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

Industry Canada RSS-Gen Issue 2 / RSS 210 Issue 7 FCC Part 15 Subpart C

Intel Corporation Model: 512BG_MW

- UPN: 1000M-512BGM
- FCC ID: PD9512BGM

GRANTEE: Intel Corporation 2111 N.E. 25th Ave. Hillsboro, OR 97124

- TEST SITE: Elliott Laboratories, Inc. 684 W. Maude Ave Sunnyvale, CA 94086
- REPORT DATE: June 11, 2008

TEST DATES:

March 14 – June 6, 2008

AUTHORIZED SIGNATORY:

Mark Briggs

Mark Briggs V Principal Engineer



Testing Cert #2016-01

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TABLE OF CONTENTS

| COVER PAGE | |
|---|----|
| REVISION HISTORY | 2 |
| TABLE OF CONTENTS | 3 |
| SCOPE | 5 |
| OBJECTIVE | 5 |
| STATEMENT OF COMPLIANCE | 6 |
| TEST RESULTS SUMMARY | 7 |
| DIGITAL TRANSMISSION SYSTEMS (2400 – 2483.5MHZ) GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS | 8 |
| MEASUREMENT UNCERTAINTIES | 8 |
| EQUIPMENT UNDER TEST (EUT) DETAILS | 9 |
| GENERAL | |
| ANTENNA SYSTEM ENCLOSURE | |
| MODIFICATIONS | |
| SUPPORT EQUIPMENT | |
| EUT INTERFACE PORTS | |
| EUT OPERATION | 10 |
| TEST SITE | 11 |
| GENERAL INFORMATION | |
| CONDUCTED EMISSIONS CONSIDERATIONS | |
| RADIATED EMISSIONS CONSIDERATIONS | 11 |
| MEASUREMENT INSTRUMENTATION | 12 |
| RECEIVER SYSTEM | 12 |
| INSTRUMENT CONTROL COMPUTER | |
| LINE IMPEDANCE STABILIZATION NETWORK (LISN) | |
| FILTERS/ATTENUATORS ANTENNAS | |
| ANTENNAS ANTENNA MAST AND EQUIPMENT TURNTABLE | |
| INSTRUMENT CALIBRATION. | |
| TEST PROCEDURES | |
| EUT AND CABLE PLACEMENT | 14 |
| CONDUCTED EMISSIONS | |
| RADIATED EMISSIONS | |
| RADIATED EMISSIONS | |
| BANDWIDTH MEASUREMENTS SPECIFICATION LIMITS AND SAMPLE CALCULATIONSMAY 28 | |
| GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS | |
| RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS | |
| OUTPUT POWER LIMITS – DIGITAL TRANSMISSION SYSTEMS | |
| TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS AND DTS SYSTEMS | 19 |
| SAMPLE CALCULATIONS - CONDUCTED EMISSIONS | |
| SAMPLE CALCULATIONS - RADIATED EMISSIONS | |
| SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION | 22 |

TABLE OF CONTENTS (Continued)

| EXHIBIT 1: Test Equipment Calibration Data | .1 |
|--|----|
| EXHIBIT 2: Test Measurement Data | .2 |

SCOPE

An electromagnetic emissions test has been performed on the Intel Corporation model 512AN_MMW (MMC) pursuant to the following rules:

Industry Canada RSS-Gen Issue 2 RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" 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 Intel Corporation model 512AN_MMW (MMC) and therefore apply only to the tested sample. The sample was selected and prepared under the authority of Robert Paxman of Intel.

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.

Prior to marketing in Canada, Class I transmitters, receivers and transceivers require certification. Class II devices are required to meet the appropriate technical requirements but are exempt from certification 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.).

STATEMENT OF COMPLIANCE

The tested sample of Intel Corporation model 512AN_MMW (MMC) complied with the requirements of the following regulations:

Industry Canada RSS-Gen Issue 2 RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" 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.).

TEST RESULTS SUMMARY

| FCC Rule Part | RSS Rule Part | Description | Measured Value / Comments | Limit / Requirement | Result |
|-----------------------|---------------------|--|--|--|----------------------|
| 15.247(a) | RSS 210 A8.2 | Digital Modulation | Systems uses OFDM / DSSS techniques | System must utilize a digital transmission technology | Complies |
| 15.247 (a) (2) | RSS 210 A8.2 (1) | 6dB Bandwidth | b: 9.8 MHz g: 16.6 MHz | >500kHz | Complies |
| | RSP100 | 99% Bandwidth | b: 13.8 MHz g: 17.1 MHz | Information only | Complies |
| 15.247 (b) (3) | RSS 210 A8.2 (4) | Output Power (multipoint systems) | b: 19.6 dBm (0.091 W) g: 17.0 dBm EIRP = 0.19 W ^{Note1} | 1 Watt, EIRP limited to 4 Watts. | Complies |
| 15.247(d) | RSS 210 A8.2 (2) | Power Spectral Density | b: -3.2dBm/3kHz g: -7.3dBm/3kHz | 8dBm/3kHz | Complies |
| 15.247(c) | RSS 210 A8.5 | Antenna Port Spurious Emissions 30MHz – 25 GHz | All spurious emissions < -30dBc | < -30dBc ^{Note 2} | Complies |
| 15.247(c) / 15.209 | RSS 210 A8.5 | Radiated Spurious Emissions 1000MHz – 25 GHz Note 3 | 53.0 dBuV/m @ 2483.6 MHz (802.11b Ethertronics Antenna) | 15.207 in restricted bands, all others <-30dBc ^{Note 2} | Complies (-1.0dB) |

Note 1: EIRP calculated using antenna gain of 3.2 dBi and is calculated for the highest power of all modes.

Note 2: Limit of -30dBc used because the power was measured using the UNII test procedure (maximum power averaged over a transmission burst) / RMS averaging over a time interval, as permitted under RSS 210 section A8.4(4).

Note 3: Spurious emissions below 1GHz were independent of operating channel and operating mode (transmit versus receive). Measurements for radiated emissions below 1GHz are therefore reported for receive mode only.

GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

| ECO D 1 | DCC | | | T • • • | D 1 |
|------------------------------|-----------------------------|-----------------------------|---|---|-----------|
| FCC Rule | RSS | Description | Measured Value / | Limit / | Result |
| Part | Rule part | Description | Comments | Requirement | (margin) |
| 15 202 | | RF Connector | Module uses a unique | Unique | Constinu |
| 15.203 | - | KF Connector | connector | connector | Complies |
| | DOG OFN | Receiver spurious | 43.4dBµV/m @ | DOG OFNI | C 1 |
| - | RSS GEN | emissions | 108.287MHz | RSS GEN | Complies |
| | 7.2.3 | 30MHz – 18 GHz | Note 1 | Table 1 | (-0.1dB) |
| 15 207 | RSS GEN | AC Conducted | 21.4dBµV @ | Refer to | Complies |
| 15.207 | Table 2 | Emissions | 24.000MHz | standard | (-28.6dB) |
| 15.247 (b) (5) 15.407 (f) | RSS 102 | RF Exposure Requirements | Refer to separate MPE calculations, RSS 102 declaration and | Refer to OET 65, FCC Part 1 and RSS 102 | Complies |
| | RSP 100 RSS GEN 7.1.5 | User Manual | User Manual statements Statements are included | Statement required regarding non- interference | Complies |
| | RSP 100 RSS GEN 7.1.5 | User Manual | Not applicable, module will be used in host systems that use integral, non-detachable antennas | Statement required regarding detachable antenna | N/A |

Note 1: Spurious emissions below 1GHz were independent of operating mode and dominated by emissions from the test fixture. The highest emission above 1GHz in MISO receive mode was $50.5dB\mu V/m$ @ 3000.3MHz (3.5dB below the limit) and in SISO receive mode the worst case was $50.1dB\mu V/m$ @ 3000.3MHz (3.9dB below the limit).

MEASUREMENT UNCERTAINTIES

ISO/IEC 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 Radiated Emissions Radiated Emissions Radiated Emissions | 0.15 to 30 0.015 to 30 30 to 1000 1000 to 40000 | $ \pm 2.4 \pm 3.0 \pm 3.6 \pm 6.0 $ |

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Intel Corporation model 512BG_MMW is a 1x1/2x1 SISO/MISO 802.11bg radio module that is designed to be installed in laptops. The module supports 802.11b and 802.11g protocols in the 2400 – 2483.5 MHz band with a single transmit chain and the hardware can support single- or dual-receive chains. The card is identical to the 512AN_MMW module that also supports 802.11n operation in the 2.4GHz band and 802.11a and 802.11n in the 5150 – 5250 MHz, 5250 – 5350 MHz, 5470 – 5725 MHz and 5725 – 5850 MHz bands. The only difference between the two cards is EEPROM programming and label markings/content.

The data in this test report was taken on a model 512AN_MMW module as representative of the rf characteristics for the feature-reduced 512BG_MW.

For testing purposes, and in accordance with requirements for evaluating a device for modular approvals, the EUT was installed onto an extender card that was connected into a PC. The EUT was outside of the PC's enclosure. The electrical rating of the EUT is 3.3 Volts DC, 0.5 Amps.

The sample was received on March 14, 2008, configured with the Ethertronics magnetic dipole antenna and tested on March 14, March 17, March 18, March 24, April 8, April 10, April 11, April 14, April 16 and April 21, 2008. Additional testing was performed on May 28, May 29, May 30 and June 6, 2008 with the device configured with the Universe PIFA antenna.

| Manufacturer | Model | Description | Serial Number | FCC ID | |
|--------------|-----------|----------------|---------------|-----------|--|
| Intel | 512AN_MMW | 802.11abgn 1x2 | - | PD9512ANH | |
| Corporation | | MISO module | | | |

The EUT consisted of the following component(s):

ANTENNA SYSTEM

The antenna connects to the EUT via a non-standard U.FL antenna connector, thereby meeting the requirements of FCC 15.203. The EUT was evaluated with each transceiver chain connected to the following antennas:

- Ethertronics MPCI-8 Module antenna which is based on a magnetic dipole design. The nominal antenna gain is 3dBi in the 2.4GHz band and 5dBi in the 5GHz bands
- Universe Technology antenna which is based on a PIFA design. The nominal antenna gain is 3.2 dBi in the 2.4GHz band, 3.6dBi in the 5150-5250 MHz band, 3.7dBi in 5250-5350MHz band, 4.8dBi in the 5470 5725 MHz band and 5dBi in the 5725 5850MHz band.

ENCLOSURE

The EUT does not have an enclosure as it is designed to be installed within the enclosure of a host computer or system.

MODIFICATIONS

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

SUPPORT EQUIPMENT

The following equipment was used as local support equipment for emissions testing:

| I | Manufacturer | Model | Description | Serial Number | FCC ID |
|---|--------------|-------|-------------|---------------|--------|
| | Dell | - | Laptop PC | Prototype | - |

No remote support equipment was used during emissions testing.

EUT INTERFACE PORTS

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

| Port | Connected To | Cable(s) | | | |
|----------------|-----------------|---------------|------------------------|-----------|--|
| Foit | Connected 10 | Description | Shielded or Unshielded | Length(m) | |
| DC power port | DC power sourse | Multi connect | Unshielded | 0.3 | |
| PCI Extender | Laptop | Multi connect | Unshielded | 0.3 | |
| Antenna port 1 | Antenna | u.FL | Shielded | 0.2 | |
| Antenna port 2 | Antenna | u.FL | Shielded | 0.2 | |

EUT OPERATION

During transmitter-related testing the EUT was configured to transmit continuously in each of the various modulation modes (802.11a, 802.11b, 802.11g and 802.11n). Preliminary testing determined the data rates with the highest power and power spectral density to be evaluated for the formal testing, as detailed in the table below.

| Active Chains Mode | 1 Chain | 2 Chains |
|-----------------------|---------|------------------------------|
| 802.11b | 1Mb/s | Not applicable, |
| 802.11g | 6 MBs | second chain is receive only |

Spurious receiver emissions were measured with the device tuned to the center channel in each operating band. Measurements were made on both single chain modes (SISO modes with one, then the other chain active) and in MISO mode (with both chains active simultaneously).

TEST SITE

GENERAL INFORMATION

Final test measurements were taken on March 14, March 17, March 18, March 24, April 8, April 10, April 11, April 14, April 16, April 21, May 28, May 29, May 30 and June 6, 2008 at the Elliott Laboratories semi anechoic chambers 3, 4 and 5 located at 41039 Boyce Road, Fremont, California Pursuant to section 2.948 of the FCC's Rules and section 3.3 of RSP-100, construction, calibration, and equipment data has been filed with the Commission.

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

CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.4:2003. 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.

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.

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

INSTRUMENT CALIBRATION

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

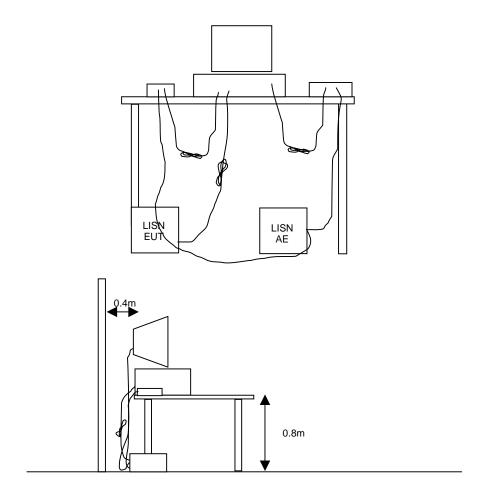
TEST PROCEDURES

EUT AND CABLE PLACEMENT

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

CONDUCTED EMISSIONS

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



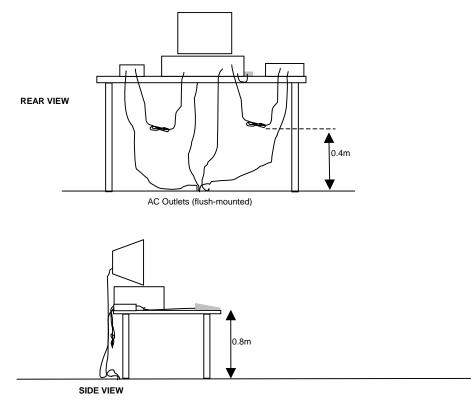
RADIATED EMISSIONS

A preliminary scan of the radiated emissions is performed 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.

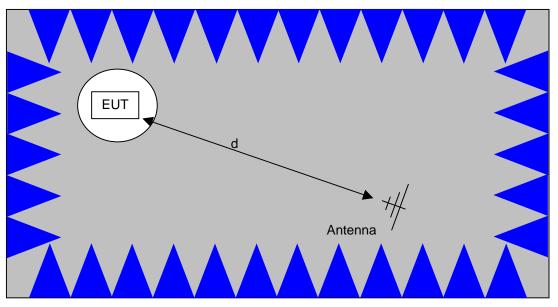
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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.

When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.

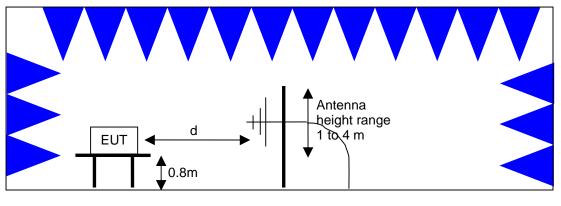


Typical Test Configuration for Radiated Field Strength Measurements



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

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



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

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.

SPECIFICATION LIMITS AND SAMPLE CALCULATIONSMay 28

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:

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 |

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

RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from receivers as detailed in FCC Part 15.109, RSS 210 Table 2, RSS GEN Table 1 and RSS 310 Table 3. Note that receivers operating outside of the frequency range 30 MHz – 960 MHz are exempt from the requirements of 15.109.

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

OUTPUT POWER LIMITS – DIGITAL TRANSMISSION SYSTEMS

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

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

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

TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS and DTS SYSTEMS

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

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

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

$$R_r - S = M$$

where:

 $R_r = Receiver Reading in dBuV$

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS - RADIATED EMISSIONS

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

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

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

where:

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

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

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

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

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

$$R_c = R_r + F_d$$

and

 $M = R_c - L_s$

where:

 R_r = Receiver Reading in dBuV/m

- F_d = Distance Factor in dB
- R_c = Corrected Reading in dBuV/m
- L_S = Specification Limit in dBuV/m
- M = Margin in dB Relative to Spec

SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

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

 $E = \frac{1000000 \sqrt{30 P}}{3}$ microvolts per meter

where P is the eirp (Watts)

EXHIBIT 1: Test Equipment Calibration Data

3 Pages

| Radiated Emissions, 1000 - Engineer: Joseph Cadigal | 18,000 MHz, 10-Apr-08 | | | |
|---|--|--|--|---|
| Manufacturer Hewlett Packard EMCO | Description Microwave Preamplifier, 1-26.5GHz Antenna, Horn, 1-18 GHz | <u>Model #</u> 8449B 3115 | <u>Asset #</u> 263 1561 | <u>Cal Due</u> 16-Apr-08 10-May-08 |
| Hewlett Packard | SpecAn 9 kHz - 40 GHz, (SA40) Purple | 8564E (84125C) | 1771 | 17-Dec-08 |
| Radiated Emissions, 30 - 26 Engineer: jcaizzi | ,500 MHz, 16-Apr-08 | | | |
| Manufacturer EMCO | Description Antenna, Horn, 1-18 GHz (SA40-Blu) | <u>Model #</u> 3115 | <u>Asset #</u> 1386 | <u>Cal Due</u> 11-Jul-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Hewlett Packard | Microwave Preamplifier, 1-26.5GHz | 8449B | 1780 | 06-Nov-08 |
| Radiated Emissions, 30 - 26 Engineer: bjing <u>Manufacturer</u> EMCO | 5 ,500 MHz, 17-Apr-08 <u>Description</u> Antenna, Horn, 1-18 GHz (SA40-Blu) | <u>Model #</u> 3115 | <u>Asset #</u> 1386 | <u>Cal Due</u> 11-Jul-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Hewlett Packard | Microwave Preamplifier, 1-26.5GHz | 8449B | 1780 | 06-Nov-08 |
| Conducted Emissions - AC Engineer: Peter Sales | Power Ports, 21-Apr-08 | | | |
| Manufacturer EMCO EMCO Rohde& Schwarz Rohde & Schwarz | Description LISN, 10 kHz-100 MHz LISN, 10 kHz-100 MHz Pulse Limiter EMI Test Receiver, 20 Hz-7 GHz | <u>Model #</u> 3825/2 3825/2 ESH3 Z2 ESIB7 | <u>Asset #</u> 1292 1293 1593 1756 | Cal Due 22-Feb-09 15-Feb-09 11-May-08 04-Dec-08 |
| Radiated Emissions, 30 - 1,0 Engineer: Peter Sales | | | | |
| <u>Manufacturer</u> Com-Power Corp. Sunol Sciences Rohde & Schwarz | Description Preamplifier, 30-1000 MHz Biconilog, 30-3000 MHz EMI Test Receiver, 20 Hz-7 GHz | <u>Model #</u> PA-103 JB3 ESIB7 | <u>Asset #</u> 1543 1549 1756 | <u>Cal Due</u> 12-Nov-08 23-May-09 04-Dec-08 |

Radiated Emissions, 1000 - 18,000 MHz, 10-Apr-08

| Engineer: Ben Jing | ,500 MHz (Band-edge), 29-May-08 | | | |
|---|--|--------------------------------|------------------------|-------------------------------------|
| Manufacturer | Description | Model # | Asset # | Cal Due |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| EMCO Hewlett Packard | Antenna, Horn, 1-18 GHz Microwave Preamplifier, 1-26.5GHz | 3115 8449B | 1561 1780 | 10-Jun-08 06-Nov-08 |
| Radiated Emissions, 1000 Engineer: Ben Jing | - 26,500 MHz, 30-May-08 | | | |
| Manufacturer | Description | Model # | Asset # | Cal Due |
| EMCO EMCO | Antenna, Horn, 1-18 GHz (SA40-Red) Antenna, Horn, 18-26.5 GHz (SA40-Blue) | 3115 3160-09 (84125C) | 1142 1387 | 07-Jun-08 18-Feb-09 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Hewlett Packard Micro-Tronics Hewlett Packard | Head (Inc W1-W4, 1742 , 1743) Blue Band Reject Filter, 2400-2500 MHz Microwave Preamplifier, 1-26.5GHz | 84125C BRM50702-02 8449B | 1620 1731 1780 | 22-Feb-09 17-Oct-08 06-Nov-08 |
| Radiated Emissions, 30 - 2 | 6,500 MHz, 30-May-08 | | | |
| Engineer: jcaizzi Manufacturer | Description | Model # | Asset # | Cal Due |
| EMCO | Antenna, Horn, 1-18 GHz (SA40-Red) | 3115 | 1142 | 07-Jun-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Micro-Tronics Hewlett Packard | Band Reject Filter, 5725-5875 MHz Microwave Preamplifier, 1-26.5GHz | BRC50705-02 8449B | 1728 1780 | 17-Oct-08 06-Nov-08 |
| , 31-May-08 | | | | |
| Engineer: Ben Jing Manufacturer EMCO | <u>Description</u> Antenna, Horn, 1-18 GHz (SA40-Red) | <u>Model #</u> 3115 | <u>Asset #</u> 1142 | <u>Cal Due</u> 07-Jun-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Micro-Tronics Micro-Tronics | Band Reject Filter, 5725-5875 MHz Band Reject Filter, 5150-5350 MHz | BRC50705-02 BRC50703-02 | 1728 1729 | 17-Oct-08 17-Oct-08 |
| , 31-May-08 Engineer: Ben Jing Manufacturer | Description | Model # | Asset # | Cal Due |
| Radiated Emissions, 30 - 1 | | | | |
| Engineer: Rafael Varelas | 6,000 MHZ, 31-May-06 | | | |
| <u>Manufacturer</u> EMCO | Description Antenna, Horn, 1-18 GHz (SA40-Red) | <u>Model #</u> 3115 | <u>Asset #</u> 1142 | <u>Cal Due</u> 07-Jun-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | 8564E (84125C) | 1393 | 15-Jan-09 |
| Micro-Tronics Hewlett Packard | Band Reject Filter, 5725-5875 MHz Microwave Preamplifier, 1-26.5GHz | BRC50705-02 8449B | 1728 1780 | 17-Oct-08 06-Nov-08 |
| Radiated Emissions, 30 - 1 | 8,000 MHz, 31-May-08 | | | |
| Engineer: bjing Manufacturer EMCO | Description Antenna, Horn, 1-18 GHz (SA40-Red) | <u>Model #</u> 3115 | <u>Asset #</u> 1142 | <u>Cal Due</u> 07-Jun-08 |
| Hewlett Packard | Spectrum Analyzer 9 kHz - 40 GHz, FT (SA40) Blue | | 1393 | 15-Jan-09 |
| Hewlett Packard | Microwave Preamplifier, 1-26.5GHz | 8449B | 1780 | 06-Nov-08 |
| Radiated Emissions, 1000 | - 18,000 MHz, 06-Jun-08 | | | |
| Engineer: Ben Jing Manufacturer | Description | Model # | Asset # | <u>Cal Due</u> |

Radio Antenna Port (Power and Spurious Emissions), 11-Apr-08Engineer: jcaizziManufacturerDescriptionModel #Asset #Cal DueRohde & SchwarzPower Meter, Single ChannelNRVS129012-Jul-08Hewlett PackardSpecAn 9 kHz - 40 GHz, (SA40) Purple8564E (84125C)177117-Dec-08Rohde & SchwarzPower Sensor, 1 uW-100 mW, DC-18 GHz, 500hmsNRV-Z51179721-Aug-08

| Radio Antenna Port (Engineer: Suhaila Kł | (Power and Spurious Emissions), 14-Apr-08 hushzad | | | |
|--|--|----------------|---------|-----------|
| Manufacturer | Description | Model # | Asset # | Cal Due |
| Rohde & Schwarz | Power Meter, Single Channel | NRVS | 1290 | 12-Jul-08 |
| Hewlett Packard | SpecAn 9 kHz - 40 GHz, (SA40) Purple | 8564E (84125C) | 1771 | 17-Dec-08 |

EXHIBIT 2: Test Measurement Data

| T71036 (DTS rf port measurements) | 20 Pages |
|--|----------|
| T71040 (Radiated measurements with Ethertronics antenna, AC conducted emissions) | 28 Pages |
| T71831 (Radiated measurements with Universe antenna) | 13 Pages |

Elliott EMC Test Data Job Number: J70979 Client: Intel Model: 512AN_MMW, 512BG_MMW T-Log Number: T71036 Account Manager: Dean Eriksen Contact: Robert Paxman Emissions Standard(s): FCC 15.247 / RSS -210 RF Port Class: DTS Immunity Standard(s): -Environment: -**EMC Test Data - RF Port DTS Measurements** For The Intel Model 512AN_MMW, 512BG_MMW Date of Last Test: 4/14/2008



EMC Test Data

Client: Intel

Job Number: J70979

Model: 512AN_MMW, 512BG_MMW

2437, Chain A

2462, Chain A

17.0

13.3

49.8

21.4

T-Log Number: T71036

Account Manager: Dean Eriksen

0.104

0.045

17.0

14.0

50.1

25.1

20.2

16.5

Pass

Pass

RSS 210 and FCC 15.247 Power Measurement Summary

The table below compares the measured output power (measured using the UNII test method) with the power measured using an average power meter and is for reference purposes.

802.11b

23

20.5

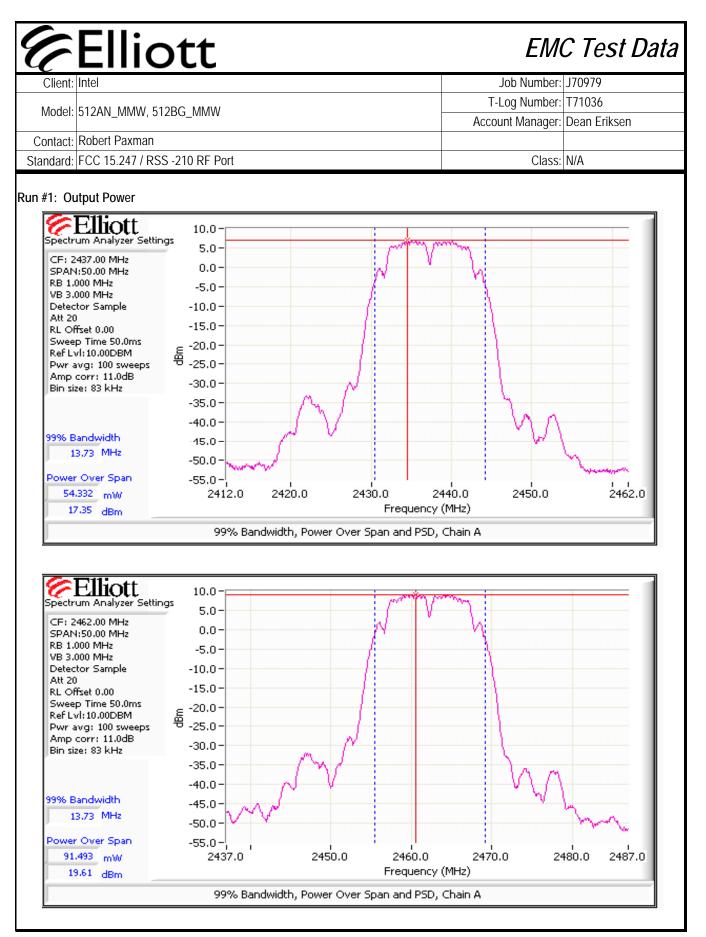
| 002.110 | | | | | | | | | |
|----------------------|------------------|--------------------|--------------|----------------|---------|--------|---------|--------------------|---------|
| Power | Frequency (MHz) | Output Power | | Antenna Result | EIRP | Note 2 | Average | e Power | |
| Setting ² | Frequency (MITZ) | (dBm) ¹ | mW | Gain (dBi) | Result | dBm | W | (dBm) ³ | mW |
| 20.5 | 2412, Chain A | 19.6 | 91.2 | 3.2 | Pass | 22.8 | 0.191 | 19.1 | 81.3 |
| 18 | 2437, Chain A | 17.4 | 55.0 | 3.2 | Pass | 20.6 | 0.115 | 16.8 | 47.9 |
| 22.5 | 2462, Chain A | 19.6 | 91.2 | 3.2 | Pass | 22.8 | 0.191 | 19.5 | 89.1 |
| 802.11g | | | | | | | | | |
| Power | | Output | Output Power | | Antenna | | Note 2 | Average | e Power |
| Setting ² | Frequency (MHz) | (dBm) ¹ | mW | Gain (dBi) | Result | dBm | W | (dBm) ³ | mW |
| 20 | 2412, Chain A | 14.1 | 25.7 | 3.2 | Pass | 17.3 | 0.054 | 14.5 | 28.2 |

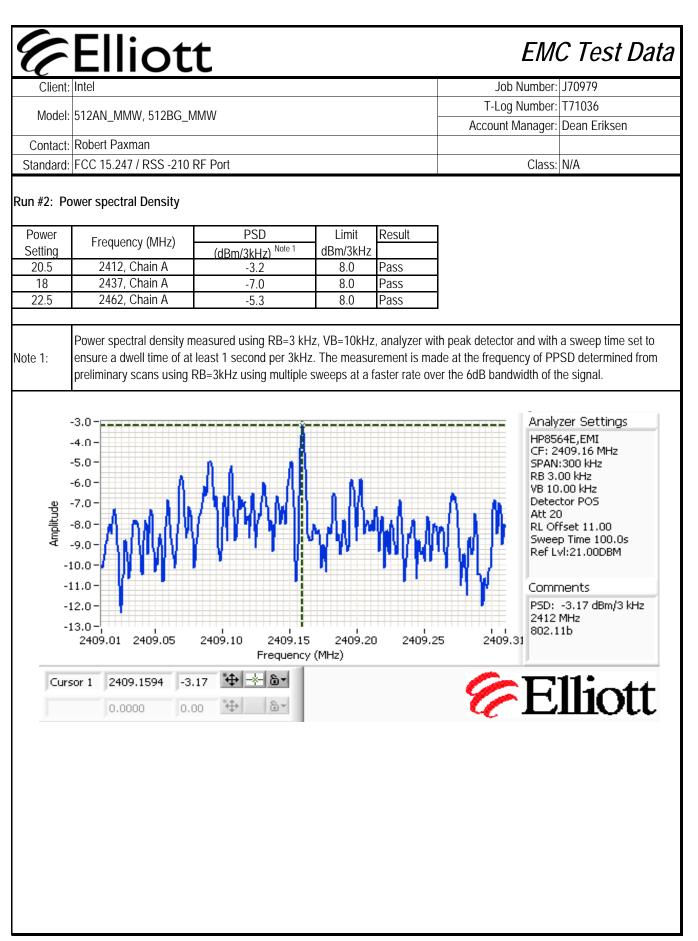
3.2

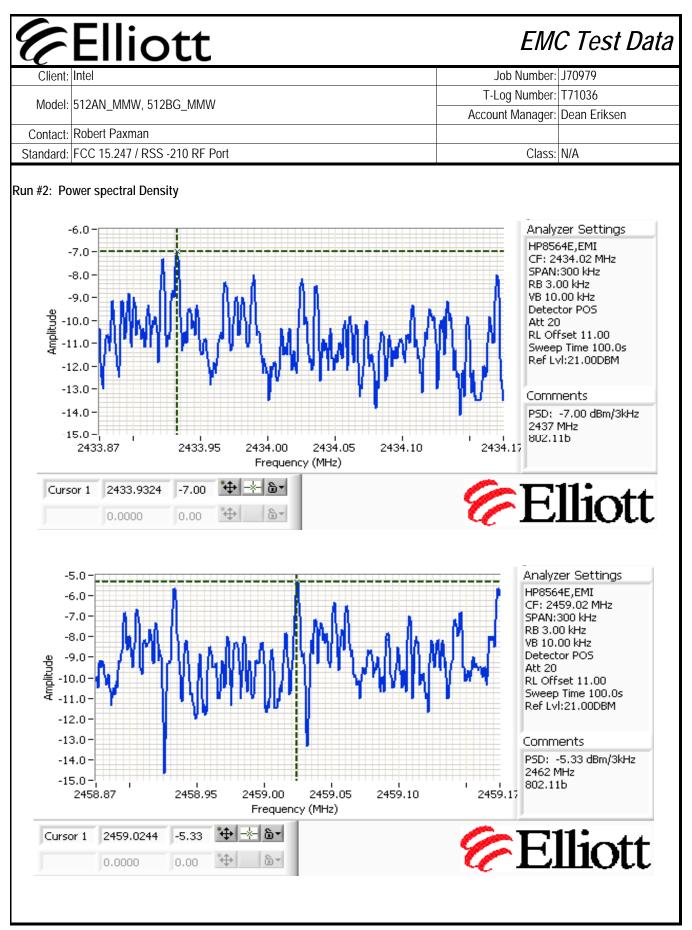
3.2

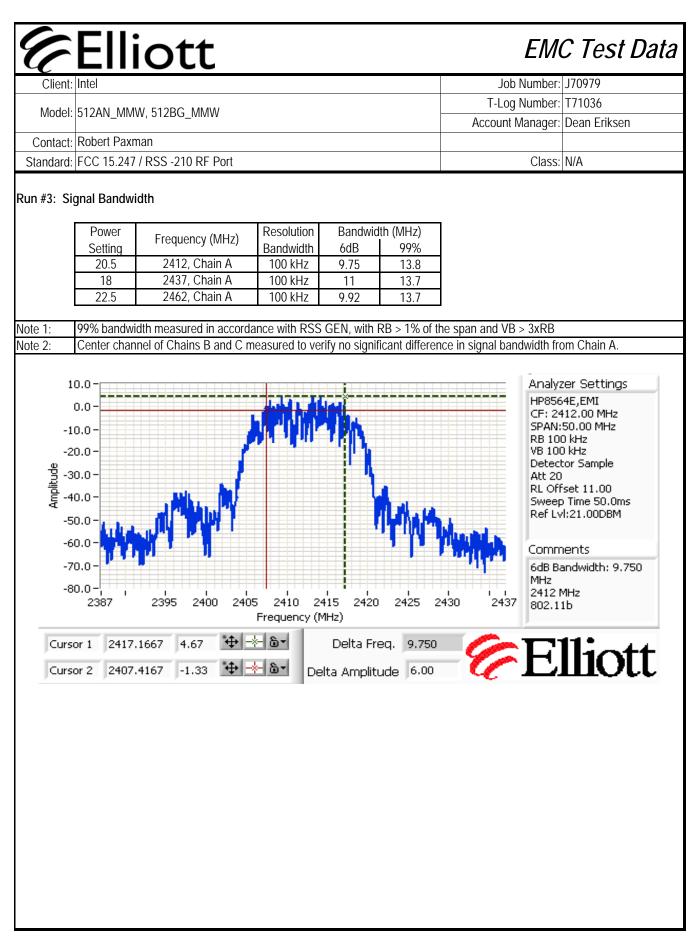
| | ott | | | EMC T | est |
|---|---|---|--|---|----------|
| Client: Intel | | | J | ob Number: J7097 | 9 |
| Model: 512AN_MMW | / 512BG_MMW | | T-Lo | og Number: T7103 | 36 |
| | | | Accour | nt Manager: Dean | Erikse |
| Contact: Robert Paxm | | | | | |
| Standard: FCC 15.247 / | RSS-210 RF Port | | | Class: N/A | |
| RSS 2 ² | IO and FCC 15.247 (DT Power, PSD, Bandwid | | | | nts |
| Test Specific Details | 5 | | | | |
| Objective: 1 | The objective of this test session is to pe pecification listed above. | rform final qualifica | tion testing of the | e EUT with respect | i to the |
| Date of Test: 4 | //11/2008 | Config. Use | | | |
| | | | | | |
| Test Engineer: J | ohn Caizzi & Joseph Cadigal | Config Chan | 5 | | |
| Test Engineer: J Test Location: F General Test Config | ohn Caizzi & Joseph Cadigal TEMC2 uration | EUT Volta | ge: | | |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. | ohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter | EUT Volta | ge: | urements were ma | ide or |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be | ohn Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at | EUT Volta | ge: | urements were ma | ide on |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be | ohn Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at Temperature: | EUT Voltage via a suitable attent tenuators used. 25 °C | ge: | urements were ma | ide on |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. | ohn Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at | EUT Volta | ge: | urements were ma | ıde on |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions | Iohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: | EUT Voltage via a suitable attent tenuators used. 25 °C | ge: | urements were ma | ıde on |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. | Iohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: | EUT Voltage via a suitable attent tenuators used. 25 °C | ge: | urements were ma | |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions Summary of Results | ohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: | EUT Voltage via a suitable attent tenuators used. 25 °C 30 % | ge: nuator. All meas | Result / Margi 19.6 dBm | n |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions Summary of Results Run # | Test Performed | EUT Voltage via a suitable attent tenuators used. 25 °C 30 % Limit | ge: nuator. All meas Pass / Fail | Result / Margi 19.6 dBm -3.2 dBm/3kHz / | n |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions Summary of Results Run # 1 | Test Performed Output Power | EUT Voltage via a suitable attent tenuators used. 25 °C 30 % Limit 15.247(b) | ge: nuator. All meas Pass / Fail Pass | Result / Margi 19.6 dBm | n |
| Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions Summary of Results Run # 1 2 | In the spectrum analyzer or power meter Image: Stress of the spectrum analyzer or power Image: Stre | EUT Voltage via a suitable attent tenuators used. 25 °C 30 % Limit 15.247(b) 15.247(d) | ge: nuator. All meas Pass / Fail Pass Pass | Result / Margi 19.6 dBm -3.2 dBm/3kHz / dB | n |

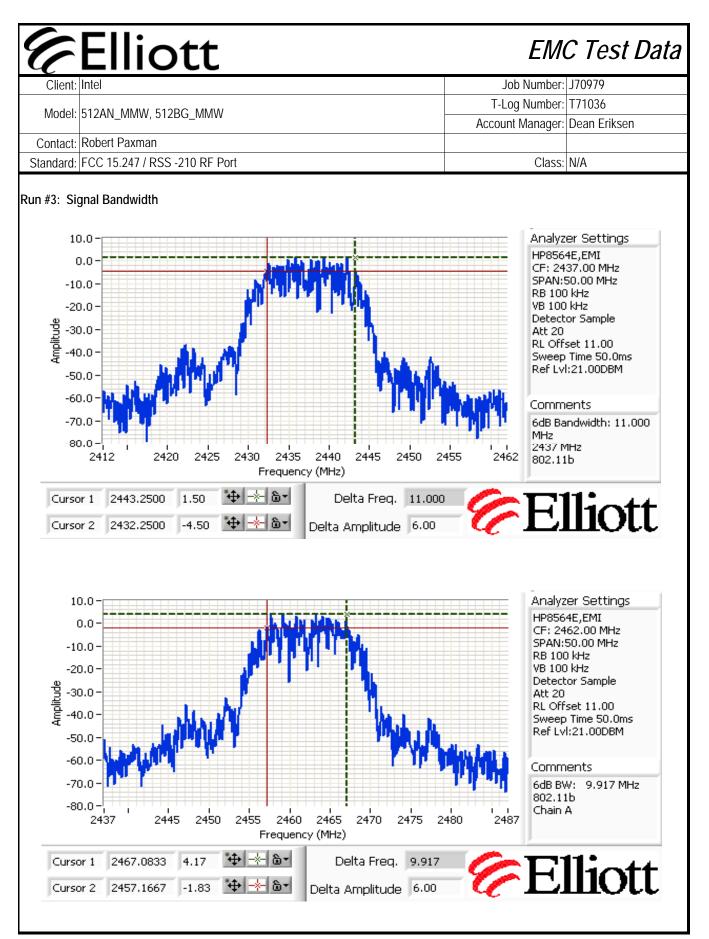
| Client: | Ellic | | · · · · · · | | | | J | ob Number: | J70979 | |
|----------------------|---------------------------------|--|-----------------|---------------|------------|---------------------|----------------------|-------------|--------------------|------|
| Model | | | | | | | T-L | og Number: | T71036 | |
| | 512AN_MMW, 512BG_MMW | | | | | | Accou | nt Manager: | Dean Eriksen | |
| Contact: | Robert Paxman | | | | | | | | | |
| Standard: | FCC 15.247 / RSS | CC 15.247 / RSS -210 RF Port | | | | | | Class: | N/A | |
| ւո #1։ Օւ | utput Power | | | | | | | | | |
| Power | Frequency (MF | (T | Jutput | Power | Antenna | Result | EIRP | Note 2 | Output Po | ower |
| Setting ² | | (dBn | n) ¹ | mW | Gain (dBi) | Result | dBm | W | (dBm) ³ | mW |
| 20.5 | 2412, Chain / | | 19.6 | 91.2 | 3.2 | Pass | 22.8 | 0.191 | 19.1 | 81 |
| 18 22 F | 2437, Chain / 2462, Chain / | | 17.4 | 55.0 | 3.2 | Pass | 20.6 | 0.115 | 16.8 | 47 |
| 22.5 | | 1 | 19.6 | 91.2 | 3.2 | Pass | 22.8 | 0.191 | 19.5 | 89 |
| C | Power measured u | 10.0- | | | | and the owned | 0 ⁷⁰⁰ 00- | | | |
| Spectr | rum Analyzer Setting | ³⁵ 5.0- | | | | (""I"V | "" | | | |
| | 2412.00 MHz 4:50.00 MHz | 0.0- | | | 1 | V | | | | |
| | 000 MHz 000 MHz | -5.0- | | | - / | | | | | |
| | tor Sample | -10.0- | | | | | | | | |
| RL O | ffset 0.00 | -15.0- | | | | | | | | |
| | :p Time 50.0ms vl: 10.00DBM | 을 -20.0- 원 -25.0- | | | | | 1 | | | |
| | avg: 100 sweeps corr: 11.0dB | 20.0 | | | A | | | | | |
| | ze: 83 kHz | -30.0- | | A | 1" | | | η | | |
| | | -35.0- | | | ٦/ | | | MA | | |
| | | | | | | | | | | |
| 99% F | Bandwidth | -40.0- | | N | Y | | | 5 | 1 | |
| _ | 3andwidth 3.81 MHz | -40.0 - -45.0 - | w | \mathcal{A} | V | | | Ŵ | hy | |
| 1 | 3.81 MHz | -40.0 - -45.0 - -50.0 - | m | | Y | | | ~ | have | L |
| 1 Power | | -40.0 - -45.0 - | ,.o ' | 2 | 400.0 | 2410.0 | 2420,1 | 0 2 | 430.0 2437. | .0 |
| Power 90 | 3.81 MHz r Over Span | -40.0 - -45.0 - -50.0 - -55.0 - | ~~ 7.0 ' | 2 | 400.0 | 2410.0 Frequency | | ₩ 0 2 | 430.0 2437 | .0 |

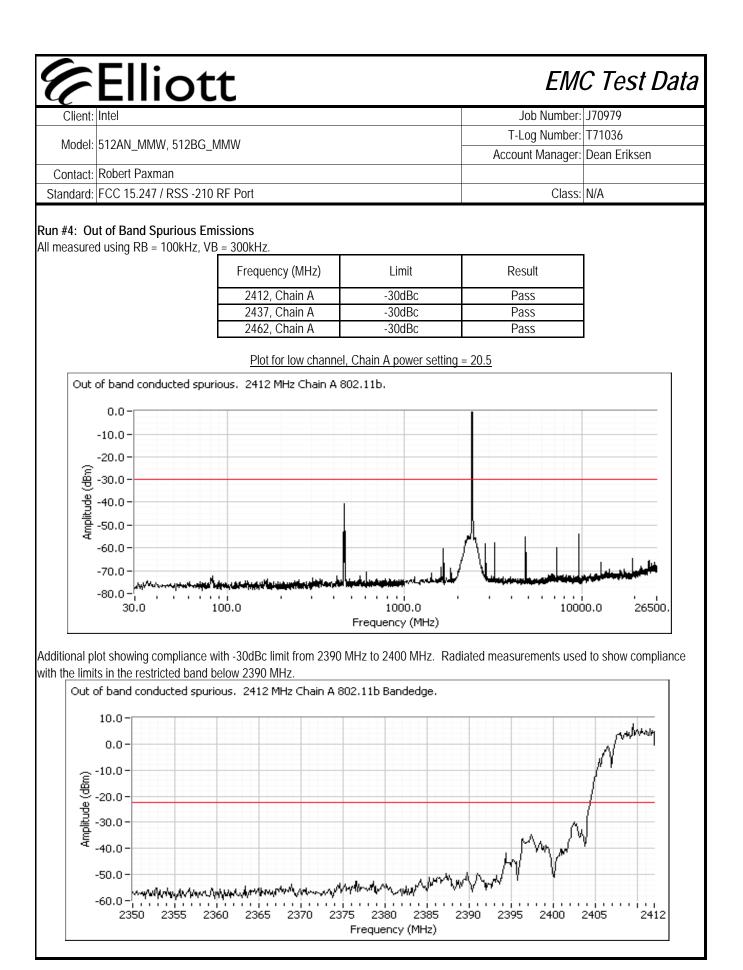


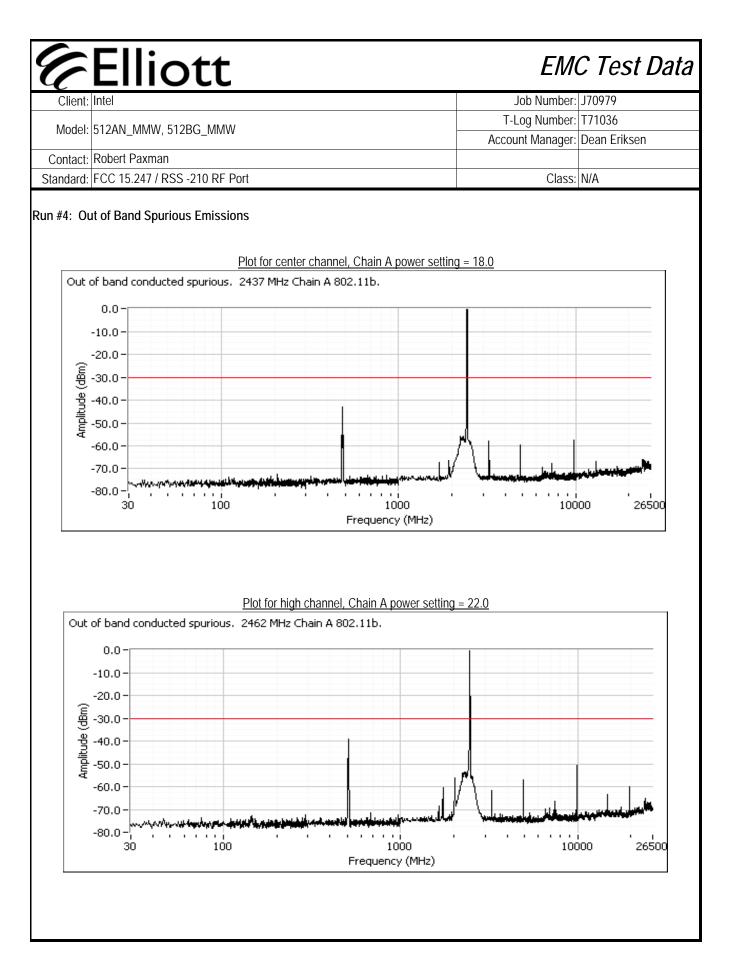




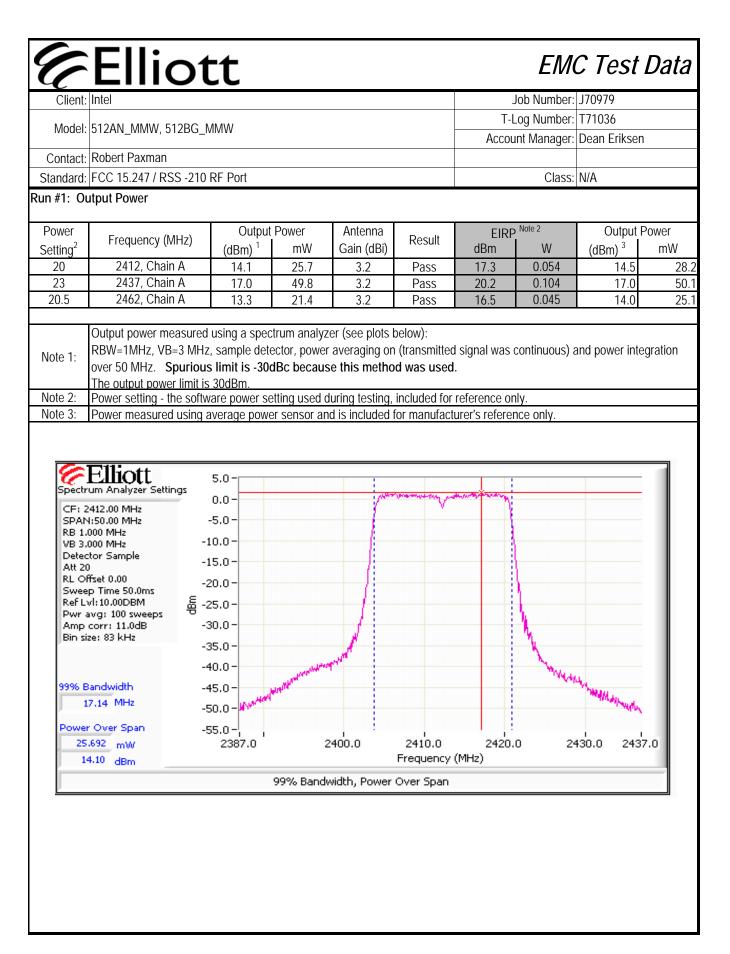


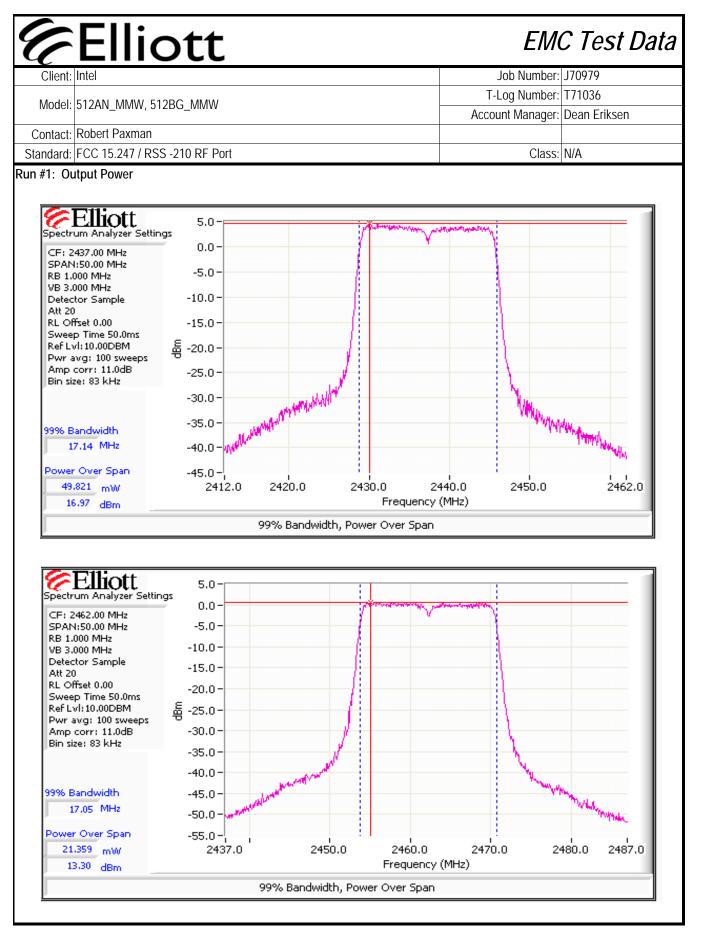


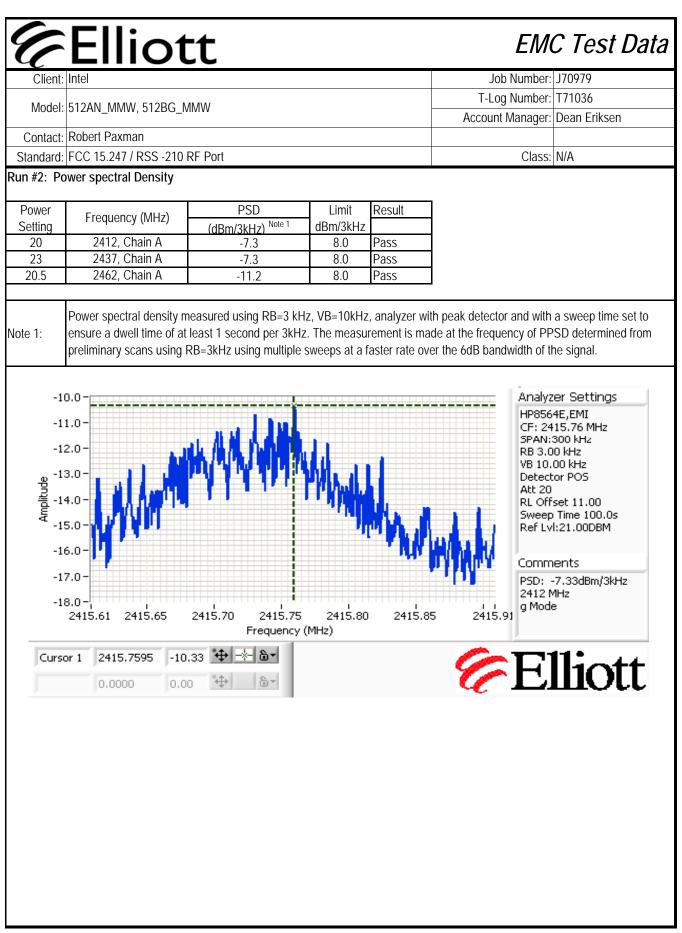


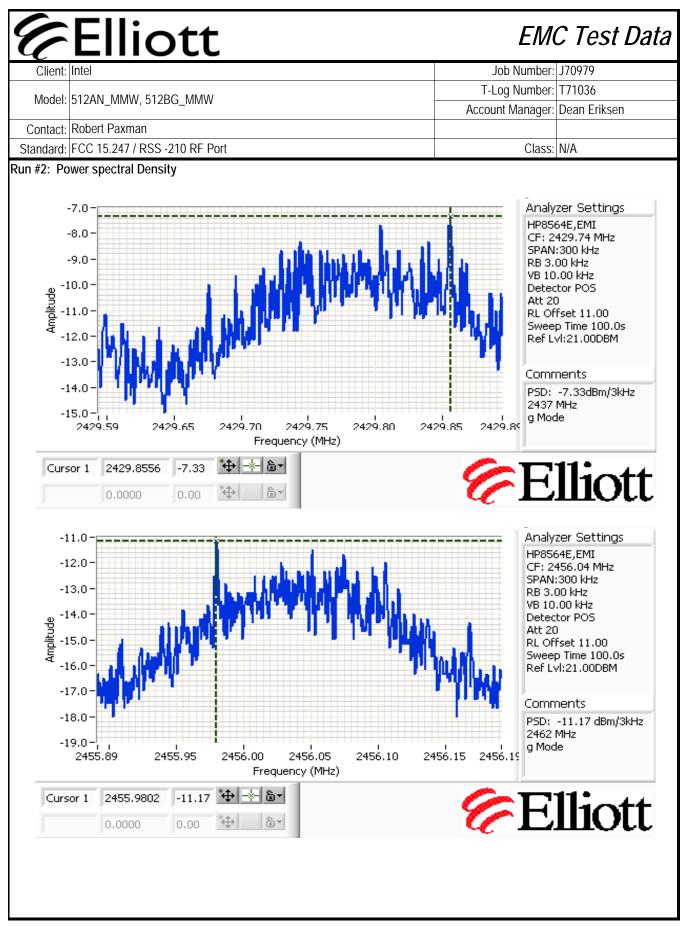


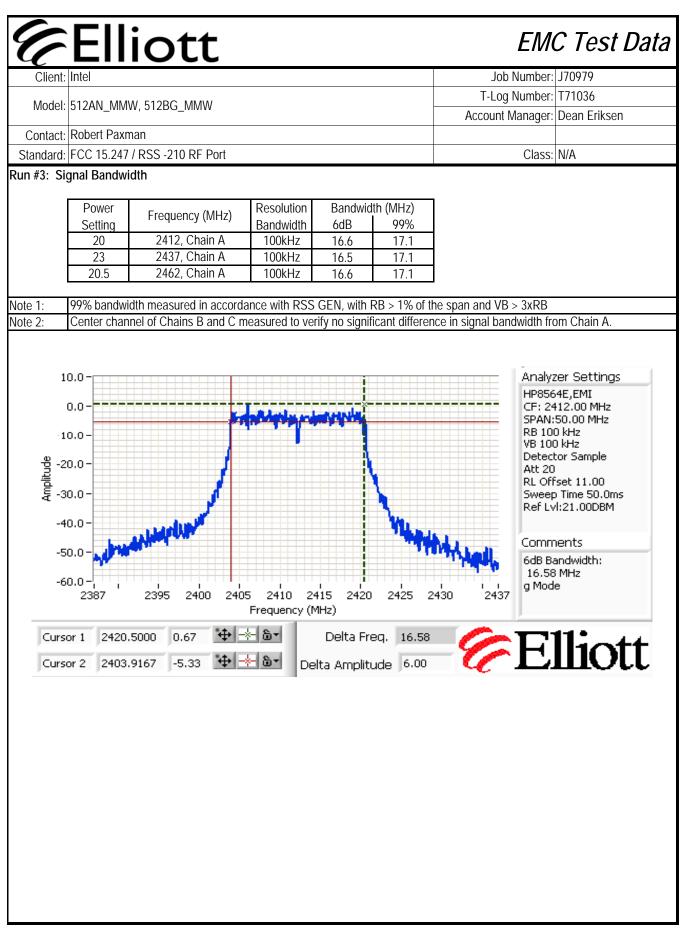
| Client: Intel | | | | Job Number: | J70979 |
|---|--|---|---------------------|------------------------------------|--------------------------|
| | | | | Log Number: | |
| Model: 512AN_MM | 1W, 512BG_MMW | | | Int Manager: | |
| Contact: Robert Pax | man | | | | |
| Standard: FCC 15.24 | 7 / RSS -210 RF Port | | | Class: | N/A |
| RSS 2 | 210 and FCC 15.247 (D | TS) Antenn | a Port M | easure | ments |
| | Power, PSD, Bandwid | Ith and Spur | ious - 802. | .11g | |
| Test Specific Detai | ils | | | | |
| Objective | The objective of this test session is to per specification listed above. | erform final qualifica | ition testing of th | ne EUT with i | respect to th |
| Date of Test Test Engineer Test Location | Suhaila Khushzad & John Caizzi | Config. Us Config Chan EUT Volta | | om Host Sys | tem |
| | | | | | |
| chain. All measurements have Ambient Condition | been corrected to allow for the external a IS: Temperature: | ttenuators used. 21 °C | | | |
| All measurements have | | | | | |
| All measurements have Ambient Condition | Temperature: Rel. Humidity: | 21 °C | | | |
| All measurements have Ambient Condition | Temperature: Rel. Humidity: | 21 °C | Pass / Fail | Result | / Margin |
| All measurements have Ambient Condition Summary of Resul Run # 1 | rs: Temperature: Rel. Humidity: ts Test Performed Output Power | 21 °C 39 % Limit 15.247(b) | Pass / Fail Pass | 17dBm(| 49.8mW) |
| All measurements have Ambient Condition Summary of Resul Run # 1 2 | ts Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD) | 21 °C 39 % Limit 15.247(b) 15.247(d) | Pass Pass | 17dBm(- -7.3 dB | 49.8mW) m/3kHz |
| All measurements have Ambient Condition Summary of Resul Run # 1 2 3 | ts Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD) 6dB Bandwidth | 21 °C 39 % Limit 15.247(b) 15.247(d) 15.247(a) | Pass | 17dBm(~ -7.3 dB 16.6 | 49.8mW) m/3kHz MHz |
| All measurements have Ambient Condition Summary of Resul Run # 1 2 | ts Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD) | 21 °C 39 % Limit 15.247(b) 15.247(d) | Pass Pass | 17dBm(- -7.3 dB 16.6 17.1 | 49.8mW) m/3kHz |

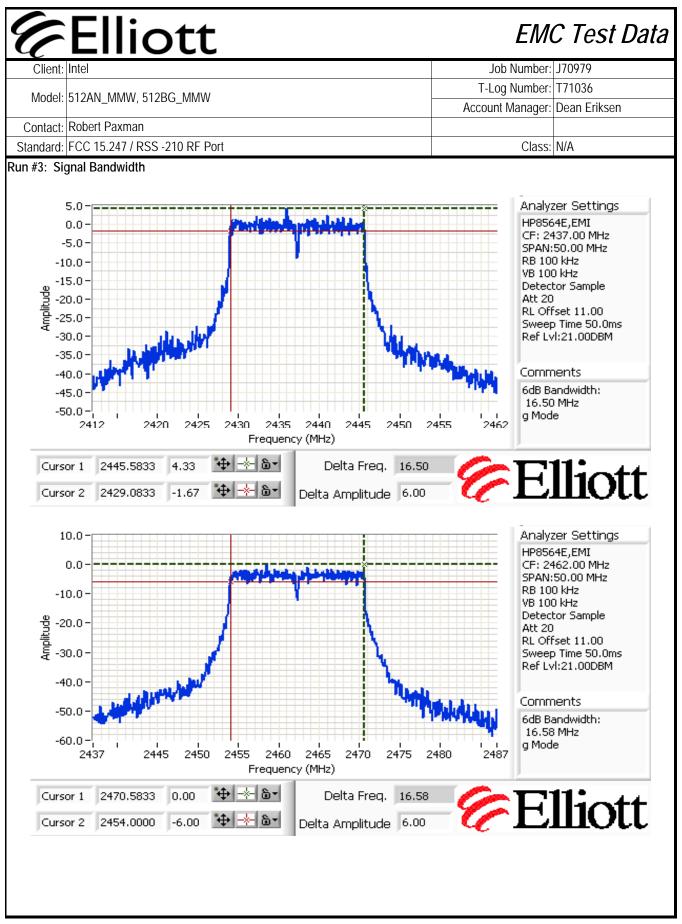


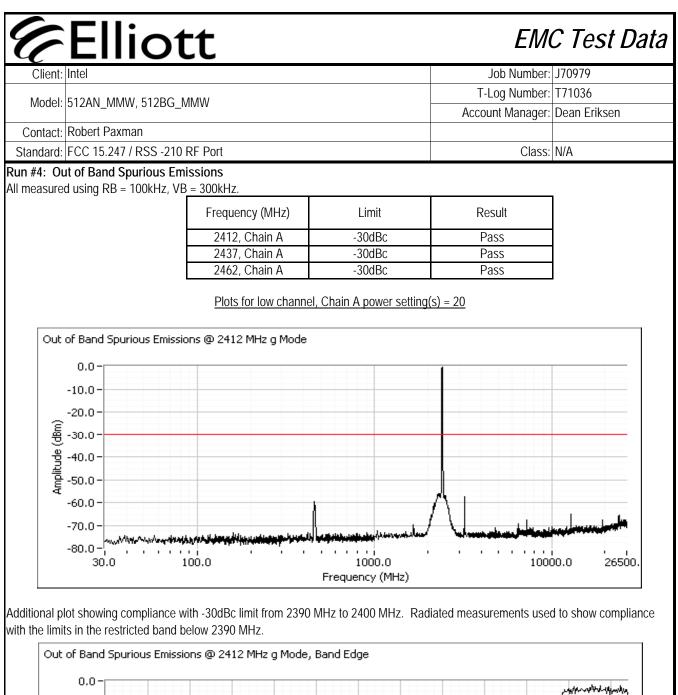


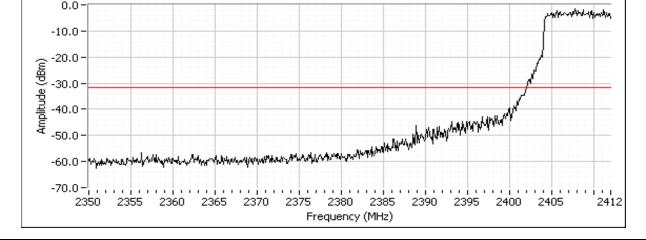


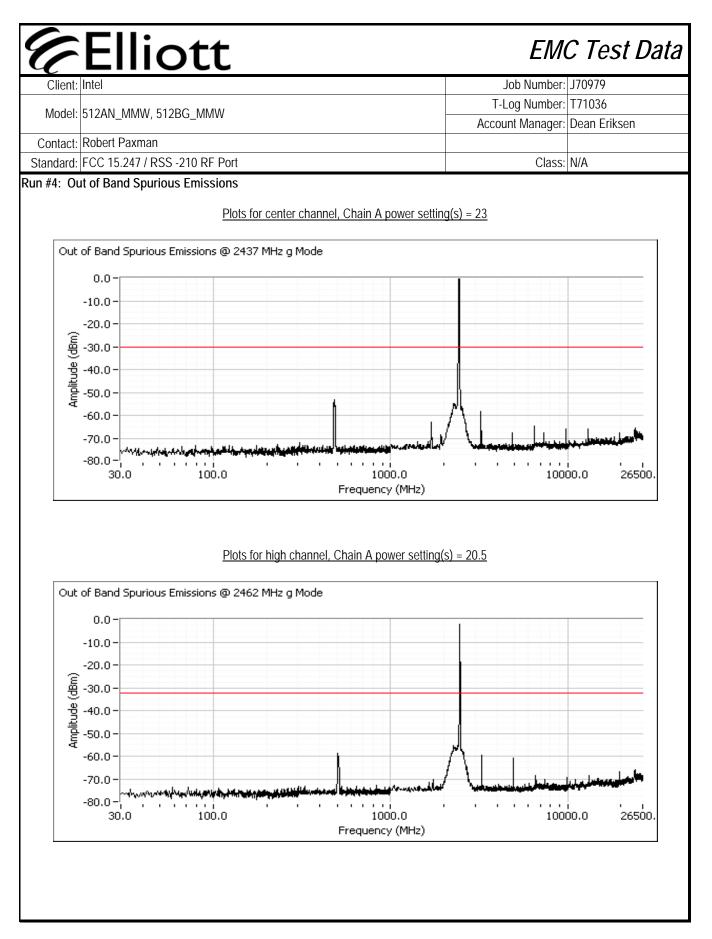






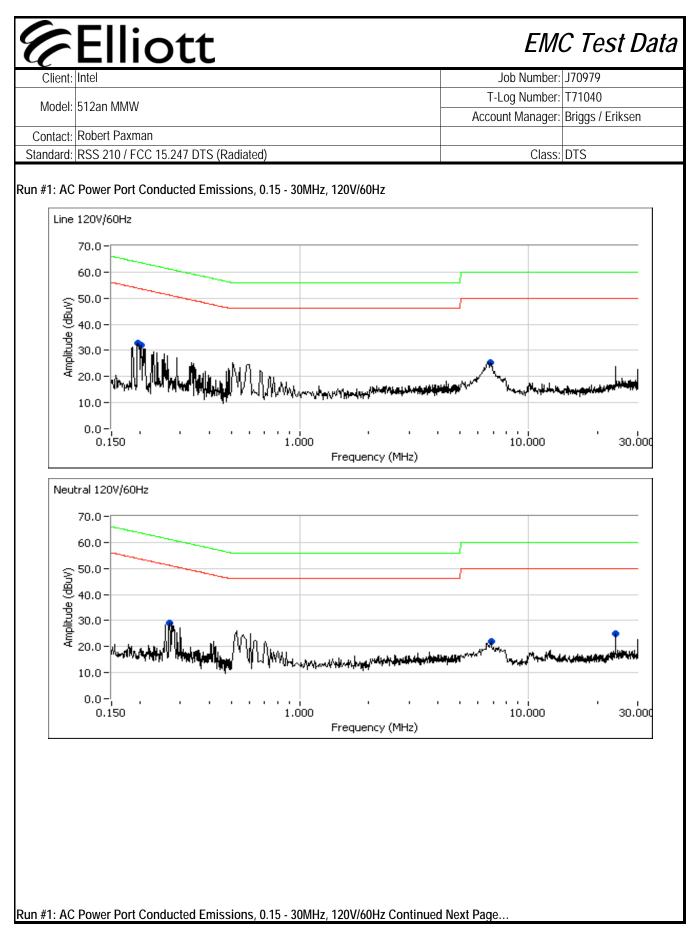






| <i>C</i> Elliott | E | MC Test Data |
|---|---------------------------------|--------------|
| Client: Intel | Job Number | |
| Model: 512an MMW | T-Log Number Account Manager | |
| Contact: Robert Paxman | | - |
| Emissions Standard(s): RSS 210 / FCC 15.247 DTS (Radiated) Immunity Standard(s): - | Class Environment | |
| initianty standard(s). | Linnonnen | |
| EMC Test Data - DTS Radi | | ons |
| and AC Conducted E | Emissions | |
| For The | | |
| Intel | | |
| Model | | |
| 512an MMW | | |
| | | |
| Date of Last Test: 4/21/2 | 008 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| Job Number: J70979 T-Log Number: T71040 Account Manager: Briggs / Eri Class: DTS MISSIONS ity, Semi-Anechoic Chamber) |
|--|
| Account Manager: Briggs / Eri Class: DTS missions |
| Class: DTS |
| missions |
| |
| • |
| |
| inal qualification testing of the EUT with respect to th |
| Config. Used: 1 Config Change: None st Unit Voltage 120V/60Hz |
| 20 °C 37 % |
| |
| Limit Result Margin |
| 5.109 / FCC Pass 21.4dBµV @ 9 / RSS 210 24.000MHz (-28.6dB) |
| |



| | | | - | | | 1 | lob Number | 170070 |
|-------------|--------------|------------------|--------------|--------------|------------|----------------|------------------|------------------|
| Client: | Intel | | | | | | Job Number: | |
| Model. | 512an MMV | V | | | | | T-Log Number: | |
| | | • | | | | | Account Manager: | Briggs / Eriksen |
| Contact: | Robert Paxi | man | | | | | | |
| Standard: | RSS 210 / F | - CC 15.247 E | TS (Radiate | ed) | | | Class: | DTS |
| | | | | | | | | |
| Preliminary | / peak readi | ngs capture | d during pre | e-scan (peak | readings v | s. average lim | it) | |
| Frequency | Level | AC | FCC 15.1 | 09/15.209 | Detector | Comments | | |
| MHz | dBµV | Line | Limit | Margin | QP/Ave | | | |
| 0.195 | 32.9 | Line 1 | 53.8 | -20.9 | Peak | | | |
| 0.201 | 31.9 | Line 1 | 53.5 | -21.6 | Peak | | | |
| 0.269 | 29.0 | Neutral | 51.2 | -22.2 | Peak | | | |
| 6.801 | 25.5 | Line 1 | 50.0 | -24.5 | Peak | | | |
| 24.000 | 24.9 | Neutral | 50.0 | -25.1 | Peak | | | |
| 6.826 | 21.9 | Neutral | 50.0 | -28.1 | Peak | | | |
| | | | | | | | | |
| | | verage read | <u> </u> | | | 1. | | |
| Frequency | Level | AC | | 09/15.209 | Detector | Comments | | |
| MHz | dBµV | Line | Limit | Margin | QP/Ave | | | |
| 24.000 | 21.4 | Neutral | 50.0 | -28.6 | AVG | | | |
| 6.801 | 16.7 | Line 1 | 50.0 | -33.3 | AVG | | | |
| 24.000 | 23.4 | Neutral | 60.0 | -36.6 | QP | | | |
| 0.195 | 26.0 | Line 1 | 63.8 | -37.8 | QP | | | |
| 6.801 | 22.2 | Line 1 | 60.0 | -37.8 | QP | | | |
| 0.201 | 25.4 | Line 1 | 63.6 | -38.2 | QP | | | |
| 6.826 | 10.5 | Neutral | 50.0 | -39.5 | AVG | | | |
| 0.269 | 21.0 | Neutral | 61.1 | -40.1 | QP | | | |
| 0.269 | 10.5 | Neutral | 51.1 | -40.6 | AVG | | | |
| 0.195 | 10.9 | Line 1 | 53.8 | -42.9 | AVG | | | |
| 0.201 | 10.7 | Line 1 | 53.6 | -42.9 | AVG | | | |
| 6.826 | 15.4 | Neutral | 60.0 | -44.6 | QP | | | |

EMC Test Data

| Client: | Intel | Job Number: | J70979 |
|-----------|-------------------------------------|------------------|------------------|
| Madal | 512an MMW | T-Log Number: | T71040 |
| MUUEI. | | Account Manager: | Briggs / Eriksen |
| Contact: | Robert Paxman | | |
| Standard: | RSS 210 / FCC 15.247 DTS (Radiated) | Class: | DTS |

Transmitter/Receiver Radiated Spurious Emissions, 30 - 1000 MHz Receiver Spurious Emissions, 1 - 18 GHz

Test Specific Details

Elliott

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: 4/16/2008 Test Engineer: John Caizzi & Ben Jing Test Location: FT#3 Config. Used: 1 Config Change: None Host Unit Voltage 120V/60Hz

General Test Configuration

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

The test distance and extrapolation factor (if applicable) are detailed under each run description.

Note, **preliminary** testing indicates that the emissions were maximized by orientation of the EUT and elevation of the measurement antenna. **Maximized** testing indicated that the emissions were maximized by orientation of the EUT, elevation of the measurement antenna, <u>and</u> manipulation of the EUT's interface cables.

| Ambient Conditions: | Temperature: | 20 °C |
|---------------------|----------------|-------|
| | Rel. Humidity: | 37 % |

Summary of Results

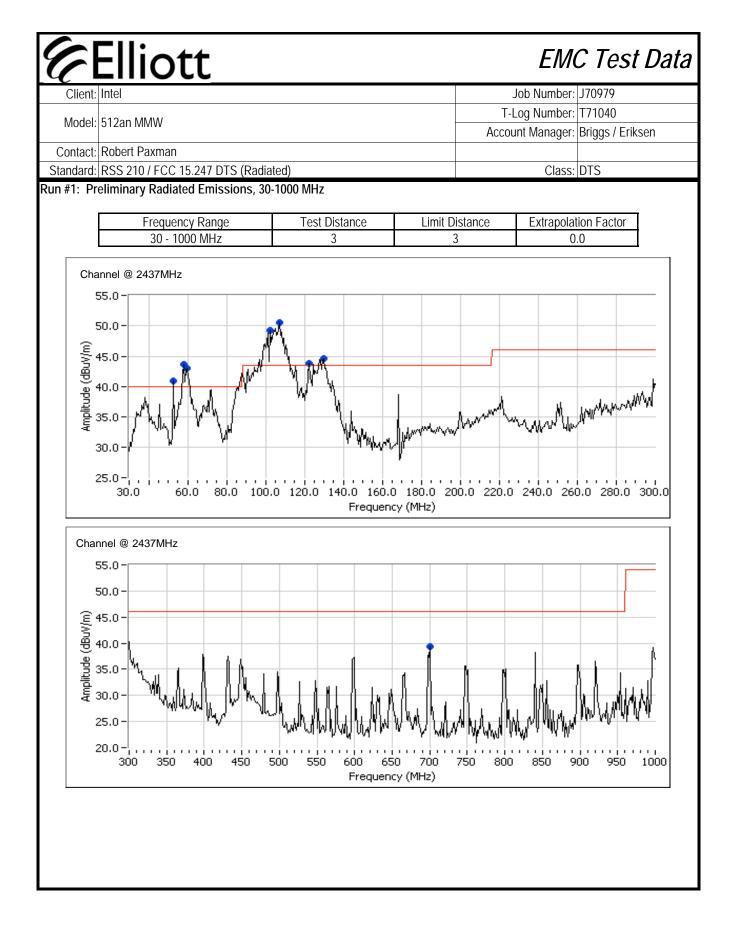
| Run # | Test Performed | Limit | Result | Margin |
|-------------------------|-----------------------------------|----------------------|--------|---------------------|
| 1 Receiver/Transmitter | 30 - 1000MHz, Preliminary - Tx/Rx | PSS GEN / ECC 15 107 | Pass | 43.4dBµV/m @ |
| | Modes | K33 GEN7T CC 13.107 | F 833 | 108.287MHz (-0.1dB) |
| 2 | RE, 30 - 1000MHz, Maximized | RSS GEN / FCC 15.107 | Pass | 43.4dBµV/m @ |
| Z | Emissions | 100 GEN71 CC 13.107 | r ass | 108.287MHz (-0.1dB) |
| 3 - Single Receiver | RE, 1000 - 18000 MHz, Maximized | RSS GEN | Pass | 50.1dBµV/m @ |
| chain | Emissions | N35 OEN | F 833 | 3000.3MHz (-3.9dB) |
| 4 - All Receiver chains | RE, 1000 - 18000 MHz, Maximized | RSS GEN | Pass | 50.5dBµV/m @ |
| | Emissions | N35 OLN | га33 | 3000.3MHz (-3.5dB) |

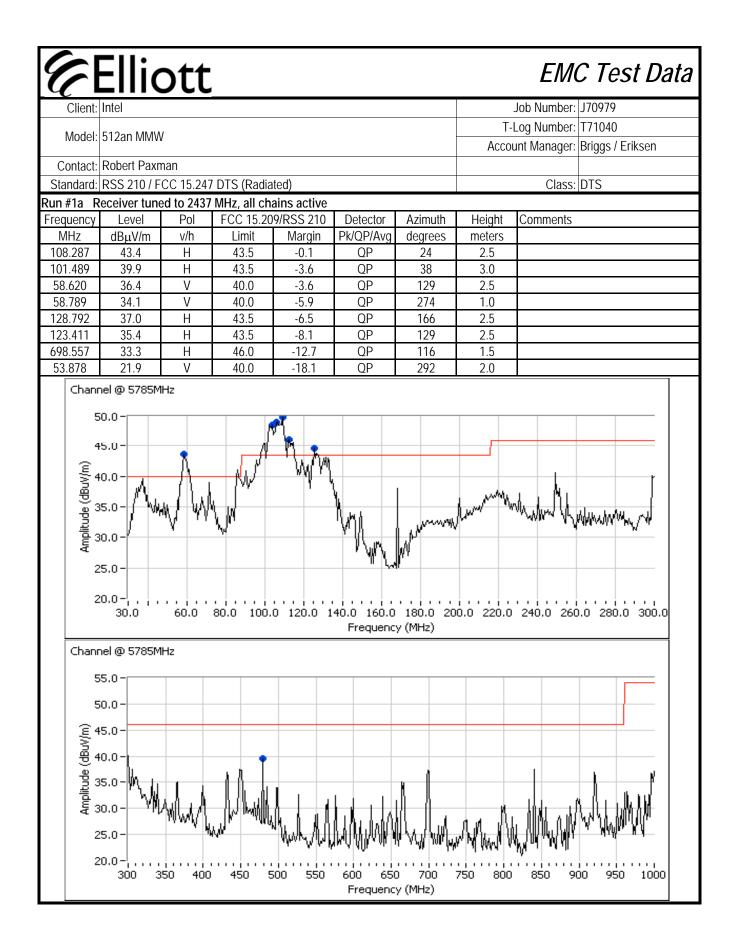
Modifications Made During Testing

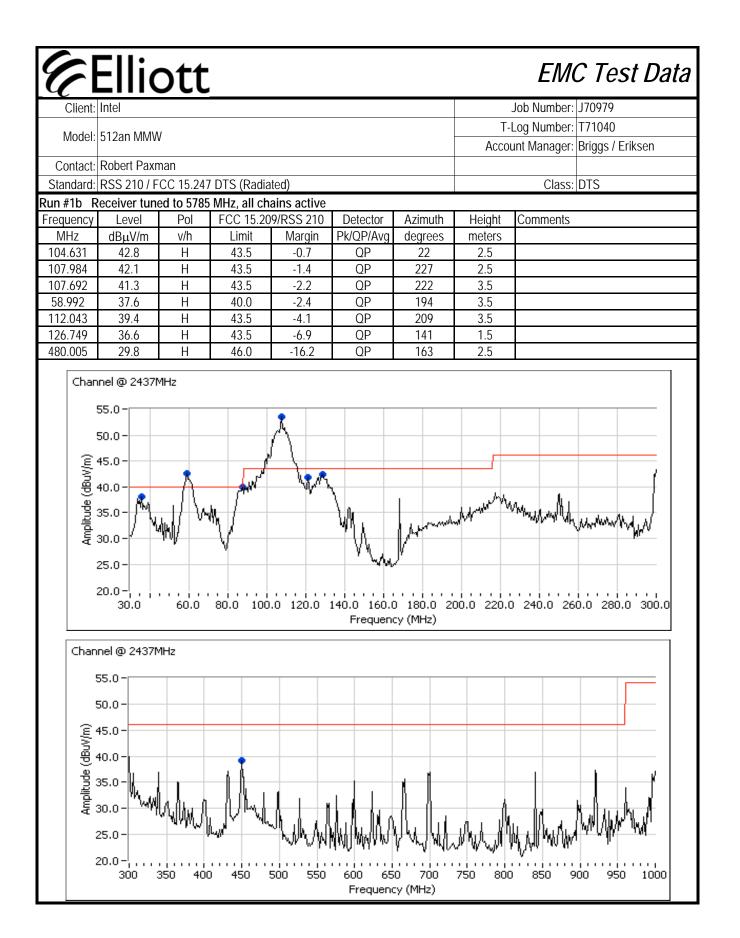
No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.







| Client: | Intel | | | | | | | | |
|--|---|---|---|---|---|---|--|----------------|------------------------|
| Madal | | | | | | | | Job Number: | J70979 |
| | | , | | | | | T- | Log Number: | T71040 |
| wouel: | 512an MMW | 1 | | | | | Acco | unt Manager: | Briggs / Eriksen |
| Contact: | Robert Paxr | nan | | | | | | | |
| | | | 7 DTS (Radia | ted) | | | | Class: | DTS |
| otandara | 1100 21071 | 00 10.21 | | louj | | | | 010301 | |
| Run #1c T | ransmitter t | uned to 24 | 437 MHz, 802 | | | | | | |
| Frequency | Level | Pol | FCC 15.20 | 9/RSS 210 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 107.030 | 41.7 | H | 43.5 | -1.8 | QP | 7 | 3.0 | | |
| 59.474 | 31.8 | Н | 40.0 | -8.2 | QP | 211 | 3.0 | | |
| 130.034 | 35.2 | V | 43.5 | -8.3 | QP | 120 | 1.5 | | |
| 87.308 | 29.3 | Н | 40.0 | -10.7 | QP | 16 | 2.5 | | |
| 34.981 | 29.3 | V | 40.0 | -10.7 | QP | 38 | 1.0 | | |
| 449.923 | 33.2 | Н | 46.0 | -12.8 | QP | 205 | 1.0 | | |
| 122.018 | 29.3 | V | 43.5 | -14.2 | QP | 268 | 1.0 | | |
| | modulation) | | | ons beow 1G | Hz independe | ent of the tra | nsmitter's o | perating frequ | iency and mode (tx, Rx |
| Note 1: Run #2: Ma | modulation) aximized Re Fre | adings Fro quency Ra | om Run #1 inge | Test D | istance | Limit D | istance | Extrapolat | ion Factor |
| | modulation) aximized Re Fre | adings Fr | om Run #1 inge | Test D | | Limit D | | Extrapolat | |
| Run #2: Ma | modulation) aximized Re Fre | adings Fro | om Run #1 Inge Hz | Test D | istance | Limit D | istance | Extrapolat | ion Factor |
| Run #2: Ma | modulation) aximized Re Fre 30 | adings Fr quency Ra) - 1000 M | om Run #1 Inge Hz | Test D | istance | Limit D | istance | Extrapolat | ion Factor |
| Run #2: Ma Frequency | modulation) Eximized Re Fre 30 Level | adings Fra quency Ra) - 1000 M Pol | om Run #1 inge Hz FCC 15.20 | Test D 9/RSS 210 | istance 3 Detector | Limit D | istance 3 Height | Extrapolat | ion Factor |
| Run #2: Ma Frequency MHz 58.620 58.789 | modulation) eximized Re Fre 30 Level dBµV/m 36.4 34.1 | adings Fro quency Ra) - 1000 M Pol V/h V V | om Run #1 inge Hz FCC 15.20 Limit 40.0 40.0 | Test D 9/RSS 210 Margin -3.6 -5.9 | istance 3 Detector Pk/QP/Avg QP QP | Limit D Azimuth degrees 129 274 | istance 3 Height meters 2.5 1.0 | Extrapolat | ion Factor |
| Run #2: Ma Frequency MHz 58.620 58.789 101.489 | modulation) eximized Rea Fre 30 Level dBµV/m 36.4 34.1 39.9 | adings Fro quency Ra 0 - 1000 M Pol V/h V V V H | om Run #1 inge Hz FCC 15.20 Limit 40.0 40.0 43.5 | Test D 9/RSS 210 Margin -3.6 -5.9 -3.6 | istance 3 Detector Pk/QP/Avg QP QP QP | Limit D Azimuth degrees 129 274 38 | Height Meters 2.5 1.0 3.0 | Extrapolat | ion Factor |
| Run #2: Ma Frequency MHz 58.620 58.789 101.489 108.287 | modulation) aximized Rea Fre 30 Level dBμV/m 36.4 34.1 39.9 43.4 | adings Fro quency Ra) - 1000 M Pol V/h V V V H H H | om Run #1 ange Hz FCC 15.20 Limit 40.0 40.0 43.5 43.5 | Test D 9/RSS 210 Margin -3.6 -5.9 -3.6 -0.1 | istance 3 Detector Pk/QP/Avg QP QP QP QP QP | Limit D Azimuth degrees 129 274 38 24 | Height Meters 2.5 1.0 3.0 2.5 | Extrapolat | ion Factor |
| Run #2: Ma Frequency MHz 58.620 58.789 101.489 | modulation) eximized Rea Fre 30 Level dBµV/m 36.4 34.1 39.9 | adings Fro quency Ra 0 - 1000 M Pol V/h V V V H | om Run #1 inge Hz FCC 15.20 Limit 40.0 40.0 43.5 | Test D 9/RSS 210 Margin -3.6 -5.9 -3.6 | istance 3 Detector Pk/QP/Avg QP QP QP | Limit D Azimuth degrees 129 274 38 | Height Meters 2.5 1.0 3.0 | Extrapolat | ion Factor |

| Client: | | | | | | | | Job Number: J70979 | |
|--|--------------------------|---------|--------------|-----------------------|----------------------------|------------|-----------------------------------|--------------------|--|
| Model | 512an MMW | | | | | | | Log Number: T71040 | |
| | | | | | | | Account Manager: Briggs / Eriksen | | |
| | Robert Paxm | | | | | | | | |
| | RSS 210 / F(| | | <i>i</i> | | | | Class: DTS | |
| | | | | | eceiver Activ | e | | | |
| requency | uned to 2437 Level | Pol | | GEN | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | Comments | |
| 047.520 | 27.6 | V | 54.0 | -26.4 | AVG | 205 | 1.3 | | |
| 991.590 | 29.8 | V | 54.0 | -24.2 | AVG | 212 | 1.3 | | |
| 490.190 | 33.5 | V | 54.0 | -20.5 | AVG | 179 | 1.0 | | |
| 000.310 | 50.1 | V | 54.0 | -3.9 | AVG | 202 | 1.0 | | |
| 000.750 | 43.7 | V | 54.0 | -10.3 | AVG | 246 | 1.6 | | |
| 566.920 | 37.8 | Н | 54.0 | -16.2 | AVG | 318 | 1.0 | | |
| 047.520 | 44.6 | V | 74.0 | -29.4 | PK | 205 | 1.3 | | |
| 991.590 | 45.3 | V | 74.0 | -28.7 | PK | 212 | 1.3 | | |
| 490.190 | 50.3 | V | 74.0 | -23.7 | PK | 179 | 1.0 | | |
| 000.310 | 54.5 | V | 74.0 | -19.5 | PK | 202 | 1.0 | | |
| 000.750 566.920 | 49.6 49.2 | V H | 74.0 74.0 | -24.4 -24.8 | PK PK | 246 318 | 1.6 1.0 | | |
| 80.(70.((m/Ange epiting) 950.(40.(|) -) -) -) - | Juluil. | weekont | and for the second of | . In she prove that we had | Lamber | www. | m the showing of | |
| جة 30.(| | | 3000 | 4000 | 5000 6 | 000 7 | | 8000 9000 10000 | |

| Client: | Ellic | | | | | | | Job Number: | J70979 |
|---|---|----------------------------------|--------------------------------------|--|----------------|-------------------|-------------------|----------------|--------------------|
| Model | 512an MMW | | | | | | | Log Number: | |
| | | | | | | | Acco | unt Manager: | Briggs / Eriksen |
| | Robert Paxn | | | | | | | 0 | DTO |
| | RSS 210 / F | | | , | aluara Aatiua | | | Class: | DIS |
| | uned to 2437 | | | | eivers Active | | | | |
| requency | Level | Pol | | GEN | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 056.082 | 29.2 | Н | 54.0 | -24.8 | AVG | 297 | 1.0 | | |
| 000.330 | 50.5 | V | 54.0 | -3.5 | AVG | 270 | 1.0 | | |
| 873.980 | 44.1 | V | 54.0 | -9.9 | AVG | 153 | 1.5 | | |
| 000.700 | 48.6 | V | 54.0 | -5.4 | AVG | 263 | 1.5 | | |
| 498.670 | 45.8 | V V | 54.0 | -8.2 | AVG AVG | 193 177 | 1.0 | | |
| 2997.200 | 42.6 38.1 | H | 54.0 74.0 | -11.4 -35.9 | PK | 297 | 1.0 1.0 | | |
| 056.082 | 53.8 | V | 74.0 | -35.9 | PK PK | 297 270 | 1.0 | | |
| ()()() | | v | 74.0 | 20.2 | | | | | |
| | | | 74.0 | -26.2 | PK | 153 | 1.5 | | |
| 3000.330 4873.980 5000.700 | 47.8 52.9 | V V | 74.0 74.0 | -26.2 -21.1 | PK PK | 153 263 | 1.5 1.5 | | |
| 1873.980 5000.700 | 47.8 | V | | | | | | | |
| 1873.980 5000.700 5498.670 2997.200 | 47.8 52.9 49.8 47.7 | V V V V z, the limit | 74.0 74.0 74.0 is for an av | -21.1 -24.2 -26.3 erage measu | PK PK PK | 263 193 177 | 1.5 1.0 1.0 | f any emissio | n above 1 GHz, can |
| 4873.980 5000.700 5498.670 2997.200 ote 1: 80. 70. (III) 80. 70. 100 900 900 900 100 100 100 100 | 47.8 52.9 49.8 47.7 Above 1 GH exceed the <i>a</i> | V V V V z, the limit | 74.0 74.0 74.0 is for an av | -21.1 -24.2 -26.3 erage measu | PK PK PK | 263 193 177 | 1.5 1.0 1.0 | of any emissio | n above 1 GHz, can |

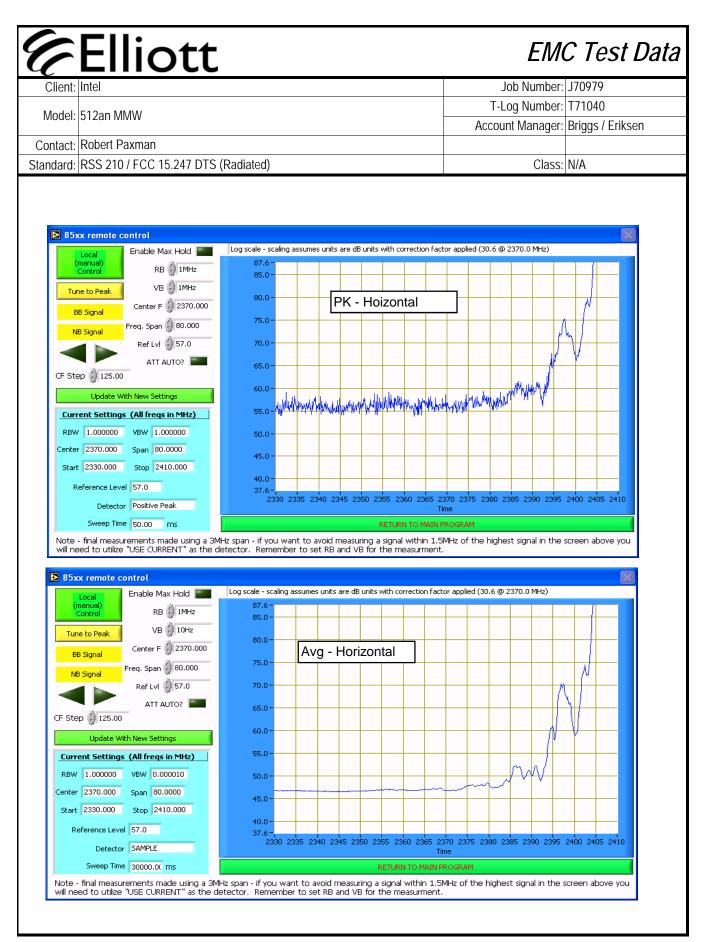
| 6 | | | <u> </u> | | | _ | C Test Data |
|------------------------|--------------------|--------------------------------|------------------|-------------------|---|---|--------------------------------------|
| C | | iot | L | | | LIVI | |
| Client: | | | | | | Job Number: | J70979 |
| Model | 512an MMW | | | | | T-Log Number: | T71040 |
| | | | | | | Account Manager: | Briggs / Eriksen |
| | Robert Paxn | | | | | | |
| Standard: | RSS 210 / F | CC 15.247 D | OTS (Radiate | d) | | Class: | N/A |
| Test Spec | F cific Detail | Radiated Is The objectiv | l Spuriou | us Emiss | 247 (DTS, 2400 sions - Band Edg perform final qualification Config. Used: Config Change: Host Unit Voltage | ge 802.11b Mode the testing of the EUT with a 1 None | e |
| The EUT an equipment w | vas located a | ipport equipm approximately | y 30 meters fr | rom the EUT | urntable for radiated spuri with all I/O connections re located 3 meters from the | unning on top of the grou | |
| Ambient | Condition | S: | Т | emperature: | 19 °C | | |
| | | | | el. Humidity: | | | |
| Summary | of Result | iS | | | | | |
| Run # | Mode | Channel | Power Setting | Measured Power | Test Performed | Limit | Result / Margin |
| 1a | 802.11b Chain A | 1 2412MHz | GC = 20.5 | 18.8 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 51.6 dBuV/m @ 2389.2 MHz (-2.4dB) |
| 1b | 802.11b Chain A | 11 2462MHz | GC = 22.5 | 19.6 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 53.0 dBuV/m @ 2483.6 MHz (-1.0dB) |
| Modificat | ions Made | • Durina T | estina | | | | |

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

| Ľ | | ΙΟι | L | | | | | | |
|-----------------|--------------------------------|--------------|-----------------|-----------------|-----------------|----------------|---------------|------------------------|---------------------------------------|
| Client: | | | | | | | | Job Number: | J70979 |
| Madal | | J | | | | | T- | Log Number: | T71040 |
| Wodel: | 512an MMW | V | | | | | | • | Briggs / Eriksen |
| Contact: | Robert Paxr | nan | | | | | | | |
| Standard: | RSS 210 / F | CC 15.247 [| DTS (Radiate | d) | | | | Class: | N/A |
| un #1: Ra | diated Spur | ious Emissi | ons, Band E | dges. Oper | ating Mode: | 802.11b - C | hain A | | |
| | - | | | 5 1 | 5 | | | | |
| | Pate of Test: est Engineer: | | | | | | | | |
| | est Location: | | or # 1 | | | | | | |
| | | | μπ 1 | | | | | | |
| un #1a: L | ow Channel | @ 2412 MH | z | | | | | | |
| | ower Setting: | | | rage power: | 18.8 dBm | (for referenc | e purposes) | | |
| undament | al Signal Fie | eld Strength | | | es measured | | | | in 100kHz |
| requency | Level | Pol | 15.209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 2410.590 | 100.7 | V | - | - | AVG | 161 | 1.0 | RB = 1MHz | |
| 2410.590 | 103.7 | V | - | - | PK | 161 | 1.0 | RB = VB = | |
| 2411.490 | 109.8 | Н | - | - | AVG | 248 | 1.0 | RB = 1MHz | |
| 2411.490 | 112.8 | Н | - | - | PK | 248 | 1.0 | $RB = VB = \hat{1}$ | 1MHz |
| | | | | | | | | | |
| | Signal Field | | 15 200 | / 15.247 | Dotostor | Azipauth | l lo¦aht | Commont | |
| requency | Level | Pol | | r | Detector | Azimuth | Height | Comments | |
| MHz 2389.450 | dBµV/m 62.8 | v/h H | Limit 74.0 | Margin -11.2 | Pk/QP/Avg PK | degrees 249 | meters 1.0 | GC = 20.5 | , AP = 18.8 |
| 2389.430 | 51.6 | H | 54.0 | -11.2 | AVG | 249 | 1.0 | GC = 20.5 GC = 20.5 | AP = 10.0 |
| 2307.220 | | | reference or | | AVG | 247 | 1.0 | GC - 20.3 | , AF – 10.0 |
| 2389.450 | 60.5 | H | 74.0 | -13.5 | PK | 247 | 1.0 | GC = 17.5 | , AP = 16.7 |
| 2389.750 | 48.0 | H | 54.0 | -6.0 | AVG | 247 | 1.0 | GC = 17.5 | , AP = 16.7 |
| 2389.950 | 61.5 | H | 74.0 | -12.5 | PK | 244 | 1.0 | GC = 19.5 | , AP = 18.3 |
| 2389.300 | 49.4 | Н | 54.0 | -4.6 | AVG | 249 | 1.0 | GC = 19.5 | , AP = 18.3 |
| 2389.300 | 63.1 | Н | 74.0 | -10.9 | PK | 249 | 1.0 | GC = 21 | , AP = 19.4 |
| _007.000 | 00.1 | | | | | | | 00 - 21 | I I I I I I I I I I |



| Power Setting: $GC = 22.5$ Average power: 19.6 dBm (for reference purposes) indamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = 1MHz, VB = 10Hz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = NB = 1MHz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz 463.530 63.4 H 74.0 - PK 213 1.0 RC = 22.5 AP = 19 MHz dBµV/m V/h Limit Margin Pk |
|--|
| Model: 512an MMW Account Manager: Briggs / Erikser Contact: Robert Paxman Class: N/A tandard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A n #1b: High Channel @ 2462 MHz Class: N/A Power Setting: GC = 22.5 Average power: 19.6 dBm (for reference purposes) ndamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/OP/Avg degrees meters 63.130 109.0 H - - PK 246 1.0 RB = 1MHz, VB = 10Hz 63.130 109.0 H - - PK 246 1.0 RB = 1MHz, VB = 10Hz 63.130 109.0 H - - PK 213 1.0 RB = 1MHz VB = 10Hz 61.190 106.2 V </td |
| Account Manager: Briggs / ErikserContact: Robert PaxmanContact: Robert PaxmanClass: N/AClass: N/AClass: N/Aandard: RSS 210 / FCC 15.247 DTS (Radiated)Class: N/AClass: N/Aandard: RSS 210 / FCC 15.247 DTS (Radiated)Class: N/Adamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHzquencyLevel Pol 15.209 / 15.247 Detector Azimuth Height CommentsMHz61.190 103.3 V- AVG 213 1.0 RB = 1MHz, VB = 10Hz61.190 106.2 V- PK 213 1.0 RB = VB = 1MHzMd Edge Signal Field StrengthquencyLevel Pol 15.209 / 15.247 Detector Azimuth Height CommentsMHzd BupV/mv/h- PK 213 1.0 RB = 1MHz, VB = 10HzMd Edge Signal Field Strength- PK 213 1.0 RB = 10HZMHZd BupV/m< |
| Class: N/A Class: N/A N/A N #1b: High Channel @ 2462 MHz Power Setting: GC = 22.5 Average power: 19.6 dBm (for reference purposes) ndamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees metrs 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = 1MHz VB = 10Hz 461.190 103.3 V - - PK 213 1.0 RB = VB = 10Hz nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz MHz Mageined Strength equency |
| n #1b: High Channel @ 2462 MHz Power Setting: GC = 22.5 Average power: 19.6 dBm (for reference purposes) ndamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz 461.190 103.3 V - - PK 213 1.0 RB = VB = 1MHz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz addition 106.2 V - - PK 213 1.0 RB = VB = 1MHz md Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h <td< td=""></td<> |
| Indamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = 1MHz, VB = 10Hz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz and Edge Signal Field Strength requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/QP/Avg degrees meters 483.530 |
| ndamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = 1MHz, VB = 10Hz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = NB = 1MHz and Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H |
| equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz VB = 10Hz 463.130 103.3 V - - PK 246 1.0 RB = VB = 1MHz VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg d |
| MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters 483.650 53.0 H 54.0 -10.6 PK 245 1.0 GC = 22.5 <t< td=""></t<> |
| 463.130 109.0 H - - AVG 246 1.0 RB = 1MHz, VB = 10Hz 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz addege Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.520 60.6 H 74.0 -13 |
| 463.130 112.0 H - - PK 246 1.0 RB = VB = 1MHz 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz and Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 18.5 , AP = 16 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 |
| 461.190 103.3 V - - AVG 213 1.0 RB = 1MHz, VB = 10Hz 461.190 106.2 V - - PK 213 1.0 RB = 1MHz, VB = 10Hz nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 18.5 , AP = 19 Measurements below for reference only Measurements below for reference only 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 |
| 461.190 106.2 V - - PK 213 1.0 RB = VB = 1MHz nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only PK 244 1.0 GC = 18.5 , AP = 16 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| nd Edge Signal Field Strength equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only < |
| equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only AVG 245 1.0 GC = 18.5 , AP = 16 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters meters 183.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 183.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only AP = 16 183.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 183.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 183.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only Measurements Delow for reference only MC 244 1.0 GC = 18.5 , AP = 16 483.520 60.6 H 74.0 -13.4 PK 247 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| 483.530 63.4 H 74.0 -10.6 PK 245 1.0 GC = 22.5 , AP = 19 483.650 53.0 H 54.0 -1.0 AVG 245 1.0 GC = 22.5 , AP = 19 Measurements below for reference only 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
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| 483.520 60.6 H 74.0 -13.4 PK 244 1.0 GC = 18.5 , AP = 16 483.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| 183.550 47.3 H 54.0 -6.7 AVG 247 1.0 GC = 18.5 , AP = 16 183.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
| 483.650 61.4 H 74.0 -12.6 PK 245 1.0 GC = 20.5 , AP = 17 |
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Elliott EMC Test Data Job Number: J70979 Client: Intel T-Log Number: T71040 Model: 512an MMW Account Manager: Briggs / Eriksen Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions, 1 - 26GHz 802.11b Mode Test Specific Details Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above. Config. Used: 1 Date of Test: 03/18/2008 Test Engineer: Ben Jing Config Change: None Test Location: FT Chamber # 4 Host Unit Voltage 120V/60Hz General Test Configuration The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane. For radiated emissions testing the measurement antenna was located 3 meters from the EUT. Ambient Conditions: Temperature: 20 °C Rel. Humidity: 39 % Summary of Results Power Measured Run # Mode Channel Test Performed Limit Result / Margin Setting Power FCC Part 15.209 / 802.11b Radiated Emissions. 53.6dBuV/m @ 1 (2412) GC = 20.5 AP = 18.8 1a Chain A 1 - 26 GHz 15.247(c) 3000.3MHz (-24.5dB) 802.11b Radiated Emissions, FCC Part 15.209 / 53.2dBµV/m @ 6 (2437) GC = 18.5 AP = 16.7 1b Chain A 1 - 26 GHz 6498.8MHz (-20.5dB)

Radiated Emissions.

1 - 26 GHz

Modifications Made During Testing

No modifications were made to the EUT during testing

11 (2462)

Deviations From The Standard

802.11b

Chain A

1c

No deviations were made from the requirements of the standard.

GC = 22.5

AP = 19.6

53.0dBµV/m @

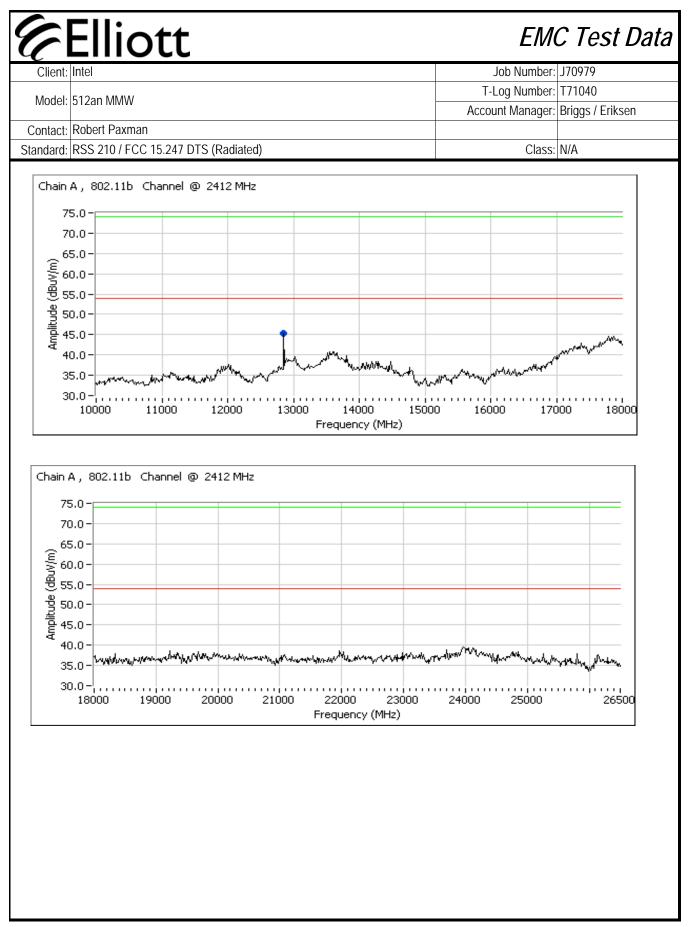
3000.4MHz (-23.8dB)

15.247(c)

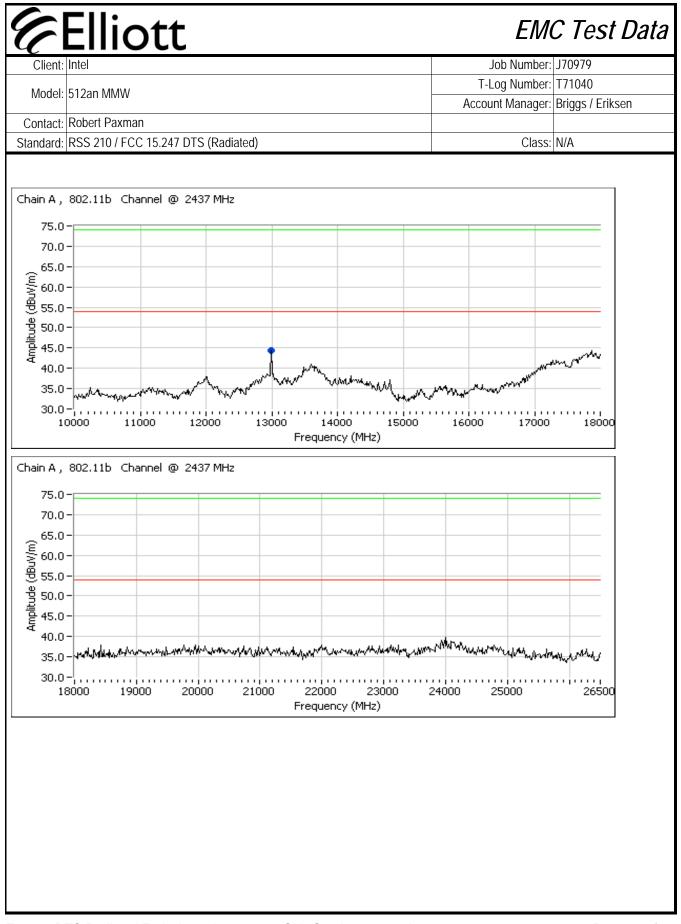
FCC Part 15.209 /

15.247(c)

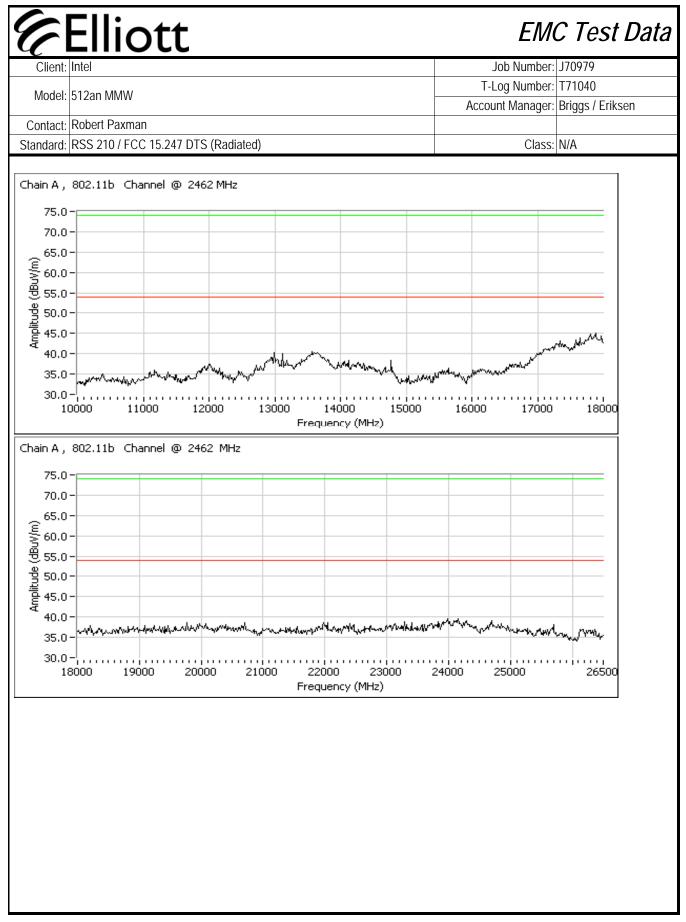
| Intel | | | | | | | | 170076 |
|--------------------------------------|---|---|---|---|---|--|--|---|
| Intel | | | | | | | Job Number: | |
| 512an MMW | | | | | | T-Log Number | | |
| | | | | | | | unt Manager: | Briggs / Eriksen |
| Robert Paxm | an | | | | | | | |
| RSS 210 / FC | C 15.247 E | OTS (Radiate | d) | | | | Class: | N/A |
| diated Spuri | ous Emissi | ons, 1000 - | 26000 MHz. | Operating M | lode: 802.11 | b Chain A | | |
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| al Signal Fiel | d Strength | | | es measured | in 1 MHz, ar | nd peak valu | e measured i | n 100kHz |
| Level | Pol | | | Detector | Azimuth | Height | Comments | |
| dBµV/m | | Limit | Margin | v | <u> </u> | meters | | |
| | | - | - | | | | | |
| 108.1 | Н | - | - | Pk | 245 | 1.0 | RB = VB = 2 | I00kHz |
| undomontal or | mission lour | 1@ 2m in 1(| | 100.1 | | | | |
| | | | | | | Limitic 200 | | wor massuramant) |
| | 1112210112 00 | | וטנכט אפוועט. | /0.1 | ubµv/III | | אסר (סואוו 100 | vei measurement) |
| | Pol | 15,209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| | | | | | | × × | Johnnents | |
| | | | Ň | <u>v</u> | <u> </u> | | Note 2 | |
| | V | 78.1 | -27.5 | PK | 163 | 1.0 | Note 2 | |
| 52.7 | V | 78.1 | -25.4 | PK | 167 | 1.0 | Note 2 | |
| | V | 78.1 | | PK | 191 | 1.0 | Note 2 | |
| A, 802.11b | Channel | @ 2412 M⊦ | łz | | | | | |
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| 70.0- | | | | | | | | |
| 70.0- | | • | | | | | | |
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| 70.0 - 50.0 - 50.0 - 40.0 - | NMM | M | Julterara | and the second | | when you and the first of the | www.when | hand the second the |
| 70.0 - 50.0 - 40.0 - 30.0 - | | <u>m</u> | | | | ····· | | lawprote-no. |
| 70.0 - 50.0 - 50.0 - 40.0 - | | /~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | 4000 | 5000 Frequency | 6000 | | | ww ^{wom} www.ww |
| | diated Spurie ow Channel of al Signal Fiel Level dBµV/m 101.6 108.1 Jundamental er Limit for er missions Level dBµV/m 53.6 50.6 52.7 49.0 For emissions level of the fu Signal is not i | diated Spurious Emissi ow Channel @ 2412 MH al Signal Field Strength Level Pol dBµV/m v/h 101.6 V 108.1 H Jundamental emission leve Limit for emissions ou missions Level Pol dBµV/m v/h 53.6 V 50.6 V 52.7 V 49.0 V For emissions in restricted level of the fundamental Signal is not in a restricted | diated Spurious Emissions, 1000 - ow Channel @ 2412 MHz al Signal Field Strength: Peak and a Level Pol 15.209 dBµV/m v/h Limit 101.6 V - 108.1 H - undamental emission level @ 3m in 10 Limit for emissions outside of restr missions Level Pol 15.209 dBµV/m v/h Limit 53.6 V 78.1 50.6 V 78.1 52.7 V 78.1 49.0 V 78.1 For emissions in restricted bands, the level of the fundamental and measure Signal is not in a restricted band. | ow Channel @ 2412 MHzal Signal Field Strength: Peak and average valuLevelPol $15.209 / 15.247$ $dB\mu V/m$ v/hLimitMargin 101.6 V 108.1 Hundamental emission level @ 3m in 100kHz RBW:Limit for emissions outside of restricted bands:missionsLevelPol $15.209 / 15.247$ $dB\mu V/m$ v/hLimitMargin 53.6 V 78.1 -27.5 52.7 V 78.1 -25.4 49.0 V 78.1 -25.4 49.0 V 78.1 -29.1 | diated Spurious Emissions, 1000 - 26000 MHz. Operating M ow Channel @ 2412 MHz al Signal Field Strength: Peak and average values measured Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 101.6 V - Pk 108.1 H - Pk 108.1 H - Pk undamental emission level @ 3m in 100kHz RBW: 108.1 Limit for emissions outside of restricted bands: 78.1 missions Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 53.6 V 78.1 -24.5 PK 50.6 V 78.1 -27.5 PK 52.7 V 78.1 -25.4 PK 49.0 V 78.1 -29.1 PK | diated Spurious Emissions, 1000 - 26000 MHz. Operating Mode: 802.11 ow Channel @ 2412 MHz al Signal Field Strength: Peak and average values measured in 1 MHz, ar Level Pol 15.209 / 15.247 Detector Azimuth dBµV/m v/h Limit Margin Pk/QP/Avg degrees 101.6 V Pk 88 108.1 H - Pk 245 undamental emission level @ 3m in 100kHz RBW: 108.1 dBµV/m Limit for emissions outside of restricted bands: 78.1 dBµV/m missions Level Pol 15.209 / 15.247 Detector Azimuth dBµV/m v/h Limit Margin Pk/QP/Avg degrees 53.6 V 78.1 -24.5 PK 279 50.6 V 78.1 -27.5 PK 163 52.7 V 78.1 -25.4 PK 167 49.0 V 78.1 -29.1 PK 191 For emissions in restricted bands, the limit of 15.209 was used. For all othe level of the fundamental and measured in 100kHz. Signal is not in a restricted band. | diated Spurious Emissions, 1000 - 26000 MHz. Operating Mode: 802.11b Chain A ow Channel @ 2412 MHz al Signal Field Strength: Peak and average values measured in 1 MHz, and peak valu Level Pol 15.209 / 15.247 Detector Azimuth Height dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 101.6 V Pk 88 1.0 108.1 H - Pk 245 1.0 Indamental emission level @ 3m in 100kHz RBW: 108.1 dBµV/m Limit for emissions outside of restricted bands: 78.1 dBµV/m Limit for emissions outside of restricted bands: 78.1 dBµV/m Level Pol 15.209 / 15.247 Detector Azimuth Height dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 53.6 V 78.1 -24.5 PK 279 1.0 50.6 V 78.1 -27.5 PK 163 1.0 52.7 V 78.1 -25.4 PK 167 1.0 49.0 V 78.1 -29.1 PK 191 1.0 For emissions in restricted bands, the limit of 15.209 was used. For all other emissions level of the fundamental and measured in 100kHz. | diated Spurious Emissions, 1000 - 26000 MHz. Operating Mode: 802.11b Chain A ow Channel @ 2412 MHz al Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured i Level Pol 15.209 / 15.247 Detector Azimuth Height Comments dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 101.6 V - Pk 88 1.0 RB = VB = 1 108.1 H - Pk 245 1.0 RB = VB = 1 108.1 H - Pk 245 1.0 RB = VB = 1 undamental emission level @ 3m in 100kHz RBW: 108.1 dBμV/m Limit for emissions outside of restricted bands: 78.1 dBμV/m Limit is -30dBc (UNII pow missions Level Pol 15.209 / 15.247 Detector Azimuth Height Comments dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 53.6 V 78.1 -24.5 PK 279 1.0 Note 2 50.6 V 78.1 -27.5 PK 163 1.0 Note 2 52.7 V 78.1 -25.4 PK 167 1.0 Note 2 52.7 V 78.1 -25.4 PK 167 1.0 Note 2 49.0 V 78.1 -29.1 PK 191 1.0 Note 2 For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was level of the fundamental and measured in 100kHz. |



| Model: 512an MMW T-Log Number: T71040 Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Class: N/A undamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Frequency Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dByU/m v/h Limit Margin PV/DP/Avg degrees meters 2436.530 101.4 V - - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 103.7 dByLV/m Limit is -30dBc (UNII power measuremen Spirulus Firequency Level Pol 15.209 / 15.247 | Client | | | | | | | | Job Number: | J70979 |
|--|---|--|--------------------------------|-----------------------------------|------------------------|-----------|---------------|---|-----------------|------------------|
| Account Manager Briggs / Eriksen Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Run #1b: Center Channel @ 2437 MHz Class: N/A undamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m Vh Limit Margin Pk/OP/Avg degrees meters 2436.530 101.4 V - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 254 1.0 RB = VB = 100kHz Fundamental emissions outside of restricted bands: 73.7 dBµV/m Limit is -30dBc (UNII power measuremen Standard Biz/Vm Vh Limit Margin PK/OP/Avg degrees meters 3000.350 52.9 V 73.7 -20.5 PK 126 1.0 Note 2 12997.330 46.8 V 73.7 | Madal | | | | | | | T- | Log Number: | T71040 |
| Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Run #1b: Center Channel @ 2437 MHz Indemntal Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Frequency Level Poil 15.209 / 15.247 Detector Azimuth Height Comments 2436.530 101.4 V - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 234 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 234 1.0 RB = VB = 100kHz Classisions Classisions outside of restricted bands: 73.7 dBµV/m Limit is -30dBc (UNII power measuremen spurious Emissions Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m Vh Limit Margin Pk/OP/Avg degrees meters 3000 300 | woder | 512an iviivivv | | | | | | Accou | unt Manager: | Briggs / Eriksen |
| Fund #1b: Center Channel @ 2437 MHz undamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments 2436.530 101.4 V - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 234 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 254 1.0 RB = VB = 100kHz Fundamental emissions level @ 3m in 100kHz RBW: 103.7 dBµV/m Limit for emissions nutristice bands: To 2.7 dBµV/m Limit Margin Pk/OP/Avg degrees meters 3000.350 <td>Contact:</td> <td>Robert Paxm</td> <td>an</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | Contact: | Robert Paxm | an | | | | | | | |
| undamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Comments MHz Adiption < | Standard: | RSS 210 / F0 | CC 15.247 D | TS (Radiate | ed) | | | | Class: | N/A |
| Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB _L V/m v/h Limit Margin PK/OP/Avg degrees meters 2436.530 101.4 V - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 Role value Limit value Itimit value Limit value Limit value Role value | un #1b:(| Center Chann | el @ 2437 N | ЛНz | | | | | | |
| MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 2436.530 101.4 V - - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz Fundamental emission level @ 3m in 100kHz RBW: 103.7 dBµV/m Limit for emissions outside of restricted bands: 73.7 dBµV/m Limit is -30dBc (UNII power measuremen purious Emissions reguency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 12997.330 46.8 V 73.7 -20.9 PK 205 1.0 Note 2 12997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note | | | | | | | | | | n 100kHz |
| 2436.530 101.4 V - - Pk 230 1.0 RB = VB = 100kHz 2437.520 103.7 H - Pk 254 1.0 RB = VB = 100kHz Eundamental emission level @ 3m in 100kHz RBW: 103.7 dBµV/m Limit for emissions outside of restricted bands. 73.7 dBµV/m Limit is -30dBc (UNII power measuremen purious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/OP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 ote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. - - - - - - | | | | | | | | <u> </u> | Comments | |
| 2437.520 103.7 H - - Pk 254 1.0 RB = VB = 100kHz Fundamental emission level @ 3m in 100kHz RBW: 103.7 dB ₁ V/m Limit for emissions purious Emissions Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/OP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 G498.790 53.2 V 73.7 -20.5 PK 126 1.0 Note 2 If or emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. Image: Signal is not in a restricted band. | | | | Limit | Margin | <u>u</u> | | | | 00111- |
| Fundamental emission level @ 3m in 100kHz RBW: 103.7 dBµV/m Limit for emissions outside of restricted bands: 73.7 dBµV/m Limit is -30dBc (UNII power measuremen purious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin PK/QP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 27.6 1.0 Note 2 6498.790 53.2 V 73.7 -20.6 PK 205 1.0 Note 2 12997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 10te 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below 10te 2: Signal is not in a restricted band. Image: General and measured in 100kHz. Image: General and measured and measured in 100kHz. Image: General and measured and measur | | | | - | - | | | | | |
| Limit for emissions outside of restricted bands: 73.7 dBµV/m Limit is -30dBc (UNII power measuremen purious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/OP/Avg degrees meters 300.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -20.5 PK 126 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 2011: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. ctait set 30dB below cte 2: Signal is not in a restricted band. Chain A , 802.11b Channel @ 2437 MHz | 2437.320 | 103.7 | Π | - | - | ΓK | 204 | 1.0 | ND = ND = | UUNIIZ |
| Limit for emissions outside of restricted bands: 73.7 (BµV/m Limit is -30dBc (UNII power measuremen purious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -20.5 PK 126 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 201 For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. Signal is not in a restricted band. Signal is not in a restricted band. Chain A , 802.11b Channel @ 2437 MHz | F | undamental e | mission level | @ 3m in 1(| 00kHz RBW [.] | 103.7 | dBuV/m | | | |
| Durious Emissions Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµtV/m v/h Limit Margin Pk/OP/Avg degrees meters 900.030 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -20.5 PK 126 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 201 Evel of the fundamental and measured in 100kHz. 50.0 60.0 - - - - - - - - - - - | i | | | | | | | Limit is -300 | dBc (UNII nov | ver measurement |
| requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/OP/Avg degrees meters 0000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -20.9 PK 205 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 Dete 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. Dete 2: Signal is not in a restricted band. Chain A , 802.11b Channel @ 2437 MHz 000 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 | ourious E | | | | | | | | . (= por | |
| MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3000.350 52.9 V 73.7 -20.8 PK 276 1.0 Note 2 2997.330 46.8 V 73.7 -20.5 PK 126 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 Dete 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below level of the fundamental and measured in 100kHz. Dete 1: Signal is not in a restricted band. Chain A , 802.11b Channel @ 2437 MHz 60.0 | | 1 | Pol | 15.209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| 3498.790 53.2 V 73.7 -20.5 PK 126 1.0 Note 2 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 ote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below ote 2: Signal is not in a restricted band. | | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | ě. | | |
| 2997.330 46.8 V 73.7 -26.9 PK 205 1.0 Note 2 ote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below ote 2: Signal is not in a restricted band. | 3000.350 | 52.9 | | 73.7 | -20.8 | PK | 276 | 1.0 | | |
| Inter 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below Intervel of the fundamental and measured in 100kHz. Intervel | | | | 73.7 | | | | 1.0 | | |
| Ote 1: level of the fundamental and measured in 100kHz. ote 2: Signal is not in a restricted band. | 2997.330 | 46.8 | V | 73.7 | -26.9 | PK | 205 | 1.0 | Note 2 | |
| 70.0- 60.0- 50.0- 40.0- 30.0- 20.0- 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | | level of the fu | undamental a | and measure | | | For all othe | r emissions | , the limit was | s set 30dB below |
| (W 60.0 - 60.0 - 6000 7000 8000 9000 10000 | Chain A , | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | r emissions | , the limit was | s set 30dB below |
| 50.0 - 40.0 - 30.0 - 20.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | lote 2: Chain A , | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | r emissions | , the limit was | s set 30dB below |
| 50.0 - 40.0 - 30.0 - 20.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | lote 2: Chain A , 80.0 | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 50.0 40.0 30.0 20.0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | ote 2: Chain A , 80.0 70.0 | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 30.0 - 20.0 - 2000 3000 4000 5000 6000 7000 8000 9000 10000 | Chain A , 80.0 70.0 | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 30.0 - 20.0 - 2000 3000 4000 5000 6000 7000 8000 9000 10000 | Chain A , 80.0 70.0 | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 30.0 - 30.0 - 3000 3000 4000 5000 6000 7000 8000 9000 10000 | Chain A , 80.0 70.0 | level of the fu Signal is not 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 20.0 - | Chain A , 80.0 70.0 | level of the fu Signal is not | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | Chain A , 80.0 70.0 | level of the fu Signal is not | indamental a in a restricte | and measure d band. | | | For all othe | | , the limit was | s set 30dB below |
| 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 | Chain A , 80.0 70.0 (W) 60.0 appildwy 40.0 | 802.11b Ch | indamental a in a restricte | and measure d band. | | | For all othe | | , the limit was | s set 30dB below |
| | Chain A , 80.0 70.0 (W/ngp) 90,0 10,0 20,0 30.0 | level of the fu Signal is not | indamental a in a restricte | and measure d band. | | | For all othe | er emissions | , the limit was | s set 30dB below |
| | Chain A , 80.0 70.0 (W/ngp) 50.0 950.0 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | | lymbry ma | n norther the | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yokayaya |
| | Chain A , Chain A , 80.0 70.0 (@/\mu) 60.0 50.0 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | ed in 100kHz | | o' ' 7000 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yokayaya |
| | Chain A , 80.0 70.0 (W/ngp) 50.0 100 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | ed in 100kHz | | o' ' 7000 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yakananan |
| | Chain A , 80.0 70.0 (W/ngp) 50.0 950.0 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | ed in 100kHz | | o' ' 7000 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yokayaya |
| | Chain A , 80.0 70.0 (W/ngp) 50.0 9 50.0 10 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | ed in 100kHz | | o' ' 7000 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yokayaya |
| | Chain A , 80.0 70.0 (W/ngp) 50.0 9 50.0 10 40.0 30.0 20.0 | level of the fu Signal is not | | and measure d band. 437 MHz | ed in 100kHz | | o' ' 7000 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | Yokayaya |



| Chern | Intel | ott | | | | | | Job Number: | J70979 |
|---|--------------------------------|----------------|------------------|--------------------------|-------------|-------------------------|--|--------------------|--|
| Model | 512an MMW | | | | | | T- | Log Number: | T71040 |
| | | | | | | | Ассо | unt Manager: | Briggs / Eriksen |
| | Robert Paxn | | | | | | | | |
| | RSS 210 / F | | | d) | | | | Class: | N/A |
| | ligh Channel tal Signal Fig | | | vorado valu | as maasurad | in 1 MHz a | nd noak valu | ie measured i | n 100kHz |
| requency | | Pol | 15.209/ | / 15.247 | Detector | Azimuth | Height | Comments | IT TOOKITZ |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 2460.980 | 101.2 | V | - | - | Pk | 93 | 1.0 | RB = VB = 1 | |
| 462.510 | 106.8 | Н | - | - | Pk | 237 | 1.0 | RB = VB = 1 | 100kHz |
| | undomontal | mission |) @ ?m in 10 | | 104.0 | | 1 | | |
| F | undamental e | | utside of restri | | | <u>dBµV/m</u> dBµV/m | Limitic 20 | dRc (LINII nor | ver measuremer |
| urious F | missions | 11115510115 00 | | icieu Dahus. | /0.0 | αβμν/m | | ивс (отип ром | |
| requency | Level | Pol | 15.209/ | / 15.247 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 3000.380 | 53.0 | V | 76.8 | -23.8 | PK | 280 | 1.0 | Note 2 | |
| 5000.720 | 51.2 | V | 76.8 | -25.6 | PK | 272 | 1.3 | Note 2 | |
| 6565.300 | 50.8 | V | 76.8 | -26.0 | PK | 173 | 1.0 | Note 2 | |
| Chain A , | 802.11b C | hannel @ ; | 2462 MHz | | | | | | |
| | I - [| | | | | | | | |
| 80.0 | | | | | | | | | |
| | | | | | | | | | |
| 70.0 | - | | | | | | | | |
| 70.0 | | | | | | | | | |
| 70.0 | - | | | | | | | | |
| 70.0 | - | | • | | | • | | | |
| 70.0 | - | | • | | | ţ | | providence and the | vous fit |
| 70.0 (@) 60.0 PP | - | | . Hanger at | mmm | L. M. M. | - Juna | Matthe | are plan sources | www.he |
| 70.0 | | | Jutterstration | nnun | L. M. M. | - June of the second | North Marting | neen plann son and | munhe |
| 70.0 (W) 60.0 (BPA) 50.0 50.0 40.0 30.0 | - - - - - | | I. Marshada | nnmund | l m | | Mostlattan | and the second | un for |
| 70.0 (@) ngp 50.0 50.0 40.0 30.0 20.0 | - - - - - | | 100 40 | ~~~~~) | | | , , , , , , , , , , , , , , , , , , , | | |
| 70.0 (m/\nge 50.0 50.0 40.0 30.0 20.0 | - - - - - | | , | مریسیدین 00 50 Fre | 00 600 | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | ~~~~h+ ' ' 10000 |
| 70.0 (Jan 60.0 (Jan 60.0 (| - - - - - | |) | | | | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |
| 70.0 (Jan 60.0 (Jan 60.0 (| - - - - - | | , | | | | | | ~~~~/~ |
| 70.0 (W/Angp) 9pn110 40.0 30.0 20.0 | - - - - - | | , | | | | | | |
| 70.0 (@) ngp 50.0 50.0 40.0 30.0 20.0 | - - - - - | |)00 ' ' 40 | | | | | | ····· |



Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71040 Contact: Robert Paxman Account Manager: Briggs / Eriksen Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A

RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions - Band Edge 802.11g Mode

Test Specific Details

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: 3/14/2008 Test Engineer: Ben Jing Test Location: FT Chamber # 4 Config. Used: 1 Config Change: None Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane.

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

| Ambient Conditions: | Temperature: | 19 °C |
|---------------------|----------------|-------|
| | Rel. Humidity: | 40 % |

Summary of Results

| Run # | Mode | Channel | Power Setting | Measured Power | Test Performed | Limit | Result / Margin |
|-------|--------------------|---------------|------------------|-------------------|--------------------------------------|---------------------------------|--------------------------------------|
| 1a | 802.11g Chain A | 1 2412MHz | GC = 20 | 14.5 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 52.5 dBuV/m @ 2389.9 MHz (-1.5dB) |
| 1b | 802.11g Chain A | 11 2462MHz | GC = 20.5 | 14 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 70.2 dBuV/m @ 2483.6 MHz (-3.8dB) |

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

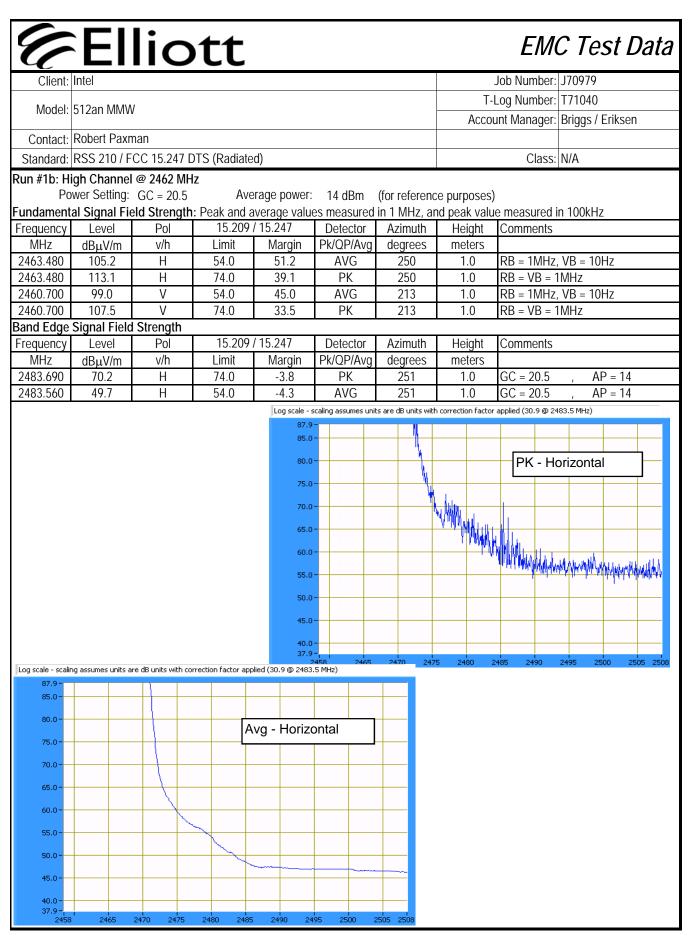
No deviations were made from the requirements of the standard.

Elliott FMC Test Data Job Number: J70979 Client: Intel T-Log Number: T71040 Model: 512an MMW Account Manager: Briggs / Eriksen Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Run #1: Radiated Spurious Emissions, Band Edges. Operating Mode: 802.11g - Chain A Run #1a: Low Channel @ 2412 MHz Power Setting: GC = 20 Average power: 14.5 dBm (for reference purposes) Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz Frequency 15.209 / 15.247 Level Pol Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 2413.160 105.4 Н 54.0 51.4 AVG 249 1.0 RB = 1MHz, VB = 10Hz 74.0 39.8 ΡK 249 1.0 RB = VB = 1MHz2413.160 113.8 Н 2410.980 98.8 V 54.0 44.8 AVG 157 1.0 RB = 1MHz, VB = 10Hz 2410.980 106.9 V 74.0 32.9 PΚ 157 1.0 RB = VB = 1MHz Band Edge Signal Field Strength 15.209 / 15.247 Detector Frequency Level Pol Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Ava degrees meters 2389.980 72.0 Н 74.0 -2.0 PΚ 248 1.0 GC = 20.0AP = 14.52389.950 54.0 AVG 52.5 Н -1.5 248 1.0 GC = 20.0AP = 14.5Log scale - scaling assumes units are dB units with correction factor applied (30.6 @ 2370.0 MHz) 87.6 85.0 80.0 PK - Horizontal 75.0 70.0 65.0 60.0 55.0 Ward Marian A where the and a second second and a second second and a second second second second second s 50.0 45.0 40.0 37.6-Log scale - scaling assumes units are dB units with correction factor applied (3 2330 2335 2340 2345 2350 2355 2360 2365 2370 2375 2380 2385 87.6 85.0 Avg - Horizontal 80.0 75.0 70.0 65.0 60.0 55.0 50.0

2360 2365 2370 2375 2380 2385 2390 2395 2400 2405 2410

45.0 40.0 37.6

2330 2335 2340 2345 2350 2355



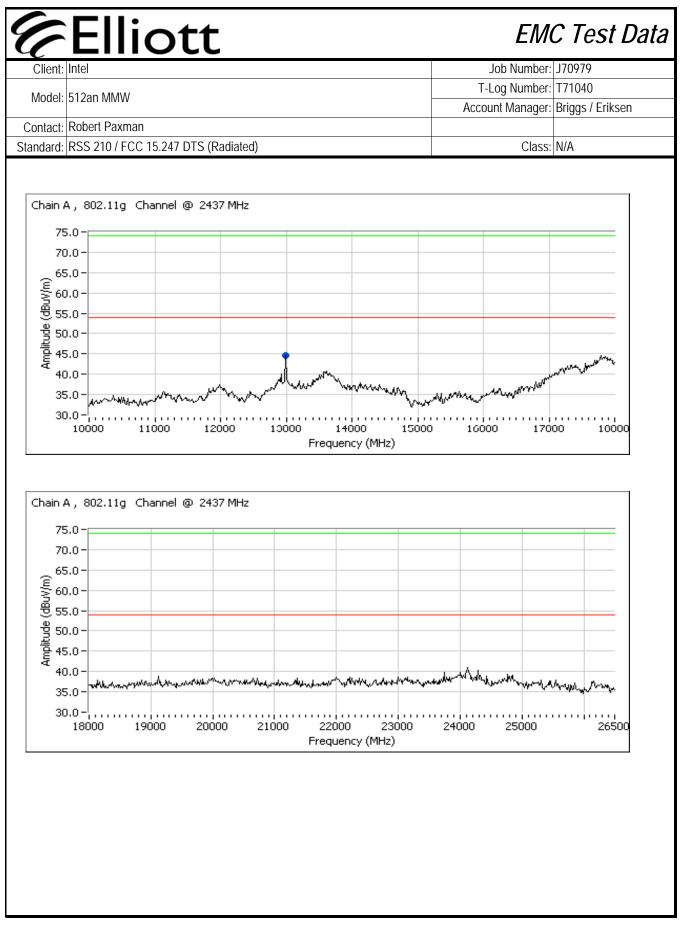
| Elliot | t | EM | C Test I |
|--|---|--|-------------------|
| Client: Intel | | Job Number: | : J70979 |
| Model: 512an MMW | | T-Log Number | : T71040 |
| | | Account Manager: | : Briggs / Erikse |
| Contact: Robert Paxman | | | |
| Standard: RSS 210 / FCC 15.247 D | S (Radiated) | Class | : N/A |
| est Specific Details | of this tast special is to perform | final qualification tacting of the CLIT with | respect to the |
| Objective: The objective specification | of this test session is to perform f isted above. | final qualification testing of the EUT with | respect to the |
| Date of Test: 03/18/2008 | | Config. Used: 1 | |
| Test Engineer: Ben Jing | | Config Change: None | |
| Test Location: FT Chamber | # 4 Ho | ost Unit Voltage 120V/60Hz | |
| | | | |
| Seneral Test Configuration | | or radiated sourious omissions testing | All romata auna |
| General Test Configuration The EUT and all local support equipme equipment was located approximately | | O connections running on top of the grou | |
| he EUT and all local support equipme | 30 meters from the EUT with all I/ | O connections running on top of the grou | |
| he EUT and all local support equipme quipment was located approximately | 30 meters from the EUT with all I/ Isurement antenna was located 3 | O connections running on top of the grou | |

| Run # | Mode | Channel | Power Setting | Measured Power | Test Performed | Limit | Result / Margin |
|-------|--------------------|----------|------------------|-------------------|-----------------------------------|---------------------------------|-------------------------------------|
| 1b | 802.11g Chain A | 6 (2437) | GC = 23 | AP = 16.7 | Radiated Emissions, 1 - 26 GHz | FCC Part 15.209 / 15.247(c) | 54.5dBµV/m @ 6498.7MHz (-18.2dB) |

Modifications Made During Testing No modifications were made to the EUT during testing

Deviations From The Standard

Elliott FMC Test Data Job Number: J70979 Client: Intel T-Log Number: T71040 Model: 512an MMW Account Manager: Briggs / Eriksen Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A Run #1: Radiated Spurious Emissions, 1000 - 26000 MHz. Operating Mode: 802.11g Chain A Run #1a and 1c (Low- and high-channel) were not performed, 802.11n was worst case based on center channel measurements Run #1b: Center Channel @ 2437 MHz Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz 15.209 / 15.247 Detector Azimuth Height Frequency Level Pol Comments Pk/QP/Avg MHz dBµV/m v/h Limit Margin degrees meters 2435.740 RB = VB = 100 kHz99.3 V Pk 123 1.0 --2438.260 102.7 Η Pk 250 RB = VB = 100 kHz1.0 Fundamental emission level @ 3m in 100kHz RBW: 102.7 dBµV/m Limit for emissions outside of restricted bands 72.7 dBµV/m Limit is -30dBc (UNII power measurement) Spurious Emissions Pol 15.209 / 15.247 Frequency Level Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3000.370 53.3 V 72.7 -19.4 PΚ 280 1.0 Note 2 6000.810 50.3 V 72.7 -22.4 ΡK 162 1.0 Note 2 v 72.7 ΡK 6498.650 54.5 -18.2 346 1.3 Note 2 12997.360 48.0 V 72.7 -24.7 ΡK 188 1.0 Note 2 For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the Note 1: level of the fundamental and measured in 100kHz. Note 2: Signal is in a restricted band. Chain A, 802.11g Channel @ 2437 MHz 80.0 70.0 Amplitude (dBuV/m) 60.0 50.0 40.0 30.0 20.0 9000 10000 1000 2000 3000 4000 5000 6000 7000 8000 Frequency (MHz)



| Elliott | E | MC Test D |
|---|------------------------|------------------|
| Client: Intel | Job Number: | J70979 |
| Model: 512an MMW | T-Log Number: | T71831 |
| | Account Manager: | Briggs / Eriksen |
| Contact: Robert Paxman | 01 | - |
| nissions Standard(s): RSS 210 / FCC 15.247 DTS (Radiated) nmunity Standard(s): - | Class: Environment: | |
| | | |
| | | |
| EMC Test Data - DTS Radi Universe Technology PI | | ons |
| For The | | |
| Intel | | |
| Model | | |
| 512an MMW | | |
| Date of Last Test: 6/10/20 | 008 | |
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EMC Test Data

| Client | Intel | Job Number: | J70979 |
|----------|-------------------------------------|------------------|------------------|
| Madal | 512an MMW | T-Log Number: | T71831 |
| wouer. | | Account Manager: | Briggs / Eriksen |
| Contact: | Robert Paxman | | |
| Standard | RSS 210 / FCC 15.247 DTS (Radiated) | Class: | DTS |

Receiver Spurious Emissions, 1 - 18 GHz

Test Specific Details

Elliott

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Config. Used: 1 Config Change: None Host Unit Voltage 120V/60Hz

General Test Configuration

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

The test distance and extrapolation factor (if applicable) are detailed under each run description.

Note, **preliminary** testing indicates that the emissions were maximized by orientation of the EUT and elevation of the measurement antenna. **Maximized** testing indicated that the emissions were maximized by orientation of the EUT, elevation of the measurement antenna, <u>and</u> manipulation of the EUT's interface cables.

| Ambient Conditions: | Temperature: | 23 °C |
|---------------------|----------------|-------|
| | Rel. Humidity: | 36 % |

Summary of Results

| Run # | Test Performed | Limit | Result | Margin |
|-----------------------------------|--|---------|--------|-------------------------------------|
| 1a - RX chain A @ 2437 MHz | RE, 1000 - 18000 MHz, Maximized Emissions | RSS GEN | Pass | 43.7dBµV/m @ 6498.7MHz (-10.3dB) |
| 2a - RX chain B @ 2437 MHz | RE, 1000 - 18000 MHz, Maximized Emissions | RSS GEN | Pass | 47.8dBµV/m @ 6498.7MHz (-6.2dB) |
| 3a - RX chain A + B @ 2437 MHz | RE, 1000 - 18000 MHz, Maximized Emissions | RSS GEN | Pass | 45.9dBµV/m @ 6498.6MHz (-8.1dB) |

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

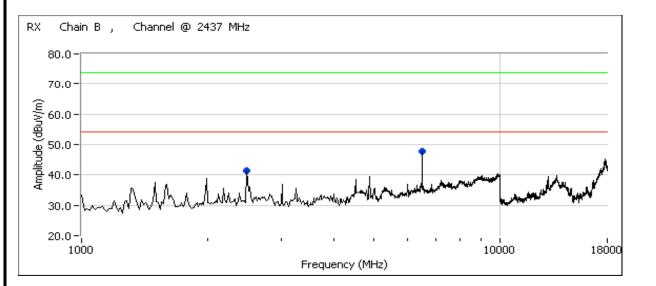
| 7 | <u>Ellic</u> | <u>ott</u> | | | | | | | C Test Dat |
|---|--|---------------------|---------------------|---------------------------|--|--|-------------------|---------------|--------------------|
| Client: | Intel | | | Job Number: | | | | | |
| Model: | 512an MMW | / | | | | - | | Log Number: | |
| | | | | | | | Accou | unt Manager: | Briggs / Eriksen |
| | Robert Paxr | | | | | | | | |
| | RSS 210 / F | | DTS (Radia | ited) | | | | Class: | DTS |
| Te: Te | Date of Test: st Engineer: ost Location: Above 1 GH | Ben Jing FT Cham | | erage measu | rement. In a | ddition, the p | eak value o | f any emissio | n above 1 GHz, can |
| | exceed the a | | | | | | | | |
| | | 0 | | IHz, Receiv Chain A ac | er single Cha tive | ain A active | | | |
| quency | Level | Pol | | GEN | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 91.920 | 30.3 | V V | 54.0 | -23.7 | AVG | 88 99 | <u>1.0</u> 1.6 | | |
| 90.070 9 8.670 | 28.3 43.7 | V | 54.0 54.0 | -25.7 - 10.3 | AVG AVG | 201 | 1.6 | | |
| 91.920 | 43.7 48.6 | V | 74.0 | -25.4 | PK | 88 | 1.3 | | |
| 90.070 | 46.3 | V | 74.0 | -27.7 | PK | 99 | 1.6 | | |
| 98.670 | 47.4 | V | 74.0 | -26.6 | PK | 201 | 1.3 | | |
| 80. 70. (w/\ngp 50. 50. 40. 30. | 0 - 0 - 0 - | Channel | © 2437 M | Hz | here and the state of the state | nerthe and a second | | · 10000 | 18000 |
| | | | | | Frequency | (MHz) | | | |

Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71831 Contact: Robert Paxman Briggs / Eriksen Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: DTS

Run #2: Maximized readings, 1000 - 18000 MHz, Receiver single Chain B active

| Run # 2a : | Receiver 1 | funed to 24 | 37 MHz | Chain I | B active | |
|------------|------------|-------------|--------|---------|----------|--|
| | | | | | | |

| Frequency | Level | Pol | RSS | GEN | Detector | Azimuth | Height | Comments |
|-----------|--------|-----|-------|--------|-----------|---------|--------|----------|
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | |
| 2490.160 | 30.1 | V | 54.0 | -23.9 | AVG | 77 | 1.6 | |
| 6498.670 | 47.8 | V | 54.0 | -6.2 | AVG | 208 | 1.0 | |
| 2490.160 | 49.2 | V | 74.0 | -24.8 | PK | 77 | 1.6 | |
| 6498.670 | 50.7 | V | 74.0 | -23.3 | PK | 208 | 1.0 | |



| Client: | Intel | | | | | | | Job Number: | J70979 |
|--------------------|----------------|--------------------|----------------------|-----------------|---------------------|---------------------------|-----------------|------------------|------------------------|
| | F10. 100 | | | | | | T- | Log Number: | T71831 |
| Model: | 512an MMW | / | | | | | 0 | Briggs / Eriksen | |
| Contact: | Robert Paxn | nan | | | | | | | |
| Standard: | RSS 210 / F | CC 1 <u>5</u> .247 | DTS (Radia | ated) | | | | Class: | DTS |
| | | | | | | | | | |
| [| Date of Test: | 5/31/2008 | } | | | | | | |
| | st Engineer: | | | | | | | | |
| Te | est Location: | FT Cham | ber # 5 | | | | | | |
| | | | | | | | | | |
| Note 1: | | | | | irement. In a | ddition, the p | eak value o | f any emissio | n above 1 GHz, can not |
| | exceed the a | average lim | nt by more t | han 20 dB. | | | | | |
| | | | | | | | | | |
| Run #3: Ma | aximized rea | dings, 100 |)0 - 18000 N | IHz, Receiv | er All Chain | Active | | | |
| D # 6 | | 1 | - | | | | | | |
| | | | | | + B active | ۸ ما ام | 110:004 | Comment | |
| Frequency | Level | Pol | | GEN | Detector | Azimuth | Height | Comments | |
| MHz 1996.800 | dBµV/m 34.9 | v/h V | <u>Limit</u> 54.0 | Margin -19.1 | Pk/QP/Avg AVG | degrees 183 | meters | | |
| 2490.040 | 29.9 | H | 54.0 | -19.1 | AVG | 303 | 1.0 2.0 | | |
| 3000.060 | 39.1 | V | 54.0 | -24.1 | AVG | 261 | 1.0 | | |
| 4874.000 | 44.6 | V | 54.0 | -9.4 | AVG | 162 | 1.5 | | |
| 6000.040 | 38.8 | V | 54.0 | -15.2 | AVG | 221 | 1.0 | | |
| 6498.580 | 45.9 | v | 54.0 | -8.1 | AVG | 124 | 1.0 | | |
| 1996.800 | 45.2 | V | 74.0 | -28.8 | PK | 183 | 1.0 | | |
| 2490.040 | 48.7 | Н | 74.0 | -25.3 | PK | 303 | 2.0 | | |
| 3000.060 | 44.6 | V | 74.0 | -29.4 | PK | 261 | 1.0 | | |
| 4874.000 | 48.3 | V | 74.0 | -25.7 | PK | 162 | 1.5 | | |
| 6000.040 | 46.8 | V | 74.0 | -27.2 | PK | 221 | 1.0 | | |
| 6498.580 | 49.5 | V | 74.0 | -24.5 | PK | 124 | 1.0 | | |
| RX | Dual Cha | ain A + B | Chapp | el @ 2437 N | 1H-2 | | | | |
| 100 | | | , chann | | 11 12 | | | | |
| | 75.0 | | | | | | | | |
| | 70.0- | | | | | | | | |
| | 65.0- | | | | | | | | |
| (E) | 60.0- | | | | | | | | |
| Bu, | 55.0- | | | | | | | | |
| e 0 | 50.0- | | | | | | | | |
| Amplitude (dBuV/m) | 45.0- | | | | | • | 1 6 | | |
| | 40.0- | | • | - <u>*</u> • | • | 1 1 | n Lun | 1 CAN I | -smt - / |
| | 35.0- | . A . | 4 J | سي البيل | - tollowed the meda | all and the second second | 44 ⁴ | - hA | |
| | 30.0- | $M \mathcal{M}$ | Markantler | 1 VAIN HAMAN | | | | | |
| | 25.0- | | | | | | | | . |
| | 1000 | | | | | | | 10000 | 18000 |
| | | | | | Frequenc | y (MHz) | | | |
| | | | | | | | | | |

Elliott EMC Test Data Job Number: J70979 Client: Intel T-Log Number: T71831 Model: 512an MMW Account Manager: Briggs / Eriksen Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: N/A RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions 802.11b Mode Test Specific Details Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above. Config. Used: 1 Config Change: None Host Unit Voltage 120V/60Hz General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane.

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

| Ambient Conditions: | Temperature: | 22 °C |
|---------------------|----------------|-------|
| | Rel. Humidity: | 36 % |

Summary of Results

| Run # | Mode | Channel | Power Setting | Measured Power | Test Performed | Limit | Result / Margin |
|-------|---------|---------|------------------|-------------------|--------------------------------------|---------------------------------|------------------------------------|
| 1a | 802.11b | 1 | 21.5 | 18.8 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 46.5dBµV/m @ 2385.9MHz (-7.5dB) |
| Id | Chain A | 2412MHz | 21.5 | 10.0 UDIII | Radiated Emissions, | FCC Part 15.209 / | 46.1 dBuV/m @ |
| | | | 21.5 | | 1 - 26 GHz | 15.247(c) | 6431.9 MHz (-7.9dB) |
| 1b | 802.11b | 6 | 19.5 | 16.7 dBm | Radiated Emissions, | FCC Part 15.209 / | 47.4 dBuV/m @ 6498.6 |
| di | Chain A | 2437MHz | 17.0 | TO.7 UDIT | 1 - 26 GHz | 15.247(c) | MHz (-6.6dB) |
| | | | 23.0 | | Band Edge radiated | FCC Part 15.209 / | 46.3dBµV/m @ |
| 1c | 802.11b | 11 | 23.0 | 19.6 dBm | field strength | 15.247(c) | 2484.8MHz (-7.7dB) |
| IC. | Chain A | 2462MHz | 22.5 | (note) | Radiated Emissions, | FCC Part 15.209 / | 53.0 dBuV/m @ |
| | | | 22.5 | | 1 - 26 GHz | 15.247(c) | 7388.3 MHz (-1.0dB) |

Note: for channel 11 (2462 MHz) radiated emissions test, the power setting GC = 22.5, measured power AP = 19.2 dBm.

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

| ЧC | | iot | L | | | | | EIVIO | C Test |
|-----------------|--------------------------------|---|---------------|-------------------|------------------------|-----------------------------------|-------------------|------------------------|-----------------|
| Client: | | | | | | | | Job Number: | J70979 |
| Madal | | J | | | | | T- | Log Number: | T71831 |
| Model: | 512an MMW | V | | | | | Acco | unt Manager: | Briggs / Erikse |
| Contact: | Robert Paxr | nan | | | | | | | |
| Standard: | RSS 210 / F | CC 15.247 D | TS (Radiate | d) | | | | Class: | N/A |
| D Te | ate of Test: est Engineer: | 5/28/2008 | and 5/29/2 | • | rating Mode: | 802.11b - C | hain A | | |
| Po | ower Setting: | @ 2412 MH 21.5 eld Strength: | Ave | 0 1 | : 18.8 dBm n 100kHz | (for reference | e purposes |) | |
| requency | Level | Pol | 15.209/ | | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 2410.990 | 99.4 | V | - | - | Pk | 164 | 1.0 | | |
| 411.500 | 98.3 | Н | - | - | Pk | 236 | 1.0 | | |
| equency | Signal Field | Pol | 15.209/ | | Detector | Azimuth | Height | Comments | |
| MHz 2385.920 | dBµV/m 46 .5 | v/h H | Limit 54.0 | Margin -7.5 | Pk/QP/Avg Avg | degrees 230 | meters 1.0 | GC = 21.5 | |
| 385.990 | 45.4 | V | 54.0 | -8.6 | Avg | 169 | 1.0 | GC = 21.5 GC = 21.5 | |
| 387.150 | 58.7 | Ĥ | 74.0 | -15.3 | PK | 228 | 1.0 | GC = 21.5 | |
| 389.800 | 57.4 | V | 74.0 | -16.6 | Pk | 166 | 1.0 | GC = 21.5 | |
| 850 | cremote contro | al | | | | | | | |
| | | ble Max Hold 🔳 | Log scale - | scaling assumes u | units are dB units wit | th correction facto | r applied (30.6 @ | 2365.0 MHz) | |
| (m | anual) ontrol | RB 💮 1MHz | - 86.6 | | | | | | |
| Tune | e to Peak | VB 🕘 10Hz | 80.0 | | | | | | |
| BB | Signal Cer | nter F 💮 2365.000 | | A | Avg - Horizo | ntal | | | |
| | - | Span 🔵 90.000 | | | | | | | |
| | - | ef Lvl 🍦 56.0 | 70.0 |)- | | | | | |
| | | ATT AUTO? | 65.0 |)- | | | | | |
| CF Step | 125.00 | | 60.0 |) | | | | | ₩ |
| | Update With Ne | | 55.0 |)- | | | | | ¥ |
| | nt Settings (All | | | | | | | Ŋ | V |
| | | V 0.000010 | 50.0 |)- | | | | | |
| | | n 90.0000 | 45.0 |)- | | <u>├</u> | | -nr | |
| | _ | p 2410.000 | 40.0 |)- | | | | | <u> </u> |
| Re | ference Level 56. | 0 | 36.6 | - | | | | | |
| 110 | | | | 2320 2330 | 2340 23 | 50 2360 | 2370 238 | 30 2390 | 2400 2410 |
| | Detector SAN Sweep Time 340 | | | | | 50 2360 Tim TURN TO MAIN PR | e | 30 2390 | 2400 2410 |

Note - final measurements made using a 3MHz span - if you want to avoid measuring a signal within 1.5MHz of the highest signal in the screen above you will need to utilize "USE CURRENT" as the detector. Remember to set RB and VB for the measurment.

| Client: | EIII | | | | | | | Job Number: | J70979 |
|--|---|--|---|---|---|---|--|--|-------------------------------|
| Marial | E10 | 1 | | | | | T- | Log Number: | T71831 |
| Wodel: | 512an MMW | | | | | | | - | Briggs / Eriksen |
| Contact: | Robert Paxm | nan | | | | | | 5 | |
| | RSS 210 / F | |)TS (Radiate | d) | | | | Class: | N/A |
| Standaru. | 100 21071 | 00 10.247 1 | | u) | | | | 01033. | 11/7 |
| purious E | missions | | | | | | | | |
| Frequency | 1 1 | Pol | 15.209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 4823.910 | 43.6 | V | 54.0 | -10.4 | AVG | 165 | 1.5 | | |
| 4823.910 | 48.3 | V | 74.0 | -25.7 | PK | 165 | 1.5 | | |
| 6431.860 | 50.1 | V | 69.4 | -19.3 | PK | 120 | 1.5 | Note 2 | |
| 7238.730 | 44.7 | V | 54.0 | -9.3 | AVG | 56 | 1.5 | | |
| 7238.730 | 51.7 | V | 74.0 | -22.3 | PK | 56 | 1.5 | | |
| lote 1: lote 2: Run #1b: C | level of the f | undamental in a restricte | and measure ed band, mea | ed in 100kHz | | | er emissions | s, the limit was | s set 30dB below |
| lote 2: Run #1b: C Gundament | level of the fi Signal is not Center Chanr tal Signal Fie | undamental in a restricto nel @ 2437 eld Strength | and measure ed band, mea MHz i: Peak and a | ed in 100kHz asurement ba average valu | z. andwidth is 10 es measured | <mark>)0kHz.</mark> in 1 MHz, ar | nd peak valu | ie measured i | |
| lote 2: Run #1b: C undament Frequency | level of the fi Signal is not Center Chanr tal Signal Fie Level | undamental in a restricto nel @ 2437 eld Strength Pol | and measure ed band, mea MHz I: Peak and a 15.209 | ed in 100kHz asurement ba average valu / 15.247 | andwidth is 10 es measured Detector | DOKHZ. in 1 MHz, ar Azimuth | nd peak valu Height | | |
| lote 2: Run #1b: C undament Frequency MHz | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m | undamental in a restricton nel @ 2437 eld Strength Pol v/h | and measure ed band, mea MHz i: Peak and a | ed in 100kHz asurement ba average valu | andwidth is 10 es measured Detector Pk/QP/Avg | 00kHz. in 1 MHz, ar Azimuth degrees | nd peak valu Height meters | ie measured i Comments | in 100kHz |
| lote 2: Run #1b: C undament Frequency MHz 2437.980 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 | undamental in a restricton nel @ 2437 eld Strength Pol V/h V | and measure ed band, mea MHz I: Peak and a 15.209 | ed in 100kHz asurement ba average valu / 15.247 | andwidth is 10 es measured Detector Pk/QP/Avg Pk | 00kHz. in 1 MHz, ar Azimuth degrees 200 | nd peak valu Height meters 1.0 | ie measured i Comments RB = VB = 1 | in 100kHz 100kHz |
| lote 2: Run #1b: C undament Frequency MHz | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m | undamental in a restricton nel @ 2437 eld Strength Pol v/h | and measure ed band, mea MHz I: Peak and a 15.209 | ed in 100kHz asurement ba average valu / 15.247 | andwidth is 10 es measured Detector Pk/QP/Avg | 00kHz. in 1 MHz, ar Azimuth degrees | nd peak valu Height meters | ie measured i Comments | in 100kHz 100kHz |
| lote 2: Run #1b: C undament Frequency MHz 2437.980 2436.470 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 | undamental in a restricte nel @ 2437 eld Strength Pol V/h V H | and measure ed band, mea MHz I: Peak and a 15.209 Limit - | ed in 100kHz asurement ba average valu / 15.247 Margin - - | es measured Detector Pk/QP/Avg Pk | 00kHz. in 1 MHz, ar Azimuth degrees 200 6 | nd peak valu Height meters 1.0 | ie measured i Comments RB = VB = 1 | in 100kHz 100kHz |
| lote 2: Run #1b: C undament Frequency MHz 2437.980 2436.470 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission leve | and measure ed band, mea MHz I: Peak and a 15.209 Limit - | ed in 100kHz asurement ba average valu / 15.247 Margin - - D0kHz RBW: | es measured Detector Pk/QP/Avg Pk Pk 96.7 | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m | nd peak valu Height meters 1.0 1.0 | ie measured i Comments RB = VB = 7 RB = VB = 7 | in 100kHz 100kHz 100kHz |
| lote 2: Run #1b: C undament Frequency MHz 2437.980 2436.470 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission leve | and measure ed band, mea MHz I: Peak and a 15.209 Limit - - el @ 3m in 10 | ed in 100kHz asurement ba average valu / 15.247 Margin - - D0kHz RBW: | es measured Detector Pk/QP/Avg Pk Pk 96.7 | 00kHz. in 1 MHz, ar Azimuth degrees 200 6 | nd peak valu Height meters 1.0 1.0 | ie measured i Comments RB = VB = 7 RB = VB = 7 | in 100kHz 100kHz |
| lote 2: Run #1b: C undament Frequency MHz 2437.980 2436.470 Fi | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission leve | and measure ed band, mea MHz 1: Peak and a 15.209 Limit - - el @ 3m in 10 utside of restr | ed in 100kHz asurement ba average valu / 15.247 Margin - - D0kHz RBW: | es measured Detector Pk/QP/Avg Pk Pk 96.7 | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m | nd peak valu Height meters 1.0 1.0 | ie measured i Comments RB = VB = 7 RB = VB = 7 | in 100kHz 100kHz 100kHz |
| lote 2: un #1b: C undament Frequency MHz 2437.980 2436.470 Frequency Frequency MHz 2436.470 Frequency Frequen | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions | undamental in a restricten nel @ 2437 eld Strength Pol v/h V H emission leve emissions ou | and measure ed band, mea MHz 1: Peak and a 15.209 Limit - - el @ 3m in 10 utside of restr | ed in 100kHz asurement ba average valu / 15.247 Margin - - - D0kHz RBW: icted bands: | es measured Detector Pk/QP/Avg Pk Pk 96.7 66.7 | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m | nd peak valu Height meters 1.0 1.0 Limit is -30 | ie measured i Comments RB = VB = 1 RB = VB = 1 dBc (UNII pov | in 100kHz 100kHz 100kHz |
| lote 2: un #1b: C undament Frequency MHz 2437.980 2436.470 Frequency Frequency | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions Level | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission leve emissions ou Pol v/h V | and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 itside of restr | ed in 100kHz asurement ba average valu / 15.247 Margin - - D0kHz RBW: icted bands: / 15.247 | es measured Detector Pk/QP/Avg Pk Pk 96.7 66.7 Detector | 00kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth | nd peak valu Height neters 1.0 1.0 Limit is -30 Height | ie measured i Comments RB = VB = 1 RB = VB = 1 dBc (UNII pov | in 100kHz 100kHz 100kHz |
| lote 2: 2 an #1b: C andament Frequency MHz 2437.980 2436.470 Frequency MHz 4873.950 4873.950 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions Level dBµV/m 42.2 47.1 | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission levo emissions ou Pol v/h V V V | and measure ed band, mea MHz : Peak and a 15.209 Limit - el @ 3m in 10 itside of restr 15.209 Limit 54.0 74.0 | ed in 100kHz asurement ba average valu / 15.247 Margin - D0kHz RBW: icted bands: / 15.247 Margin -11.8 -26.9 | es measured Detector Pk/QP/Avg Pk 96.7 66.7 Detector Pk/QP/Avg AVG PK | DokHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 200 200 200 | nd peak valu Height meters 1.0 1.0 Limit is -30 Height meters 1.0 1.0 | ie measured i Comments RB = VB = 7 RB = VB = 7 dBc (UNII pov | in 100kHz 100kHz 100kHz |
| lote 2: 2 un #1b: C undament Frequency MHz 2437.980 2436.470 Frequency Frequency MHz 4873.950 6498.610 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions Level dBµV/m 42.2 47.1 51.2 | undamental in a restrictor hel @ 2437 eld Strength Pol v/h V H emission leve emissions ou Pol v/h V V V V | and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 itside of restr 15.209 Limit 54.0 74.0 66.7 | ed in 100kHz asurement ba average valu / 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -11.8 -26.9 -15.5 | es measured Detector Pk/QP/Avg Pk Pk 96.7 66.7 Detector Pk/QP/Avg AVG PK PK PK | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 200 200 111 | nd peak valu Height neters 1.0 1.0 Limit is -30 Height neters 1.0 1.0 1.5 | ie measured i Comments RB = VB = 1 RB = VB = 1 dBc (UNII pov | in 100kHz 100kHz 100kHz |
| lote 2: un #1b: C undament Frequency MHz 2437.980 2436.470 Frequency MHz 4873.950 4873.950 6498.610 7313.830 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions Level dBµV/m 42.2 47.1 51.2 46.4 | undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission levo emissions ou Pol v/h V V V V V V | and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 ttside of restr 15.209 Limit 54.0 74.0 66.7 54.0 | ed in 100kHz asurement ba average valu / 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -11.8 -26.9 -15.5 -7.6 | andwidth is 10 es measured Detector Pk/QP/Avg Pk Pk Pk 96.7 66.7 0etector Pk/QP/Avg AVG PK PK PK AVG | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 200 200 111 51 | nd peak valu Height neters 1.0 1.0 Limit is -30 Height meters 1.0 1.0 1.5 1.5 | ie measured i Comments RB = VB = 7 RB = VB = 7 dBc (UNII pov | in 100kHz 100kHz 100kHz |
| lote 2: 2 un #1b: C undament Frequency MHz 2437.980 2436.470 Frequency Frequency MHz 4873.950 6498.610 | level of the fi Signal is not Center Chanr tal Signal Fie Level dBµV/m 96.7 91.5 undamental e Limit for e missions Level dBµV/m 42.2 47.1 51.2 | undamental in a restrictor hel @ 2437 eld Strength Pol v/h V H emission leve emissions ou Pol v/h V V V V | and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 itside of restr 15.209 Limit 54.0 74.0 66.7 | ed in 100kHz asurement ba average valu / 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -11.8 -26.9 -15.5 | es measured Detector Pk/QP/Avg Pk Pk 96.7 66.7 Detector Pk/QP/Avg AVG PK PK PK | D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 200 200 111 | nd peak valu Height neters 1.0 1.0 Limit is -30 Height neters 1.0 1.0 1.5 | ie measured i Comments RB = VB = 7 RB = VB = 7 dBc (UNII pov | in 100kHz 100kHz 100kHz |

Note 1: level of the fundamental and measured in 100kHz.

Note 2: Signal is not in a restricted band, measurement bandwidth is **100kHz**.

| Client: | Intel | | | | | | | Job Number: | J70979 |
|---|---|---|---------------------|-------------------------------------|-----------|----------------|---------------|------------------|------------------|
| Madel | | 1 | | | | | T-I | _og Number: | T71831 |
| wodel: | 512an MMW | I . | | | | | Αссоι | Int Manager: | Briggs / Eriksen |
| Contact: | Robert Paxr | nan | | | | | | | |
| Standard: | RSS 210 / F | CC 15.247 D | TS (Radiate | d) | | | | Class: | N/A |
| un #1c: H | ligh Channel | @ 2462 MH | Z | | | | L | | |
| | ower Setting: | 23.0 | | rage power: | 19.6 dBm | (for reference | e purposes) | | |
| | tal Signal Fie | | | | | | - | | |
| requency | | Pol | 15.209/ | | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h V | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 2461.010 2462.990 | 100.0 101.6 | V H | - | - | Pk Pk | 179 158 | 1.0 1.0 | | |
| 2402.990 | 101.0 | Π | - | - | ΡK | 100 | 1.0 | | |
| F | undamental e | emission leve | el @ 3m in 10 | 0kHz RBW: | 101.6 | dBµV/m | | | |
| | | | tside of restr | | | dBµV/m | Limit is -300 | IBc (UNII pov | ver measuremen |
| | | | | | | p | | , Г [,] | |
| | Signal Field | | | | • | | | | |
| requency | Level | Pol | 15.209/ | | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | 00 00 0 | |
| 2484.750 | 46.3 | H | 54.0 54.0 | -7.7 -8.1 | Avg | 161 | 1.0 | GC = 23.0 | |
| | 45.0 | | | -8 | Avg | 177 | 1.0 | GC = 23.0 | |
| 2484.760 | 45.9 | V | | | Ŭ | 154 | 10 | CC 220 | |
| 2484.760 2484.830 2484.920 | 59.1 57.2 | H V | 74.0 74.0 | -14.9 -16.8 scaling assumes u | PK PK | 156 145 | | | |
| 2484.760 2484.830 2484.920 E 85x0 (m CF Step RBW Center | 59.1 57.2 cremote control contro contro | H V Dele Max Hold RB () 1MHz VB () 10Hz VB () 10Hz vter F () 2515.000 Span () 100.000 of LVI () 54.0 ATT AUTO? | 74.0 74.0 | -14.9 -16.8 | PK PK | 145 | 1.0 | GC = 23.0 | |

| | | Οι | L | | | | | LIVI | |
|------------|-----------------|----------------|--------------|--------------|----------------|---------|--------------|------------------|----------------------|
| Client: | Intel | | | | | | | Job Number: | J70979 |
| Madal | | 1 | | | | | T- | Log Number: | T71831 |
| Model: | 512an MMW | | | | | | Acco | unt Manager: | Briggs / Eriksen |
| Contact: | Robert Paxm | nan | | | | | | - | |
| Standard: | RSS 210 / F | CC 15.247 D | TS (Radiate | d) | | | | Class: | N/A |
| Spurious E | missions (| GC = 22.5 , | AP = 19. | 2 dBm) | | | | | I |
| Frequency | Level | Pol | | / 15.247 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 4923.950 | 43.1 | V | 54.0 | -10.9 | AVG | 173 | 1.5 | | |
| 4923.950 | 48.4 | V | 74.0 | -25.6 | PK | 173 | 1.5 | | |
| 6565.240 | 51.2 | V | 71.6 | -20.4 | PK | 171 | 1.0 | Note 2 | |
| 7388.310 | 53.0 | V | 54.0 | -1.0 | AVG | 264 | 2.0 | | |
| 7388.310 | 58.2 | V | 74.0 | -15.8 | PK | 264 | 2.0 | | |
| 9847.880 | 54.9 | V | 71.6 | -16.7 | PK | 83 | 1.5 | Note 2 | |
| ote 1: | level of the fu | undamental | and measure | ed in 100kHz | | | er emissions | s, the limit was | s set 30dB below the |
| lote 2: | Signal is not | in a restricte | ed band, mea | asurement ba | andwidth is 10 |)0kHz. | | | |
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EMC Test Data

 Client:
 Intel
 Job Number:
 J70979

 Model:
 512an MMW
 T-Log Number:
 T71831

 Account Manager:
 Briggs / Eriksen

 Contact:
 Robert Paxman
 Class:
 N/A

RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions - Band Edge 802.11g Mode

Test Specific Details

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: 5/28/2008 Test Engineer: Ben Jing Test Location: FT Chamber # 5 Config. Used: 1 Config Change: None Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane.

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

| Ambient Conditions: | Temperature: | 22 °C |
|---------------------|----------------|-------|
| | Rel. Humidity: | 36 % |

Summary of Results

| Run # | Mode | Channel | Power Setting | Measured Power | Test Performed | Limit | Result / Margin |
|-------|---------|---------|------------------|-------------------|--------------------------------------|---------------------------------|------------------------------------|
| 1a | 802.11g | 1 | 20 . 5 | 14.5 dBm | Band Edge radiated field strength | FCC Part 15.209 / 15.247(c) | 47.4dBµV/m @ 2389.9MHz (-6.6dB) |
| Id | Chain A | 2412MHz | 20.0 | 14.5 UDIII | Radiated Emissions, | FCC Part 15.209 / | Covered by n20 mode |
| | | | | | 1 - 26 GHz | 15.247(c) | measurements |
| 1b | 802.11g | 6 | | | Radiated Emissions, | FCC Part 15.209 / | Covered by n20 mode |
| di | Chain A | 2437MHz | | | 1 - 26 GHz | 15.247(c) | measurements |
| | | | | | Band Edge radiated | FCC Part 15.209 / | 45.7dBµV/m @ |
| 1c | 802.11g | 11 | 21.5 | 14 dBm | field strength | 15.247(c) | 2483.6MHz (-8.3dB) |
| i C | Chain A | 2462MHz | 21.0 | 14 UDIII | Radiated Emissions, | FCC Part 15.209 / | Covered by n20 mode |
| | | | | | 1 - 26 GHz | 15.247(c) | measurements |

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

| n MMW rt Paxman 210 / FCC 15.247 d Spurious Emiss nannel @ 2412 Mi etting: 20.5 nal Field Strengt | sions, Band I | :d) | | | | Job Number: Log Number: | |
|--|--|---|---|---|---|---|--|
| rt Paxman 210 / FCC 15.247 d Spurious Emiss nannel @ 2412 Mi etting: 20.5 | sions, Band I | :d) | | | T- | Log Number: | T71831 |
| rt Paxman 210 / FCC 15.247 d Spurious Emiss nannel @ 2412 Mi etting: 20.5 | sions, Band I | :d) | | | | | |
| 210 / FCC 15.247 d Spurious Emiss nannel @ 2412 Mi etting: 20.5 | sions, Band I | :d) | | | Accou | unt Manager: | Briggs / Eriksen |
| 210 / FCC 15.247 d Spurious Emiss nannel @ 2412 Mi etting: 20.5 | sions, Band I | ;d) | | | | | |
| d Spurious Emiss nannel @ 2412 Mi etting: 20.5 | sions, Band I | , | | | | Class: | N/A |
| nannel @ 2412 Mi etting: 20.5 | | Edges Oper | ating Mode | 802 11a - C | hain A | | |
| 0 | | -ugosi opoi | uting model | oozing o | | | |
| nal Field Strengt | Ave | erage power: | 14.5 dBm | (for reference | e purposes) | | |
| nai i leiu Strengt | h: Peak value | e measured in | n 100kHz | • | , | | |
| vel Pol | 15.209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| | Limit | Margin | Ŭ | 0 | meters | | |
| | - | - | | | | | |
| 3.4 H | - | - | PK | 295 | 1.0 | | |
| ontal omission lou | ol @ 2m in 1 | | 02.0 | | 1 | | |
| | | | | | l imit is _20/ | | ver measurement |
| | | | 02.7 | υσμν/Π | | | |
| I Field Strenath | | | | | | | |
| vel Pol | 15.209 | / 15.247 | Detector | Azimuth | Height | Comments | |
| ιV/m v/h | Limit | Margin | Pk/QP/Avg | degrees | meters | | |
| 7.4 V | 54.0 | -6.6 | Avg | 140 | 1.0 | GC = 20.5 | |
| | | | Avg | | 1.0 | | |
| | | | | | | | |
| 0.5 V | | 0 6 | DK | 140 | 10 | CC = 20 h | |
| note control Enable Max Hol RB () 11 eak VB () 10 | d Log so | | ies units are dB unit | | | • | |
| note control Enable Max Hol RB 🕘 11 | d Log so 1Hz Hz 50.000 0 | ale - scaling assum | | | | • | |
| note control Enable Max Hol RB 11 VB 10 eak Center F 123 Center F 123 Ref Lvl 156. ATT AUTO? | d Log so 1Hz Hz 50.000 0 | ale - scaling assum 86.5 - 80.0 - 75.0 - 70.0 - 65.0 - 60.0 - | ies units are dB unit | | | • | |
| Anote control RB (1) 10 RB (1) 10 RB (1) 10 Center F (1) 23 Center F (1) 23 Freq. Span (1) 100 Ref LVI (1) 56. ATT AUTO? 125.00 Att AUTO? | d Log so 1Hz Hz 50.000 0 | ale - scaling assum 86.5 - 80.0 - 75.0 - 70.0 - 65.0 - 60.0 - 55.0 - | ies units are dB unit | | | • | |
| note control Enable Max Hol RB 10 RB 10 Center F 23 Freq. Span 10 Ref Lvl 56. ATT AUTO? 125.00 Idate With New Settings ettings (All freqs in MH 20000 VBW 0.000010 | d Log so 1Hz Hz 50.000 0 | :ale - scaling assum 86.5 80.0 75.0 75.0 65.0 65.0 55.0 50.0 45.0 | ies units are dB unit | | | • | |
| note control Part Enable Max Hol RB 1 IN VB 1 IO Center F 2 23 Center F 2 23 Freq. Span 1 IO Ref Lvl 56. ATT AUTO? 125.00 Att AUTO? 125.00 Ref Lvl 56. ATT AUTO? 125.00 Ref Lvl 56. ATT AUTO? 125.00 Ref Lvl 56. ATT AUTO? 100.0000 VBW 0.000010 0.0000 Span 100.0000 | d Log so 1Hz Hz 50.000 0 | :ale - scaling assum 86.5 30.0 75.0 70.0 65.0 65.0 55.0 50.0 | ies units are dB unit | | | • | |
| ATT AUTO? AUT AUT AUTO? AUT AUT | d Log so 1Hz Hz 50.000 0 | :ale - scaling assum 86.5 20.0 75.0 70.0 65.0 60.0 55.0 50.0 40.0 | Avg - Veri | | | • | 2400 2410 |
| note control Enable Max Hol RB 11 VB 10 Center F 23 Center F 23 Center F 23 Ref Lvl 56. ATT AUTO? 125.00 VBW 0.000010 0.000 Span 100.0000 Stop 2410.000 Rec Level 56.0 | d Log so 1Hz Hz 50.000 0 | ale - scaling assum 86.5 80.0 75.0 70.0 65.0 60.0 55.0 50.0 40.0 36.5 | Avg - Veri | tical | actor applied (30.1 | 5 @ 2360.0 MHz) | |
| | V/m v/h 2.9 V 3.4 H ental emission lev nit for emissions or I Field Strength vel Pol V/m v/h 7.4 V 5.3 H 0.6 H | V/m v/h Limit 2.9 V - 3.4 H - ental emission level @ 3m in 10 nit for emissions outside of restr I Field Strength vel Pol 15.209 V/m v/h Limit 7.4 V 54.0 5.3 H 54.0 0.6 H 74.0 | V/m v/h Limit Margin 2.9 V - - 3.4 H - - ental emission level @ 3m in 100kHz RBW: nit for emissions outside of restricted bands: I Field Strength vel Pol 15.209 / 15.247 V/m v/h Limit Margin 7.4 V 54.0 -6.6 5.3 H 54.0 -8.7 0.6 H 74.0 -13.4 | W/mv/hLimitMarginPk/QP/Avg2.9VPK3.4HPKa.4HPKental emission level @ 3m in 100kHz RBW:92.9nit for emissions outside of restricted bands:62.9I Field StrengthvelPol15.209 / 15.247DetectorW/mv/hLimitMarginPk/QP/Avg7.4V54.0-6.6Avg5.3H54.0-8.7Avg | W/m V/h Limit Margin Pk/QP/Avg degrees 2.9 V - - PK 140 3.4 H - - PK 295 ental emission level @ 3m in 100kHz RBW: 92.9 dBµV/m nit for emissions outside of restricted bands: 62.9 dBµV/m I Field Strength vel Pol 15.209 / 15.247 Detector Azimuth V/m V/h Limit Margin Pk/QP/Avg degrees V.4 V 54.0 -6.6 Avg 140 5.3 H 54.0 -8.7 Avg 294 0.6 H 74.0 -13.4 PK 288 | W/m v/h Limit Margin Pk/QP/Avg degrees meters 2.9 V - - PK 140 1.0 3.4 H - - PK 295 1.0 eental emission level @ 3m in 100kHz RBW: 92.9 dB μ V/m nit for emissions outside of restricted bands: 62.9 dB μ V/m Limit is -300 I Field Strength Vel Pol 15.209 / 15.247 Detector Azimuth Height V/m v/h Limit Margin Pk/QP/Avg degrees meters V/m V/h Limit Margin Pk/QP/Avg degrees meters V/m 0 15.209 / 15.247 Detector Azimuth Height V/m V/h Limit Margin Pk/QP/Avg degrees meters V/m Vh Limit Margin Pk/QP/Avg 294 1.0 5.3 H 54.0 -8.7 Avg 294 1.0 | W/m v/h Limit Margin Pk/QP/Avg degrees meters 2.9 V - - PK 140 1.0 3.4 H - - PK 295 1.0 ental emission level @ 3m in 100kHz RBW: 92.9 $dB\mu V/m$ nit for emissions outside of restricted bands: $62.9 \ dB\mu V/m$ Limit is -30dBc (UNII power the stricted bands: Vel Pol 15.209 / 15.247 Detector Azimuth Height Comments V/m v/h Limit Margin Pk/QP/Avg degrees meters 0.4 V 54.0 -8.7 Avg < |

| Client: | 1 1 1 | | | | | | | 1 I NI | 170070 |
|--|---|--|----------------|----------------------|--|----------------|---|------------------------|------------------|
| | Intel | | | | | | | Job Number: | |
| Model | 512an MM | N | | | | | | Log Number: | |
| | | | | | | | Accou | unt Manager: | Briggs / Erikser |
| Contact: | Robert Pax | man | | | | | | | |
| Standard: | RSS 210 / | FCC 15.247 D | TS (Radiate | d) | | | | Class: | N/A |
| | | | | | | | | | |
| | | el @ 2462 MH | | | | | | | |
| | ower Setting | | | erage power: | | (for reference | e purposes) | | |
| | | ield Strength | | | | A ' 1 - | 11.2.1.1 | | |
| Frequency MHz | Level | Pol v/h | Limit | / 15.247 | Detector Pk/QP/Avg | Azimuth | Height | Comments | |
| 2460.710 | dBµV/m 93.5 | VIII | LIIIII | Margin | PKOPIAVy | degrees 128 | meters 1.0 | | |
| 2463.280 | 89.9 | V H | - | - | PK | 152 | 1.0 | | |
| 2100.200 | 07.7 | | | <u> </u> | | 102 | 1.0 | 1 | |
| F | undamental | emission leve | el @ 3m in 10 | OkHz RBW: | 93.5 | dBµV/m | 1 | | |
| | Limit for | emissions ou | tside of restr | icted bands: | | dBµV/m | Limit is -300 | dBc (UNII pov | ver measuremer |
| | | | | | | | - | - | |
| ž | Signal Fiel | | | | | | | 1. | |
| Frequency | Level | Pol | | / 15.247 | Detector | Azimuth | Height | Comments | |
| MHz | dBµV/m | v/h H | Limit | Margin | Pk/QP/Avg | degrees | meters | CC 01 F | |
| | | н н | 54.0 | -8.3 | Avg | 157 | 1.0 | GC = 21.5 | |
| 2483.550 | 45.7 | | 74.0 | 0 0 | DV | 126 | 1 1 1 | 1 (-1 - 1) b | |
| 2483.550 2483.550 | 65.0 | V | 74.0 54 0 | -9.0 -8 3 | Pk Ava | 126 145 | 1.0 | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.560 2483.580 | 65.0 45.7 63.5 5xx remote co Local (manual) Control | V V H Enable Max Hold RB () 1MHz | 54.0 74.0 | -8.3 -10.5 | Pk Avg Pk es units are dB units | 145 159 | 1.0 1.0 | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.580 2483.580 [□ 8 [□ 8 [□ 8 [□ 1 [□ 1 [□ 1 [□ 1 [□ 1 [□ 1 [□ 1 [□ 1 | 65.0 45.7 63.5 (manual) (Control une to Peak BB Signal NB Signal NB Signal tep () 125.00 Update With rrent Settings w 1.000000 | V H H H H H H H H H H H H H H H H H H H | 54.0 74.0 | -8.3 -10.5 | Avg Pk | 145 159 | 1.0 1.0 | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.580 2483.580 | 65.0 45.7 63.5 (manual) (Control une to Peak BB Signal NB Signal NB Signal (Control Update With rrent Settings (Control Update With rrent Settings | V H htrol Enable Max Hold RB (1 10Hz VB (1 10Hz Center F (1 2515. req. Span (1 100.0 Ref Lvl (1 57.0 ATT AUTO? New Settings (All freqs in MHz) VBW 0.000010 Span 100.0001 | 54.0 74.0 | -8.3 -10.5 | Avg Pk | 145 159 | 1.0 1.0 | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.580 2483.580 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 | 65.0 45.7 63.5 5xx remote co Local (manual) Control une to Peak BB Signal NB Signal NB Signal tep (2125.00 Update With rrent Settings W 1.000000 er 2515.000 rt 2465.000 | V V H http://www.settings (All freqs in MHz) VB 0.000010 Span 100.00001 Stop 2565.000 | 54.0 74.0 | -8.3 -10.5 | Avg Pk | 145 159 | 1.0 1.0 | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.580 2483.580 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 | 65.0 45.7 63.5 (manual) (Control Une to Peak BB Signal NB Signal (Control Update With rrent Settings (Control Update With rrent Settings (Control Control (Control) (Control) (Control (Control) (Cont | V V H http://www.settings (All freqs in MHz) VBW 0.000010 Span 100.0001 Stop 2565.000 57.0 | 54.0 74.0 | -8.3 -10.5 | Avg Pk | 145 159 | 1.0 1.0 ctor applied (31.0 Avg - Ver | GC = 21.5 GC = 21.5 | |
| 2483.550 2483.550 2483.580 2483.580 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 [₽ 8 | 65.0 45.7 63.5 (manual) (Control une to Peak BB Signal BB Signal BB Signal Update With rrent Settings W 1.000000 er 2515.000 rt 2465.000 Reference Level Detector | V V H http://www.settings (All freqs in MHz) VBW 0.000010 Span 100.0001 Stop 2565.000 57.0 | 54.0 74.0 | -8.3 -10.5 | Avg Pk | 145 159 | 1.0 1.0 ctor applied (31.0 Avg - Ver | GC = 21.5 GC = 21.5 | |