FCC TEST REPORT

CATEGORY	:	Portable
PRODUCT NAME		PDA
FCC ID.	:	**HLZN30**
FILING TYPE	:	Certification
BRAND NAME	:	Acer
MODEL NAME	**:**	n30
APPLICANT	**:**	**Acer Incorporated** 8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Taipei Hsien 221, Taiwan, R.O.C.
MANUFACTURER	:	1. Acer Information Services (Zhong Shan) Co., Ltd. 2F, C Building, XinYe Rd, Export Processing District In Torch, Zhongshan, Guangdong, P.R.C. 2. Beijing Acer Information Co., Ltd. Huade Building, No.18 ChuangYe Rd., ShangDi Zone, HaiDian District, Beijing, P.R.C. 3. SILITEK ELECTRONICS (G . Z.) CO., LTD Guangzhou Science City,Yi Heng Road,Dong Pu, Tian He Area, Guangzhou, Guan Dong Province, China
ISSUED BY	:	**SPORTON INTERNATIONAL INC.** 6F, No. 106, Sec. 1, Hsin Tai Wu Rd., His Chih, Taipei Hsien, Taiwan, R.O.C.

Statements:

The test result in this report refers exclusively to the presented test model / sample.
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Certificate or Test Report could not be used by the applicant to claim the product endorsement by CNLA, NVLAP or any agency of U.S. government.

The test equipments used to perform the test are calibrated and traceable to NML/ROC or NIST/USA.

CNLA

1190

ILAC MRA

Table of Contents

HISTORY OF THIS TEST REPORT

Original Report Issue Date: Apr. 22, 2005

Report No.: FR430507-04

■ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

CERTIFICATE OF COMPLIANCE

with

47 CFR FCC Part 15 Subpart C

PRODUCT NAME	:	PDA
BRAND NAME	:	Acer
MODEL NAME	:	n30
APPLICANT	:	**Acer Incorporated** 8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Taipei Hsien 221, Taiwan, R.O.C.
MANUFACTURER	:	1. Acer Information Services (Zhong Shan) Co., Ltd. 2F, C Building, XinYe Rd, Export Processing District In Torch, Zhongshan, Guangdong, P.R.C. 2. Beijing Acer Information Co., Ltd. Huade Building, No.18 ChuangYe Rd., ShangDi Zone, HaiDian District, Beijing, P.R.C. 3. SILITEK ELECTRONICS (G . Z.) CO., LTD Guangzhou Science City,Yi Heng Road,Dong Pu, Tian He Area, Guangzhou, Guan Dong Province, China

I **HEREBY** CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4 - 2003 and all test are performed according to 47 CFR FCC Part 15. Testing was carried out on Dec. 26, 2003 at SPORTON International Inc. LAB.

Dr. Alan Lane
Vice General Manager
Sporton International Inc.

1. General Description of Equipment under Test

1.1. Applicant

Acer Incorporated
8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Taipei Hsien 221, Taiwan, R.O.C.

1.2. Manufacturer

1. Acer Information Services (Zhong Shan) Co., Ltd.
   2F, C Building, XinYe Rd, Export Processing District In Torch,Zhongshan, Guangdong, P.R.C.
2. Beijing Acer Information Co., Ltd.
   Huade Building, No.18 ChuangYe Rd., ShangDi Zone, HaiDian District, Beijing, P.R.C.
3. SILITEK ELECTRONICS (G . Z.) CO., LTD
   Guangzhou Science City,Yi Heng Road,Dong Pu, Tian He Area,Guangzhou, Guan Dong Province, China

1.3. Basic Description of Equipment under Test

This product is a PDA with Bluetooth module. The technical data has been listed on section " Features of Equipment under Test ".

1.4. Features of Equipment under Test

Bluetooth Module

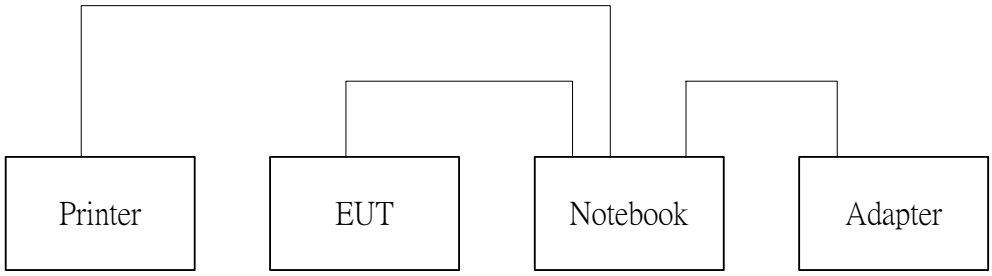
Items	Description
Type of Modulation	GFSK
Number of Channels	79
Frequency Band	2400MHz ~ 2483.5MHz
Max. Conducted Output Power	-5.14 dBm
Antenna Type	PIFA Antenna/ 4.0 dBi
Power Rating (DC/AC, Voltage)	DC 3.7V from battery
Test Power Source	110.00V AC
Temperature Range (Operating)	0 ~ 35 °C

1.5. Table for Carrier Frequencies

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	20	2422 MHz	40	2442 MHz	60	2462 MHz
01	2403 MHz	21	2423 MHz	41	2443 MHz	61	2463 MHz
02	2404 MHz	22	2424 MHz	42	2444 MHz	62	2464 MHz
03	2405 MHz	23	2425 MHz	43	2445 MHz	63	2465 MHz
04	2406 MHz	24	2426 MHz	44	2446 MHz	64	2466 MHz
05	2407 MHz	25	2427 MHz	45	2447 MHz	65	2467 MHz
06	2408 MHz	26	2428 MHz	46	2448 MHz	66	2468 MHz
07	2409 MHz	27	2429 MHz	47	2449 MHz	67	2469 MHz
08	2410 MHz	28	2430 MHz	48	2450 MHz	68	2470 MHz
09	2411 MHz	29	2431 MHz	49	2451 MHz	69	2471 MHz
10	2412 MHz	30	2432 MHz	50	2452 MHz	70	2472 MHz
11	2413 MHz	31	2433 MHz	51	2453 MHz	71	2473 MHz
12	2414 MHz	32	2434 MHz	52	2454 MHz	72	2474 MHz
13	2415 MHz	33	2435 MHz	53	2455 MHz	73	2475 MHz
14	2416 MHz	34	2436 MHz	54	2456 MHz	74	2476 MHz
15	2417 MHz	35	2437 MHz	55	2457 MHz	75	2477 MHz
16	2418 MHz	36	2438 MHz	56	2458 MHz	76	2478 MHz
17	2419 MHz	37	2439 MHz	57	2459 MHz	77	2479 MHz
18	2420 MHz	38	2440 MHz	58	2460 MHz	78	2480 MHz
19	2421 MHz	39	2441 MHz	59	2461 MHz		

2. Test Configuration of the Equipment under Test

2.1. Connection Diagram of Test System



2.2. The Test Mode Description

1. For FHSS modulation, GFSK is the worst case on all test items.
2. According to ANSI C63.4-2003: Frequency range of EUT is more than 10 MHz, we have to test the lowest, middle and highest channels of EUT.
3. Spurious emission below 1GHz is independent of channel selection and there will be no effect on test results so only channel 78 with GFSK modulation was tested.
4. AC conduction emission is independent of channel selection; there will be no effect on test results so only channel 78 with GFSK modulation was tested.

3. General Information of Test

3.1. Test Facility

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C.
	:	TEL 886-3-327-3456
	:	FAX 886-3-318-0055
Test Site No	:	03CH03-HY / TH01-HY

3.2. Test Conditions

Normal Voltage	:	110.00V
Normal Temperature	:	26˚C

3.3. Standards for Methods of Measurement

Here is the list of the standards followed in this test report.

ANSI C63.4-2003

47 CFR Part 15 Subpart C (Section 15.247)

3.4. Frequency Range Investigated

Radiated emission test: from 30 MHz to 10th carrier harmonic

3.5. Test Distance

The test distance of radiated emission (30MHz~1GHz) test from antenna to EUT is 3 M.

The test distance of radiated emission (1GHz~10th carrier harmonic) test from antenna to EUT is 3 M.

4. List of Measurements

4.1. Summary of the Test Results

Applied Standard: 47 CFR Part 15 and Part 2			
Paragraph	**FCC Rule**	**Description of Test**	**Result**
5.1	15.247	Hopping Channel Bandwidth	Pass
5.2	15.247	Hopping Channel Separation	Pass
5.3	15.247	Number of Hopping Frequency Used	Pass
5.4	15.247	Dwell Time of Each Frequency	Pass
5.5	15.247	Maximum Peak Output Power	Pass
5.6	15.247	Band Edges Emission	Pass
5.7	15.207	AC Power Line Conducted Emission	Pass
5.8	15.209/15.247	Spurious Radiated Emission	Pass
5.9	15.203/15.247	Antenna Requirement	Pass

5. Test Result

5.1. Hopping Channel Bandwidth

5.1.1. Measuring Instruments

Item 18 of the table on section 6.

5.1.2. Test Procedures

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 30KHz and VBW to 100KHz.
3. The spectrum width with level higher than 20dB below the peak level.
4. Repeat above 1~3 points for the middle and highest channel of the EUT.

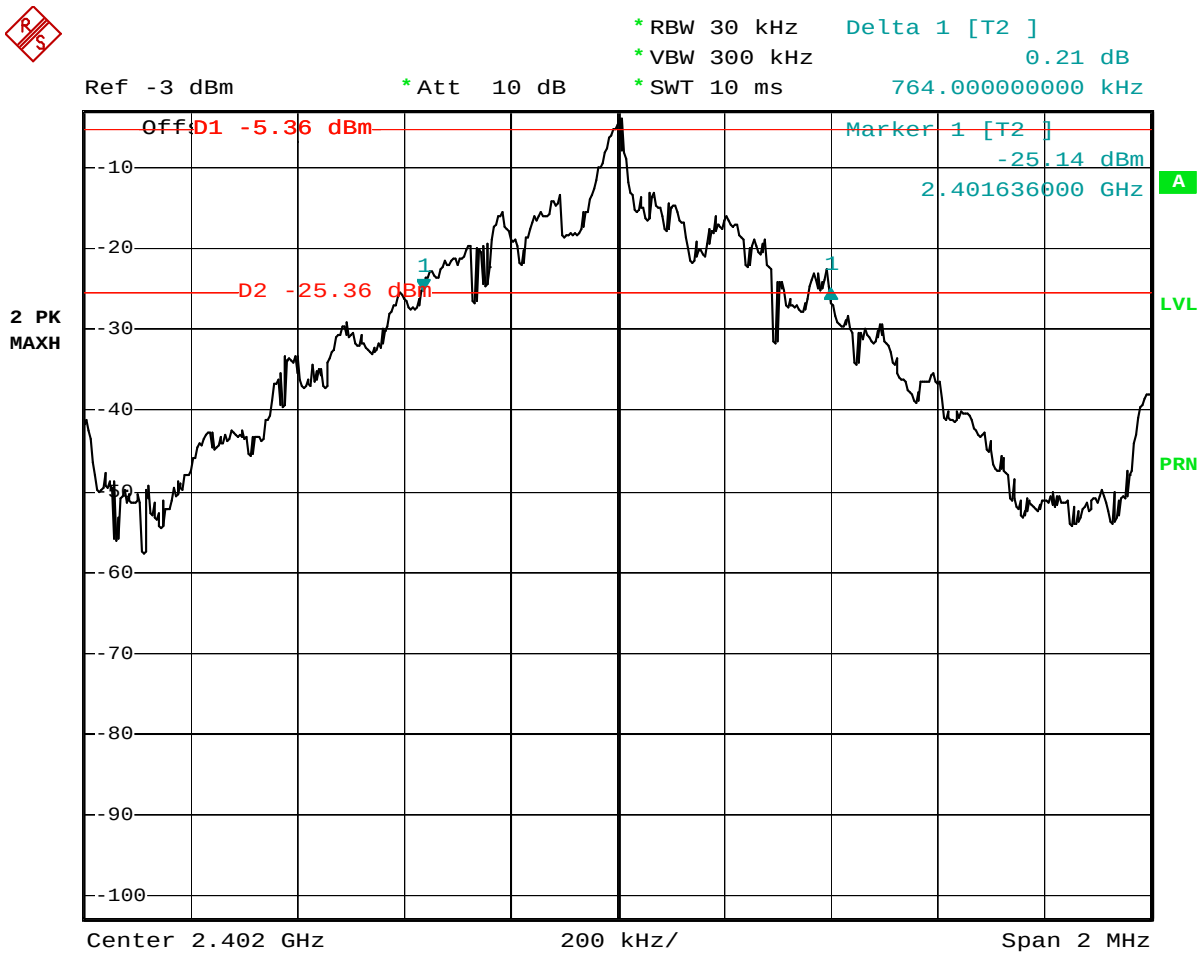
5.1.3. Test Setup Layout

5.1.4. Test Result: See spectrum analyzer plots below

- Temperature: 26°C
- Relative Humidity:63%
- Test Engineer: Wayne Hsu

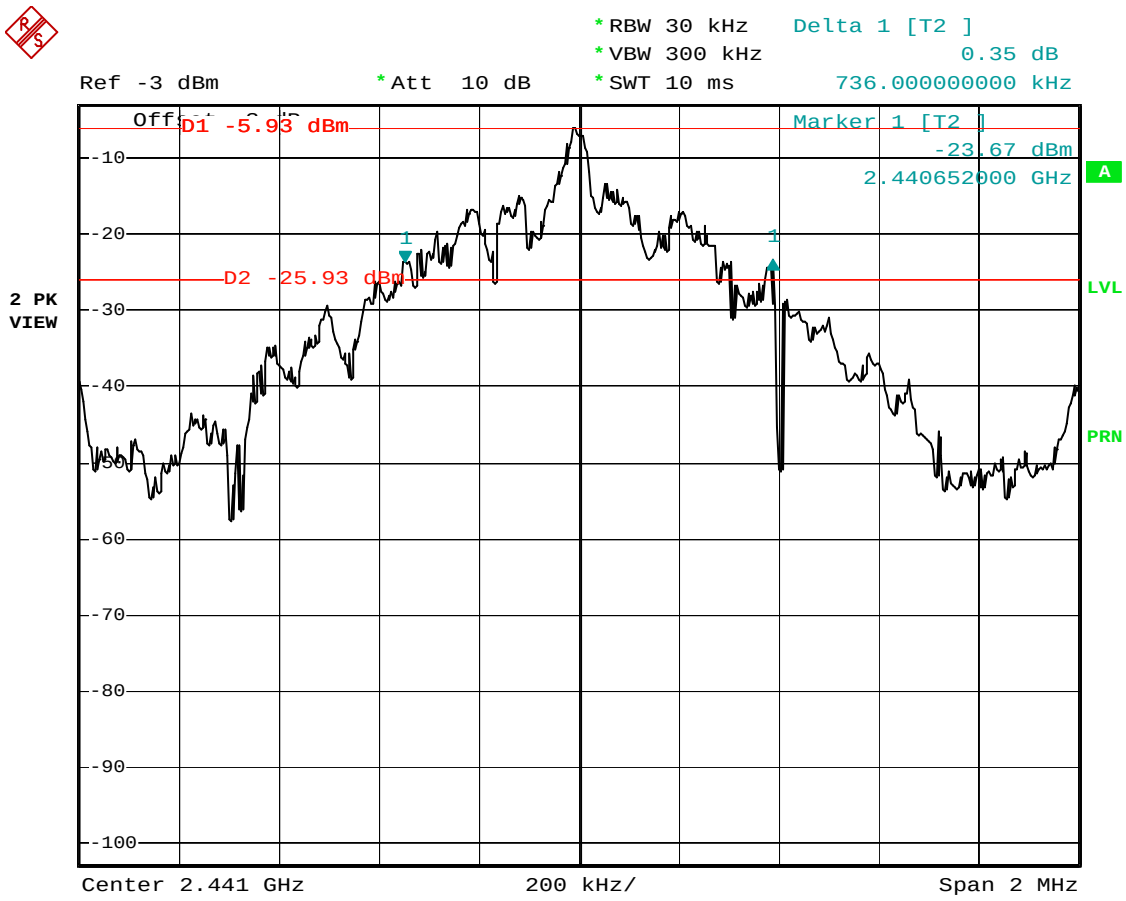
Modulation Type	Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	Min. Limit (kHz)
GFSK	00	2402 MHz	764.000	25
GFSK	39	2441 MHz	736.000	25
GFSK	78	2480 MHz	760.000	25

Modulation Type: GFSK (Channel 00)：



Date: 15.APR.2004 18:10:16

Modulation Type: GFSK (Channel 39)：



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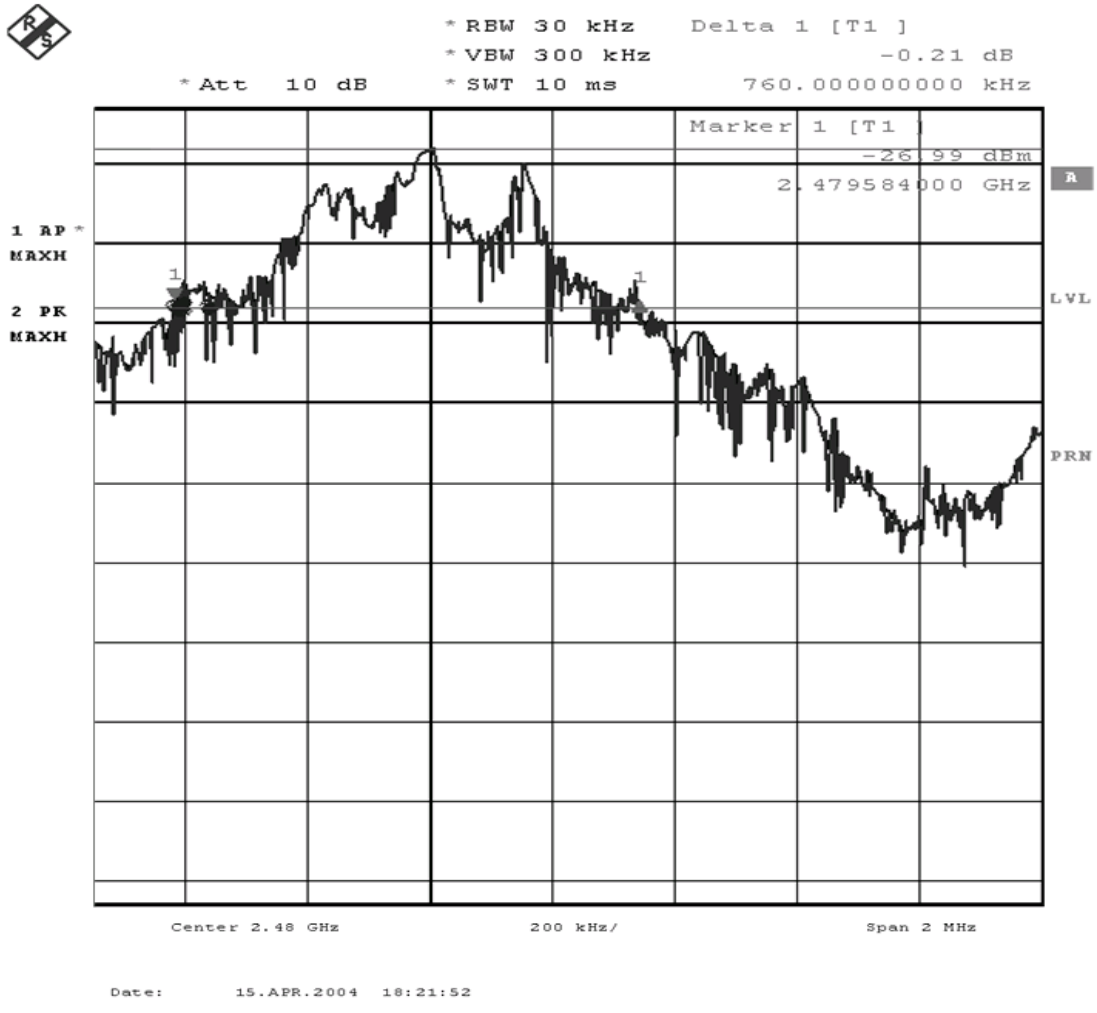
Modulation Type: GFSK (Channel 78)：



5.2. Hopping Channel Separation

5.2.1. Measuring Instruments

Item 18 of the table on section 6.

5.2.2. Test Procedures

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 100KHz and VBW to 100KHz.
3. The Hopping Channel Separation is defined as the separation between 2 neighboring hopping frequencies.
4. Repeat above 1~3 points for the middle and highest channel of the EUT.

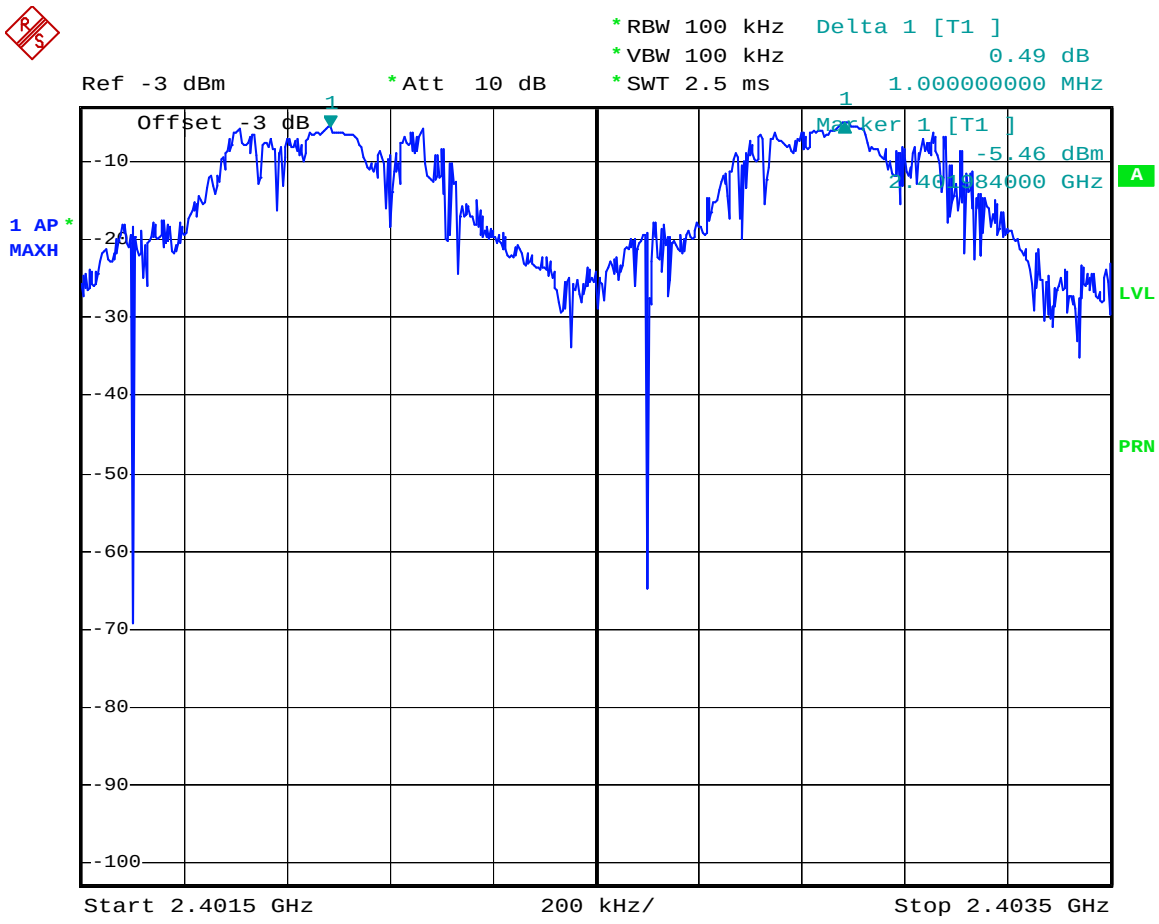
5.2.3. Test Setup Layout

5.2.4. Test Result: See spectrum analyzer plots below

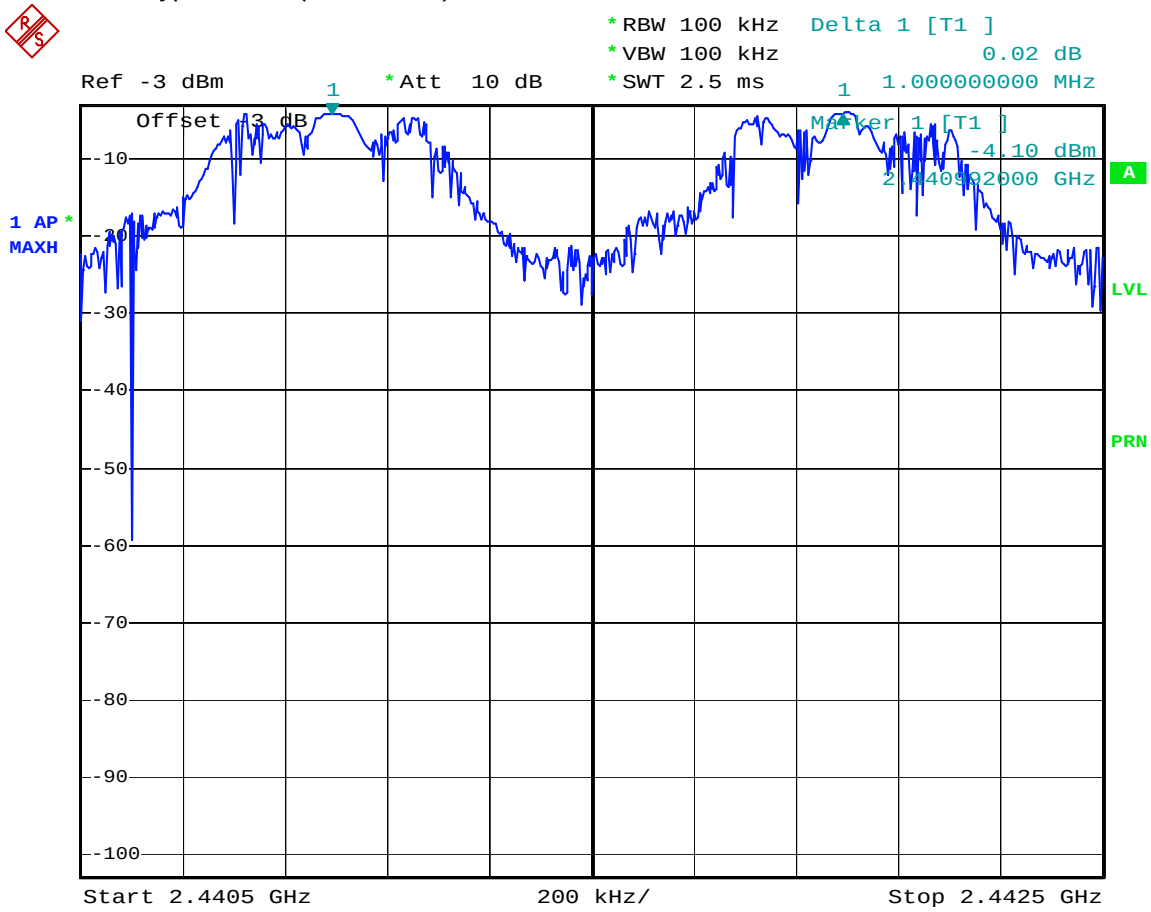
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

Modulation Type	Channel No.	Frequency (MHz)	Hopping Channel Separation (kHz)	Min. Limit (kHz)
GFSK	00	2402 MHz	1000	764.000
GFSK	39	2441 MHz	1000	736.000
GFSK	78	2480 MHz	1000	760.000

Modulation Type: GFSK (Channel 00)：

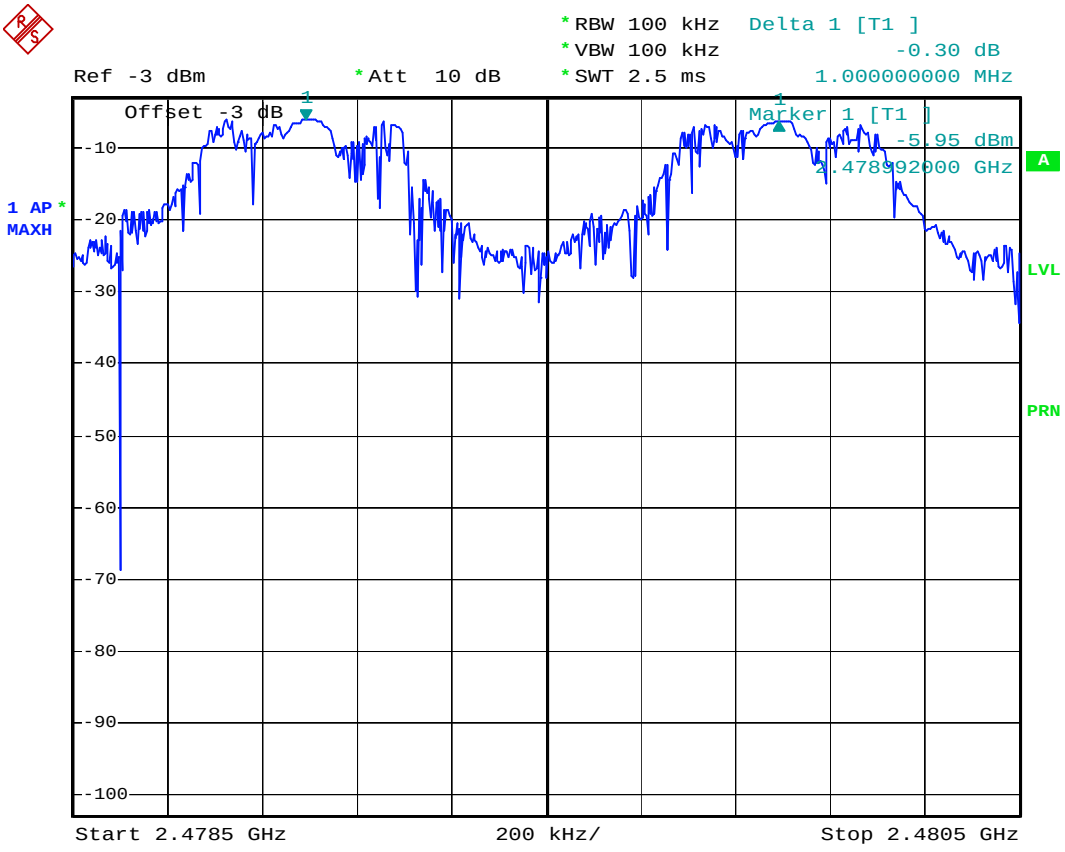


Modulation Type: GFSK (Channel 39)：



Date: 15.APR.2004 16:54:40

Modulation Type: GFSK (Channel 78)：



Date: 15.APR.2004 16:59:34

5.3. Number of Hopping Frequency

5.3.1. Measuring Instruments

Item 18 of the table on section 6.

5.3.2. Test Procedures

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 100KHz and VBW to 100KHz.
3. Set Detector to Peak, Trace to Max Hold and Sweep Time is Auto.
4. Observe frequency hopping in 2400MHz~2483.5MHz, there are at least 75 non-overlapping channels.
5. Repeat above 1~3 points for the middle and highest channel of the EUT.

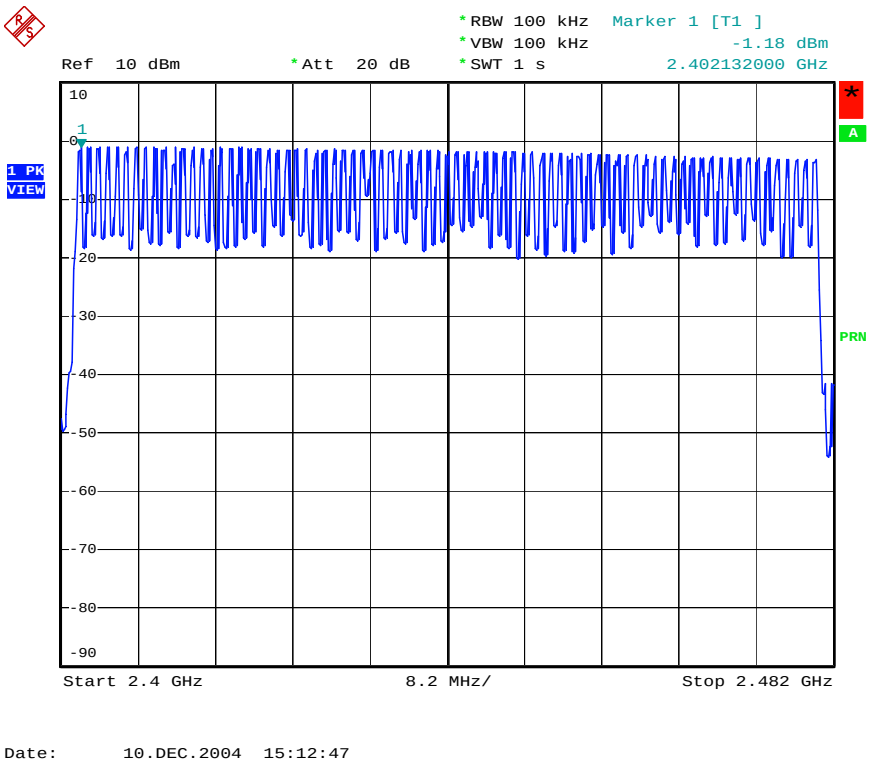
5.3.3. Test Setup Layout

5.3.4. Test Result: See spectrum analyzer plots below

- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

Modulation Type	Channel No.	Frequency (MHz)	Number of Hopping Ch. (Channels)	Min. Limit (Channels)
GFSK	00 ~ 78	2402 MHz ~ 2480 MHz	79	75

Modulation Type: GFSK (Channel 00 ~ Channel 78)：



5.4. Dwell Time of Each Frequency

5.4.1. Measuring Instruments

Item 18 of the table on section 6.

5.4.2. Test Procedures

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 1000kHz and VBW to 1000kHz.
3. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
4. Set the EUT for DH5, DH3 and DH1 packet transmitting.
5. Measure the maximum time duration, t , of one single pulse.
6. DH5 Packet permit maximum 3.37 hops per second in each channel. So, the dwell time is the time duration of the pulse times 106.6 within 31.6 seconds.
7. DH3 Packet permit maximum 5.06 hops per second in each channel. So, the dwell time is the time duration of the pulse times 160 within 31.6 seconds.
8. DH1 Packet permit maximum 10.12 hops per second in each channel. So, the dwell time is the time duration of the pulse times 320 within 31.6 seconds.

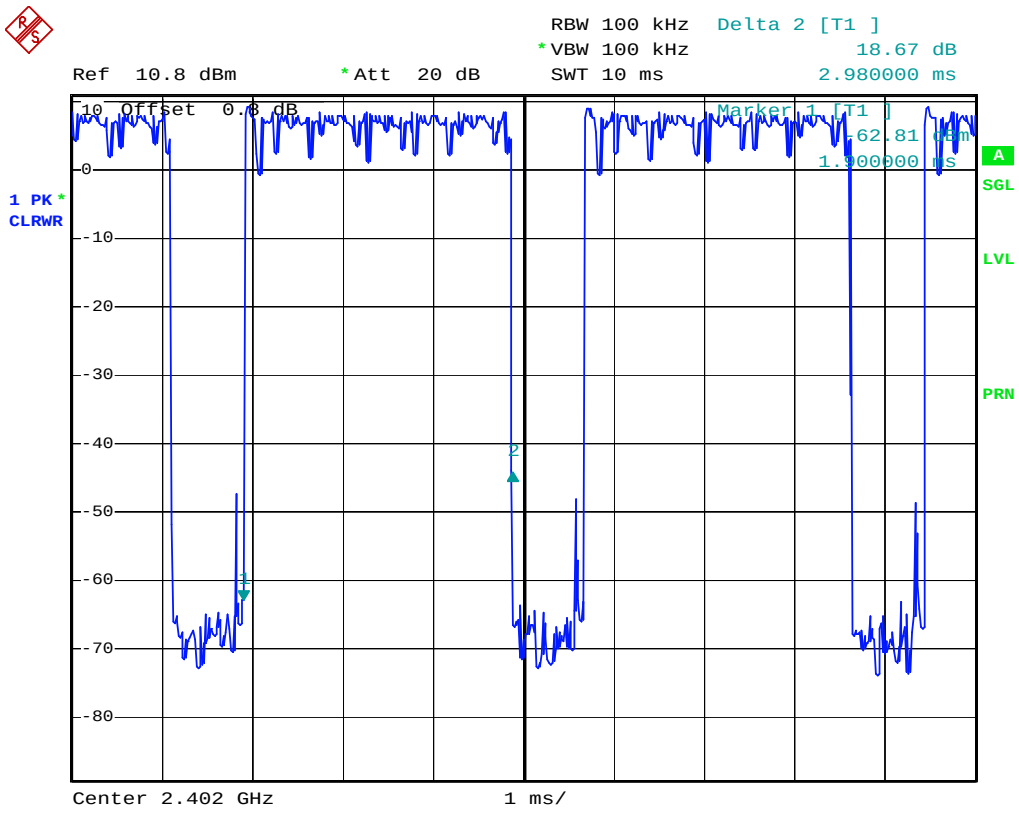
5.4.3. Test Setup Layout

5.4.4. Test Result: See spectrum analyzer plots below

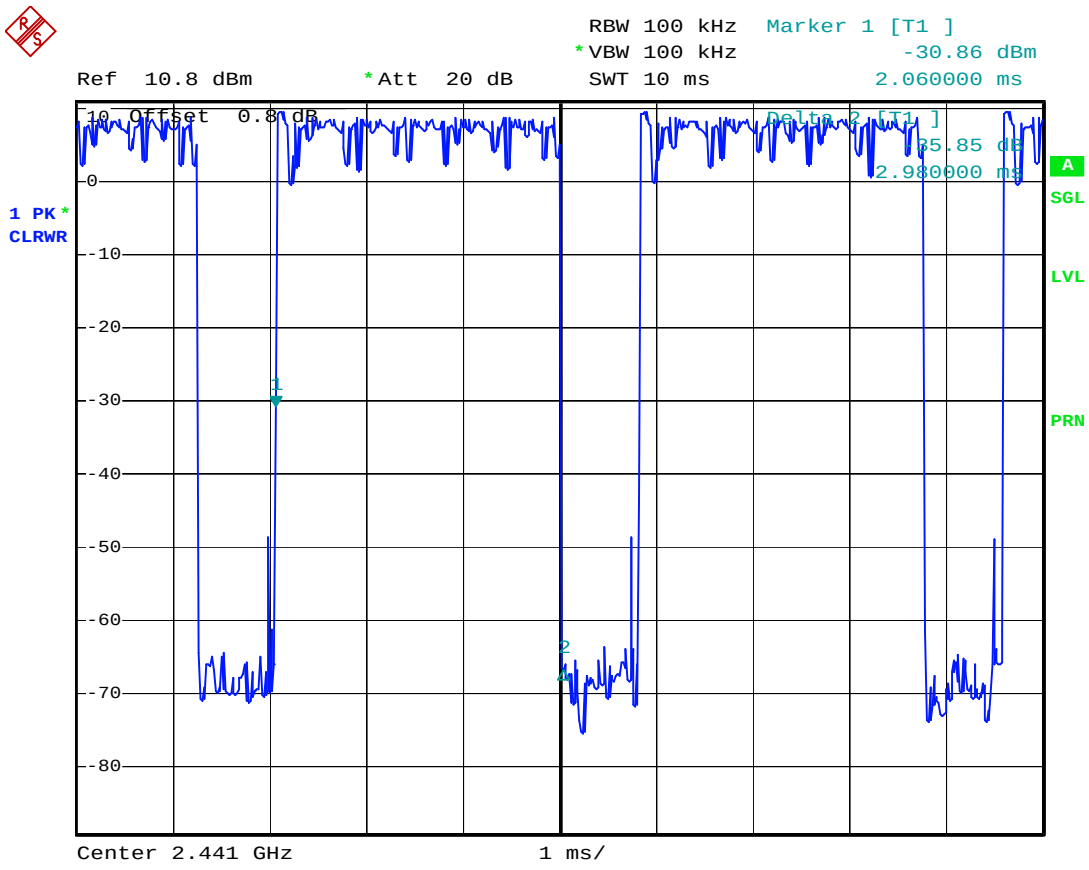
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

Channel	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
00	2402 MHz	2.98	0.318	0.4
39	2441 MHz	2.98	0.318	0.4
78	2480 MHz	2.98	0.318	0.4

DH 1 Modulation Type: GFSK (Channel 00)：

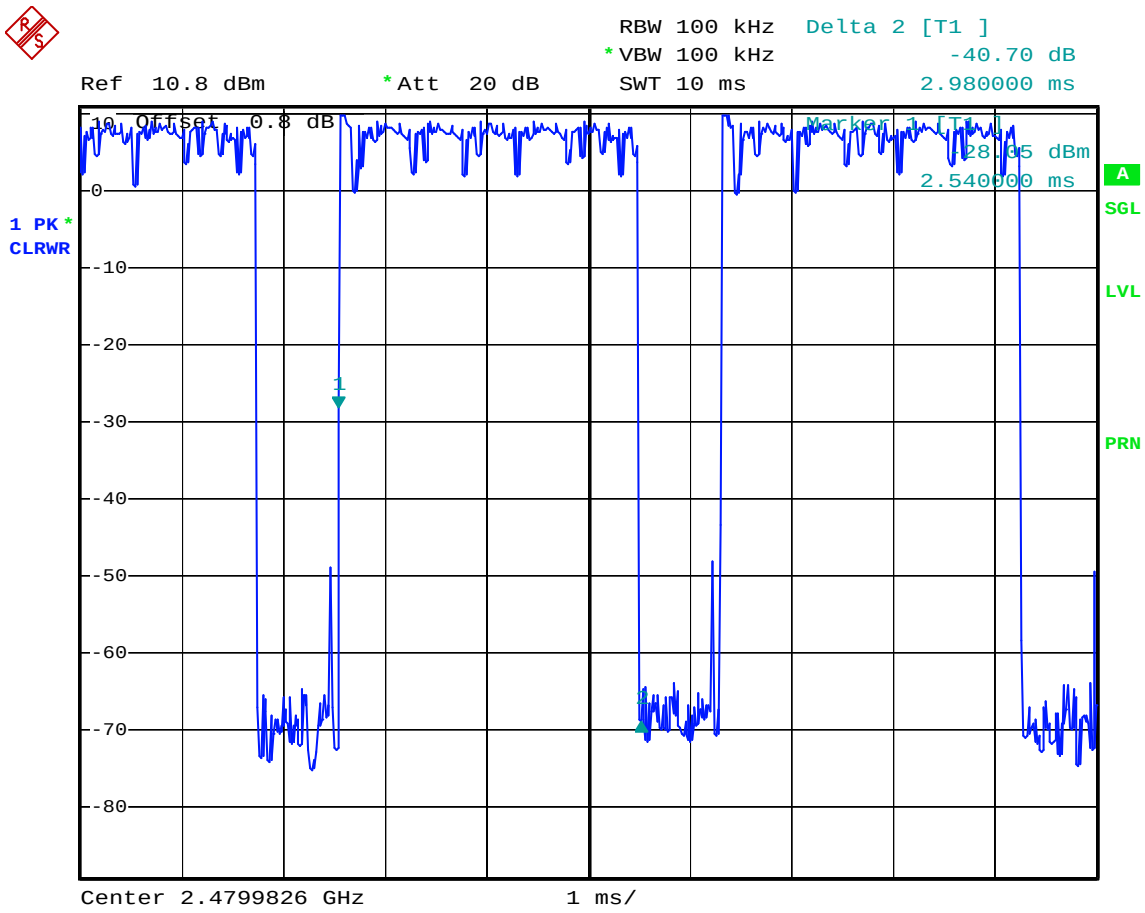


DH1 Modulation Type: GFSK (Channel 39)：



Date: 24.MAR.2004 09:56:02

DH1 Modulation Type: GFSK (Channel 78)：



Date: 24.MAR.2004 09:54:31

5.5. Maximum Peak Output Power

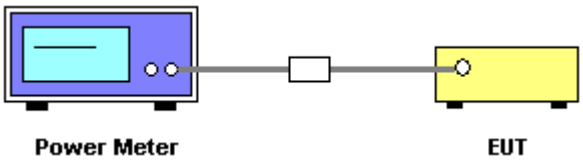
5.5.1. Measuring Instruments

Item 19, 21 of the table on section 6.

5.5.2. Test Procedures

1. The transmitter output was connected to the peak power meter and recorded the peak value.
2. Repeated the 1~4 for the middle and highest channel of the EUT.

5.5.3. Test Setup Layout



5.5.4. Conducted Peak Power

- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

Modulation Type	Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)
GFSK	00	2402 MHz	-4.28	30
GFSK	39	2441 MHz	-6.13	30
GFSK	78	2480 MHz	-7.20	30

The max output power: GFSK modulation is –4.28 dBm.

5.6. Band Edges Emission

5.6.1. Measuring Instruments

Item 6~18 of the table on section 6.

5.6.2. Test Procedures

Conducted Measurement

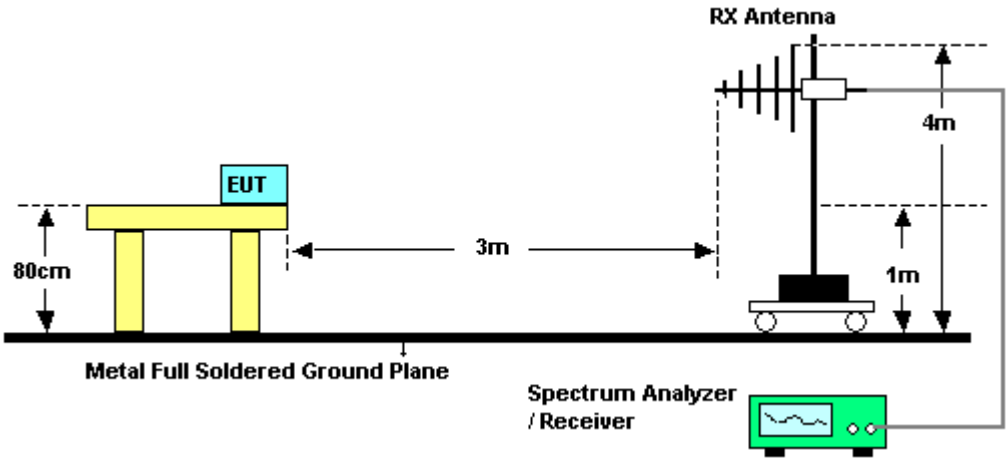
1. The transmitter is set to the lowest channel.
2. The transmitter output was connected to the spectrum analyzer via a cable and cable loss is used as the offset of the spectrum analyzer.
3. Set both RBW and VBW of spectrum analyzer to 100KHz with convenient frequency span including 100MHz bandwidth from lower band edge.
4. The lowest band edges emission was measured and recorded.
5. The transmitter set to the highest channel and repeated 2~4.

Radiated Measurement

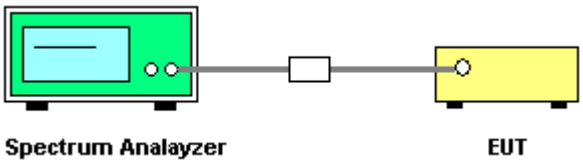
1. Configure the EUT according to ANSI C63.4.
2. The turn table was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
4. For band edge emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. For band edge emission, use 10Hz VBW and 1MHz RBW for reading under AV and use 1MHz VBW and 1 MHz RBW for reading under PK.

5.6.3. Test Setup

Radiated Method



Conducted Method



5.6.4. Radiated Emission

- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

(A) Left Edge

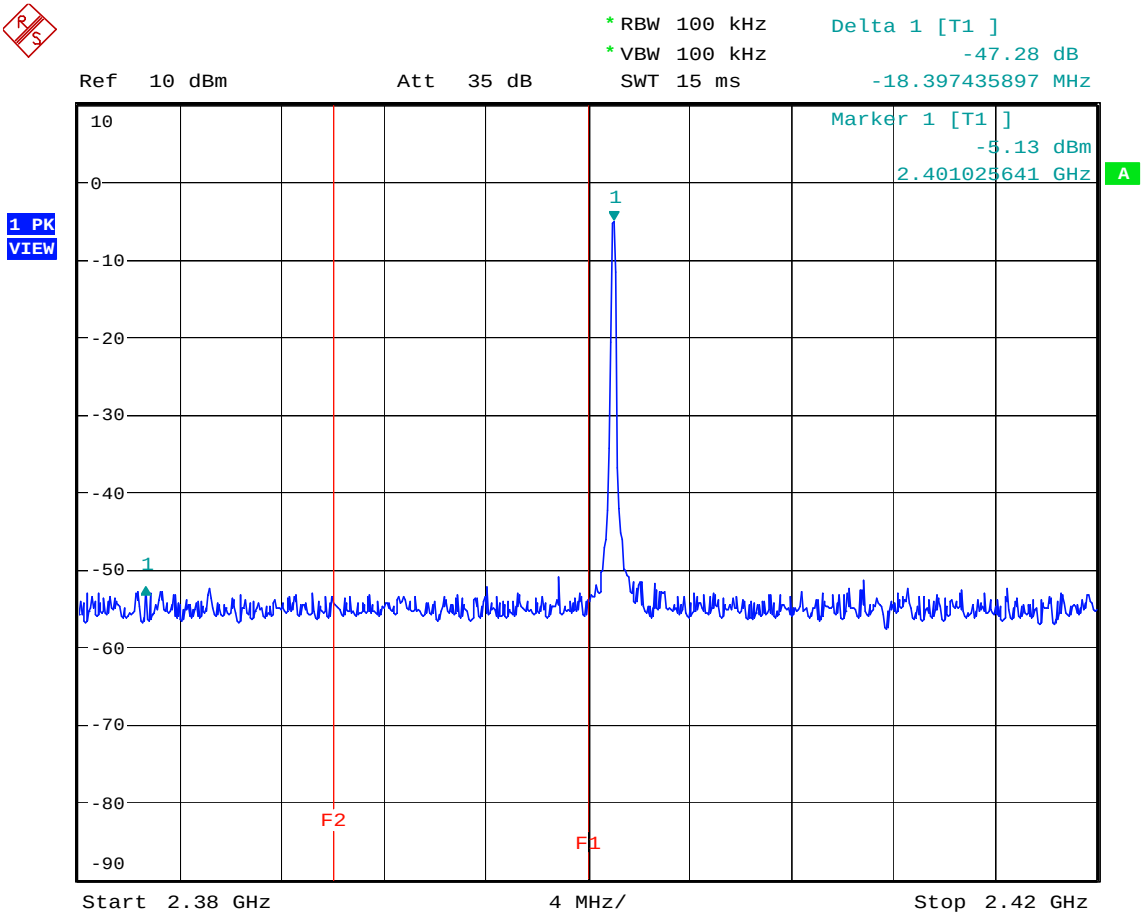
CH00 Carrier power strength (dBuV/m)	Delta (dB)	The maximum field strength in restrict band (dBuV/m)	Limit (dBuV/m)	Margin (dB)
80.72	47.28	33.44	54.00	-20.56

(B) Right Edge

CH78 Carrier power strength (dBuV/m)	Delta (dB)	The maximum field strength in restrict band (dBuV/m)	Limit (dBuV/m)	Margin (dB)
81.95	41.70	40.25	54.00	-13.75

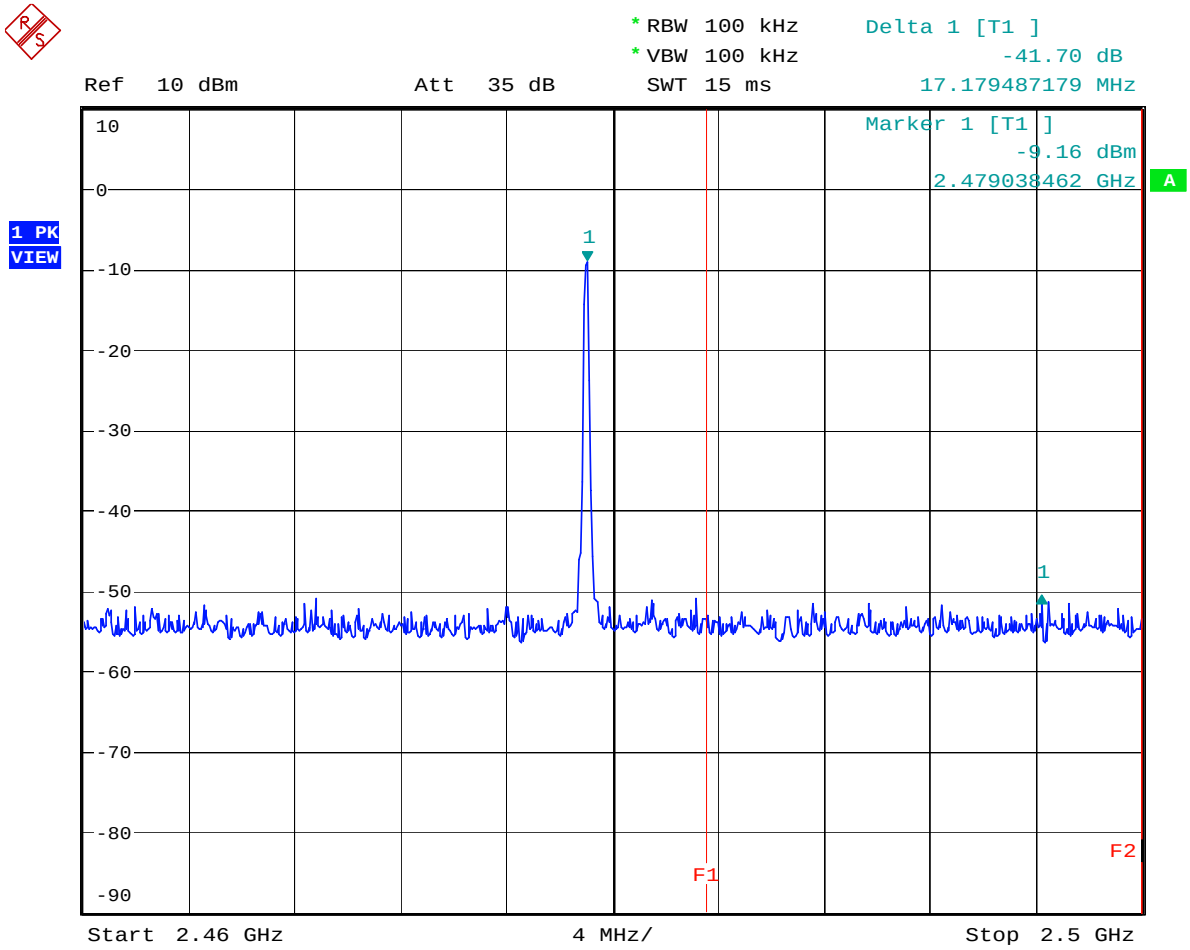
∗The maximum field strength in restricted band is the emission of carrier power strength subtract to the delta between carrier maximum power and local maximum emission in the restricted band

Modulation Type: GFSK (Channel 00)：



Date: 8.APR.2004 04:03:24

Modulation Type: GFSK (Channel 78)：



Date: 8.APR.2004 04:02:20

5.7. AC Power Line Conducted Emission

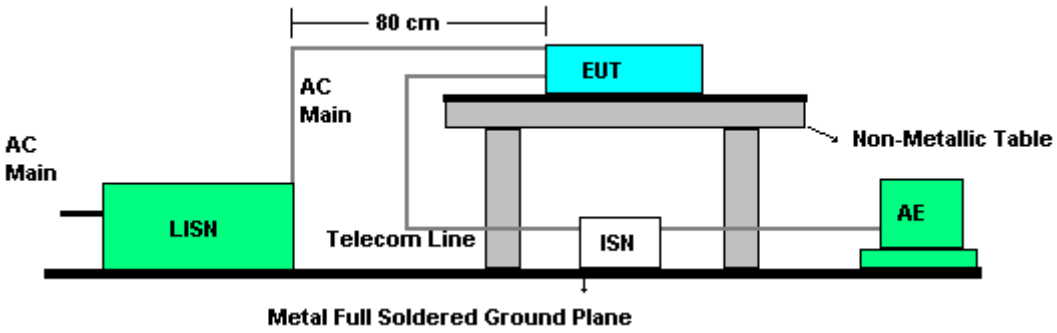
5.7.1. Measuring Instruments

Please reference item 1~5 in chapter 6 for the instruments used for testing.

5.7.2. Test Procedures

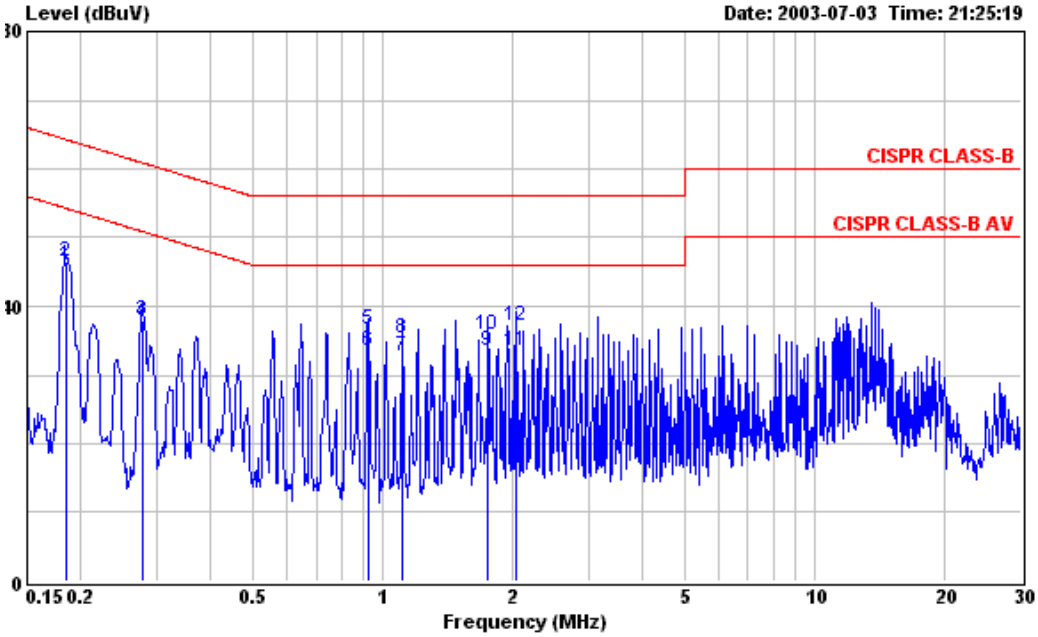
1. Configure the EUT according to ANSI C63.4.
2. The EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN)
4. All the support units are connected to the other LISNs. The LISN should provides 50uH/50ohms coupling impedance.
5. The frequency range from 150 KHz to 30 MHz was searched.
6. Use the Channel & Power Controlling software to make the EUT working on selected channel and expected output power, then use the “H” Patter Generator software to make the supporting equipments stay on working condition.
7. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
8. The measurement has to be done between each power line and ground at the power terminal for each RF channel. Only one RF channel has to be investigated since this test is independent with the RF channel selection.

5.7.3. Test Setup Layout



5.7.4. Conducted Emission

- Temperature: 26°C
- Relative Humidity: 52%
- Test Engineer: Wayne Hsu



Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Detect Mode
0.456	37.33	-19.44	56.77	37.20	0.10	0.03	QP
0.456	25.80	-20.97	46.77	25.67	0.10	0.03	AV
0.585	34.23	-21.77	56.00	34.10	0.10	0.03	QP
0.585	15.94	-30.06	46.00	15.81	0.10	0.03	AV
1.040	20.91	-25.09	46.00	20.77	0.10	0.04	AV
1.040	34.07	-21.93	56.00	33.93	0.10	0.04	QP
1.220	20.56	-25.44	46.00	20.41	0.10	0.05	AV
1.220	37.27	-18.73	56.00	37.12	0.10	0.05	QP
1.520	37.13	-18.87	56.00	36.98	0.10	0.05	QP
1.520	19.55	-26.45	46.00	19.40	0.10	0.05	AV
5.360	17.83	-32.17	50.00	17.52	0.20	0.11	AV
5.360	34.66	-25.34	60.00	34.35	0.20	0.11	QP

5.8. Spurious Radiated Emission

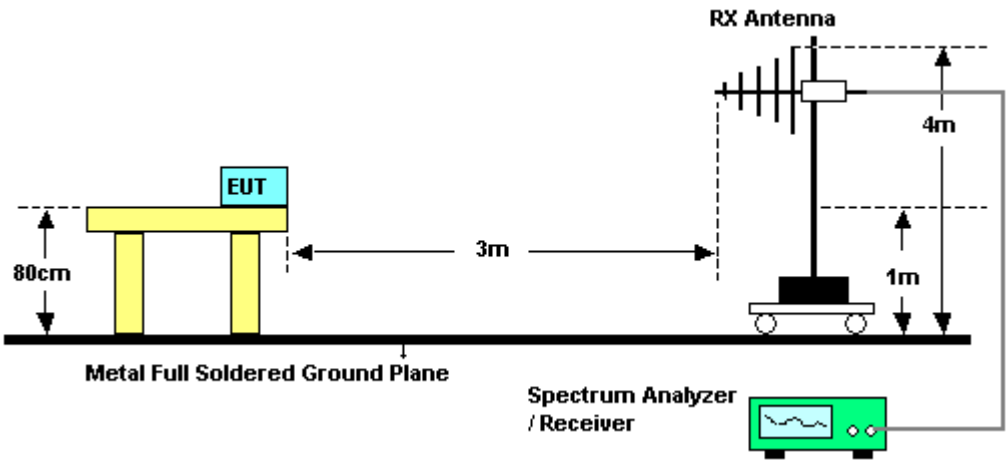
5.8.1. Measuring Instruments

Please reference item 6~17 in chapter 6 for the instruments used for testing.

5.8.2. Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated by 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
9. For emission above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
10. If the emission level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz and average method for above the 1GHz. the reported.
11. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB higher than average limit (that means the emission level in peak 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.

5.8.3. Test Setup Layout



5.8.4. CH 78 / 2480 MHz (for emission below 1GHz)

- Modulation Type: GFSK
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

(A) Polarization: Horizontal

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
80.150	36.10	-3.90	40.00	52.99	9.51	1.54	27.94	QP
89.500	39.87	-3.63	43.50	56.85	9.32	1.62	27.92	QP
102.420	37.72	-5.78	43.50	53.85	9.95	1.81	27.89	QP
343.200	38.15	-7.85	46.00	47.15	15.30	3.21	27.51	QP
379.600	39.65	-6.35	46.00	48.24	15.74	3.46	27.79	QP
471.200	36.97	-9.03	46.00	44.67	16.93	3.81	28.44	QP

(B) Polarization: Vertical

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
82.190	32.87	-7.13	40.00	49.59	9.65	1.56	27.93	QP
89.500	39.14	-4.36	43.50	56.12	9.32	1.62	27.92	QP
113.980	35.36	-8.14	43.50	50.83	10.49	1.91	27.87	QP
343.200	33.34	-12.66	46.00	42.34	15.30	3.21	27.51	QP
404.000	35.02	-10.98	46.00	43.51	15.86	3.49	27.84	QP
441.600	32.41	-13.59	46.00	40.58	16.35	3.65	28.17	QP

Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.8.5. CH 00 / 2402 MHz (for emission above 1GHz)

- Modulation Type: GFSK
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

(A) Polarization: Horizontal

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1375.300	41.48	-12.52	54.00	55.59	25.03	1.35	40.49	PK
1558.780	43.19	-10.81	54.00	56.75	25.60	1.48	40.64	PK
1586.580	42.64	-11.36	54.00	56.08	25.72	1.50	40.66	PK

(B) Polarization: Vertical

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1058.380	47.20	-6.80	54.00	61.92	24.26	1.19	40.17	PK
1460.090	42.39	-11.61	54.00	56.26	25.24	1.46	40.57	PK
1592.140	45.53	-8.47	54.00	58.95	25.74	1.50	40.66	PK

Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.8.6. CH 39 / 2441 MHz (for emission above 1GHz)

- Modulation Type: GFSK
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

(A) Polarization: Horizontal

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1375.300	41.67	-12.33	54.00	55.78	25.03	1.35	40.49	PK
1560.170	43.45	-10.55	54.00	57.00	25.61	1.48	40.64	PK
1593.530	42.37	-11.63	54.00	55.77	25.75	1.51	40.66	PK

(B) Polarization: Vertical

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1058.380	44.81	-9.19	54.00	59.53	24.26	1.19	40.17	PK
1458.700	42.50	-11.50	54.00	56.38	25.23	1.46	40.57	PK
1593.530	45.60	-8.40	54.00	59.00	25.75	1.51	40.66	PK

Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.8.7. CH 78 / 2480 MHz (for emission above 1GHz)

- Modulation Type: GFSK
- Temperature: 26°C
- Relative Humidity: 63%
- Test Engineer: Wayne Hsu

(A) Polarization: Horizontal

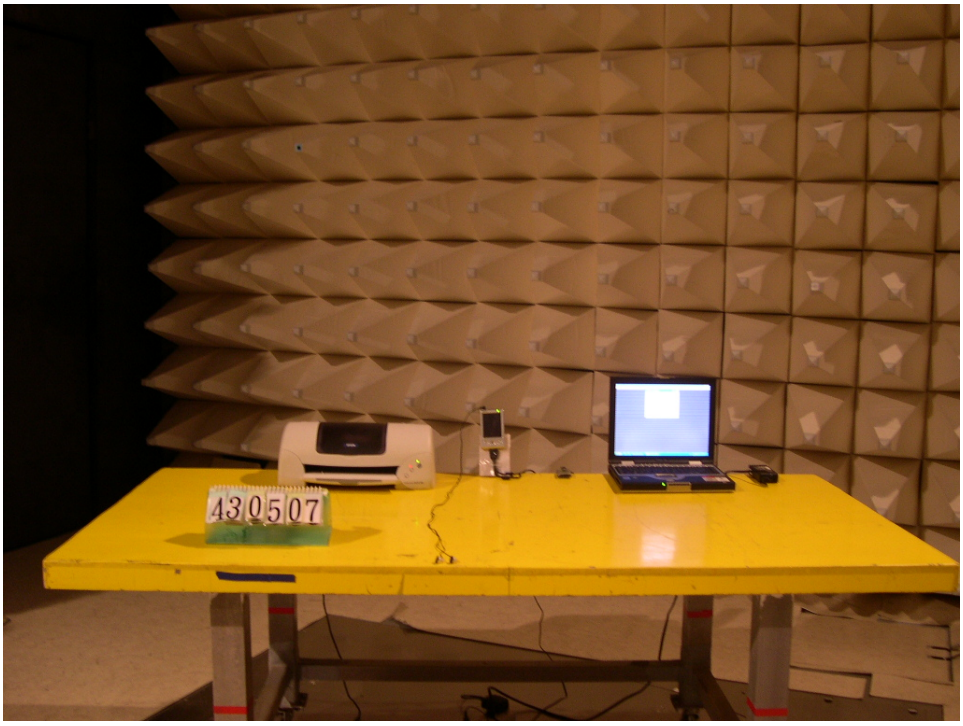
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1375.300	41.75	-12.25	54.00	55.86	25.03	1.35	40.49	PK
1558.780	42.72	-11.28	54.00	56.28	25.60	1.48	40.64	PK
1587.970	41.55	-12.45	54.00	54.98	25.73	1.50	40.66	PK

(B) Polarization: Vertical

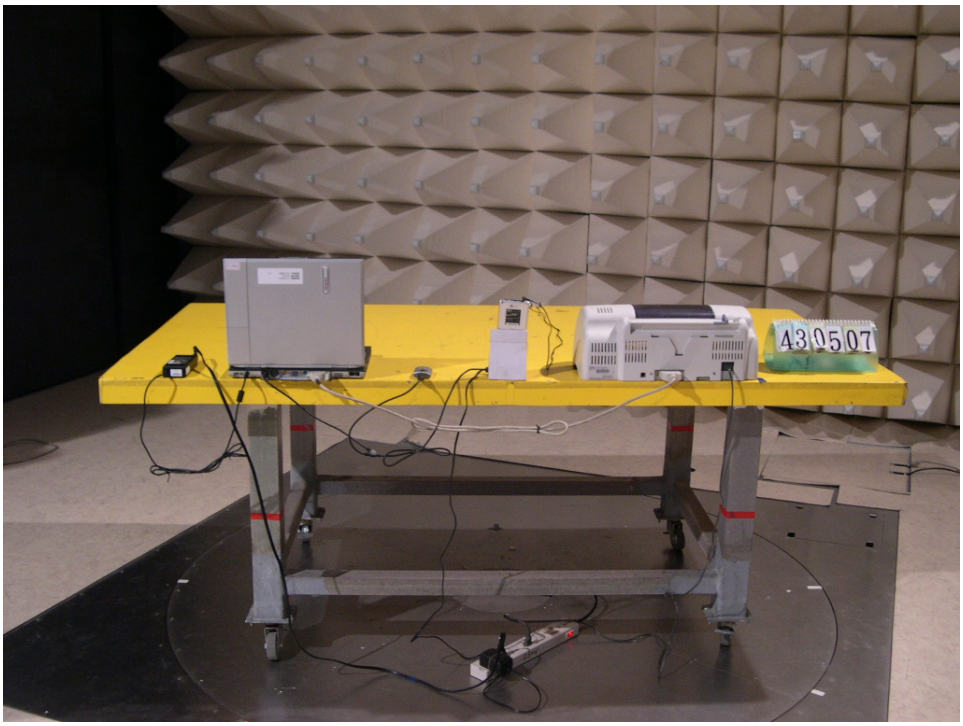
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detect Mode
1059.770	47.30	-6.70	54.00	62.01	24.27	1.19	40.17	PK
1460.090	43.24	-10.76	54.00	57.11	25.24	1.46	40.57	PK
1592.140	45.55	-8.45	54.00	58.97	25.74	1.50	40.66	PK

Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

FRONT



REAR



5.9. Antenna Requirements

5.9.1. Standard Applicable

47 CFR Part15 Section 15.203:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
47 CFR Part15 Section 15.247 (b):
If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
If the intentional radiator is used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

5.9.2. Antenna Connected Construction

There is no antenna connector for PIFA antenna.

6. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date
Receiver	R&S	ESCS 30	100132	9 KHz – 2.75 GHz	Jun. 11, 2004
LISN	MessTec	NNB-2/16Z	2001-008	9 KHz – 30 MHz	Apr. 28, 2004
LISN	MessTec	NNB-2/16Z	2001-009	9 KHz – 30 MHz	Apr. 28, 2004
Filter	LINDGREN	LRE-2060	1004	< 450 Hz	N/A
Filter	LINDGREN	N6006	201052	0 ~ 60 Hz	N/A
RF Cable	Suhner Switzerland	RG223/U	CB029	9KHz~30MHz	Jan. 05, 2005
BNC Connector	NOBLE	50ohm	TM009	50 ohm	Apr. 23, 2004
Spectrum analyzer	R&S	FSP40	100004	9KHZ~40GHz	Aug. 22, 2004

※ Calibration Interval of instruments listed above is one year.