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<http://www.ltalab.com>**SENA**

Dates of Tests: August 01 ~ 08, 2007

Test Report S/N: LR500190708C

Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID.

S7APARANIESD1000

APPLICANT

Sena Technologies, Inc.

| | | |
|----------------------------------|---|--|
| FCC Classification | : | FHSS Sequence Spread Spectrum (FHSS) |
| Manufacturing Description | : | Bluetooth Serial Adaptor |
| Manufacturer | : | Sena Technologies, Inc. |
| Model name | : | Parani-ESD1000 |
| Test Device Serial No.: | : | Identical prototype |
| Rule Part(s) | : | FCC Part 15.247 Subpart C; ANSI C-63.4-2003 |
| Frequency Range | : | 2402 ~ 2480MHz |
| RF power | : | 14.63dBm - Conducted |
| Data of issue | : | August 10, 2007 |

This test report is issued under the authority of:

The test was supervised by:

Dong -Min JUNG, Technical Manager

Kyung-Taek LEE, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. This report must not be used by the applicant to claim product endorsement by any agency.



NVLAP LAB Code.: 200723-0

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1. General information's

1-1 Test Performed

Company name : LTA Co., Ltd.
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

| Agency | Country | Accreditation No. | Validity | Reference |
|--------|---------|-------------------|------------|---------------------|
| NVLAP | U.S.A | 200723-0 | 2007-09-30 | ECT accredited Lab. |
| RRL | KOREA | KR0049 | 2009-06-20 | EMC accredited Lab. |
| FCC | U.S.A | 610755 | 2008-03-28 | FCC filing |
| VCCI | JAPAN | R2133, C2307 | 2008-06-22 | VCCI registration |
| IC | CANADA | IC5799 | 2008-04-23 | IC filing |

2. Information's about test item

2-1 Applicant & Manufacturer

Company name : Sena Technologies, Inc.
 Address : 210 Yangjae-dong Seocho-gu Seoul 137-130 Korea
 TEL / FAX : +82-2-571-8283/ +82-2-573-7710

2-2 Equipment Under Test (EUT)

Trade name : Bluetooth Serial Adaptor
 FCC ID : S7APARANIESD1000
 Model name : Parani-ESD1000
 Serial number : Identification
 Date of receipt : July 30, 2007
 EUT condition : Pre-production, not damaged
 Antenna type : External antenna (M/N: R-AN2400-1901RS) Max Gain 5dBi
 External antenna (M/N: R-AN2400-5801RS) Max Gain 3.17dBi
 External antenna (M/N: WE-2400PO) Max Gain 1.564dBi
 Antenna connector : Reverse polarity SMA connector
 Frequency Range : 2402 ~ 2480MHz
 Conducted output power : GFSK: 14.63dBm / Pi/4 DQPSK: 7.54dBm / 8DPSK: 8.57dBm
 Number of channels : 79
 Channel spacing : 1MHz
 Channel Access Protocol : Frequency Hopping
 Type of Modulation : GFSK, Pi/4 DQPSK, 8DPSK
 Power Source : 3.3V

2-3 Tested frequency

| | LOW | MID | HIGH |
|-----------------|------|------|------|
| Frequency (MHz) | 2402 | 2441 | 2480 |

2-5 Ancillary Equipment

| Equipment | Model No. | Serial No. | Manufacturer |
|-----------|---------------|------------|--------------|
| Note PC | Latitude D505 | 8N29F1S | DELL |
| - | - | - | - |

3. Test Report

3.1 Summary of tests

| FCC Part Section(s) | Parameter | Limit | Test Condition | Status (note 1) |
|---------------------|-------------------------------|-------------------|----------------|-----------------|
| 15.247(a) | Carrier Frequency Separation | > 25 kHz | Conducted | C |
| 15.247(a) | Number of Hopping Frequencies | > 75 hops | | C |
| 15.247(a) | 20 dB Bandwidth | < 1 MHz | | C |
| 15.247 | Dwell Time | < 0.4 seconds | | C |
| 15.247(b) | Transmitter Output Power | < 1Watt | | C |
| 15.247(d) | Conducted Spurious emission | > 20 dBc | | C |
| 15.247(d) | Band Edge | > 20 dBc | | C |
| 15.249 / 15.209 | Field Strength of Harmonics | < 54 dBuV (at 3m) | Radiated | C |
| 15.109 | Field Strength | - | | C |
| 15.207 /15.107 | AC Conducted Emissions | EN 55022 | Line Conducted | C |
| 15.203 | Antenna requirement | - | - | C |

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

The sample was tested according to the following specification:

FCC Parts 15.247; ANSI C-63.4-2003

→ Antenna Requirement

The Sena Technologies, Inc. Parani-ESD1000 unit complies with the requirement of §15.203.

The antenna connector is the reverse polarity SMA connector.

3.2 Transmitter requirements

3.2.1 Carrier Frequency Separation

Procedure:

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

After the trace being stable, the reading value between the peaks of the adjacent channels using the marker-delta function was recorded as the measurement results.

The spectrum analyzer is set to:

Span = 3 MHz (wide enough to capture the peaks of two adjacent channels)

RBW = 30 kHz (1% of the span or more) Sweep = auto

VBW = 30 kHz Detector function = peak

Trace = max hold

Measurement Data:

| Test Results | |
|------------------------------------|----------|
| Carrier Frequency Separation (MHz) | Result |
| 1.058 | Complies |

- See next pages for actual measured spectrum plots.

Minimum Standard:

The EUT shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

Measurement Setup

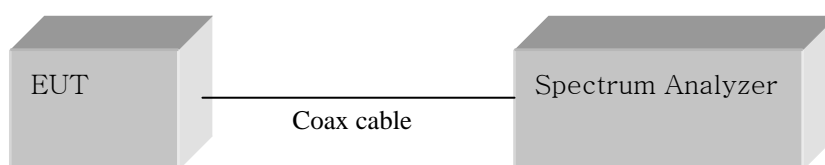
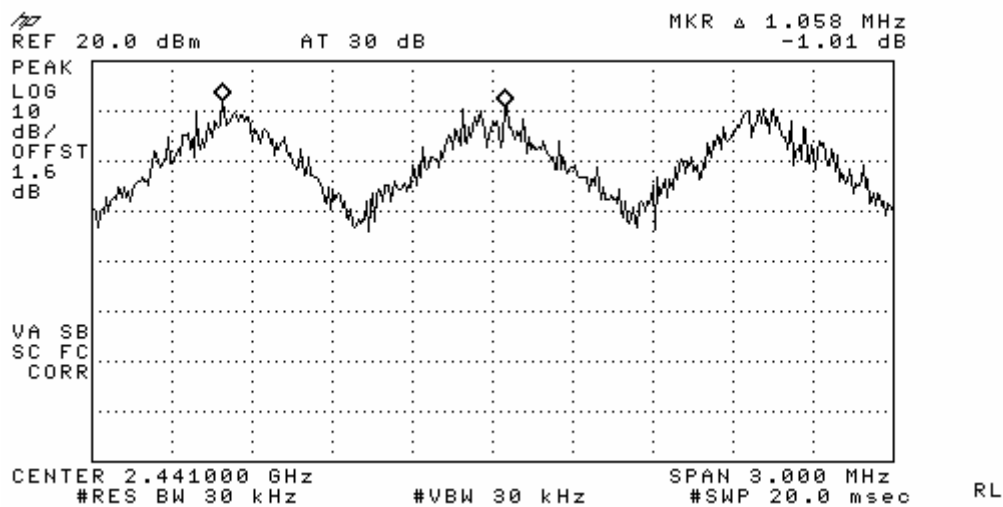


Figure 1: Measurement setup for the carrier frequency separation

Carrier Frequency Separation



3.2.2 Number of Hopping Frequencies

Procedure:

The number of hopping frequencies was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

To get higher resolution, four frequency ranges within the 2400 ~ 2483.5 MHz FH band were examined.

The spectrum analyzer is set to:

Frequency range 1: Start = 2389.5MHz, Stop = 2414.5 MHz

 2: Start = 2414.5MHz, Stop = 2439.5 MHz

 3: Start = 2439.5MHz, Stop = 2464.5 MHz

 4: Start = 2464.5MHz, Stop = 2489.5 MHz

RBW = 300 kHz (1% of the span or more) Sweep = auto

VBW = 300 kHz (VBW \geq RBW) Detector function = peak

Trace = max hold Span = 25MHz

Measurement Data: Complies

| | |
|---|----|
| Total number of Hopping Channels | 79 |
|---|----|

- See next pages for actual measured spectrum plots.

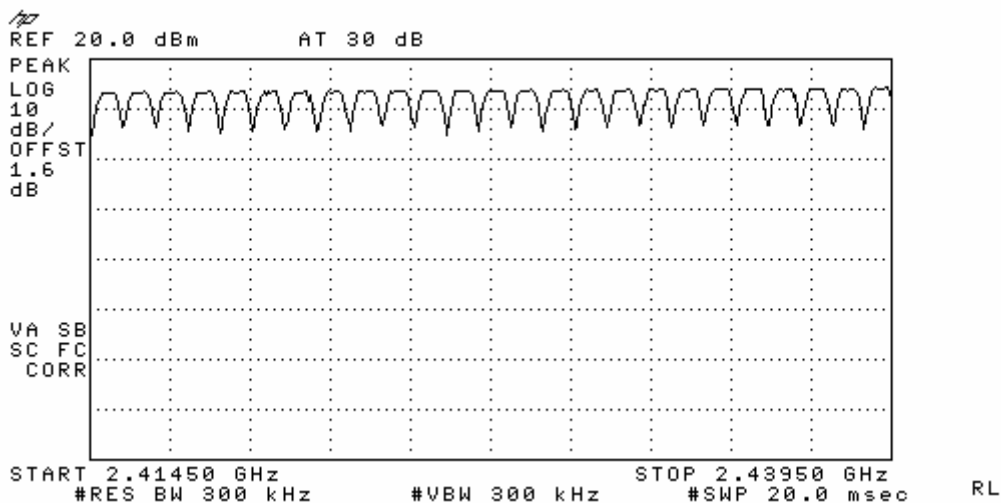
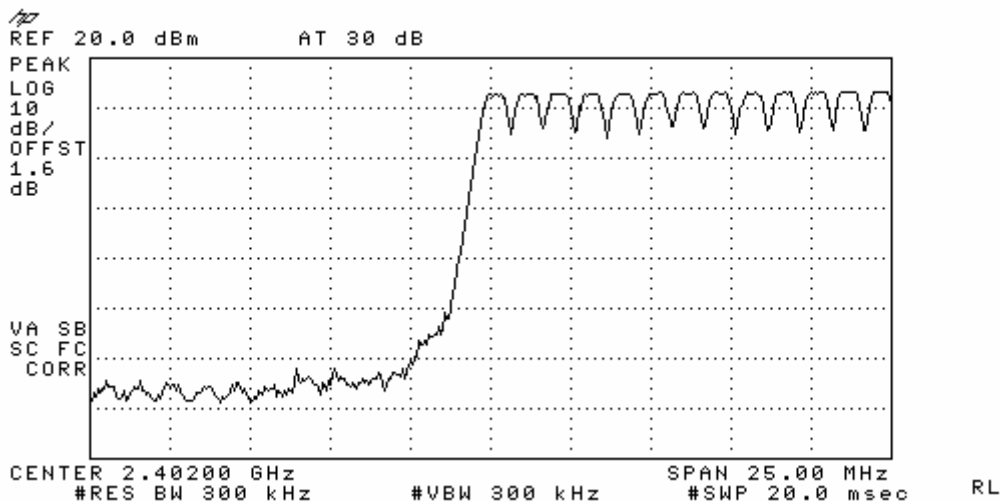
Minimum Standard:

At least 15 hops

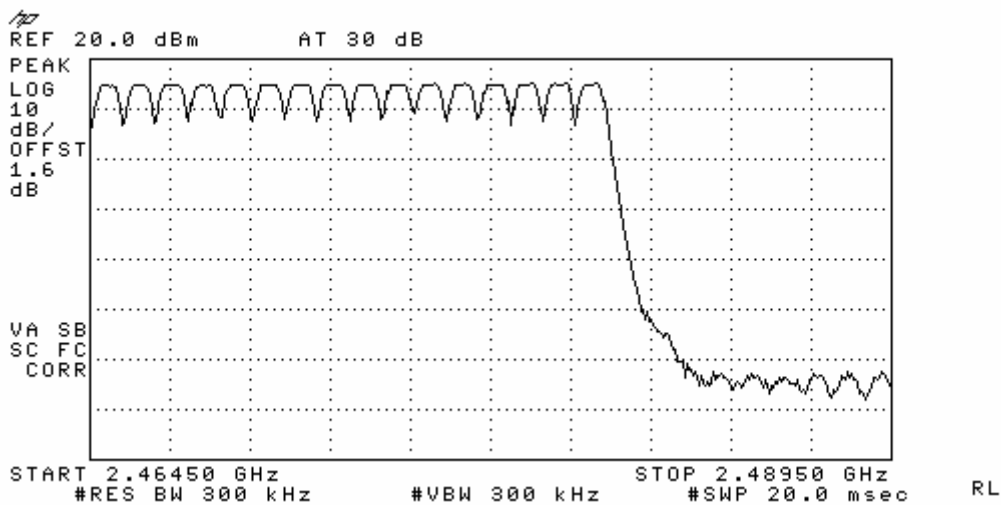
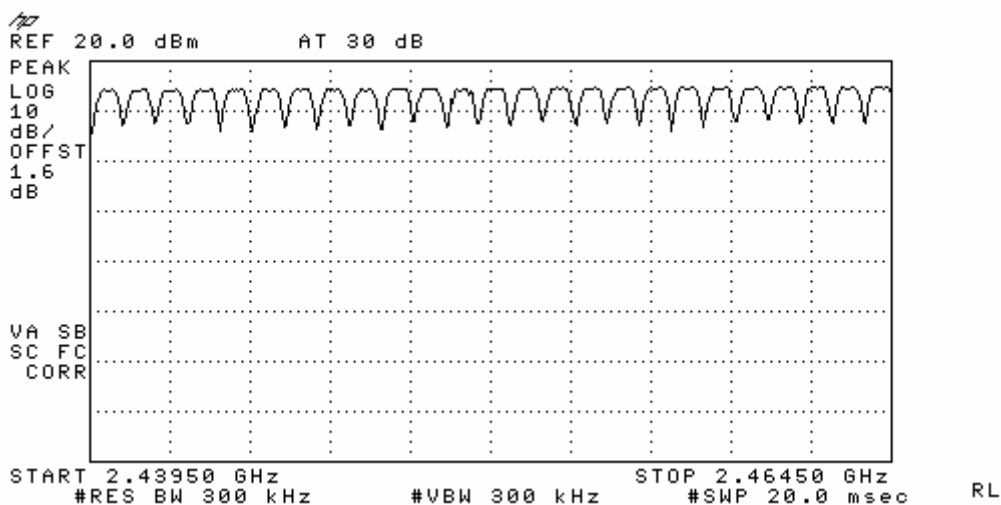
Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

Number of Hopping Frequencies



Number of Hopping Frequencies



3.2.3 20 dB Bandwidth

Procedure:

The bandwidth at 20 dB below the highest inband spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels..

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

Span = 2 MHz (approximately 2 or 3 times of the 20 dB bandwidth)

RBW = 30 kHz

Sweep = auto

VBW = 30 kHz (VBW \geq RBW)

Detector function = peak

Trace = max hold

Measurement Data:

| Frequency (MHz) | Channel No. | Test Results(MHz) | | |
|-----------------|-------------|-------------------|------------|-------|
| | | GFSK | Pi/4 DQPSK | 8DPSK |
| 2402 | 0 | 0.967 | 1.268 | 1.268 |
| 2441 | 39 | 0.952 | 1.253 | 1.260 |
| 2480 | 78 | 0.975 | 1.253 | 1.260 |

- See next pages for actual measured spectrum plots.

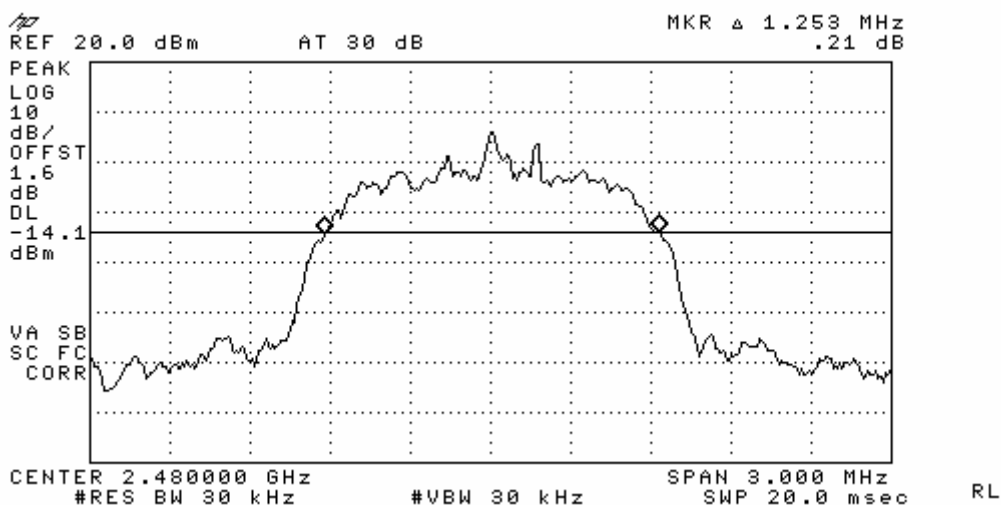
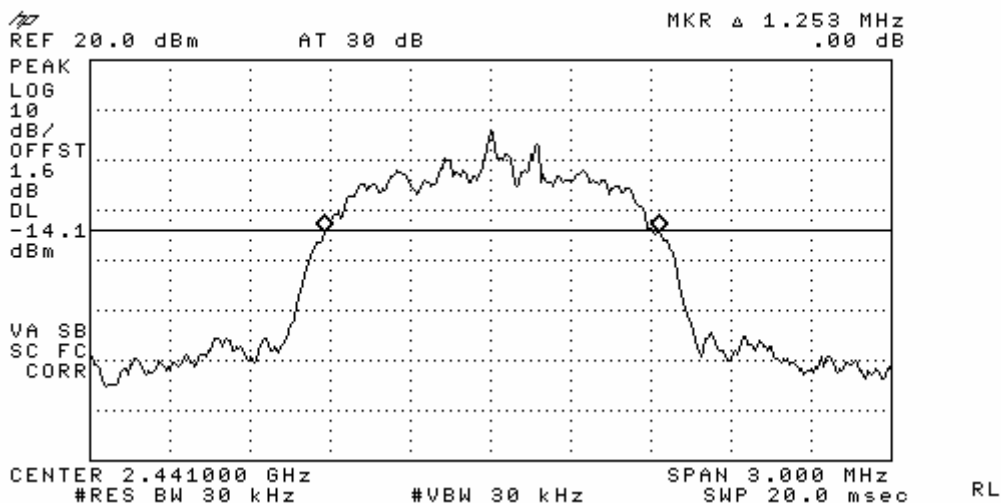
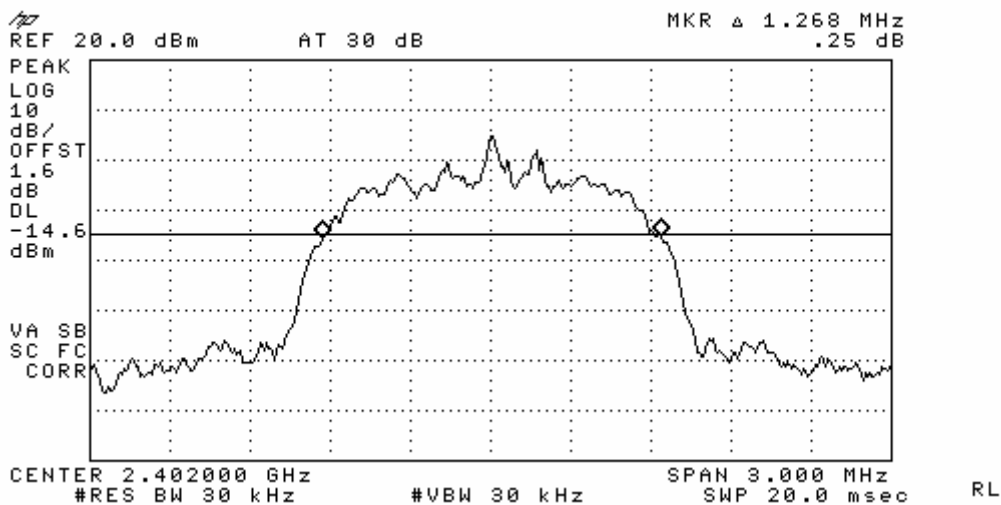
Minimum Standard:

N/A

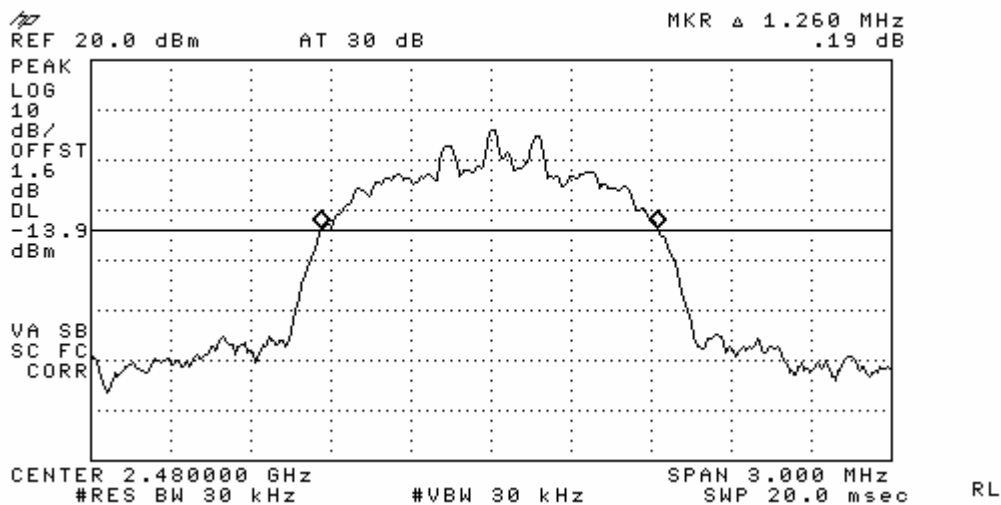
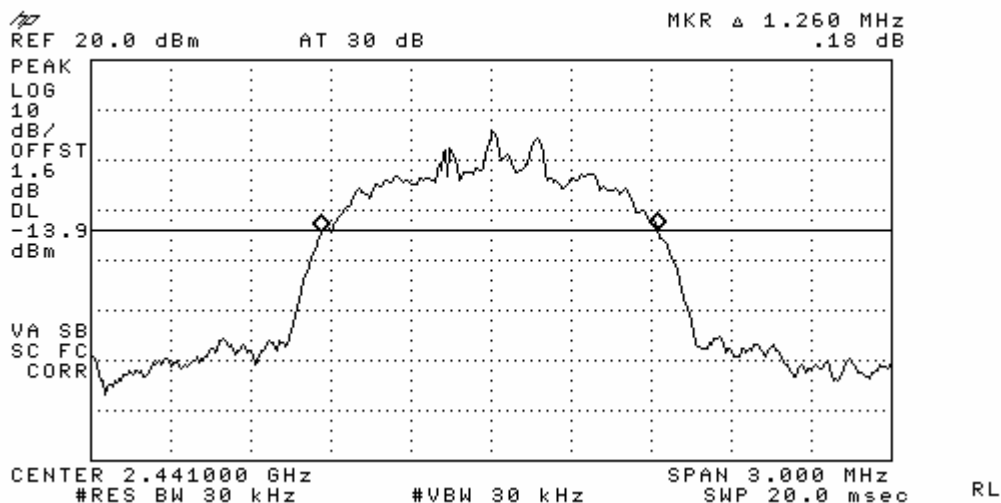
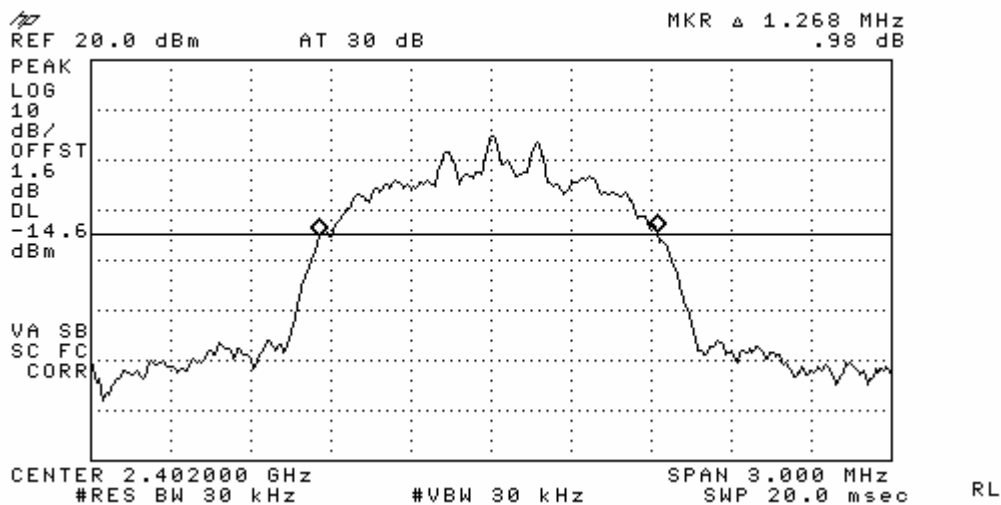
Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

Pi/4 DQPSK - 20 dB Bandwidth



8DPSK - 20 dB Bandwidth



3.2.4 Time of Occupancy (Dwell Time)

Procedure:

The dwell time was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

The spectrum analyzer is set to:

Center frequency = 2441 MHz

Span = zero

RBW = 1 MHz

VBW = 1 MHz (VBW \geq RBW)

Trace = max hold

Detector function = peak

Measurement Data:

| Channel Number | Channel Frequency (MHz) | Packet Type | Test Results | |
|----------------|-------------------------|-------------|-----------------|----------|
| | | | Dwell Time (ms) | Result |
| 39 | 2441 | DH 1 | 132.05 | Complies |
| | | DH 3 | 261.89 | Complies |
| | | DH 5 | 311.48 | Complies |

- See next pages for actual measured spectrum plots.

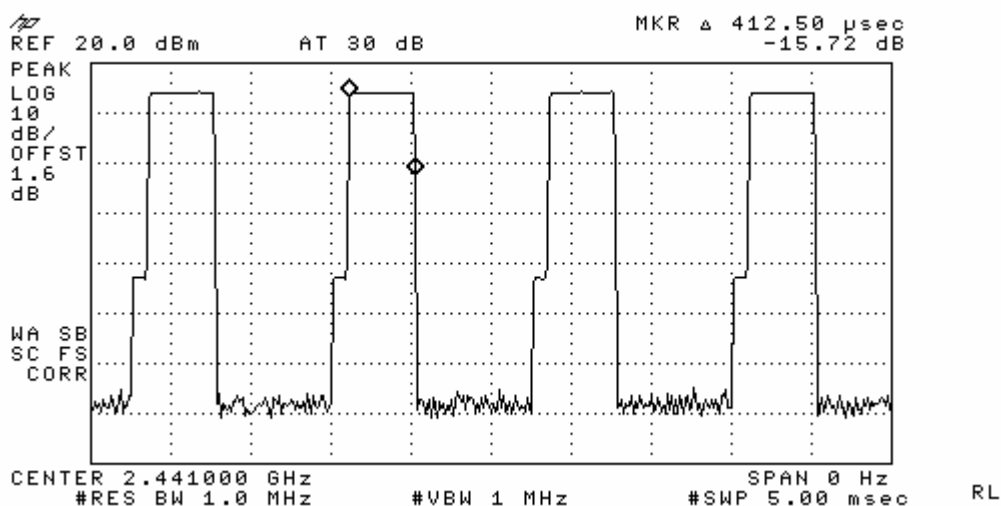
Minimum Standard:

0.4 seconds within a 30 second period per any frequency

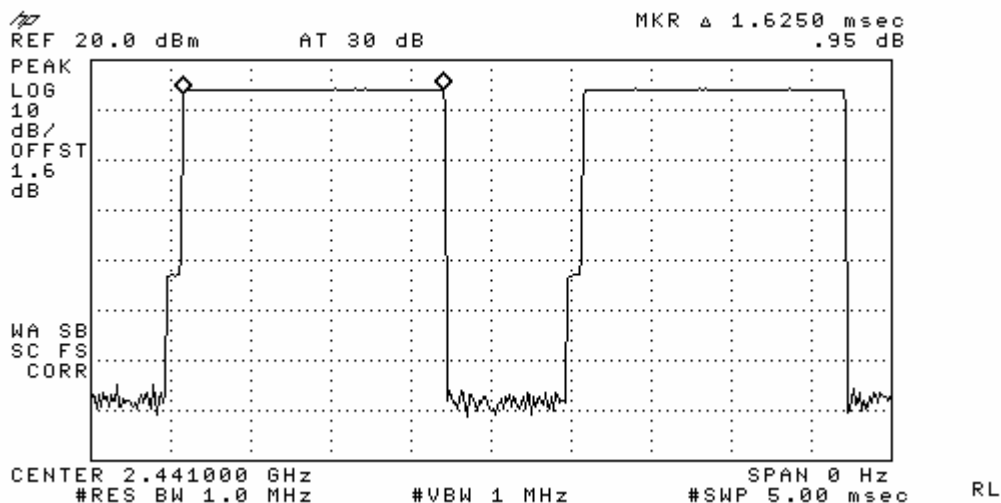
Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

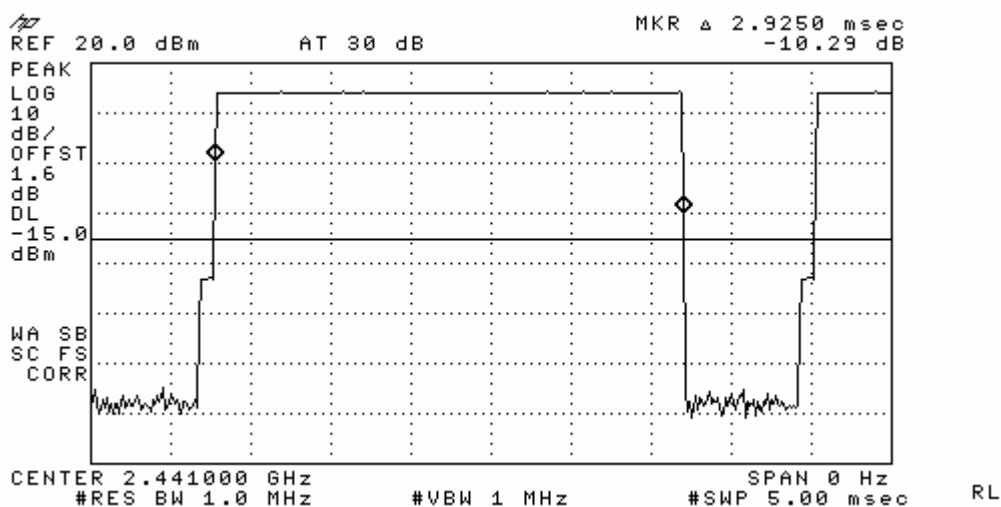
DH 1



DH 3



DH 5



3.2.5 Transmitter Output Power

Procedure:

The peak output power was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels..

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

Span = 5 MHz (approximately 5 times of the 20 dB bandwidth)

RBW = 3 MHz (greater than the 20dB bandwidth of the emission being measured)

VBW = 3 MHz (VBW \geq RBW)

Detector function = peak

Trace = max hold

Sweep = auto

Measurement Data:

| Frequency (MHz) | Ch. | Test Results | | | | | |
|-----------------|-----|--------------|--------|------------|--------|-------|--------|
| | | GFSK | | Pi/4 DQPSK | | 8DPSK | |
| | | dBm | W | dBm | W | dBm | W |
| 2402 | 0 | 13.04 | 0.0201 | 6.24 | 0.0042 | 7.28 | 0.0053 |
| 2441 | 39 | 13.93 | 0.0247 | 7.02 | 0.0050 | 8.07 | 0.0064 |
| 2480 | 78 | 14.63 | 0.0290 | 7.54 | 0.0057 | 8.57 | 0.0072 |

Note 1: Power control value was regulated by manufacturer.

Test control program is bluetest v1.22.

Control power value: GFSK mode(255, 46), Pi/4 DQPSK and 8DPSK mode(0, 78)

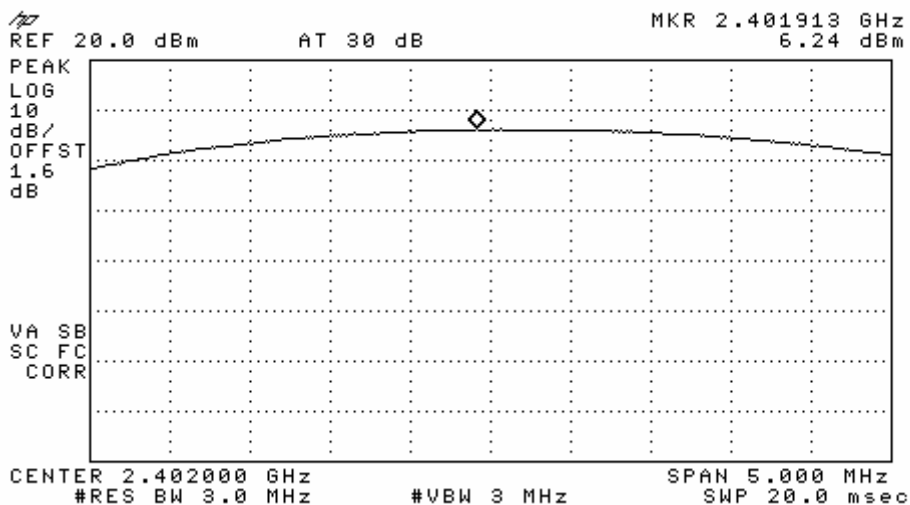
Note 2: See next pages for actual measured spectrum plots.

| | |
|--------------------------|------|
| Minimum Standard: | < 1W |
|--------------------------|------|

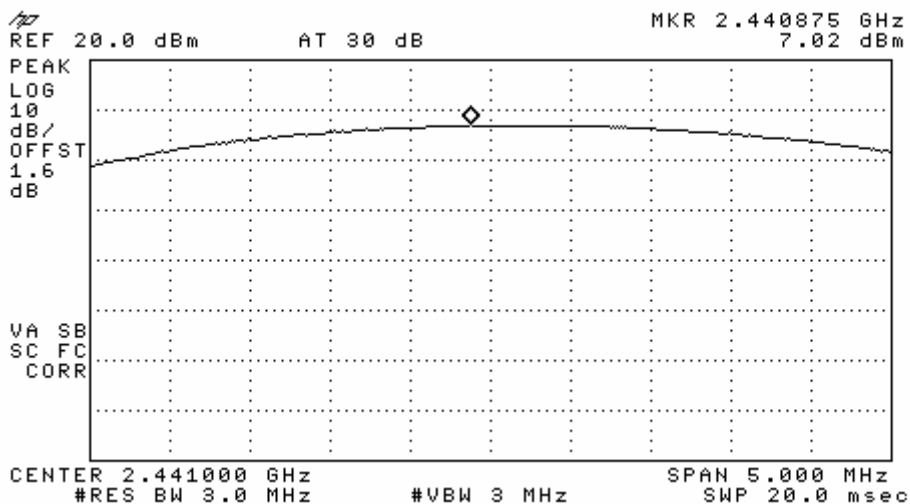
Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

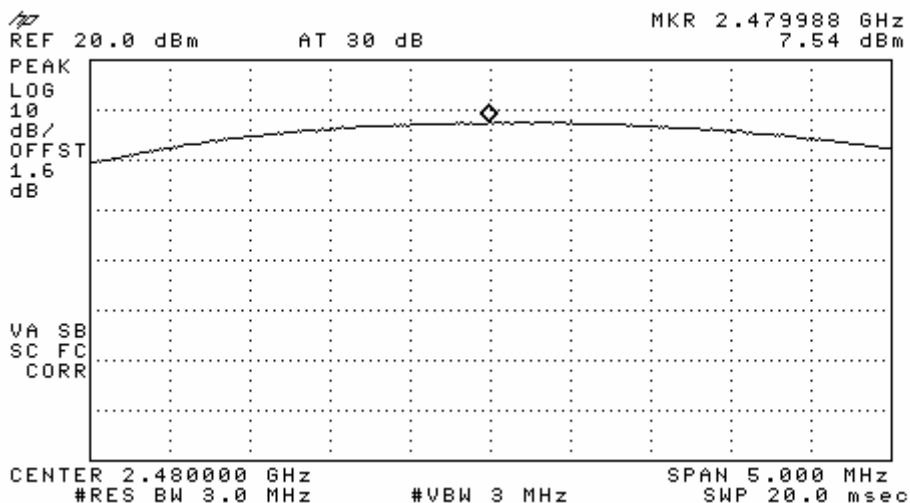
Pi/4 DQPSK - Peak Output Power



RL

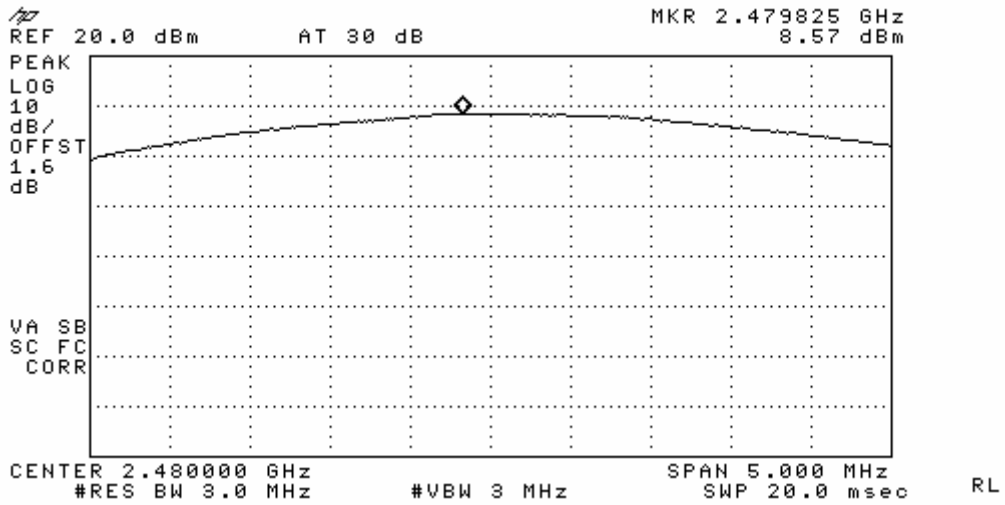
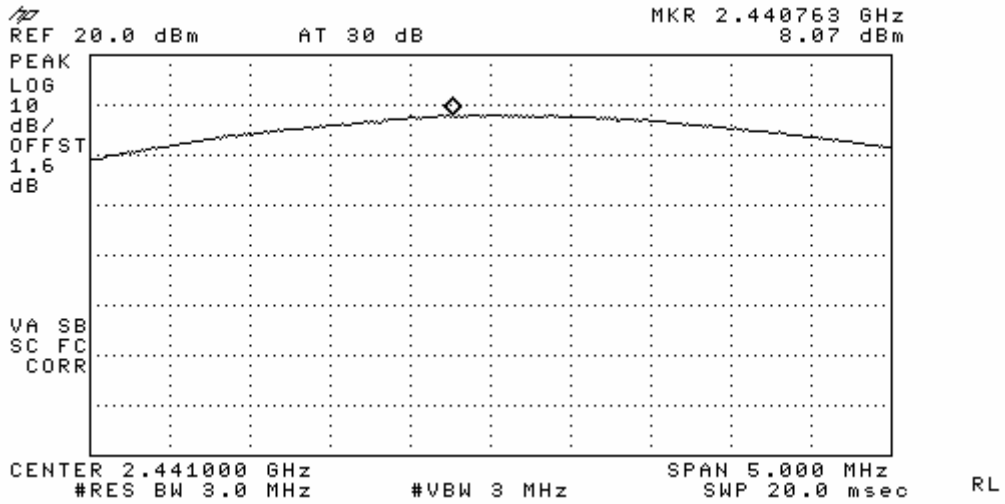
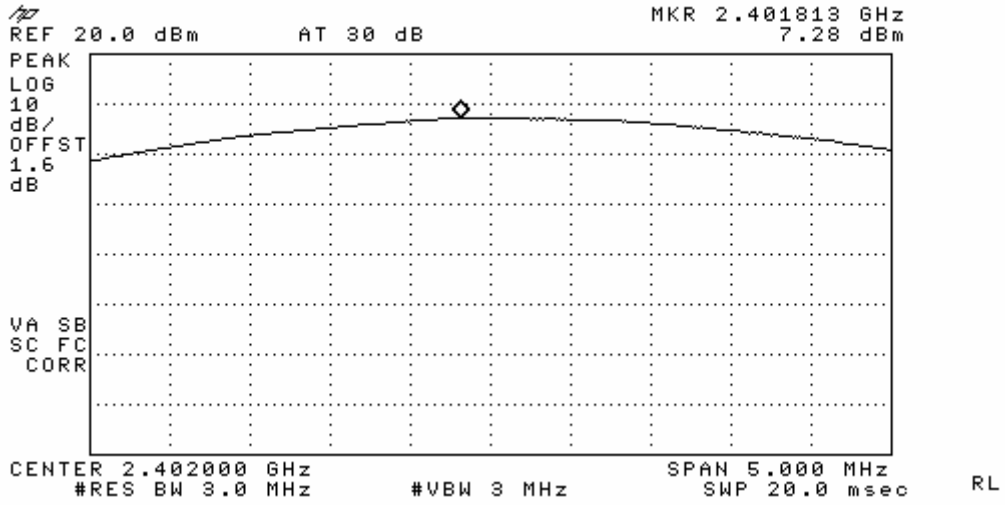


RL



RL

8DPSK - Peak Output Power



3.2.6 Band Edge

Procedure:

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW = 100 kHz

Span = 10 MHz

Detector function = peak

Trace = max hold

Sweep = auto

Measurement Data: Complies

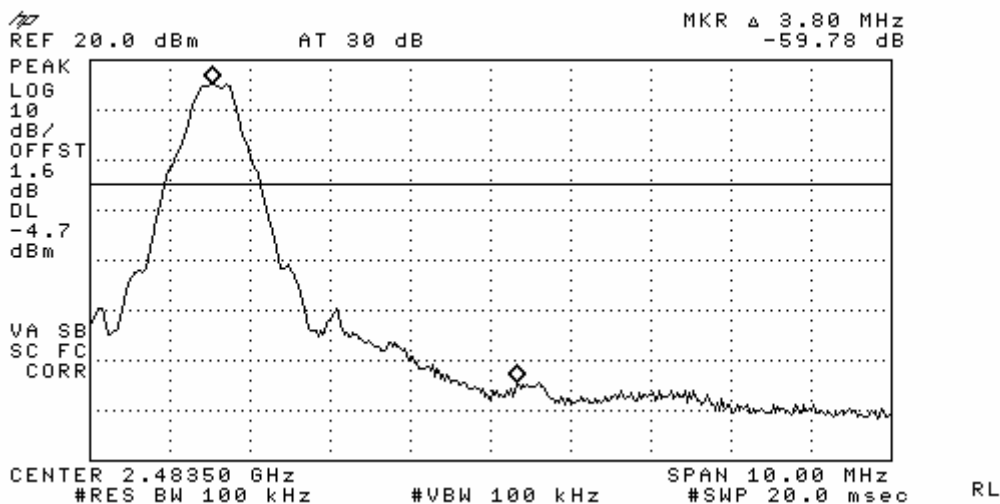
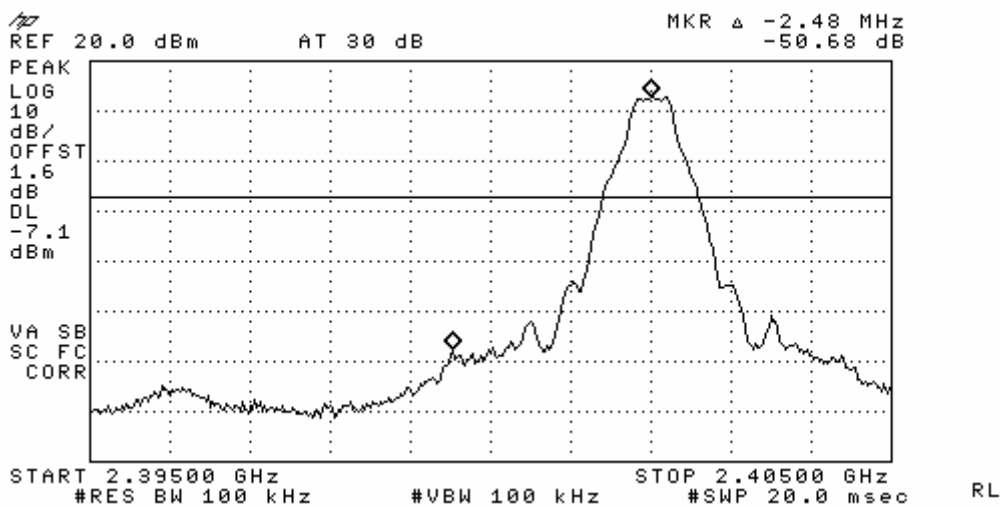
- All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.
- See next pages for actual measured spectrum plots.

| | |
|--------------------------|----------|
| Minimum Standard: | > 20 dBc |
|--------------------------|----------|

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

GFSK - Band edge



Band-edges in the restricted band 2483.5 ~ 2500 MHz measurement

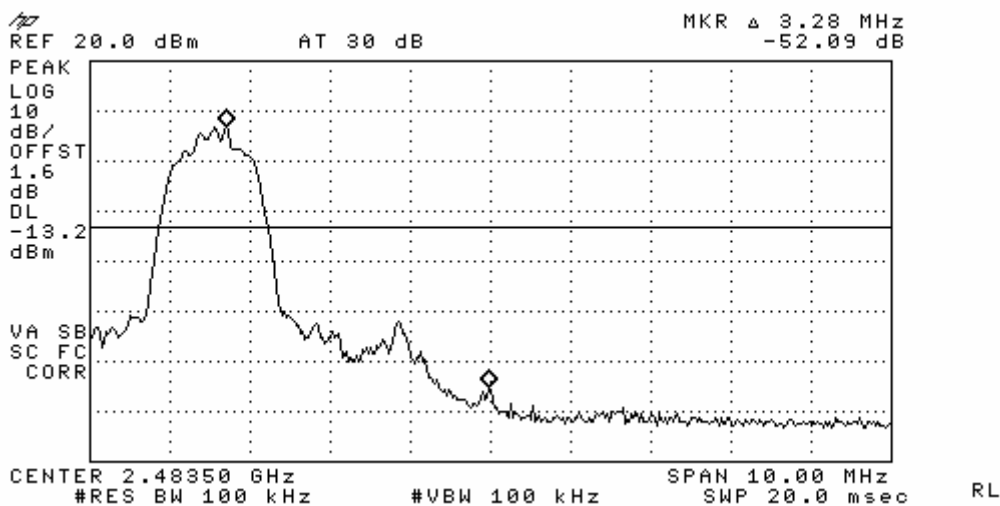
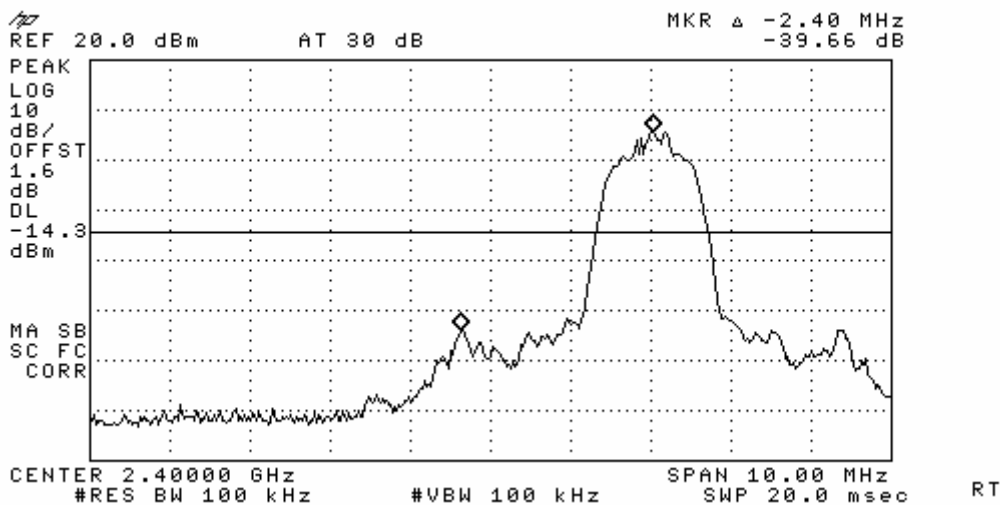
- Document DA 00-705 Marker Delta Method

| Frequency (MHz) | Detect mode | Pol. | Reading (dBUV/m) | T.F (dB) | Step 1 Data | delta | Step 3 Data | Limit |
|-----------------|-------------|------|------------------|----------|-------------|-------|-------------|-------|
| 2480 | PK | V | 77.95 | 34.6 | 112.55 | 59.78 | 52.77 | 74 |
| | AV | V | 63.84 | 34.6 | 98.44 | 59.78 | 38.66 | 54 |

Note) Step 1 = Reading + T.F

T.F = Ant.F + Cable loss Step 3 = Step 1 – Delta Value

Pi/4 DQPSK - Band edge



Band-edges in the restricted band 2483.5 ~ 2500 MHz measurement

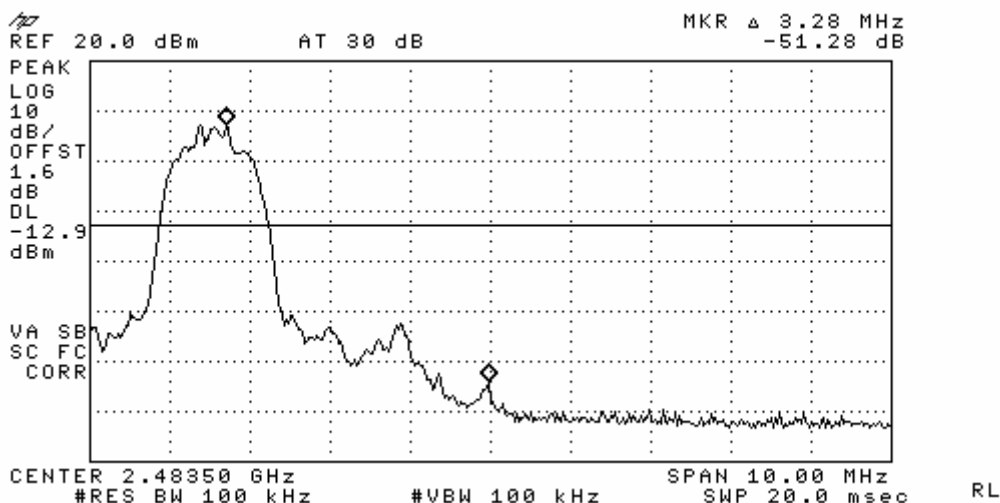
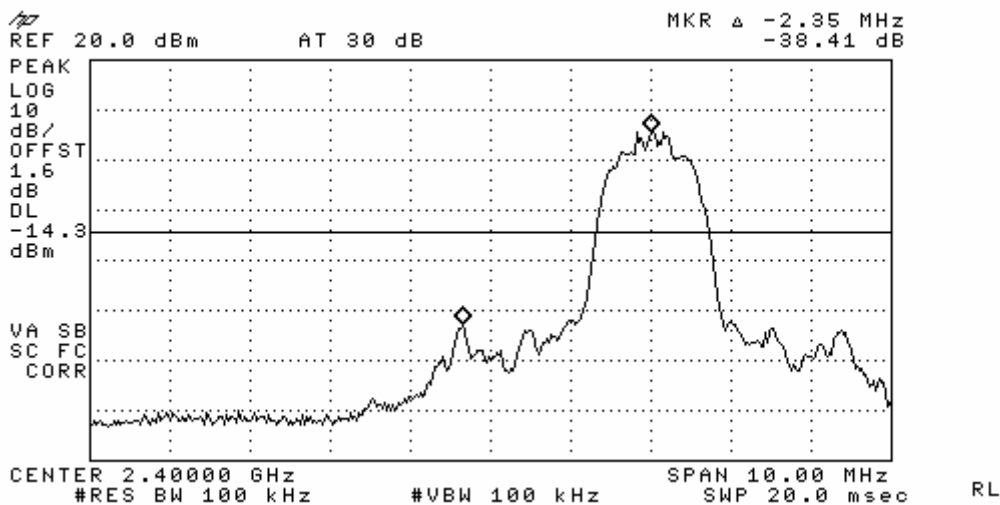
- Document DA 00-705 Marker Delta Method

| Frequency (MHz) | Detect mode | Pol. | Reading (dBUV/m) | T.F (dB) | Step 1 Data | delta | Step 3 Data | Limit |
|-----------------|-------------|------|------------------|----------|-------------|-------|-------------|-------|
| 2480 | PK | V | 70.3 | 34.6 | 104.9 | 52.09 | 52.81 | 74 |
| | AV | V | 54.17 | 34.6 | 88.77 | 52.09 | 36.68 | 54 |

Note) Step 1 = Reading + T.F

T.F = Ant.F + Cable loss Step 3 = Step 1 – Delta Value

8DPSK - Band edge



Band-edges in the restricted band 2483.5 ~ 2500 MHz measurement

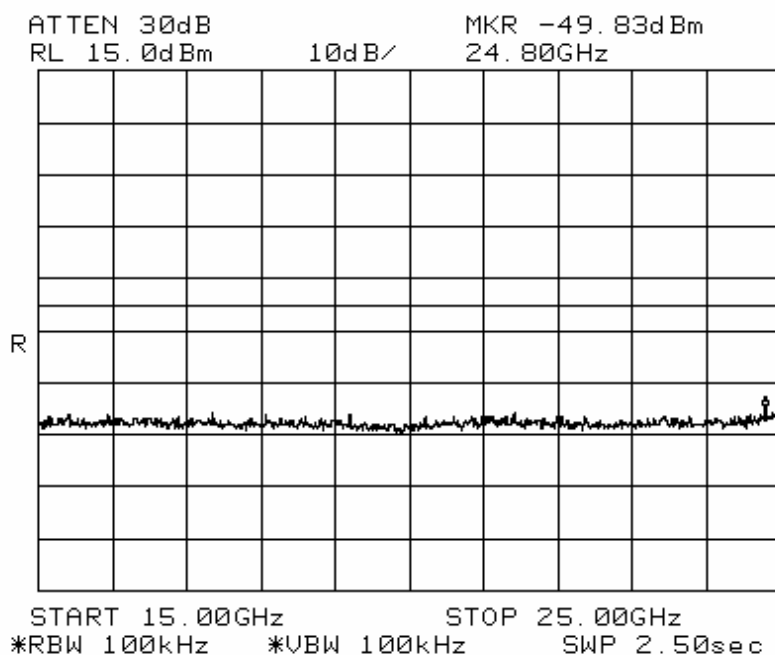
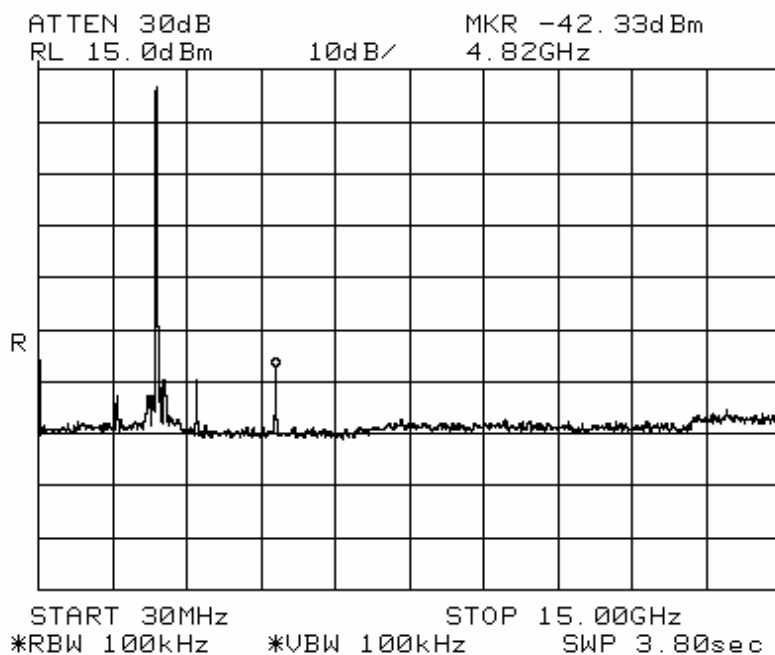
- Document DA 00-705 Marker Delta Method

| Frequency (MHz) | Detect mode | Pol. | Reading (dBuV/m) | T.F (dB) | Step 1 Data | delta | Step 3 Data | Limit |
|-----------------|-------------|------|------------------|----------|-------------|-------|-------------|-------|
| 2480 | PK | V | 70.7 | 34.6 | 105.3 | 51.28 | 54.02 | 74 |
| | AV | V | 54.52 | 34.6 | 89.12 | 51.28 | 37.84 | 54 |

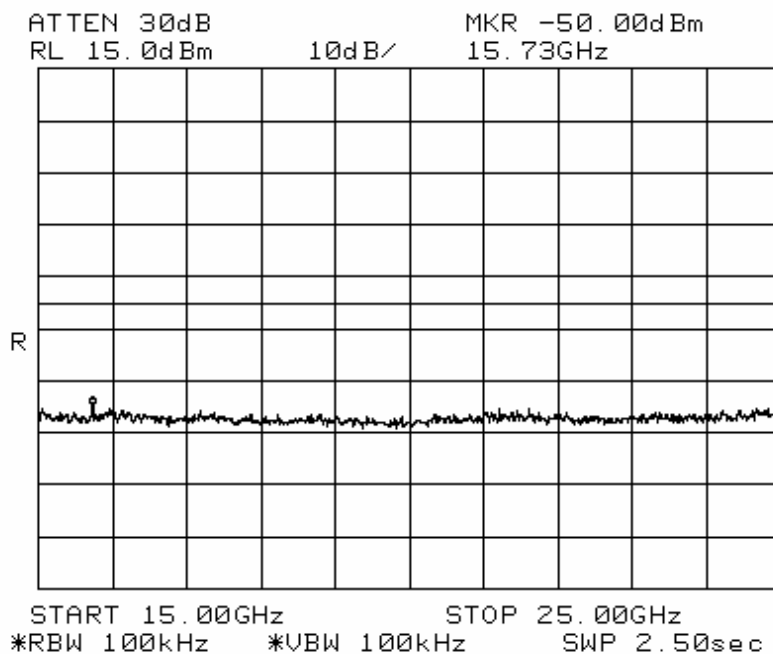
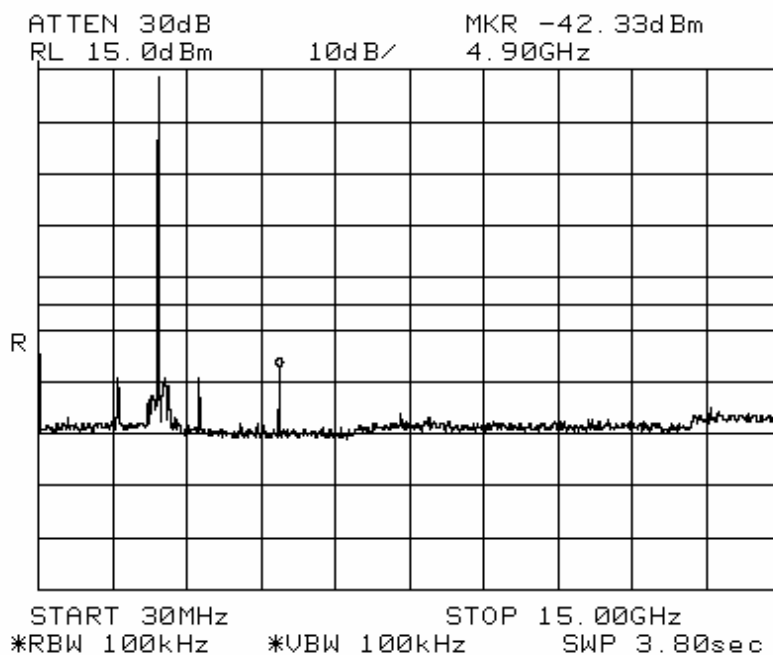
Note) Step 1 = Reading + T.F

T.F = Ant.F + Cable loss Step 3 = Step 1 – Delta Value

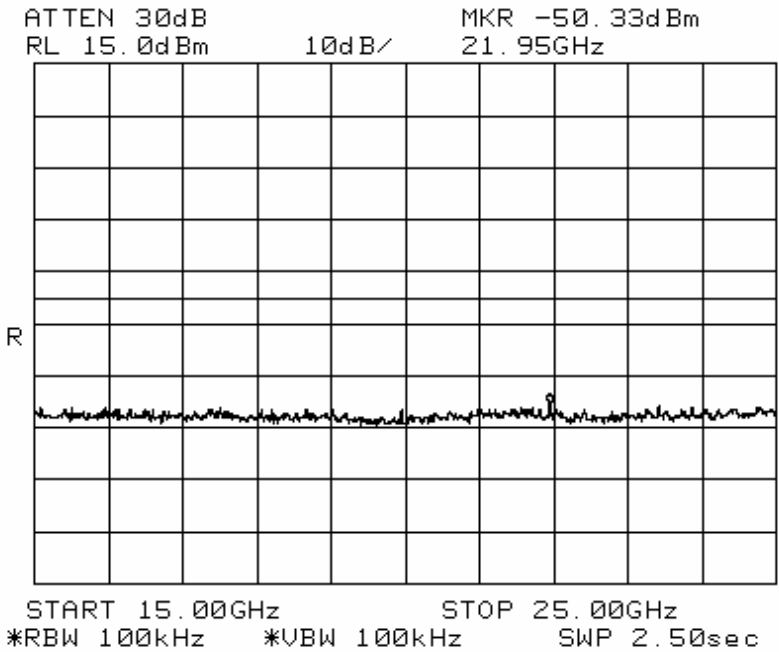
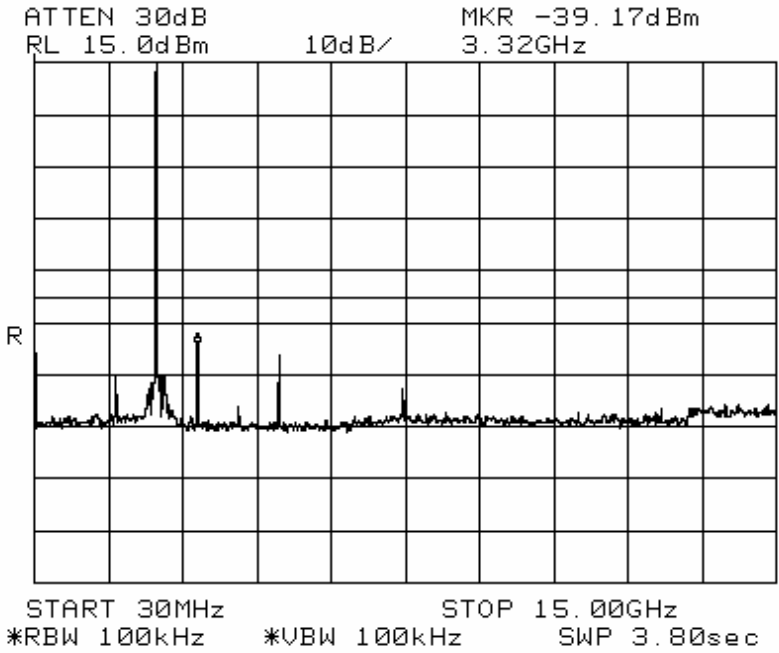
Band - edge (at 20 dB blow) – Low channel
Frequency Range = 30 MHz ~ 10th harmonic.



Band - edge (at 20 dB blow) – Mid channel
Frequency Range = 30 MHz ~ 10th harmonic.



Band - edge (at 20 dB blow) – High channel
Frequency Range = 30 MHz ~ 10th harmonic.



3.2.7 Field Strength of Harmonics

Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range = 30 MHz ~ 10th harmonic.

RBW = 100 kHz (30MHz ~ 1 GHz)

= 1 MHz (1 GHz ~ 10th harmonic)

Span = 100 MHz

Trace = max hold

Peak:VBW \geq RBW

Average:VBW=10Hz

Detector function = Average

Sweep = auto

Measurement Data: Complies

| Low channel | | Mid channel | | High channel | |
|-------------------------|--------------|-----------------|--------------|-----------------|--------------|
| Frequency (MHz) | Level (dBuV) | Frequency (MHz) | Level (dBuV) | Frequency (MHz) | Level (dBuV) |
| 2467.1 | 51.65 | 2465.4 | 52.15 | 1653.3 | 39.15 |
| 4803.7 | 45.82 | 4882 | 51.82 | 2459.4 | 46.65 |
| - | - | - | - | 4960 | 49.32 |
| - | - | - | - | - | - |
| Measurement uncertainty | | ± 6 dB | | | |

No other emissions were detected at a level greater than 20dB below limit.

Minimum Standard: FCC Part 15.209(a)

| Frequency (MHz) | Limit (uV/m) @ 3m |
|-----------------|-------------------|
| 30 ~ 88 | 100 ** |
| 88 ~ 216 | 150 ** |
| 216 ~ 960 | 200 ** |
| Above 960 | 500 |

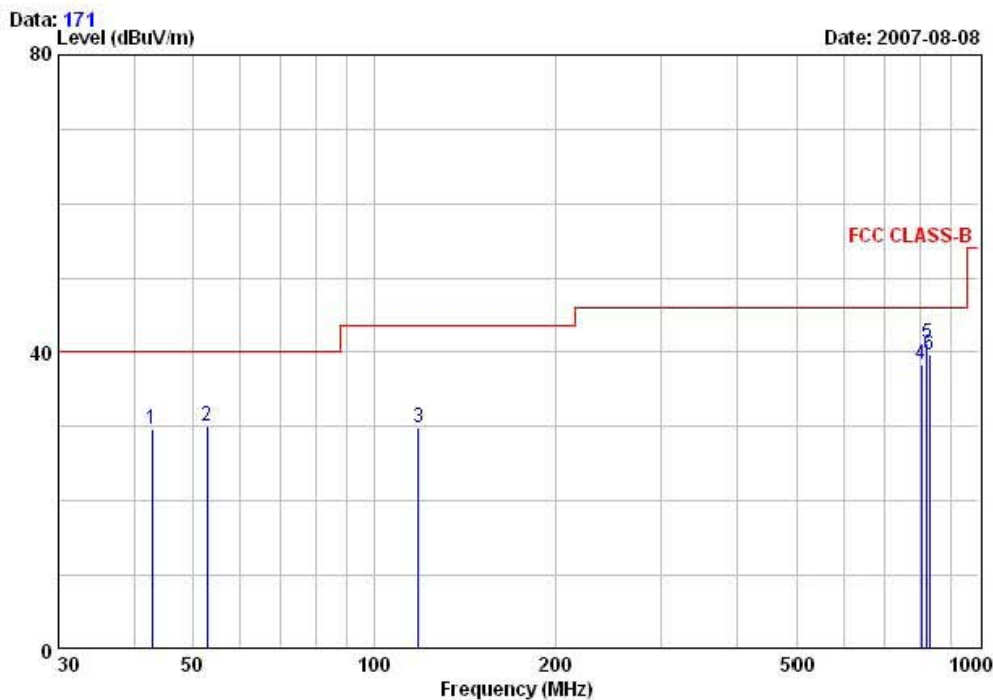
** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.



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EUT/Model No.: parani-esd1000 TEST MODE: bluetooth mode

Temp Humi : 23 / 81 Tested by: KIM.B.S



| Peak | Freq MHz | Reading dBuV | C.F dB | Result QK dBuV/m | Limit dBuV/m | Margin dB | Height cm | Angle deg | Polarity |
|------|-------------|-----------------|-----------|------------------------|-----------------|--------------|--------------|--------------|------------|
| 1 | 42.83 | 42.40 | -12.67 | 29.73 | 40.00 | 10.27 | 100 | 346 | VERTICAL |
| 2 | 52.93 | 43.00 | -12.89 | 30.11 | 40.00 | 9.89 | 181 | 81 | VERTICAL |
| 3 | 118.69 | 42.60 | -12.70 | 29.90 | 43.50 | 13.60 | 100 | 120 | VERTICAL |
| 4 | 803.66 | 37.70 | 0.72 | 38.42 | 46.00 | 7.58 | 221 | 36 | HORIZONTAL |
| 5 | 822.98 | 40.20 | 1.01 | 41.21 | 46.00 | 4.79 | 302 | 332 | HORIZONTAL |
| 6 | 829.32 | 38.60 | 1.10 | 39.70 | 46.00 | 6.30 | 284 | 189 | HORIZONTAL |

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

3.2.8 AC Conducted Emissions

Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

Measurement Data: Complies

- See next pages for actual measured spectrum plots.
- No emissions were detected at a level greater than 10dB below limit.

Minimum Standard: FCC Part 15.207(a)/EN 55022

| Frequency Range (MHz) | Conducted Limit (dBuV) | |
|--------------------------|------------------------|------------|
| | Quasi-Peak | Average |
| 0.15 ~ 0.5 | 66 to 56 * | 56 to 46 * |
| 0.5 ~ 5 | 56 | 46 |
| 5 ~ 30 | 60 | 50 |

* Decreases with the logarithm of the frequency

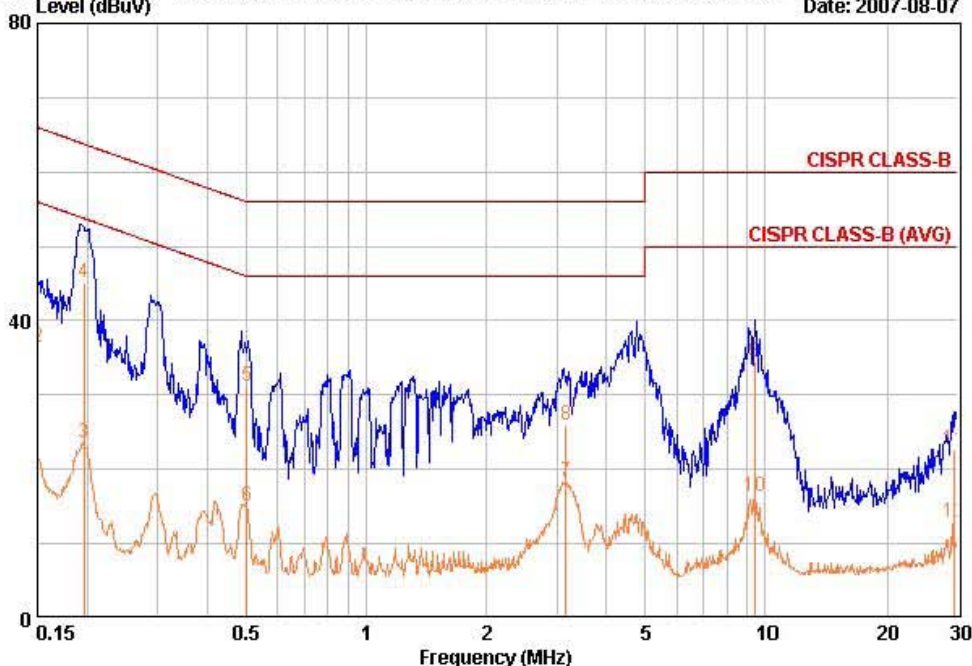
AC Conducted Emissions –Line



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EUT / Model No. : parani-ESD1000 Phase : LINE
 Test Mode : bluetooth mode Test Power : 120 / 60
 Temp./Humi. : 23 / 68 Test Engineer : B.S.KIM

Data: 135 File: E:\00_e3 EMI DATA\2007\LTA_Conduction_0708_1.EMI (135) Date: 2007-08-07



| Freq MHz | RD | | C.F | Result | | Limit | | Margin | |
|-------------|------------|------------|------|------------|------------|------------|------------|----------|----------|
| | QP dBuV | AV dBuV | | QP dBuV | AV dBuV | QP dBuV | AV dBuV | QP dB | AV dB |
| 0.150 | 35.80 | 21.02 | 0.59 | 36.39 | 21.61 | 66.00 | 56.00 | 29.61 | 34.39 |
| 0.197 | 45.00 | 23.36 | 0.21 | 45.21 | 23.57 | 63.76 | 53.76 | 18.55 | 30.19 |
| 0.502 | 30.80 | 14.78 | 0.29 | 31.09 | 15.07 | 56.00 | 46.00 | 24.91 | 30.93 |
| 3.156 | 25.30 | 17.69 | 0.63 | 25.93 | 18.32 | 56.00 | 46.00 | 30.07 | 27.68 |
| 9.401 | 33.80 | 15.74 | 0.71 | 34.51 | 16.45 | 60.00 | 50.00 | 25.49 | 33.55 |
| 29.371 | 20.80 | 11.00 | 1.81 | 22.61 | 12.81 | 60.00 | 50.00 | 37.39 | 37.19 |

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

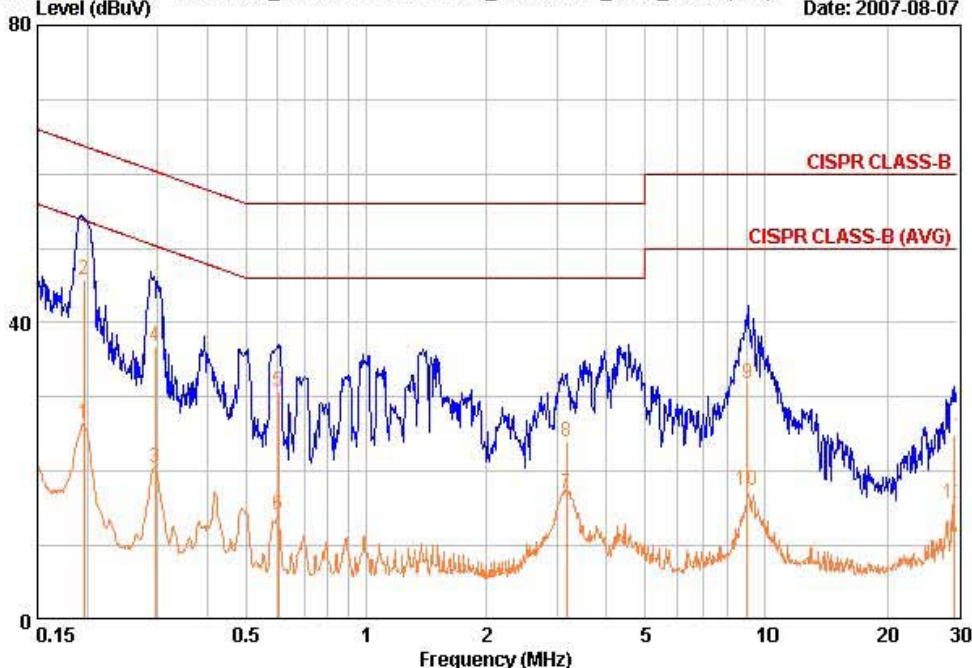
AC Conducted Emissions -Neutral



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| | |
|----------------------------------|-------------------------|
| EUT / Model No. : parani-ESD1000 | Phase : NEUTRAL |
| Test Mode : bluetooth mode | Test Power : 120 / 60 |
| Temp./Humi. : 23 / 68 | Test Engineer : B.S.KIM |

Data: 133 File: E:\00_e3 EMI DATA\2007\LTA_Conduction_0708_1.EMI (133) Date: 2007-08-07



| Freq MHz | RD | | C.F | Result | | Limit | | Margin | |
|-------------|------------|------------|------|------------|------------|------------|------------|----------|----------|
| | QP dBuV | AV dBuV | | QP dBuV | AV dBuV | QP dBuV | AV dBuV | QP dB | AV dB |
| 0.197 | 45.60 | 26.22 | 0.21 | 45.81 | 26.43 | 63.76 | 53.76 | 17.95 | 27.33 |
| 0.296 | 36.50 | 20.20 | 0.28 | 36.78 | 20.48 | 60.37 | 50.37 | 23.59 | 29.89 |
| 0.601 | 30.50 | 13.94 | 0.29 | 30.79 | 14.23 | 56.00 | 46.00 | 25.21 | 31.77 |
| 3.173 | 23.30 | 16.41 | 0.59 | 23.89 | 17.00 | 56.00 | 46.00 | 32.11 | 29.00 |
| 9.011 | 31.30 | 16.84 | 0.56 | 31.86 | 17.40 | 60.00 | 50.00 | 28.14 | 32.60 |
| 29.371 | 23.30 | 13.96 | 1.64 | 24.94 | 15.60 | 60.00 | 50.00 | 35.06 | 34.40 |

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

APPENDIX

TEST EQUIPMENT USED FOR TESTS

| | Description | Model No. | Serial No. | Manufacturer | Next Cal. Date |
|----|-------------------------|-------------|---------------|---------------|----------------|
| 1 | Spectrum Analyzer | 8594E | 3649A03649 | HP | Apr-08 |
| 2 | Signal Generator | 8648C | 3623A02597 | HP | Apr-08 |
| 3 | Attenuator (3dB) | 8491A | 37822 | HP | Nov-07 |
| 4 | Attenuator (10dB) | 8491A | 63196 | HP | Nov-07 |
| 5 | EMI Test Receiver | ESVD | 843748/001 | R&S | Jan-08 |
| 6 | LISN | KNW-407 | 8-1430-1 | Kyoritsu | Jan-08 |
| 7 | Two-Line V-Network | ESH3-Z5 | 893045/017 | R&S | Jan-08 |
| 8 | RF Amplifier | 8447D | 2949A02670 | HP | Jan-08 |
| 9 | RF Amplifier | 8447D | 2439A09058 | HP | Jan-08 |
| 10 | RF Amplifier | 8449B | 3008A02126 | HP | Apr-09 |
| 11 | Test Receiver | ESHS10 | 828404009 | R&S | Jan-08 |
| 12 | TRILOG Antenna | VULB 9160 | 9160-3212 | SCHWARZBECK | Jul-08 |
| 13 | Log.-Per. Antenna | VULP 9118 | 9118 A 401 | SCHWARZBECK | Apr-09 |
| 14 | Biconical Antenna | BBA 9106 | VHA 9103-2315 | SCHWARZBECK | Apr-09 |
| 15 | Horn Antenna | 3115 | 00055005 | ETS LINDGREN | Mar-09 |
| 16 | Dipole Antenna | VHA9103 | 2116 | Schwarzbeck | Nov-07 |
| 17 | Dipole Antenna | VHA9103 | 2117 | Schwarzbeck | Nov-07 |
| 18 | Dipole Antenna | UHA9105 | 2261 | Schwarzbeck | Nov-07 |
| 19 | Dipole Antenna | UHA9105 | 2262 | Schwarzbeck | Nov-07 |
| 20 | Spectrum Analyzer | 8591E | 3649A05888 | HP | Jan-08 |
| 21 | Spectrum Analyzer | 8563E | 3425A02505 | HP | Apr-08 |
| 22 | Hygro-Thermograph | THB-36 | 0041557-01 | ISUZU | Feb-08 |
| 23 | Splitter (SMA) | ZFSC-2-2500 | SF617800326 | Mini-Circuits | Jun-08 |
| 24 | RF Switch | MP59B | 6200414971 | ANRITSU | Jun-08 |
| 25 | RF Switch | MP59B | 6200438565 | ANRITSU | Jun-08 |
| 26 | Power Divider | 11636A | 6243 | HP | Nov-07 |
| 27 | DC Power Supply | 6622A | 3448A03079 | HP | Oct-07 |
| 28 | Attenuator (30dB) | 11636A | 6243 | HP | Nov-07 |
| 29 | Frequency Counter | 5342A | 2826A12411 | HP | Apr-08 |
| 30 | Power Meter | EPM-441A | GB32481702 | HP | Apr-08 |
| 31 | Power Sensor | 8481A | 2702A64048 | HP | Apr-08 |
| 32 | Audio Analyzer | 8903B | 3729A18901 | HP | Nov-07 |
| 33 | Modulation Analyzer | 8901B | 3749A05878 | HP | Nov-07 |
| 34 | TEMP & HUMIDITY Chamber | YJ-500 | L05022 | JinYoung Tech | Oct-07 |
| 35 | LOOP-ANTENNA | FMZB 1516 | 151602/94 | SCHWARZBECK | Mar-09 |