

Electromagnetic Emissions Test Report and Application for Grant of Equipment Authorization pursuant to FCC Part 15 Subpart C on the Polimaster Inc. **Transmitter** Model: PM1703 SERIES

FCC ID: UJ6PM1703SERIES

GRANTEE: Polimaster Inc.

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Arlington, VA 22201

TEST SITE: Elliott Laboratories, Inc.

> 684 W. Maude Ave Sunnyvale, CA 94086

REPORT DATE: August 28, 2006

FINAL TEST DATE: August 23, 2006

AUTHORIZED SIGNATORY:

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REVISION HISTORY

Revision #	Date	Comments	Modified By
1	September 28, 2006	Initial Release	David Guidotti

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SCOPE

An electromagnetic emissions test has been performed on the Polimaster Inc. model PM1703GNB pursuant to the following rules:

FCC Part 15 Subpart C

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

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 Polimaster Inc. model PM1703GNB and therefore apply only to the tested sample. The sample was selected and prepared by Arif Mamedov of Polimaster Inc.

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OBJECTIVE

The primary objective of the manufacturer is compliance with the regulations outlined in the previous section.

Prior to marketing in the USA, all unlicensed transmitters and transceivers require certification. Receive-only devices operating between 30 MHz and 960 MHz are subject to either certification or a manufacturer's declaration of conformity, with all other receive-only devices exempt from the technical requirements.

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.).

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STATEMENT OF COMPLIANCE

The tested sample of Polimaster Inc. model PM1703GNB complied with the requirements of the following regulations:

FCC Part 15 Subpart C

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.).

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TEST RESULTS SUMMARY

FREQUENCY HOPPING SPREAD SPECTRUM (2400 – 2483.5 MHz, 75 channels or more)

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247 (a) (1)	RSS 210 A8.1 (1)	20dB Bandwidth	850 kHz	Channel spacing >	Complies
15.247 (a) (1)	RSS 210 A8.1 (2)	Channel Separation	1000 kHz	20dB bandwidth	Complies
15.247 (a) (1) (iii)	RSS 210 A8.1 (4)	Channel Dwell Time (average time of occupancy)	.4 seconds per 31.6 seconds	<0.4 second within a period of 0.4 x number of channels	Complies
15.247 (a) (1) (iii)	RSS 210 A8.1 (4)	Number of Channels	79	75 or more	Complies
15.247 (a) (1)	RSS 210 A8.1 (1)	Channel Utilization	The system uses the BlueTooth algorithm and, therefore, meets all requirements for channel utilization.	All channels shall, on average, be used equally	Complies
15.247 (b) (3)	RSS 210 A8.4 (2)	Output Power (multipoint systems)	-3.2 dBm EIRP = 0.0005 W Note 1	1Watt, EIRP limited to 4 Watts.	Complies
15.247(c)	RSS 210 A8.5	Spurious Emissions – 30MHz – 25GHz	All spurious emissions < -20dBc	<-20dBc	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 25GHz	49 dBuV/m @ 4959.9 MHz	15.207 in restricted bands, all others <-20dBc	Complies (- 5.0 dB)
	RSS 210 A8.1(2)	Receiver bandwidth	Refer to operational description	Shall match the channel bandwidth	Complies

Note 1: EIRP calculated using radiated measurement method at 3 meters.

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GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Rule	RSS Dula mont	Description	Measured Value /	Limit /	Result
Part	Rule part		Comments	Requirement	(margin)
15.203	-	RF Connector	Permanently Attached		Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	40.0dBμV/m @ 1219.3MHz		Complies (- 14.0 dB)
15 207	RSS GEN	AC Conducted	Not Applicable Battery	Refer to	NT/A
15.207	Table 2	Emissions	Operated	standard	N/A
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
	RSP 100 RSS GEN 7.1.5	User Manual		Statement required regarding non- interference	

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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 are based on a 95% confidence level and were calculated in accordance with UKAS document LAB 34.

Measurement Type	Frequency Range (MHz)	Calculated Uncertainty (dB)
Conducted Emissions	0.15 to 30	± 2.4
Radiated Emissions	0.015 to 30	± 3.0
Radiated Emissions	30 to 1000	± 3.6
Radiated Emissions	1000 to 40000	± 6.0

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EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Polimaster Inc. model PM1703GNB is a radiation monitor (gamma / X-Ray) with an integrated bluetooth transceiver. The EUT would normally be hand-held or worn on a belt clip so the EUT was treated as table-top equipment during testing to simulate the end-user environment. The EUT is powered from an internal 1.5V (AA) battery.

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

Manufacturer	Model	Description	Serial Number	FCC ID
Polimaster	PM1703 GNB	Radiation monitor with Bluetooth transceiver		UJ6PM1703SERIES

OTHER EUT DETAILS

The EUT was configured with an interface cable to facilitate control of Bluetooth test modes via a laptop.

ANTENNA SYSTEM

The antenna is integral to the device.

ENCLOSURE

The EUT enclosure is primarily constructed of plastic . It measures approximately 7cm wide by 10cm deep by 4cm high.

MODIFICATIONS

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

SUPPORT EQUIPMENT

No support equipment was used during emissions testing.

Note: The laptop was used to configure the device into a continuous transmit or continuous receive mode using BlueTest software via the laptop's RS 232 interface. This connection was only used to configure the device and the laptop was disconnected during testing.

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EUT INTERFACE PORTS

The EUT has no interface ports

EUT OPERATION

During emissions testing the EUT was confingred using the BlueTest software suite to transmit at full power either on a single channel or across all channels as required. TXDATA1 was used to generate a modulated signal for band-edge, fundamental and bandiwdth measurements. TXDATA mode was used to obtain an unmodulated signal for measurements at harmonics of the fundamental. Receiver spurious emissions were evaluated with the device tuned to the center channel in receive-only mode (RXDATA1 mode).

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TEST SITE

GENERAL INFORMATION

Final test measurements were taken on August 23, 2006 at the Elliott Laboratories Open Area Test Site #2 located at 684 West Maude Avenue, Sunnyvale, 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.

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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.

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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 loop antenna is used below 30 MHz. For the measurement range 30 MHz to 1000 MHz either a combination of a biconical antenna and a log periodic or a bi-log antenna is used. Above 1000 MHz, horn antennas are used. The antenna calibration factors to convert the received voltage to an electric field strength are included with appropriate cable loss and amplifier gain factors to determine an overall site factor, which is then 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 non-conductive antenna mast equipped with a motor-drive to vary the antenna height. Measurements below 30 MHz are made with the loop antenna at a fixed height of 1m above the ground plane.

ANSI C63.4:2003 and RSS 212 specify 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.

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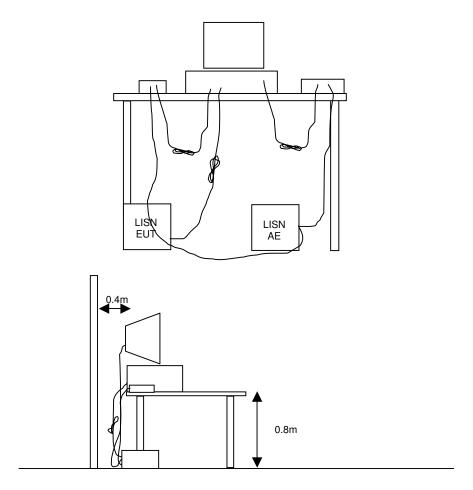
TEST PROCEDURES

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.



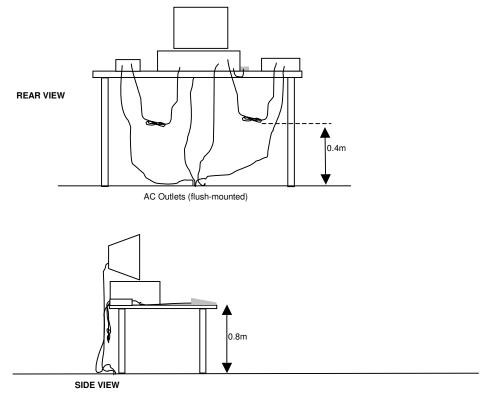
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RADIATED EMISSIONS

A preliminary scan of the radiated emissions is perfromed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied (for measurements above 30 MHz) 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.

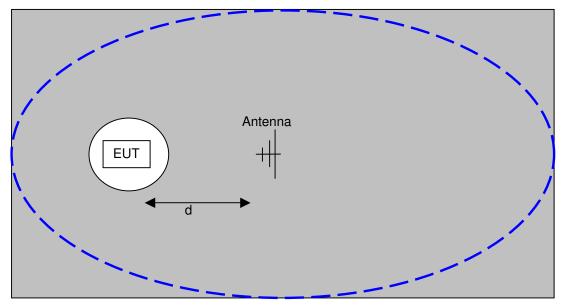
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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 (for measurements above 30 MHz, measurements below 30 MHz are made with the loop antenna at a fixed height of 1m). 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.

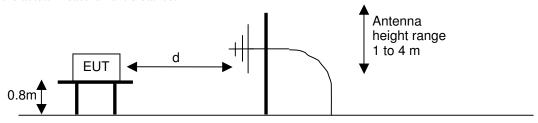


Typical Test Configuration for Radiated Field Strength Measurements

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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.



<u>Test Configuration for Radiated Field Strength Measurements</u>
OATS- Plan and Side Views

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BANDWIDTH MEASUREMENTS

The 6dB, 20dB and/or 26dB signal bandwidth is measured in using the bandwidths recommended by ANSI C63.4. When required, the 99% bandwidth is measured using the methods detailed in RSS GEN.

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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:

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GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands¹ (with the exception of transmitters operating under FCC Part 15 Subpart D and RSS 210 Annex 9), the limits for all emissions from a low power device operating under the general rules of RSS 310 (tables 3 and 4), RSS 210 (table 2) and FCC Part 15 Subpart C section 15.209.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F _{KHz} @ 300m	67.6-20*log ₁₀ (F _{KHz}) @ 300m
0.490-1.705	24000/F _{KHz} @ 30m	87.6-20*log ₁₀ (F _{KHz}) @ 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

OUTPUT POWER LIMITS - FHSS SYSTEMS

The table below shows the limits for output power based on the number of channels available for the hopping system.

Operating Frequency (MHz)	Number of Channels	Output Power
902 – 928	≥ 50	1 Watt (30 dBm)
902 – 928	25 to 49	0.25 Watts (24 dBm)
2400 – 2483.5	≥ 75	1 Watt (30 dBm)
2400 – 2483.5	< 75	0.125 Watts (21 dBm)
5725 - 5850	75	1 Watt (30 dBm)

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).

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¹ The restricted bands are detailed in FCC 15.203, RSS 210 Table 1 and RSS 310 Table 2

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.

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

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EXHIBIT 1: Test Equipment Calibration Data

1 Page

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Radiated Emissions, 30 - 25,000 MHz, 23-Aug-06 Engineer: Mehran Birgani

<u>Manufacturer</u>	Description	Model #	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870	13-Jan-07
Filtek	Filter, 1 GHz High Pass	HP12/1000-5BA	957	24-Apr-07
EMCO	Antenna, Horn, 18-26.5 GHz (SA40 30Hz)	3160-09 (84125C)	1150	12-Sep-06
Hewlett Packard	High Pass filter, 3.5 GHz	P/N 84300-80038	1157	24-Apr-07
EMCO	Antenna, Horn, 1-18 GHz (SA40)	3115	1386	11-Jul-07
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FMT (SA40) Blue	8564E (84125C)	1393	10-Nov-06
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	10-May-07

EXHIBIT 2: Test Measurement Data

16 Pages

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Elliott -		EMC Test Data	
Client:	Polimaster	Job Number:	J64753
Model:	PM1703GN/GNA/GNB	Test-Log Number:	T65093
		Project Manager:	-
Contact:	Aliaksandr Kratsko/Arif Mamedov		
Emissions Spec:	FCC 15.247 / 15.209	Class:	N/A
Immunity Spec:	-	Environment:	-

EMC Test Data

For The

Polimaster

Model

PM1703GN/GNA/GNB

Date of Last Test: 8/24/2006

Elliott		EMC Test Dat	
Client:	Polimaster	Job Number:	J64753
Model:	PM1703GN/GNA/GNB	Test-Log Number:	T65093
		Project Manager:	-
Contact:	Aliaksandr Kratsko/Arif Mamedov		
Emissions Spec:	FCC 15.247 / 15.209	Class:	N/A
Immunity Spec:	-	Environment:	-

EUT INFORMATION

The following information was collected during the test sessions(s).

General Description

The EUT is a radiation monitor (gamma / X-Ray) with an integrated bluetooth transceiver. The EUT would normally be handheld or worn on a belt clip so the EUT was treated as table-top equipment during testing to simulate the end-user environment. The EUT is powered from an internal 1.5V (AA) battery.

Equipment Under Test

Manufacturer	Model	Description	Serial Number	FCC ID
Polimaster	PM1703 GNB	Radiation monitor with Bluetooth transceiver	63116	UJ6PM1703SERIES

Other EUT Details

The following EUT details should be noted: The EUT was configured with an interface cable to facilitate control of Bluetooth test modes via a laptop.

EUT Antenna (Intentional Radiators Only)

The antenna is integral to the device.

EUT Enclosure

The EUT enclosure is primarily constructed of plastic. It measures approximately 7cm wide by 10cm deep by 4cm high.

E E	lliott

EMC Test Data

Client:	Polimaster	Job Number:	J64753
Model:	PM1703GN/GNA/GNB	T-Log Number:	T65093
		Project Manager:	-
Contact:	Aliaksandr Kratsko/Arif Mamedov		
Emissions Spec:	FCC 15.247 / 15.209	Class:	N/A
Immunity Spec:	-	Environment:	-

Test Configuration #1

The following information was collected during the test sessions(s).

Local Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
-	-	-	-	-

Note: The laptop was used to configure the device into a continuous transmit or continuous receive mode using BlueTest software via the laptop's RS 232 interface. This connection was only used to configure the device and the laptop was disconnected during testing.

Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
-	•	-	1	-

Cabling and Ports

Port	Connected To	Cable(s)				
		Description	Shielded or Unshielded	Length(m)		
None	-	-	-	-		

Note: The EUT has no interface ports.

EUT Operation During Emissions Tests

During emissions testing the EUT was confiugred using the BlueTest software suite to transmit at full power either on a single channel or across all channels as required. TXDATA1 was used to generate a modulated signal for band-edge, fundamental and bandiwdth measurements. TXDATA mode was used to obtain an unmodulated signal for measurements at harmonics of the fundamental. Receiver spurious emissions were evaluated with the device tuned to the center channel in receive-only mode (RXDATA1 mode).

		EW	C Test Data
Client:	Polimaster	Job Number:	J64753
Model:	PM1703GN/GNA/GNB	T-Log Number:	T65093
Model.	FINIT/03GN/GNA/GNB	Account Manager:	-
Contact:	Aliaksandr Kratsko/Arif Mamedov		
Standard:	FCC 15.247 / 15.209	Class:	N/A

RSS 210, FCC 15.247 FHSS Power, Bandwidth and Spurious Emissions

Test standard(s)ifics

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: 8/23/2006 8:10 Config. Used: 1 Test Engineer: Mark Briggs / Mehran Birgani Config Change: -

Test Location: SVOATS #2 EUT Voltage: Internal battery

General Test Configuration

The EUT was located on the turntable for radiated spurious emissions testing.

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

Unless stated otherwise the EUT was operating such that it constantly hopped on either the low, center or high channels.

Ambient Conditions: Temperature: 21 °C

Rel. Humidity: 59 %

Summary of Results

Run#	Test Performed	Limit	Pass / Fail	Result / Margin
1	30-24,800 MHz - Transmitter	FCC Part 15.209 /	Door	49.0dBµV/m @
Į.	Spurious Emissions	15.247(c)	Pass	4959.9MHz (-5.0dB)
2	30-8,000 MHz - Radiated	RSS 210	Pass	40.0dBµV/m @
2	Spurious Emissions	NOO 210	Fa55	1219.3MHz (-14.0dB)
3	Output Power	15.247(b)	Pass	-3.2 dBm (0.0005 W)
4	20dB Bandwidth / Channel Spacing	15.247(a)	Pass	850kHz / 1000kHz
4	99% bandwidth	15.247(a)	N/A	1193kHz
4	Channel Occupancy	15.247(a)	Pass	< 0.4s
4	Number of Channels	15.247(a)	Pass	79

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.

Note: Power setting are base on 255 and 50 per software setting.

E I	Ellic	ott						EM	C Test Data
	Polimaste							lob Number:	J64753
Madal	DM47000	NI/ONIA/	OND				T-L	og Number:	T65093
Model:	II: PM1703GN/GNA/GNB Account Ma						nt Manager:	-	
Contact:	ntact: Aliaksandr Kratsko/Arif Mamedov								
Standard:	rrd: FCC 15.247 / 15.209 Class							Class:	N/A
				. 30 - 24020	0 MHz. Low	Channel @	2402 MHz		
		-				_		peak value n	neasured in 100kHz
Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2401.890	91.9	Н	-	-	PK	283	2.2	RB=VB=1N	ИНz
2402.000	91.3	Н	-	-	Avg	283	2.2	RB = 1MHz	z, VB=3kHz (note 1)
2402.030	91.5	Н	-	•	Pk	283	2.2	RB = 100kl	Hz
2401.940	88.0	V	-	-	PK	92	1.7	RB = VB =	
2401.940	87.3	V	-	-	AVG	92	1.7		z, VB=3kHz (note 1)
2401.840	87.7	V	-	-	Pk	91	1.7	RB = VB =	100kHz
EUT Uprigh							_	_	
Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	_	meters		
2402.020	89.2	Н	-	-	PK	27	2.2	RB=VB=1N	
2402.100	91.6	V	-	-	PK	131	1.5	RB=VB=1N	ИHz
EUT Side						1		1	
Frequency	Level	Pol	15.209		Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg		meters	DD 1/D 44	
2402.210	91.8	<u>H</u>	-	-	PK	304	2.0	RB=VB=1N	
2401.970	90.9	<u>H</u>	-	-	Avg	304	2.0		VB=3kHz (note 1)
2402.020	91.4	H	-	-	Pk	304	2.0	RB=100kH:	
2401.930	82.0	V	-	-	PK	131	1.5	RB=VB=1N	/IHZ
							sitization as	the modulat	ed signal was pulsed.
			@ 3m in 100			dBμV/m	limitia 2	0dDa	
LIIIII	ioi eiilissi	ons outs	ide of restric	leu Danus.	/ 1.5	dBμV/m	Limit is -2	VUDC	
					Signal Leve		I	<u> </u>	
Frequency	Level	Pol	15.209		Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	DD-4MIL Y	\/D=2 . = /n s t = 0\
2389.990	45.2	H	54.0	-8.8 16.7	Avg	283	2.2		VB=3kHz (note 2)
2389.490	57.3	Н	74.0	-16.7	Pk	283	2.2	RB=VB=1N	
Note 1:						nowing compl vith highest fu			between 2390 MHz and n.
Note 2:	Average n	neasurer	ments made	with VB=3k	KHz to avoid	pulse desens	sitization as	the modulat	ed signal was pulsed.

Client:	Polimaste	r					J	lob Number:	: J64753
M . 1 . 1	DI 447000	NI/ONIA/O	NID		T-L	og Number	: T65093		
Model:	PM1703G	N/GNA/G	inb		Accou	nt Manager:	: -		
Contact:	Aliaksand	r Kratsko/	Arif Mame	dov					
Standard:	FCC 15.2	47 / 15.20	9					Class	: N/A
Band Edge	Signal an	d 2390 N	IHz Restric	ted Band	Signal Level		1		
								11.5	
70.0 -						i			Analyzer Settings
65.0-									HP8564E,EMI IF: 2395,00 MHz
60.0-						.			PAN:30.00 MHz
55.0-						i /II			RB 100 kHz /B 3,000 MHz
± 50.0−						: //			Detector POS
<u>B</u> 45.0-									Att O
45.0 -									RL Offset 0.00 Sweep Time 50.0ms
~ 35.0 <i>-</i>						i			Ref Lvl:70.25DBUV
30.0-									
25.0-						-	10	 - C	Comments
20.0-	ووالجوال	web-	Name and Associated	والبص	Mary Mary Park	V 1	THE PARTY.		Band edge signal
20.0 - 15.0 -	مونفيروش	and the	i superiore. In	والبصي			ساللى	-	41.8dBc when
P		2385.0	2390.0			00.0 2	405.0	-	
15.0-) 239 Frequenc		00.0 2	405.0		41.8dBc when
15.0-		2385.0	2390.0		y (MHz)	00.0 2 Freq. 2.5		2410.0	41.8dBc when neasured in 100kHz
15.0 - 2380 Cursor 1	2399.70	2385.0 (25.25	2390.0	Frequenc	y (MHz) Delta	Freq. 2.5	00	2410.0	41.8dBc when neasured in 100kHz
15.0 - 2380	0.0 2	2385.0 (25.25	2390.0	Frequenc	y (MHz) Delta		00	2410.0	41.8dBc when
15.0 – 2380 Cursor 1 Cursor 2	2399.70	2385.0 (25.25 (67.08	2390.0	Frequenc	y (MHz) Delta	Freq. 2.5	00	2410.0	41.8dBc when neasured in 100kHz
15.0 – 2380 Cursor 1 Cursor 2 Other Spur	2399.70 2402.20	2385.0 (25.25 (67.08 sions	2390.0	Frequenc	p (MHz) Delta Delta Amp	Freq. 2.5 olitude 41	.83	2410.0	41.8dBc when neasured in 100kHz Elliot
15.0 – 2380 Cursor 1 Cursor 2 Other Spur Frequency	2399.70 2402.20 ious Emis	2385.0 (25.25 (67.08 sions	2390.0	Frequence *- 12 + 12 + 12 + 12 + 12 + 12 + 12 + 12	Delta Amp	Freq. 2.5 olitude 41 Azimuth	.83 Height	2410.0	41.8dBc when neasured in 100kHz Elliot
15.0 - 2380 Cursor 1	2399.70 2402.20	2385.0 (25.25 (67.08 sions	2390.0	Frequenc	p (MHz) Delta Delta Amp	Freq. 2.5 olitude 41	.83	Comments	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940	2399.70 2402.20 ious Emis Level dBµV/m	2385.0 (25.25 (67.08 sions Pol v/h	2390.0	Frequence *- b / 15.247 Margin	Delta Amp Detector Pk/QP/Avg	Freq. 2.5 plitude 41 Azimuth degrees	.83 Height meters	2410.0	41.8dBc when neasured in 100kHz Elliot
15.0 – 2380 Cursor 1 Cursor 2 Other Spur Frequency MHz	2399.70 2402.20 ious Emis Level dBµV/m 45.3	2385.0 25.25 67.08 sions Pol v/h	2390.0 	*- 15.247 Margin -8.7	Delta Amp Detector Pk/QP/Avg AVG	Freq. 2.5 plitude 41 Azimuth degrees 163	.83 Height meters 1.4	Comments	41.8dBc when neasured in 100kHz Elliot
15.0 – 2380 Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4804.050 4803.970 4803.980	2399,70 2402,20 ious Emis Level dBµV/m 45.3 44.8	2385.0 (25.25 (67.08 Sions Pol V/h H H V	2390.0 2390.0 15.209 Limit 54.0 54.0	*- 15.247 Margin -8.7 -9.2	Delta Amp Detector Pk/QP/Avg AVG AVG	Azimuth degrees 163 336	Height meters 1.4 1.7	Comments Upright	41.8dBc when neasured in 100kHz Elliot
15.0 – 2380 Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.980 4803.930	2399.70 2402.20 ious Emis Level dBµV/m 45.3 44.8 44.7 44.4 44.4	2385.0 (25.25 (67.08 Sions Pol V/h H H V V	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0	/ 15.247 Margin -8.7 -9.2 -9.3 -9.6 -9.6	Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG	Azimuth degrees 163 336 107 291 106	Height meters 1.4 1.7 1.0 1.2	Comments Upright Flat Side Upright Flat Flat	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.980 4803.930 4804.040	2399.70 2402.20 ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 44.4 39.0	2385.0 25.25 (67.08 Sions Pol v/h H H V V V	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0	/ 15.247 Margin -8.7 -9.2 -9.6 -9.6 -15.0	Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AVG AVG	Azimuth degrees 163 336 107 291 106 346	Height meters 1.4 1.7 1.0 1.2 1.0 1.7	Comments Upright Flat Side Upright Flat Side Side	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.930 4803.930 4804.040 7205.960	2399.70 2402.20 ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 39.0 37.2	2385.0 25.25 (67.08 Sions Pol V/h H V V V H H	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	*- 15.247 Margin -8.7 -9.2 -9.3 -9.6 -15.0 -16.8	Delta Amp Delta Amp Detector Pk/QP/Avg AVG	Azimuth degrees 163 336 107 291 106 346 243	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0	Comments Upright Flat Side Upright Flat Side Upright Flat Upright	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4804.050 4803.970 4803.980 4804.040 7205.960 4803.940	2399.70 2402.20 ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 39.0 37.2 49.4	2385.0 (25.25 (67.08 Sions Pol v/h H H V V V H H H	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0	/ 15.247 Margin -8.7 -9.2 -9.3 -9.6 -15.0 -16.8 -24.6	Delta Amp Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AV	Azimuth degrees 163 336 107 291 106 346 243 163	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0 1.4	Comments Upright Flat Side Upright Flat Side Upright Upright Upright Upright Upright	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4804.050 4803.970 4803.930 4804.040 7205.960 4803.940 4803.940 4803.940 4803.970	ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 39.0 37.2 49.4 48.8	2385.0 (25.25 (67.08 Sions Pol V/h H V V V V H H H	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	/ 15.247 Margin -8.7 -9.2 -9.3 -9.6 -15.0 -16.8 -24.6 -25.2	Delta Amp Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AV	Azimuth degrees 163 336 107 291 106 346 243 163 107	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0 1.4 1.0	Comments Upright Flat Side Upright Flat Side Upright Upright Upright Upright Upright Side	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.980 4803.930 4804.040 7205.960 4803.940 4803.970 4803.970 4803.970 4803.970 4803.970	ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 39.0 37.2 49.4 48.8 48.6	2385.0 (25.25 (67.08 Sions Pol V/h H V V V H H H H V	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0	/ 15.247 Margin -8.7 -9.2 -9.6 -15.0 -16.8 -24.6 -25.2 -25.4	Delta Amp Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AV	Azimuth degrees 163 336 107 291 106 346 243 163 107 336	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0 1.4 1.0 1.7	Comments Upright Flat Side Upright Flat Side Upright Upright Upright Upright Upright Side Flat	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.980 4804.040 7205.960 4803.970 4803.970 4803.970 4803.970 4803.970 4803.970 4803.970 4803.930	ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 44.4 39.0 37.2 49.4 48.8 48.6 48.2	2385.0 (25.25 (67.08 Sions Pol v/h H V V V H H H V	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0	*- 6 - 15.0 - 16.8 - 24.6 - 25.2 - 25.4 - 25.8	Delta Amp Delta Amp Delta Amp Detector Pk/QP/Avg AVG	Azimuth degrees 163 336 107 291 106 346 243 163 107 336 106	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0 1.4 1.0 1.7 1.0 1.1 1.0 1.7 1.0	Comments Upright Flat Side Upright Flat Side Upright Upright Upright Upright Upright Upright Upright Flat Flat Flat Flat Flat Flat	41.8dBc when neasured in 100kHz Elliot
Cursor 1 Cursor 2 Other Spur Frequency MHz 4803.940 4803.970 4803.980 4803.930 4804.040	ious Emis Level dBμV/m 45.3 44.8 44.7 44.4 39.0 37.2 49.4 48.8 48.6	2385.0 (25.25 (67.08 Sions Pol V/h H V V V H H H H V	2390.0 15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0	/ 15.247 Margin -8.7 -9.2 -9.6 -15.0 -16.8 -24.6 -25.2 -25.4	Delta Amp Delta Amp Delta Amp Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AV	Azimuth degrees 163 336 107 291 106 346 243 163 107 336	Height meters 1.4 1.7 1.0 1.2 1.0 1.7 1.0 1.4 1.0 1.7	Comments Upright Flat Side Upright Flat Side Upright Upright Upright Upright Upright Side Flat	41.8dBc when neasured in 100kHz Elliot

	Ellic Polimaste							lob Number:	J64753
								og Number:	
Model:	PM1703G	N/GNA/0	GNB					nt Manager:	
Contact	Aliakeandı	r Krateko	/Arif Mame	dov			710000	int managor.	
				uov				Classi	NI/A
	FCC 15.24							Class:	IN/A
		-	Emissions	s, 30 - 2480	0 MHz. Cent	ter Channel	@ 2440 MH	łz	
	tal Field St	trengtn Pol	15 200	/ 15.247	Detector	Azimuth	Unight	Comments	
Frequency MHz	Level dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	Height meters	Comments	
2439.870	86.5	Н	LIIIII	iviaigiii	Pk	116	1.9	RB=VB=1N	/Hz
2440.220	83.2	H			Pk	318	1.9	RB=VB=1N	
2439.960	88.0	H	_	_	Pk	290	2.1	RB=VB=1N	
2439.960	87.2	H	_	_	Pk	290	2.1	RB=100kH	
2439.820	82.2	V	-	-	Pk	266	1.2	RB=VB=1N	
2439.970	83.7	V	-	-	Pk	319	1.6	RB=VB=1N	
							_		
Fundame	ntal emissi	on level (@ 3m in 10	0kHz RBW:	87.2	dBμV/m			
Limi	t for emissi	ons outs	ide of restri	cted bands:	67.2	dBμV/m			
							_	_	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
	dD\//	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
MHz	dBμV/m								
MHz 4880.040	47.1	Н	54.0	-6.9	AVG	176	1.3	Upright	
MHz 4880.040 4880.000	47.1 45.9	H V	54.0	-8.1	AVG	14	1.2	Side	
MHz 4880.040 4880.000 4879.960	47.1 45.9 45.7	H V V	54.0 54.0	-8.1 -8.3	AVG AVG	14 76	1.2 1.0	Side Upright	
MHz 4880.040 4880.000 4879.960 4879.970	47.1 45.9 45.7 44.6	H V V H	54.0 54.0 54.0	-8.1 -8.3 -9.4	AVG AVG AVG	14 76 12	1.2 1.0 1.6	Side Upright Flat	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980	47.1 45.9 45.7 44.6 43.8	H V V H V	54.0 54.0 54.0 54.0	-8.1 -8.3 -9.4 -10.2	AVG AVG AVG AVG	14 76 12 79	1.2 1.0 1.6 1.2	Side Upright Flat Flat	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980 4880.000	47.1 45.9 45.7 44.6 43.8 41.7	H V V H V	54.0 54.0 54.0 54.0 54.0	-8.1 -8.3 -9.4 -10.2 -12.3	AVG AVG AVG AVG	14 76 12 79 171	1.2 1.0 1.6 1.2 2.2	Side Upright Flat Flat Side	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980 4880.000 7320.030	47.1 45.9 45.7 44.6 43.8 41.7 37.2	H V V H V H	54.0 54.0 54.0 54.0 54.0 54.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8	AVG AVG AVG AVG AVG AVG	14 76 12 79 171	1.2 1.0 1.6 1.2 2.2 1.6	Side Upright Flat Flat Side Upright	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980 4880.000 7320.030 4880.040	47.1 45.9 45.7 44.6 43.8 41.7 37.2 49.9	H V V H V H	54.0 54.0 54.0 54.0 54.0 54.0 74.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8 -24.1	AVG AVG AVG AVG AVG AVG AVG AVG	14 76 12 79 171 124 176	1.2 1.0 1.6 1.2 2.2 1.6 1.3	Side Upright Flat Flat Side Upright Upright	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980 4880.000 7320.030 4880.040 4880.000	47.1 45.9 45.7 44.6 43.8 41.7 37.2 49.9 49.8	H V V H V H	54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8 -24.1 -24.2	AVG AVG AVG AVG AVG AVG AVG AVG PK PK	14 76 12 79 171 124 176	1.2 1.0 1.6 1.2 2.2 1.6 1.3	Side Upright Flat Flat Side Upright Upright Side	
MHz 4880.040 4880.000 4879.960 4879.980 4880.000 7320.030 4880.040 4880.000 4879.960	47.1 45.9 45.7 44.6 43.8 41.7 37.2 49.9 49.8 49.3	H V V H H H H V V V	54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8 -24.1 -24.2 -24.7	AVG AVG AVG AVG AVG AVG AVG PK PK PK	14 76 12 79 171 124 176	1.2 1.0 1.6 1.2 2.2 1.6 1.3 1.2	Side Upright Flat Flat Side Upright Upright Side Upright Side Upright	
MHz 4880.040 4880.000 4879.960 4879.970 4879.980 4880.000	47.1 45.9 45.7 44.6 43.8 41.7 37.2 49.9 49.8	H V V H V H H H	54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8 -24.1 -24.2	AVG AVG AVG AVG AVG AVG AVG AVG PK PK	14 76 12 79 171 124 176 14	1.2 1.0 1.6 1.2 2.2 1.6 1.3	Side Upright Flat Flat Side Upright Upright Side	
MHz 4880.040 4880.000 4879.960 4879.980 4880.000 7320.030 4880.040 4880.000 4879.960 4879.970	47.1 45.9 45.7 44.6 43.8 41.7 37.2 49.9 49.8 49.3 48.7	H V V H V H H H V V V H	54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0	-8.1 -8.3 -9.4 -10.2 -12.3 -16.8 -24.1 -24.2 -24.7 -25.3	AVG AVG AVG AVG AVG AVG AVG PK PK PK PK	14 76 12 79 171 124 176 14 76	1.2 1.0 1.6 1.2 2.2 1.6 1.3 1.2 1.0	Side Upright Flat Flat Side Upright Upright Side Upright Side Upright Flat	

Co T	711.	4.4								
EI	<u> </u>	<u>)tt</u>						EM	C Test Data	
Client:	Polimaste	r					J	lob Number:	J64753	
Model	PM1703G	NI/ONIA/(OND.				T-L	.og Number:	T65093	
wodei.	PIVITTUSG	IN/GINA/U	JIND				Accou	nt Manager:	-	
Contact:	Aliaksandr Kratsko/Arif Mamedov									
Standard:	FCC 15.24	47 / 15.2	09					Class:	N/A	
				30 - 24800	MHz Hial	n Channel @	2/80 MHz		1 7 7	
EUT Flat	Naulaleu S	purious	LIIISSIUIIS	, 30 - 24000	, Miliz. Tilgi	i Cilaillei @	2400 WII IZ			
Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg		meters			
2479.890	84.1	Н	-	-	PK	269	1.6	RB=VB=1N	ИНz	
2479.830	79.5	V	-	-	PK	234	1.4	RB=VB=1N		
UT Uprigl	nt				•		•			
requency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2479.920	86.6	Н	-	-	PK	120	1.9	RB=VB=1N	ИНz	
2479.980	85.9	Н	-	-	Avg	120	1.9	RB=1MHz,	VB=3kHz (note 1)	
2480.020	86.5	Н	-	-	PK	120	1.9	RB=100kH:		
2480.020	79.8	V	-	-	PK	115	1.1	RB=VB=1N	ИHz	
UT Side										
requency	Level	Pol	,	15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2480.030	83.2	Н	-	-	PK	142	1.6			
2480.030	80.7	V	-	-	PK	160	1.4			
1.1.4				::L \ /D OI	11 ()1					
Note 1:	Average n	neasurer	nents made	with VB=3k	Hz to avoid	pulse desens	sitization as	the modulat	ed signal was pulsed.	
Fundama	ntal amiasi	on lovel	@ 2m in 100	JLU- DDW	00.5	-ID: Aller	1			
			@ 3m in 100 ide of restrice			dBμV/m	Limit is -2	04Da		
LIIIII	i ioi eiiiissi	ons outs	ide of restric	deu parius.	00.3	dBμV/m	JLIMIT IS -Z	UUDC		
Sand Edge	Signal an	4 3 483 8	MHz Rocti	ricted Rand	l Signal Lev	ام				
requency	Level	Pol		15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Commonto		
2484.320	46.4	H	54.0	-7.6	Avg	120	1.9	RR=1MHz	VB=3kHz (note 2)	
2486.020	57.6	Н	74.0	-16.4	PK	120	1.9	RB=VB=1N	` '	
lote 1:		•		•	•				petween 2390 MHz and	
						ith highest fu				
lote 2:	Average n	neasurer	nents made	with VB=3k	Hz to avoid	pulse desens	sitization as	the modulat	ed signal was pulsed.	

Client	Polimaste	•						Job Number	: J64753	
	I: PM1703GN/GNA/GNB						T-Log Numbe		er: T65093	
Model:										
Contact:	Aliaksandı	· Kratsko	/Arif Mame	dov				. 3	1911	
Standard:	standard: FCC 15.247 / 15.209							Class	s: N/A	
				ricted Band	l Signal Lev	/el				
J	Ū				Ū					
65.0-		-100							Analyzer Settings	
60.0-		11							HP8564E,EMI CF: 2484.00 MHz	
55.0-		11							SPAN:12.00 MHz	
50.0-		HΥ							RB 100 kHz	
		$f: \Lambda$							VB 3.000 MHz Detector POS	
9 45.0 - 40.0 - 35.0 -		i {							Att 0	
튵 40.0 -	1								RL Offset 0.00 Sweep Time 50.0ms	
₹ 35.0-	NV		(A						Ref Lvl:70.25DBUV	
30.0-	-/"		VI							
25.0-			10						Comments	
20.0-	W		THE PARTY N	and the second	Part Line and	and the Review of	market been a la	101 A		
				All Persons in	Maria India	March School Services	A STATE OF THE PERSON NAMED IN		Band edge signal	
									-40.2dBc when	
15.0 - 247		2480.0	2482.1) 248	4.0 24	486.0 2	2488.0		-40.2dBc when	
15.0-		2480.0	2482,1) 248 Frequenc		186.0 2	2488.0		-40.2dBc when	
15.0 - 247	8.0 2				y (MHz)			2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1	2479.88	63.2	5 +	Frequenc	y (MHz) Delta	a Freq. 4.7	²00 (2490.0	-40.2dBc when measured in 100kHz	
15.0 - 247	8.0 2	63.2	5 +	Frequenc	y (MHz) Delta		²00 (2490.0		
15.0 – 247 Cursor 1	2479.88	63.2	5 +	Frequenc	y (MHz) Delta	a Freq. 4.7	²00 (2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2	2479.88 2484.58	63,29 (23,0)	5 8	Frequenc	y (MHz) Delta	a Freq. 4.7 plitude 40	700	2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 ther Spur	2479.88 2484.58 ious Emis	63,29 6(23,09 sions Pol	5	Frequence *- 10 *	y (MHz) Delta Delta Am Detector	a Freq. 4.7 plitude 40 Azimuth	700 1.17 Height	2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Other Spur requency MHz	2479.88 2484.58 ious Emis Level dBµV/m	sions Pol v/h	15.209 Limit	Frequence *- b • / 15.247 Margin	y (MHz) Delta Delta Am Detector Pk/QP/Avg	a Freq. 4.7 plitude 40 Azimuth degrees	700 1.17 Height meters	2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Other Spur requency MHz 4959,940	2479.88 2484.58 ious Emis Level dBµV/m 49.0	sions Pol v/h H	15.209 Limit 54.0	Frequence *- b • / 15.247 Margin -5.0	Delta Delta Delta Delta Detector Pk/QP/Avg AVG	Azimuth degrees	Height meters	2490.0 Comments	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 ther Spur requency MHz 4959.940 4959.940	2479.88 2484.58 ious Emis Level dBµV/m	sions Pol v/h	15.209 Limit	Frequence *- b • / 15.247 Margin	y (MHz) Delta Delta Am Detector Pk/QP/Avg	a Freq. 4.7 plitude 40 Azimuth degrees	700 1.17 Height meters	2490.0	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Other Spur requency MHz 4959.940 4959.940 4960.020	2479.88 2484.58 ious Emis Level dBµV/m 49.0 48.1	sions Pol v/h H H	15.209 Limit 54.0 54.0	*- 15.247 Margin -5.0 -5.9	Delta Am Detector Pk/QP/Avg AVG AVG	Azimuth degrees 47	700 1.17 Height meters 1.6 1.4	2490.0 Comments Flat Upright	-40.2dBc when measured in 100kHz	
15.0 – 2477 Cursor 1 Cursor 2 Other Spur Frequency MHz 4959.940 4959.940 4959.940 4959.910 4959.960	2479.88 2484.58 ious Emis Level dBµV/m 49.0 48.1 48.0 46.5 45.7	sions Pol V/h H V V	15.209 Limit 54.0 54.0 54.0 54.0 54.0	*- 15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3	Delta Am Delta Am Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG	Azimuth degrees 47 141 118 48 99	Height meters 1.6 1.10 1.0 1.7	Comments Flat Upright Side Upright Flat	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Other Spur Frequency MHz 4959.940 4959.940 4959.940 4959.960 4959.960 4960.010	2479.88 2484.58 ious Emis Level dBµV/m 49.0 48.1 48.0 46.5 45.7 45.5	sions Pol V/h H V V H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0	*- 15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5	Delta Am Delta Am Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AVG	Azimuth degrees 47 141 118 48 99 247	Height meters 1.6 1.10 1.0 1.7 1.3	Comments Flat Upright Side Upright Flat Side	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Her Spuring requency MHz 4959.940 4959.940 4959.910 4959.960 4960.010 7439.950	2479.88 2484.58 ious Emis Level dBµV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2	sions Pol v/h H V V V H H H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 54.0	*- 15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5 -9.8	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG	Azimuth degrees 47 141 118 48 99 247 86	Height meters 1.6 1.7 1.7 1.3 1.3	Comments Flat Upright Side Upright Flat Side Flat Side Flat	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 ther Spur requency MHz 1959.940 1959.940 1959.910 1959.960 1960.010 7439.950 1959.940	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7	sions Pol V/h H V V V H H H H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 54.0 74.0	*- 6 • 15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5 -9.8 -22.3	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG	Azimuth degrees 47 141 118 48 99 247 86 47	Height meters 1.6 1.4 1.0 1.7 1.3 1.3 1.6	Comments Flat Upright Side Upright Flat Side Flat Flat Flat Flat Flat	-40.2dBc when measured in 100kHz	
15.0 – 2477 Cursor 1 Cursor 2 ther Spur requency MHz 1959.940 1959.940 1959.960 1959.960 1959.960 1959.940 1959.940 1960.020 1960.020 1960.020 1960.020	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7 51.2	sions Pol V/h H V V V H H H V V	15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	*- 6 • 15.247 Margin -5.0 -7.5 -8.3 -8.5 -9.8 -22.3 -22.8	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG	Azimuth degrees 47 141 118 48 99 247 86 47 118	Height meters 1.6 1.4 1.0 1.7 1.3 1.6 1.0	Comments Flat Upright Side Upright Flat Side Flat Flat Flat Side	-40.2dBc when measured in 100kHz	
15.0 – 2477 Cursor 1 Cursor 2 ther Spur requency MHz 4959.940 4959.910 4959.960 4959.940 4959.950 4959.940 4960.020 4959.940 4960.020 7439.950	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7 51.2 51.1	sions Pol V/h H V V H H H H H H H H H H H H H H H H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 54.0 74.0 74.0	*- 6.0 -7.5 -8.3 -8.5 -9.8 -22.3 -22.8 -22.9	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG AVG AV	Azimuth degrees 47 141 118 48 99 247 86 47 118 86	Height meters 1.6 1.4 1.0 1.0 1.7 1.3 1.6 1.0 1.0 1.13	Comments Flat Upright Side Upright Flat Side Flat Flat Side Flat Flat Flat Flat Flat Flat	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 ther Spur requency MHz 4959.940 4959.940 4959.940 4959.940 4960.010 7439.950 4960.020 7439.950 4960.020 7439.950 4959.940	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7 51.2 51.1 51.0	sions Pol V/h H V V H H H V H H H H H H H H H H H H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0	*- 6 v *- 5 v *- 5 v /15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5 -9.8 -22.3 -22.8 -22.9 -23.0	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG	Azimuth degrees 47 141 118 48 99 247 86 47 118 86 141	Height meters 1.6 1.17 1.0 1.7 1.3 1.3 1.6 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.0 1.1 1.0 1.0	Comments Flat Upright Side Upright Flat Side Flat Flat Side Flat Flat Upright	-40.2dBc when measured in 100kHz	
15.0 – 2477 Cursor 1 Cursor 2 Other Spur Frequency MHz 4959.940 4959.940 4959.910 4959.940 4959.940 4959.940 4960.020 7439.950 4959.940 4959.940 4959.940 4959.940 4959.940	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7 51.2 51.1 51.0 50.8	sions Pol v/h H V V H H H V V H H H V V H H V V H H V V H H H V V H H H V H H V H H H V V H H H V H H H V H H H H V V H H H H H V H H H H V H H H H V H H H H V H H H H H V H H H H H V H H H H V H H H H H V H H H H H V H H H H H V H H H H H V H H H H H V H H H H H V H H H H H H V H H H H H V H H H H H H H V H H H H H H H V H H H H H H H H H H H H H V H	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	*- 6 • 15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5 -9.8 -22.3 -22.8 -22.9 -23.0 -23.2	Delta Am Delta Am Delta Am Delta Am Delta Am Delta Am AVG AVG AVG AVG AVG AVG AVG A	Azimuth degrees 47 141 118 48 99 247 86 47 118 86 141 48	Height meters 1.6 1.4 1.0 1.7 1.3 1.3 1.6 1.0 1.0 1.7 1.3 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Comments Flat Upright Side Upright Flat Side Flat Flat Side Flat Upright Upright Upright	-40.2dBc when measured in 100kHz	
15.0 – 247 Cursor 1 Cursor 2 Other Spur	2479.88 2484.58 ious Emis Level dBμV/m 49.0 48.1 48.0 46.5 45.7 45.5 44.2 51.7 51.2 51.1 51.0	sions Pol V/h H V V H H H V H H H H H H H H H H H H	15.209 Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0	*- 6 v *- 5 v *- 5 v /15.247 Margin -5.0 -5.9 -6.0 -7.5 -8.3 -8.5 -9.8 -22.3 -22.8 -22.9 -23.0	Delta Am Delta Am Delta Am Detector Pk/QP/Avg AVG	Azimuth degrees 47 141 118 48 99 247 86 47 118 86 141	Height meters 1.6 1.17 1.0 1.7 1.3 1.3 1.6 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.0 1.1 1.0 1.0	Comments Flat Upright Side Upright Flat Side Flat Flat Side Flat Flat Upright	-40.2dBc when measured in 100kHz	

	Ellic	ott						EM	C Tes	t Data	
Client: Polimaster							J	ob Number:	J64753		
NA . J. I								T-Log Number:		T65093	
Model:	el: PM1703GN/GNA/GNB							Account Manager:			
Contact:	Contact: Aliaksandr Kratsko/Arif Mamedov										
Standard: FCC 15.247 / 15.209								Class:	N/A		
				30 - <mark>8000</mark> N	VIHz.						
requency	Level	Pol	RSS	S 210	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Commonto			
1219.250	40.0	V	54.0	-14.0	AVG	18	1.1	Upright			
1219.250	36.7	V	54.0	-17.3	AVG	352	1.0	Flat			
1219.210	35.6	V	54.0	-18.4	AVG	7	1.0	Side			
219.220	35.4	Н	54.0	-18.6	AVG	144	1.0	Side			
219.250	33.5	Н	54.0	-20.5	AVG	333	1.1	Flat			
219.260	30.4	Н	54.0	-23.6	AVG	50	1.1	Upright			
219.250	42.8	V	74.0	-31.2	PK	18	1.1	Upright			
219.250	41.1	V	74.0	-32.9	PK	352	1.0	Flat			
219.220	40.3	Н	74.0	-33.7	PK	144	1.0	Side			
040 040	40.2	V	74.0	-33.8	PK	7	1.0	Side			
219.210											
	39.3	Н	74.0	-34.7	PK	333	1.1	Flat			
	39.3 38.5 utput Pow	H	74.0	-35.5	PK	50	1.1	Upright			
1219.250 1219.260 un #3: Or or frequent nannels, a ne 2400-24 requency	39.3 38.5 utput Pow cy hopping nd all frequ 83.5 MHz Level dBµV/m	er g systems uency ho band: 0. Pol v/h	74.0 s operating pping syste 125 watts.	-35.5 in the 2400-	PK -2483.5 MHz -725-5850 MH Detector Pk/QP/Avg	50 band employ z band: 1 wa Azimuth degrees	1.1 ying at least att. For all o Height meters	Upright 75 non-ove ther frequen Comments		•	
1219.250 1219.260 un #3: Or or frequen nannels, a re 2400-24 requency MHz 2401.470	39.3 38.5 utput Pow cy hopping nd all frequines. 83.5 MHz Level dBμV/m 92.1	er g systems uency ho band: 0. Pol v/h H	74.0 s operating pping syste 125 watts.	-35.5 in the 2400- ms in the 57 / 15.247	PK -2483.5 MHz -25-5850 MH Detector Pk/QP/Avg Peak	band employ z band: 1 wa Azimuth degrees 283	ying at least att. For all o	Upright 75 non-ove ther frequen Comments EUT Flat		-	
1219.250 1219.260 un #3: Or frequent transles, a see 2400-24 1 requency MHz 2401.470 2439.960	39.3 38.5 utput Pow cy hopping nd all frequings. 3.5 MHz Level dBμV/m 92.1 88.8	er g systems uency ho band: 0. Pol v/h H H	74.0 s operating pping syste 125 watts. 15.209 Limit	-35.5 in the 2400- ms in the 57 / 15.247 Margin	PK 2483.5 MHz 25-5850 MH Detector Pk/QP/Avg Peak Peak	band employ z band: 1 was Azimuth degrees 283 290	ying at least att. For all o Height meters 2.2 2.1	Upright 75 non-ove ther frequen Comments EUT Flat EUT Side	cy hopping s	-	
1219.250 1219.260 un #3: Or or frequent nannels, a ne 2400-24 frequency MHz 2401.470 2439.960	39.3 38.5 utput Pow cy hopping nd all frequines. 83.5 MHz Level dBμV/m 92.1	er g systems uency ho band: 0. Pol v/h H	74.0 s operating pping syste 125 watts. 15.209 Limit	-35.5 in the 2400- ms in the 57 / 15.247 Margin	PK -2483.5 MHz -25-5850 MH Detector Pk/QP/Avg Peak	band employ z band: 1 wa Azimuth degrees 283	ying at least att. For all o	Upright 75 non-ove ther frequen Comments EUT Flat	cy hopping s	-	
1219.250 1219.260 tun #3: Or or frequen hannels, a ne 2400-24	39.3 38.5 utput Pow cy hopping nd all frequ 83.5 MHz Level dBμV/m 92.1 88.8 86.7	H er g systems uency ho band: 0. Pol v/h H H H ngth mea	74.0 s operating pping syste 125 watts. 15.209 Limit surrements	-35.5 in the 2400- ms in the 57 / 15.247	PK 2483.5 MHz 25-5850 MH Detector Pk/QP/Avg Peak Peak	band employing band: 1 was a band: 1 was a band: 1 was a band: 1 was a band: 283 a band: 290 a band: 2	ying at least att. For all o Height meters 2.2 2.1 1.9	Upright 75 non-ove ther frequen Comments EUT Flat EUT Side EUT Uprigh	cy hopping s	ystems in	
219.250 un #3: Or or frequent nannels, a e 2400-24 requency MHz 2401.470 2439.960 2479.360 ote 1:	39.3 38.5 utput Pow cy hopping nd all frequ 83.5 MHz Level dBμV/m 92.1 88.8 86.7 Field strer the position	H g systems Jency ho band: 0. Pol v/h H H H gth mea	74.0 s operating pping syste 125 watts. 15.209 Limit surements ave the hig	-35.5 in the 2400-ms in the 57 / 15.247 Margin made with F hest field str	PK 2483.5 MHz 725-5850 MH Detector Pk/QP/Avg Peak Peak Peak Peak	band employing band: 1 was a band: 1 was a band: 1 was a band: 1 was a band: 283 a band: 290 a band: 2	ying at least att. For all o Height meters 2.2 2.1 1.9	Upright 75 non-ove ther frequen Comments EUT Flat EUT Side EUT Uprigh	cy hopping s	a oriented i	
219.250 un #3: Or or frequent nannels, a e 2400-24 requency MHz 2401.470 2439.960 2479.360 ote 1:	39.3 38.5 utput Pow cy hopping nd all frequ l83.5 MHz Level dBμV/m 92.1 88.8 86.7 Field strer the position	H er g systems Jency ho band: 0. Pol V/h H H H ongth mea	74.0 s operating pping syste 125 watts. 15.209 Limit surements ave the hig	-35.5 in the 2400- ms in the 57 / 15.247 Margin made with F hest field st ngth at 3m IV/m) 2.1	PK 2483.5 MHz 725-5850 MH Detector Pk/QP/Avg Peak Peak Peak Peak RB=2MHz, VI rength in run Antenna	band employ band: 1 was a band	ying at least att. For all o Height meters 2.2 2.1 1.9 the EUT ar Signal Bandwidth	Upright 75 non-ove ther frequent Comments EUT Flat EUT Side EUT Uprigh and measurer Bandwidth	nt nent antenna	Power (Watts 0.0004	
219.250 219.260 un #3: Or frequent transles, as the 2400-24 requency MHz 2401.470 2479.360 ote 1:	39.3 38.5 utput Pow cy hopping nd all frequ l83.5 MHz Level dBµV/m 92.1 88.8 86.7 Field strer the position Frequence 240 244	H er g systems lency ho band: 0. Pol v/h H H ngth mea ons that g	74.0 s operating pping syste 125 watts. 15.209 Limit surements ave the hig Field Stre (dBu	-35.5 in the 2400- ms in the 57 / 15.247 Margin made with F hest field str ngth at 3m iV/m) 2.1 3.8	PK 2483.5 MHz 725-5850 MH Detector Pk/QP/Avg Peak Peak Peak Peak Peak Antenna Pol. (H/V)	band employ band: 1 was a band: 1 was band: 1 was band: 1 was a band: 1	ying at least att. For all o Height meters 2.2 2.1 1.9 the EUT ar Signal Bandwidth (kHz)	Upright 75 non-ove ther frequent Comments EUT Flat EUT Side EUT Uprigh and measurer Bandwidth Correction	nt Power (dBm)	oriented i	
1219.250 1219.260 un #3: Or or frequent nannels, a se 2400-24 requency MHz 2401.470 2439.960 2479.360 ote 1:	39.3 38.5 utput Pow cy hopping nd all frequ l83.5 MHz Level dBμV/m 92.1 88.8 86.7 Field strer the position Frequence 240 244 248	H er g systems dency ho band: 0. Pol v/h H H ngth mea ons that g	74.0 s operating pping syste 125 watts. 15.209 Limit surements ave the hig Field Stre (dBu	-35.5 in the 2400- ms in the 57 / 15.247 Margin made with F hest field str ngth at 3m iV/m) 2.1 3.8 5.7	PK 2483.5 MHz 25-5850 MH Detector Pk/QP/Avg Peak Peak Peak Peak Peak Antenna Pol. (H/V) H	band employ band: 1 was band:	ying at least att. For all o Height meters 2.2 2.1 1.9 the EUT ar Signal Bandwidth (kHz) 850 850 850	Upright 75 non-ove ther frequent Comments EUT Flat EUT Side EUT Upright and measurer Bandwidth Correction 0 0 0	Power (dBm) -3.2 -6.5 -8.6	Powe (Watts 0.0004 0.0002 0.0001	

Elliott

EMC Test Data

Client:	Polimaster	Job Number:	J64753	
Model:	PM1703GN/GNA/GNB	T-Log Number:	T65093	
		Account Manager:	-	
Contact:	Aliaksandr Kratsko/Arif Mamedov			
Standard:	FCC 15.247 / 15.209	Class:	N/A	

Run #4: Bandwidth, Channel Occupancy, Spacing and Number of Channels

Channel	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	835	1193
Mid	2440	850	1093
High	2480	845	923

Note 1:	20dB bandwidth measured using RB = 30kHz, VB = 100kHz (VB > RB)
Note 2:	99% bandwidth measured using RB = 30kHz, VB = 100kHz (VB >=3RB)

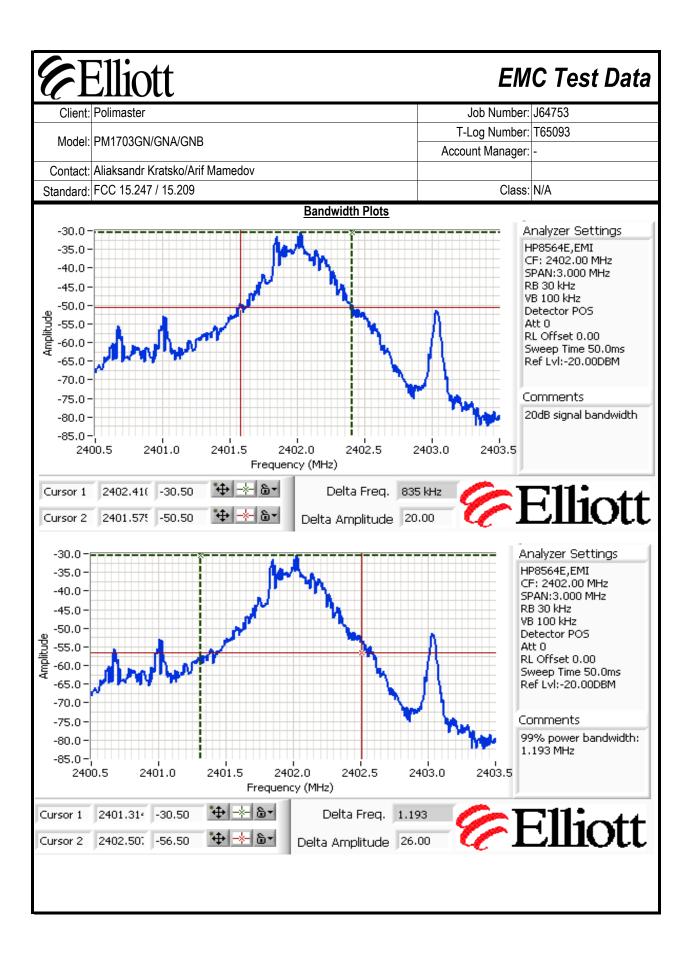
Frequency hopping systems in the **2400-2483.5 MHz** band shall use at least 15 channels.

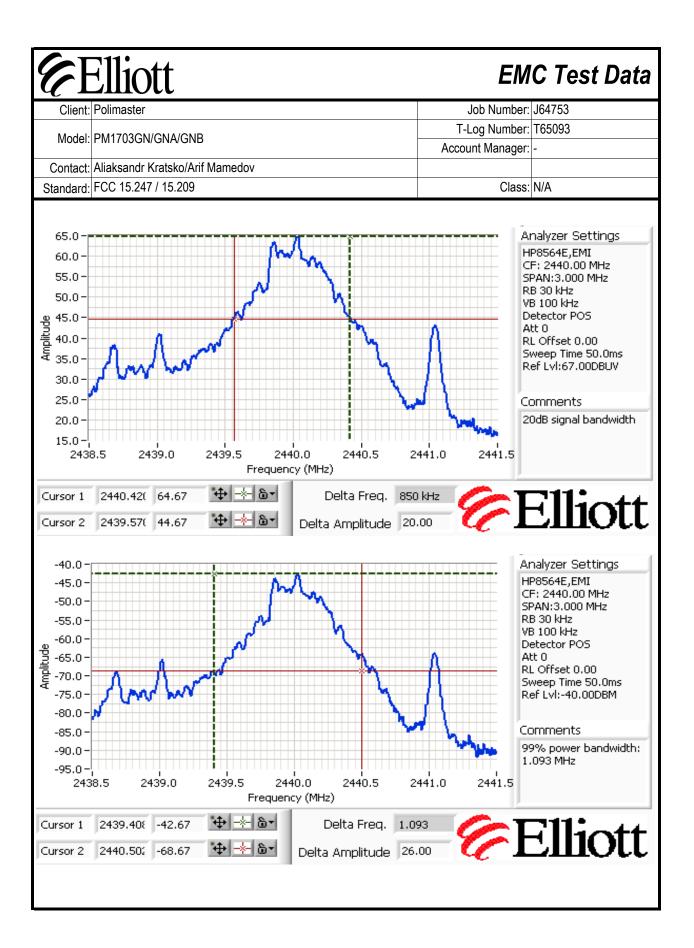
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. (Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.)

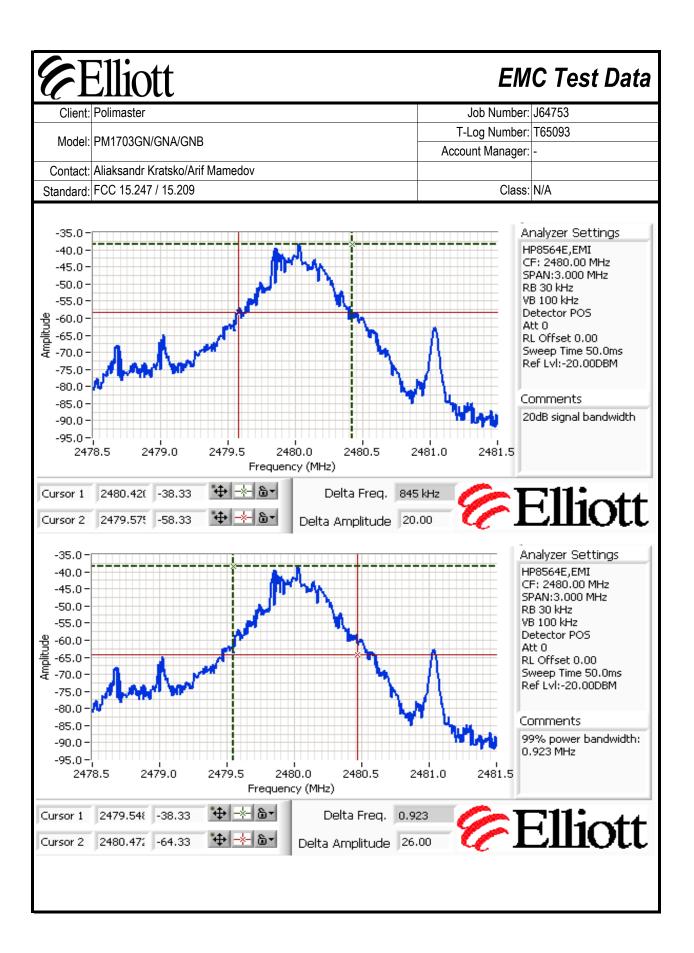
The channel dwell time is calculated from the transmit time on a channel mulitplied by the number of times a channel could be used in a period of 0.4 times the number of channels, N (i.e. 0.4N divided by the time between successive hops, rounded up to the closest integer), unless the time between successive hops exceeds 0.4N, in which case the channel dwell time is the transmit time on a channel.

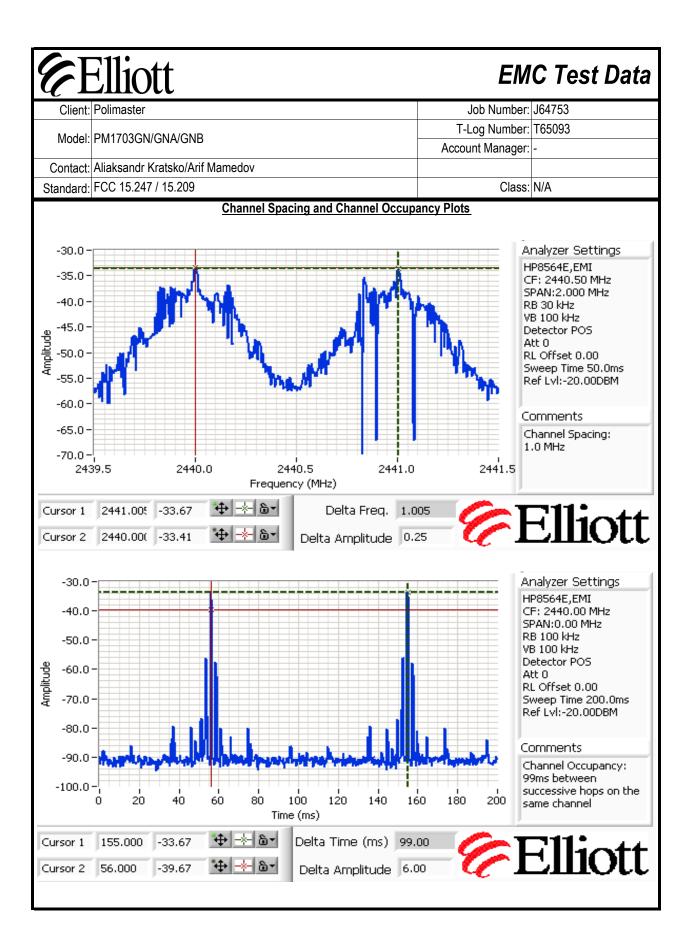
Maximum 20dB bandwidth:	850_kH	l z
Channel spacing:	1000 kH	Hz Pass
Transmission time per hop:	0.001253 s	Calculated based on 79 channels
The time between successive hops on a channel:	0.099 s	
Number of channels (N):	79	Pass
Channel dwell time in 31.6 seconds:	0.40 ms	s Pass

Note: The device operates using the Bluetooth hopping algorithm which complies with the hopping timing requirements of 15.247. Measurements described aboveand plots shown below are provided to support this fact.









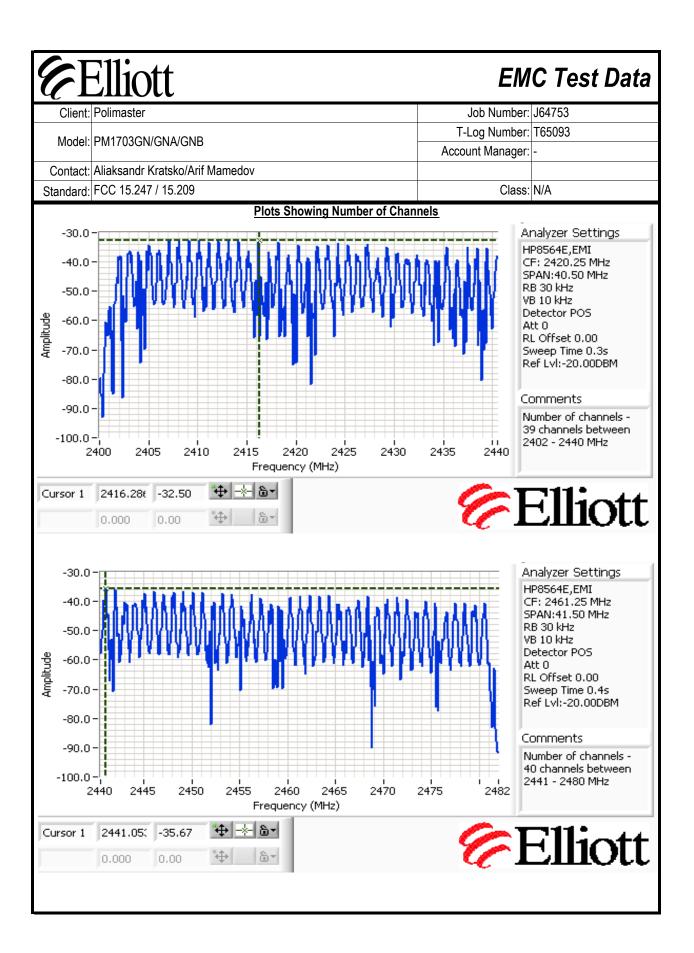


EXHIBIT 3: Photographs of Test Configurations

2 Pages

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EXHIBIT 4: Proposed FCC ID Label & Label Location

2 Pages

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EXHIBIT 5: Detailed Photographs of Polimaster Inc. Model PM1703 SERIESConstruction

4 Pages

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EXHIBIT 6: Operator's Manual for Polimaster Inc. Model PM1703 SERIES

28 Pages

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EXHIBIT 7: Block Diagram of Polimaster Inc. Model PM1703 SERIES

2 Pages

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EXHIBIT 8: Schematic Diagrams for Polimaster Inc. Model PM1703 SERIES

2 Pages

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EXHIBIT 9: Theory of Operation for Polimaster Inc. Model PM1703 SERIES

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EXHIBIT 10: RF Exposure Information

1 Page

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