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EMC Test Report

Application for Grant of Equipment Authorization

Industry Canada RSS-Gen Issue 3 / RSS 210 Issue 8 FCC Part 15 Subpart C

Model: PBA5001

FCC ID: PD9PBA5001 **IC CERTIFICATION #** 1000M-PBA5001 APPLICANT: Intel Mobile Communications 100 Center Point Circle Suite 200 Columbia, SC 29210 TEST SITE(S): National Technical Systems - Silicon Valley 41039 Boyce Road. Fremont, CA. 94538-2435 IC SITE REGISTRATION #: 2845B-3; 2845B-4, 2845B-5, 2845B-7 **REPORT DATE:** October 25, 2013 FINAL TEST DATES: September 19, 20, 23, 24, 25, 26 and 30 and October 1, 2, 4, 7, 8, 9, 10 and 11, 2013 TOTAL NUMBER OF PAGES: 112

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REVISION HISTORY

Rev#	Date	Comments	Modified By
-	October 25, 2013	First release	

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SCOPE

An electromagnetic emissions test has been performed on the Intel Mobile Communications model PBA5001, pursuant to the following rules:

Industry Canada RSS-Gen Issue 3

RSS 210 Issue 8 "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 National Technical Systems - Silicon Valley test procedures:

ANSI C63.10-2009 FHSS test procedure DA 00-0705A1

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.

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 Mobile Communications model PBA5001 complied with the requirements of the following regulations:

Industry Canada RSS-Gen Issue 3

RSS 210 Issue 8 "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 modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

The test results recorded herein are based on a single type test of Intel Mobile Communications model PBA5001 and therefore apply only to the tested sample. The sample was selected and prepared by Steve Hackett of Intel Mobile Communications.

DEVIATIONS FROM THE STANDARDS

No deviations were made from the published requirements listed in the scope of this report.

TEST RESULTS SUMMARY

15.247		Description	Comments	Limit / Requirement	Result
	RSS 210	20dB Bandwidth	Basic Rate: 0. MHz EDR: 1. MHz	Channel spacing > 2/3rds 20dB BW	Complies
(a) (1)	A8.1 (1)	Channel Separation	1 MHz	2/3105 200B B W	Complies
15.247 (a) (1) (ii)	RSS 210 A8.1 (4)	Number of Channels	Min: 20 Max: 79	15 or more	Complies
15.247 (a) (1) (ii)	RSS 210 A8.1 (4)	Channel Dwell Time (average time of occupancy)	<0.4 second within a period of 0.4 x number of channels	<0.4 second within a period of 0.4 x number of channels	Complies
15.247 (a) (1)	RSS 210 A8.1 (1)	Channel Utilization	The system uses the Bluetooth algorithm and, therefore, meets all requirements for channel utilization.	All channels shall, on average, be used equally	Complies
15.247 (b) (3)	RSS 210 A8.4 (2)	Output Power	Basic rate: 5.6 dBm EDR: 0.7 dBm EIRP = 0.0 W ^{Note 1}	0.125 Watts (EIRP < 0.5 Watts)	Complies
15.247(c)	RSS 210 A8.5	Spurious Emissions – 30MHz – 25GHz	All spurious emissions < -20dBc	< -20dBc	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 25GHz	47.2 dBµV/m @ 2362.0 MHz (-6.8 dB)	15.207 in restricted bands, all others < -20dBc	Complies
15.247 (a) (1)	RSS 210 A8.1(2)	Receiver bandwidth g antenna gain of 3.2 dBi	Refer to operational description	Shall match the channel bandwidth	Complies

ADDITIONAL MEASUREMENTS

As both Bluetooth and 802.11 transmissions can occur simultaneously, radiated spurious measurements were made with both Bluetooth and 802.11 transmitting simultaneously.

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result		
15.209	RSS 210 A8.5	Radiated Spurious Emissions	53.4 dBµV/m @ 2390.0 MHz (-0.6 dB) ^{Note 1}	15.209 in restricted bands, all others <-20dBc or <-30dBc ^{Note 2}	Complies		
Note 1: Emission was second harmonic of the 802.11 signal and not an intermodulation product, but was the highest amplitude emissions observed with both Bluetooth and Wi-Fi operating simultaneously. Note 2: A limit of -30dBc was used when the maximum conducted output power was measured and a limit of -20dBc was used when maximum peak conducted output power was measured.							

FCC Rule	RSS	Description	Measured Value /	Limit / Requirement	Result
Part	Rule part	Description	Comments	Emilt / Requirement	(margin)
15.203	-	RF Connector	Not applicable as antennas are integral in host systems	Unique or integral antenna required	Complies
15.207	RSS GEN Table 2	AC Conducted Emissions	15.0 dBµV @ 7.009 MHz (-35.0 dB)	Refer to page 17	Complies
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to MPE calculations in Exhibit 11, RSS 102 declaration and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	Refer to User Manual for details	Statement required regarding non- interference	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	No detachable antenna	Statement for products with detachable antenna	Complies
-	RSP 100 RSS GEN 4.4.1	20dB Bandwidth	Basic Rate: 933 kHz EDR: 1.517 MHz	Information only	N/A

GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

MEASUREMENT UNCERTAINTIES

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level and were calculated in accordance with UKAS document LAB 34.

Measurement Type	Measurement Unit	Frequency Range	Expanded Uncertainty
RF power, conducted (power meter)	dBm	25 to 7000 MHz	$\pm 0.52 \text{ dB}$
RF power, conducted (Spectrum analyzer)	dBm	25 to 7000 MHz	$\pm 0.7 \text{ dB}$
Conducted emission of transmitter	dBm	25 to 26500 MHz	$\pm 0.7 \text{ dB}$
Conducted emission of receiver	dBm	25 to 26500 MHz	$\pm 0.7 \text{ dB}$
Radiated emission (substitution method)	dBm	25 to 26500 MHz	± 2.5 dB
Radiated emission (field strength)	dBµV/m	25 to 1000 MHz 1000 to 40000 MHz	$\frac{\pm 3.6 \text{ dB}}{\pm 6.0 \text{ dB}}$
Conducted Emissions (AC Power)	dBµV	0.15 to 30 MHz	± 2.4 dB

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Intel Mobile Communications model PBA5001 is an IEEE 802.11a/b/g/n/ac + BT 4.0 wireless network adapter module that supports 2x2 (MIMO) and 1x1 (SISO) operation and Bluetooth operation in Basic Rate, Enhanced Data Rate and Low Energy modes.

For radio testing purposes the card was installed in a test fixture that exposed all sides of the card. For digital device testing for certification under equipment code JBP the card was installed in a test fixture that exposed all sides of the card.

The sample was received on September 18, 2013 and tested on September 19, 20, 23, 24, 25, 26 and 30 and October 1, 2, 4, 7, 8, 9, 10 and 11, 2013. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Intel Mobile Communications	PBA5001	PCIe Half Mini Card form factor Bluetooth / IEEE 802.11a/b/g/n/ac wireless network adapter	001500DC7B25	PD9PBA5001

ANTENNA SYSTEM

The EUT antenna is a two-antenna PIFA antenna system – SkyCross, Inc. One or both antennas are used for WiFi operation and one for Bluetooth operation. For Bluetooth: Tx is chain B, Rx is chain B. For WiFi, only Chain A is used for transmit in the 2.4GHz band when Bluetooth is active, both chains can be used in 5GHz bands. The antenna connects to the EUT via a non-standard antenna connector, thereby meeting the requirements of FCC 15.203.

Band (MHz)	Antenna Gain
2400-2483.5	3.2 dBi
5150-5250	3.6 dBi
5250-5350	3.7 dBi
5470-5725	4.8 dBi
5725-5850	5.0 dBi

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

No modifications were made to the EUT during the time the product was at NTS Silicon Valley.

SUPPORT EQUIPMENT

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Company	Model	Description	Serial Number	FCC ID
Dell	Latitude E5400	Laptop Computer	GFZW54J	-
Agilent	E3610A	DC Power Supply	MY40001912	-
Intel	HMC-NGFF Extension REV.01	Extender board	-	-

PORTS

The cabling configuration during testing was as follows:

Port	Connected	Cable(s)				
Folt	То	Description	Shielded or Unshielded	Length(m)		
Antenna (x2)	Antenna	Coax	Shielded	0.3		
Laptop Mini PCIe slot	Extender Board PCle	Ribbon	Unshielded	0.8		
Laptop USB	Extender Board USB	Multiwire	Shielded	1.5		

EUT OPERATION

The EUT was installed into a test fixture that exposed all sides of the card. The test fixture interfaced to a laptop computer for power and control. The laptop computer was used to configure the EUT to continuously transmit at a specified output power on the channel specified in the test data. For transmit mode measurements the system was configured to operate in each of the available operating modes – 802.11b, 802.11g, 802.11n (20, 40 and 80 MHz channel bandwidths), 802.11ac (20, 40 and 80 MHz channel bandwidths), Bluetooth 1Mb/s, Bluetooth 3Mb/s and Bluetooth Low Energy. In addition radiated spurious tests were repeated with the device operating in both Bluetooth and 802.11 modes to determine if any spurious emissions due to intermodulation products were created.

The data rates used for all tests were the lowest data rates for each $802.11 \mod -1$ Mb/s for 802.11b, 6Mb/s for 802.11a and 802.11g, 6.5MB/s for 802.11n20, 13.5 Mb/s for 802.11n40, and 29.3 Mb/s for 802.11ac80. The device operates at its maximum output power at the lowest data rate (this was confirmed through separate measurements – refer to test data for actual measurements). Bluetooth operation was evaluated at both 1Mb/s and 3Mb/s data rates. 2Mb/s data rate was found, through preliminary testing, to produce emissions similar to those for 3Mb/s.

The PC was using the Intel test utility DRTU Version 1.7.1-752 for WiFi tests and 1.7.1-777 for Bluetooth mode tests and the device driver was version 16.6.0.1 for all tests.

TEST SITE

GENERAL INFORMATION

Final test measurements were taken at the test sites listed below. 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 and with industry Canada.

Site	Registration Numbers		Location
Site	FCC	Canada	Location
Chamber 3	769238	2845B-3	
Chamber 4	211948	2845B-4	41039 Boyce Road
Chamber 5	211948	2845B-5	Fremont,
Chamber 7	A2LA	2845B-7	CA 94538-2435
	accreditation	2043D-/	

ANSI C63.4 recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement. The test site(s) contain 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.

CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.10. 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 guidelines and meet the Normalized Site Attenuation (NSA) requirements of ANSI C63.4.

MEASUREMENT INSTRUMENTATION

RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1-1 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 C63.10 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 as specified in ANSI C63.4. 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 C63.10, 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.

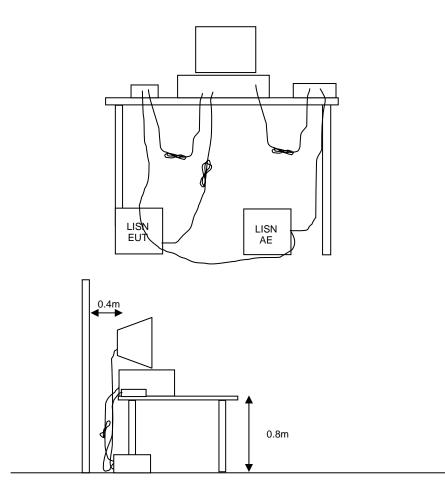


Figure 1 Typical Conducted Emissions Test Configuration

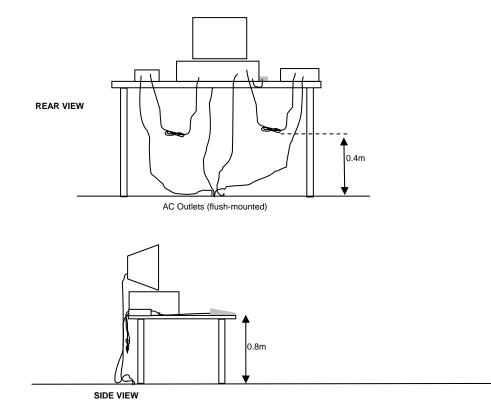
RADIATED EMISSIONS

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.

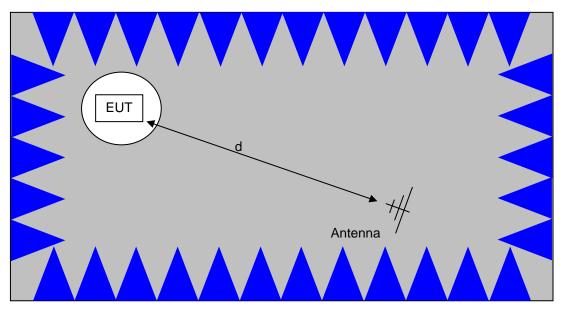
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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.

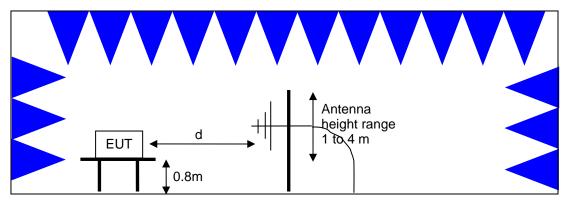


Typical Test Configuration for Radiated Field Strength Measurements



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.

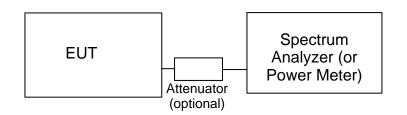
Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



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

CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements of power, bandwidth and power spectral density are performed, where possible, with the antenna port of the EUT connected to either the power meter or spectrum analyzer via a suitable attenuator and/or filter. These are used to ensure that the front end of the measurement instrument is not overloaded by the fundamental transmission.



Test Configuration for Antenna Port Measurements

Measurement bandwidths (video and resolution) are set in accordance with the relevant standards and NTS Silicon Valley's test procedures for the type of radio being tested. When power measurements are made using a resolution bandwidth less than the signal bandwidth the power is calculated by summing the power across the signal bandwidth using either the analyzer channel power function or by capturing the trace data and calculating the power using software. In both cases the summed power is corrected to account for the equivalent noise bandwidth (ENBW) of the resolution bandwidth used.

If power averaging is used (typically for certain digital modulation techniques), the EUT is configured to transmit continuously. Power averaging is performed using either the built-in function of the analyzer or, if the analyzer does not feature power averaging, using external software. In both cases the average power is calculated over a number of sweeps (typically 100). When the EUT cannot be configured to continuously transmit then either the analyzer is configured to perform a gated sweep to ensure that the power is averaged over periods that the device is transmitting or power averaging is disabled and a max-hold feature is used.

If a power meter is used to make output power measurements the sensor head type (peak or average) is stated in the test data table.

BANDWIDTH MEASUREMENTS

The 6dB, 20dB, 26dB and/or 99% signal bandwidth are measured using the bandwidths recommended by ANSI C63.10 and RSS GEN.

SPECIFICATION LIMITS AND SAMPLE CALCULATIONS

The limits for conducted emissions are given in units of microvolts, and the limits for radiated emissions are given in units of microvolts per meter at a specified test distance. Data is measured in the logarithmic form of decibels relative to one microvolt, or dB microvolts (dBuV). For radiated emissions, the measured data is converted to the field strength at the antenna in dB microvolts per meter (dBuV/m). The results are then converted to the linear forms of uV and uV/m for comparison to published specifications.

For reference, converting the specification limits from linear to decibel form is accomplished by taking the base ten logarithm, then multiplying by 20. These limits in both linear and logarithmic form are as follows:

CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(a), RSS GEN

The table below shows the limits for the emissions on the AC power line from an intentional radiator and a receiver.

Frequency (MHz)	Average Limit (dBuV)	Quasi Peak Limit (dBuV)
0.150 to 0.500	Linear decrease on logarithmic frequency axis between 56.0 and 46.0	Linear decrease on logarithmic frequency axis between 66.0 and 56.0
0.500 to 5.000	46.0	56.0
5.000 to 30.000	50.0	60.0

GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

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

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F _{KHz} @ 300m	67.6-20*log ₁₀ (F _{KHz}) @ 300m
0.490-1.705	24000/F _{KHz} @ 30m	87.6-20*log ₁₀ (F _{KHz}) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

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

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

OUTPUT POWER LIMITS - FHSS SYSTEMS

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

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

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

TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS and DTS SYSTEMS

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

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 d (meters) from the equipment under test:

 $E = \underline{1000000 \sqrt{30 P}} \text{ microvolts per meter}$

d

where P is the eirp (Watts)

For a measurement at 3m the conversion from a logarithmic value for field strength (dBuV/m) to an eirp power (dBm) is -95.3dB.

Appendix A Test Equipment Calibration Data

<u>Manufacturer</u> Radio Antenna Port (F	Description	Model	<u>Asset #</u>	<u>Cal Due</u>
Rohde & Schwarz	Power Sensor, 1 uW-100 mW, DC-18 GHz, 50ohms	NRV-Z51	1070	6/3/2014
Rohde & Schwarz	Power Meter, Single Channel, +1795+1796	NRVS	1534	7/29/2014
Radio Antenna Port (F Rohde & Schwarz	Power and Spurious Emissions) , 1 Signal Analyzer 20 Hz - 26.5 GHz	I9-Sep-13 FSQ26	2327	4/25/2014
Radiated Emissions, 1	I,000 - 6,500 MHz, 19-Sep-13			
Rohde & Schwarz	Power Sensor, 1 uW-100 mW, DC-18 GHz, 50ohms	NRV-Z51	1070	6/3/2014
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Rohde & Schwarz	Power Meter, Single Channel, +1795+1796	NRVS	1534	7/29/2014
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/22/2014
Radiated Emissions, E Rohde & Schwarz	Band edge, 20-Sep-13 Power Sensor, 1 uW-100 mW, DC-18 GHz, 50ohms	NRV-Z51	1070	6/3/2014
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Rohde & Schwarz	Power Meter, Single Channel, +1795+1796	NRVS	1534	7/29/2014
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/22/2014
Radiated Emissions, 3	30 - 6,500 MHz, 20-Sep-13			
EMCO Rohde & Schwarz	Antenna, Horn, 1-18 GHz EMI Test Receiver, 20 Hz-7 GHz	3115 ESIB7	487 1630	7/19/2014 6/22/2014
Radiated Emissions, 1 Hewlett Packard	Arrowave Preamplifier, 1- 26.5GHz	8449B	785	11/9/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	Head (Inc flex cable, 1143, 2198) Red	84125C	1145	6/26/2014
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2014
A. H. Systems Micro-Tronics	Spare System Horn, 18-40GHz Band Reject Filter, 2400-2500 MHz	SAS-574, p/n: 2581 BRM50702-02	2162 2249	7/24/2014 10/11/2013
Radiated Emissions, 1 Hewlett Packard	I ,000 - 40,000 MHz, 24-Sep-13 Microwave Preamplifier, 1- 26.5GHz	8449B	785	11/9/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	Head (Inc flex cable, 1143, 2198) Red	84125C	1145	6/26/2014
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2014

2		Report	t Date: Octo	ber 25, 2013
<u>Manufacturer</u> Hewlett Packard	<u>Description</u> High Pass filter, 8.2 GHz (Purple System)	<u>Model</u> P/N 84300-80039	<u>Asset #</u> 1767	<u>Cal Due</u> 12/5/2013
A. H. Systems Micro-Tronics	System) Spare System Horn, 18-40GHz Band Reject Filter, 5725-5875 MHz	SAS-574, p/n: 2581 BRC50705-02	2162 2241	7/24/2014 10/4/2013
Radio Antenna Port (I Agilent Technologies	Power and Spurious Emissions) , 2 3Hz -44GHz PSA Spectrum Analyzer	25-Sep-13 E4446A	2796	1/28/2014
Radio Antenna Port (I Agilent Technologies	Power and Spurious Emissions), 2 3Hz -44GHz PSA Spectrum Analyzer	27-Sep-13 E4446A	2796	1/28/2014
Radio Antenna Port (I Rohde & Schwarz	Power and Spurious Emissions), 3 Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:1031.6959.00 only	30-Sep-13 NRV-Z32	1423	9/17/2014
Rohde & Schwarz	Power Meter, Single Channel, +1795+1796	NRVS	1534	7/29/2014
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	1/28/2014
Radio Antenna Port (I Agilent Technologies Fischer Custom Comm	Power and Spurious Emissions), USB Average Power Sensor LISN, 4x 50A, 50 uH , decoupling network, 150kHz- 30MHz	01-Oct-13 U2001A FCC-LISN-50-50-4- 02-550v	2442 2776	12/17/2013 1/10/2014
Radio Antenna Port (I Agilent Technologies	Power and Spurious Emissions), (3Hz -44GHz PSA Spectrum Analyzer	02-Oct-13 E4446A	2796	1/28/2014
Radiated Emissions, S Sunol Sciences Com-Power Rohde & Schwarz	30 - 1,000 MHz, 03-Oct-13 Biconilog, 30-3000 MHz Preamplifier, 30-1000 MHz EMI Test Receiver, 20 Hz-7 GHz	JB3 PA-103 ESIB7	1548 1632 1756	8/9/2014 7/6/2014 6/8/2014
Radiated Emissions, EMCO Rohde & Schwarz Hewlett Packard	1000 - 26,500 MHz, 05-Oct-13 Antenna, Horn, 1-18GHz EMI Test Receiver, 20 Hz-7 GHz Microwave Preamplifier, 1-	3115 ESIB7 8449B	868 1756 2199	6/19/2014 6/8/2014 2/19/2014
Micro-Tronics	26.5GHz Band Reject Filter, 2400-2500	BRM50702-02	2249	10/3/2014
Hewlett Packard	MHz SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	8/24/2014
Radiated Emissions, EMCO	1 - 26 GHz, 07-Oct-13 Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	High Pass filter, 8.2 GHz (Blu System)	P/N 84300-80039 (84125C)	1392	5/14/2014
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	5/9/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	1780	12/5/2013

		Report	Date: Octol	ber 25, 2013
Manufacturer Micro-Tronics	<u>Description</u> Band Reject Filter, 2400-2500 MHz	<u>Model</u> BRM50702-02	<u>Asset #</u> 2249	<u>Cal Due</u> 10/3/2014
Hewlett Packard	Head (Inc W1-W4, 1946 , 1947) Purple	84125C	1772	6/18/2014
A. H. Systems Hewlett Packard	Red System Horn, 18-40GHz SpecAn 9 kHz - 40 GHz, (SA40) Purple	SAS-574, p/n: 2581 8564E (84125C)	2161 2415	6/10/2014 8/24/2014
Radiated Emissions, 1 Hewlett Packard	000 - 10,000 MHz, 08-Oct-13 Microwave Preamplifier, 1- 26.5GHz	8449B	785	11/9/2013
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2014
EMCO Micro-Tronics	Antenna, Horn, 1-18 GHz Band Reject Filter, 2400-2500 MHz	3115 BRM50702-02	1561 2238	7/12/2014 9/18/2014
Radiated Spurious Em	nissions, 1000 - 15,000 MHz, 09-O	ct-13		
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	785	11/9/2013
Narda West Hewlett Packard	High Pass Filter, 8 GHz SpecAn 30 Hz -40 GHz, SV (SA40) Red	HPF 180 8564E (84125C)	821 1148	3/13/2014 9/14/2014
EMCO Micro-Tronics	Antenna, Horn, 1-18 GHz Band Reject Filter, 5725-5875 MHz	3115 BRC50705-02	1561 1682	7/12/2014 3/13/2014
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	1729	8/2/2014
Micro-Tronics	Band Reject Filter, 5470-5725	BRC50704-02	1730	8/2/2014
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2238	9/18/2014
Radio Antenna Port (P Rohde & Schwarz	Power and Spurious Emissions), 1 Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:1031.6959.00 only	1 1-Oct-13 NRV-Z32	1423	9/17/2014
Rohde & Schwarz Agilent Technologies	Power Meter, Dual Channel PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	NRVD E4446A	1539 2139	8/30/2014 3/7/2014
Radio Antenna Port (P Agilent Technologies	Power and Spurious Emissions) , 1 PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	1 1-Oct-13 E4446A	2139	3/7/2014
Radiated Emissions, 3 Sunol Sciences Com-Power Rohde & Schwarz	60 - 1,000 MHz, 14-Oct-13 Biconilog, 30-3000 MHz Preamplifier, 30-1000 MHz EMI Test Receiver, 20 Hz-7 GHz	JB3 PA-103 ESIB7	1548 1632 1756	8/9/2014 7/6/2014 6/8/2014
Conducted Emissions EMCO Rohde & Schwarz Com-Power	- AC Power Ports, 14-Oct-13 LISN, 10 kHz-100 MHz EMI Test Receiver, 20 Hz-7 GHz 9KHz-30MHz, 50uH, 15Aac, 10Adc, max	3825/2 ESIB7 LI-215A	1293 1756 2671	2/14/2014 6/8/2014 5/24/2014

		Report	Date: Octol	per 25, 2013
Manufacturer	Description	<u>Model</u>	Asset #	Cal Due
-	30 - 1,000 MHz, 15-Oct-13		4540	0/0/0044
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548	8/9/2014
Com-Power	Preamplifier, 30-1000 MHz	PA-103	1632	7/6/2014
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	6/8/2014
Radiated Emissions,	1000 - 26,500 MHz, 17-Oct-13			
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	Head (Inc Ŵ1-W4, 1946 , 1947) Purple	84125C	1772	6/18/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	2/19/2014
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	8/24/2014
Radio Antenna Port (I Agilent Technologies	Power and Spurious Emissions), 1 PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	I 7-Oct-13 E4446A	2139	3/7/2014
Radiated Emissions.	1,000-3,000 MHz & Radiated Powe	r. 22-Oct-13		
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/19/2014
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	• • • •	1756	6/8/2014
Padiatod Emissions	1000 - 26,500 MHz, 23-Oct-13			
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/2/2014
Hewlett Packard	Head (Inc W1-W4, 1946 , 1947) Purple	84125C	1772	6/18/2014
A. H. Systems	Spare System Horn, 18-40GHz	SAS-574, p/n: 2581	2162	7/24/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	2/19/2014

Appendix B Test Data

T93372 Pages 27 – 111



EMC Test Data

Job Number: J93358
T-Log Number: T93372
Project Manager: Christine Krebill
Project Coordinator: -
Class: B
Environment: Radio

EMC Test Data

For The

Intel Corporation

Product

PBA5001

Date of Last Test: 10/24/2013

EMC Test Data

	The Engline English Southeast			
Client:	Intel Corporation	Job Number:	J93358	
Model	PBA5001	T-Log Number:	Т93372	
wodel:	F DAJUU I	Project Manager:	Christine Krebill	
Contact:	Steve Hackett	Project Coordinator:	-	
Standard:	FCC Part 15.247, 15.407	Class:	N/A	

Power vs. Data Rate

In normal operating modes the card uses power settings stored on EEPROM to set the output power. For a given nominal output power the actual transmit power normally is reduced as the data rate increases, therefore testing was performed at the data rate in the mode with this power to determine compliance with the requirements.

The following power measurements were made using a GATED average power meter and with the device configured in a continuous transmit mode on Chain 1 at the various data rates in each mode to verify the highest power mode:

Sample Notes

MAC Address: 001500DC7B25 DRTU Tool Version 1.7.1-752, Driver version 16.6.0.1 (WiFi only) MAC Address: 001500DC7B25 DRTU Tool Version 1.7.1-777, for ac80 mode (10/1/13) MAC Address: 001500DC7B29 DRTU Tool Version 1.7.1-777, Driver version ??? (BT basic & enhanced)

Date of Test: 9/18/2013 Test Engineer: Jack Liu Test Location: FT chamber # 4

2.4GHz -20MHz

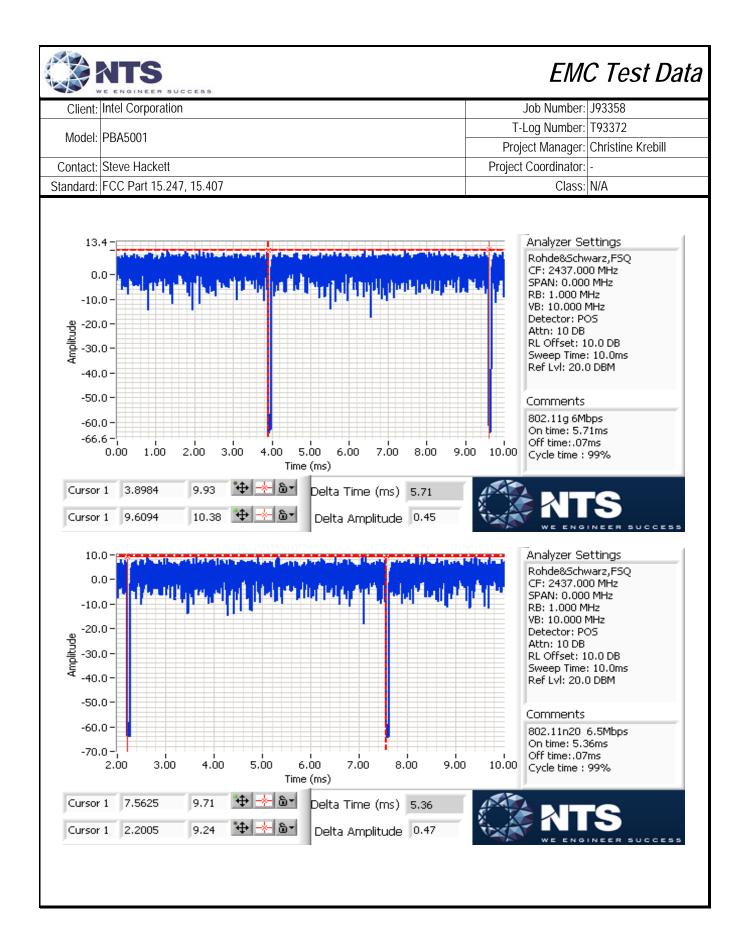
NTS

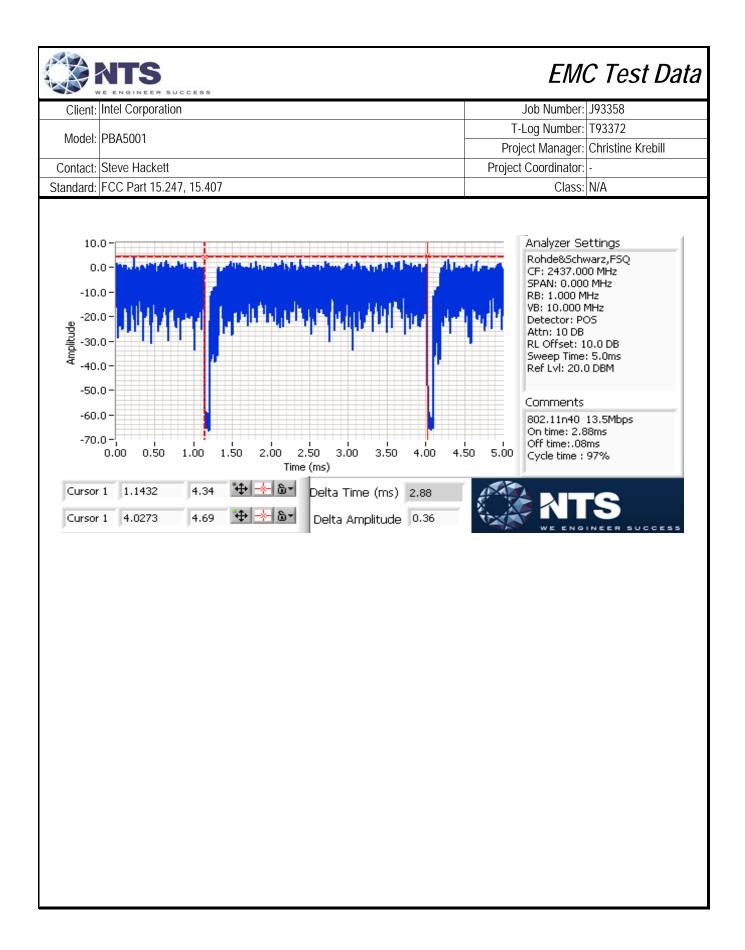
Mode	Data Rate	Power (dBm)	Power setting
	1	15.4	
802.11b	2	15.4	20.0
002.110	5.5	15.3	20.0
	11	15.3	
	6	14.6	
	9	14.5	
	12	14.5	
900.11a	18	14.5	20.0
802.11g	24	14.4	20.0
	36	14.3	
	48	14.3]
	54	14.2	

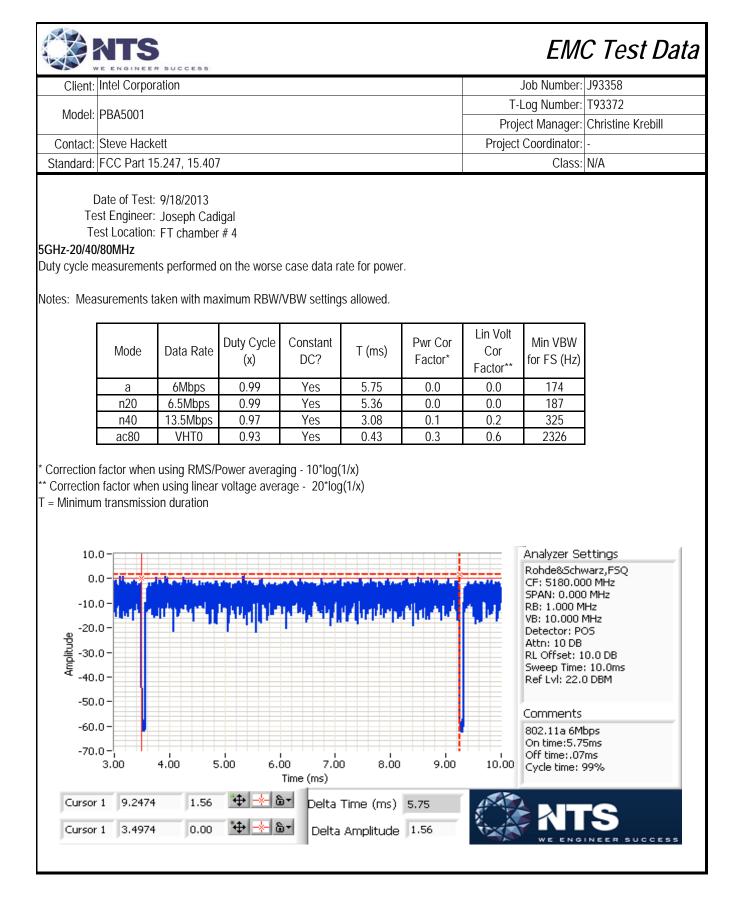
Client.	ntel Corporation	Job Number:		J93358		
Model I	PBA5001			T-Log Number:		
				Christine Krebill		
	Steve Hackett	Project	Coordinator:			
	rd: FCC Part 15.247, 15.407 Date of Test: 9/18/2013				Class:	N/A
Tes	st Engineer: Joseph Cadi st Location: FT chamber Hz -20/40MHz Mode		Power (dBm)	Power	1	
F	Mode			setting	4	
		6.5 13	14.9 14.7	20.0		
	802.11n/ac 20MHz	13	14.7			
		26	14.4			
		39	14.4			
		52	14.2			
		58.5	14.3			
		65	14.2			
L		78			<<-11ac mode only	node only
	802.11n/ac 40MHz	13.5	15.0	20.0		
		27 40.5	14.6 14.3			
		40.5 54	14.3			
		81	14.0			
		108	13.9			
		121.5	13.9			
		135	13.8			
		162			<<-11ac r	
L		180			<<-11ac r	node only

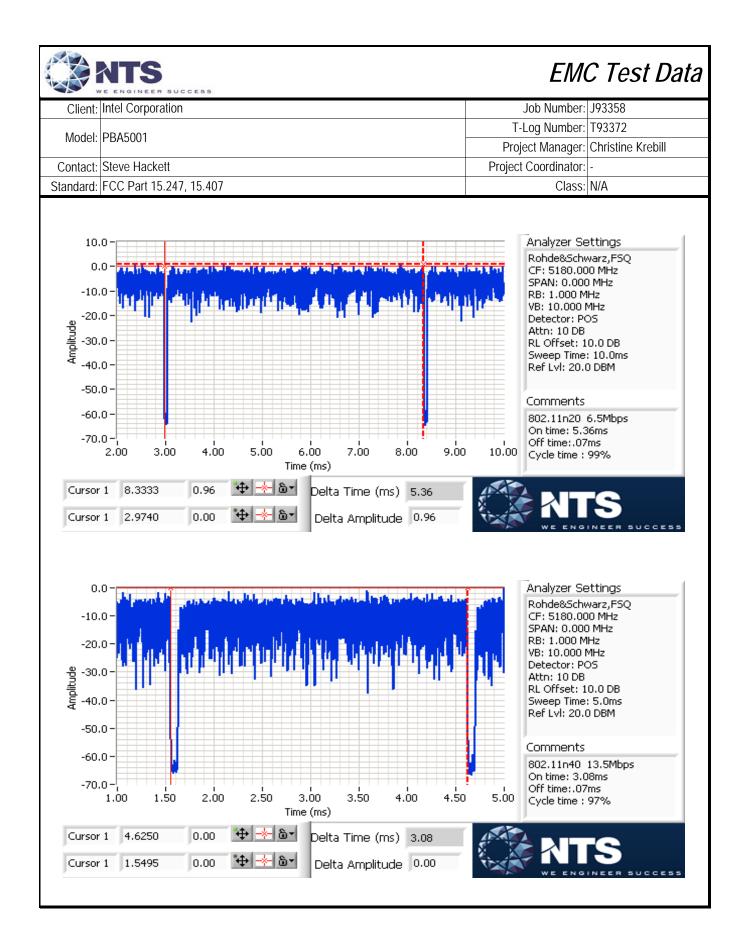
ntel Corporation			Job Number: J93358	
PBA5001	T-	Log Number: T93372		
PDAJUUT	Project Manager: Christine K			
Steve Hackett	Project Coordinator: -			
FCC Part 15.247, 15.407		Class: N/A		
-20/40/80MHz				
Mode	Data Rate	Power (dBm)	Power setting	1
	6.5	7.1	Setting	4
	13	7.0	1	
	19.5	7.0	1	
000 44 - 1	26	6.7	1	
802.11n/ac	39	6.5	20.0	
20MHz	52	6.4	1	
	58.5	6.4	1	
	65	6.5	1	
	78	6.0		<<-11ac mode only
	13.5	6.4		
	27	6.4		
	40.5	6.3		
	54	6.3		
802.11n/ac	81	6.2	20.0	
40MHz	108	6.1	20.0	
	121.5	6.1	1	
			4	
				<<-11ac mode only
	180	6.0		<<-11ac mode only
ate of Test: 10/1/2013 tt Engineer: John Caizzi	135 162 180	6.1 6.0 6.0		<<-11ac mode only <<-11ac mode only
st Location: Lab 4A			1	•
	29.3	4.4	4	
	58.5	4.3	4	
	87.8	4.2	4	
902 1100	117	4.1	-	
802.11ac 80MHz	175.5 234	4.0 3.9	20.0	
ουινίπζ	234 266.3	3.9	-	
	200.3	3.8	-	
	<u> </u>		_	
	351	3.8 3.7		
	390	5.7		

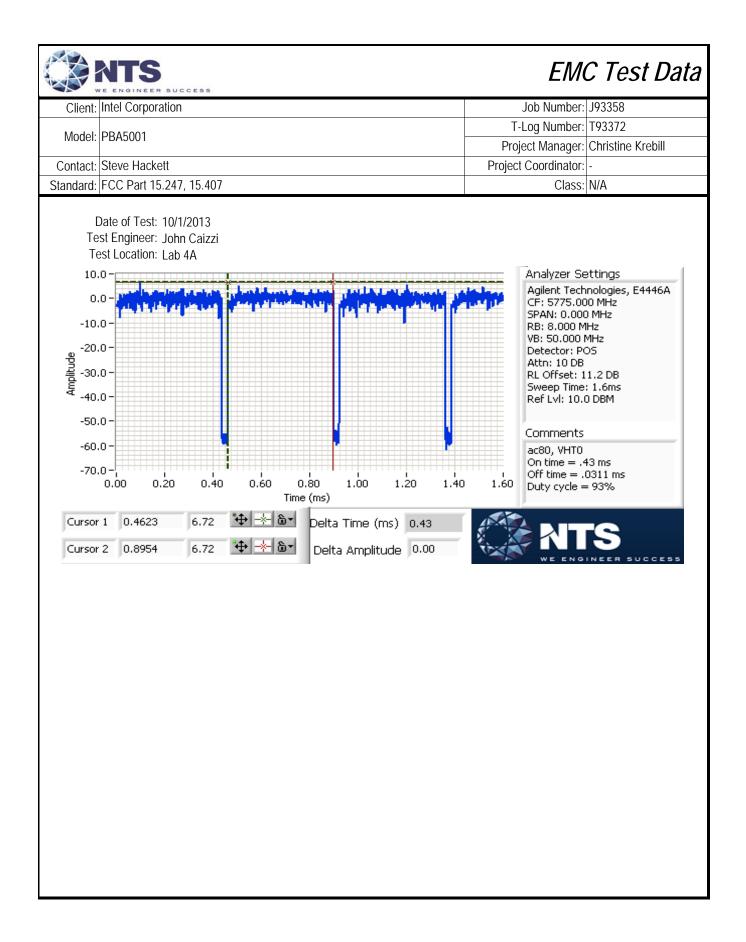
EMC Test Data ENGINEER SUCCESS Client: Intel Corporation Job Number: J93358 T-Log Number: T93372 Model: PBA5001 Project Manager: Christine Krebill Contact: Steve Hackett Project Coordinator: Standard: FCC Part 15.247, 15.407 Class: N/A **Duty Cycle** Date of Test: 9/18/2013 Test Engineer: Joseph Cadigal Test Location: FT chamber # 4 2.4GHz - 20/40MHz Duty cycle measurements performed on the worse case data rate for power. Notes: Measurements taken with maximum RBW/VBW settings allowed. Lin Volt Duty Cycle Constant Pwr Cor Min VBW Mode Data Rate T (ms) Cor DC? Factor* for FS (Hz) (X) Factor** 0.99 11b 1Mbps Yes 5.94 0.0 0.0 168 11g 0.99 5.71 0.0 0.0 175 6Mbps Yes n20 6.5Mbps 0.99 Yes 5.36 0.0 0.0 187 n40 13.5Mbps 0.97 2.88 0.1 0.2 347 Yes Correction factor when using RMS/Power averaging - 10*log(1/x) * Correction factor when using linear voltage average - 20*log(1/x) T = Minimum transmission duration 10.0 Analyzer Settings Rohde&Schwarz,FSQ 0.0 CF: 2437.000 MHz SPAN: 0.000 MHz -10.0 RB: 1.000 MHz VB: 10.000 MHz -20.0 Detector: POS Amplitude Attn: 10 DB -30.0 RL Offset: 10.0 DB Sweep Time: 10.0ms -40.0 Ref Lvl: 20.0 DBM -50.0 Comments -60.0 802.11b 1Mbps On time: 5.94ms -70.0-Off time:.07ms 1.00 2.00 з.00 4.00 5.00 6.00 7.00 8.00 9.00 10.00 0.00 Cycle time : 99% Time (ms) + 9.3490 3.18 *-|ն-| Delta Time (ms) 5.94 Cursor 1 4 <u>-</u>6-Cursor 1 3.4089 3.93 Delta Amplitude 0.76



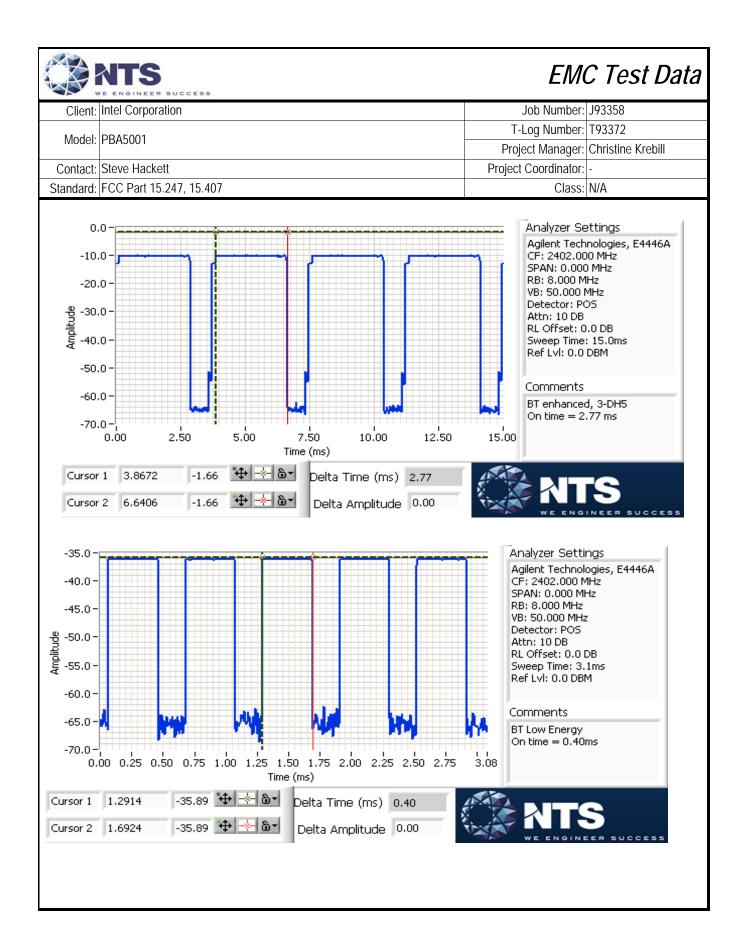








Client:	Intel Corpora	ation						Job Number: J933	358
Madalı	PBA5001						T-	Log Number: T93	372
wouer:	PBA3001						Proj	ect Manager: Chri	stine Krebill
	Steve Hacke						Project	Coordinator: -	
indard:	FCC Part 15	5.247, 15.407	7					Class: N/A	
Te T∉ tooth	est Location:	John Caizzi Lab 4A	a 10/16/2013 & Joseph Ca	-	s allowed				
s: mea	surements ta	aken with ma		VBW setting	is allowed.				
	Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
	Basic	DH5	0.77	Yes	2.89	1.1	2.3	346	
	Enhanced LE factor when	3-DH5 BLE using RMS/F	0.77 0.73 0.66 Power averag	Yes Yes jing - 10*log(2.77 0.40	1.1 1.3 1.8	2.3 2.7 3.6	346 361 2500	
rrectior	Enhanced LE factor when	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361	
rrectior	Enhanced LE factor when n factor wher n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settin	
rrectior 1inimun	Enhanced LE factor when n factor wher n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settin Agilent Technolog CF: 2402.000 MF	jies, E4446A Iz
rrectior linimun 0. -10. -20.	Enhanced LE factor when n factor wher n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settine Agilent Technolog CF: 2402.000 MH SPAN: 0.000 MHz RB: 8.000 MHz VB: 50.000 MHz	jies, E4446A Iz
rrectior linimun 0. -10. -20.	Enhanced LE factor when n factor wher n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settin Agilent Technolog CF: 2402.000 MHz SPAN: 0.000 MHz RB: 8.000 MHz VB: 50.000 MHz Detector: POS Attn: 10 DB RL Offset: 0.0 DE	gies, E4446A Iz :
rrectior (inimun -10. -20. -20. -30.	Enhanced LE factor when n factor when n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	Analyzer Settin Agilent Technolog CF: 2402.000 MH SPAN: 0.000 MH2 RB: 8.000 MH2 VB: 50.000 MH2 Detector: POS Attn: 10 DB	gies, E4446A Iz :
rrectior (inimun -10. -20. -20. -30. -50.	Enhanced LE factor when n factor when n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settine Agilent Technolog CF: 2402.000 MHz RB: 8.000 MHz VB: 50.000 MHz Detector: POS Attn: 10 DB RL Offset: 0.0 DB Sweep Time: 15.1	gies, E4446A Iz :
rrectior اinimun -10. -20. ههریالط -40.	Enhanced LE factor when n factor when n transmissio	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averaç	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settin Agilent Technolog CF: 2402.000 MHz BPAN: 0.000 MHz VB: 50.000 MHz VB: 50.000 MHz VB: 50.000 MHz Detector: POS Attn: 10 DB RL Offset: 0.0 DB Sweep Time: 15.0 Ref Lvl: 0.0 DBM Comments BT basic, DH5	gies, E4446A lz ? } Jms
rrectior linimun -10. -20. -20. -30. -30. -50.	Enhanced LE factor when n factor when n transmissio 0	3-DH5 BLE using RMS/F using linear	0.73 0.66 Power averag	Yes Yes jing - 10*log(2.77 0.40	1.3	2.7	361 2500 Analyzer Settin Agilent Technolog CF: 2402.000 MHz RB: 8.000 MHz VB: 50.000 MHz VB: 50.000 MHz VB: 50.000 MHz VB: 50.000 MHz Detector: POS Attn: 10 DB RL Offset: 0.0 DB Sweep Time: 15.0 Ref Lvl: 0.0 DBM	gies, E4446A lz ? } Jms



	E EROREER DOODEDD		
Client:	Intel Corporation	Job Number:	J93358
Madal	PBA5001	T-Log Number:	Т93372
wouer.	F DAGOUT	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15.247, 15.407	Class:	N/A

FCC 15.247 FHSS - Power, Bandwidth and Spurious Emissions

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.

General Test Configuration

TS

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators used.

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

Ambient Conditions:

Temperature:	25 °C
Rel. Humidity:	30 %

Summary of Results

MAC Address: 001500DC7B25, DRTU Tool Version 1.7.1-777, Driver version 16.6.0.1

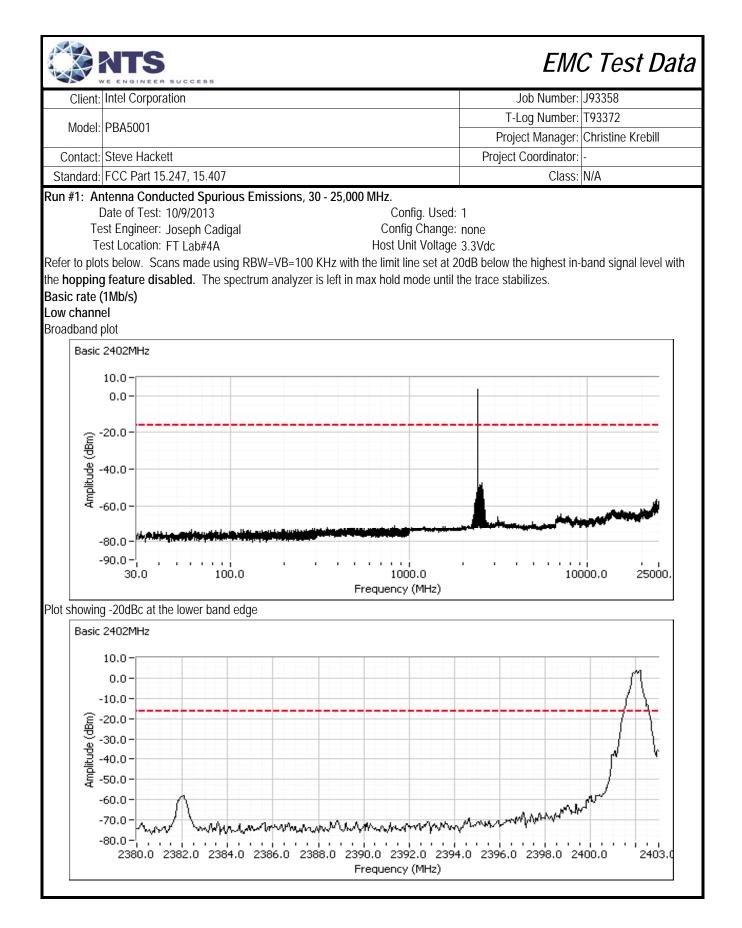
				-
1	30 - 25,000 MHz - Transmitter Conducted Spurious Emissions	FCC Part 15.247(c)	Pass	All emissions below -20dBc limit
2	Output Power	15.247(b)	Pacc	Basic Rate: 5.6 dBm (0.0036 W) EDR: 0.7 dBm (0.0011 W)
3	20dB Bandwidth	15.247(a)	Pass	Basic Rate: 933 kHz EDR: 1517 kHz
3	99% bandwidth	15.247(a)	Pass	Basic Rate: 874 kHz EDR: 1373 kHz
3	Channel Occupancy	15.247(a)	Pass	Complies with Bluetooth protocol
3	Number of Channels	15.247(a)	Pass	79 channels

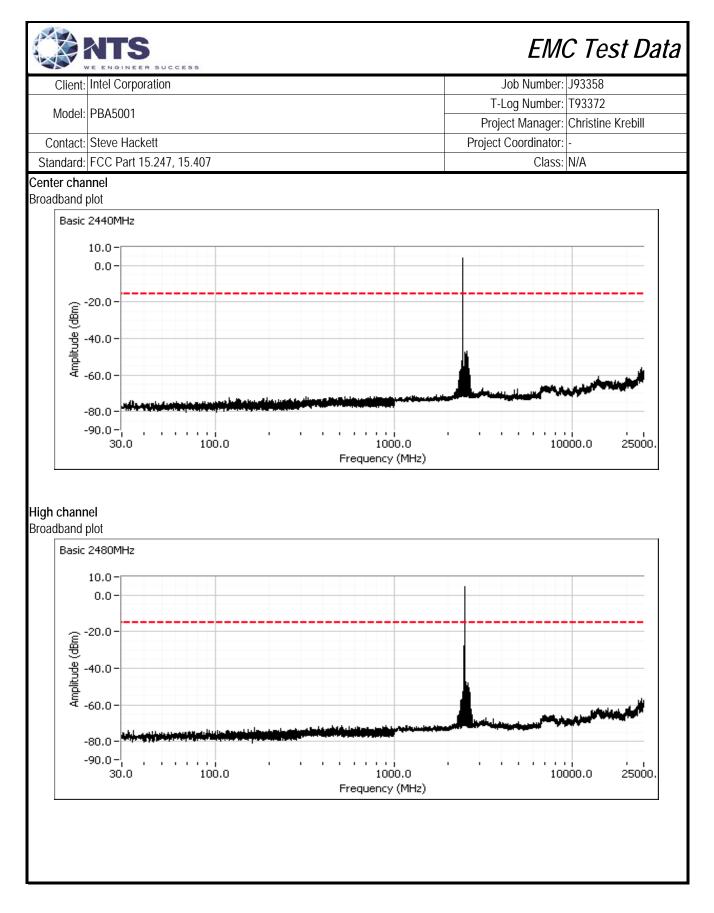
Modifications Made During Testing:

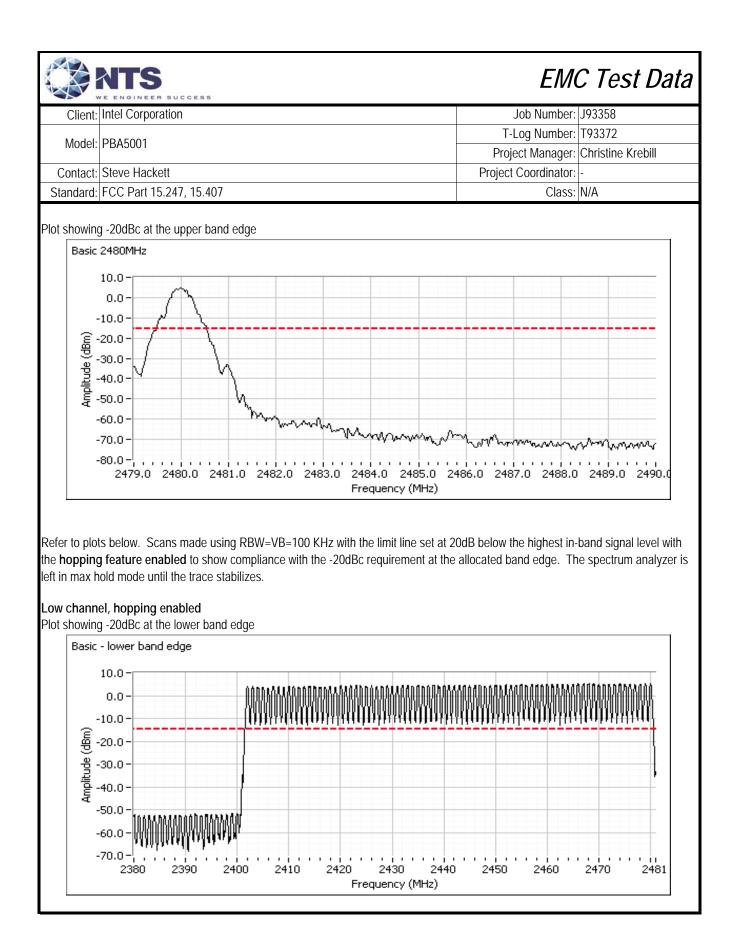
No modifications were made to the EUT during testing

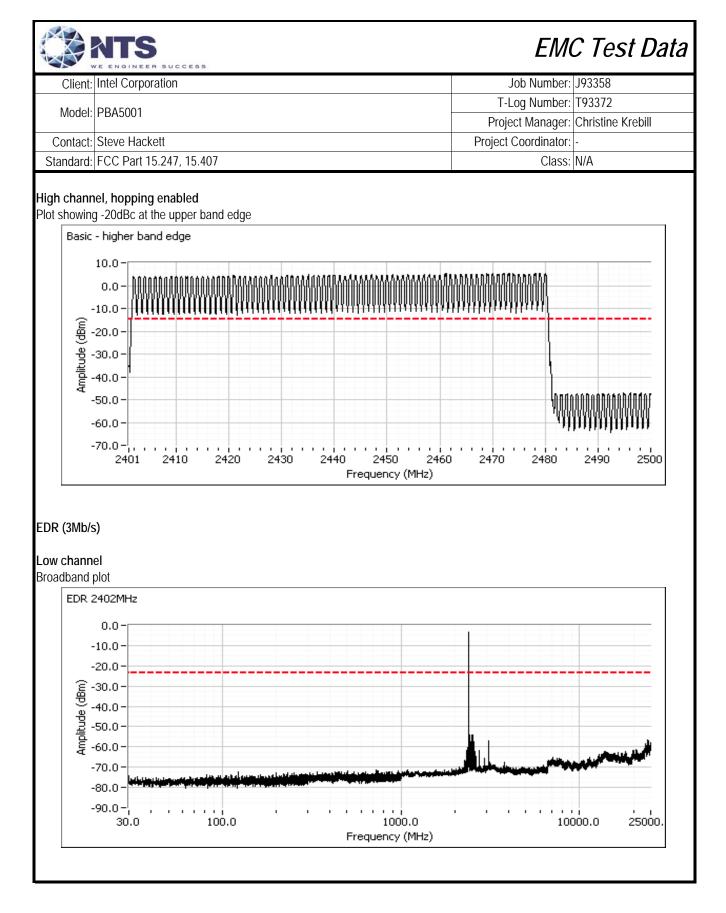
Deviations From The Standard

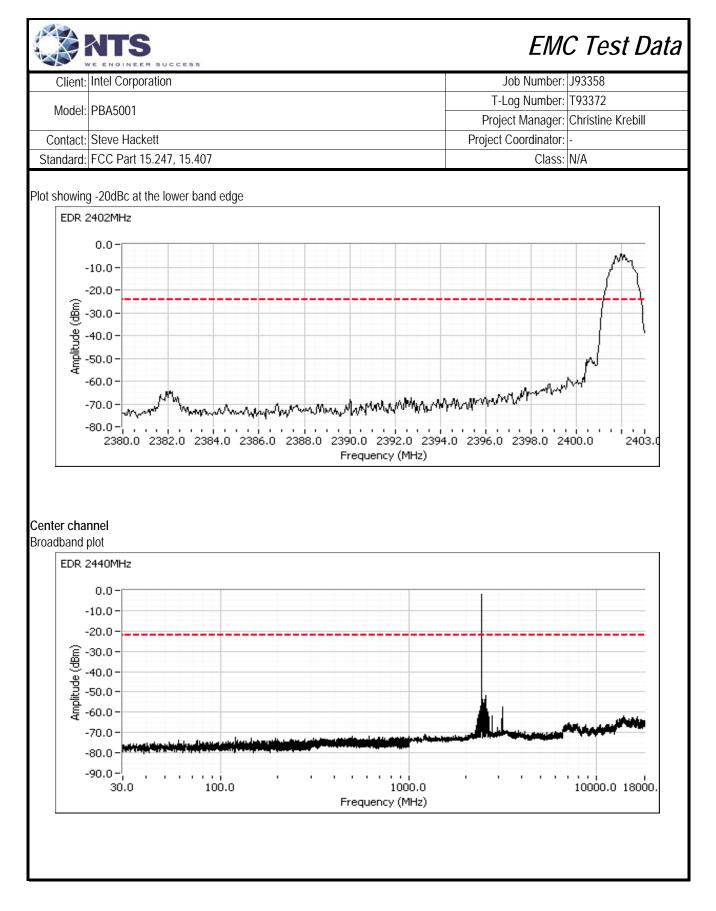
No deviations were made from the requirements of the standard.

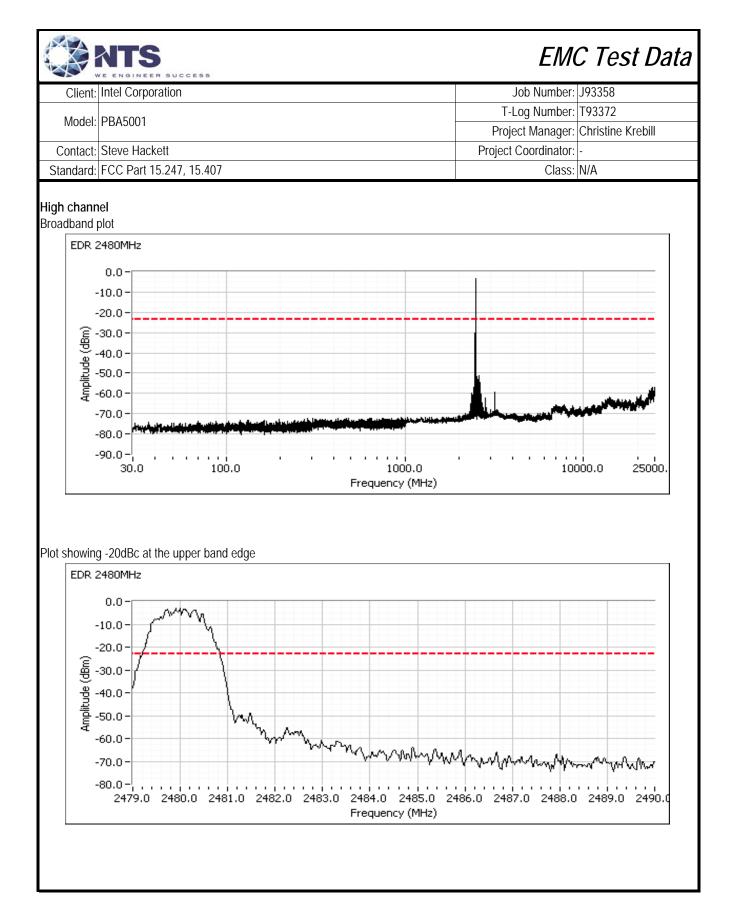












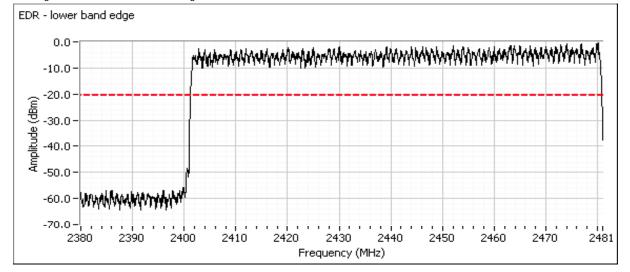
	E ENGINEER SUCCESS		
Client:	Intel Corporation	Job Number:	J93358
Madal	PBA5001	T-Log Number:	T93372
wouer.	PBA3001	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15.247, 15.407	Class:	N/A

Refer to plots below. Scans made using RBW=VB=100 KHz with the limit line set at 20dB below the highest in-band signal level with the **hopping feature enabled** to show compliance with the -20dBc requirement at the allocated band edge. The spectrum analyzer is left in max hold mode until the trace stabilizes.

Low channel, hopping enabled

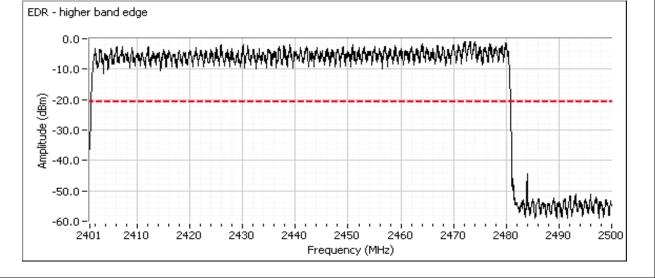
ATS

Plot showing -20dBc at the lower band edge

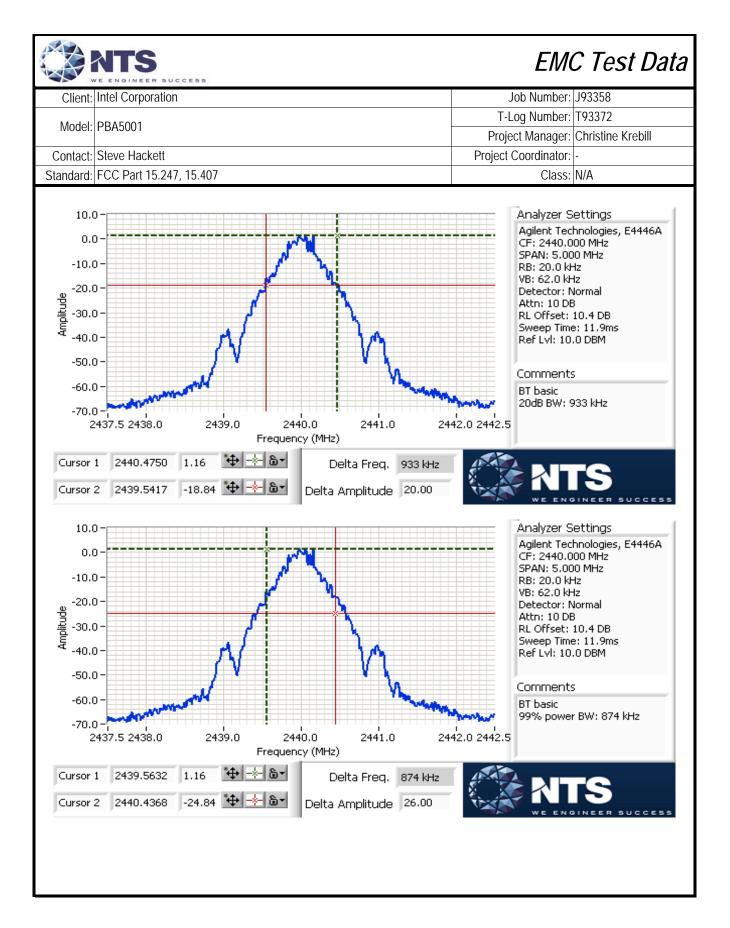


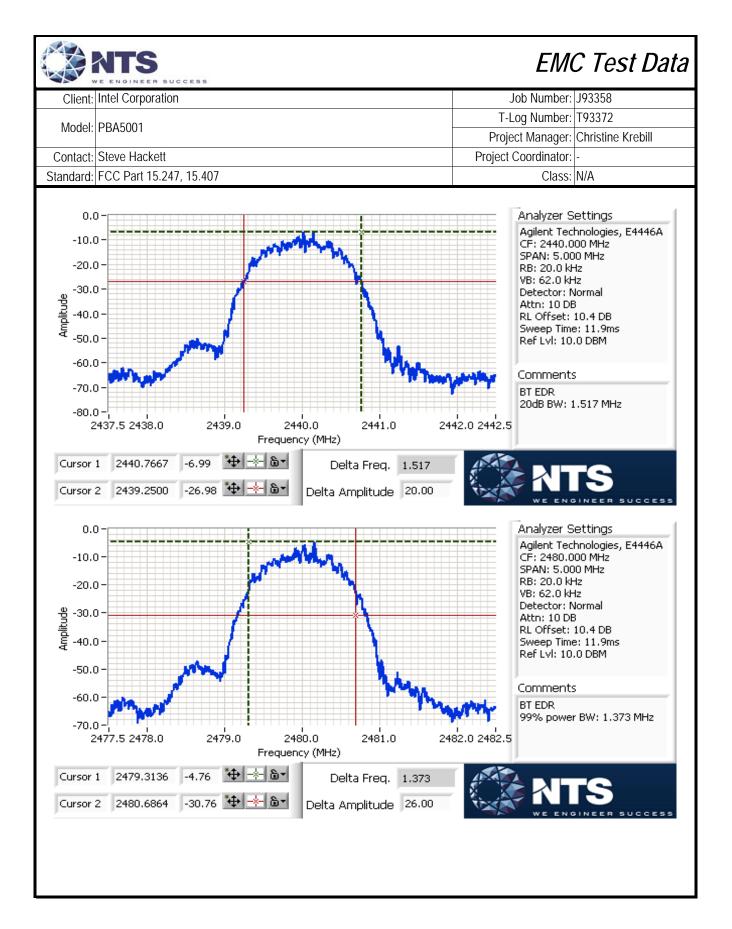
High channel, hopping enabled

Plot showing -20dBc at the upper band edge



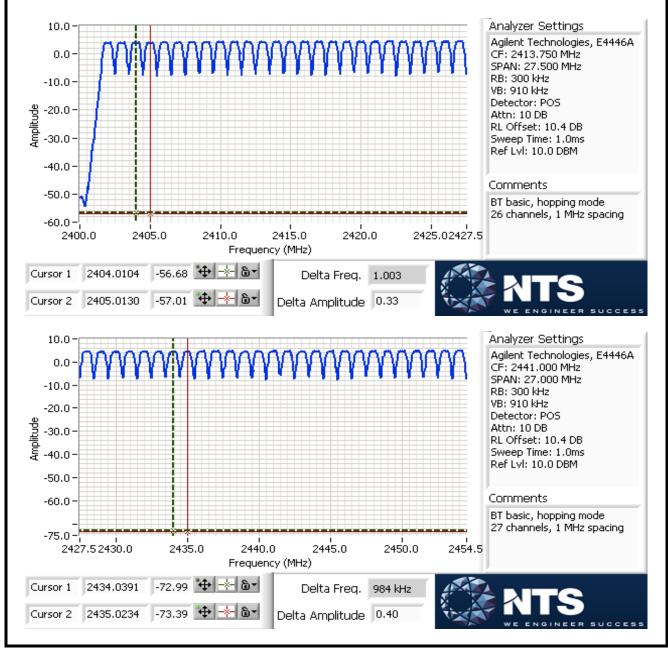
		SUCCESS					EMO	C Test	' Data
Client:	Intel Corpora	ation				J	ob Number:	J93358	
							og Number:		
Model:	PBA5001						ct Manager:		ehill
Contact	Steve Hacke	\ 11				2	ě		CDIII
						Project	Coordinator:		
		.247, 15.407					Class:	N/A	
	utput Power								
	Date of Test:				onfig. Used:				
	est Engineer:	Joseph Cadigal			nfig Change: Unit Voltage				
		r i Lab#4A stems operating in the	2100 2183 5		•		ovorlanning	honning cha	nnols and
		stems in the 5725-5850			empioying at		-ovenapping	nopping cha	inneis, anu
	, ,, , ,	opping systems in the 2			125 watts				
	inequency in		2400-2403.31	vii iz bariu. U	. 125 Walls.				
Ν	Aaximum ante	enna gain: 3.2	dBi						
Mode	Channel	Frequency (MHz)	Res BW	Pavg	Output Po	wer (dBm)	Output P	ower (W)	EIRP (W)
	Low	2402			4	.2	0.0	026	0.0055
Basic	Mid	2440			5	.0	0.0	032	0.0066
	High	2480				.6	0.0		0.0076
	Low	2402				.1	0.0		0.0016
EDR	Mid	2440).1	0.0		0.0020
	High	2480			0	.7	0.0	012	0.0025
Note 1:	and RB > 20	er is measured as a pea odB bandwidth. The ac	tual method ι	used was a p	eak power n	neter.		5	
Note 2:	•	e test utility software se ver meter and is provid	0		ce only. Pav	g is the avera	age output p	ower measu	red with an
I Te	ndwidth, Ch Date of Test: est Engineer: est Location:	John Caizzi	acing and N	C Cor	nannels Config. Used: nfig Change: Unit Voltage	none			T
Mode	Channel	Frequency (MHz)	Resolution Bandwidth	20dB Band	width (kHz)	Resolution Bandwidth	99% Band	width (kHz)	
	Low	2402			25		86		
Basic	Mid	2440			33		87		
	High	2480	20 kHz		33	20 kHz		55	
	Low	2402			517			73	
EDR	Mid	2440			517			64	
	High	2480		15	00		13	73	
Note 1.		idth mooren is a bar							
Note 1:		ridth measured using R							
Note 2:	77% Danawi	dth measured using RI	5 = 20 KHZ, V	ы = 02 КНХ (vd>=3KR)				

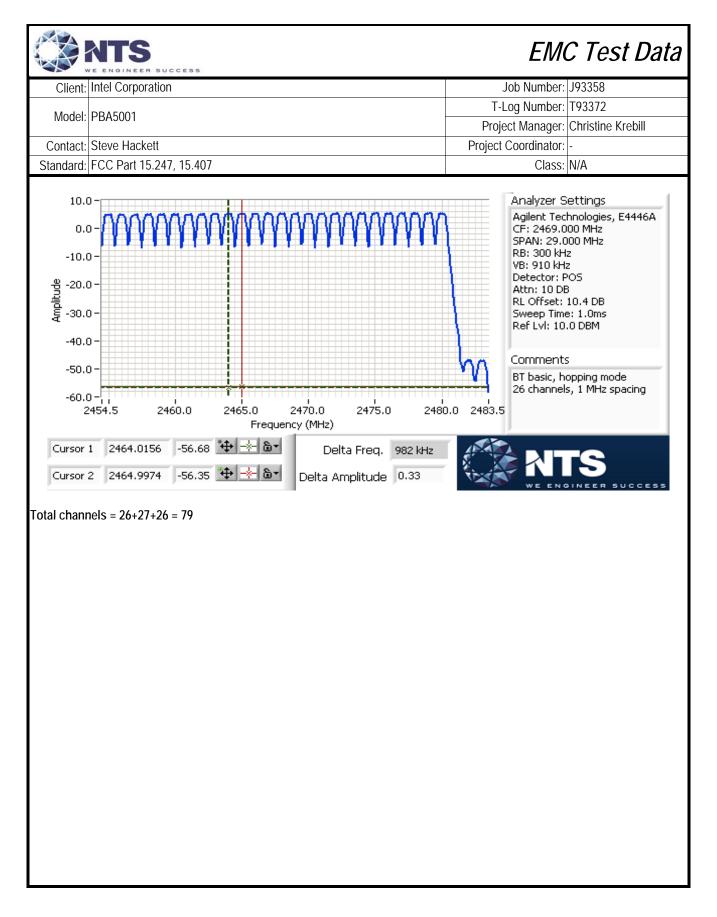


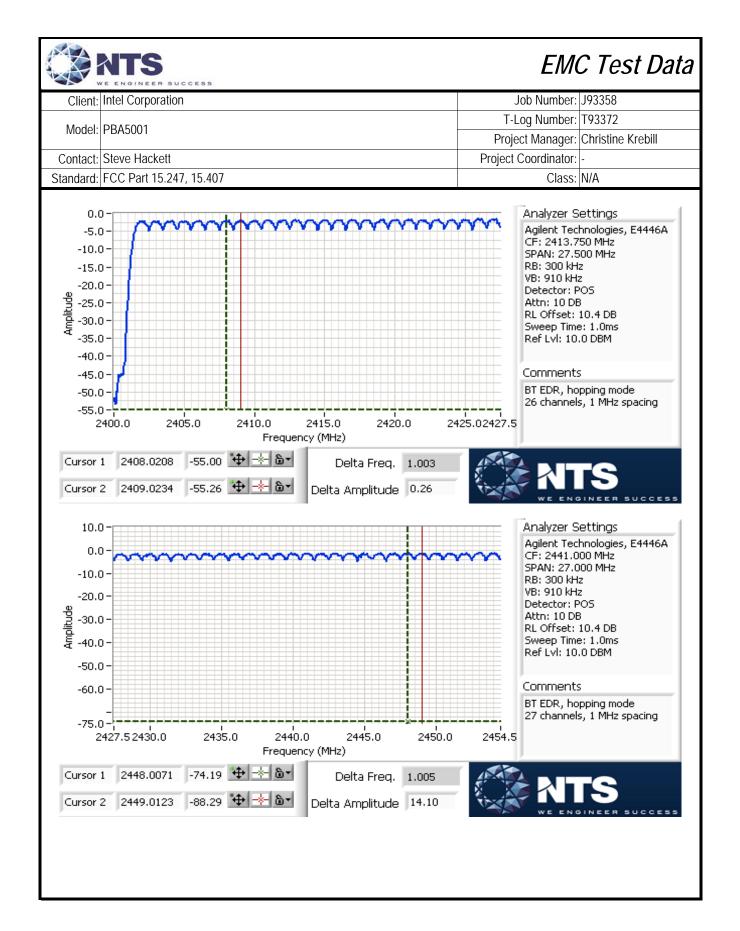


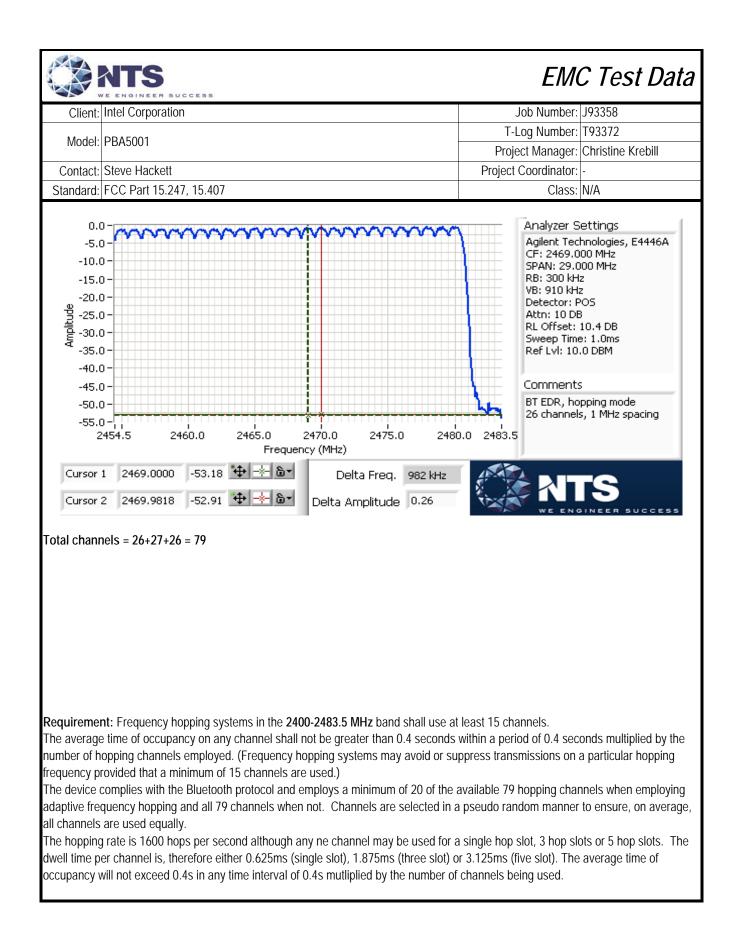
	E ENGINEER BUCCESS	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J93358
Madal	PBA5001	T-Log Number:	Т93372
wouer.	PBA3001	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15.247, 15.407	Class:	N/A

The channel spacing is 1MHz with a minimum of 20 channels and a maximum of 79 channels used. See plots below showing all 79 channels, with first channel at 2402 MHz and last channel at 2480 MHz









Client:	Intel Corporation	Job Number:	J93358
Model	PBA5001	T-Log Number:	T93372
wouer.	PDA3001	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DSS) Radiated Spurious Emissions

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.

General Test Configuration

UCCESS

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

Ambient Conditions:

Temperature:	24 °C
Rel. Humidity:	40 %

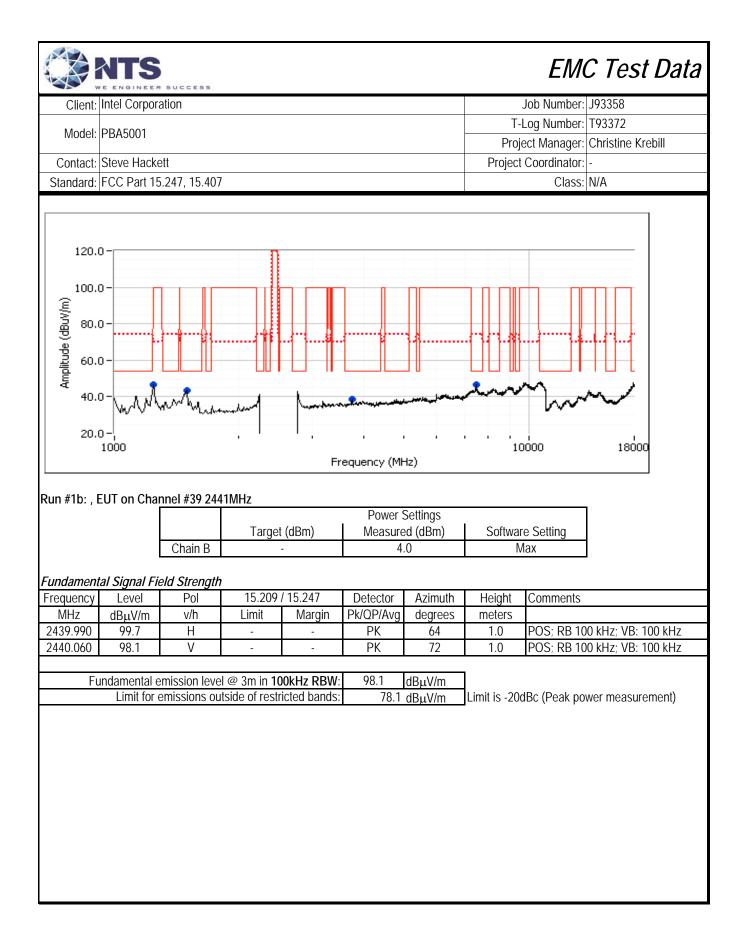
Summary of Results - Device Operating in the 2400-2483.5 MHz Band

MAC Address: 001500DC7B25 DRTU Tool Version 1.7.1-777, Driver version 16.6.0.1

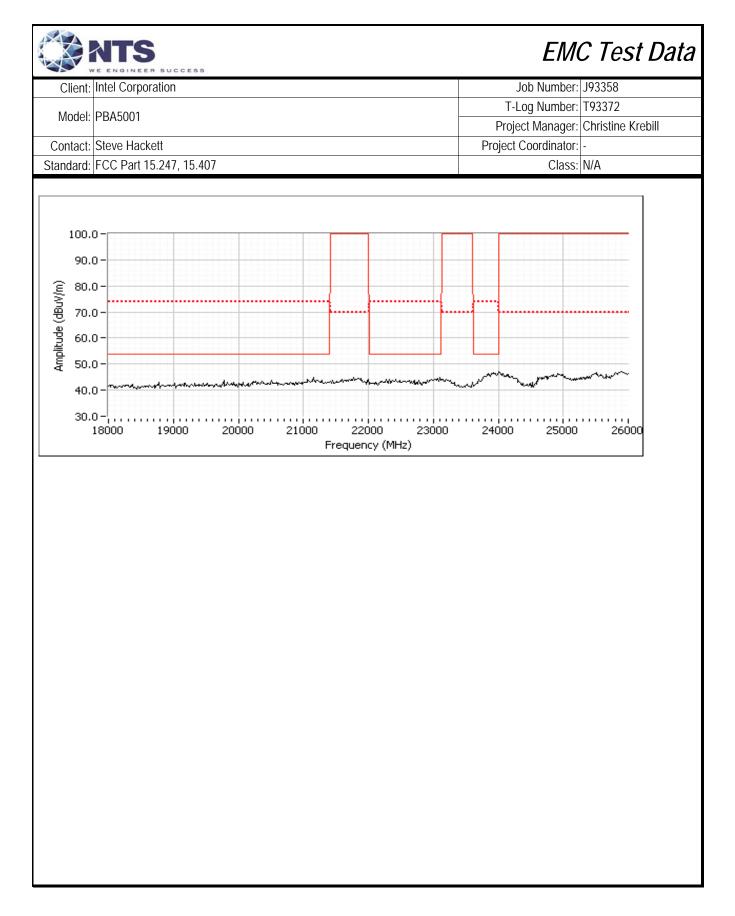
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1a	Bluetooth	low	Мах	3.3	Restricted Band Edge (2390 MHz) Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	47.2 dBμV/m @ 2362 MHz (-6.8 dB) 42.7 dBμV/m @ 7467 MHz (-11.3 dB)
1b	basic rate	center	Max	4.0	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	42.6 dBµV/m @ 7454 MHz (-11.4 dB)
1c	(1Mb/s)	high	Мах	4.6	Restricted Band Edge (2483.5 MHz) Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	41.3 dBμV/m @ 2500 MHz (-12.7 dB) 56.2 dBμV/m @ 1199 MHz (-17.8 dB)
2a	Bluetooth	low	Мах	-3.1	Restricted Band Edge (2390 MHz) Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	38.6 dBµV/m @ 2362 MHz (-15.4 dB) 43.0 dBµV/m @ 7496 MHz (-11.0 dB)
2b	EDR	center	Max	-2.3	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	42.9 dBµV/m @ 7461 MHz (-11.1 dB)
2c	(3 Mb/s)	high	Мах	-1.5	Restricted Band Edge (2483.5 MHz) Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	37.7 dBµV/m @ 2483 MHz (-16.3 dB) 43.2 dBµV/m @ 7496 MHz (-10.8 dB)

	WE ENGINEED	SUCCESS							
Client:	Intel Corpora	tion						Job Number:	J93358
								Log Number:	
Model:	PBA5001							•	Christine Krebill
Contact:	Steve Hacke	tt						Coordinator:	
Standard:	FCC Part 15	.247, 15.407	1					Class:	
	tions Made	•	0	sting					
No deviation	ns From Th	from the red	quirements o				,		
	arget and mea r is set using '					average pov	ver sensor)	and are used	for reference purpose
Correctior	Antenna: Basic da Duty Cycle: Factor (dB)	0.770		Duty Cycle:					
	()		0011001101		2.1				
short period A maxin The hop With a n The max The ave As this is a neasured w value for fre Run #1: Ra	ses a frequent of time. The num length pa ping rate is 10 ninimum of 20 ximum dwell ti rage correction hopping radio	cy hopping a average cor cket has a c 500 hops/se hopping ch ime in a 100 on factor is, t this correcti continuousi na radios bu ous Emissi 10/4/2013 Joseph Cad	algorithm that rrection facto luration of 5 t cond so the r annels a cha ims period is therefore, 201 ion factor car ly transmittin ut this correct ions, 1000-20 igal //Hz	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 ion was not 6000 MHz. 0	t the device, d ed as follows: well time is 5/ be used more is = 12.5ms.)) =-18dB to the averag 705 permits th applied. Operating Mo Te Con	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: ifig Change: Settings	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none	ns. Oms period. vided the ave rrection on the //b/s) er#4	pecific channel for a rage value was e measured average
Bluetooth us short period A maxin The hop With a n The maz The ave As this is a neasured w value for fre Run #1: Ra	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti rage correction hopping radio vith the device cauency hoppi adiated Spuri Date of Test: est Engineer:	cy hopping a average cor cket has a c 500 hops/se hopping ch ime in a 100 on factor is, t this correcti continuousi na radios bu ous Emissi 10/4/2013 Joseph Cad	algorithm that rrection facto luration of 5 t cond so the r annels a cha ims period is therefore, 201 ion factor car ly transmittin ut this correct ions, 1000-20 igal //Hz	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 tion was not	t the device, d ed as follows: well time is 5/ be used more s = 12.5ms.) =-18dB to the averag 705 permits th applied. Operating Mc Te Con	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: ifig Change: Settings ed (dBm)	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none Softwar	ns. Oms period. vided the ave rrection on the Mb/s)	rage value was
Bluetooth us hort period A maxin The hop With a n The max The ave s this is a heasured w alue for fre Run #1: Ra I Run #1a, E	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti rage correction hopping radio vith the device cauency hoppi adiated Spuri Date of Test: est Engineer:	cy hopping a average cor cket has a c 500 hops/se hopping ch me in a 100 on factor is, t this correcti continuous na radios bu ous Emissi 10/4/2013 Joseph Cad el #1 2402M Chain B	algorithm that rrection facto duration of 5 f cond so the r annels a cha ims period is therefore, 201 on factor car ly transmittin it this correct cons, 1000-2 igal <u>/IHz</u> Direct meas	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 tion was not 6000 MHz. ((dBm)	t the device, d ed as follows: well time is 5/ be used more s = 12.5ms.)) =-18dB to the averag 705 permits th applied. Operating Mo Te Con Power S Measure 3.	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: ifig Change: Settings ed (dBm) 3	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none Softwar	ns. Oms period. vided the aver rrection on the Mb/s) er#4 re Setting Max	rage value was
Bluetooth us hort period A maxin The hop With a n The ave Sthis is a heasured w alue for fre Run #1: Ra Run #1a, E Band Edge Frequency	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti rage correction hopping radio vith the device to a correction hopping radio vith the device to a correction hopping radio vith the device to a correction to a correct	cy hopping a average cor cket has a c 500 hops/se hopping ch ime in a 100 on factor is, t this correcti continuous na radios bu ous Emissi 10/4/2013 Joseph Cad el #1 2402M Chain B Strength - 1 Pol	algorithm that rrection facto duration of 5 t cond so the r annels a cha ims period is therefore, 201 ion factor car ly transmittin it this correct igal <i>I</i> Hz Direct meas 15.209	t means that r is calculate time slots. maximum du nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 ion was not 6000 MHz. ((dBm)	t the device, d ed as follows: well time is 5/ be used more s = 12.5ms.) =-18dB to the averag 705 permits th applied. Operating Mc Te Con Power S Measure 3. field strengt	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: ifig Change: Settings ed (dBm) 3 h Azimuth	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none Softwar M Height	ns. Oms period. vided the ave rrection on the /lb/s) er#4	rage value was
Bluetooth us hort period A maxin The hop With a n The ave Sthis is a heasured w alue for fre Run #1: Ra Run #1a, E Band Edge Frequency MHz	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti arage correction hopping radio vith the device couency hoppi adiated Spuri Date of Test: est Engineer: UT on Chann Signal Field Level dBµV/m	cy hopping a average cor cket has a c 500 hops/se hopping ch ime in a 100 on factor is, t this correcti continuous na radios bu ous Emissi 10/4/2013 Joseph Cad el #1 2402M Chain B Strength - I Pol v/h	algorithm that rrection facto duration of 5 t cond so the r annels a cha ims period is therefore, 201 on factor car ly transmitting this correct ons, 1000-20 igal <i>I</i> Hz Direct meas 15.209 / Limit	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 tion was not 6000 MHz. ((dBm) - urement of / 15.247 Margin	t the device, d ed as follows: well time is 5/ be used more is = 12.5ms.)) =-18dB to the averag 705 permits th applied. Operating Mc Te Con Power S Measure 3. field strengt Pk/QP/Avg	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: fig Change: Gettings ed (dBm) 3 h Azimuth degrees	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none Softwar M Height meters	ns. Oms period. vided the aver rrection on the Mb/s) er#4 re Setting Max	rage value was e measured average
Bluetooth us hort period A maxin The hop With a n The ave Sthis is a heasured w alue for fre Run #1: Ra Run #1: Ra Run #1a, E Band Edge Frequency MHz 2362.020	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti rage correction hopping radio vith the device ouencv hopping adiated Spuri Date of Test: est Engineer: UT on Chann Signal Field Level dBµV/m 47.2	cy hopping a average cor cket has a c 500 hops/se hopping ch me in a 100 on factor is, t this correcti continuous na radios bu ous Emissi 10/4/2013 Joseph Cad el #1 2402M Chain B Strength - Pol v/h H	algorithm that rrection facto duration of 5 t cond so the r annels a cha ms period is therefore, 201 on factor car ly transmittin this correct cons, 1000-2 igal //Hz Direct meas 15.209 / Limit 54.0	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 ion was not 6000 MHz. (c (dBm) - urement of / 15.247 Margin -6.8	t the device, d ed as follows: well time is 5/ be used more s = 12.5ms.)) =-18dB to the averag 705 permits th applied. Operating Mc Te Con Power S Measure 3. field strengt Detector Pk/QP/Avg AVG	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: afig Change: Settings ed (dBm) 3 h Azimuth degrees 126	s, or 3.125n es in any 100 e signal pro average con average con data rate (1M FT Chambe none Softwar M Height meters 1.0	ns. Oms period. vided the aver rrection on the Mb/s) er#4 re Setting Max Comments RB 1 MHz;V	rage value was e measured average
Bluetooth us hort period A maxin The hop With a n The ave As this is a l neasured w ralue for fre Run #1: Ra Run #1a, E Band Edge Frequency	ses a frequent of time. The num length pa oping rate is 10 ninimum of 20 ximum dwell ti arage correction hopping radio vith the device couency hoppi adiated Spuri Date of Test: est Engineer: UT on Chann Signal Field Level dBµV/m	cy hopping a average cor cket has a c 500 hops/se hopping ch ime in a 100 on factor is, t this correcti continuous na radios bu ous Emissi 10/4/2013 Joseph Cad el #1 2402M Chain B Strength - I Pol v/h	algorithm that rrection facto duration of 5 t cond so the r annels a cha ims period is therefore, 201 on factor car ly transmitting this correct ons, 1000-20 igal <i>I</i> Hz Direct meas 15.209 / Limit	t means that r is calculate time slots. maximum dv nnel will not 4 x 3.125m log(12.5/100 n be applied g. DA 00-07 tion was not 6000 MHz. ((dBm) - urement of / 15.247 Margin	t the device, d ed as follows: well time is 5/ be used more is = 12.5ms.)) =-18dB to the averag 705 permits th applied. Operating Mc Te Con Power S Measure 3. field strengt Pk/QP/Avg	1600 second e than 4 time e value of th e use of the ode: Basic d est Location: fig Change: Gettings ed (dBm) 3 h Azimuth degrees	s, or 3.125n es in any 100 e signal pro average con lata rate (1M FT Chambe none Softwar M Height meters	ns. Oms period. vided the aver rrection on the Mb/s) er#4 re Setting Max Comments RB 1 MHz;V POS; RB 1 1	rage value was e measured average

	NTS							EMC Tes	st Dat
Client	Intel Corpora	ation						Job Number: J93358	
								Log Number: T93372	
Model	: PBA5001							ect Manager: Christine I	Krehill
Contact	Steve Hacke	\ 1					2	Coordinator: -	
			1				FIUJECI		
	FCC Part 15							Class: N/A	
RB 1 MHz	z; VB 10 Hz=	avg (Black)	1MHz 3MHz	= Pk (Blue) ;	, н				
75.0 70.0) -								
(@ 60.0)) Ng									
(m/vub) 20.0 (m/vub) 20.0 40.0	maharan	handermaken	Amerika A	when	(Maggangan dapagi dalam	-	Mundapad	- Vinney where the	
음 40.0 목 30.0						~ <u>~</u> ~		Λ	
30.0	,								
:	2350	2355	2360	2365	2370 equency (MH	2375	2380	2385 239	90
undamon	tal Signal Ei	old Strongth							
	t <i>al Signal Fie</i>	ž		/ 15.247	Detector	Azimuth	Heiaht	Comments	
requency	Level	Pol		/ 15.247 Margin	Detector Pk/QP/Ava	Azimuth degrees	Height meters	Comments	
equency MHz		ž	15.209	/ 15.247 Margin	Detector Pk/QP/Avg Pk	Azimuth degrees 72	Height meters 1.0	Comments POS; RB 100 kHz; VB:	: 100 kHz
equency MHz 402.010	Level dBµV/m	Pol v/h	15.209		Pk/QP/Avg	degrees	meters		
equency MHz 402.010 402.000	Level dBµV/m 97.4 99.7	Pol v/h V H	15.209 Limit - -	Margin - -	Pk/QP/Avg Pk PK	degrees 72 126	meters 1.0	POS; RB 100 kHz; VB:	
equency MHz 402.010 402.000	Level dBµV/m 97.4 99.7 undamental e	Pol v/h V H mission leve	15.209 Limit - -	Margin - - D0kHz RBW:	Pk/QP/Avg Pk PK 97.4	degrees 72 126 dBµV/m	meters 1.0 1.0	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB:	: 100 kHz
equency MHz 402.010 402.000	Level dBµV/m 97.4 99.7 undamental e	Pol v/h V H	15.209 Limit - -	Margin - - D0kHz RBW:	Pk/QP/Avg Pk PK 97.4	degrees 72 126	meters 1.0 1.0	POS; RB 100 kHz; VB:	: 100 kHz
equency MHz 402.010 402.000 F	Level dBµV/m 97.4 99.7 undamental e	Pol v/h V H emission leve emissions ou	15.209 Limit - l @ 3m in 10 tside of restr	Margin - - D0kHz RBW: icted bands:	Pk/QP/Avg Pk PK 97.4 77.4	degrees 72 126 dBµV/m dBµV/m	meters 1.0 1.0 Limit is -20	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu	: 100 kHz
equency MHz 402.010 402.000 F <i>purious F</i> equency	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emi Level	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol	15.209 Limit - - el @ 3m in 10 tside of restr 15.209	Margin - - OokHz RBW: icted bands: /15.247	Pk/QP/Avg Pk PK 97.4 77.4 Detector	degrees 72 126 dBµV/m dBµV/m Azimuth	meters 1.0 1.0 Limit is -200 Height	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB:	: 100 kHz
equency MHz 402.010 402.000 F urious F equency MHz	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBµV/m	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h	15.209 Limit - - el @ 3m in 10 tside of restr 15.209 Limit	Margin - - DOkHz RBW: ricted bands: /15.247 Margin	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg	degrees 72 126 dBµV/m dBµV/m Azimuth degrees	meters 1.0 1.0 Limit is -200 Height meters	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments	: 100 kHz urement)
equency MHz 402.010 402.000 F <i>purious F</i> equency MHz 467.270	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBµV/m 42.7	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V	15.209 Limit - el @ 3m in 10 tside of restr 15.209 Limit 54.0	Margin - - OokHz RBW: icted bands: /15.247 Margin -11.3	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG	degrees 72 126 dBµV/m dBµV/m Azimuth degrees 151	meters 1.0 1.0 Limit is -200 Height meters 1.6	POS; RB 100 kHz; VB POS; RB 100 kHz; VB dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P	: 100 kHz irement) eak, Note :
equency MHz 402.010 402.000 F <i>purious F</i> equency MHz 467.270 498.990	Level dBμV/m 97.4 99.7 undamental e Limit for e Radiated Emil Level dBμV/m 42.7 34.7	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V	15.209 Limit - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG	degrees 72 126 dBµV/m dBµV/m Azimuth degrees 151 319	meters 1.0 1.0 Limit is -20 Height meters 1.6 1.0	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P	: 100 kHz urement) eak, Note 2 eak
equency MHz 402.010 402.000 F equency MHz 467.270 498.990 467.490	Level dBμV/m 97.4 99.7 undamental e Limit for e Radiated Emi Level dBμV/m 42.7 34.7 53.4	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V	15.209 Limit - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0 74.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK	degrees 72 126 dBµV/m dBµV/m Azimuth degrees 151 319 151	meters 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F	: 100 kHz urement) eak, Note 2 eak Peak
equency MHz 402.010 402.000 F equency MHz 467.270 498.990 467.490 747.830	Level dBμV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBμV/m 42.7 34.7 53.4 31.9	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V	15.209 Limit - - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0 74.0 54.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG	degrees 72 126 dBµV/m dBµV/m Azimuth degrees 151 319 151 271	meters 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 10 Hz;P	: 100 kHz irement) eak, Note : eak Peak eak
equency MHz 402.010 402.000 F equency MHz 467.270 498.990 467.490 747.830 499.340	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emit dBµV/m 42.7 34.7 53.4 31.9 50.4	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V V	15.209 Limit - - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0 54.0 74.0 74.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG PK AVG PK AVG PK	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319	meters 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.6 1.0	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F	: 100 kHz irement) eak, Note 2 eak Peak Peak Peak
equency MHz 402.010 402.000 F equency MHz 467.270 498.990 467.490 747.830 499.340 233.850	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBµV/m 42.7 34.7 53.4 31.9 50.4 30.0	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V V V V	15.209 Limit - - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0 54.0 74.0 54.0 74.0 54.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG PK AVG	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319 212	meters 1.0 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.2	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P	: 100 kHz Irement) eak, Note : eak Peak eak Peak eak eak
equency MHz 402.010 402.000 F F ourious F requency MHz 467.270 498.990 467.490 747.830 499.340 233.850 748.010	Level dBμV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBμV/m 42.7 34.7 53.4 31.9 50.4 30.0 49.6	Pol v/h V H emission leve emissions ou issions: Pol v/h V V V V V V V V V V V	15.209 Limit - - - - - - - - - - - - - - - - - - -	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG PK AVG PK	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319 212 271	meters 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.6 1.0 1.6 1.0 1.0 1.0 1.0	POS; RB 100 kHz; VB; POS; RB 100 kHz; VB; dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F	: 100 kHz Irement) eak, Note 2 eak Peak Peak Peak Peak Peak Peak
equency MHz 402.010 402.000 F F ourious F requency MHz 467.270 498.990 467.490 747.830 499.340 233.850 748.010	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBµV/m 42.7 34.7 53.4 31.9 50.4 30.0	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V V V V	15.209 Limit - - el @ 3m in 10 tside of restr 15.209 Limit 54.0 54.0 54.0 74.0 54.0 74.0 54.0	Margin - - - - - - - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG PK AVG	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319 212	meters 1.0 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.2	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P	: 100 kHz Irement) eak, Note 2 eak Peak Peak Peak Peak Peak Peak
requency MHz 402.010 402.000 F <i>purious F</i> requency	Level dBμV/m 97.4 99.7 undamental e Limit for e Radiated Emit Level dBμV/m 42.7 34.7 53.4 31.9 50.4 30.0 49.6 46.9	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V V V V V V	15.209 Limit - - - - - - - - - - - - - - - - - - -	Margin - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG PK AVG PK PK PK 09 was used	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319 212 271 212	meters 1.0 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.6 1.0 1.2 1.0 1.2	POS; RB 100 kHz; VB; POS; RB 100 kHz; VB; dBc (Peak power measu Comments RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 10 Hz;P RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F RB 1 MHz;VB 3 MHz;F	: 100 kHz irement) eak, Note 2 eak Peak eak Peak Peak Peak Peak Peak
requency MHz 402.010 402.000 F 402.000 F <i>purious F</i> requency MHz 467.270 498.990 467.490 747.830 499.340 233.850 748.010 233.900	Level dBµV/m 97.4 99.7 undamental e Limit for e Radiated Emil Level dBµV/m 42.7 34.7 53.4 31.9 50.4 30.0 49.6 46.9 For emissior measurement	Pol v/h V H emission leve emissions ou <i>issions:</i> Pol v/h V V V V V V V V V V V	15.209 Limit - - - - - - - - - - - - - - - - - - -	Margin - - - - - - - - - - - - -	Pk/QP/Avg Pk PK 97.4 77.4 77.4 Detector Pk/QP/Avg AVG AVG PK AVG PK AVG PK PK PK 09 was used 00kHz.	degrees 72 126 dBμV/m dBμV/m Azimuth degrees 151 319 151 271 319 212 271 212 271 212	meters 1.0 1.0 1.0 1.0 Limit is -200 Height meters 1.6 1.0 1.6 1.0 1.6 1.0 1.2 1.0 1.2 er emissions	POS; RB 100 kHz; VB: POS; RB 100 kHz; VB: dBc (Peak power measu RB 1 MHz; VB 10 Hz;P RB 1 MHz; VB 10 Hz;P RB 1 MHz; VB 3 MHz;F RB 1 MHz; VB 3 MHz;F	: 100 kHz urement) eak, Note 2 eak Peak Peak Peak Peak Peak Peak Peak

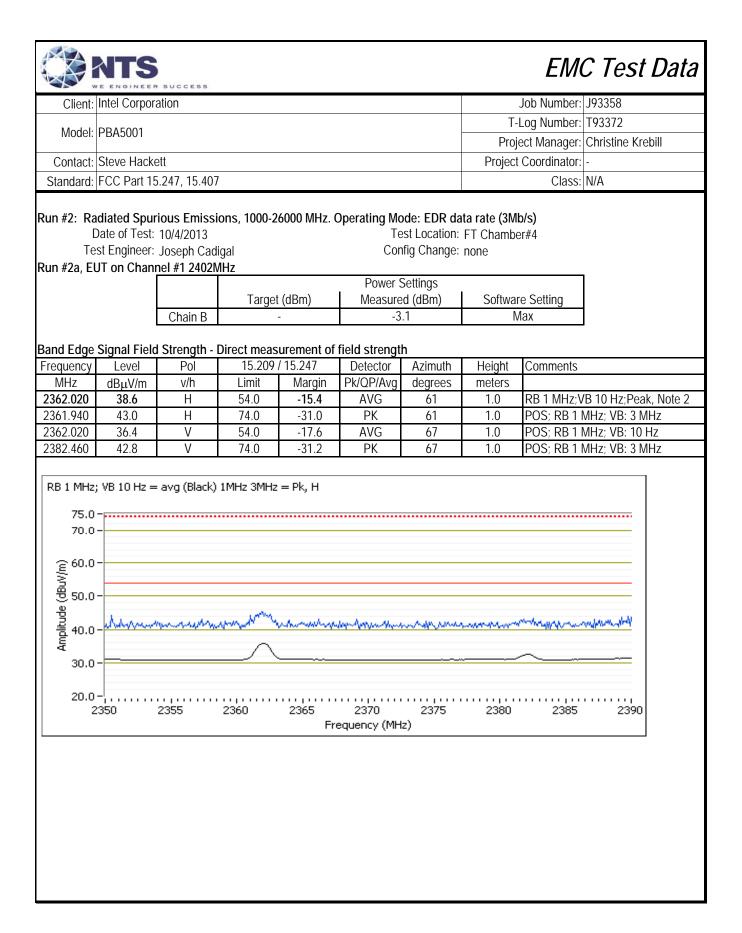


Model: PBA5001 T-Log Number: T93372 Project Manager: Christine Krebill Contact: Steve Hackett Project Coordinator: Standard: FCC Part 15.247, 15.407 Class: Date of Test: 107/2013 Test Location: FT Chamber#4 Test Engineer: Deniz Demrici Config Change: none Spurious Radiated Emissions: Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dB _{LV} /m vh Limit Margin PK/QP/Avg degrees melers 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz:VB 10 Hz;Peak, Note 1197.760 57.4 V 74.0 -21.8 PK 193 1.0 RB 1 MHz:VB 3 MHz;Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz:VB 3 MHz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz:VB 3 MHz;Peak Note 1: For emissions in restricte		Intel Corporat	lion						Job Number: J93358
Model: PA65001 Project Manager: Christine Krebili Contact: Steve Hackett Project Coordinator: Standard: FCC Part 15.247, 15.407 Class: Date of Test: 107//2013 Test Location: FT Chamber#4 Test Engineer: Deniz Demrici Config Change: none none Spurious Radiated Emissions: Frequency Level Poi 15.209/15.247 Detector Azimuth Height Comments MHz dBu/Vm wh Limit Margin Pk/OPIAvg degrees meters 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz/VB 10 Hz/Peak, Note 1197.760 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz/VB 10 Hz/Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 10 Hz/Peak 1593.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak Note 1: For emissions in restricted bands, the limit of 15.209 was									
Contact: Steve Hackett Project Coordinator: Standard: FCC Part 15.247, 15.407 Class: N/A Date of Test: 10/7/2013 Test Engineer: Deniz Demrici Config Change: none Spurious Radiated Emissions: Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz BigLW/m vh Limit Marqin PK/OP/Avg degrees meters 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz/VB 10 Hz/Peak, Note 1197.360 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz/VB 3 MHz/Peak 1195.360 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz/VB 10 Hz/Peak 1593.340 27.2 H 54.0 -20.8 AVG 162 1.0 RB 1 MHz/VB 10 Hz/Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak Note 1: For emissions in restricled bands, the limit of 15.209 was used. <td>Model:</td> <td>PBA5001</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>÷</td>	Model:	PBA5001							÷
Standard: FCC Part 15.247, 15.407 Class: N/A Date of Test: 107//2013 Test Location: FT Chamber#4 Config Change: none Spurious Radiated Emissions: Comments Comments Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBuV/m v/n Limit Margin PK/OPIAvg degrees meters 195.300 33.0 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz/VB 10 Hz/Peak, Note 195.300 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 10 Hz/Peak, 195.300 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz/VB 10 Hz/Peak, 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz/VB 3 MHz/Peak, 1593.20 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak, Vole 1: For emissions in restricted bands, the limit of 15.209 was used. For all ot	Contact.	Steve Hacket	t						°
Date of Test: 10/7/2013 Test Engineer: Deniz Demrici Spurious Radiated Emissions: Frequency Level Pol 15:209/15:247 Detector Azimuth Height Comments MHZ dB _{LV} /m Vh Limit Margin Pk/QP/Avg degrees meters 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz/VB 10 Hz;Peak, Note 1197.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 10 Hz;Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 10 Hz;Peak 1195.360 32.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz/VB 3 MHz;Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz/VB 3 MHz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak Note 1: For emissions in restricted bands, the limit of 15 209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Note 2: Emission has duty cycle < 98%, but constant, average measurement corrected by Linear Voltage correction factor. Scam smde between 18 - 26GHz with the measurement antenna moved around the card and its antennas 100 cm from 1 device indicated there were no signifcant emissions in this frequency range				1					
Test Engineer: Deniz Demrici Spurious Radiated Emissions: Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµ.V/m V/h Limit Margin Pk/QP/Avg degrees meters 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz/VB 10 Hz/Peak, Note 1197.760 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz/VB 3 MHz/Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 3 MHz/Peak 1593.340 27.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz/VB 10 Hz/Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz/VB 10 Hz/Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100KHz. Emission has duty cycle < 98%, but constant, average measurement performed: RBW-11MHz, VBW-10Hz, peak detector linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor. Note 3: Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 100 cm from 1 device indicated there were no signifcant emissions in this frequency range	Standard.	100101110.2	217, 10.107						
Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dB _µ //m v/m Limit Margin Pk/OP/Avg degrees meters 7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz;VB 10 Hz;Peak, Note 1197.760 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz;VB 3 MHz;Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz;VB 3 MHz;Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz;VB 3 MHz;Peak 1593.340 27.2 H 54.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak Iote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements an averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor. S	Te	st Engineer: [Deniz Demri	ici					er#4
7454.130 42.6 V 54.0 -11.4 AVG 193 1.0 RB 1 MHz;VB 10 Hz;Peak, Note 1197.760 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz;VB 3 MHz;Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz;VB 3 MHz;Peak 7455.000 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz;VB 3 MHz;Peak 1593.340 27.2 H 54.0 -21.8 PK 193 1.0 RB 1 MHz;VB 3 MHz;Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz;VB 3 MHz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Emission has duty cycle < 98%, but constant, average measurement corrected by Linear Voltage correction factor.				15.209/	/15.247	Detector	Azimuth	Height	Comments
1197.760 57.4 V 74.0 -16.6 PK 157 1.0 RB 1 MHz/VB 3 MHz/Peak 1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz/VB 3 MHz/Peak 7455.000 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz/VB 3 MHz/Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz/VB 3 MHz/Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz/VB 3 MHz/Peak 160e 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak iote 1: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector		dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees		
1195.360 33.0 V 54.0 -21.0 AVG 157 1.0 RB 1 MHz:VB 10 Hz:Peak 7455.000 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz:VB 3 MHz:Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz:VB 3 MHz:Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz:VB 3 MHz:Peak Is98.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz:VB 3 MHz:Peak Is98.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz:VB 3 MHz:Peak Ister 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Ister 2: Emission has duty cycle < 98%, but constant, average measurement corrected by Linear Voltage correction factor.	7454.130	42.6		54.0	-11.4		193	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 2
7455.000 52.2 V 74.0 -21.8 PK 193 1.0 RB 1 MHz;VB 3 MHz;Peak 1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz;VB 10 Hz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak Iote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector								1.0	RB 1 MHz;VB 3 MHz;Peak
1593.340 27.2 H 54.0 -26.8 AVG 162 1.0 RB 1 MHz;VB 10 Hz;Peak 1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak olde 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector								1.0	
1598.920 45.4 H 74.0 -28.6 PK 162 1.0 RB 1 MHz;VB 3 MHz;Peak lote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. lote 2: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor.									
Iole 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -20dBc for peak measurements in a measurement bandwidth of 100kHz. Iole 2: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor.									
Ole 1: measurements in a measurement bandwidth of 100kHz. ote 2: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor.	1598.920	45.4	H	/4.0	-28.6	PK	162	1.0	RB 1 MHz;VB 3 MHz;Peak
100.0- 100.0- 60.0- 40.0-									
80.0 - 0.08 60.0 - 0.0 -	120	0							
40.0 - White har and h									
	100. ک	0-							
20.0	.100 whitride (dBuv/m) 90. 40.	0- 0- 0- 0- 0- 0-		endered			3.A		

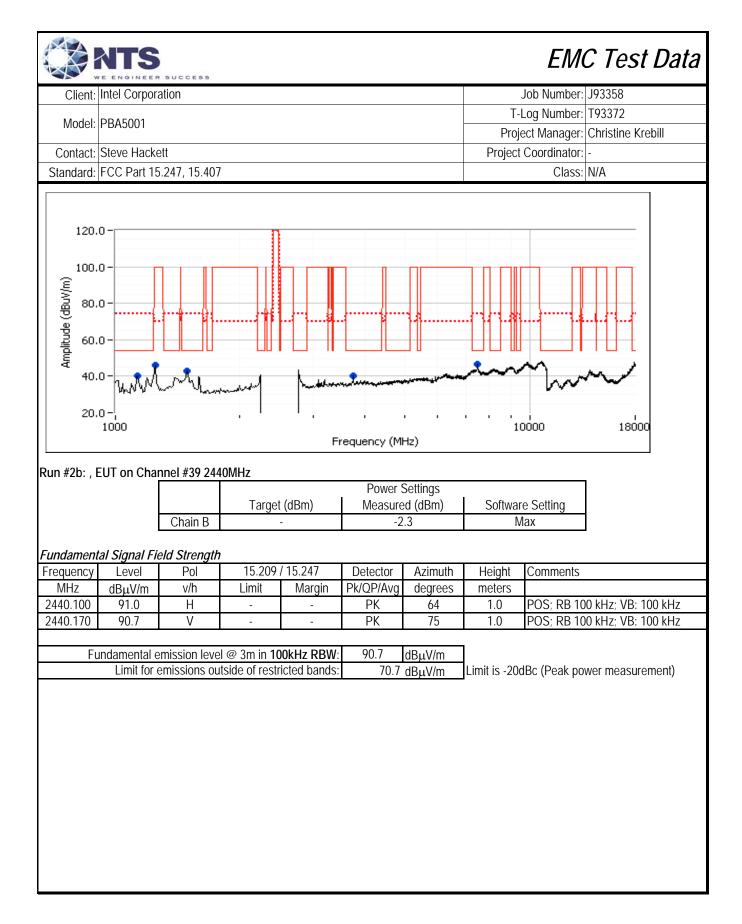


	E ENGINEER	SUCCESS						EMC Test Dat
Client:	Intel Corpora	ntion						Job Number: J93358
Madal	PBA5001						T-	Log Number: T93372
woder:	PBADUUT						Proj	ect Manager: Christine Krebill
Contact:	Steve Hacke	tt					Project	t Coordinator: -
Standard:	FCC Part 15	.247, 15.407						Class: N/A
							I	
un #1c: , E	EUT on Chan	inel #79 248	OMHz		Power S	Sottings		
			Target	(dBm)	Measure	0	Softwa	re Setting
	-	Chain B	Target	-	4.	, ,		/ax
[Date of Test:					est Location:		-
Те	st Engineer:	Joseph Cadi	gal			fig Change:		
		·	0					
					field strengt		11.2.10	Commonito
	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments
MHz 2500.000	dBμV/m 41.3	v/h H	Limit 54.0	Margin -12.7	Pk/QP/Avg AVG	degrees 132	meters 1.0	RB 1 MHz;VB 10 Hz;Peak, Note 2
2499.970	41.3	H	54.0 74.0	-12.7	PK	132	1.0	POS; RB 1 MHz; VB 10 Hz; Peak, Note 2
2500.000	38.8	V	54.0	-24.3	AVG	74	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 2
2484.360	45.0	V	74.0	-29.0	PK	74	1.0	POS; RB 1 MHz; VB: 3 MHz
	; VB 10 Hz =	avg (Black)	1MHz 3MHz	= Pk, H				
75.0 70.0 (m()/ngp) 50.0 50.0 40.0 ¥ 30.0 20.0	- - - - - 	Munu		2490.0	2492.0	2494.0		2498.0 2500.0
75.0 70.0 (m(Ande (GB/A/)m) 50.0 4000 40.0 20.0 24	- 	2486.0	2488.0	2490.0		2494.0		
75.0 70.0 (m/\/m) 50.0 40.0 40.0 20.0 22 20.0 24		2486.0	2488.0	2490.0	2492.0	2494.0	2496.0	
75.0 70.0 (m/\ng) 50.0 40.0 40.0 20.0 22 20.0 24		2486.0	2488.0	2490.0 Fr	2492.0 equency (MH	2494.0 z)		0 2498.0 2500.0
75.0 70.0 (m/\ngp) 50.0 (m/\ngp) 50.0 (m/\ngp) 50.0 20.0 20.0 24 20.0 24 2479.910	- - - - - - - - - - - - - - - - - - -	2486.0 2486.0 2486.0	2488.0	2490.0 Fr	2492.0 equency (MH Detector Pk/QP/Avg PK	2494.0 z) Azimuth degrees 76	2496.0 Height meters 1.0	Comments POS; RB 100 kHz; VB: 100 kHz
75.0 70.0 (m/\ngp) 50.0 pn11dury 30.0 20.0 22 undament requency MHz	al Signal Fie Level dBμV/m	2486.0	2488.0	2490.0 Fr	2492.0 equency (MH Detector Pk/QP/Avg	2494.0 z) <u>Azimuth</u> degrees	2496.0 Height meters	2498.0 2500.0

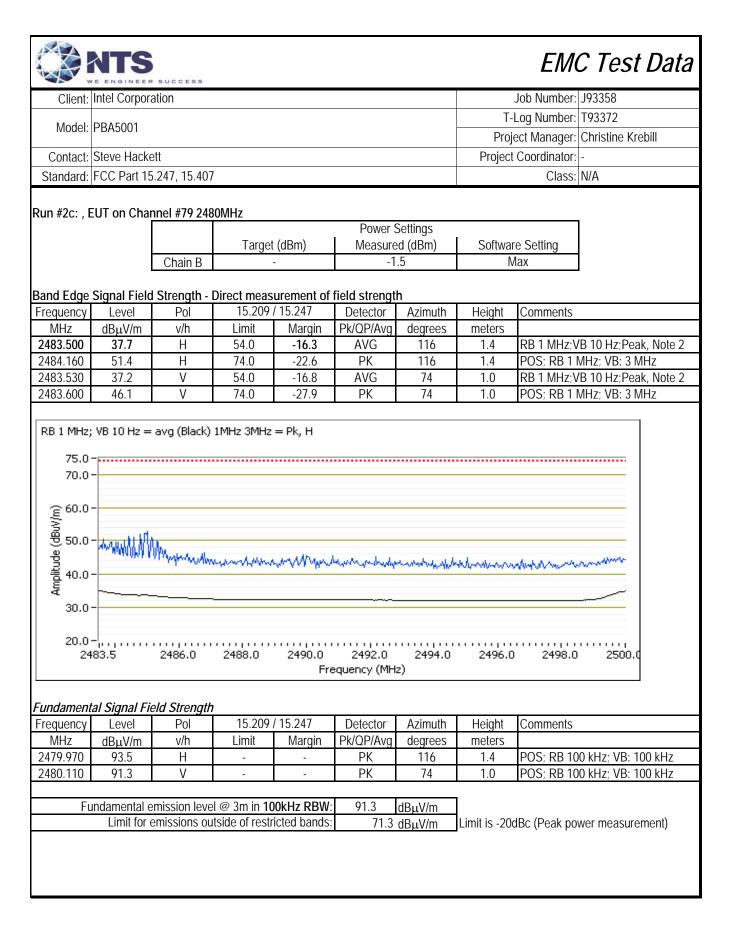
		SUCCESS						EMC Test Data
Client:	Intel Corpora	ation						Job Number: J93358
Model:	PBA5001							Log Number: T93372
								ect Manager: Christine Krebill
	Steve Hacke						Project	Coordinator: -
Standard:	FCC Part 15	.247, 15.407						Class: N/A
Те	Date of Test: st Engineer: Padiated Emi	Deniz Demr	ci			est Location: ifig Change:		er#4
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1199.270	56.2	V	74.0	-17.8	PK	171	1.0	RB 1 MHz;VB 3 MHz;Peak
1198.950	30.0	V	54.0	-24.0	AVG	171	1.0	RB 1 MHz;VB 10 Hz;Peak
1594.030	49.6	V V	74.0 54.0	-24.4	PK AVG	144 144	1.7	RB 1 MHz;VB 3 MHz;Peak
1598.490	27.6	V	J4.U	-26.4	AVG	144	1.7	RB 1 MHz;VB 10 Hz;Peak
120. 100. (@/\/ngp apniliting 40. 40.	0- 0- 0-	how	and and a					
20.								1000
	1000			Fr	requency (MF	łz)	10	0000 18000
			-					



Client:	Intel Corpora	tion						Job Number:	J93358
							T-	Log Number:	T93372
Model:	PBA5001						Proj	ect Manager:	Christine Krebill
Contact.	Steve Hacket	†					-	Coordinator:	
	FCC Part 15.		,				Troject	Class:	
								01033.	
Frequency	t <i>al Signal Fie</i> l Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	COMMENIS	
2401.830	90.6	H	-	-	PK	61	1.0	POS: RB 10	0 kHz; VB: 100 kHz
2401.820	87.9	V	-	-	PK	67	1.0		0 kHz; VB: 100 kHz
2401.020	07.7	v				01	1.0	105,1010	
Fi	undamental er	nission leve	l @ 3m in 10	0kHz RBW:	87.9	dBµV/m			
			tside of restr			dBµV/m	Limit is -20	dBc (Peak po	wer measurement)
								, r-	,
Spurious R	Padiated Emis	sions:							
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7496.910	43.0	V	54.0	-11.0	AVG	164	1.6		B 10 Hz;Peak, Note 2
1244.590	55.6	V	74.0	-18.4	PK	194	1.0	· · · · · · · · · · · · · · · · · · ·	B 3 MHz;Peak
7496.190	54.8	V	74.0	-19.2	PK	164	1.6		/B 3 MHz;Peak
1499.020	34.0	V	54.0	-20.0	AVG	197	1.3		/B 10 Hz;Peak
1129.010	31.7	V	54.0	-22.3	AVG	41	1.3		/B 10 Hz;Peak
3741.980	31.2	V	54.0	-22.8	AVG	194	1.0		B 10 Hz;Peak
1498.430	49.6	V V	74.0	-24.4	PK	197	1.3		B 3 MHz;Peak
1128.620 3743.820	45.9 44.4	V	74.0	-28.1	PK PK	41 194	1.3		B 3 MHz;Peak
3743.820 1245.720	33.1	V	74.0 54.0	-29.6 -20.9	AVG	194	1.0 1.0		/B 3 MHz;Peak /B 10 Hz;Peak
1243.720	33. I	V	34.0	-20.9	AVG	194	1.0		D TU HZ, PEAK
	For omission	e in rostricto	d hands the	limit of 15.2	hoau acw 000	For all oth	or omissions	the limit is '	20dBc for peak
Note 1:	measuremen						51 61113310113		
						ement perfor	med RBW=	1MHz VBW	=10Hz, peak detector,
Vote 2:									orrection factor.
	intear averag	ing, auto sh		verage root				car voltage c	



		SUCCESS						EM	C Test Data
Client:	Intel Corpora	ation						Job Number:	J93358
							T-I	_og Number:	Т93372
Model:	PBA5001						Proje	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett						Coordinator:	
	FCC Part 15						- j	Class:	
otandara		,						010001	
Spurious R	adiated Emi	ssions:							
Frequency	Level	Pol	15.209/	/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7461.620	42.9	V	54.0	-11.1	AVG	164	1.6	RB 1 MHz; V	/B 10 Hz;Peak, Note 2
7462.460	51.5	V	74.0	-22.5	PK	164	1.6		/B 3 MHz;Peak
1233.430	27.9	V	54.0	-26.1	AVG	235	1.3		/B 10 Hz;Peak
1232.410	43.5	V	74.0	-30.5	PK	235	1.3		/B 3 MHz;Peak
1495.610	34.1	V	54.0	-19.9	AVG	295	1.0		/B 10 Hz;Peak
1495.220	50.1	V	74.0	-23.9	PK	295	1.0	RB 1 MHz;\	/B 3 MHz;Peak
	Fan and set		ما استعماد ال		00	Fan all sil		the line is the state	
Note 1:						For all othe	er emissions,	the limit is	20dBc for peak
	measuremer								
Note 2:									=10Hz, peak detector,
									correction factor.
Note 3:					rement anten ns in this freqt		round the ca	rd and its an	tennas 20-50cm from the
120.1 100.1 (W/\Ng 80.1 60.1 40.1 20.1			and a second secon		requency (MH	12)			18000



		SUCCESS						EMC Test Data
Client:	Intel Corpora	tion						Job Number: J93358
							T-	Log Number: T93372
Model:	PBA5001							ect Manager: Christine Krebill
Contact:	Steve Hacke	tt						Coordinator: -
	FCC Part 15.							Class: N/A
otandara		,						
Spurious R	Radiated Emis	ssions:						
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7496.020	43.2	V	54.0	-10.8	AVG	299	1.9	RB 1 MHz;VB 10 Hz;Peak, Note 2
7494.260	54.0	V	74.0	-20.0	PK	299	1.9	RB 1 MHz;VB 3 MHz;Peak
1000.000	21.2	Н	54.0	-32.8	AVG	0	1.0	RB 1 MHz;VB 10 Hz;Peak
1000.000	33.3	H	74.0	-40.7	PK	0	1.0	RB 1 MHz;VB 3 MHz;Peak
1238.290	26.8	V	54.0	-27.2	AVG	229	1.3	RB 1 MHz;VB 10 Hz;Peak
1236.200	38.3	V V	74.0	-35.7	PK	229	1.3	RB 1 MHz;VB 3 MHz;Peak
1494.940 1494.880	33.9 51.6	V	54.0 74.0	-20.1	AVG PK	308 308	1.0 1.0	RB 1 MHz;VB 10 Hz;Peak
1494.000	0.10	V	74.0	-22.4	۲N	300	1.0	RB 1 MHz;VB 3 MHz;Peak
120. 100. (w/\ngp) app 11dury 60. 40. 20.	0 - 0 - 0 - 0 -				requency (MH			ear Voltage correction factor.

Client:	Intel Corporation	Job Number:	J93358
Madalı	PBA5001	T-Log Number:	T93372
wouer.	P DA300 I	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions

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.

General Test Configuration

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SUCCESS

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

For Bluetooth: Tx is chain B, Rx is chain B. For WiFi, only Chain A is used for transmit in the 2.4GHz band when Bluetooth is active, both chains can be used in 5GHz bands.

Ambient Conditions:

Temperature:	24 °C
Rel. Humidity:	39 %

Summary of Results

MAC Address: 001500DC7B25 DRTU Tool Version 1.7.1-777, Driver version 16.6.0.1

	1622. 00100					.0.1	
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1	BT 1Mb/s 802.11b	2402MHz 2412MHz	Max 21	16.7		FCC 15.247	51.2 dBµV/m @ 2389.8 MHz (-2.8 dB)
2	BT 1Mb/s 802.11b	2480MHz 2462MHz	Max 22	16.7	Radiated Emissions	FCC 15.247	51.6 dBµV/m @ 2488.0 MHz (-2.4 dB)
3	BT 1Mb/s 802.11g	2402MHz 2412MHz	Max 20	15.5	1- 10 GHz	FCC 15.247	53.0 dBµV/m @ 2390.0 MHz (-1.0 dB)
4	BT 1Mb/s 802.11g	2480MHz 2462MHz	Max 22.5	16.6		FCC 15.247	51.3 dBµV/m @ 2483.6 MHz (-2.7 dB)
WiFi mode f	or the followi	ng runs base	ed on worst c	ase mode fro	om runs 1 through 4		
5	BT 1Mb/s 802.11g	2402MHz 2437MHz	Max 23.5	16.7	Radiated Emissions	FCC 15.247	51.2 dBµV/m @ 2483.6 MHz (-2.8 dB)
6	BT 1Mb/s 802.11g	2440MHz 2412MHz	Max 23	16.5	1- 10 GHz	FCC 15.247	53.4 dBµV/m @ 2390.0 MHz (-0.6 dB)

tel Corpora BA5001					1	1
JAJUUT					T-Log Number:	T93372
					Project Manager:	Christine Krebill
eve Hacke					Project Coordinator:	-
C Part 15	.247, 15.407				Class:	N/A
Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
3T 1Mb/s 802.11g	2440MHz 2462MHz	Max 23	16.6	Radiated	FCC 15.247	53.4 dBµV/m @ 2483. MHz (-0.6 dB)
3T 1Mb/s 802.11g	2480MHz 2437MHz	Max 23.5	16.6	1- 10 GHz	FCC 15.247	51.8 dBµV/m @ 2483. MHz (-2.2 dB)
l channel a	and Bluetooth	n channel ba	ised on the wo	orst case mode from run	s 1 through 8	
3T 3Mb/s 802.11g	2440 MHz 2412 MHz	Max 18.5	13.5	Radiated	FCC 15.247	50.3 dBµV/m @ 2389 MHz (-3.7 dB)
BTLE 802.11b	2440 MHz 2412 MHz	Max 19.5	15.4	1- 10 GHz	FCC 15.247	45.0 dBµV/m @ 2332 MHz (-9.0 dB)
	/Hz with bot	n chains acti	ive at 16.5dBr	n per chain, center chan	nel in each 5GHz band. B	luetooth on center
		28				
3T 1Mb/s 02.11n20	2440MHz 5200MHz	28.5 Max	12.1 12.2		FCC 15.247	42.9 dBµV/m @ 4880 MHz (-11.1 dB)
3T 1Mb/s 02.11n20	2440MHz 5300MHz	30.5 30.5 Max	13 13	Radiated	FCC 15.247	42.5 dBµV/m @ 4880. MHz (-11.5 dB)
3T 1Mb/s 02.11n20	2440MHz 5580MHz	30.5 30.5 Max	13.7 13.6	1- 15 GHz	FCC 15.247	43.3 dBµV/m @ 4880. MHz (-10.7 dB)
3T 1Mb/s 02.11n20	2440MHz 5785MHz	30.5 30.5 Max	13.5 13.5		FCC 15.247	42.4 dBµV/m @ 4880. MHz (-11.6 dB)
	CC Part 15 Mode T 1Mb/s 302.11g T 1Mb/s 302.11g Channel a T 3Mb/s 302.11g BTLE 302.11g BTLE 302.11g Channel a T 3Mb/s 302.11g T 1Mb/s 302.11n20 T 1Mb/s 302.11n20 T 1Mb/s 302.11n20 T 1Mb/s 302.11n20 T 1Mb/s	CC Part 15.247, 15.407 Mode Channel T 1Mb/s 2440MHz 302.11g 2462MHz T 1Mb/s 2480MHz 302.11g 2437MHz channel and Bluetoott 2412 MHz 302.11g 2412 MHz 302.11g 2412 MHz 302.11g 2412 MHz 302.11g 2412 MHz 302.11b 2412 MHz 302.11b 2412 MHz 302.11b 2412 MHz 2.11n 20MHz with bott 5200MHz T 1Mb/s 2440MHz 52.11n20 5200MHz T 1Mb/s 2440MHz 5300MHz 5300MHz T 1Mb/s 2440MHz 52.11n20 5580MHz T 1Mb/s 2440MHz 5580MHz 5580MHz T 1Mb/s 2440MHz 5580MHz 5580MHz	CC Part 15.247, 15.407 Mode Channel Power Setting T 1Mb/s 2440MHz Max 802.11g 2462MHz 23 T 1Mb/s 2480MHz Max 802.11g 2437MHz 23.5 channel and Bluetooth channel ba Max 802.11g 2412 MHz Max 802.11g 2412 MHz Max 802.11g 2412 MHz Max 802.11g 2412 MHz Max 802.11b 2412 MHz 19.5 2.11n 20MHz with both chains acti mode T 1Mb/s 2440MHz 28 28.5 Max 30.5 302.11n20 5200MHz 30.5 30.5 Max 30.5 30.11n20 5300MHz 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30	CC Part 15.247, 15.407 Mode Channel Power Setting Measured Power T 1Mb/s 2440MHz Max 16.6 302.11g 2462MHz 23 16.6 T 1Mb/s 2480MHz Max 16.6 Channel and Bluetooth channel based on the world and bluetooth channel based and bluetooth channel based on the world and bluetooth channel based an	CC Part 15.247, 15.407 Mode Channel Power Setting Measured Power Test Performed T 1Mb/s 2440MHz Max 16.6 Radiated Emissions T 1Mb/s 2462MHz 23 16.6 Radiated Emissions T 1Mb/s 2480MHz Max 16.6 Radiated 302.11g 2437MHz 23.5 16.6 Radiated channel and Bluetooth channel based on the worst case mode from run T 10 GHz 30.5 13.5 Radiated BTLE 2440 MHz Max 13.5 Radiated Emissions BTLE 2440 MHz Max 15.4 1-10 GHz 1-10 GHz 2.11n 20412 MHz 19.5 15.4 1-10 GHz 1-10 GHz 2.11n 20MHz with both chains active at 16.5dBm per chain, center chan mode 1-10 GHz 1-10 GHz T 1Mb/s 2440MHz 30.5 13 13 13 13 11100 2440MHz 30.5 13.7 1-15 GHz 1-15 GHz 11100/s <td>CC Part 15.247, 15.407 Class: Mode Channel Power Setting Test Performed Limit T 1Mb/s 2440MHz Max 16.6 Radiated Emissions FCC 15.247 T 1Mb/s 2462MHz 23 16.6 Radiated FCC 15.247 V02.11g 2437MHz 23.5 16.6 1-10 GHz FCC 15.247 V02.11g 2437MHz 23.5 16.6 FCC 15.247 FCC 15.247 channel and Bluetooth channel based on the worst case mode from runs 1 through 8 FCC 15.247 FCC 15.247 302.11g 2412 MHz 18.5 13.5 Radiated Emissions FCC 15.247 BTLE 2440 MHz Max 15.4 1-10 GHz FCC 15.247 22.11n 20MHz with both chains active at 16.5dBm per chain, center channel in each 5GHz band. B mode FCC 15.247 T 1Mb/s 2440MHz 30.5 13 13 FCC 15.247 11 1Mb/s 2440MHz 30.5 13.7 1-15 GHz FCC 15.247 11 1Mb/s 2440MHz 30.5 13.5</td>	CC Part 15.247, 15.407 Class: Mode Channel Power Setting Test Performed Limit T 1Mb/s 2440MHz Max 16.6 Radiated Emissions FCC 15.247 T 1Mb/s 2462MHz 23 16.6 Radiated FCC 15.247 V02.11g 2437MHz 23.5 16.6 1-10 GHz FCC 15.247 V02.11g 2437MHz 23.5 16.6 FCC 15.247 FCC 15.247 channel and Bluetooth channel based on the worst case mode from runs 1 through 8 FCC 15.247 FCC 15.247 302.11g 2412 MHz 18.5 13.5 Radiated Emissions FCC 15.247 BTLE 2440 MHz Max 15.4 1-10 GHz FCC 15.247 22.11n 20MHz with both chains active at 16.5dBm per chain, center channel in each 5GHz band. B mode FCC 15.247 T 1Mb/s 2440MHz 30.5 13 13 FCC 15.247 11 1Mb/s 2440MHz 30.5 13.7 1-15 GHz FCC 15.247 11 1Mb/s 2440MHz 30.5 13.5

Extended data rate

		SUCCESS			EM	C Test Data
Client:	Intel Corpor	ation			Job Number	: J93358
Model [.]	PBA5001				T-Log Number	
					, ,	: Christine Krebill
	Steve Hacke				Project Coordinator	
Standard: lotes:	FCC Part 15	5.247, 15.407			Class	:: N/A
The hop With a n The ma: The ave s this is a leasured v alue for fre Il measure un #1: 1-	pping rate is 1 ninimum of 2 ximum dwell erage correcti hopping radic vith the device equency hopp ements in this 10GHz , 802 . Date of Test:	600 hops/sect 0 hopping char time in a 100m on factor is, th 0 this correctio e continuously ing radios. data sheet do 11b @ 2412 M 10/7/2013	nnels a channel will n ns period is 4 x 3.125 perefore, 20log(12.5/10 n factor can be applie r transmitting. DA 00- o not include this avera 1Hz Chain 1, BT Basi	ims = 12.5ms. 00) =-18dB ed to the average value 0705 permits the use of age correction factor. ic Rate @ 2402 MHz C Test Loca	4 times in any 100ms period. e of the signal provided the ave of the average correction on th Chain 2 ation: FT Chamber#7	
		Joseph Cadig Chain 1 Chain 2	Target (dBm) 16.5	Config Cha Power Settings Measured (dBm 16.7	3	
erform nor	120.0 - 100.0 -	n table above	is average power, for ter for fundamental an		20-30 cm from the product wih	utout filter.
Amplitude (dBuV/m)	40.0-	Alter	1 1 1	Net La succession	And share a second s	

Client:	Intel Corpora	ation						Job Number: J93358
							T-	Log Number: T93372
Model:	PBA5001							ect Manager: Christine Krebill
Contact:	Steve Hacke	ett					-	Coordinator: -
Standard:	FCC Part 15	.247, 15.407	,					Class: N/A
Preliminary	y Measureme	ents (Peak v						
Frequency	Level	Pol		/15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4824.030	44.0	V V	54.0	-10.0	Peak	143	1.6	
1199.430 1594.190	46.2 42.7	V	54.0 54.0	-7.8 -11.3	Peak Peak	200 228	1.0 1.9	
1 J 7 4. 1 7 U	42.1	V	04.0	-11.3	Γΰαλ	220	1.7	I
Spurious E	missions ex	cluding allo	cated band	(final meas	urements at	3m)		
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4823.990	42.9	V	54.0	-11.1	AVG	143	1.6	RB 1 MHz;VB 10 Hz;Peak
4824.100	48.8	V	74.0	-25.2	PK	143	1.6	RB 1 MHz;VB 3 MHz;Peak
1198.200	31.0	V	54.0	-23.0	AVG	200	1.0	RB 1 MHz;VB 10 Hz;Peak
1198.360	56.5	V	74.0	-17.5	PK	200	1.0	RB 1 MHz;VB 3 MHz;Peak
1593.910	30.2	V	54.0	-23.8	AVG	228	1.9	RB 1 MHz;VB 10 Hz;Peak
1373.710	JU.Z		54.0	-23.0	AVG	220	1.7	
1595.290	51.1	V	74.0	-22.9	PK 20-30cm from	228	1.9	RB 1 MHz;VB 3 MHz;Peak
1595.290	51.1 y Measureme 120.0 - 100.0 - 80.0 -	V	74.0	-22.9	PK 20-30cm from	228 n EUT		
(W/\ngp)	51.1 y Measureme 120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 - 2000	V ents (Peak v	74.0 ersus avera	-22.9 ge limit) at .	PK 20-30cm from	228 n EUT	1.9	RB 1 MHz;VB 3 MHz;Peak
1595.290 Preliminary	51.1 y Measureme 120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 - 2000	V ents (Peak v ////	74.0 ersus avera	-22.9 ge limit) at 1 2300 2	PK 20-30cm from	228 <i>n EUT</i>	1.9	RB 1 MHz;VB 3 MHz;Peak
1595.290 Preliminary	51.1 y Measureme 120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 - 2000	V ents (Peak v	74.0 ersus avera	-22.9 ge limit) at .	PK 20-30cm from	228 n EUT	1.9	RB 1 MHz;VB 3 MHz;Peak

	Intel Corporation						Job Number: J93358	
	del: PBA5001						T-Log Number: T93372	
Model: PB							Project Manager: Christine Krebill	
Contact: Ste	Steve Hackett						Project Coordinator: -	
andard: FC	FCC Part 15.247, 15.407							Class: N/A
quency /IHz d	Level dBµV/m	Pol v/h	Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
22.350	28.5	V	54.0	-25.5	AVG	336	1.0	RB 1 MHz;VB 10 Hz;Peak
25.490	39.6	V	74.0	-34.4	PK	336	1.0	RB 1 MHz;VB 3 MHz;Peak
52.720 53.740	30.9 42.4	V V	54.0 74.0	-23.1 -31.6	AVG PK	192 192	1.0 1.0	RB 1 MHz;VB 10 Hz;Peak RB 1 MHz;VB 3 MHz;Peak
25.290	42.4 27.9	V H	74.0 54.0	-31.0 -26.1	AVG	0	1.0	RB 1 MHZ;VB 3 MHZ;Peak
26.850	39.2	H	74.0	-34.8	PK	0	1.0	RB 1 MHz;VB 3 MHz;Peak
53.100	30.9	Н	54.0	-23.1	AVG	0	1.0	RB 1 MHz;VB 10 Hz;Peak
51.990	42.4	Н	74.0	-31.6	PK	0	1.0	RB 1 MHz;VB 3 MHz;Peak

	WE ENGINEER	SUCCESS							
Clien	t: Intel Corpora	ation						Job Number:	J93358
							T-	Log Number:	T93372
Mode	I: PBA5001							•	Christine Krebill
Contac	t: Steve Hacke	ett					2	Coordinator:	
	: FCC Part 15							Class:	
	-10GHz, 802.1		MHz Chain	1. BT Basic	: Rate @ 248) MHz Chair	n 2		<u> </u>
	Date of Test: Test Engineer:	10/7/2013		.,	Te	est Location: fig Change:	FT Chambe	er#7	
					Power S	Settings]
				t (dBm)	Measure	ed (dBm)		re Setting	l
		Chain 1	1	6.5	16	0.6		2.0	
		Chain 2		-			Ν	<i>l</i> lax	
lote - mea	asured power i ormal 1-10 GH	n table above	e is average	power, for re	eference only	00.05			
ámrlítuda (dRuV/m)	80.0-		·····				-		
4 molitude	20.0-	r.Mara	ml		have				
abi Hilama	W	ulmun	ml		haven		 		
	20.0- 10.0- 1000				Frequence	y (MHz)			 i 10000
reliminal	20.0 - 10.0 - 1000	ents (Peak v	ersus avera					· ·	 i 10000
reliminal	20.0 - 10.0 - 1000 <i>ry Measureme</i> y Level	ents (Peak ve Pol	ersus avera 15.209	9/15.247	Detector	Azimuth	Height	Comments	· 10000
reliminal requency MHz	20.0 - 10.0 - 1000 <i>ry Measureme</i> y Level dBµV/m	e nts (Peak v e Pol v/h	e <i>rsus avera</i> 15.209 Limit	9/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	Comments	· 10000
reliminal requency MHz 1584.680	20.0 - 10.0 - 1000 <i>ry Measureme</i> y Level dBµV/m 41.8	e <i>nts (Peak ve</i> Pol v/h V	ersus avera 15.209 Limit 54.0	0/15.247 Margin -12.2	Detector Pk/QP/Avg Peak	Azimuth degrees 79	meters 1.3	Comments	 i 10000
Preliminal Trequency MHz 1584.680 4924.030	20.0 - 10.0 - 1000 <i>ry Measureme</i> y Level dBµV/m 41.8 42.8	ents (Peak vo Pol V/h V V	ersus avera 15.209 Limit 54.0 54.0	0/15.247 Margin -12.2 -11.2	Detector Pk/QP/Avg Peak Peak	Azimuth degrees 79 117	meters 1.3 1.3	Comments	 i 10000
reliminal requency MHz 1584.680 4924.030 1199.430 purious	20.0 - 10.0 - 1000 <i>ry Measureme</i> y Level dBµV/m 41.8 42.8 44.7 Emissions ex	ents (Peak vo Pol V/h V V V V cluding allo	<i>ersus avera</i> 15.209 Limit 54.0 54.0 54.0 cated band	0/15.247 Margin -12.2 -11.2 -9.3 (final meas	Detector Pk/QP/Avg Peak Peak Peak urements at	Azimuth degrees 79 117 330 3m)	meters 1.3 1.3 1.6		
reliminal requency MHz 1584.680 4924.030 1199.430 purious requency	20.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level	ents (Peak vo Pol V/h V V V V cluding alloo Pol	ersus avera 15.209 Limit 54.0 54.0 54.0 54.0 cated band 15.209	/15.247 Margin -12.2 -11.2 -9.3 (final meas / 15.247	Detector Pk/QP/Avg Peak Peak Peak urements at Detector	Azimuth degrees 79 117 330 3m) Azimuth	meters 1.3 1.3 1.6 Height	Comments Comments	· 10000
reliminal requency MHz 1584.680 1924.030 199.430 199.430 purious requency MHz	20.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level dBµV/m	ents (Peak vo Pol V/h V V V cluding allo Pol V/h	ersus avera 15.209 Limit 54.0 54.0 54.0 54.0 cated band 15.209 Limit	7/15.247 Margin -12.2 -11.2 -9.3 (final meas / 15.247 Margin	Detector Pk/QP/Avg Peak Peak Peak urements at Detector Pk/QP/Avg	Azimuth degrees 79 117 330 3m) Azimuth degrees	meters 1.3 1.3 1.6 Height meters	Comments	
Dreliminal Trequency MHz 1584.680 4924.030 1199.430 purious Trequency MHz 1585.860	20.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level dBµV/m 27.4	ents (Peak ve Pol V/h V V V cluding alloo Pol V/h V	ersus avera 15.209 Limit 54.0 54.0 54.0 54.0 cated band 15.209 Limit 54.0	7/15.247 Margin -12.2 -11.2 -9.3 (final meas / 15.247 Margin -26.6	Detector Pk/QP/Avg Peak Peak Peak urements at Detector Pk/QP/Avg AVG	Azimuth degrees 79 117 330 3m) Azimuth degrees 79	meters 1.3 1.3 1.6 Height meters 1.3	Comments RB 1 MHz;V	/B 10 Hz;Peak
Preliminal Frequency MHz 1584.680 4924.030 1199.430 5 5 5 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	20.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level dBµV/m 27.4 38.4	ents (Peak vo Pol V/h V V V cluding alloo Pol V/h V V	ersus avera 15.209 Limit 54.0 54.0 54.0 cated band 15.209 Limit 54.0 74.0	V15.247 Margin -12.2 -11.2 -9.3 (final meas / 15.247 Margin -26.6 -35.6	Detector Pk/QP/Avg Peak Peak Peak urements at Detector Pk/QP/Avg AVG PK	Azimuth degrees 79 117 330 3m) Azimuth degrees 79 79	meters 1.3 1.3 1.6 Height meters 1.3	Comments RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak
Preliminal Frequency MHz 1584.680 4924.030 1199.430 Spurious Frequency MHz 1585.860 1583.720 4924.000	20.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level dBµV/m 27.4 38.4 41.4	ents (Peak vo Pol V/h V V V cluding alloo Pol V/h V V V	ersus avera 15.209 Limit 54.0 54.0 54.0 cated band 15.209 Limit 54.0 74.0 54.0	V15.247 Margin -12.2 -11.2 -9.3 (final meas) / 15.247 Margin -26.6 -35.6 -12.6	Detector Pk/QP/Avg Peak Peak Peak urements at Detector Pk/QP/Avg AVG PK AVG	Azimuth degrees 79 117 330 3m) Azimuth degrees 79 79 79 117	meters 1.3 1.3 1.6 Height meters 1.3 1.4	Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak
Preliminal Frequency MHz 1584.680 4924.030 1199.430 Spurious Frequency	20.0 - 10.0 - 10.0 - 1000 <i>ry Measureme</i> <i>y</i> Level dBµV/m 41.8 42.8 44.7 Emissions ex <i>y</i> Level dBµV/m 27.4 38.4 41.4 48.0	ents (Peak vo Pol V/h V V V cluding alloo Pol V/h V V	ersus avera 15.209 Limit 54.0 54.0 54.0 cated band 15.209 Limit 54.0 74.0	V15.247 Margin -12.2 -11.2 -9.3 (final meas / 15.247 Margin -26.6 -35.6	Detector Pk/QP/Avg Peak Peak Peak urements at Detector Pk/QP/Avg AVG PK	Azimuth degrees 79 117 330 3m) Azimuth degrees 79 79	meters 1.3 1.3 1.6 Height meters 1.3	Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak

	: Intel Corpora	ation						Job Number:	
Mode	: PBA5001							Log Number:	
								0	Christine Krebill
	: Steve Hacke						Project	Coordinator:	
	: FCC Part 15							Class:	N/A
reliminal	y Measureme	ents (Peak V	ersus avera	age limit) at	20-30Cm 1101	neui			
	120.0-								
	100.0-								
Amolitri de (dBriV/m)	80.0-				MT.				
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4	60.0-				N N	M.			
						Www.			
4	40.0-	<u>.</u>		an human	n	"When	_ # ↓ •		
	M.M.	Wennesser	manne			· y	mall half all and	mound	and the house marked w
	20.0-								
	2010 1				2400 250			2800	
	2000	2100	2200	2300 2	2700 230	0 2600	2700	2000	2900 3000
	2000	2100	2200	2300 2	Frequenc		2700	2000	2900 3000
					Frequenc	y (MHz)			2900 3000
requency	Level	Pol	15.209	0/15.247	Frequenc Detector	y (MHz) Azimuth	Height	Comments	2900 3000
MHz	dBμV/m	Pol v/h	15.209 Limit	0/15.247 Margin	Frequenc Detector Pk/QP/Avg	y (MHz) Azimuth degrees	Height meters		2900 3000
MHz 2310.620	/ Level dBμV/m 46.0	Pol v/h V	15.209 Limit 54.0	0/15.247 Margin -8.0	Frequenc Detector Pk/QP/Avg Peak	y (MHz) Azimuth degrees 308	Height meters 1.0		2900 3000
MHz 310.620	dBμV/m	Pol v/h	15.209 Limit	0/15.247 Margin	Frequenc Detector Pk/QP/Avg	y (MHz) Azimuth degrees	Height meters		2900 3000
MHz 2310.620 2700.120	/ Level dBμV/m 46.0	Pol v/h V V	15.209 Limit 54.0 54.0	0/15.247 Margin -8.0 -13.3	Frequenc Detector Pk/QP/Avg Peak Peak	y (MHz) Azimuth degrees 308	Height meters 1.0		2900 3000
MHz 2310.620 2700.120 Durious I requency	/ Level dBμV/m 46.0 40.7 Emissions ne	Pol v/h V V	15.209 Limit 54.0 54.0	0/15.247 Margin -8.0 -13.3	Frequence Detector Pk/QP/Avg Peak Peak nts at 3m) Detector	y (MHz) Azimuth degrees 308	Height meters 1.0		2900 3000
MHz 2310.620 2700.120 purious l requency MHz	Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m	Pol v/h V V ar allocated Pol v/h	15.209 Limit 54.0 54.0 I band (final 15.209 Limit	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin	Frequence Detector Pk/QP/Avg Peak Peak nts at 3m) Detector Pk/QP/Avg	y (MHz) Azimuth degrees 308 360 Azimuth degrees	Height meters 1.0 1.0 Height meters	Comments	
MHz 2310.620 2700.120 Durious I requency MHz 2379.270	2 Level dBμV/m 46.0 40.7 Emissions ne 2 Level dBμV/m 39.2	Pol v/h V V ar allocated Pol v/h V	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0	0/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8	Frequence Detector Pk/QP/Avg Peak Peak nts at 3m) Detector Pk/QP/Avg AVG	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264	Height meters 1.0 1.0 Height meters 1.0	Comments Comments Comments RB 1 MHz;V	/B 10 Hz;Peak
MHz 2310.620 2700.120 2700.120 2700.120 2700.120 2700.120 2379.270 2379.540	 Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 	Pol V/h V V ar allocated Pol V/h V V	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9	Frequence Detector Pk/QP/Avg Peak Peak nts at 3m) Detector Pk/QP/Avg AVG PK	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264	Height meters 1.0 1.0 Height meters 1.0 1.0	Comments Comments RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak
MHz 2310.620 2700.120 Durious I requency MHz 2379.270 2379.540 2700.060	 Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 	Pol v/h V V ar allocated Pol v/h V V V V	15.209 Limit 54.0 54.0 band (final 15.209 Limit 54.0 74.0 54.0	//15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5	Frequence Detector Pk/QP/Avg Peak Peak nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK AVG	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 196	Height meters 1.0 1.0 Height meters 1.0 1.0 1.0 1.7	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak
MHz 2310.620 2700.120 2700.120 2700.120 2700.120 2379.270 2379.270 2379.540 2700.060 2700.400	 Level dBμV/m 46.0 40.7 Emissions net Level dBμV/m 39.2 50.1 34.5 43.6 	Pol v/h V V ar allocated Pol v/h V V V V V	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5 -30.4	Frequence Detector Pk/QP/Avg Peak Peak Nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 264 196 196	Height meters 1.0 1.0 Height meters 1.0 1.0 1.7 1.7	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 10 Hz;Peak /B 3 MHz;Peak
MHz 2310.620 2700.120 2700.120 2700.120 2700.120 2700.200 2700.060 2700.080	 Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 43.6 35.9 	Pol v/h V V ar allocated Pol v/h V V V V V H	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0 54.0	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5 -30.4 -18.1	Frequence Detector Pk/QP/Avg Peak Peak Nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK AVG PK AVG	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 264 196 196 360	Height meters 1.0 1.0 Height meters 1.0 1.0 1.7 1.7 1.7 1.2	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak
MHz 310.620 700.120 purious l requency MHz 379.270 379.540 700.060 700.080	 Level dBμV/m 46.0 40.7 Emissions net Level dBμV/m 39.2 50.1 34.5 43.6 	Pol v/h V V ar allocated Pol v/h V V V V V	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5 -30.4	Frequence Detector Pk/QP/Avg Peak Peak Nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 264 196 196	Height meters 1.0 1.0 Height meters 1.0 1.0 1.7 1.7	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak
MHz 2310.620 2700.120 2700.120 2700.120 2700.120 2700.200 2700.060 2700.080	 Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 43.6 35.9 45.4 	Pol V/h V V ar allocated Pol V/h V V V V V V H H	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0	D/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5 -30.4 -18.1 -28.6	Frequence Detector Pk/QP/Avg Peak Peak Peak Nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK AVG PK AVG PK	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 264 196 196 360 360	Height neters 1.0 1.0 Height meters 1.0 1.0 1.7 1.7 1.7 1.2 1.2	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak
MHz 310.620 700.120 purious l requency MHz 379.270 379.540 700.060 700.400 700.000	Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 43.6 35.9 45.4 For emission	Pol v/h V V ar allocated Pol v/h V V V V V V H H s in restricted	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0	0/15.247 Margin -8.0 -13.3 measurme / 15.247 Margin -14.8 -23.9 -19.5 -30.4 -18.1 -28.6 e limit of 15.2	Frequence Detector Pk/QP/Avg Peak Peak Detector Pk/QP/Avg AVG PK AVG PX AVG PX	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 264 196 196 360 360	Height neters 1.0 1.0 Height meters 1.0 1.0 1.7 1.7 1.7 1.2 1.2	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak
MHz 2310.620 2700.120 2700.120 2700.120 2700.120 2700.270 2700.060 2700.060 2700.080 2700.000 2700.000	Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 43.6 35.9 45.4 For emission level of the f	Pol v/h V V ar allocated Pol v/h V V V V V V H H H	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 6 bands, the and measure	/15.247 Margin -8.0 -13.3 measurme /15.247 Margin -14.8 -23.9 -19.5 -30.4 -18.1 -28.6 el limit of 15.2 ed in 100kHz	Frequence Detector Pk/QP/Avg Peak Peak Detector Pk/QP/Avg AVG PK 209 was used. Z.	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 196 196 360 360 360	Height meters 1.0 1.0 Height meters 1.0 1.0 1.0 1.10 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.17 1.2 1.2 er emissions	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak
MHz 2310.620 2700.120 2700.120 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Level dBμV/m 46.0 40.7 Emissions ne Level dBμV/m 39.2 50.1 34.5 43.6 35.9 45.4 For emission level of the f	Pol v/h V V ar allocated Pol v/h V V V V V V H H H	15.209 Limit 54.0 54.0 I band (final 15.209 Limit 54.0 74.0 54.0 74.0 54.0 74.0 54.0 74.0 6 bands, the and measure	/15.247 Margin -8.0 -13.3 measurme /15.247 Margin -14.8 -23.9 -19.5 -30.4 -18.1 -28.6 el limit of 15.2 ed in 100kHz	Frequence Detector Pk/QP/Avg Peak Peak Detector Pk/QP/Avg AVG PK AVG PX AVG PX	y (MHz) Azimuth degrees 308 360 Azimuth degrees 264 264 196 196 360 360 360	Height meters 1.0 1.0 Height meters 1.0 1.0 1.0 1.10 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.17 1.2 1.2 er emissions	Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak

<u> </u>	Intol Corner	success						lob Number	102250
Client	Intel Corpora	10011						Job Number:	
Model:	PBA5001							_og Number:	
Comberd	Chave Line	. ++							Christine Krebill
	Steve Hacke						Project	Coordinator:	
	FCC Part 15			1 DT D -			_	Class:	N/A
	Date of Test: est Engineer:	10/7/2013		I, BI Basic		st Location: fig Change:	FT Chambe	r#7	
					Power S				
				(dBm)	Measure			e Setting	
		Chain 1 Chain 2	10	5.5	15	.5).0 ax	
					eference only. then 2-3 GHz		cm from the	product wiht	out filter.
Amplitude (dBuV/m)	80.0 - 60.0 - 40.0 - 20.0 - 1000	mm	-A.A.		hanna hanna				· · · 10000
aliminar	Maggiran	nto (Dook	arelic aller	ac limit)	Frequenc	γ (MH2)			
eliminar <u>)</u> equency	<i>y Measureme</i> Level	Pol		<i>ge IImit)</i> /15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Johnnonto	
	40.2	Н	54.0	-13.8	Peak	62	1.3		
746.860	43.1	Н	54.0	-10.9	Peak	224	1.6		

Client:	Intel Corpora	ation						Job Number:	J93358
Madal	PBA5001						T-	Log Number:	T93372
woder:	PDADUUT						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	.247, 15.407	1					Class:	N/A
purious E		M		1	urements at				
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
3746.910 3745.660	33.1 51.1	<u>Н</u> Н	54.0 74.0	-20.9 -22.9	AVG PK	62 62	1.3 1.3		/B 10 Hz;Peak /B 3 MHz;Peak
1000.795	25.3	H	54.0	-22.7	AVG	224	1.5		;VB 10 Hz;Peak
1000.270	39.2	H	74.0	-34.8	PK	224	1.6		:VB 300 kHz;Peak
(mplitude (dBuV/m)	80.0 -					.h.us			
Amplitude (dBuV/m)	60.0 -		2200	2300 2	400 250			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Amplitude (dBuV/m)	60.0 - 40.0 - 40.0 -		2200			0 2600			
(m/(m)	60.0 - 40.0 - 40.0 - 20.0 - 2000				400 250	0 2600	2700		
requency MHz	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m	2100 Pol V/h	15.209 Limit	2300 2 /15.247 Margin	250 Frequenc Detector Pk/QP/Avg	0 2600 y (MHz) Azimuth degrees	2700 Height meters	2800	
requency MHz	60.0 - 40.0 - 20.0 - 2000	2100 Pol	15.209	2300 2	2400 250 Frequenc	0 2600 y (MHz) Azimuth	2700 Height	2800	
requency MHz 2694.820	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m 49.3	2100 Pol V/h V	15.209. Limit 54.0	2300 2 /15.247 Margin -4.7	2400 250 Frequenc Detector Pk/QP/Avg Peak	0 2600 y (MHz) Azimuth degrees	2700 Height meters	2800	
requency MHz 2694.820 purious E	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m 49.3 missions ne	Pol V/h V ar allocated	15.209. Limit 54.0	2300 2 /15.247 Margin -4.7 measurmen	400 250 Frequenc Detector Pk/QP/Avg Peak nts at 3m)	o 2600 y (MHz) Azimuth degrees 153	2700 Height meters 1.0	2800 Comments	
requency MHz 2694.820 Durious E	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m 49.3 missions ne Level	2100 Pol V/h V	15.209. Limit 54.0	2300 2 /15.247 Margin -4.7 measurme / 15.247	400 250 Frequenc Detector Pk/QP/Avg Peak nts at 3m) Detector	0 2600 y (MHz) Azimuth degrees	2700 Height meters	2800	
requency MHz 2694.820 purious E requency MHz 2695.670	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m 49.3 missions ne Level dBµV/m 30.8	Pol V/h V ar allocated Pol V/h V	15.209. Limit 54.0 band (final 15.209. Limit 54.0	2300 2 /15.247 Margin -4.7 measurmen / 15.247 Margin -23.2	250 Frequenc Detector Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg AVG	0 2600 y (MHz) Azimuth degrees 153 Azimuth degrees 290	Height meters 1.0 Height meters 1.0	2800 Comments Comments RB 1 MHz;\	2900 3000 /B 10 Hz;Peak
requency MHz 2694.820 purious E requency MHz 2695.670 2693.530	60.0 - 40.0 - 20.0 - 2000 Level dBμV/m 49.3 missions ne Level dBμV/m 30.8 41.6	Pol v/h V ar allocated Pol v/h V V	15.209. Limit 54.0 band (final 15.209. Limit 54.0 74.0	2300 2 /15.247 Margin -4.7 measurmen / 15.247 Margin -23.2 -32.4	250 Frequenc Detector Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg AVG PK	0 2600 y (MHz) Azimuth degrees 153 Azimuth degrees 290 290	Height meters 1.0 Height meters 1.0 1.0	2800 Comments Comments RB 1 MHz;V RB 1 MHz;V	2900 3000 /B 10 Hz;Peak /B 3 MHz;Peak
requency MHz 2694.820 purious E requency MHz 2695.670 2693.530 2696.040	60.0 - 40.0 - 20.0 - 2000 Level dBµV/m 49.3 missions ne Level dBµV/m 30.8 41.6 32.2	Pol v/h V ar allocated Pol v/h V V V V H	15.209. Limit 54.0 band (final 15.209. Limit 54.0 74.0 54.0	2300 2 /15.247 Margin -4.7 measurmen / 15.247 Margin -23.2 -32.4 -21.8	Additional and the second seco	0 2600 y (MHz) Azimuth degrees 153 Azimuth degrees 290 290 353	Height meters 1.0 Height meters 1.0 1.0 1.0 1.0	2800 Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	2900 3000 /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak
requency MHz 2694.820 Durious E requency MHz 2695.670 2693.530	60.0 - 40.0 - 20.0 - 2000 Level dBμV/m 49.3 missions ne Level dBμV/m 30.8 41.6	Pol v/h V ar allocated Pol v/h V V	15.209. Limit 54.0 band (final 15.209 Limit 54.0 74.0	2300 2 /15.247 Margin -4.7 measurmen / 15.247 Margin -23.2 -32.4	250 Frequenc Detector Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg AVG PK	0 2600 y (MHz) Azimuth degrees 153 Azimuth degrees 290 290	Height meters 1.0 Height meters 1.0 1.0	2800 Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	2900 3000 /B 10 Hz;Peak /B 3 MHz;Peak

Client	Intel Corpora	ition						Job Number:	J93358
							T-	Log Number:	T93372
Model	PBA5001							•	Christine Krebill
Contact	Steve Hacke	tt					2	Coordinator:	
	FCC Part 15							Class:	
	10GHz, 802.1 Date of Test:		MHz Chain	1, BT Basic					
	est Engineer:		nal			est Location: ifig Change:		21#7	
			gai		001	ing ondrige.	none		
	[Power S	Settings]
			Target		Measure	1 /		re Setting	
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	ļ	Chain 2		-	Ļ		N	lax	
	sured power ir rmal 1-10 GHz						f il		and filles
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	20.0-								1000
	20.0 - 1000				Erecuera	o (M⊟-\			
brolining	1000	nto (Dook		ac limit)	Frequenc	y (MHz)			
	1000 y Measureme						Height	Comments	
requency	1000 y <i>Measureme</i> Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	
requency MHz	1000 y <i>Measureme</i> Level dBµV/m		15.209 Limit	/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	Comments	
requency MHz 1194.610	1000 y <i>Measureme</i> Level	Pol v/h	15.209	/15.247	Detector	Azimuth	×.	Comments	
requency MHz 1194.610	1000 y <i>Measureme</i> Level dBμV/m 47.7	Pol v/h V	15.209 Limit 54.0	/15.247 Margin -6.3	Detector Pk/QP/Avg Peak	Azimuth degrees 319	meters 1.6	Comments	
requency MHz 194.610 597.080 Durious E	1000 y Measureme Level dBµV/m 47.7 42.0 missions exe	Pol v/h V V	15.209 Limit 54.0 54.0 cated band	/15.247 Margin -6.3 -12.0 (final meas	Detector Pk/QP/Avg Peak Peak urements at	Azimuth degrees 319 329 3m)	meters 1.6 1.0		
equency MHz 194.610 597.080 urious E equency	1000 y Measureme Level dBµV/m 47.7 42.0 missions exe Level	Pol v/h V V cluding alloo Pol	15.209 Limit 54.0 54.0 cated band 15.209	/15.247 Margin -6.3 -12.0 (final meas / 15.247	Detector Pk/QP/Avg Peak Peak urements at Detector	Azimuth degrees 319 329 3m) Azimuth	meters 1.6 1.0 Height	Comments	
requency MHz 194.610 597.080 Durious E requency MHz	1000 y Measureme dBµV/m 47.7 42.0 cmissions exo Level dBµV/m	Pol v/h V V cluding allow Pol v/h	15.209 Limit 54.0 54.0 cated band 15.209 Limit	/15.247 Margin -6.3 -12.0 (final meas / 15.247 Margin	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg	Azimuth degrees 319 329 3m) Azimuth degrees	meters 1.6 1.0 Height meters	Comments	
requency MHz 1194.610 1597.080 purious E requency MHz 1195.820	1000 y Measureme Level dBµV/m 47.7 42.0 missions exe Level dBµV/m 33.2	Pol v/h V V cluding allow Pol v/h V	15.209 Limit 54.0 54.0 cated band 15.209 Limit 54.0	/15.247 Margin -6.3 -12.0 (final meas / 15.247 Margin -20.8	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg AVG	Azimuth degrees 319 329 3m) Azimuth degrees 317	meters 1.6 1.0 Height meters 1.6	Comments RB 1 MHz;V	/B 10 Hz;Peak
requency MHz 1194.610 1597.080 purious E requency MHz 1195.820 1195.220	1000 y Measureme Level dBμV/m 47.7 42.0 missions exe Level dBμV/m 33.2 56.9	Pol v/h V V cluding allow Pol v/h V V V	15.209 Limit 54.0 54.0 cated band 15.209 Limit 54.0 74.0	/15.247 Margin -6.3 -12.0 (final meas / 15.247 Margin -20.8 -17.1	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg AVG PK	Azimuth degrees 319 329 3m) Azimuth degrees 317 317	meters 1.6 1.0 Height meters 1.6 1.6	Comments RB 1 MHz;V RB 1 MHz;V	/B 3 MHz;Peak
Frequency MHz 1194.610 1597.080 Fpurious E Frequency	1000 y Measureme Level dBµV/m 47.7 42.0 missions exe Level dBµV/m 33.2	Pol v/h V V cluding allow Pol v/h V	15.209 Limit 54.0 54.0 cated band 15.209 Limit 54.0	/15.247 Margin -6.3 -12.0 (final meas / 15.247 Margin -20.8	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg AVG	Azimuth degrees 319 329 3m) Azimuth degrees 317	meters 1.6 1.0 Height meters 1.6	Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	

Client:	Intel Corpo	ration						Job Number:	
Model:	PBA5001							Log Number:	
<u> </u>	<u> </u>							5	Christine Krebill
	Steve Hac		7				Project	Coordinator:	
		5.247, 15.40		ago limit) at	20-30cm froi	m EUT		Class:	N/A
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	20.0-, , 2000			2300 2	2400 250 Frequenc	ю 2600 у (MHz)	2700	2800	
1 2	20.0 - 2000	Pol	15.209	2300 2 0/15.247	2400 250 Frequenc Detector	y (MHz)	2700 Height		
MHz	20.0 - 2000 Level dBμV/m	Pol v/h	15.209 Limit	2300 2 9/15.247 Margin	2400 250 Frequenc Detector Pk/QP/Avg	o 2600 y (MHz) Azimuth degrees	2700 Height meters	2800	
MHz 94.610	20.0 – , , , , , , , , , , , , , , , , , ,	Pol v/h V	15.209 Limit 54.0	2300 2 D/15.247 Margin -6.3	2400 250 Frequenc Detector Pk/QP/Avg Peak	o 2600 y (MHz) Azimuth degrees 319	Height meters 1.6	2800	
MHz 94.610 97.080	20.0 - 2000 Level dBμV/m	Pol v/h	15.209 Limit	2300 2 9/15.247 Margin	2400 250 Frequenc Detector Pk/QP/Avg	o 2600 y (MHz) Azimuth degrees	2700 Height meters	2800	
MHz 94.610 97.080 01.670	20.0 - 2000 Level dBμV/m 47.7 42.0 48.2	Pol v/h V V V V	15.209 Limit 54.0 54.0 54.0	2300 2 0/15.247 Margin -6.3 -12.0 -5.8	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak	vo 2600 y (MHz) Azimuth degrees 319 329	Height meters 1.6 1.0	2800	
	20.0 – 2000 Level dBµV/m 47.7 42.0 48.2 missions r	Pol V/h V V V ear allocated	15.209 Limit 54.0 54.0 54.0 54.0	2300 2 0/15.247 Margin -6.3 -12.0 -5.8	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak Peak	o 2600 y (MHz) Azimuth degrees 319 329 211	Height meters 1.6 1.0 1.0	Comments	
MHz 94.610 97.080 01.670 urious E equency	20.0 – 2000 Level dBµV/m 47.7 42.0 48.2 missions r Level	Pol V/h V V V ear allocated Pol	15.209 Limit 54.0 54.0 54.0 54.0 band (final 15.209	2300 2 0/15.247 Margin -6.3 -12.0 -5.8 I measurmen / 15.247	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak Peak Nts at 3m) Detector	Azimuth degrees 319 329 211 Azimuth	Height meters 1.6 1.0 1.0 Height	2800	
MHz 94.610 97.080 01.670 urious E equency MHz	20.0 – 2000 Level dBµV/m 47.7 42.0 48.2 missions r Level dBµV/m	Pol v/h V V V ear allocated Pol v/h	15.209 Limit 54.0 54.0 54.0 54.0 54.0 band (final 15.209 Limit	2300 2 7/15.247 Margin -6.3 -12.0 -5.8 I measurmen / 15.247 Margin	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak Nts at 3m) Detector Pk/QP/Avg	Azimuth degrees 319 329 211 Azimuth degrees	Height meters 1.6 1.0 1.0 Height meters	Comments Comments Comments	2900 3000
MHz 194.610 597.080 701.670 urious E equency MHz 700.180	20.0 – 2000 2000 dBµV/m 47.7 42.0 48.2 missions r Level dBµV/m 34.1	Pol V/h V V V ear allocated Pol V/h V	15.209 Limit 54.0 54.0 54.0 54.0 band (final 15.209 Limit 54.0	2300 2 //15.247 Margin -6.3 -12.0 -5.8 I measurmen / 15.247 Margin -19.9	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak Notest 3m) Detector Pk/QP/Avg AVG	Azimuth degrees 319 329 211 Azimuth degrees 203	Height meters 1.6 1.0 1.0 Height meters 1.6	Comments Comments Comments RB 1 MHz;V	2900 3000
MHz 94.610 97.080 701.670 urious E equency MHz	20.0 – 2000 Level dBµV/m 47.7 42.0 48.2 missions r Level dBµV/m	Pol v/h V V V ear allocated Pol v/h	15.209 Limit 54.0 54.0 54.0 54.0 54.0 band (final 15.209 Limit	2300 2 7/15.247 Margin -6.3 -12.0 -5.8 I measurmen / 15.247 Margin	2400 250 Frequence Detector Pk/QP/Avg Peak Peak Peak Nts at 3m) Detector Pk/QP/Avg	Azimuth degrees 319 329 211 Azimuth degrees	Height meters 1.6 1.0 1.0 Height meters	Comments Comments Comments RB 1 MHz;V RB 1 MHz;V	2900 3000

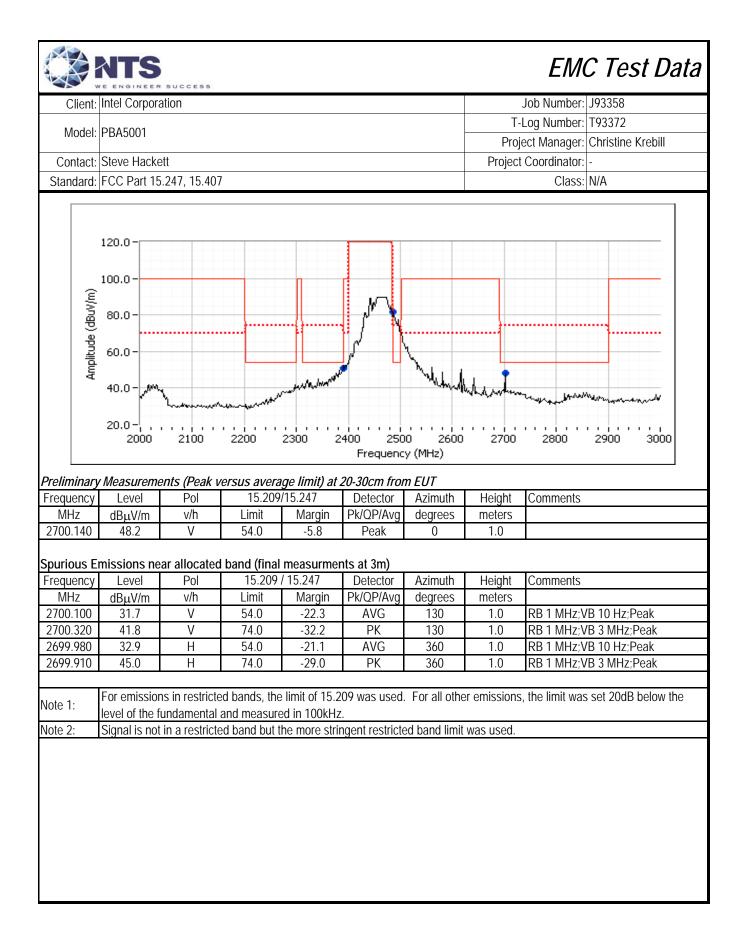
Client	: Intel Corpora	ation						Job Number:	J93358
Madal							T-	Log Number:	T93372
Iviodei	: PBA5001						Proj	ect Manager:	Christine Krebill
Contact	: Steve Hacke	ett					Project	Coordinator:	-
Standard	: FCC Part 15	.247, 15.407						Class:	N/A
un #5: 1	-10GHz, 802.1	l 1g @ 2437	MHz Chain	1, BT Basic	c Rate @ 2402	2 MHz Chair	n 2		
	Date of Test:					est Location:		er#7	
Т	est Engineer:	Joseph Cadi	gal		Cor	nfig Change:	none		
					Dowor	Settings			1
			Target	t (dBm)	Measure		Softwar	e Setting	
		Chain 1		5.5	16			3.5	
		Chain 2		-	1			lax	1
	sured power i						•		•
erform no	rmal 1-10 GH	z scan with fi	Iter for funda	amental and	then 2-3 GHz	z scan 20-30	cm from the	e product wiht	out filter.
	2		·····			4	-		
Amnlihude (dRuN(m)	40.0- ~~~ 20.0-	- Mina	~~~						
Amnihude (d	40.0-	- Anna			Frequence	y (MHz)			· · 10000
	40.0- ~~~ 20.0-	ents (Peak v	ersus avera	ge limit)	Frequenc	y (MHz)			10000
reliminal	40.0 - 20.0 - 1000 <i>y Measureme</i>	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	· · · 10000
reliminal requency MHz	40.0 - 20.0 - 1000 <i>y Measureme</i> (Level dBµV/m	Pol v/h	15.209 Limit	/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	Comments	· · · 10000
reliminal requency MHz 1593.250	40.0 - 20.0 - 1000 <i>y Measureme</i> <u>dBμV/m</u> 38.2	Pol v/h H	15.209 Limit 54.0	/15.247 Margin -15.8	Detector Pk/QP/Avg Peak	Azimuth degrees 155	meters 2.2	Comments	
reliminal requency MHz	40.0 - 20.0 - 1000 <i>y Measureme</i> (Level dBµV/m	Pol v/h	15.209 Limit	/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	Comments	· · · 10000
reliminal requency MHz 593.250 195.690	40.0 - 20.0 - 1000 <i>y Measureme</i> (Level dBµV/m 38.2 45.5	Pol v/h H V	15.209 Limit 54.0 54.0	/15.247 Margin -15.8 -8.5	Detector Pk/QP/Avg Peak Peak	Azimuth degrees 155 339	meters 2.2	Comments	· · · 10000
reliminal requency MHz 593.250 195.690	40.0 - 20.0 - 1000 <i>y Measureme</i> (Level dBµV/m 38.2 45.5 Emissions ex	Pol v/h H V cluding allo	15.209 Limit 54.0 54.0 cated band	/15.247 Margin -15.8 -8.5 (final meas	Detector Pk/QP/Avg Peak Peak urements at	Azimuth degrees 155 339 3m)	meters 2.2 2.5		10000
reliminal requency MHz 593.250 195.690 Durious I	40.0 - 20.0 - 1000 <i>y Measureme</i> <i>dBµV/m</i> 38.2 45.5 Emissions ex <i>(</i> Level	Pol v/h H V cluding allo Pol	15.209 Limit 54.0 54.0 cated band 15.209	/15.247 Margin -15.8 -8.5 (final meas / 15.247	Detector Pk/QP/Avg Peak Peak urements at Detector	Azimuth degrees 155 339 3m) Azimuth	meters 2.2 2.5 Height	Comments Comments	· · · 10000
reliminal requency MHz 1593.250 1195.690 purious I requency	40.0 - 20.0 - 1000 <i>y Measureme</i> <u>dBµV/m</u> 38.2 45.5 Emissions ex <u>c Level</u> <u>dBµV/m</u>	Pol v/h H V cluding allo	15.209 Limit 54.0 54.0 cated band	/15.247 Margin -15.8 -8.5 (final meas	Detector Pk/QP/Avg Peak Peak urements at	Azimuth degrees 155 339 3m)	meters 2.2 2.5	Comments	/B 10 Hz;Peak
reliminal requency MHz 1593.250 1195.690 purious I requency MHz	40.0 - 20.0 - 1000 <i>y Measureme</i> <u>dBµV/m</u> 38.2 45.5 Emissions ex <u>c Level</u> <u>dBµV/m</u>	Pol v/h H V cluding allo Pol v/h	15.209 Limit 54.0 54.0 cated band 15.209 Limit	/15.247 Margin -15.8 -8.5 (final meas / 15.247 Margin	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg	Azimuth degrees 155 339 3m) Azimuth degrees	meters 2.2 2.5 Height meters	Comments RB 1 MHz;V	
reliminal requency MHz 1593.250 1195.690 purious I requency MHz 1593.400	40.0 - 20.0 - 1000 <i>y Measureme</i> (Level dBµV/m 38.2 45.5 Emissions ex (Level dBµV/m 28.2 45.7	Pol v/h H V cluding allo Pol v/h H	15.209 Limit 54.0 54.0 cated band 15.209 Limit 54.0	/15.247 Margin -15.8 -8.5 (final meas / 15.247 Margin -25.8	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg AVG	Azimuth degrees 155 339 3m) Azimuth degrees 156	meters 2.2 2.5 Height meters 2.2	Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak

Client:	Intel Corpora	ition						Job Number:	
Model [.]	PBA5001							Log Number:	
							-	°	Christine Krebill
	Steve Hacke						Projec	t Coordinator:	
	FCC Part 15. Measureme			and limits at	20 20 am fra			Class:	N/A
Amplitude (dBuV/m)		harra					mahumlur		ant water and the contract
			15.209	0/15.247	Frequenc Detector	y (MHz) Azimuth	Height	Comments	
-requency	Level	Pol							
MHz	Level dBµV/m 51.2	V/h	Limit 54.0	Margin -2.8	Pk/QP/Avg Peak	degrees 0	meters 1.0		
2700.120	dBµV/m	v/h V	54.0 band (final	-2.8	Peak			RB 1 MHz;V RB 1 MHz;V	/B 10 Hz;Peak /B 3 MHz;Peak /B 3 MHz;Peak /B 3 MHz;Peak

Client	t: Intel Corpora	ation						Job Number: J93358
Madal							T-	Log Number: T93372
Model	I: PBA5001						Proj	ect Manager: Christine Krebil
Contact	t: Steve Hacke	ett					Project	Coordinator: -
Standard	I: FCC Part 15	.247, 15.407						Class: N/A
	-10GHz, 802.1		MHz Chain	1, BT Basic				
	Date of Test:					est Location:		er#7
I	est Engineer:	Joseph Cadi	gal		Con	ifig Change:	none	
					Power S	Settinas		
			Target	t (dBm)	Measure		Softwa	re Setting
		Chain 1		6.5	16	· /		3.0
		Chain 2		-			N	/lax
lote - mea	sured power i	n table above	e is average	power, for re	eference only.			
erform no	ormal 1-10 GH	z scan with fi	Iter for funda	amental and	then 2-3 GHz	scan 20-30	cm from the	e product wihtout filter.
	120.0-							
	120.0							
	100.0-							
- 19	3 80.0-	{}						· · · · · · · · · · · · · · · · · · ·
<u> </u>						T]		
nlitude	60.0-							
Amnlitride (dBriV(m)	-							
Amolitude	60.0 - 40.0 -	Mm				 		
4mmlitude	40.0-	Man	~~~~	- III				
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4moliti ole	40.0-	Man	~~~~~		Frequence	y (MHz)		· · · · · 100
	40.0-	n Imm	~~~~~		Frequenc	y (MHz)		
	40.0-	ents (Peak v			Frequenc	y (MHz)		· · · · · · 100
Preliminal	40.0 - 20.0 - 1000	Pol	15.209	age limit) /15.247	Detector	y (MHz)	Height	Comments
Preliminal Frequency MHz	40.0 - 20.0 - 1000 <i>ry Measureme</i> / Level dBµV/m	Pol v/h	15.209 Limit	/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	
Preliminal Frequency MHz	40.0 - 20.0 - 1000 <i>ry Measureme</i> / Level dBµV/m	Pol	15.209	/15.247	Detector	Azimuth		
Preliminal Frequency MHz 1198.380	40.0 - 20.0 - 1000 // Level // Level // Level // Level // Level // Level	Pol v/h V	15.209 Limit 54.0	/15.247 Margin -11.7	Detector Pk/QP/Avg Peak	Azimuth degrees 184	meters	
Preliminal Frequency MHz 1198.380	40.0 - 20.0 - 1000 / Level dBμV/m 42.3 Emissions ex	Pol v/h V	15.209 Limit 54.0 cated band	/15.247 Margin -11.7 (final meas	Detector Pk/QP/Avg Peak urements at	Azimuth degrees 184 3m)	meters 1.3	Comments
Preliminar Frequency MHz 1198.380 Spurious I Frequency	40.0 - 20.0 - 1000 / Level dBµV/m 42.3 Emissions ex / Level	Pol v/h V cluding allo Pol	15.209 Limit 54.0 cated band 15.209	/15.247 Margin -11.7 (final meas / 15.247	Detector Pk/QP/Avg Peak urements at Detector	Azimuth degrees 184 3m) Azimuth	meters 1.3 Height	
Preliminal Trequency MHz 1198.380 purious I	40.0 - 20.0 - 1000 / Level dBµV/m 42.3 Emissions ex / Level dBµV/m	Pol v/h V	15.209 Limit 54.0 cated band	/15.247 Margin -11.7 (final meas	Detector Pk/QP/Avg Peak urements at	Azimuth degrees 184 3m)	meters 1.3	Comments
Preliminar Frequency MHz 1198.380 Spurious I Frequency	40.0 - 20.0 - 1000 / Level dBµV/m 42.3 Emissions ex / Level	Pol v/h V cluding allo Pol	15.209 Limit 54.0 cated band 15.209	/15.247 Margin -11.7 (final meas / 15.247	Detector Pk/QP/Avg Peak urements at Detector	Azimuth degrees 184 3m) Azimuth	meters 1.3 Height	Comments

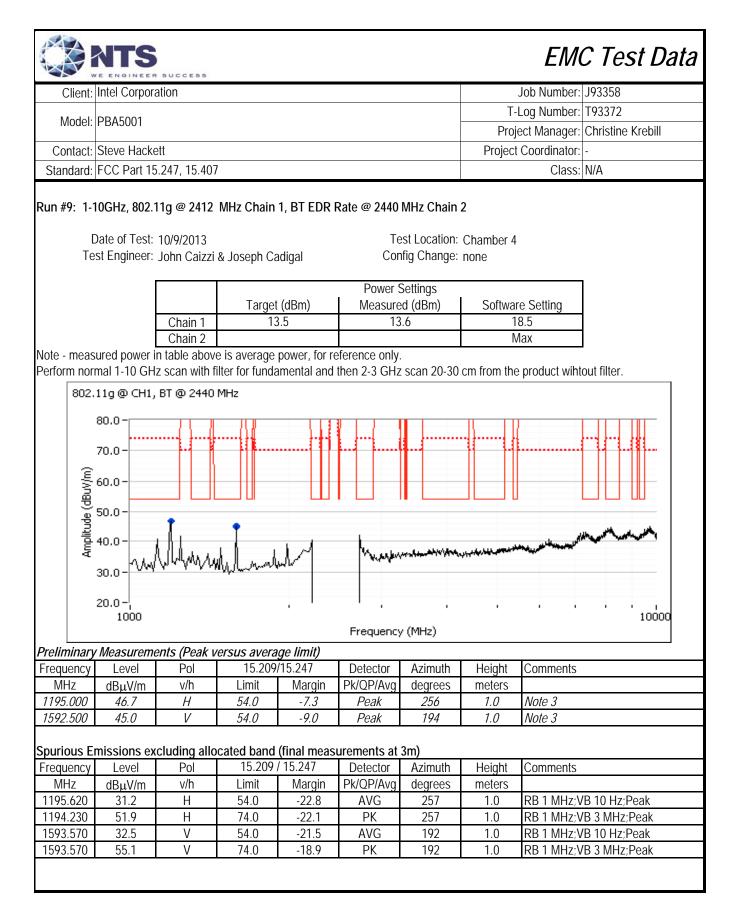
Client:	Intel Corpora	ation						Job Number:	J93358
Madal							T-	Log Number:	T93372
wodel:	PBA5001						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
tandard:	FCC Part 15	.247, 15.407	1					Class:	N/A
	/ Measureme 120.0 - 100.0 - 80.0 -	ents (Peak v	versus avera	ge limit) at	20-30cm froi	n EUT			
Amplitude (dBuV/m)	60.0 - 40.0 - 20.0 - 2000	Julaha Juawa 2100		2300 2	2400 250 Frequenc	0 2600	2700	~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
equency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
00.140	46.7	V	54.0	-7.3	Peak	0	1.0		
rious F	missions no	or allocator	l hand (final	maaaurmaa	nto at 2m)				
equency	missions ne Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
00.110		V	54.0	-20.6	AVG	294	2.1	RB 1 MHz;\	'B 10 Hz;Peak
00.150	42.9	V	74.0	-31.1	PK	294	2.1		'B 3 MHz;Peak
00.090	34.6	Н	54.0	-19.4	AVG	0	1.2		'B 10 Hz;Peak
99.710	44.4	Н	74.0	-29.6	PK	0	1.2	RB 1 MHz;\	'B 3 MHz;Peak
te 1:			ed bands, the and measure			For all othe	er emissions	, the limit was	s set 20dB below t

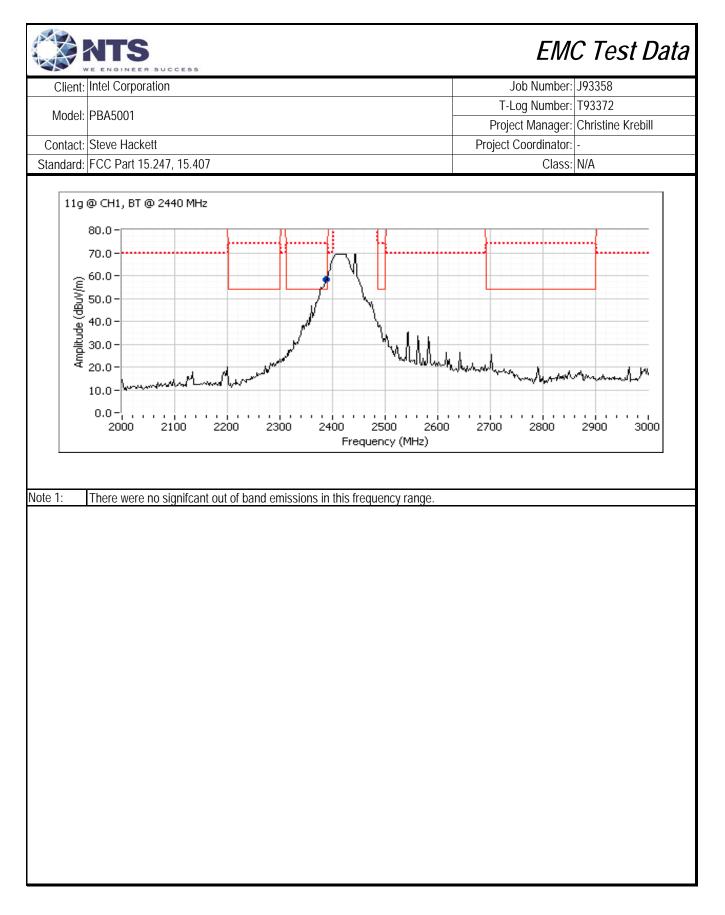
Client:	Intel Corpora	ition						Job Number:	J93358
	5545004						T-	Log Number:	T93372
Model:	PBA5001							•	Christine Krebill
Contact:	Steve Hacke	tt					-	Coordinator:	-
	FCC Part 15						,	Class:	N/A
			MHz Chain	1 BT Basic	c Rate @ 2440) MHz Chaii	n 2		-
l	Date of Test: est Engineer:	10/8/2013		.,	Te	est Location: fig Change:	FT Chambe	er#7	
]				Power S	Settings			
			Target	t (dBm)	Measure	d (dBm)	Softwar	re Setting	
	[Chain 1	16	6.5	16	.6		3.0	
		Chain 2		-	eference only.		N	lax	
Amplitude (dBuV/m)	40.0 - 20.0 -	Mun							
	1000				Frequenc				1000
					rrequenc	y (19112)			
	y Measureme	nts (Peak w	ersus avera	aae limit)					
liminar	Level	Pol		/15.247	Detector	Azimuth	Height	Comments	
	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
		V	54.0	-16.7	Peak	210	1.0		
requency MHz	37.3	14	54.0	-12.8	Peak	354	1.3		
requency MHz 1588.060	37.3 41.2	V							
equency MHz 588.060 199.570	41.2								
requency MHz 588.060 199.570 Durious E	41.2 missions exc	cluding allo	cated band		urements at				
equency MHz 588.060 199.570 urious E equency	41.2 missions exc Level	cluding alloo Pol	cated band 15.209	/ 15.247	Detector	Azimuth	Height	Comments	
requency MHz 588.060 199.570 Durious E requency MHz	41.2 missions exe Level dBµV/m	c luding allo Pol v/h	cated band 15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters		
requency MHz 588.060 199.570 Durious E requency MHz 588.490	41.2 missions exe Level dBµV/m 25.6	cluding alloc Pol v/h V	cated band 15.209 Limit 54.0	/ 15.247 Margin -28.4	Detector Pk/QP/Avg AVG	Azimuth degrees 211	meters 1.0	RB 1 MHz;V	/B 10 Hz;Peak
requency MHz 588.060 199.570 Durious E requency MHz 588.490 588.710	41.2 missions exe Level dBμV/m 25.6 36.6	Cluding alloo Pol V/h V V	cated band 15.209 Limit 54.0 74.0	/ 15.247 Margin -28.4 -37.4	Detector Pk/QP/Avg AVG PK	Azimuth degrees 211 211	meters 1.0 1.0	RB 1 MHz;V RB 1 MHz;V	'B 3 MHz;Peak
requency MHz 1588.060 1199.570 purious E requency	41.2 missions exe Level dBµV/m 25.6	cluding alloc Pol v/h V	cated band 15.209 Limit 54.0	/ 15.247 Margin -28.4	Detector Pk/QP/Avg AVG	Azimuth degrees 211	meters 1.0	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	

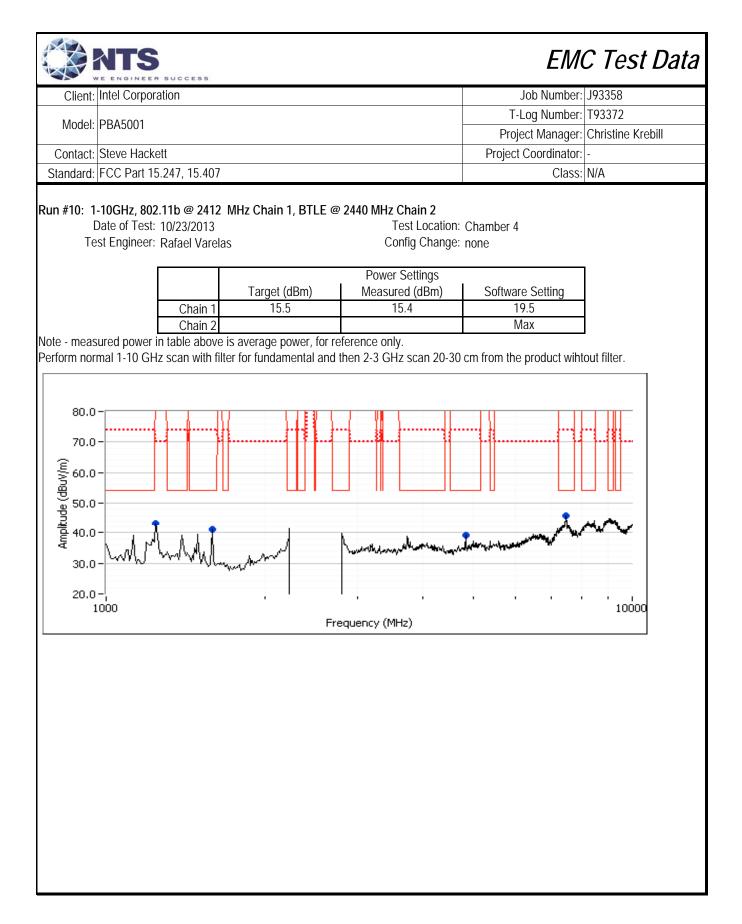


CI	ient:	Intel Corpor	ation						Job Number:	J93358
								T-	Log Number:	T93372
MC	odel:	PBA5001							-	Christine Krebill
Con	tact:	Steve Hack	ett					,	Coordinator:	
Stand	lard:	FCC Part 1	5.247, 15.407					-	Class:	
ın #8	: 1-1	0GHz, 802.	11g @ 2437	MHz Chain	1, BT Basic	c Rate @ 248	0 MHz Chair	1 2		<u>.</u>
	D	ate of Test:	10/8/2013				est Location:		er#7	
	Tes	st Engineer:	Joseph Cadi	gal		Cor	nfig Change:	none		
			<u>г г</u>			Dowor	Sottings			1
				Tarne	t (dBm)	Power S Measure		Softwar	re Setting	
			Chain 1		6.5	16	1 /		3.5	•
			Chain 1 Chain 2		-				lax	1
ote - r	neasi	ured power	in table above	e is average	power, for r	eference only				4
rform	n norr	nal 1-10 GH	Iz scan with fi	lter for funda	amental and	then 2-3 GHz	z scan 20-30	cm from the	e product wiht	out filter.
		120.0-								
		100.0-								
	E									
	~	80.0-								
	Jugp	80.0-						-		r-1,r-1,
	ide (dBuV	80.0-		·····			** ****			
	nplitude (dBuV	60.0-								
	Amplitude (dBuV/m)			~		human a				
	Amplitude (dBuV	60.0 -	- Mar		~~~	have a second				
	Amplitude (dBuV	60.0 - 40.0 - 20.0 -	Mur	R	~	hallow days of				
	Amplitude (dBuV	60.0 -	rthur							· · · 10000
		60.0 - 40.0 - 20.0 - 10.0 - 1000	Mu	~.*~		Frequence	у (MHz)			· · · 10000
	inary	60.0 - 40.0 - 20.0 - 10.0 - 1000	ents (Peak ve		<u> </u>			, ,	La commente	· 10000
reque	<i>inary</i> ency	60.0 - 40.0 - 20.0 - 10.0 - 1000 <i>Measurem</i> Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	· · · 10000
reque MHz	<i>inary</i> ency z	60.0 - 40.0 - 20.0 - 10.0 - 1000 <i>Measurem</i> Level dBµV/m	Pol v/h	15.209 Limit	/15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	meters	Comments	· · · 10000
reque MHz 1196.4	inary ency z 120	60.0 - 40.0 - 20.0 - 10.0 - 1000 <i>Measurem</i> Level	Pol	15.209	/15.247	Detector	Azimuth	ě.	Comments	· · · 10000
reque MHz 1196.4	inary ency z 120	60.0 - 40.0 - 20.0 - 10.0 - 1000 <u>Measurem</u> Level dBμV/m 41.7	Pol v/h V	15.209 Limit 54.0	/15.247 Margin -12.3	Detector Pk/QP/Avg Peak	Azimuth degrees 0	meters 1.9	Comments	· · · 10000
meque MHz 1196.4 1586.6 puriou	<i>inary</i> ency z 420 550 us Er	60.0 - 40.0 - 20.0 - 10.0 - 1000 <i>Measurem</i> Level dBμV/m 41.7 33.7 missions ex	Pol v/h V V cluding allog	15.209 Limit 54.0 54.0 cated band	/15.247 Margin -12.3 -20.3 (final meas	Detector Pk/QP/Avg Peak Peak urements at	Azimuth degrees 0 209 3m)	meters 1.9 1.9		· 10000
reque MHz 196.4 1586.6 puriou reque	inary ency z 420 550 us Er ency	60.0 - 40.0 - 20.0 - 10.0 - 1000	Pol v/h V v cluding alloc Pol	15.209 Limit 54.0 54.0 cated band 15.209	/15.247 Margin -12.3 -20.3 (final meas / 15.247	Detector Pk/QP/Avg Peak Peak surements at Detector	Azimuth degrees 0 209 3m) Azimuth	meters 1.9 1.9 Height	Comments Comments	· · · 10000
reque MHz 196.4 1586.6 Duriou reque MHz	inary ency z 420 550 us Er ency z	60.0 - 40.0 - 20.0 - 10.0 - 1000	Pol v/h V v cluding alloo Pol v/h	15.209 Limit 54.0 54.0 cated band 15.209 Limit	/15.247 Margin -12.3 -20.3 (final meas / 15.247 Margin	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg	Azimuth degrees 0 209 3m) Azimuth degrees	meters 1.9 1.9 Height meters	Comments	
reque MHz 196.4 1586.6 586.6 586.6 586.6 586.6 198.7 198.7	inary ency z 420 550 us Er ency z 790	60.0 - 40.0 - 20.0 - 10.0 - 1000 <i>Measurem</i> Level dBµV/m 41.7 33.7 missions ex Level dBµV/m 28.9	Pol v/h V v ccluding allow Pol v/h V	15.209 Limit 54.0 54.0 cated band 15.209 Limit 54.0	/15.247 Margin -12.3 -20.3 (final meas / 15.247 Margin -25.1	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg AVG	Azimuth degrees 0 209 3m) Azimuth degrees 0	meters 1.9 1.9 Height meters 1.9	Comments RB 1 MHz;\	/B 10 Hz;Peak
reque MHz 1196.4 1586.6 puriou	<i>inary</i> ncy z 420 550 us Er ency z 790 270	60.0 - 40.0 - 20.0 - 10.0 - 1000	Pol v/h V v cluding alloo Pol v/h	15.209 Limit 54.0 54.0 cated band 15.209 Limit	/15.247 Margin -12.3 -20.3 (final meas / 15.247 Margin	Detector Pk/QP/Avg Peak Peak urements at Detector Pk/QP/Avg	Azimuth degrees 0 209 3m) Azimuth degrees	meters 1.9 1.9 Height meters	Comments RB 1 MHz;V RB 1 MHz;V	

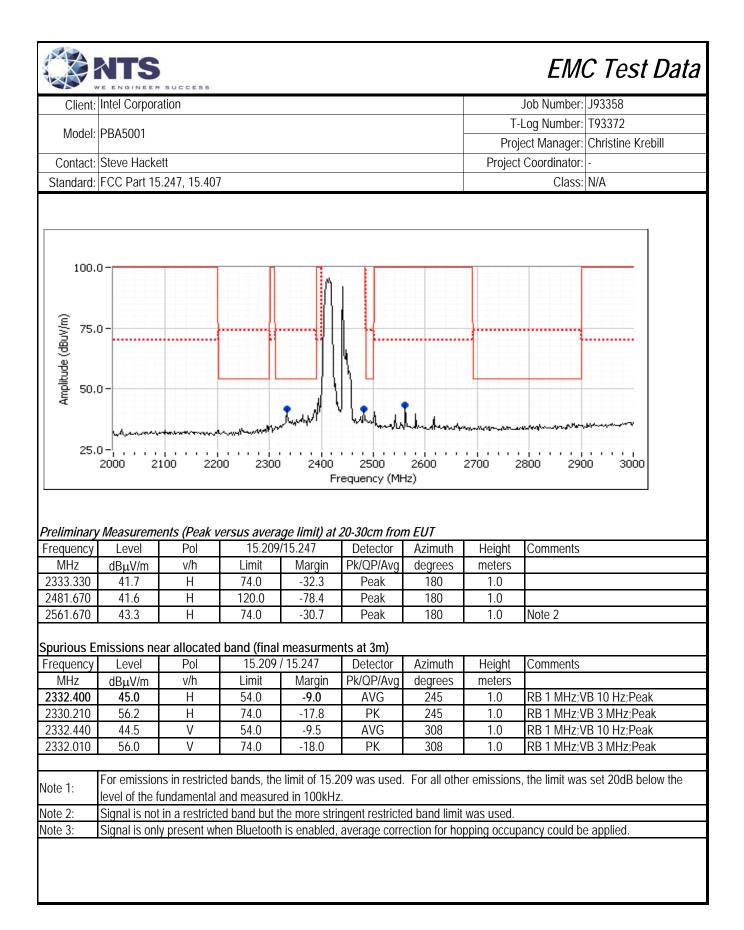
Client:	Intel Corpora	ation						Job Number:		
Model:	PBA5001							Log Number:		
								°	Christine Krebill	
	Steve Hacke		,				Project Coordinator: - Class: N/A			
	FCC Part 15			as limit) at	20-30cm froi			Class:	IN/A	
Amplitude (dBuV/m)	100.0 - 80.0 - 60.0 - 40.0 -					the state of the s	withit	******	antransport	
	20.0-, , 2000	2100	2200		2400 250			2800	2900 3000	
Frequency		2100 Pol	2200			0 2600				
MHz	2000 Level dBµV/m	2100 Pol v/h	2200 15.209 Limit	2300 2 /15.247 Margin	2400 250 Frequenc Detector Pk/QP/Avg	o 2600 y (MHz) Azimuth degrees	2700 Height meters	2800		
MHz	2000 Level	2100 Pol	2200 15.209	2300 2	2400 250 Frequenc Detector	i0 2600 y (MHz) Azimuth	2700 Height	2800		
MHz 2700.120 purious E	2000 Level dBµV/m 48.7 missions ne	2100 Pol v/h V ar allocated	2200 15.209 Limit 54.0	2300 2 /15.247 Margin -5.3 measurme	2400 250 Frequenc Detector Pk/QP/Avg Peak nts at 3m)	0 2600 y (MHz) Azimuth degrees 0	2700 Height meters 1.0	2800 Comments		
MHz 2700.120 purious E requency	2000 Level dBµV/m 48.7 missions ne Level	2100 Pol v/h V ar allocated Pol	2200 15.209 Limit 54.0 band (final 15.209	2300 2 /15.247 Margin -5.3 measurme / 15.247	2400 250 Frequence Detector Pk/QP/Avg Peak nts at 3m) Detector	0 2600 y (MHz) Azimuth degrees 0 Azimuth	2700 Height meters 1.0 Height	2800		
MHz 2700.120 purious E requency MHz	2000 Level dBµV/m 48.7 missions ne Level dBµV/m	2100 Pol V/h V ar allocated Pol v/h	2200 15.209 Limit 54.0 band (final 15.209 Limit	2300 2 /15.247 Margin -5.3 measurme / 15.247 Margin	2400 250 Frequence Detector Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg	0 2600 y (MHz) Azimuth degrees 0 Azimuth degrees	2700 Height meters 1.0 Height meters	2800 Comments Comments	2900 3000	
MHz 2700.120 purious E Frequency MHz 2700.030	2000 Level dBµV/m 48.7 missions ne Level dBµV/m 33.6	2100 Pol v/h V ar allocated Pol	2200 15.209 Limit 54.0 band (final 15.209 Limit 54.0	2300 2 /15.247 Margin -5.3 measurme / 15.247 Margin -20.4	2400 250 Frequence Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg AVG	0 2600 y (MHz) Azimuth degrees 0 Azimuth degrees 112	2700 Height neters 1.0 Height meters 1.0	2800 Comments Comments RB 1 MHz;V	2900 3000	
MHz 2700.120 purious E requency MHz 2700.030 2700.230	2000 Level dBµV/m 48.7 missions ne Level dBµV/m	2100 Pol V/h V ar allocated Pol V/h V	2200 15.209 Limit 54.0 band (final 15.209 Limit	2300 2 /15.247 Margin -5.3 measurme / 15.247 Margin	2400 250 Frequence Detector Pk/QP/Avg Peak nts at 3m) Detector Pk/QP/Avg	0 2600 y (MHz) Azimuth degrees 0 Azimuth degrees	2700 Height meters 1.0 Height meters	2800 Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	2900 3000 /B 10 Hz;Peak /B 3 MHz;Peak /B 10 Hz;Peak	
MHz 2700.120 purious E requency MHz	2000 Level dBµV/m 48.7 missions ne Level dBµV/m 33.6 42.4 35.0 45.3	2100 Pol V/h V ar allocated Pol V/h V V V H H	2200 15.209 Limit 54.0 band (final 15.209 Limit 54.0 74.0 54.0 74.0 74.0	2300 2 /15.247 Margin -5.3 measurme / 15.247 Margin -20.4 -31.6 -19.0 -28.7	2400 250 Frequence Pk/QP/Avg Peak Nts at 3m) Detector Pk/QP/Avg AVG PK AVG PK	0 2600 y (MHz) Azimuth degrees 0 Azimuth degrees 112 112 360 360	2700 Height meters 1.0 Height meters 1.0 1.0 1.0 1.0 1.0	2800 Comments Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	2900 3000 /B 10 Hz;Peak /B 3 MHz;Peak	

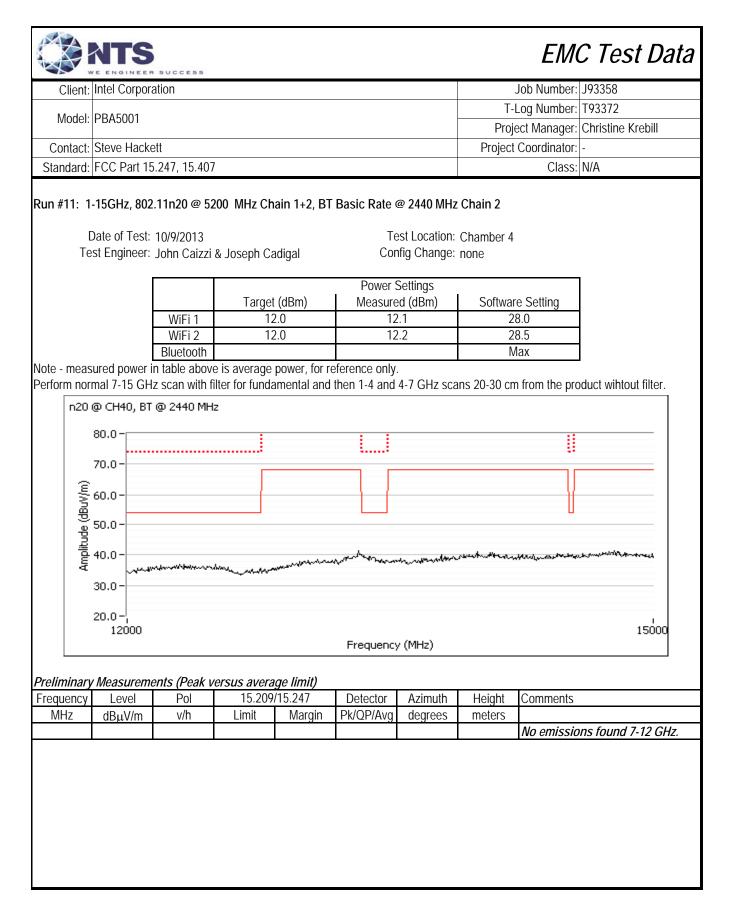


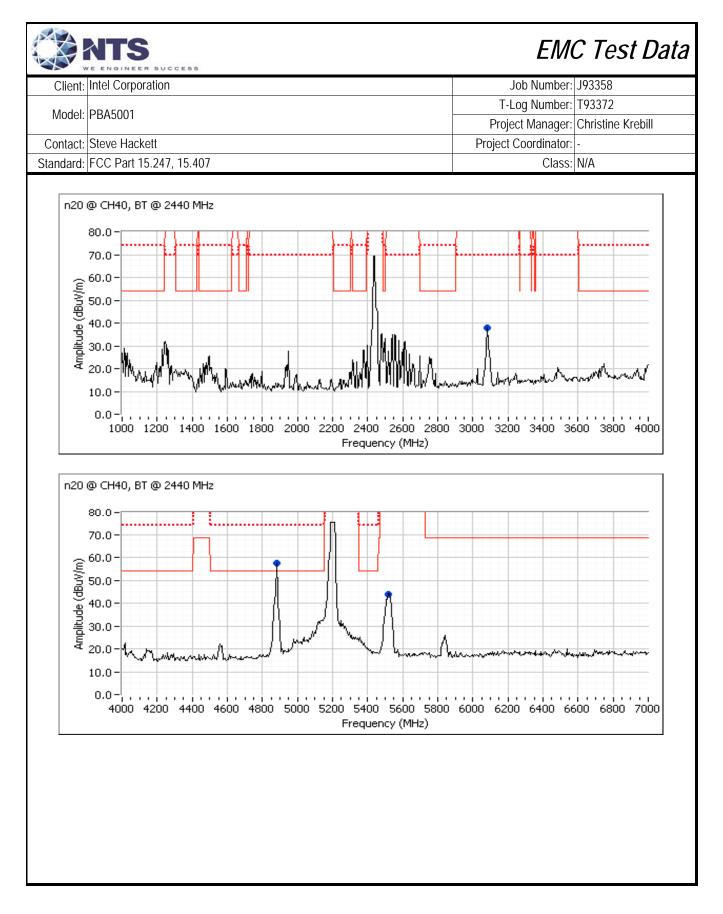




Client:	Intel Corpora	ation						Job Number:	J93358
Madal							T-	Log Number:	T93372
Model:	PBA5001					-	Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	.247, 15.407	,					Class:	N/A
Preliminar	y Measureme	ents (Peak v	ersus avera	ae limit)					
Frequency	Level	Pol		/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1244.580	43.2	Н	74.0	-30.8	Peak	302	1.3	Note 2	
1593.960	41.0	V	54.0	-13.0	Peak	203	1.0		
4824.030	39.2	V	54.0	-14.8	Peak	106	1.3		
7466.840	45.9	V	54.0	-8.1	Peak	116	1.6		
	7	<u> </u>			urements at			1-	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
7468.640	40.3	V	54.0	-13.7	AVG	102	0.9		B 10 Hz;Peak
7468.960	54.0	V V	74.0	-20.0	PK	102	0.9		B 3 MHz;Peak
4824.040 4823.900	35.4 43.0	V	54.0 74.0	-18.6 -31.0	AVG PK	103 103	1.0 1.0		B 10 Hz;Peak
4823.900	43.0 32.2	V	74.0 54.0	-31.0	AVG	206	0.9		B 3 MHz;Peak B 10 Hz;Peak
1593.410	49.8	V	74.0	-21.8	PK	200	0.9		B 3 MHz;Peak
1246.060	30.3	H	54.0	-24.2	AVG	200	1.2		B 10 Hz;Peak, Note 2
1246.050	50.5	H	74.0	-23.3	PK	296	1.2		B 3 MHz;Peak, Note 2

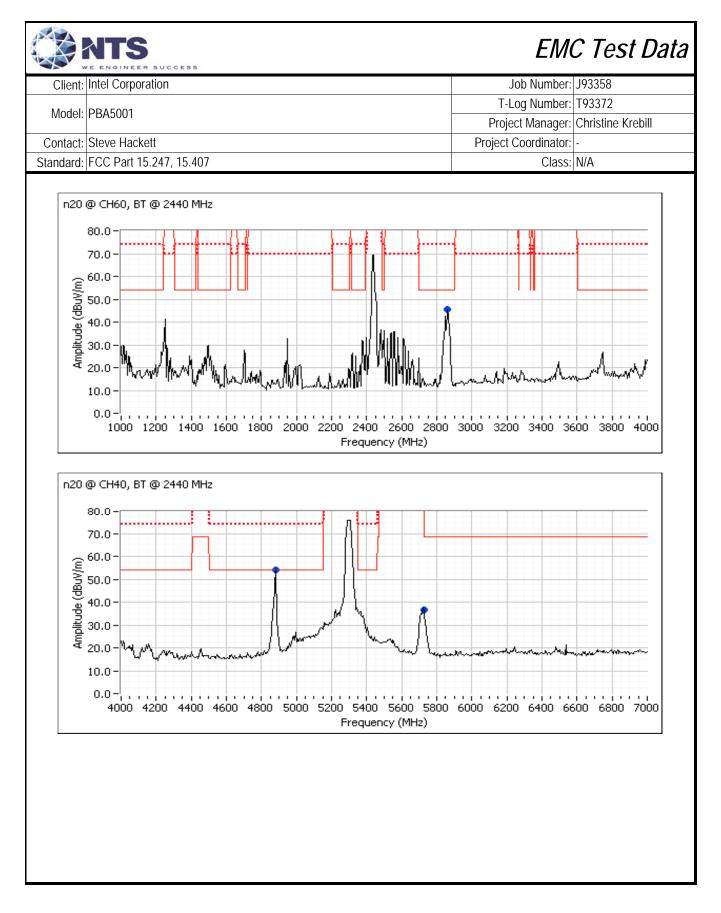






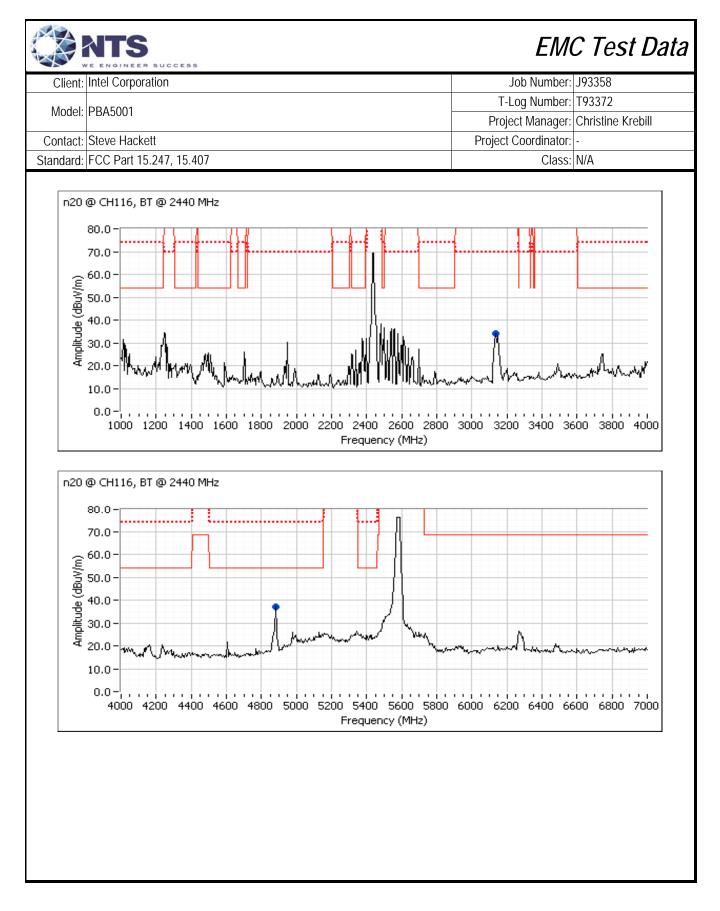
Model: PBA5001 T-Log Number: T93372 Contact: Steve Hackett Project Manager: Christine Krebill Standard: FCC Part 15.247, 15.407 Class: N/A Preliminary Measurements (Peak versus average limit) at 20-30cm from EUT Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Magin Pk/QP/Avg degrees meters 3080.000 37.9 V 70.0 -32.1 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 Spurious Emissions (final measurements at 3m) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m Vh Limit Margin Pk/OP/Avg degrees meters 4880.020 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 1 <	Client:	Intel Corpora	ation						Job Number: J93358	
Model: PBA5001 Project Manager: Christine Krebill Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15.247, 15.407 Class: N/A requency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3080.000 37.9 V 70.0 -32.7 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 5520.000 43.6 V 112.3 -68.5 Peak 0 1.0 5520.000 43.6 V 112.3 -68.5 Peak 0 1.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td colspan="3">T-Log Number: T93372</td>								T-Log Number: T93372		
Contact:Steve HackettProject Coordinator:Standard:FCC Part 15.247, 15.407Class:N/APreliminary Measurements (Peak versus average limit) at 20-30cm from EUTTrequencyLevelPol15.209/15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/OP/Avgdegreesmeters3080.00037.9V70.0-32.7Peak01.04880.00057.3V54.03.3Peak01.05520.00043.6V112.3-68.5Peak01.0purious Emissions (final measurments at 3m)TrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/OP/Avgdegreesmeters480.02042.9V54.0-11.1AVG1371.3RB 1 MHz;VB 10 Hz;Peak, Note 14880.20047.3V74.0-26.7PK1371.3RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak5520.20046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak5520.20345.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;Peak5520.20345.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;Peak5520.20	Model:	PBA5001							3	
Standard: FCC Part 15.247, 15.407 Class: N/A Preliminary Measurements (Peak versus average limit) at 20-30cm from EUT	Contact:	Steve Hacke	ett					-	-	
Preliminary Measurements (Peak versus average limit) at 20-30cm from EUT Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/OP/Avg degrees meters 3080.000 37.9 V 70.0 -32.1 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 5520.000 43.6 V 112.3 -68.5 Peak 0 1.0 Spurious Emissions (final measurments at 3m) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/OP/Avg degrees meters 4880.200 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 1 5520.500 46.0 V 68.3 -22.3 PK 189 1.0				1				.,		
Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3080.000 37.9 V 70.0 -32.1 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 5520.000 43.8 V 112.3 -68.5 Peak 0 1.0 Spurious Emissions (final measuments at 3m) Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4880.200 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 3 MHz;Peak 5520.500 46.0 V 68.3										
Frequency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 3080.000 37.9 V 70.0 -32.1 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 5520.000 43.8 V 112.3 -68.5 Peak 0 1.0 Spurious Emissions (final measuments at 3m) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4880.200 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 3 5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz;VB 3 MHz;Peak 4880.000 37.4 <t< td=""><td>Preliminar</td><td>/ Measureme</td><td>ents (Peak v</td><td>ersus avera</td><td>ge limit) at .</td><td>20-30cm froi</td><td>n EUT</td><td></td><td></td></t<>	Preliminar	/ Measureme	ents (Peak v	ersus avera	ge limit) at .	20-30cm froi	n EUT			
3080.000 37.9 V 70.0 32.1 Peak 0 1.0 4880.000 57.3 V 54.0 3.3 Peak 0 1.0 5520.000 43.6 V 112.3 -68.5 Peak 0 1.0 Spurious Emissions (final measurments at 3m) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4880.020 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz; VB 10 Hz; Peak, Note 3 4880.270 47.3 V 74.0 -26.7 PK 137 1.3 RB 1 MHz; VB 3 MHz; Peak 5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz; VB 3 MHz; Peak 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz; VB 3 MHz; Peak						1 1		Height	Comments	
4880.00057.3V54.03.3Peak01.05520.00043.6V112.3-68.5Peak01.0spurious Emissions (final measurments at 3m)FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters4880.02042.9V54.0-11.1AVG1371.3RB 1 MHz;VB 10 Hz;Peak, Note 35520.50046.0V68.3-22.3PK1371.3RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak5520.23045.7H54.0-16.6AVG1091.6RB 1 MHz;VB 10 Hz;Peak, Note 34880.05046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak5520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;PeakIote 1:For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100KHz.Iote 2:Signal is not in a restricted band but the more stringent restricted band limit was used.Iote 3:Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector	MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5520.00043.6V112.3-68.5Peak01.0purious Emissions (final measurments at 3m)FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters4880.02042.9V54.0-11.1AVG1371.3RB 1 MHz;VB 10 Hz;Peak, Note 35520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak4880.00037.4H54.0-16.6AVG1091.6RB 1 MHz;VB 10 Hz;Peak, Note 34880.05046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak5520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;PeakIote 1:For emissions in restricted bands, the limit of 15.209 was used.For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.Iote 2:Signal is not in a restricted band but the more stringent restricted band limit was used.Iote 3:Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector	3080.000	37.9	V	70.0	-32.1	Peak	0	1.0		
Spurious Emissions (final measurments at 3m) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4880.020 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 1 4880.270 47.3 V 74.0 -26.7 PK 137 1.3 RB 1 MHz;VB 3 MHz;Peak 5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz;VB 3 MHz;Peak 4880.000 37.4 H 54.0 -16.6 AVG 109 1.6 RB 1 MHz;VB 3 MHz;Peak 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 4520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Iote 1: <t< td=""><td>4880.000</td><td>57.3</td><td>V</td><td>54.0</td><td>3.3</td><td>Peak</td><td>0</td><td>1.0</td><td></td></t<>	4880.000	57.3	V	54.0	3.3	Peak	0	1.0		
FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters4880.02042.9V54.0-11.1AVG1371.3RB 1 MHz;VB 10 Hz;Peak, Note 34880.27047.3V74.0-26.7PK1371.3RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak4880.00037.4H54.0-16.6AVG1091.6RB 1 MHz;VB 3 MHz;Peak, Note 34880.05046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak, Note 35520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;PeakNote 1:For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.Vote 2:Signal is not in a restricted band but the more stringent restricted band limit was used.Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,	5520.000	43.8	V	112.3	-68.5	Peak	0	1.0		
FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters4880.02042.9V54.0-11.1AVG1371.3RB 1 MHz;VB 10 Hz;Peak, Note 34880.27047.3V74.0-26.7PK1371.3RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak4880.00037.4H54.0-16.6AVG1091.6RB 1 MHz;VB 3 MHz;Peak, Note 34880.05046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak, Note 35520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;PeakNote 1:For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.Vote 2:Signal is not in a restricted band but the more stringent restricted band limit was used.Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,			_							
MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4880.020 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 3 4880.270 47.3 V 74.0 -26.7 PK 137 1.3 RB 1 MHz;VB 3 MHz;Peak 5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz;VB 3 MHz;Peak 4880.000 37.4 H 54.0 -16.6 AVG 109 1.6 RB 1 MHz;VB 3 MHz;Peak, Note 3 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak, Note 3 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB bel						Detester	۸ <u> </u>	Llainht	Commente	
4880.020 42.9 V 54.0 -11.1 AVG 137 1.3 RB 1 MHz;VB 10 Hz;Peak, Note 3 4880.270 47.3 V 74.0 -26.7 PK 137 1.3 RB 1 MHz;VB 3 MHz;Peak 5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz;VB 3 MHz;Peak 4880.000 37.4 H 54.0 -16.6 AVG 109 1.6 RB 1 MHz;VB 3 MHz;Peak 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Vote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. Vote 2: Signal is not in a restricted band but the more stringent restricted band limit was used.								Ŭ	Comments	
4880.27047.3V74.0-26.7PK1371.3RB 1 MHz;VB 3 MHz;Peak5520.50046.0V68.3-22.3PK1891.0RB 1 MHz;VB 3 MHz;Peak4880.00037.4H54.0-16.6AVG1091.6RB 1 MHz;VB 3 MHz;Peak, Note 34880.05046.1H74.0-27.9PK1091.6RB 1 MHz;VB 3 MHz;Peak, Note 35520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;Peak5520.23045.7H68.3-22.6PK3601.0RB 1 MHz;VB 3 MHz;PeakNote 1:For emissions in restricted bands, the limit of 15.209 was used.For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.Vote 2:Signal is not in a restricted band but the more stringent restricted band limit was used.Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,					ÿ	v v			DP 1 MHz:\/P 10 Hz:Dook Noto 2	
5520.500 46.0 V 68.3 -22.3 PK 189 1.0 RB 1 MHz;VB 3 MHz;Peak 4880.000 37.4 H 54.0 -16.6 AVG 109 1.6 RB 1 MHz;VB 3 MHz;Peak, Note 3 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Iote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. Iote 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Intersion has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector, peak			-							
4880.000 37.4 H 54.0 -16.6 AVG 109 1.6 RB 1 MHz;VB 10 Hz;Peak, Note 3 4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Jote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. Jote 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector, peak detecto										
4880.050 46.1 H 74.0 -27.9 PK 109 1.6 RB 1 MHz;VB 3 MHz;Peak 5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Jote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. Jote 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Lote 3: Lote 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Lote 3:			-							
5520.230 45.7 H 68.3 -22.6 PK 360 1.0 RB 1 MHz;VB 3 MHz;Peak Jote 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. For all other emissions, the limit was used. Jote 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector.										
Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz. Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Note 3: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector.										
Note 1: level of the fundamental and measured in 100kHz. Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Note 3: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,	4880.050		Н	68.3	-22.6	РК	.300			
Note 1: level of the fundamental and measured in 100kHz. Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used. Note 3: Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,	4880.050		Н	68.3	-22.6	РК	300			
Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,	4880.050 5520.230	45.7							, the limit was set 20dB below the	
	4880.050	45.7 For emission	ns in restricte	ed bands, the	limit of 15.2	09 was used.			, the limit was set 20dB below the	
linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor.	4880.050 5520.230	45.7 For emissior level of the f	ns in restricte undamental	ed bands, the and measure	e limit of 15.2 ed in 100kHz	09 was used.	. For all othe	er emissions	, the limit was set 20dB below the	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not	ns in restricte undamental in a restricte	ed bands, the and measure ed band but t	e limit of 15.2 ed in 100kHz he more strii	209 was used. 2. ngent restricte	. For all othe	er emissions was used.		
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 lote 1: lote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 lote 1: lote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Jote 1: Jote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 lote 1: lote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 lote 1: lote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Jote 1: Jote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Jote 1: Jote 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	
	4880.050 5520.230 Note 1: Note 2:	45.7 For emissior level of the f Signal is not Emission ha	ns in restricte undamental in a restricte s duty cycle	ed bands, the and measure ed band but t < 98%, but c	e limit of 15.2 ed in 100kHz he more strii onstant, ave	209 was used. 2. ngent restricte rage measure	. For all othe ed band limit ement perfor	er emissions was used. med: RBW=	-1MHz, VBW=10Hz, peak detector,	

			S	SUCCESS						EM	C Test D	ata
Cli	ent:	Intel Co	rpora	ation						Job Number:	J93358	
Ma	ما ما ر		11						T-I	Log Number:	T93372	
IVIO	oder:	PBA500)						Proje	ect Manager:	Christine Krebill	
Cont	tact:	Steve H	lacke	ett					Project	Coordinator:	-	
Standa	ard:	FCC Pa	rt 15	.247, 15.407	1					Class:	N/A	
									L		l	
Run #12	2: 1-	15GHz,	802	.11n20 @ 53	300 MHz Ch	ain 1+2, BT	Basic Rate @	@ 2440 MHz	Chain 2			
Date of Test: 10/9/2013 Test Location: Chamber 4												
	Test Engineer: John Caizzi & Joseph Cadigal Config Chang											
	10.		0011		a sosoph of	laigai	001	ing onlango.	none			
			Γ				Power S	Settings]	
			-		•	(dBm)	Measure			e Setting	-	
			WiFi 1 13.0 13.0 WiFi 2 13.0 13.0							0.5	4	
			F	WiFi 2 Bluetooth	1:	3.0	13	.0		0.5 1ax	-	
Note - m	neasi	ired nov	N⊝rin		e is averane	nower for re	eference only		IV	Ιdλ]	
	bite - measured power in table above is average power, for reference only. erform normal 7-15 GHz scan with filter for fundamental and then 1-4 and 4-7 GHz scans 20-30 cm from the product without filter. $n^{20} \oplus CH60, BT \oplus 2440 \text{ MHz}$ $ \begin{array}{c} & 80.0 \\ & 70.0 \\ & 70.0 \\ & 90 \\$											
	:	50.0 - 40.0 - 30.0 - 20.0 - 1200		**************************************	^{n−} evidentesenter€n		Frequency	utoria and the second s	andre and and a second	hand fall to deal and		D
							Frequency	(IME2)				
Prelimi	narv	Measui	reme	ents (Peak v	ersus avera	ge limit)						
Frequei		Leve		Pol		/15.247	Detector	Azimuth	Height	Comments		_
MHz		dBµV/	/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
										No emissio	ons found 7-12 G	Hz.

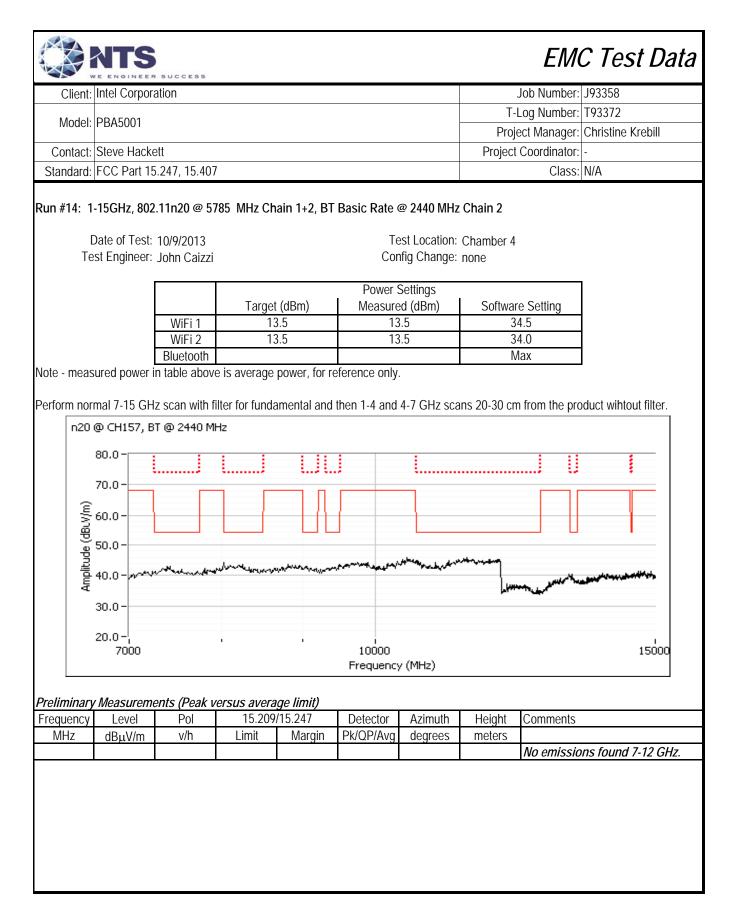


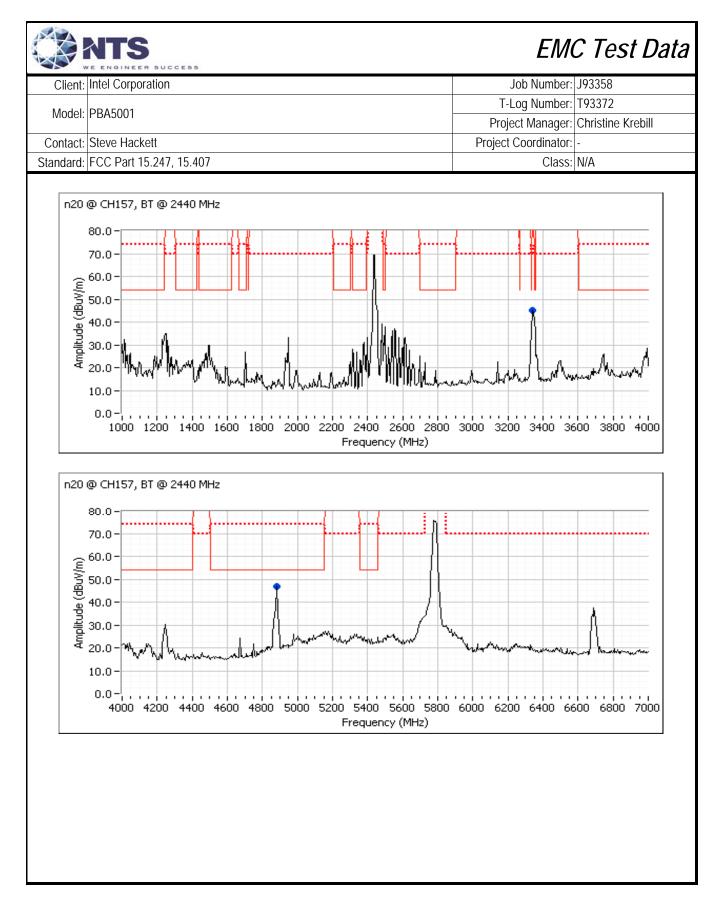
		SUCCESS						EM	C Test Data
Client:	Intel Corpora	ation						Job Number:	
Model.	PBA5001							Log Number:	
							Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	.247, 15.407						Class:	N/A
Droliminar	Mascurama	nte (Dook y	orcus avora	ao limit) at	20-30cm from	n EUT			
Frequency	Level	Pol		/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
4880.000	54.0	V	54.0	0.0	Peak	0	1.0	СН60	
5725.000	36.6	V	68.3	-31.7	Peak	0	1.0	СН60	
2860.000	45.6	V	54.0	-8.4	Peak	0	1.0	СН60	
								1	
	missions (fir								
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4880.020	42.5	V	54.0	-11.5	AVG	225	1.0		/B 10 Hz;Peak, Note 3
4879.840	47.3	V	74.0	-26.7	PK	225	1.0		/B 3 MHz;Peak
5724.080	45.2	V	68.3	-23.1	PK	171	1.0		/B 3 MHz;Peak
2859.470	30.5	V	54.0	-23.5	AVG	123	1.0		/B 10 Hz;Peak
2859.900	42.0	V	74.0	-32.0	PK	123	1.0		/B 3 MHz;Peak
4879.880	39.0	Н	54.0	-15.0	AVG	135	1.0		/B 10 Hz;Peak, Note 3
4880.690	46.8	Н	74.0	-27.2	PK	135	1.0		/B 3 MHz;Peak
5724.870	45.4	Н	68.3	-22.9	PK	65	1.0		/B 3 MHz;Peak
2860.790	30.4	Н	54.0	-23.6	AVG	360	1.0		/B 10 Hz;Peak
2860.000	41.3	Н	74.0	-32.7	PK	360	1.0	RB 1 MHz;V	/B 3 MHz;Peak
Note 1:	For emission level of the fi					For all othe	er emissions	s, the limit was	s set 20dB below the
Note 2:	Signal is not	in a restricte	ed band but t	he more strii	ngent restricte	ed band limit	was used.		
Note 3:	Emission has	s duty cycle	< 98%, but c	onstant, ave	rage measure	ement perfor	med: RBW=	=1MHz, VBW=	=10Hz, peak detector,
	linear average	ging, auto sw	eep, trace a	verage 100 t	races, measu	rement corre	ected by Lin	ear Voltage c	correction factor.

		S	SUCCESS						EM	C Test Data
Client	Intel Co	orpora	ation						Job Number:	J93358
Madal		01						T-I	Log Number:	T93372
Model	PBA500	JI						Proj∈	ect Manager:	Christine Krebill
Contact	: Steve H	łacke	ett						Coordinator:	
Standard	FCC Pa	art 15	.247, 15.407	1					Class:	N/A
Run #13: 1	I-15GHz	, 802	.11n20 @ 55	580 MHz Ch	ain 1+2, BT	Basic Rate @	@ 2440 MHz	Chain 2		
	Date of Test: 10/9/2013 Test Locati									
Test Engineer: John Caizzi & Joseph Cadigal Config Change: none										
						Power S				
				Ű	(dBm)	Measure	· · /		e Setting	4
		WiFi 1 13.5 13.7 WiFi 2 13.5 13.6							2.5 2.0	4
				10	0.0	13	.0			-
Note - mea	sured po	wer ii		e is average	power, for re	eference only.		10	lux	J
Perform noi	Bluetooth Max Note - measured power in table above is average power, for reference only. Perform normal 7-15 GHz scan with filter for fundamental and then 1-4 and 4-7 GHz scans 20-30 cm from the product without filter. n20 @ CH116, BT @ 2440 MHz 0 <t< td=""><td></td></t<>									
Preliminar	y Measu	reme		ersus avera						
Frequency	1		Pol		/15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV	/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	No omicoio	ons found 7-12 GHz.



	ve engineer	SUCCESS						Joh Number 102250
Client:	Intel Corpora	1001						Job Number: J93358
Model:	PBA5001							Log Number: T93372
								ect Manager: Christine Krebill
	Steve Hacke						Project	t Coordinator: -
Standard:	FCC Part 15	.247, 15.407	1					Class: N/A
Droliminar	Massuram	onte (Doak u	oreus avor	an limit) at	20-30cm from	n ElIT		
Frequency	Level	Pol		/15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3135.000	34.0	V	70.0	-36.0	Peak	0	1.0	СН116
4880.000	37.2	V	54.0	-16.8	Peak	0	1.0	СН116
10001000	07.2		0 110	10.0	1 our	U	110	
Spurious E	missions (fi	nal measurr						
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4880.010	43.3	Н	54.0	-10.7	AVG	129	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 3
4879.960	48.1	Н	74.0	-25.9	PK	129	1.0	RB 1 MHz;VB 3 MHz;Peak
3133.620	43.1	V	68.3	-25.2	PK	360	1.0	RB 1 MHz;VB 3 MHz;Peak
4880.100	40.6	V	54.0	-13.4	AVG	224	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 3
4880.350	48.2	V	74.0	-25.8	PK	224	1.0	RB 1 MHz;VB 3 MHz;Peak
3133.620	43.1	V	68.3	-25.2	PK	360	1.0	RB 1 MHz;VB 3 MHz;Peak
3134.070	42.0	Н	68.3	-26.3	PK	360	1.0	RB 1 MHz;VB 3 MHz;Peak
	- · ·			I' '' (1F 0		F U U	<u> </u>	
Note 1:						For all othe	er emissions	s, the limit was set 20dB below the
lata D	level of the f							
Note 2:					ngent restricte			
Vote 3:		5 5			0			=1MHz, VBW=10Hz, peak detector,
	linear average	ging, auto sw	leep, trace a	verage 100 t	iraces, measu	rement corre	ected by Lin	ear Voltage correction factor.





Oliver	Intel Corpora	success						Job Number: J93358	
Client		aliun							
Model:	PBA5001							Log Number: T93372	
	<u> </u>						-	ect Manager: Christine Krebill	
	Steve Hacke						Project	t Coordinator: -	
Standard:	FCC Part 15	5.247, 15.407	1					Class: N/A	
- <i>v</i> · · ·					00.00				
		ents (Peak v Pol		<i>ge limit) at</i> /15.247	20-30cm from Detector	<i>n EUT</i> Azimuth	Hoight	Comments	
Frequency MHz		v/h	Limit	Margin	Pk/QP/Avg		Height	Comments	
4880.000	dBμV/m <i>46.8</i>	V	54.0	- <i>7.2</i>	PROPIAVY	degrees 0	meters 1.0	CH157	
		V V	54.0 70.0			0		CH157 CH157	
3340.000	45.1	V	70.0	-24.9	Peak	U	1.0	CHISI	
Sourious F	missions (fi	nal measurr	nents at 3m)					
Frequency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4880.000	42.4	H	54.0	-11.6	AVG	128	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 3	
4879.890	47.9	H	74.0	-26.1	PK	128	1.0	RB 1 MHz;VB 3 MHz;Peak	
4879.940	38.3	V	54.0	-15.7	AVG	241	1.0	RB 1 MHz;VB 10 Hz;Peak, Note 3	
4880.190	46.6	V	74.0	-27.4	PK	241	1.0	RB 1 MHz;VB 3 MHz;Peak	
3339.910	42.8	V	68.3	-25.5	PK	360	1.0	RB 1 MHz;VB 3 MHz;Peak	
5557.710	43.2	H	68.3	-25.1	PK	334	1.0	RB 1 MHz;VB 3 MHz;Peak	
3340.560			0010	2011		001			
3340.560	10.2								
		ns in restricte	ed bands, the	e limit of 15.2	209 was used.	For all othe	er emissions	the limit was set 20dB below the	
	For emission					For all othe	er emissions	s, the limit was set 20dB below the	
lote 1:	For emission level of the f	undamental	and measure	ed in 100kHz	<u>Z</u> .			s, the limit was set 20dB below the	
lote 1: lote 2:	For emissior level of the f Signal is not	undamental	and measure ed band but t	ed in 100kHz he more stri	z. ngent restricte	ed band limit	was used.		
lote 1: lote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
lote 1: lote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	, the limit was set 20dB below the =1MHz, VBW=10Hz, peak detector, pear Voltage correction factor.	
lote 1: lote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	-1MHz, VBW=10Hz, peak detector	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	-1MHz, VBW=10Hz, peak detector	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
ote 1: ote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
lote 1: lote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
lote 1: lote 2:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	
3340.560 Note 1: Note 2: Note 3:	For emissior level of the f Signal is not Emission ha	undamental in a restricte s duty cycle	and measure ed band but t < 98%, but c	ed in 100kHz he more stri onstant, ave	<u>z.</u> ngent restricte erage measure	ed band limit ement perfor	was used. med: RBW=	=1MHz, VBW=10Hz, peak detector,	

iviouei:				
	PBA5001		Pro	ject Manager: Christine Krebill
Contact:	Steve Hackett		Projec	t Coordinator: -
Standard:	FCC Part 15.247, 15.407			Class: N/A
	(Elliott La	Radiated Emission boratories Fremont Facility, Semi		nber)
Test Spe	cific Details Objective: The objective of th specification listed	is test session is to perform final qua above.	lification testing	of the EUT with respect to the
T€	Date of Test: 10/2/2013 0:00 est Engineer: Joseph Cadigal est Location: FT chamber#4		Used: 1 ange: None Itage: POE	
The EUT ar The test dis Note, prelim antenna. M antenna and Ambient	tance and extrapolation factor (if ninary testing indicates that the e		run description. Ition of the EUT a	and elevation of the measuremen
MAC Add	dress: 001500DC7B25 DRTU T	ool Version 1.7.1-752, Driver version		
Rı	un # Test Perl		Result	Margin
	1 Radiated E 30 - 1000 MHz		S 210 Eval	Refer to individual runs
	2 Radiated E 30 - 1000 MHz		S 210 Pass	37.7 dBµV/m @ 906.14 MHz (-8.3 dB)
	3 Radiated E 30 - 1000 MHz	, Preliminary	S 210 Eval	Refer to individual runs
	4 Radiated E 30 - 1000 MHz	FUU 15 /09 / RSS	S 210 Pass	26.3 dBµV/m @ 48.00 MHz (-13.7 dB)
No modifi Deviatior	tions Made During Testing ications were made to the EUT d ns From The Standard tions were made from the require	uring testing		

Test Specific Details

WE ENGINEER SUCCESS

Client: Intel Corporation

General Test Configu

Ambient Conditions:

Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	Radiated Emissions 30 - 1000 MHz, Preliminary	FCC 15.209 / RSS 210	Eval	Refer to individual runs
2	Radiated Emissions 30 - 1000 MHz, Maximized	FCC 15.209 / RSS 210	Pass	37.7 dBμV/m @ 906.14 MHz (-8.3 dB)
3	Radiated Emissions 30 - 1000 MHz, Preliminary	FCC 15.209 / RSS 210	Eval	Refer to individual runs
4	Radiated Emissions 30 - 1000 MHz, Maximized	FCC 15.209 / RSS 210	Pass	26.3 dBµV/m @ 48.00 MHz (-13.7 dB)

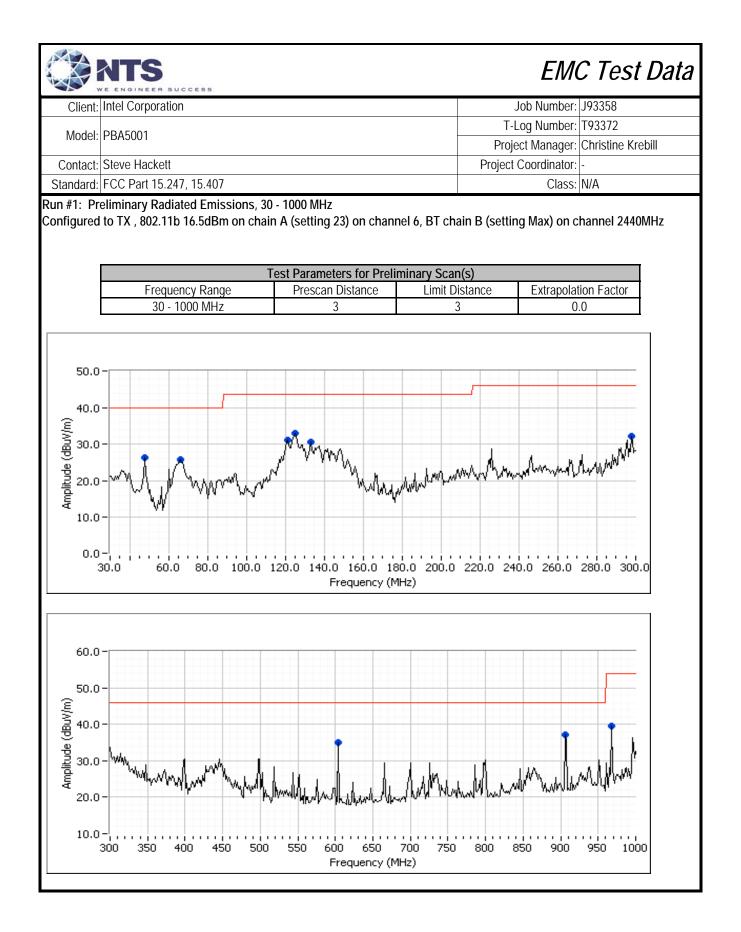
Modifications Made E

Deviations From The

EMC Test Data

Job Number: J93358

T-Log Number: T93372

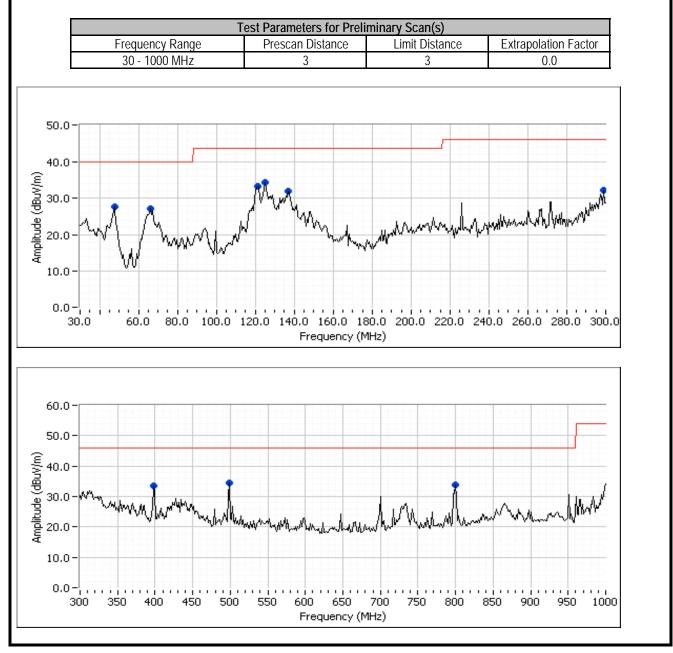


		SUCCESS							C Test Dat
Client:	Intel Corpora	ation						Job Number:	
Model	PBA5001							Log Number:	
would.	1 010001						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	.247. 15.4	07					Class:	N/A
otanuarai									
	peak readin				_			1-	
Frequency	Level	Pol		9 / RSS 210	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
966.543	39.5	V	54.0	-14.5	Peak	16	1.0		
66.345	25.9	V	40.0	-14.1	Peak	109	1.0		
604.092	35.1	H	46.0	-10.9	Peak	154	1.0		
297.341	32.2	H	46.0	-13.8	Peak	195	1.0		
906.138	37.1	V	46.0	-8.9	Peak	195	1.0		
133.097	30.7	H	43.5	-12.8	Peak	234	2.0	 	
121.422	31.2	H	43.5	-12.3	Peak	269	2.5		
125.606	32.9	Н	43.5	-10.6	Peak	273	2.5		
48.000	26.2	V	40.0	-13.8	Peak	322	1.0		
	quasi-peak							L	
Frequency	Level	Pol		9 / RSS 210	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
966.543	39.7	V	54.0	-14.3	QP	16	1.0	QP (1.00s)	
66.345	21.8	V	40.0	-18.2	QP	109	1.0	QP (1.00s)	
604.092	35.1	Н	46.0	-10.9	QP	154	1.0	QP (1.00s)	
297.341	25.3	Н	46.0	-20.7	QP	195	1.0	QP (1.00s)	
906.138	37.7	V	46.0	-8.3	QP	195	1.0	QP (1.00s)	
133.097	23.6	Н	43.5	-19.9	QP	234	2.0	QP (1.00s)	
121.422	25.7	Н	43.5	-17.8	QP	269	2.5	QP (1.00s)	
125.606	26.9	Н	43.5	-16.6	QP	273	2.5	QP (1.00s)	
48.000	25.1	V	40.0	-14.9	QP	322	1.0	QP (1.00s)	
Run #2: Ma	aximized Rea	adings Fr							
					ers for Maxim		5.7	T = · · · ·	
		quency Ra			istance		istance	Extrapolat	
	30	- 1000 M	Hz		3		3	0.	0
	quasi-peak r								
Frequency	Level	Pol		9 / RSS 210	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
906.138	37.7	V	46.0	-8.3	QP	195	1.0	QP (1.00s)	
604.092	35.1	Н	46.0	-10.9	QP	154	1.0	QP (1.00s)	
966.543	39.7	V	54.0	-14.3	QP	16	1.0	QP (1.00s)	
48.000	25.1	V	40.0	-14.9	QP	322	1.0	QP (1.00s)	
125.606	26.9	Н	43.5	-16.6	QP	273	2.5	QP (1.00s)	
121.422	25.7	Н	43.5	-17.8	QP	269	2.5	QP (1.00s)	

	NTS	EMC Test Data
Client:	Intel Corporation	Job Number: J93358
Madalı		T-Log Number: T93372
woder:	PBA5001	Project Manager: Christine Krebill
Contact:	Steve Hackett	Project Coordinator: -
Standard:	FCC Part 15.247, 15.407	Class: N/A
	PCC Part 15.247, 15.407	Class: IV/A

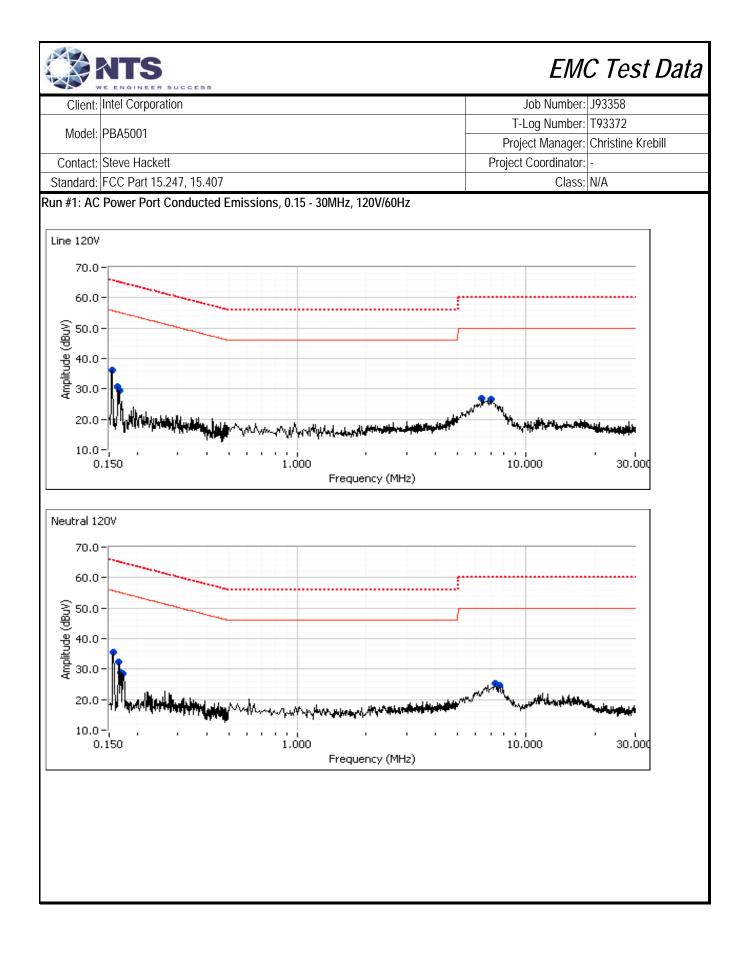
Run #3: Preliminary Radiated Emissions, 30 - 1000 MHz

Configured to TX, 802.11a 16.5dBm on each chain (settings 37, 39) on channel 100, BT chain B (setting Max) on channel 2440MHz



Job Number: J93358 Node: Job Number: J93328 T-Log Number: J93328 Contact: Steve Hackett Project Coordinator: - Class: NA Valuation: Job Number: J93328 Valuation: Job Number: J93328 <th></th> <th></th> <th>SUCCESS</th> <th></th> <th></th> <th></th> <th></th> <th>EM</th> <th>C Test Data</th>			SUCCESS					EM	C Test Data
Model: Project Manager: Christine Krebill Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15:247, 15:407 Class: N/A Prepient Readings captured during pre-scan FCC Part 15:247, 15:407 Class: N/A Prepient Readings captured during pre-scan meters meters Project Coordinator: - MHz dBµ/ym wh Limit Margin Pk/QP/Avg degrees meters 99038 32.3 H 46:00 -13.7 Peak 11 2.0 48:000 27.6 V 40.0 -12.3 Peak 187 1.0 - 89:376 34.5 H 45.5 -9.3 Peak 234 2.0 - 99:38 33.6 H 45.0 -12.4 Peak 206 1.0 - 121:455 33.2 H 45.5 -9.3 Peak 206 1.0 - reliminary quasi-peak readings (no	Client:	Intel Corpora	ation					Job Number:	J93358
Model: PAGU1 Project Manager: Christine Krebill Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15:247, 15:407 Class: N/A Prepientry Level Pol FCC 15:209 / RSS 210 Detector Azimuth Height Comments MHz dBu//m wh Limit Margin Pk/QP/Avg degrees meters 290:03 32.3 H 46:00 -13.7 Peak 11 2.0 - 48:000 27.6 V 40:0 -12.3 Peak 187 1.0 - 80:047 33.8 H 45:0 -12.3 Peak 187 1.0 - 126:947 31.8 H 43:5 -10.3 Peak 23:4 2.0 - 948:376 33.4 H 45:5 -10.3 Peak 23:6 1.0 - 721:453 32.2 H 43:5 -10.3 Peak 20:6 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>T-</td> <td>Log Number:</td> <td>T93372</td>							T-	Log Number:	T93372
Contact: Project Coordinator: Class: N/A Preliminary peak readings captured during pre-scan Frequency Level Pol FCC 15.209 / RSS 210 Detector Azimuth Height Comments MHz dBµV/m wh Limit Margin PVOP/Avg degrees meters 299.038 32.3 H 46.0 -13.7 Peak 11 2.0 - 48.000 27.6 V 40.0 -12.4 Peak 12 1.0 - - 305.017 V 40.0 -12.4 Peak 137 1.0 - - 121.635 33.2 H 43.5 -10.3 Peak 236 1.0 - 121.635 33.2 H 43.5 -10.3 Peak 230 1.0 - 121.635 33.2 H 46.0 -12.4 Peak 300 2.5 - 121.635 33.2 <td>Model:</td> <td>PBA5001</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td></td>	Model:	PBA5001						•	
Standard, FCC Part 15.247, 15.407 Class: [WA reliminary peak readings captured during pre-scan Frequency Level Pol FCC 15.209 / RSS 210 Delector Azimuth Height Comments 299.038 32.3 H 46.00 -13.7 Peak 11 2.0 48.000 27.6 V 40.00 -12.4 Peak 112 1.0 66.046 2.70 V 40.00 -12.4 Peak 187 1.0 1.0 66.046 2.0 48.000 48.00 -12.3 Peak 187 1.0	Contact	Steve Hacke	<u></u>					ů,	
Preliminary peak readings captured during pre-scan Azimuth Height Comments MHz dBu/Vim v/h Limit Margin Pk/OP/Avg degrees meters 29038 32.3 H 46.0 -13.7 Peak 11 2.0 2.0 299038 32.3 H 46.0 -13.7 Peak 11 2.0 2.0 48.000 27.6 V 40.0 -12.4 Peak 12 1.0 66.446 27.0 V 40.0 -12.3 Peak 187 1.0 2.0				07			Појест		
Frequency Level Poi FCC 15.209 / RSS 210 Detector Azimuth Height Comments MHz dBuV/m v/h Limit Margin Pk/QP/Avg degrees meters meters 99.038 32.3 H 46.0 -13.7 Peak 11 2.0 48.000 27.6 V 40.0 -12.4 Peak 12 1.0 66.464 7.0 V 40.0 -12.3 Peak 187 1.0 136.947 31.8 H 43.5 -11.7 Peak 234 2.0 124.989 34.2 H 43.5 -9.3 Peak 300 2.5 121.635 33.2 H 43.5 -10.3 Peak 300 2.5 reliminary quasi-peak readings (no manipulation of EUT interface cables) remetrs metrix metrix 7Erequercy Level Pol FCC 15.209 / RSS 210 Detector Azimuth Height Comments								CIASS.	IV/A
MHz dBuV/m v/h Limit Margin Pk/QP/Avg degress meters 299.038 32.3 H 46.0 -13.7 Peak 11 2.0 48.000 27.6 V 40.0 -12.4 Peak 12 1.0 66.646 27.0 V 40.0 -13.0 Peak 147 1.0 30.047 33.7 V 46.0 -12.3 Peak 187 1.0 316.947 31.8 H 43.5 -9.3 Peak 234 2.0 124.989 34.2 H 43.5 -9.3 Peak 236 1.0 Preliminary quasi-peak readings (no manipulation of EUT interface cables) Frequency Level Pol FCC 15.209 / RSS 210 Delector Azimuth Height Comments MHz dBuV/m v/h Limit Margin Pk/OP/Avg degrees meters 299.038 19.9 H 46.0 -26.1 OP <td< td=""><td></td><td></td><td></td><td></td><td>Detector</td><td>۸ <u> </u></td><td>l la julat</td><td>Commonte</td><td></td></td<>					Detector	۸ <u> </u>	l la julat	Commonte	
299.038 32.3 H 46.00 -13.7 Peak 11 2.0 48.000 27.6 V 40.0 -12.4 Peak 12 1.0 66.646 27.0 V 40.0 -12.3 Peak 147 1.0 800.047 33.7 V 46.0 -12.3 Peak 187 1.0 136.947 31.8 H 43.5 -11.7 Peak 234 2.0 498.376 34.5 H 45.0 -11.5 Peak 249 1.0 124.989 34.2 H 43.5 -9.3 Peak 273 2.5 121.635 33.2 H 45.0 -12.4 Peak 300 2.5 Sige.603 33.6 H 46.0 -12.4 Peak 326 1.0 Preliminary quasi-peak readings (no manipulation of EUT interface cables) Frequency Evert Pol FCC 15.209 / RSS 210 Detector Azimuth Height Comme								Comments	
48.000 27.6 V 40.0 -12.4 Peak 12 1.0 66.646 27.0 V 40.0 -13.0 Peak 147 1.0 800.047 33.7 V 46.0 -11.3 Peak 187 1.0 136.947 31.8 H 43.5 -11.7 Peak 234 2.0 124.989 34.2 H 43.5 -10.3 Peak 273 2.5 121.635 33.2 H 43.5 -10.3 Peak 300 2.5 398.603 33.6 H 46.0 -12.4 Peak 326 1.0 Preliminary quasi-peak readings (no manipulation of EUT interface cables) Frequency Level Pol FCC 15.209 / RSS 210 Detector Azimuth Height Comments MHz dB _M /m wh Limit Margin Pk/QP/Avg degrees meters 299.038 19.4 60.0 -26.1 QP 11 1.0 QP (1.00s) 66.646 22.5 V 40.0 -17.5					 5	ŭ			
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MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 48.000 26.3 V 40.0 -13.7 QP 11 1.0 QP (1.00s) 66.646 22.5 V 40.0 -17.5 QP 147 1.0 QP (1.00s) 121.635 23.9 H 43.5 -19.6 QP 300 2.5 QP (1.00s) 124.989 23.7 H 43.5 -19.8 QP 273 2.5 QP (1.00s) 800.047 24.2 V 46.0 -21.8 QP 187 1.0 QP (1.00s)							Hoight	Comments	
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66.646 22.5 V 40.0 -17.5 QP 147 1.0 QP (1.00s) 121.635 23.9 H 43.5 -19.6 QP 300 2.5 QP (1.00s) 124.989 23.7 H 43.5 -19.8 QP 273 2.5 QP (1.00s) 800.047 24.2 V 46.0 -21.8 QP 187 1.0 QP (1.00s)					 <u>u</u>			OP (1 00c)	
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800.047 24.2 V 46.0 -21.8 QP 187 1.0 QP (1.00s)									

	VE ENGINEER SUCCESS				EM	
Client:	Intel Corporation				Job Number:	
Model	PBA5001				-Log Number:	
						Christine Krebill
	Steve Hackett			Project	t Coordinator:	
Standard:	FCC Part 15.247, 15.407	1			Class:	N/A
	(E	Conduc	cted Emissions ont Facility, Semi-Aner	choic Chaml	ber)	
Test Spec	cific Details					
	Objective: The objectiv	e of this test session is to n listed above.	perform final qualification	on testing of t	the EUT with r	respect to the
[Date of Test: 10/2/2013 0	:00	Config. Used	l: 1		
т.		laol	Config Change	: None		
	st Engineer: Joseph Cad					
Te General T The EUT on	est Location: FT chamber est Configuration the test fixture and other pling plane and 80cm from		EUT Voltage	e: 3.3Vdc		
Te General T The EUT on vertical coup outside the o	est Location: FT chamber est Configuration the test fixture and other pling plane and 80cm from	#4 support equipment was lo	EUT Voltage	e: 3.3Vdc		
Te General T The EUT on vertical coup outside the o Ambient (Summary MAC Addre	est Location: FT chamber est Configuration the test fixture and other bling plane and 80cm fron chamber. Conditions: of Results ess: 00:15:00:DC:7B:25,	#4 support equipment was lonn the LISN. A second LIS Temperature: Rel. Humidity: EUT installed in Laptop	EUT Voltage ocated on a wooden tab SN was used for all loca 23 °C 40 %	2: 3.3Vdc le inside the s al support equ	uipment. Rer	
Te General T The EUT on vertical coup outside the o Ambient (Ambient (Ambi	est Location: FT chamber est Configuration the test fixture and other bling plane and 80cm from chamber. Conditions: of Results ess: 00:15:00:DC:7B:25, n # T	#4 support equipment was lo n the LISN. A second LIS Temperature: Rel. Humidity: EUT installed in Laptop Test Performed C Power, 120V/60Hz	EUT Voltage ocated on a wooden tab SN was used for all loca 23 °C	e: 3.3Vdc	uipment. Rer Margin	



Uleni.	Intel Corpor	ation					Job Number:	J93358
							T-Log Number:	
Model:	PBA5001						Project Manager:	
Contact:	Steve Hacke	ett					Project Coordinator:	
		5.247, 15.407					Class:	
reliminary	peak readi	nas captured	durina pre	-scan (peak	readings v	s. average lim	it)	I
requency	Level	AC	RSS 210		Detector	Comments	,	
MHz	dBµV	Line	Limit	Margin	QP/Ave			
0.154	36.3	Line	55.8	-19.5	Peak			
0.163	30.9	Line	55.3	-24.4	Peak			
0.166	29.5	Line	55.1	-25.6	Peak			
7.009	26.7	Line	50.0	-23.3	Peak			
6.392	27.0	Line	50.0	-23.0	Peak			
0.157	35.4	Neutral	55.7	-20.3	Peak			
0.165	32.3	Neutral	55.2	-22.9	Peak			
0.170	28.8	Neutral	55.0	-26.2	Peak			
0.172	28.6	Neutral	54.8	-26.2	Peak			
7.623	24.6	Neutral	50.0	-25.4	Peak			
7.314	25.3	Neutral	50.0	-24.7	Peak			
nal quasi	-neak and a	verage readi	nas					
requency	Level	AC	RSS 210	/ 15.207	Detector	Comments		
MHz	dBµV	Line	Limit	Margin	QP/Ave	Commonto		
7.009	15.0	Line	50.0	-35.0	AVG	AVG (0.10s)		
		Neutral	65.7	-35.5	QP	QP (1.00s)		
0.156	30.2							
0.156 6.392	30.2 14.3	Line	50.0	-35.7	AVG	AVG (0.10s)		
			50.0 65.8	-35.7 -36.2	AVG QP	AVG (0.10s) QP (1.00s)		
6.392	14.3	Line						
6.392 0.154 0.172 7.314	14.3 29.6	Line Line	65.8 64.9 50.0	-36.2 -36.8 -38.8	QP QP AVG	QP (1.00s) QP (1.00s) AVG (0.10s)		
6.392 0.154 0.172 7.314 7.623	14.3 29.6 28.1 11.2 11.1	Line Line Neutral Neutral Neutral	65.8 64.9 50.0 50.0	-36.2 -36.8 -38.8 -38.9	QP QP AVG AVG	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s)		
6.3920.1540.1727.3147.6230.169	14.3 29.6 28.1 11.2 11.1 25.9	Line Line Neutral Neutral Neutral Neutral	65.8 64.9 50.0 50.0 65.0	-36.2 -36.8 -38.8 -38.9 -39.1	QP QP AVG AVG QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s)		
6.3920.1540.1727.3147.6230.1697.009	14.3 29.6 28.1 11.2 11.1 25.9 20.5	Line Line Neutral Neutral Neutral Line	65.8 64.9 50.0 50.0 65.0 60.0	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5	QP QP AVG AVG QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s)		
6.3920.1540.1727.3147.6230.1697.0096.392	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2	Line Line Neutral Neutral Neutral Line Line	65.8 64.9 50.0 50.0 65.0 60.0 60.0	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8	QP QP AVG AVG QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.3920.1540.1727.3147.6230.1697.0096.3920.165	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2	Line Line Neutral Neutral Neutral Line Line Neutral	65.8 64.9 50.0 50.0 65.0 60.0 60.0 65.2	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0	QP QP AVG AVG QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.3920.1540.1727.3147.6230.1697.0096.3920.1650.163	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2	Line Line Neutral Neutral Neutral Line Line Neutral Line	65.8 64.9 50.0 50.0 65.0 60.0 60.0 65.2 65.3	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1	QP QP AVG AVG QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.3920.1540.1727.3147.6230.1697.0096.3920.1650.1637.314	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Neutral	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1	QP QP AVG QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -42.2	QP QP AVG QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line Neutral Line	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2 60.0 65.2 60.0	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -41.1 -42.2 -43.5	QP QP AVG QP QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314 0.165 0.163 7.314 0.163 7.314 0.163 7.314 0.166 7.623 0.172	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5 11.1	Line Line Neutral Neutral Neutral Line Neutral Line Neutral Line Neutral Neutral Neutral Neutral	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2 65.3 60.0 55.2 65.3 60.0 55.2 65.4 60.0 65.2	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -42.2 -43.5 -43.8	QP QP AVG QP QP QP QP QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) AVG (0.10s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314 0.163 7.314 0.163 7.314 0.163 7.314 0.164 0.165 0.165 0.163 7.314 0.166 7.623 0.172 0.154	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5 11.1 11.6	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line Neutral Line Neutral Line	65.8 64.9 50.0 50.0 60.0 60.0 65.2 65.3 60.0 65.2 65.3 60.0 55.8	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -41.1 -42.2 -43.5 -43.8 -44.2	QP QP AVG QP QP QP QP QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) AVG (0.10s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314 0.165 0.163 7.314 0.163 0.164 0.165 0.165 0.163 0.164 0.165 0.165 0.164 0.154 0.156	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5 11.1 11.6 11.5	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line Neutral Neutral Line Neutral Neutral	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2 65.3 60.0 55.8 55.7	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -41.1 -42.2 -43.5 -43.8 -44.2 -44.2	QP QP AVG QP QP QP QP QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.165 0.163 7.314 0.165 0.163 7.314 0.165 0.163 0.164 0.165 0.165 0.163 0.164 0.154 0.156 0.156 0.163	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5 11.1 11.6 11.5 10.7	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line Neutral Line Neutral Line Neutral Line	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2 65.3 60.0 55.2 55.3 55.7 55.3	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -41.1 -42.2 -43.5 -43.8 -44.2 -44.2 -44.6	QP QP AVG QP QP QP QP QP QP QP QP QP QP AVG AVG AVG	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) AVG (0.10s)		
6.392 0.154 0.172 7.314 7.623 0.169 7.009 6.392 0.165 0.163 7.314 0.163 7.314 0.163 0.163 0.164 0.165 0.165 0.165 0.165 0.165 0.156 0.154 0.156	14.3 29.6 28.1 11.2 11.1 25.9 20.5 20.2 25.2 24.2 18.9 23.0 16.5 11.1 11.6 11.5	Line Line Neutral Neutral Neutral Line Line Neutral Line Neutral Line Neutral Neutral Line Neutral Neutral	65.8 64.9 50.0 50.0 65.0 60.0 65.2 65.3 60.0 65.2 65.3 60.0 55.8 55.7	-36.2 -36.8 -38.8 -38.9 -39.1 -39.5 -39.8 -40.0 -41.1 -41.1 -41.1 -42.2 -43.5 -43.8 -44.2 -44.2	QP QP AVG QP QP QP QP QP QP QP QP QP QP QP QP QP	QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) AVG (0.10s) AVG (0.10s)		

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