



MOTOROLA

MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT - Addendum

Test Report Number –21653-1WLAN

Report Date – 2008-03-17

The test results contained herein relate only to the model(s) identified. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics.

Technician:

A handwritten signature in black ink, appearing to read 'Uffe L. Svejgaard'.

Name: Uffe Lund Svejgaard

Test: 2008-02-22 to 2008-03-05

As the responsible EMC Engineer, I hereby declare that the equipment tested as specified in this report conforms to the requirements indicated.

Signature:

A handwritten signature in black ink, appearing to read 'Per K. Nielsen'.

Name: Per K. Nielsen

Title: Sr. Staff Engineer

Date: 2008-03-17

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FCC Registration Number: 863448

IC Registration Number: 109AP-1

ADR Testing Service location ADR AL
ISO/IEC-1725:2005 accredited by UKAS



2404

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Test Report Details

Tests Performed By:	Motorola A/S Product Safety and Compliance Group Lindholm Brygge 35 9400 Nr.Sundby Fax (45) 7219-5002 Phone: (45) 7219-5000 Motorola PCS FRN: 0016105769 FCC Registration Number: 863448 Industry Canada Number: 109AP-1
Tests Requested By:	Motorola Inc. Mobile Devices business 600 North US Hwy 45 Libertyville, IL 60048
Product Type:	Cell phone with WLAN (WiFi)
Form factor:	Bar
Signaling Capability:	Quadra band 850/900/1800/1900 GSM with GPRS class 10 and EDGE class 10, Bluetooth class 2, WiFi band b/g, FM radio.
Serial Numbers:	IMEI 352482020000539
FCC-ID:	IHDT56JT1
Testing Complete Date:	05-03-2008

Applicable Standards

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

- ☒ Part 15 Subpart C – Intentional Radiators
- ☐ Part 22 Subpart H - Public Mobile Services
- ☐ Part 24 - Personal Communications Services
- ☐ Part 27 - Wireless Communications Service
- ☐ Part 90 - Private Land Mobile Radio Service

Applicable Standards: ANSI 63.4-2003, RSS-GEN, RSS-210 (WLAN).

DA 00-705, "Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems" published by the Federal Communications Commission was also used in the testing of this product.

The following tests were performed according to the regulations:

- The **spurious radiated emission** requirements of **§ 15.247 and § 15.249 of CFR47 Part 15 2006**, specifically" radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
- Under this project only 30 to 1000MHz, 1 to 25GHz radiated and radiated band-edge measurements were performed.
- For frequencies ≤ 1 GHz a 100 KHz RBW is used and >1 GHz a 1 MHz RBW is used.

Summary of Testing

Test	Test Name	Pass/Fail
1	Field Strength of Spurious Emissions	Fail
2	Band-edge Compliance of RF Radiated Emissions	Pass (*)

Test	Test Name	Results
1	Field Strength of Spurious Emissions	See plots
2	Band-edge Compliance of RF Radiated Emissions	See plots

(*) The rules found in CFR47, FCC part 15.247(d) handled in appendix-1 were applied.

The margin with respect to the limit is the minimum margin for all modes and bands. () indicates the margin at which the product exceeds the limit.

General and Special Conditions

The 21653-1 sample was tested using a fully charged battery when applicable. Where a battery could not be used due to the need for a controlled variation of input voltage, an external power supply was utilized.

Special test S/W was used for these tests. In all band (b) tests, the WLAN was transmitting at 11Mbps (DSSS) ~ 18 dBm and in all band (g) tests, the WLAN was transmitting at 6 Mbps (OFDM) ~ 17 dBm.

802.11g Data Rates	
54/48 Mbps	13.0 dBm
36/24 Mbps	14.5 dBm
18/12 Mbps	15.5 dBm
9/6 Mbps	17.0 dBm

802.11b Data Rates	
11 Mbps	18.0 dBm

All testing was done in an indoor controlled environment with an average temperature of 19.5° C +- 2° C and relative humidity of 48% +-10% over the dates used for testing.

Equipment and Cable Configurations

The EUT was tested in a stand-alone configuration that is representative of typical use.

Measuring Equipment and Calibration Information

Equipment related to the semi-anechoic chamber testing:

Equipment	Model/type	Serial number	Operational range	Date of calibration
EMI analyzers	ESIB 26	100179	20 Hz – 26.5 GHz	15.05.2007
	ESU 40	100040	20 Hz – 40 GHz	07.02.2008
Pre Amplifiers	EA PA-02: (JCA12-300 JCA218-4003 JCA48-300 JCA1826-431 JCA1218-500)	800002	(1 – 26 GHz) 1 GHz – 2 GHz 2 GHz – 18 GHz 4 GHz – 8 GHz 18 GHz – 26 GHz 12 GHz – 18 GHz	26.06.2007
	Sonoma 310N	185680	9 kHz – 1 GHz	19.06.2007
	AFS4-02001800-35-ULN (Mounted on EMCO 3115)	805815	2 GHz – 18 GHz	24.10.2007
	JSA-18004000-30-5A (Mounted on EMCO 3116)	965195	18 GHz – 40 GHz	22.08.2007
	JCA 2640-4000 (Mounted on EMCO 3116)	102	18 – 40 GHz	22.08.2007
Radio com. Tester	MT8860B	6K00006368	WiFi band b/g	01.05.2007
High pass filter	K&L 3DH1-3000/T13000-0/0 (Mounted on EMCO 3115)	8	(2700 - 20000 MHz)	24.10.2007
Attenuator	Weinschel 54A-6 (6dB) (Mounted on EMCO 3116)	T8887	DC – 40 GHz	22.08.2007
	H&S 6603.19AA (3dB) (Mounted on EMCO 3115)	na	DC-18 GHz	24.10.2007
Band reject filters	K&L 4N45-2412/T22-0/0	1	WiFi channel 1 reject (30 MHz – 3 GHz)	15.09.2007
	K&L 4N45-2442/T22-0/0	1	WiFi channel 6 reject (30 MHz – 3 GHz)	14.09.2007
	K&L 4N45-2472/T22-0/0	1	WiFi channel 11 reject (30 MHz – 3 GHz)	17.09.2007
Cable	C-ANT-FP1-4S (SMA)	na	30 MHz – 26 GHz	26.06.2007, 22.08.2007 and 24.10.2007

The antennas used in the various tests are listed in the below table. All the log-periodic antennas are used as communication and link establishment antennas for (GSM, UMTS, CDMA, FM and/or Bluetooth).

Antenna	Type	Serial number	Operational range	Date of calibration
Hybrid-log periodic	HLP 3003C	080200	30 MHz – 3 GHz	30.07.07
Log-periodic (link)	LPDA 8030	090200	800 MHz – 3 GHz	(na)
Log-periodic (link)	LPDA 8030	090100	800 MHz – 3 GHz	(na)
Log-periodic (link)	PLP 3003	021701	300 MHz – 3 GHz	(na)
Horn (link)	AT4002A	28548	800 MHz – 5 GHz	(na)
Horn (link)	AT4002A	28547	800 MHz – 5 GHz	(na)
Double ridged horn (w. 3 GHz HP-filter + 1x 2-18 GHz pre-amp+3dB attenuator.)	EMCO 3115	00071502	1 GHz – 18 GHz	07.05.07
Double rigid horn (w. 2x 18-40 GHz pre-amp+6dB attenuator.)	EMCO 3116	71564	18 GHz – 40 GHz	07.05.07

All equipment is on a one-year calibration cycle except for link antennas.

Description of WLAN (WiFi) Transmitter

The 21653-1 cell phone offers WLAN as a feature. The WLAN direct sequence spread-spectrum transceiver is designed to operate between 2400 and 2483 MHz. The WLAN antenna is mounted on the PCB inside of the EUT. The antenna installation is permanent. For a more thorough description of the functionality please refer to Exhibit 12 of this package.

As a WLAN transmitter, it is designed operate with other WLAN devices as defined by industrial standard. In this application, the device is battery-operated.

There is a switch in the Bluetooth/WLAN (BT/WiFi) module that switches between BT and WiFi. They share the same antenna, and you are able to use a BT headset while in a WiFi VoIP call, however, they do not transmit and receive at the same time. There is a 20 ms delay (for switching between the two systems in time domain) using an intelligent multiplexing scheme. Even though they share the same antenna they are **NOT ON** at the same time. The WiFi is therefore tested as a standalone transmitter.

Measurement Procedures and Data

FIELD STRENGTH OF SPURIOUS EMISSIONS

CFR Part 2.1053, 15.249

Measurement Procedure

The Equipment-Under-Test is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum reading on the spectrum analyzer. This is repeated for both horizontal and vertical polarizations of the receive antenna.

The field strength of each radiated emission is calculated by correcting the EMI receiver level for cable loss, amplifier gain, and antenna correction factors.

Field Strength (dBuV/m) = EMI Receiver Level (dBuV) + Cable Loss (dB) + Filter Loss (dB) - Amplifier Gain (dB) + Antenna Correction Factor (3/m)

A fully charged battery was used for the supply voltage.

The used battery type was BX50 with model number SNN5807A

The test sample was operated during the measurements under the following conditions:

- Tests were performed at low, mid and high channels.
- Tests were performed in both horizontal and vertical polarity.
- Tests were performed in both operational WiFi bands (b) and (g)
- Investigation of maximum radiation orientation and position of the product sample to determine test orientations angles.
 - Tests were performed with the sample orientated along X, Y and Z orthogonal axis based on findings.
 - Tests were performed with the test sample placed in worst case position either open or closed based on form factor. Verification tests were performed for the other position.

Measurement Results

Comments:

The band edge measurements crossing the corner for the low channel with respect to the average limit line is acceptable when applying the FCC rule specified in CFR 15.35(b) for the use of peak detector above 1 GHz. The peak detector limit line has been added to the graphical plots.

For peak emissions detected above 1 GHz, only those emissions that are higher than the AVG limit line plus 8 dB are selected for final emission analysis.

This data was taken at ADR Aalborg, see attached below.

Maximum radiating position and orientation

The test sample was placed on top of a none conductive pedestal and a WLAN link towards the communication test set was established. The test sample was scanned with a log periodic antenna connected to a spectrum analyzer over the whole sphere and the maximum radiation orientation was determined to be the X orientation in horizontal polarity of the test antenna, see picture section.

A check of carrier on the WLAN channel 1, 6 and 11 was performed to determine the expected maximum radiation of any WLAN harmonics for the test sample placed in orientation X at vertical and horizontal polarity.

Channel 6 WLAN band (b):

Title: FCC 15.247(c)
 File: PIXL 21653 (8.53)(ESIB) FCC15.249 WLAN2400 (b) Tch-mid_X 2008-02-22 Carrier-PK-RBW_10MHz
 Operator: ADR AAL EMC TL1.kha001
 EUT Type: PIXL (ZN5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637_G_81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 11MBps/16dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

02/25/08 16:49:41
 Sequence: Final Measurements

PIXL 21653 - Carrier (X) - Table						
Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBμV/m)	(1) Limit (dBμV/m)	(PK) Margin Lim1 (dB)	Tlbi Agl (deg)	Pol.
2437.00	2439.38	119.59	120.00	-0.41	43.80	H
2437.00	2438.18	103.22	120.00	-16.78	56.10	V

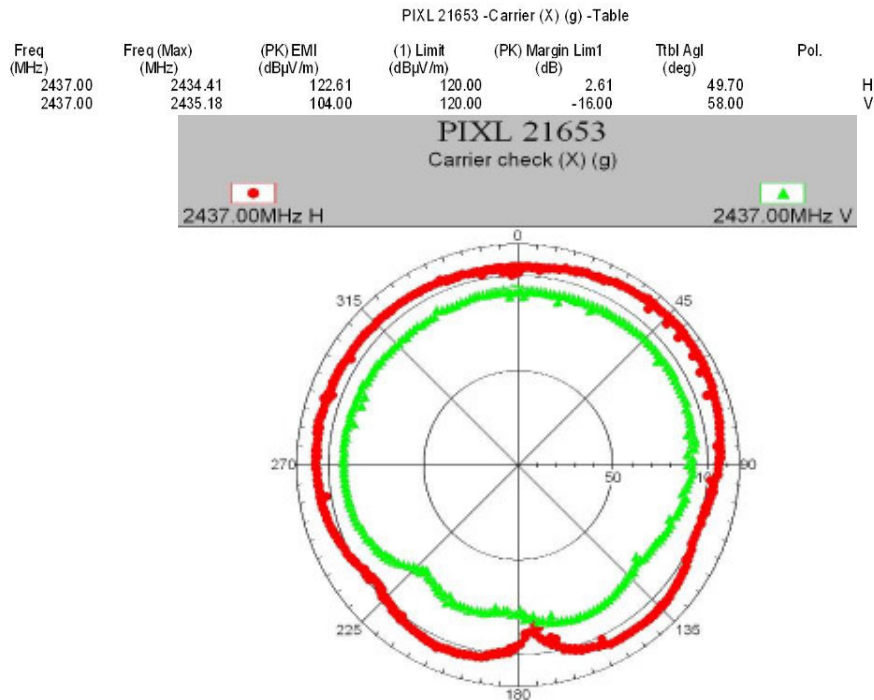


The WLAN band (b) radiated TX power is measured to 12.19 dBm on channel 6 for RBW = 1 MHz.

Channel 6 WLAN band (g):

Title: FCC 15.247(e)
 File: PIXL 21653 (8.53)(ESIB) FCC15.249 WLAN2400 (g) Tch-mid_X 2008-02-22 Carrier -PK -RBW_10MHz
 Operator: ADR_AAL EMC_TL1.kha001
 EUT Type: PIXL (ZN5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637_G_81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 6Mbps/15dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

03/05/08 13:55:00
 Sequence: Final Measurements



The WLAN band (g) radiated TX power is measured to 15.21 dBm on channel 6 with RBW = 1 MHz.

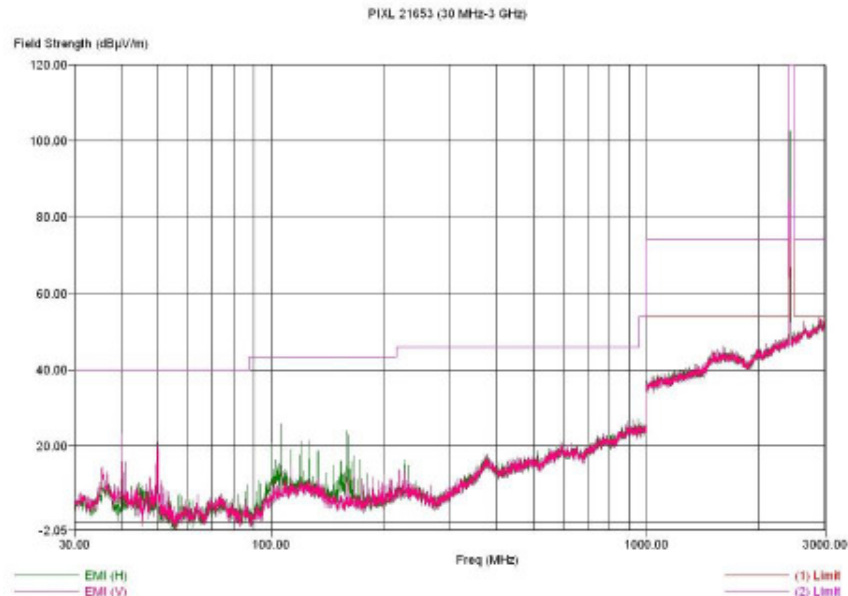
WLAN Band (b):

All data measured for WLAN band (b).

There were no discernible emissions above the noise floor for 30-3000MHz for Low, Mid and High Channels and all polarizations in WLAN band (b)

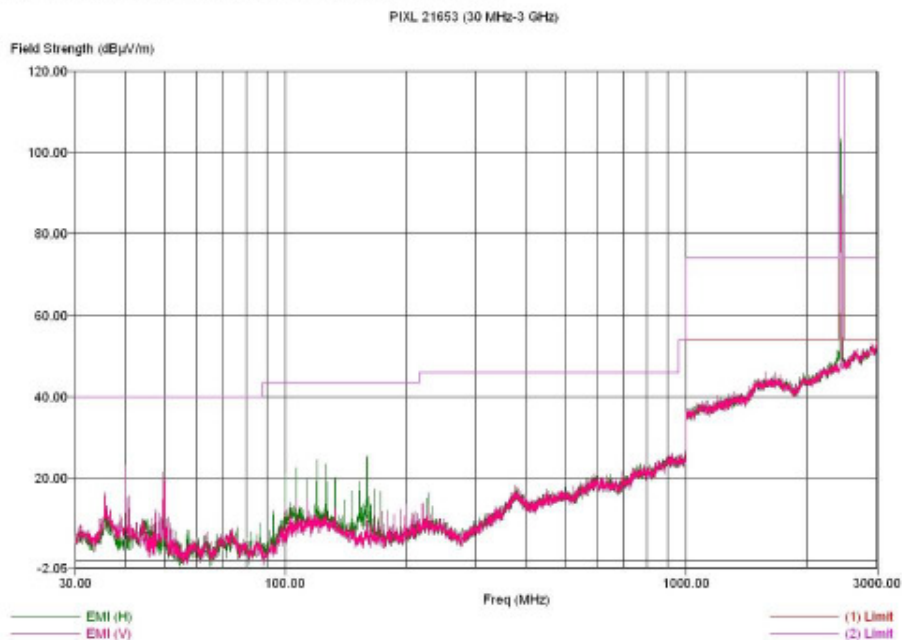
Only one worst case plot for each test frequency are shown in the below plots in the range from 30 MHz – 3000 MHz.

Title: FCC 15.249
 File: FIXL 21653 (8.53) (SIS) FCC15.249 WLAN2400-b Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: FIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: R2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



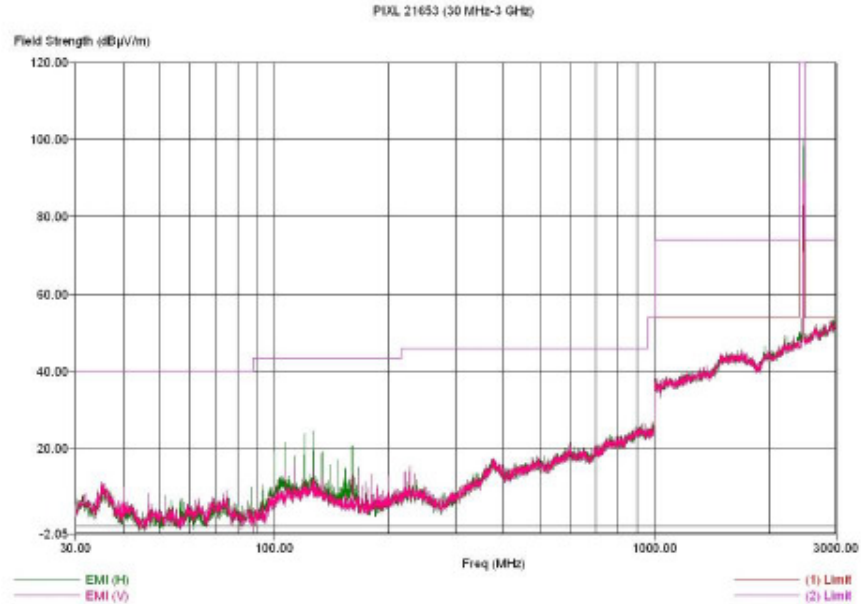
30 - 3000MHz Low Channel Dual Polarization X

Title: FCC 15.249
 File: FIXL 21653 (8.53) (SIS) FCC15.249 WLAN2400-b Tch-mid_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: FIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: R2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 11Mbps/16dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



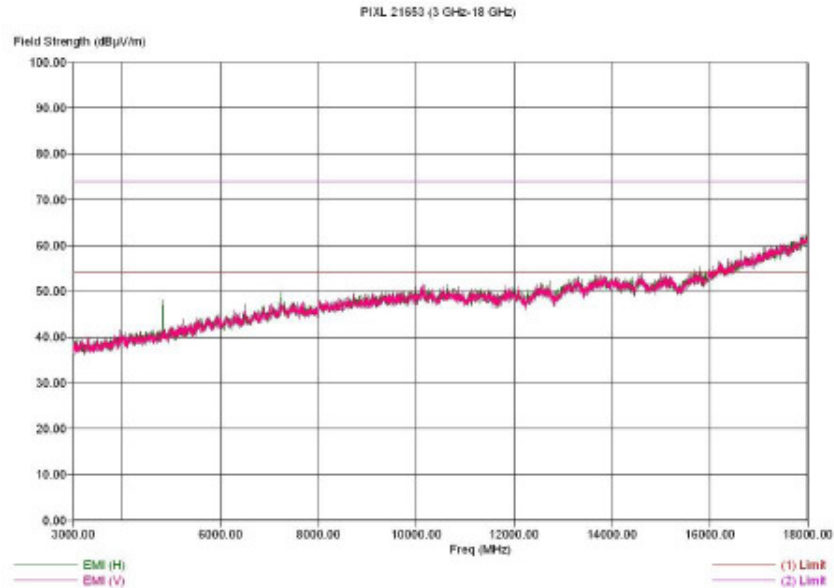
30 - 3000MHz Middle Channel Dual Polarization X

Title: FCC 15.249
 File: PIXL 21653 (8.59) (ESIB) FCC15.249 WLAN2400-b Tch-high_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ASR AAL EMC TLL, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI:352492020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN Ch-11 (2462 MHz) TX Mode 9 11Mbps/16dBm. Orient.=X
 HLP 30D3C antenna (20MHz - 3 GHz). Peak detector used.



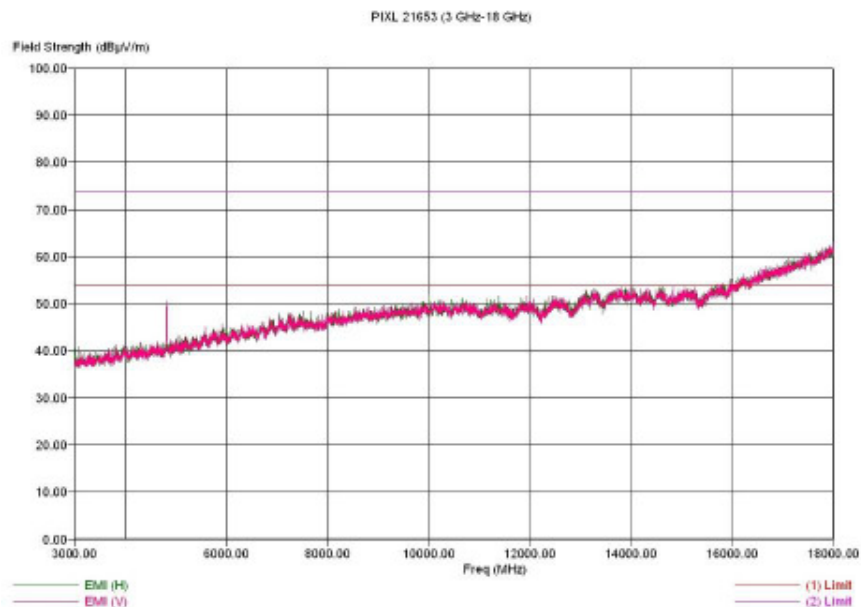
30 - 3000MHz High Channel Dual Polarization X

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADM AAL EMC TLI, USV001
 EUT Type: PIXL (EM5), FCC ID: IHDT56JT1, IMEI: 352492020000489.
 EUT Condition: Board Rev: F2.8, SW Rev: R6637 G S1.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16dBA. Orient.=X
 EMC 3115 antenna (3GHz - 18GHz). Peak detector used.



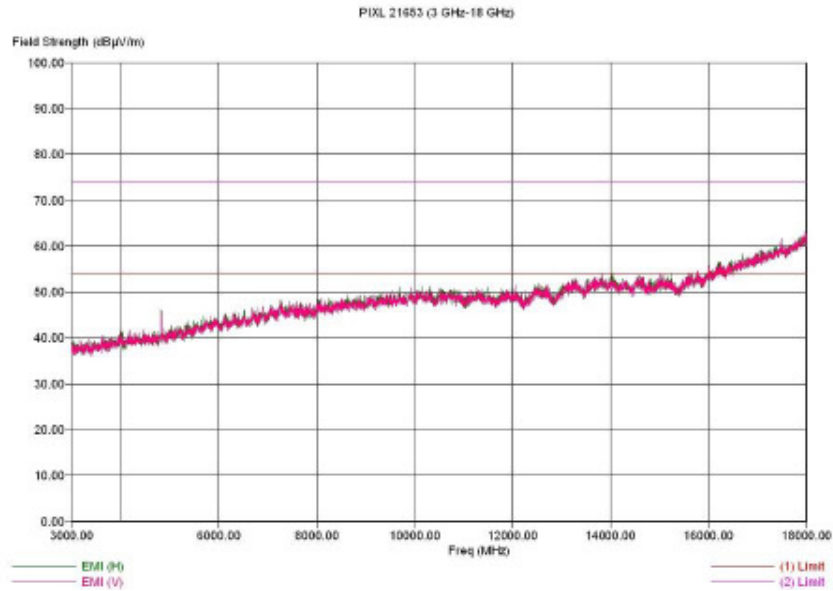
3-18GHz Low Channel X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-low_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADM AAL EMC TLI, USV001
 EUT Type: PIXL (EM5), FCC ID: IHDT56JT1, IMEI: 352492020000489.
 EUT Condition: Board Rev: F2.8, SW Rev: R6637 G S1.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16dBA. Orient.=Y
 EMC 3115 antenna (3GHz - 18GHz). Peak detector used.



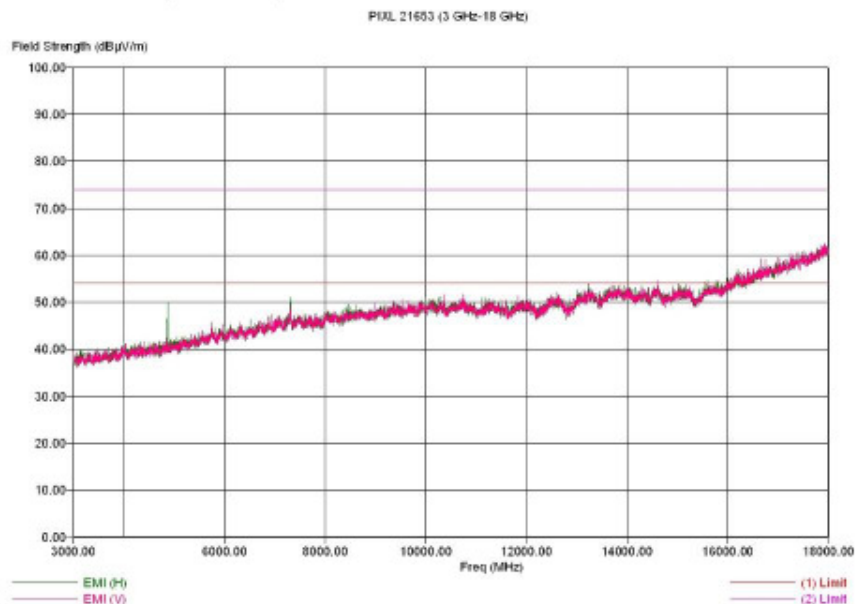
3-18GHz Low Channel Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-low_S 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 81.00.331
 Comment: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode B 11Mbps/16QAM. Orient.=2
 EMC0 3115 antenna (3GHz - 18GHz). Peak detector used.



3-18GHz Low Channel Z-Orientation

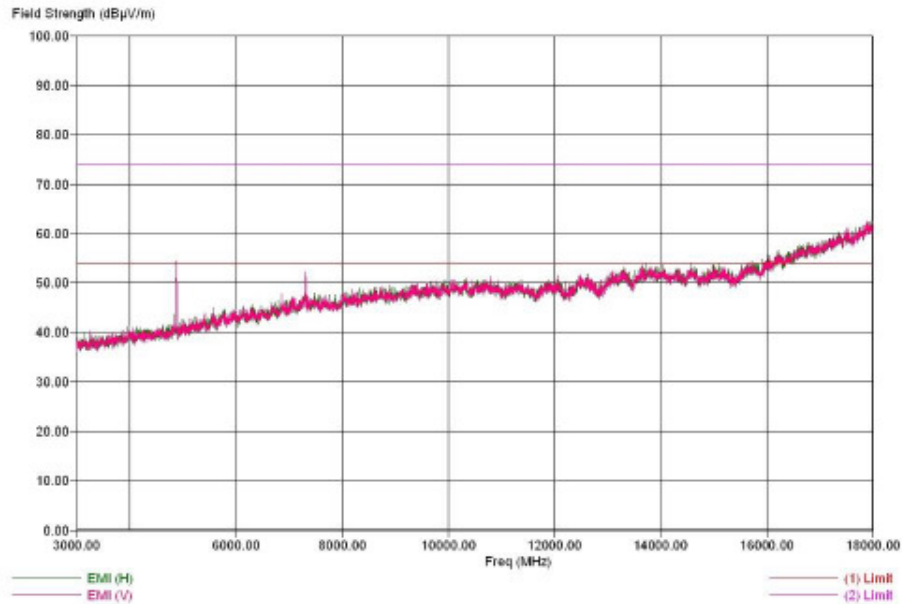
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-mid_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 81.00.331
 Comment: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode B 11Mbps/16QAM. Orient.=X
 EMC0 3115 antenna (3GHz - 18GHz). Peak detector used.



3-18GHz Middle Channel X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-mid_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADM AAL EMC TLI, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 11Mbps/16dBm, Orient.=Y
 EMC0 3115 antenna (3GHz - 18GHz), Peak detector used.

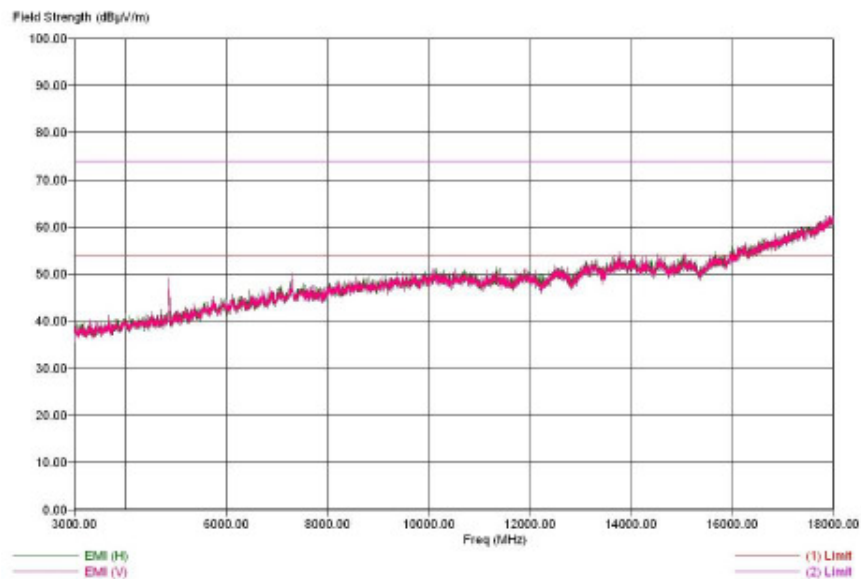
PIXL 21653 (3 GHz-18 GHz)



3-18GHz Middle Channel Y-Orientation

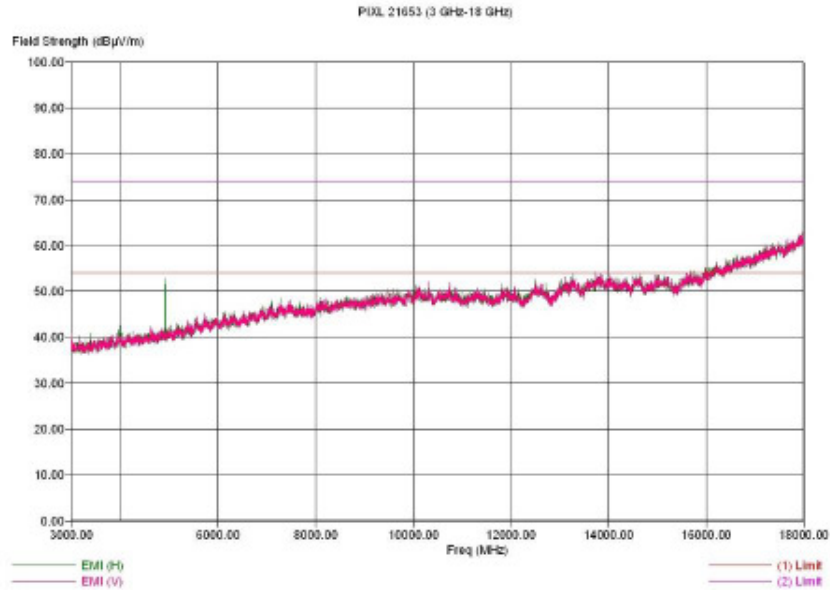
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-mid_Z 2008-02-22 Sequence: Preliminary Scan
 Operator: ADM AAL EMC TLI, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 11Mbps/16dBm, Orient.=Z
 EMC0 3115 antenna (3GHz - 18GHz), Peak detector used.

PIXL 21653 (3 GHz-18 GHz)



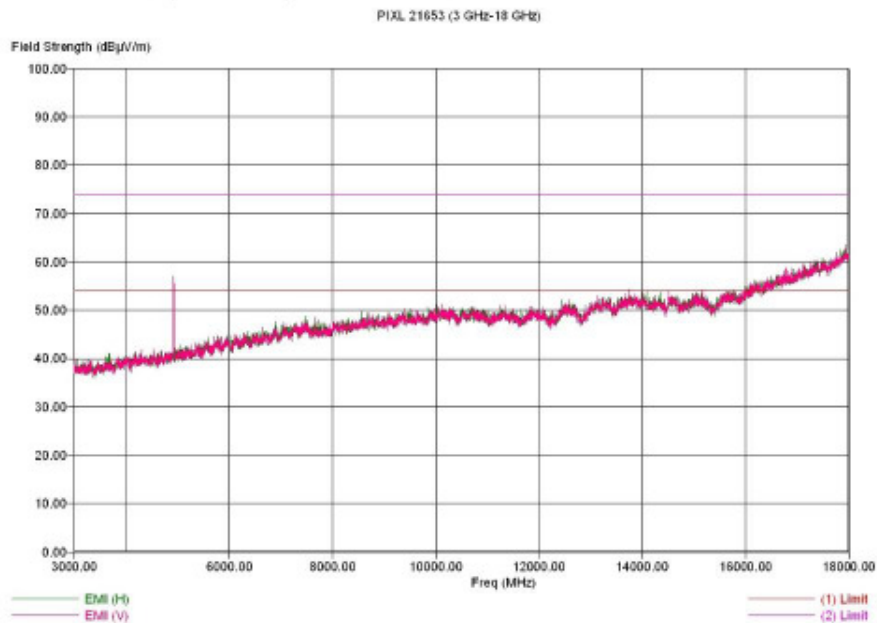
3-18GHz Middle Channel Z-Orientation

Title: FCC 15.249
 File: PTKL 21653 (8.53) (RSTR) FCC15.249 WLAN2400-b Tch-high_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: PTKL (ENR), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode @ 11Mbps/16dBm. Orient.=X
 EMC0 3115 antenna (3GHz - 18GHz). Peak detector used.



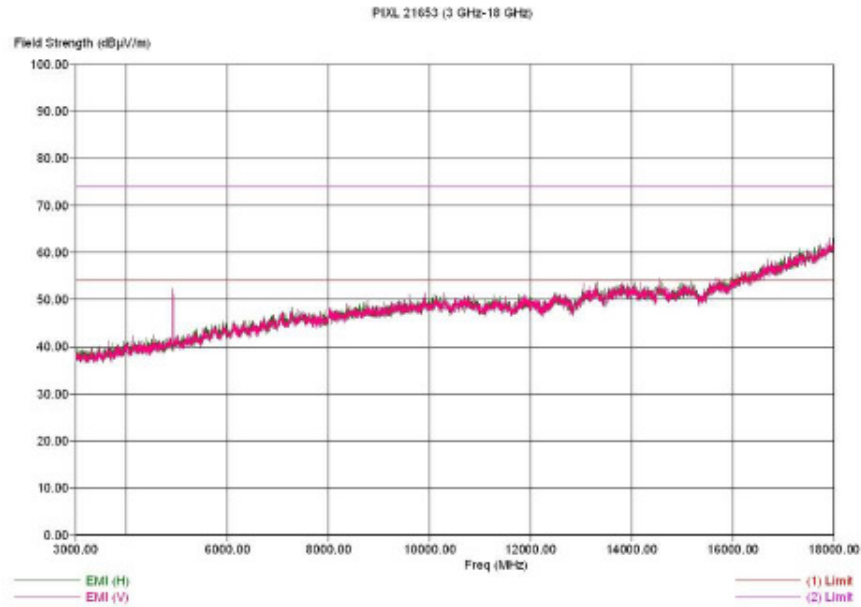
3-18GHz High Channel X-Orientation

Title: FCC 15.249
 File: PTKL 21653 (8.53) (RSTR) FCC15.249 WLAN2400-b Tch-high_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: PTKL (ENR), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode @ 11Mbps/16dBm. Orient.=Y
 EMC0 3115 antenna (3GHz - 18GHz). Peak detector used.



3-18GHz High Channel Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIR) FCC15.249 WLAN2400-b Tch-high_Z 2008-02-22 Sequence: Preliminary Scan
 Operator: ADM JAL KME TLL, usv001
 EUT Type: PIXL (2N5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R5627 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode 0 11Mbps/16QAM. Orient.=E
 EMC0 3115 antenna (3GHz - 18GHz). Peak detector used.



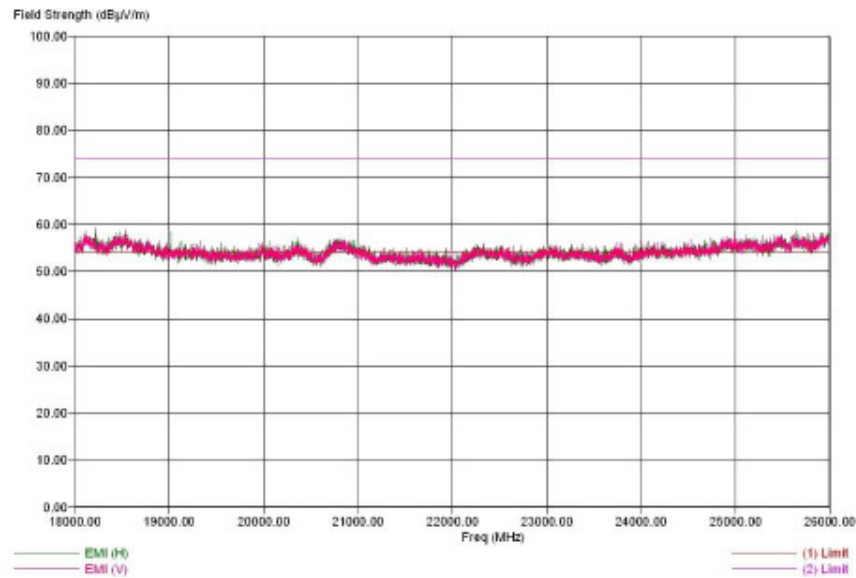
3-18GHz High Channel Z-Orientation

There were no discernible emissions above the noise floor for 18-26 GHz for Low, Mid and High Channels and all polarizations in Bluetooth band

Only one worst case plot for each test frequency are shown in the below plots in the range from 18 GHz – 26 GHz.

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADP AAL EMC TLL, usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R5637 @ 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16dBm. Orient.=X
 EMC 3116 antenna (18GHz - 25GHz). Peak detector used.

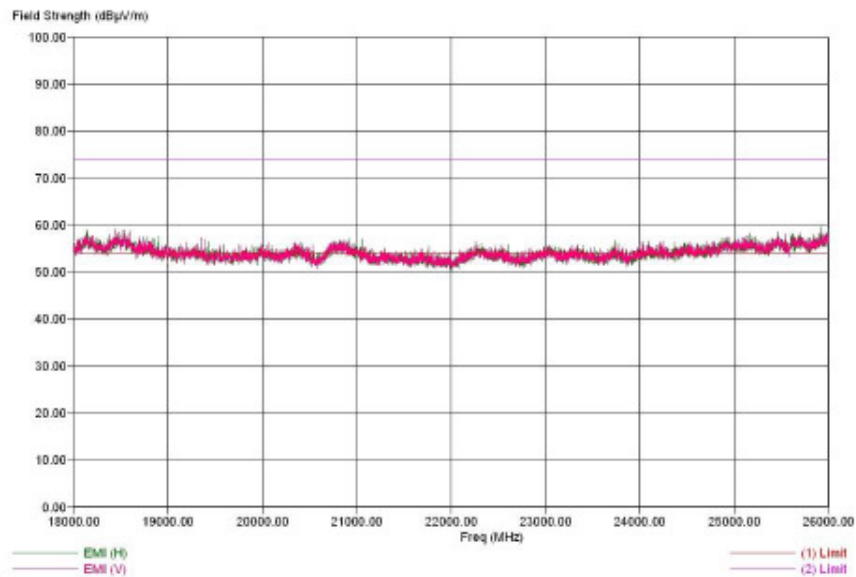
PIXL 21653 (18 GHz-25 GHz)



18-25GHz Low Channel X-Orientation

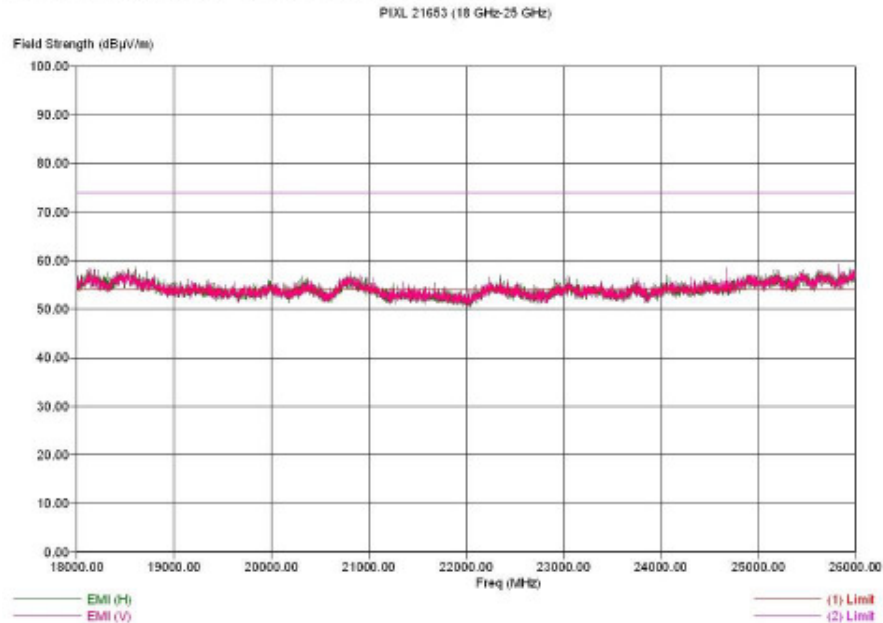
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-mid_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADP AAL EMC TLL, usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R5637 @ 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 11Mbps/16dBm. Orient.=X
 EMC 3116 antenna (18GHz - 25GHz). Peak detector used.

PIXL 21653 (18 GHz-25 GHz)



18-25GHz Middle Channel X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.33) (ESIB) FCC15.249 WLAN2400-b Tch-hgh_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR PNL EMC TLL, USV001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI: 352482020000489,
 EUT Condition: Board Rev: F2.8, SW Rev: R6627 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-11 (2462 Mhz) TX mode @ 11Mbps/16dSm. Orient.=X
 EMC 5116 antenna (18GHz - 25GHz). Peak detector used.



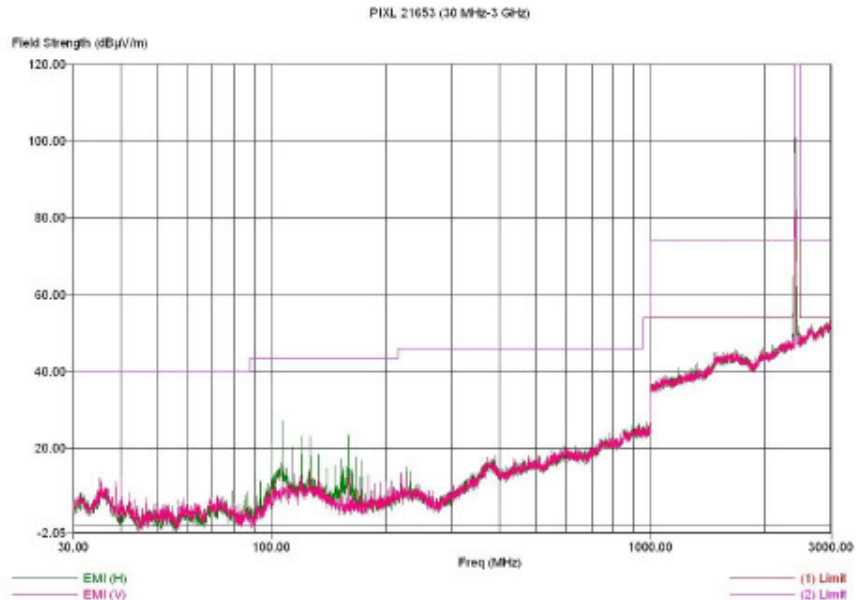
18-25GHz High Channel X-Orientation

WLAN Band (g)

There were no discernible emissions above the noise floor for 30-3000MHz for Low, Mid and High Channels and all polarizations in WLAN band (g).

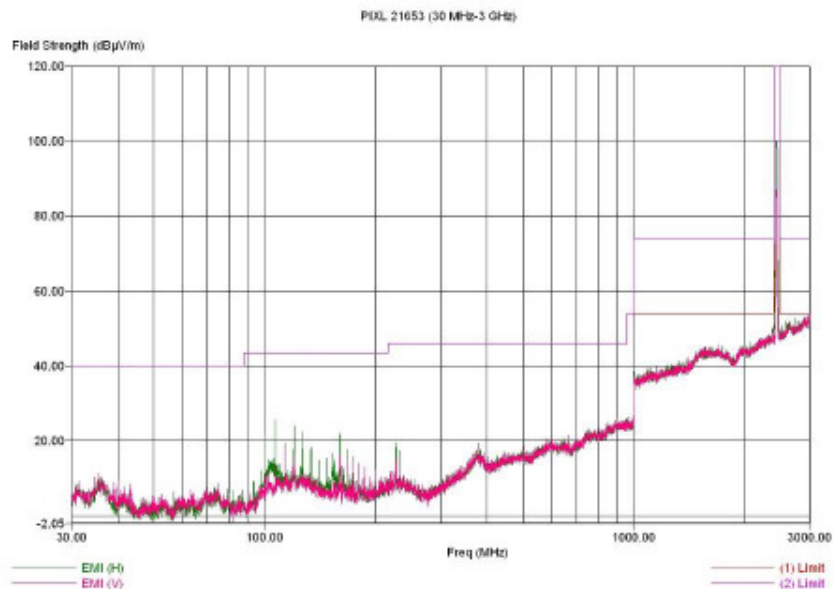
Only one worst case plot for each test frequency are shown in the below plots in the range from 30 MHz – 3000 MHz.

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: AIR AAL EMC TLL, usv001
 EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: B2.8, SW Rev: R6637 @ 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode 8 8Mbps/15dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



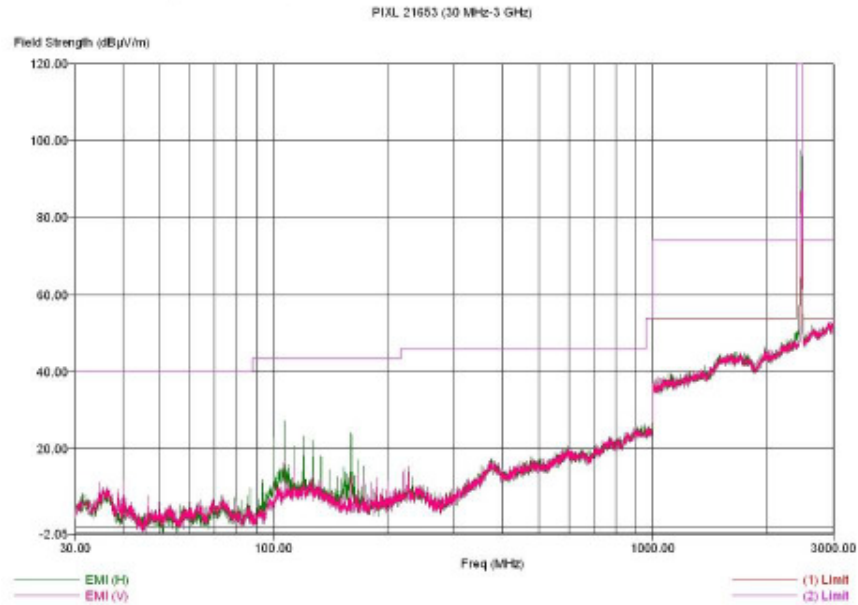
30 - 3000MHz Low Channel Dual Polarization X

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-mid_X 2008-02-22 Sequence: Preliminary Scan
 Operator: AIR AAL EMC TLL, usv001
 EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: B2.8, SW Rev: R6637 @ 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode 8 8Mbps/15dBm. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



30 - 3000MHz Middle Channel Dual Polarization X

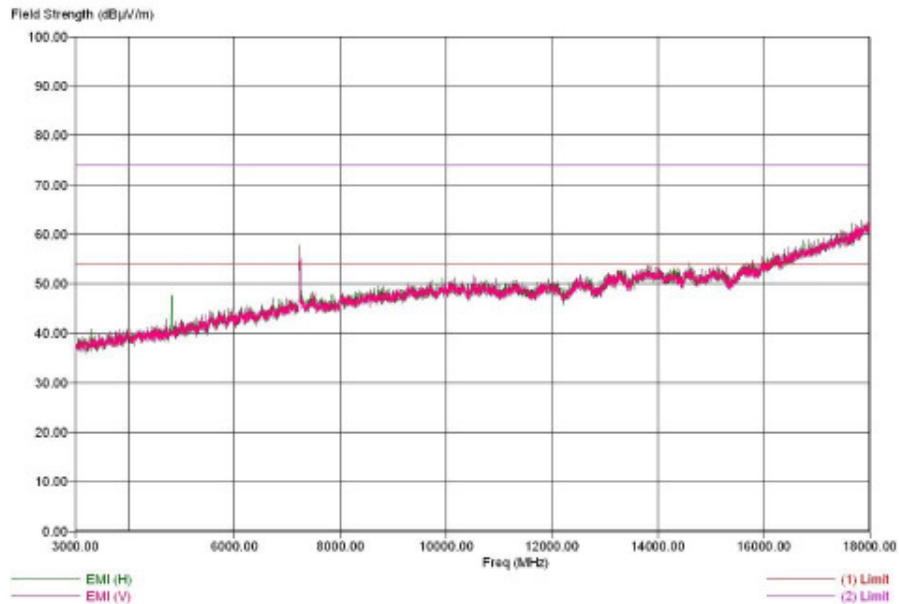
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-hgh_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: B2.8, SW Rev: R6637 @ 81.00.331
 Comment: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode @ 6Mbps/15dms. Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



30 - 3000MHz High Channel Dual Polarization X

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TIL, usv001
 SUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 SUT Condition: Board Rev: P2.8, SW Rev: R6637 @ 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode 9 6Mbps/15dBm. Orient.=X
 ENCO 3115 antenna (3GHz - 18GHz). Peak detector used.

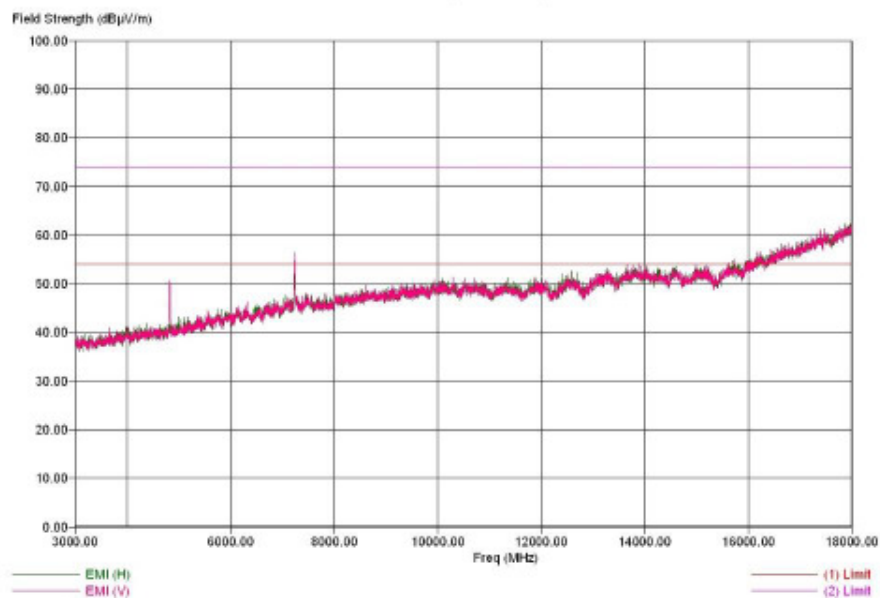
PIXL 21653 (3 GHz-18 GHz)



3-18GHz Low Channel X-Orientation

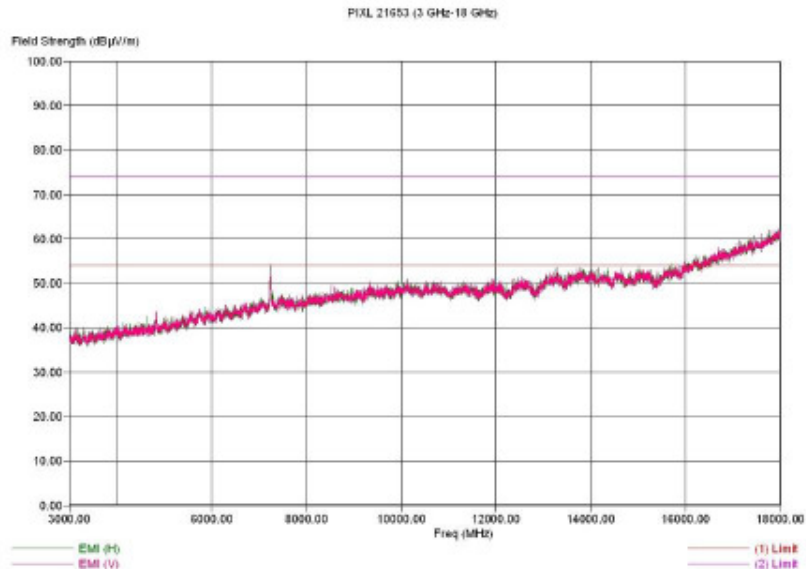
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TIL, usv001
 SUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 SUT Condition: Board Rev: P2.8, SW Rev: R6637 @ 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode 9 6Mbps/15dBm. Orient.=Y
 ENCO 3115 antenna (3GHz - 18GHz). Peak detector used.

PIXL 21653 (3 GHz-18 GHz)

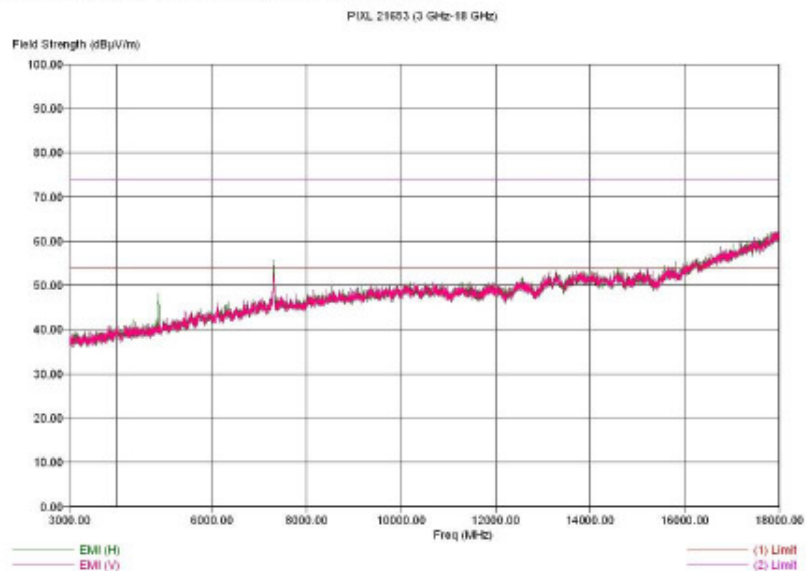


3-18GHz Low Channel Y-Orientation

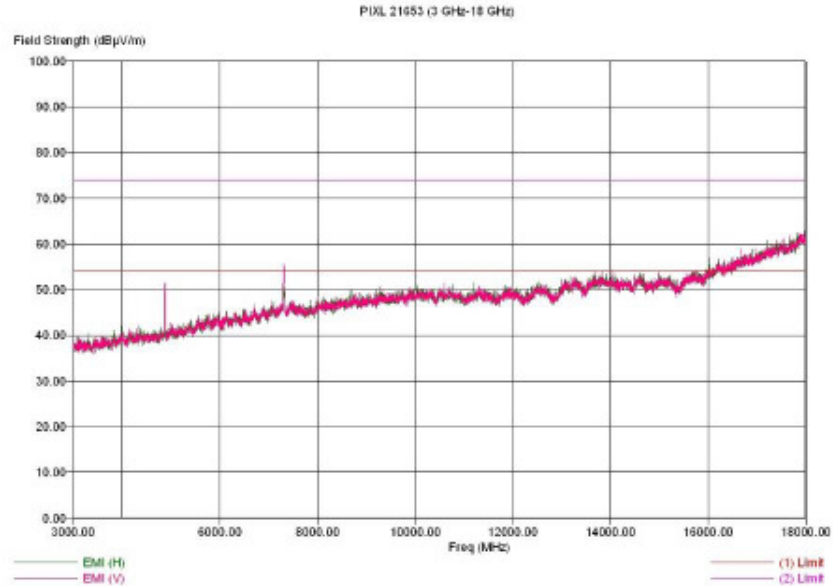
Title: FCC 15.249
File: PIXL 21653 (8.52) (ES12) FCC15.249 WLAN2400-g Tch-low_E 2008-02-22 Sequence: Preliminary Scan
Operator: ADR AAL ENE TLL USV001
EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 35246202000489.
EUT Condition: Board Rev: P2.8, SW Rev: R6637 9 81.00.331
Comments: FCC 15.249/ES12 802.11(g) WLAN emission in TCM mode.
WLAN ch-1 (2412 MHz) TX mode 9 60Mbps/15dbs. Orient.=S
EMCO 3115 antenna (25Hz - 18GHz). Peak detector used.



Title: FCC 15.249
File: PIXL 21653 (8.53) (ES12) FCC15.249 WLAN2400-g Tch-Mid_X 2008-02-22 Sequence: Preliminary Scan
Operator: ADR AAL ENE TLL USV001
EUT Type: PIXL (EN5), FCC ID: IHDT56JT1, IMEI: 35246202000489.
EUT Condition: Board Rev: P2.8, SW Rev: R6637 9 81.00.331
Comments: FCC 15.249/ES12 802.11(g) WLAN emission in TCM mode.
WLAN ch-6 (2437 MHz) TX mode 9 60Mbps/15dbs. Orient.=X
EMCO 3115 antenna (25Hz - 18GHz). Peak detector used.

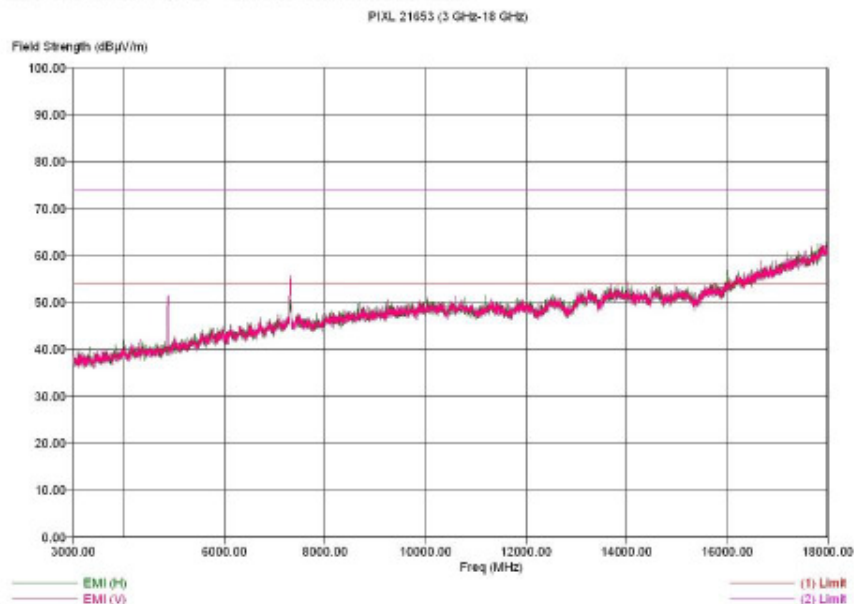


Title: FCC 15.249
 File: PIXL 21653 (S.53)(ESIB) FCC15.249 WLAN2400-g Tch-mid_Y 2008-02-22 sequence: Preliminary Scan
 Operator: ADR AAL EMC TLI, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.9, SW Rev: R5627 G 01.00.221
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-6 (2437 MHz) TX mode 8 6Mbps/15dBm. Orient.=Y
 ENCO 3115 antenna (3GHz - 18GHz). Peak detector used.



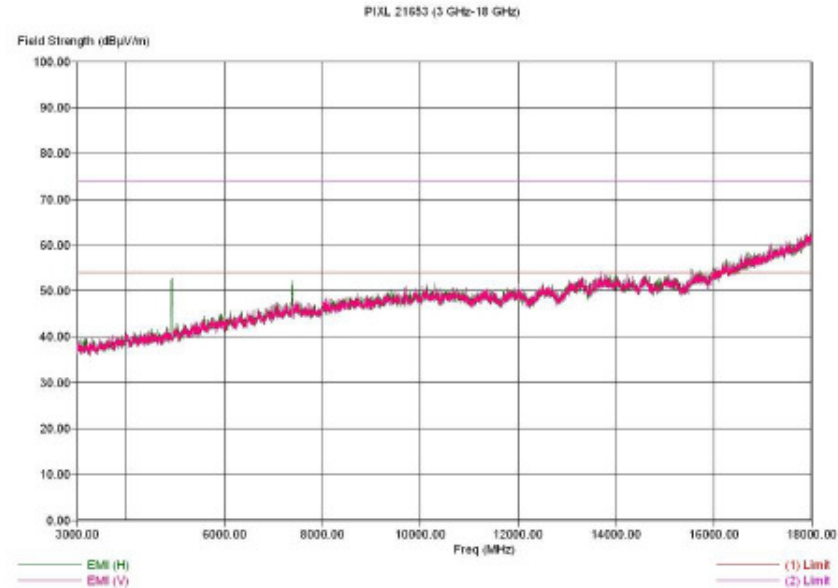
3-18GHz Middle Channel Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (S.53)(ESIB) FCC15.249 WLAN2400-g Tch-mid_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLI, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.9, SW Rev: R5627 G 01.00.221
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-6 (2437 MHz) TX mode 8 6Mbps/15dBm. Orient.=Y
 ENCO 3115 antenna (3GHz - 18GHz). Peak detector used.



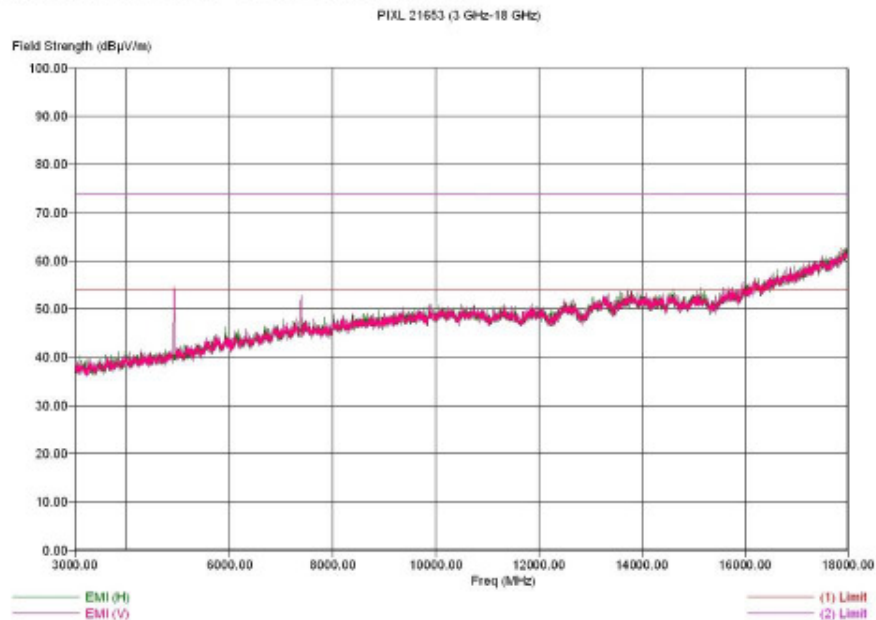
3-18GHz Middle Channel Z-Orientation

Title: FCC 15.249
 File: FIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-hgh_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ASD AAL EMC TLL, usv001
 EUT Type: FIXL (EM5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode # 6Mbps/15dBm, Orient.=X
 EMC 3115 antenna (3GHz - 18GHz). Peak detector used.



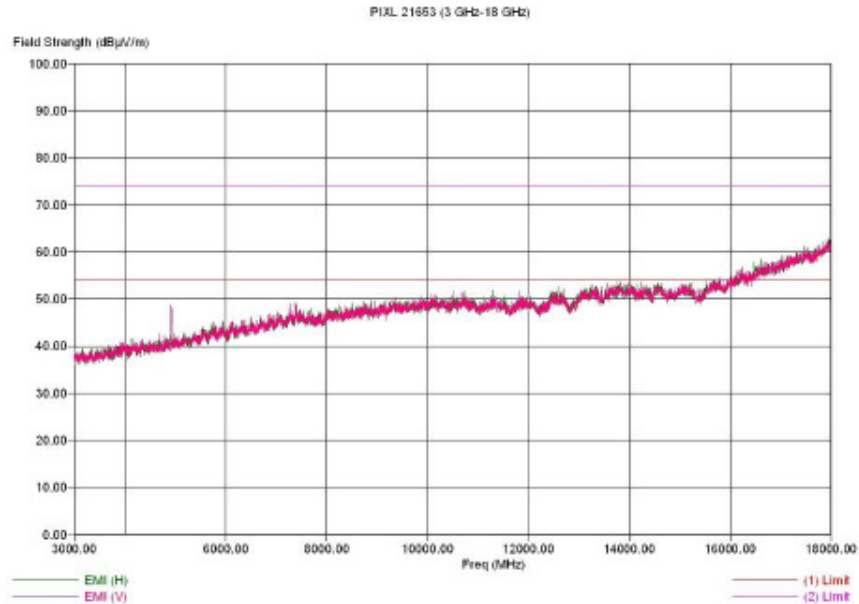
3-18GHz High Channel X-Orientation

Title: FCC 15.249
 File: FIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-hgh_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ASD AAL EMC TLL, usv001
 EUT Type: FIXL (EM5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode # 6Mbps/15dBm, Orient.=Y
 EMC 3115 antenna (3GHz - 18GHz). Peak detector used.



3-18GHz High Channel Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53)(ESIR) FCC15.249 WLAN2400-g Tch-high_S 2008-02-22 Sequence: Preliminary Scan 02/29/08 11:38:13
 Operator: ADS R&L EMC TLJ, usv001
 EUT Type: PIXL (8335), FCC ID: IHDT56JT1, IMEI: 352462020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 S 81.00.331
 Comments: FCC 15.249/ISSE 902.11(g) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode @ 6Mbps/15dBm. Orient.=2
 EMC 3115 antenna (3GHz - 18GHz). Peak detector used.

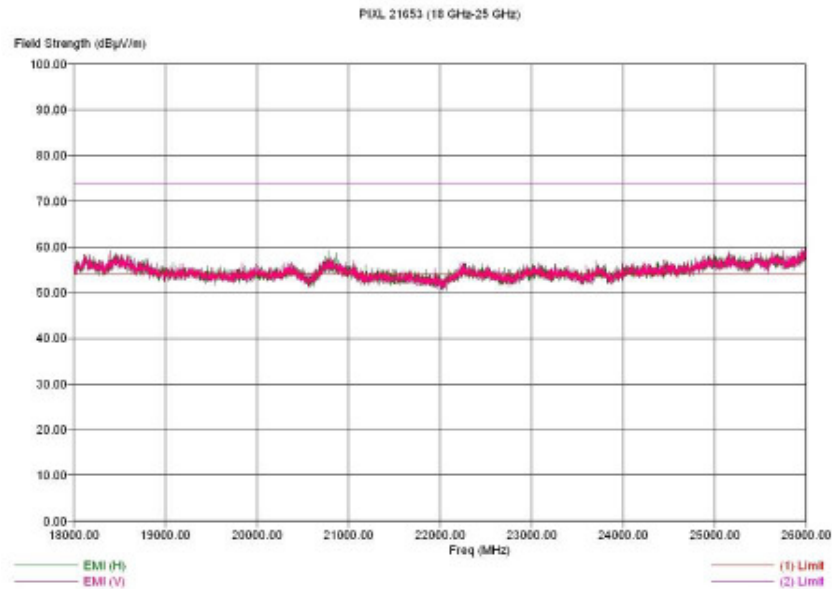


3-18GHz High Channel Z-Orientation

There were no discernible emissions above the noise floor for 18-26 GHz for Low, Mid and High Channels and all polarizations in Bluetooth band

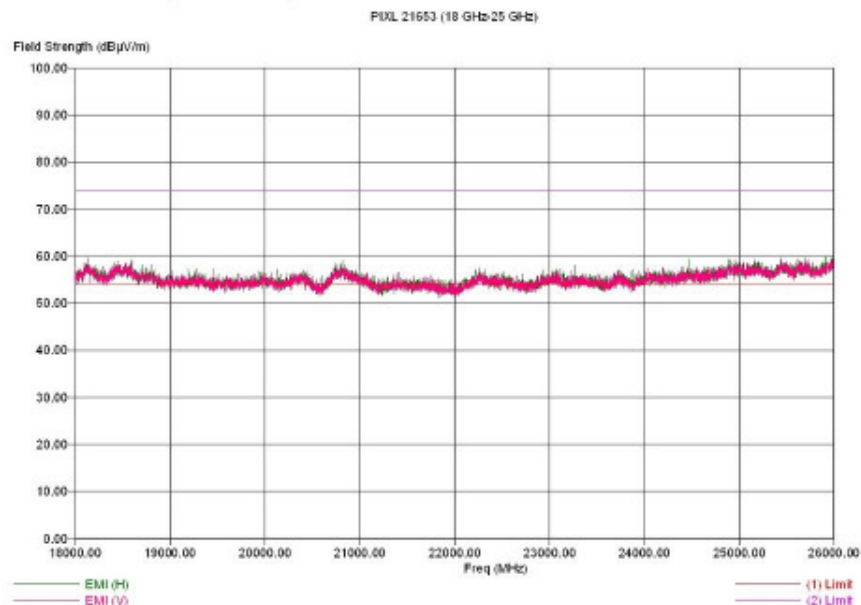
Only one worst case plot for each test frequency are shown in the below plots in the range from 18 GHz – 26 GHz.

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (2M5), FCC ID: IHDT56JT1, INET:352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode @ 6Mbps/15dBm. Orient.=X
 EMC 3116 antenna (180MHz - 250MHz). Peak detector used.



18-25GHz Low Channel X-Orientation

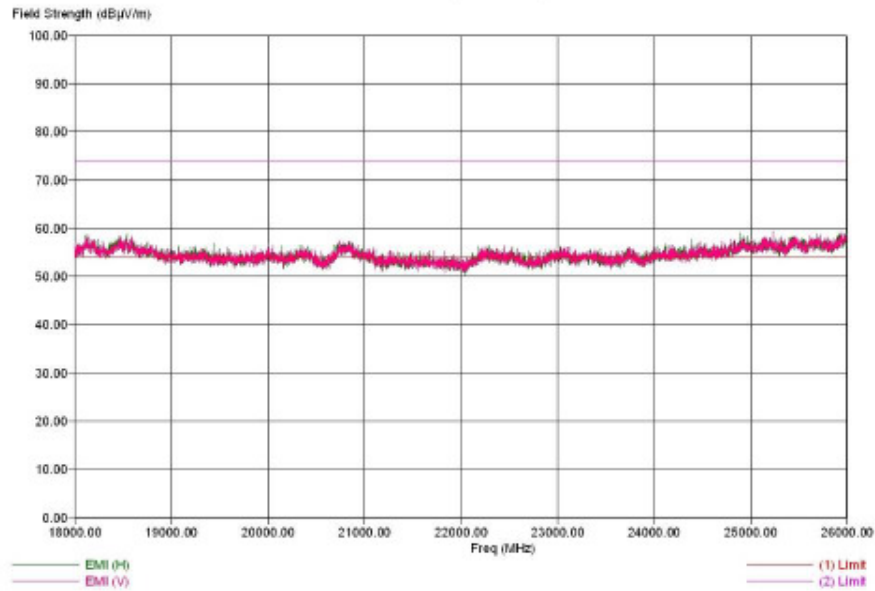
Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-mid_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (2M5), FCC ID: IHDT56JT1, INET:352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-6 (2437 MHz) TX mode @ 6Mbps/15dBm. Orient.=X
 EMC 3116 antenna (180MHz - 250MHz). Peak detector used.



18-25GHz Middle Channel X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (BSI) FCC15.249 WLAN2400-g Tch-hgh_K 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (ZNS), FCC ID: IHDT56JT1, IMEI: 352462020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCH mode.
 WLAN ch-11 (2462 MHz) TX mode 9 6Mbps/15dBm. Orient.=K
 EMPO 3116 antenna (18GHz - 25GHz). Peak detector used.

PIXL 21653 (18 GHz-25 GHz)



18-25GHz High Channel X-Orientation

BAND-EDGE COMPLIANCE OF RF RADIATED EMISSIONS

CFR 47 Part 15.247

Measurement Procedure

The test sample is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum reading on the spectrum analyzer. This is repeated for both horizontal and vertical polarizations of the receive antenna.

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{EMI Receiver Level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Filter Loss (dB)} - \text{Amplifier Gain (dB)} + \text{Antenna Correction Factor (3/m)}$$

The test sample WLAN transmitter was enabled using a test script.

A fully charged battery was used for the supply voltage.

Measurement Results

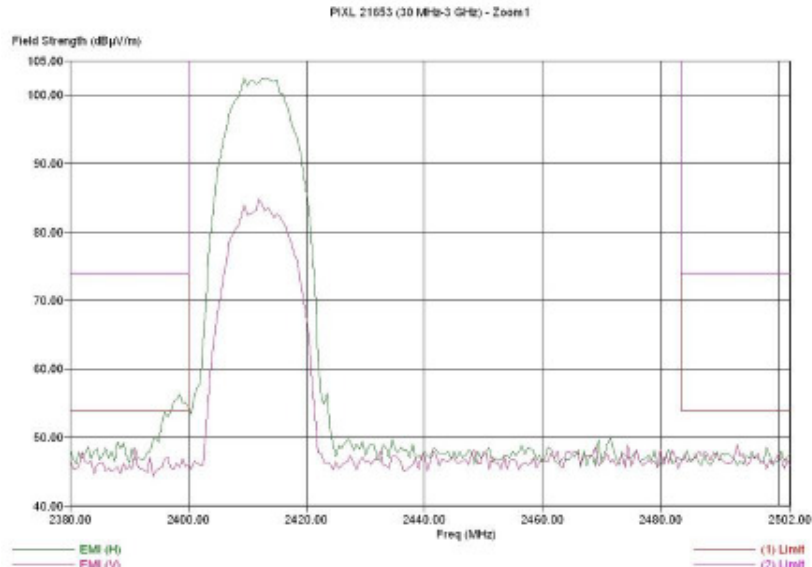
Note: No WLAN band notch filters were used.

See Attached:

WLAN Band (b)

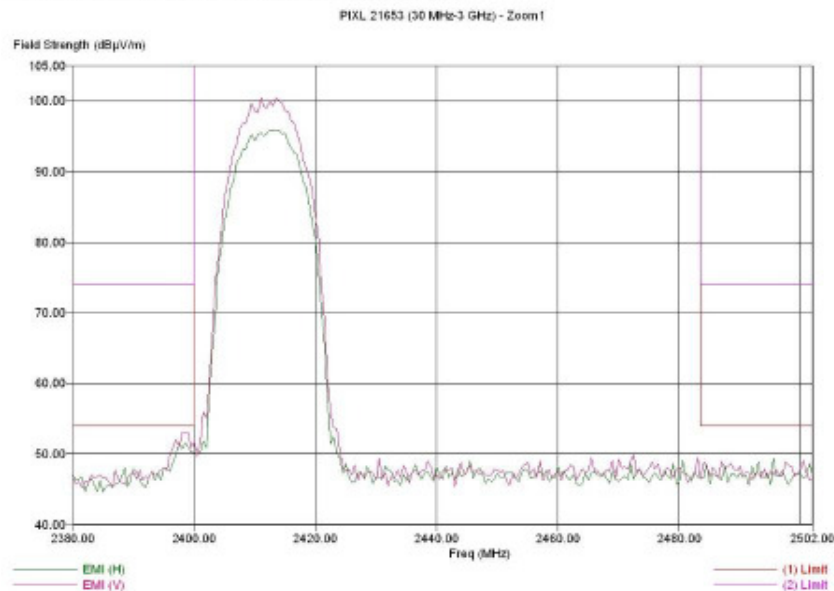
Only the worst band edge is displayed for WLAN band (b).

Title: FCC 15.249
 File: PIXL 21653 (8.53) (SISB) FCC15.249 WLAN2400-b Tch-low_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (SISB), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: 22.9, SW Rev: R6627 G 91.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16QAM, Orient.=X
 MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



Low Band Edge X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (SISB) FCC15.249 WLAN2400-b Tch-low_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (SISB), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: 22.9, SW Rev: R6627 G 91.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCH mode.
 WLAN ch-1 (2412 MHz) TX mode @ 11Mbps/16QAM, Orient.=Y
 MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



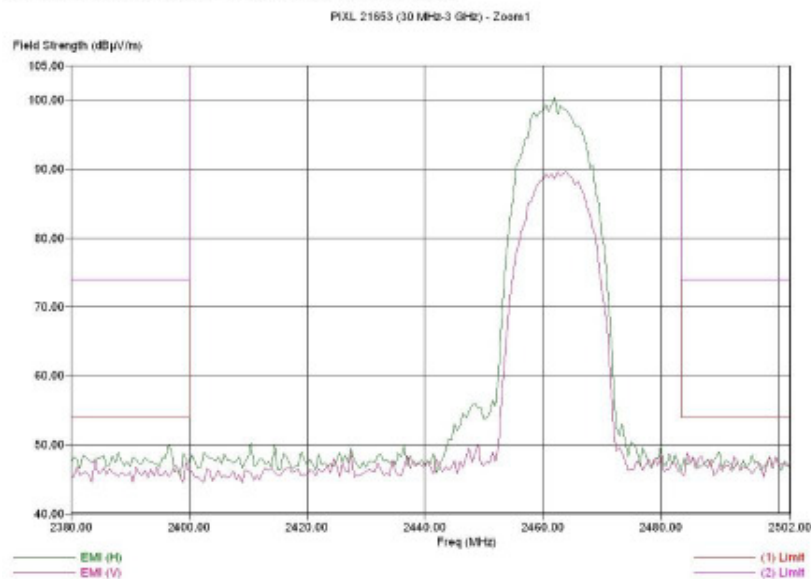
Low Band Edge Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (SIR) FCC15.249 WLAN2400-b Tch-low_Z 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: PIXL (SIR), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-11 (2412 MHz) TX mode @ 11Mbps/16dBr. Orient.=S
 HLF 3003C antenna (30MHz ~ 3 GHz). Peak detector used.



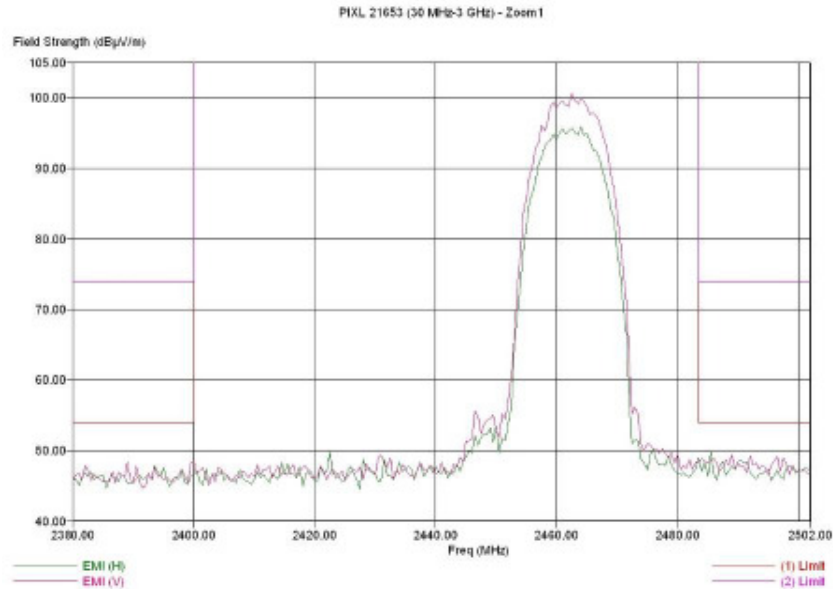
Low Band Edge Z-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (SIR) FCC15.249 WLAN2400-b Tch-hgh_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL usv001
 EUT Type: PIXL (SIR), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.0, SW Rev: R6637 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-11 (2412 MHz) TX mode @ 11Mbps/16dBr. Orient.=X
 HLF 3003C antenna (30MHz ~ 3 GHz). Peak detector used.



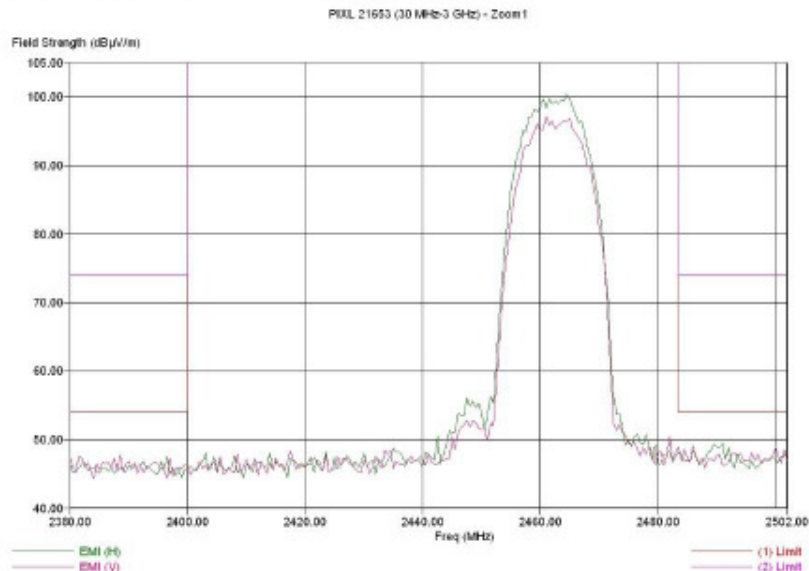
High Band Edge X-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-hgh_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-11 (2462 MHz) TX mode @ 11Mbps/16dBm. Orient.=Y
 HLF 3003C antenna (30MHz - 3 GHz). Peak detector used.



High Band Edge Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-b Tch-hgh_Z 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 01.00.331
 Comments: FCC 15.249/IEEE 802.11(b) WLAN emission in TCM mode.
 WLAN ch-11 (2462 MHz) TX mode @ 11Mbps/16dBm. Orient.=Z
 HLF 3003C antenna (30MHz - 3 GHz). Peak detector used.



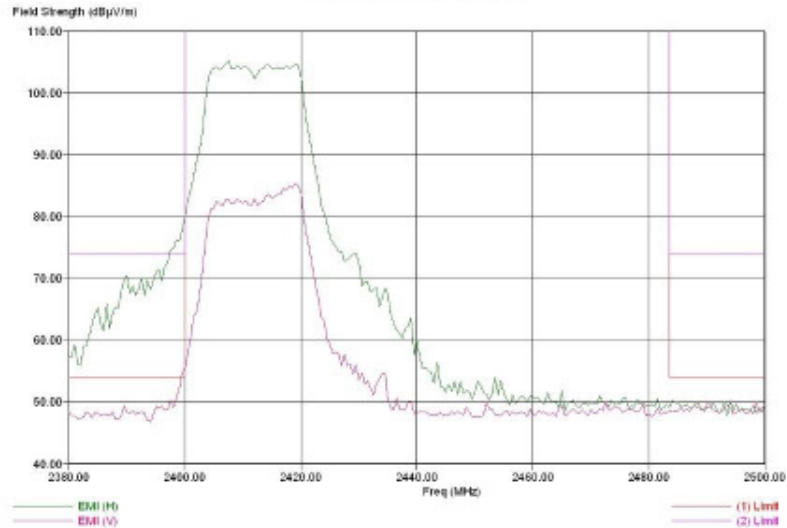
High Band Edge Z-Orientation

WLAN Band (g)

Only the worst band edge is displayed for WLAN band (g).

Title: FCC 15.249
 File: FIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_N 2008-02-22 sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: FIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352462020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 81.00.231
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-1 (2412 MHz) TX mode B 6Mbps/15dBm. Orient.=X
 MLP 3003C antenna (300MHz - 3 GHz). Peak detector used.

FIXL 21653 (30 MHz-3 GHz) -BE 22.5deg.

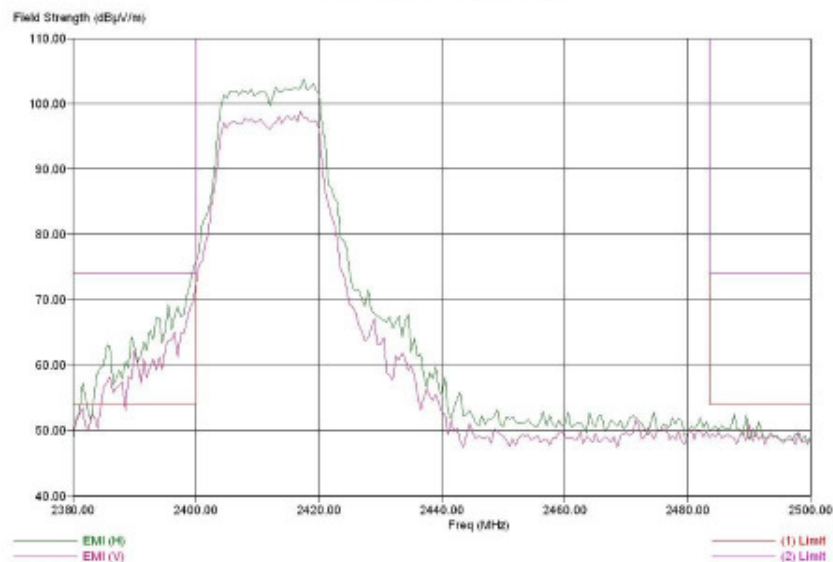


(See also appendix 1)

Low Band Edge X-Orientation

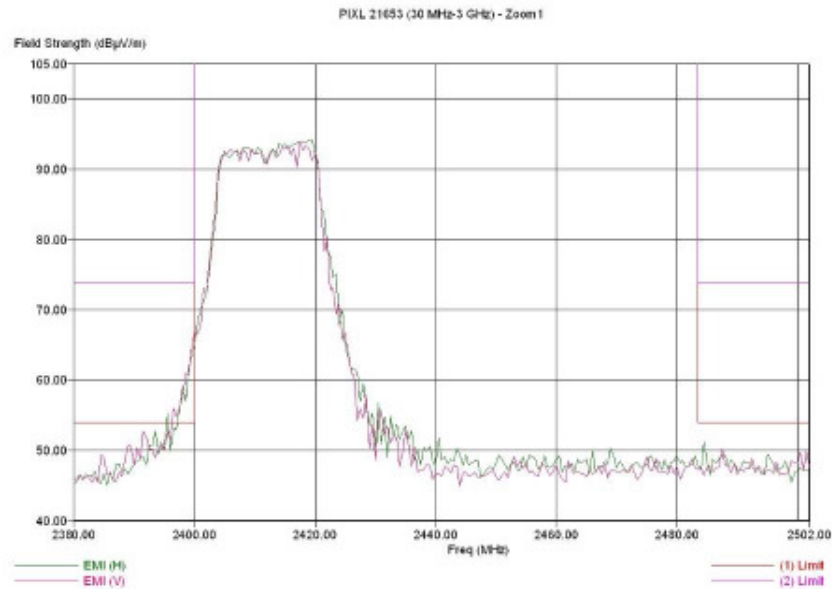
Title: FCC 15.249
 File: FIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_Y 2008-02-22 sequence: Preliminary Scan
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: FIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352462020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6627 G 81.00.231
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-1 (2412 MHz) TX mode B 6Mbps/15dBm. Orient.=Y
 MLP 3003C antenna (300MHz - 3 GHz). Peak detector used.

FIXL 21653 (30 MHz-3 GHz) -BE 22.5deg.



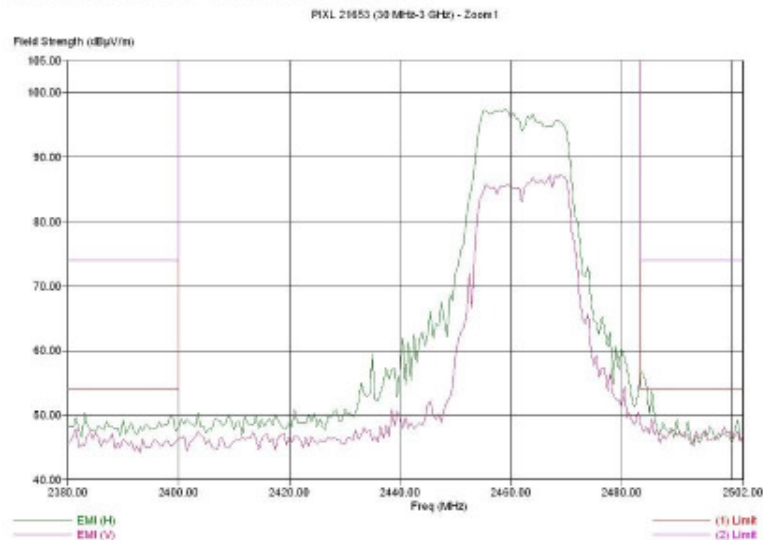
Low Band Edge Y-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-low_S 2008-02-22 Sequence: Preliminary Scan
 Operator: ADE AAL EMC ELL usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.221
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch=1 (2412 MHz) TX mode 8 6Mbps/15dBm. Orient.=0
 MPE 3003c antenna (30MHz = 3 GHz). Peak detector used.



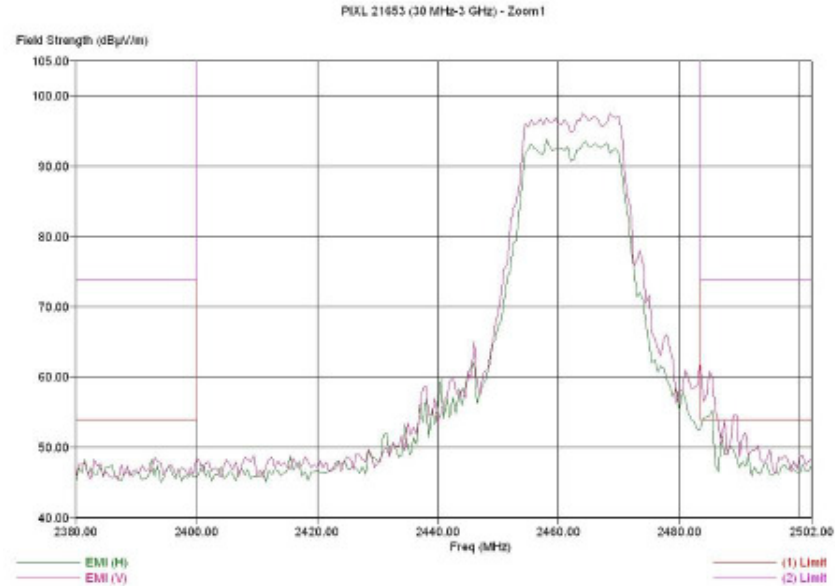
Low Band Edge Z-Orientation

Title: FCC 15.249
 File: PIXL 21653 (8.53) (ESIB) FCC15.249 WLAN2400-g Tch-high_X 2008-02-22 Sequence: Preliminary Scan
 Operator: ADE AAL EMC ELL usv001
 EUT Type: PIXL (ISM), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.221
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch=1 (2412 MHz) TX mode 8 6Mbps/15dBm. Orient.=0
 MPE 3003c antenna (30MHz = 3 GHz). Peak detector used.



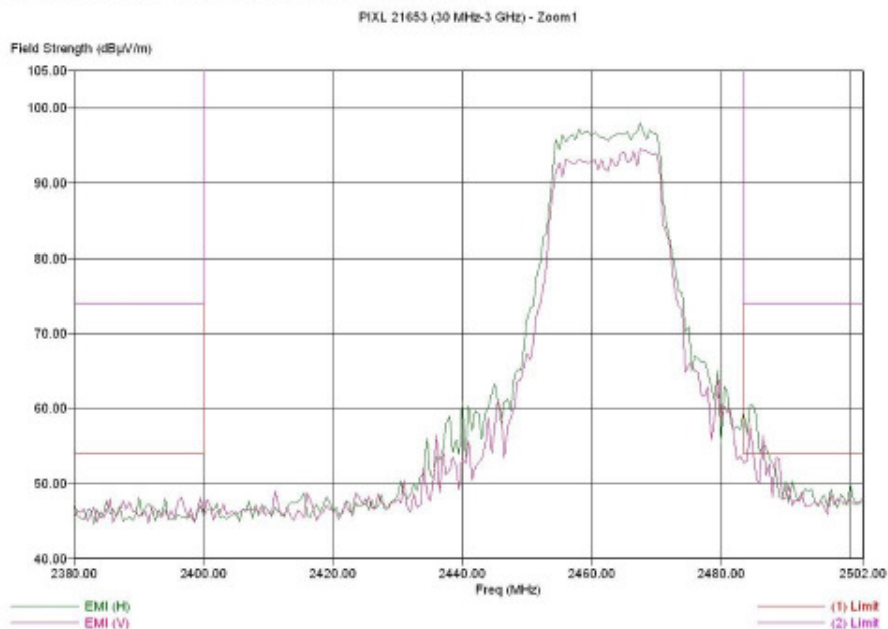
High Band Edge X-Orientation

Title: FCC 15.249
 File: FIXL 21653 (8.53) (ES15) FCC15.249 WLAN2400-g Tch-hgh_Y 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLI, usv001
 EUT Type: FIXL (M5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-11 (2462 MHz) TX mode @ 6Mbps/15dbm. Orient.=V
 MLP 3003c antenna (30MHz - 3 GHz). Peak detector used.



High Band Edge Y-Orientation

Title: FCC 15.249
 File: FIXL 21653 (8.53) (ES15) FCC15.249 WLAN2400-g Tch-hgh_Z 2008-02-22 Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLI, usv001
 EUT Type: FIXL (M5), FCC ID: IHDT56JT1, IMEI: 352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.249/IEEE 802.11(g) WLAN emission in TCM mode.
 WLAN ch-11 (2462 MHz) TX mode @ 6Mbps/15dbm. Orient.=Z
 MLP 3003c antenna (30MHz - 3 GHz). Peak detector used.



High Band Edge Z-Orientation

PICTURES

The pictures related to the above test results are placed in the associated report denoted as EXHIBIT 7A2.

APPENDIX

Appendix- 1 Out of band emission – band edge

The WLAN band (g) low channel band edge performance is further evaluated using the described method in FCC part 15.247(d).

The carrier is measured using a 100 kHz RBW.

Title: FCC 15.247d
 File: PIXL 21653 (8.53)(ESIB) FCC15.247d WLAN 2400-g Tch-low_X Carrier -PK-RBW_100kHz -VBW_AUTO-20dB_int -sweep10x5Sequence: Final Measurements 03/05/08 15:40:37
 Operator: ADR_AAL EMC_TL1.usv001
 EUT Type: PIXL (ZN5), FCC ID: IHDT56JT1, IMEI:352482020000489.
 EUT Condition: Board Rev: P2.8, SW Rev: R6637_G_81.00.331
 Comments: FCC 15.247d/ IEEE 802.11(g) WLAN emission in TCH mode
 WLAN ch-1 (2412 MHz) TX mode @ 6Mbps/15dBm, Orient.=X
 HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

PIXL 21653 -Carrier Table

Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBμV/m)	(1) Limit (dBμV/m)	(PK) Margin Lim1 (dB)	Ttbt Agl (deg)	Pol.
2406.00	2406.02	96.17	120.00	-23.83	53.90	H
2407.00	2407.01	95.69	120.00	-24.31	53.90	H
2408.00	2408.01	95.25	120.00	-24.75	53.90	H

Carrier X-Orientation-RBW = 100 kHz

The peak value of the carrier field strength is measured to: 96.17 dBμV/m.

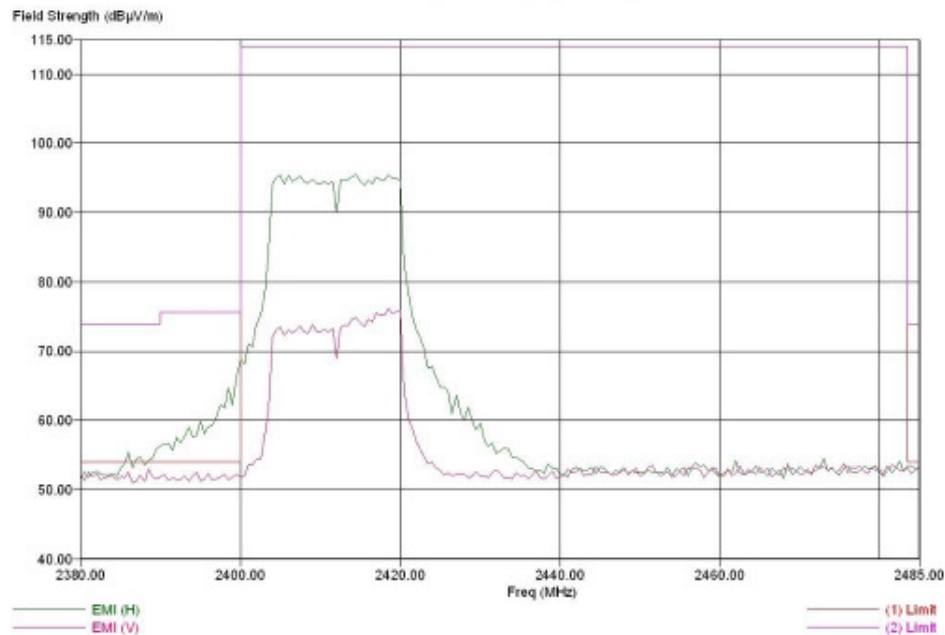
The new out of band emission limit line for emissions that does not fall inside any restricted band as defined in FCC part 15.205 and is limited to the frequency band 2390 MHz to 2400 MHz is:

$$\underline{96.17 \text{ dB}\mu\text{V/m} - 20\text{dB} = 76.17 \text{ dB}\mu\text{V/m.}}$$

A test with this modified limit line included is performed.

Title: FCC 15.247d
 File: PIXL 21653 (8.53) (ESIB) FCC15.247d WLAN 2400-g Tch-low_X -22.5deg Sequence: Preliminary Scan-2/
 Operator: ADR AAL EMC TLL, usv001
 EUT Type: PIXL (SIS), FCC ID: IHDT56JT1, IMEI: 352482020000489,
 EUT Condition: Board Rev: P2.8, SW Rev: R6637 G 81.00.331
 Comments: FCC 15.247d/ IEEE 802.11(g) WLAN emission in TCH mode
 WLAN ch-1 (2412 MHz) TX mode @ 6Mbps/15dBm. Orient.=X
 HLF 3009C antenna (30MHz - 3 GHz). Peak detector used.

Pau 21473 (30 MHz-3 GHz) - Open -22.5deg.



Band Edge X-Orientation-RBW = 100 kHz

The band edge performance in the out of band emission frequency range from 2390 MHz to 2400 MHz is attenuated by more than 20 dB with respect to the carrier.

End of Test Report