FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 7

CERTIFICATION TEST REPORT*

FOR

HEAVY DUTY HANDHELD PDA-TYPE DEVICE WITH DUAL BAND WCDMA/HSDPA/HSUPA, GSM, GPRS, EDGE, 802.11 b/g & BT

MODEL NUMBER: CN50

FCC ID: EHA-01CN50
IC: 1223A-01CN50

REPORT NUMBER: 09U12487-2

ISSUE DATE: MAY 13, 2009

Prepared for
INTERMEC TECHNOLOGIES CORP
550 SECOND STREET SE
CEDAR RAPIDS
IOWA, 52401, U.S.A

Prepared by
COMPLIANCE CERTIFICATION SERVICES
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* This report covers the radiated emissions, power line conducted emissions, PK and AV power. For other RF conducted test items refer to previous report number 08U12127-2 FCC IC BLUETOOTH Report

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	05/13/09	Initial Issue	F. Ibrahim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: INTERMEC TECHNOLOGIES CORP
550 SECOND STREET SE
CEDAR RAPIDS, IOWA, 52401, U.S.A

EUT DESCRIPTION: HEAVY-DUTY HANDHELD PDA-TYPE DEVICE w/ DUAL BAND WCDMA/HSDPA, HSUPA, GSM, GPRS, EDGE, 802.11 b/g & BT

MODEL: CN50

SERIAL NUMBER: 326V0800070

DATE TESTED: APRIL 2, 2009

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C*	Pass
INDUSTRY CANADA RSS-210 Issue 7 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 2	Pass

* This report covers the radiated emissions, power line conducted emissions, PK and AV power. For other RF conducted test items refer to previous report number 08U12127-2 FCC IC BLUETOOTH Report

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by CCS will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

FRANK IBRAHIM
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:

TOM CHEN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 2, and RSS-210 Issue 7.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a HEAVY-duty handheld PDA-type device W/ dual band WCDMA/HSDPA, HSUPA, GSM, GPRS, EDGE, 802.11 B/G & BT

The radio module is manufactured by Qualcomm.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	-0.81	0.83
2402 - 2480	Enhanced 8PSK	-3.58	0.44

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a strip type half wave dipole antenna, with a maximum gain of 0 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was FWU.00.20.17

The test utility software used during testing was Qualcomm BlueToothTxTool version 1.0.0.0

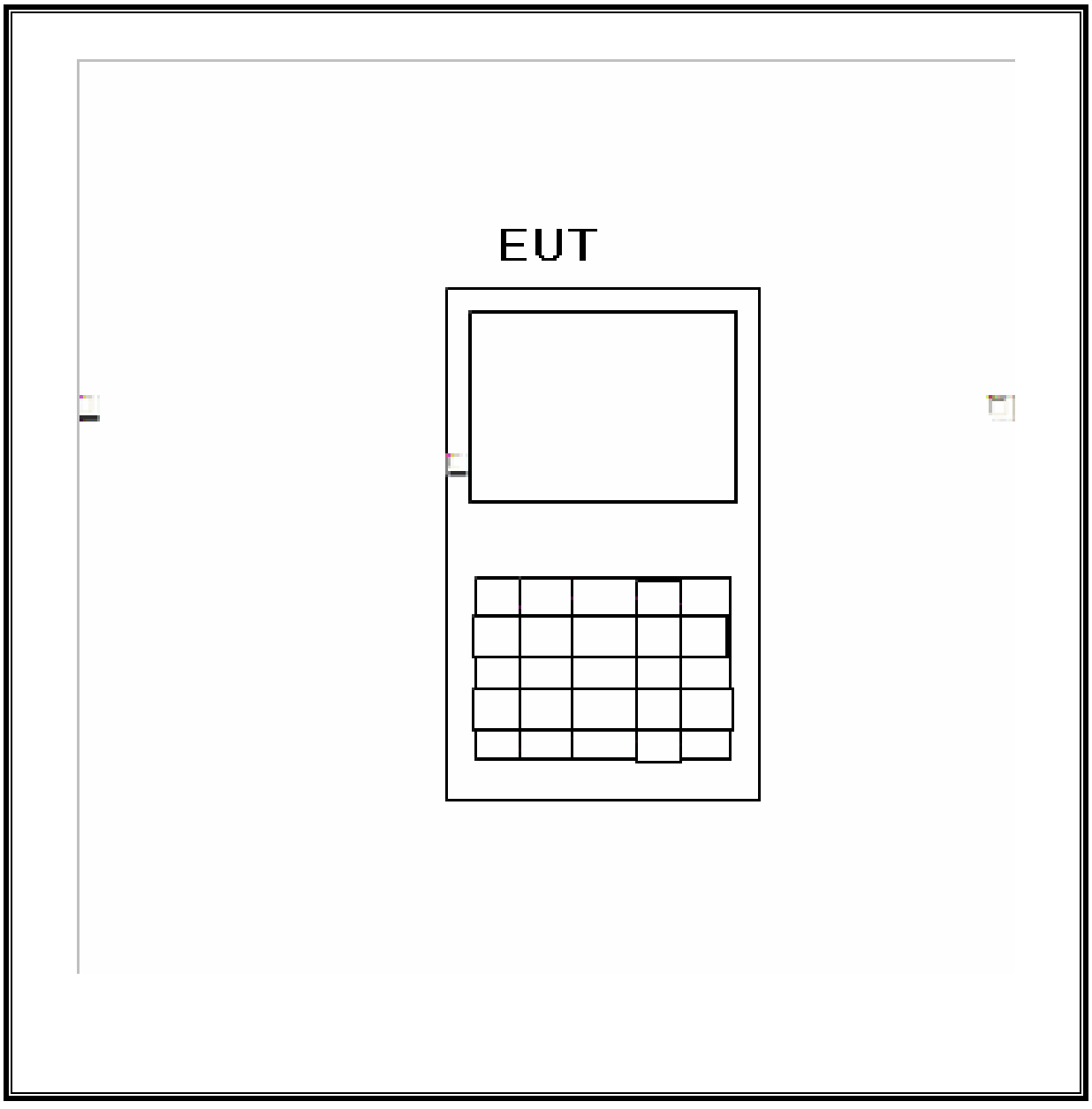
5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power.

5.6. DESCRIPTION OF TEST SETUP

TEST SETUP

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**Asset**	**Cal Date**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	39759	02/07/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	39827	01/14/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	39798	12/16/09
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	39848	02/04/10
Antenna, Horn, 18 GHz	EMCO	3115	C00945	39560	04/22/09
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	39484	08/06/09
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	39750	10/29/09

7. ANTENNA PORT TEST RESULTS

7.1. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 0.7 dB (including 0.7 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

GFSK Mode

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	-1.13
Middle	2441	-1.09
High	2480	-1.54

8PSK Mode

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	-6.70
Middle	2441	-6.80
High	2480	-7.10

7.2. PEAK POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

The maximum antenna gain is less than 6 dBi; therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

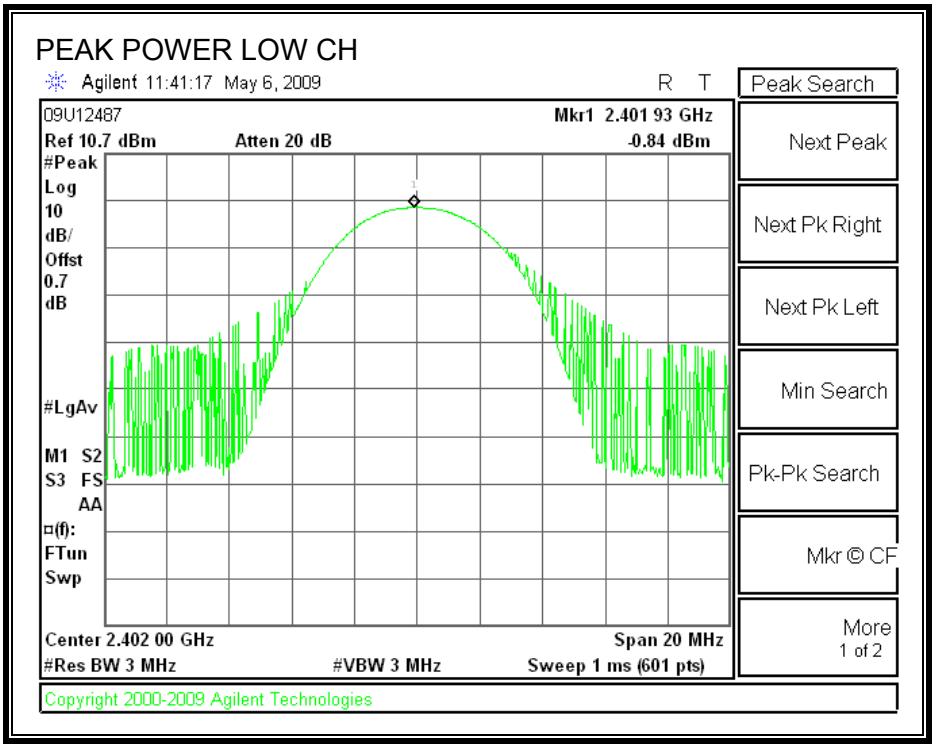
GFSK

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-0.84	30	-30.84
Middle	2441	-0.81	30	-30.81
High	2480	-1.18	30	-31.18

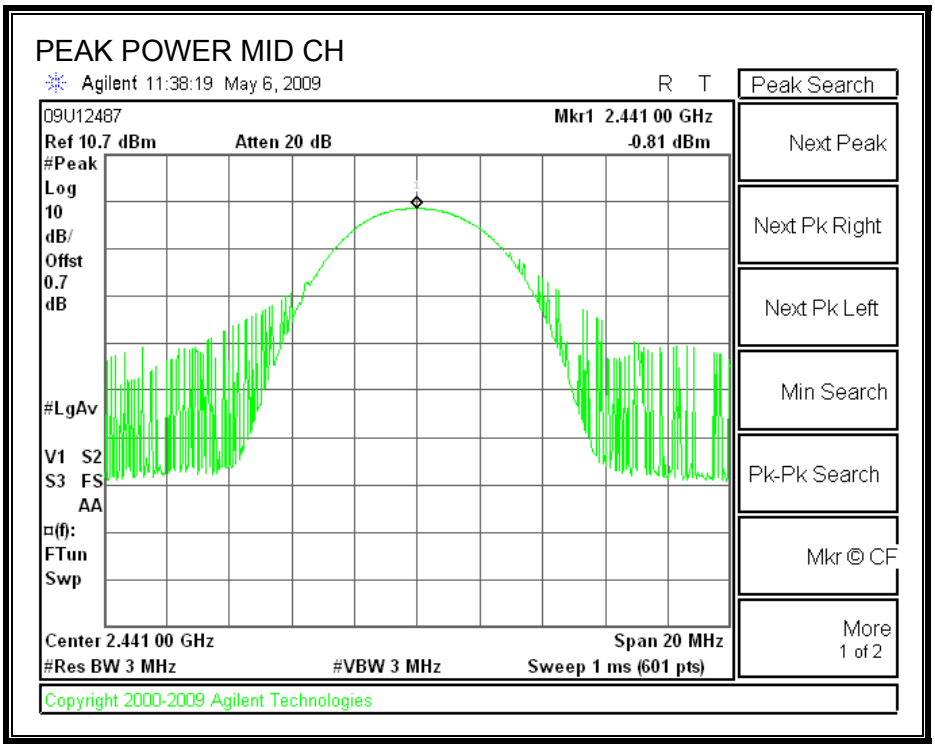
8PSK

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-3.58	30	-33.58
Middle	2441	-3.61	30	-33.61
High	2480	-4.02	30	-34.02

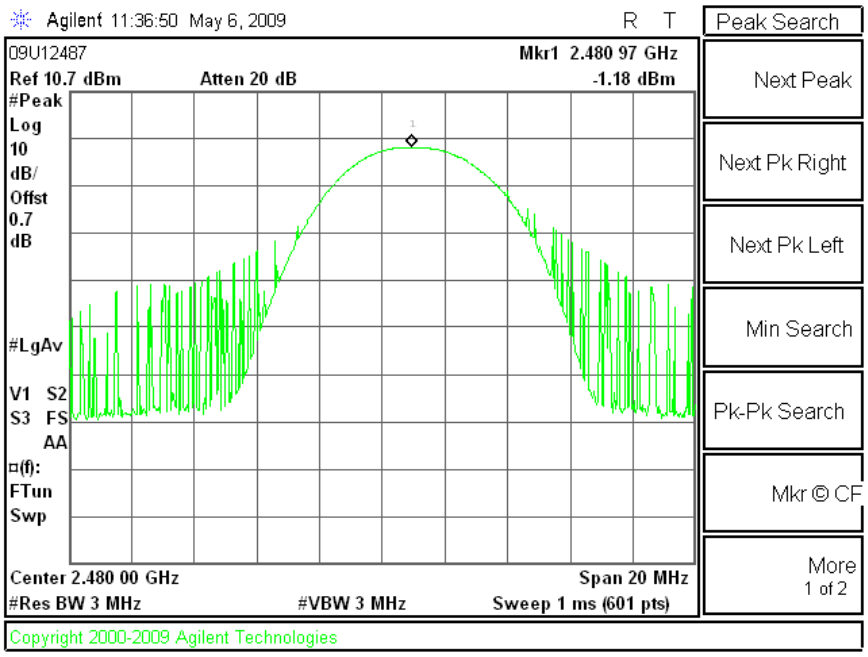
OUTPUT POWER (GFSK)



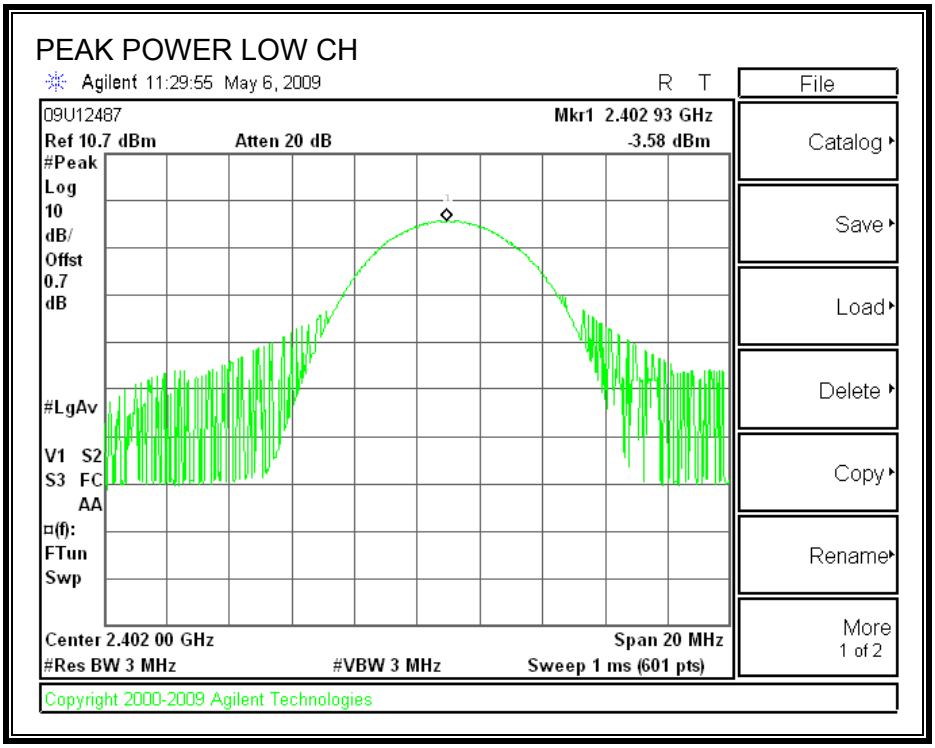
PEAK POWER MID CH



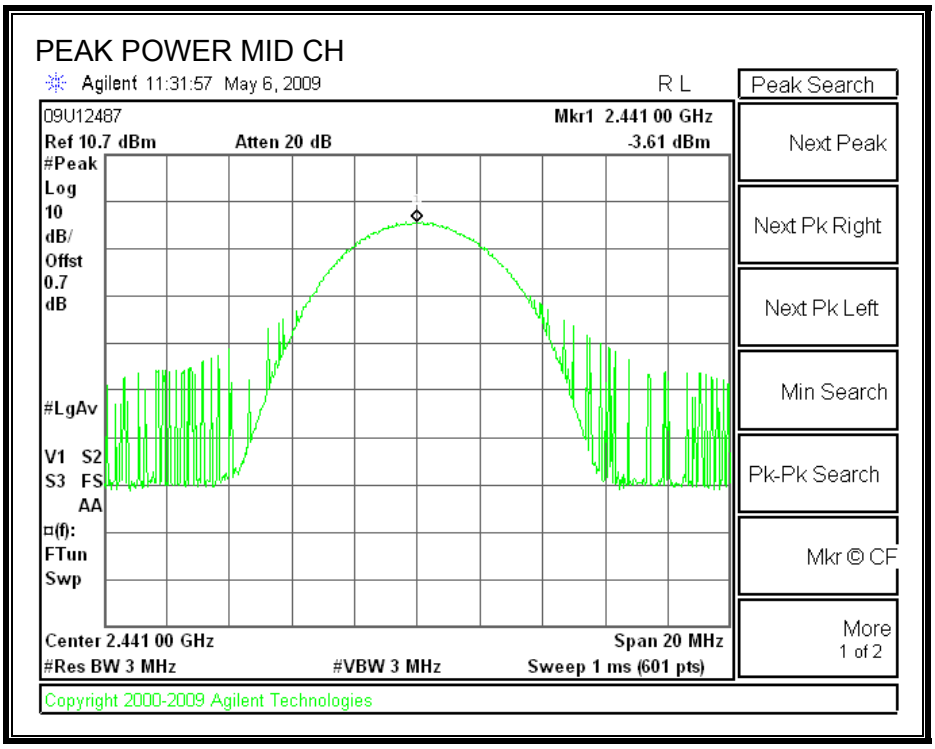
PEAK POWER HIGH CH

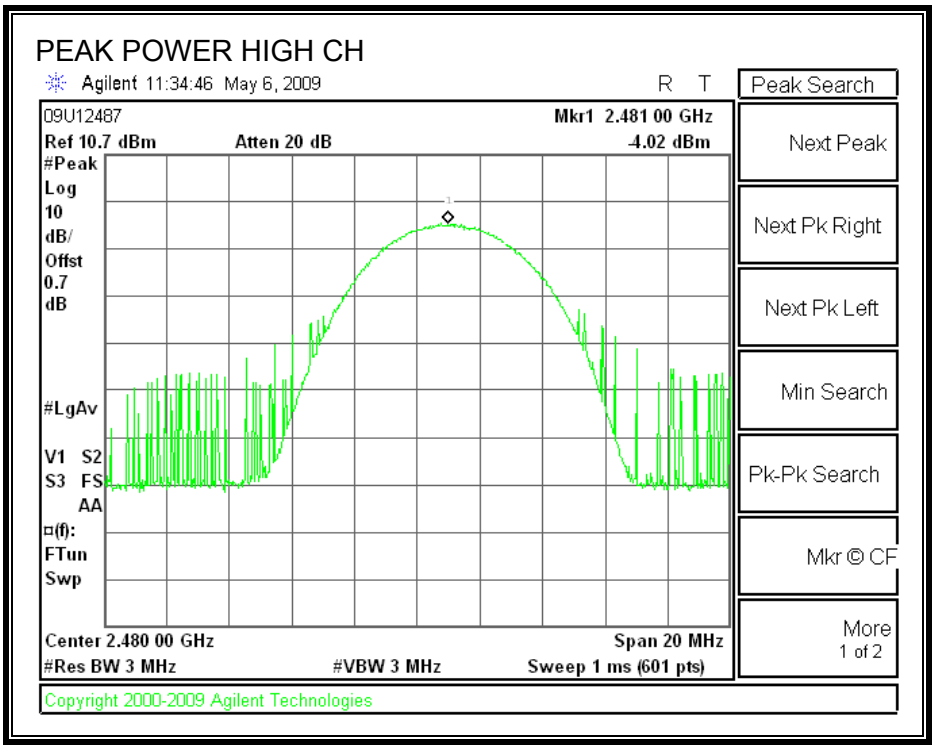


OUTPUT POWER (8PSK)



PEAK POWER MID CH





8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

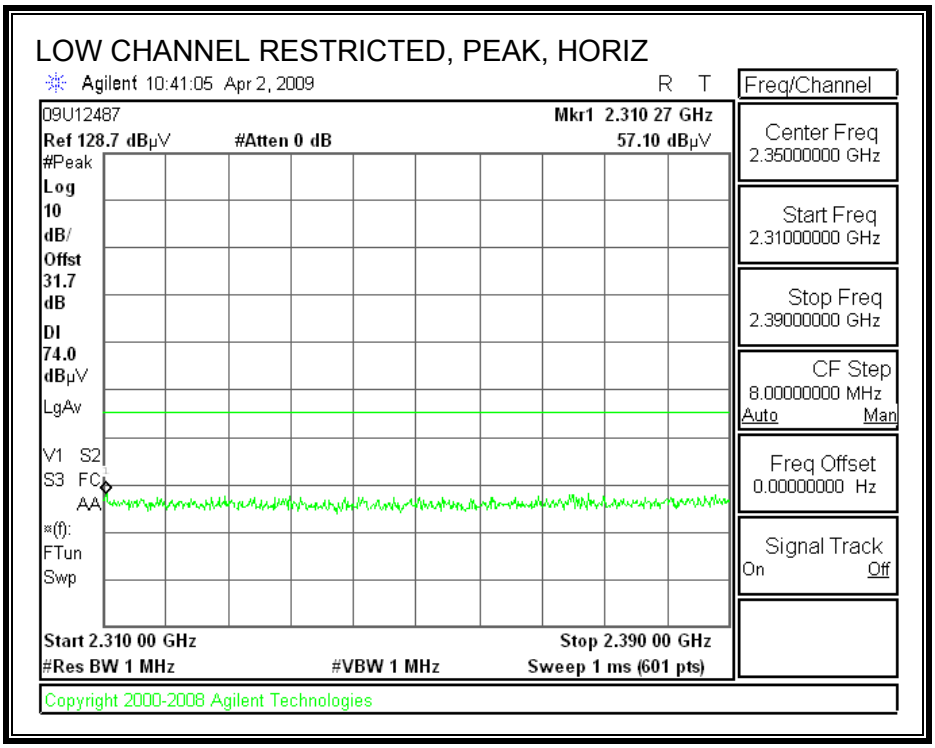
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

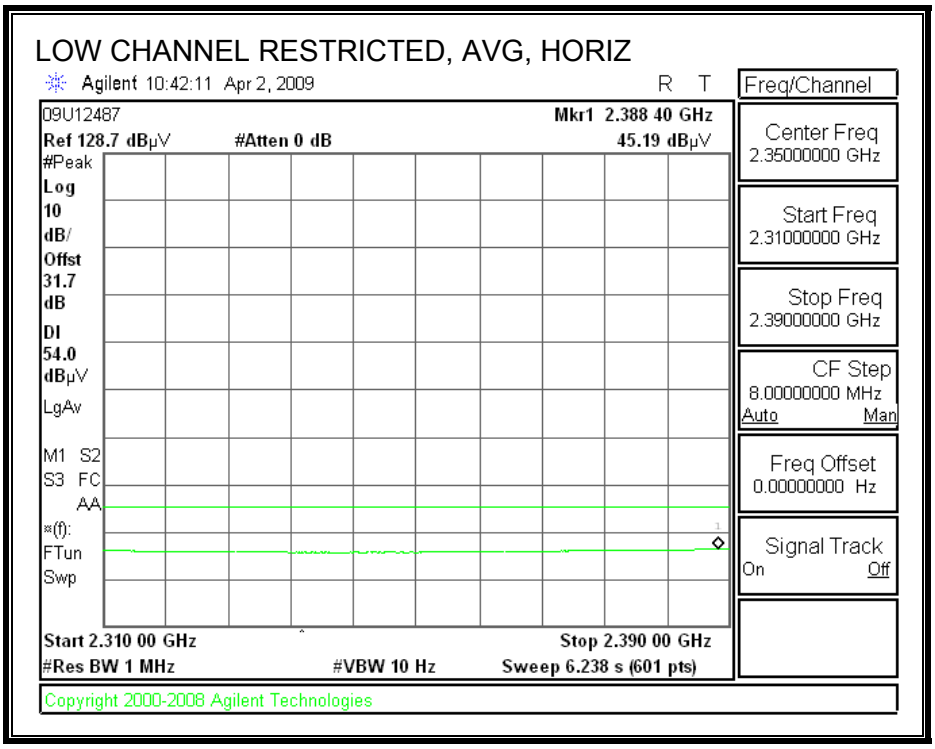
8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. BASIC DATA RATE GFSK MODULATION

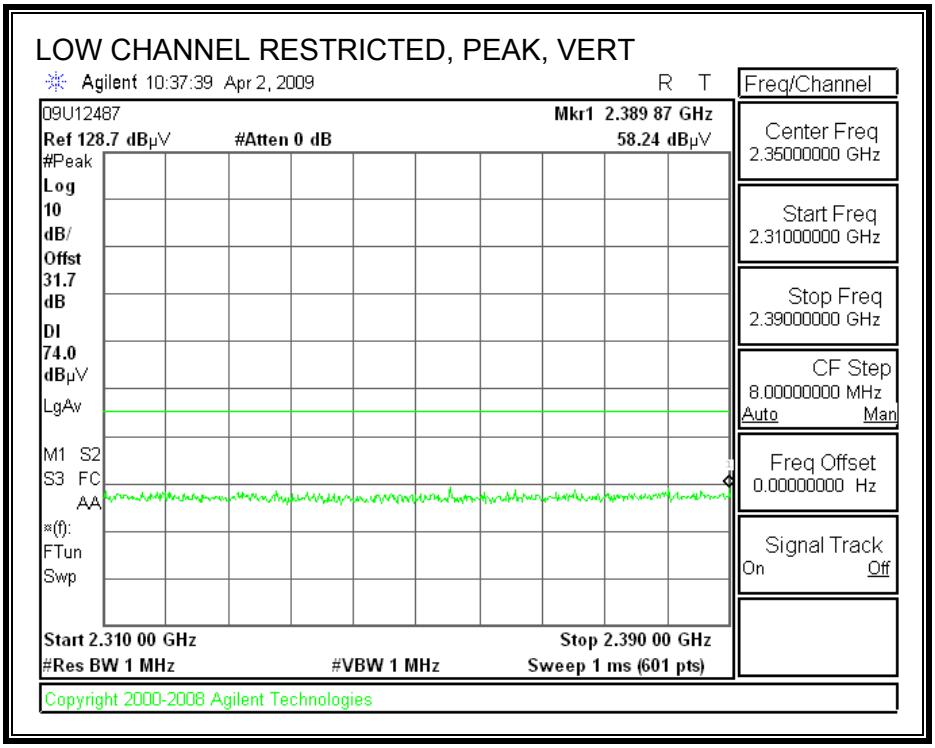
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

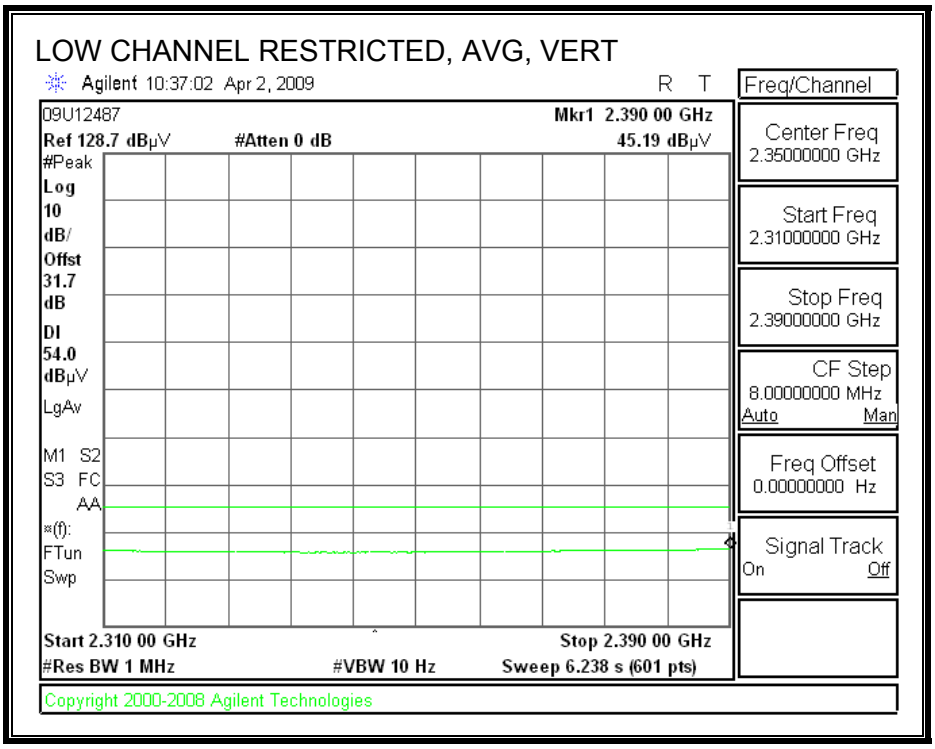


LOW CHANNEL RESTRICTED, AVG, HORIZ

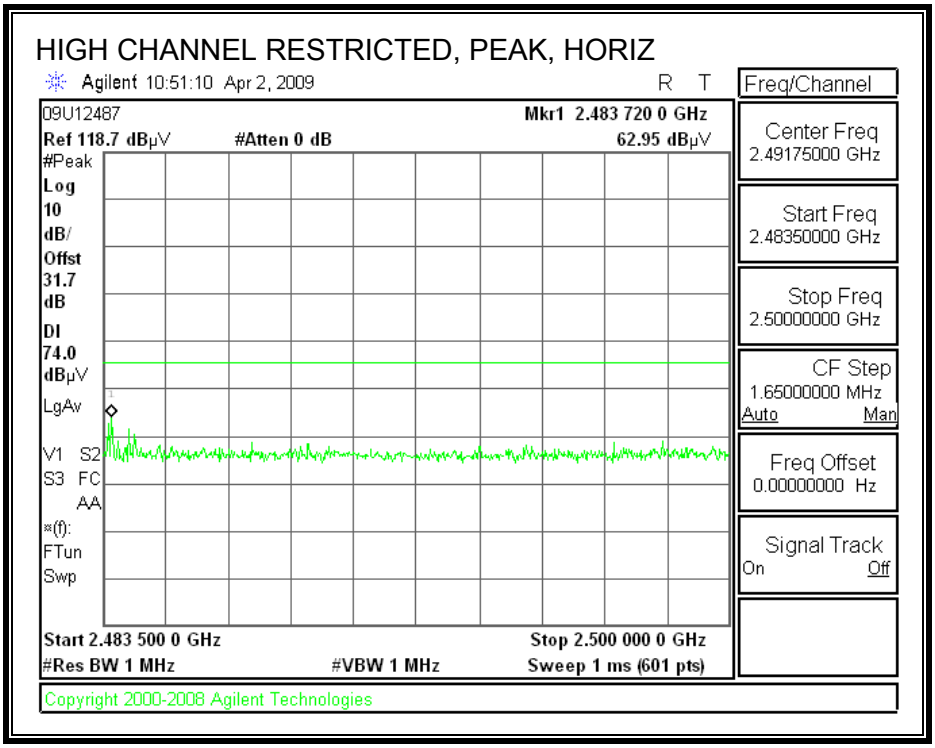


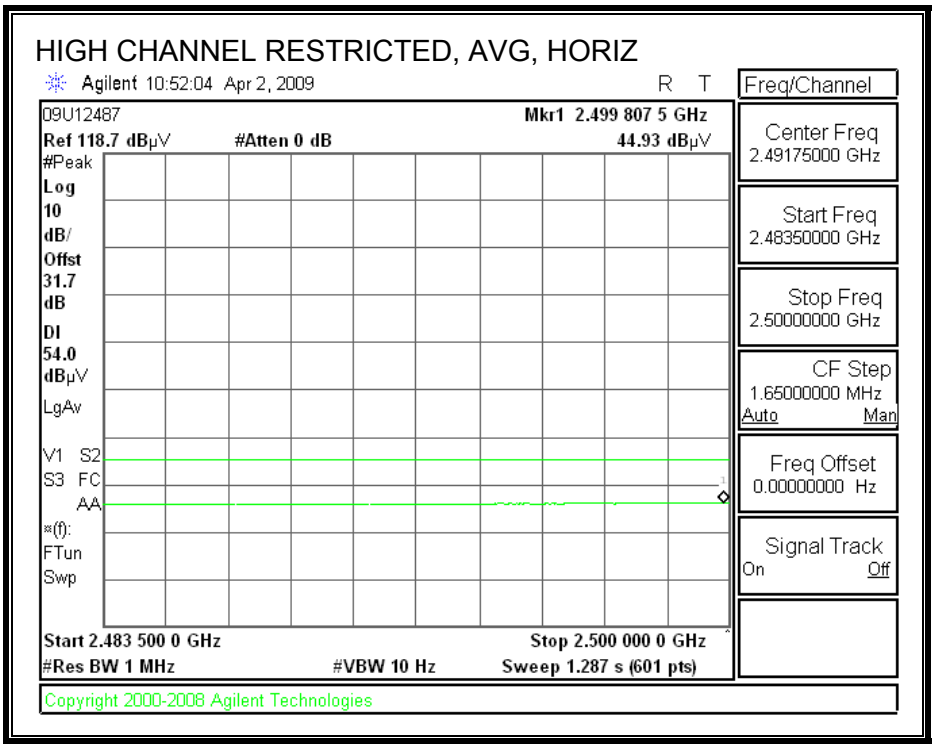
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



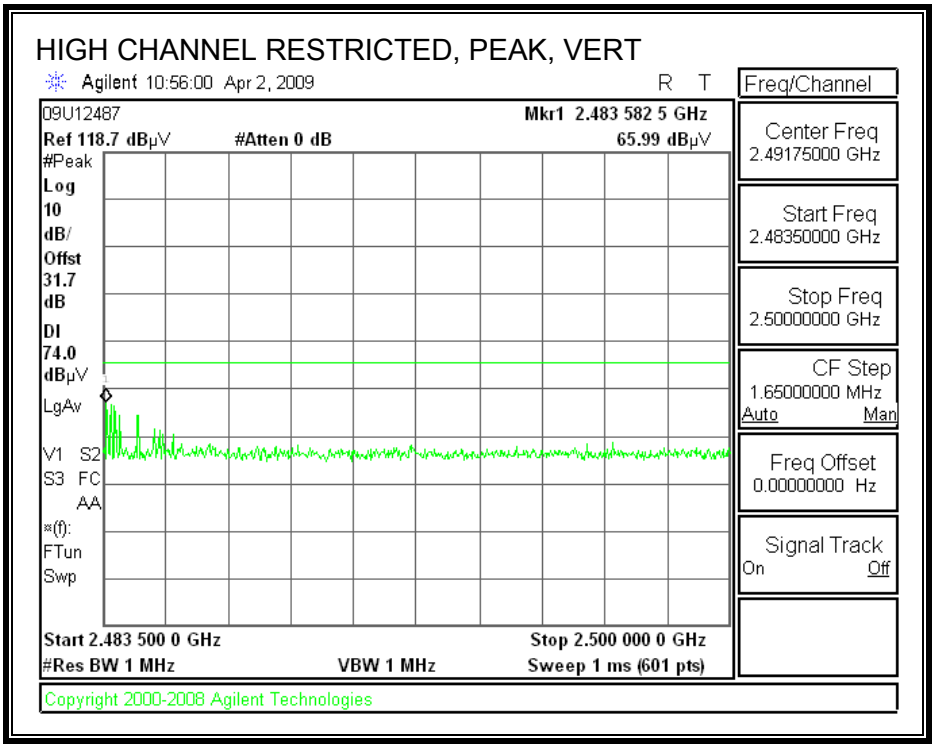


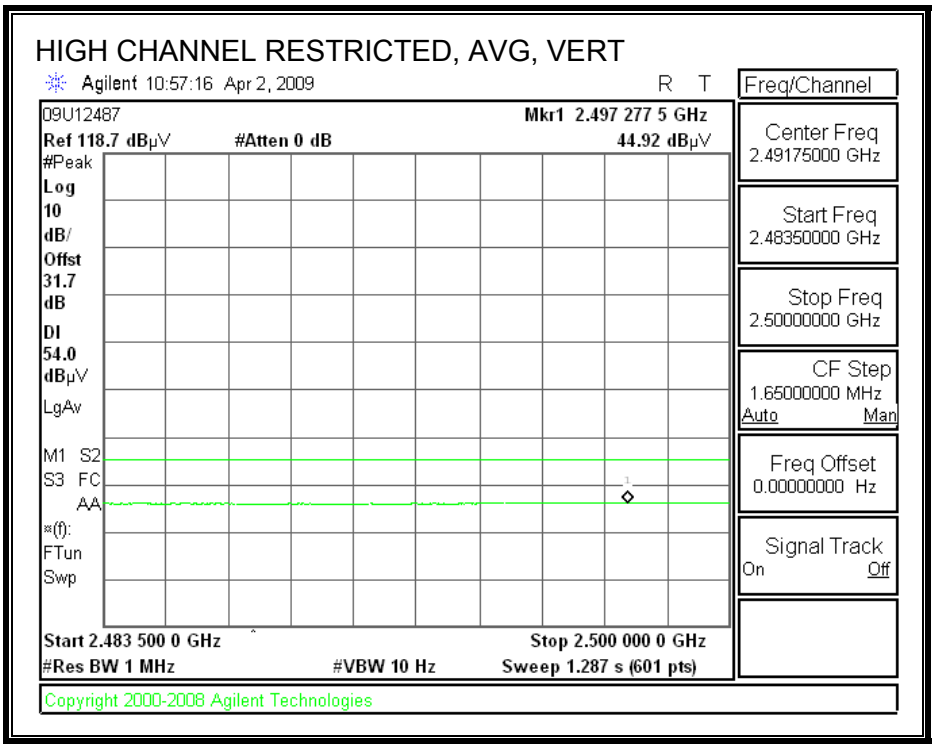
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: Intermec
Project #: 09U12487
Date: 4/2/2009
Test Engineer: Tom Chen
Configuration: EUT only
Mode: GFSK mode TX, Low, Mid, Hi CH

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.209

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter
3' cable 22807700	12' cable 22807600	20' cable 22807500		R_001

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

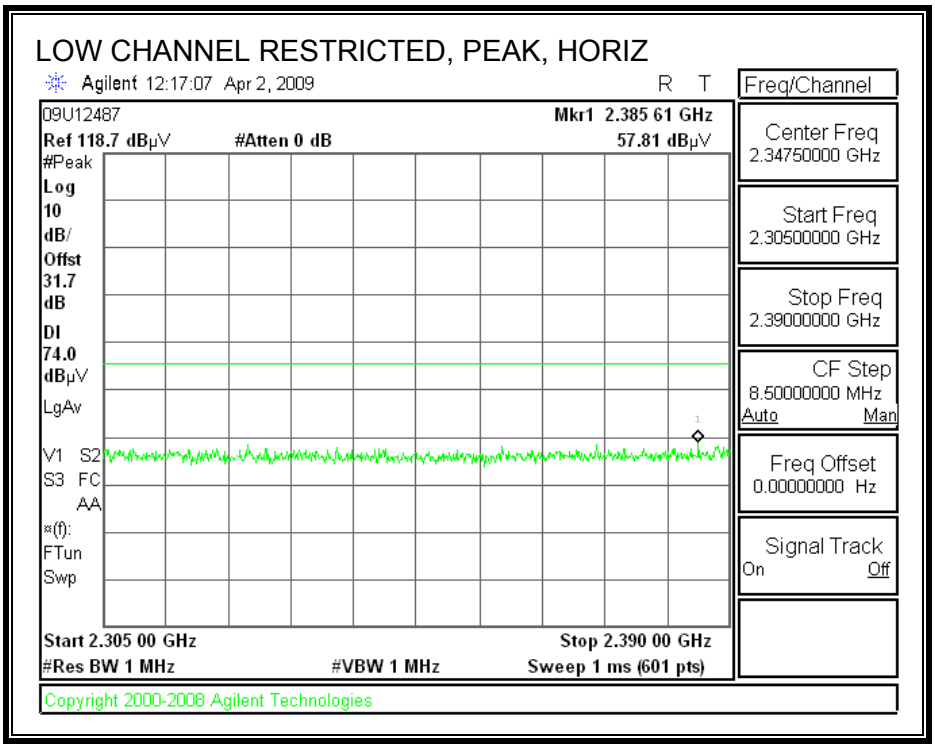
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low CH 2402 MHz															
4.804	3.0	39.3	28.2	33.0	5.8	-36.5	0.0	0.0	41.6	30.5	74	54	-32.4	-23.5	H
7.206	3.0	38.0	27.4	35.1	7.2	-36.2	0.0	0.0	44.1	33.5	74	54	-29.9	-20.5	H
9.608	3.0	37.0	26.7	37.4	8.5	-36.9	0.0	0.0	46.0	35.7	74	54	-28.0	-18.3	H
4.804	3.0	38.7	27.4	33.0	5.8	-36.5	0.0	0.0	41.0	29.7	74	54	-33.0	-24.3	V
7.206	3.0	38.3	26.5	35.1	7.2	-36.2	0.0	0.0	44.4	32.6	74	54	-29.6	-21.4	V
9.608	3.0	37.1	26.0	37.4	8.5	-36.9	0.0	0.0	46.1	35.0	74	54	-27.9	-19.0	V
Mid CH 2441 MHz															
4.882	3.0	39.3	28.3	33.1	5.8	-36.5	0.0	0.0	41.8	30.8	74	54	-32.2	-23.2	H
7.323	3.0	38.0	27.3	35.3	7.3	-36.2	0.0	0.0	44.4	33.7	74	54	-29.6	-20.3	H
9.764	3.0	36.8	26.3	37.4	8.6	-37.0	0.0	0.0	45.8	35.3	74	54	-28.2	-18.7	H
4.882	3.0	38.8	27.4	33.1	5.8	-36.5	0.0	0.0	41.3	29.9	74	54	-32.7	-24.1	V
7.323	3.0	37.8	26.7	35.3	7.3	-36.2	0.0	0.0	44.2	33.1	74	54	-29.8	-20.9	V
9.764	3.0	37.4	26.3	37.4	8.6	-37.0	0.0	0.0	46.4	35.3	74	54	-27.6	-18.7	V
Hi CH 2480 MHz															
4.960	3.0	39.1	27.9	33.2	5.9	-36.5	0.0	0.0	41.7	30.5	74	54	-32.3	-23.5	H
7.440	3.0	37.6	27.1	35.5	7.3	-36.2	0.0	0.0	44.2	33.7	74	54	-29.8	-20.3	H
9.920	3.0	38.0	27.4	37.5	8.7	-37.1	0.0	0.0	47.1	36.5	74	54	-26.9	-17.5	H
4.960	3.0	38.6	27.7	33.2	5.9	-36.5	0.0	0.0	41.2	30.3	74	54	-32.8	-23.7	V
7.440	3.0	37.7	27.1	35.5	7.3	-36.2	0.0	0.0	44.3	33.7	74	54	-29.7	-20.3	V
9.920	3.0	38.3	27.6	37.5	8.7	-37.1	0.0	0.0	47.4	36.7	74	54	-26.6	-17.3	V

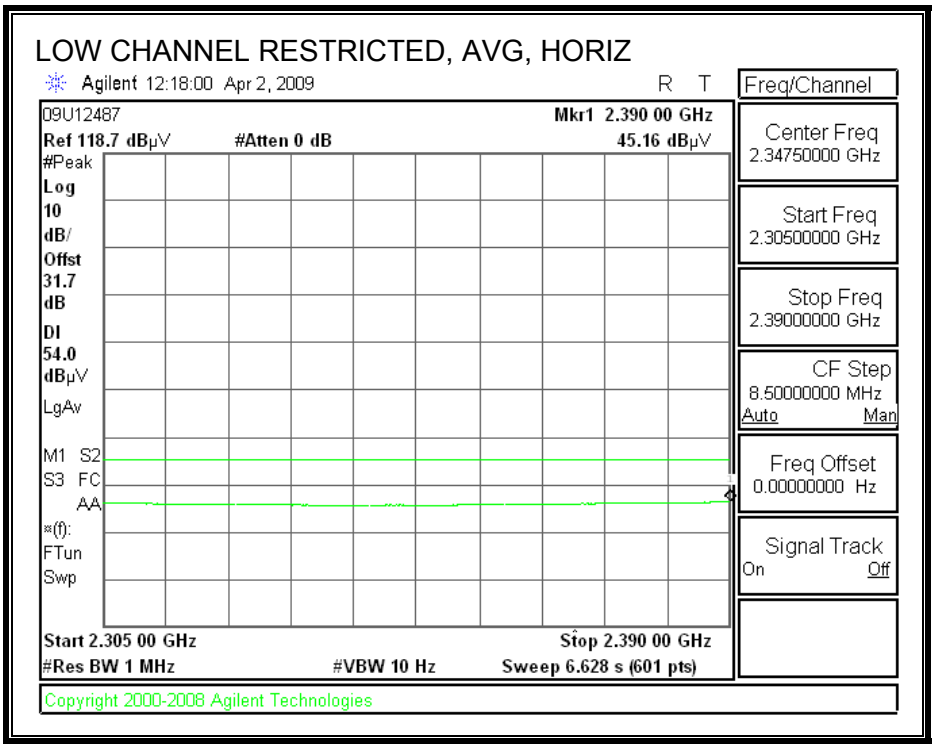
Rev. 11.10.08

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

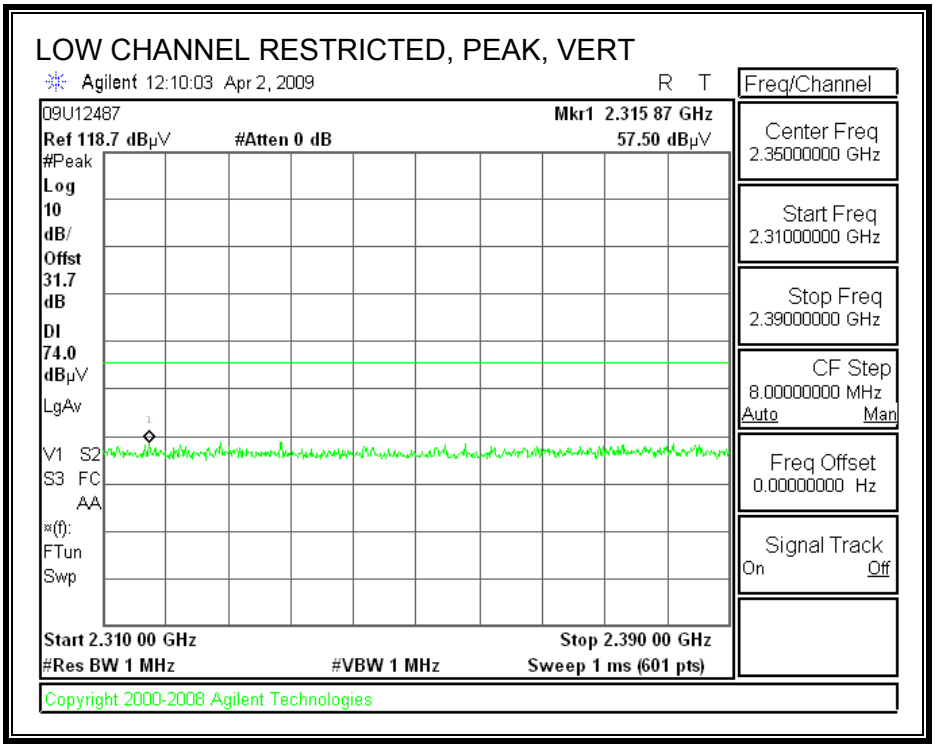
8.2.2. ENHANCED DATA RATE 8PSK MODULATION

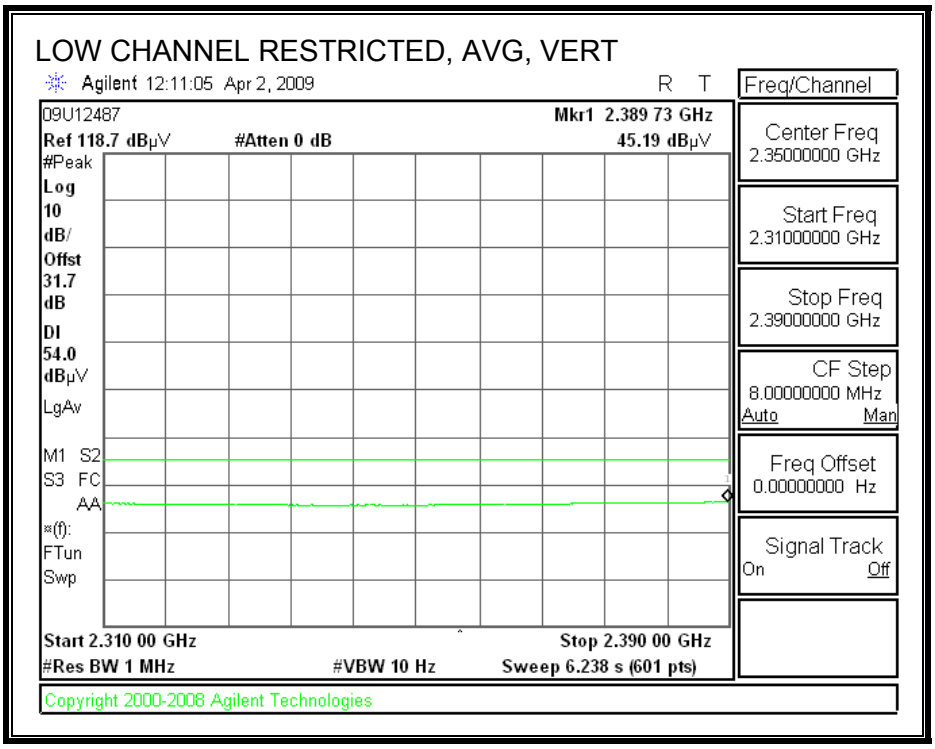
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



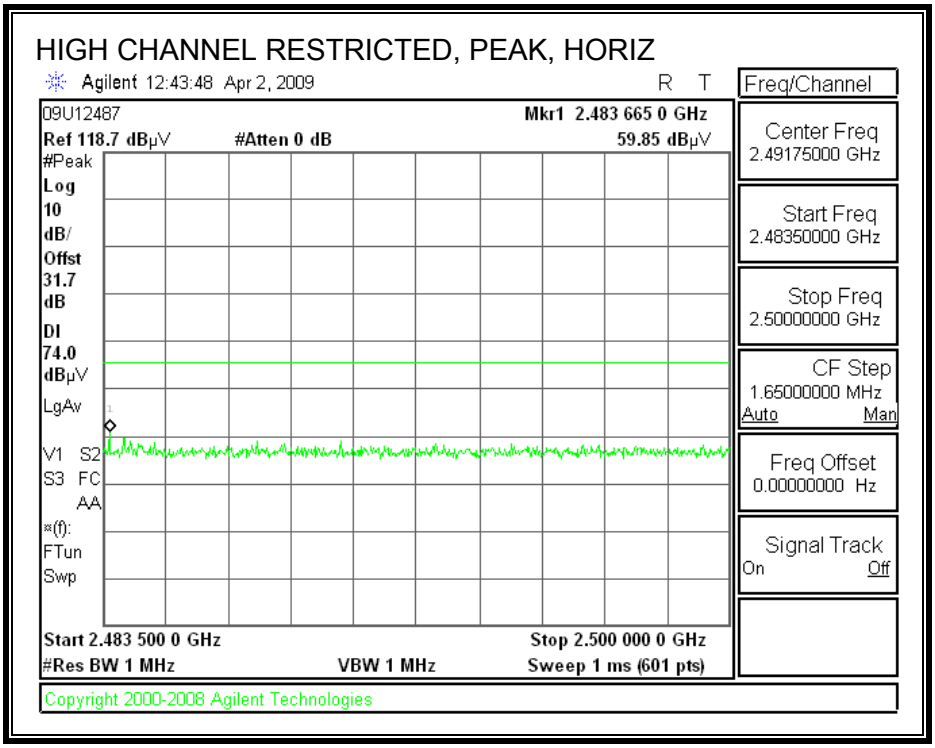


RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

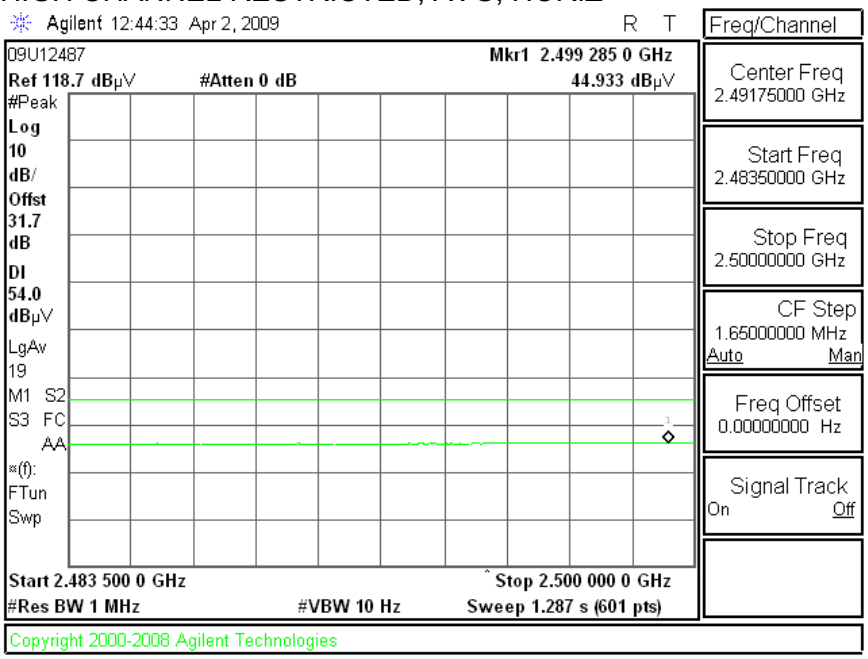




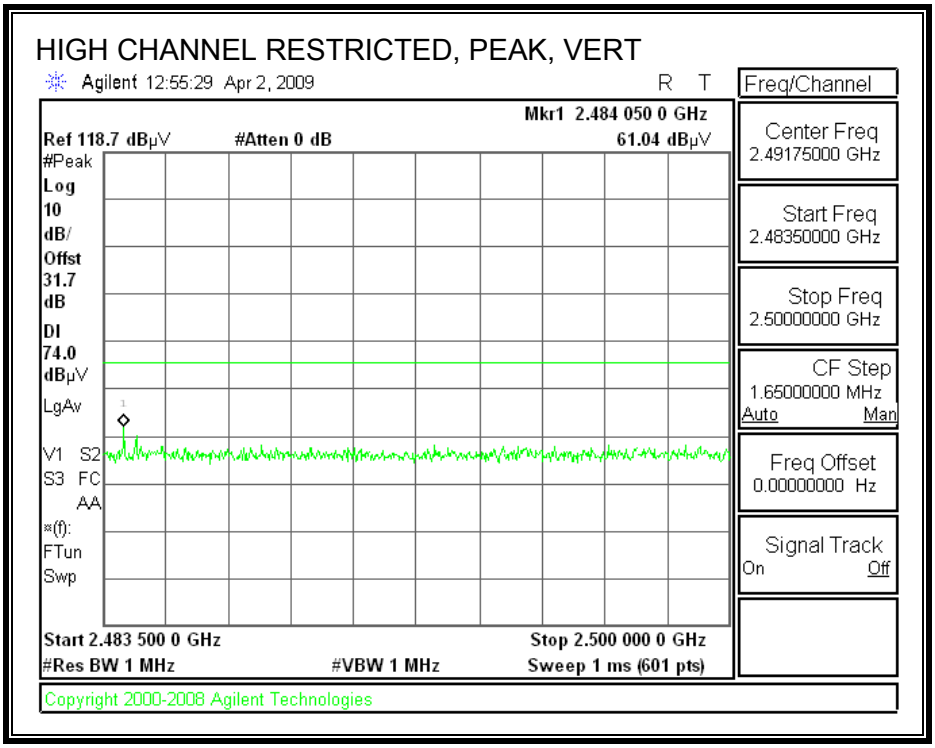
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

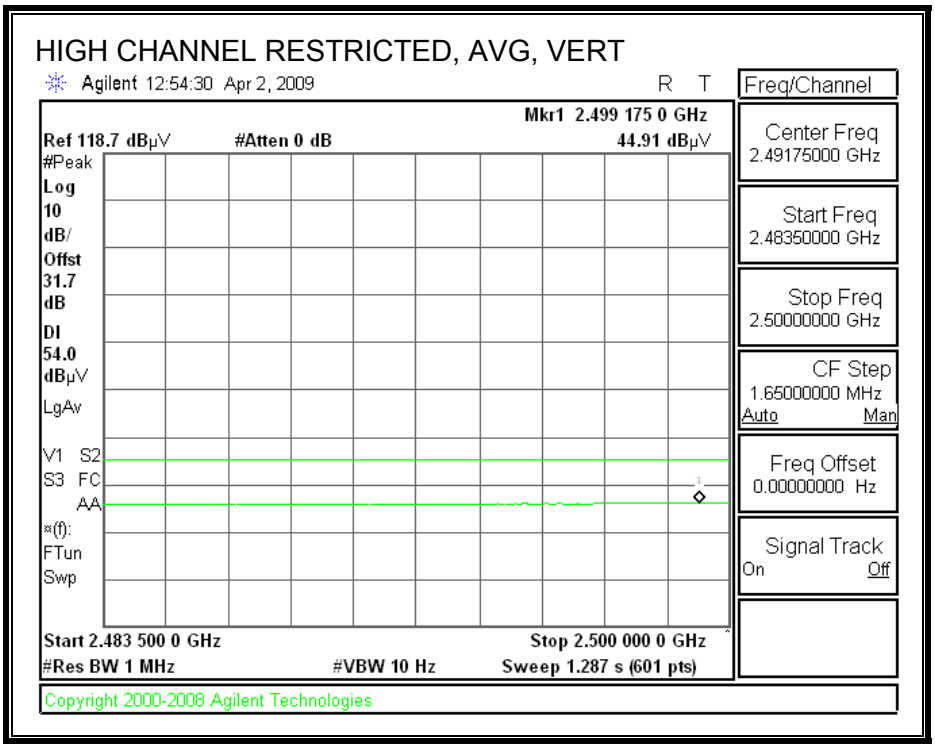


HIGH CHANNEL RESTRICTED, AVG, HORIZ



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: Intermec
Project #: 09U12487
Date: 4/2/2009
Test Engineer: Tom Chen
Configuration: EUT only
Mode: 8PSK mode TX, Low, Mid, Hi CH

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.209

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter
3' cable 22807700	12' cable 22807600	20' cable 22807500		R_001

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low CH 2402 MHz															
4.804	3.0	39.8	27.5	33.0	5.8	-36.5	0.0	0.0	42.1	29.8	74	54	-31.9	-24.2	H
7.206	3.0	37.8	26.3	35.1	7.2	-36.2	0.0	0.0	43.9	32.4	74	54	-30.1	-21.6	H
9.608	3.0	37.7	26.5	37.4	8.5	-36.9	0.0	0.0	46.7	35.5	74	54	-27.3	-18.5	H
4.804	3.0	38.9	27.2	33.0	5.8	-36.5	0.0	0.0	41.2	29.5	74	54	-32.8	-24.5	V
7.206	3.0	38.1	27.0	35.1	7.2	-36.2	0.0	0.0	44.2	33.1	74	54	-29.8	-20.9	V
9.608	3.0	37.2	26.5	37.4	8.5	-36.9	0.0	0.0	46.2	35.5	74	54	-27.8	-18.5	V
Mid CH 2441 MHz															
4.882	3.0	38.1	26.3	33.1	5.8	-36.5	0.0	0.0	40.6	28.8	74	54	-33.4	-25.2	H
7.323	3.0	37.8	26.1	35.3	7.3	-36.2	0.0	0.0	44.2	32.5	74	54	-29.8	-21.5	H
9.764	3.0	38.4	26.8	37.4	8.6	-37.0	0.0	0.0	47.4	35.8	74	54	-26.6	-18.2	H
4.882	3.0	38.4	26.4	33.1	5.8	-36.5	0.0	0.0	40.9	28.9	74	54	-33.1	-25.1	V
7.323	3.0	39.0	26.9	35.3	7.3	-36.2	0.0	0.0	45.4	33.3	74	54	-28.6	-20.7	V
9.764	3.0	38.3	26.3	37.4	8.6	-37.0	0.0	0.0	47.3	35.3	74	54	-26.7	-18.7	V
Hi CH 2480 MHz															
4.960	3.0	37.8	26.1	33.2	5.9	-36.5	0.0	0.0	40.4	28.7	74	54	-33.6	-25.3	H
7.440	3.0	37.6	26.5	35.5	7.3	-36.2	0.0	0.0	44.2	33.1	74	54	-29.8	-20.9	H
9.920	3.0	38.3	27.2	37.5	8.7	-37.1	0.0	0.0	47.4	36.3	74	54	-26.6	-17.7	H
4.960	3.0	39.3	27.5	33.2	5.9	-36.5	0.0	0.0	41.9	30.1	74	54	-32.1	-23.9	V
7.440	3.0	38.9	26.9	35.5	7.3	-36.2	0.0	0.0	45.5	33.5	74	54	-28.5	-20.5	V
9.920	3.0	39.0	27.8	37.5	8.7	-37.1	0.0	0.0	48.1	36.9	74	54	-25.9	-17.1	V

Rev. 11.10.08

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

8.3. RECEIVER ABOVE 1 GHz

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: Intermec
Project #: 09U12487
Date: 4/2/2009
Test Engineer: Tom Chen
Configuration: EUT only
Mode: RX mode

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			RX RSS 210

Hi Frequency Cables

3' cable 22807700	12' cable 22807600	20' cable 22807500	HPF	Reject Filter
3' cable 22807700	12' cable 22807600	20' cable 22807500		

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.447	3.0	45.5	37.3	25.4	2.9	-38.9	0.0	0.0	34.9	26.7	74	54	-39.1	-27.3	H
1.727	3.0	45.3	37.1	26.3	3.2	-38.5	0.0	0.0	36.4	28.1	74	54	-37.6	-25.9	H
3.907	3.0	41.4	36.5	32.0	5.1	-36.7	0.0	0.0	41.8	37.0	74	54	-32.2	-17.0	H
1.447	3.0	45.1	37.1	25.4	2.9	-38.9	0.0	0.0	34.5	26.5	74	54	-39.5	-27.5	V
1.727	3.0	45.8	37.6	26.3	3.2	-38.5	0.0	0.0	36.8	28.6	74	54	-37.2	-25.4	V
3.907	3.0	41.4	36.3	32.0	5.1	-36.7	0.0	0.0	41.9	36.8	74	54	-32.1	-17.2	V

Rev. 11.10.08

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

8.4. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT

30-1000MHz Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen
Date: 04/01/09
Project #: 09U12487
Company: Intermec Technologies Corp
EUT Description: Heavy Duty Handheld PDA-type device with dual band WCDMA/HSDPA, 802.11b/g & BT
EUT M/N: EUT only
Test Target: FCC Class B
Mode Oper: TX

f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant. High cm	Table Angle Degree	Notes
Battery Power															
31.320	3.0	30.7	19.5	0.5	28.4	0.0	0.0	22.3	40.0	-17.7	H	P	100.0	0 - 360	Prescan
128.884	3.0	32.7	13.6	1.1	28.3	0.0	0.0	19.1	43.5	-24.4	H	P	100.0	0 - 360	Prescan
157.565	3.0	35.8	11.9	1.1	28.3	0.0	0.0	20.5	43.5	-23.0	H	P	100.0	0 - 360	Prescan
186.126	3.0	36.8	11.3	1.2	28.2	0.0	0.0	21.0	43.5	-22.5	H	P	100.0	0 - 360	Prescan
214.808	3.0	35.2	11.9	1.3	28.2	0.0	0.0	20.2	43.5	-23.3	H	P	100.0	0 - 360	Prescan
642.985	3.0	30.3	18.9	2.3	27.4	0.0	0.0	24.2	46.0	-21.8	H	P	100.0	0 - 360	Prescan
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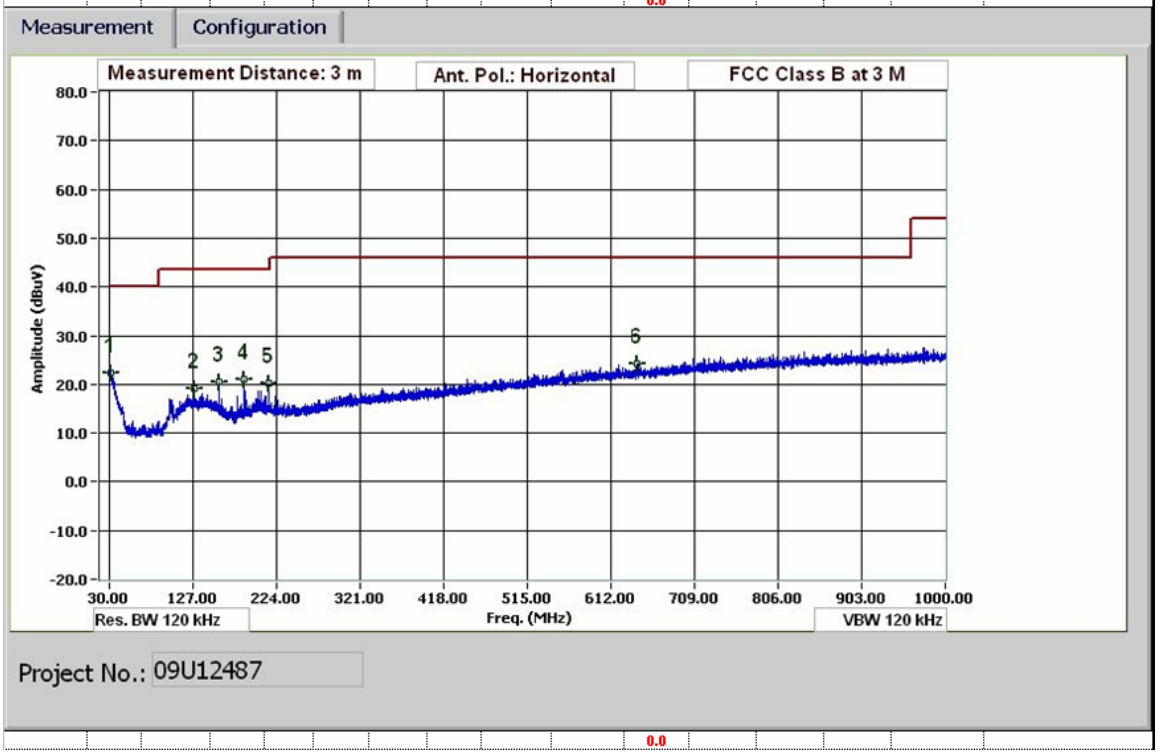
										0.0					



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT

30-1000MHz Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Test Engr:	**Tom Chen**
Date:	**04/01/09**
Project #:	**09U12487**
Company:	**Intermec Technologies Corp**
EUT Description:	**Heavy Duty Handheld PDA-type device with dual band WCDMA/HSDPA, 802.11b/g & BT**
EUT M/N:	**EUT only**
Test Target:	**FCC Class B**
Mode Oper:	**TX**

f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant. High cm	Table Angle Degree	Notes
Battery Power															
31.200	3.0	32.2	19.6	0.5	28.4	0.0	0.0	23.9	40.0	-16.1	V	P	100.0	0 - 360	Prescan
100.203	3.0	38.8	10.0	0.9	28.3	0.0	0.0	21.4	43.5	-22.1	V	P	100.0	0 - 360	Prescan
136.564	3.0	34.2	13.3	1.1	28.3	0.0	0.0	20.3	43.5	-23.2	V	P	100.0	0 - 360	Prescan
202.687	3.0	35.9	12.0	1.3	28.2	0.0	0.0	20.9	43.5	-22.6	V	P	100.0	0 - 360	Prescan
634.825	3.0	30.4	18.8	2.3	27.4	0.0	0.0	24.2	46.0	-21.8	V	P	100.0	0 - 360	Prescan
834.753	3.0	41.1	21.3	2.7	27.6	0.0	0.0	37.5	46.0	-8.5	V	P	100.0	0 - 360	Prescan
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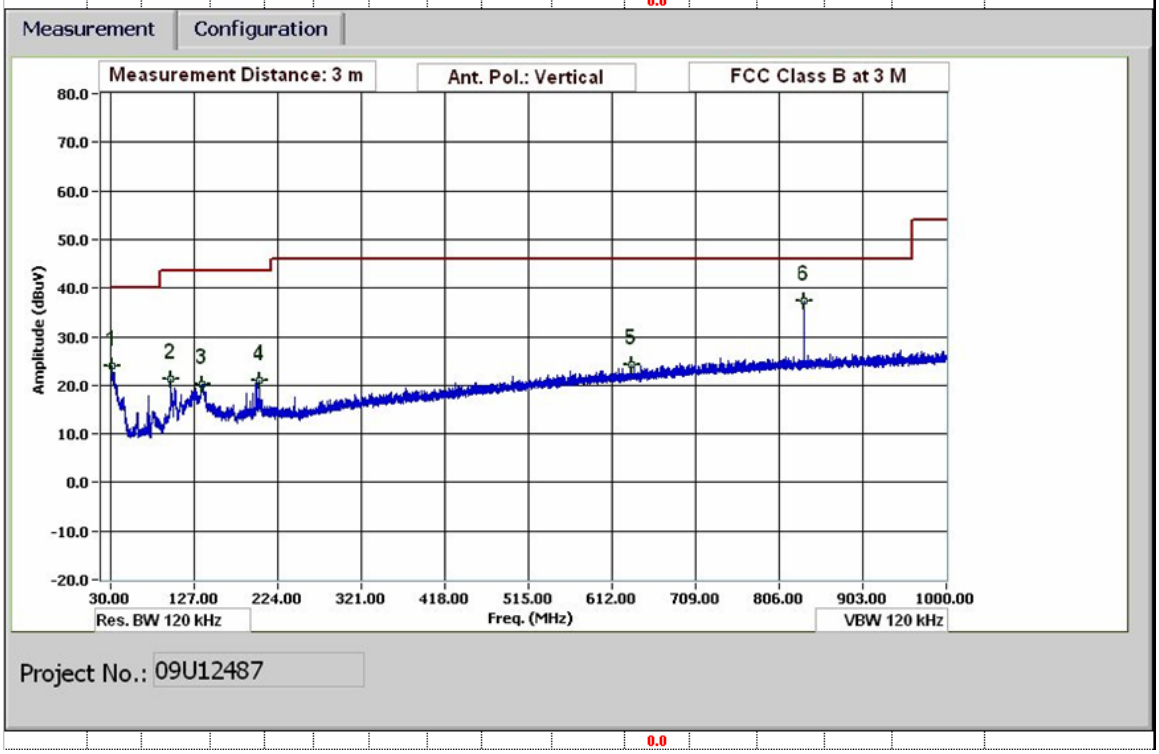

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9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

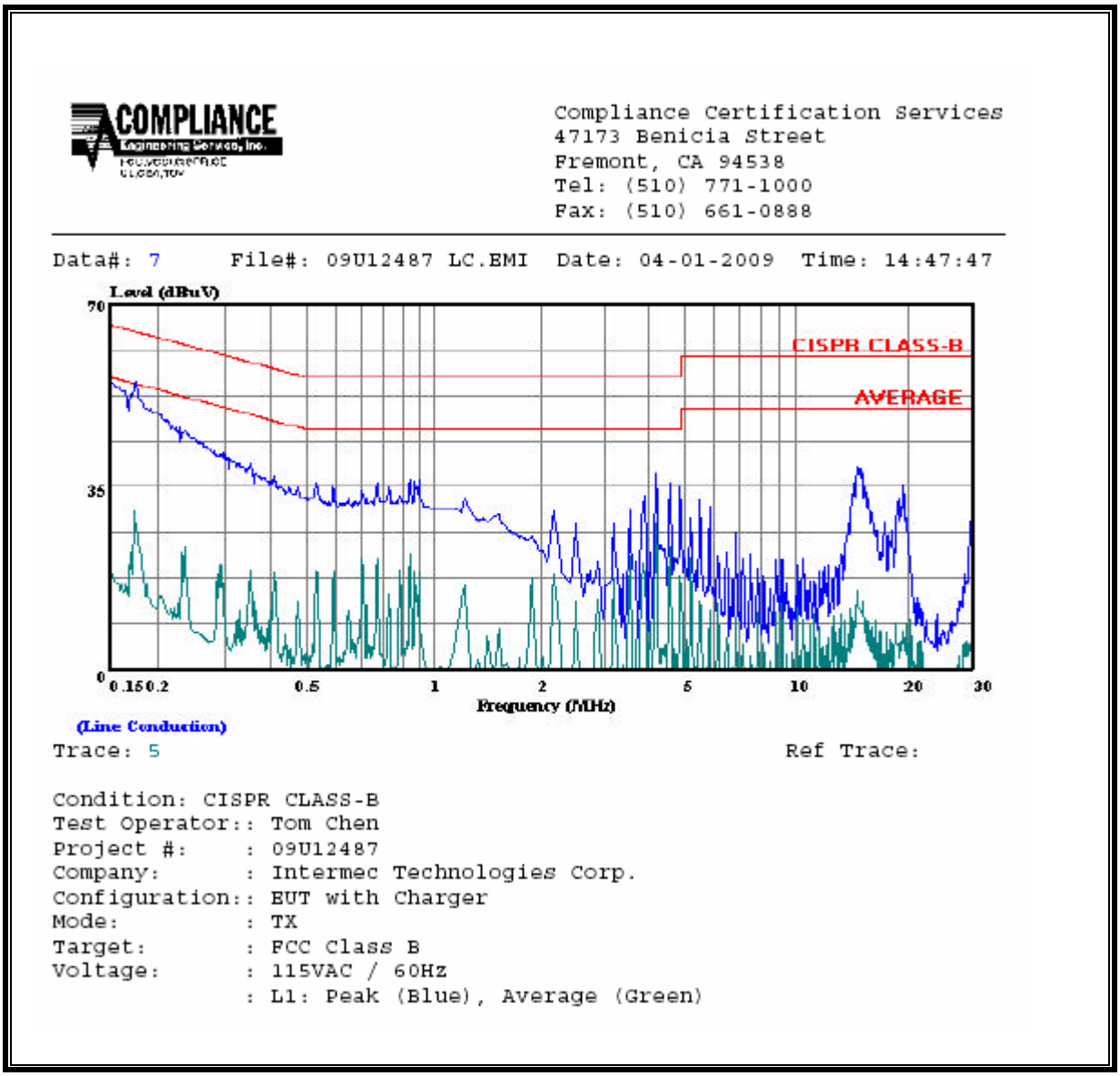
ANSI C63.4

RESULTS

6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.18	55.06	--	27.15	0.00	64.67	54.67	-9.61	-27.52	L1
4.29	37.72	--	27.73	0.00	56.00	46.00	-18.28	-18.27	L1
14.83	38.72	--	12.04	0.00	60.00	50.00	-21.28	-37.96	L1
0.18	54.12	--	26.66	0.00	64.63	54.63	-10.51	-27.97	L2
0.77	36.18	--	18.46	0.00	56.00	46.00	-19.82	-27.54	L2
18.72	33.42	--	10.62	0.00	60.00	50.00	-26.58	-39.38	L2
6 Worst Data									

LINE 1 RESULTS



LINE 2 RESULTS