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Job Number:	1001291463
Project Number:	10ME09079
File Number:	E174420
Revision Date:	2011- 05-03
Model:	901879
FCC ID:	Y92-BF0002
Industry Canada ID:	9532A-BF0002

Electromagnetic Compatibility Test Report

For

BUFFALO FILTER, DIV OF MEDTEK DEVICES INC

Test Report Details

Tests Performed By:		**Underwriters Laboratories Inc.**
		1285 Walt Whitman Rd.
		Melville, NY 11747
Tests Performed For:		**BUFFALO FILTER, DIV OF MEDTEK DEVICES INC**
		595 COMMERCE DRIVE **BUFFALO , NY 14228**
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Test Report Revision Date:		**2011-05-03**
Product Type:		**Limited Modular RFID Tag** **(installed in Smoke Evacuator Systems)**
Product standards		**FCC Part 15, Subpart C, 15.225, RSS-210, RSS-GEN**
Model Number:		**901879**
Sample Part Number:		**Not provided at time of test**
EUT Category:		**Low Power RFID 13.56MHz**
Testing Start Date:		**2011-02-18**
Date Testing Complete:		**2011-03-04**
Overall Results:		**Compliant**

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Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
2011-05-03	Add the modification to comply with Radiated Emissions	Joseph Danisi	Bob DeLisi

1.0 G E N E R A L - Product Description

1.1 Equipment Description

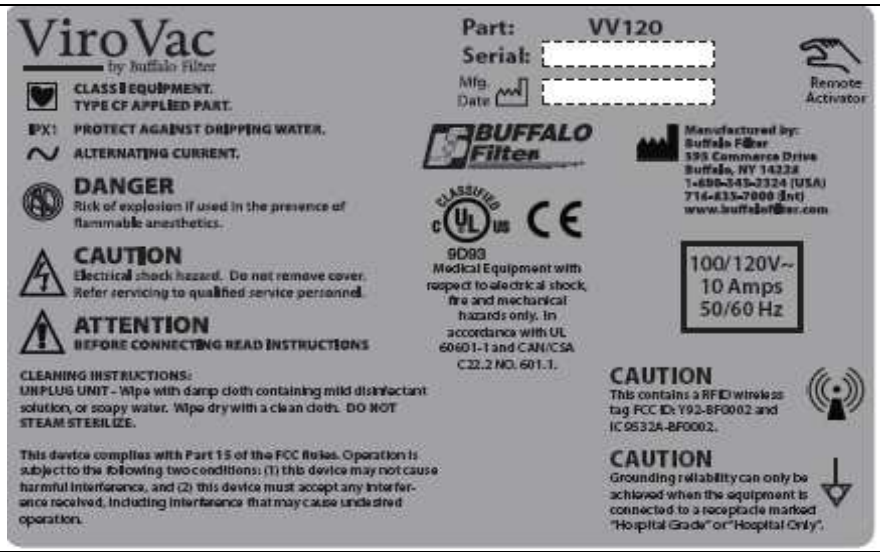
The ViroVac Smoke Evacuation Systems is designed to remove smoke and noxious odors produced by surgical smoke during laser, electrosurgical, ultrasonic, argon, plasma and mechanical instrument procedures.

The ViroVac Smoke Evacuation Systems have been designed with a high suction, high flow rate centrifugal action pump. The ultra-quiet motor is used to draw the surgical smoke from the surgical site through the vacuum tubing and into the ViroSafe filter where the surgical smoke is processed by a series of filters. A single disposable filter is used to simplify the installation and removal during filter changes. The filter is completely enclosed to protect the healthcare personnel from potential contamination during filter changes.

Per FCC Part 2.1093 (C) this device is not required to undergo testing for radio-frequency radiation exposure.

Antenna description: It is a permanently attached to the RF circuit board and the transmit antenna type is a PCB trace antenna.

1.2 Equipment Marking Plate



1.3 Device Configuration During Test

1.3.1 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	RFID Tag Modular	BUFFALO FILTER,DIV OF MEDTEK DEVICES INC	901879	Limited Modular
EUT	Footswitch	BUFFALO FILTER, DIV OF MEDTEK DEVICES INC	-	-
AE	Load	-	-	To load the remote actuator port
Note: EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment, or SIM - Simulator (Not Subjected to Test)				

1.3.2 Input/Output Ports:

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	—	—	None
1	Mains	AC	NO	NO	None
2	Remote Activator	I/O	YES	NO	None
3	Footswitch	I/O	NO	NO	None

Note:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port (Not Involved in Process Control)
TP = Telecommunication Ports

1.3.3 EUT Internal Operating Frequencies:

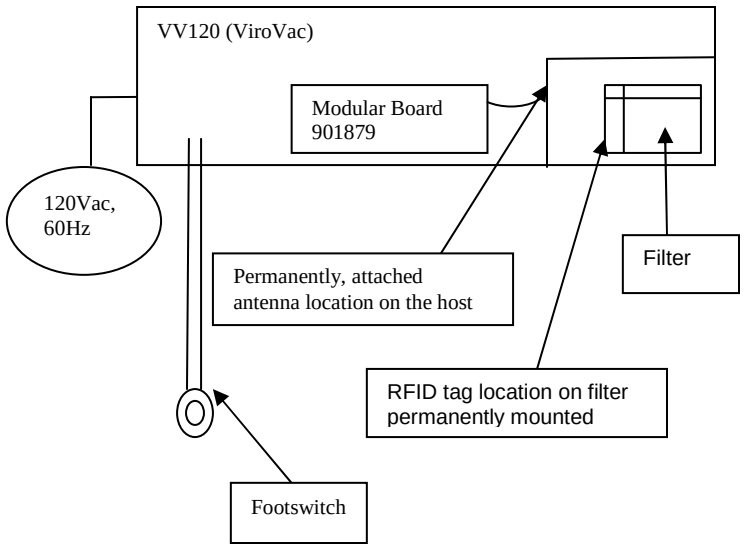
Frequency (MHz)	Description
13.56	Fundamental
8	Oscillator

1.3.4 Power Interface:

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
1	120Vac	-	-	60Hz	Single Phase	Main power to the VV120 (ViroVac) system which, contains the RF modular

1.4 Block Diagram:

The diagram below illustrates the configuration of the equipment above.



1.5 EUT Configurations

Mode #	Description
1	The RFID in the smoke evacuation systems was configured by the manufacturer Buffalo Filter, Div. of Medtek Devices Inc. to perform as intended in worst case configuration..

1.6 EUT Operation Modes

Mode #	Description
1	Transmitting as intended

2.0 Summary

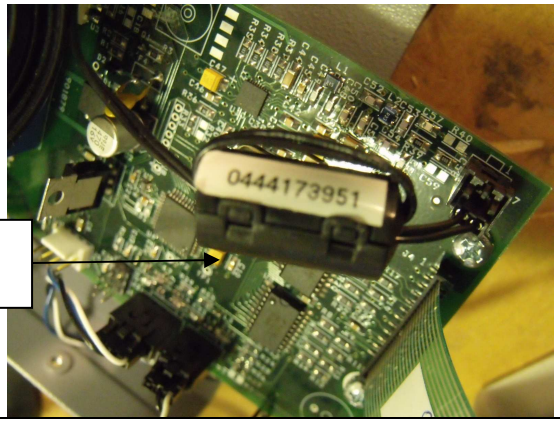
The tests listed in the Summary of Testing section of this report have been performed and the results recorded by Underwriters Laboratories Inc. in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

2.1 Deviations from standard test methods

None

2.2 Device Modifications Necessary for Compliance

Radiated Emissions required a ferrite bead placed on the antenna cable with two turns at the modular connector manufacturer Fair-Rite P/N 0444173951 or equivalent.



2.3 Reference Standards

Standard Number	Standard Name	Standard Date
CFR 47	FCC Part 15, Subpart C, 15.31, 15.35, 15.207 & 15.209, & 15.225	2010
CFR 47	FCC Part 15, Subpart B, Class B Radio Frequency Devices	2010
ICES-003, Issue 4	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard: Digital Apparatus	2003
RSS- 210, Issue 8	Low-power License-exempt Radio communications Devices (All Frequency Bands): Category I Equipment sets out certification requirements for low-power license- exempt radio communication devices that are Category I equipment.	2010
RSS-GEN, Issue 3	General Requirements and Information for the Certification of Radio communication equipment.	2010

2.4 Results Summary

This product is considered Class B

Requirement – Test	Result (Compliant / Non-Compliant)*
Conducted Emissions - Mains	Compliant
Frequency Stability	Compliant
Frequency Stability vs Voltage variation	Compliant
Fundamental Frequency	Compliant
Radiated Emissions - General	Compliant
Radiated Emissions - Unintentional	Compliant
Occupied Bandwidth	Compliant

Test Engineer:

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Conformity Assessment Services-

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International EMC Services
Conformity Assessment Services

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

3.0 Calibration of Equipment Used for Measurement

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or the manufacturers' recommendation, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST); therefore, all test data recorded in this report is traceable to NIST.

4.0 EMISSIONS TEST RESULTS

The emissions tests were performed according to following regulations:

---------- United States ----------

FCC Part 15, Subpart C, 15.207, 15.209, 15.215 & 15.225.	Code of Federal Regulations, Part 15, and Subpart C, Radio Frequency Devices: 2009.
FCC Part 15, Subpart B, 15.107 & 15.109	Code of Federal Regulations, Part 15, and Subpart B, Radio Frequency Devices: 2009.

---------- Industry Canada ----------

RSS-210	Low-power License-exempt Radio communications Devices (All Frequency Bands): Category I Equipment sets out certification requirements for low-power license- exempt radio communication devices that are Category I equipment. 2007
RSS-GEN, Issue 3	General Requirements and Information for the Certification of Radio communicat*ion Equipment.*
ICES-003, Issue 4	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard: Digital Apparatus. 2004

Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be verified at the time the test is conducted.

Ambient Temperature, ℃	22.5 ± 2.5	Relative Humidity, %	45 ± 15	Barometric Pressure, mBar	950 ± 150

Measurement Uncertainty

Test	Uncertainty
Conducted Emissions	± 3.3, K=2
Radiated Emissions 30-200 MHz, Horizontal	± 3.1, K=2
Radiated Emissions 30-200MHz, Vertical	± 3.2, K=2
Radiated Emissions, 200-1000MHz, Horizontal	± 3.3, K=2
Radiated Emissions, 200-1000MHz, Vertical	± 4.0, K=2

Sample Calculations
Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:

Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)
Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)
Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

4.1 Test Conditions and Results – MAINS TERMINAL – CONDUCTED EMISSIONS

Test Description	Measurements were made on a ground plane. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.		
Basic Standard		FCC Part 15, Subpart C, 15.207, RSS-210	
UL LPG		80-EM-S0026	
		Frequency range on each side of line	Measurement Point
Fully configured sample scanned over the following frequency range		150kHz to 30MHz	Mains

Limits - Class B

Frequency (MHz)	Limit (dBµV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Supplementary information: None

Table 1 Conducted Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1

Supplementary information: None

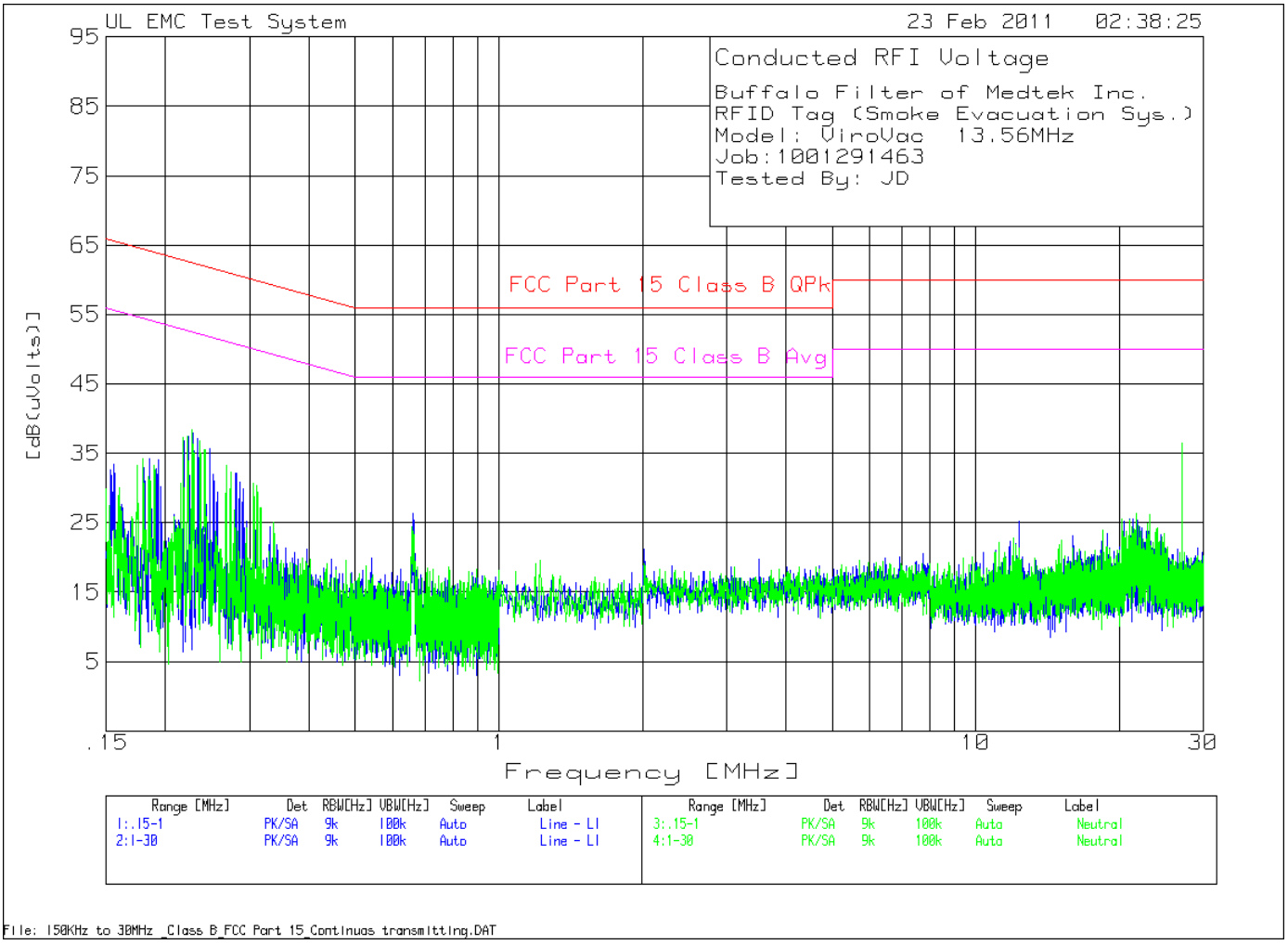
Table 2 Conducted Emissions Test Equipment

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E7402A	ME5B-123	2011-02-01	2012-02-01
LISN	Solar	9252-50-R-24-BNC	47367	2010-03-26	2011-03-31
Switch Driver	HP	11713A	44403	N/A	N/A
Measurement Software	UL	Version 9.3	44743	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43736	2010-12-07	2012-12-07
Multimeter	Fluke	83III	64386	2011-02-02	2012-02-02
RF Switch Box	UL	2	44400	N/A	N/A

Figure 1 Test Setup for Conducted Emissions

Model number depicted in the photo is the system model number the RFID modular internal model is 901879

Figure 2 Conducted Emissions Graph



Model number depicted in title is the system model number the RFID modular internally is 901879

Table 3 Conducted Emissions Data Points

Buffalo Filter of Medtek Inc.
RFID Tag (Smoke Evacuation Sys.)
Model: 901879 13.56MHz
Job:1001291463
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
Line - L1 .15 - 1MHz											
1	.15595	23.37 PK	10	0	33.37	65.7	55.7	-	-	-	-
				Margin [dB]		-32.33	-22.33	-	-	-	-
2	.18503	24.15 PK	10	0	34.15	64.3	54.3	-	-	-	-
				Margin [dB]		-30.15	-20.15	-	-	-	-
3	.19285	23.99 PK	10	0	33.99	63.9	53.9	-	-	-	-
				Margin [dB]		-29.91	-19.91	-	-	-	-
4	.22329	27.45 PK	10	0	37.45	62.7	52.7	-	-	-	-
				Margin [dB]		-25.25	-15.25	-	-	-	-
5	.22805	27.92 PK	10	0	37.92	62.5	52.5	-	-	-	-
				Margin [dB]		-24.58	-14.58	-	-	-	-
6	.23332	27.06 PK	10	0	37.06	62.3	52.3	-	-	-	-
				Margin [dB]		-25.24	-15.24	-	-	-	-
7	.24743	25.75 PK	10	0	35.75	61.8	51.8	-	-	-	-
				Margin [dB]		-26.05	-16.05	-	-	-	-
8	.28093	22.21 PK	10	0	32.21	60.8	50.8	-	-	-	-
				Margin [dB]		-28.59	-18.59	-	-	-	-
9	.6601	16.2 PK	10	0	26.2	56	46	-	-	-	-
				Margin [dB]		-29.8	-19.8	-	-	-	-

LIMIT 1: FCC Part 15 Class B QPk
LIMIT 2: FCC Part 15 Class B Avg
PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detection
Av - average detection
CAV - CISPR average detection
RMS - RMS detection
CRMS - CISPR RMS detection

Buffalo Filter of Medtek Inc.
RFID Tag (Smoke Evacuation Sys.)
Model: 901879 13.56MHz
Job:1001291463
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
Line - L1 1 - 30MHz											
10	2.0094	11.07 PK	10.1	0	21.17	56	46	-	-	-	-
				Margin [dB]		-34.83	-24.83	-	-	-	-
11	12.34707	14.64 PK	10.6	0	25.24	60	50	-	-	-	-
				Margin [dB]		-34.76	-24.76	-	-	-	-
12	21.35047	14.29 PK	10.9	0	25.19	60	50	-	-	-	-
				Margin [dB]		-34.81	-24.81	-	-	-	-
13	27.11682	16.76 PK	11.4	0	28.16	60	50	-	-	-	-
				Margin [dB]		-31.84	-21.84	-	-	-	-

LIMIT 1: FCC Part 15 Class B QPk
LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detection
Av - average detection
CAV - CISPR average detection
RMS - RMS detection
CRMS - CISPR RMS detection

Buffalo Filter of Medtek Inc.
RFID Tag (Smoke Evacuation Sys.)
Model: 901879 13.56MHz
Job:1001291463
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]		Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
Neutral .15 - 1MHz												
14	.17908	24.18	PK	10.1	0	34.28	64.5	54.5	-	-	-	-
					Margin [dB]		-30.22	-20.22	-	-	-	-
15	.18945	23.33	PK	10	0	33.33	64.1	54.1	-	-	-	-
					Margin [dB]		-30.77	-20.77	-	-	-	-
16	.22192	27.42	PK	10.1	0	37.52	62.7	52.7	-	-	-	-
					Margin [dB]		-25.18	-15.18	-	-	-	-
17	.2357	26.71	PK	10.1	0	36.81	62.2	52.2	-	-	-	-
					Margin [dB]		-25.39	-15.39	-	-	-	-
18	.26834	23.14	PK	10.1	0	33.24	61.2	51.2	-	-	-	-
					Margin [dB]		-27.96	-17.96	-	-	-	-
19	.30592	20.62	PK	10.1	0	30.72	60.1	50.1	-	-	-	-
					Margin [dB]		-29.38	-19.38	-	-	-	-
20	.31629	17.06	PK	10.1	0	27.16	59.8	49.8	-	-	-	-
					Margin [dB]		-32.64	-22.64	-	-	-	-
Neutral 1 - 30MHz												
21	27.11682	24.04	PK	11.8	0	35.84	60	50	-	-	-	-
					Margin [dB]		-24.16	-14.16	-	-	-	-

LIMIT 1: FCC Part 15 Class B QPk
LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detection
Av - average detection
CAV - CISPR average detection
RMS - RMS detection
CRMS - CISPR RMS detection

4.2 Test Conditions and Results – Occupied Bandwidth

Test Description	Measurements were made in the laboratory environment. A adaptor was connected to the antenna port and tuned to the transmit frequency then attached to the input of a spectrum analyzer. The device was operated and the spectrum analyzer resolution bandwidth set per the appropriate standard.
Basic Standard	FCC Part 15 Subpart , Section 15.215, RSS-210
Occupied Bandwidth	

Table 4 Occupied Bandwidth Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
Supplementary information: None		

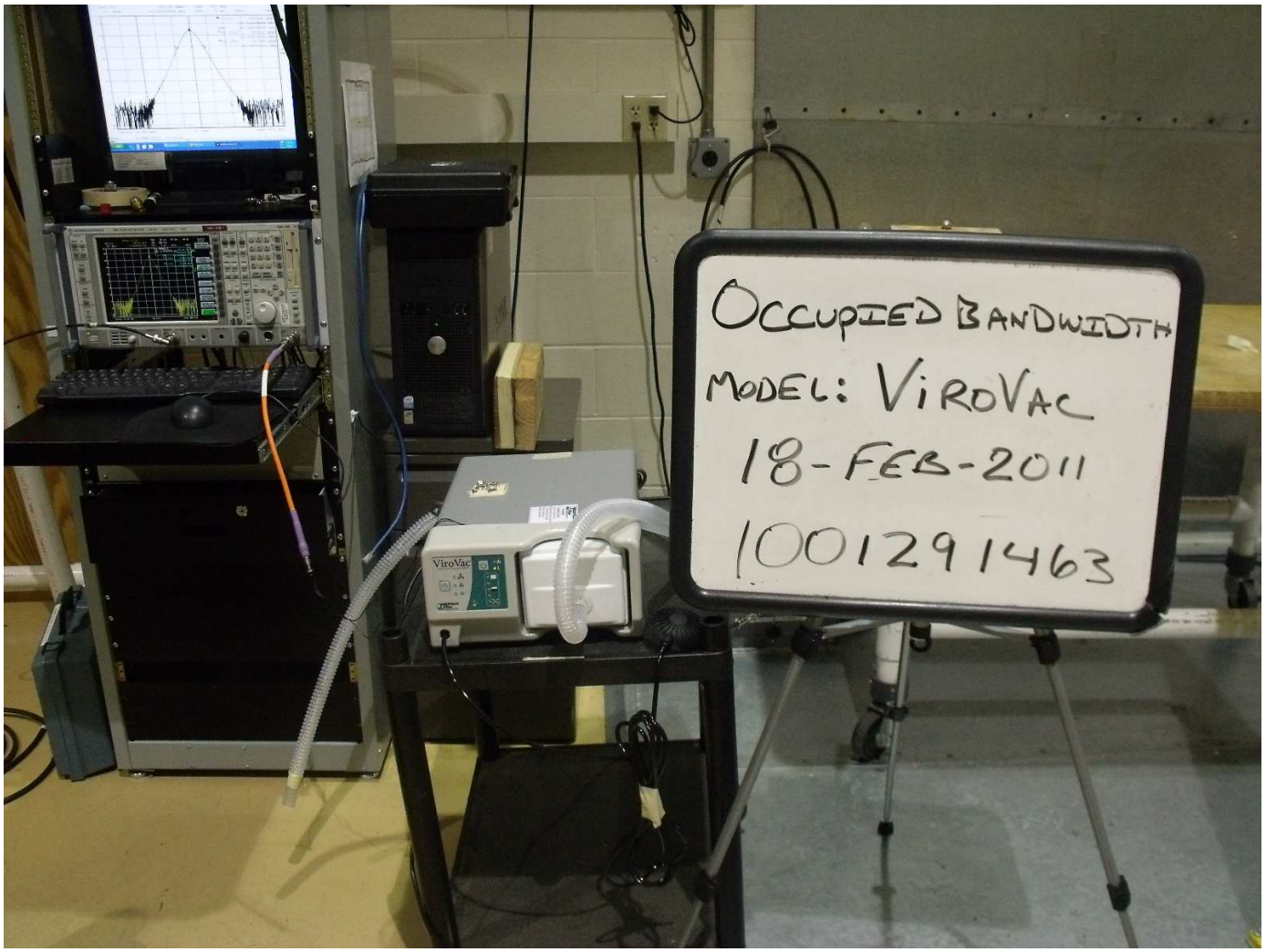
Table 5 Occupied Bandwidth Spectrum Analyzer Settings

Span (MHz)	Resolution Bandwidth (MHz)	Occupied Bandwidth Requirements	
		dBc	%
1	0.1	-20	99
Supplementary information: Span shall be wide enough to capture all products of the modulation process.			
(MHz)	Resolution Bandwidth (MHz)	Occupied Bandwidth Measurements	
		-20db	99%
13.56	0.1	---	--

Table 6 Occupied Bandwidth Test Equipment

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal due date
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2011-01-27	2012-01-2012
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268	2010-03-08	2012-03-08
Measurement Software	UL	Version 9.3	44740	--	--
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29

Figure 3 Test Setup for Occupied Bandwidth

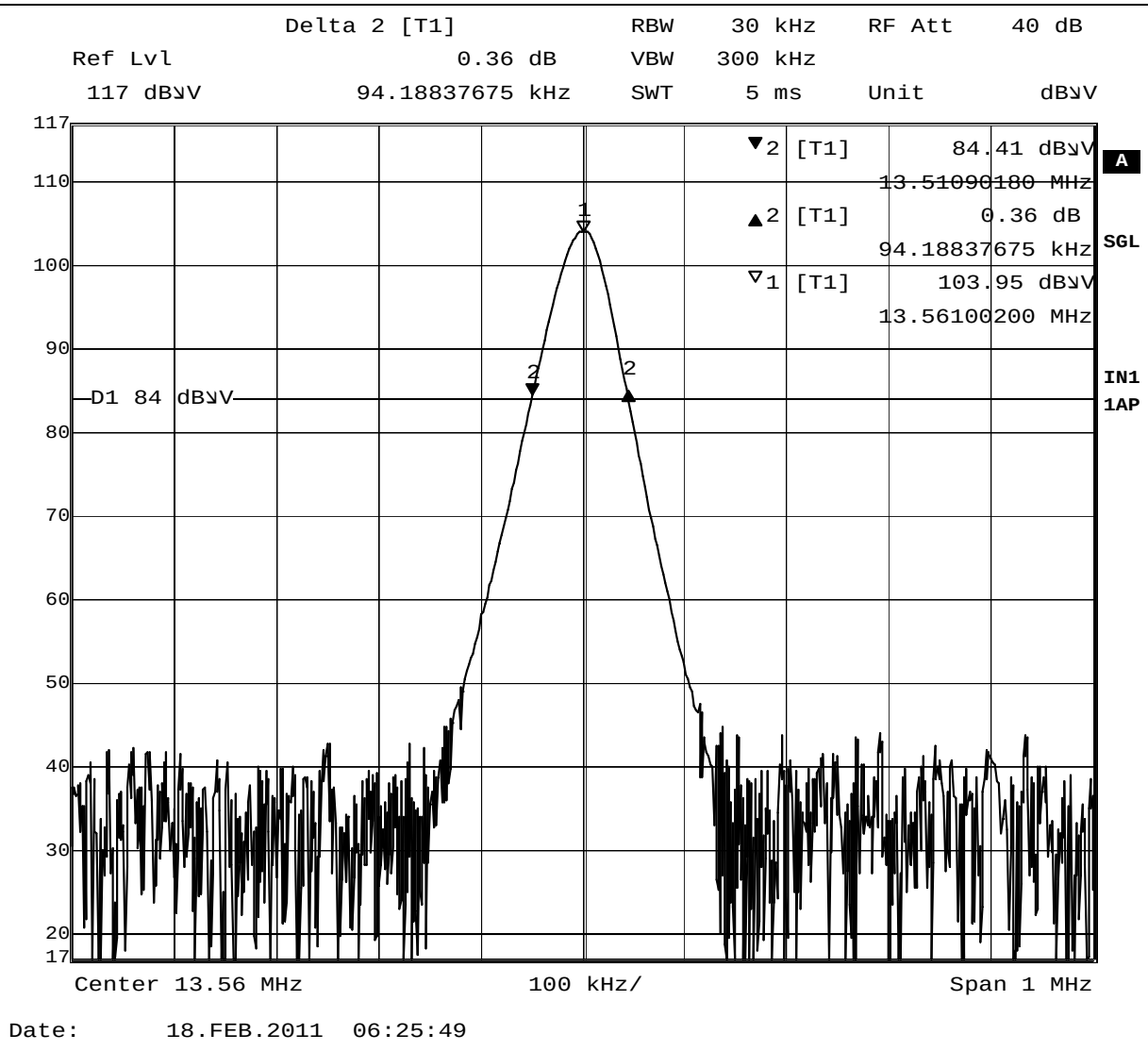


Model number depicted in the photo is the system model number the RFID modular internal model is 901879

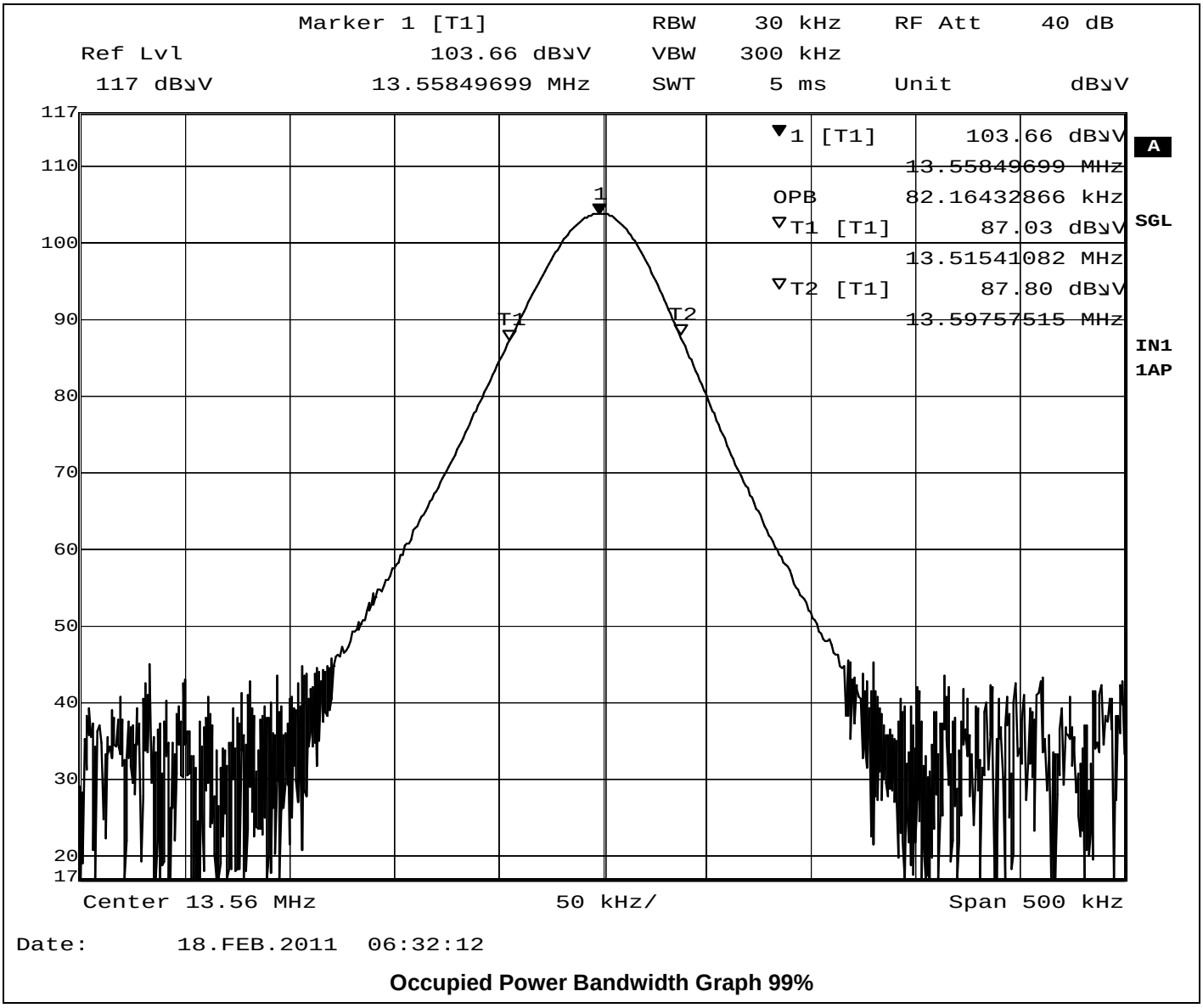
Results

Occupied Bandwidth Measurements	Occupied Bandwidth Measurements
-20db	99%
94.1KHz	82.1 KHz

Figure 4 Occupied Bandwidth Graph



Occupied Bandwidth Graph 20dB



Occupied Power Bandwidth Graph 99%

4.3 Test Conditions and Results – Frequency Stability

Test Description	For Temperature Frequency Stability, measurements were made with the product placed in an environmental chamber and the temperature varied from –20C to +50C at the normal supply voltage. The frequency drift of the fundamental frequency was measured with a spectrum analyzer. For Power Supply Frequency Stability, measurements were made in a laboratory environment and the supply voltage varied from 85% to 115%. The ambient temperature was 20C.
Basic Standard	FCC Part 15 Subpart , Section 15.215, RSS-210
Frequency Stability Limits	
+/- 0.01% of the Operating Frequency	

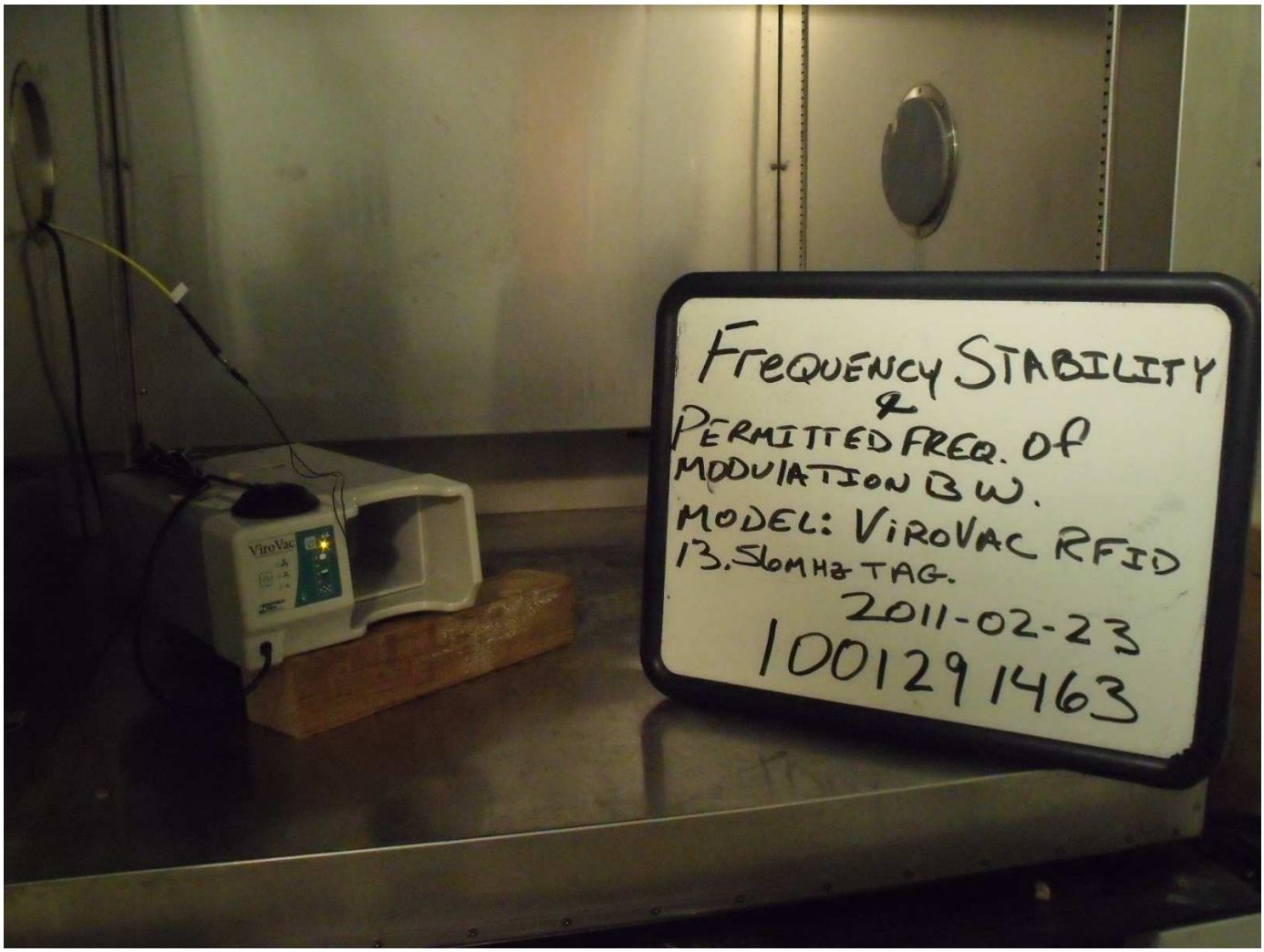
Table 7 Frequency Stability Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
Supplementary information: The EUT was directly connected to the spectrum analyzer through a temporary connector provided by the manufacturer.		

Table 8 Frequency Stability Test Equipment

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E7405A	19695	2011-02-01	2012-02-29
Thermal Chamber	Thermotron	SE-1200L	6-302	2010-03-16	2011-03-31
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268	2010-03-08	2012-03-08
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29
AC Power Source	Pacific Power Source	360-AMX	ME7A-626	N/A	N/A

Figure 5 Test Setup for Frequency Stability



Model number depicted in the photo is the system model number the RFID modular internal model is 901879

Table 9 Frequency Stability Data – Frequency vs. Temperature

Test Condition		**Test Result**				
		Carrier Frequency (rated)	13.56MHz			
Temperature	**Voltage (Vac)**	**Normal Conditions (MHz) (f)**	**Extreme Conditions (MHz) (fe)**	**Frequency Drift (Hz) (f-fe)**	**Lower Limit (MHz)**	**Upper Limit (MHz)**
Tnom (+23.2C)	Vnom 120	13.56100	-	-	-	-
Tmax (+50℃)	Vnom 120	13.56100	13.56075	25	13.55964 39	13.5623561
Tmin (-20℃)	Vnom 120	13.56100	13.56075	25	13.5596439	13.5623561
Maximum Drift (Hz)		**25**				

Table 10 Frequency Stability Data – Frequency vs. Input Voltage

Supply Voltage (Vac)	Frequency (MHz)	Drift (Hz)	Operating (Y/N)
102	13.56100	0	Y
138	13.56100	0	Y

4.4 Test Conditions and Results – RADIATED EMISSIONS

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4:2009. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.

Basic Standard	FCC Part 15, Subpart C, 15.209 & 15.225, RSS-210	
UL LPG	80-EM-S0029	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	0.009MHz – 1GHz	(3 meter measurement distance)

Limits

Frequency (MHz)	Limit (dBµV/m)		
	Quasi-Peak	Average	
	General Emissions	Fundamental	Spurious
0.009 – 0.490	128.5 – 93.8	-	-
0.490 – 1.705	73.8 – 63	-	-
1.705 – 30	69.5	-	-
30 – 88	40	-	-
88 – 216	43.5	-	-
216-960	46	-	
960-1000	54	-	-
13.56	-	124	
All Spurious emissions met the 15.209 limits	-	-	-

Supplementary information: Spurious limits are only applied against products of the transmitter. All other emissions must meet the general limits.

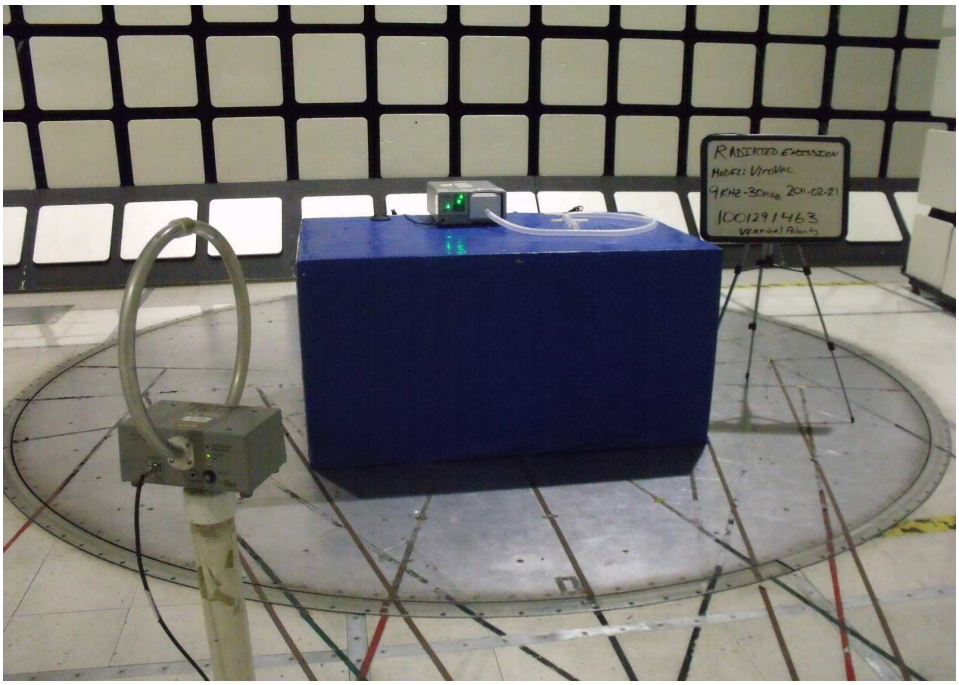
Table 11 Radiated Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
Supplementary information: None		

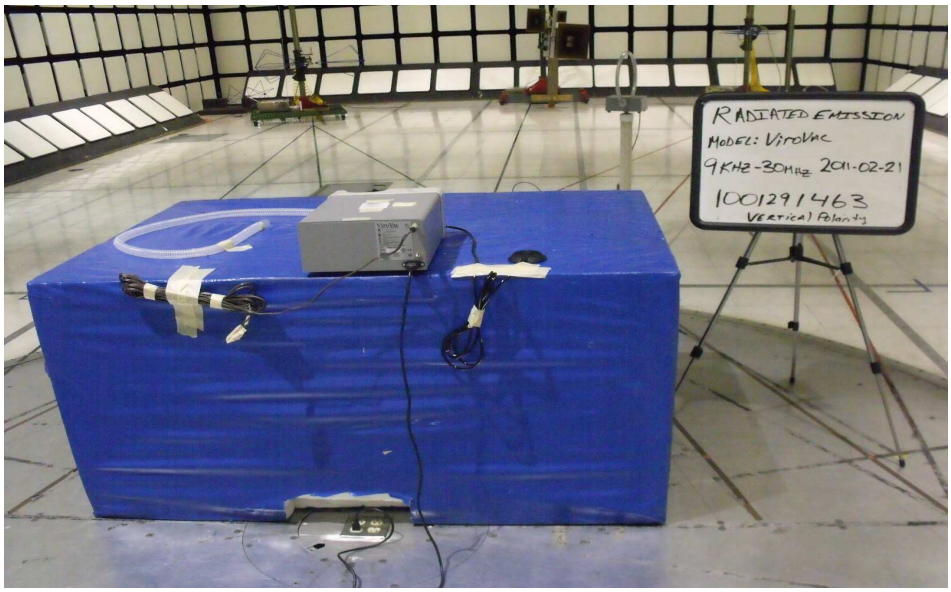
Table 12 Radiated Emissions Test Equipment

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
60Hz-30MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2010-02-09	2011-02-22
Active Loop Antenna	EMCO	6507	ME5A-288	2010-10-19	2011-10-19
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 9.3	44740	N/A	N/A
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268	2009-11-11	2010-11-11
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2010-02-09	2011-02-22
Bicon Antenna	Schaffner	VBA6106A	43441	2010-09-10	2011-09-10
Log-P Antenna	Schaffner	UPA6109	44068	2010-04-05	2011-04-05
Preamp	Miteq	AM-3A-000110-7687	44394	N/A	N/A
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 9.3	44740	-	-
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268	2009-11-11	2010-11-11
Multimeter	Fluke	83III	ME5B-305	2010-02-01	2011-02-01

Figure 6 Test setup for Radiated Emissions

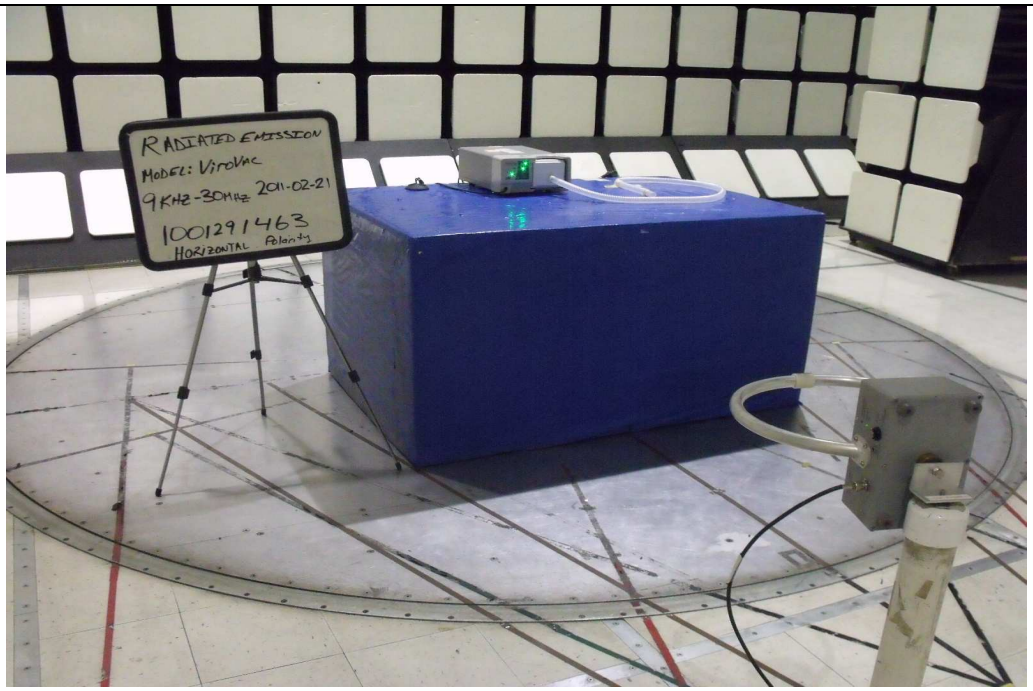


9KHz to 30 MHz Vertical Polarity Front View

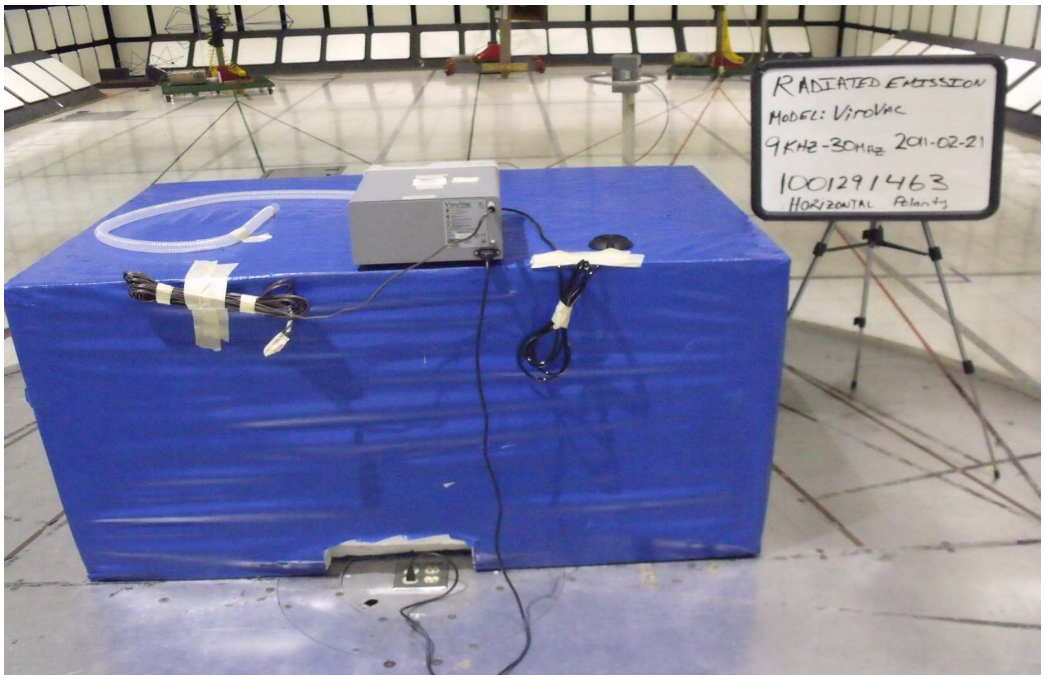


9KHz to 30 MHz Vertical Polarity Rear View

Model number depicted in the photo is the system model number the RFID modular internal is 901879



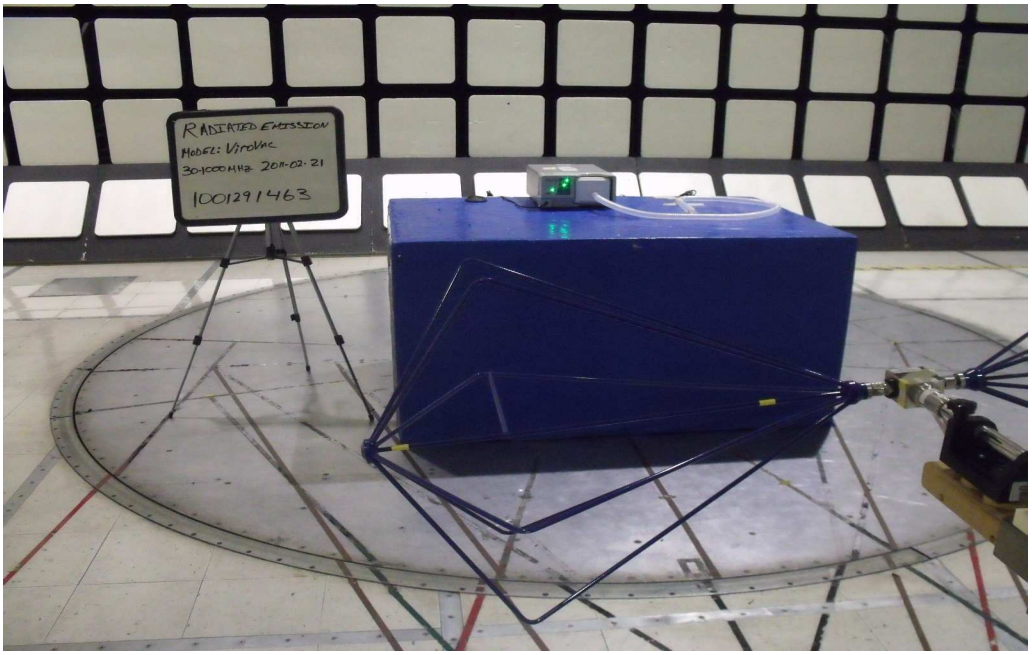
9KHz to 30 MHz Horizontal Polarity Front View



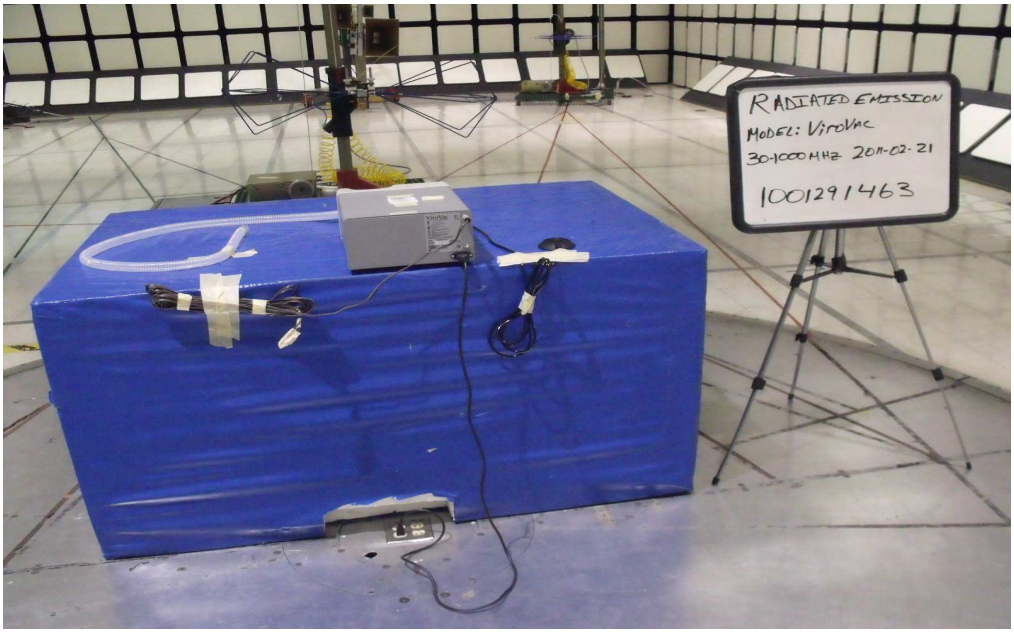
9KHz to 30 MHz Horizontal Polarity Rear View

Model number depicted in the photo is the system model number the RFID modular internal is 901879

Figure 7: Test Setup for Radiated Emissions



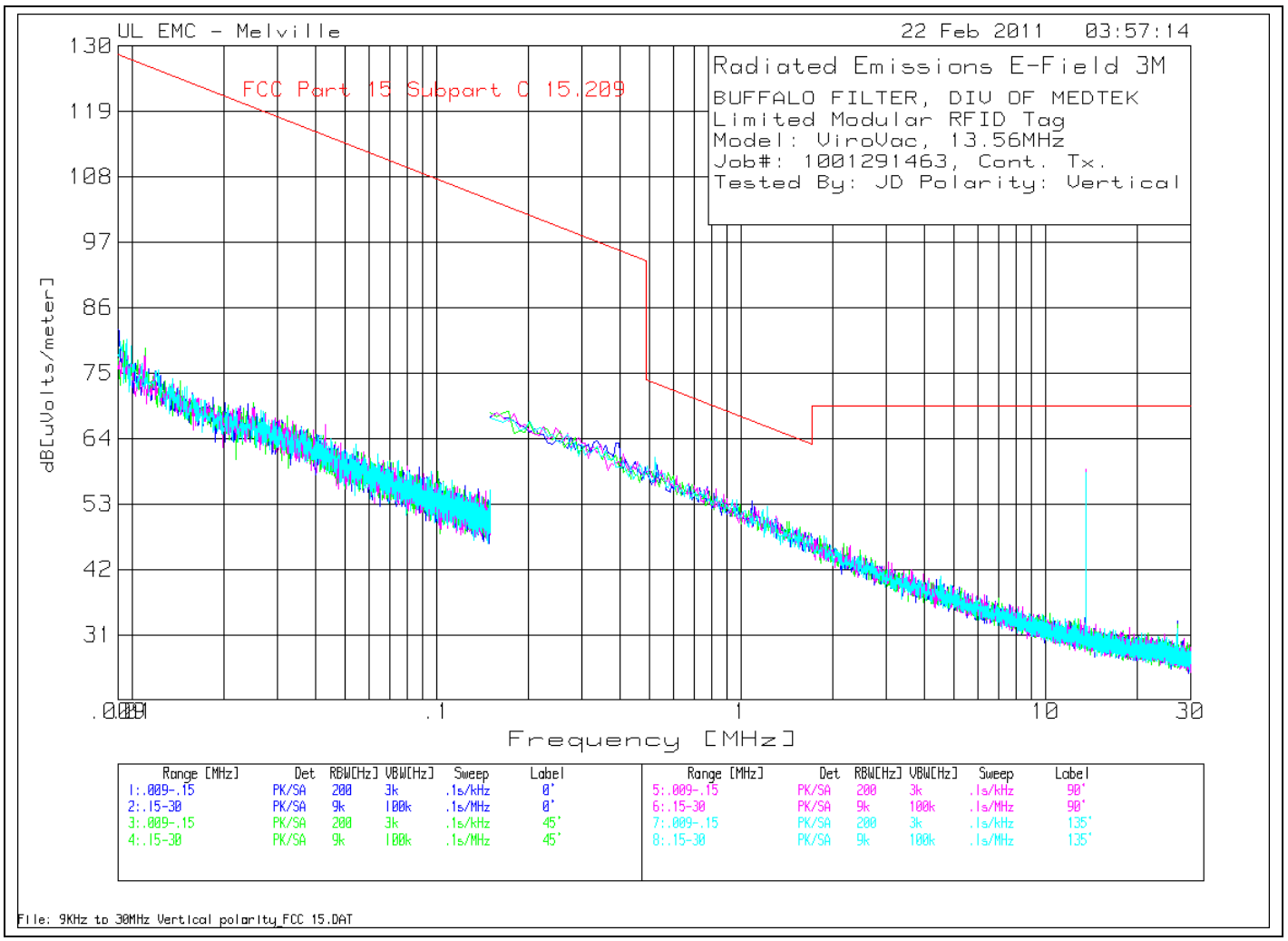
Front View 30-1000MHz



Rear View 30-1000MHz

Model number depicted in the photo is the system model number the RFID modular internal is 901879

Figure 8 Radiated Emissions Graph



Model number depicted in title is the system model number the RFID modular internally is 901879

Table 13 Radiated Emissions Data Points

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD, Polarity: Vertical

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]		Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
0° .009 - .15MHz												
1	.009	50.48	PK	-.1	31.9	82.28	128.5	-	-	-	-	-
					Margin [dB]		-46.22	-	-	-	-	-
2	.01842	45.15	PK	0	25.8	70.95	122.3	-	-	-	-	-
					Margin [dB]		-51.35	-	-	-	-	-
3	.02401	45.69	PK	0	24.1	69.79	120	-	-	-	-	-
					Margin [dB]		-50.21	-	-	-	-	-
0° .15 - 30MHz												
4	13.556	40.02	PK	.2	17.6	57.82	69.5	124	-	-	-	-
					Margin [dB]		-11.68	-66.18	-	-	-	-
5	27.11876	15.24	PK	.3	17.7	33.24	69.5	-	-	-	-	-
					Margin [dB]		-36.26	-	-	-	-	-
45° .15 - 30MHz												
6	13.56347	38.66	PK	.2	17.6	56.46	69.5	124	-	-	-	-
					Margin [dB]		-13.04	-67.54	-	-	-	-
7	27.11876	14.77	PK	.3	17.7	32.77	69.5	-	-	-	-	-
					Margin [dB]		-36.73	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD, Polarity: Vertical

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
90° .15 - 30MHz											
8	13.56347	40.15 PK	.2	17.6	57.95	69.5	124	-	-	-	-
				Margin [dB]		-11.55	-66.05	-	-	-	-
9	27.12622	11.43 PK	.3	17.7	29.43	69.5	-	-	-	-	-
				Margin [dB]		-40.07	-	-	-	-	-
135° .15 - 30MHz											
10	13.56347	39.42 PK	.2	17.6	57.22	69.5	124	-	-	-	-
				Margin [dB]		-12.28	-66.78	-	-	-	-
11	27.11876	14.07 PK	.3	17.7	32.07	69.5	-	-	-	-	-
				Margin [dB]		-37.43	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD Polarity: Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
0° .15 - 30MHz										
13.5576	38.26 QP	.2	17.6	56.06	69.5	124	-	-	-	-
Azimuth: 351	Height:136 Horz		Margin [dB]:	-13.44	-54.5	-	-	-	-	
13.5579	40.75 QP	.2	17.6	58.55	69.5	124	-	-	-	-
Azimuth: 302	Height:139 Horz		Margin [dB]:	-10.95	-65.45	-	-	-	-	

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD Polarity: Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
27.115	11.94 QP	.3	17.7	29.94	69.5	-	-	-	-	-
Azimuth: 254	Height:165 Horz		Margin [dB]:	-39.56	-	-	-	-	-	
45° .15 - 30MHz										
13.5577	40.8 QP	.2	17.6	58.6	69.5	124	-	-	-	-
Azimuth: 313	Height:144 Horz		Margin [dB]:	-10.9	-65.4	-	-	-	-	

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

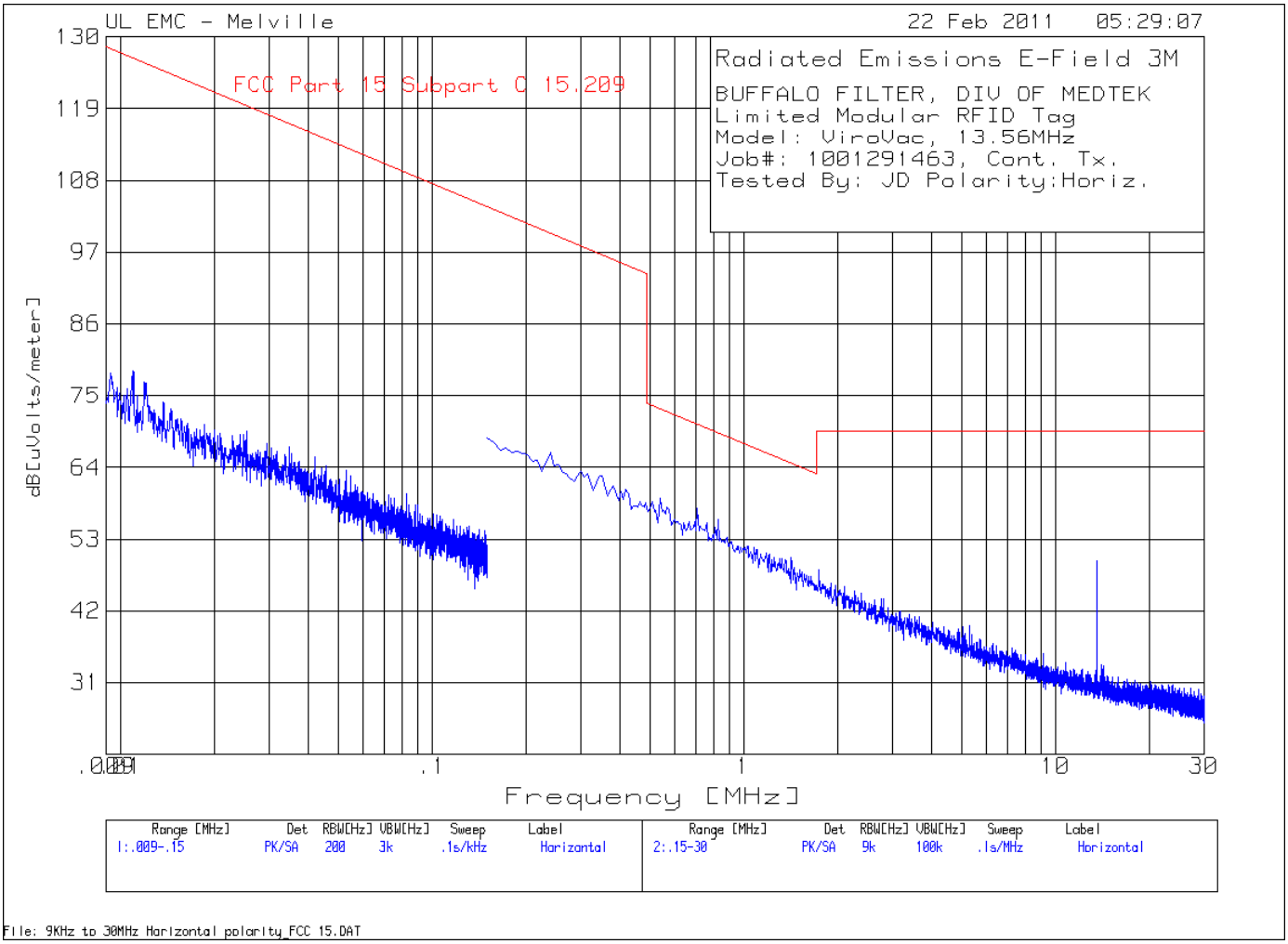
BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD Polarity: Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
27.1149	13.42 QP	.3	17.7	31.42	69.5	-	-	-	-	-
Azimuth: 321	Height:118 Horz		Margin [dB]:	-38.08	-	-	-	-	-	
27.1149	16.49 PK	.3	17.7	34.49	69.5	-	-	-	-	-
Azimuth: 321	Height:118 Horz		Margin [dB]:	-35.01	-	-	-	-	-	

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

Figure 9: Radiated Emissions Graph



Model number depicted in title is the system model number the RFID modular internally is 901879

Table 14: Radiated Emissions Data Points

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD Polarity:Horiz.

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal .009 - .15MHz											
1	.00928	46.93 PK	-.1	31.6	78.43	128.2	-	-	-	-	-
	Azimuth:7			Margin [dB]		-49.77	-	-	-	-	-
2	.01098	48.56 PK	0	30.2	78.76	126.8	-	-	-	-	-
	Azimuth:221			Margin [dB]		-48.04	-	-	-	-	-
3	.01193	47.42 PK	0	29.7	77.12	126.1	-	-	-	-	-
	Azimuth:290			Margin [dB]		-48.98	-	-	-	-	-
4	.01374	45.33 PK	0	28.6	73.93	124.8	-	-	-	-	-
	Azimuth:290			Margin [dB]		-50.87	-	-	-	-	-
5	.02548	45.78 PK	0	23.8	69.58	119.5	-	-	-	-	-
	Azimuth:290			Margin [dB]		-49.92	-	-	-	-	-
Horizontal .15 - 30MHz											
6	13.556	31.88 PK	.2	17.6	49.68	69.5	124	-	-	-	-
	Azimuth:251			Margin [dB]		-19.82	-74.32	-	-	-	-
7	14.09344	15.19 PK	.2	17.6	32.99	69.5	-	-	-	-	-
	Azimuth:171			Margin [dB]		-36.51	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

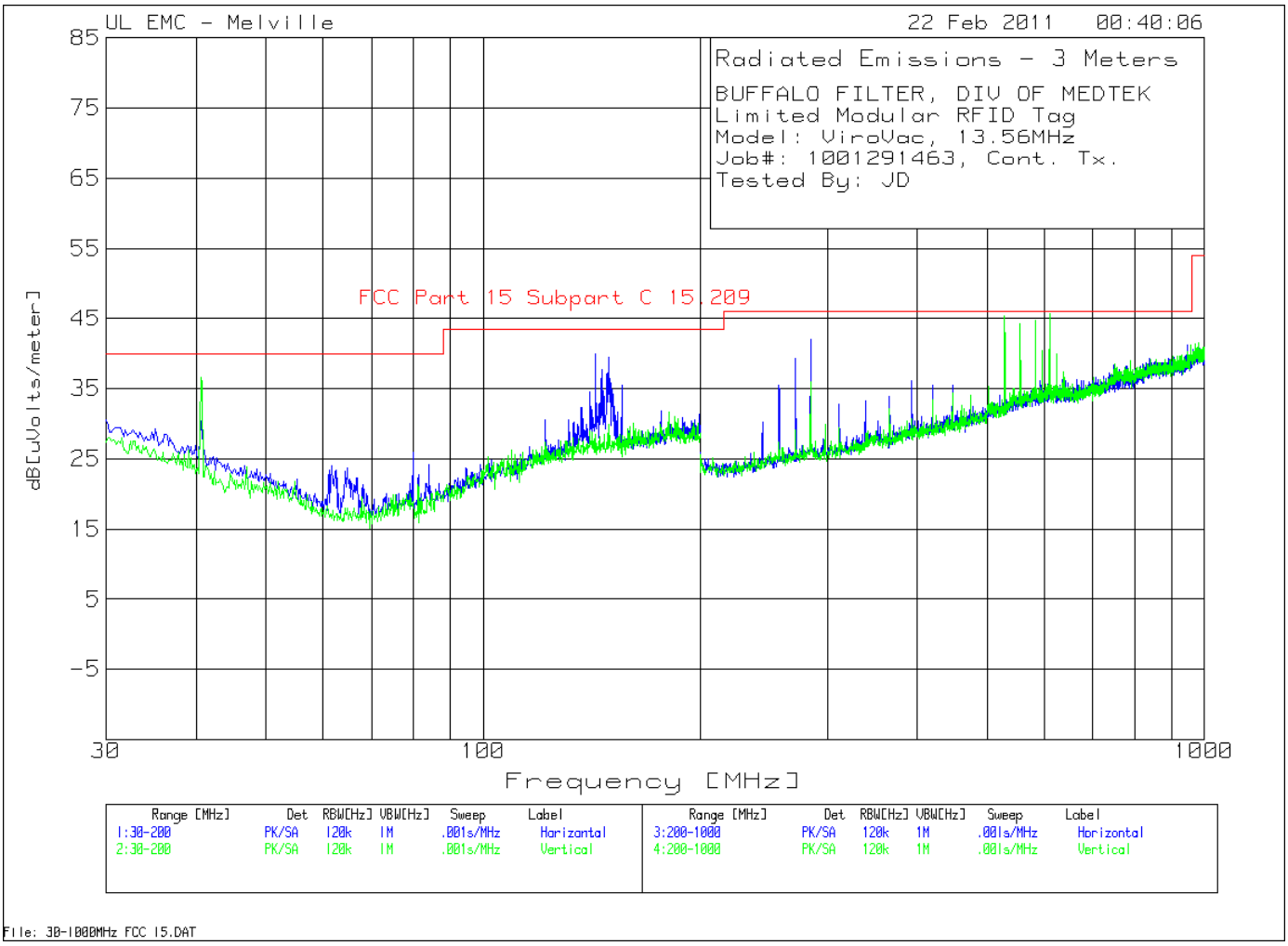
BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD Polarity:Horiz.

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal .15 - 30MHz										
13.5577	27.73 QP	.2	17.6	45.53	69.5	124	-	-	-	-
Azimuth: 31			Margin [dB]:	-23.97	-54.5	-	-	-	-	

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.225

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

Figure10: Radiated Emissions Graph



Model number depicted in title is the system model number the RFID modular internally is 901879

Table 15: Radiated Emissions Data Points

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 30 - 200MHz											
1	40.7207	16.17 PK	.4	14.3	30.87	40	-	-	-	-	-
	Azimuth:243	Height:200 Horz		Margin [dB]		-9.13	-	-	-	-	-
2	61.6517	17.17 PK	.4	6.5	24.07	40	-	-	-	-	-
	Azimuth:158	Height:300 Horz		Margin [dB]		-15.93	-	-	-	-	-
3	64.7147	17.36 PK	.5	5.9	23.76	40	-	-	-	-	-
	Azimuth:158	Height:200 Horz		Margin [dB]		-16.24	-	-	-	-	-
4	79.8599	18.36 PK	.5	7	25.86	40	-	-	-	-	-
	Azimuth:158	Height:200 Horz		Margin [dB]		-14.14	-	-	-	-	-
5	81.3914	15.02 PK	.5	7.3	22.82	40	-	-	-	-	-
	Azimuth:358	Height:400 Horz		Margin [dB]		-17.18	-	-	-	-	-
6	84.1141	15.72 PK	.6	7.9	24.22	40	-	-	-	-	-
	Azimuth:328	Height:300 Horz		Margin [dB]		-15.78	-	-	-	-	-
7	122.0621	16.72 PK	.7	13.2	30.62	43.5	-	-	-	-	-
	Azimuth:358	Height:100 Horz		Margin [dB]		-12.88	-	-	-	-	-
8	142.993	24.81 PK	.7	14.5	40.01	43.5	-	-	-	-	-
	Azimuth:272	Height:100 Horz		Margin [dB]		-3.49	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
9	146.3964	22.46 PK	.8	14.5	37.76	43.5	-	-	-	-	-
	Azimuth:215	Height:300 Horz	Margin [dB]			-5.74	-	-	-	-	-
10	149.1191	24.2 PK	.8	14.5	39.5	43.5	-	-	-	-	-
	Azimuth:300	Height:200 Horz	Margin [dB]			-4	-	-	-	-	-
11	155.5856	20.05 PK	.8	14.6	35.45	43.5	-	-	-	-	-
	Azimuth:300	Height:200 Horz	Margin [dB]			-8.05	-	-	-	-	-
Vertical 30 - 200MHz ----------											
26	40.5506	23.46 PK	.4	12.8	36.66	40	-	-	-	-	-
	Azimuth:237	Height:100 Vert	Margin [dB]			-3.34	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 200 - 1000MHz ----------											
12	244.022	17.16 PK	.9	12.2	30.26	46	-	-	-	-	-
	Azimuth:78	Height:100 Horz	Margin [dB]			-15.74	-	-	-	-	-
13	257.2286	21.85 PK	.9	12.7	35.45	46	-	-	-	-	-
	Azimuth:256	Height:100 Horz	Margin [dB]			-10.55	-	-	-	-	-
14	270.8354	25.25 PK	.9	13.2	39.35	46	-	-	-	-	-
	Azimuth:290	Height:100 Horz	Margin [dB]			-6.65	-	-	-	-	-
15	284.4422	27.43 PK	1.1	13.5	42.03	46	-	-	-	-	-
	Azimuth:357	Height:100 Horz	Margin [dB]			-3.97	-	-	-	-	-
16	311.6558	17.81 PK	1	13.9	32.71	46	-	-	-	-	-
	Azimuth:353	Height:100 Horz	Margin [dB]			-13.29	-	-	-	-	-
17	338.8694	17.15 PK	1	15.1	33.25	46	-	-	-	-	-
	Azimuth:181	Height:100 Horz	Margin [dB]			-12.75	-	-	-	-	-
18	366.083	17.4 PK	1.1	15.4	33.9	46	-	-	-	-	-
	Azimuth:353	Height:100 Horz	Margin [dB]			-12.1	-	-	-	-	-
19	392.8964	18.99 PK	1.1	16	36.09	46	-	-	-	-	-
	Azimuth:290	Height:100 Horz	Margin [dB]			-9.91	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
20	420.1101	17.84 PK	1.1	16.5	35.44	46	-	-	-	-	-
	Azimuth:227	Height:200 Horz		Margin [dB]		-10.56	-	-	-	-	-
21	447.3237	17.27 PK	1.2	17.1	35.57	46	-	-	-	-	-
	Azimuth:19	Height:200 Horz		Margin [dB]		-10.43	-	-	-	-	-
22	528.5643	19.86 PK	1.3	18.6	39.76	46	-	-	-	-	-
	Azimuth:260	Height:300 Horz		Margin [dB]		-6.24	-	-	-	-	-
23	555.7779	16.66 PK	1.3	19.5	37.46	46	-	-	-	-	-
	Azimuth:32	Height:300 Horz		Margin [dB]		-8.54	-	-	-	-	-
24	582.9915	19.07 PK	1.4	19.6	40.07	46	-	-	-	-	-
	Azimuth:227	Height:300 Horz		Margin [dB]		-5.93	-	-	-	-	-
25	610.2051	17.35 PK	1.4	20	38.75	46	-	-	-	-	-
	Azimuth:227	Height:400 Horz		Margin [dB]		-7.25	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
QP - Quasi-Peak detector
LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Vertical 200 - 1000MHz ----------											
27	270.8354	15.1 PK	.9	13.2	29.2	46	-	-	-	-	-
	Azimuth:229	Height:100 Vert		Margin [dB]		-16.8	-	-	-	-	-
28	284.4422	21.42 PK	1.1	13.4	35.92	46	-	-	-	-	-
	Azimuth:354	Height:100 Vert		Margin [dB]		-10.08	-	-	-	-	-
29	528.5643	25.44 PK	1.3	18.6	45.34	46	-	-	-	-	-
	Azimuth:31	Height:100 Vert		Margin [dB]		-.66	-	-	-	-	-
30	555.7779	23.47 PK	1.3	19.5	44.27	46	-	-	-	-	-
	Azimuth:31	Height:100 Vert		Margin [dB]		-1.73	-	-	-	-	-
31	582.9915	23.51 PK	1.4	19.8	44.71	46	-	-	-	-	-
	Azimuth:31	Height:100 Vert		Margin [dB]		-1.29	-	-	-	-	-
32	596.5983	19.29 PK	1.4	19.7	40.39	46	-	-	-	-	-
	Azimuth:162	Height:100 Vert		Margin [dB]		-5.61	-	-	-	-	-
33	610.2051	24.34 PK	1.4	20	45.74	46	-	-	-	-	-
	Azimuth:132	Height:100 Vert		Margin [dB]		-.26	-	-	-	-	-
34	623.8119	18.12 PK	1.4	20.4	39.92	46	-	-	-	-	-
	Azimuth:197	Height:100 Vert		Margin [dB]		-6.08	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector
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LnAv - Linear average detector
LgAv - Average log detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
CRMS - CISPR RMS detection

BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.

Tested By: JD

Frequency [MHz]	Test Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 30 - 200MHz										
142.9	7.11 QP	.7	14.5	22.31	43.5	-	-	-	-	-
Azimuth: 74	Height:337 Horz		Margin [dB]:	-21.19		-	-	-	-	-
146.4	7.11 QP	.8	14.5	22.41	43.5	-	-	-	-	-
Azimuth: 220	Height:339 Horz		Margin [dB]:	-21.09		-	-	-	-	-
149	7.11 QP	.8	14.5	22.41	43.5	-	-	-	-	-
Azimuth: 279	Height:372 Horz		Margin [dB]:	-21.09		-	-	-	-	-
Vertical 30 - 200MHz										
40.6669	15.06 QP	.4	12.8	28.26	40	-	-	-	-	-
Azimuth: 200	Height:276 Vert		Margin [dB]:	-11.74		-	-	-	-	-

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Limited Modular RFID Tag
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Tested By: JD

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 200 - 1000MHz										
271.1453	25.4 QP	.9	13.2	39.5	46	-	-	-	-	-
Azimuth: 39	Height:110 Horz		Margin [dB]:	-6.5	-	-	-	-	-	
284.7055	27.86 QP	1.1	13.5	42.46	46	-	-	-	-	-
Azimuth: 52	Height:107 Horz		Margin [dB]:	-3.54	-	-	-	-	-	

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No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
	528.7428	21.51 QP	1.3	18.6	41.41	46	-	-	-	-	-
	Azimuth: 317	Height:140 Horz		Margin [dB]:	-4.59	-	-	-	-	-	
	582.9684	22.09 QP	1.4	19.6	43.09	46	-	-	-	-	-
	Azimuth: 46	Height:143 Horz		Margin [dB]:	-2.91	-	-	-	-	-	
	Vertical 200 - 1000MHz										
	Azimuth: 8	Height:101 Vert		Margin [dB]:	-.67	-	-	-	-	-	
	528.7401	22.8 QP	1.3	18.6	42.7	46	-	-	-	-	-
	Azimuth: 11	Height:103 Vert		Margin [dB]:	-1.01	-	-	-	-	-	
	555.8533	21.85 QP	1.3	19.6	42.75	46	-	-	-	-	-
	Azimuth: 11	Height:103 Vert		Margin [dB]:	-3.25	-	-	-	-	-	

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BUFFALO FILTER, DIV OF MEDTEK
Limited Modular RFID Tag
Model: 901879, 13.56MHz
Job#: 1001291463, Cont. Tx.
Tested By: JD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
582.9745	20.75 QP	1.4	19.8	41.95	46	-	-	-	-	-	
Azimuth: 17	Height:100 Vert		Margin [dB]:	-4.05		-	-	-	-	-	
610.092	14.7 QP	1.4	20	36.1	46	-	-	-	-	-	
Azimuth: 358	Height:111 Vert		Margin [dB]:	-9.9		-	-	-	-	-	
623.6551	8.57 QP	1.4	20.4	30.37	46	-	-	-	-	-	
Azimuth: 37	Height:332 Vert		Margin [dB]:	-15.63		-	-	-	-	-	

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Appendix A

Accreditations and Authorizations

NVLAP Lab code: 100255-0

NVLAP: The National Institute of Standards and Technology (NIST) administers the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is comprised of laboratory accreditation programs (LAPs) which are established on the basis of requests and demonstrated need. Each LAP includes specific calibration and/or test standards and related methods and protocols assembled to satisfy the unique needs for accreditation in a field of testing or calibration. NVLAP accredits public and private laboratories based on evaluation of their technical qualifications and competence to carry out specific calibrations or tests. Accreditation criteria are established in accordance with the U.S. Code of Federal Regulations (CFR, Title 15, Part 285), NVLAP Procedures and General Requirements, and encompass the requirements of ISO/IEC 17025. For a full scope listing see http://ts.nist.gov/ts/htdocs/210/214/scopes/1002550.htm

FCC: Details of the measurement facilities used for these tests have been filed with the Federal Communications Commission's Laboratory in Columbia, Maryland (Ref. No. 91040).

Industry Canada Industrie Canada

Industry of Canada: Accredited by Industry Canada for performance of radiated measurements. Our test site complies with RSP 100, Issue 7, Section 3.3. File #: IC 2181

VCCI: Accepted as an Associate Member to the VCCI. The measurement facilities detailed in this test report have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. Registration Nos.: (Radiated Emissions) R-797, (Conducted Emissions) C-832, C-83400, and C-81879 and (Conducted Emissions - Telecommunications Ports) T-1582 and T-1583.

ICASA: ICASA (Independent Communications Authority of South Africa) has appointed UL as a Designated Test Laboratory to test Telecommunications equipment for type approval in compliance with CISPR 22 to assist in fulfilling its mandate under section 54(1) of the Telecommunications Act, 1996 (Act 103 of 1996).

NIST/CAB: Validated by the European Commission as a U.S. Conformity Assessment Body (CAB) of the U.S.-EU Mutual Recognition Agreement (MRA) for the Electromagnetic Compatibility - Council Directive 2004/108/EC, Annex III (2-3). Also validated for the Telecommunication Equipment-Council Directive 99/5/EC, Annex III and IV, Identification Number: 0983.
NIST/CAB: Provisioned to act as a U.S. Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the Asia Pacific Economic Cooperation (APEC) MRA between the American Institute in Taiwan (AIT) and the United States. Our laboratory is considered qualified to test equipment subject to the applicable EMC regulations of the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) which require testing to CNS 13438 (CISPR 22).
NIST/CAB: Recognized by the Infocomm Development Authority of Singapore (IDA) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Our laboratory is provisionally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA. Our scope of designation includes IDA TS EMC (CISPR 22), IEC 61000-4-2, -4-3, -4-4, -4-5, and -4-6

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