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# Electromagnetic Emissions Test Report and Application for Grant of Equipment Authorization pursuant to

# FCC Part 15, Subpart C Section 15.247(DTS)

# on the 2Wire, Inc. Transmitter Model: RG3800HGV-00

FCC ID:	PGR2W3800
GRANTEE:	2Wire, Inc. 1704 Automation Parkway San Jose, CA 95131
TEST SITE:	Elliott Laboratories, Inc. 684 W. Maude Ave Sunnyvale, CA 94086

REPORT DATE: March 30, 2006

FINAL TEST DATE:

February 21 and February 23, 2006

AUTHORIZED SIGNATORY:

mar

Juan Martinez Senior EMC Engineer



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Equipment Name and Model:

#### Transceiver RG3800HGV-00

Manufacturer:

2Wire, Inc. 1704 Automation Parkway San Jose, CA 95131

Tested to applicable standard:

FCC Part 15, Subpart C requirements for DTS devices

Test Report Prepared For: Jeremy Muir 2Wire, Inc. 1704 Automation Parkway San Jose, CA 95131

Measurement Facility Description Filed With Department of Industry:

Departmental Acknowledgement Number: IC2845 SV2 Dated August 16, 2007

#### **Declaration of Compliance**

I declare that the testing was performed or supervised by me; that the test measurements were made in accordance with the above mentioned departmental standards (through the use of ANSI C63.4: 2003 as referenced by FCC Part 15 and by section 1.0 of RSS-212, Issue 1, "Test Facilities and Test Methods for Radio Equipment" / RSS-Gen Issue 1); and that the equipment performed in accordance with the data submitted in this report.

Signature Name

Address

Title

Juan mar

Juan Martinez Senior EMC Engineer Elliott Laboratories Inc. 684 W. Maude Ave Sunnyvale, CA 94086 USA

Date: March 30, 2006

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### **SCOPE**

An electromagnetic emissions test has been performed on the 2Wire, Inc. model RG3800HGV-00 pursuant to the following rules:

FCC Part 15, Subpart C requirements for DTS devices

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in Elliott Laboratories test procedures:

ANSI C63.4:2003 RSS-212 Issue 1 Test Facilities and Test Methods for Radio Equipment

The intentional radiator above has been tested in a simulated typical installation to demonstrate compliance with the relevant Industry Canada performance and procedural standards.

Final system data was gathered in a mode that tended to maximize emissions by varying orientation of EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization.

Every practical effort was made to perform an impartial test using appropriate test equipment of known calibration. All pertinent factors have been applied to reach the determination of compliance.

The test results recorded herein are based on a single type test of the 2Wire, Inc. model RG3800HGV-00 and therefore apply only to the tested sample. The sample was selected and prepared by Jeremy Muir of 2Wire, Inc.

# **OBJECTIVE**

The primary objective of the manufacturer is compliance with the regulations outlined in the previous section. Certification of these devices is required as a prerequisite to marketing in the US.

Certification is a procedure where the manufacturer submits test data and technical information to a certification body and receives a certificate or grant of equipment authorization upon successful completion of the certification body's review of the submitted documents. Once the equipment authorization has been obtained, the label indicating compliance must be attached to all identical units, which are subsequently manufactured.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

# STATEMENT OF COMPLIANCE

The tested sample of 2Wire, Inc. model RG3800HGV-00 complied with the requirements of the following regulations:

FCC Part 15, Subpart C requirements for DTS devices

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

# TEST RESULTS SUMMARY

FCC Part 15 Reference	RSS Reference	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Systems uses OFDM / DSSS techniques	-	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	12.8 MHz (802.11b) 16.6 MHz (802.11g)	>500kHz	Complies
	RSP100	99% Bandwidth	15.6 MHz (802.11b) 17.4 MHz (802.11g)	Information only	Complies
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	26 dBm (0.398 Watts) EIRP = .501 <sup>Note 1</sup>	1Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	-1.37 dBm / MHz (802.11b) -7.42 dB/m MHz (802.11g)	8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz	All Emissions <-20dBc	<-20dBc	Complies
15.247(c) / 15.209	RSS 210 A8.5	Radiated Spurious Emissions 30MHz – 25 GHz	50.8dBµV/m (345.5µV/m) @ 2483.5MHz (-3.2dB)	15.207 in restricted bands, all others <-20dBc	Complies

#### DIGITAL TRANSMISSION SYSTEMS (2400 – 2483.5MHz)

Note 1: EIRP calculated using antenna gain of 1 dBi for the highest EIRP multi-point system and 1 dBi for the highest EIRP point-to-point system.

## GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Part 15 Section	RSS 210 Section	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	Antennas are part of the PCB board	N/A	Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	35.4dBμV/m (58.7μV/m) @ 12260.4MHz	Refer to standard	Complies (-24.6dB)
15.207	RSS GEN Table 2	AC Conducted Emissions	45.5dBµV @ 0.252MHz	EN55022 B	Complies (-6.2dB)
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to MPE calculations in Exhibit 11, RSS 102 declaration and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies

## MEASUREMENT UNCERTAINTIES

ISO Guide 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below were calculated using the approach described in CISPR 16-4-2:2003 using a coverage factor of k=2, which gives a level of confidence of approximately 95%. The levels were found to be below levels of *U*cispr and therefore no adjustment of the data for measurement uncertainty is required.

Measurement Type	Frequency Range (MHz)	Calculated Uncertainty (dB)
Conducted Emissions	0.15 to 30	± 2.4
Radiated Emissions	30 to 1000	± 3.6

## EQUIPMENT UNDER TEST (EUT) DETAILS

#### GENERAL

The 2Wire, Inc. model RG3800HGV-00 is a VDSL wireless router that is designed to wirelessly connect to the Internet. Since the EUT would be placed on a tabletop during operation, the EUT was treated as tabletop equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 120 / 230 Volts, 50 / 60 Hz, 2.9 Amps, (12V dc output).

The sample was received on February 21, 2006 and tested on February 21 and February 23, 2006. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Serial Number	FCC ID
2Wire	3800 HGV-B	wireless router	325114026627	

#### OTHER EUT DETAILS

List any items from the test log.

#### ANTENNA SYSTEM

The antenna system used with the 2Wire, Inc. model RG3800HGV-00 consists of one transmit and diversity receive antennas.

#### ENCLOSURE

The EUT enclosure is primarily constructed of ABS plastic surrounding a metal shield. It measures approximately 30 cm wide by 24 cm deep by 6 cm high.

#### **MODIFICATIONS**

The EUT did not require modifications during testing in order to comply with emissions specifications.

#### LOCAL SUPPORT EQUIPMENT

Manufacturer	Model	Description	Serial Number	FCC ID
Coby	CTP220	phone	324001152	-

#### SUPPORT EQUIPMENT

Manufacturer	Model	Description	Serial Number	FCC ID
HP	NX6110	Laptop PC #1	36Nu54200Y8	-
Dell	Latitude	Laptop PC #2	None	-
Scientific Atlanta	DPH548	IP over COAX	20172	

#### EUT INTERFACE PORTS

The I/O cabling configuration during emissions testing was as follows:

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
AC Power	AC Mains	-	unshielded	2.0
HPNA port	laptop PC #1	serial	unshielded	2.0
USB	laptop PC #2	serial	shielded	2.0
Cable	IP over coax	serial	shielded coax	2.0
broadband	unconnected	serial	unshielded	-

#### EUT OPERATION

During emissions testing the EUT transmitting Ethernet, USB, and wireless packets.

# TEST SITE

#### GENERAL INFORMATION

Final test measurements were taken on February 21 and February 23, 2006 at the Elliott Laboratories Open Area Test Site #2 located at 684 West Maude Avenue, Sunnyvale, California or 41039 Boyce Road, Fremont, California Pursuant to section 2.948 of the FCC's Rules and section 3.3 of RSP-100, construction, calibration, and equipment data has been filed with the Commission.

ANSI C63.4:2003 recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement with the exception of predictable local TV, radio, and mobile communications traffic. The test site contains separate areas for radiated and conducted emissions testing. Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent requirements of ANSI C63.4:2003 and RSS 212.

#### CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.4:2003 and RSS 212. Measurements are made with the EUT connected to the public power network through a nominal, standardized RF impedance, which is provided by a line impedance stabilization network, known as a LISN. A LISN is inserted in series with each current-carrying conductor in the EUT power cord.

## RADIATED EMISSIONS CONSIDERATIONS

The FCC has determined that radiation measurements made in a shielded enclosure are not suitable for determining levels of radiated emissions. Radiated measurements are performed in an open field environment or in a semi-anechoic chamber. The test sites are maintained free of conductive objects within the CISPR defined elliptical area incorporated in ANSI C63.4:2003 guidelines and meet the Normalized Site Attenuation (NSA) requirements of ANSI C63.4:2003 / RSS 212.

#### **MEASUREMENT INSTRUMENTATION**

#### RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1 is used for emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 2000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary. The receiver automatically sets the required bandwidth for the CISPR detector used during measurements. If the repetition frequency of the signal being measured is below 20Hz, peak measurements are made in lieu of Quasi-Peak measurements.

For measurements above the frequency range of the receivers, a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis. Average measurements above 1000MHz are performed on the spectrum analyzer using the linear-average method with a resolution bandwidth of 1 MHz and a video bandwidth of 10 Hz, unless the signal is pulsed in which case the average (or video) bandwidth of the measuring instrument is reduced to onset of pulse desensitization and then increased.

#### INSTRUMENT CONTROL COMPUTER

The receivers utilize either a Rohde & Schwarz EZM Spectrum Monitor/Controller or contain an internal Spectrum Monitor/Controller to view and convert the receiver measurements to the field strength at an antenna or voltage developed at the LISN measurement port, which is then compared directly with the appropriate specification limit. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are printed in a graphic and/or tabular format, as appropriate. A personal computer is used to record all measurements made with the receivers.

The Spectrum Monitor provides a visual display of the signal being measured. In addition, the controller or a personal computer run automated data collection programs which control the receivers. This provides added accuracy since all site correction factors, such as cable loss and antenna factors are added automatically.

#### LINE IMPEDANCE STABILIZATION NETWORK (LISN)

Line conducted measurements utilize a fifty microhenry Line Impedance Stabilization Network as the monitoring point. The LISN used also contains a 250 uH CISPR adapter. This network provides for calibrated radio frequency noise measurements by the design of the internal low pass and high pass filters on the EUT and measurement ports, respectively.

#### POWER METER

Power measurements are made using either a power meter (typically with a peak power sensor) or as detailed in FCC KDB558074 using a spectrum analyzer and either the built-in channel power measurement function or software to integrate the power over the displayed spectrum.

When using the integration method the analyzer's internal function or software account for the equivalent noise bandwidth of the resolution bandwidth used when performing the integration. The bandwidths, detector (peak or sample) and trace data (max held or power averaging) are detailed in the test data. When using a power averaging function the device is either in a continuous transmit mode or the analyzer is configured to only sweep when the transmitter is active to ensure that the averaging is performed over a transmit burst and not over quiet periods.

#### FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the receiving antenna or LISN and the receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

#### ANTENNAS

A biconical antenna is used to cover the range from 30 MHz to 300 MHz and a log periodic antenna is utilized from 300 MHz to 1000 MHz. Narrowband tuned dipole antennas are used over the entire 30 to 1000 MHz range for precision measurements of field strength. Above 1000 MHz, a horn antenna is used. The antenna calibration factors are included in site factors programmed into the test receivers or incorporated into the test software.

#### ANTENNA MAST AND EQUIPMENT TURNTABLE

The antennas used to measure the radiated electric field strength are mounted on a nonconductive antenna mast equipped with a motor-drive to vary the antenna height.

ANSI C63.4:2003 and RSS 212 secify that the test height above ground for table mounted devices shall be 80 centimeters. Floor mounted equipment shall be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

#### INSTRUMENT CALIBRATION

All test equipment is regularly checked to ensure that performance is maintained in accordance with the manufacturer's specifications. All antennas are calibrated at regular intervals with respect to tuned half-wave dipoles. An exhibit of this report contains the list of test equipment used and calibration information.

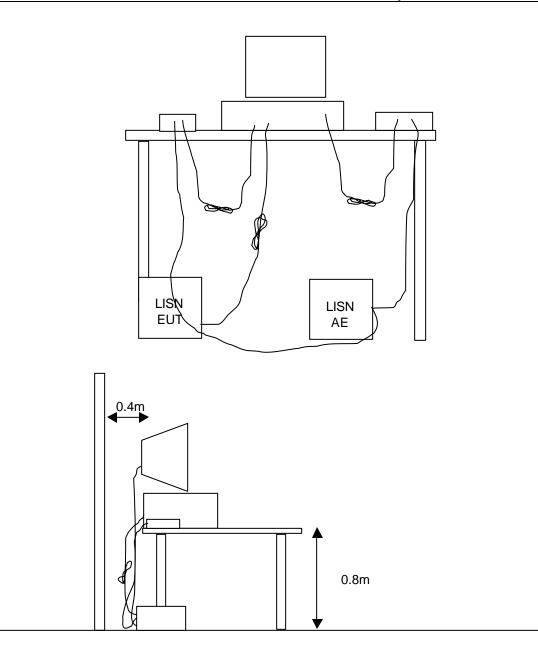
## **TEST PROCEDURES**

#### EUT AND CABLE PLACEMENT

The regulations require that interconnecting cables be connected to the available ports of the unit and that the placement of the unit and the attached cables simulate the worst case orientation that can be expected from a typical installation, so far as practicable. To this end, the position of the unit and associated cabling is varied within the guidelines of ANSI C63.4:2003, and the worst-case orientation is used for final measurements.

#### CONDUCTED EMISSIONS

Conducted emissions are measured at the plug end of the power cord supplied with the EUT. Excess power cord length is wrapped in a bundle between 30 and 40 centimeters in length near the center of the cord. Preliminary measurements are made to determine the highest amplitude emission relative to the specification limit for all the modes of operation. Placement of system components and varying of cable positions are performed in each mode. A final peak mode scan is then performed in the position and mode for which the highest emission was noted on all current carrying conductors of the power cord.

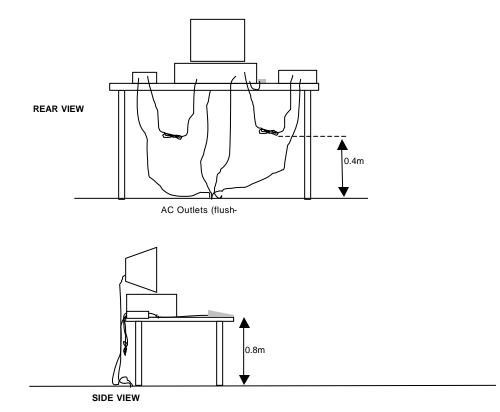


#### RADIATED EMISSIONS

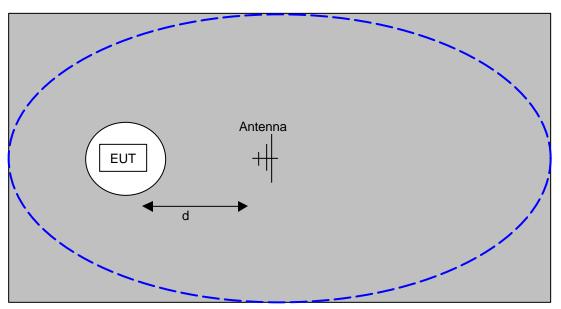
Radiated emissions measurements are performed in two phases as well. A preliminary scan of emissions is conducted in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed from 30 MHz up to the frequency required by the regulation specified on page 1. One or more of these is with the antenna polarized vertically while the one or more of these is with the antenna polarized horizontally. During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied and cable positions are varied to determine the highest emission relative to the limit. Preliminary scans may be performed in a fully anechoic chamber for the purposes of identifying the frequencies of the highest emissions from the EUT.

A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

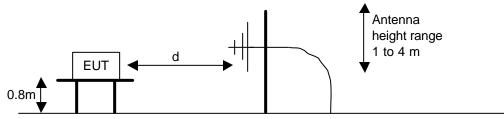
Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth, which results in the highest emission is then maintained while varying the antenna height from one to four meters. The result is the identification of the highest amplitude for each of the highest peaks. Each recorded level is corrected in the receiver using appropriate factors for cables, connectors, antennas, and preamplifier gain. Emissions, which have values close to the specification limit may also be measured with a tuned dipole antenna to determine compliance.



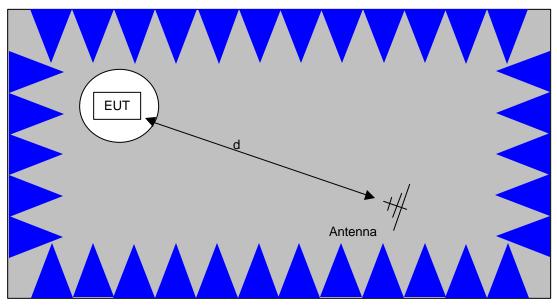
Typical Test Configuration for Radiated Field Strength Measurements



The ground plane extends beyond the ellipse defined in CISPR 16 / CISPR 22 / ANSI C63.4 and is large enough to accommodate test distances (d) of 3m and 10m. Refer to the test data tables for the actual measurement distance.

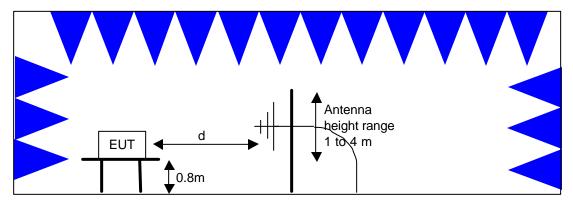


Test Configuration for Radiated Field Strength Measurements OATS- Plan and Side Views



The anechoic materials on the walls and ceiling ensure compliance with the normalized site attenuation requirements of CISPR 16 / CISPR 22 / ANSI C63.4 for an alternate test site at the measurement distances used.

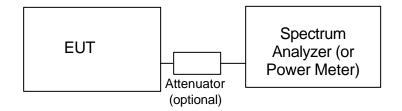
Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



<u>Test Configuration for Radiated Field Strength Measurements</u> Semi-Anechoic Chamber, Plan and Side Views

#### CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements of power, bandwidth and power spectral density are performed with the antenna port of the EUT connected to either the power meter or spectrum analyzer via a suitable attenuator and/or filter. These are used to ensure that the front end of the measurement instrument is not overloaded by the fundamental transmission.



#### Test Configuration for Antenna Port Measurements

Measurement bandwidths (video and resolution) are set in accordance with the relevant standards and Elliott's test procedures for the type of radio being tested.

If a power meter is used to make output power measurements the sensor head type (peak or average) is stated in the test data table.

#### SPECIFICATION LIMITS AND SAMPLE CALCULATIONS

The limits for conducted emissions are given in units of microvolts, and the limits for radiated emissions are given in units of microvolts per meter at a specified test distance. Data is measured in the logarithmic form of decibels relative to one microvolt, or dB microvolts (dBuV). For radiated emissions, the measured data is converted to the field strength at the antenna in dB microvolts per meter (dBuV/m). The results are then converted to the linear forms of uV and uV/m for comparison to published specifications.

For reference, converting the specification limits from linear to decibel form is accomplished by taking the base ten logarithm, then multiplying by 20. These limits in both linear and logarithmic form are as follows:

#### CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(a), RSS GEN

The table below shows the limits for the emissions on the AC power line from an intentional radiator and a receiver.

Frequency (MHz)	Average Limit (dBuV)	Quasi Peak Limit (dBuV)
0.150 to 0.500	Linear decrease on logarithmic frequency axis between 56.0 and 46.0	Linear decrease on logarithmic frequency axis between 66.0 and 56.0
0.500 to 5.000	46.0	56.0
5.000 to 30.000	50.0	60.0

### GENERAL RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands<sup>1</sup> (with the exception of transmitters operating under FCC Part 15 Subpart D) and the limits for all emissions for a low power device operating under the general rules of RSS 210, FCC Part 15 Subpart C.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F <sub>KHz</sub> @ 300m	67.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 300m
0.490-1.705	24000/F <sub>KHz</sub> @ 30m	87.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

#### **RECEIVER SPURIOUS EMISSIONS SPECIFICATION LIMITS**

The table below shows the limits for emissions from the receiver as detailed in FCC Part 15.109, RSS 210 table 2, RSS GEN table 1.

Frequency Range (MHz)	Limit (uV/m @ 3m)	Limit (dBuV/m @ 3m)
30 to 88	100	40
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

<sup>&</sup>lt;sup>1</sup> The restricted bands are detailed in FCC 15.203, RSS 210 Table 1 and RSS 310 Table 2

#### **OUTPUT POWER LIMITS – DIGITAL TRANSMISSION SYSTEMS**

The table below shows the limits for output power and output power density. Where the signal bandwidth is less than 20 MHz the maximum output power is reduced to the power spectral density limit plus 10 times the log of the bandwidth (in MHz).

Operating Frequency (MHz)	Output Power	Power Spectral Density
902 - 928	1 Watt (30 dBm)	8 dBm/3kHz
2400 - 2483.5	1 Watt (30 dBm)	8 dBm/3kHz
5725 - 5850	1 Watt (30 dBm)	8 dBm/3kHz

The maximum permitted output power is reduced by 1dB for every dB the antenna gain exceeds 6dBi. Fixed point-to-point applications using the 5725 - 5850 MHz band are not subject to this restriction.

## TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS and DTS SYSTEMS

The limits for unwanted (spurious) emissions from the transmitter falling in the restricted bands are those specified in the general limits sections of FCC Part 15 and RSS 210. All other unwanted (spurious) emissions shall be at least 20dB below the level of the highest in-band signal level (30dB if the power is measured using the sample detector/power averaging method).

### SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

Receiver readings are compared directly to the conducted emissions specification limit (decibel form) as follows:

$$R_r - S = M$$

where:

 $R_r = Receiver Reading in dBuV$ 

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

#### SAMPLE CALCULATIONS - RADIATED EMISSIONS

Receiver readings are compared directly to the specification limit (decibel form). The receiver internally corrects for cable loss, preamplifier gain, and antenna factor. The calculations are in the reverse direction of the actual signal flow, thus cable loss is added and the amplifier gain is subtracted. The Antenna Factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

A distance factor, when used for electric field measurements above 30MHz, is calculated by using the following formula:

$$F_d = 20*LOG_{10} (D_m/D_s)$$

where:

 $F_d$  = Distance Factor in dB  $D_m$  = Measurement Distance in meters  $D_s$  = Specification Distance in meters

For electric field measurements below 30MHz the extrapolation factor is either determined by making measurements at multiple distances or a theoretical value is calculated using the formula:

$$F_d = 40*LOG_{10} (D_m/D_s)$$

Measurement Distance is the distance at which the measurements were taken and Specification Distance is the distance at which the specification limits are based. The antenna factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

The margin of a given emission peak relative to the limit is calculated as follows:

$$R_c = R_r + F_d$$

and

 $M = R_c - L_s$ 

where:

 $R_r$  = Receiver Reading in dBuV/m

- $F_d$  = Distance Factor in dB
- $R_{c}$  = Corrected Reading in dBuV/m
- $L_S$  = Specification Limit in dBuV/m
- M = Margin in dB Relative to Spec

#### SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

Where the radiated electric field strength is expressed in terms of the equivalent isotropic radiated power (eirp), or where a field strength measurement of output power is made in lieu of a direct measurement, the following formula is used to convert between eirp and field strength at a distance of 3m from the equipment under test:

 $E = \frac{1000000 \text{ v } 30 \text{ P}}{3}$  microvolts per meter 3 where P is the eirp (Watts)

# EXHIBIT 1: Test Equipment Calibration Data

1 Page

Radiated Emissions, 1000 Engineer: Mehran Birgani	- 26,000 MHz, 21-Feb-06			
Manufacturer	Description	Model #	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	26-Apr-06
Hewlett Packard	High Pass filter, 3.5GHz	P/N 84300-80038	1157	28-Apr-06
Hewlett Packard	EMC Spectrum Analyzer 9kHz - 40 GHz, Purple (SA40)	8564E (84125C)	1771	02-Aug-06
EMCO	Horn Antenna D. Ridge 1-18 GHz (SA40 9kHZ horn), Purple	3115	1779	07-Feb-07

EXHIBIT 2: Test Measurement Data

35 Pages

Client: 2 Wire	
	Job Number: J62836
Model: 3800HGV-B	Test-Log Number: T62931
	Project Manager: Mark Hill
Contact: Jeremy Muir	
Emissions Spec: FCC Part 15.247/RSS 210,	Class: B
Immunity Spec: -	Environment: -

For The

# 2 Wire

Model

3800HGV-B

Date of Last Test: 2/21/2006

Ellio				C Test Data
	2 Wire		Job Number:	
Model:	3800HGV-B		Test-Log Number:	
Contact	loromy Muin		Project Manager:	Mark Hill
	Jeremy Muir FCC Part 15.247/RSS 2	10 EN550	Class:	В
Immunity Spec:		10, EN350	Environment:	-
The EUTis a VDSL wire abletop during operatio	eless router that is design on, the EUT was treated a	ion was collected dur General Description ed to wirelessly connect to as tabletop equipment durin s, 50 / 60 Hz, 2.9 Amps, (12	the Internet. Since the EU g testing to simulate the en	T would be placed on a
	1	Equipment Under Te		
Manufacturer	Model 3800 HGV-B	Description wireless router	Serial Number	FCC ID
2Wire.			325114026627	
The EUT enclosure is p	rimarily constructed of Al	EUT Enclosure BS plastic surrounding a me		proximately 30 cm wide
The EUT enclosure is p by 24 cm deep by 6 cm	primarily constructed of Al high.	EUT Enclosure	etal shield. It measures app	proximately 30 cm wide
The EUT enclosure is p	primarily constructed of Al high.	EUT Enclosure BS plastic surrounding a me	etal shield. It measures app Modification	proximately 30 cm wide
The EUT enclosure is p by 24 cm deep by 6 cm Mod. # 1	primarily constructed of Al high. Test E	EUT Enclosure BS plastic surrounding a me Modification History	etal shield. It measures app Modification None	

Ellio	: 2 Wire		Job Number:	J62836
	: 3800HGV-B		T-Log Number:	
			Project Manager:	
Contact	: Jeremy Muir		, , ,	
	: FCC Part 15.247/RSS 21	0, EN550	Class:	В
Immunity Spec	: -		Environment:	-
The	e following informatio	t Configuration on was collected dui cal Support Equipm	ring the test session	s(s).
Manufacturer	Model	Description	Serial Number	FCC ID
Coby	CTP220	phone	324001152	-
		note Support Equip	-	
Manufacturer HP	Model NX6110	Description	Serial Number	FCC ID
		laptop PC #1	36Nu54200Y8	-
Dell	Latitude	laptop PC #2	none	-
Scientific Atlanta	DPH548	IP over COAX	20172	
Port	Connected To	Cabling and Ports	Cable(s)	
AC Power	AC Mains	Description	Shielded or Unshield unshielded	ded Length(m 2.0
HPNA port	laptop PC #1	serial	unshielded	2.0
USB	laptop PC #2	serial	shielded	2.0
Cable	IP over coax	serial	shielded coax	2.0
broadband	unconnected	serial	unshielded	-
onnected.	port was not connected dur EUT Oper ng the EUT transmitting eth	ration During Emissi	ons Tests	d not normally be

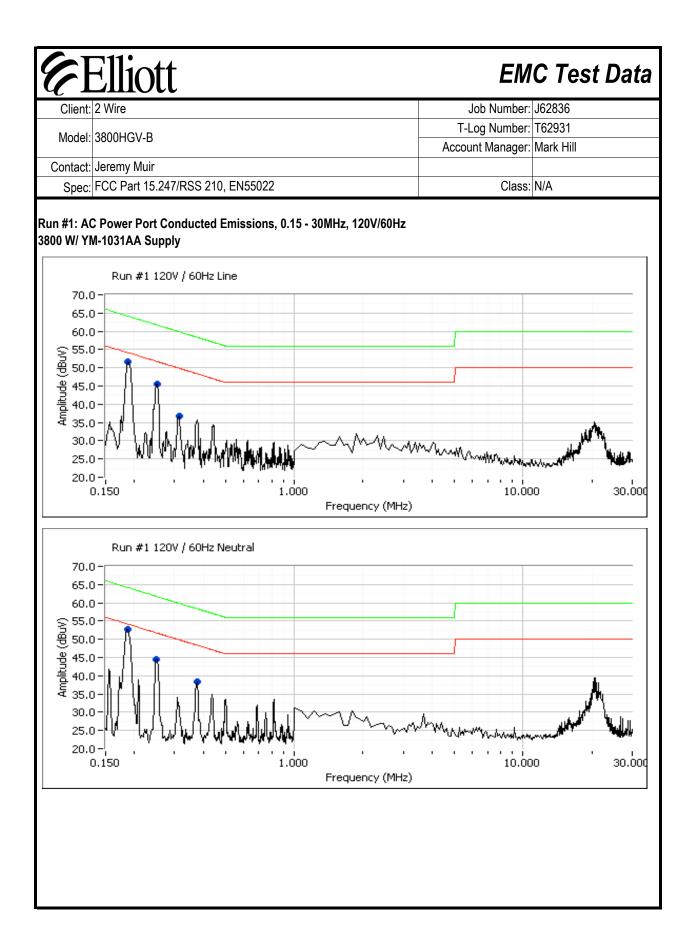
Ellio				C Test Dat
	2 Wire		Job Number:	
Model:	3800HGV-B		T-Log Number:	
			Project Manager:	Mark Hill
	Jeremy Muir			
	FCC Part 15.247/RSS 21	0, EN550	Class:	В
Immunity Spec:	-		Environment:	-
The	following information	t Configuratio on was collected dui cal Support Equipm	ring the test session	s(s).
Manufacturer	Model	Description	Serial Number	FCC ID
Coby	CTP220	phone	324001152	-
Manufacturer HP	Model NX6110	Description laptop PC #1	Serial Number 36Nu54200Y8	FCC ID -
HP	NX6110	laptop PC #1	36Nu54200Y8	-
HP	NX6111	laptop PC #2	CNU542018G	-
Dell	Latitude	laptop PC 3#	none	-
Adapcom	mini DSLAM	mini DSLAM	-	-
Scientific Atlanta	DPH548	IP over COAX	20172	
		Cabling and Ports		
Port	Connected To		Cable(s)	
		Description	Shielded or Unshield	led Length(m)
-	-	-	unshielded	-
AC Power	AC Mains	-	unshielded	2.0
HPNA port	laptop PC #1	serial	unshielded	2.0
USB	laptop PC #2	serial	shielded	2.0
Ethernet (to DSLAM)	laptop PC #3	serial	unshielded	2.0
Cable	IP over coax	serial	shielded coax	2.0
broadband	unconnected	serial	unshielded	-

Note: The broadband port was not connected during testing. The manufacturer stated that these would not normally be connected.

# **EUT Operation During Emissions Tests**

During emissions testing the EUT transmitting ethernet, USB, and wireless packets.

<b>Elli</b>	ott			EMC Te	est Dat
Client: 2 Wire			J	ob Number: J62836	
Model: 3800HGV-	R		T-L	og Number: T62931	
			Accou	nt Manager: Mark Hill	
Contact: Jeremy Mu					
Spec: FCC Part	15.247/RSS 210, EN55022			Class: N/A	
	Conducted E	Emissions - Po	ower P	orts	
Test Specifics					
	The objective of this test session specification listed above.	n is to perform final qualif	ication testi	ng of the EUT with res	spect to the
Date of Test:		Config. Used:			
Test Engineer: Test Location:		Config Change:			
Test Location.	5VUA15#2	EUT Voltage:		<u>-</u>	
General Test Cor	figuration				
	on a wooden table, 40 cm from	a vertical counling plane	and 80cm f	rom the LISN A sec	ond LISN wa
used for all local supp					
Ambient Conditio	ons: Temperature:	11 °C			
Ambient Conditio	Temperature: Rel. Humidity:	-			
	Rel. Humidity:	-			
	Rel. Humidity:	-			
	Rel. Humidity:	-	Result	Margin	
Summary of Res	Rel. Humidity: ults Test Performed	51 %	Result	Margin 45.5dBµV @ 0.252N	ЛНz
Summary of Res	Rel. Humidity:	51 %	Result	-	ЛНz
Summary of Rest Run # 1 Modifications Ma	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing:	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Reso Run # 1 Modifications Ma	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Reso Run # 1 Modifications Ma	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: e made to the EUT during testing	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Rest Run # 1 Modifications Ma No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: made to the EUT during testing The Standard	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Rest Run # 1 <b>Nodifications Ma</b> No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: e made to the EUT during testing	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Rest Run # 1 <b>Nodifications Ma</b> No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: made to the EUT during testing The Standard	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Rest Run # 1 Modifications Ma No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: made to the EUT during testing The Standard	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
Summary of Rest Run # 1 Modifications Ma No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: made to the EUT during testing The Standard	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz
1 Modifications Ma No modifications were Deviations From	Rel. Humidity: ults Test Performed CE, AC Power,120V/60Hz de During Testing: made to the EUT during testing The Standard	51 % Limit EN55022 B		45.5dBµV @ 0.252M	ЛНz



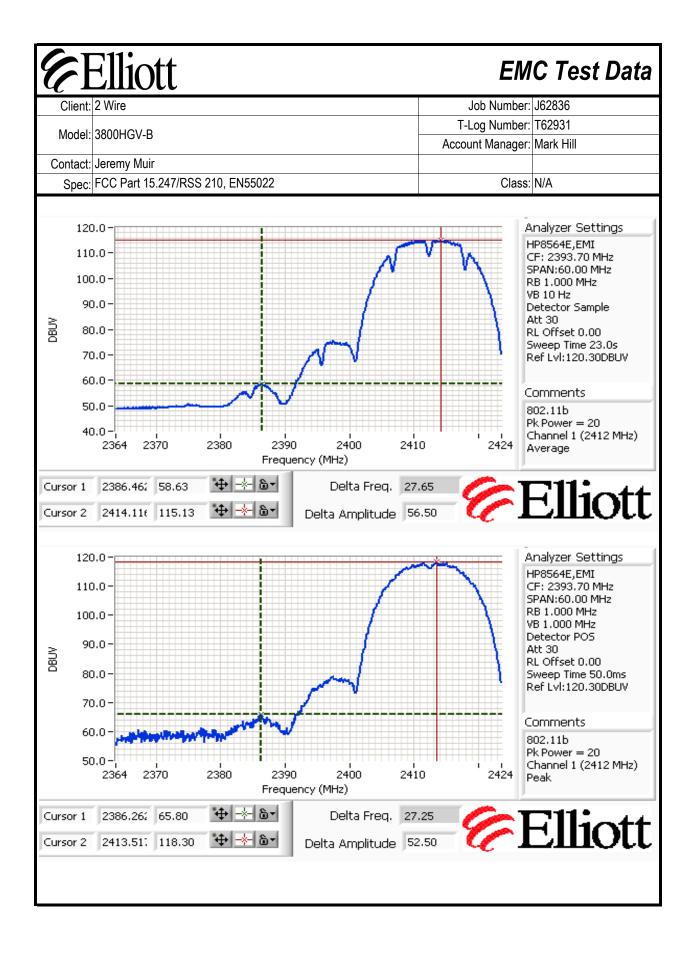
Client	111	ott					EM	C Test Data
Client:	2 Wire						Job Number:	J62836
Model:	3800HGV	/-R					T-Log Number:	
							Account Manager:	Mark Hill
	Jeremy N			155000			01.0.0	N1/A
Spec:	FCC Part	15.247/R	SS 210, EN	155022			Class:	N/A
requency	Level	AC	EN55	022 B	Detector	Comments		
MHz	dBµV	Line	Limit	Margin	QP/Ave			
0.252	45.5	Line	51.7	-6.2	Peak	Note 1		
0.250	44.6	Line 1	51.8	-7.2	Peak	Note 1		
0.375	38.3	Line 1	48.4	-10.1	Peak	Note 1		
0.188 0.188	51.5 51.4	Line Neutral	64.1 64.1	-12.6 -12.7	QP QP			
0.188	36.6	Line	49.9	-12.7 -13.3	Peak	Note 1		
0.188	38.8	Neutral	54.1	-15.3	Average			
0.188	37.8	Line	54.1	-16.3	Average			

#### **Elliott** EMC Test Data Client: 2 Wire Job Number: J62836 T-Log Number: T62931 Model: 3800HGV-B Account Manager: Mark Hill Contact: Jeremy Muir Spec: FCC Part 15.247/RSS 210, EN55022 Class: N/A FCC 15.247 DTS - Power, Bandwidth and Spurious Emissions 802.11b Test Specifics Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above. Date of Test: 2/21/2006 Config. Used: 1 Test Engineer: Mehran Birgani Config Change: None Test Location: SVOATS #2 EUT Voltage: 120V/60Hz General Test Configuration The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. For radiated emissions testing the measurement antenna was located 3 meters from the EUT. When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators used. Ambient Conditions: Temperature: 16 °C 29 % Rel. Humidity: Summary of Results Run # Test Performed Limit Pass / Fail Result / Margin 50.1dBµV/m RE, 30 - 26000 MHz FCC Part 1 (321.0µV/m) @ Pass Emissions In Restricted Bands 15.209 / 15.247( c) 2488.0MHz (-3.9dB) 2 6dB Bandwidth 15.247(a) Pass Refer to run 3 **Output Power** 15.247(b) Pass 26 dBm 4 Power Spectral Density (PSD) 15.247(d) Pass Refer to run Modifications Made During Testing: No modifications were made to the EUT during testing

#### **Deviations From The Standard**

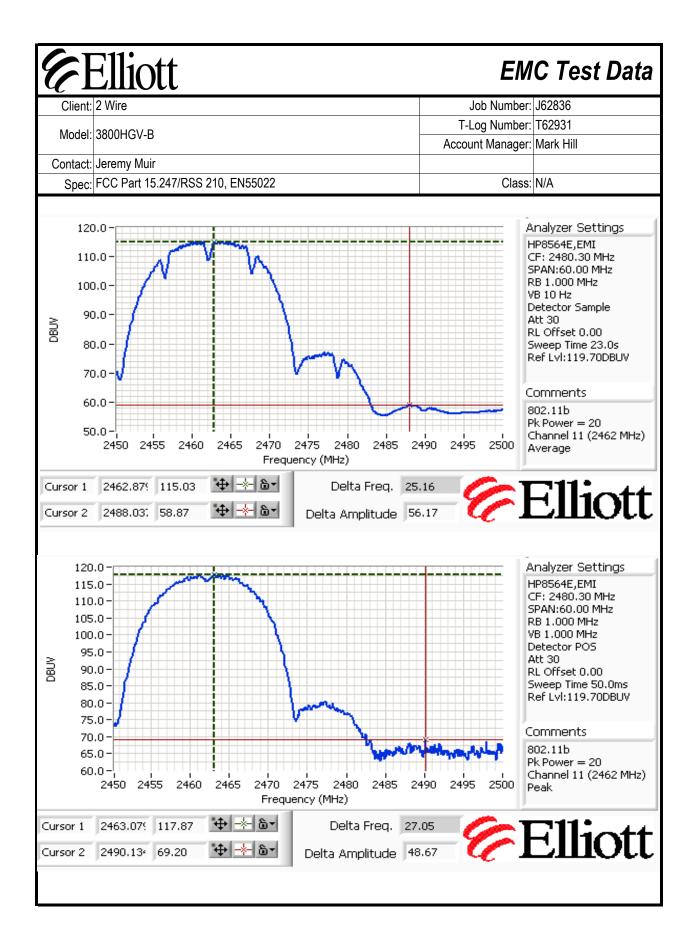
No deviations were made from the requirements of the standard.

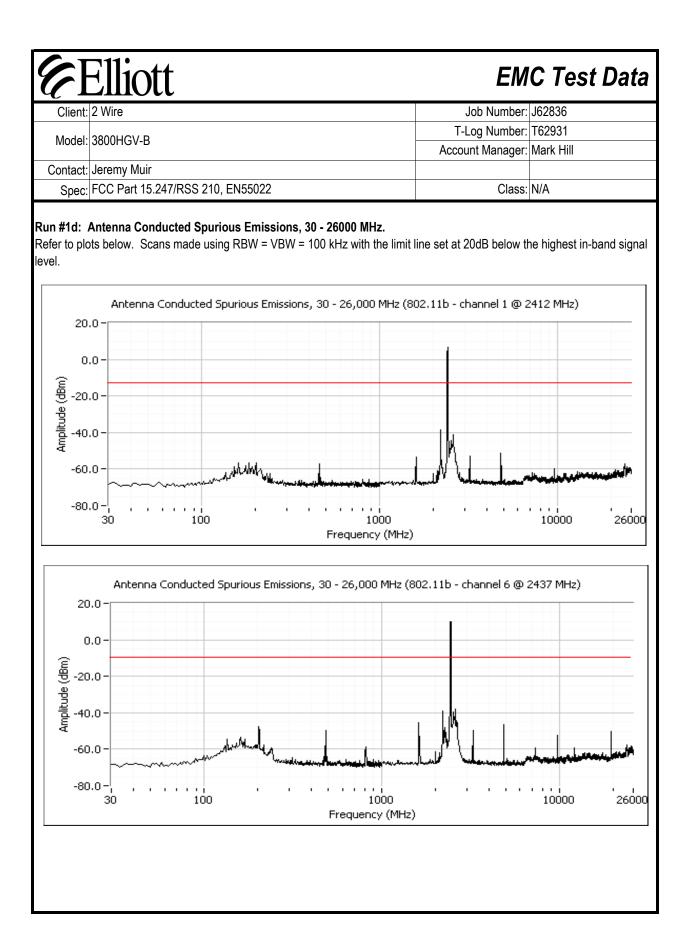
Unerit.	2 Wire						J	ob Number:	J62836
Madal	3800HGV-	D					T-L	og Number:	T62931
woder.	3000HGV	ъ					Accou	nt Manager:	Mark Hill
Contact:	Jeremy M	uir							
Spec:	FCC Part	15.247/F	RSS 210, EN	155022				Class:	N/A
)	Dadiatad C		Emissions	20 2600		Channel	2442 MU-		
		•				v Channel @ measured in 2		peak value r	measured in 100kHz
requency		Pol		15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters		
2413.933	106.60	Н	-	-	AVG	216	1.4	RB = 1MHz	z, VB = 10Hz
2413.933	109.68	Н	-	-	PK	216	1.4	RB = VB =	1MHz
2414.667	106.12	Н	-	-	PK	216	1.4	RB = VB =	100kHz
2410.367	104.87	V	-	-	AVG	173	1.0	RB = 1MHz	z, VB = 10Hz
2410.367	107.85	V	-	-	PK	173	1.0	RB = VB =	1MHz
2414.167	104.52	V	-	-	PK	173	1.0	RB = VB =	100kHz
			@ 3m in 100			104.5			
1	for emissi	ons outs	ide of restric	ted hands.	86.1	dBµV/m	Limit is -2	0dRc	
					00.1	ubμv/m		UUDU	
							,		
			Delta Ma	rker - Peak	52.50	dB	,		in-band and highest
				rker - Peak	52.50	dB	,		in-band and highest
			Delta Ma Delta Marke	rker - Peak	52.50	dB	,		in-band and highest
and Edge	e Signal Fi	eld Stre	Delta Ma Delta Marke ngth	rker - Peak r - Average	52.50 56.50	dB dB	Delta betw	een highest	in-band and highest
Band Edge	e Signal Fi Level	<b>eld Stre</b> Pol	Delta Ma Delta Marke <b>ngth</b> 15.209 /	rker - Peak r - Average / 15.247	52.50 56.50 Detector	dB dB Azimuth	Delta betwo Height		in-band and highest
Band Edge Frequency MHz	e Signal Fi Level dBμV/m	<mark>eld Stre</mark> Pol V/H	Delta Ma Delta Marke <b>ngth</b> 15.209 / Limit	rker - Peak r - Average / 15.247 Margin	52.50 56.50 Detector Pk/QP/Avg	dB dB Azimuth degrees	Delta betw Height meters	een highest	in-band and highest
Band Edge Frequency MHz 2386.462	e Signal Fi Level dBμV/m 50.10	eld Stre Pol V/H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0	rker - Peak r - Average (15.247 Margin -3.9	52.50 56.50 Detector Pk/QP/Avg AVG	dB dB Azimuth degrees 216	Delta betw Height meters 1.4	een highest	in-band and highest
Band Edge Frequency MHz	e Signal Fi Level dBμV/m	<mark>eld Stre</mark> Pol V/H	Delta Ma Delta Marke <b>ngth</b> 15.209 / Limit	rker - Peak r - Average / 15.247 Margin	52.50 56.50 Detector Pk/QP/Avg	dB dB Azimuth degrees	Delta betw Height meters	een highest	in-band and highest
Band Edge Frequency MHz 2386.462 2386.262	e Signal Fi Level dBμV/m 50.10 57.18	eld Stre Pol V/H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8	52.50 56.50 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 216 216	Delta betw Height meters 1.4 1.4	een highest	
Band Edge Frequency MHz 2386.462	e Signal Fi Level dBμV/m 50.10 57.18	eld Stre Pol V/H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8	52.50 56.50 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 216	Delta betw Height meters 1.4 1.4	een highest	
Band Edge Frequency MHz 2386.462 2386.262 Note 1:	e Signal Fi Level dBµV/m 50.10 57.18 Calculated	eld Stre Pol V/H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8	52.50 56.50 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 216 216	Delta betw Height meters 1.4 1.4	een highest	
Band Edge Frequency MHz 2386.462 2386.262 Note 1:	e Signal Fi Level dBμV/m 50.10 57.18	eld Stre Pol V/H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8	52.50 56.50 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 216 216	Delta betw Height meters 1.4 1.4	een highest	surements.
Sand Edge requency MHz 2386.462 2386.262 Jote 1: Dther Spu	e Signal Fi Level dBμV/m 50.10 57.18 Calculated	eld Stre Pol V/H H H I by subt	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r	rker - Peak r - Average / 15.247 Margin -3.9 -16.8 narker delta	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from	dB dB Azimuth degrees 216 216 216	Delta betw Height meters 1.4 1.4 ental field st	een highest	surements.
and Edge requency MHz 2386.462 2386.262 lote 1: <u>Other Spu</u> requency MHz	e Signal Fi Level dBμV/m 50.10 57.18 Calculated rious Emis Level	eld Stre Pol V/H H I by subt ssions Pol	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8 marker delta	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from	dB dB Azimuth degrees 216 216 216 n the fundame Azimuth	Delta betw Height neters 1.4 1.4 ental field st	een highest	surements.
Band Edge requency MHz 2386.462 2386.262 lote 1: Dther Spu requency MHz 12061.19	e Signal Fi Level dBµV/m 50.10 57.18 Calculated rious Emis Level dBµV/m	eld Stre Pol V/H H H ssions Pol V/H	Delta Ma Delta Marke 15.209 / Limit 54.0 74.0 racting the r	rker - Peak r - Average (15.247 Margin -3.9 -16.8 marker delta (15.247 Margin	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg	dB dB Azimuth degrees 216 216 216 n the fundame Azimuth degrees	Delta betw Height meters 1.4 1.4 ental field st Height meters	een highest	surements.
Band Edge           requency           MHz           2386.462           2386.262           lote 1:           Other Sput           requency           MHz           12061.19           12060.79	e Signal Fi Level dBµV/m 50.10 57.18 Calculated rious Emis Level dBµV/m 39.7	eld Stre Pol V/H H H ssions Pol V/H V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0	rker - Peak r - Average (15.247 Margin -3.9 -16.8 marker delta (15.247 Margin -14.4	52.50 56.50 Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215	Delta betw Height neters 1.4 1.4 ental field st Height meters 1.0	een highest	surements.
Band Edge Frequency MHz 2386.462 2386.262 Jote 1: Dther Spu Frequency	e Signal Fi Level dBµV/m 50.10 57.18 Calculated rious Emis Level dBµV/m 39.7 39.6	eld Stre Pol V/H H H I by subt ssions Pol V/H V H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0	rker - Peak r - Average (15.247 Margin -3.9 -16.8 marker delta (15.247 Margin -14.4 -14.4	52.50 56.50 Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG	dB dB Azimuth degrees 216 216 216 Azimuth degrees 215 210	Delta betw Height neters 1.4 1.4 ental field st Height neters 1.0 1.0	een highest	surements.
Cand Edge requency MHz 2386.462 2386.262 2386.262 2386.262 2386.262 2386.262 2001 12060.79 12060.79 1824.030 1824.050	e Signal Fi Level dBμV/m 50.10 57.18 Calculatec rious Emis Level dBμV/m 39.7 39.6 37.9	eld Stre Pol V/H H H Ssions Pol V/H V H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0	rker - Peak r - Average / 15.247 Margin -3.9 -16.8 narker delta / 15.247 Margin -14.4 -14.4 -14.1	52.50 56.50 Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215 210 37	Delta betw Height neters 1.4 1.4 ental field st Height neters 1.0 1.0 2.0	een highest	surements.
and Edge requency MHz 2386.462 2386.262 ote 1: ote 1: requency MHz 12061.19 12060.79 1824.030 1824.030 1824.050 12061.19	e Signal Fi Level dBμV/m 50.10 57.18 Calculateo rious Emis Level dBμV/m 39.6 37.9 35.3	eld Stre Pol V/H H H by subt ssions Pol V/H V H H V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0	rker - Peak r - Average / 15.247 Margin -3.9 -16.8 narker delta / 15.247 Margin -14.4 -14.4 -16.1 -18.7	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215 210 37 340	Delta betw Height neters 1.4 1.4 ental field st Height meters 1.0 1.0 2.0 1.2	een highest	surements.
and Edge requency MHz 2386.462 2386.262 2386.262 2386.262 2386.262 2386.262 2001 2061.19 12060.79 4824.030 4824.050 12061.19 12060.79	e Signal Fi Level dBμV/m 50.10 57.18 Calculated rious Emis Level dBμV/m 39.7 39.6 37.9 35.3 51.3	eld Stre Pol V/H H H by subt sions Pol V/H V H H V V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.9 -16.8 marker delta ( 15.247 Margin -14.4 -14.4 -14.4 -14.7 -18.7 -22.7	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG PK	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215 210 37 340 215	Delta betw Height neters 1.4 1.4 1.4 ental field st Height meters 1.0 1.0 2.0 1.2 1.0	een highest	surements.
Band Edge           requency           MHz           2386.462           2386.262           2386.262           Iote 1:           Other Spu           requency           MHz           12061.19           12061.19           12061.19           12061.79           4824.050           12060.79           4824.030	e Signal Fi Level dBμV/m 50.10 57.18 Calculated rious Emis Level dBμV/m 39.7 39.6 37.9 35.3 51.3 50.8	eld Stre Pol V/H H H by subt sisons Pol V/H V H H V V H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	rker - Peak r - Average (15.247 Margin -3.9 -16.8 marker delta (15.247 Margin -14.4 -14.4 -14.4 -16.1 -18.7 -22.7 -23.2	52.50 56.50 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG PK PK	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215 210 37 340 215 210	Delta betw Height neters 1.4 1.4 1.4 ental field st Height meters 1.0 1.0 2.0 1.2 1.0 1.0 1.0	een highest	surements.
Band Edge           requency           MHz           2386.462           2386.262           lote 1:           Other Sput           requency           MHz           12061.19           12060.79           4824.030	e Signal Fi Level dBμV/m 50.10 57.18 Calculated rious Emis Level dBμV/m 39.7 39.6 37.9 35.3 51.3 50.8 45.1	eld Stre Pol V/H H H I by subt ssions Pol V/H V H H V V H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0	rker - Peak r - Average (15.247 Margin -3.9 -16.8 narker delta (15.247 Margin -14.4 -14.4 -14.4 -14.4 -16.1 -18.7 -23.2 -23.2 -28.9	52.50 56.50 Pk/QP/Avg AVG PK Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AVG PK PK PK PK	dB dB Azimuth degrees 216 216 216 a the fundame Azimuth degrees 215 210 37 340 215 210 37 340 215 210 37	Delta betw Height neters 1.4 1.4 1.4 ental field st Height neters 1.0 1.0 2.0 1.2 1.0 1.0 2.0	een highest	surements.
Band Edge           requency           MHz           2386.462           2386.262           2386.262           Iote 1:           Other Spu           requency           MHz           12061.19           12061.19           12061.19           12061.79           4824.050           12060.79           4824.030	e Signal Fi Level dBμV/m 50.10 57.18 Calculated rious Emis Level dBμV/m 39.7 39.6 37.9 35.3 51.3 50.8 45.1 44.2	eld Stre Pol V/H H H Ssions Pol V/H V H H V V H H V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0	rker - Peak r - Average / 15.247 Margin -3.9 -16.8 narker delta / 15.247 Margin -14.4 -14.4 -14.4 -16.1 -18.7 -22.7 -23.2 -28.9 -29.8	52.50 56.50 Pk/QP/Avg AVG PK values from Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AVG PK PK PK PK	dB dB Azimuth degrees 216 216 216 216 Azimuth degrees 215 210 37 340 215 210 37 340 215 210 37 340	Delta betw Height neters 1.4 1.4 1.4 ental field st Height neters 1.0 1.0 2.0 1.2 1.0 1.0 2.0 1.2 1.0 1.2	een highest	surements.

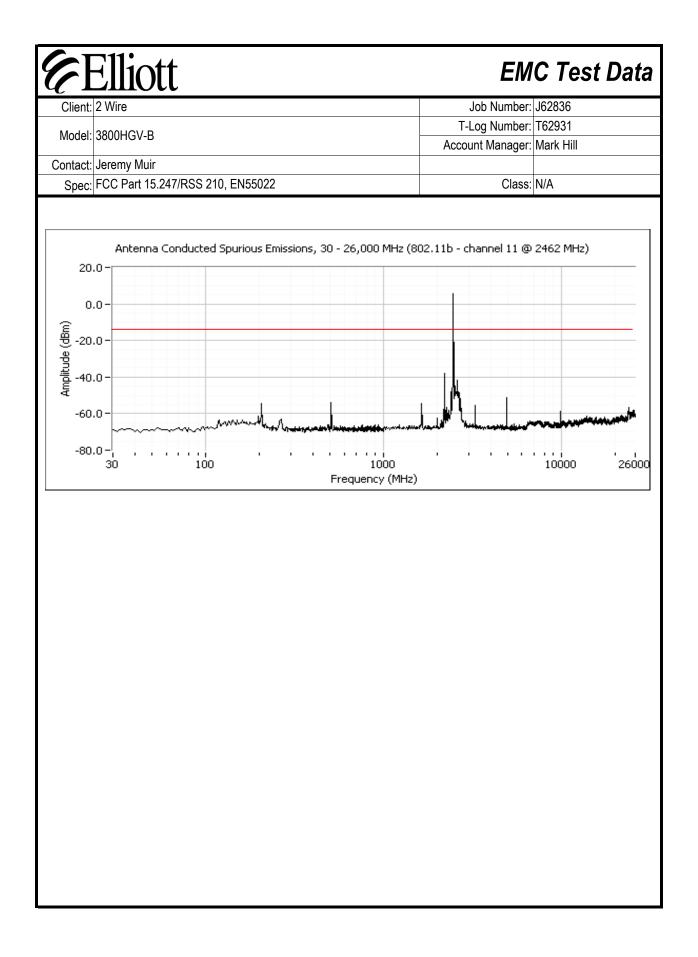


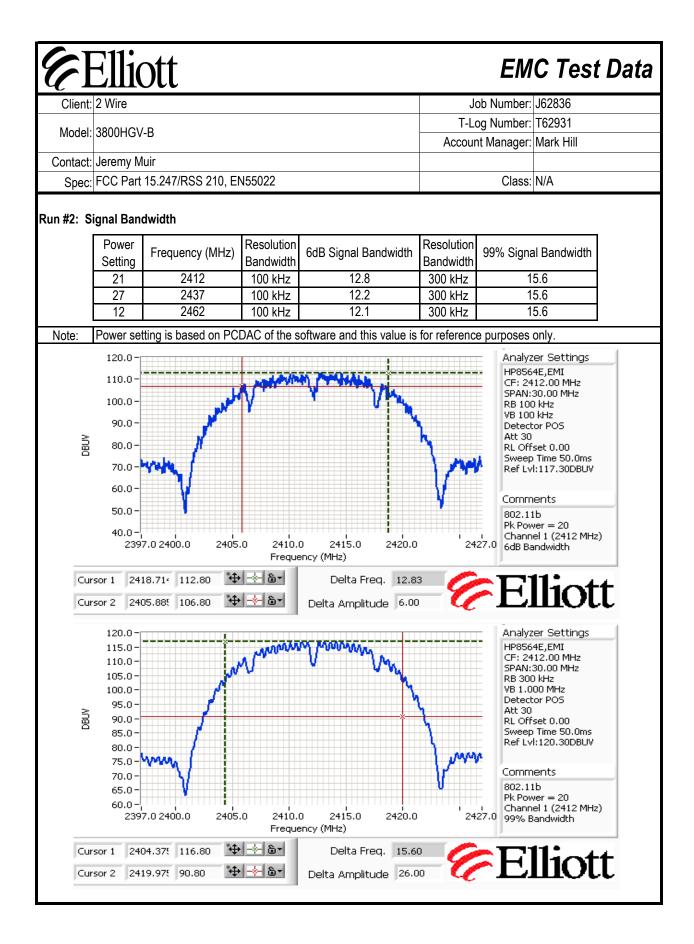
H         V           Fundamental emission level @ 3m in 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBμV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           873.950         43.2         V         54.0         -10.8         AVG         200         1.0           1873.87         41.0         H         54.0         -13.1         AVG         26         1.1           '309.87         40.7         H         54.0         -13.3         AVG         259         1.6           2184.05         39.9         H         54.0         -14.1         AVG         278         1.4           2185.78         39.8         V         54.0         -16.4         AVG         92         1.0           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.1         PK         66 <th>Model:         T-Log Number: T62931           Account Manager:         Mark Hill           Contact:         Jeremy Muir         Image:         Mark Hill           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Eundamental emission level @ 3m in 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBµU/m           MHz         dBµU/m         V/H         Limit           MHz         dBµU/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           I873.950         43.2         V         54.0         -10.8         AVG         200         1.0           2185.78         39.9         H         54.0         -13.1         AVG         259         1.6           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.1         PK         66         1.0           2184.05         51.8         H         74.0         -22.2         <t< th=""></t<></th>	Model:         T-Log Number: T62931           Account Manager:         Mark Hill           Contact:         Jeremy Muir         Image:         Mark Hill           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Eundamental emission level @ 3m in 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBµU/m           MHz         dBµU/m         V/H         Limit           MHz         dBµU/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           I873.950         43.2         V         54.0         -10.8         AVG         200         1.0           2185.78         39.9         H         54.0         -13.1         AVG         259         1.6           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.1         PK         66         1.0           2184.05         51.8         H         74.0         -22.2 <t< th=""></t<>
Model:         Account Manager:         Mark Hill           Contact:         Jeremy Muir           Spec:         FCC Part 15.247/RSS 210, EN55022           Link         Class:         N/A           In #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Image: Image	Model:         3800HGV-B           Account Manager:         Mark Hill           Contact:         Jeremy Muir           Class:         N/A           In #1b: Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im #1b: Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im #1 V           FCC Part 15.247/RSS 210, EN55022           Class: N/A           Im #1b: Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im W           Im #1         V           Im #1b: Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im #1b: Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz           Im #1         V           Im #1         V           Im #1         V           Mark Hill           Class: N/A           Class: N/A           Class: N/A           Class: N/A           Class: N/A           Class: N/A           Cl
Contact:         Jeremy Muir         Class:         N/A           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           In #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Im #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Im #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Im #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Im #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         The second State	Contact:         Jeremy Muir         Class:         N/A           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           un #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           un #1b:         main 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBµV/m         MHz           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           873.950         43.2         V         54.0         -10.8         AVG         200         1.0         1.0           873.87         41.0         H         54.0         -13.3         AVG         259         1.6           2184.05         39.9         H         54.0
Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz         H         V           undamental emission level @ 3m in 100kHz RBW:         109.3         110.2         110.2           Limit for emissions outside of restricted bands:         90.17 dBµV/m         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.3         AVG         259         1.6           2184.05         39.9         H         54.0         -14.1         AVG         278         1.4           2185.78         39.8         V         54.0         -16.4         AVG         92         1.0           212.325         37.6         V         54.0         -16.4         AVG         92         1.0         1.1           2185.78         50.9         V         74.0         -22.2         PK         278         1.4         1.4           <	Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz
n #1b:       Radiated Spurious Emissions, 30 - 26000 MHz.       Center Channel @ 2437 MHz         undamental emission level @ 3m in 100kHz RBW:       109.3       110.2         Limit for emissions outside of restricted bands:       90.17 dBµV/m         Baquency       Level       Pol       15.209 / 15.247       Detector       Azimuth       Height       Comments         MHz       dBµV/m       V/H       Limit       Margin       Pk/QP/Avg       degrees       meters         373.950       43.2       V       54.0       -10.8       AVG       200       1.0         873.87       41.0       H       54.0       -13.1       AVG       26       1.1         309.87       40.7       H       54.0       -14.1       AVG       278       1.4         2185.78       39.8       V       54.0       -14.2       AVG       66       1.0         112.325       37.6       V       54.0       -14.2       AVG       92       1.0         2184.05       51.8       H       74.0       -22.2       PK       278       1.4         2185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87 <td>n #1b:       Radiated Spurious Emissions, 30 - 26000 MHz.       Center Channel @ 2437 MHz         undamental emission level @ 3m in 100kHz RBW:       109.3       110.2         Limit for emissions outside of restricted bands:       90.17 dBµV/m         Baquency       Level       Pol       15.209 / 15.247       Detector       Azimuth       Height       Comments         MHz       dBµV/m       V/H       Limit       Margin       Pk/QP/Avg       degrees       meters         373.950       43.2       V       54.0       -10.8       AVG       200       1.0         873.87       41.0       H       54.0       -13.1       AVG       266       1.1         309.87       40.7       H       54.0       -13.3       AVG       259       1.6         2184.05       39.9       H       54.0       -14.1       AVG       278       1.4         2185.78       39.8       V       54.0       -14.4       AVG       92       1.0         2184.05       51.8       H       74.0       -22.2       PK       278       1.4         2185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87&lt;</td>	n #1b:       Radiated Spurious Emissions, 30 - 26000 MHz.       Center Channel @ 2437 MHz         undamental emission level @ 3m in 100kHz RBW:       109.3       110.2         Limit for emissions outside of restricted bands:       90.17 dBµV/m         Baquency       Level       Pol       15.209 / 15.247       Detector       Azimuth       Height       Comments         MHz       dBµV/m       V/H       Limit       Margin       Pk/QP/Avg       degrees       meters         373.950       43.2       V       54.0       -10.8       AVG       200       1.0         873.87       41.0       H       54.0       -13.1       AVG       266       1.1         309.87       40.7       H       54.0       -13.3       AVG       259       1.6         2184.05       39.9       H       54.0       -14.1       AVG       278       1.4         2185.78       39.8       V       54.0       -14.4       AVG       92       1.0         2184.05       51.8       H       74.0       -22.2       PK       278       1.4         2185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87<
undamental emission level @ 3m in 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBμV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -14.1         AVG         278         1.4           2185.78         39.9         H         54.0         -14.2         AVG         66         1.0           112.325         37.6         V         54.0         -16.4         AVG         92         1.0           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.7         PK         266         1.0           309.8	undamental emission level @ 3m in 100kHz RBW:         109.3         110.2           Limit for emissions outside of restricted bands:         90.17 dBμV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -14.1         AVG         278         1.4           2185.78         39.8         V         54.0         -14.2         AVG         66         1.0           312.325         37.6         V         54.0         -14.2         AVG         92         1.0           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.1         PK         66         1.0           312.32
Limit for emissions outside of restricted bands:         90.17 dBμV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           2184.05         39.9         H         54.0         -14.1         AVG         278         1.4           2185.78         39.8         V         54.0         -14.2         AVG         66         1.0           312.325         37.6         V         54.0         -16.4         AVG         92         1.0           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.7         PK         6	Limit for emissions outside of restricted bands:         90.17 dBµV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           2184.05         39.9         H         54.0         -14.1         AVG         278         1.4           2185.78         39.8         V         54.0         -14.2         AVG         66         1.0           312.325         37.6         V         54.0         -16.4         AVG         92         1.0           2184.05         51.8         H         74.0         -22.2         PK         278         1.4           2185.78         50.9         V         74.0         -23.1         PK         66
Adjump         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           1484.05         39.9         H         54.0         -14.1         AVG         278         1.4           1485.78         39.8         V         54.0         -14.2         AVG         66         1.0           112.325         37.6         V         54.0         -16.4         AVG         92         1.0           118.05         51.8         H         74.0         -22.2         PK         278         1.4           1185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H	Equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           i73.950         43.2         V         54.0         -10.8         AVG         200         1.0           873.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           1484.05         39.9         H         54.0         -14.1         AVG         278         1.4           1185.78         39.8         V         54.0         -14.2         AVG         66         1.0           112.325         37.6         V         54.0         -16.4         AVG         92         1.0           1184.05         51.8         H         74.0         -22.2         PK         278         1.4           1185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H
HHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -16.4         AVG         92         1.0           12.325         37.6         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.6 </td <td>MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.</td>	MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.
MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -14.2         AVG         66         1.0           12.325         37.6         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.6 </td <td>HHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -14.2         AVG         66         1.0           12.325         37.6         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.6&lt;</td>	HHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           73.950         43.2         V         54.0         -10.8         AVG         200         1.0           373.87         41.0         H         54.0         -13.1         AVG         26         1.1           309.87         40.7         H         54.0         -13.3         AVG         259         1.6           184.05         39.9         H         54.0         -14.1         AVG         278         1.4           185.78         39.8         V         54.0         -14.2         AVG         66         1.0           12.325         37.6         V         54.0         -16.4         AVG         92         1.0           184.05         51.8         H         74.0         -22.2         PK         278         1.4           185.78         50.9         V         74.0         -23.1         PK         66         1.0           309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -26.6<
73.950       43.2       V       54.0       -10.8       AVG       200       1.0         373.87       41.0       H       54.0       -13.1       AVG       26       1.1         309.87       40.7       H       54.0       -13.3       AVG       259       1.6         184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -14.2       AVG       66       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         873.87       46.9       H       74.0       -27.1	73.950       43.2       V       54.0       -10.8       AVG       200       1.0         373.87       41.0       H       54.0       -13.1       AVG       26       1.1         309.87       40.7       H       54.0       -13.3       AVG       259       1.6         184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -14.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1
009.87       40.7       H       54.0       -13.3       AVG       259       1.6         184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         185.78       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1	009.87       40.7       H       54.0       -13.3       AVG       259       1.6         184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         09.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         73.87       46.9       H       74.0       -27.1       PK       26       1.1
184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1	184.05       39.9       H       54.0       -14.1       AVG       278       1.4         185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         309.87       50.3       H       74.0       -25.4       PK       92       1.0         12.325       48.6       V       74.0       -26.6       PK       200       1.0         73.950       47.4       V       74.0       -27.1       PK       26       1.1
185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1	185.78       39.8       V       54.0       -14.2       AVG       66       1.0         12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1
12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1	12.325       37.6       V       54.0       -16.4       AVG       92       1.0         184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1
184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         109.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         73.87       46.9       H       74.0       -27.1       PK       26       1.1	184.05       51.8       H       74.0       -22.2       PK       278       1.4         185.78       50.9       V       74.0       -23.1       PK       66       1.0         109.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         73.87       46.9       H       74.0       -27.1       PK       26       1.1
185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1	185.78       50.9       V       74.0       -23.1       PK       66       1.0         309.87       50.3       H       74.0       -23.7       PK       259       1.6         12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         873.87       46.9       H       74.0       -27.1       PK       26       1.1
309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -25.4         PK         92         1.0           73.950         47.4         V         74.0         -26.6         PK         200         1.0           373.87         46.9         H         74.0         -27.1         PK         26         1.1	309.87         50.3         H         74.0         -23.7         PK         259         1.6           12.325         48.6         V         74.0         -25.4         PK         92         1.0           73.950         47.4         V         74.0         -26.6         PK         200         1.0           373.87         46.9         H         74.0         -27.1         PK         26         1.1
12.325         48.6         V         74.0         -25.4         PK         92         1.0           73.950         47.4         V         74.0         -26.6         PK         200         1.0           373.87         46.9         H         74.0         -27.1         PK         26         1.1           For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB	12.325       48.6       V       74.0       -25.4       PK       92       1.0         73.950       47.4       V       74.0       -26.6       PK       200       1.0         373.87       46.9       H       74.0       -27.1       PK       26       1.1
73.950         47.4         V         74.0         -26.6         PK         200         1.0           373.87         46.9         H         74.0         -27.1         PK         26         1.1           For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB	73.950         47.4         V         74.0         -26.6         PK         200         1.0           373.87         46.9         H         74.0         -27.1         PK         26         1.1
B73.87       46.9       H       74.0       -27.1       PK       26       1.1         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB	873.87 46.9 H 74.0 -27.1 PK 26 1.1
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB	
	Ear amissions in restricted hands, the limit of 15,200 was used. For all other amissions, the limit was set 20
the level of the fundamental.	
	the level of the fundamental.

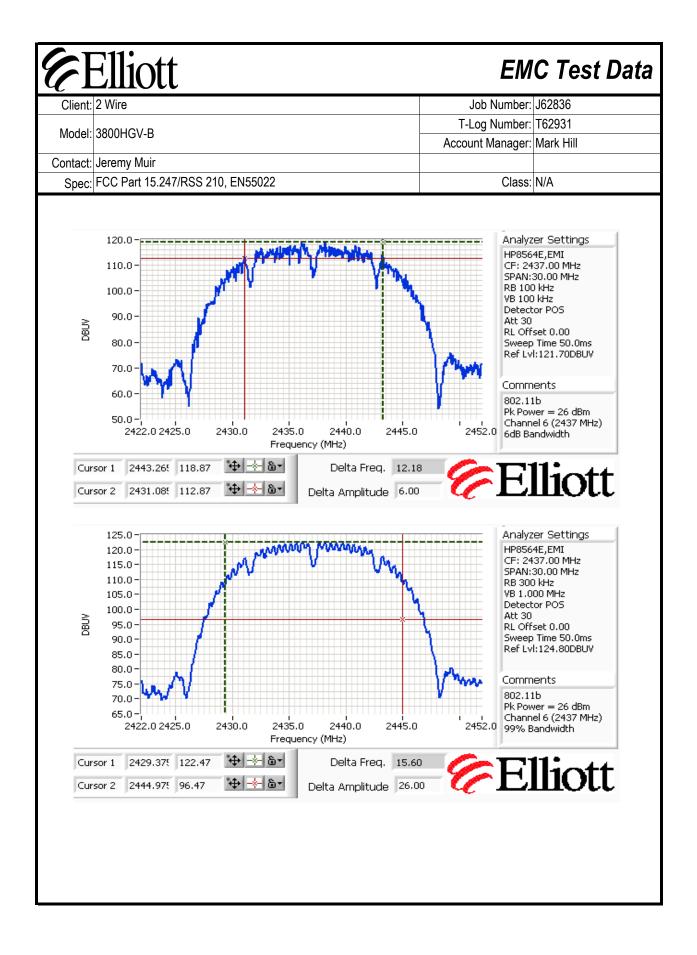
2	2 Wire						J	ob Number:	J62836
Madal	3800HGV-	D					T-L	og Number:	T62931
woder.	3000HGV	-D					Accou	nt Manager:	Mark Hill
Contact:	Jeremy M	uir							
Spec:	FCC Part	15.247/F	RSS 210, EN	155022				Class:	N/A
Run #1c: 1	Radiated S	Spurious	Emissions	s, 30 - 2600	0 MHz. Higi	h Channel @	) 2462 MHz		
									measured in 100kHz
requency		Pol		15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	<u> </u>	meters		
2460.400	106.23	V	-	-	AVG	171	1.2		z, VB = 10Hz
2460.400	109.25	V	-	-	PK	171	1.2	RB = VB =	
2460.100	106.22	V	-	-	PK	171	1.2	RB = VB =	
2460.400	106.30	H	-	-	AVG	219	1.7		z, VB = 10Hz
2460.400	109.31	H	-	-	PK	219	1.7	RB = VB =	
2461.167	106.08	Η	-	-	PK	219	1.7	RB = VB =	TUUKHZ
Fundame	ntal emissi	n level	@ 3m in 100	)kHz RR\//·	106.1	106.2	1		
			ide of restric			dBµV/m	Limit is -2	0dBc	
				lica banas.	00.2	υσμν/π		JUDC	
			Delta Ma	rker - Peak	48 7	dB	Delta betw	een hiahest	in-hand and highest
				rker - Peak r - Average			Delta betw	een highest	in-band and highest
			Delta Ma Delta Marke				Delta betw	een highest	in-band and highest
	e Signal Fi		Delta Marke				Delta betw	een highest	in-band and highest
			Delta Marke	r - Average			Delta betw Height	een highest	-
Band Edge Frequency MHz		eld Stre	Delta Marke ngth	r - Average	56.2	dB	]		-
-requency MHz	Level	<b>eld Stre</b> Pol	Delta Marke <b>ngth</b> 15.209 /	r - Average 15.247	56.2 Detector	dB Azimuth	Height		-
Frequency MHz 2488.037	Level dBµV/m	<mark>eld Stre</mark> Pol V/H	Delta Marke <b>ngth</b> 15.209 / Limit	r - Average 15.247 Margin	56.2 Detector Pk/QP/Avg	dB Azimuth degrees	Height meters		-
requency MHz 2488.037 2490.134	Level dBµV/m 50.13 60.64	eld Stre Pol V/H V V	Delta Marke ngth 15.209 / Limit 54.0 74.0	r - Average 15.247 Margin -3.9 -13.4	56.2 Detector Pk/QP/Avg AVG PK	dB Azimuth degrees 219 219	Height meters 1.7 1.7	Comments	
requency MHz 2488.037 2490.134	Level dBµV/m 50.13 60.64	eld Stre Pol V/H V V	Delta Marke ngth 15.209 / Limit 54.0 74.0	r - Average 15.247 Margin -3.9 -13.4	56.2 Detector Pk/QP/Avg AVG PK	dB Azimuth degrees 219	Height meters 1.7 1.7	Comments	
Frequency MHz 2488.037 2490.134 Note 1:	Level dBµV/m 50.13 60.64 Calculated	eld Stre Pol V/H V V	Delta Marke ngth 15.209 / Limit 54.0 74.0	r - Average 15.247 Margin -3.9 -13.4	56.2 Detector Pk/QP/Avg AVG PK	dB Azimuth degrees 219 219	Height meters 1.7 1.7	Comments	
requency MHz 2488.037 2490.134 Note 1: Other Spur	Level dBµV/m 50.13 60.64 Calculated	eld Stre Pol V/H V d by subt	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r	r - Average 15.247 Margin -3.9 -13.4 narker delta	56.2 Detector Pk/QP/Avg AVG PK	dB Azimuth degrees 219 219 a the fundame	Height meters 1.7 1.7 ental field st	Comments rength meas	surements.
Frequency MHz 2488.037 2490.134 Note 1: Dther Spur Frequency	Level dBµV/m 50.13 60.64 Calculated	eld Stre Pol V/H V i by subt ssions Pol	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 /	r - Average 15.247 Margin -3.9 -13.4 narker delta	56.2 Detector Pk/QP/Avg AVG PK a values from	dB Azimuth degrees 219 219 n the fundame Azimuth	Height meters 1.7 1.7 ental field st Height	Comments	surements.
requency MHz 2488.037 2490.134 lote 1: <b>Other Spu</b> requency MHz	Level dBµV/m 50.13 60.64 Calculated rious Emis Level dBµV/m	eld Stre Pol V/H V t by subt ssions Pol V/H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit	r - Average 15.247 Margin -3.9 -13.4 narker delta 15.247 Margin	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg	dB Azimuth degrees 219 219 n the fundame Azimuth degrees	Height meters 1.7 1.7 ental field st Height meters	Comments rength meas	surements.
Trequency           MHz           2488.037           2490.134           Jote 1:           Dther Spuin           Trequency           MHz           7387.908	Level           dBμV/m           50.13           60.64           Calculated           rious Emis           Level           dBμV/m           39.1	eld Stre Pol V/H V V d by subt ssions Pol V/H H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0	r - Average ( 15.247 Margin -3.9 -13.4 marker delta ( 15.247 Margin -14.9	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283	Height meters 1.7 1.7 ental field st Height meters 1.5	Comments rength meas	surements.
requency MHz 2488.037 2490.134 Jote 1: Jother Sput requency MHz 7387.908 4923.897	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6	eld Stre Pol V/H V V d by subt ssions Pol V/H H H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0	r - Average 15.247 Margin -3.9 -13.4 narker delta 15.247 Margin -14.9 -15.4	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6	Comments rength meas	surements.
requency MHz 2488.037 2490.134 Jote 1: Dther Sput requency MHz 7387.908 4923.897 4923.977	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2	eld Stre Pol V/H V V i by subt ssions Pol V/H H H V	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0	r - Average 15.247 Margin -3.9 -13.4 marker delta 15.247 Margin -14.9 -15.4 -16.8	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG	dB Azimuth degrees 219 219 a the fundame Azimuth degrees 283 37 202	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0	Comments rength meas	surements.
requency MHz 2488.037 2490.134 Jote 1: Dther Spur Trequency MHz 7387.908 4923.897 4923.977 7386.850	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2 36.9	eld Stre Pol V/H V V i by subt ssions Pol V/H H H H V V V	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 54.0	r - Average (15.247 Margin -3.9 -13.4 marker delta (15.247 Margin -14.9 -15.4 -16.8 -17.1	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0 1.9	Comments rength meas	surements.
requency MHz 2488.037 2490.134 lote 1: <b>Other Spu</b> requency MHz 7387.908 4923.977 7386.850 7387.908	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7	eld Stre Pol V/H V V d by subt ssions Pol V/H H H H V V H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0	r - Average 15.247 Margin -3.9 -13.4 narker delta 15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0 1.9 1.5	Comments rength meas	surements.
requency MHz 2488.037 2490.134 Jote 1: Dther Sput requency MHz 7387.908 4923.897 4923.977 7386.850 7387.908 7386.850	Level dBμV/m 50.13 60.64 Calculateo rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7 47.6	eld Stre Pol V/H V V d by subt ssions Pol V/H H H V V V V V V	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0	r - Average 15.247 Margin -3.9 -13.4 marker delta 15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3 -26.4	56.2 Detector Pk/QP/Avg AVG PK avalues from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283 283 233	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0 1.9 1.5 1.9	Comments rength meas	surements.
requency MHz 2488.037 2490.134 lote 1: <b>2ther Spu</b> requency MHz 7387.908 4923.897 7386.850 7386.850 4923.897	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7 47.6 46.2	eld Stre Pol V/H V V d by subt ssions Pol V/H H H V V H H V H H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0	r - Average ( 15.247 Margin -3.9 -13.4 marker delta ( 15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3 -26.4 -27.9	56.2 Detector Pk/QP/Avg AVG PK values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK PK PK PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283 283 233 37	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0 1.9 1.5 1.9 1.6	Comments rength meas	surements.
requency MHz 2488.037 2490.134 lote 1: <b>Other Spu</b> requency MHz 7387.908 4923.897 4923.977 7386.850 7386.850 4923.897	Level dBμV/m 50.13 60.64 Calculateo rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7 47.6	eld Stre Pol V/H V V d by subt ssions Pol V/H H H V V V V V V	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0	r - Average 15.247 Margin -3.9 -13.4 marker delta 15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3 -26.4	56.2 Detector Pk/QP/Avg AVG PK avalues from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283 283 233	Height meters 1.7 1.7 ental field st Height meters 1.5 1.6 1.0 1.9 1.5 1.9	Comments rength meas	surements.
requency MHz 2488.037 2490.134 Jote 1: Dther Sput requency MHz 7387.908 4923.897 4923.977 7386.850 7386.850 4923.897	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7 47.6 46.2 45.3	eld Stre Pol V/H V V i by subt ssions Pol V/H H H V V V H V V H V V V	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0 74.0	r - Average (15.247 Margin -3.9 -13.4 marker delta (15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3 -26.4 -27.9 -28.7	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK PK PK PK PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283 283 283 233 37 202	Height           meters           1.7           1.7           ental field st           Height           meters           1.5           1.6           1.9           1.5           1.6           1.9           1.6           1.0	Comments	surements.
Frequency MHz 2488.037 2490.134 Note 1: Dther Spur Frequency	Level dBμV/m 50.13 60.64 Calculated rious Emis Level dBμV/m 39.1 38.6 37.2 36.9 48.7 47.6 46.2 45.3	eld Stre Pol V/H V V d by subt ssions Pol V/H H H V V H V H V H V V H	Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r 15.209 / Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0 24.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 54.0	r - Average (15.247 Margin -3.9 -13.4 marker delta (15.247 Margin -14.9 -15.4 -16.8 -17.1 -25.3 -26.4 -27.9 -28.7	56.2 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK PK PK PK PK	dB Azimuth degrees 219 219 n the fundame Azimuth degrees 283 37 202 233 283 283 283 233 37 202	Height           meters           1.7           1.7           ental field st           Height           meters           1.5           1.6           1.9           1.5           1.6           1.9           1.6           1.0	Comments	surements.

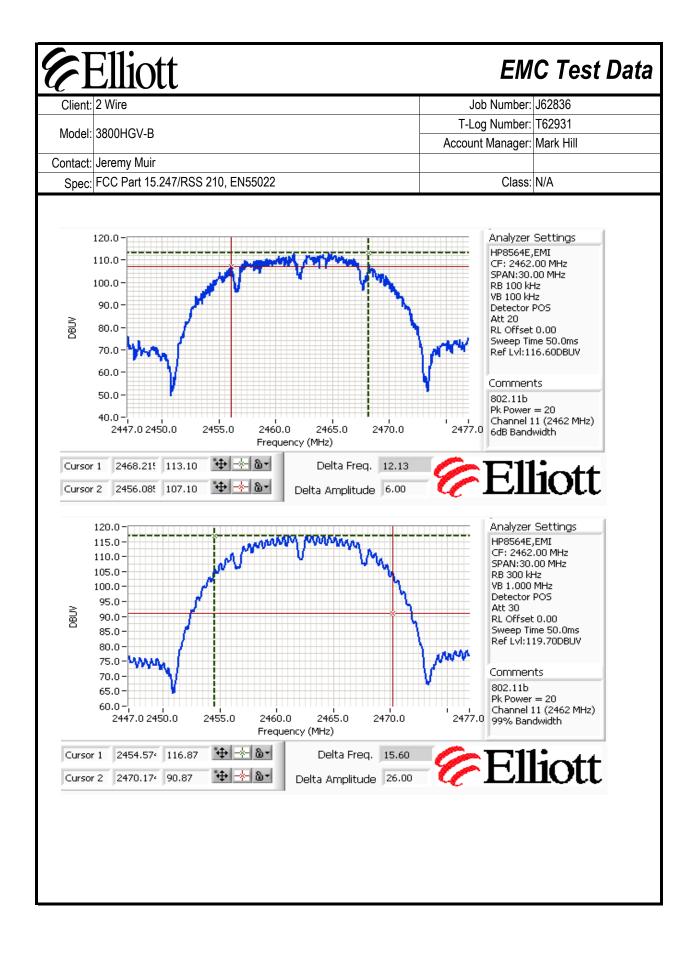


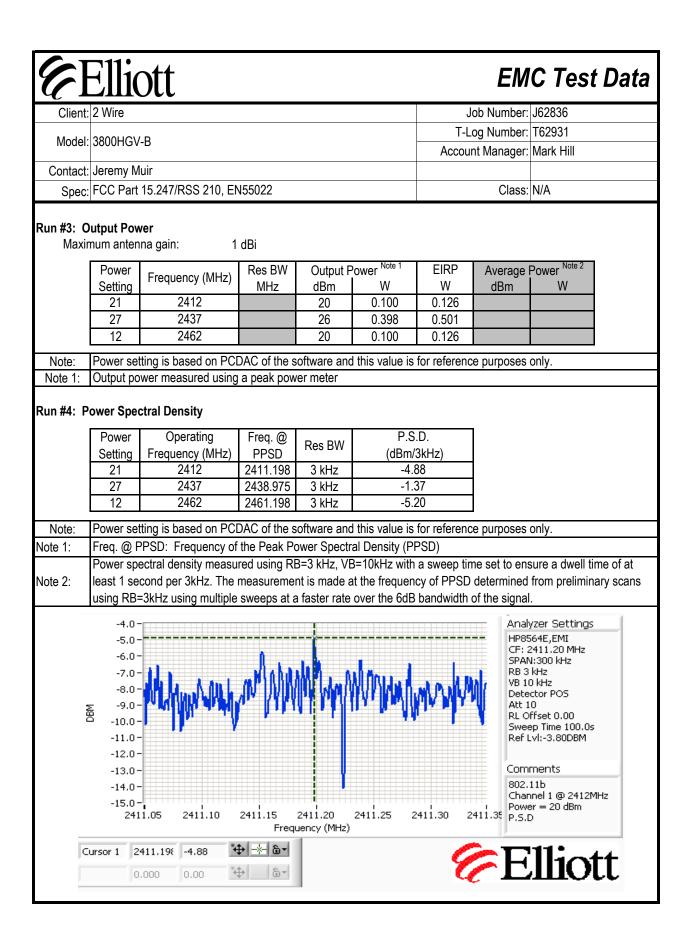


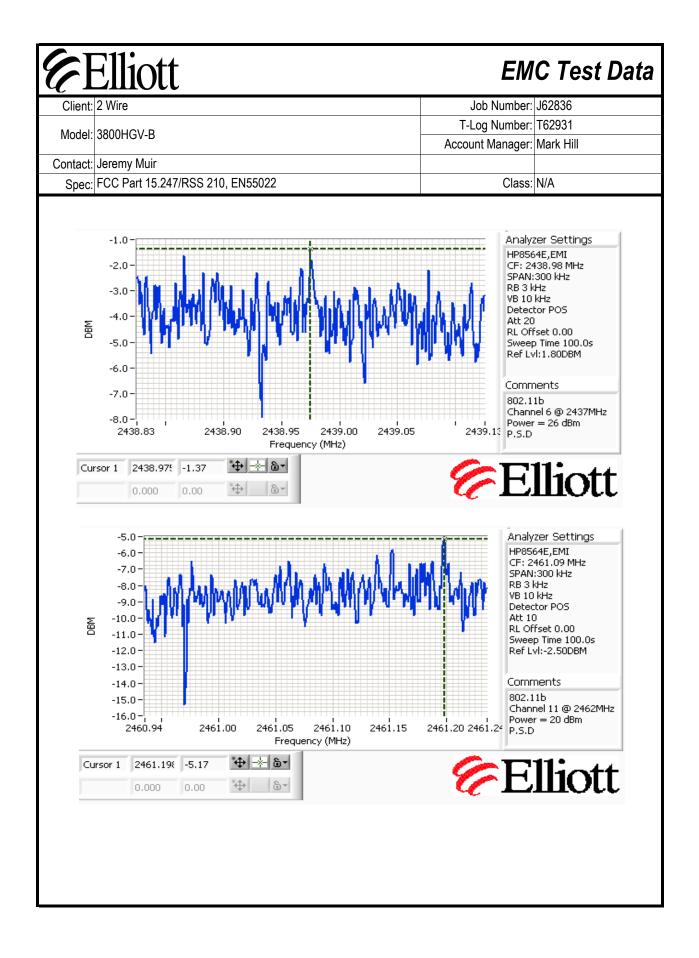












#### **Elliott** EMC Test Data Client: 2 Wire Job Number: J62836 T-Log Number: T62931 Model: 3800HGV-B Account Manager: Mark Hill Contact: Jeremy Muir Spec: FCC Part 15.247/RSS 210, EN55022 Class: N/A FCC 15.247 DTS - Power, Bandwidth and Spurious Emissions 802.11g Test Specifics The objective of this test session is to perform final qualification testing of the EUT with respect to the Objective: specification listed above. Date of Test: 2/ 21&23 /2006 Config. Used: 1 Test Engineer: Mehran Birgani Config Change: None Test Location: SVOATS #2 EUT Voltage: 120V/60Hz General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing.

For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators used.

Ambient Conditions:	Temperature:	16 °C
	Rel. Humidity:	29 %

#### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	0
	RE, 30 - 26000 MHz	FCC Part		50.8dBµV/m
1	,		Pass	(345.5µV/m) @
	Emissions In Restricted Bands	15.209 / 15.247( c)		2483.5MHz (-3.2dB)
2	6dB Bandwidth	15.247(a)	Pass	Refer to run
3	Output Power	15.247(b)	Pass	26 dBm
4	Power Spectral Density (PSD)	15.247(d)	Pass	Refer to run

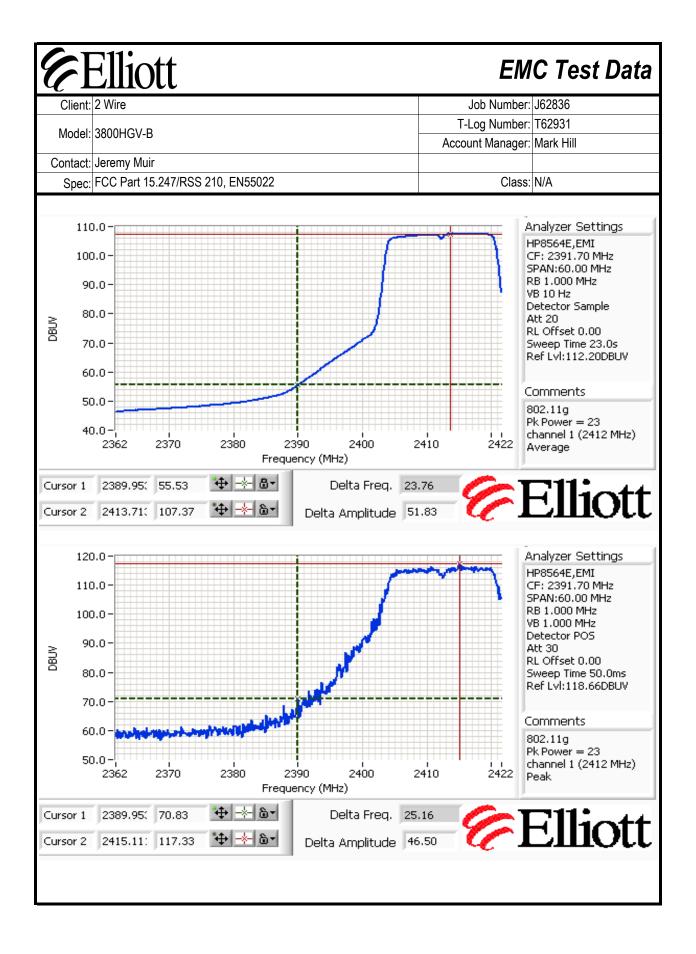
### Modifications Made During Testing:

No modifications were made to the EUT during testing

### **Deviations From The Standard**

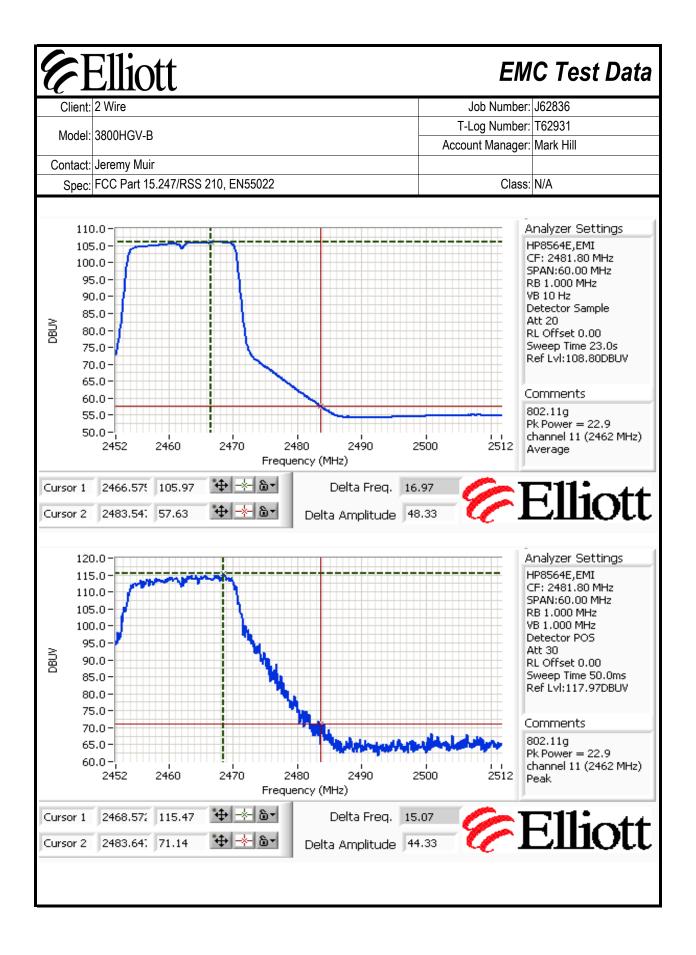
No deviations were made from the requirements of the standard.

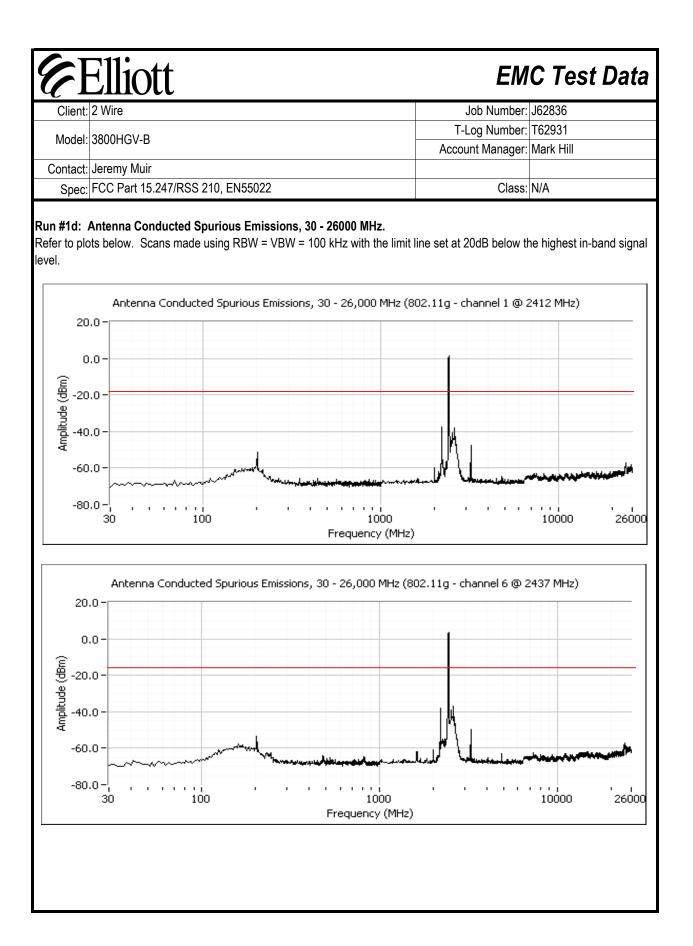
Contact: J Spec: F Run #1a: Ra Frequency MHz (2 2415.233 2415.233 2419.100	800HGV eremy M CC Part adiated \$	uir 15.247/F Spurious Field St	RSS 210, EN	155022			T-L	ob Number: og Number:	
Contact: J Spec: F Run #1a: Ra Frequency MHz (2 2415.233 2415.233 2419.100	eremy M CC Part adiated S al Signal Level dBµV/m	uir 15.247/F Spurious Field St		155022				oa Number:	T62031
Contact: J Spec: F Run #1a: Ra Frequency MHz (2 2415.233 2415.233 2419.100	eremy M CC Part adiated S al Signal Level dBµV/m	uir 15.247/F Spurious Field St		155022					102931
Spec:         F           Run #1a:         Ra           undamenta         F           undamenta         MHz         0           MHz         0         2415.233         2415.233           2415.233         2419.100         2419.100         2419.100	adiated S al Signal Level dBµV/m	15.247/F Spurious Field St		155022			Accou	nt Manager:	Mark Hill
Spec:         F           Run #1a:         Ra           undamenta         F           frequency         MHz         0           MHz         0         2415.233         2415.233           2415.233         2419.100         2419.100         2419.100	adiated S al Signal Level dBµV/m	15.247/F Spurious Field St		155022				0	
undamenta           requency           MHz         0           2415.233         2415.233           2419.100         2419.100	a <b>l Signal</b> Level dBµV/m	· Field St	Emissions					Class:	N/A
Frequency           MHz         0           2415.233         2415.233           2415.233         2419.100	Level dBµV/m					v Channel @		peak value r	neasured in 100kHz
MHz ( 2415.233 2415.233 2419.100	dBµV/m	Pol		15.247	Detector	Azimuth	Height	Comments	
2415.233 2415.233 2419.100		V/H	Limit	Margin	Pk/QP/Avg		meters	Commonito	
2415.233 2419.100	101.Z1	V	-	-	AVG	159	1.1	RB = 1MHz	z, VB = 10Hz
2419.100	109.79	V	-	-	PK	159	1.1	RB = VB =	
	100.04	V	-	-	PK	159	1.1	RB = VB =	
2417.600	98.83	H	-	-	AVG	206	1.0		z, VB = 10Hz
	107.59	Н	-	-	PK	206	1.0	RB = VB =	
2414.667	97.22	Н	-	-	PK	206	1.0	RB = VB =	
Fundament Limit f			ide of restric		80.0	100.0 dBμV/m dB	Limit is -2		in-band and highest
Band Edge S	<b>Signal Fi</b> Level	<b>eld Stre</b> Pol	<b>ngth</b> 15.2097	15.247	Detector	Azimuth	Height	Comments	
	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters		
2389.953	49.38	V	54.0	-4.6	AVG	159	1.1		
2389.953	63.29	V	74.0	-10.7	PK	159	1.1		
lote 1: C	Calculated	l by subt	racting the r	narker delta	a values from	n the fundam	ental field st	rength meas	surements.
Other Spurio							1	1	
requency	Level	Pol	15.209/		Detector	Azimuth	Height	Comments	
	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
12062.32	39.0	V	54.0	-15.1	AVG	0	1.0		
7235.841	35.0	V	54.0	-19.0	AVG	203	1.0	Not Restric	ed (used restriced limits)
4822.865	31.6	Н	54.0	-22.4	AVG	274	1.0		
4826.342	31.6	V	54.0	-22.4	AVG	238	1.0		
12062.32	50.8	V	74.0	-23.2	PK	0	1.0		
7235.841	46.4	V	74.0	-27.6	PK	203	1.0	Not Restric	ed (used restriced limits
826.342	43.7	V	74.0	-30.3	PK	238	1.0		
1822.865	42.9	Н	74.0	-31.1	PK	274	1.0		
			estricted bar damental.	ids, the limi	t of 15.209 w	vas used. Fo	r all other e	missions, the	e limit was set 20dB belo

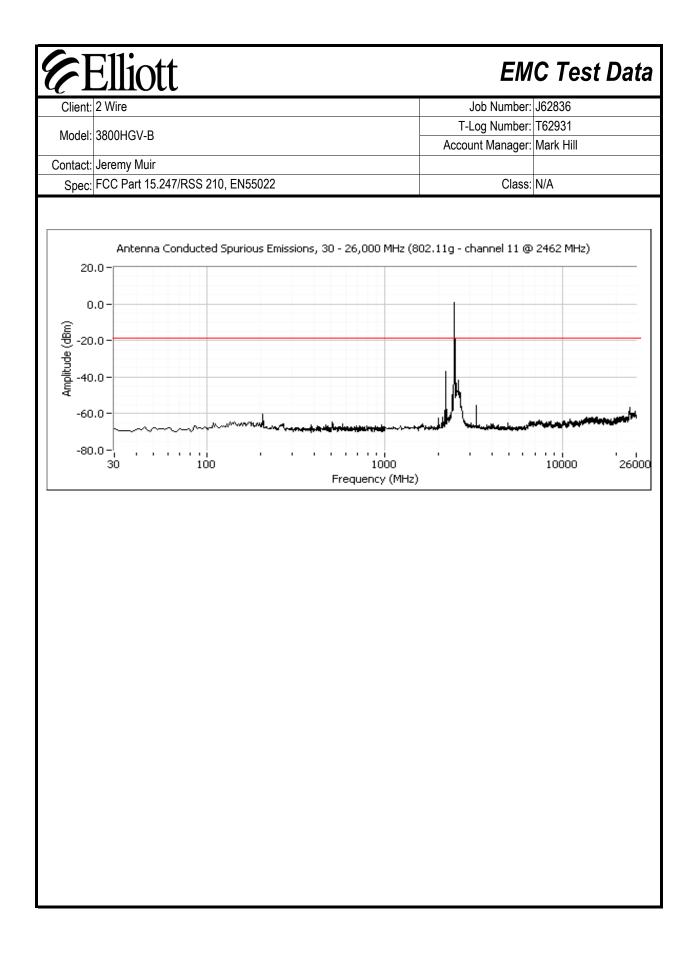


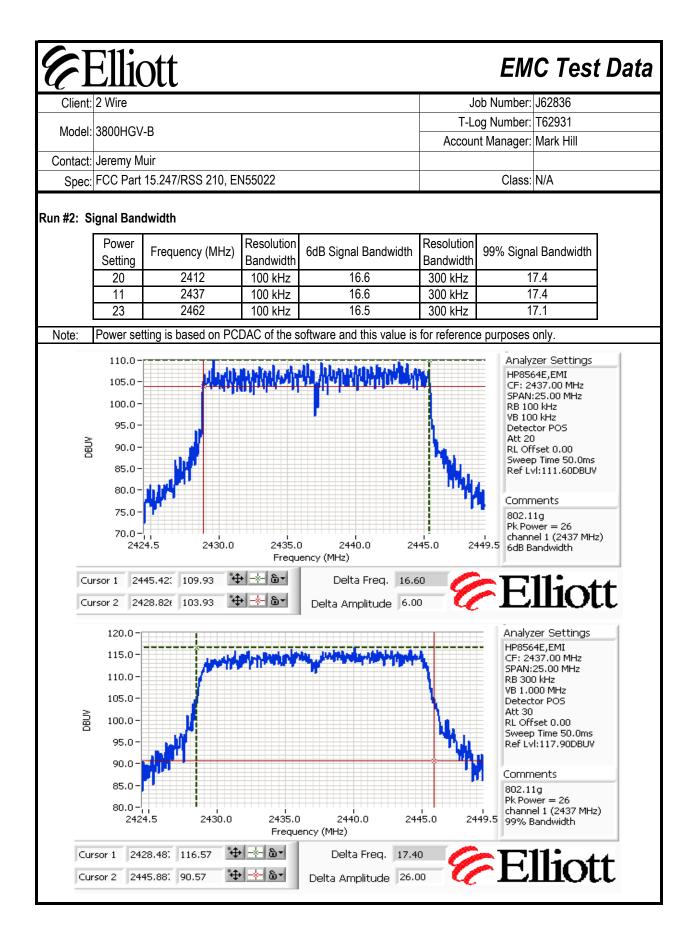
Model:         3800HGV-B         T-Log Number:         T62931           Contact:         Jeremy Muir         Mark Hill           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz         N/A           undamental emission level @ 3m in 100kHz RBW:         97.1         101.3         101.3         101.3           Limit for emissions outside of restricted bands:         81.3 dBµV/m         Markers         Meters         11.270           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -19.5         AVG         0         1.0           11.475         34.5         H         54.0         -25.7         AVG         309         1.0           11.270         47.1         V         74.0         -26.9         PK         0         1.0         1.0           11.270         47.1         V         74.0         -28.2         PK         88         1.5         1.0           11.270         47.1         V         74.0         -28.2         PK	Client:	2 Wire						J	ob Number:	J62836
Model:         3800HGV-B         Account Manager:         Mark Hill           Contact:         Jeremy Muir         Class:         N/A           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz.         Center Channel @ 2437 MHz           Image:         H         V           Indamental emission level @ 3m in 100kHz RBW:         97.1         101.3           Limit for emissions outside of restricted bands:         81.3 dBµV/m         Meters           Indamental emission level @ 3m in 100kHz RBW:         97.1         101.3           Limit for emissions outside of restricted bands:         81.3 dBµV/m         Meters           MHz         dBµV/m         V/H         Limit         Margin           MHz         dBµV/m         V/H         Limit         Margin           MHz         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -22.2         AVG         139         1.0           74.455         28.4         H         54.0         -25.7         AVG         309         1.0           11.475         45.8										
Contact:         Jeremy Muir         Class:         N/A           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz             undamental emission level @ 3m in 100kHz RBW:         97.1         101.3             undamental emissions outside of restricted bands:         81.3 dBµV/m              requency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           mHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -19.5         AVG         88         1.5            75.725         31.8         V         54.0         -22.2         AVG         1.0             11.270         47.1         V         74.0         -26.9         PK         0         1.0            11.475	Model:	3800HGV	-B						•	
Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         N/A           n #1b:         Radiated Spurious Emissions, 30 - 26000 MHz. Center Channel @ 2437 MHz	Contact:	Jeremy M	uir						5	
H       V         undamental emission level @ 3m in 100kHz RBW:       97.1       101.3         Limit for emissions outside of restricted bands:       81.3 dBμV/m         equency       Level       Pol       15.209 / 15.247       Detector       Azimuth       Height       Comments         MHz       dBμV/m       V/H       Limit       Margin       Pk/QP/Avg       degrees       meters         11.270       35.9       V       54.0       -18.2       AVG       0       1.0         11.475       34.5       H       54.0       -19.5       AVG       88       1.5         75.725       31.8       V       54.0       -22.2       AVG       139       1.0         74.455       28.4       H       54.0       -25.7       AVG       309       1.0         11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK		-		RSS 210, EN	155022				Class:	N/A
Indamental emission level @ 3m in 100kHz RBW:         97.1         101.3           Limit for emissions outside of restricted bands:         81.3 dBμV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -19.5         AVG         88         1.5           75.725         31.8         V         54.0         -22.2         AVG         139         1.0           74.455         28.4         H         54.0         -25.7         AVG         309         1.0           11.270         47.1         V         74.0         -26.9         PK         0         1.0           11.475         45.8         H         74.0         -28.2         PK         88         1.5           75.725         43.3         V         74.0         -30.8         PK         139         1.0           74.455	ın #1b:	Radiated S	Spurious	Emission	s, 30 - 2600			@ 2437 MI	Hz	
Limit for emissions outside of restricted bands:         81.3 dBµV/m           equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -19.5         AVG         88         1.5           75.725         31.8         V         54.0         -22.2         AVG         139         1.0           74.455         28.4         H         54.0         -25.7         AVG         309         1.0           11.270         47.1         V         74.0         -26.9         PK         0         1.0           11.475         45.8         H         74.0         -28.2         PK         88         1.5           75.725         43.3         V         74.0         -30.8         PK         139         1.0           74.455         41.6         H         74.0         -32.4         PK         309	undame	ntal emissi	on level (	@ 3m in 100	) kHz RBW:					
Equency         Level         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -19.5         AVG         88         1.5           75.725         31.8         V         54.0         -22.2         AVG         139         1.0           74.455         28.4         H         54.0         -25.7         AVG         309         1.0           11.270         47.1         V         74.0         -26.9         PK         0         1.0           11.475         45.8         H         74.0         -28.2         PK         88         1.5           75.725         43.3         V         74.0         -30.8         PK         139         1.0           74.455         41.6         H         74.0         -32.4         PK         309         1.0				-						
MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           11.270         35.9         V         54.0         -18.2         AVG         0         1.0           11.475         34.5         H         54.0         -19.5         AVG         88         1.5           75.725         31.8         V         54.0         -22.2         AVG         139         1.0           74.455         28.4         H         54.0         -25.7         AVG         309         1.0           11.270         47.1         V         74.0         -26.9         PK         0         1.0           11.475         45.8         H         74.0         -28.2         PK         88         1.5           75.725         43.3         V         74.0         -30.8         PK         139         1.0           74.455         41.6         H         74.0         -32.4         PK         309         1.0								J		
11.270       35.9       V       54.0       -18.2       AVG       0       1.0         11.475       34.5       H       54.0       -19.5       AVG       88       1.5         75.725       31.8       V       54.0       -22.2       AVG       139       1.0         74.455       28.4       H       54.0       -25.7       AVG       309       1.0         11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be	equency								Comments	
11.475       34.5       H       54.0       -19.5       AVG       88       1.5         75.725       31.8       V       54.0       -22.2       AVG       139       1.0         74.455       28.4       H       54.0       -25.7       AVG       309       1.0         11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0	MHz						<u> </u>	1		
75.725       31.8       V       54.0       -22.2       AVG       139       1.0         74.455       28.4       H       54.0       -25.7       AVG       309       1.0         11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0							÷			
74.455       28.4       H       54.0       -25.7       AVG       309       1.0         11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be										
11.270       47.1       V       74.0       -26.9       PK       0       1.0         11.475       45.8       H       74.0       -28.2       PK       88       1.5         75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be										
11.475         45.8         H         74.0         -28.2         PK         88         1.5           75.725         43.3         V         74.0         -30.8         PK         139         1.0           74.455         41.6         H         74.0         -32.4         PK         309         1.0           For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be									<u> </u>	
75.725       43.3       V       74.0       -30.8       PK       139       1.0         74.455       41.6       H       74.0       -32.4       PK       309       1.0         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be										
74.455       41.6       H       74.0       -32.4       PK       309       1.0         For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be				74.0	-28.2	PK I	88	1.5		
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB be	311.475	45.8	Н							
	311.475 875.725 874.455	45.8 43.3 41.6 For emiss	H V H	74.0 74.0 estricted bar	-30.8 -32.4	PK PK	139 309	1.0 1.0	missions, the	e limit was set 20dB be

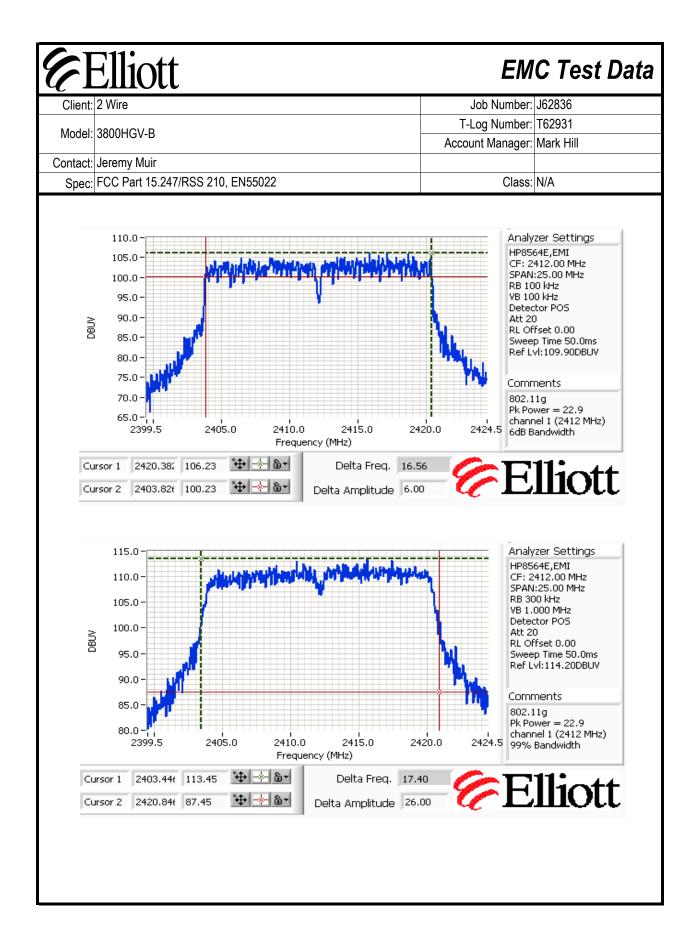
Client:	2 Wire						J	ob Number:	J62836
NA	20001101/	<b>D</b>					T-L	og Number:	T62931
Model:	3800HGV	-В					Accou	nt Manager:	Mark Hill
Contact:	Jeremy M	uir							
Spec:	FCC Part	15.247/F	RSS 210, EN	155022				Class:	N/A
						h Channel @			measured in 100kHz
Frequency		Pol		15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters		
2467.134	99.10	V	-	-	AVG	182	1.1	RB = 1MHz	z, VB = 10Hz
2467.134	108.08	V	-	-	PK	182	1.1	RB = VB =	
2464.634	98.75	V	-		PK	182	1.1	RB = VB =	100kHz
2468.834	97.91	Н	-	-	AVG	270	2.0	RB = 1MHz	z, VB = 10Hz
2468.834	106.87	Н	-	-	PK	270	2.0	RB = VB =	1MHz
2465.300	97.76	Η	-	-	PK	270	2.0	RB = VB =	100kHz
Fundamer	ntal amiani	on level	@ 3m in 100		97.8	98.8	1		
Limit	for emissi	one oute	ide ot restric	rtad hands.	78.8	dDu///m	Il imit ic _2	NdRo	
Limit	for emissi	ons outs	ide of restric	cted bands:	78.8	dBµV/m	Limit is -2	0dBc	
Limit	for emissi	ons outs					1		in-band and biohest
Limit	for emissi		Delta Ma	rker - Peak	44.33	dB	1		in-band and highest
Limit	for emissi			rker - Peak	44.33	dB	1		in-band and highest
			Delta Ma Delta Marke	rker - Peak	44.33	dB	1		in-band and highest
Limit Band Edge Frequency	e Signal Fi		Delta Ma Delta Marke	rker - Peak r - Average	44.33	dB	1		-
Band Edge	e Signal Fi	eld Stre	Delta Ma Delta Marke ngth	rker - Peak r - Average	44.33 48.33	dB dB Azimuth	Delta betw	een highest	-
Band Edge Frequency	e Signal Fi Level dBμV/m 50.77	<b>eld Stre</b> Pol	Delta Ma Delta Marke <b>ngth</b> 15.209 /	rker - Peak r - Average / 15.247	44.33 48.33 Detector	dB dB Azimuth	Delta betwo Height	een highest	-
Band Edge Frequency MHz	e <b>Signal Fi</b> Level dBμV/m	eld Stre Pol V/H	Delta Ma Delta Marke <b>ngth</b> 15.209 / Limit	rker - Peak r - Average / 15.247 Margin	44.33 48.33 Detector Pk/QP/Avg	dB dB Azimuth degrees	Delta betw Height meters	een highest	-
Band Edge Frequency MHz 2483.547 2483.647	e Signal Fi Level dBμV/m 50.77 63.75	eld Stre Pol V/H V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.2 -10.3	44.33 48.33 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 182 182	Delta betw Height meters 1.1 1.1	een highest	
Band Edge Frequency MHz 2483.547	e Signal Fi Level dBμV/m 50.77 63.75	eld Stre Pol V/H V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.2 -10.3	44.33 48.33 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 182	Delta betw Height meters 1.1 1.1	een highest	
Band Edge Frequency MHz 2483.547 2483.647 Note 1:	e Signal Fi Level dBµV/m 50.77 63.75 Calculated	eld Stre Pol V/H V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0	rker - Peak r - Average ( 15.247 Margin -3.2 -10.3	44.33 48.33 Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 182 182	Delta betw Height meters 1.1 1.1	een highest	
Band Edge Frequency MHz 2483.547 2483.647 Note 1: Note 1:	e Signal Fi Level dBμV/m 50.77 63.75 Calculateo	eld Stre Pol V/H V U I by subt	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 rracting the r	rker - Peak r - Average / 15.247 Margin -3.2 -10.3 marker delta	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from	dB dB Azimuth degrees 182 182 182	Delta betw Height meters 1.1 1.1 ental field st	een highest	surements.
Band Edge Frequency MHz 2483.547 2483.647 Vote 1: Note 1: Dther Spun Frequency	e Signal Fi Level dBµV/m 50.77 63.75 Calculated rious Emis Level	eld Stre Pol V/H V V d by subf ssions Pol	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r	rker - Peak r - Average ( 15.247 Margin -3.2 -10.3 narker delta	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth	Delta betw Height neters 1.1 1.1 ental field st	een highest	surements.
Band Edge Frequency MHz 2483.547 2483.647 Note 1: Note 1: Dther Sput Frequency MHz	e Signal Fi Level dBμV/m 50.77 63.75 Calculateo rious Emis Level dBμV/m	eld Stre Pol V/H V U I by subt	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 racting the r	rker - Peak r - Average (15.247 Margin -3.2 -10.3 narker delta (15.247 Margin	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees	Delta betw Height meters 1.1 1.1 ental field st Height meters	een highest	surements.
Band Edge Frequency MHz 2483.547 2483.647 Note 1: Note 1: Other Spur Frequency MHz 4921.542	e Signal Fi Level dBµV/m 50.77 63.75 Calculated rious Emis Level dBµV/m 32.1	eld Stre Pol V/H V d by subt ssions Pol V/H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0	rker - Peak r - Average (15.247 Margin -3.2 -10.3 marker delta (15.247 Margin -21.9	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131	Delta betw Height neters 1.1 1.1 ental field st Height meters 1.0	een highest	surements.
Band Edge Frequency MHz 2483.547 2483.647 Note 1: Note 1: Dther Sput Frequency MHz	e Signal Fi Level dBµV/m 50.77 63.75 Calculated rious Emis Level dBµV/m 32.1 43.5	eld Stre Pol V/H V d by subt ssions Pol V/H V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0	rker - Peak r - Average (15.247 Margin -3.2 -10.3 marker delta (15.247 Margin -21.9 -30.5	44.33 48.33 Detector Pk/QP/Avg AVG PK Detector Pk/QP/Avg AVG PK	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131	Delta betw Height neters 1.1 1.1 ental field st Height neters 1.0 1.0	een highest	surements.
Band Edge           Frequency           MHz           2483.547           2483.647           Vote 1:           Other Sput           Frequency           MHz           4921.542           7385.550	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8	eld Stre Pol V/H V V d by subt ssions Pol V/H V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0	rker - Peak r - Average (15.247 Margin -3.2 -10.3 marker delta (15.247 Margin -21.9	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131 36	Delta betw Height neters 1.1 1.1 ental field st Height meters 1.0	een highest	surements.
Band Edge           Frequency           MHz           2483.547           2483.647           Vote 1:           Other Spun           Frequency           MHz           4921.542           7385.550           7385.550	e Signal Fi Level dBµV/m 50.77 63.75 Calculated rious Emis Level dBµV/m 32.1 43.5	eld Stre Pol V/H V V t by subt ssions Pol V/H V V V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0 54.0 74.0	rker - Peak r - Average / 15.247 Margin -3.2 -10.3 marker delta / 15.247 Margin -21.9 -30.5 -18.2	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG PK AVG	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131	Delta betw Height neters 1.1 1.1 ental field st Height meters 1.0 1.0 1.0	een highest	surements.
Band Edge           Frequency           MHz           2483.547           2483.647           2483.647           Vote 1:           Other Sput           Frequency           MHz           4921.542           4921.542           7385.550           7385.550           4922.765	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8 46.8	eld Stre Pol V/H V V ssions Pol V/H V V V V V	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0	rker - Peak r - Average / 15.247 Margin -3.2 -10.3 marker delta / 15.247 Margin -21.9 -30.5 -18.2 -27.2	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG PK AVG PK AVG PK	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131 36 36	Delta betw Height neters 1.1 1.1 1.1 ental field st Height meters 1.0 1.0 1.0 1.0	een highest	surements.
Band Edge Trequency MHz 2483.547 2483.647 Aote 1: Dther Spur Trequency MHz 4921.542 4921.542 7385.550 7385.550 4922.765 4922.765	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8 46.8 31.8	eld Stre Pol V/H V V d by subt ssions Pol V/H V V V V V V V V V V H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0	rker - Peak r - Average (15.247 Margin -3.2 -10.3 marker delta (15.247 Margin -21.9 -30.5 -18.2 -27.2 -22.2 -30.7	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Detector Pk/QP/Avg AVG PK AVG PK AVG PK AVG PK	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131 36 36 304	Delta betw Height neters 1.1 1.1 1.1 ental field st Height meters 1.0 1.0 1.0 1.0 1.0 1.0 1.0	een highest	surements.
Band Edge           Frequency           MHz           2483.547           2483.647           Note 1:           Other Sput           Frequency           MHz           4921.542           4921.542	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8 46.8 31.8 43.3	eld Stre Pol V/H V V Ssions Pol V/H V V V V V V V H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0	rker - Peak r - Average (15.247 Margin -3.2 -10.3 marker delta (15.247 Margin -21.9 -30.5 -18.2 -27.2 -27.2 -22.2	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Pk/QP/Avg AVG PK AVG PK AVG PK AVG	dB dB Azimuth degrees 182 182 182 n the fundame Azimuth degrees 131 131 36 36 304 304	Delta betw Height neters 1.1 1.1 1.1 ental field st Height meters 1.0 1.0 1.0 1.0 1.0	een highest	surements.
Band Edge           Frequency           MHz           2483.547           2483.647           Vote 1:           Other Sput           Frequency           MHz           4921.542           4921.542           7385.550           7385.550           4922.765           7385.645	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8 46.8 31.8 43.3 35.7 47.9	eld Stre Pol V/H V V d by subt ssions Pol V/H V V V V V V V V H H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 tracting the r 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0	rker - Peak r - Average / 15.247 Margin -3.2 -10.3 marker delta / 15.247 Margin -21.9 -30.5 -18.2 -27.2 -22.2 -30.7 -18.3 -26.1	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Pk/QP/Avg AVG PK AVG PK AVG PK AVG PK AVG PK AVG PK	dB dB Azimuth degrees 182 182 182 182 182 182 182 182	Delta betw Height neters 1.1 1.1 1.1 ental field st Height neters 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	een highest	surements.
Band Edge           requency           MHz           2483.547           2483.647           2483.647           Vote 1:           Other Spun           Frequency           MHz           4921.542           4921.542           4921.542           4921.542           4922.765           4922.765           7385.645           7385.645           7385.645	e Signal Fi Level dBμV/m 50.77 63.75 Calculated rious Emis Level dBμV/m 32.1 43.5 35.8 46.8 31.8 43.3 35.7 47.9	eld Stre Pol V/H V V V Ssions Pol V/H V V V V V V H H H H H	Delta Ma Delta Marke ngth 15.209 / Limit 54.0 74.0 rracting the r 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0	rker - Peak r - Average / 15.247 Margin -3.2 -10.3 marker delta / 15.247 Margin -21.9 -30.5 -18.2 -27.2 -22.2 -30.7 -18.3 -26.1	44.33 48.33 Detector Pk/QP/Avg AVG PK a values from Pk/QP/Avg AVG PK AVG PK AVG PK AVG PK AVG PK AVG PK	dB dB Azimuth degrees 182 182 182 182 182 182 182 182	Delta betw Height neters 1.1 1.1 1.1 ental field st Height neters 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	een highest	surements.

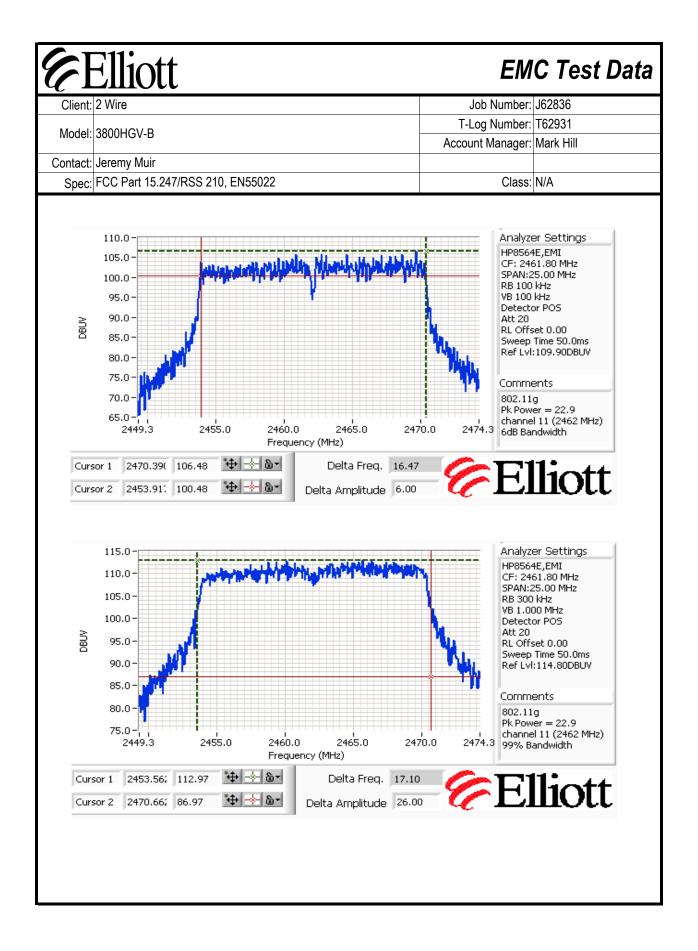


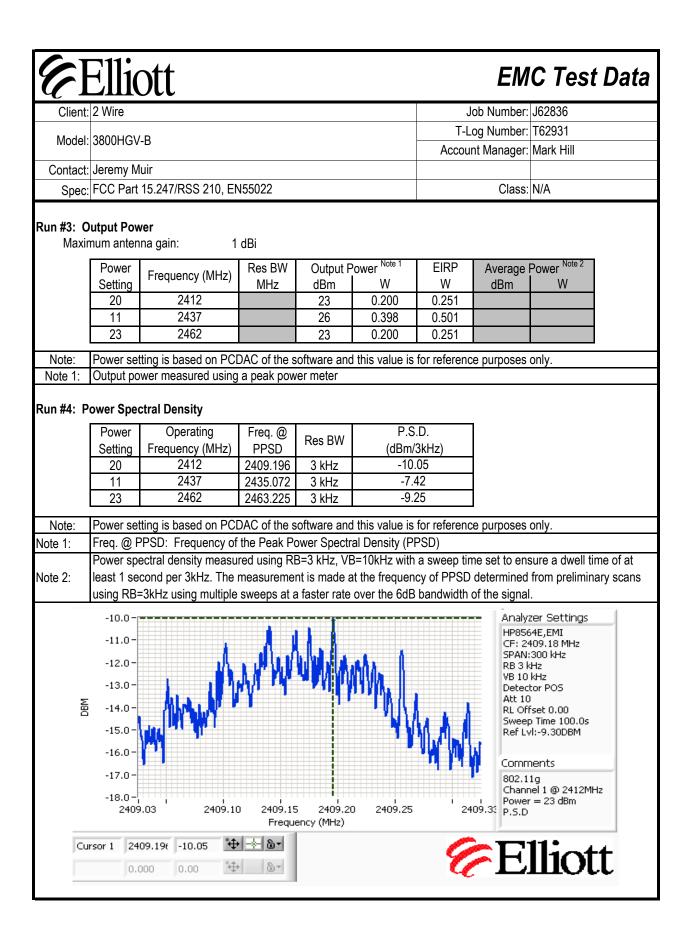


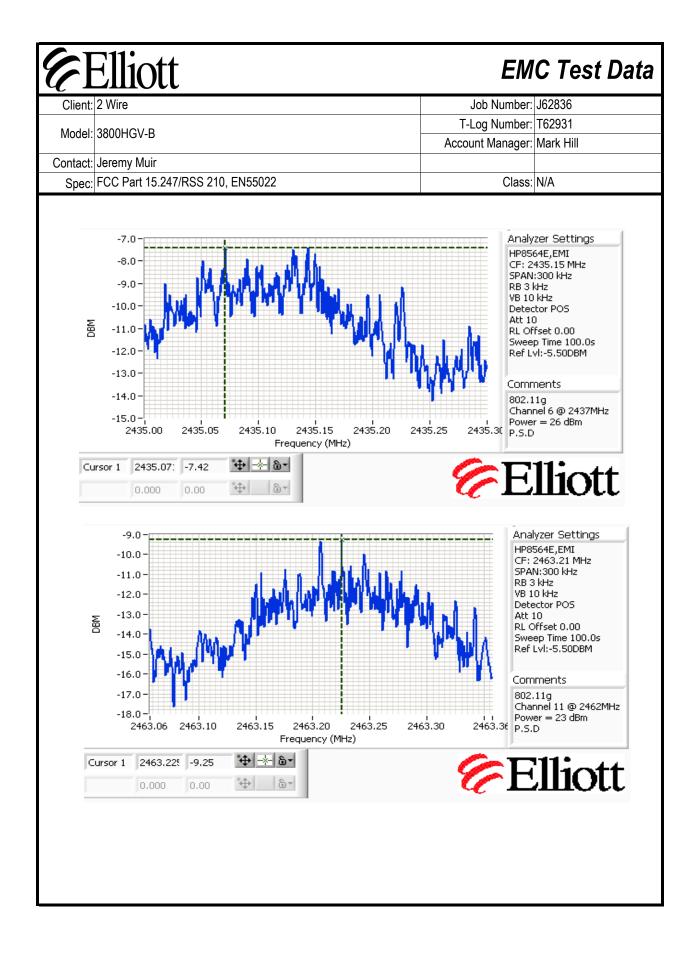












Client: 2 Wire Model: 3800H Contact: Jeremy Spec: FCC P Test Specifics Objectiv	GV-B <sup>•</sup> Muir art 15.247/RSS 210, EN55022	ited Emissio	T-L Accou	lob Number: J62836 .og Number: T62931 nt Manager: Mark Hill Class: B
Contact: Jeremy Spec: FCC P	Muir art 15.247/RSS 210, EN55022	ted Emissio	Accou	nt Manager: Mark Hill
Contact: Jeremy Spec: FCC P	Muir art 15.247/RSS 210, EN55022	ted Emissio		
Spec: FCC P	art 15.247/RSS 210, EN55022	ted Emissio	ons	Class: B
Fest Specifics		ted Emissio	ons	01033.
•	Radia		ns	
•				
Objectiv	The shirt of a shirt of the second second			
	e: The objective of this test session i specification listed above.	is to perform final qua	lification testi	ng of the EUT with respect to
Date of Te	st: 2/24/2006	Config. Used	d: 1	
	er: Jay Dickinson	Config Change	e: None	
Test Locatio	n: SVOATS #2	EUT Voltage	e: 120V/60Hz	<u>:</u>
General Test Co	onfiguration			
	al support equipment were located on	the turntable for radia	ated spurious	emissions testing.
The test distance	and extrapolation factor (if used) are	detailed under each ru	un descriptior	۱.
	testing indicates that the emissions			
measurement ant	enna. Maximized testing indicated the	hat the emissions were		
	antenna, <u>and</u> manipulation of the EU			
-	bove 1 GHz, the FCC specifies the lin by emission above 1 GHz, can not ex	-		
Ambient Condit	ions: Temperature:	15 °C		
	Rel. Humidity:	58 %		
Summary of Re	sults			
Run #	Test Performed	Limit	Result	Margin
4	RE, 1000 - 13,000 MHz,			35.4dBµV/m
1	Receiver Emissions	IC RSS-210	Pass	(58.7µV/m) @ 12260.4MHz (-18.6dB)

Client:         2 Wire         Job Number:         J62836           Model:         3800HGV-B         T-Log Number:         T62931           Account Manager:         Mark Hill           Contact:         Jeremy Muir         Account Manager:           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:           un #1:         Rx Spurious Emissions Middle Channel 2437 MHz.           Frequency Range         Test Distance         Limit Distance         Extrapolation Factor           4800-14000 MHz         3         3         0           Frequency Range         Test Distance         Limit Distance         Extrapolation Factor           4800-14000 MHz         3         3         0           Trequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           2260.360         35.4         H         54.0         -18.6         AVG         1         1.0           2259.530         35.4         V         54.0         -20.1         AVG         1         1.0           7336.060<
Model:         3800HGV-B         Account Manager:         Mark Hill           Contact:         Jeremy Muir         Class:         B           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         B           un #1:         Rx Spurious Emissions Middle Channel 2437 MHz.         Extrapolation Factor           4800-14000 MHz         3         3         0
Contact:         Jeremy Muir           Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         B           un #1:         Rx Spurious Emissions Middle Channel 2437 MHz.         Class:         B           Im #1:         Rx Spurious Emissions Middle Channel 2437 MHz.         Extrapolation Factor           4800-14000 MHz         3         3         0           Frequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           7336.485         33.9         H         54.0         -20.2         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
Spec:         FCC Part 15.247/RSS 210, EN55022         Class:         B           un #1:         Rx Spurious Emissions Middle Channel 2437 MHz.         Extrapolation Factor           Frequency Range         Test Distance         Limit Distance         Extrapolation Factor           4800-14000 MHz         3         3         0           Frequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           1236.485         33.9         H         54.0         -20.2         AVG         1         1.0           17336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
un #1: Rx Spurious Emissions Middle Channel 2437 MHz.           Frequency Range         Test Distance         Limit Distance         Extrapolation Factor           4800-14000 MHz         3         3         0           Frequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
4800-14000 MHz         3         3         0           irequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBµV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           2260.360         35.4         H         54.0         -18.6         AVG         1         1.0           2259.530         35.4         V         54.0         -18.6         AVG         1         1.0           7336.485         33.9         H         54.0         -20.1         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
Frequency         Level         Pol         RSS-210 Rx         Detector         Azimuth         Height         Comments           MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           1236.485         33.9         H         54.0         -20.2         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           7336.485         33.9         H         54.0         -20.2         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
MHz         dBμV/m         V/H         Limit         Margin         Pk/QP/Avg         degrees         meters           12260.360         35.4         H         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -18.6         AVG         1         1.0           12259.530         35.4         V         54.0         -20.1         AVG         1         1.0           7336.485         33.9         H         54.0         -20.2         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
I2260.360         35.4         H         54.0         -18.6         AVG         1         1.0           I2259.530         35.4         V         54.0         -18.6         AVG         1         1.0           7336.485         33.9         H         54.0         -20.1         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
2259.530         35.4         V         54.0         -18.6         AVG         1         1.0           7336.485         33.9         H         54.0         -20.1         AVG         1         1.0           7336.060         33.8         V         54.0         -20.2         AVG         1         1.0           4872.995         29.7         V         54.0         -24.3         AVG         0         1.0
Y336.485         33.9         H         54.0         -20.1         AVG         1         1.0           Y336.060         33.8         V         54.0         -20.2         AVG         1         1.0           Y386.060         33.8         V         54.0         -20.2         AVG         1         1.0           Y387.995         29.7         V         54.0         -24.3         AVG         0         1.0
'336.060         33.8         V         54.0         -20.2         AVG         1         1.0           1872.995         29.7         V         54.0         -24.3         AVG         0         1.0
872.995 29.7 V 54.0 -24.3 AVG 0 1.0
575.005 29.0 11 54.0 -24.4 AVG 0 1.0
2259.530 47.2 V 74.0 -26.8 PK 1 1.0
2260.360 47.0 H 74.0 -27.0 PK 1 1.0
336.485 45.2 H 74.0 -28.8 PK 1 1.0
7336.060 44.6 V 74.0 -29.4 PK 1 1.0
1873.665 41.6 H 74.0 -32.4 PK 0 1.0
872.995 41.1 V 74.0 -32.9 PK 0 1.0

## EXHIBIT 3: Photographs of Test Configurations

EXHIBIT 4: Proposed FCC ID Label & Label Location

## EXHIBIT 5: Detailed Photographs of 2Wire, Inc. Model RG3800HGV-00Construction

## EXHIBIT 6: Operator's Manual for 2Wire, Inc. Model RG3800HGV-00

### EXHIBIT 7: Block Diagram of 2Wire, Inc. Model RG3800HGV-00

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# EXHIBIT 8: Schematic Diagrams for 2Wire, Inc. Model RG3800HGV-00

# *EXHIBIT 9: Theory of Operation for 2Wire, Inc. Model RG3800HGV-00*

## EXHIBIT 10: RF Exposure Information