



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

REMOTE CONTROL

MODEL NUMBER: FREET

FCC ID: U5Z-FREET

REPORT NUMBER: 1001408277

ISSUE DATE: 2011-09-29

Prepared for
JCM TECHNOLOGIES S A
BISBE MORGADES, 46 BAIXOS
VIC
08500, SPAIN

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NVLAP LAB CODE 100255-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	2011-09-29	Initial Issue	B. DeLisi
--	2011-10-11	Updated Duty Cycle data for full pulse train	B. DeLisi

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: JCM TECHNOLOGIES S A
BISBE MORGADES, 46 BAIXOS
VIC 08500, SPAIN

EUT DESCRIPTION: Remote Control Transceiver

MODEL: FreeT

SERIAL NUMBER: Non-serialized production unit

DATE TESTED: 2011-08-20 to 2011-09-13

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Pass

Underwriters Laboratories Inc. tested the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Inc. based on interpretations of these calculations. The results show that the equipment 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 by the referenced documents. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL By:

Tested By:



Michael Antola
Sr. Project Engineer
UL

Bob DeLisi
Sr. Staff Engineer
UL

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.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/1002550.htm>.

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. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.3 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.00 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 125kHz RFID Tag and 868MHz Remote Control transmitter intended for security gate applications.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal integral antenna

5.3. WORST-CASE CONFIGURATION AND MODE

The EUT was tested in 3 orientations and it was determined the X orientation was the worst case configuration. Testing was conducted in the X orientation.

5.4. MODIFICATIONS

The following components were required to be changed in order to meet the emissions requirements.

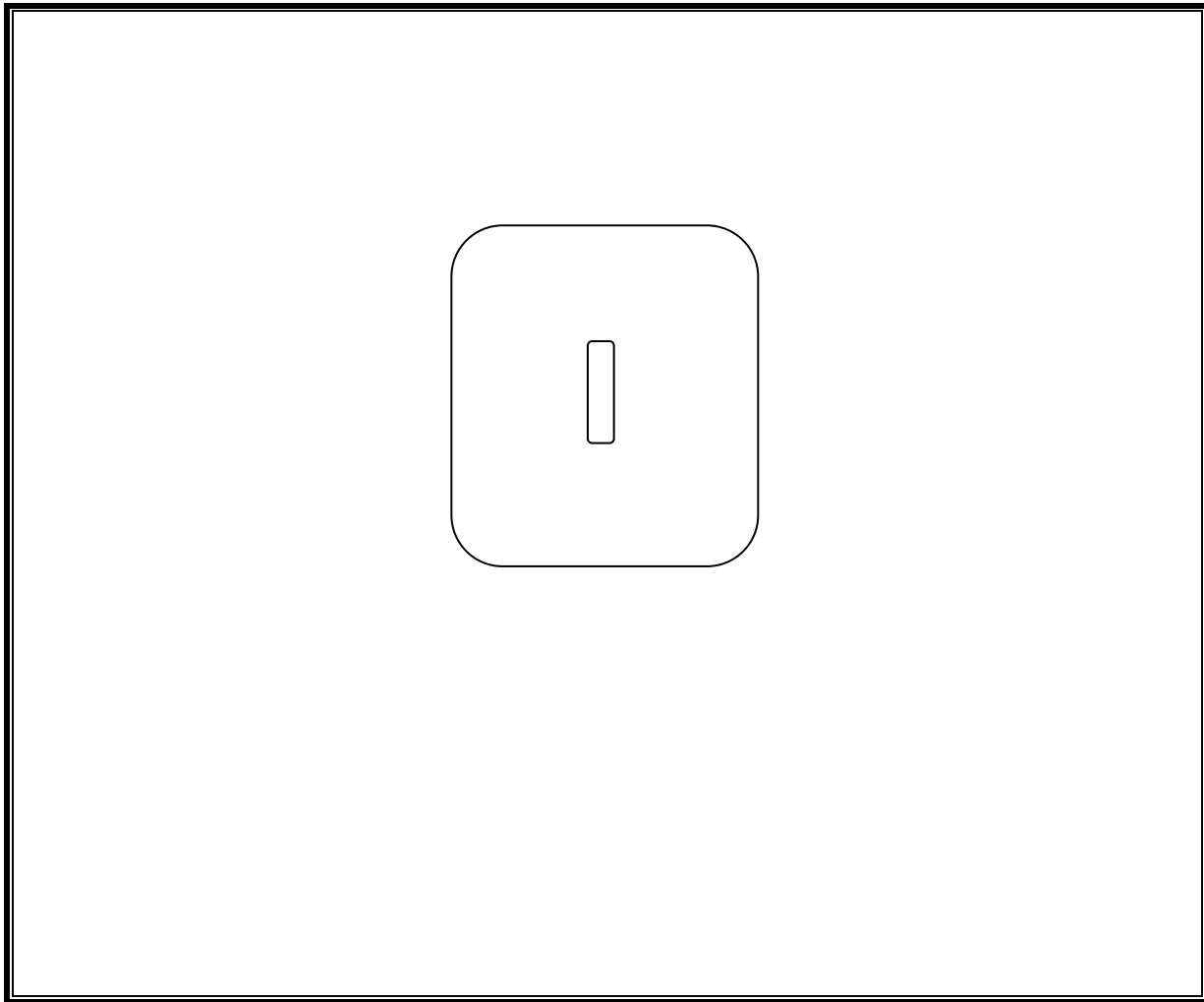
R7 has changed to 1k5 resistor, and C6 has changed to a 1p2 capacitor.

5.5. DESCRIPTION OF TEST SETUP

TEST SETUP

The EUT is a stand alone portable device and tested as such.

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 Used – Radiated Emissions, Pulse Train, Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2011-03-01	2012-03-01
Bicon Antenna	Schaffner	VBA6106A	54	2011-04-05	2012-04-05
Log-P Antenna	Schaffner	UPA6109	44067	2011-04-29	2012-04-29
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29
Above 1GHz (Band Optimized System)					
Spectrum Analyzer	Agilent	E4446A	72823	2011-07-26	2012-07-26
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3160-07	48106	2007-09-27	See * below
Horn Antenna (8-12 GHz)	ETS	3161-04	48108	2007-09-27	See * below
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
<p>* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration.</p> <p>* Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.</p>					

Test Equipment Used – Transmission Time					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E4446A	72822	2011-07-02	2012-07-02
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2011-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07

7. ANTENNA PORT TEST RESULTS

7.1. 20 dB BW

LIMITS

FCC §15.231 (c)

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

TEST PROCEDURE

ANSI C63.4

The transmitter output is connected to the spectrum analyzer.

20dB Bandwidth: The RBW is set to 10 KHz. The VBW is set to 300 KHz. The sweep time is coupled. Bandwidth is determined at the points 20 dB down from the modulated carrier.

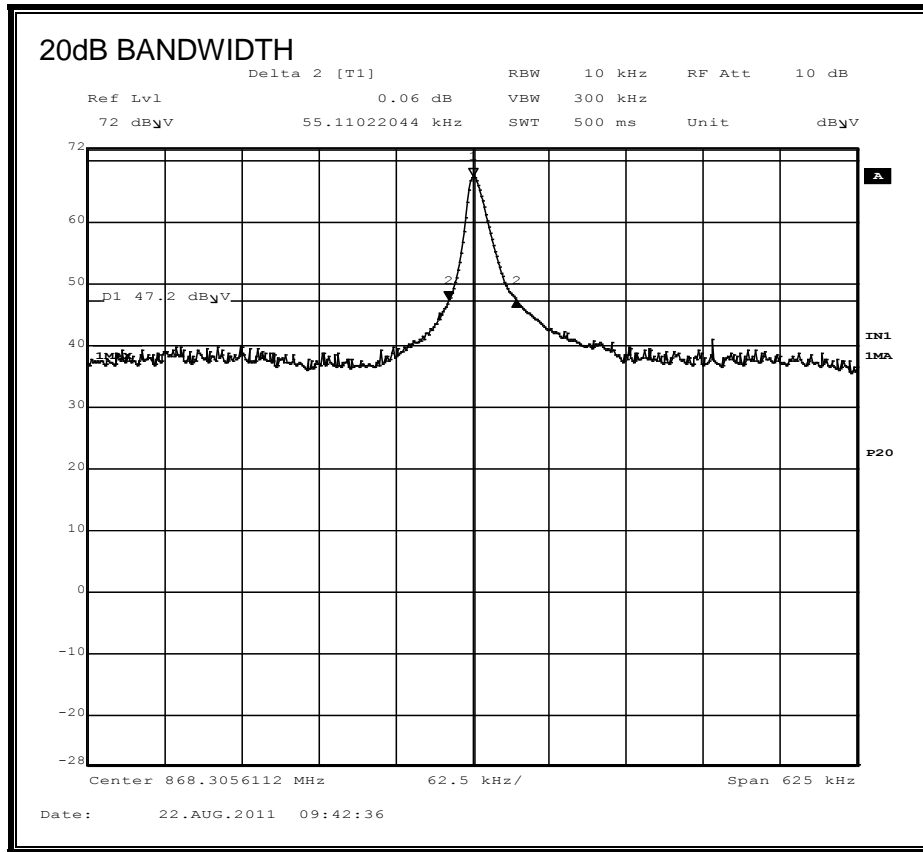
RESULTS

No non-compliance noted:

20dB Bandwidth

Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
868	55.11	2170	-2114.89

20dB BANDWIDTH



7.2. DUTY CYCLE

LIMITS

FCC §15.35 (c)

The measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled and the span is set to 0 Hz. The number of pulses is measured and calculated in a 100 ms scan.

CALCULATION

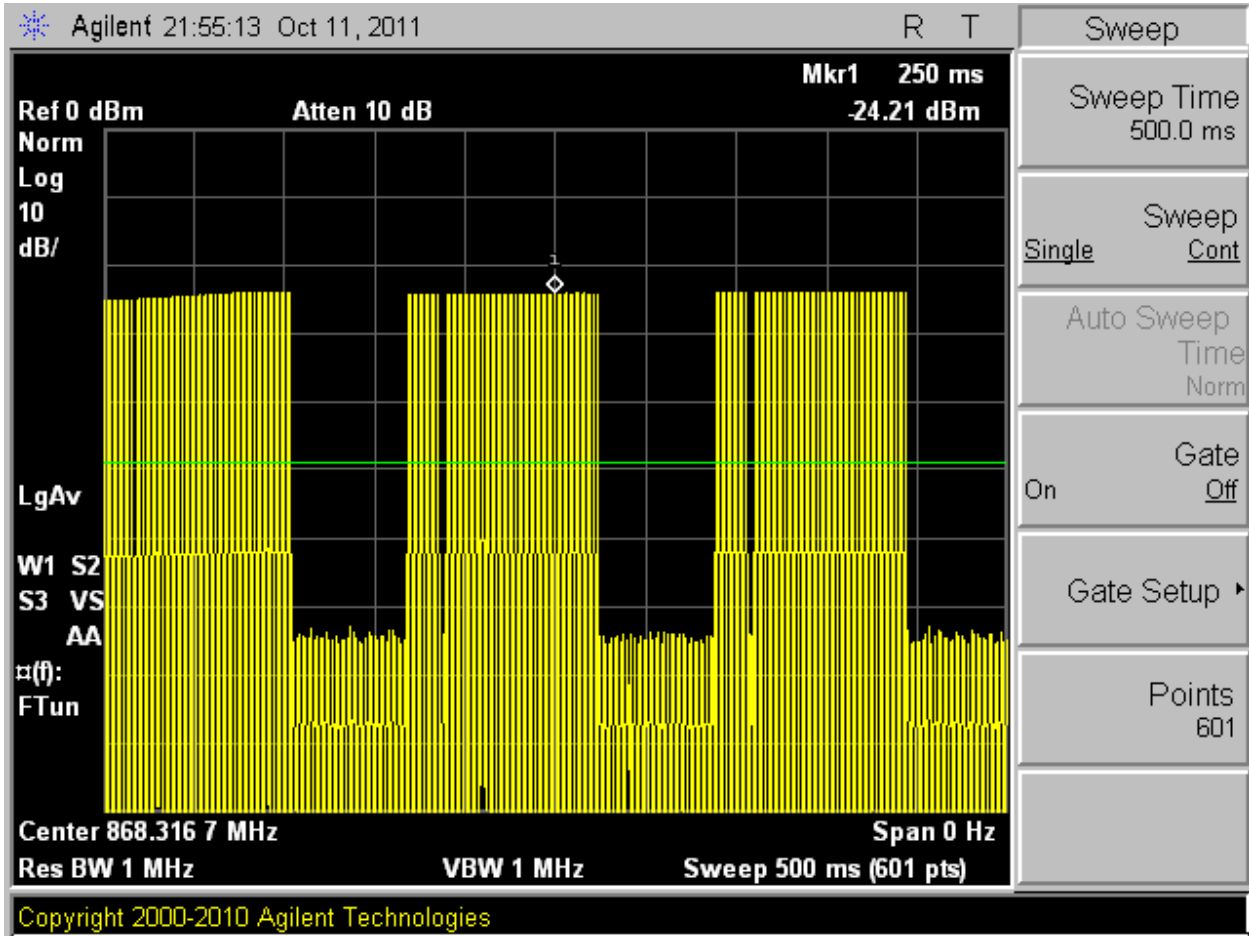
Average Reading = Peak Reading (dBuV/m) + 20log (Duty Cycle), Where Duty Cycle is (# of long pulses * long pulse width) + (# of short pulses * short pulse width) / 100 or T

RESULTS

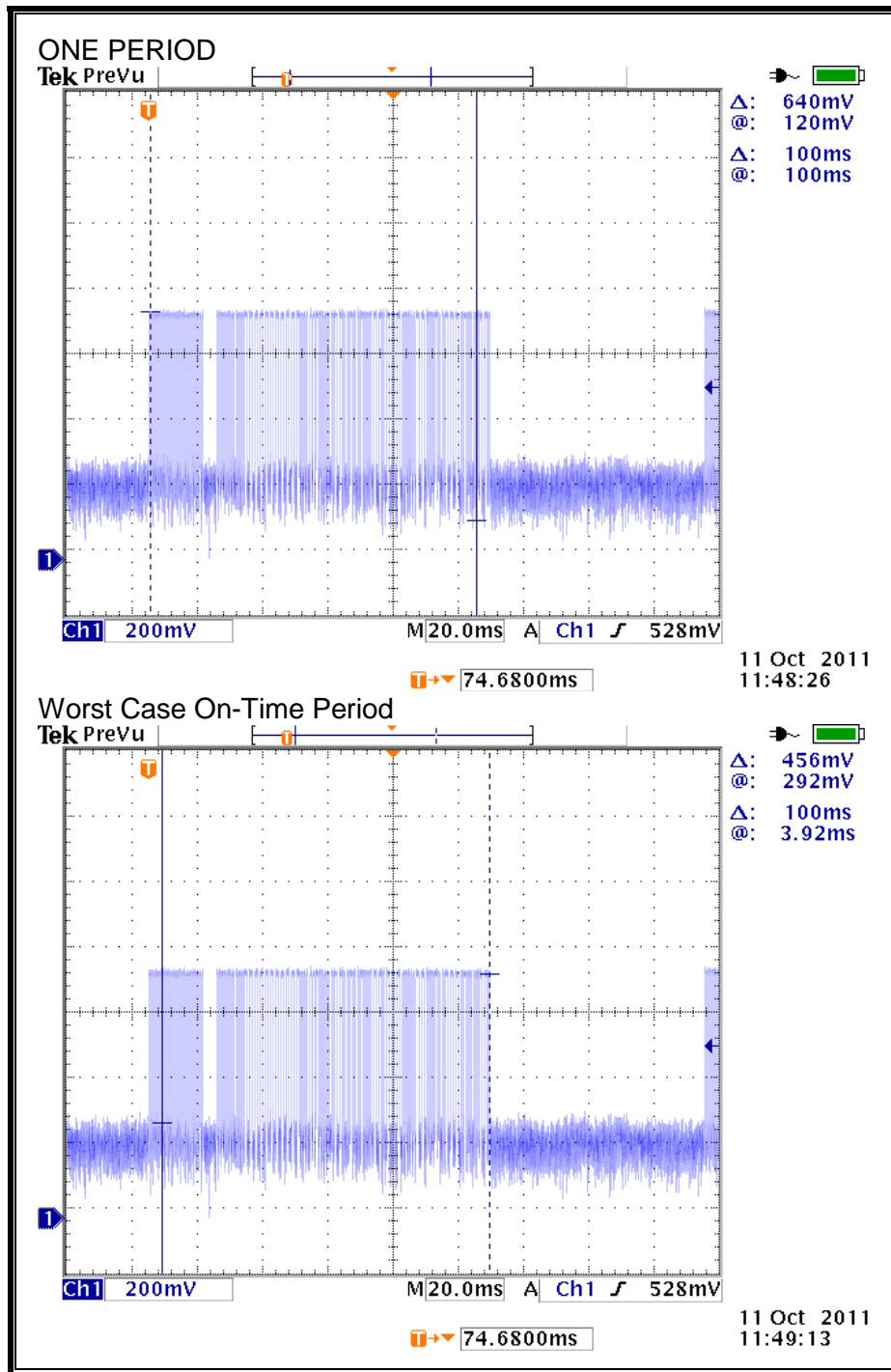
No non-compliance noted:

One Period (ms)	Long Pulse Width (ms)	# of Long Pulses	Short Width (ms)	# of Short Pulses	Duty Cycle	20*Log Duty Cycle (dB)
100	0.8	30	0.20	59	0.358	-8.92

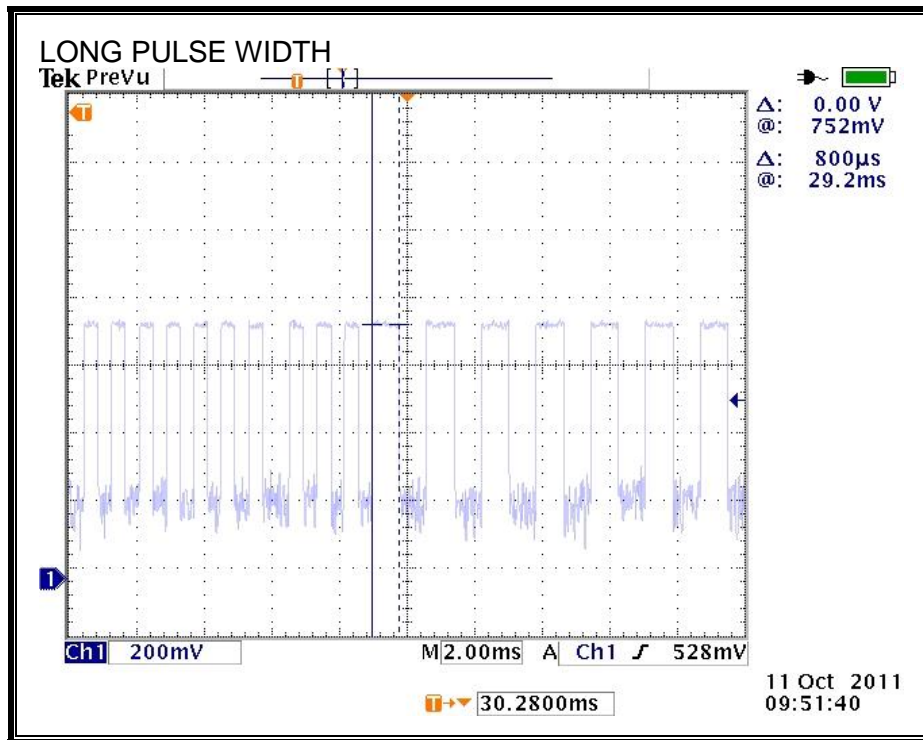
PULSE TRAIN



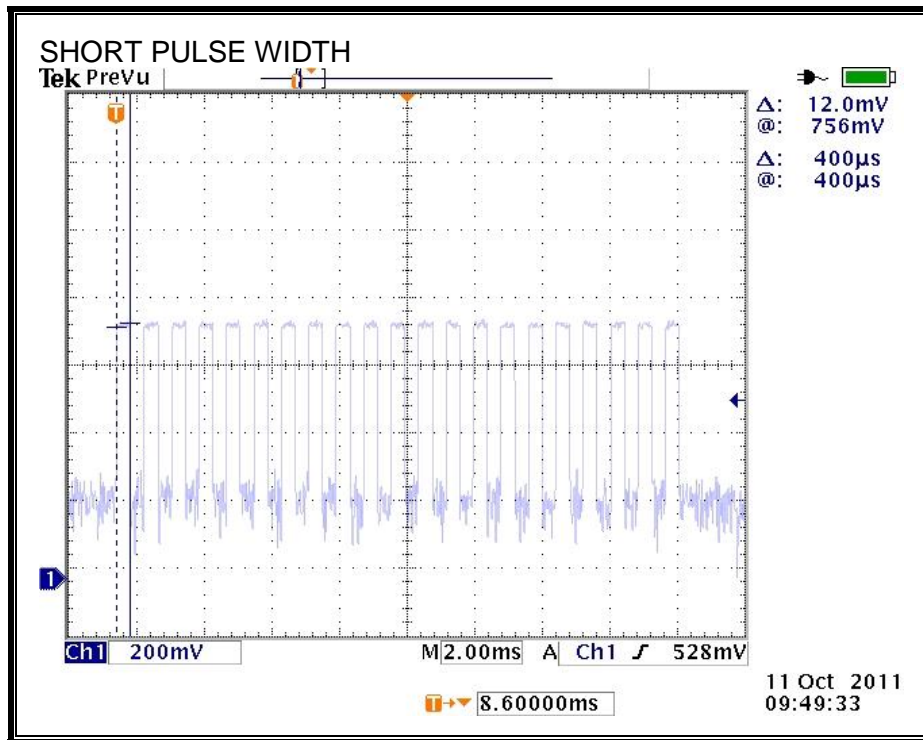
ONE PERIOD



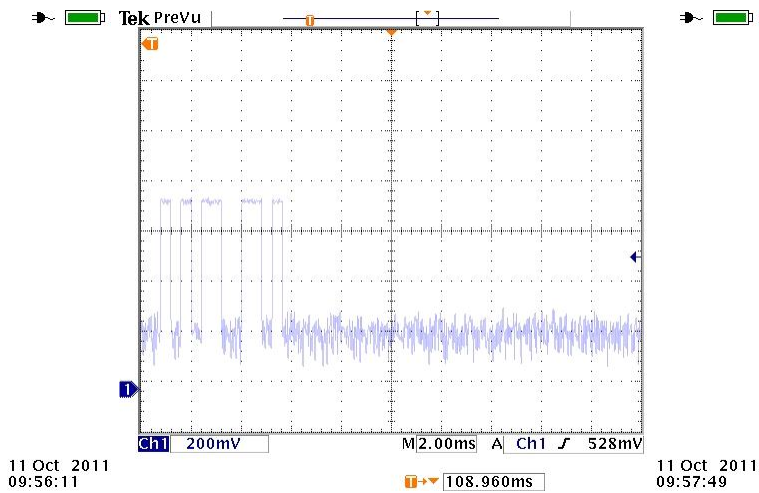
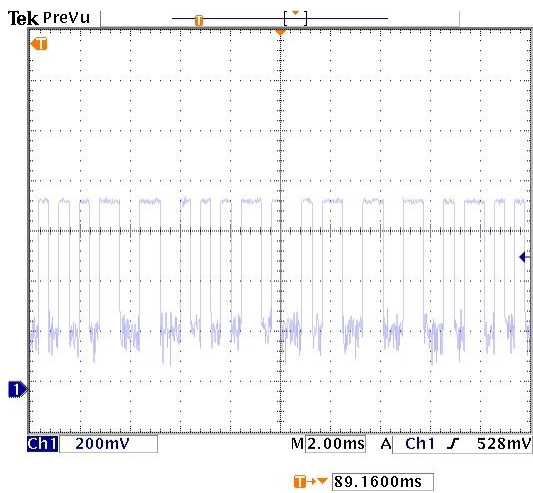
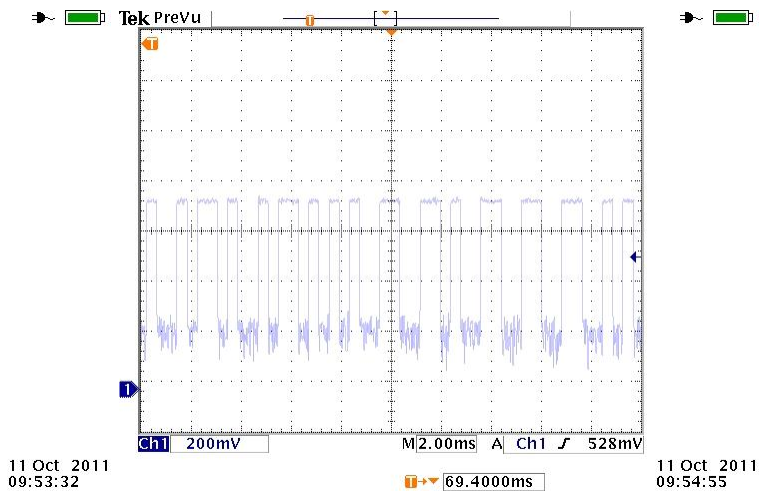
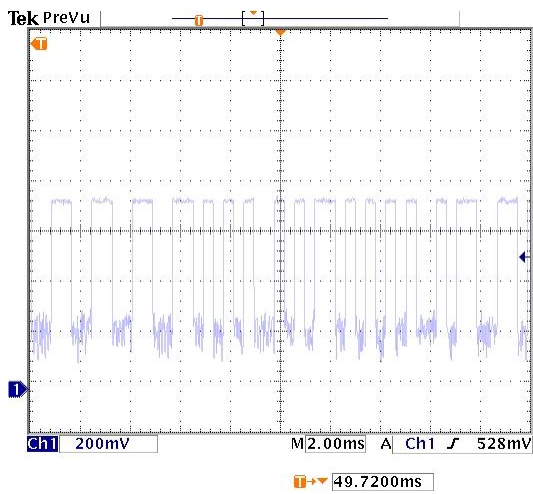
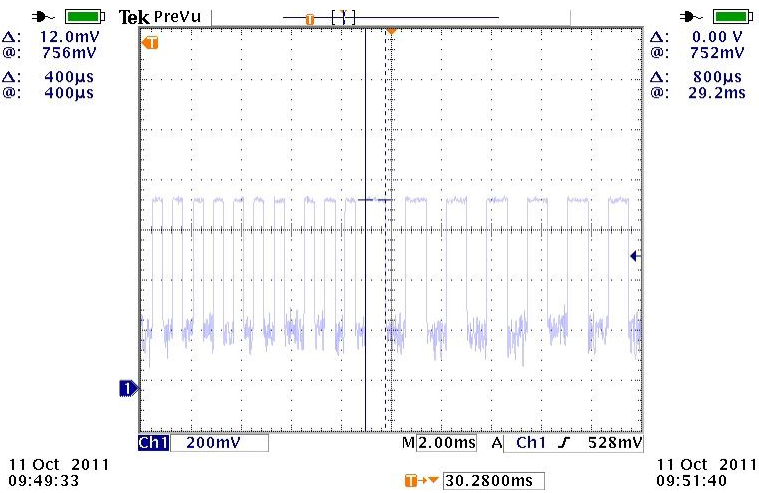
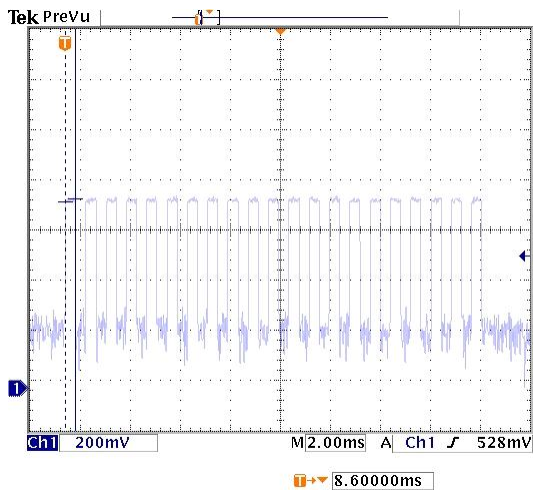
LONG PULSE WIDTH



SHORT PULSE WIDTH



PULSE COUNT



7.3. TRANSMISSION TIME

LIMITS

FCC §15.231 (a) (2)

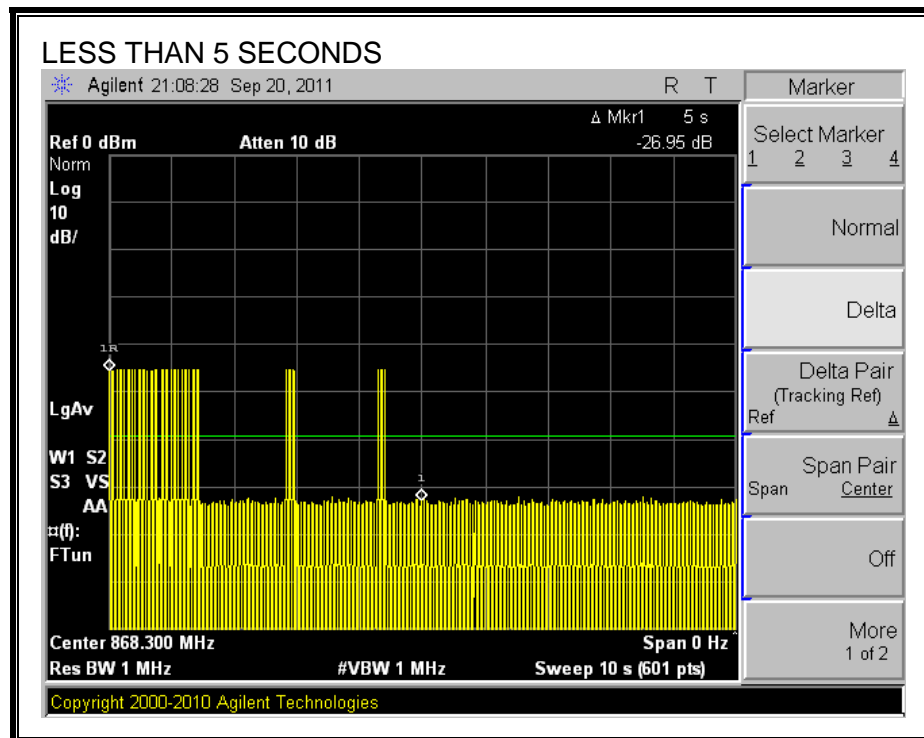
A transmitter activated automatically shall cease transmission within 5 seconds after activation.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 1 MHz and the VBW is set to 1 MHz. The sweep time is set to 10 seconds and the span is set to 0 Hz.

RESULTS

No non-compliance noted:



8. RADIATED EMISSION TEST RESULTS

8.1. TX RADIATED SPURIOUS EMISSION

LIMITS

FCC §15.231 (b)

In addition to the provisions of § 15.205, the field strength of emissions from Intentional radiators operated under this section shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental Frequency (microvolts/meter)	Field Strength of Spurious Emissions (microvolts/meter)
40.66 - 40.70	2,250	225
70 - 130	1,250	125
130 - 174	1,250 to 3,7501	125 to 3751
174 - 260	3,750	375
260 - 470	3,750 to 12,5001	375 to 1,2501
Above 470	12,500	1,250

1 Linear interpolation

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
2 Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 88	100 **	3
88 216	150 **	3
216 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 72 MHz, 76 88 MHz, 174 216 MHz or 470 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

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 C63.4:2003. 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.

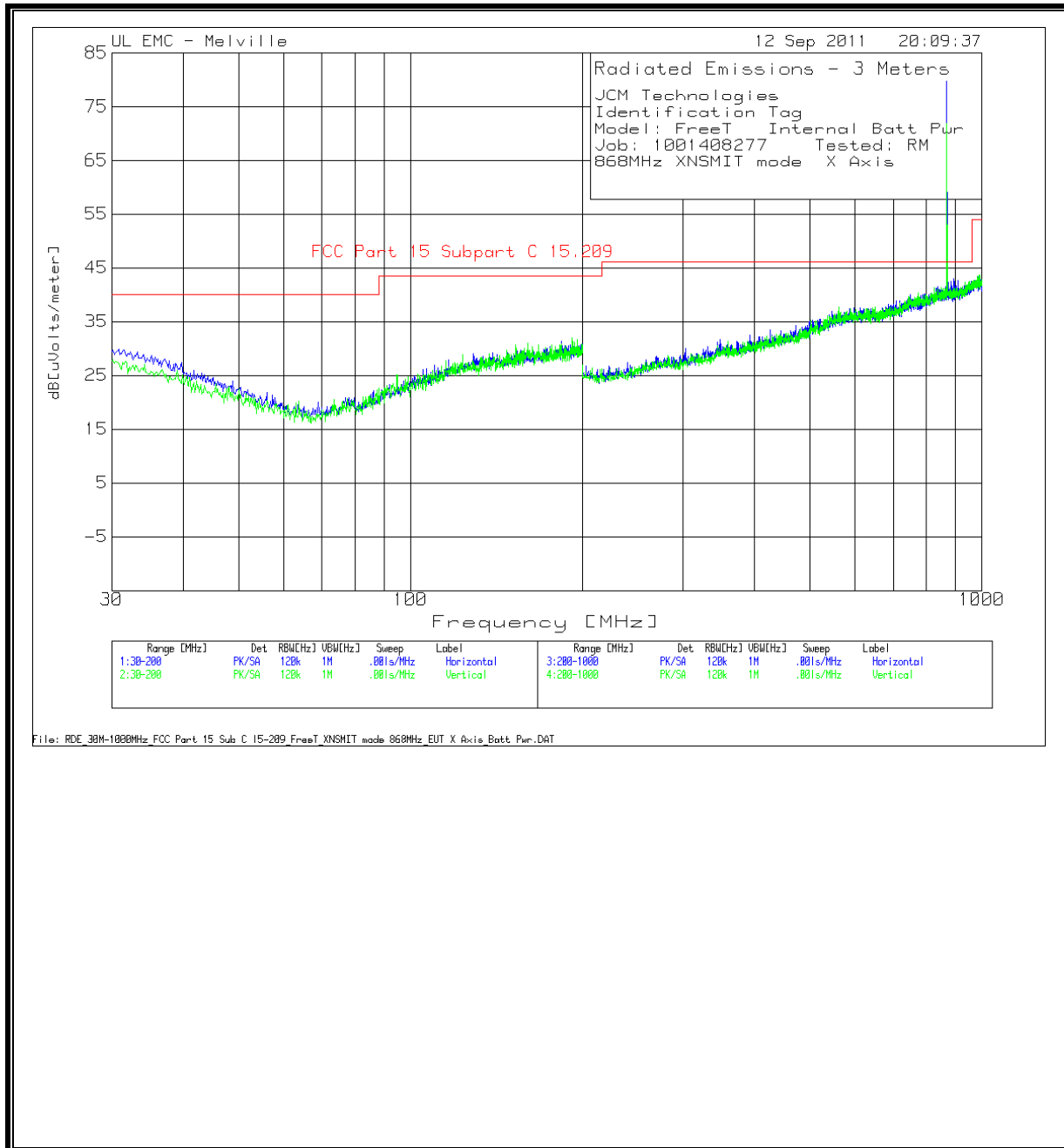
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The 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.

RESULTS

No non-compliance noted:

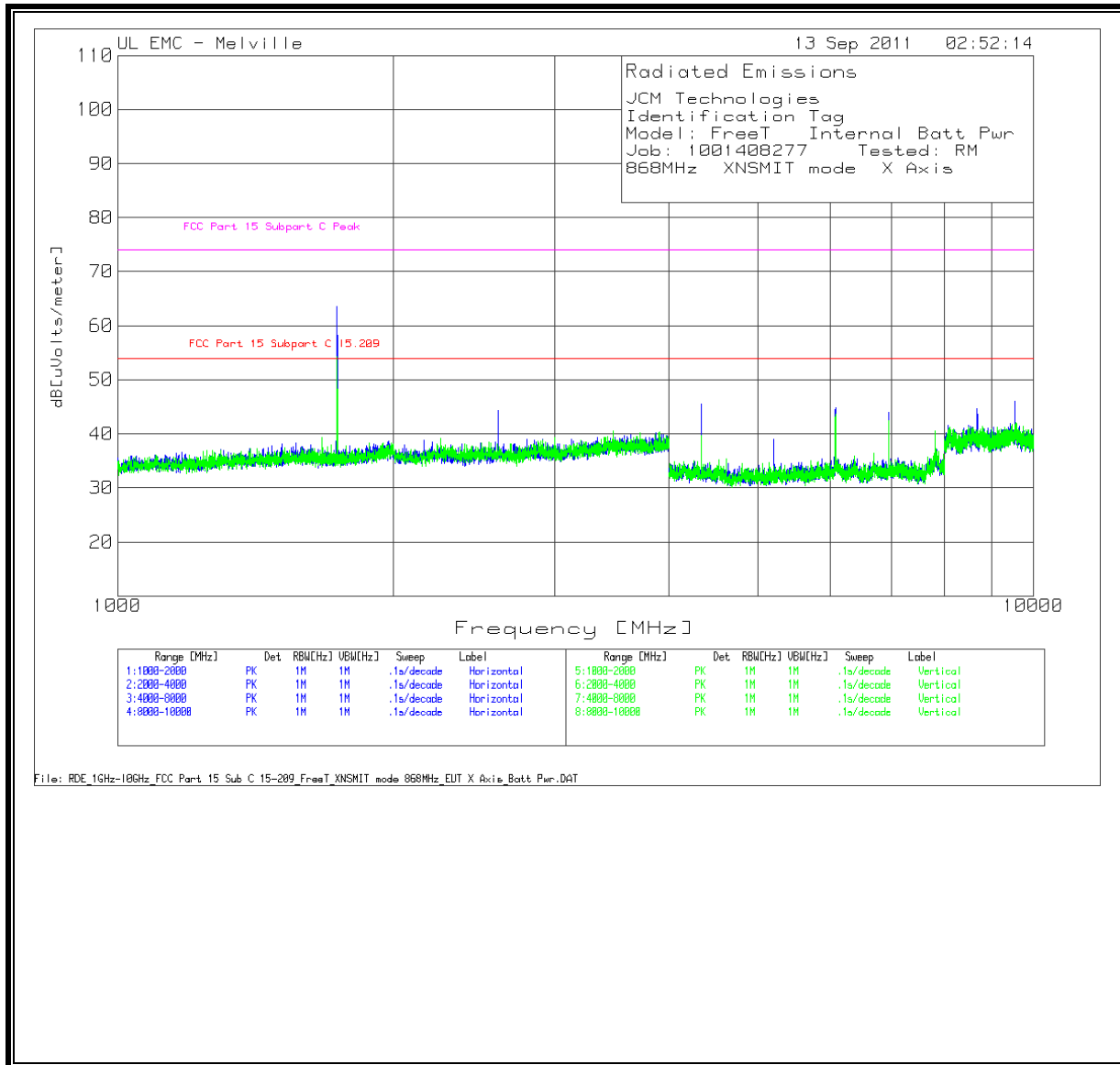
FUNDAMENTAL, HARMONICS AND TX SPURIOUS EMISSION (30 – 1000 MHz)



JCM Technologies													
Identification Tag													
Model: FreeT Internal Batt Pwr													
Job: 1001408277 Tested: RM													
868M Fundamental - X/Y/Z Axes													
Horizontal 200 - 1000MHz													
Test Frequency	Meter Reading	Detector	LogP 3M Horz 44067 02May12 [dB]	3MLoc 30- 1000MHz 02Feb12 [dB]	Duty Cycle Correction	Corrected Reading dB[uVolts/ meter]	FCC Part 15 Subpart C 15.231	Margin	Azimuth [Degs]	Height [cm]	Polarity	EUT Orientation / Axis	
868.3044	53.62	PK	23.1	3.4	-8.92	71.2	81.9	-10.7	320	173	Horz	X	
868.3044	52.66	PK	23.1	3.4	-8.92	70.24	81.9	-11.66	185	101	Horz	Y	
868.3044	51.72	PK	23.1	3.4	-8.92	69.3	81.9	-12.6	176	104	Horz	Z	
Vertical 200 - 1000MHz													
868.3044	44.98	PK	23.2	3.4	-8.92	62.66	81.9	-19.24	38	189	Vert	X	
868.3044	50.22	PK	23.2	3.4	-8.92	67.9	81.9	-14	165	153	Vert	Y	
868.3044	49.61	PK	23.2	3.4	-8.92	67.29	81.9	-14.61	288	162	Vert	Z	
PK - Peak detector													
QP - Quasi-Peak detector													
LnAv - Linear Average detector													
LgAv - Log Average detector													
Av - Average detector													
CAV - CISPR Average detector													
RMS - RMS detection													
CRMS - CISPR RMS detection													

JCM Technologies														
Identification Tag														
Model: FreeT Internal Batt Pwr														
Job: 1001408277 Tested: RM														
868MHz XNSMIT mode X Axis														
Test Frequency	Meter Reading	Detector	LogP 3M Horz 44067 02May12 [dB]	3MLoc 30- 1000MHz 02Feb12 [dB]	dB[uVolts/ meter]	DCF [dB]	Corrected Value dB[uVolts /meter]	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C 15.231	Margin	Azimuth [Degs]	Height [cm]	Polarity
Horizontal 200 - 1000MHz														
868.3026	54.52	PK	23.1	3.4	81.02	-8.92	72.1	-	-	81.9	-9.8	321	102	Horz
835.92	8.94	QP	23.2	3.3	35.44	-	-	46	-10.56	-	-	27	395	Horz
891.95	9.2	QP	23.1	3.5	35.8	-	-	46	-10.2	-	-	2	131	Horz
Vertical 200 - 1000MHz														
868.3026	45.11	PK	23.2	3.4	71.71	-8.92	62.79	-	-	81.9	-19.11	60	199	Vert
826.31	8.89	QP	23	3.3	35.19	-	-	46	-10.81	-	-	290	367	Vert
936.37	9.3	QP	23.6	3.6	36.5	-	-	46	-9.5	-	-	323	395	Vert
PK - Peak detector														
QP - Quasi-Peak detector														
LnAv - Linear Average detector														
LgAv - Log Average detector														
Av - Average detector														
CAV - CISPR Average detector														
RMS - RMS detection														
CRMS - CISPR RMS detection														

HARMONICS AND TX SPURIOUS EMISSIONS ABOVE 1GHz



JCM Technologies																
Identification Tag																
Model: FreeT Internal Batt Pwr																
Job: 1001408277 Tested: RM																
868MHz XNSMIT mode X Axis																
Test	Meter	Detector	51442 1-2GHz [dB]	BOMS Factor [dB]	dB[uVolts /meter]	DCF [dB]	Corrected Value dB[uVolts/ meter]	FCC Part 15 Subpart C	Margin	FCC Part 15 Subpart C	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
Horizontal 1000 - 2000MHz																
1736.5975	87.49	PK	20.8	-44.17	64.12	-8.92	55.2	-	-	61.9	-6.7	74	-9.88	133	392	Horz
Horizontal 2000 - 4000MHz																
2604.875	71.18	PK	21.3	-42.53	49.95	-8.92	41.03	54	-12.97	-	-	74	-24.05	277	246	Horz
3473.215	64.53	PK	22.2	-41.81	44.92	-8.92	36	54	-18	-	-	74	-29.08	258	230	Horz
Horizontal 4000 - 8000MHz																
4341.51	73.48	PK	27.7	-51.66	49.52	-8.92	40.6	54	-13.4	-	-	74	-24.48	248	200	Horz
5209.75	68.67	PK	27.3	-52.67	43.3	-8.92	34.38	54	-19.62	-	-	74	-30.7	126	154	Horz
6078.075	71.01	PK	27.5	-51.26	47.25	-8.92	38.33	54	-15.67	-	-	74	-26.75	100	178	Horz
6946.48	70.46	PK	27.9	-51.89	46.47	-8.92	37.55	54	-16.45	-	-	74	-27.53	357	186	Horz
7814.734	66.98	PK	28.6	-50.47	45.11	-8.92	36.19	54	-17.81	-	-	74	-28.89	224	200	Horz
Horizontal 8000 - 10000MHz																
8683.125	65.3	PK	33.1	-51.12	47.28	-8.92	38.36	54	-15.64	-	-	74	-26.72	248	188	Horz
9551.352	62.46	PK	33.3	-49.03	46.73	-8.92	37.81	54	-16.19	-	-	74	-27.27	286	185	Horz
Vertical 1000 - 2000MHz																
1736.592	82.59	PK	20.8	-44.17	59.22	-8.92	50.3	54	-3.7	-	-	74	-14.78	49	395	Vert
Vertical 2000 - 4000MHz																
2604.936	65.48	PK	21.5	-42.53	44.45	-8.92	35.53	54	-18.47	-	-	74	-29.55	345	310	Vert
3473.255	62.42	PK	22.3	-41.81	42.91	-8.92	33.99	54	-20.01	-	-	74	-31.09	120	111	Vert
Vertical 4000 - 8000MHz																
4341.569	69.05	PK	27.8	-51.66	45.19	-8.92	36.27	54	-17.73	-	-	74	-28.81	132	385	Vert
5209.799	65.33	PK	27.3	-52.67	39.96	-8.92	31.04	54	-22.96	-	-	74	-34.04	146	390	Vert
6078.195	68.7	PK	27.4	-51.26	44.84	-8.92	35.92	54	-18.08	-	-	74	-29.16	71	387	Vert
6946.461	71.32	PK	27.8	-51.89	47.23	-8.92	38.31	54	-15.69	-	-	74	-26.77	54	389	Vert
7814.855	64.47	PK	29.1	-50.47	43.1	-8.92	34.18	54	-19.82	-	-	74	-30.9	356	222	Vert
Vertical 8000 - 10000MHz																
8683.082	62.08	PK	33.2	-51.12	44.16	-8.92	35.24	54	-18.76	-	-	74	-29.84	135	252	Vert
9551.229	59.56	PK	33.4	-49.03	43.93	-8.92	35.01	54	-18.99	-	-	74	-30.07	110	136	Vert
PK - Peak detector																
QP - Quasi-Peak detector																
LnAv - Linear Average detector																
LgAv - Log Average detector																
Av - Average detector																
CAV - CISPR Average detector																
RMS - RMS detection																
CRMS - CISPR RMS detection																

8.2. RX RADIATED SPURIOUS EMISSION

LIMITS

FCC §15.209

All spurious emissions shall comply with the limits shown below:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

Note: The lower limit shall apply at the transition frequency.

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 receive 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.

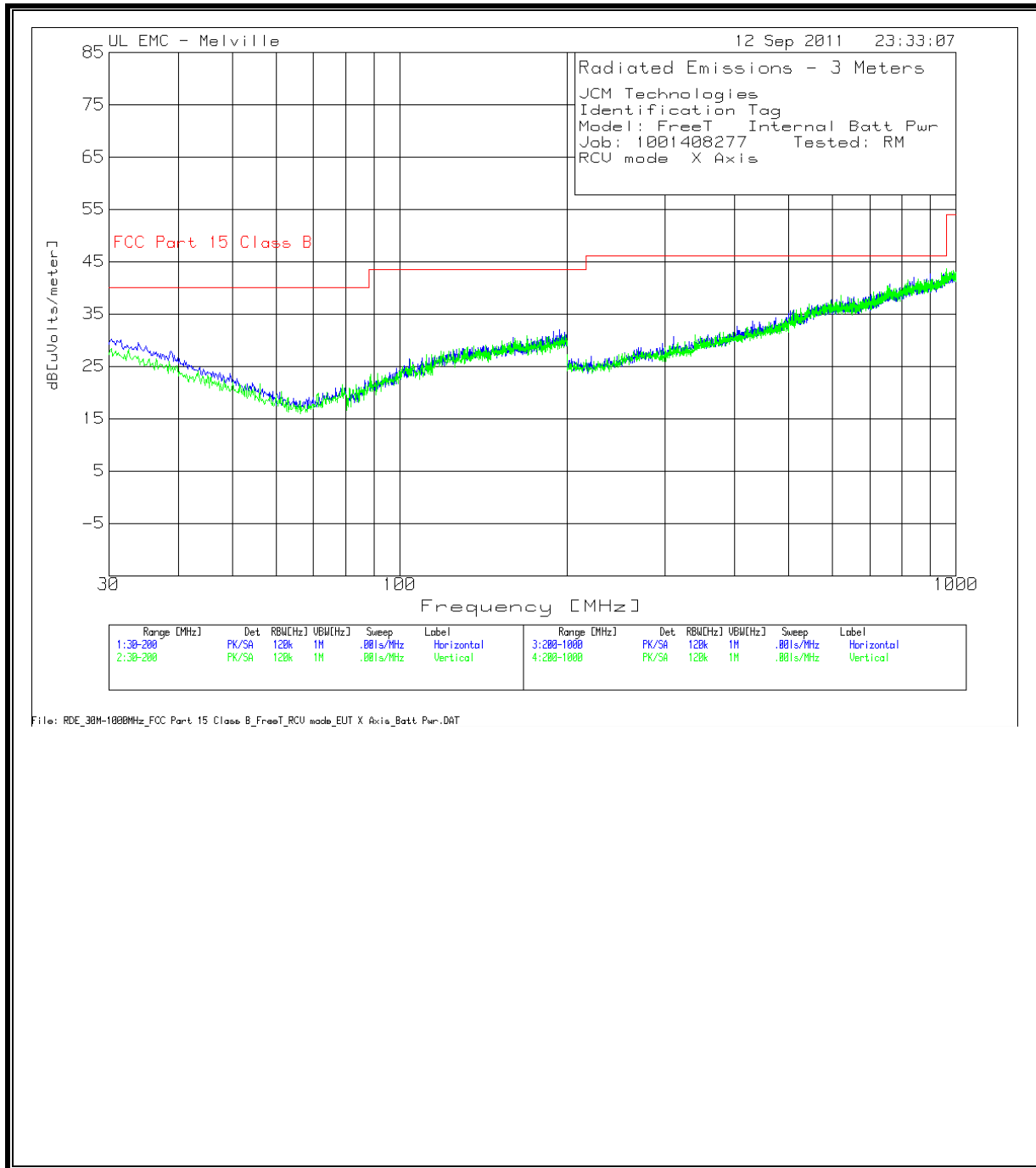
The spectrum from 30 MHz to 5th harmonic is investigated with the transmitter set to the middle channel.

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.

RESULTS

No non-compliance noted:

RECEIVER SPURIOUS EMISSION (30MHz - 1GHz)



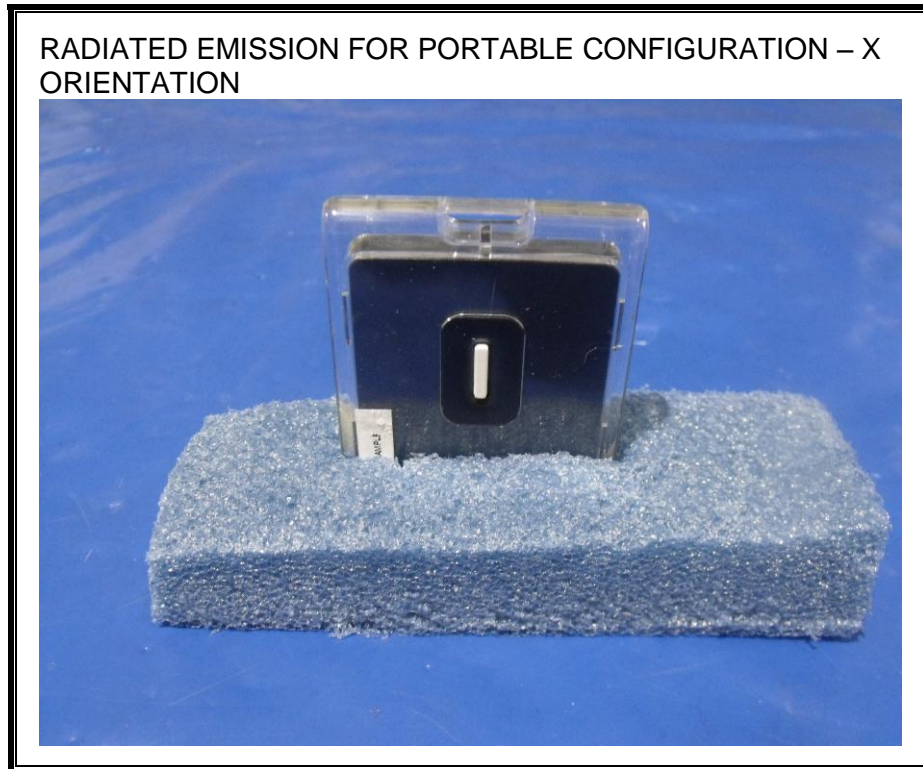
JCM Technologies										
Identification Tag										
Model: FreeT Internal Batt Pwr										
Job: 1001408277 Tested: RM										
RCV mode X Axis										
Test	Meter		AF-44067	GL-3M	dB[uVolts	FCC Part		Azimuth	Height	
Frequency	Reading	Detector	[dB]	[dB]	/meter]	15 Class B	Margin	[Degs]	[cm]	Polarity
Horizontal 200 - 1000MHz										
760.28	9.04	QP	21.7	3.1	33.84	46	-12.16	109	322	Horz
839.52	8.99	QP	23.3	3.3	35.59	46	-10.41	299	240	Horz
898.35	9.3	QP	23.2	3.5	36	46	-10	197	333	Horz
Vertical 200 - 1000MHz										
818.71	8.94	QP	22.9	3.3	35.14	46	-10.86	61	299	Vert
853.93	9.09	QP	23.1	3.4	35.59	46	-10.41	329	106	Vert
940.37	9.34	QP	23.7	3.6	36.64	46	-9.36	68	328	Vert
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

9. SETUP PHOTOS

ANTENNA PORT



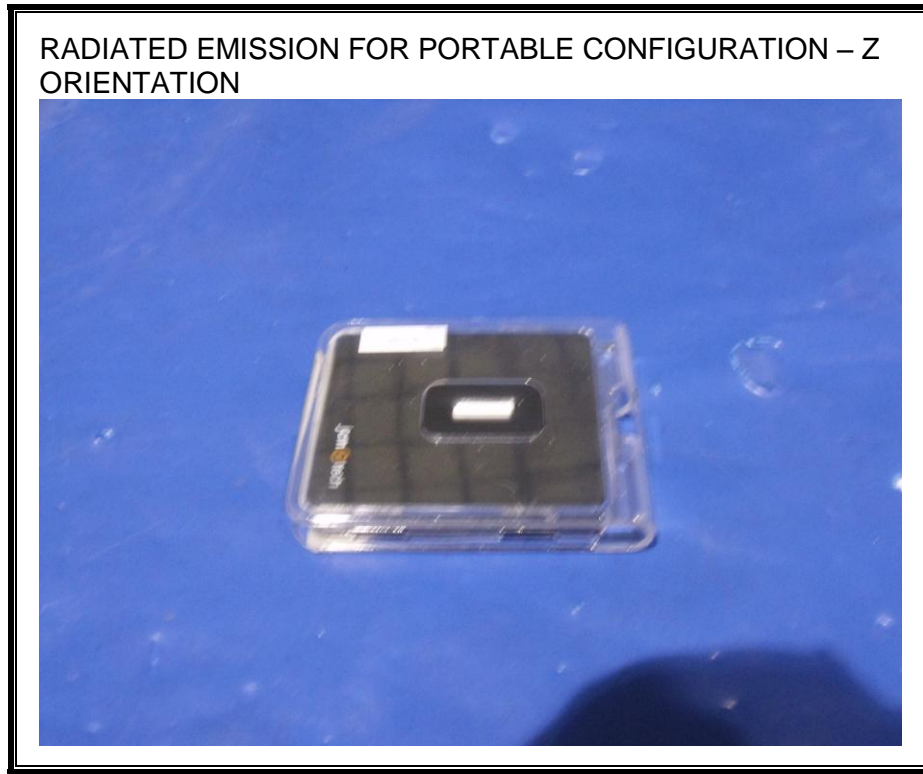
RADIATED EMISSION FOR PORTABLE CONFIGURATION – X ORIENTATION



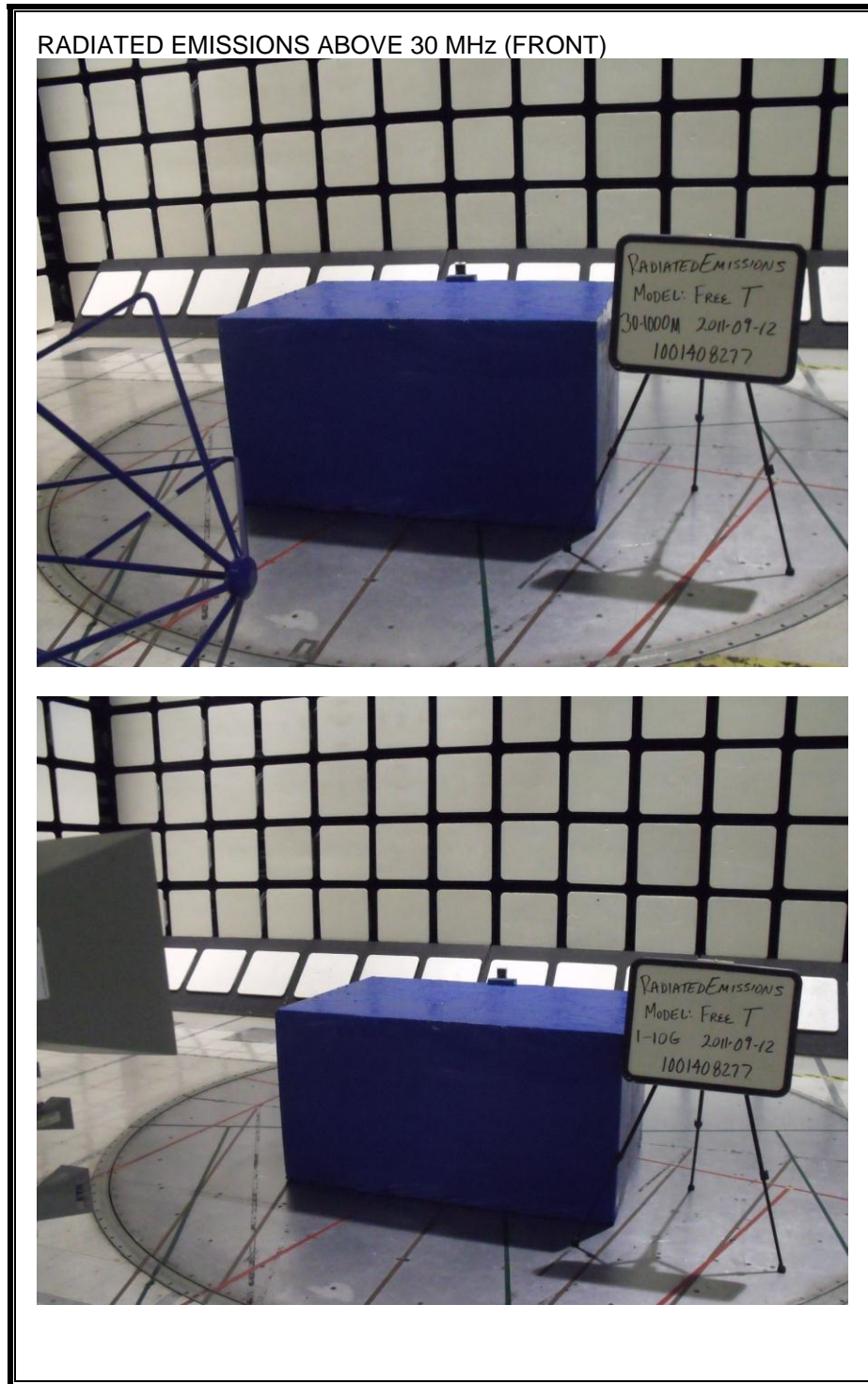
RADIATED EMISSION FOR PORTABLE CONFIGURATION – Y ORIENTATION

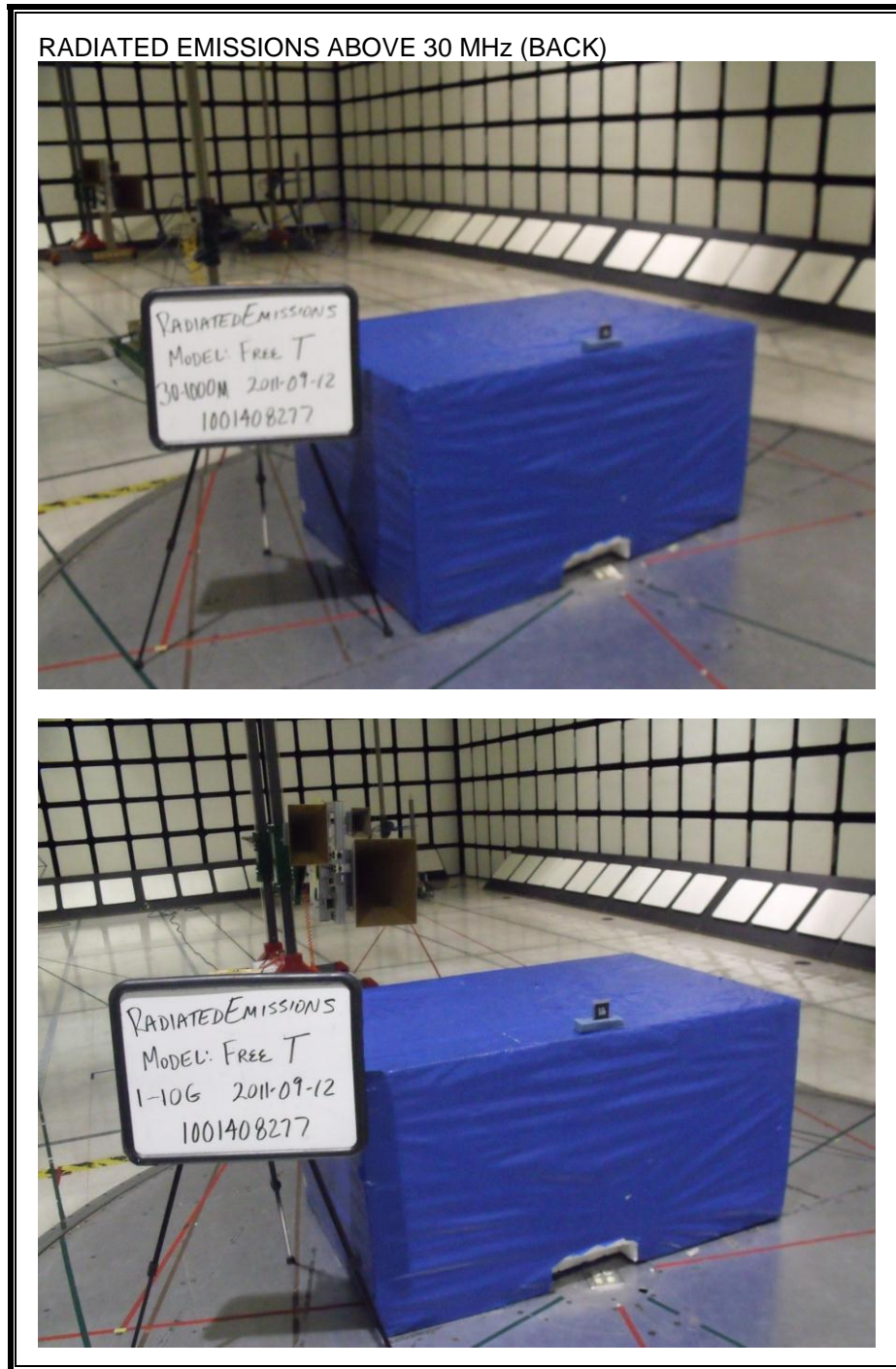


RADIATED EMISSION FOR PORTABLE CONFIGURATION – Z ORIENTATION



RADIATED EMISSION ABOVE 30 MHz





END OF REPORT