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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: 3160SDW

IC CERTIFICATION #: 1000M-3160SD FCC ID: PD93160SD 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:** January 23, 2014 FINAL TEST DATES: January 6 - 11, and 14, 2014 TOTAL NUMBER OF PAGES: 116

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REVISION HISTORY

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SCOPE

An electromagnetic emissions test has been performed on the Intel Mobile Communications model 3160SDW, 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 3160SDW 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 3160SDW 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

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247	RSS 210	20dB Bandwidth	Basic Rate: 950 kHz EDR: 1475 kHz	Channel spacing >	Complies
(a) (1)	A8.1 (1)	Channel Separation	1 MHz	2/3rds 20dB BW	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: 6.32 dBm EDR: -0.76 dBm EIRP = $0.009 \text{ W}^{\text{Note 1}}$	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	50.7 dBµV/m @ 4804.0 MHz (-3.3 dB)	15.207 in restricted bands, all others < -20dBc	Complies
15.247 (a) (1)	RSS 210 A8.1(2)	Receiver bandwidth	Refer to operational description	Shall match the channel bandwidth	Complies
Note 1: EIRP	calculated usin	g antenna gain of 3.2 dBi			

FREQUENCY HOPPING SPREAD SPECTRUM (2400 – 2483.5 MHz, less than 75 channels)

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	EUT uses IPEX-4 RF ports	Unique or integral antenna required	Complies
15.207	RSS GEN Table 2	AC Conducted Emissions	45.7 dBµV @ 0.398 MHz (-2.2 dB)	Refer to page 17	Complies
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to SAR report and RSS 102 declaration	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 7.1.3	User Manual	Refer to User Manual for details	Statement for products with detachable antenna	Complies
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth	Basic: 890kHz EDR: 1348kHz	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 3160SDW is an IEEE 802.11a/b/g/n/ac wireless network adapter that supports 1x1 (SISO) operation and Bluetooth in Basic Rate, Enhanced Data Rate, and Low Energy modes. It is designed to be soldered down in host devices.

The sample was received on December 30, 2013 and tested on January 6 - 11, and 14, 2014. The EUT consisted of the following component(s):

Company	Model	Description	MAC Address:	FCC ID
Intel Mobile	3160SDW	Wireless Network	001500E60B22	PD93160SD
Communications		Adapter		1000m-3160SD

OTHER EUT DETAILS

802.11abgn + ac80, 1x1, module Bluetooth 4.0 Supports simultaneous transmission No transmit/receive diversity

ANTENNA SYSTEM

The EUT antenna is a two-antenna PIFA antenna system – SkyCross, Inc. One antenna is used for WiFi operation and one for Bluetooth operation. For Bluetooth: transmit is chain B, receive is chain B. For WiFi, only Chain A is used for transmit and receive.

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 has no enclosure. It is designed to be installed within the enclosure of a host computer.

MODIFICATIONS

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

SUPPORT EQUIPMENT

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

Company	Model	Description	Serial Number	FCC ID
Dell	Latitude E5400	Laptop	Unmarked	N/A
Dell	LA90PS3-00	AC/DC Adapter	CN-0FR613-71615- 7CO-0058	N/A
Intel	-	Test Fixture	-	-

EUT INTERFACE PORTS

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

Por	t	Cable(s)			
From	То	Description	Shielded/Unshielded	Length(m)	
DC power (laptop)	External power supply	2 wire	Unshielded	2	
AC input (power supply)	AC mains	2 wire	Unshielded	2	
PCIe Internal Port	Test Fixture	Ribbon Cable	Unshielded (Shielded for radiated emissions)	0.8	
EUT – RF ports (x2)	Antenna Fixture	coaxial (x2)	Shielded	0.2	

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 MHz and 40 MHz channel bandwidths), 802.11ac (20, 40 and 80 MHz channel bandwidths), Bluetooth 1Mb/s and Bluetooth 3Mb/s. 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 mode – 1Mb/s for 802.11b, 6Mb/s for 802.11a and 802.11g, 6.5MB/s for 802.11n20, and 13 Mb/s for 802.11n40 except 802.11ac80 mode was tested at 390Mb/s. The device operates at its maximum output power at the lowest data rate except for 802.11ac80 mode (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 1.7.4-855 and the device driver was version 16.8.0.3.

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.

Sita	Registratio	Lanting	
Site	FCC	Canada	Location
Chamber 4	211948	2845B-4	41039 Boyce Road
Chamber 7	A2LA accreditation	2845B-7	Fremont, CA 94538-2435

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.

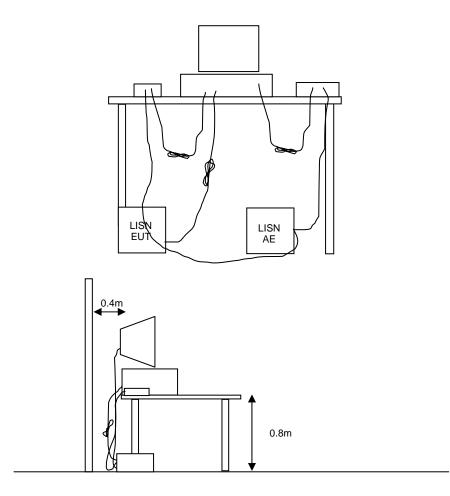


Figure 1 Typical Conducted Emissions Test Configuration

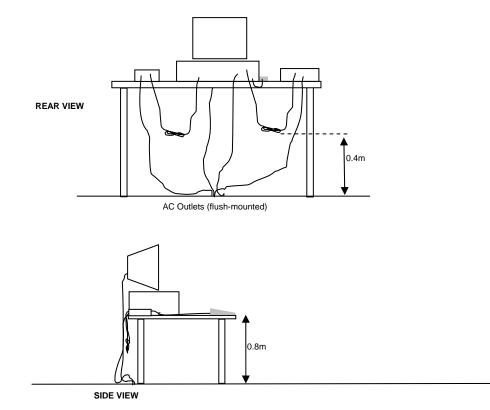
RADIATED EMISSIONS

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.

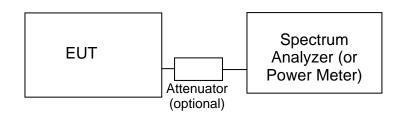
When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.



Typical Test Configuration for Radiated Field Strength Measurements

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

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).

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

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

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

 $R_r - S = M$

where:

 $R_r =$ Receiver Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS - RADIATED EMISSIONS

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

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

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

where:

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

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

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

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

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, 3	Description	Model	<u>Asset #</u>	Cal Due
Rohde & Schwarz	Signal Analyzer 20 Hz - 26.5 GHz	FSQ26	2327	4/25/2014
Agilent Technologies	USB Average Power Sensor	U2001A	2442	12/19/2014
Radiated Emissions, 7 EMCO Rohde & Schwarz	1,000 - 6,500 MHz, 30-Dec-13 Antenna, Horn, 1-18 GHz EMI Test Receiver, 20 Hz-40 GHz	3115 ESIB40 (1088.7490.40)	1561 2493	7/12/2014 1/18/2014
	nissions, 1000 - 25,000 MHz, 31-D			
EMCO Hewlett Packard	Antenna, Horn, 1-18 GHz SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	3115 8564E (84125C)	487 1393	7/19/2014 5/9/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	1780	11/26/2014
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/3/2014
Radiated Spurious En	nissions, 1000 - 40,000 MHz, 02-Ja	an-14		
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/19/2014
Narda West	High Pass Filter, 8 GHz	HPF 180	821	3/13/2014
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	5/9/2014
Hewlett Packard	Head (Inc flex cable, (1742,1743) Blue)	84125C	1620	5/15/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	1780	11/26/2014
A. H. Systems Micro-Tronics	Purple System Horn, 18-40GHz Band Reject Filter, 2400-2500 MHz	SAS-574, p/n: 2581 BRM50702-02	2160 2249	6/28/2014 10/3/2014
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1682	3/13/2014
Radio Antenna Port (F	Power and Spurious Emissions), (03-Jan-14		
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	1/28/2014
Radio Antenna Port (F	Power and Spurious Emissions), (13-Jan-14		
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with 20dB attenuator	NRV-Z32	1423	9/17/2014
Dahda 9 Cabwar	sn:1031.6959.00 only		4500	0/20/204.4
Rohde & Schwarz Agilent Technologies	Power Meter, Dual Channel USB Average Power Sensor	NRVD U2001A	1539 2442	8/30/2014 12/19/2014
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	1/28/2014
Radiated Emissions, 7 Micro-Tronics	1000 - 26,500 MHz, 07-Jan-14 Band Reject Filter, 2400-2500	BRM50702-02	1683	8/2/2014
Hewlett Packard	MHz Head (Inc W1-W4, 1946 , 1947) Purple	84125C	1772	6/18/2014
A. H. Systems	Red System Horn, 18-40GHz	SAS-574, p/n: 2581	2161	6/10/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	2/19/2014

2		Repor	t Date: Janu	ary 23, 2014
<u>Manufacturer</u> Hewlett Packard	<u>Description</u> SpecAn 9 kHz - 40 GHz, (SA40) Purple	<u>Model</u> 8564E (84125C)	<u>Asset #</u> 2415	<u>Cal Due</u> 8/24/2014
Radiated Spurious E	missions, 1000 - 25,000 MHz, 07-J	an-14		
EMCO .	Antenna, Horn, 1-18GHz	3115	868	6/19/2014
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	7/12/2014
Hewlett Packard	Head (Inc W1-W4, 1946 , 1947) Purple	84125C	1772	6/18/2014
A. H. Systems	Red System Horn, 18-40GHz	SAS-574, p/n: 2581	2161	6/10/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	2/19/2014
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2238	9/18/2014
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	8/24/2014
	missions, 1000 - 15,000 MHz, 08-J			
Narda West	High Pass Filter, 8 GHz	HPF 180	821	3/13/2014
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
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	11/26/2014
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2239	9/18/2014
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	2240	9/18/2014
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	2241	9/18/2014
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/3/2014
	1000 - 15,000 MHz, 09-Jan-14			
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	7/12/2014
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1682	3/13/2014
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	1729	8/2/2014
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1730	8/2/2014
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	2/19/2014
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/3/2014
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	8/24/2014
Radio Antenna Port (Agilent Technologies	Power and Spurious Emissions), PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	09-Jan-14 E4446A	2139	3/7/2014
	30 - 1,000 MHz, 10-Jan-14			
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548	8/9/2014
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz		1756	6/8/2014
Com-Power	Preamplifier, 1-1000 MHz	PAM-103	2885	11/1/2014

Test Report Report Date: January 23, 2014

Manufacturer	Description - AC Power Ports, 10-Jan-14	<u>Model</u>	Asset #	Cal Due
EMCO Rohde & Schwarz Rohde & Schwarz	LISN, 10 kHz-100 MHz Pulse Limiter EMI Test Receiver, 20 Hz-7 GHz	3825/2 ESH3 Z2 ESIB7	1293 1401 1756	2/14/2014 5/15/2014 6/8/2014
Rohde & Schwarz Rohde & Schwarz Fischer Custom	5 - AC Power Ports, 13-Jan-14 Pulse Limiter EMI Test Receiver, 20 Hz-7 GHz LISN, 25A, 150kHz to 30MHz,	ESH3 Z2 ESIB7 FCC-LISN-50-25-2-	1401 1756 2001	5/15/2014 6/8/2014 4/4/2014
Comm	25 Amp,	09		
Radiated Emissions, 3 Sunol Sciences Rohde & Schwarz Com-Power	30 - 1,000 MHz, 13-Jan-14 Biconilog, 30-3000 MHz EMI Test Receiver, 20 Hz-7 GHz Preamplifier, 1-1000 MHz	JB3 ESIB7 PAM-103	1548 1756 2885	8/9/2014 6/8/2014 11/1/2014
	Power and Spurious Emissions), ²			
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	1/28/2014
Radio Antenna Port (F	Power and Spurious Emissions), ²	I5-Jan-14		
Rohde & Schwarz Rohde & Schwarz	Power Meter, Single Channel Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:1031.6959.00 only	NRVS NRV-Z32	1290 1423	12/10/2014 9/17/2014
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	1/28/2014

Appendix B Test Data

T94177 Pages 25 – 115



CESS

EMC Test Data

Client:	Intel Mobile Communications	Job Number:	J94122
Product	3160SDW	T-Log Number:	T94177
		Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Emissions Standard(s):	FCC Part 15, RSS-210	Class:	В
Immunity Standard(s):	-	Environment:	Radio

EMC Test Data

For The

Intel Mobile Communications

Product

3160SDW

Date of Last Test: 1/16/2014

EMC Test Data

EMC Te.			
Client:	Intel Mobile Communications	Job Number:	J94122
Madal	3160SDW	T-Log Number:	T94177
Model.	31003D10	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	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 redcued as the data rate increases, therefore testing was performed at the data rate in the mode wiht highest 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(Port 2) at the various data rates in each mode to verify the highest power mode:

Sample Notes

MAC Address: 001500E60B22 DRTU Tool Version 1.7.4-845 Driver version 16.8.0.3

Date of Test: 12/30/2013 Test Engineer: Jack Liu Test Location: FT Lab6

Mode	Data Rate	Power (dBm)	Power setting
	1	16.6	
802.11b	2	16.5	20.0
002.110	5.5	16.4	20.0
	11	16.4	
	6	15.2	
	9	15.1	
	12	15.1	
900 11a	18	15.1	20.0
802.11g	24	15.0	20.0
	36	14.9	
	48	14.8]
	54	14.8	1

Data Rate 6.5 13 19.5	Power (dBm) 11.6	Proj	Log Number: T94177 ect Manager: Christine Krebi Coordinator: - Class: N/A
6.5 13	11.6	Project	: Coordinator: -
6.5 13	11.6	Power	
6.5 13	11.6]
6.5 13	11.6]
13			
10 5	11.2		
	11.0		
26	10.8		
39	10.6	20.0	
		-	
		-	
		-	<<-11ac mode only
			<<-11ac mode only
40.5	10.3		
54	10.2		
81	10.1	20.0	
108	10.0	20.0	
		_	
		_	
			<<-11ac mode only
		-	
		-	
234	9.6	20.0	
266.3	9.5]	
292.5	9.4		
351	9.4	1	
390	9.4		
	54 81 108 121.5 135 162 180 29.3 58.5 87.8 117 175.5 234 266.3 292.5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

EMC Test Data

 Client:
 Intel Mobile Communications
 Job Number:
 J94122

 Model:
 3160SDW
 T-Log Number:
 T94177

 Contact:
 Steve Hackett
 Project Manager:
 Christine Krebill

 Standard:
 FCC Part 15, RSS-210
 Class:
 N/A

Duty Cycle

Date of Test: 12/30/2013 Test Engineer: Jack Liu Test Location: FT Lab6

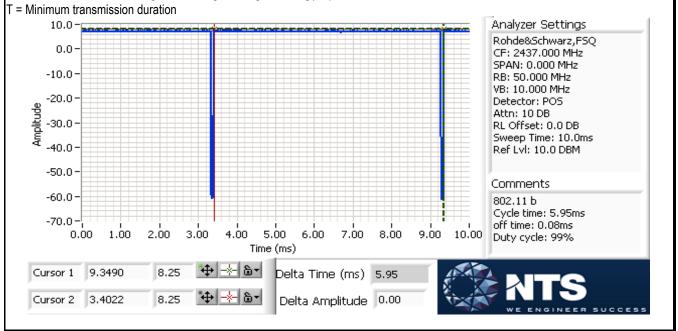
Duty cycle measurements performed on the worse case data rate for power.

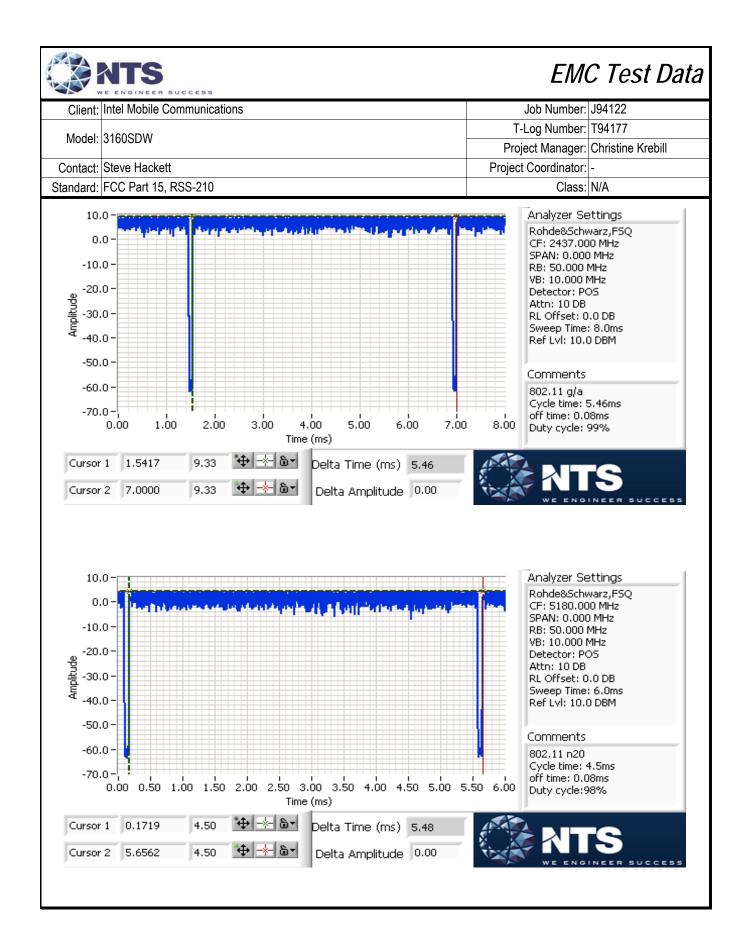
Notes: Measurements taken with maximum RBW/VBW settings allowed.

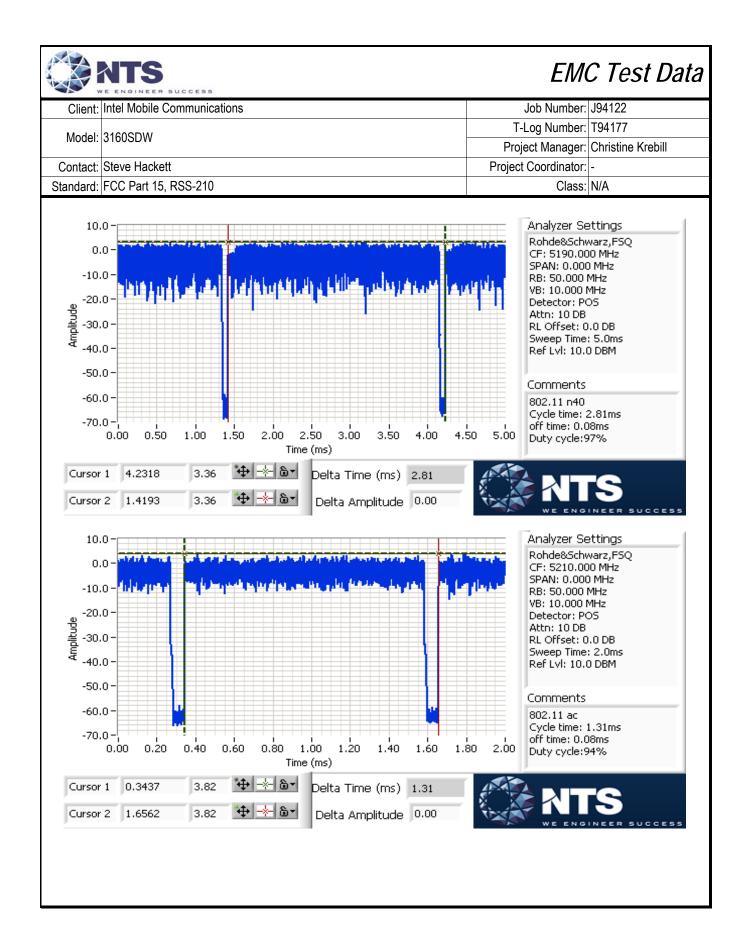
Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
11b	1Mb/s	0.99	Yes	10	0	0	100
11g	6Mb/s	0.99	Yes	8	0	0	125
11a	6Mb/s	0.99	Yes	8	0	0	125
n20	HT0	0.98	Yes	6	0	0	166.67
n40	HT0	0.97	Yes	5	0.12	0.24	200
ac80	VHT0	0.94	Yes	2	0.26	0.51	500
BLE	-	0.63	Yes	0.4	1.97	3.95	2500

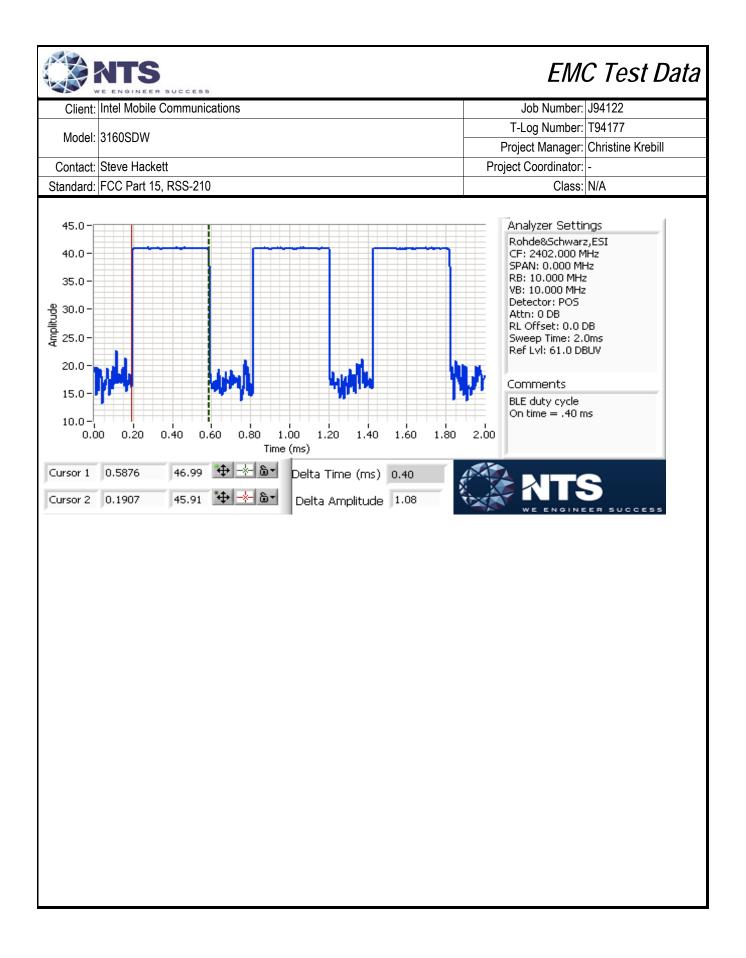
* Correction factor when using RMS/Power averaging - 10*log(1/x)

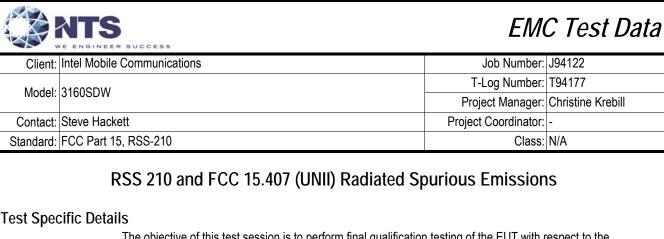
** Correction factor when using linear voltage average - 20*log(1/x)











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

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, unless otherwise noted.

Ambient Conditions:

Temperature:	20 °C
Rel. Humidity:	31 %

Summary of Results

For Wi-Fi, Chain A (2) is used for Tx and Rx. For Bluetooth, chain B (1) is used for Tx and Rx.

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
1	BT Basic 11b	2402MHz 2412MHz	9 21.0	-			48.8 dBµV/m @ 4804.0 MHz (-5.2 dB)
2	BT Basic 11b	2480MHz 2462MHz	9 22.0	-	Radiated Emissions,	FCC Part 15.209 /	42.6 dBµV/m @ 4960.0 MHz (-11.4 dB)
3	BT Basic 11g	2402MHz 2412MHz	9 22.5	-	1 - 10 GHz	15.247(c) 49.0 dBµ	49.0 dBµV/m @ 4804.1 MHz (-5.0 dB)
4	BT Basic 11g	2480MHz 2462MHz	9 22.5	-			42.9 dBµV/m @ 4960.0 MHz (-11.1 dB)
Wi-Fi mode	for the follow	ing runs bas	ed on the wo	orst case moo	de from runs 1 through 4		
5		2402MHz 2437MHz	9 22.5	-			44.9 dBµV/m @ 4804.0 MHz (-9.1 dB)
6	BT Basic	2441MHz 2412MHz	9 22.5	-	Radiated Emissions,	FCC Part 15.209 / 15.247(c)	42.8 dBµV/m @ 4882.0 MHz (-11.2 dB)
7	11g	2441MHz 2462MHz	9 22	-	1 - 10 GHz		41.7 dBµV/m @ 4882.0 MHz (-12.3 dB)
8	2480MHz 9	9 22.5	-			40.6 dBµV/m @ 4960.0 MHz (-13.4 dB)	

)SDW re Hacke					T-Log Number:	T94177
					0	
e Hacke				Project Manager:	Christine Krebill	
	tt		Project Coordinator:	-		
Part 15	, RSS-210			Class:	N/A	
channel			or the followi	ng runs based on the wors	t case mode from runs 1	
		-	-			56.3 dBµV/m @ 124
						MHz (-17.7 dB)
iig		-	-	1 - 10 GHZ	15.247(C)	56.2 dBµV/m @ 124
	2437 MIHZ	22.5				MHz (-17.8 dB)
t I	2402MHz	9	Ι			48.5 dBµV/m @ 480
	5200MHz	29	-			MHz (-5.5 dB)
2441MHz 9 5200MHz 29			46.3 dBµV/m @ 488			
	5200MHz		-			MHz (-7.7 dB)
	2480MHz	9				43.9 dBµV/m @ 496
			_			MHz (-10.1 dB)
		-	_			49.3 dBµV/m @ 480
						MHz (-4.7 dB)
			-	,		47.1 dBµV/m @ 480
n20				1 - 15 GHz	15.247(c) / 15.407	MHz (-6.9 dB)
		-	-			49.7 dBµV/m @ 480
-				-		MHz (-4.3 dB)
		-	-			57.5 dBµV/m @ 119 MHz (-16.5 dB)
-				-		No measurable
			-			emission.
ŀ	2480MHz	9		-		No measurable
2480M 5785M		31.5				emission.
- 1 Fi	EDR 1g or the fo	EDR EDR 2402MHz 2412MHz 2437MHz 2437MHz 2437MHz 2437MHz 2437MHz 5200MHz 2441MHz 5200MHz 2441MHz 5200MHz 2480MHz 5300MHz 2402MHz 5580MHz 2402MHz 5580MHz 2480MHz 5300MHz 2480MHz 5300MHz	2402MHz 1 EDR 2412MHz 22.5 11g 2402MHz 1 2437MHz 22.5 or the following runs based on w 2402MHz 9 5200MHz 29 2441MHz 9 5200MHz 29 2441MHz 9 5200MHz 29 2480MHz 9 5200MHz 29 2480MHz 9 5200MHz 29 2402MHz 9 5200MHz 29 2480MHz 9 5300MHz 28.5 2402MHz 9 5580MHz 30.5 2402MHz 9 5785MHz 31.5 2480MHz 9 5300MHz 28.5 2480MHz 9 5300MHz 28.5 2480MHz 9 5580MHz 30.5	2402MHz 1 - 2412MHz 22.5 - 2402MHz 1 - 2402MHz 1 - 2437MHz 22.5 - or the following runs based on worst case mode - 2402MHz 9 - 5200MHz 29 - 2441MHz 9 - 5200MHz 29 - 2441MHz 9 - 5200MHz 29 - 2480MHz 9 - 5200MHz 29 - 2402MHz 9 - 5300MHz 28.5 - 2402MHz 9 - 5580MHz 30.5 - 2402MHz 9 - 5580MHz 31.5 - 2480MHz 9 - 5300MHz 28.5 - 2480MHz 9 - 5300MHz 30.5 - 2480MHz <td>EDR 2402MHz 1 - Radiated Emissions, 1 - 10 GHz 11g 2402MHz 1 - 1 - 10 GHz 2437MHz 22.5 - - 1 - 10 GHz or the following runs based on worst case mode from runs 1 through 10 - - - or the following runs based on worst case mode from runs 1 through 10 - - - 2402MHz 9 - - - 2441MHz 9 - - - 2400MHz 9 - - - 2402MHz 9 - - - 2402MHz 9 - - - 30.5 - - - - 2402MHz 9 - - - 2402MHz 9 - - - 2480MHz 9 - - - 2480</td> <td>EDR Ing 2412MHz 22.5 Radiated Emissions, 1 - 10 GHz FCC Part 15.209 / 15.247(c) or the following runs based on worst case mode from runs 1 through 10 combined with n20 mode 9 - or the following runs based on worst case mode from runs 1 through 10 combined with n20 mode 9 - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2441MHz 9 - - 2402MHz 9 - - 2440MHz 9 - - 2400MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 30.5 - - - 2402MHz 9 - - 5300MHz 30.5 - - 2480MHz 9 - - 5300MHz 28.5</td>	EDR 2402MHz 1 - Radiated Emissions, 1 - 10 GHz 11g 2402MHz 1 - 1 - 10 GHz 2437MHz 22.5 - - 1 - 10 GHz or the following runs based on worst case mode from runs 1 through 10 - - - or the following runs based on worst case mode from runs 1 through 10 - - - 2402MHz 9 - - - 2441MHz 9 - - - 2400MHz 9 - - - 2402MHz 9 - - - 2402MHz 9 - - - 30.5 - - - - 2402MHz 9 - - - 2402MHz 9 - - - 2480MHz 9 - - - 2480	EDR Ing 2412MHz 22.5 Radiated Emissions, 1 - 10 GHz FCC Part 15.209 / 15.247(c) or the following runs based on worst case mode from runs 1 through 10 combined with n20 mode 9 - or the following runs based on worst case mode from runs 1 through 10 combined with n20 mode 9 - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2441MHz 9 - - 2402MHz 9 - - 2440MHz 9 - - 2400MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 2402MHz 9 - - 30.5 - - - 2402MHz 9 - - 5300MHz 30.5 - - 2480MHz 9 - - 5300MHz 28.5

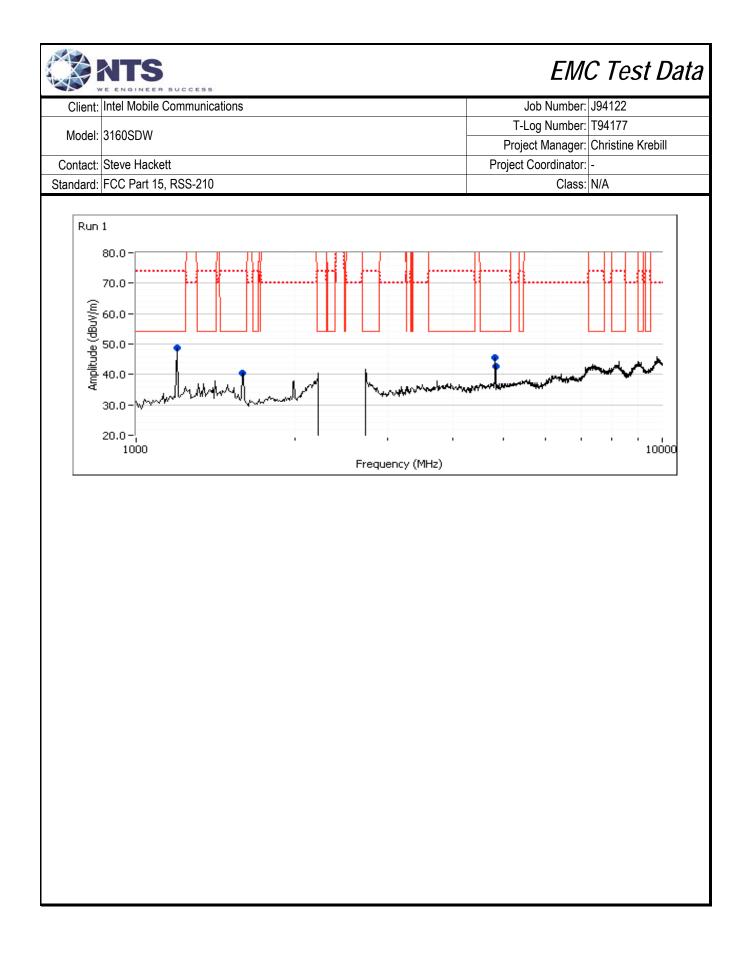
Deviations From The Standard

No deviations were made from the requirements of the standard.

Test Notes

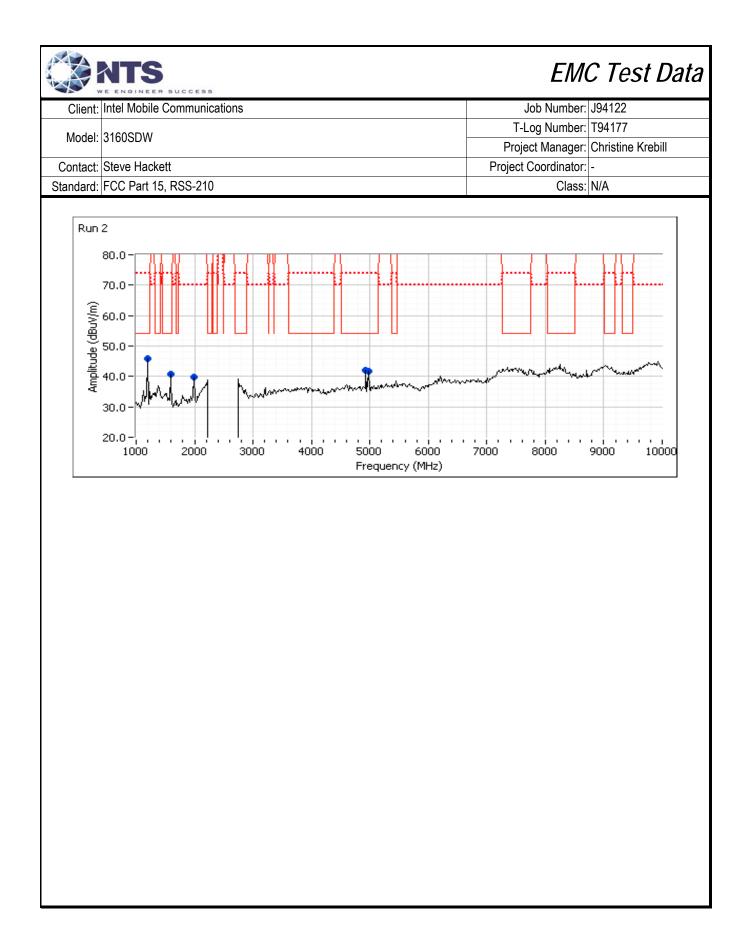
Scans in the near field performed without the external preamplifier and band reject filter

Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -8.5 Peak 213 1.0 4825.000 42.8 V 54.0 -11.2 Peak 173 1.5	Client:	Intel Mobile	Communicat	ions					Job Number:	J94122	
Project Manager: Christine KrebillContact: Steve HackettProject Coordinator: -Standard: FCC Part 15, RSS-210Class: N/ARun #1: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11b @ 2412, BT Basic @ 2402 MHzDate of Test: 1/7/2014Test Engineer: John CaizziTarget (dBm)Measured (dBm)Software SettingWiFi16.521.0BT7.0Preliminary Spurious Emissions excluding allocated band (Peak versus average limit)FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHZDate of Test: 1/7/2014Test Coation: Chamber 7Power SettingsMiFi< 16.52Preliminary Spurious Emissions excluding allocated band (Peak versus average limit)FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightComments4810.00048.5Peak2131.0Brian <th colspa<="" td=""><td></td><td>040000144</td><td></td><td></td><td></td><td></td><td></td><td>T-</td><td>Log Number:</td><td>T94177</td></th>	<td></td> <td>040000144</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>T-</td> <td>Log Number:</td> <td>T94177</td>		040000144						T-	Log Number:	T94177
Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A Run #1: Radiated Spurious Emissions, 1-10GHz. Operating Mode:: 11b @ 2412, BT Basic @ 2402 MHz Date of Test: 1/7/2014 Test Engineer:: John Caizzi Target (dBm) Measured (dBm) Software Setting WiFi 16.5 21.0 BT 7.0 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB _{IL} V/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 2 2.0 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -11.2 Peak 173 1.5 1.5 <td c<="" td=""><td>Model:</td><td>3160SDW</td><td></td><td></td><td></td><td></td><td></td><td>Proj</td><td>ect Manager:</td><td>Christine Krebill</td></td>	<td>Model:</td> <td>3160SDW</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Proj</td> <td>ect Manager:</td> <td>Christine Krebill</td>	Model:	3160SDW						Proj	ect Manager:	Christine Krebill
Class: N/A Class: N/A Run #1: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11b @ 2412, BT Basic @ 2402 MHz Date of Test: 1/7/2014 Test Engineer: John Caizzi Test Location: Chamber 7 Power Settings WiFi 16.5 BT 7.0 Operating Measured (dBm) Software Setting WiFi 16.5 21.0 BT 7.0 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 195.000 48.6 V 54.0 -13.6 Peak 2 2.0 Note 1 1952.000 42.8 V <	Contact:	Steve Hacke	ett								
Run #1: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11b @ 2412, BT Basic @ 2402 MHzDate of Test: 1/7/2014Test Engineer: John CaizziTest Location: Chamber 7Power Settings Target (dBm)Measured (dBm)Software SettingWiFi16.521.0BT7.0Oreliminary Spurious Emissions excluding allocated band (Peak versus average limit)FrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters1195.00048.6V54.0-5.4Peak1781.5Note 11592.50040.4V54.0-13.6Peak22.0Note 14810.00045.5V54.0-11.2Peak1731.5Final measurements at 3mFrequencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters1.5State of the state									Class: N/A		
Target (dBm) Measured (dBm) Software Setting WiFi 16.5 21.0 BT 7.0 - 9.0 reliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -11.2 Peak 173 1.5 requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Inal measurements 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 HHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4804.030 48.8 V 54.0 -5.2 AVG 209 1.26 4824.020 41.5 V 54.0 -12.5 AVG 233 1.54	D Te:)ate of Test: st Engineer:	1/7/2014 John Caizzi	ons, 1-10Gł	Iz. Operati	ng Mode: 11	b @ 2412, B	T Basic @	2402 MHz		
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$						Power	Sottings				
WiFi 16.5 21.0 BT 7.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters - 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -8.5 Peak 21.3 1.0 4825.000 42.8 V 54.0 -11.2 Peak 173 1.5 Final measurements at 3m Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters				Target	(dBm)			Softwar	e Settina		
BT 7.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -11.2 Peak 173 1.5 Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB μ V/m v/h Limit Margin Pk/QP/Avg degrees meters 4804.030 48.8			WiFi	•	()		- (~='')		-		
Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 1195.000 48.6 V 54.0 -5.4 Peak 178 1.5 Note 1 1592.500 40.4 V 54.0 -13.6 Peak 2 2.0 Note 1 4810.000 45.5 V 54.0 -8.5 Peak 213 1.0 4825.000 42.8 V 54.0 -11.2 Peak 173 1.5 Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 4804.030 48.8 V 54.0 <							-				
	Frequency MHz 1195.000 1592.500 4810.000 4825.000 Final measu Frequency MHz 4804.030 4824.020 4804.080	Level dBµV/m 48.6 40.4 45.5 42.8 urements at Level dBµV/m 48.8 41.5 50.9	Pol v/h V V V 3m Pol v/h V V V V	15.209 Limit 54.0 54.0 54.0 54.0 15.209 Limit 54.0 54.0 74.0	/ 15.247 Margin -5.4 -13.6 -8.5 -11.2 / 15.247 Margin -5.2 -12.5 -23.1	Detector Pk/QP/Avg Peak Peak Peak Detector Pk/QP/Avg AVG AVG PK	Azimuth degrees 178 2 213 173 173 Azimuth degrees 209 233 209	Height meters 1.5 2.0 1.0 1.5 Height meters 1.26 1.54 1.26	Note 1 Note 1		
Note 1: Emission from host laptop.											



Client:	Intel Mobile (Communicat	ions					Job Number:	J94122
Medel	24600014						T-	Log Number:	T94177
woder:	3160SDW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	tt					Project	Coordinator:	-
Standard:	FCC Part 15	, RSS-210					-	Class:	N/A
<i>reliminary</i> reliminary	Spurious Er	<i>Ocm from th</i> missions at	<i>ne product to</i> 30cm from	2-3 GHz (Pe	otential signa	verage limit)			
Frequency	Level	Pol v/h		/ 15.247	Detector	Azimuth	Height	Comments	
MHz 2351.300	dBµV/m 39.1	V/n V	Limit 54.0	Margin -14.9	Pk/QP/Avg Peak	degrees 360	meters 1.0	noise floor	
2772.810	39.1	V	54.0 54.0	-14.9	Peak	360	1.0	noise floor	
MHz 2352.150	dBµV/m 30.5	v/h V	Limit 54.0	Margin -23.5	Pk/QP/Avg AVG	degrees 360	meters 1.0	noise floor	
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
2352.150	30.5 41.6	V	54.0 74.0	-23.5 -32.4	PK	360	1.0	noise floor	
2774.140	32.1	V	54.0	-32.4	AVG	360	1.0	noise floor	
2771.650	43.6	V	74.0	-30.4	PK	360	1.0	noise floor	
2350.880	30.4	Н	54.0	-23.6	AVG	0	1.0	noise floor	
2350.810	41.2	Н	74.0	-32.8	PK	0	1.0	noise floor	
2773.410	32.3	Н	54.0	-21.7	AVG	0	1.0	noise floor	
2771.480	43.7	Н	74.0	-30.3	PK	0	1.0	noise floor	
Amplitude (dBuV/m)	1 120.0 - 100.0 - 80.0 - 60.0 - 40.0 -								
	20.0-, , ,	2100	2200		2400 250		2700	2800	2900 3000

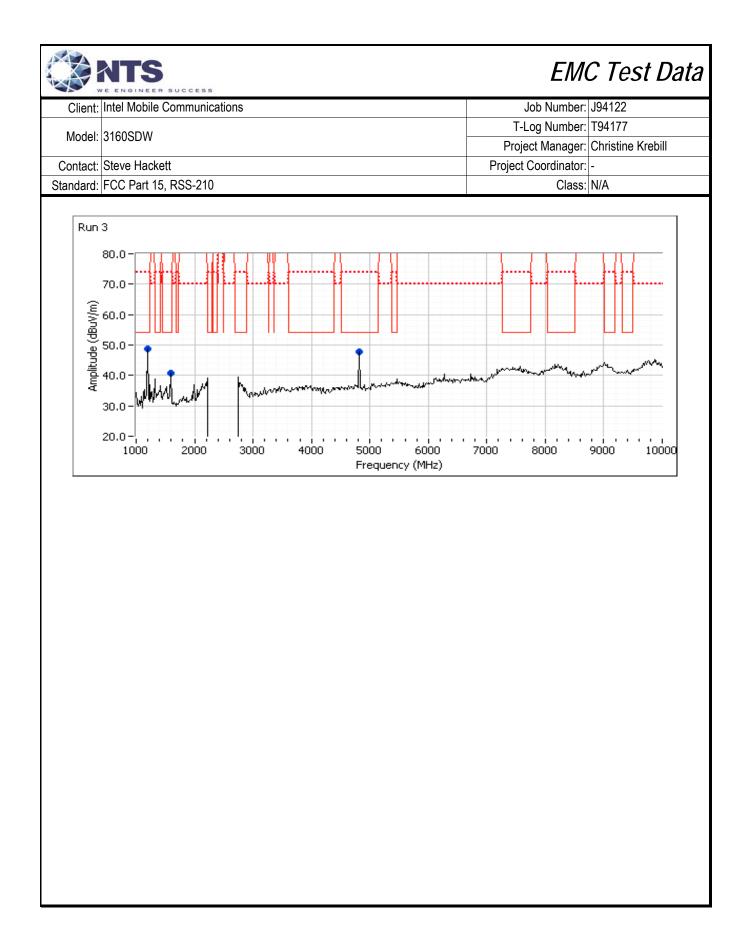
: Intel Mobile Communications	3				Job Number: J94122	
				T-	Log Number: T94177	
: 3160SDW				Proj	ect Manager: Christine Krel	bill
: Steve Hackett					Coordinator: -	
: FCC Part 15, RSS-210				.,	Class: N/A	
adiated Spurious Emissions Date of Test: 1/7/2014 est Engineer: John Caizzi Test Location: Chamber 7	s, 1-10GHz. Operati	ng Mode: 11b	@ 2462, BT	Basic @ 2	480 MHz	
		Power S	Settinas			
	Target (dBm)	Measure		Softwar	re Setting	
WiFi	16.5		. ,		2.0	
BT	7.0		-	ç	9.0	
y Spurious Emissions exclu Level Pol dBµV/m v/h	15.209 / 15.247 Limit Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
45.9 V	54.0 -8.1	Peak	30	1.0	Note 1	
40.8 V	54.0 -13.2	Peak	250	1.0	Note 1	
39.9 V 42.1 V	70.0 -30.1 54.0 -11.9	Peak Peak	360 210	<u>1.0</u> 1.0	Note 1	
41.6 V	54.0 -12.4	Peak	210	1.0		
surements at 3m	15.209 / 15.247	Detector	Azimuth	Height	Comments	
	Limit Margin	Pk/QP/Avg	degrees	meters		
42.6 V	54.0 -11.4	AVG	214	1.40		
41.5 V	54.0 -12.5	AVG	214	1.00		
46.3 V	74.0 -27.7	PK	214	1.00		
42.6 V	54.0-54.0-74.0-	·11.4 ·12.5	11.4 AVG 12.5 AVG 27.6 PK	11.4 AVG 214 .12.5 AVG 214 .27.6 PK 214	11.4 AVG 214 1.40 .12.5 AVG 214 1.00 .27.6 PK 214 1.40	11.4 AVG 214 1.40 .12.5 AVG 214 1.00 .27.6 PK 214 1.40



Client:	Intel Mobile (Communicat	ions					Job Number:	J94122
M. 1.1	240000144						T-	Log Number:	T94177
Model:	3160SDW					-	Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacker	tt					Project	Coordinator:	-
Standard:	FCC Part 15,	RSS-210						Class:	N/A
reliminary		Ocm from th	ne product to	2.1	<i>otential signa</i> eak versus av			ge limit)	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	50	
2740.990	40.0	V	54.0	-14.0	Peak	360	1.0	noise floor	
2342.750	36.8	V	54.0	-17.2	Peak	360	1.0	noise floor	
2742.450	32.1	V	54.0	-21.9	AVG	360	1.0	noise floor	
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2742.430	43.2	V	74.0	-21.3	PK	360	1.0	noise floor	
2341.560	30.4	V	54.0	-23.6	AVG	360	1.0	noise floor	
2342.010	41.9	V	74.0	-32.1	PK	360	1.0	noise floor	
2740.330	32.2	Н	54.0	-21.8	AVG	0	1.0	noise floor	
2739.780	43.2	Н	74.0	-30.8	PK	0	1.0	noise floor	
2342.530	30.4	Н	54.0	-23.6	AVG	0	1.0	noise floor	
2342.970	41.8	Н	74.0	-32.2	PK	0	1.0	noise floor	
Run	2 120.0 - 100.0 - 80.0 -								
Amplitude (dBuV/m)	60.0 - 40.0 - 20.0 -		~***	han-adden.re-allenan	anned We Hove	where we are an	an a	and a second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

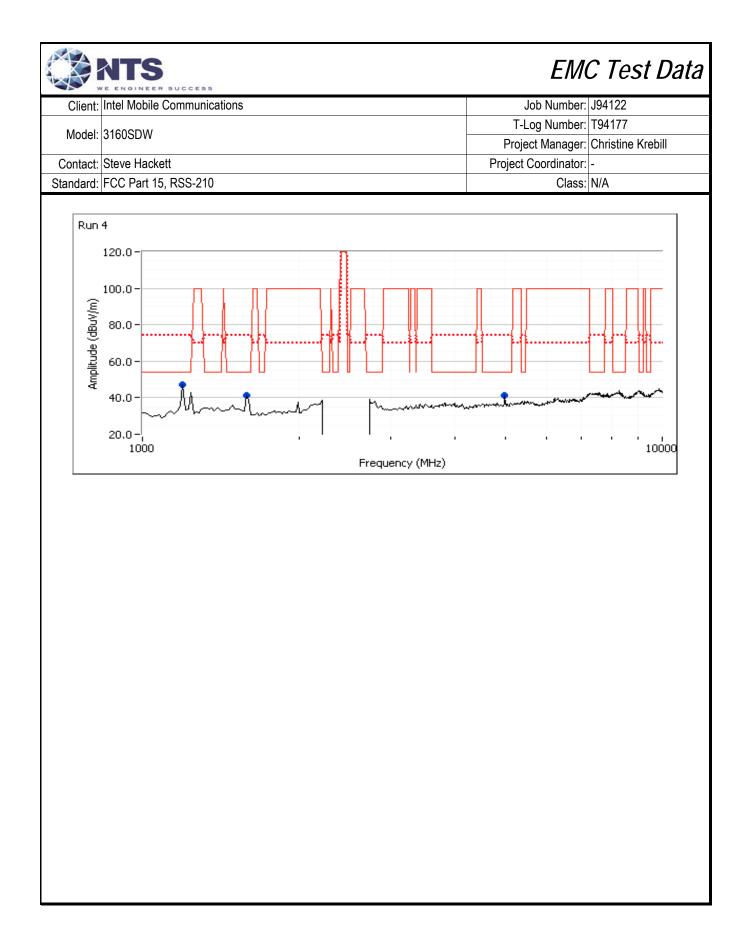
		SUCCESS						EM	C Test Data
Client:	Intel Mobile	Communicat	ions					Job Number:	J94122
	040000						T-	Log Number:	T94177
Model:	3160SDW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	5, RSS-210						Class:	N/A
C Te	diated Spur Date of Test: st Engineer: est Location:	1/7/2014 John Caizzi	ons, 1-10GF	lz. Operatin	ng Mode: 11g	@ 2412, BT	Basic @ 2	402 MHz	
					Power S	Sottings			1
			Target	(dBm)	Measure	· ·	Softwar	e Setting	
		WiFi	16		Medodie			2.5	
		BT	7.			-).0	
Preliminary	Spurious E				l (Peak versu	s average li	mit)		1
Frequency	Level	Pol	15.209/		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1195.000	48.6	V	54.0	-5.4	Peak	201	1.5	Note 1	
1585.000	40.8	V	54.0	-13.2	Peak	250	1.0	Note 1	
4810.000	47.7	V	54.0	-6.3	Peak	206	1.0		
Final measu	urements 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		
4804.050	49.0	V	54.0	-5.0	AVG	210	1.30		
4823.930	33.2	V	54.0	-20.8	AVG	162	1.07		
4803.800	50.8	V	74.0	-23.2	PK	210	1.30		
4832.300	45.5	V	74.0	-28.5	PK	162	1.07		
Note 1:	Emission fro	om host lapto	p.						
			F						

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Client:	Intel Mobile (Communicat	ions					Job Number:	J94122
N4. 1.1	240000144						T-	Log Number:	T94177
Model:	3160SDW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacker	tt					Project	Coordinator:	-
Standard:	FCC Part 15,	RSS-210						Class:	N/A
reliminary		Ocm from th	ne product to	2.1	<i>otential signa</i> eak versus av	-		ge limit)	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2760.460	39.4	V	54.0	-14.6	Peak	360	1.0	noise floor	
2343.000	36.6	V	54.0	-17.4	Peak	360	1.0	noise floor	
2761.660	42.9	V	74.0	-31.1	PK	360	1.0	noise floor	
2759.710	32.3	V	54.0	-21.7	AVG	360	1.0	noise floor	
2760.000	32.3	V	54.0	-21.7	AVG	360	1.0	noise floor	
2759.830	43.4	V	74.0	-30.6	PK	360	1.0	noise floor	
2759.920	32.4	Н	54.0	-21.6	AVG	0	1.0	noise floor	
2760.130	43.6	H	74.0	-30.4	PK	0	1.0	noise floor	
2759.450	32.4	H H	54.0 74.0	-21.6	AVG PK	0	<u>1.0</u> 1.0	noise floor	
2760.580	43.9	П	74.0	-30.1	Ph	0	1.0	noise floor	
Amplitude (dBuV/m)	3 120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -				2400 250		2700		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

	teve Hacket CC Part 15,	RSS-210					Proj	2	T94177 Christine Krebill
Contact: St Standard: F(un #4: Radi	teve Hacket CC Part 15,	RSS-210						2	Christine Krebill
Standard: F(un #4: Radi	CC Part 15,	RSS-210						2	
un #4: Radi								Coordinator:	-
un #4: Radi							,	Class:	N/A
Test	te of Test: 1 Engineer: . Location: F		igal	Iz. Operatir	ng Mode: 11g	@ 2462, BT	Basic @ 2	480 MHz	
	г				Dower	ottingo			I
			Torgo	t (dDm)	Power S Measure		Coffwar	e Setting	
	F	WiFi		t (dBm) 6.5	Measure	а (автт)		2.5	
	F	BT		5.5 5.0				2.5	
	L				1				
	· · · · · · · · · · · · · · · · · · ·				l (Peak versu			1	
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1194.700	47.2	V	54.0	-6.8	Peak	44	1.0		
598.030	41.3	V V	54.0	-12.7	Peak	123	2.0		
1960.020	41.1	V	54.0	-12.9	Peak	214	1.0		
inal measure	ements at 3	3m							
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4960.040	42.9	V	54.0	-11.1	AVG	214	1.0	RB 1 MHz;V	'B 10 Hz;Peak
960.070	47.1	V	74.0	-26.9	PK	214	1.0	RB 1 MHz;V	'B 3 MHz;Peak
196.200	33.7	V	54.0	-20.3	AVG	44	1.0	note 1	
195.270	55.9	V	74.0	-18.1	PK	44	1.0	note 1	
599.090	30.3	V	54.0	-23.7	AVG	123	2.0	note 1	
598.800	47.5	V	74.0	-26.5	PK	123	2.0	note 1	



Client:	Intel Mobile (Communicat	ions					Job Number:	J94122
N4. 1.1	240000144						T-	Log Number:	T94177
Wodel:	3160SDW					-	Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	tt					Project	Coordinator:	-
	FCC Part 15						,	Class:	
reliminary		Ocm from th	ne product t	2.1	<i>otential sign</i> a eak versus av	·		ge limit)	
Frequency	Level	Pol		<u>2-3 GHZ (FC</u> / 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
2348.350	38.0	V	54.0	-16.0	Peak	360	1.0	noise floor	
2744.630	39.4	V	54.0	-14.6	Peak	360	1.0	noise floor	
MHz	dBµV/m	v/h V	Limit 54.0	Margin -23.7	Pk/QP/Avg AVG	degrees	meters	noise floor	
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
2349.550	30.3	V	54.0	-23.7	AVG	360	1.0	noise floor	
2346.930	41.2	V	74.0	-32.8	PK	360	1.0	noise floor	
2744.350	32.2	V	54.0	-21.8	AVG	360	1.0	noise floor	
2744.540	43.7	V	74.0	-30.3	PK	360	1.0	noise floor	
2348.420	30.4	Н	54.0	-23.6	AVG	0	1.0	noise floor	
2348.640	41.7	Н	74.0	-32.3	PK	0	1.0	noise floor	
2743.320	32.3	H	54.0	-21.7	AVG	0	1.0	noise floor	
2743.180	44.1	Н	74.0	-29.9	PK	0	1.0	noise floor	
Amplitude (dBuV/m)	4 120.0 - 100.0 - 80.0 - 60.0 - 40.0 -					~~~~~~		-12-12	***
An									

		SUCCESS							C Test Data
Client:	Intel Mobile	Communicat	ions					Job Number:	
Model:	3160SDW							Log Number:	
								-	Christine Krebill
	Steve Hacke						Project	Coordinator:	
	FCC Part 15							Class:	
C Te	diated Spur Date of Test: st Engineer: est Location:	1/8/2014 John Caizzi	ons, 1-10GF	lz. Operatin	g Mode: 11g	@ 2437 MH	lz, BT Basio	: @ 2402 MH	Z
					Power S	Settings			
			Target		Measure	()		re Setting	
		WiFi		5.5	16			2.5	
		BT	7.	.0	-	-	Ç	9.0	
Droliminary	Sourious E	missions ov	cluding allo	cated band	(Dook vorcu	ic avorado li	mit)		
Frequency	Level	Pol	15.209		(Peak versu Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Commonto	
1195.000	49.6	V	54.0	-4.4	Peak	198	1.5	Note 1	
1585.000	40.4	Н	54.0	-13.6	Peak	128	1.5	Note 1	
1990.000	40.7	V	70.0	-29.3	Peak	178	1.0	Note 1	
4810.000	47.0	V	54.0	-7.0	Peak	218	1.0		
F !		0							
	urements at	3m Pol	15.209/	15 047	Detector	Azimuth	Height	Comments	
Frequency MHz	Level dBµV/m	v/h	Limit	Margin	Detector Pk/QP/Avg		Height meters	Comments	
4804.020	<u>ивµv/ш</u> 44.9	V	54.0	-9.1	AVG	degrees 210	1.00		
4804.200	47.9	V	74.0	-26.1	PK	210	1.00		
	Emission fro			2011		210			
Amplitude (dBuV/m)	5 80.0 - 70.0 - 60.0 - 50.0 - 40.0 - 30.0 - 20.0 - 1000		,	4000	5000 Frequency	6000	7000	•	y

		Communicat	lions					Job Number:	
Model:	3160SDW							Log Number: ect Manager:	Christine Krebill
Contact	Steve Hacke	tt					-	Coordinator:	
	FCC Part 15						110,000	Class:	
reliminar <u>)</u> reliminary	/ Spurious E	Bocm from the missions at	<i>he product to</i> 30cm from	2-3 GHz (Pe	otential signa eak versus av	verage limit))	-	
requency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
requency MHz	dBµV/m	3m Pol v/h	15.209 . Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
requency	Level dBµV/m	Pol						Comments	
requency MHz	Level dBµV/m	Pol						Comments	
requency MHz Run	Level dBµV/m 5 120.0 - 100.0 -	Pol						Comments	
Run	Level dBµV/m 5 120.0 - 100.0 -	Pol						Comments	
requency MHz	Level dBµV/m 5 120.0 - 100.0 -	Pol						Comments	

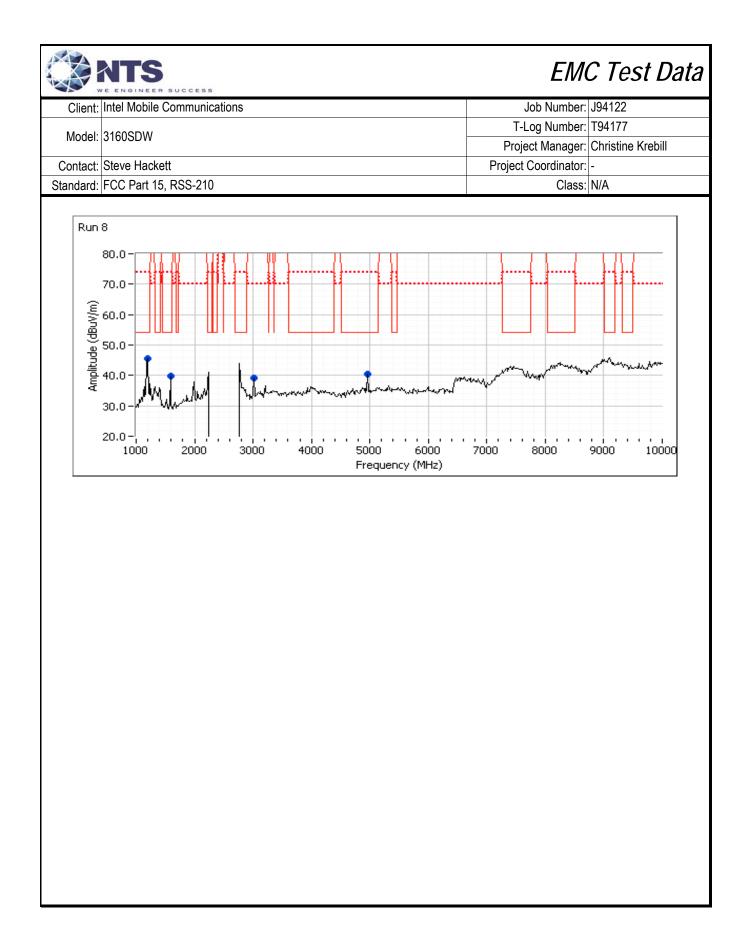
		SUCCESS						EMO	C Test Data
Client:	Intel Mobile	Communicat	ions					Job Number:	J94122
Madalı	21600014/						T-	Log Number:	T94177
wodel:	3160SDW						Proje	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	, RSS-210					F	Class:	N/A
			ons, 1-10GF	lz. Operatin	g Mode: 11g	@ 2412 MH	z, BT Basic	: @ 2441 MH	Z
Te	Date of Test: est Engineer: est Location:	Joseph Cad							
					Power S	-			
			Target		Measure	ed (dBm)		re Setting	
		WiFi		6.5				2.5	
	l	BT	8	.U		-		9.0	
Preliminary	Spurious E	missions ex	cluding allo	cated band	(Peak versu	is average li	mit)		
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1593.040	40.4	V	54.0	-13.6	Peak	137	2.5		
4881.810	44.0	V	54.0	-10.0	Peak	173	1.5		
1195.800	48.9	V	54.0	-5.1	Peak	199	1.5		
Final meas	urements 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		
4882.020	42.8	V	54.0	-11.2	AVG	173	1.5	RB 1 MHz;V	'B 10 Hz;Peak
4881.560	46.8	V	74.0	-27.2	PK	173	1.5		'B 3 MHz;Peak
1593.310	30.0	V	54.0	-24.0	AVG	137	2.5		'B 10 Hz;Peak
1594.030	45.6	V	74.0	-28.4	PK	137	2.5		B 3 MHz;Peak
1194.800	33.5	V V	54.0	-20.5	AVG	199 199	1.5		B 10 Hz;Peak
1195.860	57.0	V	74.0	-17.0	PK	199	1.5	RB I MHZ;V	'B 3 MHz;Peak
Amplitude (dBuV/m)	6 120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 - 1000				Frequenc	, (MHz)			10000

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	stine Krebil
Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A purious Radiated Emissions, 2 - 3GHz class: N/A purious Radiated Emissions, 2 - 3GHz reliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit) reliminary Spurious Emissions at 30cm from 2-3 GHz (Peak versus average limit) requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB _µ V/m v/h Limit Margin Pk/QP/Avg degrees meters	
Standard: FCC Part 15, RSS-210 Class: N/A purious Radiated Emissions, 2 - 3GHz reliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit) reliminary Spurious Emissions at 30cm from 2-3 GHz (Peak versus average limit) requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters	
purious Radiated Emissions, 2 - 3GHz reliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit) reliminary Spurious Emissions at 30cm from 2-3 GHz (Peak versus average limit) requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
reliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit) reliminary Spurious Emissions at 30cm from 2-3 GHz (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters	
requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
Run 6 120.0 - 100.0 -	
120.0 -	
(W) 80.0- 9011 60.0- 40.0- 40.0- 20.0- 2000 2000 2100 2200 2000 2100 2200 2300 2400 2500 2600 2700 2800 290	
Frequency (MHz)	

Client: Intel Mobile Communications Job Number: Joh Number: Junt Junt <thjunt< th=""> Junt Junt <th< th=""><th></th><th></th><th>SUCCESS</th><th></th><th></th><th></th><th></th><th></th><th>EM</th><th>C Test Data</th></th<></thjunt<>			SUCCESS						EM	C Test Data
Model: 3150SUW Project Manager: Christ Contact: Steve Hackett Project Coordinator: Class: N/A Run #7: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2462 MHz, BT Basic @ 2440 MHz Date of Test: 17/2014 Test Engineer: Joseph Cadigal Test Location: FT Chamber#7 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Project Comments Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµ//m v/h Limit Margin PK/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -12.5 Peak 166 1.0 1198.590 41.5 V 54.0 -12.5 Peak 166 1.0 1198.580 Final measurements at 3m Frequency Level Pol 152.09 / 15.247 Detector </td <td>Client:</td> <td>Intel Mobile</td> <td>Communicat</td> <td>ions</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Client:	Intel Mobile	Communicat	ions						
Project Manager: Christ Contact: Steve Hackett Project Coordinator: I Standard: FCC Part 15, RSS-210 Class: IN/A Run #7: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2462 MHz, BT Basic @ 2440 MHz Date of Test: J77/2014 Test Engineer: Joseph Cadigal Test Location: FT Chamber#7 Project Manager: Only and the stress of	Model:	3160SDW								
Standard: FCC Part 15, RSS-210 Class: N/A Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2462 MHz, BT Basic @ 2440 MHz Date of Test: 177/2014 Target (dBm) Measured (dBm) Software Setting WiFi 16.5 22.0 BT 8.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Magn/Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -12.5 Peak 360 2.0 Final measurements at 3m Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m w								-	_	
Run #7: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2462 MHz, BT Basic @ 2440 MHz Date of Test: 1/7/2014 Test Engineer: Joseph Cadigal Test Location: FT Chamber#7 Power Settings WiFi 16.5 22.0 BT 8.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Evel Poil Frequency Level Poil 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin PkiQP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 136 1.0 1198.590 47.2 V 54.0 -9.5 Peak 136 1.0 1198.590 47.2 V 54.0 -12.5 Peak 1360 2.0 1568 1.0 1198.590 47.2 V 54.0 -12.5 Peak 1366 1.0 RI 1MHz/VB 3M Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz								Project		
Date of Test: 1/7/2014 Test Engineer: Joseph Cadigal Test Location: FT Chamber#7 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin PK/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 186 1.0 11198.590 47.2 V 54.0 -12.5 Peak 186 1.0 11198.590 27.0 V 54.0 -12.5 Peak 186 1.0 11198.590 41.5 V 54.0 -12.5 Peak 180 2.0 V 54.0 -12.5 Peak 360 2.0 V 54.0 -12.5 Peak 180 1.0 11198.500 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10H HHz dBµV/m v/n <td></td>										
Target (dBm) Measured (dBm) Software Setting WiFi 16.5 22.0 BT 8.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -12.5 Peak 360 2.0 Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m V/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 1197.350 31.4 V 54.0 -22.6 AVG 360	D Tes	ate of Test: st Engineer:	1/7/2014 Joseph Cad	igal	iz. Operatir			HZ, BT Bas	ic @ 2440 Mi	HZ
WiFi 16.5 22.0 BT 8.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµU/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements at 3m Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµLV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -22.6 AVG <td< td=""><td></td><td>ľ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		ľ								
BT 8.0 - 9.0 Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements 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 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 3M 1197.350 31			\A/:			Measure	ed (dBm)		-	{
Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1193.590 47.2 V 54.0 -12.5 Peak 180 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 160.0 15209 / 15.247 Detector Azimuth Height Comments Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 30 1197.350 31.4 V 54.0 -22.6 AVG <										4
Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB _µ V/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements at 3m Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m Vh Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 181 1.0 RB 1 MHz;VB 3M 1199.760 55.3 V 74.0		L							7.0]
MHz dB ₁ V/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements at 3m Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB ₁ V/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 30 H 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 30 H 1596.230 29.4 V 54.0						7			Commonte	
4882.200 44.5 V 54.0 -9.5 Peak 156 1.0 1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements 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 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 3M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 3M 1596.460 42.5 V					-				Comments	
1198.590 47.2 V 54.0 -6.8 Peak 181 1.0 1596.860 41.5 V 54.0 -12.5 Peak 360 2.0 Final measurements 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 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4882.040 41.7 V 54.0 -22.6 AVG 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 3 M 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 3 M 199.60.0 - - - - - - - - -						ů	-			
Final measurements 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 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 10 H 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 100.0										
Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 3 M 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 3 M 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 9 60.0 - - - - - - - - - - <td< td=""><td></td><td></td><td>V</td><td></td><td>-12.5</td><td>Peak</td><td>360</td><td>2.0</td><td></td><td></td></td<>			V		-12.5	Peak	360	2.0		
Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 3 M 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 3 M 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 9 60.0 - - - - - - - - - - <td< td=""><td>Final measu</td><td>irements at</td><td>3m</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Final measu	irements at	3m							
MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 4882.040 41.7 V 54.0 -12.3 AVG 156 1.0 RB 1 MHz;VB 10 H 4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 10 H 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 3 M 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 60.0 -				15.209	/ 15.247	Detector	Azimuth	Height	Comments	
4881.550 46.7 V 74.0 -27.3 PK 156 1.0 RB 1 MHz;VB 3 M 1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 10 H 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 10 H 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 100.0		dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees			
1197.350 31.4 V 54.0 -22.6 AVG 181 1.0 RB 1 MHz;VB 10 H 1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 10 H 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 100.0										
1199.760 55.3 V 74.0 -18.7 PK 181 1.0 RB 1 MHz;VB 3 M 1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz;VB 10 H 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M 100.0 - - - - 360 2.0 RB 1 MHz;VB 3 M 100.0 - - - - - 360 2.0 RB 1 MHz;VB 3 M 99 60.0 - - - - - - - 40.0 - - - - - - - -									,	
1596.230 29.4 V 54.0 -24.6 AVG 360 2.0 RB 1 MHz; VB 10 H 1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz; VB 3 M Run 7 120.0 100.0 <										
1596.460 42.5 V 74.0 -31.5 PK 360 2.0 RB 1 MHz;VB 3 M										
Run 7 120.0- 100.0- (W) Ng 80.0- 900100 40.0- 40.0- 1000- 1000- 10000- 1000-										,
120.0- 100.0- (W) 80.0- 60.0- 40.0- 40.0-	1330.400	42.5	v	74.0	-01.0		500	2.0		
1000 Frequency (MHz)		120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	In		-41			, and a second		

Client:	Intel Mobile C	Communicat	tions					Job Number: J94122
							Ţ-	Log Number: T94177
Model:	3160SDW							ject Manager: Christine Krebill
Contact:	Steve Hacket	t						t Coordinator: -
	FCC Part 15,						,	Class: N/A
eliminary requency	v Spurious En	nissions at Pol	30cm from 15.209	2-3 GHz (P / 15.247	eak versus av Detector	verage limit) Azimuth	Height	<i>ge limit)</i> Comments
MHz	dBµV/m	v/h	Limit 0.0	Margin 0.0	Pk/QP/Avg	degrees	meters	
nal meas requency MHz	urements at 3 Level dBµV/m	8m Pol v/h	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
	ασμν/π	V/11	0.0	0.0	F N/QF/AVg	uegiees	IIIElEIS	
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2200	2300 ' 2	2400 250		2700	2800 2900 300
	20.0 , , , 2000	E100	2200		Frequenc		2,00	2000 2000 000

Client:	Intel Mobile	Communicat	ions					Job Number:	J94122
							T-	Log Number:	T94177
Model:	3160SDW							-	Christine Krebill
Contact:	Steve Hacke	tt						Coordinator:	-
	FCC Part 15						TOJCO	Class:	 Ν/Λ
Stanuaru.	I CO F dit 13	, 100-210						01855.	
un #8: Ra	diated Spur	ious Emissi	ons, 1-10GF	lz. Operati	ng Mode: 11	g @ 2437 M	Hz, BT Bas	ic @ 2480 MH	łz
D	ate of Test:	1/8/2014							
	st Engineer:								
Te	st Location:	Chamber 7							
	ſ				Power	Settings			
			Target	(dBm)	Measure		Softwa	re Setting	
	ľ	WiFi		6.5	16	.4	2	2.5	
		BT	7	.0		-		9.0	
	_								
	<u> </u>				l (Peak versu				
requency	Level	Pol	15.209		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Nata 4	
1195.000	45.4	V V	54.0	-8.6	Peak	360	1.0	Note 1	
1585.000 4960.000	39.8 40.4	V V	54.0 54.0	-14.2 -13.6	Peak Peak	202 299	1.5 1.5	Note 1	
3010.000	40.4 39.2	V V	54.0 70.0	-13.6	Peak	299 164	1.5		
3010.000	JJ.Z	V	70.0	-30.0	reak	104	1.0		
inal measu	irements at	3m							
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4960.000	40.6	V	54.0	-13.4	AVG	292	1.64		
4960.380	45.4	V	74.0	-28.6	PK	292	1.64		
2991.730	28.2	V	54.0	-25.8	AVG	172	1.00	Note 2	
2987.270	39.6	V	74.0	-34.4	PK	172	1.00	Note 2	
Note 1	Enciencie en fra	n haat lanta	-						
	Emission fro		<u>p.</u> d band, but l	imit of 15 00	0 used				
Note 2:		ION-TESTICLE	u Danu, Dut i	11111 01 15.20	9 useu.				



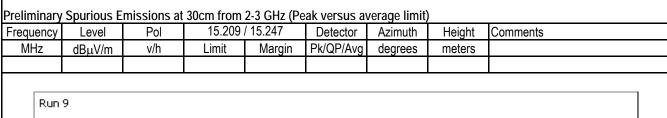
Client:	Intel Mobile C	Communicat	ions					Job Number:	J94122
M. 1.1							T-	Log Number:	T94177
Model:	3160SDW					-	Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacket	tt					Project	Coordinator:	-
Standard:	FCC Part 15,	RSS-210						Class:	N/A
eliminary		Ocm from th	<i>ne product t</i> 30cm from		ootential signa eak versus av Detector			<i>ge limit)</i> Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
			0.0	0.0		U			
Run	8								
	-								
	120.0-				1 1				
	120.0-								
2									
(m//m)	120.0 -								
e (dBuV/m)	120.0-								
olitude (dBuV/m)	120.0 -								
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 -								
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 -								
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 -								
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 -	·	·	2300 ' ;	2400 250	0 2600			2900 3000
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	2100 '	2200	2300 ' :	2400 250 Frequenci	0 2600			2900 3000
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	2100	2200	2300 ' ;	2400 250	0 2600	2700		2900 300
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	2100	2200	2300 ' ;	2400 250	0 2600	2700		2900 3000
Amplitude (dBuV/m)	120.0 - 100.0 - 80.0 - 60.0 - 40.0 - 20.0 -	2100	2200	2300 ' ;	2400 250	0 2600	2700		2900 3000

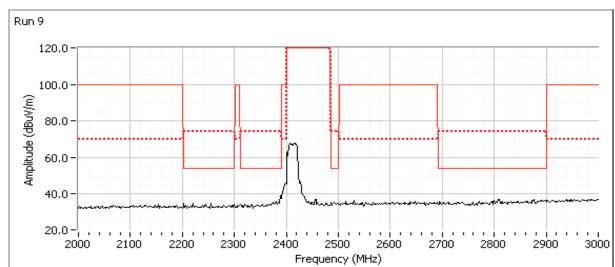
		SUCCESS						EMO	C Test Data
Client:	Intel Mobile	Communicat	ions					Job Number:	
Madal	3160SDW						T-	Log Number:	T94177
wouer.	31003DW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	. RSS-210						Class:	
		-	ons. 1-10GF	lz Operatir	ng Mode: 11g	1 @ 2412 MF	IZ. BT FDR		
Tes	ate of Test: st Engineer: st Location:	John Caizzi							
					Power S	Settings			
			Target	(dBm)	Measure	-	Softwar	e Setting	
		WiFi	16					2.5	
		BT	1.	0		-		1.0	
Preliminary	Spurious E	missions ex	cluding allo	cated band	(Peak versu	s average li	mit)		
Frequency	Level	Pol	15.209		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1240.000	46.6	Н	54.0	-7.4	Peak	205	1.0		
3745.000	40.7	V	54.0	-13.3	Peak	194	1.0		
Final measu	rements 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		
1247.870	33.7	Н	54.0	-20.3	AVG	226	1.00	Note 2	
1244.670	56.3	Н	74.0	-17.7	PK	226	1.00	Note 2	
3748.000	31.1	V	54.0	-22.9	AVG	194	1.00		
3740.400	53.3	V	74.0	-20.7	PK	194	1.00		
Note 2:	Emission in	non-restricte	d band, but li	mit of 15.20	9 used.				
Amplitude (dBuV/m)	9 30.0 - 70.0 - 50.0 - 50.0 - 40.0 - 30.0 -	Ne menere a la companya de la compa	h. radime. A	l l	www.www.ekw.	www.	Anna and an anna		
	20.0-¦ , , 1000	2000	3000	4000	5000 Frequency	6000	7000	8000	9000 10000

	EMC Test D	Data
Intel Mobile Communications	Job Number: J94122	
21605010/	T-Log Number: T94177	
31003DW	Project Manager: Christine Krebill	
Steve Hackett	Project Coordinator: -	
FCC Part 15, RSS-210	Class: N/A	
	Intel Mobile Communications 3160SDW Steve Hackett FCC Part 15, RSS-210	Intel Mobile Communications Job Number: J94122 3160SDW T-Log Number: T94177 Steve Hackett Project Manager: Christine Krebill

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



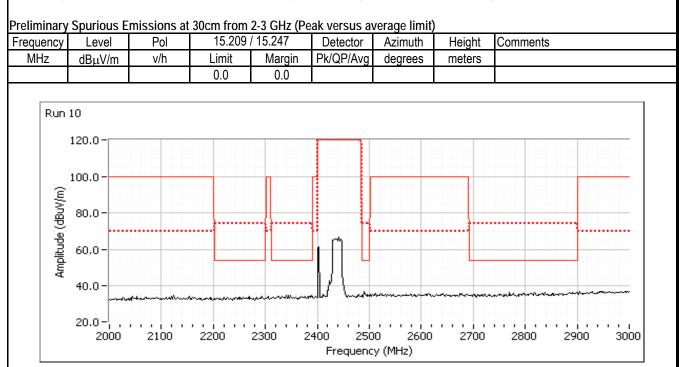


Client: Intel Mobile Communications Job Number: J9412 Model: 3160SDW T-Log Number: T9417 Project Manager: Christ Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi Test Location: Chamber 7	77
Model: 3160SDW Project Manager: Christ Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi	
Project Manager: Christ Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi	tine Krebill
Contact: Steve Hackett Project Coordinator: - Standard: FCC Part 15, RSS-210 Class: N/A Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi	
Standard: FCC Part 15, RSS-210 Class: N/A Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi	
Run #10: Radiated Spurious Emissions, 1-10GHz. Operating Mode: 11g @ 2372 MHz, BT EDR @ 2402 MHz Date of Test: 1/8/2014 Test Engineer: John Caizzi	
Date of Test: 1/8/2014 Test Engineer: John Caizzi	
Power Settings	
Target (dBm) Measured (dBm) Software Setting	
WiFi 16.5 16.4 22.5	
BT 1.0 - 1.0	
Preliminary Spurious Emissions excluding allocated band (Peak versus average limit) Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments	
MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 1240.000 42.1 H 54.0 -11.9 Peak 238 1.0	
3745.000 40.1 V 54.0 -13.9 Peak 160 1.0	
01-0.000 10.1 V 01.0 10.5 1 001 100 1.0	
Final measurements 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	
1248.200 33.9 H 54.0 -20.1 AVG 230 1.00 Note 2	
1245.930 56.2 H 74.0 -17.8 PK 230 1.00 Note 2	
3747.470 31.4 V 54.0 -22.6 AVG 198 1.00 3747.070 53.6 V 74.0 -20.4 PK 198 1.00	
3747.070 53.6 V 74.0 -20.4 PK 198 1.00	
Note 2: Emission in non-restricted band, but limit of 15.209 used.	
Run 10	
80.0-	
	1.1
70.0	4 4
e	
≦ 60.0-	
9 ^{50.0}	
(% 60.0- 99) 50.0- 100 40.0-	the second and the second s
E Willing and Walkaling manus manus and the second	
30.0 - WI WW. Mar 1	
20.0	10000
1000 2000 3000 4000 5000 6000 7000 8000 9000 Frequency (MHz)	10000

	E ENGINEER BUCCESS	EMO	C Test Data
Client:	Intel Mobile Communications	Job Number:	J94122
Madal	3160SDW	T-Log Number:	T94177
MOUEI.	31003DW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	Class:	N/A

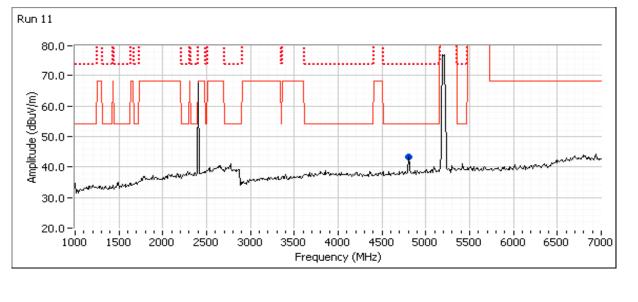
Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Mobile	Communicat	ions					Job Number:	194122
Olient.		Communicat						Log Number:	
Model:	3160SDW								Christine Krebill
Contact:	Steve Hacke	ett						Coordinator:	
	FCC Part 15						,	Class:	
C Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & 1 J.Cadigal &	I/9/14 J.Caizzi	GHz. Opera	ting Mode: n2	20 @ 5200 N	IHz, BT Bas	sic @ 2402 M	IHz
	Jot Loodtion.		4		Power S	Settinas			1
				: (dBm)	Measure	d (dBm)		e Setting	
		WiFi		6.5	16	.6		9.0]
	l	BT	7	.0		-	ç	9.0	J
		missions ex Pol v/h		ocated band / 15.247 Margin	d (Peak versu Detector Pk/QP/Avg	s average li Azimuth degrees	mit) Height meters	Comments	
nal measu	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
nal measu	Level dBµV/m urements at Level	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height	Comments	
requency MHz	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
nal measu mHz nal measu requency MHz Run	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu mHz nal measu requency MHz Run	Level dBμV/m urements at Level dBμV/m 11 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mal measurequency MHz nal measurequency MHz Run	Level dBμV/m urements at Level dBμV/m 11 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu mHz nal measu requency MHz Run	Level dBμV/m urements at Level dBμV/m 11 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mal measurequency MHz nal measurequency MHz Run	Level dBµV/m urements at Level dBµV/m 11 90.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu requency MHz MHz Run (ɯ//nɡp) əpnţijdwy	Level dBμV/m urements at Level dBμV/m 11 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		

Client:	Intel Mobile	Communicat	tions					Job Number:	J94122
Madalı	3160SDW						T-	Log Number:	T94177
woder.	31003010						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	, RSS-210						Class:	N/A
Preliminary		<u>missions at</u> Pol		<u>1-7 GHz (Pe</u> / 15.247	eak versus av Detector	verage limit) Azimuth	Height	Comments	
Preliminary Preliminary Frequency MHz	Spurious E				1	Azimuth		Comments	
Preliminary Frequency	Spurious E	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
Preliminary Frequency MHz 4800.000	Spurious E Level dBμV/m 43.4	Pol v/h V	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
Preliminary Frequency MHz 4800.000 Final measure	Spurious E Level dBµV/m 43.4 urements at	Pol v/h V 3m	15.209 Limit 54.0	/ 15.247 Margin -10.6	Detector Pk/QP/Avg Peak	Azimuth degrees 0	Height meters 1.0		
Preliminary Frequency MHz 4800.000 Final meass Frequency	2 Spurious El Level dBµV/m 43.4 urements at Level	Pol v/h V 3m Pol	15.209 Limit 54.0 15.209	/ 15.247 Margin -10.6 / 15.247	Detector Pk/QP/Avg Peak Detector	Azimuth degrees 0 Azimuth	Height meters 1.0 Height	Comments Comments	
Preliminary Frequency MHz 4800.000 Final measu Frequency MHz	2 Spurious Er Level dBµV/m 43.4 urements at Level dBµV/m	Pol v/h V 3m Pol v/h	15.209 Limit 54.0 15.209 Limit	/ 15.247 Margin -10.6 / 15.247 Margin	Detector Pk/QP/Avg Peak Detector Pk/QP/Avg	Azimuth degrees 0 Azimuth degrees	Height meters 1.0 Height meters		
Preliminary Frequency MHz 4800.000 Final measu Frequency MHz 4804.030	2 Spurious Er Level dBμV/m 43.4 urements at Level dBμV/m 48.5	Pol v/h V 3m Pol v/h V	15.209 Limit 54.0 15.209 Limit 54.0	/ 15.247 Margin -10.6 / 15.247 Margin -5.5	Detector Pk/QP/Avg Peak Detector Pk/QP/Avg AVG	Azimuth degrees 0 Azimuth degrees 203	Height meters 1.0 Height meters 1.75		
Preliminary Frequency MHz 4800.000 Final measu Frequency MHz	2 Spurious Er Level dBµV/m 43.4 urements at Level dBµV/m	Pol v/h V 3m Pol v/h	15.209 Limit 54.0 15.209 Limit	/ 15.247 Margin -10.6 / 15.247 Margin	Detector Pk/QP/Avg Peak Detector Pk/QP/Avg	Azimuth degrees 0 Azimuth degrees	Height meters 1.0 Height meters		



Client:	Intel Mobile	Communicat	ions					Job Number:	J94122
Madal	240000144						T-	Log Number:	T94177
wodel:	3160SDW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	i, RSS-210						Class:	N/A
[Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & 1 J.Cadigal &	/9/14 J.Caizzi	GHz. Opera	ting Mode: n2	20 @ 5200 N	1Hz, BT Bas	sic @ 2441 M	1Hz
	r				Dewer				1
			Target	: (dBm)	Power S Measure	-	Softwar	e Setting	
		WiFi		6.5	16			9.0	1
		BT	7	.0	-			9.0]
							Height		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
MHz inal meas	urements at	3m							
MHz nal measu requency	urements at Level	3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz inal meas	urements at	3m						Comments	
inal measu requency MHz Run	urements at Level dBµV/m	3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	

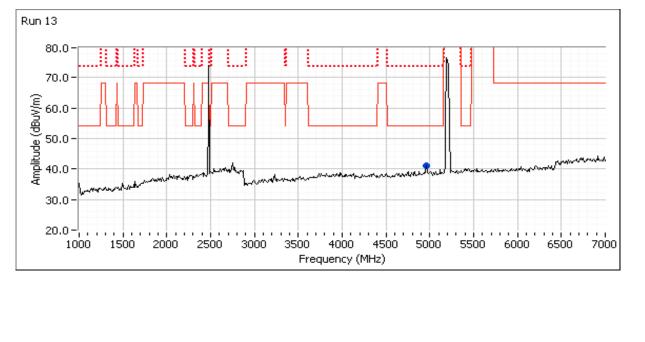
	NTS	EMO	C Test Data
Client:	Intel Mobile Communications	Job Number:	J94122
Madalı	24605DW	T-Log Number:	T94177
woder.	3160SDW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	Class:	N/A
Spurious D	adjated Emissions 1 7047		

Spurious Radiated Emissions, 1 - 7GHz

			30cm from	<u>1-7 GHz (Pe</u>	eak versus a			
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h V	Limit	Margin	Pk/QP/Avg	degrees	meters	
4880.000	41.2	V	54.0	-12.8	Peak	0	1.0	
inal meas	urements 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	
4882.000	46.3	V	54.0	-7.7	AVG	212	1.07	
4882.400	50.1	V	74.0	-23.9	PK	212	1.07	
4882.000	46.0	Н	54.0	-8.0	AVG	153	1.48	
4881.780	49.3	Н	74.0	-24.7	PK	153	1.48	
Amplitude (dBuV/m)	50.0 - 40.0 - 30.0 - 20.0 - 1000	1500 20		^{سر} م لیرسیب) 4500	5000 5	500 6000 6500 7000

Client:	Intel Mobile	Communicat	ons					Job Number:	J94122
								Log Number:	
Model:	3160SDW							-	Christine Krebill
Contact:	Steve Hacke	ett						Coordinator:	
	FCC Part 15						,	Class:	
[Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & 1 J.Cadigal & .	/9/14 J.Caizzi	GHz. Opera	ting Mode: n2	20 @ 5200 N	1Hz, BT Bas	sic @ 2480 M	Hz
			α 4		Power S	Settings			1
			Target	t (dBm)	Measure		Softwar	re Setting	
		WiFi		6.5	16			9.0	
		BT	7	.0	-	-	Ç	9.0	l
					Pk/QP/Avg	degrees	meters		
	urements at					-			
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
	r		15.209 J Limit	/ 15.247 Margin		-		Comments	
Run	Level dBµV/m	Pol			Detector	Azimuth	Height	Comments	15000

Client:	Intel Mobile	Communicat	ions					Job Number: J94122
Madal	3160SDW						T-	Log Number: T94177
MODEI.	31003DW						Proj	ect Manager: Christine Krebill
Contact:	Steve Hacke	ett					Project	: Coordinator: -
Standard:	FCC Part 15	, RSS-210						Class: N/A
Preliminary	v Spurious E Level	missions at Pol		<u>1-7 GHz (Pe</u> / 15.247	eak versus av Detector	verage limit) Azimuth	Height	Comments
Preliminary Preliminary Frequency MHz					1	Azimuth		Comments
Preliminary Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
Preliminary Frequency MHz 4960.000	Level dBµV/m 41.1	Pol v/h V	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
Preliminary Frequency MHz 4960.000 Final meas	Level dBμV/m 41.1 urements at	Pol v/h V	15.209 Limit 54.0	/ 15.247 Margin -12.9	Detector Pk/QP/Avg Peak	Azimuth degrees 0	Height meters 1.0	
Preliminary Frequency MHz 4960.000 Final meas	Level dBµV/m 41.1 urements at Level	Pol v/h V 3m	15.209 Limit 54.0	/ 15.247 Margin -12.9 / 15.247	Detector Pk/QP/Avg	Azimuth degrees 0 Azimuth	Height meters	Comments Comments
Preliminary Frequency MHz 4960.000 Final meas Frequency	Level dBμV/m 41.1 urements at	Pol v/h V 3m Pol	15.209 Limit 54.0 15.209	/ 15.247 Margin -12.9	Detector Pk/QP/Avg Peak Detector	Azimuth degrees 0	Height meters 1.0 Height	
Preliminary Frequency MHz 4960.000 Final meas Frequency MHz	Level dBµV/m 41.1 urements at Level dBµV/m	Pol v/h V 3m Pol v/h	15.209 Limit 54.0 15.209 Limit	/ 15.247 Margin -12.9 / 15.247 Margin	Detector Pk/QP/Avg Peak Detector Pk/QP/Avg	Azimuth degrees 0 Azimuth degrees	Height meters 1.0 Height meters	
Preliminary Frequency MHz 4960.000 Final meas Frequency MHz 4960.000	Level dBµV/m 41.1 urements at Level dBµV/m 43.9	Pol v/h V 3m Pol v/h H	15.209 Limit 54.0 15.209 Limit 54.0	/ 15.247 Margin -12.9 / 15.247 Margin -10.1	Detector Pk/QP/Avg Peak Detector Pk/QP/Avg AVG	Azimuth degrees 0 Azimuth degrees 151	Height meters 1.0 Height meters 1.75	



w w	VE ENGINEER	SUCCESS							
Client:	Intel Mobile	Communicat	tions					Job Number:	
Model [.]	3160SDW							Log Number:	
								-	Christine Krebill
	Steve Hacke						Project	Coordinator:	
Standard:	FCC Part 15	, RSS-210						Class:	N/A
C Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & 1 J.Cadigal &	1/9/14 J.Caizzi	GHz. Operat	ing Mode: n	20 @ 5300 N	1Hz, BT Bas	sic @ 2402 M	Ηz
	r				Davia	D - #:			1
			Target	t (dBm)	Power S Measure		Softwar	re Setting	
		WiFi		6.5		6.5		8.5	1
		BT	7	<i>.</i> 0		-	ç	9.0]
requency	Level	Pol	15.209	/ 15.247	Peak versu	Azimuth	Height	Comments	
requency MHz	Level dBµV/m	Pol v/h	ccluding allo 15.209 Limit	ocated band / 15.247 Margin				Comments	
nal measu	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
requency MHz nal measu	Level dBµV/m urements at	Pol v/h	15.209 Limit	/ 15.247	Detector	Azimuth	Height	Comments Comments	
nal measu	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu mequency MHz MHz Run	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
equency MHz nal measu requency MHz Run	Level dBµV/m urements at Level dBµV/m 14	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
equency MHz nal measu equency MHz Run	Level dBμV/m urements at Level dBμV/m 14 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mal measurequency MHz nal measurequency MHz Run	Level dBμV/m urements at Level dBμV/m 14 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mequency MHz nal measu requency MHz Run	Level dBμV/m urements at Level dBμV/m 14 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mequency MHz nal measu requency MHz Run	Level dBμV/m urements at Level dBμV/m 14 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
equency MHz nal measu equency MHz Run	Level dBµV/m urements at Level dBµV/m 14 90.0 - 70.0 - 60.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mal measu requency MHz MHz Run (///ngp) apnilidwy	Level dBμV/m urements at Level dBμV/m 14 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		

Client:	Intel Mobile (Communicat	tions					Job Number:	J94122
M	240000144						T-	Log Number:	T94177
Model:	3160SDW						Proj	ect Manager:	Christine Krebill
Contact:	Steve Hacke	tt					Project	Coordinator:	-
Standard:	FCC Part 15	. RSS-210						Class:	N/A
eliminary		Ocm from tl	he product to	5.	otential signa eak versus av	·		ge limit)	
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
810.000	43.1	V	54.0	-10.9	Peak	0	1.0		
200.000	39.4	V	54.0	-14.6	Peak	0	1.0		
2440.000	51.0	V	68.3	-17.3	Peak	0	1.0	Note 3	
requency	urements at Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
803.980	49.3	V	54.0	-4.7	AVG	201	1.72	_	
804.070	51.2	V	74.0	-22.8	PK	201	1.72		
1804.030	47.3	H	54.0	-6.7	AVG	158	1.77		
804.200	49.9	H V	74.0	-24.1	PK	158	1.77		
197.930 198.470	31.9 57.2	V V	54.0 74.0	-22.1 -16.8	AVG PK	141 141	<u>1.68</u> 1.68		
1196.470	32.6	 H	54.0	-10.8	AVG	136	1.89		
198.800	57.5	H	74.0	-16.5	PK	136	1.89		
Note 3: R un (m/\/mp	80.0-		opening chan				hurteer		~~~~

Client:	Intel Mobile	SUCCESS	tions					Job Number:	.194122
Client.		Communicat	10115					Log Number:	
Model:	3160SDW							-	Christine Krebill
Contact	Steve Hacke	. ++					-	Coordinator:	
	FCC Part 15						Tibject	Class:	
Stanuaru.	1001 att 10	,100-210						01033.	10/74
[Te	Radiated Sput Date of Test: est Engineer: est Location:	1/8/2014 & [.] J.Cadigal &	1/9/14 J.Caizzi	GHz. Operat	ing Mode: n	20 @ 5580 N	/Hz, BT Bas	sic @ 2402 N	IHz
i e			α4		Power	Settings			1
			Target	t (dBm)	Measure	-	Softwar	re Setting	
		WiFi		6.5		5.6		0.5	1
		BT	7	.0		-	Ģ	9.0]
reliminary requency	Level	missions ex Pol	15.209	/ 15.247	l (Peak versu Detector	Azimuth	Height	Comments	
	Spurious E	missions ex	ccluding allo 15.209 Limit	ocated band / 15.247 Margin				Comments	
reliminary requency MHz nal measu	r Spurious E Level dBμV/m urements at	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
reliminary requency MHz nal measu requency	r Spurious E Level dBμV/m urements at Level	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height	Comments Comments	
reliminary requency MHz nal measu	r Spurious E Level dBμV/m urements at	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
reliminary requency MHz nal measu requency MHz	v Spurious E Level dBµV/m urements at Level dBµV/m	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency	v Spurious E Level dBµV/m urements at Level dBµV/m 15	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz	v Spurious E Level dBµV/m urements at Level dBµV/m	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 - 80.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 - 80.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 - 80.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 - 80.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
reliminary requency MHz nal measu requency MHz Run (///ngp) apnajjdwy	v Spurious E Level dBµV/m urements at Level dBµV/m 15 90.0 - 80.0 -	missions exponential exponenti exponential exponential exponential exponential exponential	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		



EMC Test Data

Client [.]	Intel Mobile	Communicat	ions					lob Number:	.194122
								.og Number:	
Model:	3160SDW							ct Manager:	Christine Krebill
Contact:	Steve Hacke	ett					Project (Coordinator:	-
Standard:	FCC Part 15	i, RSS-210						Class:	N/A
Preliminary		Ocm from th	ne product to	5.	otential signa eak versus av			ie limit)	
remininary									
	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments	
Frequency MHz			15.209 / Limit	15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	

Final measurements at 3m

41.6

٧

54.0

-12.4

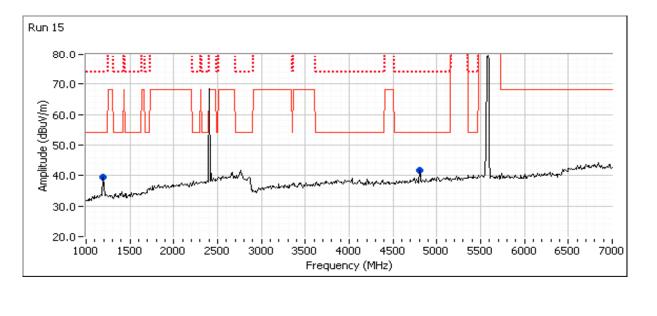
4800.000

i mui meusi	arements ut	5111						
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4804.050	47.1	Н	54.0	-6.9	AVG	152	1.44	
4803.720	49.8	Н	74.0	-24.2	PK	152	1.44	
4803.930	47.1	V	54.0	-6.9	AVG	204	1.71	
4803.820	49.8	V	74.0	-24.2	PK	204	1.71	

Peak

1.0

0



Client	Intel Mobile	Communica	tions					Job Number:	10/122
Cilent.		Communica	10113					Log Number:	
Model:	3160SDW							-	Christine Krebill
Contact	Steve Hacke	att					-	Coordinator:	
	FCC Part 15						TOJECI	Class:	
Stanuaru.		, 100-210						01833.	N/A
[Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & J.Cadigal &	1/9/14 J.Caizzi	GHz. Operat	ting Mode: n	20 @ 5785 N	1Hz, BT Bas	sic @ 2402 M	IHz
					Dewer	Cattinga			1
			Targe	t (dBm)		Settings ed (dBm)	Softwar	e Setting	
		WiFi		6.5		6.6		1.5	1
		BT		.0	-	-		9.0	1
	امندما	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
requency MHz	Level dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
MHz inal meas	dBµV/m urements at	v/h 3m							
MHz inal measu requency	dBµV/m urements at Level	v/h 3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz inal measure	dBµV/m urements at	v/h 3m						Comments	
inal measu Frequency MHz Run	dBμV/m urements at Level dBμV/m 16 90.0 -	v/h 3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz inal measu requency MHz Run	dBμV/m urements at Level dBμV/m 16 90.0 -	v/h 3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz inal measu requency MHz Run (w/\ngp) apni	dBμV/m urements at Level dBμV/m 16 90.0 -	v/h 3m Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	al _{we} - Byrricht - Lift of todag

	E ENGINEER SUCCESS	EM	C Test Data
Client:	Intel Mobile Communications	Job Number:	J94122
Madalı	2160000	T-Log Number:	T94177
Model.	3160SDW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	Class:	N/A
•	adiated Emissions, 1 - 7GHz Scan at ~ 30cm from the product to identify potential signals (Peak ver	sus average limit)	
reliminary	Spurious Emissions at 30cm from 1-7 GHz (Peak versus average limit)		

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4810.000	41.8	V	54.0	-12.2	Peak	0	1.0	
Final measu	urements at	3m						
Frequency		Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4804.030	49.7	V	54.0	-4.3	AVG	201	1.71	

ΡK

201

1.71

-22.3

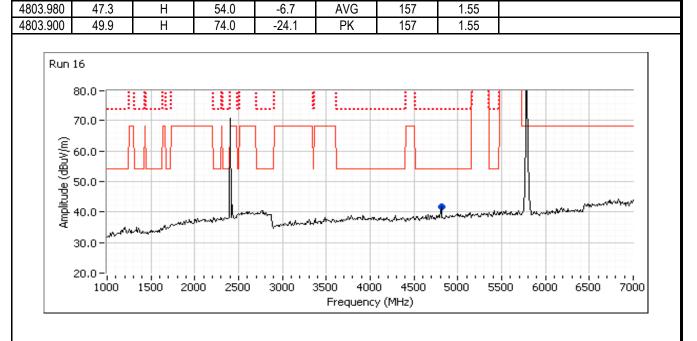
-6.7

74.0

54.0

V

Η



4803.930

4803.980

51.7

47.3

	WE ENGINEER	SUCCESS							
Client:	Intel Mobile	Communicat	tions					Job Number:	
Model [.]	3160SDW							Log Number:	
								-	Christine Krebill
	Steve Hacke						Project	Coordinator:	
Standard:	FCC Part 15	5, RSS-210						Class:	N/A
[Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & 1 J.Cadigal &	1/9/14 J.Caizzi	GHz. Operat	ing Mode: n	20 @ 5300 N	1Hz, BT Bas	sic @ 2480 M	Hz
					Damas	D - #:			1
			Target	t (dBm)	Power S Measure		Softwar	re Setting	
		WiFi		6.5		6.5		8.5	1
		BT	7	.0		-	ç	9.0]
requency	Level	missions ex Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
requency MHz	Level dBµV/m	Pol v/h	15.209 Limit	/ 15.247 Margin				Comments	
requency MHz nal measu	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
nal measu	Level dBµV/m urements at	Pol v/h	15.209 Limit	/ 15.247	Detector	Azimuth	Height	Comments Comments	
requency MHz nal measu requency MHz Run (///mgp) aphilitude (ggn///m)	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		

Client:	Intel Mobile (Communicat	ions					Job Number: J94122
Model [.]	3160SDW							Log Number: T94177
								ect Manager: Christine Krebill
	Steve Hacke						Project	t Coordinator: -
Standard:	FCC Part 15	, RSS-210						Class: N/A
reliminary		Ocm from th	<i>ne product t</i> 30cm from		otential sign. eak versus av Detector	-		<i>ge limit)</i> Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Commenta
2420.000	47.1	V	68.3	-21.2	Peak	0	1.0	Note 3
1200.000	38.1	V	54.0	-15.9	Peak	0	1.0	Measured in run 14.
nol)						
requency	urements at Level	3m Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
195.800	32.6	H	54.0	-21.4	AVG	136	1.89	From run 4.
198.800	57.5	Н	74.0	-16.5	PK	136	1.89	From run 4.
	70.0 - 60.0 - 50.0 - 40.0 - 30.0 -			wig				
	1000	1500 20	00 2500	3000	3500 4000 Frequency	0 4500	5000 5	500 6000 6500 7000

Client	ve engineer	SUCCESS	ione					Job Number:	10/122
Client.	Intel Mobile Communications							Log Number:	
Model:	3160SDW							-	Christine Krebill
Contact:	Steve Hackett						-	Coordinator:	
	FCC Part 15						110,000	Class:	
	·			GHz. Operat	ing Mode: n	20 @ 5580 N	1Hz, BT Bas	sic @ 2480 M	IHz
Te	Date of Test: est Engineer: est Location:	J.Cadigal &	J.Caizzi						
]				Power S	-		_	
		\A/: :		t (dBm)	Measure			re Setting	
		WiFi BT		6.5 .0		6.6 -		0.5).0	1
	adiated Emis			cated band	l (Peak versu	is avorago li	imit)		
emmany	i spurious El	1112210112 61	cluuling all		Detector	Azimuth	Height	Comments	
		Pol	15.209	/ 15.247	Delector	– – – – – – – – – – – – – – – – – – –	TICIQIIL		
	Level dBµV/m	Pol v/h	15.209 Limit	/ 15.247 Margin	Pk/QP/Avg	degrees	meters		
requency MHz inal measu	Level dBµV/m urements at	v/h	Limit					Comments	
Frequency MHz Frequency MHz Run	Level dBµV/m urements at Level dBµV/m	v/h 3m Pol	Limit 15.209	Margin / 15.247	Pk/QP/Avg Detector	degrees Azimuth	meters Height		15000

	Intel Mobile	Communicat	ions					Job Number:	J94122
Madal	3160SDW							Log Number:	
							Proj	ect Manager:	Christine Krebill
	Steve Hacke						Project	Coordinator	
Standard:	FCC Part 15	, RSS-210						Class	N/A
reliminary		Ocm from the	<i>he product</i> 30cm from	1-7 GHz (Pe	otential signa	verage limit)			
Frequency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
			0.0	0.0	<u> </u>			<u> </u>	
inal measu requency	urements at Level	3m Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
	(Department)		0.0	0.0					
itude (dBuV/m)	70.0 - 60.0 - 50.0 - 40.0 - 30.0 -	a term			monte	ne na na na ha	weekken		

- N	VE ENGINEER	SUCCESS							C Test Da
Client:	Intel Mobile	Communica	tions					Job Number:	J94122
Model	3160SDW						T-	Log Number:	T94177
wouer.	510000010							-	Christine Krebill
Contact:	Steve Hacke	ett					Project	Coordinator:	-
Standard:	FCC Part 15	, RSS-210						Class:	N/A
[Te	Radiated Spu Date of Test: est Engineer: est Location:	1/8/2014 & J.Cadigal &	1/9/14 J.Caizzi	GHz. Operat	ting Mode: n2	20 @ 5785 N	1Hz, BT Bas	sic @ 2480 M	IHz
					Dewer	Cattinga			1
			Tarnel	t (dBm)	Power a Measure	Settings ed (dBm)	Softwar	e Setting	
		WiFi		6.5		6.6		1.5	1
		BT		.0	-	-		9.0	1
requency	Spurious E	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
reliminary requency MHz			xcluding allo 15.209 Limit	ocated band / 15.247 Margin				Comments	
requency MHz nal measu	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
nal measu requency	Level dBµV/m urements at Level	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height	Comments Comments	
nal measu	Level dBµV/m urements at	Pol v/h 3m	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters		
nal measu requency	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
requency MHz nal measu requency MHz Run	Level dBµV/m urements at Level dBµV/m	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu requency MHz MHz Run	Level dBμV/m urements at Level dBμV/m 19 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu requency MHz MHz Run	Level dBμV/m urements at Level dBμV/m 19 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu requency MHz MHz Run	Level dBμV/m urements at Level dBμV/m 19 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
nal measu mHz requency MHz Run	Level dBμV/m urements at Level dBμV/m 19 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
requency MHz nal measu requency MHz Run	Level dBμV/m urements at Level dBμV/m 19 90.0 - 80.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		
mHz mal measu requency MHz Run (m/mp) Run	Level dBµV/m urements at Level dBµV/m 90.0 - 80.0 - 70.0 -	Pol v/h 3m Pol	15.209 Limit 15.209	/ 15.247 Margin / 15.247	Detector Pk/QP/Avg Detector	Azimuth degrees Azimuth	Height meters Height		

Client:	Intel Mobile	Communicat	ions					Job Number: J94122
Madalı	3160SDW						T-	Log Number: T94177
woder.	31003DW						Proj	ect Manager: Christine Krebill
	Steve Hacke						Project	: Coordinator: -
Standard:	FCC Part 15	, RSS-210						Class: N/A
reliminary		0cm from th	<i>ne product i</i> 30cm from	1-7 GHz (Pe	o <i>tential sign</i> a eak versus av			ge limit)
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit 0.0	Margin 0.0	Pk/QP/Avg	degrees	meters	
nal measu	urements at	3m						
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit 0.0	Margin 0.0	Pk/QP/Avg	degrees	meters	
Amplitude (dBu	60.0 - 50.0 - 40.0 - 30.0 - 20.0 - 1000	1500 20	,,					500 6000 6500 7000

EMO	C Test Data
Job Number:	J94122
T Log Number	T04177

Client:	Intel Mobile Communications	Job Number:	J94122
Model	3160SDW	T-Log Number:	T94177
Model.	31003DW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	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

SUCCESS

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:	20 °C
Rel. Humidity:	38 %

Summary of Results

MAC Address: 001500E6085C DRTU Tool Version 1.7.4-855 Driver version 16.8.0.3

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	Basic Rate: 6.32 dBm (0.0043W) EDR: -0.76 dBm (0.00084W)
2	20dB Bandwidth	15.247(a)		Basic Rate: 950 kHz EDR: 1475 kHz
2	Channel Occupancy	15.247(a)	1 400	Device complies with the Bluetooth
2	Number of Channels	15.247(a)	Deee	specifications with a minimum of 20 hopping channels
4	30 - 25,000 MHz - Transmitter Conducted Spurious Emissions	15.247(c)	Pass	All emissions < -20dBc

Modifications Made During Testing:

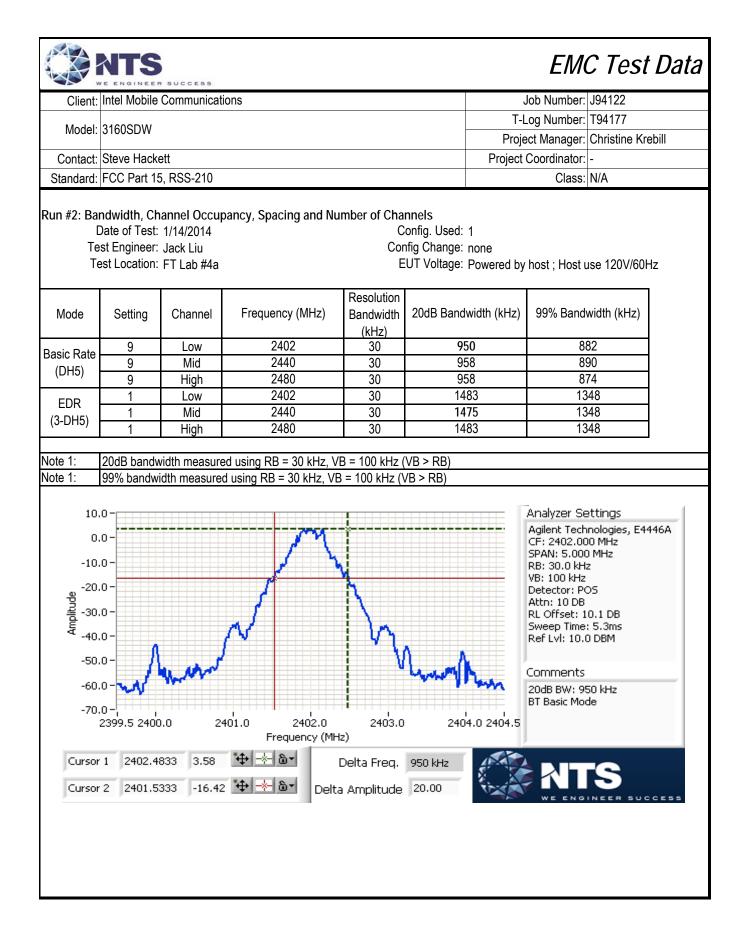
No modifications were made to the EUT during testing

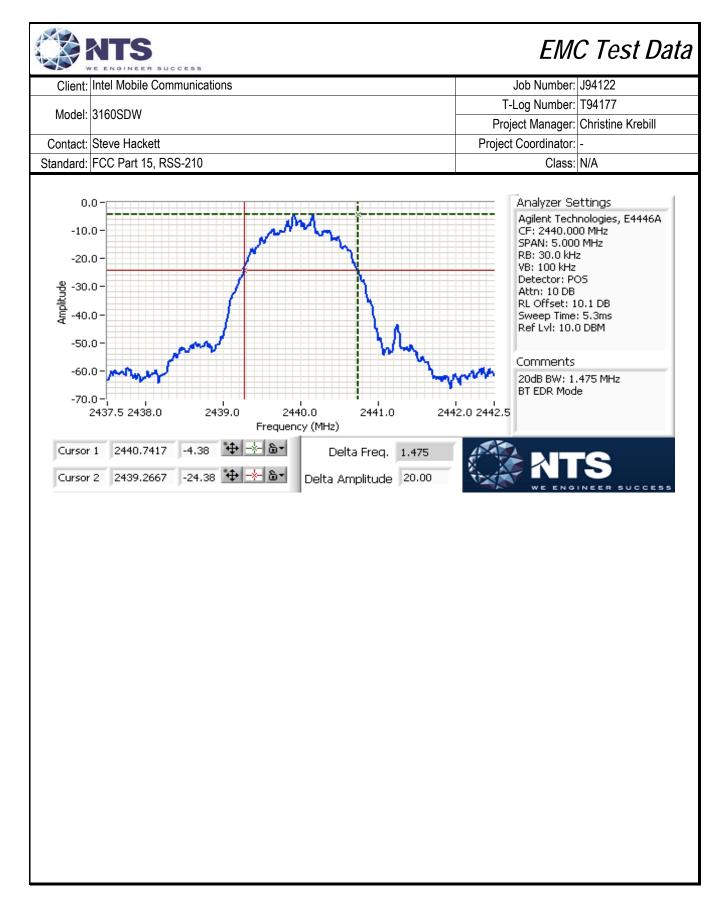
Deviations From The Standard

No deviations were made from the requirements of the standard.

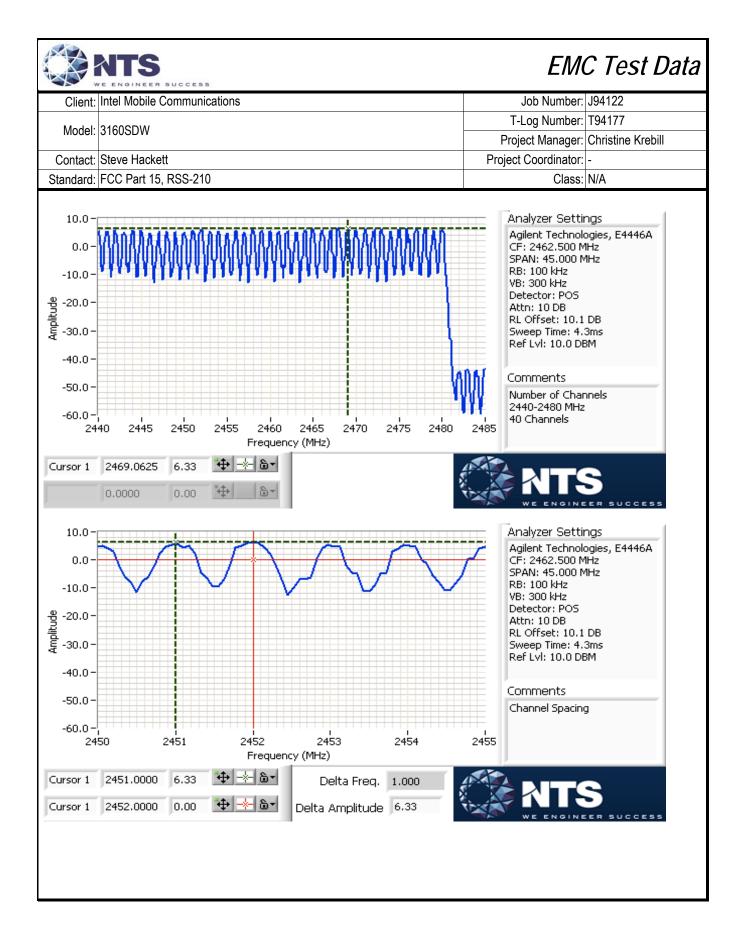
FCC DA 00-705 Measurements Guidelines

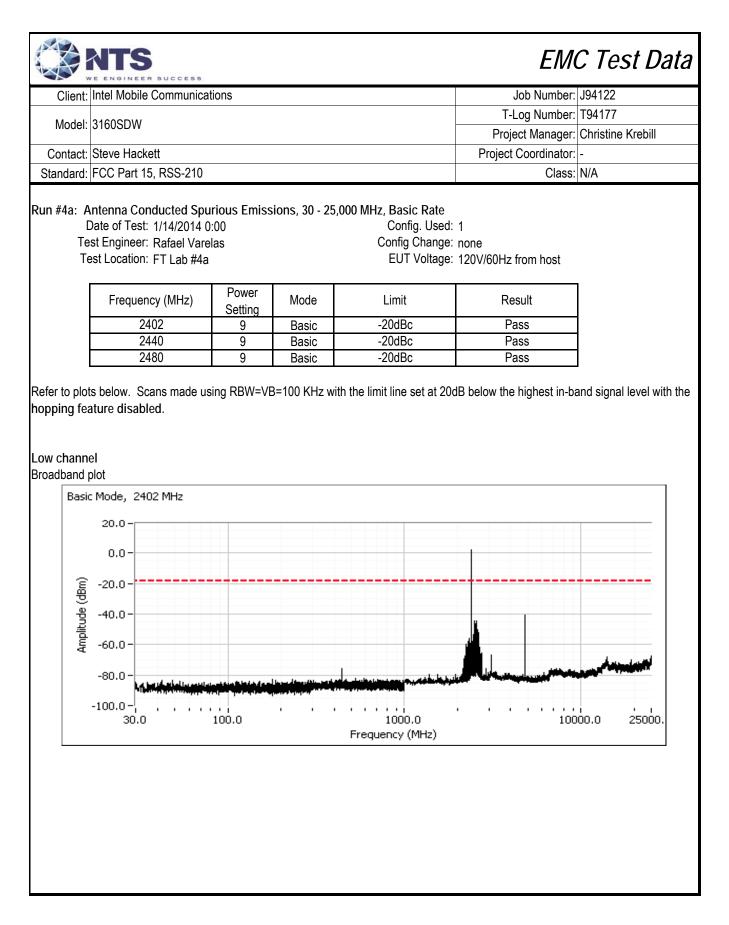
		SUCCESS						EM	C Test	t Data
Client:	Intel Mobile	Communicat	tions					Job Number:	J94122	
Model:	3160SDW						T-	Log Number:	T94177	
	Model: 3160SDW						Proje	ect Manager:	Christine Kr	ebill
	Contact: Steve Hackett Pr					Project	Coordinator:			
Standard:	Standard: FCC Part 15, RSS-210 Class						Class:	N/A		
							Lin Volt			
	Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Cor Factor**	Min VBW for FS (Hz)		
	Basic	Basic	0.77	Yes	10.42	1.1	2.3	96.0		
	EDR	EDR	0.73	Yes	9.92	1.4	2.7	100.8		
Te	.125 watts.	FT Lab #4a			E		Powered by	r host ; Host u 75 non-overl		
Setting ²	Mode	Channel	Frequen	cy (MHz)	Res BW	Output Po	wer (dBm)	Output P	ower (W)	EIRP (W)
9		Low	-	02	-	-	47		035	0.0074
9	Basic Rate (DH5)	Mid		40	-		90		039	0.0081
9	(BIIO)	High		80	-		32		043	0.0090
1	EDR	Low Mid	24	02	-		.62 .20	0.0		0.0014 0.0016
1	(3-DH5)	High	24		-		.20	0.0		0.0018
Note 1: Note 2:			using a peak of the power					acto EIRP lim	it.	

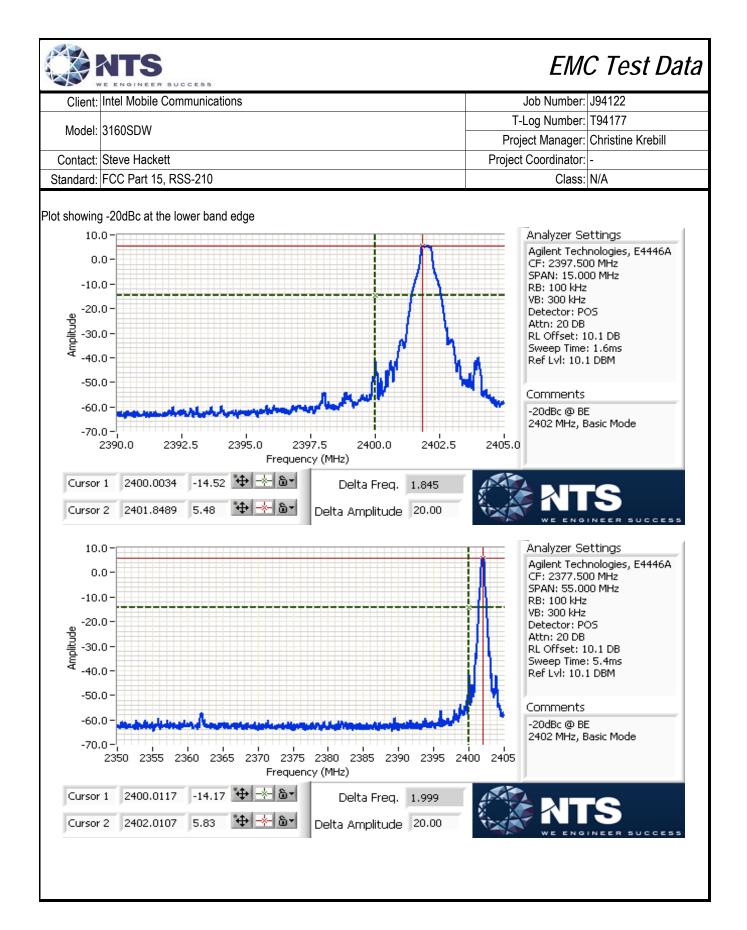


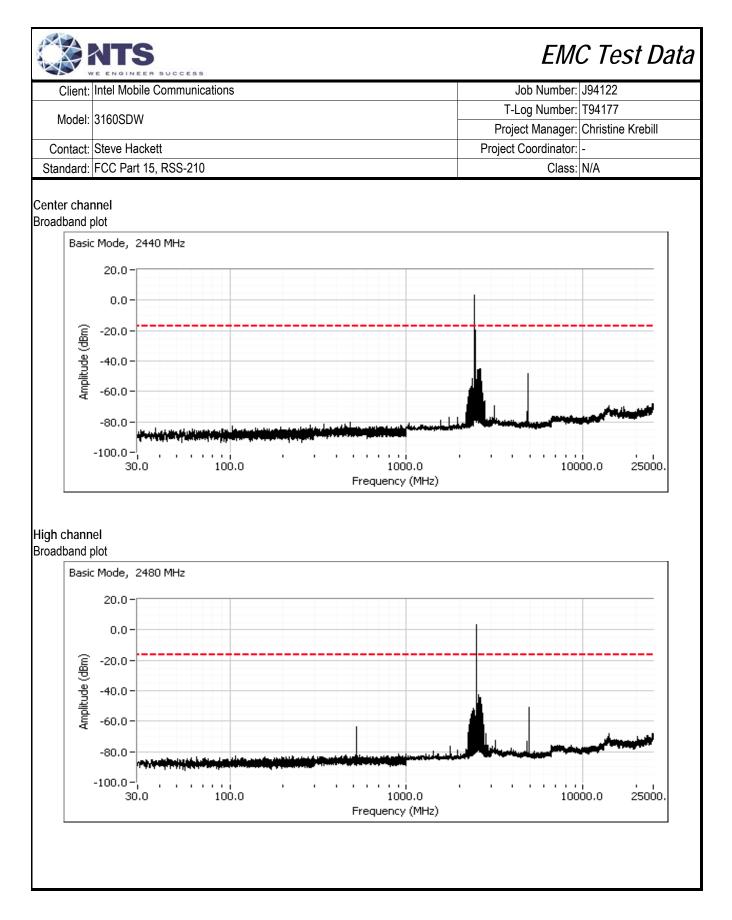


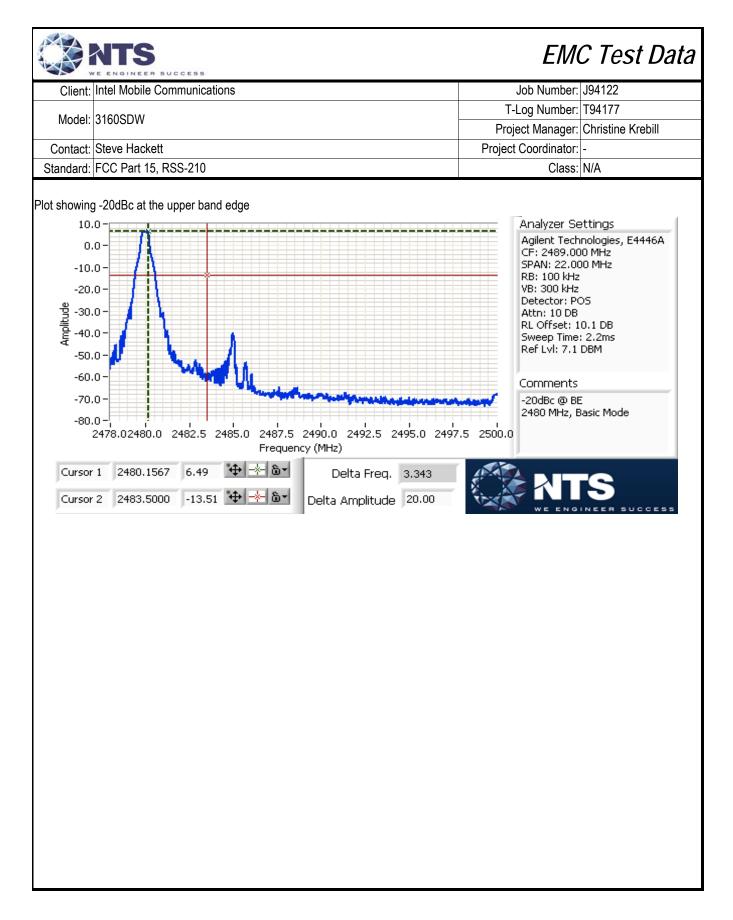
	EMO	C Test Dat	ta
Client: Intel Mobile Communications	Job Number:	J94122	
	T-Log Number:	T94177	
Model: 3160SDW	Project Manager:	Christine Krebill	
Contact: Steve Hackett F	Project Coordinator:	-	
Standard: FCC Part 15, RSS-210	Class:	N/A	
number of hopping channels employed. (Frequency hopping systems may avoid or suppress the frequency provided that a minimum of 15 channels are used.) The device complies with the Bluetooth protocol and employs a minimum of 20 of the available adaptove frequency hopping and all 79 channels when not. Channels are selected in a speud channels are used equally. The hopping rate is 1600 hops per second although any new channel may be used for a single dwell time per channel is, therefore either 0.625ms (single slot), 1.875ms (three slot) or 3.125m occupancy will not exceed 0.4s in any time interval of 0.4s mutliplied by the number of channel Channel Spacing: 1000 kHz 20dB Bandwidth: 950 kHz The channel spacing was measured in Basic rate mode with hopping enabled - see plot below. Requirement: The channel spacing shall be greater than 2/3 of the highest 20dB bandwidth at the minimum number of channels enabled. The system shall employ a minimum of 15 hopping results the provided that the system shall employ a minimum of 15 hopping channels.	e 79 hopping chann lo random manner t e hop slot, 3 hop slo ms (five slot). The a els being used. v showing channel s as the ouput power i e maximum (all) cha	tels when employing to ensure, on average ots or 5 hop slots. The overage time of spacing. is < 0.125 W.	ie
Requirement: The system shall employ a minimum of 15 hopping channels.	Analyzer Settii Agilent Technoli CF: 2420,000 M SPAN: 40,000 M RB: 100 kHz VB: 300 kHz Detector: POS Attn: 10 DB RL Offset: 10,1 Sweep Time: 3, Ref Lvl: 10,0 DB Comments Number of Char 2402-2440 MHz 39 Channels	ogies, E4446A 1Hz 1Hz 9Hz 8ms 8M BM	

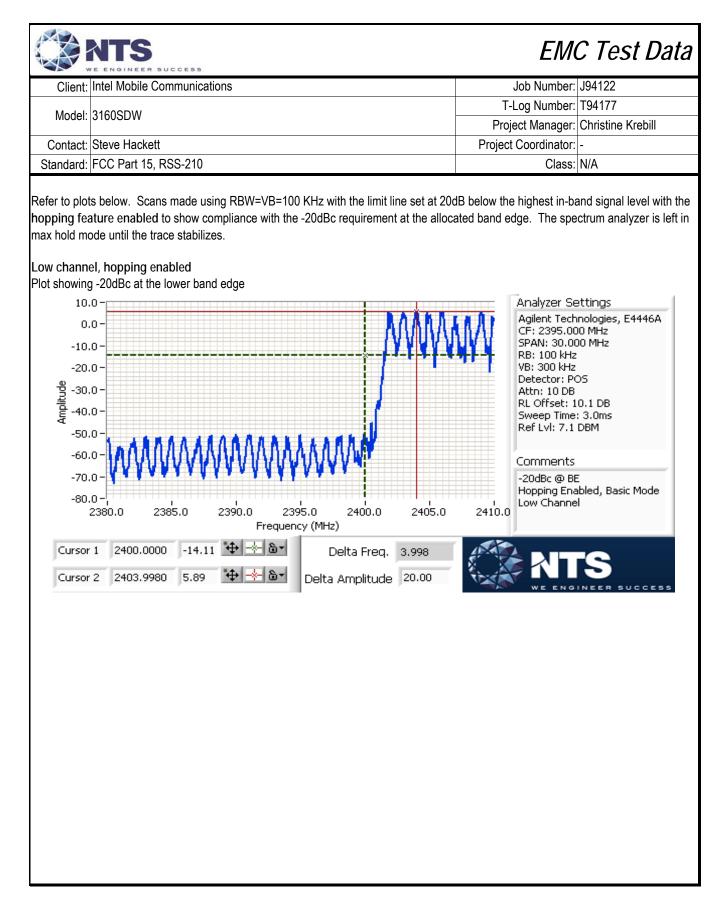


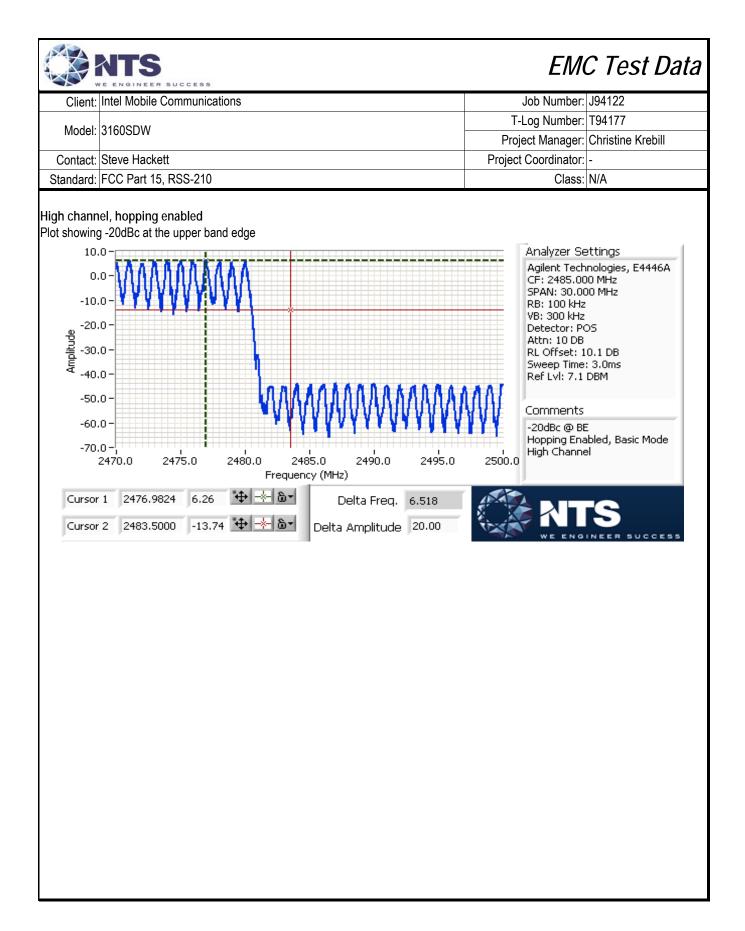


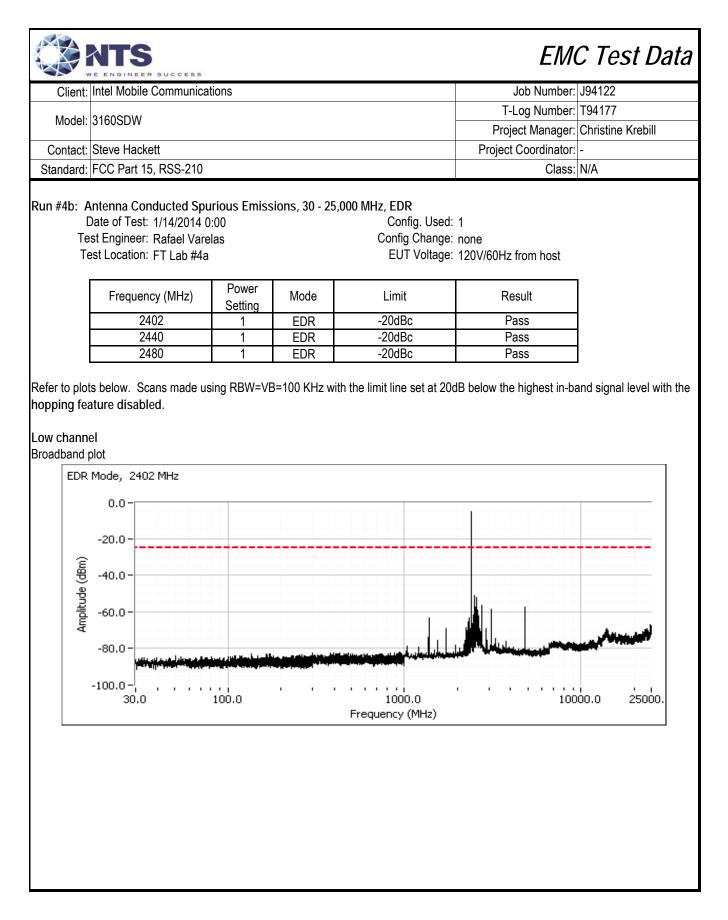


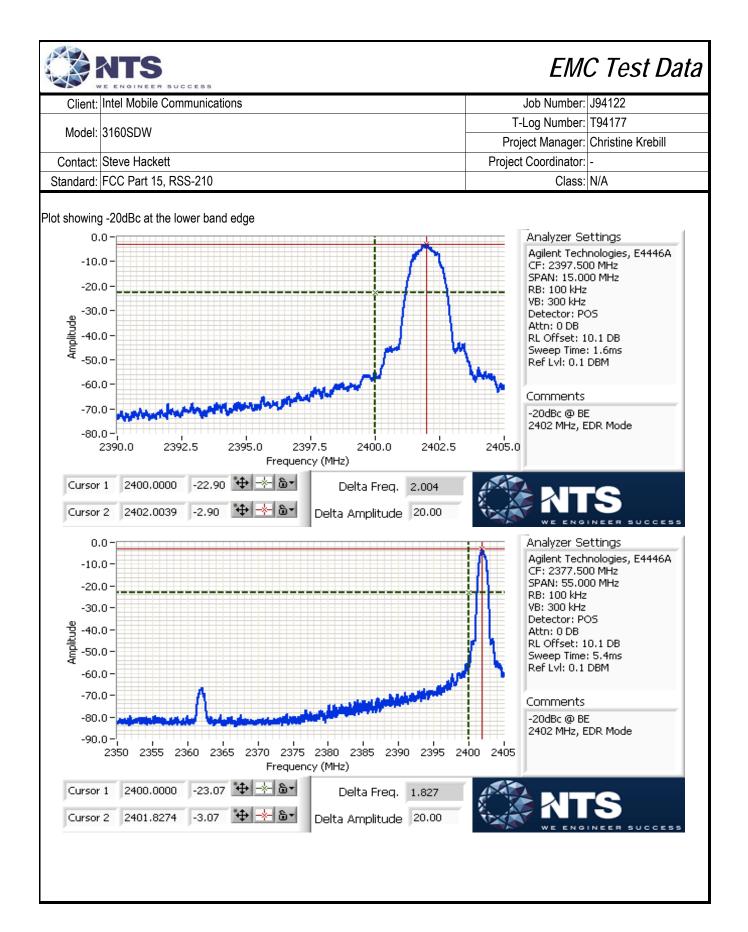


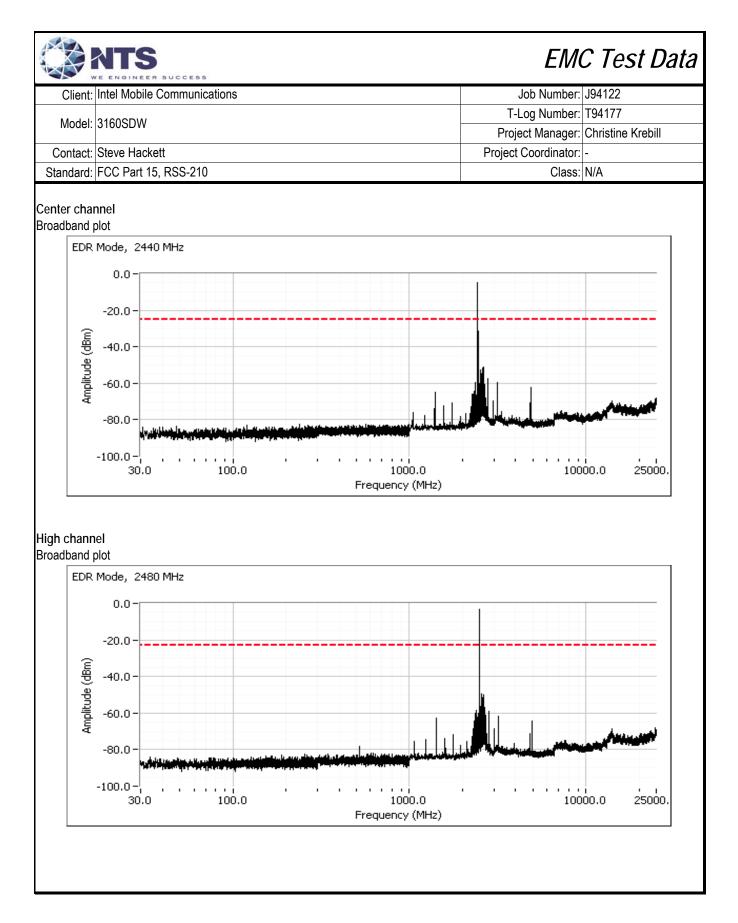




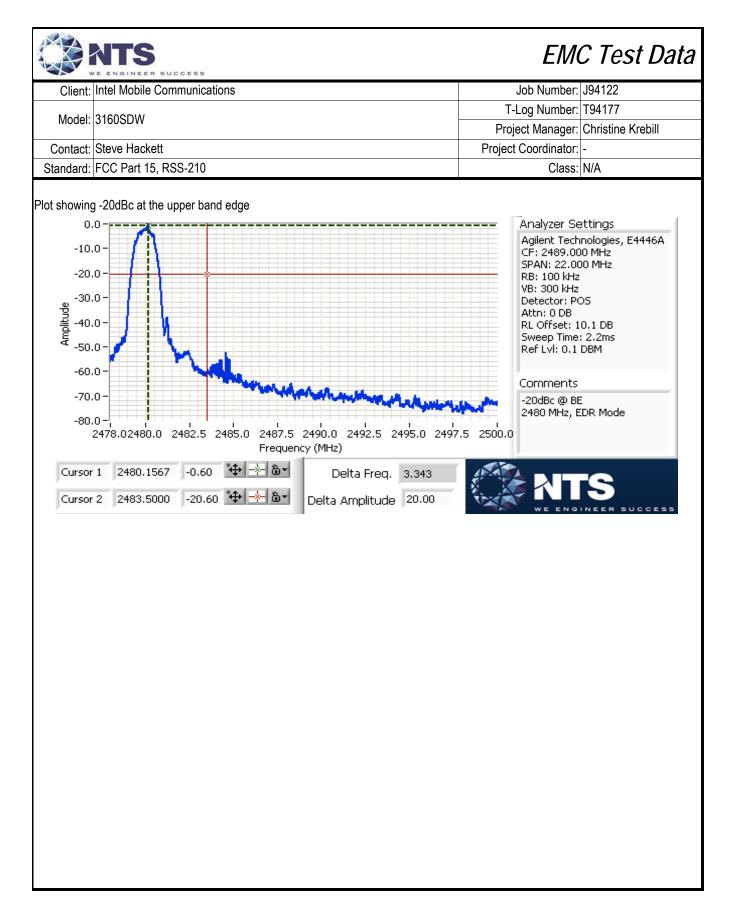


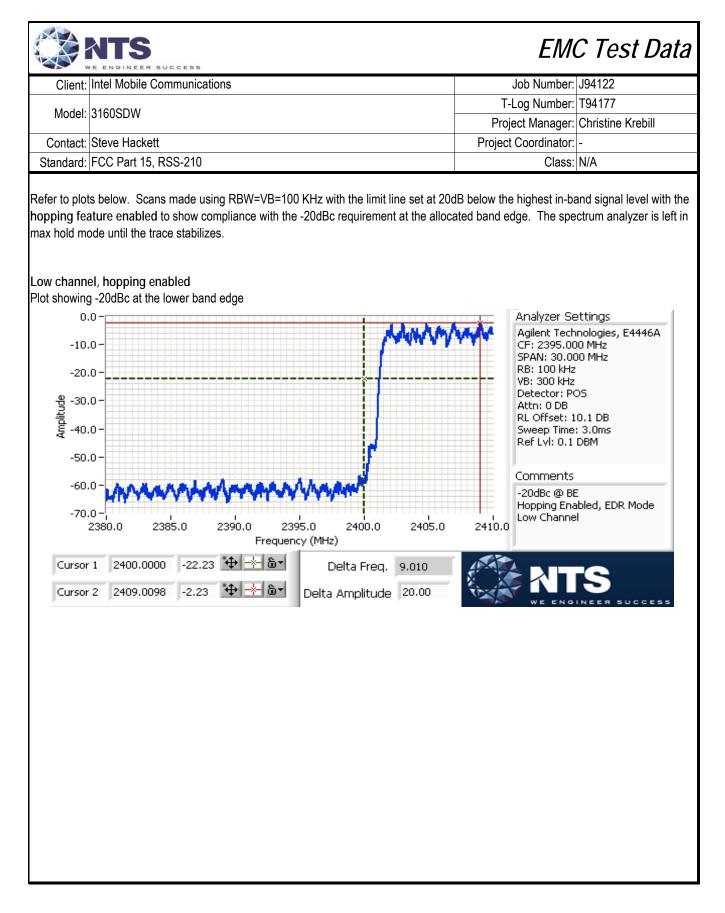


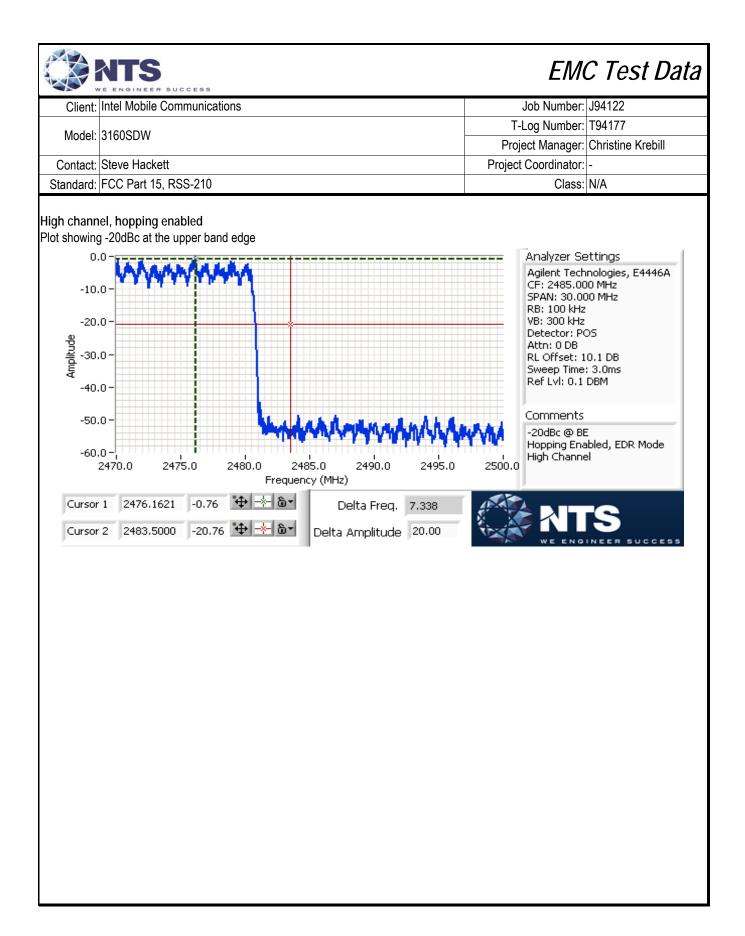




R94332







ЕМС	Test	Data

N N	E ENGINEER SUCCESS		
Client:	Intel Mobile Communications	Job Number:	J94122
Madal	3160SDW	T-Log Number:	T94177
woder.	31003DW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	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

NTS

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, unless otherwise noted.

Ambient Conditions:

Temperature:	18 °C
Rel. Humidity:	30 %

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

MAC Address: 001500E60B22 DRTU Tool Version 1.7.4-855 Driver version 16.8.0.3

Run #	Mode	Channel	Power Setting	-	Test Performed	Limit	Result / Margin
1a		2402	9	-	Restricted Band Edge (2390 MHz)		32.2 dBµV/m @ 2380 MHz (-21.8 dB)
Id		2402	9	-	Radiated Emissions, 1 - 26 GHz		50.7 dBµV/m @ 4804 MHz (-3.3 dB)
1b	Basic rate 1Mb/s	2441	9	-	Radiated Emissions, 1 - 26 GHz		47.7 dBµV/m @ 4882 MHz (-6.3 dB)
1c		2480	9	-	Restricted Band Edge (2483.5 MHz)		33.1 dBµV/m @ 2489 MHz (-20.9 dB)
IC.		2400	9	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 /	45.9 dBµV/m @ 4960 MHz (-8.1 dB)
2a		2402		-	Restricted Band Edge (2390 MHz)	15.247(c)	32.6 dBµV/m @ 238 MHz (-21.4 dB)
28		2402		-	Radiated Emissions, 1 - 26 GHz		55.9 dBµV/m @ 119 MHz (-18.1 dB)
2b	EDR 3Mb/s	2441	1	-	Radiated Emissions, 1 - 26 GHz		52.2 dBµV/m @ 159 MHz (-21.8 dB)
2c		2480		-	Restricted Band Edge (2483.5 MHz)		33.5 dBµV/m @ 249 MHz (-20.5 dB)
20		2700		-	Radiated Emissions, 1 - 26 GHz		56.4 dBµV/m @ 124 MHz (-17.6 dB)



EMC Test Data

V V	WE ENGINEER SUCCESS						
Client:	Intel Mobile Communications	Job Number:	J94122				
Madali	3160SDW	T-Log Number:	T94177				
wouer.	31003DW	Project Manager:	Christine Krebill				
Contact:	Steve Hackett	Project Coordinator:	-				
Standard:	FCC Part 15, RSS-210	Class:	N/A				

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.

Procedure Comments:

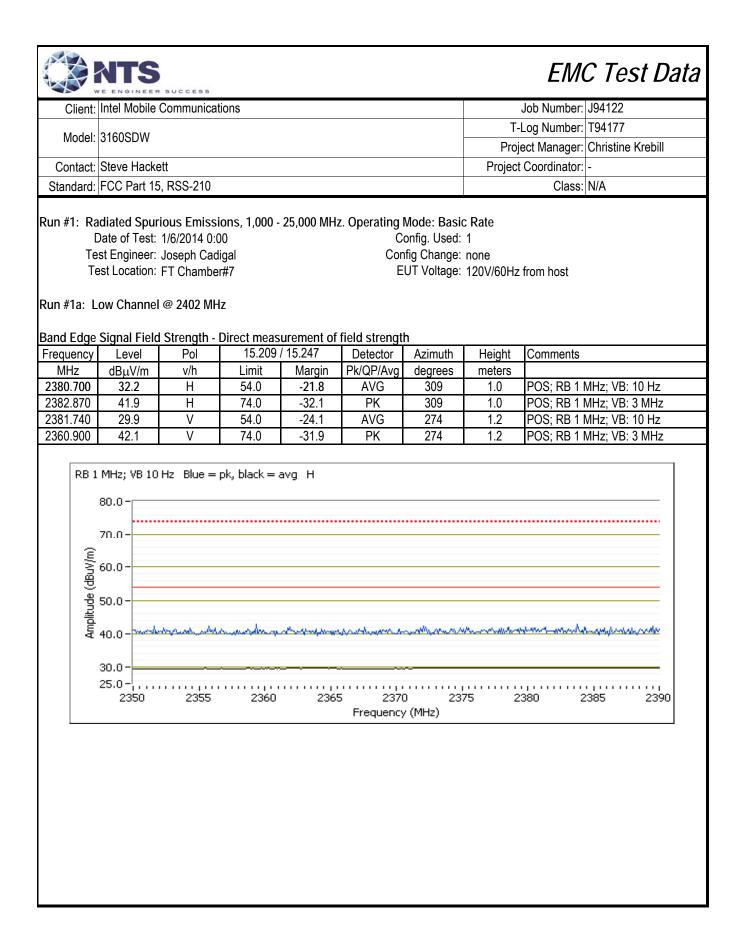
Measurements performed in accordance with FCC KDB 558074

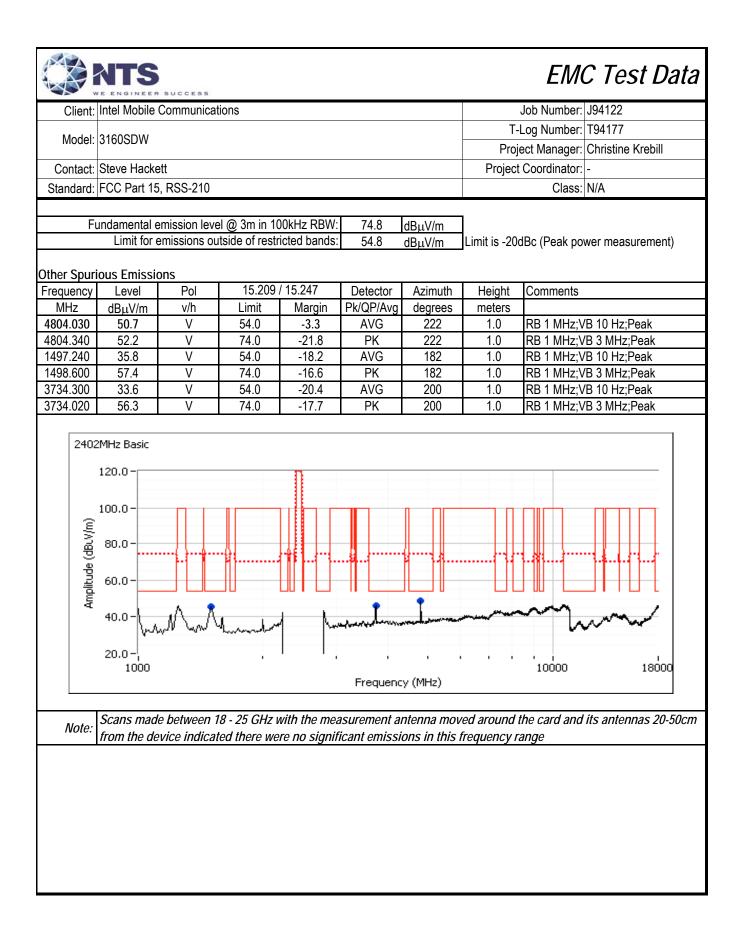
Peak measurements performed with: RBW=1MHz, VBW=3MHz, peak detector, max hold, auto sweep time Unless otherwise stated/noted, emission has duty cycle ≥ 98% and was measured using RBW=1MHz, VBW=10Hz, peak detector, linear average mode, auto sweep time, max hold.

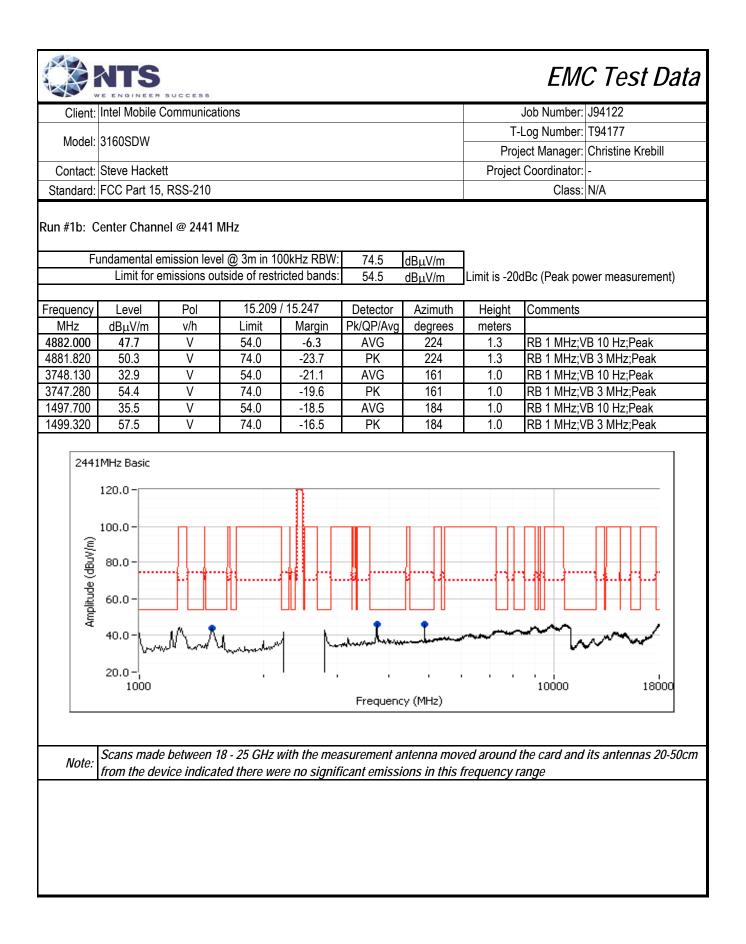
Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
Basic	Basic	0.77	Yes	10.42	1.1	2.3	96.0
EDR	EDR	0.73	Yes	9.92	1.4	2.7	100.8

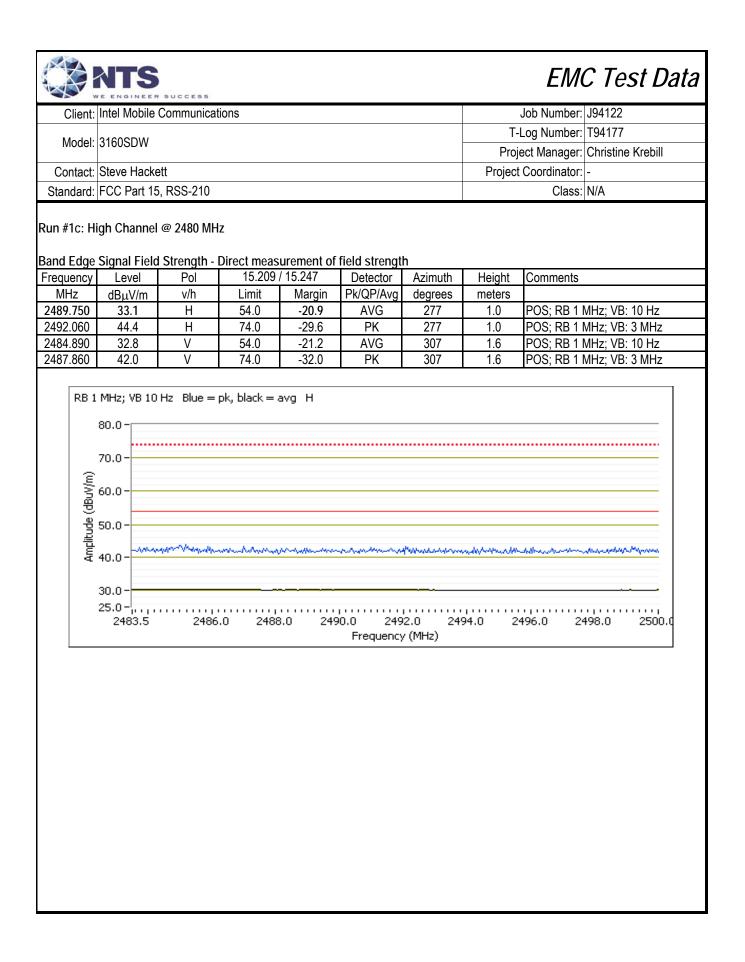
Measurement Specific Notes:

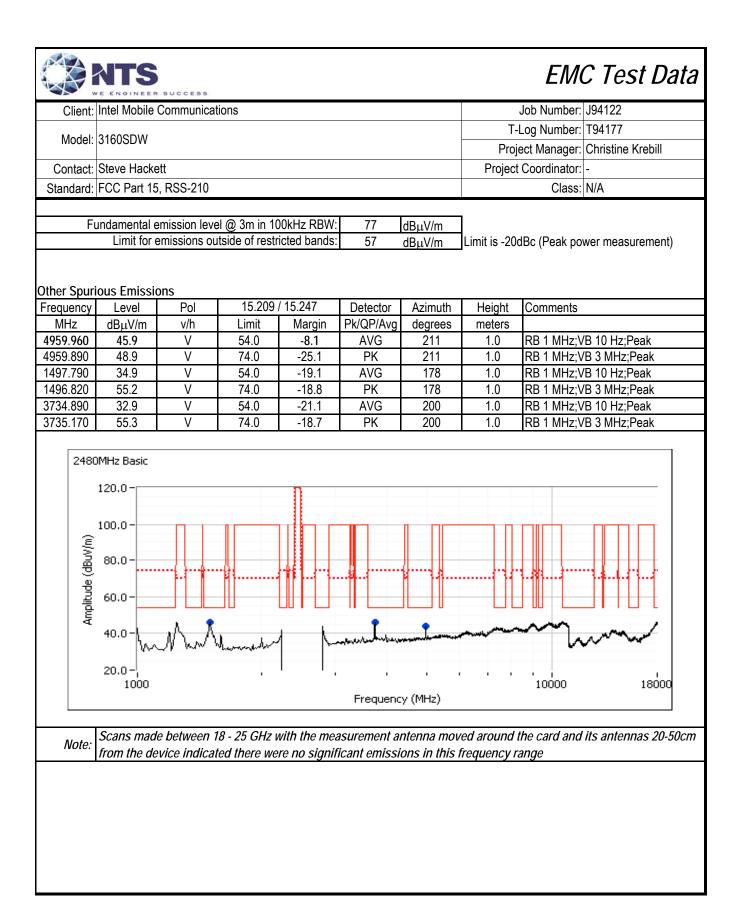
	·
Note 1:	Emission in non-restricted band, but limit of 15.209 used.
Note 2:	Emission in non-restricted band, the limit was set 20dB below the level of the fundamental and measured in 100kHz.
Note 3:	Emission has duty cycle < 98%, but constant, average measurement performed: RBW=1MHz, VBW=10Hz, peak detector,
NOLE J.	linear averaging, auto sweep, trace average 100 traces, measurement corrected by Linear Voltage correction factor
Note 6:	Plots of the average bandedge do not account for any duty cycle correction. Refer to the tabluar results for final
NOLE 0.	measurements.

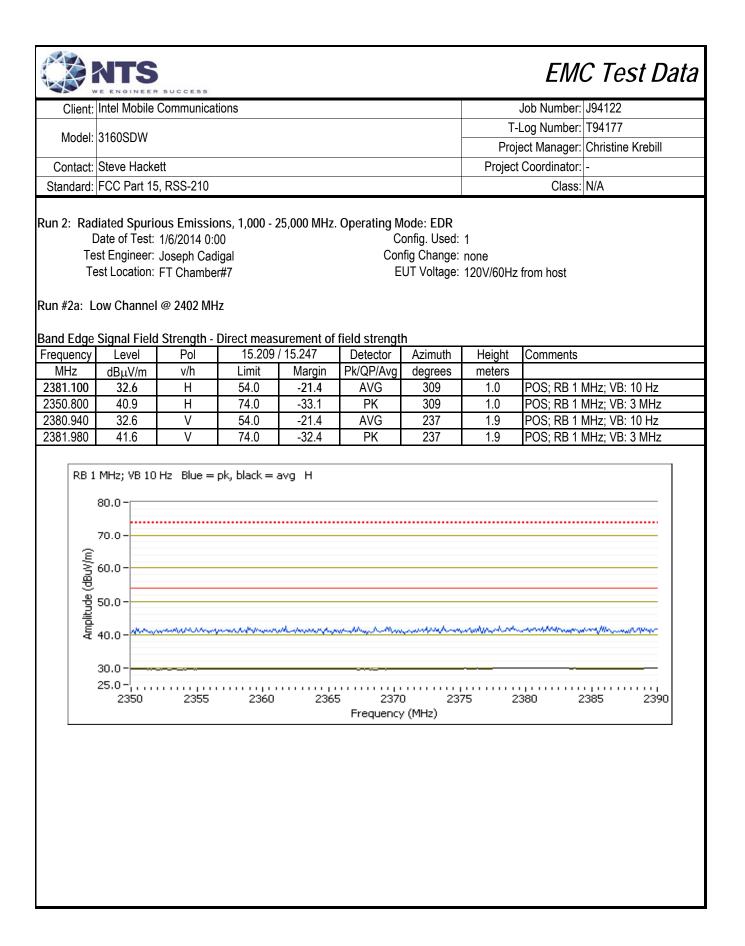


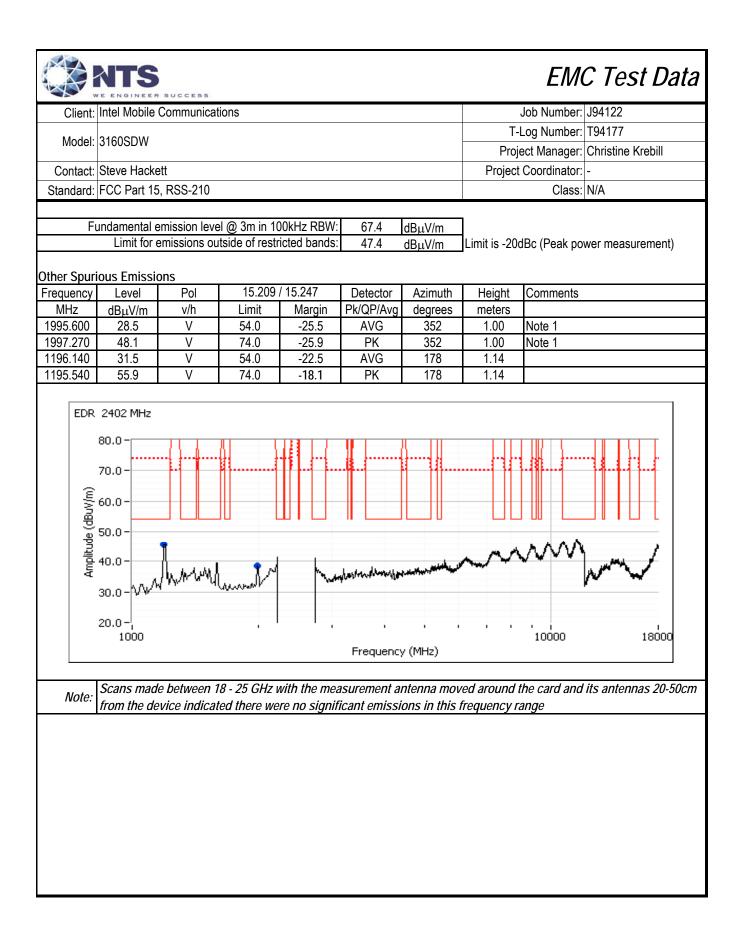


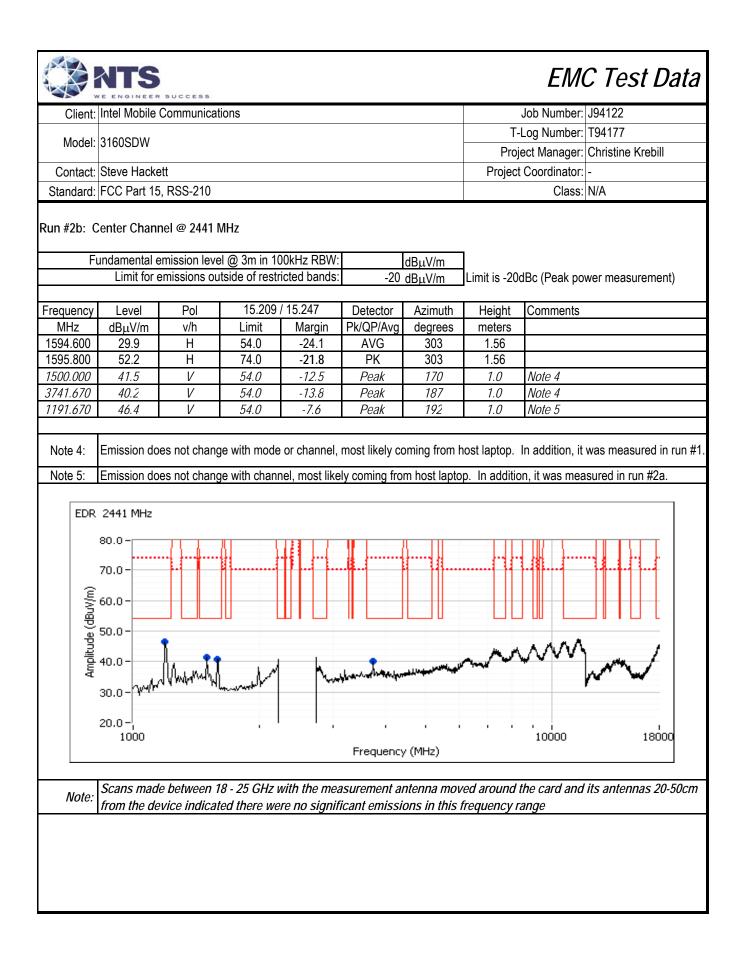


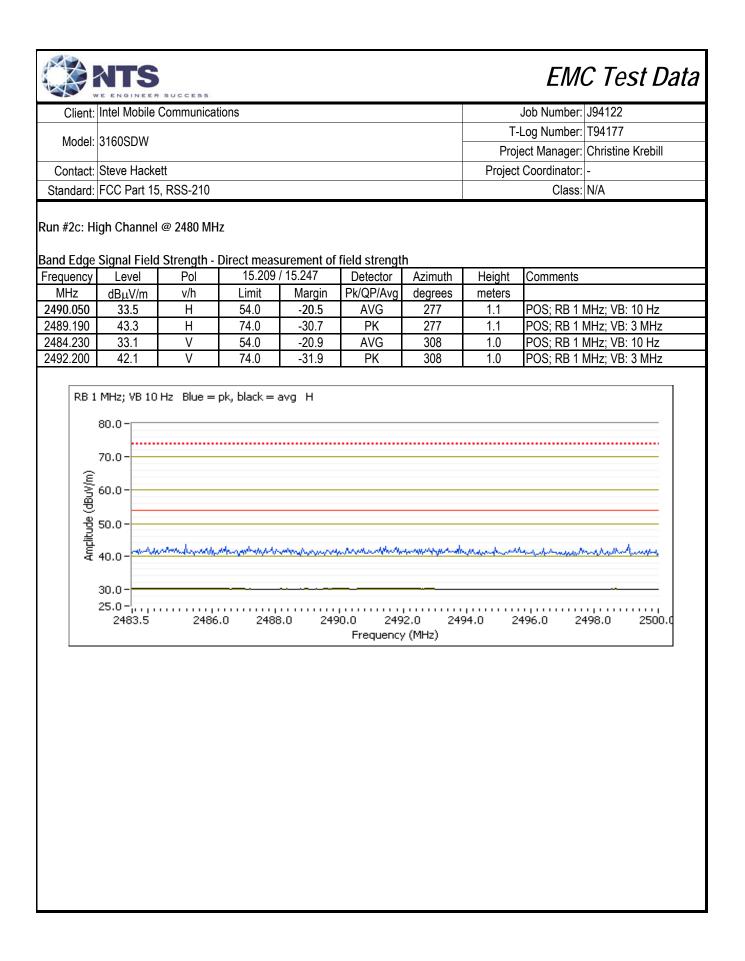


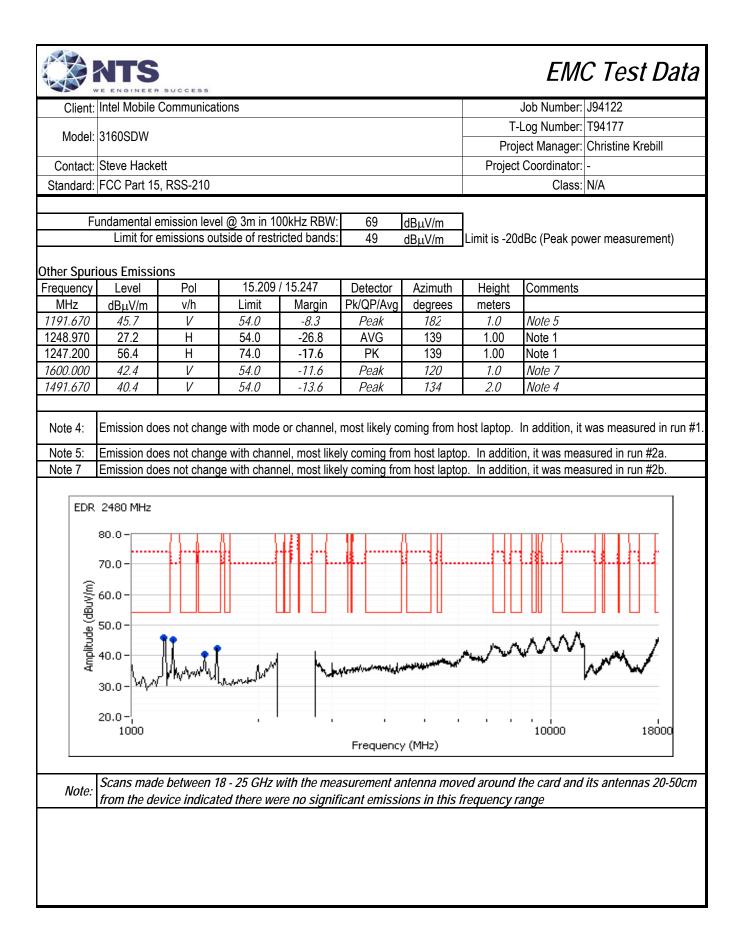










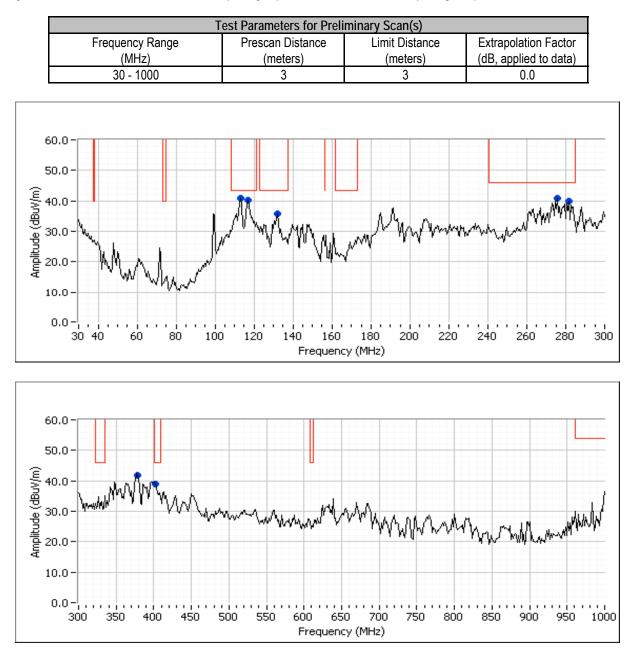


	ntel Mobile Communications		J	ob Number: J94122
			T-Lo	og Number: T94177
Model: 3	3160SDW		Project Manager: Christine Krebill	
Contact: S	Steve Hackett		-	Coordinator: -
	CC Part 15, RSS-210			Class: B
ost Snoci	(Elliott Laboratories Fre	ns 30-1000 MHz (T mont Facility, Semi-Anec		•
est speci	fic Details Objective: The objective of this test session is specification listed above.	s to perform final qualificati	on testing of t	the EUT with respect to the
	ate of Test: 1/10/2014	Config. Used:		
	t Engineer: John Caizzi	Config Change:		
Tes	st Location: Chamber 4	Host Voltage:	120V / 60Hz	
ntenna, and	manipulation of the EUT's interface cables.			
Summary	Rel. Humidity: 34	1 °C 4 %		
Summary	Temperature: 2 Rel. Humidity: 3 of Results s: 001500E60B22 DRTU Tool Version 1.7.4	4 % -855 Driver version 16.8.		
Summary	Temperature: 2 Rel. Humidity: 3 of Results s: 001500E60B22 DRTU Tool Version 1.7.4 # Test Performed	4 % I-855 Driver version 16.8. Limit		Margin 32.9 dBu\V/m @ 112.19 MHz
Summary	Temperature: 2 Rel. Humidity: 34 of Results s: 001500E60B22 DRTU Tool Version 1.7.4 # Test Performed Radiated Emissions	4 % -855 Driver version 16.8.		32.9 dBµV/m @ 112.19 MHz
Summary IAC Addres Run	Temperature: 2 Rel. Humidity: 34 of Results 34 s: 001500E60B22 DRTU Tool Version 1.7.4 # Test Performed Radiated Emissions 30 - 1000 MHz, Preliminary Radiated Emissions 30 - 1000 MHz, Maximized	4 % I-855 Driver version 16.8. Limit	Result	32.9 dBµV/m @ 112.19 MHz (-10.6 dB) 32.9 dBµV/m @ 112.19 MHz (-10.6 dB)
Summary IAC Addres Run 1	Temperature: 2 Rel. Humidity: 3 of Results s: 001500E60B22 DRTU Tool Version 1.7.4 # Test Performed Radiated Emissions 30 - 1000 MHz, Preliminary Radiated Emissions 30 - 1000 MHz, Maximized Radiated Emissions 30 - 1000 MHz, Preliminary State of the second s	4 % -855 Driver version 16.8. Limit FCC 15.209 / RSS 210	Result Eval	32.9 dBµV/m @ 112.19 MHz (-10.6 dB) 32.9 dBµV/m @ 112.19 MHz (-10.6 dB) 28.6 dBµV/m @ 30.04 MHz (-11.4 dB)
Summary (MAC Addres Run 1 2	Temperature: 2 Rel. Humidity: 3 of Results s: 001500E60B22 DRTU Tool Version 1.7.4 # Test Performed Radiated Emissions 30 - 1000 MHz, Preliminary Radiated Emissions 30 - 1000 MHz, Maximized 30 - 1000 MHz, Maximized Radiated Emissions	4 % 	Result Eval Pass	32.9 dBμV/m @ 112.19 MHz (-10.6 dB) 32.9 dBμV/m @ 112.19 MHz (-10.6 dB) 28.6 dBμV/m @ 30.04 MHz

EMC Test Da				
Client:	Intel Mobile Communications	Job Number:	J94122	
Madal	2160501/	T-Log Number:	Т94177	
	3160SDW	Project Manager:	Christine Krebill	
Contact:	Steve Hackett	Project Coordinator:	-	
Standard:	FCC Part 15, RSS-210	Class:	В	

Run #1: Preliminary Radiated Emissions, 30 - 1000 MHz

Configured to TX, 802.11b 16.5dBm on chain A (setting 22) on channel 6, BLE chain B (setting Max) on channel 2440MHz.

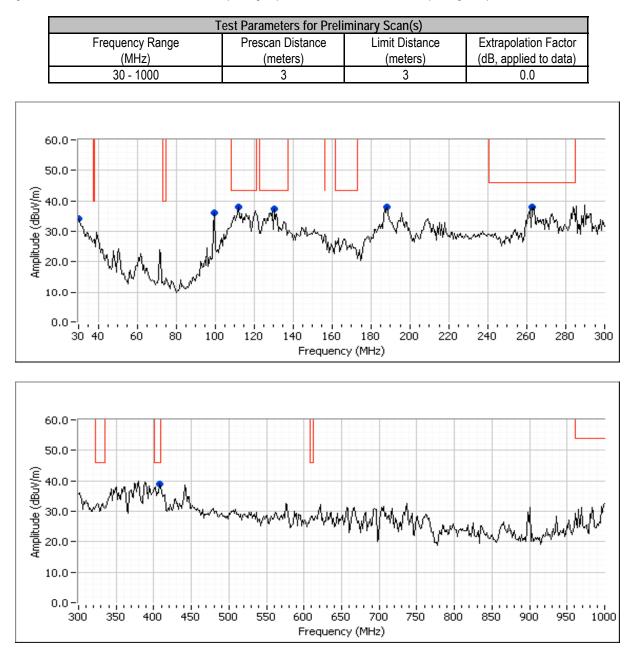


		SUCCESS						EMC Test Data
Client:	Intel Mobile	Communic	cations					Job Number: J94122
							T-	Log Number: T94177
Model:	3160SDW					·		ect Manager: Christine Krebill
Contact:	Steve Hacke	ett						: Coordinator: -
	rd: FCC Part 15, RSS-210							Class: B
otandara.	1 O O T dit 10	,100210	,					
Preliminary	peak readir	nas captu	red during p	re-scan				
Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
112.185	40.7	V	43.5	-2.8	Peak	285	1.0	
116.275	40.1	V	43.5	-3.4	Peak	231	1.0	
276.109	40.8	Н	46.0	-5.2	Peak	178	1.0	
279.509	39.8	Н	46.0	-6.2	Peak	347	1.5	
403.050	39.0	Н	46.0	-7.0	Peak	209	1.5	
133.439	35.6	V	43.5	-7.9	Peak	102	1.5	
375.754	41.8	Н	46.0	-4.2	Peak	211	1.5	Note 1
			(no manipul				Llaiabt	Commente
Frequency MHz		Pol	FCC 15.209			Azimuth	Height	Comments
	dBµV/m	v/h H	Limit	Margin	Pk/QP/Avg	degrees	meters	
279.509	28.7	H V	46.0	-17.3	QP OD	345	1.01	
112.185 116.275	32.9 28.3	V	43.5	-10.6	QP OD	171	1.00	
375.754	<u> 28.3</u> 33.3	V H	43.5	-15.2 -12.7	QP QP	149 220	1.00	
403.050	33.3 32.2	H	46.0 46.0	-12.7	QP QP	220	<u>1.01</u> 1.00	
276.109	32.2	H	46.0	-13.0 -15.7	QP QP	205	1.00	
133.439	25.5	V	40.0	-15.7	QP QP	113	1.00	
155.459	20.0	V	43.3	-10.0	QF	113	1.01	
lote 1:	Emission in	non-restric	ted band. bu	t limit of 15 2	ng used			
Run #2: Ma	aximized Rea	adings Fro			.00 0300.			
un #2: Ma	aximized Re	adings Fro	om Run #1			sheed Deer."		
Run #2: Ma			om Run #1 Te	st Paramete	rs for Maxim			Extrapolation Factor
2un #2: Ma		quency Ra	om Run #1 Te	st Paramete Test D	ers for Maxim istance	Limit Di	istance	Extrapolation Factor
tun #2: Ma		quency Ra (MHz)	om Run #1 Te: ange	st Paramete Test D (me	ers for Maxim istance ters)	Limit Di (met	istance ers)	(dB, applied to data)
	Fre	quency Ra (MHz) 30 - 1000	om Run #1 Te: ange	st Paramete Test D (me	e <mark>rs for Maxim</mark> istance ters) 3	Limit Di (met 3	istance ers)	
laximized (Fre	quency Ra (MHz) 30 - 1000	om Run #1 Te: ange	st Paramete Test D (mei cinipulation d	e <mark>rs for Maxim</mark> istance ters) 3	Limit Di (met 3	istance rers) 3	(dB, applied to data) 0.0
1aximized (Free quasi-peak Level	quency Ra (MHz) 30 - 1000 readings (om Run #1 Te: ange (includes ma	st Paramete Test D (me c nipulation c 2 / RSS 210	rs for Maxim istance ters) 3 of EUT interf	Limit Di (met 3 ace cables) Azimuth	istance ers) 3 Height	(dB, applied to data)
laximized (Free quasi-peak	quency Ra (MHz) 30 - 1000 readings (Pol	om Run #1 Te: ange (includes ma FCC 15.209	st Paramete Test D (mei cinipulation d	rs for Maxim istance ters) 3 of EUT interf Detector	Limit Di (met ace cables)	istance rers) 3	(dB, applied to data) 0.0
laximized (Frequency MHz	Free quasi-peak Level dBµV/m	quency Ra (MHz) 30 - 1000 readings (Pol v/h	om Run #1 Te: ange (includes ma FCC 15.209 Limit	st Paramete Test D (me anipulation o) / RSS 210 Margin	ors for Maxim istance ters) 3 of EUT interf Detector Pk/QP/Avg	Limit Di (met ace cables) Azimuth degrees	istance ers) 3 Height meters	(dB, applied to data) 0.0 Comments
laximized Frequency MHz 279.509 112.185	Free quasi-peak Level dBµV/m 28.7	quency Ra (MHz) 30 - 1000 readings (Pol v/h H	om Run #1 Te: ange (includes ma FCC 15.209 Limit 46.0	st Paramete Test D (me anipulation o 7 RSS 210 Margin -17.3	ors for Maxim istance ters) 3 of EUT interf Detector Pk/QP/Avg QP	Limit Di (met ace cables) Azimuth degrees 345	istance iers) 3 Height meters 1.01	(dB, applied to data) 0.0 Comments Moving cables lowered reading.
flaximized Frequency MHz 279.509	Free quasi-peak Level dBµV/m 28.7 32.9	quency Ra (MHz) 30 - 1000 readings (Pol v/h H V	om Run #1 Te: ange (includes ma FCC 15.209 Limit 46.0 43.5	st Paramete Test D (me anipulation of 2 / RSS 210 Margin -17.3 -10.6	ors for Maxim istance ters) 3 of EUT interf Detector Pk/QP/Avg QP QP	Limit Di (met ace cables) Azimuth degrees 345 171	istance iers) 3 Height meters 1.01 1.00	(dB, applied to data) 0.0 Comments Moving cables lowered reading. Moving cables lowered reading.
Maximized (Frequency MHz 279.509 112.185 116.275	Free quasi-peak Level dBµV/m 28.7 32.9 28.3	quency Ra (MHz) 30 - 1000 readings (Pol v/h H V V	om Run #1 Te: ange (includes ma FCC 15.209 Limit 46.0 43.5 43.5	st Paramete Test D (me 20 / RSS 210 Margin -17.3 -10.6 -15.2	rs for Maxim istance ters) 3 of EUT interf Detector Pk/QP/Avg QP QP QP	Limit Di (met ace cables) Azimuth degrees 345 171 149	Height Height 1.01 1.00 1.00	(dB, applied to data) 0.0 Comments Moving cables lowered reading. Moving cables lowered reading. Moving cables lowered reading.
Maximized of Frequency MHz 279.509 112.185 116.275 375.754	Free quasi-peak 1 Level dBµV/m 28.7 32.9 28.3 33.3	quency Ra (MHz) 30 - 1000 readings (Pol V/h H V V V H	om Run #1 Te: ange (includes ma FCC 15.209 Limit 46.0 43.5 43.5 43.5	st Paramete Test D (me canipulation of 7 RSS 210 Margin -17.3 -10.6 -15.2 -12.7	ors for Maxim istance ters) 3 of EUT interf Detector Pk/QP/Avg QP QP QP QP	Limit Di (met 3 ace cables) Azimuth degrees 345 171 149 220	Height Height Heters 1.01 1.00 1.00 1.01	(dB, applied to data) 0.0 Comments Moving cables lowered reading. Moving cables lowered reading. Moving cables lowered reading. Moving cables lowered reading.

EMC Test D				
Client:	Intel Mobile Communications	Job Number:	J94122	
Madalı	21605010	T-Log Number:	T94177	
	3160SDW	Project Manager:	Christine Krebill	
Contact:	Steve Hackett	Project Coordinator:	-	
Standard:	FCC Part 15, RSS-210	Class:	В	

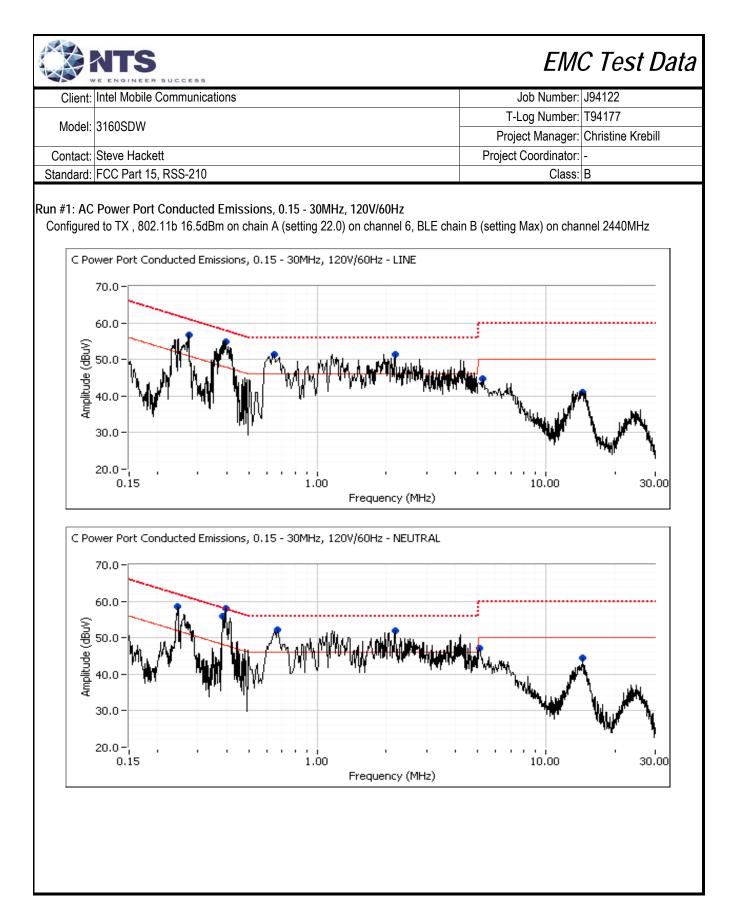
Run #3: Preliminary Radiated Emissions, 30 - 1000 MHz

Configured to TX, 802.11a 16.5dBm on chain A (setting 30) on channel 100, BLE chain B (setting Max) on channel 2480MHz.



Client:	Intel Mobile	Communi	cations					Job Number: J94122	
Model:	3160SDW						T-Log Number: T94177		
	31003010						Project Manager: Christine Krebill		
Contact:	Steve Hackett						Project Coordinator: -		
Standard:	FCC Part 15	5, RSS-210)					Class: B	
Preliminary	v peak readii	ngs captu	red during p		ak readings	vs. average	limit)		
Frequency	Level	Pol	FCC 15.209	9 / RSS 210	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
114.078	38.1	V	43.5	-5.4	Peak	140	2.0		
188.629	38.0	Н	43.5	-5.5	Peak	175	2.0	Note 1	
30.038	34.0	V	40.0	-6.0	Peak	57	1.0	Note 1	
130.441	37.4	V	43.5	-6.1	Peak	117	1.0		
403.794	39.0	Н	46.0	-7.0	Peak	202	1.0		
99.812	36.1	V	43.5	-7.4	Peak	224	1.5	Note 1	
262.665	37.9	Н	46.0	-8.1	Peak	81	2.5		
					.	、			
			(no manipu						
Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
99.812	25.8	V	43.5	-17.7	QP	233	1.68		
403.794	31.5	Н	46.0	-14.5	QP	208	1.00		
188.629	26.2	H	43.5	-17.3	QP	153	1.64		
114.078	30.2	V	43.5	-13.3	QP	122	1.01		
<u>130.441</u> 30.038	26.0 28.6	V V	43.5 40.0	-17.5 -11.4	QP QP	134 31	1.00 1.01		
30.030	20.0	V	40.0	-11.4	QF	51	1.01		
Run #4: Ma	aximized Re	adings Fr	om Run #1						
				st Paramete	ers for Maxin	nized Readir	ng(s)	•	
	Fre	quency Ra	ange	Test D	istance	Limit D	istance	Extrapolation Factor	
		(MHz)			ters)	(met		(dB, applied to data)	
		30 - 1000			3	3	3	0.0	
			(ha a la a l						
			(includes ma						
Frequency	Level	Pol) / RSS 210	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Martin all the term	
99.812	25.8	V	43.5	-17.7	QP	233	1.68	Moving cables lowered reading.	
403.794	31.5	Н	46.0	-14.5	QP	208	1.00	Moving cables lowered reading.	
	26.2	H	43.5	-17.3	QP	153	1.64	Moving cables lowered reading.	
188.629	30.2	V	43.5	-13.3	QP	122	1.01	Moving cables lowered reading.	
188.629 114.078			10 5	175	QP	134	1.00	Moving cables lowered reading.	
188.629	26.0 28.6	V V	43.5 40.0	-17.5 -11.4	QP	31	1.01	Moving cables lowered reading.	

	VE ENGINEER	SUCCESS			EM	
Client:	Intel Mobile	Communications			Job Number:	J94122
Model	3160SDW			T	-Log Number:	T94177
				Pro	ject Manager:	Christine Krebill
	Steve Hacke			Projec	t Coordinator:	-
Standard:	FCC Part 15	, RSS-210			Class:	В
Fest Spec	cific Detail	(Elliott Laboratories Frem	missions (Transn oont Facility, Semi-Anecl	•	ber)	
	Objective:	The objective of this test session is to specification listed above.	perform final qualification	n testing of	the EUT with I	respect to the
	Date of Test:		Config. Used:			
	st Engineer:		Config Change:			
Te	est Location:	Chamber #4	EUT Voltage:	120 V, 60 I	Hz	
For tableto coupling p located ou	plane and 800 utside of the s	guration t, the EUT host system was located o cm from the LISN. A second LISN w semi-anechoic chamber. Any cables seed through a ferrite clamp upon exit	as used for all local support	ort equipme	ent. Remote s	support equipment was
For tablete coupling p located ou and when	op equipmen blane and 800 utside of the s possible pas Conditions	t, the EUT host system was located o cm from the LISN. A second LISN w semi-anechoic chamber. Any cables esed through a ferrite clamp upon exit S: Temperature: Rel. Humidity:	ras used for all local support running to remote support ing the chamber. 15-18 °C	ort equipme	ent. Remote s	support equipment was
For tableta coupling p located ou and when Ambient (Summary	op equipmen olane and 800 utside of the s possible pas Conditions	t, the EUT host system was located o cm from the LISN. A second LISN w semi-anechoic chamber. Any cables used through a ferrite clamp upon exit s: Temperature: Rel. Humidity: S	vas used for all local support running to remote support ing the chamber. 15-18 °C 30-40 %	ort equipme t equipment	ent. Remote s	support equipment was
For tablete coupling p located ou and when Ambient (Summary IAC Addre	op equipmen olane and 800 utside of the s possible pas Conditions	t, the EUT host system was located o cm from the LISN. A second LISN w semi-anechoic chamber. Any cables esed through a ferrite clamp upon exit S: Temperature: Rel. Humidity:	vas used for all local support running to remote support ing the chamber. 15-18 °C 30-40 %	ort equipme t equipment	ent. Remote s	support equipment was
For tableta coupling p located ou and when Ambient (Summary <u>MAC Addre</u> Ru	op equipmen olane and 800 utside of the s possible pas Conditions v of Result ess: 001500E in #	t, the EUT host system was located o cm from the LISN. A second LISN w semi-anechoic chamber. Any cables used through a ferrite clamp upon exit s: Temperature: Rel. Humidity: S 60B22 DRTU Tool Version 1.7.4-85	vas used for all local support running to remote support ing the chamber. 15-18 °C 30-40 % 55 Driver version 16.8.0.	ort equipme equipment	ent. Remote s where routed	support equipment was





EMC Test Data

Client:	Intel Mobile Communications	Job Number:	J94122
Madal	3160SDW	T-Log Number:	Т94177
woder.	31003DW	Project Manager:	Christine Krebill
Contact:	Steve Hackett	Project Coordinator:	-
Standard:	FCC Part 15, RSS-210	Class:	В

Run #1: AC Power Port Conducted Emissions, 0.15 - 30MHz, 120V/60Hz

Configured to TX, 802.11b 16.5dBm on chain A (setting 22.0) on channel 6, BLE chain B (setting Max) on channel 2440MHz

Preliminary peak readings captured during pre-scan (peak readings vs. average limit)

i reniminary peak readings captured during pre-sean (peak readings vs. average nimit)										
Frequency	Level	AC	RSS 210 / 15.207		Detector	Comments				
MHz	dBμV	Line	Limit	Margin	QP/Ave					
0.398	57.9	Neutral	47.9	10.0	Peak					
0.385	55.8	Neutral	48.1	7.7	Peak					
0.394	54.9	Line	47.9	7.0	Peak					
0.244	58.5	Neutral	51.9	6.6	Peak					
0.648	52.1	Neutral	46.0	6.1	Peak					
2.184	51.9	Neutral	46.0	5.9	Peak					
0.275	56.8	Line	51.0	5.8	Peak					
0.656	51.5	Line	46.0	5.5	Peak					
2.178	51.5	Line	46.0	5.5	Peak					
5.008	47.1	Neutral	50.0	-2.9	Peak					
5.129	44.7	Line	50.0	-5.3	Peak					
14.237	44.6	Neutral	50.0	-5.4	Peak					
14.394	41.1	Line	50.0	-8.9	Peak					

Client:	Intel Mobile	Communicat	tions				Job Number:	J94122
				T-Log Number:	T94177			
Model:	3160SDW			Project Manager:				
Contact:	Steve Hack	ett	Project Coordinator:	-				
	FCC Part 1		Class:	В				
otariaara.	l oo l uit i	5,1100 210					01000	5
nal quasi	-peak and a	verage read	ings					
requency		AC	RSS 210					
MHz	dBµV	Line	Limit	Margin	QP/Ave			
0.398	45.7	Neutral	47.9	-2.2	AVG	AVG (0.10s)		
0.385	45.7	Neutral	48.2	-2.5	AVG	AVG (0.10s)		
0.398	55.0	Neutral	57.9	-2.9	QP	QP (1.00s)		
0.394	45.0	Line	48.0	-3.0	AVG	AVG (0.10s)		
0.385	55.2	Neutral	58.2	-3.0	QP	QP (1.00s)		
0.394	54.9	Line	58.0	-3.1	QP	QP (1.00s)		
0.656	40.7	Line	46.0	-5.3	AVG	AVG (0.10s)		
2.184	40.2	Neutral	46.0	-5.8	AVG	AVG (0.10s)		
0.656	50.1	Line	56.0	-5.9	QP	QP (1.00s)		
0.648	49.9	Neutral	56.0	-6.1	QP	QP (1.00s)		
0.243	55.7	Neutral	62.0	-6.3	QP	QP (1.00s)		
0.648	39.6	Neutral	46.0	-6.4	AVG	AVG (0.10s)		
2.184	49.4	Neutral	56.0	-6.6	QP	QP (1.00s)		
2.178	39.1	Line	46.0	-6.9	AVG	AVG (0.10s)		
0.275	53.7	Line	61.0	-7.3	QP	QP (1.00s)		
0.275	43.1	Line	51.0	-7.9	AVG	AVG (0.10s)		
2.178	47.8	Line	56.0	-8.2	QP	QP (1.00s)		
0.243	42.6	Neutral	52.0	-9.4	AVG	AVG (0.10s)		
14.237	33.4	Neutral	50.0	-16.6	AVG	AVG (0.10s)		
5.008	32.6	Neutral	50.0	-17.4	AVG	AVG (0.10s)		
14.394	31.4	Line	50.0	-18.6	AVG	AVG (0.10s)		
5.008	41.0	Neutral	60.0	-19.0	QP	QP (1.00s)		
5.129	30.6	Line	50.0	-19.4	AVG	AVG (0.10s)		
14.237	40.1	Neutral	60.0	-19.9	QP	QP (1.00s)		
	38.5	Line Line	60.0 60.0	-21.5 -22.6	QP QP	QP (1.00s)		
5.129 14.394	37.4			2026		QP (1.00s)		

End of Report

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