



TEST REPORT

Report Number: 100658121MIN-004B

Project Number: G100658121

**Testing performed on the
VoiceStream / Companion Mic**

FCC ID: POM92386

**to
47 CFR Part 15. 247:2010
RSS- 210, Issue 8, 2010
47 CFR, Part 15:2009, §15.107 and §15.109, Class B**

**For
IntriCon Corporation**

Test Performed by:
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Oakdale, MN 55128 USA

Test Authorized by:
IntriCon Corporation
1260 Red Fox Road
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Simon Khazon

Date: September 4, 2012

Reviewed by: U. Specotr
Uri Specotr

Date: September 4, 2012

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1.0 GENERAL DESCRIPTION

Model:	VoiceStream
Type of EUT:	Companion Microphone
FCC ID:	POM92386
Related Submittal(s) Grants:	None
Company:	IntriCon Corporation.
Customer:	Mr. Vijay Sundermurthy
Address:	1260 Red Fox Road Arden Hills, MN 55112-6944, USA
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Fax:	(612) 636-8944
e-mail:	VSundermurthy@intricon.com
Test Standards:	☒ 47 CFR, Part 15:2010, §15.247 ☒ RSS-210, Issue 8, 20010 ☒ RSS-Gen, Issue 3, 2010 ☒ 47 CFR, Part 15:2010, §15.107 and §15.109, Class B ☒ ICES-003, Issue 4:2004 ☐ Other
Type of radio:	☒ Stand -alone ☐ Module ☐ Hybrid
Date Sample Submitted:	March 2, 2012
Test Work Started:	March 2, 2012
Test Work Completed:	March 20, 2012
Test Sample Conditions:	☐ Damaged ☐ Poor (Usable) ☒ Good



1.1 Product Description; Test Facility

Product Description:	Transceiver
Transmitter Type:	☐ FHSS ☒ Digital Modulation ☐ WiFi ☐ Blue Tooth
Operating Frequency Range(s):	Range From 2400 to 2483.4 MHz
Number of Channels:	80
Modulation:	FSK
Antenna(s) Info:	Type Integral Gain 1.3dBi
Antenna Installation:	☐ User ☒ Professional ☐ Factory
Transmitter power configuration:	☒ Internal battery ☐ External power source ☐ 120VAC ☐ 230VAC ☐ 400VAC ☐ [redacted] VDC ☐ Other: [redacted] [redacted] Amp. ☐ 50Hz ☐ 60Hz
Special Test Arrangement:	Testing was performed on the EUT with fully charged internal battery
Test Facility Accreditation:	A2LA (Certificate No. 1427.01)
Test Methodology:	Measurements performed according to the procedures in ANSI C63.10-2009 and FCC DTS Measurement Guide

1.2 EUT Configuration

The equipment under test was operated during the measurement under the following conditions:

- ☐ - Standby
- ☒ - Continuous transmissions (modulated signal)
- ☒ - Continuous transmissions (un-modulated signal)
- ☐ - Continuous receiving
- ☐ - Test program (customer specific)
- ☐ -

Operating modes of the EUT:

No.	Description
1	Test was performed at low channel of 2402MHz, middle channel of 2441MHz, and upper channel of 2481MHz.
2	Standby / Receiving mode
3	Charging mode EUT was powered at AC/DC Charger manufacturing by Tenwel, model TS21-500 500U

Cables:

No.	Type	Length	Designation	Note
1	Shielded, USB	1.0 m	DC Power	

Support equipment/Services:

No.	Item	Description
	None	

1.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

☐ Normal

Temperature:	+15 to +35 °C
Humidity:	20-75 %
Atmospheric pressure:	86-106 kPa

☐ Extreme

☐ Temperature:	-20 to +50 °C
☐ Supply voltage:	85% to +115%

1.4 Measurement uncertainty

The expanded uncertainty ($k = 2$) for radiated measurements has been determined to be:

± 4 dB at 10m and ± 5.4 dB at 3m

The expanded uncertainty ($k = 2$) for conducted measurements at antenna terminal has been determined to be:

± 1.0 dB

The expanded uncertainty ($k = 2$) for line conducted measurements has been determined to be:

± 2.6 dB

1.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured emissions reading on the EMI Receiver.

The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where: FS = Field Strength in dB(μ V/m)

RA = Receiver Amplitude in dB(μ V)

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB(m^{-1})

AG = Amplifier Gain in dB

Assume a receiver reading of 48.1 dB(μ V) is obtained. The antenna factor of 7.4 dB(m^{-1}) and cable factor of 1.6 dB is added and amplifier gain of 16.0 dB is subtracted giving field strength of 41.1 dB(μ V/m).

$$RA = 48.1 \text{ dB}(\mu\text{V})$$

$$AF = 7.4 \text{ dB}(m^{-1})$$

$$CF = 1.6 \text{ dB}$$

$$AG = 16.0 \text{ dB}$$

$$FS = RA + AF + CF - AG$$

$$FS = 48.1 + 7.4 + 1.6 - 16.0$$

$$FS = 41.1 \text{ dB}(\mu\text{V}/\text{m})$$

General notes:

2.0 TEST SUMMARY

Referring to the performance criteria and the operating mode during the tests specified in this report, the equipment complies with the requirements according to the following standards.

TEST SPECIFICATION	TEST PARAMETERS	RESULT
15.247(b), (c) / RSS-210 A8.4	Maximum peak output power	Pass
15.247(a) / RSS-210 A8.2	6dB bandwidth of the digital modulation system	Pass
15.247(e) / RSS-210 A8.2	Power spectral density	Pass
15.247(d) / RSS-210 A8.5	Radiated spurious emissions	Pass
15.247(i) / RSS- Gen 5.5	RF Exposure Compliance	Pass
15.207 / RSS-Gen 7.2.2	Transmitter Power Line conducted emissions	Pass
15.109 / ICES-003	Receiver/digital device radiated emissions	Pass
15.107 / ICES-003	Digital device conducted emissions	Pass

3.0 TEST CONDITIONS AND RESULTS

3.1 Maximum peak output power

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

Max. Margin: 32.8dB below the limits

Power Output:	Radiated						
Distance:	☒ 3m ☐ 10m						
Frequency Range:	☐ 902-928MHz ☒ 2400-2483.4MHz ☐ 5725-5850MHz						
Low Frequency 2402.21MHz	Measured field dBµV/m	Measured field V/m	Tx Peak Power mW	Tx Peak Power dBm	Limit dBm	Limit Reduction dB	Margin dB
Vertical Antenna	93.7	0.048	0.5213	-2.8	30	0	-32.8
Middle Frequency 2441.11MHz							
Vertical Antenna	92.7	0.043	0.4141	-3.8	30	0	-33.8
Upper Frequency 2480.61MHz							
Vertical Antenna	91.9	0.039	0.3444	-4.6	30	0	-34.6
RBW:	☒ 1MHz ☐ 3MHz ☐ 10MHz						
VBW:	☒ 1MHz ☐ 3MHz ☐ 10MHz						
Antenna Gain:	☒ < 6dBi and = 1.3dBi ☐ >6dBi and = dBi, Output power reduction = dB						

Notes: The Maximum Peak Output Power was calculated from equation $P=(E \times d)^2/30G$, where P is the power in watts; E is the measured field strength in V/m; d is the measurement distance and = 3m; G is the numerical antenna gain of the transmitter = 1.35

Date:	March 3, 2012	Result: Pass
Standard:	FCC Part 15.247	
Tested by:	Simon Khazon	
Test Point:	Emissions at Fundamental	
Operation mode:	See Page 5	
Note:	Table shows worst-case emissions	

Table 3.1.1

Frequency MHz	Antenna		Ant. CF dB1/m	Cable loss dB	Pre-amp Gain (dB)	Peak Reading dBμV	Total @ 3m dBμV/m	Comments
	Polarity	Hts(cm)						
			Channel 2402					
2402.21	V	100	28.5	2.9	0.0	62.3	93.7	
2402.21	H	237	28.5	2.9	0.0	52.7	84.1	
			Channel 2441					
2441.11	V	100	28.6	2.9	0.0	61.2	92.7	
2441.11	H	238	28.6	2.9	0.0	52.7	84.2	
			Channel 2481					
2480.61	V	100	28.7	3.0	0.0	60.4	92.1	
2480.61	H	226	28.7	3.0	0.0	53.4	85.1	

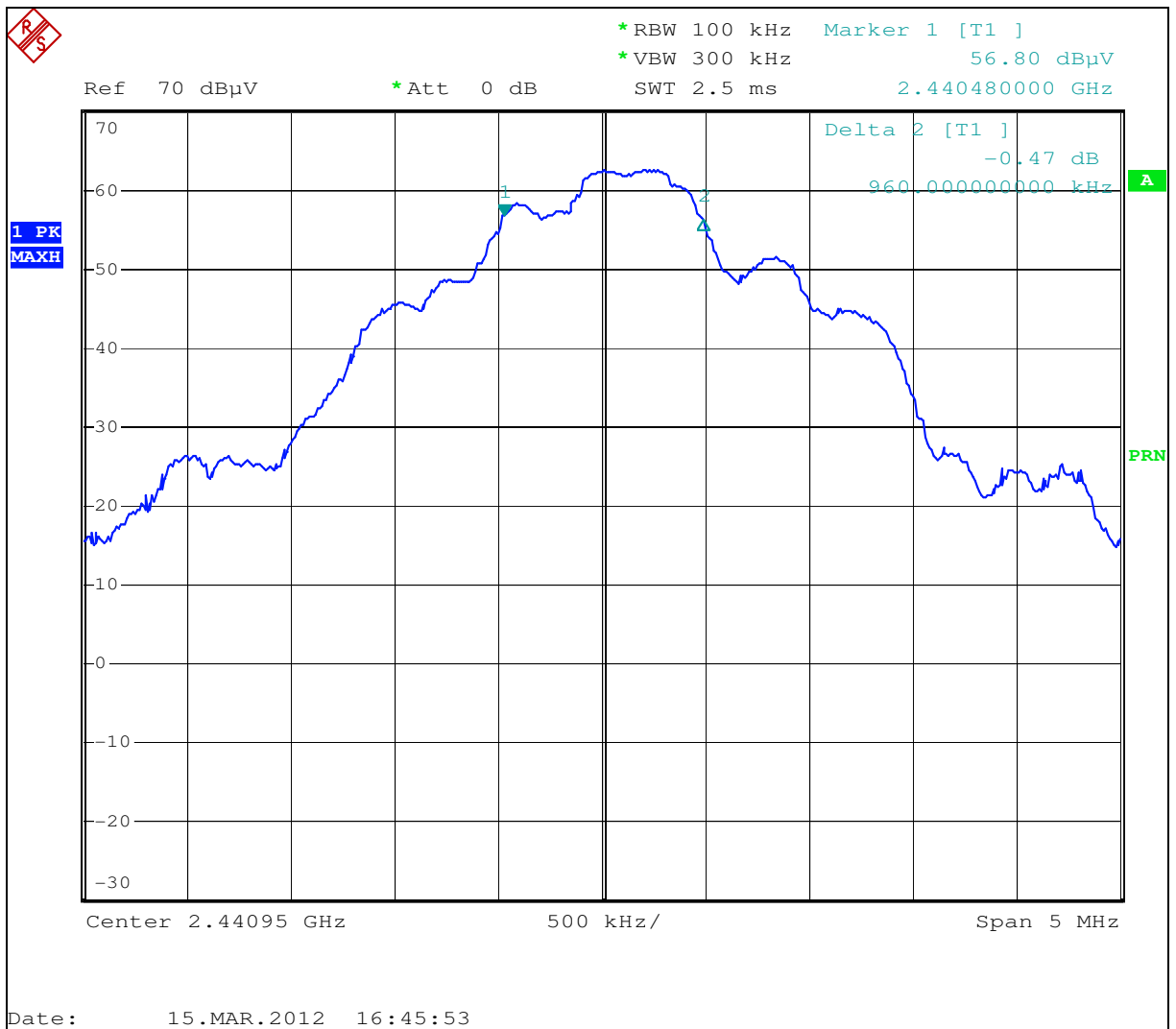
3.2 6dB bandwidth of the digital modulation

Low Frequency Channel kHz	Middle Frequency Channel kHz	Upper Frequency Channel kHz	Minimum Bandwidth kHz	Result
980	960	960	500	Pass
RBW: ☒ 100kHz ☐ other kHz VBW: ☐ 100kHz ☐ 300kHz ☐ other kHz				

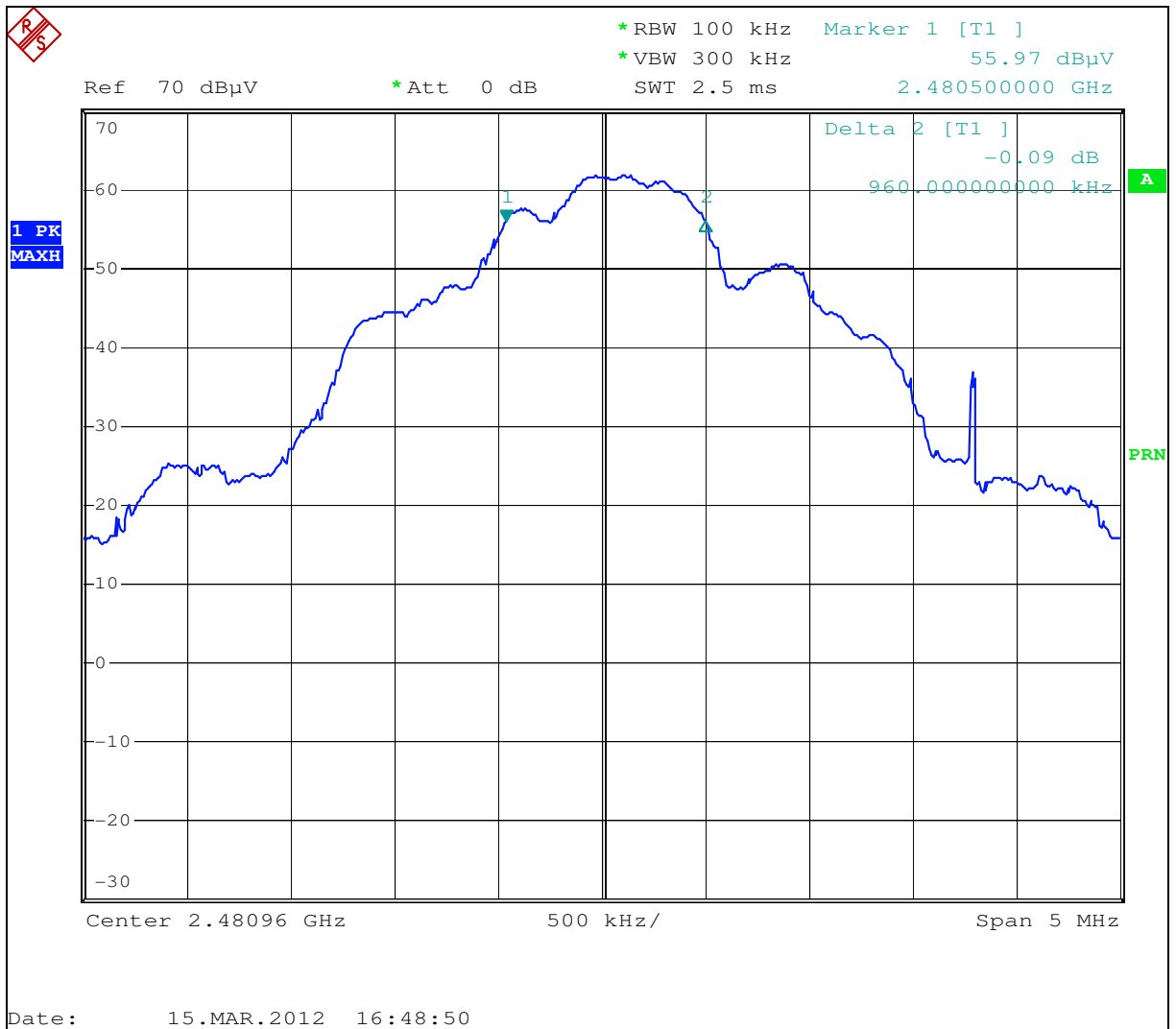
Notes: Graphs 3.2.1 to 3.2.3 show the 6dB bandwidth



Graph 3.2.1



Graph 3.2.2



Graph 3.2.3

3.3 Power spectral density

Power Output:	☐ Conducted ☒ Radiated			
	Measured Density dBμV/m	Power Spectral Density dBm	Limit dBm	Margin dB
Low Frequency Channel	83.0	-13.5	8	-21.5
Middle Frequency Channel	82.4	-14.1	8	-22.1
Upper Frequency Channel	81.6	-14.9	8	-22.9
Analyzer Settings:	☒ RBW=3KHz ☒ VBW=10KHz ☒ Span=300KHz ☐ Sweep=100sec			
Antenna Gain:	☒ < 6dBi and = 1.3dBi ☐ >6dBi and = dBi, limit reduction = dB			

Notes: The Maximum Peak Output Power was calculated from equation $P=(E \times d)^2/30G$, where P is the power in watts; E is the measured field strength in V/m; d is the measurement distance and = 3m; G is the numerical antenna gain of the transmitter



3.4 Radiated spurious emissions

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

Max. Margin: 1.7dB below the limits

Date:	March 5-7, 2012	Result: Pass
Standard:	FCC part 15.247(d)	
Tested by:	Simon Khazon	
Test Point:	Enclosure	
Operation mode:	See Page 5	
Note:	Frequency Range 30-1000MHz	

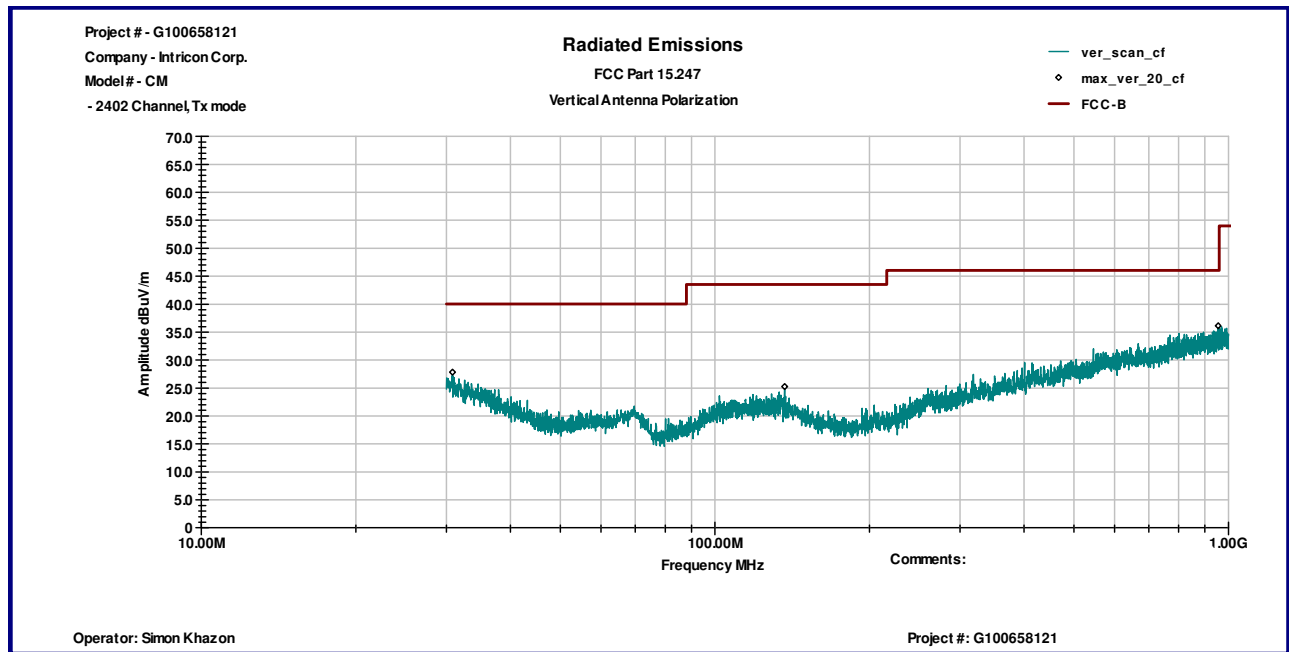
Table 3.4.1

Frequency	Ant. Polarity	Peak Reading dBμV	Ant.Factor dB1/m	Total at 3m dBμV/m	Limit dBμV/m	Margin dB
Channel 2402						
30.831 MHz	V	8.0	19.9	27.8	40.0	-12.2
136.71 MHz	V	11.7	13.6	25.3	40.0	-14.7
954.73 MHz	V	10.2	25.9	36.1	47.0	-10.9
31.143 MHz	H	8.6	19.7	28.3	40.0	-11.7
112.09 MHz	H	11.3	13.6	24.9	40.0	-15.1
958.97 MHz	H	10.1	25.9	36.0	47.0	-11.0
Channel 2441						
30.589 MHz	V	7.2	20.0	27.2	40.0	-12.8
132.61 MHz	V	11.3	13.8	25.0	40.0	-15.0
894.25 MHz	V	11.0	25.4	36.4	47.0	-10.6
30.242 MHz	H	8.1	20.2	28.3	40.0	-11.7
125.37 MHz	H	10.5	14.0	24.5	40.0	-15.5
938.11 MHz	H	10.4	25.7	36.1	47.0	-10.9
Channel 2481						
30.623 MHz	V	8.2	20.0	28.2	40.0	-11.8
136.34 MHz	V	11.0	13.6	24.6	40.0	-15.4
921.13 MHz	V	10.5	25.5	36.0	47.0	-11.0
30.139 MHz	H	8.5	20.2	28.7	40.0	-11.3
107.91 MHz	H	10.8	13.4	24.1	40.0	-15.9
973.47 MHz	H	9.9	26.2	36.0	47.0	-11.0

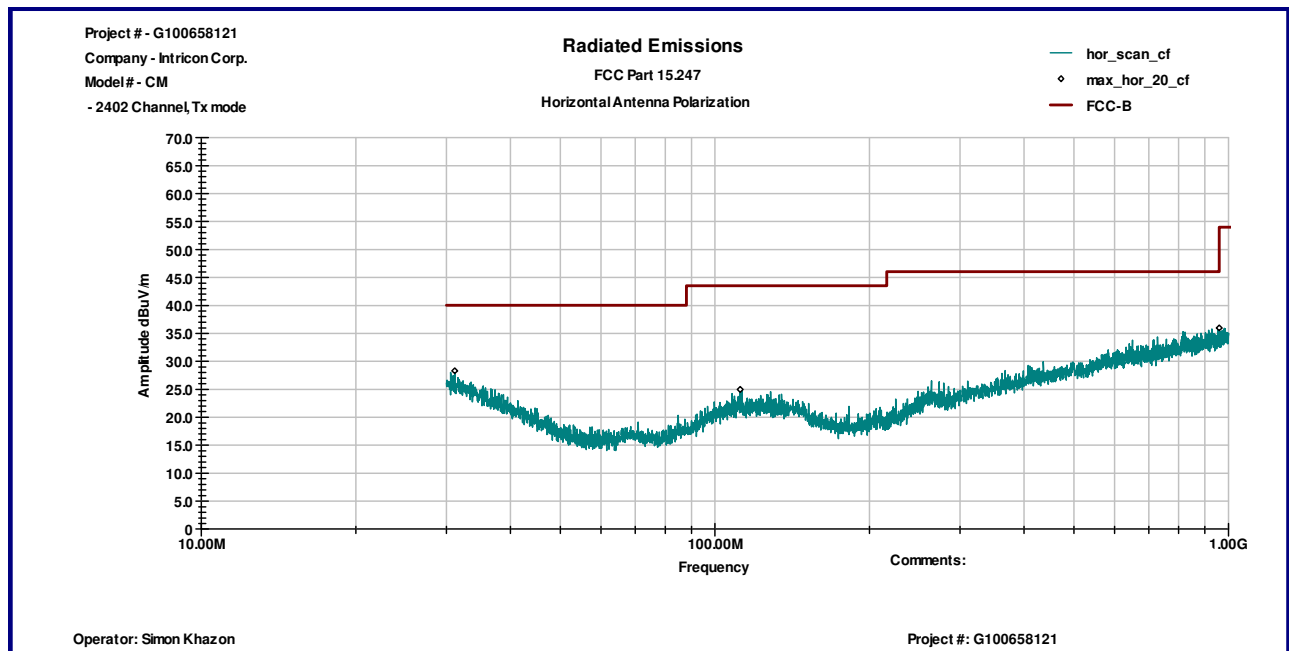
Date:	March 5-8, 2012	Result: Pass
Standard:	FCC part 15.247(d)	
Tested by:	Simon Khazon	
Test Point:	Enclosure	
Operation mode:	See Page 5	
Note:	Frequency Range 1000-26000MHz	

Table 3.4.2

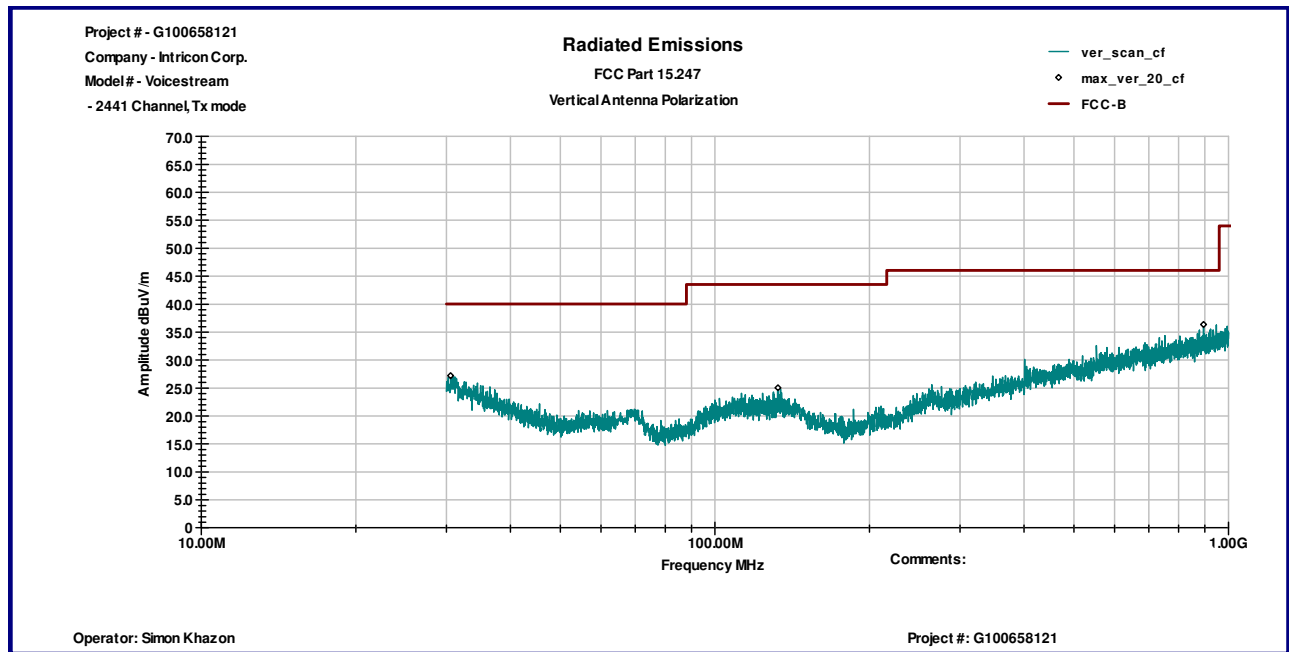
Frequency MHz	Antenna Polarity	Peak Reading dBμV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBμV/m	Limit dBμV/m	Margin dB
Channel 2402							
2.4 GHz	V	54.7	31.4	43.5	42.6	54.0	-11.4
4.804 GHz	V	48.3	37.4	42.0	43.6	54.0	-10.4
7.208 GHz	V	45.2	40.8	41.5	44.4	54.0	-9.6
2.4 GHz	H	46.8	31.3	43.5	34.7	54.0	-19.3
4.804 GHz	H	53.2	37.3	42.0	48.4	54.0	-5.5
7.208 GHz	H	44.6	40.8	41.5	43.9	54.0	-10.1
Channel 2441							
2.44 GHz	V	56.0	31.5	43.5	44.1	54.0	-9.9
4.88 GHz	V	48.3	37.5	42.0	43.8	54.0	-10.2
7.324 GHz	V	45.0	41.1	41.4	44.7	54.0	-9.3
2.44 GHz	H	47.5	31.4	43.5	35.4	54.0	-18.6
4.884 GHz	H	56.0	37.4	42.0	51.4	54.0	-2.5
Channel 2441							
2.48 GHz	V	54.1	31.7	43.5	42.3	54.0	-11.7
4.964 GHz	V	46.9	37.7	41.9	42.7	54.0	-11.3
7.444 GHz	V	46.9	41.4	41.2	47.1	54.0	-6.9
4.964 GHz	H	56.7	37.6	41.9	52.3	54.0	-1.7
7.444 GHz	H	46.4	41.5	41.2	46.7	54.0	-7.3



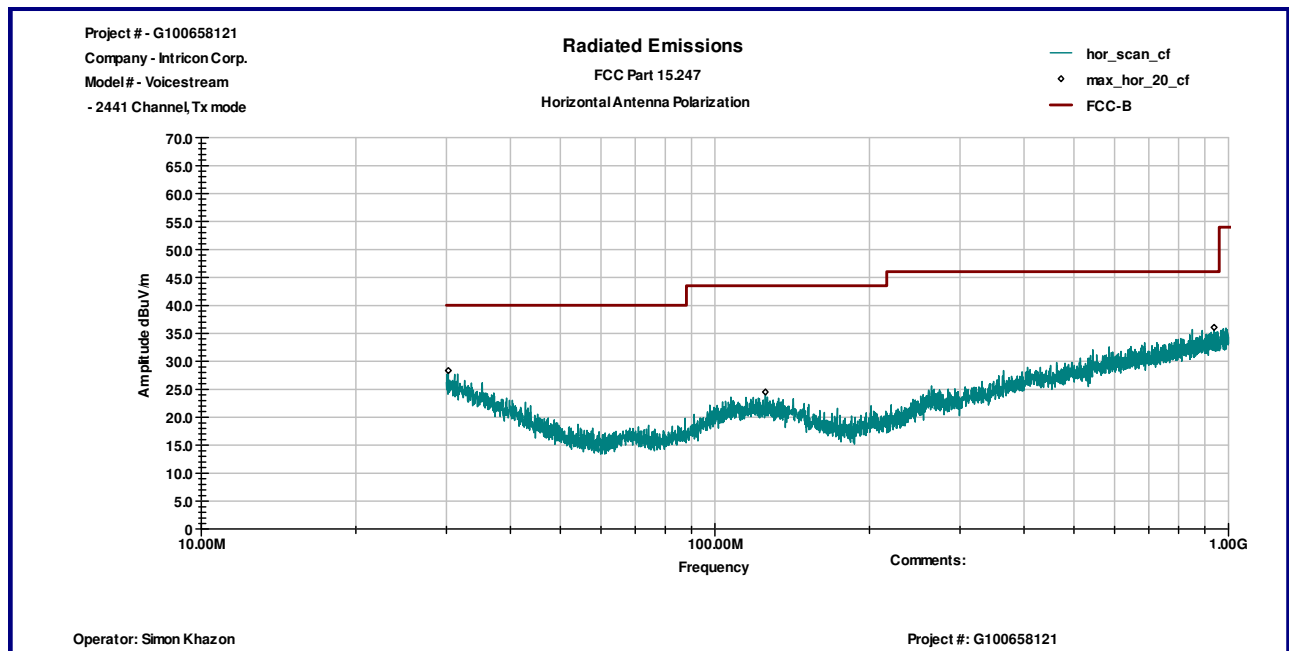
Graph 3.4.1



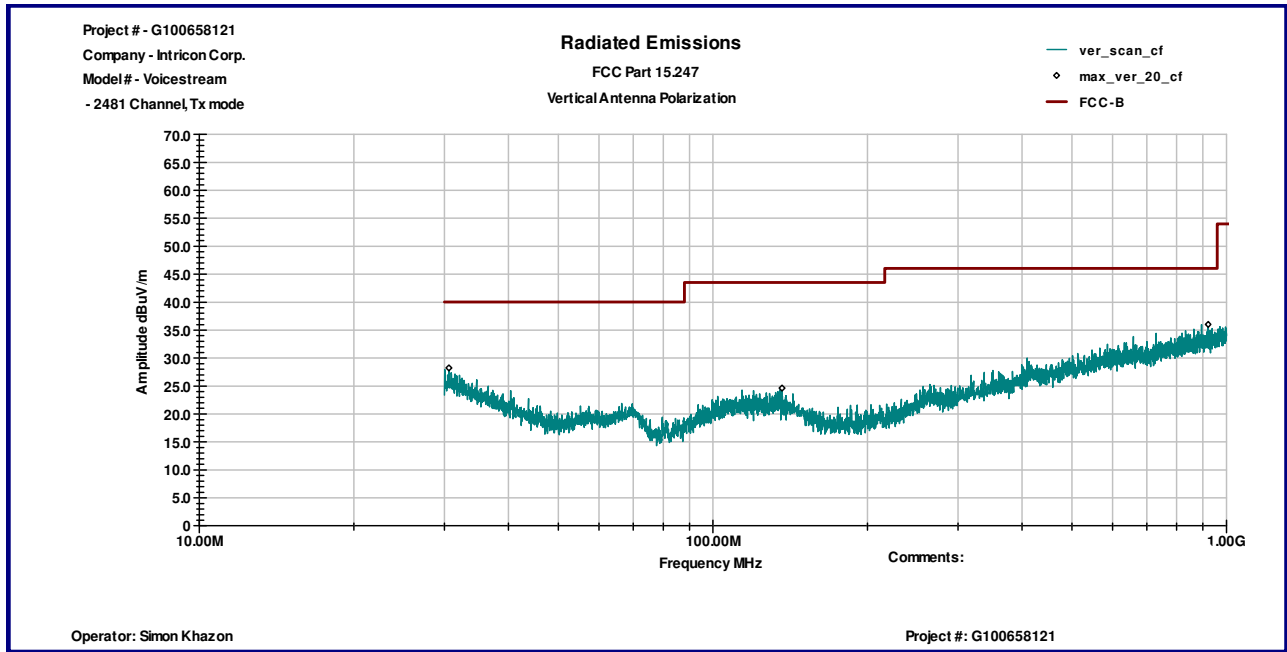
Graph 3.4.2



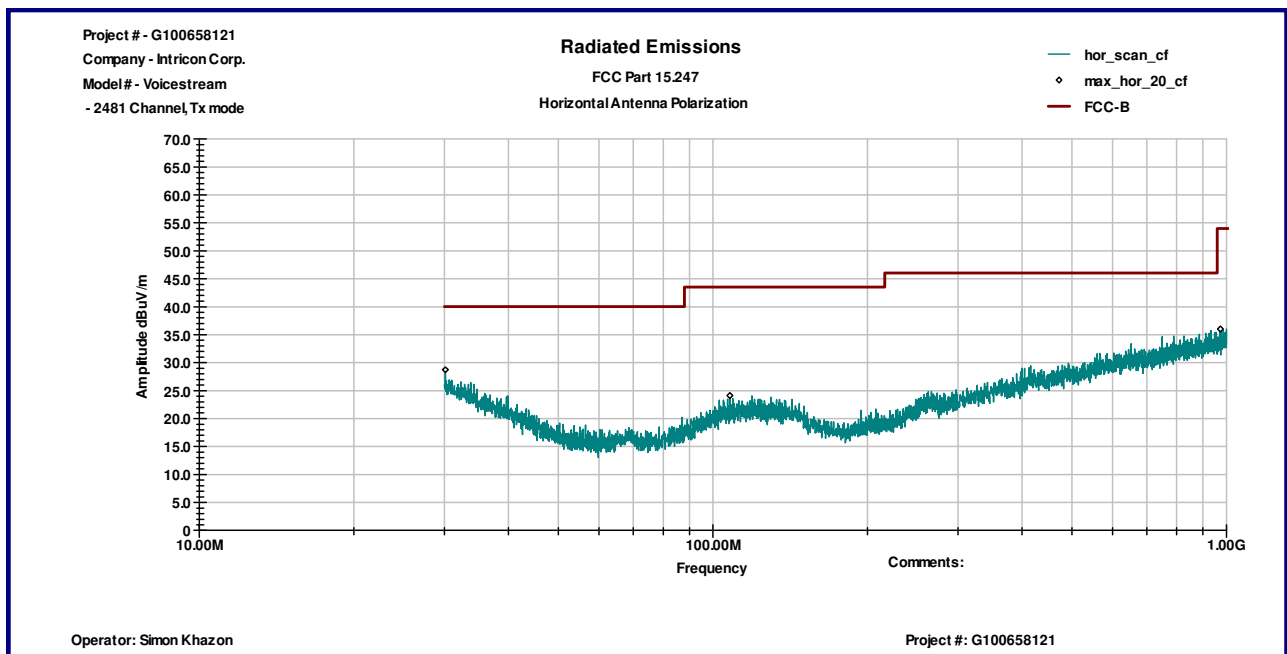
Graph 3.4.3



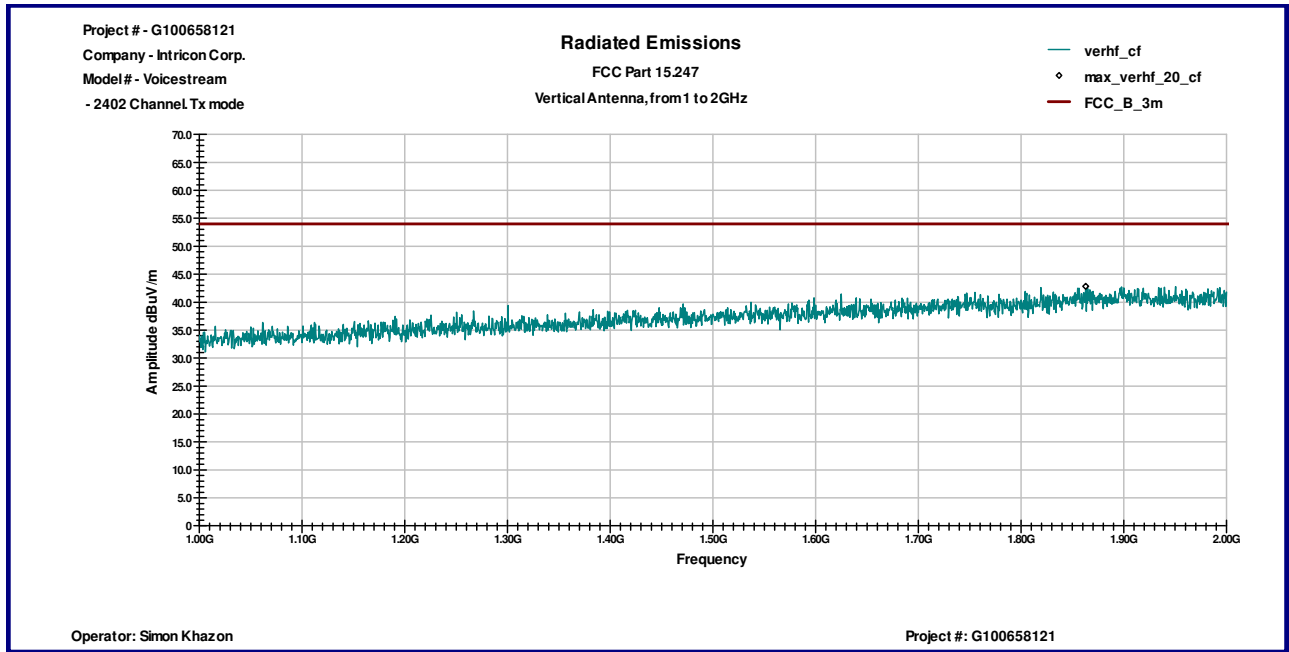
Graph 3.4.4



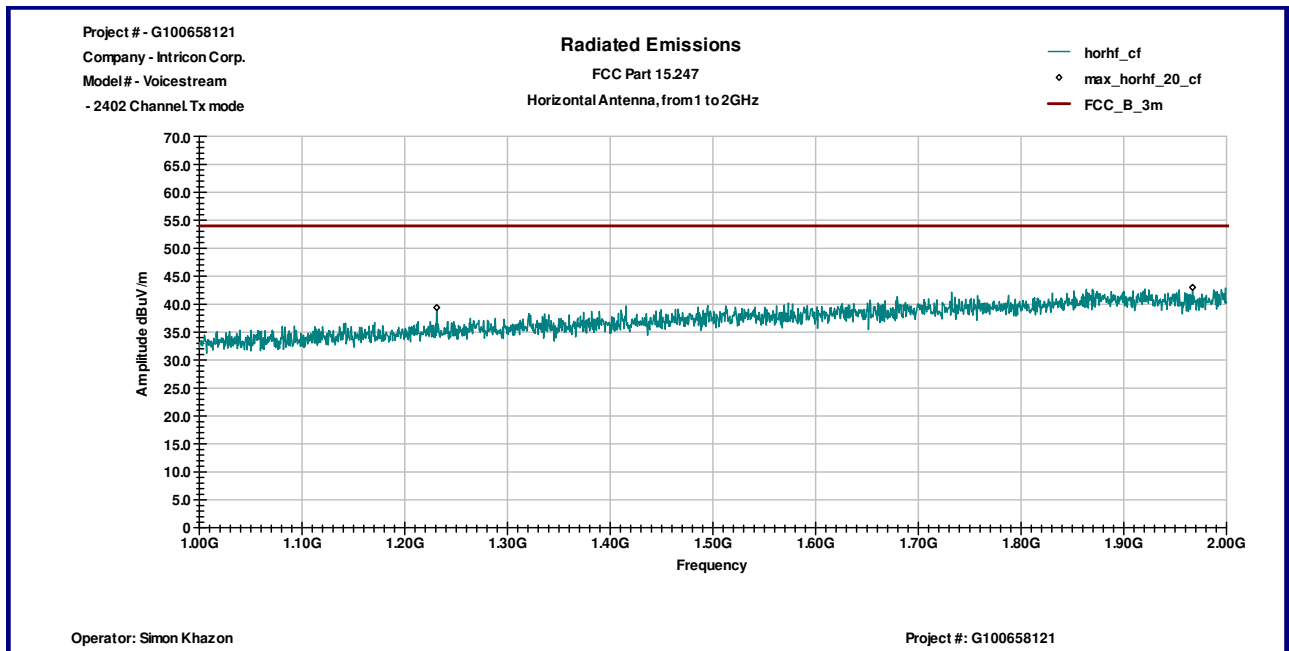
Graph 3.4.5



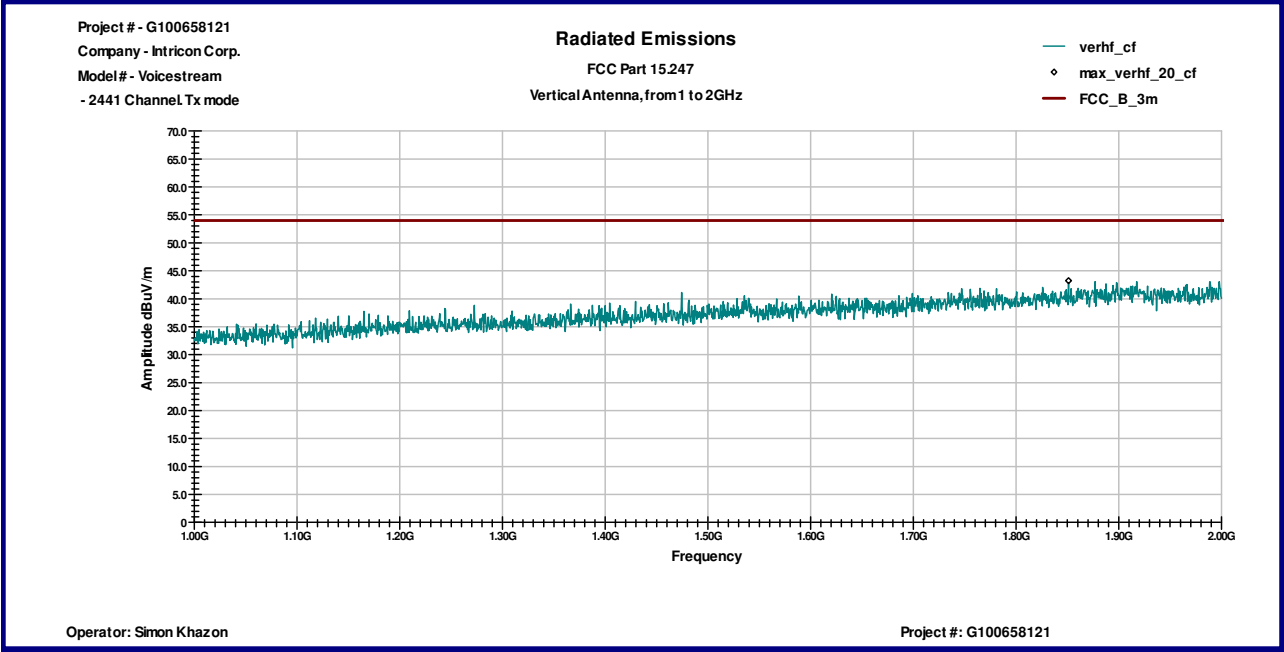
Graph 3.4.6



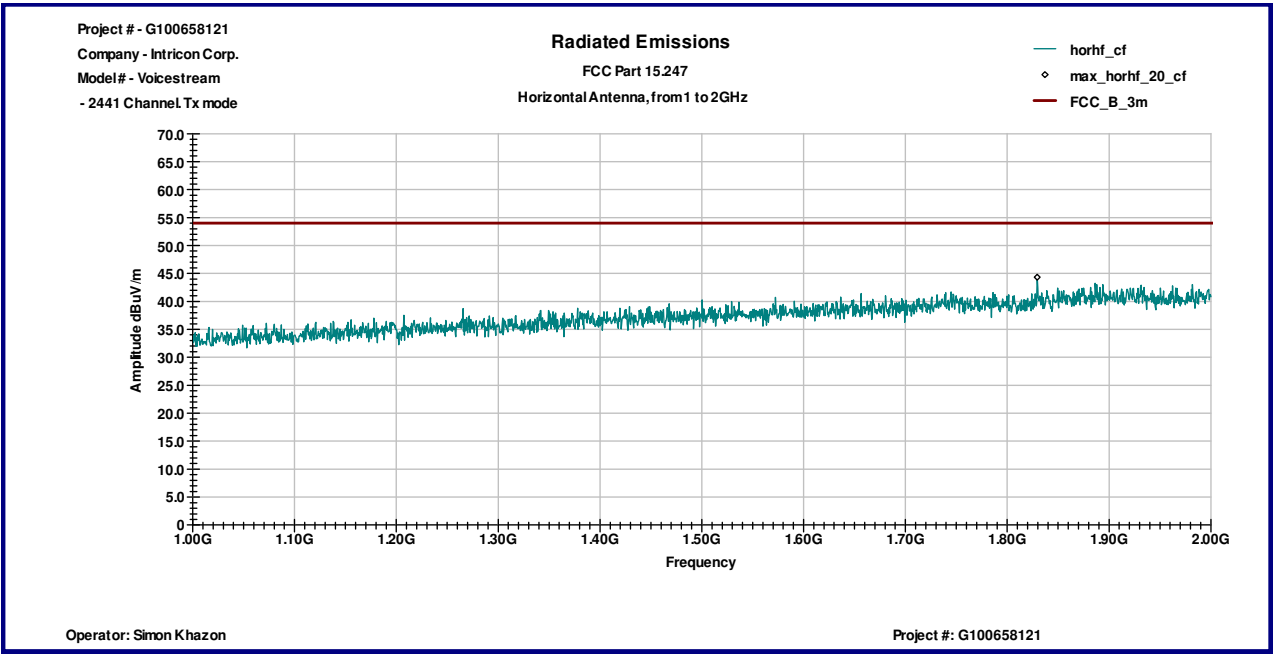
Graph 3.4.7



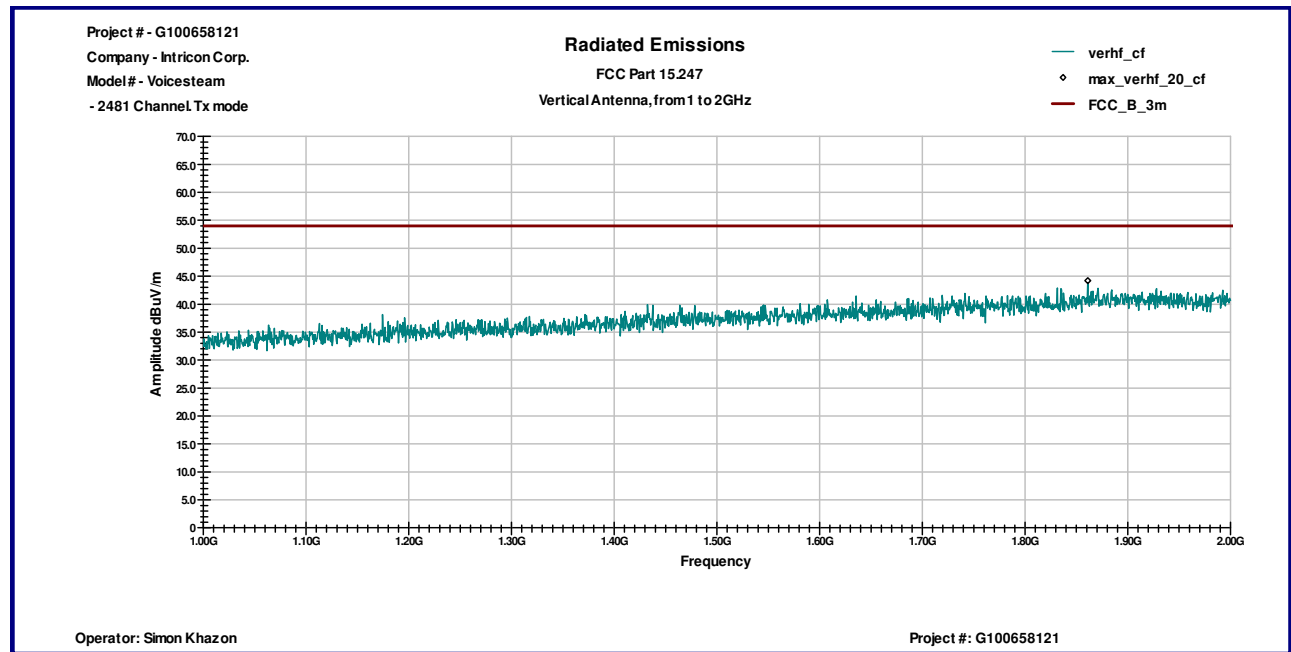
Graph 3.4.8



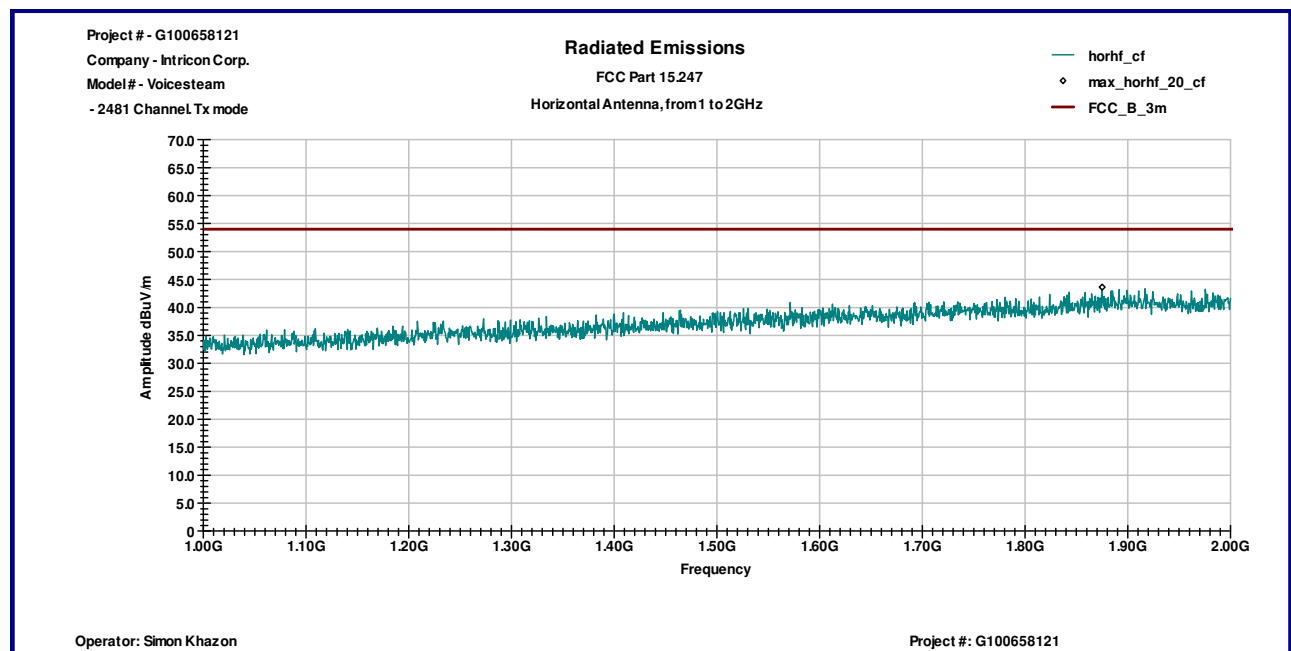
Graph 3.4.9



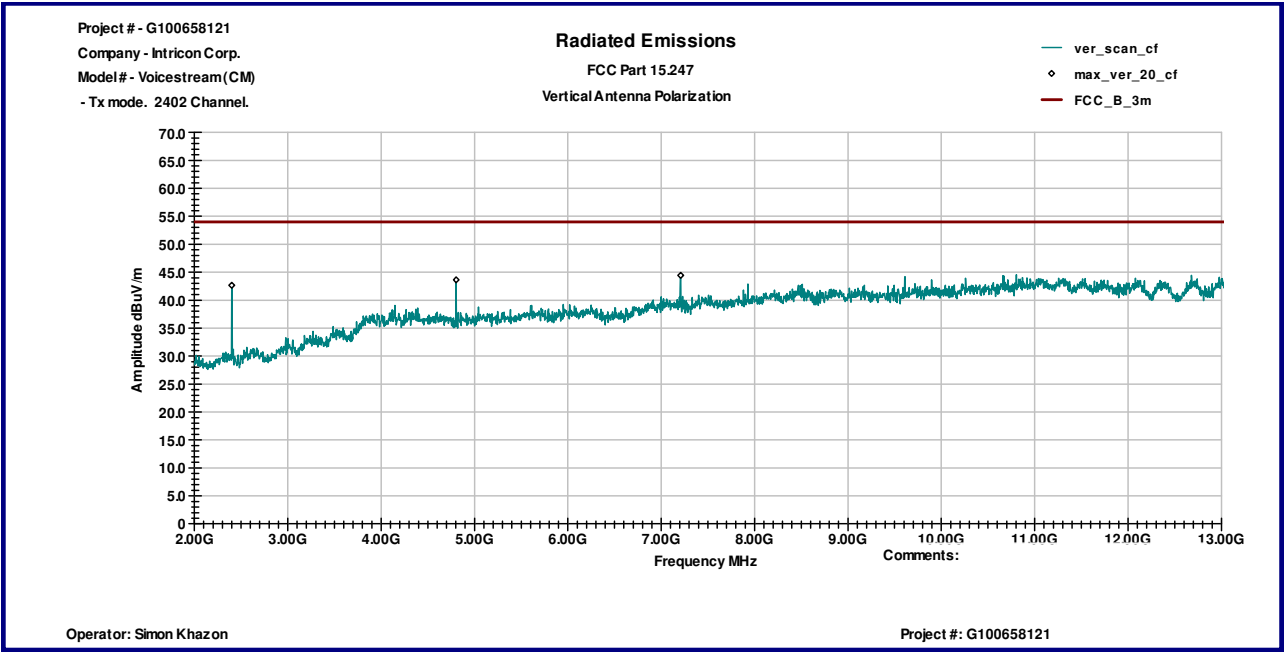
Graph 3.4.10



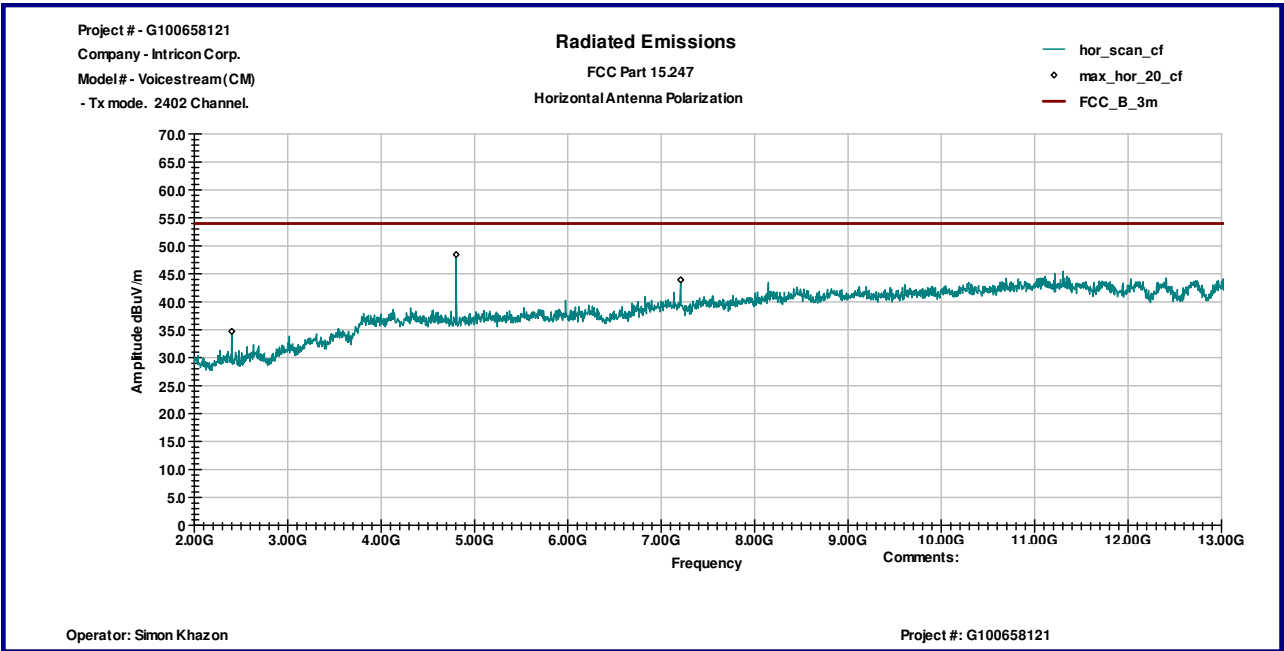
Graph 3.4.11



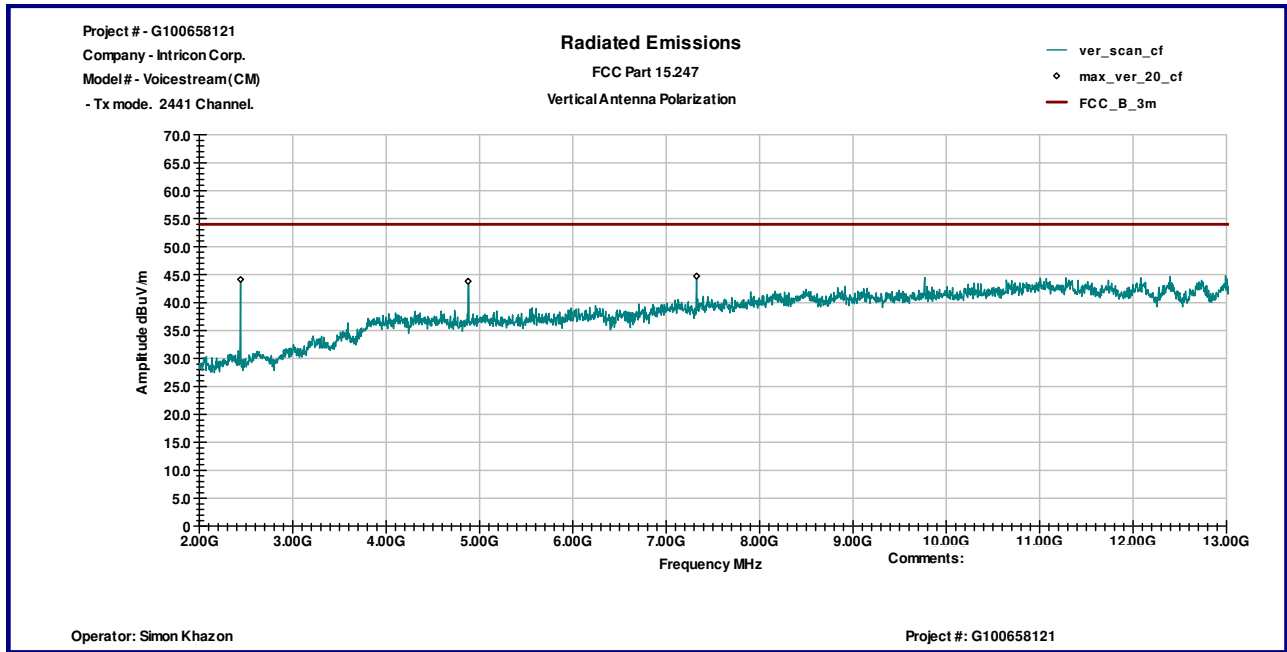
Graph 3.4.12



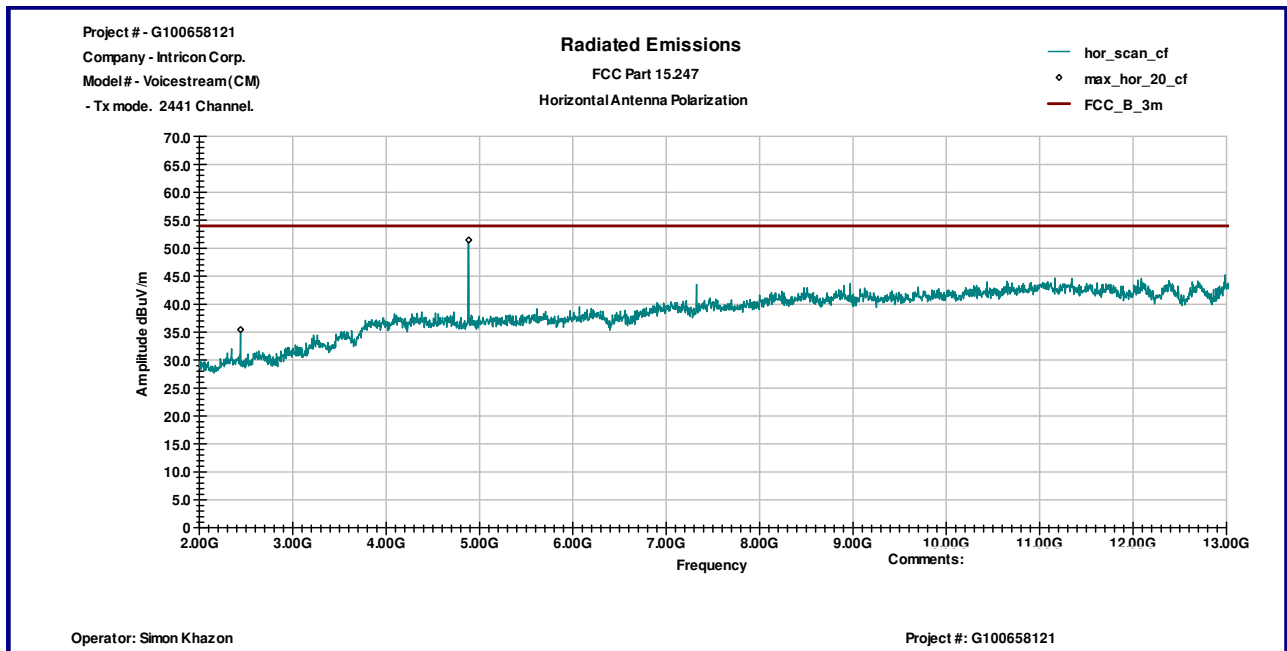
Graph 3.4.13



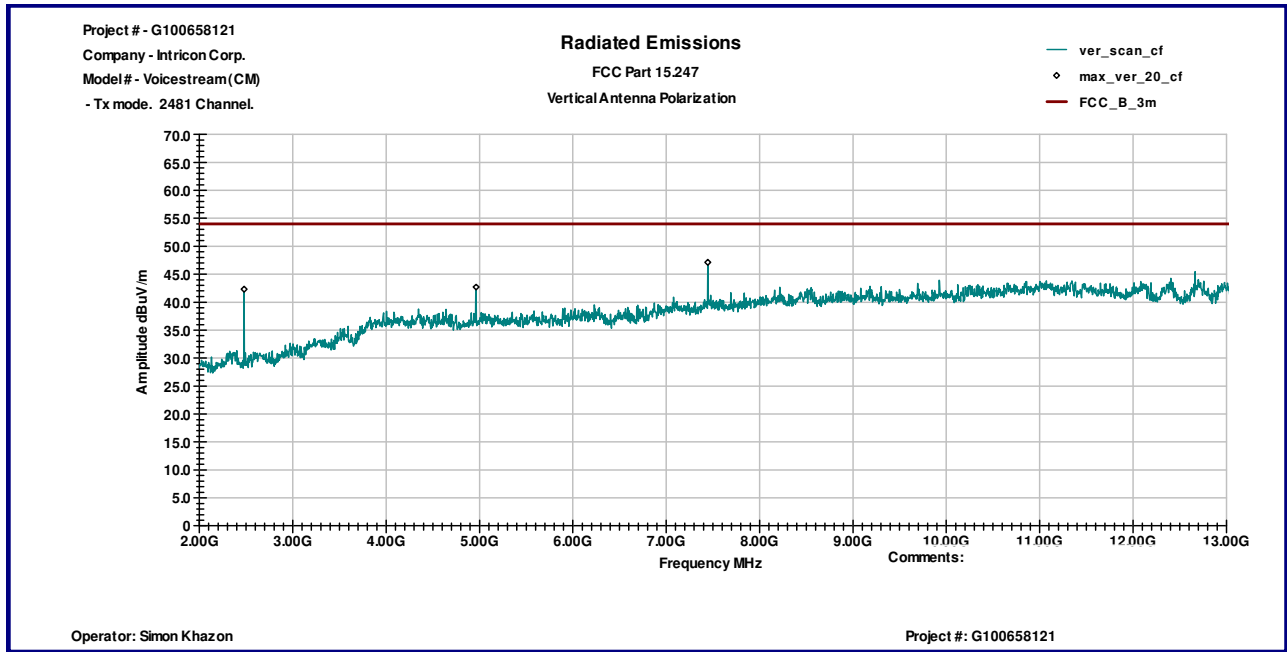
Graph 3.4.14



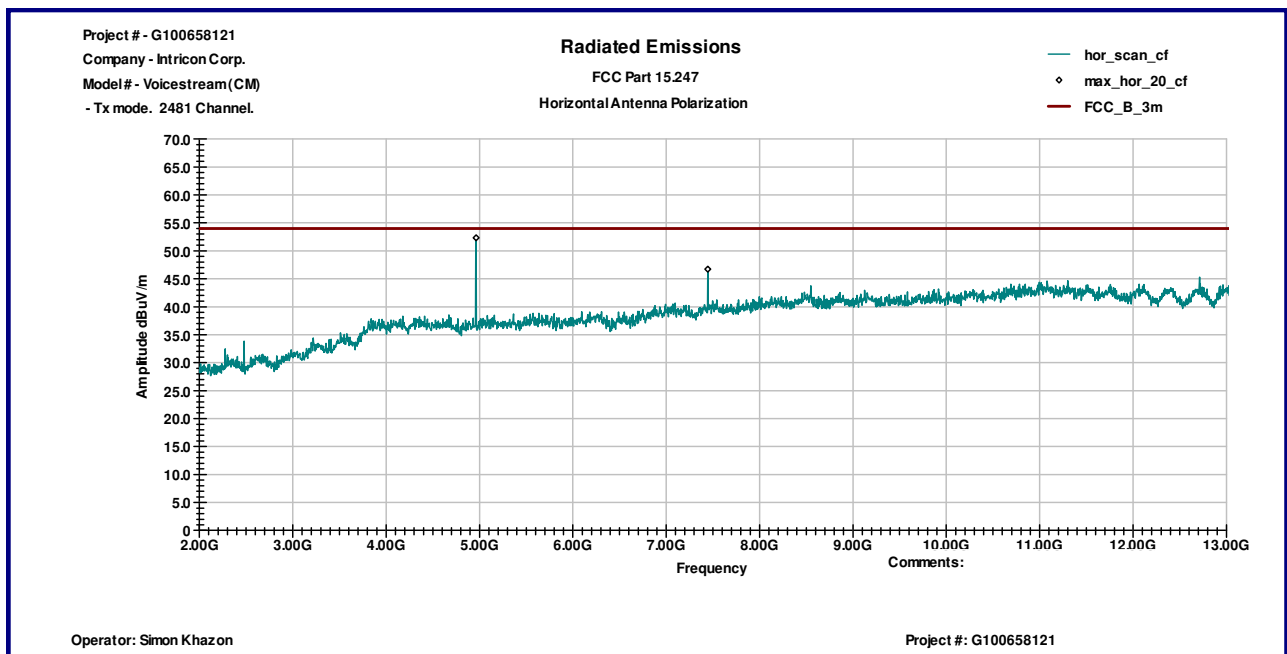
Graph 3.4.15



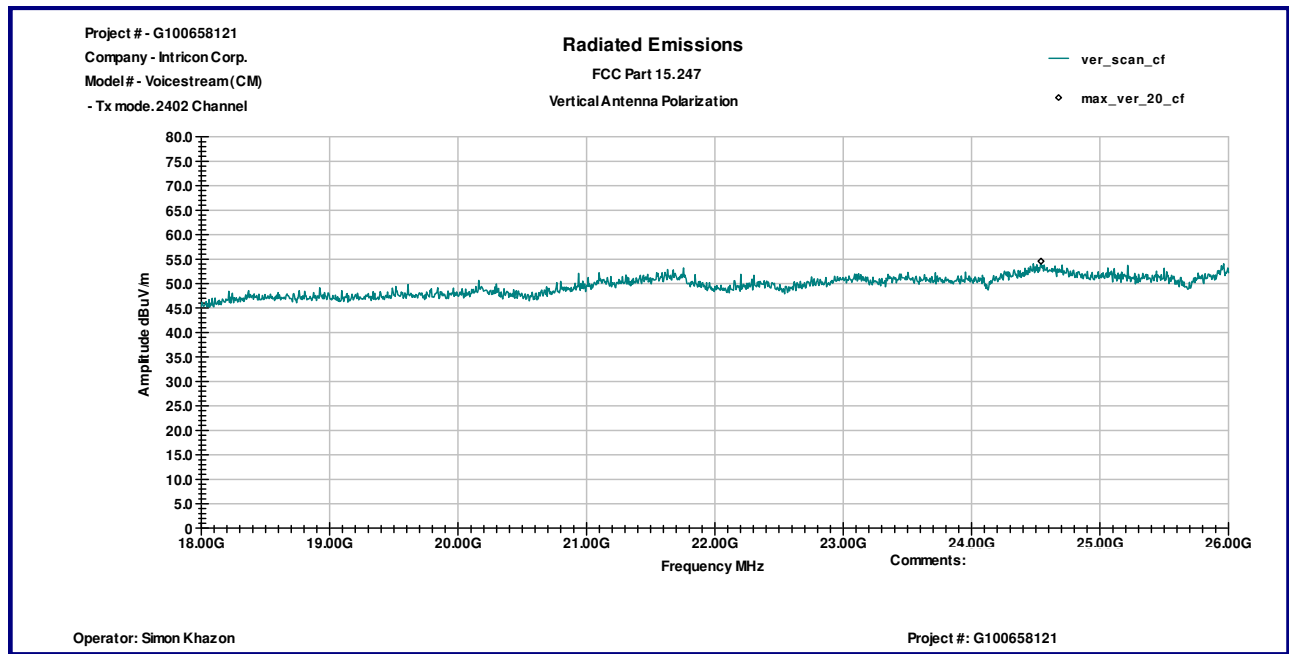
Graph 3.4.16



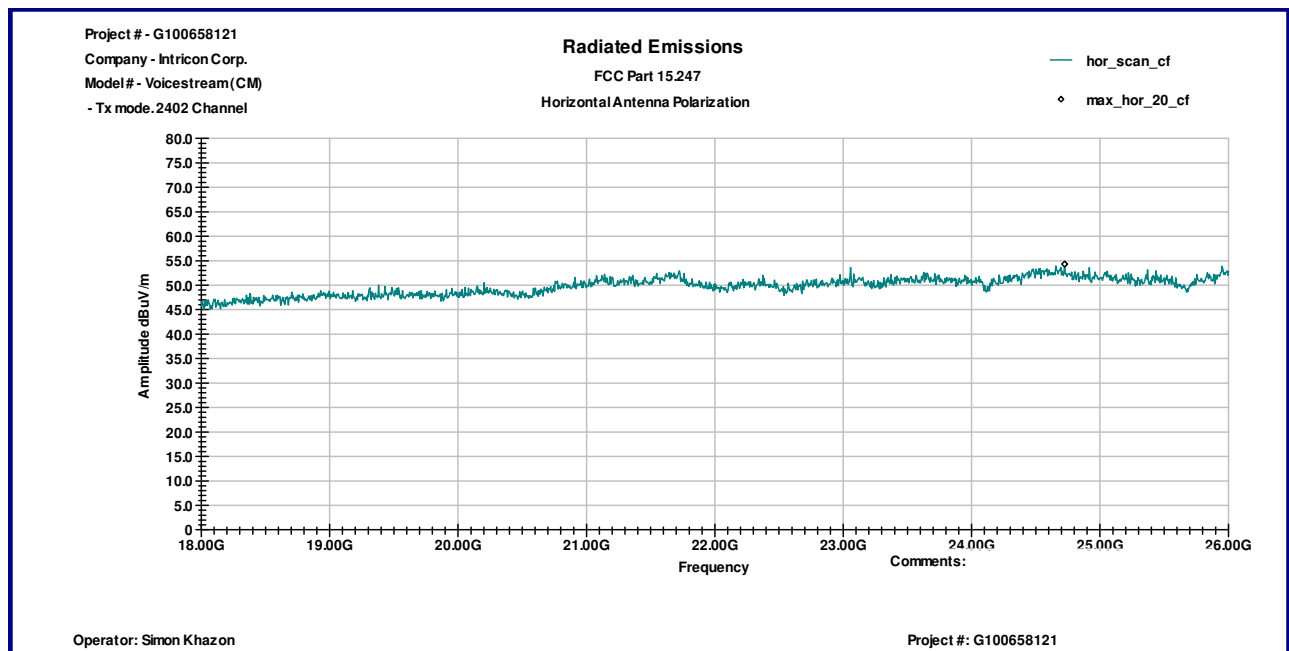
Graph 3.4.17



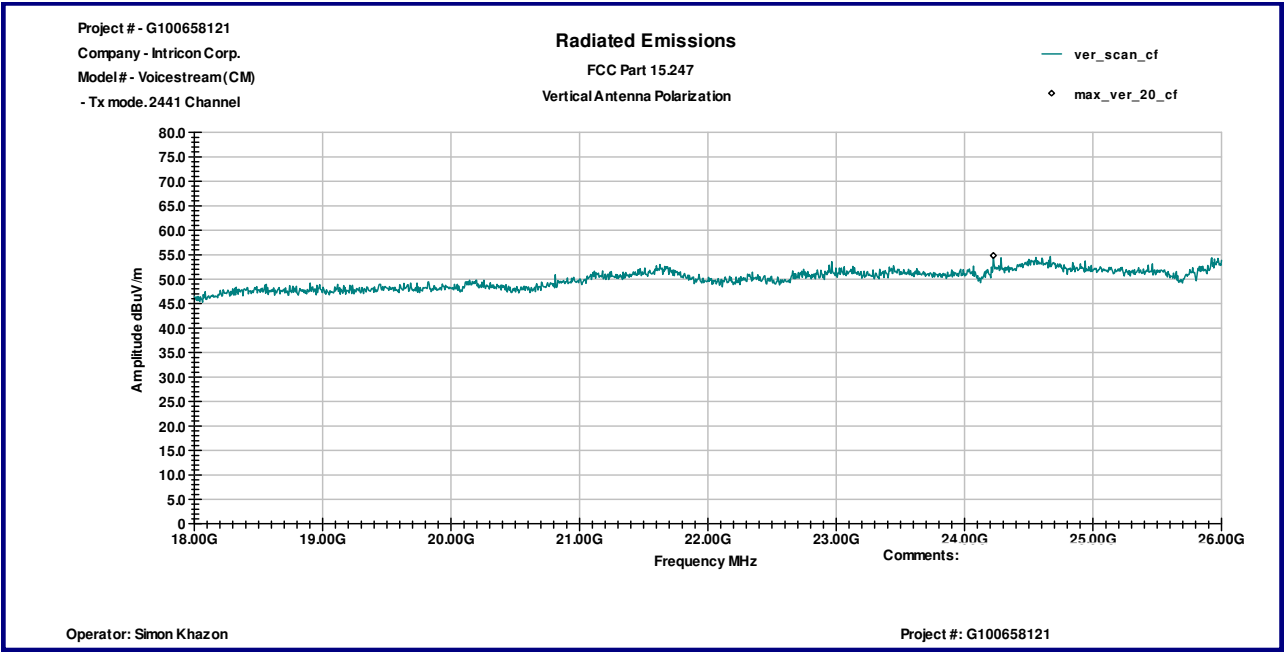
Graph 3.4.18



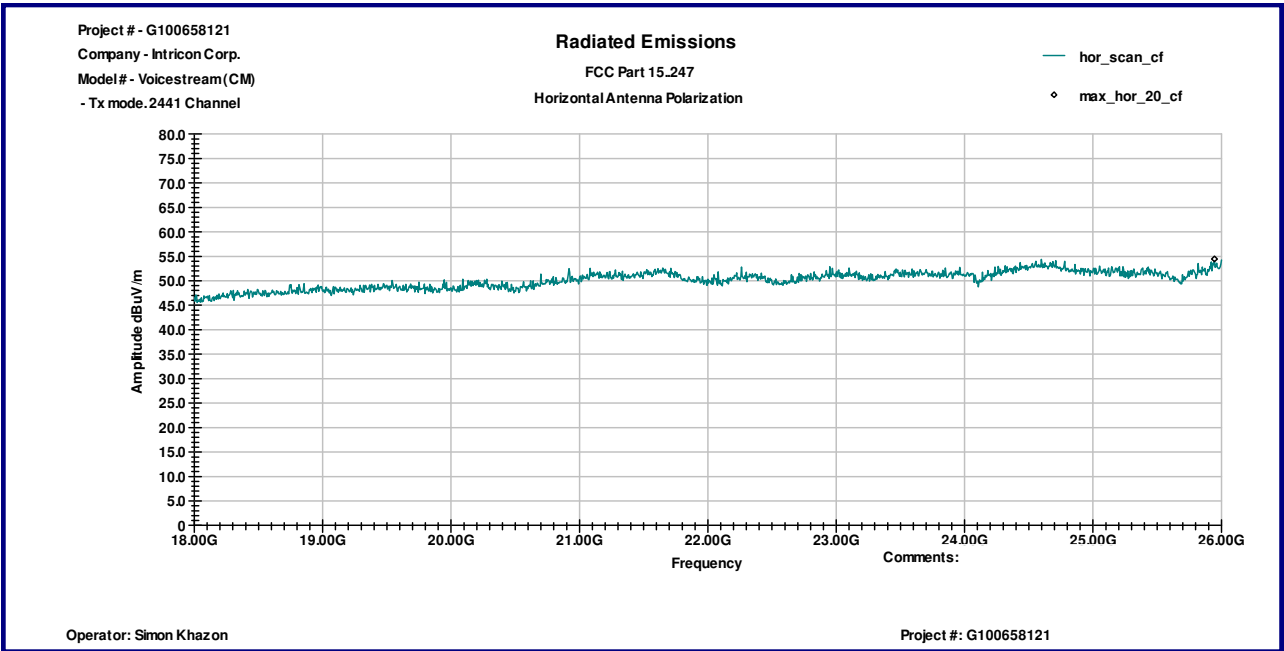
Graph 3.4.19



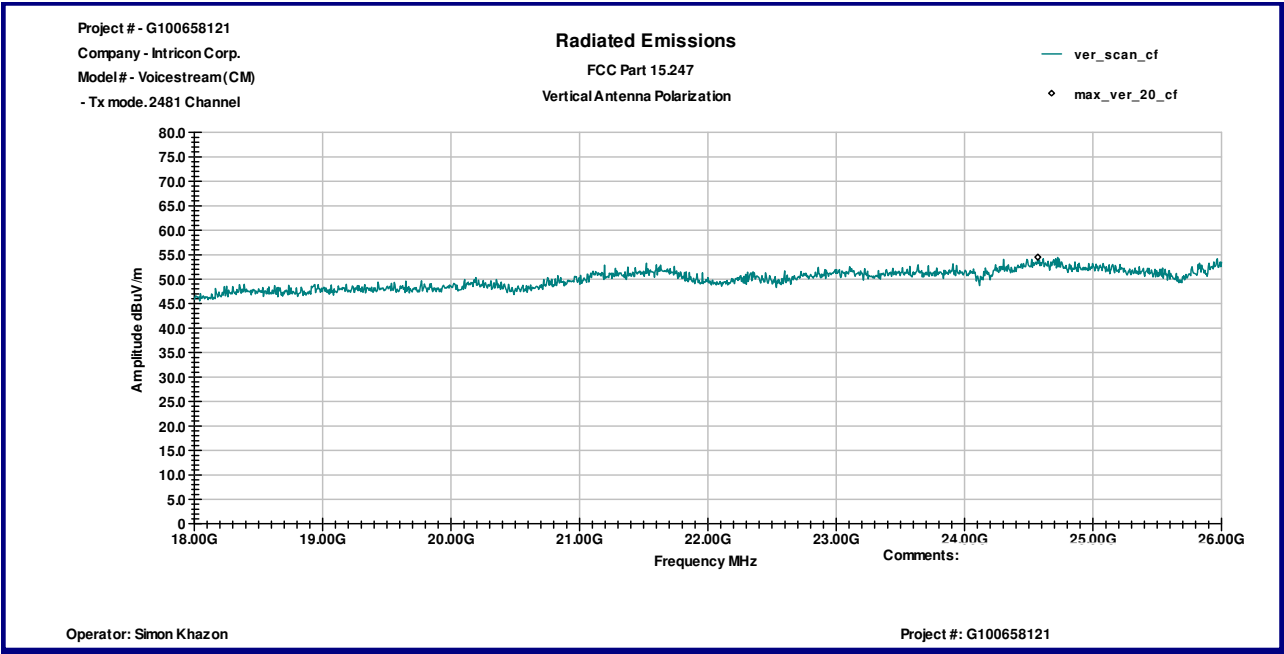
Graph 3.4.20



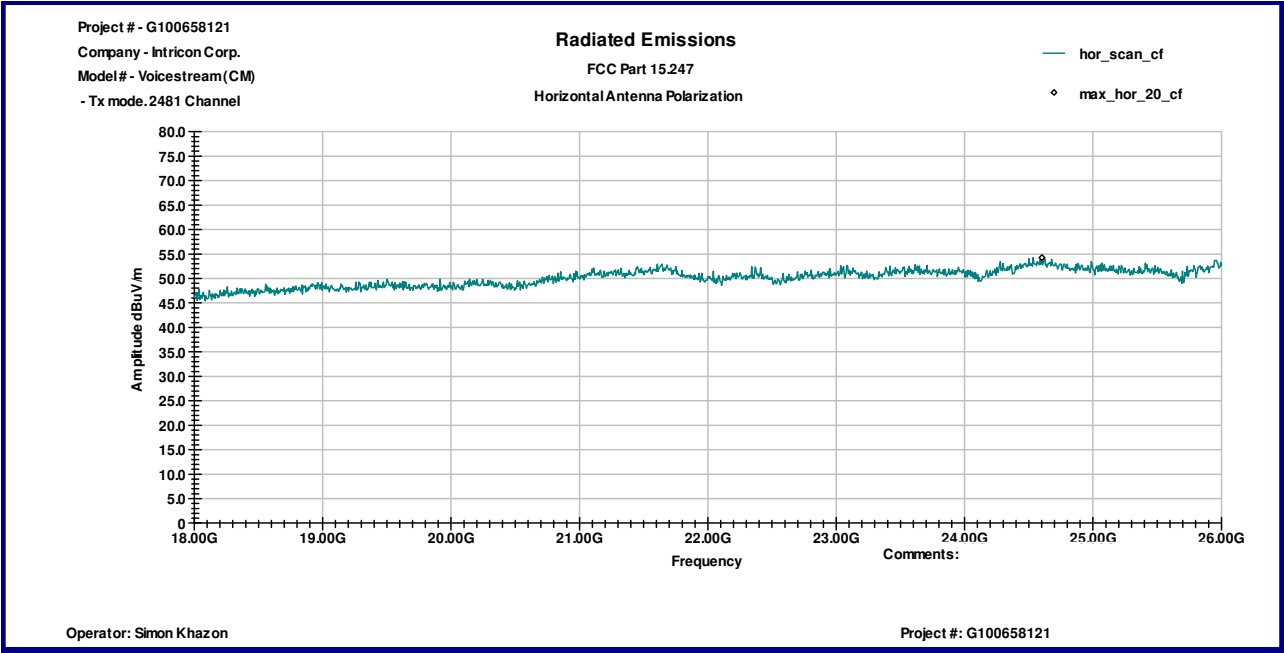
Graph 3.4.21



Graph 3.4.22



Graph 3.4.23



Graph 3.4.24



3.5 RF Exposure Compliance

The maximum measured power, P is -2.8dBm

The antenna gain, G is 1.3dBi

The maximum EIRP power = P + G

ERP = -2.8 + 1.3 = -1.5dBm, or 0.708mW or 0.00071W

The limits for Maximum Permissible Exposure (MPE) for transmitter operating at 2.4Hz, MPE is $1\text{mW}/\text{cm}^2$, or $10\text{W}/\text{m}^2$

The Power Density, S is related to EIRP with the equation:

$S = \text{EIRP} / 4\pi D^2$, where D is the safe separation distance and = 0.2m, or 20cm

$S = 0.708 / 4\pi 20^2$,

$S = 0.00014\text{mW}/\text{cm}^2$, or below the Maximum Permissible Exposure (MPE)



3.6 Transmitter power line conducted emissions

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

Frequency range: 0.15MHz-30MHz

Max. Emissions margin: 3.4dB below the limits

Notes:

Date:	March 16, 2012	Result: Pass
Standard:	FCC 15.207	
Tested by:	Simon Khazon	
Test Point:	Power Line	
Operation mode:	See Page 5	
Note:		

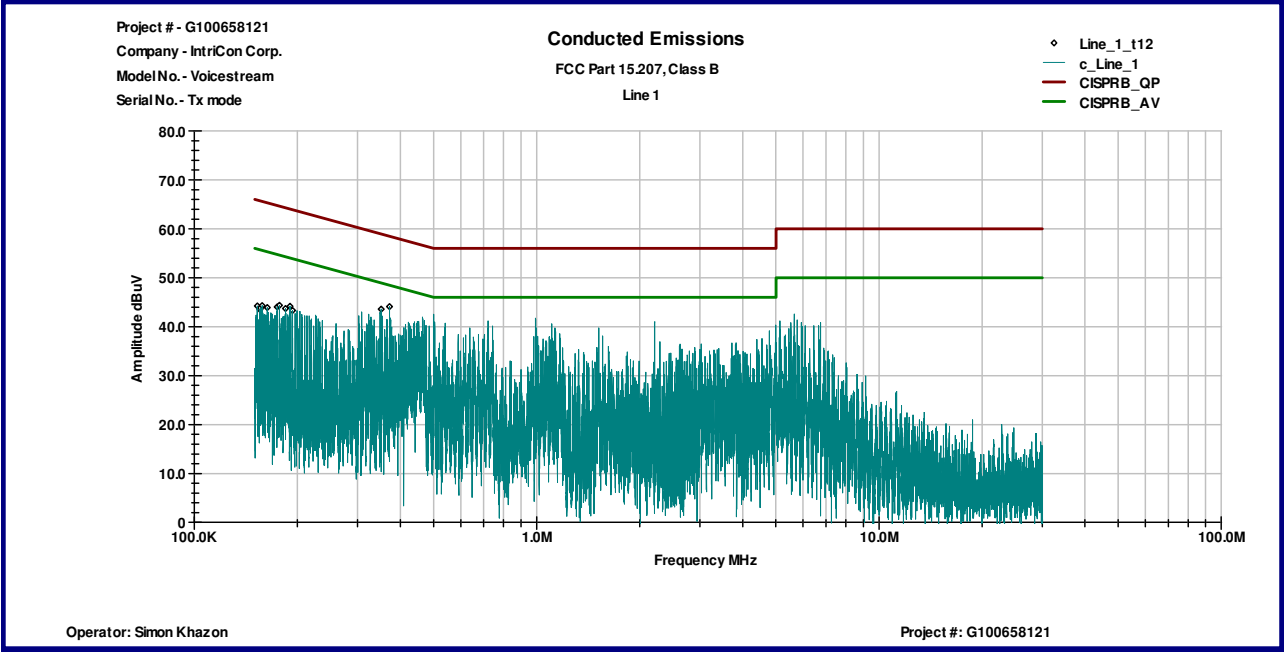
Table 3.6.1

Line 1

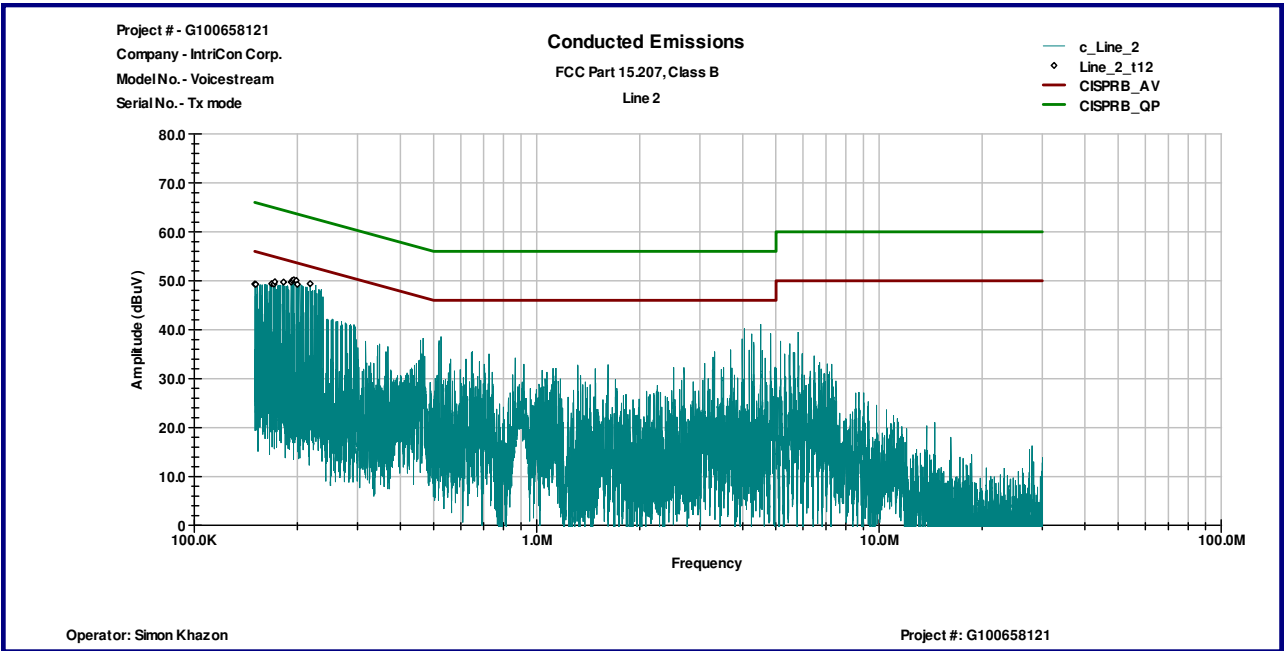
Frequency	Peak dBμV	QP Limit dBμV	AVG Limit dBμV	QP Margin dB	AVG Margin dB
152.6 KHz	44.2	65.9	55.9	-21.6	-11.6
155.28 KHz	43.5	65.7	55.7	-22.2	-12.2
156.25 KHz	43.8	65.7	55.7	-21.8	-11.8
157.85 KHz	44.3	65.6	55.6	-21.3	-11.3
163.17 KHz	43.9	65.3	55.3	-21.4	-11.4
174.62 KHz	44.0	64.7	54.7	-20.7	-10.7
177.34 KHz	44.4	64.6	54.6	-20.3	-10.3
184.72 KHz	43.7	64.3	54.3	-20.6	-10.6
190.31 KHz	44.2	64.0	54.0	-19.8	-9.8
193.43 KHz	43.3	63.9	53.9	-20.6	-10.6
351.52 KHz	43.6	58.9	48.9	-15.4	-5.4
371.44 KHz	44.1	58.5	48.5	-14.3	-4.3

Line 2

Frequency	Peak dBμV	QP Limit dBmV	AVG Limit dBmV	QP Margin dB	AVG Margin dB
150.0 KHz	49.3	66.0	56.0	-16.7	-6.7
151.09 KHz	49.3	65.9	55.9	-16.7	-6.7
168.22 KHz	49.4	65.1	55.1	-15.6	-5.6
170.74 KHz	49.3	64.9	54.9	-15.6	-5.6
171.79 KHz	49.8	64.9	54.9	-15.1	-5.1
182.12 KHz	49.8	64.4	54.4	-14.6	-4.6
191.77 KHz	49.7	64.0	54.0	-14.2	-4.2
193.39 KHz	50.1	63.9	53.9	-13.8	-3.8
195.24 KHz	50.2	63.8	53.8	-13.6	-3.6
198.37 KHz	50.0	63.7	53.7	-13.7	-3.7
199.94 KHz	49.3	63.6	53.6	-14.4	-4.4
218.08 KHz	49.4	62.9	52.9	-13.5	-3.5



Graph 3.6.1



Graph 3.6.2



3.7 Receiver/digital device radiated emissions

Test location: ☐ OATS ☒ Anechoic Chamber

Test distance: ☐ 10 meters ☒ 3 meters

Test result: **Pass**

Frequency range: 30MHz-13000MHz

Max. Emissions margin: 7.2dB below the limits

Notes: The Radiated Emissions test was performed in the Anechoic chamber at 3m measurement distance (see Tables 3.7.1-3.7.2 and Graphs 3.7.1 - 3.7.12)

Date:	March 6-10, 2012	Result: Pass
Standard:	FCC Part 15.109, Class B	
Tested by:	Simon Khazon	
Test Point:	Enclosure	
Operation mode:	Receiving	
Note:		

Table 3.7.1

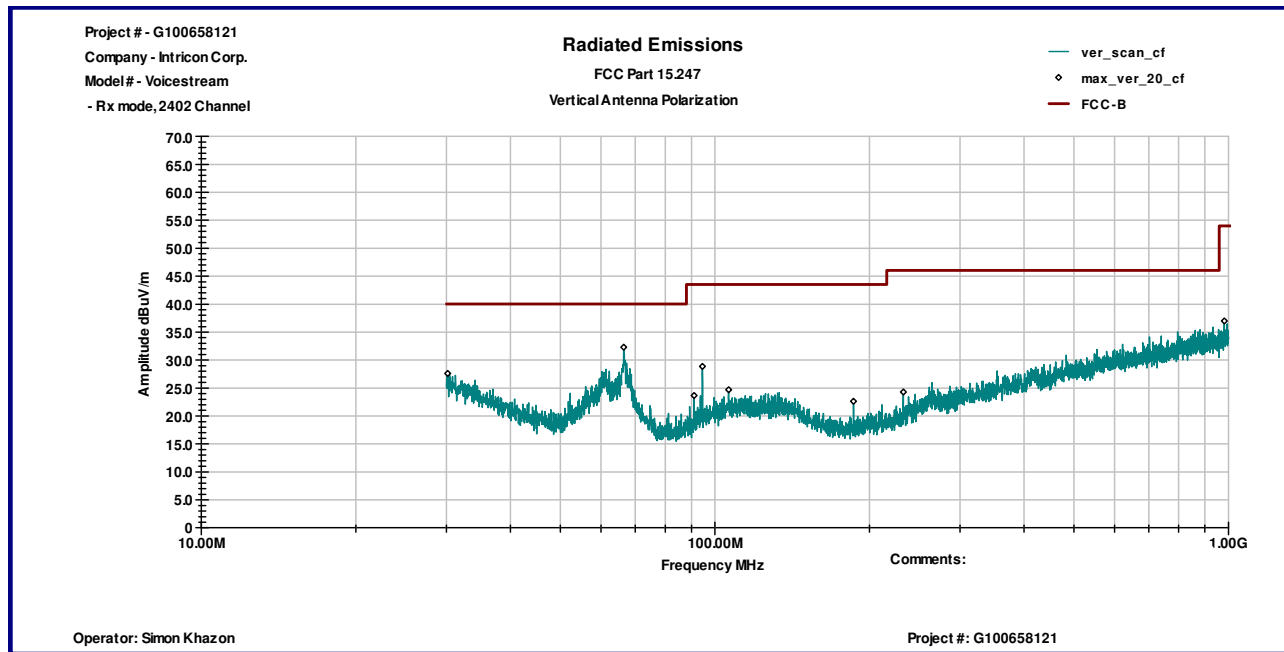
Frequency	Ant. Polarity	Peak Reading dBμV	Ant.Factor dB1/m	Total at 3m dBμV/m	Limit dBμV/m	Margin dB
Channel 2402						
30.173 MHz	V	7.4	20.2	27.6	40.0	-12.4
66.424 MHz	V	25.3	7.0	32.3	40.0	-7.7
94.554 MHz	V	17.5	11.4	28.9	40.0	-11.1
30.519 MHz	H	8.0	20.0	28.0	40.0	-12.0
66.498 MHz	H	19.0	7.0	26.0	40.0	-14.0
Channel 2441						
66.573 MHz	V	25.8	7.0	32.8	40.0	-7.2
94.554 MHz	V	16.9	11.4	28.3	40.0	-11.7
132.08 MHz	V	11.8	13.8	25.5	40.0	-14.5
32.009 MHz	H	9.1	19.2	28.4	40.0	-11.6
128.28 MHz	H	10.6	13.9	24.5	40.0	-15.5
Channel 2481						
66.275 MHz	V	25.1	7.0	32.1	40.0	-7.9
68.588 MHz	V	23.0	7.1	30.1	40.0	-9.9
94.554 MHz	V	16.4	11.4	27.7	40.0	-12.3
30.45 MHz	H	7.1	20.1	27.1	40.0	-12.9
65.901 MHz	H	15.6	7.0	22.6	40.0	-17.5
120.97 MHz	H	10.4	14.0	24.3	40.0	-15.7



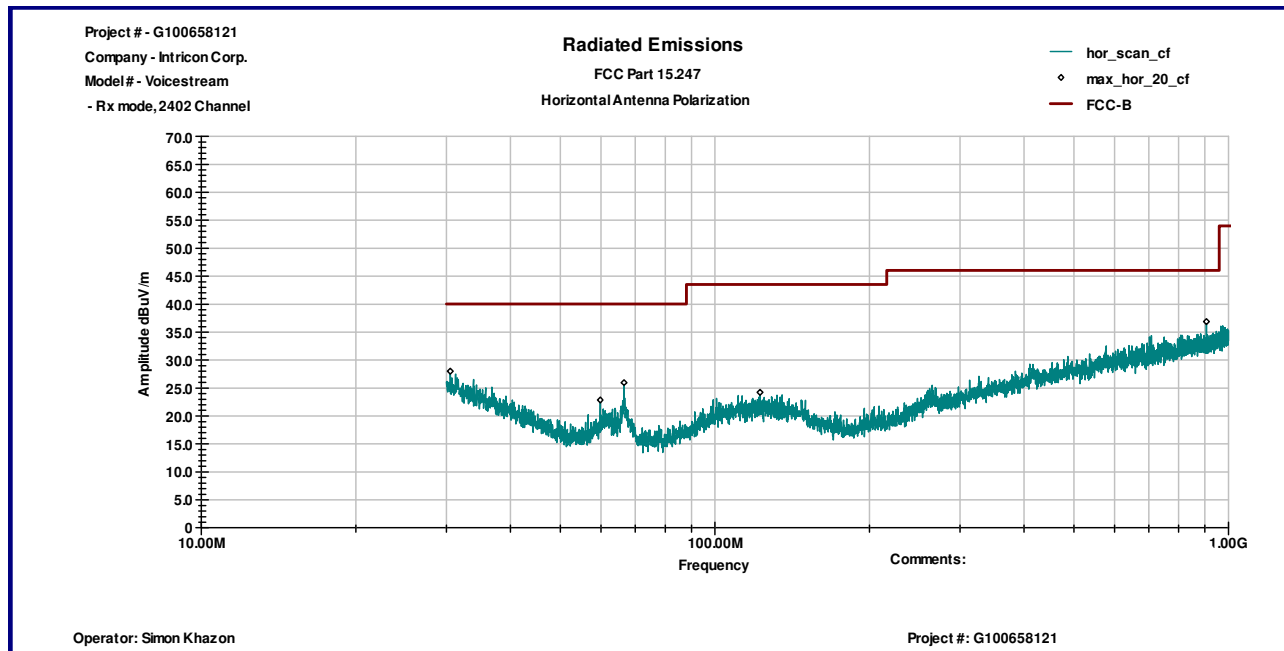
Date:	March 5, 2012	Result: Pass
Standard:	FCC Part 15.109, Class B	
Tested by:	Simon Khazon	
Test Point:	Enclosure	
Operation mode:	Receiving Mode	
Note:		

Table 3.7.2

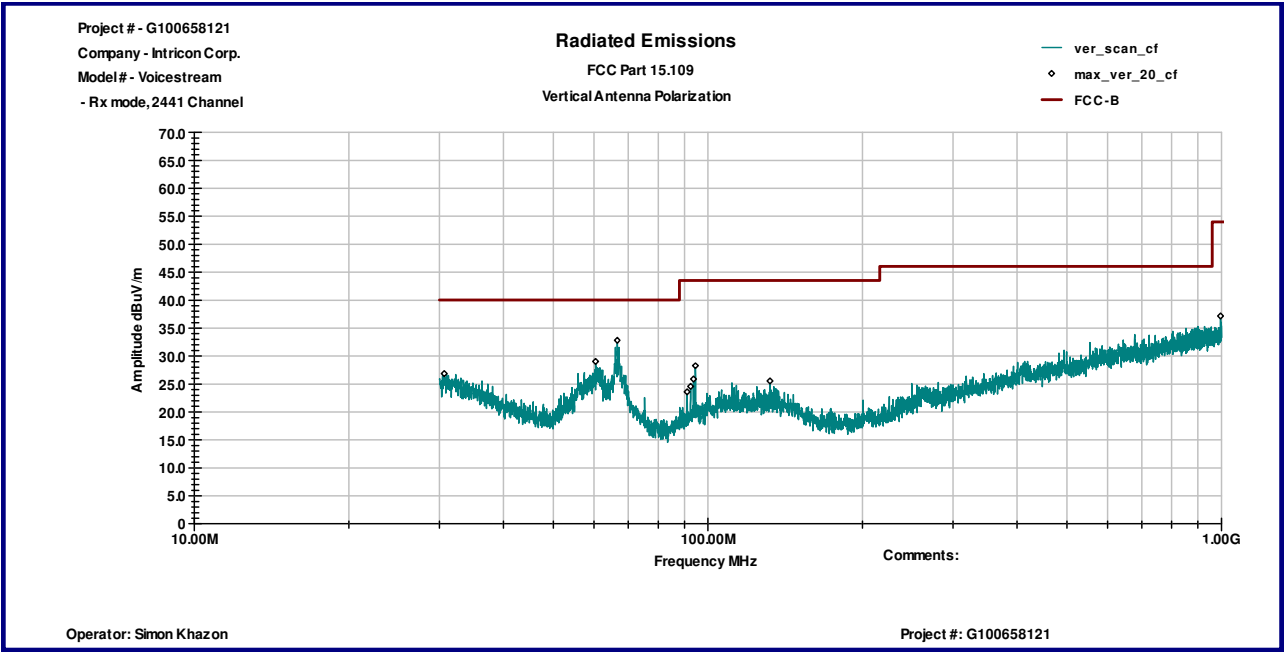
Frequency MHz	Antenna Polarity	Peak Reading dB μ V	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dB μ V/m	Limit dB μ V/m	Margin dB
Channel 2402							
2.404 GHz	V	51.9	31.4	43.5	39.8	54.0	-14.2
2.468 GHz	V	52.6	31.6	43.5	40.7	54.0	-13.3
Channel 2441							
2.444 GHz	V	50.9	31.6	43.5	39.0	54.0	-15.0
2.464 GHz	V	55.4	31.6	43.5	43.6	54.0	-10.4
Channel 2441							
2.484 GHz	V	51.2	31.7	43.5	39.4	54.0	-14.6



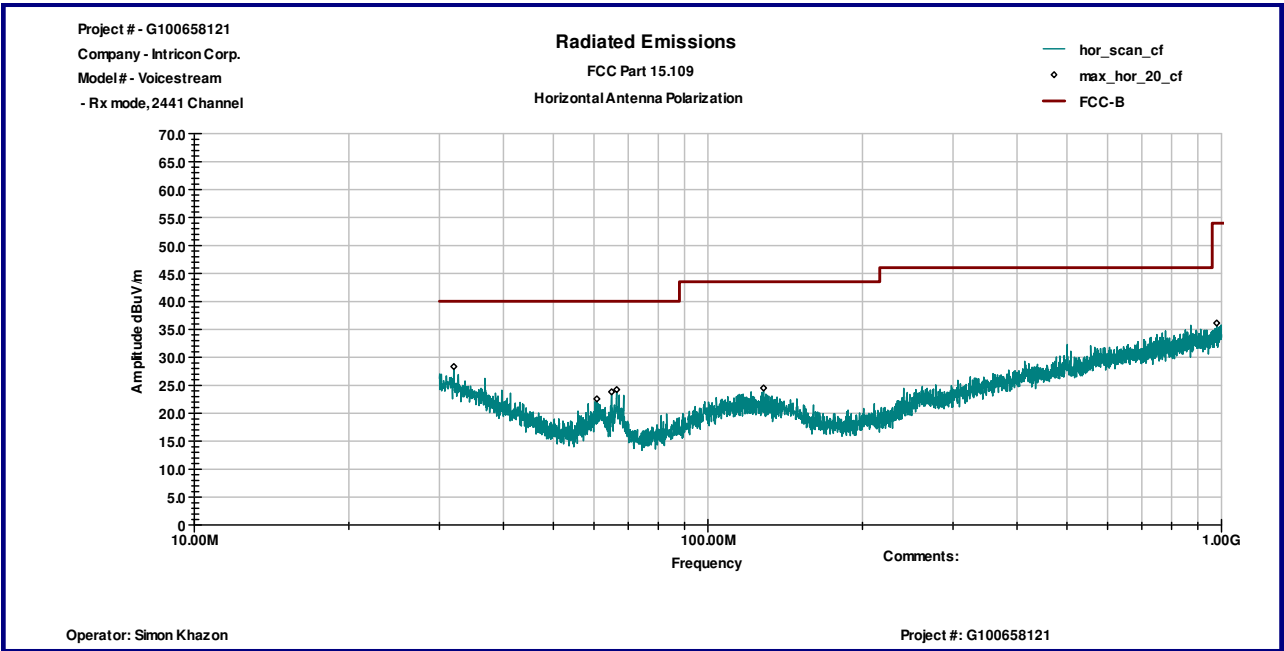
Graph 3.7.1



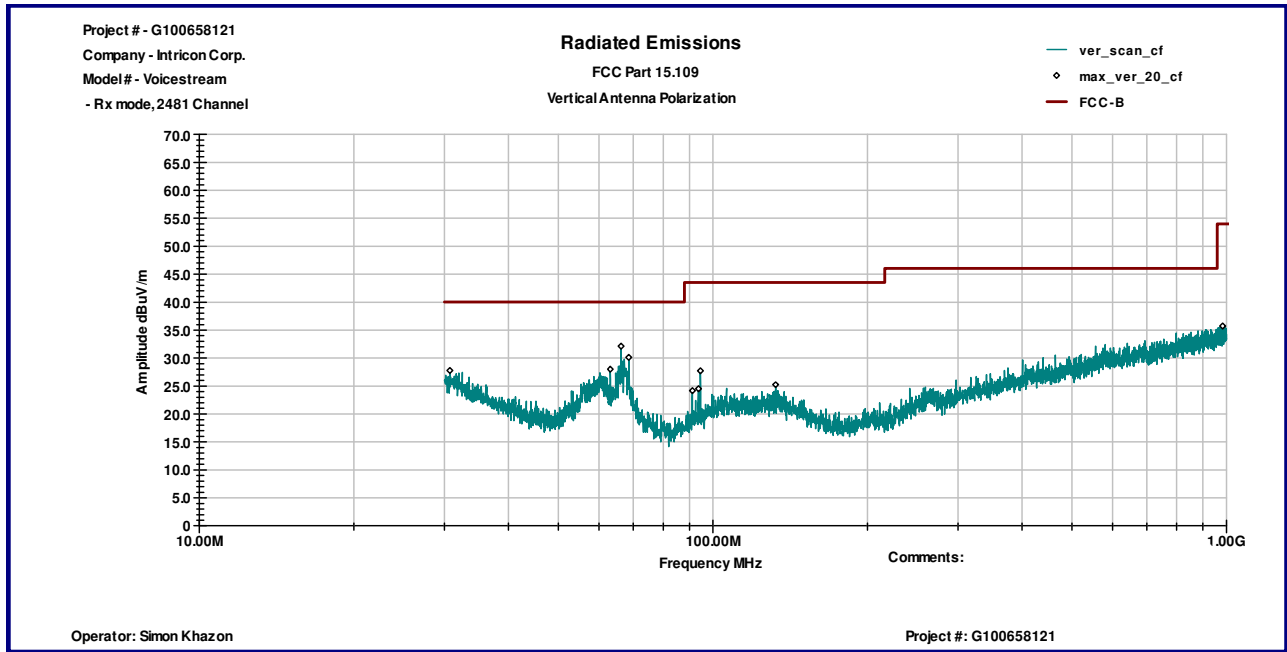
Graph 3.7.2



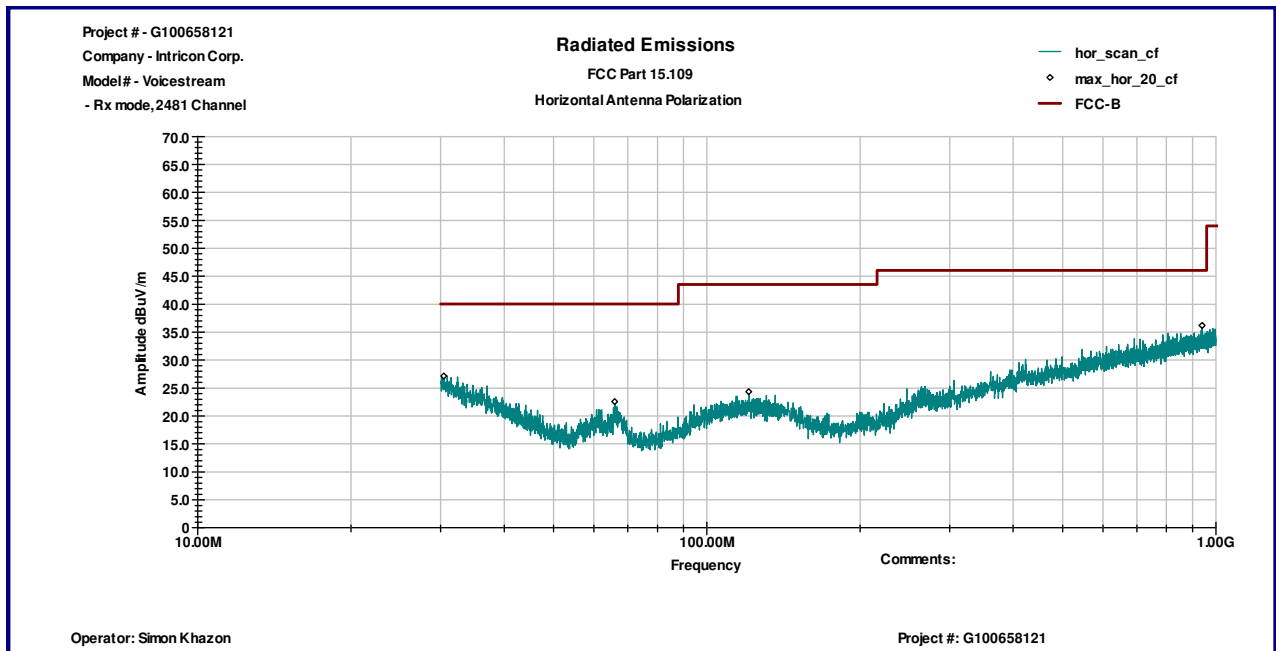
Graph 3.7.3



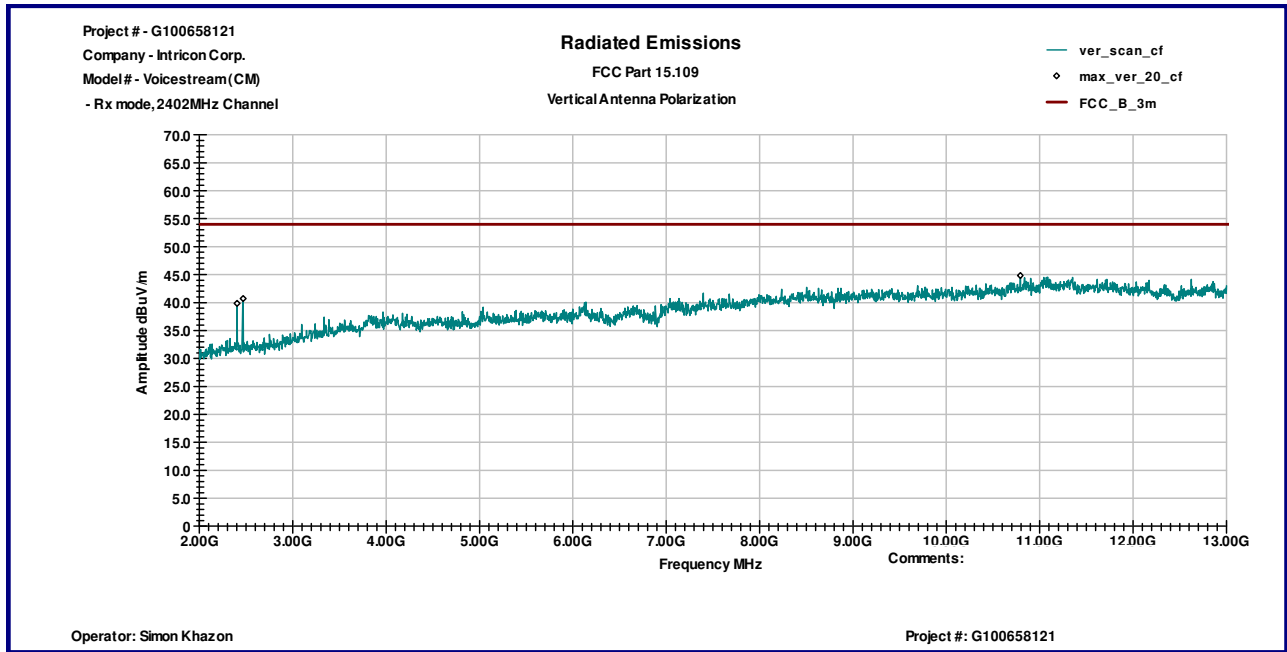
Graph 3.7.4



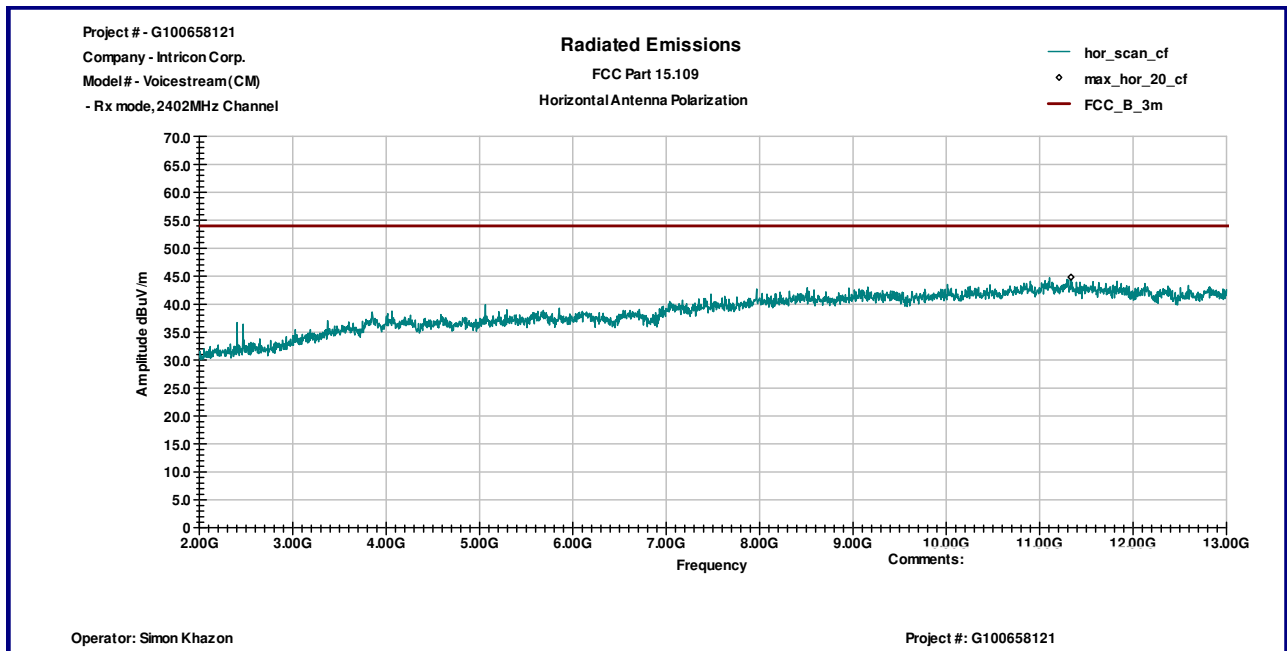
Graph 3.7.5



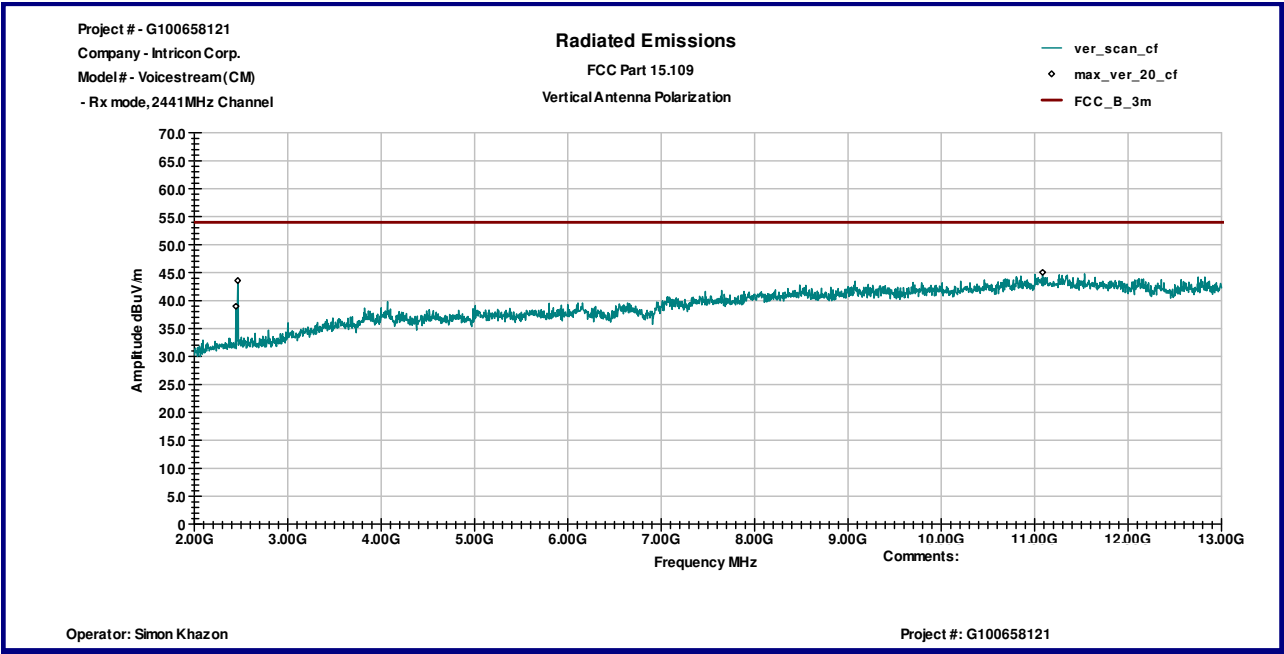
Graph 3.7.6



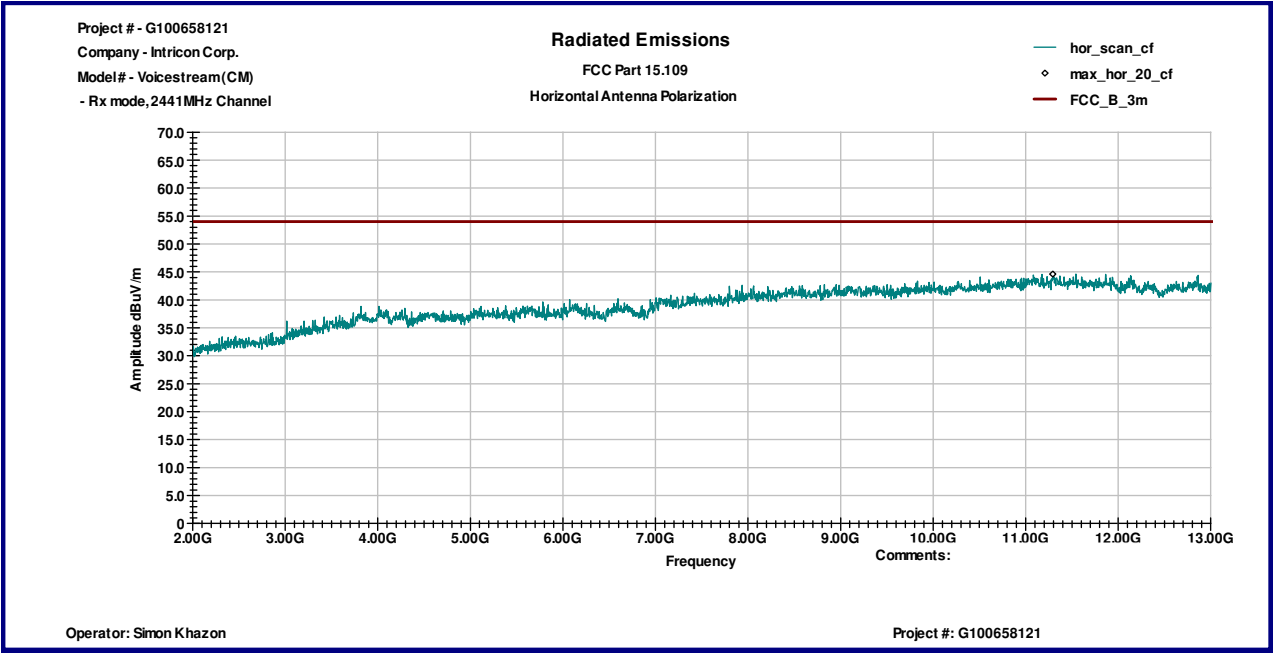
Graph 3.7.7



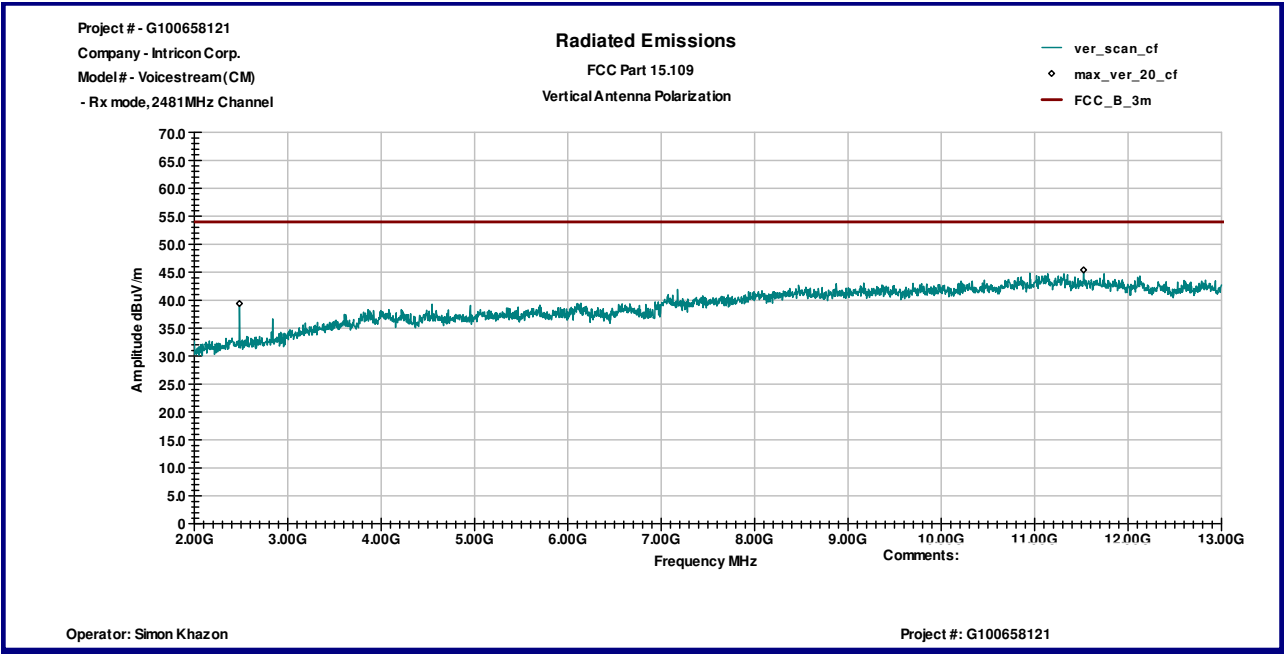
Graph 3.7.8



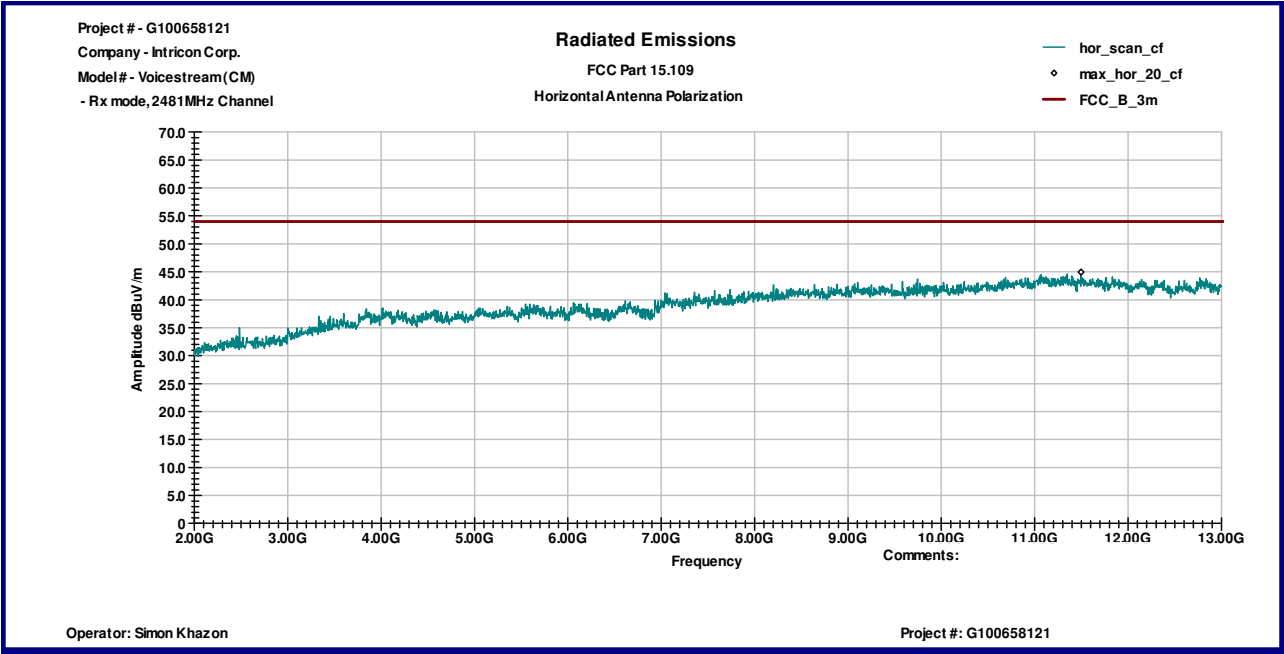
Graph 3.7.9



Graph 3.7.10



Graph 3.7.11



Graph 3.7.12



3.8 Digital device conducted emissions

Test location: ☐ OATS ☒ Anechoic Chamber ☐ Other

Test result: **Pass**

Frequency range: 0.15MHz-30MHz

Max. Emissions margin: 16.2dB below the limits

Notes:

Date:	March 16, 2012	Result: Pass
Standard:	FCC 15.107, Class B	
Tested by:	Simon khazon	
Test Point:	Power Line	
Operation mode:	Receiving	
Note:		

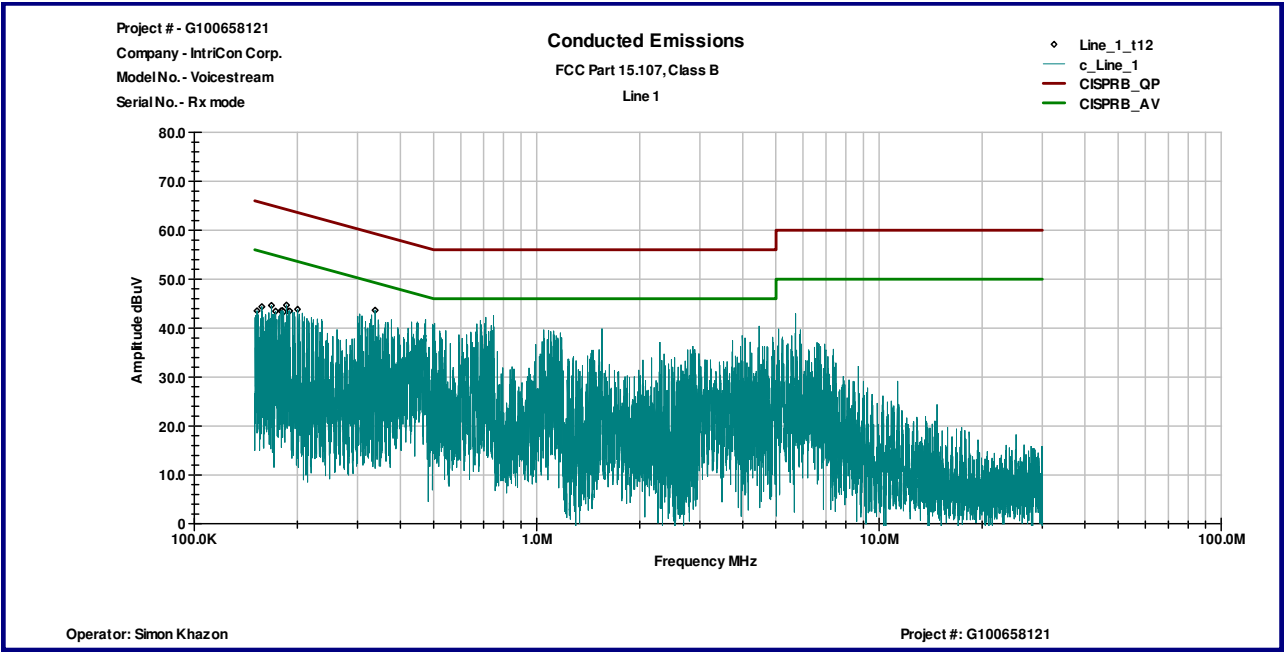
Table 3.8.1

Line 1

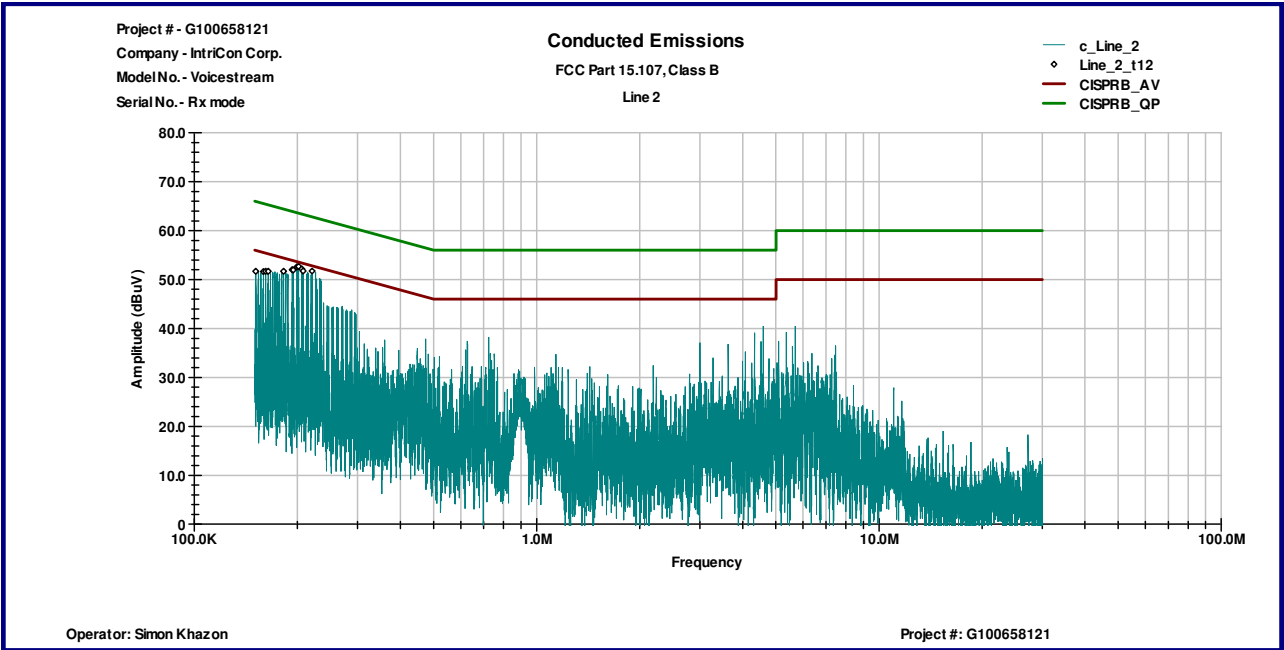
Frequency	QP dBμV	AVG dBμV	QP Limit dBμV	AVG Limit dBμV	QP Margin dB	AVG Margin dB
153.49 KHz	39.1	24.2	65.8	55.8	-26.8	-31.6
153.83 KHz	39.2	24.4	65.8	55.8	-26.6	-31.4
165.94 KHz	38.2	23.8	65.2	55.2	-27.0	-31.4
171.89 KHz	38.9	23.3	64.9	54.9	-26.0	-31.6
177.41 KHz	39.3	21.7	64.6	54.6	-25.4	-32.9
181.51 KHz	39.0	20.7	64.4	54.4	-25.5	-33.7
184.2 KHz	38.2	20.2	64.3	54.3	-26.1	-34.1
328.59 KHz	31.3	17.5	59.5	49.5	-28.2	-32.0

Line 2

Frequency	QP dBμV	AVG dBμV	QP Limit dBμV	AVG Limit dBμV	QP Margin dB	AVG Margin dB
150.94 KHz	46.1	28.0	66.0	56.0	-19.8	-28.0
160.33 KHz	46.4	29.3	65.5	55.5	-19.1	-26.1
162.85 KHz	46.4	29.9	65.3	55.3	-18.9	-25.5
164.95 KHz	46.8	30.2	65.2	55.2	-18.5	-25.0
177.58 KHz	48.4	28.3	64.6	54.6	-16.2	-26.3
189.29 KHz	46.2	25.3	64.1	54.1	-17.8	-28.8
196.05 KHz	43.9	24.5	63.8	53.8	-19.9	-29.3
214.71 KHz	40.8	26.2	63.0	53.0	-22.2	-26.9



Graph 3.8.1



Graph 3.8.2



4.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	INTERTEK ID	CAL DUE	USED
Spectrum Analyzer	R & S	FSP 40	100024	12559	11/17/2012	☒
Spectrum Analyzer	R & S	ESU	100398	25283	12/09/2012	☒
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2468	9734	11/08/2012	☒
Horn Antenna	EMCO	3115	9507-4513	9936	04/29/2012	☒
Horn Antenna	EMCO	3115	6579	15580	05/25/2012	☒
LISN	Fischer Custom Communications	FCC-LISN-50-25-2	2014	9665	03/23/2012	☐
High Pass Filter	Reactel	7HS-4G-S12	0223	015274	VBV	☒
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	13475	10/31/2012	☒
Pre-Amplifier	MITEQ	AMF-6F-26004000-40-8P	13224444	MIN-0064	10/31/2012	☒
System	TILE! Instrument Control		Ver. 3.4.K.29	15259	VBV	☒