PCTEST ENGINEERING LABORATORY, INC.
6660-B Dobbin Road, Columbia, MD 21045 USA
Tel. 410.290.6652 / Fax 410.290.6554
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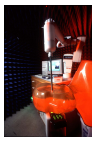


FCC PART 25 CERTIFICATION TEST REPORT

Applicant Name:
NextWave Broadband, Inc.
3611 Valley Centre Drive
San Diego, CA 92130
United States

Date of Testing:
August 12 - 14, 2008
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0808141128.WKH

FCC ID:	**WKH-BMX-SPT**
APPLICANT:	**NEXTWAVE BROADBAND, INC.**

Application Type:	Certification
FCC Classification:	Licensed Non-Broadcast Transmitter (TNB)
FCC Rule Part(s):	§2; §25 Subpart C, §27 Subpart M
EUT Type:	WiMAX Transmitter
Tx Frequency Range:	2489.25MHz
Max. RF Output Power:	0.041 W Peak EIRP WiMAX (16.12 dBm) – 5MHz Bandwidth
	0.036 W Peak EIRP WiMAX (15.51 dBm) – 10MHz Bandwidth
Emission Designator(s):	4M42G7D (QPSK), 9M05G7D (QPSK)
Test Device Serial No.:	*identical prototype* [S/N: N/A]

Note: This report is prepared based on FCC Order FCC-08-98A1 regarding the GlobalStar ATC waiver request.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

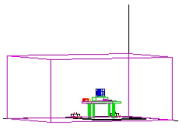
Grant Conditions: Power output listed is Peak EIRP for Part 25.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

Randy Ortanez
President

ACCREDITED
TESTING LABORATORY
CERTIFICATE #2041.01

TABLE OF CONTENTS



MEASUREMENT REPORT
FCC Part 25

§2.1033 General Information

APPLICANT:	NextWave Broadband, Inc.
APPLICANT ADDRESS:	3611 Valley Centre Drive San Diego, CA 92130
TEST SITE:	PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS:	6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S):	§2; §25(C), §27(M)
FCC ID:	WKH-BMX-SPT
FCC CLASSIFICATION:	Licensed Non-Broadcast Transmitter (TNB)
EMISSION DESIGNATOR(S):	4M42G7D (QPSK), 9M05G7D (QPSK)
MODE:	WiMAX
FREQUENCY TOLERANCE:	Emission must remain in band
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
DATE(S) OF TEST:	August 12 - 14, 2008
TEST REPORT S/N:	0808141128.WKH

Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab. located in Columbia, MD 21045, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (IC-2451).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.

- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission. This report is prepared based on based on FCC Order FCC-08-98A1 regarding the GlobalStar ATC waiver request. Per the waiver request the device operates in the Part 25 ATC Band (2489.25MHz) however the emissions testing was performed in accordance with the limits specified in Part 27.53.

1.2 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (see Figure 1-1). The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

Deviation from Measurement Procedure……None

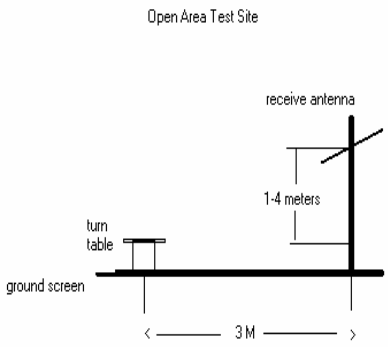


Figure 1-1. Diagram of 3-meter outdoor test range

1.3 Testing Facility

These measurements were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 27, 2006 and Industry Canada.

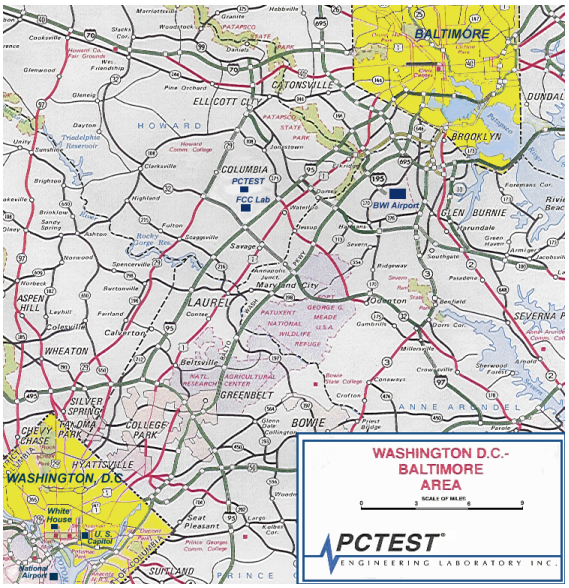


Figure 1-2. Map of the Greater Baltimore and Metropolitan Washington, D.C. area.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **NextWave WiMAX Transmitter FCC ID: WKH-BMX-SPT**. The test data contained in this report pertains only to the emissions due to the EUT's WiMAX function. The EUT consisted of the following component(s):

Trade Name	FCC ID	Description
NextWave	WKH-BMX-SPT	WiMAX Transmitter
Axonn	L2V-PT1	Satellite Personal Tracker

Table 2-1. EUT Equipment Description

The NextWave FCC ID: WKH-BMX-SPT is a WiMAX module integrated into a Spot Satellite Personal Tracker, previously certified under FCC ID: L2V-PT1. The Spot transmitter is a satellite locating system (GlobalStar) operating in the 1.6GHz band and the WiMAX transmitter operates at 2489.25MHz. Only one of the two transmitters can operate at any given time while the other transmitter is shutdown through internal software. The WiMAX transmitter operation is completely controlled through software installed on a laptop that communicates via USB connection with the EUT. The WiMAX transmitter is capable of operation in 5MHz and 10MHz bandwidths.

2.2 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

2.3 Labeling Requirements

Per 2.925

The FCC identifier shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

Per 15.19; Docket 95-19

In addition to this requirement, a device subject to certification shall be labeled as follows:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(b)(2).

Please see attachment for FCC ID label and label location.

3.0 DESCRIPTION OF TESTS

3.1 Occupied Bandwidth Emission Limits

§2.1049, §27.53(l)(6)

a. On any frequency outside but within 5.5MHz from the band edge of a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. At frequencies greater than 5.5MHz from any in-band channel edge, the transmitter power (P) shall be attenuated by at least 55 + 10 log(P) dB.

b. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

c. When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

d. The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

3.2 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, §27.53(l)(4)(6)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.3 Radiated Spurious and Harmonic Emissions

§2.1053, §27.53(l)(4)(6)

Spurious and harmonic radiated emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the worst case is reported with QPSK 1/2 rate modulation using a channel bandwidth of 5MHz for radiated tests.

3.4 Frequency Stability / Temperature Variation

§2.1055, §27.54

The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

4.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

Manufacturer	Model	Description	Calibration Date	Cal Interval	Calibration Due	Serial No.
-	263-10dB	(DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
-	No.165	(30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166	(1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167	(100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	11713A	Attenuation/Switch Driver	12/13/07	Annual	12/13/08	3439A02645
Agilent	8449B	(1-26.5GHz) Pre-Amplifier	12/13/07	Annual	12/12/08	3008A00985
Agilent	8495A	(0-70dB) DC-4GHz Attenuator	N/A		N/A	N/A
Agilent	85650A	Quasi-Peak Adapter	03/13/08	Annual	03/13/09	2043A00301
Agilent	8566B	(100Hz–22GHz) Spectrum Analyzer	12/13/07	Annual	12/13/08	3638A08713
Agilent	8566B	Opt. 462 Impulse Bandwidth	12/13/07	Annual	12/12/08	3701A22204
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/11/07	Biennial	10/10/09	3613A00315
Agilent	E4448A	(3Hz-50GHz) Spectrum Analyzer	01/24/08	Annual	01/24/09	US42510244
Agilent	E8257D	(250kHz-20GHz) Signal Generator	03/08/07	Biennial	03/08/09	MY45470194
Compliance Design	Roberts	Dipole Set	11/09/07	Biennial	11/08/09	146
Compliance Design	Roberts	Dipole Set	11/09/07	Biennial	11/08/09	147
Emco	3115	Horn Antenna (1-18GHz)	9/24/07	Biennial	9/23/09	9704-5182
Emco	3115	Horn Antenna (1-18GHz)	10/4/07	Biennial	10/3/09	9205-3874
Emco	3116	Horn Antenna (18 - 40GHz)	8/25/05	Triennial	8/24/08	9203-2178
Emco	3121C-DB4	Dipole Antenna	1/23/07	Biennial	1/22/09	00023951
Espec	ESX-2CA	Environmental Chamber	3/12/08	Annual	3/12/09	017620
MiniCircuits	VHF-1300+	High Pass Filter	N/A		N/A	30716
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Pasternack	PE2208-6	Bidirectional Coupler	N/A		N/A	
Rohde & Schwarz	NRVD	Dual Channel Power Meter	12/12/06	Biennial	12/11/08	101695
Rohde & Schwarz	NRVS	Single Channel Power Meter	7/3/07	Biennial	7/2/09	835360/0079
Rohde & Schwarz	NRV-Z32	Peak Power Sensor (100uW-2W)	12/21/06	Biennial	12/20/08	100155
Rohde & Schwarz	NRV-Z33	Peak Power Sensor (1mW-20W)	11/28/06	Biennial	11/27/08	100004
Rohde & Schwarz	NRV-Z53	Power Sensor	7/3/07	Biennial	7/2/09	846076/0007
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Rx	6/19/07	Biennial	6/18/09	9105-2404
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Tx	6/19/07	Biennial	6/18/09	9105-2403
Solar Electronics	8012-50-R-24-BNC	LISN	11/8/07	Biennial	11/8/09	0310233

Table 4-1. Test Equipment

5.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 4M45G7D

WiMAX BW = 4.45 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Amplitude/Angle Modulated

Spurious Radiated Emission – WiMAX Band

Example: Middle Channel WiMAX Mode 2nd Harmonic (4978.5 MHz)

The receive analyzer reading at 3 meters with the EUT on the turntable was –81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of –81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 3.2 dB at 4978.5 MHz. So 4.9 dB is added to the signal generator reading of –30.00 dBm yielding –25.1 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm – (-25.1) = 50.6 dBc.

6.0 TEST RESULTS

6.1 Summary

Company Name: NextWave Broadband, Inc.

FCC ID: WKH-BMX-SPT

FCC Classification: Licensed Non-Broadcast Transmitter (TNB)

Mode(s): WiMAX

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (Tx)					
2.1049, 27.53(l)(6)	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.0
2.1051, 27.53(l)(4)(6)	Band Edge	< 43 + 10log$_{10}$ (P[Watts]) within 5.5MHz from the band edge		PASS	Section 7.0
2.1051, 25.202(8)(f), 27.53(l)(4)(6)	Conducted Spurious Emissions	< 55 + 10log$_{10}$ (P[Watts]) for all emissions greater than 5.5MHz from the band edge		PASS	Section 7.0
2.1046	Transmitter Conducted Output Power Measurements	N/A		PASS	Section 6.2
25.254(b)(2), 27.50(h)(2)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS	Section 6.3
2.1053, 25.254(b)(3), 27.53(l)(4)	Undesirable Emissions	< 55 + 10log$_{10}$ (P[Watts]) for all out-of-band emissions		PASS	Section 6.4
FCC 08-254	Undesirable Emissions in ATC Band	< -60dBm/MHz EIRP (Wideband) < -70dBm/kHz EIRP (Narrowband)		PASS	Section 6.5
2.1055, 27.54	Frequency Stability	Fundamental emissions must stay within the allotted band		PASS	Section 6.6
RECEIVER MODE (Rx) / DIGITAL EMISSIONS					
15.107	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.107 limits	LINE CONDUCTED	PASS	Pt. 15B Test Report
15.109	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.109 limits	RADIATED (30MHz-1GHz) (1-25 GHz)	PASS	Pt. 15B Test Report
RF EXPOSURE					
2.1091 / 2.1093	MPE Test	1.0 mW/cm^2 (MPE Limit)	MPE	PASS	MPE Report

Table 6-1. Summary of Test Results

6.2 Transmitter Conducted Output Power

§2.1046

A WiMAX transmitter was set to operate at maximum power and a trigger was used on a spectrum analyzer to capture the emission. The trigger was set in such a way that the analyzer recorded power measurements only during the times in which the EUT's was transmitting. The WiMAX conducted power is reported below.

Frequency [MHz]	Modulation	Channel Bandwidth [MHz]	Conducted Power [dBm]
2489.25	QPSK	5	18.28
2489.25	QPSK	10	19.09

Table 6-2. WiMAX Conducted Output Power

6.3 Equivalent Isotropic Radiated Power Output Data

§25.254(b)(2), §27.50(h)(2)

POWER: Maximum (WiMAX Mode)

Frequency [MHz]	Channel Bandwidth [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
2489.25	5	-19.010	8.12	8.00	H	16.12	0.041	Standard
2489.25	10	-19.620	7.51	8.00	H	15.51	0.036	Standard

Table 6-3. Equivalent Isotropic Radiated Power Output Data

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, a peak detector is used, with RBW = VBW = 5 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested employing both 5MHz and 10MHz channel bandwidths and the worst case is reported with QPSK 1/2 rate modulation using a channel bandwidth of 5MHz for EIRP tests. This unit was tested with its standard battery.

6.4 WiMAX Radiated Measurements

§2.1053, §25.254(b)(3), §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY:	2489.25	MHz		
MEASURED OUTPUT POWER:	16.121	dBm	=	0.041 W
MODULATION SIGNAL:	WiMAX (Internal)			
DISTANCE:	3	meters		
LIMIT:	55 + 10 $\log_{10}$ (W) =	41.12	dBc	

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
4978.50	-57.99	10.51	-47.48	H	63.6
7467.75	-54.24	10.57	-43.67	H	59.8
9957.00	-47.10	11.97	-35.13	H	51.3
12446.25	-46.04	12.43	-33.62	H	49.7
14935.50	-33.47	12.78	-20.68	H	36.8

Table 6-4. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested employing both 5MHz and 10MHz channel bandwidths and the worst case is reported with QPSK 1/2 rate modulation using a channel bandwidth of 5MHz for radiated spurious tests. This unit was tested with its standard battery.

6.5 WiMAX Radiated Measurements in ATC Band

FCC 08-254

Per FCC Document 08-254 (page 17) dated October 31, 2008, ATC end-user stations operating in the frequency band 2483.5 – 2495MHz "placed into service before 2012 will comply with an EIRP density limit for wideband emissions of -90dBW/MHz and an EIRP density limit of -100dBW/kHz for narrowband emissions in the 1559 – 1610MHz band" per discussions between GlobalStar and NTIA. It was found that there were no emissions resulting from the operation of the WiMAX transmitter present in the 1559 – 1610MHz band. The only emissions found in this band were those due to the digital circuitry (narrowband) of the NextWave device while it was powered on with all transmitters disabled.

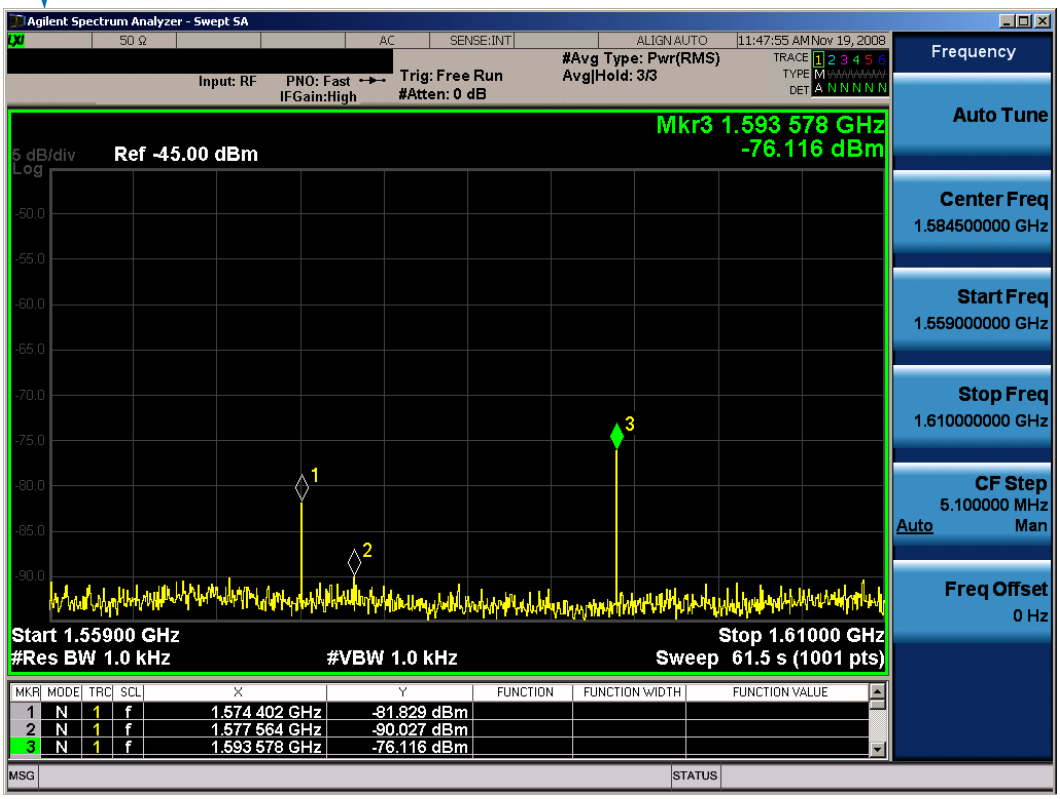
OPERATING FREQUENCY:	2489.25	MHz
MODULATION SIGNAL:	WiMAX (Internal)	
DISTANCE:	3	meters
WIDEBAND EMISSION LIMIT:	-60	dBm/MHz
NARROWBAND EMISSION LIMIT:	-70	dBm/kHz

FREQUENCY (MHz)	EMISSION TYPE	LEVEL @ ANTENNA (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	EIRP LEVEL (dBm)	POL (H/V)	MARGIN (dB)
1568.13	Wideband	-67.61	6.48	-61.12	H	**-1.1**
1577.56	Narrowband	-86.83	6.49	-80.34	H	**-10.3**

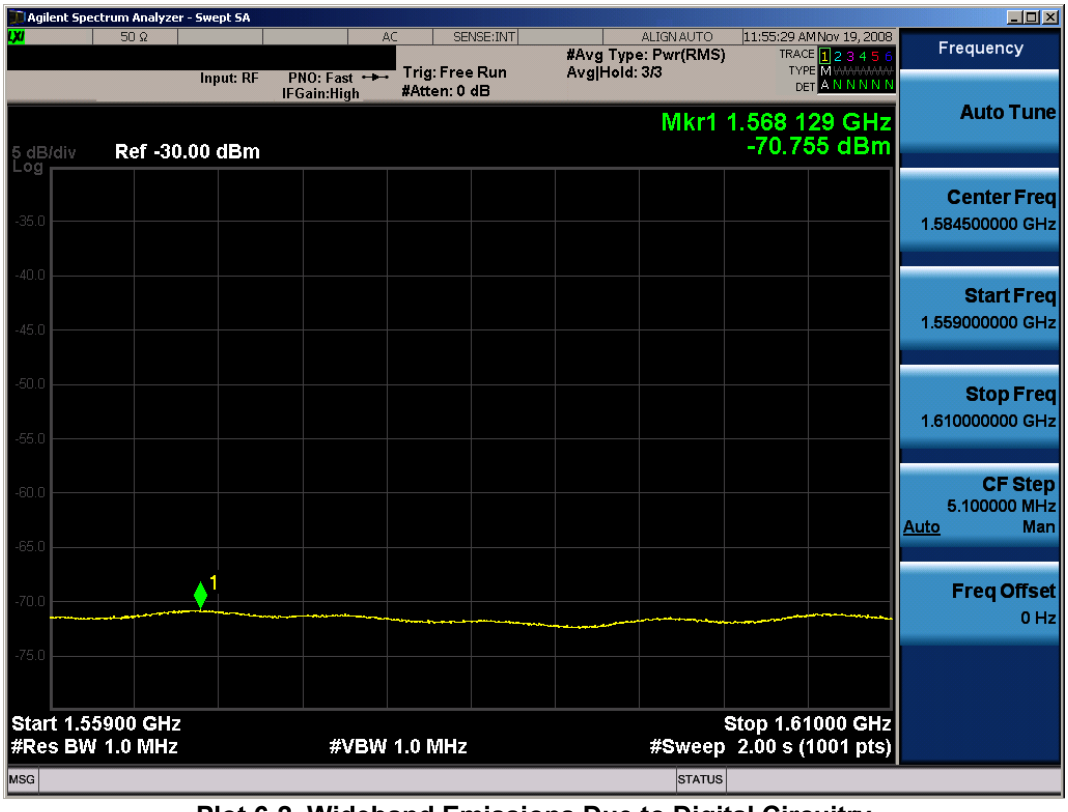
Table 6-5. Undesirable Radiated Emissions in 1559 – 1610MHz Band with WiMAX Tx ON

Note: Wideband emissions were measured using a RBW = 1MHz and narrowband emissions were measured using a RBW = 1kHz.

The plots on the following page represent raw, uncorrected emission levels that were used to determine compliance of this device in the ATC band. Markers 1 and 3 in Plot 6-2 indicate the level of the highest narrowband emissions due to the digital circuitry of the device while the WiMAX transmitter is active. Marker 2 indicates the level of the highest emission in the ATC band due to the operation of the WiMAX transmitter at 2489.25MHz. Plot 6-3 shows the level of the highest wideband emission due to the digital circuitry of the device with the WiMAX transmitter turned on. The frequencies shown in these plots were used in Table 6-5 to determine the equivalent isotropic radiated power levels. It was determined that there were no detected emissions from the operation of the WiMAX transmitter in the ATC band.



Plot 6-1. Narrowband Emissions Due to Digital Circuitry



Plot 6-2. Wideband Emissions Due to Digital Circuitry

6.6 WiMAX Frequency Stability Measurements

§2.1055, §27.54

OPERATING FREQUENCY: 2,489,250,000 Hz

VOLTAGE (%)	TEMP (ºC)	FREQ. (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	+ 20 (Ref)	2,489,248,053	-1,947.25	-0.000078
100 %	- 30	2,489,270,204	20,204	0.000812
100 %	- 20	2,489,263,474	13,474	0.000541
100 %	- 10	2,489,267,068	17,068	0.000686
100 %	0	2,489,259,487	9,487	0.000381
100 %	+ 10	2,489,233,953	-16,047	-0.000645
100 %	+ 20	2,489,240,389	-9,611	-0.000386
100 %	+ 30	2,489,230,033	-19,967	-0.000802
100 %	+ 40	2,489,255,031	5,031	0.000202
100 %	+ 50	2,489,261,287	11,287	0.000453

Table 6-6. Frequency Stability Data (WiMAX Mode)

Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

WiMAX Frequency Stability Measurements (Cont'd)

§2.1055, §27.54

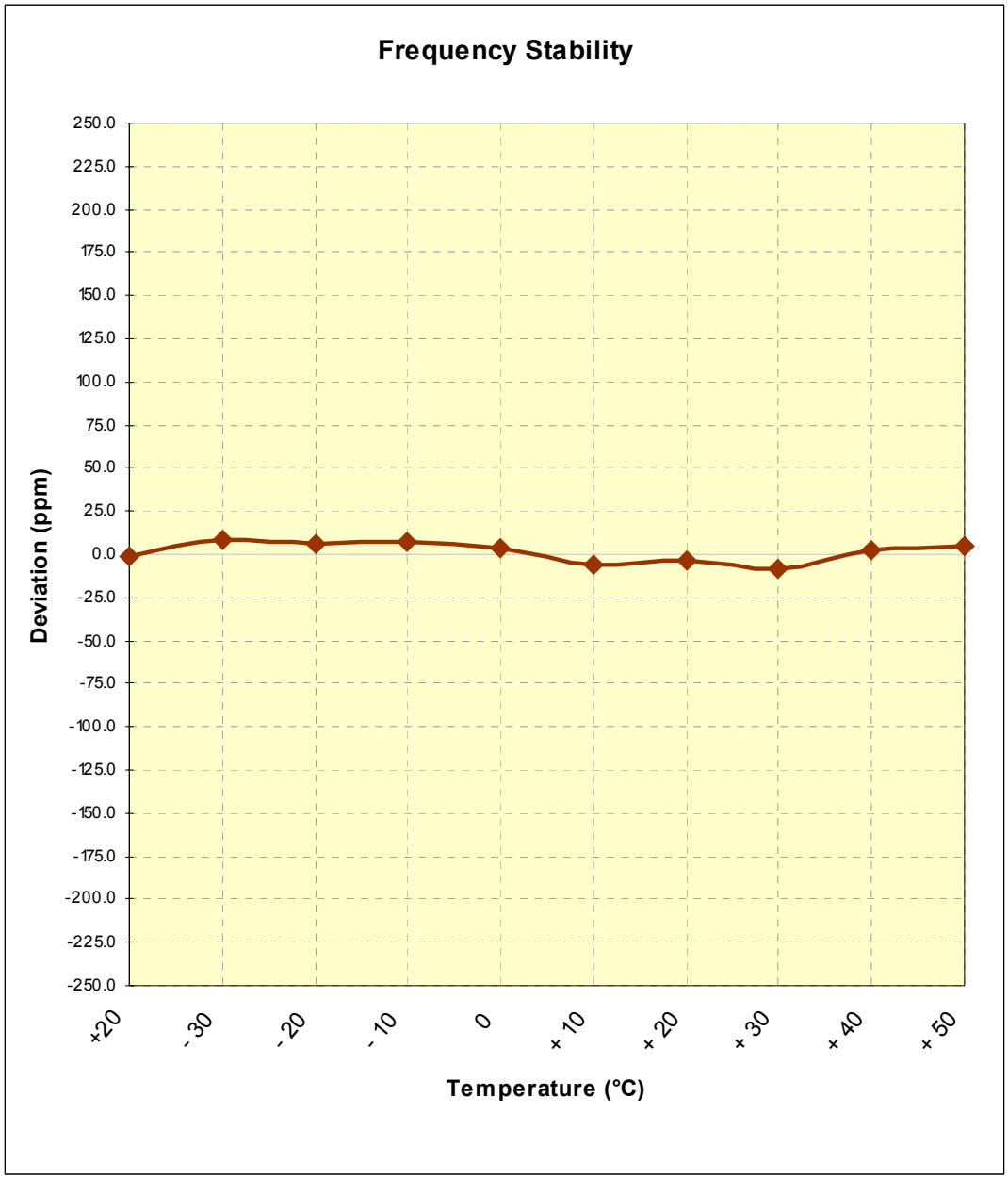
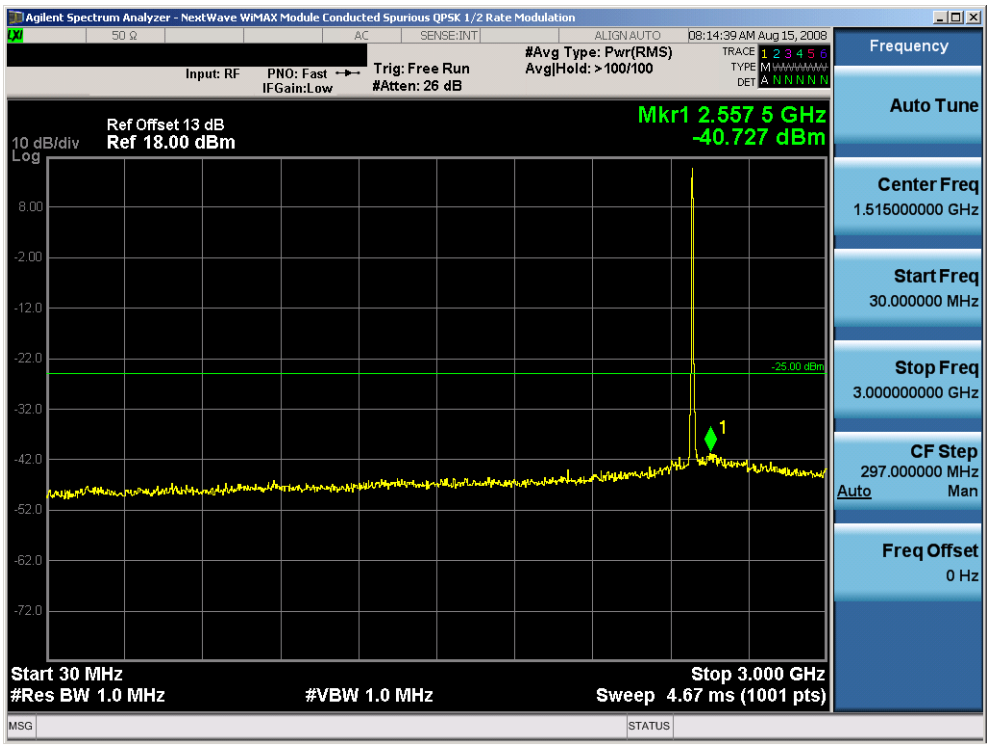


Figure 6-1. Frequency Stability Graph (WiMAX Mode)

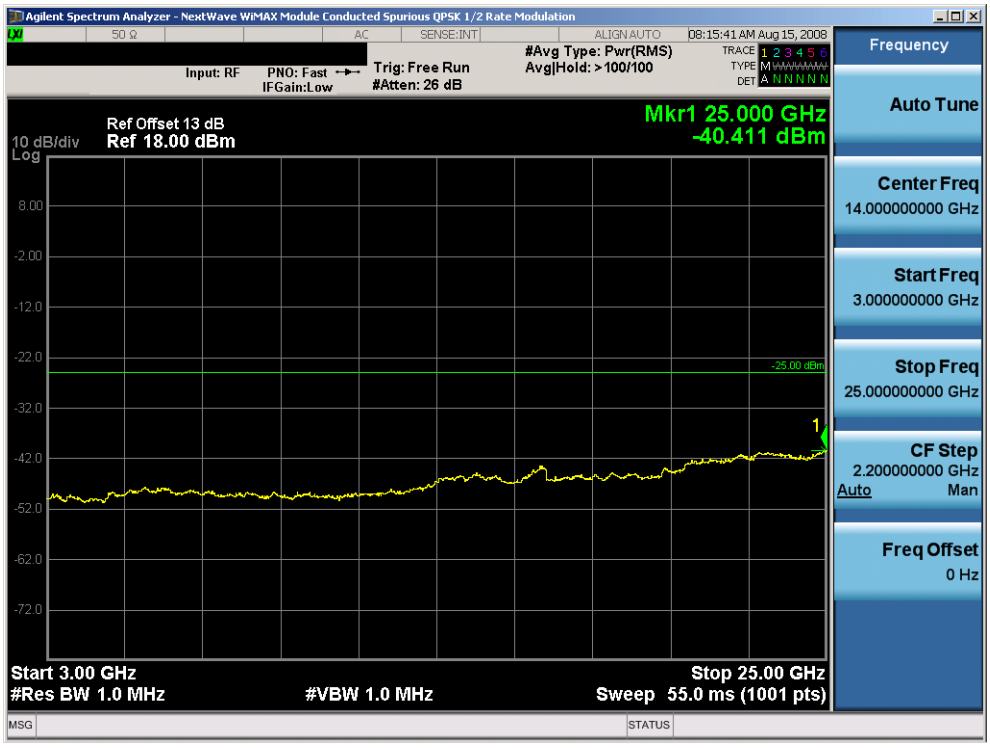
Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

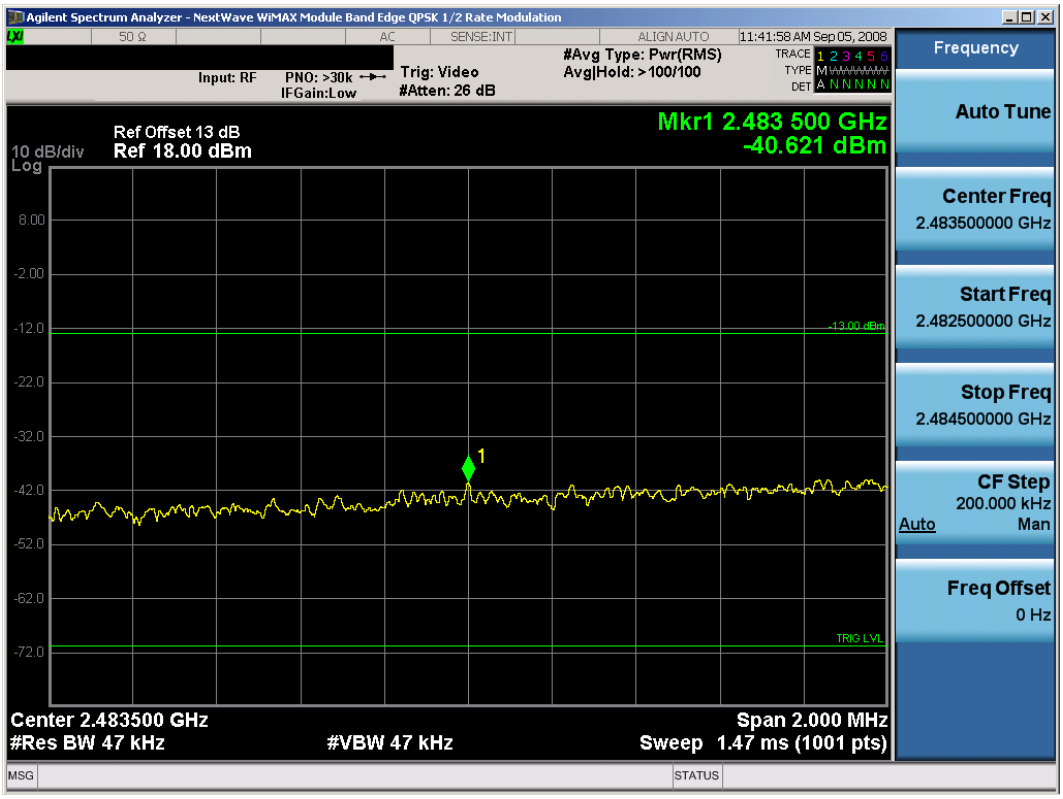
7.0 PLOTS OF EMISSIONS – 5MHZ BANDWIDTH



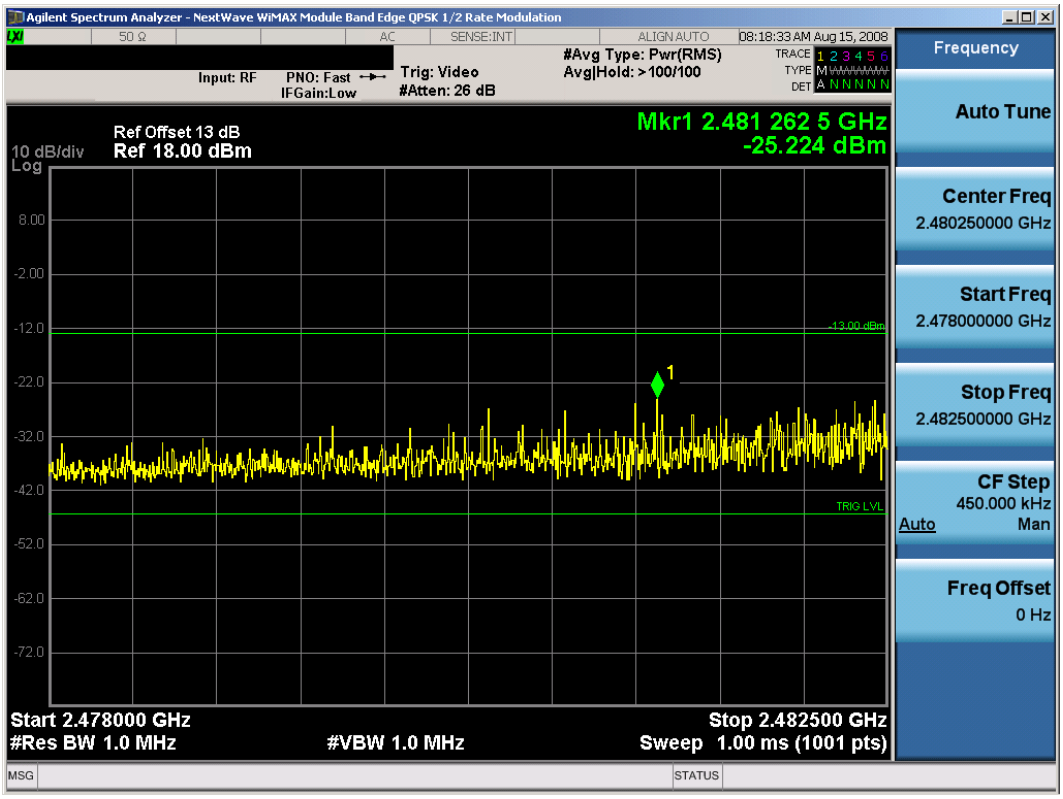
Plot 7-1. Conducted Spurious Plot (WiMAX Mode)



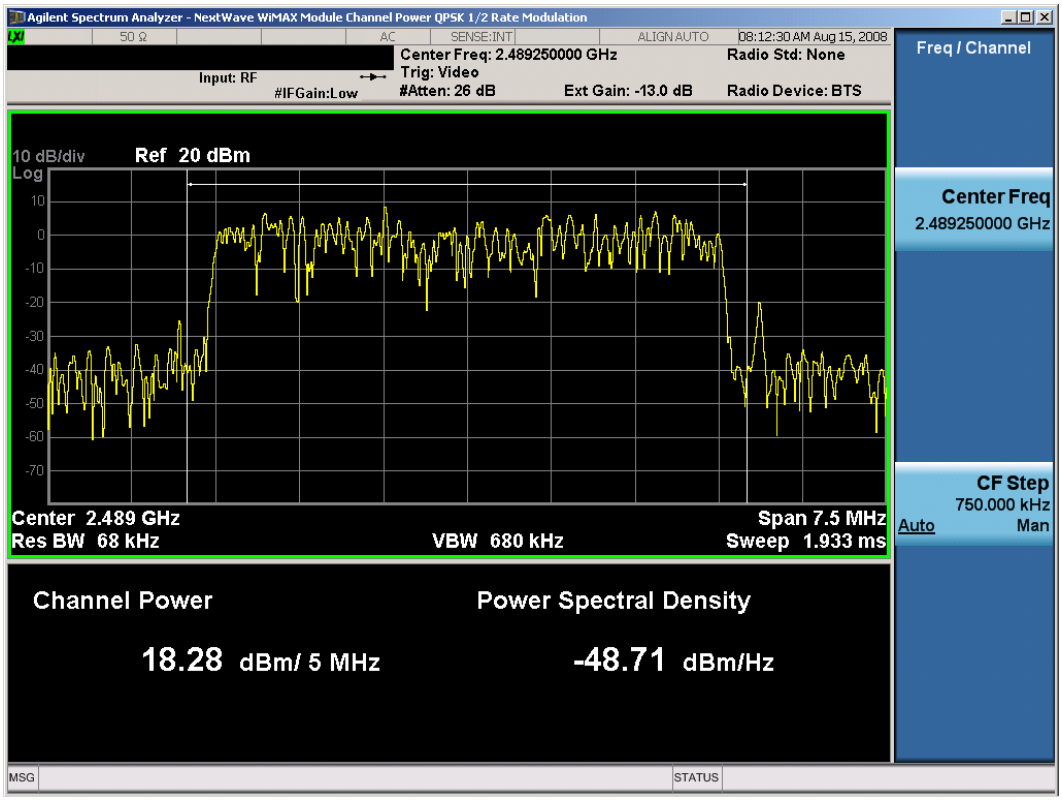
Plot 7-2. Conducted Spurious Plot (WiMAX Mode)



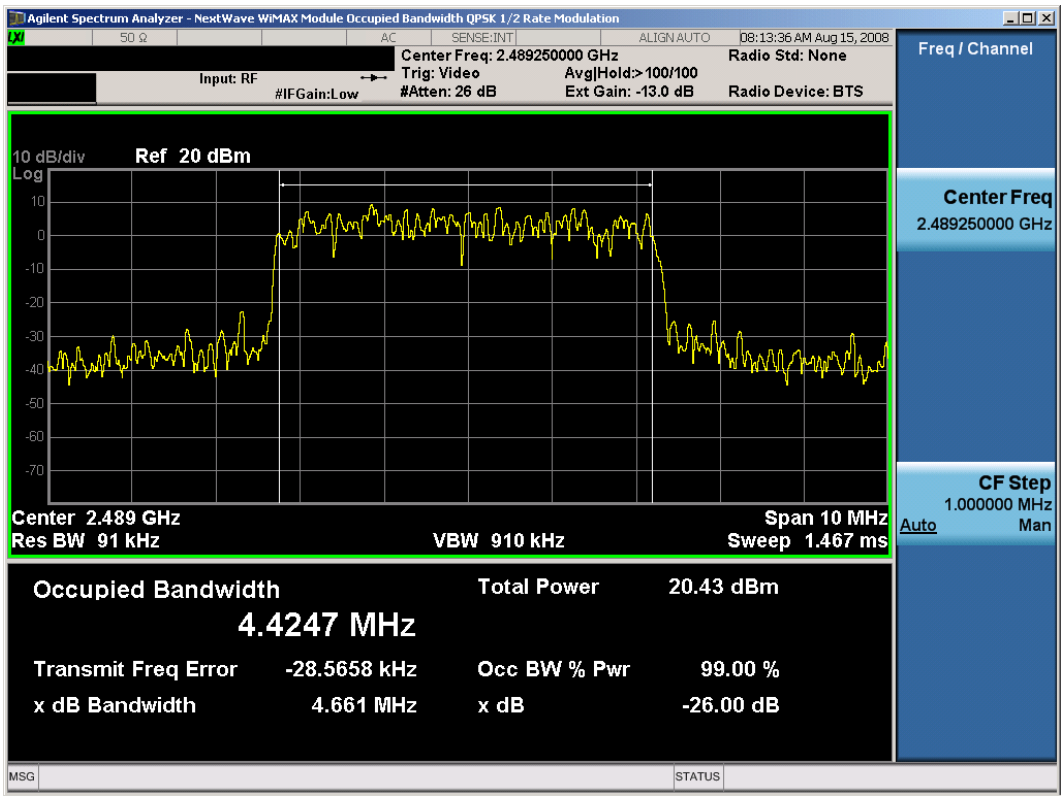
Plot 7-3. Lower Band Edge Plot (WiMAX Mode)



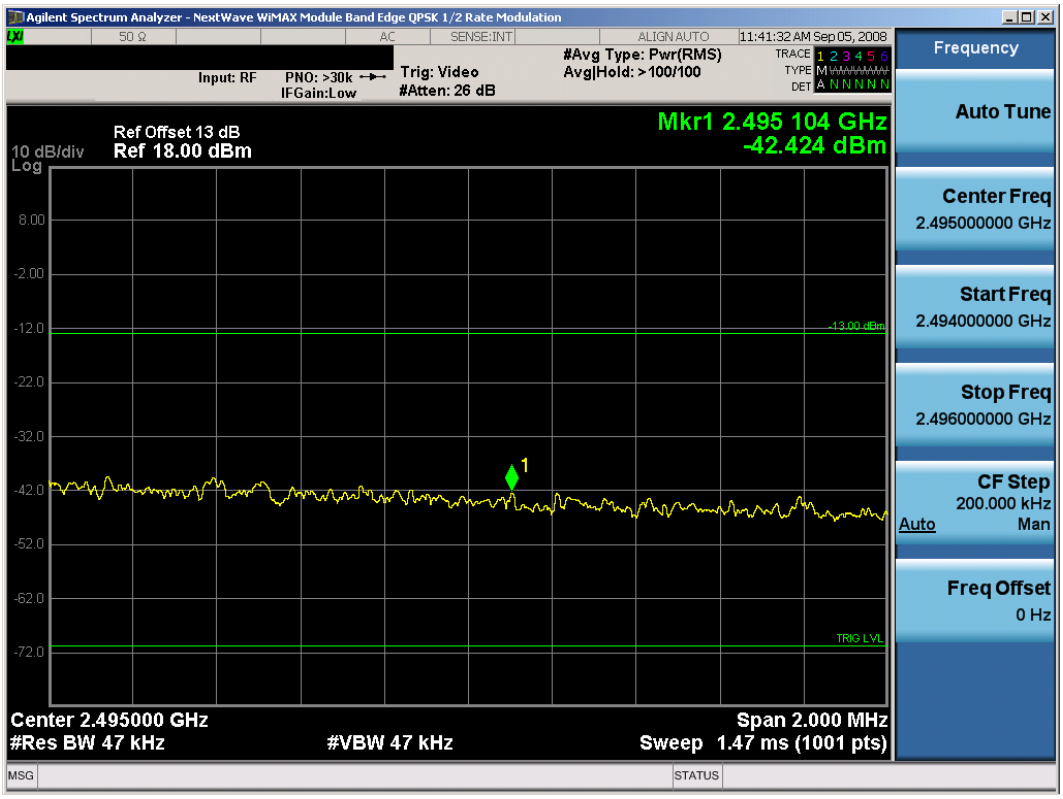
Plot 7-4. 5.5MHz Lower Band Edge Plot (WiMAX Mode)



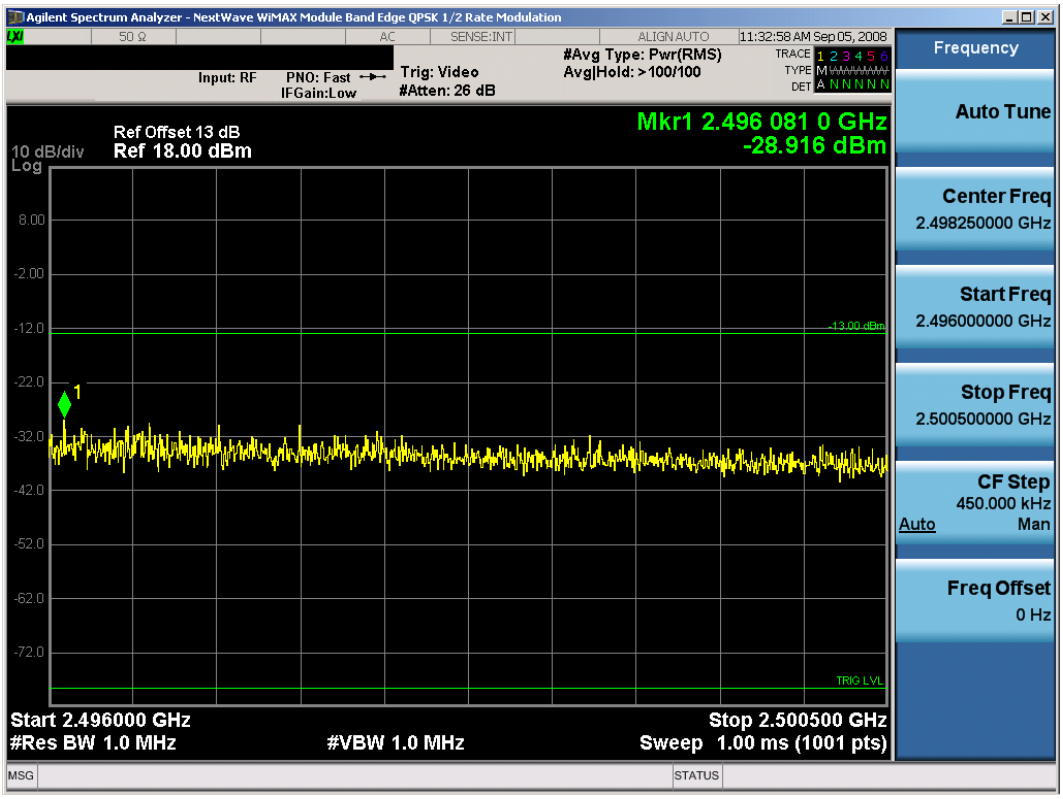
Plot 7-5. Channel Power Plot (WiMAX Mode)



Plot 7-6. Occupied Bandwidth Plot (WiMAX Mode)

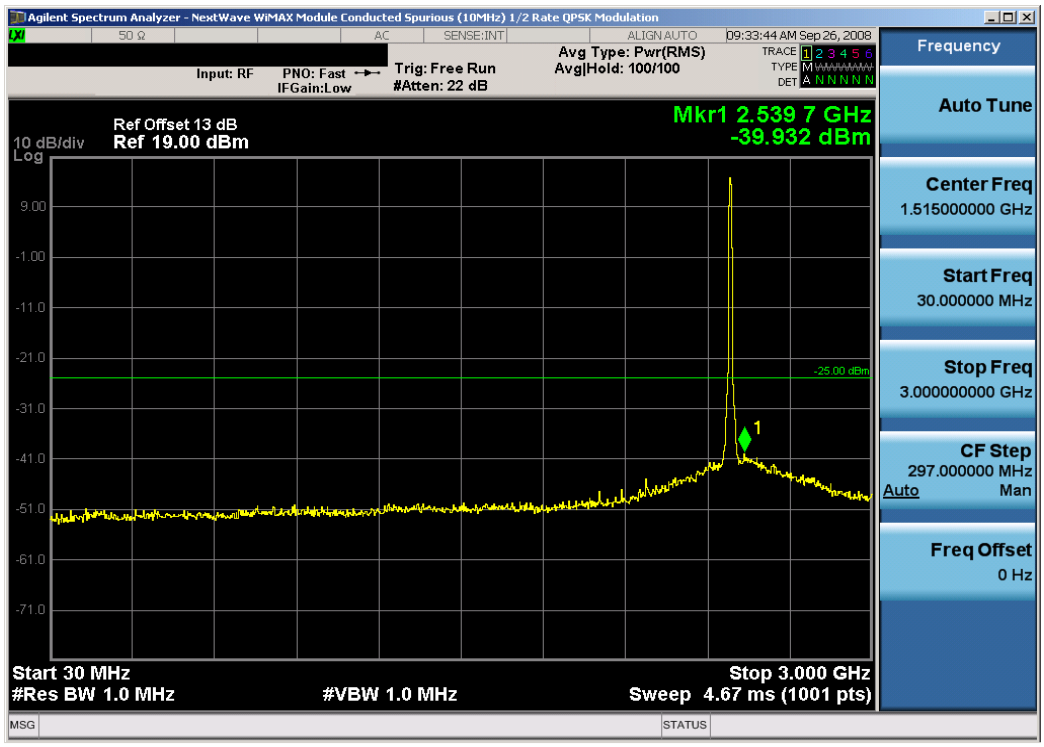


Plot 7-7. Upper Band Edge Plot (WiMAX Mode)

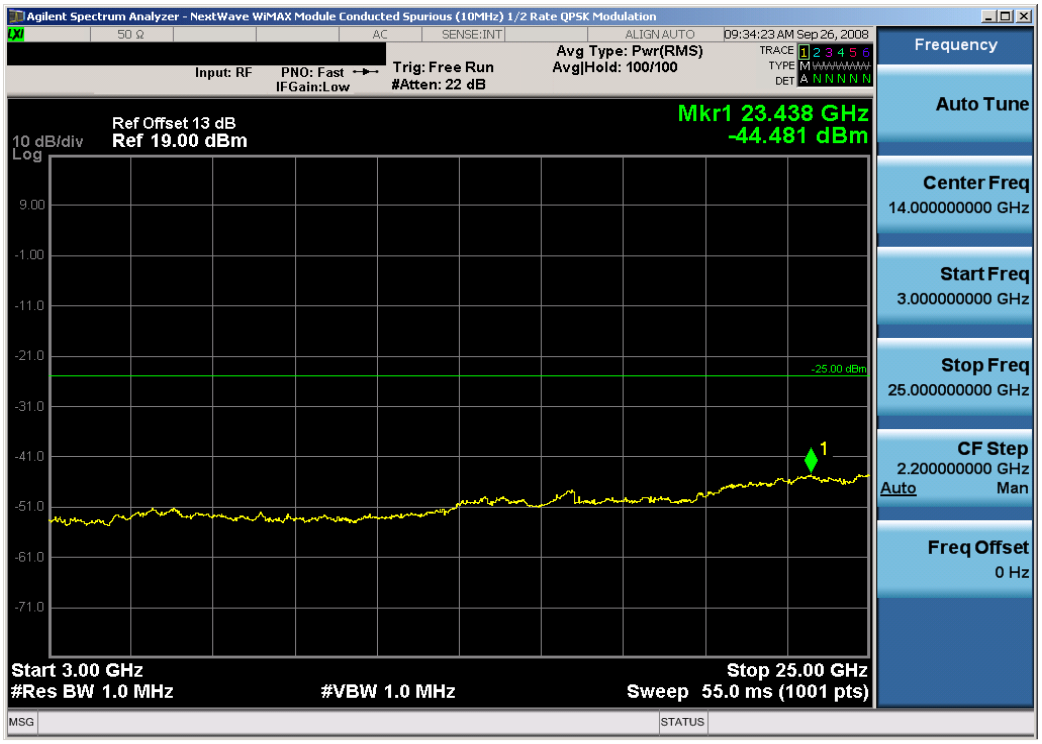


Plot 7-8. 5.5MHz Upper Band Edge Plot (WiMAX Mode)

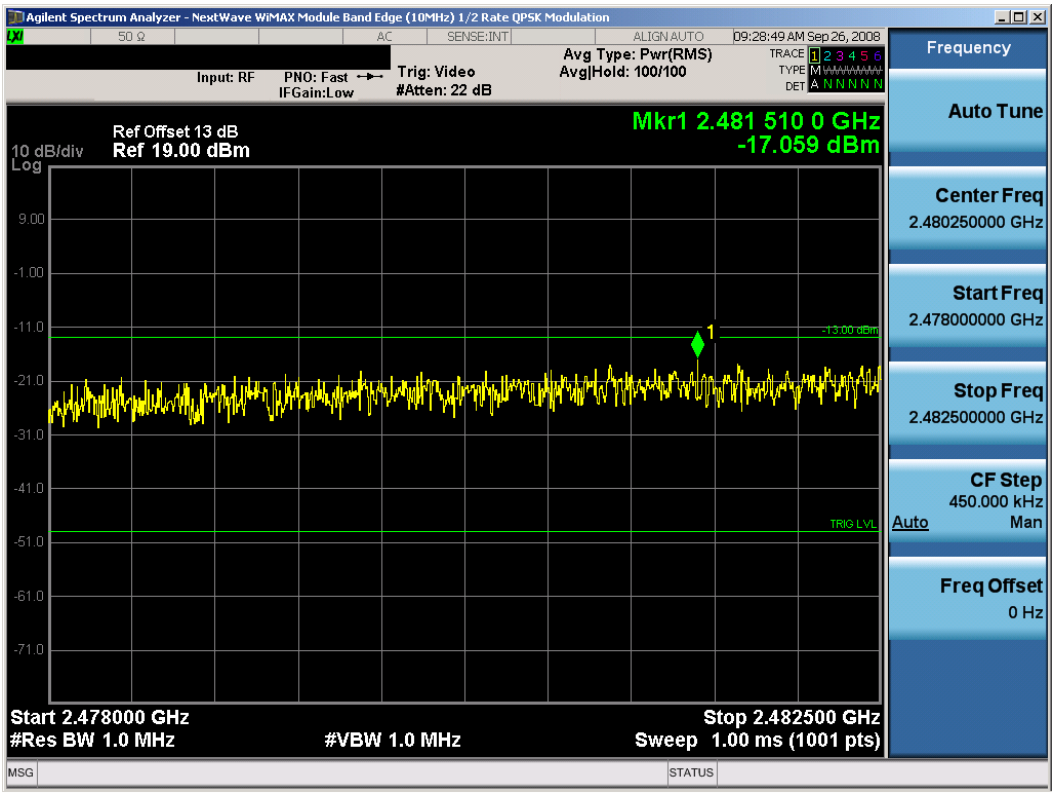
8.0 PLOTS OF EMISSIONS – 10MHZ BANDWIDTH



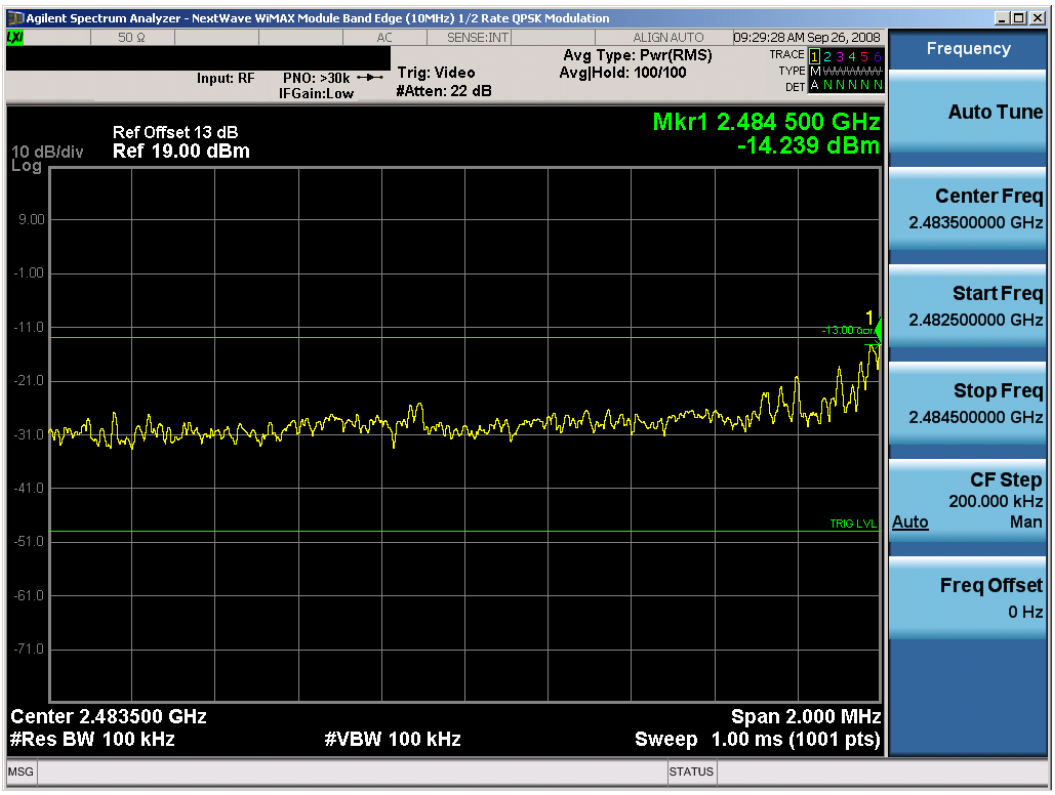
Plot 8-1. Conducted Spurious Plot (WiMAX Mode)



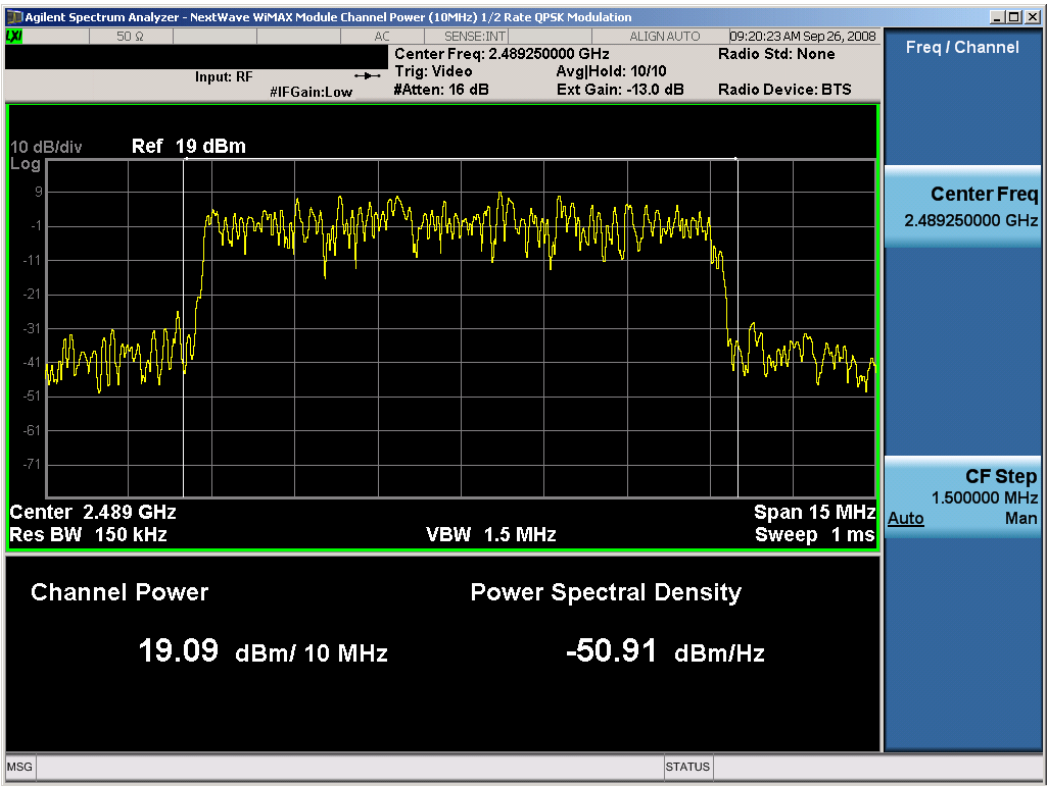
Plot 8-2. Conducted Spurious Plot (WiMAX Mode)



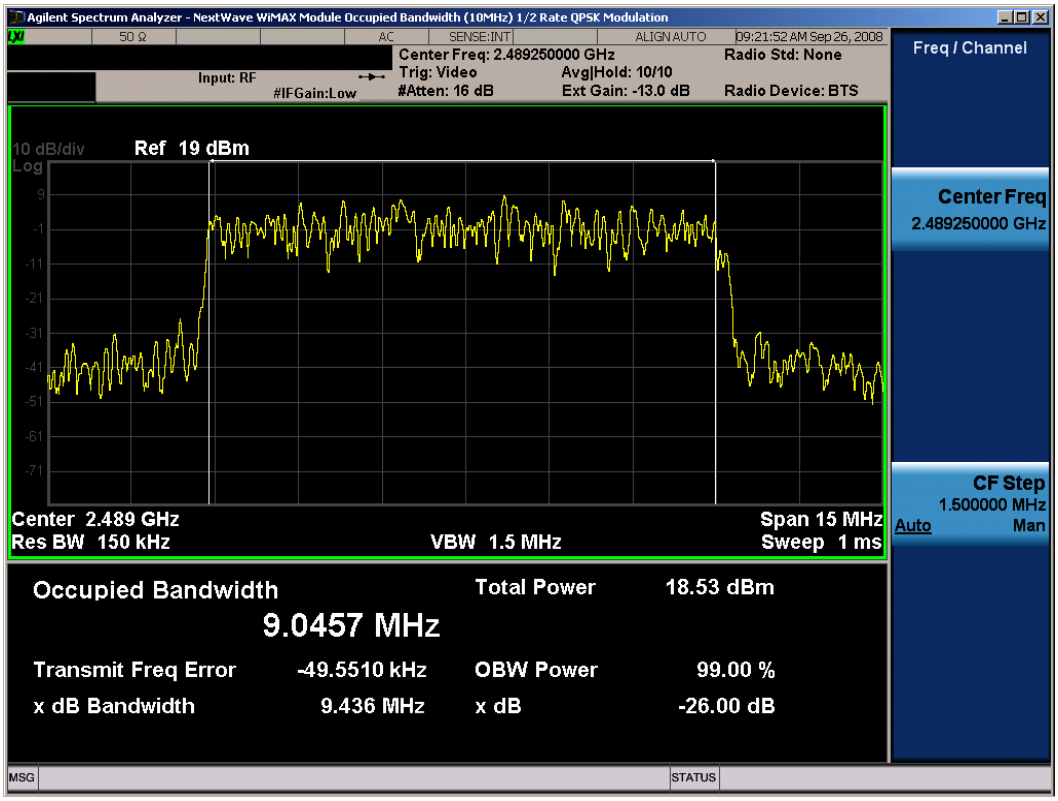
Plot 8-3. Lower Band Edge Plot (WiMAX Mode)



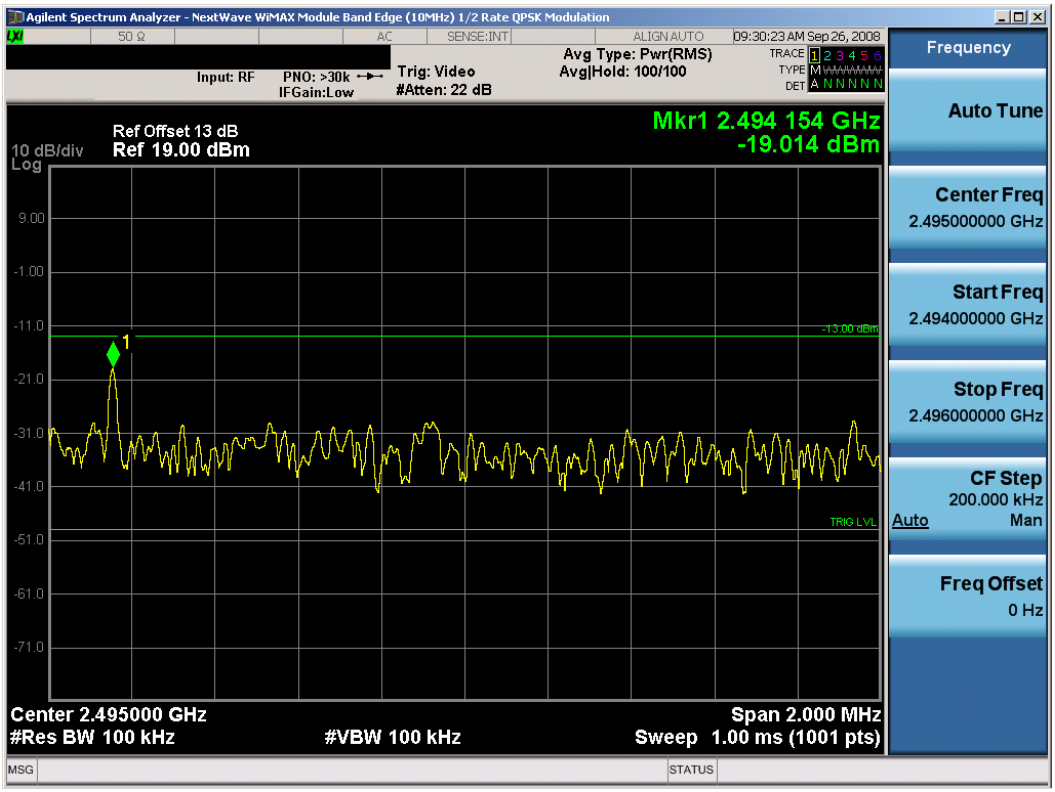
Plot 8-4. Lower Band Edge Plot (WiMAX Mode)



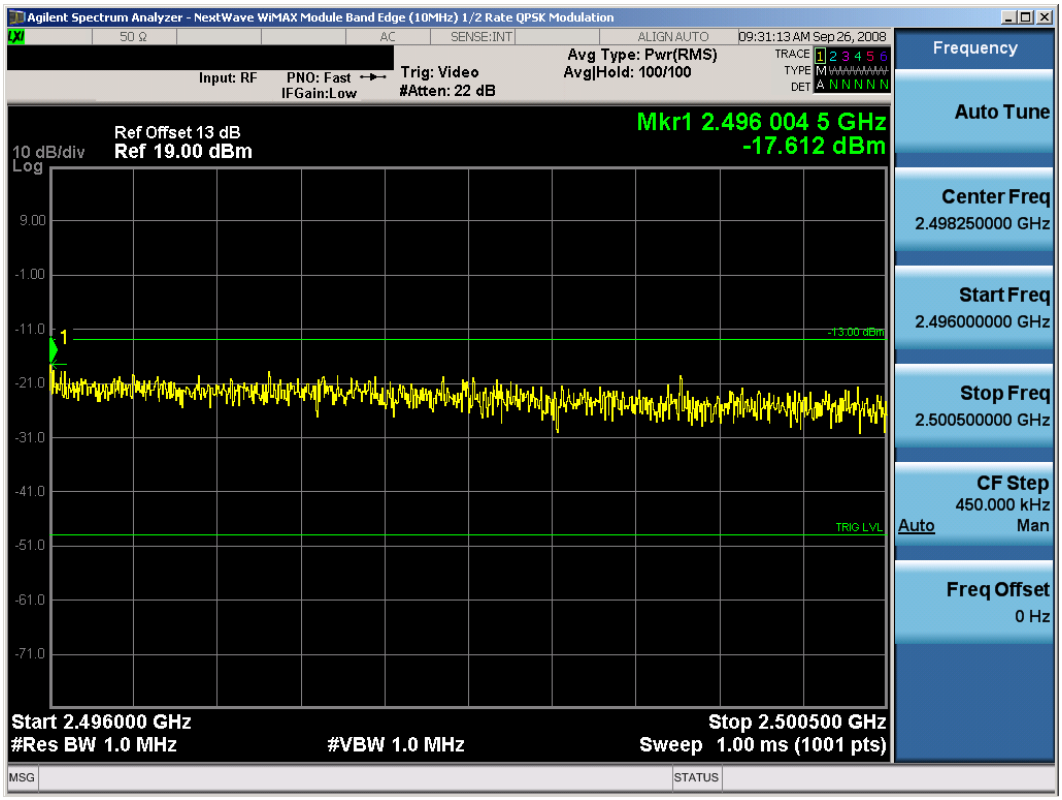
Plot 8-5. Channel Power Plot (WiMAX Mode)



Plot 8-6. Occupied Bandwidth Plot (WiMAX Mode)



Plot 8-7. Upper Band Edge Plot (WiMAX Mode)



Plot 8-8. Upper Band Edge Plot (WiMAX Mode)

9.0 CONCLUSION

The data collected show that the **NextWave WiMAX Transmitter FCC ID: WKH-BMX-SPT** complies with all the requirements of Parts 2, 25 and 27 of the FCC rules.