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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: 512AN\_MMW (MMC)

UPN:	1000M-512ANM	
FCC ID:	PD9512ANM PD9512ANMU	PD9LEN512ANMU
GRANTEE:	Intel Corporation 2111 N.E. 25th Ave Hillsboro, OR 97124	
TEST SITE:	Elliott Laboratories,	Inc.

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June 11, 2008

REPORT DATE: April 30, 2008

**REISSUE DATE:** 

**TEST DATES:** 

March 14 – June 6, 2008

AUTHORIZED SIGNATORY:

Mark Briggs ( Principal Engineer



Testing Cert #2016-01

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#### **REVISION HISTORY**

Rev #	Date	Comments	Modified By
1	May 5, 2008	Initial Release	David Guidotti
2	June 11, 2008	Changed Intel contact to Robert Paxman in scope section. Updated results table to evaluate user manual statements. Added UPN to the cover sheet Added test data for the Universe PIFA antenna and included this antenna in the product description section.	Briggs / Guidotti

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#### **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

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

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 n20: 17.1 MHz n40: 36.0 MHz	>500kHz	Complies
	RSP100	99% Bandwidth	b: 13.8 MHz g: 17.1 MHz n20: 18.3 MHz n40: 36.6 MHz	Information only	Complies
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	<b>b: 19.6 dBm</b> (0.091 W) g: 17.0 dBm n20: 16.2 dBm n40: 15.6 dBm EIRP = 0.19 W <sup>Note1</sup>	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 n20: -6.3dBm/3kHz n40: -9.7 dBm/3kHz	8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz	All spurious emissions < -30dBc	< -30dBc <sup>Note 2</sup>	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 <sup>Note 2</sup>	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.

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	a: 16.7 MHz n20: 17.6 MHz n40: 35.3 MHz	>500kHz	Complies
	RSP100	99% Bandwidth	a: 17.1 MHz n20: 18.3 MHz n40: 36.6 MHz	Information only	Complies
15.247 (b) (3) 15.247		Output Power (multipoint systems)	a: 11.7dBm n20: 12.6dBm <b>n40: 13.2dBm</b> ( <b>0.021 W</b> ) EIRP = 0.07 W <sup>Note1</sup>	1 Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	a: -12dBm/3kHz <b>n20: -11dBm/3kHz</b> n40: -16dBm/3kHz	Maximum permitted is 8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions – 30MHz – 40 GHz	All spurious emissions < -30dBc	< -30dBc <sup>Note 2</sup>	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 1000MHz – 40 GHz <b>Note 3</b>	53.1dBµV/m @ 11489.8MHz (802.11a, Universe PIFA antenna)	15.207 in restricted bands, all others <-30dBc <sup>Note 2</sup>	Complies (-0.9dB)

DIGITAL TRANSMISSION SYSTEMS (5725 - 5850 MHz)

**Note 1:** EIRP calculated using antenna gain of 5 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.

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	Module uses a unique connector	Unique connector	Complies
-	RSS GEN 7.2.3	Receiver spurious emissions 30MHz – 18 GHz	43.4dBµV/m @ 108.287MHz Note 1	RSS GEN Table 1	Complies (-0.1dB)
15.207	RSS GEN Table 2	AC Conducted Emissions	21.4dBµV @ 24.000MHz	Refer to standard	Complies (-28.6dB)
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to separate MPE calculations, RSS 102 declaration and User Manual statements	Refer to OET 65, FCC Part 1 and RSS 102	Complies
	RSP 100 RSS GEN 7.1.5	User Manual	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 receive mode was 50.5dB $\mu$ V/m @ 3000.3MHz (3.5dB 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.

Frequency Range (MHz)	Calculated Uncertainty (dB)
0.15 to 30 0.015 to 30 30 to 1000	$\pm 2.4 \\ \pm 3.0 \\ \pm 3.6 \\ \pm 6.0$
	0.15 to 30 0.015 to 30

#### EQUIPMENT UNDER TEST (EUT) DETAILS

#### GENERAL

The Intel Corporation model  $512AN_MMW$  is a 2x1 MISO 802.11abgn radio module that is designed to be installed in laptops. The module supports 802.11b, 802.11g and 802.11n protocols in the 2400 – 2483.5 MHz band and 802.11a and 802.11n in the 5150 – 5250 MHz, 5250 – 5350 MHz, 5470 – 5725 MHz and 5725 – 5850 MHz bands. In 802.11n mode it supports both 20-MHz and 40-MHz channels. It can operate in SISO (1x1) and MISO (2x1) configurations.

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.

The EUT consisted of the following component(s):

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

#### 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:

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)			
	Connected 10	Description	Shielded or Unshielded	UnshieldedLength(m)ielded0.3ielded0.3elded0.2	
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	Notappliashla
802.11g	6 MBs	Not applicable, second chain is
802.11n (20MHz channel)	HT 0 (6Mbps)	receive only
802.11n (40MHz channel)	HT 0 (15Mbps)	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.

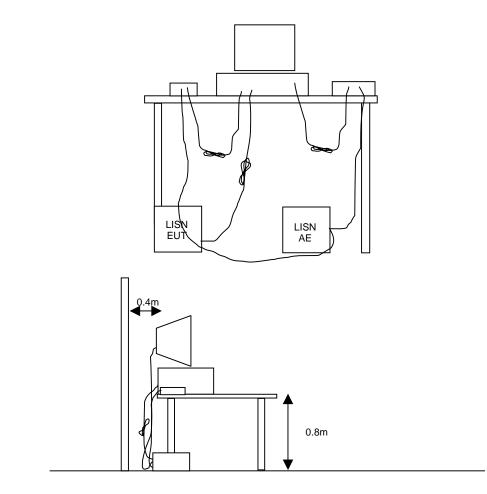
#### **TEST PROCEDURES**

#### 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.



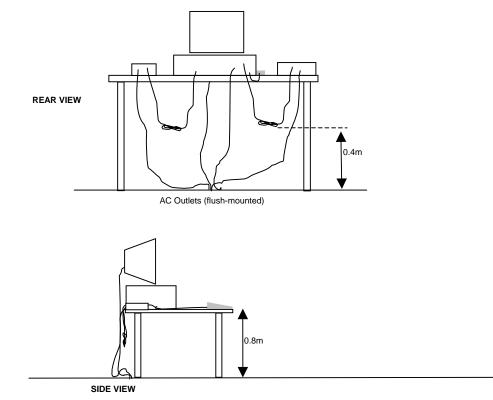
#### RADIATED EMISSIONS

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.

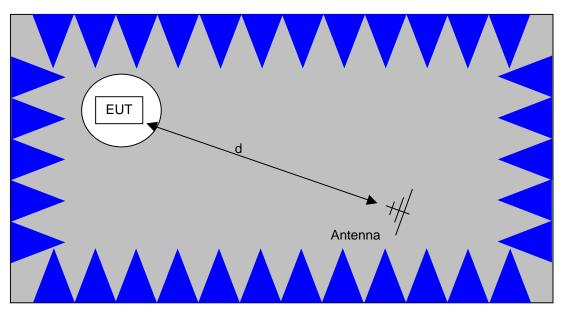
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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.

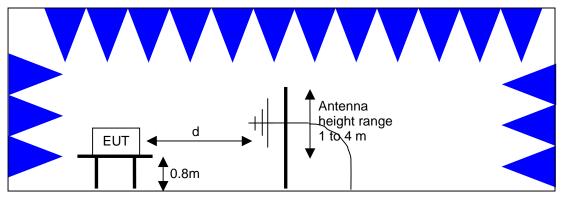


Typical Test Configuration for Radiated Field Strength Measurements



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 bands<sup>1</sup> (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 <sub>KHz</sub> @ 300m	67.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 300m
0.490-1.705	24000/F <sub>KHz</sub> @ 30m	87.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

<sup>&</sup>lt;sup>1</sup> 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 <b>,500 MHz, 17-Apr-08</b> <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)	66 Pages
T71040 (Radiated measurements with Ethertronics antenna, AC conducted emissions)	79 Pages
T71831 (Radiated measurements with Universe antenna)	31 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

T-Log Number: T71036

Account Manager: Dean Eriksen

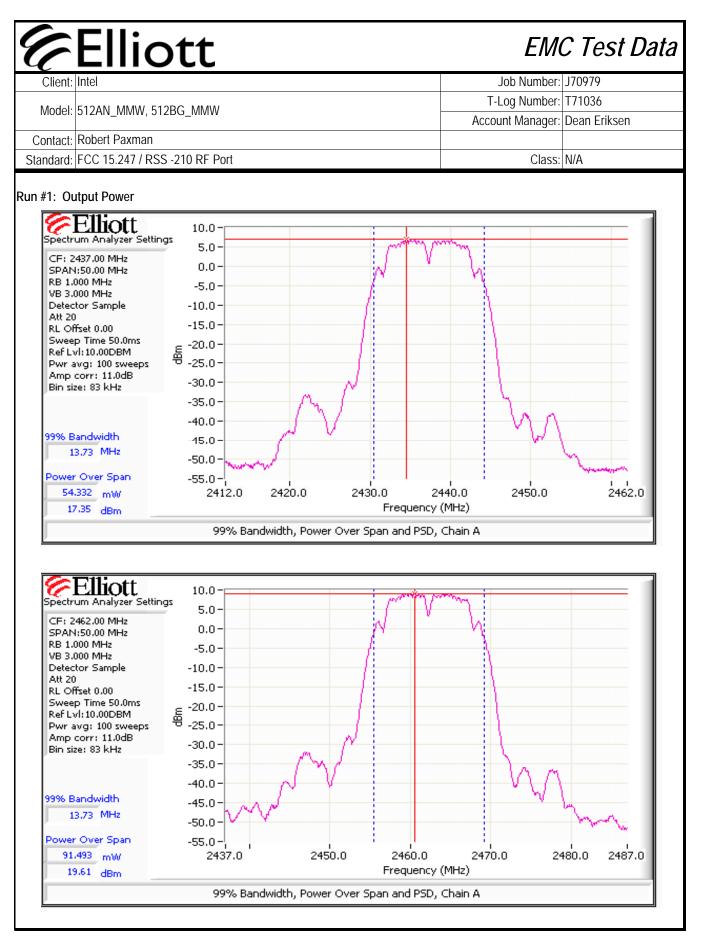
#### **RSS 210 and FCC 15.247 Power Measurement Summary**

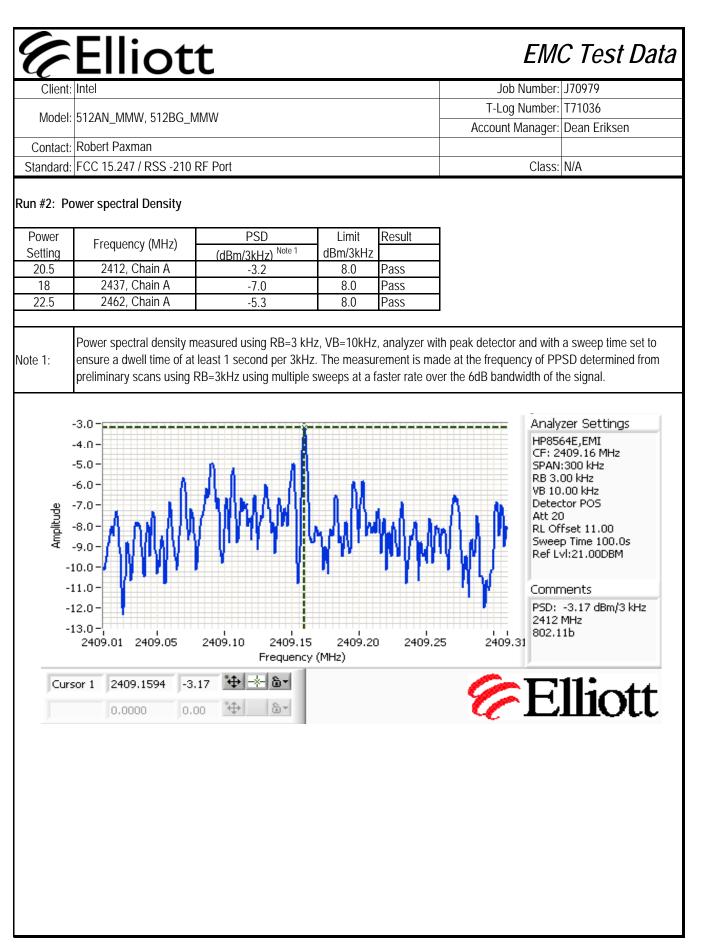
The table below compares the measured output power (measured using the UNII test method) with the power measured using an average power meter and is for reference purposes.

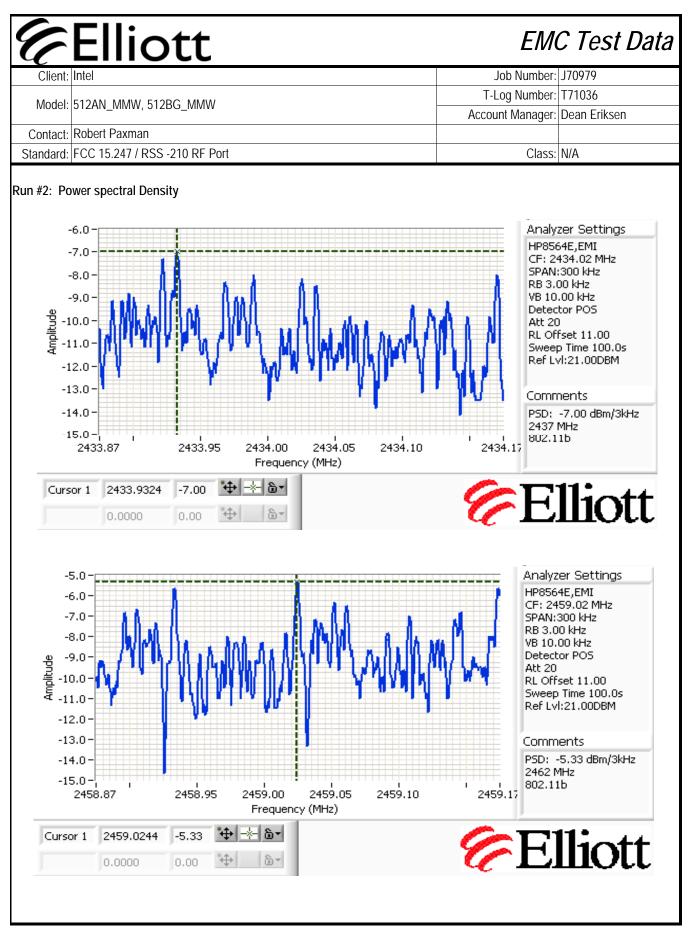
802.11b										
Power	Fraguanay (MUz)	Output	Power	Antenna	Decult	EIRP	Note 2	Average	e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
20.5	2412, Chain A	19.6	91.2	3.2	Pass	22.8	0.191	19.1	81.3	
18	2437, Chain A	17.4	55.0	3.2	Pass	20.6	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	Power	Antenna	Desult	EIRP	Note 2	Average	e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
20	2412, Chain A	14.1	25.7	3.2	Pass	17.3	0.054	14.5	28.2	
23	2437, Chain A	17.0	49.8	3.2	Pass	20.2	0.104	17.0	50.1	
20.5	2462, Chain A	13.3	21.4	3.2	Pass	16.5	0.045	14.0	25.1	
802.11n20 (										
Power	·	Output Power		Antenna		FIRP	Note 2	Average	e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
18	2412, Chain A	12.2	16.6	3.2	Pass	15.4	0.035	13.1	20.4	
23	2437, Chain A	16.2	41.2	3.2	Pass	19.4	0.086	17.0	50.1	
20.5	2462, Chain A	12.6	18.0	3.2	Pass	15.8	0.038	14.0	25.1	
802.11n40 (		12.0	10.0	0.2	1 400	10.0	01000	11.0	20.1	
Power		Output	Power	Antenna		FIRP	EIRP. Note 2		Average Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	$(dBm)^3$	mW	
14.5	2422, Chain A	9.6	9.0	3.2	Pass	12.8	0.019	10.1	10.2	
21.5	2437, Chain A	15.6	36.6	3.2	Pass	18.8	0.076	16.5	44.7	
20	2452, Chain A	13.3	21.3	3.2	Pass	16.5	0.044	14.1	25.7	
802.11a	·									
Power	- ()	Output	Power	Antenna		FIRP	Note 2	Average	e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
26.5	5745, Chain A	11.7	14.8	5.0	Pass	16.7	0.047	16.5	44.7	
27	5785, Chain A	11.6	14.6	5.0	Pass	16.6	0.046	16.5	44.7	
28	5825, Chain A	11.2	13.2	5.0	Pass	16.2	0.042	16.5	44.7	
802.11n20 (										
Power		Output	Power	Antenna		FIRP	EIRP Note 2		e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
27.5	5745, Chain A	12.6	18.2	5.0	Pass	17.6	0.058	16.5	44.7	
28.5	5785, Chain A	12.4	17.4	5.0	Pass	17.4	0.055	16.5	44.7	
29.5	5825, Chain A	12.3	17.0	5.0	Pass	17.3	0.054	16.5	44.7	
802.11n40 (		1210	1710	0.0	1 400	17.0	0.001	10.0		
Power		Output	Power	Antenna		FIDD	Note 2	Average	e Power	
Setting <sup>2</sup>	Frequency (MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW	
27.5	5755, Chain A	13.2	20.9	5.0	Pass	18.2	0.066	16.5	44.7	
27.5	5795, Chain A	13.2	20.9 19.1	5.0	Pass	18.2	0.060	16.5	44.7	
20.0	5775, OHAIH A	12.0	17.1	5.0	гд22	17.0	0.000	10.0	44./	

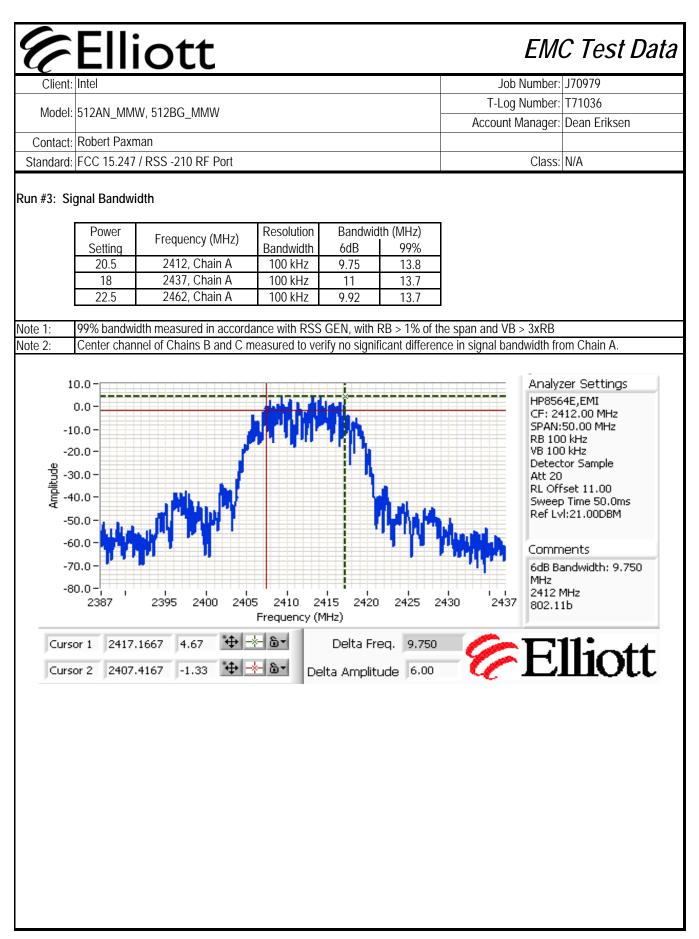
Client: Intel			J	ob Number: J70979
Model: 512AN_MMW	/ 512BG MMW			og Number: T71036
			Accour	nt Manager: Dean Eriks
Contact: Robert Paxm				
Standard: FCC 15.247 /	RSS-210 RF Port			Class: N/A
RSS 2	10 and FCC 15.247 (D1	rS) Antenn	a Port Me	easurements
	Power, PSD, Bandwid			
Fest Specific Details	5			
Objective:	The objective of this test session is to pe specification listed above.	rform final qualifica	tion testing of the	e EUT with respect to the
		Config. Use	ed: 1	
Date of Test: 4		•		
Test Engineer: J	John Caizzi & Joseph Cadigal	Config Chang	ge: None	
	John Caizzi & Joseph Cadigal	•	ge: None	
Test Engineer: J Test Location: F	lohn Caizzi & Joseph Cadigal FTEMC2	Config Chang	ge: None	
Test Engineer: J Test Location: F General Test Config	Iohn Caizzi & Joseph Cadigal TEMC2 <b>uration</b>	Config Chang EUT Voltag	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t	lohn Caizzi & Joseph Cadigal FTEMC2	Config Chang EUT Voltag	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t chain.	Iohn Caizzi & Joseph Cadigal TEMC2 <b>uration</b> o the spectrum analyzer or power meter	Config Chang EUT Voltag	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be	John Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at	Config Chang EUT Voltag r via a suitable atter tenuators used.	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t hain.	Iohn Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at Temperature:	Config Chang EUT Voltag r via a suitable atter ttenuators used. 25 °C	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t chain.	John Caizzi & Joseph Cadigal TEMC2 o the spectrum analyzer or power meter een corrected to allow for the external at	Config Chang EUT Voltag r via a suitable atter tenuators used.	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t shain. All measurements have be Ambient Conditions	John Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity:	Config Chang EUT Voltag r via a suitable atter ttenuators used. 25 °C	ge: None ge:	urements were made o
Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions	John Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity:	Config Chang EUT Voltag r via a suitable atter ttenuators used. 25 °C	ge: None ge:	urements were made o
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 #	John Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: Test Performed	Config Chang EUT Voltag r via a suitable atter itenuators used. 25 °C 30 % Limit	ge: None ge: nuator. All meas Pass / Fail	Result / Margin
Test Engineer: J Test Location: F General Test Config The EUT was connected t chain. All measurements have be Ambient Conditions Summary of Results	John Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity:	Config Chang EUT Voltag r via a suitable atter tenuators used. 25 °C 30 %	ge: None ge: nuator. All meas	Result / Margin 19.6 dBm
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 #	John Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: Test Performed	Config Chang EUT Voltag r via a suitable atter itenuators used. 25 °C 30 % Limit	ge: None ge: nuator. All meas Pass / Fail	Result / Margin 19.6 dBm -3.2 dBm/3kHz / 11.2
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	Iohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at Temperature: Rel. Humidity: Test Performed Output Power Power spectral Density (PSD)	Config Chang EUT Voltag r via a suitable atter ttenuators used. 25 °C 30 % Limit 15.247(b) 15.247(d)	ge: None ge: nuator. All meas <u>Pass / Fail</u> <u>Pass</u> Pass	Result / Margin 19.6 dBm -3.2 dBm/3kHz / 11.2 dB
Test Engineer: J Test Location: F General Test Config The EUT was connected t hain. Il measurements have be Ambient Conditions Gummary of Results Run # 1	Iohn Caizzi & Joseph Cadigal TEMC2 uration o the spectrum analyzer or power meter een corrected to allow for the external at : Temperature: Rel. Humidity: Content Performed Output Power	Config Chang EUT Voltag r via a suitable atter itenuators used. 25 °C 30 % Limit 15.247(b)	ge: None ge: nuator. All meas <u>Pass / Fail</u> Pass	Result / Margin 19.6 dBm -3.2 dBm/3kHz / 11.2

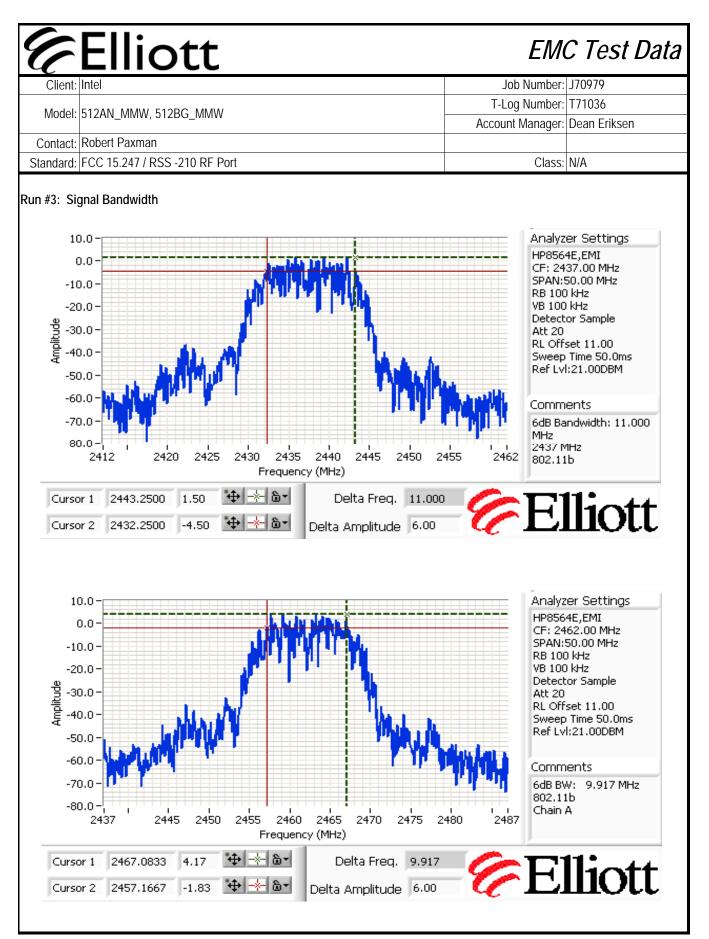
Client:	Ellic						J	ob Number:	J70979	
Model	512AN_MMW, 512						T-L	og Number:	T71036	
							Accou	nt Manager:	Dean Eriksen	
Contact:	Robert Paxman									
Standard:	FCC 15.247 / RSS	-210 RF P	ort					Class:	N/A	
ມn #1:  Oເ	utput Power									
Power	Eroquopou (MI	17)	Output	Power	Antenna	Docult	EIRP	Note 2	Output P	ower
Setting <sup>2</sup>	Frequency (MF	(dl	Bm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW
20.5	2412, Chain /		19.6		3.2	Pass	22.8	0.191	19.1	81
18	2437, Chain /		17.4		3.2	Pass	20.6	0.115	16.8	47
22.5	2462, Chain /	4	19.6	91.2	3.2	Pass	22.8	0.191	19.5	89
Spectr	Elliott rum Analyzer Setting	10.0- 95 – -				minny r	WWWWW			
_		<sup>gs</sup> 5.0-	-			f" V				
SPAN	2412.00 MHz N:50.00 MHz	0.0-	-		1	V I	- N;			
	.000 MHz .000 MHz	-5.0-	-		1		1			
Detec Att 20	ctor Sample 0	-10.0-								
RL O	ffset 0.00 p Time 50.0ms	-15.0-					1			
Ref L	vl:10.00DBM	은 -20.01 원 -25.01								
	avg: 100 sweeps corr: 11.0dB	2010			N					
Din ri	ize: 83 kHz	-30.0-		A	(1)			η		
DILI			-		٩/			MA		
DILT		-35.0-			117					
	Bandwidth	-40.0-		N	Y			W		
99% E	3andwidth 13,81 MHz	-40.0 - -45.0 -		$\mathcal{N}$	V			W	hun	
99% E		-40.0 - -45.0 - -50.0 -	W	$\checkmark$	V			Ŵ	have	
9996 E 1 Powe	13.81 MHz	-40.0 - -45.0 - -50.0 - -55.0 -	W	2	400.0	2410.0	2420,1	0 2	430.0 2437	.0
99% E 1 Power 90	13.81 MHz r Over Span	-40.0 - -45.0 - -50.0 - -55.0 -	W	2	V 400.0	2410.0 Frequency		0 2	430.0 2437	.0

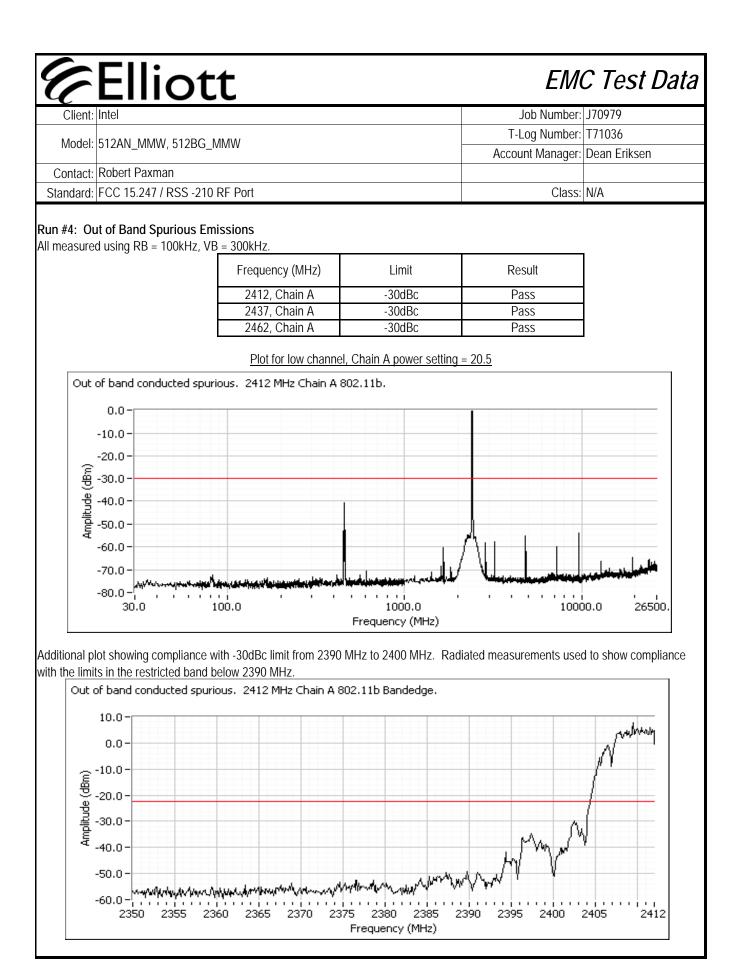


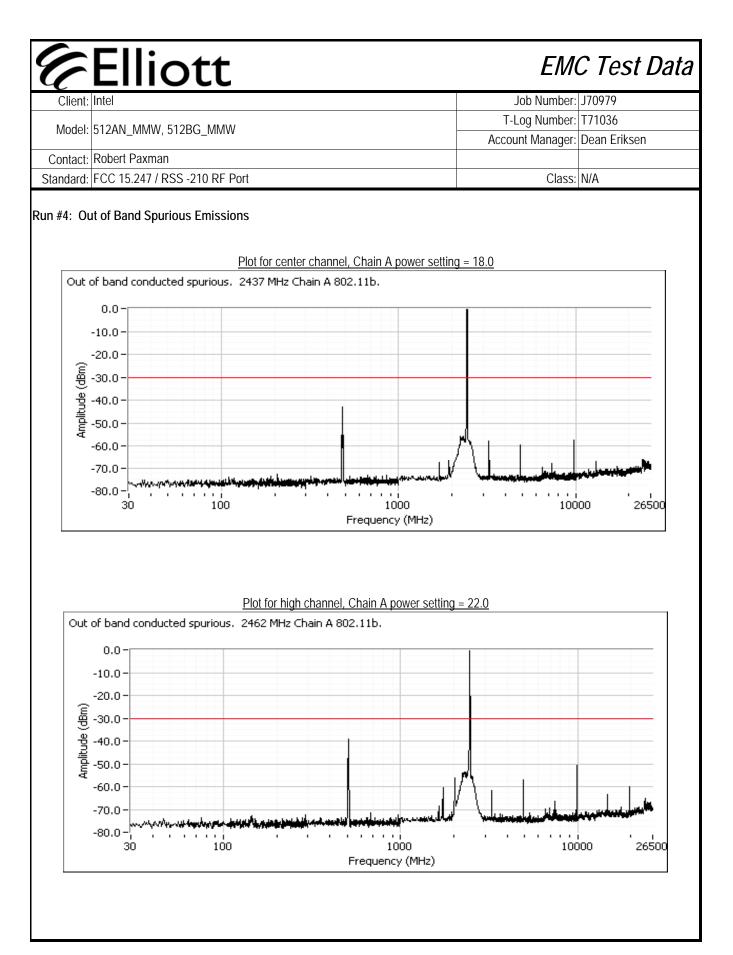




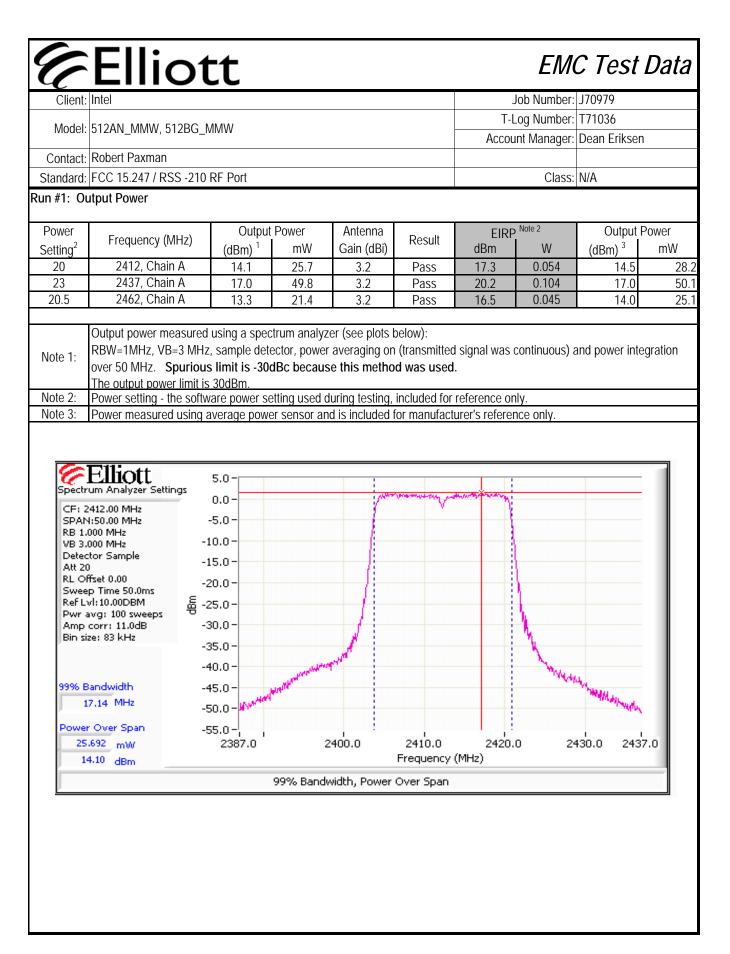


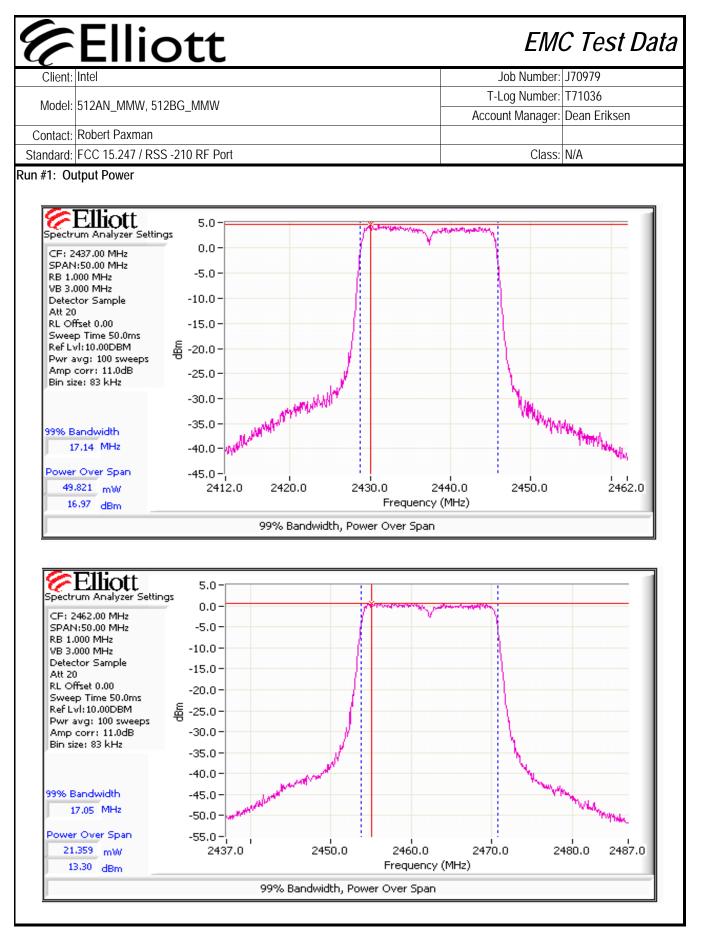


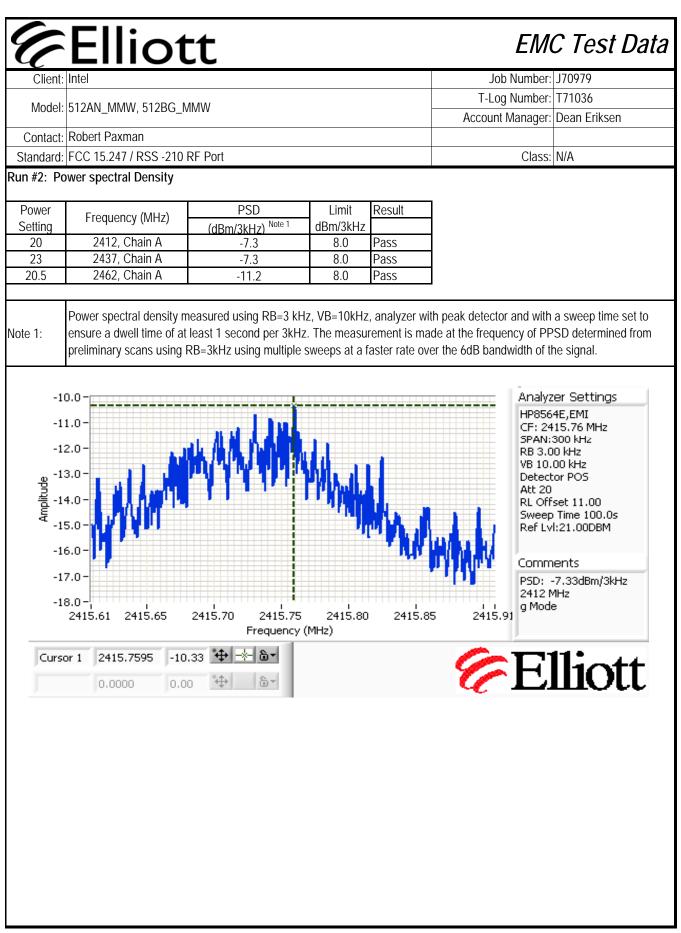


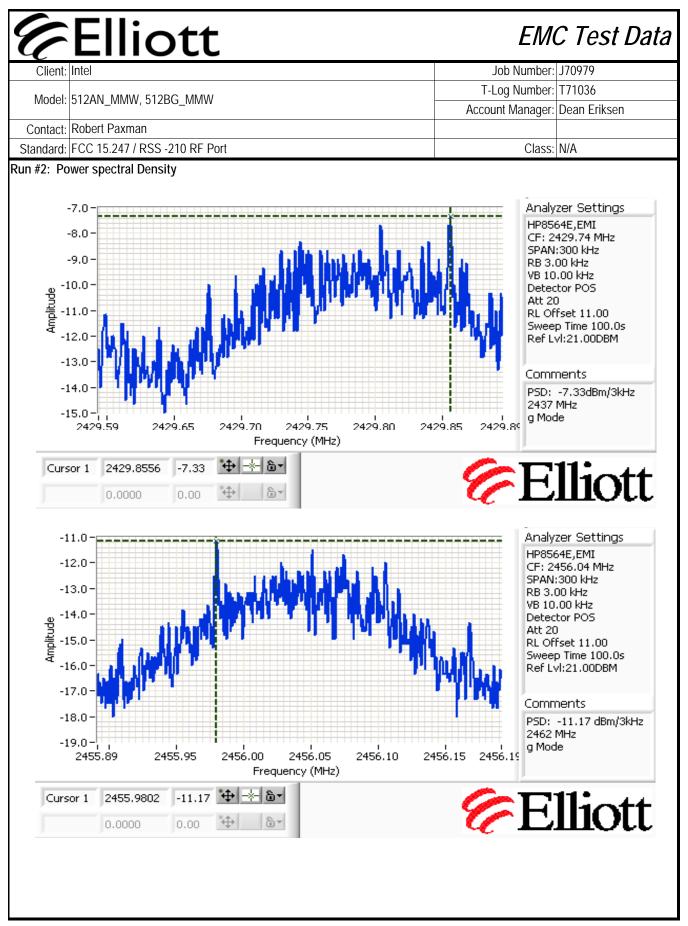


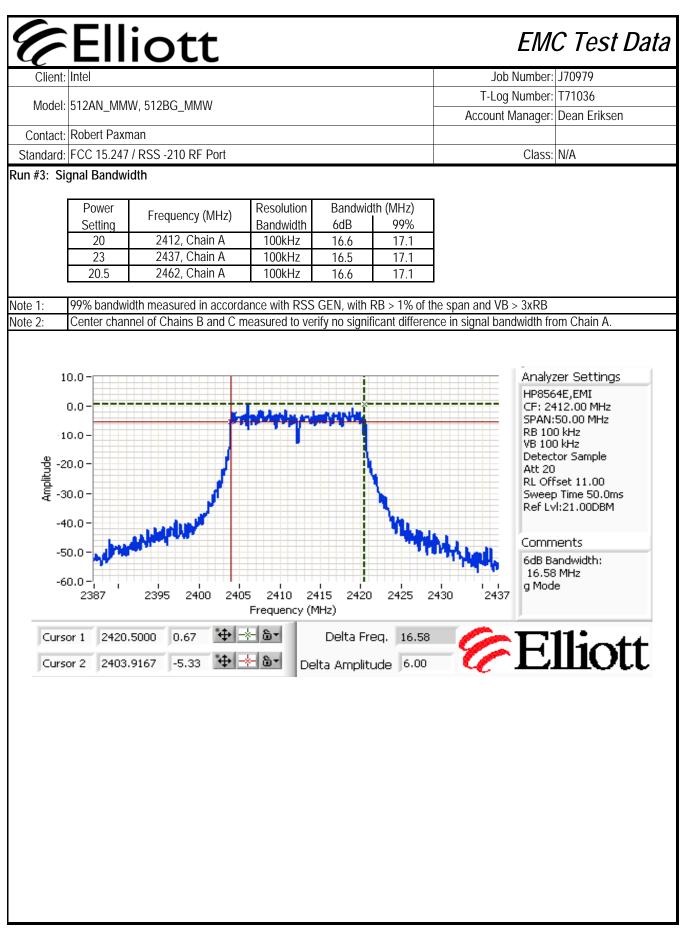
('liont, Intol	iott			Joh Number	170070
Client: Intel				Job Number: Log Number:	
Model: 512AN_MN	<i>I</i> W, 512BG_MMW			unt Manager:	
Contact: Robert Pax	man				
Standard: FCC 15.24	7 / RSS -210 RF Port			Class:	N/A
RSS 2	210 and FCC 15.247 (D Power, PSD, Bandwid				ments
Test Specific Deta	ils				
Objective	<b>T</b> I I.I.I.I. (II.I.I.I.I.I.I.I.I.I.I.I.I.I	erform final qualifica	tion testing of th	ne EUT with r	respect to th
Date of Test Test Engineer Test Location	: Suhaila Khushzad & John Caizzi	Config. Use Config Chang EUT Voltag		om Host Syst	tem
chain. All measurements have Ambient Conditior	•	21 °C			
	Rel. Humidity:	39 %			
Summary of Resul	ts				
	Test Performed	Limit	Pass / Fail	Result /	Margin
Run #	Output Power	15.247(b)	Pass		49.8mW)
5		15.247(d)	Pass		m/3kHz
Run #	Power spectral Density (PSD)		Daaa	411	
Run #	6dB Bandwidth	15.247(a)	Pass		MHz
Run # 1 2	6dB Bandwidth 99% Bandwidth	15.247(a) RSS GEN	Pass -	17.1	MHz
Run # 1 2 3	6dB Bandwidth		Pass - Pass	17.1 All emission	MHz
Run # 1 2 3 3 4	6dB Bandwidth 99% Bandwidth Antenna Conducted - Out of Band Spurious	RSS GEN	-	17.1 All emission	MHz is below the
Run # 1 2 3 3 4 Modifications Mad	6dB Bandwidth 99% Bandwidth Antenna Conducted - Out of Band Spurious	RSS GEN	-	17.1 All emission	MHz is below the
Run # 1 2 3 3 4 Modifications Mad	6dB Bandwidth 99% Bandwidth Antenna Conducted - Out of Band Spurious e During Testing made to the EUT during testing	RSS GEN	-	17.1 All emission	MHz is below the

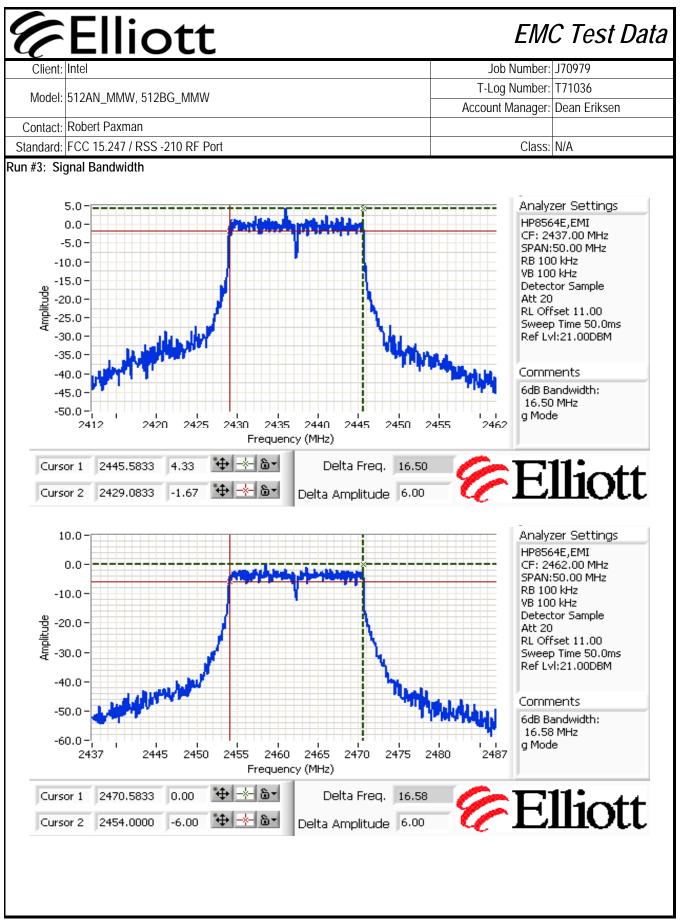


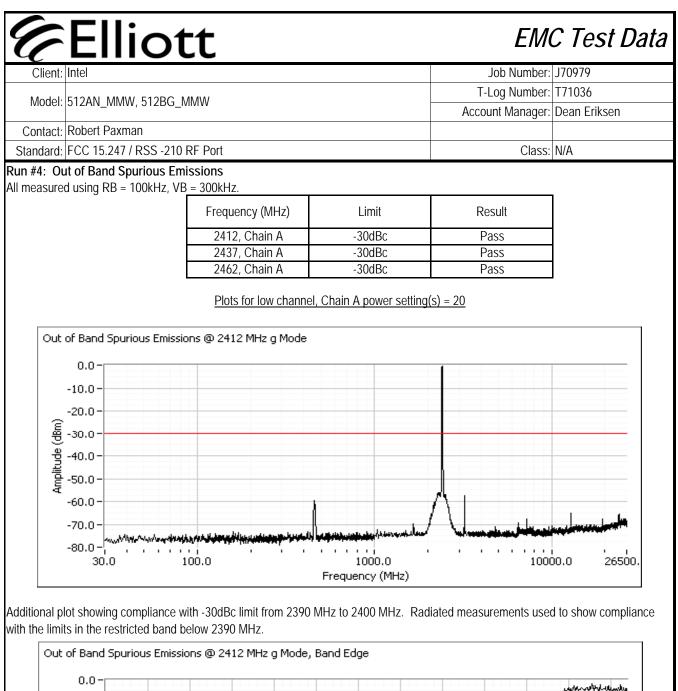


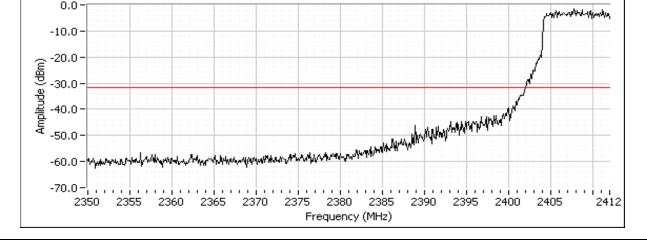


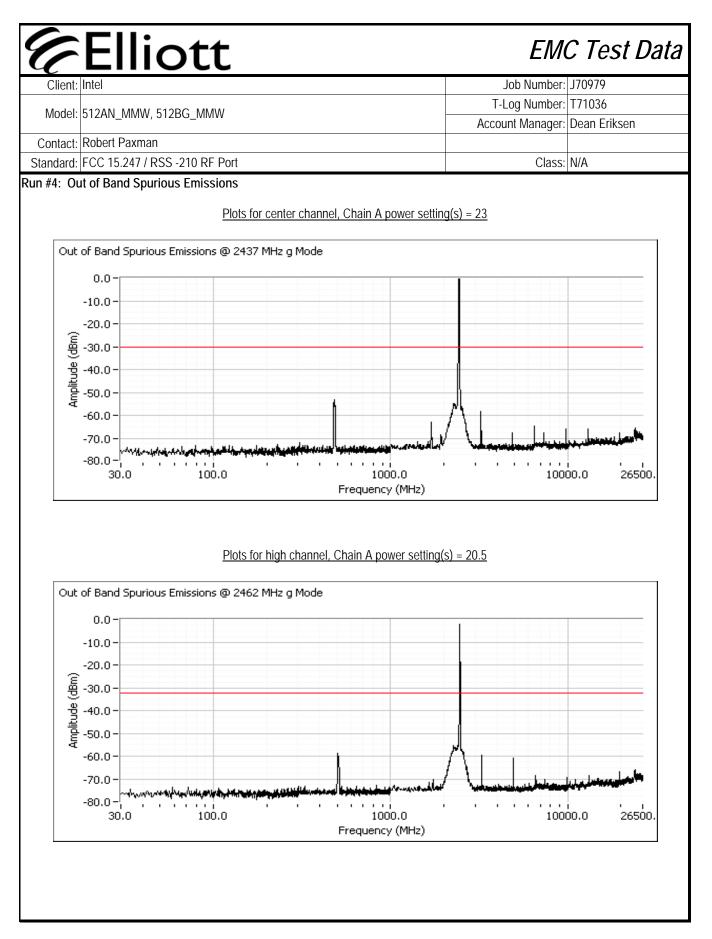




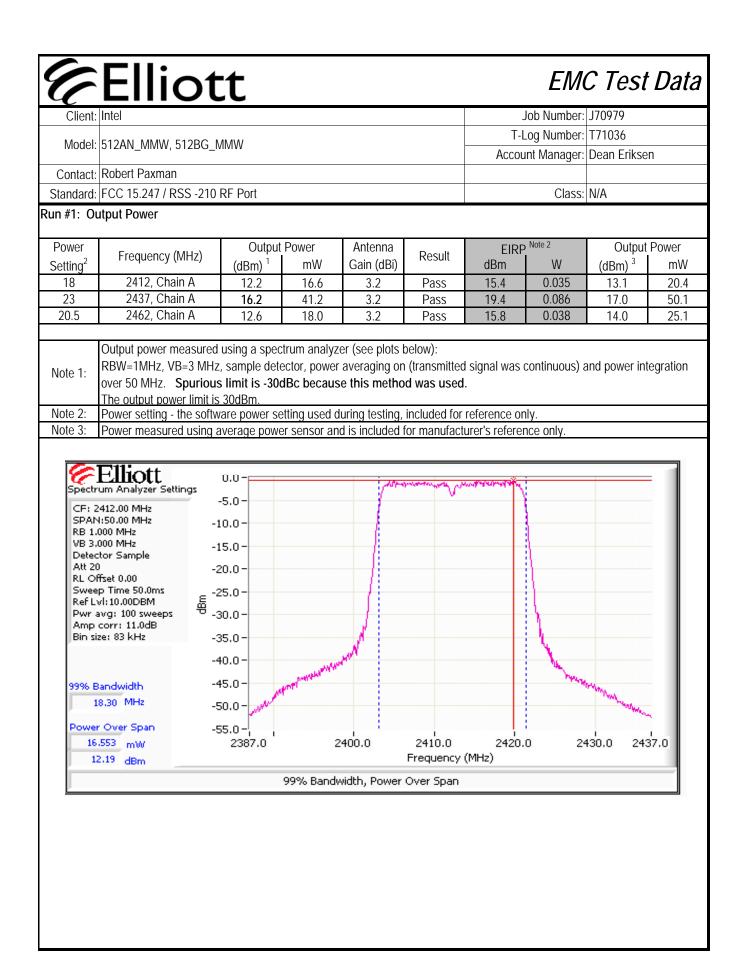


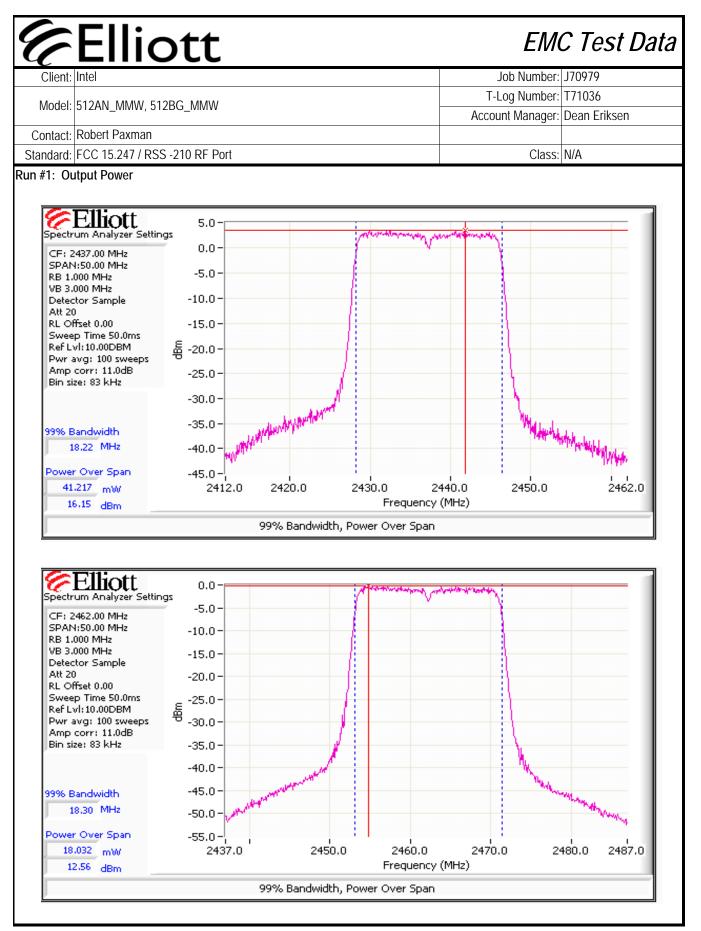


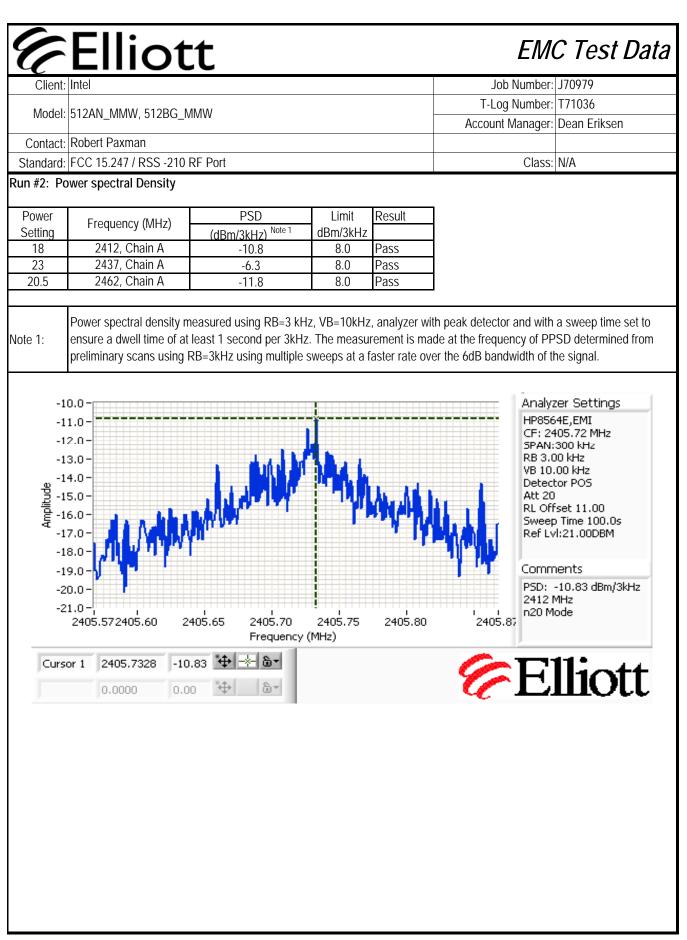


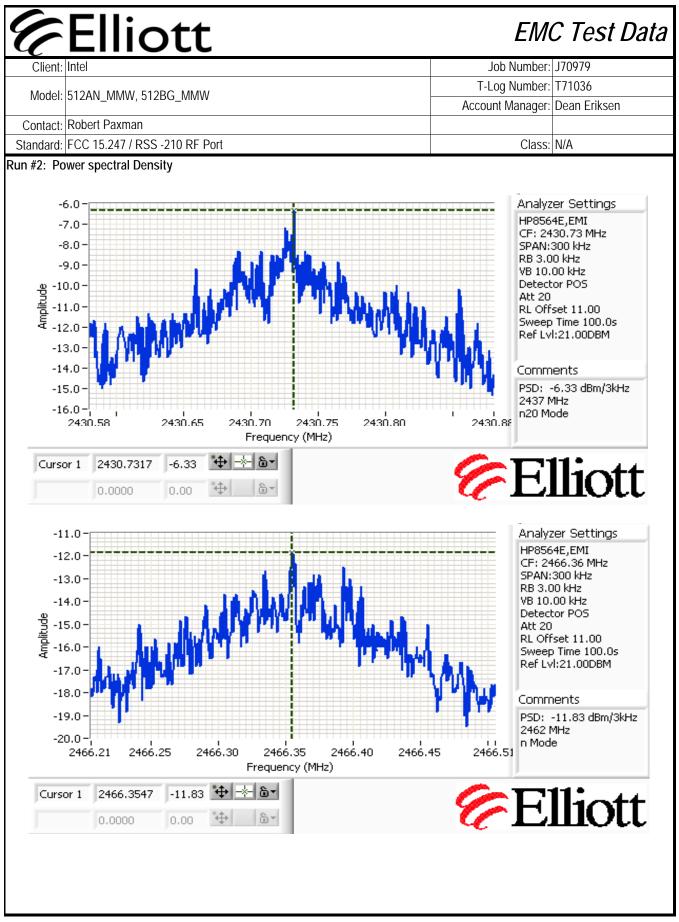


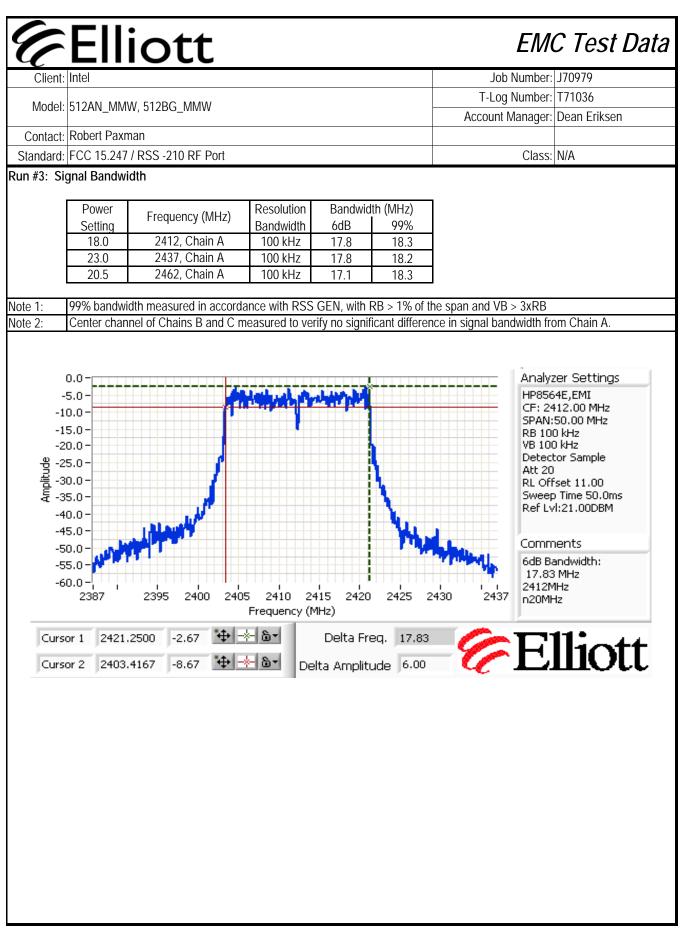
Elliott				EMC Test		
Client: Intel				Job Number: J70979		
				Log Number: T71036		
Model: 512AN_M	MW, 512BG_MMW			unt Manager: Dean Eriks		
Contact: Robert Pax						
Standard: FCC 15.24	7 / RSS -210 RF Port			Class: N/A		
RSS	210 and FCC 15.247 (DT Power, PSD, Bandwidth a	•				
Test Specific Deta	ils					
Objective	<b>T</b> I II II (III I I I I I I I I I I I I I	rform final qualifica	tion testing of th	ne EUT with respect to th		
	🗄 Suhaila Khushzad & John Caizzi	Config. Use Config Chang FUT Voltag		en llest Custon		
General Test Conf	FT Lab #1 iguration d to the spectrum analyzer or power meter			-		
General Test Conf The EUT was connecte chain.	<b>iguration</b> d to the spectrum analyzer or power meter been corrected to allow for the external at	via a suitable atter		-		
General Test Conf The EUT was connecte chain. All measurements have	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity:	<sup>r</sup> via a suitable atter tenuators used. 21 °C		-		
General Test Conf The EUT was connecte thain. All measurements have Ambient Condition	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity:	<sup>r</sup> via a suitable atter tenuators used. 21 °C	nuator. All mea	surements were made or		
General Test Conf The EUT was connecte thain. All measurements have Ambient Condition Summary of Resu	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity: Its	r via a suitable atter tenuators used. 21 °C 40 %		-		
General Test Conf he EUT was connecte hain. Il measurements have Ambient Condition Gummary of Resu Run # 1 2	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity: Its Test Performed Output Power Power spectral Density (PSD)	tenuators used. 21 °C 40 % Limit 15.247(b) 15.247(d)	nuator. All mea	Result / Margin 16.2 dBm(41.2mW) -6.3 dBm/3kHz		
General Test Conf The EUT was connected hain. Ill measurements have Ambient Condition Summary of Resu Run # 1 2 3	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity: Its Test Performed Output Power Power spectral Density (PSD) 6dB Bandwidth	tenuators used. 21 °C 40 % Limit 15.247(b) 15.247(d) 15.247(a)	nuator. All mea	Result / Margin 16.2 dBm(41.2mW) -6.3 dBm/3kHz 17.1 MHz		
General Test Conf he EUT was connecte hain. Il measurements have Ambient Condition Gummary of Resu	iguration d to the spectrum analyzer or power meter been corrected to allow for the external at ns: Temperature: Rel. Humidity: Its Test Performed Output Power Power spectral Density (PSD)	tenuators used. 21 °C 40 % Limit 15.247(b) 15.247(d)	nuator. All mea Pass / Fail Pass Pass	Result / Margin 16.2 dBm(41.2mW) -6.3 dBm/3kHz		

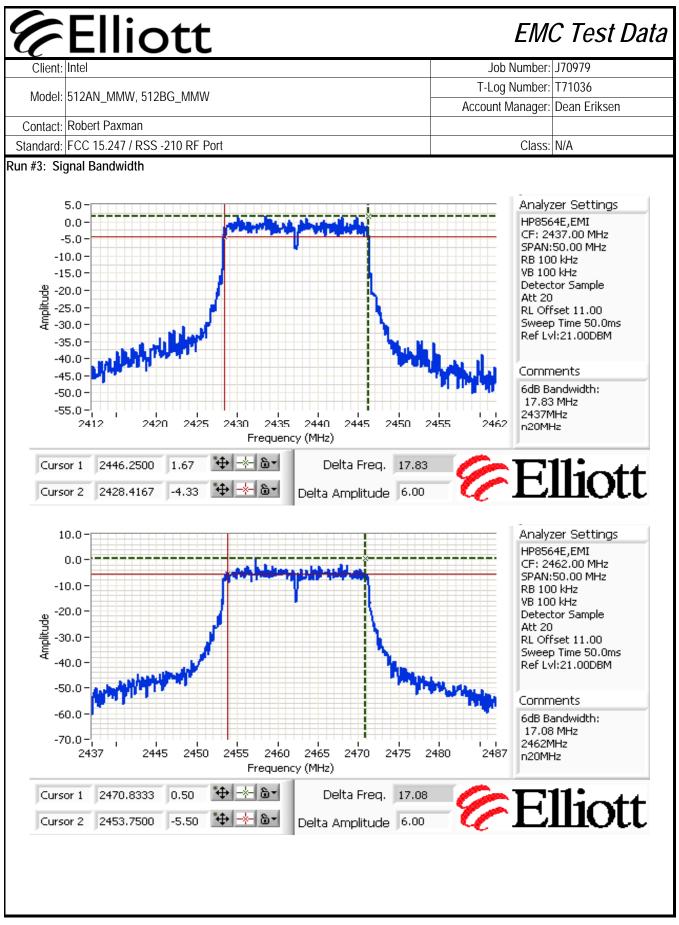


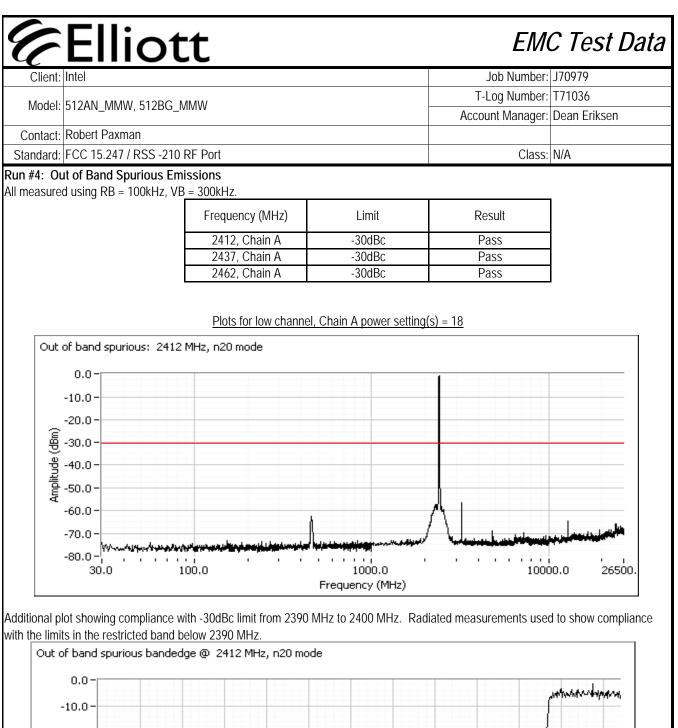


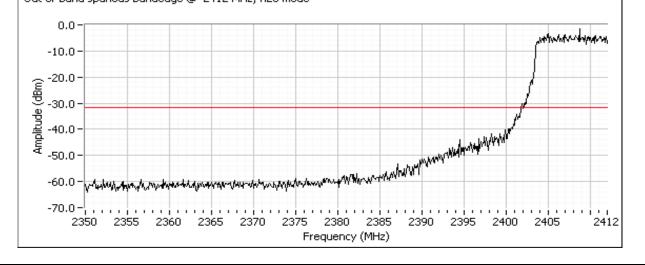


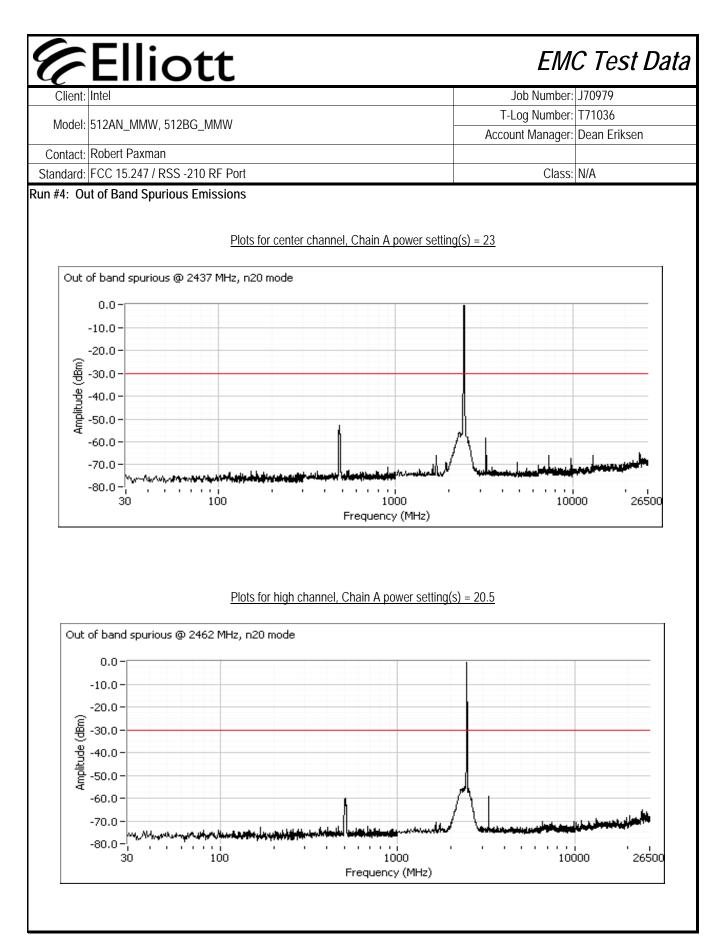






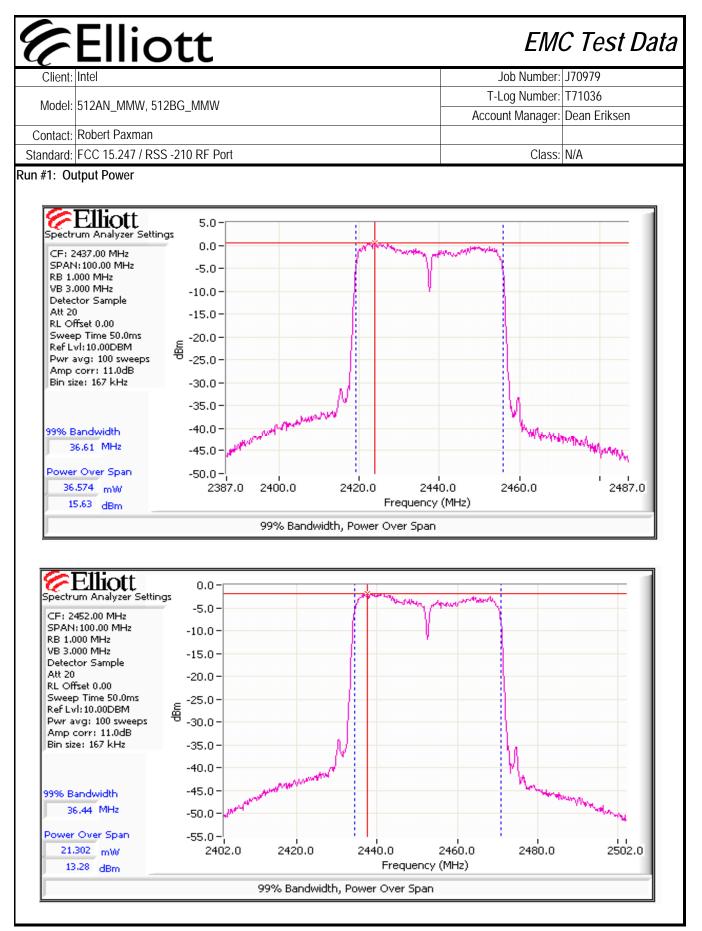


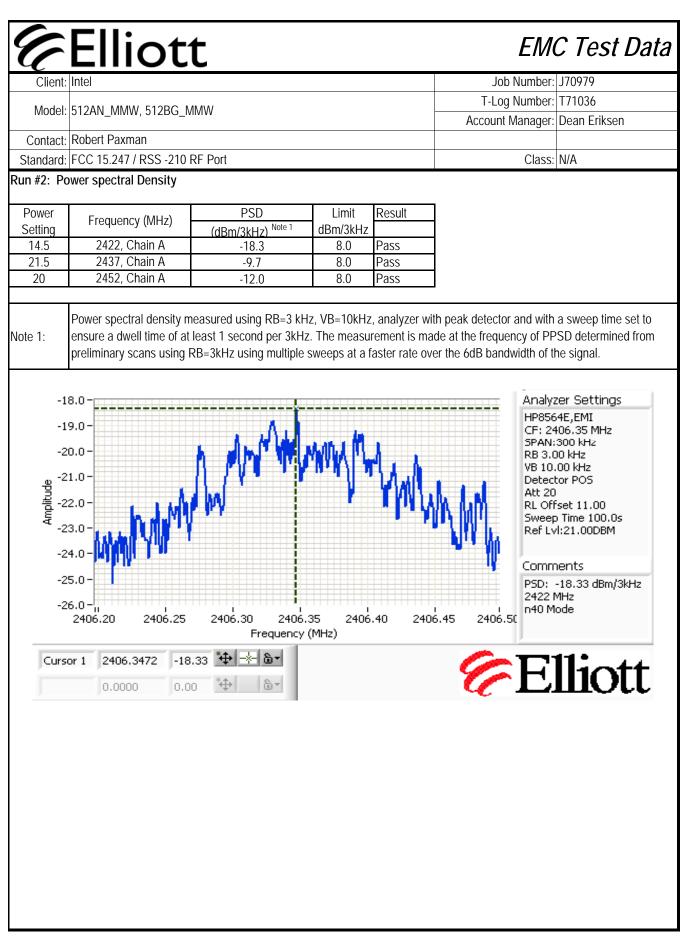


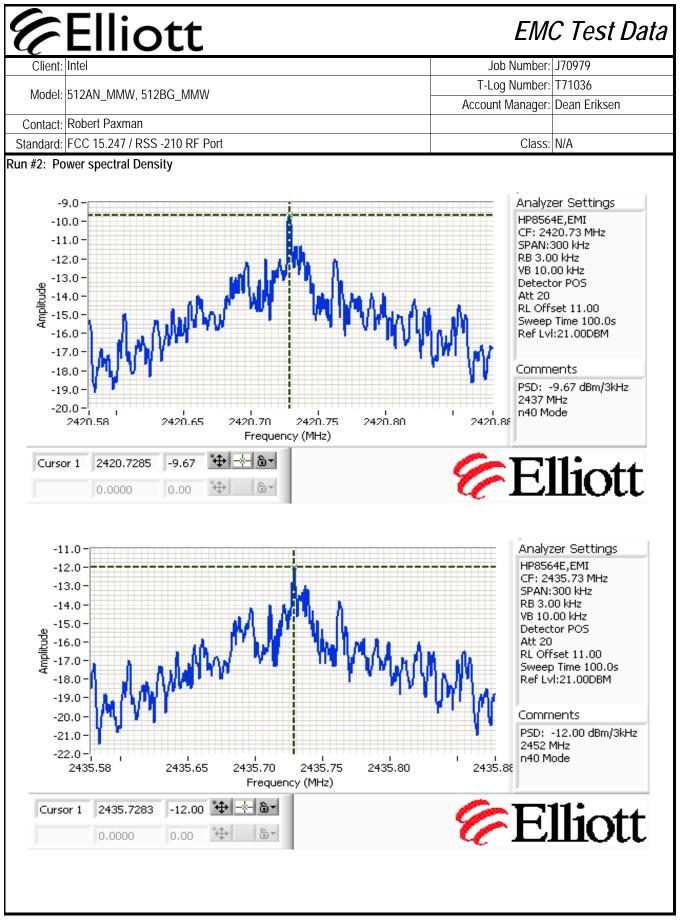


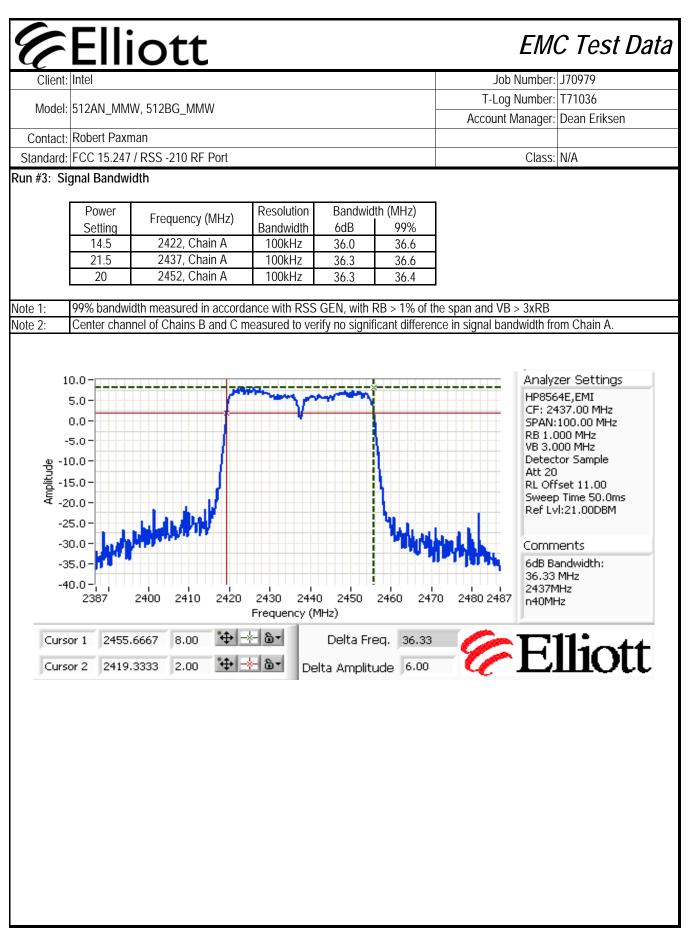
	liott			EMC Test
Client: Intel				Job Number: J70979
				_og Number: T71036
Model: 512AN_	MMW, 512BG_MMW			unt Manager: Dean Eriks
Contact: Robert	Paxman			
Standard: FCC 15	.247 / RSS -210 RF Port			Class: N/A
RS	S 210 and FCC 15.247 (DT Power, PSD, Bandwidth a	•		
Test Specific De	etails			
• Objec	The address of the base of the second second second second	rform final qualifica	tion testing of th	ne EUT with respect to th
Date of T	est: 4/14/2008	Config. Use		
		Config Chong	- NI	
	eer: Suhaila Khushzad & John Caizzi	Config Chang		
Test Loca General Test Co The EUT was conne chain. All measurements h	ion: FT Lab #1 Infiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at	EUT Voltaç via a suitable atter tenuators used.	ge: Powered Fr	om Host System surements were made or
Test Loca General Test Co The EUT was conne chain.	ion: FT Lab #1 onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity:	EUT Voltaç	ge: Powered Fr	-
Test Loca General Test Co The EUT was conne hain. Il measurements ha Ambient Condit	ion: FT Lab #1 onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity:	EUT Voltag via a suitable atter tenuators used. 23 °C	ge: Powered Fr	surements were made or
Test Loca General Test Co The EUT was conne thain. All measurements h Ambient Condit Summary of Re	ion: FT Lab #1 onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity: sults	EUT Voltaç • via a suitable atter tenuators used. 23 °C 35 %	ge: Powered Fr	-
Test Loca General Test Co he EUT was conne- hain. Il measurements ha Ambient Condit Gummary of Re Run # 1 2	ion: FT Lab #1  onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity: sults  Test Performed Output Power Power spectral Density (PSD)	EUT Voltag • via a suitable atter tenuators used. 23 °C 35 % Limit 15.247(b) 15.247(d)	ge: Powered France nuator. All mea Pass / Fail Pass Pass	surements were made or Result / Margin 15.6 dBm(36.6mW) -9.7 dBm/3kHz
Test Loca General Test Co The EUT was conne- hain. All measurements h Ambient Condit Summary of Re Run # 1 2 3	ion: FT Lab #1  onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity: sults  Test Performed Output Power Power spectral Density (PSD) 6dB Bandwidth	EUT Voltage • via a suitable atter tenuators used. 23 °C 35 % Limit 15.247(b) 15.247(d) 15.247(a)	ge: Powered Fr nuator. All mea Pass / Fail Pass	Result / Margin 15.6 dBm(36.6mW) -9.7 dBm/3kHz 36.0 MHz
Test Loca General Test Co The EUT was conner hain. Il measurements ha Ambient Condit Gummary of Re Run # 1 2	ion: FT Lab #1  onfiguration cted to the spectrum analyzer or power meter ave been corrected to allow for the external at ions: Temperature: Rel. Humidity: sults  Test Performed Output Power Power spectral Density (PSD)	EUT Voltag • via a suitable atter tenuators used. 23 °C 35 % Limit 15.247(b) 15.247(d)	ge: Powered France nuator. All mea Pass / Fail Pass Pass	surements were made or Result / Margin 15.6 dBm(36.6mW) -9.7 dBm/3kHz

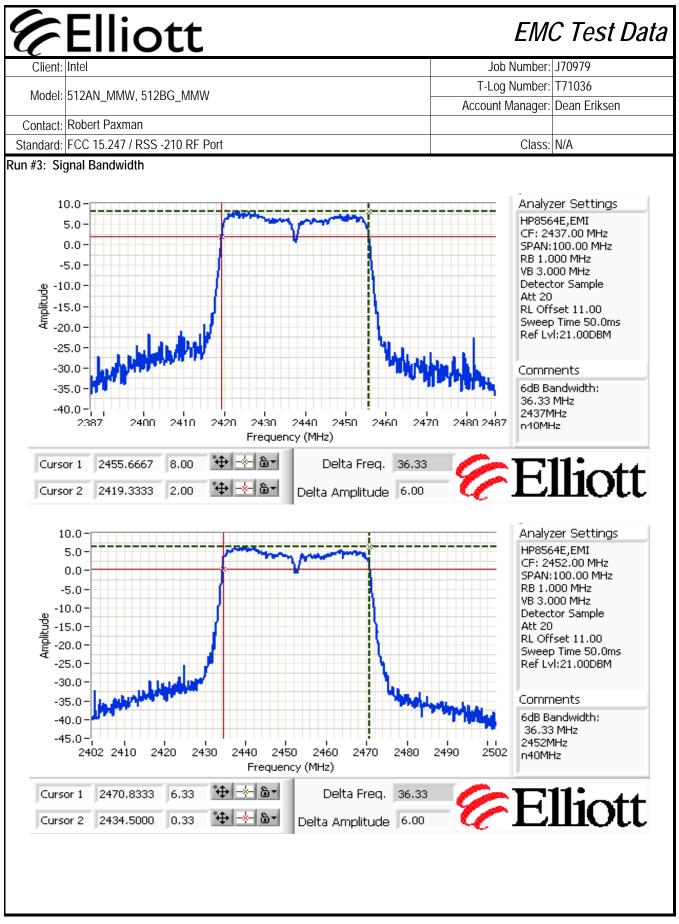
Client:							~	Job Number:	J70979	
Model	: 512AN_MMW, 5	S12BC MM	1.1.1				T-L	og Number:	T71036	
			VV				Accou	int Manager:	Dean Eriksen	
	: Robert Paxman									
	: FCC 15.247 / RS	SS -210 RF	Port					Class:	N/A	
ın #1: O	utput Power									
Power	- 4		Output	Power	Antenna		FIRP	Note 2	Output P	ower
Setting <sup>2</sup>	Frequency (N	MHz)	(dBm) <sup>1</sup>	mW	Gain (dBi)	Result	dBm	W	(dBm) <sup>3</sup>	mW
14.5	2422, Chai		9.6	9.0	3.2	Pass	12.8	0.019	10.1	10
21.5 20	2437, Chair 2452, Chair		<b>15.6</b> 13.3	36.6 21.3	3.2 3.2	Pass	18.8 16.5	0.076	16.5 14.1	44
20	2402, UIIdi	ΠΛ	13.3	21.3	J.Z	Pass	10.0	0.044	14.1	25
(fr	Elliott	-5.(	0							
	rum Analyzer Setti		-		1 1 1 1 1					
		-10.0	0-			uponersal and	mound			
SPAN	2422.00 MHz N: 100.00 MHz	-10.0				Monte and	Annantin			
SPAN RB 17		-15.0	0-			Marine La	many			L
SPAN RB 1. VB 3.	4:100.00 MHz 000 MHz 000 MHz tor Sample		0-				An water and			l
SPAN RB 1. VB 3. Detec Att 20 RL Of	N: 100.00 MHz .000 MHz .000 MHz .tor Sample 0 ffset 0.00	-15.0	o – o –				Mar Mar Mary			l
SPAN RB 1, VB 3, Detect Att 20 RL Of Swee Ref Lt	N: 100.00 MHz 000 MHz 000 MHz ctor Sample 0 ffset 0.00 p Time 50.0ms vl: 10.00DBM	-15.( -20.(	0 - 0 - 0 -				-			l
SPAN RB 1, VB 3, Detec Att 20 RL Of Swee Ref Lt Pwr a Amp	4: 100.00 MHz 000 MHz 2000 MHz 2tor Sample 0 ffset 0.00 p Time 50.0ms vl: 10.00DBM avg: 100 sweeps corr: 11.0dB	-15.( -20.( -25.(	0- 0- 0-				-			
SPAN RB 1, VB 3, Detec Att 20 RL Of Swee Ref Lt Pwr a Amp	4: 100.00 MHz 000 MHz 2000 MHz 2007 Sample 0 ffset 0.00 20 Time 50.0ms v1: 10.00DBM avg: 100 sweeps	-15.( -20.( -25.( ළු -30.(	0 - 0 - 0 - 0 - 0 -							
SPAN RB 1. VB 3. Detec Att 20 RL 0f Swee Ref L1 Pwr a Bin si	4: 100.00 MHz 000 MHz 2000 MHz 200 MHz 20 MHz 0 ffset 0.00 20 Time 50.0ms v1: 10.00DBM avg: 100 sweeps corr: 11.0dB ize: 167 kHz	-15.( -20.( -25.( 튭 -30.( -35.( -40.(	0 - 0 - 0 - 0 - 0 -							
SPAN RB 1. VB 3. Detec Att 20 RL 0f Swee Ref Lt Pwr a Amp Bin sia	4: 100.00 MHz 000 MHz 2tor Sample 0 ffset 0.00 ep Time 50.0ms v1: 10.00DBM avg: 100 sweeps corr: 11.0dB ize: 167 kHz	-15.( -20.( -25.( -25.( -35.( -35.( -40.( -45.(	0 - 0 - 0 - 0 - 0 - 0 -					M		
SPAN RB 1, VB 3, Detect Att 20 RE L0 Swee Ref L1 Pwr 4 Amp Bin sit	4: 100.00 MHz 000 MHz ctor Sample 0 ffset 0.00 ep Time 50.0ms vl: 10.00DBM avg: 100 sweeps corr: 11.0dB ize: 167 kHz Bandwidth 66.61 MHz	-15.( -20.( -25.( -25.( -35.( -35.( -40.( -45.( -50.(	0 - 0 - 0 - 0 - 0 - 0 - 0 -	and the most of the				M	wyder we her hydr	
SPAN RB 1, VB 3, Detect Att 20 Swee Ref Lt Pwr 4 Amp Bin sit 99% B 3 Power	4: 100.00 MHz 000 MHz 2tor Sample 0 ffset 0.00 ep Time 50.0ms v1: 10.00DBM avg: 100 sweeps corr: 11.0dB ize: 167 kHz	-15.( -20.( -25.( -25.( -35.( -40.( -45.( -50.(	0 - 0 - 0 - 0 - 0 - 0 - 0 -	and the second second	2400.0	2420.0	2440		2460.0 2472	.0
SPAN RB 1. VB 3. Detec Att 20 RL 0i Swee Ref L Pwr 3 Amp Bin si 99% B 3 Power 9	4: 100.00 MHz 000 MHz ctor Sample 0 ffset 0.00 ep Time 50.0ms vl: 10.00DBM avg: 100 sweeps corr: 11.0dB ize: 167 kHz Bandwidth 6.61 MHz r Over Span	-15.( -20.( -25.( -25.( -35.( -40.( -45.( -50.(	0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	and the south of	2400.0		244		i I	.0

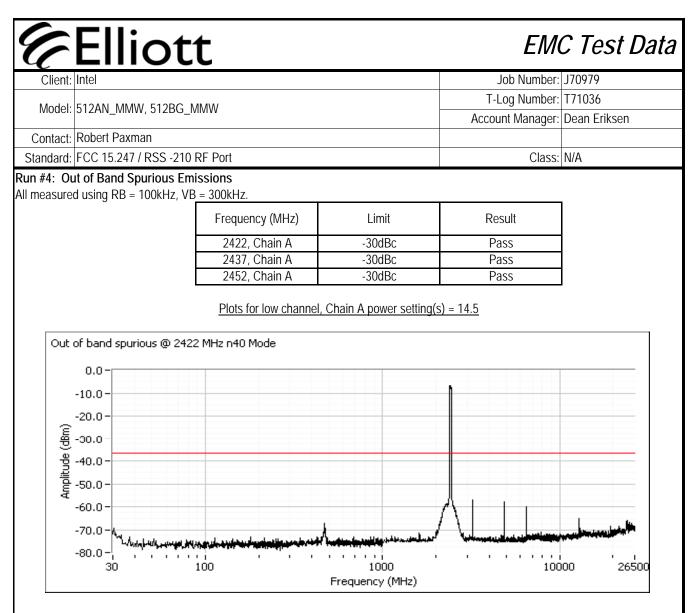




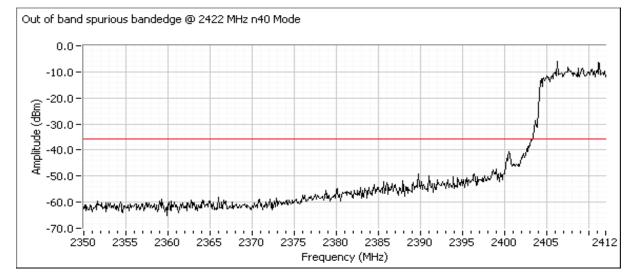


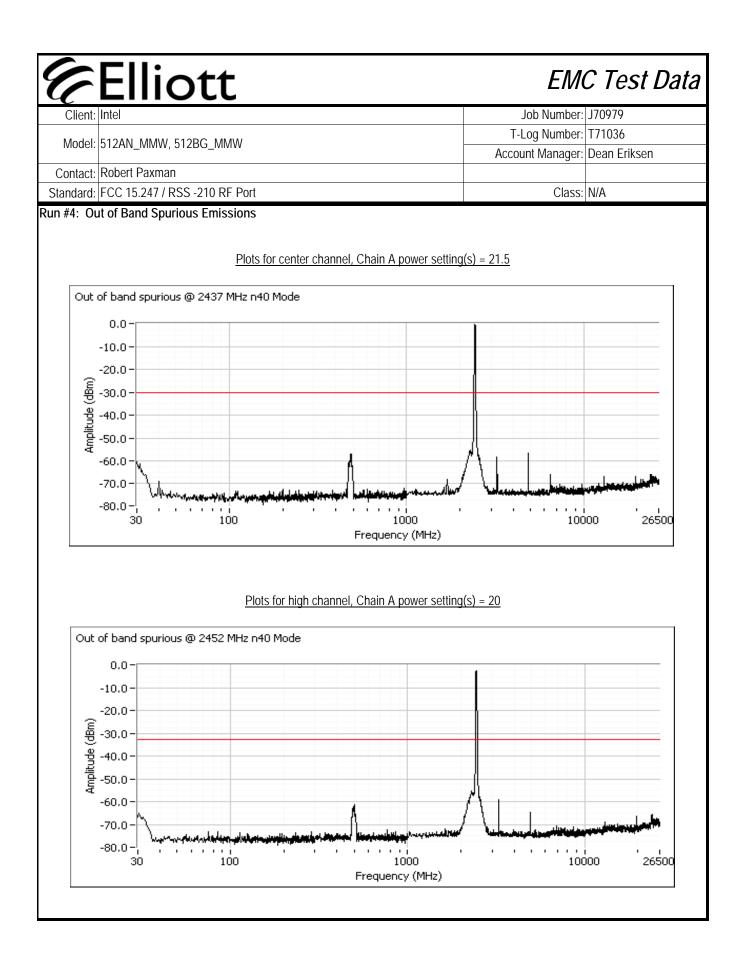




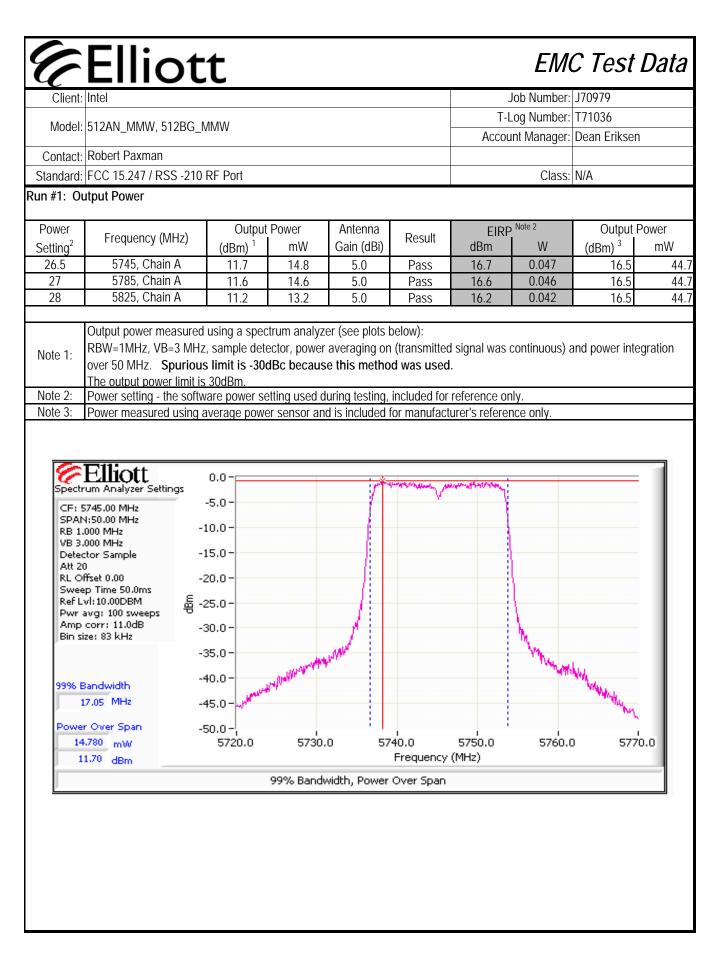


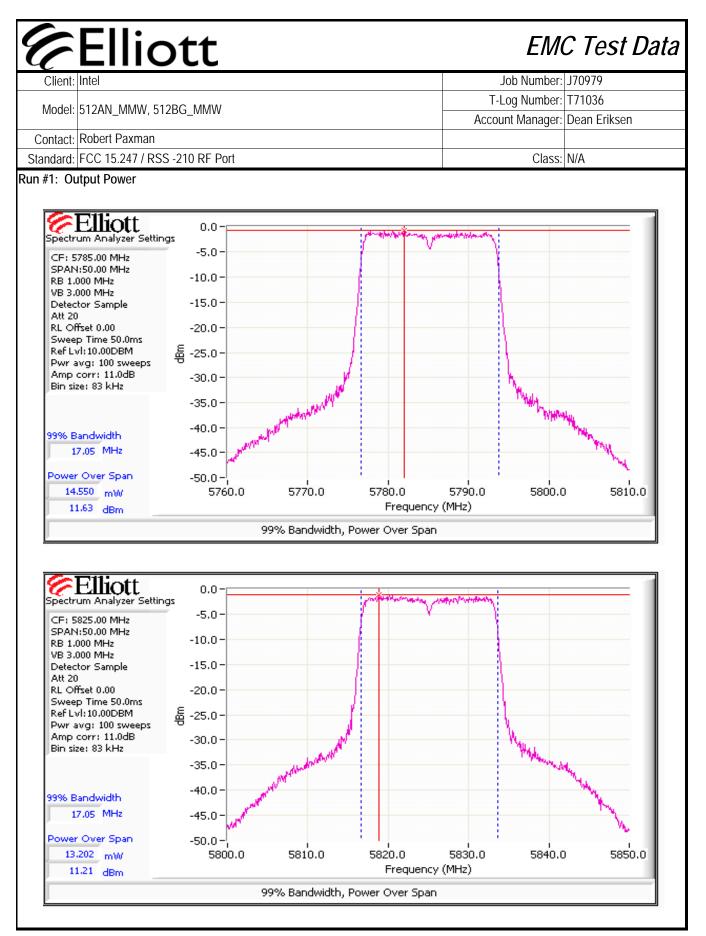
Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

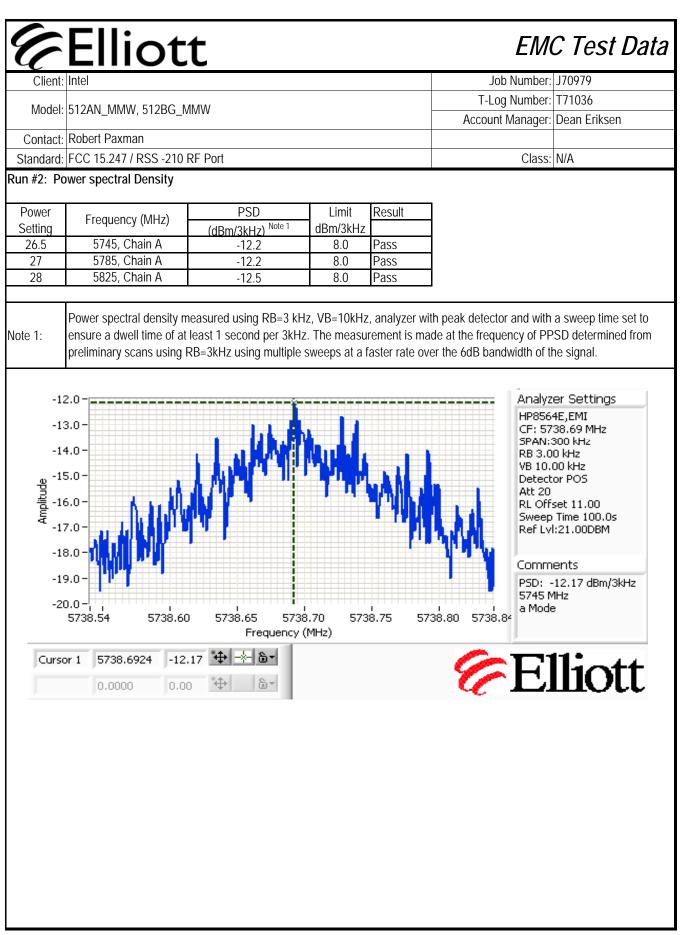


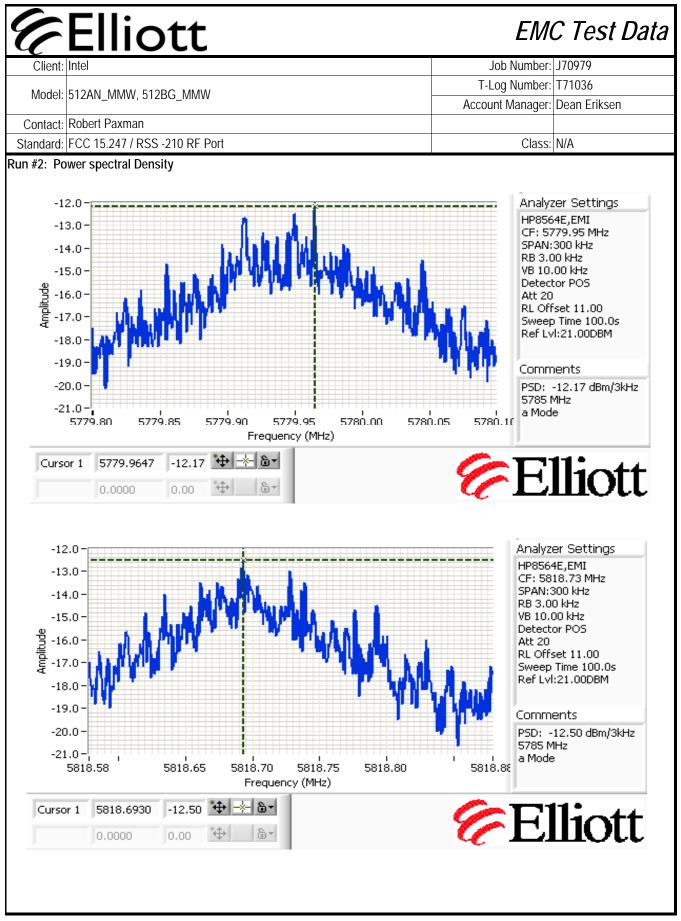


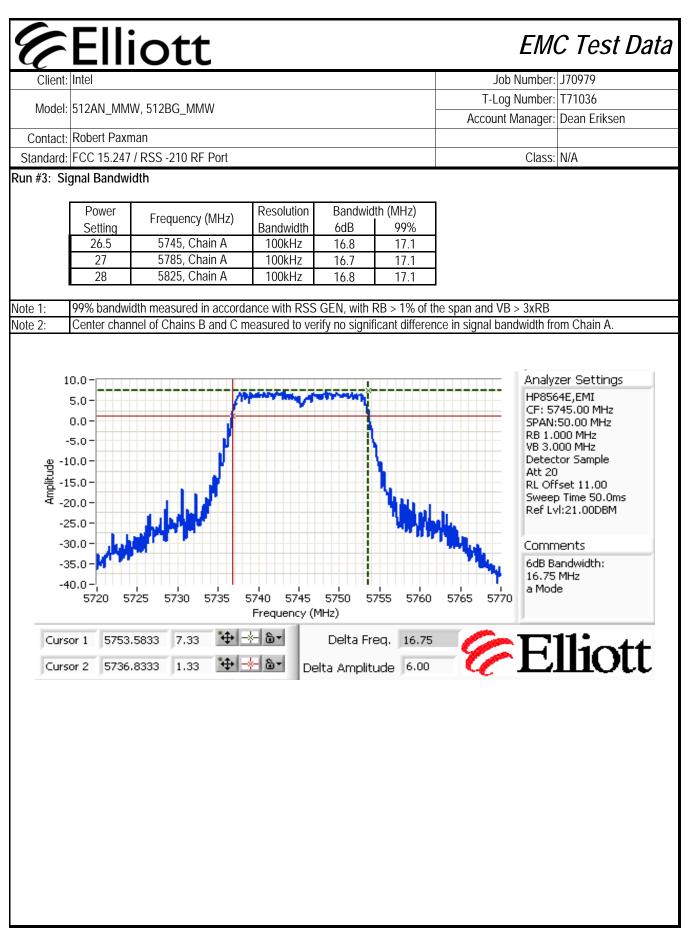
	liott			EMC Tes
Client: Intel				Job Number: J70979
Model: 512AN_	MMW, 512BG_MMW			_og Number: T71036
Contact: Robert F	Paxman		ACCOL	Int Manager: Dean Eriks
	247 / RSS -210 RF Port			Class: N/A
RSS	210 and FCC 15.247 (D	-		
Test Specific De	Power, PSD, Bandwic	ith and Spur	ious - 802	.11a
Object	<b>T</b> I II II (11)	erform final qualifica	ition testing of th	ne EUT with respect to th
	est: 4/14/2008 eer: Suhaila Khushzad & John Caizzi	Config. Use Config Chang	ge: None	
Test Locat General Test Co	on: FT Lab #1			om Host System surements were made or
Test Locat General Test Co The EUT was conne- thain.	on: FT Lab #1 nfiguration cted to the spectrum analyzer or power mete ve been corrected to allow for the external a ons: Temperature:	r via a suitable atter ttenuators used. 22 °C		·
Test Locat General Test Co The EUT was conner hain. Il measurements ha	on: FT Lab #1 <b>nfiguration</b> cted to the spectrum analyzer or power mete ve been corrected to allow for the external a <b>ons:</b> Temperature: Rel. Humidity:	r via a suitable atter ttenuators used.		·
Test Locat General Test Co he EUT was conner hain. Il measurements ha Ambient Conditi	on: FT Lab #1 <b>nfiguration</b> cted to the spectrum analyzer or power mete ve been corrected to allow for the external a <b>ons:</b> Temperature: Rel. Humidity:	r via a suitable atter ttenuators used. 22 °C		·
Test Locat General Test Co he EUT was conner nain. Il measurements ha mbient Conditi nummary of Res Run # 1	on: FT Lab #1  nfiguration cted to the spectrum analyzer or power mete ve been corrected to allow for the external a  ons: Temperature: Rel. Humidity: sults  Test Performed Output Power	r via a suitable atter ttenuators used. 22 °C 35 % Limit 15.247(b)	nuator. All mea	surements were made or Result / Margin 11.7 dBm(14.8mW)
Test Locat ieneral Test Co ne EUT was conner- nain. I measurements ha mbient Conditi ummary of Res Run # 1 2	on: FT Lab #1  nfiguration cted to the spectrum analyzer or power mete ve been corrected to allow for the external a  ons: Temperature: Rel. Humidity:  sults  Test Performed Output Power Power spectral Density (PSD)	r via a suitable atter ttenuators used. 22 °C 35 % Limit 15.247(b) 15.247(d)	nuator. All mea Pass / Fail Pass Pass	surements were made or Result / Margin 11.7 dBm(14.8mW) -12.2 dBm/3kHz
Test Locat General Test Co he EUT was conner nain. Il measurements ha mbient Conditi nummary of Res Run # 1	on: FT Lab #1  nfiguration cted to the spectrum analyzer or power mete ve been corrected to allow for the external a  ons: Temperature: Rel. Humidity: sults  Test Performed Output Power	r via a suitable atter ttenuators used. 22 °C 35 % Limit 15.247(b)	nuator. All mea	surements were made or Result / Margin 11.7 dBm(14.8mW)

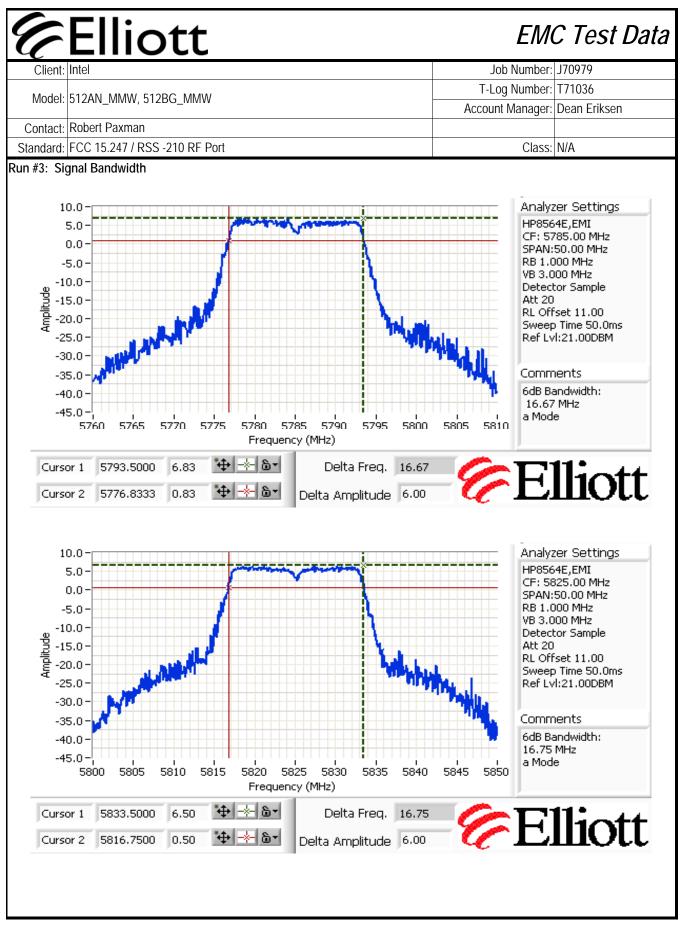


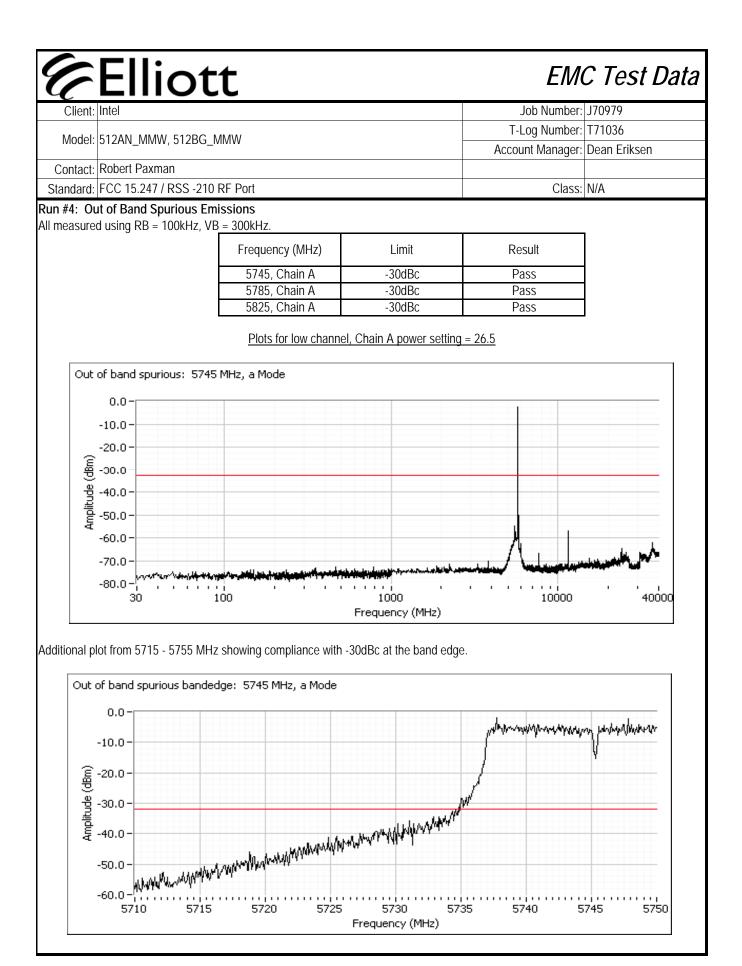


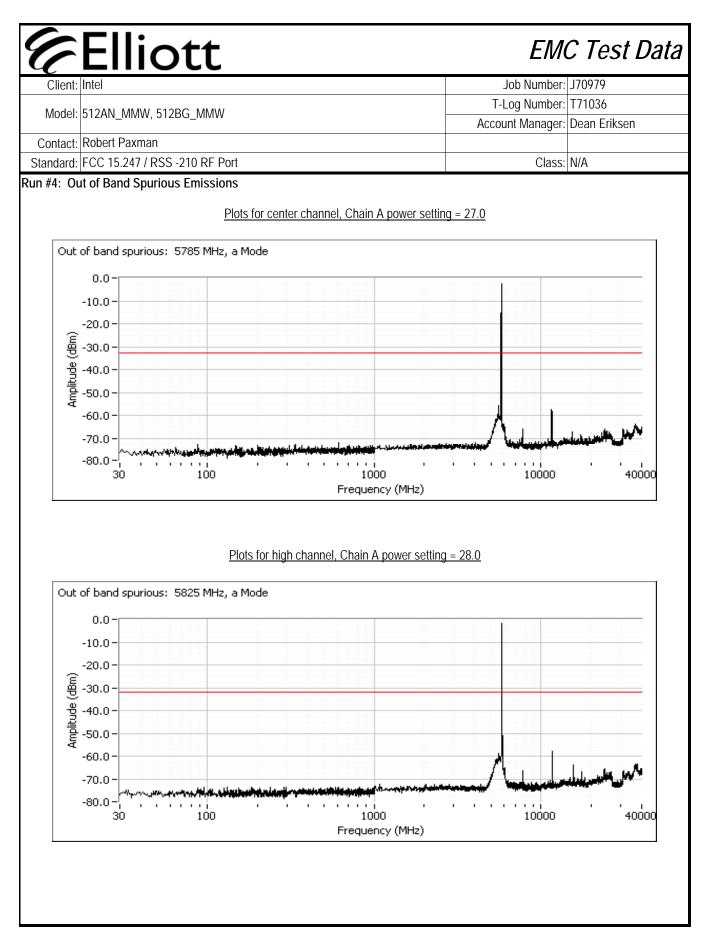


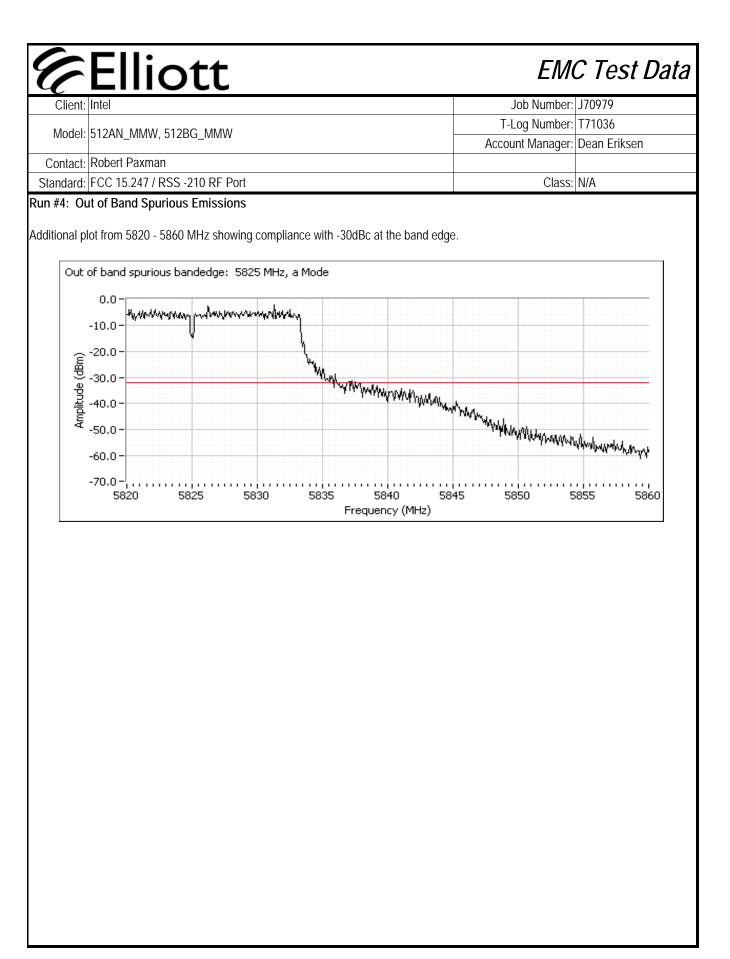




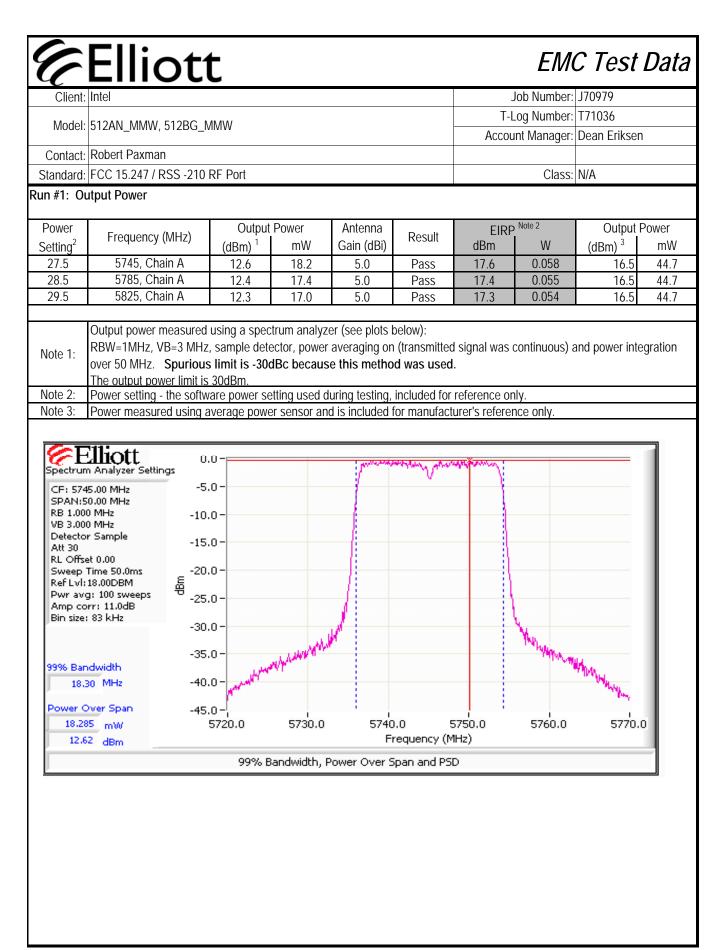


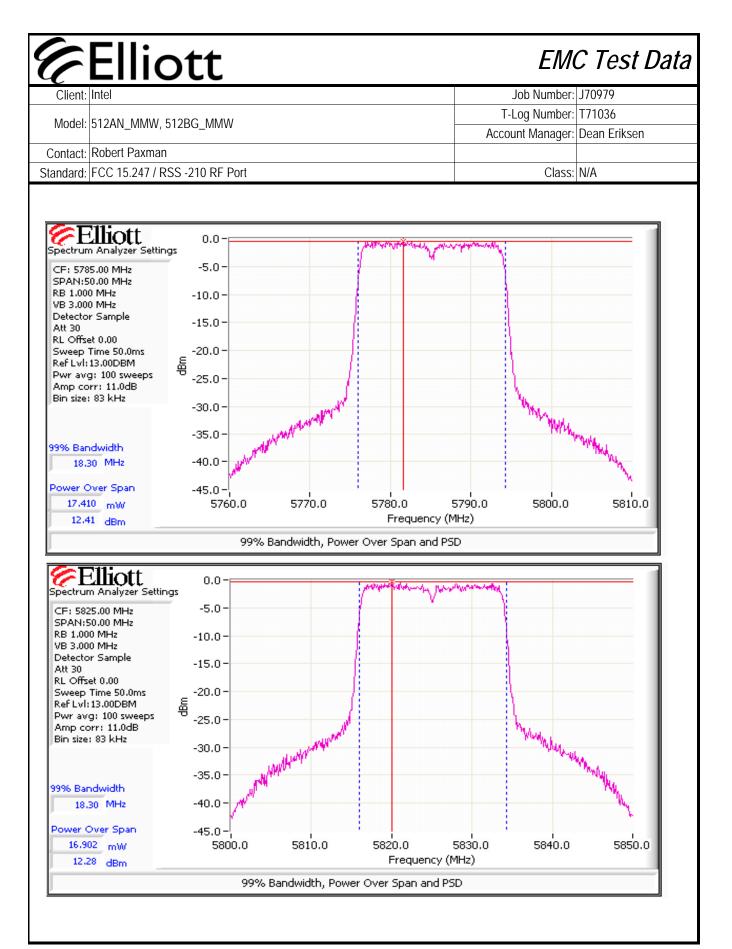


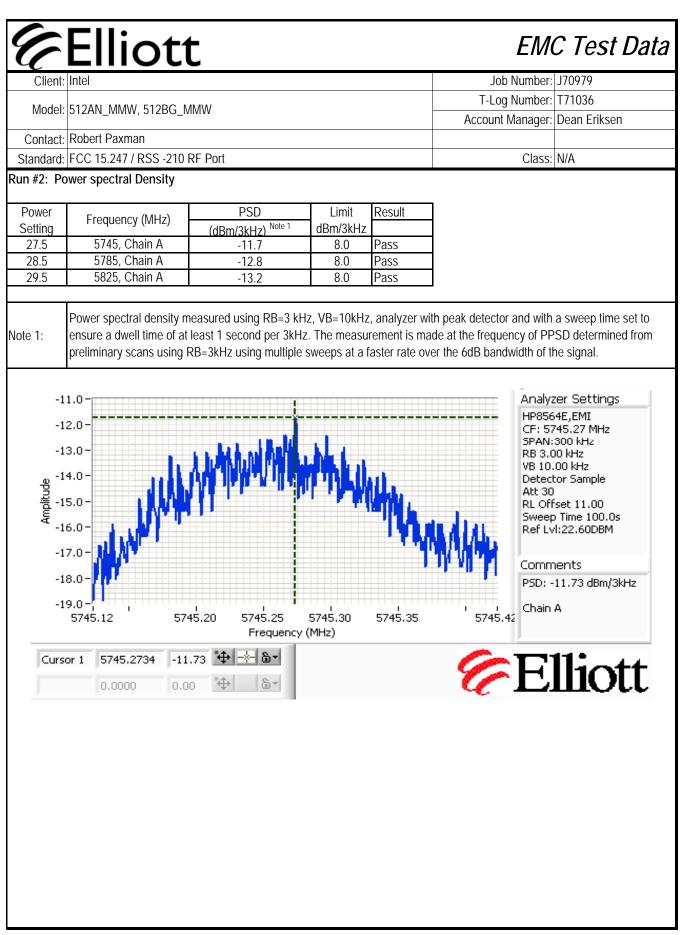


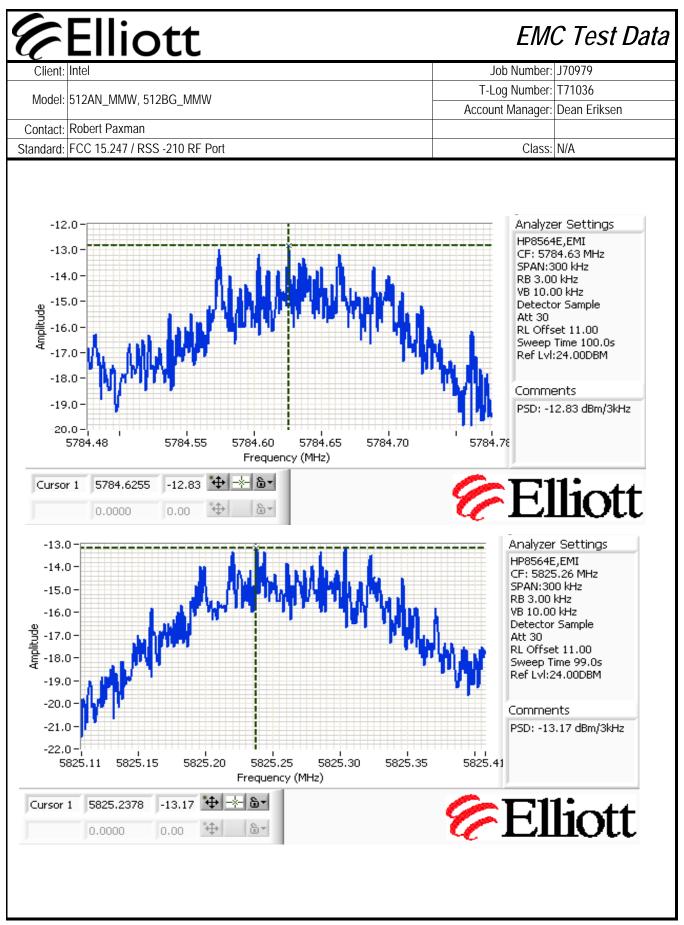


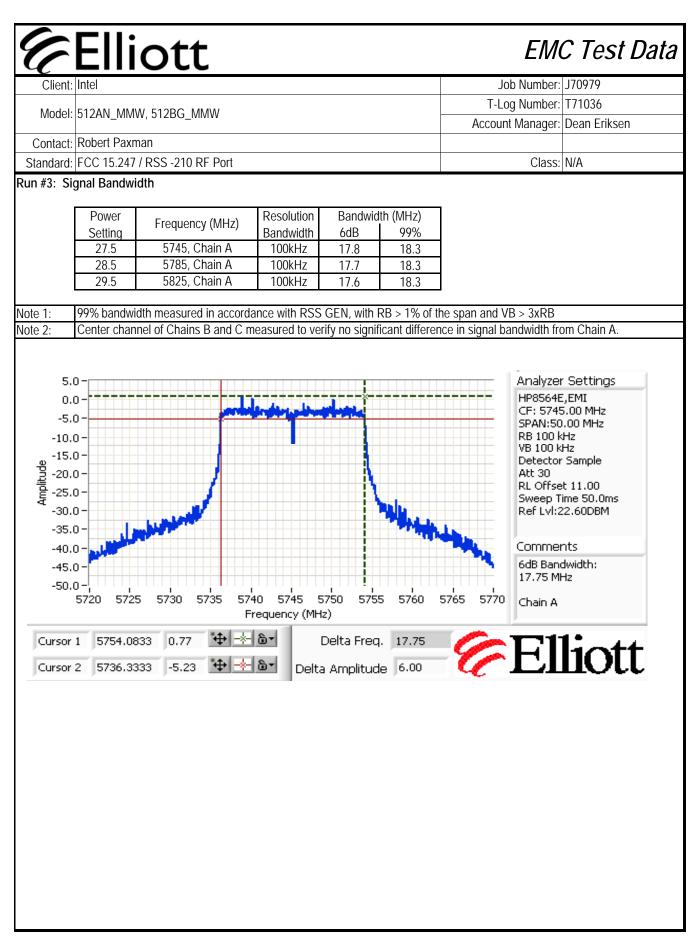
	iott			EM	C Test Da
Client: Intel				Job Number:	J70979
Model: 512AN_MM	1W/ 512BC MM/W			Log Number:	
			Αссοι	unt Manager:	Dean Eriksen
Contact: Robert Pax					
Standard: FCC 15.24	7 / RSS -210 RF Port			Class:	N/A
RSS 2	210 and FCC 15.247 (D Power, PSD, Bandwidth a	•			ments
Fest Specific Detai	ls				
Objective	The objective of this test session is to per specification listed above.	erform final qualifica	tion testing of th	he EUT with r	respect to the
Date of Test Test Engineer Test Location	Rafael Varelas	Config. Use Config Chang EUT Voltag		om Host Sys	tem
chain. All magaziramenta hava	haan aarraatad ta allaw far the external -	ttopuptoro us s			
	been corrected to allow for the external a S: Temperature: Rel. Humidity:	ttenuators used. 22.5 °C 36 %			
All measurements have	S: Temperature: Rel. Humidity:	22.5 °C			
Il measurements have	S: Temperature: Rel. Humidity:	22.5 °C	Pass / Fail	Result	/ Margin
Il measurements have Ambient Condition Gummary of Resul Run # 1	rs: Temperature: Rel. Humidity: ts Test Performed Output Power	22.5 °C 36 %	Pass		/ Margin (18.2 mW)
Il measurements have Ambient Condition Summary of Resul Run # 1 2	rs: Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD)	22.5 °C 36 % Limit 15.247(b) 15.247(d)	Pass Pass	12.6 dBm -11.7 dl	(18.2 mW) Bm/3kHz
Ambient Condition Ambient Condition Summary of Resul Run # 1 2 3	rs: Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD) 6dB Bandwidth	22.5 °C 36 % Limit 15.247(b) 15.247(d) 15.247(a)	Pass	12.6 dBm -11.7 dl 17.6	(18.2 mW) Bm/3kHz MHz
Ambient Condition Ambient Condition Summary of Resul Run # 1 2	rs: Temperature: Rel. Humidity: ts Test Performed Output Power Power spectral Density (PSD)	22.5 °C 36 % Limit 15.247(b) 15.247(d)	Pass Pass	12.6 dBm -11.7 dl 17.6 18.3	(18.2 mW) Bm/3kHz

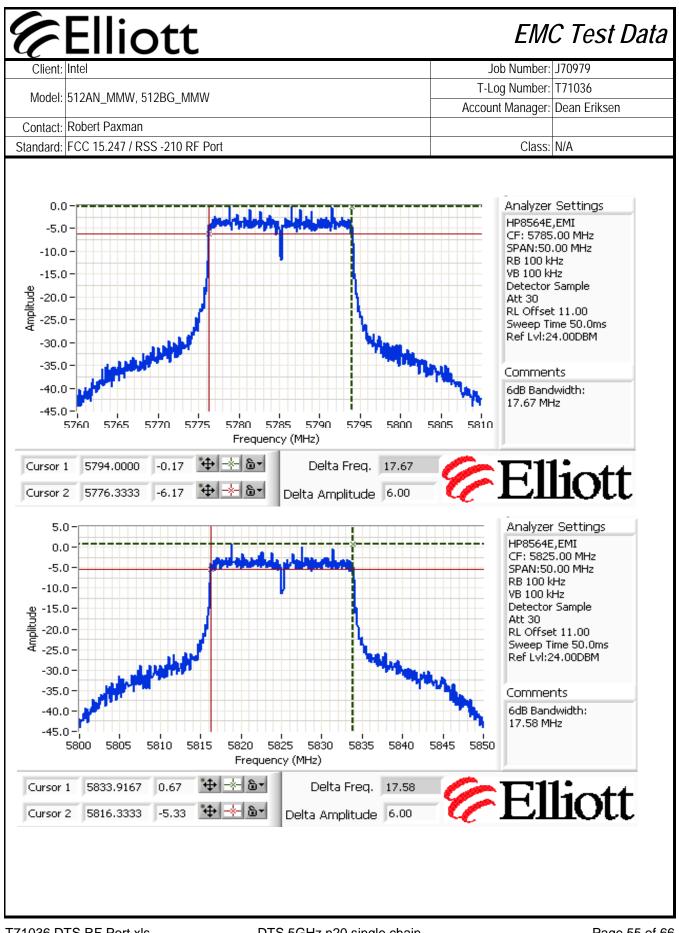


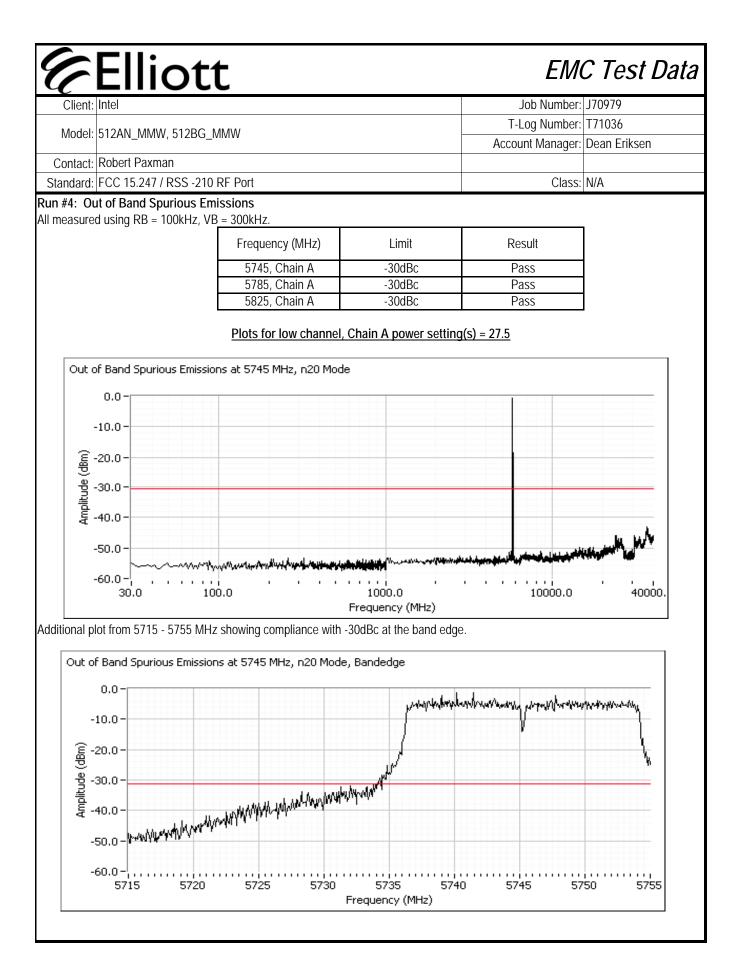


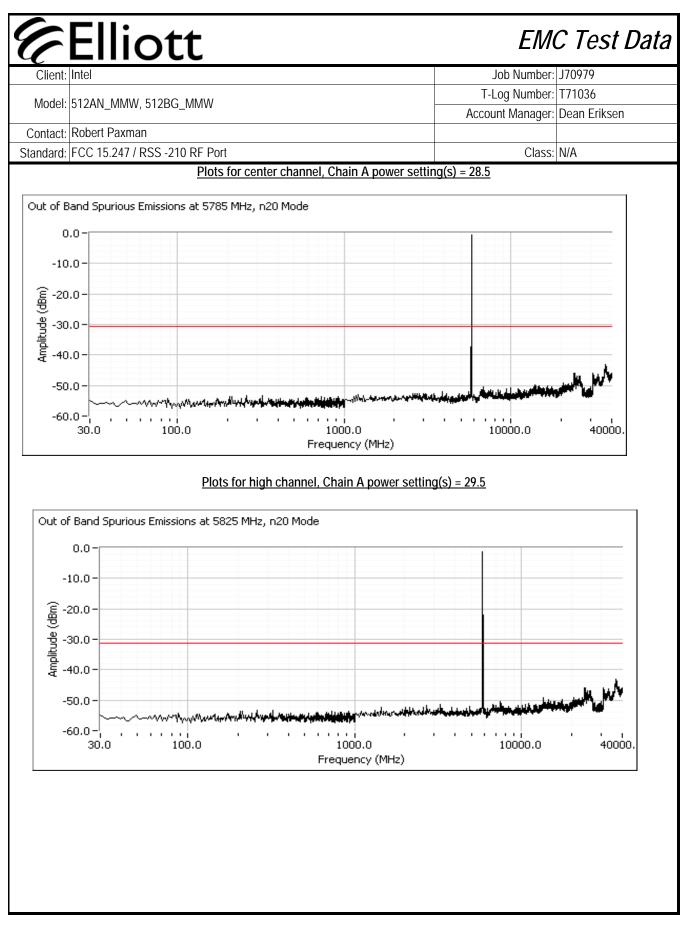


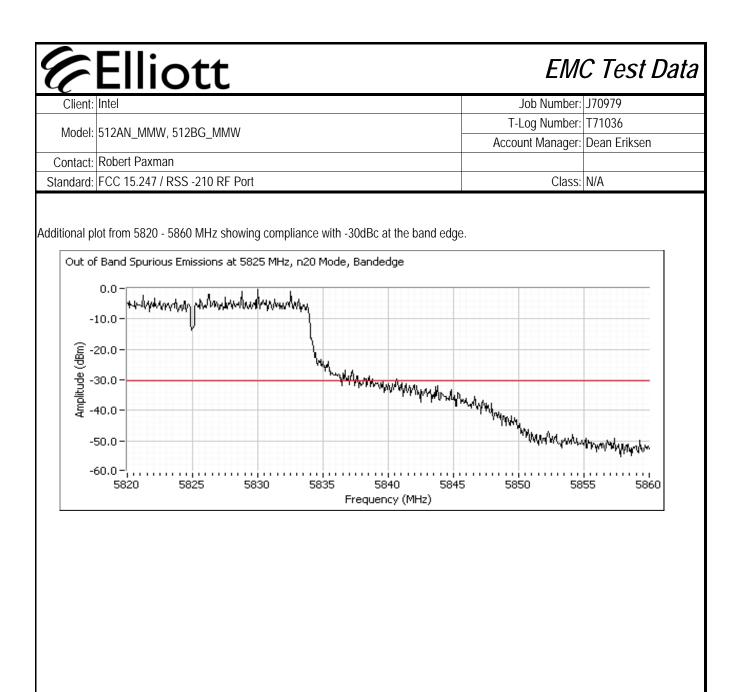




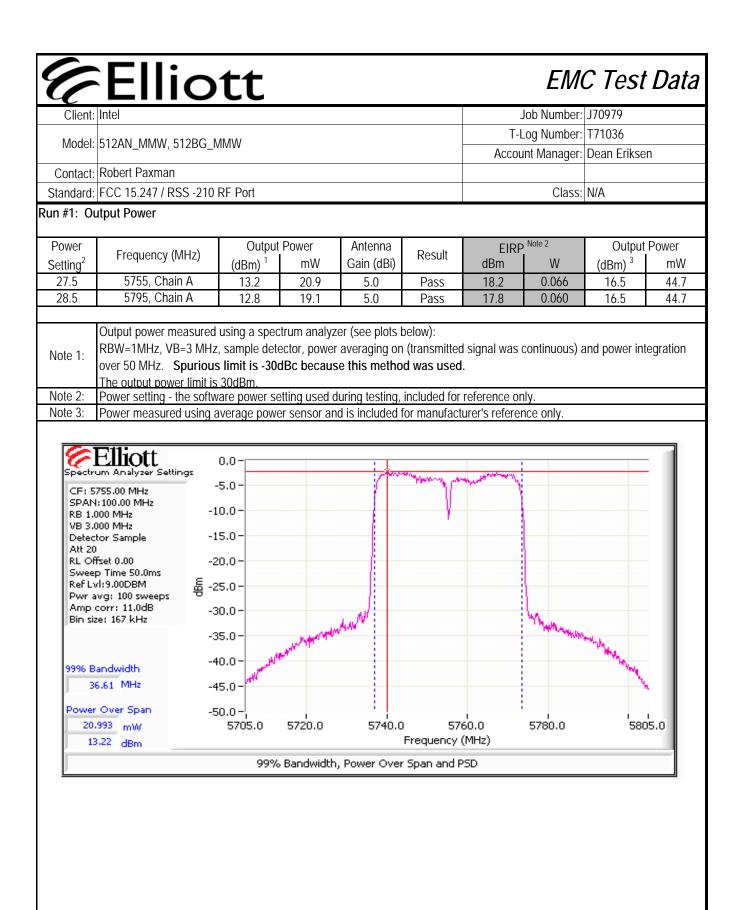


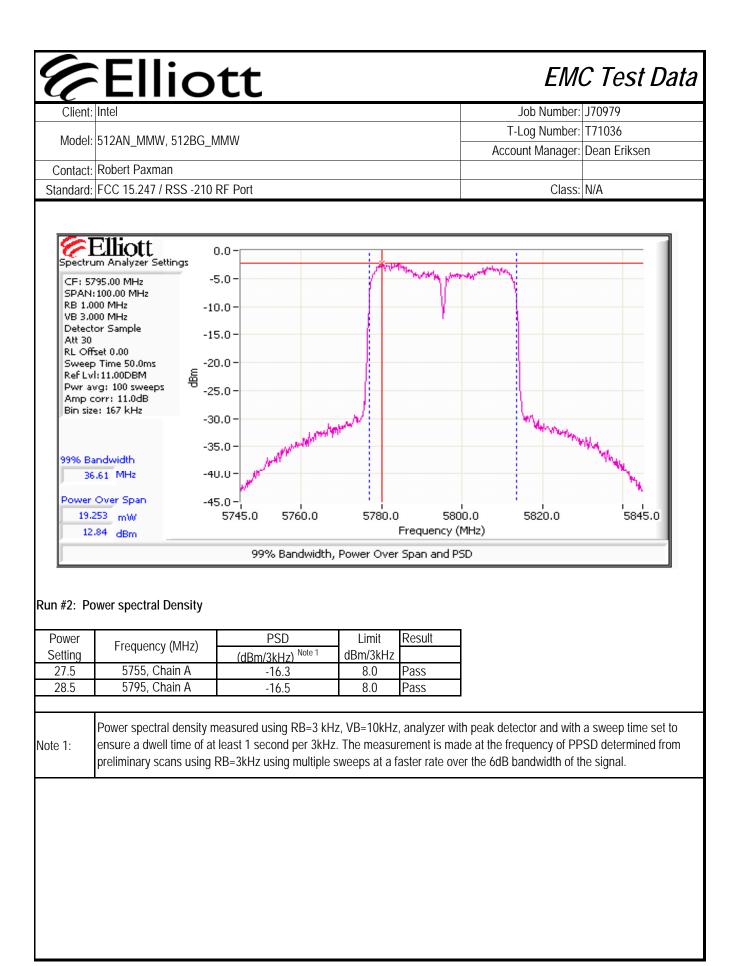


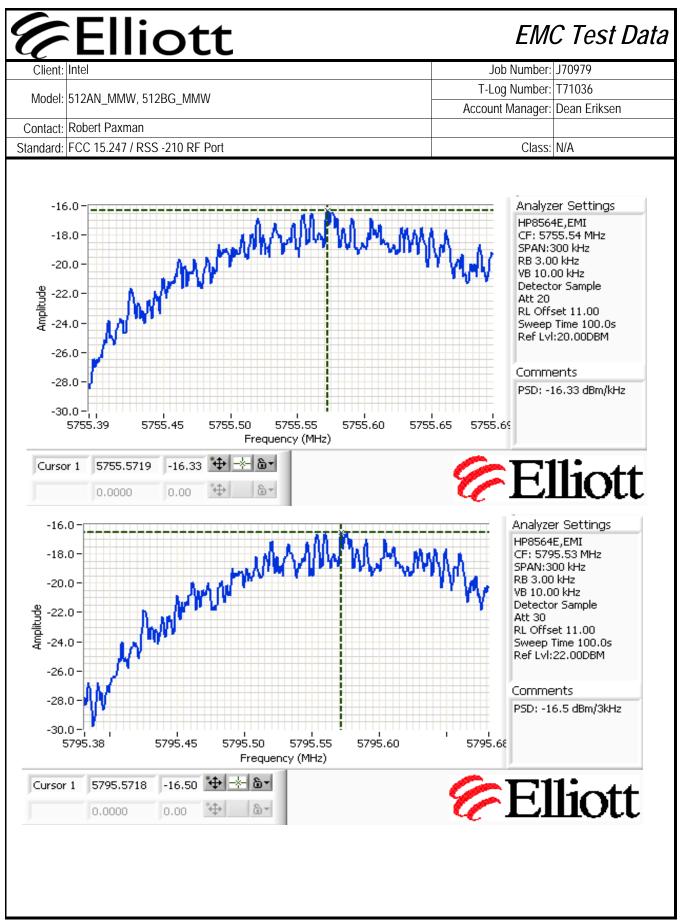


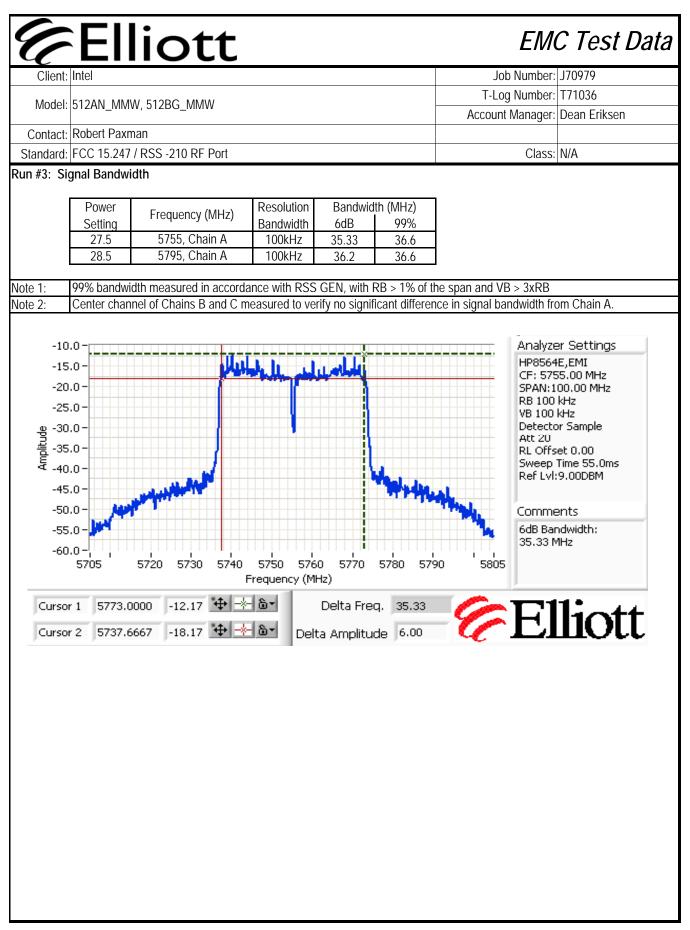


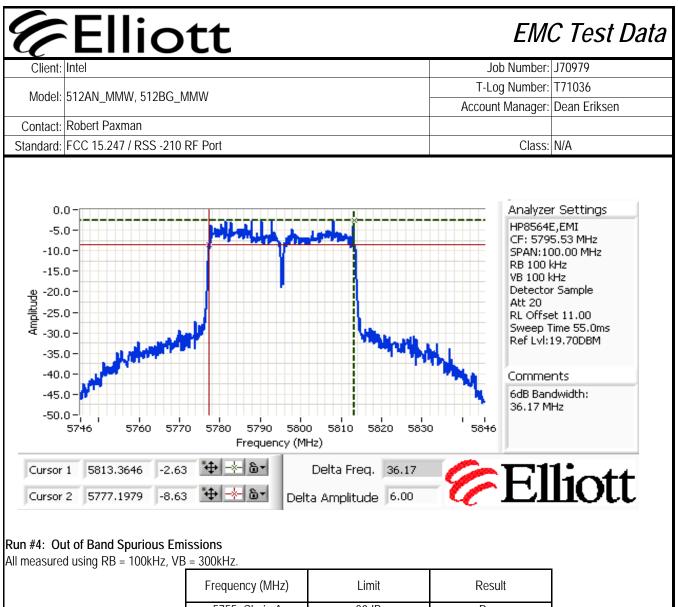
Client: Intel Model: 512AN_MMW, 5 Contact: Robert Paxman Standard: FCC 15.247 / RS	12BG_MMW		T-L	Job Number: J70979
Contact: Robert Paxman				
Contact: Robert Paxman				og Number: T71036
	S 210 DE Dort		Accou	int Manager: Dean Eriks
	53-210 KF FUIL			Class: N/A
	and FCC 15.247 (D ower, PSD, Bandwidth a	•		
Test Specific Details				
Objective. The	objective of this test session is to pe cification listed above.	erform final qualificat	tion testing of th	e EUT with respect to th
Date of Test: 4/14 Test Engineer: Rafa Test Location: FT I	ael Varelas	Config. Use Config Chang EUT Voltag	e: None	om Host System
chain. All measurements have been Ambient Conditions:	corrected to allow for the external at Temperature: Rel. Humidity:	ttenuators used. 22.5 °C 36 %		
Summary of Results				
Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	13.2 dBm (20.9mW)
	Power spectral Density (PSD)	15.247(d)	Pass	-16.3 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	35.3 MHz
3 4 An	99% Bandwidth Itenna Conducted - Out of Band Spurious	RSS GEN 15.247(b)	Pass	36.6 MHz All emissions below the -30dBc limit



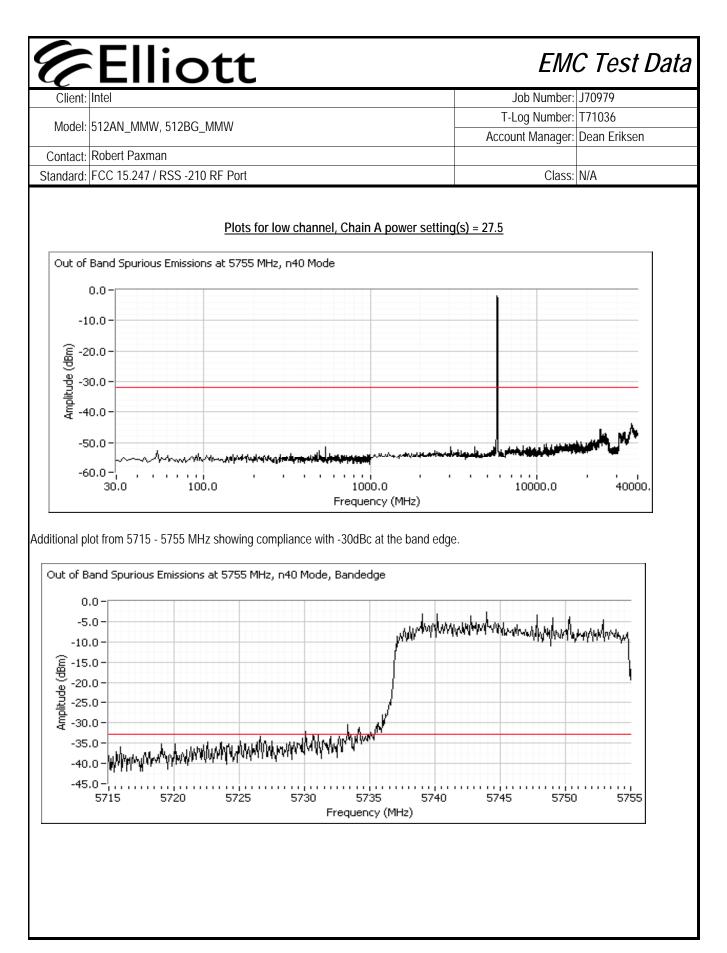


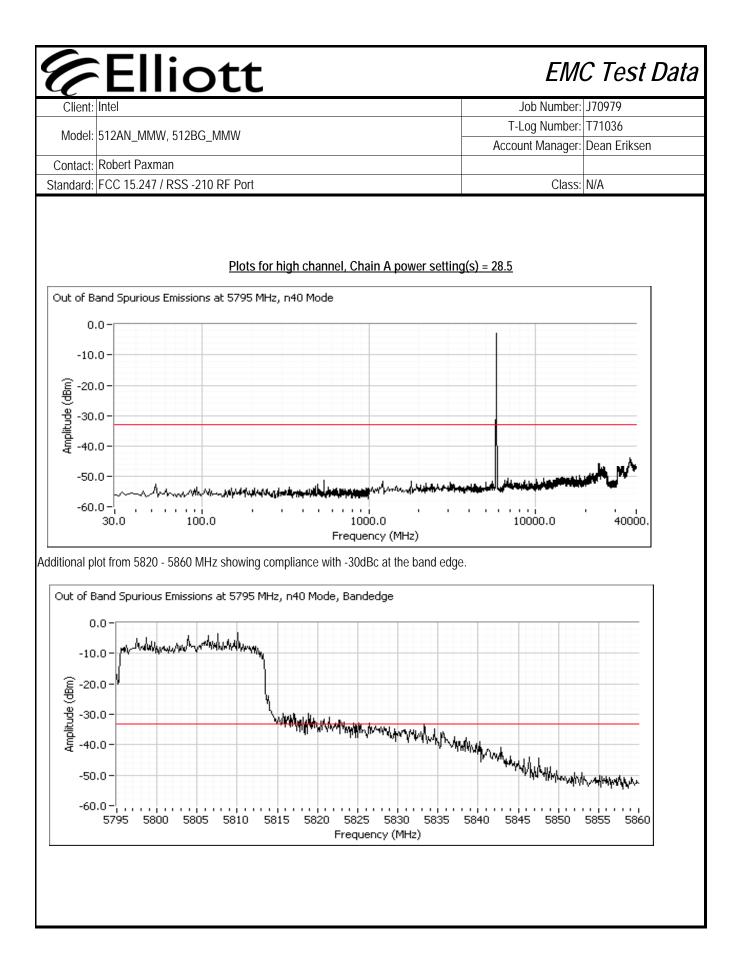






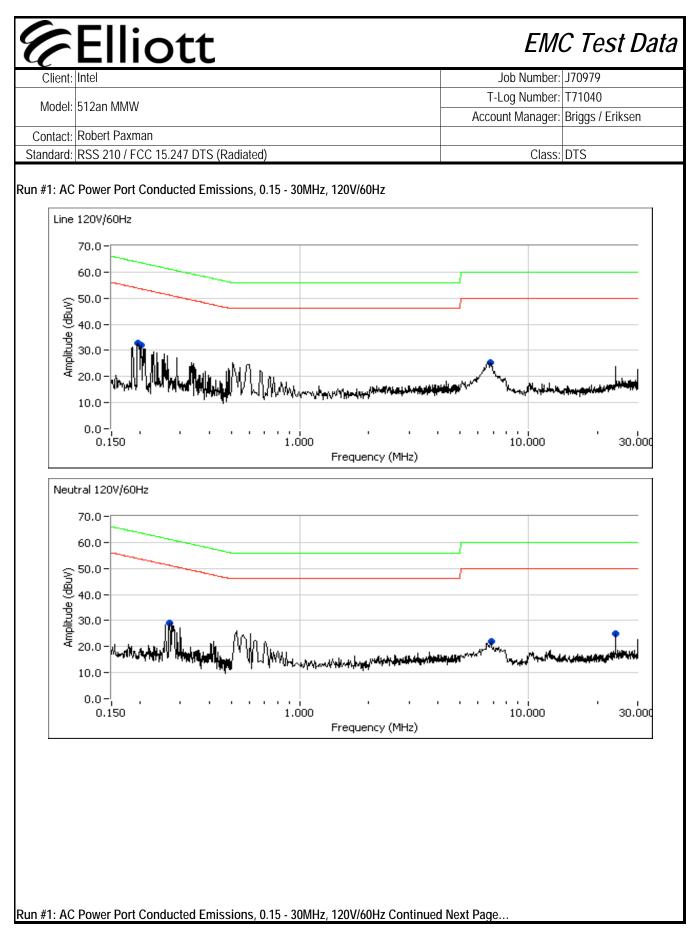
Frequency (MHz)	Limit	Result
5755, Chain A	-30dBc	Pass
5795, Chain A	-30dBc	Pass





<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)



# **Elliott**

## EMC Test Data

<u> </u>			L					
Client:	Intel						Job Number:	J70979
Madal		M					T-Log Number:	T71040
wodel:	512an MMV	V					Account Manager:	Briggs / Eriksen
Contact:	Robert Paxr	man						
Standard:	RSS 210 / F	- CC 15.247 E	DTS (Radiate	Class:	DTS			
Preliminary	/ peak readii	ngs capture			readings v	s. average limit	t)	
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		00/15 000				
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 60.0	-42.9 -44.6	AVG QP			
6.826	15.4	Neutral						

### EMC Test Data

Client:	Intel	Job Number:	J70979
Model	512an MMW	T-Log Number:	T71040
Model.		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

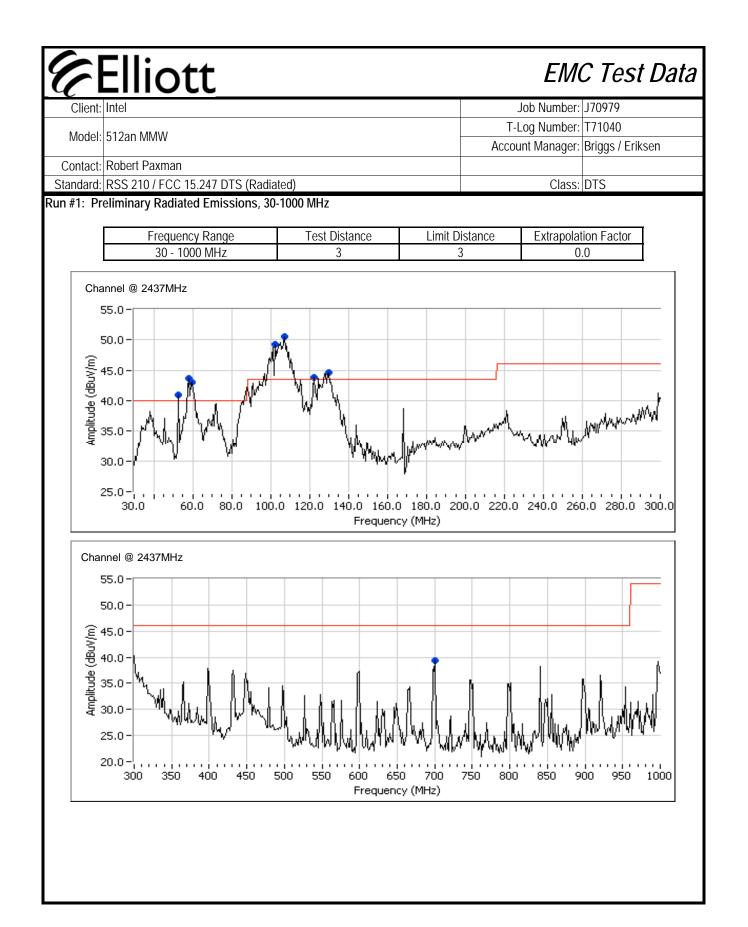
Dup #	Test Derformed	Limit	Decult	Morgin
Run #	Test Performed	Limit	Result	Margin
1 Receiver/Transmitter	30 - 1000MHz, Preliminary - Tx/Rx	RSS GEN / ECC 15 107	Pass	43.4dBµV/m @
	Modes	100 0EN/1 00 10.107	1 033	108.287MHz (-0.1dB)
2	RE, 30 - 1000MHz, Maximized	RSS GEN / FCC 15.107	Pass	43.4dBµV/m @
Z	Emissions	NJJ ULN / 1 UC 13.107	r ass	108.287MHz (-0.1dB)
3 - Single Receiver	RE, 1000 - 18000 MHz, Maximized	RSS GEN	Pass	50.3dBµV/m @
chain	Emissions	N35 OLN	F 833	3000.3MHz (-3.7dB)
4 - All Receiver chains	RE, 1000 - 18000 MHz, Maximized	RSS GEN	Pass	50.5dBµV/m @
	Emissions	K33 GEN	Pass	3000.3MHz (-3.5dB)

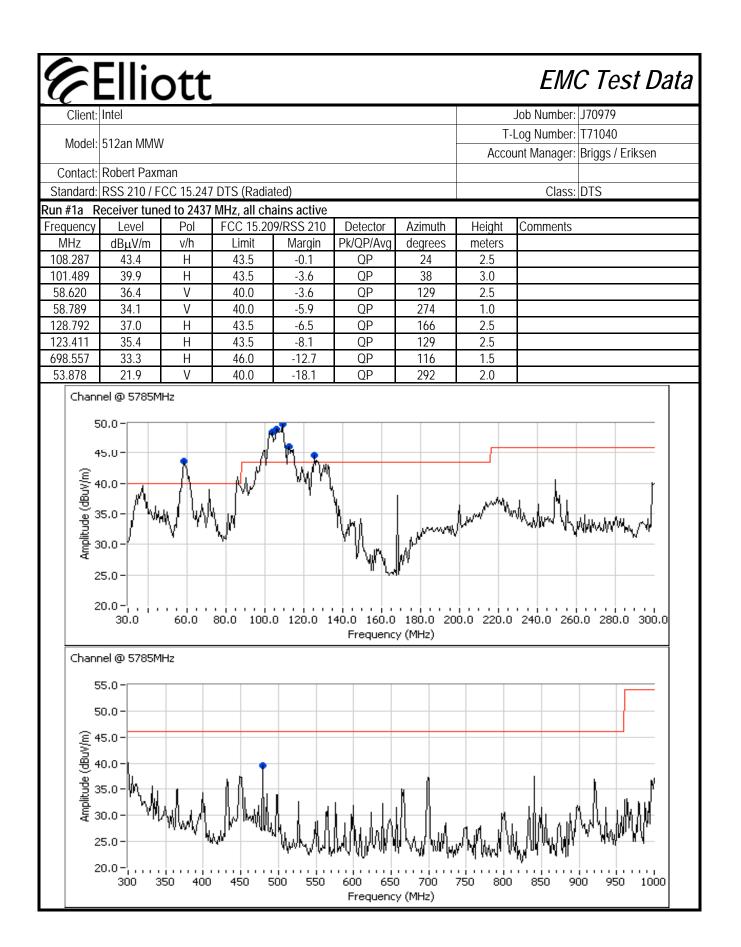
#### Modifications Made During Testing

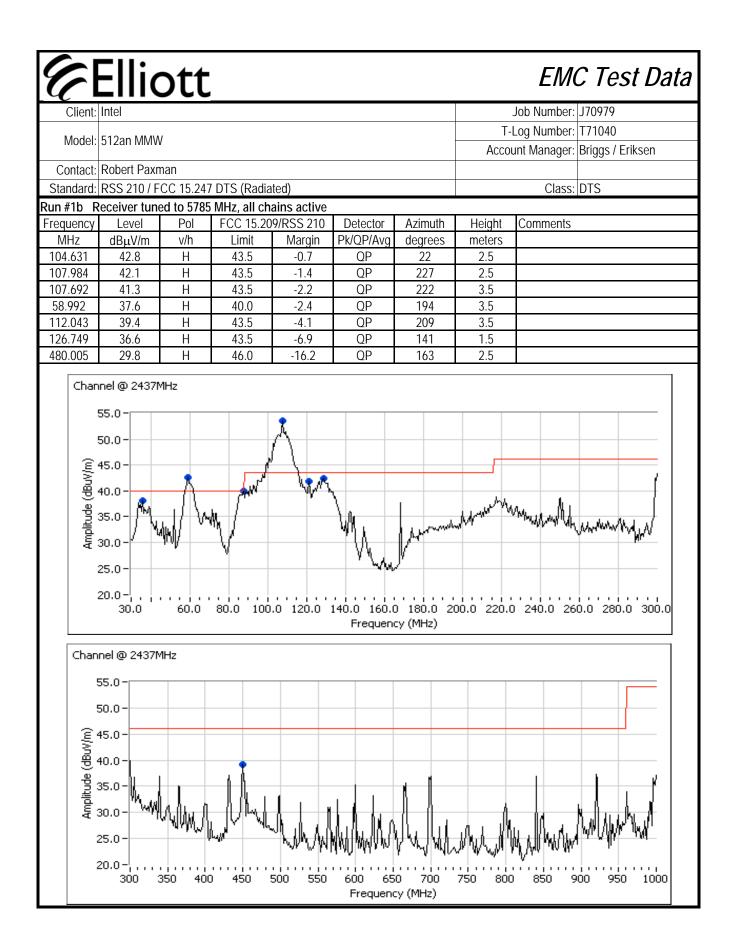
No modifications were made to the EUT during testing

#### Deviations From The Standard

No deviations were made from the requirements of the standard.





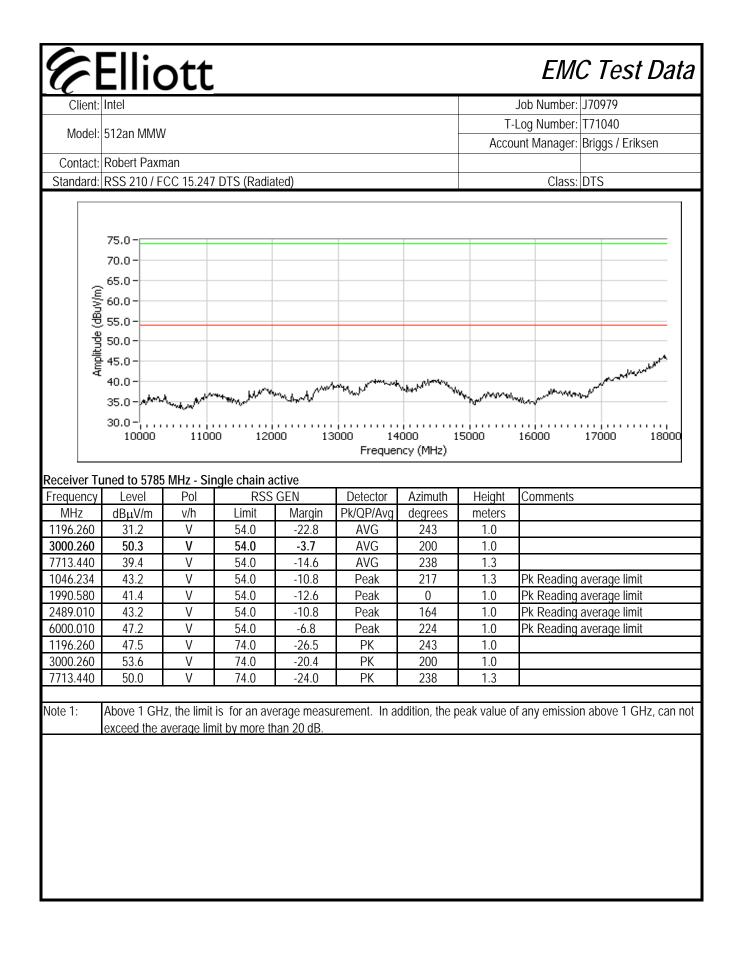


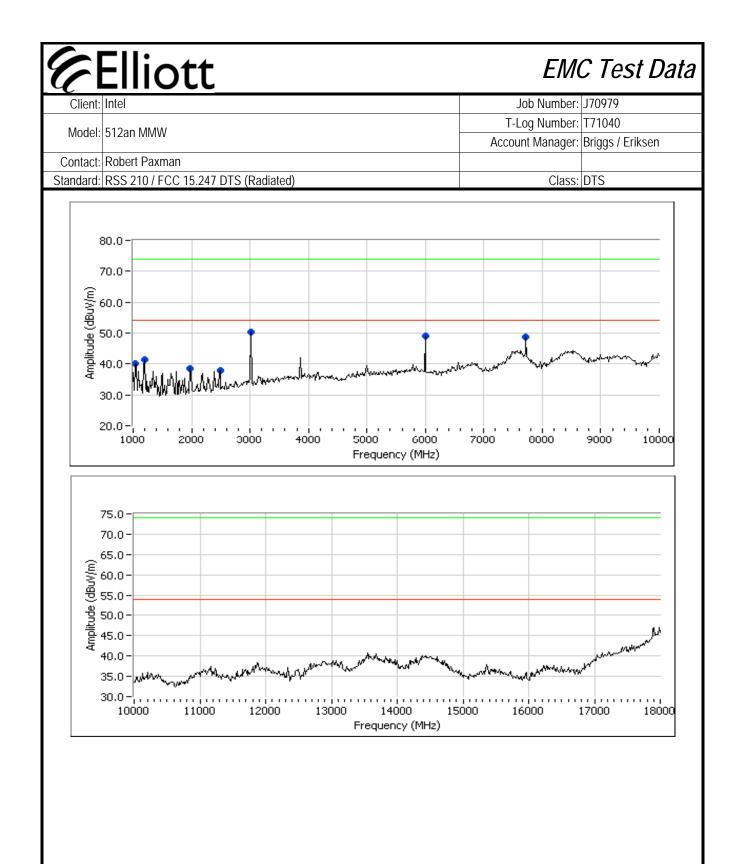
## **Elliott**

## EMC Test Data

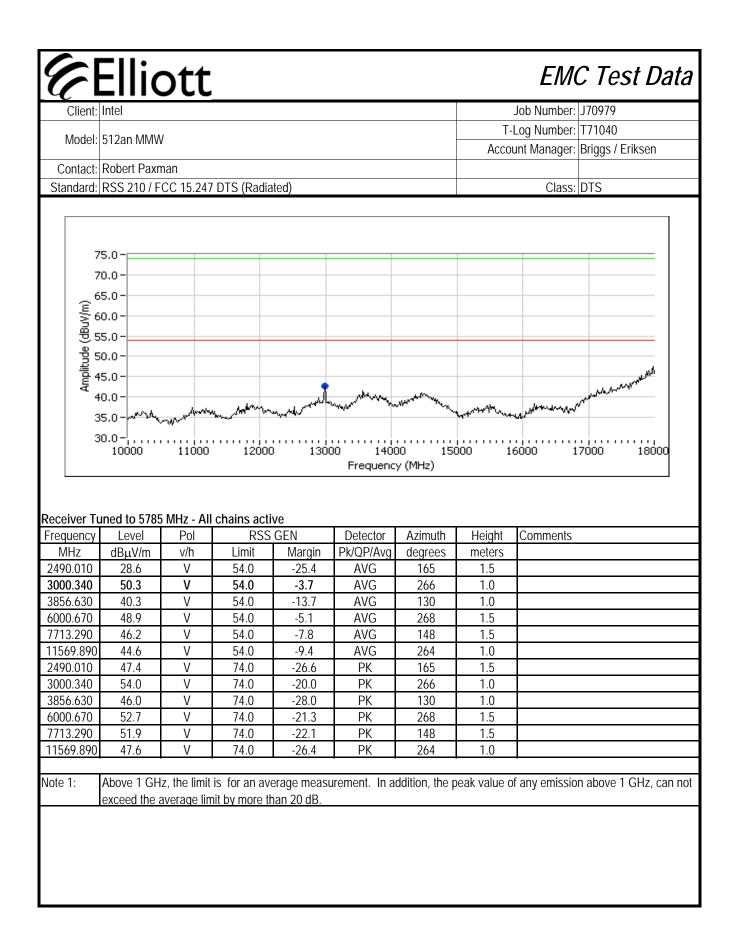
Client:	mei								
Modal								Job Number:	
	512an MMW	I						Log Number:	
							Accou	unt Manager:	Briggs / Eriksen
	Robert Paxn								
Standard:	RSS 210 / F	CC 15.247	7 DTS (Radia	ted)			Class: DTS		
				) 11h					
	Level	uned to 24 Pol	437 MHz, 802 FCC 15.20		Detector	Azimuth	Height	Comments	
requency MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
107.030	41.7	H	43.5	-1.8	QP	uegrees 7	3.0		
59.474	31.8	H	40.0	-8.2	QP	211	3.0	1	
130.034	35.2	V	40.0	-8.3	QP	120	1.5	1	
87.308	29.3	H	40.0	-10.7	QP	120	2.5	1	
34.981	29.3	V	40.0	-10.7	QP	38	1.0	1	
449.923	33.2	H	46.0	-12.8	QP	205	1.0	1	
122.018	29.3	V	40.0	-12.0	QP	268	1.0	1	
122.010	27.0	v	10.0	1 7.4		200	1.0	1	
	Scans demo modulation)	nstrate tha	at the emissic	ons beow 1G	Hz independe	ent of the tra	nsmitter's op	perating frequ	ency and mode (tx, R
	modulation) eximized Rea	adings Fro	om Run #1						ency and mode (tx, R
	modulation) aximized Rea Free	adings Fro	om Run #1 Inge	Test D	istance	Limit D	istance	Extrapolat	ion Factor
	modulation) aximized Rea Free	adings Fro	om Run #1 Inge	Test D		Limit D			ion Factor
un #2: Ma	modulation) aximized Rea Free	adings Fro	om Run #1 Inge	Test D	istance	Limit D	istance	Extrapolat	ion Factor
un #2: Ma	modulation) <b>Eximized Rea</b> Frea 30	adings Fro quency Ra - 1000 Mi Pol v/h	om Run #1 Inge Hz	Test D	istance 3	Limit D	istance	Extrapolat 0	ion Factor
un #2: Ma	modulation) <b>Eximized Rea</b> Free 30 Level	adings Fro quency Ra - 1000 MI Pol V/h V	om Run #1 inge Hz FCC 15.20	Test D	istance 3 Detector	Limit D	istance 3 Height	Extrapolat 0	ion Factor
un #2: Ma requency MHz 58.620 58.789	modulation) <b>Eximized Rea</b> Free 30 Level dBµV/m 36.4 34.1	adings Fro quency Ra 0 - 1000 MI - 1000 MI Pol V/h V 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 0	ion Factor
un #2: Ma requency MHz 58.620 58.789 101.489	modulation) <b>Eximized Rea</b> Free 30 Level dBµV/m 36.4 34.1 39.9	adings Fro quency Ra 0 - 1000 Mi - 1000 Mi Pol Vh Vh V V V H	om Run #1 nge 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 0	ion Factor
un #2: Ma requency MHz 58.620 58.789 101.489 <b>108.287</b>	modulation) <b>Eximized Rea</b> Free 30 Level dBμV/m 36.4 34.1 39.9 <b>43.4</b>	adings Fro quency Ra - 1000 Mi Pol V/h V V V H H H	om Run #1 Inge 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	Limit D Azimuth degrees 129 274 38 24	Height Meters 2.5 1.0 3.0 2.5	Extrapolat 0	ion Factor
un #2: Ma requency MHz 58.620	modulation) <b>Eximized Rea</b> Free 30 Level dBµV/m 36.4 34.1 39.9	adings Fro quency Ra 0 - 1000 Mi - 1000 Mi Pol Vh Vh V V V H	om Run #1 nge 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 0	ion Factor

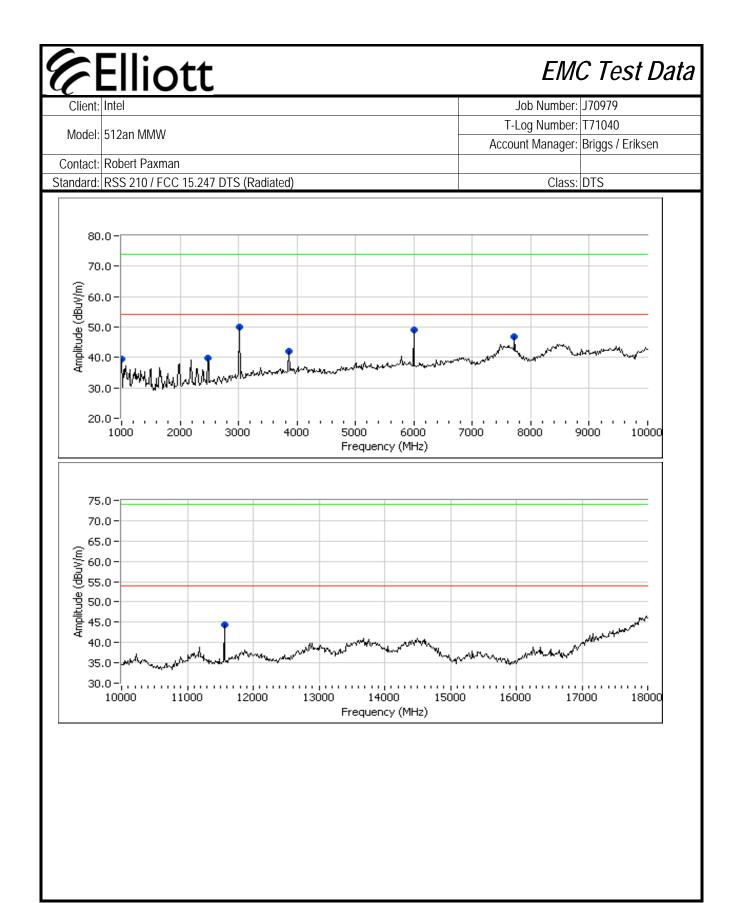
	Intel							Job Number:	
Model:	512an MMW	1						Log Number:	
	Debart Dave						Acco	unt Manager:	Briggs / Eriksen
	Robert Paxn RSS 210 / F		DTS (Dadie	tod)				Class:	
					eceiver Activ	10		CIASS.	013
	ined to 2437					C			
quency	Level	Pol		GEN	Detector	Azimuth	Height	Comments	
ЛНz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7.520	27.6	V	54.0	-26.4	AVG	205	1.3		
91.590	29.8	V	54.0	-24.2	AVG	212	1.3		
0.190	33.5	V	54.0	-20.5	AVG	179	1.0		
0.310	50.1	V	54.0	-3.9	AVG	202	1.0		
0.750	43.7	V	54.0	-10.3	AVG	246	1.6		
6.920	37.8	Η	54.0	-16.2	AVG	318	1.0		
7.520	44.6	V	74.0	-29.4	PK	205	1.3		
1.590	45.3	V	74.0	-28.7	PK	212	1.3		
0.190	50.3	V	74.0	-23.7	PK	179	1.0		
0.310	54.5	V	74.0	-19.5	PK	202	1.0		
00.750 66.920	49.6 49.2	V H	74.0 74.0	-24.4 -24.8	PK PK	246 318	1.6 1.0	f any emissio	n above 1 GHz car
00.750 66.920 1:	49.6 49.2	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
00.750 66.920 1:	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1:	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 ₹ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 ₹ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 $\widehat{\mathbb{E}}_{\geq}$ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 $\widehat{\mathbb{E}}_{\geq}$ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 $\widehat{\mathbb{E}}_{\geq}$ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 (January 60.0 (January 60.0 50.0 40.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 $\widehat{\mathbb{E}}_{\geq}$ 60.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu	РК	318	1.0	f any emissio	n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 (m/\ngp) 50.0 40.0 30.0 20.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit	74.0 74.0 is for an av	-24.8 erage measu han 20 dB.	PK Irement. In ac	318 ddition, the p	1.0 eak value o		n above 1 GHz, car
0.750 6.920 1: 80.0 70.0 (@/\ngp 50.0 30.0 20.0	49.6 49.2 Above 1 GH exceed the a	V H z, the limit average lim	74.0 74.0 is for an avo nit by more th	-24.8 erage measu han 20 dB.	PK Irement. In ac	318 ddition, the p	1.0 eak value o		Mymman





Client.	Intel							Job Number:	
Model:	512an MMW						T-Log Number: T71040 Account Manager: Briggs / Eriksen		
Contact:	Robert Paxm	nan						5	
	RSS 210 / F		DTS (Radia	ated)				Class:	DTS
#4: Ma	ximized read	dings, 100	00 - 18000 N	/Hz, All Rec	eivers Active				
	uned to 2437								
quency	Level	Pol	RSS	GEN	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
56.082	29.2	Н	54.0	-24.8	AVG	297	1.0		
00.330	50.5	V	54.0	-3.5	AVG	270	1.0		
73.980	44.1	V	54.0	-9.9	AVG	153	1.5		
0.700	48.6	V	54.0	-5.4	AVG	263	1.5		
98.670	45.8	V	54.0	-8.2	AVG	193	1.0		
97.200	42.6	V	54.0	-11.4	AVG	177	1.0		
6.082	38.1	Н	74.0	-35.9	PK	297	1.0		
0.330	53.8	V	74.0	-20.2	PK	270	1.0		
73.980	47.8	V	74.0	-26.2	PK	153	1.5		
0.700	52.9	V	74.0	-21.1	PK	263	1.5		
98.670 97.200	49.8 47.7	V V	74.0 74.0	-24.2 -26.3	PK PK	193 177	1.0 1.0		
80.0 70.0 (m/,00.0 (gpn,/) (m) (m) (m) (m) (m) (m) (m) (m) (m) (m	0-	ul shilu	handydent				~~~~		
711 Here 40.0 30.0				 4000	5000 6	5000 7	2000	8000 9	



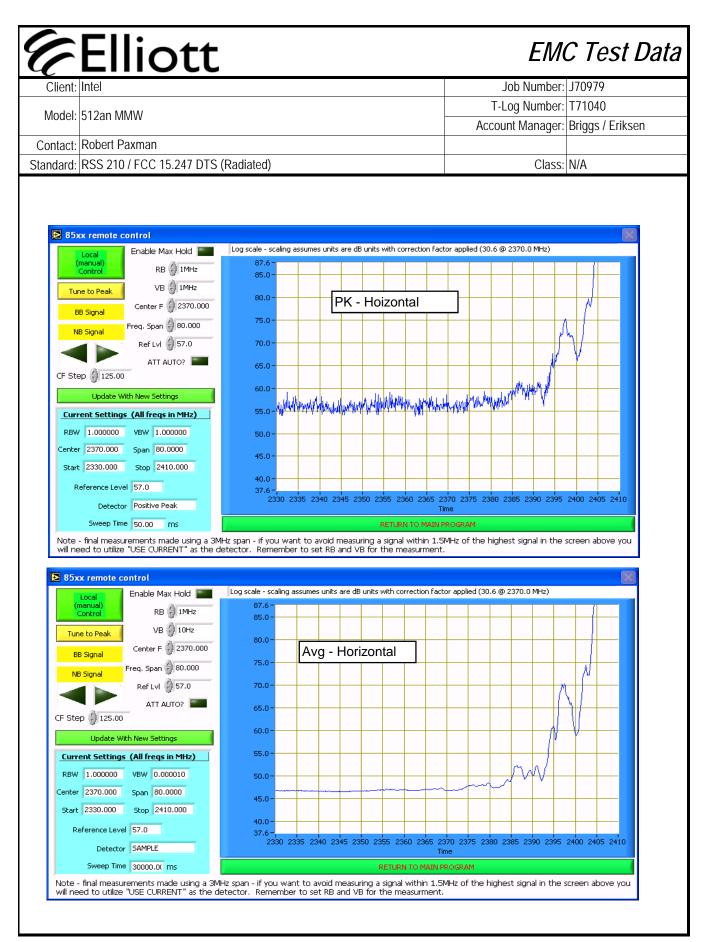


6			<u> </u>			<b>_</b>	C Test Data
C		iot	L			LIVI	
Client:						Job Number:	J70979
Model	512an MMW					T-Log Number:	T71040
						Account Manager:	Briggs / Eriksen
	Robert Paxn						
Standard:	RSS 210 / F	CC 15.247 D	OTS (Radiate	d)		Class:	N/A
Test Spec	F cific Detail	Radiated Is The objectiv	l Spuriou	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

Client		ΙΟι	L						
Client:	Intel							Job Number:	J70979
Model	512an MMW						T-	Log Number:	T71040
							Accou	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
Standard:	RSS 210 / F	CC 15.247 E	OTS (Radiate	d)				Class:	N/A
un #1: Ra	diated Spur	ious Emissi	ons, Band F	dges. Oper	ating Mode:	802.11b - C	nain A		
	ate of Test:			<b>U</b>	0				
	st Engineer:								
	est Location:		or # 1						
			774						
un #1a: L	ow Channel	@ 2412 MH	Z						
	wer Setting:			rage power:	18.8 dBm	(for referenc	e purposes)	1	
	•				es measured	-	• •		in 100kHz
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
410.590	100.7	V	-	-	AVG	161	1.0	RB = 1MHz	, VB = 10Hz
410.590	103.7	V	-		PK	161	1.0	RB = VB =	
2411.490	109.8	Н	-	-	AVG	248	1.0	RB = 1MHz	, VB = 10Hz
411.490	112.8	Н	-	-	PK	248	1.0	RB = VB = 1	1MHz
<u> </u>	Signal Field	¥	15.000	145.0.17				1-	
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	0.0 00 5	
2389.450	62.8	H	74.0	-11.2	PK	249	1.0	GC = 20.5	, AP = 18.8
2389.220	51.6	H h	54.0 reference or	-2.4	AVG	249	1.0	GC = 20.5	, AP = 18.8
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 GC = 17.5	, AP = 10.7
2389.950	61.5	H	74.0	-12.5	PK	247	1.0	GC = 17.5	AP = 18.3
2389.300	49.4	H	54.0	-4.6	AVG	249	1.0	GC = 19.5	, AP = 18.3
2389.300	63.1	H	74.0	-10.9	PK	249	1.0	GC = 21	, AP = 19.4
						247	1.0	00 - 21	AP = 19.4



Client: Int Model: 51 Contact: Ro Standard: RS in #1b: High Powe indamental S equency	12an MMW obert Paxma SS 210 / FC h Channel C er Setting: Signal Fiel Level dBµV/m 109.0	an CC 15.247 D @ <b>2462 MH</b> GC = 22.5	DTS (Radiated <b>z</b> Ave	rage power: verage value	19.6 dBm es measured		T-I Accou	Class:	T71040 Briggs / Eriksen
Contact: Ro Standard: RS n #1b: High Powe ndamental S equency MHz cc 463.130 463.130 463.130	obert Paxma SS 210 / FC h Channel ( er Setting: Signal Fiel Level dBµV/m 109.0	CC 15.247 D @ <b>2462 MH</b> GC = 22.5 <b>d Strength</b> Pol	z Ave : Peak and a	rage power: verage value			Αссоι	unt Manager: Class:	Briggs / Eriksen
Contact: Ro landard: RS n #1b: High Powe damental S quency MHz cc 63.130 63.130 61.190	obert Paxma SS 210 / FC h Channel ( er Setting: Signal Fiel Level dBµV/m 109.0	CC 15.247 D @ <b>2462 MH</b> GC = 22.5 <b>d Strength</b> Pol	z Ave : Peak and a	rage power: verage value				Class:	
tandard: RS n #1b: High Powe ndamental S equency MHz c 63.130 63.130 63.130	SS 210 / FC h Channel ( er Setting: Signal Fiel Level dBµV/m 109.0	CC 15.247 D @ <b>2462 MH</b> GC = 22.5 <b>d Strength</b> Pol	z Ave : Peak and a	rage power: verage value			e purposes)		N/A
n #1b: High Powe ndamental \$ equency MHz c 163.130 163.130 163.130	h Channel of er Setting: Signal Fiel Level dBµV/m 109.0	@ <b>2462 MH</b> GC = 22.5 <b>d Strength</b> Pol	z Ave : Peak and a	rage power: verage value			e purposes)		N/A
Powe ndamental \$ equency MHz c 463.130 463.130 463.130	er Setting: Signal Fiel Level dBµV/m 109.0	GC = 22.5 d Strength Pol	Ave Peak and a:	verage value			e purposes)		
ndamental S           equency           MHz         c           63.130           643.130           643.130	Signal Fiel Level dBµV/m 109.0	d Strength: Pol	: Peak and a	verage value			e purposes)		
equency MHz c 163.130 163.130 161.190	Level dBμV/m 109.0	Pol			es measured i				
MHz c 463.130 463.130 461.190	dBµV/m 109.0		15.209 i	16 3/7			1		n 100kHz
463.130 463.130 461.190	109.0	v/h			Detector	Azimuth	Height	Comments	
463.130 461.190			Limit	Margin	Pk/QP/Avg	degrees	meters		
461.190	110 0	Н	-	-	AVG	246	1.0	RB = 1MHz	
	112.0	H	-	-	PK	246	1.0	RB = VB = 1	
101.190	103.3	V	-	-	AVG	213	1.0	RB = 1MHz	
	106.2	V	-	-	PK	213	1.0	RB = VB = 1	MHZ
nd Edge Sig	anal Field	Strongth							
equency	Level	Pol	15.209/	/ 15 247	Detector	Azimuth	Height	Comments	
	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
483.530	обµулп 63.4	H	74.0	-10.6	PK	245	1.0	GC = 22.5	, AP = 19.6
483.650	53.0	H	54.0	-1.0	AVG	245	1.0	GC = 22.5 GC = 22.5	, AP = 19.6
			reference or		1.10	210	1.0	50 22.5	, , , , = , , , 0
183.520	60.6	H	74.0	-13.4	PK	244	1.0	GC = 18.5	, AP = 16.5
183.550	47.3	H	54.0	-6.7	AVG	247	1.0	GC = 18.5	, AP = 16.5
183.650	61.4	H	74.0	-12.6	PK	245	1.0	GC = 20.5	, AP = 17.9
483.510	48.3	H	54.0	-5.7	AVG	245	1.0	GC = 20.5	, AP = 17.9

#### 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 @

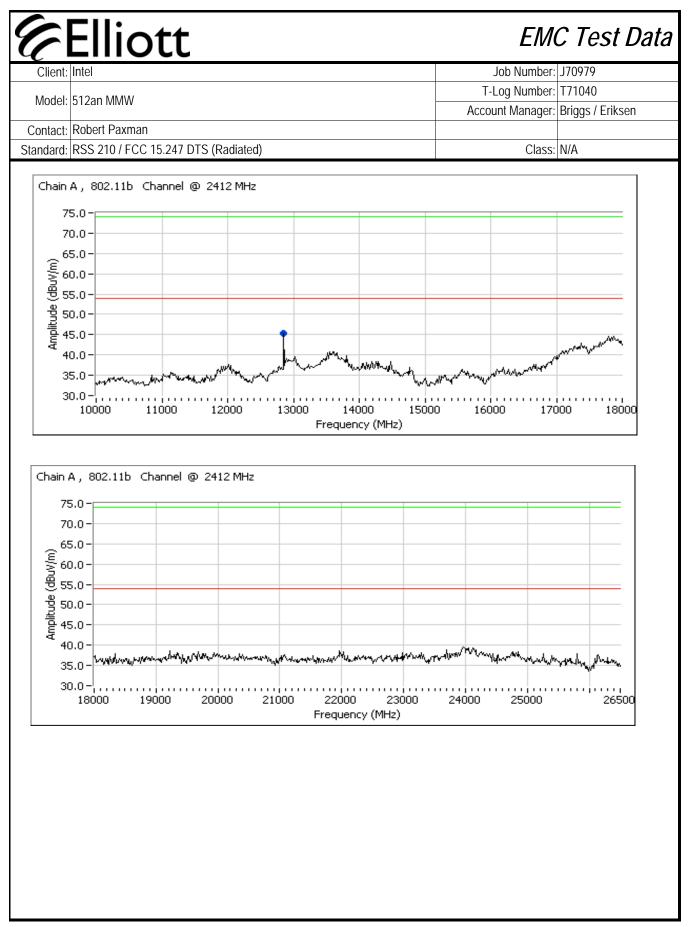
3000.4MHz (-23.8dB)

15.247( c)

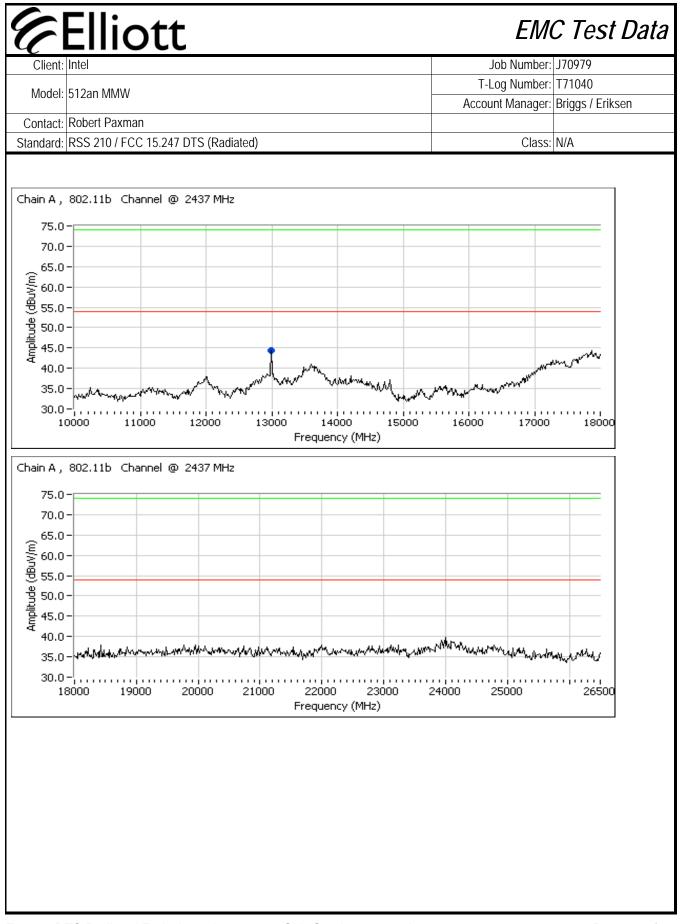
FCC Part 15.209 /

15.247( c)

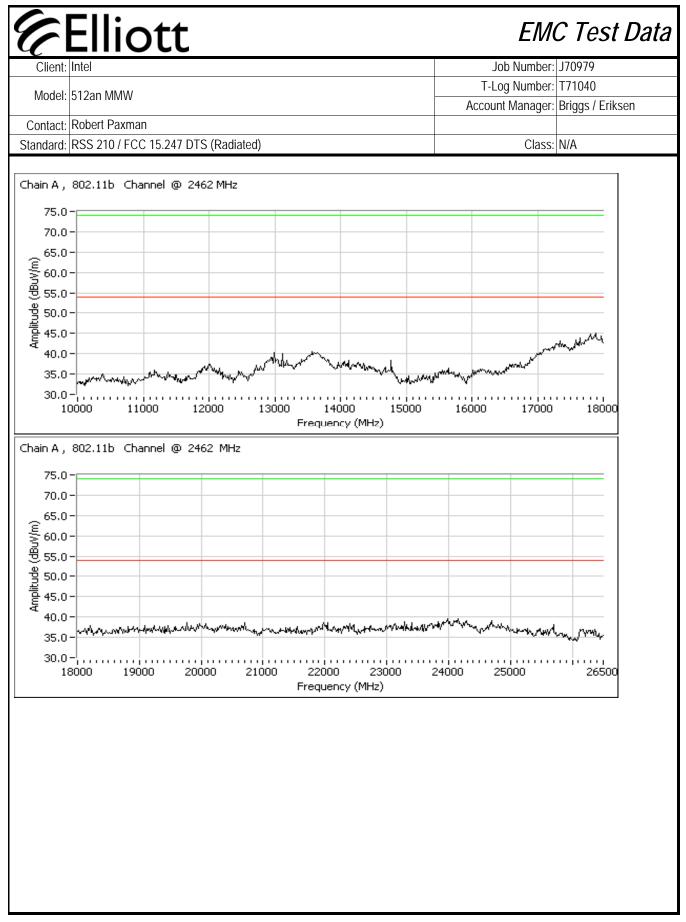
Client:	Intel							Job Number:	170979
Cilent.									
Model:	512an MMW							Log Number:	
							ACCO	uni ivianager:	Briggs / Eriksen
	Robert Paxm								
Standard:	RSS 210 / FC	CC 15.247 D	DTS (Radiate	ed)				Class:	N/A
un #1: Ra	adiated Spuri	ous Emissi	ons, 1000 -	26000 MHz.	Operating M	ode: 802.11	b Chain A		
	ow Channel								
	tal Signal Fiel								n 100kHz
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2411.230	101.6	V	-	-	Pk	88	1.0	RB = VB = 1	
2411.000	108.1	Н	-	-	Pk	245	1.0	RB = VB = 1	IOUKHZ
	undamental er	mission love	1 @ ?m in 11		100 1	dD\//~~			
F				ricted bands:		dBµV/m dBµV/m	Limitic 20	dRc (LINII nor	ver measurement)
purious E		1113310113 00		ווטנכט שמוועא.	/0.1	uðµv/III			vei measurement)
requency	Level	Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Johnmenis	
3000.340	53.6	V	78.1	-24.5	PK	279	1.0	Note 2	
		V	78.1	-27.5	PK	163	1.0	Note 2	
6000.750	0.0C	v							
	50.6 52.7	V			PK		1.0	Note 2	
5432.110 2863.990 ote 1:	52.7 49.0	V V s in restricte	78.1 78.1 ed bands, the and measure	-25.4 -29.1 e limit of 15.2		167 191	1.0 1.0 er emissions	Note 2 Note 2	s set 30dB below th
6432.110 12863.990 lote 1: lote 2:	52.7 49.0 For emission: level of the fu Signal is not i	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 lote 1: lote 2:	52.7 49.0 For emissions level of the fu Signal is not i	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 lote 1: lote 2:	52.7 49.0 For emission: level of the fu Signal is not i	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 lote 1: lote 2:	52.7 49.0 For emission: level of the fu Signal is not i A , 802.11b	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
1	52.7 49.0 For emissions level of the fu Signal is not i	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2:	52.7 49.0 For emission: level of the fu Signal is not i A , 802.11b 80.0 –	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2:	52.7 49.0 For emission: level of the fu Signal is not i A , 802.11b	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2:	52.7 49.0 For emission: level of the fu Signal is not i A , 802.11b 80.0 –	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2:	52.7 49.0 For emissions level of the fu Signal is not i A , 802.11b 80.0 - 70.0 - 60.0 - 50.0 -	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2:	52.7 49.0 For emissions level of the fu Signal is not i A , 802.11b 80.0 - 70.0 - 60.0 -	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Note 1: Note 2: Chair	52.7 49.0 For emission: level of the fu Signal is not i 0.0 - 70.0 - 60.0 - 50.0 -	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Jote 1: Jote 2: Chair	52.7 49.0 For emissions level of the fu Signal is not i A , 802.11b 80.0 - 70.0 - 60.0 - 50.0 -	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Jote 1: Jote 2: Chair	52.7 49.0 For emission: level of the fu Signal is not i 0 A , 802.11b 80.0 - 70.0 - 60.0 - 50.0 - 40.0 -	V V s in restricte indamental in a restricte	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191	1.0	Note 2	s set 30dB below th
6432.110 12863.990 Jote 1: Jote 2: Chair	52.7 49.0 For emission: level of the fu Signal is not i 0.0 - 70.0 - 60.0 - 50.0 -	V V s in restricted in a restricted	78.1 78.1 ed bands, the and measure ed band.	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191 For all othe	1.0	Note 2	hand a second for
6432.110 12863.990 Note 1: Note 2: Chair	52.7 49.0 For emissions level of the fu Signal is not i A , 802.11b 80.0 - 70.0 - 60.0 - 50.0 - 40.0 - 30.0 -	V V s in restricte in a restricte	78.1 78.1 ed bands, the and measure ed band. @ 2412 MH	-25.4 -29.1 e limit of 15.2 ed in 100kHz	PK 209 was used.	167 191 For all othe	1.0 er emissions	Note 2	10 mp and and 10 mm



Client:		ott						Job Number:	J70979
Madal							T-	Log Number:	T71040
Model:	512an MMW						Acco	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxm	an							
Standard:	RSS 210 / FC	CC 15.247 D	TS (Radiate	ed)				Class:	N/A
un #1b: (	Center Chann	el @ 2437 N	ЛНz						
	tal Signal Fiel								n 100kHz
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		001.11-
2436.530	101.4	V H	-	-	Pk Pk	230	1.0	RB = VB = 1	
2437.520	103.7	П	-	-	۲K	254	1.0	RB = VB = 1	υυκπΖ
F	undamental er	mission level	@ 3m in 10	)0kHz RBW·	103.7	dBµV/m			
				ricted bands:		dBµV/m dBµV/m	Limit is -300	dBc (UNII nov	ver measurement
urious F	missions				13.1	ωσμν/π	2.111113 000	220 (Onin poi	
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
		V	73.7	-20.8	PK	276	1.0	Note 2	
3000.350	52.9	v	10.1						
	52.9 53.2	V	73.7	-20.5	PK	126	1.0	Note 2	
498.790 2997.330 ote 1: ote 2:	53.2 46.8 For emissions level of the fu Signal is not i	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 2997.330 ote 1: ote 2: Chain A ,	53.2 46.8 For emissions level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
3000.350 6498.790 12997.330 lote 1: lote 2: Chain A , 80.0	53.2 46.8 For emissions level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 12997.330 lote 1: lote 2: Chain A ,	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 2997.330 ote 1: ote 2: Chain A , 80.0 70.0	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 12997.330 10te 1: 10te 2: Chain A , 80.0 70.0 E on 0	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 2997.330 ote 1: ote 2: Chain A , 80.0 70.0 € co o	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 12997.330 lote 1: lote 2: Chain A , 80.0 70.0 E on 0	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 2997.330 ote 1: ote 2: Chain A , 80.0 70.0	53.2 46.8 For emissions level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
ote 1: ote 2: Chain A , 80.0 70.0 (U, ) (M, ) (M	53.2 46.8 For emissions level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 12997.330 10te 1: 10te 2: Chain A , 80.0 70.0 E on 0	53.2 46.8 For emissions level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
6498.790 2997.330 ote 1: ote 2: Chain A , 80.0 70.0 (July 60.0 900 900 50.0 100 40.0 30.0	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte indamental a n a restricte	73.7 73.7 d bands, the and measure d band.	-20.5 -26.9 e limit of 15.2	PK PK 209 was used.	205	1.0	Note 2	s set 30dB below
5498.790           2997.330           ote 1:           ote 2:           Chain A ,           80.0           70.0           (III) 60.0           (III) 60.0           90, 90, 100           (III) 60.0           90, 90, 100           (III) 60.0           (IIII) 60.0           (IIII) 60.0           (IIII) 60.0           (IIII) 60.0           (IIII) 60.0           (IIIII) 60.0           (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte ndamental a n a restricte annel @ 24	73.7 73.7 d bands, the and measure d band. 437 MHz	-20.5 -26.9	PK PK 209 was used.	205 For all othe	1.0 .r emissions	Note 2	where a real of the second sec
ote 1: ote 2: Chain A , 80.0 70.0 (W) 60.0 9 50.0 9 50.0 30.0 20.0	53.2 46.8 For emission: level of the fu Signal is not i 802.11b Ch	V V s in restricte ndamental a n a restricte annel @ 24	73.7 73.7 d bands, the and measure d band. 437 MHz	-20.5 -26.9	PK PK 209 was used. 2.	205 For all othe	1.0 r emissions	Note 2	where a real of the second sec



Client	Intel	ott						Job Number	: J70979
Model	512an MMW	1					T	-Log Number	: T71040
							Acco	ount Manager	: Briggs / Erikser
	Robert Paxn								
	RSS 210 / F			d)				Class	: N/A
	igh Channel			vorago valu	oc monourod	in 1 MUz or	nd noak val	in moneyrod	in 100kUz
Frequency		Pol		verage valu / 15.247	es measured Detector	Azimuth	Height	Comments	III IUUKHZ
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
2460.980	101.2	V	-	-	Pk	93	1.0	RB = VB =	100kHz
2462.510	106.8	Н	-	-	Pk	237	1.0	RB = VB =	100kHz
E	undamental e	mission lour	al @ 3m in 10		106.8	dBµV/m	1		
Г			tside of restr			dBμV/m dBμV/m	l imit is -30	dBc (UNII no	wer measureme
ourious E	missions				, 0.0	σομνπη	<b>1</b>		
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
~~~~	53.0	V	76.8	-23.8	PK	280	1.0	Note 2	
						070	10		
000.720 565.300 ote 1:	51.2 50.8 For emission level of the f	V V ns in restricte	76.8 76.8 ed bands, the and measure			272 173 For all othe	1.3 1.0 er emissions	Note 2 Note 2 s, the limit wa	s set 30dB belov
6000.720 6565.300 ote 1: ote 2: Chain A ,	51.2 50.8 For emissior level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2:	51.2 50.8 For emissior level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A ,	51.2 50.8 For emissior level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A , 80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A , 80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A , 80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A , 80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 lote 1: lote 2: Chain A , 80.0 70.0 (Image) \$50.0 Philade 40.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
6000.720 6565.300 ote 1: ote 2: Chain A , 80.0 70.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte	76.8 76.8 ed bands, the and measure ed band.	-26.0 limit of 15.2	PK 209 was used	173	1.0	Note 2	s set 30dB belov
ote 1: ote 2: Chain A , 80.0 70.0 (U) 60.0 9 50.0 9 50.0 10 40.0 30.0 20.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte hannel @ 3	76.8 76.8 ed bands, the and measure ed band. 2462 MHz	-26.0 limit of 15.2 ed in 100kHz	PK	173 For all other	1.0 er emissions	Note 2	mar alan fat
ote 1: ote 2: Chain A , 80.0 70.0 (W) 60.0 9 90 100 50.0 30.0 20.0	51.2 50.8 For emission level of the f Signal is not 802.11b	V V ns in restricte undamental in a restricte hannel @ 3	76.8 76.8 ed bands, the and measure ed band. 2462 MHz	-26.0 Ilmit of 15.2 ed in 100kHz	PK	173 For all other	1.0 er emissions	Note 2	mar alan fat



# Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71040 Contact: Robert Paxman 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

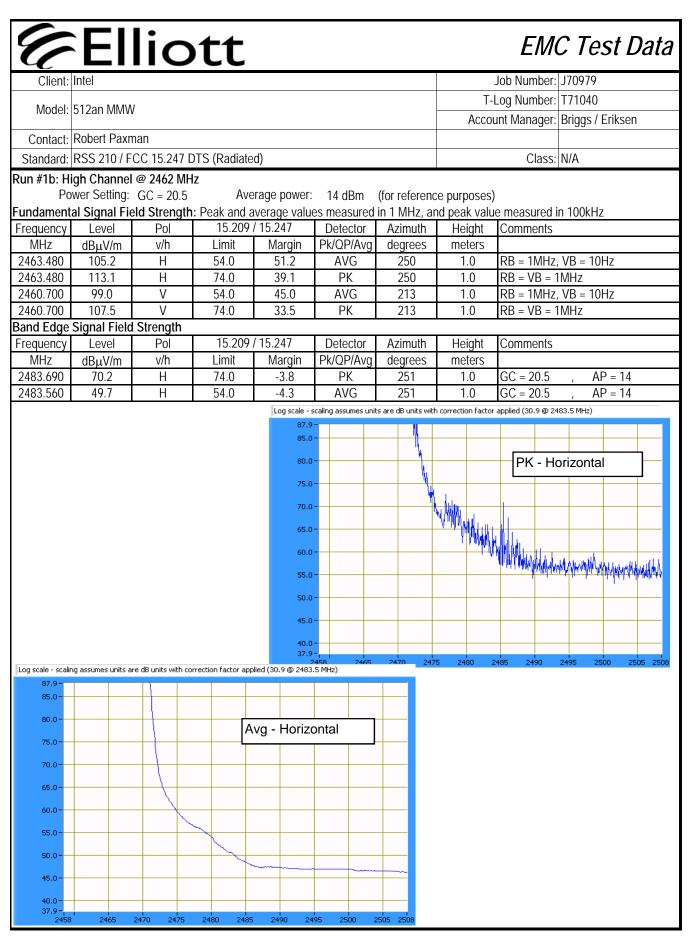
#### Deviations From The Standard

#### **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

2360 2365 2370 2375 2380 2385 2390 2395 2400 2405 2410

50.0 45.0 40.0 37.6

2330 2335 2340 2345 2350 2355



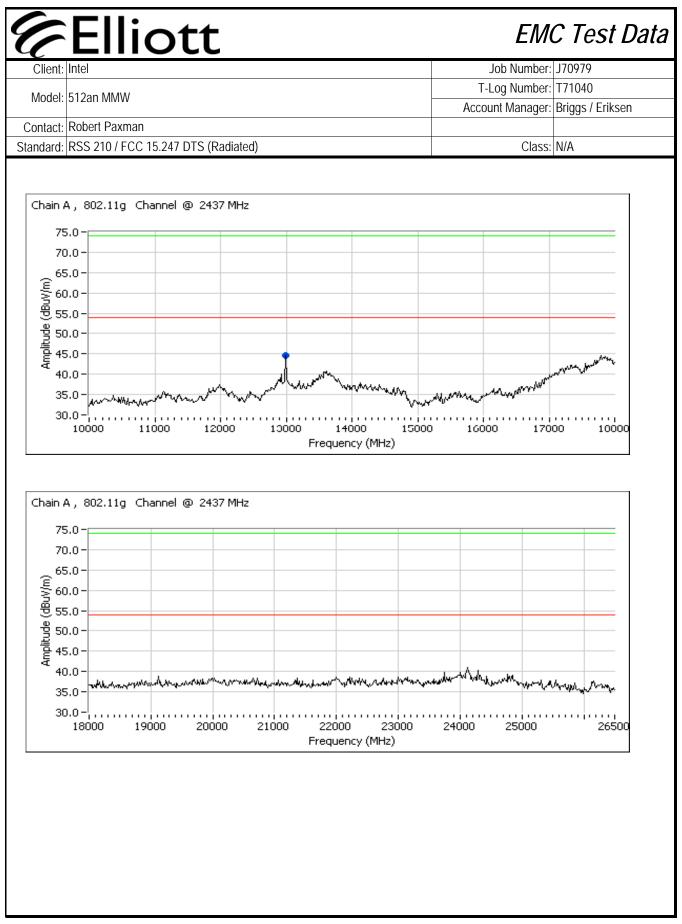
C	Elliot	t		EMO	C Test L
Client: Ir	ntel			Job Number:	J70979
Model: 5	12an MMW			T-Log Number:	T71040
				Account Manager:	Briggs / Erikse
	obert Paxman				
Standard: F	SS 210 / FCC 15.247 D	TS (Radiated)		Class:	N/A
st Speci	fic Details	of this tast assoint is to par	form final qualification	tecting of the FUT with	connect to the
	Objective: The objective specification	e of this test session is to per listed above.	form final qualification	testing of the EUT with r	espect to the
Da	te of Test: 03/18/2008		Config. Used:		
	Engineer: Ben Jing		Config Change:		
les	t Location: FT Chamber	# 4	Host Unit Voltage	120V/60Hz	
Seneral Te	st Configuration				
		ent were located on the turnt 30 meters from the EUT with		0	
or radiated e	missions testing the mea	asurement antenna was loca	ited 3 meters from the	EUT.	
mbient C	onditions:	Temperature:	20 °C		
		Rel. Humidity:	39 %		
Summary (	of Results				
5		on 802.11n mode hadsimilar	but slightly higher em	issions (-18.0dB) than 80	)2.11a mode so
		e were not performed and me	0 5 0		•
hannels.		1			
D	Mada Ohamad	Power Measured	To al Doufournal	1 1	

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)



## Client: Intel T-L

Job Number: J70979 T-Log Number: T71040

EMC Test Data

Account Manager: Briggs / Eriksen

Class: N/A

Contact: Robert Paxman Standard: RSS 210 / FCC 15.247 DTS (Radiated)

#### RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions - Band Edge 802.11n (20 MHz Channel) 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

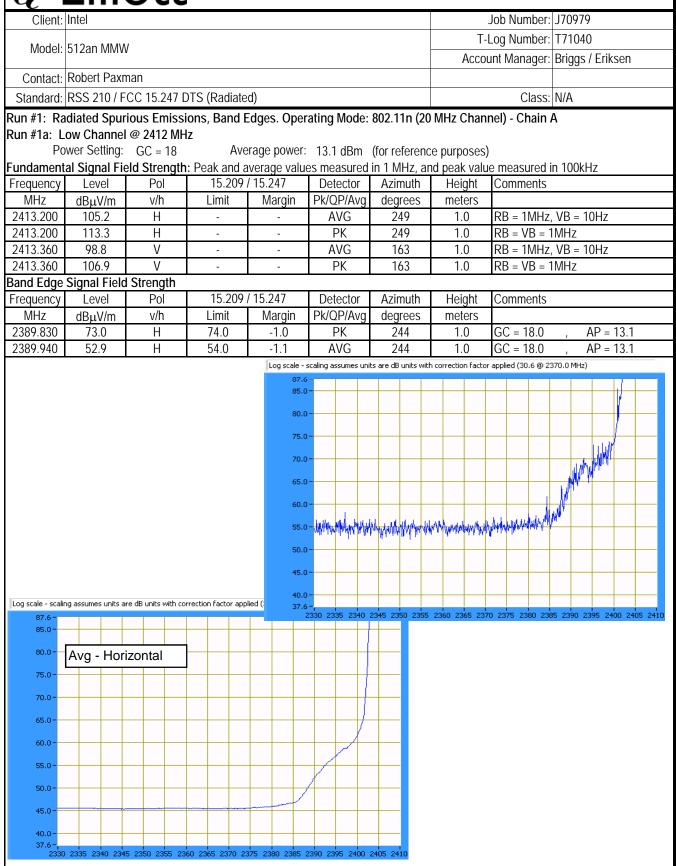
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n20 Chain A	1 2412MHz	GC = 18	13.1 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	73.0 dBuV/m @ 2389.8 MHz (-1.0dB)
1b	802.11n20 Chain A	11 2462MHz	GC = 20.5	14 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	71.0 dBuV/m @ 2483.5 MHz (-3.0dB)

#### Modifications Made During Testing

No modifications were made to the EUT during testing

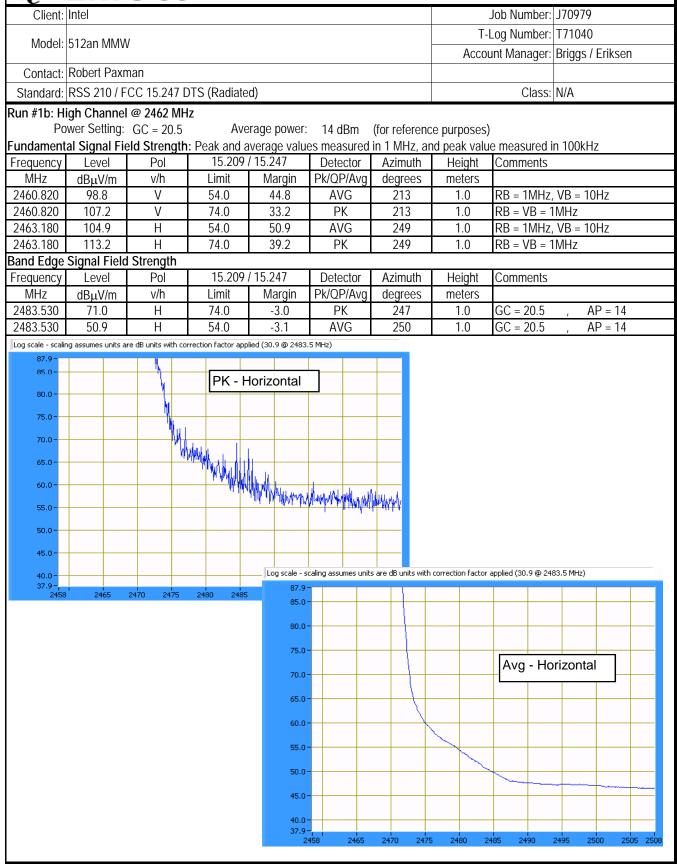
#### Deviations From The Standard

#### EMC Test Data



T71040 DTS Radiated Emissions.xls 2.4 GHz Band Edge 802.11n 20MHz

### Client: Intel Model: 512an MMW



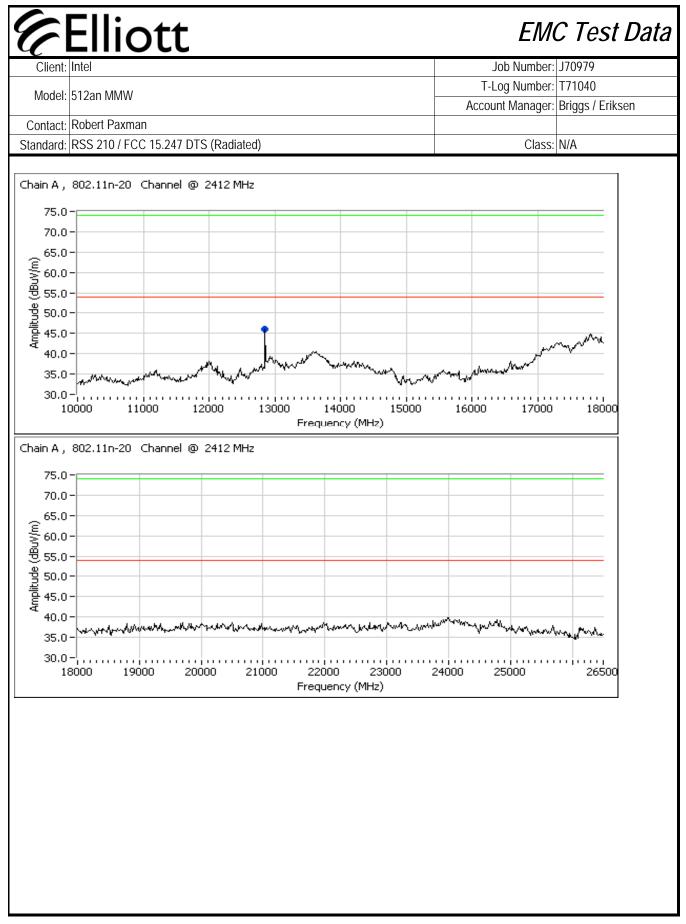
6	<u>Elli</u>	ott				EM	C Test Dat
Client:						Job Number:	J70979
	540 ··· · · · · · · · · · · · · · · · · ·					T-Log Number:	T71040
Wodel:	512an MMW	V				Account Manager:	Briggs / Eriksen
Contact:	Robert Paxr	nan				-	
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	d)		Class:	N/A
Fest Spe	cific Detail		e of this test	session is to	perform final qualificatior	n testing of the EUT with I	respect to the
Test Spe	cific Detail	ls					
	Objective:	The objectiv specification			perform final qualificatior	testing of the EUT with	respect to the
	Date of Test:				Config. Used:		
	est Engineer:		"		Config Change:		
11	est Location:	FI Champer	r#4		Host Unit Voltage	120V/60Hz	
The EUT an		pport equipm			Irntable for radiated spur with all I/O connections r		
For radiated	l emissions te	esting the me	easurement a	intenna was lo	ocated 3 meters from the	EUT.	
Ambient	Condition	S:	Т	emperature:	20 °C		
	00			el. Humidity:	39 %		
Summary	y of Result	S					
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin

Run #	Mode	Channel	Setting	Power	Test Performed	Limit	Result / Margin
1a	802.11n20	1 (2412)	GC = 18	AP = 13.1	Radiated Emissions,	FCC Part 15.209 /	53.8dBµV/m @
Ia	Chain A	1 (2412)	UC = 10	AF = 13.1	1 - 26 GHz	15.247( c)	6432.0MHz (-15.7dB)
1b	802.11n20	6 (2437)	GC = 23	AP = 16.5	Radiated Emissions,	FCC Part 15.209 /	54.6dBµV/m @
U U	Chain A	0 (2437)	GC = 23	AF = 10.3	1 - 26 GHz	15.247( c)	3000.4MHz (-18.0dB)
1c	802.11n20	11 (2462)	GC = 20.5	AP = 14	Radiated Emissions,	FCC Part 15.209 /	53.4dBµV/m @
IC	Chain A	11 (2402)	GC = 20.5	AF = 14	1 - 26 GHz	15.247( c)	3000.4MHz (-16.1dB)

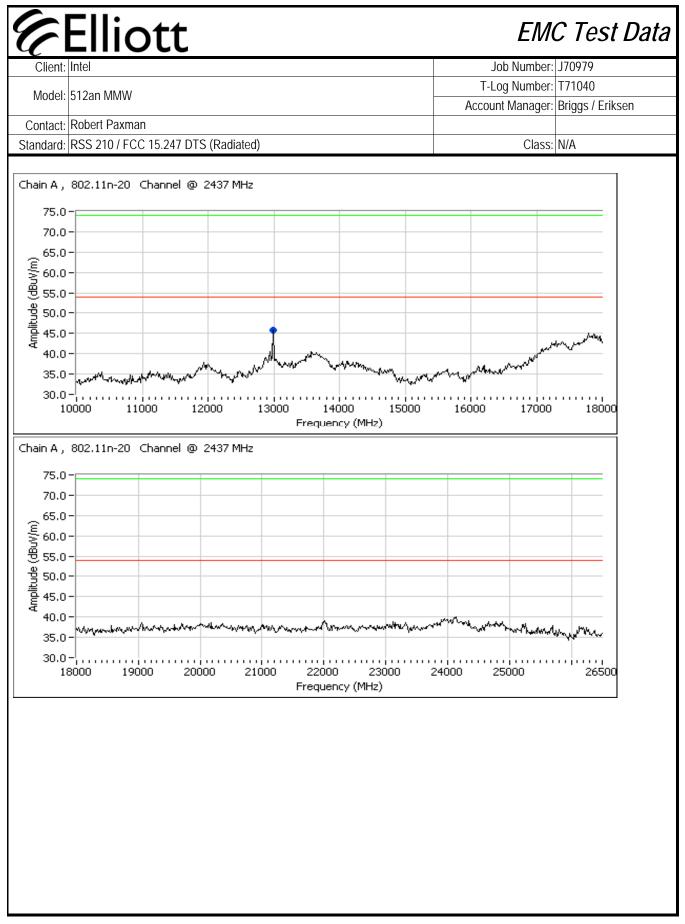
Modifications Made During Testing No modifications were made to the EUT during testing

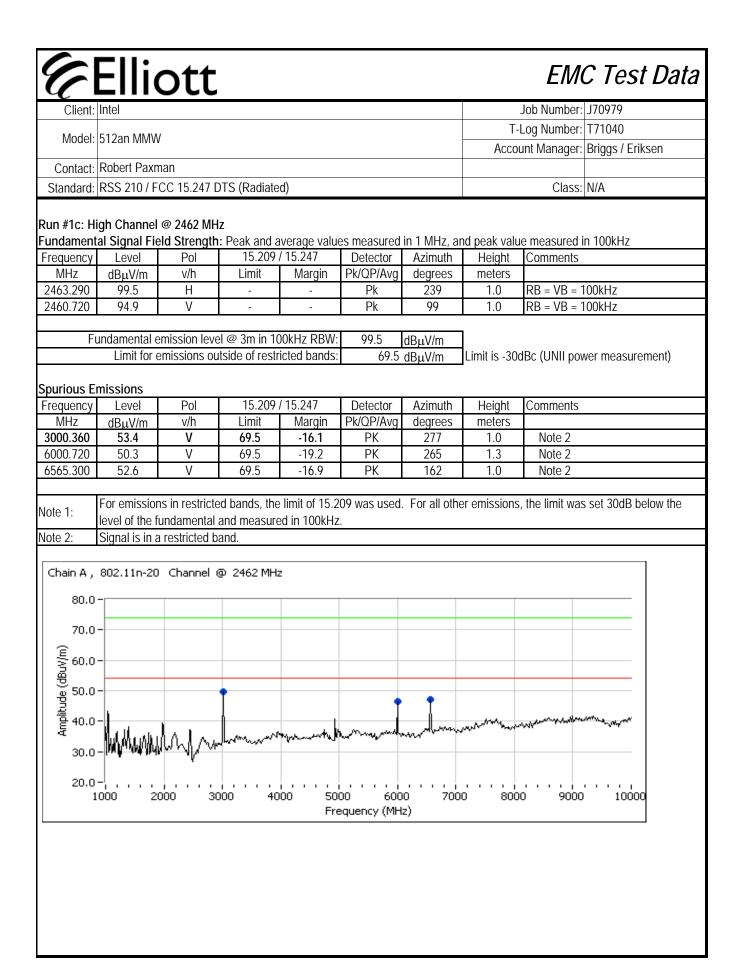
#### Deviations From The Standard

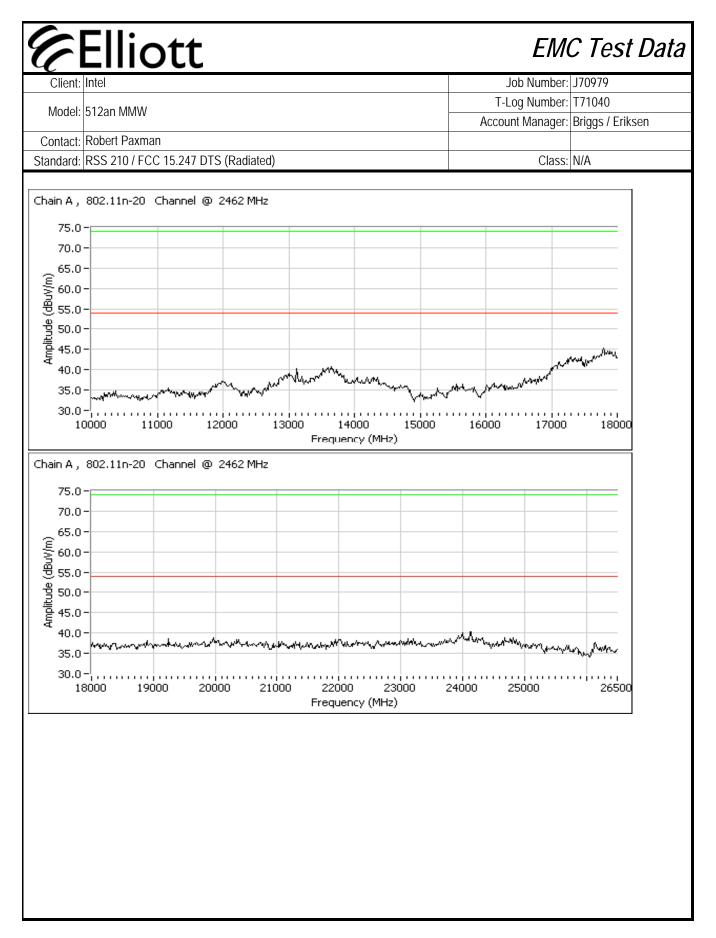
$\mathcal{C}$									
Client:	Intel							Job Number:	J70979
Model		1					T-I	Log Number:	T71040
wodel:	512an MMW	I					Αссоι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
Standard:	RSS 210 / F	CC 15.247 E	DTS (Radiate	d)				Class:	N/A
Run #1: Ra	diated Spur	ious Emissi	ons, 1000 -	26000 MHz.	Operating N	lode: 802.11	n 20MHz Cl	hain A	I
	ow Channel				1 5				
Fundament	al Signal Fie	eld Strength	: Peak and a	iverage value	es measured	in 1 MHz, ar	nd peak valu		n 100kHz
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2410.750	94.5	V	-	-	Pk	225	1.0	RB = VB = 1	
2413.340	99.5	Н	-	-	Pk	240	1.0	RB = VB = 1	00kHz
Fi	Indamontal o	mission love	el @ 3m in 10		99.5	dBµV/m			
11			Itside of restr			dBμV/m dBμV/m	l imit is -300	Bc (UNII nov	ver measurement)
Spurious Ei		51115510115 00			07.0	υσμν/Π			incusurementy
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
3000.390	53.5	V	69.5	-16.0	PK	277	1.0	Note 2	
6000.710	50.6	V	69.5	-18.9	PK	266	1.3	Note 2	
6431.970	53.8	V	69.5	-15.7	PK	171	1.2	Note 2	
12863.980	49.6	V	69.5	-19.9	PK	182	1.0	Note 2	
	level of the f		and measure			For all othe	er emissions	, the limit was	s set 30dB below the
Note 2:	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure	ed in 100kHz		For all othe	er emissions	, the limit was	s set 30dB below the
Note 2:	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions,	, the limit was	s set 30dB below the
Note 2:	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions	, the limit was	s set 30dB below the
Vote 2: Chain A , 80.0 70.0	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions	, the limit was	s set 30dB below the
Chain A , 80.0 70.0	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions,	, the limit was	s set 30dB below the
Vote 2: Chain A , 80.0 70.0	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions	, the limit was	s set 30dB below the
Note 2: Chain A , 80.0 70.0 (E) 60.0	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions,	, the limit was	s set 30dB below the
Vote 2: Chain A , 80.0 70.0	level of the f Signal is in a 802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions,	the limit was	set 30dB below the
Chain A , 80.0 70.0 (W/)ngp 60.0 50.0 nnjildw 40.0	802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe		, the limit was	s set 30dB below the
80.0 70.0	802.11n-20	undamental a restricted b	and measure and.	ed in 100kHz		For all othe	er emissions,	the limit was	s set 30dB below the
Note 2: Chain A , 80.0 70.0 (∭/\∩gp) 9000 50.0 1000 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2			y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Note 2: Chain A , 80.0 70.0 (∭/\∩gp) 9000 50.0 1000 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Note 2: Chain A , 80.0 70.0 (∭/\∩gp) 9000 50.0 1000 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		
Vote 2: Chain A , 80.0 70.0 (W/\ngp) 900 50.0 100 40.0 30.0 20.0	level of the f Signal is in a 802.11n-20		and measure and. 2412 MHz	2 2 00 50		o' ' 700	y		



Client:								Job Number:	J70979
								Log Number:	
Model:	512an MMW						Ассо	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxm	nan							
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	ed)				Class:	N/A
un #1b: C	enter Chanr	nel @ 2437 M	ИНz						
					es measured				in 100kHz
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz 2435.760	dBµV/m 99.0	v/h H	Limit	Margin	Pk/QP/Avg Pk	degrees 85	meters 1.0	RB = VB = 1	100kHz
2435.760	102.6	H	-	-	Pk	247	1.0	RB = VB = T	
2100.700	102.0					217	1.0		
Fu	undamental e	mission leve	el @ 3m in 10	00kHz RBW:	102.6	dBµV/m			
	Limit for e	missions ou	tside of restr	ricted bands:		dBµV/m	Limit is -30	dBc (UNII po	wer measurement)
							-		
purious Ei			45 000	145.047					
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz 3000.350	dBμV/m <b>54.6</b>	v/h V	Limit 72.6	Margin -18.0	Pk/QP/Avg PK	degrees 264	meters 1.0		
2000.200		V	72.6	-22.0	PK PK	268	1.0		
6000 700	50.6					200	1.5		
	50.6 54 3				РK	164	10		
5498.710 2997.330 ote 1: ote 2:	54.3 48.8 For emission level of the fu Signal is not	V V s in restricte undamental in a restricte	72.6 72.6 ed bands, the and measure ed band but t	-18.3 -23.8 e limit of 15.2 ed in 100kHz he more strii				s, the limit wa	s set 30dB below th
lote 2:	54.3 48.8 For emission level of the fu Signal is not 802.11n-20	V V s in restricte undamental in a restricte	72.6 72.6 ed bands, the and measure ed band but t	-18.3 -23.8 e limit of 15.2 ed in 100kHz he more strii	PK 09 was used.	173 For all othe	1.0 er emissions	s, the limit was	s set 30dB below ti







## Client: Intel

#### EMC Test Data

Client:	Intel	Job Number:	J70979
Model	512an MMW	T-Log Number:	T71040
MOUCI.		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 - Band Edge 802.11n (40 MHz Channel) 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: 3/17/2008 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:	20 °C
	Rel. Humidity:	39 %

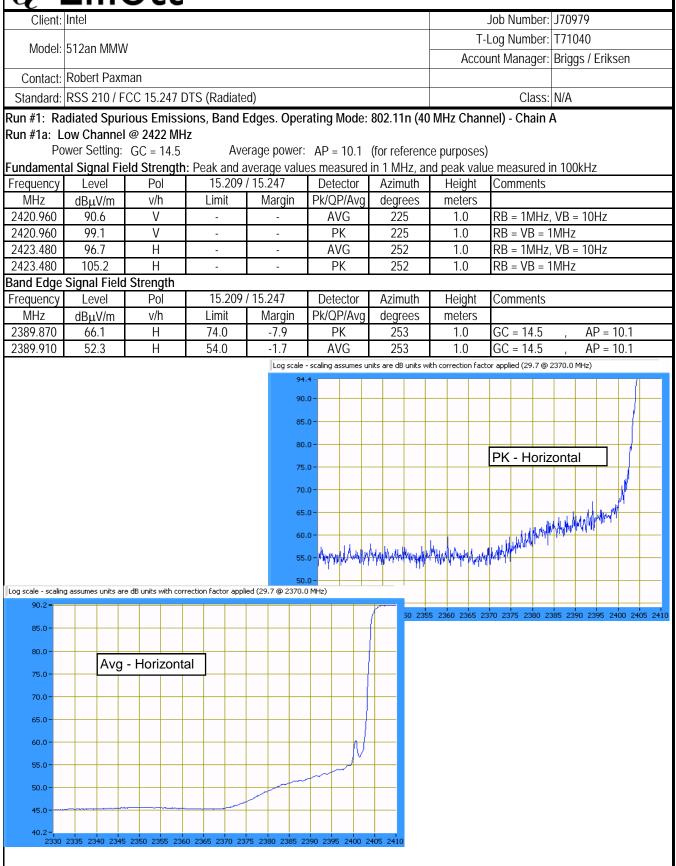
#### Summary of Results

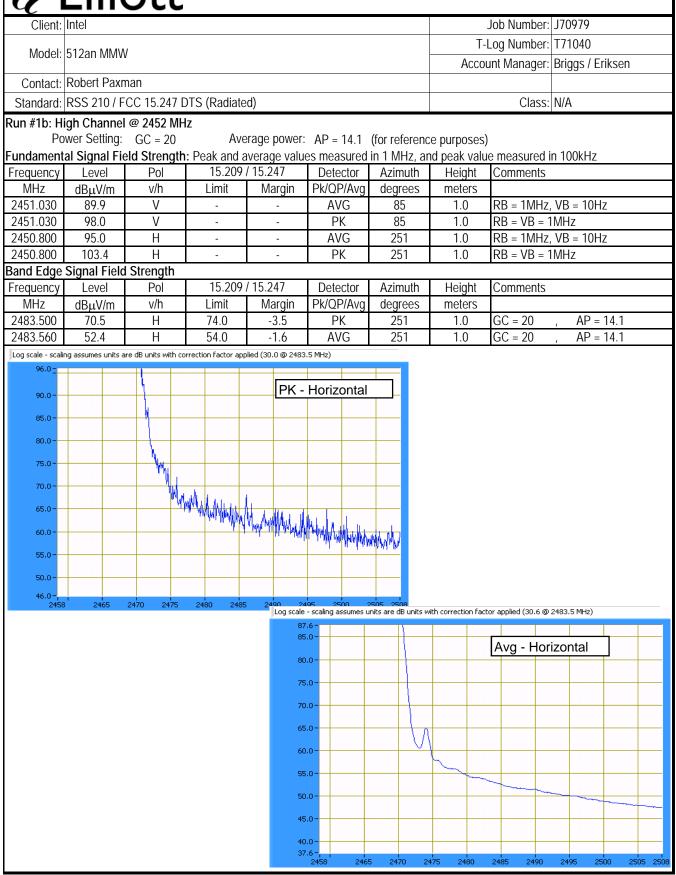
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n40 Chain A	1 2422MHz	GC = 14.5	AP = 10.1	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	52.3 dBuV/m @ 2389.9 MHz (-1.7dB)
1b	802.11n40 Chain A	11 2452MHz	GC = 20	AP = 14.1	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	52.4 dBuV/m @ 2483.5 MHz (-1.6dB)

#### Modifications Made During Testing

No modifications were made to the EUT during testing

#### Deviations From The Standard





6	Elli	ott				EMO	C Test Data
Client:	1					Job Number:	J70979
Model	512an MMW	1				T-Log Number:	T71040
						Account Manager:	Briggs / Eriksen
	Robert Paxn						
Standard:	RSS 210 / F	CC 15.247 [	OTS (Radiate	ed)		Class:	N/A
					247 (DTS, 240) ns, 1 - 26GHz 80		•
Test Spe	c <b>ific Detail</b> Objective:	S The objectiv specificatior	e of this test	session is to	perform final qualification	n testing of the EUT with r	respect to the
		specification			Config. Used: Config Change: Host Unit Voltage	None	
The EUT ar		pport equipm			urntable for radiated spur with all I/O connections r	-	
For radiated	emissions te	esting the me	easurement	antenna was	located 3 meters from the	e EUT.	
Ambient	Condition	S:		emperature: el. Humidity:			
Summary	of Result	S					
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n40 Chain A	3 (2422)	14.5	10.1	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	41.4dBµV/m @ 3000.4MHz (-22.1dB)
1b	802.11n40 Chain A	6 (2437)	21.5	16.5	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	32.5dBµV/m @ 4874.0MHz (-21.5dB)
1c	802.11n40 Chain A	9 (2452)	20.0	14.1	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	52.4dBµV/m @ 3000.4MHz (-16.0dB)

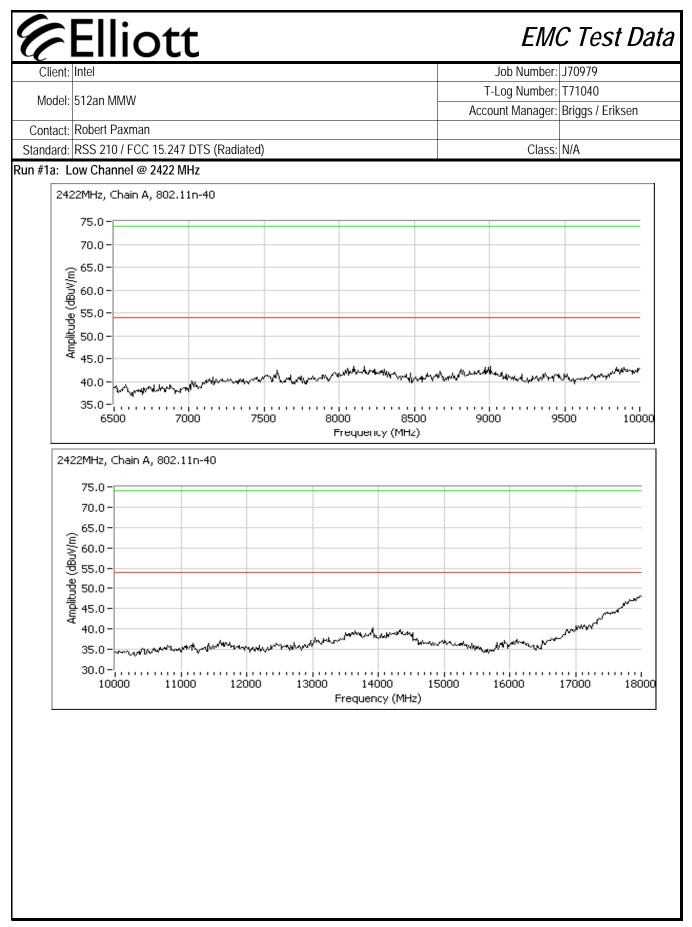
#### Modifications Made During Testing

No modifications were made to the EUT during testing

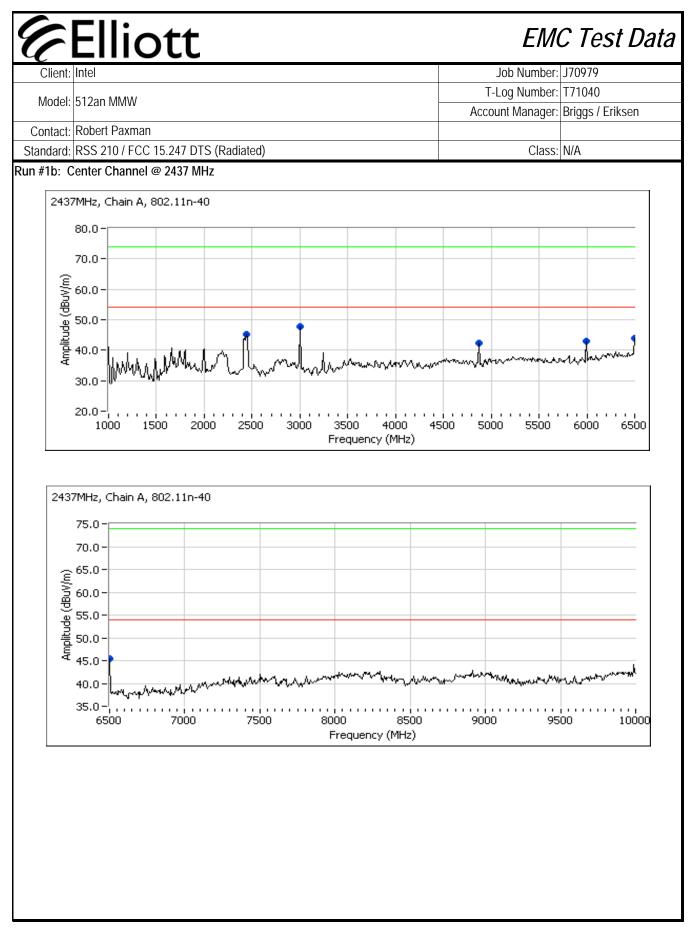
#### Deviations From The Standard

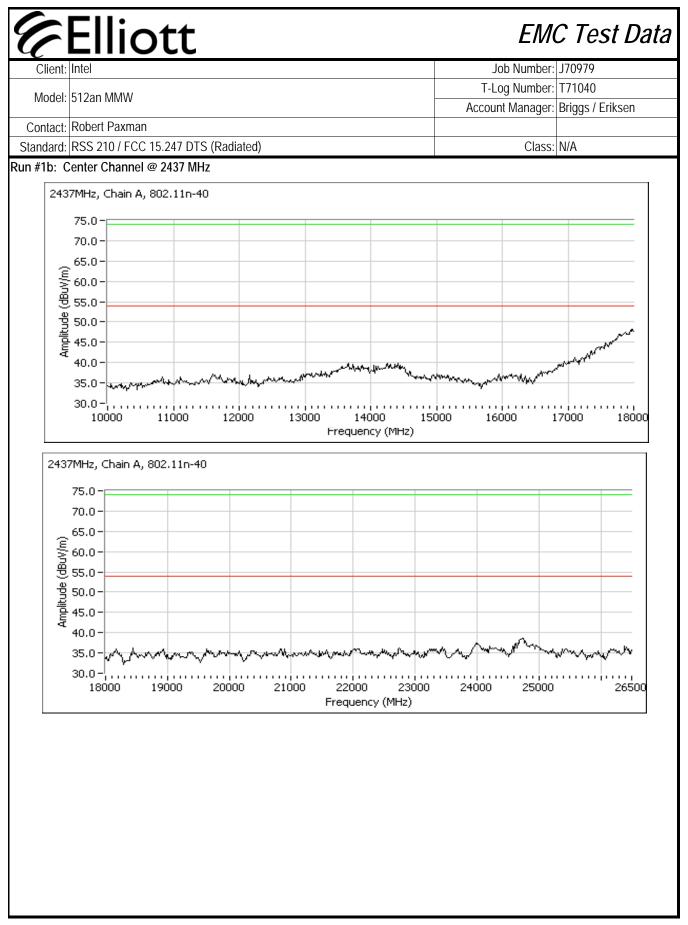
No deviations were made from the requirements of the standard.

Client: Intel							Job Number:	J70979
							Log Number:	
Model: 512an MM	W						0	Briggs / Eriksen
Contact: Robert Pa	man						g	
Standard: RSS 210 /		DTS (Radiate	d)				Class:	N/A
n #1: Radiated Sp Date of Tes Test Enginee Test Location n #1a: Low Chann Power Setting ndamental Signal F equency Level MHz dBµV/m 420.770 88.6	:: 4/8/2008 :: Joseph Cac :: FT Chambe el @ 2422 MH :: GC = 14.5	ligal er # 4 <b>Iz</b> Ave	rage power: verage value / 15.247 Margin	AP = 10.1 es measured Detector Pk/QP/Avg PK	(for reference in 1 MHz, ar Azimuth degrees 138	e purposes) nd peak valu Height meters 1.0	) le measured i Comments RB = VB = 1	100kHz
23.230 93.5 Fundamenta	H emission leve				248 dBμV/m	1.0	RB = VB = 1	
2423.230 93.5 Fundamenta Limit fo purious Emissions	H emission leve emissions ou	el @ 3m in 10 Itside of restri	OkHz RBW: icted bands:	93.5 63.5	dBµV/m dBµV/m	Limit is -300	dBc (UNII pov	IOUKHZ ver measuremen
423.230 93.5 Fundamenta Limit fo purious Emissions requency Level	H emission leve emissions ou Pol	el @ 3m in 10 Itside of restri 15.209 /	OkHz RBW: icted bands: 15.247	93.5 63.5 Detector	dBµV/m dBµV/m Azimuth	Limit is -300 Height		
423.230 93.5 Fundamenta Limit fo purious Emissions	H emission leve emissions ou	el @ 3m in 10 Itside of restri	OkHz RBW: icted bands:	93.5 63.5	dBµV/m dBµV/m	Limit is -300	dBc (UNII pov	ver measuremen
423.230 93.5 Fundamenta Limit fo urious Emissions equency Level MHz dBμV/m 000.350 41.4 000.830 36.1	H emission leve emissions ou Pol V/h V V	el @ 3m in 10 itside of restri 15.209 / Limit <b>63.5</b> 63.5	0kHz RBW: icted bands: / 15.247 Margin -22.1 -27.4	93.5 63.5 Detector Pk/QP/Avg PK PK	dBµV/m dBµV/m Azimuth degrees 270 275	Limit is -300 Height meters 1.6 2.2	dBc (UNII pov Comments Not in restric Not in restric	ver measuremen cted band cted band
423.230 93.5 Fundamenta Limit fo urious Emissions equency Level MHz dBμV/m 000.350 41.4	H emission leve emissions ou Pol V/h V V V V	el @ 3m in 10 Itside of restri 15.209 / Limit 63.5 63.5 63.5	0kHz RBW: icted bands: / 15.247 Margin -22.1	93.5 63.5 Detector Pk/QP/Avg PK	dBµV/m dBµV/m Azimuth degrees 270	Limit is -300 Height meters 1.6	dBc (UNII pov Comments Not in restric	ver measuremen cted band cted band

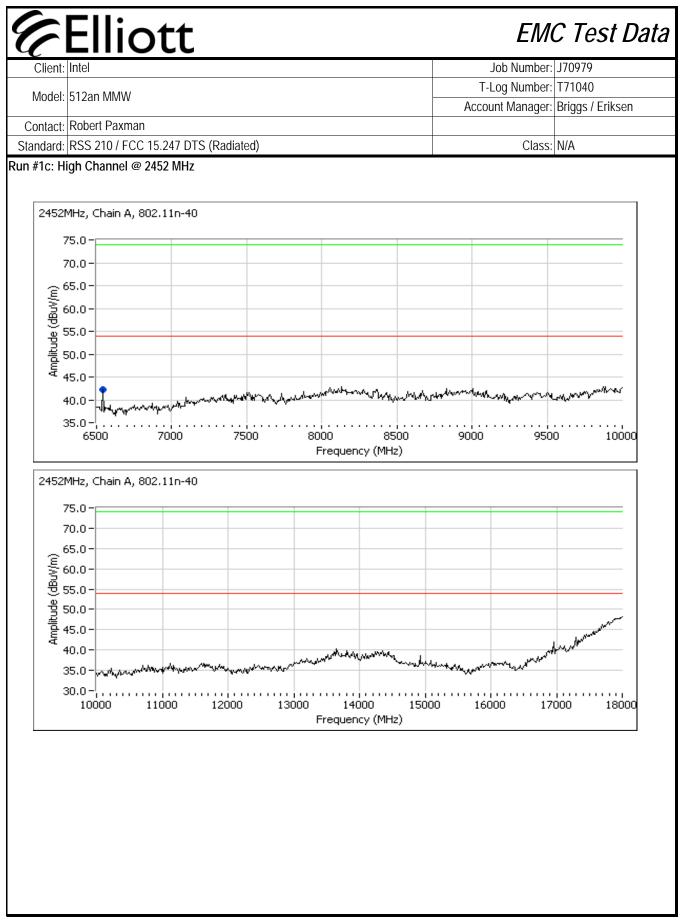


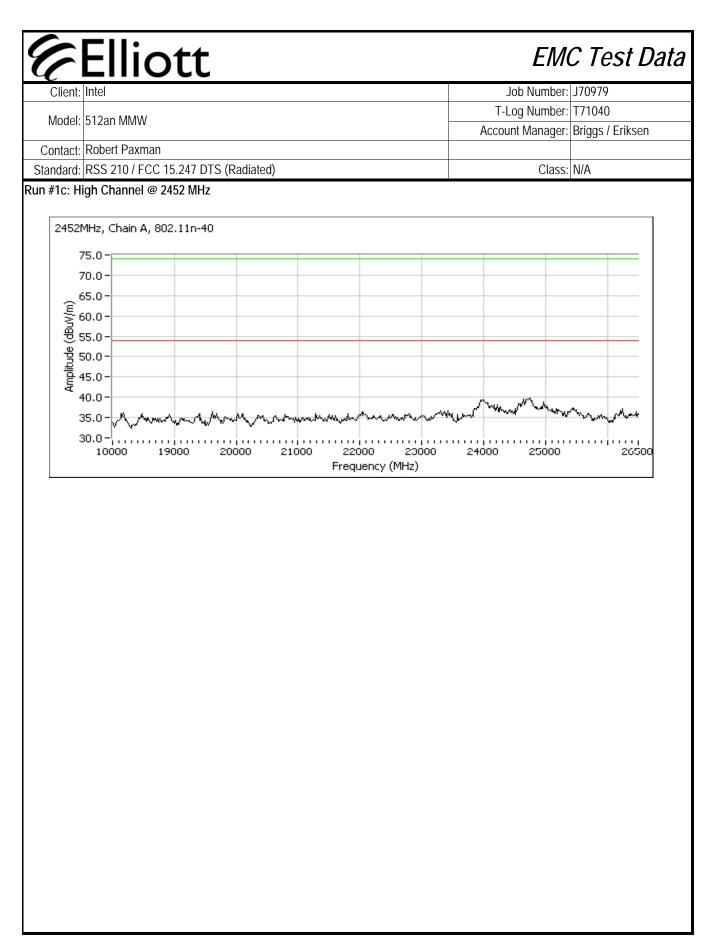
	Elli	ott	•					EM	C Test Da
Client:								Job Number:	J70979
							T-	Log Number:	T71040
Model:	512an MMW	V						•	Briggs / Eriksen
Contact:	Robert Paxr	nan							
Standard:	RSS 210 / F	CC 15.247 E	OTS (Radiate	d)				Class:	N/A
Run #1a: L	ow Channel	@ 2422 MH	z						
24	22MHZ Cha	ain A, 802.1	in-40						
	75.0								
	70.0-								
	_ 65.0-								
	\$60.0-								
	(₩, 60.0 - 90.0 - 90.0 - 10.0 -								
	ਚੁੱ 50.0-								
	<u>귀</u> 66.10 분 45.0 -								
	40.0-								
			m r m	Maxim		ليدرجن بطريق	man	myrad	mar mar
	I*	Whenton	کرر پر ایر اور اور	a channe a chan		- A Ar Mr. M A	α·vV	v	- a www
	18000				0 22000				0 265
	For emission	ns in restricte	ed bands, the	limit of 15.2	09 was used.	. For all oth	er emissions	, the limit was	s set 30dB below th
Note 1:			and measure						
Note 2:	Signal is not	t in a restricte	ed band but t	ne more strir	ngent restricte	ed band limit	t was used.		
	Center Chan	GC = 21.5	Ave	• •	AP = 16.5	•			
Fundament	tal Signal Fie								in 100kHz
	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	in 100kHz
Fundament Frequency									
Fundament Frequency MHz	Level dBµV/m	Pol v/h	15.209 / Limit	/ 15.247	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	100kHz
Fundament Frequency MHz 2438.440 2438.330	Level dBµV/m 95.2 100.1	Pol v/h V H	15.209 / Limit - -	/ 15.247 Margin - -	Detector Pk/QP/Avg PK PK	Azimuth degrees 274 249	Height meters 1.0	Comments RB = VB = 7	100kHz
Fundament Frequency MHz 2438.440 2438.330	Level dBµV/m 95.2 100.1 undamental e	Pol v/h V H emission leve	15.209 / Limit - -	/ 15.247 Margin - - - 00kHz RBW:	Detector Pk/QP/Avg PK PK 100.1	Azimuth degrees 274 249 dBµV/m	Height meters 1.0 1.2	Comments RB = VB = 7 RB = VB = 7	100kHz 100kHz
Fundament Frequency MHz 2438.440 2438.330	Level dBµV/m 95.2 100.1 undamental e	Pol v/h V H emission leve	15.209 / Limit - -	/ 15.247 Margin - - - 00kHz RBW:	Detector Pk/QP/Avg PK PK 100.1	Azimuth degrees 274 249	Height meters 1.0 1.2	Comments RB = VB = 7 RB = VB = 7	100kHz
Fundament Frequency MHz 2438.440 2438.330	Level dBµV/m 95.2 100.1 undamental e Limit for e	Pol v/h V H emission leve emissions ou	15.209 / Limit - - el @ 3m in 10 itside of restr	/ 15.247 Margin - - D0kHz RBW: icted bands:	Detector Pk/QP/Avg PK PK 100.1	Azimuth degrees 274 249 dBµV/m dBµV/m	Height meters 1.0 1.2 Limit is -30	Comments RB = VB = 1 RB = VB = 1 dBc (UNII pow	100kHz 100kHz
Fundameni Frequency MHz 2438.440 2438.330 F Spurious E Frequency	Level dBµV/m 95.2 100.1 undamental e Limit for e missions Level	Pol v/h V H emission leve emissions ou Pol	15.209 / Limit - el @ 3m in 10 itside of restr 15.209 /	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth	Height meters 1.0 1.2 Limit is -300 Height	Comments RB = VB = 7 RB = VB = 7	100kHz 100kHz
Fundameni Frequency MHz 2438.440 2438.330 F Spurious E Frequency MHz	Level dBµV/m 95.2 100.1 undamental e Limit for e	Pol v/h V H emission leve emissions ou Pol v/h	15.209 / Limit - el @ 3m in 10 itside of restr 15.209 / Limit	/ 15.247 Margin - - D0kHz RBW: icted bands: / 15.247 Margin	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees	Height meters 1.0 1.2 Limit is -300 Height meters	Comments RB = VB = 1 RB = VB = 1 dBc (UNII pow	100kHz 100kHz
Fundament Frequency MHz 2438.440 2438.330 F Spurious E Frequency MHz 4874.030	Level dBµV/m 95.2 100.1 undamental e Limit for e missions Level dBµV/m 32.5	Pol v/h V H emission leve emissions ou Pol v/h V	15.209 / Limit - el @ 3m in 10 utside of restr 15.209 / Limit 54.0	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees 172	Height meters 1.0 1.2 Limit is -300 Height meters 1.3	Comments RB = VB = ^ RB = VB = ^ dBc (UNII powers) Comments	100kHz 100kHz wer measurement)
Fundament Frequency MHz 2438.440 2438.330 F Spurious E Frequency MHz 4874.030 3000.320	Level dBμV/m 95.2 100.1 undamental e Limit for e cmissions Level dBμV/m 32.5 42.9	Pol V/h H emission leve emissions ou Pol V/h V H	15.209 / Limit - el @ 3m in 10 itside of restr 15.209 / Limit 54.0 70.1	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5 -27.2	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG PK	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees 172 172	Height meters 1.0 1.2 Limit is -300 Height meters 1.3 1.0	Comments RB = VB = 1 RB = VB = 1 dBc (UNII pow	100kHz 100kHz wer measurement)
Fundament Frequency MHz 2438.440 2438.330 F Spurious E Frequency MHz 4874.030 3000.320 4874.030	Level dBµV/m 95.2 100.1 undamental e Limit for e missions Level dBµV/m 32.5 42.9 38.3	Pol v/h V H emission leve emissions ou Pol v/h V	15.209 / Limit - - el @ 3m in 10 itside of restr 15.209 / Limit 54.0 70.1 74.0	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5 -27.2 -35.7	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG PK PK	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees 172 172 172	Height neters 1.0 1.2 Limit is -30 Height meters 1.3 1.0 1.3	Comments RB = VB = ^ RB = VB = ^ dBc (UNII powents Comments Not in restriction	100kHz 100kHz wer measurement) cted band
Fundament Frequency MHz 2438.440 2438.330 F Spurious E Frequency MHz 4874.030 3000.320	Level dBμV/m 95.2 100.1 undamental e Limit for e cmissions Level dBμV/m 32.5 42.9	Pol V/h H emission leve emissions ou Pol V/h V H V	15.209 / Limit - - el @ 3m in 10 ttside of restr 15.209 / Limit 54.0 70.1	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5 -27.2	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG PK	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees 172 172	Height meters 1.0 1.2 Limit is -300 Height meters 1.3 1.0	Comments RB = VB = ^ RB = VB = ^ dBc (UNII powers) Comments	100kHz 100kHz wer measurement) cted band
Fundameni Frequency MHz 2438.440 2438.330 F Frequency MHz 4874.030 4874.030 6000.730	Level dBμV/m 95.2 100.1 undamental e Limit for e cmissions Level dBμV/m 32.5 42.9 38.3 38.0	Pol V/h H emission leve emissions ou Pol V/h V H V V V	15.209 / Limit - el @ 3m in 10 itside of restr 15.209 / Limit 54.0 70.1 74.0 70.1	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5 -27.2 -35.7 -32.1	Detector Pk/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG PK PK PK PK	Azimuth degrees 274 249 dBµV/m dBµV/m Azimuth degrees 172 172 172 144	Height           neters           1.0           1.2           Limit is -300           Height           meters           1.3           1.0           1.3           1.0	Comments RB = VB = 7 RB = VB = 7 dBc (UNII powents) Comments Not in restriction Not in restriction	100kHz 100kHz wer measurement) cted band
Fundameni Frequency MHz 2438.440 2438.330 F Frequency MHz 4874.030 4874.030 6000.730	Level dBµV/m 95.2 100.1 undamental e Limit for e missions Level dBµV/m 32.5 42.9 38.3 38.0 39.2 For emission	Pol V/h H emission leve emissions ou Pol V/h V H V V V V V	15.209 / Limit - el @ 3m in 10 itside of restr 15.209 / Limit 54.0 70.1 74.0 70.1 70.1	/ 15.247 Margin - - 00kHz RBW: icted bands: / 15.247 Margin -21.5 -27.2 -35.7 -32.1 -30.9	Detector PK/QP/Avg PK PK 100.1 70.1 Detector Pk/QP/Avg AVG PK PK PK PK PK 09 was used.	Azimuth degrees 274 249 dBμV/m dBμV/m Azimuth degrees 172 172 172 172 172 144 195	Height           meters           1.0           1.2           Limit is -300           Height           meters           1.3           1.0           1.3           1.0           1.3           1.0	Comments RB = VB = 7 RB = VB = 7 dBc (UNII power dBc (UNII power) dBc (UNII pow	100kHz 100kHz wer measurement) cted band





Contact: R Standard: R un #1c: Hig Pow undamental	12an MMW Robert Paxm RSS 210 / F h Channel rer Setting:	nan CC 15.247 D @ <b>2452 MH</b> :	-	ed)			T-	Job Number: Log Number: unt Manager:	
Contact: R Standard: R Run #1c: Hig Pow undamental Frequency	Robert Paxm 2SS 210 / F h Channel rer Setting:	nan CC 15.247 D @ <b>2452 MH</b> :	-	ed)				0	
Contact: R Standard: R Run #1c: Hig Pow undamental Frequency	Robert Paxm 2SS 210 / F h Channel rer Setting:	nan CC 15.247 D @ <b>2452 MH</b> :	-	ed)			Accou	unt Manager:	Briggs / Eriksen
Standard: R Run #1c: Hig Pow undamental Frequency	SS 210 / F h Channel ver Setting:	CC 15.247 D @ <b>2452 MH</b> :	-	ed)				-	
Run #1c: Hig Pow Fundamental Frequency	h Channel er Setting:	@ 2452 MH	-	ed)					
Run #1c: Hig Pow Fundamental Frequency	h Channel er Setting:	@ 2452 MH	-					Class:	N/A
Pow Fundamental Frequency	er Setting:		L						I
Fundamental Frequency	-	GC = 20		erage power:	AP = 14.1	(for referenc	e purposes)		
Frequency MH7	Signal Fie								n 100kHz
MHz	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2451.130	92.0	V	-	-	PK	62	1.0	RB = VB = T	
2450.830	98.4	Н	-	-	PK	250	1.0	$RB = VB = \hat{A}$	100kHz
Fun	damontal	mission leve	l@ 2m in 1(		00.4				
FUN		emission leve				dBµV/m dBµV/m	limitic 20/	Rc (LINII no	ver measurement)
					00.4	υσμν/ΙΙΙ			ineasurement)
Spurious Em	issions								
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1252.390	44.5	V	68.4	-23.9	PK	174	1.3	Not in a res	
1800.220	45.1	V	68.4	-23.3	PK	181	1.6	Not in a res	
3000.350	52.4	V	68.4	-16.0	PK	258	1.3	Not in a res	
6000.760	46.3	V	68.4	-22.1	PK	141	1.3	Not in a res	
6538.550	47.5	V	68.4	-20.9	PK	217	1.0	Not in a res	tricted band
80. 70. (w/\ngp) epnation 50. 40. 30.	.0 - .0 - .0 - .0 - .0 -	, 802.11n-4	mh		3500 4	1000 450			





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

#### RSS 210 and FCC 15.247 (DTS, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11a 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: 03/24/2008 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 for measuremetns below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Ambient Conditions:	Temperature:	20 °C
	Rel. Humidity:	39 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11a	5745 MHz	26.5	16. 5	Radiated Emissions,	FCC Part 15.209 /	52.9dBµV/m @
Id	Chain A		20. 5	10. 5	1 - 26 GHz	15.247( c)	11490.1MHz (-1.1dB)
1b	802.11a	5785 MHz	27.0	16.5	Radiated Emissions,	FCC Part 15.209 /	51.2dBµV/m @
u	Chain A		27.0	10. J	1 - 26 GHz	15.247( c)	11568.2MHz (-2.8dB)
1c	802.11a	5825 MHz	28.0	16. 5	Radiated Emissions,	FCC Part 15.209 /	60.1dBµV/m @
ΤC	Chain A		20. 0	10. J	1 - 26 GHz	15.247( c)	17471.6MHz (-1.3dB)

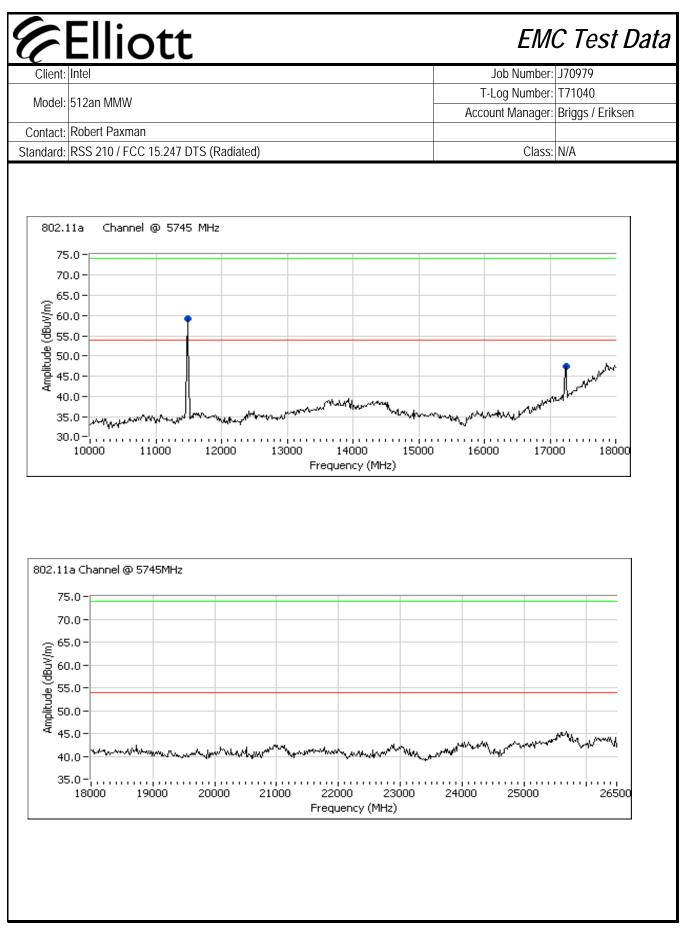
#### Modifications Made During Testing

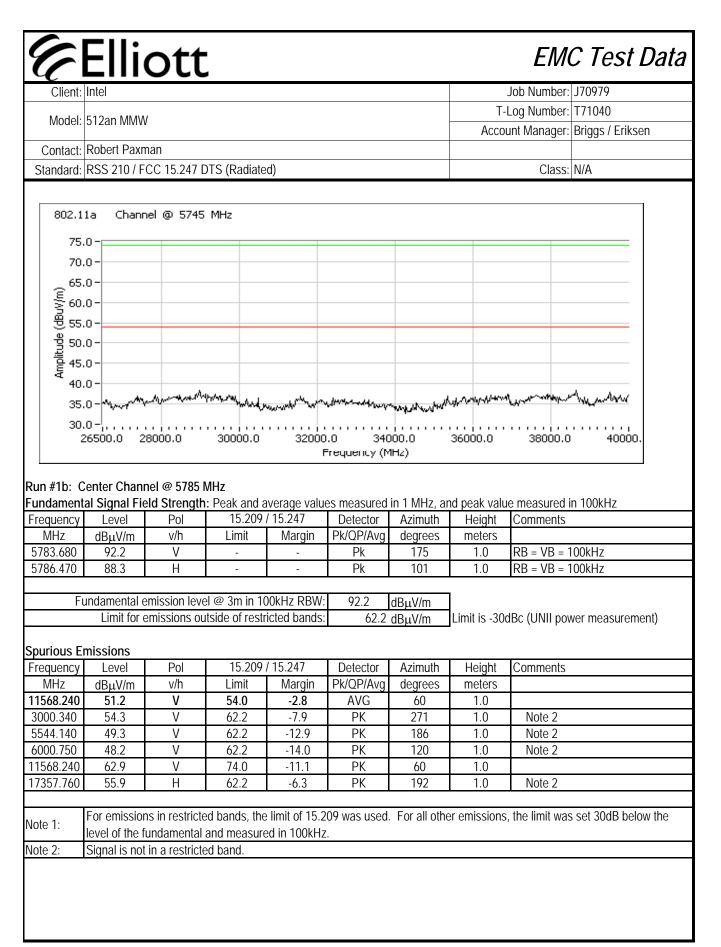
No modifications were made to the EUT during testing

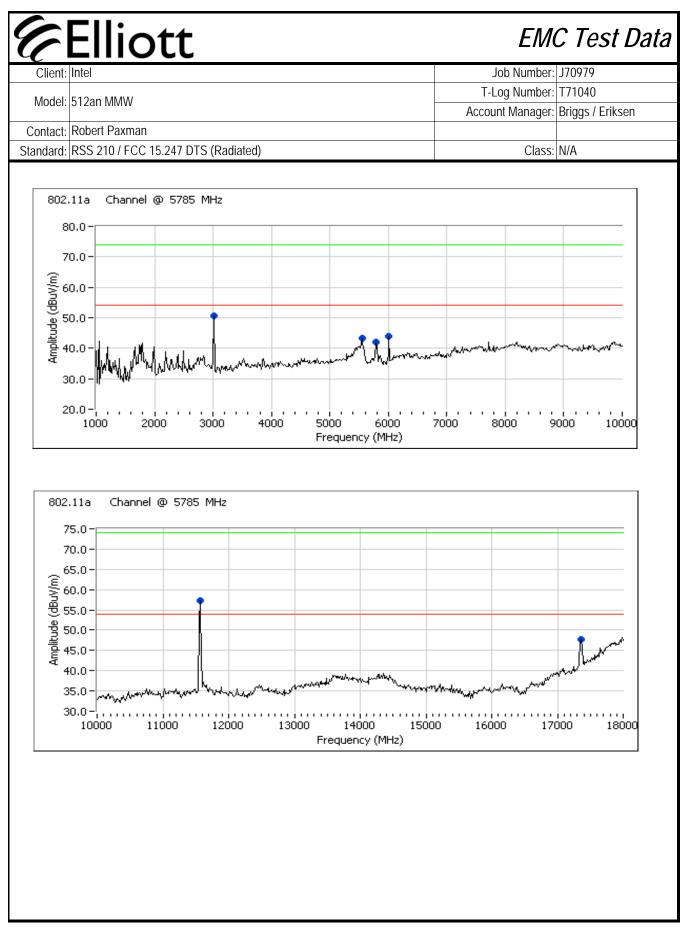
#### Deviations From The Standard

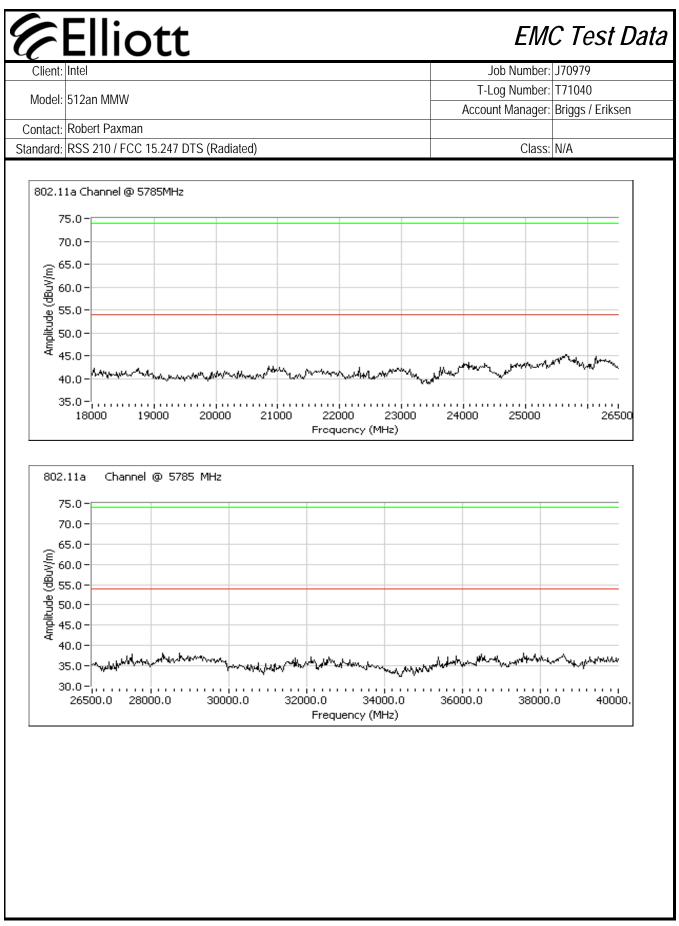
No deviations were made from the requirements of the standard.

V	Elli	~ ~ ~						Job Number:	170070
Client:	Intel								
Model:	512an MMW	V						Log Number:	Briggs / Eriksen
Contact	Robert Paxr	nan					ALLU	uni manayer.	briggs / Eriksen
	: RSS 210 / F		)TS (Radiate	d)				Class:	N/A
	adiated Spur		,	,	Operating M	lode: 802 1'	1a Chain Δ	01035.	1.177
	Low Channel			10000 10112.		1000.002.1			
undamen	tal Signal Fie	eld Strength	: Peak and a	iverage valu	es measured	in 1 MHz, ai	nd peak valu	ie measured i	in 100kHz
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5743.690	91.0	Н	-	-	Pk	100	1.0	$RB = VB = \hat{A}$	
5746.240	95.1	V	-	-	Pk	171	1.0	$RB = VB = \hat{A}$	100kHz
г	undamental e	mission low	1 @ 2m in 10		95.1	dD\//m	1		
F			itside of restr	-		dBμV/m dBμV/m	Limit is _30	dRc (LINII nov	wer measurement)
					05.1	υσμν/Π			wei measurement)
Spurious E	missions								
Frequency		Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
11490.120	52.9	V	54.0	-1.1	AVG	64	1.0		
3000.340	54.3	V	65.1	-10.8	PK	272	1.0	Note 2	
5487.640	57.1	V	65.1	-8.0	PK	147	1.0	Note 2	
6000.650	48.3	V	65.1	-16.8	PK	106	1.0	Note 2	
11490.120		V	74.0	-9.6	PK	64	1.0		
17236.880	61.2	Н	65.1	-3.9	PK	144	1.0	Note 2	
	For omission	ns in rostricta	d hands the	limit of 15.2	hasu sew 00	For all oth	or omissions	the limit was	s set 30dB below th
Note 1:			and measure						
Note 2:	Signal is not								
1010 2.									
802.1	1a Channe	el @ 5745	MH2						
002.1			1.11.15						
55.	.0								
F0	0								
50.	.0-		1		l I I				
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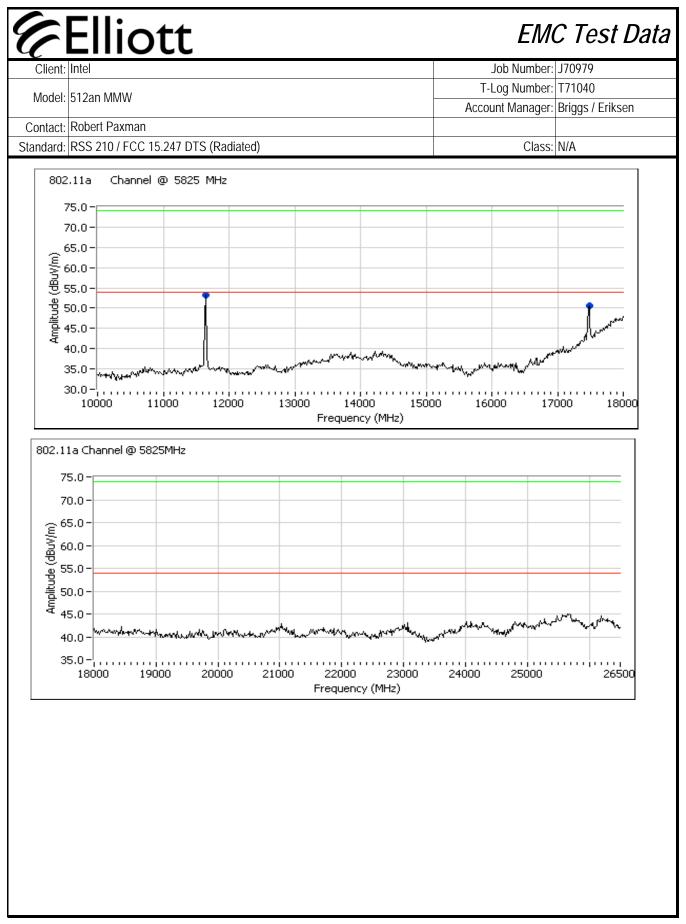


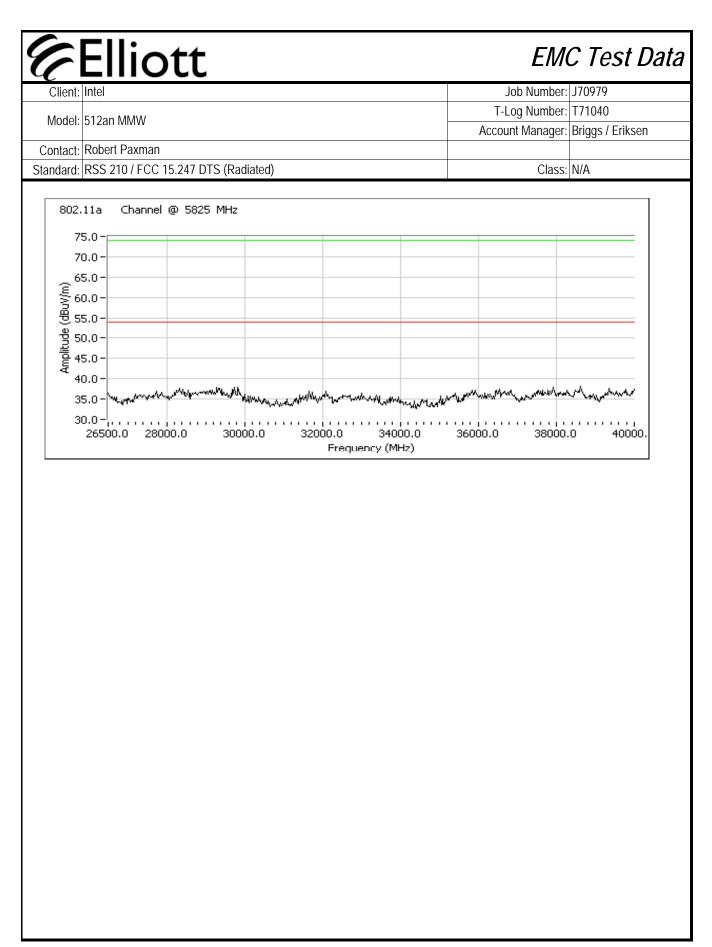






Ľ	Elli	στι	_					E IVI	C Test D
Client:								Job Number:	J70979
Madal		J					T-	Log Number:	T71040
woder:	512an MMV	V					Acco	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxr	nan							
Standard:	RSS 210 / F	CC 15.247 [		Class:	N/A				
	igh Channel			,					
	0			verage value	es measured	in 1 MHz, ar	nd peak valu	ie measured i	in 100kHz
requency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5823.690	88.8	Н	-	-	Pk	98	1.0	$RB = VB = \hat{A}$	
5823.710	91.4	V	-	-	Pk	176	1.0	$RB = VB = \hat{A}$	100kHz
-		and and see to			01.1	15.14	1		
F	undamental e					dBµV/m			
	Limit for (	emissions ou	itside of restr	iciea bands:	61.4	dBµV/m	Limit is -30	arc (ONII bo/	wer measurement
purious E	missions								
Frequency	-	Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Commento	
11649.410	46.3	V	54.0	-7.7	AVG	80	1.0		
3000.420	53.9	V	61.4	-7.5	PK	270	1.0	Note 2	
6000.740	49.1	V	61.4	-12.3	PK	275	1.0	Note 2	
			1						
1649.410	58.4	V	74.0	-15.6	PK	80	1.0		
7471.600 Dte 1:	60.1 For emission	H ns in restricte	61.4	-1.3 limit of 15.2	PK 09 was used	138	1.0	Note 2	s set 30dB below t
	60.1 For emission level of the f Signal is not	H ns in restricte fundamental	61.4 ed bands, the and measure ed band but t	-1.3 limit of 15.2 ed in 100kHz	PK 09 was used	138 . For all othe	1.0 er emissions		s set 30dB below t
7471.600 ote 1: ote 2:	60.1 For emission level of the f Signal is not 2.11a Cha 80.0 -	H ns in restricte fundamental t in a restricte	61.4 ed bands, the and measure ed band but t	-1.3 limit of 15.2 ed in 100kHz	PK 09 was used	138 . For all othe	1.0 er emissions		s set 30dB below t
T471.600	60.1 For emission level of the f Signal is not 2.11a Cha 80.0 - 70.0 - 50.0 - 40.0 -	H ns in restricte fundamental t in a restricte	61.4 ed bands, the and measure ed band but t	-1.3 limit of 15.2 ed in 100kHz	PK 09 was used	138 . For all othe	1.0 er emissions		s set 30dB below t
7471.600 ote 1: ote 2: (W/\ngp) = philipping	60.1 For emission level of the f Signal is not 2.11a Cha 80.0 - 70.0 - 60.0 - 50.0 -	H ns in restricte fundamental t in a restricte	61.4 ed bands, the and measure ed band but t	-1.3 limit of 15.2 ed in 100kHz	PK 09 was used	138 . For all othe	1.0 er emissions		s set 30dB below t





# Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71040 Contact: Robert Paxman Briggs / Eriksen

Class: N/A

#### RSS 210 and FCC 15.247 (DTS, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11n (20MHz) Mode

#### Test Specific Details

Standard: RSS 210 / FCC 15.247 DTS (Radiated)

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 for measuremetns below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Ambient Conditions:	Temperature:	20 °C
	Rel. Humidity:	39 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n20	5745 MHz	27.5	16.5	Radiated Emissions,	FCC Part 15.209 /	50.0dBµV/m @
Ta	Chain A	5745 WILL	27.5	10.5	1 - 40 GHz	15.247( c)	3000.4MHz (-4.0dB)
1b	802.11n20	5785 MHz	28.5	16.5	Radiated Emissions,	FCC Part 15.209 /	50.8dBµV/m @
TD TD	Chain A		20.0	10.5	1 - 40 GHz	15.247( c)	3000.3MHz (-3.2dB)
10	802.11n20	5825 MHz	20 Г	16.5	Radiated Emissions,	FCC Part 15.209 /	52.0dBµV/m @
1c	Chain A		29.5	10.5	1 - 40 GHz	15.247( c)	3000.3MHz (-2.0dB)

#### Modifications Made During Testing

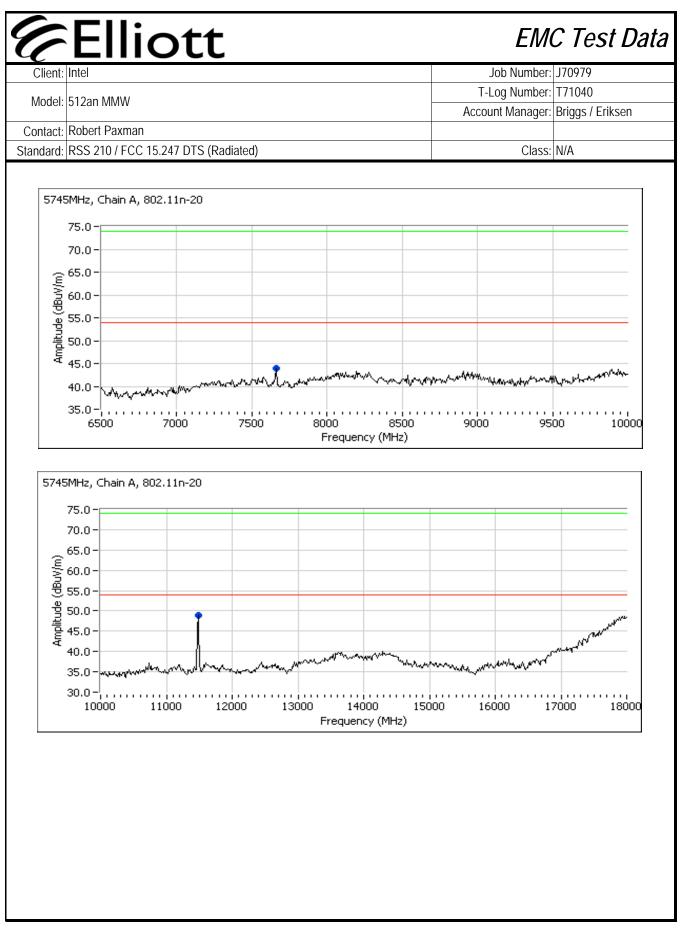
No modifications were made to the EUT during testing

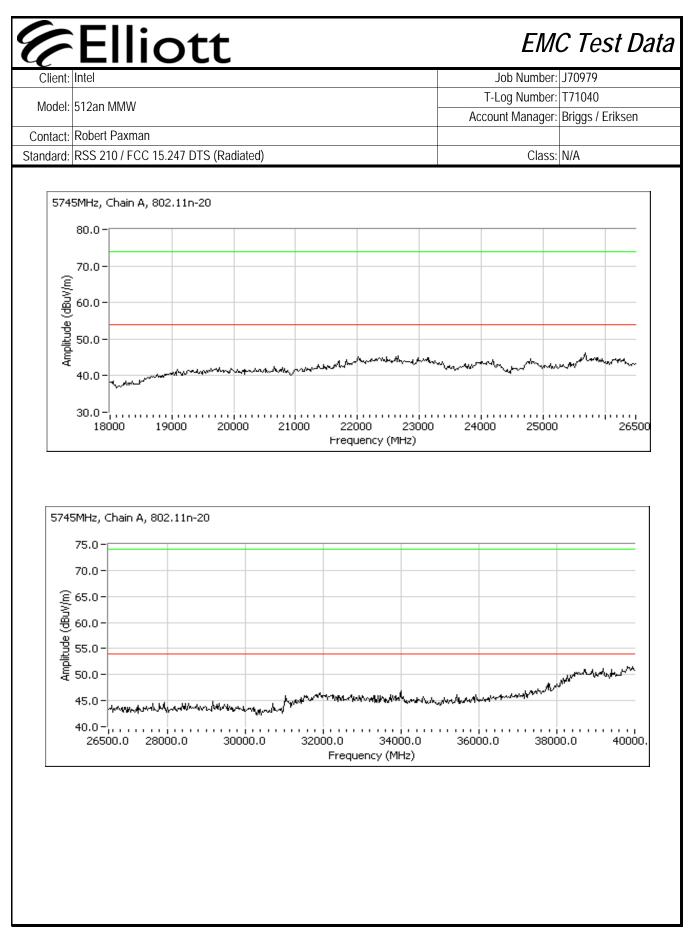
#### Deviations From The Standard

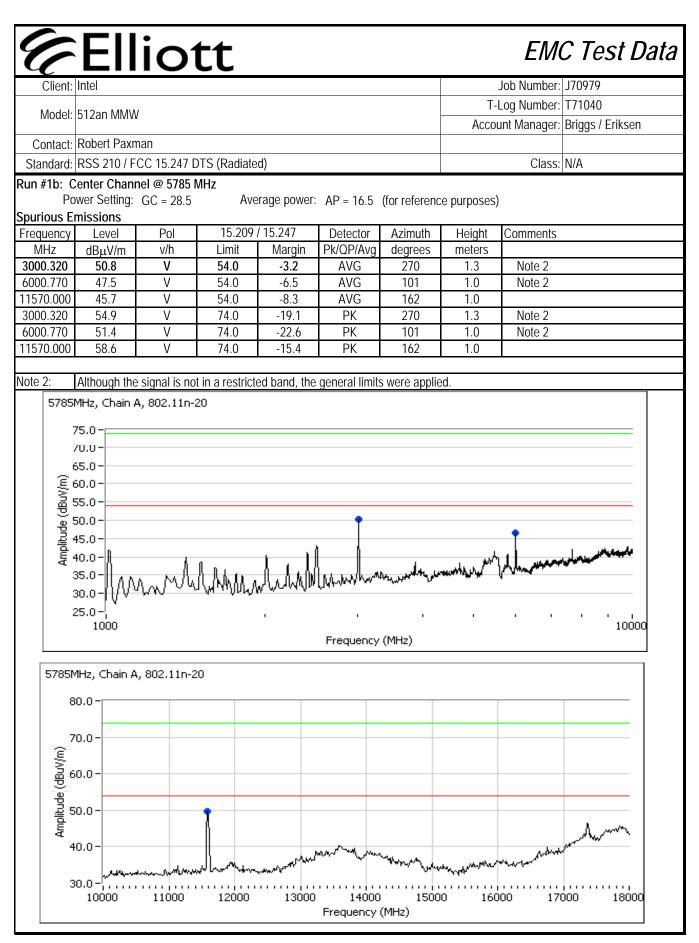
No deviations were made from the requirements of the standard.

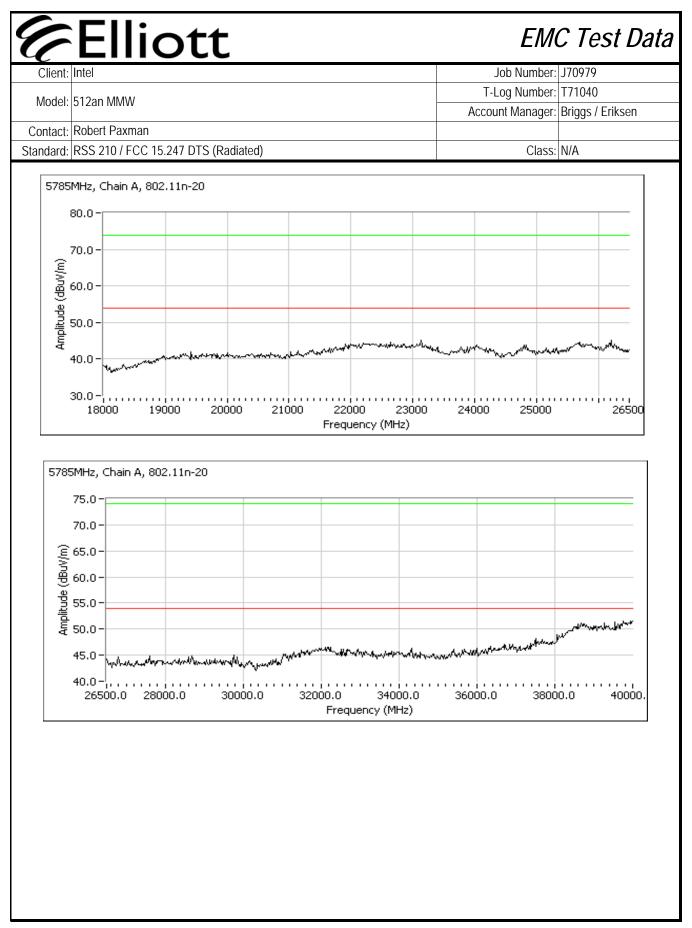
## Client: Intel Model: 512an MMW

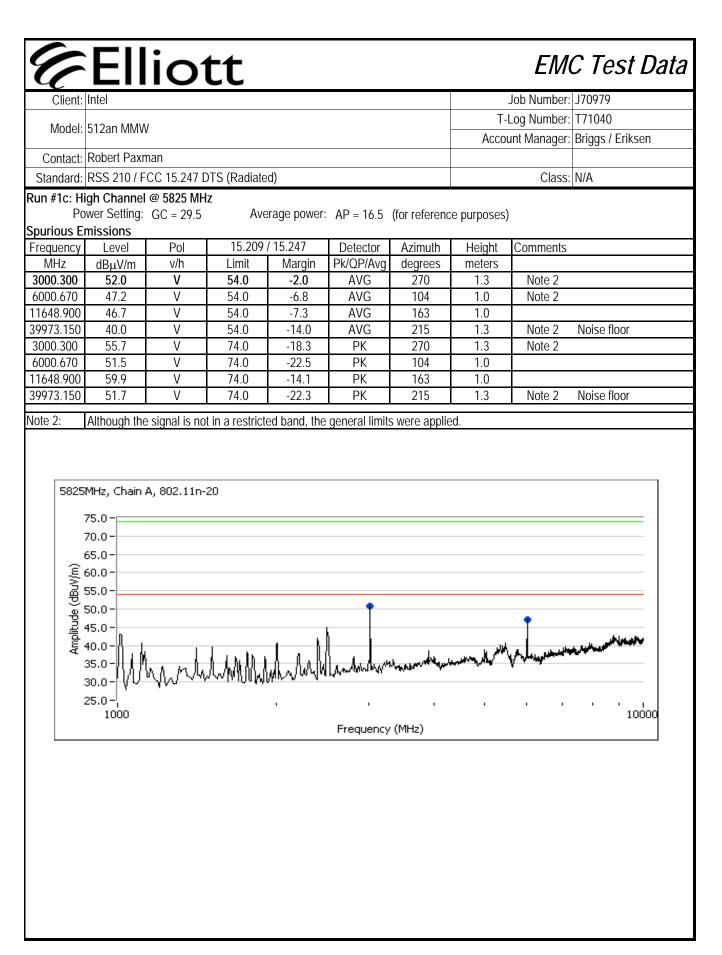
-									
Client:	Intel							Job Number:	
Madal	51000 N/N/N						T-I	Log Number:	T71040
wodel:	512an MMW	I .					Αссоι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxr	nan						Ŭ	
		CC 15.247 D	TS (Radiate	d)				Class:	N/A
			-		Operating M	lada: 802 11	a Chain A	010001	
	Date of Test:		0115, 1000 -				a Chain A		
		Joseph Cadi	and Datar S						
		FT Chambe		ales					
			1 // T						
For emission	ns in restricte	ed bands, the	limit of 15.2	09 was used	and measure	ed with a bar	ndwidth of 1	MHz. Unless	stated otherwise the
					e fundamental				
Run #1a: L	ow Channel	@ 5745 MH	Z						
Po	wer Setting:	GC = 27.5	Ave	rage power	AP = 16.5	(for referenc	e purposes)		
Spurious E					1			1	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2492.350	32.0	H	54.0	-22.0	AVG	155	1.6		
3000.380	50.0	V	54.0	-4.0	AVG	266	1.6		
5999.970	45.6	V V	54.0	-8.4	AVG	195	1.0		
7659.850	38.5 48.2	V	54.0 54.0	-15.5	AVG AVG	262 224	1.3 1.0		
11489.460 2492.350	48.2	V H	54.0 74.0	-5.8 -24.6	PK	155	1.0		
3000.380	49.4 54.0	V	74.0	-24.0	PK PK	266	1.6	Note 2	
5999.970	54.0	V	74.0	-20.0	PK	195	1.0	Note 2	
7659.850	47.4	V	74.0	-26.6	PK	262	1.0	NOLE Z	
11489.460	60.3	V	74.0	-13.7	PK	202	1.0		
111071100	0010		7 110	1017					
Note 2:	Although the	e signal is not	in a restrict	ed band, the	e general limits	s were applie	d.		
	0				0				
5745	MHz, Chain	A, 802.11n-:	20						
	80.0-								
	70.0-								
_									
M/m	60.0-								
l ab									
de (	50.0-			•				•	
Amplitude (dBuV/m)			1.1	l.					
Amp	40.0-	L. L. M.M.	hatall	ww.	. Automation	man	www.www	have been the	manner
	30.0-	YLAM <sup>AU MY</sup> Y	here where	hu	WW Y''	F W			
	20.0 - <mark> </mark>								
	1000	1500 20	00 250		3500	4000 45			6000 6500
					Frequency	(MHz)			

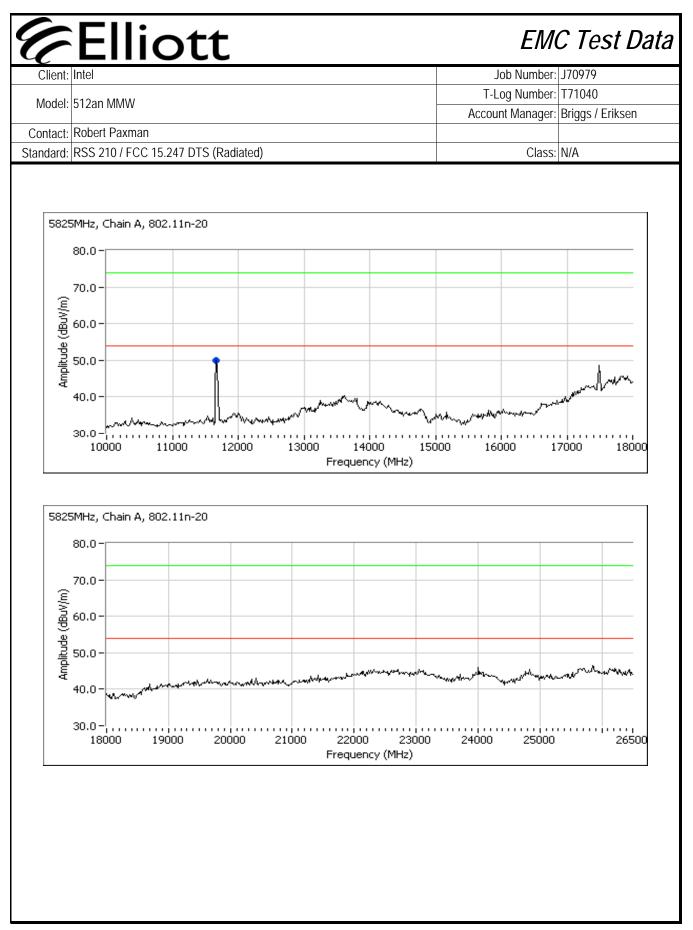


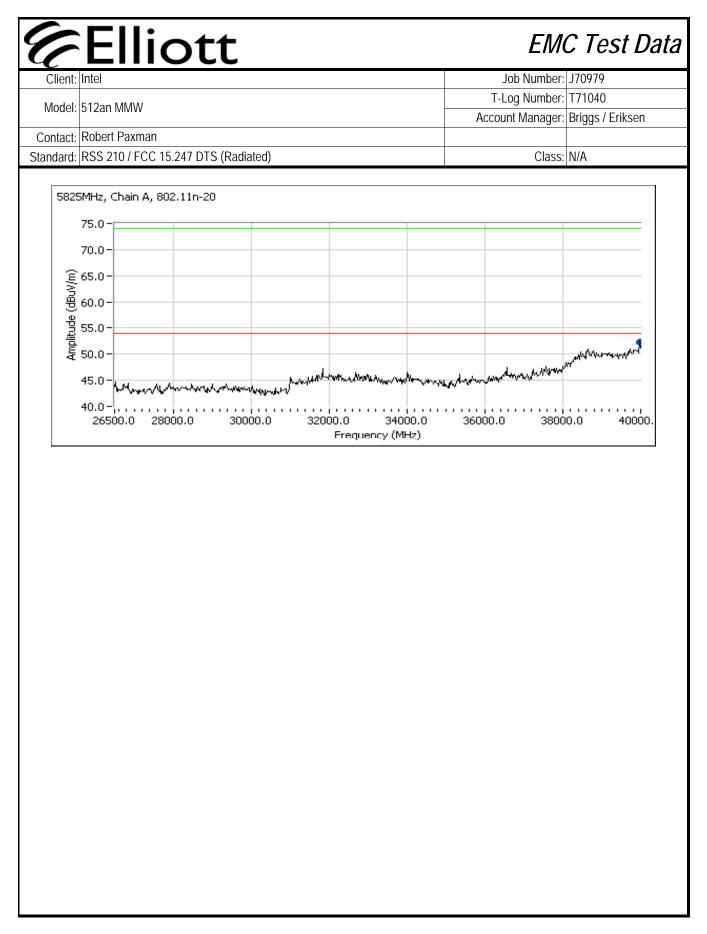












### EMC Test Data

Client:	Intel	Job Number:	J70979
Model	512an MMW	T-Log Number:	T71040
MUUUEI.		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, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11n 40 MHz 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 for measuremetns below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Ambient Conditions:	Temperature:	20 °C
	Rel. Humidity:	39 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1	802.11n40 Chain A	5755 MHz	27.5	16.5	Radiated Emissions, 1 - 40 GHz	FCC Part 15.209 / 15.247( c)	52.9dBµV/m @ 3000.4MHz (-1.1dB)
1	802.11n40 Chain A	5795 MHz	28.5	16.5	Radiated Emissions, 1 - 40 GHz	FCC Part 15.209 / 15.247( c)	52.5dBµV/m @ 3000.3MHz (-1.5dB)

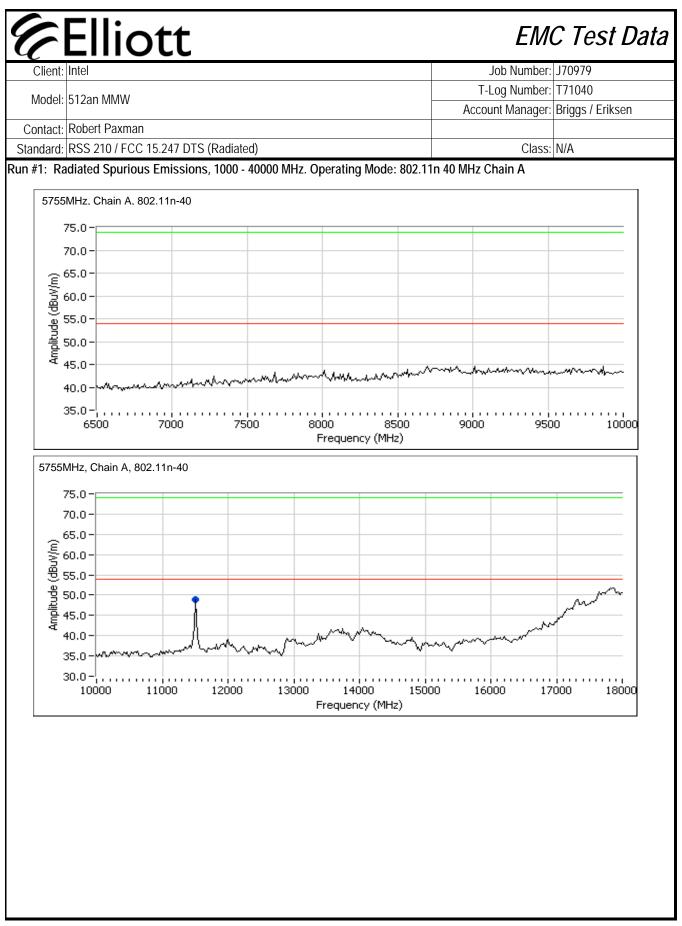
#### Modifications Made During Testing

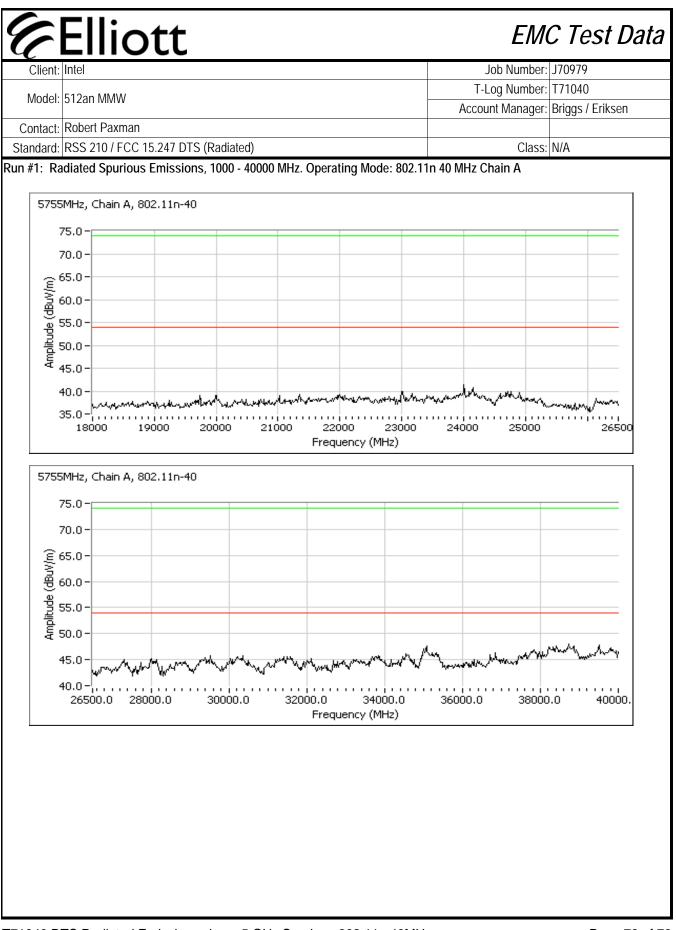
No modifications were made to the EUT during testing

#### Deviations From The Standard

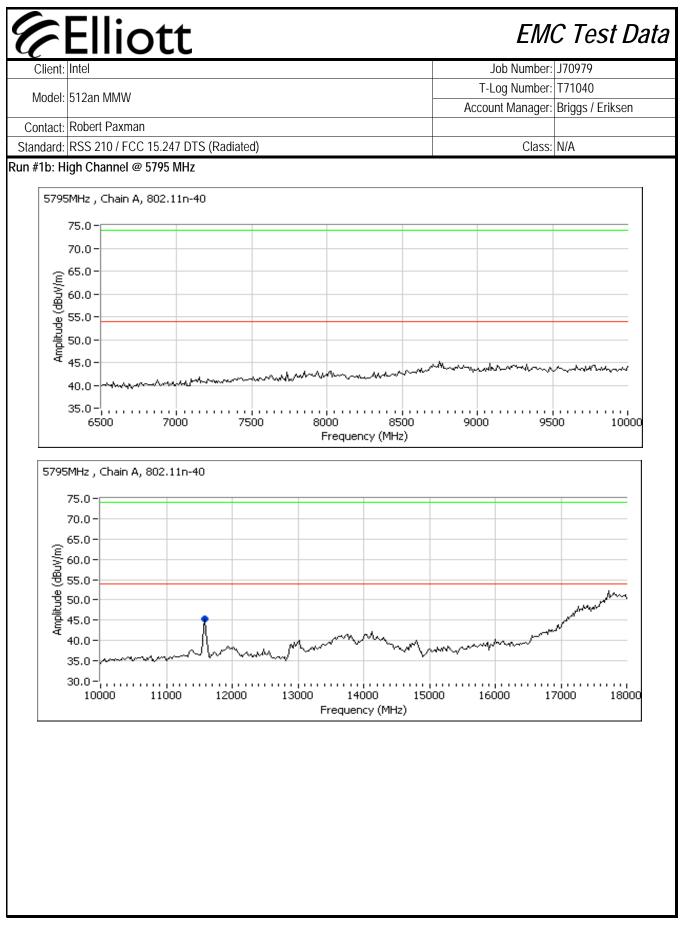
No deviations were made from the requirements of the standard.

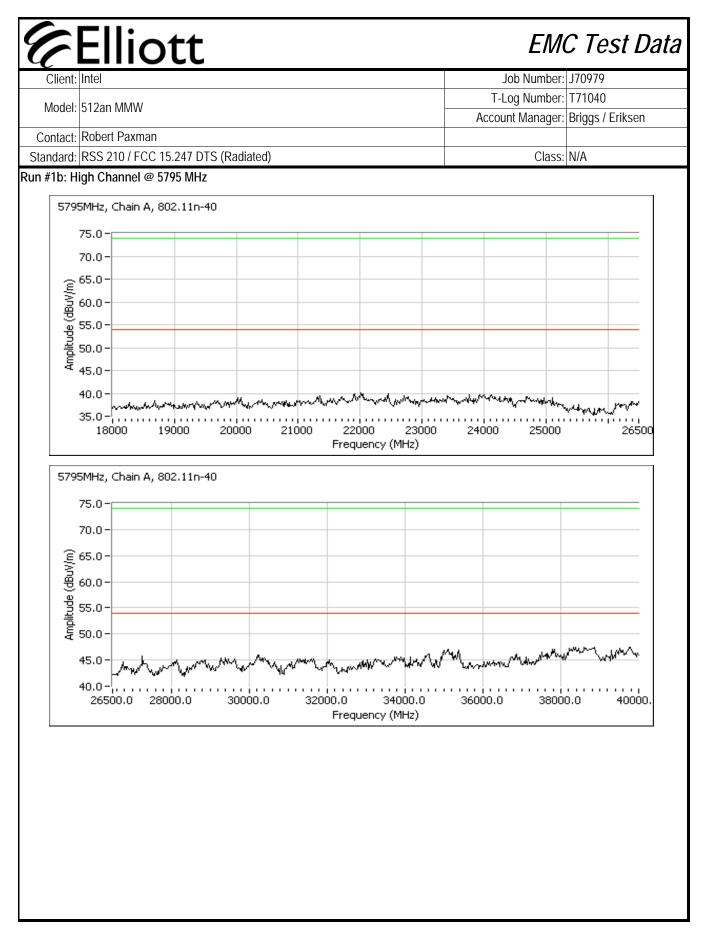
Y I			1						
Client:	Intel							Job Number:	J70979
Madalı		ı					T-I	Log Number:	T71040
Model:	512an MMW						Αссоι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
	RSS 210 / F		)TS (Radiate	d)				Class:	N/A
			,	,	Operating N	Inda: 802 11	n /0 MHz (		
	Date of Test:			40000 IVII IZ.		10uc. 002.11			
т.	st Engineer:	Joseph Cadi	igal						
Te	st Engineer:	Peter Sales	5						
Te	est Location:	FT Chambe	er # 5						
	ow Channel					10 0	,		
Po	wer Setting:	GC = 27.5	Ave	rage power:	AP = 16.5	(for referenc	e purposes)		
Spurious E	missions								
Spurious E Frequency	Level	Pol	15.209	15 247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	COMMENTS	
3000.420	52.9	V	54.0	-1.1	AVG	258	1.3	Note 2	
6000.650	45.0	V	54.0	-9.0	AVG	274	1.3	Note 2	
11502.800	39.6	V	54.0	-14.4	AVG	224	1.0		
3000.420	55.6	V	74.0	-18.4	PK	258	1.3	Note 2	
11502.800	50.7	V	74.0	-23.3	РК	224	1.0		
6000.650	50.7	V	74.0	-23.3	PK	274	1.3	Note 2	
Note 1:						. For all othe	r emissions	, the limit was	s set 30dB below the
	level of the f					h a multa al			
Note 2:	Signal is not	In a restricte	ed band but n	nore surnger	nt 15.209 limi	t applied.			
5755	MHz , Chain	A, 802.11n-	-40						
	75.0								
	70.0-								
	65.0-								
	60.0-								
e e	60.0 - 55.0 - 50.0 - 45.0 - 40.0 -					•			
l de	50.0-								•
plitu	45.0-	1	1		ð	h			. A. I.
Am	40.0-	. 1	11.1	L. L.	h . J .			الى يعين بل.	Marson 1
	35.0-11101	MI. W	ԱՄԱԽՈՍ	ull shales	والمعالجة إيدوالمحالين	alle her na have	han an training and	Alexander Alex	···· · · · · · · · · · · · · · · · · ·
	30.0-	ាណ្	vy. e t	ar dd fywr a					
	25.0-¦ 1000								6500
	1000				Frequency	(MHz)			0000
						()			





Client:								Job Number:	J70979
								Log Number:	
Model:	512an MMW			·		0	Briggs / Eriksen		
Contact:	Robert Paxma	an							
Standard:	RSS 210 / FC	C 15.247 D	TS (Radiate	d)				Class:	N/A
	l <b>igh Channel</b> o ower Setting:			erage power:	AP = 16.5	(for referenc	e purposes	)	
purious E	missions								
requency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
000.290	52.5	V	54.0	-1.5	AVG	258	1.3		
000.720	44.9	V V	54.0	-9.1 15.0	AVG	267	1.0		
1590.500 000.290	39.0 55.6	V V	54.0 74.0	-15.0 -18.4	AVG PK	168 258	1.0 1.3		
000.290	50.5	V	74.0	-18.4 -23.5	PK PK	258 267	1.3		
1590.500	49.5	V	74.0	-24.5	PK	168	1.0		
Amplitude (dBuV/m)	65.0 - 60.0 - 55.0 - 50.0 - 45.0 - 45.0 - 35.0 - 30.0 - 25.0 - 1000	1500 2			**************************************	<b>h</b> .//	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······································	·
					Frequency	(14112)			





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) mmunity Standard(s): -	Class: Environment:	
EMC Test Data - DTS Radi Universe Technology P		ons
For The		
Intel		
Model		
512an MMW		
Date of Last Test: 6/10/2	008	

## EMC Test Data

6	Elliott	EM	C Test Data
Client:	Intel	Job Number:	J70979
Modol	512an MMW	T-Log Number:	T71831
would.		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

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, and manipulation of the EUT's interface cables.

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

#### Summary of Results

<b>D</b>	Task Dasfarmand	1.2	Decili	NA
Run #	Test Performed	Limit	Result	Margin
1a - RX chain A @ 2437 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	43.7 dBuV/m @ 6498.7 MHz (-10.3dB)
1b - RX chain A @ 5785 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	41.7 dBuV/m @ 7713.2 MHz (-12.3dB)
2a - RX chain B @ 2437 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	47.849.2 @ 6498.72490.16 (-6.2dB)
2b - RX chain B @ 5785 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	38.3 dBuV/m @ 11569.9 MHz (-15.7dB)
3a - RX chain A + B @ 2437 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	45.9 dBuV/m @ 6498.6 MHz (-8.1dB)
3b - RX chain A + B @ 5785 MHz	RE, 1000 - 18000 MHz, Maximized Emissions	RSS GEN	Pass	45.9 dBuV/m @ 6498.6 MHz (-8.1dB)

## EMC Test Data

Client:	Intel	Job Number:	J70979
Model:	E12ap MMW	T-Log Number:	T71831
		Account Manager:	Briggs / Eriksen
Contact:	Robert Paxman		
Standard:	RSS 210 / FCC 15.247 DTS (Radiated)	Class:	DTS

No modifications were made to the EUT during testing

#### Deviations From The Standard

No deviations were made from the requirements of the standard.

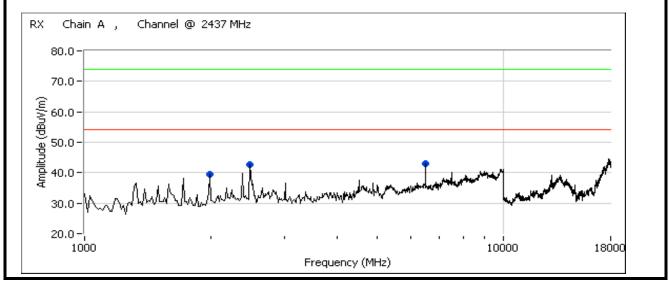
Date of Test: 6/6/2008 Test Engineer: Ben Jing Test Location: FT Chamber # 5

Note 1: Above 1 GHz, the limit is for an average measurement. In addition, the peak value of any emission above 1 GHz, can not exceed the average limit by more than 20 dB.

#### Run #1: Maximized readings, 1000 - 18000 MHz, Receiver single Chain A active

#### Run # 1a : Receiver Tuned to 2437 MHz -- Chain A active

Frequency	Level	Pol	RSS	GEN	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1991.920	30.3	V	54.0	-23.7	AVG	88	1.0	
1991.920	48.6	V	74.0	-25.4	PK	88	1.0	
2490.070	28.3	V	54.0	-25.7	AVG	99	1.6	
2490.070	46.3	V	74.0	-27.7	PK	99	1.6	
6498.670	43.7	V	54.0	-10.3	AVG	201	1.3	
6498.670	47.4	V	74.0	-26.6	PK	201	1.3	



#### **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: DTS Run # 1b : Receiver Tuned to 5785 MHz -- Chain A active Frequency RSS GEN Azimuth Comments Level Pol Detector Height MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 2489.980 29.7 V 54.0 -24.3 AVG 80 1.6 2489.980 49.0 V 74.0 -25.0 РΚ 80 1.6 3856.710 39.5 V 54.0 -14.5 AVG 128 1.3 V -30.1 3856.710 43.9 74.0 PΚ 128 1.3 V AVG 7713.240 41.7 54.0 -12.3 186 1.3 7713.240 47.2 V 74.0 -26.8 РΚ 186 1.3 RX Chain A , Channel @ 5785 MHz 80.0 70.0 , (m/) 60.( 950.0 50.0 40.0 30.0

Frequency (MHz)

20.0-

1000

I.

18000

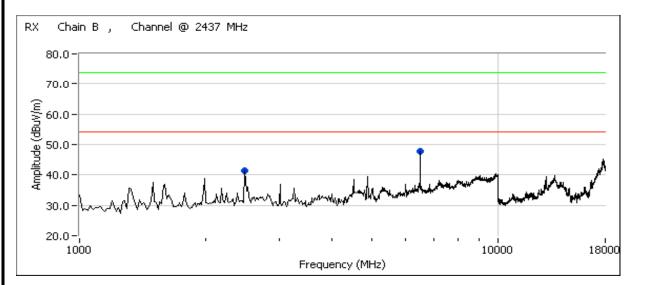
10000

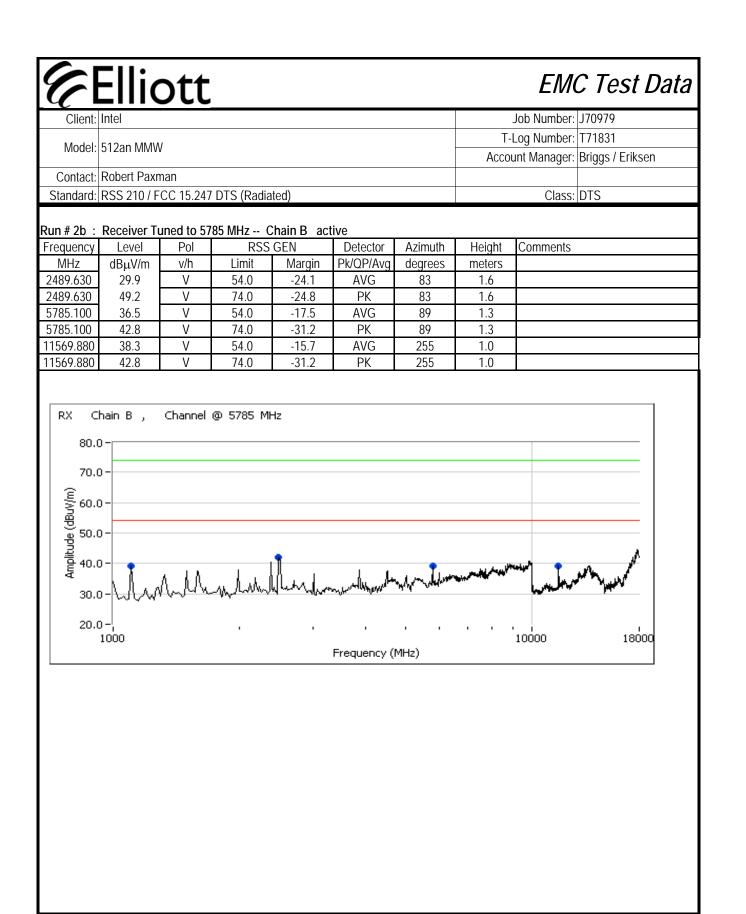
# Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71831 Contact: Robert Paxman Account Manager: Briggs / Eriksen Standard: RSS 210 / FCC 15.247 DTS (Radiated) Class: DTS

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

Run # 2a :	Receiver	Tuned to 24	37 MHz	Chain 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	
2490.160	49.2	V	74.0	-24.8	PK	77	1.6	
6498.670	47.8	V	54.0	-6.2	AVG	208	1.0	
6498.670	50.7	V	74.0	-23.3	PK	208	1.0	

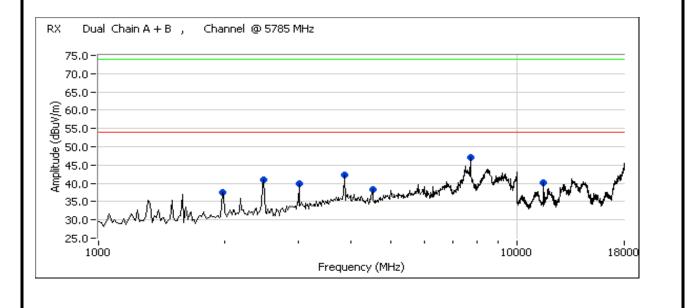




4									
Client:	Intel							Job Number:	J70979
Madal	512an MMW	1					T-	Log Number:	T71831
wouel:							Acco	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxm	nan							
Standard:	RSS 210 / F	CC 15.247	DTS (Radia	nted)				Class:	DTS
[	Date of Test:	5/31/2008							
	st Engineer:	•							
Te	est Location:	FT Cham	oer # 5						
1.4.4.1	Abaua 1 CLL	- 10 - 1111	. fan an a			م مالد م		f	
lote 1:				0	irement. In a	allion, the p	eak value o	r any emissio	n above 1 GHz, can not
	exceed the a	iverage iiii	iit by more ti	Idii 20 UD.					
Run #3: Ma	aximized rea	dings, 100	00 - 18000 N	IHz, Receiv	er All Chain	Active			
)un # ? <u>^</u> ·	Pacaivar Tu	ned to 212	ים -7 MU	ial Chain A	+ B active				
Frequency	Level	Pol		GEN	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
1996.800	34.9	V	54.0	-19.1	AVG	183	1.0		
1996.800	45.2	V	74.0	-28.8	PK	183	1.0		
2490.040	29.9	Н	54.0	-24.1	AVG	303	2.0		
2490.040	48.7	Н	74.0	-25.3	PK	303	2.0		
3000.060	39.1	V	54.0	-14.9	AVG	261	1.0		
3000.060	44.6	V	74.0	-29.4	PK	261	1.0		
4874.000	44.6	V	54.0	-9.4	AVG	162	1.5		
4874.000 6000.040	48.3 38.8	V V	74.0 54.0	-25.7 -15.2	PK AVG	162 221	<u>1.5</u> 1.0		
6000.040	46.8	V	74.0	-13.2	PK	221	1.0		
6498.580	45.9	v	54.0	-8.1	AVG	124	1.0		
6498.580	49.5	V	74.0	-24.5	PK	124	1.0		
RX	Dual Cha	ain A + B	, Chann	el @ 2437 M	1Hz				
	75.0								
	70.0-								
	65.0-								
(E)	60.0-								
Buy	55.0-								
e (q	50.0-								
Amplitude (dBuV/m)	45.0-					•	1 4	. <b>A</b> t. 11	
dig di	40.0-		•	1 1		مى با ا		r LAN	Wh 1
-	35.0-	. A .	<u>ь в</u> .	A shi wat	to the work of the states	all and the second second	"No." "	$- \wedge$	
:	30.0-  A-	$W \leq W$	Markan	CAUN MANA					
	25.0-								.
	1000				_	4 m c *		10000	18000
					Frequenc	y (MHz)			

Client:	Intel							Job Number:	J70979
Madal	512an MMW	J					T-l	Log Number:	T71831
wouer.		v					Αссоι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
Standard:	RSS 210 / F	CC 15.247	DTS (Radia	ted)				Class:	DTS
Run # 3b:	Receiver Tu	ined to 578	35 MHz - Di	ial Chain A	+ B active				
Frequency	Level	Pol	RSS	GEN	Detector	Azimuth	Height	Comments	
		v/h	Limit	Margin		dograad	motore		

Frequency	Level	Pol	RSS	GEN	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1993.240	29.9	V	54.0	-24.1	AVG	255	1.0	
1993.240	45.0	V	74.0	-29.0	PK	255	1.0	
2489.670	29.6	Н	54.0	-24.4	AVG	317	2.0	
2489.670	47.7	Н	74.0	-26.3	PK	317	2.0	
3000.010	39.6	V	54.0	-14.4	AVG	257	1.0	
3000.010	44.9	V	74.0	-29.1	PK	257	1.0	
3856.680	42.8	V	54.0	-11.2	AVG	230	1.0	
3856.680	47.2	V	74.0	-26.8	PK	230	1.0	
4500.090	34.4	V	54.0	-19.6	AVG	94	1.0	
4500.090	42.4	V	74.0	-31.6	PK	94	1.0	
7713.220	45.2	V	54.0	-8.8	AVG	178	1.0	
7713.220	51.8	V	74.0	-22.2	PK	178	1.0	
11569.930	38.9	V	54.0	-15.1	AVG	276	1.0	
11569.930	44.1	V	74.0	-29.9	PK	276	1.0	



#### 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, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	46.1 dBuV/m @ 6431.9 MHz (-7.9dB)
1b	802.11b Chain A	6 2437MHz	19.5	16.7 dBm	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	47.4 dBuV/m @ 6498.6 MHz (-6.6dB)
1c	802.11b	11	23.0	19.6 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	46.3dBµV/m @ 2484.8MHz (-7.7dB)
i C	Chain A	2462MHz	22.5	(note)	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	53.0 dBuV/m @ 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

EIIi	iot	t						EM	C Test
		-						Job Number:	J70979
512an MM/M	J						T-	Log Number:	T71831
							Ассо	unt Manager:	Briggs / Eriks
RSS 210 / F	CC 15.247 E	DTS (Radiate	d)					Class:	N/A
diated Spur	ious Emissi	ons. Band F	daes. Ope	rating	Mode:	802.11b - (	Chain A		
-			•	5					
		anu 5/29/2	008						
		er # 5							
					10	/ <b>f</b>		<b>,</b>	
•						(tor referer	nce purposes	)	
						Azimuth	Height	Comments	
								Comments	
99.4	V	-	-		<u> </u>	164	1.0		
98.3	H	-	-	_		236	1.0		
				_				/	
Limit for	emissions ou	Itside of restr	icted bands	S:	69.4	dBµV/m	Limit is -30	dBc (UNII pov	ver measurem
Signal Field	Strongth								
		15.209	/ 15.247	Dete	ector	Azimuth	Height	Comments	
								001111011(3	
46.5	H	54.0	-7.5		5	230	1.0	GC = 21.5	
45.4	V	54.0	-8.6	_	v	169	1.0	GC = 21.5	
58.7	Н	74.0	-15.3			228	1.0	GC = 21.5	
57.4	V	74.0	-16.6	F	Рk	166	1.0	GC = 21.5	
remote contro	ol								$\mathbf{X}$
ocal Ena	ble Max Hold 📕	Log scale -	scaling assumes	units are d	B units wit	h correction fac	tor applied (30.6 @	2365.0 MHz)	
	RB 🌖 1MHz	- 86.0	, <u> </u>						<u>+</u>
to Peak	VB 🌖 10Hz	80.0							
Cel	nter F 🕘 2365.00	0		Avg - H	Horizo	ntal			
Freq	Span	75.0	)-						
	ef Lvl 🔵 56.0	70.0	)-						
	ATT AUTO?	65.0							
125.00		60.0						1	$ \left\{ \right\} $
Update With Ne	w Settings								
nt Settings (All	freqs in MHz)	55.0	)-					n	
1.000000 VBV	W 0.000010	50.0	)-					[`	· · · · · ·
2365.000 Spa	n 90.0000	45.0						n	
	p 2410.000								
2320.000 Sto									
2320.000 Sto erence Level 56.		40.0							
	Intel 512an MMW Robert Paxr RSS 210 / F diated Spur ate of Test: st Engineer: est Location: ow Channel wer Setting: al Signal Field Level dBµV/m 99.4 98.3 undamental e Limit for of Signal Field Cevel dBµV/m 46.5 45.4 58.7 57.4 remote contro signal Field Cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel cevel ce	Intel 512an MMW Robert Paxman RSS 210 / FCC 15.247 E diated Spurious Emissi ate of Test: 5/28/2008 st Engineer: Ben Jing est Location: FT Chambe ow Channel @ 2412 MH wer Setting: 21.5 al Signal Field Strength Level Pol dBµV/m V/h 99.4 V 98.3 H undamental emission leve Limit for emissions ou Signal Field Strength Level Pol dBµV/m V/h 99.4 V 98.3 H Undamental emission leve Limit for emissions ou Signal Field Strength Level Pol dBµV/m V/h 98.3 H Undamental emission leve Limit for emissions ou Signal Field Strength Level Pol dBµV/m V/h 46.5 H 45.4 V 58.7 H 57.4 V remote control remote control Freq. Span 99.000 RE 9 1MHz VB 9 10Hz Signal Freq. Span 99.000 Ref Lvl 9 56.0 ATT AUTO? Update With New Settings h Settings (All freqs in MHz) 1.00000 VBW 0.000010	512an MMW  Robert Paxman RSS 210 / FCC 15.247 DTS (Radiate  diated Spurious Emissions, Band E ate of Test: 5/28/2008 and 5/29/2 st Engineer: Ben Jing est Location: FT Chamber # 5  ow Channel @ 2412 MHz wer Setting: 21.5 Ave al Signal Field Strength: Peak value Level Pol 15.209 / dBµV/m V/h Limit 99.4 V - 98.3 H  Indamental emission level @ 3m in 10 Limit for emissions outside of restri  Signal Field Strength Level Pol 15.209 / dBµV/m V/h Limit 46.5 H 54.0 45.4 V 54.0 58.7 H 74.0 57.4 V 74.0  remole control  remole con	Intel         512an MMW         Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         diated Spurious Emissions, Band Edges. Ope         ate of Test: 5/28/2008 and 5/29/2008         st Engineer: Ben Jing         est Location: FT Chamber # 5         ow Channel @ 2412 MHz         wer Setting: 21.5       Average power         al Signal Field Strength: Peak value measured         Level       Pol         98.3       H         99.4       V         V       -         undamental emission level @ 3m in 100kHz RBW         Limit for emissions outside of restricted bands         Signal Field Strength         Level       Pol         15.209 / 15.247         dBµV/m       V/h         Limit for emissions outside of restricted bands         Signal Field Strength         Level       Pol         15.209 / 15.247         dBµV/m       V/h         Limit       Margin         46.5       H       54.0         58.7       H       74.0         VB @ 10Hz       VB @ 10Hz       86.6         58.7       H       74.0         VB @ 10Hz       05.0 </td <td>Intel 512an MMW Robert Paxman RSS 210 / FCC 15.247 DTS (Radiated) diated Spurious Emissions, Band Edges. Operating ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing est Location: FT Chamber # 5 ow Channel @ 2412 MHz wer Setting: 21.5 Average power: 18.8 al Signal Field Strength: Peak value measured in 100k Level Pol 15.209 / 15.247 Detu dBµV/m V/h Limit Margin Pk/Q 99.4 V F 98.3 H F 98.4 V - F 98.5 H F 99.4 V F 98.5 H F 98.5 H F 15.209 / 15.247 Detu dBµV/m V/h Limit Margin Pk/Q 46.5 H - 54.0 -7.5 A 45.4 V - 54.0 -8.6 A 58.7 H - 74.0 -15.3 F 57.4 V - 74.0 -16.6 F 100000 10000 Ref LM 956.0 ATT AUTO? F 100000 Ref LM 956.0 ATT AUTO? F 100000 New 0.000010 100000 New 0.000000 New 0.00000 100000 New 0.00000 New 0.00000 New 0.00000 New 0.000000 New 0.00000 New 0.000000 New 0.00000 New 0.00000 New 0.00</td> <td>Intel 512an MMW Robert Paxman RSS 210 / FCC 15.247 DTS (Radiated) diated Spurious Emissions, Band Edges. Operating Mode: ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing est Location: FT Chamber # 5 ow Channel @ 2412 MHz wer Setting: 21.5 Average power: 18.8 dBm al Signal Field Strength: Peak value measured in 100kHz Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 99.4 V - Pk 98.3 H - Pk indamental emission level @ 3m in 100kHz RBW: 99.4 Limit for emissions outside of restricted bands: 69.4 Signal Field Strength Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 46.5 H 54.0 -7.5 Avg 45.4 V 54.0 -8.6 Avg 45.7 H 74.0 -15.3 PK 57.4 V 74.0 -16.6 Pk  remote control RB @ 1MHz VB 0.0000 Ref Ltd @ 56.0 ATT AUTO?</td> <td>Intel         512an MMW         Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         diated Spurious Emissions, Band Edges. Operating Mode: 802.11b -         ate of Test: 5/28/2008 and 5/29/2008         st Engineer: Ben Jing         est Location: FT Chamber # 5         ow Channel @ 2412 MHz         wer Setting: 21.5       Average power: 18.8 dBm (for referer         al Signal Field Strength: Peak value measured in 100kHz         Level       Pol       15.209 / 15.247         Judamental emission level @ 3m in 100kHz RBW:       99.4       V         Judamental emission level @ 3m in 100kHz RBW:       99.4       dBµV/m         Limit for emissions outside of restricted bands:       69.4 dBµV/m         Signal Field Strength       Evel       Pol       15.209 / 15.247       Detector       Azimuth         dBµV/m       V/m       Limit Margin       Pk/OP/Avg       degrees         46.5       H       54.0       -7.5       Avg       230         58.7       H       74.0       -15.3       PK       228         57.4       V       74.0       -16.6       Pk       166         Sug scale - scaling assume units are db units with correction feeting in thete in thete in thete in</td> <td>Intel         T.           512an MMW         T.           Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)           diated Spurious Emissions, Band Edges. Operating Mode: 802.11b - Chain A           ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing           st Location: FT Chamber # 5           ow Channel @ 2412 MHz           wer Setting:         21.5           Average power:         18.8 dBm (for reference purposes)           al Signal Field Strength:         Peak value measured in 100kHz           Level         Pol         15.209 / 15.247           Detector         Azimuth         Height           dBµLV/m         v/h         Limit         Margin           99.4         V         -         Pk         164         1.0           98.3         H         -         -         Pk         164         1.0           98.3         H         -         -         Pk         236         1.0           indamental emission level @ 3m in 100kHz RBW:         99.4         dBµL/m         Limit is -30           Signal Field Strength         -         -         Pk         230         1.0           dbµL/m         V         54.0         -7.5         Avg         &lt;</td> <td>Intel         Job Number:           512an MMW         T-Log Number:           Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         Class:           diated Spurious Emissions, Band Edges. Operating Mode: 802.11b - Chain A         ale of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing isst Location: FT Chamber # 5           ow Channel @ 2412 MHz         wer Setting:         21.5         Average power: 18.8 dBm (for reference purposes)           al Signal Field Strength: Peak value measured in 100kHz         Evel         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments:           dBµV/m         Vh         Limit         Margin         Pk/OP/Avg         degrees         meters           99.3         H         -         -         Pk         164         1.0         -           umit for emissions outside of restricted bands:         69.4 dBµV/m         Limit is -30dBc (UNII pov         Signal Field Strength         Limit         Margin Pk/OP/Avg         degrees         meters         -           dbhy/m         Vh         Limit         Margin Pk/OP/Avg         degrees         meters         -           10admental emission level @ 3m in 100kHz RBW:         99.4         dBµV/m         Limit is -30dBc (UNII pov         -           Signal Field Strength</td>	Intel 512an MMW Robert Paxman RSS 210 / FCC 15.247 DTS (Radiated) diated Spurious Emissions, Band Edges. Operating ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing est Location: FT Chamber # 5 ow Channel @ 2412 MHz wer Setting: 21.5 Average power: 18.8 al Signal Field Strength: Peak value measured in 100k Level Pol 15.209 / 15.247 Detu dBµV/m V/h Limit Margin Pk/Q 99.4 V F 98.3 H F 98.4 V - F 98.5 H F 99.4 V F 98.5 H F 98.5 H F 15.209 / 15.247 Detu dBµV/m V/h Limit Margin Pk/Q 46.5 H - 54.0 -7.5 A 45.4 V - 54.0 -8.6 A 58.7 H - 74.0 -15.3 F 57.4 V - 74.0 -16.6 F 100000 10000 Ref LM 956.0 ATT AUTO? F 100000 Ref LM 956.0 ATT AUTO? F 100000 New 0.000010 100000 New 0.000000 New 0.00000 100000 New 0.00000 New 0.00000 New 0.00000 New 0.000000 New 0.00000 New 0.000000 New 0.00000 New 0.00000 New 0.00	Intel 512an MMW Robert Paxman RSS 210 / FCC 15.247 DTS (Radiated) diated Spurious Emissions, Band Edges. Operating Mode: ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing est Location: FT Chamber # 5 ow Channel @ 2412 MHz wer Setting: 21.5 Average power: 18.8 dBm al Signal Field Strength: Peak value measured in 100kHz Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 99.4 V - Pk 98.3 H - Pk indamental emission level @ 3m in 100kHz RBW: 99.4 Limit for emissions outside of restricted bands: 69.4 Signal Field Strength Level Pol 15.209 / 15.247 Detector dBµV/m v/h Limit Margin Pk/QP/Avg 46.5 H 54.0 -7.5 Avg 45.4 V 54.0 -8.6 Avg 45.7 H 74.0 -15.3 PK 57.4 V 74.0 -16.6 Pk  remote control RB @ 1MHz VB 0.0000 Ref Ltd @ 56.0 ATT AUTO?	Intel         512an MMW         Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         diated Spurious Emissions, Band Edges. Operating Mode: 802.11b -         ate of Test: 5/28/2008 and 5/29/2008         st Engineer: Ben Jing         est Location: FT Chamber # 5         ow Channel @ 2412 MHz         wer Setting: 21.5       Average power: 18.8 dBm (for referer         al Signal Field Strength: Peak value measured in 100kHz         Level       Pol       15.209 / 15.247         Judamental emission level @ 3m in 100kHz RBW:       99.4       V         Judamental emission level @ 3m in 100kHz RBW:       99.4       dBµV/m         Limit for emissions outside of restricted bands:       69.4 dBµV/m         Signal Field Strength       Evel       Pol       15.209 / 15.247       Detector       Azimuth         dBµV/m       V/m       Limit Margin       Pk/OP/Avg       degrees         46.5       H       54.0       -7.5       Avg       230         58.7       H       74.0       -15.3       PK       228         57.4       V       74.0       -16.6       Pk       166         Sug scale - scaling assume units are db units with correction feeting in thete in thete in thete in	Intel         T.           512an MMW         T.           Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)           diated Spurious Emissions, Band Edges. Operating Mode: 802.11b - Chain A           ate of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing           st Location: FT Chamber # 5           ow Channel @ 2412 MHz           wer Setting:         21.5           Average power:         18.8 dBm (for reference purposes)           al Signal Field Strength:         Peak value measured in 100kHz           Level         Pol         15.209 / 15.247           Detector         Azimuth         Height           dBµLV/m         v/h         Limit         Margin           99.4         V         -         Pk         164         1.0           98.3         H         -         -         Pk         164         1.0           98.3         H         -         -         Pk         236         1.0           indamental emission level @ 3m in 100kHz RBW:         99.4         dBµL/m         Limit is -30           Signal Field Strength         -         -         Pk         230         1.0           dbµL/m         V         54.0         -7.5         Avg         <	Intel         Job Number:           512an MMW         T-Log Number:           Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         Class:           diated Spurious Emissions, Band Edges. Operating Mode: 802.11b - Chain A         ale of Test: 5/28/2008 and 5/29/2008 st Engineer: Ben Jing isst Location: FT Chamber # 5           ow Channel @ 2412 MHz         wer Setting:         21.5         Average power: 18.8 dBm (for reference purposes)           al Signal Field Strength: Peak value measured in 100kHz         Evel         Pol         15.209 / 15.247         Detector         Azimuth         Height         Comments:           dBµV/m         Vh         Limit         Margin         Pk/OP/Avg         degrees         meters           99.3         H         -         -         Pk         164         1.0         -           umit for emissions outside of restricted bands:         69.4 dBµV/m         Limit is -30dBc (UNII pov         Signal Field Strength         Limit         Margin Pk/OP/Avg         degrees         meters         -           dbhy/m         Vh         Limit         Margin Pk/OP/Avg         degrees         meters         -           10admental emission level @ 3m in 100kHz RBW:         99.4         dBµV/m         Limit is -30dBc (UNII pov         -           Signal Field Strength

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
							T-	Log Number:	T71831
Model:	512an MMW	/						-	Briggs / Eriksen
Contact.	Robert Paxn	nan							33*****
	RSS 210 / F		AteibeR) 2TC	d)				Class:	Ν/Δ
Stanuaru.	1071	00 13.247 1		u)				01033.	N/A
purious E	missions								
Frequency	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 2: Run #1b: C	level of the fi Signal is not Center Chanr	undamental in a restricto nel @ 2437	and measure ed band, mea	ed in 100kHz asurement ba	andwidth is 10	OOKHz.		- 	s set 30dB below
undament	level of the fi Signal is not Center Chanr tal Signal Fie	undamental in a restricto nel @ 2437	and measure ed band, mea MHz 1: Peak and a	ed in 100kHz asurement ba		OOKHz.	nd peak valu	ie measured i	
lote 2: Run #1b: C	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 1: Peak and a	ed in 100kHz asurement ba average value	andwidth is 10	<mark>DOkHz.</mark> in 1 MHz, ar		- 	
lote 2: Run #1b: C Tundament 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 n: Peak and a 15.209	ed in 100kHz asurement ba average value / 15.247	andwidth is 10 es measured Detector	<mark>00kHz.</mark> in 1 MHz, ar Azimuth	nd peak valu Height	ie measured i	n 100kHz
lote 2: Run #1b: C Fundament 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 n: Peak and a 15.209	ed in 100kHz asurement ba average value / 15.247	andwidth is 10 es measured Detector Pk/QP/Avg	DOKHz. in 1 MHz, ar Azimuth degrees	nd peak valu Height meters	ie measured i Comments	n 100kHz 100kHz
lote 2: Run #1b: C Fundament 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 restricton nel @ 2437 eld Strength Pol V/h V H	and measure ed band, mea MHz n: Peak and a 15.209 Limit -	ed in 100kHz asurement ba average value / 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	n 100kHz 100kHz
lote 2: Run #1b: C Fundament 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 n: Peak and a 15.209 Limit - - el @ 3m in 10	ed in 100kHz asurement ba average value / 15.247 Margin - - D0kHz RBW:	andwidth is 10 es measured Detector Pk/QP/Avg Pk Pk Pk	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	n 100kHz 100kHz 100kHz
lote 2: Run #1b: C Fundament 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 n: Peak and a 15.209 Limit -	ed in 100kHz asurement ba average value / 15.247 Margin - - D0kHz RBW:	andwidth is 10 es measured Detector Pk/QP/Avg Pk Pk Pk	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	n 100kHz 100kHz
lote 2: Run #1b: C Fundament Frequency MHz 2437.980 2436.470 Fi Spurious E	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 emissions ou	and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 utside of restr	ed in 100kHz asurement ba average value / 15.247 Margin - - D0kHz RBW: icted bands:	andwidth is <b>10</b> 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	n 100kHz 100kHz 100kHz
lote 2: Run #1b: C Fundament Frequency MHz 2437.980 2436.470 Fi Spurious E 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	and measure ed band, mea MHz 15.209 Limit - el @ 3m in 10 utside of restr	ed in 100kHz asurement ba average value / 15.247 Margin - - D0kHz RBW: icted bands: / 15.247	andwidth is 10 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 = 7 RB = VB = 7	n 100kHz 100kHz 100kHz
Iote 2: Run #1b: C Frequency MHz 2437.980 2436.470 Frequency Frequency MHz	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	undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission levo emissions ou Pol	and measure ed band, mea MHz n: Peak and a 15.209 Limit - el @ 3m in 10 utside of restr 15.209 Limit	ed in 100kHz asurement ba average value / 15.247 Margin - D0kHz RBW: icted bands: / 15.247 Margin	es measured Detector Pk/QP/Avg Pk 96.7 66.7 Detector Pk/QP/Avg	D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees	nd peak valu Height meters 1.0 1.0 Limit is -30 Height meters	ie measured i Comments RB = VB = 1 RB = VB = 1 dBc (UNII pov	n 100kHz 100kHz 100kHz
Iote 2: Run #1b: C Frequency MHz 2437.980 2436.470 Frequency Frequency MHz 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	undamental in a restricton nel @ 2437 eld Strength Pol v/h V H emission leve emissions ou Pol v/h	and measure ed band, mea MHz n: Peak and a 15.209 Limit - el @ 3m in 10 itside of restr 15.209	ed in 100kHz asurement ba average value / 15.247 Margin - - D0kHz RBW: icted bands: / 15.247	andwidth is 10 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	n 100kHz 100kHz 100kHz
lote 2: Run #1b: C Fundament Frequency MHz 2437.980 2436.470 Fi Spurious E 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 dBµV/m 42.2	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 ttside of restr 15.209 Limit 54.0	ed in 100kHz asurement ba average value / 15.247 Margin - D0kHz RBW: icted bands: / 15.247 Margin -11.8	es measured Detector Pk/QP/Avg Pk 96.7 66.7 Detector Pk/QP/Avg AVG	D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 200	nd peak valu Height meters 1.0 1.0 Limit is -30 Height meters 1.0	ie measured i Comments RB = VB = 1 RB = VB = 1 dBc (UNII pov	n 100kHz 100kHz 100kHz
Iote 2: Run #1b: C Gundament 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 restrictor nel @ 2437 eld Strength Pol v/h V H emission leve emissions ou Pol v/h 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	ed in 100kHz asurement ba average value / 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	D0kHz. in 1 MHz, ar Azimuth degrees 200 6 dBµV/m dBµV/m Azimuth degrees 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	n 100kHz 100kHz 100kHz
lote 2: Run #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 al 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 nel @ 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 value / 15.247 Margin - - D0kHz 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 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	n 100kHz 100kHz 100kHz

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

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

Client:									
	Intel							Job Number:	J70979
Madal							T-I	_og Number:	T71831
wodel:	512an MMW	1					Αссоι	Int Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	d)				Class:	N/A
un #1c: H	ligh Channel	@ 2462 MH	Z						
	ower Setting:	23.0		erage power:	19.6 dBm	(for reference	e purposes)		
	tal Signal Fie						-		
requency		Pol		/ 15.247	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		
.402.990	101.0	Π	-	-	ΡK	100	1.0		
F	undamental e	mission leve	el @ 3m in 1(	)0kHz RBW:	101.6	dBµV/m			
			tside of restr			dBµV/m	Limit is -30c	IBc (UNII pov	ver measuremer
					•			· ·	
	Signal Field								
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	00 00 0	
2484.750	<b>46.3</b> 45.9	H V	<b>54.0</b> 54.0	<b>-7.7</b> -8.1	Avg	161 177	1.0	GC = 23.0 GC = 23.0	
			- <u>54.</u> U	-0.1	Avg	177	1.0		
					DV	156	10	CC = 220	
2484.830 2484.920	59.1 57.2 x remote contro	H V I Die Max Hold	74.0 74.0	-14.9 -16.8 scaling assumes u	PK PK nits are dB units wit	156 145 h correction facto	1.0 1.0	GC = 23.0 GC = 23.0 2515.0 MHz)	
2484.830 2484.920	59.1 57.2 x remote contro Local iontrol e to Peak	H V Die Max Hold RB () 1MHz VB () 10Hz	74.0 74.0	-14.9 -16.8 scaling assumes u	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1 57.2 x remote contro Local anual) control e to Peak 1 Signal	H V Die Max Hold RB 11MHz VB 10Hz ter F 2515.000	74.0 74.0	-14.9 -16.8 scaling assumes u	РК	145	1.0	GC = 23.0	
	59.1       57.2       x remote contro       Local hanual) control       e to Peak       i Signal	H V ble Max Hold RB 1 1MHz VB 10Hz ter F 2515.000 Span 100.000	74.0 74.0	-14.9 -16.8 scaling assumes u	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1 57.2 x remote contro Local anual) control e to Peak signal Signal Freq. Re	H V De Max Hold RB 10Hz VB 10Hz ter F 2515.000 Span 100.000 f Lvl 254.0	74.0 74.0 Log scale - 85.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1       57.2       x remote contro       Local anual) control       e to Peak       1 Signal       Freq. 1       Signal       Freq. 2       Re	H V ble Max Hold RB 1 1MHz VB 10Hz ter F 2515.000 Span 100.000	74.0 74.0 Log scale - 85.0 0 75.0 70.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1 57.2 x remote contro Local hanual) to Peak Signal Signal Freq. Re P (125.00	H V De Max Hold Max Hold Max RB 1MHz VB 10Hz ter F 2515.000 Span 100.000 f Lvl 254.0 ATT AUTO?	74.0 74.0 Log scale - 85.1 30 75.1 65.1 65.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1       57.2       x remote contro       cal       iontrol       cal       i Signal       Freq.       Signal       Freq.       i Signal       P       j 125.00	H V Die Max Hold RB () 1MHz VB () 10Hz ter F () 2515.000 Span () 100.000 f Lvl () 54.0 ATT AUTO?	74.0 74.0 Log scale - 85.0 0 75.0 70.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1 57.2 x remote contro Local anual) control e to Peak Signal Freq. 3 Freq. 3 P (2) 125.00 Update With New ent Settings (All I	H V ble Max Hold R RB (11MHz VB (10Hz) ter F (12515.000 5pan (100.000 f Lvl (154.0 ATT AUTO?	74.0 74.0 Log scale - 85.1 30 75.1 65.1 65.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1       57.2       x remote contro       Local hanual) fontrol       e to Peak       x Signal       Freq.       Signal       Freq.       x Signal       V plate With New       ent Settings (All I       1.000000     vBW	H V ble Max Hold RB 1MHz VB 10Hz ter F 2515.000 5pan 100.000 f Lvl 54.0 ATT AUTO?	74.0 74.0 Log scale - 85.1 80.1 75.1 65.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1       57.2       k remote control       coal       control       coal       control       coal       control       coal       control       coal       coal    <	H V ble Max Hold RB 1MHz VB 10Hz ter F 2515.000 5pan 100.000 f Lvl 54.0 ATT AUTO? Settings Freqs in MHz 0.000010 100.000t	74.0 74.0 Log scale - 85.1 75.1 70.1 65.1 60.1 50.1 45.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1         57.2         x remote contro         Local nanual) control       Enable         a to Peak       Cen         signal       Freq.         Signal       Freq.         update With New       Re         update With New       Stations (All International Stations)         1.000000       VBW         2515.000       Spar         2465.000       Stop	H V V ble Max Hold RB 1 1MHz VB 10Hz ter F 2515.000 5pan 100.000 f Lvl 54.0 ATT AUTO?	74.0 74.0 1.0g scale - 85.1 80.1 75.1 60.1 65.1 60.1 55.1 50.1 45.1	-14.9 -16.8	РК	145	1.0	GC = 23.0	
2484.830 2484.920	59.1         57.2         x remote contro         Local hanual)       Enable         isignal       Freq.         signal       Freq.         y 2125.00       Re         Update With New       2515.000         space       Space         1.000000       VBW         2515.000       Spar         2465.000       Stop         ference Level       54.0	H V ble Max Hold RB 1MHz VB 10Hz ter F 2515.000 5pan 100.000 f LV 254.0 ATT AUTO?	74.0 74.0 1.0 scale - 85.1 80.1 75.1 65.1 65.1 65.1 45.1 40.1 35.1	-14.9 -16.8	PK	145	1.0 r applied (31.0 @ 2 Avg - H	GC = 23.0	25602565
2484.830 2484.920	59.1       57.2       cremote contro       Local hanual)       control       color       control       color       colo	H V V ble Max Hold RB 1MHz VB 10Hz ter F 2515.000 5pan 100.000 f Lvl 54.0 ATT AUTO? 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5ettings 5et	74.0 74.0 1.0 scale - 85.1 80.1 75.1 65.1 65.1 65.1 45.1 40.1 35.1	-14.9 -16.8	PK nits are dB units wit	145	1.0 r applied (31.0 @ 2 Avg - H	GC = 23.0	
2484.830 2484.920	59.1         57.2         x remote contro         Local hanual)       Enable         isignal       Freq.         signal       Freq.         y 2125.00       Re         Update With New       2515.000         space       Space         1.000000       VBW         2515.000       Spar         2465.000       Stop         ference Level       54.0	H V V Die Max Hold RB 1MHz VB 10Hz VB 10Hz ter F 2515.000 Span 100.000 f Lvl 54.0 ATT AUTO? Settings reces in MHz) 7 0.000010 100.0000 100.0000 2565.000	74.0 74.0 1.0 scale - 85.1 80.1 75.1 65.1 65.1 55.1 50.1 45.1	-14.9 -16.8	PK nits are dB units wit	145	1.0 r applied (31.0 @ 2 Avg - H	GC = 23.0	

Client:								Job Number:	170979
Cilent.								Log Number:	
Model:	512an MMW					-			Briggs / Eriksen
Contact	Robert Paxm	20					ALLU	uni manayer.	DHYYS / EHKSEH
			TC (Dadiata	d)				Class:	NI/A
	RSS 210 / FC							Class:	IN/A
purious E		GC = 22.5 ,	AP = 19.	<u>2 dBm )</u> / 15.247	Datastar	A <del>,</del> inc th	Llaight	Commonto	
Frequency MHz	Level	Pol v/h			Detector	Azimuth	Height	Comments	
4923.950	dBµV/m 43.1	V	Limit 54.0	Margin -10.9	Pk/QP/Avg AVG	degrees 173	meters 1.5		
4923.950	43.1	V	74.0	-25.6	PK	173	1.5		
6565.240	51.2	V	71.6	-20.4	PK	173	1.0	Note 2	
7388.310	53.0	V	54.0	-1.0	AVG	264	2.0	11010 2	
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 2:	Signal is not i								

#### 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	20.5	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
U	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)
IC.	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

$\begin{tabular}{ c c c c c } \hline Job Number: J70979 \\\hline $T$-Log Number: T71831 \\\hline $Account Manager: Briggs / Eriksen \\\hline $Gass: N/A \\\hline $Gass: N/$
Account Manager: Briggs / EriksenClass: N/AClass: N/Ag Mode: 802.11g - Chain A.5 dBm (for reference purposes)OKHZetector Azimuth Height CommentsQP/Avg degrees metersPK140PK2951.092.9 dB $\mu$ V/m62.9 dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etector Azimuth Height CommentsQP/Avg degrees metersQP/Avg degrees metersQP/Avg degrees metersAvg 1401.0GC = 20.5PK2881.0GC = 20.5
Class: N/AClass: N/Ag Mode: 802.11g - Chain A.5 dBm (for reference purposes)OkHzEtectorAzimuthHeightCommentsQP/Avgdegreesmeters $\square$ PK1401.0 $\square$ PK2951.092.9dB $\mu$ V/m62.9dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightCommentsQP/Avgdegreesmeters $\square$ Avg1401.0GC = 20.5PK2881.0GC = 20.5
g Mode: 802.11g - Chain A .5 dBm (for reference purposes) DkHz etector Azimuth Height Comments QP/Avg degrees meters PK 140 1.0 PK 295 1.0 92.9 dB $\mu$ V/m 62.9 dB $\mu$ V/m Limit is -30dBc (UNII power measurement) etector Azimuth Height Comments QP/Avg degrees meters Avg 140 1.0 GC = 20.5 Avg 294 1.0 GC = 20.5 PK 288 1.0 GC = 20.5
g Mode: 802.11g - Chain A .5 dBm (for reference purposes) DkHz etector Azimuth Height Comments QP/Avg degrees meters PK 140 1.0 PK 295 1.0 92.9 dB $\mu$ V/m 62.9 dB $\mu$ V/m Limit is -30dBc (UNII power measurement) etector Azimuth Height Comments QP/Avg degrees meters Avg 140 1.0 GC = 20.5 Avg 294 1.0 GC = 20.5 PK 288 1.0 GC = 20.5
g Mode: 802.11g - Chain A.5 dBm (for reference purposes) $0HZ$ </td
.5 dBm (for reference purposes)DKHzetectorAzimuthHeightCommentsQP/AvgdegreesmetersPK1401.0PK2951.092.9dB $\mu$ V/m62.9dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightCommentsQP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
DkHzetectorAzimuthHeightCommentsQP/AvgdegreesmetersPK1401.0PK2951.092.9dB $\mu$ V/mLimit is -30dBc (UNII power measurement)62.9dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightCOP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
etectorAzimuthHeightCommentsQP/AvgdegreesmetersPK1401.0PK2951.092.9dB $\mu$ V/m62.9dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightCommentsOP/AvgdegreesAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
PK1401.0PK2951.092.9 $dB\mu V/m$ 62.9 $dB\mu V/m$ Limit is -30dBc (UNII power measurement)etectorAzimuthHeightCommentsOP/AvgdegreesAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
PK2951.0 $92.9$ $dB\mu V/m$ Limit is -30dBc (UNII power measurement) $62.9$ $dB\mu V/m$ Limit is -30dBc (UNII power measurement)etectorAzimuthHeightComments(QP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
92.9 $dB\mu V/m$ 62.9 $dB\mu V/m$ Limit is -30dBc (UNII power measurement)etectorAzimuthHeightCommentsQP/AvgdegreesAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
62.9 dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightComments'QP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
62.9 dB $\mu$ V/mLimit is -30dBc (UNII power measurement)etectorAzimuthHeightComments'QP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
etectorAzimuthHeightCommentsQP/AvgdegreesmetersAvg1401.0GC = 20.5Avg2941.0GC = 20.5PK2881.0GC = 20.5
QP/Avg         degrees         meters           Avg         140         1.0         GC = 20.5           Avg         294         1.0         GC = 20.5           PK         288         1.0         GC = 20.5
QP/Avg         degrees         meters           Avg         140         1.0         GC = 20.5           Avg         294         1.0         GC = 20.5           PK         288         1.0         GC = 20.5
QP/Avg         degrees         meters           Avg         140         1.0         GC = 20.5           Avg         294         1.0         GC = 20.5           PK         288         1.0         GC = 20.5
Avg         140         1.0         GC = 20.5           Avg         294         1.0         GC = 20.5           PK         288         1.0         GC = 20.5
PK 288 1.0 GC = 20.5
PK 140 1.0 GC = 20.5
g - Vertical
Time
g - Vertical

Cliont			L							
Cilent.	Intel							Job Number:		
Model	512an MM	N/					T-	Log Number:	T71831	
mouer.	512011101101						Ассо	unt Manager:	Briggs / Er	iksen
Contact:	Robert Pax	man								
Standard:	RSS 210 /	FCC 15.247 D	TS (Radiate	d)				Class:	N/A	
		el @ 2462 MH								
	wer Setting			rage power:		(for reference	ce purposes	)		
	al Signal F	ield Strength	: Peak value 15.209			Azimuth	Hoight	Comments		
Frequency MHz	dBµV/m	Pol v/h	Limit	Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments		
2460.710	93.5	V	-	-	PK	128	1.0			
2463.280	89.9	H	-	-	PK	152	1.0			
	0,,,,	ı <sup></sup>						<u> </u>		
F		emission leve				dBµV/m				
	Limit for	emissions ou	tside of restr	icted bands:		dBµV/m	Limit is -30	dBc (UNII po\	ver measur	ement
		d Strength	15 000	115 047		A 1 11				
Frequency MHz	Level	Pol	15.209		Detector	Azimuth	Height	Comments		
	dBµV/m	v/h	Limit	Margin -8.3	Pk/QP/Avg Avg	degrees 157	meters 1.0	GC = 21.5		
	15.7	Ц	510				1.0	GC = 21.5		
2483.550	45.7 65.0	H	54.0 74.0				10	GC = 215		
2483.550 2483.550	65.0	V	74.0	-9.0	Pk	126	1.0 1.0	GC = 21.5 GC = 21.5		
2483.550 2483.550 2483.560 2483.580	65.0 45.7 63.5	V V H	74.0 54.0 74.0	-9.0 -8.3 -10.5		126 145 159	1.0 1.0	GC = 21.5 GC = 21.5		
2483.550 2483.550 2483.580 2483.580 [□] [□] [□] [□] [□] [□] [□] [□] [□] [□]	65.0 45.7 63.5 (xx remote co (manual) (manual) (manual) (xe to Peak BB Signal BB Signal NB Signal NB Signal (xe to Peak) (xe to Peak) (	V V H	74.0 54.0 74.0	-9.0 -8.3 -10.5	Pk Avg Pk	126 145 159	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 BB Signal BB Signal Update Witt rrent Settings W 1.000000	V H H Enable Max Hold RB 11MHz VB 10Hz Center F 2515. req. Span 100.00 Ref Lvl 257.0 ATT AUTO?	74.0 54.0 74.0	-9.0 -8.3 -10.5	Pk Avg Pk	126 145 159	1.0 1.0	GC = 21.5 GC = 21.5		
2483.550 2483.550 2483.580 2483.580 [≥ 85 [≥ 85 [ [] [] [] [] [] [] [] [] [] [] [] [] [	65.0 45.7 63.5 (manual) Control BB Signal BB Signal BB Signal Control Update With rrent Settings W 1.000000 er 2515.000	V V H htrol Enable Max Hold RB 10Hz VB 10Hz VB 10Hz Center F 2515. req. Span 100.00 Ref Lvl 257.0 ATT AUTO? New Settings (All freqs in MHz) VBW 0.000010 Span 100.0001 Stop 2565.000	74.0 54.0 74.0	-9.0 -8.3 -10.5	Pk Avg Pk	126 145 159	1.0 1.0 ctor applied (31.0 Avg - Ver	GC = 21.5 GC = 21.5		
2483.550 2483.550 2483.580 2483.580 [≥ 85 [≥ 85 [ [] [] [] [] [] [] [] [] [] [] [] [] [	65.0 45.7 63.5 (manual) Control une to Peak B8 Signal B8 Signal B8 Signal Control Update Witt 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 100.0001 Span 100.0001 Stop 2565.000 57.0	74.0 54.0 74.0	-9.0 -8.3 -10.5	Pk Avg Pk	126 145 159 with correction fa	1.0 1.0 ctor applied (31.0 Avg - Ver	GC = 21.5 GC = 21.5		565
2483.550 2483.550 2483.580 2483.580 [≥ 85 [≥ 85 [ [] [] [] [] [] [] [] [] [] [] [] [] [	65.0 45.7 63.5 ixx remote co (Local (manual) Control une to Peak BB Signal BB Signal BB Signal Control Update With tep (a) 125.00 Update With tep (a) 125.00	V V H http://www.settings (All freqs in MHz) VB 0.000010 Span 100.0001 Span 100.0001 Stop 2565.000 57.0	74.0 54.0 74.0	-9.0 -8.3 -10.5	Pk Avg Pk s units are dB units	126 145 159 with correction fa	1.0 1.0 ctor applied (31.0 Avg - Ver	GC = 21.5 GC = 21.5		

# ElliottEMC Test DataClient:IntelJob Number:Model:512an MMWT-Log Number:Contact:Robert PaxmanRSS 210 / FCC 15.247 DTS (Radiated)Standard:RSS 210 / FCC 15.247 DTS (Radiated)Class:

#### RSS 210 and FCC 15.247 (DTS, 2400 - 2483.5 MHz) Radiated Spurious Emissions - Band Edge 802.11n (20 MHz Channel) 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
10	802.11n20	1	10.0	13.1 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	46.9dBµV/m @ 2390.0MHz (-7.1dB)
1a	Chain A	2412MHz	19.0	13.1 QBM	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	52.9dBµV/m @ 6431.9MHz (-5.1dB)
1b	802.11n20 Chain A	6 2437MHz	23. 5	16.5 dBm	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	47.6dBµV/m @ 4874.0MHz (-6.4dB)
1c	802.11n20	11	21.0	14 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	45.0 dBuV/m @ 2483.7 MHz (-9.0dB)
i C	Chain A	2462MHz	21.0	14 UDIII	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	52.3dBµV/m @ 7500.1MHz (-1.7dB)

#### Modifications Made During Testing

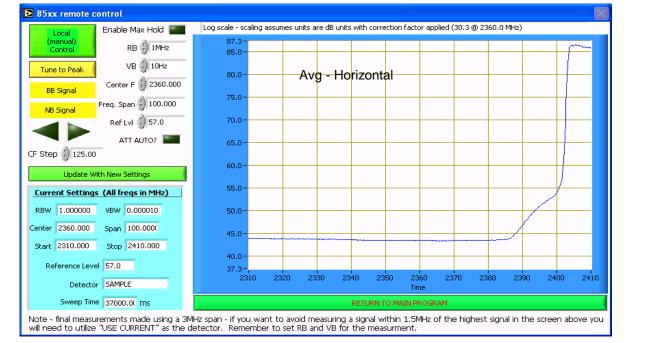
No modifications were made to the EUT during testing

#### Deviations From The Standard

6	Elli	ott						EMO	C Test Data
Client:								Job Number:	J70979
Madal		1					T-	Log Number:	T71831
wodel:	512an MMW	I					Αссоι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxr	nan							
Standard:	RSS 210 / F	CC 15.247 E	) TS (Radiate	d)				Class:	N/A
Po	ow Channel	19.0	– Ave		13.1 dBm	(for reference	e purposes)	1	
Frequency	al Signal Fie	Pol		116250160 II	Detector	Azimuth	Height	Comments	
ricquericy	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg		meters	Comments	
	abatim	V	-	-	PK	152	1.0	RB = VB	= 100 KHz
MHz 2410.700	86.4	v					1.0		
MHz	86.4 88.0	H	-	-	PK	248	1.0	RB = VB	= 100 KHz

#### Band Edge Signal Field Strength

Frequenc	y Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.920	45.9	V	54.0	-8.1	Avg	158	1.0	
2389.950	46.9	Н	54.0	-7.1	Avg	245	1.0	
2389.690	64.8	Н	74.0	-9.2	Pk	244	1.0	
2389.950	62.8	V	74.0	-11.2	Pk	155	1.0	



	Intel	ott						Job Number:	J70979
								Log Number:	
Model:	512an MMW					-		0	Briggs / Eriksen
Contact:	Robert Paxm	nan						3	
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	d)				Class:	N/A
	missions 24								
	Date of Test:								
	est Engineer: . est Location:		r # E						
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
6431.940	52.9	V	58.0	-5.1	Pk	349	1.0	Note 2.	
7603.010	51.2	Н	58.0	-6.8	Peak	320	1.9	Note 3.	
2200.830	46.8	Н	54.0	-7.2	Peak	23	1.3	Pk reading	/s avg limit
7240.830	50.4	Н	58.0	-7.6	Peak	284	1.0	Note 3.	
320.830	45.9	V	54.0	-8.1	Peak	178	1.6	Pk reading	/s avg limit
9968.170 4978.120	49.4 34.7	V V	58.0 54.0	-8.6 -19.3	Peak AVG	172 142	1.9 1.3	Note 3.	
4978.120	54.7 51.4	V	74.0	-19.5	PK	142	1.3		

01.001									
Client:	Intel							Job Number:	
Model	512an MMW							Log Number:	
would:	JIZAHIWIWI	u -					Αссοι	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxn	nan							
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	d)				Class:	N/A
D	ate of Test:	5/29/2008	and 5/30/20	08					l
Те	st Engineer:	Ben Jing							
Te	est Location:	FT Chambe	er # 5						
	wer Setting:				16.5 dBm	(for reference	ce purposes)		
	al Signal Fie							<u> </u>	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m 91.6	v/h H	Limit	Margin	Pk/QP/Avg PK	degrees 209	meters	RB=VB=1	
2438.270 2438.280	91.6 92.8	H V	-	-	PK PK	209	1.0 1.0	RB=VB=1 RB=VB=1	
2430.200	92.0	V	-	-	FN	219	1.0	KD=VD=1	υυκήζ
Fi	undamental e	emission leve	el @ 3m in 1(	)0kHz RBW:	92.8	dBµV/m	1		
		emissions ou				dBµV/m	Limit is -300	dBc (UNII pov	ver measurement)
Spurious Er							4	· 1	,
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7312.590	44.5	V	54.0	-9.5	AVG	156	1.5		
2999.920	38.6	V	62.8	-24.2	Peak	281	1.3	Note 2	
6498.580	47.5	V	62.8	-15.3	Peak	120	1.6	Note 2	
1328.840	45.8	V	54.0	-8.2	PK	233	1.0	Pk reading v	
	42.0	Н	54.0	-12.0	PK	250	1.0	Pk reading v	
1497.690			E10	10.0					
1594.710	43.2	V	54.0	-10.8	PK DK	128	1.0		vs avg limit
1594.710 <b>4874.020</b>	43.2 47.6	V V	54.0	-6.4	PK	160	1.9	Pk reading v Pk reading v	
1594.710	43.2	V							
1594.710 <b>4874.020</b> 7312.590	43.2 <b>47.6</b> 59.7	V V V	<b>54.0</b> 74.0	<b>-6.4</b> -14.3	PK PK	160 156	1.9 1.5	Pk reading	
1594.710 4874.020 7312.590	43.2 47.6 59.7 For emission	V V V	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2	PK PK 09 was used	160 156	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit
1594.710 4874.020 7312.590 Note 1:	43.2 47.6 59.7 For emissior level of the f	V V V ns in restricte	54.0 74.0 ed bands, the	-6.4 -14.3 e limit of 15.2 ed in 100kHz	PK PK 09 was used	160 156 . For all othe	1.9 1.5	Pk reading	vs avg limit

#### EMC Test Data

		Οιι	l						0 . 00	<i>n D</i>
Client:	Intel							Job Number:	J70979	
Model	512an MM\	N					T-I	Log Number:	T71831	
wouer.	JIZAII IVIIVII	IV					Αссоι	unt Manager:	Briggs / E	riksen
Contact:	Robert Pax	man								
Standard:	RSS 210 /	FCC 15.247 E	TS (Radiate	ed)				Class:	N/A	
Po	ower Setting	21.0	Av	erage power:	14.0 dBm	(for reference	ce purposes)			
	•	ield Strength				(	· · · · · · · · · · · · · · · · · · ·			
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2460.7	91.3	V	-	-	PK	202.0	1			
2463.3	89.8	Н	-	-	PK	155.0	1			
	undomontal	emission leve			91.3		1			
F		emission leve				dBµV/m	Limitic 200		Nor money	romon
	LIIIII IUI			ncieu banus.	01.5	dBµV/m		Bc (UNII pov	vei measu	Temen
Rand Edge	Signal Fiel	d Strenath								
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2483.660	45.0	Н	54.0	-9.0	Avg	149	1.0			
2483.670	44.7	V	54.0	-9.3	Avg	202	1.0			
2483.650	58.7	Н	74.0	-15.3	Pk	147	1.0			
2483.710	63.3	V	74.0	-10.7	Pk	200	1.0			
CF S	Update With Update With Update 3 1.000000	VB () 10H2 Center F () 2515 req. Span () 100.0 Ref LVI () 55.0 ATT AUTO? () h New Settings (All freqs in MHz) VBW 0.000010		80.0 - 75.0 - 70.0 - 65.0 - 65.0 - 55.0 - 50.0 - 45.0 -				vg - Horiz	ontal	
	ter 2515.000 art 2465.000 Reference Level			40.0 - 35.6 - 24652470	2480 2490	2500 2510	0 2520 25	30 2540	2550 2560	2565
	art 2465.000 Reference Level Detector	Stop 2565.000 55.0 SAMPLE		35.6 -	2480 2490		Time	30 2540	2550 2560	2565
Sta	art 2465.000 Reference Level Detector Sweep Time	Stop 2565.000		35.6-, , 24652470		RETURN TO MAIN	Time V PROGRAM			

Spurious Emissions

Client:	Intel							Job Number:	J70979
Madal							T-	Log Number:	T71831
wodel:	512an MMW						Ассо	unt Manager:	Briggs / Eriksen
Contact:	Robert Paxm	an						-	
Standard:	RSS 210 / FC	CC 15.247 E	DTS (Radiate	ed)				Class:	N/A
requency	Level	Pol		, / 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
330.630	46.9	V	54.0	-7.1	Peak	236	1.0	Pk reading v	/s avg limit
594.860	44.3	V	54.0	-10.3	Peak	99	1.0	Pk reading \	/s avg limit
000.010	40.0	V	74.0	-34.0	Peak	112	1.3	Note 2	
924.050	47.0	V	54.0	-7.0	Peak	164	1.9	Pk reading \	/s avg limit
000.010	42.6	V	74.0	-31.4	Peak	220	1.0	Note 2	
565.250	48.7	V	74.0	-25.3	Peak	10	1.0	Note 2	
500.070	52.3	V	54.0	-1.7	Peak	135	1.0	Pk reading v	/s avg limit

# Client: Intel

#### EMC Test Data

Client:	Intel	Job Number:	J70979
Model:	T-Log Number: T71		T71831
Mouel.		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 - Band Edge 802.11n (40 MHz Channel) 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: 3/17/2008 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:	22 °C
	Rel. Humidity:	36 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n40	2422 MHz	15. 5	10.1 dBm	Band Edge radiated field strength	FCC Part 15.209 / 15.247( c)	45.9 dBuV/m @ 2389.7 MHz (-8.1dB)
Ta	Chain A		10.0	TO. T UDIT	Radiated Emissions,	FCC Part 15.209 /	Covered by n20 mode
					1 - 26 GHz	15.247( c)	measurements
1b	802.11n40	6			Radiated Emissions,	FCC Part 15.209 /	Covered by n20 mode
u	Chain A	2437MHz			1 - 26 GHz	15.247( c)	measurements
					Band Edge radiated	FCC Part 15.209 /	46.6 dBuV/m @ 2483.7
1c	802.11n40	2452MHz	20. 5	14.1dBm	field strength	15.247( c)	MHz (-7.4dB)
	Chain A	Z4JZIVINZ	20. 0	14. IUDIII	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

×		$\mathcal{J}\mathfrak{l}\mathfrak{l}$							1
Client: Intel								Job Number:	
Model: 512a	an MMW	1						Log Number:	
							Acco	unt Manager:	Briggs / Eriksen
Contact: Rob									
Standard: RSS	5 210 / F	CC 15.247 D	OTS (Radiate	ed)				Class:	N/A
n #1: Radiate				Edges. Oper	ating Mode:	802.11n (40	MHz Chan	nel) - Chain	A
n #1a: Low C						<i>(</i> <b>6 6</b>			
	Setting:	15.5			AP = 10.1	(for referenc	e purposes)	)	
ndamental Si	gnal Fle .evel	Pol		<u>measured II</u> / 15.247	Detector	Azimuth	Height	Comments	
	BμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	COMMENTS	
	78.3	V	-	-	PK	151	1.0		
	78.7	H	-	-	PK	244	1.0		
nd Edge Sign			4	115.0.5					
	.evel	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
	8μV/m 60.2	v/h H	Limit 74.0	Margin -13.8	Pk/QP/Avg Pk	degrees 247	meters		
	50.2 45.9	H	74.0 54.0	-13.8 -8.1	PK Avg	247	1.0 1.0		
	58.9	V	74.0	-15.1	Pk	155	1.0		
	45.1	V	54.0	-8.9	Avg	157	1.0		
Current Se RBW 1.00 Center 2360 Start 2310 Reference	eak Ce al Freq 125.00 date With Ne ettings (Al 0000 VB	I freqs in MHz) W 0.000010 an 100.000( op 2410.000 .0		6.3 - 5.0 - 5.	Avg - Ho	0 2350 23	560 2370	2380 2390	2400 2410
Swe	ep Time 37	000.0( ms	J		R	ETURN TO MAIN P	ROGRAM		
								nest signal in the	screen above you
Current Se RBW 1.00 Center 2360 Start 2310 Referenc D Swe Note - final r	date With Ne ettings (Al 00000 VB 0.000 Sp 0.000 St 0.000	ew Settings  I freqs in MHz)  W 0.000010 an 100.000( op 2410.000 .0  MPLE 000.0( ms ents made using	- 60 - 55 - 50 - 40 - 30 - 30 - 30 11	5.0 - 5.0 - 5.0 - 5.3 - 2310 2320	R	Tii RETURN TO MAIN P signal within 1.51	me <mark>ROGRAM</mark> MHz of the high		

Intel							Job Numbe	r: J709	79
540						T-	Log Numbe	r: T718	331
512an MMV	V						5		
Robert Paxr	nan								
RSS 210 / F	CC 15.247 E	DTS (Radiate	d)				Class	s: N/A	
igh Channe	@ 2452 MH	z							
wer Setting:			erage power:	AP = 14.1	(for referenc	e purposes)	)		
al Signal Fi	eld Strength	: Peak value	measured in	n 100kHz					
Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	5	
dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
81.6	Н	-	-	PK	245	1.0			
84.7	V	-	-	PK	202	1.0			
Signal Field	1 Strength								
	Pol	15.209	/ 15.247	Detector	Azimuth	Heiaht	Comments	5	
						Ū			
62.9	V	74.0	-11.1	Pk	<u> </u>	1.0	1		
				<u> </u>					
						1.0			
45.8 5xx remote co Local (manual) Control Tune to Peak	Enable Max Hold RB 💮 1MH VB 💮 10H	-12 12	-8.2 ale - scaling assum 84.6 - 80.0 -	Avg	227	actor applied (30.			
Sixx remote co	ntrol Enable Max Hold RB ) 1MH	Log sc tz 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 -			actor applied (30.	.6 @ 2515.0 MH2) Avg - Verti		
Step (125.00	ntrol Enable Max Hold RB 11MH VB 110H Center F 2515 ireq. Span 1100. Ref Lvl 254.0 ATT AUTO?	Log sc tz 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 - 60.0 -			actor applied (30.			
Step () 125.00 Update Witl	ntrol Enable Max Hold RB () 10H VB () 10H Center F () 2515 freq. Span () 100. Ref Lvl () 54.0 ATT AUTO? )	Log sc 1z 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 -			actor applied (30.			
5xx remote co Local (manual) Control Tune to Peak BB Signal NB Signal NB Signal Step () 125.00 Update With	ntrol Enable Max Hold RB () 10H VB () 10H Center F () 2515 freq. Span () 100. Ref LVI () 54.0 ATT AUTO? h New Settings (All freqs in MHz	Log sc 1z 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 - 60.0 -			actor applied (30.			
Step (1.000000)	ntrol Enable Max Hold RB 11MH VB 110H Center F 2515 ireq. Span 100. Ref Lvl 54.0 ATT AUTO? h New Settings (All freqs in MHz VBW 0.000010	Log sc 1z 5.000	ale - scaling assum 84.6 - 75.0 - 70.0 - 65.0 - 60.0 - 55.0 -			actor applied (30.			
5xx remote co Local (manual) Control Tune to Peak BB Signal NB Signal Step () 125.00 Update With Urrent Settings BW 1.000000 Iter 2515.000	ntrol Enable Max Hold RB 11M VB 110H Center F 2515 req. Span 100. Ref Lvl 54.0 ATT AUTO? h New Settings (All freqs in MHz VBW 0.000010 Span 100.000(	Log sc 1z 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 - 65.0 - 55.0 - 50.0 - 45.0 -			actor applied (30.			
5xx remote co Local (manual) Control Tune to Peak BB Signal NB Signal NB Signal Update With Update With Update With Update 2515.000 ter 2515.000 ter 2515.000	ntrol Enable Max Hold RB () 10H VB () 10H Center F () 2515 freq. Span () 100. Ref Lvl () 54.0 ATT AUTO? h New Settings (All freqs in MHz VBW 0.000010 Span 100.000( Stop 2565.000	Log sc 1z 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 - 65.0 - 55.0 - 50.0 -			actor applied (30.			
5xx remote co Local (manual) Control Tune to Peak BB Signal NB Signal Step () 125.00 Update With Urrent Settings BW 1.000000 Iter 2515.000	ntrol Enable Max Hold RB 11MH VB 110H Center F 2515 ireq. Span 100. Ref Lvl 54.0 ATT AUTO? h New Settings (All freqs in MHz VBW 0.000010 Span 100.000( Stop 2565.000 54.0	Log sc 1z 5.000	ale - scaling assum 84.6 - 80.0 - 75.0 - 70.0 - 65.0 - 65.0 - 55.0 - 50.0 - 45.0 -			actor applied (30.			25602565
	Robert Paxr RSS 210 / F igh Channel wer Setting: al Signal Fie Level dBµV/m 81.6 84.7 Signal Field Level dBµV/m	igh Channel @ 2452 MH wer Setting: 20.5 al Signal Field Strength Level Pol dBμV/m v/h 81.6 H 84.7 V Signal Field Strength Level Pol dBμV/m v/h 62.9 V 46.6 V	Robert Paxman           RSS 210 / FCC 15.247 DTS (Radiate           igh Channel @ 2452 MHz           wer Setting:         20.5         Ave           al Signal Field Strength: Peak value           Level         Pol         15.209           dBµV/m         v/h         Limit           81.6         H         -           84.7         V         -           Signal Field Strength           Level         Pol         15.209           dBµV/m         v/h         Limit           62.9         V         74.0           46.6         V         54.0	Robert Paxman           RSS 210 / FCC 15.247 DTS (Radiated)           igh Channel @ 2452 MHz           wer Setting: 20.5 Average power:           al Signal Field Strength: Peak value measured in           Level         Pol         15.209 / 15.247           dBµV/m         v/h         Limit         Margin           81.6         H         -         -           84.7         V         -         -           Signal Field Strength           Level         Pol         15.209 / 15.247           dBµV/m         v/h         -         -           84.7         V         -         -           Signal Field Strength         -         -         -           Level         Pol         15.209 / 15.247         -           dBµV/m         v/h         Limit         Margin           62.9         V         74.0         -11.1           46.6         V         54.0         -7.4	Robert PaxmanRSS 210 / FCC 15.247 DTS (Radiated)igh Channel @ 2452 MHzwer Setting: 20.5 Average power: $AP = 14.1$ al Signal Field Strength: Peak value measured in 100kHzLevel Pol 15.209 / 15.247 Detector $dB\muV/m$ $v/h$ Limit $81.6$ H $84.7$ VSignal Field StrengthLevel Pol 15.209 / 15.247 Detector $dB\muV/m$ $v/h$ LimitMarginPKSignal Field StrengthLevel Pol 15.209 / 15.247 Detector $dB\muV/m$ $v/h$ LimitMargin $k/QP/Avg$ 62.9V74.0-11.1 $k$ $46.6$ V54.0-7.4Avg	Robert PaxmanRSS 210 / FCC 15.247 DTS (Radiated)igh Channel @ 2452 MHzwer Setting: 20.5 Average power: $AP = 14.1$ (for reference al Signal Field Strength: Peak value measured in 100kHzLevel Pol 15.209 / 15.247 Detector AzimuthdB $\mu$ V/mv/hLimitMarginPK/QP/Avgdegrees81.6H84.7V-PK24584.7V-PK202Signal Field StrengthLevel Pol 15.209 / 15.247 Detector AzimuthdB $\mu$ V/mv/hLimitMarginPk/QP/Avgdegrees62.9V74.0-11.1Pk20646.6V54.0-7.4Avg	512an MMW       Acco         Robert Paxman       Acco         RSS 210 / FCC 15.247 DTS (Radiated)         igh Channel @ 2452 MHz         wer Setting: 20.5 Average power: $AP = 14.1$ (for reference purposes         al Signal Field Strength: Peak value measured in 100kHz         Level       Pol       15.209 / 15.247       Detector       Azimuth       Height         dBµV/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters         81.6       H       -       -       PK       245       1.0         84.7       V       -       PK       202       1.0         Signal Field Strength         Level       Pol       15.209 / 15.247       Detector       Azimuth       Height         dBµV/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters         62.9       V       74.0       -11.1       Pk       206       1.0         46.6       V       54.0       -7.4       Avg       203       1.0	S 12an MMW         Account Manage         Robert Paxman         RSS 210 / FCC 15.247 DTS (Radiated)         Class         igh Channel @ 2452 MHz         wer Setting: 20.5 Average power: AP = 14.1 (for reference purposes)         al Signal Field Strength: Peak value measured in 100kHz         Level Pol 15.209 / 15.247 Detector Azimuth Height Comments         dB $\mu$ V/m       v/h       Limit Margin Pk/QP/Avg degrees meters         Signal Field Strength         Level Pol 15.209 / 15.247 Detector Azimuth Height Comments         Bak.7       V         Signal Field Strength         Level Pol 15.209 / 15.247 Detector Azimuth Height Comments         Gage power: AP = 14.1 (for reference purposes)         Bak.7       V       -       PK       2455       1.0         Signal Field Strength       -       PK       202       1.0       -         Buy/m       v/h       Limit Margin Pk/QP/Avg degrees meters         Gage V       7       Comments<	Account Manager: BriggRobert PaxmanAccount Manager: BriggRSS 210 / FCC 15.247 DTS (Radiated)Class: N/Aigh Channel @ 2452 MHzwer Setting: 20.5 Average power: AP = 14.1 (for reference purposes)al Signal Field Strength: Peak value measured in 100kHzLevel Pol 15.209 / 15.247 Detector Azimuth Height CommentsdB $\mu$ V/mv/hLimitMarginPk/QP/Avgdegreesmeters81.6HPK2451.084.7VPK2021.0Signal Field StrengthLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsGomments81.6HPK2021.0Signal Field StrengthLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsGomments62.9V74.0-11.1Pk2061.046.6V54.0-7.4Avg2031.0I

# Client: Intel Job Number: J70979 Model: 512an MMW T-Log Number: T71831 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, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11a 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: 5/30/2008 Test Engineer: John Caizzi Test Location: FT Chamber # 5 Config. Used: 1 Config Change: None Host Unit Voltage 3.3 VDC

#### 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 for measurements below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Ambient Conditions:	Temperature:	20 °C
	Rel. Humidity:	39 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11a	5745 MHz	28	16. 5	Radiated Emissions,	FCC Part 15.209 /	53.1dBµV/m @
Id	Chain A	5745 WINZ	20	10. 5	1 - 26 GHz	15.247( c)	11489.8MHz (-0.9dB)
1b	802.11a	5785 MHz	29	16. 5	Radiated Emissions,	FCC Part 15.209 /	50.3dBµV/m @
u	Chain A		29	10. D	1 - 26 GHz	15.247( c)	2498.6MHz (-3.7dB)
1c	802.11a	5825 MHz	30	16. 5	Radiated Emissions,	FCC Part 15.209 /	48.0dBµV/m @
IC.	Chain A	JOZD IVITIZ	30	10. 5	1 - 26 GHz	15.247( c)	2495.93MHz (-6.0dB)

#### Modifications Made During Testing

No modifications were made to the EUT during testing

#### Deviations From The Standard

#### 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, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11n (20MHz) 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: 5/30/2008 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #3 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 for measuremetns below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Ambient Conditions:	Temperature:	19.2 °C
	Rel. Humidity:	38 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11n20	5745 MHz	28.5	16.6	Radiated Emissions,	FCC Part 15.209 /	45.2dBµV/m @
Ia	Chain A	5745 WILLZ	20.0	10.0	1 - 40 GHz	15.247( c)	11489.92MHz (-8.8dB)
1b	802.11n20	5785 MHz	30.0	16.6	Radiated Emissions,	FCC Part 15.209 /	43.9dBµV/m @
10	Chain A	5765 WITZ	30.0	10.0	1 - 40 GHz	15.247( c)	7500.11MHz (-10.1dB)
1c	802.11n20	5825 MHz	31.5	16.7	Radiated Emissions,	FCC Part 15.209 /	46.6dBµV/m @
ΤC	Chain A		51.0	10.7	1 - 40 GHz	15.247( c)	11650MHz (-7.4dB)

#### Modifications Made During Testing

No modifications were made to the EUT during testing

#### Deviations From The Standard

Client:	Intel							Job Number:	170979
								Log Number:	
Model:	512an MMW	1						ů.	Briggs / Eriksen
0	Dohort Dovr						ALLUI	uni manayer.	DHYYS / EHKSEH
	Robert Paxn								
	RSS 210 / F							Class:	N/A
	adiated Spur			40000 MHz.	Operating M	lode: 802.17	Ia Chain A		
	ow Channel								
	ower Setting:	28.5			AP = 16.6				
				verage value / 15.247				ie measured ir	n 100kHz
Frequency		Pol			Detector Pk/QP/Avg	Azimuth	Height	Comments	
MHz 5738.670	dBµV/m 92.3	v/h V	Limit	Margin	PK/QP/Avg PK	degrees 195	meters 1.0	RB = VB = 1	00643
5738.670	92.3	H			PK PK	195	1.0	RB = VB = 1 RB = VB = 1	
5757.500	93.4	П			PN	100	1.0	KD = VD = I	UUKIIZ
F	undamental e	mission leve	al @ 3m in 1(	NkHz RRW/·	93.4	dBµV/m	1		
			Itside of restr			dBμV/m dBμV/m	l imit is _30(	dBc (HNII now	er measurement)
purious F	missions				- 00.т	ασμνπι			or measurementy
Frequency	1	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	o on informa	
7500.050	43.4	V	54.0	-10.6	AVG	251	1.0		
7500.050	51.8	V	74.0	-22.2	PK	251	1.0		
2485.000	42.1	Н	54.0	-11.9	Peak	250	1.3		
2998.330	41.8	V	74.0	-32.2	Peak	276	1.3		
11489.900	45.2	V	54.0	-8.8	AVG	128	1.0		
11489.900	58.3	V	74.0	-15.7	PK	128	1.0		
Po Fundamen		30.0 eld Strength	Ave Peak and a:	verage value		in 1 MHz, ar	nd peak valu	ie measured ir	n 100kHz
Frequency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5778.700	90.3	V			PK	138	1.8	RB = VB = 1	
5777.530	91.6	Н			PK	111	1.0	RB = VB = 1	UOKHZ
			l 🔿 ) == != 1(		01 (	15.14	1		
F	undamental e					dBµV/m			
		emissions ou	Itside of restr	icted bands:	61.6	dBµV/m	LIMITIS -300	авс (омп ром	er measurement)
Spurious E Frequency		Pol	15 200	/ 15.247	Dotoctor	Azimuth	Hoight	Comments	
FIEUUEIICV	Level dBµV/m	v/h	Limit	Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
1 2	udµv/III		54.0	-11.1	AVG	130	1.0		
MHz	120	V				130		1	
MHz 11560.070		V			ÞK	120	10		
MHz 11560.070 11560.070	55.3	V	74.0	-18.7	PK AVG	130 248	1.0		
MHz 11560.070 11560.070 7500.080	55.3 43.9	V V	74.0 54.0	-18.7 -10.1	AVG	248	1.0		
MHz 11560.070 11560.070 7500.080 7500.080	55.3 43.9 51.4	V V V	74.0 54.0 74.0	-18.7 -10.1 -22.6	AVG PK	248 248	1.0 1.0	Pk reading	ava limit
MHz 11560.070 11560.070 7500.080 7500.080	55.3 43.9	V V	74.0 54.0	-18.7 -10.1	AVG	248	1.0	Pk reading, a	avg limit
MHz 11560.070 11560.070	55.3 43.9 51.4 42.7 For emission	V V V V	74.0 54.0 74.0 54.0	-18.7 -10.1 -22.6 -11.3 limit of 15.2	AVG PK Peak 09 was used.	248 248 244	1.0 1.0 1.3		avg limit set 30dB below the
MHz 11560.070 11560.070 7500.080 7500.080 2494.170 Note 1:	55.3 43.9 51.4 42.7 For emission level of the f	V V V V ns in restricte	74.0 54.0 74.0 54.0 ed bands, the and <b>measur</b>	-18.7 -10.1 -22.6 -11.3 limit of 15.2	AVG PK Peak 09 was used.	248 248 244	1.0 1.0 1.3		
MHz 11560.070 11560.070 7500.080 7500.080 2494.170	55.3 43.9 51.4 42.7 For emission	V V V V ns in restricte	74.0 54.0 74.0 54.0 ed bands, the and <b>measur</b>	-18.7 -10.1 -22.6 -11.3 limit of 15.2	AVG PK Peak 09 was used.	248 248 244	1.0 1.0 1.3		

	Intel							Job Number:	J70979
								Log Number:	
Model:	512an MMW	I						5	Briggs / Eriksen
Contact:	Robert Paxr	nan						5	
Standard:	RSS 210 / F	CC 15.247 D	TS (Radiate	d)				Class:	N/A
		@ 5825 MH							1
	wer Setting:	31.5		rage power:	AP = 16.7	(for reference	e purposes)	1	
ndament	al Signal Fie	eld Strength	: Peak and a	verage value	es measured				in 100kHz
equency	Level	Pol	15.209		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	<u> </u>	meters		
821.230	92.3	V			PK	141	1.0	RB = VB = 1	
820.000	90.8	Н			PK	179	1.0	$RB = VB = \hat{A}$	IOOKHZ
Fi	indamontal (	emission leve	al @ 3m in 1(		92.3	dD. \//m	1		
		emissions ou				<u>dBµV/m</u> dBµV/m	l imit is _300	Bc (UNII nov	wer measurement)
	Linicion				02.0	սերչյու			in the as a contently
urious Er	missions								
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7500.060	44.1	V	54.0	-9.9	AVG	247	1.0		
500.060	51.0	V	74.0	-23.0	PK	247	1.0		
1649.930	46.6	V	54.0	-7.4	AVG	133	1.0		
1649.930	59.9	V	74.0	-14.1	PK	133	1.0		
	39.6	Н	62.3	-22.7	Peak	99	1.3	Note 2	
		14				126	1 1		
2485.000	41.4	V	62.3	-20.9	Peak	235	1.0	Note 2	
1980.830 2485.000 7480.000		V V	62.3 62.3	-20.9 -15.5	Peak	192	1.0	Note 2	
2485.000 7480.000	41.4 46.8	V	62.3	-15.5	Peak	192	1.0	Note 2	s set 30dB below th
2485.000	41.4 46.8 For emission	V	62.3 ed bands, the	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th
2485.000 7480.000	41.4 46.8 For emission level of the f	V ns in restricte	62.3 ed bands, the and <b>measur</b> e	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th
2485.000 7480.000 ote 1:	41.4 46.8 For emission level of the f	V ns in restricte fundamental	62.3 ed bands, the and <b>measur</b> e	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th
2485.000 7480.000 ote 1:	41.4 46.8 For emission level of the f	V ns in restricte fundamental	62.3 ed bands, the and <b>measur</b> e	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th
2485.000 7480.000 ote 1:	41.4 46.8 For emission level of the f	V ns in restricte fundamental	62.3 ed bands, the and <b>measur</b> e	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th
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2485.000 7480.000 ote 1:	41.4 46.8 For emission level of the f	V ns in restricte fundamental	62.3 ed bands, the and <b>measur</b> e	-15.5 limit of 15.2	Peak 09 was used.	192	1.0	Note 2	s set 30dB below th

#### EMC Test Data

Client:	Intel	Job Number:	J70979
Model	512an MMW	T-Log Number:	T71831
wouer.	512411 10110100	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, 5725 - 5850 MHz) Radiated Spurious Emissions, 1 - 40GHz 802.11n 40 MHz 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: 5/30/2008 Test Engineer: Rafael Varelas Test Location: FT Chamber #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 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 for measuremetns below 18GHz, 1m for scans and 3m for measurements above 18GHz.

Temperature:	19.2 °C
Rel. Humidity:	38 %

#### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1	802.11n40 Chain A	5755 MHz	29.0	16.7	Radiated Emissions, 1 - 40 GHz	FCC Part 15.209 / 15.247( c)	52.1dBµV/m @ 15743 MHz (-1.9dB)
1	802.11n40 Chain A	5795 MHz	30.0	16.7	Radiated Emissions, 1 - 40 GHz	FCC Part 15.209 / 15.247( c)	44.1dBµV/m @ 11590.0MHz (-9.9dB)

#### Modifications Made During Testing

No modifications were made to the EUT during testing

#### Deviations From The Standard

Cilent.	Intel							Job Number:	170070
								Log Number:	
Model:	512an MMW	Ι						3	
							ACCOL	int Manager:	Briggs / Eriksen
	Robert Paxn								
Standard:	RSS 210 / F	CC 15.247 E	OTS (Radiate	d)				Class:	N/A
				40000 MHz.	Operating N	lode: 802.11	In 40 MHz C	hain A	
	ow Channel								
	wer Setting:	29		• •	AP = 16.7	•	/		
					es measured				in 100kHz
Frequency	Level	Pol		15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5739.070	90.1	V	120.0	-29.9	PK	194	1.1	RB = VB = 1	
5738.730	91.3	Н	120.0	-28.7	PK	108	1.0	RB = VB = 1	IUUKHZ
	undamental e	mission laur	l@ 2m in 10		01.0		1		
Fl			tside of restr		91.3 61.3	dBµV/m	Limitic 20d		ver megeurement)
Sourious F			ISIDE OF TEST	ICLEU DAHUS:	01.3	dBµV/m	LIMILIS -300	IBC (UNII POV	wer measurement)
Spurious E Frequency	Level	Pol	15.209	15 217	Detector	Azimuth	Height	Comments	
MHz		v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
7500.020	dBμV/m 44.3	V	54.0	-9.7	AVG	249	1.0		
7500.020	53.5	V	74.0	-20.5	PK	249	1.0		
2494.170	44.0	H	54.0	-20.5	Peak	234	1.0	Pk reading,	ava limit
3832.500	40.2	V	54.0	-13.8	Peak	154	1.0	Pk reading,	
15743.310	52.1	V	54.0	-1.9	AVG	49	1.3	r k reaulity,	avy iii iii
15743.310	64.3	V	74.0	-1.9	PK	49	1.3		
11509.330	42.1	V	54.0	-11.9	AVG	205	1.3		
11509.330	53.7	V	74.0	-20.3	PK	205	1.3		
	55.7	v	74.0	20.0	ΤK	200	1.5		
	iah Channel	@ 5795 MH	z						
Run #1b: H	igh Channel wer Setting:			rage power:	AP = 16.7	(for reference	e purposes)		
Run #1b: Hi Po	wer Setting:	30.0	Ave		AP = 16.7 es measured				in 100kHz
Run #1b: H Po Fundament	wer Setting: al Signal Fie	30.0	Ave Peak and a:		es measured	in 1 MHz, ar	nd peak valu	e measured i	in 100kHz
Run #1b: Hi Po	wer Setting: al Signal Fie Level	30.0 eld Strength	Ave Peak and a:	verage value / 15.247		in 1 MHz, ar Azimuth	nd peak valu		in 100kHz
Run #1b: Hi Po Fundament Frequency	wer Setting: al Signal Fie	30.0 e <b>ld Strength</b> Pol	Ave Peak and a: 15.209	verage value	es measured Detector	in 1 MHz, ar Azimuth degrees	nd peak value Height	e measured i Comments	
Run #1b: Hi Po Fundament Frequency MHz 5780.000	wer Setting: al Signal Fie Level dBµV/m	30.0 eld Strength Pol v/h V	Ave Peak and a 15.209 Limit 120.0	verage value / 15.247 Margin	es measured Detector Pk/QP/Avg PK	in 1 MHz, ar Azimuth	nd peak value Height meters 1.0	e measured i Comments RB = VB = 1	100kHz
Run #1b: H Po Fundament Frequency MHz	wer Setting: al Signal Fie Level dBµV/m 89.9	30.0 eld Strength Pol v/h	Ave Peak and a: 15.209 Limit	verage value / 15.247 Margin -30.1	es measured Detector Pk/QP/Avg	in 1 MHz, ar Azimuth degrees 195	nd peak value Height meters 1.0	e measured i Comments	100kHz
Run #1b: H Po Fundament Frequency MHz 5780.000 5779.870	wer Setting: al Signal Fie Level dBµV/m 89.9	30.0 eld Strength Pol v/h V H	Ave : Peak and a 15.209 / Limit 120.0 120.0	verage value / 15.247 Margin -30.1 -30.0	es measured Detector Pk/QP/Avg PK PK	in 1 MHz, ar Azimuth degrees 195	nd peak value Height meters 1.0	e measured i Comments RB = VB = 1	100kHz
Run #1b: H Po Fundament Frequency MHz 5780.000 5779.870	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e	30.0 eld Strength Pol v/h V H emission leve	Ave : Peak and a 15.209 / Limit 120.0 120.0	verage value / 15.247 Margin -30.1 -30.0 00kHz RBW:	es measured Detector Pk/QP/Avg PK PK	in 1 MHz, ar Azimuth degrees 195 97	nd peak value Height meters 1.0 1.0	e measured i Comments RB = VB = <sup>-</sup> RB = VB = <sup>-</sup>	100kHz
Run #1b: H Po Fundament Frequency MHz 5780.000 5779.870	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e	30.0 eld Strength Pol v/h V H emission leve	Ave : Peak and a 15.209 Limit 120.0 120.0 el @ 3m in 10	verage value / 15.247 Margin -30.1 -30.0 00kHz RBW:	es measured Detector Pk/QP/Avg PK PK 90	n 1 MHz, ar Azimuth degrees 195 97 dBµV/m	nd peak value Height meters 1.0 1.0	e measured i Comments RB = VB = 7 RB = VB = 7	100kHz 100kHz
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 Fu Spurious E	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e	30.0 eld Strength Pol v/h V H emission leve	Ave : Peak and a 15.209 Limit 120.0 120.0 el @ 3m in 10	verage value (15.247 Margin -30.1 -30.0 00kHz RBW: icted bands:	es measured Detector Pk/QP/Avg PK PK 90	n 1 MHz, ar Azimuth degrees 195 97 dBµV/m	nd peak value Height meters 1.0 1.0	e measured i Comments RB = VB = <sup>-</sup> RB = VB = <sup>-</sup>	100kHz 100kHz
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 Fu Spurious E	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e missions	30.0 eld Strength Pol V/h V H emission leve emissions ou	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr	verage value (15.247 Margin -30.1 -30.0 00kHz RBW: icted bands:	es measured Detector Pk/QP/Avg PK PK 90 60	n 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m	nd peak value Height meters 1.0 1.0 Limit is -30c	e measured i Comments RB = VB = 7 RB = VB = 7	100kHz 100kHz
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Run #1b: H Po Fundament Frequency MHz 5780.000 5779.870 Ft Spurious E Frequency MHz 11590.000	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr 15.209 / Limit	verage value / 15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: / 15.247 Margin	es measured Detector Pk/QP/Avg PK PK 90 60 Detector Pk/QP/Avg	in 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees	Height Height Meters 1.0 1.0 Limit is -300 Height meters	e measured i Comments RB = VB = 7 RB = VB = 7 IBc (UNII pov Comments	100kHz 100kHz wer measurement)
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 5779.870 Frequency Frequency MHz 11590.000 2485.000	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m 44.1	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h V V V H	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr 15.209 / Limit 54.0	verage value / 15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: / 15.247 Margin -9.9	es measured Detector Pk/QP/Avg PK PK 90 60 Detector Pk/QP/Avg AVG	in 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees 128	hd peak value Height neters 1.0 1.0 Limit is -300 Height meters 1.0	e measured i Comments RB = VB = 7 RB = VB = 7	100kHz 100kHz wer measurement)
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 Ft Spurious E Frequency MHz 11590.000 11590.000	wer Setting: al Signal Fie dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m 44.1 55.2	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h V V V H V	Ave : Peak and a 15.209 / Limit 120.0 120.0 e! @ 3m in 10 tside of restr 15.209 / Limit 54.0 74.0	verage value (15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: (15.247 Margin -9.9 -18.8 -11.6 -10.4	es measured Detector Pk/QP/Avg PK PK 90 60 Detector Pk/QP/Avg AVG PK	n 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees 128 128	Height Height 1.0 1.0 Limit is -300 Height meters 1.0 1.0	e measured i Comments RB = VB = 7 RB = VB = 7 IBc (UNII pov Comments	100kHz 100kHz wer measurement)
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 5779.870 Frequency Frequency MHz 11590.000 2485.000	wer Setting: al Signal Fie dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m 44.1 55.2 42.4	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h V V V H	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr 15.209 / Limit 54.0 74.0 54.0	verage value (15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: (15.247 Margin -9.9 -18.8 -11.6	es measured Detector Pk/QP/Avg PK PK 90 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees 128 128 245	hd peak value Height meters 1.0 1.0 Limit is -30c Height meters 1.0 1.0 1.3	e measured i Comments RB = VB = 7 RB = VB = 7 IBc (UNII pov Comments	100kHz 100kHz wer measurement)
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Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 Frequency MHz 11590.000 11590.000 2485.000 7500.040 7500.040	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m 44.1 55.2 42.4 43.6 50.9	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h V V V H V V V	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0	verage value / 15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: / 15.247 Margin -9.9 -18.8 -11.6 -10.4 -23.1	es measured Detector PK/QP/Avg PK PK 90 60 Detector Pk/QP/Avg AVG PK Peak AVG PK Peak	in 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees 128 128 128 245 251 251	Height Height 1.0 1.0 Limit is -300 Height meters 1.0 1.0 1.0 1.3 1.0 1.0	e measured i Comments RB = VB = 7 RB = VB = 7 IBc (UNII pov Comments Pk reading,	100kHz 100kHz wer measurement)
Run #1b: Hi Po Fundament Frequency MHz 5780.000 5779.870 Frequency MHz 11590.000 11590.000 2485.000 7500.040	wer Setting: al Signal Fie Level dBµV/m 89.9 90.0 undamental e Limit for e missions Level dBµV/m 44.1 55.2 42.4 43.6 50.9 For emission	30.0 eld Strength Pol V/h V H emission leve emissions ou Pol V/h V V V H V V N V s in restricted	Ave : Peak and a 15.209 / Limit 120.0 120.0 el @ 3m in 10 tside of restr 15.209 / Limit 54.0 74.0 54.0 74.0 54.0 74.0	verage value (15.247 Margin -30.1 -30.0 00kHz RBW: icted bands: (15.247 Margin -9.9 -18.8 -11.6 -10.4 -23.1 limit of 15.2	es measured Detector PK/QP/Avg PK PK 90 60 Detector Pk/QP/Avg AVG PK Peak AVG PK 90 was used	in 1 MHz, ar Azimuth degrees 195 97 dBµV/m dBµV/m Azimuth degrees 128 128 128 245 251 251	Height Height 1.0 1.0 Limit is -300 Height meters 1.0 1.0 1.0 1.3 1.0 1.0	e measured i Comments RB = VB = 7 RB = VB = 7 IBc (UNII pov Comments Pk reading,	100kHz 100kHz wer measurement) avg limit