



Nemko USA, Inc.

Phone (858) 755-5525 Fax (858) 452-1810
11696 Sorrento Valley Rd., Suite F
San Diego, CA 92121-1024

Test Report: 2006 080695 FCC

Applicant: Broadcast Microwave Services
12367 Crosthwaite Circle Dock 10
Poway, CA 92064
(858) 391-3050 x147
(858) 391-3049 - fax

Equipment Under Test: Model: Truck-Coder II (TCII) Van Microwave System

FCC ID: CNVTCIAD-2

In Accordance With: FCC PART 2, FCC PART 74.637, PART 90.209

Tested By: Nemko USA Inc.
11696 Sorrento Valley Road
San Diego, CA 92121-1024

Date: March 2, 2007

Total Number of Pages: 45

DOCUMENT HISTORY

REVISION	DATE	COMMENTS	
-	March 2, 2007	Prepared By:	F.S.Custodio
-	March 2, 2007	Initial Release:	M. T. Krumweide

NOTE: Nemko USA, Inc. hereby makes the following statements so as to conform to Chapter 10 (Test Reports) Requirements of ANSI C63.4: 2003 "Methods and Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz":

- The unit described in this report was received at Nemko USA, Inc.'s facilities on August 2, 2006. Testing was performed on the unit described in this report on August 2, 2006 to January 5, 2006.
- The Test Results reported herein apply only to the Unit actually tested, and to substantially identical Units.
- This report does not imply the endorsement of the Federal Communications Commission (FCC), NVLAP or any other government agency.

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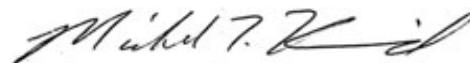
CERTIFICATION

Nemko USA, Inc., an independent Electromagnetic Compatibility (EMC) Test Laboratory, produced this Test Report and performed the Radio Frequency Interference (RFI) testing and data evaluation contained herein.

Nemko USA, Inc.'s measurement facility is currently registered with the United States Federal Communications Commission (FCC) in accordance with the provisions of 47 United States Code (CFR) Part 2, Subpart I, Section 2.948(a). A current description of Nemko USA, Inc.'s measurement facility is on file with the FCC. Nemko USA Inc. has additionally satisfied the FCC that it complies with the requirements set forth in 47 CFR Part 2, Subpart I, Section 2.948(d) regarding the accreditation of EMC laboratories. As a result, the FCC has placed Nemko USA Inc. on its list of EMC laboratories approved to perform Declaration of Conformity (DOC) procedure testing.

The RFI testing, test data collection and test data evaluation were accomplished in accordance with the ANSI C63.4: 2003 Standard, and in accordance with the applicable sections of the FCC rules (47 CFR Parts 2 and 18)." digital devices. The testing was also accomplished in accordance with Industry Canada's ICES-003 standard for unintentional radiating device per EMCAB-3, Issue 3 (May 1998). The administrative summary of this test report provides a description of the test sample

I hereby certify that the test data, test data evaluation, and equipment configurations used to compile this test report are a true and accurate representation of the test sample's radio frequency interference characteristics as of the test date(s), and, for the design of the test sample.



Mike T. Krumweide, EMC Test Supervisor

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22, Subpart H.

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	PASS
Modulation Characteristics	2.1047	AS REPORTED
Occupied Bandwidth	2.1049	PASS
Spurious Emissions at Antenna Terminals	2.1051	PASS
Field Strength of Spurious Emissions	2.1053	PASS
Frequency Stability	2.1055	PASS

Footnotes for 2.1047: EUT is a digitally modulated transmitter. Parts 74 and Part 90 do not express limits or pass/fail criteria for Modulation Characteristics.

Test Conditions:

Indoor Temperature: 19--22 °C
 Humidity: 40-50 %

Outdoor Temperature: 15--24 °C
 Humidity: 40-50 %

Section 2. General Equipment Specification**Manufacturer:**

Broadcast Microwave Services

Model No.:COFDM Digital/Analog ENG/OB Van
Microwave System**Serial No.:**145 (RF Unit)
134 (Controller)**Test Voltage:**115VAC 60Hz for the Controller (48VDC to RF
Unit coming from the Controller)**Frequency Range:**

1.99475GHz to 2.49625GHz

Date Received In Laboratory:

August 2, 2006

Nemko Identification No.:

26-695-BRO

Section 3. RF Power Output

Para. No.: 2.1046(c)

Test Performed By: F. S. Custodio	Date of Test: 11-20-06
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Minimum Standard: Subpart F--Television Broadcast Auxiliary Stations
Sec. 74.636 Power limitations.

(a) *On any authorized frequency, transmitter peak output power and the average power delivered to an antenna in this service must be the minimum amount of power necessary to carry out the communications desired and shall not exceed the values listed in the following table. Application of this principle includes, but is not to be limited to, requiring a licensee who replaces one or more of its antennas with larger antennas to reduce its antenna input power by an amount appropriate to compensate for the increased primary lobe gain of the replacement antenna(s). In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the values specified in the following table. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of this station. The table follows:*

Frequency Band (MHz)	Maximum allowable transmitter power	Maximum allowable EIRP ²	
		Fixed (dBW)	Mobile (dBW)
2,025 to 2,110	12.0	+45	+35
2,450 to 2,483.5	12.0	+45	+35
6,425 to 6,525	12.0		+35
6,875 to 7,125	12.0	+55	+35
12,700 to 13,250	1.5	+55	+35
17,700 to 18,600		+55	
18,600 to 18,800 ¹		+35	
18,800 to 19,700		+55	

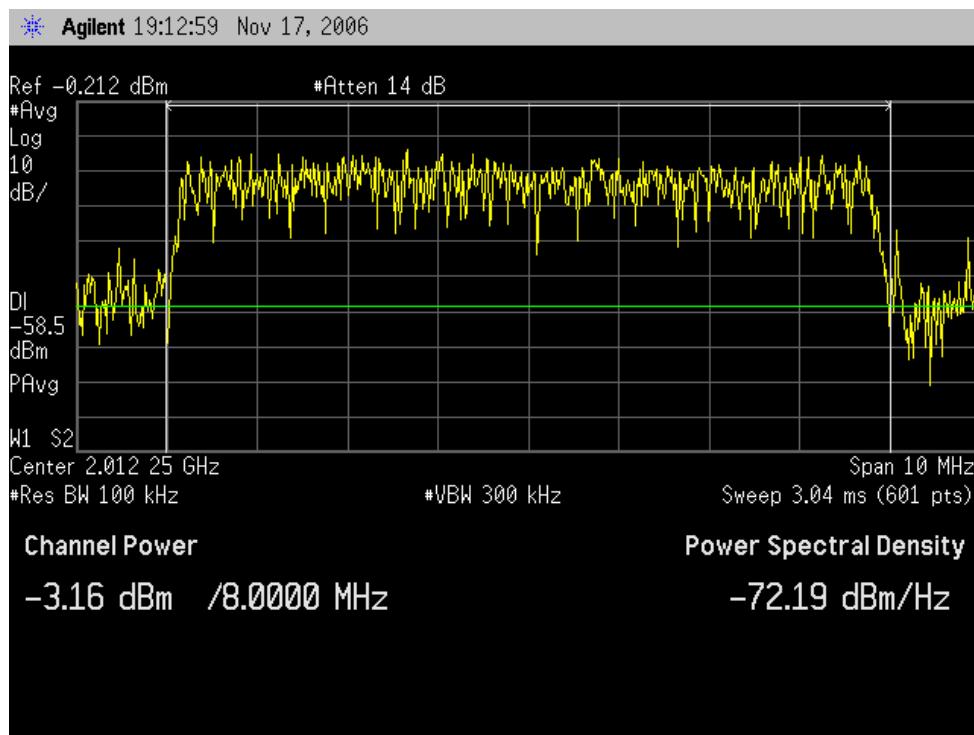
¹ The power delivered to the antenna is limited to -3 dBW.

² Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

Test Results: EUT complies

Test Conditions:

Measured both Digital (COFDM) and Analog (FM) modes using US 12 MHz and 17 MHz BAS channel plans. For each channel there are corresponding three (3) sub channels referred here as Low, Mid and High channels. RF setting set to High using Bars and Tone. Peak power was measured using HP 8900D through a 40dB attenuator. Peak power meter adjusted to corresponding reading offset and correction. Average power was measured using Agilent E4440A PSA Series Spectrum Analyzer thru the same 40 dB attenuator at the antenna terminal using Channel Power mode with reference level optimized. Detector is set to Average, RBW is 100 KHz, VBW is 300 KHz and Integ BW set to corresponding bandwidth. A correction factor of 0.65 is added for the cable used. For Analog (FM) average power measurements, several single sweep plots are taken until maximum reading is recorded.



Measurement Data:

17Mhz Digital						
Channel	LOW		MID		HIGH	
	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)
1	22.8	5.24	22.3	5.26	22.4	5.21
2	22.7	5.61	22.5	5.43	22.7	5.26
3	22.6	5.33	22.5	5.48	22.6	5.47
4	22.7	5.48	22.5	5.46	22.5	5.47
5	22.7	5.47	22.5	5.45	22.6	5.46
6	22.6	5.41	22.5	5.51	22.5	5.52
7	22.7	5.53	22.8	5.37	22.8	5.46
8	22	4.99	22	4.94	22.1	4.99
9	22.1	4.74	22	4.74	22.1	4.79
10	22.3	4.86	22.5	4.78	22.6	4.76

12Mhz Digital						
Channel	LOW		MID		HIGH	
	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)
1	23.2	5.27	23.2	5.33	23	5.25
2	23	5.37	23.1	5.56	23.1	5.36
3	23.1	5.30	23.1	5.47	23	5.50
4	23.1	5.57	23	5.52	22.9	5.52
5	22.9	5.53	22.8	5.43	22.7	5.45
6	22.8	5.60	22.8	5.61	22.8	5.53
7	22.8	5.55	22.8	5.60	22.8	5.62

17Mhz Analog						
Channel	LOW		MID		HIGH	
	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)
1	6.3	6.22	6.3	6.19	6.4	6.28
2	6.4	6.32	6.4	6.22	6.4	6.24
3	6.5	6.43	6.4	6.27	6.5	6.30
4	6.5	6.35	6.7	6.52	6.7	6.52
5	6.7	6.47	6.6	6.41	6.6	6.40
6	6.5	6.27	6.6	6.40	6.6	6.35
7	6.8	6.52	6.8	6.64	6.8	6.67

12Mhz Analog						
Channel	LOW		MID		HIGH	
	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)	Peak(watts)	Ave(watts)
1	6.5	5.70	6.4	6.31	6.5	6.41
2	6.5	6.41	6.4	6.44	6.4	6.17
3	6.5	6.11	6.6	6.41	6.6	5.94
4	6.6	6.08	6.6	6.46	6.6	6.32
5	6.6	6.08	6.6	6.32	6.7	6.34
6	6.7	6.08	6.8	6.41	6.8	6.17
7	6.8	6.61	6.9	6.28	6.9	6.44

Section 4. Modulation Characteristics**Para. No.: 2.1047**

Test Performed By: Ferdinand S. Custodio	Date of Test: 08-07-2006
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Minimum Standard: Part 74, Part 90**Test Results:** As Reported. Conducted emission plots captured on the Spectrum Analyzer thru a 40 dB attenuator.**Measurement Data:** See attached plots to exemplify the four modes of modulation:

Modulation modes are QPSK, 16QAM, 64QAM and FM. All measurements are done on both Digital and Analog Mode. For digital measurements, the mode QPSK was used as it offers the highest Tx robustness among the three. Modulation mode (Digital) has no effect for spurious, power or frequency stability measurements.

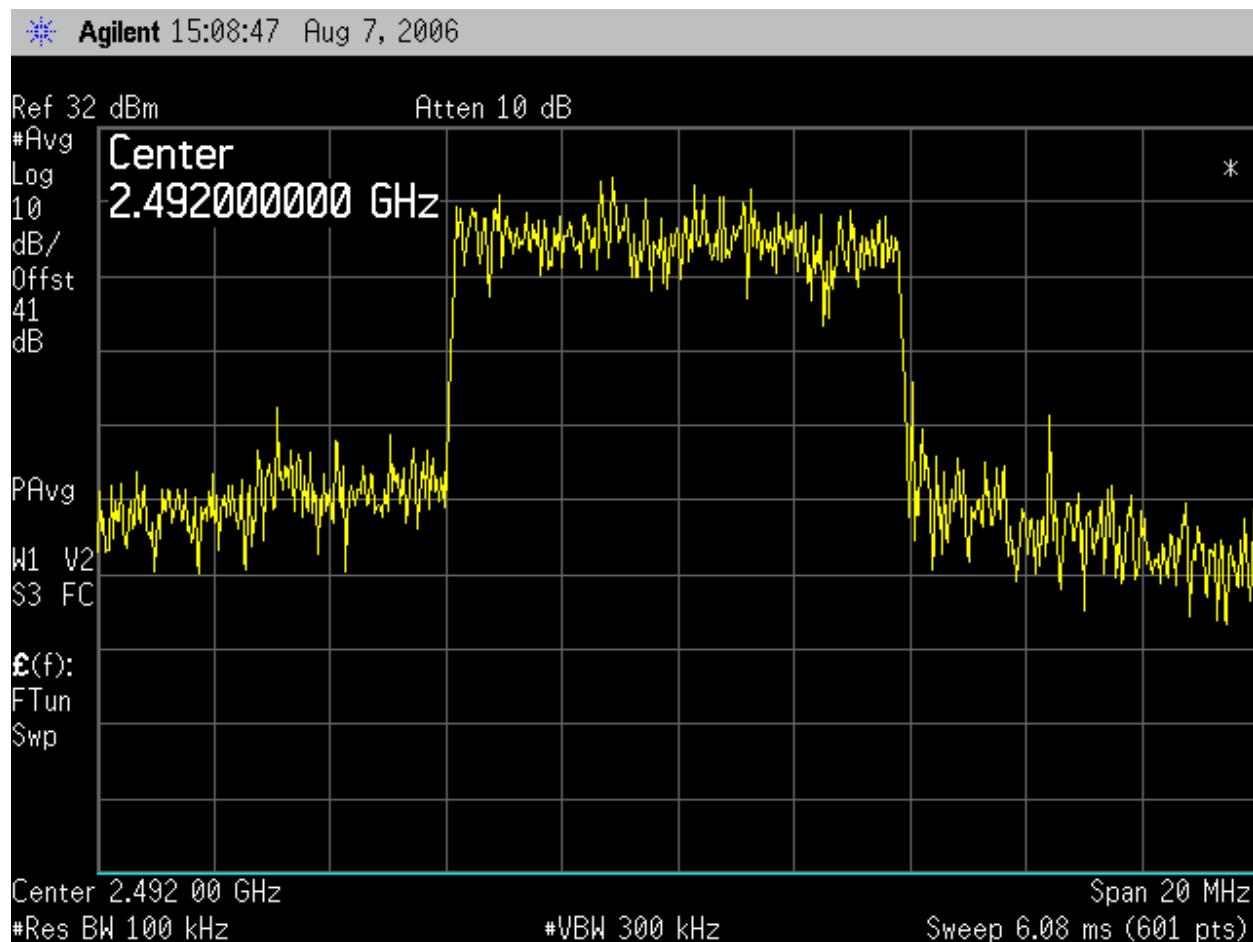
Audio frequency response and modulation limiting for conventional analogue FM modulation of the EUT is described in detail under attached exhibit: Report – Audio Response.

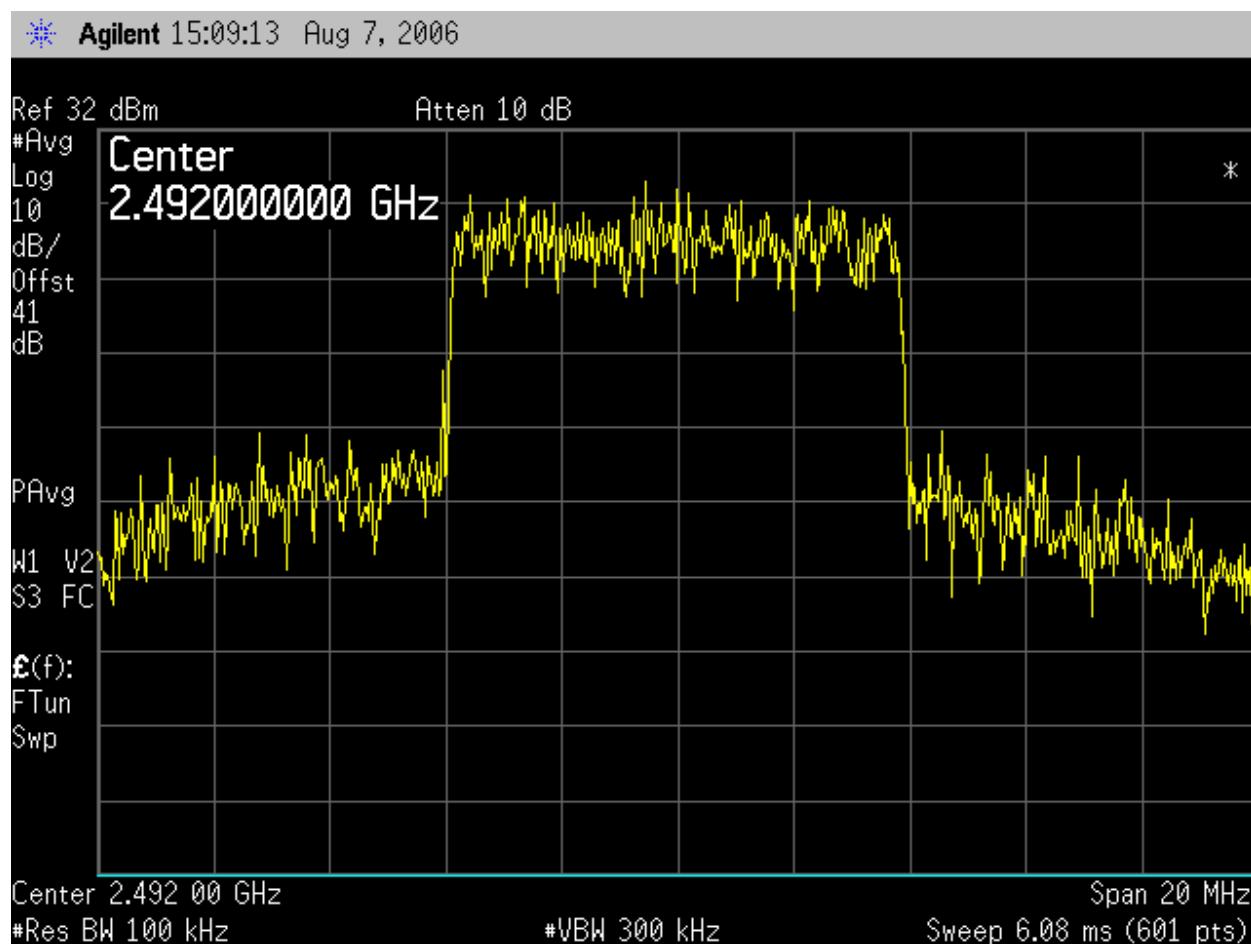
Nemko USA Inc.

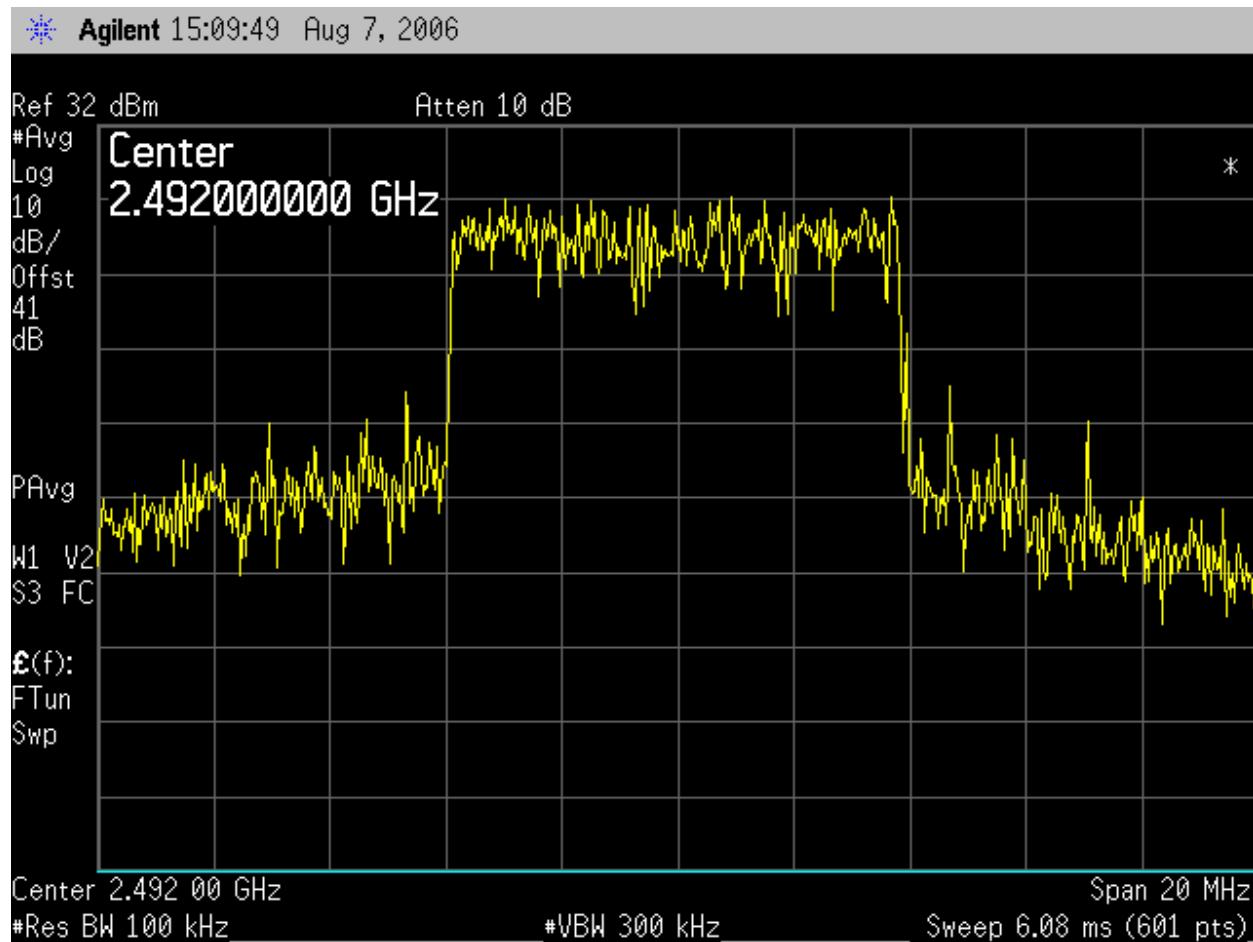
EQUIPMENT: Truck-Coder II (TCII)

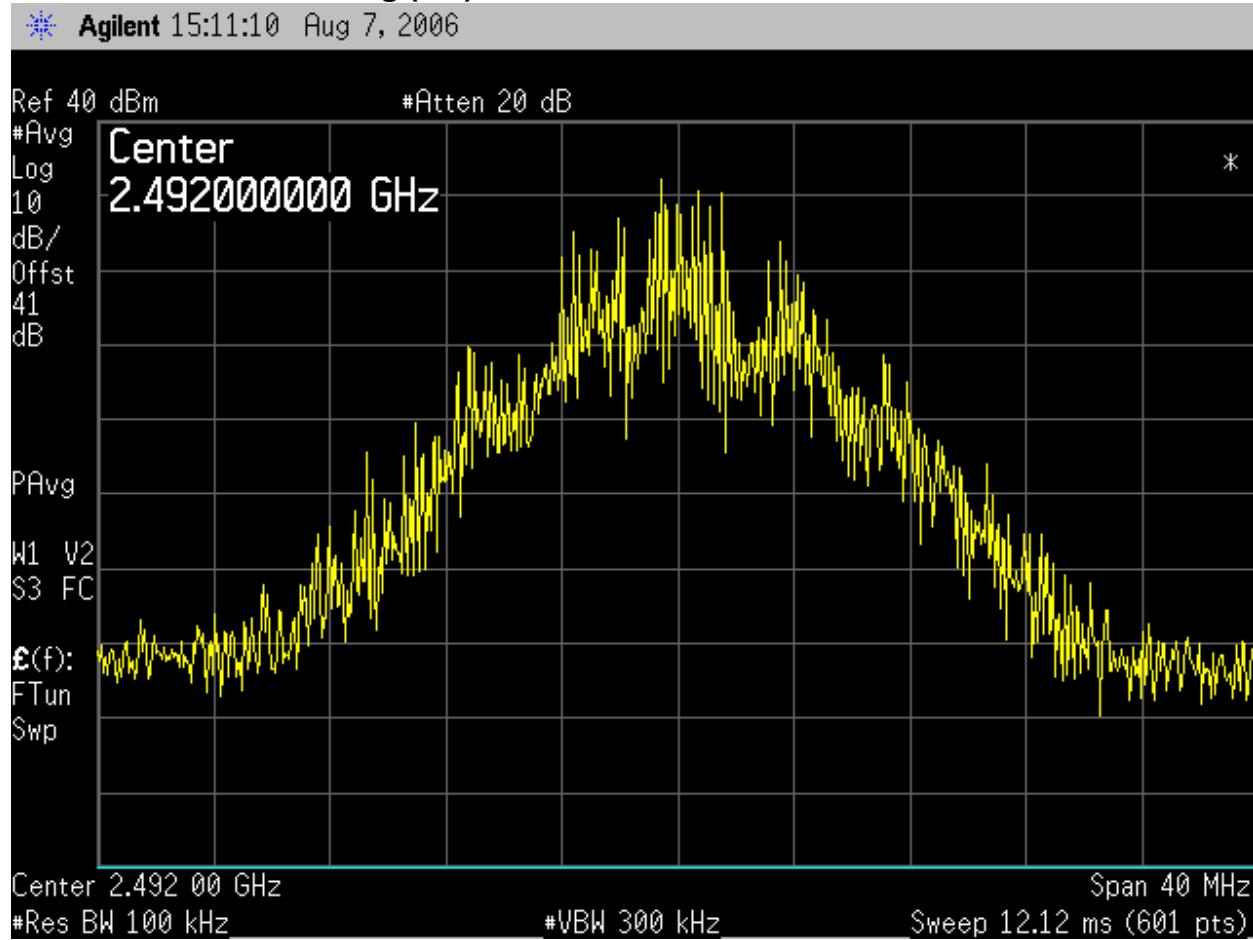
REPORT NO.: 2006 080695 FCC

Modulation Mode: 64QAM



Modulation Mode: 16QAM

Modulation Mode: QPSK

Modulation Mode: Analog (FM)

Section 5. Occupied Bandwidth**Para. No.: 2.1049**

Test Performed By: Ferdinand Custodio	Date of Test: Nov. 20, 2006
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Minimum Standard: Part 74.637 (g) and 90.209 (a) Occupied/Authorized bandwidth.

Maximum authorized bandwidth

Frequency Band (MHz) (MHz)

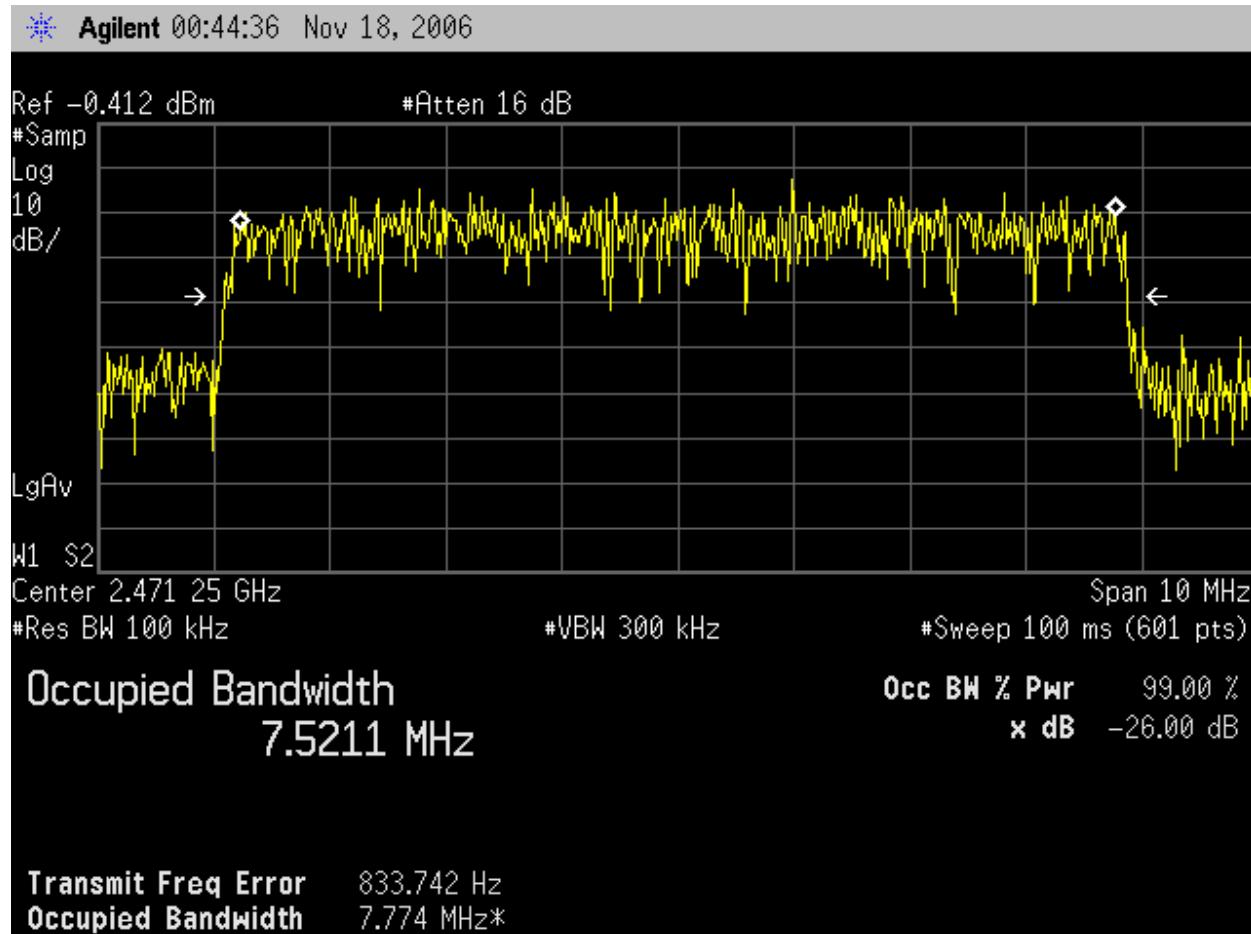
1,990 to 2,110.....	18
2,450 to 2,500.....	Note 2 of 90.209(b)(5)

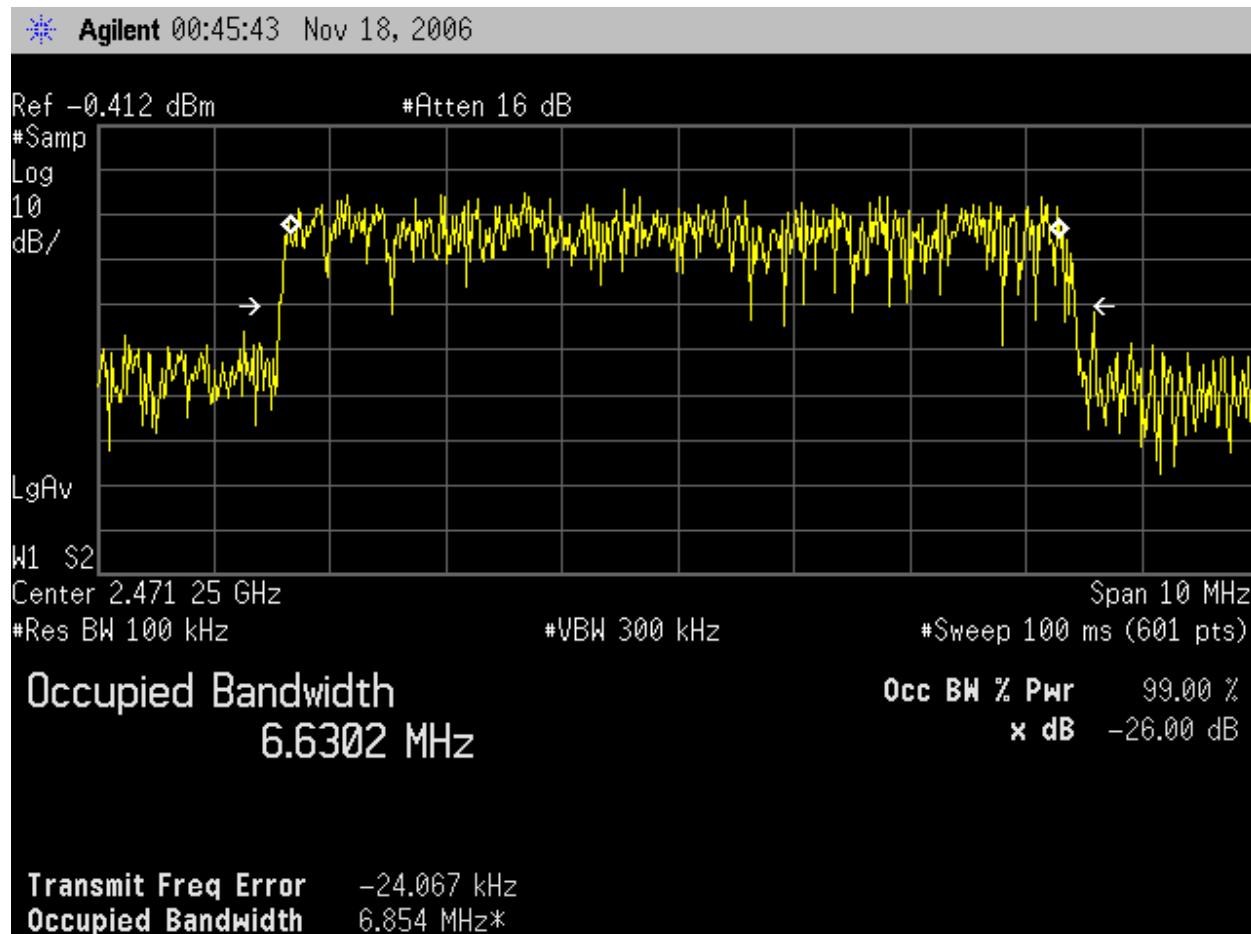
121 Bandwidths for radiolocation stations in the 420-450 MHz band and for stations operating in bands subject to this footnote will be reviewed and authorized on a case-by-case basis.

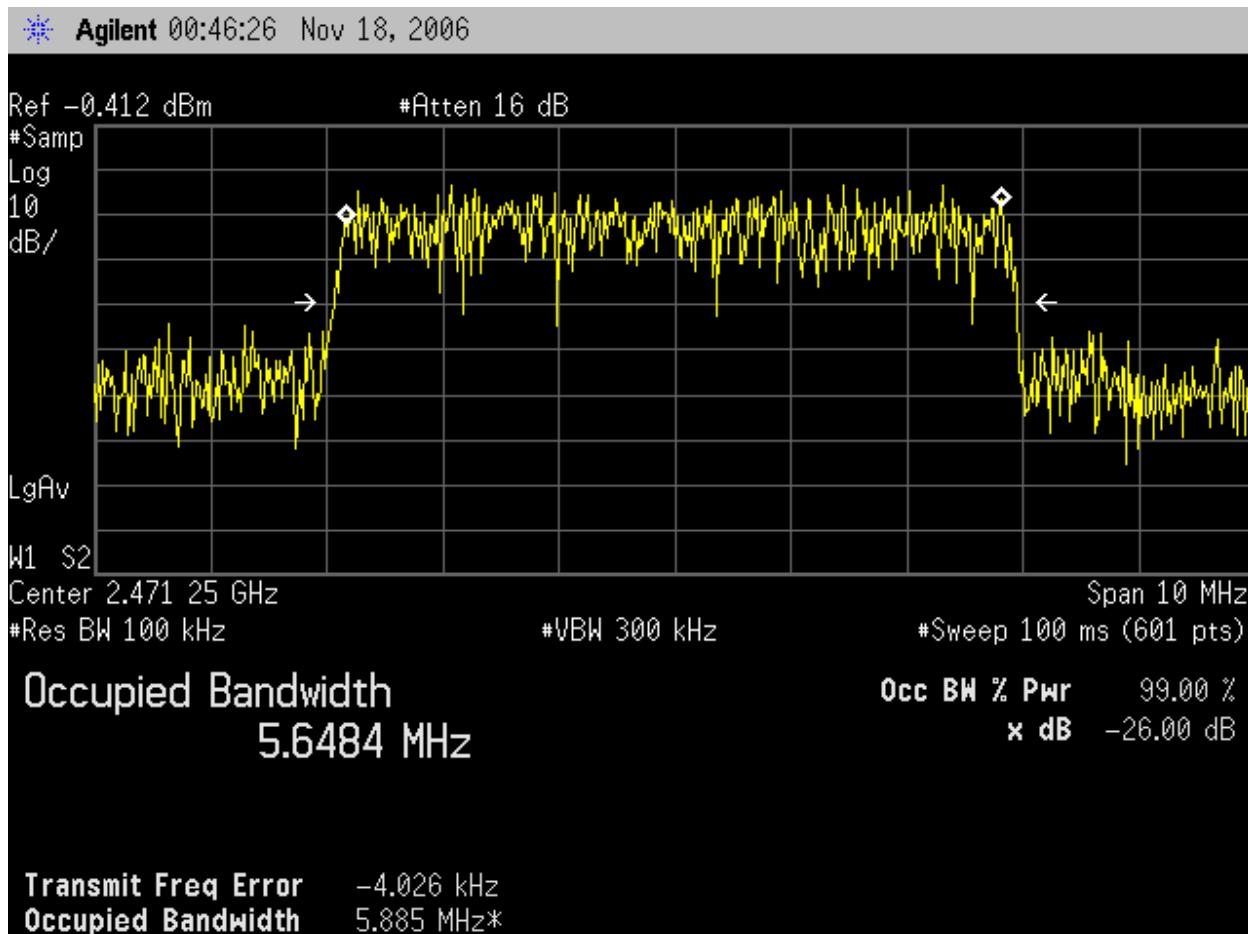
Test Results: EUT Complies. Conductive emission plots captured on the Spectrum Analyzer thru a 40 dB attenuator.

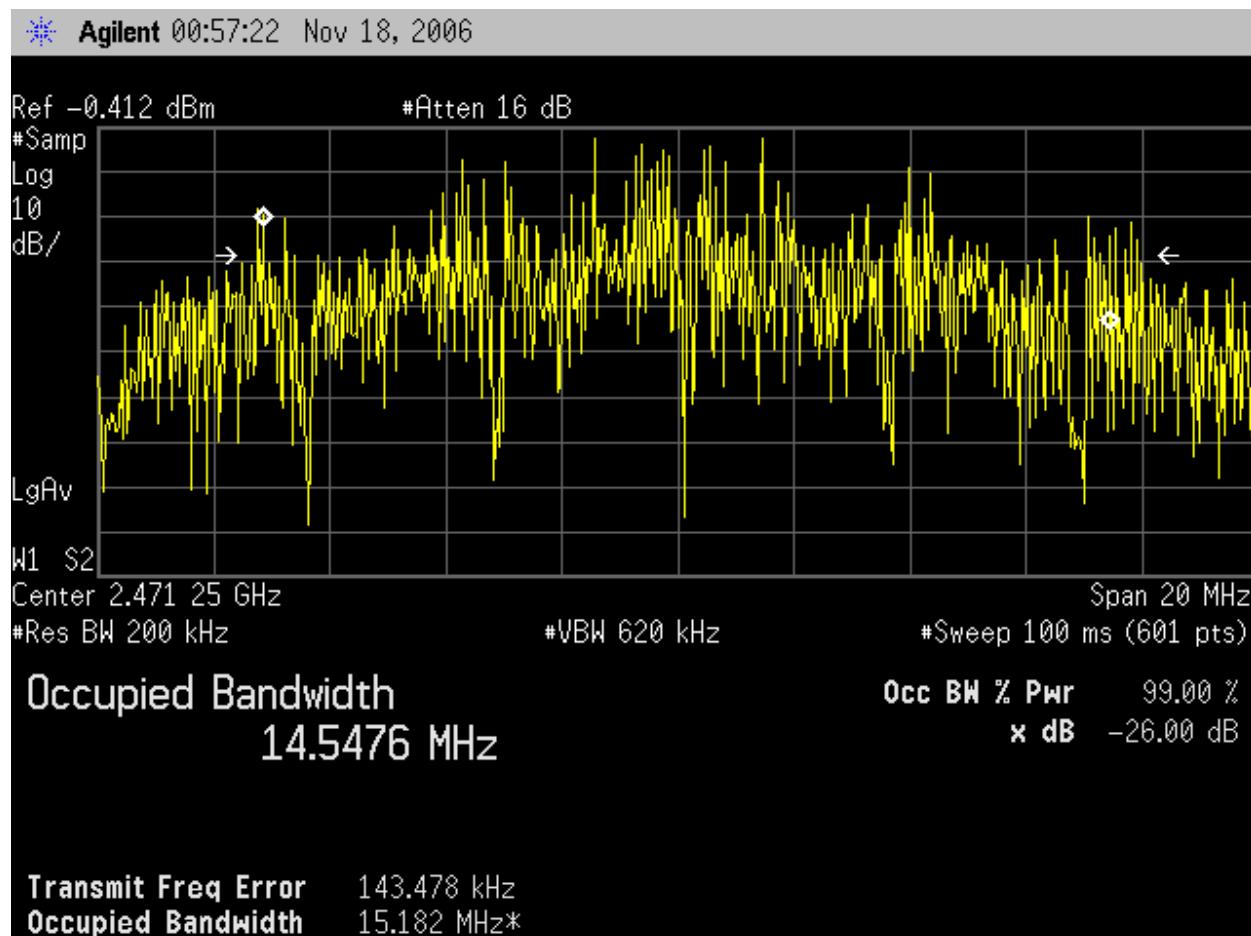
Test Data: See attached plots. The EUT has a selectable RF Bandwidth of 6, 7 and 8MHz under Digital (COFDM) setup. The EUT was investigated using 17 MHz and 12 MHz Channel Plans both Digital and Analogue. The resulting plots submitted here represent each bandwidth since identical results were obtained on all configurations represented.

Analogue and composite video signal used for testing is described in detail under attached exhibit: Report – Video Modulation

17MHz Channel Plan Digital 8MHz Bandwidth

17MHz Channel Plan Digital 7MHz Bandwidth

17MHz Channel Plan Digital 6MHz Bandwidth

17MHz Channel Plan Analogue 15MHz Bandwidth

Section 6. Spurious Emissions At Antenna Terminals**Para. No.: 2.1051**

Test Performed By: Ferdinand Custodio	Date of Test: August 4, 2006 and January 5, 2007
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Minimum Standard: Part 74.637 Emissions and emission limitations

(a) *The mean power of emissions shall be attenuated below the mean transmitter power (P_{MEAN}) in accordance with the following schedule:*

(1) *When using frequency modulation:*

(i) *On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB in any 100 kHz reference bandwidth (B_{REF});*

(ii) *On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB in any 100 kHz reference bandwidth;*

(iii) *On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least $43 + 10 \log_{10} (P_{MEAN} \text{ in watts})$ dB, or 80 dB, whichever is the lesser attenuation, in any 100 kHz reference bandwidth.*

(2) *When using transmissions employing digital modulation techniques:*

(i) *For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:*

$$A = 35 + 0.8 (G - 50) + 10 \log_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

(c) *For purposes of compliance with the emission limitation requirements of this section:*

(3) *For demonstrating compliance with the attenuation requirements for frequency modulation and digital modulation in paragraph (a) of this section, the resolution bandwidth (B_{RES}) of the*

measuring equipment used for measurements removed from the center frequency by more than 250 percent of the authorized bandwidth shall be 100 kHz for operating frequencies below 1 GHz, and 1 MHz for operating frequencies above 1 GHz. The resolution bandwidth for frequencies removed from the center frequency by less than 250 percent of the authorized bandwidth shall be the reference bandwidth (B_{REF}) specified in the individual emission limitations, but may be reduced to not less than one percent of the authorized bandwidth (B), adjusted upward to the nearest greater resolution bandwidth available on the measuring equipment. In all cases, if B_{RES} and B_{REF} are not equal, then the attenuation requirement must be increased (or decreased) as determined by a factor of $10 \log_{10} [(B_{REF} \text{ in megahertz})/(B_{RES} \text{ in megahertz})]$ decibels, where a positive factor indicates an increase in the attenuation requirement and a negative factor indicates a decrease in the attenuation requirement.

Test Results:

EUT Complies. Conductive emission plots captured on the Spectrum Analyzer thru a 41.5 dB attenuator.. Emissions were investigated from 30 MHz to 25 GHz .

Test Data:

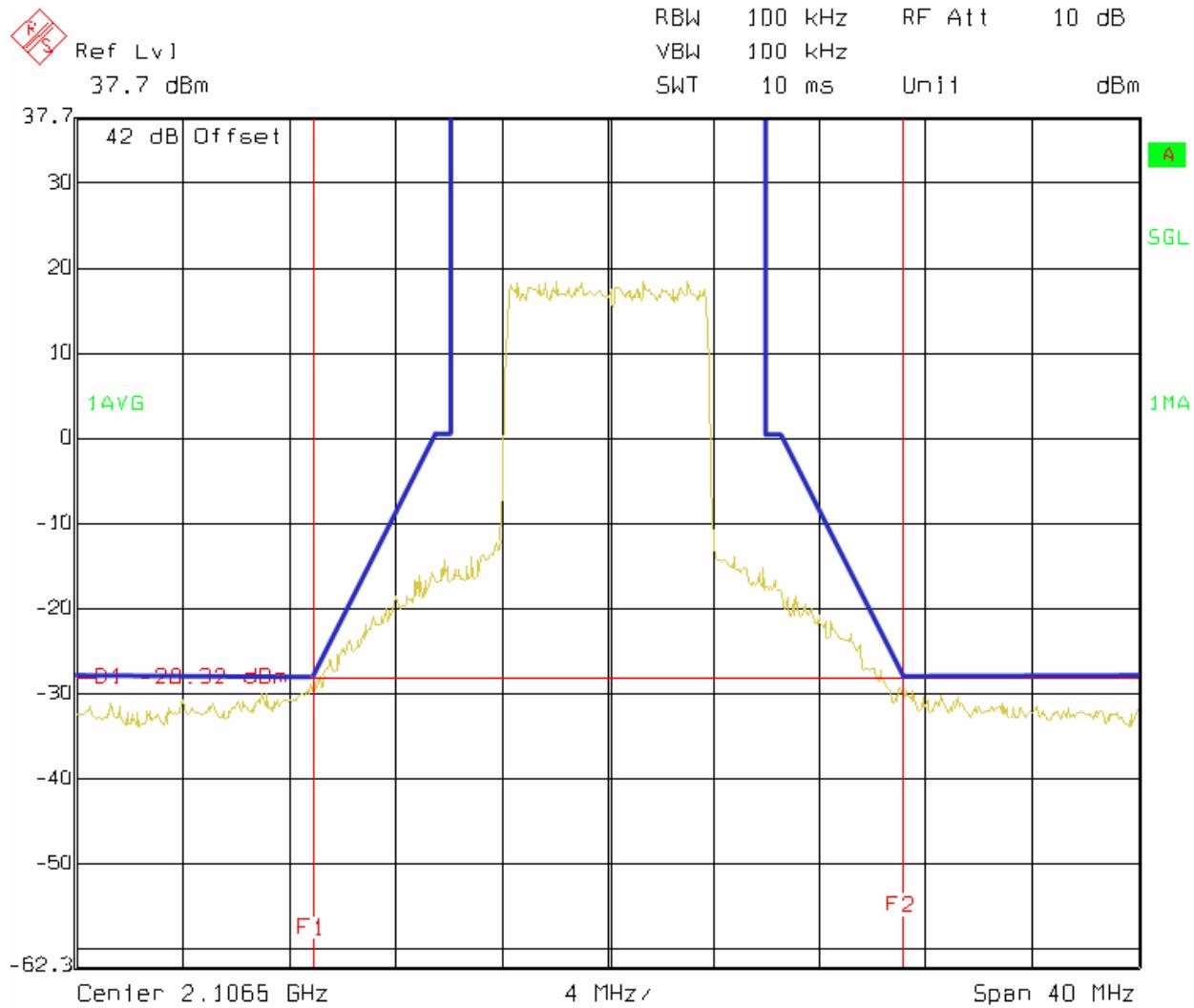
See attached Plots (balance in Appendix).

Analogue and composite video signal used for testing is described in detail under attached exhibit: Report – Video Modulation

Additional Observations:

Out of band spurious emissions recorded on page 24, 25 and 26 while below the limits were verified not coming from the EUT. These spurious emissions were present even when the EUT was turned off.

Emission Mask Endpoints Part 74.637(C)(3):
BW = 12 MHz, REF LVL = Mean Output Power

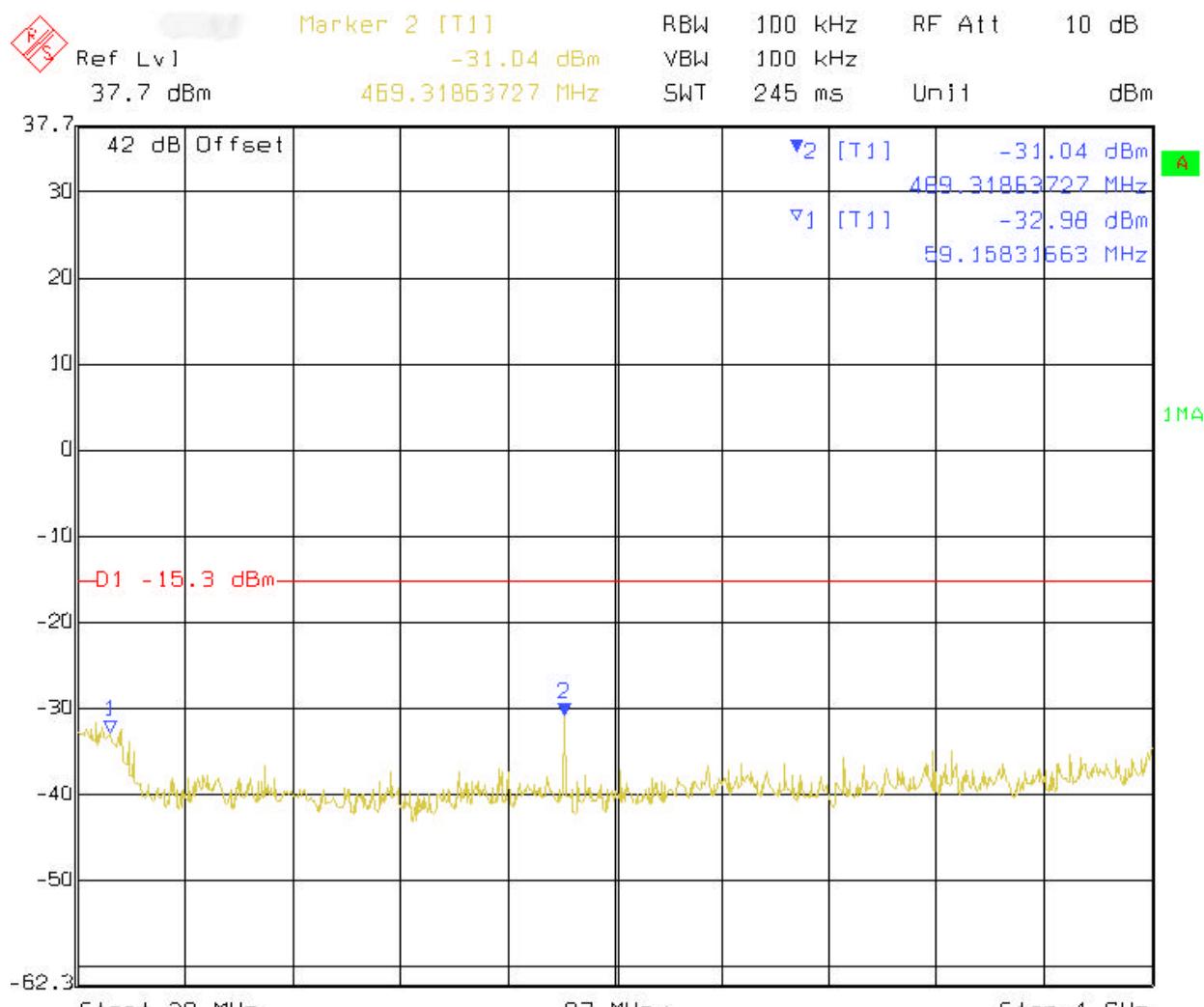
Digital Channel 7 (12MHz) – 2106.5 MHz 64QAM

Date: 05.JAN.2007 16:55:01

Nemko USA Inc.

EQUIPMENT: Truck-Coder II (TCII)

REPORT NO.: 2006 080695 FCC

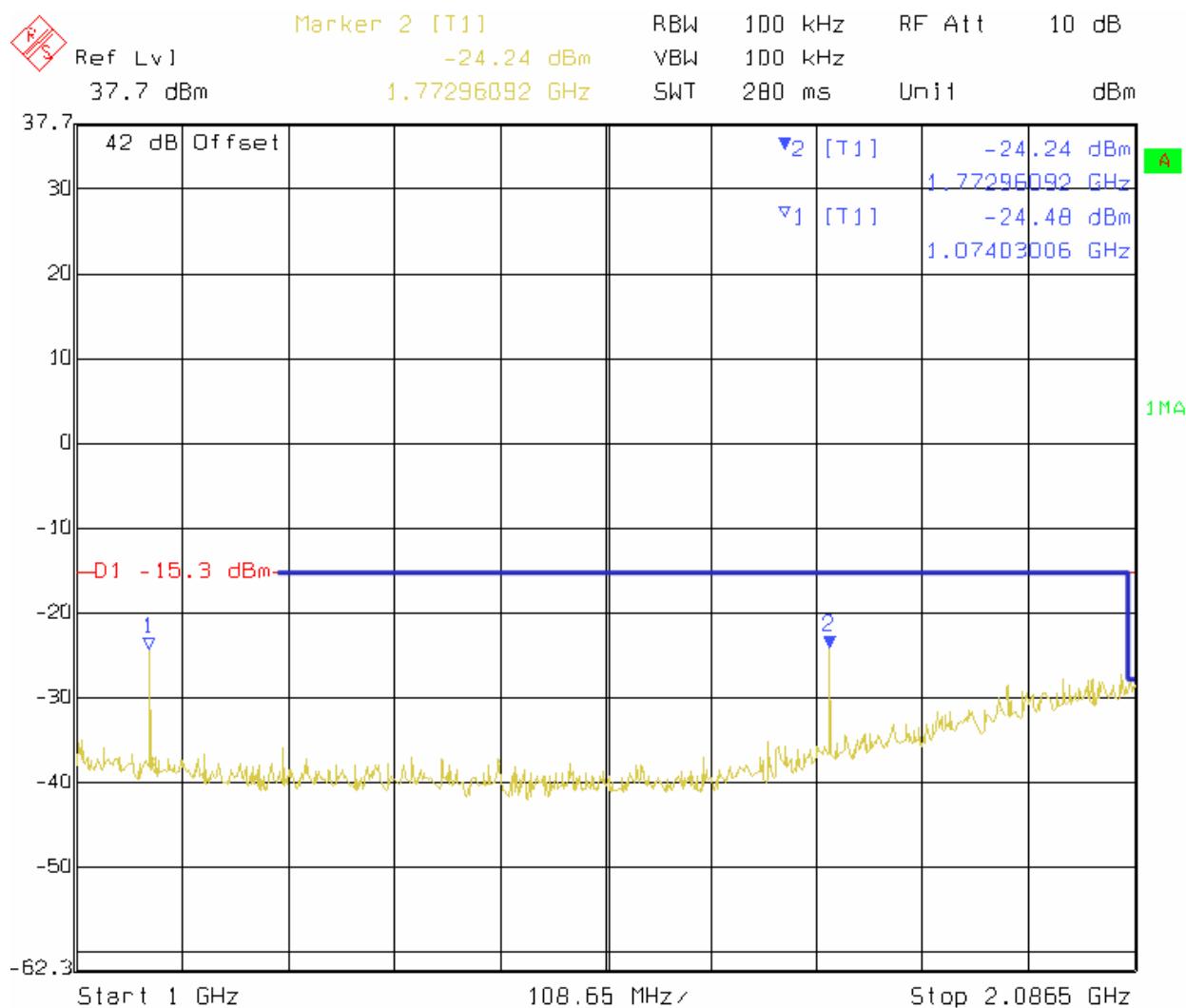


Date: 05.JAN.2007 17:02:25

Nemko USA Inc.

EQUIPMENT: Truck-Coder II (TCII)

REPORT NO.: 2006 080695 FCC

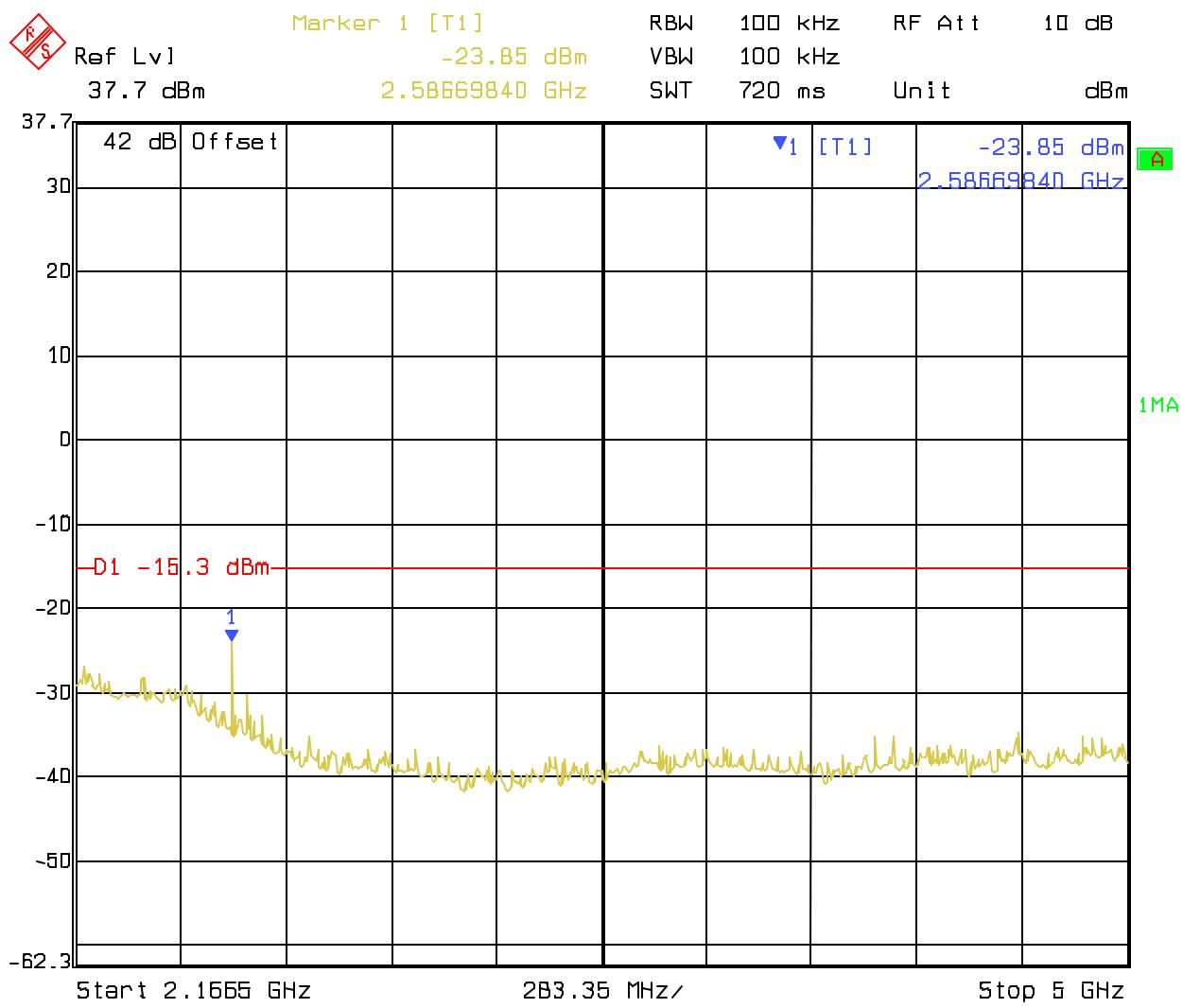


Date: 05.JAN.2007 17:05:57

Nemko USA Inc.

EQUIPMENT: Truck-Coder II (TCII)

REPORT NO.: 2006 080695 FCC

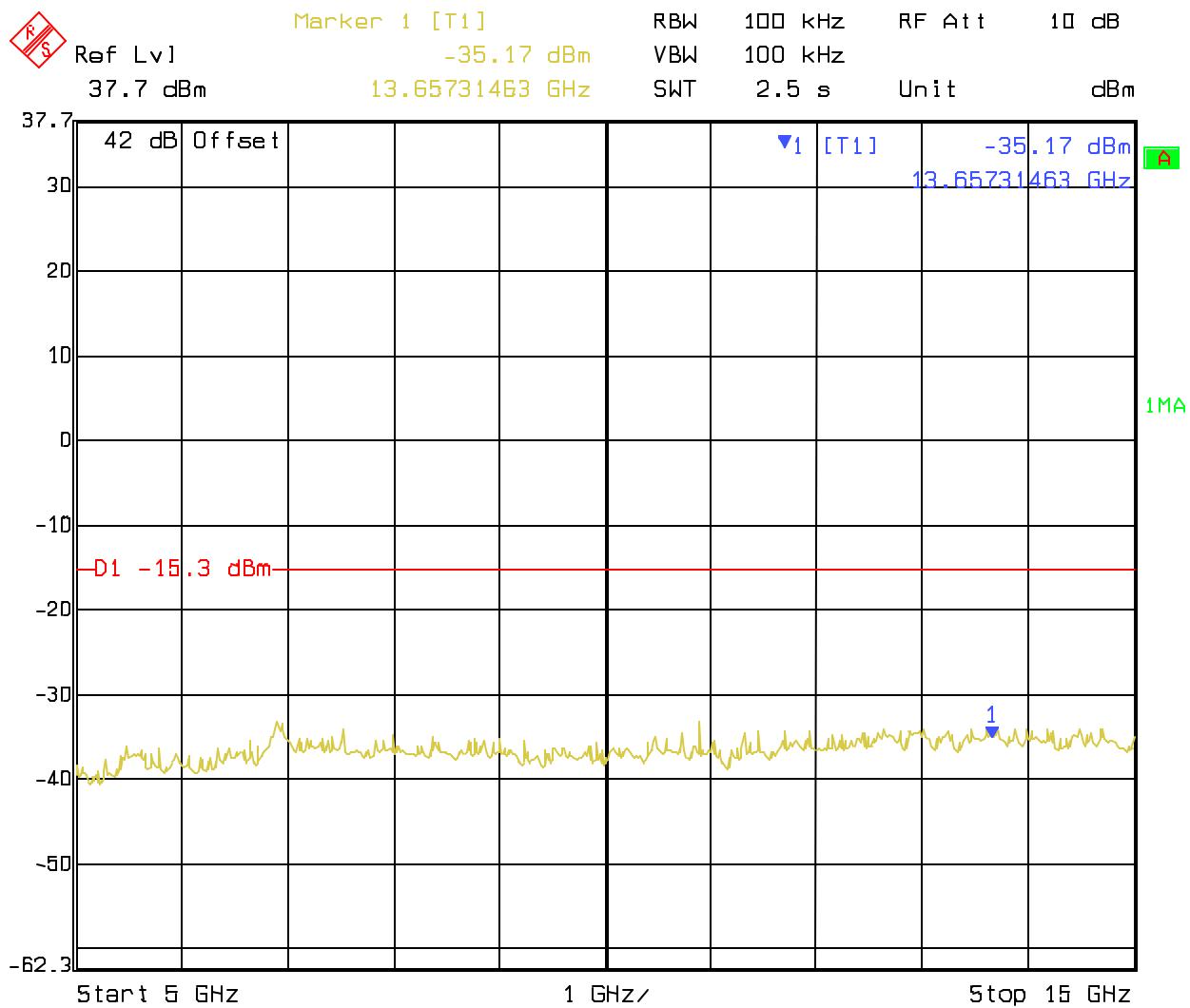


Date: 05.JAN.2007 17:13:27

Nemko USA Inc.

EQUIPMENT: Truck-Coder II (TCII)

REPORT NO.: 2006 080695 FCC

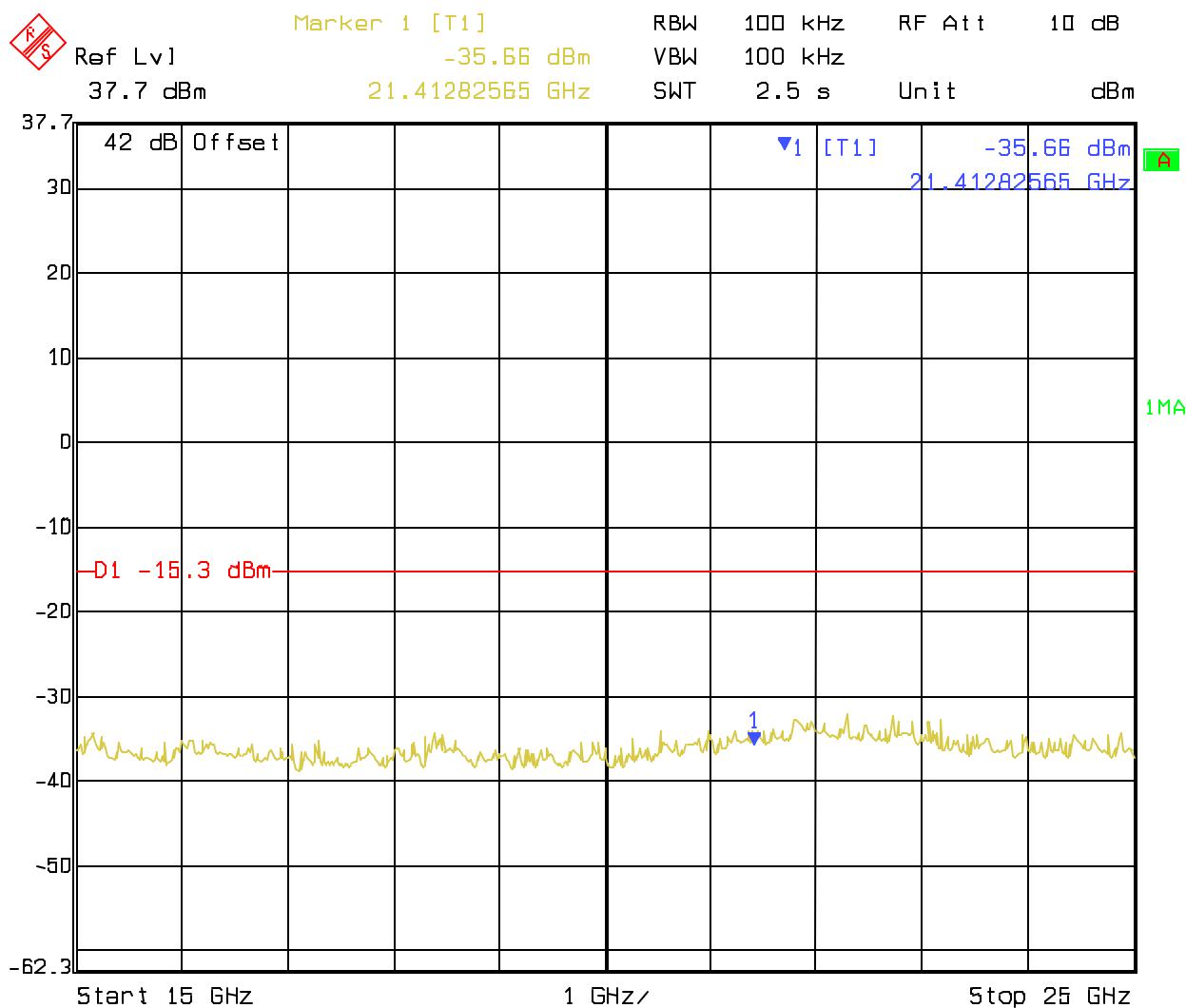


Date: 05.JAN.2007 17:17:29

Nemko USA Inc.

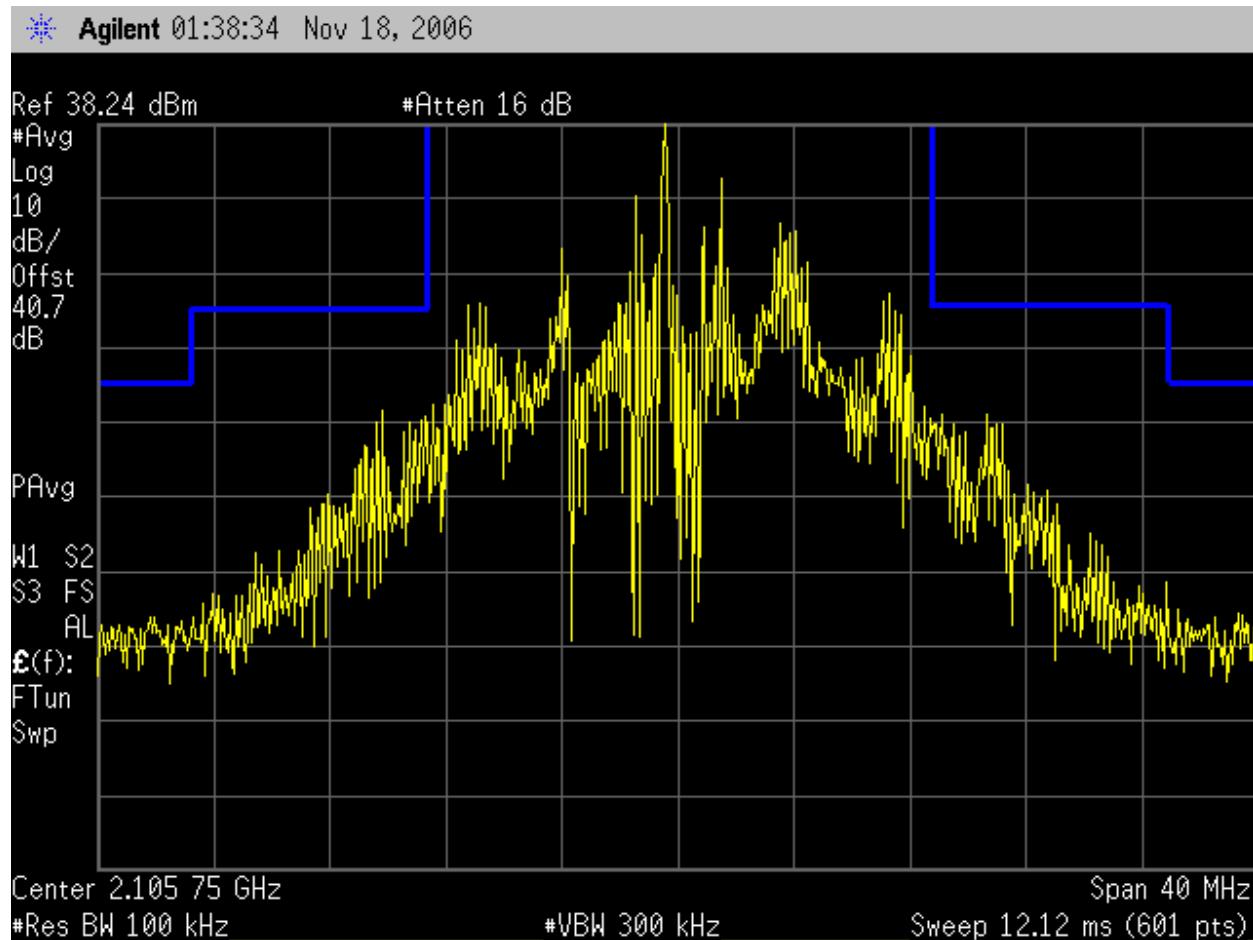
EQUIPMENT: Truck-Coder II (TCII)

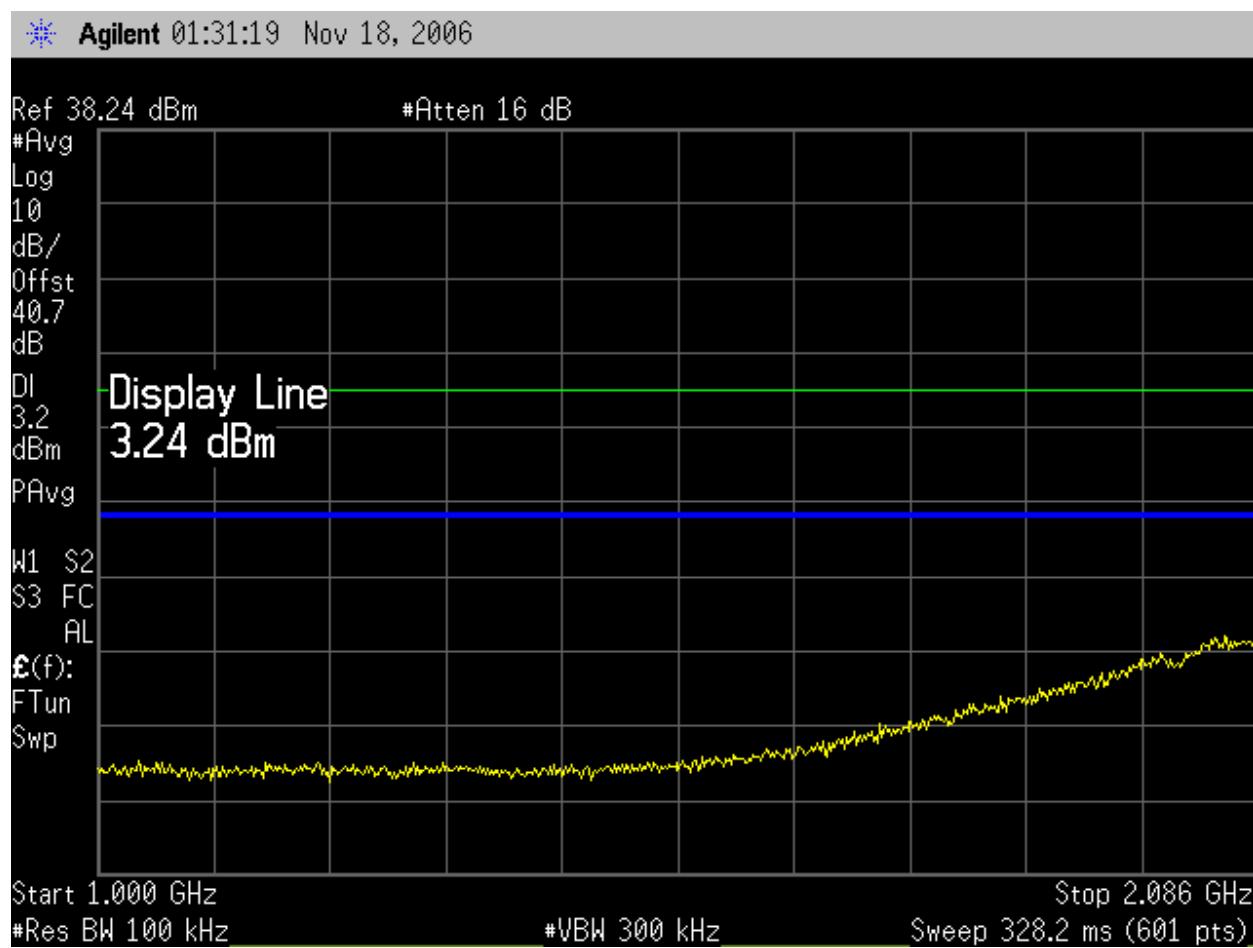
REPORT NO.: 2006 080695 FCC



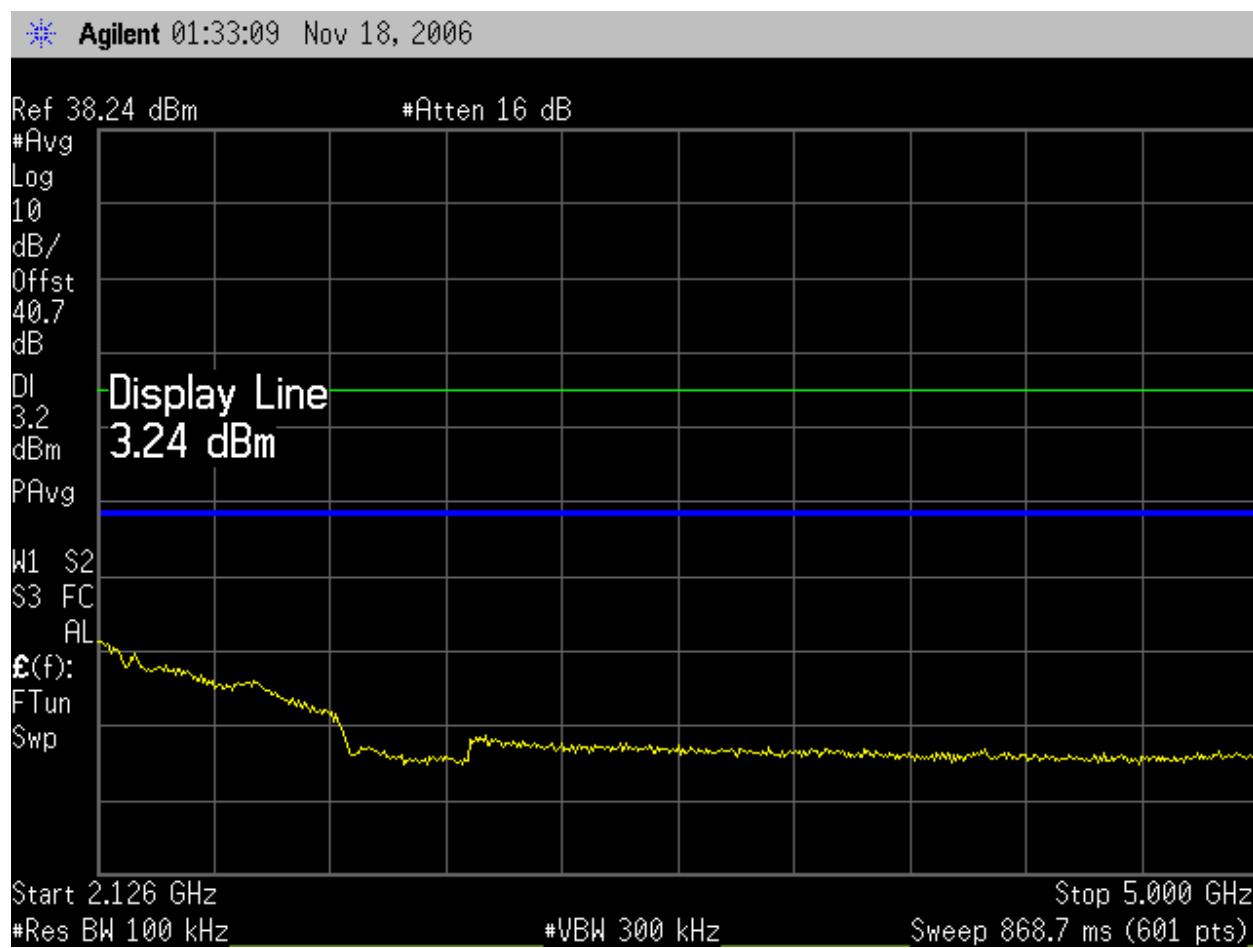
Emission Mask Endpoints Part 74.637(a)(1):
BW = 17 MHz, REF LVL = Mean Output Power

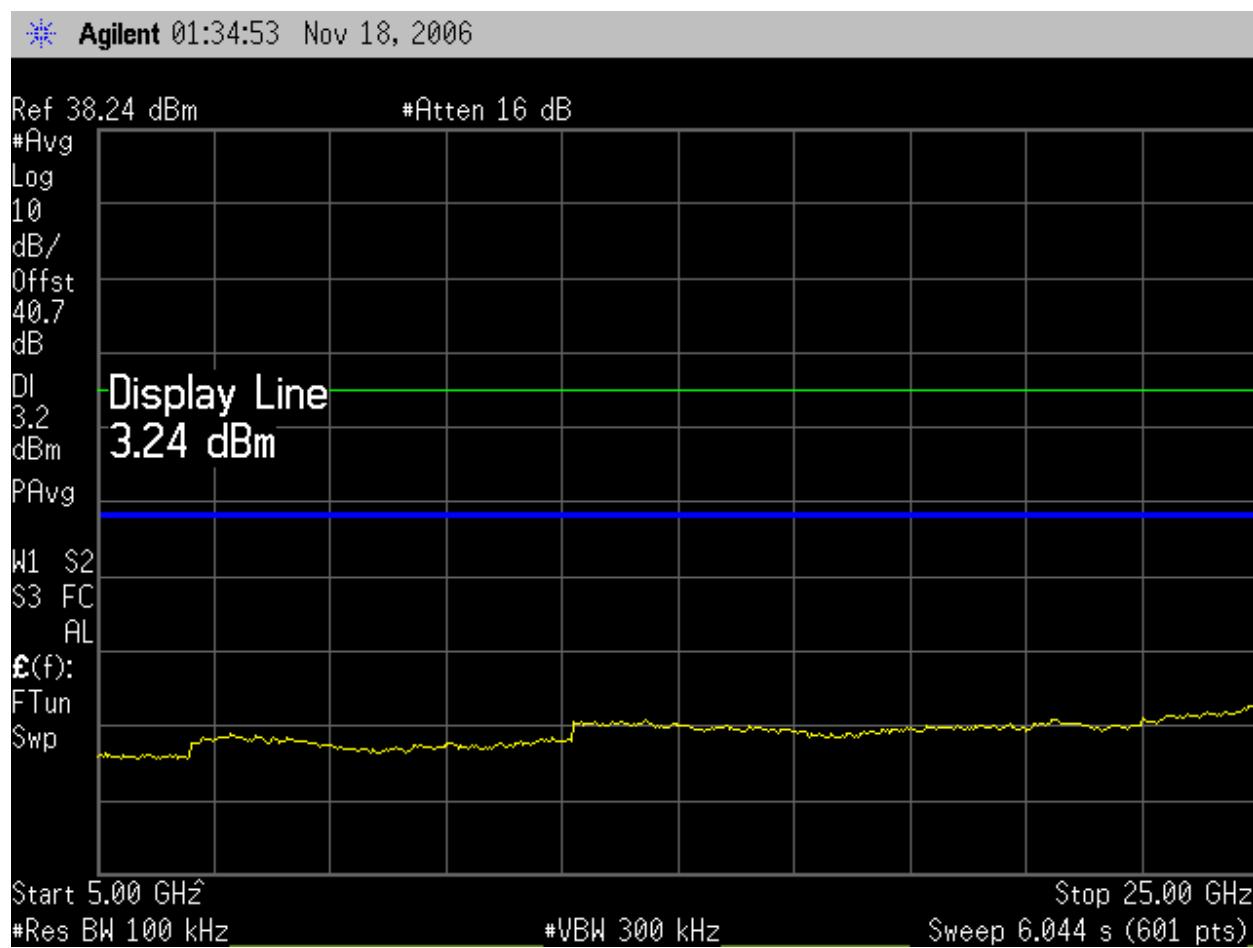
Analog Channel 7 (17MHz) – 2105.75 MHz FM





* Blue limit line is from 74.637 (a)(iii): $43 + 10\log_{10}(P_{\text{Mean}} \text{ in watts})$





This report just presented two channels of sixteen measured. The results are typical of all as substantiated by additional Channels found in the Appendix.

Section 7. Field Strength of Spurious

Para. No.: 2.1053

Test Performed By: Ferdinand Custodio	Date of Test: August 2 and August 16, 2006
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Minimum Standard: Part 74.(2)(ii)

Test Results: EUT Complies. Emissions were searched from 30 MHz to 25 GHz with the antenna port terminated into a 50 ohm load. No spurious emissions above 1 GHz at a level greater than 20dB below the limit were observed. Emissions between 30 MHz and 1 GHz were searched and four emissions were found and the results proved by substitution.

Test Data: See attached tables.

Quasi-peak measurements with a RBW =VBW = 100 kHz.

Measured Frequency (MHz)	Antenna Polarization (H/V)	Meter Reading (dBuV)
200.8	H	43.77
207.13	V	46.46
208.43	V	47.29
213.54	V	46.8

Results—Substitution

Target Frequency	Target Level (dBuV/m)	Antenna Gain (dipole)	Cable Loss	Signal Generator (dBm)	Total (EIRP) dBm	Specs (dBm)	Margin (dBm)
200.8	43.77	0	1	-61.9	-62.9	-13	-49.9
207.13	46.46	0	1	-54.9	-55.9	-13	-42.9
208.43	47.29	0	1	-54.8	-55.8	-13	-42.8
213.54	46.8	0	1	-54.5	-55.5	-13	-42.5

Location: North OATS, T = 19°C, 65% R.H. 3 meters

No other measurements within 20 dB of the limit noted.

Section 8. Frequency Stability**Para. No.: 2.1055**

Test Performed By: F.S.Custodio	Date of Test: August 9, 2006
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Minimum Standard: 2.1055 Frequency Stability vs Temperature Variation and Power Supply Voltage Variation.

Test Results: 9261 Hz difference which corresponds to 4.558 ppm
Limit = 0.01 % = 10 ppm or 24,920 Hz

Measurement Data:

Part 2.1055 (-30°C to +50°C) Spectrum Analyzer @ 100KHz RBW, 1MHz RBW, 1MHz Span			Channel 1 Analog 12MHz	
Worst case variation:		1827.0 Hz (>Set freq.)	Set Frequency:	2.0315 GHz
		9261.0 Hz (<Set freq.)		
Temp. Set Point	Time	85% of Vnom Frequency ? (GHz) Difference (GHz)	Vnom=115VAC Frequency ? (GHz) Difference (GHz)	115% of Vnom Frequency ? (GHz) Difference (GHz)
-30 -29.9	8:30AM	2.031499666 0.000000334	2.031499667 0.000000333	2.031499667 -0.000000333
-20 -20	9:30AM	2.031499668 0.000000332	2.031501356 0.000001356	2.031499667 0.000000333
-10 -9.9	10:30AM	2.031499686 0.000000314	2.031501827 0.000001827	2.031499631 0.000000369
0 0	11:30AM	2.031501234 0.000001234	2.031496624 0.000003376	2.031497663 0.000002337
10 10	12:30PM	2.031498312 0.000001688	2.031498312 0.000001688	2.031498312 0.000001688
20 20.1	1:30PM	2.031496622 0.000003378	2.031494934 0.000005066	2.031494934 0.000005066
30 30	2:30PM	2.031494973 0.000005027	2.031493284 0.000006716	2.031494972 0.000005028
40 39.9	3:30PM	2.031494952 0.000005048	2.03149664 0.000003360	2.03149664 0.000003360
50 49.9	4:30PM	2.031492427 0.000007573	2.031492427 0.000007573	2.031490739 0.000009261

This report represents the Channel with the highest frequency variation. The other Channel Data are located in Appendix A.

Section 9. Test Equipment List

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
877	Antenna, DRG Horn, .7-18GHz	AH Systems	2882	688	6/20/06	6/20/07
110	Antenna, LPA	Electrometrics	LPA-25	1217	11/29/05	11/29/06
835	Spectrum Analyzer	Rohde & Schwarz	RHDFSEK	829058/005	1/18/2006	01/18/07
746	Signal Generator	HP	8648B	0	10/31/05	10/31/06
911	Spectrum Analyzer	Agilent	E4440A	US41421266	6/7/2006	6/7/2007
834	Peak Power Sensor	HP	HP84811A	2551A01194	3/31/2006	3/31/2007
833	Peak Power Meter	HP	HP8900D	2131A00861	3/31/2006	3/31/2007
N115	Digital Power Meter	Yokogawa	253421	12A319267B	5/22/2006	5/22/2007
N149	Environmental Chamber	Cincinnati Sub-Zero	ZPHS-32-2-2-H/AC	ZP0552665	5/11/2006	5/11/2007
765	Antenna Set, Dipole	EMCO	3121C	1214	6/27/06	6/27/07

Appendix A.**Para. No.: 2.1055 Frequency Stability Data**

Part 2.1055 (-30°C to +50°C) Spectrum Analyzer @ 100KHz RBW, 1MHZ RBW, 1MHz Span				Channel 1 Analog 17MHz
Worst case variation:		2136.0 Hz (>Set freq.)	Set Frequency: 1.999 GHz	
		6771.0 Hz (<Set freq.)	*Red are negative numbers	
Temp. Set Point	Time	85% of Vnom	Vnom=115VAC	115% of Vnom
Temp. Actual		Frequency ? (GHz) Difference (GHz)	Frequency ? (GHz) Difference (GHz)	Frequency ? (GHz) Difference (GHz)
-30	8:30AM	1.999000453 0.000000453	1.999002136 0.000002136	1.998998761 0.000001239
-20	9:30AM	1.99899876 0.000001240	1.999002135 0.000002135	1.998998761 0.000001239
-10	10:30AM	1.998998423 0.000001577	1.999002122 0.000002122	1.998998742 0.000001258
0	11:30AM	1.998998312 0.000001688	1.998999394 0.000000606	1.998998312 0.000001688
10	12:30PM	1.998998601 0.000001399	1.998998603 0.000001397	1.998998606 0.000001394
20	1:30PM	1.998996118 0.000003882	1.998994424 0.000005576	1.998994417 0.000005583
30	2:30PM	1.998995729 0.000004271	1.998994044 0.000005956	1.998995738 0.000004262
40	3:30PM	1.998993235 0.000006765	1.998996606 0.000003394	1.998993229 0.000006771
50	4:30PM	1.998994298 0.000005702	1.9989943 0.000005700	1.998994308 0.000005692

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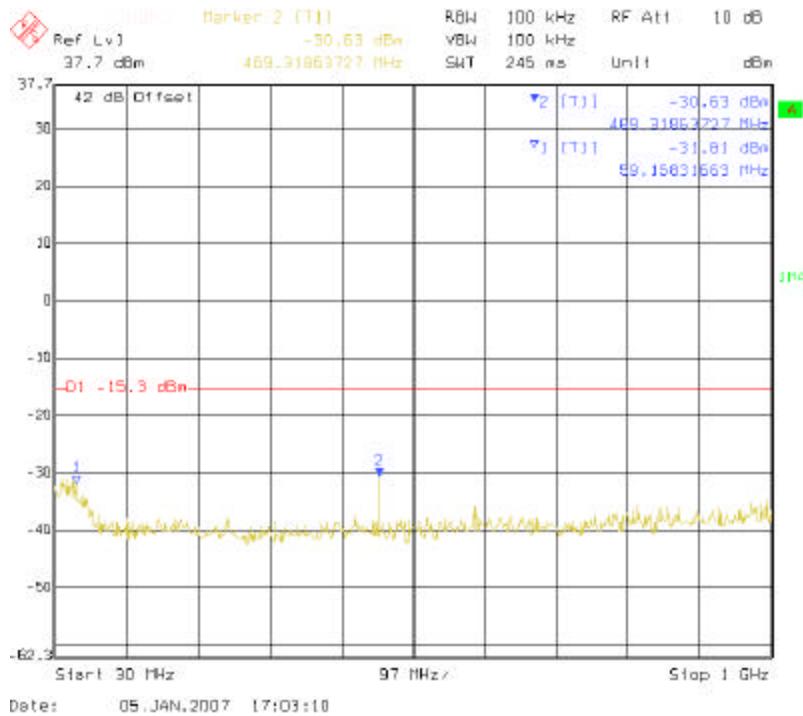
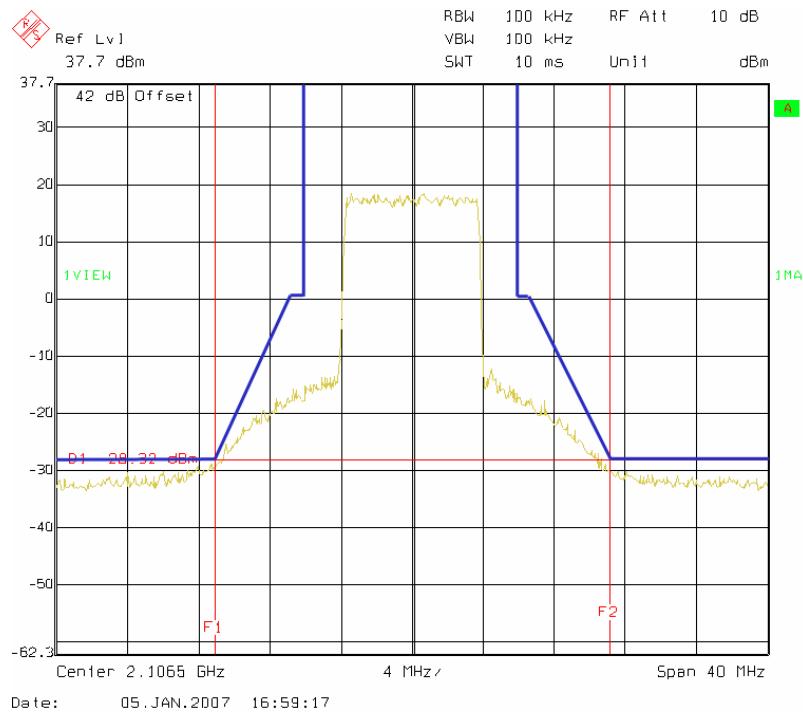
Part 2.1055 (-30°C to +50°C) Spectrum Analyzer @ 100KHz RBW, 1MHz RBW, 1MHz Span				Channel 1 Digital 12MHz
Worst case variation:		1353.0 Hz (>Set freq.)	Set Frequency: 2.0315 GHz	*Red are negative numbers
Temp. Set Point	Time	85% of V _{nom} Frequency ? (GHz) Difference (GHz)	V _{nom} =115VAC Frequency ? (GHz) Difference (GHz)	115% of V _{nom} Frequency ? (GHz) Difference (GHz)
-30 -29.9	8:30AM	2.031499665 0.000000335	2.031499665 0.000000335	2.031501353 0.000001353
-20 -20	9:30AM	2.031499999 0.000000001	2.031498312 0.000001688	2.031498312 0.000001688
-10 -9.9	10:30AM	2.031499511 0.000000489	2.03149951 0.000000490	2.031498222 0.000001778
0 0	11:30AM	2.031499402 0.000000598	2.031499995 0.000000005	2.031498307 0.000001693
10 10	12:30PM	2.031496559 0.000003441	2.031498247 0.000001753	2.031496559 0.000003441
20 20.1	1:30PM	2.031495662 0.000004338	2.03149735 0.000002650	2.03149735 0.000002650
30 30	2:30PM	2.031494935 0.000005065	2.031494935 0.000005065	2.031494935 0.000005065
40 39.9	3:30PM	2.031493245 0.000006755	2.031496621 0.000003379	2.031494932 0.000005068
50 49.9	4:30PM	2.031493246 0.000006754	2.031491558 0.000008442	2.031493246 0.000006754

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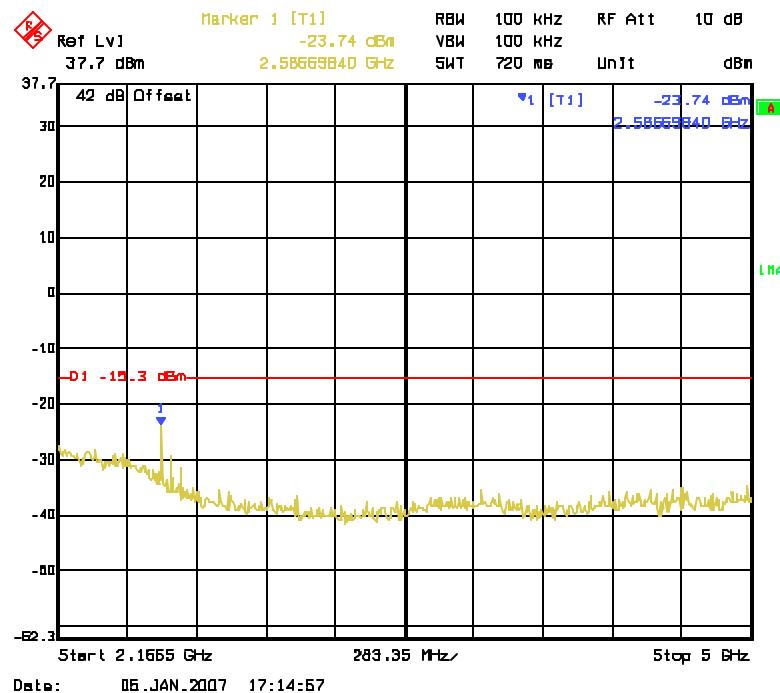
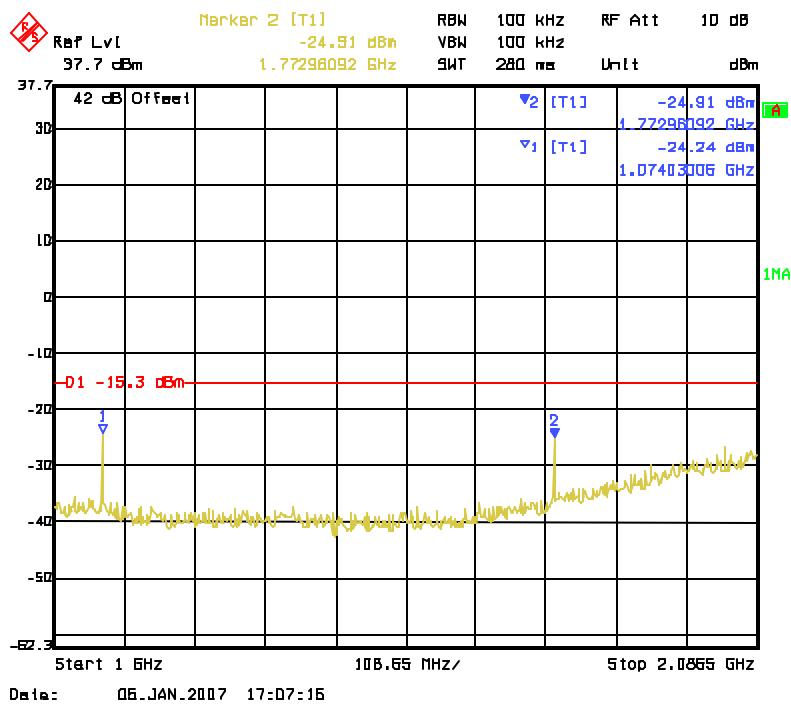
Part 2.1055 (-30°C to +50°C) Spectrum Analyzer @ 100KHz RBW, 1MHz RBW, 1MHz Span				Channel 1 Digital 17MHz
Worst case variation:		1687.0 Hz (>Set freq.)	Set Frequency: 1.999 GHz	*Red are negative numbers
Temp.Set Point	Time	85% of Vnom Frequency ? (GHz) Difference (GHz)	Vnom=115VAC Frequency ? (GHz) Difference (GHz)	115% of Vnom Frequency ? (GHz) Difference (GHz)
-30 -29.9	8:30AM	1.999001677 0.000001677	1.998999994 0.000000006	1.999001687 0.000001687
-20 -20	9:30AM	1.99899876 0.000001240	1.99899876 0.000001240	1.998999996 0.000000004
-10 -9.9	10:30AM	1.998998771 0.000001229	1.99899877 0.000001230	1.99899985 0.000000150
0 0	11:30AM	1.998998312 0.000001688	1.998999997 0.000000003	1.998998309 0.000001691
10 10	12:30PM	1.998996598 0.000003402	1.998996613 0.000003387	1.998996907 0.000003093
20 20.1	1:30PM	1.998996598 0.000003402	1.998998598 0.000001402	1.998994938 0.000005062
30 30	2:30PM	1.998994935 0.000005065	1.998994934 0.000005066	1.998994932 0.000005068
40 39.9	3:30PM	1.99899155 0.000008450	1.998994932 0.000005068	1.998996625 0.000003375
50 49.9	4:30PM	1.998994357 0.000005643	1.99899435 0.000005650	1.99899266 0.000007340

Appendix B.**Section 6. Spurious Emissions At Antenna Terminals****Channel 7 Digital (12MHz) QPSK**

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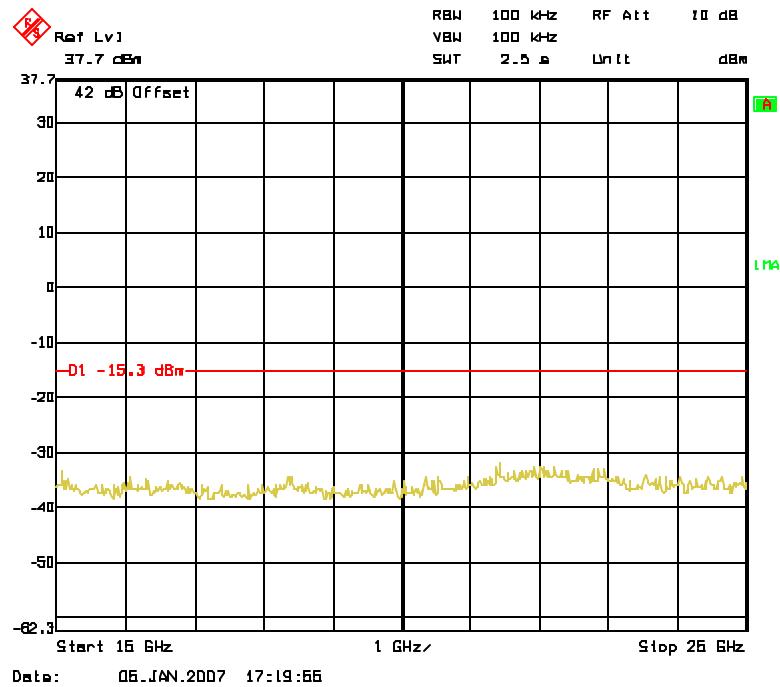
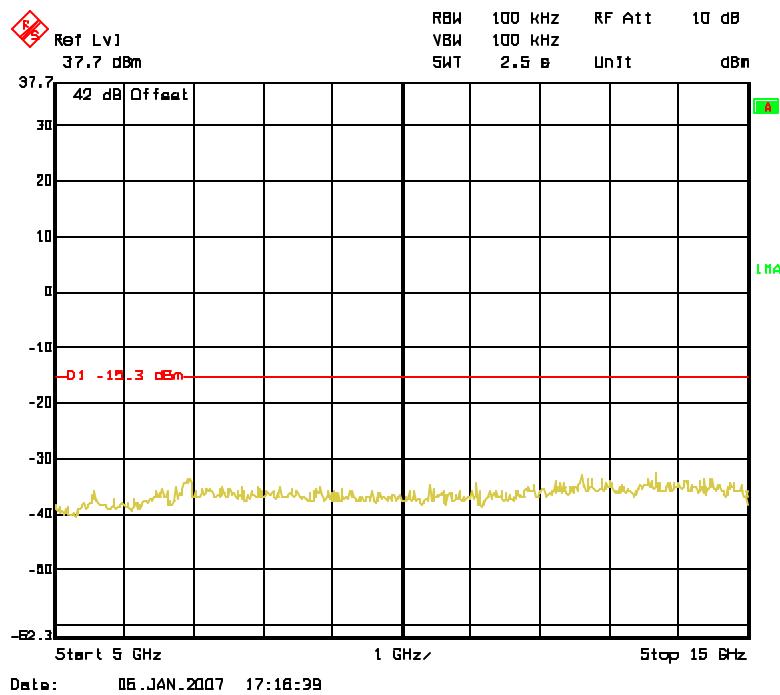
REPORT NO.: 2006 080695 FCC

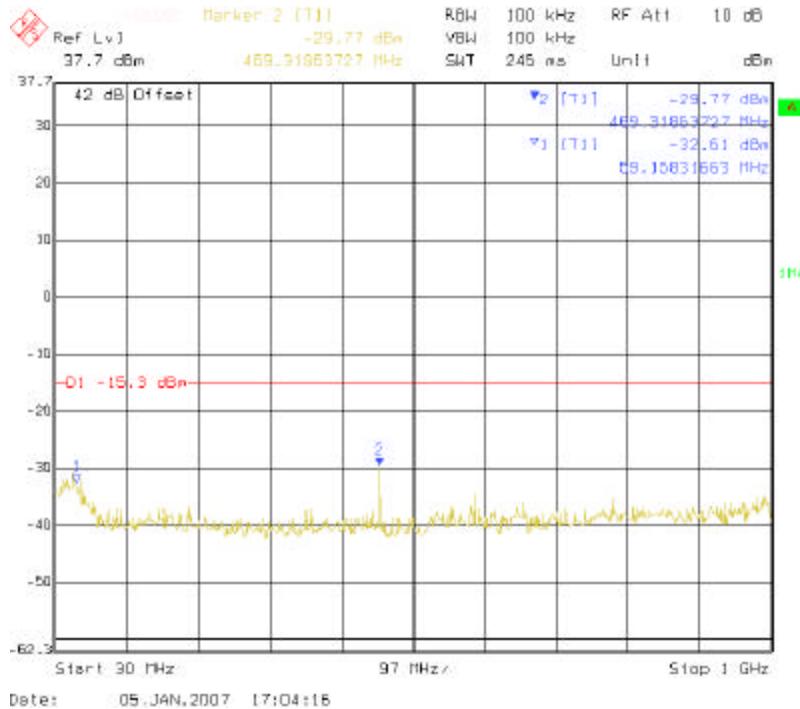
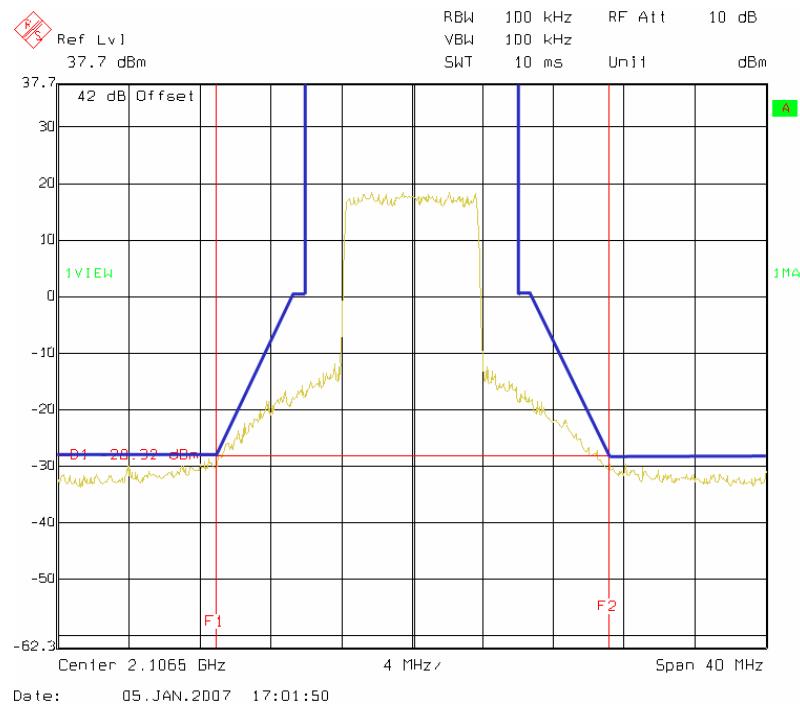


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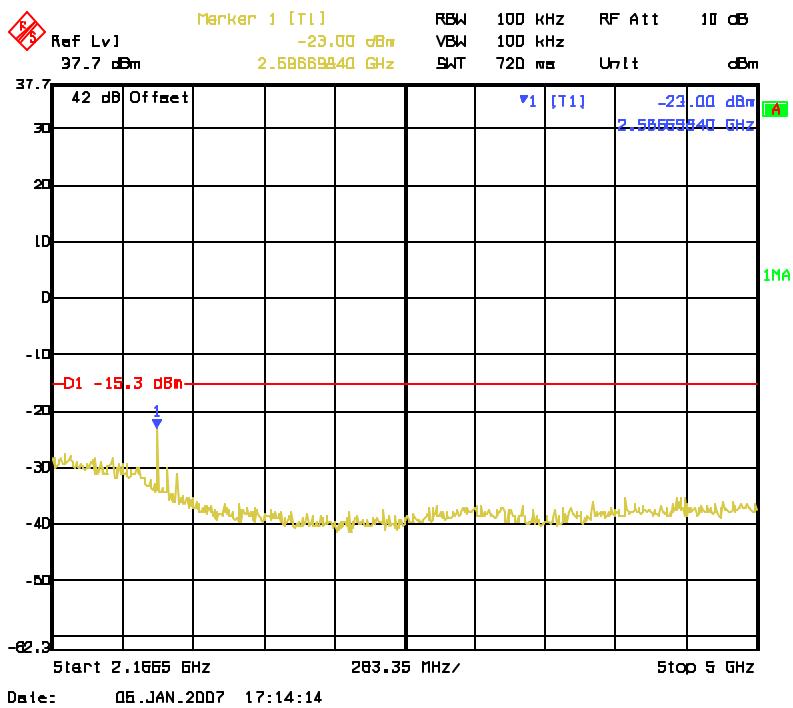
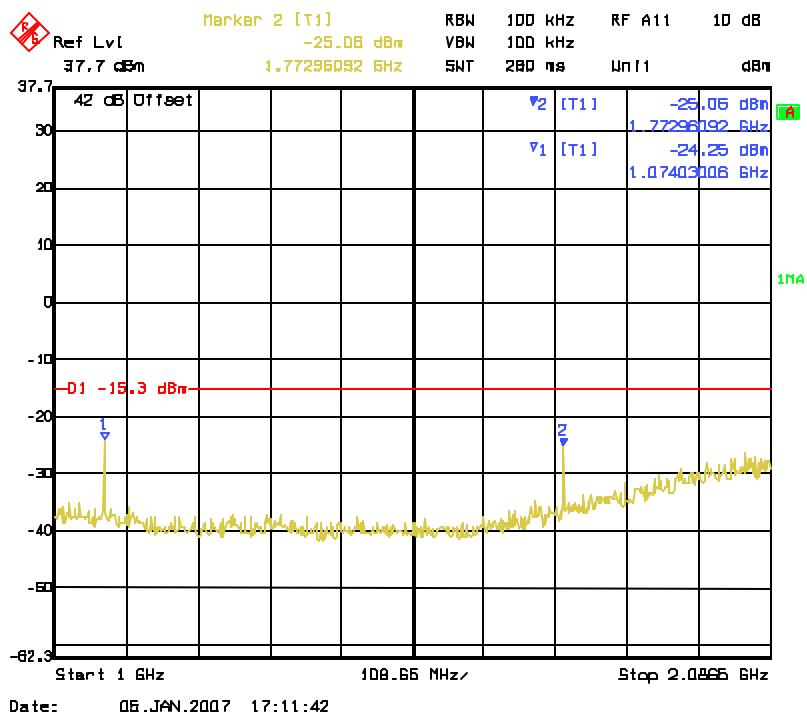


Channel 7 Digital (12MHz) 16QAM

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