

FCC TEST REPORT

REPORT NO.: RF980929H05A

MODEL NO.: BT-523

RECEIVED: Sep. 29, 2009

TESTED: Oct. 06 to 22, 2009

ISSUED: Dec. 09, 2009

APPLICANT: Premier Communications Corporation

ADDRESS: 911 Mariner Street., Brea, CA 92821

ISSUED BY: Bureau Veritas Consumer Products Services

(H.K.) Ltd., Taoyuan Branch

LAB LOCATION: No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung

Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307,

Taiwan

This test report consists of 48 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by TAF or any government agencies. The test results in the report only apply to the tested sample.







TABLE OF CONTENTS

1	CERTIFICATION	4
2	SUMMARY OF TEST RESULTS	5
2.1	MEASUREMENT UNCERTAINTY	6
3	GENERAL INFORMATION	7
3.1	GENERAL DESCRIPTION OF EUT	7
3.2	DESCRIPTION OF TEST MODES	8
3.3	TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL:	9
3.4	GENERAL DESCRIPTION OF APPLIED STANDARDS	10
3.5	DESCRIPTION OF SUPPORT UNITS	.11
3.6	CONFIGURATION OF SYSTEM UNDER TEST	12
4	TEST PROCEDURES AND RESULTS	13
4.1	CONDUCTED EMISSION MEASUREMENT	13
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	13
4.1.2	TEST INSTRUMENTS	13
4.1.3	TEST PROCEDURES	14
4.1.4	DEVIATION FROM TEST STANDARD	14
4.1.5	TEST SETUP	14
4.1.6	EUT OPERATING CONDITIONS	15
4.1.7	TEST RESULTS	16
4.2	NUMBER OF HOPPING FREQUENCY USED	18
4.2.1	LIMIT OF HOPPING FREQUENCY USED	18
4.2.2	TEST INSTRUMENTS	18
4.2.3	TEST PROCEDURES	18
4.2.4	DEVIATION FROM TEST STANDARD	18
4.2.5	TEST SETUP	19
4.2.6	TEST RESULTS	19
4.3	DWELL TIME ON EACH CHANNEL	21
4.3.1	LIMIT OF DWELL TIME USED	21
4.3.2	TEST INSTRUMENTS	21
4.3.3	TEST PROCEDURES	22
4.3.4	DEVIATION FROM TEST STANDARD	22
4.3.5	TEST SETUP	22
4.3.6	TEST RESULTS	23
4.4	CHANNEL BANDWIDTH	27
4.4.1	LIMITS OF CHANNEL BANDWIDTH	27
4.4.2	TEST INSTRUMENTS	27
4.4.3	TEST PROCEDURE	28
4.4.4	DEVIATION FROM TEST STANDARD	28
4.4.5	TEST SETUP	28
4.4.6	EUT OPERATING CONDITION	
4.4.7	TEST RESULTS	_
4.5	HOPPING CHANNEL SEPARATION	
4.5.1	LIMIT OF HOPPING CHANNEL SEPARATION	30
4.5.2	TEST INSTRUMENTS	
4.5.3	TEST PROCEDURES	31



		A D I
4.5.4	DEVIATION FROM TEST STANDARD	31
4.5.5	TEST SETUP	31
4.5.6	TEST RESULTS	32
4.6	MAXIMUM PEAK OUTPUT POWER	33
4.6.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	33
4.6.2	INSTRUMENTS	33
4.6.3	TEST PROCEDURES	33
4.6.4	DEVIATION FROM TEST STANDARD	33
4.6.5	TEST SETUP	34
4.6.6	EUT OPERATING CONDITION	34
4.6.7	TEST RESULTS	35
4.7	RADIATED EMISSION MEASUREMENT	36
4.7.1	LIMITS OF RADIATED EMISSION MEASUREMENT	36
4.7.2	TEST INSTRUMENTS	37
4.7.3	TEST PROCEDURES	38
4.7.4	DEVIATION FROM TEST STANDARD	38
4.7.5	TEST SETUP	39
4.7.6	TEST RESULTS	40
4.8	CONDUCTED OUT-BAND EMISSION MEASUREMENT	44
4.8.1	LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT	44
4.8.2	TEST INSTRUMENTS	44
4.8.3	TEST PROCEDURE	44
4.8.4	DEVIATION FROM TEST STANDARD	44
4.8.5	EUT OPERATING CONDITION	44
4.8.6	TEST RESULTS	45
5	INFORMATION ON THE TESTING LABORATORIES	47
6	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHAN	GES TO THE
	EUT BY THE LAB	48



1 CERTIFICATION

PRODUCT: BT dongle for Radio

BRAND NAME: PRYME **MODEL NO**.: BT-523

APPLICANT: Premier Communications Corporation

TESTED DATE: Oct. 06 to 22, 2009

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: 47 CFR Part 15, Subpart C (Section 15.247),

ANSI C63.4-2003

The above equipment (Model: BT-523) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, 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: (a) (DATE: Dec. 09, 2009

(Carol Liao, Specialist)

TECHNICAL

ACCEPTANCE: | lankerhoff, DATE: Dec. 09, 2009

(Hank Chung, Deputy Manager)

APPROVED BY : , **DATE**: Dec. 09, 2009

(May Chen, Deputy Manager)



2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

	APPLIED STANDARD: 47 CFR 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 -4.10dB at 1.419MHz			
15.247(a)(1) (I)-(ii)	Number of Hopping Frequency Used Spec.: At least 75 channels	PASS	Meet the requirement of limit			
15.247(a)(1) (ii)	Dwell Time on Each Channel Spec.: Max. 0.4 second within 31.6 second	PASS	Meet the requirement of limit			
15.247(a)(1) (I)-(ii)	Hopping Channel Separation Spec.: Min. 25 kHz or 20 dB bandwidth, which ever is greater	PASS	Meet the requirement of limit			
15.247(a)(2)	Spectrum Bandwidth of a Frequency Hopping Sequence Spread Spectrum System	PASS	Report reference			
15.247(b)	Maximum Peak Output Power Spec.: max. 1W	PASS	Meet the requirement of limit			
15.247(c)	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -6.53dB at 75.00MHz			
15.247(c)	Conducted Out-Band Emissions Measurement	PASS	Meet the requirement of limit			
15.203	Antenna Requirement	PASS	No antenna connector is used.			



2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

Measurement	Value
Conducted emissions	2.44 dB
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz ~18GHz)	2.49 dB
Radiated emissions (18GHz ~20GHz)	2.70 dB



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	BT dongle for Radio
MODEL NO.	BT-523
FCC ID	N2E-BT-523
POWER SUPPLY	DC 12V from host equipment
MODULATION TYPE	GFSK
RADIO TECHNOLOGY	FHSS
FREQUENCY RANGE	2402MHz ~ 2480MHz
NUMBER OF CHANNEL	79
OUTPUT POWER	3.9 mW
ANTENNA TYPE	Chip antenna (Antenna Gain : 0dBi)
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORT	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT was pre-tested under the following test modes for three different axes placements:

Test Mode	Description
Mode A	X-Y plane
Mode B	Y-Z plane
Mode C	Z-X plane

From the above modes, the worst emission level was found in **Mode B**. Therefore only the test data of the modes were recorded in this report individually.

- 2. The EUT has built-in test mode and was programmed to output the typical output waveform at maximum level.
- 3. 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

Seventy-nine 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	2432	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		



3.3 TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL:

EUT configure		Applica	ble to		Description
mode	PLC	RE<1G	RE ³ 1G	APCM	Documption
-	NA	√	√	√	NA

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz
APCM: Antenna Port Conducted Measurement

POWER LINE CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Available	Tested	Modulation	Modulation
Channel	Channel	Technology	Type
0 to 78	0	FHSS	GFSK

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 and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Available	Tested	Modulation Technology	Modulation
Channel	Channel		Type
0 to 78	0	FHSS	GFSK

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 and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Available	Tested	Modulation	Modulation
Channel	Channel	Technology	Type
0 to 78	0, 39, 78	FHSS	GFSK

Bandedge Measurement:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

	Available	Tested	Modulation	Modulation
	Channel	Channel	Technology	Type
ſ	0 to 78	0, 78	FHSS	GFSK

Antenna Port Conducted Measurement:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Available	Tested	Modulation	Modulation
Channel	Channel	Technology	Type
0 to 78	0, 39, 78	FHSS	



TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE ³ 1G	28deg. C, 67%RH, 960 hPa	120Vac, 60Hz	Rex Huang
RE<1G	28deg. C, 63%RH, 960 hPa	120Vac, 60Hz	Rex Huang
PLC	25deg. C, 60%RH, 960 hPa	120Vac, 60Hz	Frank Liu
APCM	25deg. C, 60%RH, 960 hPa	120Vac, 60Hz	Frank Liu

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a BT dongle for Radio. 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.



3.5 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.

Conducted emission test								
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID			
1	Walkie-Talkie	MOTOROLA	HT1000	NA	NA			
2	Walkie-Talkie Charger	MOTOROLA	AA16740	1123102331	NA			
Other test items:								
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID			
1	NOTEBOOK COMPUTER	MOTOROLA	HT1000	NA	NA			

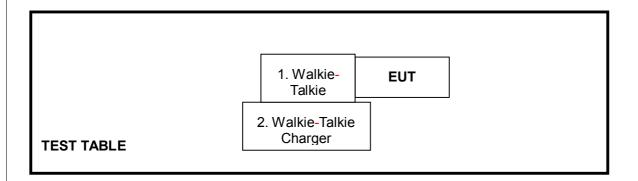
Cond	Conducted emission test						
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS						
1	NA						
2	NA						
Othe	Other test items:						
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS						
1	NA						

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



3.6 CONFIGURATION OF SYSTEM UNDER TEST

For conducted test:



For other test items:

1. Walkie-Talkie

TEST TABLE



4 TEST PROCEDURES 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 DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 05, 2009	Mar. 04, 2010
Line-Impedance Stabilization Network (for EUT)	KNW-407	8-1395-12	May 04, 2009	May 03, 2010
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 08, 2009	June 07, 2010
RF Cable (JYEBAO)	5DFB	COACAB-001	Dec 15, 2008	Dec 14, 2009
50 ohms Terminator	50	3	Nov. 05, 2008	Nov. 04, 2009
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

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 Shielded Room No. A.
- 3 The VCCI Con A Registration No. is C-817.



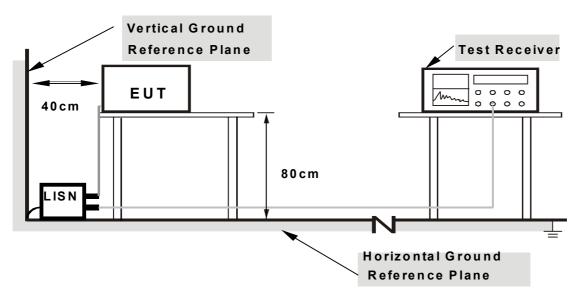
4.1.3 TEST PROCEDURES

- 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 from other units and other metal planes

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



4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Walkie-Talkie) and which placed on a testing table.

2. Setting the EUT in typical condition.



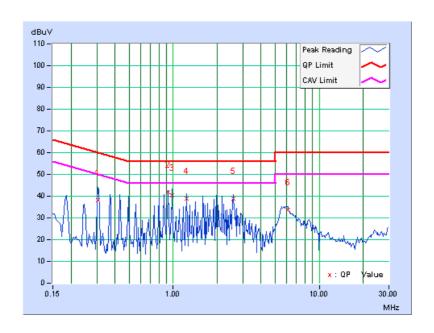
4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
TEST MODE	Normal made		

	Freq.	Corr.	Readin	g Value	Emission Level		Limit		I Limit I Margin		gin
No		Factor	[dB	(uV)]	[dB ((uV)]	[dB	(uV)]	(dl	В)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.307	0.12	37.92	-	38.04	-	60.05	50.05	-22.01	-	
2	0.923	0.06	41.94	-	42.00	-	56.00	46.00	-14.00	-	
3	0.986	0.06	40.40	-	40.46	-	56.00	46.00	-15.54	-	
4	1.230	0.06	38.89	-	38.95	-	56.00	46.00	-17.05	-	
5	2.586	0.09	38.64	-	38.73	-	56.00	46.00	-17.27	-	
6	6.090	0.17	33.63	-	33.80	-	60.00	50.00	-26.20	-	

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.



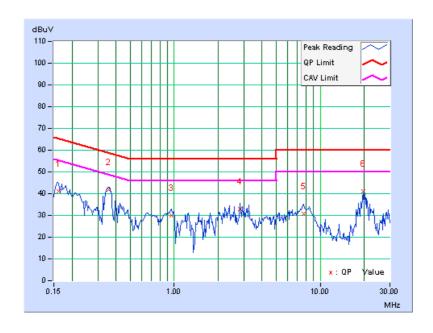


PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
TEST MODE	Normal made		

	Freq.	Corr.	Readin	g Value	Emis Le	sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB ((uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.372	0.10	33.01	-	33.11	-	58.45	48.45	-25.34	-
2	0.432	0.09	39.74	-	39.83	-	57.21	47.21	-17.38	-
3	0.679	0.09	43.43	-	43.52	-	56.00	46.00	-12.48	-
4	0.923	0.08	39.87	-	39.95	-	56.00	46.00	-16.05	-
5	1.419	0.09	45.95	41.81	46.04	41.90	56.00	46.00	-9.96	-4.10
6	1.729	0.09	43.63	-	43.72	-	56.00	46.00	-12.28	-
7	5.738	0.19	36.24	-	36.43	-	60.00	50.00	-23.57	-

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 NUMBER OF HOPPING FREQUENCY USED

4.2.1 LIMIT OF HOPPING FREQUENCY USED

At least 75 hopping frequencies, and should be equally spaced.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

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

4.2.3 TEST PROCEDURES

- 1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
- 2. 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.
- 3. 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.

18

- 4. Set the SA on View mode and then plot the result on SA screen.
- 5. Repeat above procedures until all frequencies measured were complete.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation



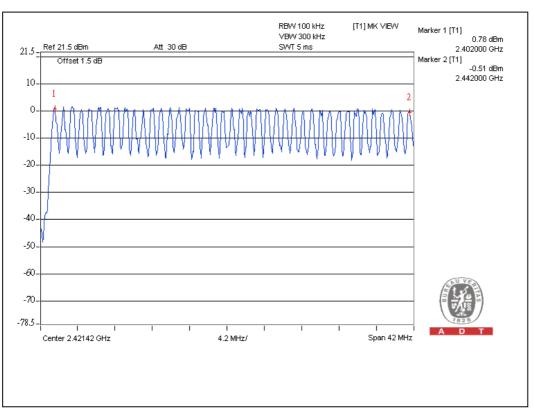
4.2.5 TEST SETUP

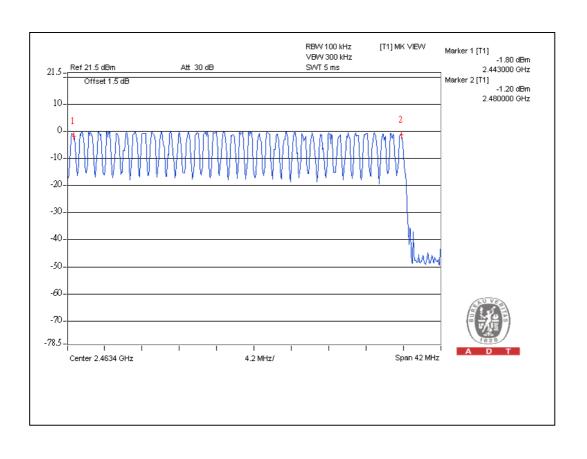


4.2.6 TEST RESULTS

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









4.3 DWELL TIME ON EACH CHANNEL

4.3.1 LIMIT OF DWELL TIME USED

For FHSS, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 31.6 second period. For hybrid systems, the average time of occupancy on any frequency should not exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

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

21



4.3.3 TEST PROCEDURES

- 1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
- 2. 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.
- 3. 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.
- 4. Measure the time duration of one transmission on the measured frequency. And then plot the result with time difference of this time duration.
- 5. Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



22



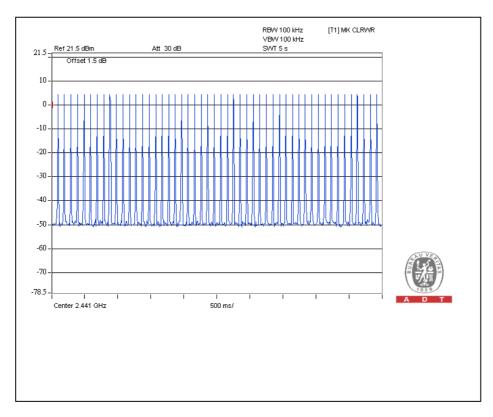
4.3.6 TEST RESULTS

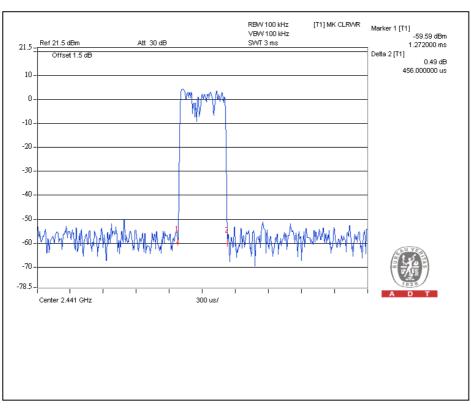
Mode	Number of transmission in a 31.6 (79Hopping*0.4)	Length of transmission time (msec)	Result (msec)	Limit (msec)
DH1	50 (times / 5 sec) *6.32=316 times	0.456	144.1	400
DH3	26 (times / 5 sec) *6.32=164.32 times	1.730	284.3	400
DH5	17 (times / 5 sec) *6.32=107.44 times	3.000	3.223	400

Test plots of the transmitting time slot are shown on next three pages.



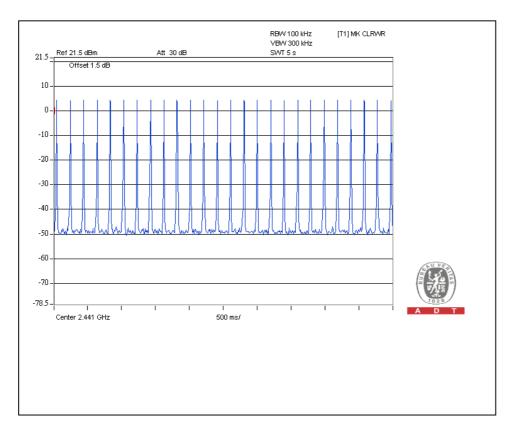
DH1

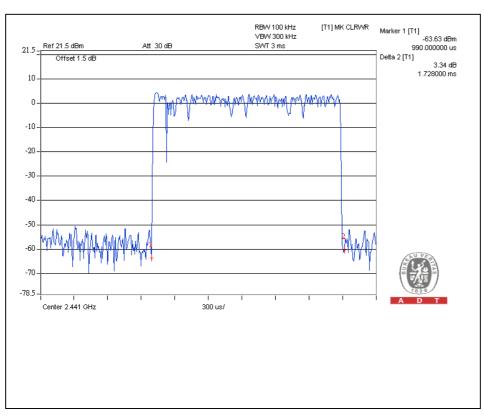






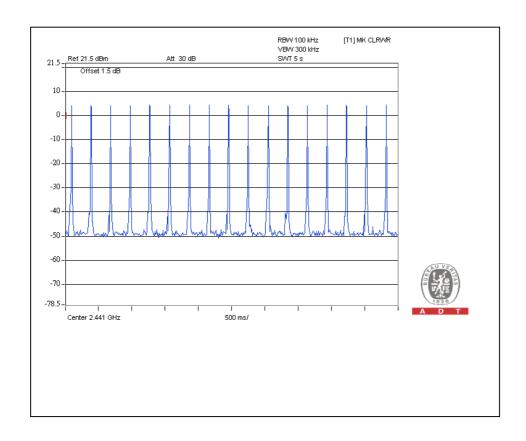
DH3

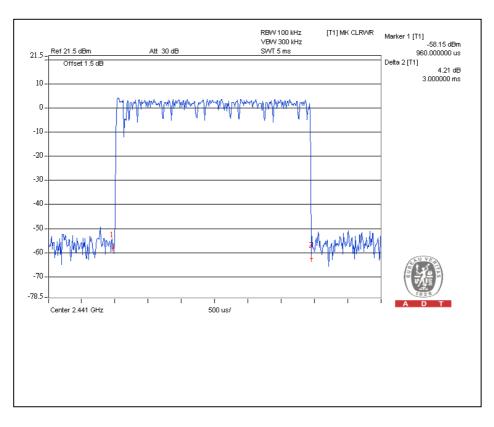






DH5







4.4 CHANNEL BANDWIDTH

4.4.1 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, 20dBbandwidth of hopping channel shell be a minimum limit for the hopping channel separation.

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

1. 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 PROCEDURE

- 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. Set a reference level on the measuring instrument equal to the highest peak value.
- Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- 4. Repeat above procedures until all frequencies measured were complete.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITION

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

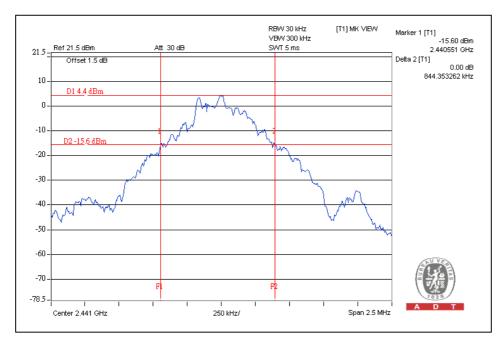
28



4.4.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (kHz)
0	2402	826
39	2441	844
78	2480	843

Channel 39





4.5 HOPPING CHANNEL SEPARATION

4.5.1 LIMIT OF HOPPING CHANNEL SEPARATION

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

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

1. 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 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.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



31

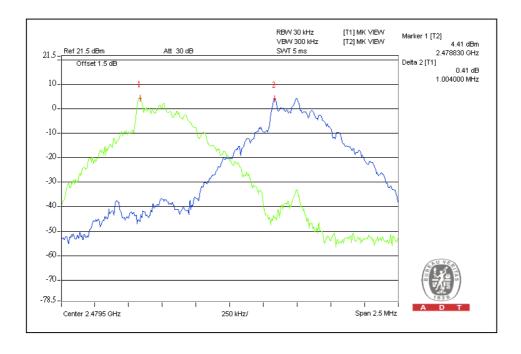


4.5.6 TEST RESULTS

MODULATION TYPE	GFSK	INPUT POWER	DC 3V from batteries
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 960 hPa	TESTED BY	Wen Yu

Channel	Frequency (MHz)	Adjacent Channel Separation	Minimum Limit (kHz)	Pass / Fail
0	2402	1.001MHz	826	PASS
39	2441	1.003MHz	844	PASS
78	2480	1.004MHz	843	PASS

Channel 78





4.6 MAXIMUM PEAK OUTPUT POWER

4.6.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 1W.

4.6.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

NOTE:

1. 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. Set a reference level on the measuring instrument equal to the highest peak value.

33

- 3. The center frequency of the spectrum analyzer is set to the fundamental frequency and using 3 MHz RBW and 10 MHz VBW.
- 4. Measure the captured power within the band and recording the plot.
- 5. Repeat above procedures until all frequencies measured were complete.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

Report No.: RF980929H05A Reference No.: 981208H03 Report Format Version 3.0.0



4.6.5 TEST SETUP



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

4.6.6 EUT OPERATING CONDITION

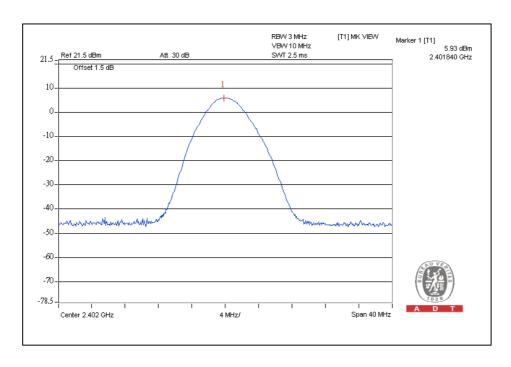
The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.



4.6.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (W)	PASS/FAIL
0	2402	3.9	5.9	1	PASS
39	2441	3.2	5.0	1	PASS
78	2480	2.8	4.4	1	PASS

Channel 0





4.7 RADIATED EMISSION MEASUREMENT

4.7.1 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

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.



4.7.2 TEST INSTRUMENTS

MODEL NO	SERIAL NO	CALIBRATED	CALIBRATED	
MODEL NO.	OLIVIAL NO.	DATE	UNTIL	
ESD40	100036	Dec 0 2000	Dec. 00, 2000	
1 31 40	100030	Dec. 9, 2006	Dec. 08, 2009	
E4446A	MV46180622	Apr 24 2000	Apr 22 2010	
L4440A	101140100022	Apr. 24 , 2009	Apr. 23 , 2010	
8449B	3008A01923	Nov. 10, 2008	Nov. 09, 2009	
E00020	0.4740.4/000	A 20 2000	A 20 2010	
ESCS30	847 124/029	Aug. 28, 2009	Aug. 28, 2010	
VULB 9168	138	Apr. 29, 2009	Apr. 28, 2010	
BBHA0120	D124	Dec 09 2008	Dec. 08, 2009	
BBI IA9 120	D124	DCC. 03, 2000	DCC. 00, 2000	
BBHA 0170	BBHA0170153	Jan 22 2009	Jan. 21, 2010	
BBHA 9170	BBI 149 170 133	Jan. 22, 2005	0dii. 21, 2010	
HFH2-Z2	100070	Jan. 14, 2008	Jan. 13, 2010	
EMH-011	08009	Sep. 26, 2009	Sep. 25, 2010	
Sucoflex 106	28077	Aug. 14, 2009	Aug. 13, 2010	
8D	STCCAB-001	Sep. 26, 2009	Sep. 25, 2010	
ADT_Radiated_	NA	NA	NA	
V7.6.15.9.2	INA	INC	INA	
NΙΛ	NΙΛ	NΑ	NA	
INA	INA	INA	INA	
	ESCS30 VULB 9168 BBHA9120 BBHA 9170 HFH2-Z2 EMH-011 Sucoflex 106 8D ADT_Radiated_	FSP40 100036 E4446A MY46180622 8449B 3008A01923 ESCS30 847124/029 VULB 9168 138 BBHA9120 D124 BBHA 9170 BBHA9170153 HFH2-Z2 100070 EMH-011 08009 Sucoflex 106 28077 8D STCCAB-001 ADT_Radiated_V7.6.15.9.2	FSP40 100036 Dec. 9, 2008 E4446A MY46180622 Apr. 24, 2009 8449B 3008A01923 Nov. 10, 2008 ESCS30 847124/029 Aug. 28, 2009 VULB 9168 138 Apr. 29, 2009 BBHA9120 D124 Dec. 09, 2008 BBHA 9170 BBHA9170153 Jan. 22, 2009 HFH2-Z2 100070 Jan. 14, 2008 EMH-011 08009 Sep. 26, 2009 Sucoflex 106 28077 Aug. 14, 2009 8D STCCAB-001 Sep. 26, 2009 ADT_Radiated_V7.6.15.9.2	

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, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in Open Site No. C.

4. The FCC Site Registration No. is 656396.

5. The VCCI Site Registration No. is R-1626.

6. The CANADA Site Registration No. is IC 7450G-3.



4.7.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin 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 and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

38

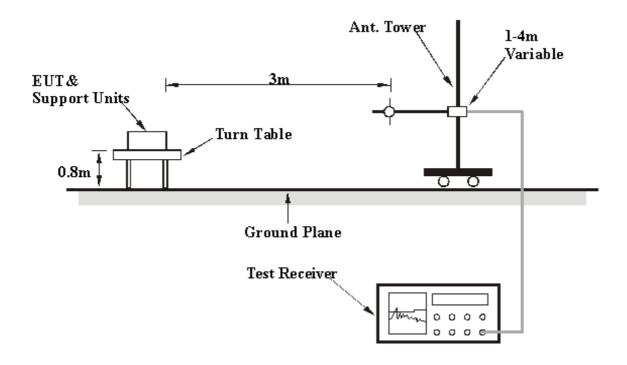
4.7.4 DEVIATION FROM TEST STANDARD

No deviation

Report No.: RF980929H05A Reference No.: 981208H03



4.7.5 TEST SETUP



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



4.7.6 TEST RESULTS

BELOW 1GHz WORST-CASE DATA: GFSK MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz	
INPUT POWER	DC 12V from host equipment	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	28deg. C, 63%RH 960hPa	TESTED BY	Rex Huang	

	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	75.00	22.93 QP	40.00	-17.07	1.10 H	187	11.29	11.64		
2	133.49	23.93 QP	43.50	-19.57	1.30 H	255	10.54	13.39		
3	150.00	25.70 QP	43.50	-17.80	1.70 H	61	10.43	15.27		
4	275.00	37.07 QP	46.00	-8.93	1.06 H	249	22.22	14.85		
5	326.44	33.82 QP	46.00	-12.18	1.00 H	255	17.15	16.67		
6	400.00	30.20 QP	46.00	-15.80	1.00 H	333	11.66	18.54		
7	977.19	33.58 QP	54.00	-20.42	1.19 H	157	4.75	28.83		
		ANTENNA	A POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M			
NO.							RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	75.00	33.47 QP	40.00	-6.53	1.00 V	273	21.83	11.64		
2	133.49	29.38 QP	43.50	-14.12	1.40 V	315	15.99	13.39		
3	150.00	26.89 QP	43.50	-16.61	1.00 V	275	11.63	15.26		
4	275.00	33.73 QP	46.00	-12.27	1.00 V	287	18.88	14.85		
5	326.44	27.78 QP	46.00	-18.22	1.38 V	225	11.11	16.67		
6	400.00	31.00 QP	46.00	-15.00	1.06 V	247	12.46	18.54		
7	977.19	33.00 QP	54.00	-21.00	1.28 V	330	4.17	28.83		

- 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.



GFSK MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	DC 12V from host equipment	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	28deg. C, 63%RH 960hPa	TESTED BY	Rex Huang	

	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	2390.00	54.62 PK	74.00	-19.38	1.28 H	69	24.34	30.28	
2	2390.00	24.62 AV	54.00	-29.38	1.28 H	69	-5.66	30.28	
3	*2402.00	98.83 PK			1.28 H	68	68.50	30.33	
4	*2402.00	68.83 AV			1.28 H	68	38.50	30.33	
5	4804.00	54.81 PK	74.00	-19.19	1.36 H	61	18.08	36.73	
6	4804.00	24.81 AV	54.00	-29.19	1.36 H	61	-11.92	36.73	
7	7206.00	51.08 PK	74.00	-22.92	1.08 H	291	7.94	43.14	
8	7206.00	21.08 AV	54.00	-32.92	1.08 H	291	-22.06	43.14	
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 3 M		
NO.	EMISSION LIMIT ANTENNA TABLE RAW VALUE							CORRECTION FACTOR (dB/m)	
1	2390.00	53.57 PK	74.00	-20.43	1.00 V	113	23.29	30.28	
2	2390.00	23.57 AV	54.00	-30.43	1.00 V	113	-6.71	30.28	
3	*2402.00	96.40 PK			1.00 V	112	66.07	30.33	
4	*2402.00	66.40 AV			1.00 V	112	36.07	30.33	
5	4804.00	51.73 PK	74.00	-22.27	1.40 V	80	15.00	36.73	
6	4804.00	21.73 AV	54.00	-32.27	1.40 V	80	-15.00	36.73	
7	7206.00	50.83 PK	74.00	-23.17	1.40 V	321	7.69	43.14	
8	7206.00	20.83 AV	54.00	-33.17	1.40 V	321	-22.31	43.14	

- 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. " * ": Fundamental frequency.
- 6. 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 correlation factor be equal to: 20log(3.125 / 100)= -30 dB.
- 7. Average value = peak reading + 20log(duty cycle).



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 39	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	DC 12V from host equipment	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	28deg. C, 63%RH 960hPa	TESTED BY	Rex Huang	

	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	*2441.00	100.44 PK			1.28 H	57	69.97	30.47	
2	*2441.00	70.44 AV			1.28 H	57	39.97	30.47	
3	4882.00	59.07 PK	74.00	-14.93	1.33 H	288	22.13	36.94	
4	4882.00	29.07 AV	54.00	-24.93	1.33 H	288	-7.87	36.94	
5	7323.00	51.24 PK	74.00	-22.76	1.38 H	261	8.11	43.13	
6	7323.00	21.24 AV	54.00	-32.76	1.38 H	261	-21.89	43.13	
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M		
NO.	NO. FREQ. (MHz) LEVEL LIMIT MARGIN (dB) HEIGHT (m) ANGLE RAW VALUE FACTO							CORRECTION FACTOR (dB/m)	
1	*2441.00	98.05 PK			1.00 V	10	67.58	30.47	
2	*2441.00	68.05 AV			1.00 V	10	37.58	30.47	
3	4882.00	57.08 PK	74.00	-16.92	1.40 V	77	20.14	36.94	
4	4882.00	27.08 AV	54.00	-26.92	1.40 V	77	-9.86	36.94	
5	7323.00	51.20 PK	74.00	-22.80	1.60 V	38	8.07	43.13	
6	7323.00	21.20 AV	54.00	-32.80	1.60 V	38	-21.93	43.13	

- 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. " * ": Fundamental frequency.
- 6. 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 correlation factor be equal to: 20log(3.125 / 100)= -30 dB.
- 7. Average value = peak reading + 20log(duty cycle).



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 78	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	DC 12V from host equipment	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	28deg. C, 63%RH 960hPa	TESTED BY	Rex Huang	

	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	*2480.00	101.28 PK			1.68 H	59	70.66	30.62	
2	*2480.00	71.28 AV			1.68 H	59	40.66	30.62	
3	2483.61	60.65 PK	74.00	-13.35	1.68 H	59	30.02	30.63	
4	2483.61	30.65 AV	54.00	-23.35	1.68 H	59	0.02	30.63	
5	4960.00	60.10 PK	74.00	-13.90	1.45 H	360	22.95	37.15	
6	4960.00	30.10 AV	54.00	-23.90	1.45 H	360	-7.05	37.15	
7	7440.00	51.15 PK	74.00	-22.85	1.38 H	237	8.03	43.12	
8	7440.00	21.15 AV	54.00	-32.85	1.38 H	237	-21.97	43.12	
		ANTENNA	A POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M		
NO.	NO. FREQ. (MHz) EMISSION LIMIT (dBuV/m)			MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
1	*2480.00	99.98 PK			1.00 V	66	69.36	30.62	
2	*2480.00	69.98 AV			1.00 V	66	39.36	30.62	
3	2484.56	58.53 PK	74.00	-15.47	1.00 V	67	27.90	30.63	
4	2484.56	28.53 AV	54.00	-25.47	1.00 V	67	-2.10	30.63	
5	4960.00	56.85 PK	74.00	-17.15	1.40 V	144	19.70	37.15	
6	4960.00	26.85 AV	54.00	-27.15	1.40 V	144	-10.30	37.15	
I -	7440.00	E0 04 DI/	74.00	-23.09	1.38 V	24	7.79	43.12	
7	7440.00	50.91 PK	74.00	-23.09	1.30 V	24	1.19	43.12	

- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
- $\ensuremath{\mathsf{3}}.$ The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.
- 5. " * ": Fundamental frequency.
- 6. 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 correlation factor be equal to: 20log(3.125 / 100)= -30 dB.
- 7. Average value = peak reading + 20log(duty cycle).



4.8 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.8.1 LIMITS OF CONDUCTED OUT-BAND EMISSION 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 DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2009	Aug. 08, 2010

NOTE:

1. 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 RBW a of spectrum analyzer to 100 kHz and VBW of spectrum analyzer to 300 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.

44

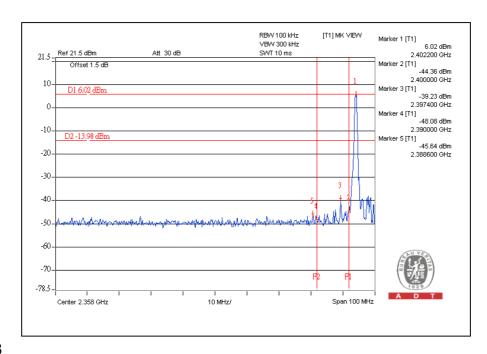
Report No.: RF980929H05A Reference No.: 981208H03



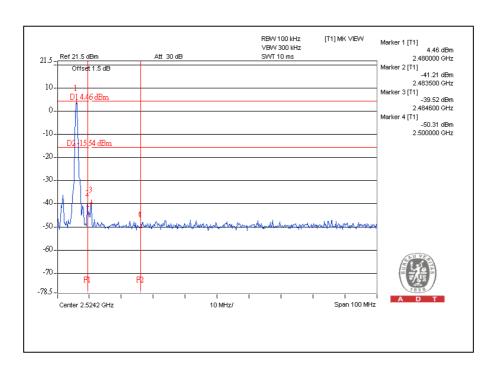
4.8.6 TEST RESULTS

Emissions radiated outside of the specified frequency bands, please refer pages form 40 to 43 for met the requirement of the general radiated emission limits in § 15.209.

CH₀



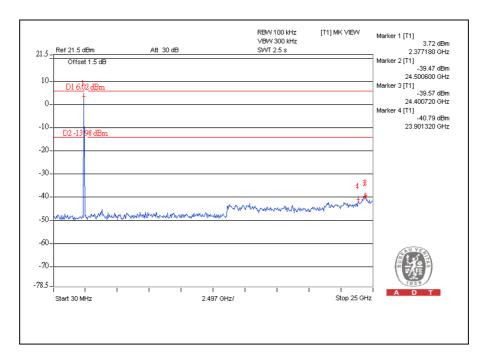
CH78



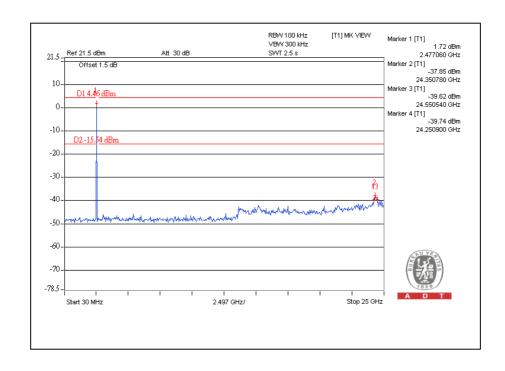
Report No.: RF980929H05A Reference No.: 981208H03



CH₀



CH78





5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, 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, NVLAP
Germany TUV Rheinland

Japan VCCI Norway NEMKO

Canada INDUSTRY CANADA, CSA

R.O.C. TAF, BSMI, NCC

Netherlands Telefication

Singapore 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: Hsin Chu EMC/RF Lab:

Tel: 886-2-26052180 Tel: 886-3-5935343 Fax: 886-2-26052943 Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232 Fax: 886-3-3185050

Email: service@adt.com.tw **Web Site**: www.adt.com.tw

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



6 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.

--- END ---