

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 1 of 87

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT **FULL MODULE APPROVE**

OF

Product Name: Bluetooth Module

Brand Name: WT11-E

Model Name: WT11-E

FCC ID: QOQWT11E

Report No.: EF/2006/20016

Issue Date: Aug. 16, 2006

FCC Rule Part: §15.247

Prepared for: Bluegiga Technologies

Sinikalliontie 11, 02630 Espoo, FINLAND

Prepared by: SGS Taiwan Ltd.

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Zone, Taipei County, Taiwan.





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REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 2

VERIFICATION OF COMPLIANCE

Applicant: Bluegiga Technologies

Sinikalliontie 11, 02630 Espoo, FINLAND

Equipment Under Test: Bluetooth Module

Brand Name: WT11-E

FCC ID Number: QOQWT11E

Model No.: WT11-E

N/A **Model Difference:**

File Number: ER/2006/70001

Date of test: Mar. 12, 2006 ~ Aug. 15, 2006

Date of EUT Received: Mar. 12, 2006

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247.

The test results of this report relate only to the tested sample identified in this report.

| Test By: | Vanny Yeh | Date | Aug. 16, 2006 | |
|--------------|-------------|------|---------------|--|
| | Danny Yeh | | | |
| Prepared By: | Eliser Chen | Date | Aug. 16, 2006 | |
| | Elisa Chen | | | |
| Approved By: | Timent Su | Date | Aug. 16, 2006 | |
| _ | Vincent Su | | | |

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REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 3

Version

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REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 4

Table of Contents

| 1. | GEN | ERAL INFORMATION | 7 |
|----|------|----------------------------------|----|
| | 1.1. | Product Description | 7 |
| | 1.2. | Related Submittal(s) / Grant (s) | 7 |
| | 1.3. | Test Methodology | 7 |
| | 1.4. | Test Facility | 7 |
| | 1.5. | Special Accessories | 7 |
| | 1.6. | Equipment Modifications | 7 |
| 2. | SYST | TEM TEST CONFIGURATION | 8 |
| | 2.1. | EUT Configuration | 8 |
| | 2.2. | EUT Exercise | 8 |
| | 2.3. | Test Procedure | 8 |
| | 2.4. | Configuration of Tested System | 9 |
| 3. | SUM | MARY OF TEST RESULTS | 10 |
| 4. | DESC | CRIPTION OF TEST MODES | 10 |
| 5. | CON | DUCTED EMISSION TEST | 11 |
| | 5.1. | Standard Applicable | 11 |
| | 5.2. | EUT Setup | 11 |
| | 5.3. | Measurement Procedure | 11 |
| | 5.4. | Measurement Equipment Used: | 12 |
| | 5.5. | Measurement Result | 12 |
| 6. | PEA] | K OUTPUT POWER MEASUREMENT | 16 |
| | 6.1. | Standard Applicable | 16 |
| | 6.2. | Measurement Procedure | 16 |
| | 6.3. | Measurement Result | 16 |
| | 6.4. | Measurement Equipment Used: | 16 |
| 7. | 20dB | BAND WIDTH | 19 |
| | 7.1. | Standard Applicable | |
| | 7.2. | Measurement Procedure | 19 |
| | 7.3. | Measurement Result | 19 |
| | 7 4 | Measurement Equipment Used: | 19 |



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 5

| 8. | 100K | Hz BANDWIDTH OF BAND EDGES MEASUREMENT | 22 |
|-----|-------|--|----|
| | 8.1. | Standard Applicable | 22 |
| | 8.2. | Measurement Procedure | 22 |
| | 8.3. | Measurement Result | 22 |
| | 8.4. | Measurement Equipment Used: | 22 |
| 9. | SPUR | RIOUS RADIATED EMISSION TEST | 32 |
| | 9.1. | Standard Applicable | 32 |
| | 9.2. | EUT Setup | 32 |
| | 9.3. | Measurement Procedure | 32 |
| | 9.4. | Test SET-UP (Block Diagram of Configuration) | 33 |
| | 9.5. | Measurement Equipment Used: | 34 |
| | 9.6. | Field Strength Calculation | 34 |
| | 9.7. | Measurement Result | 34 |
| 10. | FRE(| QUENCY SEPARATION | 74 |
| | 10.1. | Standard Applicable | 74 |
| | 10.2. | Measurement Procedure | 74 |
| | 10.3. | Measurement Result | 74 |
| | 10.4. | Measurement Equipment Used: | 74 |
| 11. | NUM | BER OF HOPPING FREQUENCY | 76 |
| | 11.1. | Standard Applicable | 76 |
| | 11.2. | Measurement Procedure. | 76 |
| | 11.3. | Measurement Result. | 76 |
| | 11.4. | Measurement Equipment Used: | 76 |
| 12. | TIME | E OF OCCUPANCY (DWELL TIME) | 78 |
| | 12.1. | Standard Applicable | 78 |
| | 12.2. | Measurement Procedure | 78 |
| | 12.3. | Measurement Result | 78 |
| | 12.4. | Measurement Equipment Used: | 79 |
| 13. | Peak | Power Spectral Density | 84 |
| | 13.1. | Standard Applicable | |
| | 13.2. | Measurement Procedure | 84 |
| | 13.3. | Measurement Result | 84 |
| | 13.4. | Measurement Equipment Used: | 84 |



REPORT NO: ER/2006/70001 DATE: Aug. 16, 2006

Page: 6

| 14. | ANTE | ENNA REQUIREMENT | .87 |
|-----|-------|--------------------------------|-----|
| | | Standard Applicable | |
| | 14.2. | Antenna Connected Construction | .87 |

This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification, and This fest Report is issued by the Company subject to its General Conduitors of service printed overlear. Attention is drawn to the initiations of liability, indefining and Jurisdictional issued defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law.此報告是遵循本公司訂定之通用服務條款所製作發放。請注意此條款列印於背面,將本公司之義務,免責,管轄權 皆明確規範之。此報告結果除非另有說明僅對檢驗之樣品負責。本報告未經本公司書面許可,不可部份複製。對本報告內容或外觀之任何未經授權之變更、僞造、竄改皆屬非法,違犯者將會被依法追訴。

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 7

1. GENERAL INFORMATION

1.1. Product Description

The Bluegiga Technologies, Model: WT11-E is a Bluetooth Class I EDR Module.

The EUT is compliance with Bluetooth Standard.

A major technical descriptions of EUT is described as following:

- A). Operation Frequency: 2402 2480Hz, 79 channels
- B). Rated output power: 13.47 dBm
- C). Modulation type: Frequency Hopping Spread Spectrum (FHSS)
- D). Antenna Designation:
 - 1. EAD MMTX-EA-79A Bluetooth 2.4 GHz SMA M, Dipole Antenna, 2 dBi
 - 2. GigAnt Titanis, Dipole Antenna, 4.4 dBi
 - 3. EAD MTX-BT-Blade, Dipole Antenna, 2 dBi
 - 4. EAD BT-Stubby, Dipole Antenna, 0 dBi
 - 5. ACX AT3216, Chip Antenna, 0.5 dBi
- E). Power Supply: 3.3Vdc

1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: QOQWT11E filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4. Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and CISPR 22/EN 55022 requirements. Site No. 1(3 &10 meters) Registration Number: 94644, Both OATS and Anechoic chamber (3 meters) was accredited by CNLA (0513).

1.5. Special Accessories

Not available for this EUT intended for grant.

1.6. Equipment Modifications

Not available for this EUT intended for grant.

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 8

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4-2003.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 9

2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

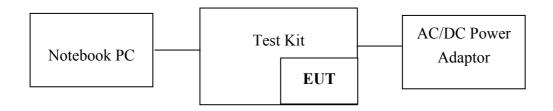


Table 5-1 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/ Type No. | FCC ID | Series No. | Data Cable | Power Cord |
|------|---------------------|-----------|--------------------|--------|------------|------------|--------------|
| 1. | BT Test Set | Anritsu | MT8852A | N/A | 6K00001436 | N/A | Un-shielding |
| 2. | Notebook PC | Compaq | Presarlo 2100 | N/A | CNF345Q1R | N/A | Un-shielding |
| 3. | WT11 Evaluation Kit | Bluegiga | 20050926 | N/A | V1.0 | N/A | Un-shielding |
| | AC/DC Power | | | | | | |
| 4. | Adaptor | Topward | 3303A | N/A | 715856 | N/A | Un-shielding |



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 10

3. SUMMARY OF TEST RESULTS

| FCC Rules | Description Of Test | Result |
|--------------------|-----------------------------|-----------|
| §15.207(a) | Conducted Emission | Compliant |
| §15.247(b)(1) | Peak Output Power | Compliant |
| §15.247(a) | 20dB Bandwidth | Compliant |
| §15.247(c) | 100 KHz Bandwidth Of Fre- | Compliant |
| | quency Band Edges | |
| §15.209(a) (f) | Spurious Emission | Compliant |
| §15.247(a)(1) | Frequency Separation | Compliant |
| §15.247(a)(1)(iii) | Number of hopping frequency | Compliant |
| §15.247(a)(1)(iii) | Time of Occupancy | Compliant |
| §15.247 | Peak Power Density | Compliant |
| §15.203, | Antenna Requirement | Compliant |
| §15.247(b)(4)(i) | | |

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

BT Test Set was used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low (2402MHz) · mid (2441MHz) and high (2480MHz) with highest data rate are chosen for full testing.

Spurious emission for antenna 1, 2, 3 and 5 were chosen for final test and reported.

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 11

5. CONDUCTED EMISSION TEST

5.1. Standard Applicable

According to §15.207. frequency within 150KHz to 30MHz shall not exceed the limit table as below.

| Frequency range | Lin dB(| nits uV) |
|-----------------|------------|-------------|
| MHz | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

Note

5.2. EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was plug-in the AC/DC Power adapter. The host system was placed on the center of the back edge on the test table. The peripherals was placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 5. The host system was connected with 110Vac/60Hz power source.

5.3. Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all frequency measured were complete.

^{1.} The lower limit shall apply at the transition frequencies

^{2.} The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 12

5.4. Measurement Equipment Used:

| | Conduc | ted Emission T | est Site | | |
|-------------------|------------|----------------|------------|------------|------------|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
| TYPE | | NUMBER | NUMBER | CAL. | |
| EMC Analyzer | НР | 8594EM | 3624A00203 | 09/02/2005 | 09/03/2006 |
| EMI Test Receiver | R&S | ESCS30 | 828985/004 | 06/09/2006 | 06/10/2007 |
| Transient Limiter | НР | 11947A | 3107A02062 | 09/02/2005 | 09/03/2006 |
| LISN | Rolf-Heine | NNB-2/16Z | 99012 | 12/31/2005 | 12/30/2006 |
| LISN | Rolf-Heine | NNB-2/16Z | 99013 | 12/24/2005 | 12/23/2006 |
| Coaxial Cables | N/A | No. 3, 4 | N/A | 12/01/2005 | 12/01/2006 |

5.5. **Measurement Result**

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 13

AC POWER LINE CONDUCTED EMISSION TEST DATA

| Operation Mode: | Operation Mode | | | Test Date: | Mar. 16, 2006 |
|-----------------|----------------|-----------|------|------------|---------------|
| Temperature: | 22 ℃ | Humidity: | 58 % | Test By: | Alex |

| FREQ | Q.P. | AVG | Q.P. | AVG | Q.P. | AVG | NOTE |
|-------|-------|-------|-------|-------|--------|--------|------|
| MHz | Raw | Raw | Limit | Limit | Margin | Margin | |
| | dBuV | dBuV | dBuV | dBuV | dB | dB | |
| 0.420 | 42.90 | - | 57.45 | 47.45 | -14.55 | | L1 |
| 0.550 | 36.26 | 1 | 56.00 | 46.00 | -19.74 | | L1 |
| 1.265 | 46.88 | 38.00 | 56.00 | 46.00 | -9.12 | -8.00 | L1 |
| 1.395 | 48.84 | 40.71 | 56.00 | 46.00 | -7.16 | -5.29 | L1 |
| 1.460 | 46.92 | 37.11 | 56.00 | 46.00 | -9.08 | -8.89 | L1 |
| 1.655 | 45.14 | - | 56.00 | 46.00 | -10.86 | | L1 |
| | | | | | | | |
| 0.290 | 35.83 | | 60.52 | 50.52 | -24.69 | | L2 |
| 0.420 | 47.68 | 40.85 | 57.45 | 47.45 | -9.77 | -6.60 | L2 |
| 0.550 | 43.20 | - | 56.00 | 46.00 | -12.80 | | L2 |
| 1.265 | 44.62 | | 56.00 | 46.00 | -11.38 | | L2 |
| 1.395 | 48.15 | 43.21 | 56.00 | 46.00 | -7.85 | -2.79 | L2 |
| 1.525 | 46.96 | 43.62 | 56.00 | 46.00 | -9.04 | -2.38 | L2 |

Remark:

- (1) Measuring frequencies from 0.15 MHz to 30MHz •
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz; The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 14

Conducted Emission Test Plot



Phase:

Power:

Measure-

ment

dBuV

42.90

36.26

46.88

38.00

48.84

40.71

46.92

37.11

45.14

Factor

dΒ

0.85

0.85

0.60

0.60

0.61

0.61

0.61

0.61

0.63

Distance:

L1 AC 230V/50Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

Reading

Level

dBuV

42.05

35.41

46.28

37.40

48.23

40.10

46.31

36.50

44.51

EUT: Bluetooth class I EDR Module

M/N: WT11

Note:

No. Mk

1

2

3

4 5

6

7

8

9

PS/2 PORT

Freq.

MHz

0.4200

0.5500

1.2650

1.2650

1.3950

1.3950

1.4600

1.4600

1.6550

| Limit | Over | | |
|-------|--------|----------|---------|
| dBuV | dB | Detector | Comment |
| 57.45 | -14.55 | QP | |
| 56.00 | -19.74 | QP | |
| 56.00 | -9.12 | QP | |
| 46.00 | -8.00 | AVG | |

Humidity:

Air Pressure:

58 %

hpa

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56.00

46.00

56.00

46.00

56.00

-7.16

-5.29

-9.08

-8.89

-10.86

QP

AVG

QP

AVG

QP



REPORT NO: ER/2006/70001

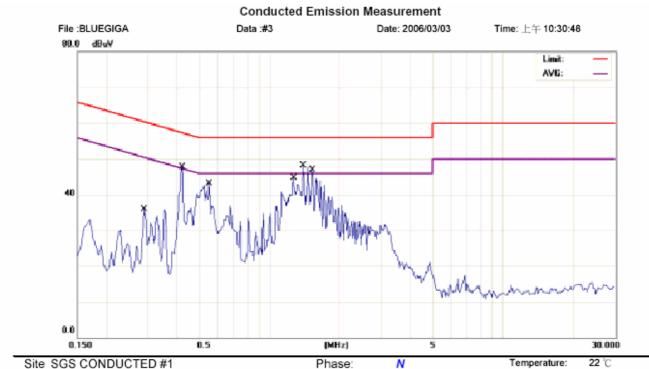
DATE: Aug. 16, 2006

Humidity:

Air Pressure:

58 %

Page: 15



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: Bluetooth class I EDR Module

M/N: WT11 Note:

PS/2 PORT

| No. Mk. | Freq. | Reading Level | Factor | Measure- ment | Limit | Over | | | |
|---------|--------|------------------|--------|------------------|-------|--------|----------|---------|--|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment | |
| 1 | 0.2900 | 35.04 | 0.79 | 35.83 | 60.52 | -24.69 | QP | | |
| 2 | 0.4200 | 46.83 | 0.85 | 47.68 | 57.45 | -9.77 | QP | | |
| 3 | 0.4200 | 40.00 | 0.85 | 40.85 | 47.45 | -6.60 | AVG | | |
| 4 | 0.5500 | 42.35 | 0.85 | 43.20 | 56.00 | -12.80 | QP | | |
| 5 | 1.2650 | 44.02 | 0.60 | 44.62 | 56.00 | -11.38 | QP | | |
| 6 | 1.3950 | 47.54 | 0.61 | 48.15 | 56.00 | -7.85 | QP | | |
| 7 | 1.3950 | 42.60 | 0.61 | 43.21 | 46.00 | -2.79 | AVG | | |
| 8 | 1.5250 | 46.34 | 0.62 | 46.96 | 56.00 | -9.04 | QP | | |
| 9 * | 1.5250 | 43.00 | 0.62 | 43.62 | 46.00 | -2.38 | AVG | | |

Power:

Distance:

AC 230V/50Hz

REPORT NO: ER/2006/70001 ID: QOQWT11E

DATE: Aug. 16, 2006

Page: 16

6. PEAK OUTPUT POWER MEASUREMENT

6.1. Standard Applicable

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1Watt. For all other frequency hopping systems in the 2400 – 2483.5MHz band: 0.125 Watts.

6.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum. (Channel power function, RBW, VBW = 1MHz)
- 3. Record the max. reading.
- 4. Repeat above procedures until all frequency measured were complete.

6.3. Measurement Result

| СН | Frequency (MHz) | Reading Power dBm | Cable Loss | Output Power dBm | Output Power W | Limit (W) |
|------|-----------------|-------------------------|---------------|------------------------|----------------------|-----------|
| LOW | 2402.0 | 13.27 | 0.20 | 13.47 | 0.02223 | 1 |
| MID | 2441.0 | 12.50 | 0.20 | 12.70 | 0.01862 | 1 |
| HIGH | 2480.0 | 12.60 | 0.20 | 12.80 | 0.01905 | 1 |

6.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/27/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 01/22/2006 | 01/21/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

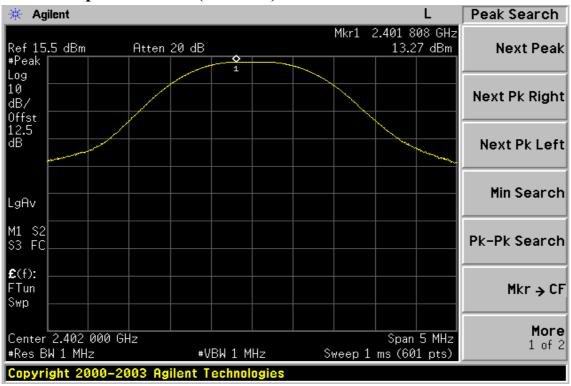


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 17

Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)



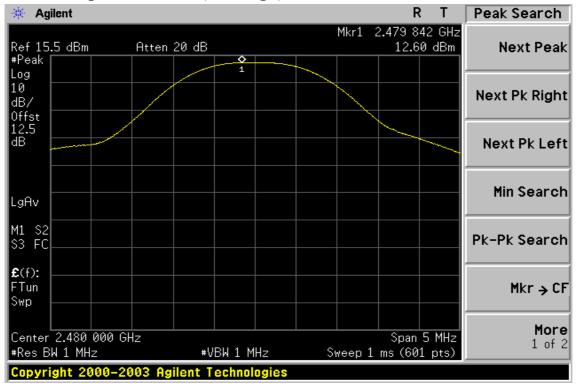


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 18

Peak Power Output Data Plot (CH High)



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 19

7. 20dB BAND WIDTH

7.1. Standard Applicable

For frequency hopping systems operating in the 2400MHz-2483.5 MHz no limit for 20dB bandwidth.

7.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW=10KHz (1 % of Bandwidth.), Span= 3MHz, Sweep=auto
- 4. Mark the peak frequency and –20dB (upper and lower) frequency.
- 5. Repeat above procedures until all frequency measured were complete.

7.3. Measurement Result

| СН | Bandwidth | 2/3* Bandwidth |
|--------|-----------|----------------|
| | (MHz) | (MHz) |
| Lower | 1.212 | 0.808 |
| Mid | 1.212 | 0.808 |
| Higher | 1.208 | 0.805 |

7.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MFR MODEL | | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/27/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 01/22/2006 | 01/21/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

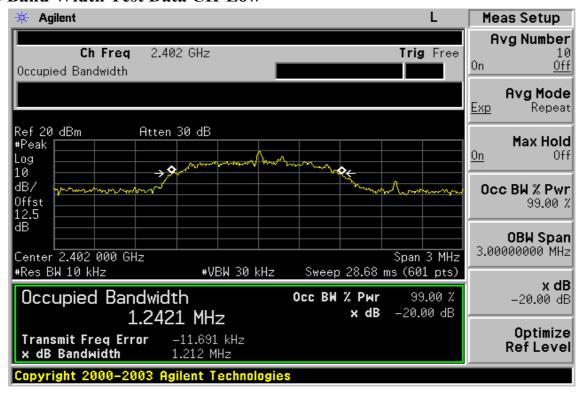


REPORT NO: ER/2006/70001

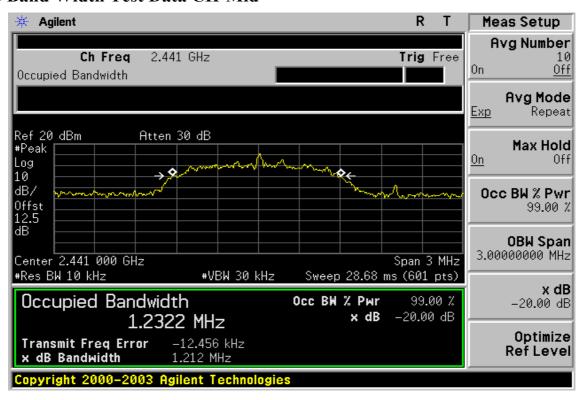
DATE: Aug. 16, 2006

Page: 20

20dB Band Width Test Data CH-Low



20dB Band Width Test Data CH-Mid



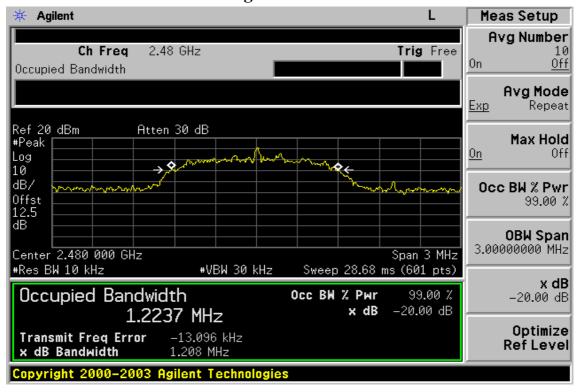


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 21

20dB Band Width Test Data CH-High



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 22

8. 100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

8.1. Standard Applicable

According to §15.247(c), in any 100 KHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

8.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span=25MHz, Sweep = auto
- 5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
- 6. Repeat above procedures until all frequency measured were complete.
- 7. Radiated Emission refer to section 9.

8.3. Measurement Result

Refer to attach spectrum analyzer data chart.

8.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/26/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 01/22/2006 | 01/21/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

Note: Measurement Equipment for radiated emission refers to section 9.

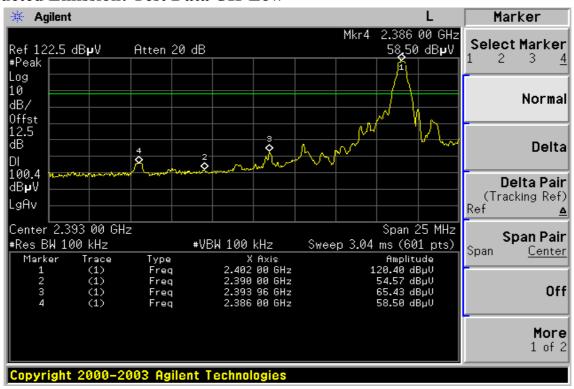


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 23

Conducted Emission: Test Data CH-Low



Conducted Emission: Test Data CH-High





REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 24

Radiated Emission:

Operation Mode TX CH Low, Antenna 1 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------|-------------|---------------|--------------|-----------|---------------|---------|---------------|---------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/ı | n)(dBuV/m | (dB) | |
| 2386.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2390.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2394.0 | | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |
| Operation | Mode | TX | CH Low, | Antenna 1 | | | Test Date | Aug. 15 | , 2006 |
| Fundamen | ital Freque | ncy 2402 | 2 MHz | | | | Test By | Jazz | |
| Temperatu | ıre | 25 °(| \mathbb{C} | | | | Pol | Hor. | |
| Humidity | | 65 % | o | | | | | | |

| | Peak | \mathbf{AV} | Actu | al FS | Peak | \mathbf{AV} | |
|--------|---------|-----------------|----------|---------------|----------|---------------|---------------|
| Freq. | Reading | Reading Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin Remark |
| (MHz) | (dBuV) | (dBuV) CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 2386.0 | | | | | 74.00 | 54.00 | Peak |
| 2390.0 | | | | | 74.00 | 54.00 | Peak |
| 2394.0 | | | | | 74.00 | 54.00 | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001 ID: QOQWT11E

DATE: Aug. 16, 2006

Page: 25

Radiated Emission:

TX CH High, Antenna 1 Test Date Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | | Peak | \mathbf{AV} | Actu | al FS | Peak | \mathbf{AV} | | |
|---|--------|---------|-----------------|----------|---------------|-----------|---------------|--------|--------|
| | Freq. | Reading | Reading Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| | (MHz) | (dBuV) | (dBuV) CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m)(| dBuV/m) | (dB) | |
| • | 2483.5 | | | | | 74.00 | 54.00 | | Peak |
| | 2484.0 | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |

Operation Mode TX CH High, Antenna 1 Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz 25 °C Pol Temperature Hor.

65 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|--------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 26

Radiated Emission:

Operation Mode TX CH Low, Antenna 2 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

| Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-------------------|---------------|------------|----------|---------------|---------|---------------|---------|--------|
| Freq. Reading | g Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) (dBuV) | (dBuV) | CF(dB) (d | dBuV/m) | (dBuV/m) | (dBuV/n | n)(dBuV/m) | (dB) | |
| 2386.0 | | | | | 74.00 | 54.00 | | Peak |
| 2390.0 | | | | | 74.00 | 54.00 | | Peak |
| 2394.0 | | | | | 74.00 | 54.00 | | Peak |
| 0 | TV. C | NT T A | . 2 | | , | F + D + | . 15 | 2006 |
| Operation Mode | | CH Low, Ar | ntenna 2 | | | Test Date | Aug. 15 | , 2006 |
| Fundamental Frequ | ency 2402 | MHz | | | | Гest By | Jazz | |
| Temperature | 25 °C | | | |] | Pol | Hor. | |
| Humidity | 65 % | | | | | | | |

| | Peak | \mathbf{AV} | Actu | ıal FS | Peak | \mathbf{AV} | |
|--------|---------|----------------|------------|---------------|----------|---------------|---------------|
| Freq. | Reading | Reading Ant./C | L Peak | \mathbf{AV} | Limit | Limit | Margin Remark |
| (MHz) | (dBuV) | (dBuV) CF(dB |) (dBuV/m) | (dBuV/m | (dBuV/m) | (dBuV/m) | (dB) |
| 2386.0 | | | | | 74.00 | 54.00 | Peak |
| 2390.0 | | | | | 74.00 | 54.00 | Peak |
| 2394.0 | | | | | 74.00 | 54.00 | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 27

Radiated Emission:

Operation Mode TX CH High, Antenna 2 Test Date Aug. 15, 2006 Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 $^{\circ}$

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------|-------------|---------------|----------|-----------|---------------|---------|---------------|---------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m |)(dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |
| Operation | Mode | TX | CH High, | Antenna 2 | | Т | est Date | Aug. 15 | , 2006 |
| Fundamer | ntal Freque | ency 248 | 0 MHz | | | Τ | Cest By | Jazz | |
| Temperati | ure | 25 ° | C | | | P | Pol | Hor. | |
| Humidity | | 65 % | 6 | | | | | | |

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|--------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 28

Radiated Emission:

Operation Mode TX CH Low, Antenna 3 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------|-------------|---------------|--------------|-----------|---------------|--------|---------------|---------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/ | m)(dBuV/m) | (dB) | |
| 2386.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2390.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2394.0 | | | | | | 74.00 | 54.00 | | Peak |
| Operation | Mode | TX | CH Low, | Antenna 3 | | | Test Date | Aug. 15 | , 2006 |
| Fundamen | ıtal Freque | ency 2402 | 2 MHz | | | | Test By | Jazz | |
| Temperatu | ıre | 25 °(| \mathbb{C} | | | | Pol | Hor. | |
| Humidity | | 65 % | 6 | | | | | | |

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|--------|---------|---------------|--------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading A | nt./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) (| CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | dBuV/m) | (dB) | |
| 2386.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2390.0 | | | | | | 74.00 | 54.00 | | Peak |
| 2394.0 | | | | | | 74.00 | 54.00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 29

Radiated Emission:

TX CH High, Antenna 3 Test Date Operation Mode Aug. 15, 2006 Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------|-------------|---------------|--------------|-----------|---------------|----------|---------------|---------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |
| Operation | Mode | TX | CH High, | Antenna 3 | | T | est Date | Aug. 15 | , 2006 |
| Fundamer | ntal Freque | ency 2480 |) MHz | | | T | est By | Jazz | |
| Temperati | ure | 25 °C | \mathbb{C} | | | Pe | ol | Hor. | |
| Humidity | | 65 % | 6 | | | | | | |

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|--------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading A | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74 00 | 54 00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 30

Radiated Emission:

Operation Mode TX CH Low, Antenna 5 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

| | | Peak | \mathbf{AV} | Actu | al FS | Peak | \mathbf{AV} | | |
|-----|-----------|---------|-----------------|-----------|---------------|----------|---------------|---------|-----------|
| | Freq. | Reading | Reading Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| | (MHz) | (dBuV) | (dBuV) CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| , | 2386.0 | | | | | 74.00 | 54.00 | | Peak |
| | 2390.0 | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |
| | | | | | | | | | • • • • • |
| - (| Operation | Mode | TX CH Low | Antenna 5 | | 11.6 | est Date | Δ11σ 15 | 2006 |

Fundamental Frequency 2402 MHz

Test Date Aug. 15, 2006

Test By Jazz

Temperature 25 °C

Humidity 65 %

| | | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---|--------|---------|---------------|---------|----------|---------------|------------|---------------|--------|--------|
| | Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| | (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m |) (dBuV/m) | (dBuV/m) | (dB) | |
| • | 2386.0 | | | | | | 74.00 | 54.00 | | Peak |
| | 2390.0 | | | | | | 74.00 | 54.00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001 ID: QOQWT11E

DATE: Aug. 16, 2006

Page: 31

Radiated Emission:

TX CH High, Antenna 5 Test Date Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|--------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |
| | | | | | | | | | |
| | | | | | | | | | |

Operation Mode TX CH High, Antenna 5 Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz 25 °C Pol Temperature Hor.

65 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.5 | | | | | | 74.00 | 54.00 | | Peak |
| 2484.0 | | | | | | 74.00 | 54.00 | | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 32

9. SPURIOUS RADIATED EMISSION TEST

9.1. Standard Applicable

According to §15.247(c), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §15.209(a). And according to §15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

9.2. EUT Setup

- 1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was put in the front of the test table. The peripherals was placed on the side of the host system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 5. The host PC system was connected with 110Vac/60Hz power source.

9.3. Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until all frequency measured were complete.

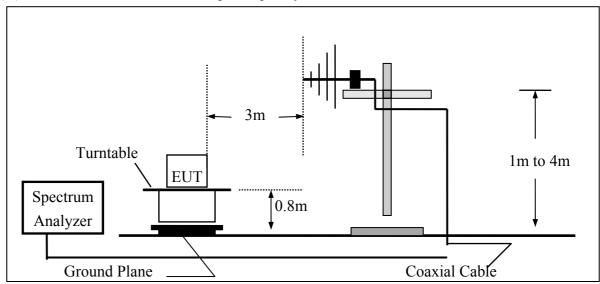
REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

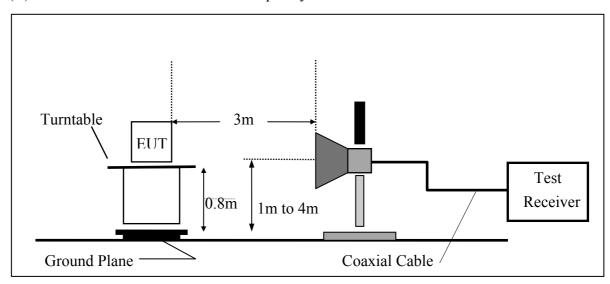
Page: 33

9.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1GHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 34

Measurement Equipment Used: 9.5.

| | 966 Chamber | | | | | | | | |
|-------------------|--------------|------------------------|------------|------------|------------|--|--|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 | | | | |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/26/2006 | | | | |
| Bilog Antenna | SCHWAZBECK | VULB9163 | 152 | 06/03/2006 | 06/02/2007 | | | | |
| Horn antenna | Schwarzbeck | BBHA 9120D | 309/320 | 08/16/2005 | 08/15/2006 | | | | |
| Horn antenna | Schwarzbeck | BBHA 9170 | 184/185 | 07/04/2006 | 07/03/2007 | | | | |
| Pre-Amplifier | HP | 8447D | 2944A09469 | 07/19/2006 | 07/18/2007 | | | | |
| Pre-Amplifier | HP | 8494B | 3008A00578 | 02/26/2006 | 02/25/2007 | | | | |
| Turn Table | HD | DT420 | N/A | N.C.R | N.C.R | | | | |
| Antenna Tower | HD | MA240-N | 240/657 | N.C.R | N.C.R | | | | |
| Controller | HD | HD100 | N/A | N.C.R | N.C.R | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA-10M | 10m | 10/09/2005 | 10/08/2006 | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA-3M | 3m | 10/09/2005 | 10/08/2006 | | | | |
| Site NSA | SGS | 966 chamber | N/A | 11/17/2005 | 11/16/2006 | | | | |

9.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

| Where | FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
|-------|------------------------|--|
| | RA = Reading Amplitude | AG = Amplifier Gain |
| | AF = Antenna Factor | |

9.7. Measurement Result

Refer to attach tabular data sheets.

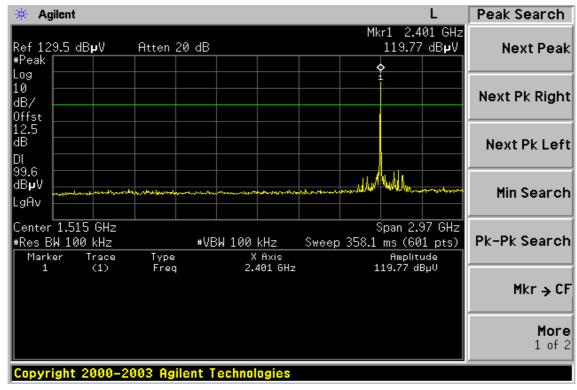


REPORT NO: ER/2006/70001

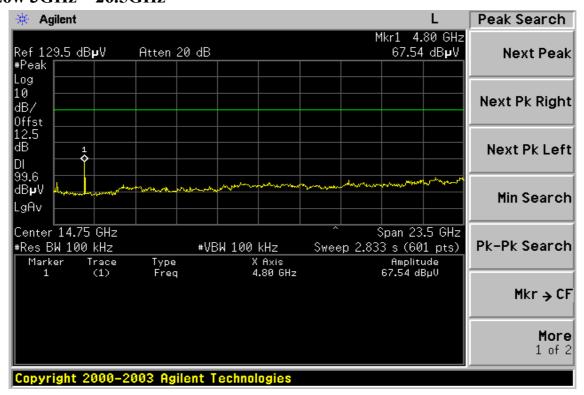
DATE: Aug. 16, 2006

Page: 35

Ch Low 30MHz - 3GHz



Ch Low 3GHz - 26.5GHz



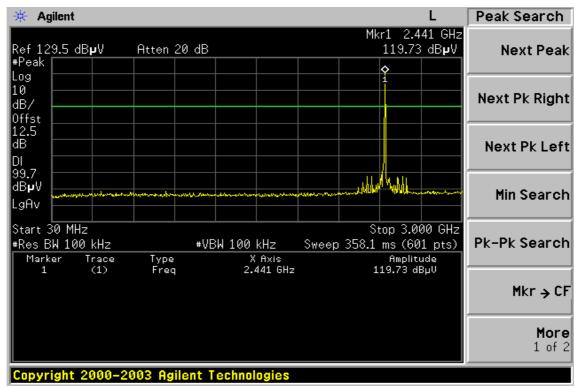


REPORT NO: ER/2006/70001

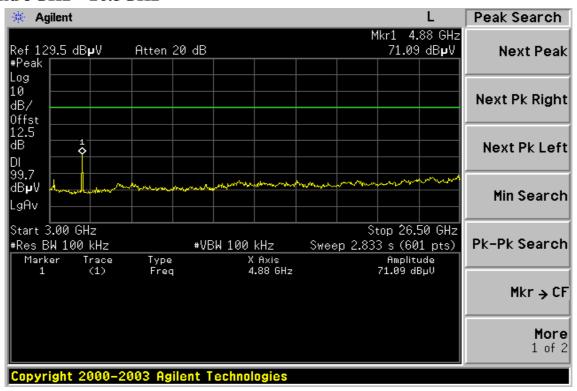
DATE: Aug. 16, 2006

Page: 36

Ch Mid 30MHz - 3GHz



Ch Mid 3GHz – 26.5GHz



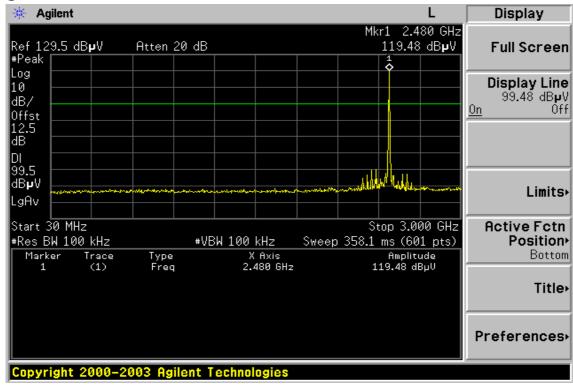


REPORT NO: ER/2006/70001

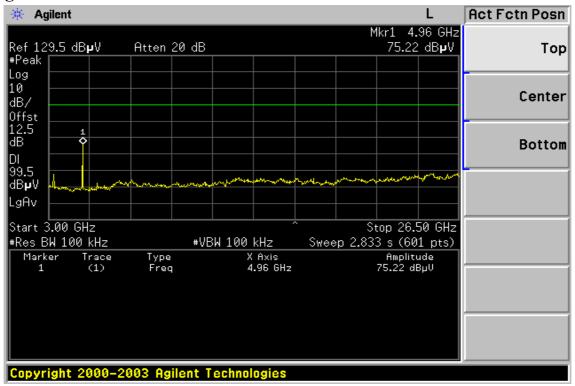
DATE: Aug. 16, 2006

Page: 37

Ch High 30MHz - 3GHz



Ch High 3GHz – 26.5GHz





REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 38

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 47.28 | -15.29 | 31.99 | 40.00 | -8.01 |
| 299.66 | V | Peak | 41.69 | -13.41 | 28.28 | 46.00 | -17.72 |
| 448.07 | V | Peak | 36.81 | -9.81 | 27.00 | 46.00 | -19.00 |
| 799.21 | V | Peak | 29.48 | -3.53 | 25.95 | 46.00 | -20.05 |
| | | | | | | | |
| 37.76 | Н | Peak | 49.87 | -14.85 | 35.02 | 40.00 | -4.98 |
| 299.66 | Н | Peak | 41.42 | -13.41 | 28.01 | 46.00 | -17.99 |
| 576.11 | Н | Peak | 39.06 | -8.04 | 31.02 | 46.00 | -14.98 |
| 750.71 | Н | Peak | 36.41 | -4.44 | 31.97 | 46.00 | -14.03 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 39

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 34.85 | V | Peak | 49.87 | -15.09 | 34.78 | 40.00 | -5.22 |
| 57.16 | V | Peak | 40.76 | -14.89 | 25.87 | 40.00 | -14.13 |
| 299.66 | V | Peak | 40.98 | -13.41 | 27.57 | 46.00 | -18.43 |
| | | | | | | | |
| 37.76 | Н | Peak | 49.86 | -14.85 | 35.01 | 40.00 | -4.99 |
| 57.16 | Н | Peak | 43.07 | -14.89 | 28.18 | 40.00 | -11.82 |
| 299.66 | Н | Peak | 42.58 | -13.41 | 29.17 | 46.00 | -16.83 |
| 622.67 | Н | Peak | 35.49 | -7.12 | 28.37 | 46.00 | -17.63 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 40

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 37.76 | V | Peak | 49.14 | -14.85 | 34.29 | 40.00 | -5.71 |
| 299.66 | V | Peak | 39.22 | -13.41 | 25.81 | 46.00 | -20.19 |
| 828.31 | V | Peak | 33.48 | -3.12 | 30.36 | 46.00 | -15.64 |
| 37.76 | Н | Peak | 49.54 | -14.85 | 34.69 | 40.00 | -5.31 |
| 57.16 | Н | Peak | 42.31 | -14.89 | 27.42 | 40.00 | -12.58 |
| 299.66 | Н | Peak | 41.37 | -13.41 | 27.96 | 46.00 | -18.04 |
| 622.67 | Н | Peak | 36.74 | -7.12 | 29.62 | 46.00 | -16.38 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 41

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH Low Test Date Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature $25 \,^{\circ}\text{C}$ Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | ıal FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|---------|---------------|-----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m | (dBuV/m |)(dBuV/m) | (dBuV/m) | (dB) | Remark |
| 2397.5 | 54.30 | | -3.40 | 50.90 | | 74.00 | 54.00 | -3.10 | Peak |
| 3197.0 | 59.30 | 42.12 | -1.64 | 57.66 | 40.48 | 74.00 | 54.00 | -13.52 | AV |
| | | | | | | | | | |
| 4804.0 | 59.49 | 48.40 | 2.99 | 62.48 | 51.39 | 74.00 | 54.00 | -2.61 | AV |
| 7206.0 | 47.58 | 36.99 | 9.27 | 56.85 | 46.26 | 74.00 | 54.00 | -7.74 | AV |
| 9608.0 | | | | | | | | | |
| 12010.0 | 36.30 | | 15.35 | 51.65 | | 74.00 | 54.00 | -2.35 | Peak |
| 14412.0 | | | | | | | | | |
| 16814.0 | | | | | | | | | |
| 19216.0 | | | | | | | | | |
| 21618.0 | | | | | | | | | |
| 24020.0 | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 42

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 °C Pol Hor.

65 % Humidity

| | Peak | AV | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3197.0 | 56.42 | 41.17 | -1.64 | 54.78 | 39.53 | 74.00 | 54.00 | -14.47 | AV |
| | | | | | | | | | |
| 4804.0 | 54.46 | 46.22 | 2.99 | 57.45 | 49.21 | 74.00 | 54.00 | -4.79 | AV |
| 7206.0 | 48.36 | 38.60 | 9.27 | 57.63 | 47.87 | 74.00 | 54.00 | -6.13 | AV |
| 9608.0 | 38.98 | | 12.60 | 51.58 | | 74.00 | 54.00 | -2.42 | Peak |
| 12010.0 | 36.28 | | 15.35 | 51.63 | | 74.00 | 54.00 | -2.37 | Peak |
| 14412.0 | | | | | | 74.00 | 54.00 | | |
| 16814.0 | | | | | | 74.00 | 54.00 | | |
| 19216.0 | | | | | | 74.00 | 54.00 | | |
| 21618.0 | | | | | | 74.00 | 54.00 | | |
| 24020.0 | | | | | | 74.00 | 54.00 | | |
| | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 43

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 2436.5 | 52.83 | | -3.26 | 49.57 | | 74.00 | 54.00 | -4.43 | Peak |
| 3249.0 | 54.89 | 44.89 | -1.55 | 53.34 | 43.34 | 74.00 | 54.00 | -10.66 | AV |
| | | | | | | | | | |
| 4882.0 | 59.65 | 44.78 | 3.18 | 62.83 | 47.96 | 74.00 | 54.00 | -6.04 | AV |
| 7323.0 | 49.05 | 36.86 | 9.46 | 58.51 | 46.32 | 74.00 | 54.00 | -7.68 | AV |
| 9764.0 | 38.98 | | 12.78 | 51.76 | | 74.00 | 54.00 | -2.24 | Peak |
| 12205.0 | 38.14 | | 15.41 | 53.55 | | 74.00 | 54.00 | -0.45 | Peak |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 44

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 °C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3249.0 | 52.92 | | -1.55 | 51.37 | | 74.00 | 54.00 | -2.63 | Peak |
| | | | | | | | | | |
| 4882.0 | 55.88 | 46.15 | 3.18 | 59.06 | 49.33 | 74.00 | 54.00 | - 4.67 | AV |
| 7323.0 | 42.50 | | 9.46 | 51.96 | | 74.00 | 54.00 | -2.04 | Peak |
| 9764.0 | 39.95 | | 12.78 | 52.73 | | 74.00 | 54.00 | -1.27 | Peak |
| 12205.0 | | | | | | 74.00 | 54.00 | | |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 45

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

TX CH High **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | AV | | |
|---------|---------|---------------|---------|----------|----------|----------|----------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3307.5 | 51.35 | | -1.45 | 49.90 | | 74.00 | 54.00 | -4.10 | Peak |
| | | | | | | | | | |
| 4960.0 | 61.25 | 43.56 | 3.40 | 64.65 | 46.96 | 74.00 | 54.00 | -7.04 | AV |
| 7440.0 | 45.21 | 35.80 | 9.66 | 54.87 | 45.46 | 74.00 | 54.00 | -8.54 | AV |
| 9920.0 | | | | | | 74.00 | 54.00 | | |
| 12400.0 | 41.80 | 34.68 | 15.53 | 57.33 | 50.21 | 74.00 | 54.00 | -3.79 | AV |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |
| | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 46

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | AV | | |
|---------|---------|---------------|---------|----------|---------------|----------|----------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3307.5 | 47.23 | | -1.45 | 45.78 | | 74.00 | 54.00 | -8.22 | Peak |
| | | | | | | | | | |
| 4960.0 | 53.24 | 44.10 | 3.40 | 56.64 | 47.50 | 74.00 | 54.00 | -6.50 | AV |
| 7440.0 | 40.64 | | 9.66 | 50.30 | | 74.00 | 54.00 | -3.70 | Peak |
| 9920.0 | 37.12 | | 12.98 | 50.10 | | 74.00 | 54.00 | -3.90 | Peak |
| 12400.0 | | | | | | 74.00 | 54.00 | | |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 47

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|----------|------------------|---|--|--|--|--|
| H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| V | Peak | 50.21 | -14.85 | 35.36 | 40.00 | -4.64 |
| V | Peak | 42.68 | -14.89 | 27.79 | 40.00 | -12.21 |
| V | Peak | 42.10 | -13.41 | 28.69 | 46.00 | -17.31 |
| | | | | | | |
| Н | Peak | 49.13 | -14.77 | 34.36 | 40.00 | -5.64 |
| Н | Peak | 42.19 | -14.89 | 27.3 | 40.00 | -12.70 |
| Н | Peak | 46.10 | -13.41 | 32.69 | 46.00 | -13.31 |
| Н | Peak | 37.56 | -4.44 | 33.12 | 46.00 | -12.88 |
| | H/V V V H H | Ant.Pol. Mode H/V (PK/QP) V Peak V Peak V Peak H Peak H Peak H Peak H Peak | Ant.Pol. Mode Reading H/V (PK/QP) (dBuV) V Peak 50.21 V Peak 42.68 V Peak 42.10 H Peak 49.13 H Peak 42.19 H Peak 46.10 | Ant.Pol. Mode Reading Factor H/V (PK/QP) (dBuV) (dB) V Peak 50.21 -14.85 V Peak 42.68 -14.89 V Peak 42.10 -13.41 H Peak 49.13 -14.77 H Peak 42.19 -14.89 H Peak 46.10 -13.41 | Ant.Pol. Mode Reading Factor Actual FS H/V (PK/QP) (dBuV) (dB) (dBuV/m) V Peak 50.21 -14.85 35.36 V Peak 42.68 -14.89 27.79 V Peak 42.10 -13.41 28.69 H Peak 49.13 -14.77 34.36 H Peak 42.19 -14.89 27.3 H Peak 46.10 -13.41 32.69 | Mode Reading Factor Actual FS Limitsm H/V (PK/QP) (dBuV) (dB) (dBuV/m) (dBuV/m) V Peak 50.21 -14.85 35.36 40.00 V Peak 42.68 -14.89 27.79 40.00 V Peak 42.10 -13.41 28.69 46.00 H Peak 49.13 -14.77 34.36 40.00 H Peak 42.19 -14.89 27.3 40.00 H Peak 46.10 -13.41 32.69 46.00 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 48

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 37.76 | V | Peak | 49.95 | -14.85 | 35.10 | 40.00 | -4.90 |
| 57.16 | V | Peak | 42.73 | -14.89 | 27.84 | 40.00 | -12.16 |
| 299.66 | V | Peak | 41.57 | -13.41 | 28.16 | 46.00 | -17.84 |
| | | | | | | | |
| 37.76 | Н | Peak | 50.27 | -14.85 | 35.42 | 40.00 | -4.58 |
| 57.16 | Н | Peak | 43.05 | -14.89 | 28.16 | 40.00 | -11.84 |
| 299.66 | Н | Peak | 45.88 | -13.41 | 32.47 | 46.00 | -13.53 |
| 622.67 | Н | Peak | 38.67 | -7.12 | 31.55 | 46.00 | -14.45 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 49

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 37.76 | V | Peak | 50.71 | -14.85 | 35.86 | 40.00 | -4.14 |
| 57.16 | V | Peak | 42.75 | -14.89 | 27.86 | 40.00 | -12.14 |
| 299.66 | V | Peak | 41.77 | -13.41 | 28.36 | 46.00 | -17.64 |
| 37.76 | Н | Peak | 49.51 | -14.85 | 34.66 | 40.00 | -5.34 |
| 57.16 | Н | Peak | 41.70 | -14.89 | 26.81 | 40.00 | -13.19 |
| 299.66 | Н | Peak | 46.58 | -13.41 | 33.17 | 46.00 | -12.83 |
| 622.67 | Н | Peak | 37.95 | -7.12 | 30.83 | 46.00 | -15.17 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 50

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Low Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|---------|---------------|------------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m | (dBuV/m | n)(dBuV/m) | (dBuV/m) | (dB) | Remark |
| 2397.5 | 57.03 | 49.32 | -3.40 | 53.63 | 45.92 | 74.00 | 54.00 | -8.08 | AV |
| 3197.0 | 58.99 | 42.35 | -1.64 | 57.35 | 40.71 | 74.00 | 54.00 | -13.29 | AV |
| | | | | | | | | | |
| 4804.0 | 59.42 | 48.64 | 2.99 | 62.41 | 51.63 | 74.00 | 54.00 | -2.37 | AV |
| 7206.0 | 49.45 | 37.65 | 2.99 | 52.44 | 40.64 | 74.00 | 54.00 | -13.36 | AV |
| 9608.0 | | | | | | | | | |
| 12010.0 | | | | | | | | | |
| 14412.0 | | | | | | | | | |
| 16814.0 | | | | | | | | | |
| 19216.0 | | | | | | | | | |
| 21618.0 | | | | | | | | | |
| 24020.0 | | | | | | | | | |

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 51

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Low Test Date Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|--------|---------------|--------|----------|---------------|----------|---------------|--------|--------|
| Freq. | O | Reading | | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3197.0 | 52.82 | | -1.64 | 51.18 | | 74.00 | 54.00 | -2.82 | Peak |
| | | | | | | | | | |
| 4804.0 | 53.59 | 46.53 | 2.99 | 56.58 | 49.52 | 74.00 | 54.00 | -4.48 | AV |
| 7206.0 | 48.56 | 30.78 | 9.27 | 57.83 | 40.05 | 74.00 | 54.00 | -13.95 | AV |
| 9608.0 | | | | | | 74.00 | 54.00 | | |
| 12010.0 | | | | | | 74.00 | 54.00 | | |
| 14412.0 | | | | | | 74.00 | 54.00 | | |
| 16814.0 | | | | | | 74.00 | 54.00 | | |
| 19216.0 | | | | | | 74.00 | 54.00 | | |
| 21618.0 | | | | | | 74.00 | 54.00 | | |
| 24020.0 | | | | | | 74.00 | 54.00 | | |
| | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 52

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3249.0 | 57.81 | 41.81 | -1.55 | 56.26 | 40.26 | 74.00 | 54.00 | -13.74 | AV |
| | | | | | | | | | |
| 4882.0 | 58.27 | 45.53 | 3.18 | 61.45 | 48.71 | 74.00 | 54.00 | -5.29 | AV |
| 7323.0 | 53.85 | 39.04 | 9.46 | 63.31 | 48.50 | 74.00 | 54.00 | -5.50 | AV |
| 9764.0 | 36.90 | | 12.79 | 49.69 | | 74.00 | 54.00 | -4 .31 | Peak |
| 12205.0 | 37.63 | | 15.41 | 53.04 | | 74.00 | 54.00 | -0.96 | Peak |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 53

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation ModeTX CH MidTest DateAug. 15, 2006Fundamental Frequency2441 MHzTest ByJazzTemperature25 °CPolHor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3249.0 | 51.85 | | -1.55 | 50.30 | | 74.00 | 54.00 | -3.70 | Peak |
| | | | | | | | | | |
| 4882.0 | 52.51 | 46.16 | 3.18 | 55.69 | 49.34 | 74.00 | 54.00 | -4.66 | AV |
| 7323.0 | 50.27 | 37.41 | 9.46 | 59.73 | 46.87 | 74.00 | 54.00 | -7.13 | AV |
| 9764.0 | 44.81 | 36.55 | 12.78 | 57.59 | 49.33 | 74.00 | 54.00 | -4.67 | AV |
| 12205.0 | 37.44 | | 15.41 | 52.85 | | 74.00 | 54.00 | -1.15 | Peak |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 54

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

TX CH High **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3307.5 | 59.4 | 50.00 | -1.45 | 57.91 | 48.55 | 74.00 | 54.00 | -5.45 | AV |
| | | | | | | | | | |
| 4960.0 | 54.72 | 48.20 | 3.40 | 58.12 | 51.60 | 74.00 | 54.00 | -2.40 | AV |
| 7440.0 | 49.15 | 40.89 | 9.66 | 58.81 | 50.55 | 74.00 | 54.00 | -3.45 | AV |
| 9920.0 | 46.39 | 35.34 | 12.98 | 59.37 | | 74.00 | 54.00 | 5.37 | Peak |
| 12400.0 | 44.83 | 34.05 | 15.53 | 60.36 | 49.58 | 74.00 | 54.00 | -4.42 | AV |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 55

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

| | Peak | AV | | Actu | al FS | Peak | AV | | |
|---------|---------|---------|---------|----------|---------------|----------|----------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4960.0 | 46.82 | 48.00 | 3.40 | 50.22 | 51.40 | 74.00 | 54.00 | -2.60 | AV |
| 7440.0 | 56.37 | 40.33 | 9.66 | 66.03 | 49.99 | 74.00 | 54.00 | -4.01 | AV |
| 9920.0 | 38.67 | | 12.98 | 51.65 | | 74.00 | 54.00 | -2.35 | Peak |
| 12400.0 | 47.02 | 34.31 | 15.53 | 62.55 | 49.84 | 74.00 | 54.00 | -4.16 | AV |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 56

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 44.23 | -15.29 | 28.94 | 40.00 | -11.06 |
| 297.72 | V | Peak | 40.08 | -13.47 | 26.61 | 46.00 | -19.39 |
| 799.21 | V | Peak | 33.35 | -3.53 | 29.82 | 46.00 | -16.18 |
| | | | | | | | |
| 30.00 | Н | Peak | 43.42 | -15.29 | 28.13 | 40.00 | -11.87 |
| 299.66 | Н | Peak | 48.88 | -13.41 | 35.47 | 46.00 | -10.53 |
| 622.67 | Н | Peak | 41.07 | -7.12 | 33.95 | 46.00 | -12.05 |

- 1 Measuring frequencies from 30 MHz to the 1GHz \circ
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 57

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation Mode TX CH Mid Test Date Aug. 15, 2006 Fundamental Frequency 2441MHz Test By Jazz

Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 43.20 | -15.29 | 27.91 | 40.00 | -12.09 |
| 299.66 | V | Peak | 43.08 | -13.41 | 29.67 | 46.00 | -16.33 |
| 813.76 | V | Peak | 39.93 | -3.32 | 36.61 | 46.00 | -9.39 |
| | | | | | | | |
| 299.66 | Н | Peak | 49.50 | -13.41 | 36.09 | 46.00 | -9.91 |
| 750.71 | Н | Peak | 39.09 | -4.44 | 34.65 | 46.00 | -11.35 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 58

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 41.87 | -15.29 | 26.58 | 40.00 | -13.42 |
| 299.66 | V | Peak | 43.86 | -13.41 | 30.45 | 46.00 | -15.55 |
| 597.45 | V | Peak | 33.61 | -7.66 | 25.95 | 46.00 | -20.05 |
| | | | | | | | |
| 35.82 | Н | Peak | 40.82 | -15.01 | 25.81 | 40.00 | -14.19 |
| 299.66 | Н | Peak | 46.22 | -13.41 | 32.81 | 46.00 | -13.19 |
| 576.11 | Н | Peak | 41.87 | -8.04 | 33.83 | 46.00 | -12.17 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 59

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH Low Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|------------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m | n)(dBuV/m) | (dBuV/m) | (dB) | Remark |
| 2397.5 | 55.55 | | -3.40 | 52.15 | | 74.00 | 54.00 | -1.85 | Peak |
| 3197.0 | 55.03 | 40.82 | -1.64 | 53.39 | 39.18 | 74.00 | 54.00 | -14.82 | AV |
| | | | | | | | | | |
| 4804.0 | 59.27 | 47.37 | 2.99 | 62.26 | 50.36 | 74.00 | 54.00 | -3.64 | AV |
| 7206.0 | 43.28 | | 9.27 | 52.55 | | 74.00 | 54.00 | -1.45 | Peak |
| 9608.0 | 39.31 | | 12.60 | 51.91 | | 74.00 | 54.00 | -2.09 | Peak |
| 12010.0 | 38.04 | 32.00 | 15.34 | 53.38 | 47.34 | 74.00 | 54.00 | -6.66 | AV |
| 14412.0 | | | | | | | | | |
| 16814.0 | | | | | | | | | |
| 19216.0 | | | | | | | | | |
| 21618.0 | | | | | | | | | |
| 24020.0 | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 60

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

TX CH Low **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 °C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | AV | | |
|---------|---------|---------------|---------|----------|---------------|----------|----------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3197.0 | 52.99 | | -1.64 | 51.35 | | 74.00 | 54.00 | -2.65 | Peak |
| | | | | | | | | | |
| 4804.0 | 54.84 | 47.15 | 2.99 | 57.83 | 50.14 | 74.00 | 54.00 | -3.86 | AV |
| 7206.0 | 50.60 | 31.95 | 9.27 | 59.87 | 41.22 | 74.00 | 54.00 | -12.78 | AV |
| 9608.0 | 37.42 | | 12.60 | 50.02 | | 74.00 | 54.00 | -3.98 | Peak |
| 12010.0 | 36.68 | | 15.34 | 52.02 | | 74.00 | 54.00 | -1.98 | Peak |
| 14412.0 | | | | | | 74.00 | 54.00 | | |
| 16814.0 | | | | | | 74.00 | 54.00 | | |
| 19216.0 | | | | | | 74.00 | 54.00 | | |
| 21618.0 | | | | | | 74.00 | 54.00 | | |
| 24020.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 61

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3249.0 | 51.89 | | -1.55 | 50.34 | | 74.00 | 54.00 | -3.66 | Peak |
| | | | | | | | | | |
| 4882.0 | 59.04 | 48.10 | 3.18 | 62.22 | 51.28 | 74.00 | 54.00 | -2.72 | AV |
| 7323.0 | 52.44 | 38.15 | 9.46 | 61.90 | 47.61 | 74.00 | 54.00 | -6.39 | AV |
| 9764.0 | 42.77 | 34.70 | 12.78 | 55.55 | 47.48 | 74.00 | 54.00 | -6.52 | AV |
| 12205.0 | | | | | | 74.00 | 54.00 | | |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 62

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 °C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4882.0 | 54.30 | 46.55 | 3.18 | 57.48 | 49.73 | 74.00 | 54.00 | -4.27 | AV |
| 7323.0 | 44.82 | 36.45 | 9.46 | 54.28 | 45.91 | 74.00 | 54.00 | -8.09 | AV |
| 9764.0 | 40.48 | 34.00 | 12.78 | 53.26 | 46.78 | 74.00 | 54.00 | -7.22 | AV |
| 12205.0 | | | | | | 74.00 | 54.00 | | |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 63

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

TX CH High **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 3307.5 | 54.39 | 45.52 | -1.45 | 52.94 | 44.07 | 74.00 | 54.00 | -9.93 | AV |
| 4960.0 | 55.07 | 43.30 | 4.00 | 59.07 | 47.30 | 74.00 | 54.00 | -6.70 | AV |
| 7440.0 | 46.23 | 37.52 | 9.66 | 55.89 | 47.18 | 74.00 | 54.00 | -6.82 | AV |
| 9920.0 | 44.47 | 36.10 | 12.98 | 57.45 | 49.08 | 74.00 | 54.00 | -4.92 | AV |
| 12400.0 | 46.54 | 36.33 | 15.52 | 62.06 | 51.85 | 74.00 | 54.00 | -2.15 | AV |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 64

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

| | Peak | AV | | Actu | al FS | Peak | AV | | |
|---------|---------|---------|---------|----------|----------|----------|----------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4960.0 | 51.91 | 45.00 | 3.40 | 55.31 | 48.40 | 74.00 | 54.00 | -5.60 | AV |
| 7440.0 | 45.46 | 38.20 | 9.66 | 55.12 | 47.86 | 74.00 | 54.00 | -6.14 | AV |
| 9920.0 | 42.54 | 34.87 | 12.98 | 55.52 | 47.85 | 74.00 | 54.00 | -6.15 | AV |
| 12400.0 | 43.22 | 35.47 | 15.52 | 58.74 | 50.99 | 74.00 | 54.00 | -3.01 | AV |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 65

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Alex Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 35.82 | V | Peak | 40.23 | -15.01 | 25.22 | 40.00 | -14.78 |
| 57.16 | V | Peak | 43.92 | -14.90 | 29.02 | 40.00 | -10.98 |
| 93.05 | V | Peak | 40.55 | -17.71 | 22.84 | 43.50 | -20.66 |
| 152.22 | V | Peak | 31.59 | -13.58 | 18.01 | 43.50 | -25.49 |
| 161.92 | V | Peak | 35.56 | -14.37 | 21.19 | 43.50 | -22.31 |
| 907.85 | V | Peak | 41.22 | -2.1 | 39.12 | 46.00 | -6.88 |
| | | | | | | | |
| 35.82 | Н | Peak | 36.80 | -15.01 | 21.79 | 40.00 | -18.21 |
| 66.86 | Н | Peak | 44.27 | -15.61 | 28.66 | 40.00 | -11.34 |
| 73.65 | Н | Peak | 44.43 | -17.25 | 27.18 | 40.00 | -12.82 |
| 93.05 | Н | Peak | 37.81 | -17.71 | 20.1 | 43.50 | -23.40 |
| 118.27 | Н | Peak | 32.11 | -15.67 | 16.44 | 43.50 | -27.06 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 66

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Alex Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 38.04 | -15.29 | 22.75 | 40.00 | -17.25 |
| 60.07 | V | Peak | 40.32 | -14.76 | 25.56 | 40.00 | -14.44 |
| 66.86 | V | Peak | 42.29 | -15.61 | 26.68 | 40.00 | -13.32 |
| 93.05 | V | Peak | 38.76 | -17.71 | 21.05 | 43.50 | -22.45 |
| 105.66 | V | Peak | 36.35 | -16.74 | 19.61 | 43.50 | -23.89 |
| 152.22 | V | Peak | 31.17 | -13.58 | 17.59 | 43.50 | -25.91 |
| | | | | | | | |
| 35.82 | Н | Peak | 36.22 | -15.01 | 21.21 | 40.00 | -18.79 |
| 45.52 | Н | Peak | 34.35 | -14.59 | 19.76 | 40.00 | -20.24 |
| 66.86 | Н | Peak | 38.29 | -15.61 | 22.68 | 40.00 | -17.32 |
| 73.65 | Н | Peak | 37.03 | -17.25 | 19.78 | 40.00 | -20.22 |
| 93.05 | Н | Peak | 35.21 | -17.71 | 17.50 | 43.50 | -26.00 |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 67

Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Alex Temperature 25 °C Pol Ver./Hor.

65 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Margin |
|--------|----------|------------------|---------|--------|-----------|----------|-------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 35.82 | V | Peak | 40.61 | -15.01 | 25.6 | 40.00 | -14.40 |
| 66.86 | V | Peak | 41.53 | -15.61 | 25.92 | 40.00 | -14.08 |
| 93.05 | V | Peak | 38.16 | -17.71 | 20.45 | 43.50 | -23.05 |
| 105.66 | V | Peak | 34.45 | -16.74 | 17.71 | 43.50 | -25.79 |
| 152.22 | V | Peak | 32.12 | -13.58 | 18.54 | 43.50 | -24.96 |
| | | | | | | | |
| 60.07 | Н | Peak | 35.73 | -14.76 | 20.97 | 40.00 | -19.03 |
| 66.86 | Н | Peak | 42.90 | -15.61 | 27.29 | 40.00 | -12.71 |
| 73.65 | Н | Peak | 43.92 | -17.25 | 26.67 | 40.00 | -13.33 |
| 122.15 | Н | Peak | 30.36 | -15.34 | 15.02 | 43.50 | -28.48 |
| 204.60 | Н | Peak | 31.44 | -16.55 | 14.89 | 43.50 | -28.61 |
| | | | | | | | |

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 68

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation ModeTX CH LowTest DateAug. 15, 2006Fundamental Frequency2402 MHzTest ByAlexTemperature25 ℃PolVer.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4804.0 | 48.51 | | 2.99 | 51.50 | | 74.00 | 54.00 | -2.50 | Peak |
| 7206.0 | | | | | | | | | |
| 9608.0 | | | | | | | | | |
| 12010.0 | | | | | | | | | |
| 14412.0 | | | | | | | | | |
| 16814.0 | | | | | | | | | |
| 19216.0 | | | | | | | | | |
| 21618.0 | | | | | | | | | |
| 24020.0 | | | | | | | | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 69

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

TX CH Low **Test Date** Operation Mode Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Alex Temperature 25 °C Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4804.0 | 50.47 | | 2.99 | 53.46 | | 74.00 | 54.00 | -0.54 | Peak |
| 7206.0 | | | | | | 74.00 | 54.00 | | |
| 9608.0 | | | | | | 74.00 | 54.00 | | |
| 12010.0 | | | | | | 74.00 | 54.00 | | |
| 14412.0 | | | | | | 74.00 | 54.00 | | |
| 16814.0 | | | | | | 74.00 | 54.00 | | |
| 19216.0 | | | | | | 74.00 | 54.00 | | |
| 21618.0 | | | | | | 74.00 | 54.00 | | |
| 24020.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 70

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Alex Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|----------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | AV | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4882.0 | 44.91 | | 3.18 | 48.09 | | 74.00 | 54.00 | -5.91 | Peak |
| 7323.0 | | | | | | 74.00 | 54.00 | | |
| 9764.0 | | | | | | 74.00 | 54.00 | | |
| 12205.0 | | | | | | 74.00 | 54.00 | | |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 71

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation Mode TX CH Mid Test Date Aug. 15, 2006 Fundamental Frequency 2441 MHz Test By Alex Temperature 25 ℃ Pol Hor.

Humidity 65 %

| | Peak | AV | | Actua | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4882.0 | 49.72 | | 3.18 | 52.90 | | 74.00 | 54.00 | -1.10 | Peak |
| 7323.0 | | | | | | 74.00 | 54.00 | | |
| 9764.0 | | | | | | 74.00 | 54.00 | | |
| 12205.0 | | | | | | 74.00 | 54.00 | | |
| 14646.0 | | | | | | 74.00 | 54.00 | | |
| 17087.0 | | | | | | 74.00 | 54.00 | | |
| 19528.0 | | | | | | 74.00 | 54.00 | | |
| 21969.0 | | | | | | 74.00 | 54.00 | | |
| 24410.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 72

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Alex Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4960.0 | 47.76 | | 3.40 | 51.16 | | 74.00 | 54.00 | -2.84 | Peak |
| 7440.0 | | | | | | 74.00 | 54.00 | | |
| 9920.0 | | | | | | 74.00 | 54.00 | | |
| 12400.0 | | | | | | 74.00 | 54.00 | | |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 73

Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

TX CH High **Test Date** Operation Mode Aug. 15, 2006 Fundamental Frequency 2480 MHz Test By Alex Temperature 25 °C Pol Hor.

65 % Humidity

| | Peak | \mathbf{AV} | | Actua | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | Remark |
| 4960.0 | 51.07 | 46.01 | 3.40 | 54.47 | 49.41 | 74.00 | 54.00 | -4.59 | AV |
| 7440.0 | | | | | | 74.00 | 54.00 | | |
| 9920.0 | | | | | | 74.00 | 54.00 | | |
| 12400.0 | | | | | | 74.00 | 54.00 | | |
| 14880.0 | | | | | | 74.00 | 54.00 | | |
| 17360.0 | | | | | | 74.00 | 54.00 | | |
| 19840.0 | | | | | | 74.00 | 54.00 | | |
| 22320.0 | | | | | | 74.00 | 54.00 | | |
| 24800.0 | | | | | | 74.00 | 54.00 | | |

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 74

10. FREQUENCY SEPARATION

10.1. Standard Applicable

According to §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25KHz or the 2/3*20dB bandwidth of the hopping channel, whichever is greater.

10.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = middle of hopping channel.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Adjust Span to 5 MHz, Sweep = auto.
- 5. Max hold. Mark 3 Peaks of hopping channel and record the 3 peaks frequency.

10.3. Measurement Result

| Channel separation | Limit | Result |
|--------------------|---------------------------------|--------|
| MHz | kHz | |
| 1 | >=25KHz or 2/3* 20 dB bandwidth | PASS |

10.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/26/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 01/22/2006 | 01/21/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

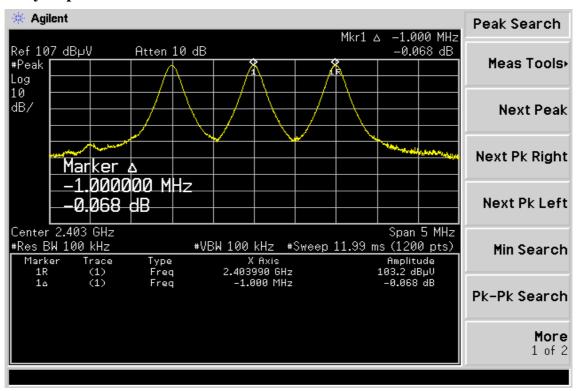


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 75

Frequency Separation Test Data



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 76

11. NUMBER OF HOPPING FREQUENCY

11.1. Standard Applicable

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz bands shall use at least 15 hopping frequencies.

11.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set spectrum analyzer Start=2400MHz, Stop = 2483.5MHz, Sweep = auto.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz,
- 5. Max hold, view and count how many channel in the band.

11.3. Measurement Result

| Total No of | Limit (CH) | Measurement result (CH) | Result |
|-----------------|---------------|-------------------------|--------|
| hopping channel | 15 | 79 | Pass |

11.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/26/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 01/22/2006 | 01/21/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

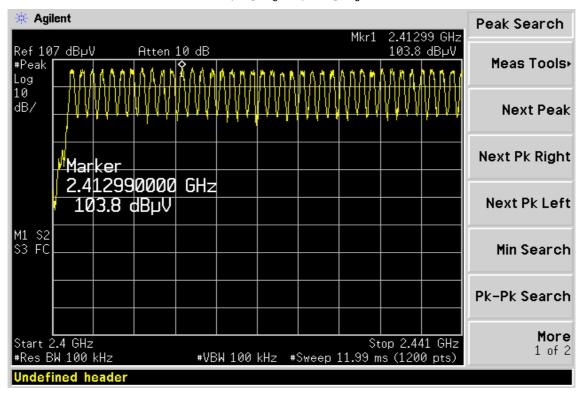


REPORT NO: ER/2006/70001

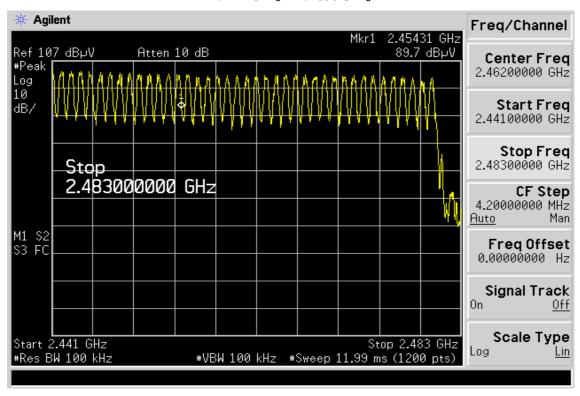
DATE: Aug. 16, 2006

Page: 77

2.4 GHz - 2.441 GHz



2.441 GHz - 2.4835GHz



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 78

12. TIME OF OCCUPANCY (DWELL TIME)

12.1. Standard Applicable

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 seconds multiplied by the number of hopping channel employed.

12.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 0Hz, Adjust Sweep = 30s.
- 5. Repeat above procedures until all frequency measured were complete.

12.3. Measurement Result

A period time = 0.4 (ms) * 79 = 31.6 (s)

CH Low: DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.1 (ms)

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.2 (ms)

DH5 time slot = 2.925 (ms) * (1600/(5*79)) * 31.6 = 374.3 (ms)

DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.1 (ms) CH Mid:

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.2 (ms)

DH5 time slot = 2.906 (ms) * (1600/(5*79)) * 31.6 = 371.9 (ms)

CH High: DH1 time slot = 0.416 (ms) * (1600/(1*79)) * 31.6 = 266.1 (ms)

DH3 time slot = 1.662 (ms) * (1600/(3*79)) * 31.6 = 354.5 (ms)

DH5 time slot = 2.906 (ms) * (1600/(5*79)) * 31.6 = 371.9 (ms)



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

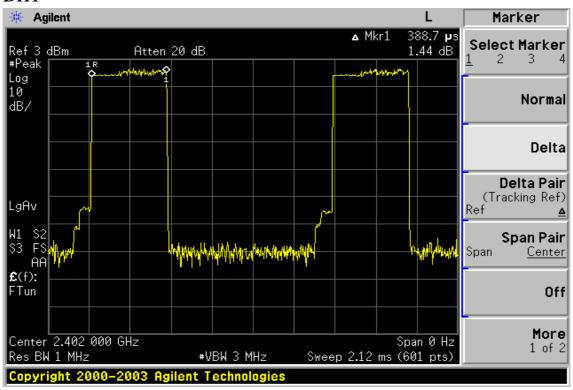
Page: 79

12.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/27/2006 |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 03/29/2006 | 03/28/2007 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

Dwell Time Test Data CH-Low

DH1



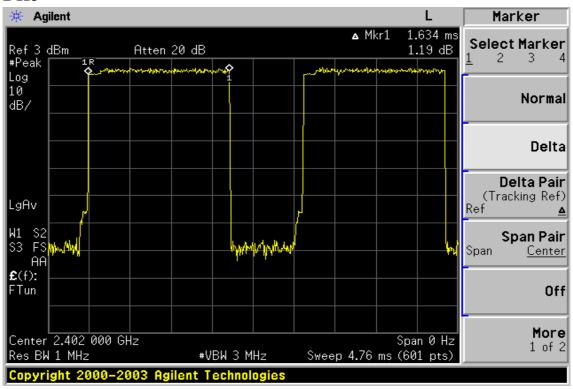


REPORT NO: ER/2006/70001

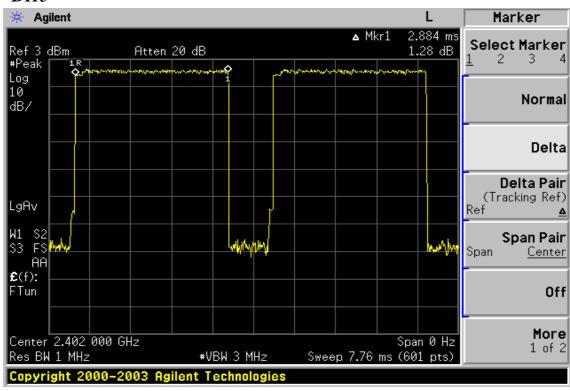
DATE: Aug. 16, 2006

Page: 80

DH3



DH₅



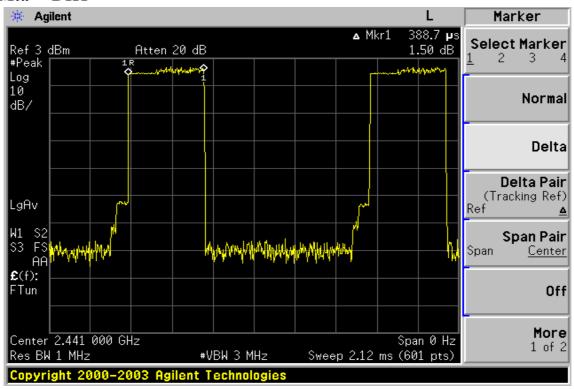


REPORT NO: ER/2006/70001

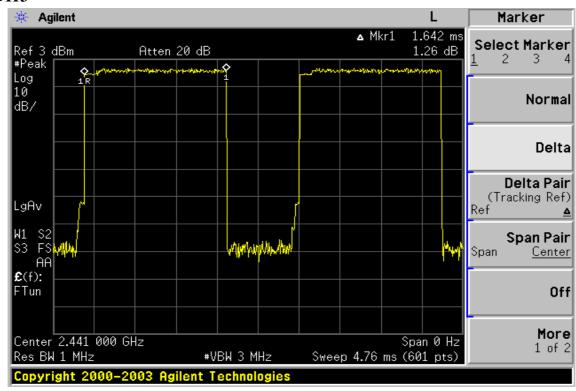
DATE: Aug. 16, 2006

Page: 81

CH-Mid DH1



DH3



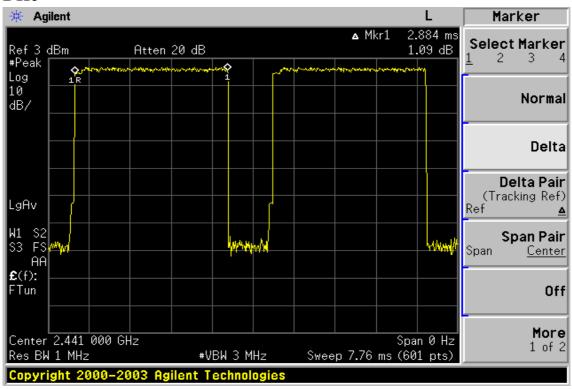


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

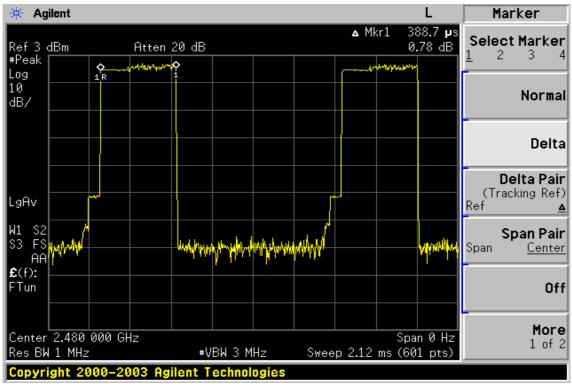
Page: 82

DH5



CH-High

DH1



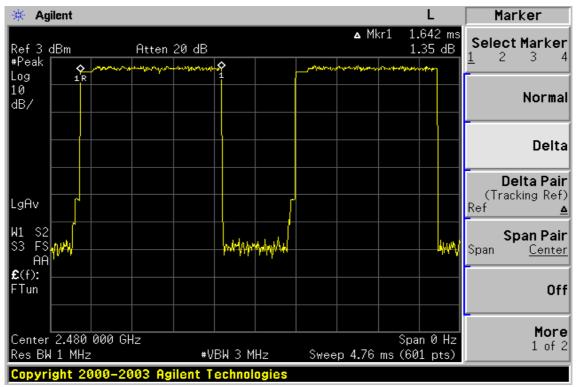


REPORT NO: ER/2006/70001

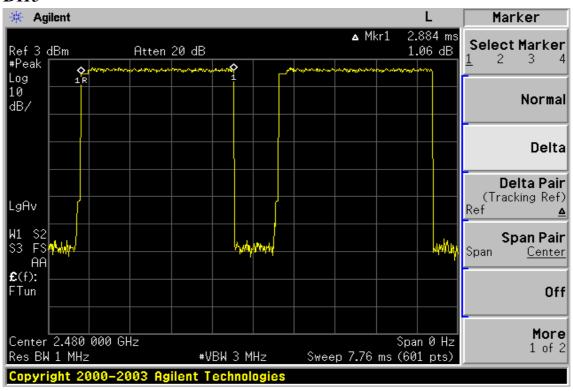
DATE: Aug. 16, 2006

Page: 83

DH3



DH₅



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 84

13. Peak Power Spectral Density

13.1. Standard Applicable

According to §15.247(d), for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3kHz band during any time interval of continuous transmission.

13.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 3KHz, VBW = 10KHz, Span = 1.5MHz, Sweep=100s
- 4. Record the max. reading.
- 5. Repeat above procedures until all frequency measured were complete.

13.3. Measurement Result

| СН | RF Power Density | Cable loss | RF Power Density | Maximum Limit |
|------|------------------|------------|------------------|---------------|
| СП | Reading (dBm) | (dB) | Level (dBm) | (dBm) |
| Low | 3.63 | 0.20 | 3.83 | 8 |
| Mid | 3.77 | 0.20 | 3.97 | 8 |
| High | 3.48 | 0.20 | 3.68 | 8 |

13.4. Measurement Equipment Used:

| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
|-------------------|--------------|--------------------|------------|------------|------------|
| TYPE | | NUMBER | NUMBER | CAL. | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 05/27/2006 | 05/26/2007 |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 08/27/2005 | 08/26/2006 |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2005 | 10/06/2006 |

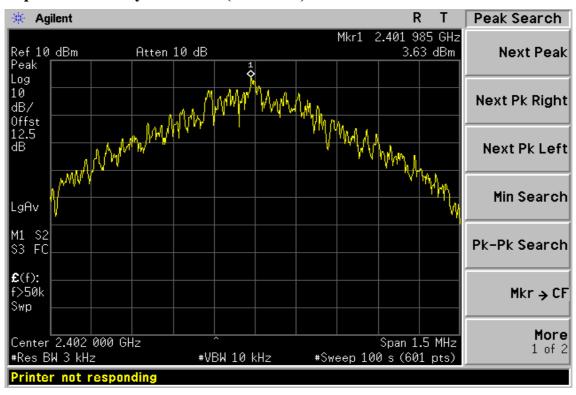


REPORT NO: ER/2006/70001

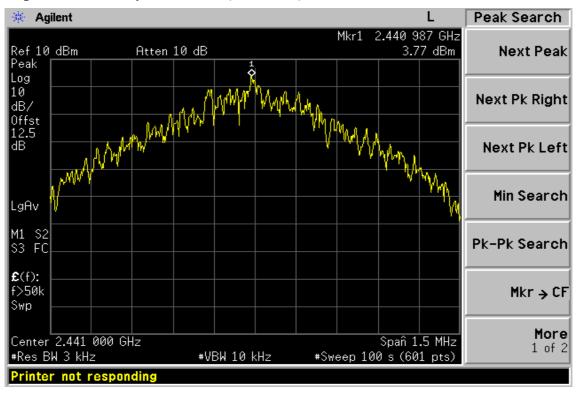
DATE: Aug. 16, 2006

Page: 85

Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



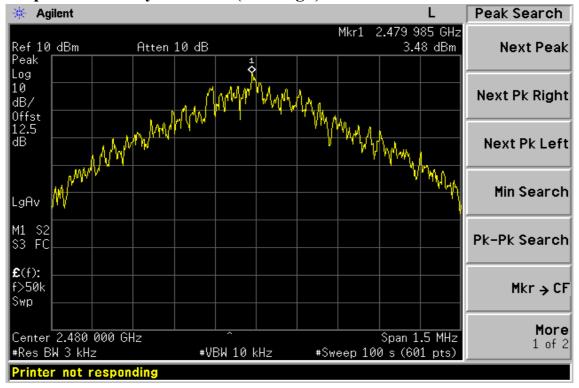


REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 86

Power Spectral Density Test Plot (CH-High)



REPORT NO: ER/2006/70001

DATE: Aug. 16, 2006

Page: 87

14. ANTENNA REQUIREMENT

14.1. Standard Applicable

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

And according to §15.247(4)(1), system operating in the 2400-2483.5MHz bands that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

14.2. Antenna Connected Construction

The directional gains of antenna used for transmitting as it shows in the following chart, and the antenna connector is designed with a detachable revised SMA or U.FL type connector and installation by OEM manufacturer no consideration of replacement by the end user. Please see antenna photos for detail.

| Item no. | | Model/Type | |
|-------------------|---|-----------------------|--|
| | Model: | MMTX-EA-79A Bluetooth | |
| | Model. | 2.4GHz SMA M | |
| Antenna1. | Manufacture: | EAD | |
| | Frequency Range: | 2.4-2.5GHz | |
| | Antenna Gain: | 2dBi | |
| | Model: | Titanis | |
| Antenna 2. | Manufacture: | GiaAnt | |
| Antenna 2. | Frequency Range: | 2.4-2.5GHz | |
| | 2. Model: Manufacture: Frequency Range: Antenna Gain: Model: Manufacture: Frequency Range: Antenna Gain: | 4.4dBi | |
| | Model: | MTX-BT-Blade | |
| Antenna 3. | Manufacture: | EAD | |
| 1 1110 1111 W U . | Frequency Range: | 2.45GHz and 5.2GHz | |
| | Antenna Gain: | 2dBi | |
| | Model: | BT-Stubby | |
| Antenna 4. | Manufacture: | EAD | |
| Antenna 4. | Frequency Range: | 2.4GHz | |
| | Antenna Gain: | 0dBi | |
| | Model: | AT3216 | |
| Antenna 5. | Manufacture: | ACX | |
| Amenna 3. | Frequency Range: | 2.4-2.5GHz | |
| | Antenna Gain: | 0.5dBi | |