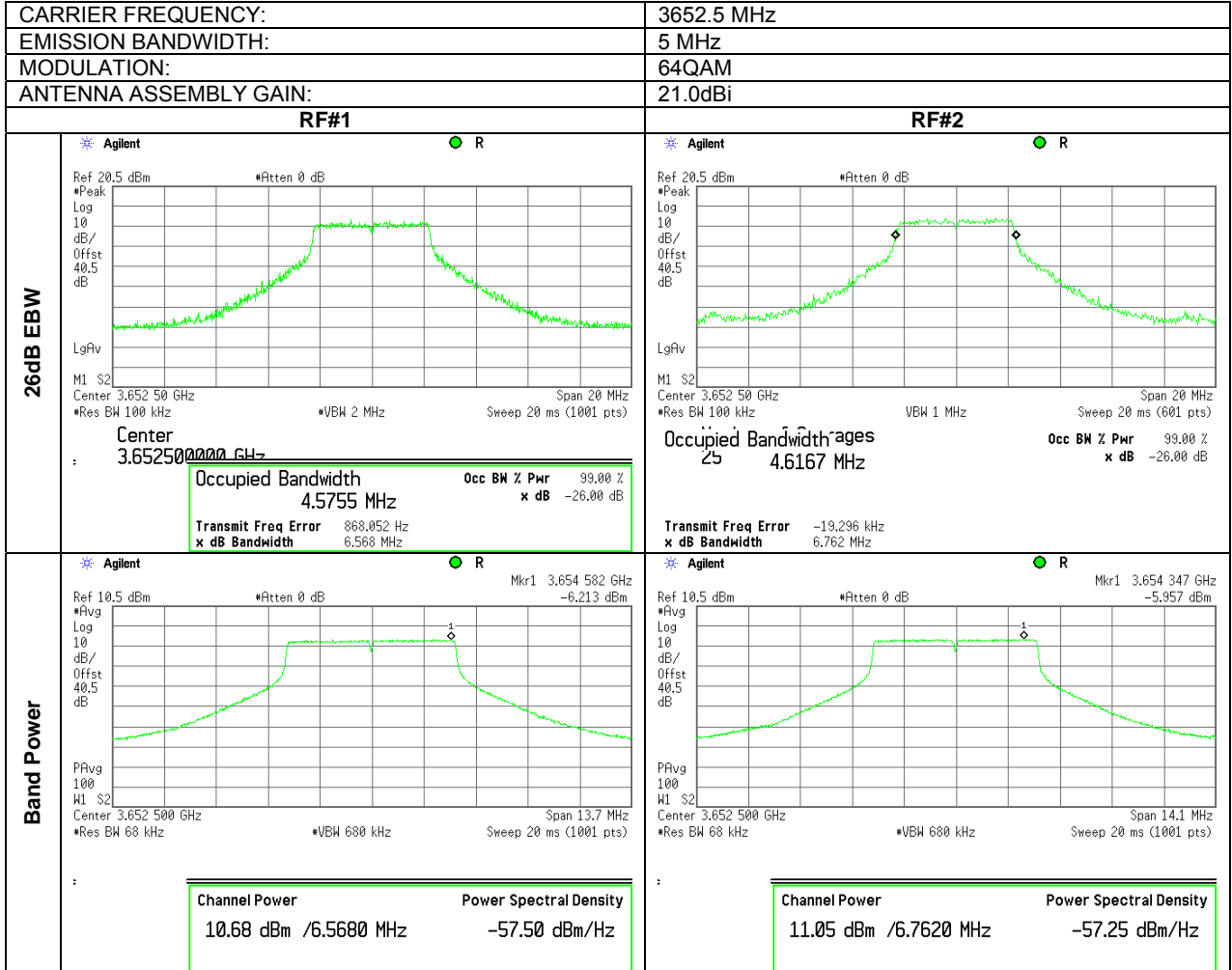




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Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 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 test results at low frequency





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: 11/14/2010			
Temperature: 25 °C	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 test results at mid frequency

CARRIER FREQUENCY:		3663 MHz	
EMISSION BANDWIDTH:		5 MHz	
MODULATION:		BPSK	
ANTENNA ASSEMBLY GAIN:		21.0dBi	
RF#1		RF#2	
26dB EBW	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log dB/Offst 30 dB LgAv H1 S2 Center 3.663 00 GHz Span 10 MHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5074 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -14.076 kHz x dB Bandwidth 6.581 MHz* </p>	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log dB/Offst 30 dB LgAv H1 S2 Center 3.663 00 GHz Span 10 MHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5083 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -20.819 kHz x dB Bandwidth 6.639 MHz* </p>	
	Band Power	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log dB/Offst 30 dB PFAvg 100 H1 S2 Center 3.663 000 GHz Span 14.87 MHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 11.95 dBm / 6.5810 MHz Power Spectral Density -56.23 dBm/Hz </p>	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log dB/Offst 30 dB PFAvg 100 H1 S2 Center 3.663 000 GHz Span 15 MHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 11.77 dBm / 6.6390 MHz Power Spectral Density -56.45 dBm/Hz </p>



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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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.4 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY:		3663 MHz	
EMISSION BANDWIDTH:		5 MHz	
MODULATION:		64QAM	
ANTENNA ASSEMBLY GAIN:		21.0dBi	
RF#1		RF#2	
26dB EBW	<p>Agilent R</p> <p>Ref 20 dBm, Atten 10 dB</p> <p>Peak, Log, dB/Offst, LgAv</p> <p>Center 3.663 00 GHz, Span 10 MHz, Res BW 100 kHz, VBW 1 MHz, Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.5050 MHz, Occ BW % Pwr 99.00 %, x dB -26.00 dB</p> <p>Transmit Freq Error -11.250 kHz, x dB Bandwidth 6.598 MHz*</p>	<p>Agilent R</p> <p>Ref 20 dBm, Atten 10 dB</p> <p>Peak, Log, dB/Offst, LgAv</p> <p>Center 3.663 00 GHz, Span 10 MHz, Res BW 100 kHz, VBW 1 MHz, Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.5085 MHz, Occ BW % Pwr 99.00 %, x dB -26.00 dB</p> <p>Transmit Freq Error -13.911 kHz, x dB Bandwidth 6.363 MHz*</p>	
	Band Power	<p>Agilent R</p> <p>Ref 20 dBm, Atten 10 dB</p> <p>Avg, Log, dB/Offst, PFAvg</p> <p>Center 3.663 000 GHz, Span 14.91 MHz, Res BW 130 kHz, VBW 1.3 MHz, Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.49 dBm / 6.5980 MHz, Power Spectral Density -56.71 dBm/Hz</p>	<p>Agilent R</p> <p>Ref 20 dBm, Atten 10 dB, Mkr1 3.664 582 GHz, -3.694 dBm</p> <p>Avg, Log, dB/Offst, PFAvg</p> <p>Center 3.663 000 GHz, Span 14.38 MHz, Res BW 130 kHz, VBW 1.3 MHz, Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.33 dBm / 6.3630 MHz, Power Spectral Density -56.71 dBm/Hz</p>



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: 11/14/2010	
Temperature: 25 °C	Air Pressure: 1005 hPa
Relative Humidity: 45 %	
Power Supply: -48VDC	
Remarks: with 21 dBi gain antenna assembly	

Plot 7.1.5 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3672.5 MHz	
EMISSION BANDWIDTH: 5 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log dB/ Offst 30 dB LgAv H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5047 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -9.586 kHz Occupied Bandwidth 6.650 MHz* </p>
	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log dB/ Offst 30 dB LgAv H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5103 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -21.294 kHz Occupied Bandwidth 6.449 MHz* </p>
RF#2	
Band Power	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log dB/ Offst 30 dB PAvg 100 H1 S2 Start 3.664 987 GHz Stop 3.680 013 GHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 11.59 dBm /6.6500 MHz Power Spectral Density -56.64 dBm/Hz </p>
	<p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log dB/ Offst 30 dB PAvg 100 H1 S2 Start 3.665 214 GHz Stop 3.679 786 GHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 12.13 dBm /6.4490 MHz Power Spectral Density -55.96 dBm/Hz </p>



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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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

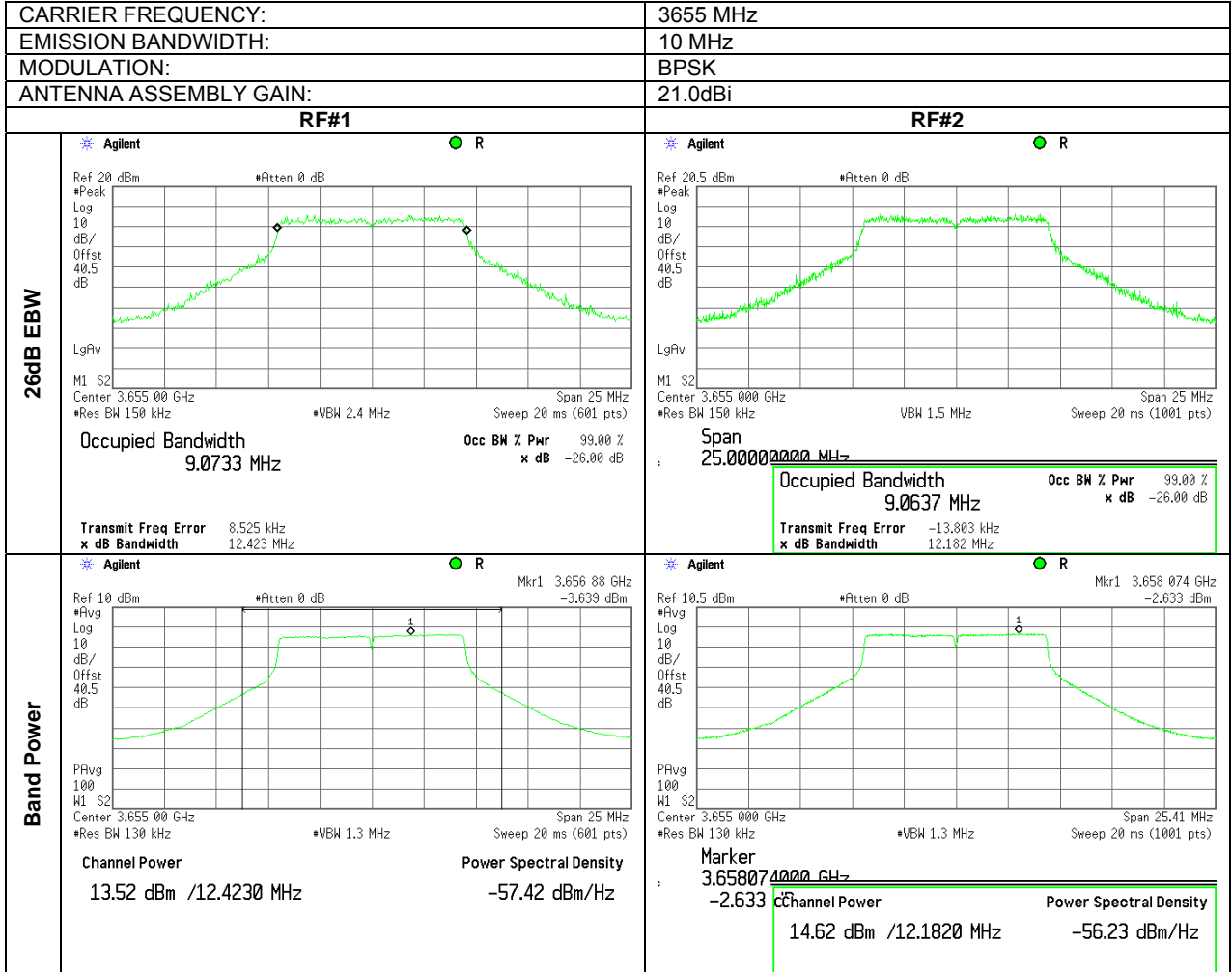
Plot 7.1.6 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3672.5 MHz	
EMISSION BANDWIDTH: 5 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	<p> Occupied Bandwidth 4.5028 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>
	<p> Transmit Freq Error -6.770 kHz Occupied Bandwidth 6.557 MHz* </p>
RF#2	
26dB EBW	<p> Occupied Bandwidth 4.5097 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>
	<p> Transmit Freq Error -20.000 kHz Occupied Bandwidth 6.370 MHz* </p>
RF#1	
Band Power	<p> Channel Power 11.54 dBm /6.5570 MHz Power Spectral Density -56.63 dBm/Hz </p>
	<p> Channel Power 11.54 dBm /6.5570 MHz Power Spectral Density -56.63 dBm/Hz </p>
RF#2	
Band Power	<p> Channel Power 11.44 dBm /6.3700 MHz Power Spectral Density -56.60 dBm/Hz </p>
	<p> Channel Power 11.44 dBm /6.3700 MHz Power Spectral Density -56.60 dBm/Hz </p>



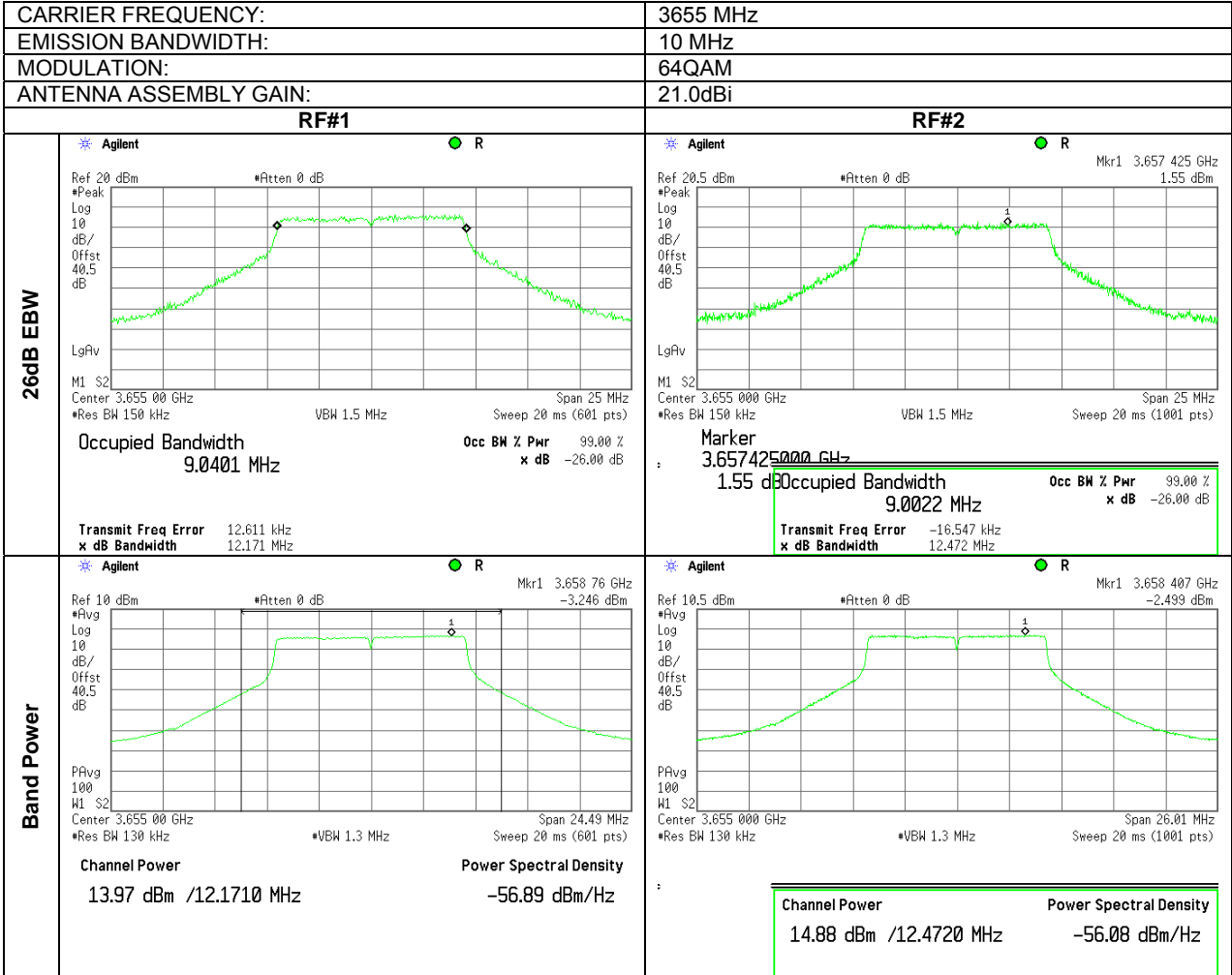
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.7 The 26dB EBW, band power test results at low frequency



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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.8 The 26dB EBW, band power test results at low frequency





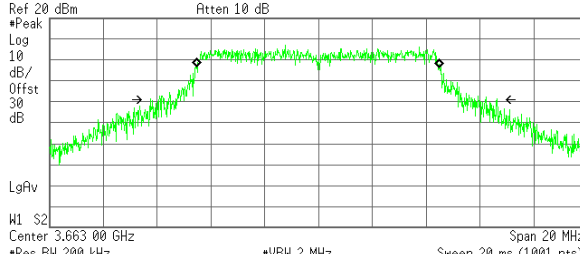
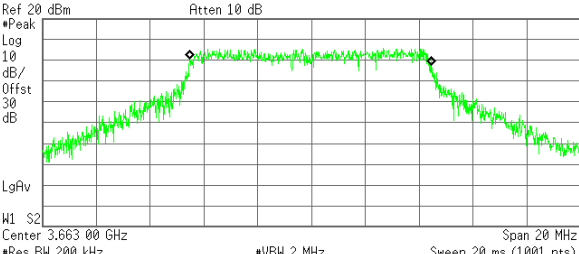
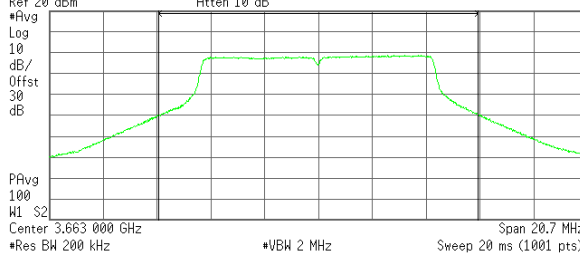
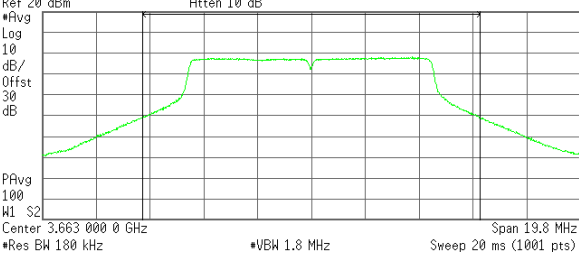
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.9 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 10 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	<p> Occupied Bandwidth 9.0040 MHz </p> <p> Transmit Freq Error -669.619 Hz x dB Bandwidth 12.269 MHz* </p>
	<p> Occupied Bandwidth 8.9888 MHz </p> <p> Transmit Freq Error -13.293 kHz x dB Bandwidth 12.406 MHz* </p>
RF#2	
Band Power	<p> Channel Power 13.53 dBm / 12.2690 MHz </p> <p> Power Spectral Density -57.36 dBm/Hz </p>
	<p> Channel Power 13.86 dBm / 12.4060 MHz </p> <p> Power Spectral Density -57.08 dBm/Hz </p>

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.10 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY:		3663 MHz
EMISSION BANDWIDTH:		10 MHz
MODULATION:		64QAM
ANTENNA ASSEMBLY GAIN:		21.0dBi
RF#1		
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 00 GHz Span 20 MHz</p> <p>Occupied Bandwidth 8.9827 MHz</p> <p>Transmit Freq Error -9.684 kHz</p> <p>Occupied Bandwidth 12.245 MHz*</p>	
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 00 GHz Span 20 MHz</p> <p>Occupied Bandwidth 9.0125 MHz</p> <p>Transmit Freq Error -12.131 kHz</p> <p>x dB Bandwidth 12.375 MHz*</p>	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 000 GHz Span 20.7 MHz</p> <p>Channel Power 14.01 dBm /12.2450 MHz</p> <p>Power Spectral Density -56.87 dBm/Hz</p>	
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 000 0 GHz Span 19.8 MHz</p> <p>Channel Power 13.82 dBm /12.3750 MHz</p> <p>Power Spectral Density -57.10 dBm/Hz</p>	



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.11 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3670 MHz	
EMISSION BANDWIDTH: 10 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 200.0 kHz @ 9.0121 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -2.436 kHz x dB Bandwidth 12.302 MHz*</p>
RF#2	
26dB EBW	
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0238 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -8.365 kHz Occupied Bandwidth 12.703 MHz*</p>
Band Power	
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PAvg 100</p> <p>H1 S2 Center 3.670 000 GHz Span 20.79 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.13 dBm / 12.3020 MHz Power Spectral Density -56.77 dBm/Hz</p>
Band Power	
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PAvg 100</p> <p>H1 S2 Center 3.670 000 GHz Span 21.47 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.01 dBm / 12.7030 MHz Power Spectral Density -57.03 dBm/Hz</p>



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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

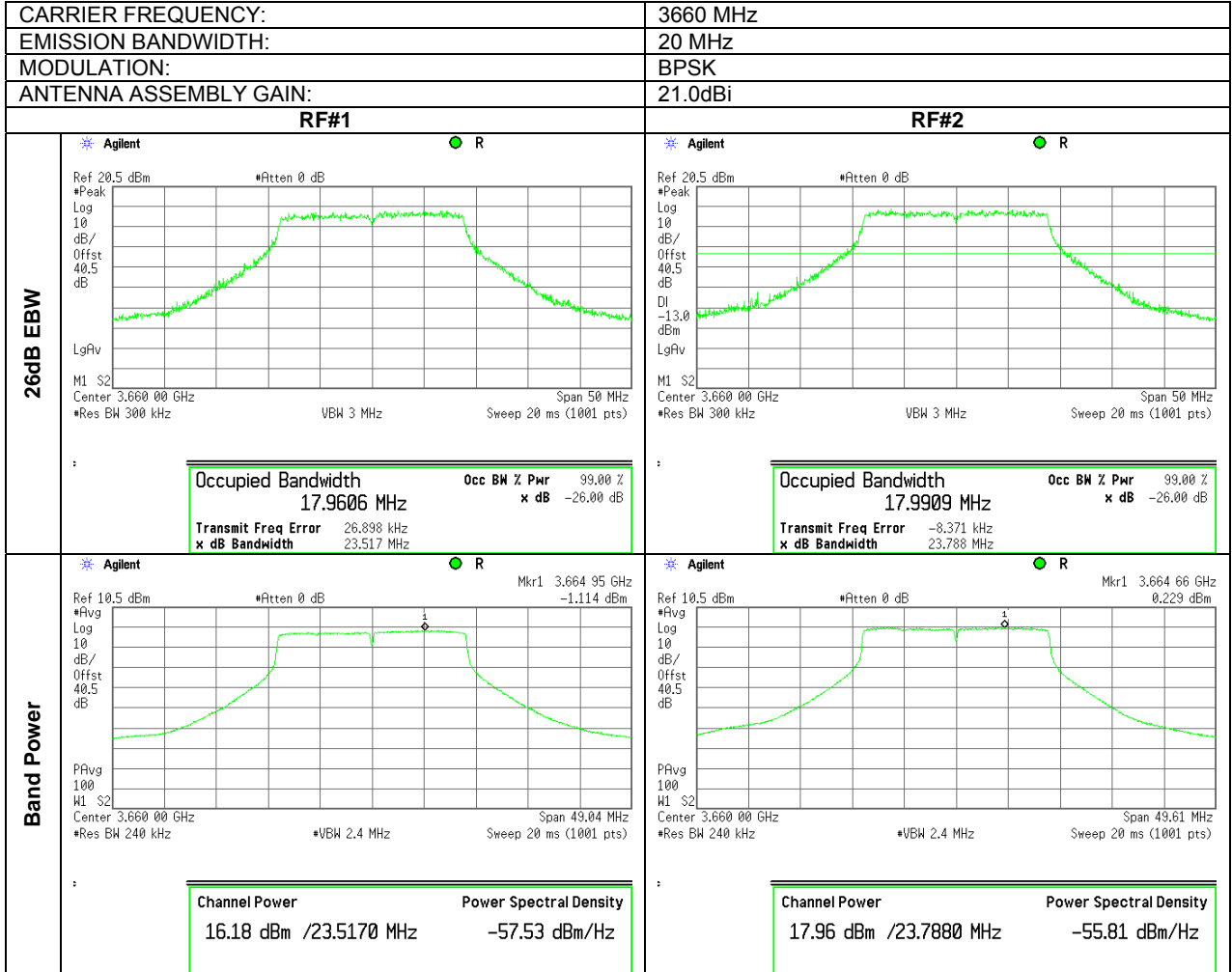
Plot 7.1.12 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY:		3670 MHz	
EMISSION BANDWIDTH:		10 MHz	
MODULATION:		64QAM	
ANTENNA ASSEMBLY GAIN:		21.0dBi	
RF#1		RF#2	
26dB EBW	<p> Occupied Bandwidth 9.0042 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>	<p> Occupied Bandwidth 8.9984 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>	
	<p> Transmit Freq Error -11.747 Hz Occupied Bandwidth 12.222 MHz* </p>	<p> Transmit Freq Error -9.612 kHz x dB Bandwidth 12.412 MHz* </p>	
Band Power	<p> Channel Power 14.38 dBm /12.2220 MHz Power Spectral Density -56.49 dBm/Hz </p>	<p> Channel Power 14.33 dBm /12.4120 MHz Power Spectral Density -56.61 dBm/Hz </p>	



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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

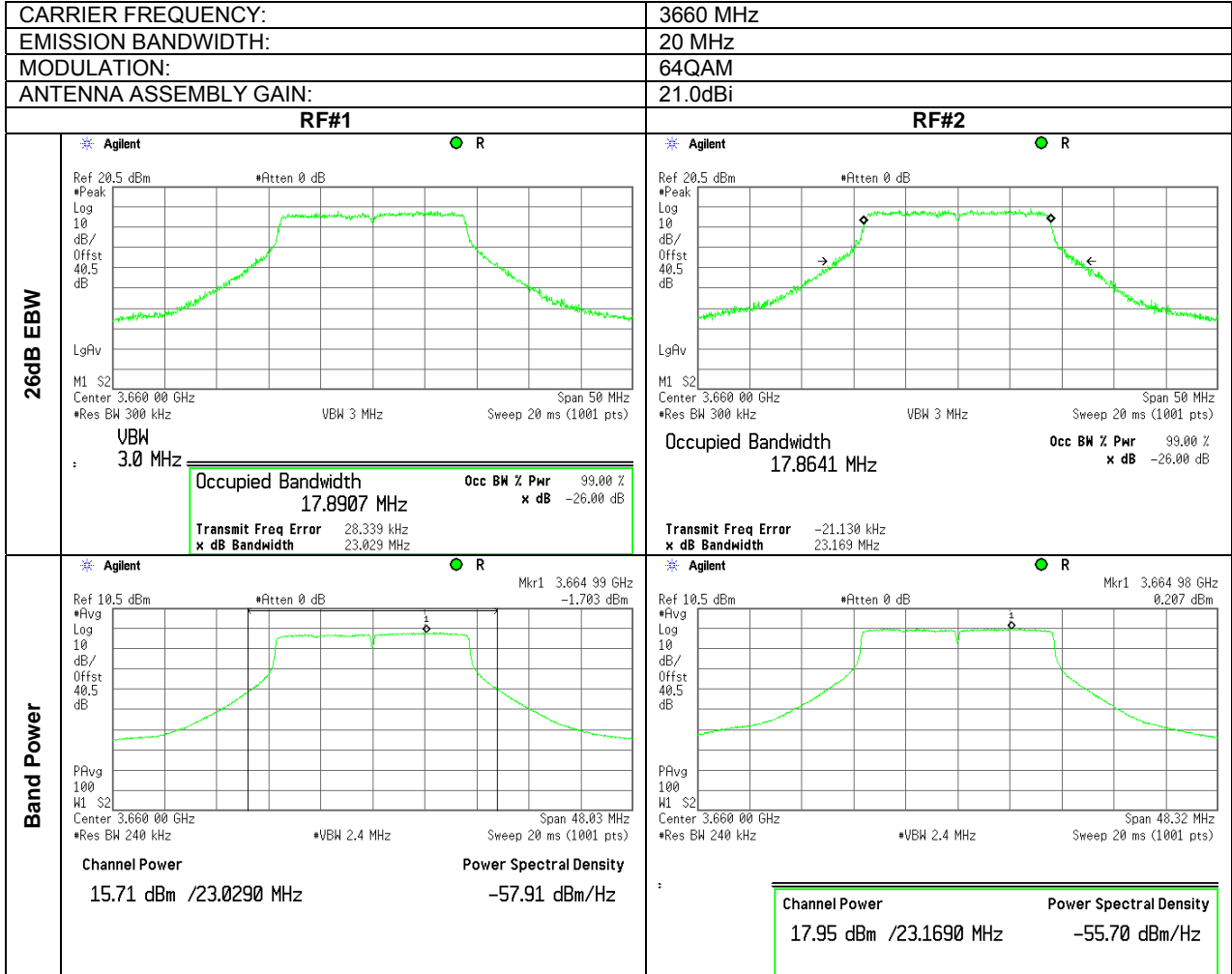
Plot 7.1.13 The 26dB EBW, band power test results at low frequency





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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.14 The 26dB EBW, band power test results at low frequency





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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.15 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY:		3663 MHz	
EMISSION BANDWIDTH:		20 MHz	
MODULATION:		BPSK	
ANTENNA ASSEMBLY GAIN:		21.0dBi	
RF#1		RF#2	
26dB EBW	<p> Occupied Bandwidth 17.8168 MHz Transmit Freq Error 14.883 kHz x dB Bandwidth 22.609 MHz* </p>	<p> Occupied Bandwidth 17.8214 MHz Transmit Freq Error 6.625 kHz Occupied Bandwidth 22.461 MHz* </p>	
	Band Power	<p> Channel Power 16.38 dBm / 22.6090 MHz Power Spectral Density -57.16 dBm/Hz </p>	<p> Channel Power 17.05 dBm / 22.4610 MHz Power Spectral Density -56.47 dBm/Hz </p>



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.16 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 20 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	<p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7763 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 5.853 kHz</p> <p>Occupied Bandwidth 22.493 MHz*</p>
	<p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7924 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -9.766 kHz</p> <p>Occupied Bandwidth 22.674 MHz*</p>
RF#2	
Band Power	<p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAVg 100 H1 S2</p> <p>#Atten 0 dB</p> <p>Center 3.663 00 GHz Span 48.98 MHz</p> <p>#Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 16.43 dBm / 22.4930 MHz</p> <p>Power Spectral Density -57.10 dBm/Hz</p>
	<p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAVg 100 H1 S2</p> <p>#Atten 0 dB</p> <p>Center 3.663 00 GHz Span 49.37 MHz</p> <p>#Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 17.51 dBm / 22.6740 MHz</p> <p>Power Spectral Density -56.04 dBm/Hz</p>



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.17 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY:		3665 MHz	
EMISSION BANDWIDTH:		20 MHz	
MODULATION:		BPSK	
ANTENNA ASSEMBLY GAIN:		21.0dBi	
RF#1		RF#2	
26dB EBW	<p> Occupied Bandwidth 17.8064 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>	<p> Occupied Bandwidth 17.8267 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>	
	<p> Transmit Freq Error 10.772 kHz Occupied Bandwidth 22.945 MHz* </p>	<p> Transmit Freq Error -11.430 kHz Occupied Bandwidth 22.853 MHz* </p>	
Band Power	<p> Channel Power 16.61 dBm / 22.8450 MHz Power Spectral Density -56.97 dBm/Hz </p>	<p> Channel Power 17.73 dBm / 22.8530 MHz Power Spectral Density -55.86 dBm/Hz </p>	
	<p> Channel Power 16.61 dBm / 22.8450 MHz Power Spectral Density -56.97 dBm/Hz </p>	<p> Channel Power 17.73 dBm / 22.8530 MHz Power Spectral Density -55.86 dBm/Hz </p>	



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.1.18 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3665 MHz	
EMISSION BANDWIDTH: 20 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 21.0dBi	
RF#1	
26dB EBW	<p> Occupied Bandwidth 17.7661 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>
	<p> Transmit Freq Error 18.964 kHz Occupied Bandwidth 22.259 MHz* </p>
RF#2	
26dB EBW	<p> Occupied Bandwidth 17.763 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB </p>
	<p> Transmit Freq Error -4.972 kHz Occupied Bandwidth 22.653 MHz* </p>
Band Power	
Band Power	<p> Channel Power 16.60 dBm / 22.259 MHz Power Spectral Density -56.87 dBm/Hz </p>
	<p> Channel Power 16.60 dBm / 22.259 MHz Power Spectral Density -56.87 dBm/Hz </p>
Band Power	<p> Channel Power 17.68 dBm / 22.653 MHz Power Spectral Density -55.87 dBm/Hz </p>
	<p> Channel Power 17.68 dBm / 22.653 MHz Power Spectral Density -55.87 dBm/Hz </p>



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:	11/14/2010		
Temperature: 23 °C	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 – 3675.0 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
3663.0	BPSK	6.559	25	38.168	21.168
3672.5	BPSK	6.520	25	38.142	21.142
<hr/>					
3652.5	64QAM	6.68	25	38.248	21.248
3663.0	64QAM	6.479	25	38.115	21.115
3672.5	64QAM	6.532	25	38.150	21.150

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
3663.0	BPSK	12.488	25	40.965	23.965
3670.0	BPSK	12.488	25	40.965	23.965
<hr/>					
3655.0	64QAM	12.13	25	40.839	23.839
3663.0	64QAM	12.27	25	40.888	23.888
3670.0	64QAM	12.479	25	40.962	23.962

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
3663.0	BPSK	23.262	25	43.666	26.666
3665.0	BPSK	23.205	25	43.656	26.656
<hr/>					
3660.0	64QAM	23.19	25	43.653	26.653
3663.0	64QAM	23.601	25	43.729	26.729
3665.0	64QAM	22.45	25	43.512	26.512

* - 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:	11/14/2010		
Temperature: 23 °C	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 – 3675.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
EBW: 5 MHz

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
3652.5	BPSK	15.07	16.03	18.59	17.00	35.59	38.23	-2.64	Pass
3663.0	BPSK	14.87	14.75	17.82	17.00	34.82	38.17	-3.35	Pass
3672.5	BPSK	15.09	14.92	18.02	17.00	35.02	38.14	-3.13	Pass
EBW: 10 MHz									
3652.5	64QAM	15.11	16.03	18.60	17.00	35.60	38.25	-2.64	Pass
3663.0	64QAM	15.03	15.08	18.07	17.00	35.07	38.12	-3.05	Pass
3672.5	64QAM	15.11	14.90	18.02	17.00	35.02	38.15	-3.13	Pass
EBW: 10 MHz									
3655.0	BPSK	17.88	19.23	21.62	17.00	38.62	40.85	-2.64	Pass
3663.0	BPSK	17.97	18.56	21.29	17.00	38.29	40.96	-2.68	Pass
3670.0	BPSK	17.82	18.73	21.31	17.00	38.31	40.96	-2.66	Pass
EBW: 20 MHz									
3655.0	64QAM	18.06	18.98	21.55	17.00	38.55	40.84	-2.64	Pass
3663.0	64QAM	17.23	18.21	20.76	17.00	37.76	40.89	-3.13	Pass
3670.0	64QAM	17.38	18.71	21.11	17.00	38.11	40.96	-2.86	Pass
EBW: 20 MHz									
3660.0	BPSK	19.88	21.77	23.94	17.00	40.94	43.634	-2.70	Pass
3663.0	BPSK	20.20	22.14	24.29	17.00	41.29	43.666	-2.38	Pass
3665.0	BPSK	20.32	22.19	24.37	17.00	41.37	43.656	-2.29	Pass
EBW: 20 MHz									
3660.0	64QAM	20.07	21.59	23.91	17.00	40.91	43.653	-2.75	Pass
3663.0	64QAM	20.76	22.28	24.60	17.00	41.60	43.729	-2.13	Pass
3665.0	64QAM	20.94	22.24	24.65	17.00	41.65	43.512	-1.86	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.

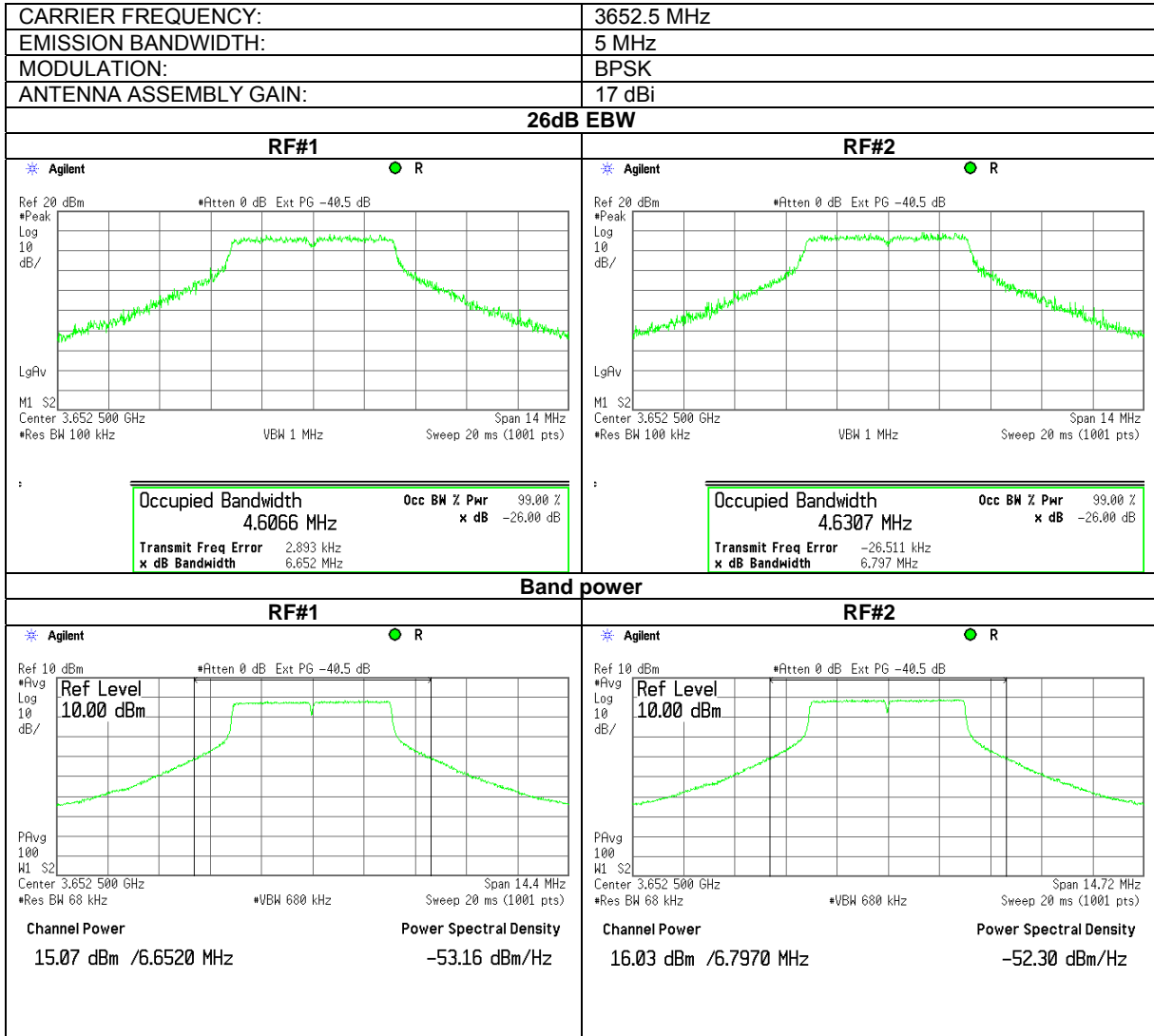
Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			
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Full description is given in Appendix A.

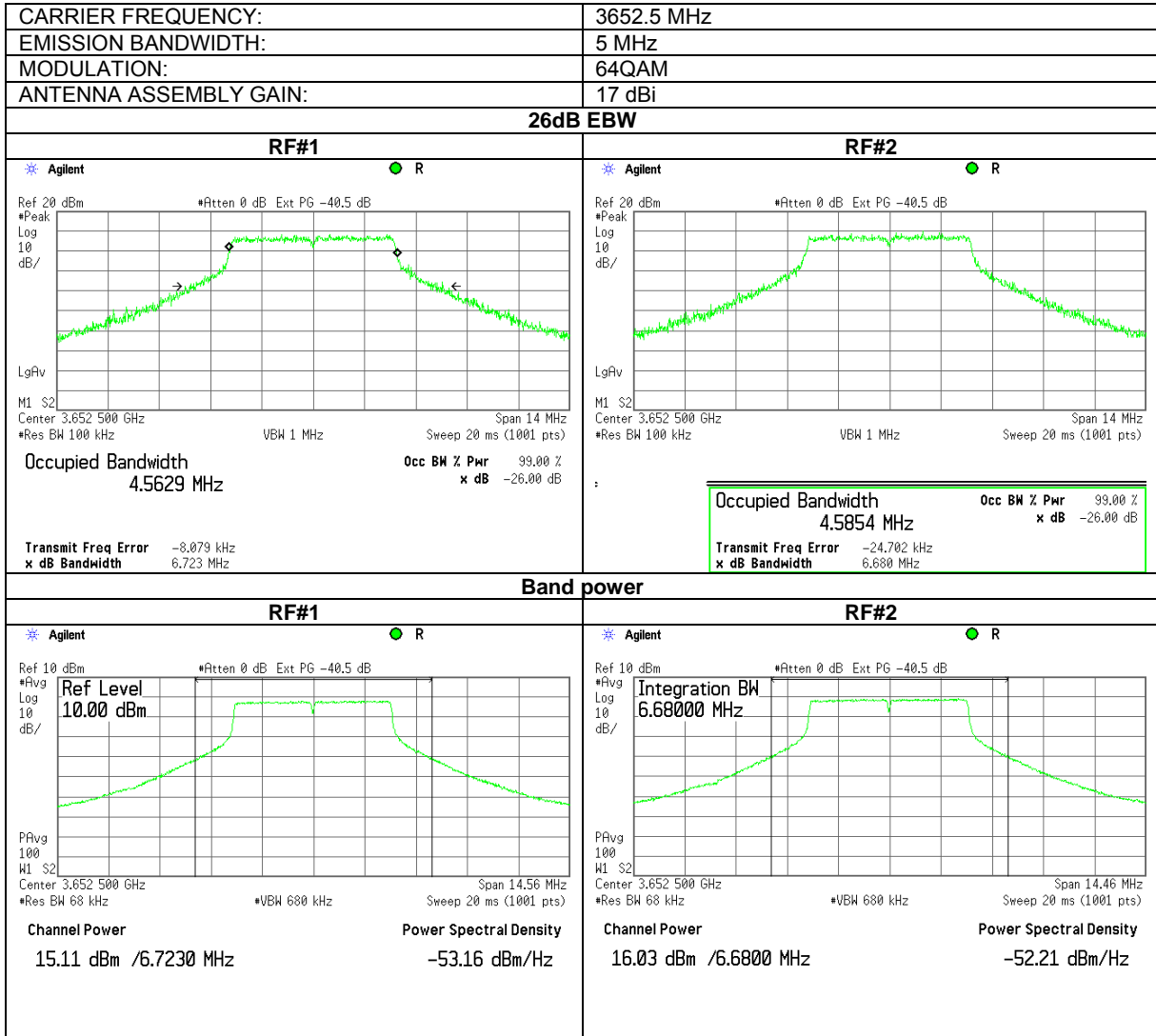
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



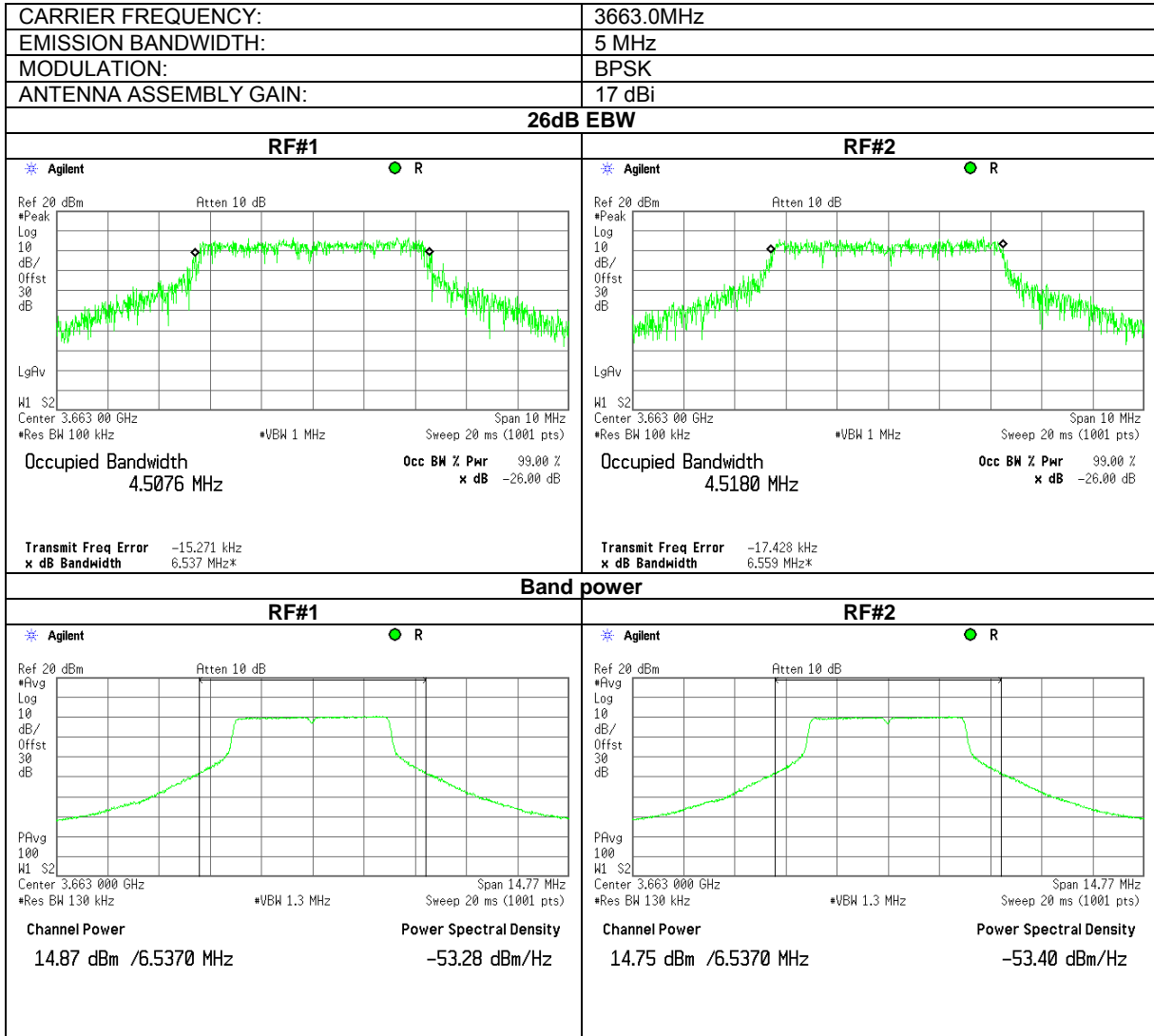
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



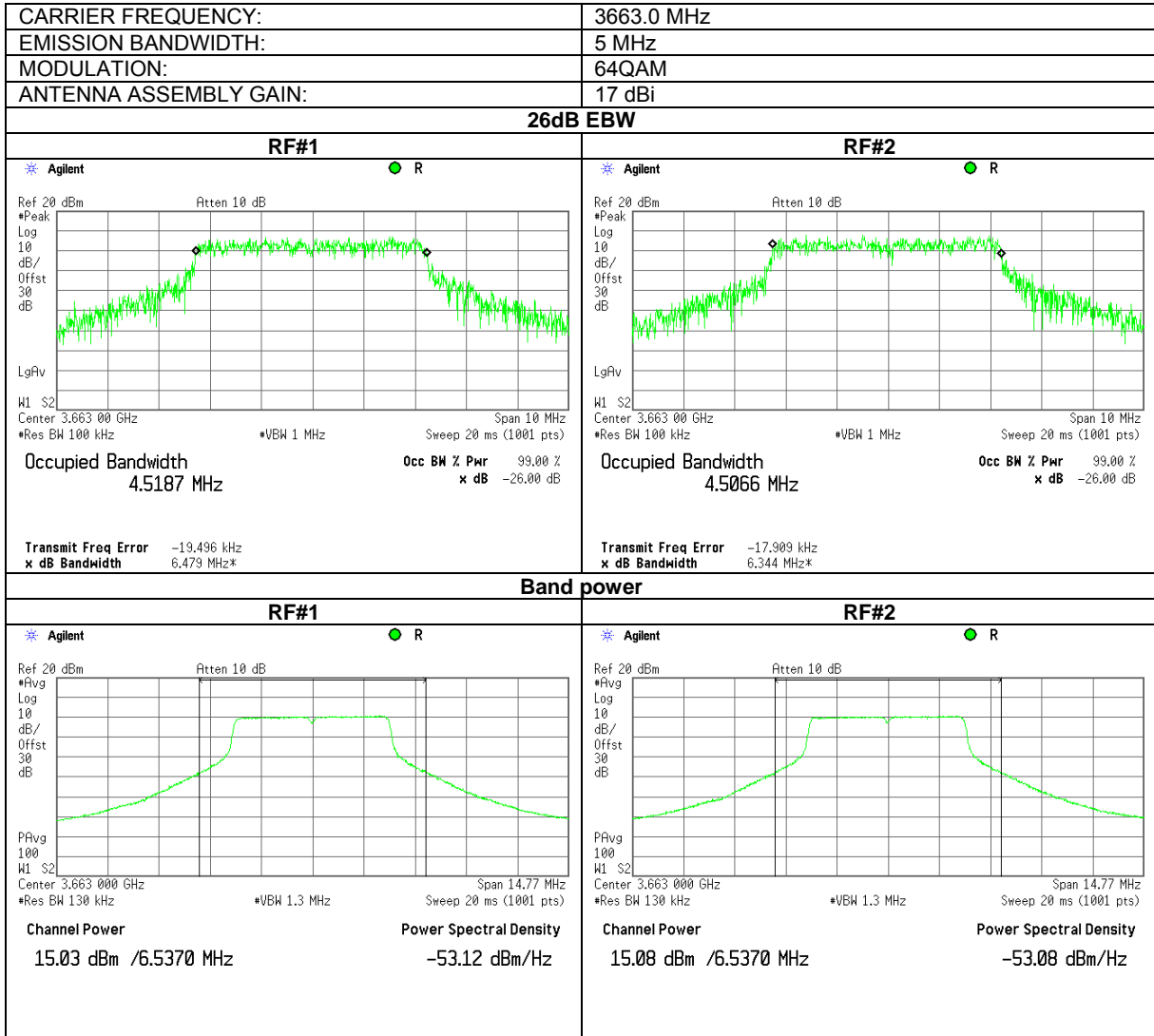
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



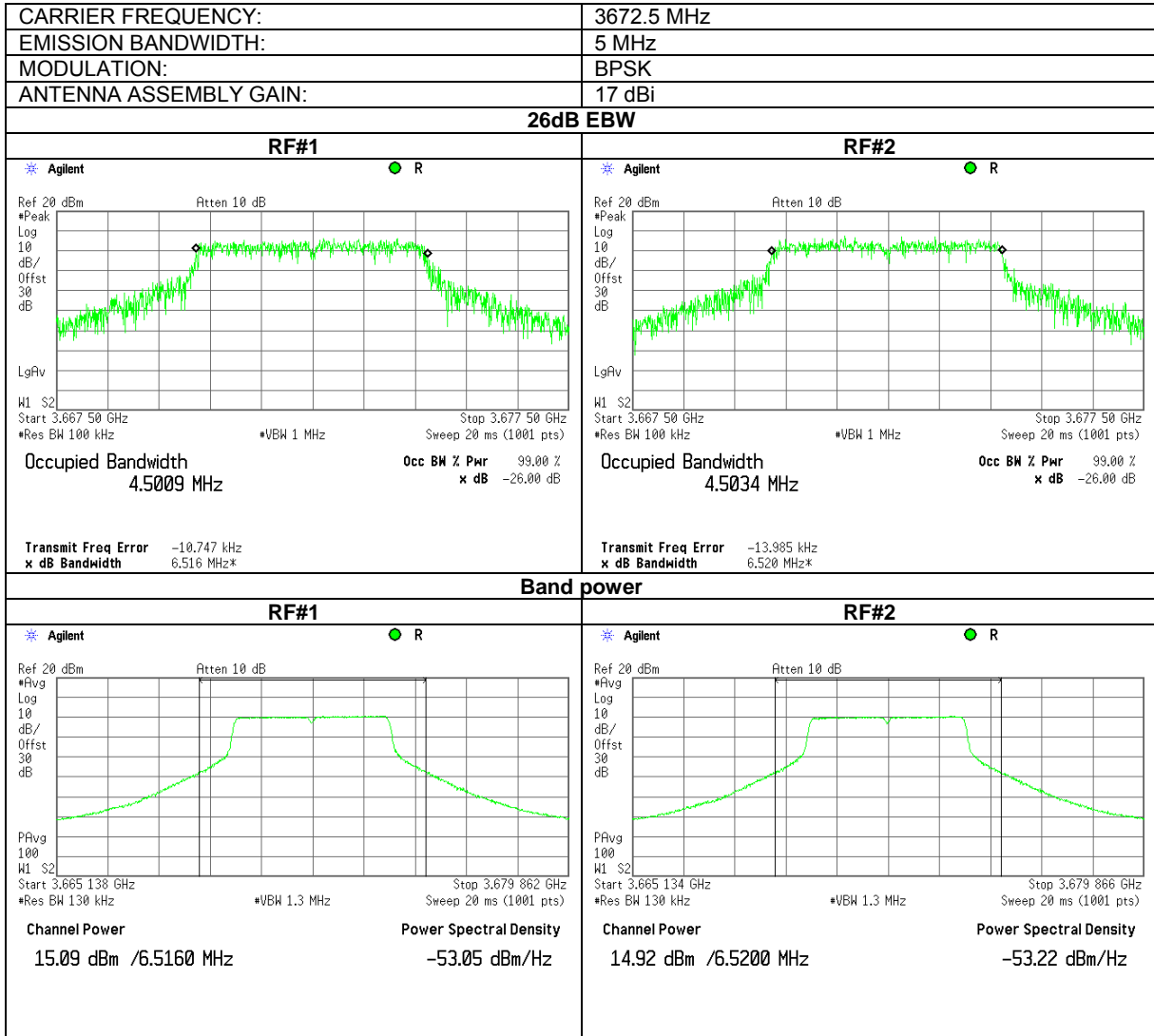
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



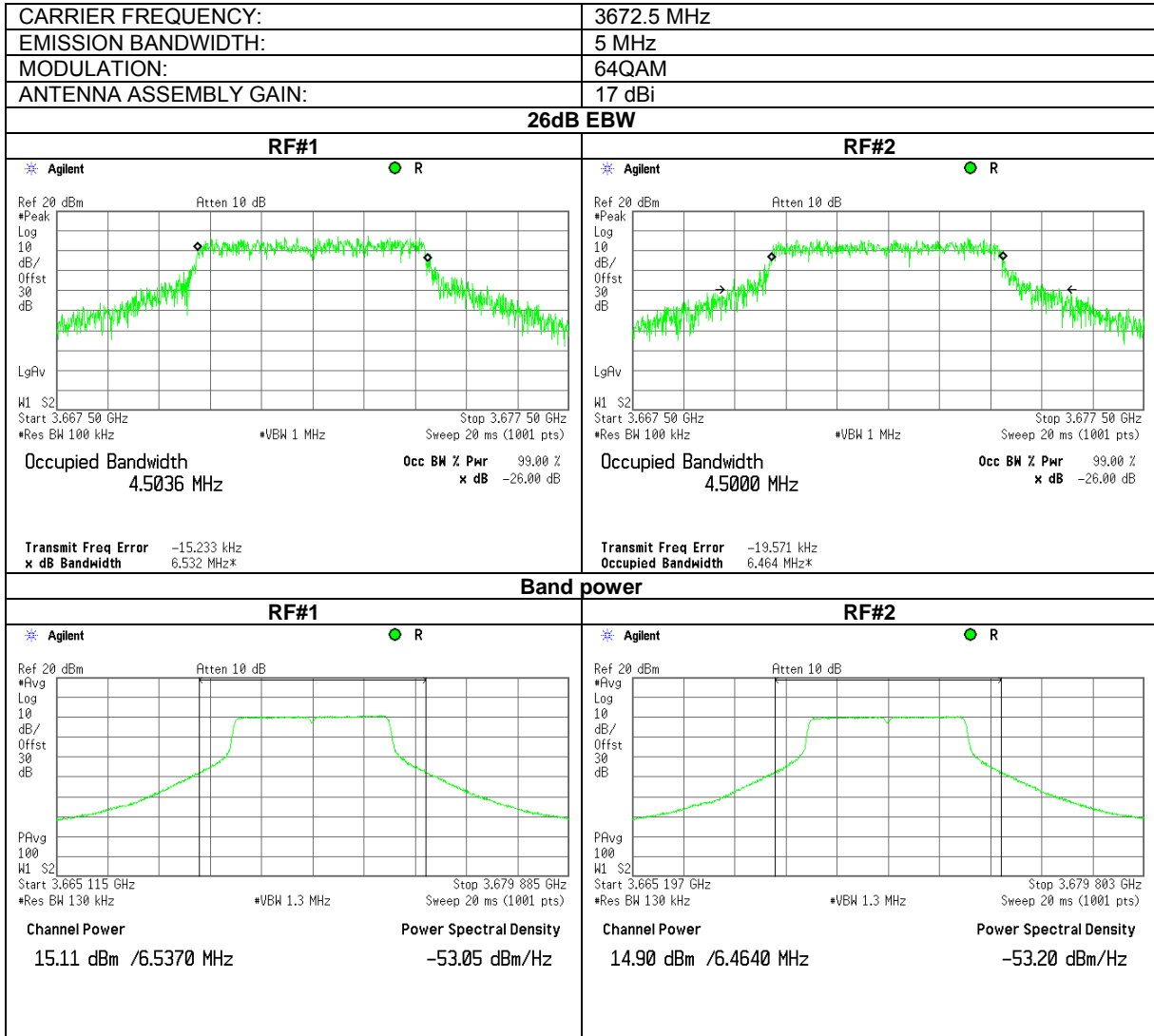
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



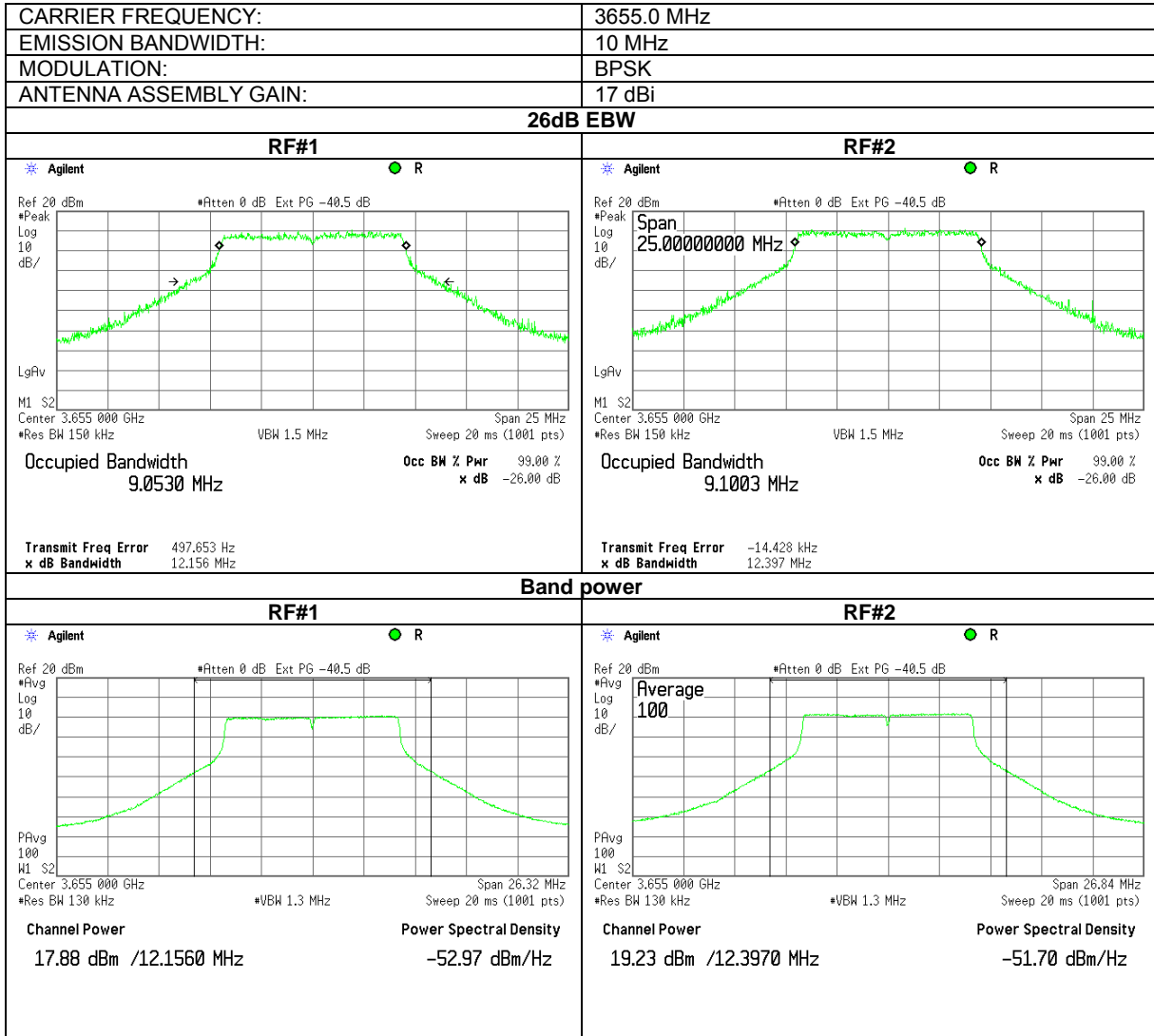
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



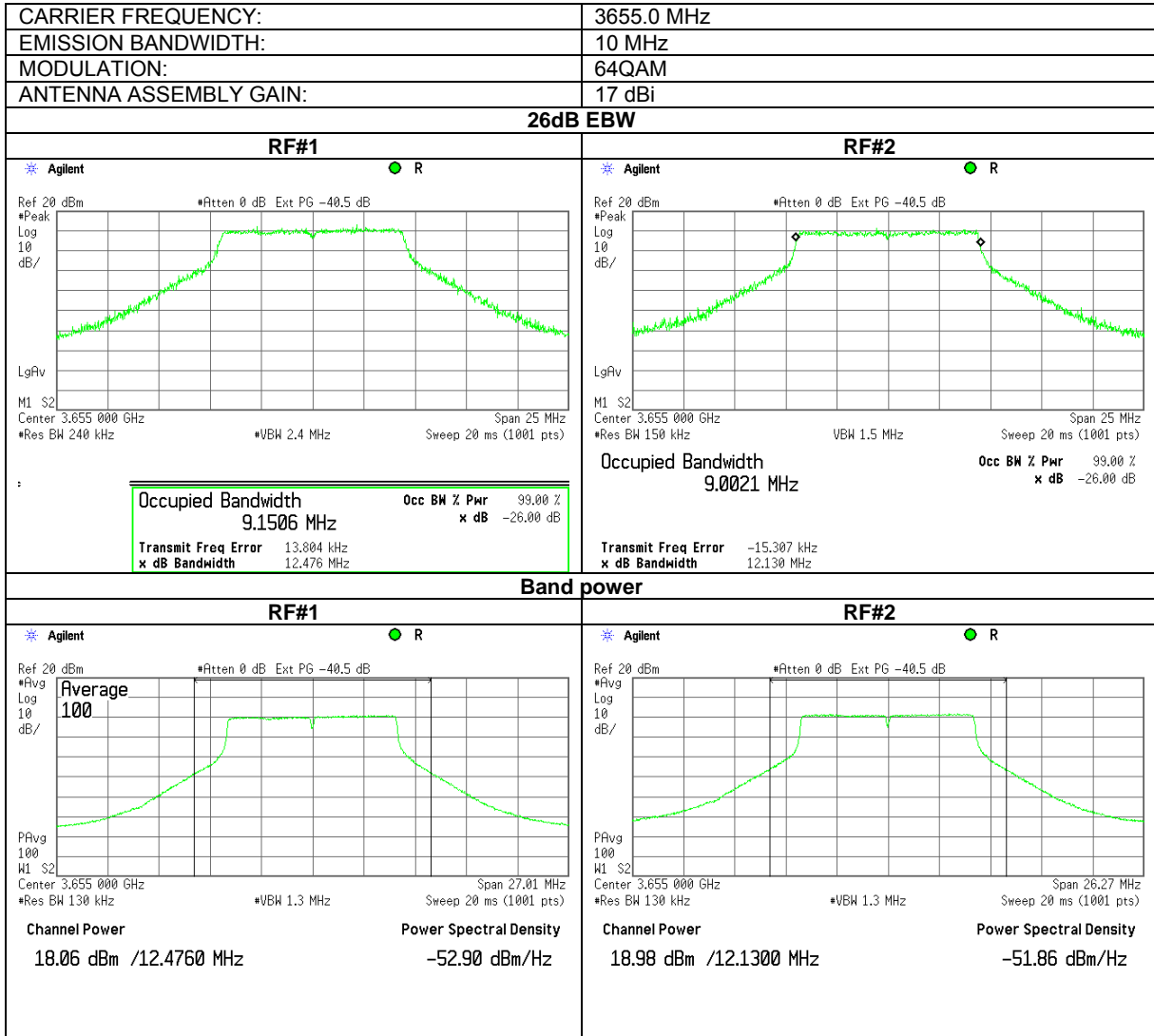
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



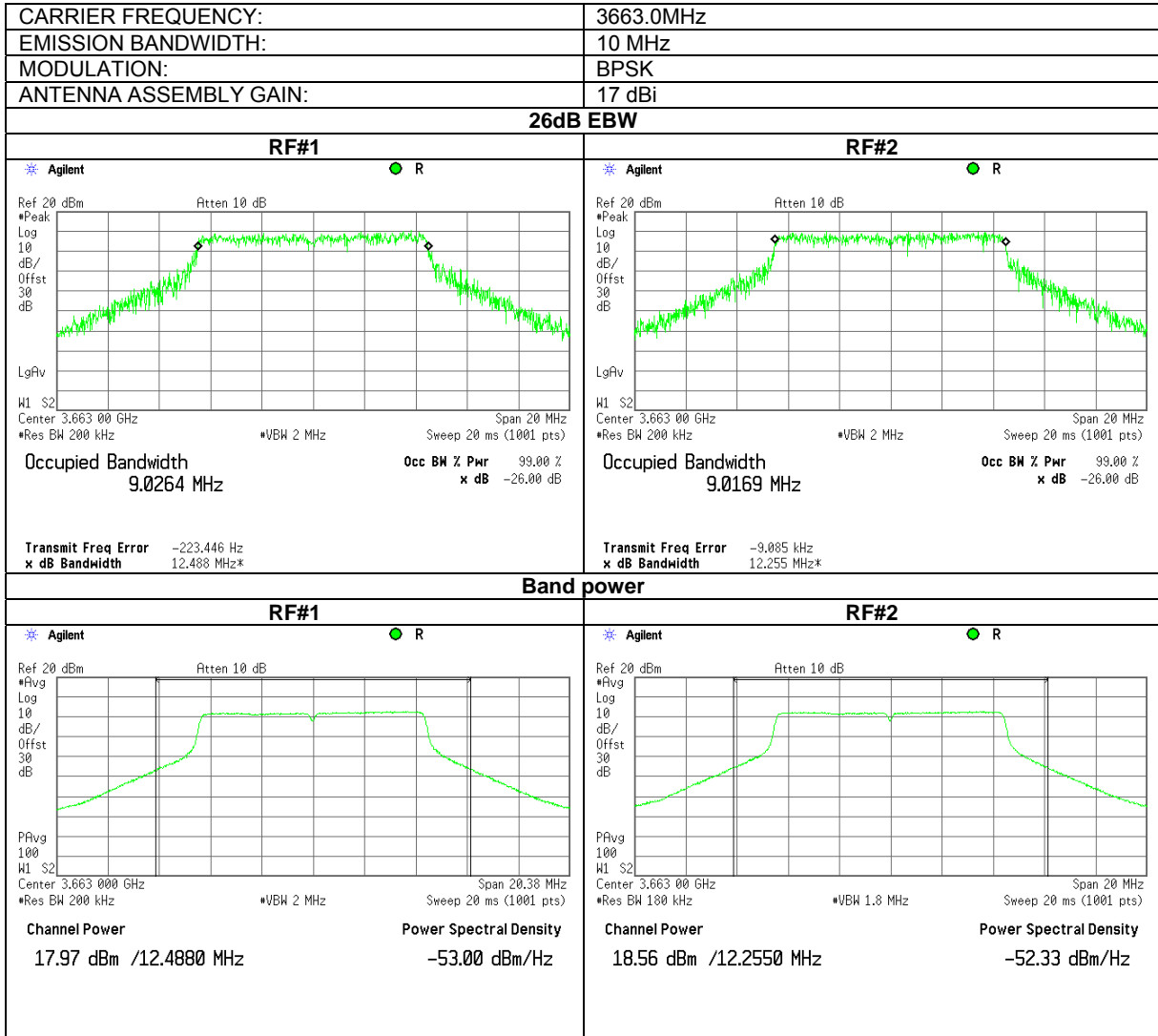
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



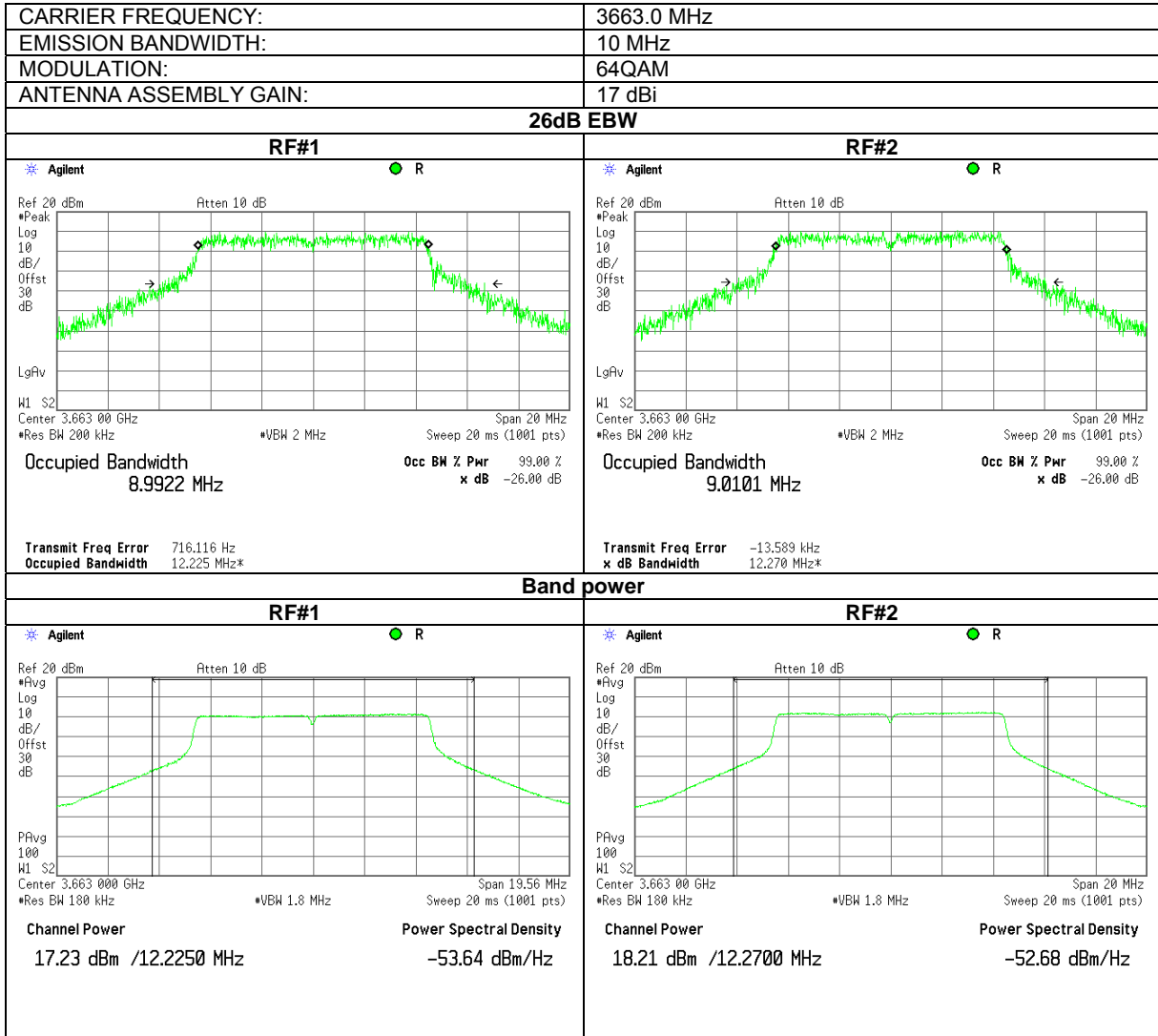
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



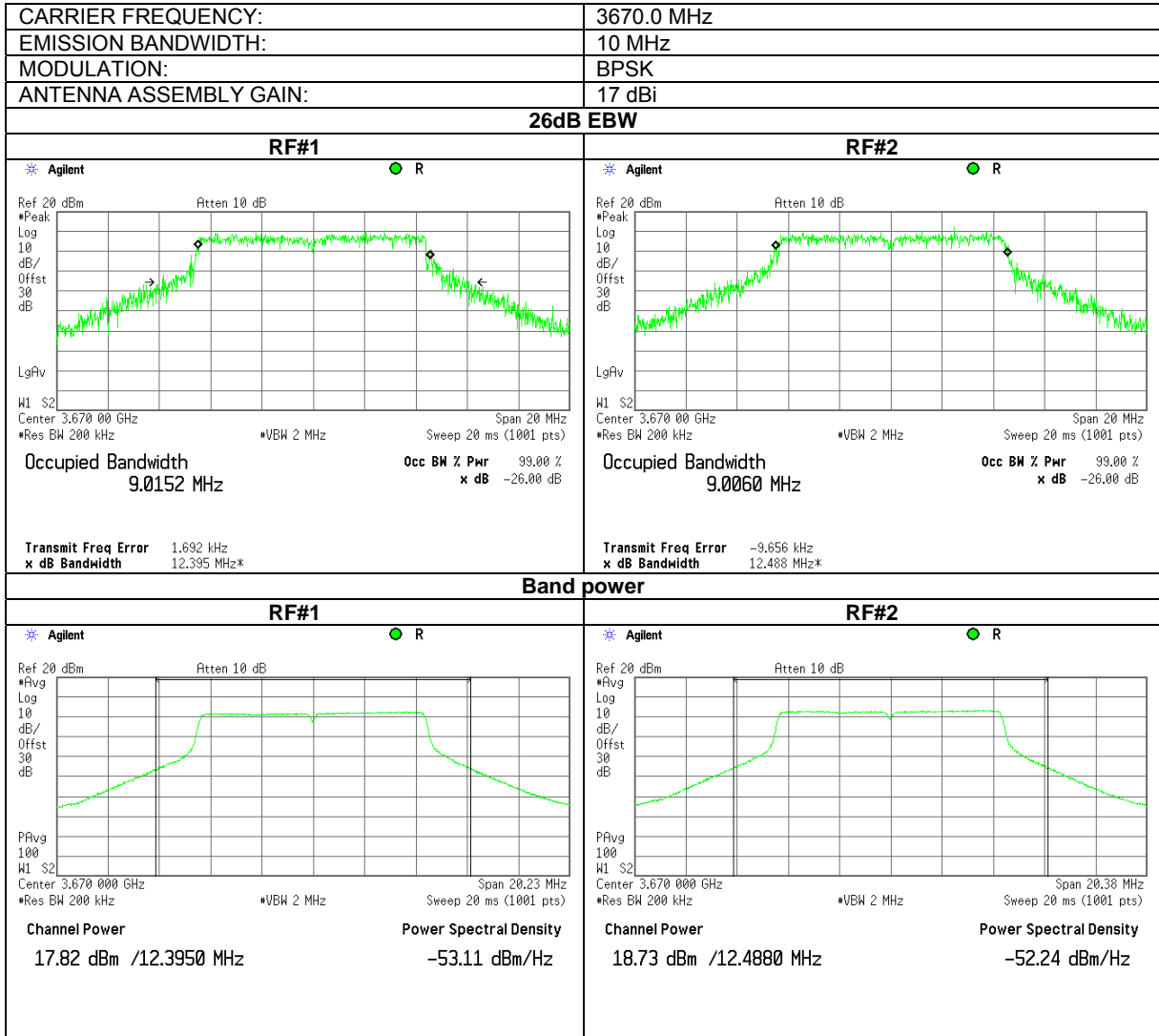
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



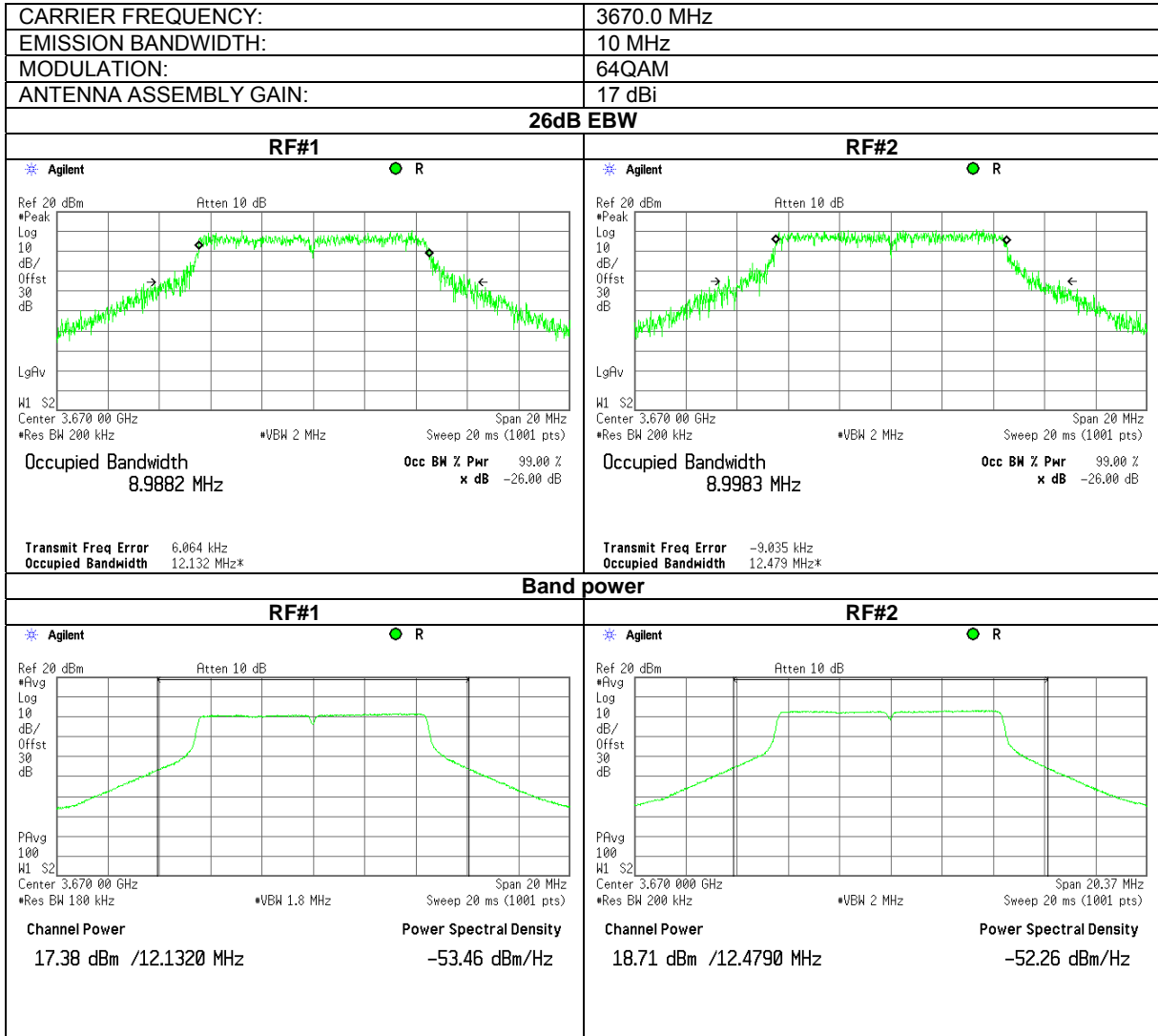
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



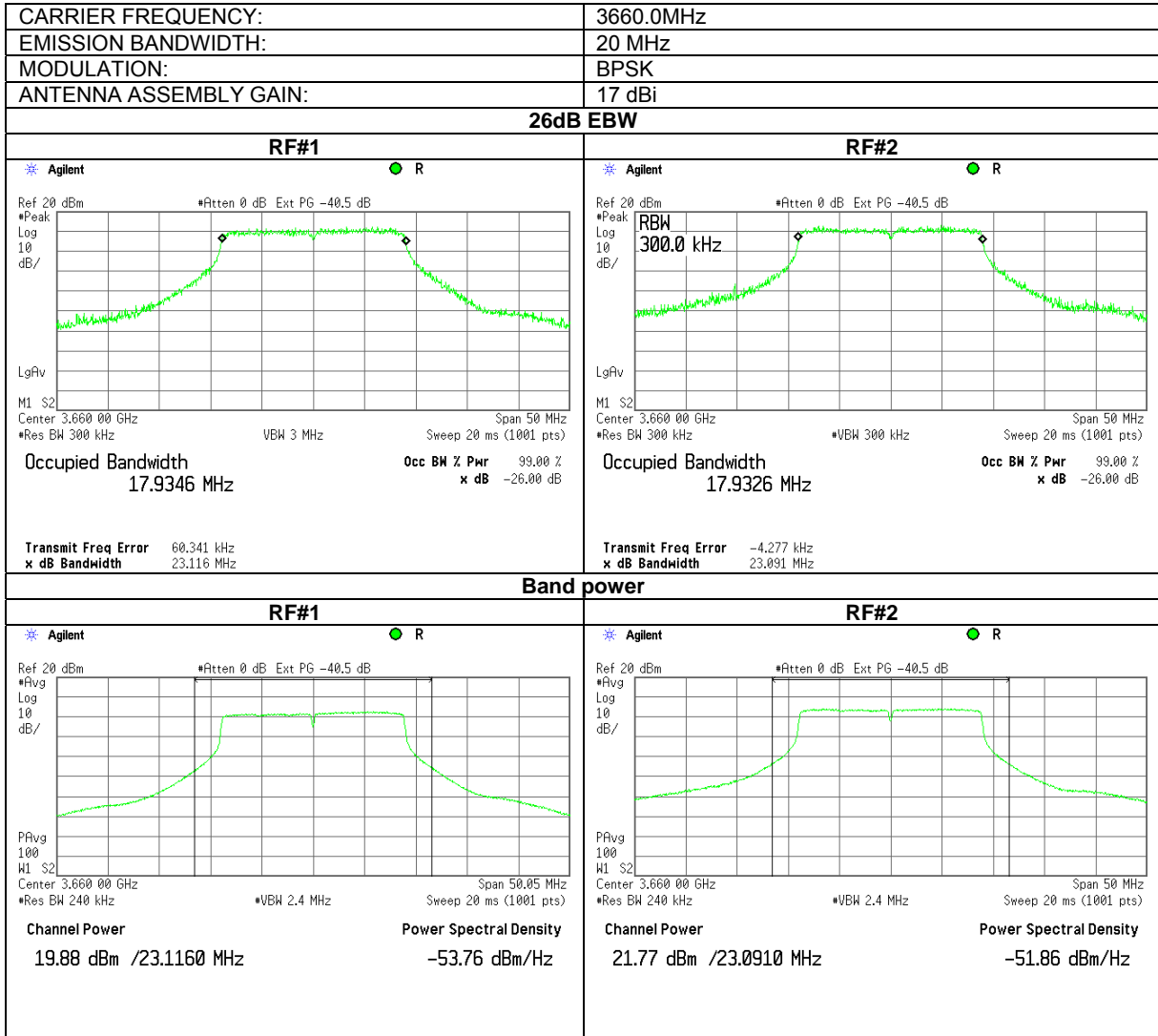
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



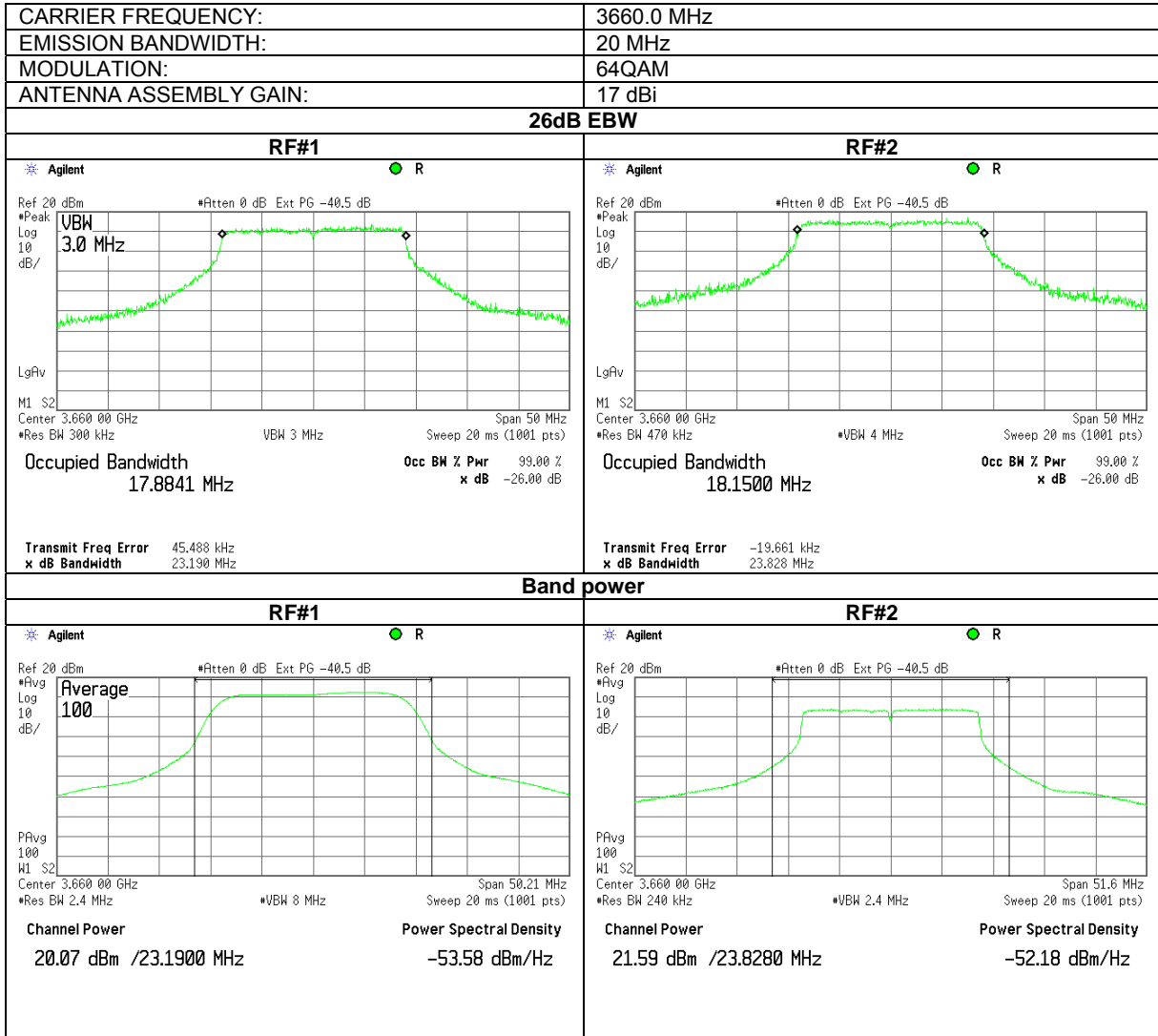
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



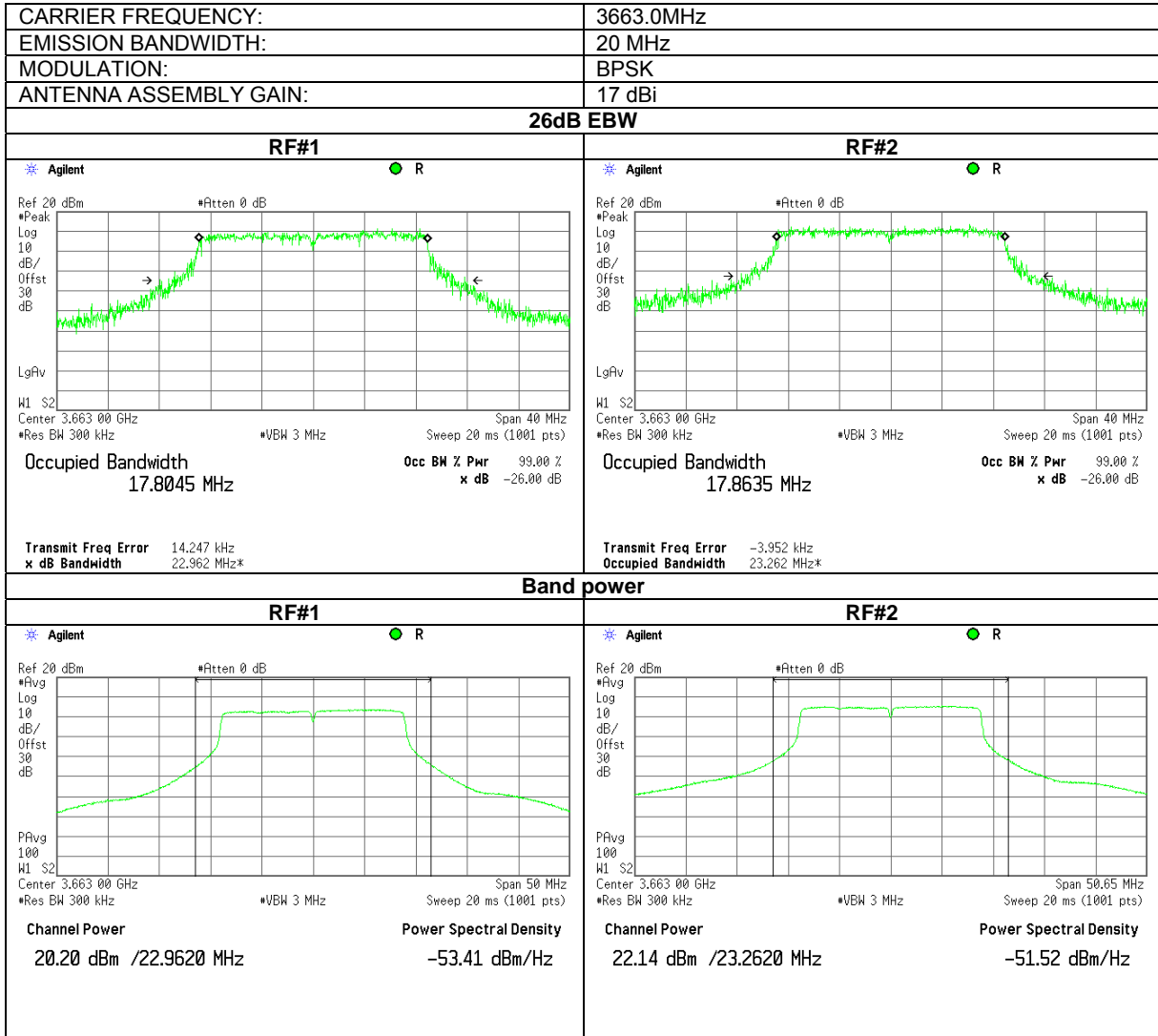
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



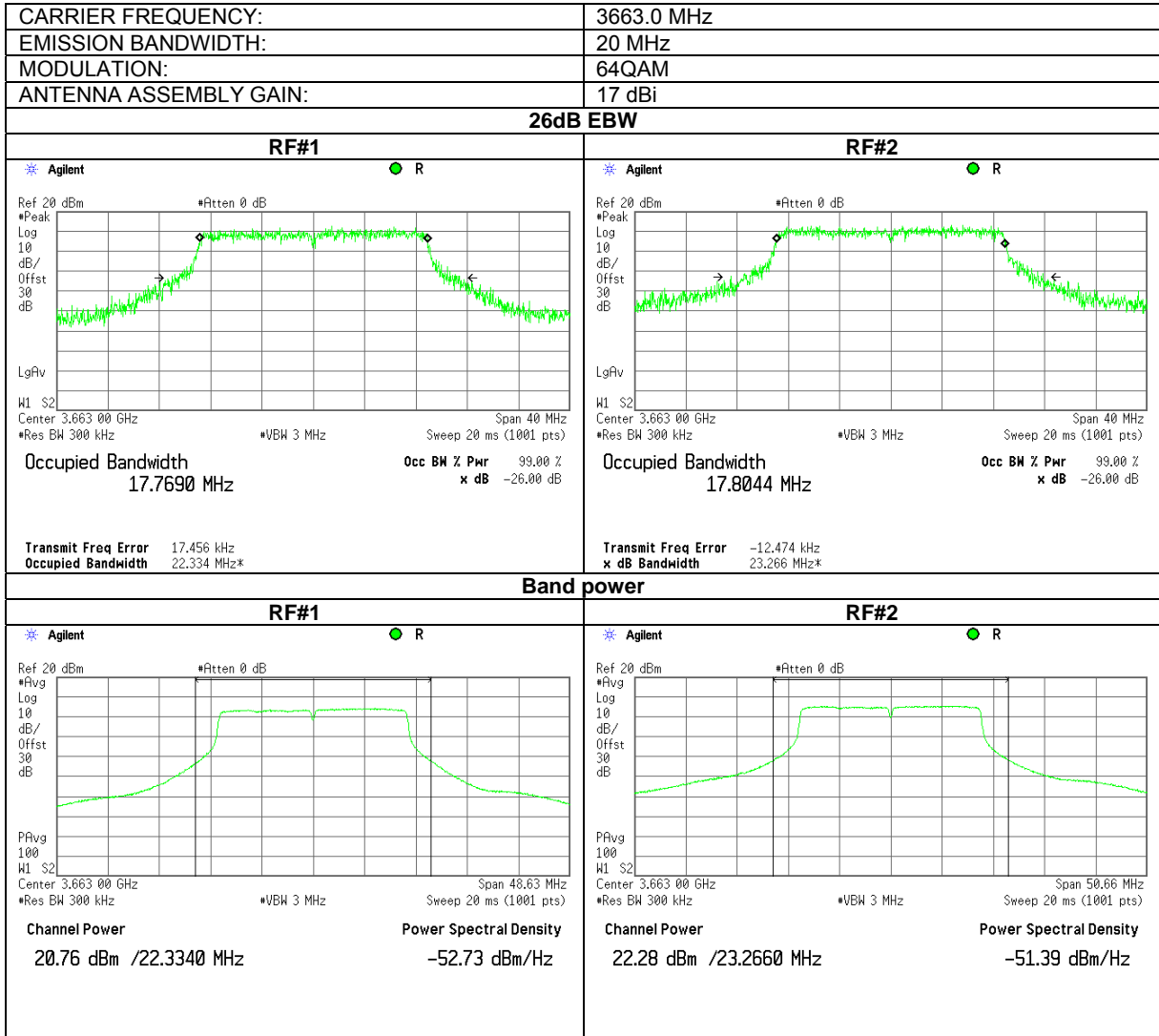
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



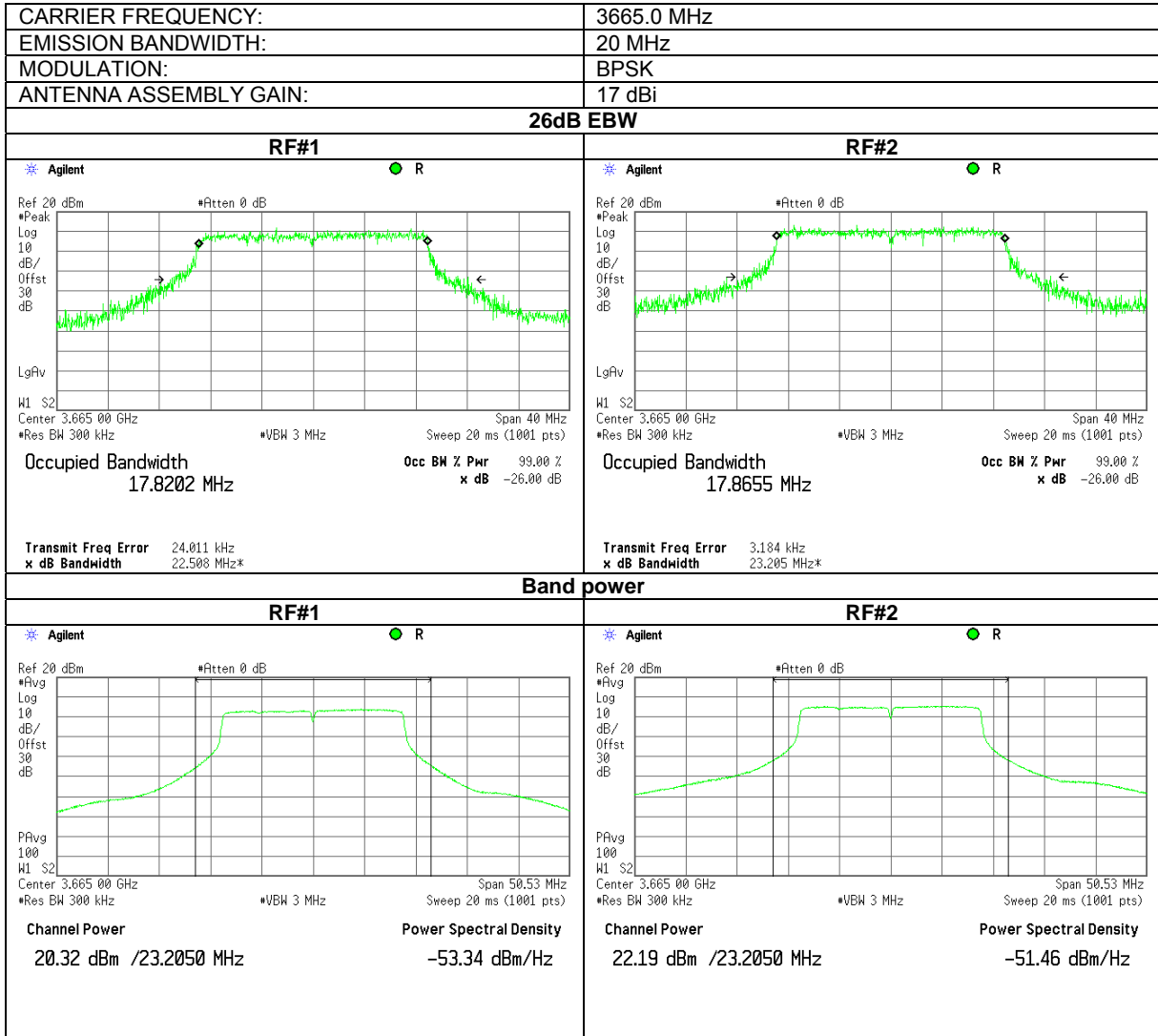
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



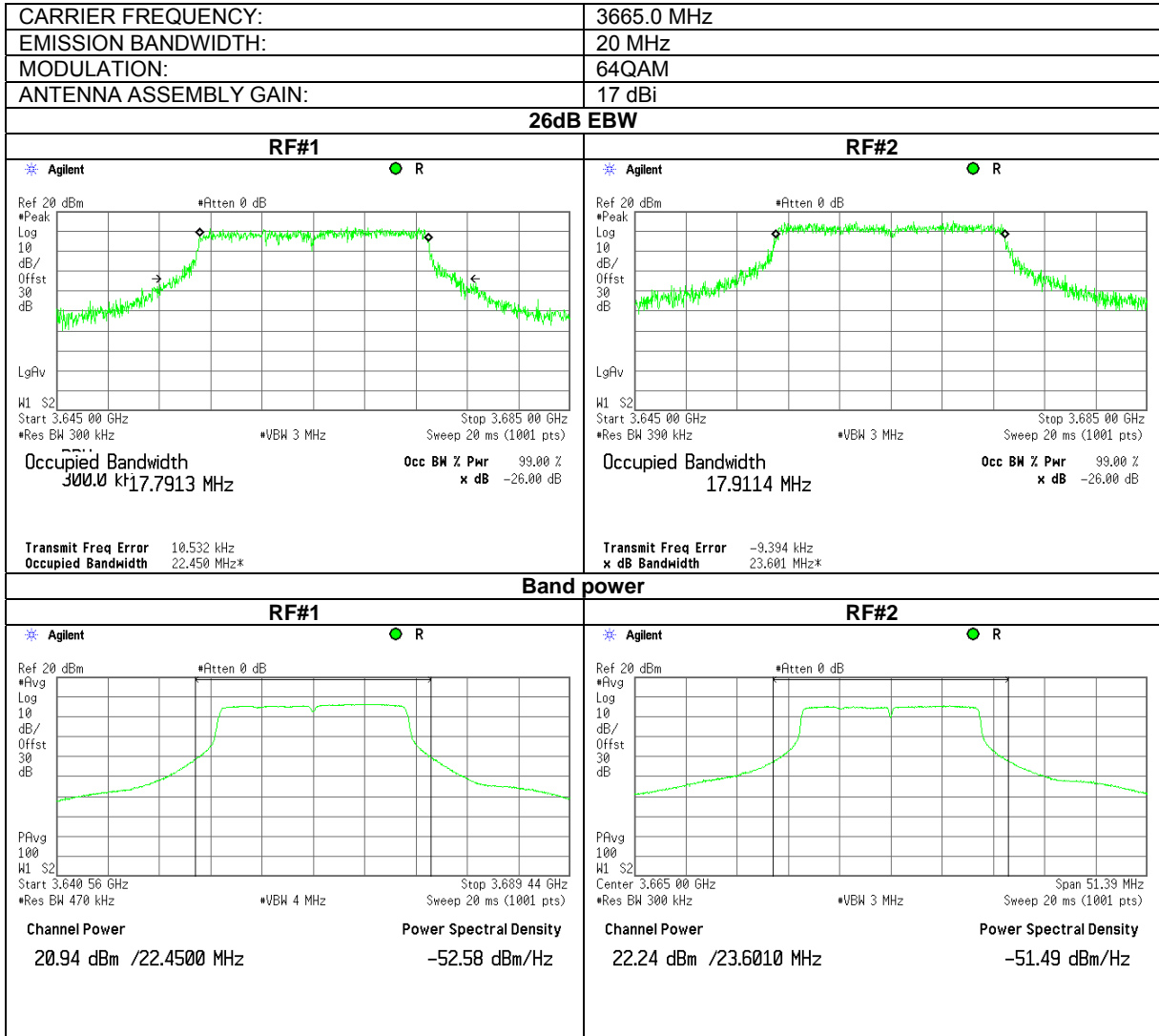
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



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: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1005 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks: with 17dBi gain antenna assembly			

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



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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 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
3663.0	BPSK	6.553	25	38.164	14.164
3672.5	BPSK	6.549	25	38.162	14.162
<hr/>					
3652.5	64QAM	6.549	25	38.162	14.162
3663.0	64QAM	6.486	25	38.120	14.120
3672.5	64QAM	6.619	25	38.208	14.208

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
3663.0	BPSK	12.319	25	40.906	16.906
3670.0	BPSK	12.455	25	40.953	16.953
<hr/>					
3655.0	64QAM	12.261	25	40.885	16.885
3663.0	64QAM	12.267	25	40.887	16.887
3670.0	64QAM	12.284	25	40.893	16.893

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
3663.0	BPSK	22.897	25	43.598	19.598
3665.0	BPSK	22.883	25	43.595	19.595
<hr/>					
3660.0	64QAM	23.127	25	43.641	19.641
3663.0	64QAM	24.769	25	43.939	19.939
3665.0	64QAM	23.339	25	43.681	19.681

* - 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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 MHz
 DETECTOR USED: Average (RMS)
 MODULATING SIGNAL: PRBS
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
EBW: 5 MHz

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
3652.5	BPSK	8.58	8.7	11.65	24.00	35.65	38.18	-2.53	Pass
3663.0	BPSK	8.81	8.53	11.68	24.00	35.68	38.16	-2.48	Pass
3672.5	BPSK	8.49	8.67	11.59	24.00	35.59	38.16	-2.57	Pass
EBW: 5 MHz									
3652.5	64QAM	7.85	8.07	10.97	24.00	34.97	38.16	-3.19	Pass
3663.0	64QAM	8.76	8.5	11.64	24.00	35.64	38.12	-2.48	Pass
3672.5	64QAM	8.42	8.5	11.47	24.00	35.47	38.21	-2.74	Pass
EBW: 10 MHz									
3655.0	BPSK	10.83	11.28	14.07	24.00	38.07	40.94	-2.87	Pass
3663.0	BPSK	11.43	11.24	14.35	24.00	38.35	40.91	-2.56	Pass
3670.0	BPSK	11.96	10.96	14.50	24.00	38.50	40.95	-2.45	Pass
EBW: 10 MHz									
3655.0	64QAM	10.50	10.86	13.69	24.00	37.69	40.89	-3.19	Pass
3663.0	64QAM	11.43	11.19	14.32	24.00	38.32	40.89	-2.57	Pass
3670.0	64QAM	10.7	11.39	14.07	24.00	38.07	40.89	-2.82	Pass
EBW: 20 MHz									
3660.0	BPSK	12.16	13.73	16.03	24.00	40.03	43.63	-3.60	Pass
3663.0	BPSK	14.14	14.33	17.25	24.00	41.25	43.60	-2.35	Pass
3665.0	BPSK	13.89	14.51	17.22	24.00	41.22	43.60	-2.38	Pass
EBW: 20 MHz									
3660.0	64QAM	12.52	14.12	16.40	24.00	40.40	43.641	-3.24	Pass
3663.0	64QAM	14.1	13.84	16.98	24.00	40.98	43.939	-2.95	Pass
3665.0	64QAM	13.87	14.04	16.97	24.00	40.97	43.681	-2.71	Pass

* - Pmeas, dBm = 10 log {10⁰[P(dBm,RF#1)/10]+ 10⁰[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.

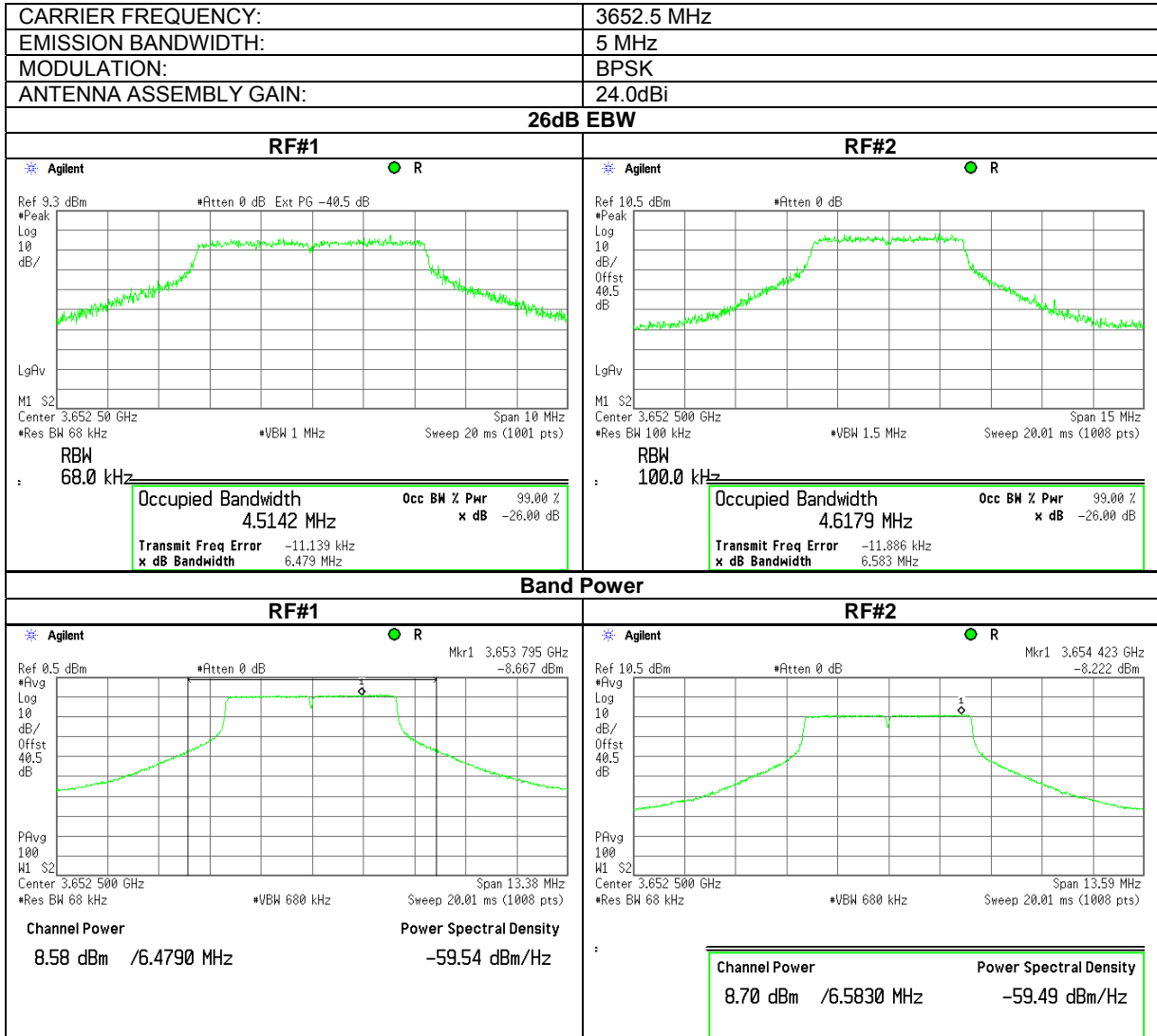
Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818		
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Full description is given in Appendix A.

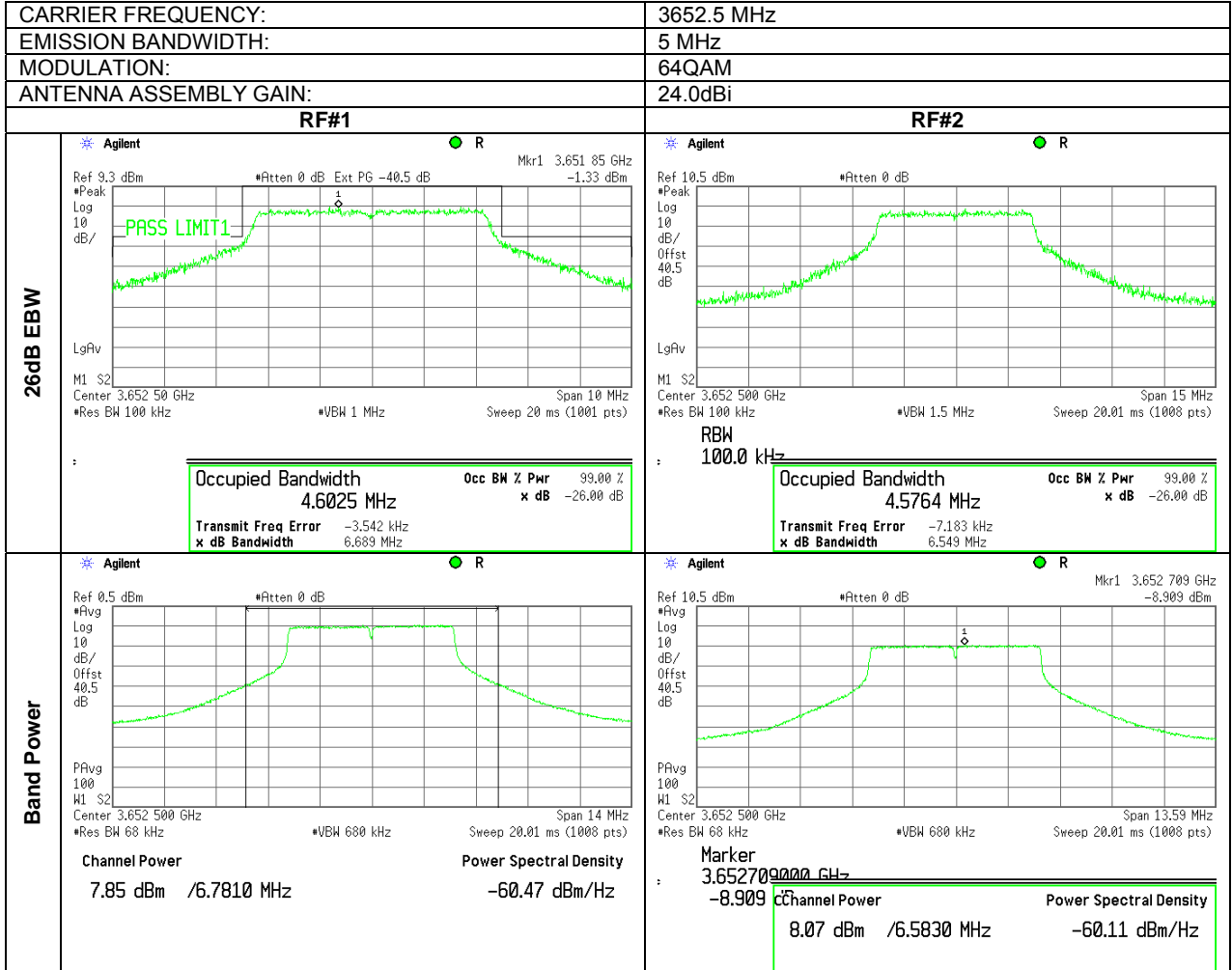
Test specification:	Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.37 The 26 dB EBW, band power test results at low frequency



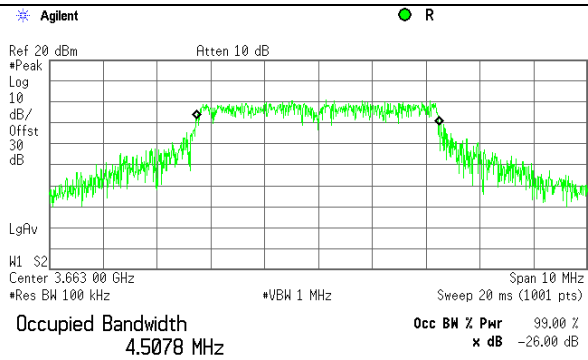
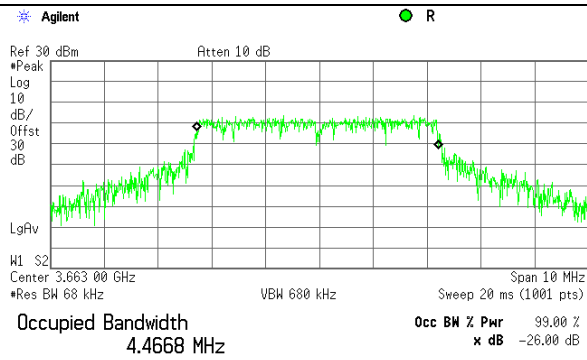
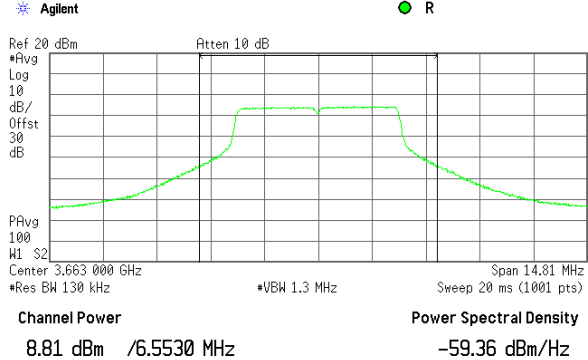
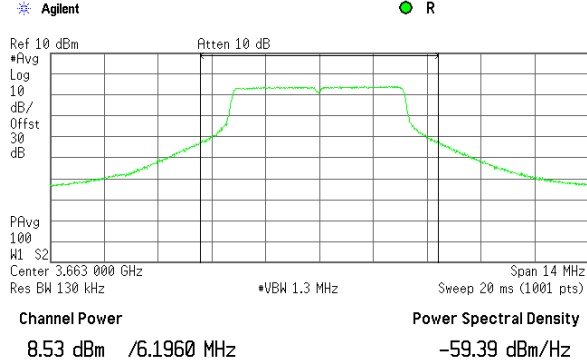
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.38 The 26 dB EBW, band power test results at low frequency



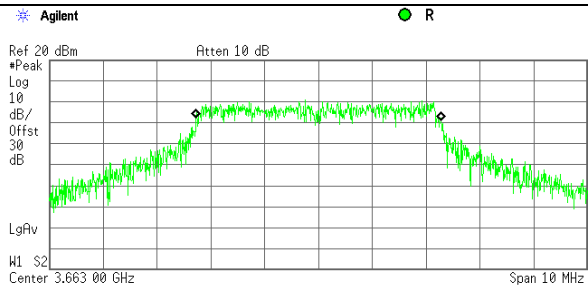
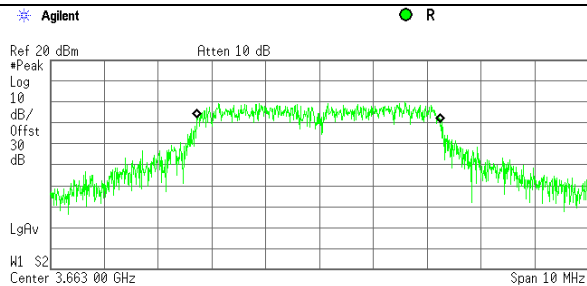
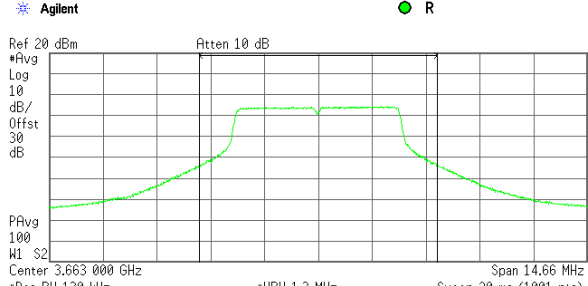
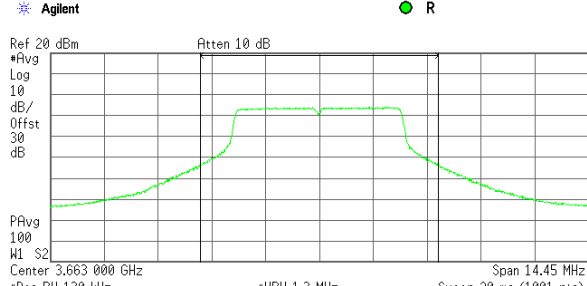
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.39 The 26 dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 5 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 00 GHz Span 10 MHz</p> <p>Occupied Bandwidth 4.5078 MHz</p> <p>Transmit Freq Error -9.491 kHz</p>
	 <p>Agilent R</p> <p>Ref 30 dBm Atten 10 dB</p> <p>Center 3.663 00 GHz Span 10 MHz</p> <p>Occupied Bandwidth 4.4668 MHz</p> <p>Transmit Freq Error -23.331 kHz</p>
RF#2	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>Center 3.663 000 GHz Span 14.81 MHz</p> <p>Channel Power 8.81 dBm /6.5530 MHz</p> <p>Power Spectral Density -59.36 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 10 dBm Atten 10 dB</p> <p>Center 3.663 000 GHz Span 14 MHz</p> <p>Channel Power 8.53 dBm /6.1960 MHz</p> <p>Power Spectral Density -59.39 dBm/Hz</p>

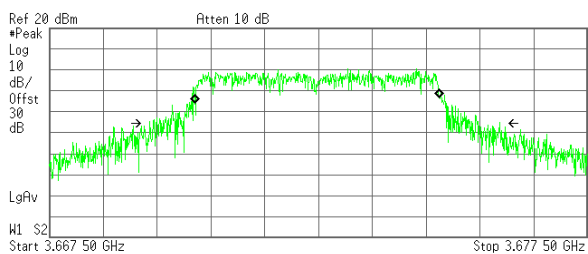
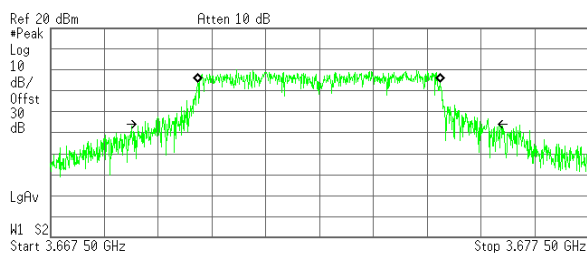
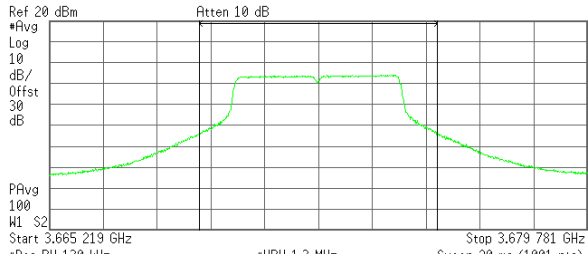
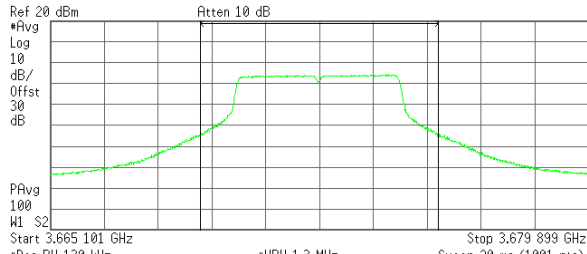
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power	
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1	
Test mode: Compliance	Verdict: PASS
Date: 11/14/2010	
Temperature: 25 °C	Air Pressure: 1005 hPa
Relative Humidity: 45 %	
Power Supply: -48 VDC	
Remarks: with 24 dBi gain antenna assembly	

Plot 7.1.40 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 5 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 10 MHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.5020 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -16.506 kHz x dB Bandwidth 6.486 MHz*</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 10 MHz Res BW 91 kHz #VBW 910 kHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.4973 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -16.258 kHz x dB Bandwidth 6.393 MHz*</p>
RF#2	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PPAvg 100</p> <p>H1 S2 Center 3.663 000 GHz Span 14.66 MHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 8.76 dBm /6.4860 MHz Power Spectral Density -59.36 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PPAvg 100</p> <p>H1 S2 Center 3.663 000 GHz Span 14.45 MHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 8.50 dBm /6.3930 MHz Power Spectral Density -59.56 dBm/Hz</p>

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.41 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY:		3672.5 MHz	
EMISSION BANDWIDTH:		5 MHz	
MODULATION:		BPSK	
ANTENNA ASSEMBLY GAIN:		24.0dBi	
RF#1		RF#2	
26dB EBW	 <p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log 10 dB/Offst 30 dB LgAv H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5022 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -11.046 kHz Occupied Bandwidth 6.445 MHz* </p>	 <p> Agilent ● R Ref 20 dBm Atten 10 dB #Peak Log 10 dB/Offst 30 dB LgAv H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts) Occupied Bandwidth 4.5073 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -16.245 kHz Occupied Bandwidth 6.549 MHz* </p>	
	Band Power	 <p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log 10 dB/Offst 30 dB PAvg 100 H1 S2 Start 3.665 219 GHz Stop 3.679 781 GHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 8.49 dBm /6.4450 MHz Power Spectral Density -59.60 dBm/Hz </p>	 <p> Agilent ● R Ref 20 dBm Atten 10 dB #Avg Log 10 dB/Offst 30 dB PAvg 100 H1 S2 Start 3.665 101 GHz Stop 3.679 899 GHz #Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts) Channel Power 8.67 dBm /6.5490 MHz Power Spectral Density -59.49 dBm/Hz </p>



HERMON LABORATORIES

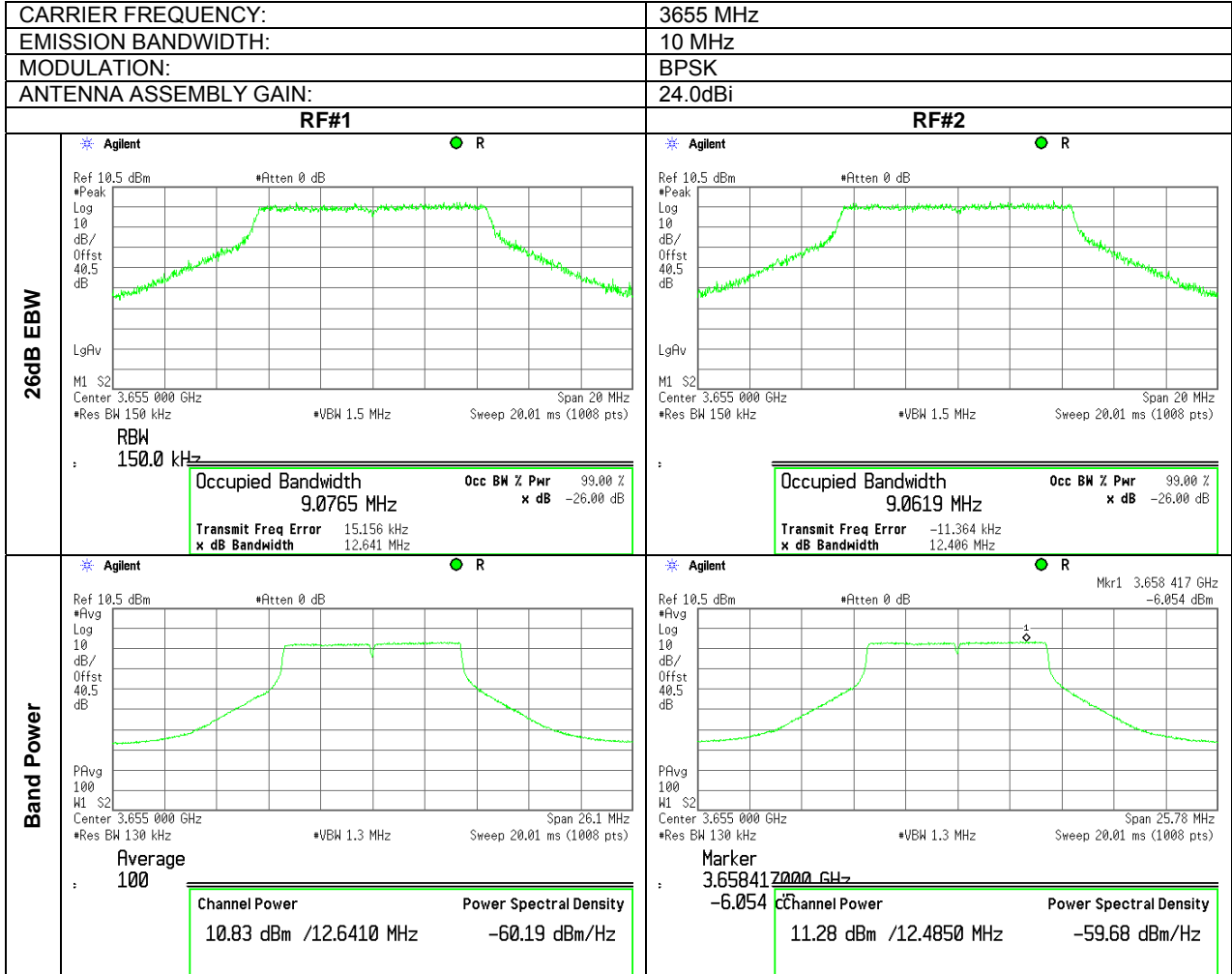
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Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.42 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY:		3672.5 MHz
EMISSION BANDWIDTH:		5 MHz
MODULATION:		64QAM
ANTENNA ASSEMBLY GAIN:		24.0dBi
RF#1		
26dB EBW		
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz</p> <p>#Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.5148 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -18.354 kHz Occupied Bandwidth 6.619 MHz*</p>	
RF#2		
26dB EBW		
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Start 3.667 50 GHz Stop 3.677 50 GHz</p> <p>#Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 4.5082 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -15.755 kHz Occupied Bandwidth 6.453 MHz*</p>	
Band Power (P.W. "6.5")		
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PAvg 100</p> <p>H1 S2 Start 3.665 022 GHz Stop 3.679 978 GHz</p> <p>#Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 8.42 dBm /6.6190 MHz Power Spectral Density -59.79 dBm/Hz</p>	
Band Power (P.W. "6.5")		
	<p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PAvg 100</p> <p>H1 S2 Start 3.665 210 GHz Stop 3.679 790 GHz</p> <p>#Res BW 130 kHz #VBW 1.3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 8.66 dBm /6.4530 MHz Power Spectral Density -59.44 dBm/Hz</p>	

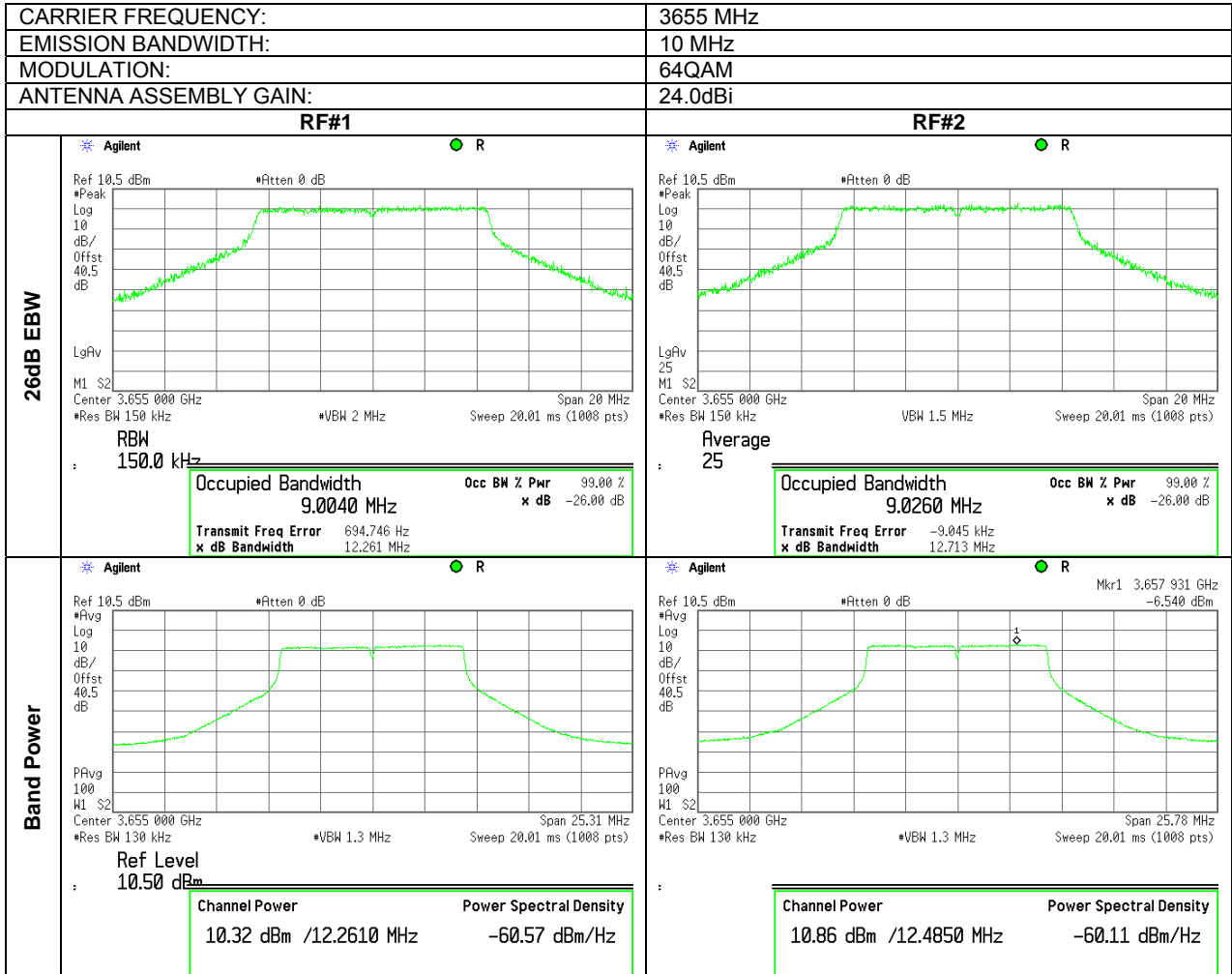
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Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.43 The 26dB EBW, band power test results at low frequency



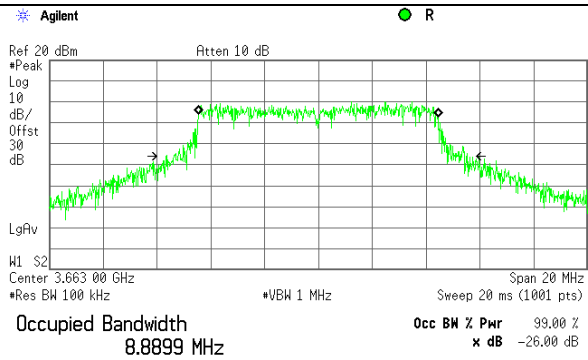
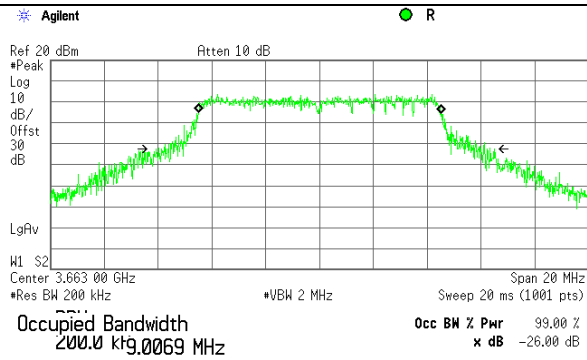
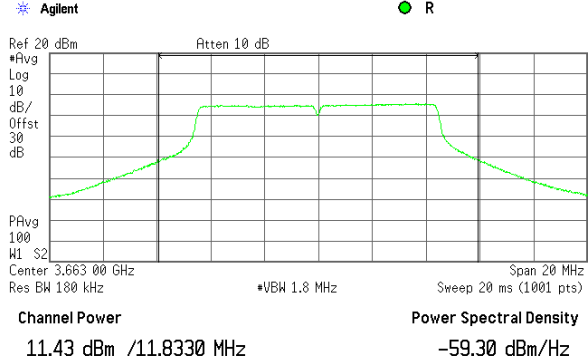
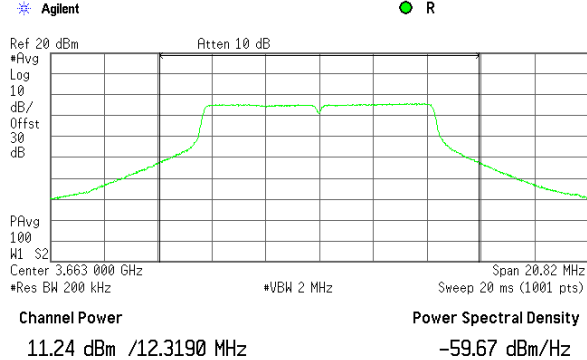
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Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.44 The 26dB EBW, band power test results at low frequency



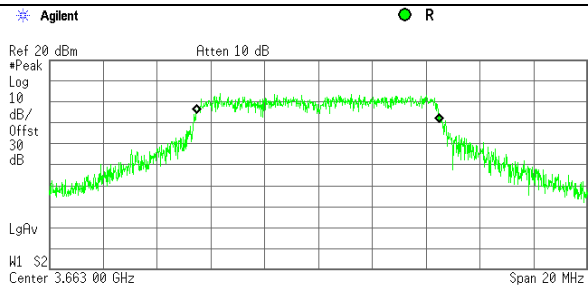
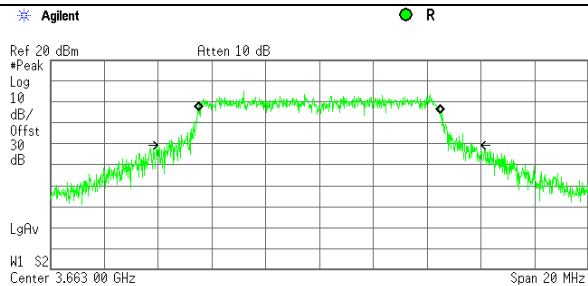
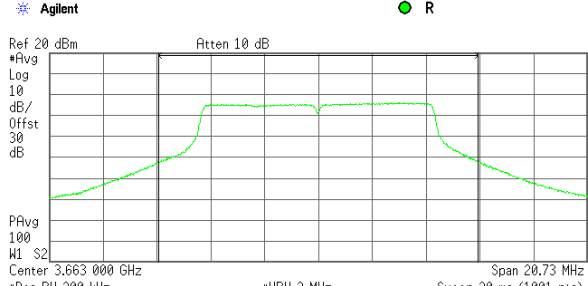
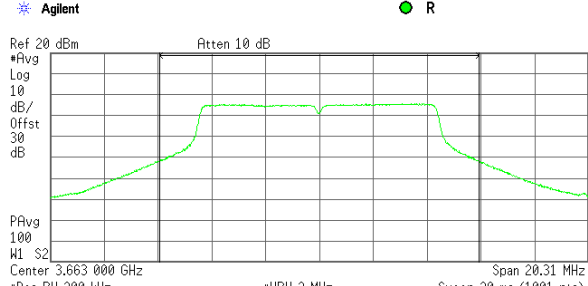
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.45 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY:		3663 MHz	
EMISSION BANDWIDTH:		10 MHz	
MODULATION:		BPSK	
ANTENNA ASSEMBLY GAIN:		24.0dBi	
RF#1		RF#2	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 20 MHz #Res BW 100 kHz #VBW 1 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 8.8899 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -11.379 kHz Occupied Bandwidth 11.833 MHz*</p>	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 200.0 kHz, 0.069 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -7.886 kHz x dB Bandwidth 12.319 MHz*</p>	
	Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 00 GHz Span 20 MHz Res BW 180 kHz #VBW 1.8 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.43 dBm /11.8330 MHz Power Spectral Density -59.30 dBm/Hz</p>	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 000 GHz Span 20.02 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.24 dBm /12.3190 MHz Power Spectral Density -59.67 dBm/Hz</p>

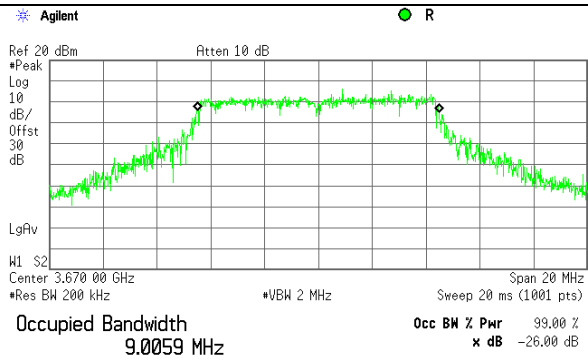
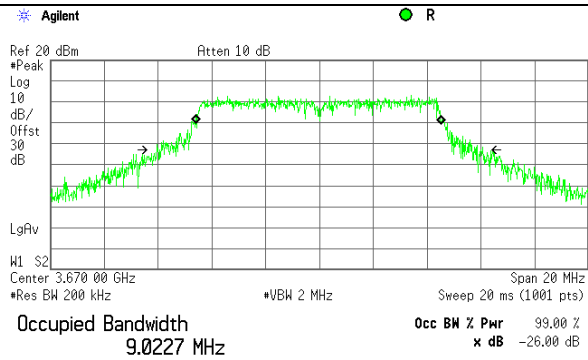
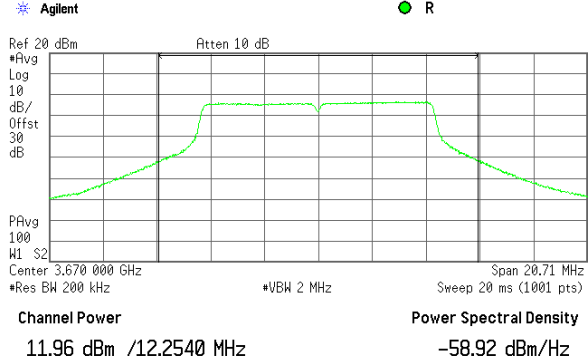
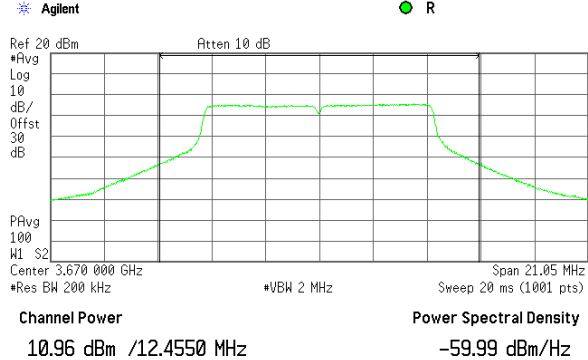
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.46 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 10 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0024 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -647.798 Hz x dB Bandwidth 12.267 MHz*</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.663 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0022 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -9.177 kHz Occupied Bandwidth 12.016 MHz*</p>
RF#2	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 000 GHz Span 20.73 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.43 dBm /12.2670 MHz Power Spectral Density -59.46 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 000 GHz Span 20.31 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.19 dBm /12.0160 MHz Power Spectral Density -59.60 dBm/Hz</p>

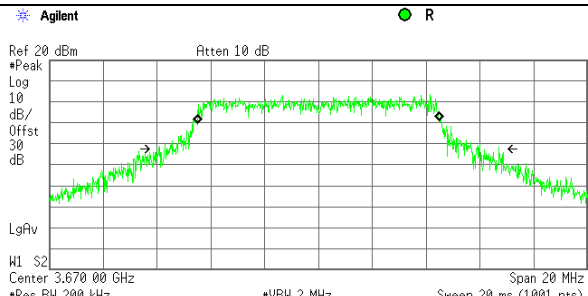
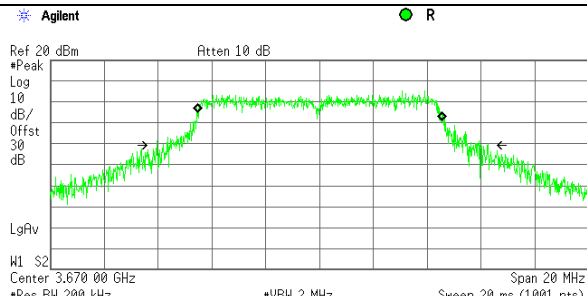
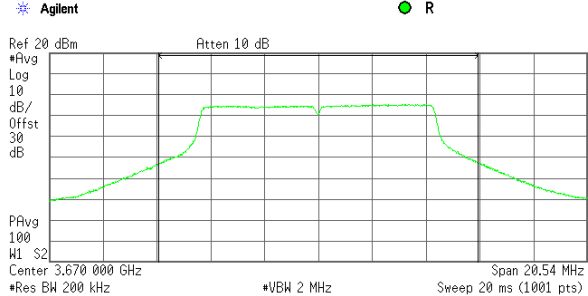
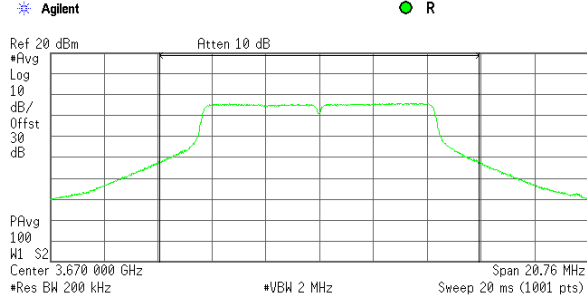
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.47 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3670 MHz	
EMISSION BANDWIDTH: 10 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0059 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 53.247 Hz x dB Bandwidth 12.254 MHz*</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0227 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -7.981 kHz Occupied Bandwidth 12.455 MHz*</p>
RF#2	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PPAvg 100 H1 S2 Center 3.670 000 GHz Span 20.71 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.96 dBm /12.2540 MHz Power Spectral Density -58.92 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log dB/Offst 30 dB PPAvg 100 H1 S2 Center 3.670 000 GHz Span 21.05 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 10.96 dBm /12.4550 MHz Power Spectral Density -59.99 dBm/Hz</p>

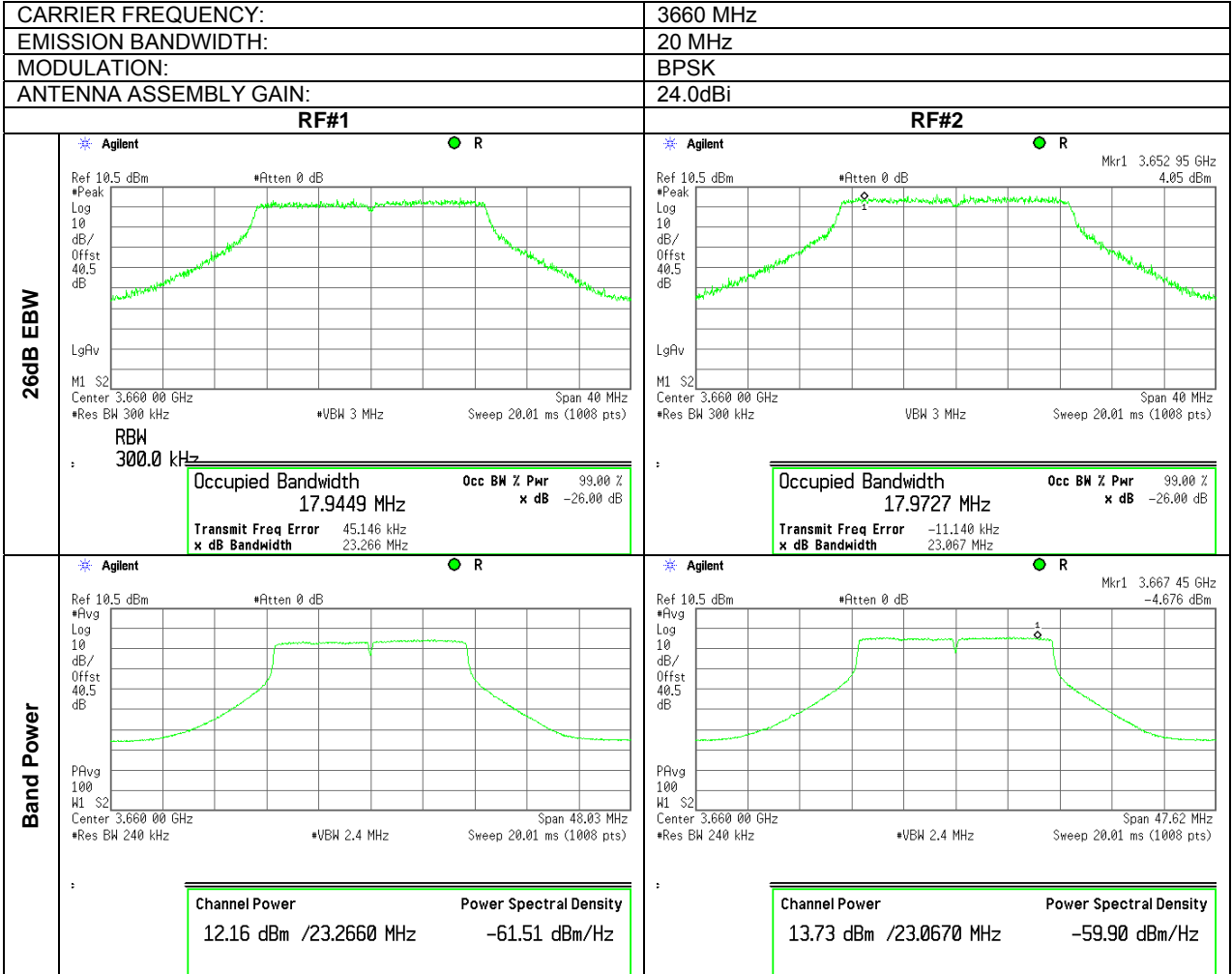
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.48 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3670 MHz	
EMISSION BANDWIDTH: 10 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 9.0020 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -5.988 kHz Occupied Bandwidth 12.151 MHz*</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Peak Log 10 dB/Offst 30 dB LgAv</p> <p>H1 S2 Center 3.670 00 GHz Span 20 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 8.9976 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -9.290 kHz Occupied Bandwidth 12.284 MHz*</p>
RF#1	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PPAvg 100 H1 S2 Center 3.670 000 GHz Span 20.54 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 10.70 dBm /12.1510 MHz Power Spectral Density -60.15 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 20 dBm Atten 10 dB</p> <p>#Avg Log 10 dB/Offst 30 dB PPAvg 100 H1 S2 Center 3.670 000 GHz Span 20.76 MHz #Res BW 200 kHz #VBW 2 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 11.39 dBm /12.2840 MHz Power Spectral Density -59.51 dBm/Hz</p>

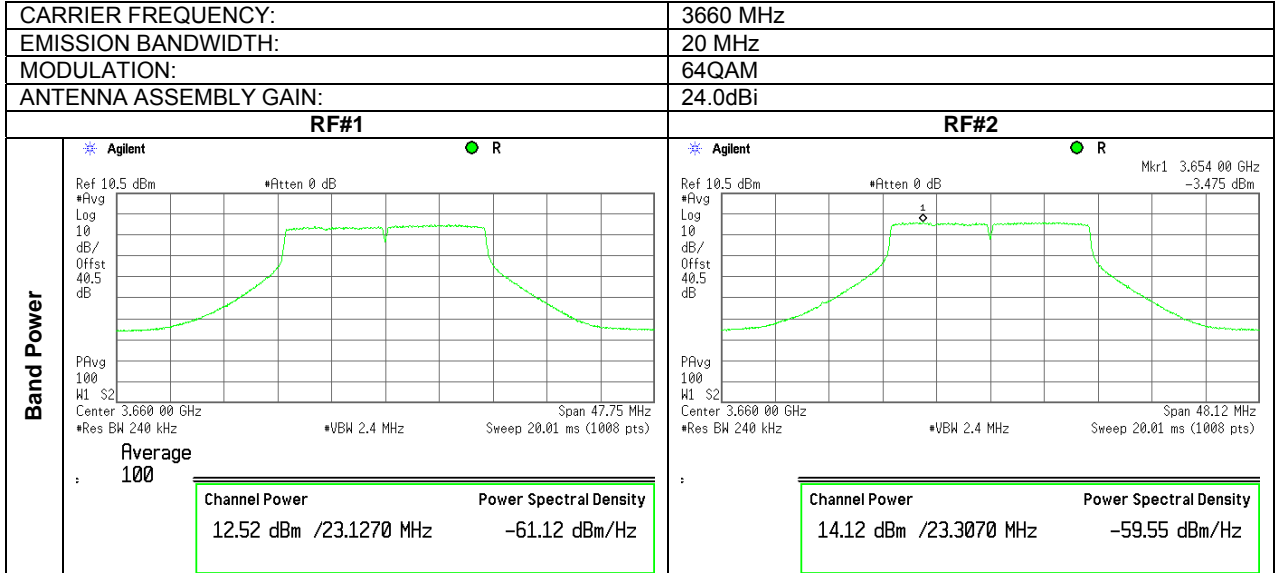
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Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.49 The 26dB EBW, band power test results at low frequency



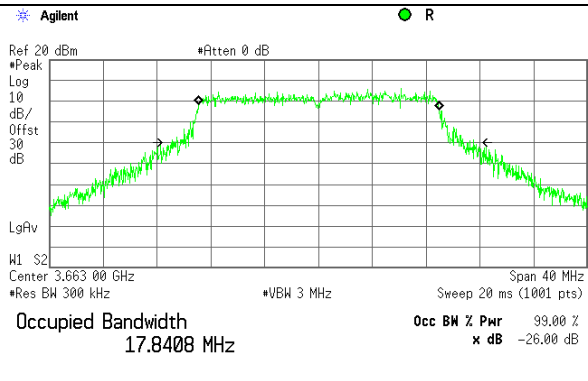
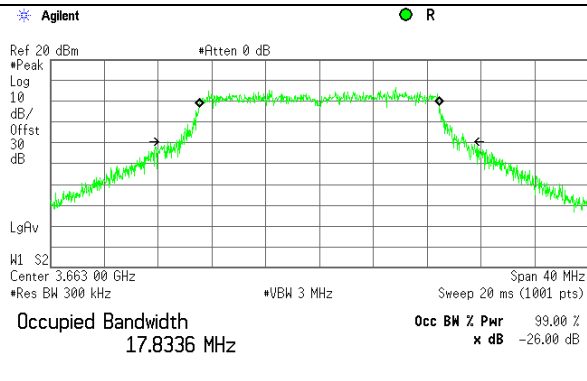
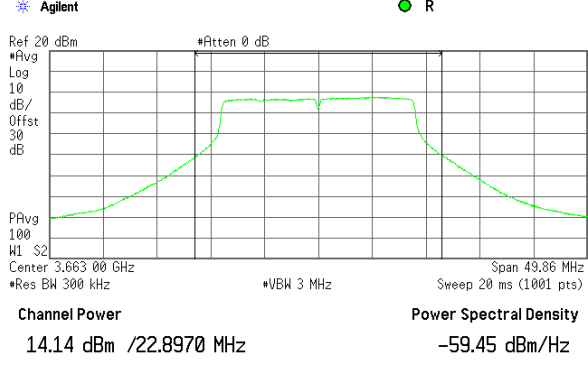
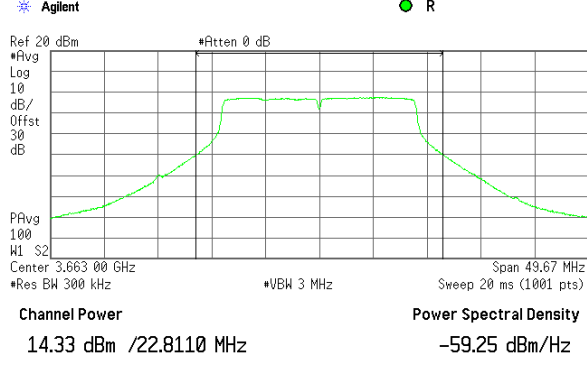
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Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.50 The 26dB EBW, band power test results at low frequency



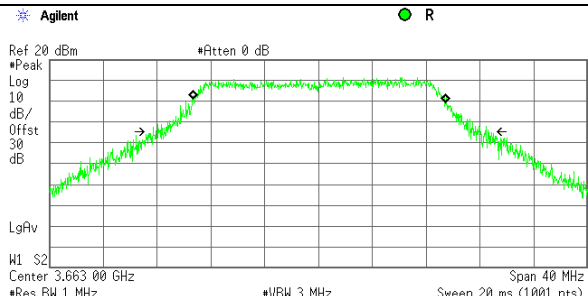
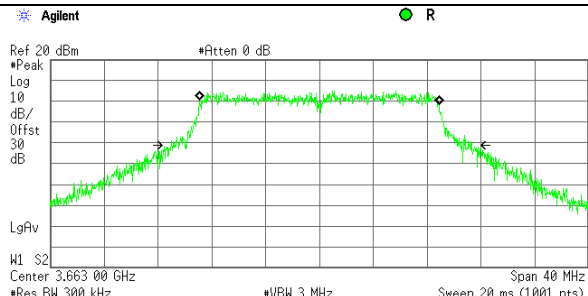
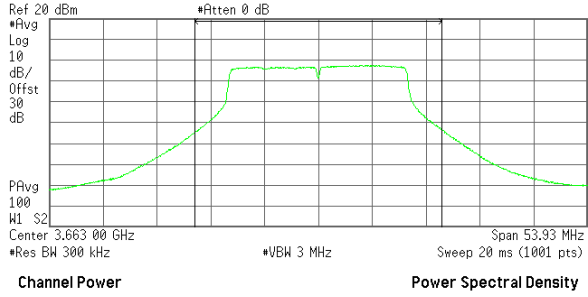
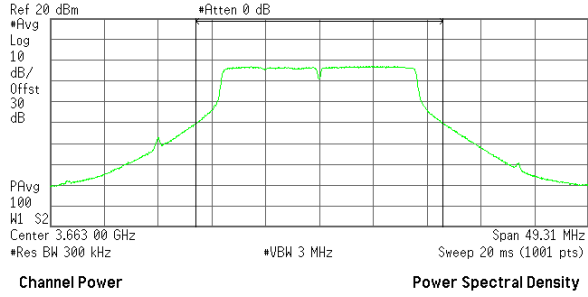
Test specification: Section 90.1321 / RSS-197, Section 5.6, Maximum conducted output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.51 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY: 3663 MHz	
EMISSION BANDWIDTH: 20 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8408 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 15.158 kHz Occupied Bandwidth 22.897 MHz*</p>
	 <p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8336 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -4.468 kHz Occupied Bandwidth 22.811 MHz*</p>
RF#1	
Band Power	 <p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 00 GHz Span 49.86 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.14 dBm /22.8970 MHz Power Spectral Density -59.45 dBm/Hz</p>
	 <p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 00 GHz Span 49.67 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.33 dBm /22.8110 MHz Power Spectral Density -59.25 dBm/Hz</p>

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.52 The 26dB EBW, band power test results at mid frequency

CARRIER FREQUENCY:		3663 MHz	
EMISSION BANDWIDTH:		20 MHz	
MODULATION:		64QAM	
ANTENNA ASSEMBLY GAIN:		24.0dBi	
RF#1		RF#2	
26dB EBW	 <p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 18.6084 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 65.445 kHz Occupied Bandwidth 24.769 MHz*</p>	 <p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.663 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8004 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -10.432 kHz x dB Bandwidth 22.644 MHz*</p>	
	Band Power	 <p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 00 GHz Span 53.93 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.10 dBm /24.7690 MHz Power Spectral Density -59.84 dBm/Hz</p>	 <p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PAvg 100 H1 S2 Center 3.663 00 GHz Span 49.31 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 13.84 dBm /22.6440 MHz Power Spectral Density -59.71 dBm/Hz</p>



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.53 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3665 MHz	
EMISSION BANDWIDTH: 20 MHz	
MODULATION: BPSK	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	
	<p>Transmit Freq Error 18.936 kHz x dB Bandwidth 22.553 MHz*</p>
RF#2	
26dB EBW	
	<p>Transmit Freq Error -2.905 kHz x dB Bandwidth 22.883 MHz*</p>
Band Power	
	<p>Channel Power 13.89 dBm / 22.5530 MHz Power Spectral Density -59.64 dBm/Hz</p>
Band Power	
	<p>Channel Power 14.51 dBm / 22.8830 MHz Power Spectral Density -59.09 dBm/Hz</p>



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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.1.54 The 26dB EBW, band power test results at high frequency

CARRIER FREQUENCY: 3665 MHz	
EMISSION BANDWIDTH: 20 MHz	
MODULATION: 64QAM	
ANTENNA ASSEMBLY GAIN: 24.0dBi	
RF#1	
26dB EBW	<p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.665 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.7936 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 19.752 kHz x dB Bandwidth 22.697 MHz*</p>
	<p>Agilent R</p> <p>Ref 20 dBm #Peak Log dB/Offst 30 dB LgAv</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.665 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Occupied Bandwidth 17.8554 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 27.435 kHz Occupied Bandwidth 23.339 MHz*</p>
RF#2	
Band Power	<p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PFAvg 100</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.665 00 GHz Span 49.42 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 13.87 dBm /22.697 MHz Power Spectral Density -59.69 dBm/Hz</p>
	<p>Agilent R</p> <p>Ref 20 dBm #Avg Log dB/Offst 30 dB PFAvg 100</p> <p>#Atten 0 dB</p> <p>H1 S2 Center 3.665 00 GHz Span 50.82 MHz #Res BW 300 kHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power 14.04 dBm /23.339 MHz Power Spectral Density -59.64 dBm/Hz</p>



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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Table 7.1.8 The 26 dB EBW test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3675.0 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
3663.0	BPSK	6.559	25	38.168	21.168
3672.5	BPSK	6.520	25	38.142	21.142
3652.5	64QAM	6.68	25	38.248	24.748
3663.0	64QAM	6.479	25	38.115	21.115
3672.5	64QAM	6.532	25	38.150	21.150

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
3663.0	BPSK	12.958	25	41.125	27.625
3669.0	BPSK	12.97	25	41.129	27.629
3656.0	64QAM	11.934	25	40.768	27.268
3663.0	64QAM	12.831	25	41.083	27.583
3669.0	64QAM	12.712	25	41.042	27.542

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
3663.0	BPSK	24.29	25	43.854	30.354
3664.0	BPSK	23.742	25	43.755	30.255
3661.0	64QAM	22.418	25	43.506	30.006
3663.0	64QAM	24.108	25	43.822	30.322
3664.0	64QAM	24.733	25	43.933	30.433

* - 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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Table 7.1.9 Peak EIRP output power test results

ASSIGNED FREQUENCY RANGE: 3650.0 – 3675.0 MHz
DETECTOR USED: Average (RMS)
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum (see NOTE1)
EBW: 5 MHz

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
3652.5	BPSK	15.07	16.03	18.59	13.50	32.09	38.230	-6.14	Pass
3663.0	BPSK	14.87	14.75	17.82	13.50	31.32	38.168	-6.85	Pass
3672.5	BPSK	15.09	14.92	18.02	13.50	31.52	38.142	-6.63	Pass
EBW: 10 MHz									
3652.5	64QAM	15.11	16.03	18.60	13.50	32.10	38.25	-6.14	Pass
3663.0	64QAM	15.03	15.08	18.07	13.50	31.57	38.17	-6.60	Pass
3672.5	64QAM	15.11	14.90	18.02	13.50	31.52	38.14	-6.63	Pass
EBW: 10 MHz									
3656.0	BPSK	21.39	22.53	25.01	13.50	38.51	40.83	-2.33	Pass
3663.0	BPSK	20.90	22.60	24.84	13.50	38.34	41.13	-2.78	Pass
3670.0	BPSK	21.02	22.64	24.92	13.50	38.42	41.13	-2.71	Pass
EBW: 20 MHz									
3661.0	BPSK	21.47	23.32	25.50	13.50	39.00	43.534	-4.53	Pass
3663.0	BPSK	22.05	22.96	25.54	13.50	39.04	43.854	-4.82	Pass
3664.0	BPSK	21.85	23.94	26.03	13.50	39.53	43.755	-4.23	Pass
EBW: 20 MHz									
3661.0	64QAM	21.98	23.23	25.66	13.50	39.16	43.506	-4.35	Pass
3663.0	64QAM	22.38	23.19	25.81	13.50	39.31	43.822	-4.51	Pass
3664.0	64QAM	22.26	23.47	25.92	13.50	39.42	43.933	-4.52	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			
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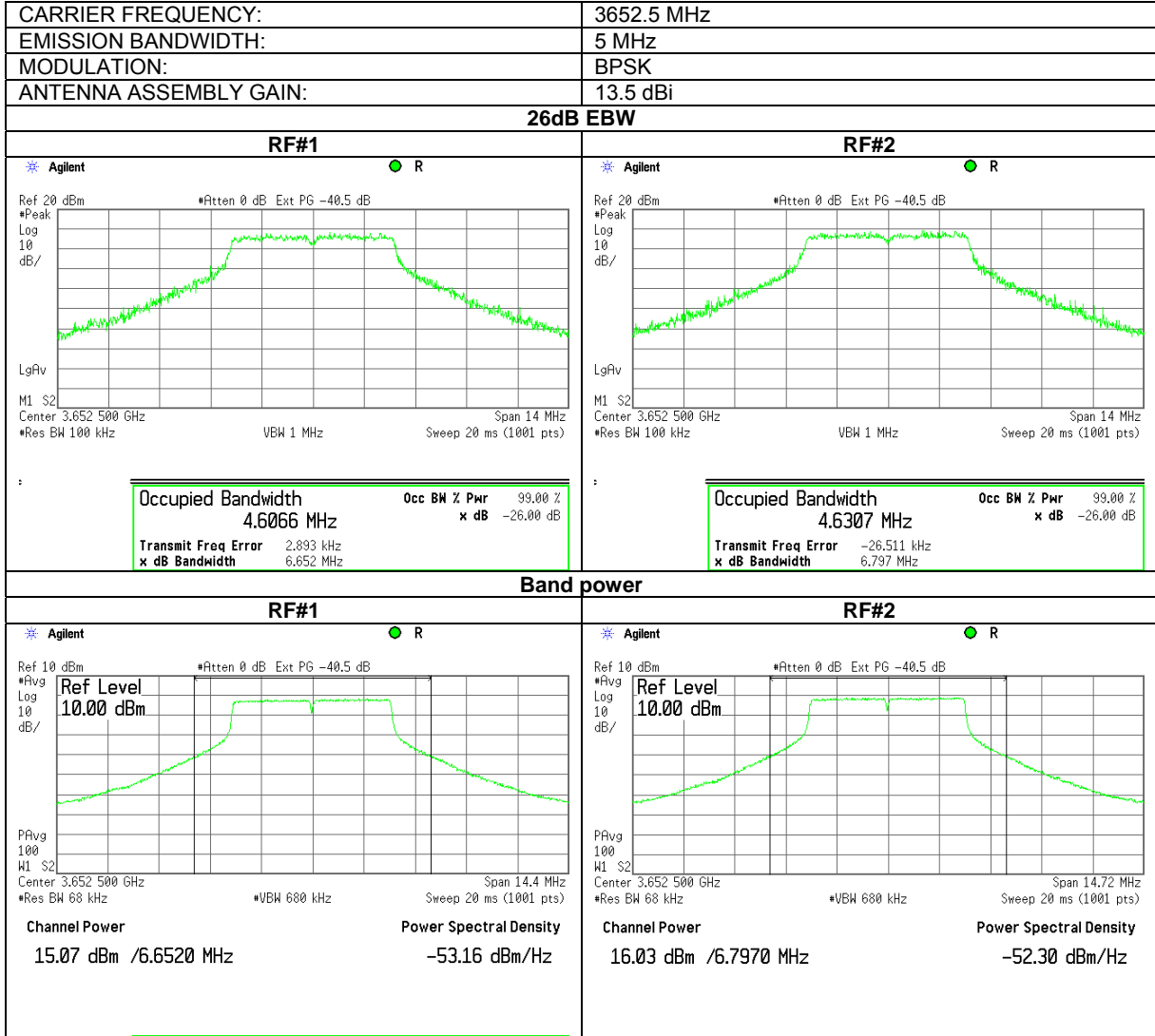
Full description is given in Appendix A.



HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

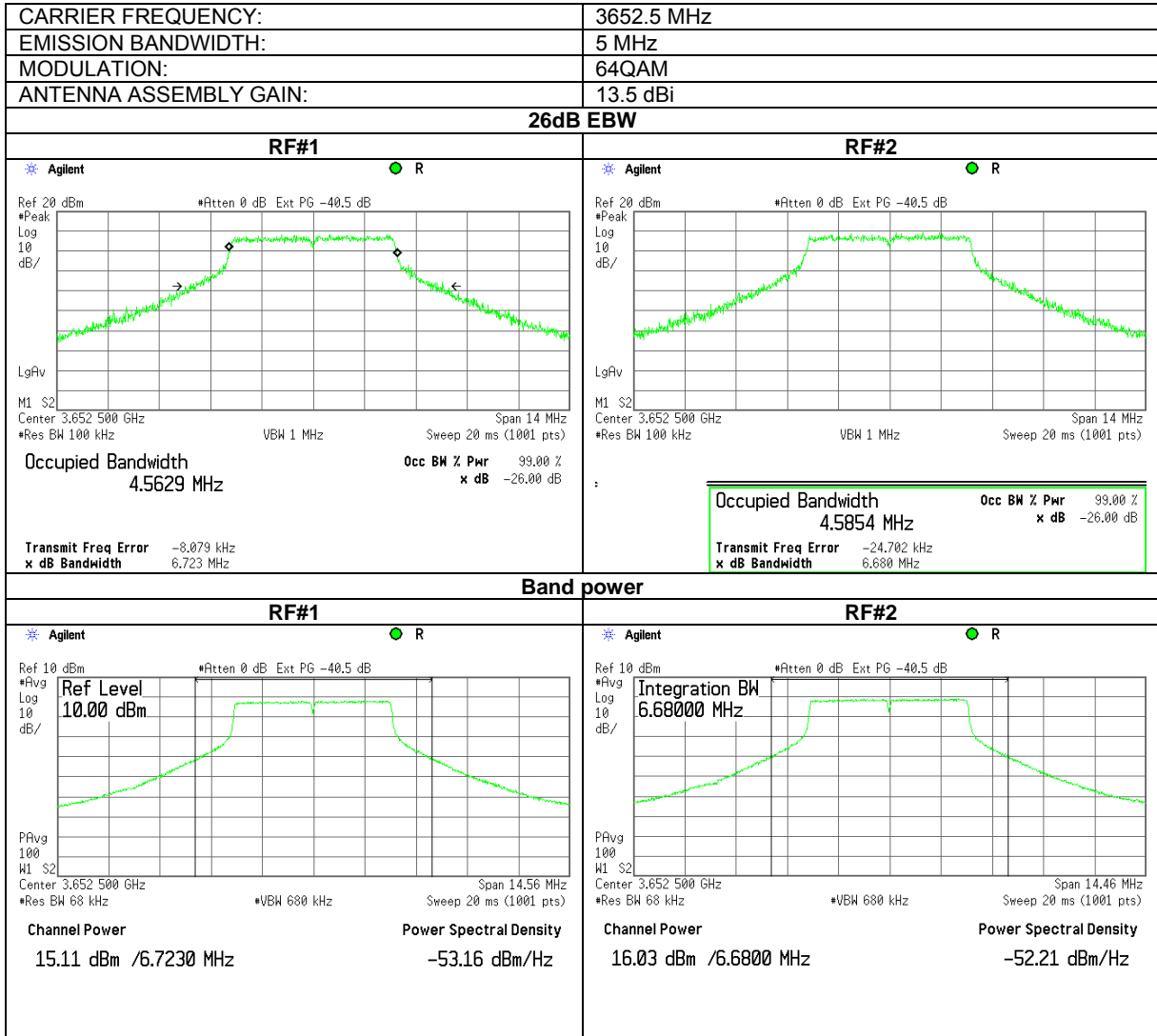




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

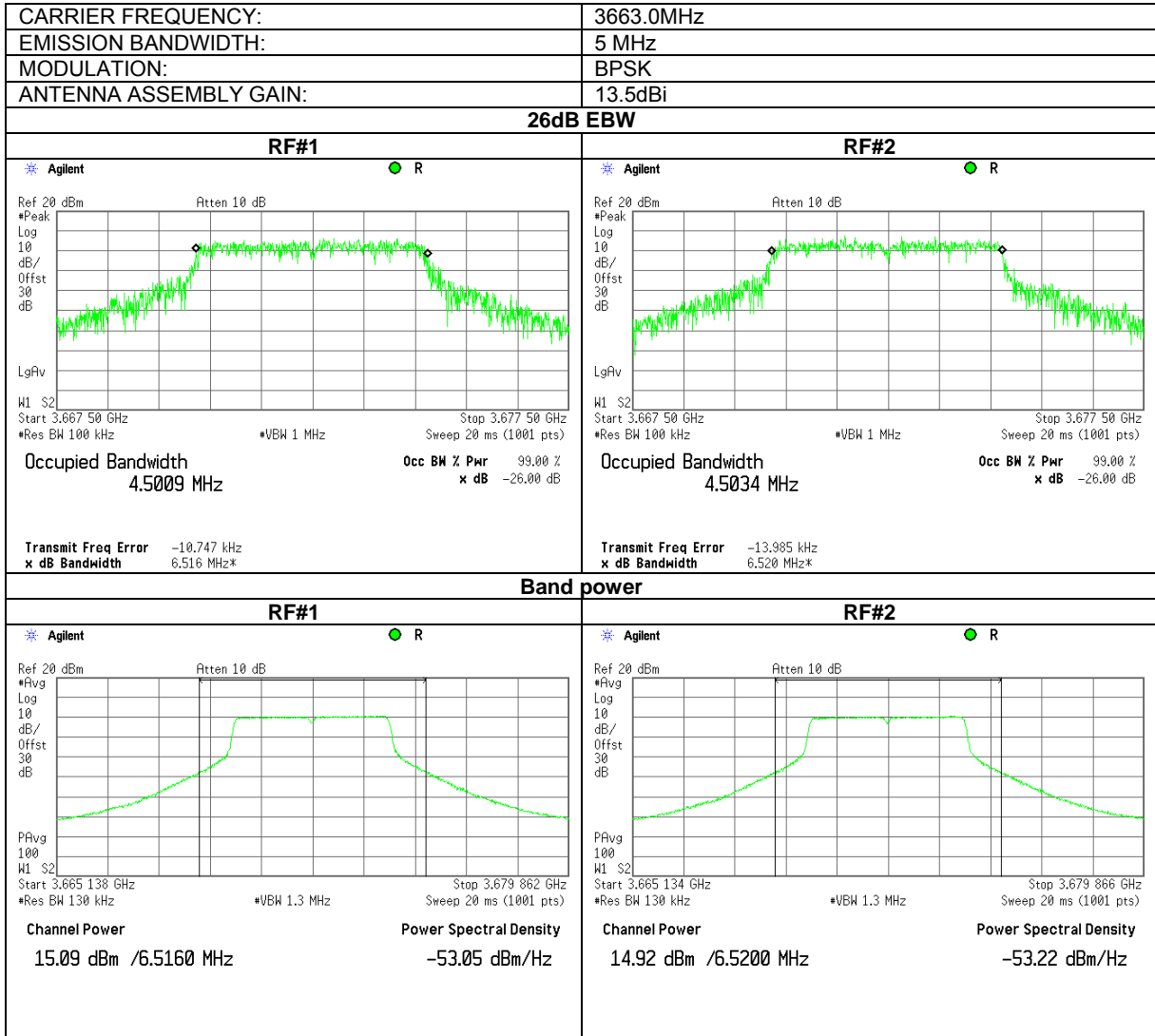




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

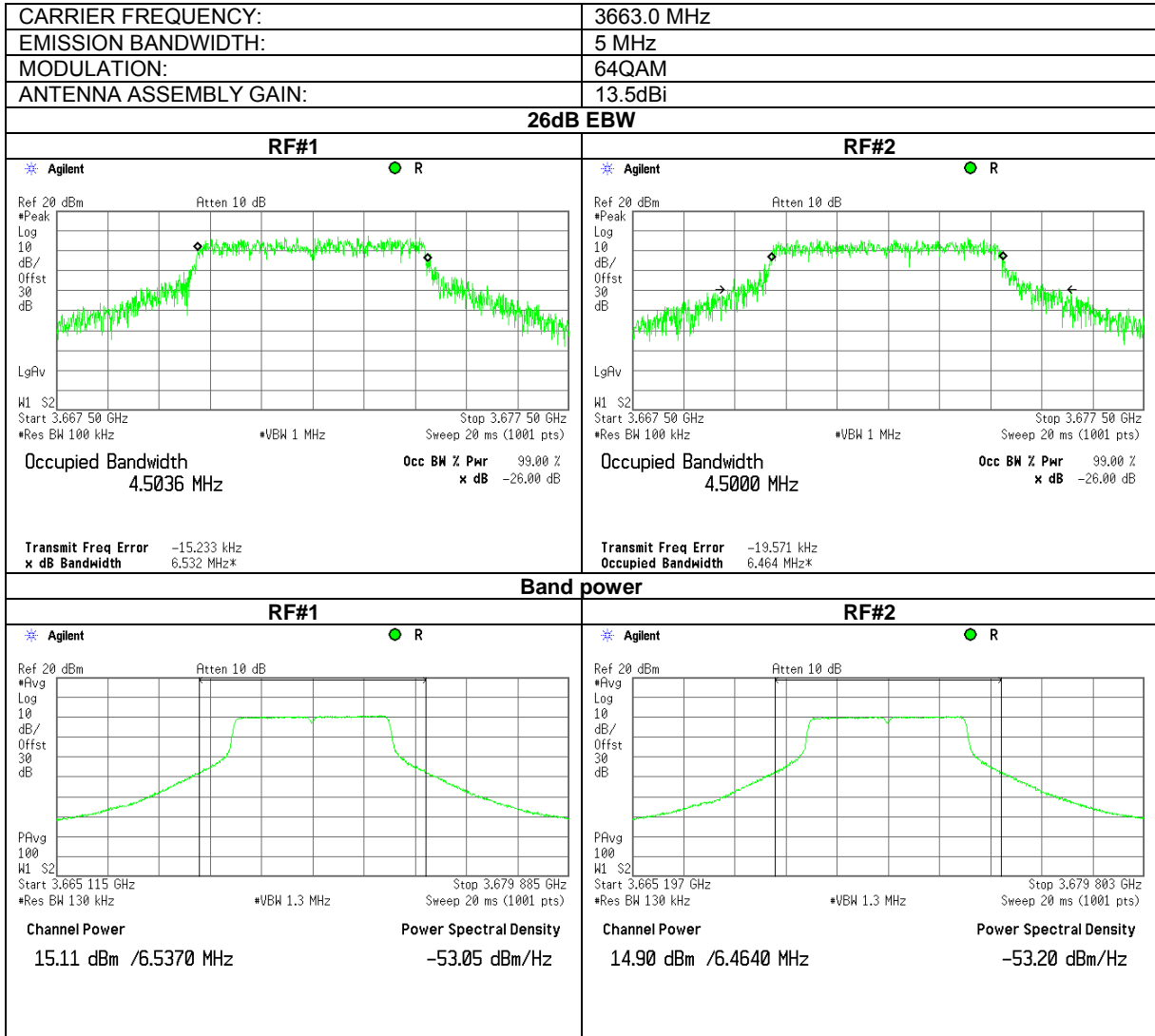




HERMON LABORATORIES

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: 11/14/2010	
Temperature: 25 °C	Air Pressure: 1007 hPa
Relative Humidity: 45 %	
Power Supply: -48 VDC	
Remarks: with 13.5 dBi gain antenna assembly	

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

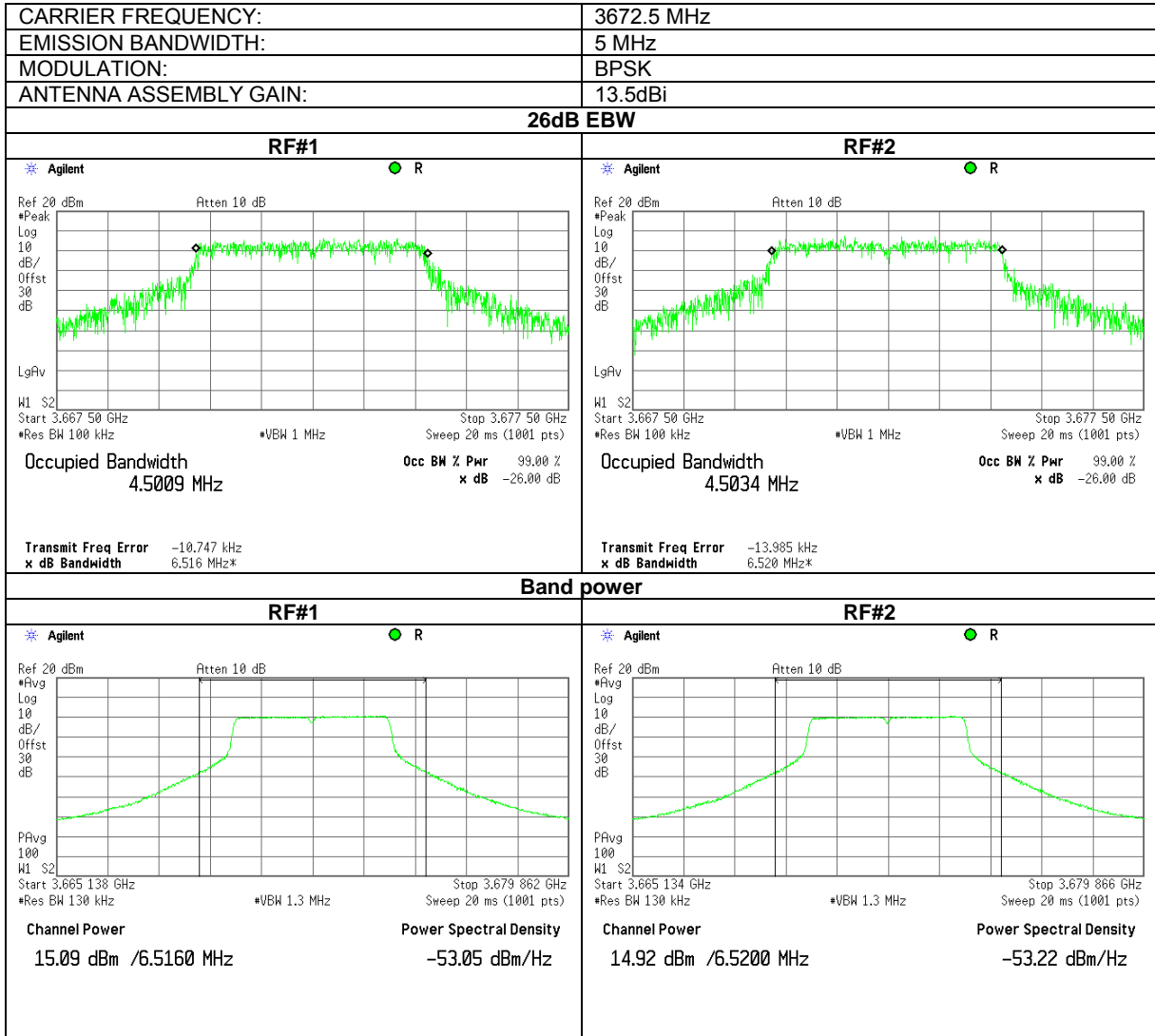




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

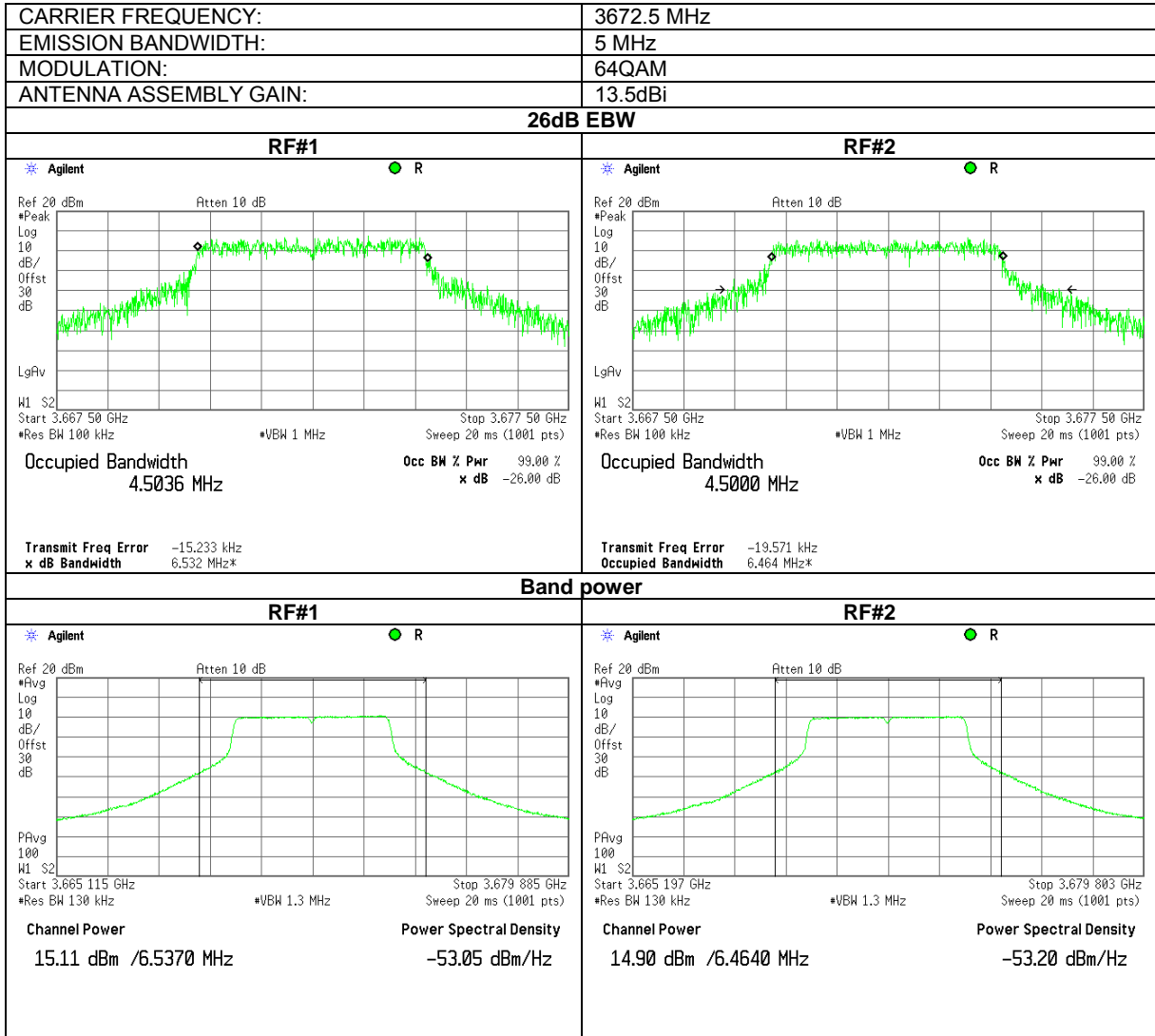




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

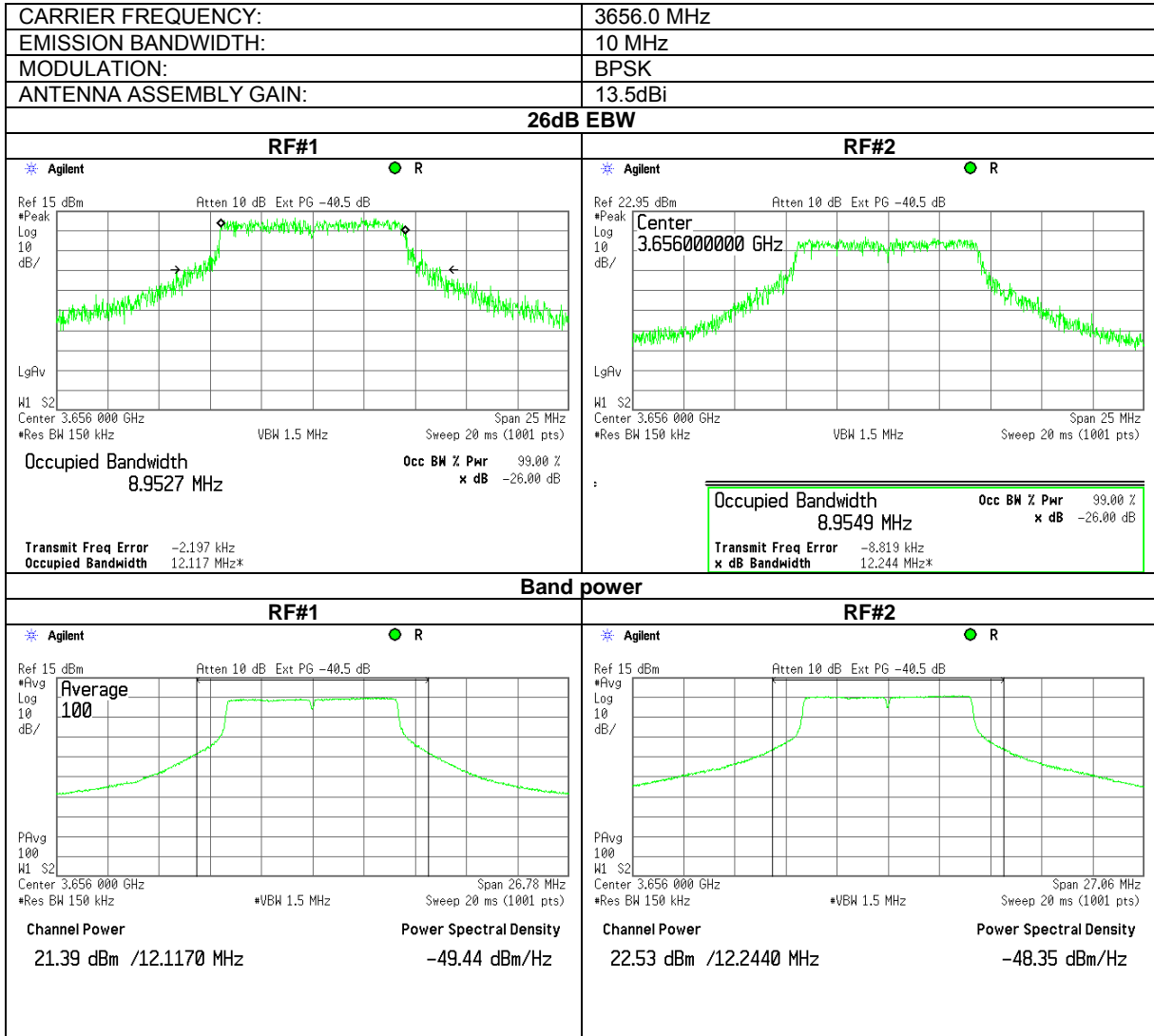




HERMON LABORATORIES

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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

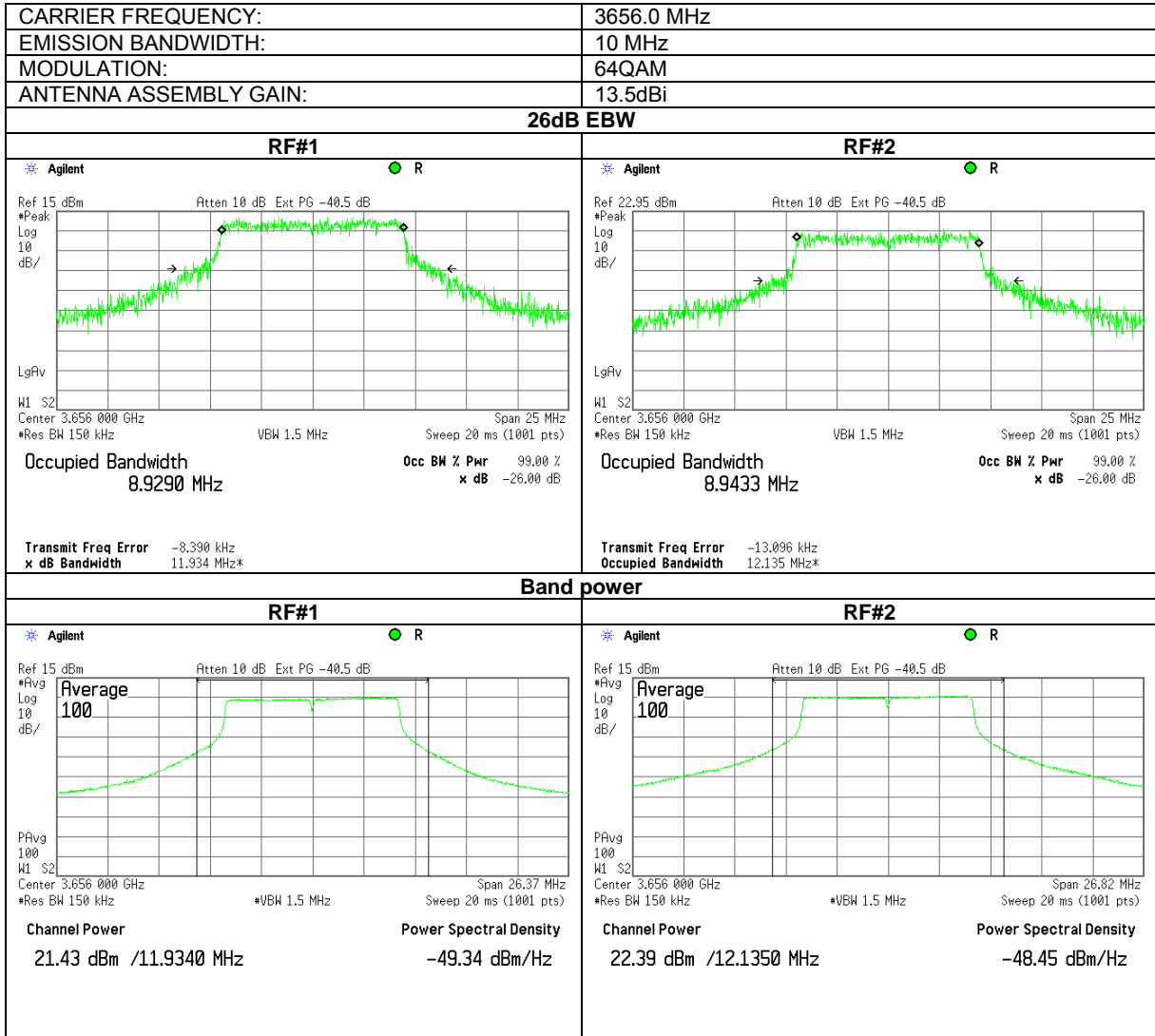




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

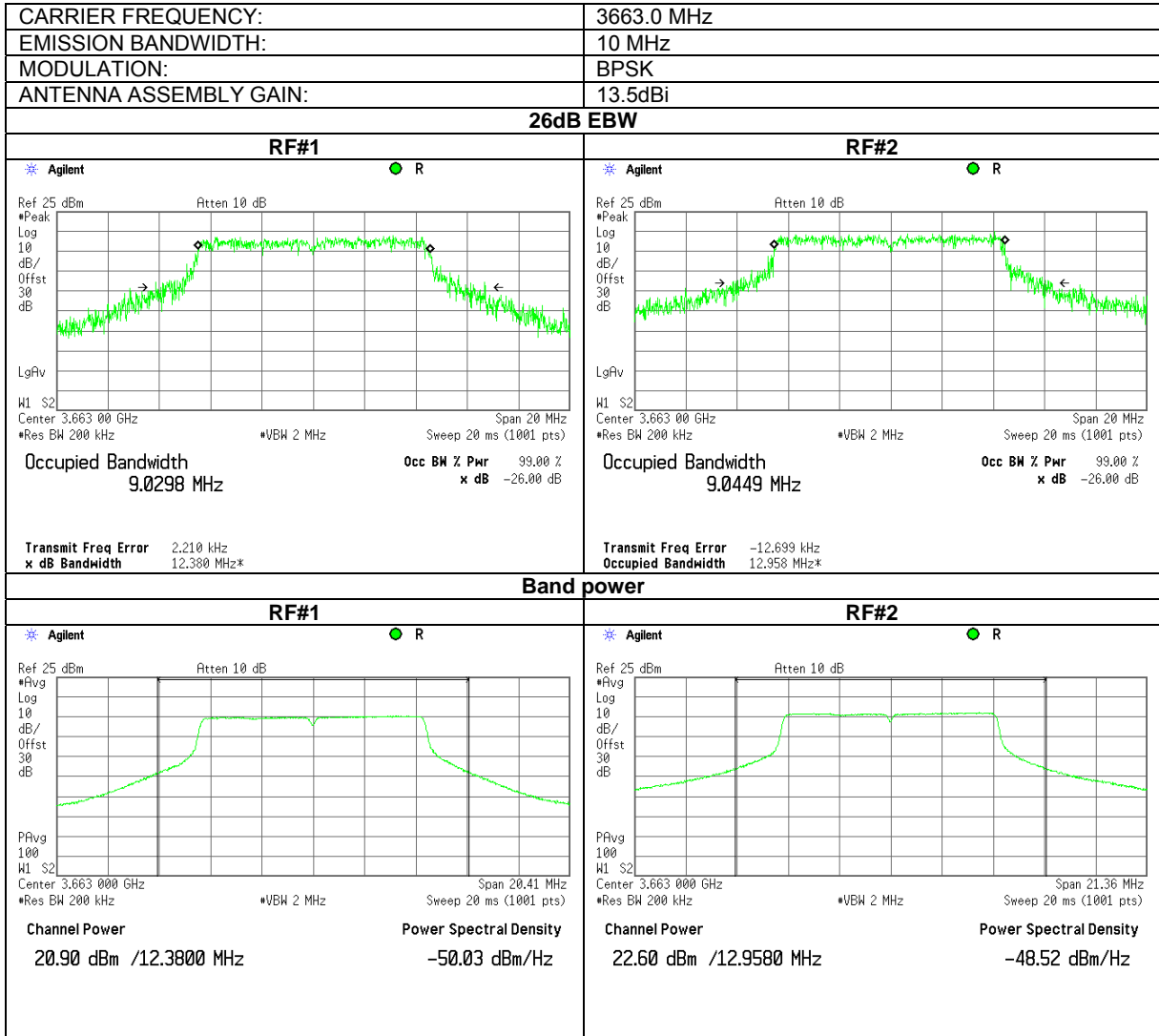




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

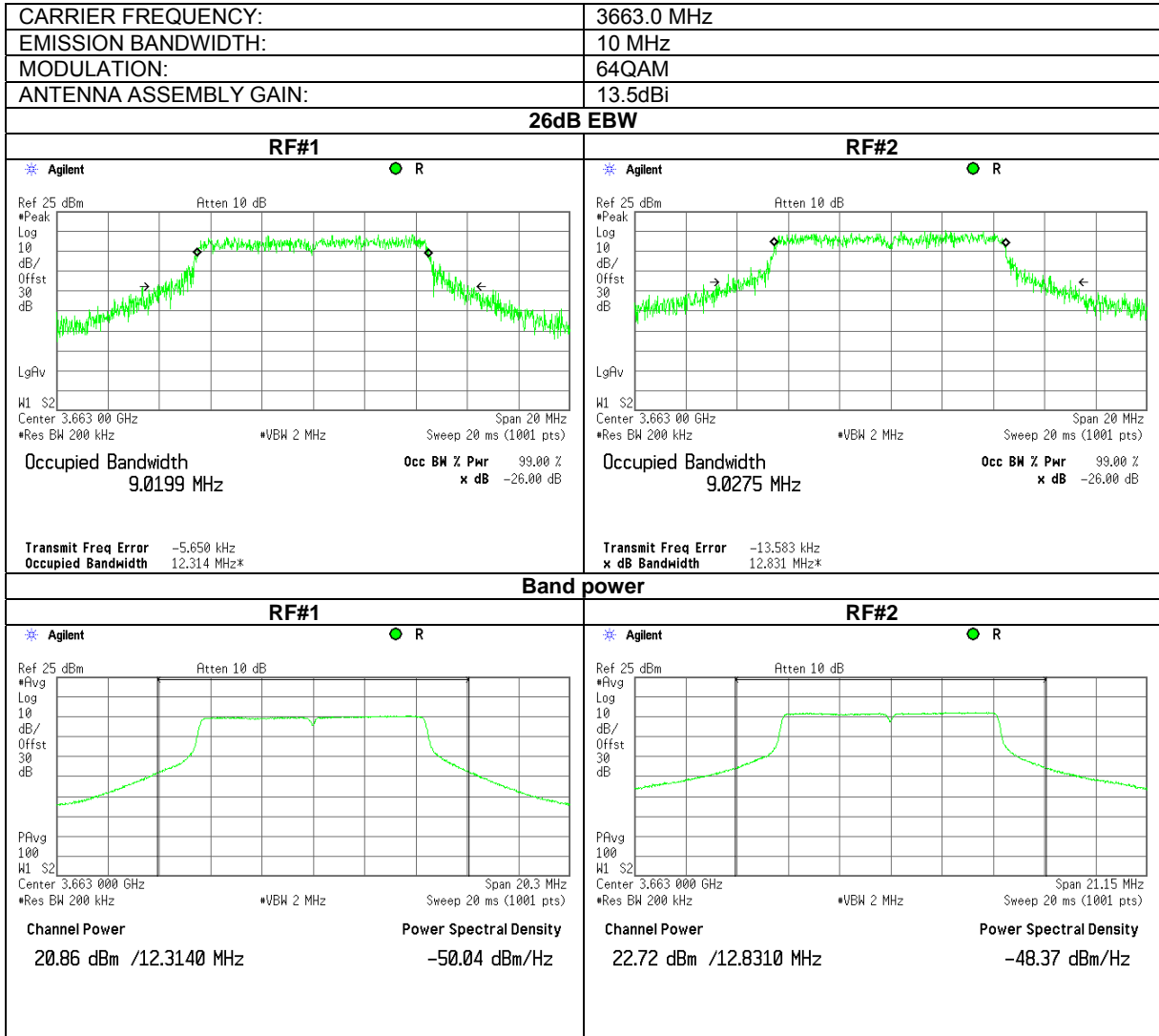




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

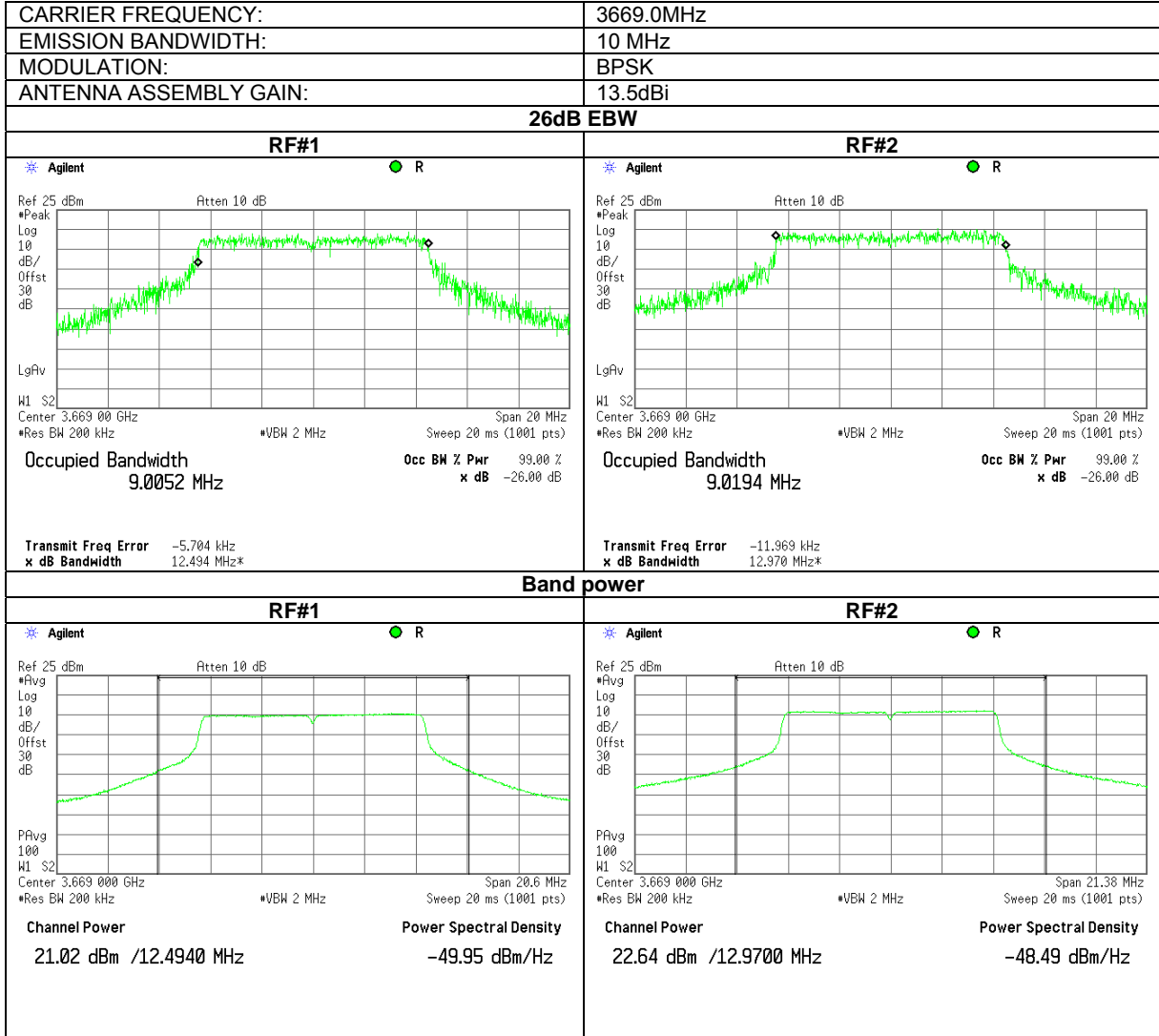




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

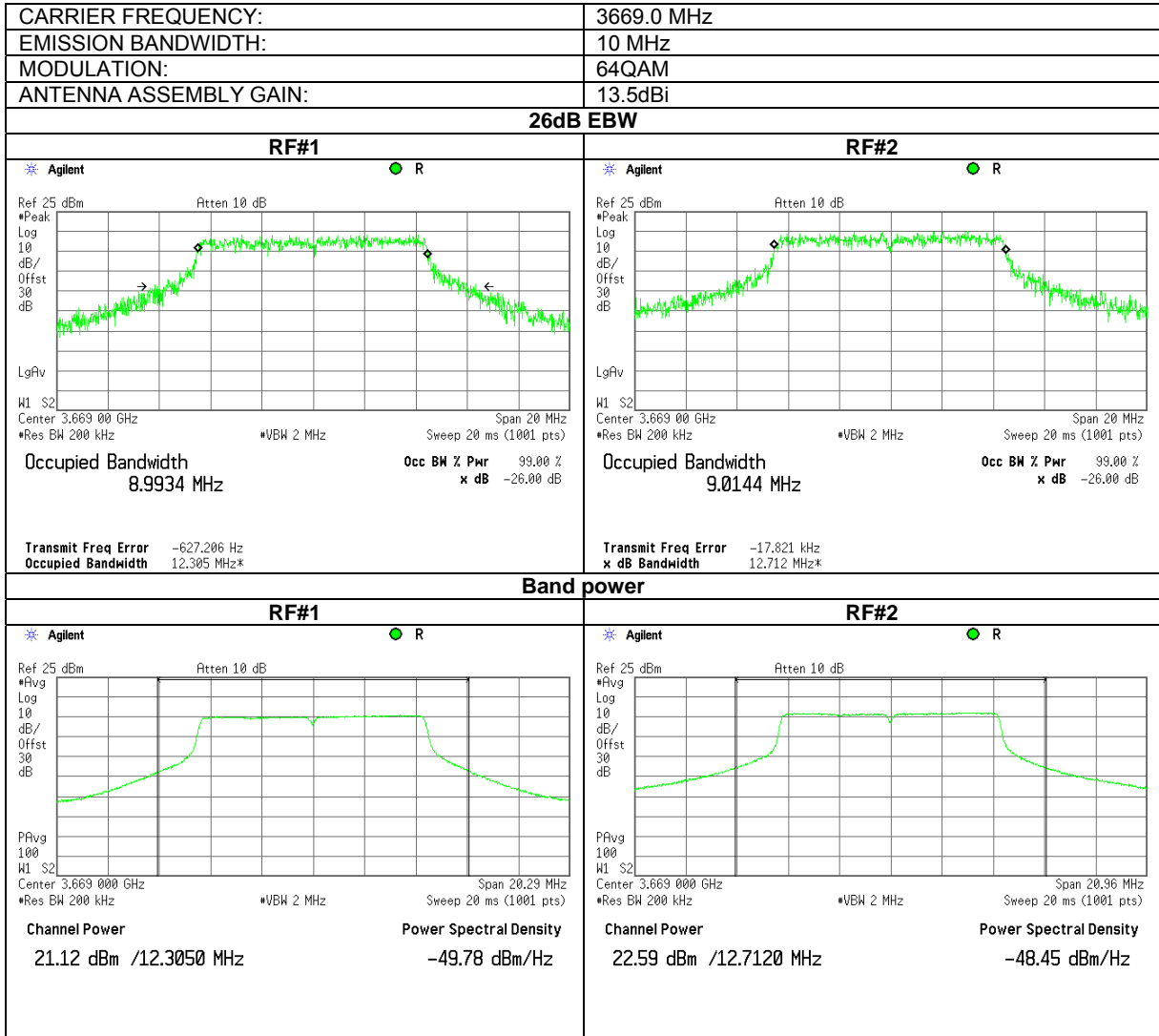




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

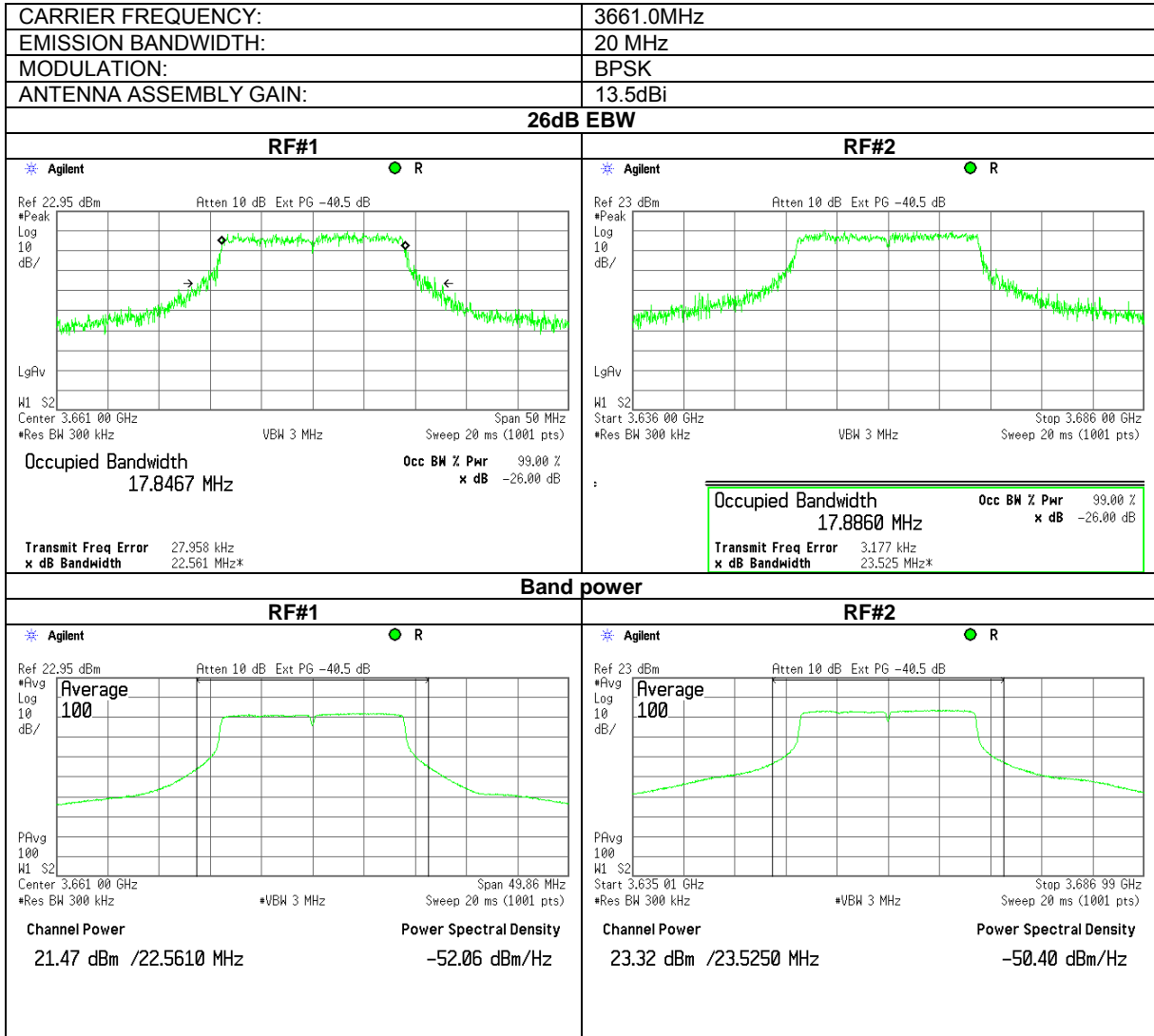




HERMON LABORATORIES

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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

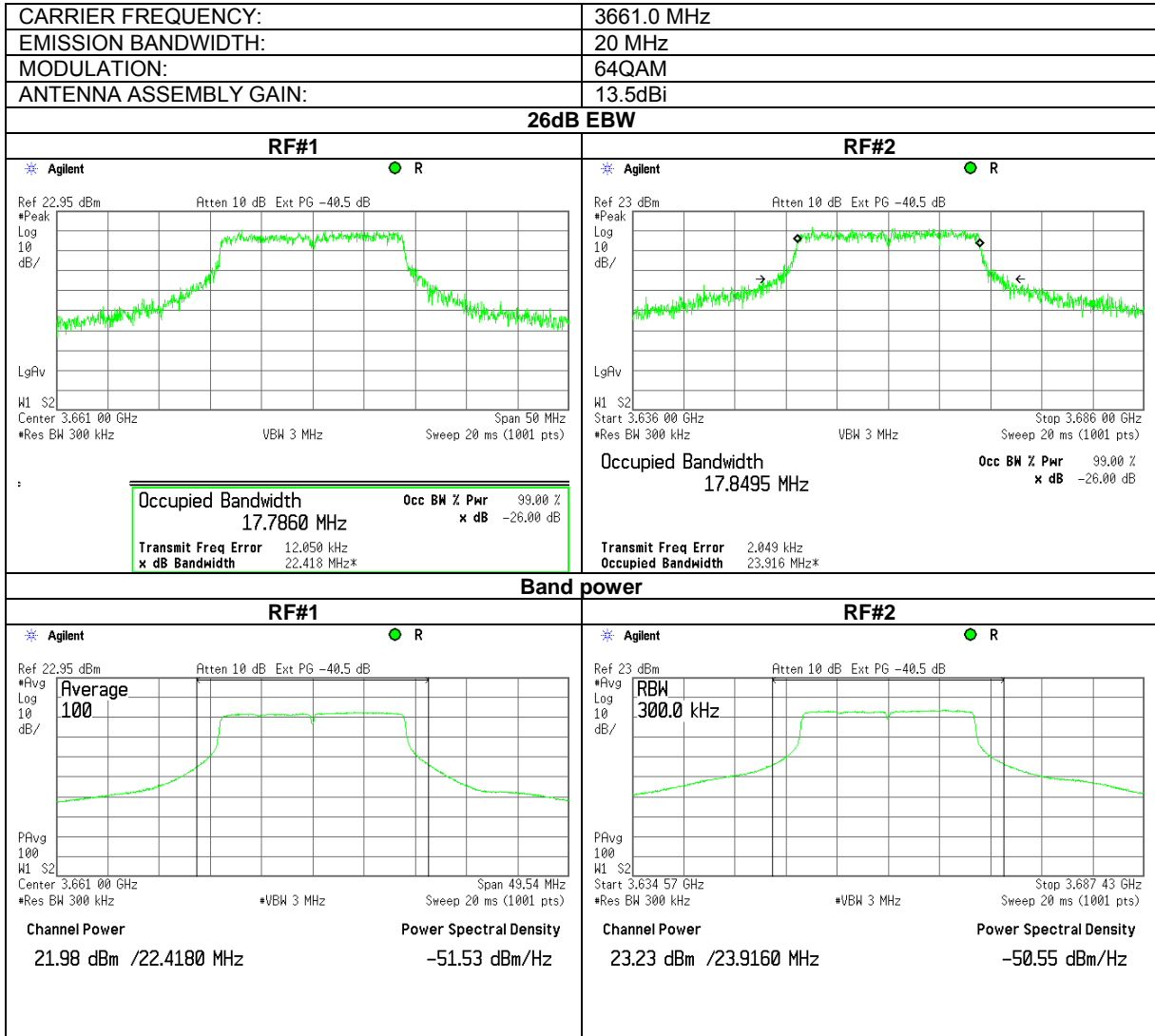




HERMON LABORATORIES

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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

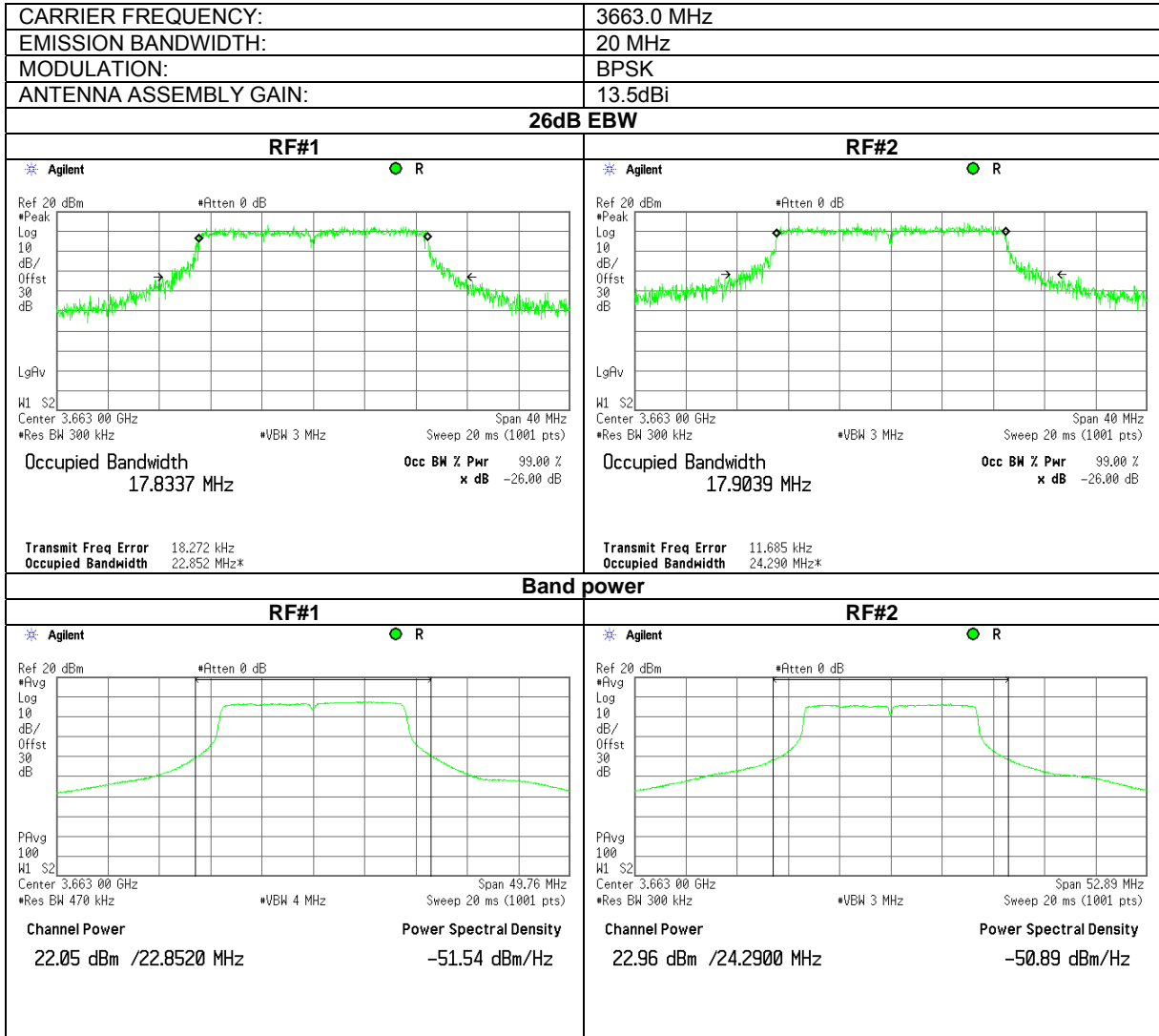




HERMON LABORATORIES

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: 11/14/2010	
Temperature: 25 °C	Air Pressure: 1007 hPa
Relative Humidity: 45 %	
Power Supply: -48 VDC	
Remarks: with 13.5 dBi gain antenna assembly	

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

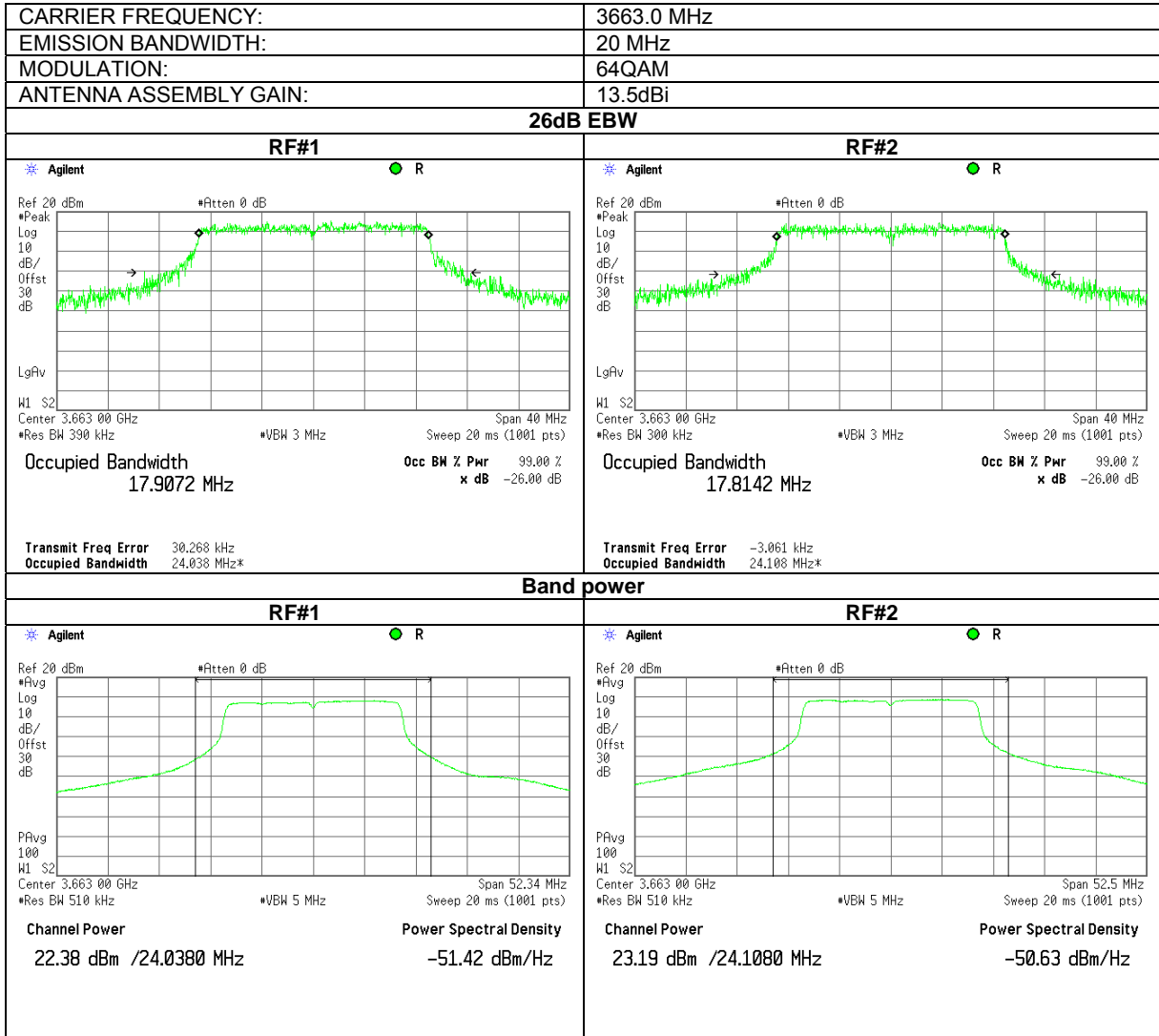




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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

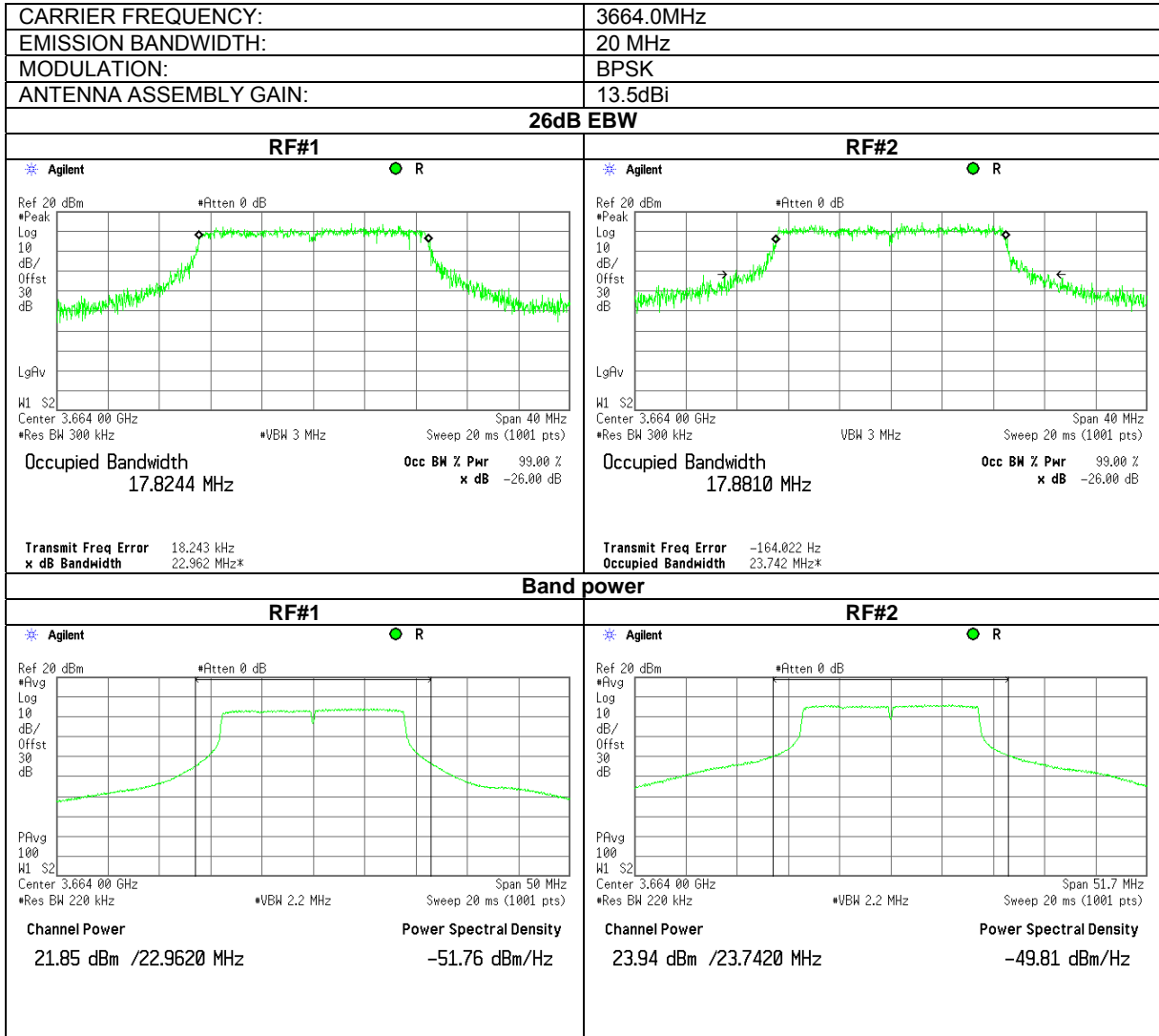




HERMON LABORATORIES

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: 11/14/2010	
Temperature: 25 °C	Air Pressure: 1007 hPa
Relative Humidity: 45 %	
Power Supply: -48 VDC	
Remarks: with 13.5 dBi gain antenna assembly	

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

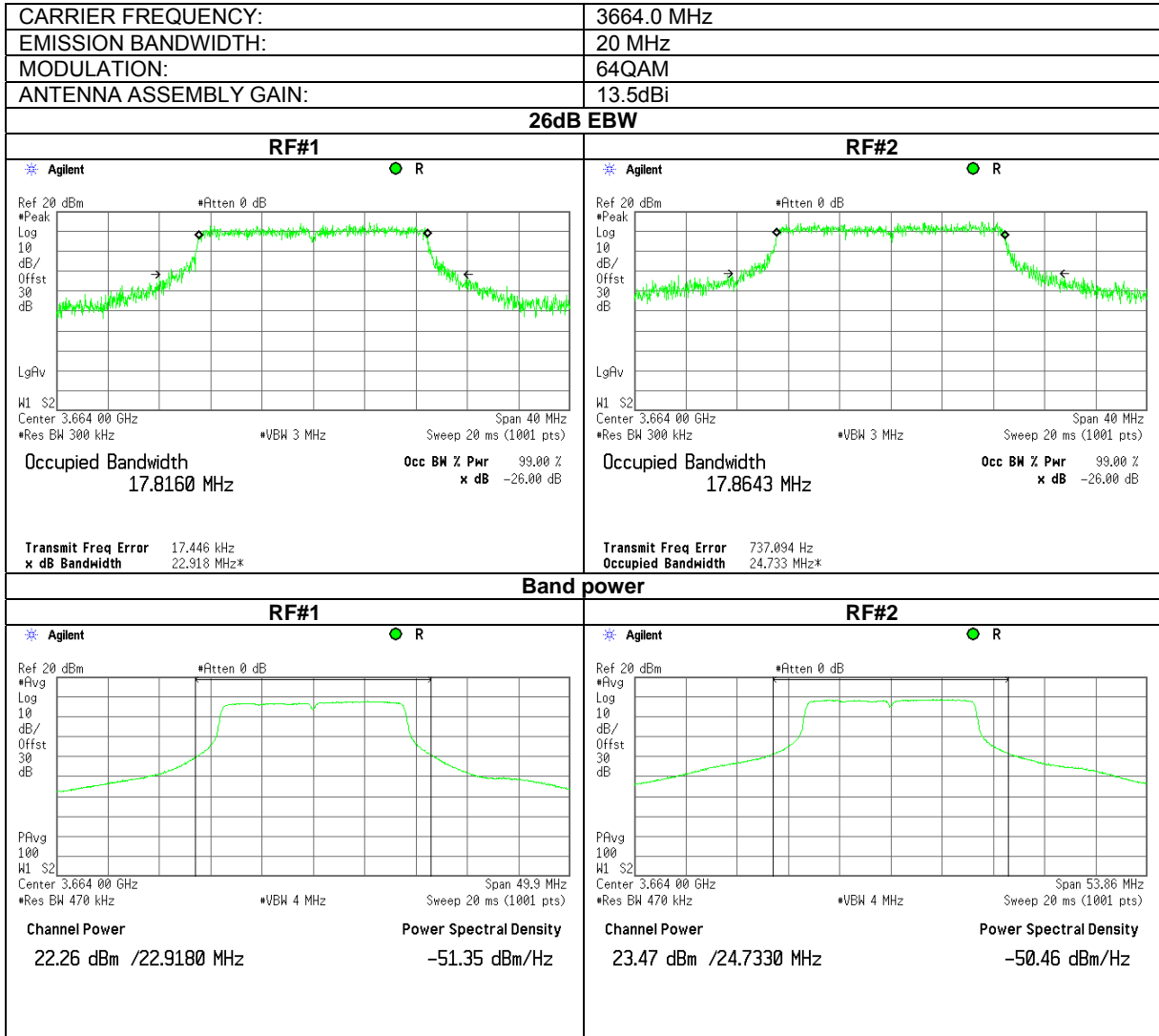




HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

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



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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0	Any	1	30
Mobile and portable stations			
3650.0 – 3675.0	Any	0.04	16

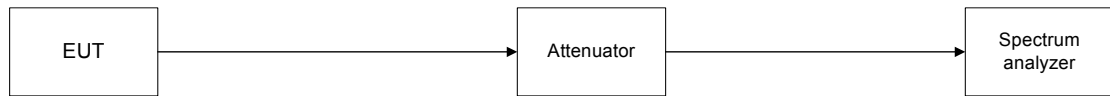
7.2.2 Test procedure

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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 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	4.755	5.422	8.11	29.11	30	-0.89	Pass
3663.0	BPSK	5.866	5.767	8.83	29.83	30	-0.17	Pass
3672.5	BPSK	5.568	5.44	8.51	29.51	30	-0.49	Pass
3652.5	64QAM	4.932	5.09	8.02	29.02	30	-0.98	Pass
3663.0	64QAM	6.025	5.091	8.59	29.59	30	-0.41	Pass
3672.5	64QAM	5.573	6.141	8.88	29.88	30	-0.12	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
3663.0	BPSK	5.101	5.165	8.14	29.14	30	-0.86	Pass
3670.0	BPSK	5.533	5.178	8.37	29.37	30	-0.63	Pass
3655.0	64QAM	4.905	6.126	8.57	29.57	30	-0.43	Pass
3663.0	64QAM	5.488	5.038	8.28	29.28	30	-0.72	Pass
3670.0	64QAM	5.792	5.642	8.73	29.73	30	-0.27	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	4.892	6.298	8.66	29.66	30	-0.34	Pass
3663.0	BPSK	5.022	5.58	8.32	29.32	30	-0.68	Pass
3665.0	BPSK	5.206	6.053	8.66	29.66	30	-0.34	Pass
3660.0	64QAM	4.367	6.269	8.43	29.43	30	-0.57	Pass
3663.0	64QAM	5.235	5.903	8.59	29.59	30	-0.41	Pass
3665.0	64QAM	5.161	6.221	8.73	29.73	30	-0.27	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.

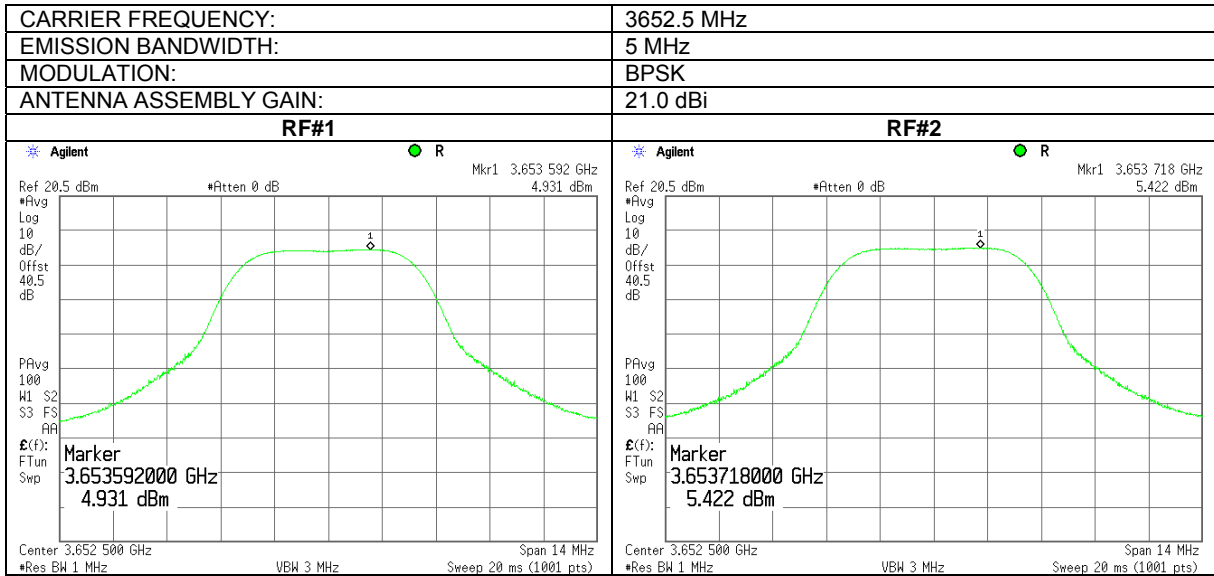
Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			
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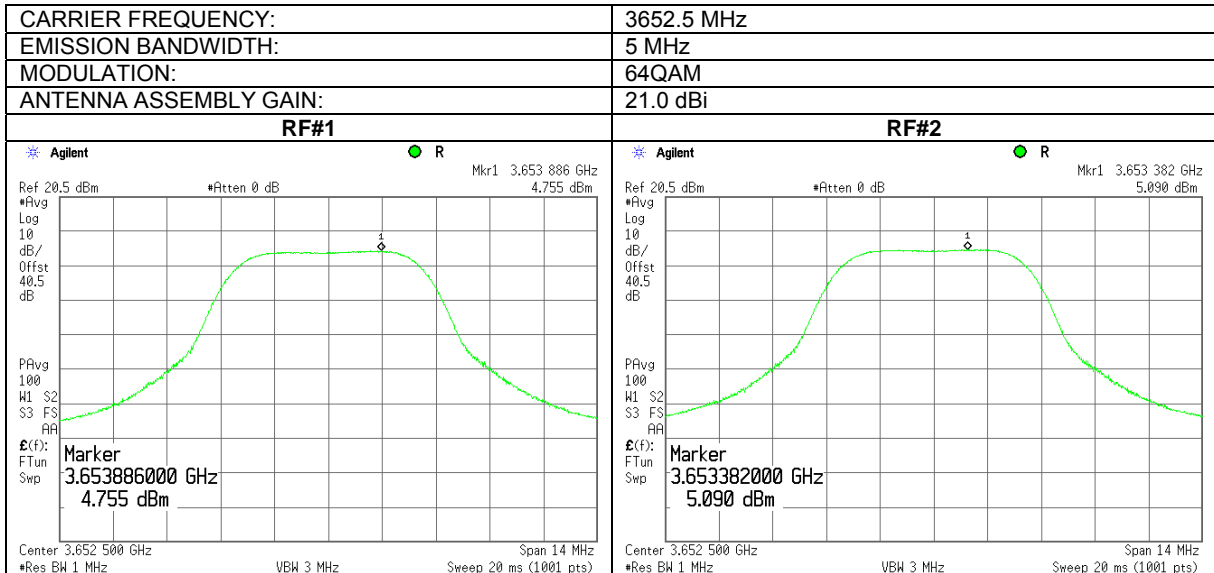
Full description is given in Appendix A.

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: 11/14/2010			
Temperature: 25 °C	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

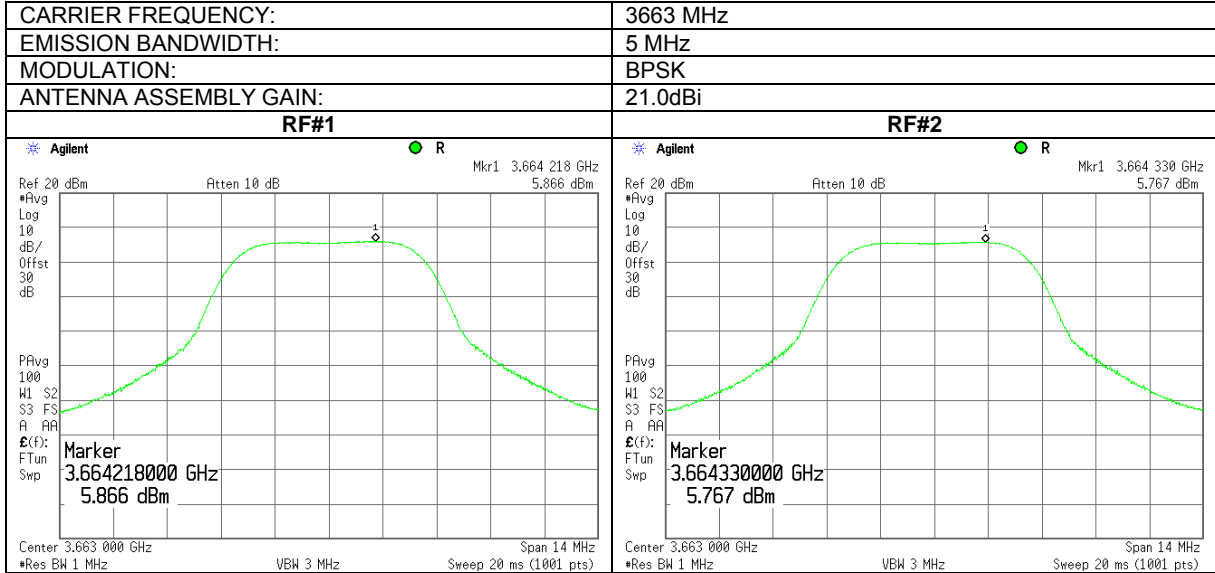


Plot 7.2.2 Peak output power density test results at low frequency

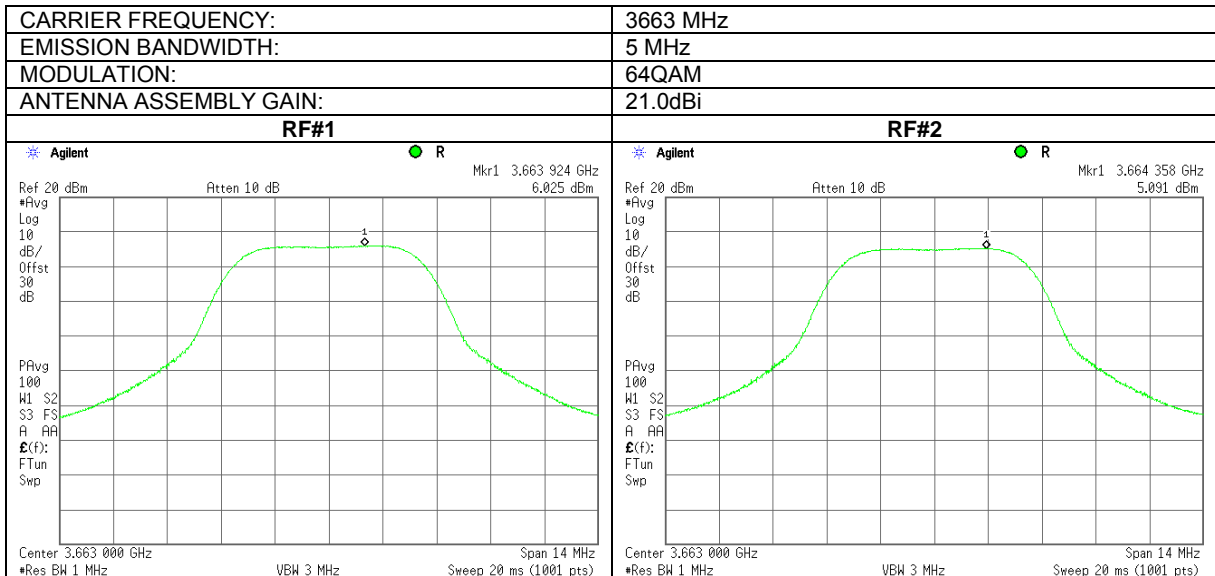


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.3 Peak output power density test results at mid frequency

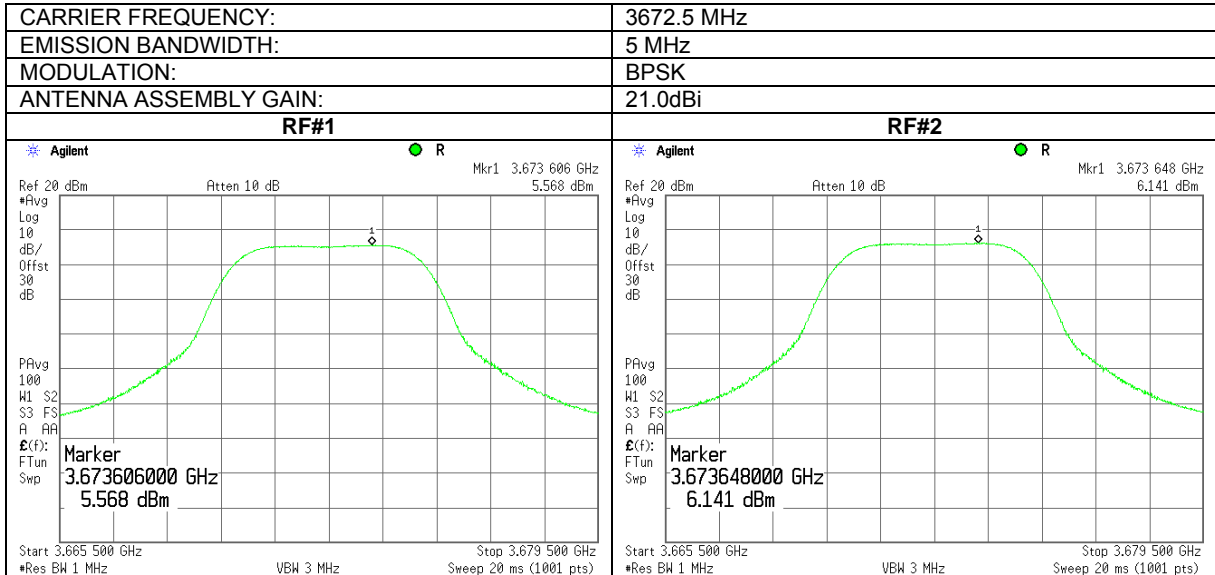


Plot 7.2.4 Peak output power density test results at mid frequency

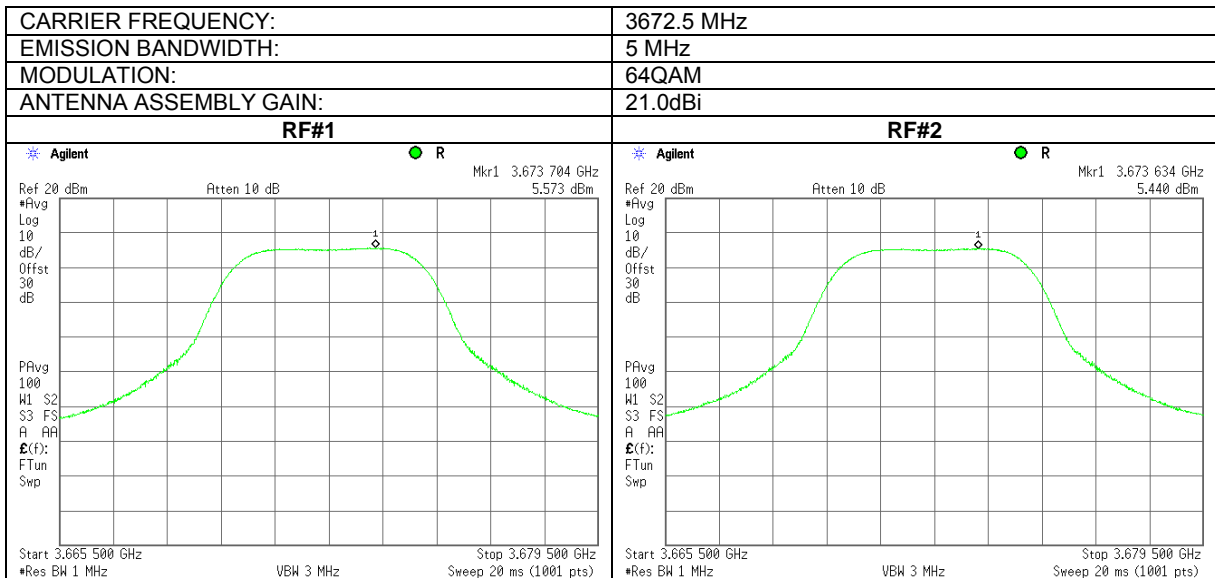


Test specification:	Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.5 Peak output power density test results at high frequency



Plot 7.2.6 Peak output power density test results at high frequency

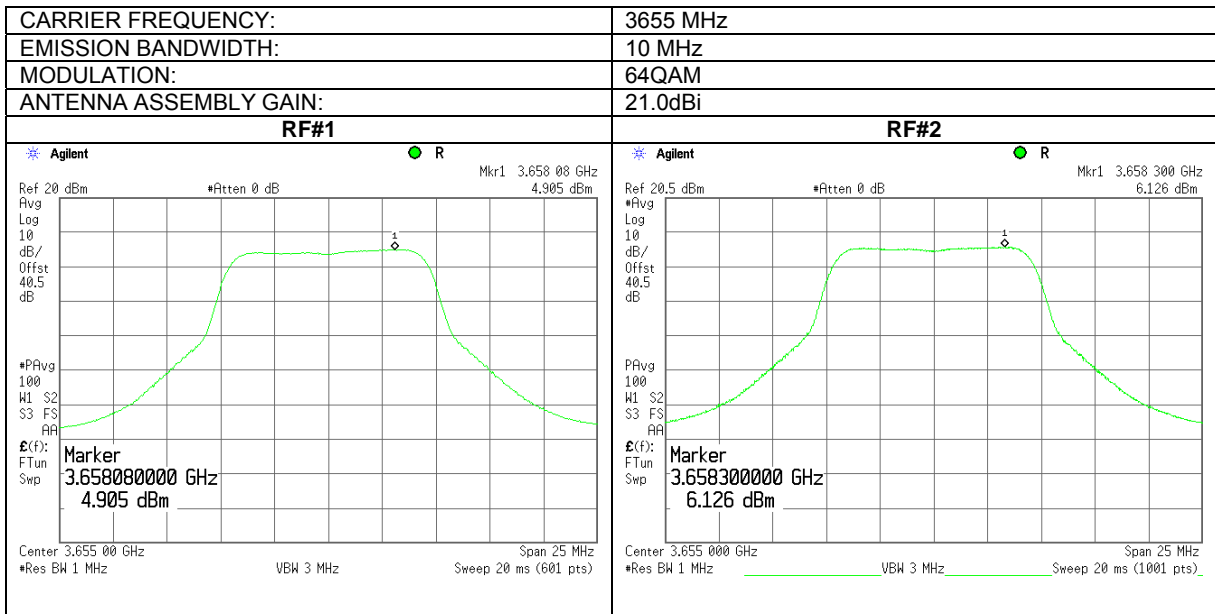


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.7 Peak output power density test results at low frequency

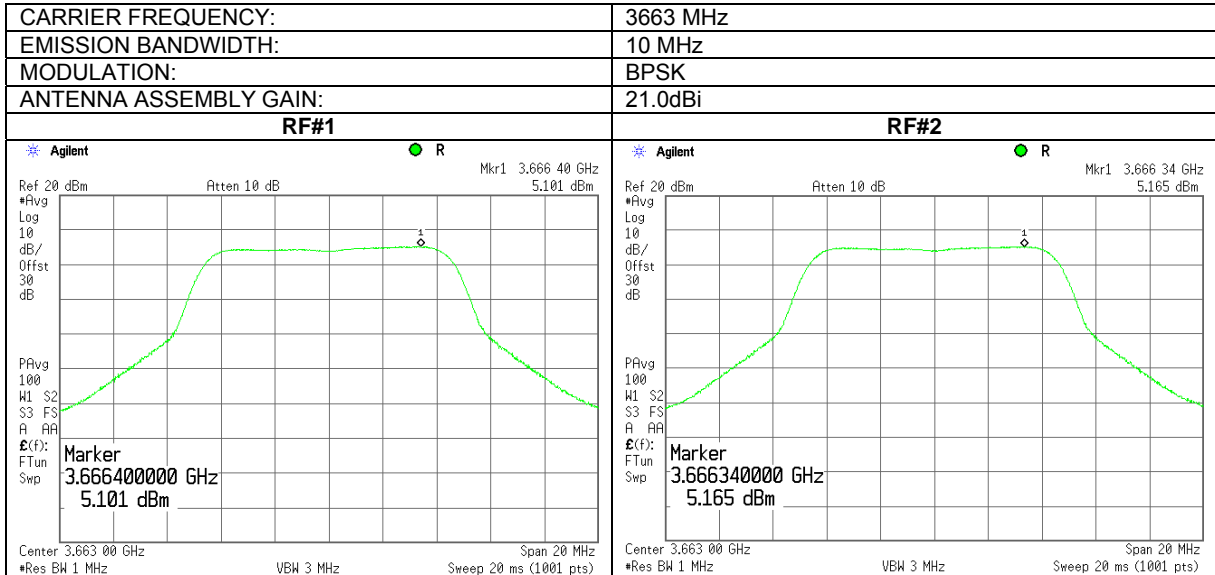


Plot 7.2.8 Peak output power density test results at low frequency

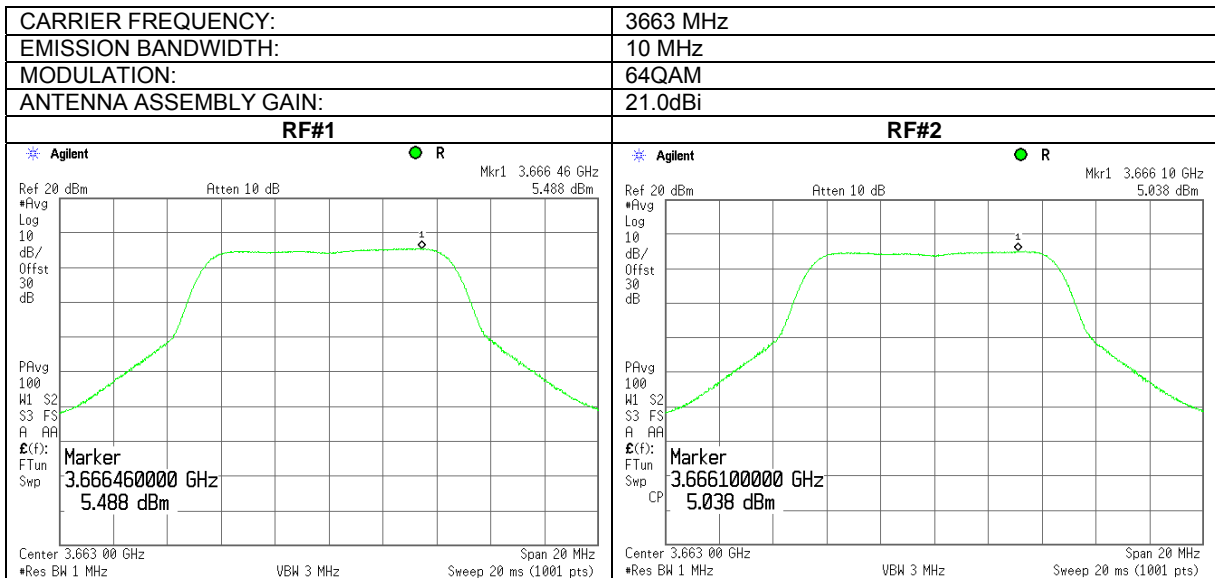


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.9 Peak output power density test results at mid frequency

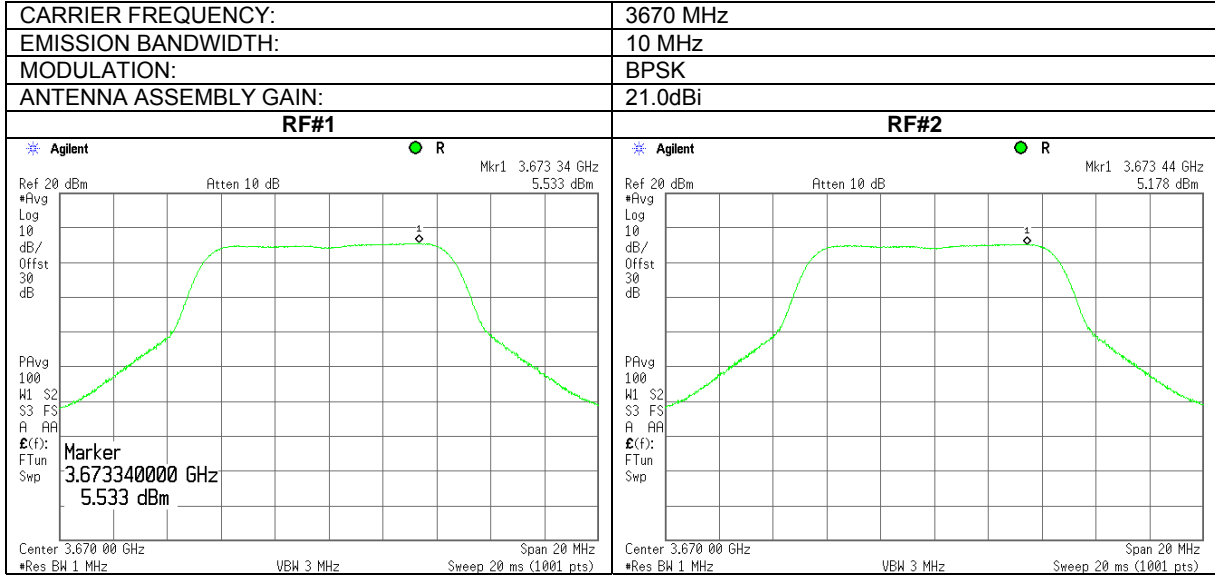


Plot 7.2.10 Peak output power density test results at mid frequency

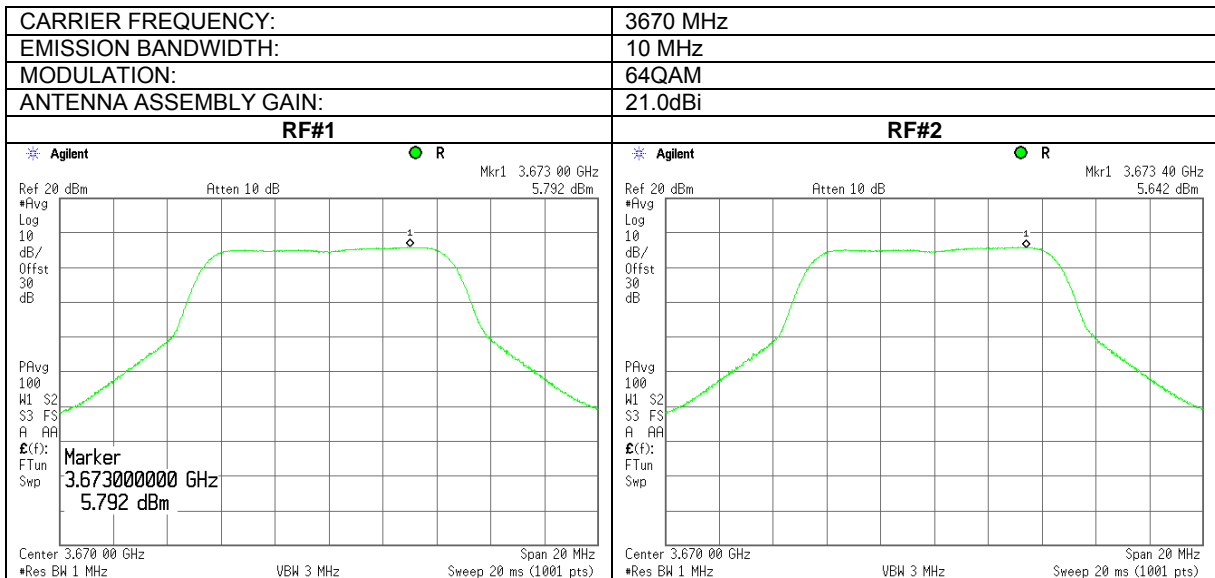


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.11 Peak output power density test results at high frequency

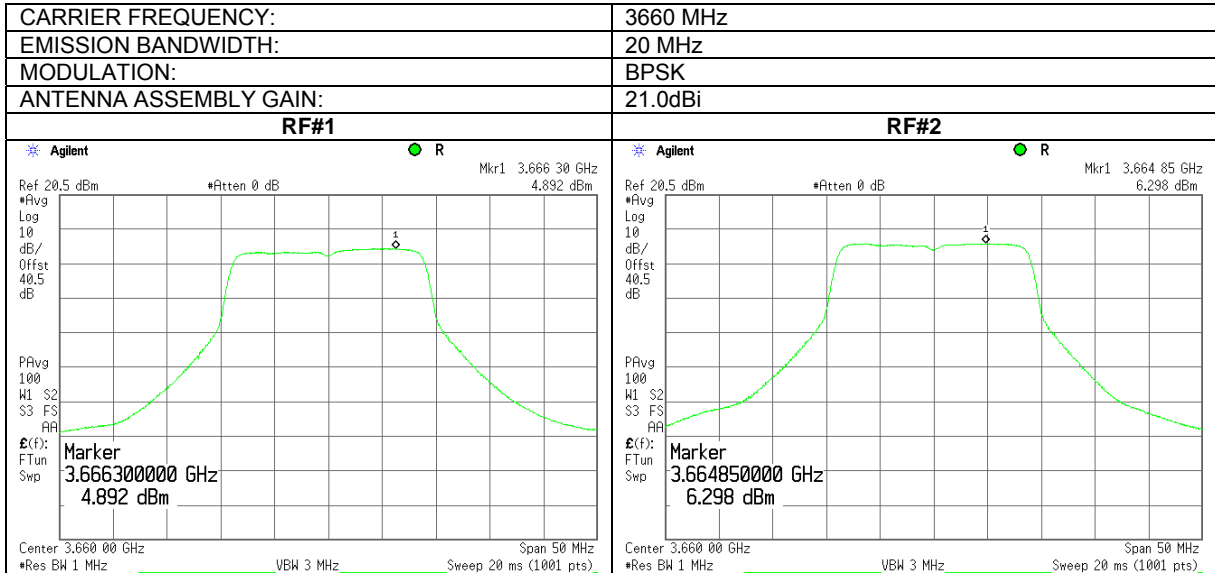


Plot 7.2.12 Peak output power density test results at high frequency

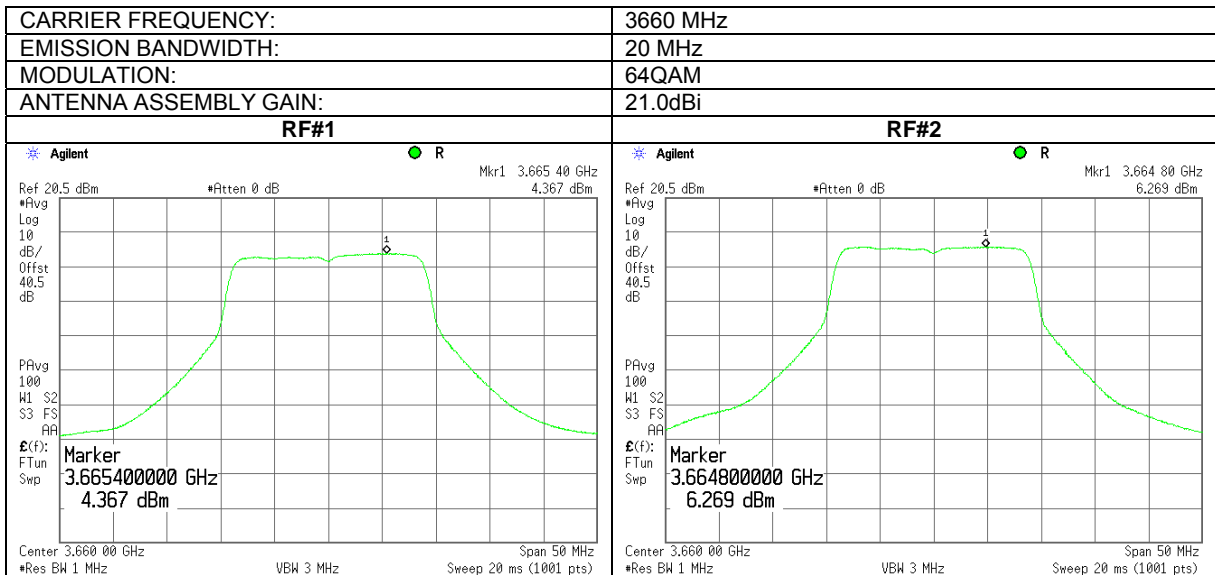


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.13 Peak output power density test results at low frequency

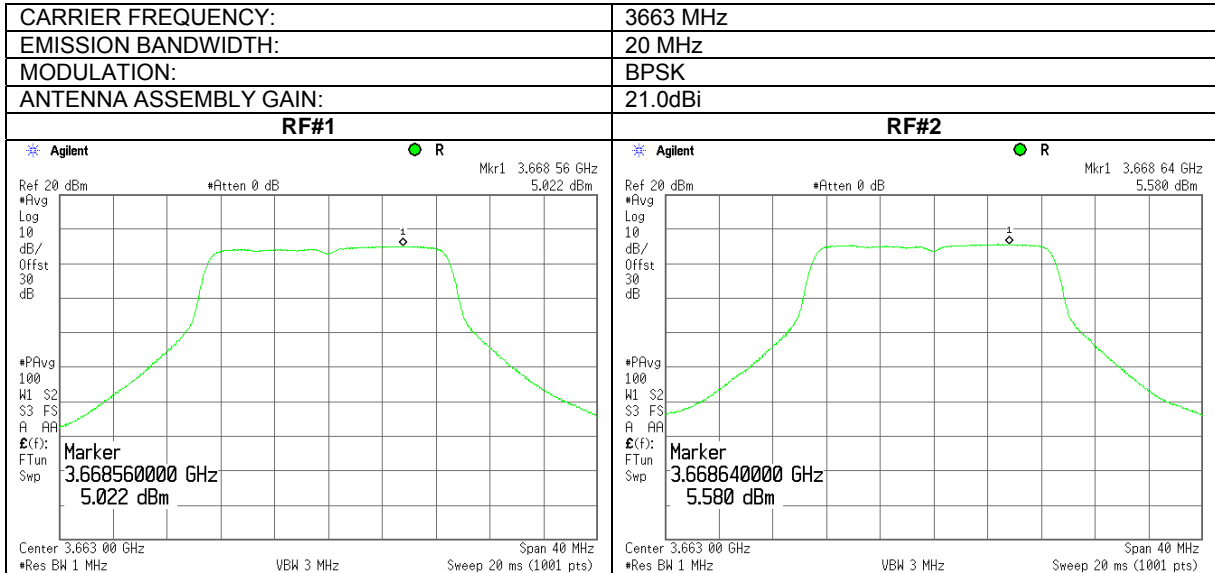


Plot 7.2.14 Peak output power density test results at low frequency

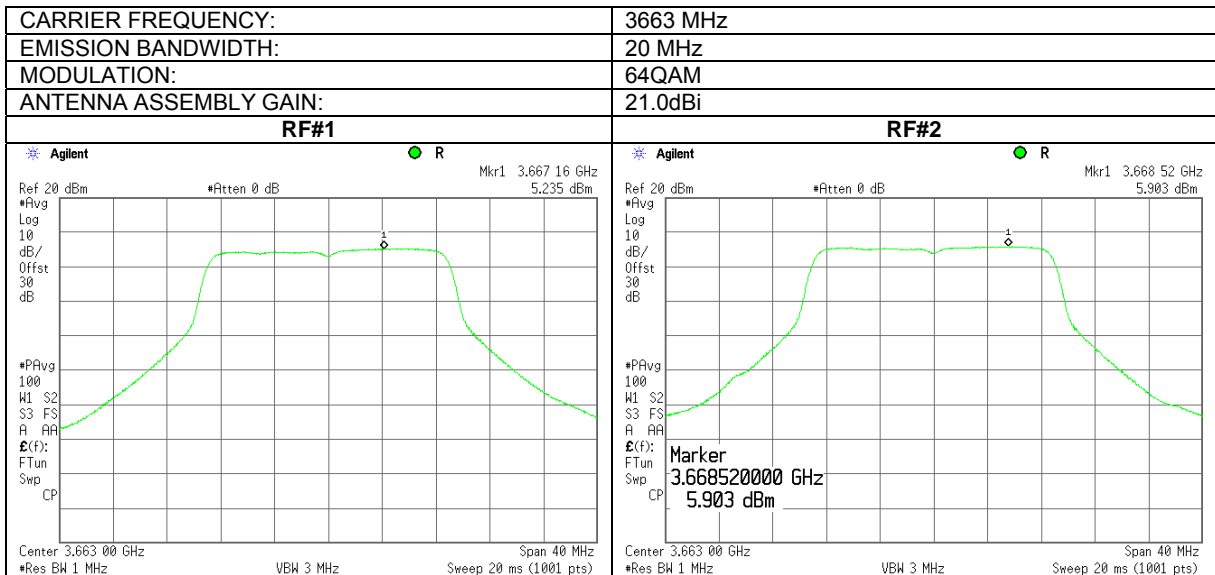


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.15 Peak output power density test results at mid frequency

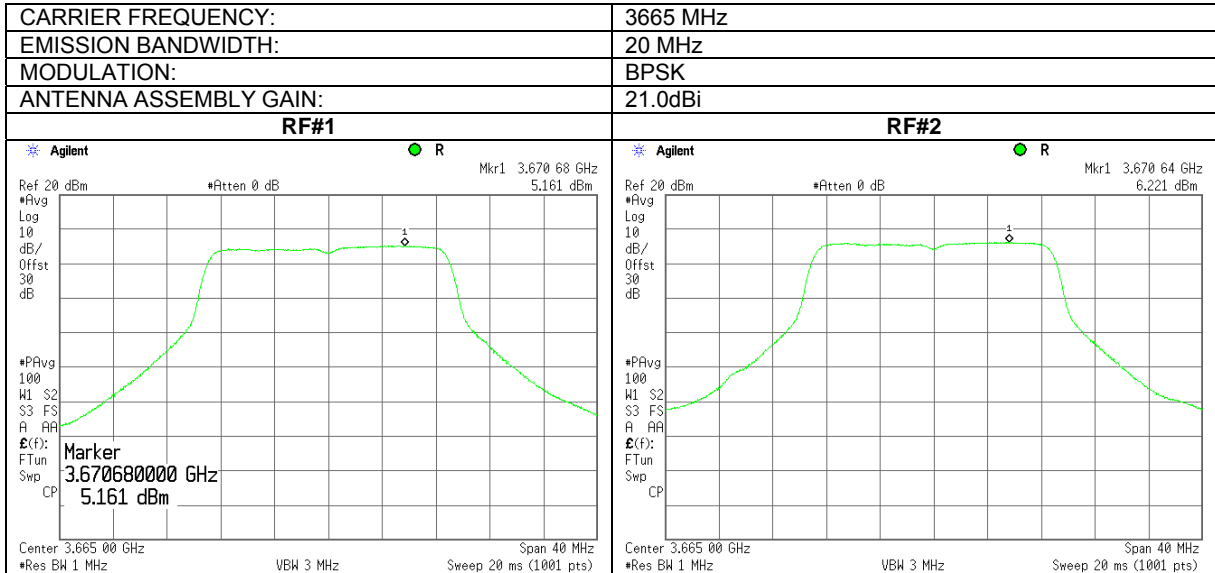


Plot 7.2.16 Peak output power density test results at mid frequency

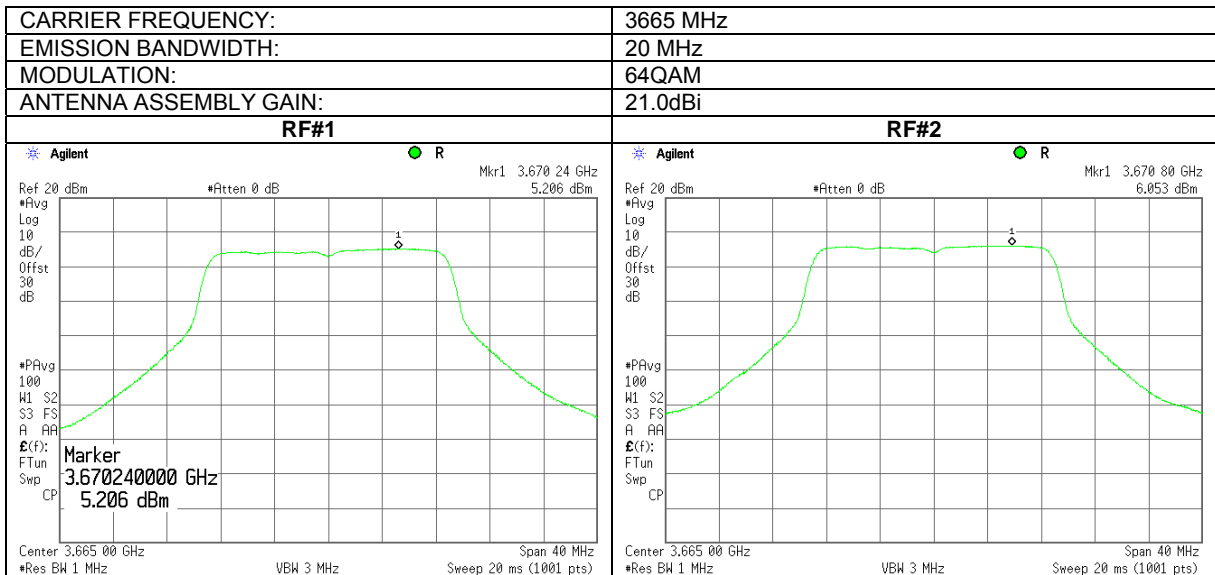


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 21 dBi gain antenna assembly			

Plot 7.2.17 Peak output power density test results at high frequency



Plot 7.2.18 Peak output power density test results at high frequency





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:	11/14/2010		
Temperature: 23 °C	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 – 3675.0 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
3663.0	BPSK	9.33	9.201	12.28	29.28	30	-0.72	Pass
3672.5	BPSK	9.119	8.9	12.02	29.02	30	-0.98	Pass
3652.5	64QAM	8.794	9.557	12.20	29.20	30	-0.80	Pass
3663.0	64QAM	9.335	8.894	12.13	29.13	30	-0.87	Pass
3672.5	64QAM	9.252	8.702	12.00	29.00	30	-1.00	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
3663.0	BPSK	9.286	9.813	12.57	29.57	30	-0.43	Pass
3670.0	BPSK	9.537	9.961	12.76	29.76	30	-0.24	Pass
3655.0	64QAM	9.239	10.151	12.73	29.73	30	-0.27	Pass
3663.0	64QAM	9.097	9.41	12.27	29.27	30	-0.73	Pass
3670.0	64QAM	8.971	9.969	12.51	29.51	30	-0.49	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
3663.0	BPSK	8.961	10.423	12.76	29.76	30	-0.24	Pass
3665.0	BPSK	8.963	10.46	12.79	29.79	30	-0.21	Pass
3660.0	64QAM	9.26	10.178	12.75	29.75	30	-0.25	Pass
3663.0	64QAM	9.141	10.568	12.92	29.92	30	-0.08	Pass
3665.0	64QAM	9.269	10.472	12.92	29.92	30	-0.08	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

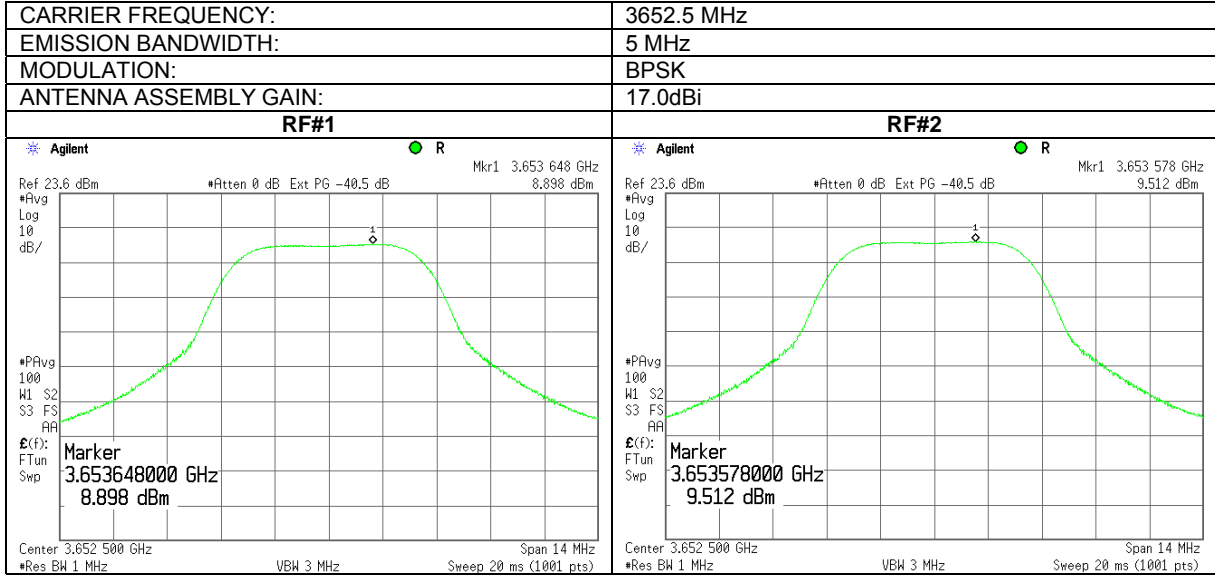
HL 3440	HL 3474	HL 3779	HL 3784	HL 3818			
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Full description is given in Appendix A.

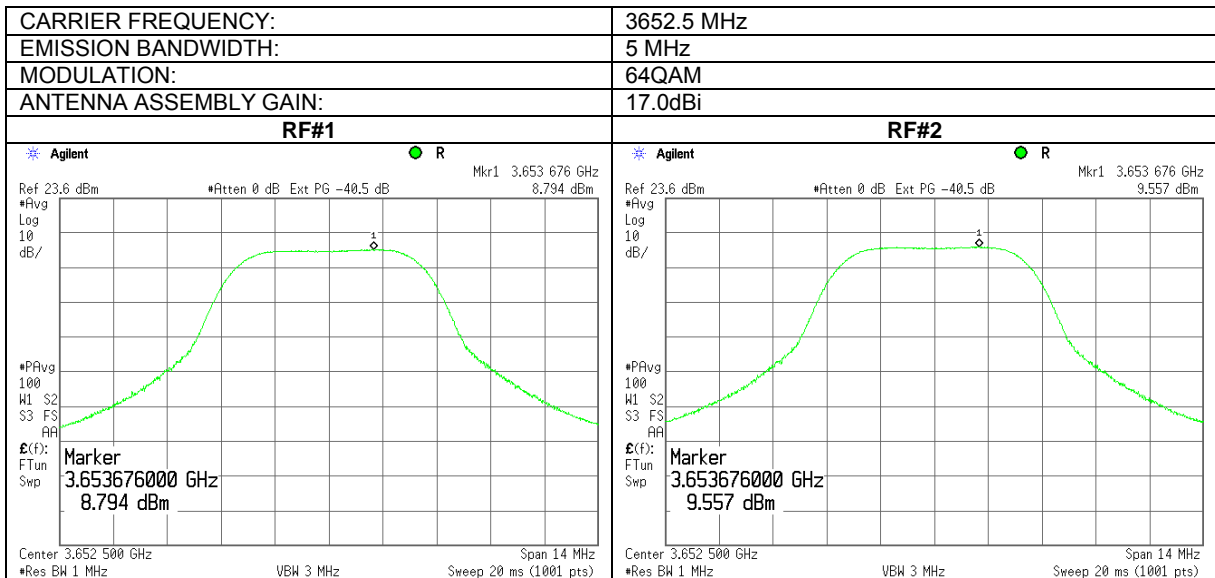


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.19 Peak output power density test results at low frequency



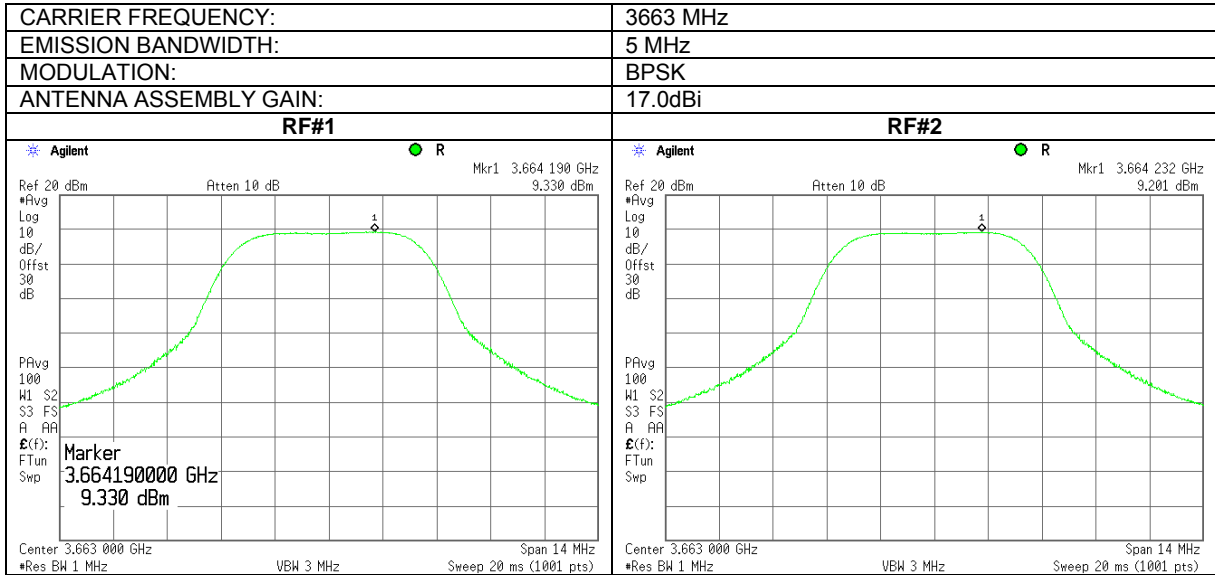
Plot 7.2.20 Peak output power density test results at low frequency



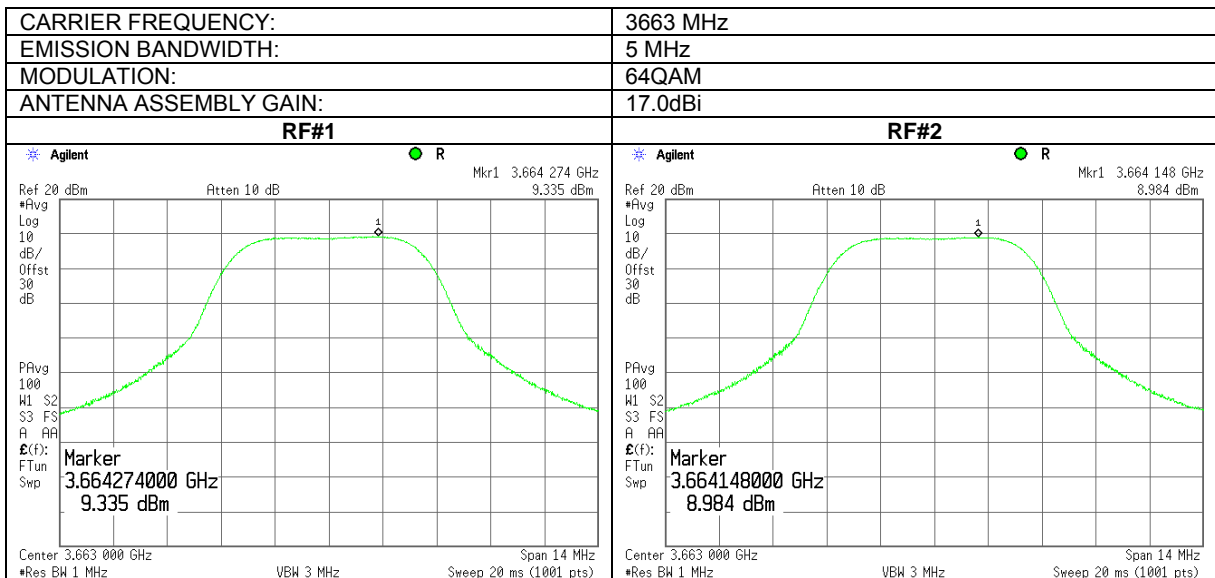


Test specification:	Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.21 Peak output power density test results at mid frequency



Plot 7.2.22 Peak output power density test results at mid frequency

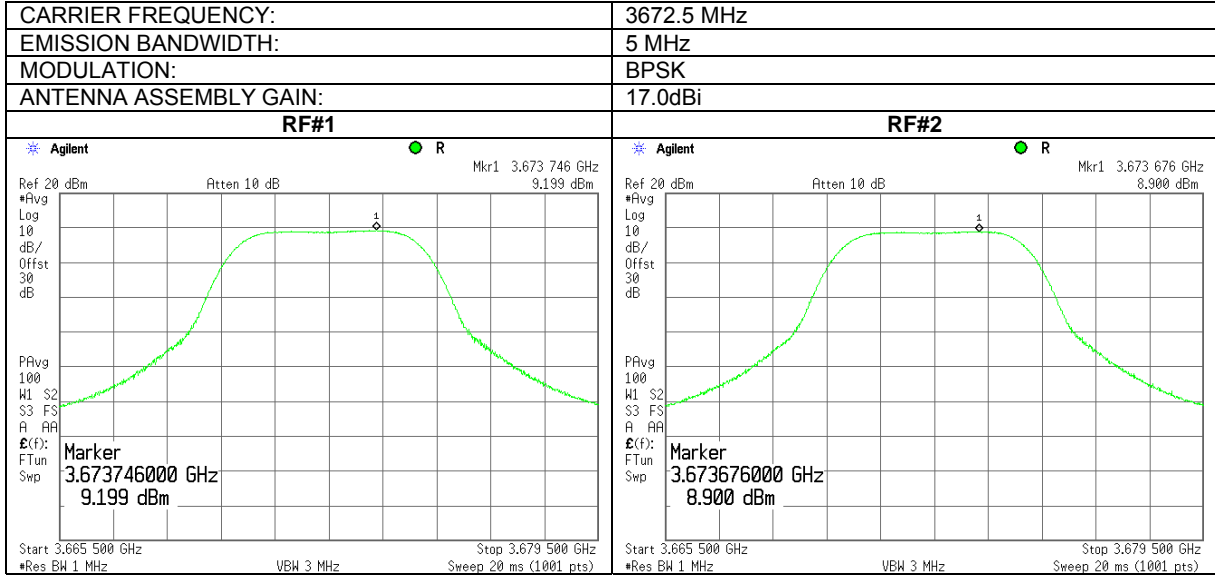




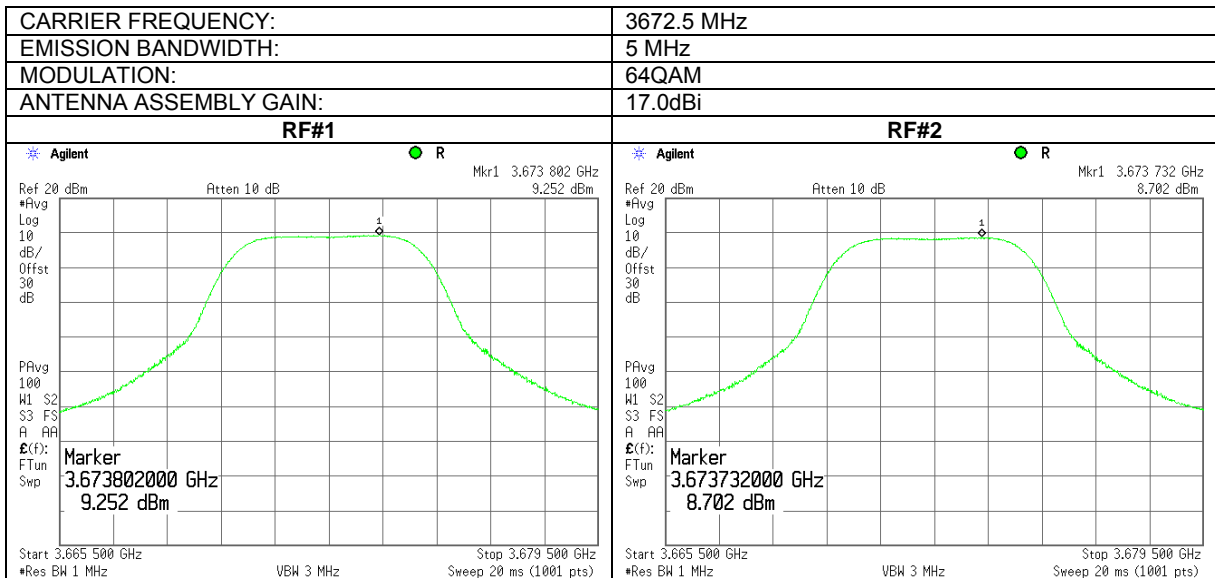
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 23 °C	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



Plot 7.2.24 Peak output power density test results at high frequency

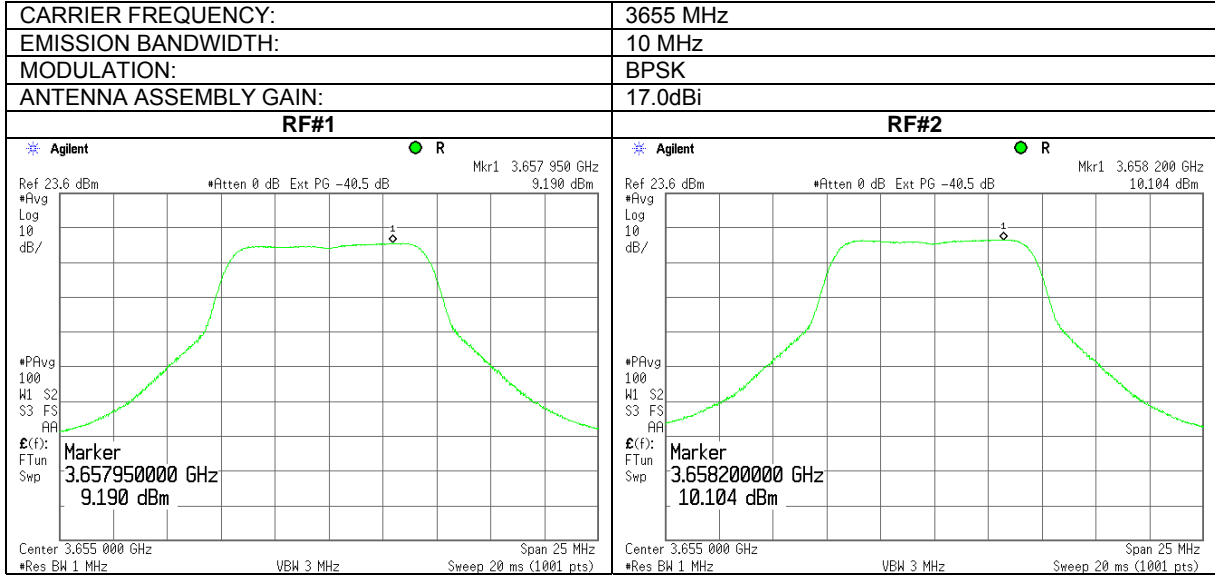




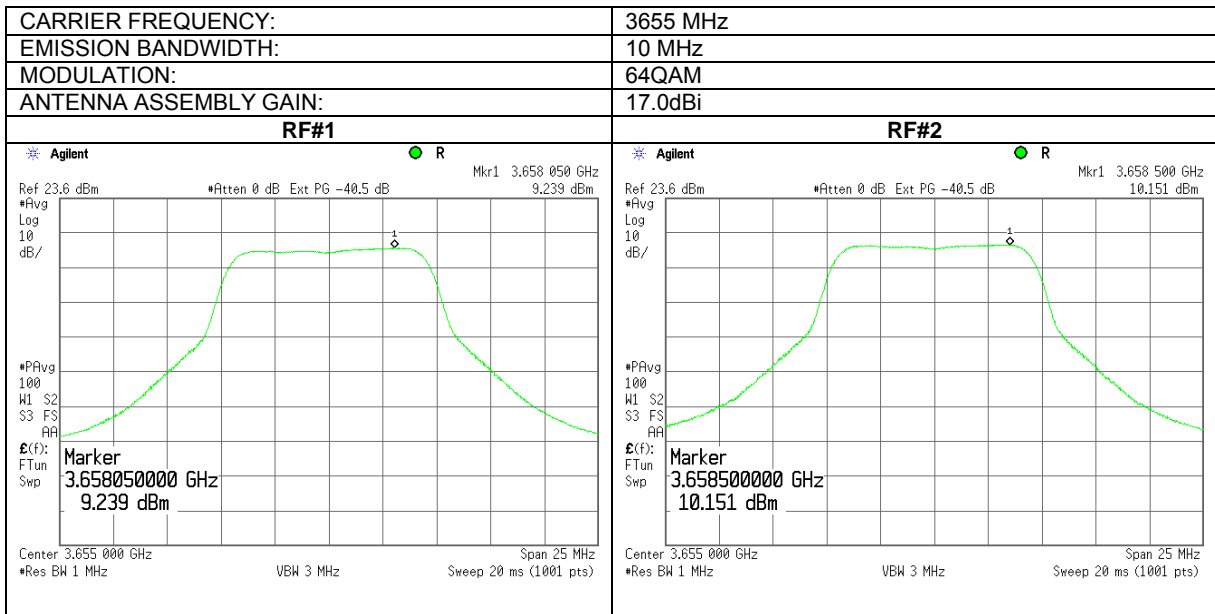
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 23 °C	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



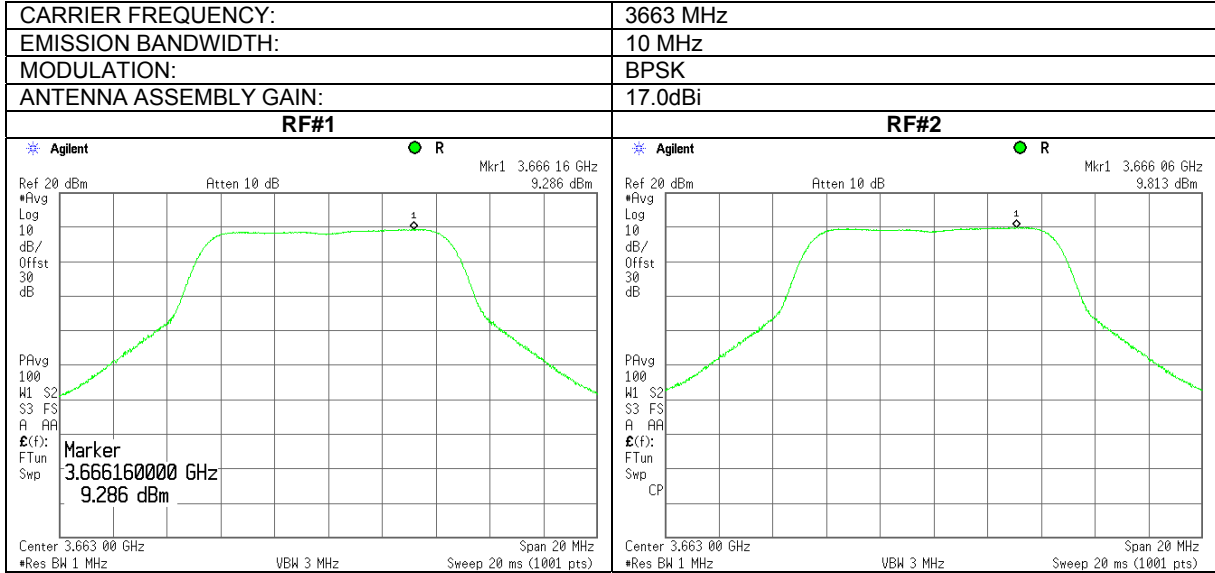
Plot 7.2.26 Peak output power density test results at low frequency



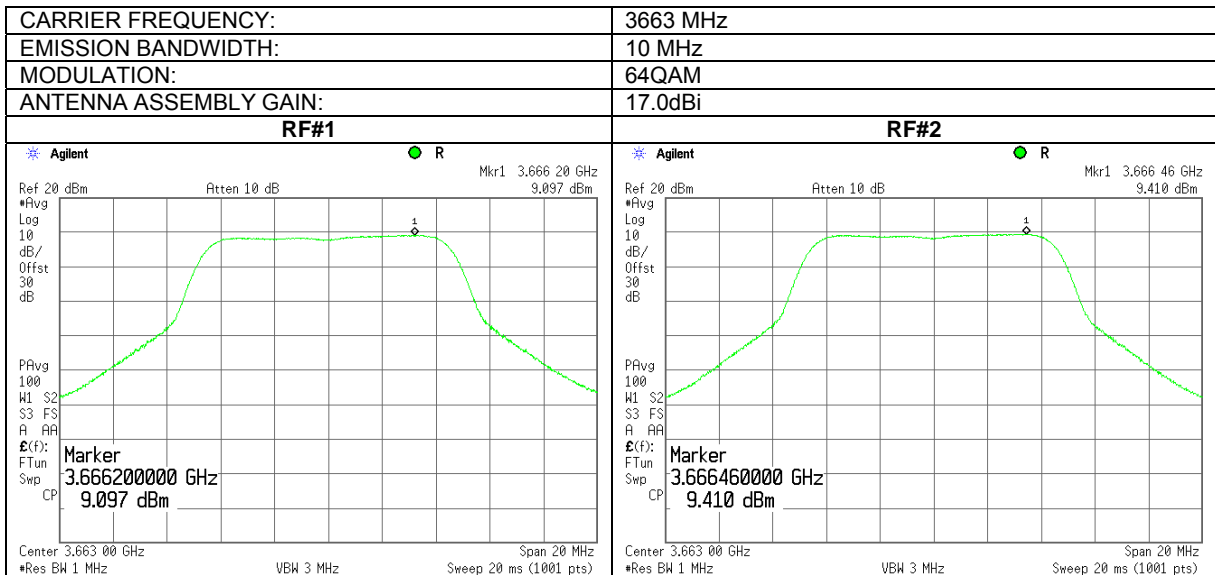


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.27 Peak output power density test results at mid frequency



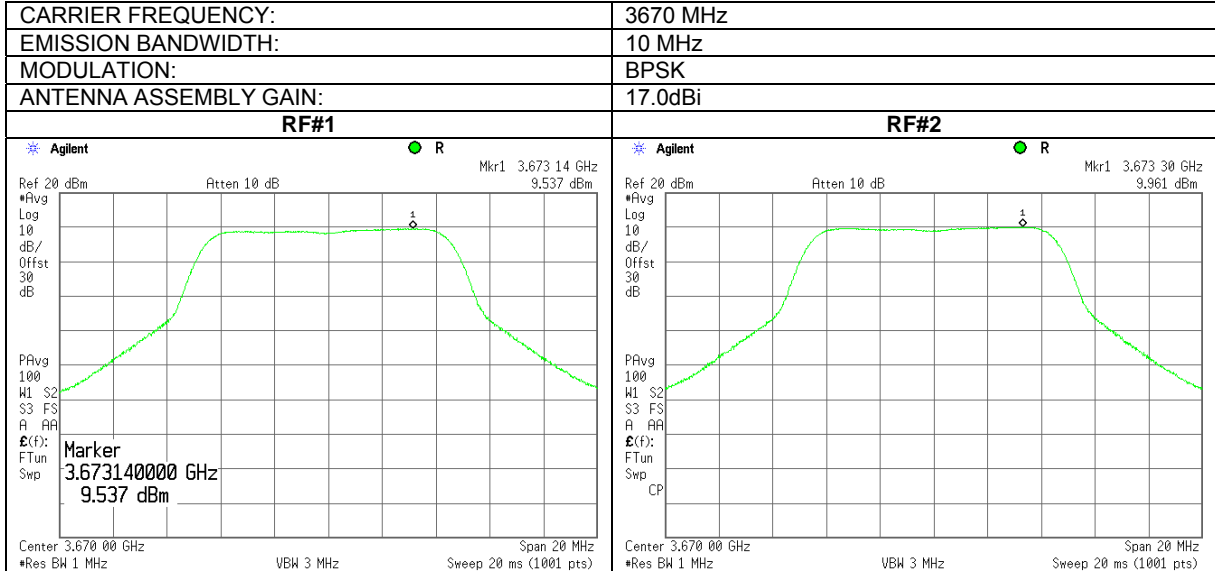
Plot 7.2.28 Peak output power density test results at mid frequency



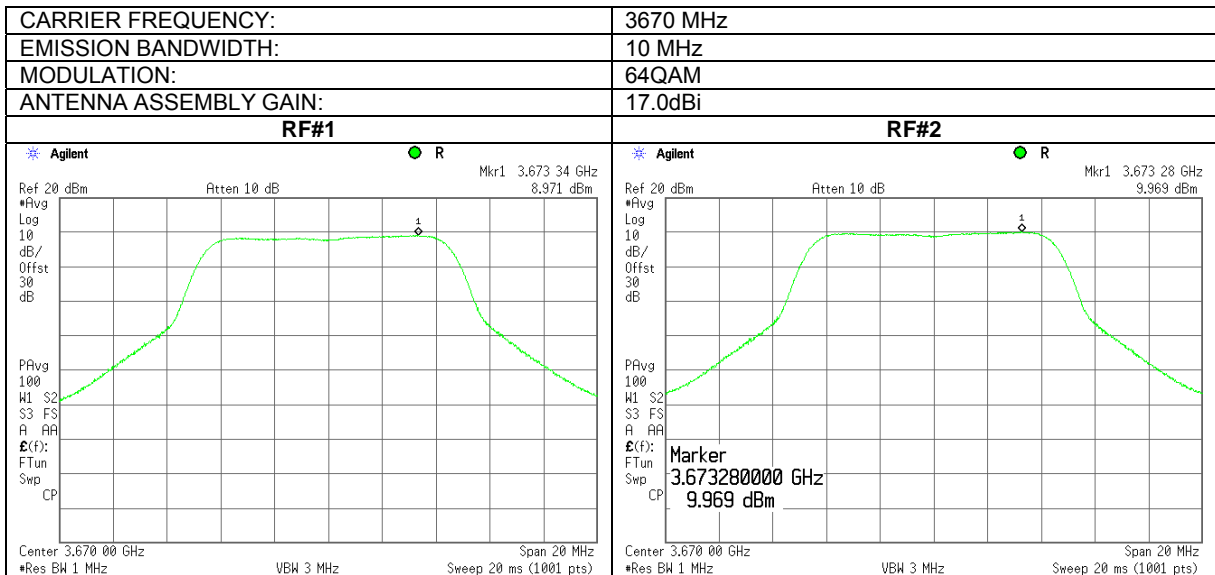


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.29 Peak output power density test results at high frequency



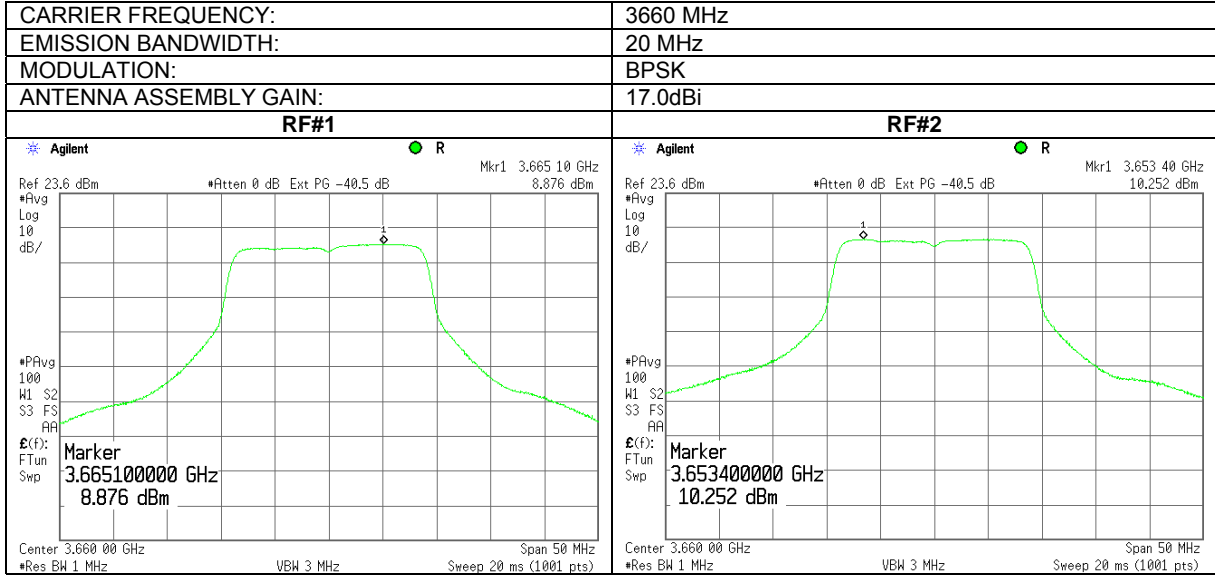
Plot 7.2.30 Peak output power density test results at high frequency



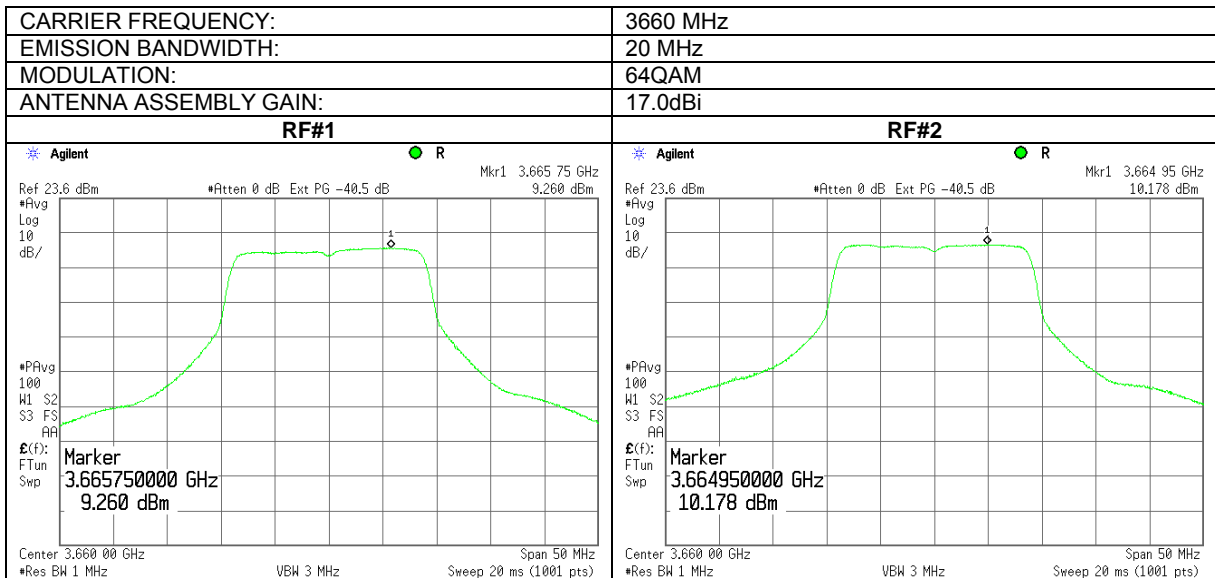


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.31 Peak output power density test results at low frequency



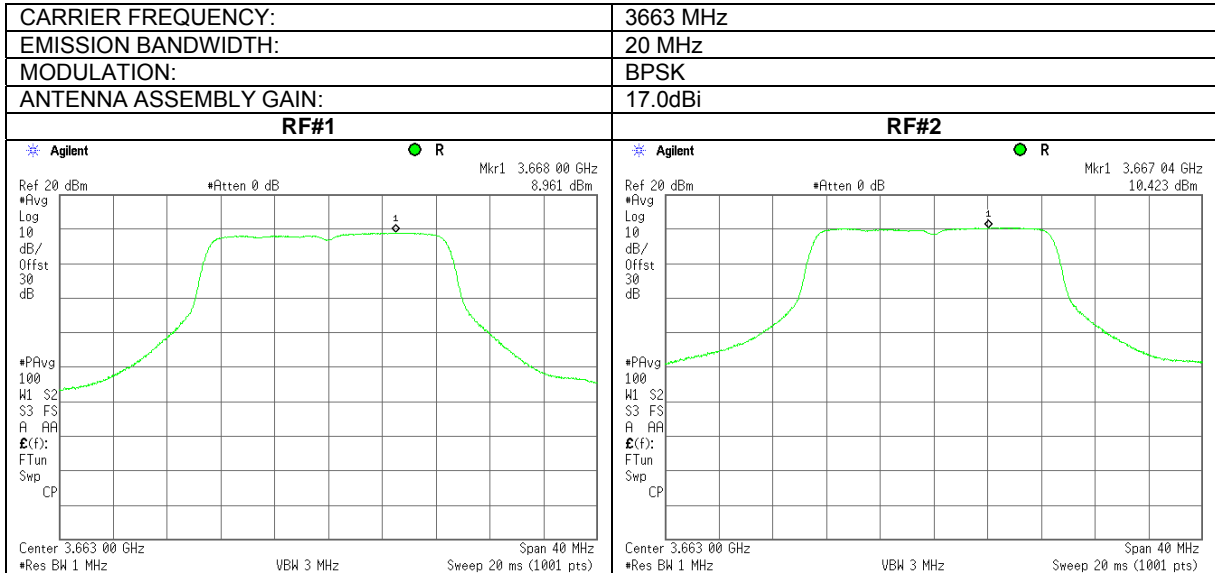
Plot 7.2.32 Peak output power density test results at low frequency



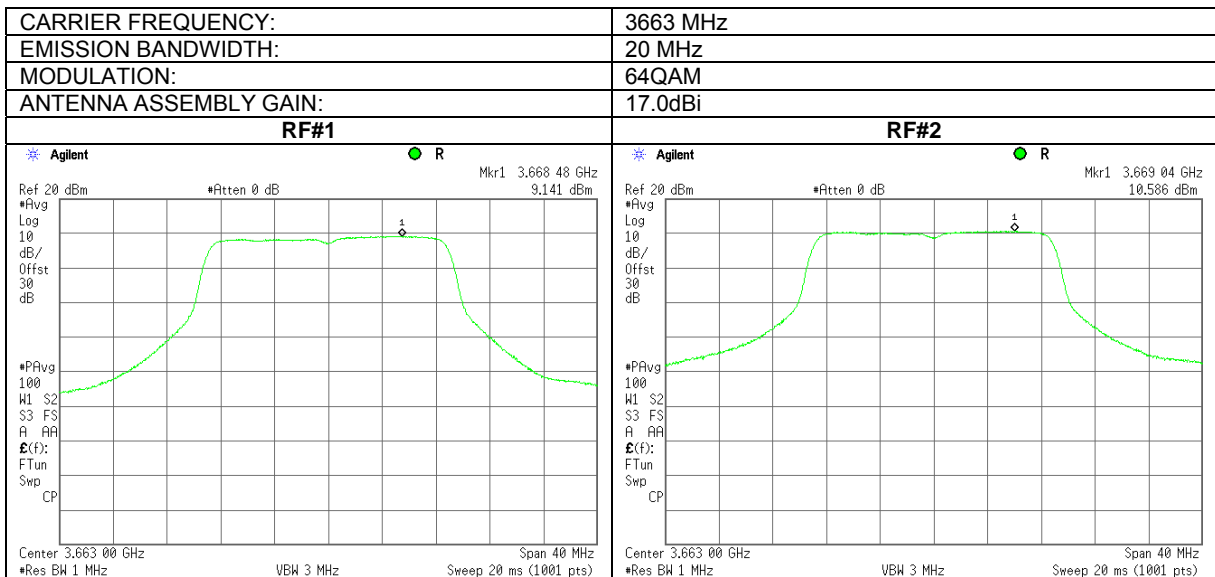


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 23 °C	Air Pressure: 1009 hPa	Relative Humidity: 40 %	Power Supply: -48 VDC
Remarks with 17dBi gain antenna assembly			

Plot 7.2.33 Peak output power density test results at mid frequency



Plot 7.2.34 Peak output power density test results at mid frequency

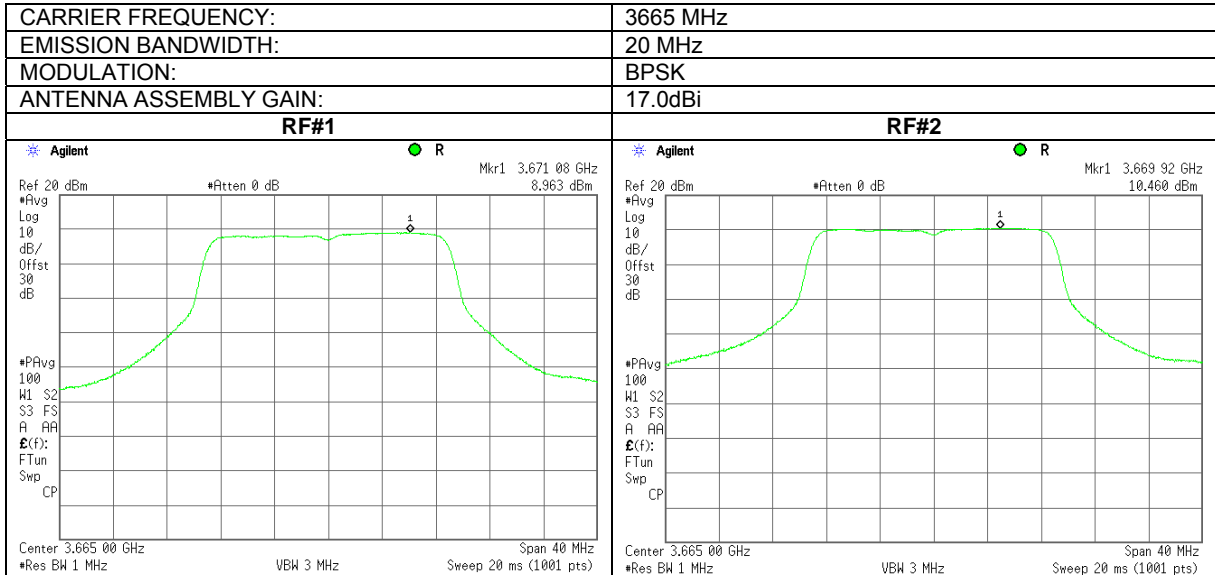




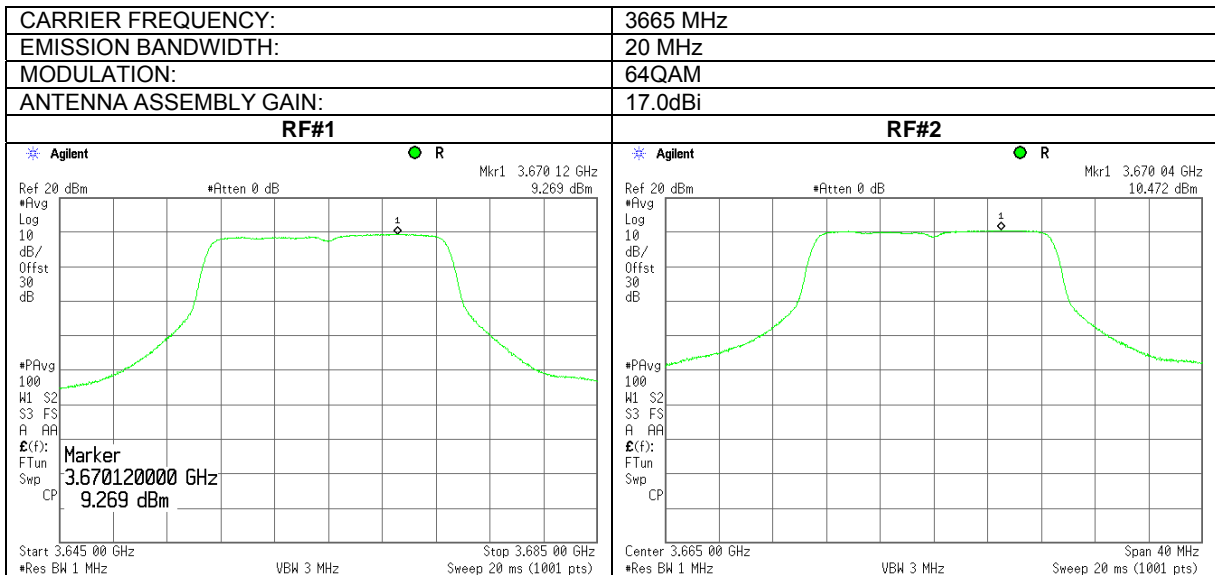
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 23 °C	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



Plot 7.2.36 Peak output power density test results at high frequency





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:	11/14/2010		
Temperature: 25 °C	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 – 3675.0 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
3663.0	BPSK	2.98	2.455	5.74	29.74	30.00	-0.26	Pass
3672.5	BPSK	2.634	2.663	5.66	29.66	30.00	-0.34	Pass
3652.5	64QAM	1.953	2.361	5.17	29.17	30.00	-0.83	Pass
3663.0	64QAM	2.862	2.438	5.67	29.67	30.00	-0.33	Pass
3672.5	64QAM	2.449	2.709	5.59	29.59	30.00	-0.41	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
3663.0	BPSK	2.888	2.509	5.71	29.71	30.00	-0.29	Pass
3670.0	BPSK	3.182	2.316	5.78	29.78	30.00	-0.22	Pass
3655.0	64QAM	1.785	2.921	5.40	29.40	30.00	-0.60	Pass
3663.0	64QAM	2.823	2.489	5.67	29.67	30.00	-0.33	Pass
3670.0	64QAM	2.029	2.579	5.32	29.32	30.00	-0.68	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
3663.0	BPSK	2.595	2.569	5.59	29.59	30.00	-0.41	Pass
3665.0	BPSK	2.48	2.37	5.44	29.44	30.00	-0.56	Pass
3660.0	64QAM	1.362	2.426	4.94	28.94	30.00	-1.06	Pass
3663.0	64QAM	2.64	2.202	5.44	29.44	30.00	-0.56	Pass
3665.0	64QAM	2.401	2.387	5.40	29.40	30.00	-0.60	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			
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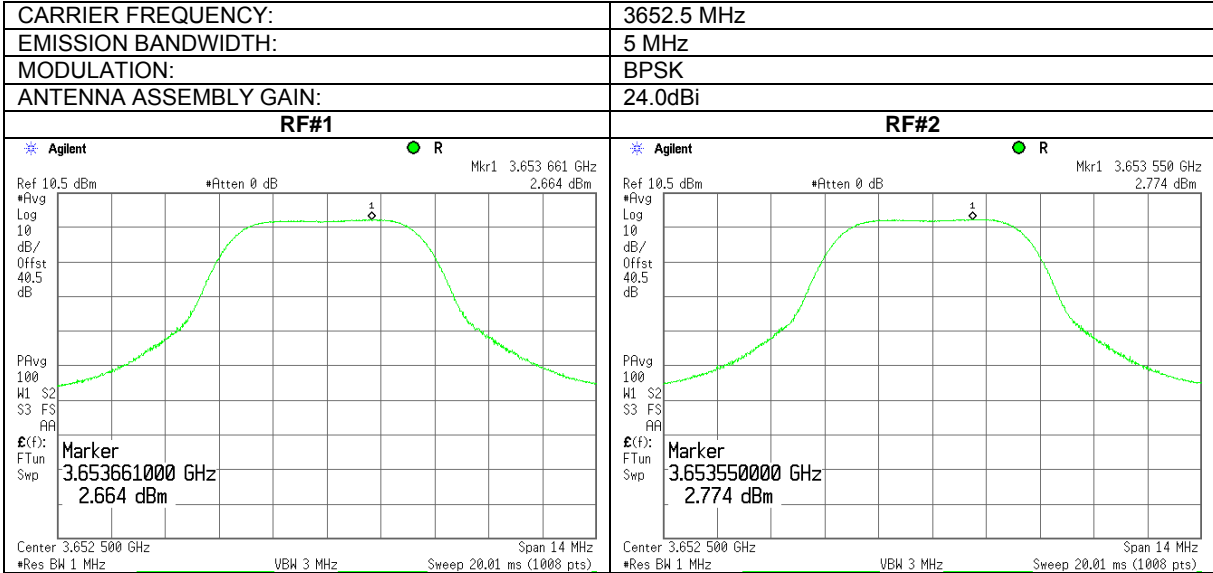
Full description is given in Appendix A.



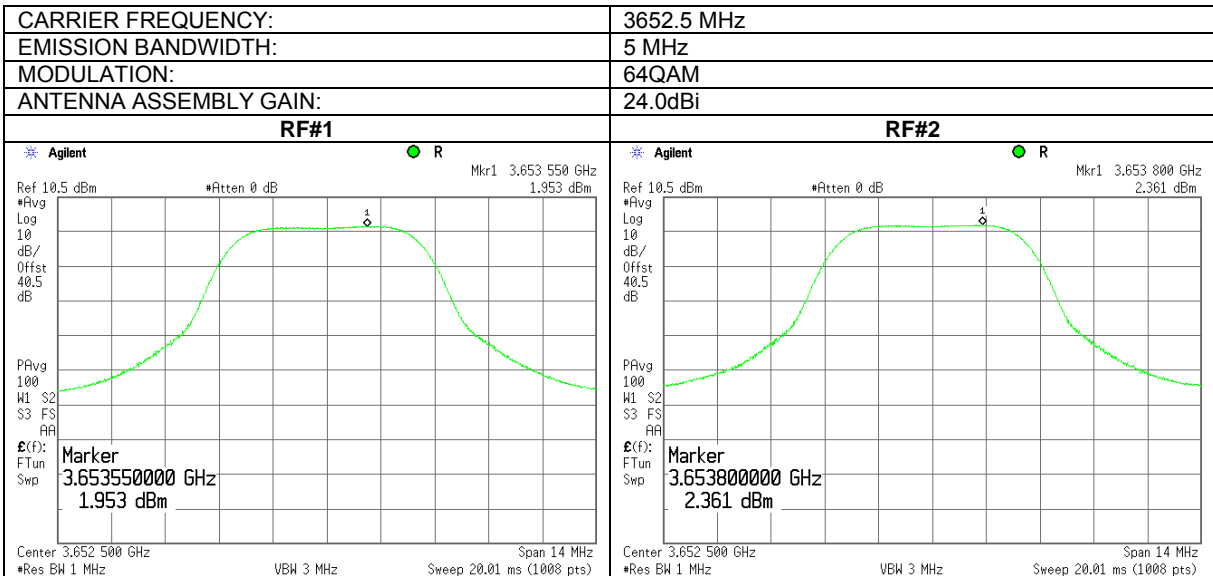
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.38 Peak output power density test results at low frequency

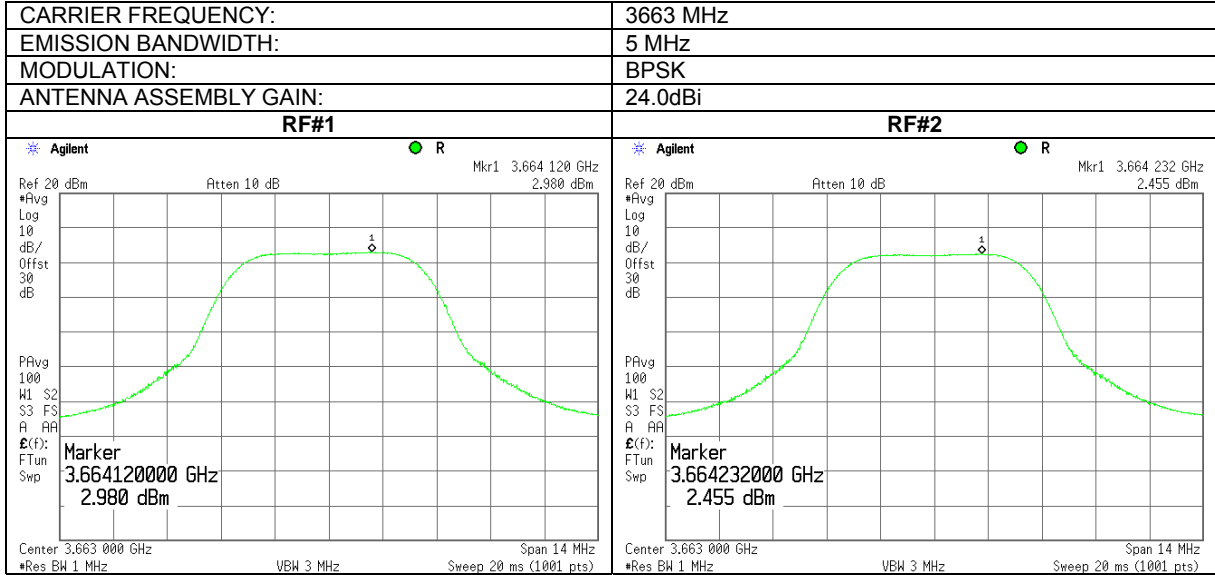




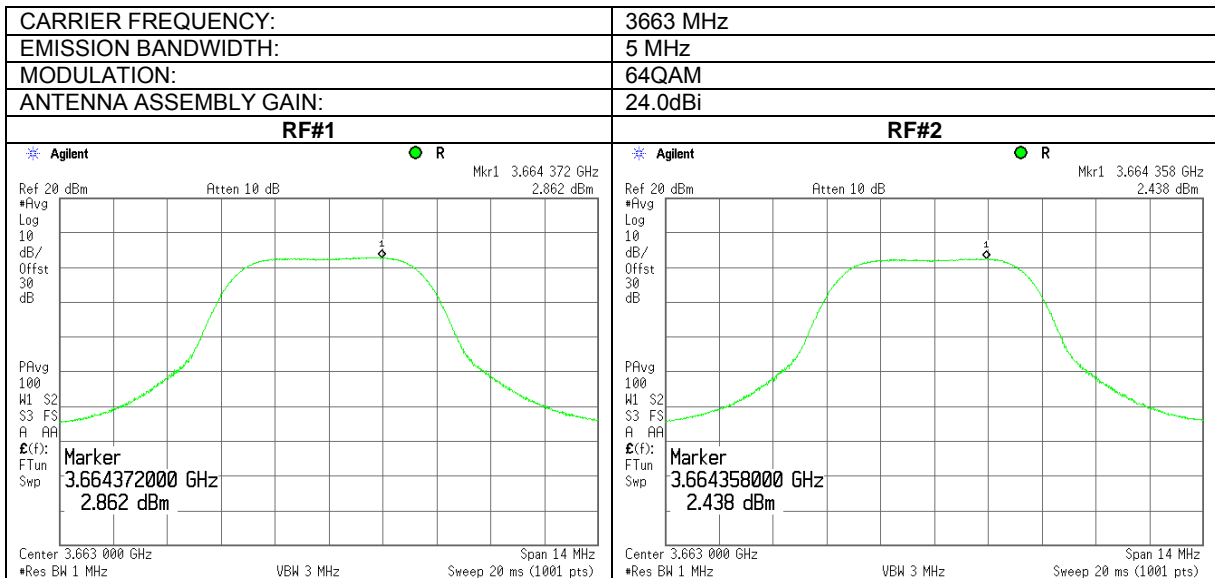
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.40 Peak output power density test results at mid frequency

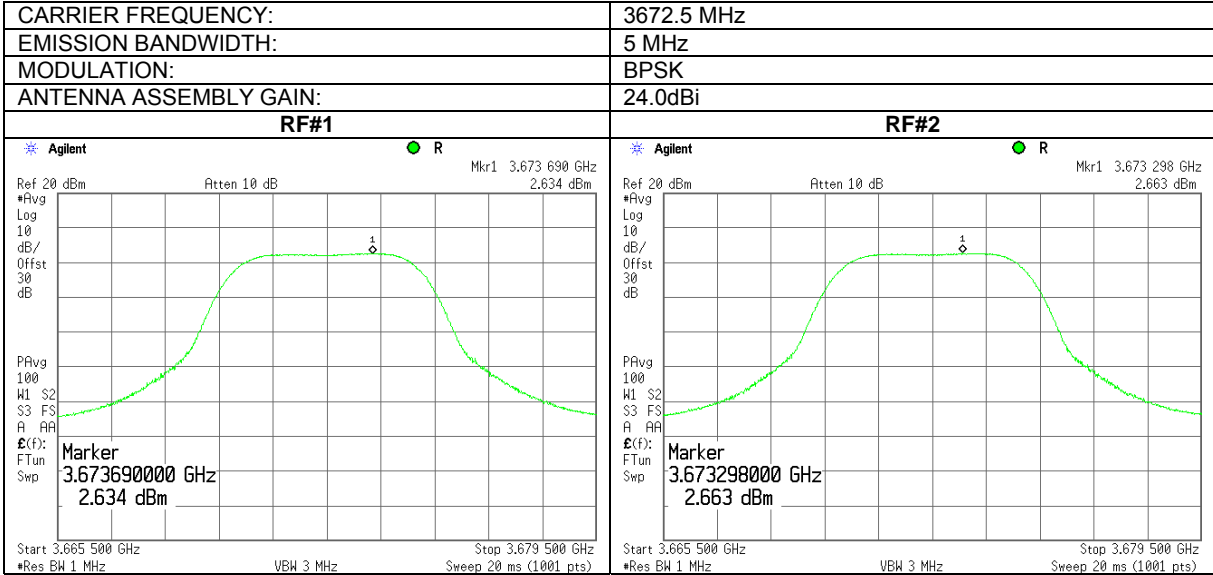




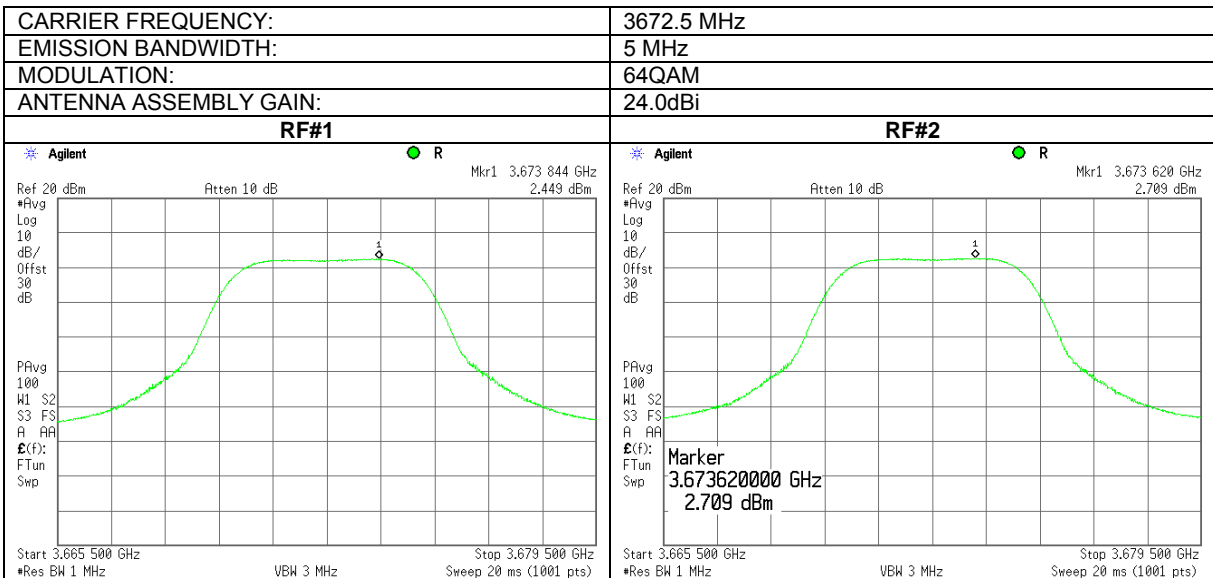
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.42 Peak output power density test results at high frequency

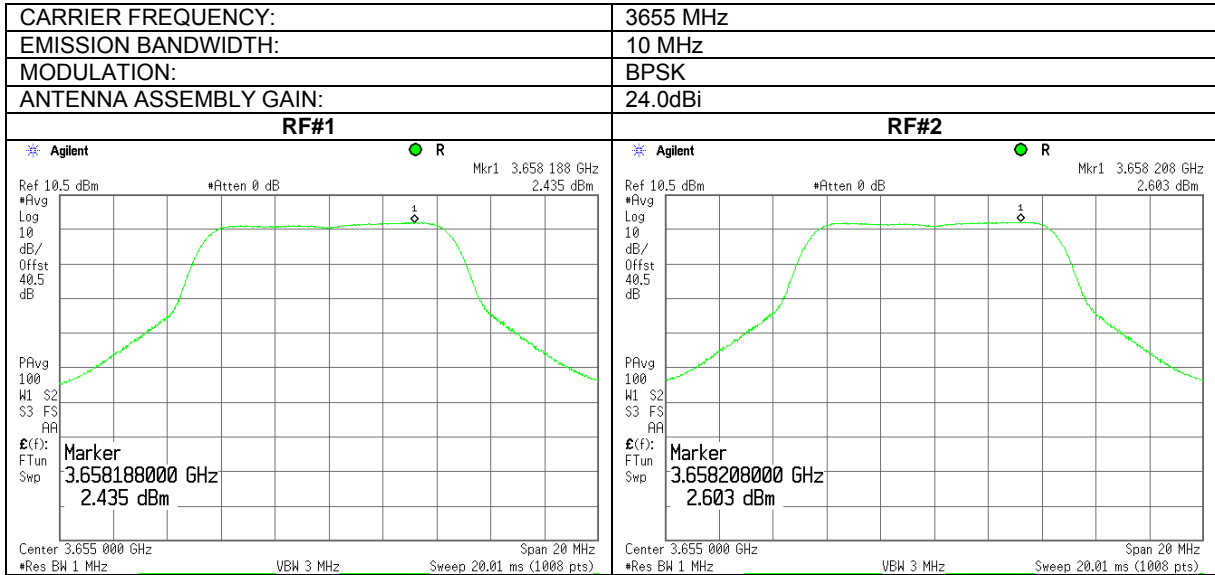




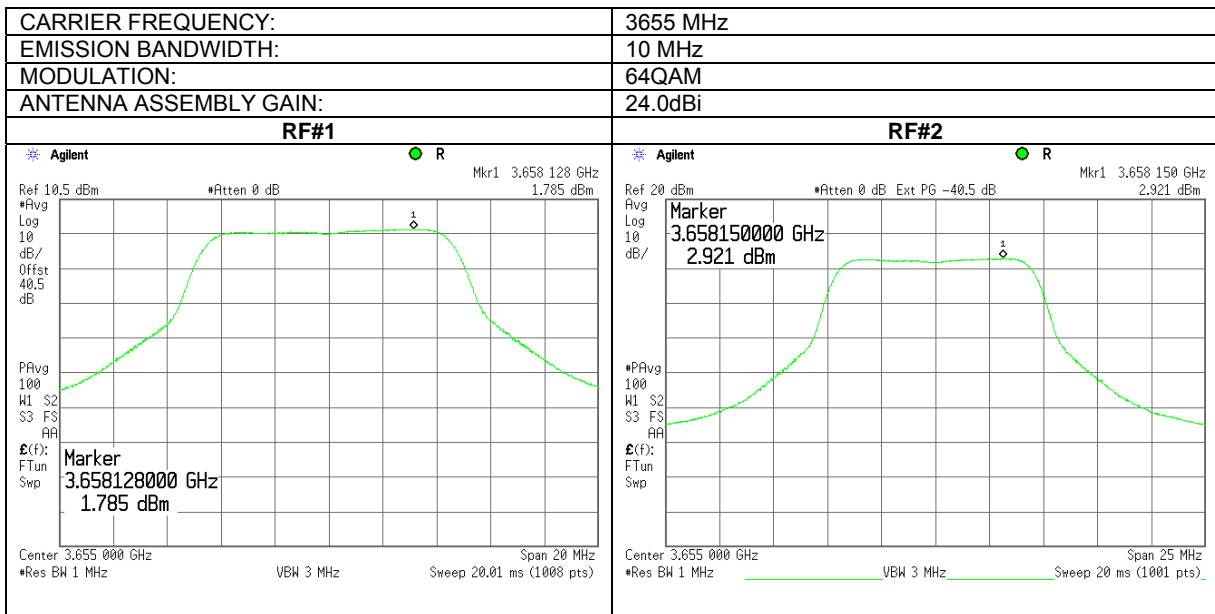
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



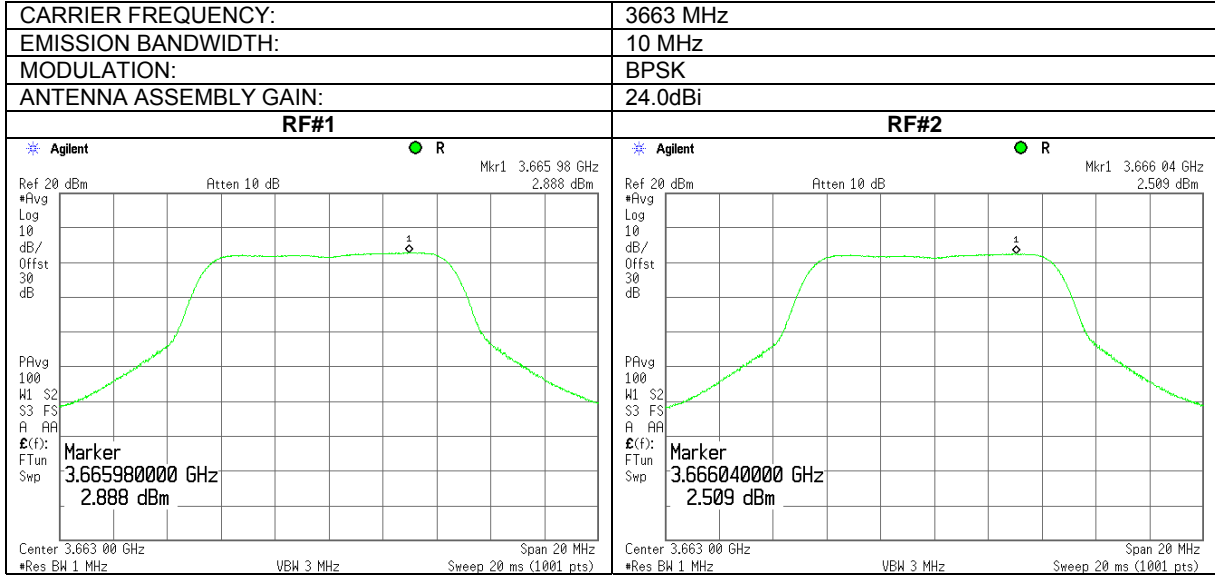
Plot 7.2.44 Peak output power density test results at low frequency



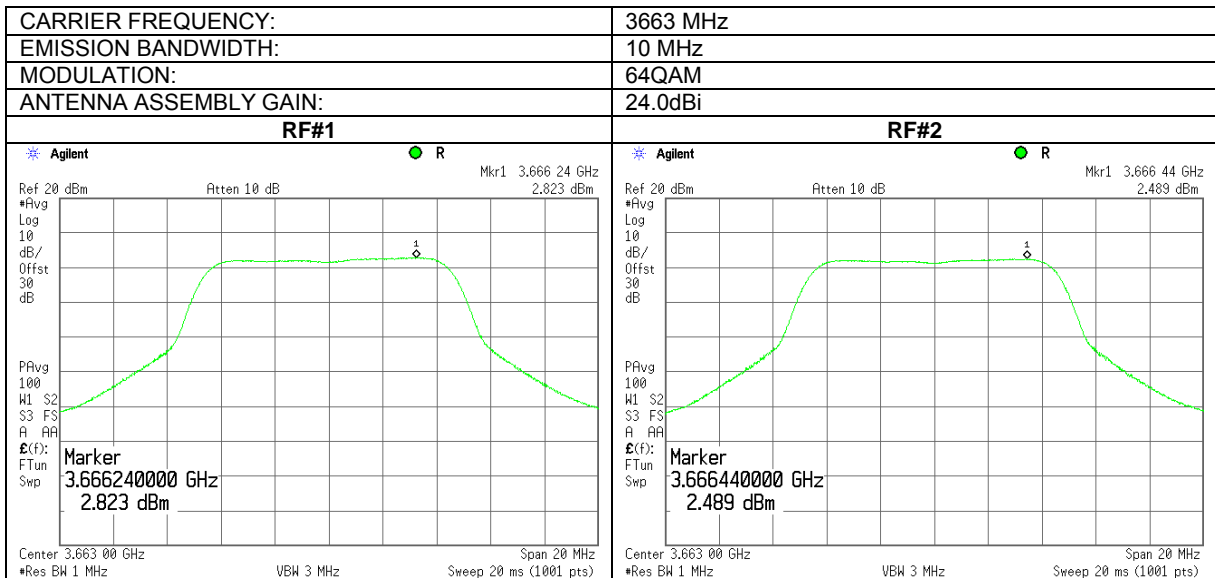


Test specification:	Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1005 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 24 dBi gain antenna assembly			

Plot 7.2.45 Peak output power density test results at mid frequency



Plot 7.2.46 Peak output power density test results at mid frequency

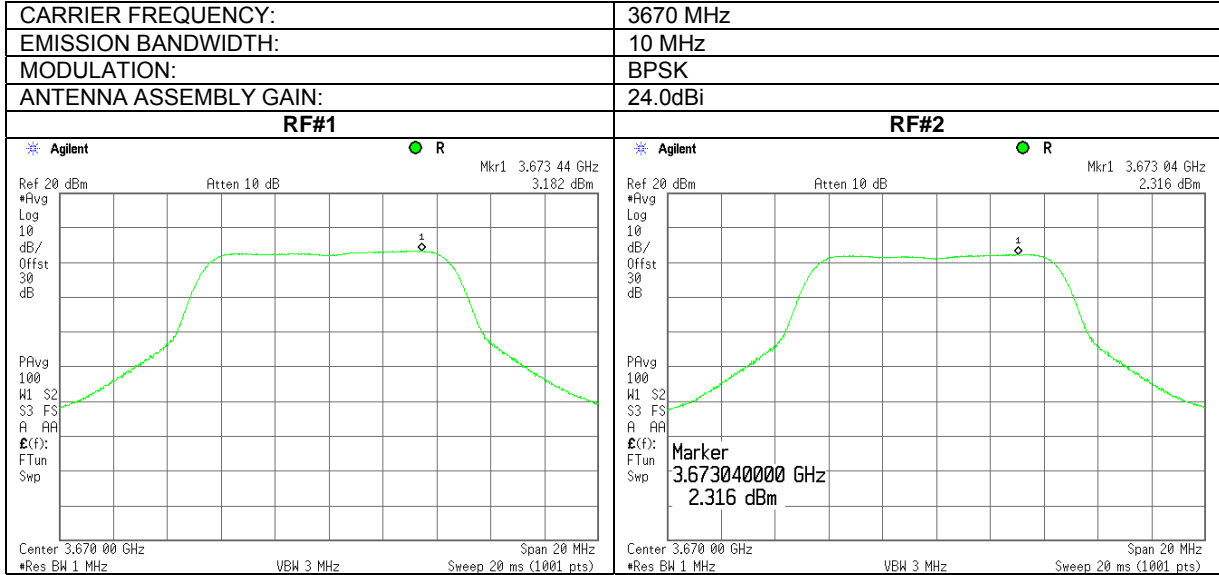




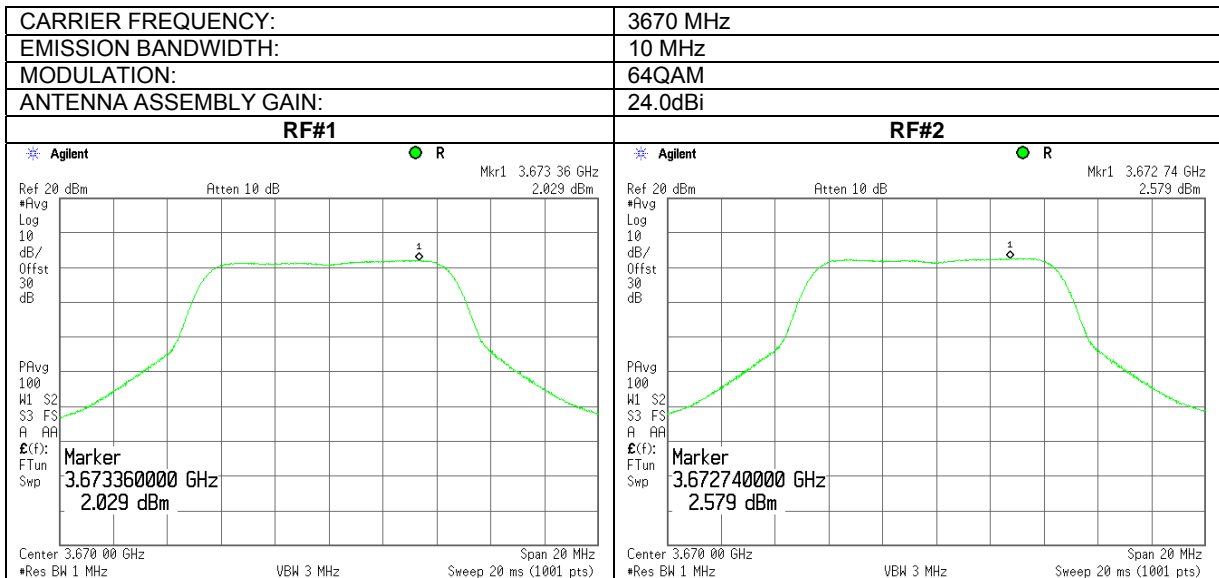
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.48 Peak output power density test results at high frequency

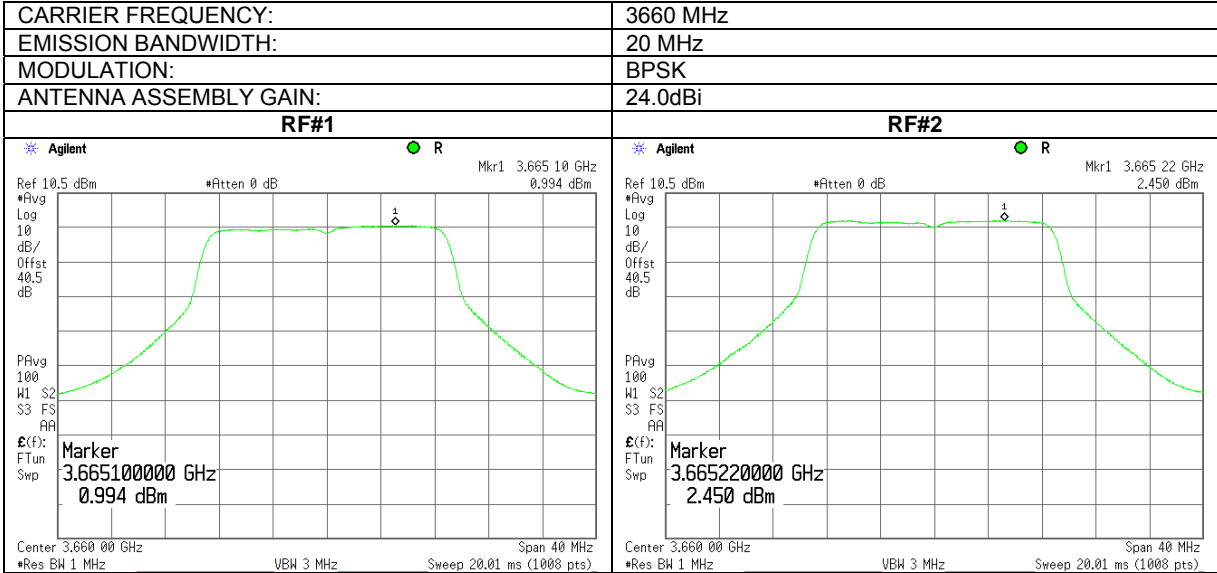




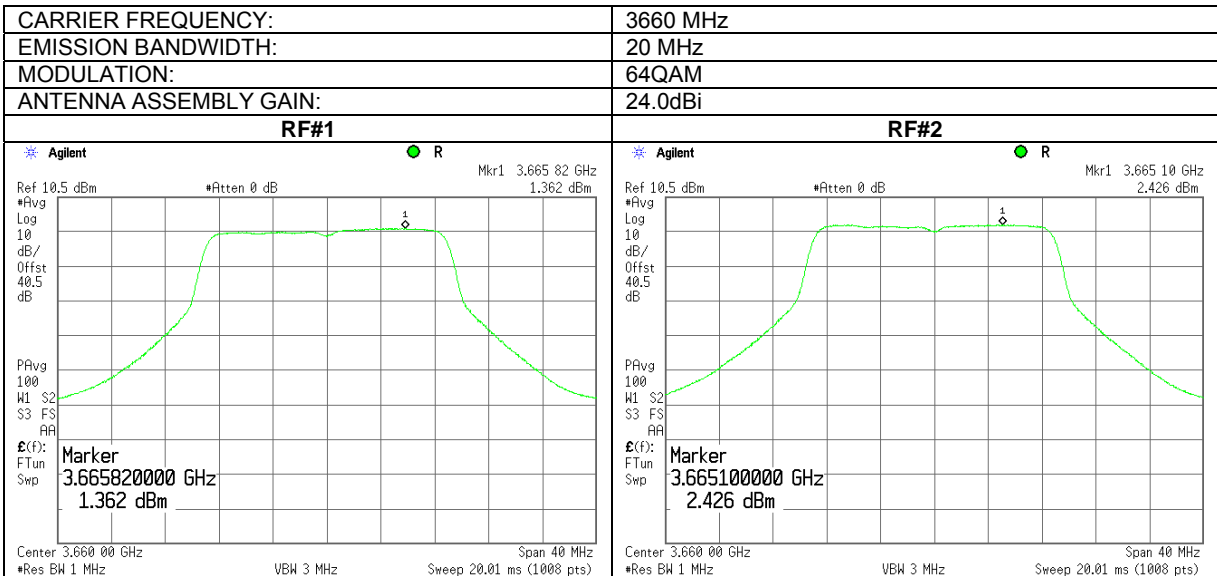
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.50 Peak output power density test results at low frequency

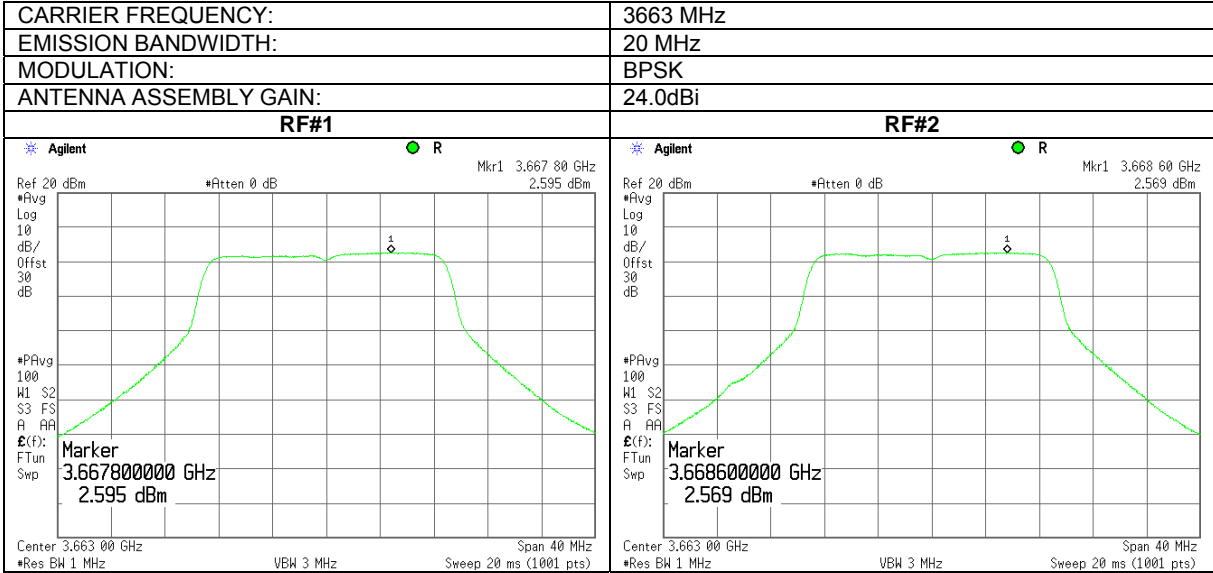




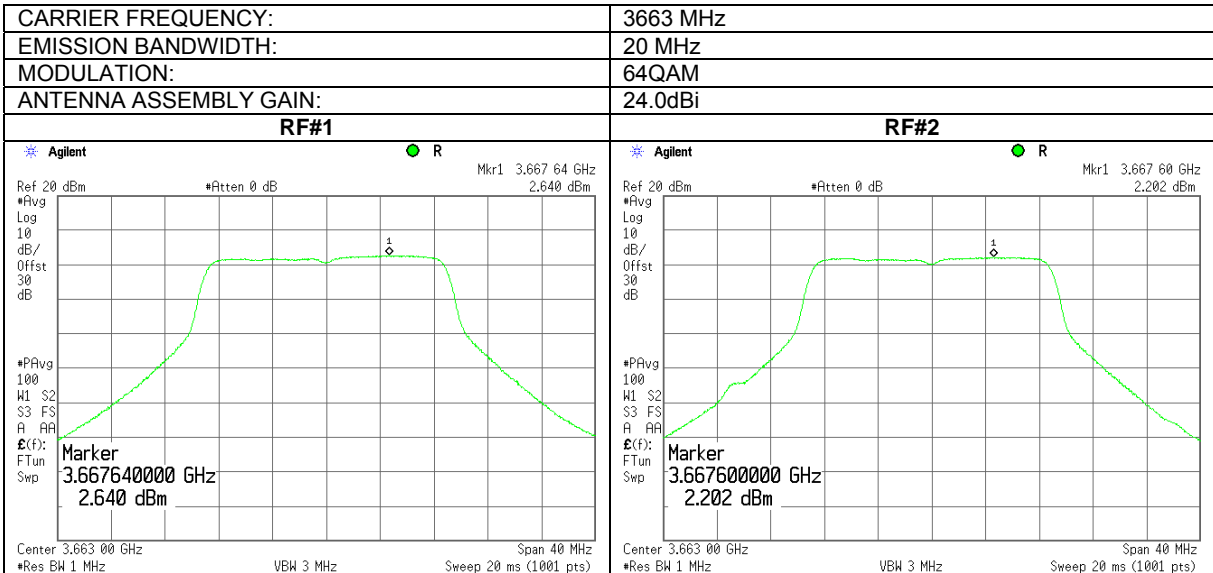
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.52 Peak output power density test results at mid frequency

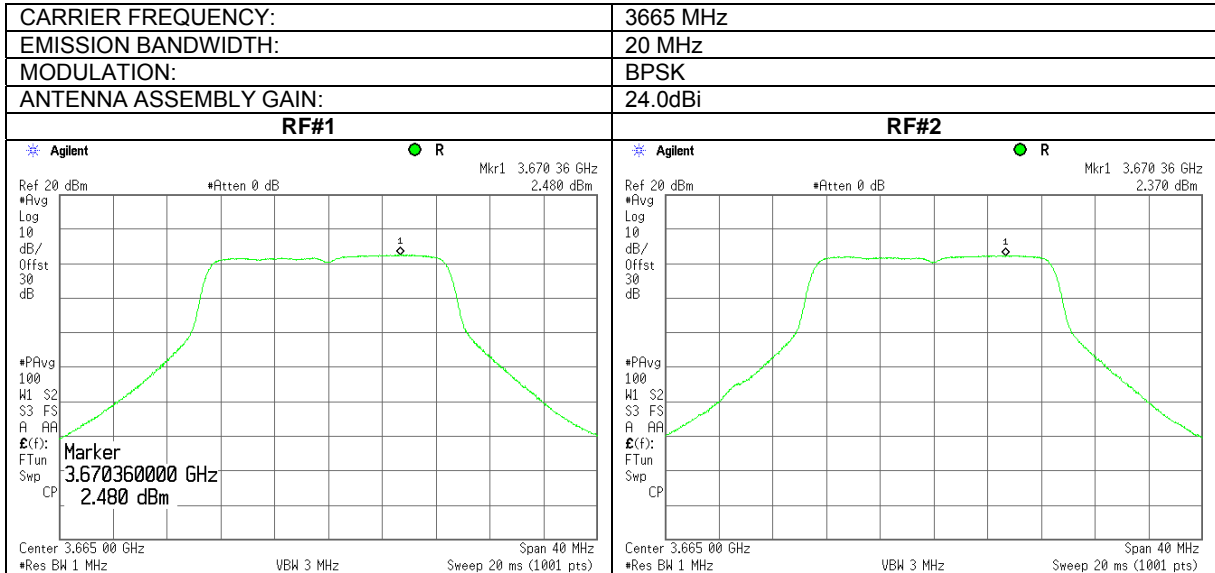




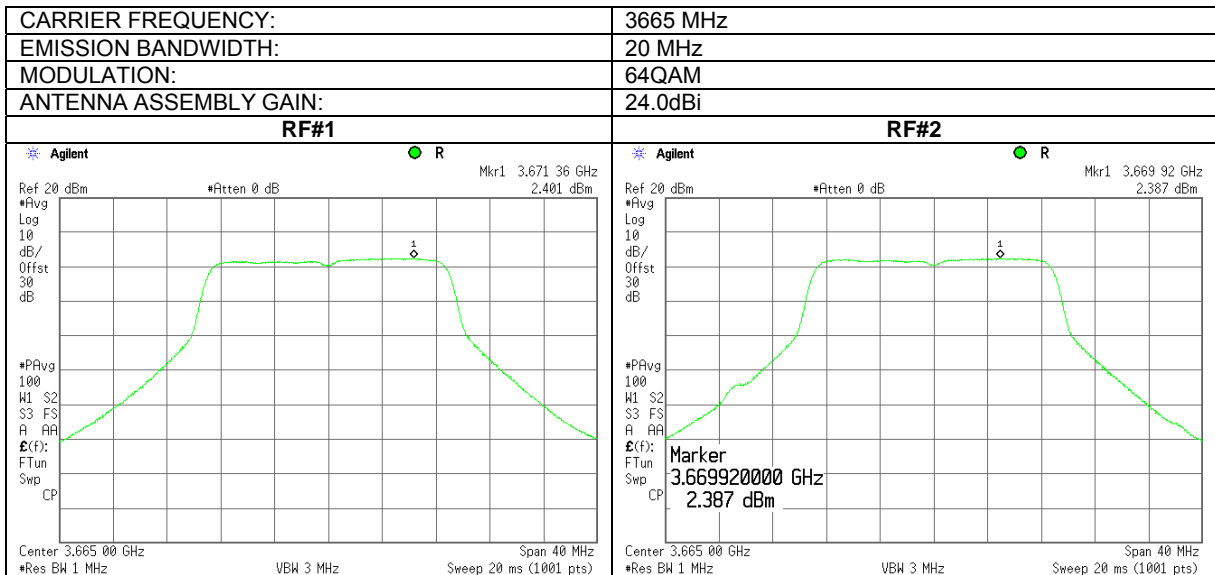
HERMON LABORATORIES

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: 11/14/2010			
Temperature: 25 °C	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



Plot 7.2.54 Peak output power density test results at high frequency



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:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 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
3663.0	BPSK	9.33	9.201	12.28	25.78	30	-4.22	Pass
3672.5	BPSK	9.119	8.9	12.02	25.52	30	-4.48	Pass
3652.5	64QAM	8.794	9.557	12.20	25.70	30	-4.30	Pass
3663.0	64QAM	9.335	8.894	12.13	25.63	30	-4.37	Pass
3672.5	64QAM	9.252	8.702	12.00	25.50	30	-4.50	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
3663.0	BPSK	12.624	13.717	16.22	29.72	30	-0.28	Pass
3669.0	BPSK	12.524	13.828	16.24	29.74	30	-0.26	Pass
3656.0	64QAM	12.657	13.354	16.03	29.53	30	-0.47	Pass
3663.0	64QAM	12.294	13.914	16.19	29.69	30	-0.31	Pass
3669.0	64QAM	12.478	13.849	16.23	29.73	30	-0.27	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
3663.0	BPSK	10.979	11.251	14.13	27.63	30	-2.37	Pass
3664.0	BPSK	10.405	11.689	14.10	27.60	30	-2.40	Pass
3661.0	64QAM	10.546	11.789	14.22	27.72	30	-2.28	Pass
3663.0	64QAM	10.864	11.764	14.35	27.85	30	-2.15	Pass
3664.0	64QAM	11.176	11.707	14.46	27.96	30	-2.04	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.

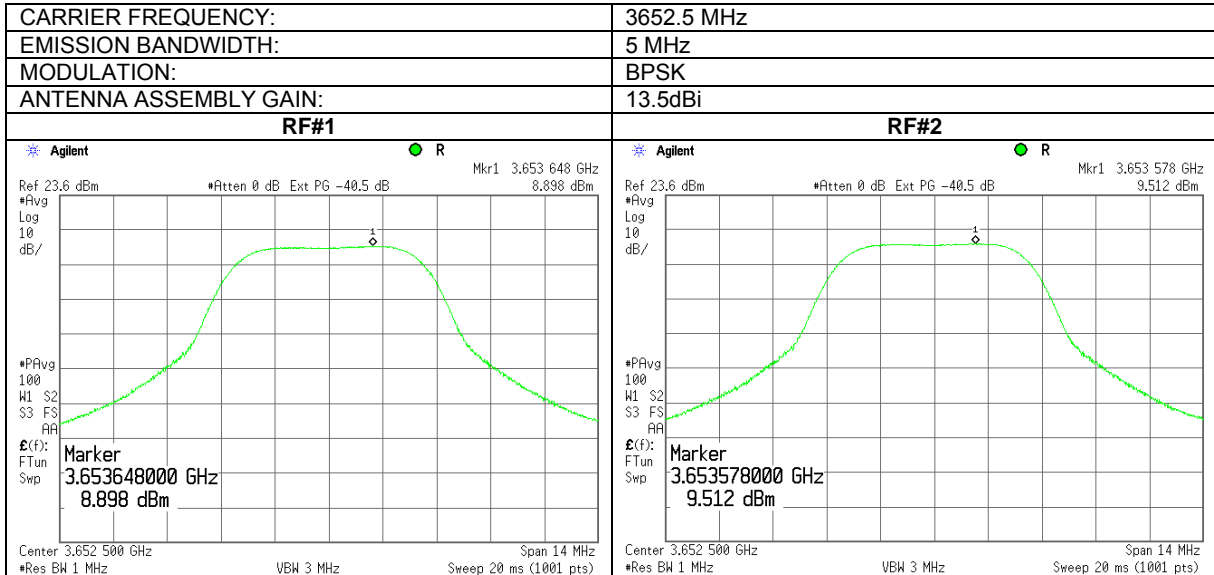
Reference numbers of test equipment used

HL 3440	HL 3474	HL 3779	HL 3784	HL 3818		
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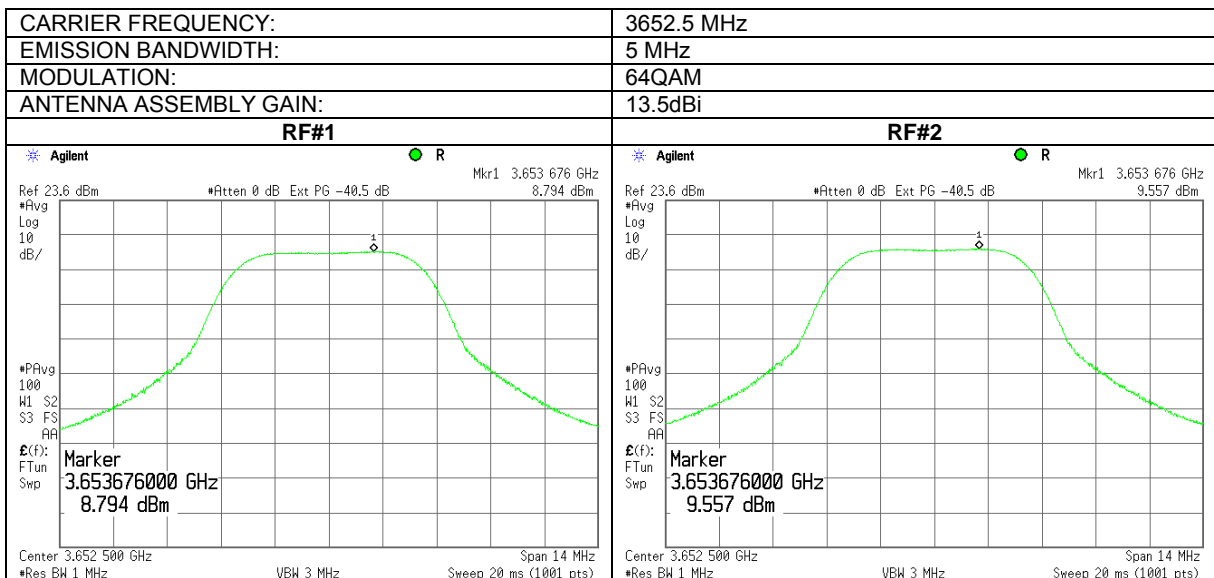
Full description is given in Appendix A.

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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.55 Peak output power density test results at low frequency

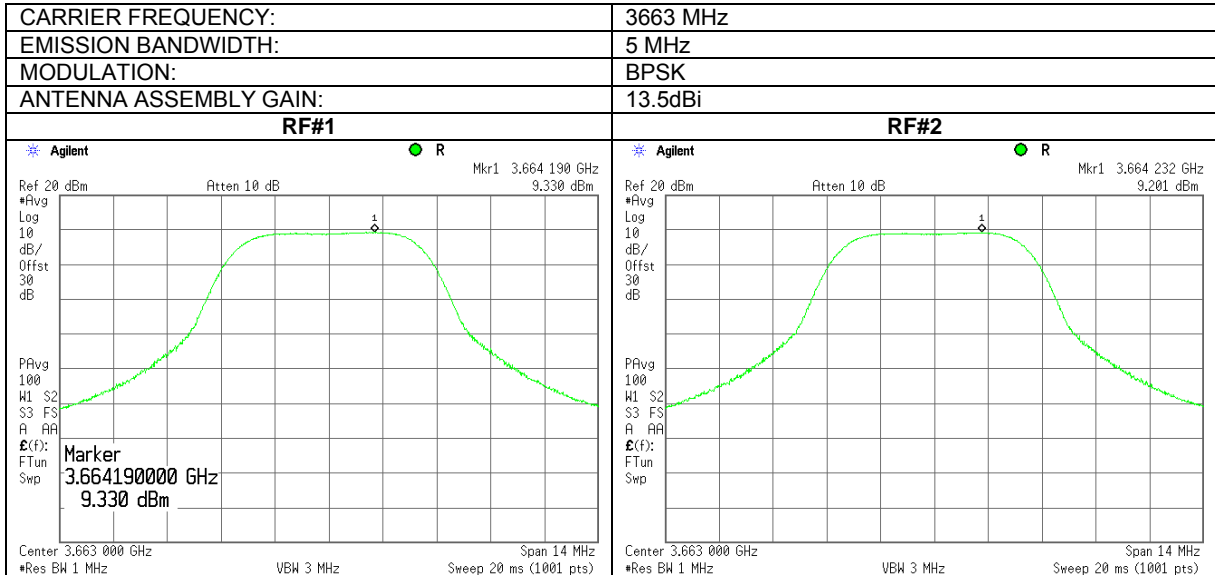


Plot 7.2.56 Peak output power density test results at low frequency

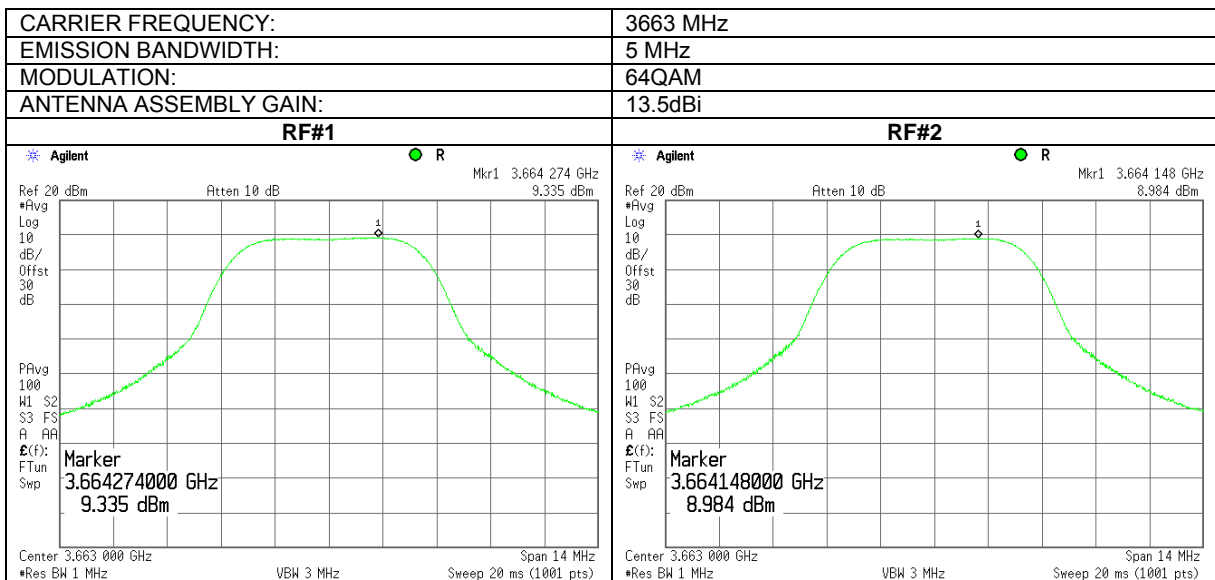


Test specification:	Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density		
Test procedure:	47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date:	11/14/2010		
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.57 Peak output power density test results at mid frequency

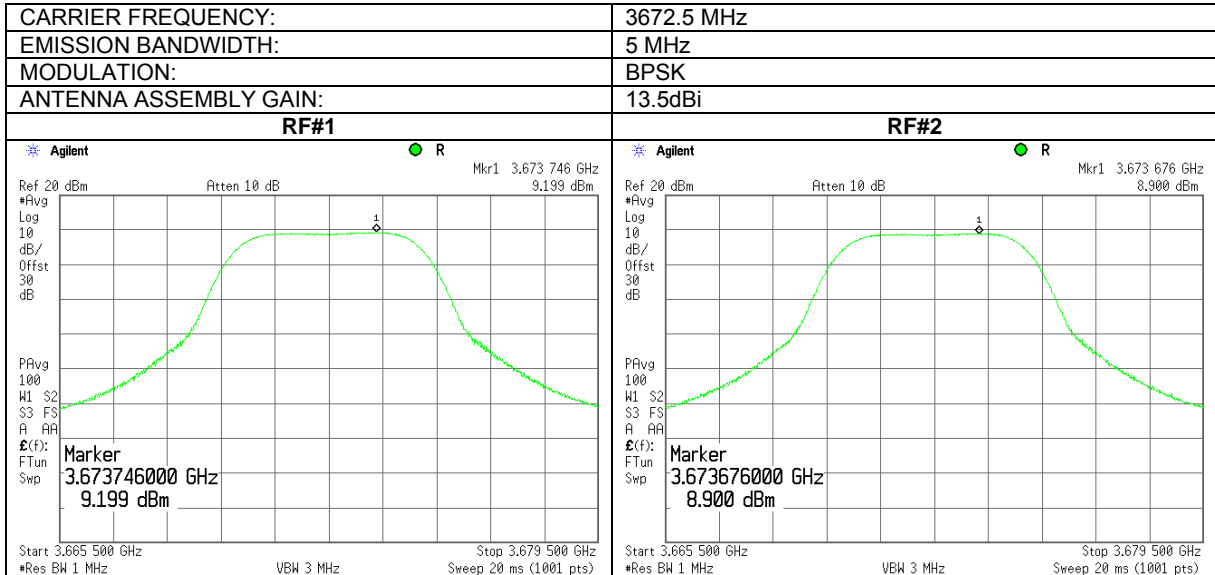


Plot 7.2.58 Peak output power density test results at mid frequency

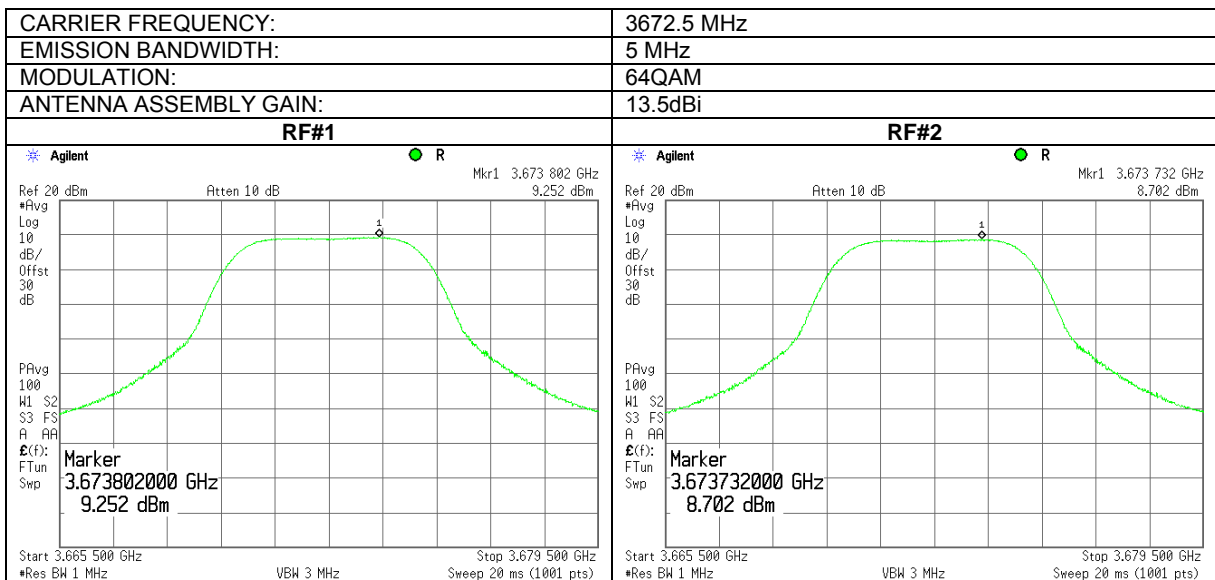


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.59 Peak output power density test results at high frequency

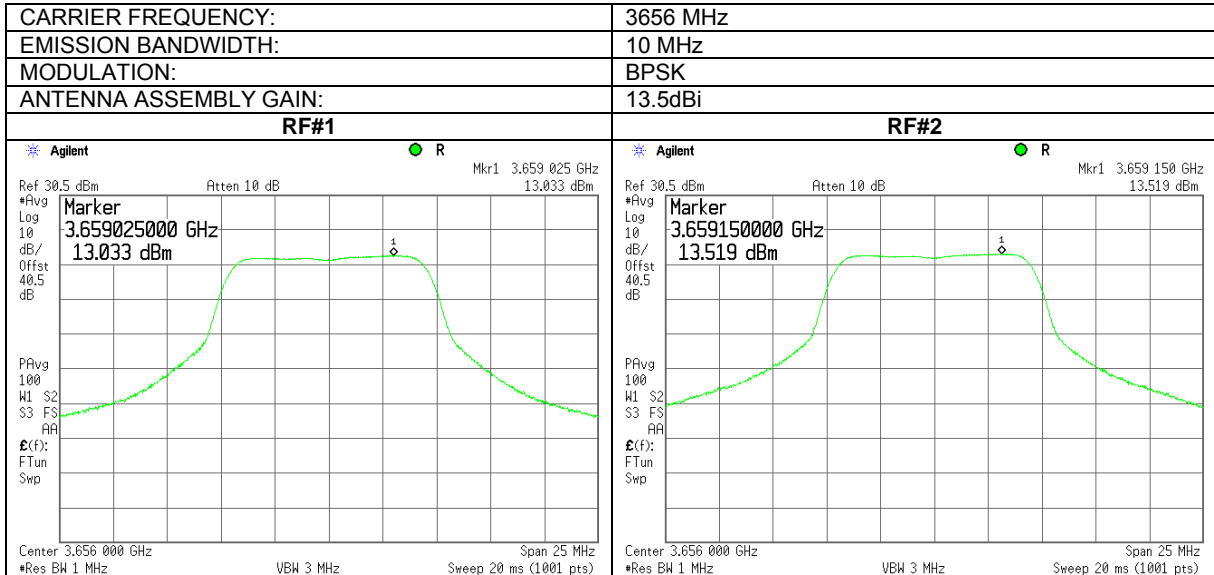


Plot 7.2.60 Peak output power density test results at high frequency

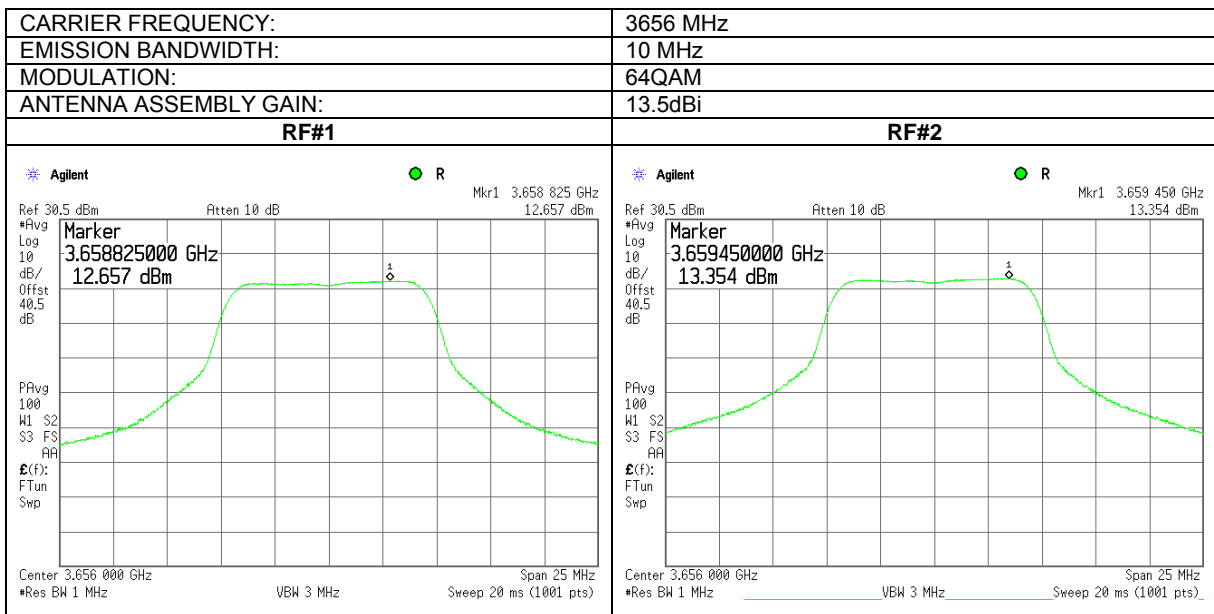


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.61 Peak output power density test results at low frequency

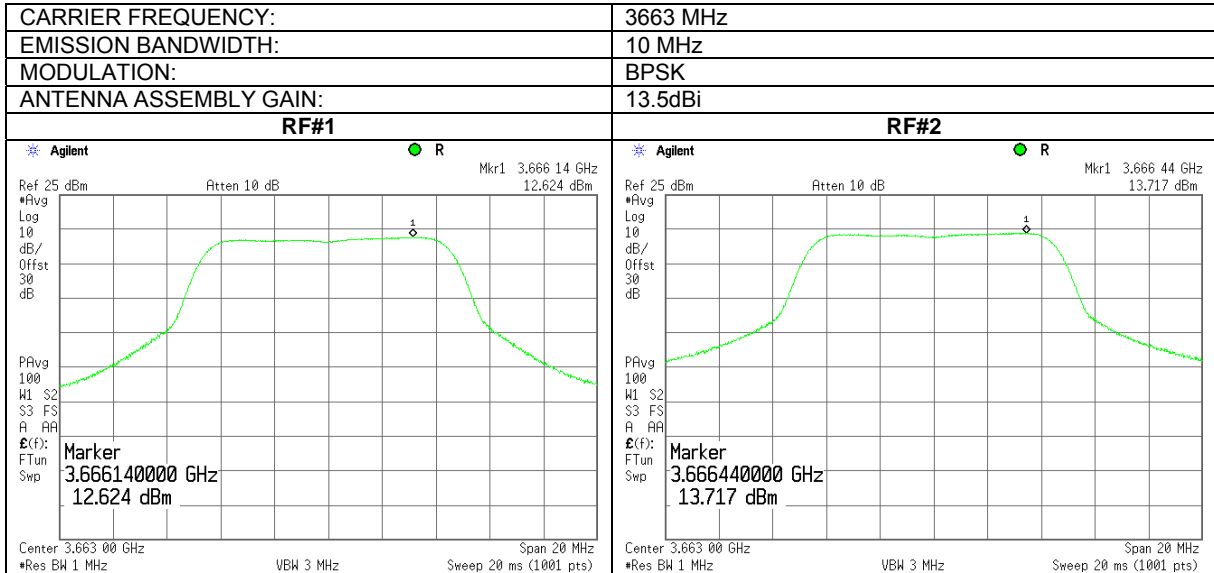


Plot 7.2.62 Peak output power density test results at low frequency

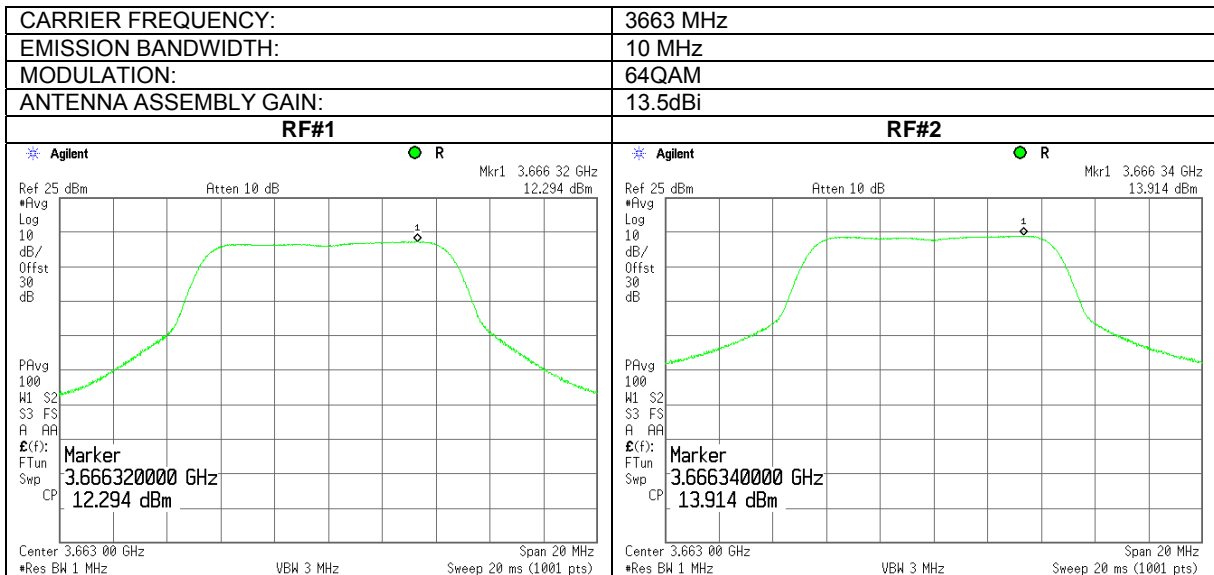


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.63 Peak output power density test results at mid frequency

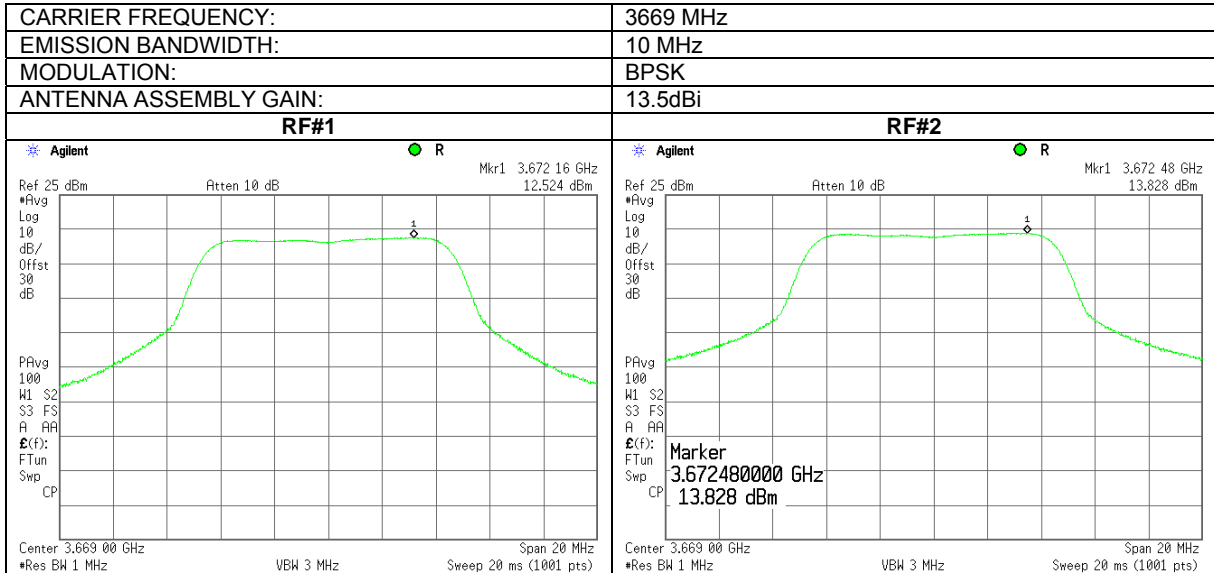


Plot 7.2.64 Peak output power density test results at mid frequency

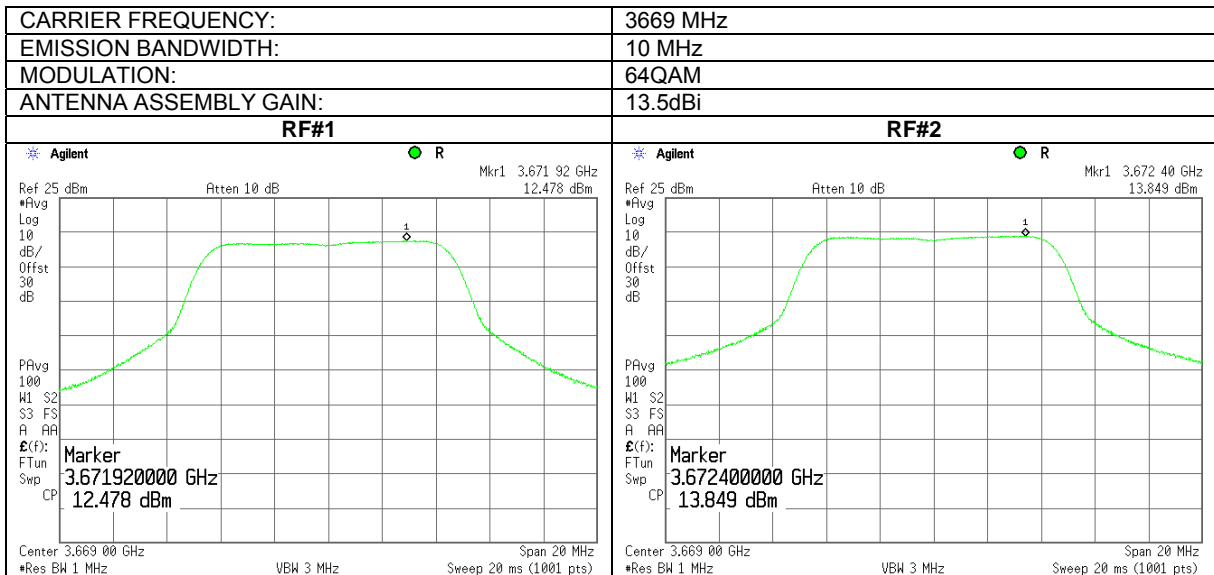


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.65 Peak output power density test results at high frequency

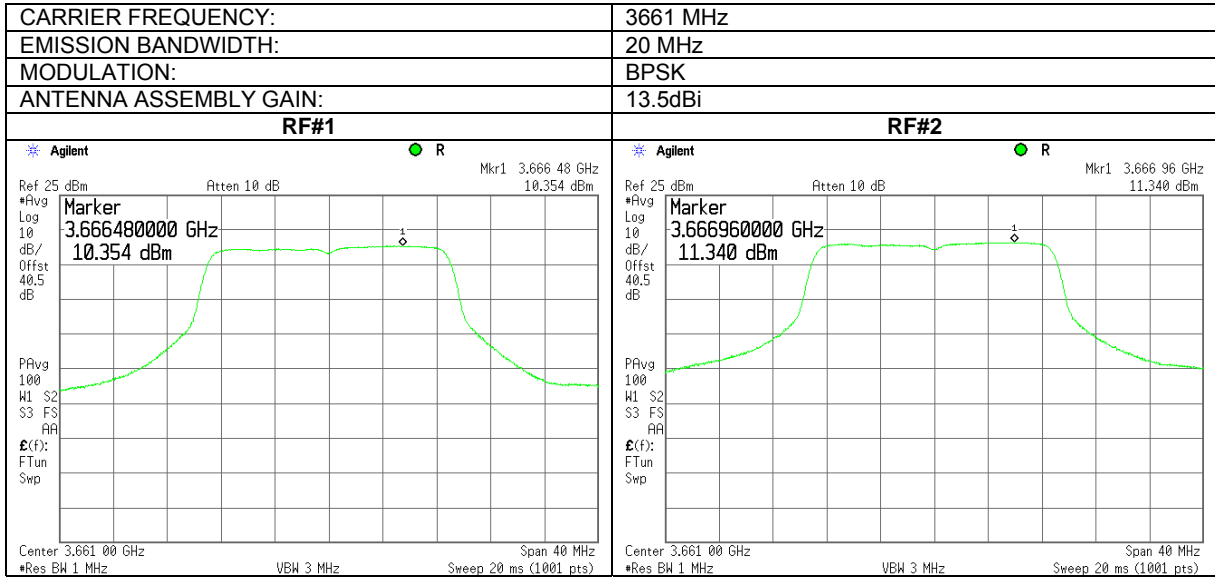


Plot 7.2.66 Peak output power density test results at high frequency

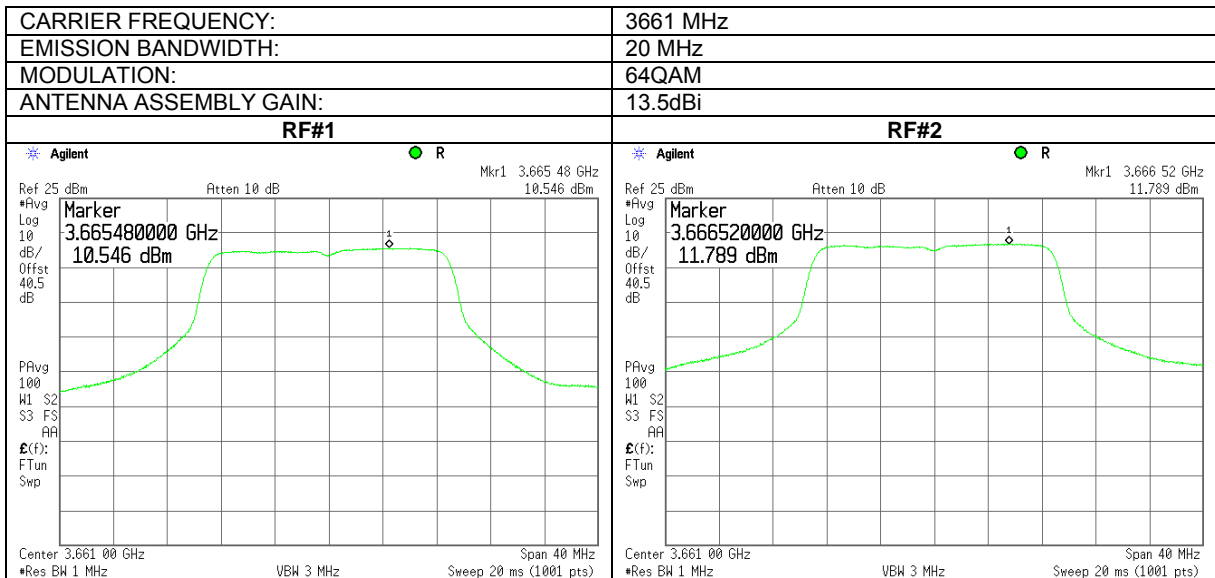


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.67 Peak output power density test results at low frequency

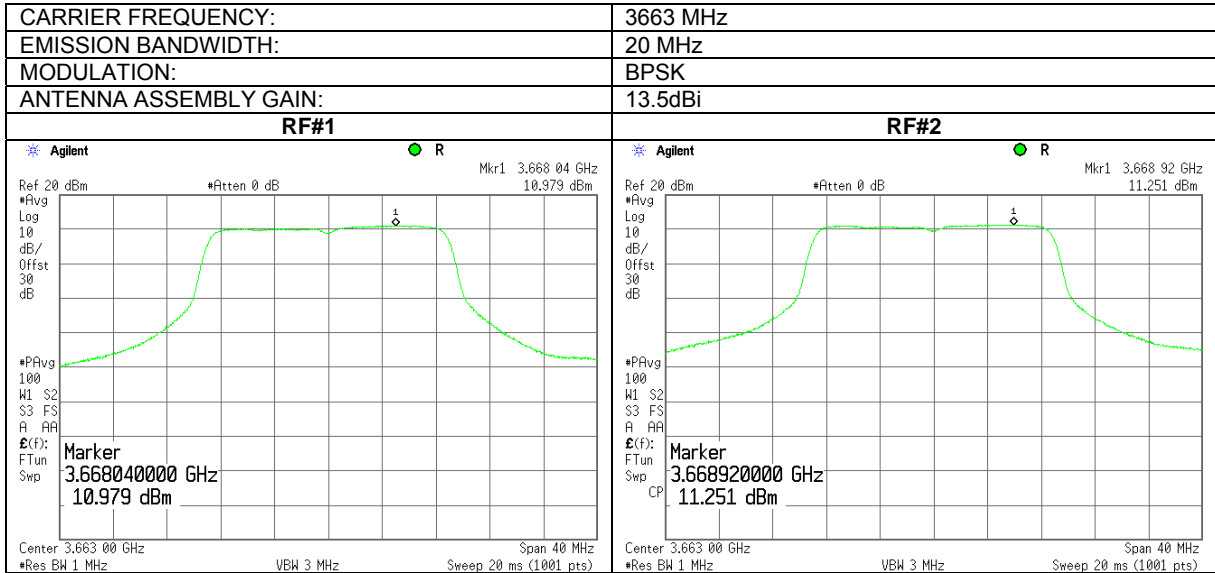


Plot 7.2.68 Peak output power density test results at low frequency

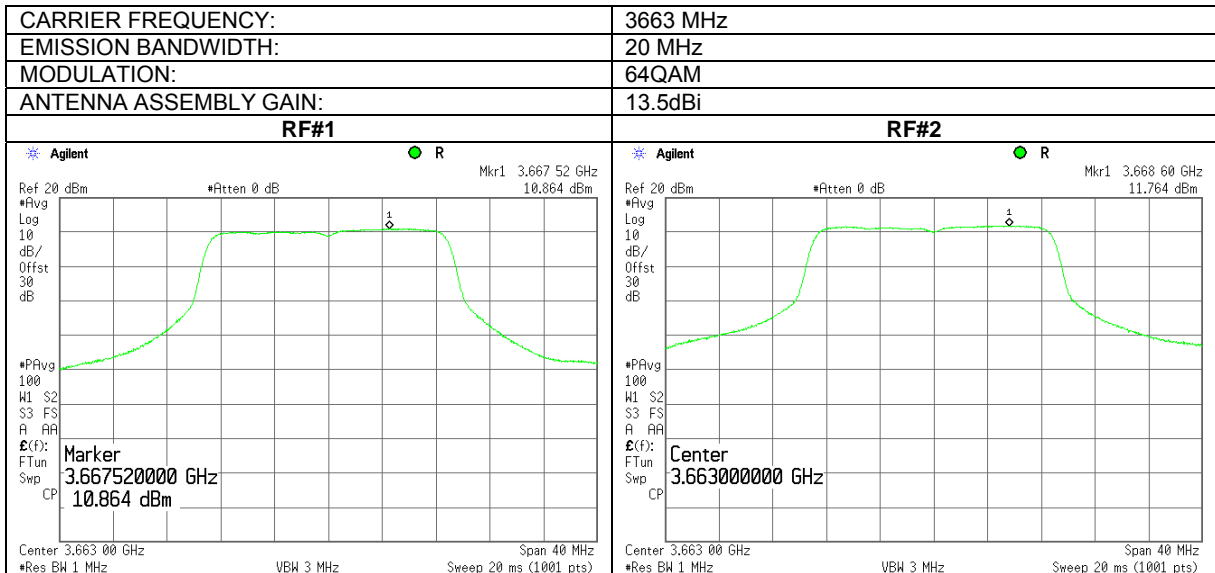


Test specification: Section 90.1321 / RSS-197, Section 5.6, Peak EIRP power density			
Test procedure: 47 CFR, Sections 2.1046; TIA/EIA-603-C, Section 2.2.1			
Test mode: Compliance	Verdict: PASS		
Date: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.69 Peak output power density test results at mid frequency

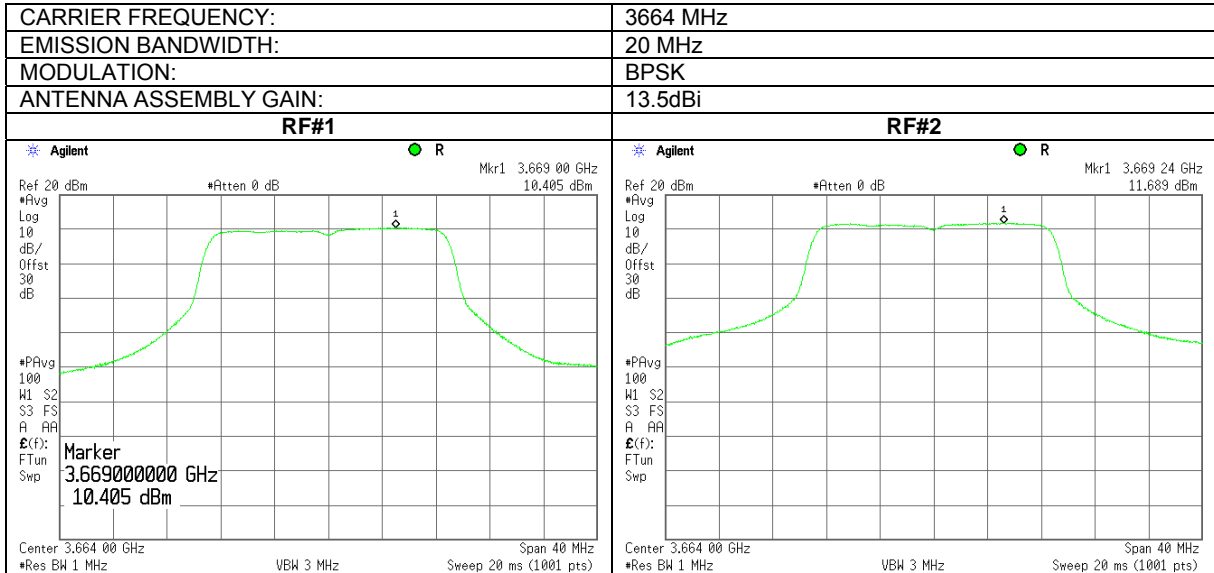


Plot 7.2.70 Peak output power density test results at mid frequency



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: 11/14/2010			
Temperature: 25 °C	Air Pressure: 1007 hPa	Relative Humidity: 45 %	Power Supply: -48 VDC
Remarks: with 13.5 dBi gain antenna assembly			

Plot 7.2.71 Peak output power density test results at high frequency



Plot 7.2.72 Peak output power density test results at high frequency

