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NVLAP Lab code: 200068-0
ISO/IEC 17025:1999, ISO 9002:1994

FCC CERTIFICATION RADIO MEASUREMENT TECHNICAL REPORT

On Model Name: GSC
Model Number: A741
Trademark: GAS N GO

Prepared for Petratec International., Ltd
FCC ID: U54-GSCGG00100240

According to FCC Part 15 (2006), Subpart C

Test Report#:	*PET-0612-0826SH-FCC2.4G*
Prepared by:	*Chris Huang*
Reviewed by:	*Harry Zhao*
QC Manager:	*Paul Chen*

Test Report Released by: Paul J. Chen — *Paul Chen*

2007, May 17 — *Date*

Test Location

Tests performed at EMC Compliance Management Group (China) in a Certified ANSI Semi-Anechoic Chamber and Shielded Room performed testing.

Test Site Location:	*Shanghai Institute of Process Automation Instrumentation (SIPAI)* *103 Caobao Road, Shanghai, 200233*
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Fax:	*86-21-64333566*
Registration Number:	*96504*

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Administrative Data

Test Sample	*: GSC*
Model Name	*: A741*
Brand Name	*: Gas N Go*
Date Tested	*: 2007, February 6 & 2007, May 10*
Applicant	*: Petratec International., Ltd* *12 Derech Ha' Sharon St. Kfar Saba, Israel*
Telephone	*: 972-9-7466105*
Fax	*: 972-9-7466150*
Manufacturer	*: GRE –Golden Regent Electronics Industrial Ltd.* *Unit 2-5, 18/F, Millennium Trade Centre, No.56* *Kwai Cheong Road, Kwai Chung, N.T., Hong Kong.*
Telephone	*: 852-35824907*
Fax	*: 852-25263884*

Test Summary

This report an application for Certification of a Transmitter operation pursuant to FCC 15.247, the product covered by this report is the Model: A741. This report is designed to demonstrate the compliance of this device with the requirements outlined in FCC Part 15.247 using the methods in FCC CFR 47 Part 2.

FCC Section	Requirements	Comments	Remark
15.203	The transmitter shall use a transmitting dedicated antenna employs unique connectors	Compliance	Attachment 1
15.205 / 15.209	Restricted Band of Operation Radiated emissions, general requirements	Compliance	Attachment 2
15.247(b)(3)	Maximum peak output power	Compliance	Attachment 3
15.247(a)(2)	Bandwidth	Compliance	Attachment 4
15.247(e)	Power spectral density	Compliance	Attachment 5
15.247(d)	Band edge	Compliance	Attachment 6
15.247(d)	Emissions at antenna port	Compliance	Attachment 7
15.207	Conducted emission test	Compliance	Attachment 8
2.1093	RF exposure calculation	Compliance	Attachment 9

Test Mode Justification

The EUT exercise program was used during radiated testing and was designed to exercise the various system components in a manner similar to a typical use.
For emission testing, the unit was setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing.

Equipment Modification

Any modifications installed previous to testing by Petratec International., Ltd. will be incorporated in each production model sold or leased in United States.

There were no modifications installed by EMC Compliance Management Group.

Test System Details

EUT	
Model Name:	**A741**
Description:	**GSC**
Manufacturer:	**Petratec International., Ltd.**
Input Voltage:	**120V ~ 60Hz**
Operating Frequency:	**433MHz, 2.4GHz**

EUT Power Supply
N/A

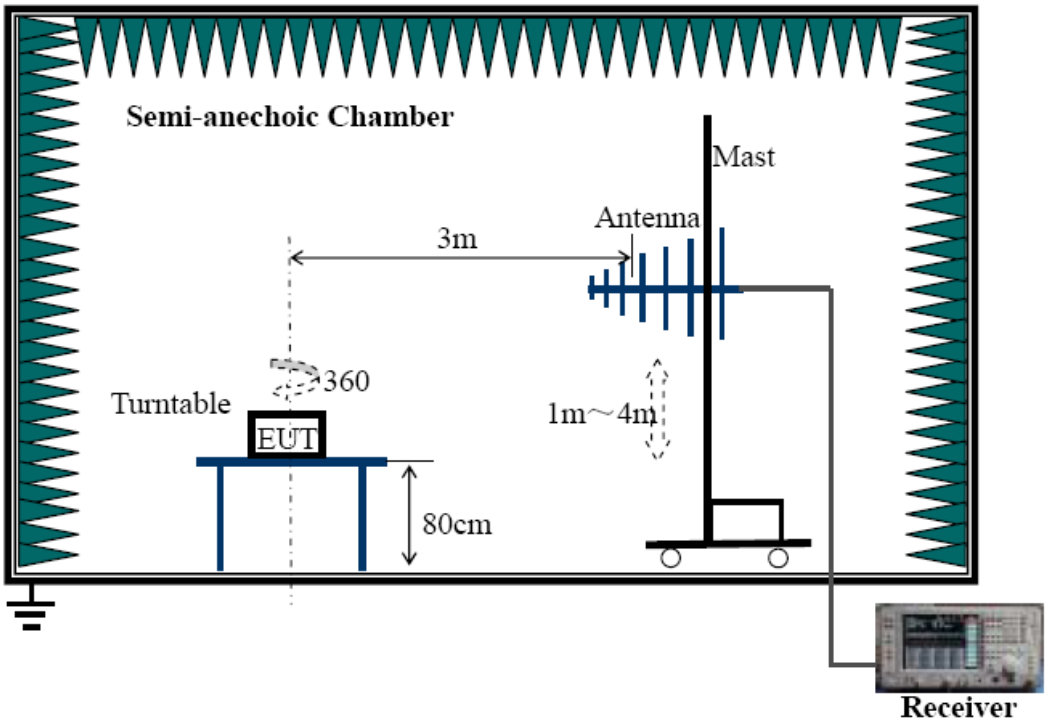
Support Equipment

Description	Model Number	Serial Number	Manufacturer	Power Cable Description
PC	M4800C	M0633038677	Lenovo	1.8m Unshielded
Monitor	LXM-ML-19BH	6M01876618	Lenovo	1.8m Unshielded
Keyboard	SK-8110	C4739-60101	Lenovo	N/A
Mouse	M-UAE96	LZ6360E0EG	Logitech	N/A

Cable Description

Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite Loaded (Y/N)
Ethernet Cable	EUT	PC	2.0	N	N
VGA Cable	Monitor	PC	1.5	Y	Y (x2)
Keyboard Cable	Keyboard	PC	1.8	N	N
Mouse Cable	Mouse	PC	1.8	N	N

Configuration of Tested System



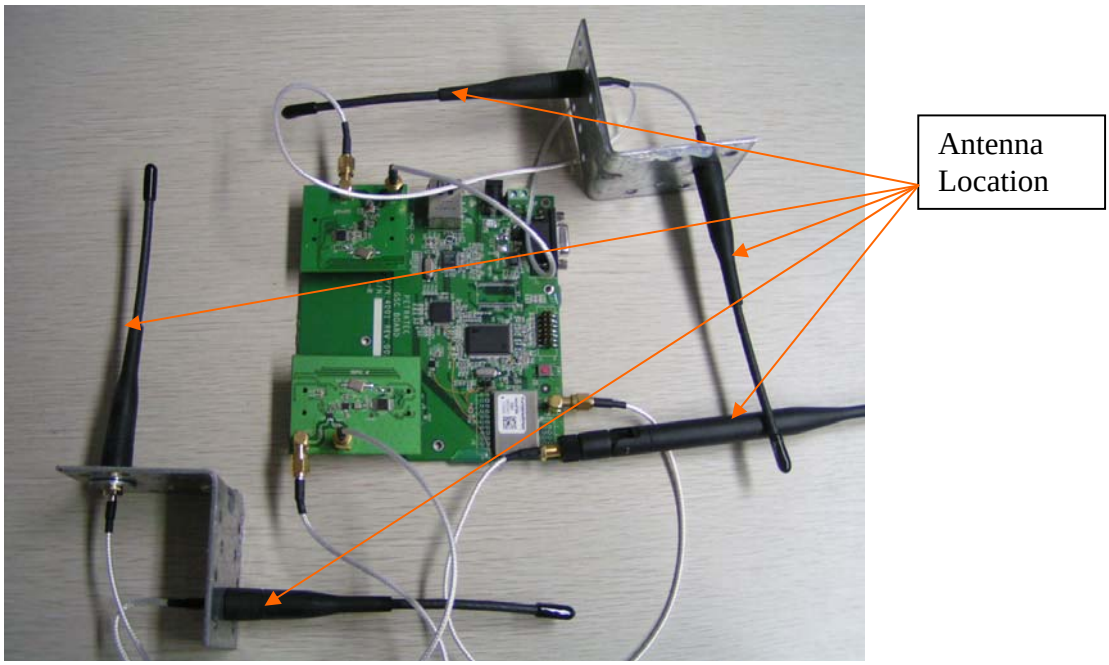
ATTACHMENT 1 – ANTENNA REQUIREMENT

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.203
MODEL TESTED:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	25°C	**HUMIDITY:**	55%RH
ATM PRESSURE:	101.7 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

SETUP METHOD:	N/A
ANTENNA REQUIREMENT:	An intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Normal Operation As Usual
RESULTS:	The EUT meets the Antenna requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	N/A

FCC Section	FCC Rules	Conclusion
15.203	***Described how the EUT complies with the requirement that either its antenna is permanently attached, or that it employs a unique antenna connector, for every antenna proposed for use with the EUT.*** ***The exception is in those cases where EUT must be professionally installed. In order to demonstrate that professional installation is required, the following 3 points must be addressed:*** ● ***The application (or intended use) of the EUT*** ● ***The installation requirements of the EUT*** ● ***The method by which the EUT will be marketed***	***The RF Device uses dedicated antennas with unique SMA antenna connectors.*** ***For 433MHz transceiver: Tx has 2 antennas (gain: 3dBi) ; Rx also has 2 antennas (gain: 3dBi).*** ***For 2.4GHz transceiver: it employs one 6dBi gain antenna.***

Antenna Location

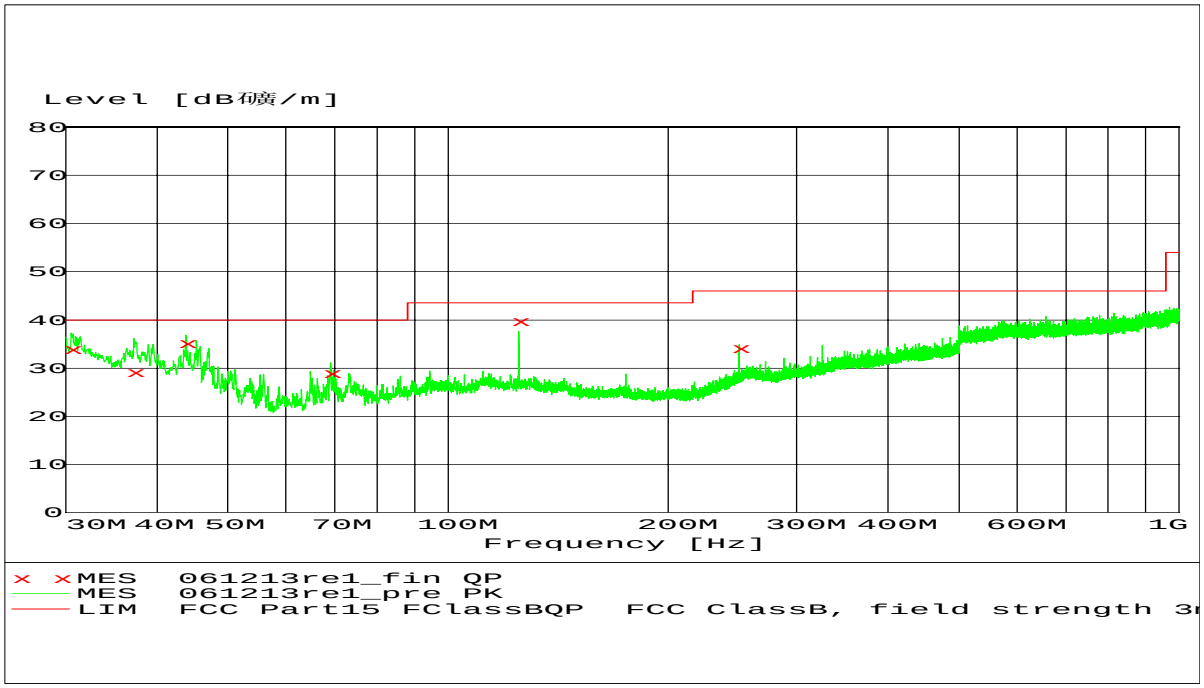


ATTACHMENT 2 – GENERAL RADIATED EMISSIONS

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.209, 15.205
MODEL TESTED:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	24°C	**HUMIDITY:**	55%RH
ATM PRESSURE:	101.7 kPa	**GROUNDING:**	Grounding Through PC
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

SETUP METHOD:	ANSI C63.4 - 2003
TEST PROCEDURE:	The EUT is set up according to the guidelines of ANSI C63.4 for radiated emissions. The length of the antenna was adjusted to the maximum output level. An EMI receiver peak scan is made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination is then performed and the significant peaks marked. These peaks are then quasi-peaked for final test at an Open Site Test area. The frequency investigated is from 30MHz to 1GHz. The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor is given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain
TESTED RANGE:	30MHz to 24,000MHz
TEST VOLTAGE:	120V / 60Hz
RESULTS:	- The EUT meets the requirements of test reference for Radiated Emissions on horizontal polarization by 3.0 dB at 133.5MHz. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group test personnel.
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB

Model: A741



Horizontal/Vertical Radiated Emission Plot (Peak, Max Hold Mode)

30MHz - 1GHz

Horizontal

Signal	Frequency (MHz)	Antenna Factor (dB)	Cable Factor (dB)	Corrected QP Level dB(uV/m)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	38.1	11.0	0.3	30.0	40.0	-10.0	254	100
2	44.5	9.6	0.3	36.5	40.0	-3.5	176	100
3	133.5	8.7	0.7	40.5	43.5	-3.0	211	100

Vertical

Signal	Frequency (MHz)	Antenna Factor (dB)	Cable Factor (dB)	Corrected QP Level dB(uV/m)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	31.8	13.8	0.3	34.2	40.0	-5.8	108	123
2	69.9	7.9	0.4	30.1	40.0	-9.9	196	100
3	255.7	12.8	1.3	32.6	46.0	-13.4	302	100

Comments: None

Note: All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.

1GHz - 24GHz

Horizontal

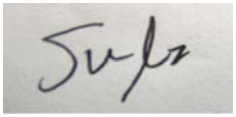
Signal	Frequency (MHz)	Factor (dB)	Corrected PK Level (dBuV/m)	3 Meter PK Limits (dB uV/m)	Margin (dB)	Corrected AV Level (dBuV/m)	3 Meter AV Limits (dBuV/m)	Margin (dB)
1	4899	32.6	67.1	74.0	-6.9	48.1	54.0	-5.9
2	7348	35.9	65.4	74.0	-8.6	45.8	54.0	-8.2
3	9797	37.8	66.8	74.0	-7.2	44.1	54.0	-9.9

Vertical

Signal	Frequency (MHz)	Factor (dB)	Corrected PK Level (dBuV/m)	3 Meter PK Limits (dB uV/m)	Margin (dB)	Corrected AV Level (dBuV/m)	3 Meter AV Limits (dBuV/m)	Margin (dB)
1	4899	32.6	66.4	74.0	-7.6	46.8	54.0	-7.2
2	7348	35.9	63.2	74.0	-10.8	43.8	54.0	-10.2
3	9797	37.8	64.1	74.0	-9.9	44.8	54.0	-9.2

Note: All readings are peak and average unless stated otherwise, using a bandwidth of 1MHz, with a 30 ms sweep time. A video filter was not used.

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
EMI Receiver	R&S	ESCS30	828985/026	04/18/06	04/17/07
Horn Antenna	EMCO	3115	9104-3666	10/16/06	10/15/07
BiLog antenna	Chase	CBL 6112B	2532	03/22/06	03/21/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

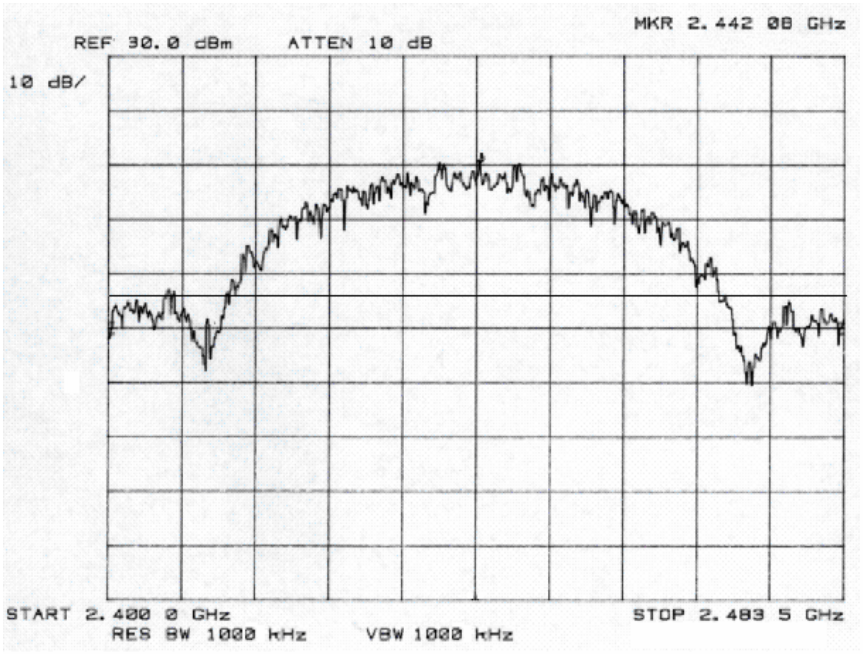
SIGNED BY:  **REVIEWED BY:** 

ENGINEER **SENIOR ENGINEER**

ATTACHMENT 3 – MAXIMUM PEAK OUTPUT POWER

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.247 (b) (3)
MODEL NUMBER:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, May 15

SETUP METHOD:	ANSI C63.4 - 2003
TEST REQUIREMENT:	FCC 15.247 (b) (3) For system using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850 MHz bands: 1Watt.
TEST PROCEDURE:	Set the spectrum as follow: 1. Set span to encompass the entire emission bandwidth of the signal. 2. Set sweep trigger to "free run". 3. Set RBW=1MHz , VBW=1MHz 4. Use linear display mode. 5. Use peak detector mode. 6. Set max hold. 7. Allow the max hold to run for 60s. 8. Computer power by integrating the spectrum across the 26dB EBW or apply a bandwidth correction factor of 10 log(EBW/1MHz) to spectral peak of the emission. The 1MHz band power levels to be summed was obtained bi averaging , in linear power terms, power levels in each frequency bin across the 1MHz.
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Transmitting continuously with maximum power
RESULTS:	The EUT meets the maximum peak conducted output power requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

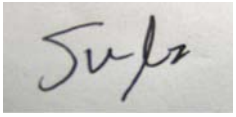


Test Result

Peak Power summed Reading level (dBm)	*Cable loss (dB)*	*Correction Factor (dB)*	*Level (dBm)*	*Limit (dBm)*	*Result*
10.25	***1.0***	***18.57***	***29.82***	***30***	***Pass***

Note #1: Peak power= Reading Level + Cable loss+ Correction factor
Note #2: Correction Factor= 10 log (EBW/1MHz)=10 log (72MHz/1MHz)=18.57dB

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY:  **REVIEWED BY:** 

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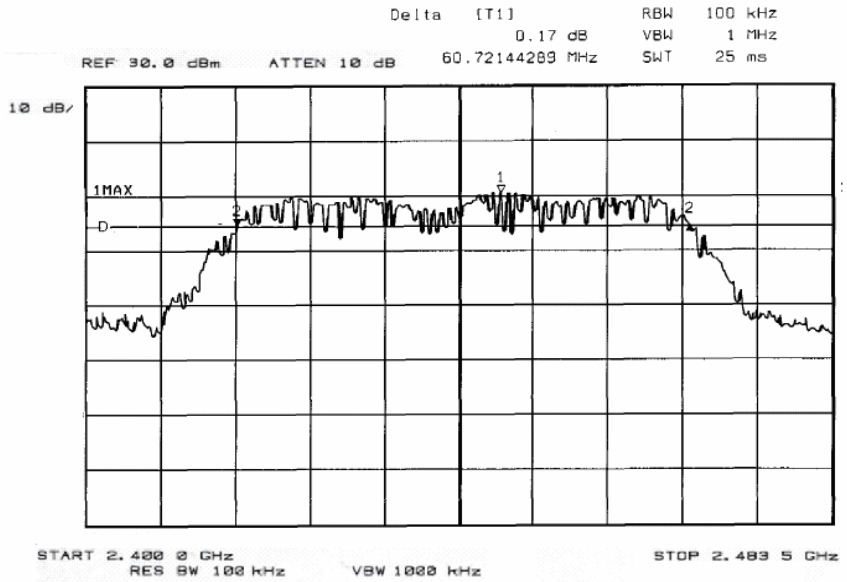
ATTACHMENT 4 – BANDWIDTH

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.247 (a)(2)
MODEL NUMBERS:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, May 15

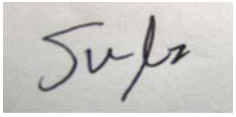
SETUP METHOD:	ANSI C63.4 - 2003
BANDWIDTH REQUIREMENT:	FCC 15.247 (a) (2) (i) The minimum 6 dB bandwidth shall be at least 500kHz.
TEST PROCEDURE:	Set the spectrum as follow: Span=100MHz, centered on the plot; RBW=100kHz; VBW≧RBW; Sweep=Auto; Detector=Peak; Trace=Maxhold; Use the search peak function to set the marker to the peak of the emission; Use the delta-mark function to measure 6dB down to both sides of the emission; The 6dB BW is the delta reading between two 6dB down marker.
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Transmitting continuously
RESULTS:	The EUT meets the bandwidth requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB



Test Result

6dB Bandwidth	*Limit*	*Result*
60.72MHz	*500kHz*	*Pass*

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY:  **REVIEWED BY:** 

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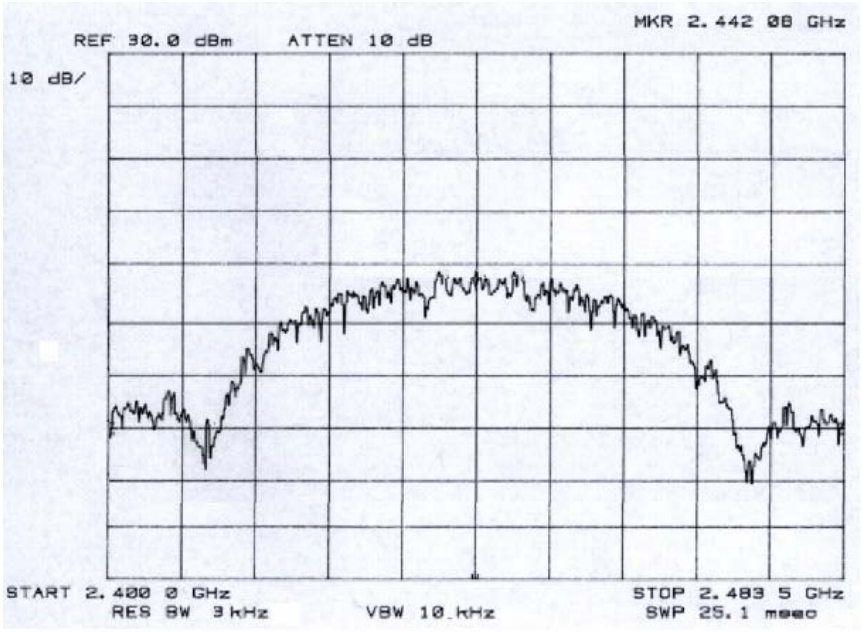
ATTACHMENT 5 – POWER SPECTRAL DENSITY

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.247 (e)
MODEL NUMBER:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, May 10

SETUP METHOD:	ANSI C63.4 - 2003
POWER SPECTRAL DENSITY REQUIREMENT:	FCC 15.247 (e) For digitally modulated systems, the power density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
TEST PROCEDURE:	Set the spectrum as follow: Span=100MHz, centered on the plot; RBW=3kHz; VBW≧3RBW; Sweep=Auto; Detector=Peak; Trace=Maxhold; Read the peak level of the plot, that is the power spectral density in 3kHz.
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Transmitting continuously
RESULTS:	The EUT meets the bandwidth requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB



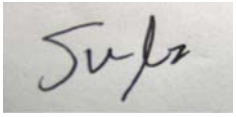
Power Spectral Density Plot

Test Result

Peak Power Spectral Density	*Limit*	*Result*
-12.16+1.0=-11.16dBm/3kHz	***8dBm/3kHz***	***Pass***

Note: Peak power= Reading Level + Cable loss

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY:  **REVIEWED BY:** 

ENGINEER **SENIOR ENGINEER**

ATTACHMENT 6 – BAND EDGE TEST

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.247 (d)
MODEL NUMBER:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

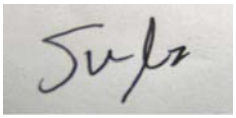
SETUP METHOD:	ANSI C63.4 - 2003
BANDEDGE REQUIREMENT:	FCC 15.247 (d) In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiators shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.
TEST PROCEDURE:	The EUT is set up according to the guidelines of ANSI C63.4 for radiated emissions. The length of the antenna was adjusted to the maximum output level. An EMI receiver peak scan is made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination is then performed and the significant peaks marked. These peaks are then quasi-peaked for final test at an Open Site Test area. The frequency investigated is from 30MHz to 1GHz. The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor is given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Transmitting continuously
RESULTS:	The EUT meets band edge requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.

M. UNCERTAINTY:	Freq. $\pm$ $2x10^{-7}$ x Center Freq., Amp $\pm$ 2.6 dB

Band Edge Test Table

Antenna Horizontal						
Signal	**Frequency (MHz)**	**Antenna Factor (dB/m)**	**Cable Factor (dB)**	**Corrected PK Level (dBuV)**	**Limits PK (dBuV/m)**	**Margin PK (dB)**
1	2390.0	27.2	10.0	60.4	74.0	-13.6
2	2483.5	27.5	10.3	57.3	74.0	-16.7
Signal	**Frequency (MHz)**	**Antenna Factor (dB/m)**	**Cable Factor (dB)**	**Corrected AV Level (dBuV)**	**Limits AV (dBuV/m)**	**Margin AV (dB)**
1	2390.0	27.2	10.0	48.9	54.0	-5.1
2	2483.5	27.5	10.3	44.8	54.0	-9.2
Antenna Vertical						
Signal	**Frequency (MHz)**	**Antenna Factor (dB/m)**	**Cable Factor (dB)**	**Corrected PK Level (dBuV)**	**Limits PK (dBuV/m)**	**Margin PK (dB)**
1	2390.0	27.2	10.0	58.7	74.0	-15.3
2	2483.5	27.5	10.3	56.5	74.0	-17.5
Signal	**Frequency (MHz)**	**Antenna Factor (dB/m)**	**Cable Factor (dB)**	**Corrected AV Level (dBuV)**	**Limits AV (dBuV/m)**	**Margin AV (dB)**
1	2390.0	27.2	10.0	47.6	54.0	-6.4
2	2483.5	27.5	10.3	47.0	54.0	-7.0

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
Horn Antenna	EMCO	3115	9104-3666	10/16/06	10/15/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

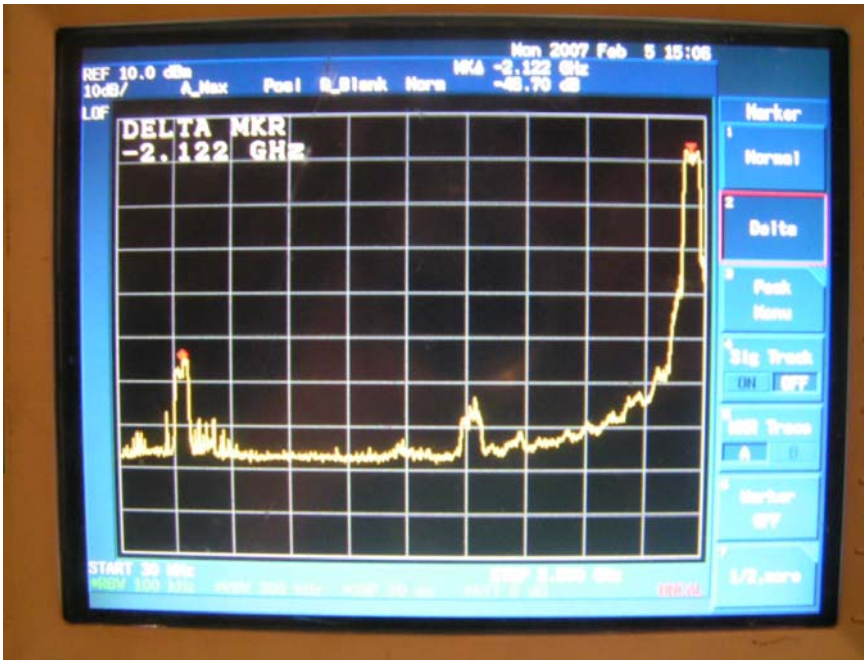
SIGNED BY:  **REVIEWED BY:** 

ENGINEER **SENIOR ENGINEER**

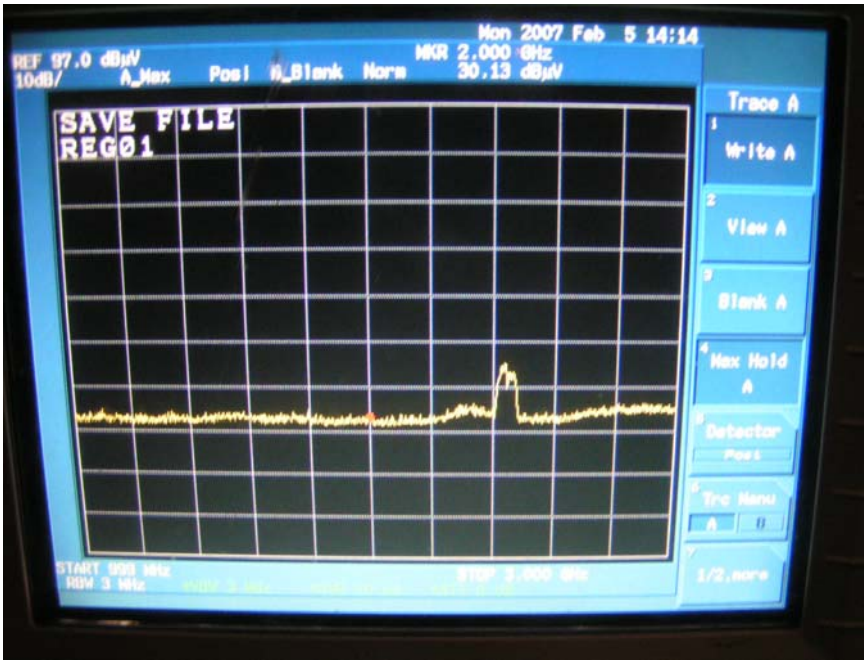
ATTACHMENT 7 – EMISSIONS AT ANTENNA PORT

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC Part 15.247 (d)
MODEL NUMBER:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

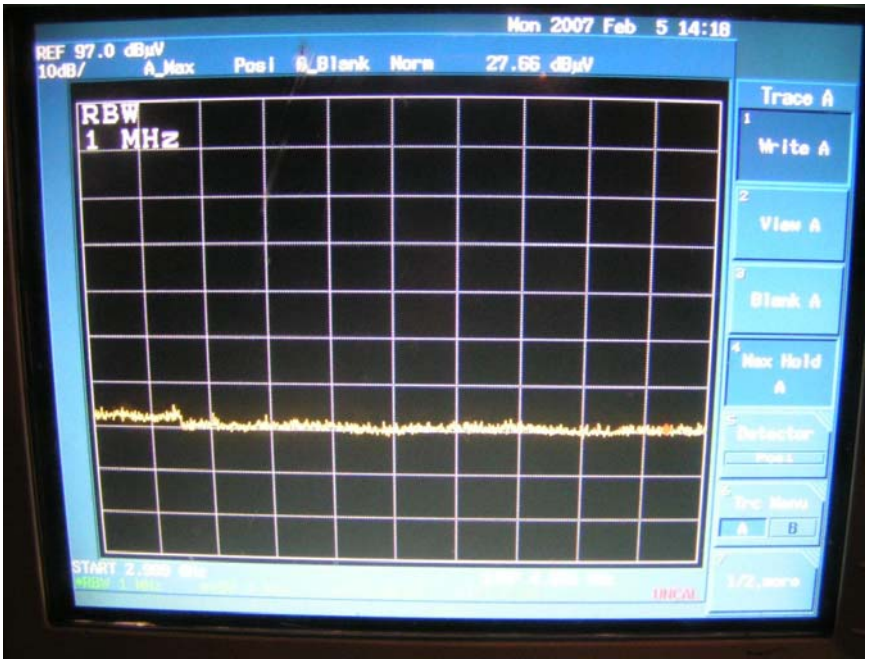
SETUP METHOD:	ANSI C63.4 – 2003
TEST REQUIREMENT:	FCC 15.247 (d) Radiation emissions which fall in the restricted bands, as defined in Section 15.205(a), must comply with the radiated emissions limits specified in 15.209(a).
TEST PROCEDURE:	Set the spectrum as follow: Span=from 30MHz to tenth harmonic frequency (24GHz); RBW=100kHz; VBW≧RBW; Sweep=Auto; Detector=Peak; Trace=Maxhold
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Transmitting continuously
RESULTS:	The EUT meets the emissions at antenna port requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB



Emissions at antenna (30MHz-2.5GHz)

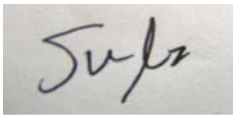


Emissions at antenna (1GHz-3GHz)



Emissions at antenna (3GHz-24GHz)

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
Spectrum	Advantest	R3162	001-33	11/10/06	11/09/07
3m semi-anechoic chamber	LINDGREN	07′×08′-4	15427-A	02/24/06	02/23/07
Spectrum Analyzer	Agilent	E4440A	US45303119	03/20/06	03/19/07
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY:  **REVIEWED BY:** 

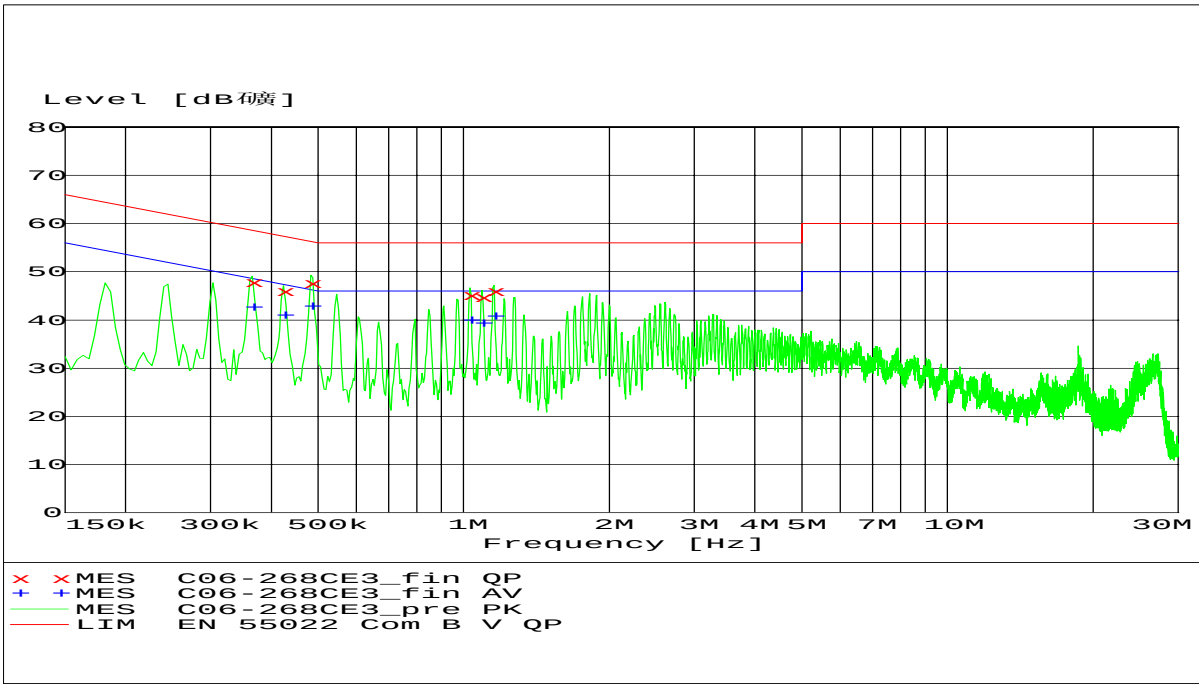
ENGINEER **SENIOR ENGINEER**

ATTACHMENT 8 – CONDUCTED EMISSION TEST RESULTS

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC 15.107/207
MODEL NUMBERS:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

SETUP METHOD:	ANSI C63.4 : 2003, FCC 15.107/207
TEST PROCEDURE:	a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface. b. Connect EUT to the power mains through a line impedance stabilization network (LISN) c. The LISN provides 50ohm coupling impedance for the measuring instrument d. Both sides of AC line were checked for maximum conduced interference. e. The frequency range from 150KHz to 30MHz was searched.. f. Set the test-receiver system to Peak Detect Function and Specified bandwidth. g. If the emission level of the EUT in peak mode was 20 dB lower than the specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be tested using the quasi-peak method in about six maximal points and the results will be reported.
TESTED RANGE:	0.15MHz-30MHz
TEST VOLTAGE:	120V / 60Hz
TEST STATUS:	Keep Tx in continuous transmission mode, modulated
RESULTS:	The EUT meets the requirements of test reference for Conducted Emissions on line L by 8.4 dB of Quasi-Peak detector and 3.3 dB of Average Detector. The test results relate only to the equipment under test provided by client.

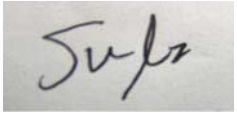
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB



Line L/N Conducted Emission Graph

Line L (Hot Lead)								
Signal	**Frequency (MHz)**	**Corrected QP Level (dBuV)**	**Limits QP (dBuV)**	**Margin QP (dB)**	**Frequency (MHz)**	**Corrected AVE Level (dBuV)**	**Limits AVE (dBuV)**	**Margin AVE (dB)**
1	0.3660	47.8	59.0	-11.2	0.3660	42.5	49.0	-6.5
2	0.4245	45.9	57.0	-11.1	0.4245	41.0	47.0	-6.0
3	0.4830	47.6	56.0	-8.4	0.4830	42.7	46.0	-3.3
Line N (Neutral Lead)								
Signal	**Frequency (MHz)**	**Corrected QP Level (dBuV)**	**Limits QP (dBuV)**	**Margin QP (dB)**	**Frequency (MHz)**	**Corrected AVE Level (dBuV)**	**Limits AVE (dBuV)**	**Margin AVE (dB)**
1	1.0320	45.1	56.0	-10.9	1.0320	39.9	46.0	-6.1
2	1.0905	44.6	56.0	-11.4	1.0905	39.2	46.0	-6.8
3	1.1535	45.9	56.0	-10.1	1.1535	40.7	46.0	-5.3
Note: All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.								

Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
AMN	R&S	ESH2-Z5	825640/018	04/24/06	04/23/07
Test Receiver	R&S	ESCS 30	828985/026	04/18/06	04/17/07
Shielded Room	Lingren	03′×07′-RHS	15427-B	11/09/04	11/08/09
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					



SIGNED BY: _____ **REVIEWED BY:** _____

ENGINEER **SENIOR ENGINEER**

ATTACHMENT 9 – RF EXPOSURE CALCULATION

CLIENT:	Petratec International., Ltd	**TEST STANDARD:**	FCC 1.1307(b)(1) FCC 2.1093
MODEL NUMBER:	A741	**PRODUCT:**	GSC
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Sulz	**DATE OF TEST:**	2007, February 7

SETUP METHOD: N/A

TEST PROCEDURE:

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

According to §1.1310 and §2.1093 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

MPE PREDICTION:

Equation from page 18 of OET Bulletin 65, Edition 97-01
S=PG/4 πR2
Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna
2400MHz – 2483.5MHz
Maximum peak output power at antenna input terminal: 29.82dBm=959mW
Predication frequency: 2440MHz
Antenna gain: 6dBi
Prediction distance: 30cm
Power density at predication frequency at 30cm: 0.509 mW/cm2
MPE limit for uncontrolled exposure at prediction frequency: 1.0mW/cm2

TEST RESULT:

The EUT is a fixed outdoor device. 1.0mW/cm2 limit applies. The prediction distance is 30cm.