

**COMPLIANCE WORLDWIDE INC.
TEST REPORT 349-15R1**

In Accordance with the Requirements of
Industry Canada RSS 210, Issue 8
Federal Communications Commission CFR Title 47 Part 15.223
Low Power License-Exempt Radio Communication Devices
Intentional Radiators

Issued to
Secure Care Products, LLC
39 Chenell Drive
Concord, NH 03301
603-223-0745

for the
Secure Care
Model 135 STAT[®] ID
6.78 MHz Door Management Radio

FCC ID: KNK-NRTLS678

Report Issued on August 14, 2015
Report Revised on September 2, 2015

Testing performed by



Brian F. Breault
EMC Test Engineer

Reviewed By



Larry K. Stillings

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Table of Contents

1. Scope	3
2. Product Details	3
2.1. Manufacturer	3
2.2. Model Number	3
2.3. Serial Number	3
2.4. Description	3
2.5. Power Source	3
2.6. EMC Modifications	3
3. Product Configuration	3
3.1. Operational Characteristics & Software	3
3.2. EUT Hardware	3
3.3. Support Equipment	3
3.4. Support Equipment Cables	4
3.5. Block Diagram	4
4. Measurements Parameters	4
4.1. Measurement Equipment Used to Perform Test	4
4.2. Measurement & Equipment Setup	5
4.3. Test Procedure	5
5. Measurement Summary	6
6. Measurement Data	7
6.1. Antenna Requirement	7
6.2. Emission Bandwidth	8
6.3. Radiated Field Strength of Fundamental	9
6.4. Duty Cycle Correction Factor	11
6.5. Spurious Radiated Emissions	13
7. Test Setup Photographs	26
8. Test Site Description	32

1. Scope

This test report certifies that the Secure Care Products, LLC. Model 135 STAT ID 6.78 MHz door management radio, as tested, meets the Subpart C, FCC Part 15.209 requirements and the RSS 210 Annex II Rules. In addition, the FCC Part 15.223 requirements have also been met. The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

Revision R1 – Test engineer name, title and signature updated.

2. Product Details

- 2.1. Manufacturer:** Secure Care Products, LLC.
- 2.2. Model Number:** Model 135, A20470901
- 2.3. Serial Number:** None
- 2.4. Description:** Model 135 STAT ID
Infant and child abduction protection device
6.78 MHz door management radio
Software version 1165
- 2.5. Power Source:** 3.0 VDC (Lithium) non-replaceable
- 2.6. EMC Modifications:** None

3. Product Configuration

3.1. Operational Characteristics & Software

Operating Instructions for Test

Use the tester to enable continuous wave features. With the transmitter at the top of the tester, push the “6” key to enable continuous wave output on the low frequency radio. This will output a continuous wave for one minute and then revert back to normal operation.

The “#” key will put the transmitter in sleep mode. The strap needs to be removed to stay in sleep mode.

The “7” key will enable a quick wakeup of the transmitter. The strap must be installed to wake up the transmitter.

3.2. EUT Hardware

Manufacturer	Model/Part # / Options	Serial Number	Volts	Frq (Hz)	Description/Function
Secure Care Products, LLC.	Door management Radio		3.0	DC	Infant and child abduction protection device

3.3. Support Equipment

Manufacturer	Model/Part # / Options	Serial Number	Input Voltage	Frq (Hz)	Description/Function
Secure Care Products, LLC.	A07390900	0121200014	N/A	-	For setting up the DUT operation. Not used during testing.



Test Number: 349-15



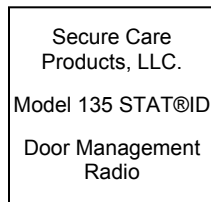
Issue Date: 08/14/2015

3. Product Configuration (continued)

3.4. Support Equipment Cables

Cable Type	Length	Shield	From	To
None				

3.5. Block Diagram



4. Measurements Parameters

4.1 Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due	Interval
EMI Test Receiver, 9kHz - 7GHz ¹	Rohde & Schwarz	ESR7	101156	7/23/2017	2 Years
Spectrum Analyzer 20 Hz – 40 GHz ²	Rohde & Schwarz	FSV40	100899	7/23/2017	2 Years
Spectrum Analyzer, 9 kHz to 40 GHz ³	Rohde & Schwarz	FSVR40	100909	7/23/2017	2 Years
EMI Receiver, 9 kHz to 6.5 GHz	Hewlett Packard	8546A	3650A00360	6/4/2016	2 Years
Loop Antenna, 9 kHz to 30 MHz	EMCO	6512	9309-1139	9/23/2016	2 Years
Biconilog Antenna, 30 MHz to 2 GHz	Sunol Sciences Corp	JB1	25509	5/15/2016	3 Years
Horn Antenna, 960 MHz – 18 GHz	Electro-Metrics	RGA-50 / 60	2813	7/15/2016	2 Years
LISN 50 Ω 50 μH, 9 kHz to 30 MHz	EMCO	3825/2	9109-1860	7/23/2016	1 Year
Barometric Press/Humidity & Temp Datalogger	Extech Instruments	SD700	Q590483	9/18/2015	2 Years

¹ ESR7 Firmware revision: V2.26,

Date installed: 8/15/2014

Previous V2.17, installed 6/11/2014.

² FSV40 Firmware revision: V2.30 SP1

Date installed: 10/22/2014

Previous V2.30, installed 7/23/2014.

³ FSVR40 Firmware revision: V2.23,

Date installed: 10/20/2014

Previous V1.63 SP1, installed 8/28/2013.

4. Measurements Parameters (continued)

4.2 Measurement & Equipment Setup

Test Dates:	8/07/2015 to 8/14/2015
Test Engineers:	Brian Breault
Site Temperature (°C):	21.4
Relative Humidity (%RH):	32
Frequency Range:	30 kHz to 2.0 GHz
Measurement Distance:	3 Meters
EMI Receiver IF Bandwidth:	120 kHz (30 MHz – 1 GHz) 1 MHz (>1 GHz)
EMI Receiver Avg Bandwidth:	300 kHz (30 MHz – 1 GHz) 3 MHz (>1 GHz)
Detector Functions:	Peak, Quasi-Peak and Average

4.3 Test Procedure

Test measurements were made in accordance FCC Part 15.209: Radiated emission limits; general requirements and FCC Part 15.223: Operation in the band 1.705–10 MHz.

The test methods used to generate the data in this test report are in accordance with ANSI C63.10: 2013, American National Standard for Methods for Unlicensed Wireless Devices

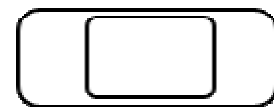
In addition, the measurements were performed with the device in three orthogonal positions in accordance with ANSI C63.10-2013, sections 5.10.1, 6.4.6 and Annex H. The three orthogonal axes were defined as follows:



X-Axis



Y-Axis



Z-Axis

X Axis	Upright (Strap toward rear)	Front of unit is facing the antenna at 0°
Y Axis	Horizontal on left edge	Front of unit is facing the antenna at 0°
Z Axis	Face Up (Strap down)	Bottom edge of the unit is facing the antenna at 0°

5. Measurement Summary

Test Requirement	FCC Requirement	IC Requirement	Test Report Section	Result	Comment
Antenna Requirement	15.203	RSS210 A1.1	6.1	Compliant	The antenna is enclosed within the device under test.
Emission Bandwidth	15.223	RSS-210 §2.3	6.2	Compliant	
Radiated Field Strength of Fundamental	15.223 (a)	RSS-Gen Tbl 6	6.3	Compliant	
Duty Cycle Correction Factor	15.35 (c)	RSS-Gen Tbl 6	6.4	Compliant	
Spurious Radiated Emissions	15.223 (b), 15.209	A13.1.2 (2)	6.5	Compliant	
Frequency Stability	15.229 (d)	Not Required	---	Not Required	
Conducted Emissions	15.207	---	---	Not Required	Unit operates on an internal battery.
Public Exposure to Radio Frequency Energy Levels.	15.247(i) 1.1307 (b)(1)	RSS-GEN 5.5, RSS 102	---	Not Required	Intentional emission frequency is below 100 MHz.

6. Measurement Data

6.1. Antenna Requirement (Section 15.203)

Requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section.

Status: The Model 135 STAT ID door management radio antenna is contained inside a sealed unit.

6. Measurement Data

6.2. Emission Bandwidth (FCC Sections 15.223, 15.209, IC RSS-210 Section A2.3)

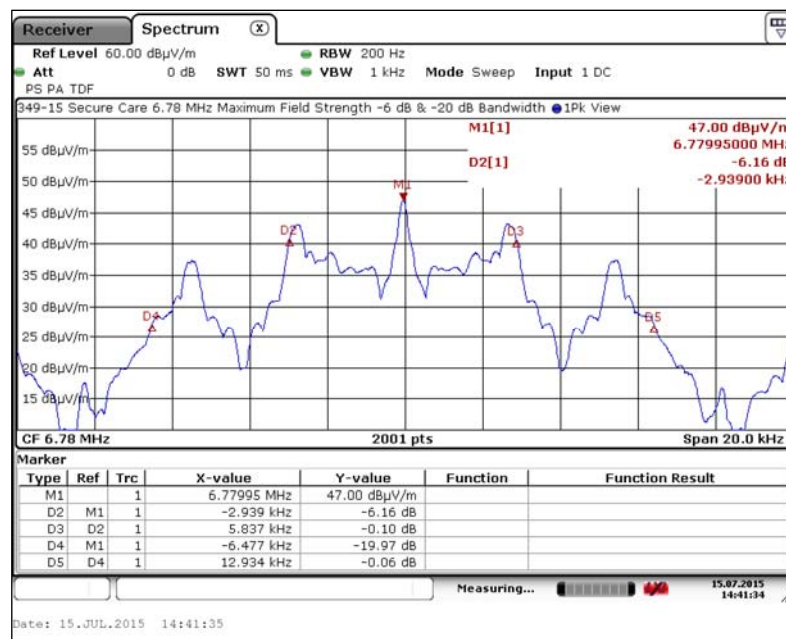
Requirement: For FCC Part 15.223 and IC RSS-210, the field strength of any emission within the band 1.705–10.0 MHz shall not exceed 100 microvolts/meter at a distance of 30 meters. However, if the bandwidth of the emission is less than 10% of the center frequency, the field strength shall not exceed 15 microvolts/meter or (the bandwidth of the device in kHz) divided by (the center frequency of the device in MHz) microvolts/meter at a distance of 30 meters, whichever is the higher level. For the purposes of this section, bandwidth is determined at the points 6 dB down from the modulated carrier.

For FCC Part 15.209, the bandwidth requirement is not specified. The 20 dB bandwidth has been included as part of this test report.

Test Note: Reference ANSI C63.10-2013, Section 6.9.1. for the bandwidth measurement method.

Conclusion: The -6 dB bandwidth is less than 10% of the intentional emission center frequency. Therefore, the emission field strength cannot exceed 15 microvolts/meter (23.53 dBμV/m) at 30 meters.

Fundamental Frequency	-6 dB Bandwidth	-20 dB Bandwidth	Result
(MHz)	(kHz)	(kHz)	
6.78	5.837	12.934	N/A



6. Measurement Data (continued)

6.3. Radiated Field Strength of Fundamental (15.223, Section (a), Rss-Gen Tbl 6)

Requirement: The field strength of any emission within the band 1.705–10.0 MHz shall not exceed 100 microvolts/meter at a distance of 30 meters. However, if the bandwidth of the emission is less than 10% of the center frequency, the field strength shall not exceed 15 microvolts/meter or (the bandwidth of the device in kHz) divided by (the center frequency of the device in MHz) microvolts/meter at a distance of 30 meters, whichever is the higher level. For the purposes of this section, bandwidth is determined at the points 6 dB down from the modulated carrier. The emission limits in this paragraph are based on measurement instrumentation employing an average detector.

Test Note: Reference ANSI C63.10-2013 sections 5.3.2 and 6.4.4.2. The following formula was used to extrapolate the measurement distance to the limit distance:

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{near field}}}{d_{\text{measure}}} \right) - 20 \log \left(\frac{d_{\text{limit}}}{d_{\text{near field}}} \right) \quad \text{Equation 1}$$

FS_{limit} is the calculation of field strength at the limit distance (dBμV/m)	29.39
FS_{max} is the measured field strength, expressed in (dBμV/m)	56.80
$d_{\text{near field}}$ is the $\lambda/2\pi$ distance (Meters)	7.04
d_{measure} is the distance of the measurement point from the EUT (Meters)	3.00
d_{limit} is the reference limit distance (Meters)	30.00

Conclusion: The fundamental frequency radiated field strength of the device under test complies with the requirements detailed in FCC Part 15.223, Section (a) and Part 15.209, Section (a).

6. Measurement Data (continued)

6.3. Radiated Field Strength of Fundamental (15.209, Section (a), Rss-GEN Tbl 6)

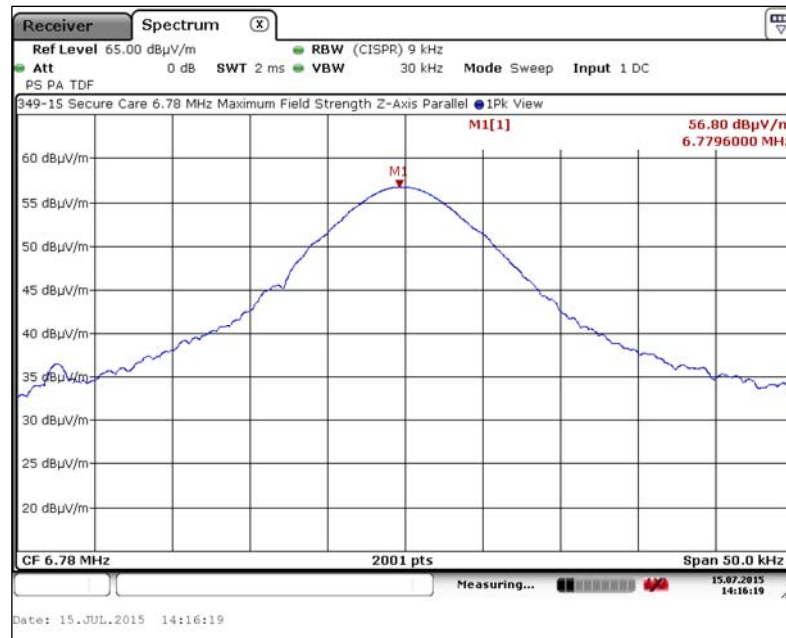
6.3.1. Worst Case Radiated Field Strength of Fundamental

Freq. (MHz)	Amplitude ¹ (dBμV/m)	Duty Cycle Correction	Corr. Ampl. ² (dBμV/m)	FCC 15.223 Limit (dBμV/m)	Margin (dB)	Ant Polarity	Ant Height	Turntable Azimuth	Result
	Peak	dB	Average			Par/Per	cm	Deg	
6.78	29.39	-28.64	0.75	23.52	-22.77	Per	100	180	Compliant

¹ Measurement has been extrapolated from 3 meters to 30 meters using Equation 1 on the previous page.

² The average field strength was determined by applying a duty cycle correction factor to the peak field strength.

6.3.2. Worst Case Radiated Field Strength of Fundamental



6. Measurement Data (continued)

6.4. Duty Cycle Correction Factor (FCC Part 15.35(c), ANSI C63.10, Section 7.5)

Requirement: Unless otherwise specified, when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, 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 s (100 ms). In cases where the pulse train exceeds 0.1 s, the measured field strength shall be determined during a 0.1 s interval. To determine the duty cycle, the following equation is used:

$$\bar{d}(\text{dB}) = 20\log[\Sigma(nt_1 + mt_2 + \dots + \xi t_x)/T]$$

n is the number of pulses of duration t_1

m is the number of pulses of duration t_2

ξ is the number of pulses of duration t_x

T is the period of the pulse train

If $T > 100$ ms then $T = 100$ ms

Applied: $nt_1 = .285$ ms x 5 pulses = 1.425 ms Plot 6.5.1

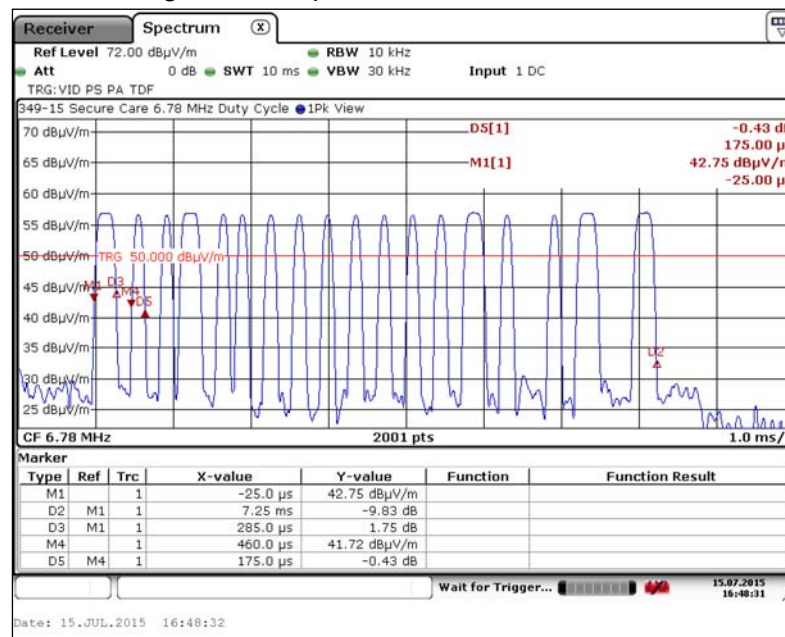
$mt_2 = .175$ ms x 13 pulses = 2.275 ms Plot 6.5.1

$T = 100$ ms (maximum allowable period) Plot 6.5.2

Duty Cycle Correction Factor = $20\log((1.425 + 2.275)/100)$

Duty Cycle Correction Factor = -28.64

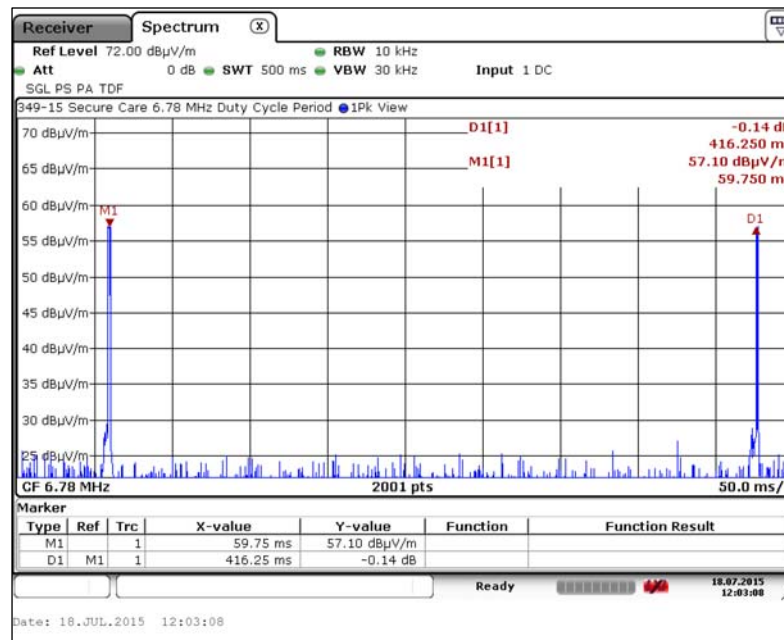
6.4.1. DUT Pulse Train during Normal Operation



6. Measurement Data (continued)

6.4. Duty Cycle Correction Factor (FCC Part 15.35(c), ANSI C63.10, § 7.5) (Continued)

6.4.2. Time of One Period (416.25 ms)



6. Measurement Data (continued)

6.5. Spurious Radiated Emissions, 30 MHz to 2.0 GHz (15.223 Section (b), 15.209)

Requirement: The spurious radiated emissions requirements for intentional radiators shall demonstrate compliance with the field strength limits detailed in Part 15.223, Section (b): The field strength of any emissions appearing outside of this band shall not exceed the general radiated emissions limits in Section 15.209. FCC Part 15.33 requires that, due to the highest frequency used in the device being between 108 MHz and 500 MHz (433.92 MHz), the upper frequency of measurement will be 2 GHz.

FCC Part 15.209 Spurious Emissions Limits:

Frequency (MHz)	Field Strength (μV/m)	Meas. Distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88–216	150	3
216–960	200	3
Above 960	500	3

Procedure: This test was performed in accordance with the information provided in ANSI C63.10-2013, Section 6.5.

Test Notes: Screen captures test notes:

- Section 6.5.2: The emission marked by the pair of vertical cursors is the DUT intentional emissions frequency covered by this test report.
- Section 6.5.3: The emission marked by the pair of vertical cursors is another DUT intentional emissions frequency and is covered by a separate test report.

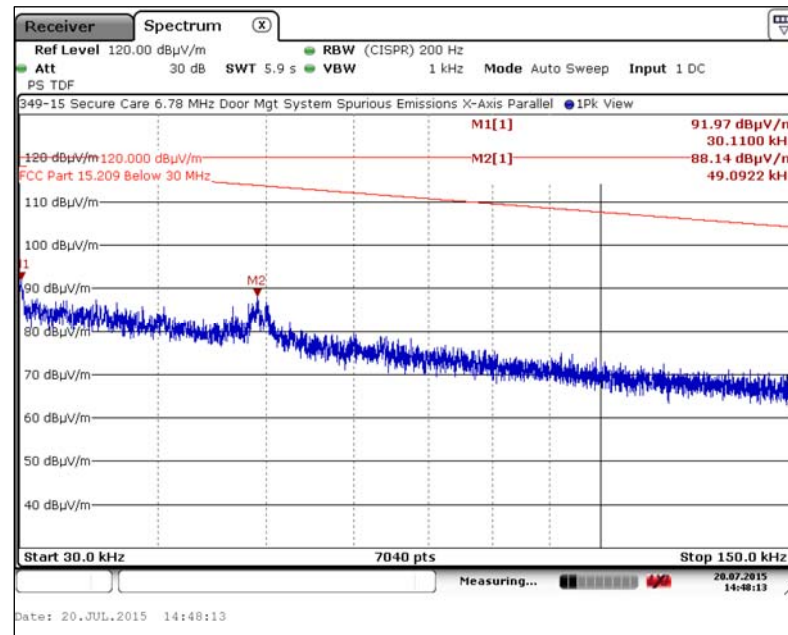
Conclusion: Compliant. The Emissions from the DUT did not exceed the field strength levels specified in FCC Part 15.209.

6. Measurement Data (continued)

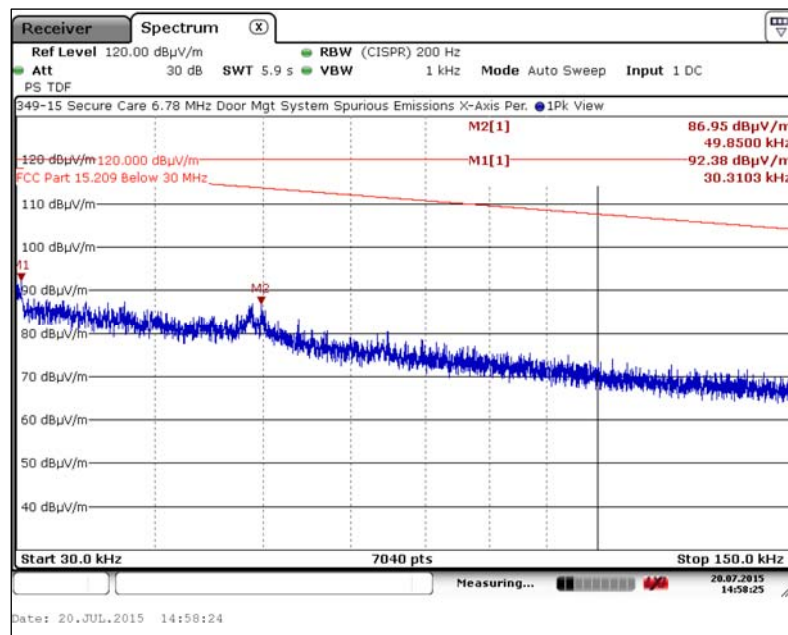
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.1. Spurious Radiated Emissions, 30 kHz to 150 kHz Test Results

6.5.1.1. X-Axis, Parallel Antenna



6.5.1.2. X-Axis, Perpendicular Antenna

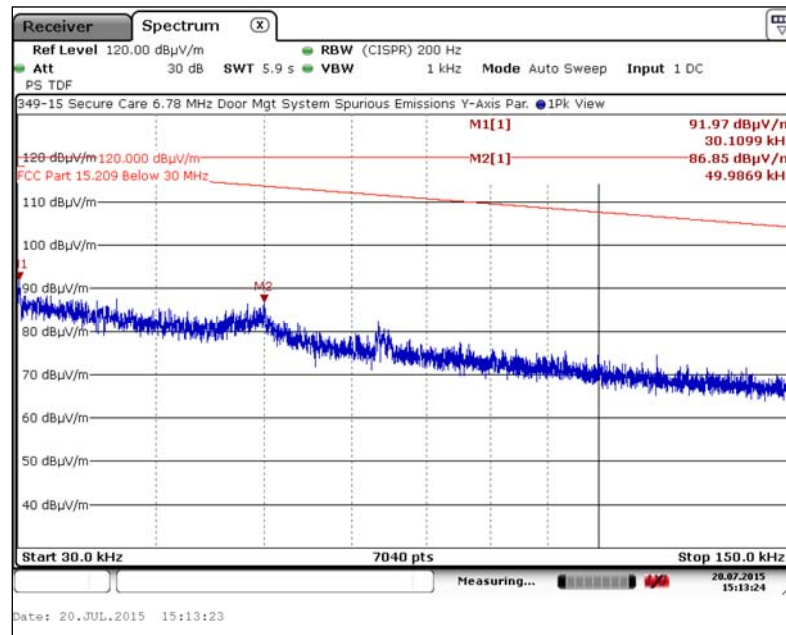


6. Measurement Data (continued)

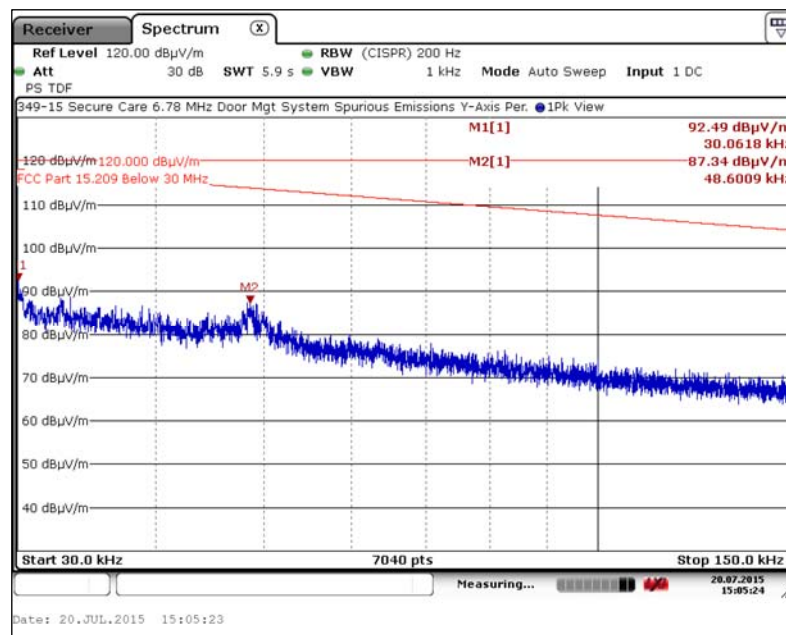
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.1. Spurious Radiated Emissions, 30 kHz to 150 kHz Test Results

6.5.1.3. Y-Axis, Parallel Antenna



6.5.1.4. Y-Axis, Perpendicular Antenna

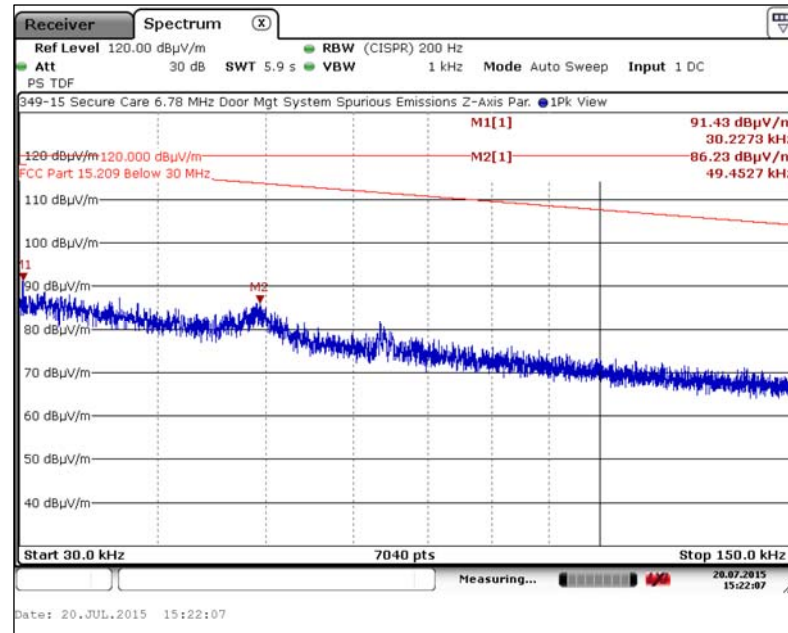


6. Measurement Data (continued)

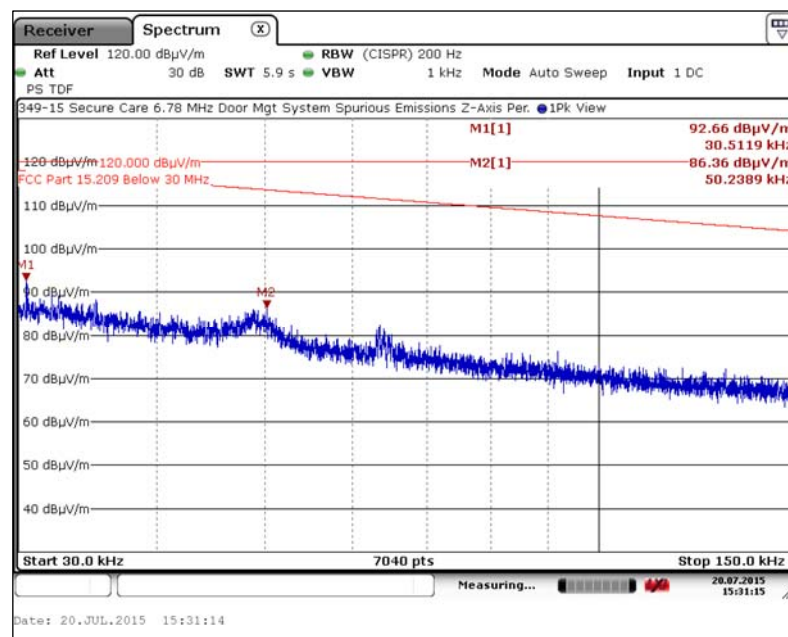
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.1. Spurious Radiated Emissions, 30 kHz to 150 kHz Test Results

6.5.1.5. Z-Axis, Parallel Antenna



6.5.1.6. Z-Axis, Perpendicular Antenna

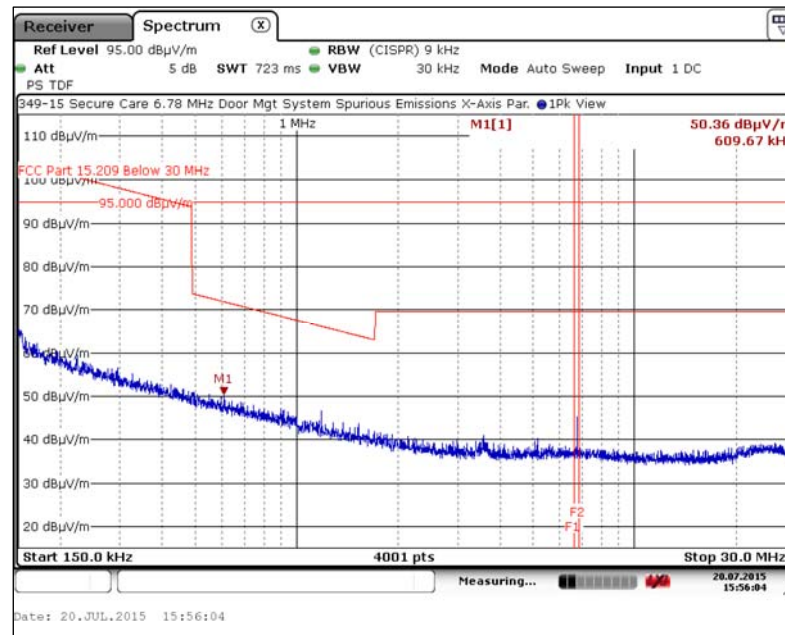


6. Measurement Data (continued)

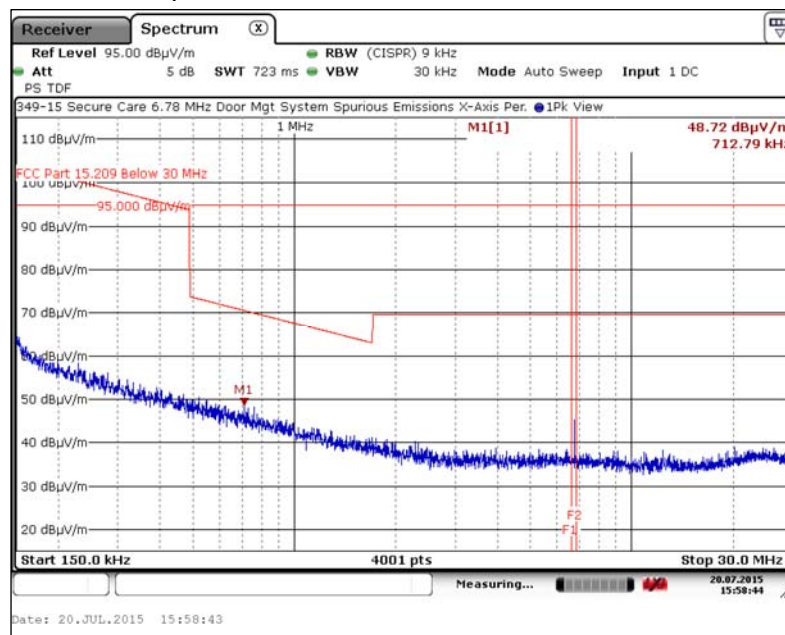
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.2. Spurious Radiated Emissions, 150 kHz to 30 MHz Test Results

6.5.2.1. X-Axis, Parallel Antenna



6.5.2.2. X-Axis, Perpendicular Antenna

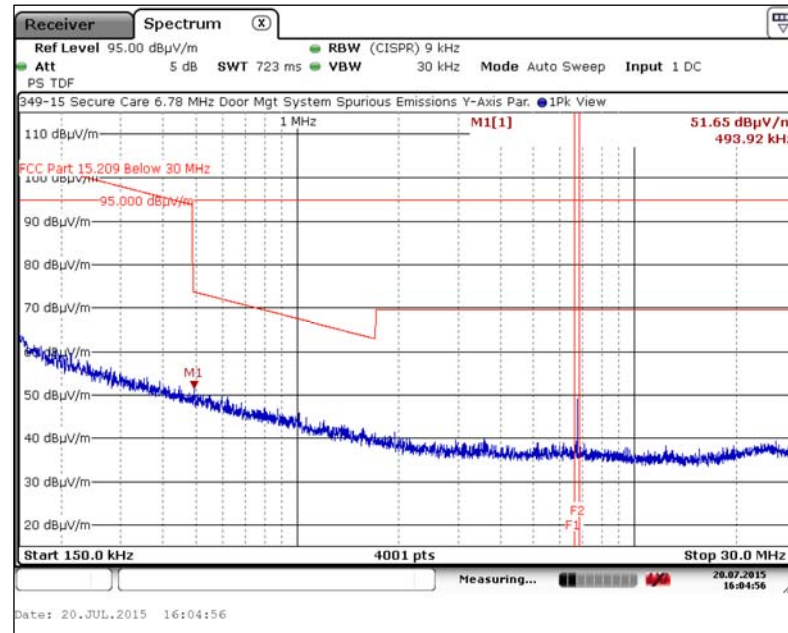


6. Measurement Data (continued)

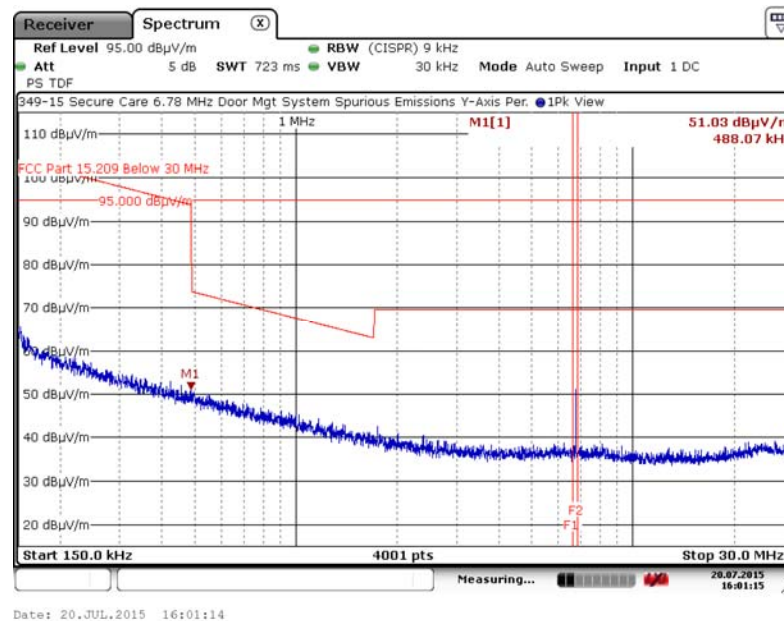
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.2. Spurious Radiated Emissions, 150 kHz to 30 MHz Test Results

6.5.2.3. Y-Axis, Parallel Antenna



6.5.2.4. Y-Axis, Perpendicular Antenna

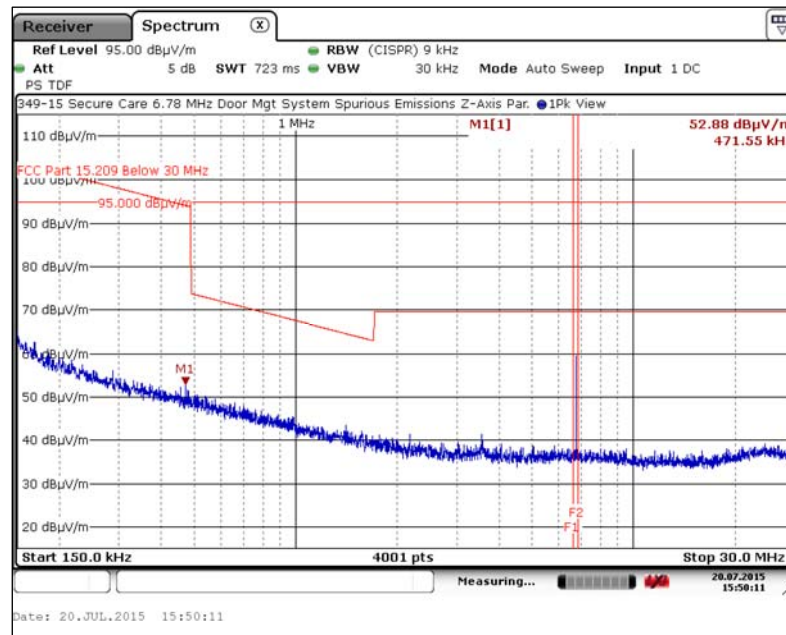


6. Measurement Data (continued)

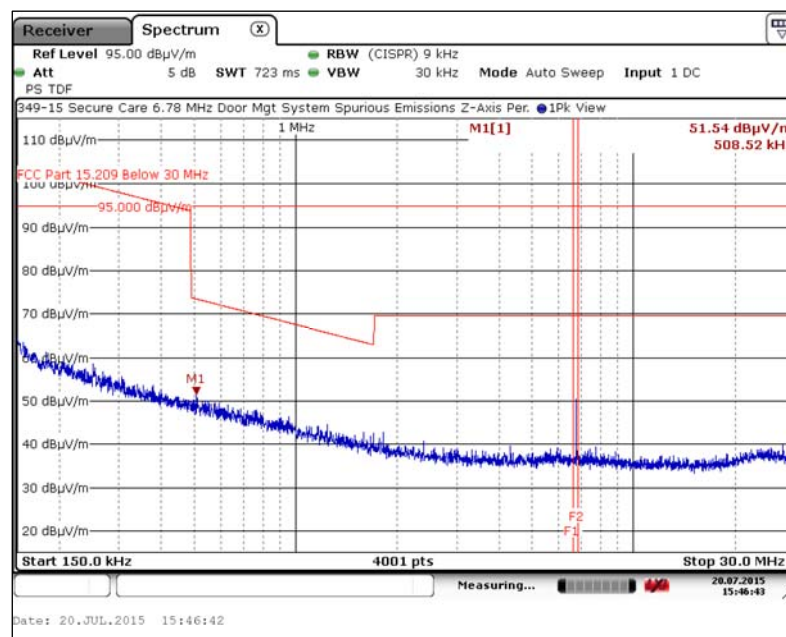
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.2. Spurious Radiated Emissions, 150 kHz to 30 MHz Test Results

6.5.2.5. Z-Axis, Parallel Antenna



6.5.2.6. Z-Axis, Perpendicular Antenna

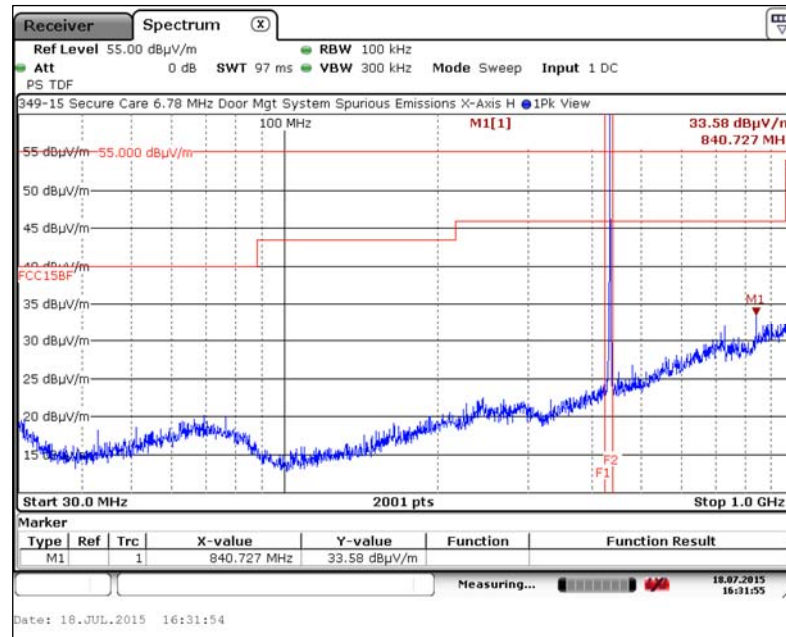


6. Measurement Data (continued)

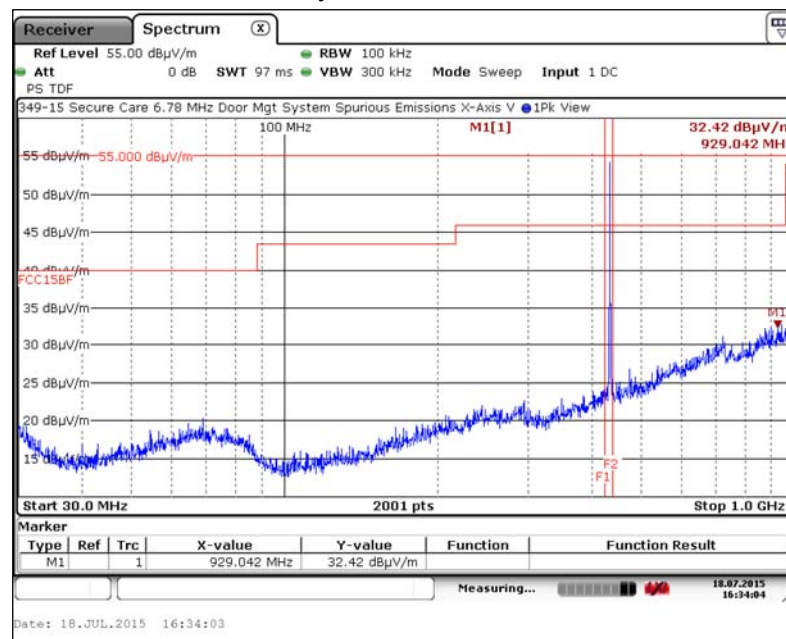
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.3. Spurious Radiated Emissions, 30 MHz to 1 GHz Test Results

6.5.3.1. X-Axis, Horizontal Polarity



6.5.3.2. X-Axis, Vertical Polarity

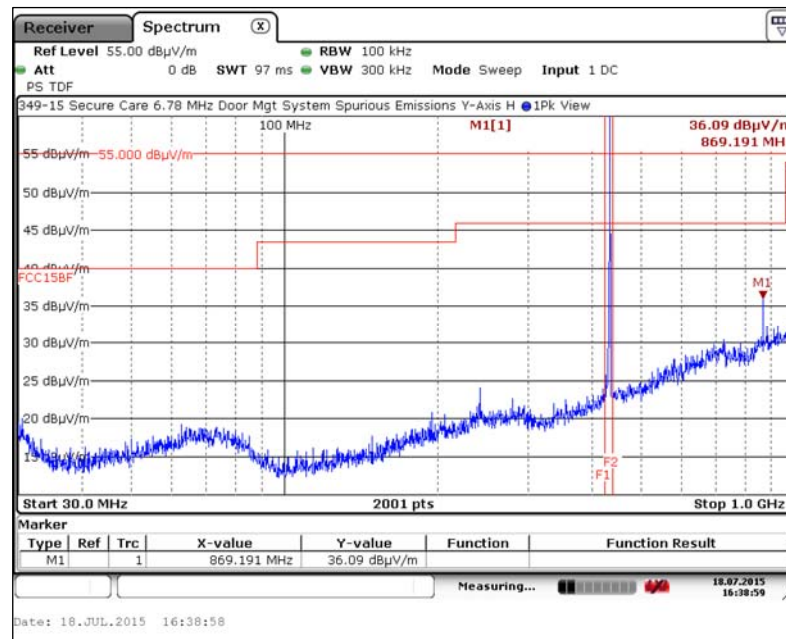


6. Measurement Data (continued)

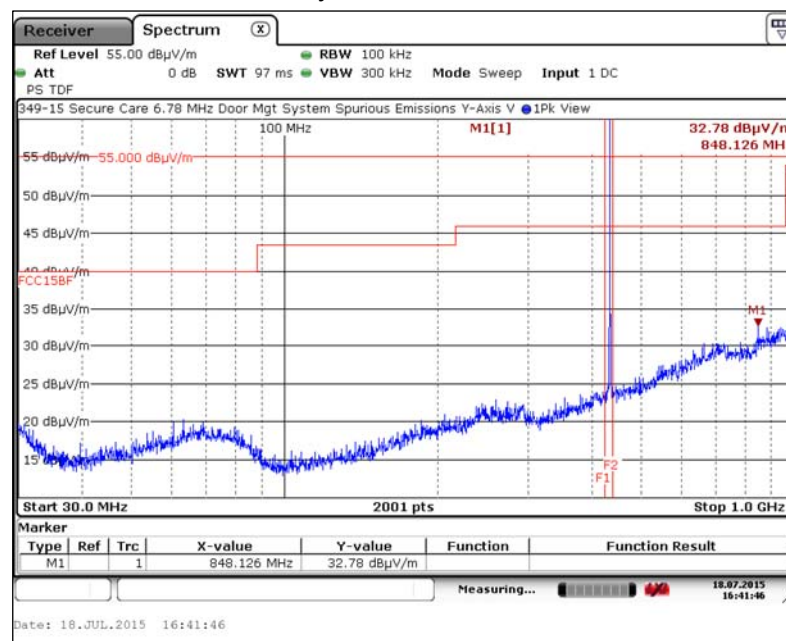
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.3. Spurious Radiated Emissions, 30 MHz to 1 GHz Test Results

6.5.3.3. Y-Axis, Horizontal Polarity



6.5.3.4. Y-Axis, Vertical Polarity

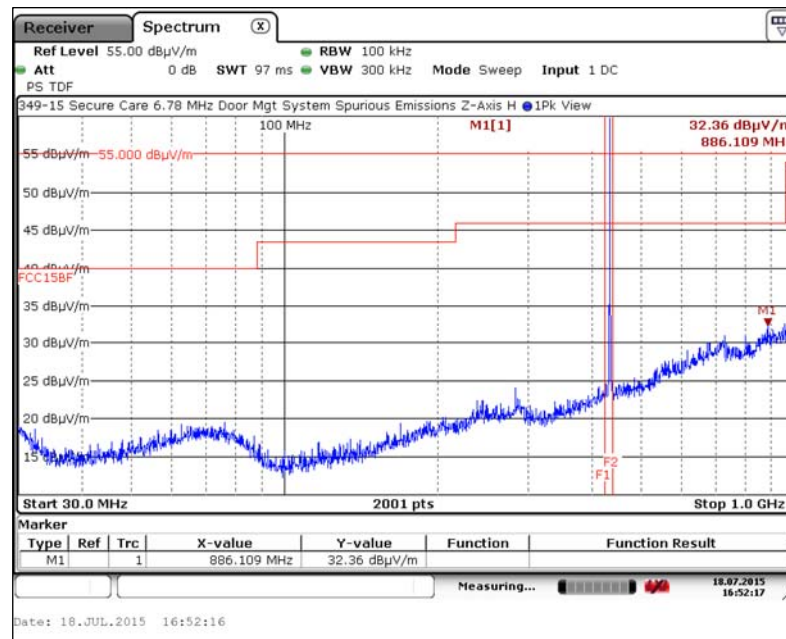


6. Measurement Data (continued)

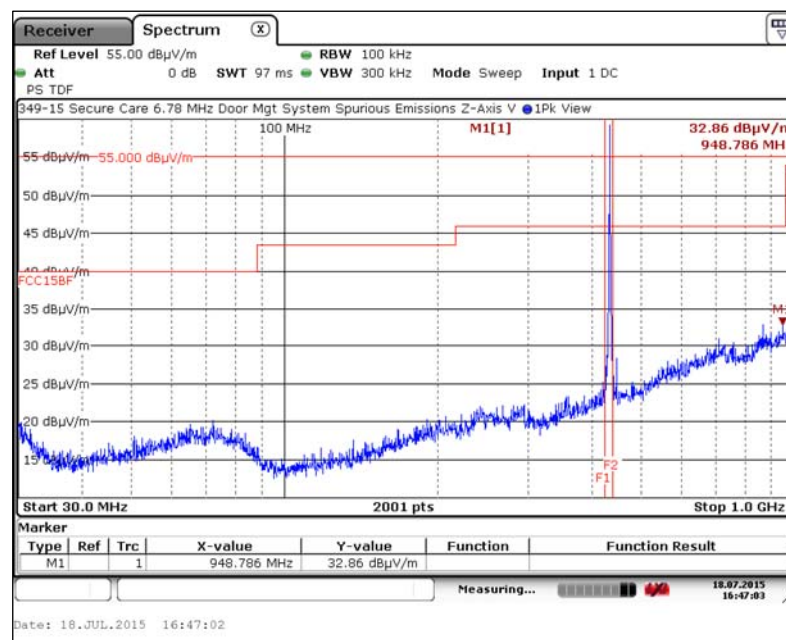
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.3. Spurious Radiated Emissions, 30 MHz to 1 GHz Test Results

6.5.3.5. Z-Axis, Horizontal Polarity



6.5.3.6. Z-Axis, Vertical Polarity

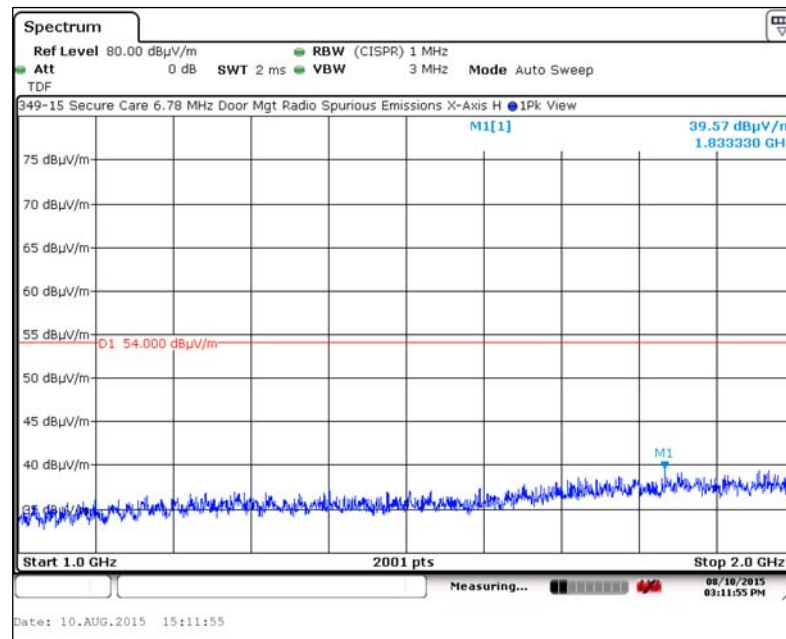


6. Measurement Data (continued)

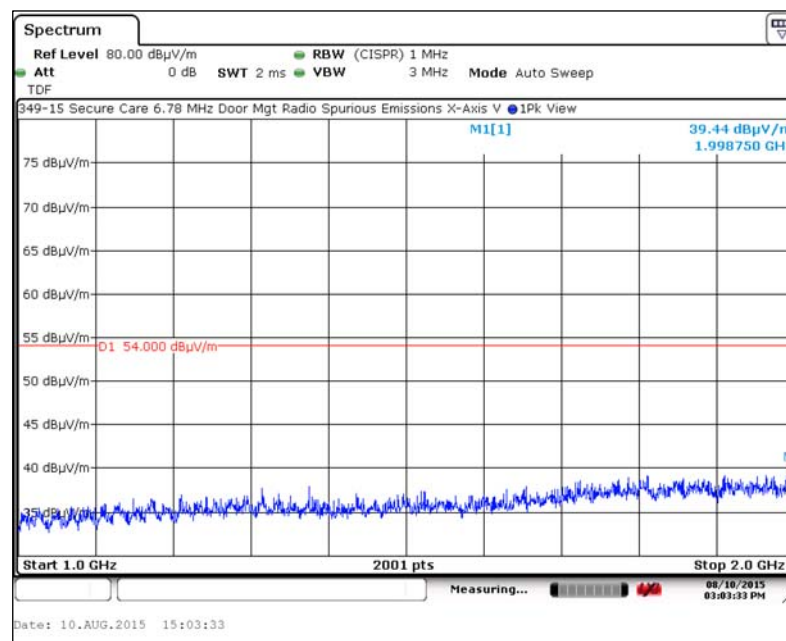
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.4. Spurious Radiated Emissions, 1 MHz to 2 GHz Test Results

6.5.4.1. X-Axis, Horizontal Polarity



6.5.4.2. X-Axis, Vertical Polarity

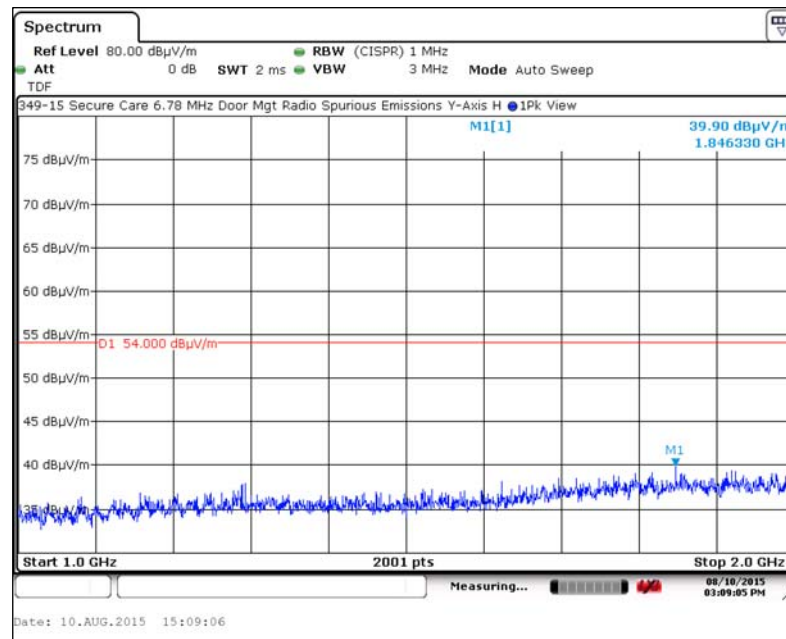


6. Measurement Data (continued)

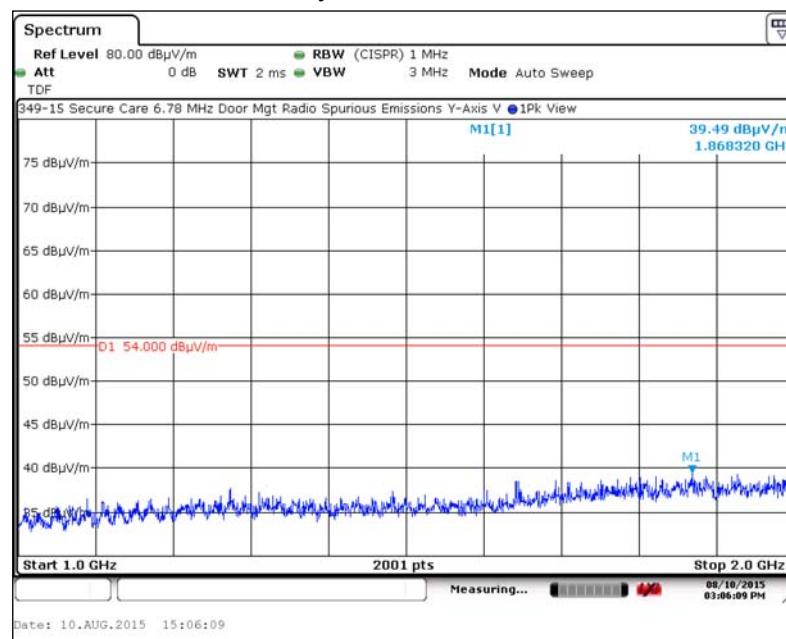
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.4. Spurious Radiated Emissions, 1 GHz to 2 GHz Test Results

6.5.4.3. Y-Axis, Horizontal Polarity



6.5.4.4. Y-Axis, Vertical Polarity

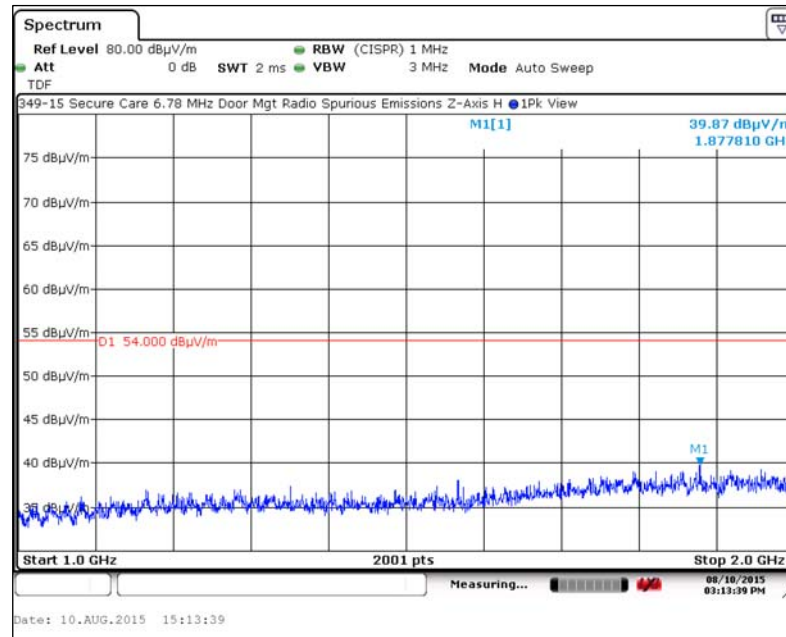


6. Measurement Data (continued)

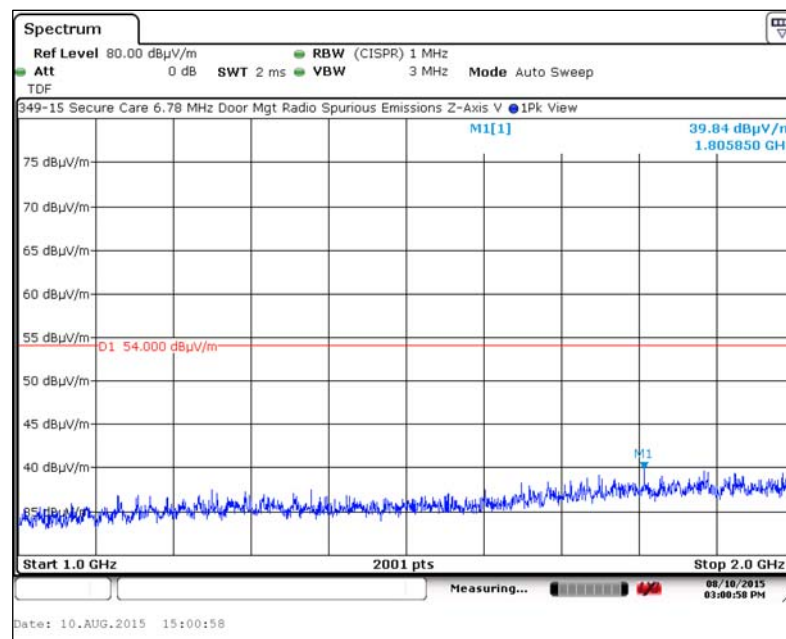
6.5. Spurious Radiated Emissions, 30 kHz to 2.0 GHz (15.229, § (c), 15.209) (cont'd)

6.5.4. Spurious Radiated Emissions, 1 GHz to 2 GHz Test Results

6.5.4.5. Z-Axis, Horizontal Polarity



6.5.4.6. Z-Axis, Vertical Polarity



Test Number: 349-15

Issue Date: 08/14/2015

7. Test Setup Photographs

7.1. Radiated Emissions Front View



7. Test Setup Photographs

7.2. Radiated Emissions Rear View < 30 MHz



7. Test Setup Photographs

7.3. Radiated Emissions Front View 30 MHz – 1 GHz



7. Test Setup Photographs

7.4. Radiated Emissions Rear View 30 MHz – 1 GHz



7. Test Setup Photographs

7.5. Radiated Emissions Front View above 1 GHz



7. Test Setup Photographs

7.5. Radiated Emissions Rear View above 1 GHz



8. Test Site Description

Compliance Worldwide is located at 357 Main Street in Sandown, New Hampshire. The test sites at Compliance Worldwide are used for conducted and radiated emissions testing in accordance with Federal Communications Commission (FCC) and Industry Canada standards. A description of the test sites is on file with the FCC (registration number **96392**) and Industry Canada (file number **IC 3023A-1**).

The radiated emissions test site is a 3 and 10 meter enclosed open area test site (OATS). Personnel, support equipment and test equipment are located in the basement beneath the OATS ground plane.

The conducted emissions site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical ground plane required by EN 55022.

Both sites are designed to test products or systems 1.5 meter W x 1.5 meter L x 2.0 meter H, floor standing or table top.