FCC TEST REPORT

REPORT NO.: RF951109A04

MODEL NO.: IGO-08A *– multiple listing on page 8*

RECEIVED: Nov. 7, 2006

TESTED: Nov. 7 ~ Dec. 21, 2006

ISSUED: May 16, 2007

APPLICANT: BEHAVIOR TECH COMPUTER CORP.

ADDRESS: 20F-B, No.98, Sec. 1, Sintai 5th Rd., Sijhih City, Taipei County 22102, Taiwan (R.O.C.)

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.

0528

No. 2177-01

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1. CERTIFICATION

PRODUCT:	GPS Bluetooth Receiver
BRAND NAME:	BTC, EMPREX
MODEL NO.:	IGO-08A – ***multiple listing on page 8***
APPLICANT:	BEHAVIOR TECH COMPUTER CORP.
TESTED:	Nov. 7 ~ Dec. 21, 2006
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	FCC Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment (Model: IGO-08A) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Annie Chang , **DATE:** May 16, 2007
(Annie Chang)

TECHNICAL ACCEPTANCE : Jamison Chan , **DATE:** May 16, 2007
Responsible for RF
(Jamison Chan)

APPROVED BY : Ken Liu , **DATE:** May 16, 2007
(Ken Liu / Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –11.15dB at 0.186MHz.
15.247(a)(1)(iii)	Number of Hopping Frequency Used Spec.: At least 15 channels	PASS	Meet the requirement of limit.
15.247(a)(1)(iii)	Dwell Time on Each Channel Spec. : Max. 0.4 second within 31.6 second	PASS	Meet the requirement of limit.
15.247(a)(1)	1. Hopping Channel Separation Spec. : Min. 25 kHz or 20 dB bandwidth, whichever is greater (see Note 1) 2. Spectrum Bandwidth of a Frequency Hopping Sequence Spread Spectrum System	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Spec.: max. 30dBm (see Note 1)	PASS	Meet the requirement of limit.
15.247(d)	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –4.12dB at 51.38MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.

NOTE: If The Frequency Hopping System operating in 2400-2483.5MHz band and the output power less than 125mW. The hopping channel carrier frequencies separated by a minimum of 25kHz or two-thirds of the 20dB bandwidth of hopping channel whichever is greater.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

MEASUREMENT	UNCERTAINTY
Conducted emissions	2.45 dB
Radiated emissions	3.55 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	GPS Bluetooth Receiver
MODEL NO.	IGO-08A ***– multiple listing as below***
FCC ID	E5XGBIGO08
POWER SUPPLY	3.7Vdc from battery 5.0Vdc from AC adapter, host equipment
MODULATION TYPE	Bluetooth: GFSK, π/4-DQPSK, 8DPSK GPS: NMEA, RTCM, UBX
RADIO TECHNOLOGY	FHSS
TRANSFER RATE	Bluetooth: 9600 Baud Rate (3Mbps) GPS: 9600 Baud Rate
OPERATING FREQUENCY	Bluetooth: 2402~2480 MHz GPS: 1575.42 MHz
NUMBER OF CHANNEL	Bluetooth: 79 GPS: 1
OUTPUT POWER	Bluetooth: -1dBm
ANTENNA TYPE	Bluetooth: Chip antenna with 2dBi gain GPS: Ceramic Patch antenna with 5dBi gain
DATA CABLE	1m UART to USB cable
I/O PORTS	NA

1. The EUT is a Bluetooth dongle with GPS functions.

2. This report was tested for EUT's Bluetooth function only, its GPS receiver function testing was recorded in another report: FD951109A04.

3. The EUT has four models as below:

Brand	Model	Function
BTC, EMPREX	IGO-08A	GPS, BlueTooth, DATA-LOGGER, COMPASS
	IGO-08B	GPS, BlueTooth
	IGO-08C	GPS, BlueTooth, DATA-LOGGER
	IGO-08D	GPS, DATA-LOGGER

For the test, model: **IGO-08A** was selected as the representative model and its data was recorded in this report.

4. The EUT was powered by the following adapter and battery:

AC adapter:

Brand	APD
Model	WA-05F05U
Input Power	100-240V, 50-60Hz, 0.2A
Output Power	5V, 1A
Power Cord	0.4 m non-shielded cable

Battery:

Rating:	3.7Vdc

5. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

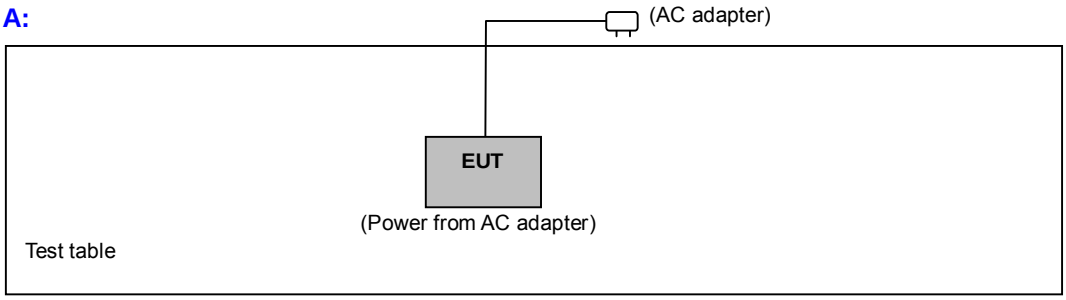
3.2 DESCRIPTION OF TEST MODES

79 channels are provided to this EUT:

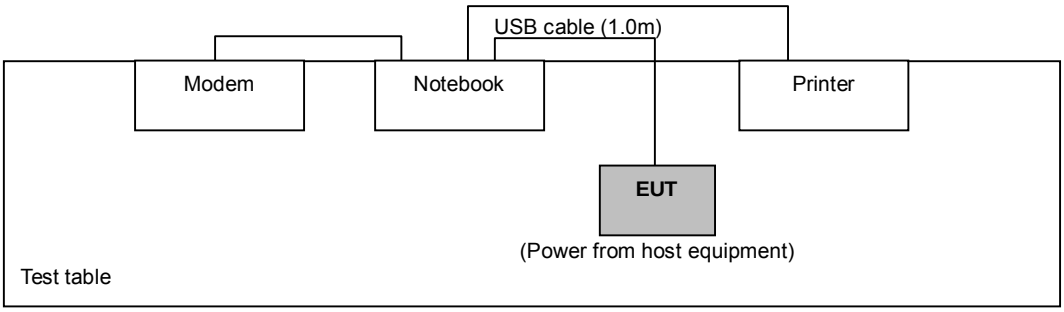
CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2431	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

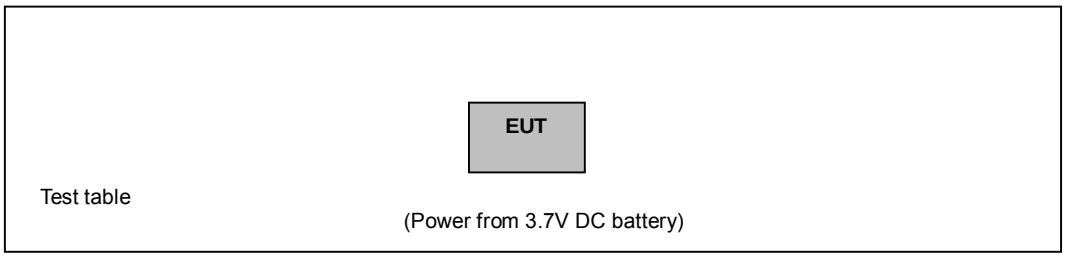
Mode A:



Mode B:



Mode C:



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
A	√	√	√	√	EUT w. AC adapter (Power from AC adapter)
B	√	√	-	-	EUT link to Notebook (Power from host equipment)
C	Note	√	-	-	EUT only (Power from 3.7V DC battery)

Where **PLC:** Power Line Conducted Emission **RE<1G:** Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery or car charger.

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	PACKET TYPE	DATE RATE (kbps)
A	0 to 78	0	FHSS	GFSK	DH5	1
A	0 to 78	0	FHSS	8DPSK	DH5	3
B	0 to 78	0	FHSS	GFSK	DH5	1
B	0 to 78	0	FHSS	8DPSK	DH5	3

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, packet types data rate, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	PACKET TYPE	DATE RATE (kbps)	AXIS
A	0 to 78	0	FHSS	GFSK	DH5	1	X
A	0 to 78	0	FHSS	8DPSK	DH5	3	X
B	0 to 78	0	FHSS	GFSK	DH5	1	X
B	0 to 78	0	FHSS	8DPSK	DH5	3	X
C	0 to 78	0	FHSS	GFSK	DH5	1	X
C	0 to 78	0	FHSS	8DPSK	DH5	3	X

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, packet types data rate, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	PACKET TYPE	DATE RATE (kbps)	AXIS
A	0 to 78	0, 39, 78	FHSS	GFSK	DH5	1	X
A	0 to 78	0, 39, 78	FHSS	8DPSK	DH5	3	X

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types of the antenna and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	PACKET TYPE	DATE RATE (kbps)	AXIS
A	0 to 78	0, 78	FHSS	GFSK	DH5	1	X
A	0 to 78	0, 78	FHSS	8DPSK	DH5	3	X

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types of the antenna and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	PACKET TYPE	DATE RATE (kbps)	AXIS
A	0 to 78	0, 39, 78	FHSS	GFSK	DH5	1	X
B	0 to 78	0, 39, 78	FHSS	8DPSK	DH5	3	X

3.2.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247)
ANSI C63.4- 2003

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	D600	CN-0G5152-48643 -487-0213	FCC DoC Approved
2	PRINTER	EPSON	LQ-300+	DCGY017054	FCC DoC Approved
3	MODEM	ACEEX	1414	980020520	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA

NOTE: All power cords of the above support units are non-shielded (1.8m).

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS 30	828765/002	Jul. 27, 2007
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	835239/001	Mar. 08, 2007
LISN With Adapter (for EUT)	AD10	C09Ada-001	Mar. 08, 2007
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	835239/002	Mar. 20, 2007
ROHDE & SCHWARZ 4-wire ISN	ENY41	835154/007	Apr. 02, 2007
ROHDE & SCHWARZ 2-wire ISN	ENY22	833823/026	Apr. 02, 2007
Software	ADT_Cond_V7.3.2	NA	NA
Software	ADT_ISN_V7.3.2	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C09.01	Mar. 30, 2007
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010789	May 21, 2007

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in ADT Shielded Room No. 9.

3. The VCCI Site Registration No. C-1312.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

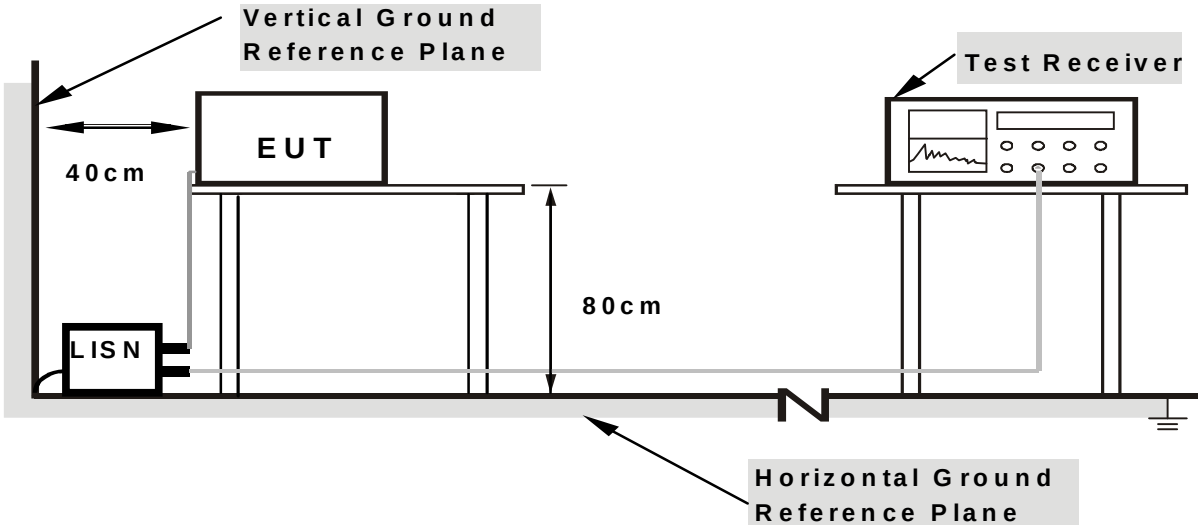
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

For Mode A:

Set the EUT under transmission/receiving condition continuously at specific channel frequency.

For Mode B:

a. Turned on the power of all equipment.
b. Notebook ran a test program to enable all functions.
c. Notebook read and wrote messages from/to HDD.
d. Connected the EUT with a Notebook on the testing table.
e. Notebook sent and received messages to/from EUT via USB cable.
f. Notebook sent messages to LCD panel and then displayed on its screen simultaneously.
g. Notebook sent messages to modem.
h. Notebook sent messages to printer and printer printed it out.
i. Steps c-i were repeated.

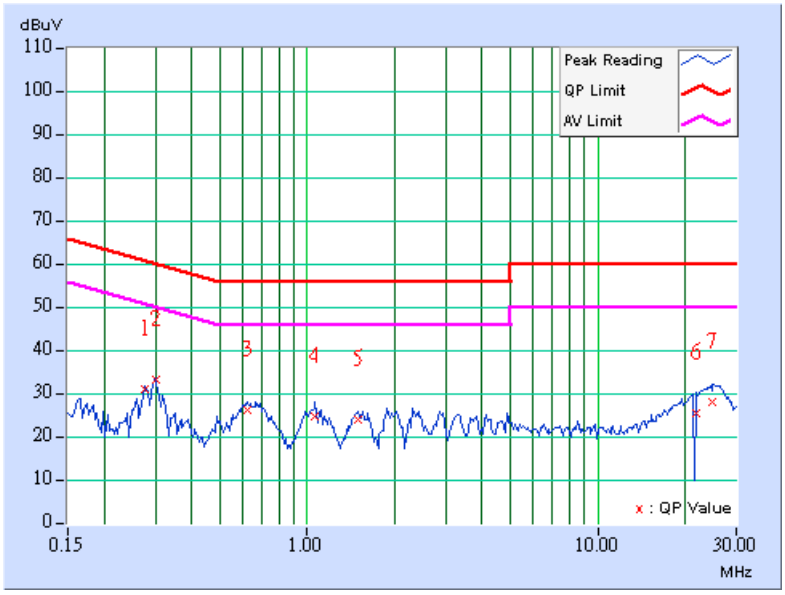
4.1.7 TEST RESULTS

CONDUCTED WORST CASE DATA: MODE A FOR GFSK

MODULATION TYPE	GFSK	**CHANNEL**	0
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.276	0.20	29.99	-	30.19	-	60.94	50.94	-30.75	-
2	0.300	0.20	32.25	-	32.45	-	60.24	50.24	-27.79	-
3	0.621	0.20	25.38	-	25.58	-	56.00	46.00	-30.42	-
4	1.066	0.20	23.64	-	23.84	-	56.00	46.00	-32.16	-
5	1.492	0.20	23.02	-	23.22	-	56.00	46.00	-32.78	-
6	21.962	1.04	24.35	-	25.39	-	60.00	50.00	-34.61	-
7	24.923	1.10	27.11	-	28.21	-	60.00	50.00	-31.79	-

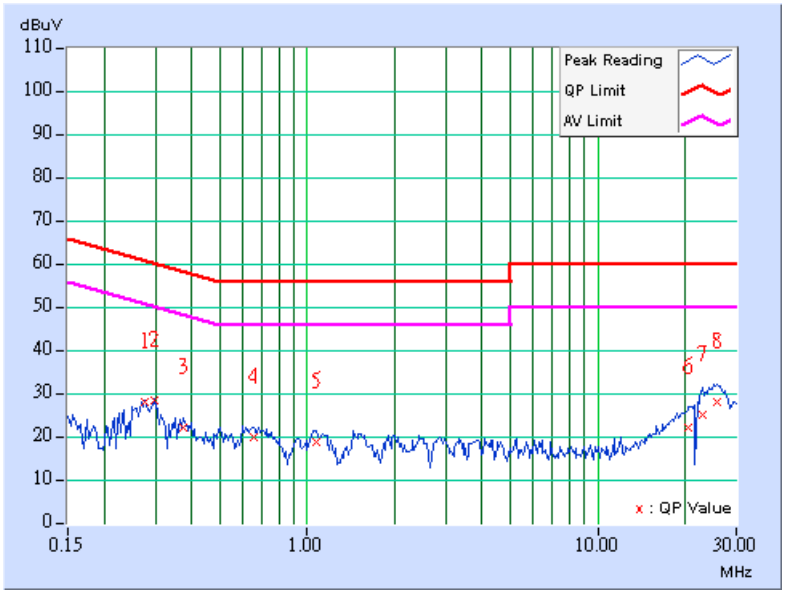
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	0
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.276	0.20	27.04	-	27.24	-	60.94	50.94	-33.70	-
2	0.297	0.20	27.70	-	27.90	-	60.33	50.33	-32.43	-
3	0.375	0.20	21.22	-	21.42	-	58.39	48.39	-36.97	-
4	0.651	0.20	18.84	-	19.04	-	56.00	46.00	-36.96	-
5	1.069	0.20	17.98	-	18.18	-	56.00	46.00	-37.82	-
6	20.510	0.91	21.36	-	22.27	-	60.00	50.00	-37.73	-
7	22.925	0.96	24.35	-	25.31	-	60.00	50.00	-34.69	-
8	25.640	1.00	27.16	-	28.16	-	60.00	50.00	-31.84	-

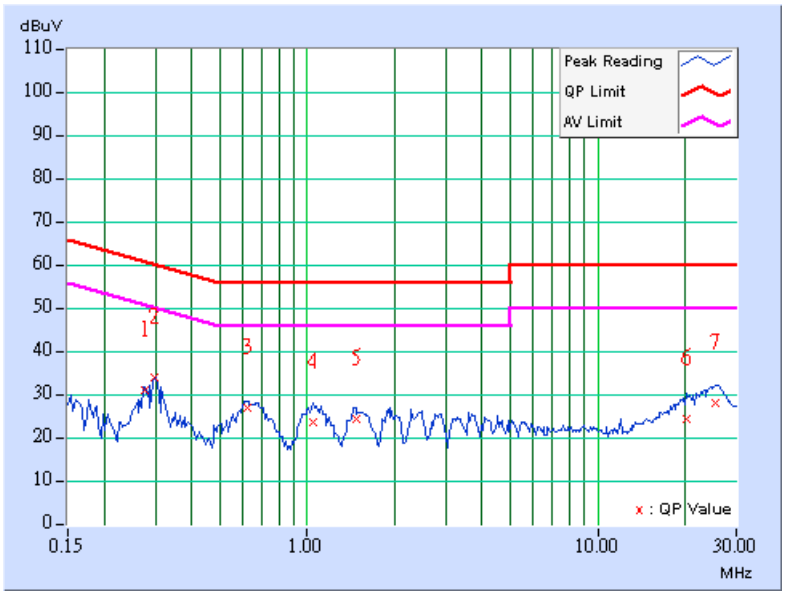
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	39
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.277	0.20	29.95	-	30.15	-	60.91	50.91	-30.76	-
2	0.300	0.20	32.82	-	33.02	-	60.26	50.26	-27.24	-
3	0.621	0.20	26.02	-	26.22	-	56.00	46.00	-29.78	-
4	1.045	0.20	22.58	-	22.78	-	56.00	46.00	-33.22	-
5	1.477	0.20	23.50	-	23.70	-	56.00	46.00	-32.30	-
6	20.357	1.01	23.29	-	24.30	-	60.00	50.00	-35.70	-
7	25.487	1.12	27.13	-	28.25	-	60.00	50.00	-31.75	-

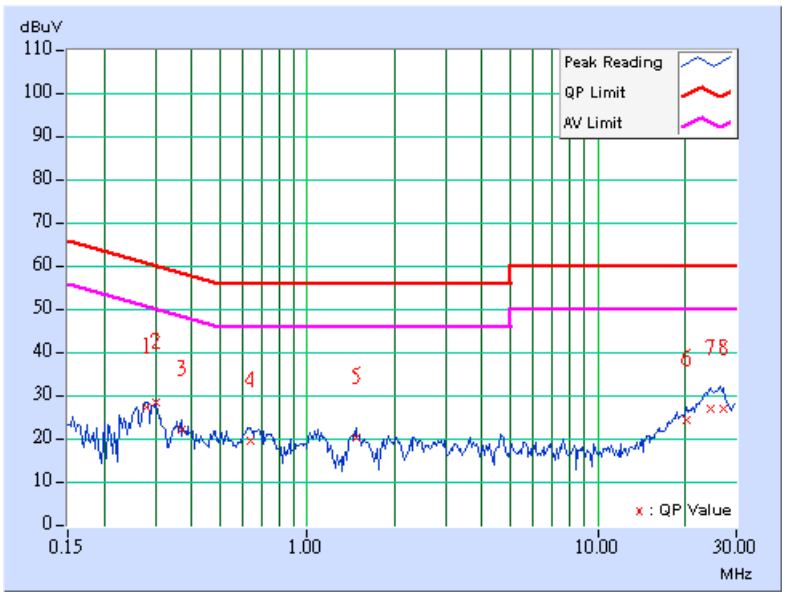
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	39
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.279	0.20	26.40	-	26.60	-	60.84	50.84	-34.24	-
2	0.300	0.20	27.35	-	27.55	-	60.24	50.24	-32.69	-
3	0.369	0.20	21.39	-	21.59	-	58.52	48.52	-36.93	-
4	0.636	0.20	18.57	-	18.77	-	56.00	46.00	-37.23	-
5	1.483	0.20	19.34	-	19.54	-	56.00	46.00	-36.46	-
6	20.159	0.90	23.55	-	24.45	-	60.00	50.00	-35.55	-
7	24.353	0.99	25.96	-	26.95	-	60.00	50.00	-33.05	-
8	27.033	1.00	26.13	-	27.13	-	60.00	50.00	-32.87	-

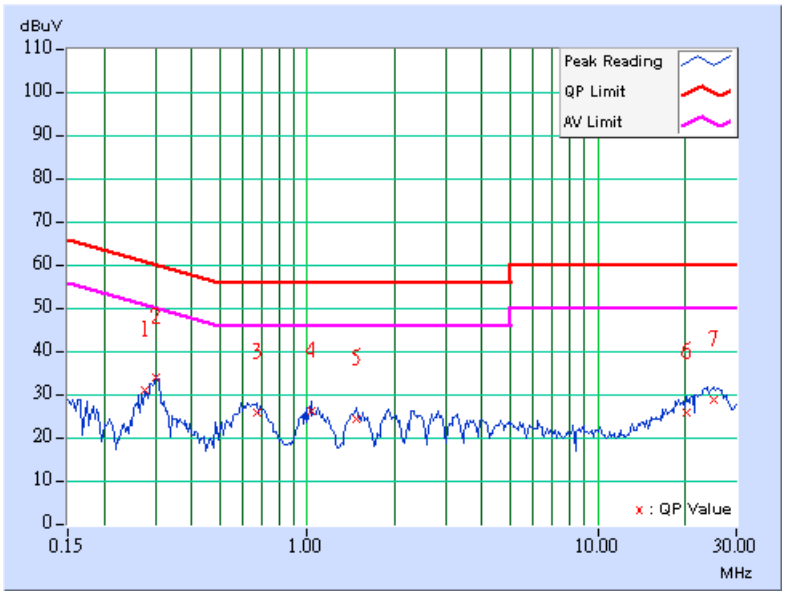
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	78
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.276	0.20	30.13	-	30.33	-	60.94	50.94	-30.61	-
2	0.300	0.20	32.83	-	33.03	-	60.24	50.24	-27.21	-
3	0.672	0.20	24.91	-	25.11	-	56.00	46.00	-30.89	-
4	1.036	0.20	25.11	-	25.31	-	56.00	46.00	-30.69	-
5	1.480	0.20	23.22	-	23.42	-	56.00	46.00	-32.58	-
6	20.186	1.00	24.78	-	25.78	-	60.00	50.00	-34.22	-
7	25.049	1.10	27.84	-	28.94	-	60.00	50.00	-31.06	-

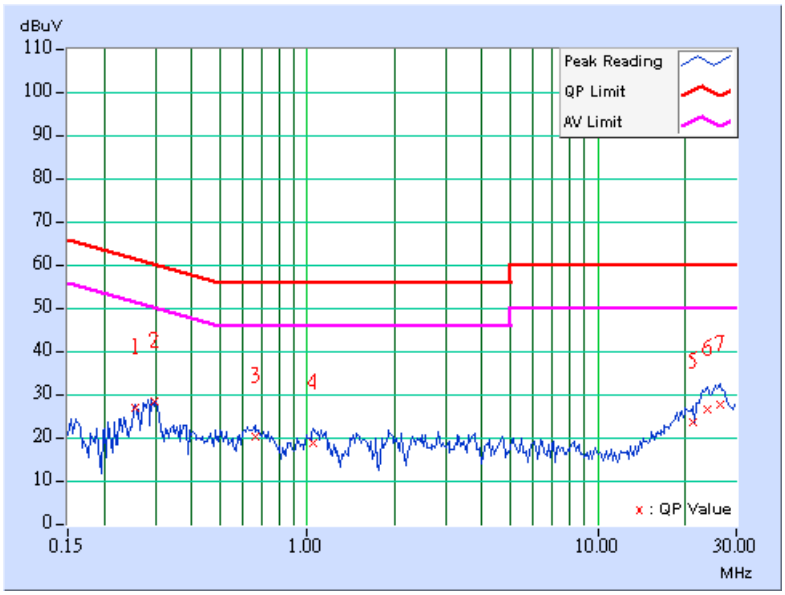
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	78
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.255	0.20	25.87	-	26.07	-	61.59	51.59	-35.52	-
2	0.299	0.20	27.36	-	27.56	-	60.26	50.26	-32.70	-
3	0.660	0.20	19.32	-	19.52	-	56.00	46.00	-36.48	-
4	1.054	0.20	17.72	-	17.92	-	56.00	46.00	-38.08	-
5	21.317	0.93	22.73	-	23.66	-	60.00	50.00	-36.34	-
6	23.933	0.98	25.83	-	26.81	-	60.00	50.00	-33.19	-
7	26.582	1.00	26.73	-	27.73	-	60.00	50.00	-32.27	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

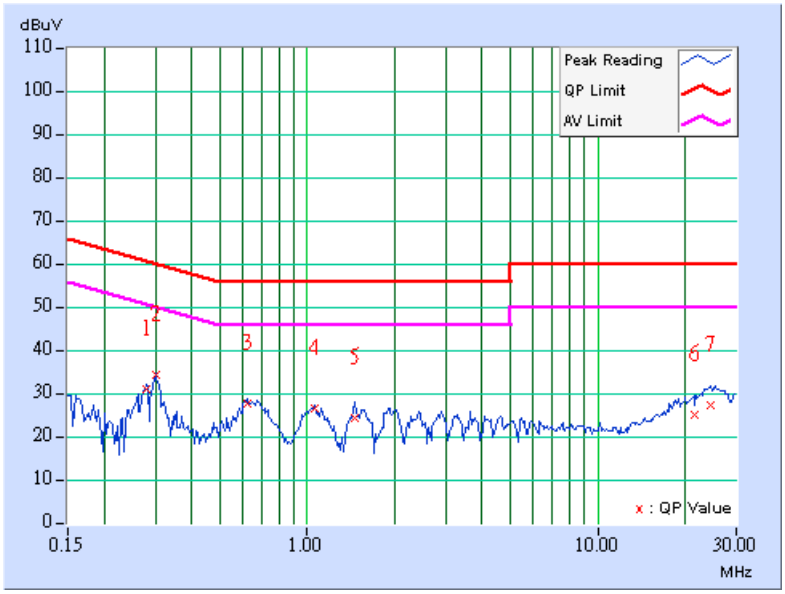


CONDUCTED WORST CASE DATA: MODE A FOR 8DPSK

MODULATION TYPE	8DPSK	**CHANNEL**	0
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.279	0.20	30.01	-	30.21	-	60.85	50.85	-30.64	-
2	0.300	0.20	33.31	-	33.51	-	60.24	50.24	-26.73	-
3	0.621	0.20	26.51	-	26.71	-	56.00	46.00	-29.29	-
4	1.063	0.20	25.59	-	25.79	-	56.00	46.00	-30.21	-
5	1.456	0.20	23.26	-	23.46	-	56.00	46.00	-32.54	-
6	21.515	1.03	24.21	-	25.24	-	60.00	50.00	-34.76	-
7	24.593	1.09	26.15	-	27.24	-	60.00	50.00	-32.76	-

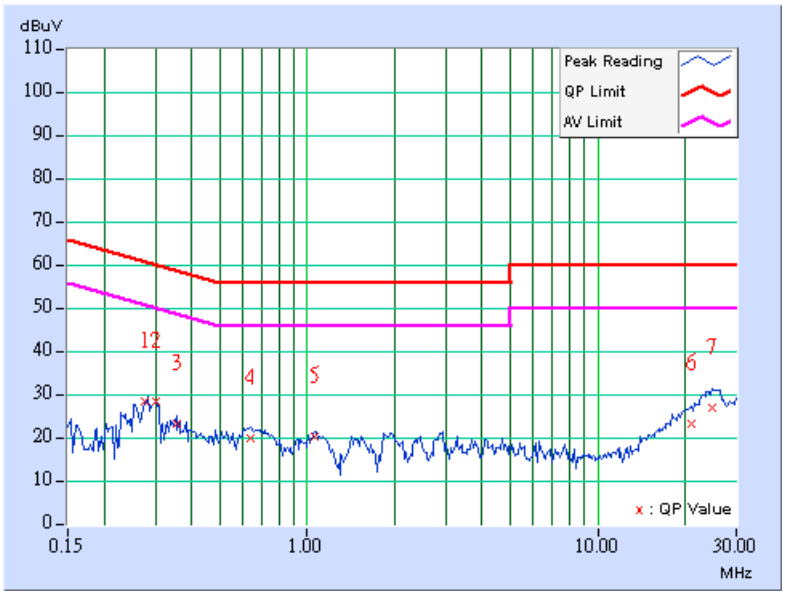
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	0
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.277	0.20	27.50	-	27.70	-	60.89	50.89	-33.19	-
2	0.300	0.20	27.65	-	27.85	-	60.24	50.24	-32.39	-
3	0.354	0.20	22.39	-	22.59	-	58.87	48.87	-36.28	-
4	0.642	0.20	19.02	-	19.22	-	56.00	46.00	-36.78	-
5	1.057	0.20	19.29	-	19.49	-	56.00	46.00	-36.51	-
6	20.930	0.92	22.23	-	23.15	-	60.00	50.00	-36.85	-
7	24.842	1.00	26.12	-	27.12	-	60.00	50.00	-32.88	-

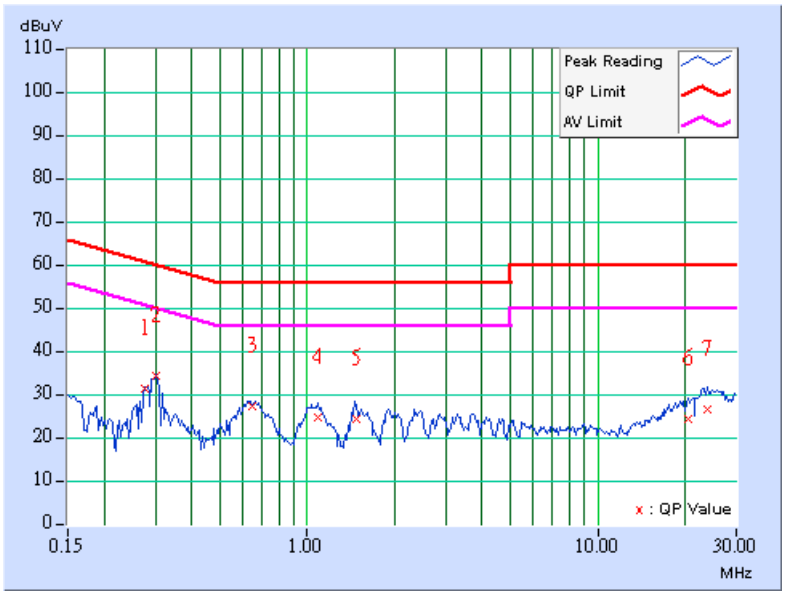
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	39
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.276	0.20	30.59	-	30.79	-	60.94	50.94	-30.15	-
2	0.300	0.20	33.35	-	33.55	-	60.24	50.24	-26.69	-
3	0.646	0.20	26.35	-	26.55	-	56.00	46.00	-29.45	-
4	1.090	0.20	23.92	-	24.12	-	56.00	46.00	-31.88	-
5	1.481	0.20	23.36	-	23.56	-	56.00	46.00	-32.44	-
6	20.474	1.01	23.30	-	24.31	-	60.00	50.00	-35.69	-
7	23.810	1.08	25.74	-	26.82	-	60.00	50.00	-33.18	-

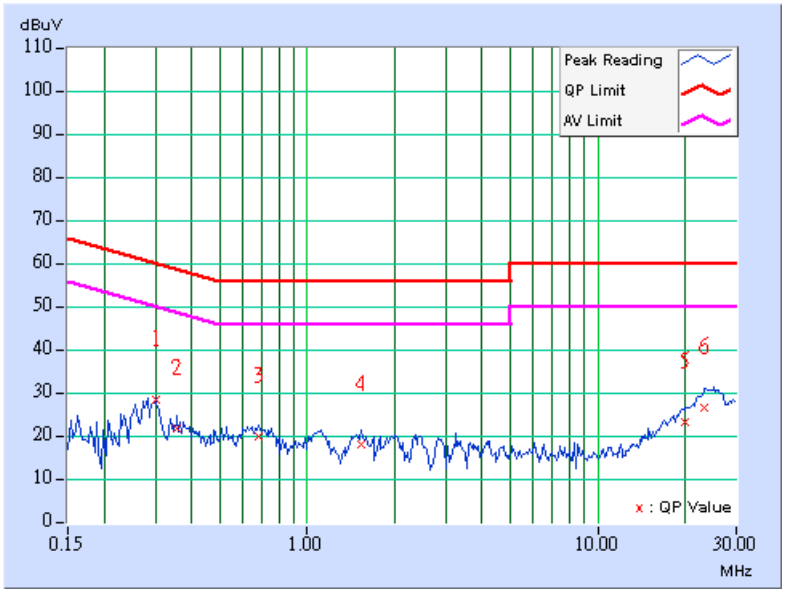
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	39
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.300	0.20	27.39	-	27.59	-	60.24	50.24	-32.65	-
2	0.357	0.20	20.88	-	21.08	-	58.80	48.80	-37.72	-
3	0.681	0.20	18.90	-	19.10	-	56.00	46.00	-36.90	-
4	1.528	0.20	17.22	-	17.42	-	56.00	46.00	-38.58	-
5	19.961	0.90	22.46	-	23.36	-	60.00	50.00	-36.64	-
6	23.345	0.97	25.80	-	26.77	-	60.00	50.00	-33.23	-

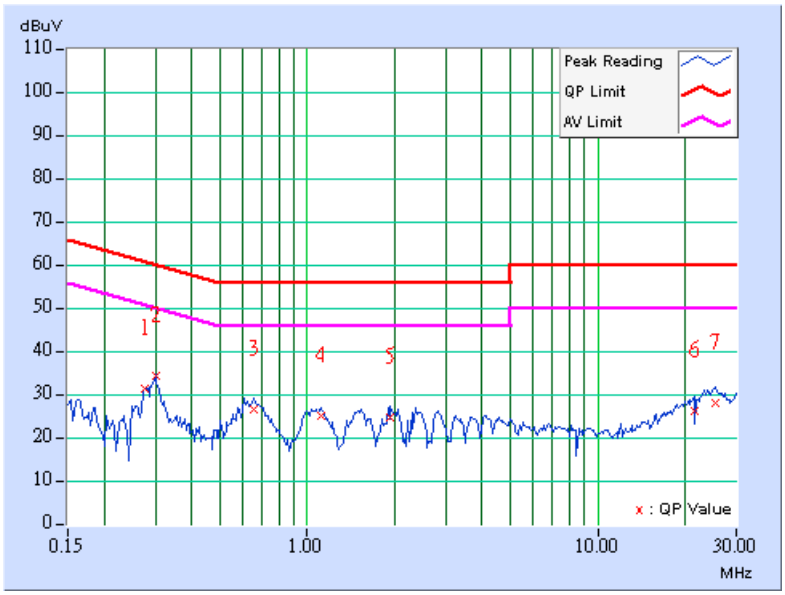
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	78
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.276	0.20	30.43	-	30.63	-	60.94	50.94	-30.31	-
2	0.300	0.20	33.25	-	33.45	-	60.24	50.24	-26.79	-
3	0.657	0.20	25.46	-	25.66	-	56.00	46.00	-30.34	-
4	1.111	0.20	24.20	-	24.40	-	56.00	46.00	-31.60	-
5	1.936	0.20	23.56	-	23.76	-	56.00	46.00	-32.24	-
6	21.530	1.03	25.23	-	26.26	-	60.00	50.00	-33.74	-
7	25.472	1.12	26.90	-	28.02	-	60.00	50.00	-31.98	-

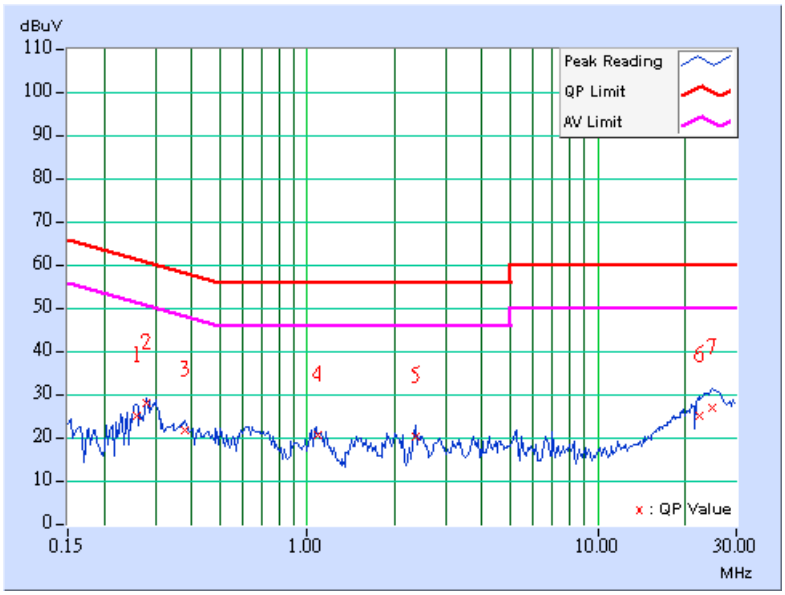
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	78
INPUT POWER	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 75%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.258	0.20	24.28	-	24.48	-	61.50	51.50	-37.02	-
2	0.279	0.20	27.22	-	27.42	-	60.85	50.85	-33.43	-
3	0.378	0.20	21.04	-	21.24	-	58.32	48.32	-37.08	-
4	1.087	0.20	19.61	-	19.81	-	56.00	46.00	-36.19	-
5	2.362	0.22	19.30	-	19.52	-	56.00	46.00	-36.48	-
6	22.304	0.95	24.02	-	24.97	-	60.00	50.00	-35.03	-
7	24.656	0.99	25.95	-	26.94	-	60.00	50.00	-33.06	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

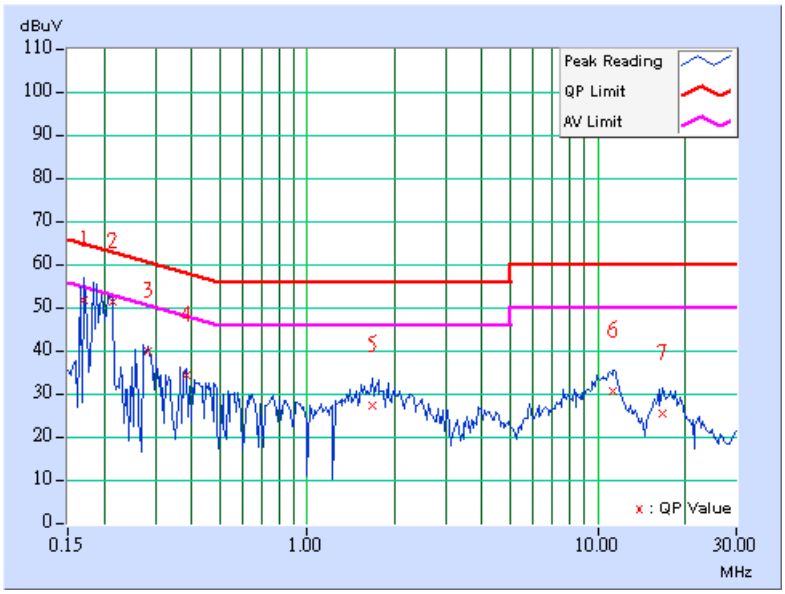


CONDUCTED WORST CASE DATA: MODE B FOR GFSK

MODULATION TYPE	GFSK	**CHANNEL**	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.171	0.17	51.15	-	51.32	-	64.91	54.91	-13.59	-
2	0.213	0.20	50.69	-	50.89	-	63.09	53.09	-12.20	-
3	0.282	0.20	38.96	-	39.16	-	60.76	50.76	-21.60	-
4	0.384	0.20	33.45	-	33.65	-	58.19	48.19	-24.54	-
5	1.684	0.20	26.52	-	26.72	-	56.00	46.00	-29.28	-
6	11.312	0.65	29.93	-	30.58	-	60.00	50.00	-29.42	-
7	16.820	0.87	24.65	-	25.52	-	60.00	50.00	-34.48	-

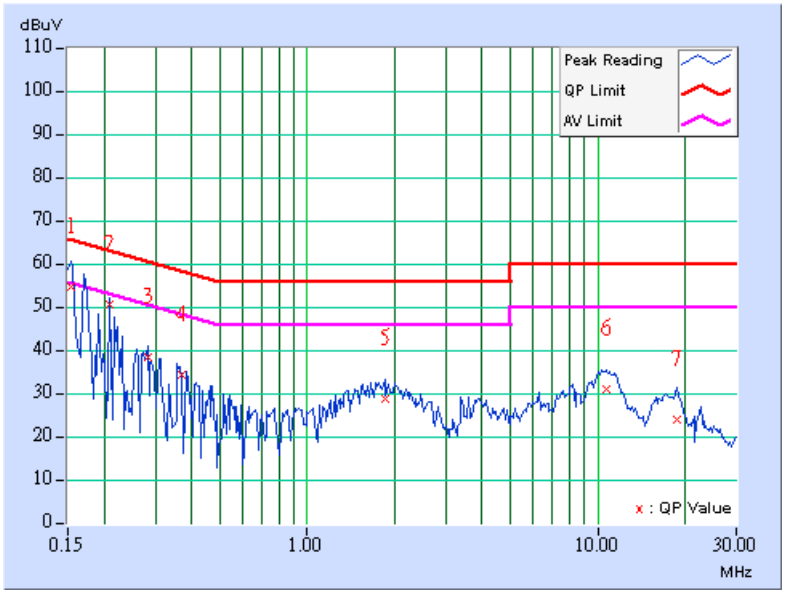
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.153	0.15	54.08	-	54.23	-	65.84	55.84	-11.60	-
2	0.210	0.20	49.73	-	49.93	-	63.21	53.21	-13.28	-
3	0.282	0.20	37.54	-	37.74	-	60.76	50.76	-23.02	-
4	0.368	0.20	33.73	-	33.93	-	58.55	48.55	-24.62	-
5	1.846	0.20	28.15	-	28.35	-	56.00	46.00	-27.65	-
6	10.754	0.63	30.28	-	30.91	-	60.00	50.00	-29.09	-
7	18.728	0.87	23.33	-	24.20	-	60.00	50.00	-35.80	-

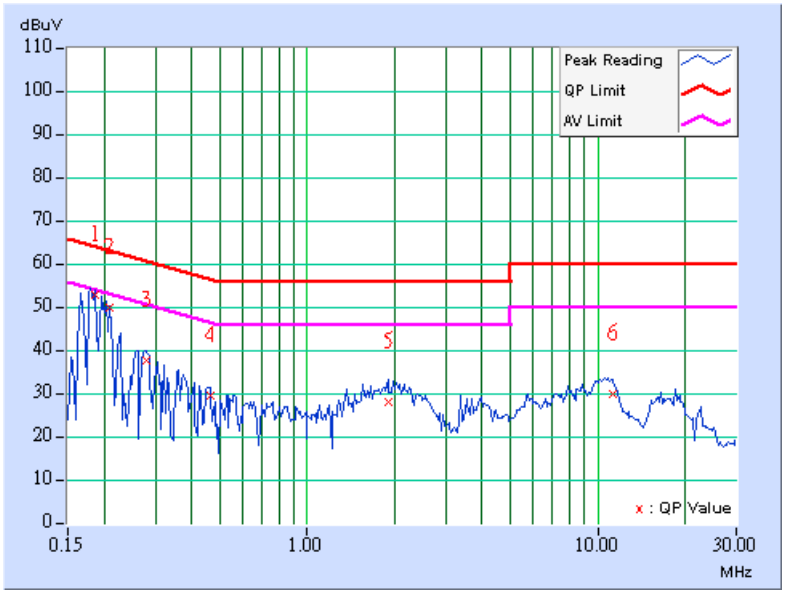
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	39
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.186	0.19	52.23	-	52.42	-	64.21	54.21	-11.80	-
2	0.210	0.20	49.29	-	49.49	-	63.21	53.21	-13.72	-
3	0.279	0.20	37.22	-	37.42	-	60.85	50.85	-23.43	-
4	0.462	0.20	28.89	-	29.09	-	56.66	46.66	-27.57	-
5	1.897	0.20	27.53	-	27.73	-	56.00	46.00	-28.27	-
6	11.279	0.65	29.33	-	29.98	-	60.00	50.00	-30.02	-

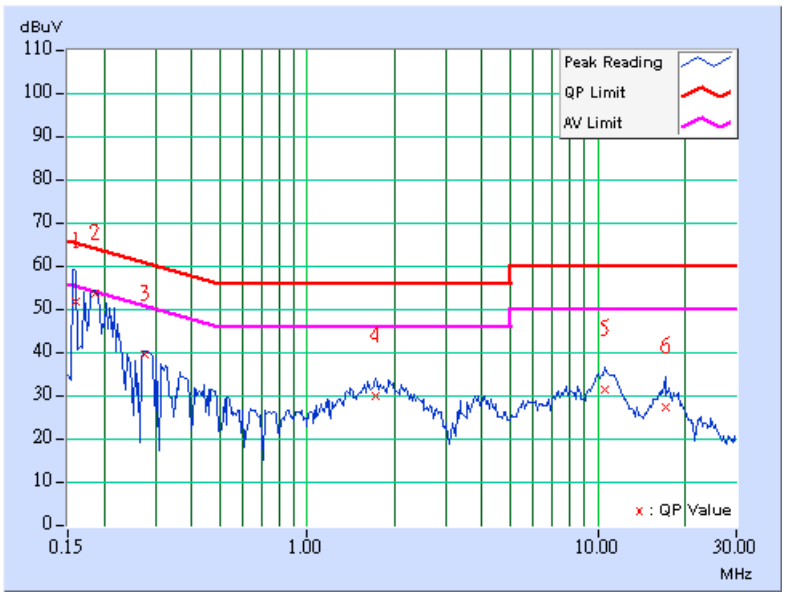
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	39
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.159	0.16	50.91	-	51.07	-	65.52	55.52	-14.45	-
2	**0.186**	**0.19**	**52.88**	**-**	**53.07**	**-**	**64.21**	**54.21**	**-11.15**	**-**
3	0.276	0.20	38.80	-	39.00	-	60.95	50.95	-21.95	-
4	1.729	0.20	29.07	-	29.27	-	56.00	46.00	-26.73	-
5	10.584	0.62	30.56	-	31.18	-	60.00	50.00	-28.82	-
6	17.066	0.84	26.65	-	27.49	-	60.00	50.00	-32.51	-

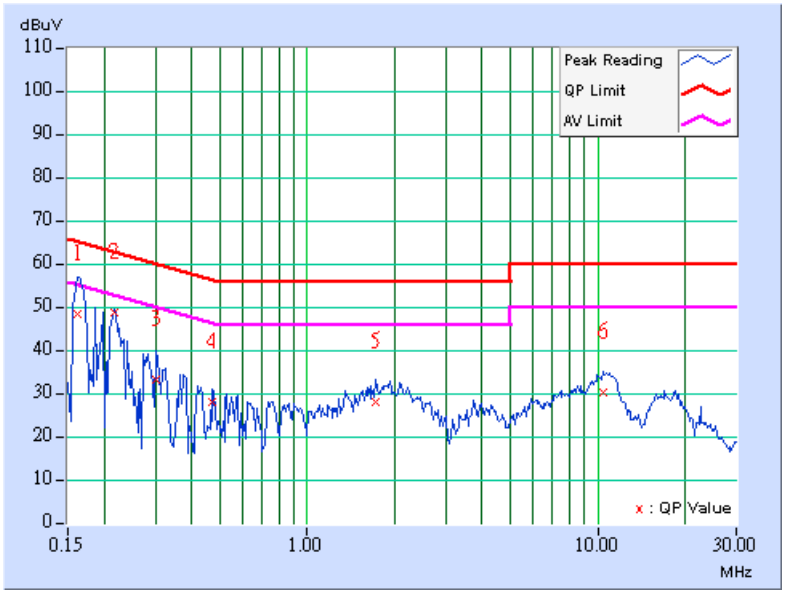
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	78
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.162	0.16	47.85	-	48.01	-	65.36	55.36	-17.35	-
2	0.216	0.20	48.15	-	48.35	-	62.97	52.97	-14.62	-
3	0.300	0.20	32.61	-	32.81	-	60.24	50.24	-27.43	-
4	0.468	0.20	27.66	-	27.86	-	56.55	46.55	-28.69	-
5	1.720	0.20	27.40	-	27.60	-	56.00	46.00	-28.40	-
6	10.481	0.62	29.80	-	30.42	-	60.00	50.00	-29.58	-

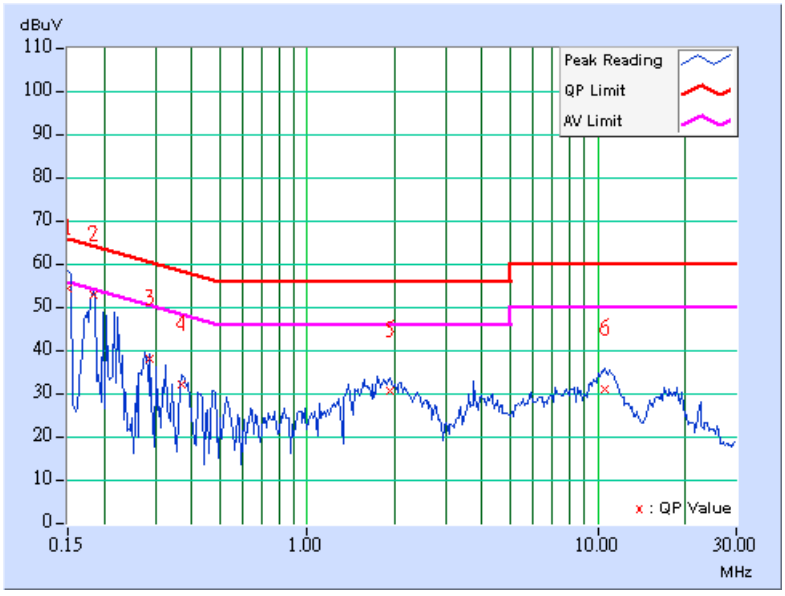
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	**CHANNEL**	78
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1006hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.15	53.92	-	54.07	-	66.00	56.00	-11.93	-
2	0.183	0.18	52.50	-	52.68	-	64.35	54.35	-11.67	-
3	0.288	0.20	37.70	-	37.90	-	60.58	50.58	-22.68	-
4	0.371	0.20	31.67	-	31.87	-	58.48	48.48	-26.61	-
5	1.921	0.20	30.04	-	30.24	-	56.00	46.00	-25.76	-
6	10.592	0.62	30.44	-	31.06	-	60.00	50.00	-28.94	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

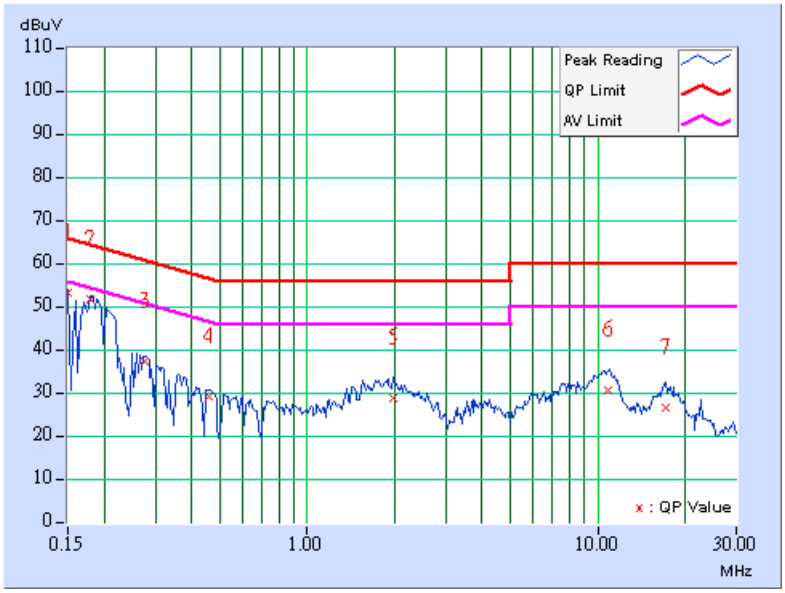


CONDUCTED WORST CASE DATA: MODE B FOR 8DPSK

MODULATION TYPE	8DPSK	CHANNEL	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	PHASE	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.15	52.37	-	52.52	-	66.00	56.00	-13.48	-
2	0.180	0.18	51.15	-	51.33	-	64.49	54.49	-13.16	-
3	0.276	0.20	36.60	-	36.80	-	60.94	50.94	-24.14	-
4	0.456	0.20	28.26	-	28.46	-	56.77	46.77	-28.31	-
5	1.975	0.20	28.19	-	28.39	-	56.00	46.00	-27.61	-
6	10.907	0.64	29.98	-	30.62	-	60.00	50.00	-29.38	-
7	17.060	0.88	25.74	-	26.62	-	60.00	50.00	-33.38	-

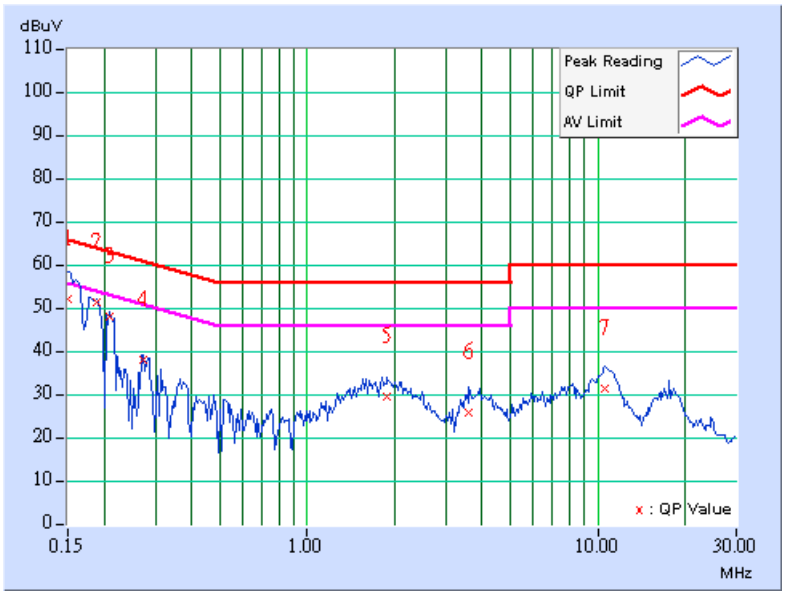
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.15	51.63	-	51.78	-	66.00	56.00	-14.22	-
2	0.189	0.19	50.75	-	50.94	-	64.08	54.08	-13.14	-
3	0.210	0.20	47.63	-	47.83	-	63.21	53.21	-15.38	-
4	0.273	0.20	37.62	-	37.82	-	61.03	51.03	-23.21	-
5	1.891	0.20	28.96	-	29.16	-	56.00	46.00	-26.84	-
6	3.610	0.28	25.44	-	25.72	-	56.00	46.00	-30.28	-
7	10.586	0.62	30.70	-	31.32	-	60.00	50.00	-28.68	-

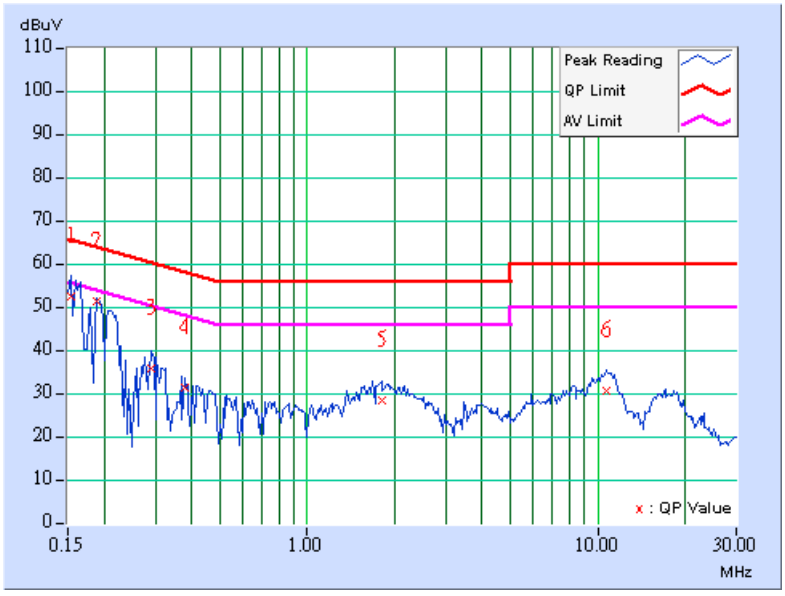
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	39
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.153	0.15	51.93	-	52.08	-	65.84	55.84	-13.75	-
2	0.189	0.19	50.77	-	50.96	-	64.08	54.08	-13.12	-
3	0.291	0.20	35.40	-	35.60	-	60.50	50.50	-24.90	-
4	0.378	0.20	30.86	-	31.06	-	58.32	48.32	-27.26	-
5	1.804	0.20	27.99	-	28.19	-	56.00	46.00	-27.81	-
6	10.763	0.63	30.06	-	30.69	-	60.00	50.00	-29.31	-

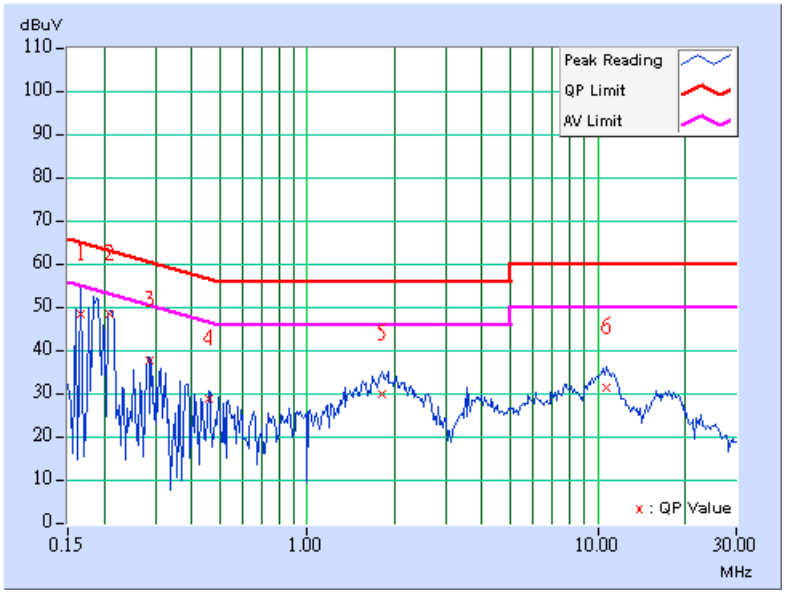
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	39
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.165	0.17	47.71	-	47.87	-	65.21	55.21	-17.33	-
2	0.210	0.20	47.97	-	48.17	-	63.21	53.21	-15.04	-
3	0.285	0.20	36.98	-	37.18	-	60.67	50.67	-23.49	-
4	0.456	0.20	28.42	-	28.62	-	56.77	46.77	-28.15	-
5	1.807	0.20	29.38	-	29.58	-	56.00	46.00	-26.42	-
6	10.727	0.63	30.72	-	31.35	-	60.00	50.00	-28.65	-

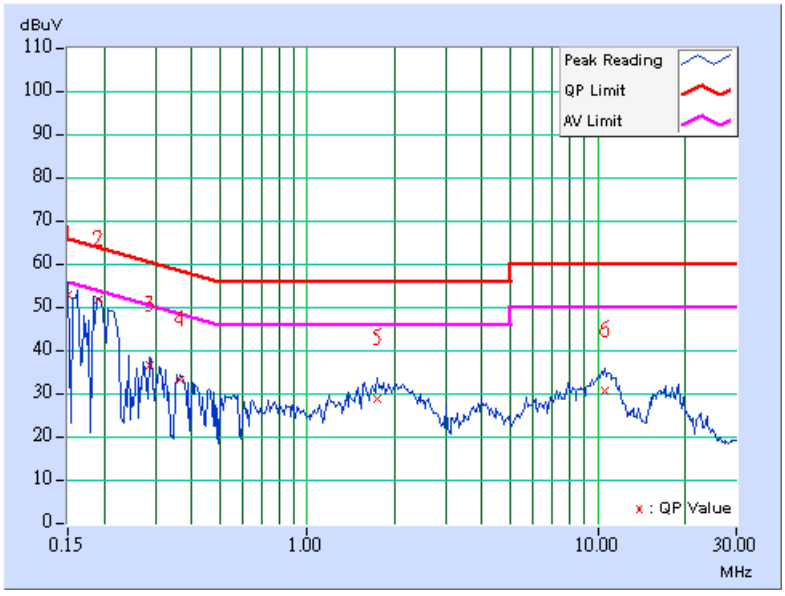
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	78
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	**PHASE**	Line 1
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.15	52.17	-	52.32	-	66.00	56.00	-13.68	-
2	0.192	0.19	51.05	-	51.24	-	63.95	53.95	-12.71	-
3	0.285	0.20	36.08	-	36.28	-	60.67	50.67	-24.39	-
4	0.366	0.20	32.77	-	32.97	-	58.59	48.59	-25.62	-
5	1.750	0.20	28.36	-	28.56	-	56.00	46.00	-27.44	-
6	10.559	0.62	30.10	-	30.72	-	60.00	50.00	-29.28	-

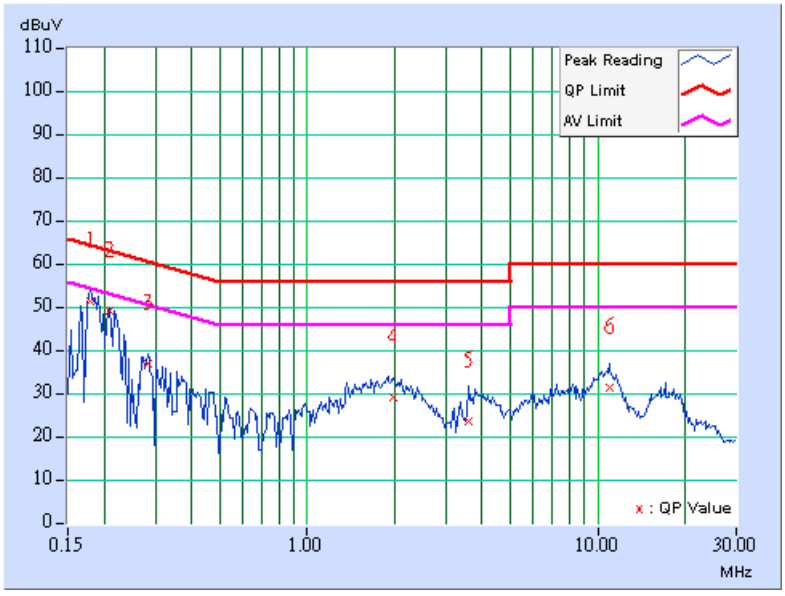
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	8DPSK	**CHANNEL**	78
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 80%RH, 1009hPa	**PHASE**	Line 2
TESTED BY	Jun Wu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.180	0.18	50.81	-	50.99	-	64.49	54.49	-13.50	-
2	0.210	0.20	48.73	-	48.93	-	63.21	53.21	-14.28	-
3	0.282	0.20	36.46	-	36.66	-	60.76	50.76	-24.10	-
4	1.978	0.20	28.57	-	28.77	-	56.00	46.00	-27.23	-
5	3.580	0.28	23.07	-	23.35	-	56.00	46.00	-32.65	-
6	10.952	0.64	30.68	-	31.32	-	60.00	50.00	-28.68	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	May 21, 2007
HP Preamplifier	8449B	3008A01924	Sep. 05, 2007
HP Preamplifier	8449B	3008A01638	Sep. 17, 2007
ROHDE & SCHWARZ TEST RECEIVER	ESI7	836697/012	Oct. 24, 2007
Schwarzbeck Antenna	VULB 9168	137	Feb. 21, 2007
Schwarzbeck Antenna	VHBA 9123	480	Mar. 30, 2007
EMCO Horn Antenna	3115	6714	Oct. 24, 2007
EMCO Horn Antenna	3115	9312-4192	Mar. 14, 2007
ADT. Turn Table	TT100	0306	NA
ADT. Tower	AT100	0306	NA
Software	ADT_Radiated_V 7.6.011	NA	NA
SUHNER RF cable	SF104-26.5	CABLE-CH6-17m-01	Dec. 11, 2007
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100036	Mar. 16. 2007

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Chamber No. 6.
4. The Industry Canada Reference No. IC 3789-6.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

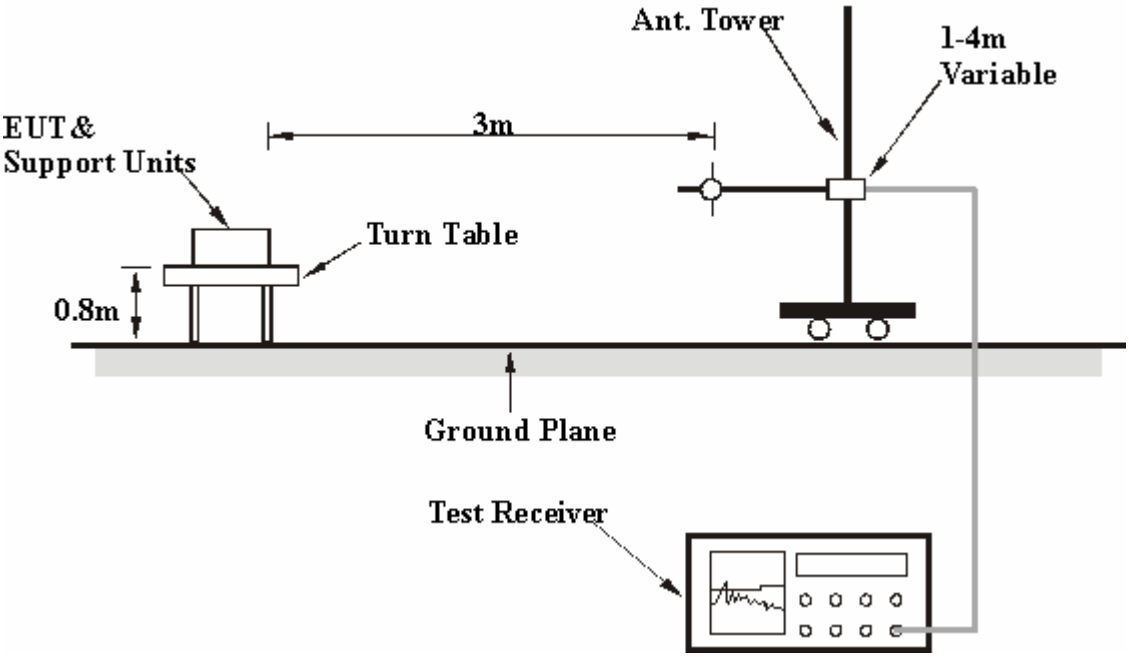
NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

For Mode A & C:

Set the EUT under transmission/receiving condition continuously at specific channel frequency.

For Mode B:

a. Turned on the power of all equipment.
b. Notebook ran a test program to enable all functions.
c. Notebook read and wrote messages from/to HDD.
d. Connected the EUT with a Notebook on the testing table.
e. Notebook sent and received messages to/from EUT via USB cable.
f. Notebook sent messages to LCD panel and then displayed on its screen simultaneously.
g. Notebook sent messages to modem.
h. Notebook sent messages to printer and printer printed it out.
i. Steps c-i were repeated.

4.2.7 TEST RESULTS

RADIATED WORST CASE DATA: MODE A FOR GFSK (BELOW 1GHz)

MODULATION TYPE	GFSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009Pa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.99	23.67 QP	40.00	-16.33	1.81 H	190	16.52	7.14
2	127.19	34.78 QP	43.50	-8.72	1.63 H	121	21.26	13.52
3	136.91	27.43 QP	43.50	-16.07	1.74 H	115	13.74	13.69
4	236.05	31.04 QP	46.00	-14.96	1.69 H	70	17.30	13.74
5	315.75	28.20 QP	46.00	-17.80	1.58 H	124	11.45	16.76
6	902.81	28.94 QP	46.00	-17.06	1.12 H	106	-0.76	29.71
7	957.23	30.04 QP	46.00	-15.96	1.04 H	88	-0.58	30.62

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**51.38**	**35.88 QP**	**40.00**	**-4.12**	**1.00 V**	**16**	**27.06**	**8.82**
2	68.88	31.16 QP	40.00	-8.84	1.08 V	25	23.72	7.44
3	107.76	27.36 QP	43.50	-16.14	1.27 V	79	15.04	12.32
4	236.05	23.41 QP	46.00	-22.59	1.18 V	154	9.67	13.74
5	869.76	28.66 QP	46.00	-17.34	1.49 V	349	-0.39	29.06
6	904.75	28.21 QP	46.00	-17.79	1.27 V	277	-1.53	29.74
7	957.23	30.03 QP	46.00	-15.97	1.63 V	160	-0.59	30.62

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE A FOR 8DPSK (BELOW 1GHz)

MODULATION TYPE	8DPSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	35.83	29.68 QP	40.00	-10.32	1.74 H	148	13.08	16.60
2	86.37	29.11 QP	40.00	-10.89	1.68 H	139	19.17	9.94
3	123.31	27.52 QP	43.50	-15.98	1.44 H	88	14.07	13.45
4	659.82	30.47 QP	46.00	-15.53	1.26 H	106	5.12	25.35
5	768.68	37.80 QP	46.00	-8.20	1.00 H	298	10.14	27.66
6	817.27	30.71 QP	46.00	-15.29	1.00 H	10	2.83	27.87

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	82.48	29.72 QP	40.00	-10.28	1.14 V	334	20.32	9.40
2	134.97	28.76 QP	43.50	-14.74	1.00 V	181	15.10	13.66
3	228.28	28.38 QP	46.00	-17.62	1.00 V	163	15.45	12.92
4	768.68	30.97 QP	46.00	-15.03	1.38 V	148	3.31	27.66
5	914.47	28.95 QP	46.00	-17.05	1.00 V	43	-0.96	29.90
6	955.29	29.54 QP	46.00	-16.46	1.00 V	73	-1.05	30.59

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE B FOR GFSK (BELOW 1GHz)

MODULATION TYPE	GFSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009Pa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	96.09	29.11 QP	43.50	-14.39	1.89 H	271	17.94	11.17
2	146.63	29.32 QP	43.50	-14.18	1.84 H	49	15.96	13.36
3	296.31	32.98 QP	46.00	-13.02	2.11 H	280	16.83	16.15
4	685.09	32.03 QP	46.00	-13.97	1.38 H	262	6.45	25.58
5	825.05	35.34 QP	46.00	-10.66	1.66 H	145	7.28	28.06
6	863.93	35.36 QP	46.00	-10.64	1.57 H	103	6.42	28.94

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	32.22 QP	40.00	-7.78	1.00 V	46	13.60	18.63
2	127.19	27.38 QP	43.50	-16.12	1.00 V	325	13.86	13.52
3	191.34	28.02 QP	43.50	-15.48	1.00 V	337	17.50	10.52
4	245.77	31.33 QP	46.00	-14.67	1.23 V	322	16.57	14.76
5	844.49	27.99 QP	46.00	-18.01	1.10 V	103	-0.54	28.53
6	912.53	29.29 QP	46.00	-16.71	1.04 V	4	-0.58	29.87

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE B FOR 8DPSK (BELOW 1GHz)

MODULATION TYPE	8DPSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	232.16	34.69 QP	46.00	-11.31	1.38 H	211	21.36	13.33
2	399.34	39.17 QP	46.00	-6.83	1.66 H	121	19.39	19.78
3	665.65	37.32 QP	46.00	-8.68	1.92 H	214	11.91	25.40
4	768.68	35.62 QP	46.00	-10.38	1.83 H	112	7.96	27.66
5	863.93	39.10 QP	46.00	-6.90	1.67 H	271	10.16	28.94
6	930.02	41.12 QP	46.00	-4.88	1.49 H	208	10.95	30.16

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.89	31.97 QP	40.00	-8.03	1.00 V	73	14.36	17.61
2	121.36	37.44 QP	43.50	-6.06	1.00 V	151	24.03	13.41
3	399.34	36.02 QP	46.00	-9.98	1.20 V	274	16.25	19.78
4	549.02	36.90 QP	46.00	-9.10	1.00 V	166	12.10	24.80
5	865.87	39.32 QP	46.00	-6.68	1.06 V	10	10.34	28.98
6	930.02	37.24 QP	46.00	-8.76	1.33 V	34	7.08	30.16

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE C FOR GFSK (BELOW 1GHz)

MODULATION TYPE	GFSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009Pa	INPUT POWER	3.7Vdc
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.89	22.82 QP	40.00	-17.18	1.68 H	136	5.21	17.61
2	720.08	25.49 QP	46.00	-20.51	1.27 H	43	-1.06	26.55
3	757.01	26.89 QP	46.00	-19.11	1.32 H	268	-0.84	27.74
4	832.83	27.95 QP	46.00	-18.05	1.23 H	205	-0.30	28.25
5	887.26	28.62 QP	46.00	-17.38	1.28 H	298	-0.78	29.41
6	926.13	28.64 QP	46.00	-17.36	1.17 H	94	-1.46	30.10
7	959.18	30.66 QP	46.00	-15.34	1.06 H	217	0.01	30.65

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	37.78	24.12 QP	40.00	-15.88	1.00 V	346	8.54	15.58
2	117.48	19.48 QP	43.50	-24.02	1.00 V	7	6.31	13.17
3	784.23	27.25 QP	46.00	-18.75	1.27 V	97	-0.32	27.56
4	850.32	27.58 QP	46.00	-18.42	1.62 V	313	-1.09	28.67
5	885.31	28.13 QP	46.00	-17.87	1.27 V	232	-1.23	29.37
6	920.30	29.09 QP	46.00	-16.91	1.39 V	142	-0.91	30.00
7	959.18	29.85 QP	46.00	-16.15	1.47 V	334	-0.80	30.65

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE C FOR 8DPSK (BELOW 1GHz)

MODULATION TYPE	8DPSK	FREQUENCY RANGE	Below 1000MHz
CHANNEL	0	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	INPUT POWER	3.7Vdc
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	25.06 QP	40.00	-14.94	1.77 H	313	5.42	19.64
2	700.64	25.75 QP	46.00	-20.25	1.58 H	154	0.01	25.75
3	776.45	26.74 QP	46.00	-19.26	1.22 H	283	-0.87	27.61
4	838.66	27.14 QP	46.00	-18.86	1.07 H	118	-1.25	28.39
5	869.76	27.74 QP	46.00	-18.26	1.63 H	1	-1.31	29.06
6	900.86	28.86 QP	46.00	-17.14	1.48 H	10	-0.81	29.67
7	959.18	30.37 QP	46.00	-15.63	1.26 H	43	-0.29	30.65

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	21.90 QP	40.00	-18.10	1.00 V	226	3.28	18.63
2	762.85	26.36 QP	46.00	-19.64	1.08 V	268	-1.34	27.70
3	795.89	25.33 QP	46.00	-20.67	1.17 V	58	-2.16	27.49
4	840.60	28.01 QP	46.00	-17.99	1.22 V	358	-0.43	28.43
5	883.37	28.31 QP	46.00	-17.69	1.30 V	172	-1.01	29.33
6	922.24	28.65 QP	46.00	-17.35	1.52 V	67	-1.38	30.03
7	955.29	29.27 QP	46.00	-16.73	1.47 V	202	-1.32	30.59

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED WORST CASE DATA: MODE A FOR GFSK (ABOVE 1GHz)

MODULATION TYPE	GFSK	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	0	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1602.00	51.68 PK	74.00	-22.32	1.18 H	150	17.72	33.96
1	1602.00	49.66 AV	54.00	-4.34	1.18 H	150	15.70	33.96
2	2370.00	61.30 PK	74.00	-12.70	1.28 H	136	25.10	36.20
2	2370.00	47.37 AV	54.00	-6.63	1.28 H	136	11.17	36.20
3	*2402.00	89.02 PK			1.28 H	136	52.79	36.23
3	*2402.00	59.02 AV			1.28 H	136	22.79	36.23
4	4804.00	54.52 PK	74.00	-19.48	1.00 H	147	10.01	44.51
4	4804.00	24.52 AV	54.00	-29.48	1.00 H	147	-19.99	44.51

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1602.00	50.13 PK	74.00	-23.87	1.39 V	146	16.17	33.96
1	1602.00	47.26 AV	54.00	-6.74	1.39 V	146	13.30	33.96
2	2370.00	59.48 PK	74.00	-14.52	1.03 V	151	23.28	36.20
2	2370.00	45.81 AV	54.00	-8.19	1.03 V	151	9.61	36.20
3	*2402.00	83.79 PK			1.03 V	151	47.56	36.23
3	*2402.00	53.79 AV			1.03 V	151	17.56	36.23
4	4804.00	53.54 PK	74.00	-20.46	1.42 V	74	9.03	44.51
4	4804.00	23.54 AV	54.00	-30.46	1.42 V	74	-20.97	44.51

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

MODULATION TYPE	GFSK	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	39	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009hPa	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1628.00	50.74 PK	74.00	-23.26	1.20 H	118	16.69	34.06
1	1628.00	47.49 AV	54.00	-6.51	1.20 H	118	13.44	34.06
2	*2441.00	90.90 PK			1.25 H	137	54.58	36.32
2	*2441.00	60.90 AV			1.25 H	137	24.58	36.32
3	4882.00	54.16 PK	74.00	-19.84	1.00 H	160	9.83	44.33
3	4882.00	24.16 AV	54.00	-29.84	1.00 H	160	-20.17	44.33

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1628.00	48.71 PK	74.00	-25.29	1.41 V	182	14.66	34.06
1	1628.00	45.05 AV	54.00	-8.95	1.41 V	182	11.00	34.06
2	*2441.00	84.16 PK			1.42 V	194	47.84	36.32
2	*2441.00	54.16 AV			1.42 V	194	17.84	36.32
3	4882.00	53.51 PK	74.00	-20.49	1.09 V	131	9.18	44.33
3	4882.00	23.51 AV	54.00	-30.49	1.09 V	131	-20.82	44.33

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

MODULATION TYPE	GFSK	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	78	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65%RH, 1009hPa	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1654.00	49.64 PK	74.00	-24.36	1.11 H	145	15.48	34.16
1	1654.00	46.59 AV	54.00	-7.41	1.11 H	145	12.43	34.16
2	*2480.00	93.71 PK			1.19 H	135	57.30	36.41
2	*2480.00	63.71 AV			1.19 H	135	27.30	36.41
3	2484.50	59.63 PK	74.00	-14.37	1.19 H	135	23.22	36.42
3	2484.50	45.45 AV	54.00	-8.55	1.19 H	135	9.04	36.42
4	4960.00	53.15 PK	74.00	-20.85	1.13 H	142	8.72	44.43
4	4960.00	23.15 AV	54.00	-30.85	1.13 H	142	-21.28	44.43

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1654.00	45.92 PK	74.00	-28.08	1.49 V	84	11.76	34.16
1	1654.00	39.61 AV	54.00	-14.39	1.49 V	84	5.45	34.16
2	*2480.00	87.47 PK			1.00 V	112	51.06	36.41
2	*2480.00	57.47 AV			1.00 V	112	21.06	36.41
3	2484.50	59.84 PK	74.00	-14.16	1.00 V	112	23.43	36.42
3	2484.50	45.22 AV	54.00	-8.78	1.00 V	112	8.81	36.42
4	4960.00	55.21 PK	74.00	-18.79	1.48 V	100	10.78	44.43
4	4960.00	25.21 AV	54.00	-28.79	1.48 V	100	-19.22	44.43

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

RADIATED WORST CASE DATA: MODE A FOR 8DPSK (ABOVE 1GHz)

MODULATION TYPE	8DPSK	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	0	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1602.00	51.35 PK	74.00	-22.65	1.21 H	146	19.06	32.29
1	1602.00	49.31 AV	54.00	-4.69	1.21 H	146	17.02	32.29
2	2370.00	57.19 PK	74.00	-16.81	1.32 H	40	22.54	34.65
2	2370.00	46.23 AV	54.00	-7.77	1.32 H	40	11.58	34.65
3	*2402.00	88.87 PK			1.32 H	40	54.15	34.72
3	*2402.00	58.87 AV			1.32 H	40	24.15	34.72
4	4804.00	54.60 PK	74.00	-19.40	1.30 H	156	12.90	41.69
4	4804.00	24.60 AV	54.00	-29.40	1.30 H	156	-17.10	41.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1602.00	50.31 PK	74.00	-23.69	1.00 V	149	18.02	32.29
1	1602.00	47.57 AV	54.00	-6.43	1.00 V	149	15.28	32.29
2	2370.00	58.76 PK	74.00	-15.24	1.05 V	137	24.11	34.65
2	2370.00	46.15 AV	54.00	-7.85	1.05 V	137	11.50	34.65
3	*2402.00	84.12 PK			1.05 V	137	49.40	34.72
3	*2402.00	54.12 AV			1.05 V	137	19.40	34.72
4	4804.00	54.02 PK	74.00	-19.98	1.09 V	310	12.32	41.69
4	4804.00	24.02 AV	54.00	-29.98	1.09 V	310	-17.68	41.69

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

MODULATION TYPE	8DPSK	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	39	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1628.00	49.87 PK	74.00	-24.13	1.66 H	360	17.49	32.39
1	1628.00	46.82 AV	54.00	-7.18	1.66 H	360	14.44	32.39
2	*2441.00	86.80 PK			1.00 H	48	51.99	34.81
2	*2441.00	56.80 AV			1.00 H	48	21.99	34.81
3	4882.00	52.43 PK	74.00	-21.57	1.00 H	190	10.53	41.90
3	4882.00	22.43 AV	54.00	-31.57	1.00 H	190	-19.47	41.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1628.00	48.56 PK	74.00	-25.44	1.00 V	156	16.18	32.39
1	1628.00	45.05 AV	54.00	-8.95	1.00 V	156	12.67	32.39
2	*2441.00	79.35 PK			1.11 V	209	44.54	34.81
2	*2441.00	49.35 AV			1.11 V	209	14.54	34.81
3	4882.00	54.31 PK	74.00	-19.69	1.09 V	100	12.41	41.90
3	4882.00	24.31 AV	54.00	-29.69	1.09 V	100	-17.59	41.90

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

MODULATION TYPE	8DPSK	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	78	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 82%RH, 1010Pa	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Jun Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1654.00	49.38 PK	74.00	-24.62	1.70 H	107	16.89	32.49
1	1654.00	46.33 AV	54.00	-7.67	1.70 H	107	13.84	32.49
2	*2480.00	84.71 PK			1.00 H	22	49.81	34.90
2	*2480.00	54.71 AV			1.00 H	22	19.81	34.90
3	2483.50	58.25 PK	74.00	-15.75	1.00 H	22	23.35	34.90
3	2483.50	46.96 AV	54.00	-7.04	1.00 H	22	12.06	34.90
4	4960.00	51.92 PK	74.00	-22.08	1.09 H	215	9.82	42.10
4	4960.00	21.92 AV	54.00	-32.08	1.09 H	215	-20.18	42.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1654.00	48.94 PK	74.00	-25.06	1.09 V	230	16.45	32.49
1	1654.00	45.44 AV	54.00	-8.56	1.09 V	230	12.95	32.49
2	*2480.00	75.51 PK			1.11 V	151	40.61	34.90
2	*2480.00	45.51 AV			1.11 V	151	10.61	34.90
3	2483.50	58.55 PK	74.00	-15.45	1.11 V	151	23.65	34.90
3	2483.50	46.32 AV	54.00	-7.68	1.11 V	151	11.42	34.90
4	4960.00	54.49 PK	74.00	-19.51	1.04 V	88	12.39	42.10
4	4960.00	24.49 AV	54.00	-29.51	1.04 V	88	-17.61	42.10

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.
6. Average value = peak reading –20log(duty cycle).

4.3 NUMBER OF HOPPING FREQUENCY USED

4.3.1 LIMIT OF HOPPING FREQUENCY USED

At least 15 channels frequencies, and should be equally spaced.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP 40	100036	Jun. 07, 2007

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST PROCEDURES

a. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.

c. Set the SA on MaxHold Mode, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been recorded.

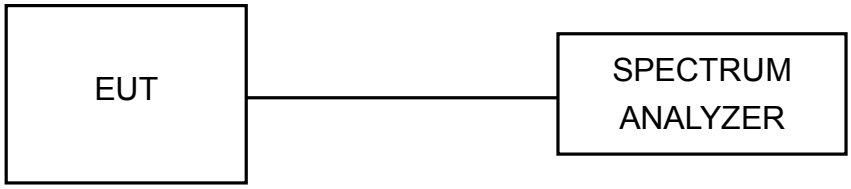
d. Set the SA on View mode and then plot the result on SA screen.

e. Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

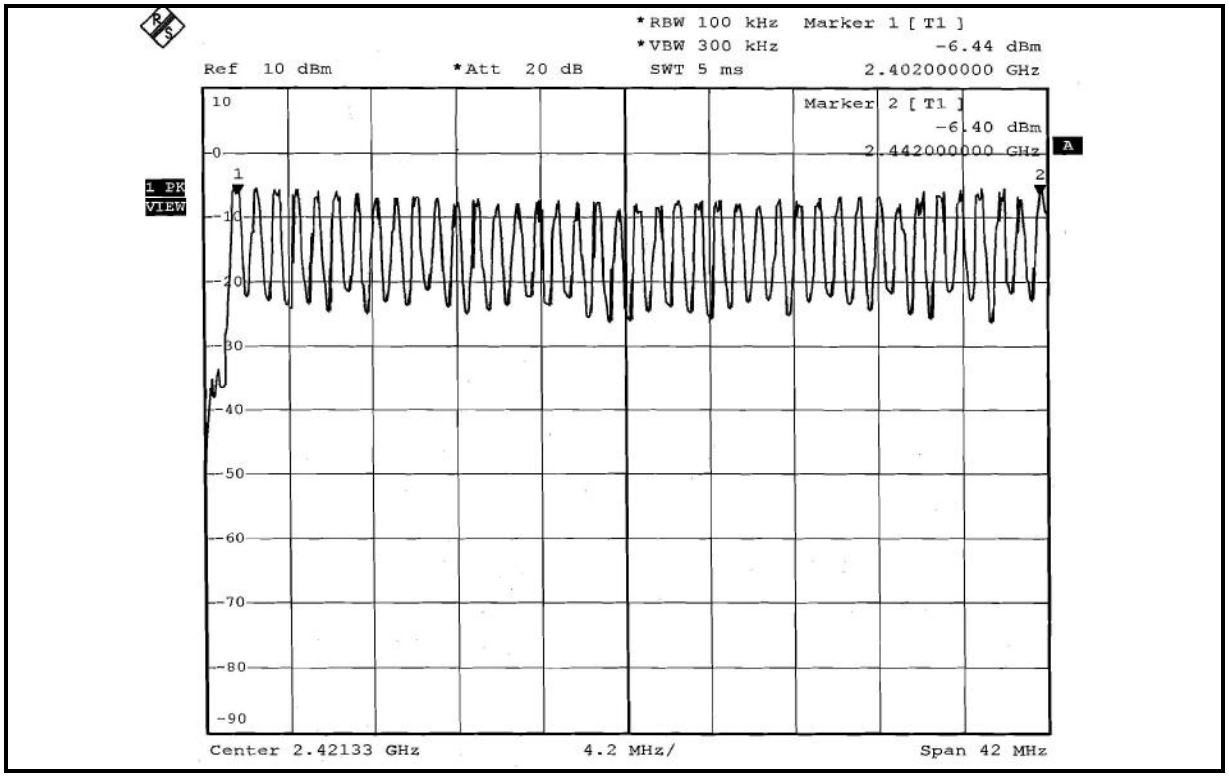
4.3.5 TEST SETUP

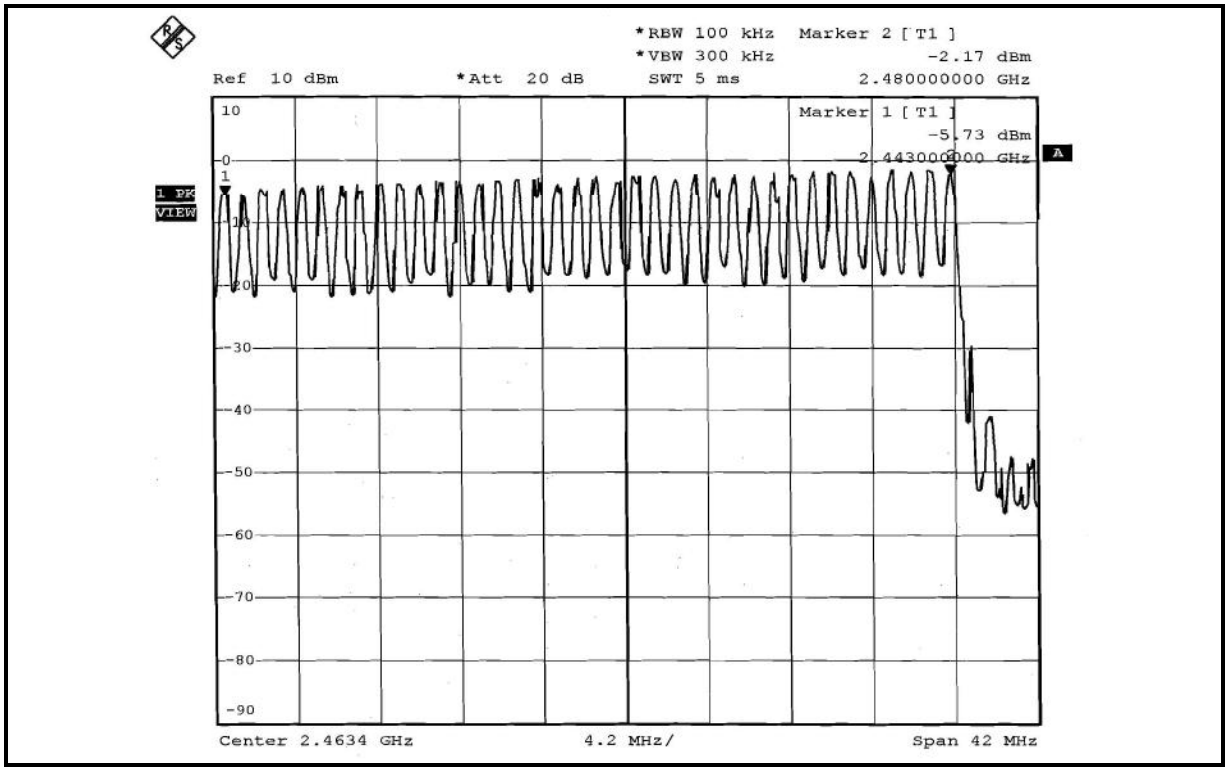


4.3.6 TEST RESULTS

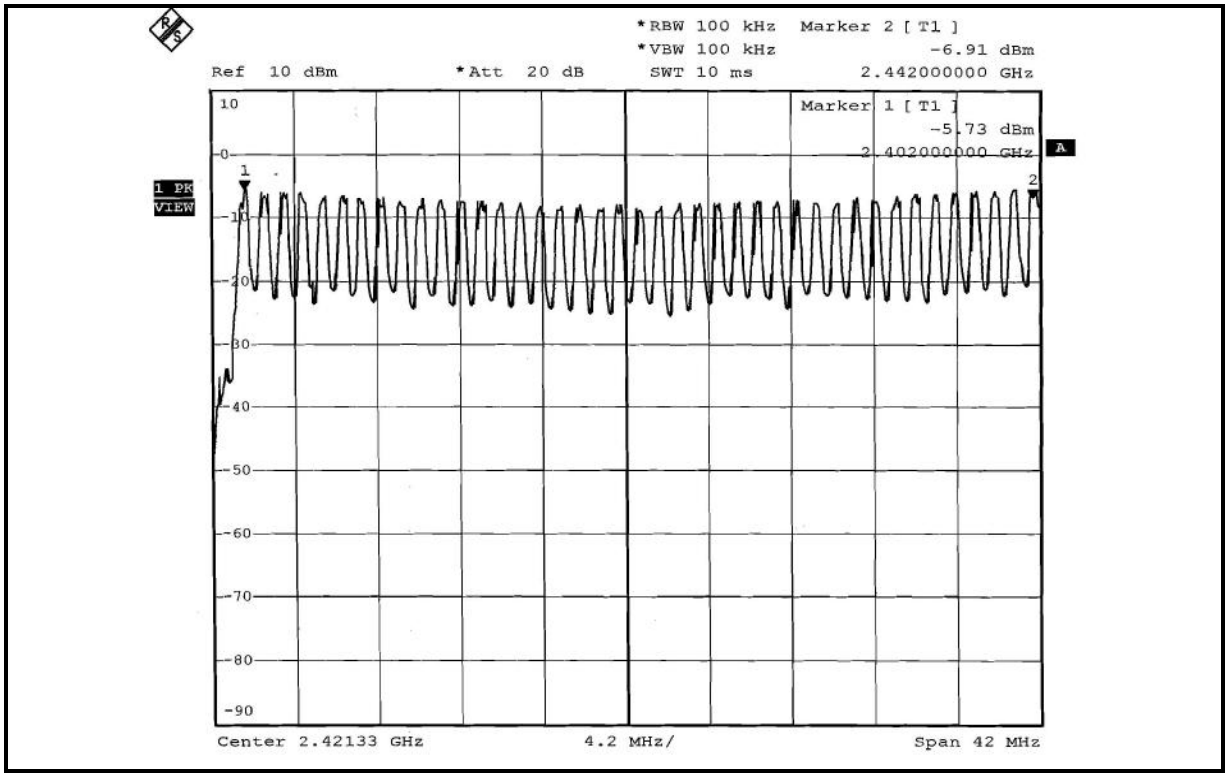
There are 79 hopping frequencies in the hopping mode. Please refer to next two pages for the test result. On the plots, it shows that the hopping frequencies are equally spaced.

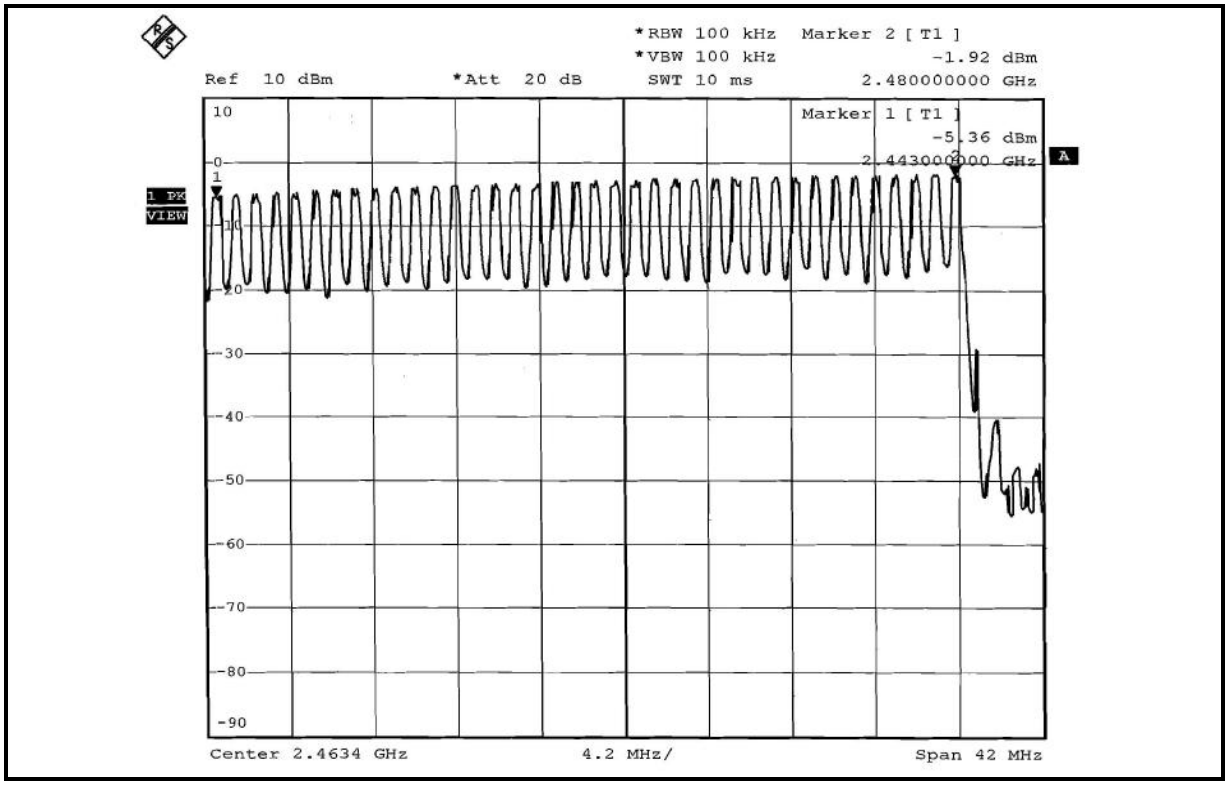
FOR GFSK


*RBW 100 kHz
*VBW 300 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 ms
Marker 1 [T1]
-6.44 dBm
2.402000000 GHz
Marker 2 [T1]
-6.40 dBm
2.442000000 GHz
1 PK VIEW
Center 2.42133 GHz
4.2 MHz/
Span 42 MHz


*RBW 100 kHz
*VBW 300 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 ms
Marker 2 [T1]
-2.17 dBm
2.480000000 GHz
Marker 1 [T1]
-5.73 dBm
2.443000000 GHz
1 PK VIEW
Center 2.4634 GHz
4.2 MHz/
Span 42 MHz

FOR 8DPSK


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 2 [T1]
-6.91 dBm
2.442000000 GHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-5.73 dBm
2.402000000 GHz
1 PK VIEW
A
Center 2.42133 GHz
4.2 MHz/
Span 42 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 2 [T1]
-1.92 dBm
2.480000000 GHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-5.36 dBm
2.443000000 GHz
1 PK VIEW
A
Center 2.4634 GHz
4.2 MHz/
Span 42 MHz

4.4 DWELL TIME ON EACH CHANNEL

4.4.1 LIMIT OF DWELL TIME USED

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 the number of hopping channels employed.

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100036	Jun. 07, 2007

NOTES: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURES

a. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.

c. Adjust the center frequency of SA on any frequency be measured and set SA to zero span mode. And then, set RBW and VBW of spectrum analyzer to proper value.

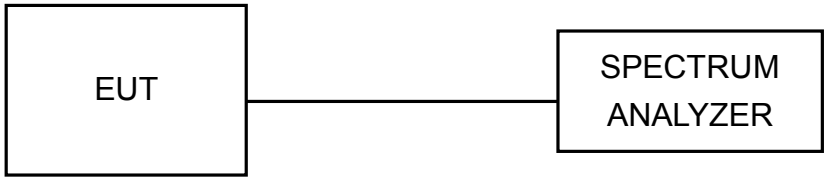
d. Measure the time duration of one transmission on the measured frequency. And then plot the result with time difference of this time duration.

e. Repeat above procedures until all different time-slot modes have been completed.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



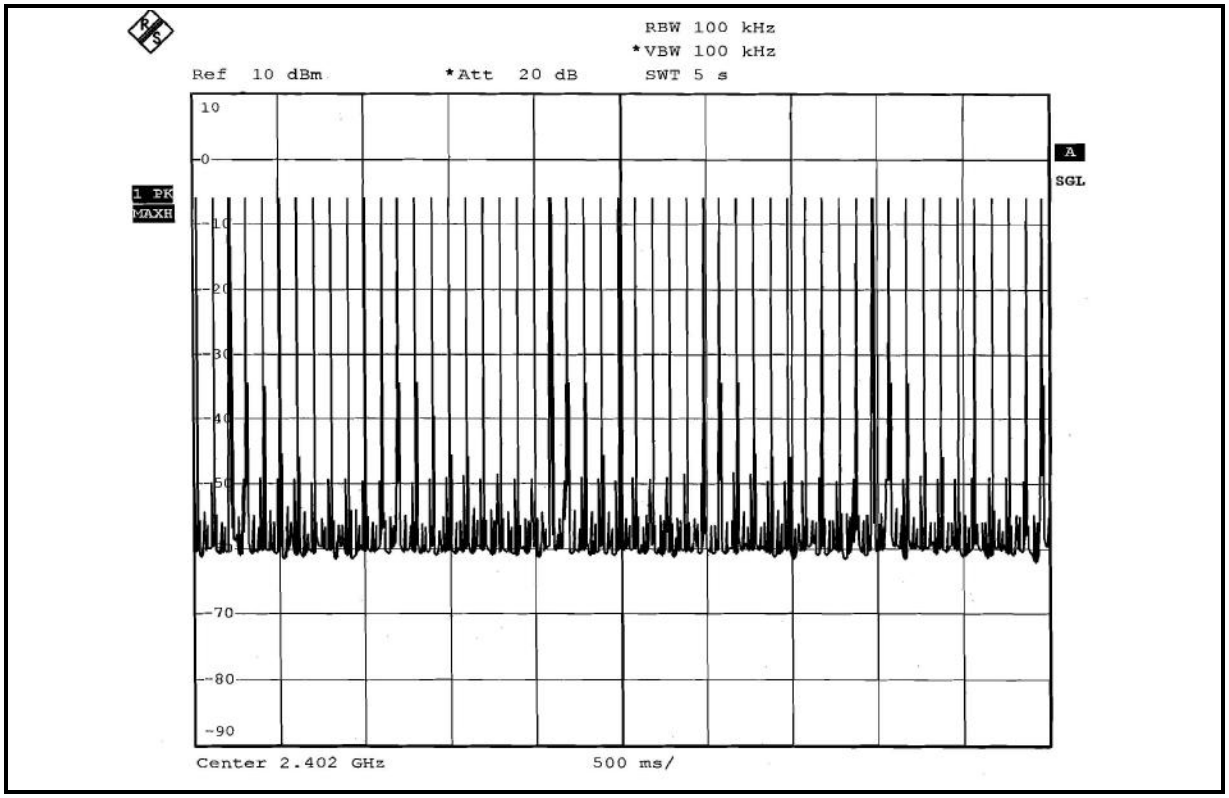
4.4.6 TEST RESULTS

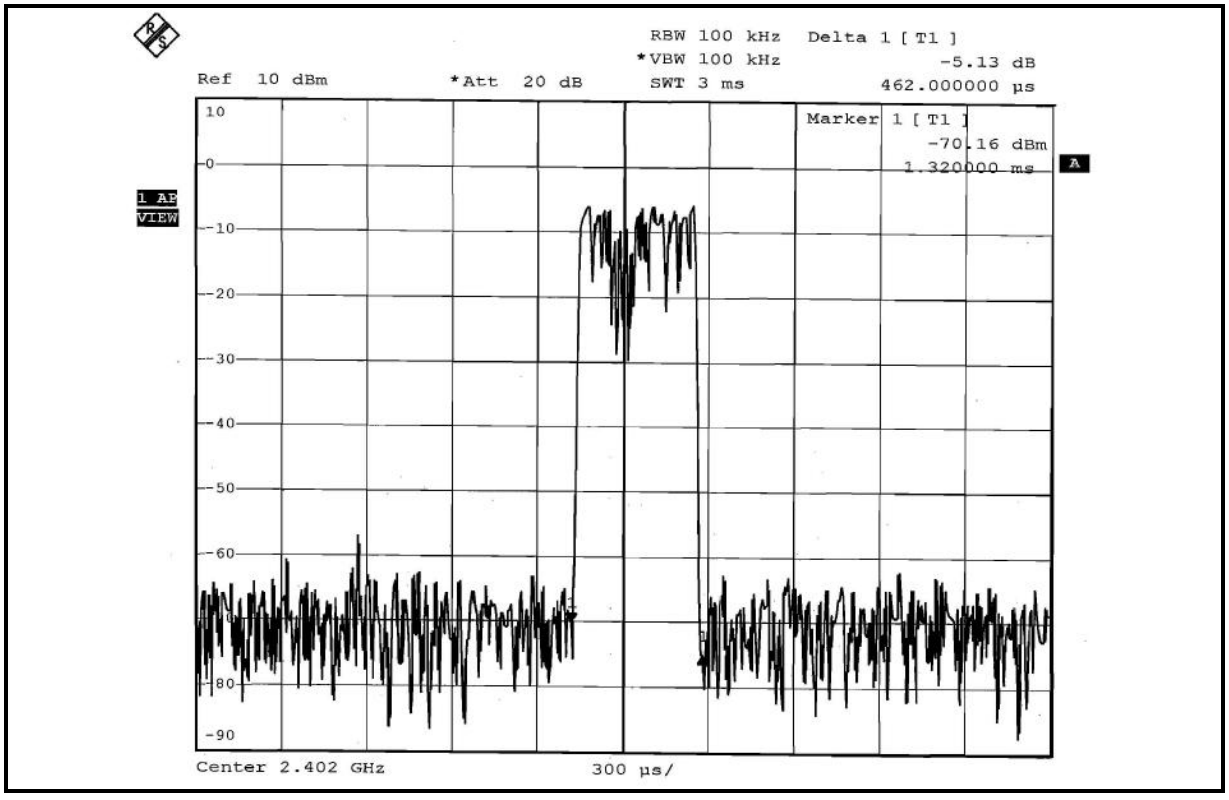
FOR GFSK

Mode	Number of transmission in a 31.6 (79Hopping*0.4)	Length of transmission time (msec)	Result (msec)	Limit (msec)
DH1	51 (times / 5 sec) *6.32=322.32 times	0.462	148.912	400
DH3	25 (times / 5 sec) *6.32=158.00 times	1.746	275.868	400
DH5	17 (times / 5 sec) *6.32=107.44 times	2.970	319.097	400

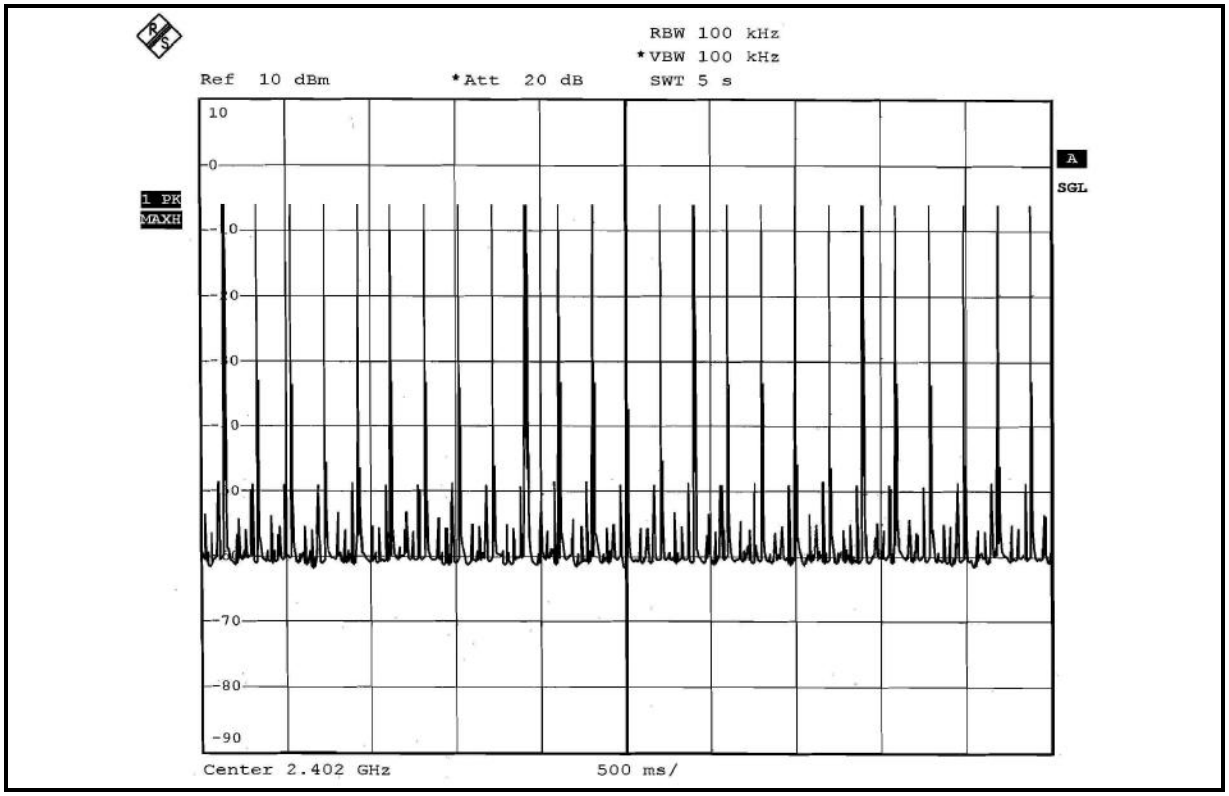
NOTE: Test plots of the transmitting time slot are shown on next 3 pages.

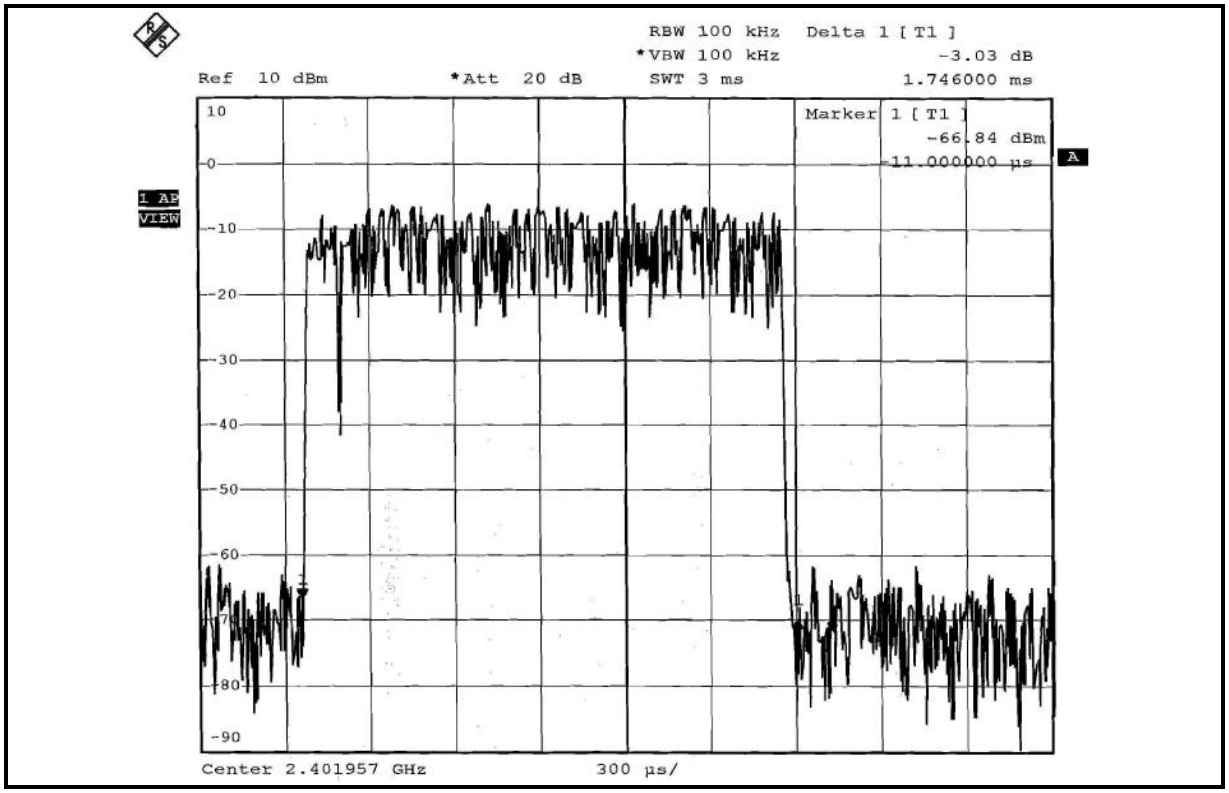
DH1


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 s
1 PK
MAXH
A
SGL
10
0
-10
-20
-30
-40
-50
-70
-80
-90
Center 2.402 GHz
500 ms/

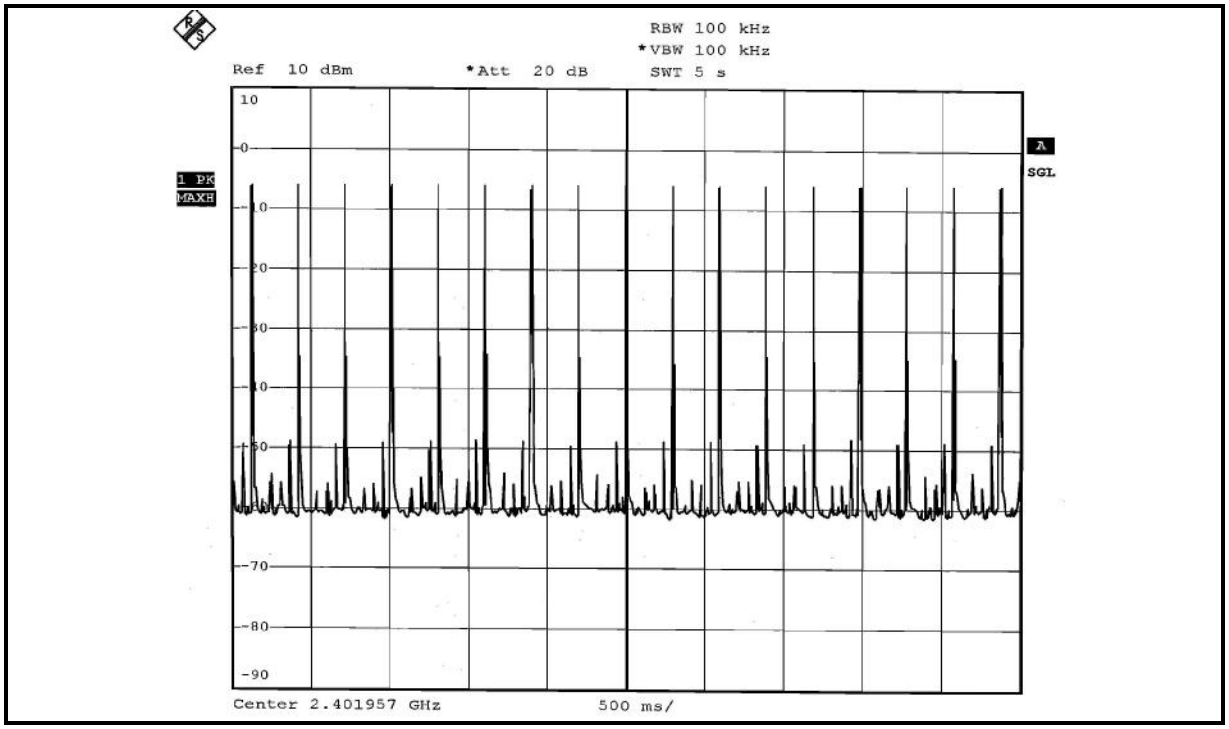

RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 3 ms
Delta 1 [T1]
-5.13 dB
462.000000 µs
Marker 1 [T1]
-70.16 dBm
1.320000 ms
A
1 AP
VIEW
10
0
-10
-20
-30
-40
-50
-60
-80
-90
Center 2.402 GHz
300 µs/

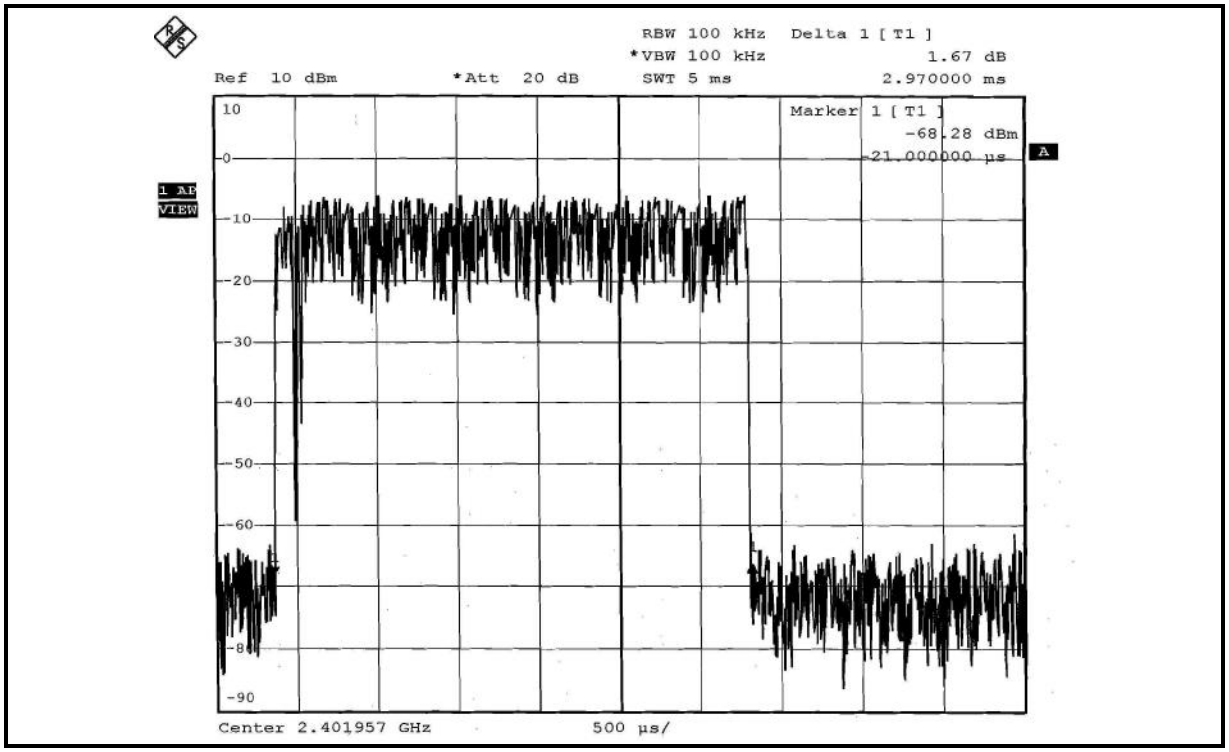
DH3


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 s
1 PK
MAXH
A
SGL
10
0
-10
-20
-30
-40
-70
-80
-90
Center 2.402 GHz
500 ms/


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 3 ms
Delta 1 [T1]
-3.03 dB
1.746000 ms
Marker 1 [T1]
-66.84 dBm
-11.000000 µs
1 AP
VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-80
-90
Center 2.401957 GHz
300 µs/

DH5


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 s
1 PK
MAXH
A
SGL
10
0
-10
-20
-30
-40
-50
-70
-80
-90
Center 2.401957 GHz
500 ms/

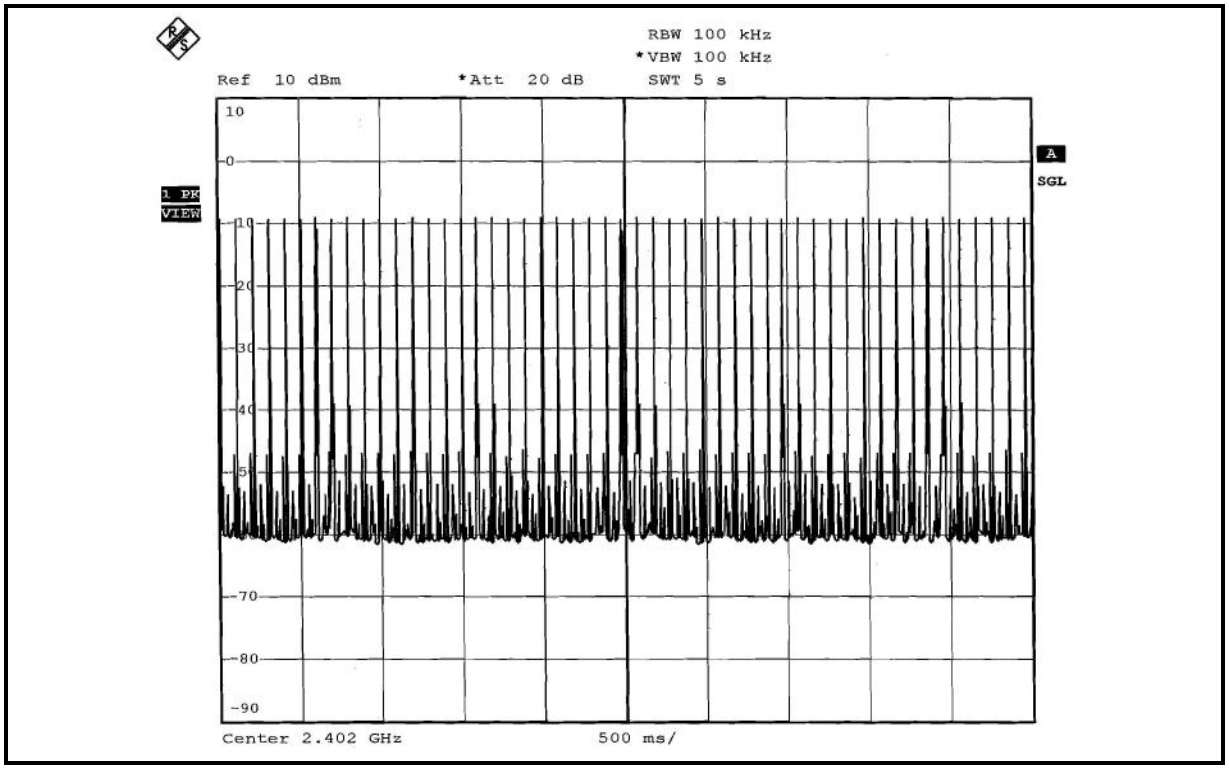

RBW 100 kHz
Delta 1 [T1]
*VBW 100 kHz
1.67 dB
Ref 10 dBm
*Att 20 dB
SWT 5 ms
2.970000 ms
Marker 1 [T1]
-68.28 dBm
-21.000000 µs
1 AP
VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-80
-90
Center 2.401957 GHz
500 µs/

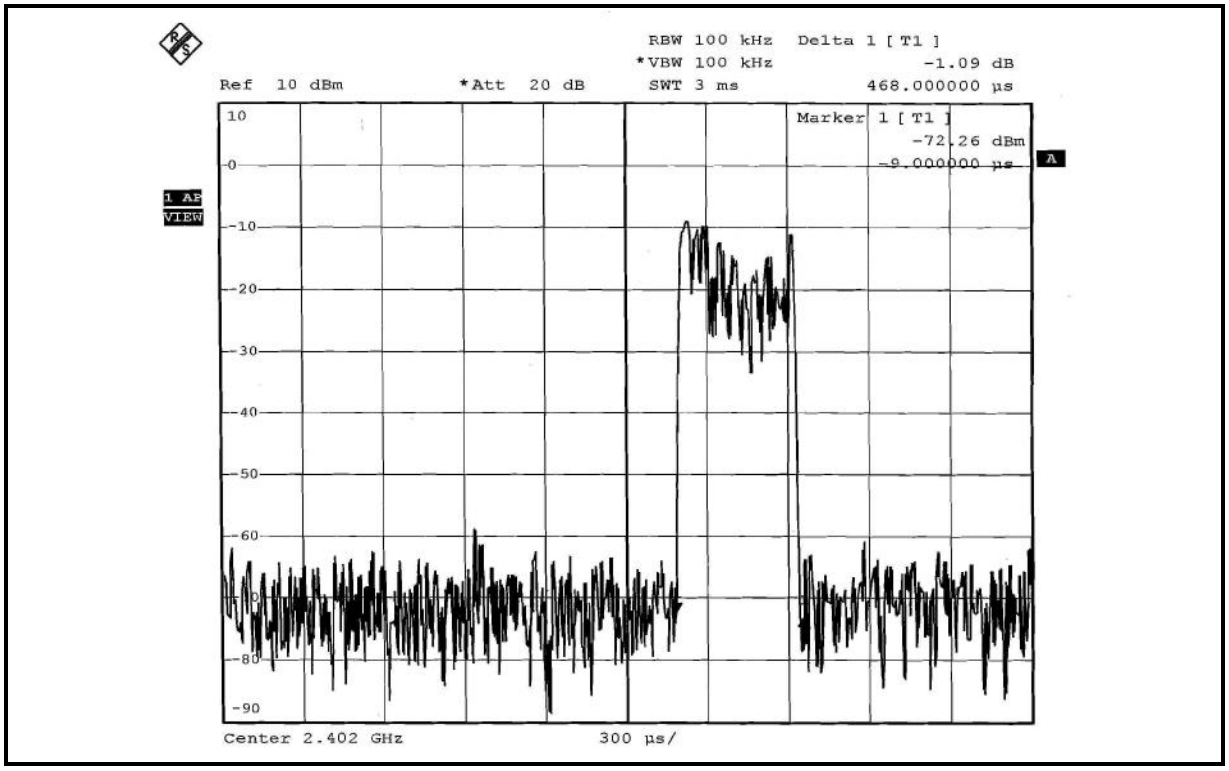
FOR 8DPSK

Mode	Number of transmission in a 31.6 (79Hopping*0.4)	Length of transmission time (msec)	Result (msec)	Limit (msec)
DH1	51 (times / 5 sec) *6.32=322.32 times	0.468	150.846	400
DH3	26 (times / 5 sec) *6.32=164.32 times	1.722	282.959	400
DH5	17 (times / 5 sec) *6.32=107.44 times	3.000	322.32	400

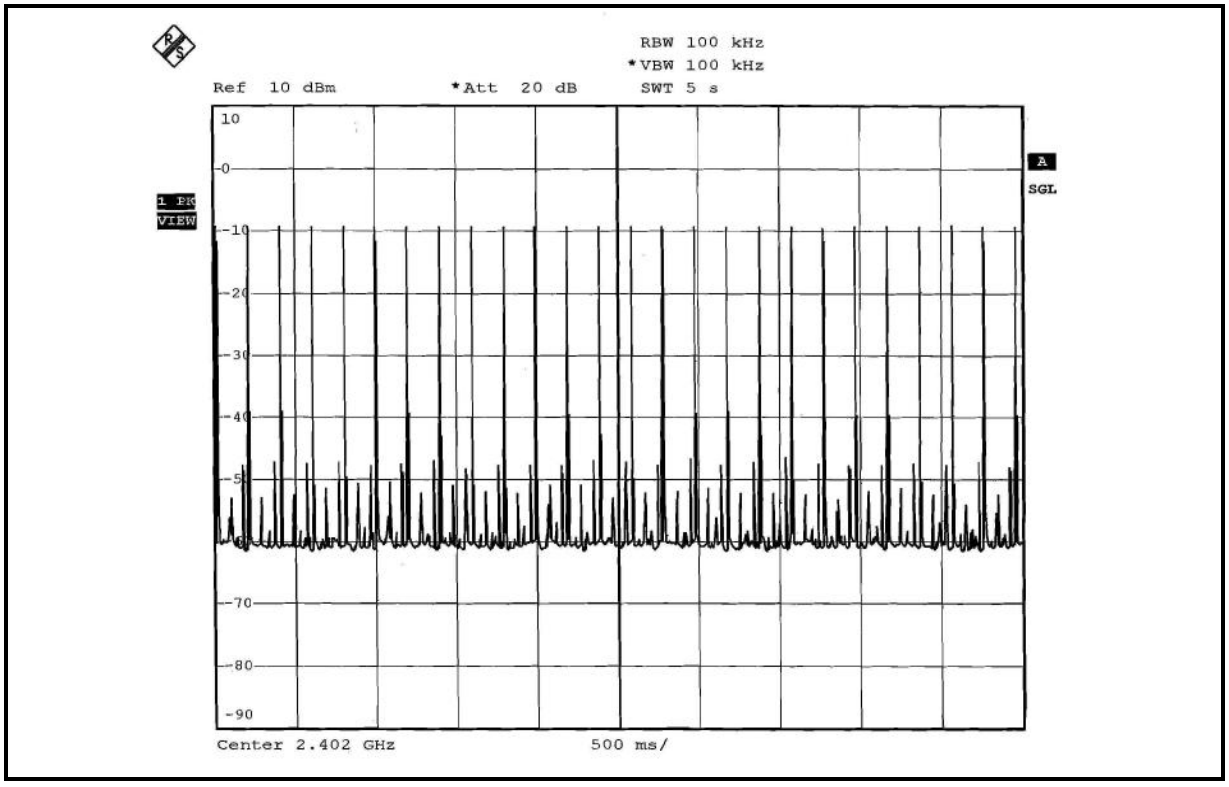
NOTE: Test plots of the transmitting time slot are shown on next 3 pages.

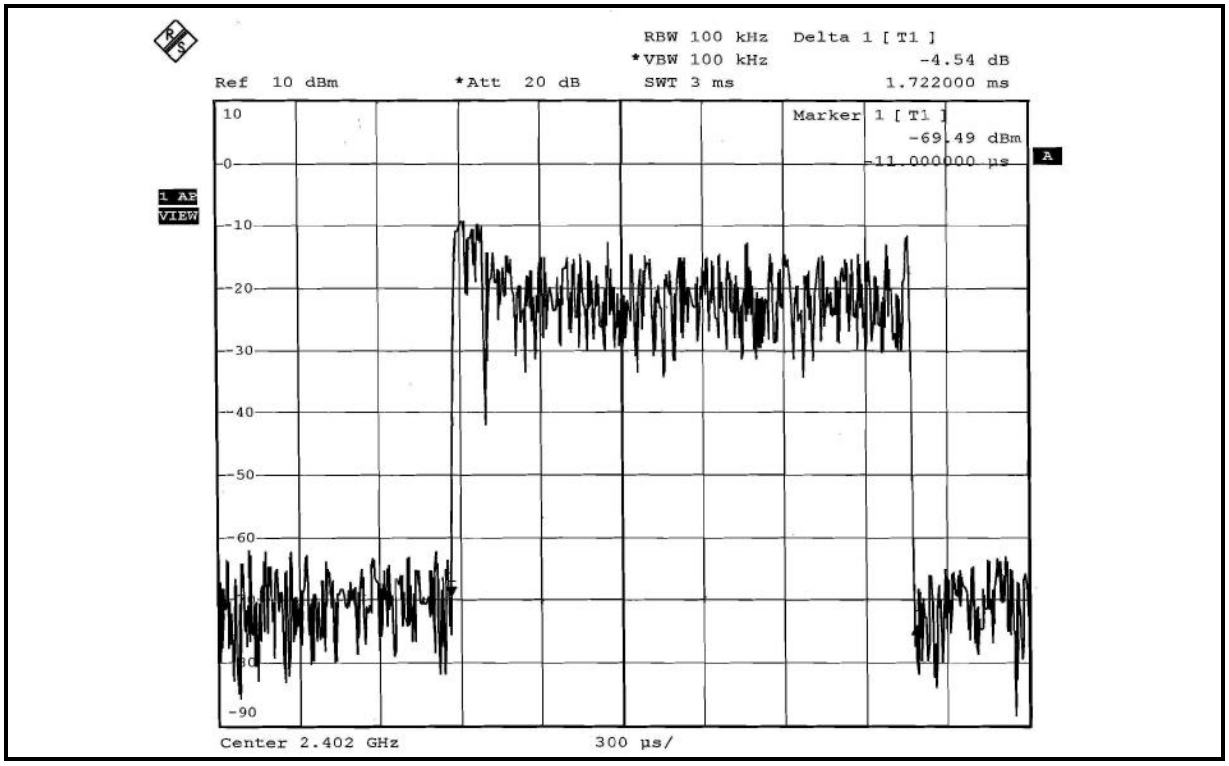
DH1


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 s
1 PK VIEW
A SGL
10
0
-10
-20
-30
-40
-50
-70
-80
-90
Center 2.402 GHz
500 ms/

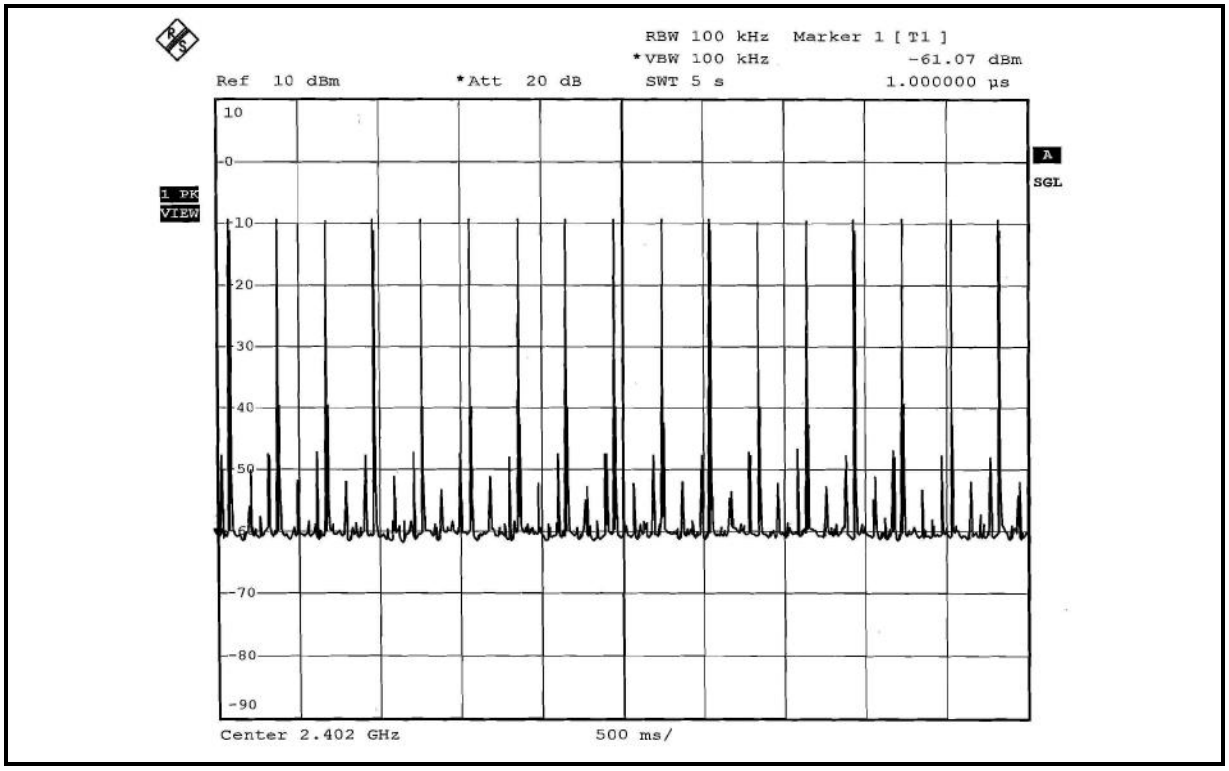

RBW 100 kHz
Delta 1 [T1]
*VBW 100 kHz
-1.09 dB
Ref 10 dBm
*Att 20 dB
SWT 3 ms
468.000000 µs
Marker 1 [T1]
-72.26 dBm
-9.000000 µs
1 AP VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-80
-90
Center 2.402 GHz
300 µs/

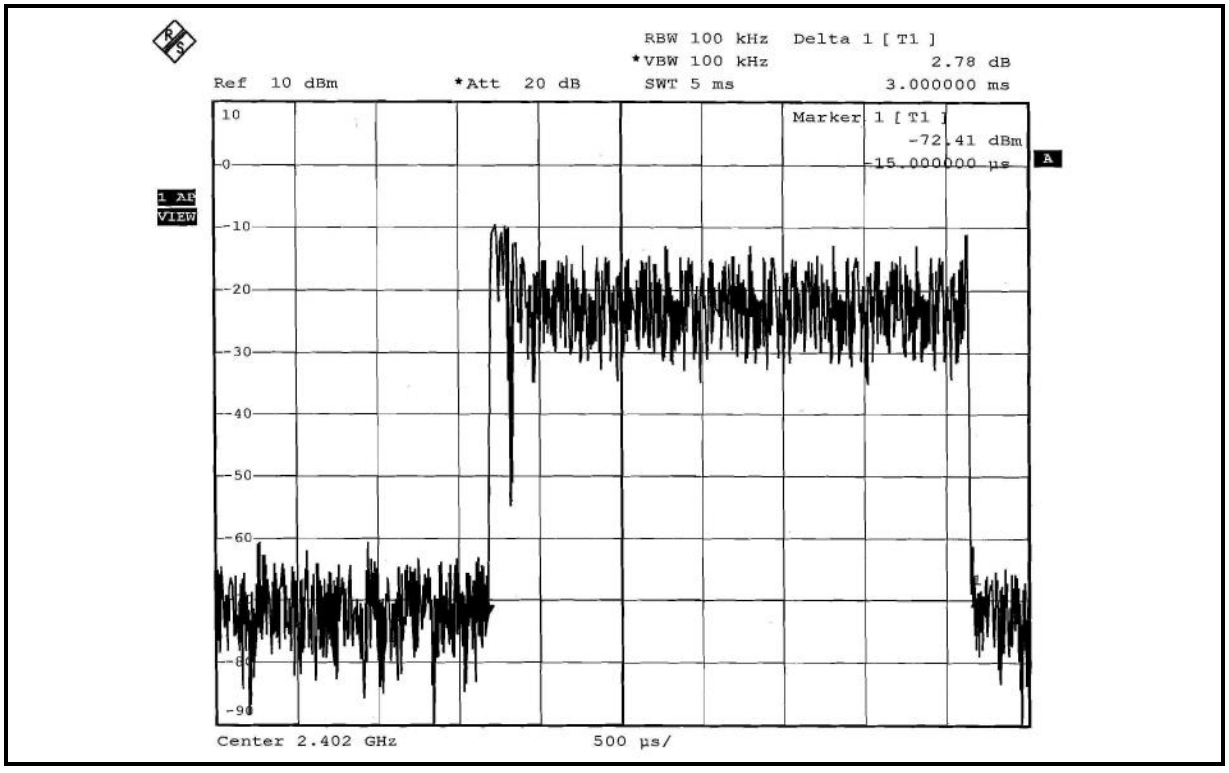
DH3


RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 s
1 PK
VIEW
A
SGL
10
0
-10
-20
-30
-40
-50
-70
-80
-90
Center 2.402 GHz
500 ms/


RBW 100 kHz
Delta 1 [T1]
*VBW 100 kHz
-4.54 dB
Ref 10 dBm
*Att 20 dB
SWT 3 ms
1.722000 ms
Marker 1 [T1]
-69.49 dBm
-11.000000 µs
1 AP
VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-90
Center 2.402 GHz
300 µs/

DH5


RBW 100 kHz
*VBW 100 kHz
SWT 5 s
Marker 1 [T1]
-61.07 dBm
1.000000 µs
Ref 10 dBm
*Att 20 dB
1 PK VIEW
A
SGL
10
0
-10
-20
-30
-40
-50
-70
-80
-90
Center 2.402 GHz
500 ms/


RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
2.78 dB
3.000000 ms
Marker 1 [T1]
-72.41 dBm
-15.000000 µs
Ref 10 dBm
*Att 20 dB
1 AP VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-80
-90
Center 2.402 GHz
500 µs/

4.5 CHANNEL BANDWIDTH

4.5.1 LIMITS OF CHANNEL BANDWIDTH

For frequency hopping system operating in the 2400-2483.5MHz, If the 20dB bandwidth of hopping channel is greater than 25kHz, two-thirds 20dBbandwidth of hopping channel shell be a minimum limit for the hopping channel separation.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100036	Jun. 07, 2007

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

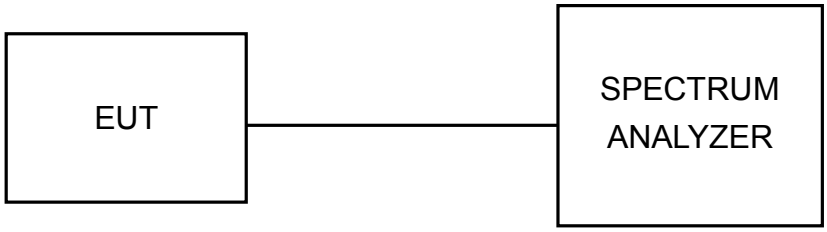
c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.

d. Repeat above procedures until all frequencies measured were complete.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

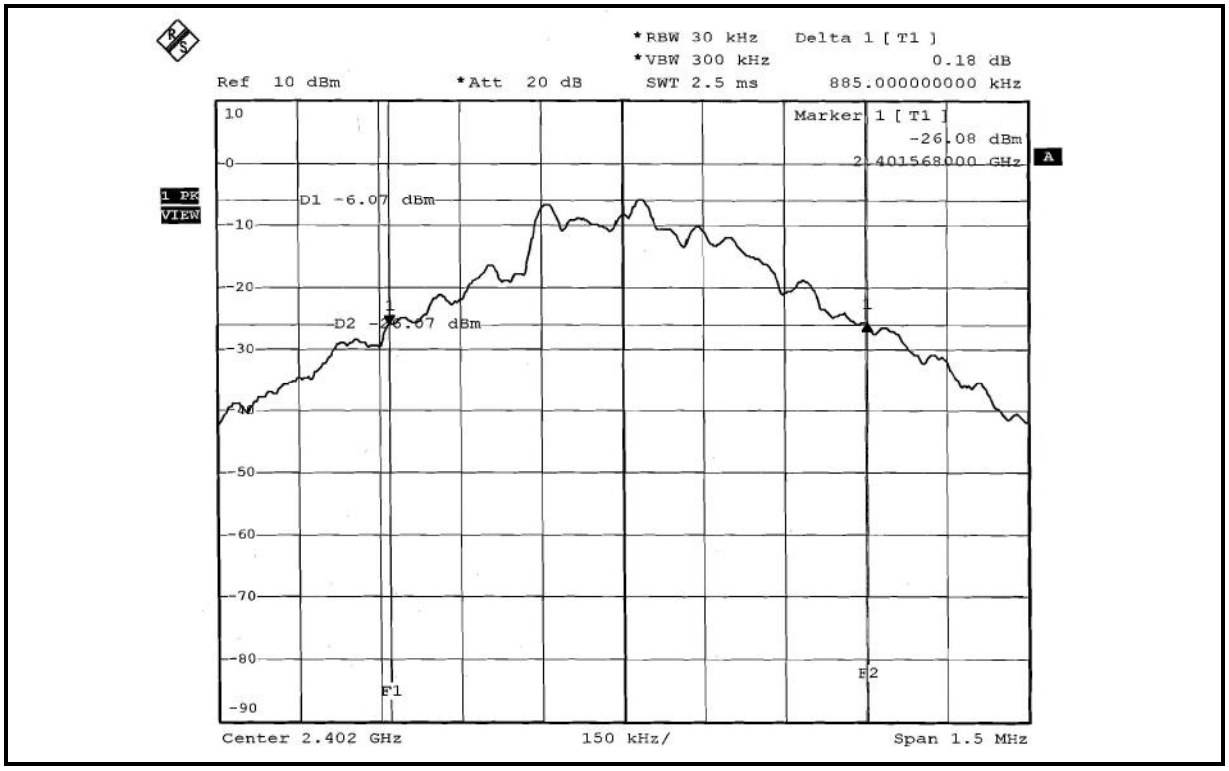
4.5.7 TEST RESULTS

FOR GFSK

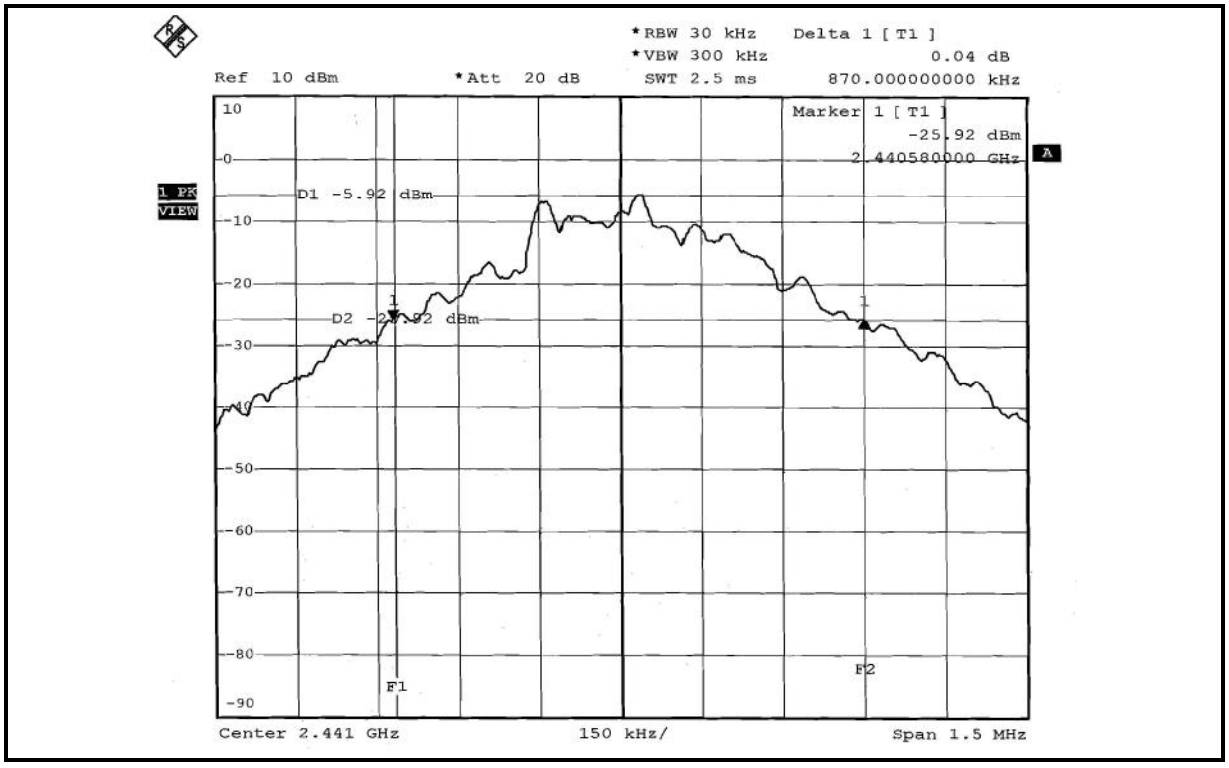
MODULATION TYPE	GFSK	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 73%RH, 1005hPa
INPUT POWER	120Vac, 60 Hz	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
0	2402	0.885
39	2441	0.870
78	2480	0.876

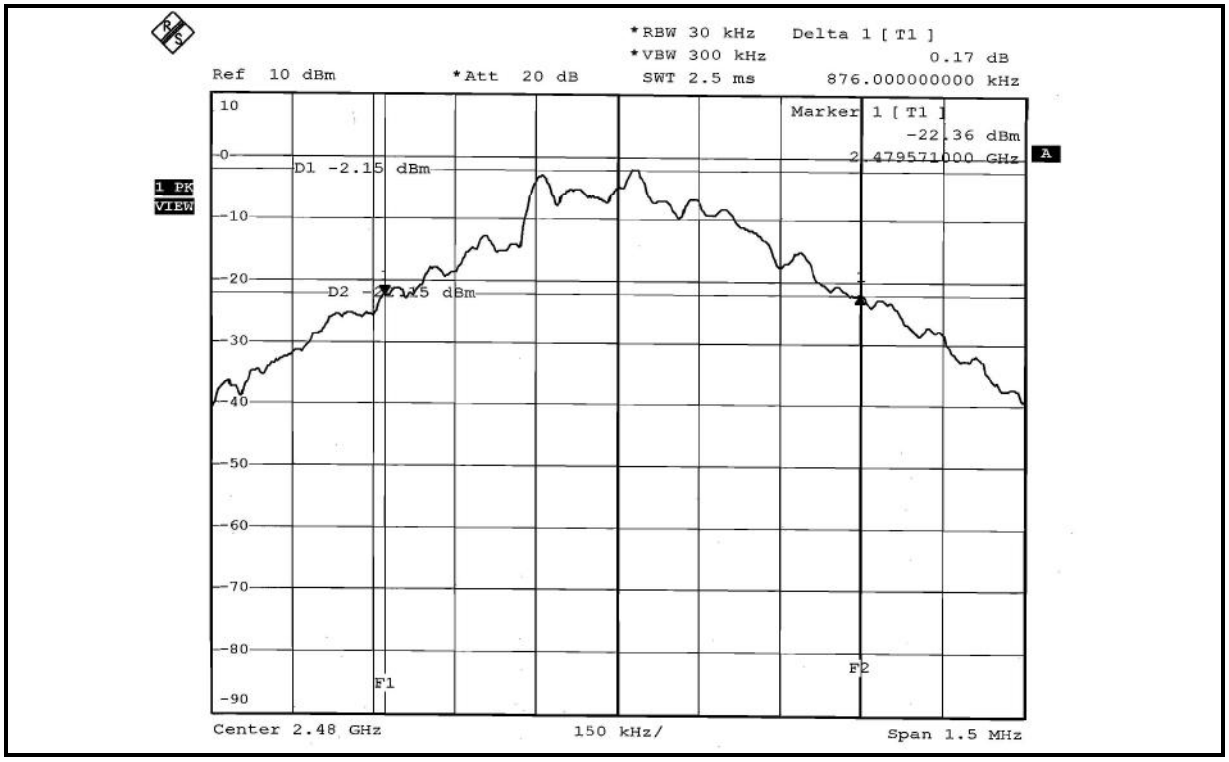
CH 0


*RBW 30 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.18 dB
885.000000000 kHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-26.08 dBm
2.401568000 GHz
1 PK VIEW
D1 -6.07 dBm
D2 -26.07 dBm
F1
F2
Center 2.402 GHz
150 kHz/
Span 1.5 MHz

CH 39


*RBW 30 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.04 dB
870.000000000 kHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-25.92 dBm
2.440580000 GHz
1 PK VIEW
D1 -5.92 dBm
D2 -25.92 dBm
F1
F2
Center 2.441 GHz
150 kHz/
Span 1.5 MHz

CH 78

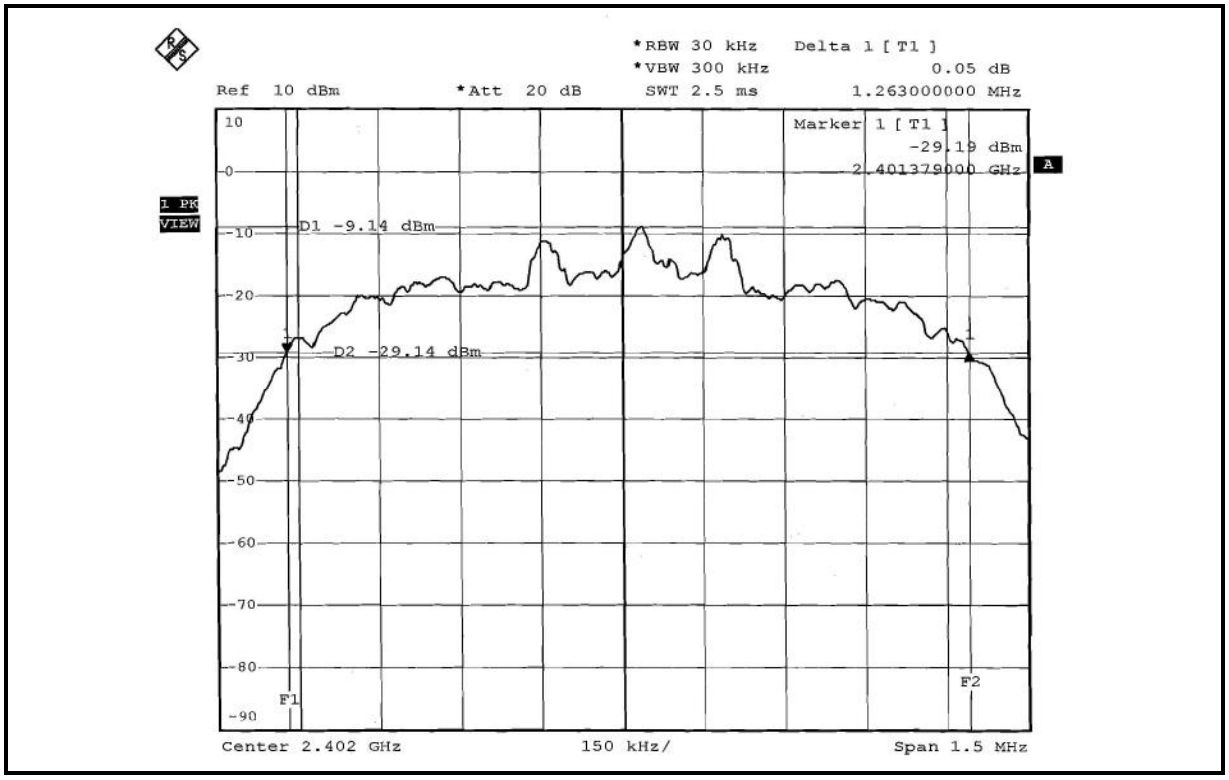

*RBW 30 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.17 dB
876.000000000 kHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-22.36 dBm
2.479571000 GHz
1 PK
VIEW
A
D1 -2.15 dBm
D2 -22.15 dBm
F1
F2
Center 2.48 GHz
150 kHz/
Span 1.5 MHz

FOR 8DPSK

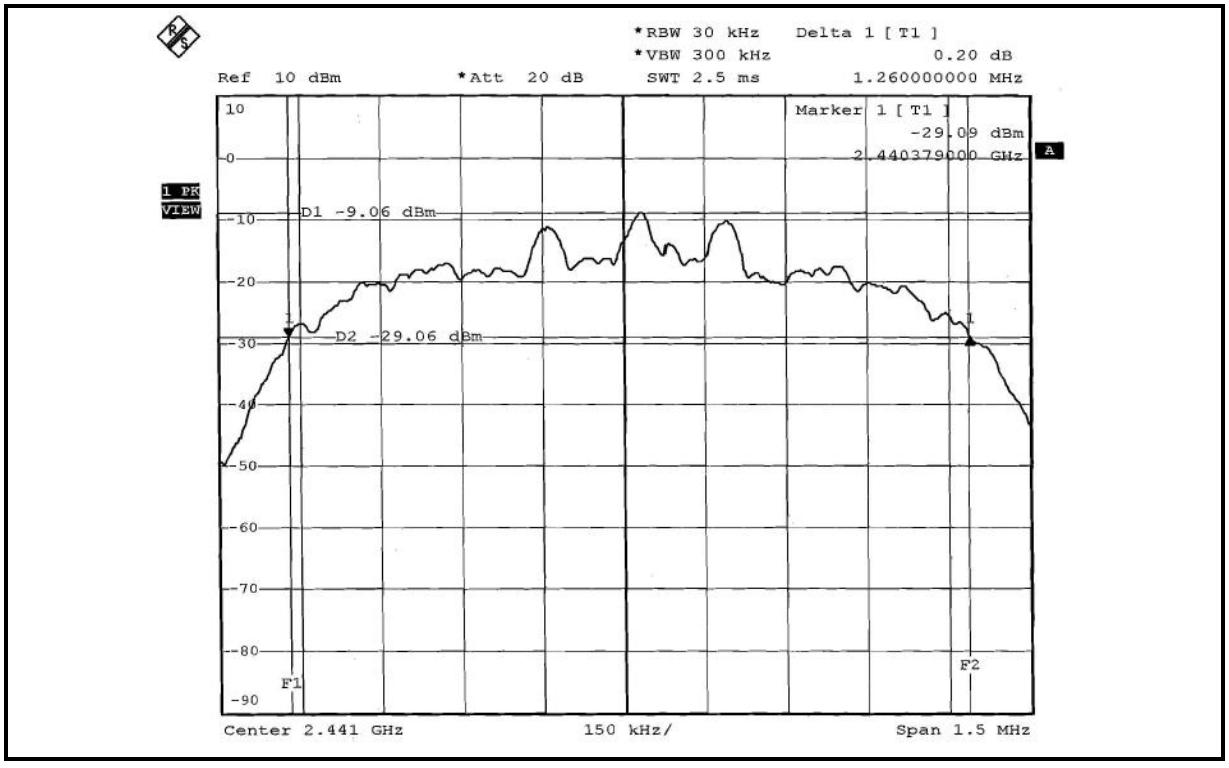
MODULATION TYPE	8DPSK	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 73%RH, 1008hPa
INPUT POWER	120Vac, 60 Hz	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
0	2402	1.263
39	2441	1.260
78	2480	1.263

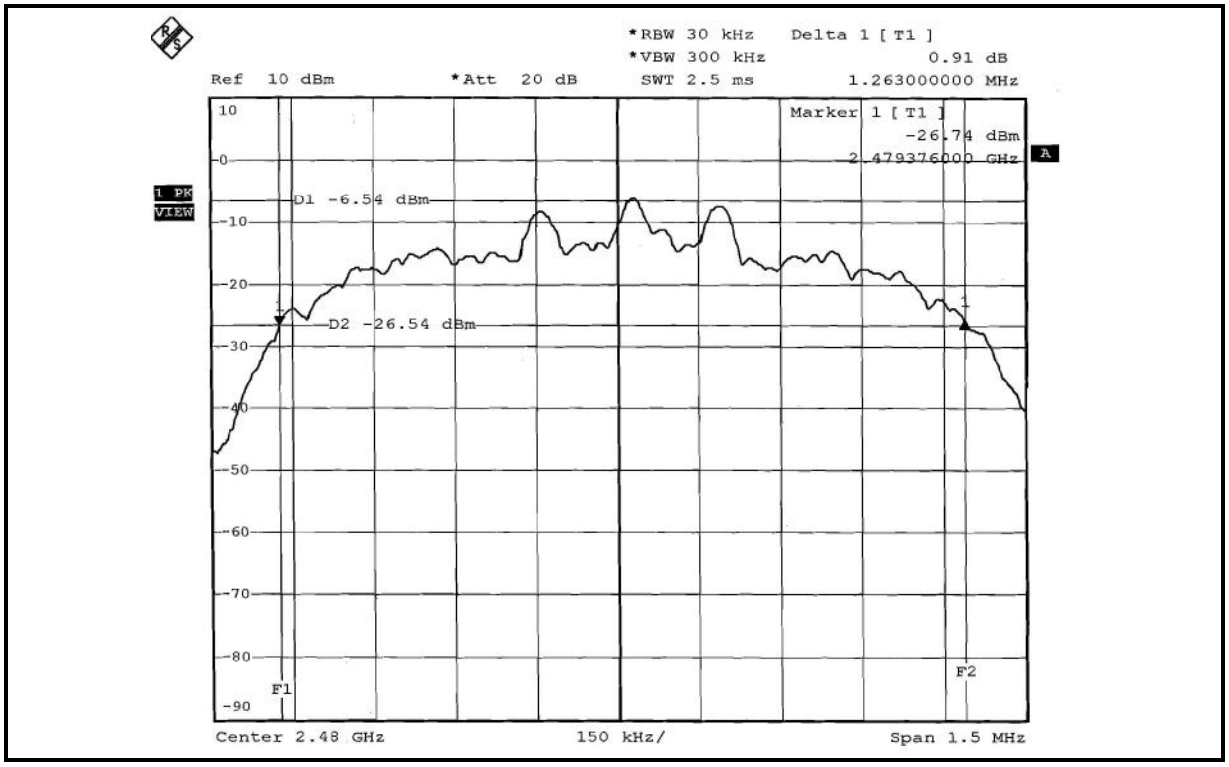
CH 0


*RBW 30 kHz
Delta 1 [T1]
*VBW 300 kHz
0.05 dB
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
1.263000000 MHz
Marker 1 [T1]
-29.19 dBm
2.401379000 GHz
1 PK
VIEW
D1 -9.14 dBm
D2 -29.14 dBm
F1
F2
Center 2.402 GHz
150 kHz/
Span 1.5 MHz

CH 39


*RBW 30 kHz
Delta 1 [T1]
*VBW 300 kHz
0.20 dB
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
1.260000000 MHz
Marker 1 [T1]
-29.09 dBm
2.440379000 GHz
1 PK
VIEW
D1 -9.06 dBm
D2 -29.06 dBm
F1
F2
Center 2.441 GHz
150 kHz/
Span 1.5 MHz

CH 78


*RBW 30 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.91 dB
1.263000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-26.74 dBm
2.479376000 GHz
1 PK
VIEW
A
D1 -6.54 dBm
D2 -26.54 dBm
F1
F2
Center 2.48 GHz
150 kHz/
Span 1.5 MHz

4.6 HOPPING CHANNEL SEPARATION

4.6.1 LIMIT OF HOPPING CHANNEL SEPARATION

At least 25kHz or two-third of 20dB hopping channel bandwidth (whichever is greater).

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100036	Jun. 07, 2007

NOTES: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

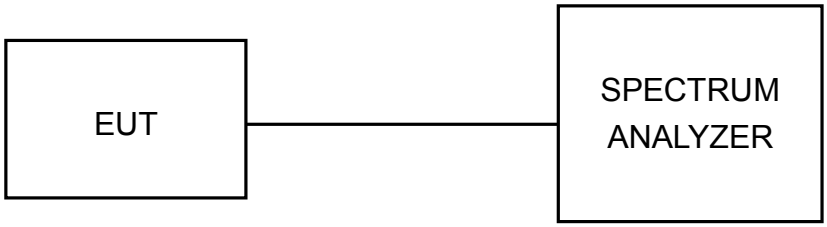
4.6.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
3. By using the MaxHold function record the separation of two adjacent channels.
4. Measure the frequency difference of these two adjacent channels by SA MARK function. And then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 TEST SETUP



4.6.6 TEST RESULTS

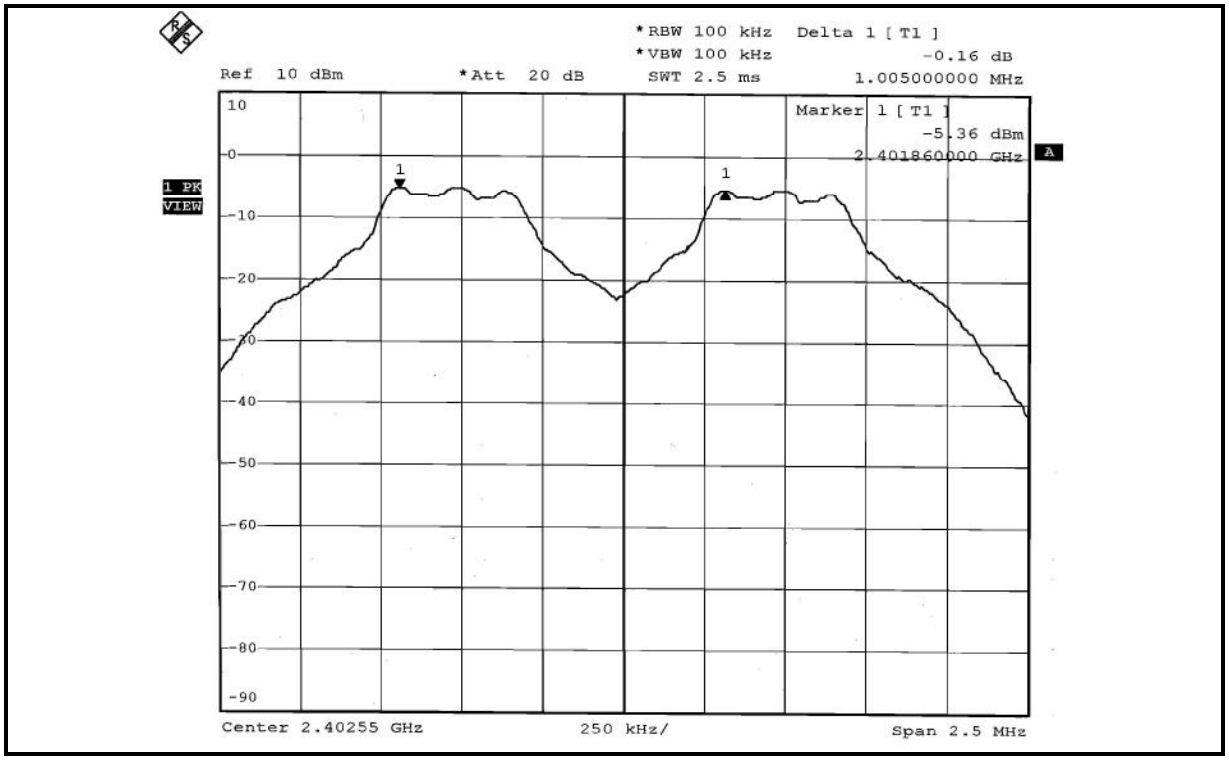
FOR GFSK

MODULATION TYPE	GFSK	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 73%RH, 1005hPa
INPUT POWER	120Vac, 60 Hz	**TESTED BY**	Jamison Chan

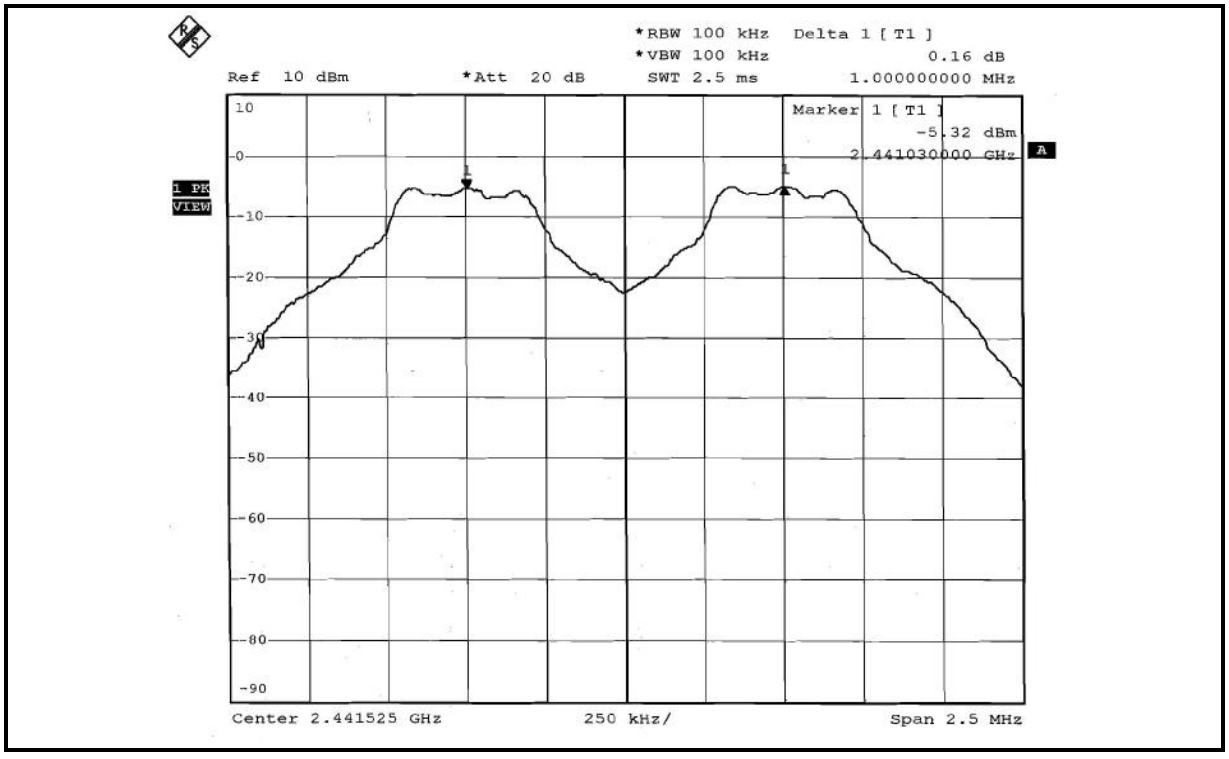
CHANNEL	FREQUENCY (MHz)	ADJACENT CHANNEL SEPARATION (MHz)	20dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	1.005	0.885	0.590	PASS
39	2441	1.000	0.870	0.580	PASS
78	2480	1.005	0.876	0.584	PASS

NOTE: The minimum limit is two-third 20dB bandwidth. Test results please refer to next two pages.

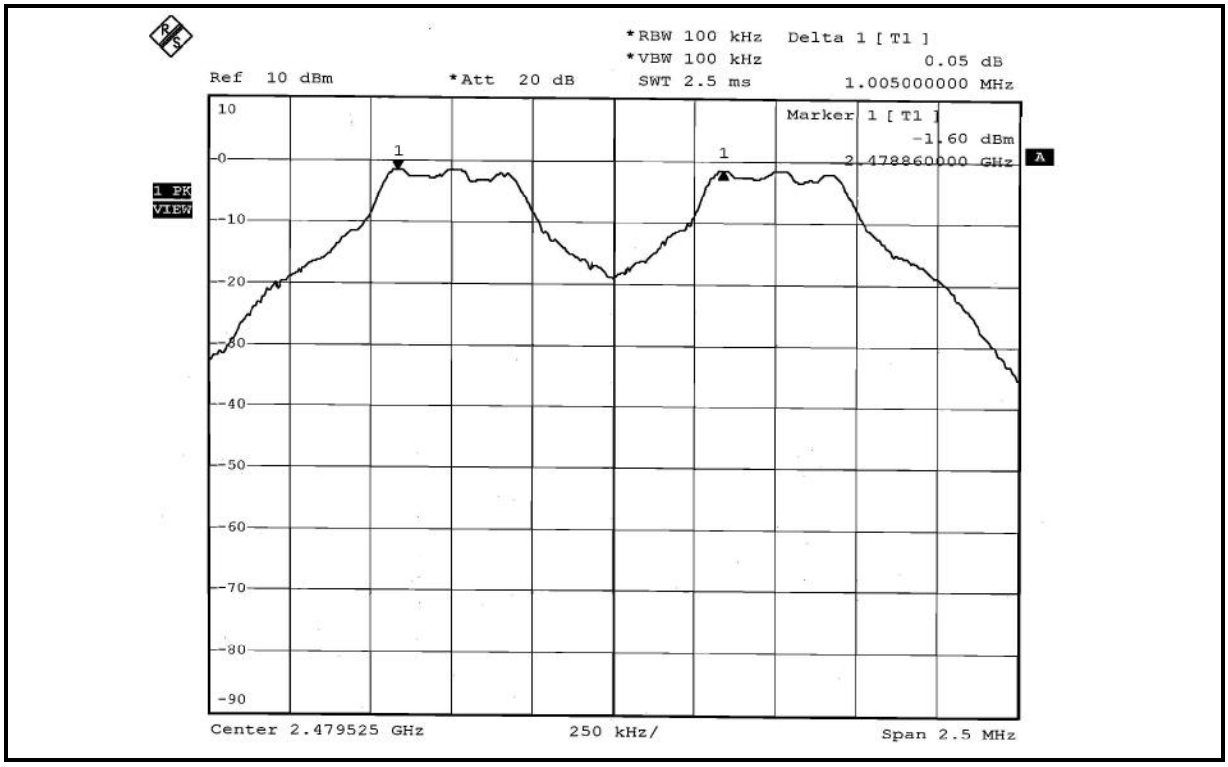
CH 0


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T1]
-0.16 dB
1.005000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-5.36 dBm
2.401860000 GHz
1 PK VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.40255 GHz
250 kHz/
Span 2.5 MHz

CH 39


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T1]
0.16 dB
1.000000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-5.32 dBm
2.441030000 GHz
1 PK VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441525 GHz
250 kHz/
Span 2.5 MHz

CH 78


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T1]
0.05 dB
1.005000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-1.60 dBm
2.478860000 GHz
1 PK
VIEW
A
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.479525 GHz
250 kHz/
Span 2.5 MHz

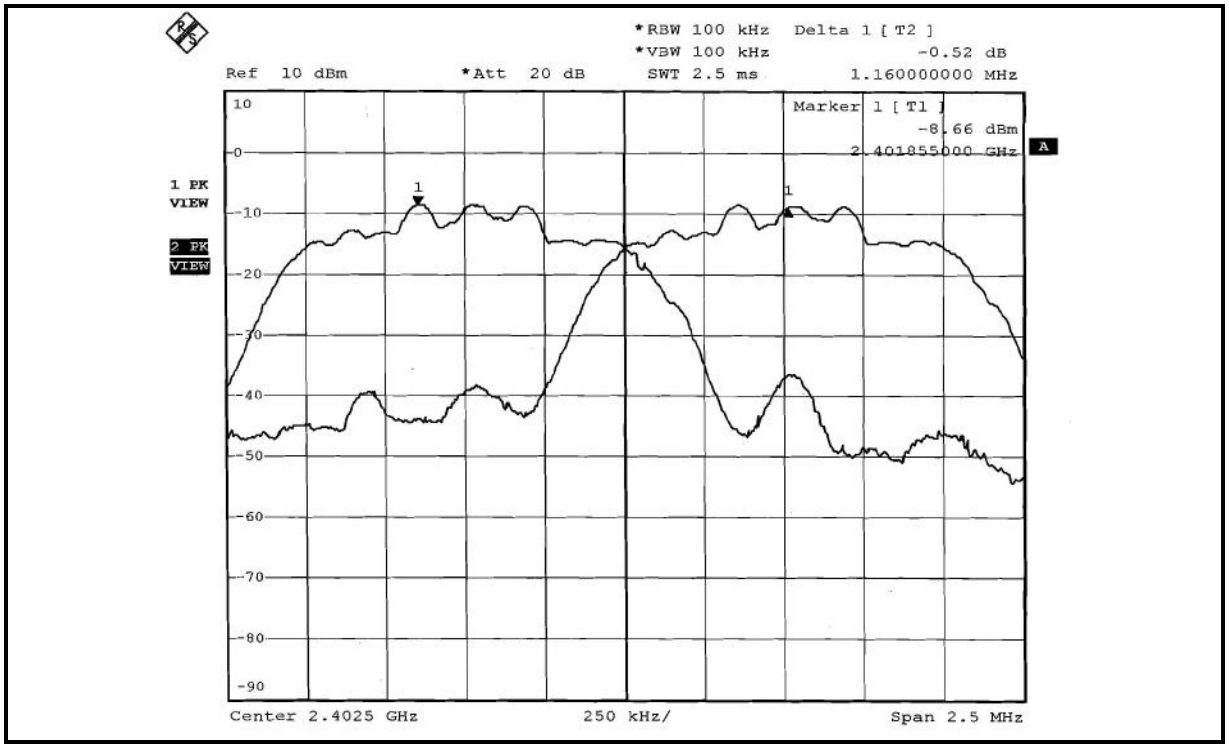
FOR 8DPSK

MODULATION TYPE	8DPSK	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 73%RH, 1008hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Jamison Chan

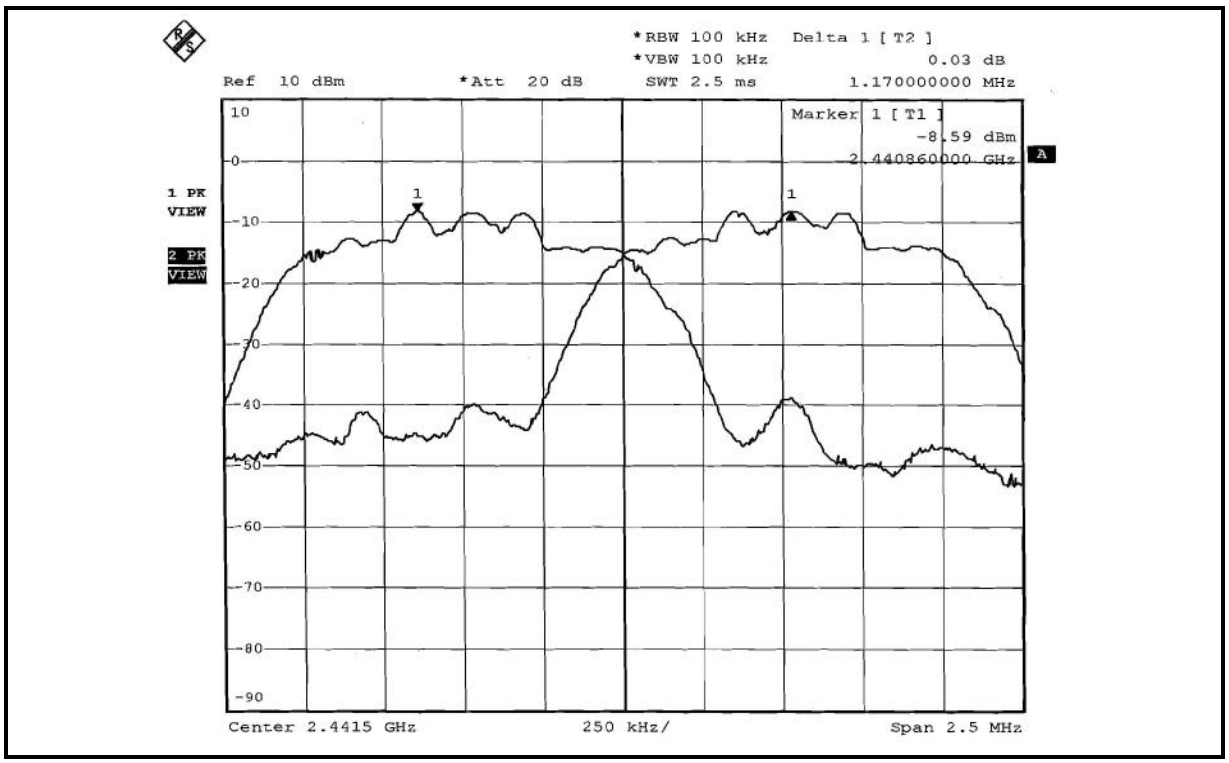
CHANNEL	FREQUENCY (MHz)	ADJACENT CHANNEL SEPARATION (MHz)	20dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
0	2402	1.160	1.263	0.842	PASS
39	2441	1.170	1.260	0.840	PASS
78	2480	1.160	1.263	0.842	PASS

NOTE: The minimum limit is two-third 20dB bandwidth. Test results please refer to next two pages.

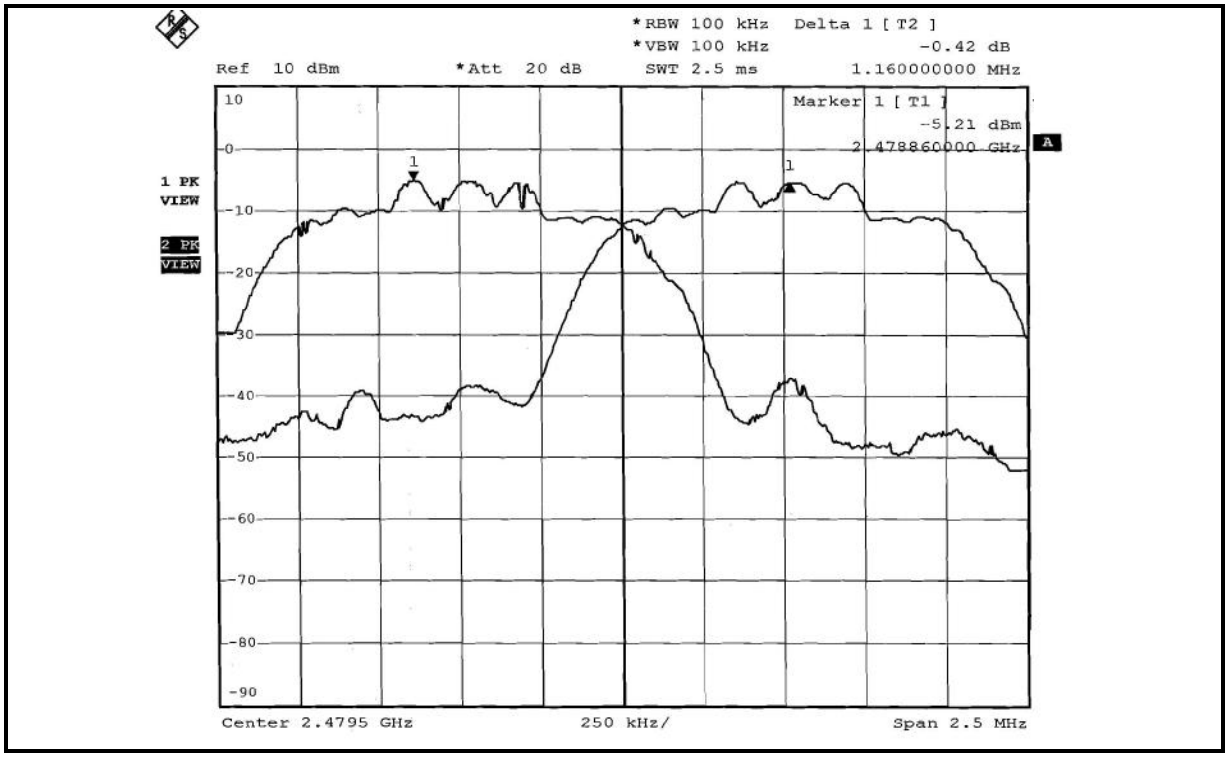
CH 0


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T2]
-0.52 dB
1.160000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-8.66 dBm
2.401855000 GHz
1 PK VIEW
2 PK VIEW
Center 2.4025 GHz
250 kHz/
Span 2.5 MHz

CH 39


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 ms
Delta 1 [T2]
0.03 dB
1.170000000 MHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
-8.59 dBm
2.440860000 GHz
1 PK VIEW
2 PK VIEW
Center 2.4415 GHz
250 kHz/
Span 2.5 MHz

CH 78


*RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
Delta 1 [T2]
-0.42 dB
1.160000000 MHz
Marker 1 [T1]
-5.21 dBm
2.478860000 GHz
1 PK VIEW
2 PK VIEW
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4795 GHz
250 kHz/
Span 2.5 MHz

4.7 MAXIMUM PEAK OUTPUT POWER

4.7.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 125mW.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100036	Jun. 07, 2007

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.7.3 TEST PROCEDURES

a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

c. The center frequency of the spectrum analyzer is set to the fundamental frequency and using 3MHz RBW and 10 MHz VBW.

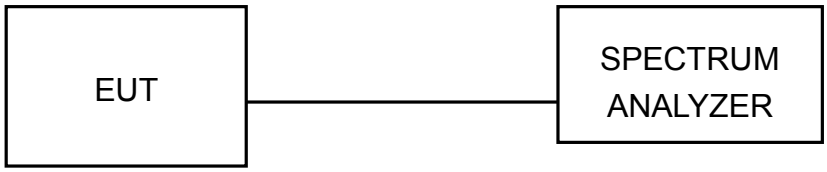
d. Measure the captured power within the band and recording the plot.

e. Repeat above procedures until all frequencies required were complete.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

4.7.6 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

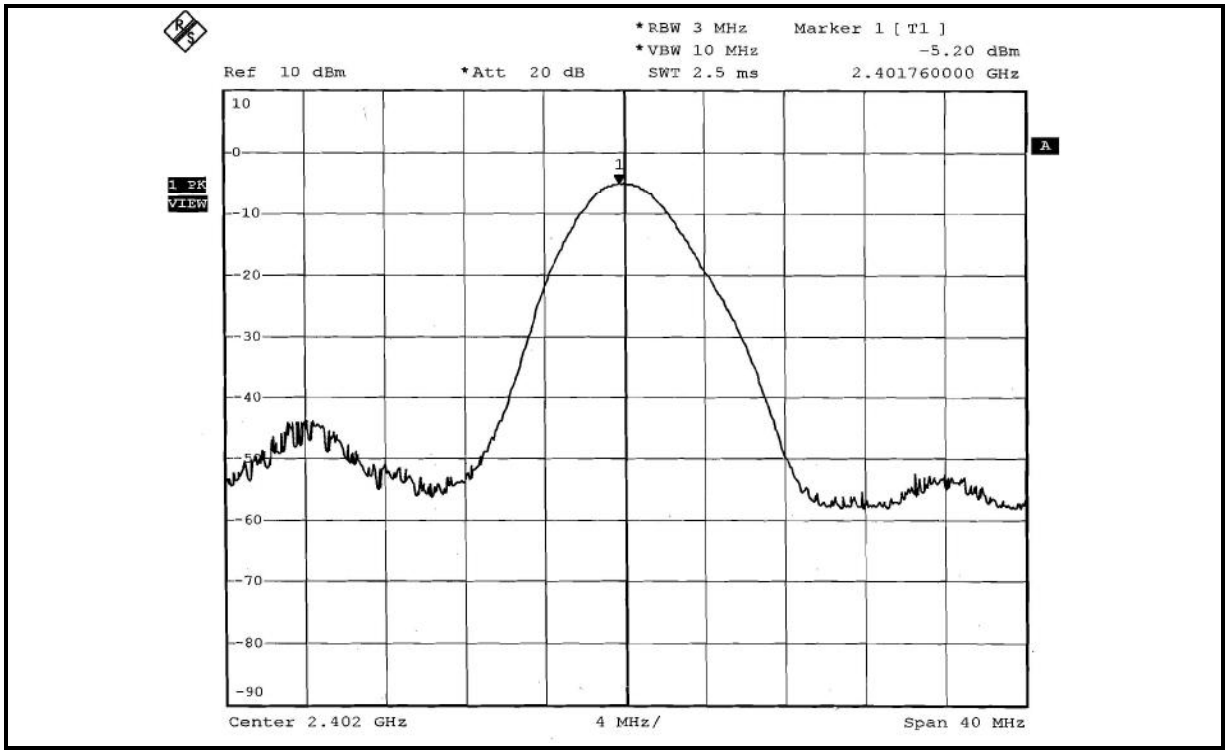
4.7.7 TEST RESULTS

FOR GFSK

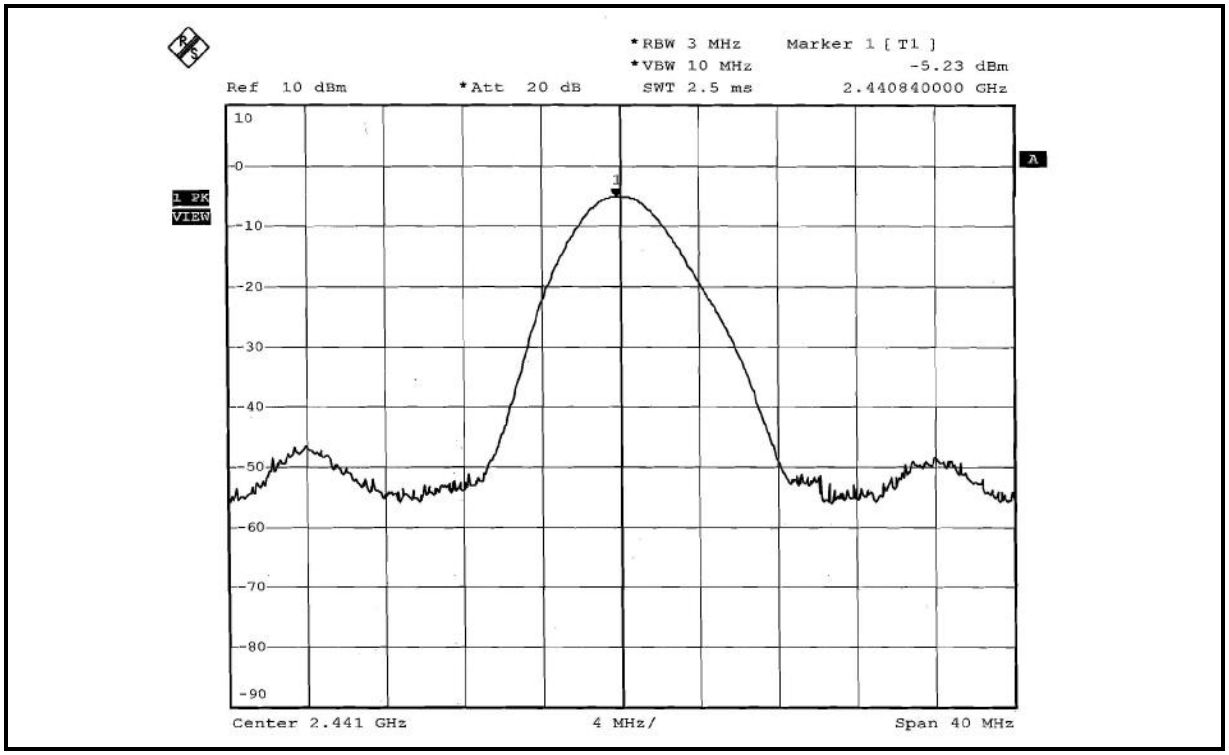
MODULATION TYPE	GFSK	ENVIRONMENTAL CONDITIONS	22 deg. C, 73%RH, 1005hPa
INPUT POWER	120Vac, 60 Hz	TESTED BY	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (mW)	PASS/FAIL
0	2402	0.302	-5.20	125	PASS
39	2441	0.300	-5.23	125	PASS
78	2480	0.697	-1.57	125	PASS

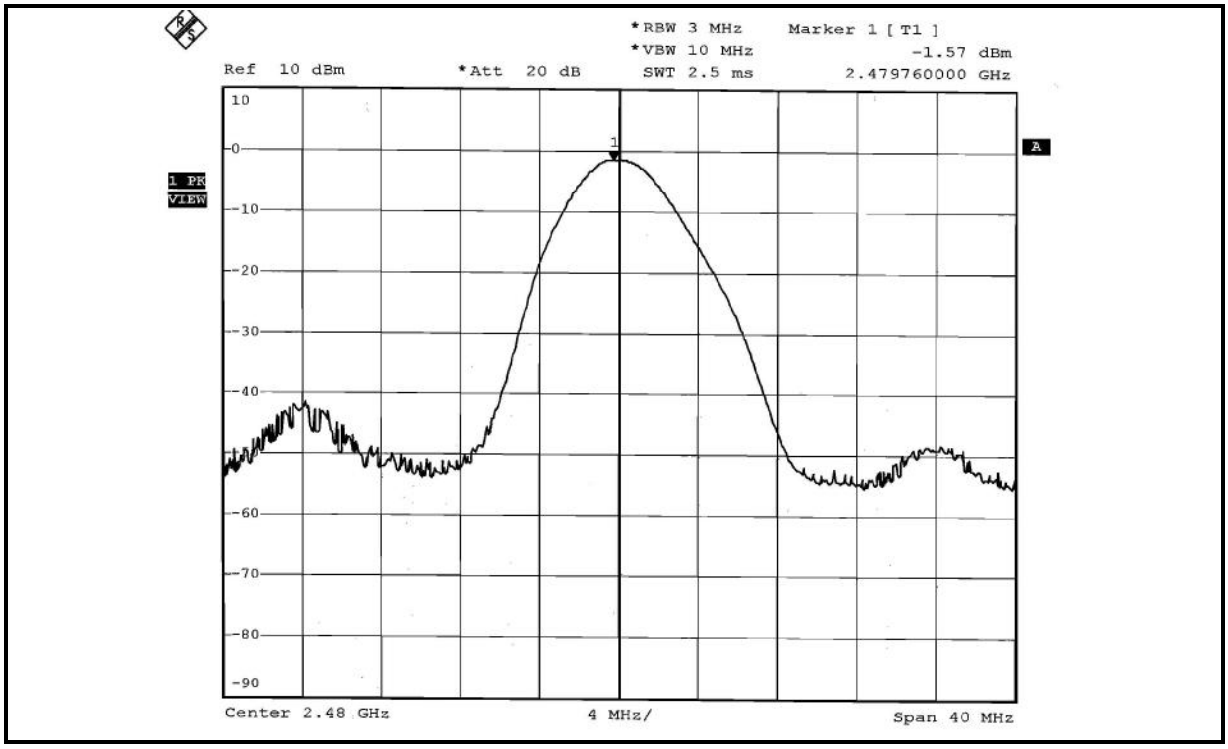
CH 0


*RBW 3 MHz
*VBW 10 MHz
Marker 1 [T1]
-5.20 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.401760000 GHz
1 PK
VIEW
A
Center 2.402 GHz
4 MHz/
Span 40 MHz

CH 39


*RBW 3 MHz
*VBW 10 MHz
Marker 1 [T1]
-5.23 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.440840000 GHz
1 PK
VIEW
A
Center 2.441 GHz
4 MHz/
Span 40 MHz

CH 78

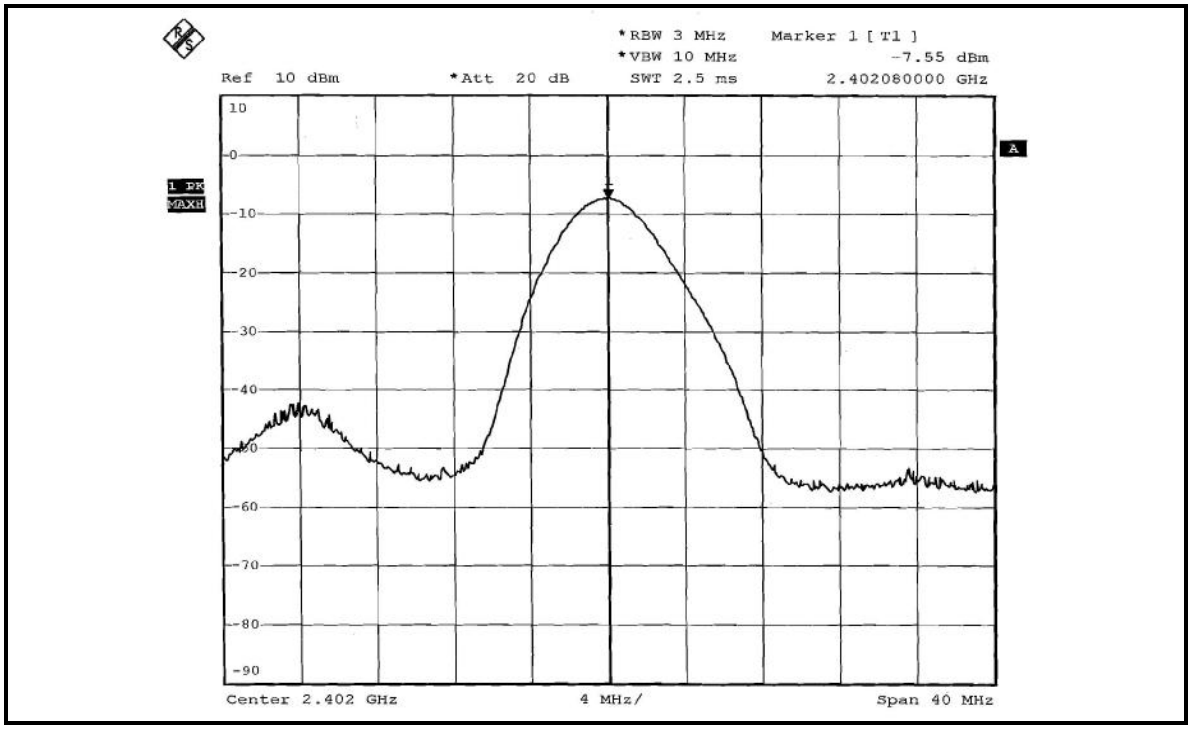

*RBW 3 MHz
*VBW 10 MHz
SWT 2.5 ms
Marker 1 [T1]
-1.57 dBm
2.479760000 GHz
Ref 10 dBm
*Att 20 dB
1 PK
VIEW
A
10
0
-10
-20
-30
-40
-60
-70
-80
-90
Center 2.48 GHz
4 MHz/
Span 40 MHz

FOR 8DPSK

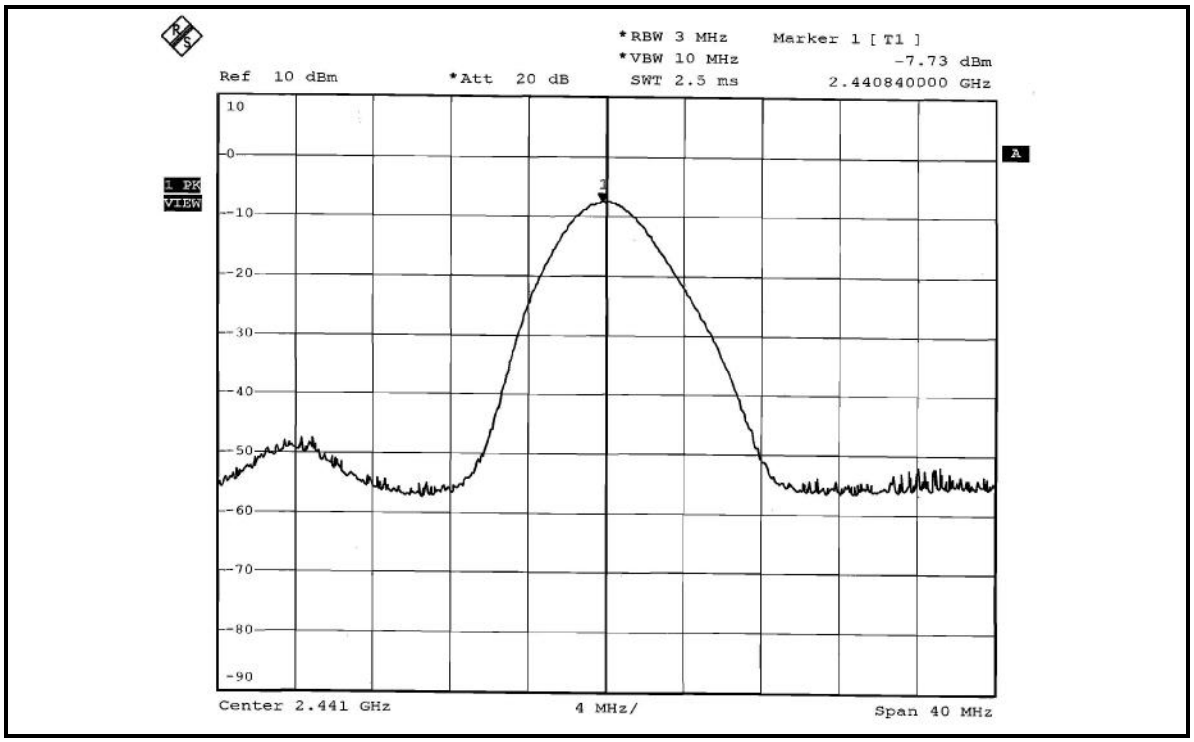
MODULATION TYPE	8DPSK	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 73%RH, 1008hPa
INPUT POWER	120Vac, 60 Hz	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (mW)	PASS/FAIL
0	2402	0.176	-7.55	125	PASS
39	2441	0.169	-7.73	125	PASS
78	2480	0.333	-4.77	125	PASS

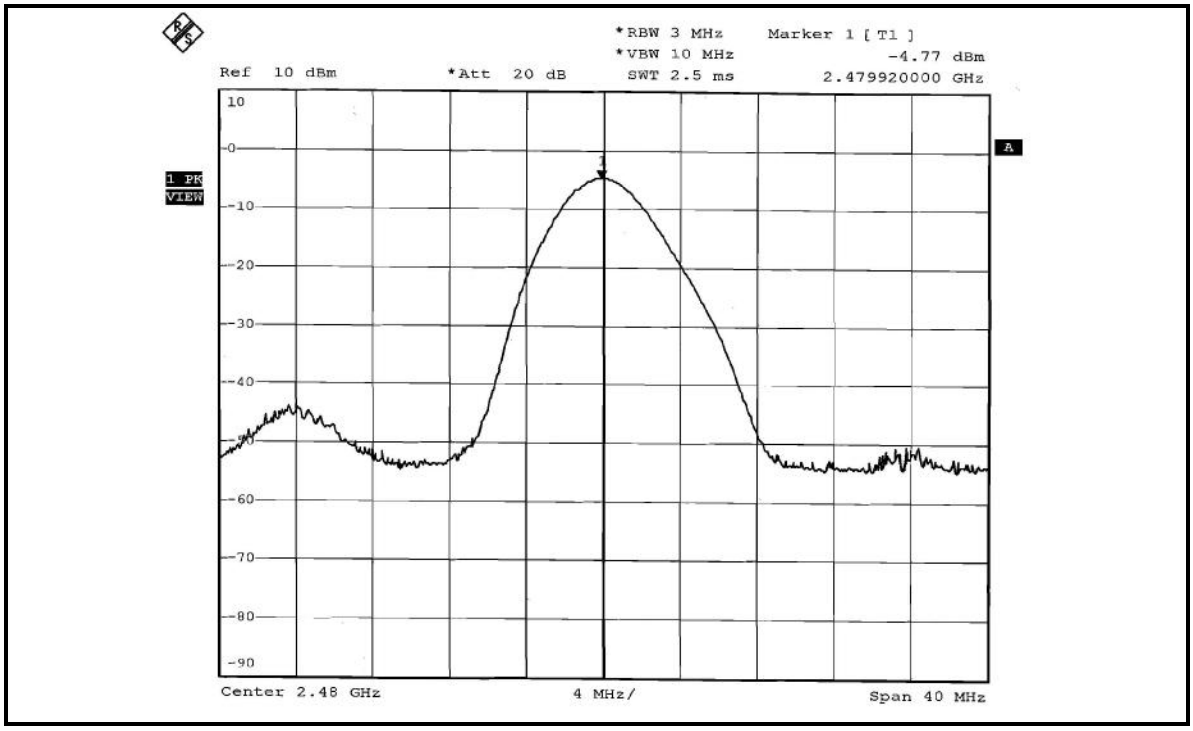
CH 0


*RBW 3 MHz
*VBW 10 MHz
Marker 1 [T1]
-7.55 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.402080000 GHz
1 PK
MAXH
A
Center 2.402 GHz
4 MHz/
Span 40 MHz

CH 39


*RBW 3 MHz
*VBW 10 MHz
Marker 1 [T1]
-7.73 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.440840000 GHz
1 PK
VIEW
A
Center 2.441 GHz
4 MHz/
Span 40 MHz

CH 78


*RBW 3 MHz
*VBW 10 MHz
SWT 2.5 ms
Marker 1 [T1]
-4.77 dBm
2.479920000 GHz
Ref 10 dBm
*Att 20 dB
1 PK
VIEW
A
10
0
-10
-20
-30
-40
-60
-70
-80
-90
Center 2.48 GHz
4 MHz/
Span 40 MHz

4.8 BAND EDGES MEASUREMENT

4.8.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100KHz RBW).

4.8.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100036	Jun. 07, 2007

NOTES: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.8.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.8.4 DEVIATION FROM TEST STANDARD

No deviation.

4.8.5 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

4.8.6 TEST RESULTS

The spectrum plots are attached on the following 4 images. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

FOR GFSK

NOTE 1:
The band edge emission plot on the next page shows 41.02dBc between carrier maximum power and local maximum emission in restrict band (2.3702GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.2.7 is 89.02dBuV/m (Peak), so the maximum field strength in restrict band is 89.02 – 41.02= 48.00dBuV/m, which is under 74 dBuV/m limit.

Average value = 48.00 - 30.00= 18.00dBuV/m, which is under 54dBuV/m limit.

*The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.

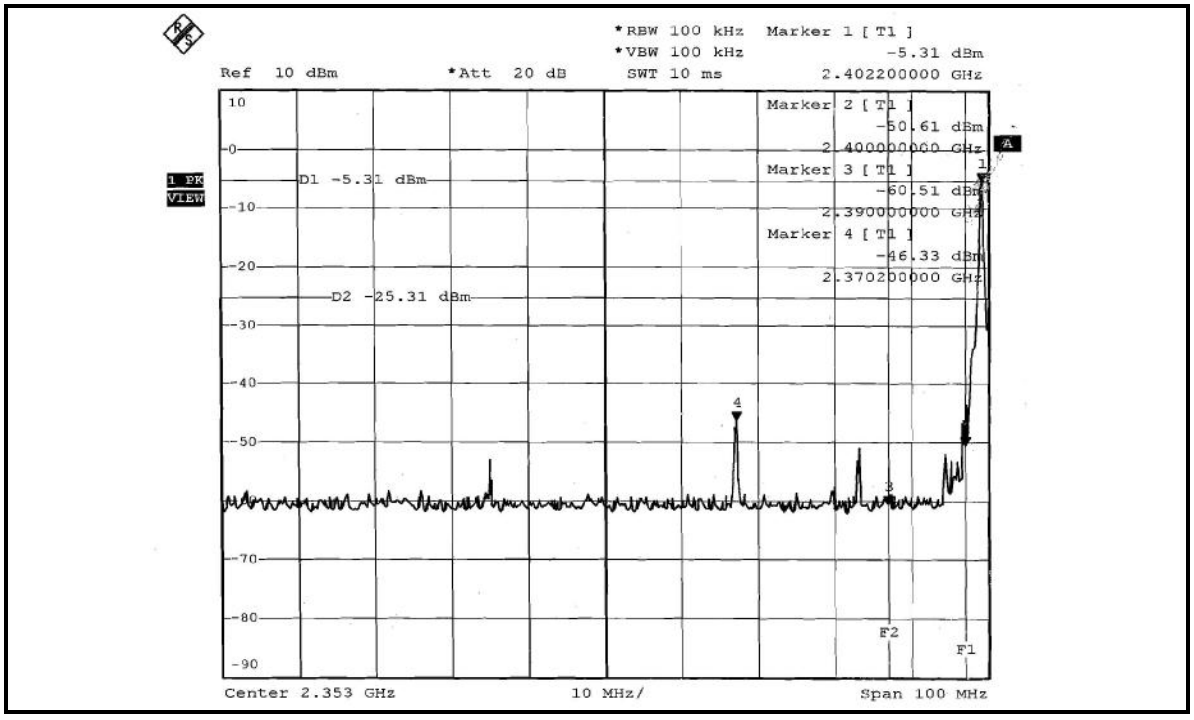
Average value = peak reading –30.00.

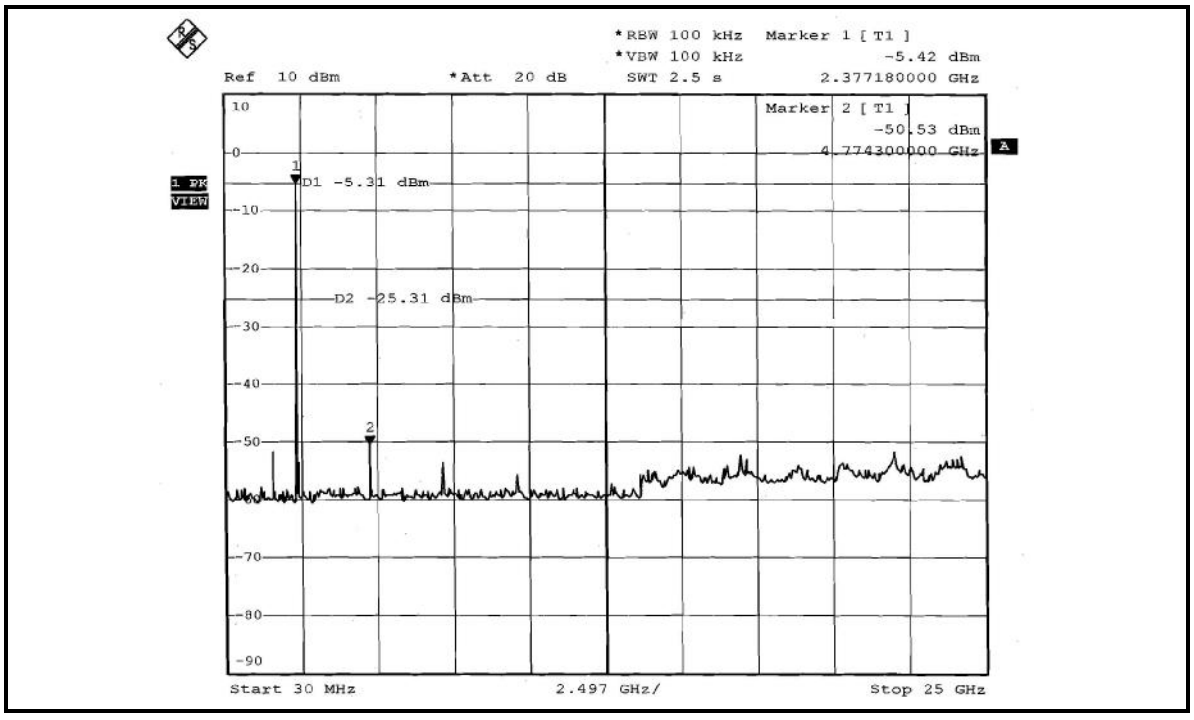
NOTE 2:
The band edge emission plot on the next second page shows 49.93dBc between carrier maximum power and local maximum emission in restrict band (2.4846GHz). The emission of carrier strength list in the test result of channel 78 at the item 4.2.7 is 93.71dBuV/m (Peak), so the maximum field strength in restrict band is 93.71 – 49.93 = 43.78dBuV/m, which is under 74 dBuV/m limit.

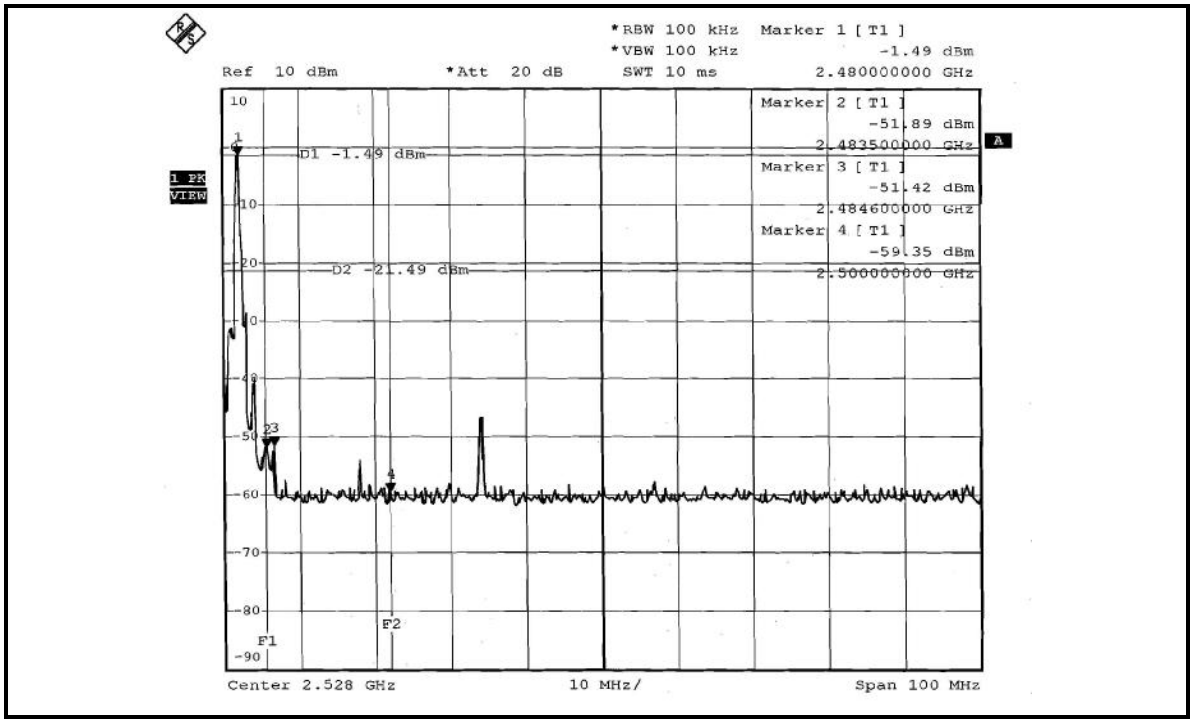
Average value = 43.78 - 30.00= 13.78dBuV/m, which is under 54dBuV/m limit.

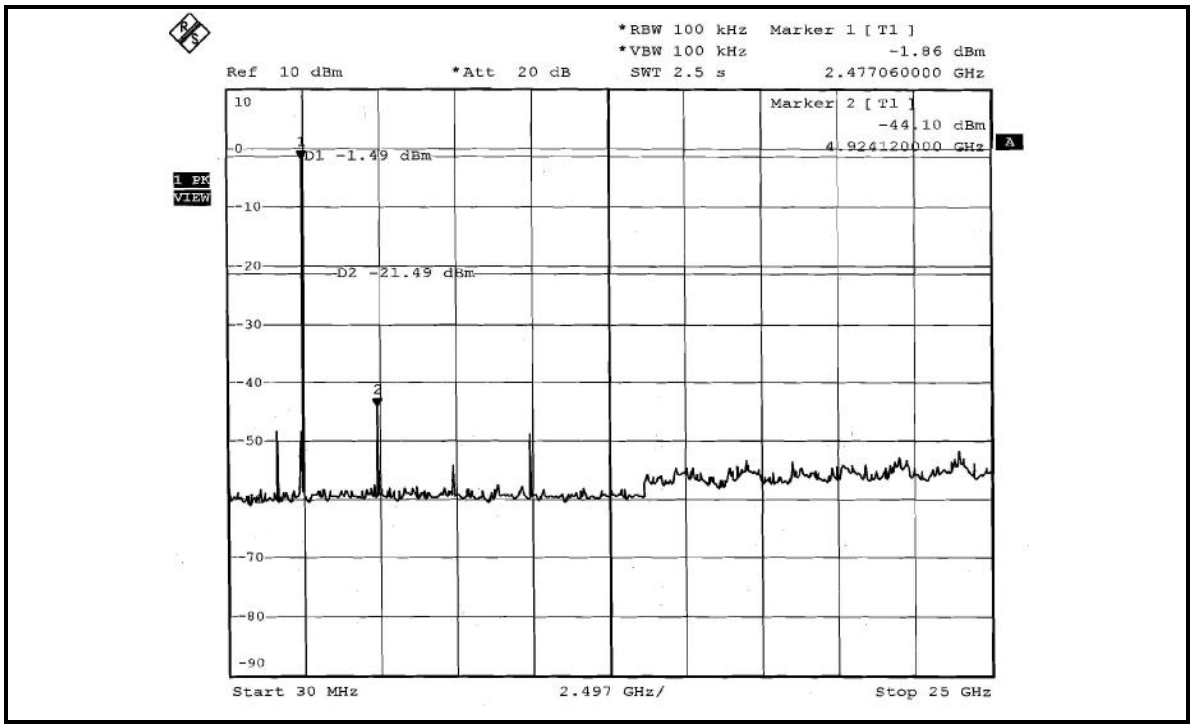
*The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.

Average value = peak reading –30.00.


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
-5.31 dBm
2.402200000 GHz
Ref 10 dBm
*Att 20 dB
Marker 2 [T1]
-50.61 dBm
2.400000000 GHz
Marker 3 [T1]
-60.51 dBm
2.390000000 GHz
Marker 4 [T1]
-46.33 dBm
2.370200000 GHz
1 PK VIEW
D1 -5.31 dBm
D2 -25.31 dBm
F2
F1
Center 2.353 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
-5.42 dBm
2.377180000 GHz
Ref 10 dBm
*Att 20 dB
Marker 2 [T1]
-50.53 dBm
4.774300000 GHz
1 PK VIEW
D1 -5.31 dBm
D2 -25.31 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz


*RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 10 ms
Marker 1 [T1]
-1.49 dBm
2.480000000 GHz
Marker 2 [T1]
-51.89 dBm
2.483500000 GHz
Marker 3 [T1]
-51.42 dBm
2.484600000 GHz
Marker 4 [T1]
-59.35 dBm
2.500000000 GHz
D1 -1.49 dBm
D2 -21.49 dBm
1 PK VIEW
F1
F2
Center 2.528 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 s
Marker 1 [T1]
-1.86 dBm
2.477060000 GHz
Marker 2 [T1]
-44.10 dBm
4.924120000 GHz
D1 -1.49 dBm
D2 -21.49 dBm
1 PK VIEW
Start 30 MHz
2.497 GHz/
Stop 25 GHz

FOR 8DPSK

NOTE 1:

The band edge emission plot on the next page shows 36.28dBc between carrier maximum power and local maximum emission in restrict band (2.3702GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.2.7 is 88.87dBuV/m (Peak), so the maximum field strength in restrict band is 88.87 – 36.28 = 52.59dBuV/m, which is under 74 dBuV/m limit.

Average value = 52.59 - 30.00= 22.59dBuV/m, which is under 54dBuV/m limit.

*The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.

Average value = peak reading –30.00.

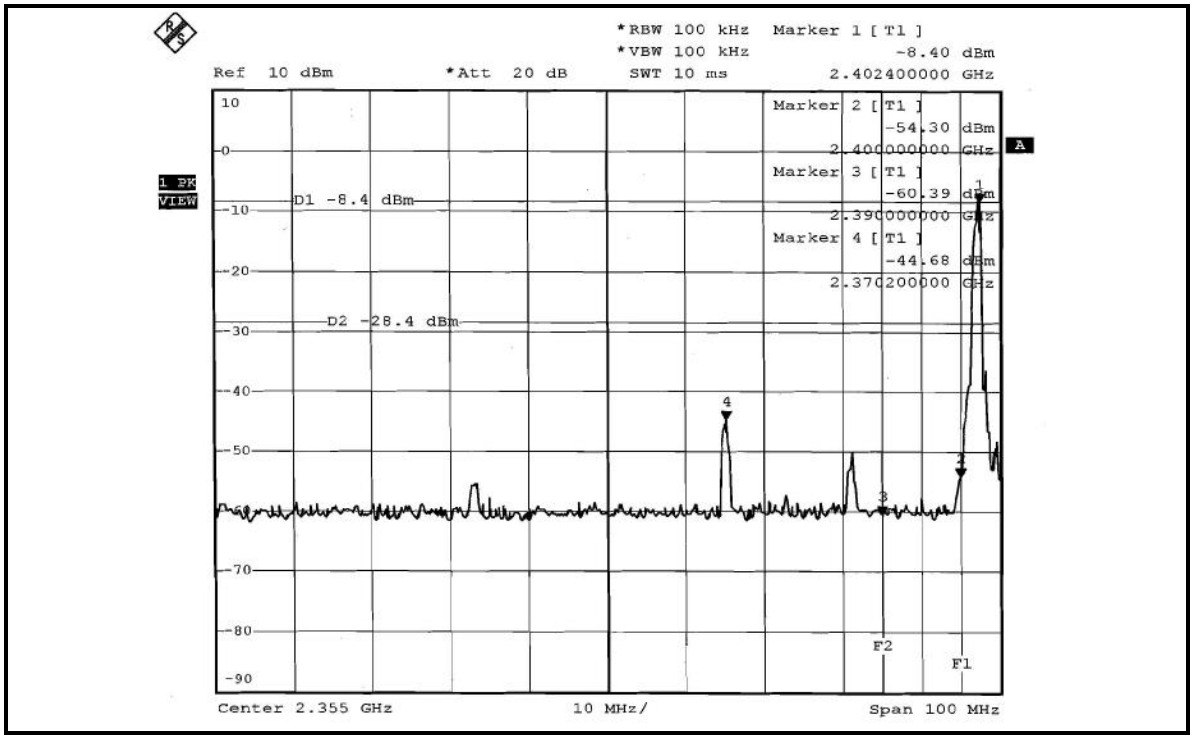
NOTE 2:

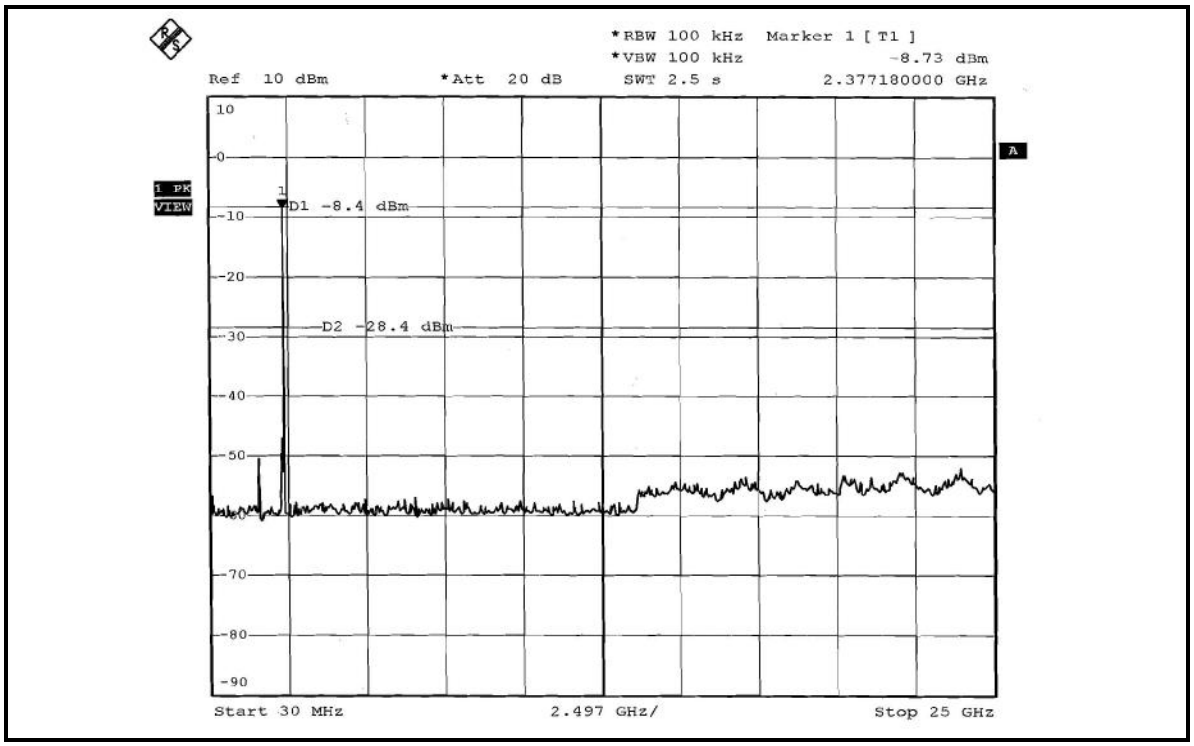
The band edge emission plot on the next second page shows 44.84dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 78 at the item 4.2.7 is 84.71dBuV/m (Peak), so the maximum field strength in restrict band is 84.71 – 44.84 = 39.87dBuV/m, which is under 74 dBuV/m limit.

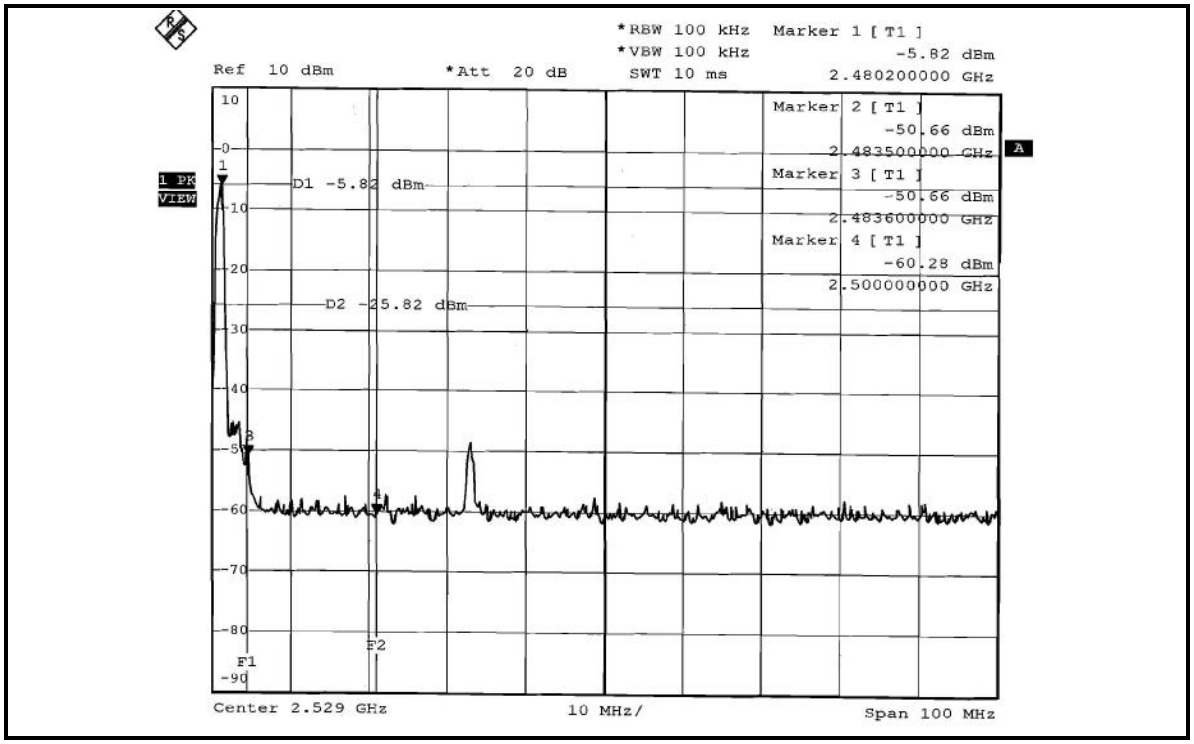
Average value = 39.87 - 30.00= 9.87dBuV/m, which is under 54dBuV/m limit.

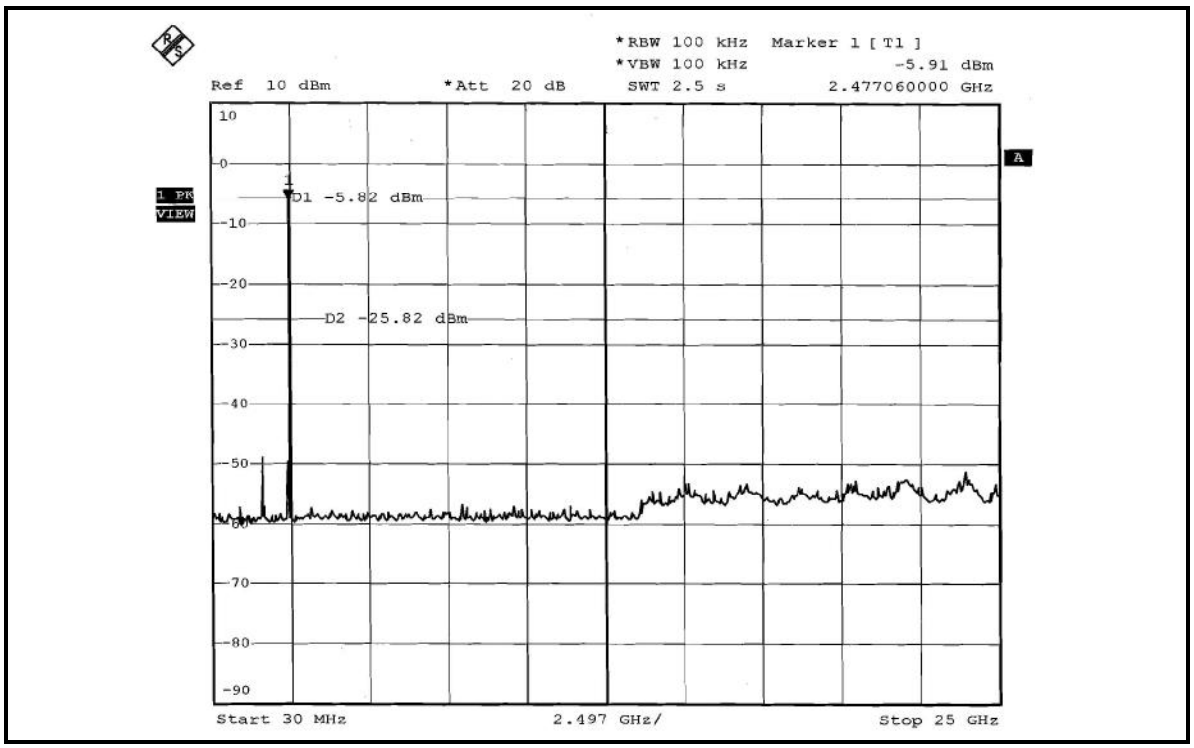
*The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: 20log(3.125/100)= -30 dB.

Average value = peak reading –30.00.


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
-8.40 dBm
2.402400000 GHz
Ref 10 dBm
*Att 20 dB
Marker 2 [T1]
-54.30 dBm
2.400000000 GHz
Marker 3 [T1]
-60.39 dBm
2.390000000 GHz
Marker 4 [T1]
-44.68 dBm
2.370200000 GHz
1 PK VIEW
D1 -8.4 dBm
D2 -28.4 dBm
F2
F1
Center 2.355 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
-8.73 dBm
2.377180000 GHz
Ref 10 dBm
*Att 20 dB
1 PK VIEW
D1 -8.4 dBm
D2 -28.4 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
-5.82 dBm
2.480200000 GHz
Ref 10 dBm
*Att 20 dB
Marker 2 [T1]
-50.66 dBm
2.483500000 GHz
Marker 3 [T1]
-50.66 dBm
2.483600000 GHz
Marker 4 [T1]
-60.28 dBm
2.500000000 GHz
1 PK VIEW
D1 -5.82 dBm
D2 -25.82 dBm
F1
F2
Center 2.529 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
-5.91 dBm
2.477060000 GHz
Ref 10 dBm
*Att 20 dB
1 PK VIEW
D1 -5.82 dBm
D2 -25.82 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

4.9 ANTENNA REQUIREMENT

4.9.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.9.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Chip antenna without antenna connector. The maximum gain of this antenna is 2dBi.

5. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

APPENDIX-A

MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.