



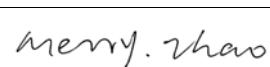
## FCC PART 15 CLASS B MEASUREMENT AND TEST REPORT

For

### **Nexpro International Limitada**

San Jose-Goicoechea, Guadalupe, Barrio Tournon, frente Al Hotel Villas Tournon, Oficinas Del  
Bufete Facio Y Canas, Costa Rica

**FCC ID: ZYPDRACO**

<b>Report Type:</b> Original Report	<b>Product Type:</b> GSM Mobile Phone
<b>Test Engineer:</b> <u>Dean Lau</u> 	
<b>Report Number:</b> <u>R1DG120104003-00A</u>	
<b>Report Date:</b> <u>2012-01-30</u>	
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\* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk “★” (Rev.2)

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

The *Nexpro International Limitada*'s product, model number: *Draco (FCC ID: ZYPDRACO)* (the "EUT") in this report was a *GSM Mobile Phone*, which was measured approximately: 107.2 mm (L) x 45 mm (W) x 13.2 mm (H), rated input voltage: DC 3.7V Lithium battery or DC 5.0V from adapter for charging. The highest EUT operating frequency is 26 MHz.

Adapter Information:

ADAPTADOR ca/cc

ENTRADA: 100-240V 50/60 Hz 120mA

SALIDA: 5V 400mA

*\*All measurement and test data in this report was gathered from production sample serial number: draco2012000000 (Assigned by applicant). The EUT was received on 2012-01-04.*

### Objective

This report is prepared on behalf of *Nexpro International Limitada* in accordance with Part 2- Subpart J, Part 15- Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15 Class B.

### Related Submittal(s)/Grant(s)

FCC Part 22H&24E PCE submission with FCC ID: ZYPDRACO

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



The current scope of accreditations can be found at <http://ts.nist.gov/Standards/scopes/2007070.htm>

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing in a typical mode which is provided by manufacturer.

### EUT Exercise Software

Winthraw.exercise software was provided by BACL

### Equipment Modifications

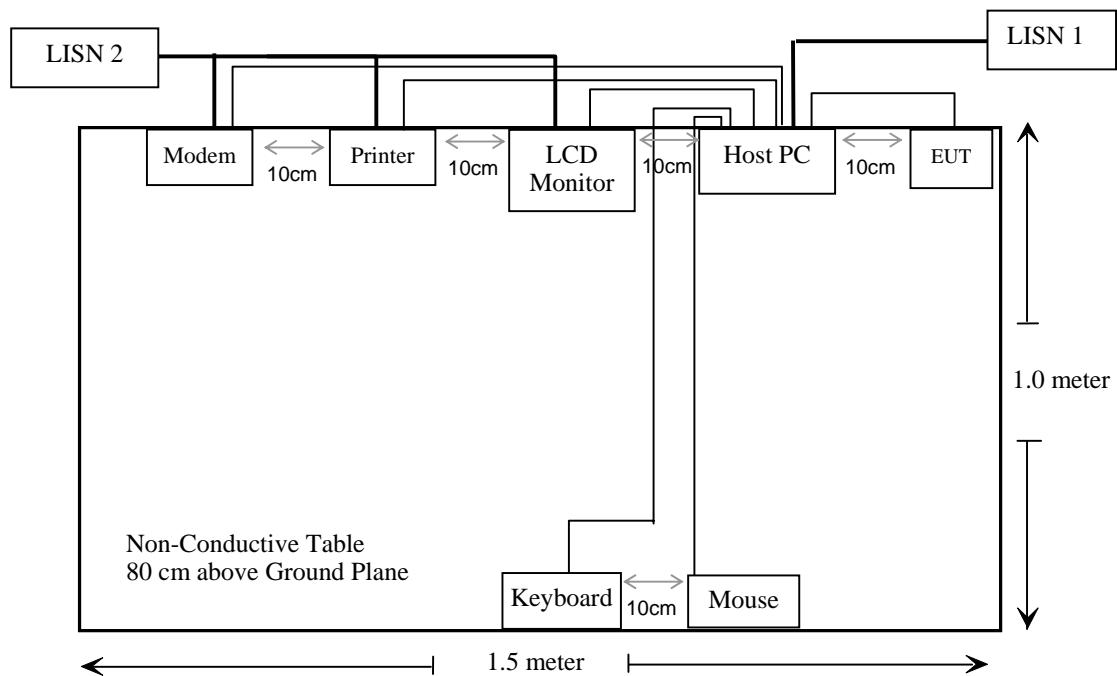
No modification was made to the EUT tested.

### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	PC	VOSTRO 220S	127BP2X
DELL	Keyboard	L100	CNORH656658907BL05DC
DELL	Mouse	MOC5UO	G1900NKD
DELL	LCD	E178WFPC	CN-OWY564-64180-7C4-2SQH
SAST	Modem	AEM-2100	0293
HP	Printer	C3941A	JPTVOB2337

### External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielded Detachable K/B Cable	1.5	Keyboard Port/Host PC	Keyboard
Shielded Detachable Mouse Cable	1.5	Mouse Port/Host PC	Mouse
Shielded Detachable VGA Cable	1.5	VGA Port/Host PC	Monitor
Unshielded Detachable Cable	1.5	Host PC	EUT
Unshielded Detachable Cable	1.0	Host PC	LISN
Shielded Detachable Serial Cable	1.2	Serial Port/ Host PC	Modem
Shielded Detachable Printer Cable	1.8	Parallel Port/ Host PC	Printer

**Block Diagram of Test Setup**

## **SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

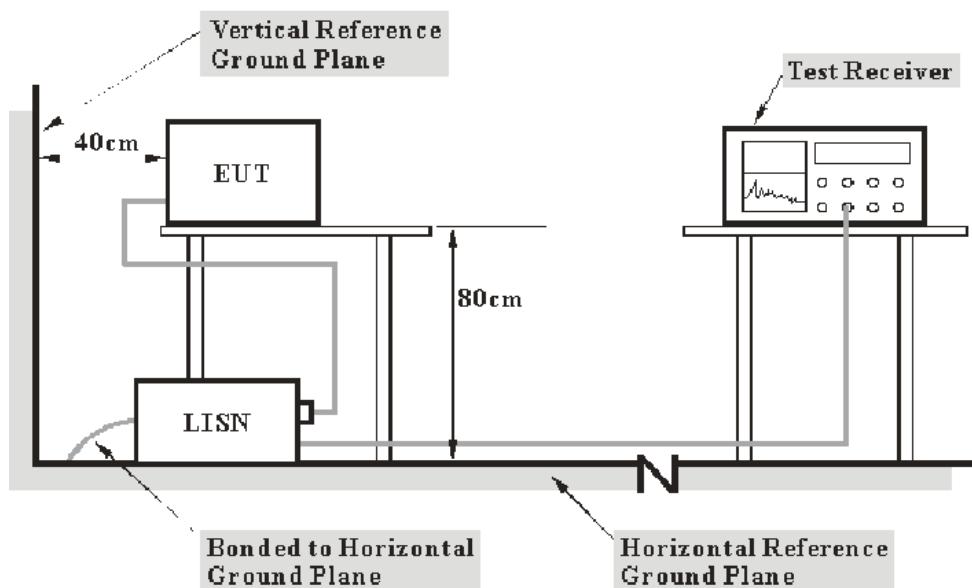
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 2.4 dB.(k=2, 95% level of confidence)

### EUT Setup



**Note:**

1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.107 Class B limits.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120 VAC/60 Hz power source.

## EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

<b>Frequency Range</b>	<b>IF B/W</b>
150 kHz – 30 MHz	9 kHz

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12208	N/A	N/A

\* **Statement of Traceability:** Bay Area Compliance Laboratory Corp. attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

## Test Procedure

During the conducted emission test, the host PC was connected to the outlet of the first LISN, the printer, LCD monitor and modem were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

## Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.107, with the worst margin reading of:

**8.46 dB at 0.660 MHz in the Line conducted mode**

## Test Data

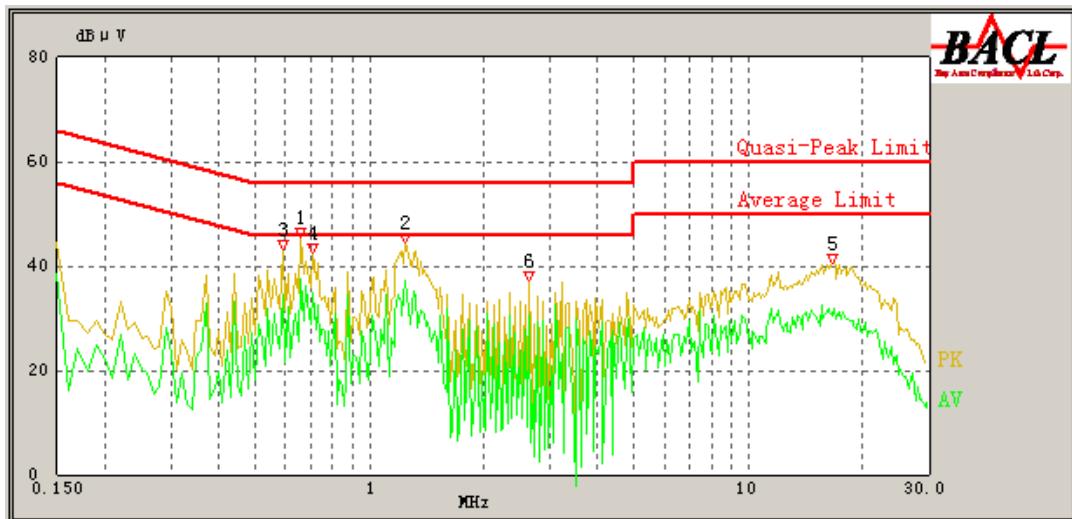
### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	48 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Dean Lau on 2012-01-18.*

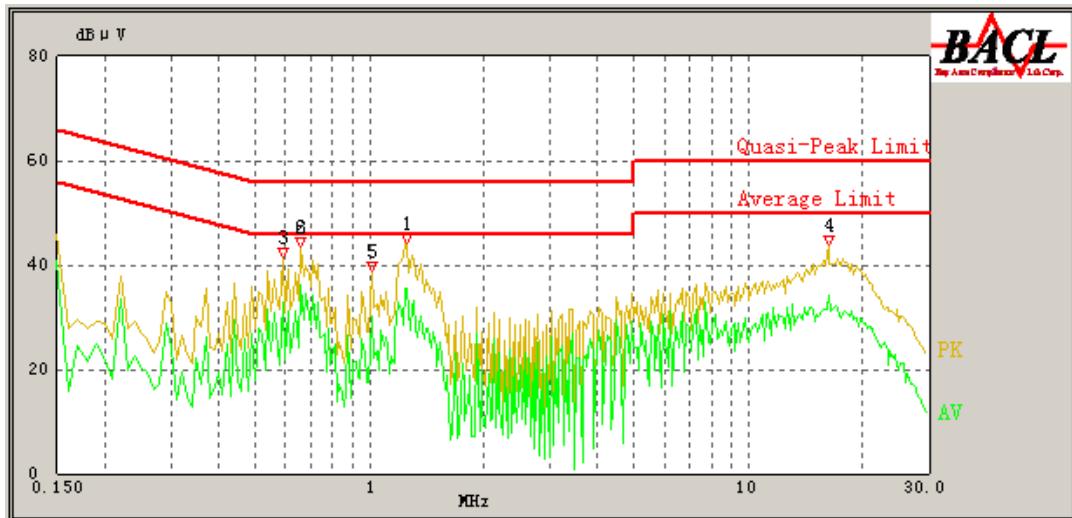
*EUT Operation Mode: Downloading*

**AC 120V/60 Hz, Line**



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/ QP/Ave.)
0.660	37.54	1.10	46.00	8.46	Ave.
1.240	37.32	1.10	46.00	8.68	Ave.
0.710	34.82	1.10	46.00	11.18	Ave.
0.590	34.64	1.10	46.00	11.36	Ave.
1.240	42.54	1.10	56.00	13.46	QP
0.660	42.38	1.10	56.00	13.62	QP
0.590	40.63	1.10	56.00	15.37	QP
2.640	30.58	1.10	46.00	15.42	Ave.
0.710	38.75	1.10	56.00	17.25	QP
16.660	30.36	1.10	50.00	19.64	Ave.
2.640	32.20	1.10	56.00	23.80	QP
16.660	35.19	1.10	60.00	24.81	QP

## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/ QP/Ave.)
0.660	36.13	1.10	46.00	9.87	Ave.
1.260	35.34	1.10	46.00	10.66	Ave.
0.590	32.91	1.10	46.00	13.09	Ave.
1.260	41.63	1.10	56.00	14.37	QP
0.660	40.69	1.10	56.00	15.31	QP
16.230	34.20	1.10	50.00	15.80	Ave.
1.020	30.16	1.10	46.00	15.84	Ave.
0.590	39.19	1.10	56.00	16.81	QP
16.230	39.10	1.10	60.00	20.90	QP
1.020	34.79	1.10	56.00	21.21	QP

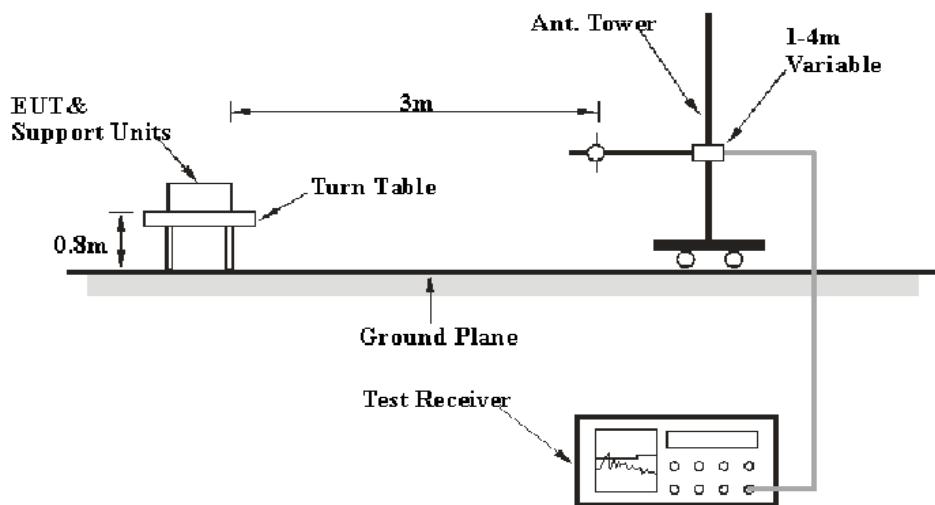
## FCC §15.109 - RADIATED EMISSIONS

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 4.0 dB. (k=2, 95% level of confidence)

### EUT Setup



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120 VAC/60 Hz power source.

## EMI Test Receiver Setup

The system was investigated from 30 MHz to 1000 MHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

<b><i>Frequency</i></b>	<b><i>RB/W</i></b>	<b><i>VB/W</i></b>	<b><i>IF B/W</i></b>	<b><i>Detection</i></b>
30 MHz-1 GHz	100 kHz	300 kHz	120 kHz	Quasi-peak

## Test Procedure

During the radiated emissions test, the host PC, LCD monitor, modem and printer were connected to AC floor outlet

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode from 30 MHz to 1 GHz.

## Test Equipment List and Details

<b>Manufacturer</b>	<b>Description</b>	<b>Model</b>	<b>Serial Number</b>	<b>Calibration Date</b>	<b>Calibration Due Date</b>
HP	Amplifier	HP8447E	1937A01046	2011-08-02	2012-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2011-11-11	2012-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-07-05	2012-07-04

**\* Statement of Traceability:** Bay Area Compliance Laboratories Corp (Shenzhen). attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

## Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

## Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

**2.59 dB at 806.9700 MHz in the Horizontal polarization**

## Test Data

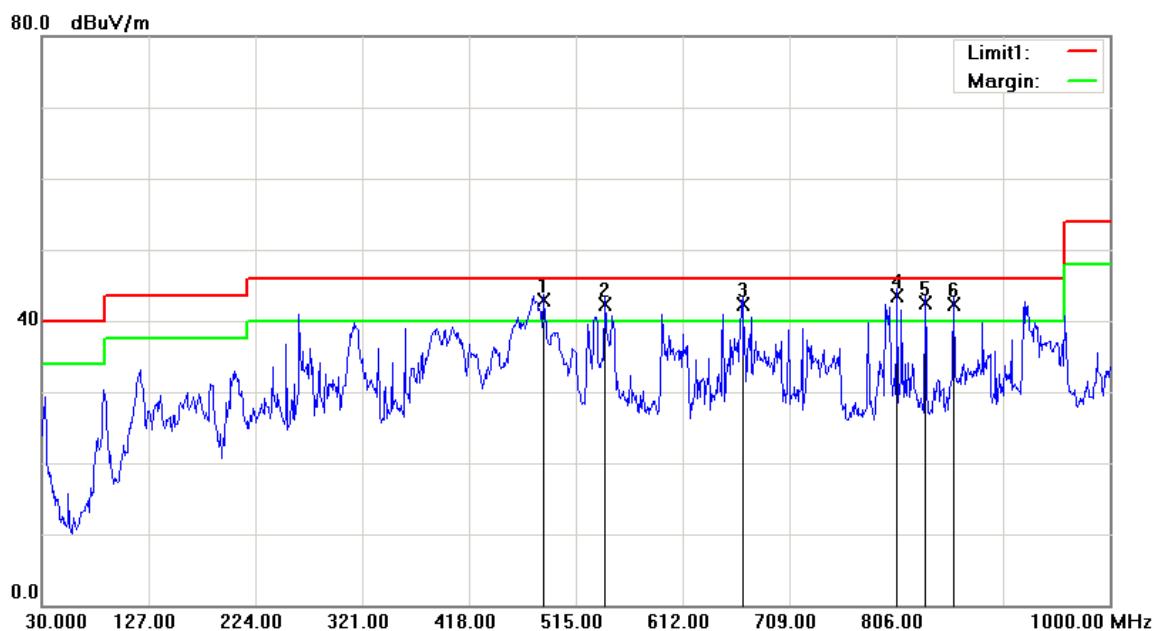
### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

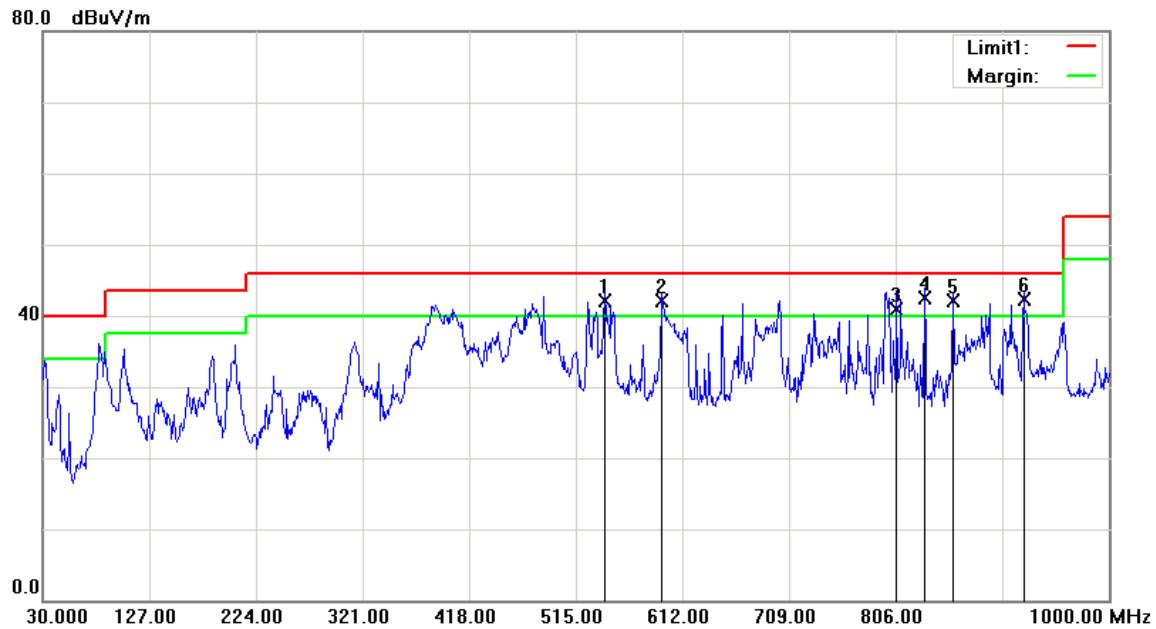
The testing was performed by Dean Lau on 2012-01-18.

EUT Operation Mode: Downloading

### Horizontal



Frequency (MHz)	Detector	Correction Factor (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
806.9700	QP	3.50	43.41	46.00	2.59*
485.9000	QP	-0.55	42.84	46.00	3.16*
832.1900	QP	3.63	42.54	46.00	3.46*
541.1900	QP	-0.10	42.30	46.00	3.70*
858.3800	QP	4.00	42.29	46.00	3.71*
666.3200	QP	1.96	42.22	46.00	3.78*

**Vertical**

Frequency (MHz)	Detector	Correction Factor (dB)	Corrected Amplitude (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
832.1900	QP	3.63	42.58	46.00	3.42*
922.4000	QP	5.10	42.38	46.00	3.62*
858.3800	QP	4.00	42.14	46.00	3.86*
541.1900	QP	-0.10	42.06	46.00	3.94*
593.5700	QP	0.59	42.05	46.00	3.95*
806.9700	QP	3.50	40.98	46.00	5.02

\*Within measurement uncertainty

\*\*\*\*\* END OF REPORT \*\*\*\*\*