COMPLIANCE WORLDWIDE INC.
TEST REPORT 495-13

In Accordance with the Requirements of
Federal Communications Commission CFR Title 47 Part 15.225, Subpart C
Industry Canada RSS 210, Issue 8, Annex 2

Low Power License-Exempt Radio Communication Devices
Intentional Radiators

Issued to

Kronos, Inc.
4 Omni Way
Chelmsford, MA 01824

for the

InTouch 9000
with 13.56 MHz RFID

FCC ID: P5W-8609K007
IC: 1416A-8609K007

Report Issued on November 22, 2013

Tested by

Brian F. Breault

Reviewed by

Larry K. Stillings

Table of Contents

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(603) 887 3903 Fax 887 6445
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1. Scope

This test report certifies that the Kronos InTouch 9000 with 13.56 MHz RFID, as tested, meet the FCC Part 15.225 Subpart C, and Industry Canada RSS 210 requirements.

The scope of this test report is limited to the test samples provided by the client, only in as much as those samples represent other production units. If any significant changes are made to the units, the changes shall be evaluated and a retest may be required.

Revision R1: Page 7 test note added and table modified on to explain the low field strength.

2. Product Details

2.1. Manufacturer: Kronos, Inc.

2.2. Model Number: InTouch 9000 (P/N 8609000)

2.3. Serial Number: 00JC227120

2.4. Description of EUT: A time clock built for today's modern workforce.

2.5. Power Sources: 120 Volts/60 Hz

2.6. Hardware Revision: N/A

2.7. Software Revision: N/A

2.8. EMC Modifications: None

3. Product Configuration

3.1. Operational Characteristics & Software

The Kronos InTouch 9000 with 13.56 MHz RFID was configured to transmit continuously to the RFID tags once power is applied to the unit.

3.2. EUT Hardware

Manufacturer	Model/Part # / Options	Serial Number	Input Voltage	Frq (Hz)	Description/Function
Kronos, Inc.	InTouch 9000	00JC227120	120	60	Time clock with 13.56 MHz RFID

3.3. EUT Connected Hardware

Manufacturer	Model	Serial Number	Description
None	N/A	N/A	

3.4. EUT Cables/Transducers

Cable Type	Length	Shield	From	To
None				

3.5. Support Equipment

Manufacturer	Model	Serial Number	Input Voltage	Frq (Hz)	Description/Function
N/A					

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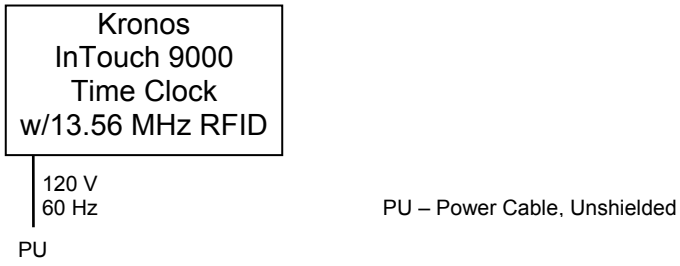
3. Product Configuration (continued)

3.6. Block Diagram



4. Measurements Parameters

4.1. Measurement Equipment Used to Perform Tests

Device	Manufacturer	Model No.	Serial No.	Cal Due
EMI Test Receiver, 9kHz - 7GHz	Rohde & Schwarz	ESR7	101156	4/4/2015
Spectrum Analyzer	Rohde & Schwarz	FSV40	100899	6/6/2015
Spectrum Analyzer	Hewlett Packard	8546A	3650A00360	6/13/2014
Microwave Preamp	Hewlett Packard	8449B	3008A01323	6/5/2015
Loop Antenna, Passive, 9 kHz to 30 MHz	EMCO	6512	9309-1139	8/28/2014
Biconilog Antenna, 30 MHz to 2000 MHz	Sunol Sciences	JB1	A050913	5/15/2014
Double Ridged Antenna, 1 - 18 GHz	ETS-Lindgren	3117	00143292	1/14/2015
Horn Antenna, 18 – 40 GHz	Com-Power	AH-840	03075	8/27/2014
DMM / Temperature Meter	Fluke	187	79690058	2/22/2014
Signal Generator, 100 kHz to 40 GHz	Rohde & Schwarz	SMB 100A	175352	5/14/2014
Compact Digital Barometer	Control Company	4195	ID236	2/25/2015
Thermal Chamber	Assoc. Testing Labs	SLHU-1-CRLC	N/A	Not Required

4.2. Measurement & Equipment Setup

Test Dates:	October 28 - 29, 2013
Test Engineer:	Cody Merry
Normal Site Temperature (15 - 35°C):	22.0
Relative Humidity (20 -75%RH):	33%
Frequency Range:	.009 MHz to 1 GHz
Measurement Distance:	3 Meters
EMI Receiver IF Bandwidth:	200 Hz – 9 kHz to 150 kHz 9 kHz – 150 kHz to 30 MHz 120 kHz - 30 MHz to 1 GHz 1 MHz - Above 1 GHz
EMI Receiver Avg Bandwidth:	300 Hz – 9 kHz to 150 kHz 30 kHz – 150 kHz to 30 MHz 300 kHz - 30 MHz to 1 GHz 3 MHz - Above 1 GHz
Detector Function:	Peak, QP, Avg – 150 kHz to 30 MHz Peak, QP - 30 MHz to 1 GHz Peak, Avg - Above 1 GHz Unless otherwise specified.

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4. Measurements Parameters (continued)

4.3. Measurement Procedure

The test measurements contained in this report are based on the requirements detailed in FCC Part 15, Subpart C - Intentional Radiators, notably Section 15.225, Operation within the band 13.110 – 14.010 MHz.

The test methods used to generate the data is this test report are in accordance with ANSI C63.10: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices, Section 15.

5. Choice of Equipment for Test Suits

5.1. Choice of Model

This test report is based on the test samples supplied by the manufacturer and are reported by the manufacturer to be equivalent to the production units.

5.2. Presentation

The test sample was tested complete with all required ancillary equipment. Refer to Section 3 of this report for the product equipment configuration.

5.3. Choice of Operating Frequencies

The transmitter in the unit under test utilizes a single operating frequency at approximately 13.56 MHz

The other, non-transmitter oscillator frequencies also used in this device are as follows:

25 MHz	Main Board
26 MHz	Main Board
32.768 kHz	Real Time Clock

In addition, this device has a certified Wi-Fi (802.11b/g/n) module which is not subject to the data in this report.

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6. Measurement Summary

Test Requirement	FCC Part 15 Reference	RSS Reference	Test Report Section	Result	Comment
Antenna Requirement	15.203	RSS-GEN Section 7.1.2	7.1	Compliant	
Operation within the Band 13.110 MHz – 14.010 MHz (Field Strength)	15.225 (a), (b), (c)	RSS-210 Section A2.6	7.2	Compliant	
Operation within the Band 13.110 MHz – 14.010 MHz (Frequency Tolerance)	15.225 (e)	RSS-210 Section A2.6	7.3	Compliant	
Spurious Radiated Emissions	15.209		7.4	Compliant	
Power Line Conducted Emissions	15.207	RSS-GEN Section 7.2.4	7.5	Compliant	Reference ANSI C63.4 Annex H, Paragraph H1(b)
Occupied Bandwidth/ Lower and Upper Band Edges	15.215(c) C63.10	N/A	7.6	Compliant	
99% Power Bandwidth	N/A	RSS-GEN Section 4.6.1	6.7	Compliant	

7. Measurement Data

7.1. Antenna Requirement (Section 15.203, RSS-GEN 7.1.2)

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.

Result: Compliant.

Status: The unit under test employs a permanent, internally mounted antenna that is etched into the PC board.

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7. Measurement Data (continued)

7.2. Operation within the Band 13.110 MHz – 14.010 MHz (15.225 (a), (b) and (c))

Requirement: The field strength of any emissions within the band 13.553 - 13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

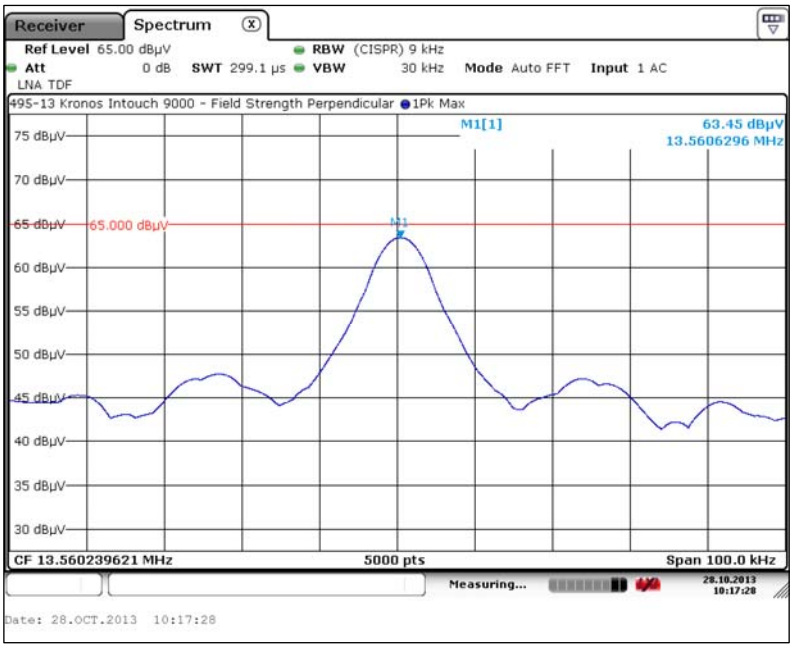
Result: The unit under test complies with the requirements detailed in FCC Part 15.225 (a), (b) and (c).

Test Note: The extremely low field strength was a consideration of the manufacturer to ensure that the three units inside the DUT did not create a crosstalk condition. Since each receiver is located millimeters from its corresponding transmitter, the DUT operates as it was designed to.

Freq.	Dist.	Meas. Field Strength	Ant. Factor[1]	Cable Loss[1]	Corr. Field Strength	Limit[2]	Margin
MHz	Meters	dBµV	dB	dB	dBµV/m	dBµV/m	(dB)
13.56	10	27.77	35.07	0.61	63.45	84.00	-20.55

[1] Correction factors are included in the measurement analyzer.
[2] Limit has been extrapolated to 10 meters.

7.2.1. Measurement Plot



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7. Measurement Data (continued)

7.3. Operation within the Band 13.110 MHz – 14.010 MHz (§ 15.225 (e))

Requirement: The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

Result: The unit under test complies with the requirements detailed in FCC Part 15.225 (e).

7.3.1. Temperature Variation

Mkr	Temp °C	Meas Freq.	Limit			Offset	Result
		(MHz)	$F_{MIN\ (MHz)}$	$F_{MAX\ (MHz)}$	%	(%)	
-	Ambient	13.56054877[1]	N/A			N/A	
1	-20	13.56119817	13.559193	13.561905	±0.01	0.00478889	Compliant
2	-10	13.56122959	13.559193	13.561905	±0.01	0.00502059	Compliant
3	0	13.56109989	13.559193	13.561905	±0.01	0.00406414	Compliant
4	+10	13.56089676	13.559193	13.561905	±0.01	0.00256619	Compliant
5	+20	13.56071174	13.559193	13.561905	±0.01	0.00120180	Compliant
6	+30	13.56065180	13.559193	13.561905	±0.01	0.00075978	Compliant
7	+40	13.56055927	13.559193	13.561905	±0.01	0.00007743	Compliant
8	+50	13.56045709	13.559193	13.561905	±0.01	0.00067608	Compliant

[1] Nominal frequency at ambient (~22°C)

7.3.2. Voltage Variation (Temperature - 22°C)

Mkr	VAC	Meas Freq.	Limit			Offset	Result
		(MHz)	$F_{MIN\ (MHz)}$	$F_{MAX\ (MHz)}$	%	(%)	
-	120[1]	13.560313[2]	N/A		N/A	N/A	
1	102	13.560163	13.558957	13.561669	±0.01	0.00110617	Compliant
2	108	13.560288	13.558957	13.561669	±0.01	0.00018436	Compliant
3	114	13.560263	13.558957	13.561669	±0.01	0.00036872	Compliant
4	126	13.560188	13.558957	13.561669	±0.01	0.00092181	Compliant
5	132	13.560338	13.558957	13.561669	±0.01	0.00018436	Compliant
6	138	13.560263	13.558957	13.561669	±0.01	0.00036872	Compliant

[1] Nominal voltage
[2] Nominal frequency at ambient (~20°C)

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7. Measurement Data (continued)

7.4. Transmitter Spurious Radiated Emissions (15.225 (d), 15.209)

Requirement: The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table (Reference FCC 15.209):

Frequency Range (MHz)	Distance (Meters)	Limit (dBµV/m)[1]
0.009 to 0.490	3	128.5 to 93.8
0.490 to 1.705	3	73.8 to 63.0
1.705 to 30	3	69.5
30 to 88	3	40.0
88 to 216	3	43.5
216 to 960	3	46.0
>960	3	54.0

[1] Measurements in the 9 to 90 kHz, 110 to 490 kHz and above 1000 MHz ranges employ an average detector. Otherwise a quasi-peak detector is used.

[2] Extrapolation below 30 MHz is calculated at 40 dB/decade.

Procedure: Test measurements were made in accordance with ANSI C63.4-2008, Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz.

Test Notes: First, the intentional radiators were disabled and a scan of the unit under test was performed. The intentional radiators were then enabled and a second scan was performed. The two scans were compared to determine the contribution of the intentional radiators to the overall emissions profile.

Results: The transmitter installed in the unit under test meet the FCC Part 15.209 emissions requirements.

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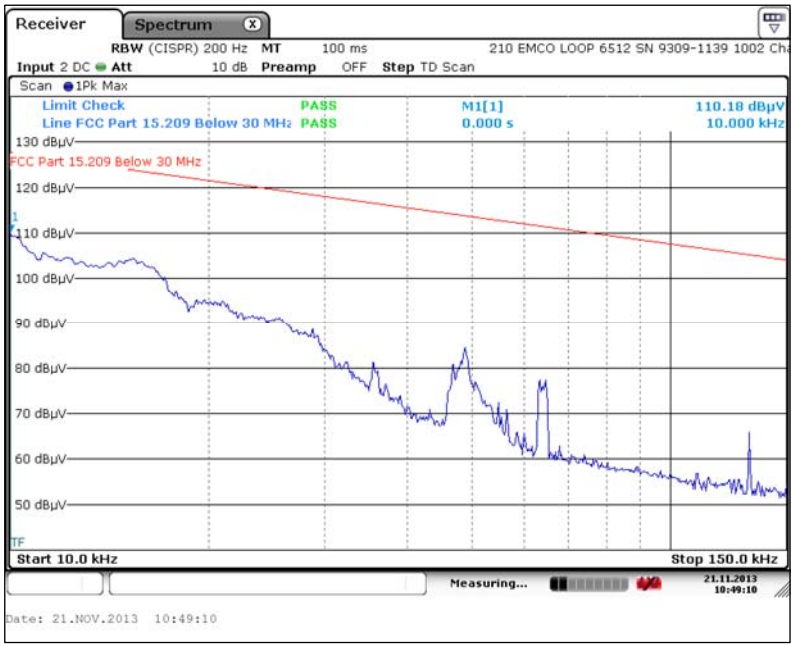
7. Measurement Data (continued)

7.4. Transmitter Spurious Radiated Emissions (15.209) (continued)

7.4.1. Transmitter Spurious Radiated Emissions – 32 kHz to 150 kHz

7.4.1.1. Antenna is Parallel to the UUT

7.4.1.2. Antenna is Perpendicular to the UUT



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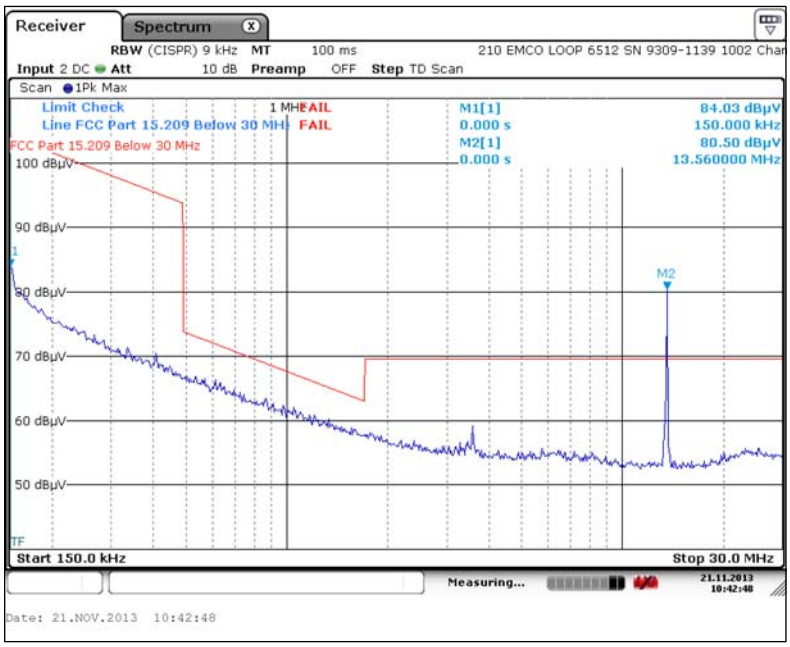
7. Measurement Data (continued)

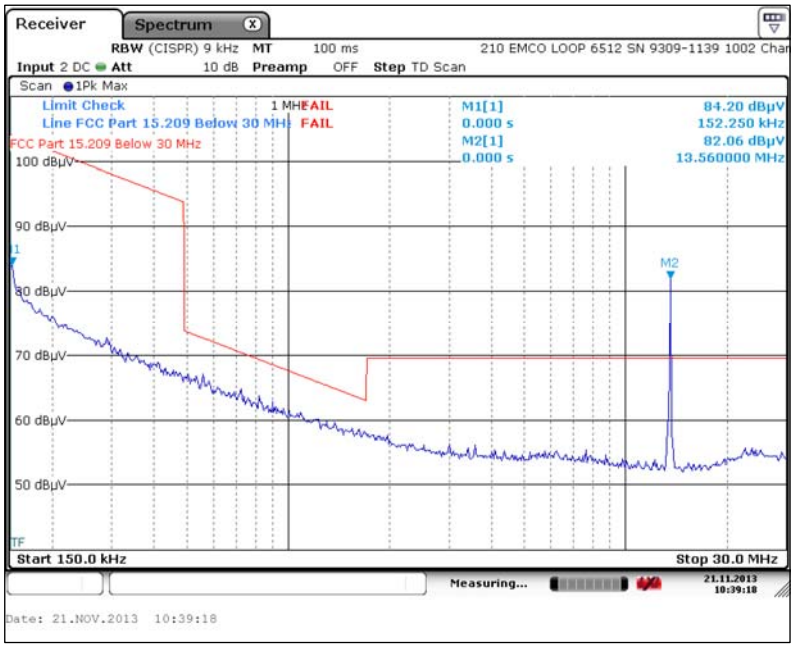
7.4. Transmitter Spurious Radiated Emissions (15.209) (continued)

7.4.2. Transmitter Spurious Radiated Emissions – 150 kHz to 30 MHz (continued)

7.4.2.1. Antenna is Parallel to the UUT



7.4.2.2. Antenna is Perpendicular to the UUT



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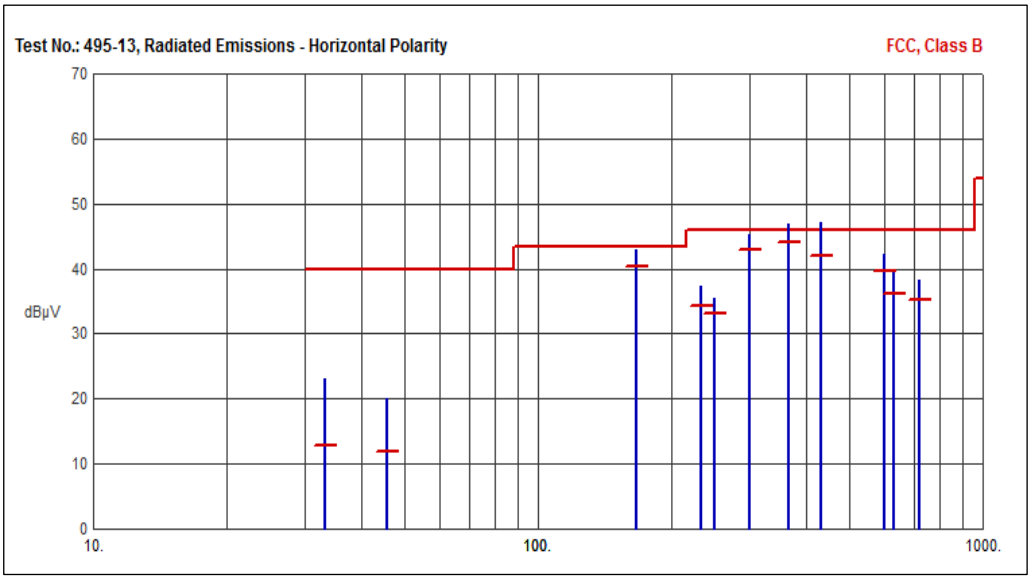
7. Measurement Data (continued)

7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.3. Spurious Radiated Emissions – 30 MHz to 1 GHz

7.4.3.1. Antenna is Horizontal



Frequency (MHz)	Pk Amp (dBµV/m)	QP Amp (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Ant Ht (cm)	Table (Deg)	Comments
33.2521	23.20	12.83	40.00	-27.17	N/A	N/A	
45.7119	20.09	11.94	40.00	-28.06	N/A	N/A	
166.2993	42.92	40.36	43.50	-3.14	N/A	N/A	
232.7887	37.24	34.28	46.00	-11.72	N/A	N/A	
249.9847	35.46	33.20	46.00	-12.80	N/A	N/A	
299.4156	45.17	42.96	46.00	-3.04	N/A	N/A	
365.7602	46.90	44.10	46.00	-1.90	N/A	N/A	
432.2998	47.11	41.97	46.00	-4.03	N/A	N/A	
599.9943	42.22	39.68	46.00	-6.32	N/A	N/A	
631.7433	39.43	36.22	46.00	-9.78	N/A	N/A	
719.9526	38.25	35.33	46.00	-10.67	N/A	N/A	

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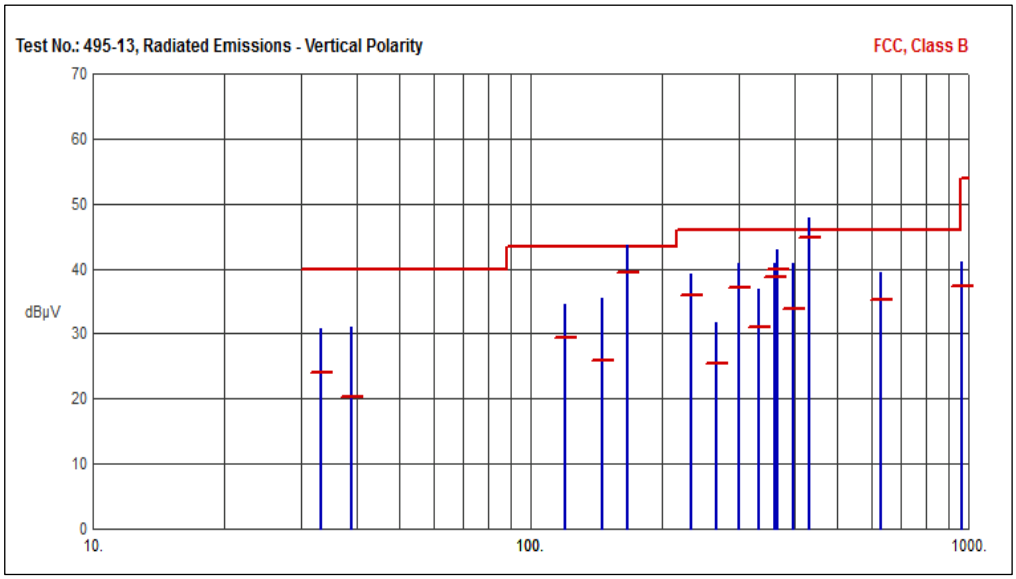
7. Measurement Data (continued)

7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.3. Spurious Radiated Emissions – 30 MHz to 1 GHz

7.4.3.2. Antenna is Vertical



Frequency (MHz)	Pk Amp (dBµV/m)	QP Amp (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Ant Ht (cm)	Table (Deg)	Comments
33.2720	30.70	23.98	40.00	-16.02	N/A	N/A	
39.0811	31.11	20.40	40.00	-19.60	N/A	N/A	
119.5119	34.46	29.38	43.50	-14.12	N/A	N/A	
145.4746	35.53	26.01	43.50	-17.49	N/A	N/A	
166.3054	43.65	39.38	43.50	-4.12	N/A	N/A	
232.7902	39.29	35.99	46.00	-10.01	N/A	N/A	
266.0471	31.81	25.51	46.00	-20.49	N/A	N/A	
299.4347	40.76	37.12	46.00	-8.88	N/A	N/A	
332.5297	36.85	30.98	46.00	-15.02	N/A	N/A	
360.0010	40.76	38.69	46.00	-7.31	N/A	N/A	
365.9141	42.88	39.97	46.00	-6.03	N/A	N/A	
399.0390	40.91	33.84	46.00	-12.16	N/A	N/A	
432.2980	47.75	44.70	46.00	-1.30	N/A	N/A	
632.0910	39.48	35.25	46.00	-10.75	N/A	N/A	
964.1723	41.14	37.23	54.00	-16.77	N/A	N/A	

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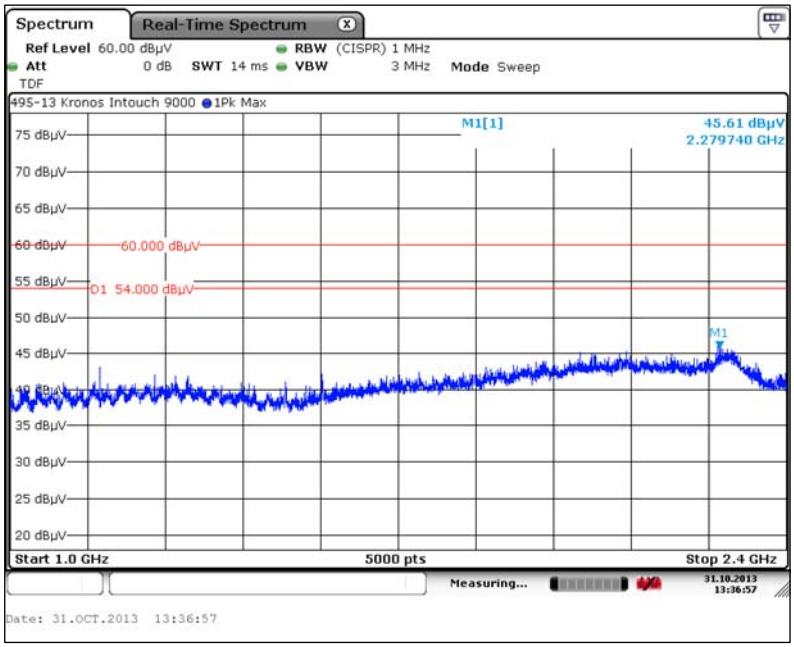
7. Measurement Data (continued)

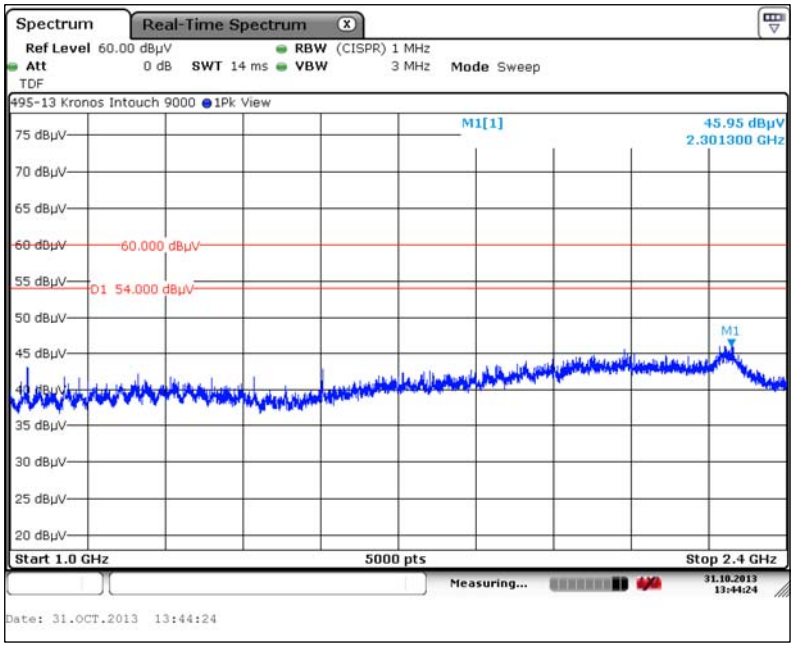
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.4. Spurious Radiated Emissions – 1 GHz to 2.4 GHz

7.4.4.1. Antenna is Horizontal



7.4.4.2. Antenna is Vertical



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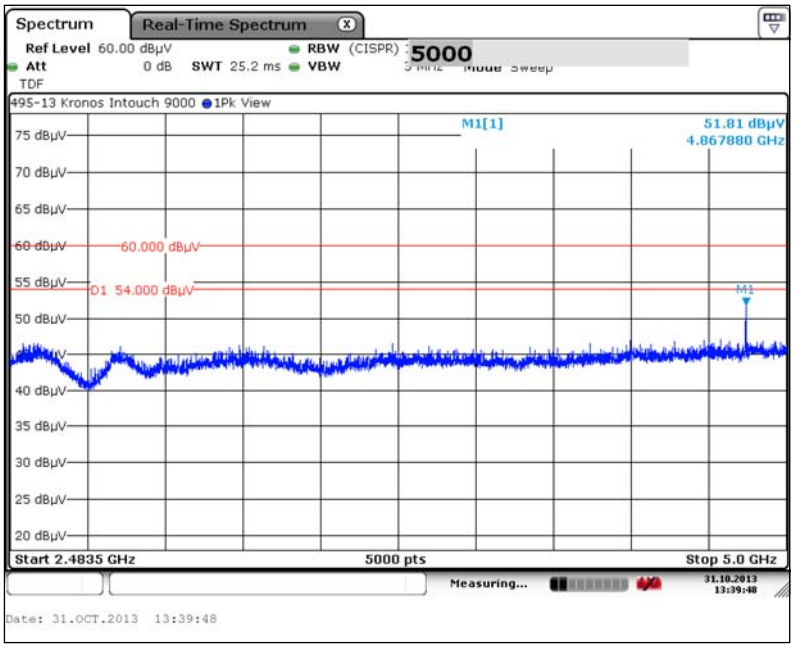
7. Measurement Data (continued)

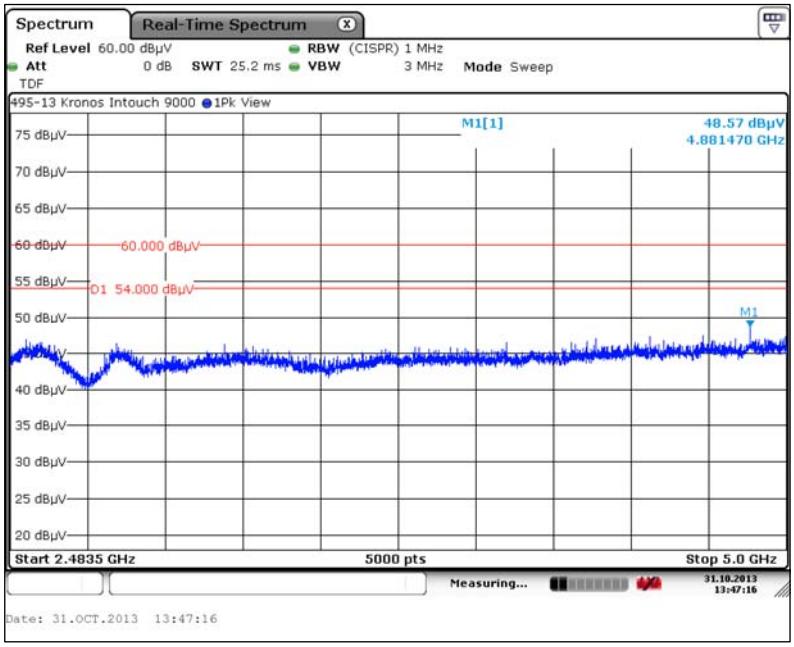
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.5. Spurious Radiated Emissions – 1 GHz to 2.4 GHz

7.4.5.1. Antenna is Horizontal



7.4.5.2. Antenna is Vertical



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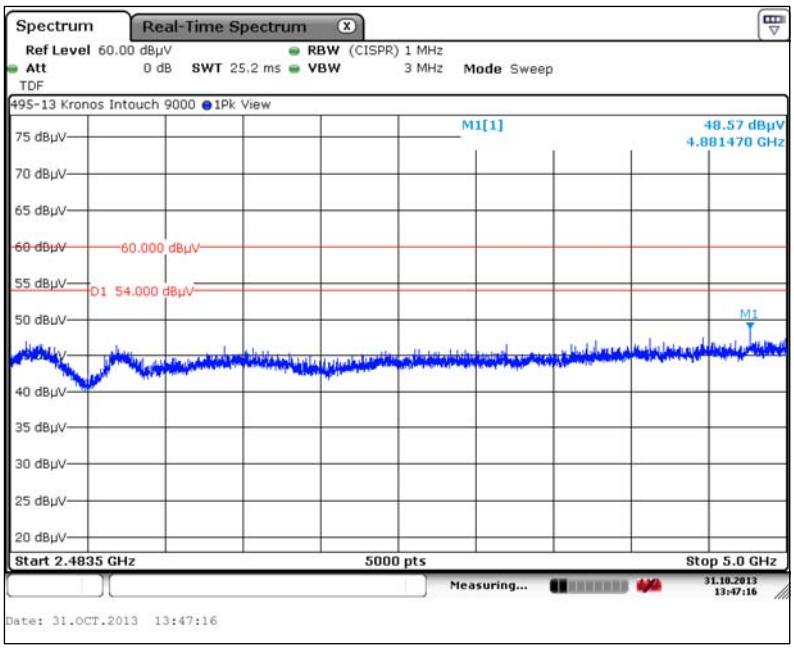
7. Measurement Data (continued)

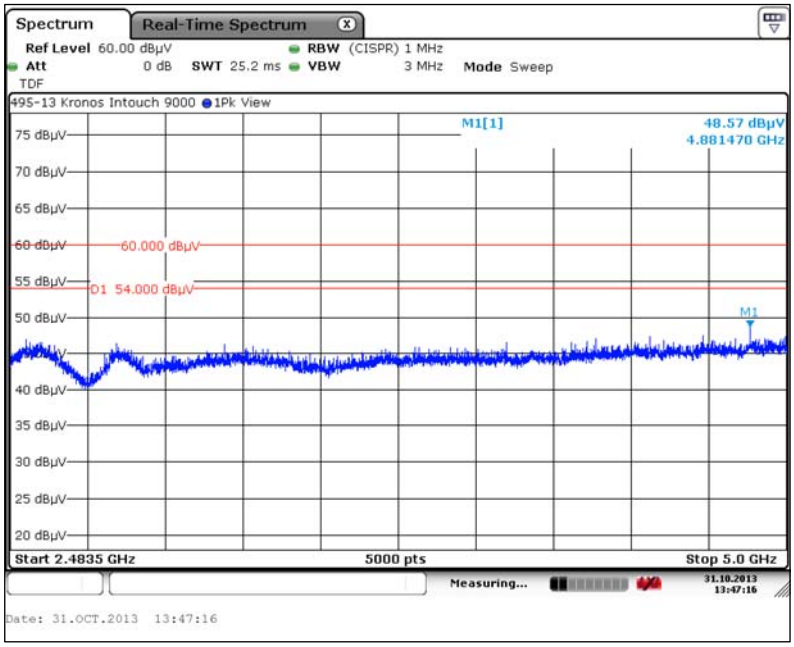
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.6. Spurious Radiated Emissions – 2.4835 GHz to 5 GHz

7.4.6.1. Antenna is Horizontal



7.4.6.2. Antenna is Vertical



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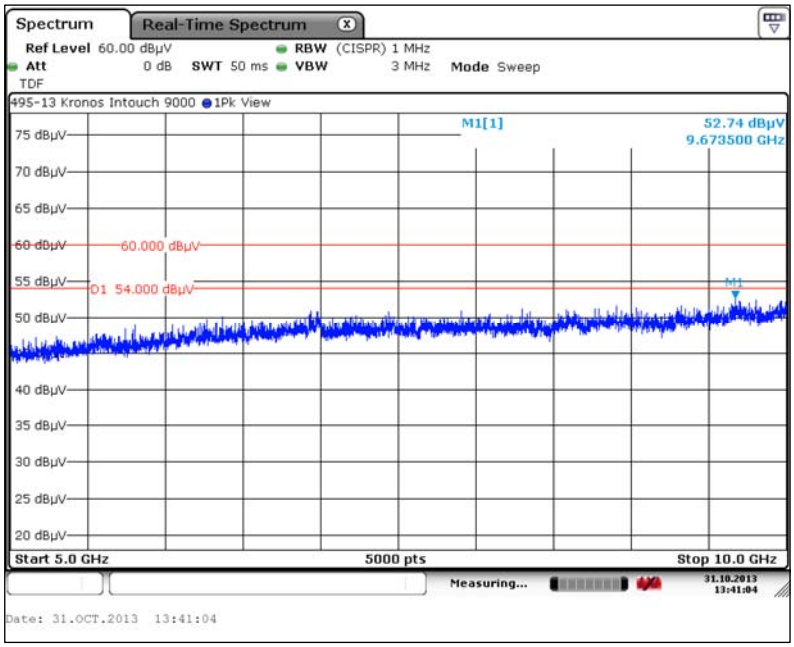
7. Measurement Data (continued)

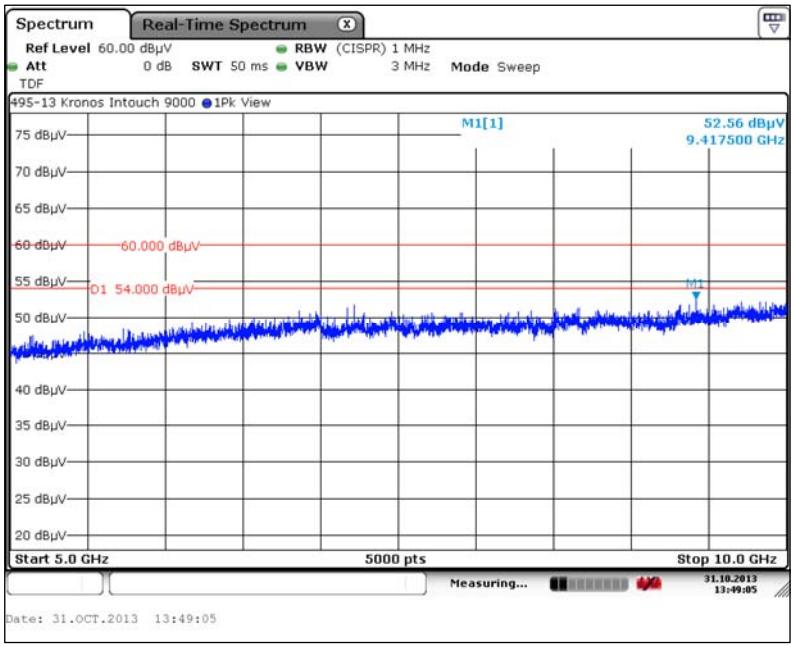
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.7. Spurious Radiated Emissions – 2.4835 GHz to 5 GHz

7.4.7.1. Antenna is Horizontal



7.4.7.2. Antenna is Vertical



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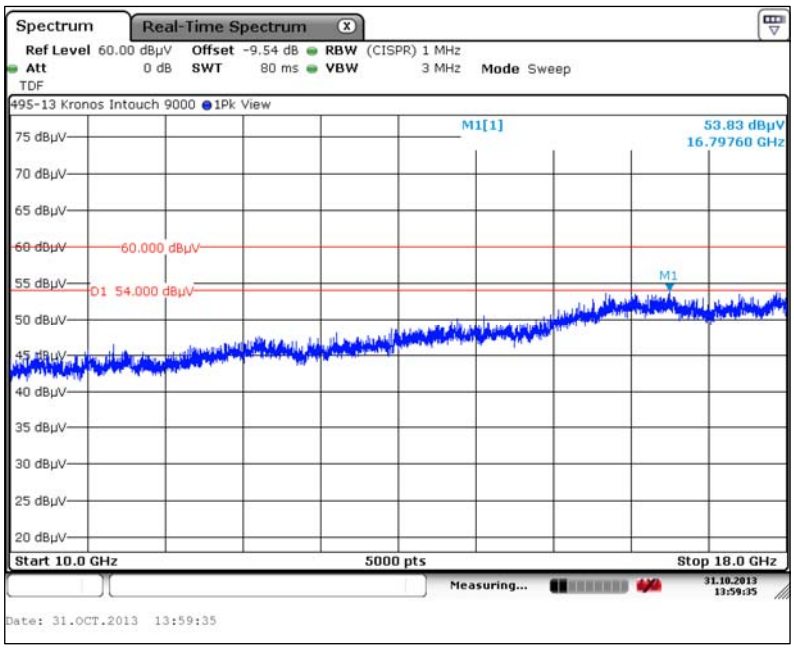
7. Measurement Data (continued)

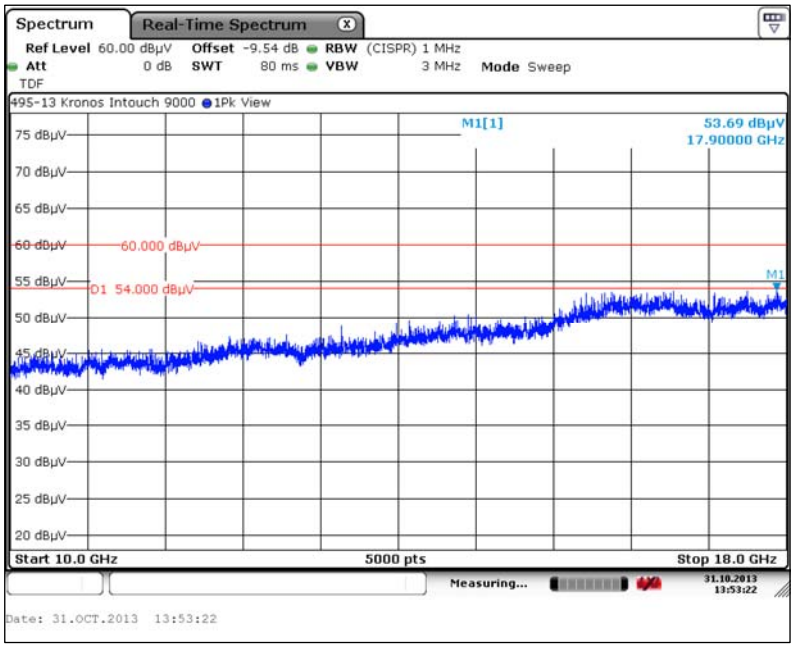
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.8. Spurious Radiated Emissions – 10 GHz to 18 GHz

7.4.8.1. Antenna is Horizontal



7.4.8.2. Antenna is Vertical



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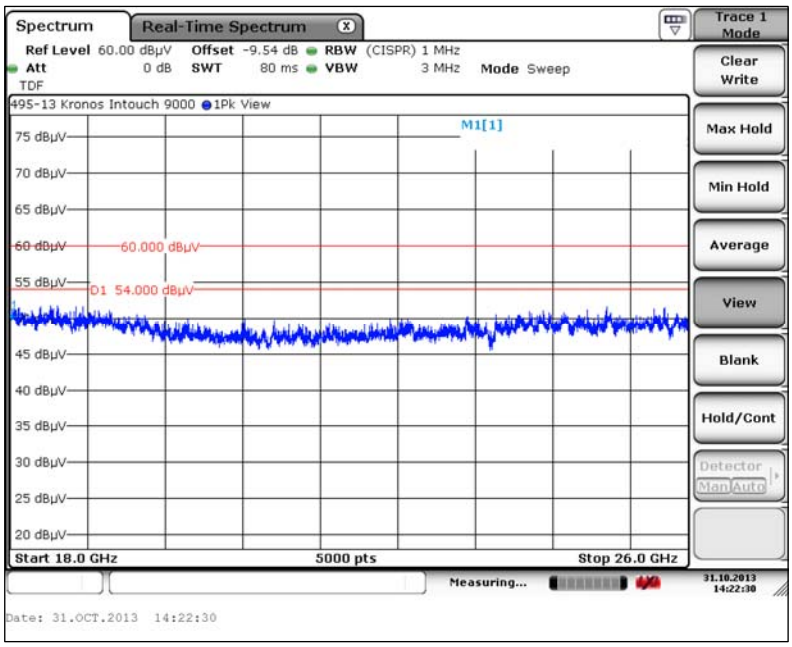
7. Measurement Data (continued)

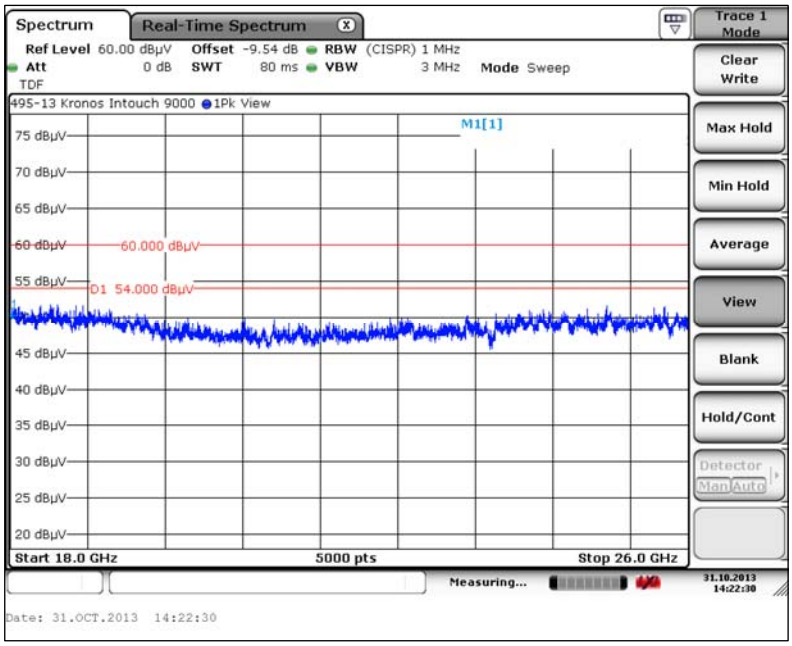
7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.9. Spurious Radiated Emissions – 18 GHz to 18 GHz

7.4.9.1. Antenna is Horizontal



7.4.9.2. Antenna is Vertical



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7. Measurement Data (continued)

7.4. Spurious Radiated Emissions (15.209) (continued)

7.4.4. Harmonic Emissions

Test Note: The emissions in the table below represent the worst case polarity, elevation and azimuth.

Frequency (MHz)	Pk Amp (dBµV/m)	QP Amp (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Ant Pol (H/V)	Ant Ht (cm)	Table (Deg)	Result
27.12	44.08	37.17	69.5	-32.33	Parallel	100	0	Compliant
40.68	29.6	20.4	40.0	-19.60	V	166	0	Compliant
54.24	32.6	23.6	40.0	-16.40	V	100	0	Compliant
67.80	22.2	16.6	40.0	-23.40	V	100	0	Compliant
81.36	28.2	17.0	40.0	-23.00	V	100	0	Compliant
94.92	18.7	9.2	43.5	-34.28	H	100	280	Compliant
108.48	25.8	17.7	43.5	-25.80	V	100	0	Compliant
122.04	26.4	20.6	43.5	-22.90	V	100	244	Compliant
135.60	30.4	27.6	43.5	-15.90	H	100	148	Compliant

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7. Measurement Data (continued)

7.5. Power Line Conducted Emissions (15.207)

Requirement: For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-Peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5.0	56	46
5.0 to 30.0	60	50
* Decreases with the logarithm of the frequency.		

Procedure: Test measurements were made in accordance with ANSI C63.4-2003, Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz. Specifically, Annex H, paragraph H1(b) regarding the use of a dummy load for a Part 15 transmitter.

Results: The unit under test meets the FCC Part 15.207 conducted emissions requirements.

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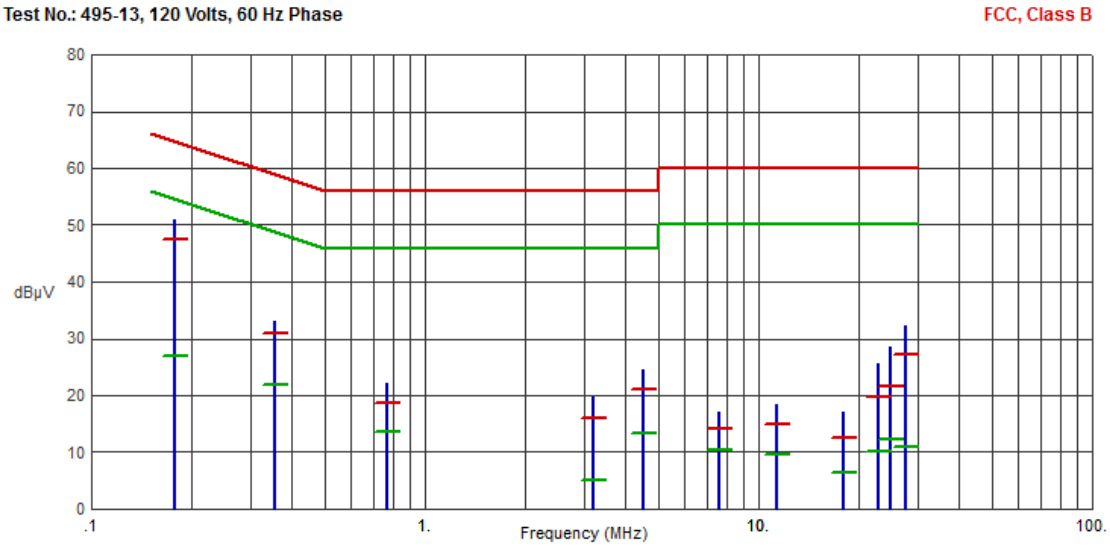
8. Conducted Emissions Test Results

7.5. Power Line Conducted Emissions (15.207)

7.5.1. 120 Volts, 60 Hz Phase



Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.1776	50.83	47.36	64.60	-17.24	26.87	54.60	-27.73	
.3550	33.19	30.95	58.84	-27.89	21.98	48.84	-26.86	
.7670	22.17	18.65	56.00	-37.35	13.62	46.00	-32.38	
3.1940	19.61	16.08	56.00	-39.92	5.16	46.00	-40.84	
4.5270	24.52	20.94	56.00	-35.06	13.29	46.00	-32.71	
7.6145	16.94	14.23	60.00	-45.77	10.37	50.00	-39.63	
11.3478	18.30	15.01	60.00	-44.99	9.52	50.00	-40.48	
18.0195	16.94	12.61	60.00	-47.39	6.52	50.00	-43.48	
22.8799	25.49	19.84	60.00	-40.16	10.09	50.00	-39.91	
24.9518	28.48	21.67	60.00	-38.33	12.33	50.00	-37.67	
27.4851	32.28	27.29	60.00	-32.71	10.89	50.00	-39.11	

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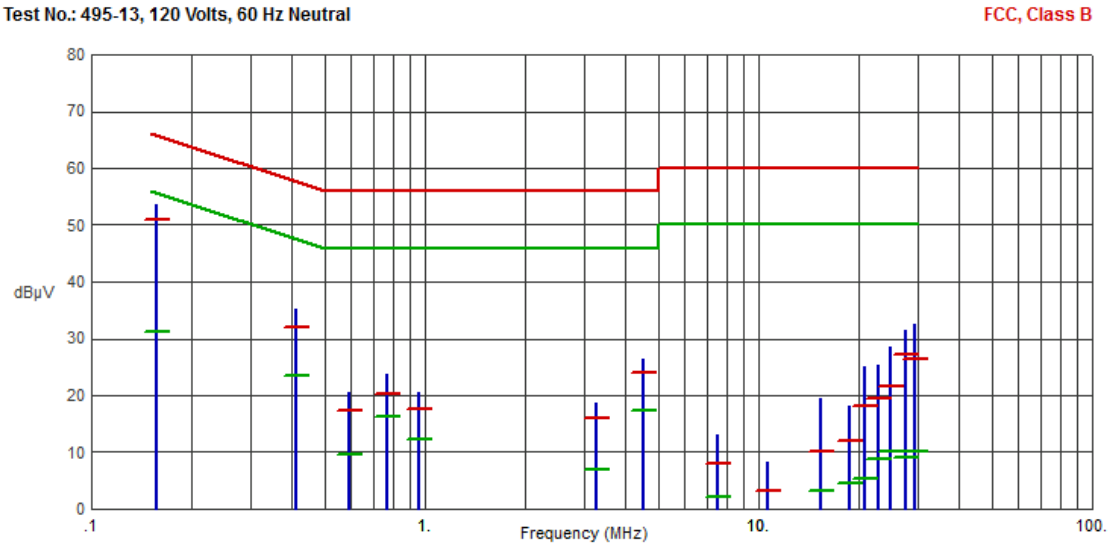
8. Conducted Emissions Test Results

7.5. Power Line Conducted Emissions (15.207)

7.5.2. 120 Volts, 60 Hz Neutral



Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.1573	53.58	50.81	65.61	-14.80	31.15	55.61	-24.46	
.4122	35.20	31.98	57.60	-25.62	23.42	47.60	-24.18	
.5913	20.44	17.26	56.00	-38.74	9.70	46.00	-36.30	
.7688	23.65	20.26	56.00	-35.74	16.37	46.00	-29.63	
.9620	20.41	17.69	56.00	-38.31	12.20	46.00	-33.80	
3.2631	18.69	16.09	56.00	-39.91	7.06	46.00	-38.94	
4.5035	26.38	23.88	56.00	-32.12	17.31	46.00	-28.69	
7.5532	13.07	7.93	60.00	-52.07	2.03	50.00	-47.97	
10.6286	8.39	3.31	60.00	-56.69	-3.68	50.00	-53.68	
15.3982	19.48	10.04	60.00	-49.96	3.24	50.00	-46.76	
18.7098	18.24	12.00	60.00	-48.00	4.47	50.00	-45.53	
20.7842	25.13	18.06	60.00	-41.94	5.38	50.00	-44.62	
22.8798	25.28	19.52	60.00	-40.48	8.87	50.00	-41.13	
24.9552	28.56	21.67	60.00	-38.33	10.14	50.00	-39.86	
27.4846	31.50	27.20	60.00	-32.80	9.05	50.00	-40.95	
29.5055	32.53	26.53	60.00	-33.47	10.11	50.00	-39.89	

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7. Measurement Data (continued)

7.6. Occupied Bandwidth (Section 15.215 (c) and ANSI C63.10, Section 6.9)

Requirement: Intentional radiators operating under the alternative provisions to the general emission limits, as contained in Sections 15.217 through 15.255 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule.

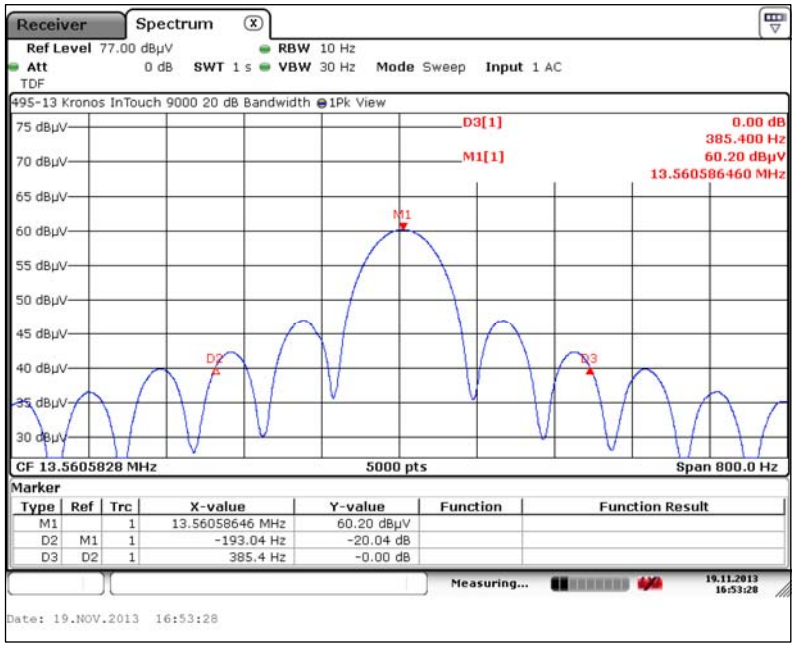
Frequency Band: F_{MIN} = 13.110 MHz

F_{MAX} = 14.010 MHz

Test Note: The reported bandwidth represents the worst case measured bandwidth of the combined three transmitters.

	-20 dB Frequency Measured	Lower & Upper Band Edge (F_{MIN} & F_{Max})	Result
	MHz	MHz	
F_{LO}	13.56039342	13.11	Compliant (F_{LO} > F_{MIN})
F_{HI}	13.56077882	14.01	Compliant (F_{HI} < F_{Max})

7.6.1. Plot of 20 dB Bandwidth vs. Frequency Band



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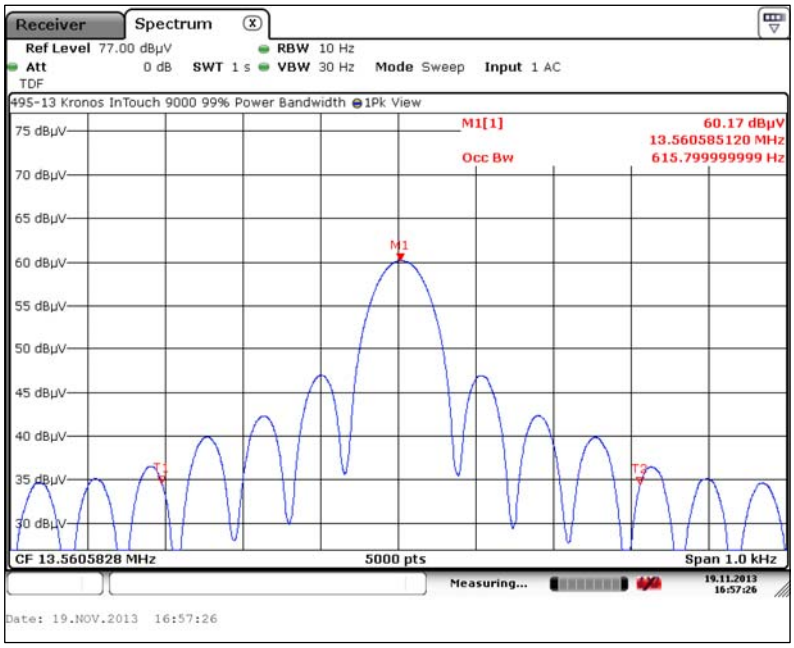
7. Measurement Data (continued)

7.7. 99% Power Bandwidth (RSS-GEN Section 4.6.1)

Requirement: When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured.
The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth.

Procedure: This test was performed utilizing the automated 99% bandwidth function of the spectrum analyzer.

Frequency	99% Power Bandwidth
(MHz)	(kHz)
13.56	2.615799



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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), Industry Canada, and Voluntary Control Council Interference (VCCI) standards. A description of the test sites is on file with the FCC (registration number 96392), 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 meters W x 1.5 meters L x 2.0 meters H, floor standing or table top.

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