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

CERTIFICATION TEST REPORT

PART 15.247C
IC RSS-210

For The Subcast Transmitter
Model: 50FRM

FCC ID: SUD-50FRM
IC: 5613A-50RFM

PREPARED FOR:

KSC Industries, Inc.
881 Kuhn Drive Bldg 200
Chula Vista CA 91914

PREPARED ON 11-08-07

REPORT NUMBER: 2007 117840-FCC

7840-1

Total Pages: 28

DOCUMENT HISTORY

REVISION	DATE	COMMENTS
-	11-08-07	Prepared By: J. Garcia
-	1-22-08	Initial Release: Alan Laudani

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":

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 March 11, 2004. Testing was performed on the unit described in this report on March 11, 2004 to March 16, 2004.
- 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.

TABLE OF CONTENTS

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.

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 15). 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.

FR Fleury
Chip Fleury
EMC Manager

1. ADMINISTRATIVE DATA AND TEST SUMMARY

1.1. Administrative Data

CLIENT: KSC Industries, Inc.
881 Kuhn Drive Bldg 200
Chula Vista CA 91914

CONTACT: Jim Wei

DATE (S) OF TEST: April 30, 2007 to May 2, 2007
EQUIPMENT UNDER TEST (EUT): Subcast Transmitter
Model 50RFM
Condition Upon Receipt Suitable for Test
TEST SPECIFICATION: FCC, Part 15.247, Subpart C, RSS 210 (Issue 7, June 2007)

Test Summary

Specification	***Frequency Range***	***Compliance Status***
FCC, CFR 47, Section 15.207	0.15 MHz - 30.00 MHz	N/A
FCC, CFR 47, Section 15.209	30 MHz – 10th Harmonic	PASS
FCC CFR 47, §15.247 Plus Bandedge	2403.3 – 2479.1 MHz	PASS
RSS-210 - Low Power License Exempt Radio-communication Devices (All Frequency Bands)	2403.3 – 2479.1 MHz	PASS

Testing was started at 30 MHz as there are no RF signals generated below this frequency.

EMC Manager: *FR Fleury*
Chip Fleury, Nemko USA, Inc.

Refer to the test results section for further details.

2. SYSTEM CONFIGURATION

2.1. Description and Method of Exercising the EUT

The 50 FRM Subcast Transmitter was powered by its AC power supply for non-intentional emissions tests of 15.107 and 15.109. For 15.247, a variable power supply was used to verify no RF output power level changes as the 5 volt input voltage was varied by +/- 15% and then returned to the AC power supply. The antenna is integral to the module.

2.2. System Components and Power Cables

DEVICE	MANUFACTURER MODEL # SERIAL #	POWER CABLE	
EUT – Subcast Transmitter	KSC Industries, Inc. Model: 50RFM Serial #: NA		
EUT Power Supply	Manufacturer: PHIHONG, China Model: PSC03R-050 Serial #: NA	2 Prong AC Plug Input: 100-240V ~ 0.2A 50-60Hz Output: 5V--- 0.5A MAX	

2.3. Device Interconnection and I/O Cables

Connection	I/O Cable
No Connections	

2.4. Design Modifications for Compliance

The following design modifications were made to the EUT during testing.

No design modifications were made to the EUT during testing.

3. DESCRIPTION OF TEST SITE AND EQUIPMENT

3.1. Description of Test Site

The test site is located at 11696 Sorrento Valley Road, Suite F, San Diego, CA 92121. The site is physically located 18 miles Northwest of downtown San Diego. The general area is a valley 1.5 miles east of the Pacific Ocean. This particular part of the valley tends to minimize ambient levels, i.e. radio and TV broadcast stations and land mobile communications. The three and ten-meter Open Area Test Site (OATS) is located behind the office/lab building. It conforms to the normalized site attenuation limits and construction specifications as set in the EN 55022 (1987), CISPR 16 and 22 (1985) and ANSI C63.4-2001 documents. The OATS RN 90579 normalized site attenuation characteristics are verified for compliance every year.

4. DESCRIPTION OF TESTING METHODS

4.1. Introduction

As required in 47 CFR, Parts 2 and 15, the methods employed to test the radiated and conducted emissions (as applicable) of the EUT are those contained within the American National Standards Institute (ANSI) document ANSI C63.4–2003, titled "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz." All applicable FCC Rule Sections that provide further guidance for performance of such testing are also observed.

For General Test Configuration please refer to Figure 1 on the following page.

Digital devices sold in Canada are required to comply with the Interference Causing Equipment Standard for Digital Apparatus, ICES-003. These test methods and limits are specified in the Canadian Standards Association's (CSA) Standard C108.8-M1983 (1-1-94 version) and are "essentially equivalent" with FCC, Part 15 and CISPR 22 (EN55022) rules for unintentional radiators per EMCAB-3, Issue 3 (May 1998). No further testing is required for compliance to ICES-003.

4.2. Configuration and Methods of Measurements for Conducted Emissions

Section 7 of ANSI C63.4 determines the general configuration of the EUT and associated equipment, as well as the test platform for conducted emissions testing. Tabletop devices are placed on a non-conducting surface 80 centimeters above the ground plane floor and 40 centimeters from the ground plane wall. The EUT and associated system are configured to operate continuously, representing a "normally operating" mode. The EUT is powered via a Line Impedance Stabilization Network (LISN). The emissions are recorded using the required bandwidth of 9 kHz in the quasi-peak mode. The average amplitude is also observed employing a 10 kHz bandwidth to determine the presence of broadband RFI. When such interference is caused by broadband sources (as defined by the FCC and ANSI Rules), the deviation guidelines contained in Section 11.3.1 of ANSI C63.4 are employed, which allows a correction factor of 13 dB to be subtracted from the quasi-peak reading. The emission levels are then compared to the applicable FCC limits to determine compliance.

4.3. Configuration and Methods of Measurements for Frequency Identification

When performing all testing of equipment, the actual emissions of the EUT are segregated from ambient signals present within the laboratory or the open-field test range. Preliminary testing is performed to ensure that ambient signals are sufficiently low to allow for proper observation of the emissions from the EUT. Incoming power lines are filtered using a 120 dB, 30-ampere; 115/208-volt filter to assist in reducing ambient signals for tests of levels of conducted emissions. Ambients within the laboratory are compared to those noted at the nearby open-field site to discriminate between signals produced from the EUT and ambient signals. In the event that a significant emission is produced by the EUT at a frequency which is also demonstrating significant ambient signals, the spectrum analyzer is placed in the peak mode, the bandwidth is narrowed, the EUT's signal is centered on the analyzer, the scan width is expanded to 50 kHz while monitoring the audio to ensure that only the EUT signal is present, the analyzer is switched to quasi-peak mode, and the level of the EUT signal is recorded.

4.4. Configuration and Methods of Measurements for Radiated Emissions

Section 8 of ANSI C63.4 determines the general configuration and procedures for measuring the radiated emissions of equipment under test. Initially, the primary emission frequencies are identified inside the test lab by positioning a broadband receive antenna one meter from the EUT to locate frequencies of significant radiation. Next, the EUT and associated system are placed on a turntable on a ten meter open area test site (registered with the FCC in accord with its Rules and ANSI C63.4) and the receive antenna is located at a distance of ten meters from the EUT.

The EUT and associated system are configured to operate continuously, representing a "normally operating" mode. All significant radiated emissions are recorded when maximum radiation on each frequency is observed, in accordance with part 8 of ANSI C63.4–2003 and Section 15.33 of the FCC Rules. To ensure that the maximum emission at each discrete frequency of interest is observed, the receive antenna is varied in height from one to four meters and rotated to horizontal and vertical polarities, and the turntable is also rotated to determine the worst emitting configuration. The numerical results of the test are included herein to demonstrate compliance.

The numerical results that are applied to the emissions limits are arrived at by the following method:
Example: A=RR+CL+AF
A = Amplitude dBuV/m
RR = Receiver Reading dBuV
CL = cable loss dB
AF = antenna factor dB/m

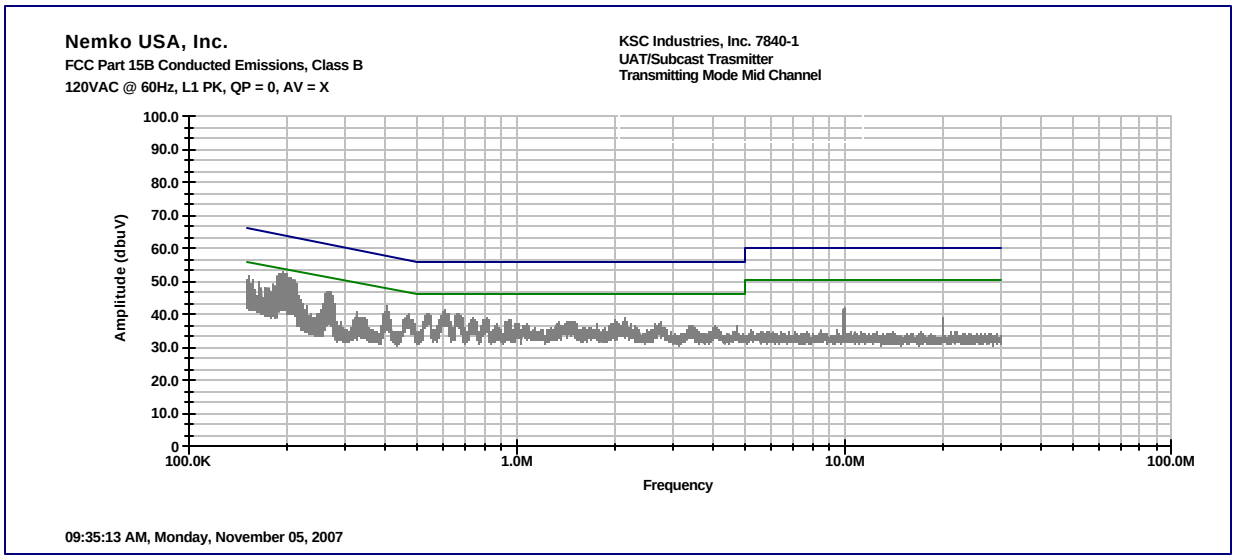
Example Frequency = 110MHz
18.5 dBuV (spectrum analyzer reading)
+3.0 dB (cable loss @ frequency)
21.5 dBuV
+15.4 dB/m (antenna factor @ frequency)
36.9 dBuV/m Final adjusted value

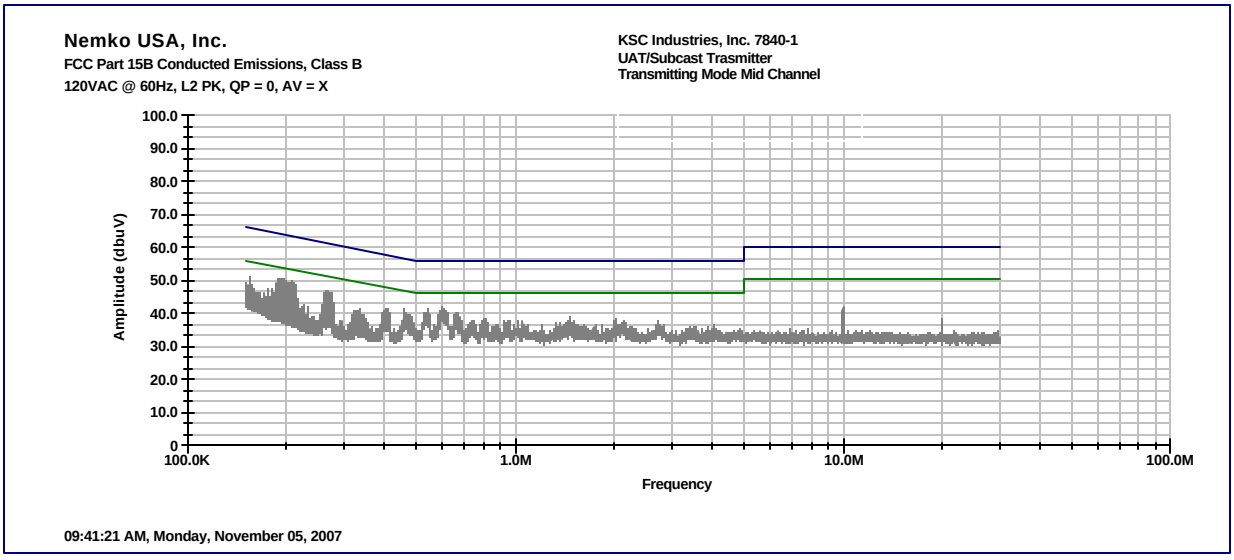
The final adjusted value is then compared to the appropriate emission limit to determine compliance.

5. Test Results

5.1. Conducted Emissions Test Data – Transmit Mode

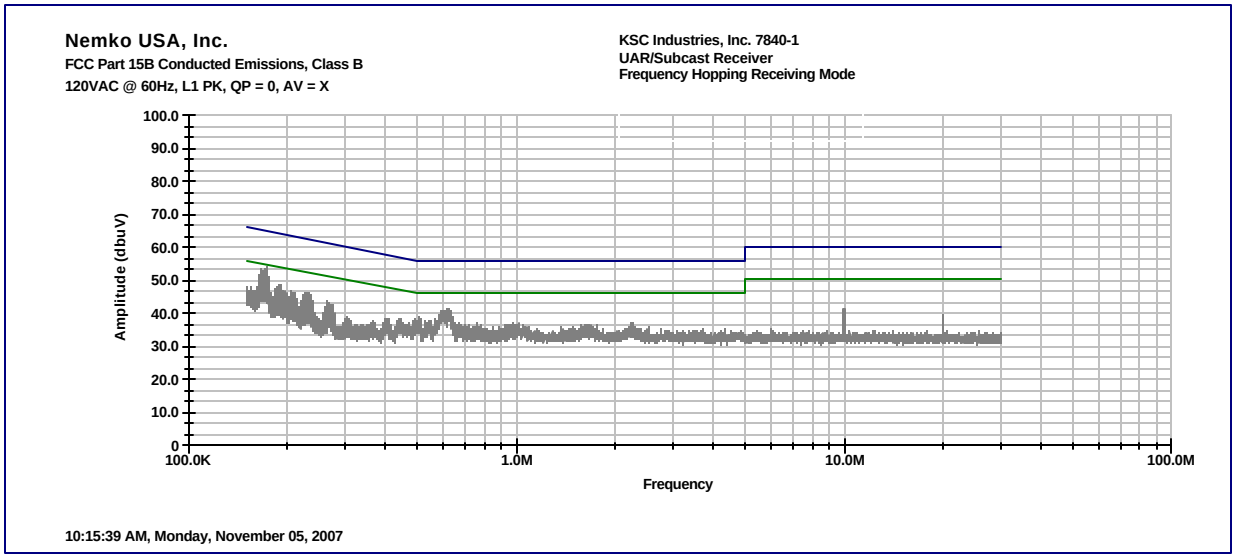
Client	KSC Industries, Inc.	Temperature	79	deg F
PAN #	7840-1	Relative Humidity	61	%
EUT Name	Subcast Transmitter	Barometric Pressure	30.15	Hg
EUT Model	50FRM	Test Location	Shielded Room 1	
Governing Doc	CFR 47, Part 15B	Test Engineer	J. Garcia	
Basic Standard	Sec. 15.207	Date	11/5/07	
Parameters	Peak RF BW: 100kHz VBW: 100kHz Peak less than Average Limits; therefore, Quasi-Peak and Average Detectors not required.			

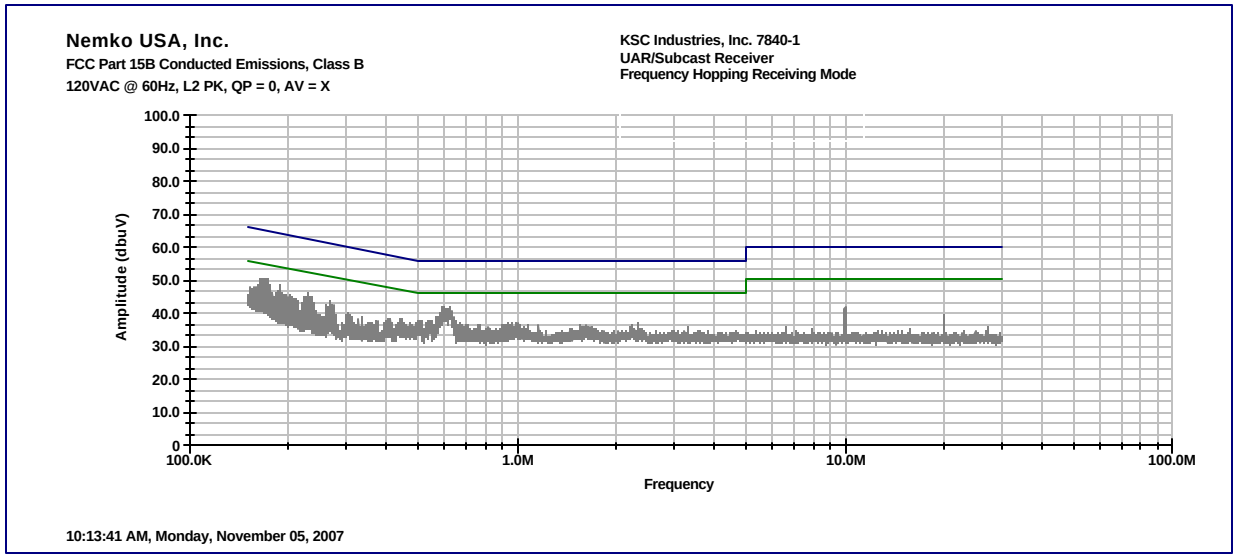




5.2. Conducted Emissions Test Data – Receive mode

Client	KSC Industries, Inc.	Temperature	79	deg F
PAN #	7840-1	Relative Humidity	61	%
EUT Name	Subcast Transmitter	Barometric Pressure	30.15	Hg
EUT Model	50FRM	Test Location	Shielded Room 1	
Governing Doc	CFR 47, Part 15B	Test Engineer	J. Garcia	
Basic Standard	Sec. 15.107	Date	11/5/07	
Parameters	Peak RF BW: 100kHz VBW: 100kHz Peak less than Average Limits; therefore, Quasi-Peak and Average Detectors not required.			
Legend	Blue (Top) Line is Quasi Peak. Green (Bottom) Line is Average. UAR/Receiver was previous name for Subcast Transmitter 50FRM in receive mode			





5.3 Radiated Emissions Test Data –

Emissions reported below, Emissions were searched over a range of 30 MHz to 25000 MHz

Example Frequency = 344.2 MHz

11.7 dBuV (spectrum analyzer reading)

+3.2 dB (cable loss @ frequency)

14.9 dBuV

+14.5 dB/m (antenna factor @ frequency)

29.4 dBuV/m Final adjusted value

Radiated Emissions Data

Job # : 7840-1 Date : 11-6-07 Page 1 of 1
NEX #: 95433 Time : 9:00am
Staff : JG

Client Name : KSC Industries, Inc.
EUT Name : Subcast Transmiter
EUT Model # : 50RFM
EUT Serial # :
EUT Config. : Transmitting

EUT Voltage : 120
EUT Frequency : 60
Phase: 1
NOATS X
SOATS
Distance < 1000 MHz: 3 m
Distance > 1000 MHz: 3 m

Specification : CFR47 Part 15, Subpart B, Class B
Loop Ant. #: NA
Bicon Ant.#: 115
Log Ant.#: 111
DRG Ant. # NA
Dipole Ant.#: NA
Cable LF#: NOATS
Cable HF#: NA
Preamp LF#: NA
Preamp HF# NA

Temp. (°C) : 16
Humidity (%) : 72
Spec An.#: 898
Spec An. Display #: 899
QP #: 899
PreSelect#: NA

Quasi-Peak	RBW: 120 kHz
	Video Bandwidth 300 kHz
Peak	RBW: 1 MHz
	Video Bandwidth 3 MHz
Average	RBW: 1 MHz
	Video Bandwidth 10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBuV)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
36.84	11.1	5.4	Q	F	1.0	11.1	23.1	40.0	-16.9	Pass	
45.5	12.4	5.8	Q	F	1.0	12.4	23.6	40.0	-16.4	Pass	
208.9	9.9	9.7	Q	B	1.0	9.9	25.9	43.5	-17.6	Pass	
221.2	13.7	13.9	Q	F	1.0	13.9	29.4	46.0	-16.6	Pass	
270.3	11.1	11.0	Q	F	1.0	11.1	27.1	46.0	-19.0	Pass	
344.2	10.6	11.7	Q	B	1.0	11.7	29.4	46.0	-16.6	Pass	
825.1	4.0	3.5	Q	B	1.0	4	31.2	46.0	-14.8	Pass	

Radiated Emissions Data

Job # :	7840-1	Date :	11/6/07	Page	1 of 1
NEX #:	95433	Time :	11:30P		
		Staff :	JG		
Client Name :	KSC Industries, Inc.			EUT Voltage :	120
EUT Name :	Subcast Transmiter			EUT Frequency :	60
EUT Model # :	50RFM			Phase:	1
EUT Serial # :				NOATS	X
EUT Config. :	Receiving Mode			SOATS	
				Distance < 1000 MHz:	3 m
				Distance > 1000 MHz:	3 m
Specification :	CFR47 Part 15, Subpart B, Class B				
Loop Ant. #:	NA				
Bicon Ant.#:	115	Temp. (°C) :	16		
Log Ant.#:	111	Humidity (%) :	72		
DRG Ant. #	NA	Spec An.#:	898		
Dipole Ant.#:	NA	Spec An. Display #:	899		
Cable LF#:	NOATS	QP #:	899		
Cable HF#:	NA	PreSelect#:	NA		
Preamp LF#:	NA				
Preamp HF#	NA				

Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	300 kHz
Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.

Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBuV)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
36.9	12.7	5.7	Q	F	1.0	12.7	24.7	40.0	-15.3	Pass	
45.4	8.1	5.5	Q	F	1.0	8.1	19.3	40.0	-20.7	Pass	
135.2	8.4	6.5	Q	F	1.0	8.4	24.0	43.5	-19.5	Pass	
184.3	5.3	8.0	Q	F	1.0	8	31.0	43.5	-12.5	Pass	
221.2	12.0	12.5	Q	R	1.0	12.5	28.0	46.0	-18.0	Pass	
466.8	9.4	4.5	Q	F	1.0	9.4	30.1	46.0	-15.9	Pass	
479.2	12.5	11.0	Q	F	1.0	12.5	33.4	46.0	-12.6	Pass	
639.0	13.0	10.8	Q	R	1.0	13	37.1	46.0	-9.0	Pass	
835.6	12.7	9.5	Q	R	1.0	12.7	39.8	46.0	-6.2	Pass	
933.9	8.0	4.9	Q	F	1.0	8	35.7	46.0	-10.3	Pass	

5.3. Duty Cycle Measurement

RSS-210 Annex 8.1(4)

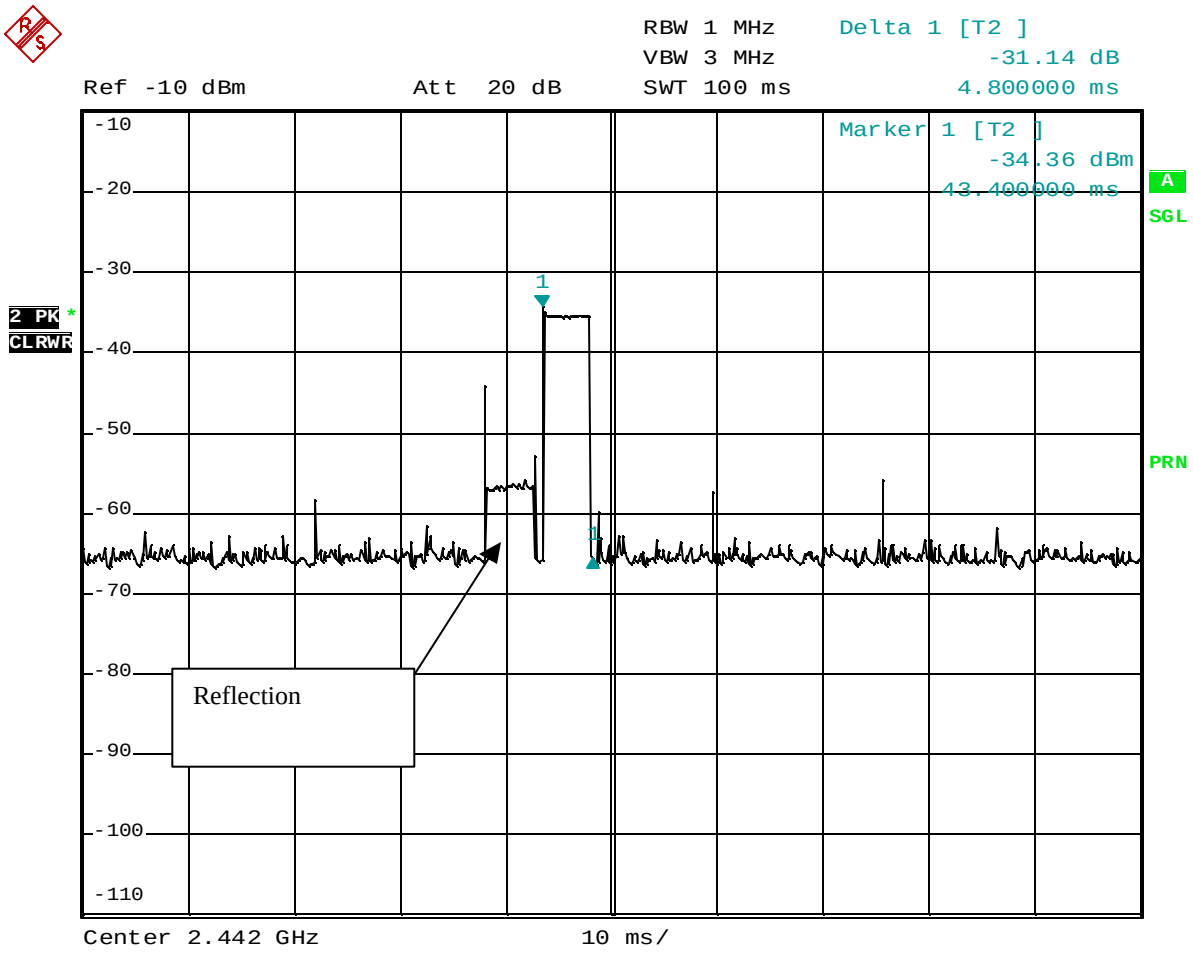
Digital Word = 4.8 milliseconds

Duty cycle = 4.8 milliseconds in 100ms

Duty cycle = 0.048

Duty Cycle Factor = 20*log(.048) = -26.38dB

FCC limits DCF to –20dB



Date: 6.NOV.2007 17:27:03

5.4. Bandwidth

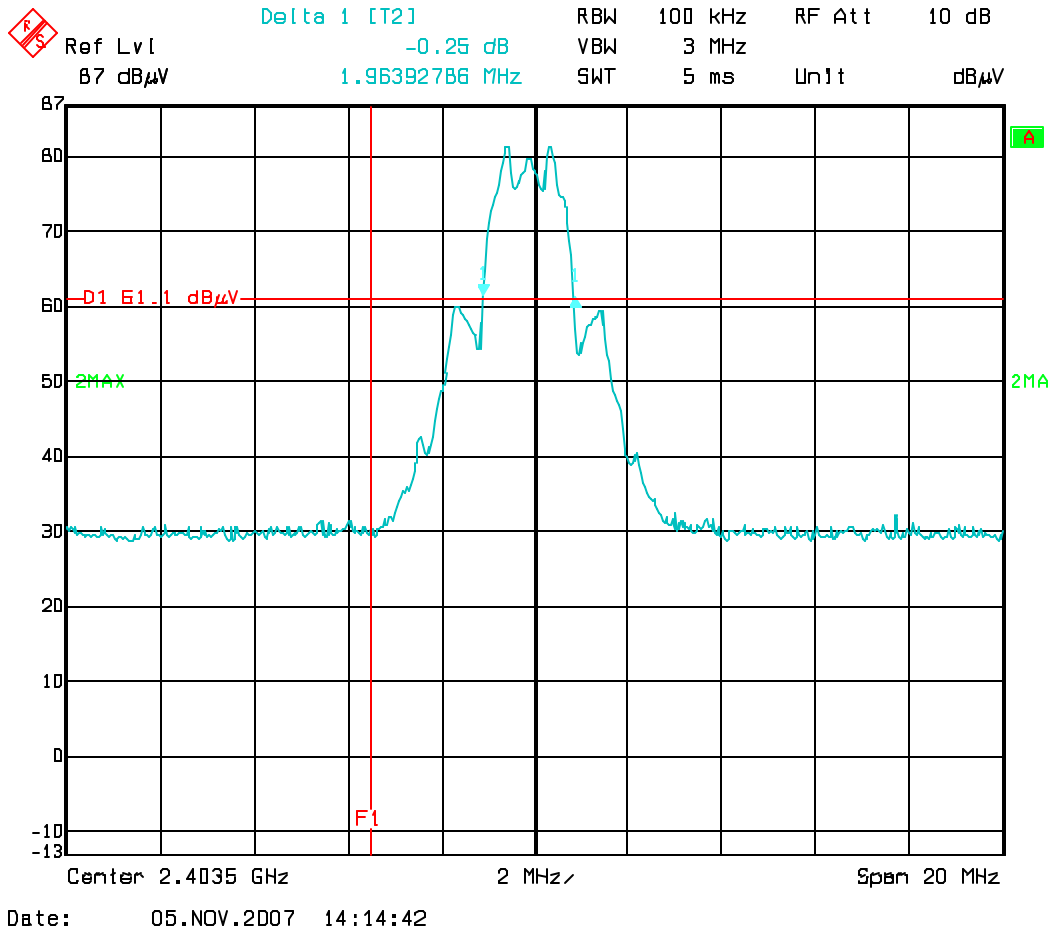
RSS-210 Annex 8.1(4)

(a)(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power now greater than 125mW.

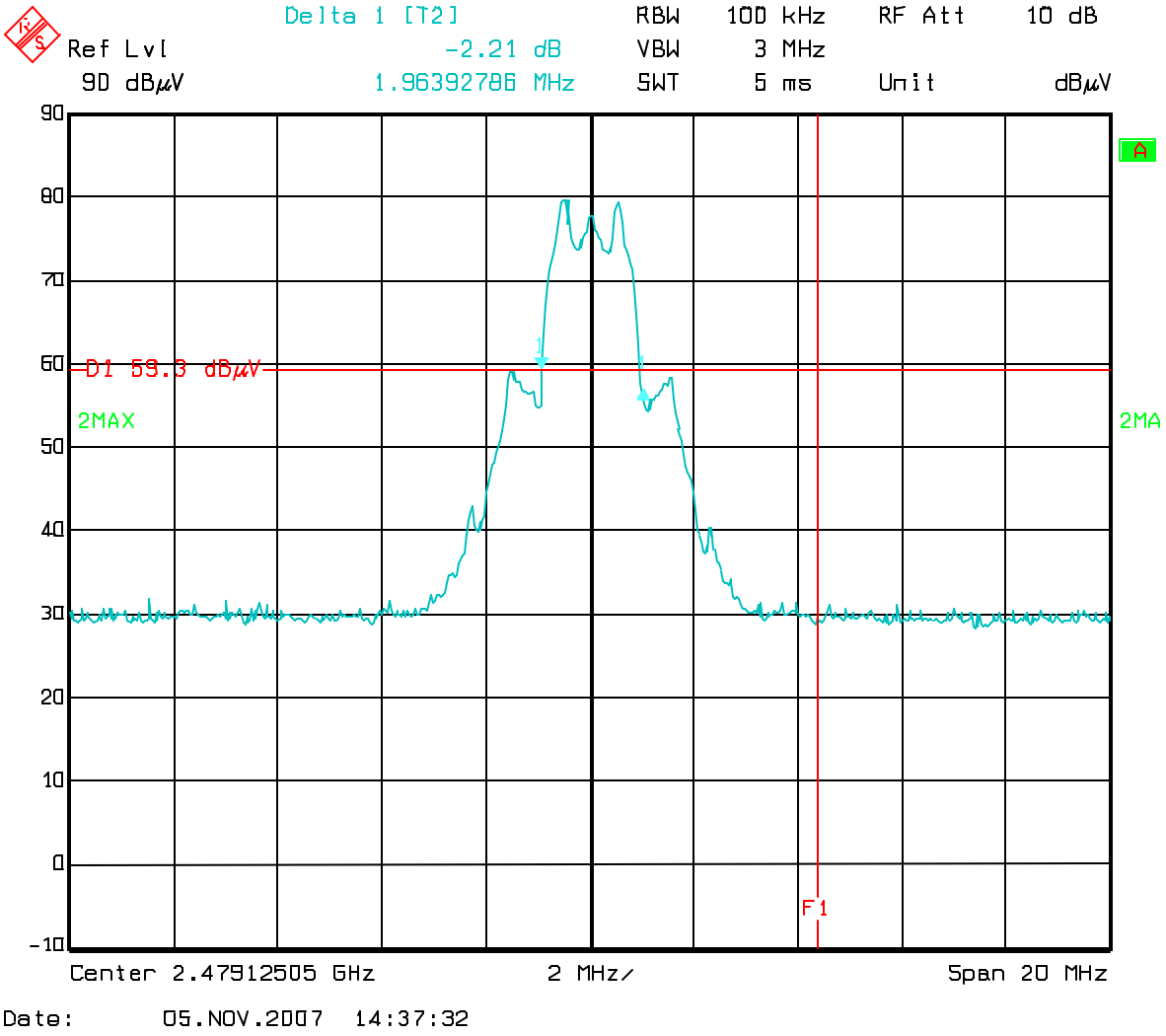
15.247(a)(1)

Bandwidth = 1.964 MHz

Lower Bandwidth



Higher Bandwidth



5.5. Power Level and Radiated Spurious Emissions

RSS-210 Annex 8.4(2)

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system-hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average of each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

The EUT was tested with the antenna in three orthogonal orientations and the worst-case emissions are presented below.

Power Level Limits 125 mWatt or 115.0 dBuV/m @3m. EUT complies.

$10^{[(\text{Field Strength in dBuV/m} - 120)/20]}$ = Field Strength in V/m

$[(\text{Field Strength in V/m} \times 3\text{m})/5.5]^2$ = Power in Watts

Measured 116.0 dBuV/m @ 3m which translates to a RF power of 0.118 W.

Manufacturer's antenna gain is 0 dBi which calculates the conducted power to be 0.118W.

0.118 W =20.7dBm

20.7 dBm + 0 dBi = 20.7dBm

Spurious Limits

RSS-210 Annex 8.5

Spurious emissions were searched for from 1000 MHz to10 times the highest transmit frequency or 25000 MHz.

15.209: 74 Peak, 54 Ave., dBuV/m @ 3m. 15.205 Restricted bands, EUT complies.

5.6. Bandedge Emissions

Radiated Emissions Data

Job # : 7840-1 Date : 11-5-07 Page 1 of 1
NEX #: 95433 Time : 1pm
Staff : JG

Client Name : KSC Industries Inc. EUT Voltage : 120
EUT Name : Subcast Transmiter EUT Frequency : 60
EUT Model # : 50RFM Phase: 1
EUT Serial # : NOATS
EUT Config. : Transmitting SOATS X

Distance > 1000 MHz: 3 m

Specification : CFR47 Part 15, Subpart C 15.247 RSS-210 **15.209, 15.205(a)**

Loop Ant. #: NA
Bicon Ant.#: NA Temp. (°C) : 17
Log Ant.#: NA Humidity (%) : 70
DRG Ant. # 529 Spec An.#: 835
Dipole Ant.#: NA Spec An. Display #: NA
Cable LF#: NA QP #: NA
Cable HF#: 40ft PreSelect#: NA
Preamp LF#: NA Duty Cycle Factor = -20 dB
Preamp HF# 317 125 mW is equivalent to 116.2 dBuV/m @ 3m
The Emissions were investigated from 2400 to 24850 MHz

Peak RBW: 1 MHz
Video Bandwidth 3 MHz

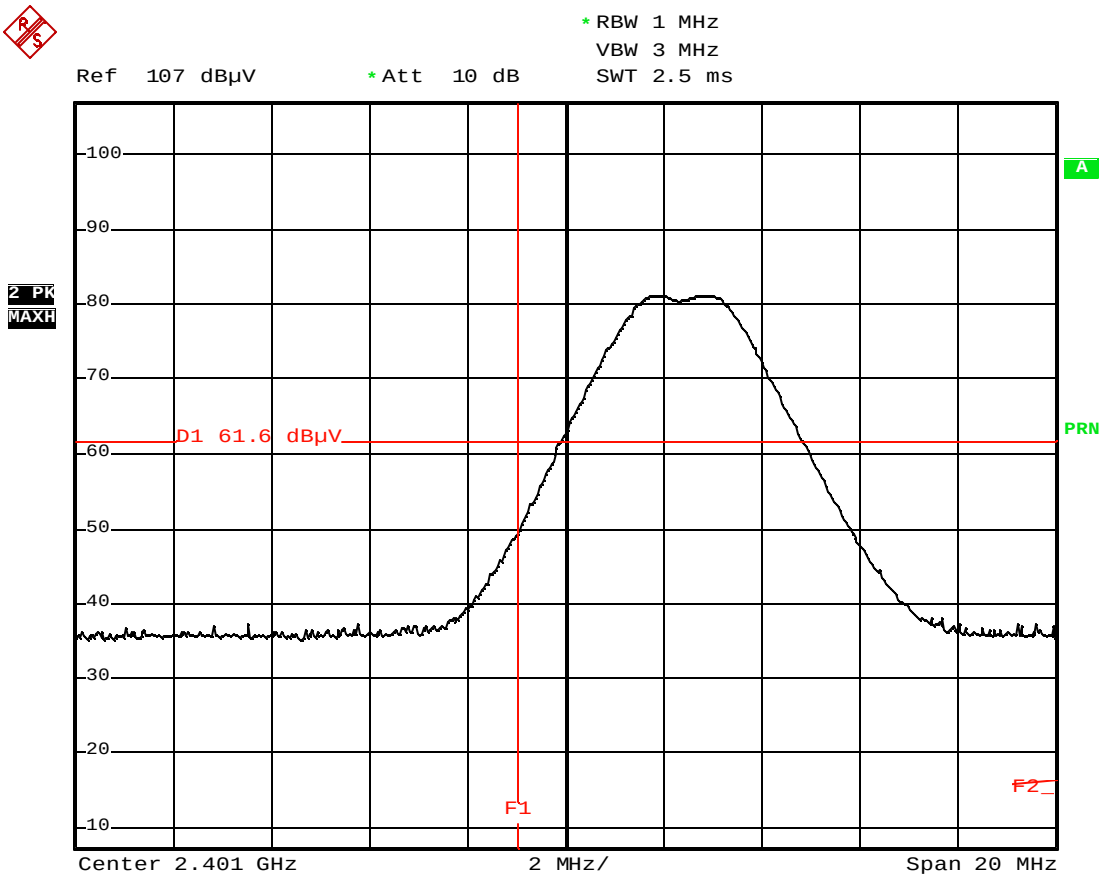
Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBuV)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
2400.0	25.8	16.7	A	--	1.1	25.8	59.4	76.2	-16.8	Pass	Bandedge
2400.0	45.8	36.7	P	--	1.1	45.8	79.4	96.2	-16.8	Pass	Bandedge
2403.3	81.6	63.7	P	--	1.1	81.6	115.2	116.2	-1.0	Pass	Power RBW =10 MHz
4806.6	45.9	45.4	P	--	1.0	45.9	51.9	**74.0**	-22.1	Pass	
4806.6	25.9	25.4	A	--	1.0	25.9	31.9	**54.0**	-22.1	Pass	
7209.9	44.6	44.4	P	--	1.0	44.63	59.2	95.2	-36.0	Pass	
7209.9	24.6	24.4	A	--	1.0	24.63	39.2	75.2	-36.0	Pass	
9613.2	44.3	44.2	P	--	1.0	44.33	64.0	95.2	-31.2	Pass	
9613.2	24.3	24.2	A	--	1.0	24.33	44.0	75.2	-31.2	Pass	
12016.5	45.5	45.4	P	--	1.0	45.48	71.8	**74.0**	-2.2	Pass	
12016.5	25.5	25.4	A	--	1.0	25.48	51.8	**54.0**	-2.2	Pass	
2442.0	82.5	71.3	P	--	1.0	82.47	116.0	116.2	-0.2	Pass	Power RBW =10 MHz
4884.0	49.4	47.3	P	--	1.0	49.4	55.4	**74.0**	-18.6	Pass	
4884.0	29.4	27.3	A	--	1.0	29.4	35.4	**54.0**	-18.6	Pass	
7326.0	45.6	46.1	P	--	1.0	46.1	60.8	96.0	-35.2	Pass	
7326.0	25.6	26.1	A	--	1.0	26.1	40.8	76.0	-35.2	Pass	
9768.0	45.1	44.9	P	--	1.0	45.11	64.9	96.0	-31.0	Pass	
9768.0	25.1	24.9	A	--	1.0	25.11	44.9	76.0	-31.0	Pass	
12210.0	46.4	46.3	P	--	1.0	46.37	72.7	**74.0**	-1.3	Pass	
12210.0	26.4	26.3	A	--	1.0	26.37	52.7	**54.0**	-1.3	Pass	
2483.5	19.0	12.1	A	--	1.0	19	52.6	**54.0**	-1.4	Pass	Bandedge
2483.5	39.0	32.1	P	--	1.0	39	72.6	**74.0**	-1.4	Pass	Bandedge
2479.1	82.0	63.2	P	--	1.0	81.95	115.6	116.2	-0.7	Pass	Power RBW =10 MHz
4958.2	45.9	46.1	P	--	1.0	46.05	52.2	**74.0**	-21.7	Pass	
4958.2	25.9	26.1	A	--	1.0	26.05	32.2	**54.0**	-21.7	Pass	
7437.3	43.2	43.5	P	--	1.0	43.49	58.4	95.6	-37.1	Pass	
7437.3	23.2	23.5	A	--	1.0	23.49	38.4	75.6	-37.1	Pass	
9916.4	43.8	43.6	P	--	1.0	43.79	63.8	95.6	-31.8	Pass	
9916.4	23.8	23.6	A	--	1.0	23.79	43.8	75.6	-31.8	Pass	
12395.5	46.8	46.6	P	--	1.0	46.83	73.2	**74.0**	-0.8	Pass	
12395.5	26.8	26.6	A	--	1.0	26.83	53.2	**54.0**	-0.8	Pass	

Corrected Reading = Max of Horizontal/Vertical + Antenna Factor + cable loss – Preamp.
@ 2442 MHz: 82.5 + 28.4 + 5.1 – 0 (no preamp) = 116.0

Lower Band Edge Non-Hopping

PEAK Complies
Correction factor for cable loss and antenna factor = 33.6 dB
Limit = -20dBc = 116.2 – 20 = 96.2 dBuV/m
Peak = 45.8 + 33.6 (Correction Factor) = 79.4 dBuV/m

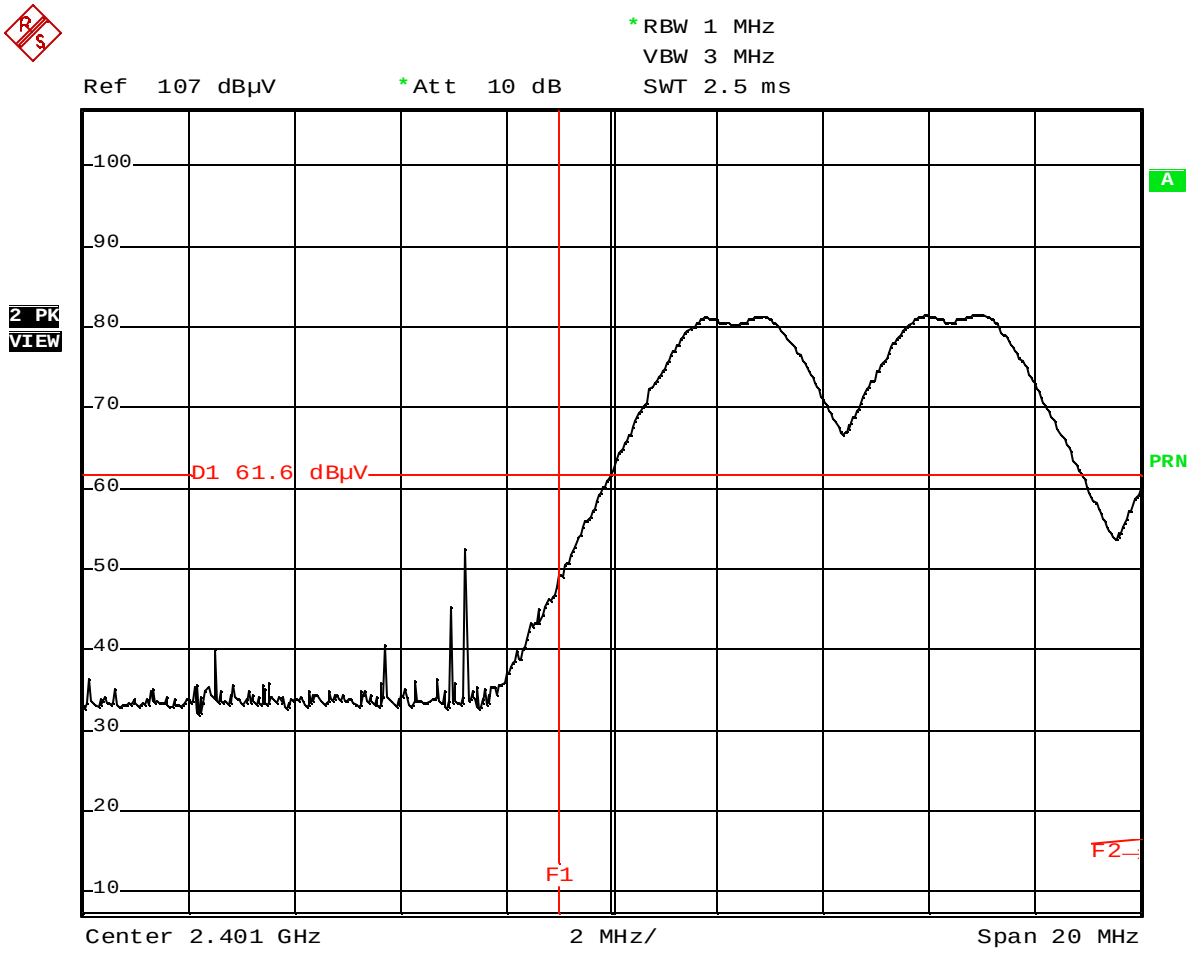


Date: 7.NOV.2007 17:10:19

AVERAGE Complies
Average Limit = Peak Limit – 20dBc
Average Limit = 96.2 dBuV/m –20dB = 76.2 dBuV/m
Average = Peak measurement – Duty Cycle Correction Factor (DCCF)
Duty Cycle Correction Factor (DCCF) = 20 x Log (0.1) = -20dB
Peak = 45.8 + 33.6 (Correction Factor) = 79.4 dBuV/m
Average = 45.8 + 33.6 (Correction Factor) – 20 dB = 59.4 dBuV/m

Lower Band Edge Hopping

PEAK Complies

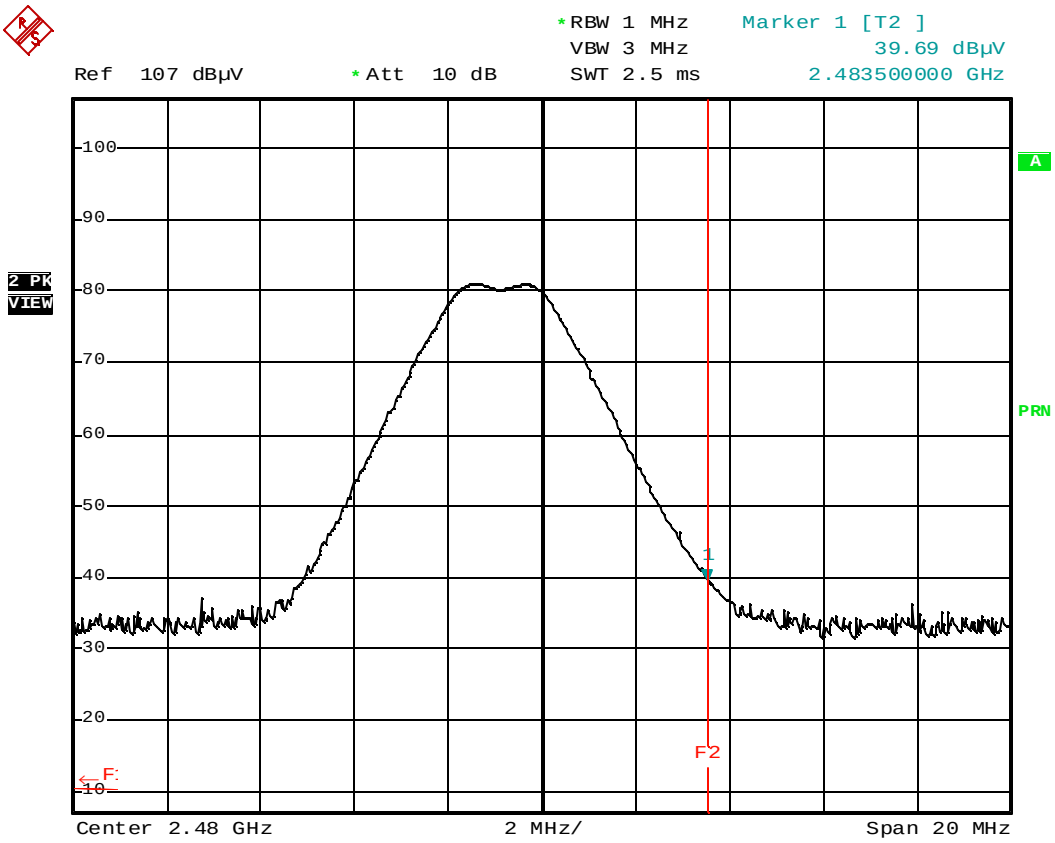


Date: 7.NOV.2007 16:58:37

AVERAGE Complies

Higher Band Edge Non-Hopping

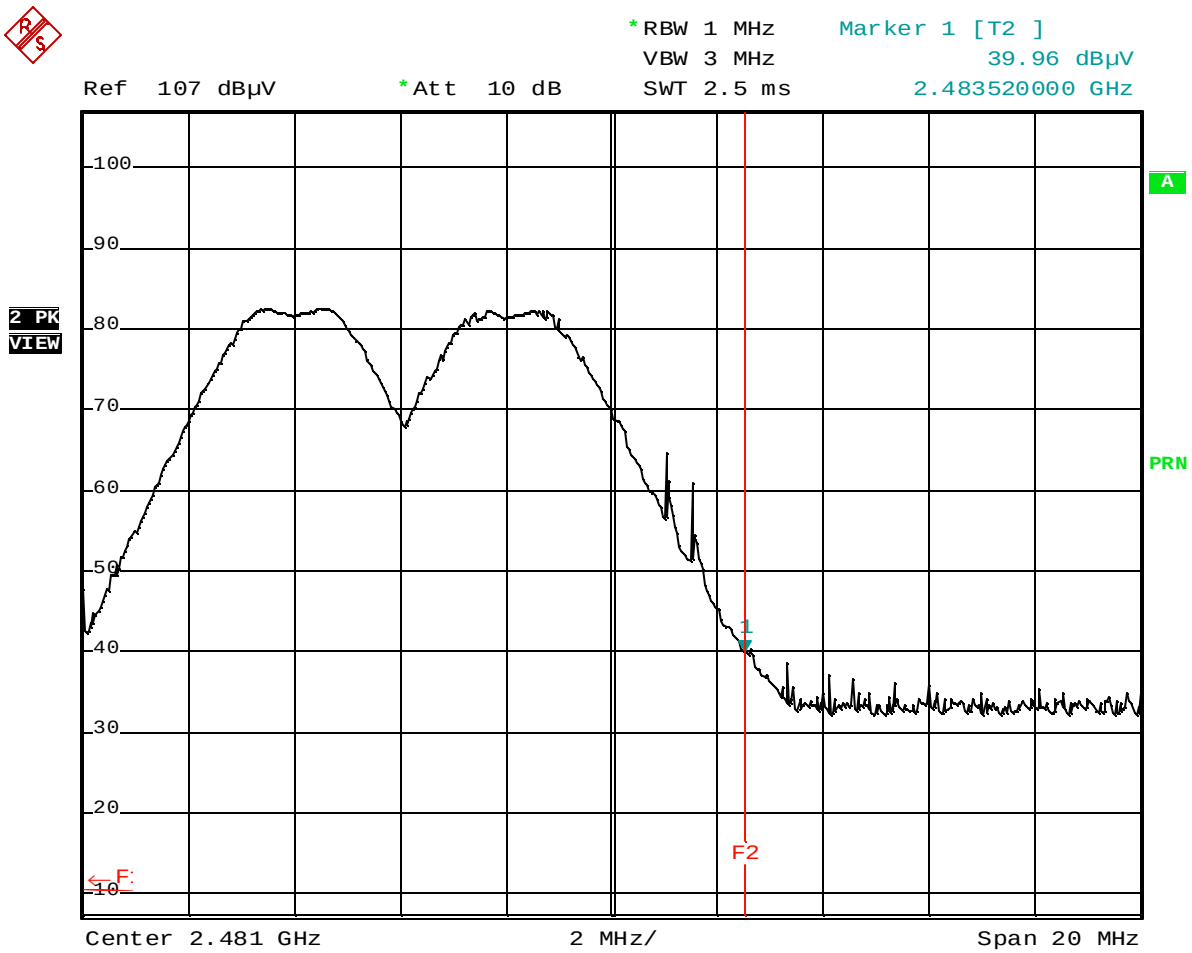
PEAK Complies
Correction factor for cable loss and antenna factor = 33.6 dB
Limit = 74dBuV/m due to 15.205 restricted band and 15.209
Peak = 39.7 + 33.6 (Correction Factor) = 73.3 dBuV/m



AVERAGE Complies
Average Limit = 54 dBuV/m due to 15.205 restricted band and 15.209
Average = 73.3 dBuV/m – 20 dB = 53.3 dBuV/m

Higher Band Edge Hopping

PEAK Complies



Date: 7.NOV.2007 16:56:57

AVERAGE Complies

Average Limit = 54 dBuV/m due to 15.205 restricted band and 15.209
Peak = 39.9+ 33.6 (Correction Factor) = 73.5 dBuV/m
Average = 73.5 dBuV/m – 20 dB = 53.5 dBuV/m

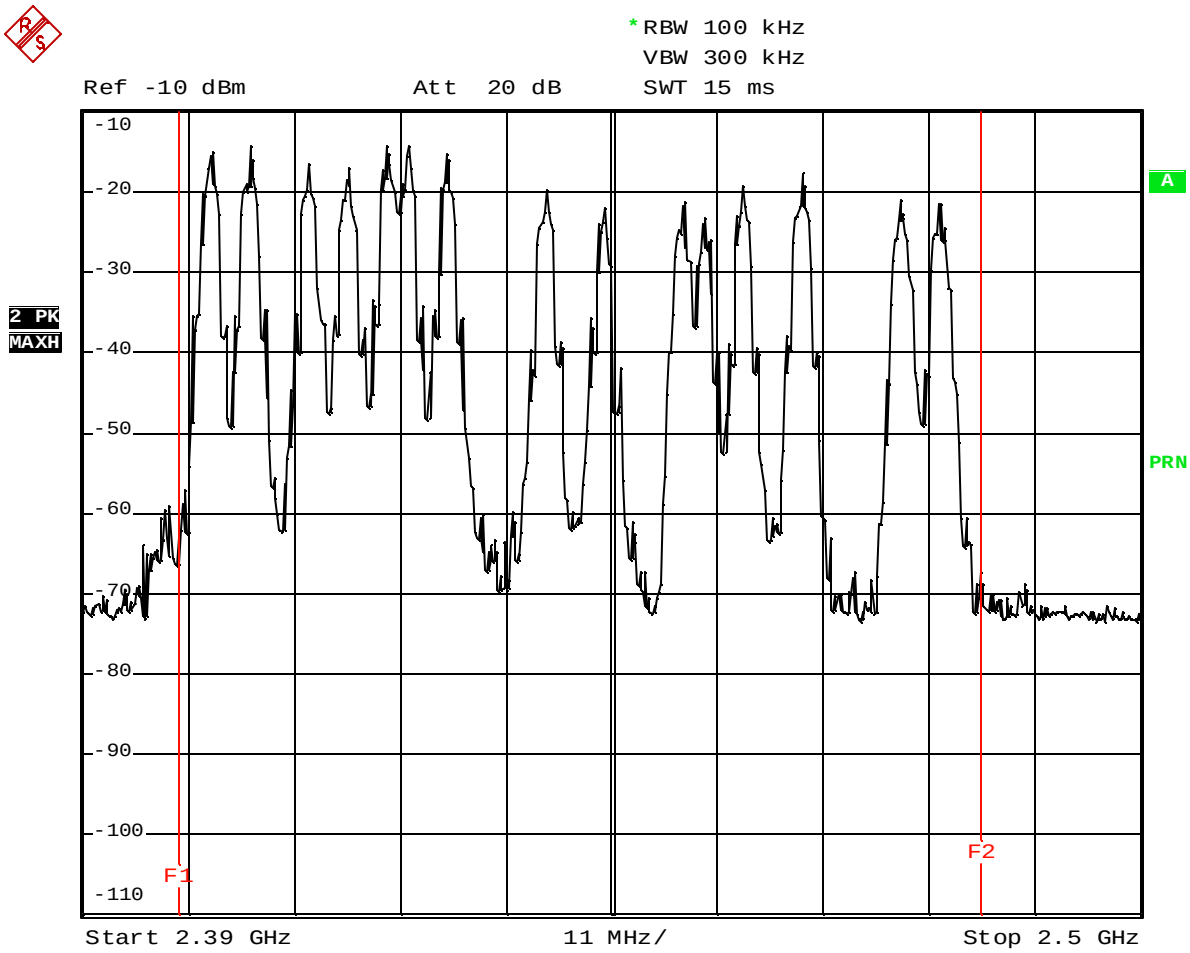
5.7. Number of Hopping Channels

RSS-210 Annex 8.1(4)

(iii) Frequency hopping systems in the 2400-2483.5 MHz band may utilize hopping channels whose 20dB bandwidth is greater than 1 MHz provided the systems use at least 15 non-overlapping channels. The total span of hopping channels shall be at least 75 MHz.

At least 15 hopping channels – 15 counted.

Span = 2479.1 – 2403.5 = 75.6 MHz > 75 MHz

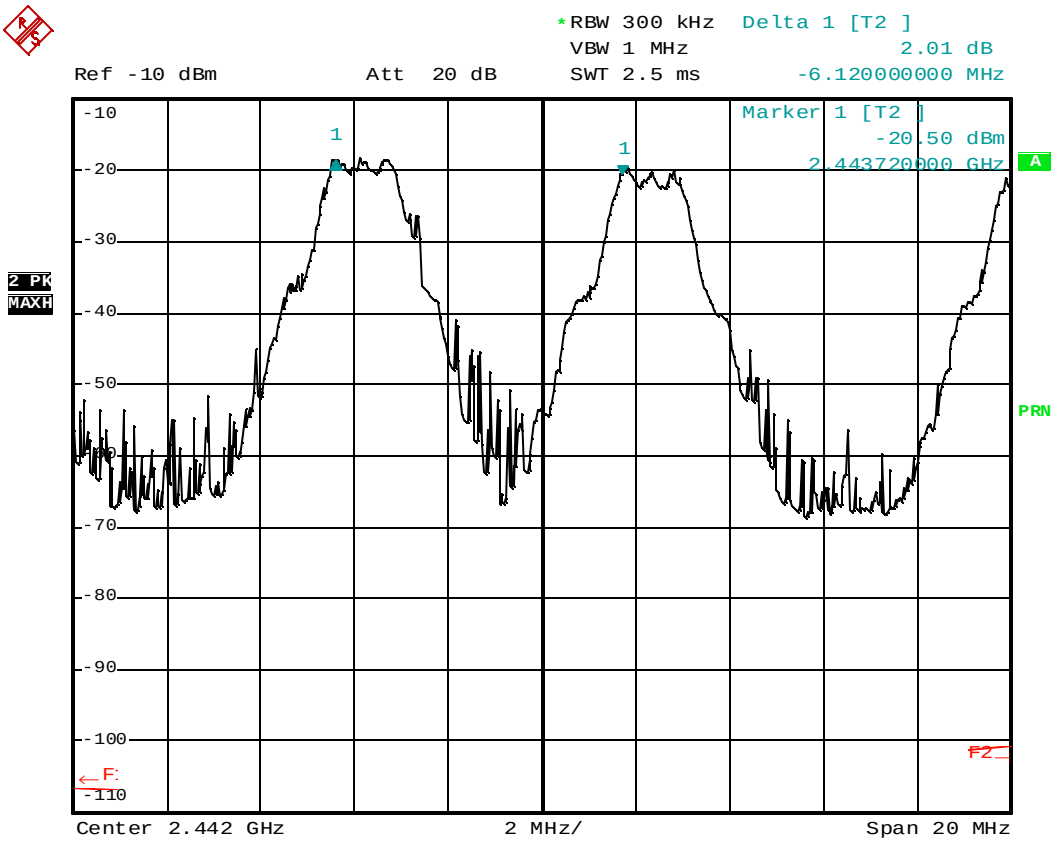


5.8. Channel Separation

15.247(a)(1) Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

Frequency Separation: 2.444 MHz

(Display line is an arbitrary line to provide measurement at similar points of two adjoining channels)



Date: 6.NOV.2007 17:23:05

5.9. Time of Occupancy

RSS-210 Annex 8.1(4)

15.247 (a)(1)(iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

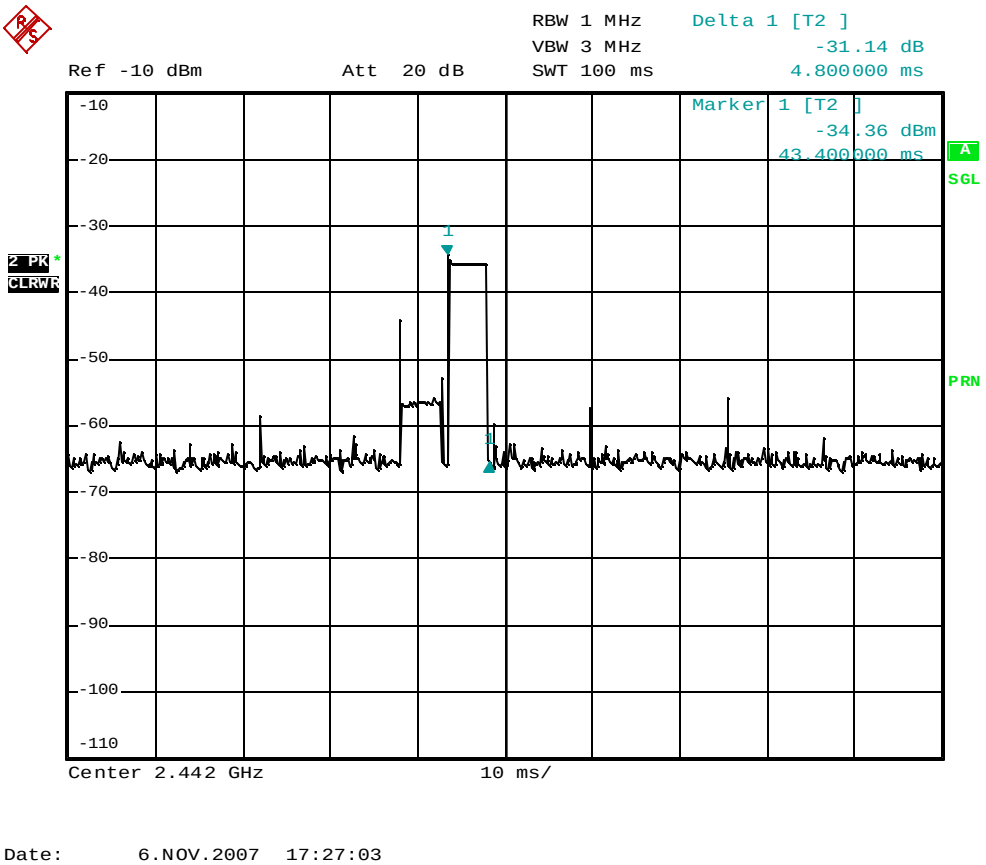
15 channels x 0.4 Seconds = 6 seconds.

4.80 ms on time each time emission is on in channel selected at random.

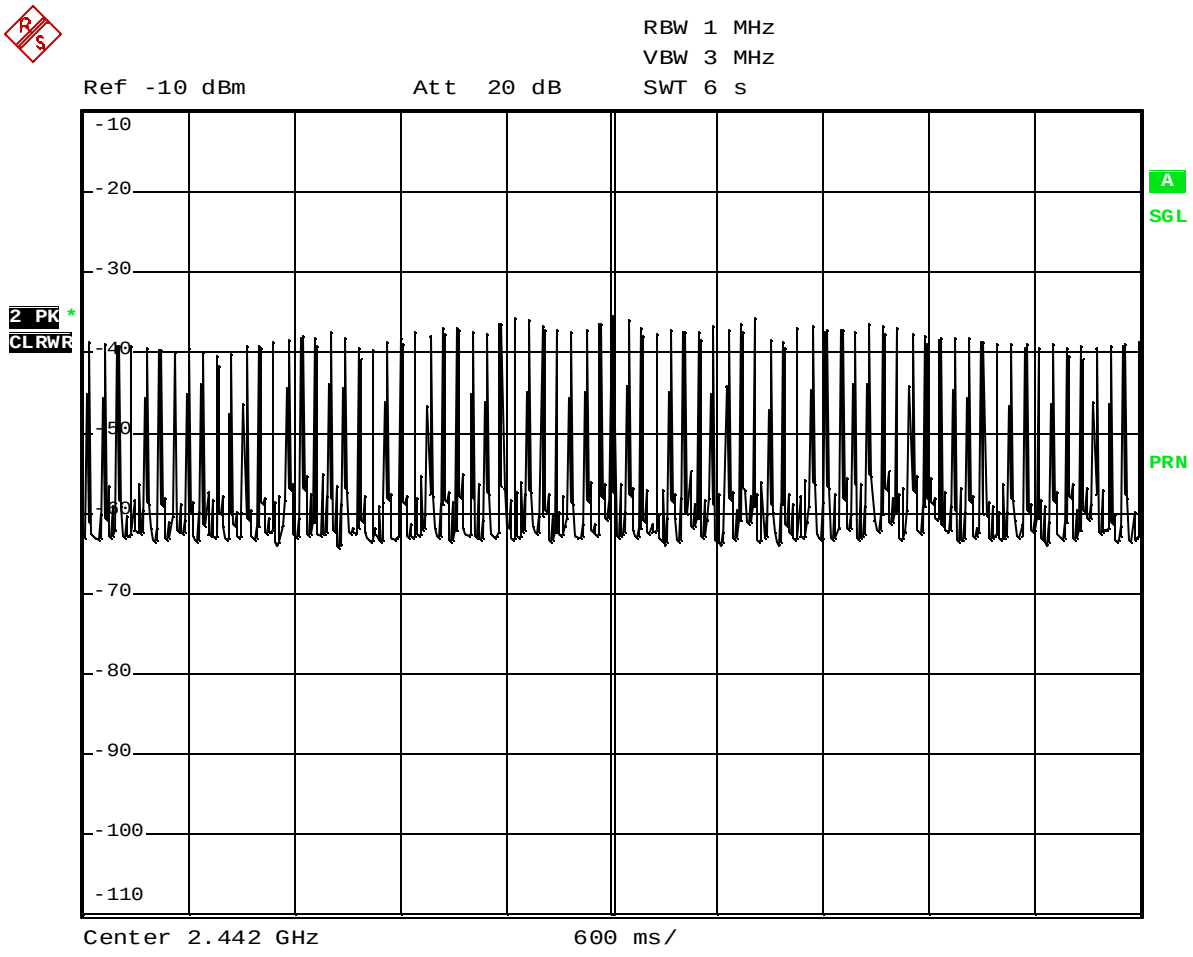
75 count for channel emissions in 6 seconds – next page.

75 x 4.8 ms = 360 ms

360 ms < 0.4 seconds



Count 75 Channel Emissions in 6 seconds.



Date: 6.NOV.2007 17:33:32

5.10. Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
107	Quasi-Peak Adapter	HP	8568B	2415A00373	4/2/07	4/2/08
110	Antenna, LPA	Electrometrics	LPA-25	1217	12/18/2006	12/18/07
111	Antenna, Bicon	EMCO	3146	1382	10/3/07	10/3/08
128	Antenna, Bicon	EMCO	3104	2882	12/10/2006	12/10/07
317	Preamp	HP	8449A	2749A00167	2/9/2007	02/09/08
395	V-Network LISN	Solar	9348-50-R-24-BNC	941718	3/9/07	3/9/08
534	Analyzer Display	HP	85662A	2534A10452	4/2/07	4/2/08
538	Spectrum Analyzer	HP	85650A	2521A00588	4/9/07	4/9/08
529	Dbl Ridge Horn	EMCO	3115	2505	8/27/2007	08/27/08
559	High Pass Filter	Solar	8310-1.0	844823	4/4/07	4/4/08
625	Dbl Ridge Horn	EMCO	3116	2325	NCR	Verified
685	Transient Limiter	HP	11947A	3107A02637	9/5/07	9/5/08
772	DC Power Supply	Micronta	22-121	74103233-A	NCR	Verified
815	Multimeter	Fluke	111	78130066	7/9/2007	07/09/08
835	Spectrum Analyzer	Rohde & Schwarz	RHDFSEK	829058/005	6/20/2007	06/20/08
836	Signal Generator	Agilent	E8254A	US41140229	12/4/2007	12/04/08
877	Antenna, DRG	AH Systems	SAS-571	688	7/10/2007	07/10/08
898	EMI Receiver	HP	8546A	3625A00348	1/18/2007	01/18/08
899	EMI Filter	HP	85460A	3448A00288	1/18/2007	01/18/08