



**RADIATED SPURIOUS EMISSIONS PORTIONS OF**

**FCC CFR47 PART 22 SUBPART H  
FCC CFR47 PART 24 SUBPART E  
FCC CFR47 PART 27 SUBPART L**

**CERTIFICATION TEST REPORT  
FOR**

**TRI-BAND CDMA PHONE WITH BLUETOOTH + EDR (WITH PCB B)**

**FCC MODEL NUMBER: K33BIC-06  
IC MODEL NUMBER: S1310**

**FCC ID: OVF-K33BIC06  
IC: 3572A- S1310**

**REPORT NUMBER: 10U13596-1**

**ISSUE DATE: JANUARY 30, 2011**

*Prepared for*

**KYOCERA COMMUNICATIONS, INC  
9520 TOWNE CENTRE DRIVE  
SAN DIEGO, CA 92121, U.S.A.**

*Prepared by*

**COMPLIANCE CERTIFICATION SERVICES (UL CCS)  
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**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	01/30/2011	Initial Issue	T. Chan



# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** KYOCERA COMMUNICATIONS, INC.  
9520 TOWNE CENTRE DRIVE  
San Diego, CA 92121

**EUT DESCRIPTION:** TRI-BAND CDMA PHONE WITH BLUETOOTH + EDR  
(WITH PCB B)

**MODEL:** K33BIC-06 for FCC & S1310 for IC

**SERIAL NUMBER:** F0000041700240

**DATE TESTED:** JANUARY 27 TO 29, 2011

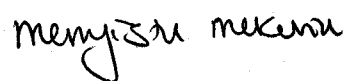
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E, AND 27L	PASS (Radiated Portion)

Compliance Certification Services, Inc. (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

Tested By:



THU CHAN  
ENGINEERING MANAGER  
UL CCS

MENGISTU MEKURIA  
EMC ENGINEER  
UL CCS

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, FCC CFR Part 24, FCC Part 27, RSS-132 Issue 2, RSS-133 Issue 5 and RSS-139 Issue 2.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth featured Tri-band CDMA Phone that is manufactured by Kyocera Communications, Inc.

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak ERP & average EIRP output powers as follows:

824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Output Power (dBm)	ERP Output Power (mW)
Low CH - 824.70	CDMA2000	26.52	448.7
Mid CH - 836.52		27.29	535.8
High CH - 848.31		26.09	406.4

1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Output Power (dBm)	EIRP Output Power (mW)
Low CH - 1851.25	CDMA2000	24.91	309.7
Mid CH - 1880.00		25.43	349.1
High CH - 1908.75		25.18	329.6

1710 to 1755 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Output Power (dBm)	EIRP Output Power (mW)
Low CH - 1711.25	AWS	22.06	160.7
MID-Ch - 1733.00		23.26	211.8
High CH - 1753.75		22.07	161.1

### 5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

### 5.4. WORST-CASE CONFIGURATION AND MODE

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, and Z-Positions, and the worst position among X, Y, and Z with AC/DC adapter and headset, after the investigations, the worst-position was turned out to be a Z-position with headset for cell band and X-Position with headset for PCS and AWS bands.

#### PROCEDURE USED TO ESTABLISH TEST SIGNAL

##### **3G-CDMA2000 1xRTT**

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
CDMA2000 Mobil Test	B.10.11, L

##### 1xRTT

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps  
> R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Cell Info > Cell Parameters > System ID (SID) > 4395  
> Network ID (NID) > 0

Once "Active Cell" show "Connected " then change "Rvs Power Ctrl" from "Active bits" to "**All Up bits**" to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC3 and Service Option 55.

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter (EUT)	Kyocera	TXTVL10148	047S-001Y	DoC
Headset	N/A	N/A	N/A	N/A

### I/O CABLES

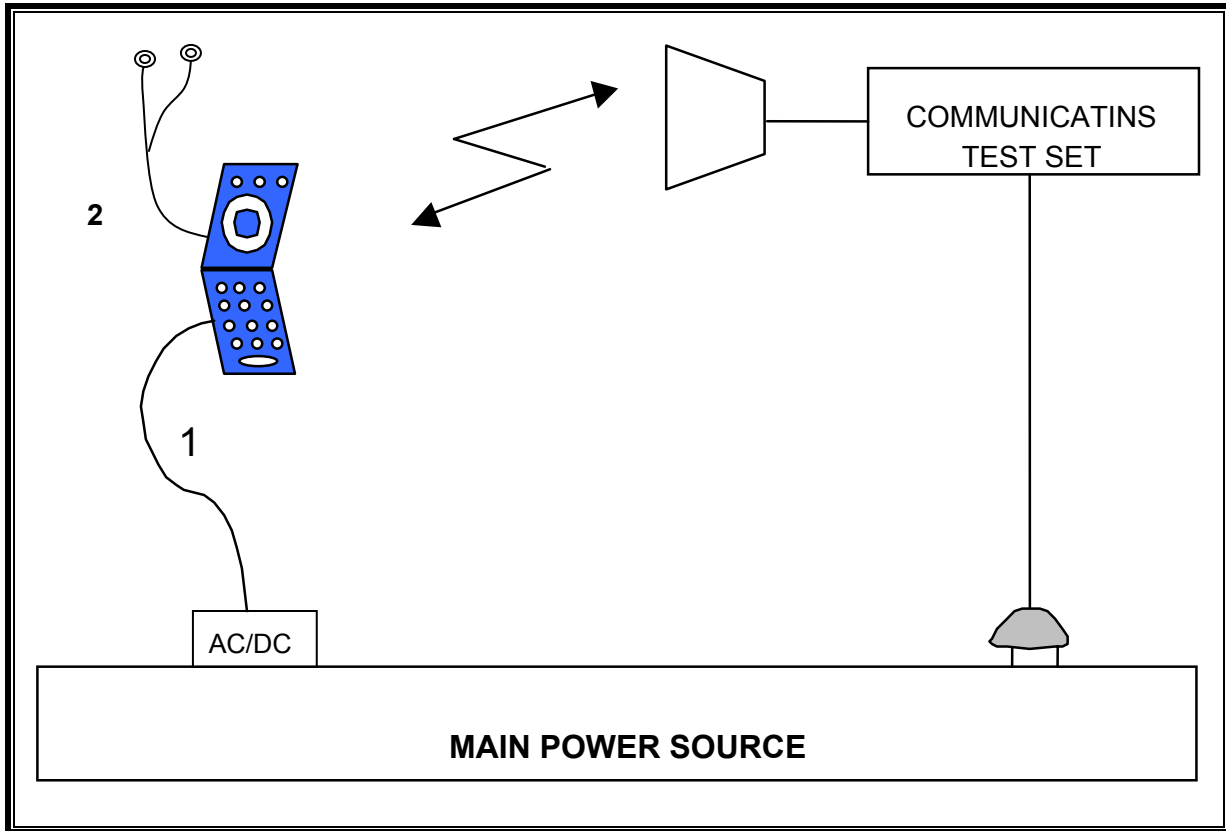
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC Input	1	Mini-USB	Un-Shielded	1.8 m	N/A
2	Audio	1	Mini-Jack	Un-Shielded	1.4 m	Volume Contro on Cable

### TEST SETUP

The EUT is a CDMA phone and-is tested as a standalone configuration. Communications Test Set is used to link the device under test.



**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01176	08/10/11
Communications Test Set	Agilent / HP	E5515C	C01086	06/17/11
PSG Analog Signal Generator	Agilent / HP	E8257D	C01177	02/04/11
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/14/11
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	01/26/12
Dipole	Speag	D900V2	N/A	11/16/11
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	07/12/11
Antenna, Horn, 18 GHz	EMCO	3115	C00943	CNR
Antenna, Horn, 18 GHz	EMCO	3115	C00945	06/29/11

## **7. LIMITS AND RESULTS**

### **7.1. RADIATED OUTPUT POWER**

#### **LIMITS**

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) & RSS133 § 6.4 Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (d) (2) & RSS-139 § 6.4 Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to a peak EIRP of 1 watt.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

#### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 2.2.17.

#### **RESULTS**

**CELL OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
<b>Company:</b>		Kyocera Wireless						
<b>Project #:</b>		10U13596-1						
<b>Date:</b>		01/28/11						
<b>Test Engineer:</b>		Mengistu Mekuria						
<b>Configuration:</b>		EUT Alone						
<b>Mode:</b>		TX, 1xRTT Cell Band						
<b>Test Equipment:</b>								
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.70	27.02	V	0.5	0.0	26.52	38.5	-11.9	
824.70	17.84	H	0.5	0.0	17.34	38.5	-21.1	
836.52	27.79	V	0.5	0.0	27.29	38.5	-11.2	
836.52	17.66	H	0.5	0.0	17.16	38.5	-21.3	
848.31	26.59	V	0.5	0.0	26.09	38.5	-12.4	
848.31	18.51	H	0.5	0.0	18.01	38.5	-20.4	
Rev. 1.24.7								

**PCS OUTPUT POWER (EIRP)**

<b>High Frequency Fundamental Measurement Compliance Certification Services Chamber B</b>								
<b>Company:</b>		Kyocera Wireless						
<b>Project #:</b>		10U13596-1						
<b>Date:</b>		01/28/11						
<b>Test Engineer:</b>		Mengistu Mekuria						
<b>Configuration:</b>		EUT Alone						
<b>Mode:</b>		TX, 1xRTT PCS Band						
<b>Test Equipment:</b>								
Receiving: Horn T59, and Camber B SMA Cables								
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	11.7	V	0.85	8.01	18.90	33.0	-14.1	
1.851	17.8	H	0.85	8.01	24.91	33.0	-8.1	
1.880	12.2	V	0.85	8.07	19.44	33.0	-13.6	
1.880	18.2	H	0.85	8.07	25.43	33.0	-7.6	
1.909	11.7	V	0.85	8.13	18.93	33.0	-14.1	
1.909	17.9	H	0.85	8.13	25.18	33.0	-7.8	
Rev. 1.24.7								

**AWS OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
<b>Company:</b>		Kyocera Wireless						
<b>Project #:</b>		10U13596-1						
<b>Date:</b>		01/28/11						
<b>Test Engineer:</b>		Mengistu Mekuria						
<b>Configuration:</b>		EUT Alone						
<b>Mode:</b>		TX, 1xRTT AWS Band						
<b>Test Equipment:</b>								
Receiving: Horn T59, and Camber B SMA Cables								
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	5.75	V	0.70	7.71	12.76	30.0	-17.2	
1.711	15.04	H	0.70	7.71	22.05	30.0	-8.0	
1.733	9.16	V	0.70	7.76	16.22	30.0	-13.8	
1.733	16.20	H	0.70	7.76	23.26	30.0	-6.7	
1.755	8.02	V	0.70	7.81	15.13	30.0	-14.9	
1.755	14.96	H	0.70	7.81	22.07	30.0	-7.9	
Rev. 1.24.7								

## **7.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **LIMIT**

§22.917 (e) and §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

§27.53 (g) and RSS-139 § 6.5 For operations in the 1710–1755MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10} (P)$  dB.

### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b), FCC 24.238 (b), & FCC 27.53 (g)(1)(2)(3).

### **RESULTS**

**CELL SPURIOUS & HARMONIC (ERP)**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
<b>Company:</b>		KYOCERA							
<b>Project #:</b>		10U13596							
<b>Date:</b>		1/28/2011							
<b>Test Engineer:</b>		MENGISTU MEKURIA							
<b>Configuration:</b>		EUT, HEADSET, AND AC ADAPTER							
<b>Mode:</b>		TX, 1xRTT CELL BAND							
<b>Chamber</b>		<b>Pre-amplifier</b>			<b>Filter</b>		<b>Limit</b>		
5m Chamber B		T145 8449B			Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch, 824.70MHz</b>									
1.649	-5.6	V	3.0	35.5	1.0	-40.2	-13.0	-27.2	
2.474	-22.8	V	3.0	35.4	1.0	-57.2	-13.0	-44.2	
3.480	-12.2	V	3.0	35.5	1.0	-46.7	-13.0	-33.7	
1.649	-1.6	H	3.0	35.5	1.0	-36.2	-13.0	-23.2	
2.474	-19.5	H	3.0	35.4	1.0	-53.9	-13.0	-40.9	
3.480	-13.2	H	3.0	35.5	1.0	-47.7	-13.0	-34.7	
<b>Mid Ch, 836.52MHz</b>									
1.673	-9.1	V	3.0	35.5	1.0	-43.6	-13.0	-30.6	
2.510	-22.4	V	3.0	35.4	1.0	-56.8	-13.0	-43.8	
3.526	-11.7	V	3.0	35.4	1.0	-46.1	-13.0	-33.1	
1.673	-4.4	H	3.0	35.5	1.0	-39.0	-13.0	-26.0	
2.510	-19.2	H	3.0	35.4	1.0	-53.6	-13.0	-40.6	
3.526	-11.6	H	3.0	35.4	1.0	-46.0	-13.0	-33.0	
<b>High Ch, 848.31MHz</b>									
1.697	-7.2	V	3.0	35.5	1.0	-41.7	-13.0	-28.7	
2.545	-23.1	V	3.0	35.4	1.0	-57.6	-13.0	-44.6	
3.574	-6.3	V	3.0	35.4	1.0	-40.7	-13.0	-27.7	
1.697	-4.5	H	3.0	35.5	1.0	-39.0	-13.0	-26.0	
2.545	-21.0	H	3.0	35.4	1.0	-55.5	-13.0	-42.5	
3.574	-13.2	H	3.0	35.4	1.0	-47.6	-13.0	-34.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									



**PCS Spurious & Harmonic (EIRP)**

**Compliance Certification Services**  
**Above 1GHz High Frequency Substitution Measurement**

**Company:** KYOCERA  
**Project #:** 10U13596  
**Date:** 1/28/2011  
**Test Engineer:** MENGISTU MEKURIA  
**Configuration:** EUT, HEADSET, AND AC ADAPTER  
**Mode:** TX, 1xRTT PCS BAND

Chamber

Pre-amplifier

Filter

Limit

5m Chamber B

T145 8449B

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch, 1851.25MHz</b>									
3.818	15.3	V	3.0	35.3	1.0	-19.0	-13.0	-6.0	
5.726	-11.8	V	3.0	35.4	1.0	-46.2	-13.0	-33.2	
3.818	17.8	V	3.0	35.3	1.0	-16.5	-13.0	-3.5	
5.726	-13.3	H	3.0	35.4	1.0	-47.7	-13.0	-34.7	
<b>Mid Ch, 1880.0MHz</b>									
3.760	15.8	V	3.0	35.3	1.0	-18.5	-13.0	-5.5	
5.640	-11.9	V	3.0	35.4	1.0	-46.3	-13.0	-33.3	
3.760	17.9	H	3.0	35.3	1.0	-16.4	-13.0	-3.4	
5.640	-14.8	H	3.0	35.4	1.0	-49.3	-13.0	-36.3	
<b>High Ch, 1908.75MHz</b>									
3.818	15.5	V	3.0	35.3	1.0	-18.8	-13.0	-5.8	
5.726	-10.5	V	3.0	35.4	1.0	-44.9	-13.0	-31.9	
3.818	17.2	H	3.0	35.3	1.0	-17.1	-13.0	-4.1	
5.726	-10.7	H	3.0	35.4	1.0	-45.1	-13.0	-32.1	

Rev. 03.03.09  
 Note: No other emissions were detected above the system noise floor.

**AWS Spurious & Harmonic (EIRP)**

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
<b>Company:</b>		KYOCERA							
<b>Project #:</b>		10U13596							
<b>Date:</b>		1/28/2011							
<b>Test Engineer:</b>		MENGISTU MEKURIA							
<b>Configuration:</b>		EUT, HEADSET, AND AC ADAPTER							
<b>Mode:</b>		TX, 1xRTT AWS BAND							
<b>Chamber</b>		<b>Pre-amplifier</b>			<b>Filter</b>		<b>Limit</b>		
5m Chamber B		T145 8449B			Filter 1		Part 27		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
<b>Low Ch, 1711.25MHz</b>									
3.423	-9.7	V	3.0	35.5	1.0	-44.2	-13.0	-31.2	
5.134	-17.6	V	3.0	35.3	1.0	-52.0	-13.0	-39.0	
3.423	-9.8	H	3.0	35.5	1.0	-44.3	-13.0	-31.3	
5.134	-18.1	H	3.0	35.3	1.0	-52.4	-13.0	-39.4	
<b>Mid Ch, 1733.0MHz</b>									
3.466	-14.3	V	3.0	35.5	1.0	-48.8	-13.0	-35.8	
5.199	-18.3	V	3.0	35.3	1.0	-52.6	-13.0	-39.6	
3.466	-12.9	H	3.0	35.5	1.0	-47.4	-13.0	-34.4	
5.199	-18.5	H	3.0	35.3	1.0	-52.8	-13.0	-39.8	
<b>High Ch, 1754.75MHz</b>									
3.510	-12.3	V	3.0	35.4	1.0	-46.7	-13.0	-33.7	
5.264	-18.0	V	3.0	35.3	1.0	-52.4	-13.0	-39.4	
3.510	-5.8	H	3.0	35.4	1.0	-40.2	-13.0	-27.2	
5.264	-17.1	H	3.0	35.3	1.0	-51.5	-13.0	-38.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									