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Electromagnetic Emissions Test Report Application for Grant of Equipment Authorization pursuant to Industry Canada RSS-Gen Issue 2 / RSS 210 Issue 7 FCC Part 15 Subpart C on the Broadcom Corporation Transmitter Model: BCM92070MD LENO

> UPN: 4324A-BRCM1046 FCC ID: QDS-BRCM1046

GRANTEE: **Broadcom Corporation** 190 Mathilda Ave. Sunnyvale, CA 94086

TEST SITE(S): **Elliott Laboratories** 684 W. Maude Ave Sunnyvale, CA 94086 IC Site Registration #: IC 2845-2

REPORT DATE: April 20, 2009

FINAL TEST DATE:

April 8, April 10, April 14 and April 16, 2009

AUTHORIZED SIGNATORY:

Mark E. Hill Staff Engineer



Testing Cert #2016-01

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REVISION HISTORY

Rev #	Date	Comments	Modified By
1	April 24, 2009	Initial Release	-

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SCOPE

An electromagnetic emissions test has been performed on the Broadcom Corporation model BCM92070MD_LENO pursuant to the following rules:

Industry Canada RSS-Gen Issue 2 RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" FCC Part 15 Subpart C

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in Elliott Laboratories test procedures:

ANSI C63.4:2003 FHSS test procedure DA 00-0705A1, March 2000

The intentional radiator above has been tested in a simulated typical installation to demonstrate compliance with the relevant Industry Canada performance and procedural standards.

Final system data was gathered in a mode that tended to maximize emissions by varying orientation of EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization.

Every practical effort was made to perform an impartial test using appropriate test equipment of known calibration. All pertinent factors have been applied to reach the determination of compliance.

The test results recorded herein are based on a single type test of the Broadcom Corporation model BCM92070MD_LENO and therefore apply only to the tested sample. The sample was selected and prepared by Pin Wen of Broadcom Corporation.

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 Broadcom Corporation model BCM92070MD_LENO complied with the requirements of the following regulations:

Industry Canada RSS-Gen Issue 2 RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment" FCC Part 15 Subpart C

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

TEST RESULTS SUMMARY

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
		20dB Bandwidth	8PSK: 1467 kHz GFSK: 1150 kHz	Channel spacing > 20dB bandwidth or	Complies
15.247 (a) (1)	RSS 210 A8.1 (1)	Channel Separation	1000 kHz	Channel spacing > 2/3 of 20dB bandwidth for devices with less than 125mW	Complies
15.247 (a) (1) (iii)	RSS 210 A8.1 (4)	Channel Dwell Time (average time of occupancy)	<0.4s dwell time, the system uses BlueTooth algorithm and therefore, meets all requirements for channel dwell time.	<0.4 second within a period of 0.4 x number of channels	Complies
15.247 (a) (1) (iii)	RSS 210 A8.1 (4)	Number of Channels	Minimum of 20, with a maximum of 79	15 or more	Complies
15.247 (a) (1)	RSS 210 A8.1 (1)	Channel Utilization	The system uses the BlueTooth algorithm and, therefore, meets all requirements for channel utilization.	All channels shall, on average, be used equally	Complies
15.247 (b) (3)	RSS 210 A8.4 (2)	Output Power (multipoint systems)	8PSK: 4.86 dBm (3.06 mW) EIRP = 0.0065 W Note 1 GFSK: 2.78 dBm (1.90 mW) EIRP = 0.0041 W Note 1	125 mW	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	52.7dBµV/m @ 2483.5MHz	15.207 in restricted bands, all others < -20dBc	Complies (-1.3dB)
15.247 (a) (1)	RSS 210 A8.1(2)	Receiver bandwidth	Refer to operational description	Shall match the channel bandwidth	Complies

FREQUENCY HOPPING SPREAD SPECTRUM (2400 - 2483.5 MHz,	15 channels or more)
---	----------------------

 (1)
 A8.1(2)
 Receiver bandwidth
 description
 channel bandwidth
 Complex

 Note 1:
 EIRP calculated using antenna gain of 3.3 dBi for the highest EIRP multi-point system.
 Complex
 Complex

FCC Rule	RSS		Measured Value /	Limit /	Result
Part	Rule part	Description	Comments	Requirement	(margin)
15.203	-	Antenna chip	Permanently attached	•	Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	44.1dBµV/m @ 3037.5MHz	Refer to standard	Complies (- 9.9 dB)
15.207	RSS GEN Table 2	AC Conducted Emissions	35.7dBµV @ 0.488MHz	Refer to standard	Complies (- 10.5 dB)
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	RSS 102 declaration and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies
	RSP 100 RSS GEN 7.1.5	User Manual		Statement required regarding non- interference	Complies - Note 2

GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

Note 2: Broadcom has provided instructions to integrator of the module.

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 were calculated using the approach described in CISPR 16-4-2:2003 using a coverage factor of k=2, which gives a level of confidence of approximately 95%. The levels were found to be below levels of *U*cispr and therefore no adjustment of the data for measurement uncertainty is required.

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

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Broadcom Corporation model BCM92070MD_LENO is a bluetooth module. Since the EUT would typically be placed in table top products, the EUT was treated as tabletop equipment during testing to simulate the end-user environment. The EUT receives power from its host. For testing purposes, the EUT was mounted to a test fixture that connected to a computer via USB.

The sample was received on April 8, 2009 and tested on April 8, April 10, April 14 and April 16, 2009. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Serial Number	Bluetooth
				Address
Broadcom	BCM92070MD_LE	Bluetooth	-	00242BEBE780
	NO	Module		
Broadcom	BCM92070MD LE	Bluetooth	-	00242BEBE794
	NO –	Module		

ANTENNA SYSTEM

The antenna system used with the Broadcom Corporation model BCM92070MD_LENO consists of an integral antenna, 3.3dBi gain.

ENCLOSURE

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

MODIFICATIONS

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

SUPPORT EQUIPMENT

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

Manufacturer	Model	Description	Serial Number	FCC ID
Dell	Inspiron	Laptop #2	HEP-E2-C1	-

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

Manufacturer	Model	Description	Serial Number	FCC ID
Linksys	EG005W	Switch	GGB1408 JJ	DoC

EUT INTERFACE PORTS

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

Port	Connected To	Cable(s)			
Fon		Description	Shielded or Unshielded	Length(m)	
EUT #1	Laptop #2 USB	Multiwire	Unshielded	1.0	
AC Power	AC Mains	3Wire	Unshielded	1.0	
Laptop					

EUT OPERATION

Unless otherwise stated, the EUT was configured to continuously hop on a single channel at maximum output power.

TEST SITE

GENERAL INFORMATION

Final test measurements were taken on April 8, April 10, April 14 and April 16, 2009 at the test sites listed below. Pursuant to section 2.948 of the FCC's Rules and section 3.3 of RSP-100, construction, calibration, and equipment data has been filed with the Commission and with industry Canada.

Site	Registratio	Location	
Site	FCC	Canada	
SVOATS #2	90593	IC 2845A-2	684 West Maude Ave, Sunnyvale CA 94085-3518

ANSI C63.4:2003 recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement with the exception, on OATS sites, of predictable local TV, radio, and mobile communications traffic. 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 C63.4:2003.

CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.4:2003. Measurements are made with the EUT connected to the public power network through a nominal, standardized RF impedance, which is provided by a line impedance stabilization network, known as a LISN. A LISN is inserted in series with each current-carrying conductor in the EUT power cord.

RADIATED EMISSIONS CONSIDERATIONS

The FCC has determined that radiation measurements made in a shielded enclosure are not suitable for determining levels of radiated emissions. Radiated measurements are performed in an open field environment or in a semi-anechoic chamber. The test sites are maintained free of conductive objects within the CISPR defined elliptical area incorporated in ANSI C63.4:2003 guidelines and meet the Normalized Site Attenuation (NSA) requirements of ANSI C63.4:2003.

MEASUREMENT INSTRUMENTATION

RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1 is used for emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 2000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary. The receiver automatically sets the required bandwidth for the CISPR detector used during measurements. If the repetition frequency of the signal being measured is below 20Hz, peak measurements are made in lieu of Quasi-Peak measurements.

For measurements above the frequency range of the receivers, a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis. Average measurements above 1000MHz are performed on the spectrum analyzer using the linear-average method with a resolution bandwidth of 1 MHz and a video bandwidth of 10 Hz, unless the signal is pulsed in which case the average (or video) bandwidth of the measuring instrument is reduced to onset of pulse desensitization and then increased.

INSTRUMENT CONTROL COMPUTER

The receivers utilize either a Rohde & Schwarz EZM Spectrum Monitor/Controller or contain an internal Spectrum Monitor/Controller to view and convert the receiver measurements to the field strength at an antenna or voltage developed at the LISN measurement port, which is then compared directly with the appropriate specification limit. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are printed in a graphic and/or tabular format, as appropriate. A personal computer is used to record all measurements made with the receivers.

The Spectrum Monitor provides a visual display of the signal being measured. In addition, the controller or a personal computer run automated data collection programs which control the receivers. This provides added accuracy since all site correction factors, such as cable loss and antenna factors are added automatically.

LINE IMPEDANCE STABILIZATION NETWORK (LISN)

Line conducted measurements utilize a fifty microhenry Line Impedance Stabilization Network as the monitoring point. The LISN used also contains a 250 uH CISPR adapter. This network provides for calibrated radio frequency noise measurements by the design of the internal low pass and high pass filters on the EUT and measurement ports, respectively.

FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the receiving antenna or LISN and the receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

ANTENNAS

A loop antenna is used below 30 MHz. For the measurement range 30 MHz to 1000 MHz either a combination of a biconical antenna and a log periodic or a bi-log antenna is used. Above 1000 MHz, horn antennas are used. The antenna calibration factors to convert the received voltage to an electric field strength are included with appropriate cable loss and amplifier gain factors to determine an overall site factor, which is then programmed into the test receivers or incorporated into the test software.

ANTENNA MAST AND EQUIPMENT TURNTABLE

The antennas used to measure the radiated electric field strength are mounted on a nonconductive antenna mast equipped with a motor-drive to vary the antenna height. Measurements below 30 MHz are made with the loop antenna at a fixed height of 1m above the ground plane.

ANSI C63.4:2003 specifies that the test height above ground for table mounted devices shall be 80 centimeters. Floor mounted equipment shall be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

INSTRUMENT CALIBRATION

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

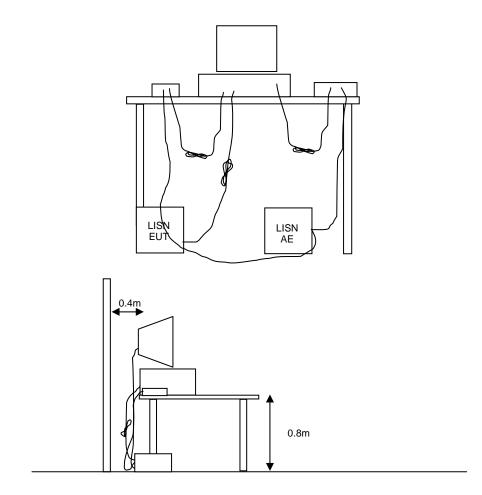
TEST PROCEDURES

EUT AND CABLE PLACEMENT

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

CONDUCTED EMISSIONS

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



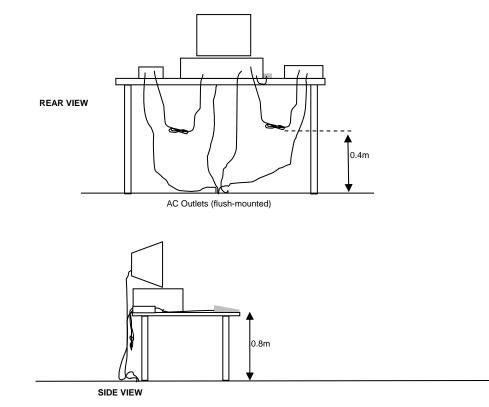
RADIATED EMISSIONS

A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied (for measurements above 30 MHz) and cable positions are varied to determine the highest emission relative to the limit. Preliminary scans may be performed in a fully anechoic chamber for the purposes of identifying the frequencies of the highest emissions from the EUT.

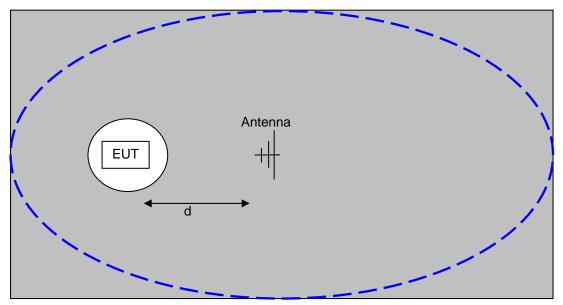
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth, which results in the highest emission is then maintained while varying the antenna height from one to four meters (for measurements above 30 MHz, measurements below 30 MHz are made with the loop antenna at a fixed height of 1m). The result is the identification of the highest amplitude for each of the highest peaks. Each recorded level is corrected in the receiver using appropriate factors for cables, connectors, antennas, and preamplifier gain.

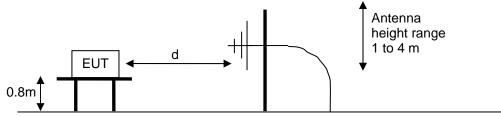
When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.



Typical Test Configuration for Radiated Field Strength Measurements



The ground plane extends beyond the ellipse defined in CISPR 16 / CISPR 22 / ANSI C63.4 and is large enough to accommodate test distances (d) of 3m and 10m. Refer to the test data tables for the actual measurement distance.



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

BANDWIDTH MEASUREMENTS

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

SPECIFICATION LIMITS AND SAMPLE 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:

GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

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

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

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

RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS

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

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

OUTPUT POWER LIMITS – FHSS SYSTEMS

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

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

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

TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS and DTS SYSTEMS

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

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

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

$$R_r - S = M$$

where:

 $R_r =$ Receiver Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS - RADIATED EMISSIONS

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

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

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

where:

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

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

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

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

 $R_c = R_r + F_d$

and

 $M = R_c - L_s$

where:

 R_r = Receiver Reading in dBuV/m

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

SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

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

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

EXHIBIT 1: Test Equipment Calibration Data

1 Page

Conducted Emissions - AC Pe	ower Ports, 08-Apr-09		
Engineer: Mehran Birgani			
Manufacturer	Description	Model #	Asset # Cal Due
Elliott Laboratories	LISN, FCC / CISPR	LISN-4, OATS	362 31-Jul-09
Rohde& Schwarz	Pulse Limiter	ESH3 Z2	812 23-Feb-10
Rohde & Schwarz	Test Receiver, 0.009-30 MHz	ESH3	1316 06-Nov-09
Radiated Emissions, 30 - 25,0	00 MHz, 10-Apr-09		
Engineer: Mehran Birgani	–	•• • • •	
<u>Manufacturer</u>	Description	Model #	Asset # Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870 09-Oct-09
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148 12-Mar-10
EMCO	Antenna, Horn, 1-18 GHz	3115	1561 10-Jun-10
Radio Antenna Port (Power a	nd Spurious Emissions), 14-Apr-09		
Engineer: Suhaila Khushzad	–	•• • • •	
<u>Manufacturer</u>	Description	Model #	Asset # Cal Due
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	
Rohde & Schwarz	Power Meter, Single Channel, +1795+1796	NRVS	1534 06-Apr-10
Radiated Emissions, 1000 - 18 Engineer: Suhaila Khushzad	3,000 MHz, 16-Apr-09		
Manufacturer	Description	Model #	Asset # Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870 09-Oct-09
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148 12-Mar-10
EMCO	Antenna, Horn, 1-18 GHz	3115	1561 10-Jun-10
Radiated Emissions, 30 - 1,00	0 MHz, 17-Apr-09		
Engineer: jcaizzi	•		
Manufacturer	Description	Model #	Asset # Cal Due
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1549 23-May-09
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756 10-Feb-10
Hewlett Packard	Preamplifier, 100 kHz - 1.3 GHz	8447D OPT	2115 19-Nov-09
Radiated Emissions, 30 - 1,00	0 MHz, 17-Apr-09		
Engineer: Peter Sales			
<u>Manufacturer</u>	Description	Model #	Asset # Cal Due
Com-Power Corp.	Preamplifier, 30-1000 MHz	PA-103	1543 14-Nov-09
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548 13-Jun-10
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630 26-Feb-10

EXHIBIT 2: Test Measurement Data

35 Pages



EMC Test Data

Job Number:	J75022
T-Log Number:	T75148
Account Manager:	Dean Erikson
Project Manager:	Mark Hill
Class:	В
Environment:	-
	T-Log Number: Account Manager: Project Manager: Class:

EMC Test Data

For The

Broadcom

Model

BCM92070MD_LENO

Date of Last Test: 4/17/2009

Contact: Pin Wen Class: B Emissions Standard(s): FCC, RSS 210 Class: B Immunity Standard(s): - EUT INFORMATION EUT INFORMATION The following information was collected during the test session(s). General Description The EUT is a bluetooth module with an integral antenna. The EUT receives power from its host. For testing purposes, to mounted to a test fixture that connected to a computer via USB. Equipment Under Test Manufacturer Model Description Serial Number Bluetooth Module Broadcom BCM92070MD_LENO Bluetooth Module - 00242	T-Log Number: T75148 Account Manger: Dean Erikson Class: B Environment: - EUT INFORMATION - mation was collected during the test session(s). General Description antenna. The EUT receives power from its host. For testing purposes, the EUT was nputer via USB. Equipment Under Test Description Serial Number Bluetooth Address D Bluetooth Module - 00242BEBE780 D Bluetooth Module - 00242BEBE794	71	Ott Mar company				MC Test Dat
Account Manger: Dean Eriksc Contact: Pin Wen	Account Manger: Dean Erikson Class: B Environment: - EUT INFORMATION Environment: mation was collected during the test session(s). General Description ontenna. The EUT receives power from its host. For testing purposes, the EUT was nouter via USB. Equipment Under Test Description Serial Number Bluetooth Module - 0 Bluetooth Module - 00242BEBE780						
Contact: Pin Wen Contact: Pin Wen Emissions Standard(s): FCC, RSS 210 Class: B Immunity Standard(s): - Environment: - EUT INFORMATION EUT INFORMATION EUT INFORMATION Contact: Pin Wen EUT INFORMATION EUT INFORMATION Contact: Pin Wen EUT INFORMATION Contact: Pin Wen EUT INFORMATION Class: B EUT INFORMATION Class: Pin Wen Eution Description Serial Number Bluetoot Boadcom BCM92070MD_LENO Bluetooth Module OD242 EUT Antenna (Intentional Radiators Only)	Class: B EUT INFORMATION Environment: mation was collected during the test session(s). General Description untenna. The EUT receives power from its host. For testing purposes, the EUT was nouter via USB. Equipment Under Test Description Serial Number Bluetooth Module - 0 Bluetooth Module - 00242BEBE780 0 Bluetooth Module	M	odel: BCM92070MD_LENO				
Emissions Standard(s): FCC, RSS 210 Class: B Immunity Standard(s): - EUT INFORMATION EUT INFORMATION The following information was collected during the test session(s). General Description The EUT is a bluetooth module with an integral antenna. The EUT receives power from its host. For testing purposes, to nounted to a test fixture that connected to a computer via USB. Manufacturer Model Description Serial Number Bluetoot Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only)	Environment: - ENVironment: - EUT INFORMATION mation was collected during the test session(s). General Description antenna. The EUT receives power from its host. For testing purposes, the EUT was puter via USB. Equipment Under Test Description Serial Number Bluetooth Address D Bluetooth Module - 00242BEBE780 D Bluetooth Module - 00242BEBE794					Account Manger:	Dean Erikson
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EUT INFORMATION The following information was collected during the test session(s). General Description be EUT is a bluetooth module with an integral antenna. The EUT receives power from its host. For testing purposes, the nonted to a test fixture that connected to a computer via USB. Equipment Under Test Manufacturer Model Description Serial Number Bluetoot Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Mathematic (Intentional Radiators Only)	EUT INFORMATION mation was collected during the test session(s). General Description antenna. The EUT receives power from its host. For testing purposes, the EUT was puter via USB. Equipment Under Test Description Serial Number Bluetooth Address O Bluetooth Module O 20242BEBE780						
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Equipment Under Test Manufacturer Model Description Serial Number Bluetoc Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only)	Equipment Under Test Description Serial Number Bluetooth Address D Bluetooth Module - 00242BEBE780 D Bluetooth Module - 00242BEBE794						
Manufacturer Model Description Serial Number Bluetoot Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only) - - 00242	DescriptionSerial NumberBluetooth AddressDBluetooth Module-00242BEBE780DBluetooth Module-00242BEBE794						
Manufacturer Model Description Serial Number Bluetoot Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only) - - -	DescriptionSerial NumberBluetooth AddressDBluetooth Module-00242BEBE780DBluetooth Module-00242BEBE794						
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Broadcom BCM92070MD_LENO Bluetooth Module - 00242 Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only)	D Bluetooth Module - 00242BEBE780 D Bluetooth Module - 00242BEBE794	Manufacturer	Model				Rluetooth Address
Broadcom BCM92070MD_LENO Bluetooth Module - 00242 EUT Antenna (Intentional Radiators Only)	D Bluetooth Module - 00242BEBE794			B			
EUT Antenna (Intentional Radiators Only)	· · ·					-	
EUT Enclosure he EUT does not have an enclosure as it is designed to be installed within the enclosure of a host computer or system.		he EUT does not h	ave an enclosure as it is desig			enclosure of a host compute	er or system.
Modification History	· · ·			Мос	lification History	I	
Mod. # Test Date Modification		Mod. #	Test				
1 No modifications were made to the EUT during testing.	Modification History	1			No modifications	were made to the EUT durin	g testing.
	Modification History Date Modification	2					
2	Modification History Date Modification	- 1					
Mod. # Test Date Modification		Mod. #	Test			Modification	atopting
I INO modifications were made to the EUT during testing.	Modification History Date Modification				INO MODIFICATIONS	were made to the EUT durin	g lesting.
	Modification History Date Modification						
2	Modification History Date Modification	2					
	Modification History Date Modification	3		subseau	ent tests unless other	rwise stated as a further mo	dification.
2 3	Modification History Date Modification No modifications were made to the EUT during testing.		d are assumed to be used on s				
2	Modification History Date Modification No modifications were made to the EUT during testing.	•	d are assumed to be used on s				
2 3	Modification History Date Modification No modifications were made to the EUT during testing.	•	d are assumed to be used on s				
2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Modification History Date Modification No modifications were made to the EUT during testing.		d are assumed to be used on s				
2 2 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Modification History Date Modification No modifications were made to the EUT during testing.		d are assumed to be used on s				
2 2 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Modification History Date Modification No modifications were made to the EUT during testing.		d are assumed to be used on s				
2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Modification History Date Modification No modifications were made to the EUT during testing.		d are assumed to be used on s				

Elliott

EMC Test Data

An DCLES company					
Client:	Broadcom	Job Number:	J75022		
Model:	BCM92070MD_LENO	T-Log Number:	T75148		
		Account Manger:	Dean Erikson		
Contact:	Pin Wen				
Emissions Standard(s):	FCC, RSS 210	Class:	В		
Immunity Standard(s):	-	Environment:	-		
Test Configuration #1 (Emission)					
			50015		

Manufacturer	Model	Description	Dell P/N	FCC ID
Dell	Inspiron	Laptop #2	HEP-E2-C1	-

Damata	C	
Remote	Support	Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
Linksys	EG005W	Switch	GGB1408 JJ	DoC

Cabling and Ports

Port	Connected To		Cable(s)	
		Description	Shielded or Unshielded	Length(m)
EUT #1	Laptop #2 USB	Multiwire	Unshielded	1.0
AC Power Laptop	AC Mains	3Wire	Unshielded	1.0

EUT Operation During Emissions Tests

Unless otherwise stated, the EUT was configured to continuously hop on a single channel at maximum output power.

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EMC Test Data

An DLLC	5 company		
Client:	Broadcom	Job Number:	J75022
Model:	BCM92070MD_LENO	T-Log Number:	T75148
		Account Manger:	Dean Erikson
Contact:	Pin Wen		
Emissions Standard(s):	FCC, RSS 210	Class:	В
Immunity Standard(s):	-	Environment:	-

Test Configuration #1 (Emission)

Local Support Equipment							
Manufacturer	Model	Description	Serial Number	FCC ID			
HP	RX942AV	Laptop #2	Asset 1998	-			
Netgear		Ethernet hub		-			

Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
Linksys	EG005W	Switch	GGB1408 JJ	DoC

Cabling and Ports

Port	Connected To	Cable(s)				
		Description	Description Shielded or Unshielded			
EUT #1	Laptop #2 USB	Multiwire	Unshielded	1.0		
Laptop network (RJ-45)	Hub	Cat 5	Unshielded	1.0		
Hub DC input	Hub pwr supply	2 wire	Unshielded	2.0		
Hub pwr supply	AC Mains	Direct plug-in	NA	NA		
Laptop DC input	Laptop pwr supply	2 wire	Unshielded	2.0		
Laptop pwr supply	AC Mains	3Wire	Unshielded	2.0		

EUT Operation During Emissions Tests

During emissions testing the EUT was in Rx mode at 2441 MHz.

Client: Broadcom Job Number: J75022									
Client: Bi	roadcom								
Model: B	CM92070MD_LENO				og Number:				
Contact: Pi	in Mon		Accour	it Manager:	Dean Erikson				
Standard: F	Class:	N/A							
FC	C 15.247 FHS		, Bandwidth an GFSK Mode)	d Spuric	ous En	nissions			
est Specif	ic Details	· · · ·	,						
•			is to perform final qualifica	tion testing of th	ne EUT with	n respect to the			
Date of Test: 4/10/2009Config. Used: 1Test Engineer: Mehran BirganiConfig Change: NoneTest Location: SVOATS #2Host EUT Voltage: 120V/60Hz									
	st Configuration								
eneral Test The EUT an For radiated When meas analyzer or p to allow for t	emissions testing the mo uring the conducted emis power meter via a suitabl he external attenuators u	easurement antenn ssions from the EU ⁻ le attenuator to prev used.	on the turntable for radiated a was located 3 meters fro I's antenna port, the anten yent overloading the measu at it constantly hopped on e	m the EUT. na port of the E urement system	UT was cor . All measu	nected to the spect urements are correc			
eneral Ter The EUT an For radiated When meas analyzer or p to allow for t Unless state	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u	easurement antenn ssions from the EU ⁻ le attenuator to prev used.	a was located 3 meters fro I's antenna port, the anteni vent overloading the measu at it constantly hopped on e re: 14 °C	m the EUT. na port of the E urement system	UT was cor . All measu	nected to the spect urements are correc			
eneral Ter The EUT an For radiated When meas analyzer or p to allow for t Unless state	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions:	easurement antenn ssions from the EU ⁻ le attenuator to pre- used. s operating such the Temperatur	a was located 3 meters fro I's antenna port, the anteni vent overloading the measu at it constantly hopped on e re: 14 °C	m the EUT. na port of the E urement system	UT was cor . All measu	nected to the spect urements are correc			
eneral Tes The EUT an For radiated When meas analyzer or p to allow for t Unless state mbient Co	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions:	easurement antenn ssions from the EU ⁻ le attenuator to pre- used. s operating such tha Temperatur Rel. Humidi	a was located 3 meters fro I's antenna port, the anteni vent overloading the measu at it constantly hopped on e re: 14 °C	m the EUT. na port of the E urement system	UT was cor . All measu enter or hig	nected to the spect urements are correc			
eneral Tes The EUT an For radiated When meas analyzer or p to allow for t Unless state mbient Co ummary o	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl the external attenuators u ed otherwise the EUT was onditions:	easurement antenn ssions from the EU ⁻ le attenuator to pre- used. s operating such the Temperatur Rel. Humidi	a was located 3 meters fro I's antenna port, the antenivent overloading the measu at it constantly hopped on e re: 14 °C ty: 63 %	m the EUT. na port of the E urement system either the low, c	UT was cor All measu enter or hig R 52.7dB	nected to the spect rements are correc h channels.			
eneral Tes The EUT an For radiated When meas analyzer or p o allow for t Jnless state nbient Co Immary o Run #	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions: of Results Test Perfo 30 - 25000 Radiated Spuriou 30 - 25000	easurement antenn ssions from the EU le attenuator to pre- used. s operating such the Temperatur Rel. Humidi wrmed O MHz IS Emissions O MHz	a was located 3 meters fro I's antenna port, the anteni- vent overloading the measurat at it constantly hopped on e re: 14 °C ty: 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 /	m the EUT. na port of the E urement system either the low, c	UT was cor a. All measu enter or hig R 52.7dBµ 248	nected to the spect irements are correc h channels. Result / Margin			
eneral Test the EUT an for radiated Vhen meas nalyzer or p to allow for t Inless state nbient Co mmary of Run # 1(a-c) 1(d)	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions: of Results Test Perfo 30 - 25000 Radiated Spuriou 30 - 25000	easurement antenn ssions from the EU le attenuator to pre- used. s operating such that Temperatur Rel. Humidi ormed O MHz IS Emissions O MHz IS Emissions	a was located 3 meters fro I's antenna port, the anteni- vent overloading the measurat at it constantly hopped on e re: 14 °C ty: 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c)	m the EUT. na port of the E urement system either the low, c Pass / Fail Pass	UT was cor All measu enter or hig 52.7dBµ 248 > 200	nected to the spect urements are correc h channels. Result / Margin IV/m (431.5µV/m) @ 3.5MHz (-1.3dB) dB below the limit			
eneral Test The EUT an For radiated Vhen meas inalyzer or p to allow for t Jnless state nbient Co mmary o Run # 1(a-c) 1(d) 2	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions: of Results Test Perfo 30 - 25000 Radiated Spuriou Output Pe	easurement antenn ssions from the EU le attenuator to pre- used. s operating such the Temperatur Rel. Humidi ormed O MHz us Emissions O MHz us Emissions ower	a was located 3 meters fro I's antenna port, the anteni- vent overloading the measure at it constantly hopped on e re: 14 °C ty: 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b)	m the EUT. na port of the E urement system either the low, c Pass / Fail Pass Pass	UT was cor All measu enter or hig 52.7dBµ 248 > 200	nected to the spect urements are correc h channels. Result / Margin IV/m (431.5µV/m) @ 3.5MHz (-1.3dB) dB below the limit 3 dBm (1.90 mW)			
eneral Tes The EUT an For radiated When meas inalyzer or p o allow for t Jnless state nbient Co mmary o Run # 1(a-c) 1(d) 2 3	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl he external attenuators u ed otherwise the EUT was onditions: of Results Test Perfo 30 - 25000 Radiated Spuriou 30 - 25000	easurement antenn ssions from the EU ⁻ le attenuator to pre- used. s operating such the Temperatur Rel. Humidi ormed O MHz us Emissions O MHz us Emissions O MHz us Emissions ower dwidth	a was located 3 meters fro I's antenna port, the anteni- vent overloading the measuratilit constantly hopped on e re: 14 °C ty: 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b) 15.247(a)	m the EUT. na port of the E urement system either the low, c Pass / Fail Pass	UT was cor All measu enter or hig 52.7dBµ 248 > 200	nected to the spect urements are correc h channels. Result / Margin IV/m (431.5µV/m) @ 3.5MHz (-1.3dB) dB below the limit			
eneral Tes The EUT an For radiated When meas analyzer or p o allow for t Jnless state nbient Co Immary o Run # 1(a-c) 1(d) 2	d all local support equipr emissions testing the me uring the conducted emis power meter via a suitabl the external attenuators u ed otherwise the EUT was onditions: of Results Test Perfo 30 - 25000 Radiated Spuriou 30 - 25000 Radiated Spuriou Output Pe 20dB Banc	easurement antenn ssions from the EU le attenuator to pre- used. s operating such the Temperatur Rel. Humidi ormed O MHz us Emissions O MHz us Emissions O MHz us Emissions ower dwidth	a was located 3 meters fro I's antenna port, the anteni- vent overloading the measure at it constantly hopped on e re: 14 °C ty: 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b)	m the EUT. na port of the E urement system either the low, c Pass / Fail Pass Pass -	UT was cor All measu enter or hig 52.7dBµ 248 > 200	nected to the spect rements are correc h channels. Result / Margin IV/m (431.5µV/m) @ 3.5MHz (-1.3dB) dB below the limit B dBm (1.90 mW) 1150 kHz			

No deviations were made from the requirements of the standard.



EMC Test Data

Client:	Broadcom	Job Number:	J75022
Model	BCM92070MD LENO	T-Log Number:	T75148
would.	PCINIAZO10INID_FEINO	Account Manager:	Dean Erikson
Contact:	Pin Wen		
Standard:	FCC, RSS 210	Class:	N/A

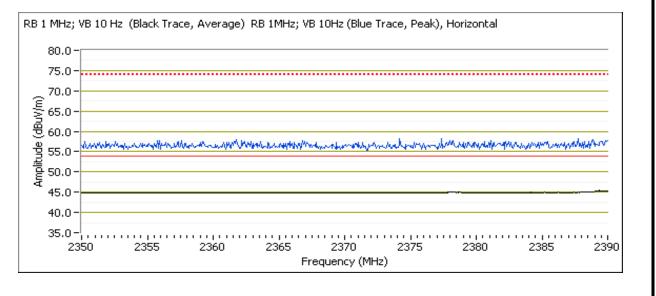
EUT was tested in 3 orientation (refer to run #1b) and worse case showed to be Upright. All other runs were tested at the worse case orientation.

Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz									
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
2402.080	99.1	Н	-	-	AVG	275	1.5	Upright	
2402.250	99.7	Н	-	-	PK	275	1.5	Upright	
2402.080	89.2	V	-	-	AVG	354	1.0	Upright	
2401.950	89.7	V	-	-	PK	354	1.0	Upright	

Fundamental emission level @ 3m in 100kHz RBW:	98.9 dBµV/m	
Limit for emissions outside of restricted bands:	78.9 dBµV/m	Limit is -20dBc

Band Edge Signal Field Strength

enginar i rera	easign						
Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
46.7	Н	54.0	-7.3	AVG	276	1.5	Upright
57.7	Н	74.0	-16.3	PK	276	1.5	Upright
	Level dBμV/m 46.7	dBμV/m V/H 46.7 H	Level Pol 15.209 dBμV/m V/H Limit 46.7 H 54.0	Level Pol 15.209 / 15.247 dBμV/m V/H Limit Margin 46.7 H 54.0 -7.3	Level Pol 15.209 / 15.247 Detector dBμV/m V/H Limit Margin Pk/QP/Avg 46.7 H 54.0 -7.3 AVG	Level Pol 15.209 / 15.247 Detector Azimuth dBμV/m V/H Limit Margin Pk/QP/Avg degrees 46.7 H 54.0 -7.3 AVG 276	Level Pol 15.209 / 15.247 Detector Azimuth Height dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 46.7 H 54.0 -7.3 AVG 276 1.5





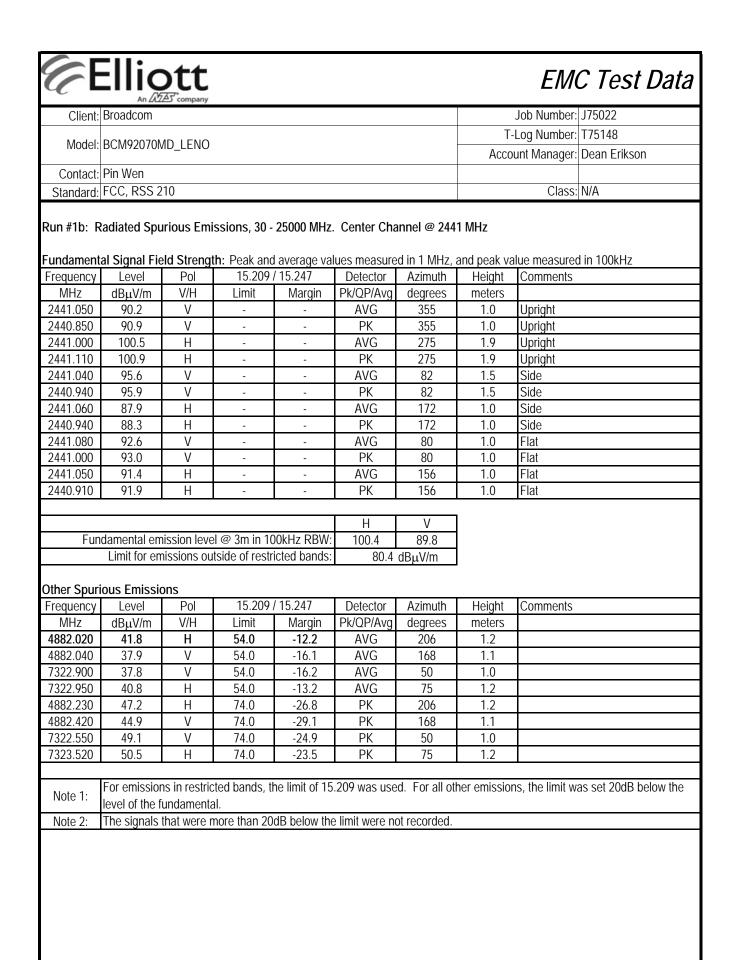
EMC Test Data

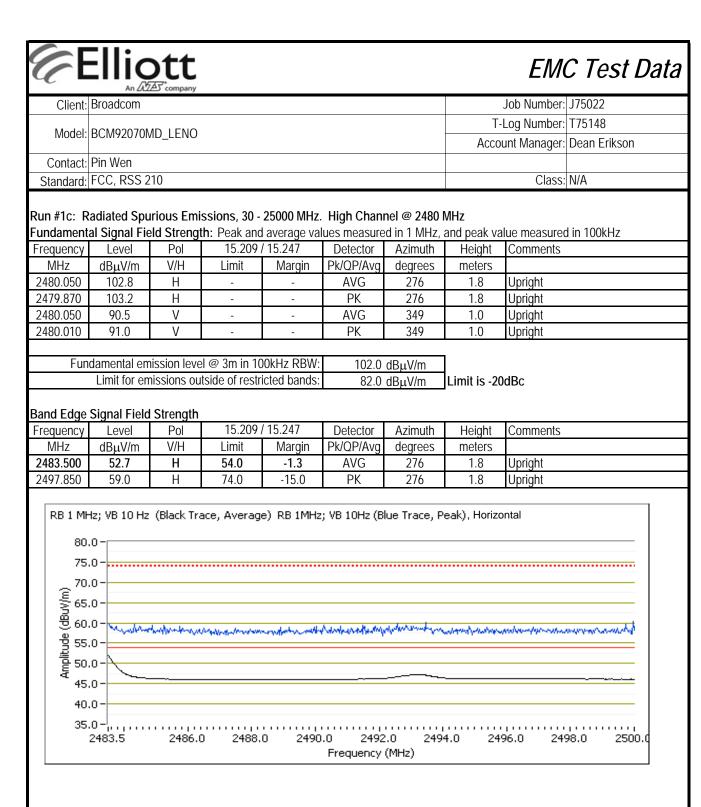
Client:	Broadcom	Job Number:	J75022
Model	BCM92070MD LENO	T-Log Number:	T75148
wouer.	DCW192070MD_LENO	Account Manager:	Dean Erikson
Contact:	Pin Wen		
Standard:	FCC, RSS 210	Class:	N/A

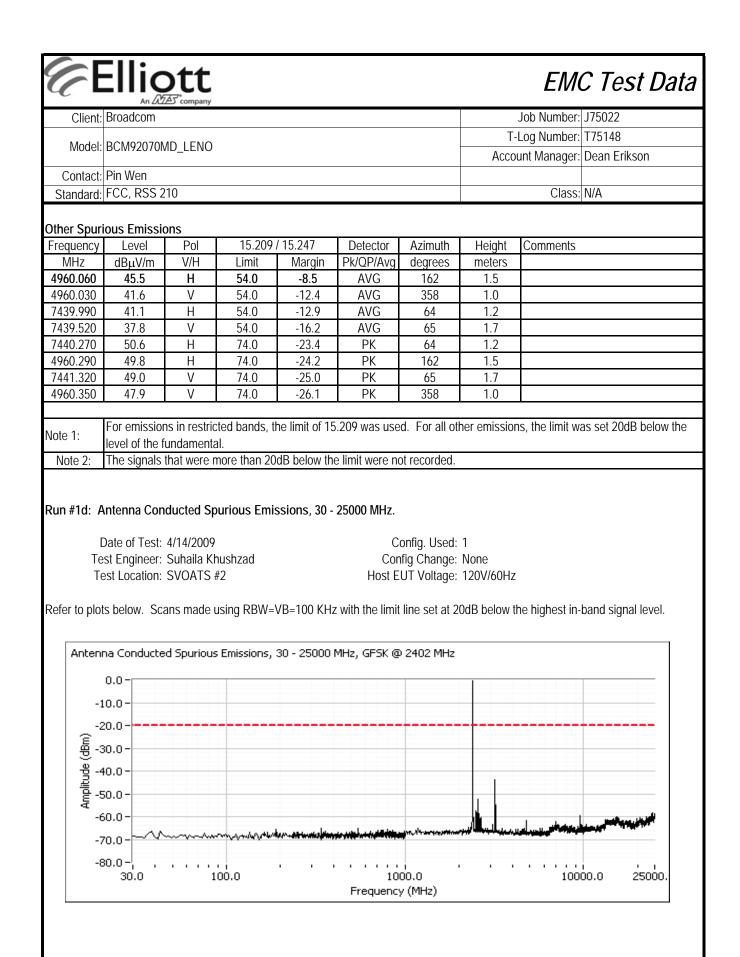
Other Spurious Emissions

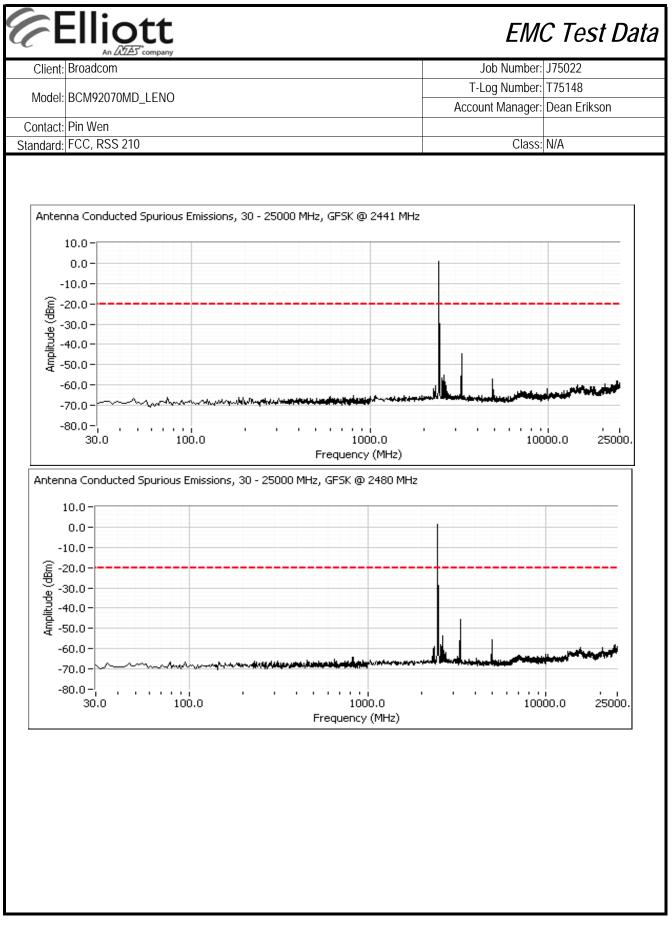
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
4804.000	41.2	V	54.0	-12.8	AVG	78	1.1		
4804.020	43.9	Н	54.0	-10.1	AVG	267	1.2		
7205.940	38.8	Н	54.0	-15.2	AVG	73	1.1	Note 2	
7206.890	36.6	V	54.0	-17.4	AVG	149	1.0	Note 2	
4803.510	46.5	V	74.0	-27.5	PK	78	1.1		
4804.320	48.3	Н	74.0	-25.7	PK	267	1.2		
7205.330	48.2	V	74.0	-25.8	PK	149	1.0	Note 2	
7206.100	49.3	Н	74.0	-24.7	PK	73	1.1	Note 2	
Noto 1	For emission	ns in restric	ted bands, th	ne limit of 15	.209 was use	d. For all ot	her emissior	ns, the limit was set 20dB below the	
Note 1:	level of the fundamental.								
Note 2:	The signal w	as outside/	the restricte	d bands, but	more restrict	ed limit (15.2	209) was use	ed.	

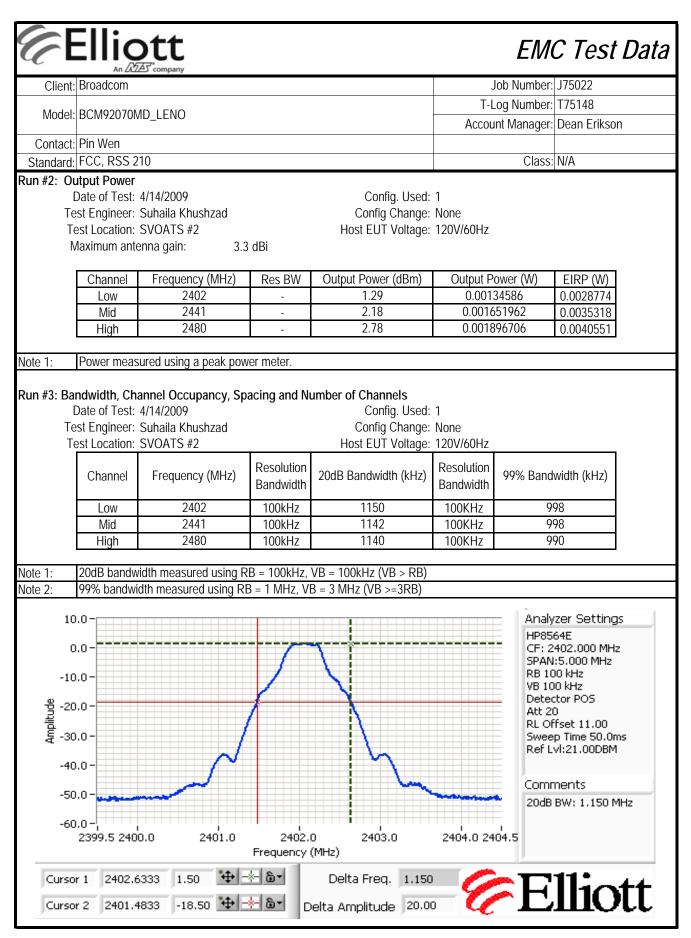
Note 3: The signals that were more than 20dB below the limit were not recorded.

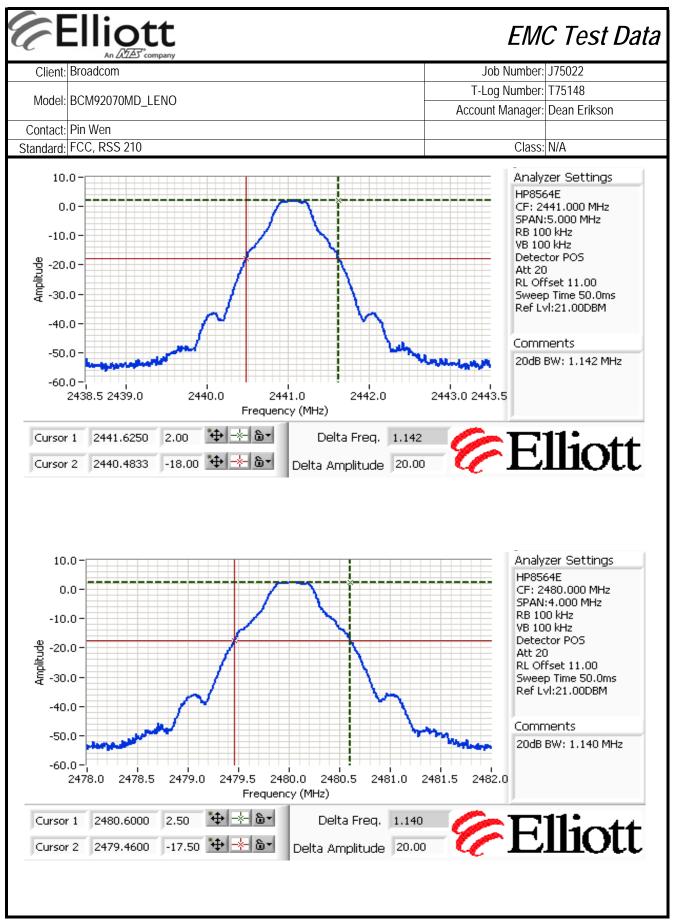


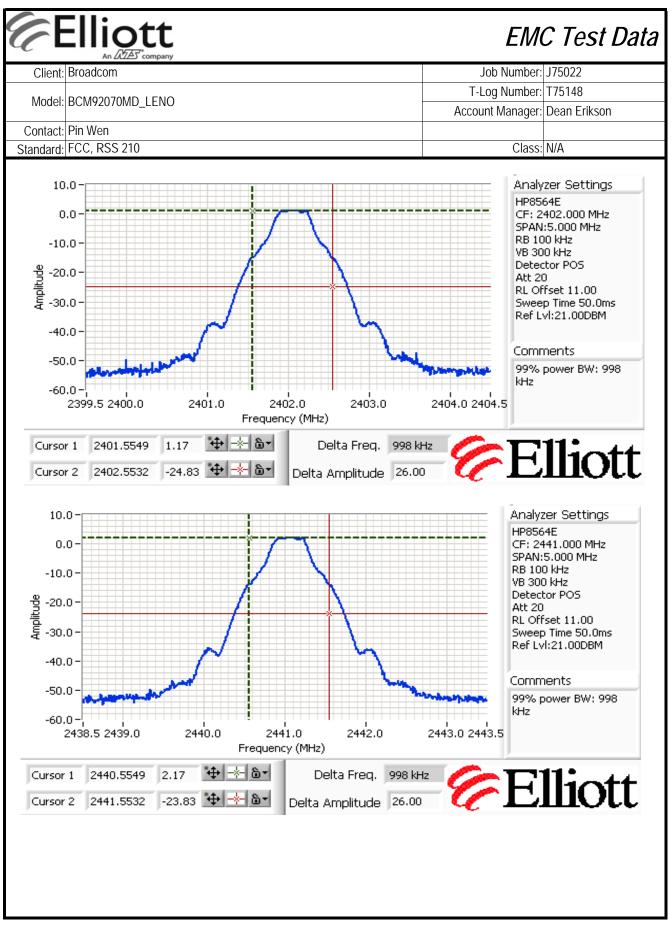


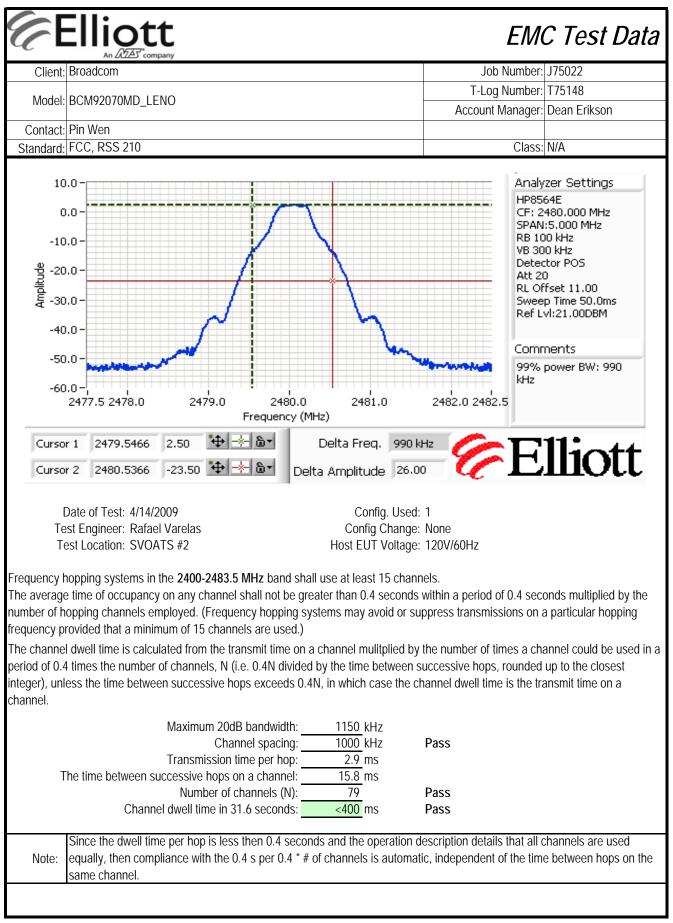


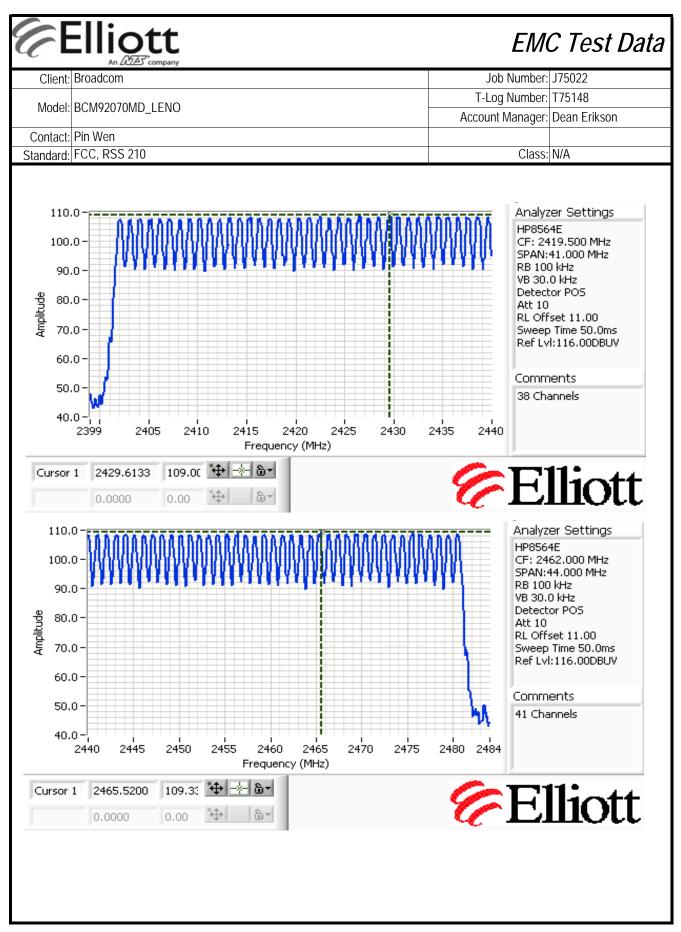


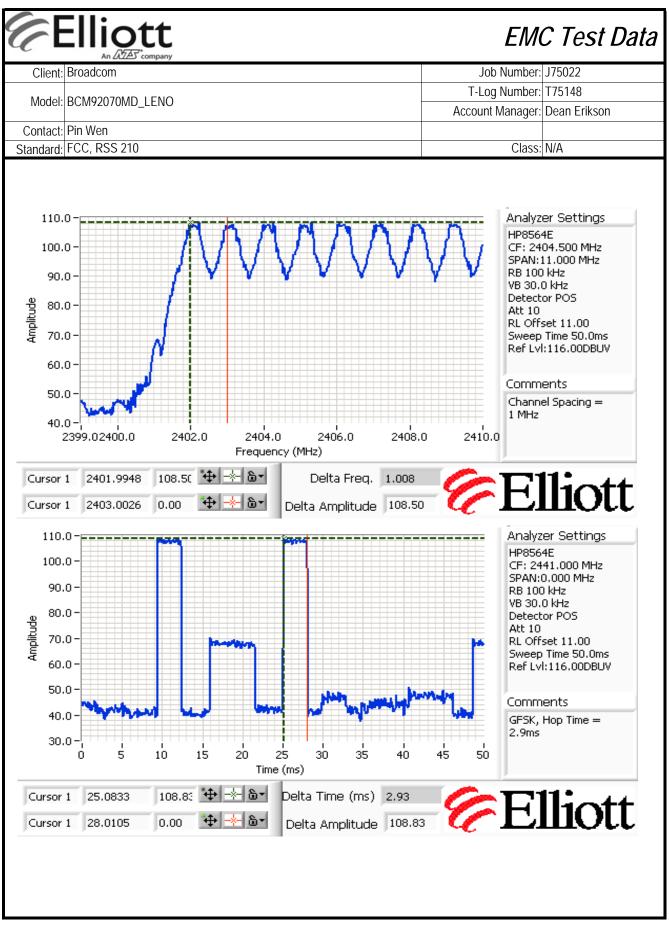










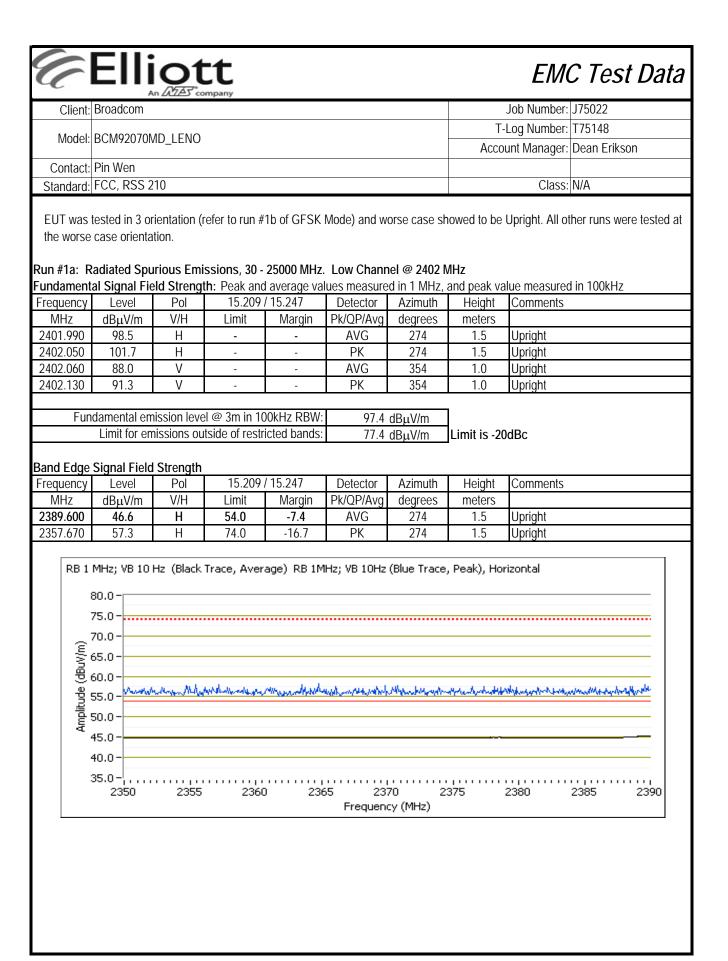


	Elliot	t			EM	C Test Dat
Client:	Broadcom	pany		Jo	b Number:	J75022
				T-Lo	g Number:	T75148
Model:	BCM92070MD_LENO				0	Dean Erikson
Contact	Pin Wen				5	
	FCC, RSS 210				Class:	N/A
F	FCC 15.247 FH		Bandwidth an PSK Mode)	d Spuric	ous En	nissions
est Spe	cific Details					
·		ve of this test session is n listed above.	to perform final qualifica	tion testing of th	ne EUT with	n respect to the
	Date of Test: 4/10/2009		Config. Used	: 1		
Te	est Engineer: Mehran Birg	jani	Config Change			
T	est Location: SVOATS #2) -	Host EUT Voltage	: 120V/60Hz		
The EUT For radiat	Test Configuration and all local support equip ted emissions testing the r easuring the conducted en	measurement antenna v	vas located 3 meters fro	m the EUT.		-
The EUT For radiat When me analyzer to allow fo	and all local support equipted emissions testing the resting the r	measurement antenna v nissions from the EUT's able attenuator to prever s used.	vas located 3 meters from antenna port, the antenn nt overloading the measu	n the EUT. na port of the El rement system	UT was cor . All measu	nnected to the spectru urements are correcte
The EUT For radiat When me analyzer o to allow fo Unless st	and all local support equip ted emissions testing the r easuring the conducted en or power meter via a suita or the external attenuators	measurement antenna v nissions from the EUT's able attenuator to prever s used.	vas located 3 meters from antenna port, the antenn nt overloading the measu t constantly hopped on e	n the EUT. na port of the El rement system	UT was cor . All measu	nnected to the spectru urements are correcte
The EUT For radiat When me analyzer o to allow fo Unless st	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita or the external attenuators ated otherwise the EUT w	measurement antenna v nissions from the EUT's able attenuator to prever a used. vas operating such that i	vas located 3 meters from antenna port, the antenn nt overloading the measu t constantly hopped on e 14 °C	n the EUT. na port of the El rement system	UT was cor . All measu	nnected to the spectru urements are correcte
The EUT For radiat When me analyzer to allow fo Unless st Ambient	and all local support equip ted emissions testing the reasuring the conducted en or power meter via a suita or the external attenuators ated otherwise the EUT w Conditions: y of Results	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity:	vas located 3 meters from antenna port, the antenn at overloading the measu t constantly hopped on e 14 °C 63 %	the EUT. na port of the EU rement system wither the low, co	UT was cor . All measu enter or hig	nnected to the spectru urements are correcte h channels.
The EUT For radiat When me analyzer to allow fo Unless st	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita or the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per	measurement antenna v nissions from the EUT's uble attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity:	vas located 3 meters from antenna port, the antenn nt overloading the measu t constantly hopped on e 14 °C 63 % Limit	n the EUT. na port of the El rement system	UT was cor All measu enter or hig	nnected to the spectru urements are correcte h channels. Result / Margin
The EUT For radiat When me analyzer of to allow fo Unless st Mbient Summary Run #	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita for the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per 30 - 250	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz	vas located 3 meters from antenna port, the antenna to verloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 /	ha port of the EU na port of the EU irement system wither the low, co	UT was cor . All measu enter or hig F 46.6dB	nnected to the spectru urements are correcte h channels. Result / Margin
The EUT For radiat When me analyzer to allow fo Unless st mbient	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita for the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per 30 - 250 Radiated Spurie	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions	vas located 3 meters from antenna port, the antenna not overloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c)	the EUT. na port of the EU rement system wither the low, co	UT was cor . All measu enter or hig F 46.6dB	nnected to the spectru urements are correcte h channels. Result / Margin
The EUT For radiat When me analyzer of to allow fo Unless st mbient ummary Run #	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita for the external attenuators ated otherwise the EUT w Conditions: / of Results Test Per 30 - 250 Radiated Spurie Antenna Conducted S	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions Spurious Emissions,	vas located 3 meters from antenna port, the antenna nt overloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 /	ha port of the EU na port of the EU urement system wither the low, co	UT was cor . All measu enter or hig F 46.6dBµ 238	nnected to the spectru urements are correcte h channels. Result / Margin
The EUT For radiat When me analyzer of to allow fo Unless st mbient ummary Run # 1(a-c) 1(d)	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita for the external attenuators ated otherwise the EUT w Conditions: / of Results Test Per 30 - 250 Radiated Spurie Antenna Conducted S 30 - 2500	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions Spurious Emissions, 00 MHz	vas located 3 meters from antenna port, the antenna to verloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c)	Pass / Fail Pass	UT was cor All measu enter or hig F 46.6dBµ 238 > 20	nnected to the spectru urements are correcte h channels. Result / Margin uV/m (213.8µV/m) @ 9.6MHz (-7.4dB) dB below the limit
The EUT For radiat When me analyzer of to allow fo Unless st mbient ummary Run # 1(a-c) 1(d) 2	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita or the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per 30 - 250 Radiated Spurie Antenna Conducted S 30 - 2500 Output	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions Spurious Emissions, 00 MHz Power	vas located 3 meters from antenna port, the antenn nt overloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b)	ha port of the EU na port of the EU irement system either the low, co Pass / Fail Pass Pass	UT was cor All measu enter or hig F 46.6dBµ 238 > 20	nnected to the spectru urements are correcte h channels. Result / Margin IV/m (213.8µV/m) @ 9.6MHz (-7.4dB) dB below the limit 6 dBm (3.06mW)
The EUT For radiat When me analyzer of to allow fo Unless st mbient ummary Run # 1(a-c) 1(d) 2 3	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita for the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per 30 - 250 Radiated Spurie Antenna Conducted S 30 - 2500 Output 2008 Ba	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions Spurious Emissions, 00 MHz Power ndwidth	vas located 3 meters from antenna port, the antenna to verloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b) 15.247(a)	rement of the EU na port of the EU irement system wither the low, co Pass / Fail Pass Pass Pass	UT was cor All measu enter or hig F 46.6dBµ 238 > 20	nnected to the spectru urements are corrected h channels. Result / Margin JV/m (213.8µV/m) @ 9.6MHz (-7.4dB) dB below the limit 6 dBm (3.06mW) 1467 kHz
The EUT For radiat When me analyzer of to allow fo Unless st mbient ummary Run # 1(a-c) 1(d) 2	and all local support equip ted emissions testing the re- easuring the conducted en- or power meter via a suita or the external attenuators ated otherwise the EUT w Conditions: y of Results Test Per 30 - 250 Radiated Spurie Antenna Conducted S 30 - 2500 Output	measurement antenna v nissions from the EUT's ible attenuator to prever s used. vas operating such that i Temperature: Rel. Humidity: formed 00 MHz ous Emissions Spurious Emissions, 00 MHz Power ndwidth	vas located 3 meters from antenna port, the antenn nt overloading the measu t constantly hopped on e 14 °C 63 % Limit FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c) 15.247(b)	ha port of the EU na port of the EU irement system either the low, co Pass / Fail Pass Pass	UT was cor All measu enter or hig F 46.6dBµ 238 > 20	nnected to the spectru urements are correcte h channels. Result / Margin IV/m (213.8µV/m) @ 9.6MHz (-7.4dB) dB below the limit 6 dBm (3.06mW)

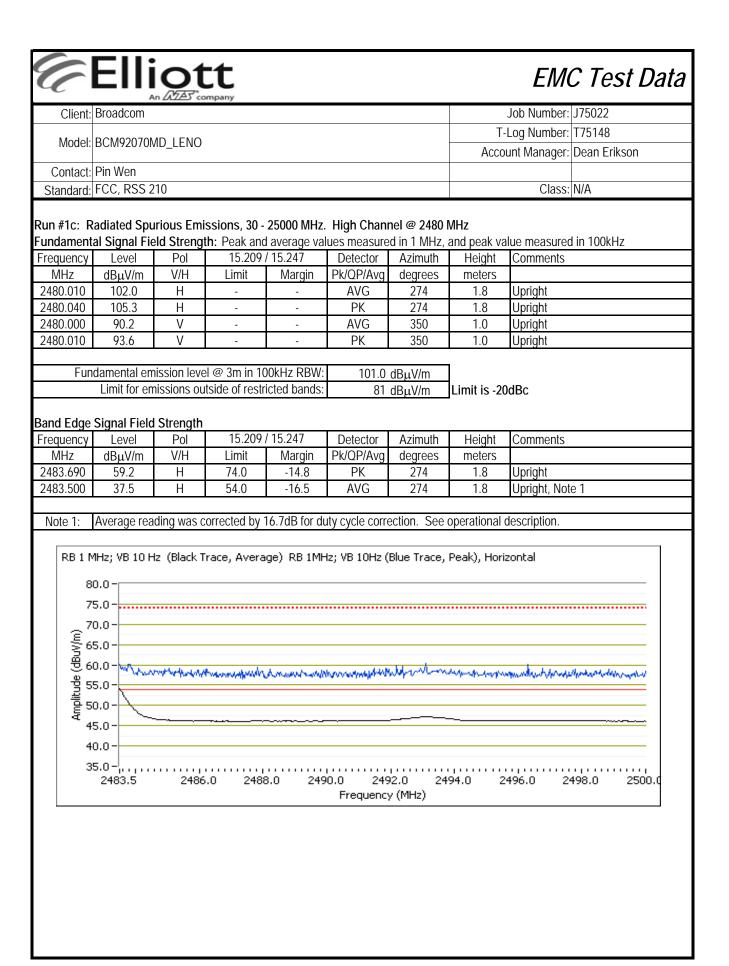
No modifications were made to the EUT during testing

Deviations From The Standard

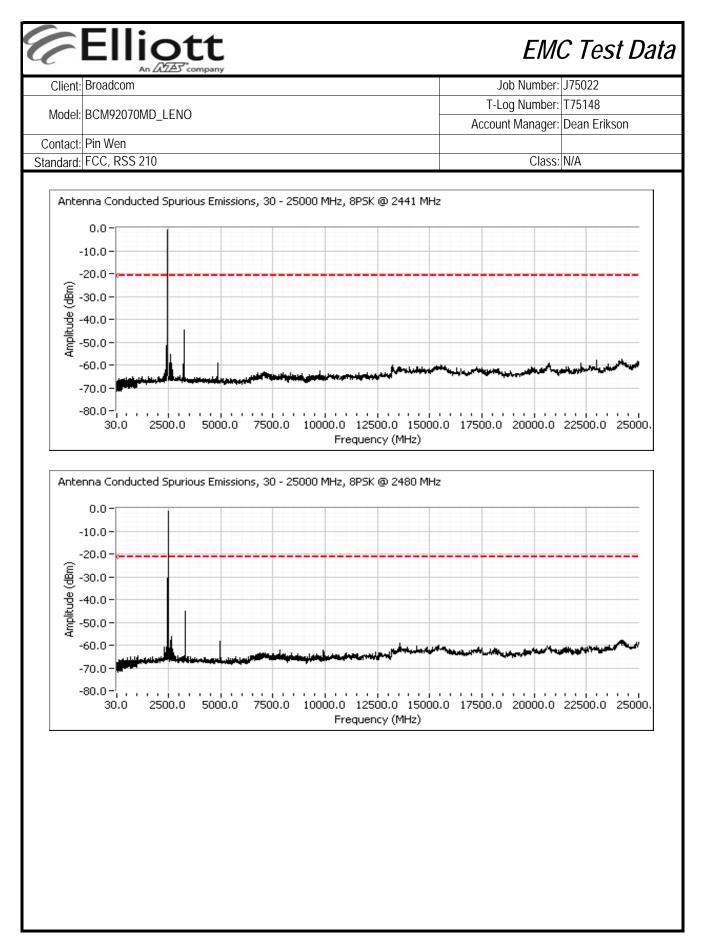
No deviations were made from the requirements of the standard.



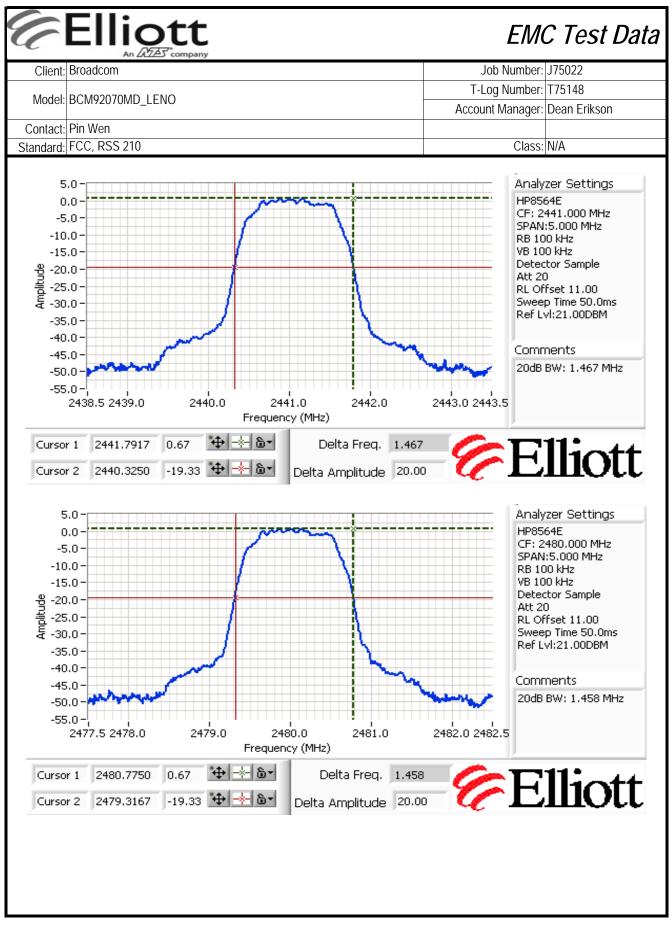
Client:	Broadcom							Job Number: J75022
Model	BCM92070N							-Log Number: T75148
							Acco	ount Manager: Dean Erikson
	Pin Wen							
Standard:	FCC, RSS 2	10						Class: N/A
)thar Cour	ioua Emicai	nc						
Frequency	ious Emissio	Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments
4804.040	43.0	Н	54.0	-11.0	AVG	266	1.2	
4803.980	40.0	V	54.0	-14.0	AVG	78	1.1	
7205.920	38.9	H	54.0	-15.1	AVG	73	1.1	Note 2
7206.600	36.6	V	54.0	-17.4	AVG	150	1.0	Note 2
4803.900	49.8	Ĥ	74.0	-24.2	PK	266	1.2	
7206.620	49.4	H	74.0	-24.6	PK	73	1.1	Note 2
7205.630	48.4	V	74.0	-25.6	PK	150	1.0	Note 2
1803.710	47.3	V	74.0	-26.7	PK	78	1.1	
Note 1.	For emission	ns in restric	ted bands, t	he limit of 15	.209 was use	d. For all oth	ner emissio	ns, the limit was set 20dB be
Note 1:	For emissior level of the f			he limit of 15	.209 was use	d. For all oth	ner emissio	ns, the limit was set 20dB be
Note 1: Note 2:	level of the f The signal w	undamenta as outside	il. the restricte	ed bands, but	more restrict	ed limit (15.2		
Note 2: Note 3:	level of the f The signal w The signals	undamenta as outside that were n	II. the restricte nore than 20	ed bands, but DdB below the		ed limit (15.2 ot recorded.	209) was us	
Note 2: Note 3:	level of the f The signal w The signals	undamenta as outside that were n	II. the restricte nore than 20	ed bands, but DdB below the	more restrict e limit were no . Center Cha	ed limit (15.2 ot recorded. nnel @ 244	209) was us	
Note 2: Note 3: un #1b: F	level of the f The signal w The signals	undamenta ras outside that were n rious Emi	il. <u>the restricte</u> nore than 20 ssions, 30 -	ed bands, but odB below the • 25000 MHz	more restrict e limit were no . Center Cha	ed limit (15.2 ot recorded. nnel @ 244 V	209) was us	
Note 2: Note 3: Run #1b: F	level of the f The signal w The signals Radiated Spu	undamenta las outside that were n rious Emi ission leve	II. the restricte nore than 20 ssions, 30 - I @ 3m in 10	ed bands, but odB below the • 25000 MHz	more restrict e limit were no . Center Cha H 98.7	ed limit (15.2 ot recorded. nnel @ 244	209) was us	
Note 2: Note 3: un #1b: F	level of the fr The signal w The signals Radiated Spu damental em Limit for em	undamenta ras outside that were n rious Emi ission leve iissions ou	II. the restricte nore than 20 ssions, 30 - I @ 3m in 10	ed bands, but odB below the • 25000 MHz O0kHz RBW:	more restrict e limit were no . Center Cha H 98.7	ed limit (15.2 ot recorded. nnel @ 244 V 86.7	209) was us	
Note 2: Note 3: Cun #1b: F Fur Other Spur	level of the f The signal w The signals Radiated Spu damental em Limit for em	undamenta las outside that were n rious Emi ission leve issions ou	II. the restrictence nore than 20 ssions, 30 - I. @ 3m in 10 tside of restri	ed bands, but odB below the c 25000 MHz O0kHz RBW: ricted bands:	more restrict e limit were no . Center Cha H 98.7 78.7	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m	209) was us 1 MHz	ed.
Note 2: Note 3: un #1b: F Fur ther Spur	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emissio Level	undamenta ras outside that were n rious Emi ission leve issions ou pns Pol	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restr 15.209	ed bands, but dB below the • 25000 MHz • 25000 MHz	more restrict e limit were no . Center Cha H 98.7 78.7 Detector	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth	209) was us 1 MHz Height	
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz	level of the fr The signal w The signals Radiated Spu damental em Limit for em ious Emissio Level dBμV/m	undamenta ras outside that were n rious Emi ission leve bissions ou pons Pol V/H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit	25000 MHz 00kHz RBW: 15.247 Margin	 more restrict imit were no Center Cha H 98.7 78.7 Detector Pk/QP/Avg 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth degrees	209) was us 1 MHz Height meters	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emissio Level dBµV/m 41.1	undamenta ras outside that were n ission Emi ission leve issions ou ons Pol V/H H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0	25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9	more restrict e limit were no Center Cha H 98.7 78.7 Detector Pk/QP/Avg AVG	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth degrees 75	209) was us 1 MHz Height meters 1.2	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emissio Level dBµV/m 41.1 39.7	undamenta ras outside that were n rious Emi ission leve issions ou bns Pol V/H H H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0	25000 MHz 25000 MHz 200kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3	 more restrict imit were no Center Cha H 98.7 78.7 Detector Pk/QP/Avg AVG AVG 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth degrees 75 211	1 MHz Height meters 1.2 1.2	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emissic Level dBµV/m 41.1 39.7 37.9	undamenta ras outside that were n rious Emi ission leve issions ou ons Pol V/H H H V	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1	 more restrict e limit were no Center Cha H 98.7 78.7 Detector Pk/QP/Avg AVG AVG AVG 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth degrees 75 211 168	1 MHz Height meters 1.2 1.1	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 7322.900	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBµV/m 41.1 39.7 37.9 37.8	undamenta ras outside that were n rious Emi ission leve issions ou bissions ou bissions ou V/H H H H V V V	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 54.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2	 more restrict limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBµV/m Azimuth degrees 75 211 168 50	Height Height MHz 1.2 1.2 1.1 1.0	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 7322.900 7323.000	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBμV/m 41.1 39.7 37.9 37.8 51.9	undamenta ras outside that were n rious Emi ission leve issions ou ons Pol V/H H H V V V H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 74.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1	 more restrict limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75	209) was us 1 MHz 1 MHz 1 I MHz 1 MHz 1 MHz 1.2 1.2 1.2 1.1 1.0 1.2	ed.
Note 2: Note 3: Run #1b: F Fur Other Spur Frequency MHz 7322.920 4882.040 7322.900 7322.550	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBµV/m 41.1 39.7 37.9 37.8 51.9 49.1	undamenta ras outside that were n ission leve issions ou ons Pol V/H H H V V V H V V H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9	 more restrict limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG PK PK PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50	209) was us 1 MHz 1 MHz 1.2 1.2 1.1 1.0 1.2 1.0 1.2 1.0	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 7322.900 7322.900 7322.550 4882.170	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emissic dBµV/m 41.1 39.7 37.9 37.8 51.9 49.1 47.1	undamenta ras outside that were n rious Emi ission leve issions ou ons Pol V/H H H V V H V V H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9 -26.9	 more restrict limit were no Center Cha H 98.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG PK PK PK PK PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50 211	Height Height neters 1.2 1.1 1.0 1.2 1.0 1.2 1.0 1.2	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 4882.040 7322.900 7322.550 4882.170	level of the f The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBµV/m 41.1 39.7 37.9 37.8 51.9 49.1	undamenta ras outside that were n ission leve issions ou ons Pol V/H H H V V V H V V H	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9	 more restrict limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG PK PK PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50	209) was us 1 MHz 1 MHz 1.2 1.2 1.1 1.0 1.2 1.0 1.2 1.0	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 7322.900 7322.550 4882.170 4882.420	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBµV/m 41.1 39.7 37.9 37.8 51.9 49.1 47.1 44.9	undamenta ras outside that were n rious Emi ission leve issions ou ons Pol V/H H H V V H V V H V V H V	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restriction 15.209 Limit 54.0 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9 -26.9 -29.1	 more restrict e limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50 211 168	Height Height MHz 1.2 1.2 1.2 1.1 1.0 1.2 1.0 1.2 1.0 1.2 1.1	ed.
Note 2: Note 3: un #1b: F Fur ther Spur requency MHz 7322.920 4882.040 4882.040 7322.900 7322.550 4882.170	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emission Level dBµV/m 41.1 39.7 37.9 37.8 51.9 49.1 47.1 44.9	undamenta ras outside that were n ission leve ission leve issions ou ons Pol V/H H H V V H V V H V V H V v s in restric	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restricter 15.209 Limit 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: / 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9 -26.9 -29.1	 more restrict e limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50 211 168	Height Height MHz 1.2 1.2 1.2 1.1 1.0 1.2 1.0 1.2 1.0 1.2 1.1	ed.
Note 2: Note 3: Run #1b: F Fur Trequency MHz 7322.920 4882.040 7322.900 7322.550 4882.170 4882.420	level of the fi The signal w The signals Radiated Spu damental em Limit for em ious Emissio Level dBμV/m 41.1 39.7 37.9 37.8 51.9 49.1 47.1 44.9 For emissior level of the fi	undamenta ras outside that were n ission leve ission leve issions ou ons Pol V/H H H V V H V V H V V H V S ission leve	II. the restricter nore than 20 ssions, 30 - I @ 3m in 10 tside of restricter 15.209 Limit 54.0 54.0 54.0 54.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	25000 MHz 25000 MHz 25000 MHz 25000 MHz 00kHz RBW: icted bands: 7 15.247 Margin -12.9 -14.3 -16.1 -16.2 -22.1 -24.9 -26.9 -29.1 he limit of 15	 more restrict e limit were no Center Cha H 98.7 78.7 78.7 Detector Pk/QP/Avg AVG AVG AVG AVG AVG AVG PK 	ed limit (15.2 ot recorded. nnel @ 244 V 86.7 dBμV/m Azimuth degrees 75 211 168 50 75 50 211 168 d. For all ott	Height Height MHz 1.2 1.2 1.2 1.1 1.0 1.2 1.0 1.2 1.0 1.2 1.1	ed.

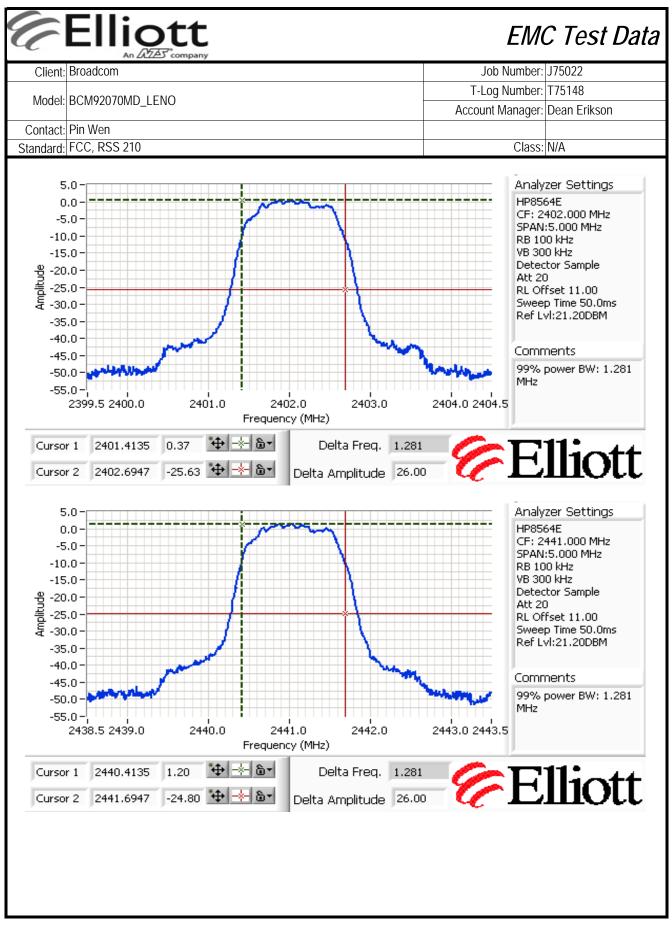


Client	Broadcom							Job Number: J75022	
Madal							T-I	og Number: T75148	
Model	BCM92070N	ID_LENO				-	Αссоι	int Manager: Dean Erikson	
Contact	Pin Wen								
Standard	FCC, RSS 2	10						Class: N/A	
	ious Emissio	ons Pol	15 200	/ 15.247	Detector	Azimuth	Lloight	Comments	
Frequency MHz	Level dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	Height meters	Comments	
4960.010	44.5	H	54.0	- 9 .5	AVG	162	1.5		
4960.020	40.4	V	54.0	-13.6	AVG	358	1.0		
7439.900	38.0	V	54.0	-16.0	AVG	65	1.7		
7439.940	41.4	Н	54.0	-12.6	AVG	64	1.2		
4959.970	51.2	Н	74.0	-22.8	PK	162	1.5		
4960.110	49.2	V	74.0	-24.8	PK	358	1.0		
7439.930	51.7	Н	74.0	-22.3	PK	64	1.2		
7441.030	49.1	V	74.0	-24.9	PK	65	1.7		
	For omission	o in rootria	tod hondo t	ha limit of 1	200	d Carollatk		a tha limit was ast 20 dD hal	1 o
Note 1:				he limit of 15	5.209 was use	d. For all oth	ner emission	s, the limit was set 20dB bel	low th
lote 2: Run #1d: <i>I</i>	level of the fi The signals t Antenna Con	undamenta that were r ducted Sp	nore than 20 nore than 20 urious Emi	odB below th	e limit were no 25000 MHz.	ot recorded.		s, the limit was set 20dB bel	
Note 2: Run #1d: <i>H</i> Refer to plo	level of the fi The signals t Antenna Con	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kt	il. nore than 20 u rious Emi using RBW= nushzad	odB below th	e limit were no 25000 MHz. z with the limit Co Con	ot recorded.)dB below th 1 None		
Note 2: Run #1d: Refer to plo Te T	level of the fit The signals the fit Antenna Con ts below. Sca Date of Test: est Engineer: est Location:	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: Refer to plo Te T	level of the fit The signals the fit Antenna Con ts below. Sca Date of Test: est Engineer: est Location:	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: A Refer to plo Te Tr Ante	Ievel of the fit The signals the fit Antenna Con- ts below. Sca Date of Test: est Engineer: est Location:	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: <i>A</i> Refer to plo Te Ti Ante	Ievel of the fit The signals to Antenna Con ts below. Sca Date of Test: est Engineer: est Location: onna Conduct 0.0 – -10.0 –	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: <i>H</i> Refer to plo Te Ti Ante	Ievel of the fit The signals in Antenna Con- ts below. Sca Date of Test: est Engineer: est Location: 0.0 – -10.0 – -20.0 –	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: <i>H</i> Refer to plo Te Ti Ante	Ievel of the fit The signals the fit Antenna Con- ts below. Sca Date of Test: est Engineer: est Location: onna Conduct 0.0 – -10.0 –	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: <i>H</i> Refer to plo Te Ti Ante	Ievel of the fit The signals in Antenna Con- ts below. Sca Date of Test: est Engineer: est Location: 0.0 – -10.0 – -20.0 –	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: <i>H</i> Refer to plo Te Ti Ante	level of the fit The signals the Antenna Con- ts below. Scan Date of Test: est Engineer: est Location: 0.0 - -10.0 - -20.0 - -30.0 - -40.0 -	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: A Refer to plo Te Tr Ante (unp) pn; pn; dur v	Ievel of the fit The signals if Antenna Con ts below. Sca Date of Test: est Engineer: est Location: onna Conduct 0.0 - -10.0 - -20.0 - -30.0 - -40.0 -	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: A Refer to plo Te Tre Ante (ugp) ephilidue Philidue Control (ugp)	level of the fit The signals it Antenna Con ts below. Sca Date of Test: est Engineer: est Location: 0.0 – -10.0 – -20.0 – -30.0 – -40.0 – -60.0 –	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Note 2: Run #1d: A Refer to plo Te Tre Ante (ugp) applitude Popplitude Contents	Ievel of the fit The signals if Antenna Con ts below. Sca Date of Test: est Engineer: est Location: onna Conduct 0.0 - -10.0 - -20.0 - -30.0 - -40.0 -	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS #	nore than 20 aurious Emi using RBW= hushzad #2	odB below th ssions, 30 - VB=100 KHz	e limit were no 25000 MHz. z with the limit Co Con Host E	ot recorded. line set at 20 onfig. Used: fig Change: UT Voltage:)dB below th 1 None		
Refer to plo	Ievel of the fit The signals if Antenna Con ts below. Sca Date of Test: est Engineer: est Location: onna Conduct 0.0 - -10.0 - -20.0 - -30.0 - -40.0 - -50.0 - -60.0 - -70.0 -	undamenta that were r ducted Sp ans made u 4/14/2009 Suhaila Kh SVOATS a red Spuriou	II. nore than 20 urious Emi using RBW= nushzad #2 us Emissions	0dB below th ssions, 30 - VB=100 KH2 5, 30 - 25000	e limit were no 25000 MHz. z with the limit Co Con Host E	bt recorded. line set at 20 onfig. Used: fig Change: UT Voltage: 0.2402 MHz	DdB below th 1 None 120V/60Hz		el.

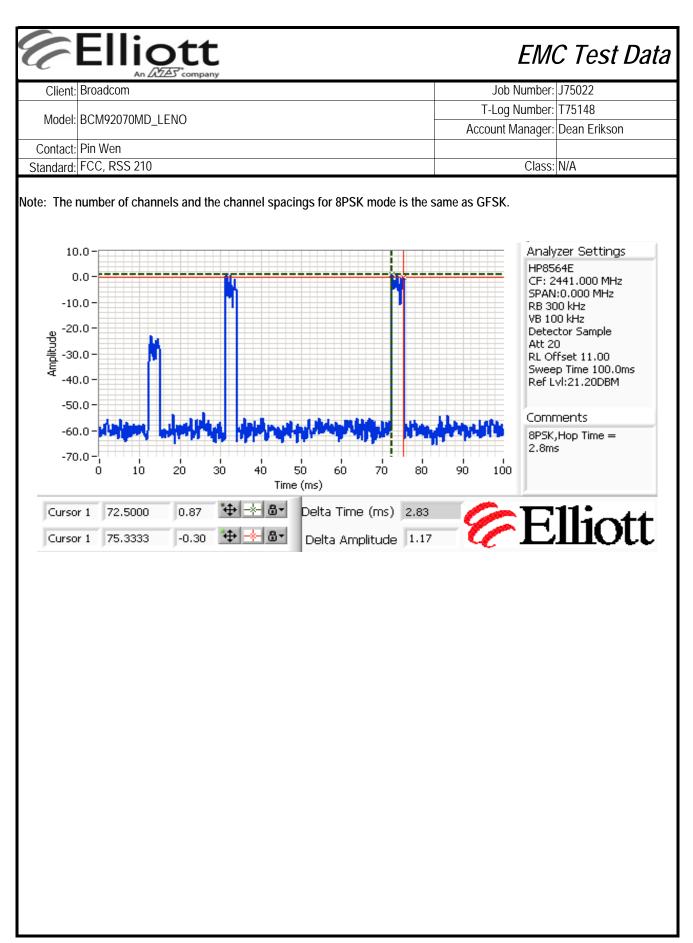


	: Broadcom				J	ob Number:	: J75022
Model					T-L	og Number:	T75148
	: BCM92070N				Accou	nt Manager:	: Dean Erikson
	: Pin Wen						
	: FCC, RSS 2	10				Class	: N/A
Te T	utput Power Date of Test: est Engineer: fest Location: Maximum ante	Suhaila Khushzad SVOATS #2	dBi	Config. Used: Config Change: Host EUT Voltage:	None		
	Channel	Frequency (MHz)	Res BW	Output Power (dBm)	Output Po	ower (W)	EIRP (W)
	Low	2402	-	3.29	0.0021	33045	0.0045604
	Mid	2441	-	4.25	0.0026		0.0056885
1:	High	2480 ured using a peak pow	-	4.86	0.0030	61963	0.0065464
	Channel	Frequency (MHz)	Resolution Bandwidth	20dB Bandwidth (kHz)	Resolution Bandwidth		lwidth (kHz)
	Low Mid	2402 2441	100kHz 100kHz	1458 1467	100kHz 100kHz		281 281
	High	2441	100kHz	1407	100kHz		273
1.	V			VB = 100kHz (VB > RB)			
т.		dth measured using RF	3 = 100kHz, ∖	/B = 300kHz (VB >=3RB)			
e 1: e 2:	99% bandwi						
2: -10 -11 -19 -20 -29 -30 -30 -30	99% bandwi 0.0					HP85 CF: 2 SPAN RB 10 VB 10 Dete Att 2 RL 0 Sweet	2402.000 MHz 1:5.000 MHz 00 kHz 00 kHz 00 kHz ctor Sample
: -11 -11 -21 -21 -31 -31 -31 -41 -41 -41 -51	D.0 - 5.0 - 5.0 - 5.0 - 5.0 - 5.0 - 5.0 - 0.0 - 5.0 -	Mark	2402.		2404.0 24	HP85 CF: 2 SPAN RB 11 VB 10 Dete Att 2 RL 0 Swee Ref L 20dB	64E 2402.000 MHz 4:5.000 MHz 00 kHz 00 kHz ctor Sample 0 ffset 11.00 ep Time 50.0m
2: -11 -11 -11 -21 -21 -31 -31 -31 -31 -41 -41 -41 -51 -51	0.0 - 5.0 - 2399.5 240	0.0 2401.0	2402. Frequency	(MHz)	2404.0 24	HP85 CF: 2 SPAN RB 11 VB 10 Dete Att 2 RL 0 Swee Ref L 20dB	664E 2402.000 MHz 3:5.000 MHz 00 kHz ctor Sample 00 ffset 11.00 ep Time 50.0m .vl:21.00DBM
2: -1(-1! -2! -2! -3! -3! -3! -3! -4! -4! -4!	0.0 - 5.0 - 2399.5 240	0.0 2401.0	2402.		_	HP85 CF: 2 SPAN RB 11 VB 10 Dete Att 2 RL 0 Swee Ref L 20dB	664E 2402.000 MHz 4:5.000 MHz 00 kHz ctor Sample 0 ffset 11.00 ep Time 50.0m .vl:21.00DBM





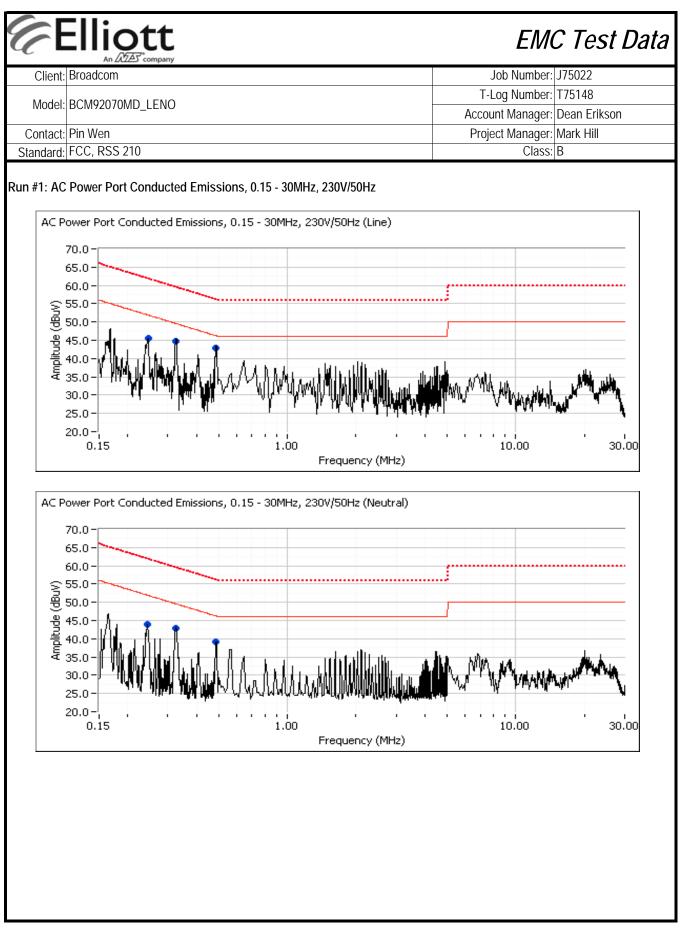
Oliciti. D. o	adcom						Job	Number:	J75022
	M92070MD_LE	NO					T-Log	J Number:	T75148
		NO					Account	Manager:	Dean Erikson
ontact: Pin								Olaaa	N1/A
indard: FCC	C, RSS 210							Class:	N/A
5.0- 0.0- -5.0- -15.0- -15.0- -25.0- -35.0- -40.0- -45.0- -55.0- -242	77.5 2478.0	2479.0	248		2481.0			HP85 CF: 2 SPAN RB 10 VB 30 Detec Att 2 RL 01 Swee Ref L Comr 99% MHz	2480.000 MHz 1:5.000 MHz 00 kHz 00 kHz 00 kHz ctor Sample
2		2	Frequenc		2.02.0	-			
Cursor 1	2479.4052	1.37 🕂	-* b -		a Freq. 1	.273			11
Cursor 1 Cursor 2	2479.4052 2480.6780	1.37 ⊕ -24.63 ⊕	- <u>*</u> 6-				Ą	E	lliott
Cursor 2 uency hopp average tim per of hoppi ency provic channel dwi d of 0.4 tim	2480.6780 bing systems in the of occupancy ing channels en ded that a minin ell time is calcu les the number	-24.63 the 2400-2483 on any chann nployed. (Frequent num of 15 char lated from the of channels, N en successive l	5.5 MHz band el shall not bu uency hoppir nnels are use transmit time (i.e. 0.4N div hops exceed	Delta Delta Am Delta Am shall use at e greater than g systems r ed.) on a channe vided by the s 0.4N, in wh	plitude 2 t least 15 ch an 0.4 seco may avoid o el mulitplied time betwe hich case th	26.00 nannels. nds withi or suppre d by the r en succe	n a period o ss transmis number of t essive hops	of 0.4 sect ssions on a imes a cha , rounded	onds multiplied by the a particular hopping annel could be use up to the closest ansmit time on a
Cursor 2 Lency hopp average tim per of hoppi ency provic channel dwo d of 0.4 tim er), unless nel.	2480.6780 bing systems in the of occupancy ing channels en ded that a minin ell time is calcu les the number	the 2400-2483 on any chann nployed. (Freq num of 15 char lated from the of channels, N en successive l Maximum 20 Ch Transmissior uccessive hops	S MHz band el shall not bu uency hoppir nnels are use transmit time (i.e. 0.4N div hops exceed: DdB bandwidtl annel spacin n time per hop s on a channel	Delta Am Delta Am Delta Am shall use at e greater than g systems r ed.) on a channer vided by the s 0.4N, in wh h: 14 g: 10 p: 2 el:	plitude 2 t least 15 ch an 0.4 secon nay avoid o el mulitplied time betwe hich case th <u>67</u> kHz <u>00</u> kHz 2.8 ms ms	hannels. nds withi or suppre d by the r en succe ne chann Pas	n a period o ss transmis number of t essive hops el dwell tim s	of 0.4 sect ssions on a imes a cha , rounded	onds multiplied by t a particular hopping annel could be use up to the closest
Cursor 2 Lency hopp average tim per of hoppi ency provic channel dwo d of 0.4 tim er), unless nel.	2480.6780 ing systems in the of occupancy ing channels en ded that a minin ell time is calcu- tes the number the time between the time between su	the 2400-2483 on any chann nployed. (Freq num of 15 char lated from the of channels, N en successive l Maximum 20 Ch Transmissior uccessive hops	S.5 MHz band el shall not bu uency hoppir nnels are use transmit time (i.e. 0.4N div hops exceed dB bandwidth annel spacin n time per hop s on a channels (N	Delta Amp Delta Amp I shall use at e greater than g systems r ed.) on a channer vided by the s 0.4N, in wh h: 14 g: 10 p: 2 el: 10 p: 2	plitude 2 t least 15 ch an 0.4 secon nay avoid o el mulitplied time betwe hich case th <u>67</u> kHz <u>00</u> kHz 2.8 ms	nannels. nds withi or suppre d by the r en succe ne chann	n a period o ss transmis number of t ssive hops el dwell tim s s	of 0.4 sect ssions on a imes a cha , rounded	onds multiplied by t a particular hopping annel could be use up to the closest



Client: Broadcom	ott Mas company			ЕM	C Test
Client: Dioduconi	contract,			Job Number:	J75022
Model: BCM9207	OMD LENO			Log Number:	
Contact: Pin Wen			Αссоι	unt Manager:	Dean Erikso
Standard: FCC, RSS	210			Class:	N/A
	210 and FCC 15.247 (DT	rS) Radiated	d Spurio	us Emi	issions
Cest Specific Deta	The objective of this test session is to n	erform final qualificati	on testing of th	ne EUT with r	respect to the
Test Enginee	it: 4/16/2009 r: Suhaila Khushzad n: SVOATS #2	Config. Use Config Chang Host Unit Voltag	e: None		
equipment was located overhead in the GR-10	support equipment were located on the turn I approximately 30 meters from the EUT w	ith all I/O connections	s running on to	-	
Ambient Conditio	ns: Temperature: Rel. Humidity:	13 °C 58 % 0-2483 5 MHz Ba	nd		
Summary of Posu	its - Device Operating in the 240	Limit	Result	Ma	rgin
,	Test Performed	LIIIII	Result		µV/m @
Summary of Resu	Test Performed RE, 1000 -18000 MHz, Maximized Emissions	RSS-GEN	Pass		Iz (-9.9dB)

2205.000 39.9 H 54.0 -14.1 AVG 360 1.0 RB 1 MHz; VB: 10 Hz 2205.030 39.8 V 54.0 -14.2 AVG 27 1.0 RB 1 MHz; VB: 10 Hz 036.210 58.8 V 74.0 -15.2 PK 192 2.2 RB 1 MHz; VB: 10 Hz 752.540 38.2 H 54.0 -15.8 AVG 152 1.0 RB 1 MHz; VB: 10 Hz 752.650 38.1 V 54.0 -15.9 AVG 6 1.0 RB 1 MHz; VB: 10 Hz 332.240 37.3 V 54.0 -16.7 AVG 216 2.3 RB 1 MHz; VB: 10 Hz 331.280 37.2 H 54.0 -16.8 AVG 25 1.0 RB 1 MHz; VB: 10 Hz 492.090 34.6 V 54.0 -19.4 AVG 136 1.0 RB 1 MHz; VB: 10 Hz 880.200 31.1 V 54.0 -22.9 AVG 34 1.0 RB 1 MHz; VB:	Client	Broadcom							Job Number:		
Account Manager: Dean Erikst Contact: Pin Wen Class: N/A Standard: FCC, RSS 210 Class: N/A Im #1: Radiated Spurious Emissions, 1000 - 18000 MHz. Operating Mode: Rx IT at 2441 MHz Frequency Range Test Distance Limit Distance Extrapolation Factor 1000 - 18000 MHz 3 3 0.0 KMode Spurious Emissions Equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 2025.000 39.9 H 54.0 -14.1 AVG 360 1.0 RB 1 MHz; VB: 10 Hz 205.030 39.8 V 54.0 -15.2 PK 192 2.2 RB 1 MHz; VB: 10 Hz 205.030 39.8 V 54.0 -15.2 PK 192 2.2 RB 1 MHz; VB: 10 Hz 331.240 37.3 V 54.0 <t< th=""><th>Model</th><th></th><th></th><th></th><th></th><th></th><th></th><th>Ţ.</th><th>Log Number:</th><th>T75148</th></t<>	Model							Ţ.	Log Number:	T75148	
Standard: FCC, RSS 210 Class: N/A Image: Test Distance Limit Distance Extrapolation Factor Image: Test Distance Limit Distance Extrapolation Factor 1000 -18000 MHz 3 0.0 Kode Spurious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµ/IV Vh Standard, fight MHz Detector Azimuth Height Comments Test Distance Limit Distance Extrapolation Factor 0.0 Retright of the pol Standard, fight of the pol Standard, fight of the pol Standard, fight of the pol OSCOM 39.9 H Standard, fight of the pol DEtector Azimuth Height of the pol	MOUEI	. DCIVI720701V	ID_LLINO					Acco	unt Manager:	Dean Eriksor	
m #1: Radiated Spurious Emissions, 1000 - 18000 MHz. Operating Mode: Rx Frequency Range Test Distance Limit Distance Extrapolation Factor 1000 - 18000 MHz 3 3 0.0 Kode Spurious Emissions requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QPI/Avg degrees meters O37.530 44.1 V 54.0 -14.1 AVG 3 30 Limit Margin Pk/QPI/Avg degrees meters 037.530 44.1 V 54.0 -14.1 AVG 27 10 R8 205.030 39.4 V <td colspan<="" td=""><td>Contact</td><td>: Pin Wen</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td>Contact</td> <td>: Pin Wen</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Contact	: Pin Wen								
JT at 2441 MHz Frequency Range Test Distance Limit Distance Extrapolation Factor 1000 - 18000 MHz 3 S Comments requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dB 1 MHz; VB: 10 Hz 037.530 44.1 V 54.0 -9 AVG 192 2.2 RB 1 MHz; VB: 10 Hz 037.530 44.1 V 54.0 -14.2 AVG 192 2.2 RB 1 MHz; VB: 10 Hz 205.000 39.9 H 54.0 -14.2 AVG 27 10 RB 1 MHz; VB: 10 Hz 205.003 39.4 54.0 -16.2 2.2	Standard	FCC, RSS 2	10						Class:	N/A	
Frequency Range Test Distance Limit Distance Extrapolation Factor 1000 -18000 MHz 3 3 0.0 Mode Spurious Emissions equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/OP/Avg degrees meters 2037.530 44.1 V 54.0 -9.9 AVG 192 2.2 RB 1 MHz; VB: 10 Hz 205.000 39.9 H 54.0 -14.1 AVG 360 1.0 RB 1 MHz; VB: 10 Hz 205.030 39.8 V 54.0 -14.2 AVG 27 1.0 RB 1 MHz; VB: 10 Hz 205.630 38.2 H 54.0 -15.8 AVG 152 1.0 RB 1 MHz; VB: 10 Hz 752.540 38.2 H 54.0 -16.7 AVG 216 2.3 RB 1 MHz; VB: 10 Hz 31.280 37.2 H 54.0 -16.8 AVG 150 <td>ın #1: R</td> <td>adiated Spuri</td> <td>ous Emissi</td> <td>ons, 1000 -</td> <td>18000 MHz.</td> <td>Operating M</td> <td>ode: Rx</td> <td></td> <td></td> <td></td>	ın #1: R	adiated Spuri	ous Emissi	ons, 1000 -	18000 MHz.	Operating M	ode: Rx				
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	4491.540										
881.600 J 41.8 J H J /4.0 J -32.2 J PK J 105 J 1.0 IRB.1.MHz VB.1.MHz											
	881 600	41.8	Н	74.0	-32.2	PK	105	1.0	RB 1 MHz;	VB: 1 MHz	
10 I° IADOVE I (THZ THE FULL SHECTIES THE TIMIT AS AN AVERAGE MEASUREMENT. IN ADDITION, THE FULL STATES THAT THE HEAK		Above 1 GH	7 the FCC s	necifies the	limit as an av	Verage measu	rement In a	addition the	FCC states t	hat the neak	
te 1: Above 1 GHz, the FCC specifies the limit as an average measurement. In addition, the FCC states that the peak any emission above 1 GHz, can not exceed the average limit by more than 20 dB.	te 1:			•		•			FCC states t	hat the peak	

Client: Broadcom	ZA5 company			Job Number:	J75022
			T	-Log Number:	
Model: BCM92070	MD_LENO			ount Manager:	
Contact: Pin Wen			Pro	ject Manager:	
Standard: FCC, RSS	210			Class	: B
	Conducted Em	nissions - Pow	ver Por	ts	
est Specific Detai Objective	IS: The objective of this test session is to specification listed above.	o perform final qualification	n testing of t	he EUT with I	respect to the
Date of Test Test Engineer Test Location	: Mehran Birgani	Config. Used: Config Change: Host EUT Voltage:	None	dividual run	
	guration on a wooden table, 40 cm from a verti ately 30 meters from the test area. All				
Ambient Conditior	Temperature: Rel. Humidity:				
Summary of Resul	ts				
Run #	Test Performed	Limit	Result	Ма	argin
	CE, AC Power, 230V/50Hz	EN 55022 Class B	Pass		@ 0.487MHz 4dB)
1		EN 55022 Class B	Pass	35.7dBµV (@ 0.488MHz .5dB)
1	CE, AC Power,120V/60Hz				



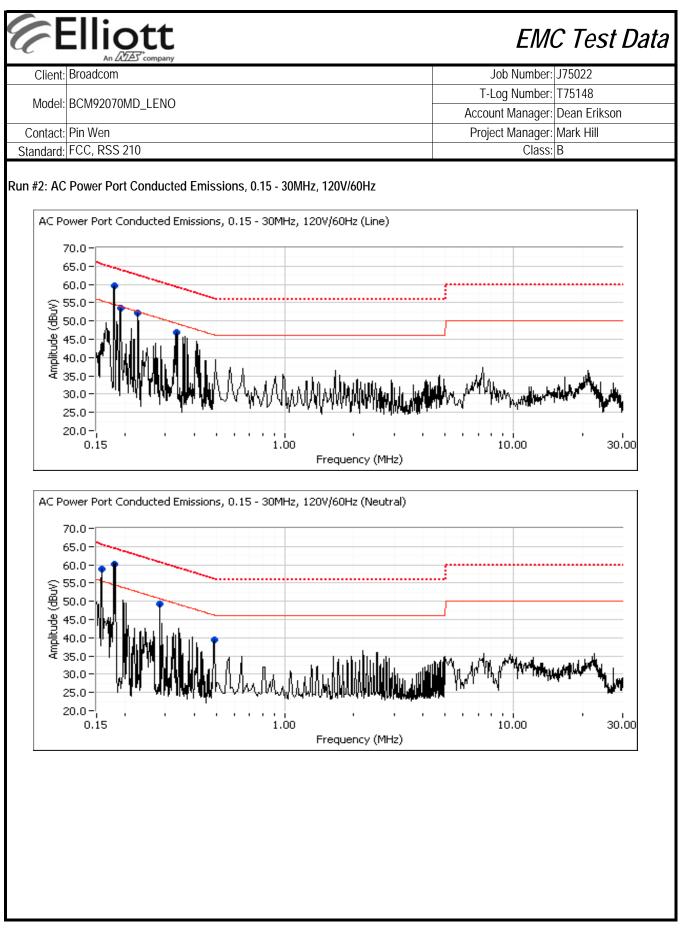


EMC Test Data

	An Deep company		
Client:	Broadcom	Job Number:	J75022
Model: PCI	BCM92070MD LENO	T-Log Number:	T75148
would.	DEWI92070WID_LENO	Account Manager:	Dean Erikson
Contact:	Pin Wen	Project Manager:	Mark Hill
Standard:	FCC, RSS 210	Class:	В

Run #1: AC Power Port Conducted Emissions, 0.15 - 30MHz, 230V/50Hz

Frequency	Level	AC	EN 5502	2 Class B	Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
0.244	40.7	Line	52.0	-11.3	AVG	
0.246	38.7	Neutral	51.9	-13.2	AVG	
0.324	39.3	Neutral	49.6	-10.3	AVG	
0.325	41.8	Line	49.6	-7.8	AVG	
0.487	39.8	Line	46.2	-6.4	AVG	
0.487	35.2	Neutral	46.2	-11.0	AVG	
0.244	42.8	Line	62.0	-19.2	QP	
0.246	40.5	Neutral	61.9	-21.4	QP	
0.324	41.4	Neutral	59.6	-18.2	QP	
0.325	43.5	Line	59.6	-16.1	QP	
0.487	41.0	Line	56.2	-15.2	QP	
0.487	37.6	Neutral	56.2	-18.6	QP	





EMC Test Data

	An ZALLES company		
Client:	Broadcom	Job Number:	J75022
Madal	BCM92070MD LENO	T-Log Number:	T75148
would.	BCINI72070IVID_LEINO	Account Manager:	Dean Erikson
Contact:	Pin Wen	Project Manager:	Mark Hill
Standard:	FCC, RSS 210	Class:	В

Run #2: AC Power Port Conducted Emissions, 0.15 - 30MHz, 120V/60Hz

						•
Frequency	Level	AC	EN 5502	2 Class B	Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
0.153	25.1	Neutral	55.8	-30.7	AVG	
0.163	40.7	Neutral	55.3	-14.6	AVG	
0.178	23.2	Line	54.6	-31.4	AVG	
0.189	22.3	Line	54.1	-31.8	AVG	
0.229	21.5	Line	52.5	-31.0	AVG	
0.282	18.1	Neutral	50.8	-32.7	AVG	
0.335	29.0	Line	49.3	-20.3	AVG	
0.488	35.7	Neutral	46.2	-10.5	AVG	
0.153	54.1	Neutral	65.8	-11.7	QP	
0.163	50.3	Neutral	65.3	-15.0	QP	
0.178	51.6	Line	64.6	-13.0	QP	
0.189	47.9	Line	64.1	-16.2	QP	
0.229	45.0	Line	62.5	-17.5	QP	
0.282	42.6	Neutral	60.8	-18.2	QP	
0.335	35.8	Line	59.3	-23.5	QP	
0.488	37.4	Neutral	56.2	-18.8	QP	

EXHIBIT 3: Photographs of Test Configurations

EXHIBIT 4: Proposed FCC ID Label & Label Location

EXHIBIT 5: Detailed Photographs of Broadcom Corporation Model BCM9207MD0_LENOConstruction

EXHIBIT 6: Operator's Manual for Broadcom Corporation Model BCM9207MD0_LENO

EXHIBIT 7: Block Diagram of Broadcom Corporation Model BCM9207MD0_LENO

EXHIBIT 8: Schematic Diagrams for Broadcom Corporation Model BCM9207MD0_LENO

EXHIBIT 9: Theory of Operation for Broadcom Corporation Model BCM9207MD0_LENO

EXHIBIT 10: RF Exposure Information