# FCC TEST REPORT

**for**

## 47 CFR Part 15 Subpart C

| | | |
|---|---|---|
| **Equipment** | : | **Mobile Phone** |
| **Trade Name** | : | **Vodafone 804N** |
| **Model No.** | : | **KMP7N2H1** |
| **FCC ID** | : | **GKRKMP7N2H1** |
| **Filing Type** | : | **Certification** |
| **Applicant** | : | **Compal Electronics, Inc.**<br>No. 581, Juikuang Rd., Neihu, Taipei, (114) Taiwan, R.O.C. |

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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Dec. 06, 2005 at **Sporton International Inc. LAB.**
- Report No.: FR5N0707, Report Version: Rev. 01.

Dr. Daniel Lee
EMC/SAR Director

***SPORTON International Inc.***

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# History of this test report

Report Issue Date: Dec. 12, 2005

| Report No. | Description |
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# 1. General Description of Equipment under Test

## 1.1. Applicant

**Compal Electronics, Inc.**
No. 581, Juikuang Rd., Neihu, Taipei, (114) Taiwan, R.O.C.

## 1.2. Manufacturer

**Compal Electronics, Inc.**
No. 581, Juikuang Rd., Neihu, Taipei, (114) Taiwan, R.O.C.

## 1.3. Basic Description of Equipment under Test

| | |
|---|---|
| Equipment | : Mobile Phone |
| Trade Name | : Vodafone 804N |
| Model No. | : KMP7N2H1 |
| FCC ID | : GKRKMP7N2H1 |
| Power Supply Type | : Switching |
| AC Power Cord | : AC 120V, Wall-mount, 3.8 meter, 2 pin |

## 1.4. Feature of Equipment under Test

| Product Feature & Specification | | | | |
|---|---|---|---|---|
| 1. Modulation Type/Data Rate | GFSK | | | |
| 2. Frequency Range. | 2400 MHz ~ 2483.5 MHz | | | |
| Number of Channels | 79 | | | |
| 3. Carrier Frequency of each channel | 2402+ n*1 MHz, n= 0~78 | | | |
| 4. Channel Spacing | 1 MHz | | | |
| 5. Maximum Output Power to Antenna (Normal condition) | -0.68 dBm | | | |
| 6. Type of Antenna Connector | N/A | | | |
| 7. Antenna Type | Embedded Antenna | | | |
| 8. Antenna Gain | -4.4 dBi | | | |
| 9. HW Version | EP2-2 | | | |
| 10. SW Version | 1.0 | | | |
| 11. Function Type | Transmitter | | Transceiver | V |
| 12. Power Rating (DC/AC , Voltage) | 3.8V | | | |
| 13. DUT Stage | Production Unit | | | |

# 2. Test Configuration of Equipment under Test

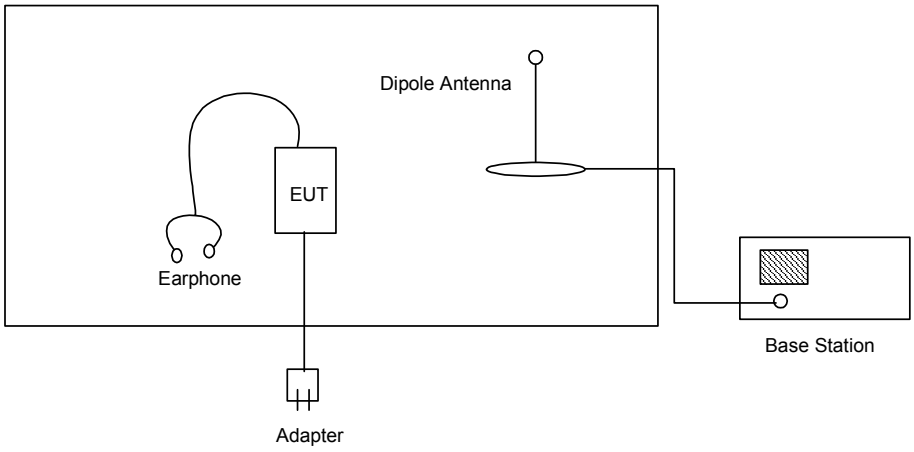
## 2.1. Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
b. For spurious emission below 1GHz, only one channel of each application was tested because it is not related to channel selection.
c. The EUT is programmed to transmit signal continuously for all testings.
d. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 18000MHz.

## 2.2. Test Mode

| Application | Bluetooth |
|---|---|
| Radiated Emission and conducted test items | Mode 1: Tx_CH00_2402 MHz<br>Mode 2: Tx_CH39_2441 MHz<br>Mode 3: Tx_CH78_2480 MHz |
| Conducted Emission | Mode 1: PCS 1900 Idle Mode + BT Link + MP3 Player + Adapter<br>Mode 2: PCS 1900 Idle Mode + BT Link + Camera + Adapter |

## 2.3. Connection Diagram of Test System




## 2.4. Ancillary Equipment List

| Item | Equipment | Model No. | Serial No. |
|---|---|---|---|
| 1. | Base Station (R&S) | CMU200 | 105934 |

# 3. RF Utility

The EUT is in BT link mode with BT device for conducted emission or in BT continuous Tx Mode controlled by RF utility and base station simulator for radiation emission and other conducted tests.

# 4. General Information of Test

| | | |
|---|---|---|
| Test Site Location | : | No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,<br>Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.<br>TEL : 886-3-327-3456<br>FAX : 886-3-318-0055 |
| Test Site No | : | CO01-HY, 03CH06-HY |

## 4.1. Test Voltage

AC 120V

## 4.2. Standard for Methods of Measurement

ANSI C63.4-2003

## 4.3. Test in Compliance with

47 CFR Part 15 Subpart C

## 4.4. Frequency Range Investigated

Conduction: from 150 kHz to 30 MHz
Radiation: from 30 MHz to 18000MHz

## 4.5. Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.

# 5. Report of Measurements and Examinations

## 5.1. List of Measurements and Examinations

| FCC Rule | Description of Test | Result | Section |
|---|---|---|---|
| 15.247(a)(1) | Hopping Channel Separation | Pass | 5.2 |
| 15.247(a)(1)(iii) | Number of Hopping Frequency Used | Pass | 5.3 |
| 15.247(a)(1) | Hopping Channel Bandwidth | Pass | 5.4 |
| 15.247(a)(1)(iii) | Dwell Time of Each Frequency within a 30 Second Period | Pass | 5.5 |
| 15.247(b)(1) | Output Power | Pass | 5.6 |
| 15.247(c) | 100kHz Bandwidth of Frequency Band Edges | Pass | 5.7 |
| 15.207 | Conducted Emission | Pass | 5.8 |
| 15.209 | Radiated Emission | Pass | 5.9 |
| 15.203 | Antenna Requirement | Pass | 5.10 |

## 5.2. Hopping Channel Separation

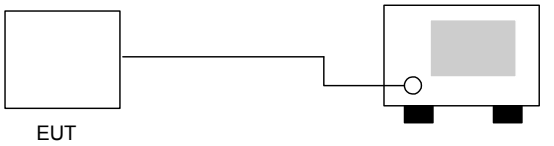
5.2.1. Measuring Instruments：

As described in chapter 6 of this test report.

5.2.2. Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.2.3. Test Setup Layout：




5.2.4. Test Result：The spectrum analyzer plots are attached as below

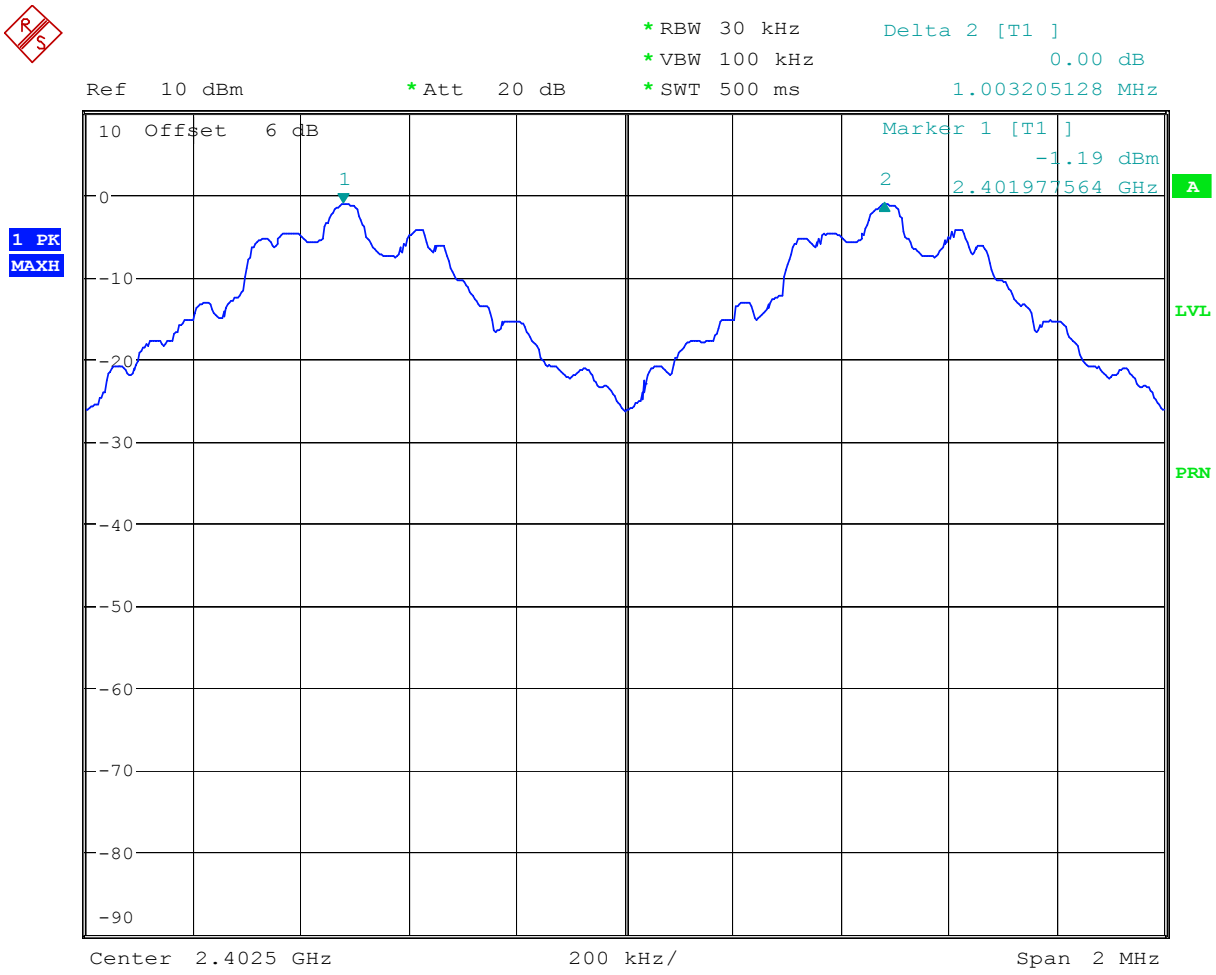
- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

| Channel | Frequency ( MHz ) | Hopping Channel Separation ( MHz ) | Limits ( MHz ) | Plot Ref. No. |
|---|---|---|---|---|
| 00 | 2402 | 1.003 | 0.819 | Mode 1 |
| 39 | 2441 | 1.003 | 0.880 | Mode 2 |
| 78 | 2480 | 1.006 | 0.877 | Mode 3 |

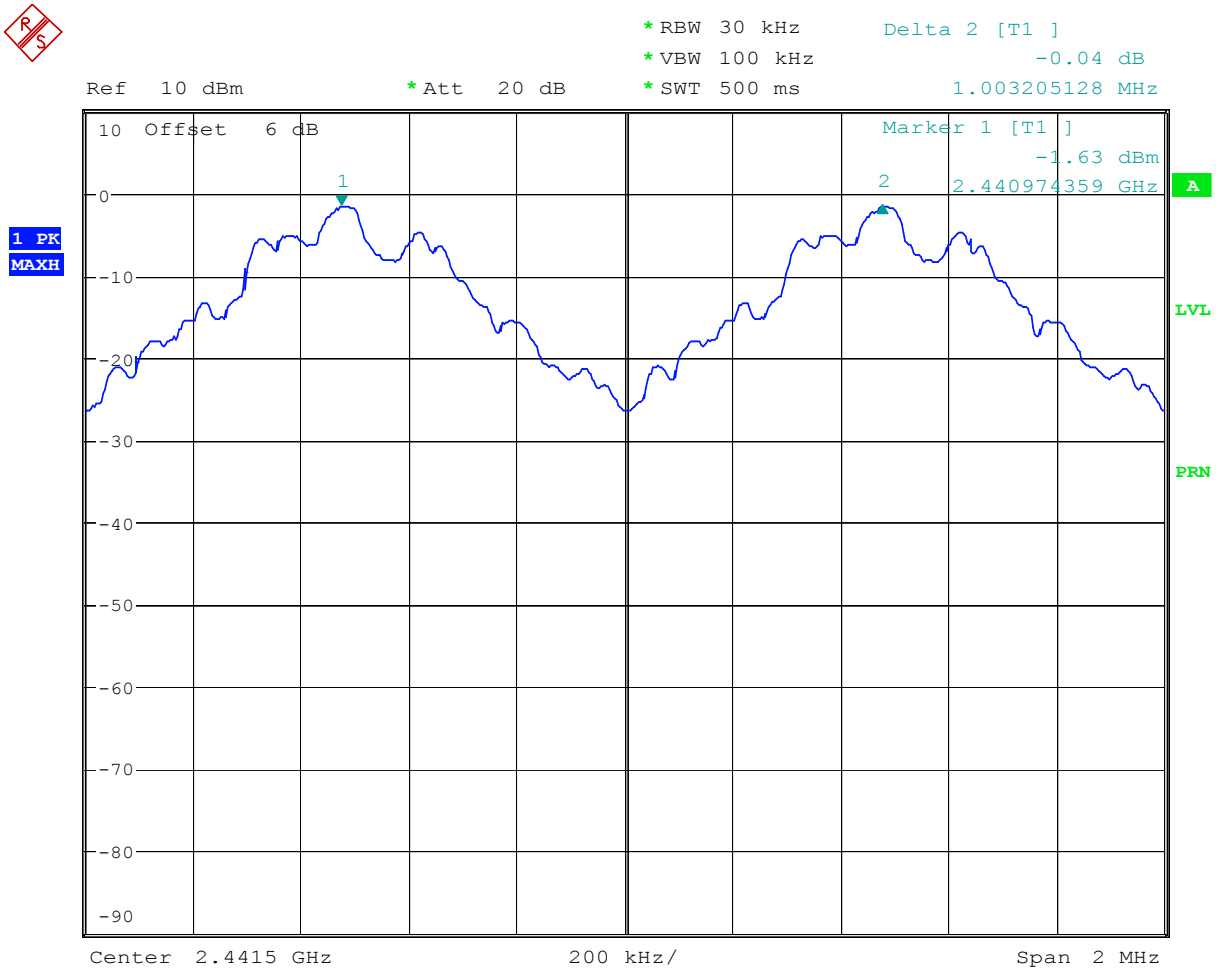
Remark: Limit is the greater one of 25kHz or the 20dB bandwidth of the hopping channel.

5.2.5 Hopping Channel Separation

Mode 1: CH00 (2402MHz)



Mode 2: CH39 (2441MHz)

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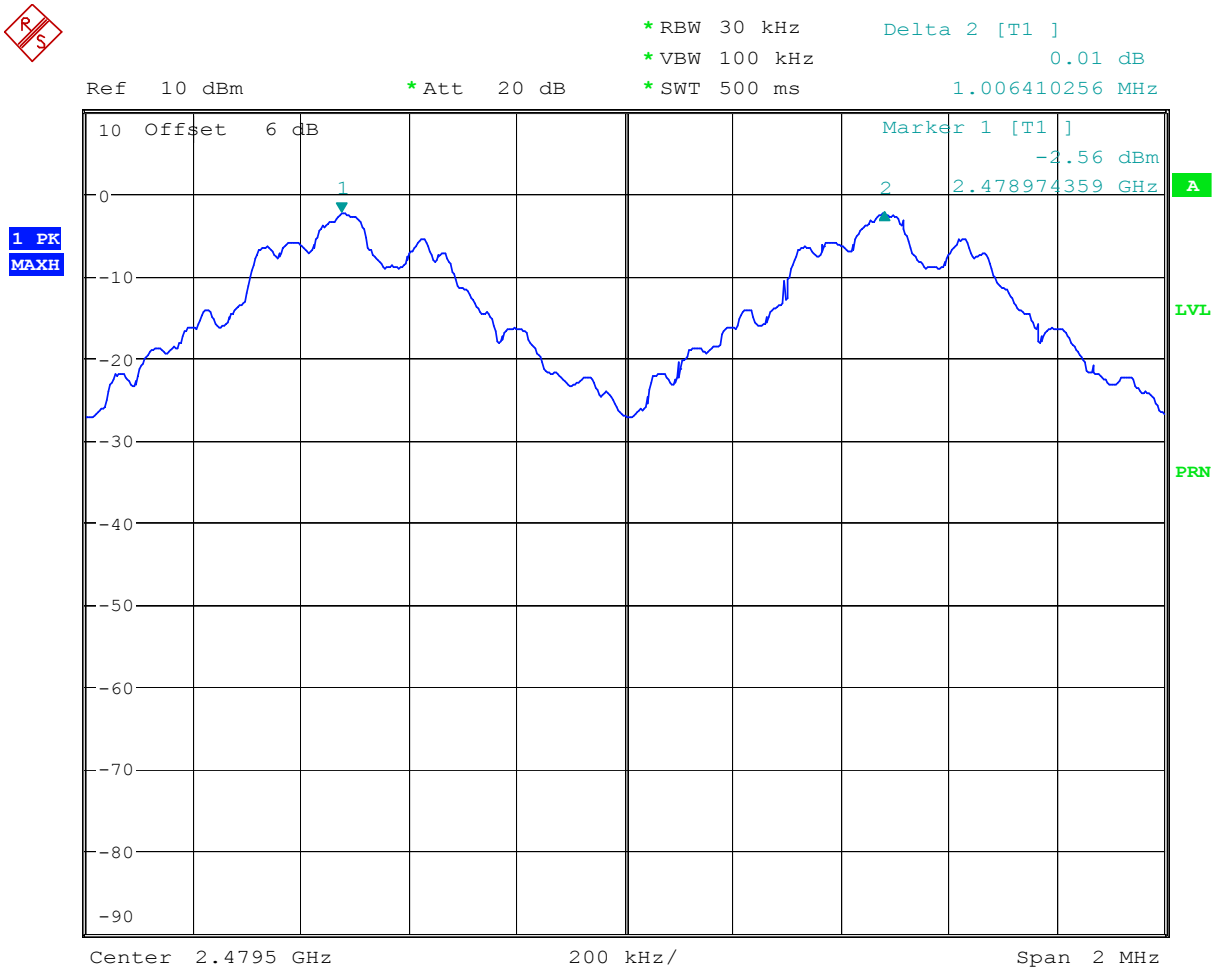
Mode 3: CH78 (2480MHz)



## 5.3. Number of Hopping Frequency

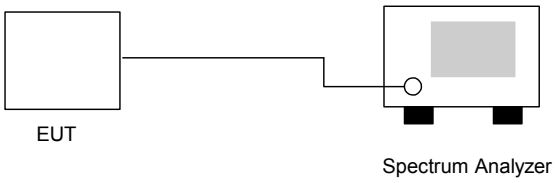
5.3.1. Measuring Instruments：

As described in chapter 6 of this test report.

5.3.2. Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The number of hopping frequency used is defined as the device has the numbers of total channel.

5.3.3. Test Setup Layout：

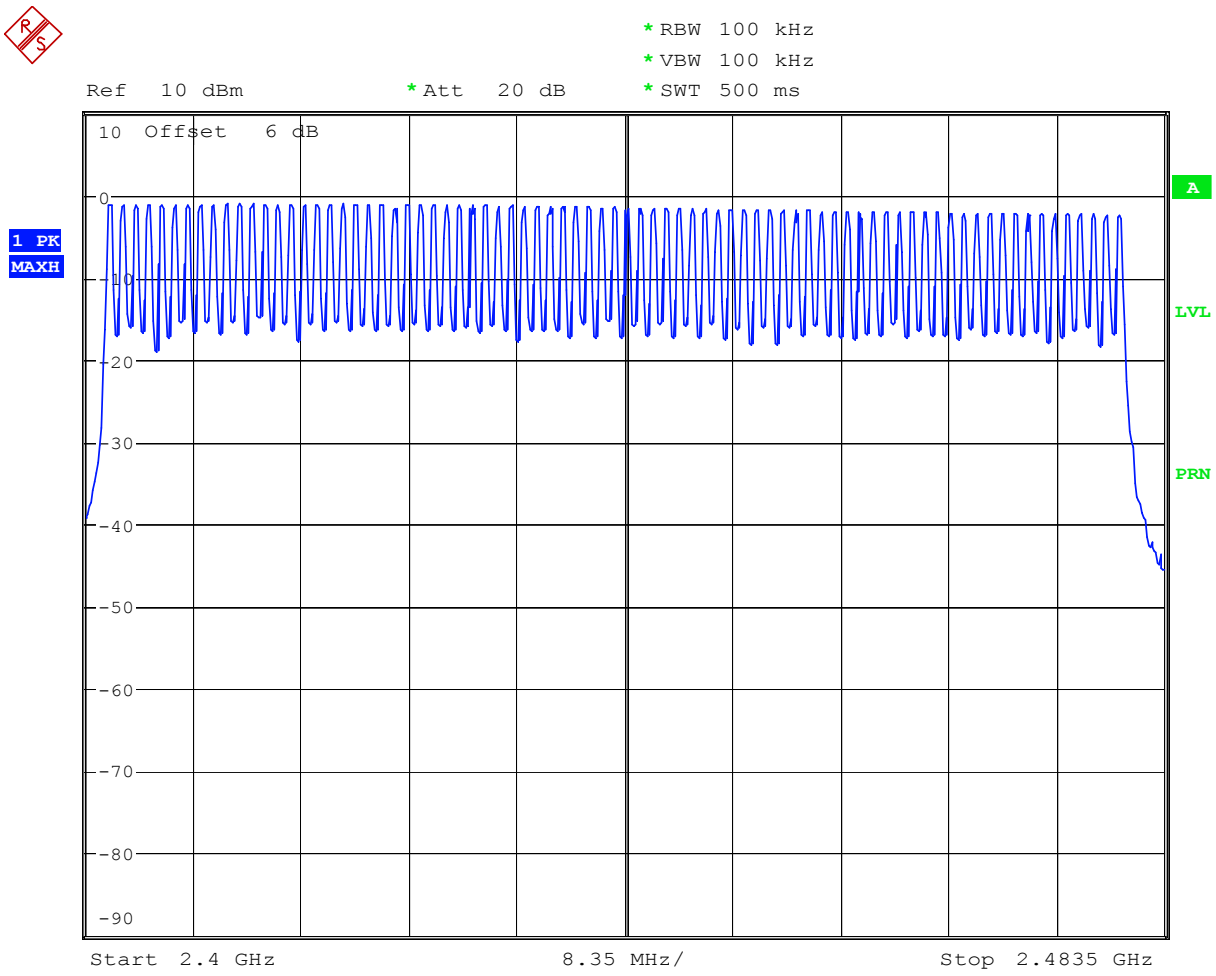



5.3.4. Test Result：See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

| Number of Hopping Frequency (Channel) | Limits (Channel) |
|---|---|
| 79 | 15 |

5.3.5 Number of Hopping Frequency

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## 5.4 Hopping Channel Bandwidth

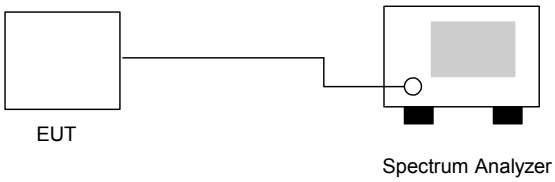
5.4.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.4.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.
3. The Hopping Channel bandwidth is defined as the frequency range where the power is higher than peak power minus 20dB.

5.4.3 Test Setup Layout：



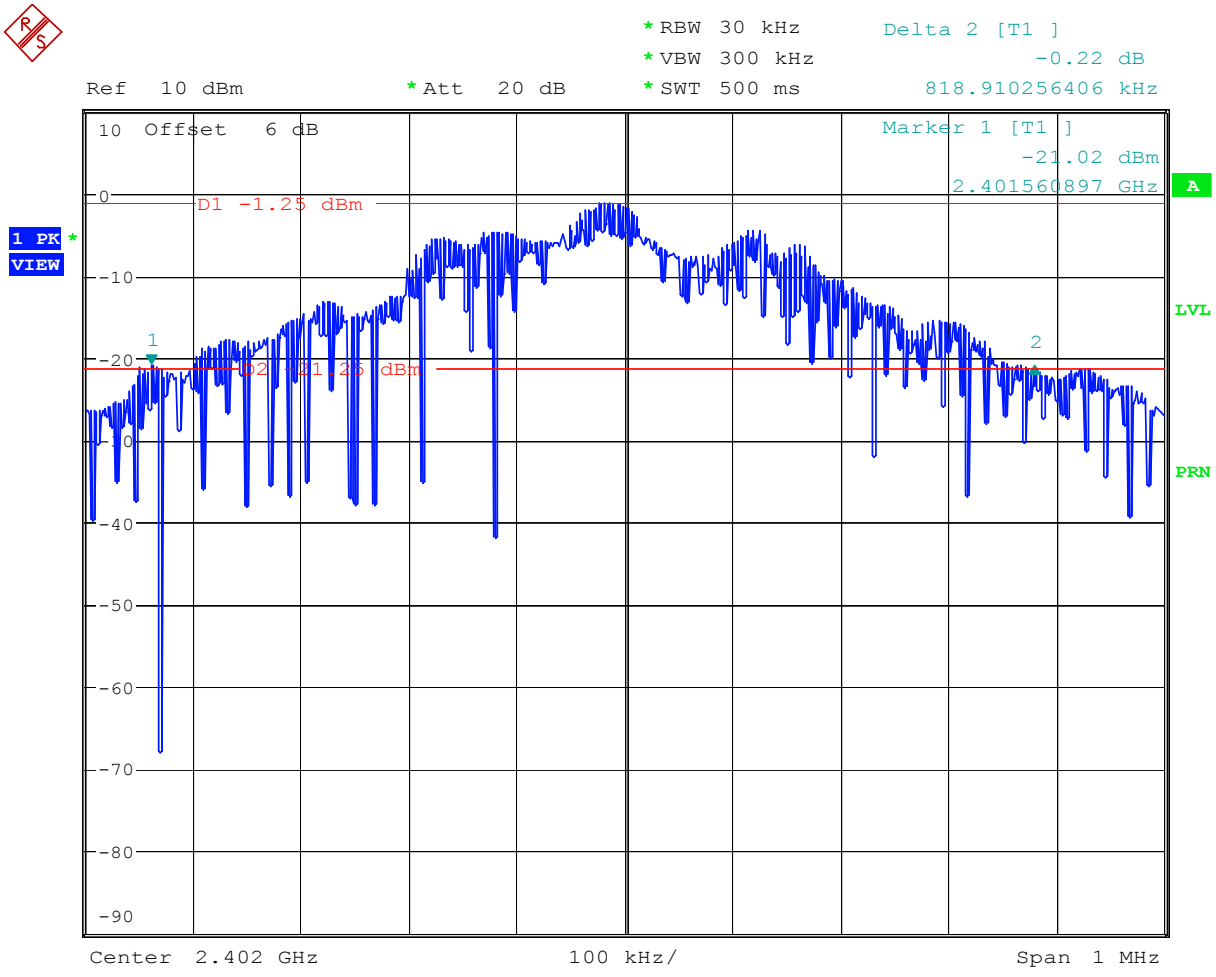

5.4.4 Test Result：See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

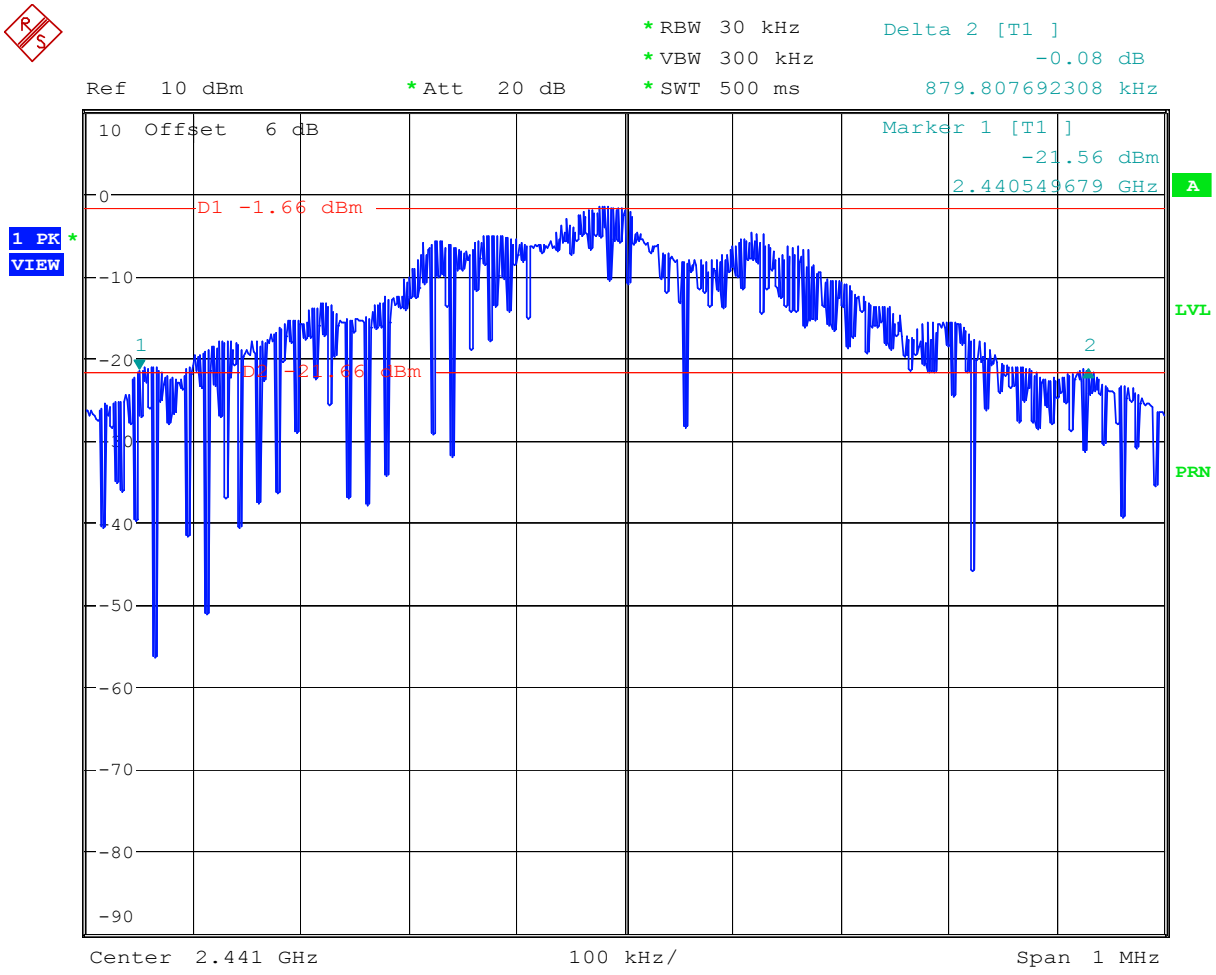
| Channel | Frequency (MHz) | Hopping Channel Bandwidth (MHz) | Limits (MHz) | Plot Ref. No. |
|---|---|---|---|---|
| 00 | 2402 | 0.819 | 1.0 | Mode 1 |
| 39 | 2441 | 0.880 | 1.0 | Mode 2 |
| 78 | 2480 | 0.877 | 1.0 | Mode 3 |

5.4.5 Hopping Channel Bandwidth

Mode 1: CH00 (2402MHz)



Mode 2: CH39 (2441MHz)

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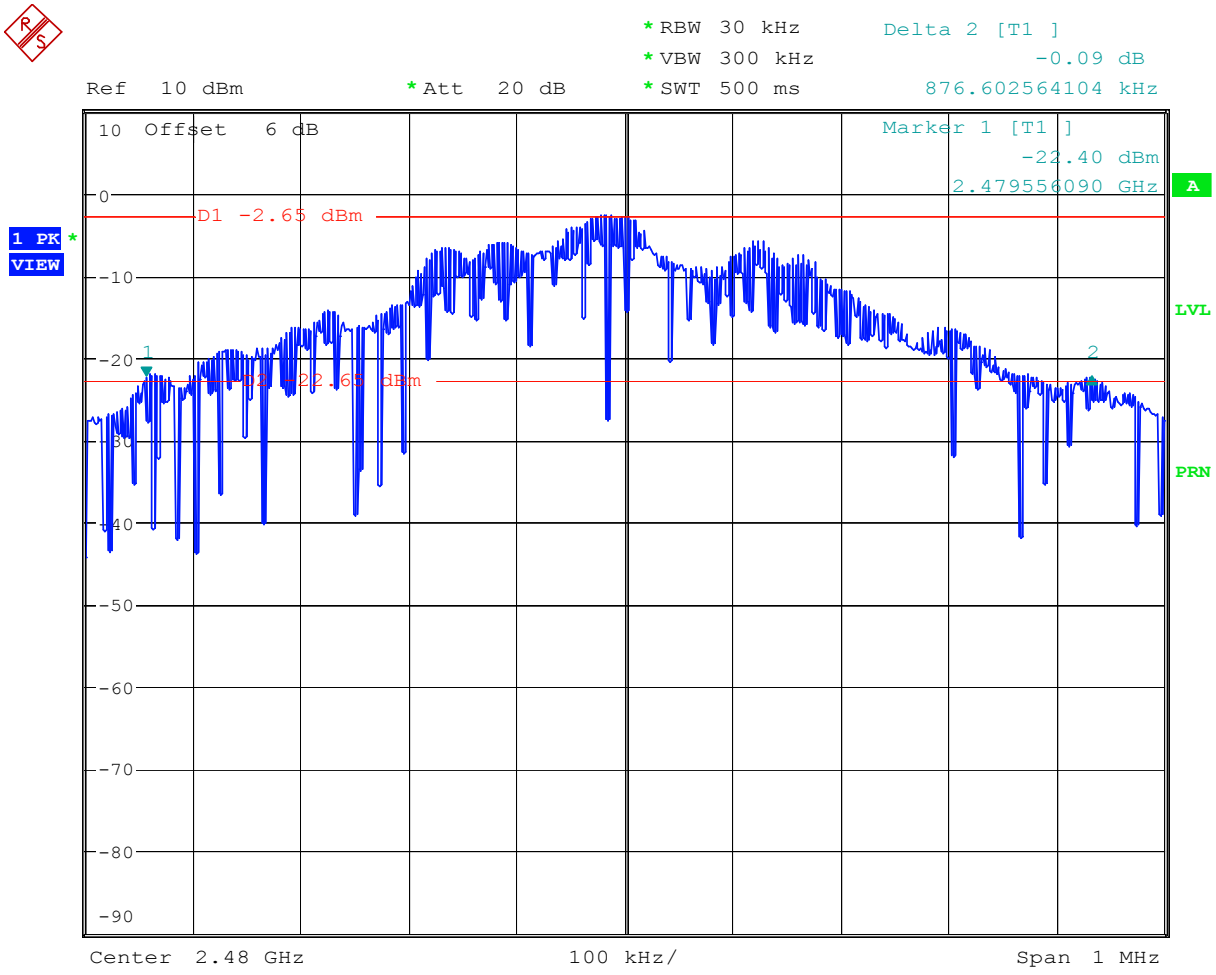
Mode 3: CH78 (2480MHz)

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## 5.5 Dwell Time of Each Frequency within a 30 Seconds Period

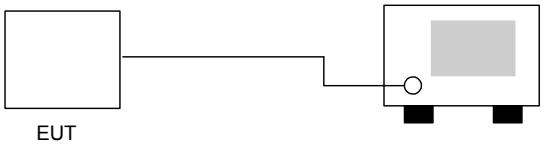
5.5.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.5.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measured and set the frequency span to zero span.
4. The equation = 30*(1600/79)*t (t = the time duration of one single pulse )

5.5.3 Test Setup Layout：




5.5.4 Test Result：See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

Ch00

| Package Mode | Average Hopping Channel | Package Transfer Time (us) | Dwell Time (s) | Limit (s) |
|---|---|---|---|---|
| DH1 | 9.4 | 463.14 | 0.138 | 0.4 |
| DH3 | 4.3 | 1737.17 | 0.236 | 0.4 |
| DH5 | 3.3 | 3003.2 | 0.313 | 0.4 |

CH39

| Package Mode | Average Hopping Channel | Package Transfer Time (us) | Dwell Time (s) | Limit (s) |
|---|---|---|---|---|
| DH1 | 8.9 | 456.73 | 0.128 | 0.4 |
| DH3 | 4.9 | 1748.39 | 0.271 | 0.4 |
| DH5 | 3.1 | 2990.38 | 0.293 | 0.4 |

CH78

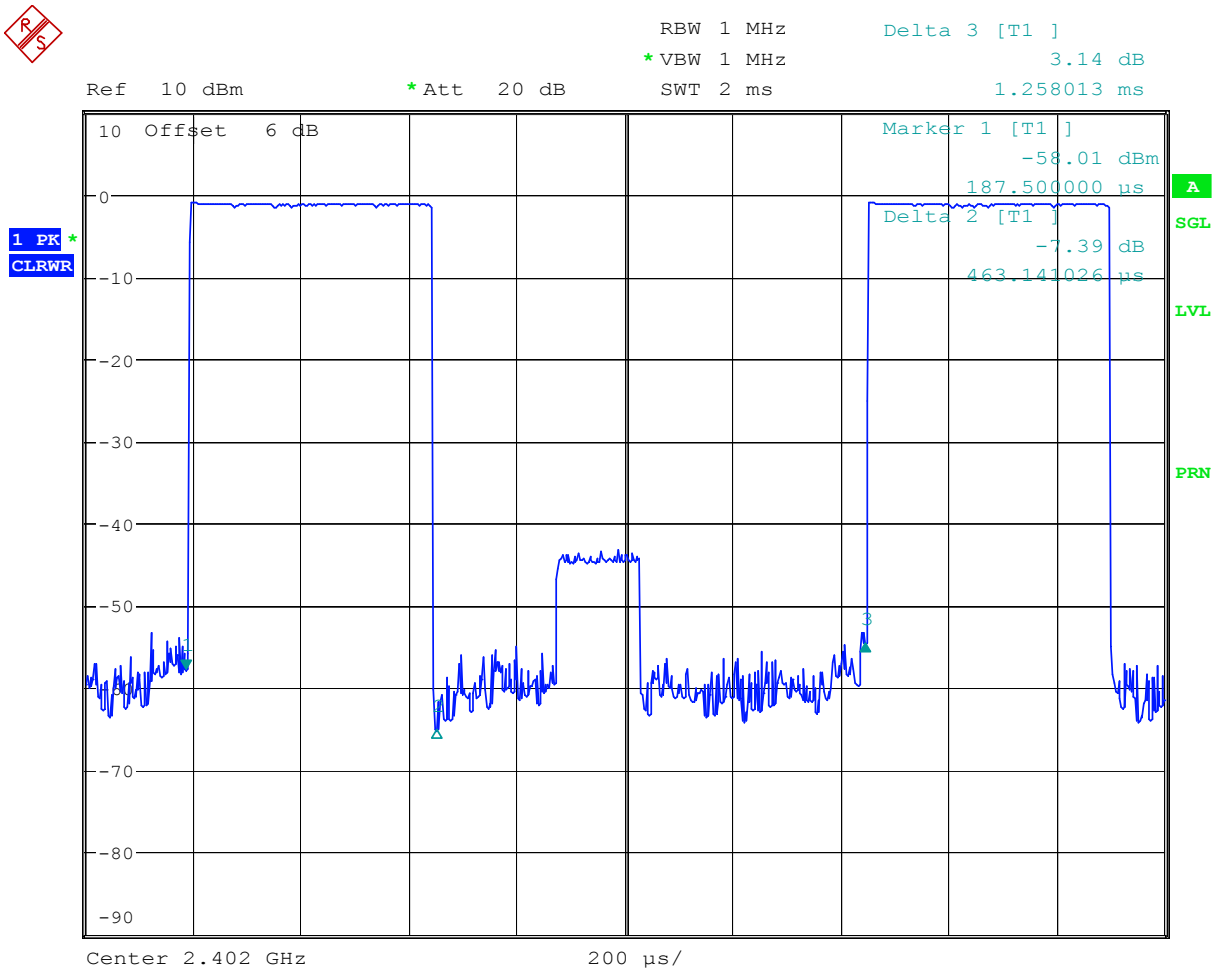
| Package Mode | Average Hopping Channel | Package Transfer Time (us) | Dwell Time (s) | Limit (s) |
|---|---|---|---|---|
| DH1 | 9.4 | 458.33 | 0.136 | 0.4 |
| DH3 | 4.4 | 1724.35 | 0.240 | 0.4 |
| DH5 | 3.5 | 2974.35 | 0.329 | 0.4 |

※ Remark:

1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.5.5 Dwell Time

DH1 (CH00)

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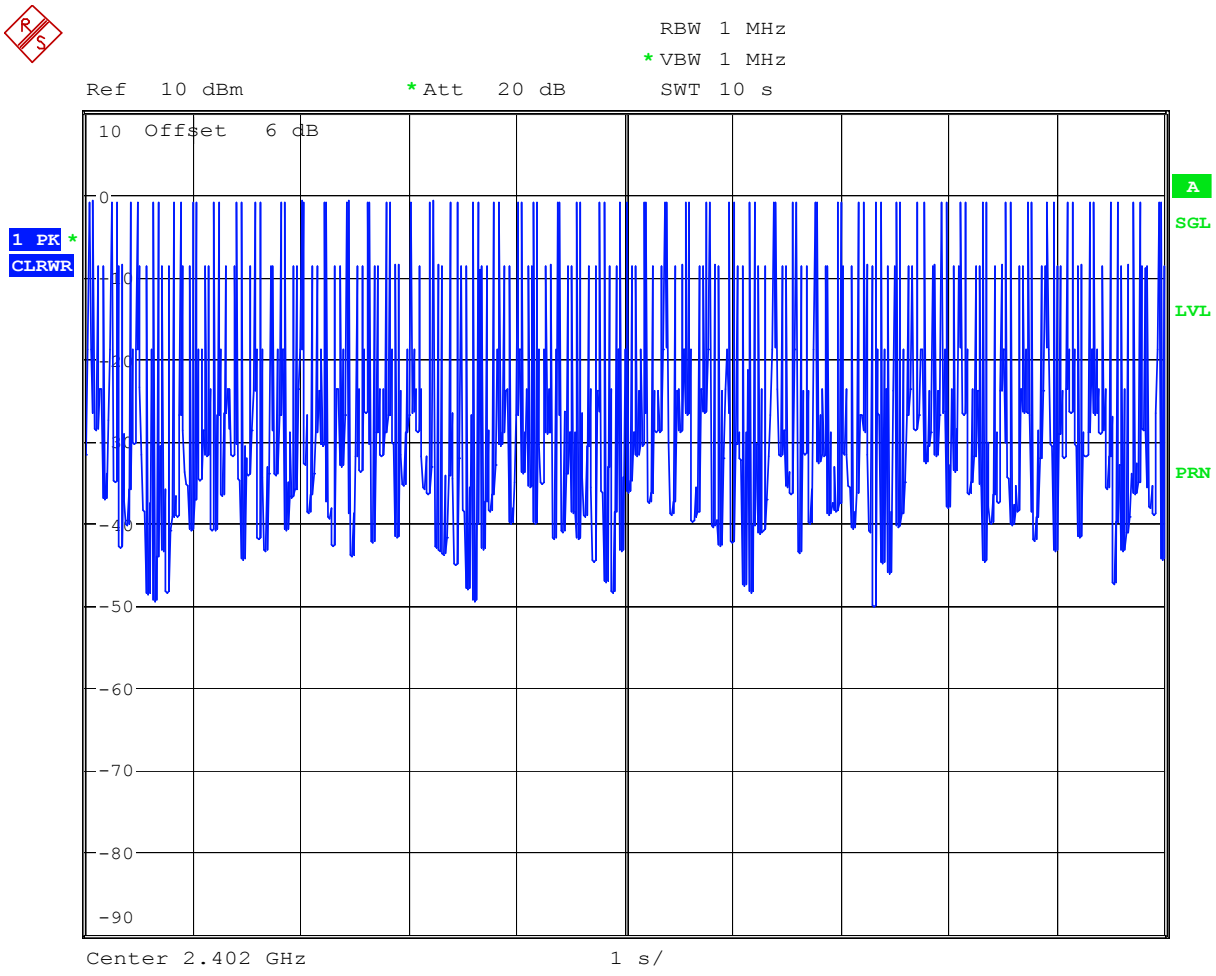


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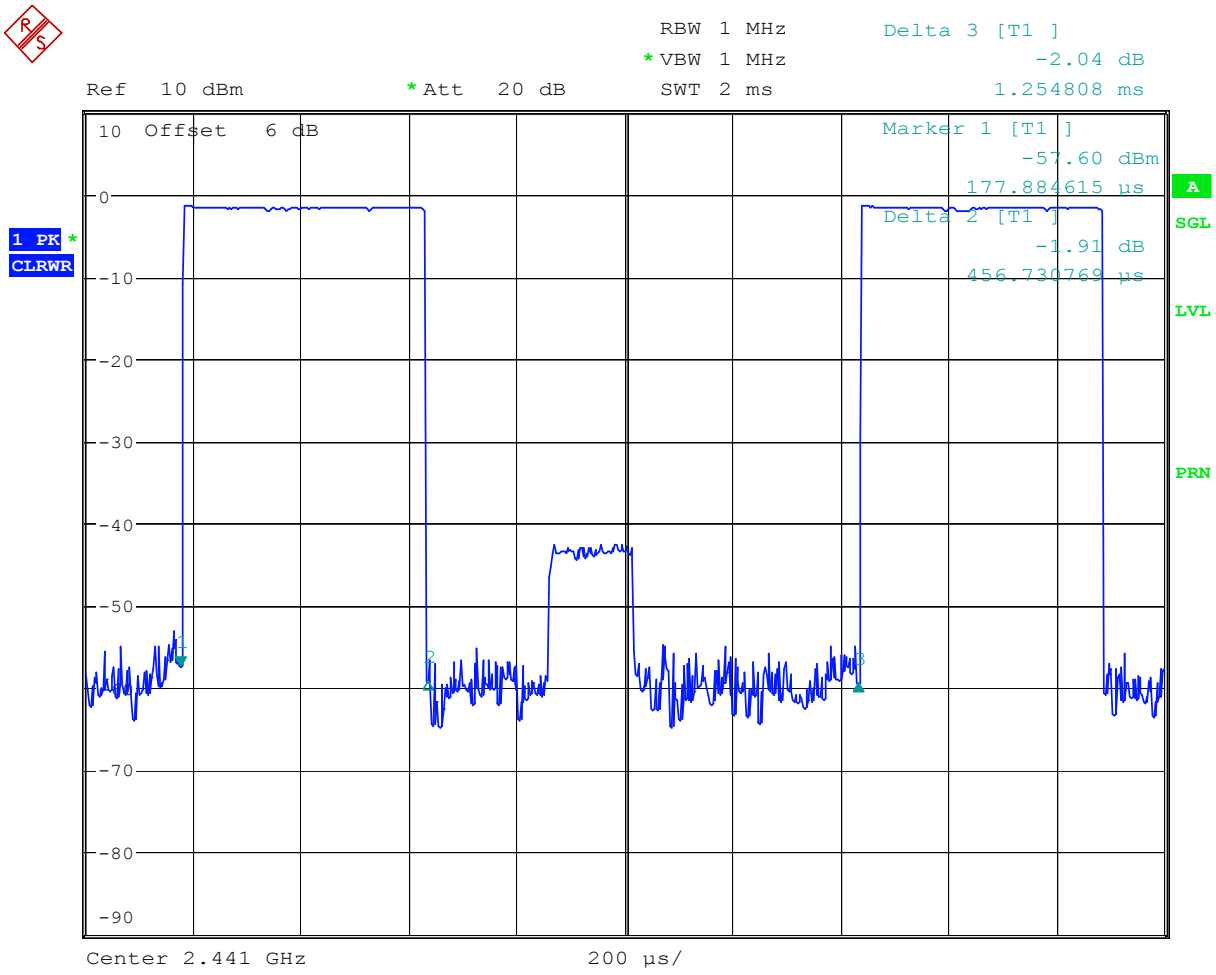
DH1 (CH39)

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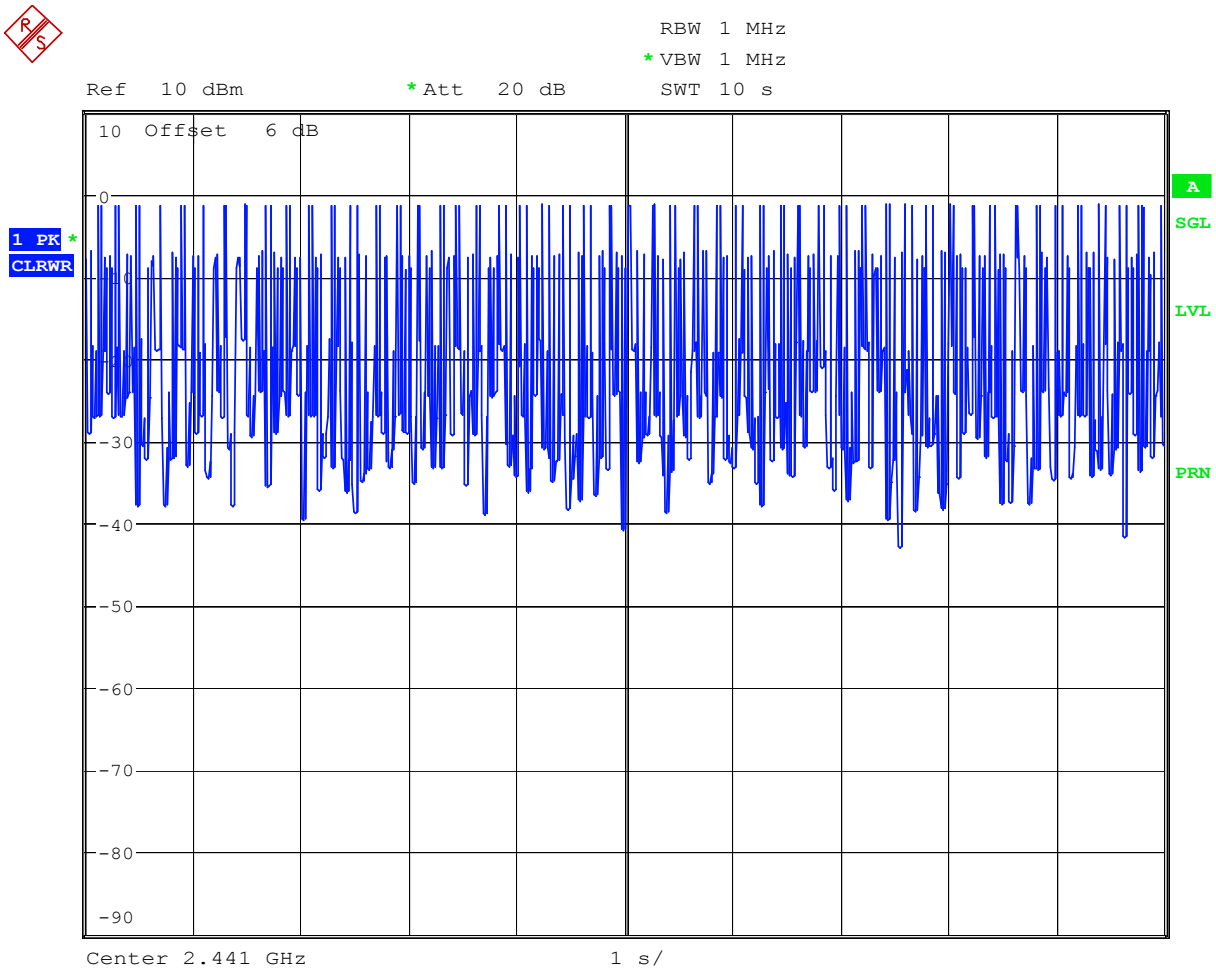


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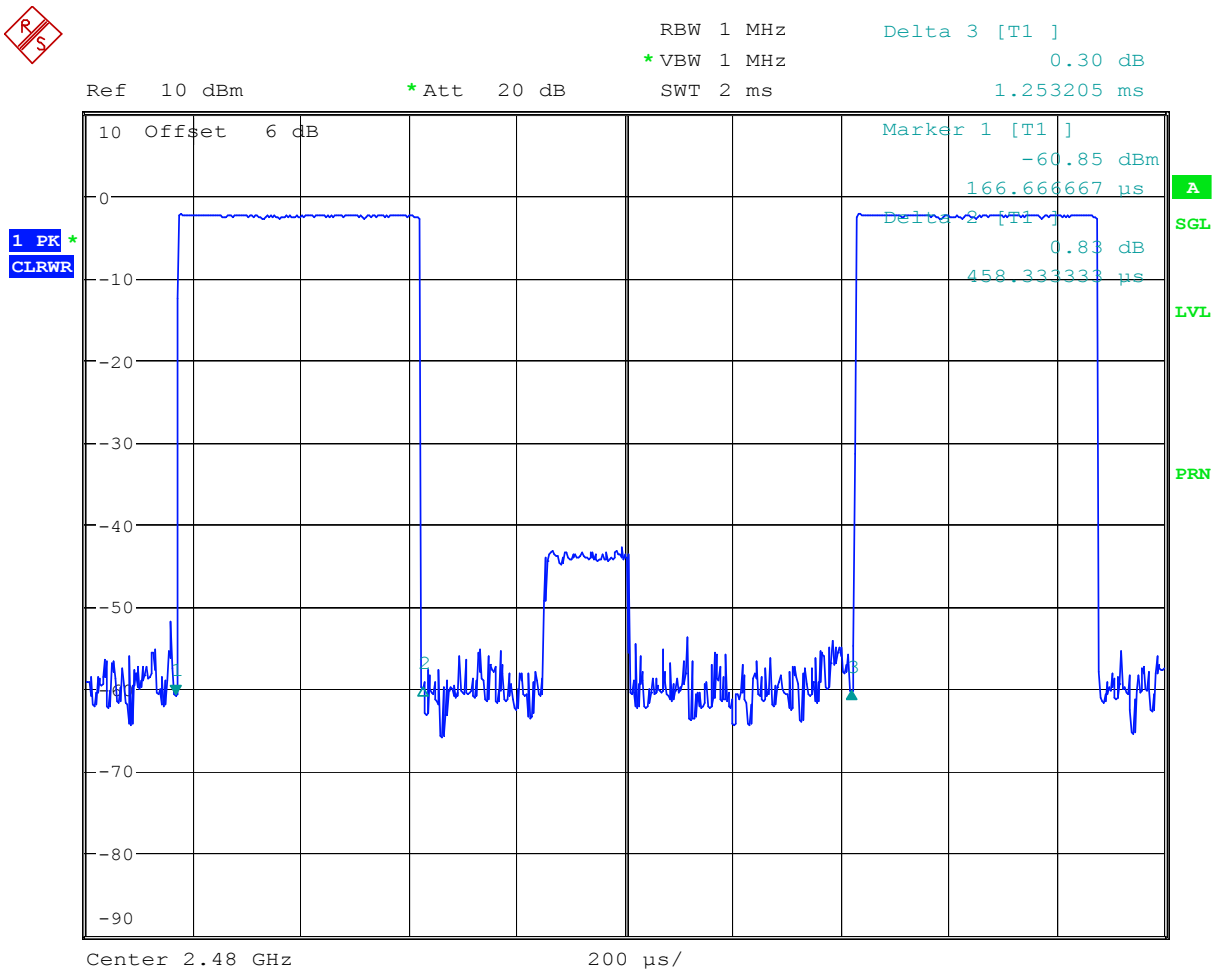
DH1 (CH78)

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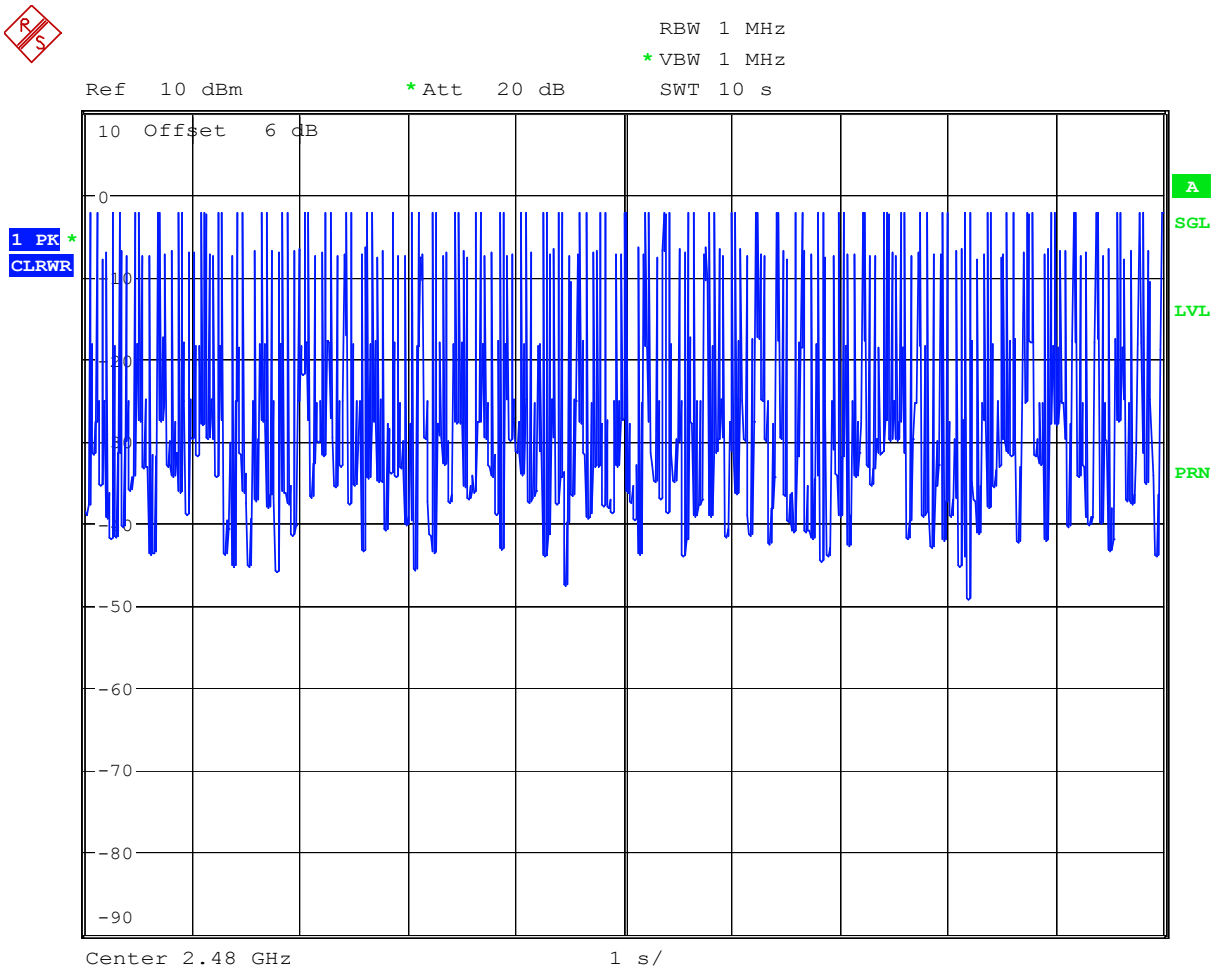


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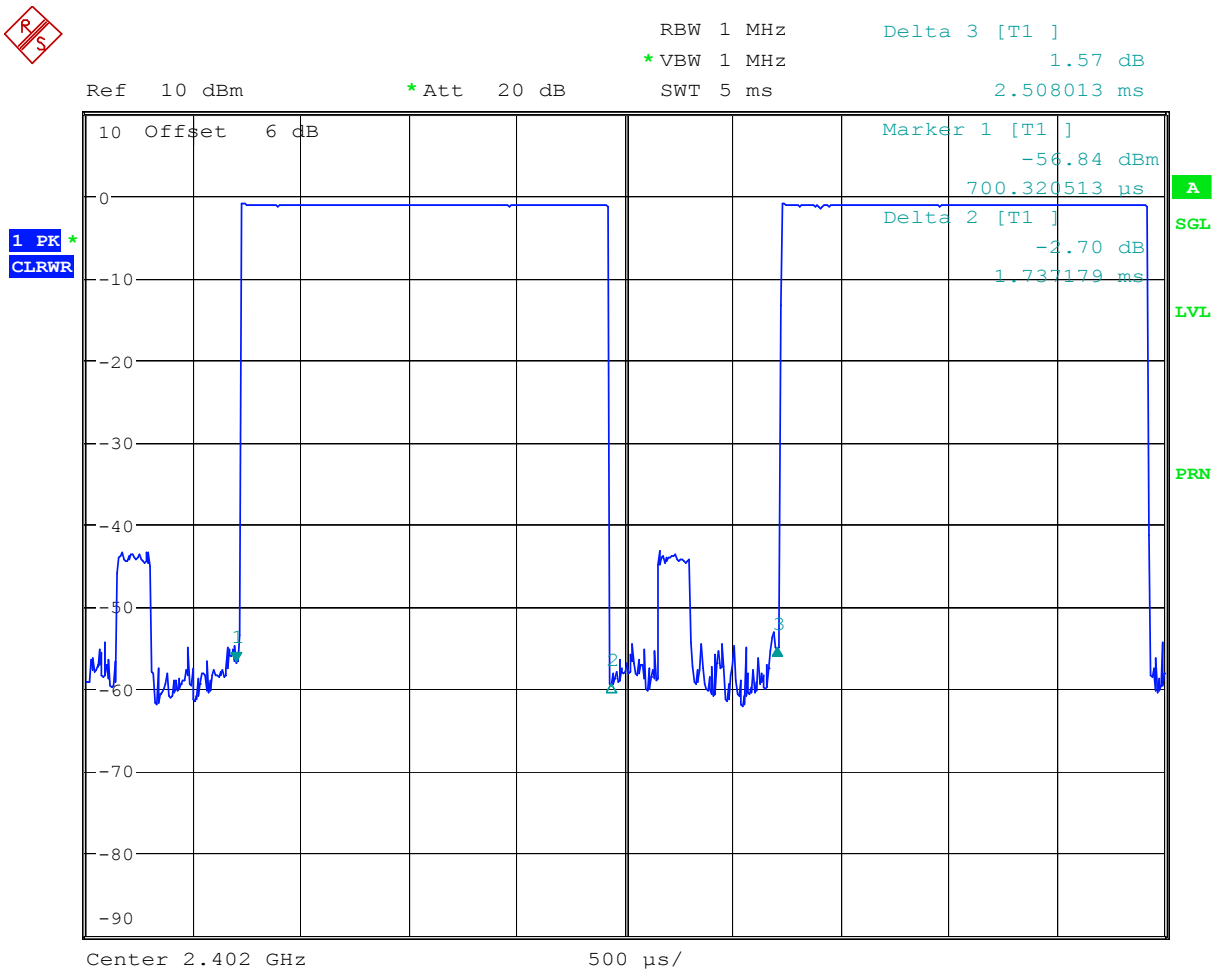
DH3 (CH00)

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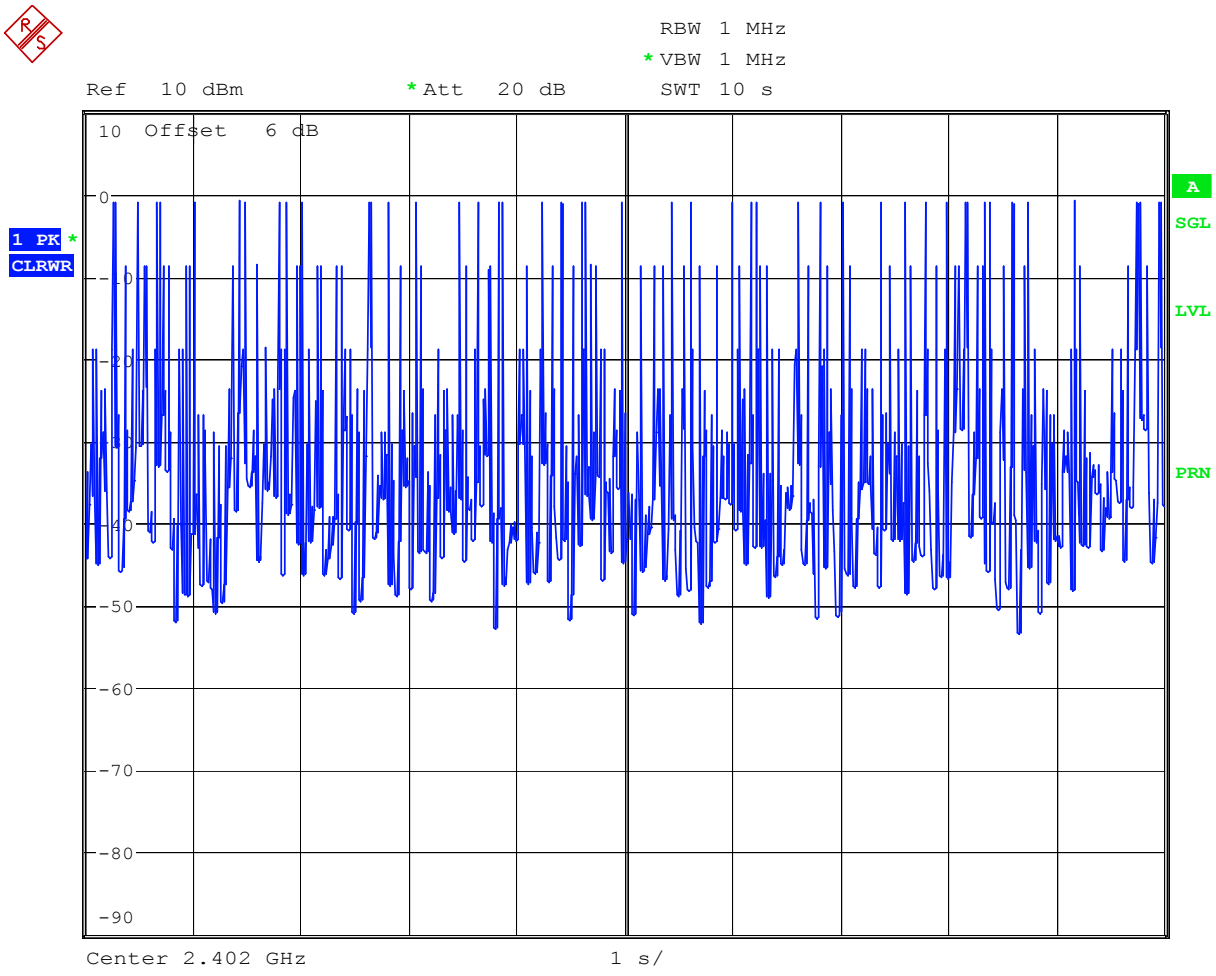


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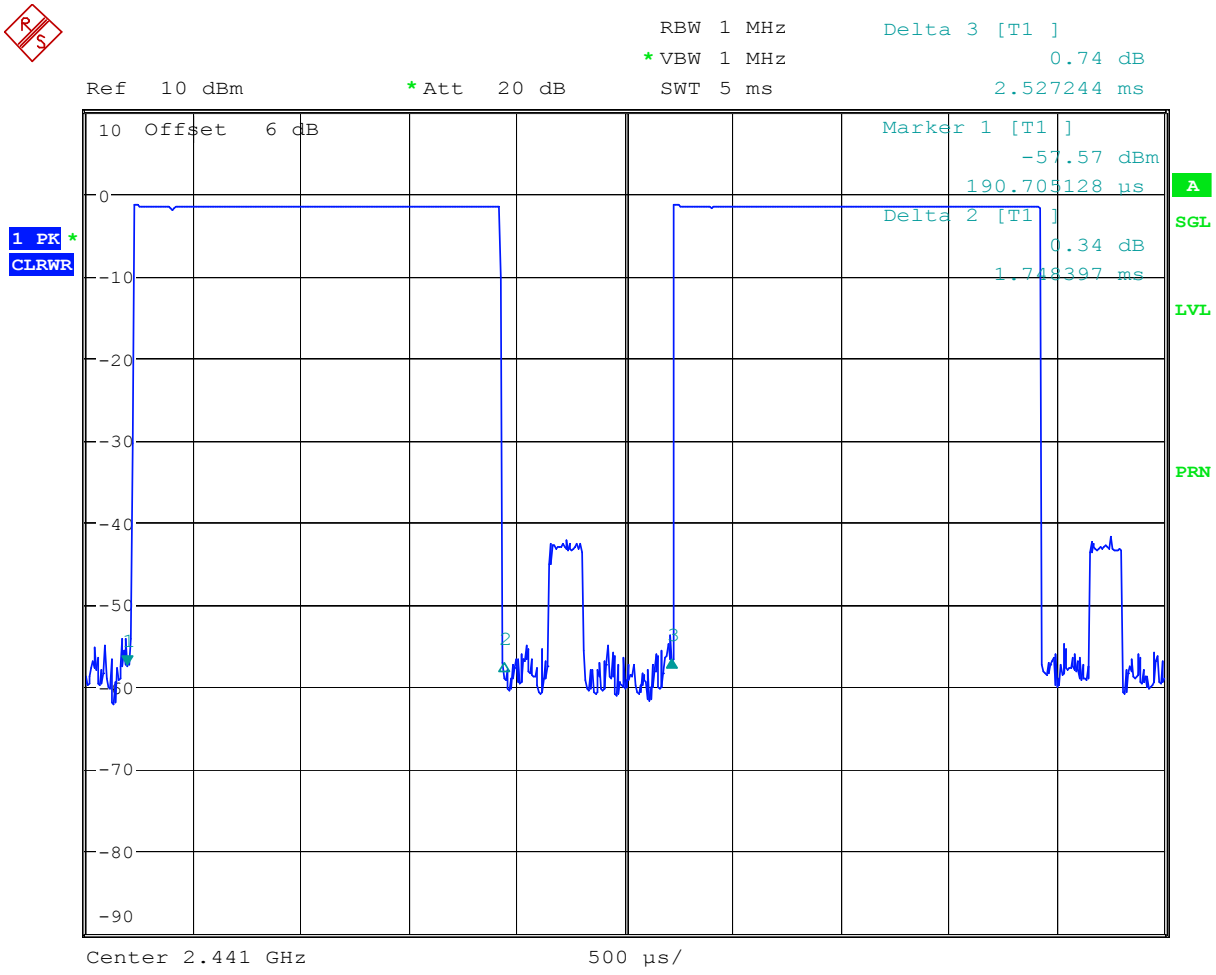
DH3 (CH39)

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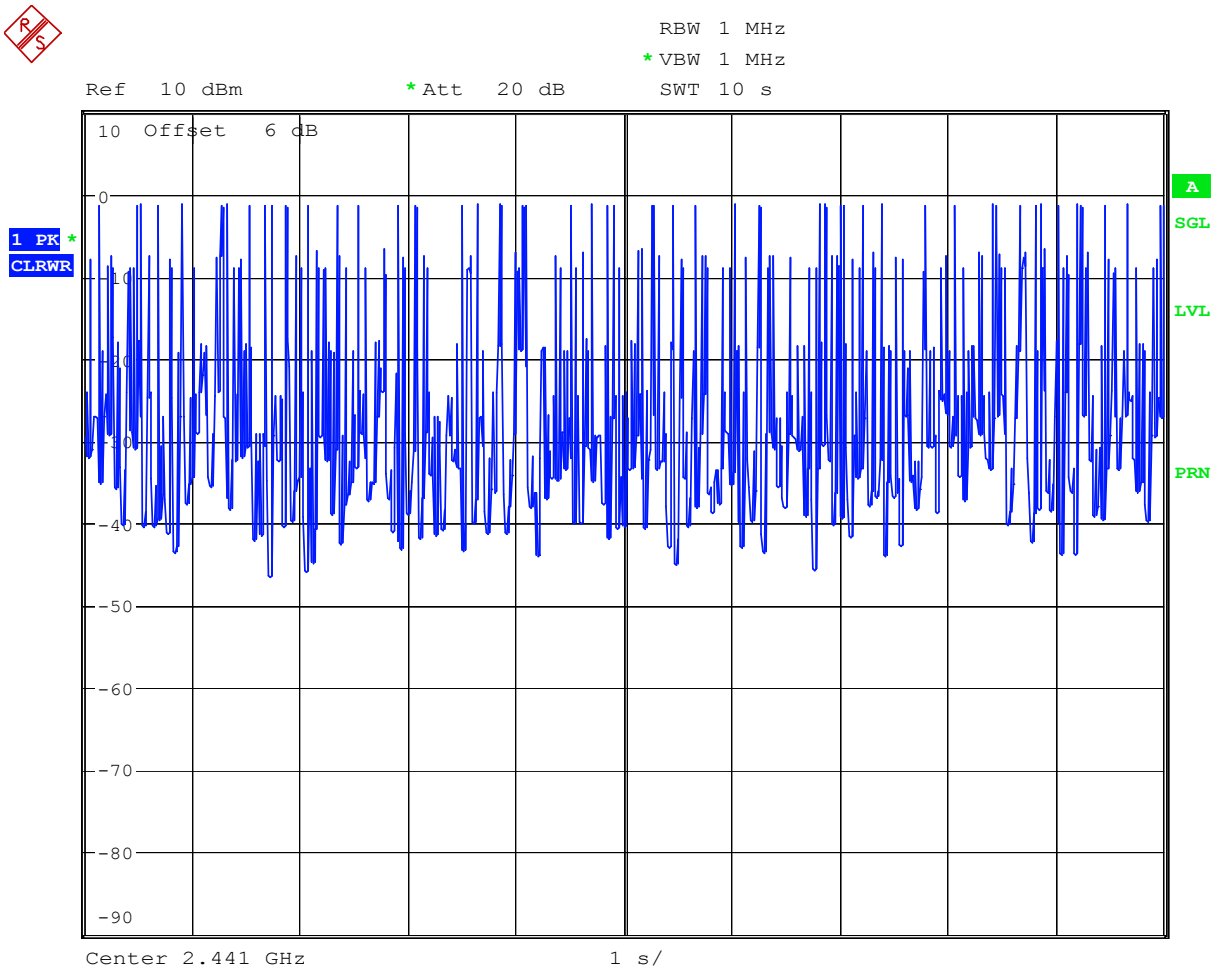


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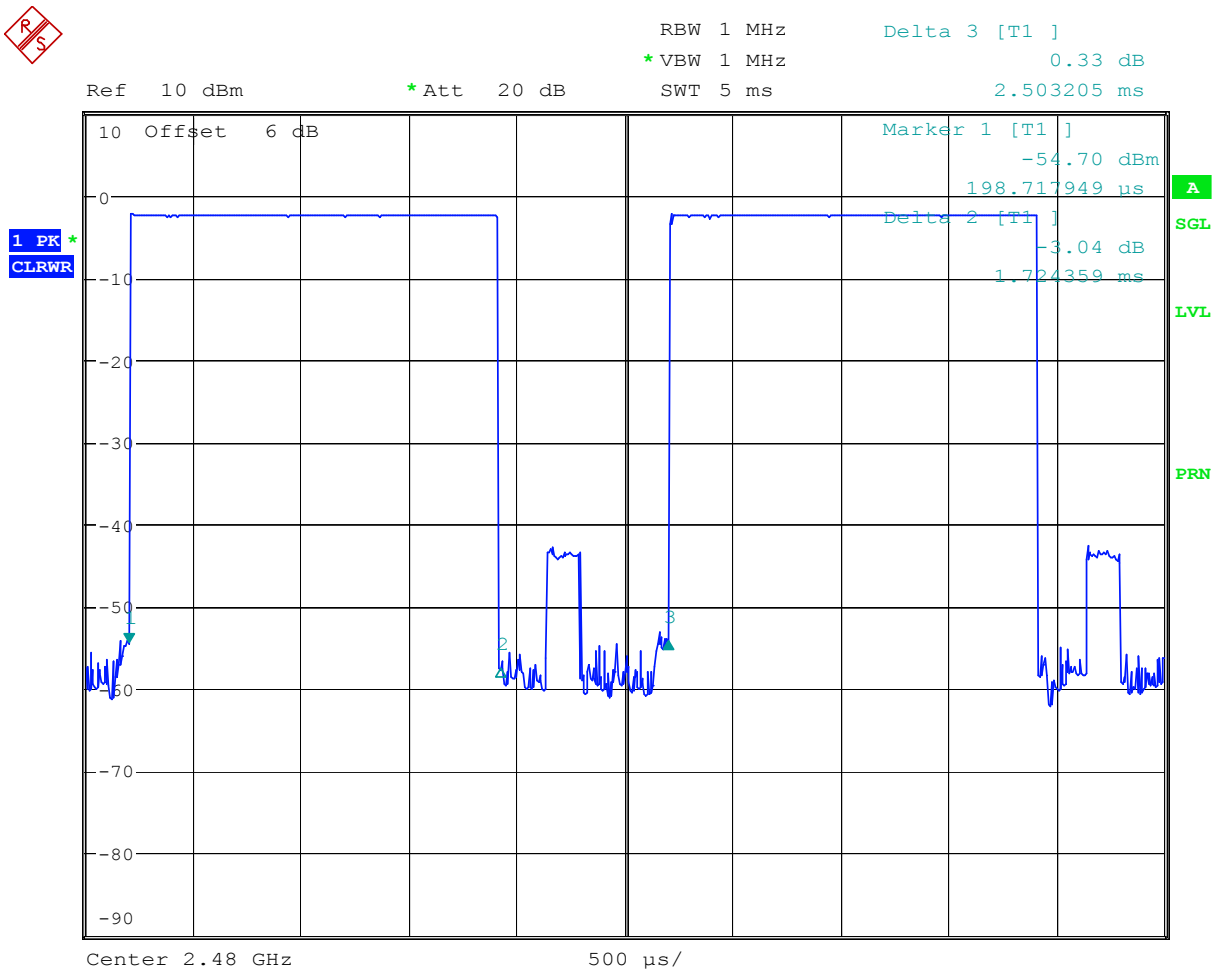
DH3 (CH78)

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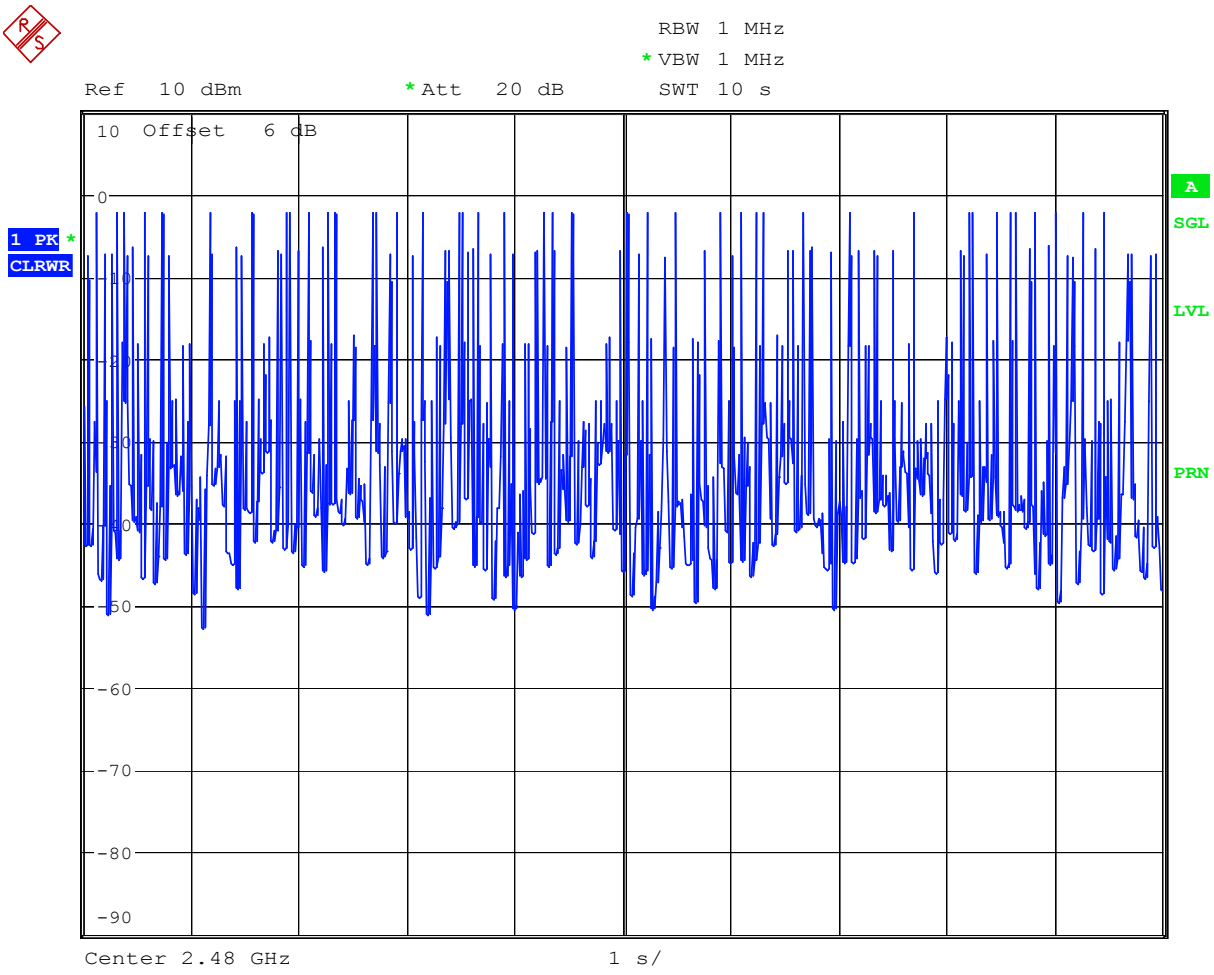


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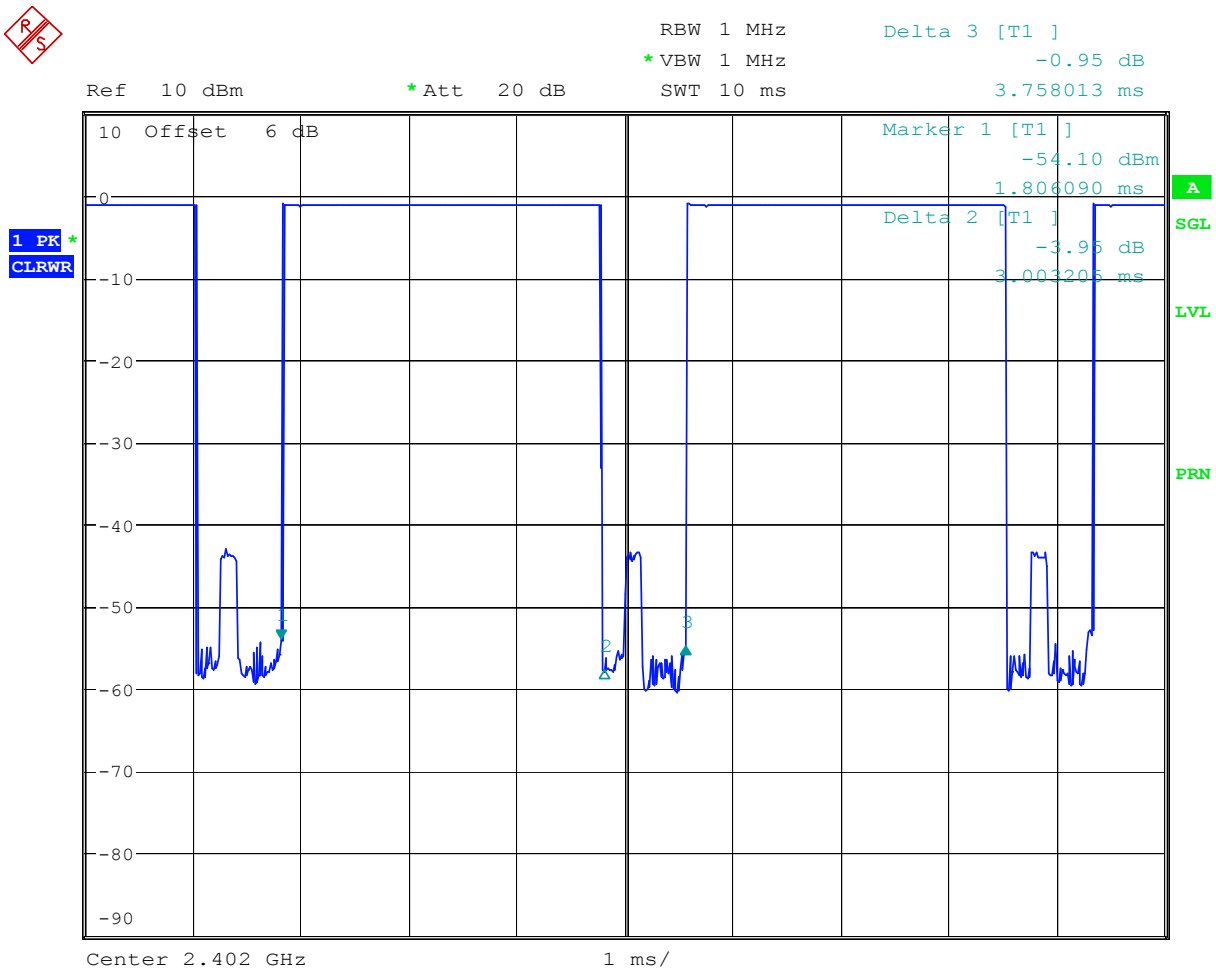
DH5 (CH00)

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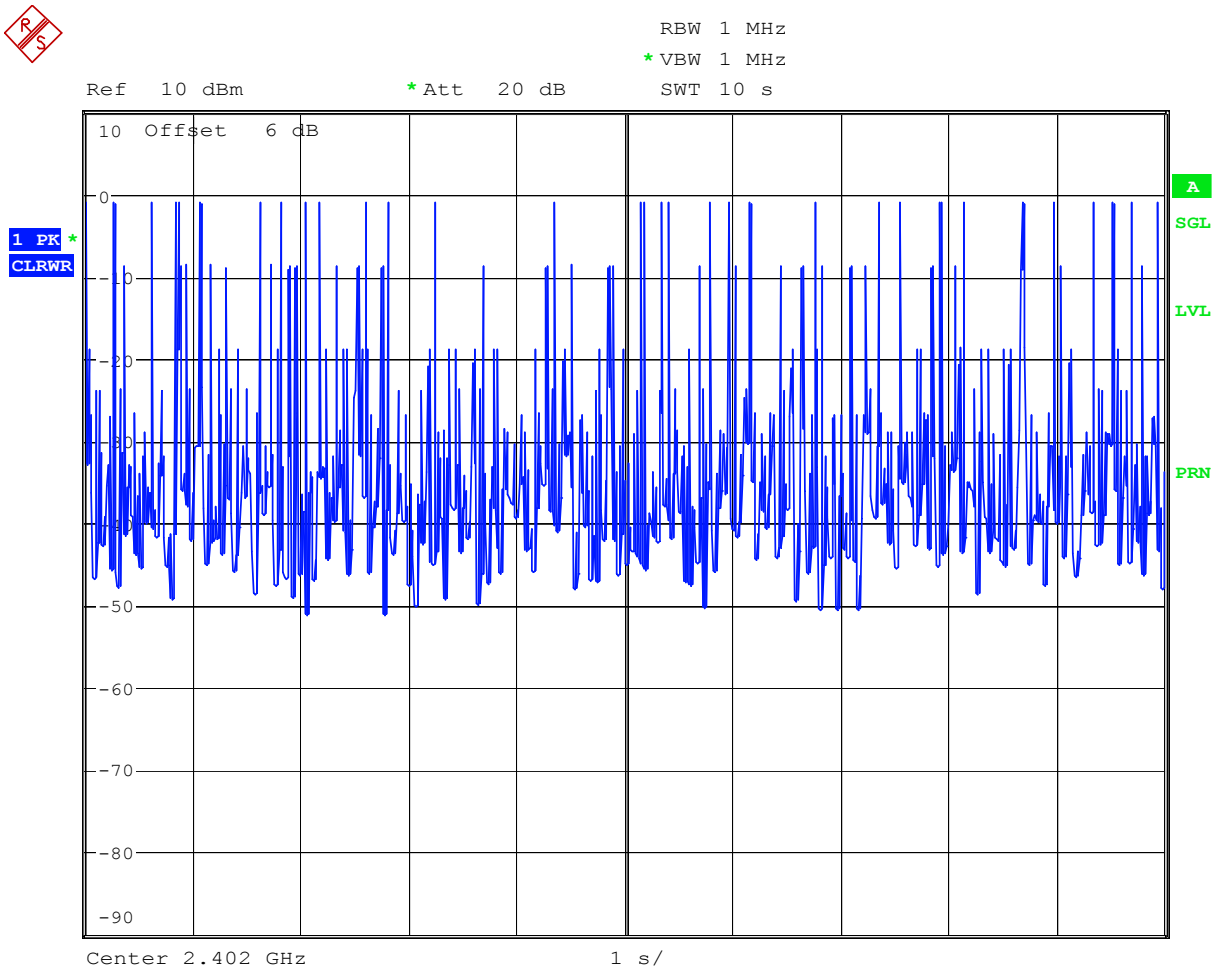


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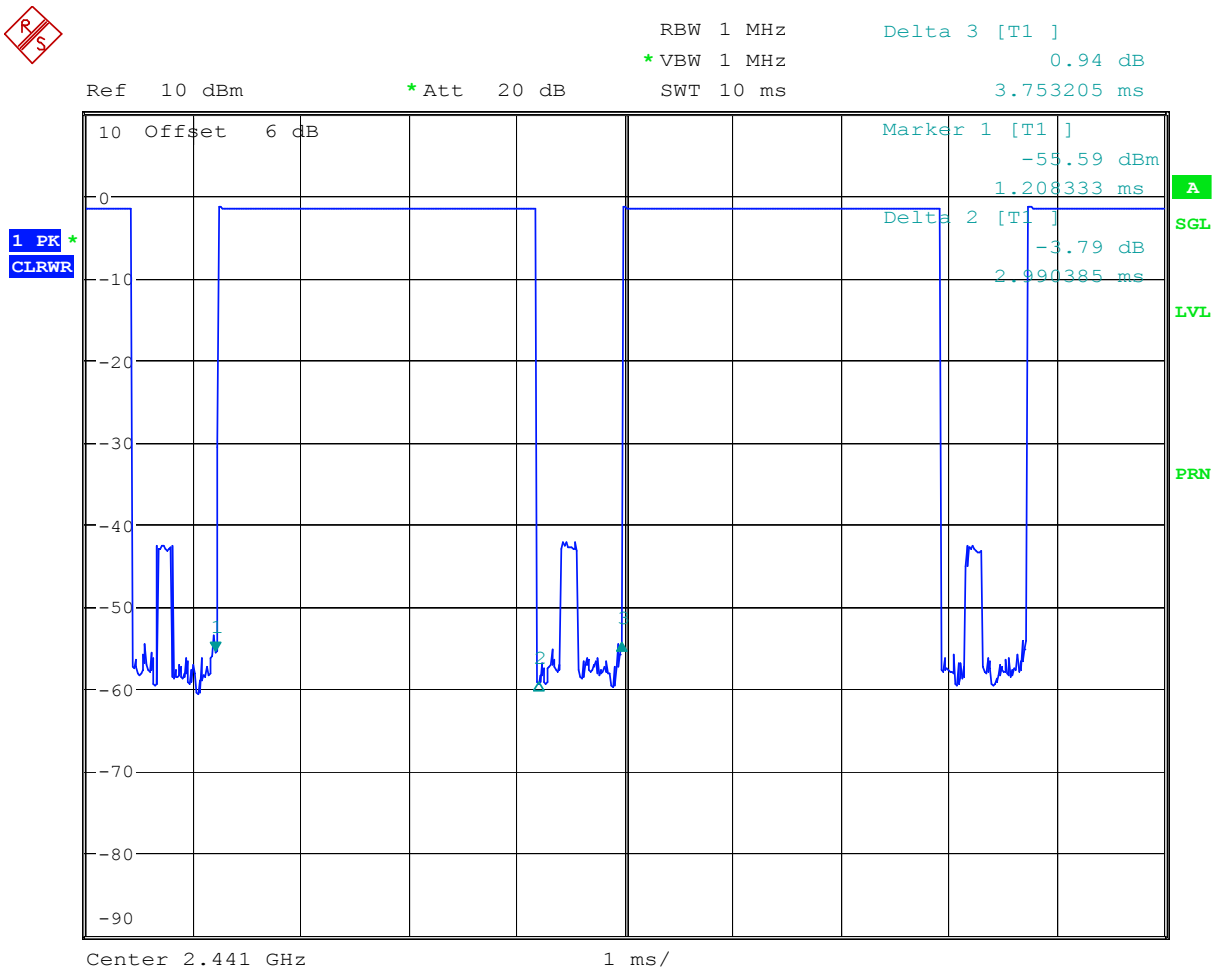
DH5 (CH39)

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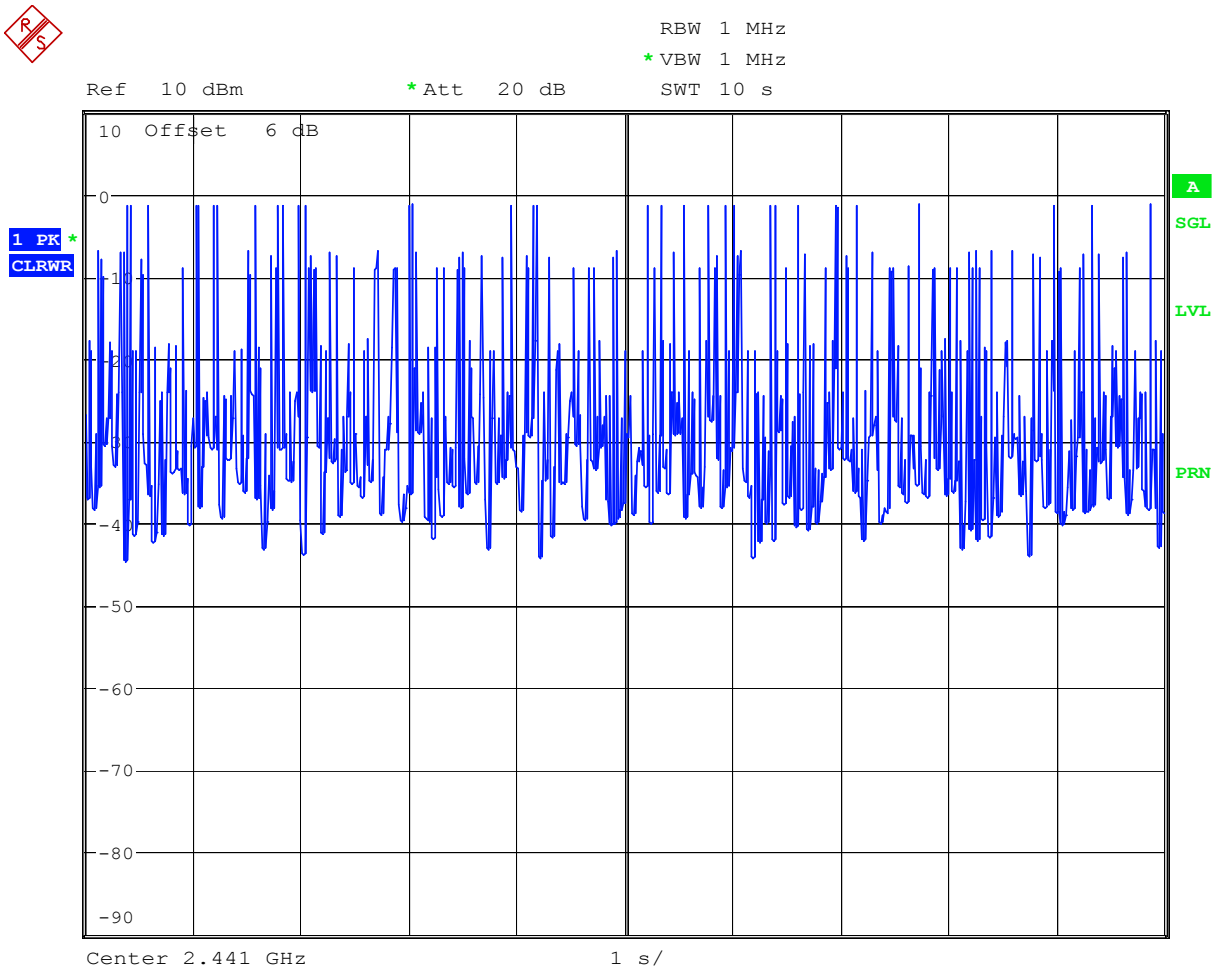


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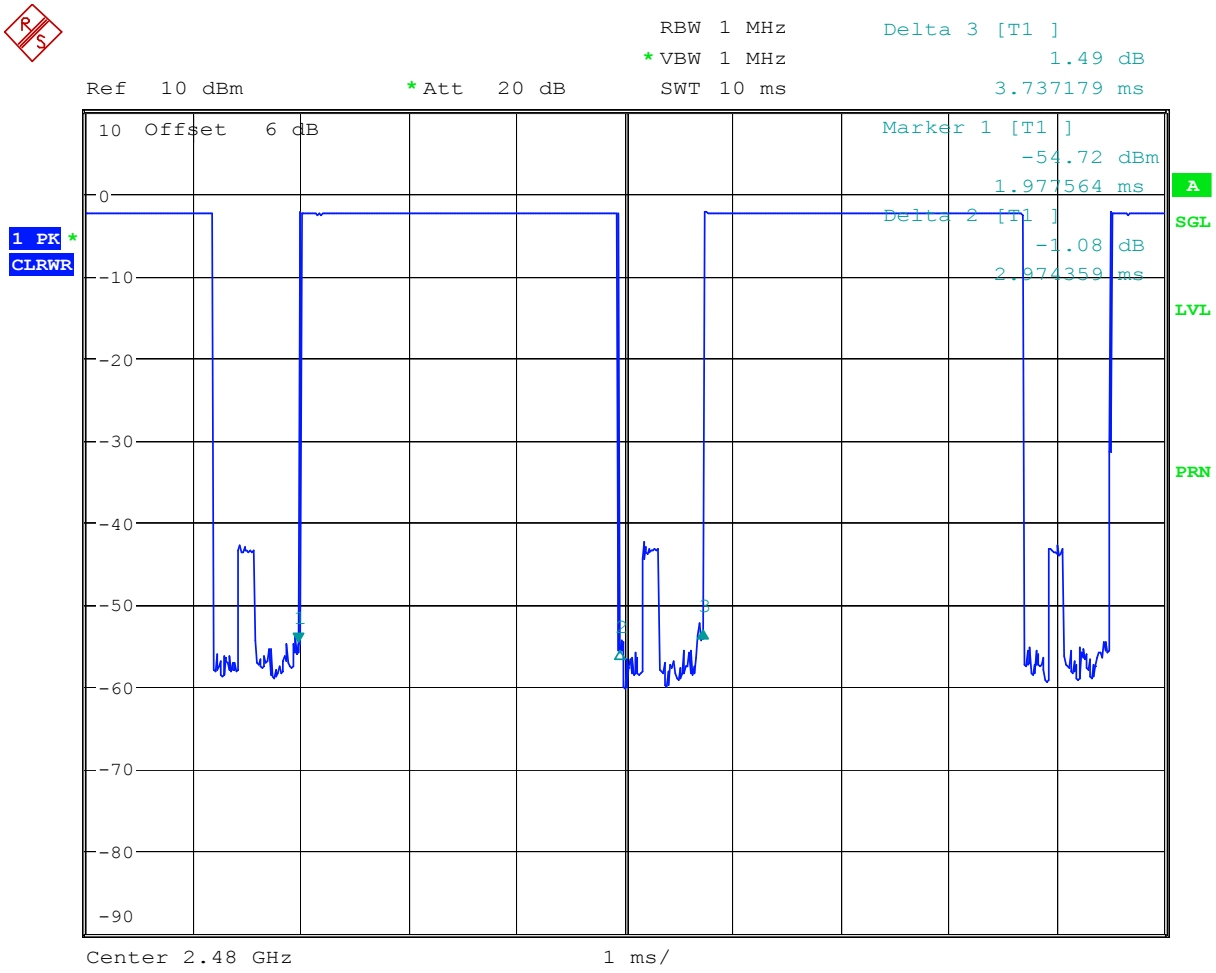
DH5 (CH78)

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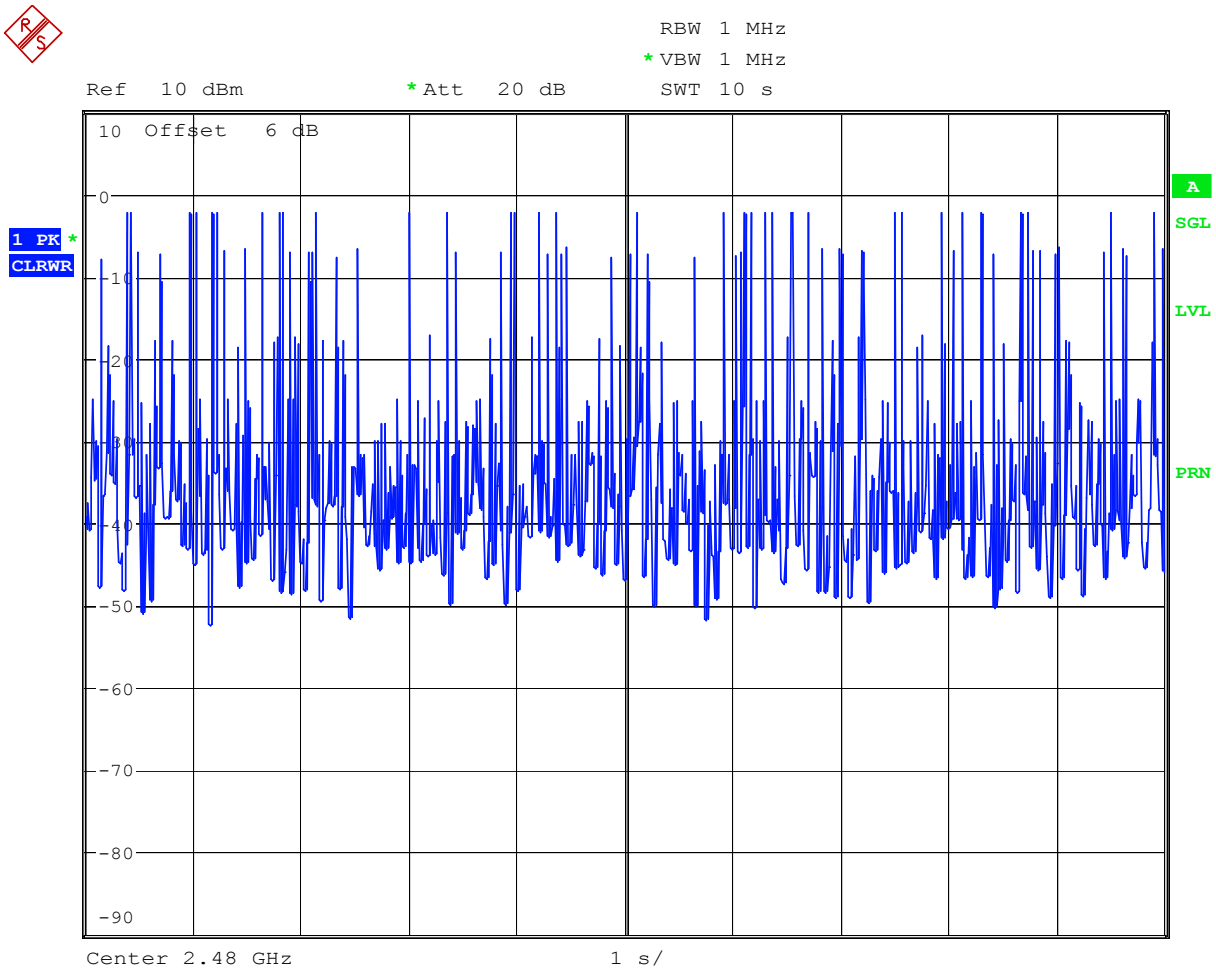



Date: 30.NOV.2005 10:32:32

## 5.6 Output Power

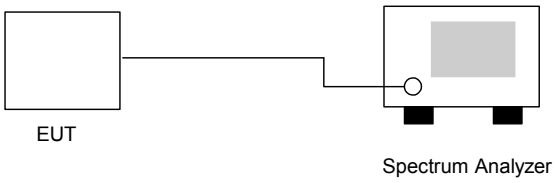
5.6.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.6.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. The center frequency of the spectrum analyzer was set to the fundamental frequency and set RBW to 3MHz and VBW to 3MHz.

5.6.3 Test Setup Layout：



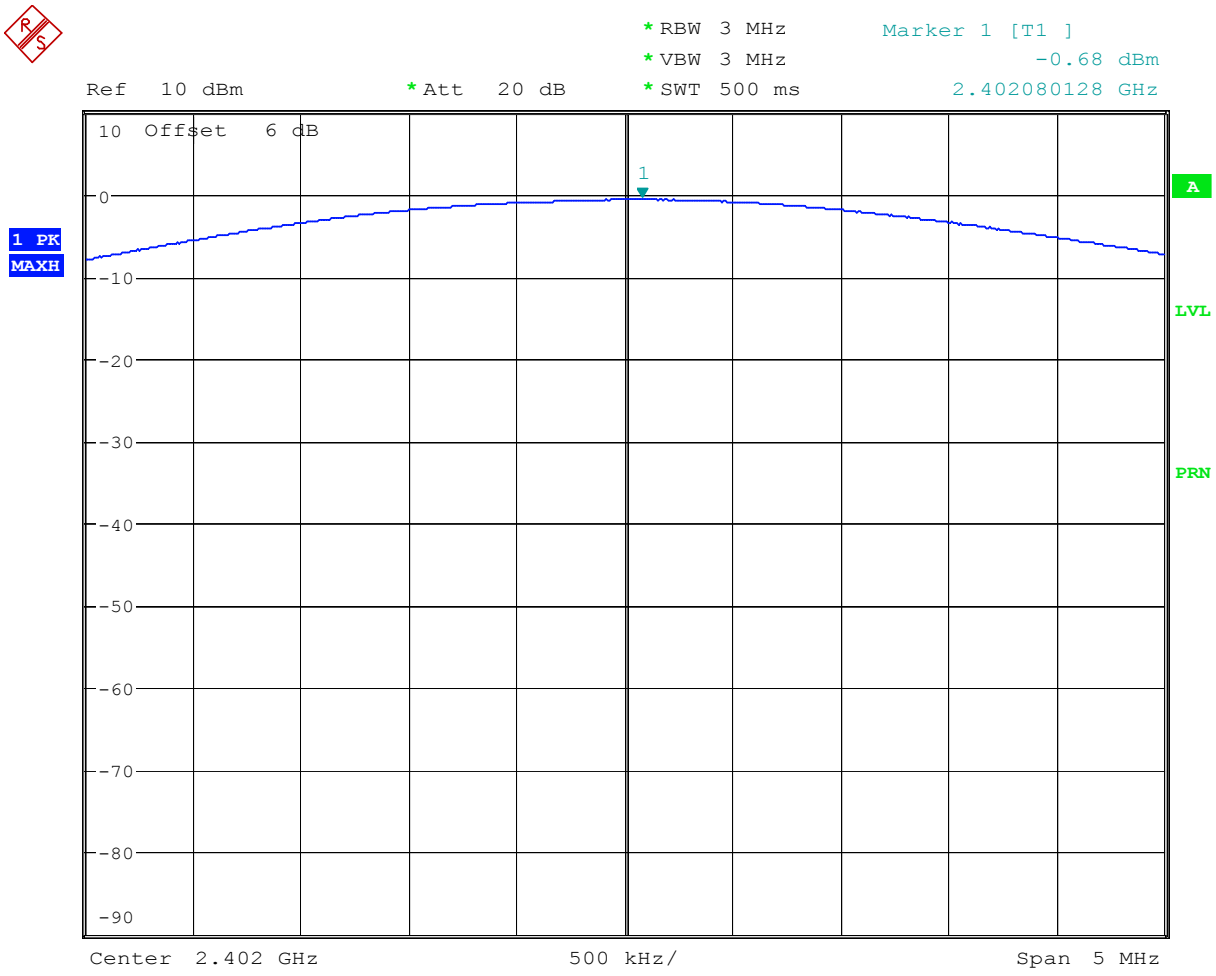

5.6.4 Test Result：See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

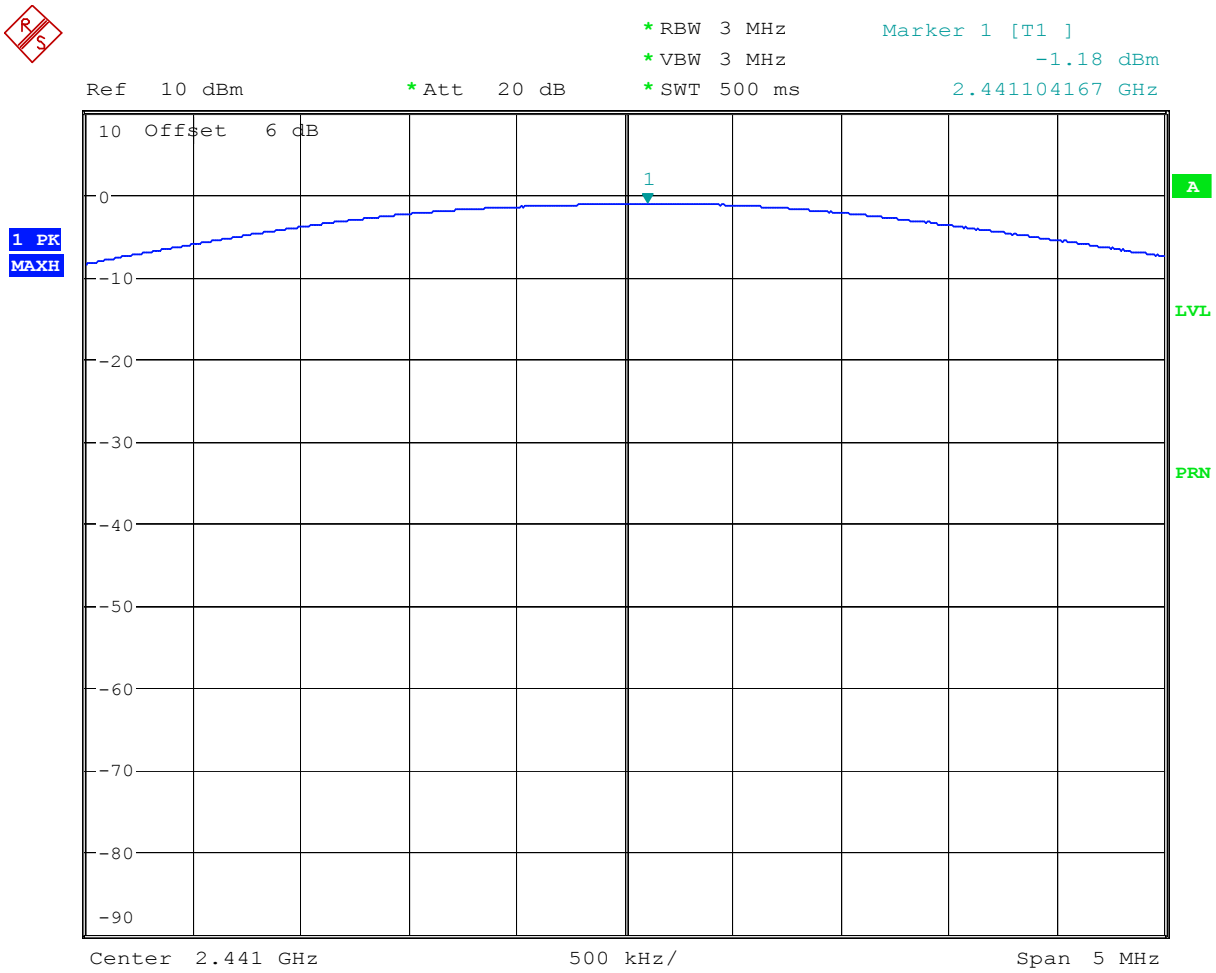
| Channel | Frequency (MHz) | Measured Output Power (dBm) | Limits (Watt/dBm ) | Plot Ref. No. |
|---|---|---|---|---|
| 00 | 2402 | -0.68 | 1W/30 dBm | Mode 1 |
| 39 | 2441 | -1.18 | 1W/30 dBm | Mode 2 |
| 78 | 2480 | -2.07 | 1W/30 dBm | Mode 3 |

5.6.5 Output Power

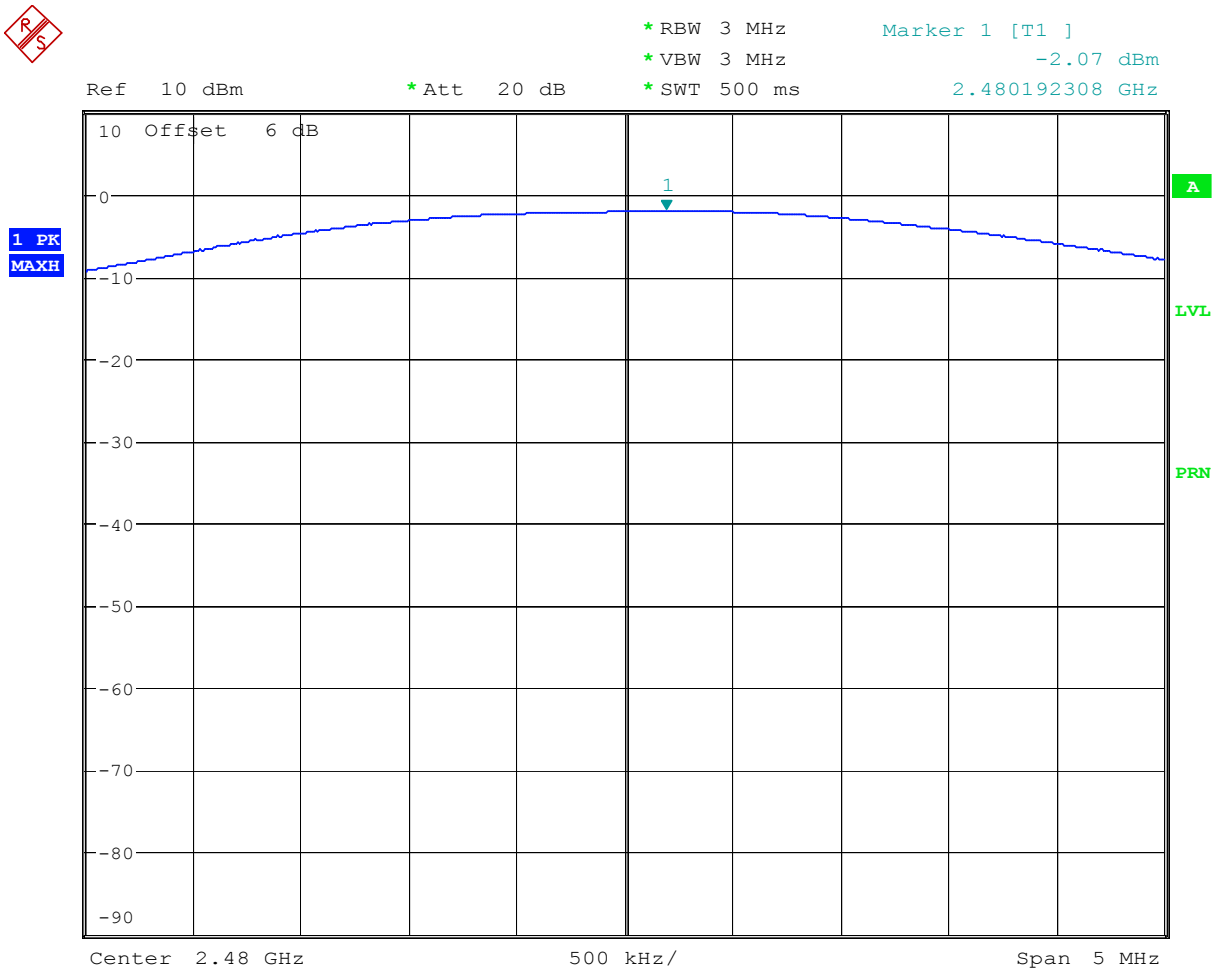
Mode 1: CH00 (2402MHz)



Mode 2: CH39 (2441MHz)



Mode 3: CH78 (2480MHz)



## 5.7 100kHz Bandwidth of Frequency Band Edges

5.7.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.7.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span for the conducted measurement, and RBW/VBW=1MHz/1MHz for peak measurement and RBW/VBW=1MHz/300Hz for average measurement in the radiated measurement.
3. The band edges was measured and recorded.

5.7.3 Test Result：

- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay

Test Result in lower band (Channel 00)： PASS

Test Result in higher band(Channel 78)： PASS

5.7.4 Note on Band edge Emission

CH00 (Horizontal)

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Detect Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 2390.00 | 62.70 | -11.30 | 74.00 | 63.41 | 30.48 | 4.26 | 35.46 | 199 | 0 | Peak |
| 2390.00 | 38.53 | -15.47 | 54.00 | 39.24 | 30.48 | 4.26 | 35.46 | 100 | 360 | Average |

CH00 (Vertical)

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Detect Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 2390.00 | 60.98 | -13.02 | 74.00 | 61.69 | 30.48 | 4.26 | 35.46 | 200 | 0 | Peak |
| 2390.00 | 38.62 | -15.38 | 54.00 | 39.33 | 30.48 | 4.26 | 35.46 | 100 | 104 | Average |

CH78 (Horizontal)

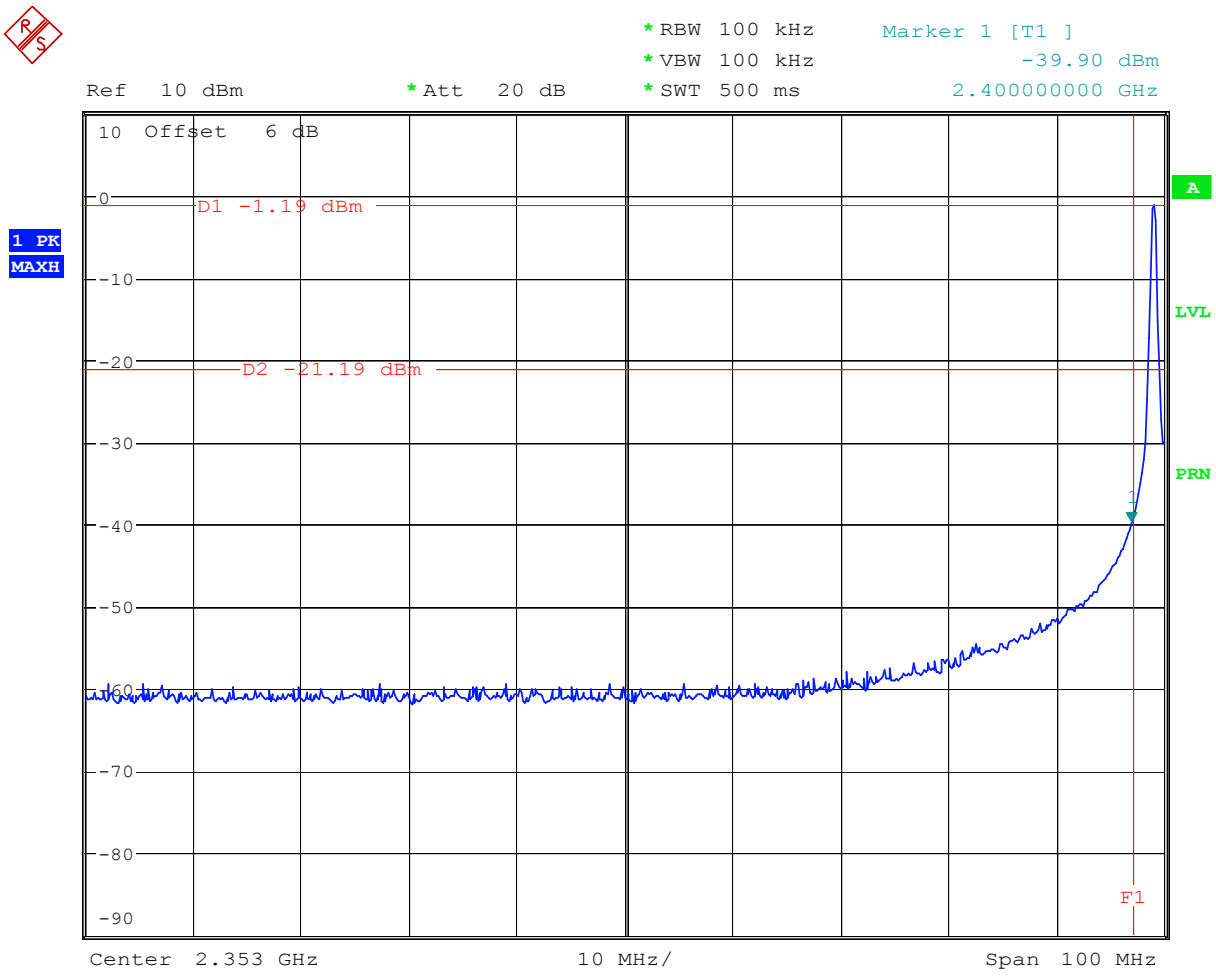
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Detect Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 2483.50 | 72.10 | -1.90 | 74.00 | 72.84 | 30.41 | 4.36 | 35.51 | 100 | 0 | Peak |
| 2483.50 | 47.00 | -7.00 | 54.00 | 47.74 | 30.41 | 4.36 | 35.51 | 100 | 360 | Average |

CH78 (Vertical)

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Detect Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 2483.50 | 70.49 | -3.51 | 74.00 | 71.23 | 30.41 | 4.36 | 35.51 | 200 | 360 | Peak |
| 2483.50 | 48.75 | -5.25 | 54.00 | 49.49 | 30.41 | 4.36 | 35.51 | 100 | 102 | Average |

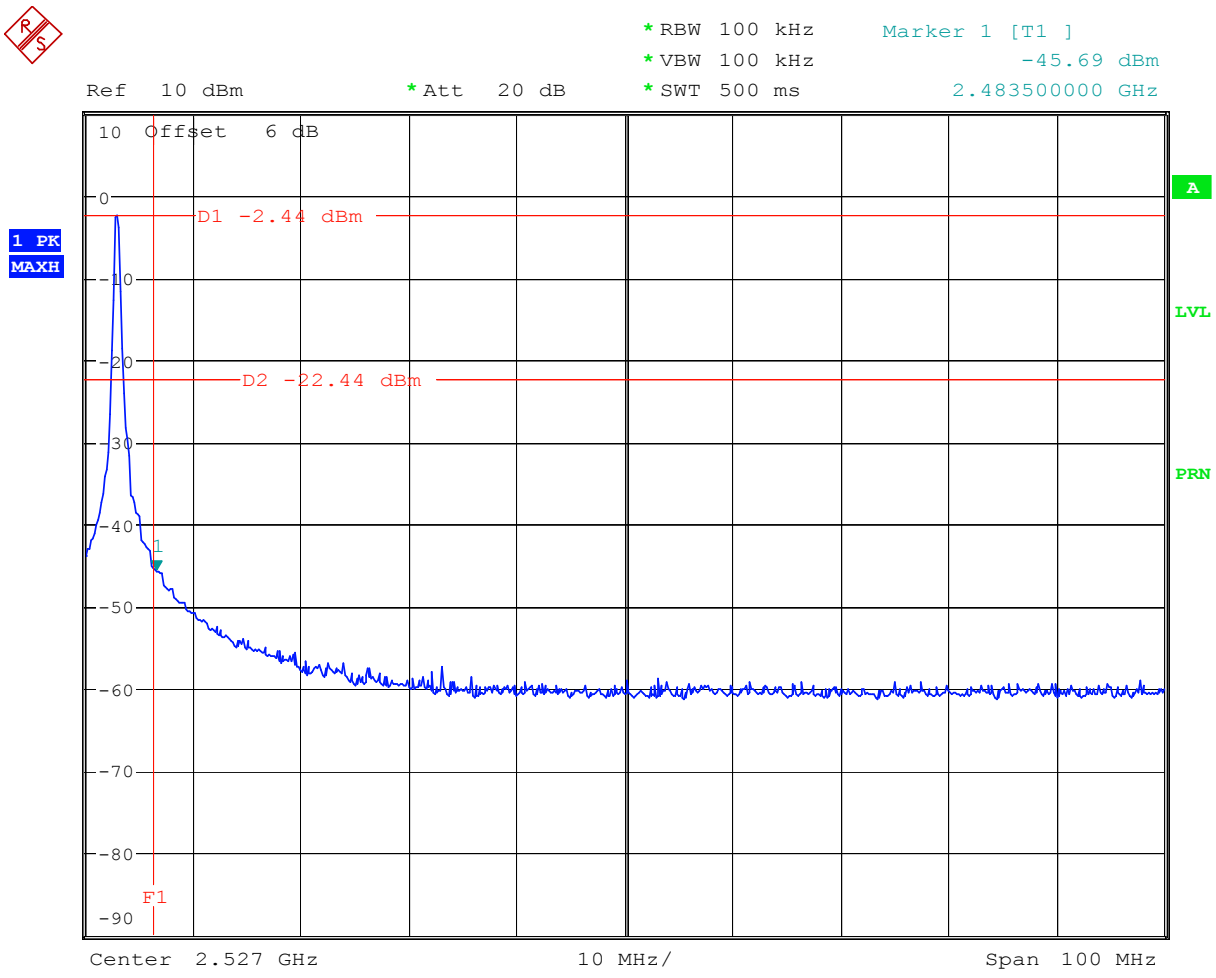
5.7.5 Frequency Band Edge

Mode 1: CH00 (2402 MHz)




Date: 30.NOV.2005 10:05:44

Mode 3: CH78 (2480 MHz)




Date: 30.NOV.2005 10:21:10

## 5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

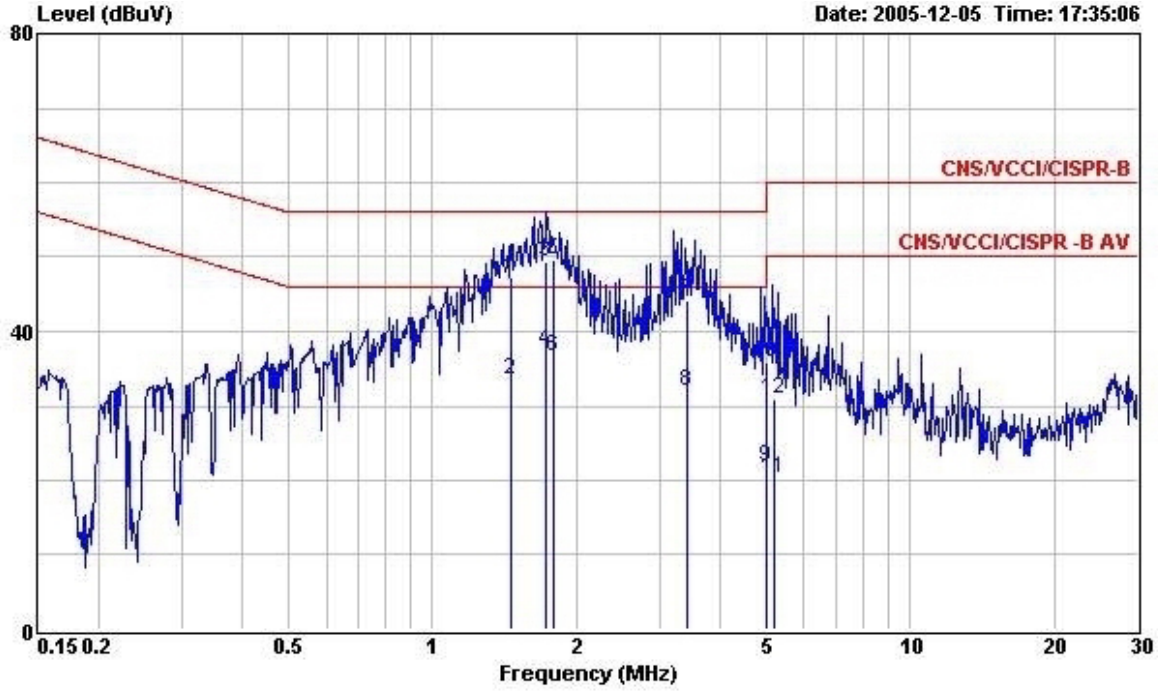
5.8.2 Test Procedures：

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power port of a line impedance stabilization network (LISN).
c. All the support units are connected to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

5.8.3 Test Data Test Mode 1

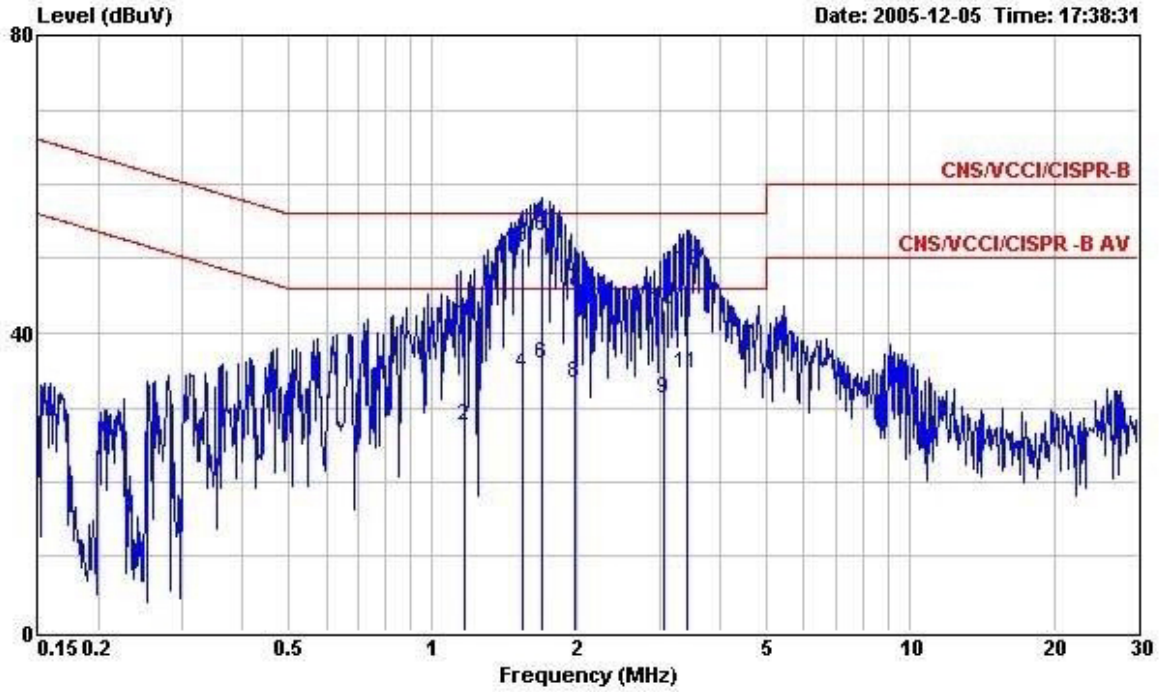
- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay
- Test Mode : Mode 1

**■ The test that passed at minimum margin was marked by the frame in the following table.**




Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
EUT : GSM/GPRS/WCDMA Mobile Phone
: with Bluetooth
Power : 120V/60Hz
Model : FD5N0707
Memo : PCS1900 IDLE + BT LINK+CHARGER+MP3 PLAY
Memo :

| | Freq | Level | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 1.460 | 47.37 | -8.63 | 56.00 | 47.15 | 0.11 | 0.11 | QP |
| 2 | 1.460 | 33.44 | -12.56 | 46.00 | 33.22 | 0.11 | 0.11 | Average |
| 3 | 1.731 | 49.28 | -6.72 | 56.00 | 49.05 | 0.11 | 0.12 | QP |
| 4 | 1.731 | 37.39 | -8.61 | 46.00 | 37.16 | 0.11 | 0.12 | Average |
| 5 | 1.790 | 49.60 | -6.40 | 56.00 | 49.37 | 0.11 | 0.12 | QP |
| 6 | 1.790 | 36.72 | -9.28 | 46.00 | 36.49 | 0.11 | 0.12 | Average |
| 7 | 3.410 | 44.27 | -11.73 | 56.00 | 43.93 | 0.19 | 0.15 | QP |
| 8 | 3.410 | 32.01 | -13.99 | 46.00 | 31.67 | 0.19 | 0.15 | Average |
| 9 | 4.984 | 21.86 | -24.14 | 46.00 | 21.47 | 0.21 | 0.18 | Average |
| 10 | 4.984 | 35.79 | -20.21 | 56.00 | 35.40 | 0.21 | 0.18 | QP |
| 11 | 5.170 | 20.30 | -29.70 | 50.00 | 19.90 | 0.21 | 0.19 | Average |
| 12 | 5.170 | 30.95 | -29.05 | 60.00 | 30.55 | 0.21 | 0.19 | QP |



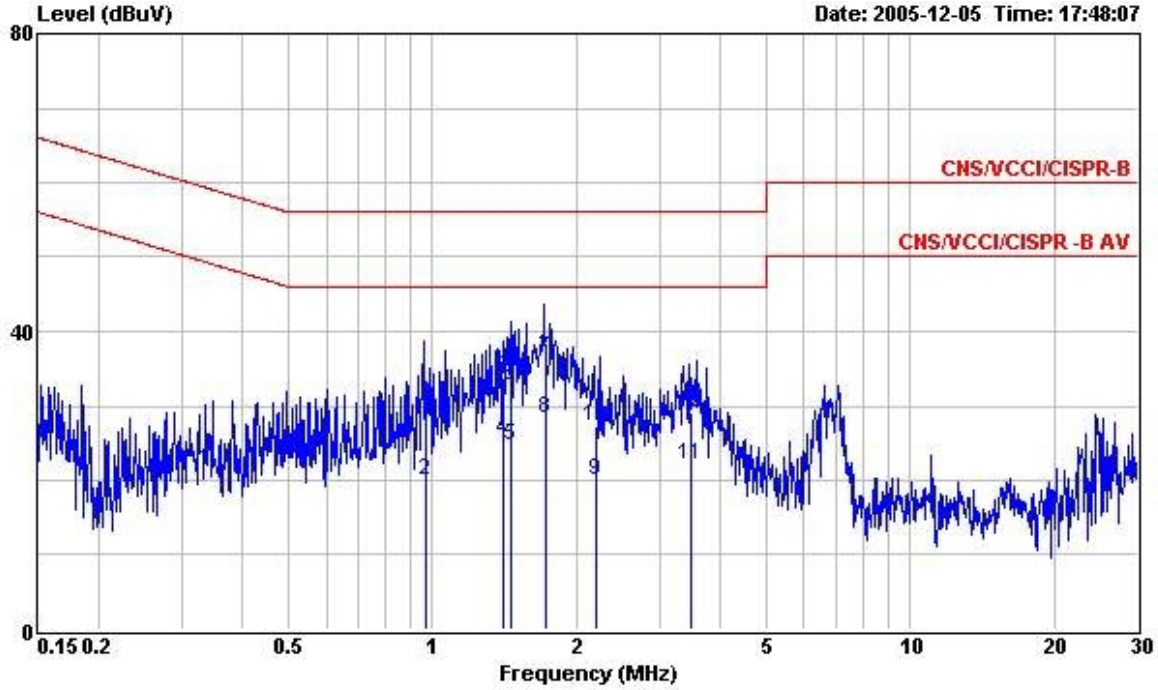

Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
EUT : GSM/GPRS/WCDMA Mobile Phone
: with Bluetooth
Power : 120V/60Hz
Model : FD5N0707
Memo : PCS1900 IDLE + BT LINK+CHARGER+MP3 PLAY
Memo :

| | Freq | Level | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 1.165 | 41.38 | -14.62 | 56.00 | 41.05 | 0.23 | 0.10 | QP |
| 2 | 1.165 | 27.59 | -18.41 | 46.00 | 27.26 | 0.23 | 0.10 | Average |
| 3 | 1.540 | 51.46 | -4.54 | 56.00 | 51.12 | 0.23 | 0.11 | QP |
| 4 | 1.540 | 34.60 | -11.40 | 46.00 | 34.26 | 0.23 | 0.11 | Average |
| 5 | 1.699 | 53.07 | -2.93 | 56.00 | 52.72 | 0.23 | 0.12 | QP |
| 6 | 1.699 | 35.73 | -10.27 | 46.00 | 35.38 | 0.23 | 0.12 | Average |
| 7 | 1.984 | 45.73 | -10.27 | 56.00 | 45.38 | 0.23 | 0.12 | QP |
| 8 | 1.984 | 33.37 | -12.63 | 46.00 | 33.02 | 0.23 | 0.12 | Average |
| 9 | 3.066 | 31.25 | -14.75 | 46.00 | 30.88 | 0.23 | 0.14 | Average |
| 10 | 3.066 | 43.15 | -12.85 | 56.00 | 42.78 | 0.23 | 0.14 | QP |
| 11 | 3.420 | 34.42 | -11.58 | 46.00 | 34.04 | 0.23 | 0.15 | Average |
| 12 | 3.420 | 48.44 | -7.56 | 56.00 | 48.06 | 0.23 | 0.15 | QP |

5.8.4 Test Data Test Mode 2

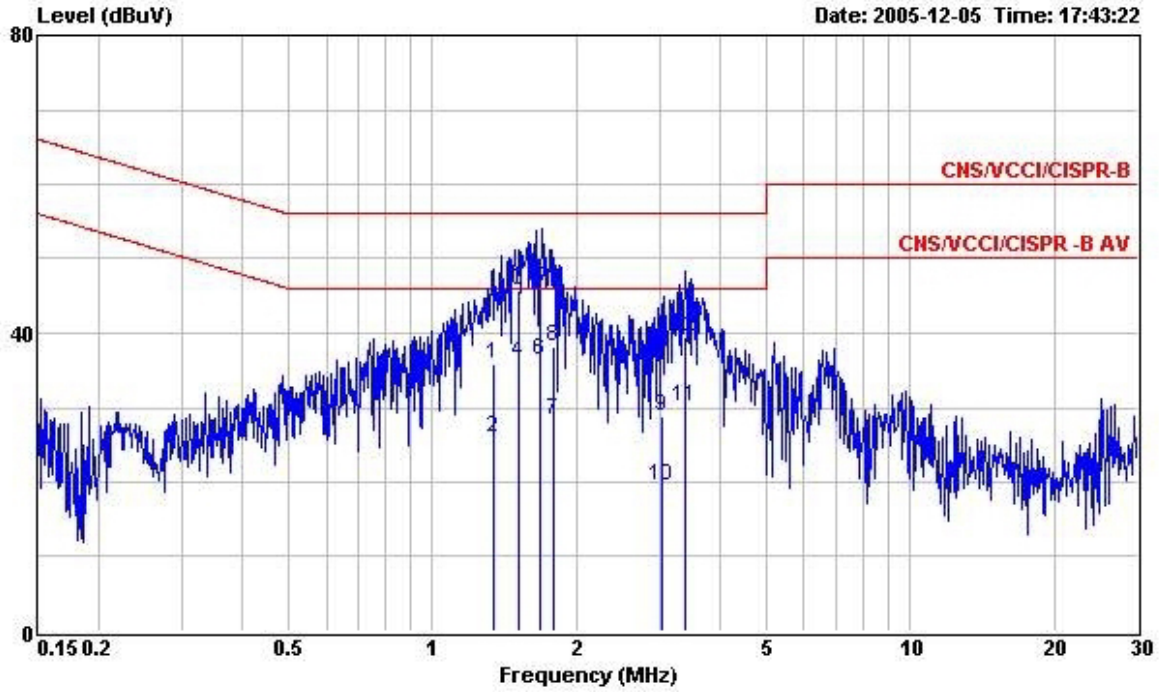
- Temperature: 24°C
- Relative Humidity: 54%
- Test Engineer : Jay
- Test Mode : Mode 1

**The test that passed at minimum margin was marked by the frame in the following table.**




Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
EUT : GSM/GPRS/WCDMA Mobile Phone
: with Bluetooth
Power : 120V/60Hz
Model : FD5N0707
Memo : PCS1900 IDLE + BT LINK+CAMERA
Memo : +CHARGER

| | Freq | Level | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.973 | 28.44 | -27.56 | 56.00 | 28.23 | 0.11 | 0.10 | QP |
| 2 | 0.973 | 19.93 | -26.07 | 46.00 | 19.72 | 0.11 | 0.10 | Average |
| 3 | 1.411 | 33.73 | -22.27 | 56.00 | 33.51 | 0.11 | 0.11 | QP |
| 4 | 1.411 | 25.33 | -20.67 | 46.00 | 25.11 | 0.11 | 0.11 | Average |
| 5 | 1.465 | 24.76 | -21.24 | 46.00 | 24.54 | 0.11 | 0.11 | Average |
| 6 | 1.465 | 32.82 | -23.18 | 56.00 | 32.60 | 0.11 | 0.11 | QP |
| 7 | 1.720 | 36.35 | -19.65 | 56.00 | 36.12 | 0.11 | 0.12 | QP |
| 8 | 1.720 | 28.30 | -17.70 | 46.00 | 28.07 | 0.11 | 0.12 | Average |
| 9 | 2.211 | 19.89 | -26.11 | 46.00 | 19.63 | 0.13 | 0.13 | Average |
| 10 | 2.211 | 27.19 | -28.81 | 56.00 | 26.93 | 0.13 | 0.13 | QP |
| 11 | 3.476 | 22.11 | -23.89 | 46.00 | 21.77 | 0.19 | 0.15 | Average |
| 12 | 3.476 | 29.05 | -26.95 | 56.00 | 28.71 | 0.19 | 0.15 | QP |




Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
EUT : GSM/GPRS/WCDMA Mobile Phone
: with Bluetooth
Power : 120V/60Hz
Model : FD5N0707
Memo : PCS1900 IDLE + BT LINK+CAMERA
Memo : +CHARGER

| | Freq | Level | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 1.340 | 35.76 | -20.24 | 56.00 | 35.42 | 0.23 | 0.11 | QP |
| 2 | 1.340 | 25.99 | -20.01 | 46.00 | 25.65 | 0.23 | 0.11 | Average |
| 3 | 1.523 | 45.67 | -10.33 | 56.00 | 45.33 | 0.23 | 0.11 | QP |
| 4 | 1.523 | 36.18 | -9.82 | 46.00 | 35.84 | 0.23 | 0.11 | Average |
| 5 | 1.687 | 46.05 | -9.95 | 56.00 | 45.70 | 0.23 | 0.12 | QP |
| 6 | 1.687 | 36.44 | -9.56 | 46.00 | 36.09 | 0.23 | 0.12 | Average |
| 7 | 1.790 | 28.30 | -17.70 | 46.00 | 27.95 | 0.23 | 0.12 | Average |
| 8 | 1.790 | 38.24 | -17.76 | 56.00 | 37.89 | 0.23 | 0.12 | QP |
| 9 | 3.036 | 28.87 | -27.13 | 56.00 | 28.50 | 0.23 | 0.14 | QP |
| 10 | 3.036 | 19.53 | -26.47 | 46.00 | 19.16 | 0.23 | 0.14 | Average |
| 11 | 3.383 | 30.25 | -15.75 | 46.00 | 29.87 | 0.23 | 0.15 | Average |
| 12 | 3.383 | 39.54 | -16.46 | 56.00 | 39.16 | 0.23 | 0.15 | QP |

## 5.9 Radiated Emission Measurement

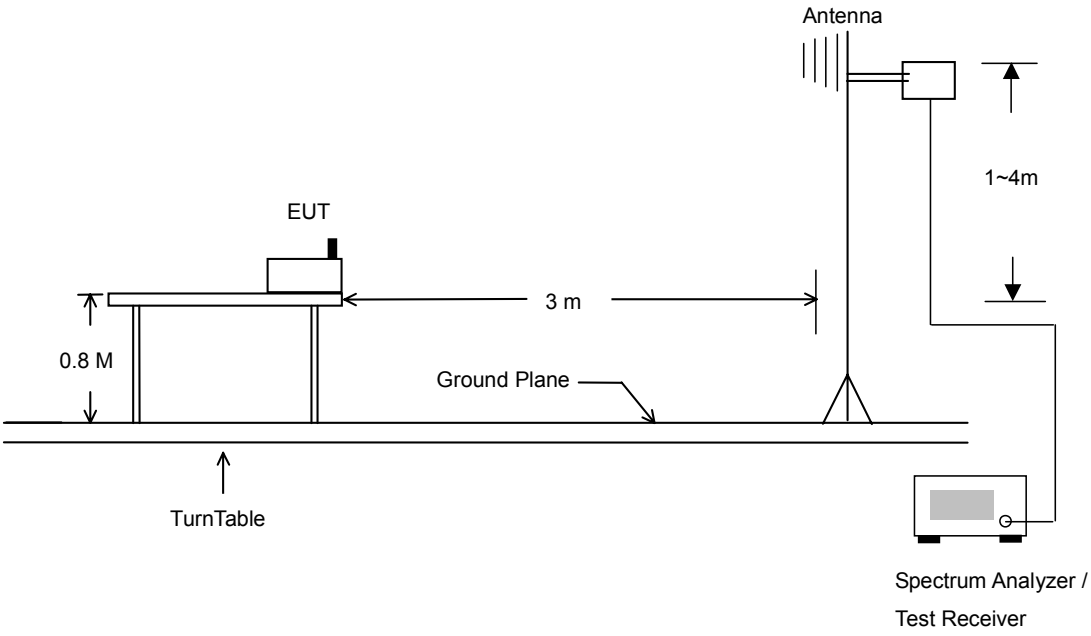
### 5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

### 5.9.2 Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

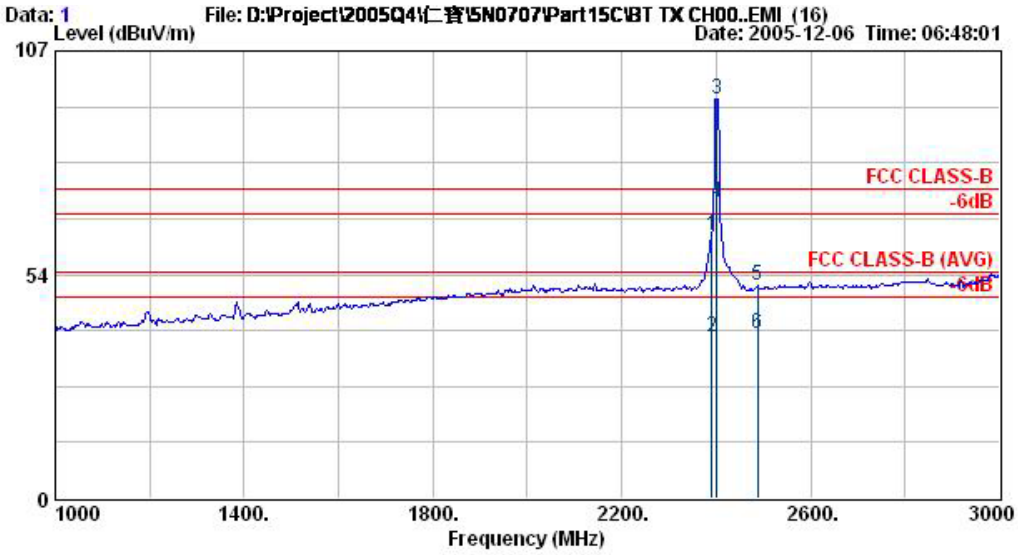
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 30 °C
- Relating Humidity : 58 %
- Test Enginner : Jay
- Test Mode : Mode 1
- Polarization : Horizontal

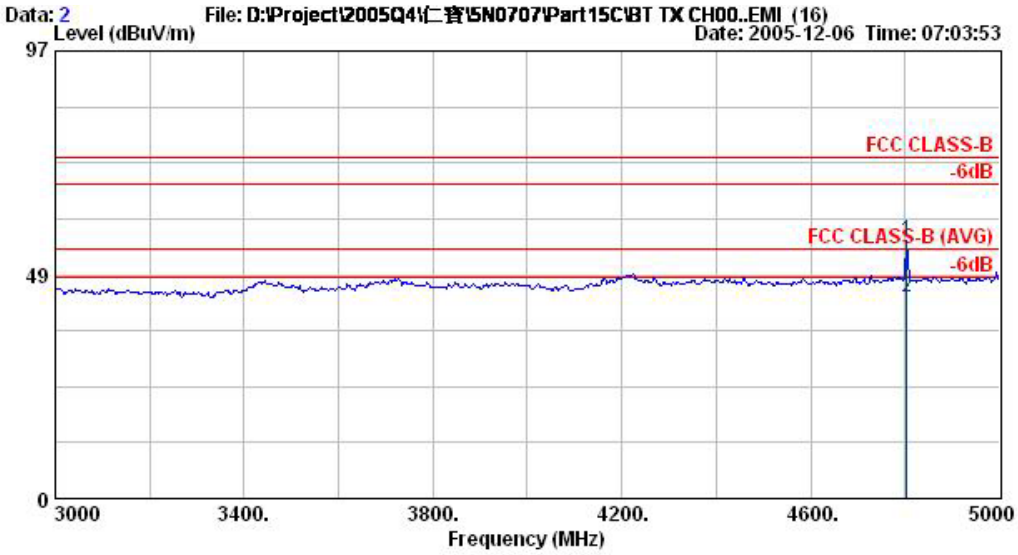
**The test that passed at the minimum margin was marked by the frame in the following test record**




Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/WCDMA Mobile Phone(Bluetooth)
Power : 120Vac/60Hz
Model : FR5N0707
Memo : BT TX CH00;2402Mhz
Plane : E1

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 2390.00 | 62.70 | -11.30 | 74.00 | 63.41 | 30.48 | 4.26 | 35.46 | 199 | 0 | Peak |
| 2 | 2390.00 | 38.53 | -15.47 | 54.00 | 39.24 | 30.48 | 4.26 | 35.46 | 100 | 360 | Average |
| 3 @ | 2402.00 | 95.62 | | | 96.33 | 30.48 | 4.26 | 35.46 | 199 | 0 | Peak |
| 4 X | 2402.00 | 70.91 | | | 71.62 | 30.48 | 4.26 | 35.46 | 100 | 360 | Average |
| 5 | 2488.00 | 50.89 | -23.11 | 74.00 | 51.64 | 30.40 | 4.36 | 35.51 | 199 | 0 | Peak |
| 6 | 2488.00 | 39.23 | -14.77 | 54.00 | 39.98 | 30.40 | 4.36 | 35.51 | 100 | 360 | Average |

Remark: #3 and #4 Fundamental Signal




Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/WCDMA Mobile Phone(Bluetooth)
Power : 120Vac/60Hz
Model : FR5N0707
Memo : BT TX CH00;2402Mhz
Plane : E1

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 4804.00 | 56.06 | -17.94 | 74.00 | 52.78 | 33.16 | 6.21 | 36.10 | 200 | 0 | Peak |
| 2 | 4804.00 | 43.49 | -10.51 | 54.00 | 40.22 | 33.16 | 6.21 | 36.10 | 100 | 242 | Average |