

APPLICATION FOR CERTIFICATION
On Behalf of
Health & Life Co., Ltd.
Automatic Wrist Blood Pressure Monitor
Model No. : HL158HM
FCC ID : 2ABTAHNL

Prepared for : Health & Life Co., Ltd.
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Date of Test : 2014. 02. 10 ~ 12
Date of Report : 2014. 02. 13

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TEST REPORT CERTIFICATION

Applicant : Health & Life Co., Ltd.
 Manufacturer : Health & Life Co., Ltd.
 EUT Description : Automatic Wrist Blood Pressure Monitor
 FCC ID : 2ABTAHNL
 (A) Model No. : HL158HM
 (B) Serial No. : N/A
 (C) Power Supply : DC 3V
 (D) Test Voltage : DC 3V (Via Batteries)

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, Oct. 2013
AND ANSI C63.4/2003

(FCC CFR 47 Part 15C, §15.207 and §15.209 and §15.247)

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test : 2014. 02. 10 ~ 12 Date of Report : 2014. 02. 13

Producer : 
(Tina Huang/Administrator)

Signatory : 
(Ben Cheng/Manager)

1. DESCRIPTION OF VERSION

| Edition No. | Date of Rev. | Revision Summary | Report No. |
|-------------|--------------|------------------|------------|
| 0 | 2014. 02. 13 | Original Report. | EM-F140086 |

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

| | |
|---------------------------|---|
| Product | Automatic Wrist Blood Pressure Monitor |
| Model Number | HL158HM |
| Serial Number | N/A |
| Applicant | Health & Life Co., Ltd. 9F, No. 186, Jian Yi Road, Zhonghe District, New Taipei City, 23553, Taiwan |
| Manufacturer | Health & Life Co., Ltd. 9F, No. 186, Jian Yi Road, Zhonghe District, New Taipei City, 23553, Taiwan |
| FCC ID | 2ABTAHNL |
| Fundamental Range | 2402MHz ~ 2480MHz |
| Frequency Channel | 79 channels |
| Radio Technology | GFSK, /4-DQPSK and 8DPSK |
| Data Transfer Rate | 1/2/3Mbps |
| Antenna | Print Chip Antenna, 2.66dBi |
| Date of Receipt of Sample | 2014. 01. 23 |
| Date of Test | 2014. 02. 10 ~ 12 |

2.2. Tested Supporting System Details

2.2.1. NOTEBOOK PC

Model Number : ZL5
 Serial Number : N/A
 Manufacturer : acer
 AC Adapter : LITEON, M/N PA-1650-02
 DC Cord: Non-Shielded, Undetachable, 1.8m
 AC Power Cord : Non-Shielded, Detachable, 1.8m

2.2.2. JIG

Model Number : N/A
 Serial Number : N/A
 Manufacturer : N/A
 USB Jig Cable : Non-Shielded, Detachable, 0.3m

2.3. Description of Test Facility

| | | |
|----------------------------------|---|--|
| Name of Firm | : | AUDIX Technology Corporation EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan |
| Test Location & Facility (AC) | : | Semi-Anechoic Chamber No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan May 11, 2012 Renewal on Federal Communication Commission Registration Number: 90993 |
| NVLAP Lab. Code | : | 200077-0 |
| TAF Accreditation No | : | 1724 |

2.4. Measurement Uncertainty

| Test Item | Frequency Range | Uncertainty (dB) |
|----------------------------------|-----------------|------------------|
| Radiation Test (Distance: 3m) | 30MHz~300MHz | ±2.91dB |
| | 300MHz~1000MHz | ±2.94dB |
| | Above 1GHz | ± 5.02dB |

Remark : Uncertainty = $k_{uc}(y)$

| Test Item | Uncertainty |
|------------------------------|-------------|
| 20dB Bandwidth | ± 0.2kHz |
| Carrier Frequency Separation | ± 0.2kHz |
| Time Of Occupancy | ± 0.03sec |
| Maximum peak Output power | ± 0.52dBm |
| Emission Limitations | ± 0.13dB |
| Band Edges | ± 0.13dB |

3. CONDUCTED EMISSION MEASUREMENT

【The EUT only employs DC power for operation, no conductive emission limits are required according to FCC Part 15 Section §15.207】

4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

4.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

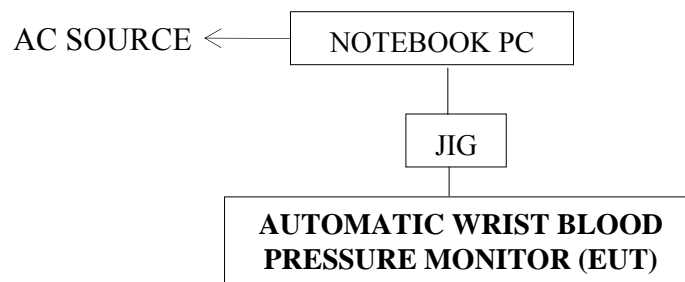
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1 | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | 2013. 07. 30 | 2014. 07. 29 |
| 2 | Test Receiver | R & S | ESCS30 | 100338 | 2013. 07. 01 | 2014. 06. 30 |
| 3 | Amplifier | HP | 8447D | 2944A06305 | 2013. 02. 19 | 2014. 02. 18 |
| 4 | Bilog Antenna | CHASE | CBL6112D | 33821 | 2013. 08. 08 | 2014. 08. 07 |

4.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

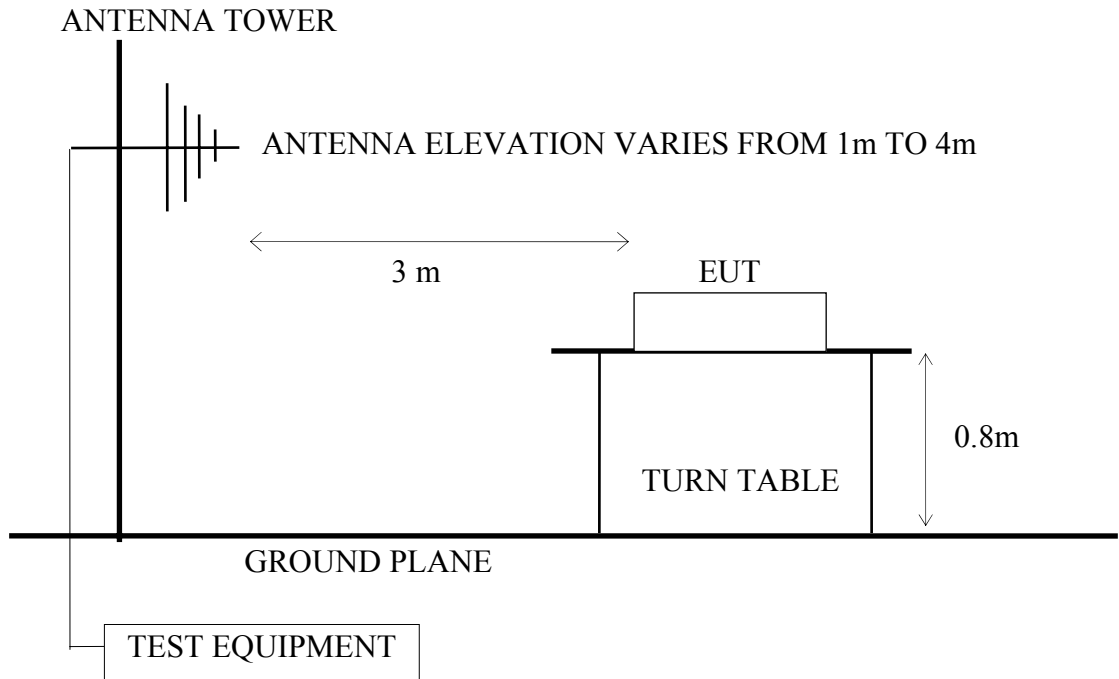
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|---------------------|-----------------------|----------------------------|------------|--------------|--------------|
| 1 | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | 2013. 07. 30 | 2014. 07. 29 |
| 2 | Test Receiver | R & S | ESCS30 | 100338 | 2013. 07. 01 | 2014. 06. 30 |
| 3 | Amplifier | HP | 8449B | 3008A00529 | 2014. 01. 24 | 2015. 01. 23 |
| 4 | 2.4GHz Notch Filter | K&L | 7NSL10-2441 .5E130.5-00 | 1 | 2013. 06. 13 | 2014. 06. 12 |
| 5 | 3G High Pass Filter | Microwave Circuits | H3G018G1 | 484796 | 2013. 06. 13 | 2014. 06. 12 |
| 6 | Horn Antenna | EMCO | 3115 | 9609-4927 | 2013. 06. 17 | 2014. 06. 16 |
| 7 | Horn Antenna | EMCO | 3116 | 2653 | 2013. 10. 11 | 2014. 10. 10 |

4.2. Test Setup

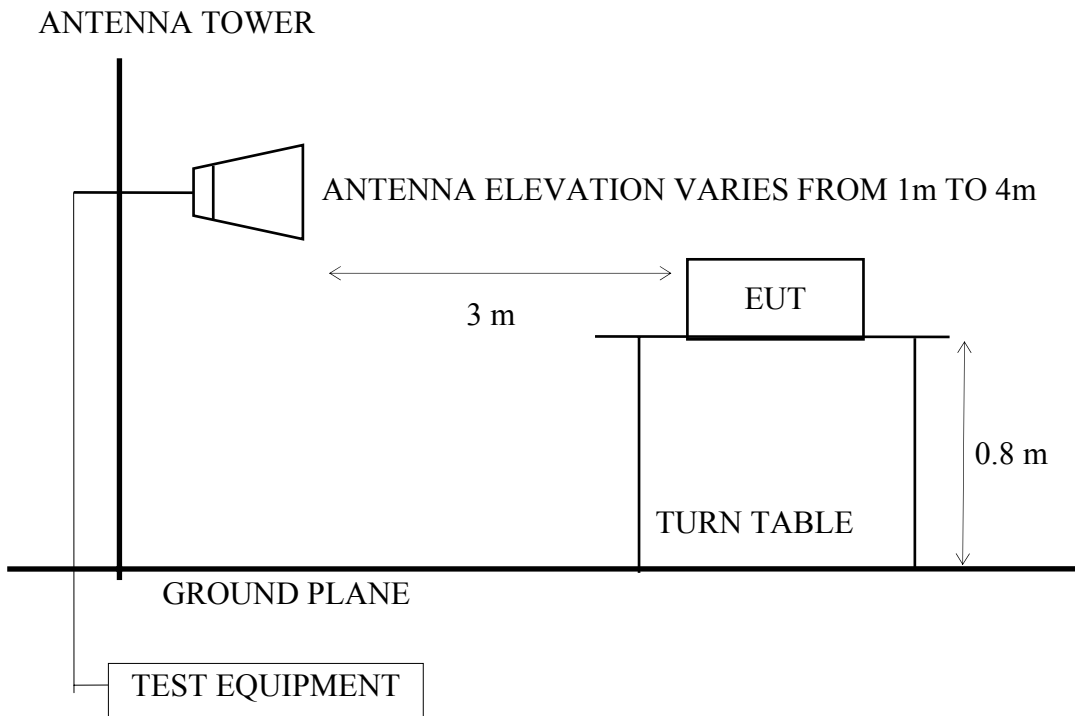
4.2.1. Block Diagram of connection between EUT and simulators



4.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



4.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



4.3. Radiated Emission Limits (§15.209)

| FREQUENCY MHz | DISTANCE Meters | FIELD STRENGTHS LIMITS | |
|------------------|--------------------|---|--------------------------|
| | | $\mu\text{V/m}$ | $\text{dB}\mu\text{V/m}$ |
| 30 ~ 88 | 3 | 100 | 40.0 |
| 88 ~ 216 | 3 | 150 | 43.5 |
| 216 ~ 960 | 3 | 200 | 46.0 |
| Above 960 | 3 | 500 | 54.0 |
| Above 1000 | 3 | 74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average) | |

- Remark :
- (1) Emission level ($\text{dB}\mu\text{V/m}$) = 20 log Emission level ($\mu\text{V/m}$)
 - (2) The tighter limit applies at the edge between two frequency bands.
 - (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
 - (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
 - (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

4.4. Operating Condition of EUT

- 4.4.1. Set up the EUT (Automatic Wrist Blood Pressure Monitor) via Notebook PC and simulator as shown on 4.2.
- 4.4.2. To turn on the power of all equipment.
- 4.4.3. The EUT set to continuously transmit signals at 2402MHz, 2440MHz and 2480MHz during all test time.

4.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated bilog antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked. 30MHz to 1000MHz was measured with Quasi-Peak detector. Pursuant to ANSI 4.2.2, peak detector is an alternate option for frequency from 30MHz to 1000MHz.

Above 1GHz was measured with peak and average detector. For frequency from 5.5GHz to 25GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist.

4.6. Radiated Emission Measurement Results

PASSED.

(All emissions not reported below are too low against the prescribed limits.)

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 11 Temperature : 26 Humidity : 43%

For Frequency Range 30MHz-1000MHz:

[Note: Three types of modulation (8-DPSK,π /4DQPSK, GFSK) were evaluated but only the worst case (8-DPSK) was reported in this report.]

The EUT with following test modes were performed during this section testing and all the test results are listed in section 4.6.1.

| Mode | Frequency | Test Mode | Reference Test Data | |
|------|----------------|-----------|---------------------|----------|
| | | | Horizontal | Vertical |
| 1. | 2402MHz (CH0) | Transmit | # 12 | # 11 |
| 2. | 2441MHz (CH39) | | # 12 | # 11 |
| 3. | 2480MHz (CH78) | | # 12 | # 11 |

* Type of modulation: 8-DPSK.

* All above final readings were measured with Quasi-Peak detector.

For Frequency above 1GHz:

The emissions (up to 25GHz) not reported for there is no emission be found.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 4.6.2. (The restricted bands defined in part 15.205(a))

| Mode | Frequency | Test Mode | Reference Test Data | |
|------|----------------|-----------|---------------------|----------|
| | | | Horizontal | Vertical |
| 1. | 2402MHz (CH0) | Transmit | # 3, # 4 | # 1, # 2 |
| 2. | 2480MHz (CH78) | | # 7, # 8 | # 5, # 6 |

4.6.1. Frequency Range 30-1000MHz

Frequency: 2402MHz

```

Site no.       : Audix NO.1 Chamber          Data no.   : 12
Dis. / Ant.   : 3m CBL6112D 33821         Ant. pol.  : HORIZONTAL
Limit         : LP0002
Env. / Ins.   : 26*C / 43% N9010A         Engineer   : Wenbin Yang
EUT          : HL568HD
Power Rating  : DC3V
Test Mode     : 2402MHz
    
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|--------------------|-----------------------------|---------------------|----------------|--------|
| 1 | 44.55 | 11.30 | 1.36 | 24.20 | 36.86 | 40.00 | 3.14 | QP |
| 2 | 191.99 | 9.72 | 3.00 | 26.98 | 39.70 | 43.50 | 3.80 | QP |
| 3 | 828.31 | 20.94 | 7.10 | 6.05 | 34.09 | 46.00 | 11.91 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

```

Site no.       : Audix NO.1 Chamber          Data no.   : 11
Dis. / Ant.   : 3m CBL6112D 33821         Ant. pol.  : VERTICAL
Limit         : LP0002
Env. / Ins.   : 26*C / 43% N9010A         Engineer   : Wenbin Yang
EUT          : HL568HD
Power Rating  : DC3V
Test Mode     : 2402MHz
    
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|--------------------|-----------------------------|---------------------|----------------|--------|
| 1 | 95.96 | 10.54 | 2.00 | 27.33 | 39.87 | 43.50 | 3.63 | QP |
| 2 | 483.96 | 17.57 | 6.14 | 8.55 | 32.26 | 46.00 | 13.74 | QP |
| 3 | 830.25 | 20.96 | 7.10 | 8.03 | 36.09 | 46.00 | 9.91 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2441MHz

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : LP0002
 Env. / Ins. : 26*C / 43% N9010A
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : 2441MHz

Data no. : 12
 Ant. pol. : HORIZONTAL
 Engineer : Wenbin Yang

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|-------------------------|----------------------------------|--------------------------|----------------|--------|
| 1 | 44.55 | 11.30 | 1.36 | 23.79 | 36.45 | 40.00 | 3.55 | QP |
| 2 | 191.99 | 9.72 | 3.00 | 24.51 | 37.23 | 43.50 | 6.27 | QP |
| 3 | 829.28 | 20.95 | 7.10 | 6.88 | 34.93 | 46.00 | 11.07 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : LP0002
 Env. / Ins. : 26*C / 43% N9010A
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : 2441MHz

Data no. : 11
 Ant. pol. : VERTICAL
 Engineer : Wenbin Yang

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|-------------------------|----------------------------------|--------------------------|----------------|--------|
| 1 | 191.99 | 9.72 | 3.00 | 24.34 | 37.06 | 43.50 | 6.44 | QP |
| 2 | 559.62 | 18.60 | 6.70 | 2.51 | 27.81 | 46.00 | 18.19 | QP |
| 3 | 830.25 | 20.96 | 7.10 | 10.96 | 39.02 | 46.00 | 6.98 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 2480MHz

| | | | |
|--------------|----------------------|-----------|---------------|
| Site no. | : Audix NO.1 Chamber | Data no. | : 12 |
| Dis. / Ant. | : 3m CBL6112D 33821 | Ant. pol. | : HORIZONTAL |
| Limit | : LP0002 | Engineer | : Wenbin Yang |
| Env. / Ins. | : 26*C / 43% N9010A | | |
| EUT | : HL568HD | | |
| Power Rating | : DC3V | | |
| Test Mode | : 2480MHz | | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|--------------------|-----------------------------|---------------------|----------------|--------|
| 1 | 191.99 | 9.72 | 3.00 | 22.89 | 35.61 | 43.50 | 7.89 | QP |
| 2 | 553.80 | 18.54 | 6.80 | 6.42 | 31.76 | 46.00 | 14.24 | QP |
| 3 | 831.22 | 20.98 | 7.10 | 4.67 | 32.75 | 46.00 | 13.25 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

| | | | |
|--------------|----------------------|-----------|---------------|
| Site no. | : Audix NO.1 Chamber | Data no. | : 11 |
| Dis. / Ant. | : 3m CBL6112D 33821 | Ant. pol. | : VERTICAL |
| Limit | : LP0002 | Engineer | : Wenbin Yang |
| Env. / Ins. | : 26*C / 43% N9010A | | |
| EUT | : HL568HD | | |
| Power Rating | : DC3V | | |
| Test Mode | : 2480MHz | | |

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|--------------------|-----------------------------|---------------------|----------------|--------|
| 1 | 191.99 | 9.72 | 3.00 | 27.55 | 40.27 | 43.50 | 3.23 | QP |
| 2 | 415.09 | 16.68 | 5.10 | 5.68 | 27.46 | 46.00 | 18.54 | QP |
| 3 | 830.25 | 20.96 | 7.10 | 1.88 | 29.94 | 46.00 | 16.06 | QP |

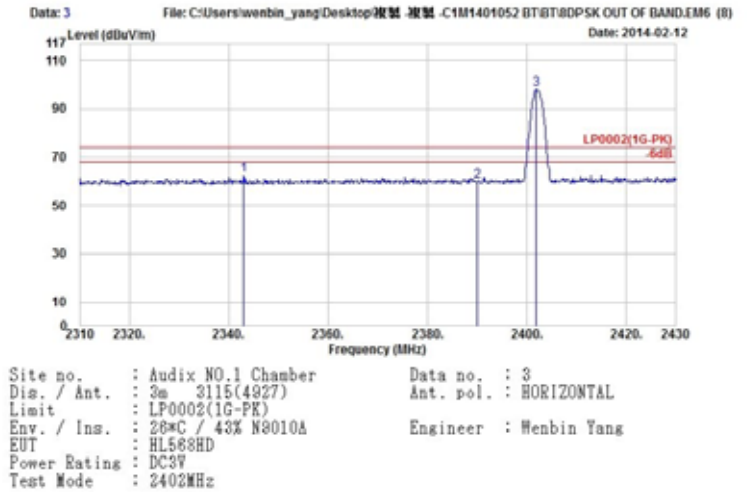
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

4.6.2. Restricted Bands Measurement Results

Date of Test : 2014. 02. 12 Temperature : 26

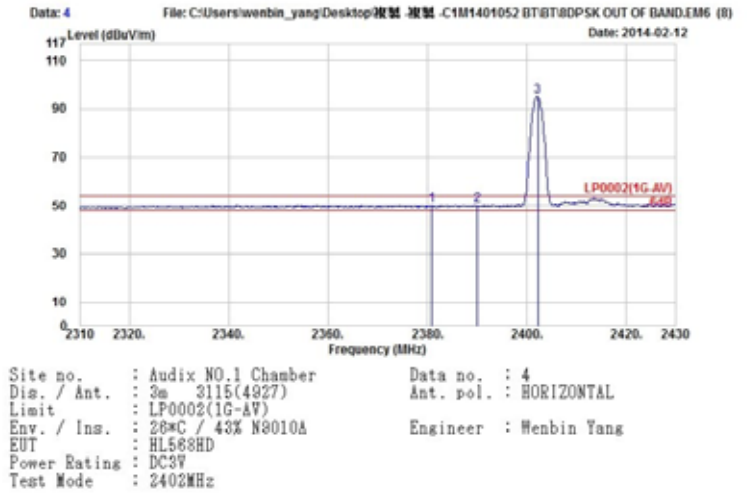
EUT : Automatic Wrist Blood Pressure Monitor Humidity : 43%

Test Mode : Frequency: 2402MHz



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|--------|
| 1 | 2343.00 | 28.38 | 6.28 | 27.91 | 62.55 | 74.00 | 11.45 | Peak |
| 2 | 2380.04 | 28.47 | 6.34 | 25.37 | 60.18 | 74.00 | 13.82 | Peak |
| 3 | 2401.92 | 28.47 | 6.38 | 63.25 | 98.08 | 74.00 | -24.08 | Peak |

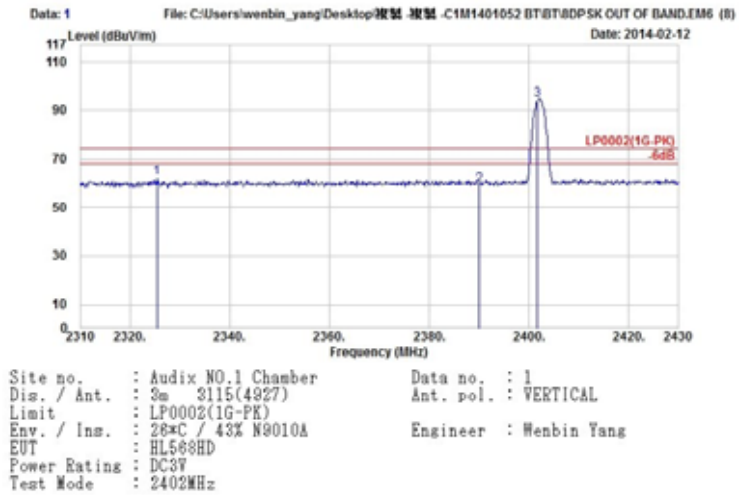
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|---------|
| 1 | 2380.92 | 28.43 | 6.33 | 15.35 | 50.11 | 54.00 | 3.89 | Average |
| 2 | 2380.04 | 28.47 | 6.34 | 15.18 | 49.99 | 54.00 | 4.01 | Average |
| 3 | 2402.18 | 28.47 | 6.38 | 80.22 | 95.05 | 54.00 | -41.05 | Average |

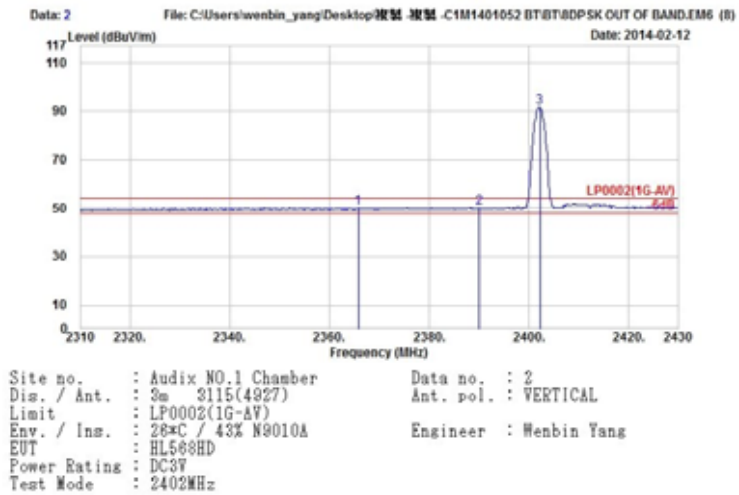
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 02. 12 Temperature : 26
 EUT : Automatic Wrist Blood Pressure Monitor Humidity : 43%
 Test Mode : Frequency: 2402MHz



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|--------|
| 1 | 2325.48 | 28.32 | 6.28 | 27.41 | 61.99 | 74.00 | 12.01 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 24.33 | 59.14 | 74.00 | 14.86 | Peak |
| 3 | 2401.68 | 28.47 | 6.35 | 59.63 | 94.45 | 74.00 | -20.45 | Peak |

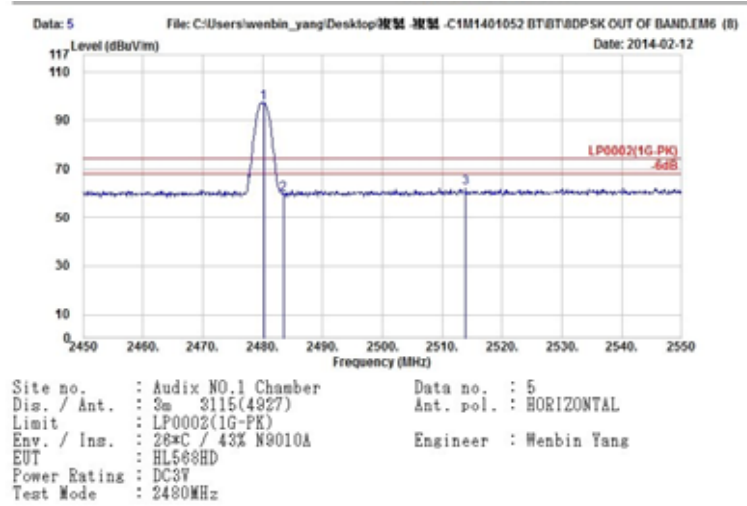
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|---------|
| 1 | 2385.80 | 28.40 | 6.30 | 15.41 | 50.11 | 54.00 | 3.89 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 15.44 | 50.25 | 54.00 | 3.75 | Average |
| 3 | 2402.16 | 28.47 | 6.36 | 56.98 | 91.81 | 54.00 | -37.81 | Average |

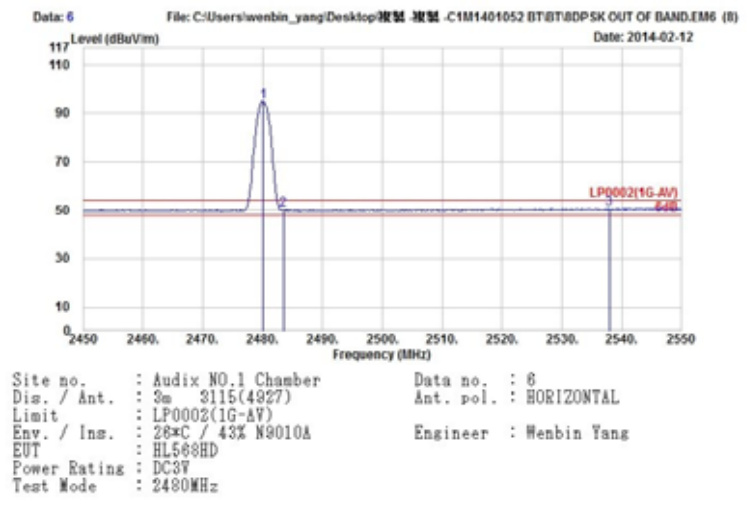
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 02. 12 Temperature : 26
 EUT : Automatic Wrist Blood Pressure Monitor Humidity : 43%
 Test Mode : Frequency: 2480MHz



| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1 2480.20 | 28.88 | 8.44 | 82.34 | 97.44 | 74.00 | -23.44 | Peak |
| 2 2483.50 | 28.88 | 8.45 | 24.38 | 59.49 | 74.00 | 14.51 | Peak |
| 3 2513.90 | 28.78 | 8.49 | 26.89 | 62.14 | 74.00 | 11.86 | Peak |

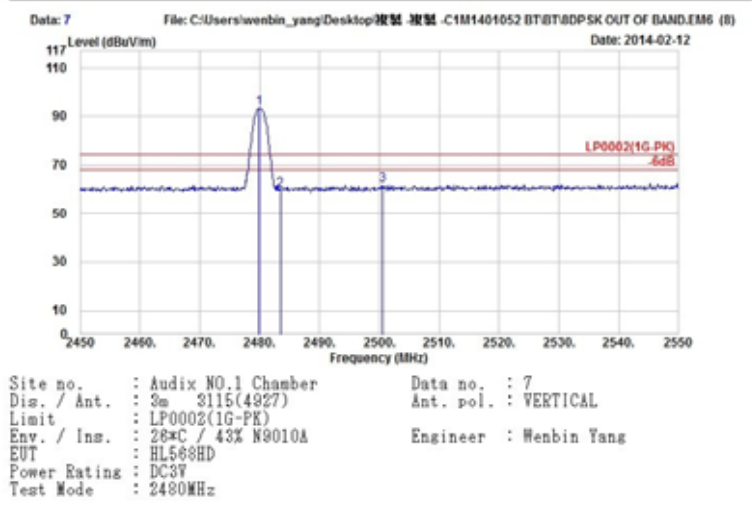
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.



| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|---------|
| 1 2480.10 | 28.88 | 6.44 | 59.80 | 94.90 | 54.00 | -40.90 | Average |
| 2 2483.50 | 28.88 | 6.45 | 14.83 | 49.94 | 54.00 | 4.06 | Average |
| 3 2537.90 | 28.81 | 6.53 | 15.40 | 50.74 | 54.00 | 3.26 | Average |

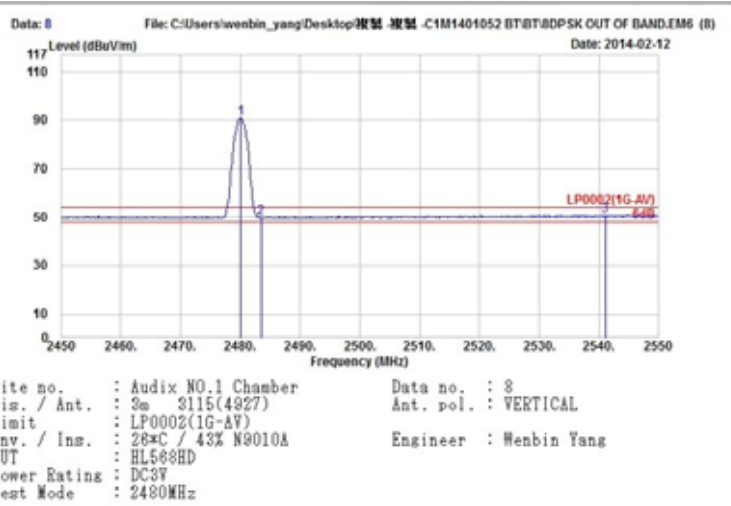
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 02. 12 Temperature : 26
 EUT : Automatic Wrist Blood Pressure Monitor Humidity : 43%
 Test Mode : Frequency: 2480MHz



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|--------|
| 1 | 2479.90 | 28.88 | 6.44 | 58.34 | 93.44 | 74.00 | -19.44 | Peak |
| 2 | 2483.50 | 28.88 | 6.45 | 24.37 | 59.48 | 74.00 | 14.52 | Peak |
| 3 | 2500.60 | 28.70 | 6.47 | 28.78 | 61.93 | 74.00 | 12.07 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The omission levels that are 20dB below the official limit are not reported.



| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|----------------|-------------------------|----------------|-------------|---------|
| 1 | 2480.10 | 28.88 | 6.44 | 55.80 | 90.80 | 54.00 | -36.90 | Average |
| 2 | 2483.50 | 28.88 | 6.45 | 14.84 | 49.75 | 54.00 | 4.25 | Average |
| 3 | 2541.00 | 28.87 | 6.53 | 15.34 | 50.74 | 54.00 | 3.28 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The omission levels that are 20dB below the official limit are not reported.

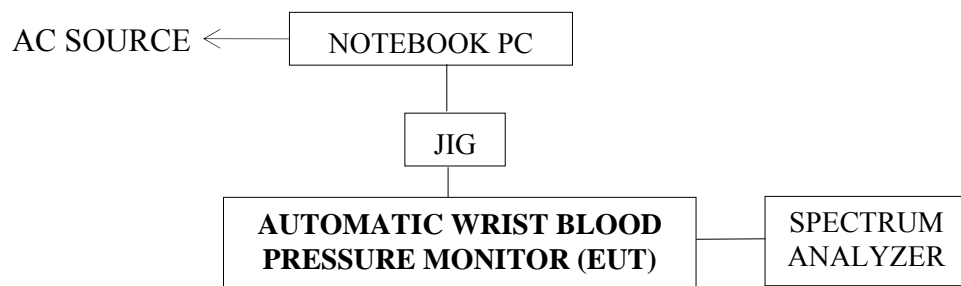
5. 20dB BANDWIDTH MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the 20dB bandwidth measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-526 | MY53310269 | 2013. 09. 22 | 2014. 09. 21 |

5.2. Block Diagram of Test Setup



5.3. Specification Limits (§15.247(a)(1))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

5.4. Operating Condition of EUT

- 5.4.1. Set up the EUT and simulator as shown on 4.2.
- 5.4.2. To turn on the power of all equipment.
- 5.4.3. The EUT (Automatic Wrist Blood Pressure Monitor) was controlled and set as continuous transmitting via Bluetooth test set during testing.

5.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The RBW of the fundamental frequency was measure by spectrum analyzer 1% of the 20dB bandwidth and the setting equal to RBW and VBW is equal to RBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

The measurement guideline was according to FCC Public Notice DA 00-705.

5.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (8-DPSK, π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

5.6.1. Type of Modulation: 8-DPSK

| No. | Channel | Test Frequency | 20dB Bandwidth | 2/3 (20dB Bandwidth) |
|-----|---------|----------------|-----------------|-------------------------|
| 1. | 0 | 2402MHz | 1.255MHz | 0.837MHz |
| 2. | 39 | 2441MHz | 1.255MHz | 0.837MHz |
| 3. | 78 | 2480MHz | 1.255MHz | 0.837MHz |

The maximum two-thirds of the 20dB bandwidth shall be at maximum 0.837MHz.

5.6.2. Type of Modulation: GFSK

| No. | Channel | Test Frequency | 20dB Bandwidth | 2/3 (20dB Bandwidth) |
|-----|---------|----------------|----------------|-------------------------|
| 1. | 0 | 2402MHz | 980kHz | 653kHz |
| 2. | 39 | 2441MHz | 980kHz | 653kHz |
| 3. | 78 | 2480MHz | 980kHz | 653kHz |

The maximum two-thirds of the 20dB bandwidth shall be at maximum 653kHz.

Figure 1: 8-DPSK, Channel 0, Frequency: 2402MHz



Figure 2: 8-DPSK, Channel 39, Frequency: 2441MHz



Figure 3: 8-DPSK, Channel 78, Frequency: 2480MHz



Figure 4: GFSK, Channel 0, Frequency: 2402MHz

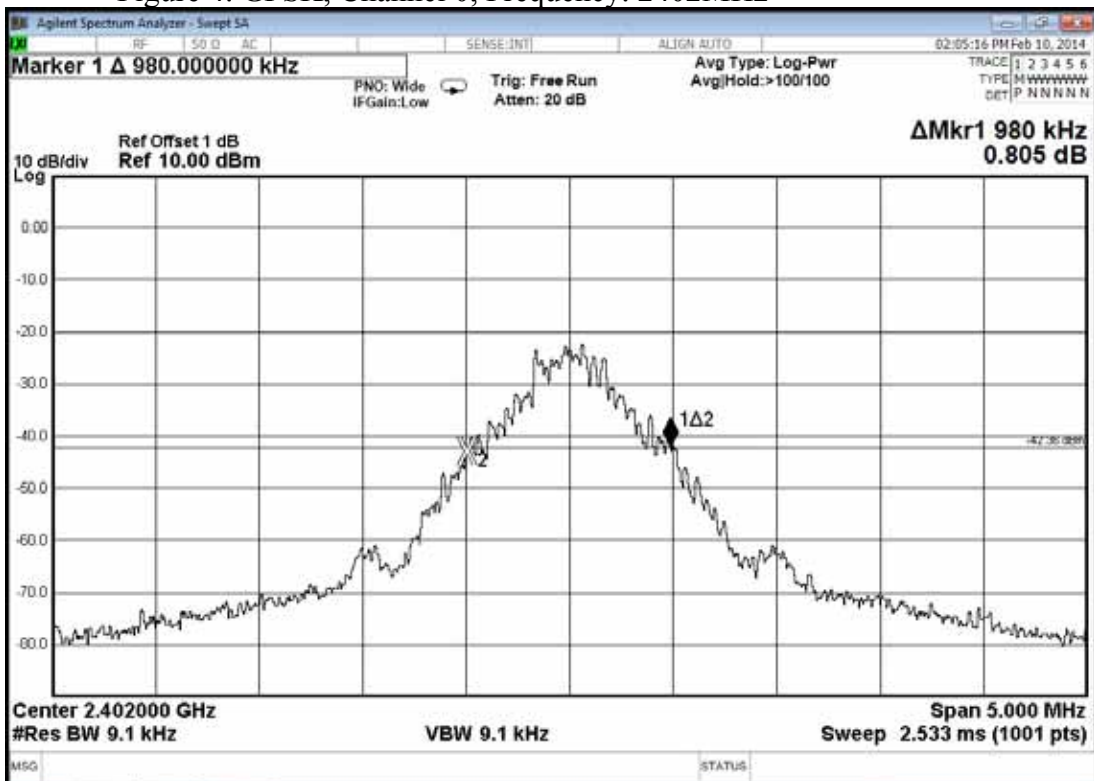


Figure 5: GFSK, Channel 39, Frequency: 2441MHz

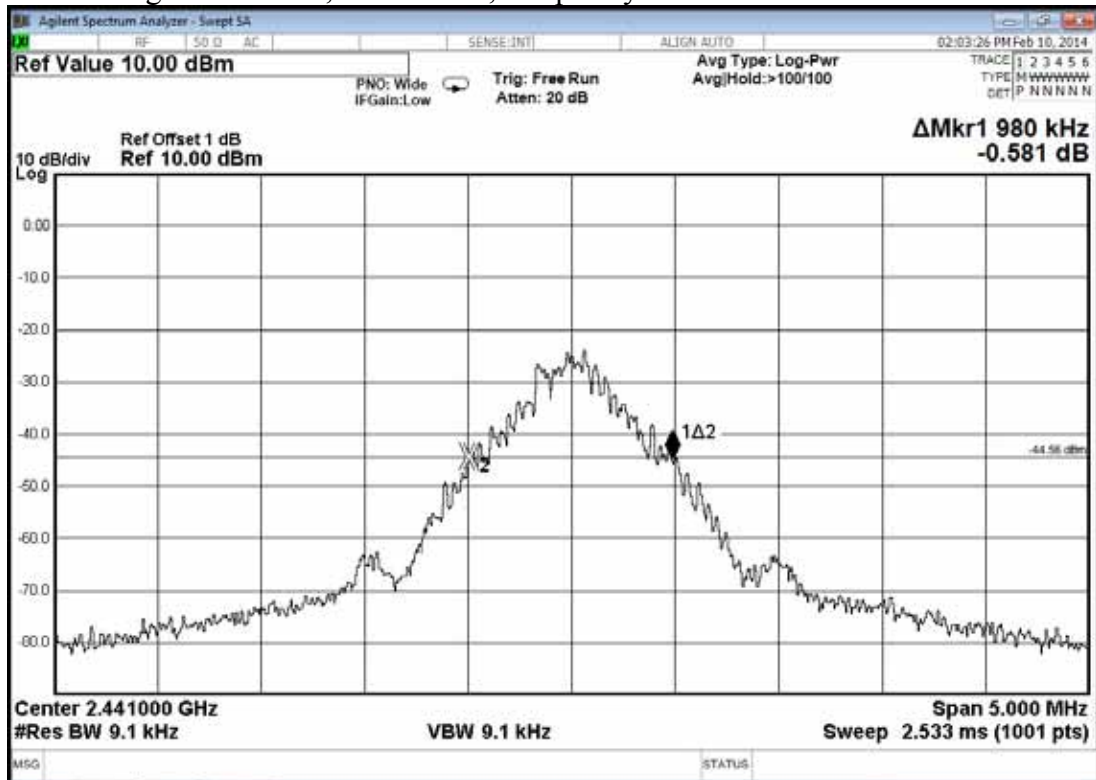
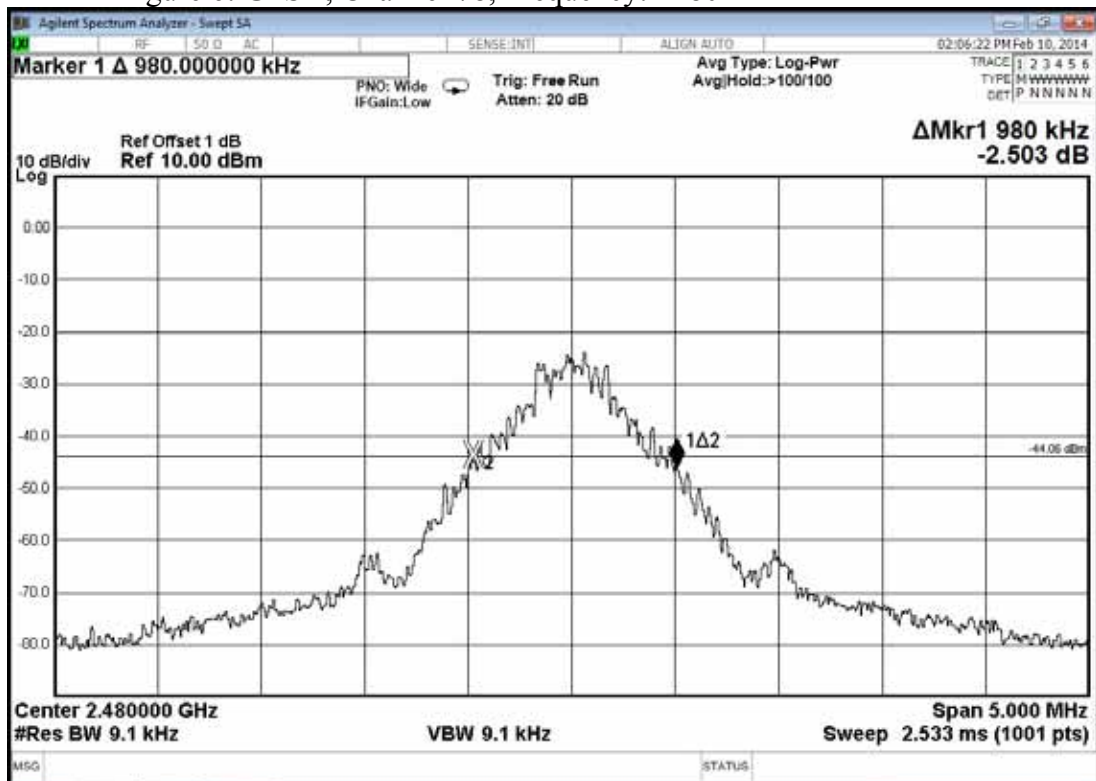


Figure 6: GFSK, Channel 78, Frequency: 2480MHz



6. CARRIER FREQUENCY SEPARATION MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the carrier frequency separation measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-526 | MY53310269 | 2013. 09. 22 | 2014. 09. 21 |

6.2. Block Diagram of Test Setup

The same as section.4.2.

6.3. Specification Limits (§15.247(a)(1))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output no greater than 125mW.

6.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

6.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The channel separation was measure by spectrum analyzer with RBW equal to 1% of the span. The video bandwidth not to be smaller than resolution bandwidth, the peak was mark on adjacent bandwidth, the between of peak is carrier frequency separation. The measurement guideline was according to FCC Public Notice DA 00-705.

6.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (8-DPSK, π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

6.6.1. Type of Modulation: 8-DPSK

1. 2402MHz adjacent channel of carrier frequency separation: 1.000MHz.
2. 2441MHz adjacent channel of right carrier frequency separation: 1.000MHz.
3. 2441MHz adjacent channel of left carrier frequency separation: 1.000MHz.
4. 2480MHz adjacent channel of carrier frequency separation: 1.000MHz.

[Above values have met the requirement as specified in section 4.3: frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.]

6.6.2. Type of Modulation: GFSK

1. 2402MHz adjacent channel of carrier frequency separation: 1.000MHz.
2. 2441MHz adjacent channel of right carrier frequency separation: 1.000MHz.
3. 2441MHz adjacent channel of left carrier frequency separation: 1.000MHz.
4. 2480MHz adjacent channel of carrier frequency separation: 1.000MHz.

[Above values have met the requirement as specified in section 4.3: frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.]

Figure 1: 8-DPSK, 2402MHz adjacent channel of carrier frequency separation

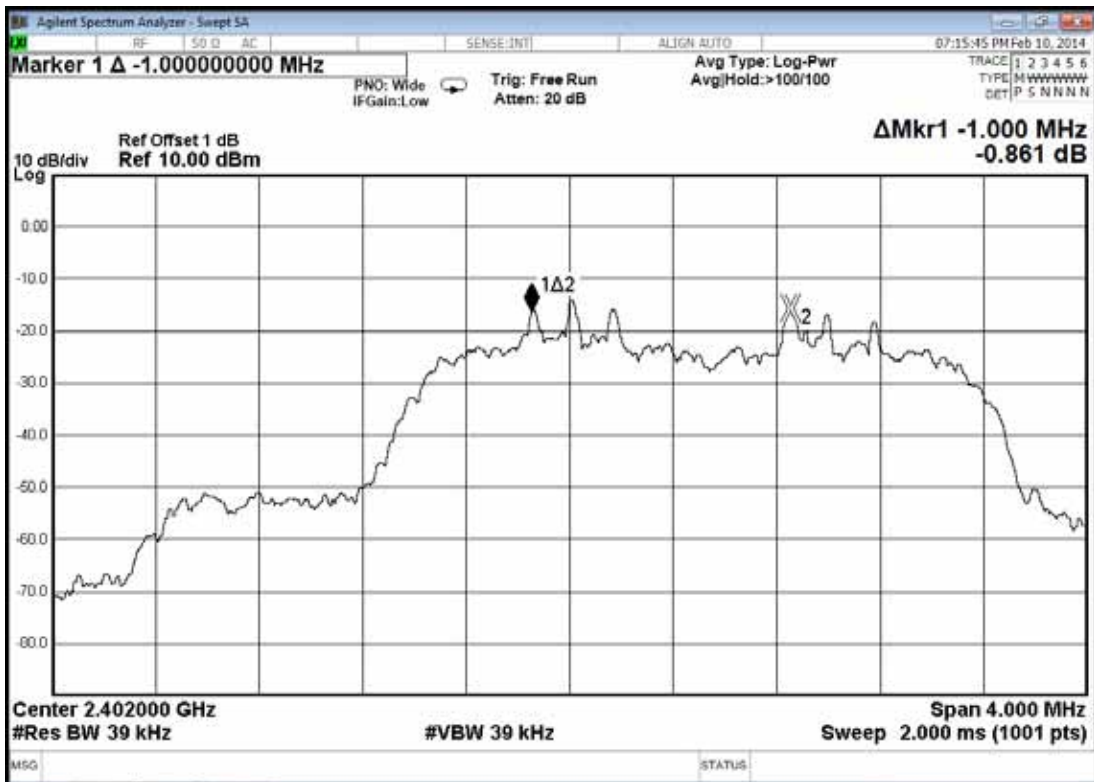


Figure 2: 8-DPSK, 2441MHz adjacent channel of right carrier frequency separation

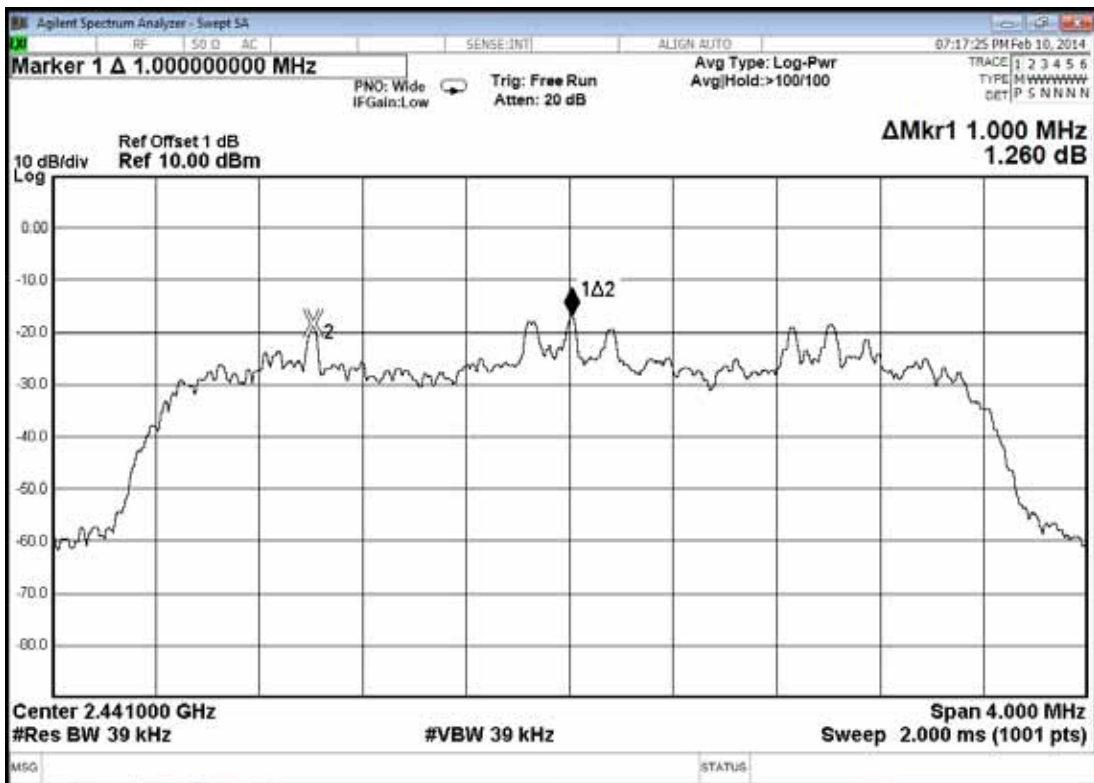


Figure 3: 8-DPSK, 2441MHz adjacent channel of left carrier frequency separation



Figure 4: 8-DPSK, 2480MHz adjacent channel of carrier frequency separation

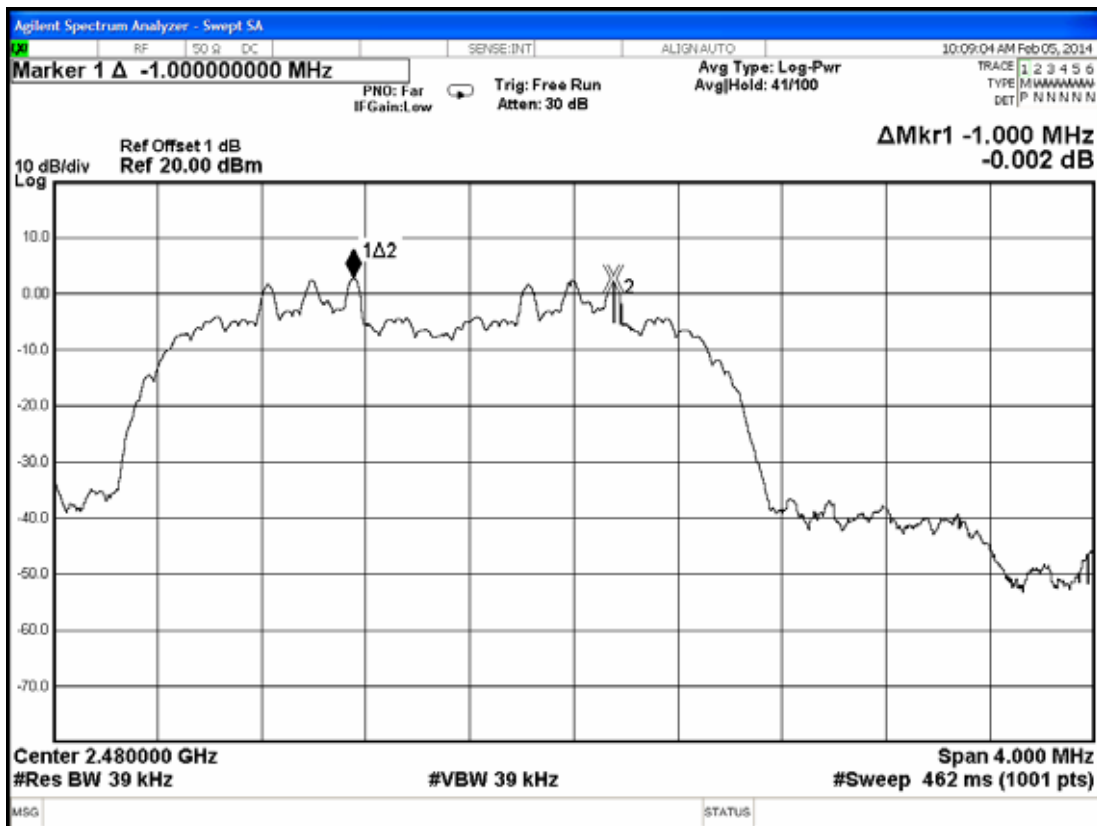


Figure 5: GFSK, 2402MHz adjacent channel of carrier frequency separation

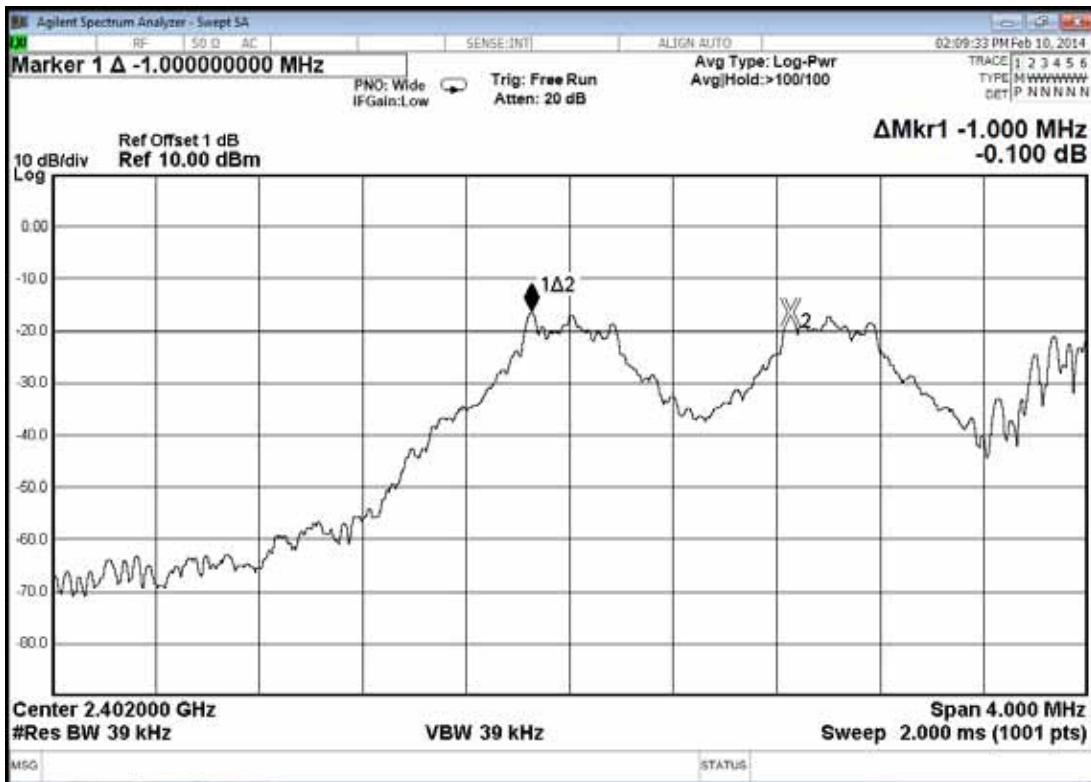


Figure 6: GFSK, 2441MHz adjacent channel of right carrier frequency separation

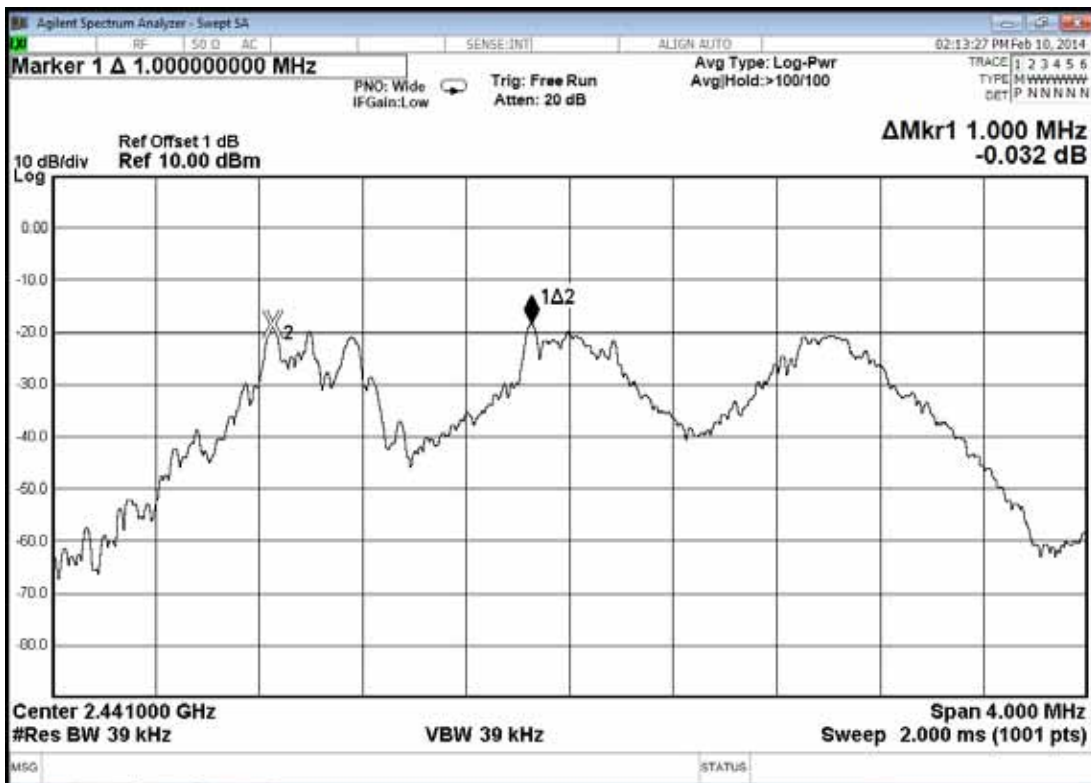


Figure 7: GFSK, 2441MHz adjacent channel of left carrier frequency separation

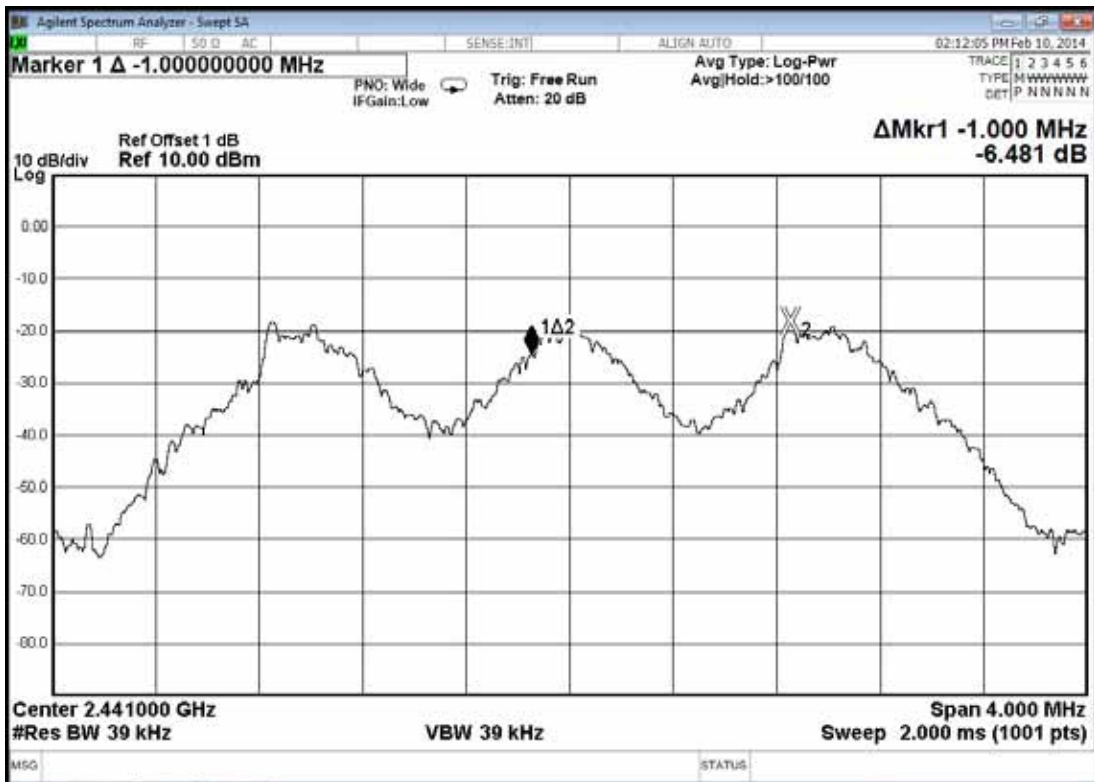
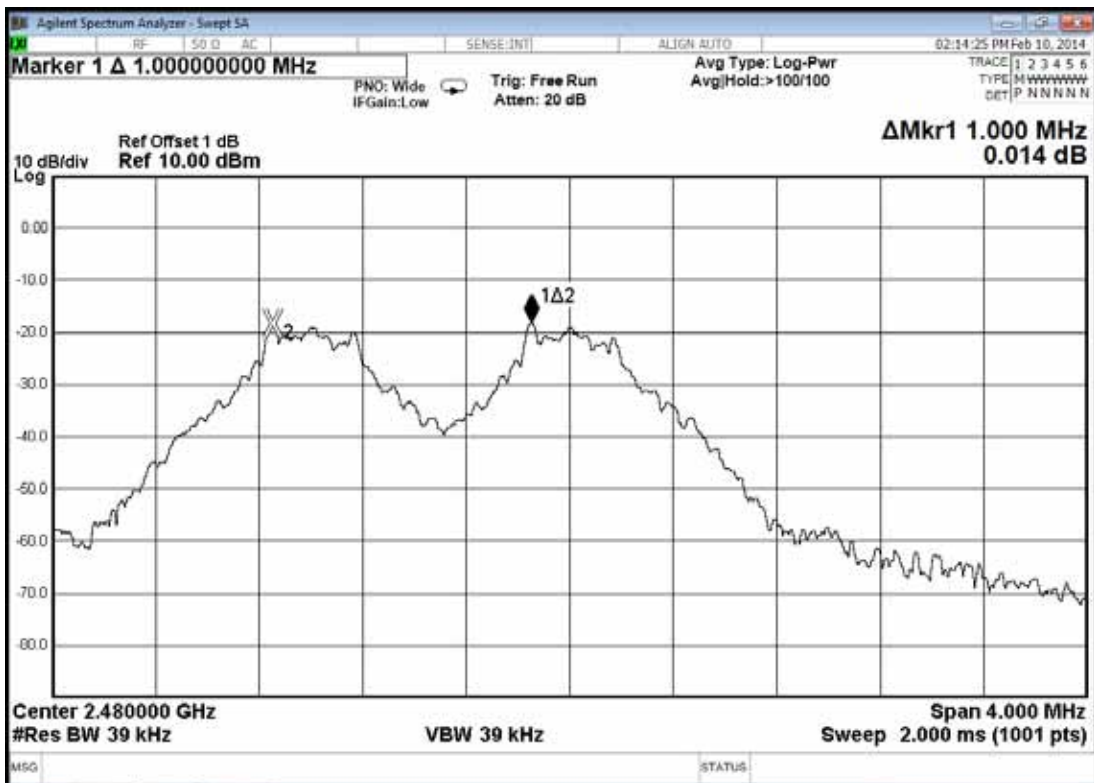


Figure 8: GFSK, 2480MHz adjacent channel of carrier frequency separation



7. TIME OF OCCUPANCY MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the time of occupancy measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-526 | MY53310269 | 2013. 09. 22 | 2014. 09. 21 |

7.2. Block Diagram of Test Setup

The same as section.4.2.

7.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems in the 2400-2483.5MHz shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by number of hopping channels employed.

7.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

7.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1MHz RBW and 1MHz VBW. $VBW \geq RBW$; Span=zero span.

Centred on a hopping channel sweep=as necessary to capture the entire dwell time per hopping channel ; Detector function=peak ; Trace=Max hold

The measurement guideline was according to FCC Public Notice DA 00-705.

7.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (8-DPSK,π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

7.6.1. Type of Modulation : 8-DPSK, Test Frequency : 2441MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

3DH1 : For each 5 seconds of 49 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$49 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.39 \text{ms} = 120.7752 \text{ms} (<400 \text{ms})$$

3DH3 : For each 5 seconds of 25 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$25 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.63 \text{ms} = 257.5400 \text{ms} (<400 \text{ms})$$

3DH5 : For each 5 seconds of 19 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$19 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.9 \text{ms} = 347.0132 \text{ms} (<400 \text{ms})$$

Figure 1: 8-DPSK, 2441MHz, 3DH1

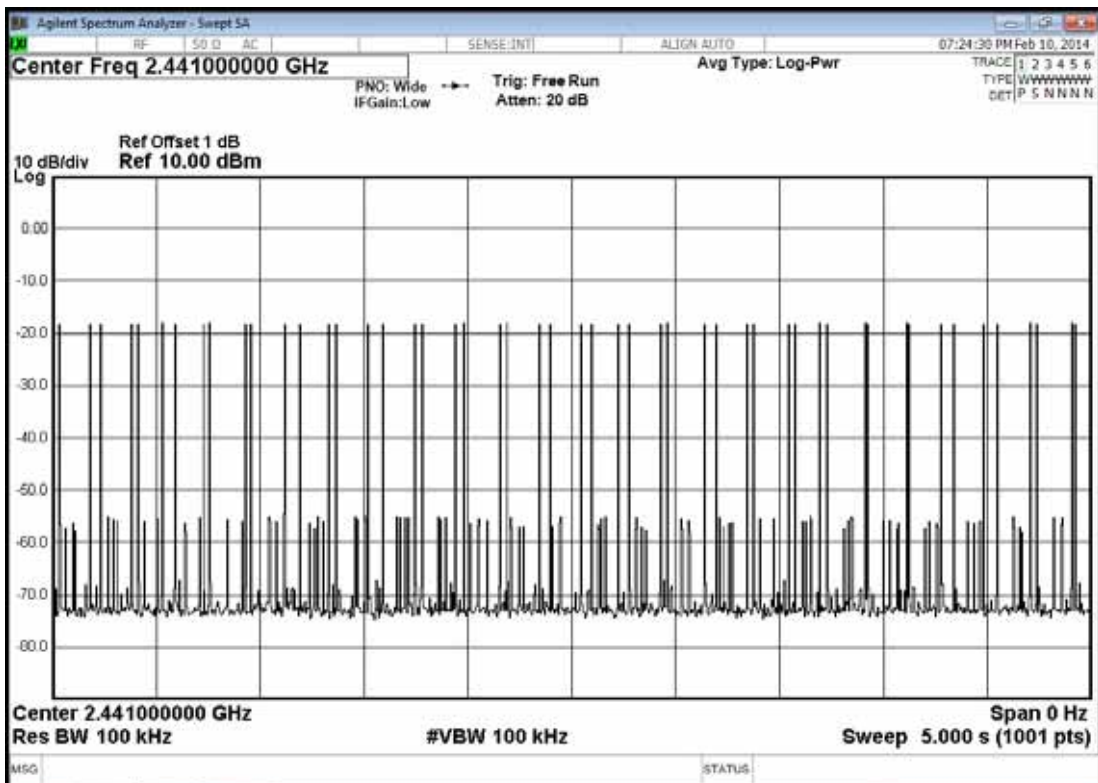
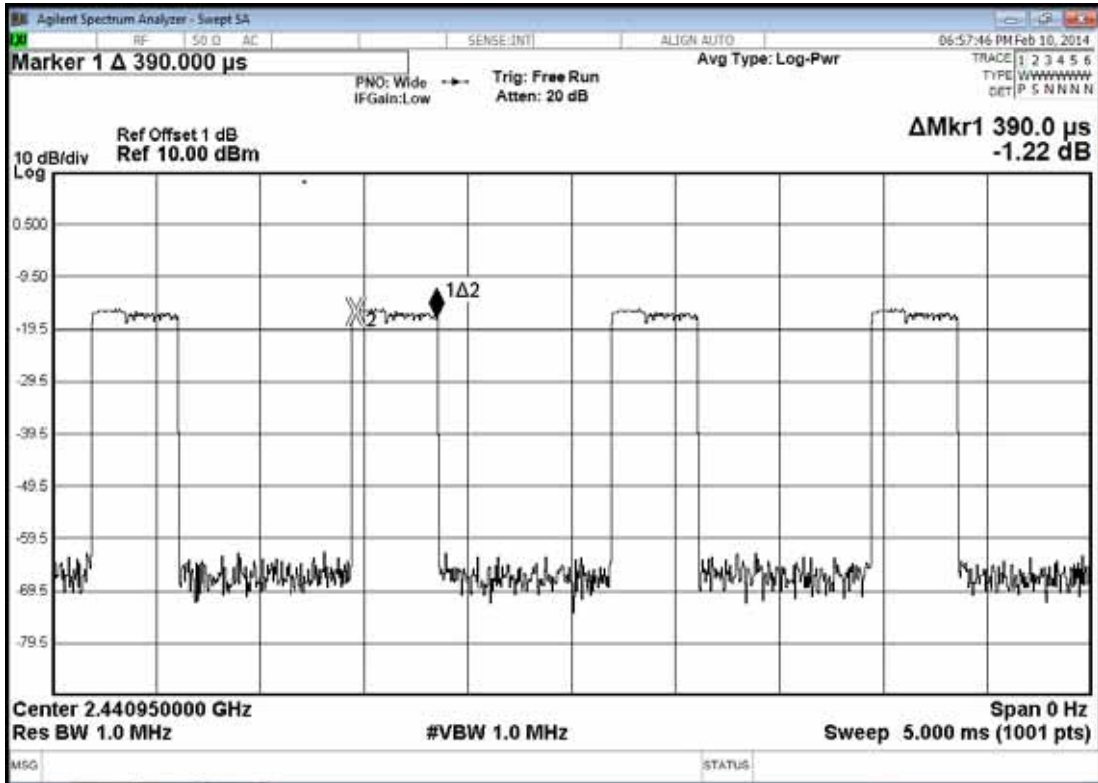


Figure 2: 8-DPSK, 2441MHz, 3DH3

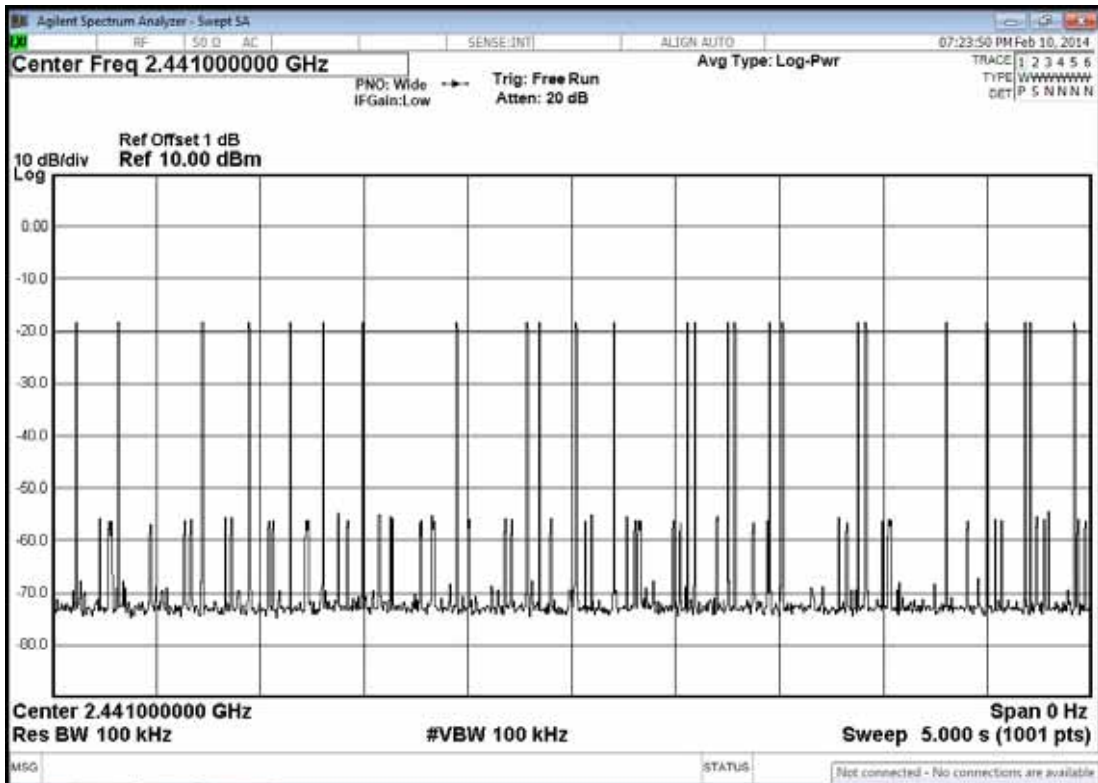
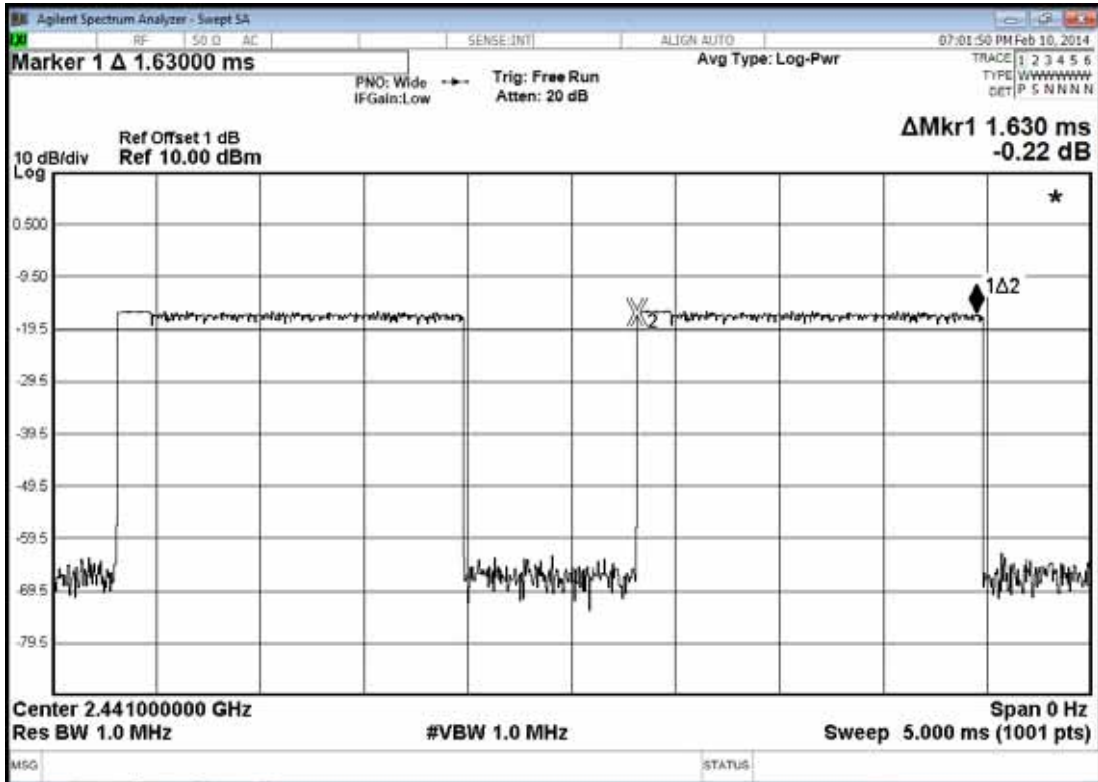
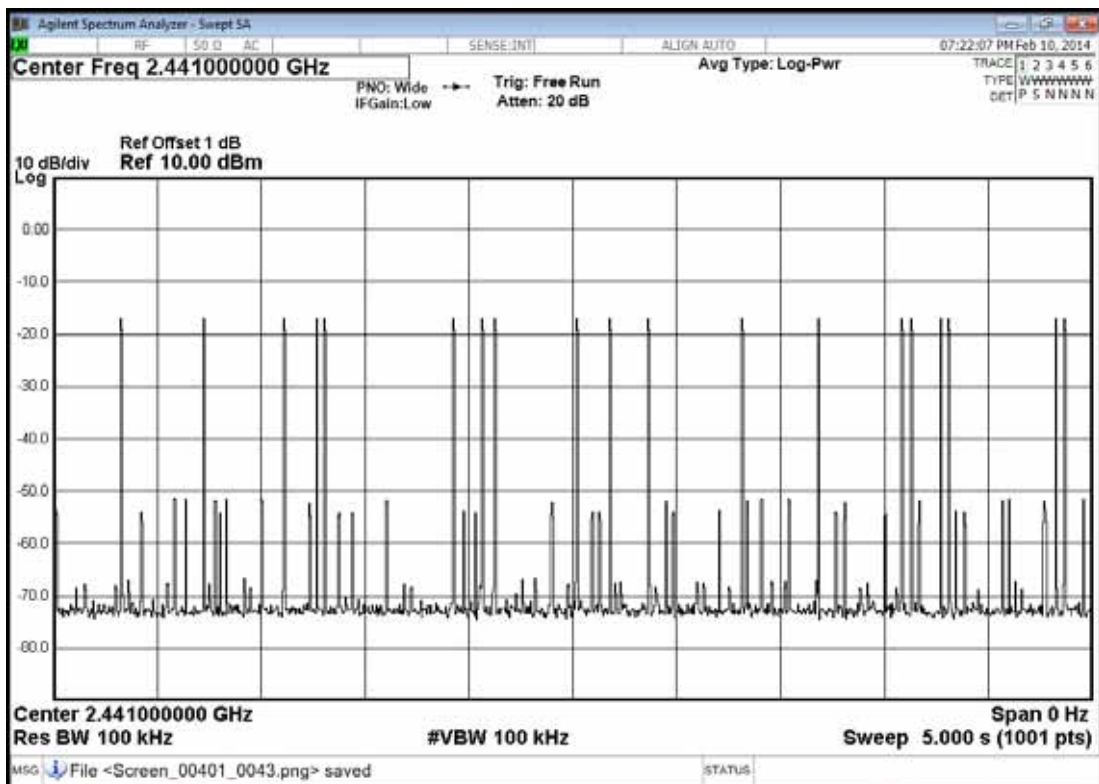
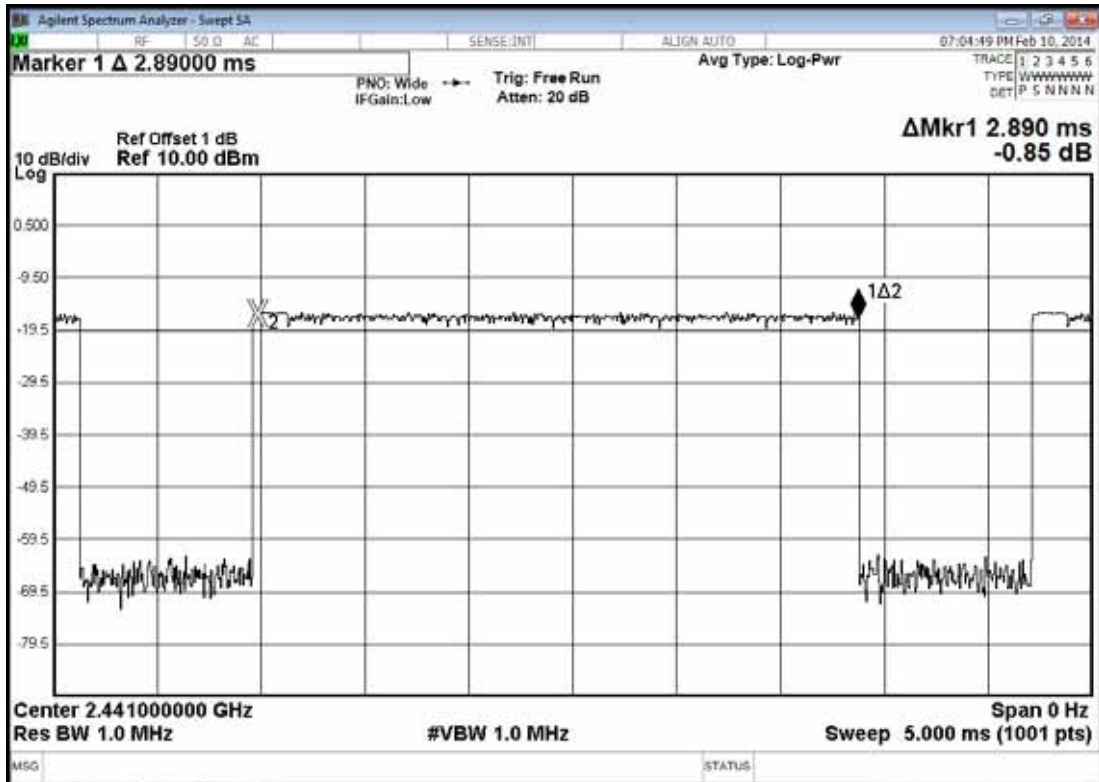


Figure 3: 8-DPSK, 2402MHz, 3DH5



7.6.2. Type of Modulation : GFSK, Test Frequency : 2441MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : For each 5 seconds of 49 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$49 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.38\text{ms} = 117.6784\text{ms} (<400\text{ms})$$

DH3 : For each 5 seconds of 28 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$28 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.165\text{ms} = 291.984\text{ms} (<400\text{ms})$$

DH5 : For each 5 seconds of 19 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$19 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.88\text{ms} = 345.8304\text{ms} (<400\text{ms})$$

Figure 4: GFSK, 2441MHz, DH1

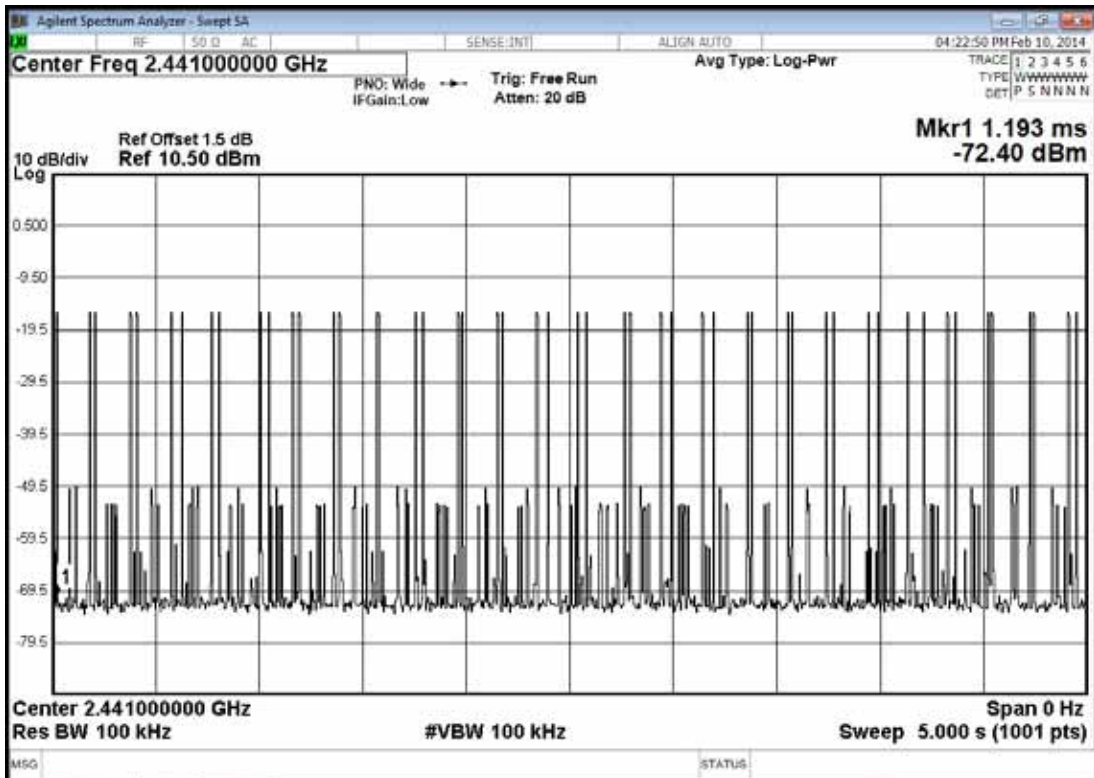
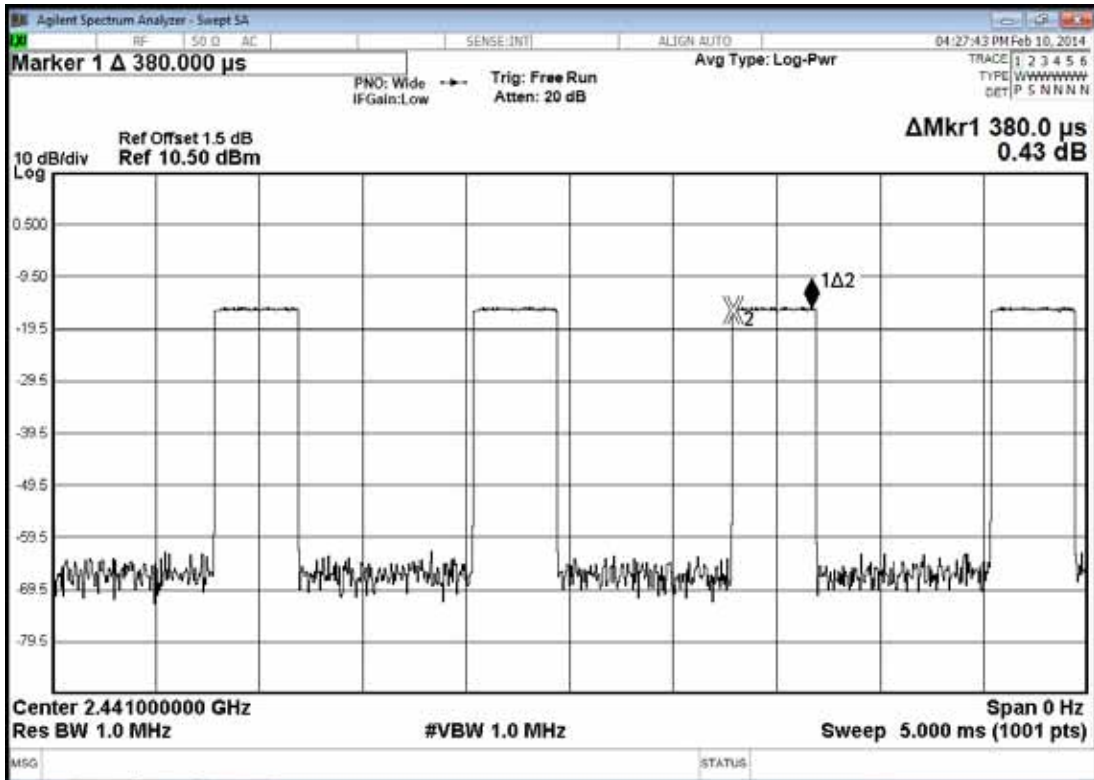


Figure 5: GFSK, 2441MHz, DH3

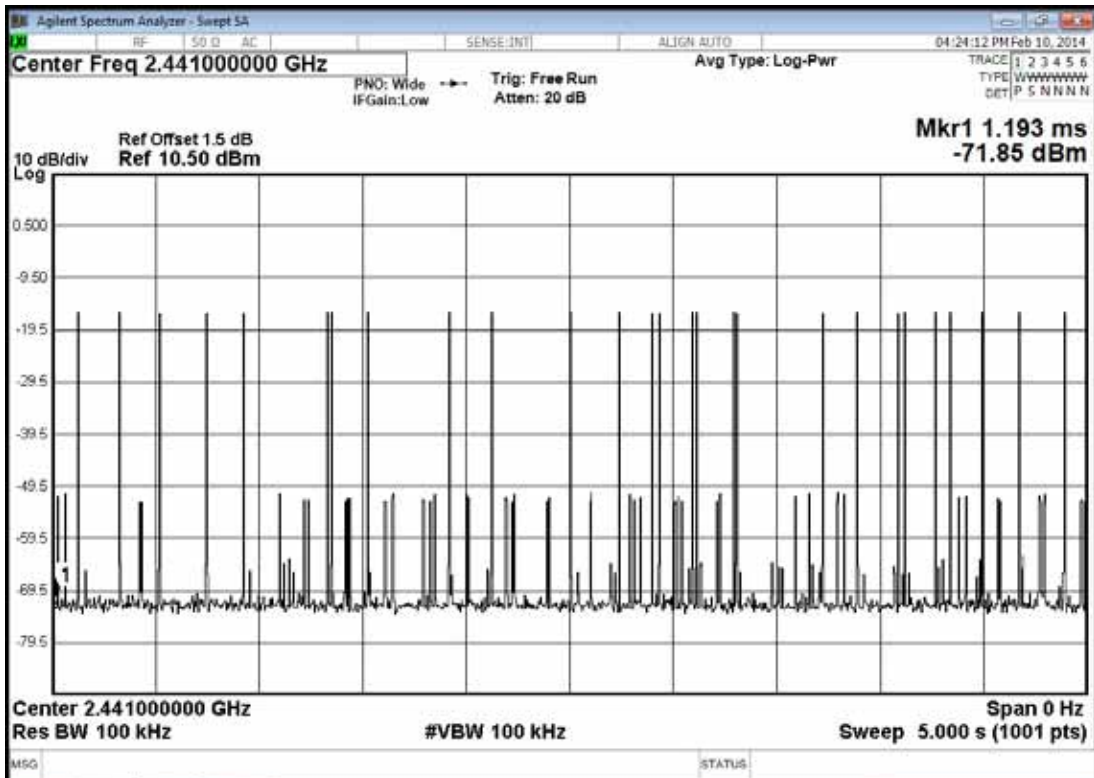
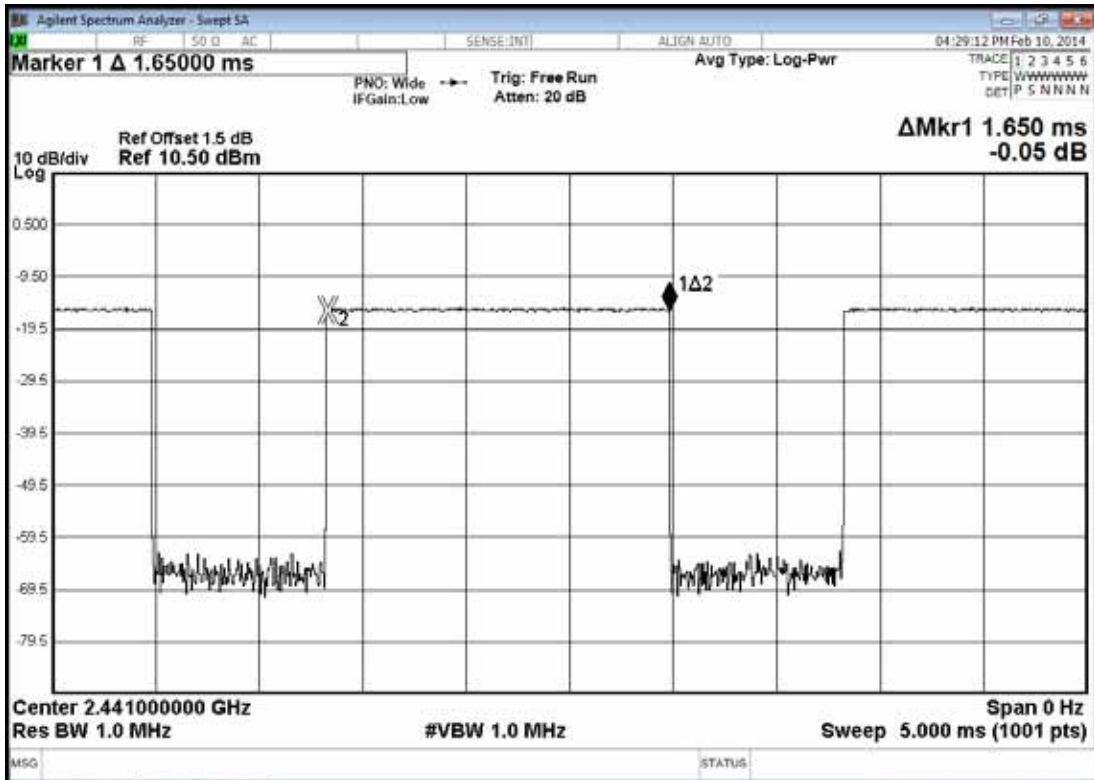
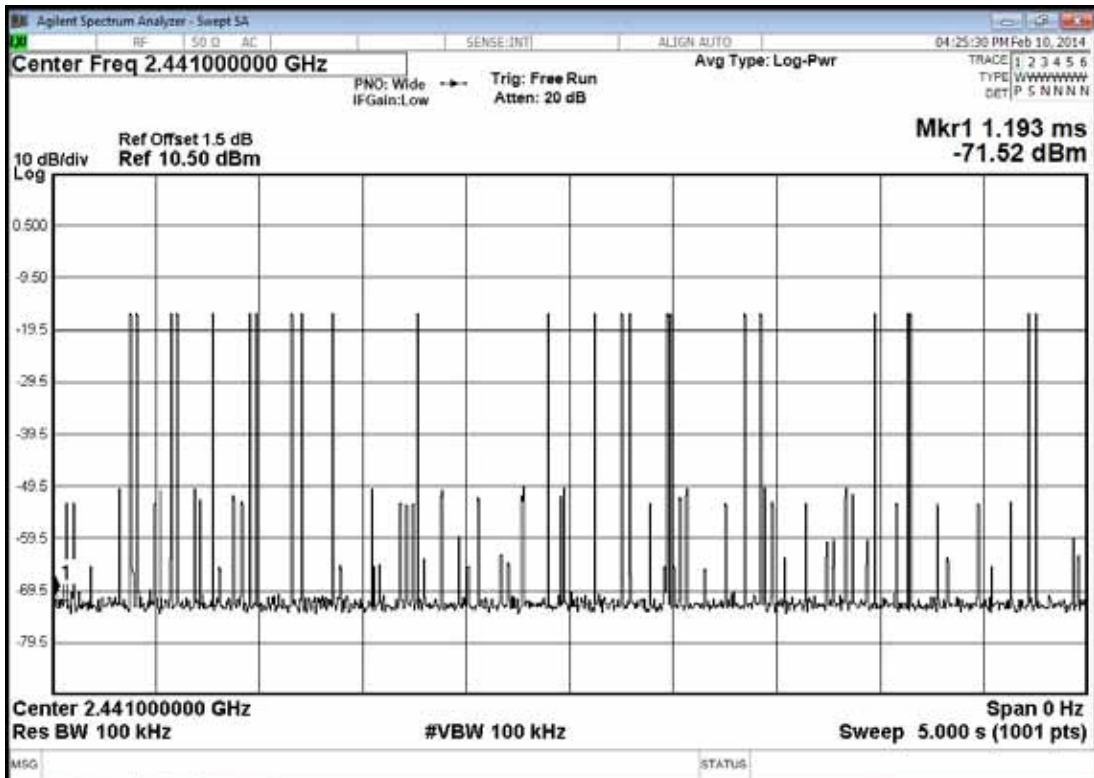
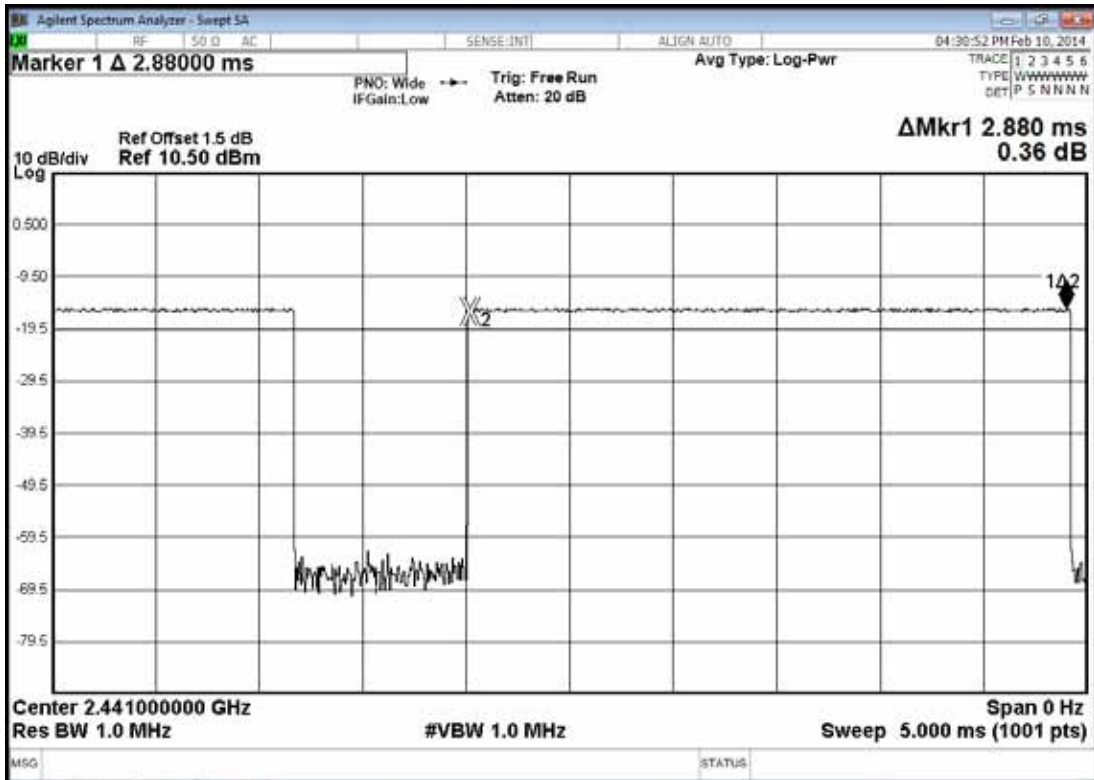


Figure 6: GFSK, 2441MHz, DH5



8. NUMBER OF HOPPING CHANNELS MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the number of hopping channels measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-526 | MY53310269 | 2013. 09. 22 | 2014. 09. 21 |

8.2. Block Diagram of Test Setup

The same as section.4.2.

8.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems which use fewer than 20 hopping frequencies may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels.

8.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

8.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. Sweep=Auto ; Detector function=peak ; Trace=Max hold
The measurement guideline was according to FCC Public Notice DA 00-705.

8.6. Test Results

PASSED. All the test results are attached in next page.

[Note: Three types of modulation (8-DPSK, π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

8.6.1.Type of Modulation: 8-DPSK

The number hopping channel is 79.

8.6.2.Type of Modulation: GFSK

The number hopping channel is 79.

Figure 1: 8-DPSK

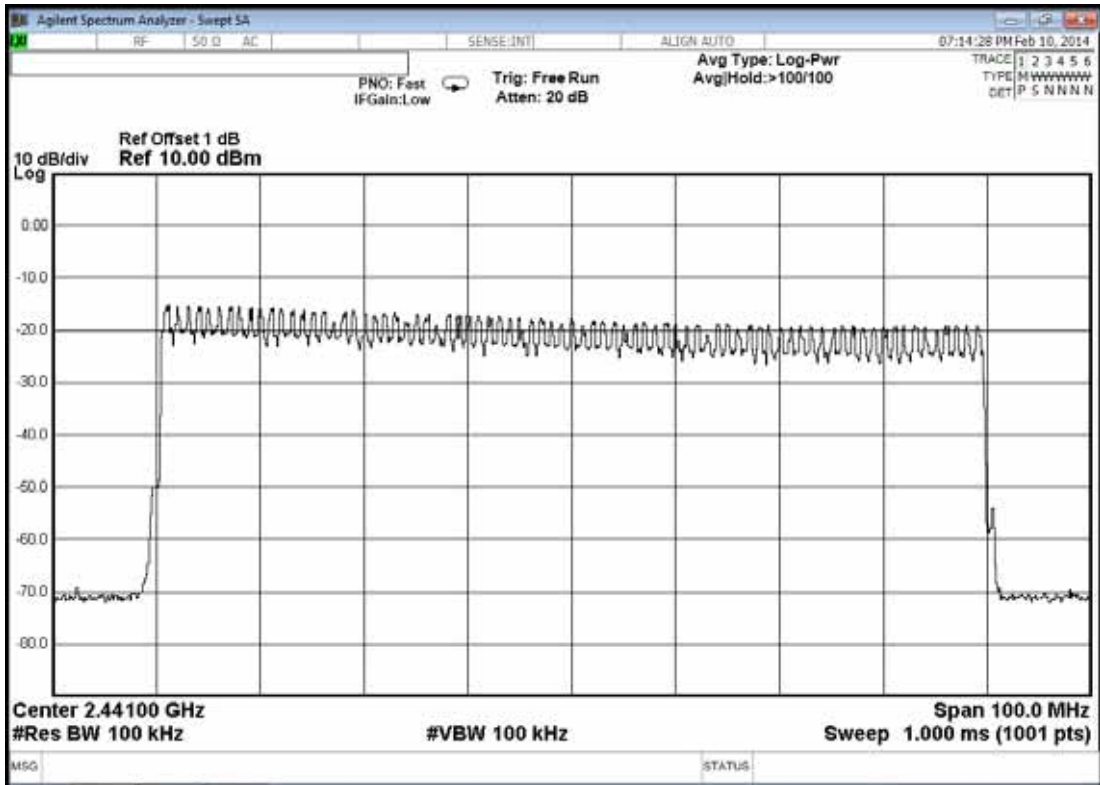
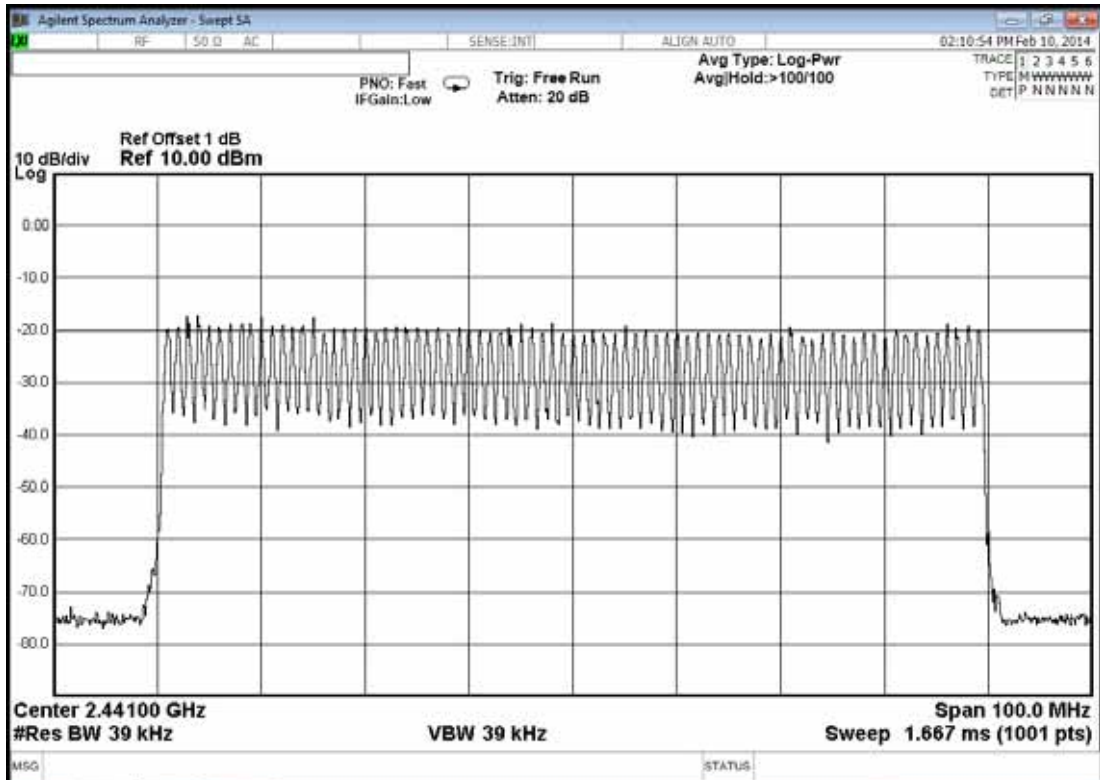


Figure 2: GFSK



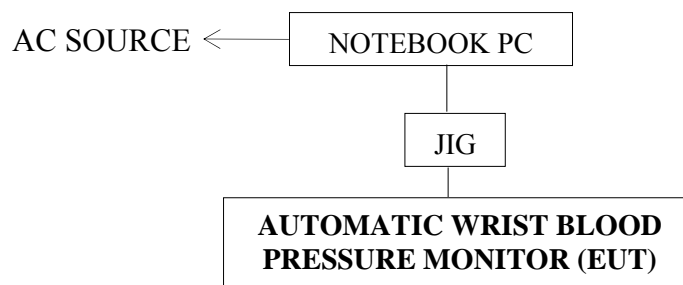
9. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement: (At Semi-Anechoic Chamber)

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|---------------------|--------------------|----------------------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | 2013. 07. 30 | 2014. 07. 29 |
| 2. | Amplifier | HP | 8449B | 3008A00529 | 2014. 01. 24 | 2015. 01. 23 |
| 3. | Horn Antenna | EMCO | 3115 | 9609-4927 | 2013. 06. 17 | 2014. 06. 16 |
| 4. | Horn Antenna | EMCO | 3116 | 2653 | 2013. 10. 11 | 2014. 10. 10 |
| 5. | 2.4GHz Notch Filter | K&L | 7NSL10-2441 .5E130.5-00 | 1 | 2013. 06. 13 | 2014. 06. 2 |
| 6. | 3G High Pass Filter | Microwave Circuits | H3G018G1 | 484796 | 2013. 06. 13 | 2014. 06. 2 |

9.2. Block Diagram of Test Setup



9.3. Specification Limits (§15.247(b)-(1))

The Limits of maximum Peak Output Power for frequency hopping systems in 2400-2483.5MHz is: 0.125Watt. (21dBm)

9.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

9.5. Test Procedure

The transmitter output was connected to the spectrum analyzer.
 Span can encompass the waveform
 RBW>EBW
 VBW RBW
 Sweep=1.5MHz

The measurement guideline was according to FCC Public Notice DA 00-705.

9.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (8-DPSK,π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

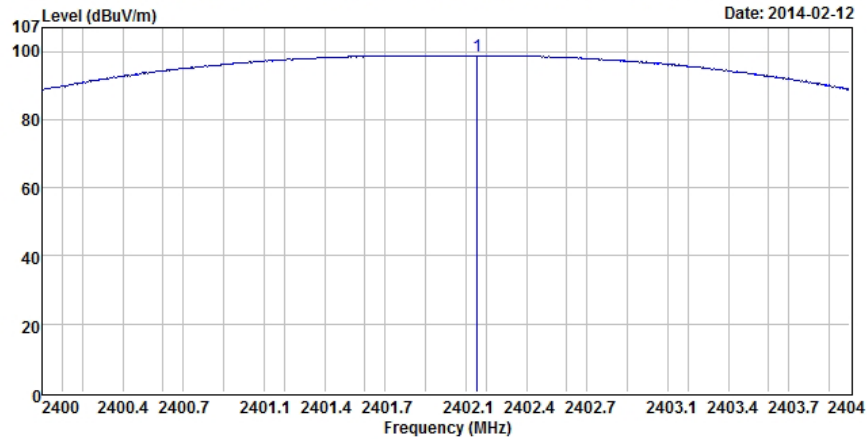
Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

9.6.1. Type of Modulation: 8-DPSK



AUDIX Technology Corporation
 EMC Department
 No.53-11, Dingfu, Linkou Dist., New Taipei City,
 Taiwan R.O.C. Post Code:24443
 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:temc@temc.com

Data: 2 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製-複製-C1M1401052 BTIBT8 POWER.EM6 (6) Date: 2014-02-12



Site no. : Audix NO.1 Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbin Yang
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : 8DPSK POWER

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|-------------|--------------------|-----------------|-----------------|--------------------------|------------------|-------------|--------|
| 1 | 2402.16 | 28.47 | 6.36 | 64.00 | 98.83 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

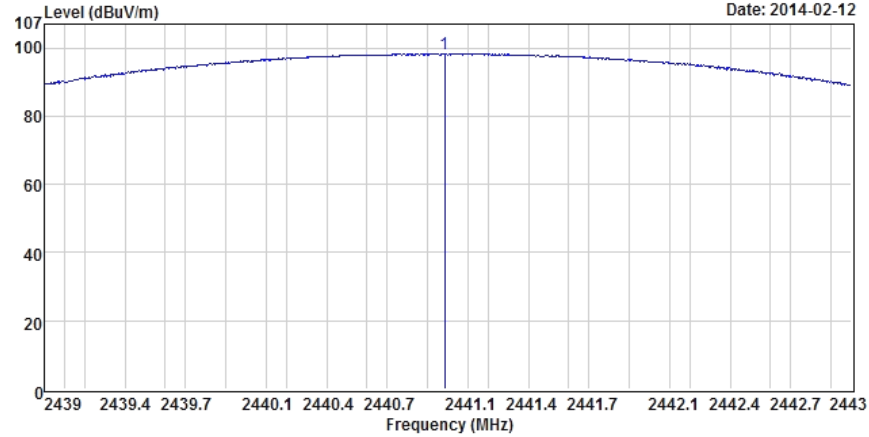
| Channel | Test Frequency | Emission Level (dBμv/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|-------------------------|---------|------------|-------------------------|
| 0 | 2402MHz | 98.83 | 0.087 | 3.601 | 1.451 |

Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)²/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.



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Data: 4 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製-複製-C1M1401052 BTIBT8 POWER.EM6 (6) Date: 2014-02-12



Site no. : Audix NO.1 Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbun_Yang
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : 8DPSK POWER

| | Ant. Cable | Emission | | | | | |
|-------------|---------------|-----------|-----------------|-----------------|------------------|-------------|--------|
| Freq. (MHz) | Factor (dB/m) | Loss (dB) | Reading (dB μV) | Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
| 1 2440.98 | 28.59 | 6.40 | 63.34 | 98.33 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

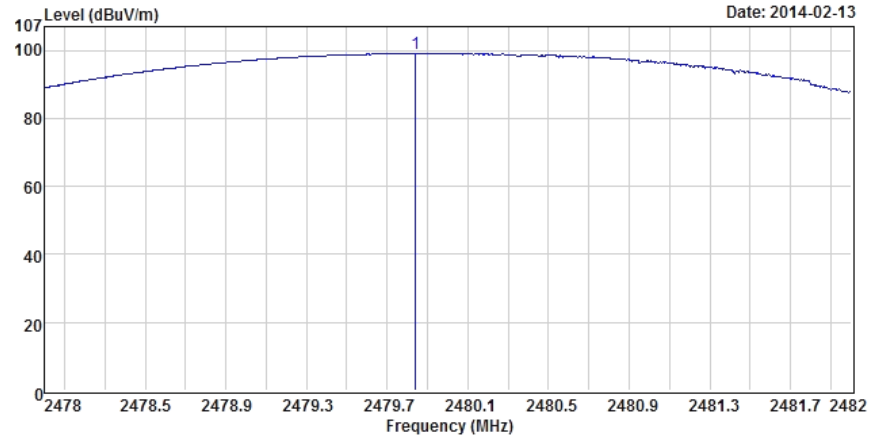
| Channel | Test Frequency | Emission Level (dBμv/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|-------------------------|---------|------------|-------------------------|
| 39 | 2441MHz | 98.33 | 0.083 | 3.101 | 0.951 |

Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)²/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.



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Data: 6 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製 複製 -C1M1401052 BTBT8 POWER.EM6 (6) Date: 2014-02-13



Site no. : Audix NO.1 Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbun_Yang
 EUT : HL568HD
 Power Rating : DC3W
 Test Mode : 8DPSK POWER

| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|-----------------|--------------------------|------------------|-------------|--------|
| 1 2479.84 | 28.66 | 6.44 | 63.95 | 99.05 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

| Channel | Test Frequency | Emission Level (dBμv/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|-------------------------|---------|------------|-------------------------|
| 79 | 2480MHz | 99.05 | 0.090 | 3.821 | 1.671 |

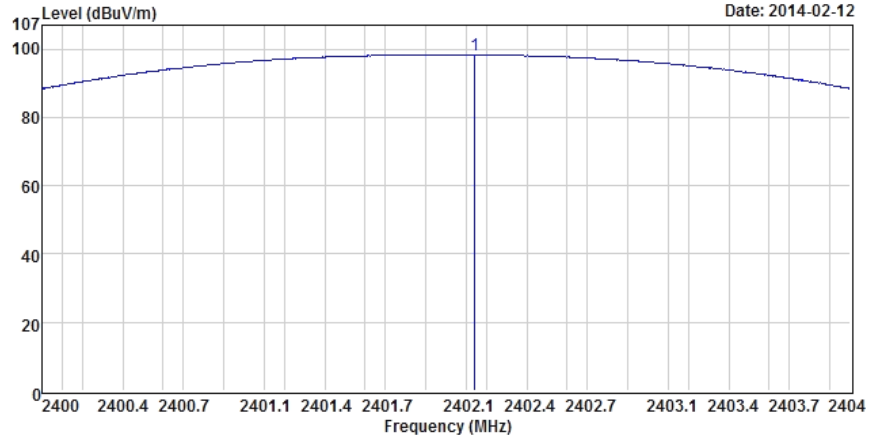
Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.

9.6.2. Type of Modulation: GFSK



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Data: 2 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製-複製-C1M1401052 BT\BTIPOWER.EM6 (6)



Site no. : Audix NO.1 Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbin Yang
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : GFSK POWER

| Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1 2402.14 | 28.47 | 6.36 | 63.44 | 98.27 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

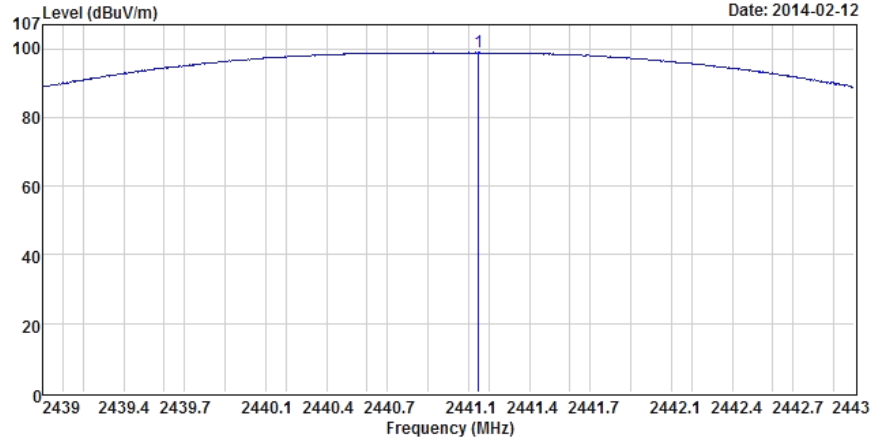
| Channel | Test Frequency | Emission Level (dBμV/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|-------------------------|---------|------------|-------------------------|
| 0 | 2402MHz | 98.27 | 0.0819 | 3.041 | 0.891 |

Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)²/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.



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Data: 4 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製-複製-C1M1401052 BTBTPOWER.EM6 (6) Date: 2014-02-12



Site no. : Audix NO.1 Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbin Yang
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : GFSK POWER

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|-------------------|----------------------------|--------------------|----------------|--------|
| 1 | 2441.15 | 28.59 | 6.40 | 63.89 | 98.88 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

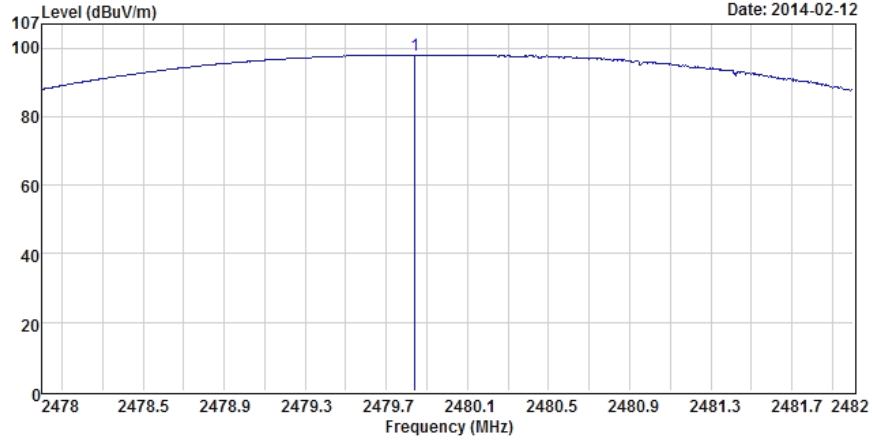
| Channel | Test Frequency | Emission Level (dBμv/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|----------------------------|------------|---------------|----------------------------|
| 39 | 2441MHz | 98.88 | 0.0879 | 3.651 | 1.501 |

Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)²/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.



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Data: 6 File: C:\Users\wenbin_yang\Desktop\C1M1401243複製-複製-C1M1401052 BT\BTIPOWER.EM6 (6) Date: 2014-02-12



Site no. : Audix NO.1 Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit :
 Env. / Ins. : 26°C / 43% N9010A Engineer : Wenbin Yang
 EUT : HL568HD
 Power Rating : DC3V
 Test Mode : GFSK POWER

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/m) | Margin (dB) | Remark |
|---|----------------|-----------------------|--------------------|--------------------|-----------------------------|---------------------|----------------|--------|
| 1 | 2479.84 | 28.66 | 6.44 | 62.95 | 98.05 | | | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 2. The emission levels that are 20dB below the official limit are not reported.

| Channel | Test Frequency | Emission Level (dBμV/m) | E (V/m) | EIRP (dBm) | Peak Output Power (dBm) |
|---------|----------------|----------------------------|------------|---------------|----------------------------|
| 79 | 2480MHz | 98.05 | 0.0799 | 2.821 | 0.671 |

Pursuant to KDB412172 D01, ERP(peak output power)=(E x d)²/30-2.15dBi, where d= distance in meter and E=electric field strength in V/m.

10.EMISSION LIMITATIONS MEASUREMENT

Emission level is below limits specified in 15.209 thus conducted emission is not need.

11. BAND EDGES MEASUREMENT

11.1. Test Equipment

The following test equipment was used during the band edges measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-526 | MY53310269 | 2013. 09. 22 | 2014. 09. 21 |

11.2. Block Diagram of Test Setup

The same as section.4.2.

11.3. Specification Limits (§15.247(c))

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is 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, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)). (This test result attaching to §3.6.3)

11.4. Operating Condition of EUT

Same as 20dB bandwidth measurement which was listed in section 4.4.

11.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to FCC Public Notice DA 00-705.

11.6. Test Results

PASSED. The testing data was attached in the next pages.

[Note: Three types of modulation (8-DPSK, π /4DQPSK, GFSK) were evaluated but only two types of modulation (8-DPSK and GFSK) were reported in this report.]

EUT : Automatic Wrist Blood Pressure Monitor M/N : HL158HM

Test Date : 2014. 02. 10 Temperature : 25 Humidity : 59 %

11.6.1. Type of Modulation: 8-DPSK

1. Below Band edge : The highest emission level is -70.060dBm on 2.39900GHz.
2. Upper Band edge: The highest emission level is -71.865dBm on 2.48360GHz.

11.6.2. Type of Modulation: GFSK

1. Below Band edge : The highest emission level is -69.957dBm on 2.39900GHz.
2. Upper Band edge: The highest emission level is -71.209dBm on 2.48360GHz.

Figure 1: 8-DPSK, Below Band edge

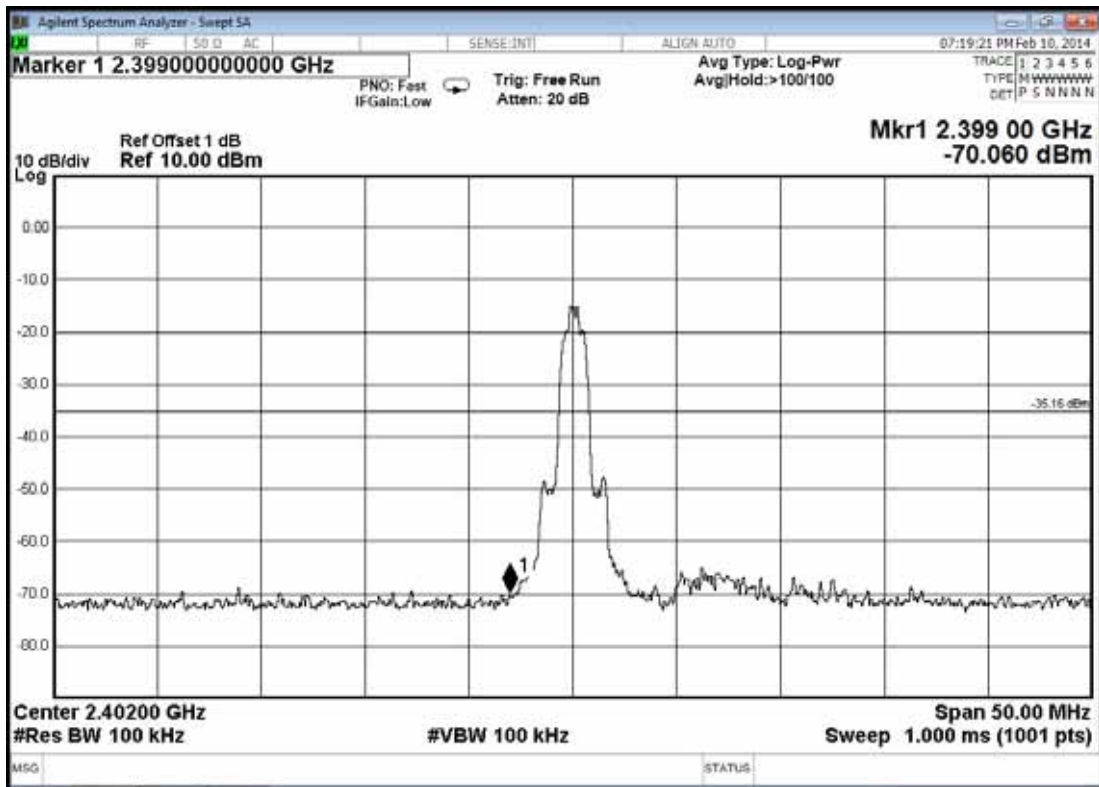


Figure 2: 8-DPSK, Upper Band edge

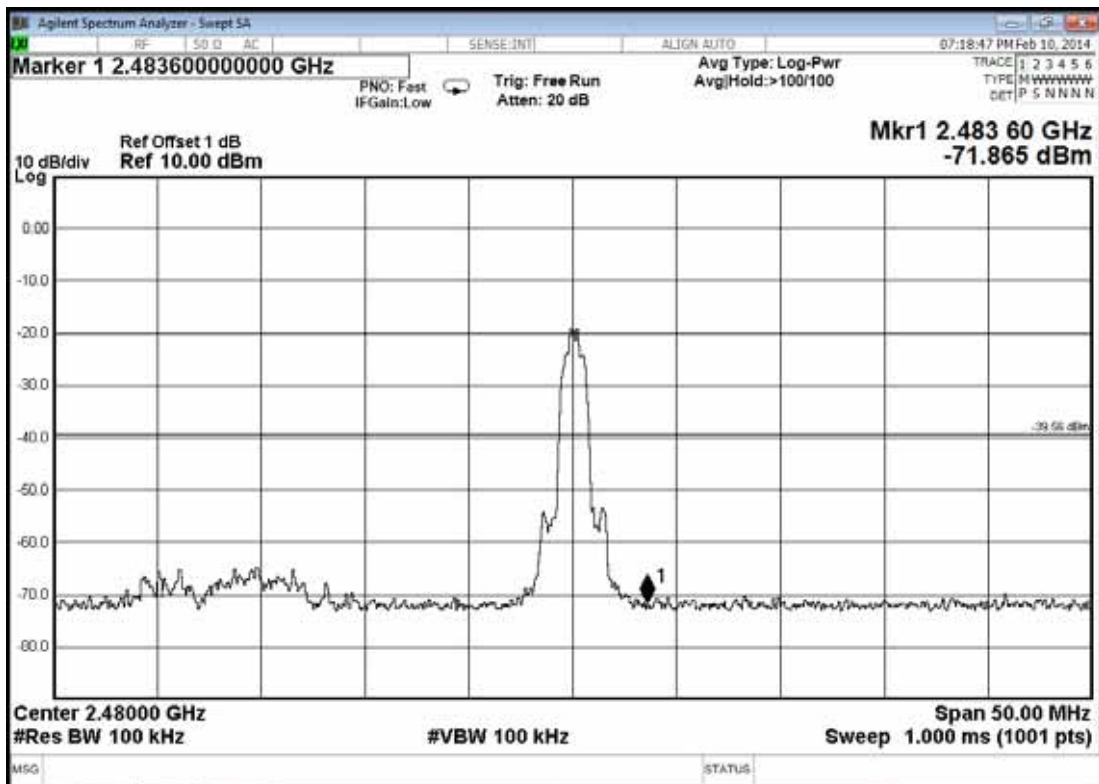


Figure 3: GFSK, Below Band edge

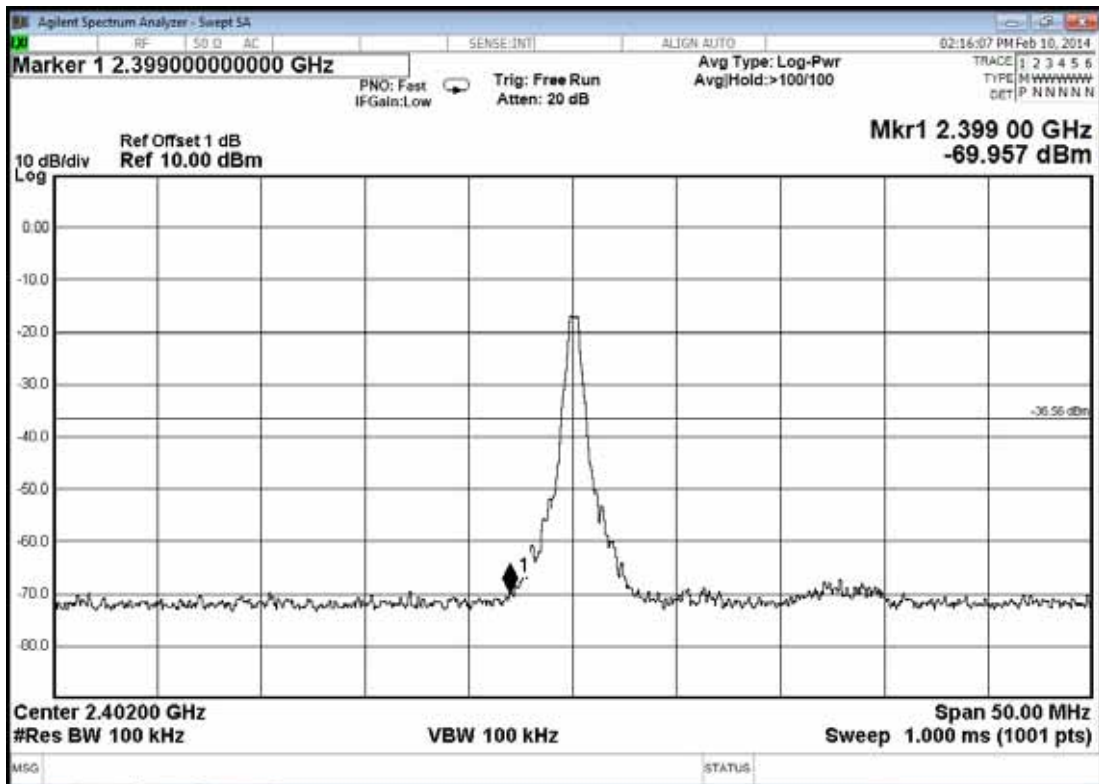
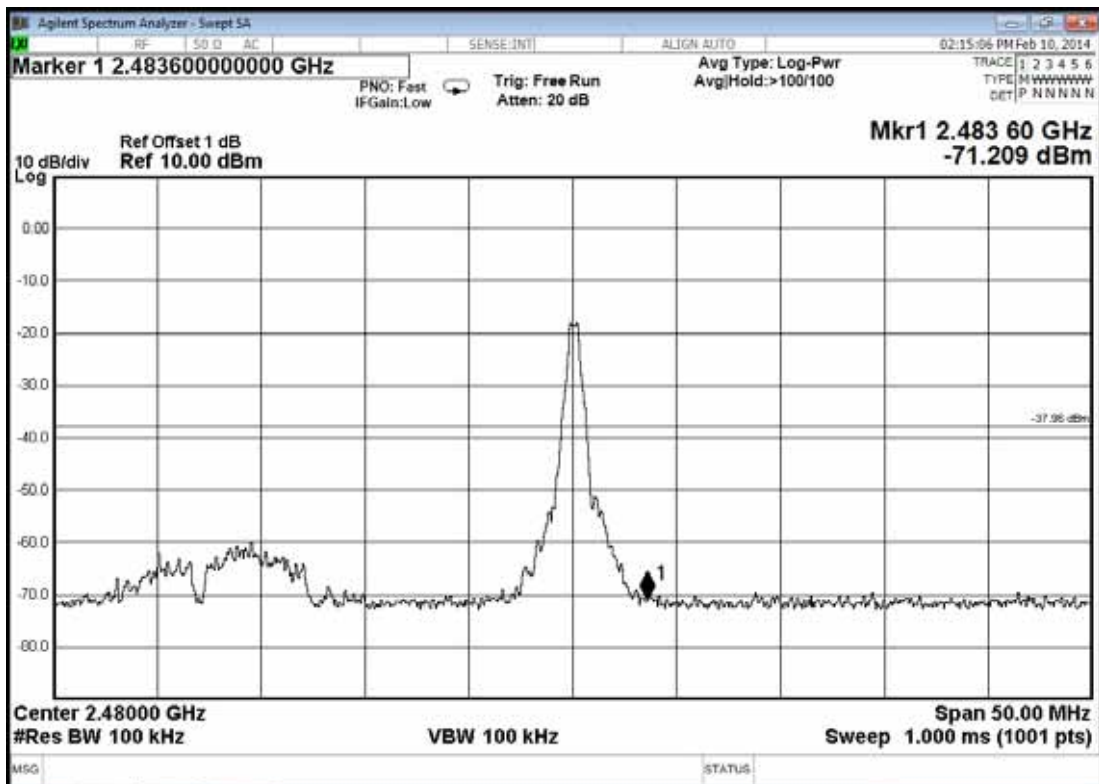


Figure 4: GFSK, Upper Band edge



12.DEVIATION TO TEST SPECIFICATIONS

【NONE】