



MOTOROLA

MOBILE DEVICES BUSINESS

**PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY**

EMC TEST REPORT - Addendum

Test Report Number – 20871-1BT

Report Date – 08-08-2007

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.

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: 09-08-2007

This report must not be reproduced, except in full, without written approval from this laboratory.

FCC Registration Number: 863448

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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 Location ID: 109AP

Tests Requested By: Motorola Inc.
Mobile Devices business
600 North US Hwy 45
Libertyville, IL 60048

Product Type: Cell phone with Bluetooth

Signaling Capability: Quadra band, dual mode 850/900/1800/1900
GSM with EDGE class 10, GPRS class 10 and
UMTS 2100 with HSDPA category 5/6 and
Bluetooth.

Serial Numbers: IMEI 004401025185212

FCC ID: IHDT56HN2

Project number: 20871-1

Testing Complete Date: 08-08-2007

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 90 - Private Land Mobile Radio Service

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

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(d) 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 and radiated band-edge measurements were performed.

Summary of Testing

Test	Test Name	Pass/Fail
1	Field Strength of Spurious Emissions	Pass

Test	Test Name	Results
1	Field Strength of Spurious Emissions	See plots

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 EUT 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.

All testing was done in an indoor controlled environment with an average temperature of 22° C +- 2.5 ° C and relative humidity of 50%+- 5%.

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	Model/type	Serial number	Operational range	Date of calibration
EMI analysers	HP E7405A	US39440168	9 kHz – 26.5 GHz	19.04.07
	ESIB 26	100179	20 Hz – 26.5 GHz	15.05.07
Pre Amplifiers	EA PA-02: (JCA12-300 JCA218 JCA48-300 JCA1826 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	26.06.07
	Sonoma 310N	185680	9 kHz – 1 GHz	19.06.07
	AFS4-02001800-35-ULN (Mounted on EMCO 3115)	805815	2 GHz – 18 GHz	31.05.07
	JSA-18004000-30-5A (Mounted on EMCO 3116)	965195	18 GHz – 40 GHz	18.06.07
Radio com. Tester	CMU 200	112434	GSM 850/900/1800/1900 IS95, UMTS, CDMA, Bluetooth	01.05.07
High pass filter	K&L 3DH1- 3000/T13000-0/0 (Mounted on EMCO 3115)	8	(2700 - 20000 MHz)	31.05.07

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 either (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	09.05.00 (na)
Log-periodic (link)	LPDA 8030	090100	800 MHz – 3 GHz	09.05.00 (na)
Double ridged horn w. 3 GHz high pass + 2-18 GHz pre-amp.	EMCO 3115	00071502	1 GHz – 18 GHz	07.05.07
Double rigid horn w. 18- 40 GHz pre-amp.	EMCO 3116	71564	18 GHz – 40 GHz	07.05.07

All equipment is on a one-year calibration cycle.

Description of Bluetooth Transmitter

The 20871-1 cell phone offers Bluetooth as a feature. The Bluetooth spread-spectrum, frequency hopping transceiver is designed to operate between 2400 and 2483 MHz. The Bluetooth 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 Bluetooth transmitter, it is designed operate with other Bluetooth devices as defined by industrial standard. In this application, the device is battery-operated.

Measurement Procedures and Data

FIELD STRENGTH OF SPURIOUS EMISSIONS

CFR Part 2.1053, 15.247(d)

Measurement Procedure

The Equipment-Under-Test is placed inside the semi-anechoic chamber on a polystyrene 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 EMI receiver. This is repeated for both horizontal and vertical polarizations of the receive antenna.

Field Strength (dBuV/m) = EMI Receiver Level (dBuV) + Cable Loss (dB) -
Amplifier Gain (dB) + Antenna Correction Factor (1/m)

A fully charged battery was used for the supply voltage.

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

- Tests were performed at low, mid and high channels.
- Tests were performed with EUT orientated along X, Y and Z orthogonal axis.

Measurement Results

Comments:

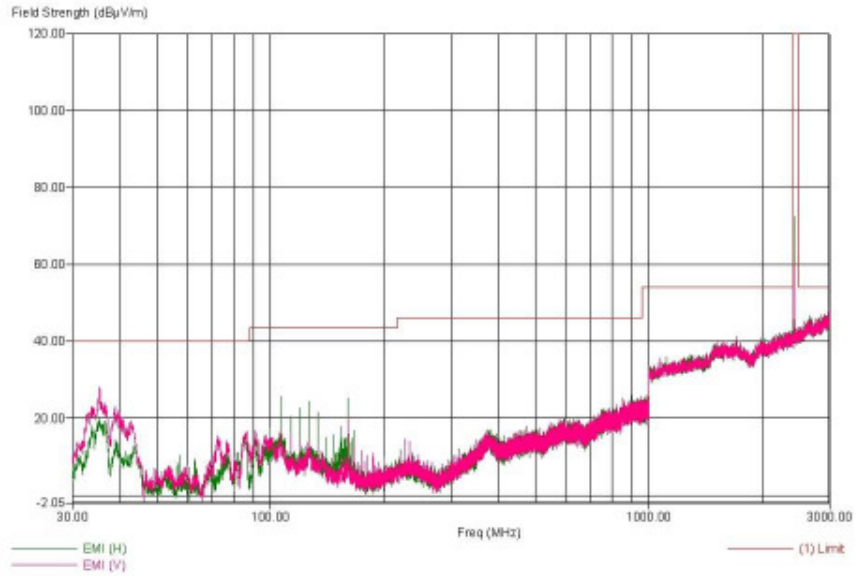
The band edge measurements near crossing the corner for the low channel with respect to the average limit line is acceptable when applying the FCC rule specified in CFR 15.35(b) for the use of peak detector above 1 GHz.

The measurements close to the 10 Harmonic frequencies is supported by additional evidence with average measurements on various high frequency peaks.

Attached results:

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8,53) (ESIB) FCC15.247 BT2400 Tch-low_X 03-08-2sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev #4.1.
Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation XPH
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.

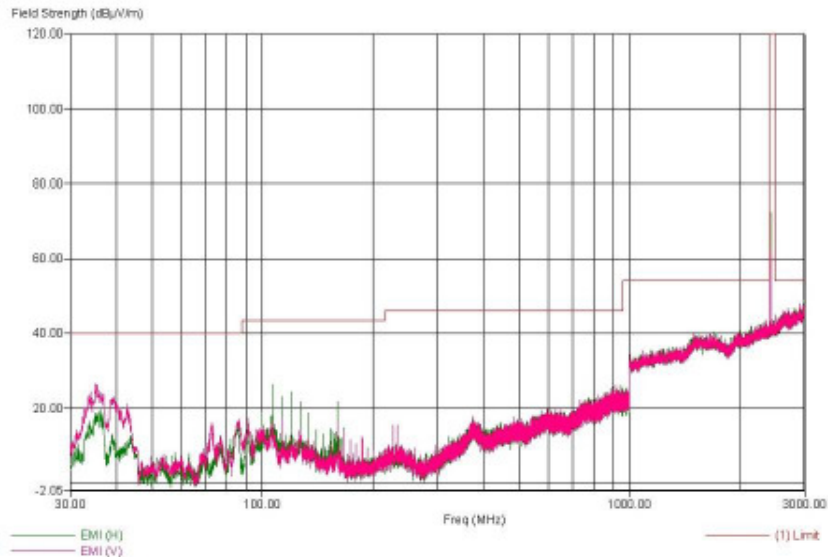
Emerald EMEA 20871 (30 MHz-3 GHz)



30-3000MHz Low Channel Dual Polarization X

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8,53) (ESIB) FCC15.247 BT2400 Tch-low_Y 03-08-2sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev #4.1.
Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation YPH
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.

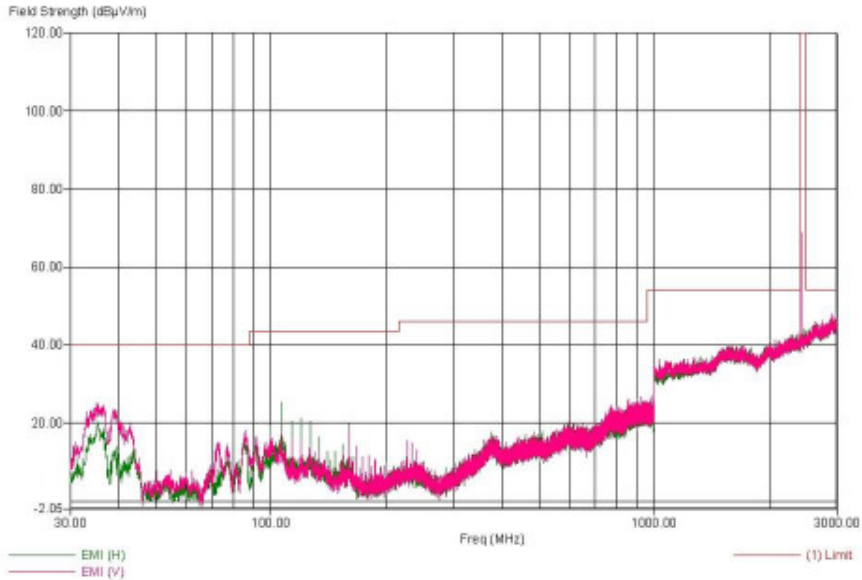
Emerald EMEA 20871 (30 MHz-3 GHz)



30-3000MHz Low Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (E21B) FCC15.247 BT2400 Tch-low_Z 03-08-25 Sequence: Preliminary Scan 08/08/07 12:01:07
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/dc in test mode. Orientation Z=V
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

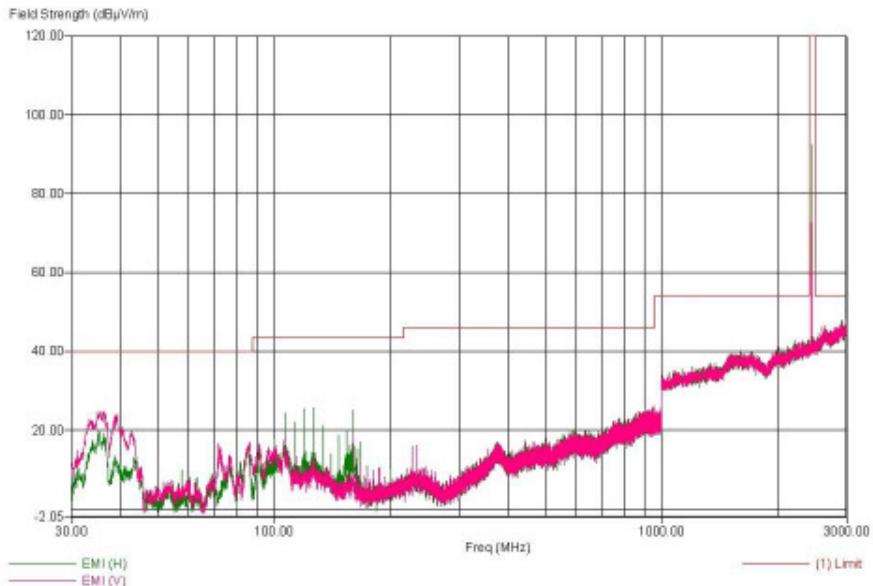
Emerald EMEA 20871 (30 MHz-3 GHz)



30-3000MHz Low Channel Dual Polarization Z

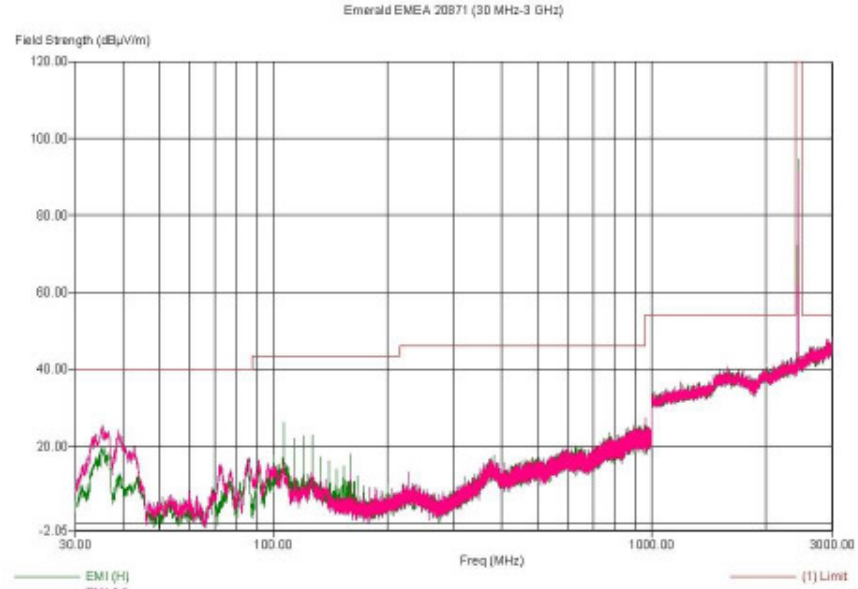
Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (E21B) FCC15.247 BT2400 Tch-mid_X 03-08-25 Sequence: Preliminary Scan 08/08/07 09:59:50
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/dc in test mode. Orientation X=H
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

Emerald EMEA 20871 (30 MHz-3 GHz)



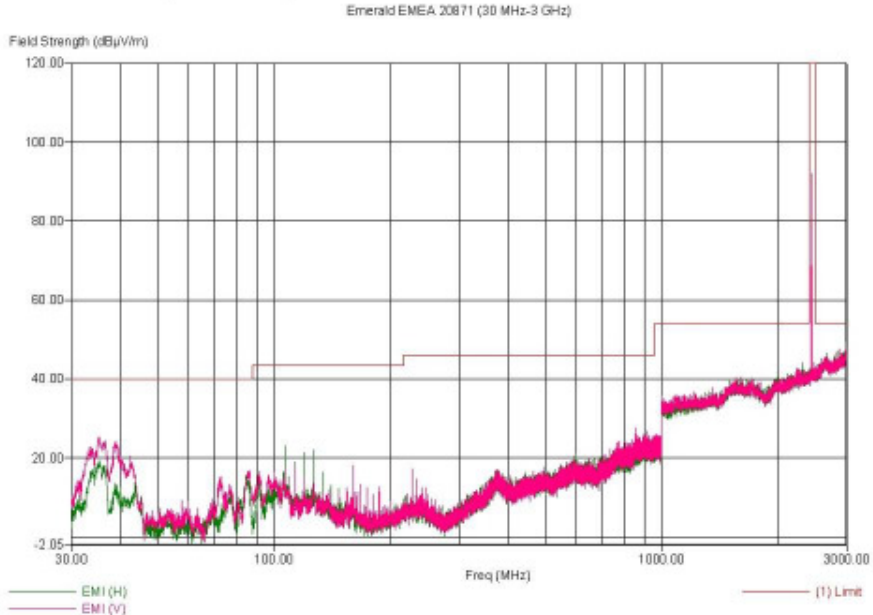
30-3000MHz Mid Channel Dual Polarization X

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-mid_Y 03-08-2Sequence: Preliminary Scan 08/08/07 11:05:41
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 19 (2441 MHz) up/down in test mode. Orientation Y=H
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



30-3000MHz Mid Channel Dual Polarization Y

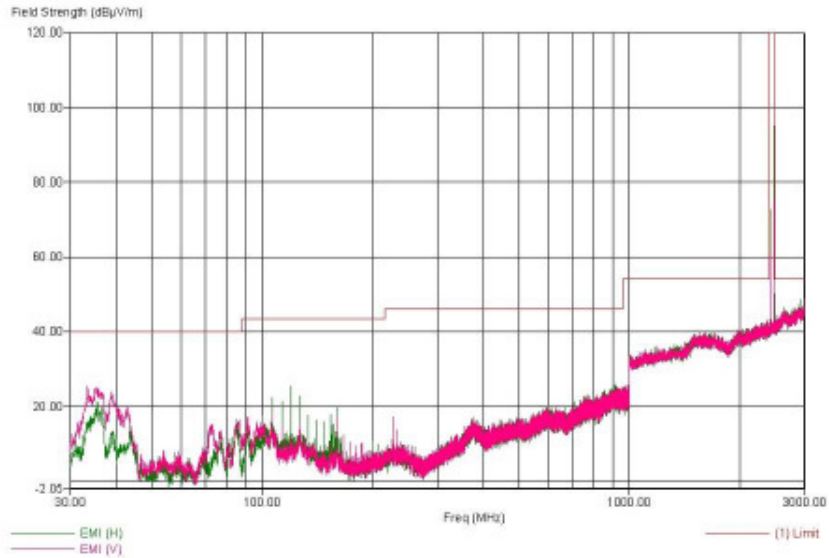
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Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Z=V
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



30-3000MHz Mid Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIS) FCC15.247 BT2400 Tch-hgh_X 03-08-Sequence: Preliminary Scan
Operator: ADR AAL EMC TLL, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 78 (2480 MHz) up/dc in test mode. Orientation X=H
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

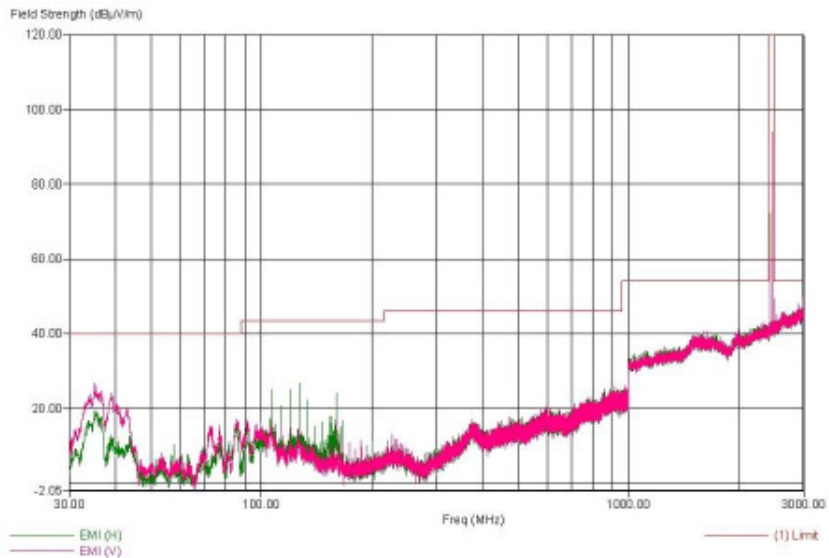
Emerald EMEA 20871 (30 MHz-3 GHz)



30-3000MHz High Channel Dual Polarization X

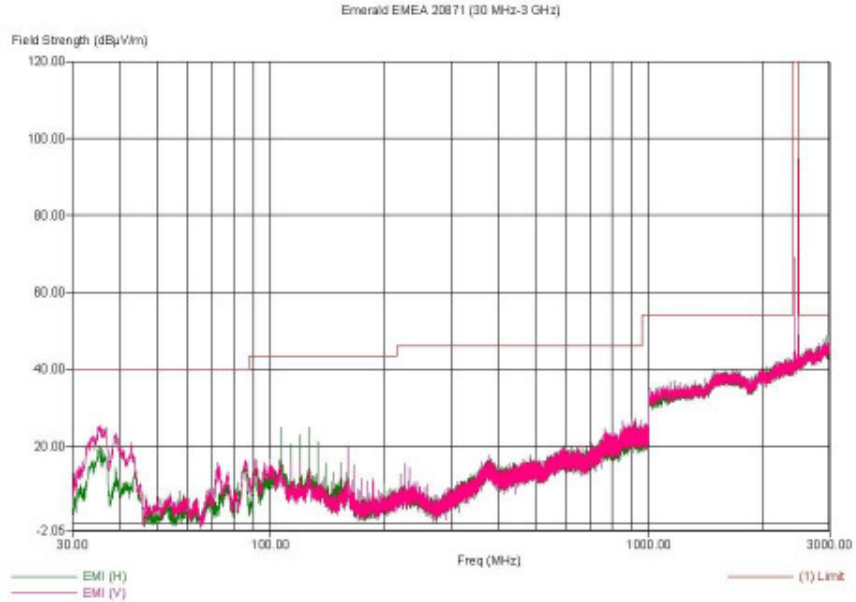
Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIS) FCC15.247 BT2400 Tch-hgh_Y 03-08-Sequence: Preliminary Scan
Operator: ADR AAL EMC TLL, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 78 (2480 MHz) up/dc in test mode. Orientation Y=H
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.

Emerald EMEA 20871 (30 MHz-3 GHz)



30-3000MHz High Channel Dual Polarization Y

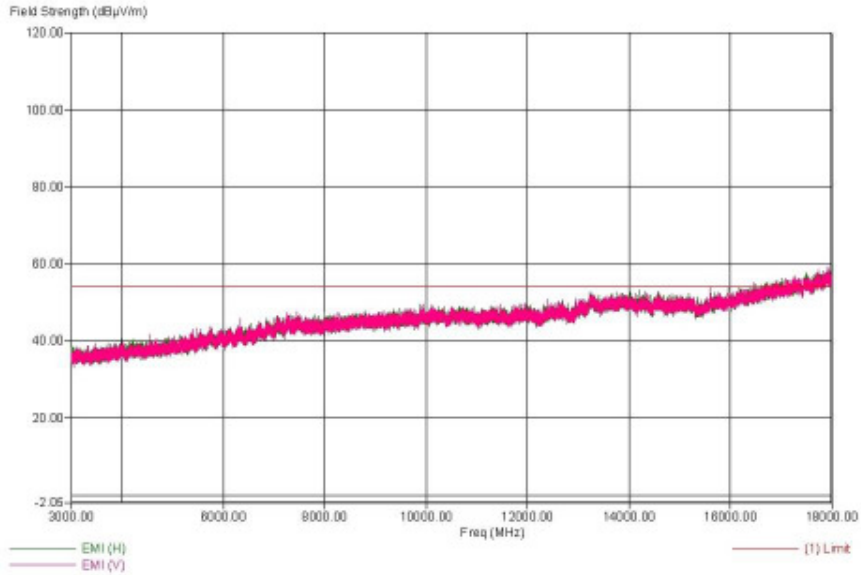
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Operator: ADR AAL EMC TL3, hkr001
EUT Type: Emerald EMEA. INEI: 004401023195212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
RF channel 75 (2480 MHz) up/down in test mode. Orientation 2=V
HLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



30-3000MHz High Channel Dual Polarization Z

Title: FCC 15.247(c) 08/02/07 16:25:24
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-low_X 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hke001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation X-H
EMCO 3115 antenna (30Hz - 180Hz). Peak detector used.

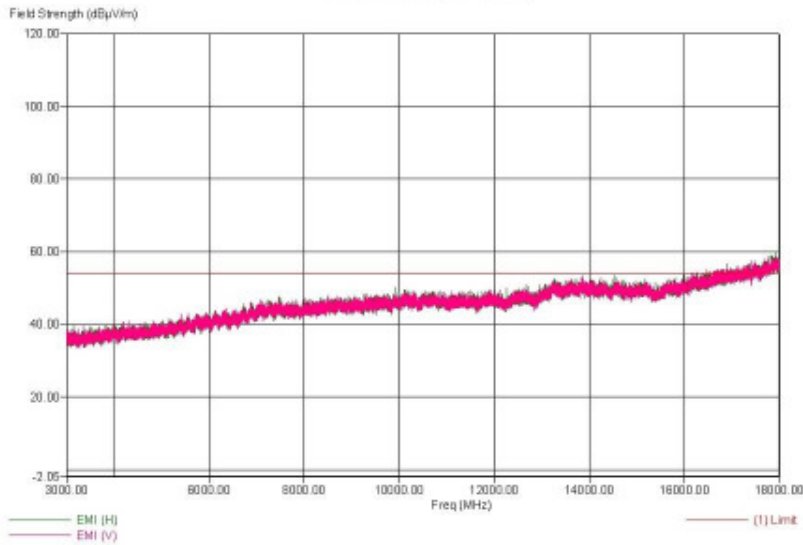
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18 GHz Low Channel Dual Polarization X

Title: FCC 15.247(c) 08/03/07 10:03:29
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-low_Y 02-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hke001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation Y-H
EMCO 3115 antenna (30Hz - 180Hz). Peak detector used.

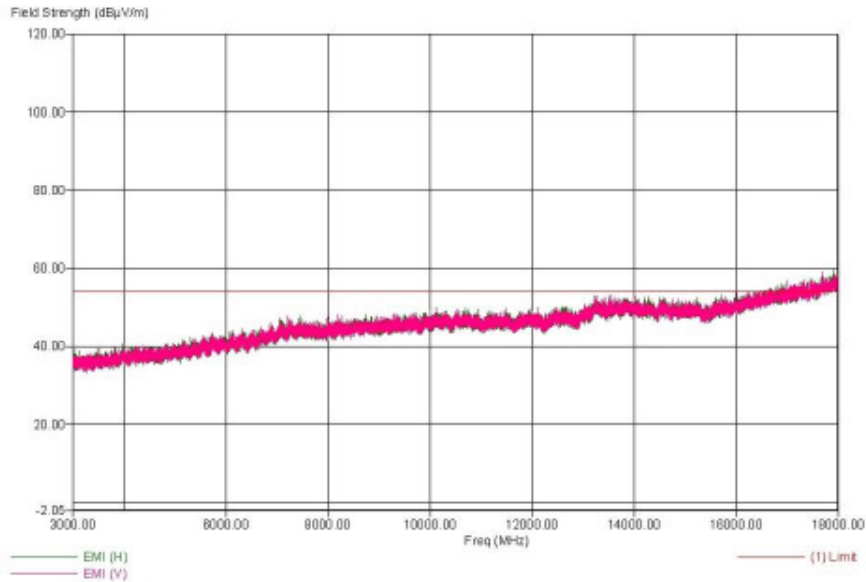
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18GHz Low Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-Low_Z 03-08-25sequence: Preliminary Scan 08/03/07 11:27:29
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation Z=V
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

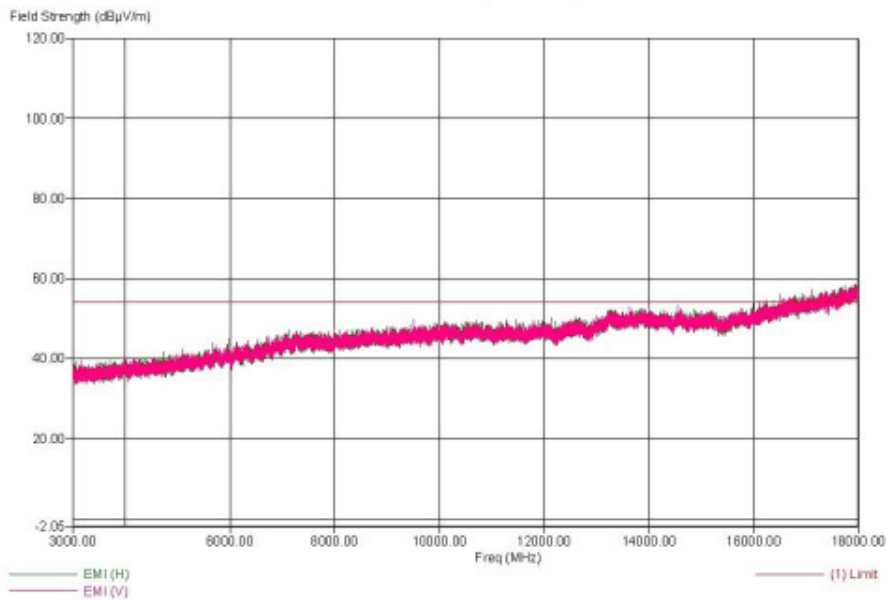
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18 GHz Low Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-mid_X 03-08-25sequence: Preliminary Scan 08/03/07 09:08:38
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2491 MHz) up/down in test mode. Orientation X=H
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

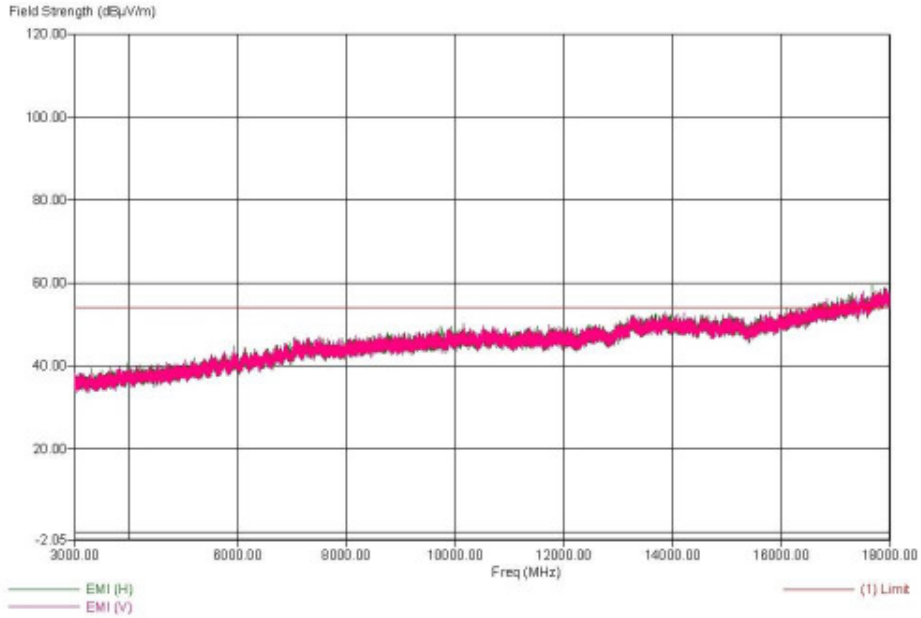
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18GHz Mid Channel Dual Polarization X

Title: FCC 15.247 (c) 08/03/07 10:35:45
File: Emerald EMEA 20871 (8.53) (ES18) FCC15.247 BT2400 Toh-mid_Y 03-08-2Sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCH mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Y=H
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

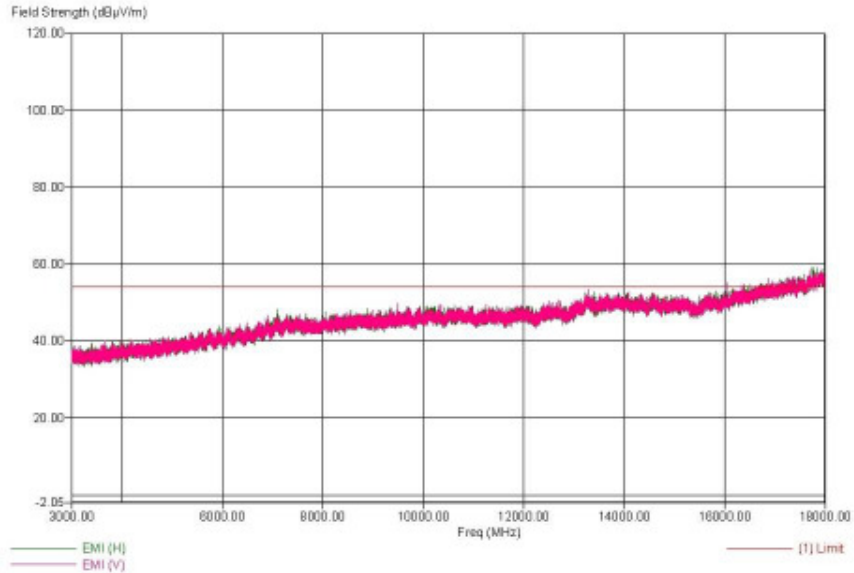
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18 GHz Mid Channel Dual Polarization Y

Title: FCC 15.247 (c) 08/03/07 11:54:17
File: Emerald EMEA 20871 (9.52) (ES18) FCC15.247 BT2400 Toh-mid_Z 03-08-2Sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCH mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Z=V
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

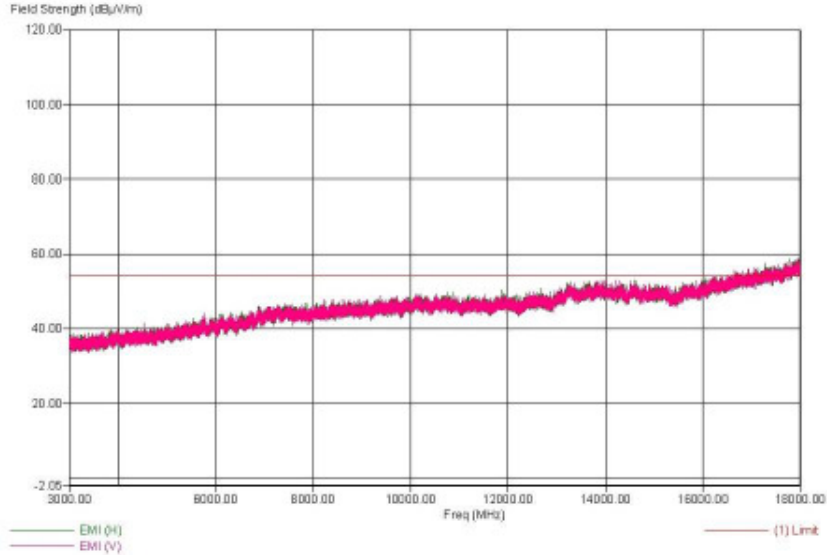
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18 GHz Mid Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Test-bgh_X 03-08-2sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 18 (2480 MHz) up/down in test mode. Orientation X=H
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

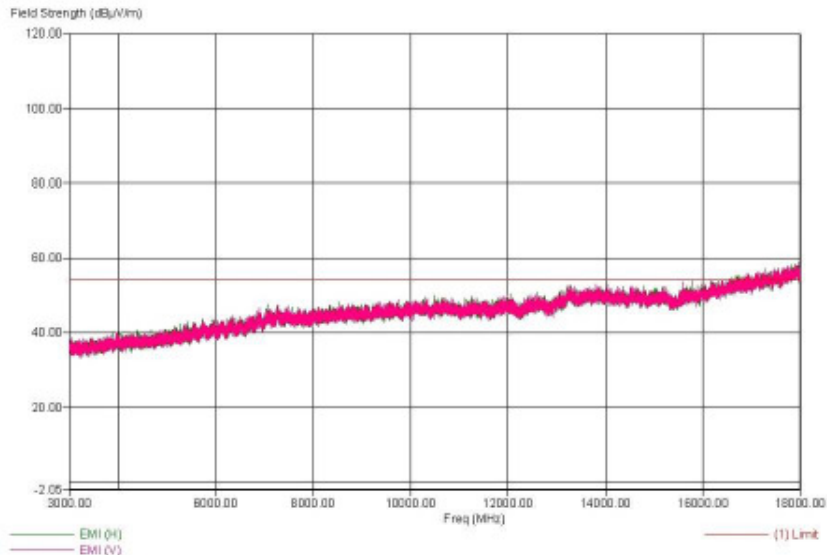
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18 GHz High Channel Dual Polarization X

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Test-bgh_Y 03-08-2sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 18 (2480 MHz) up/down in test mode. Orientation Y=H
EMCO 3115 antenna (3GHz - 18GHz). Peak detector used.

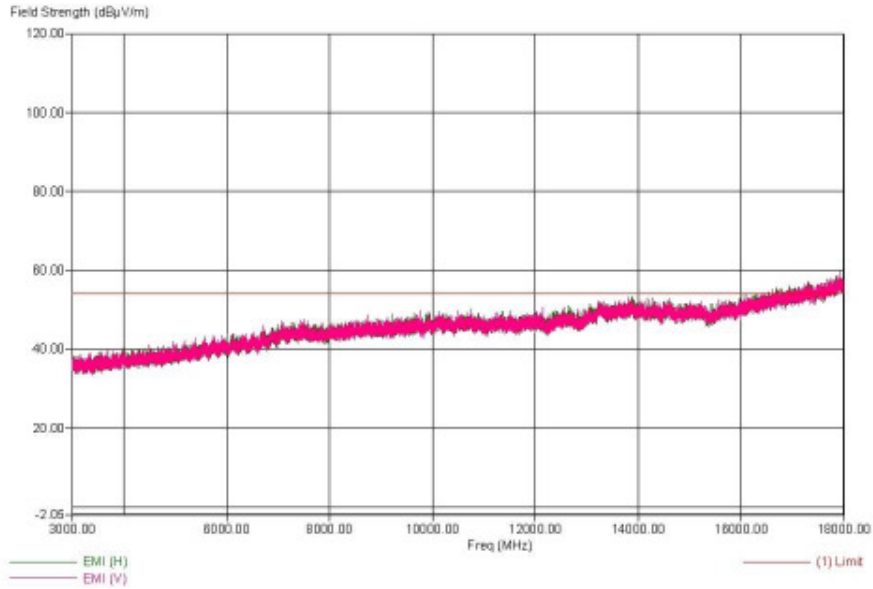
Emerald EMEA 20871 (3 GHz-18 GHz)



3-18GHz High Channel Dual Polarization Y

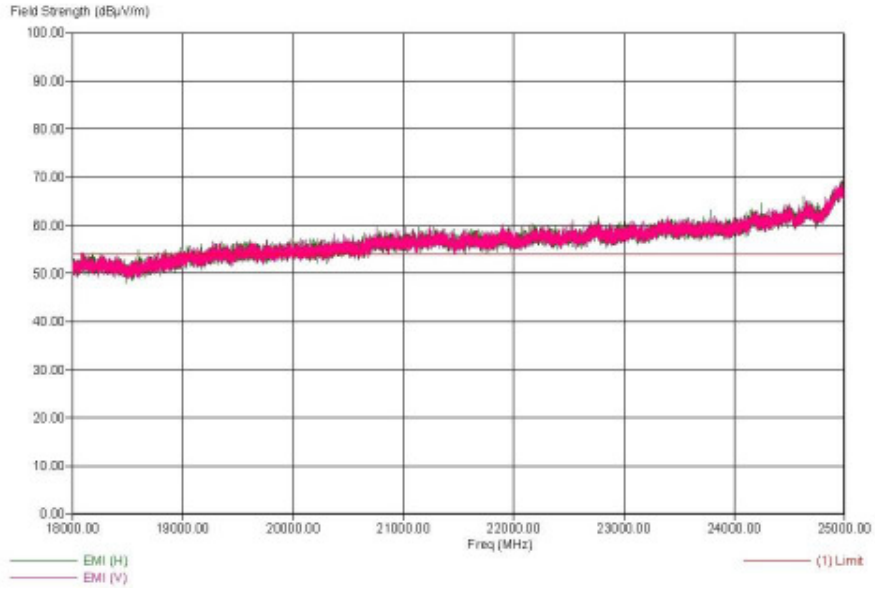
Title: FCC 15.247(c) 08/03/07 12:19:05
File: Emerald EMEA 20871 (8.53)(ESIB) FCC15.247 BT2400 Tch-hgh_Z 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 78 (2480 MHz) up/down in test mode. Orientation Z=V
EMC 3115 antenna (3GHz - 18GHz). Peak detector used.

Emerald EMEA 20871 (3 GHz-18 GHz)



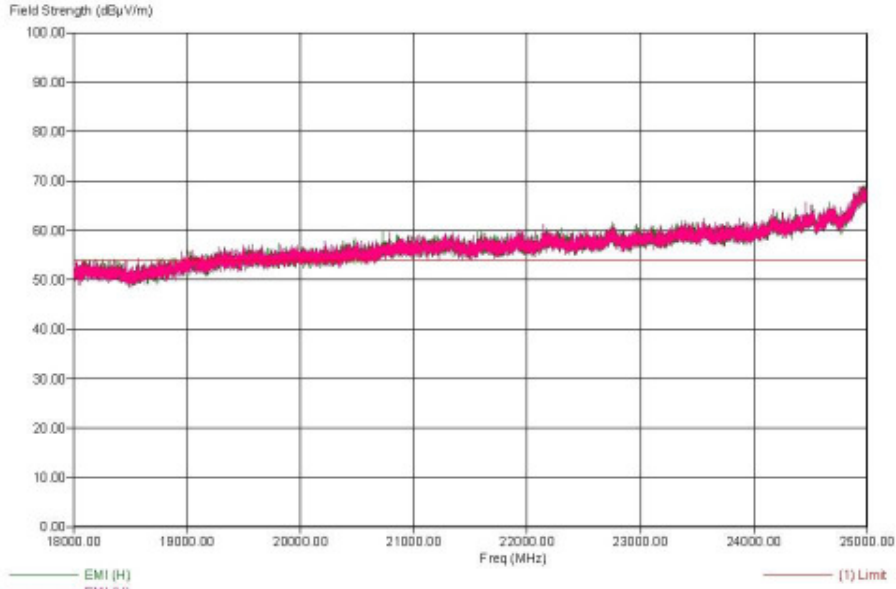
3-18 GHz High Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (S.52)(EIR) FCC15.247 BT2400 Tch-low_X 03-09-2Sequence: Preliminary Scan 08/03/07 15:04:11
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev F4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation X=H
EMCC 3116 antenna (18GHz - 25GHz). Peak detector used.
Emerald EMEA 20871 (18 GHz-25 GHz)



18-25 GHz Low Channel Dual Polarization X

Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (8.53) (E91B) FCC15.247 BT2400 Tch-low_Y 03-08-Sequence: Preliminary Scan
 Operator: ADR AAL EMC TL1, hkr001
 SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 SUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
 BT channel 0 (2402 MHz) up/do in test mode. Orientation Y=H
 EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.
 Emerald EMEA 20871 (18 GHz-25 GHz)



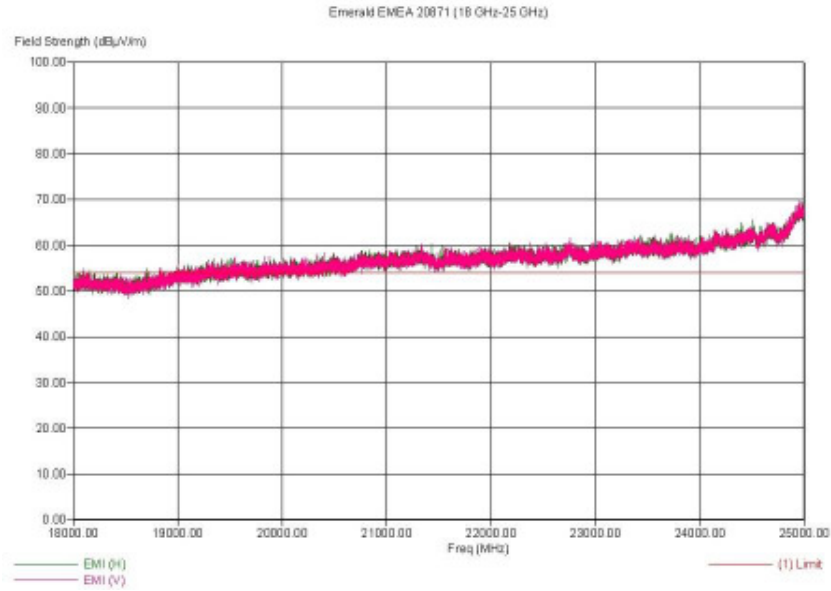
Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (8.53) (E91B) FCC15.247 BT2400 Tch-low_Y 03-08-Sequence: Final Measurements
 Operator: ADR AAL EMC TL1, hkr001
 SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 SUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
 BT channel 0 (2402 MHz) up/do in test mode. Orientation Y=H
 EMCO 3116 antenna (18GHz - 25GHz).

Emerald EMEA 20871 table

Freq (MHz)	(AVG) EMI (dBµV/m)	(1) Limit (dBµV/m)	(AVG) Margin (dB)	Ttbt1 Aql (deg)
24459.50	52.44	54.00	-1.56	353.60
24460.00	52.48	54.00	-1.52	311.40
24667.50	53.52	54.00	-0.48	299.60
24670.50	53.47	54.00	-0.53	299.70

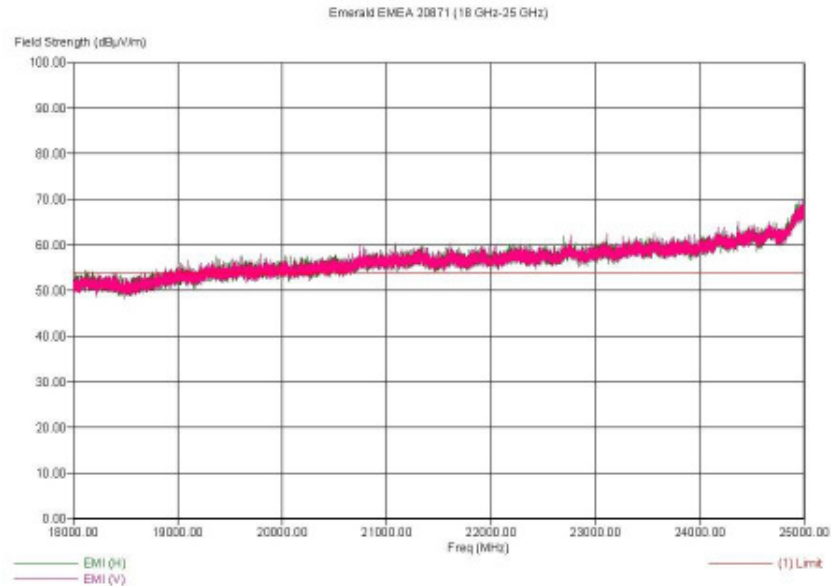
18-25 GHz Low Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Test-low_Z 03-08-2sequence: 08/03/07 13:04:45
Operator: ADR AAL EMC TLI, hkr001
SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
SUT Condition: Emerald EMEA, Rev 04.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation Z=V
EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.



18-25 GHz Low Channel Dual Polarization Z

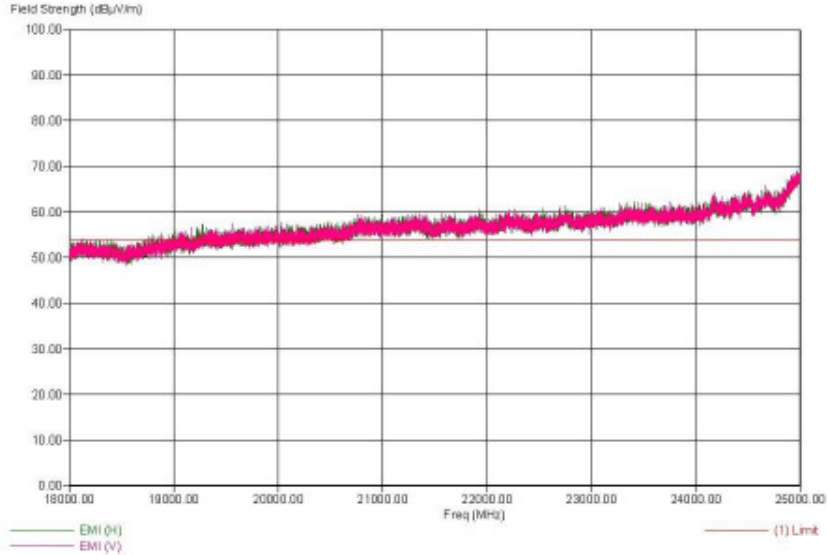
Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Test-mid_X 03-08-2sequence: 08/03/07 13:22:33
Operator: ADR AAL EMC TLI, hkr001
SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
SUT Condition: Emerald EMEA, Rev 04.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation X=H
EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.



18-25 GHz Mid Channel Dual Polarization X

Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (8.53) (E91B) FCC15.247 BT2400 Tot-mid_Y 03-08-Sequence: Preliminary Scan
 Operator: ADR AAL EMC TLI, hkr001
 EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 EUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
 BT channel 39 (2441 MHz) up/do in test mode. Orientation Y=H
 EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.

Emerald EMEA 20871 (18 GHz-25 GHz)



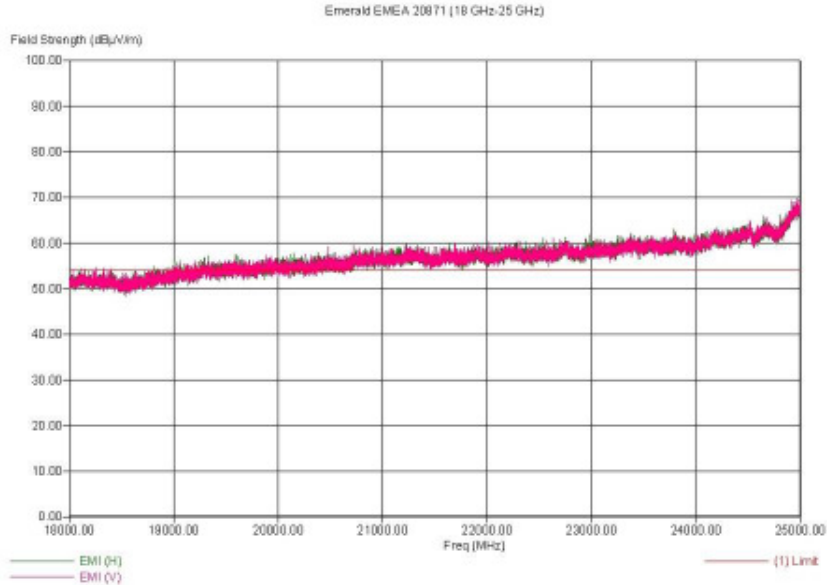
Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (8.53) (E91B) FCC15.247 BT2400 Tot-mid_Y 03-08-Sequence: Final Measurements
 Operator: ADR AAL EMC TLI, hkr001
 EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 EUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
 BT channel 39 (2441 MHz) up/do in test mode. Orientation Y=H
 EMCO 3116 antenna (18GHz - 25GHz).

Emerald EMEA 20871 table

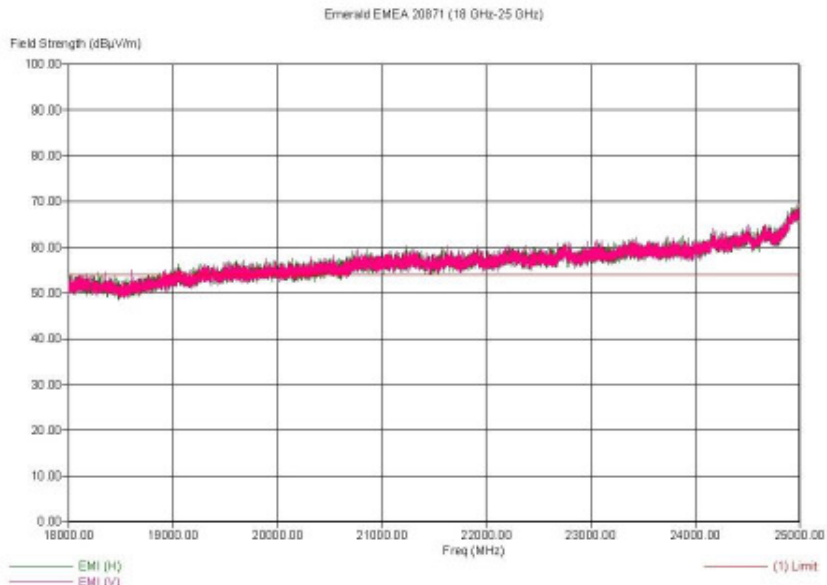
Freq (MHz)	(AVG) EMI (dBµV/m)	(1) Limit (dBµV/m)	(AVG) Margin (dB)	Tabl Aq1 (deg)
24171.00	51.87	54.00	-2.13	3.70
24659.50	53.67	54.00	-0.33	239.00
24662.00	53.60	54.00	-0.40	4.00

18-25 GHz Mid Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.33) (ESIB) FCC15.247 BT2400 Tch-mid_2 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Z=Y
EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.

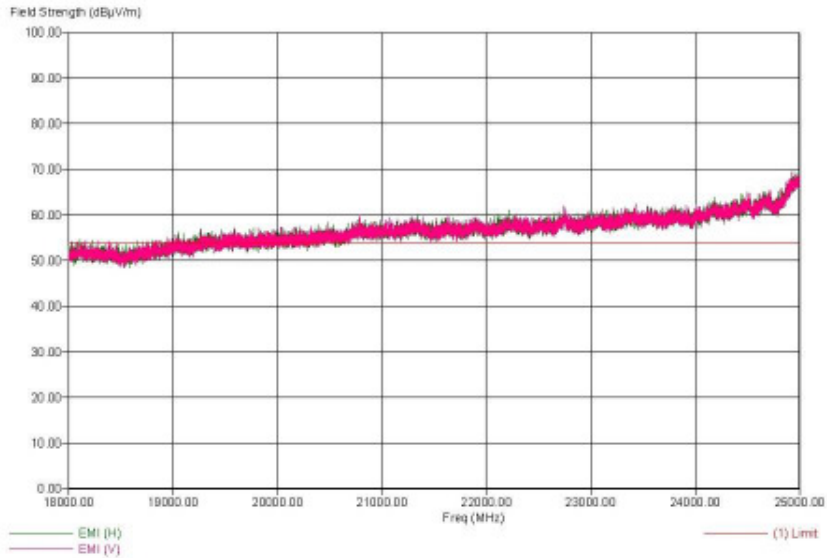


Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-high_X 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 78 (2480 MHz) up/down in test mode. Orientation X=H
EMCO 3116 antenna (18GHz - 25GHz). Peak detector used.



Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (9,53)(E91B) FCC15.247 BT2400 Tch-hgh_Y 03-08-2sequence: Preliminary Scan
 Operator: ADR AAL EMC TL1, hkr001
 EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 EUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
 BT channel 79 (2480 MHz) up/down in test mode. Orientation Y=H
 EMC0 3116 antenna (18GHz - 25GHz). Peak detector used.

Emerald EMEA 20871 (18 GHz-25 GHz)



Title: FCC 15.247(c)
 File: Emerald EMEA 20871 (9,53)(E91B) FCC15.247 BT2400 Tch-hgh_Y 03-08-2sequence: Final Measurements
 Operator: ADR AAL EMC TL1, hkr001
 EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
 EUT Condition: Emerald EMEA, Rev P4.1.
 Comments: FCC 15.247(c)(1) Bluetooth (BT) emission in TCM mode.
 BT channel 79 (2480 MHz) up/down in test mode. Orientation Y=H
 EMC0 3116 antenna (18GHz - 25GHz).

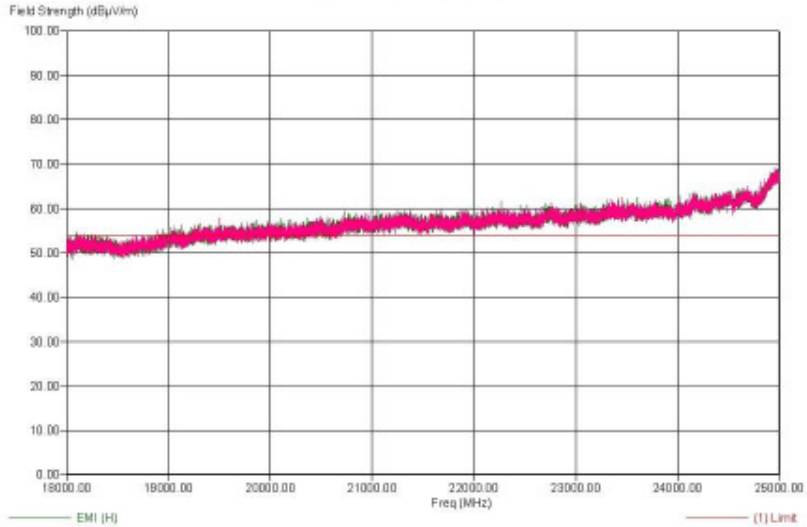
Emerald EMEA 20871 table

Freq (MHz)	(AVG) EMI (dBuV/m)	(1) Limit (dBuV/m)	(AVG) Margin Lim1 (dB)	Ttb1 Ag1 (deg)
24819.00	53.22	54.00	-0.78	44.00
24830.50	53.46	54.00	-0.54	113.60

18-25 GHz High Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (0.53) (EMIS) FCC15.247 RT2400 Tch-hgh_2 02-09-Sequence: Preliminary Scan
Operator: ADR AAL EMC Tbl, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025195212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 78 (2480 MHz) up/down in test mode. Orientation E/V
EMCO 3115 antenna (18GHz - 25GHz). Peak detector used.

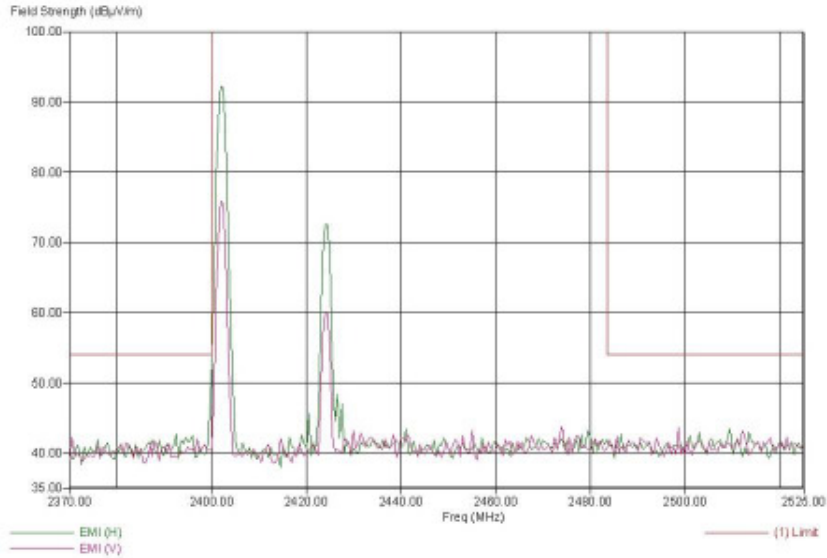
Emerald EMEA 20871 (18 GHz-25 GHz)



18-25 GHz High Channel Dual Polarization Z

Title: FCC 15.247 (c)
File: Emerald EMEA 20871 (8.53) (ES1B) FCC15.247 BT2400 Tch-low_X 03-08-2Sequence: Preliminary Scan 08/08/07 09:40:44
Operator: ADR AAL EMC TLI, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation X*H
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.

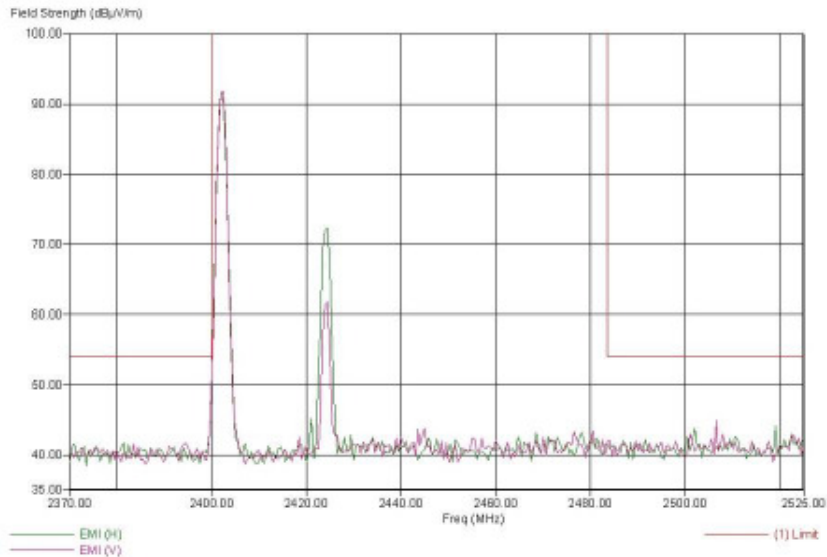
Emerald EMEA 20871 (30 MHz-3 GHz) - Zoom1



Authorized Band Emissions Low Channel Dual Polarization X

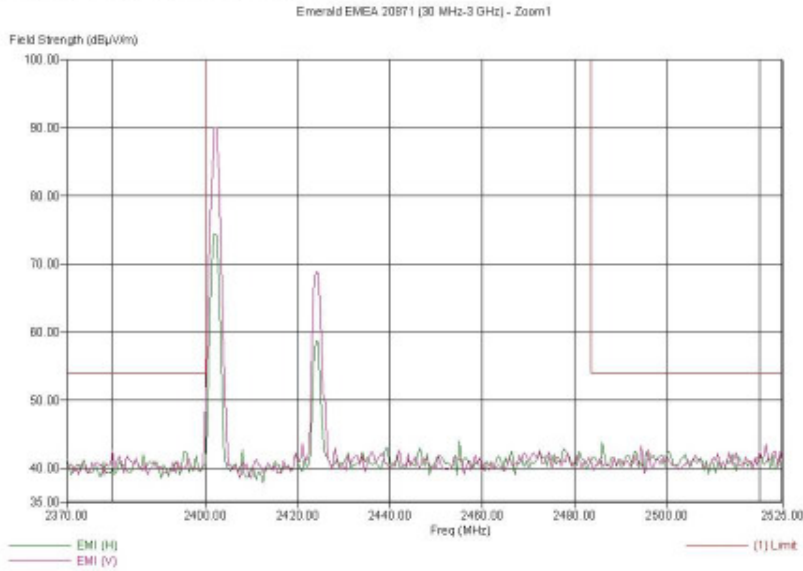
Title: FCC 15.247 (c)
File: Emerald EMEA 20871 (8.53) (ES1B) FCC15.247 BT2400 Tch-low_Y 03-08-2Sequence: Preliminary Scan 08/08/07 11:33:33
Operator: ADR AAL EMC TLI, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation X*H
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.

Emerald EMEA 20871 (30 MHz-3 GHz) - Zoom1



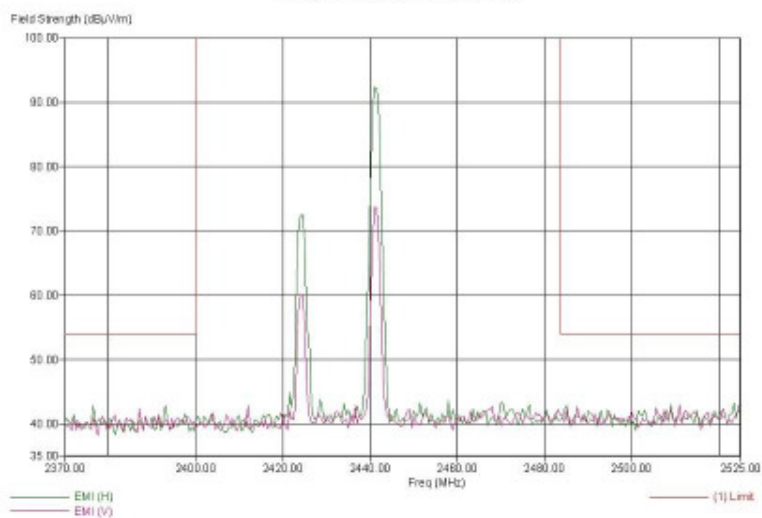
Authorized Band Emissions Low Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-low_E 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025195212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 0 (2402 MHz) up/down in test mode. Orientation 2=V
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



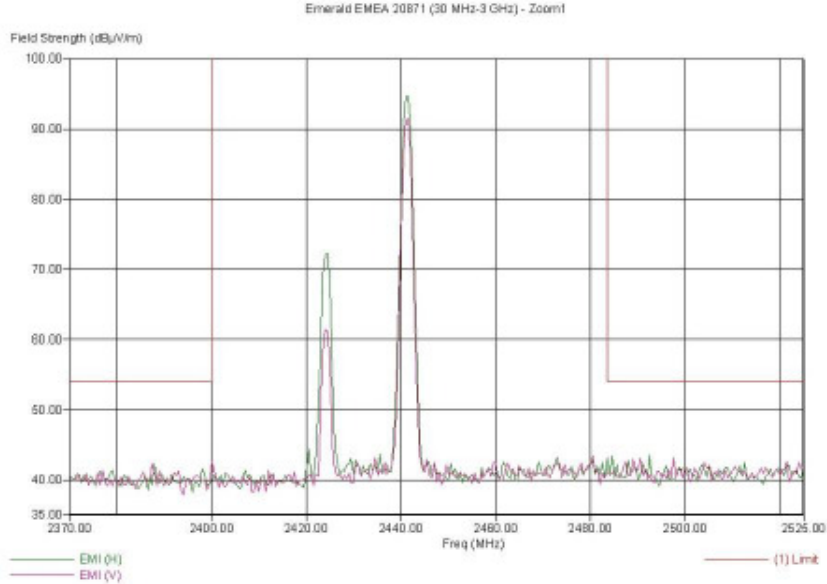
Authorized Band Emissions Low Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ESIB) FCC15.247 BT2400 Tch-mid_X 03-08-25sequence: Preliminary Scan
Operator: ADR AAL EMC TL1, hkr001
EUT Type: Emerald EMEA, IMEI: 004401025195212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation X=H
MLP 3003C antenna (30MHz - 3 GHz). Peak detector used.



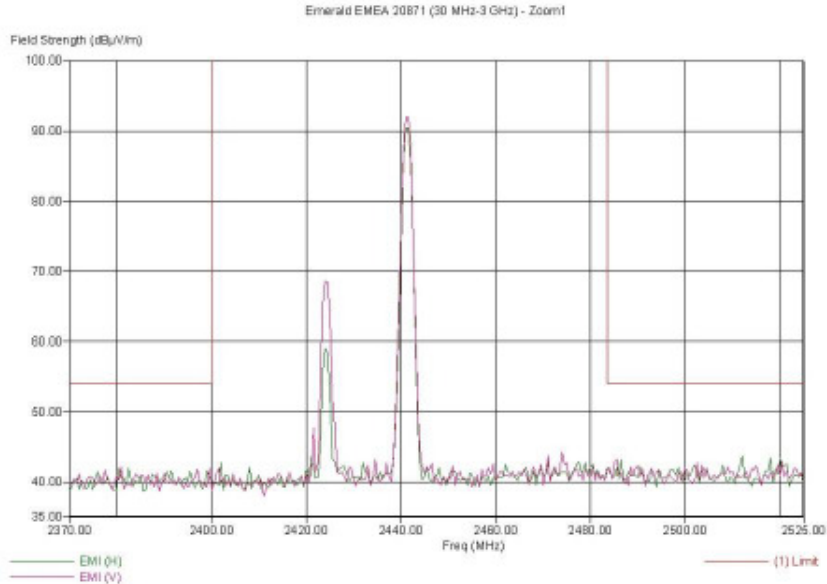
Authorized Band Emissions Mid Channel Dual Polarization X

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ES18) FCC15.247 BT2400 Test-mid_Y 03-08-2Sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hkr001
SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
SUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Y=H
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.



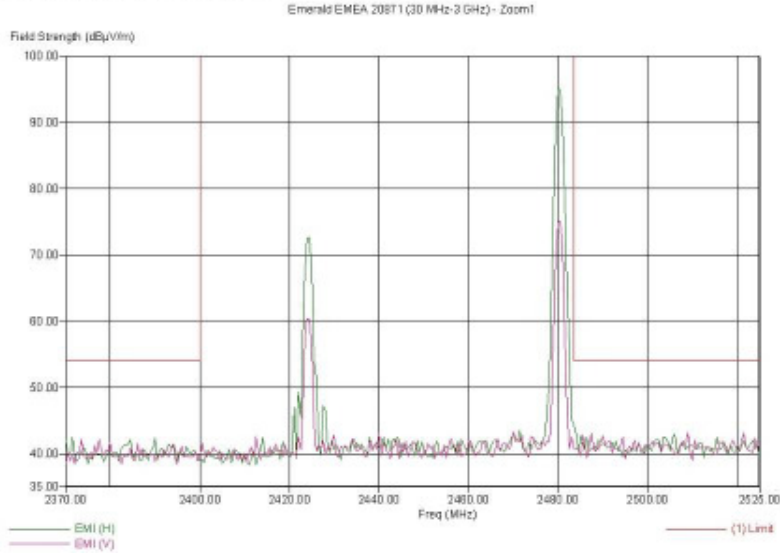
Authorized Band Emissions Mid Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ES18) FCC15.247 BT2400 Test-mid_Z 03-08-2Sequence: Preliminary Scan
Operator: ADR AAL EMC TLI, hkr001
SUT Type: Emerald EMEA, IMEI: 004401025185212, FCC ID: IHDT56HN2
SUT Condition: Emerald EMEA, Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 39 (2441 MHz) up/down in test mode. Orientation Z=V
MFP 3003C antenna (30MHz - 3 GHz). Peak detector used.



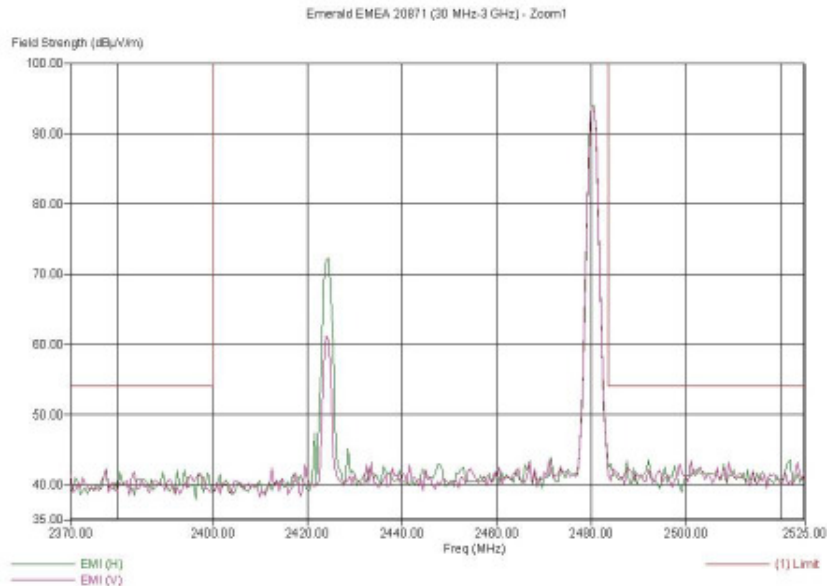
Authorized Band Emissions Mid Channel Dual Polarization Z

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ES18) FCC15.247 BT2400 Tch-high_X 03-08-25sequence: Preliminary Scan 08/08/07 10:19:10
Operator: ADM AAL EMC TLI, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 79 (2480 MHz) up/down in test mode. Orientation X*H
HLP 3002C antenna (30MHz - 3 GHz). Peak detector used.



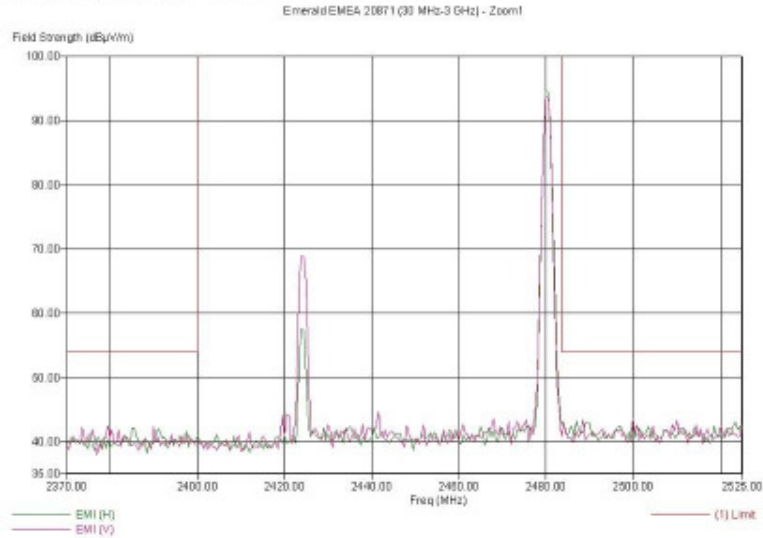
Authorized Band Emissions High Channel Dual Polarization X

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ES18) FCC15.247 BT2400 Tch-high_Y 03-08-25sequence: Preliminary Scan 08/08/07 10:41:59
Operator: ADM AAL EMC TLI, hkr001
EUT Type: Emerald EMEA. IMEI: 004401025185212, FCC ID: IHDT56HN2
EUT Condition: Emerald EMEA. Rev P4.1.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCM mode.
BT channel 78 (2480 MHz) up/down in test mode. Orientation Y*H
HLP 3002C antenna (30MHz - 3 GHz). Peak detector used.



Authorized Band Emissions High Channel Dual Polarization Y

Title: FCC 15.247(c)
File: Emerald EMEA 20871 (8.53) (ES1B) FCC15.247 BT2400 Tch-hgh_Z 03-08-2sequence: Preliminary Scan
Operator: ADM A&L EMC TEL hkr003
SUT Type: Emerald EMEA, IMEI: 004461025105212, FCC ID: IHDT56HM2
SUT Condition: Emerald EMEA, Rev F9.3.
Comments: FCC 15.247(c) (1) Bluetooth (BT) emission in TCH mode.
BT channel 70 (2480 MHz) up/down in test mode. Orientation 2=V
HPL 3003C antenna (30MHz - 3 GHz). Peak detector used.



Authorized Band Emissions High Channel Dual Polarization Z

PICTURES

Extracted to FCC Exhibit 7A

20871-1, IHDT56HN2 setup in semi-anechoic chamber

End of Test Report