#### FCC COMPLIANCE REPORT

for

## HUIZHOU FORYOU GENERAL ELECTRONICS CO., LTD

#### CAR DVD PLAYER

Model Number: DV7310(FORYOU); AMM10N(ADVENT);

VM9512(JENSEN); VME9512TS(AUDIOVOX);

VM9512HD(JENSEN)

Prepared for: HUIZHOU FORYOU GENERAL ELECTRONICS CO., LTD

Address : No.6 Zhongkai Songshan Industrial Distric, Huizhou

Guangdong, China

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Report Number : NSE-F08031981

Date of Test : Mar.18~25, 2008

Date of Report : Mar. 26, 2008

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# NS Technology Co., Ltd.

**Applicant:** HUIZHOU FORYOU GENERAL ELECTRONICS CO., LTD

Address: No.6 Zhongkai Songshan Industrial Distric, Huizhou Guangdong, China

Manufacturer: HUIZHOU FORYOU GENERAL ELECTRONICS CO., LTD

Address: No.6 Zhongkai Songshan Industrial Distric, Huizhou Guangdong, China

**E.U.T:** CAR DVD PLAYER

**Model Number:** DV7310(FORYOU);AMM10N(ADVENT);VM9512(JENSEN);

VME9512TS(AUDIOVOX);VM9512HD(JENSEN)

Trade Name: FORYOU Operating Frequency: 2402MHz~2480MHz

**Date of Receipt:** Mar. 16,2008 **Date of Test:** Mar. 18~25,2008

FCC Part 15 Subpart C: May. 4, 2007

**Test Specification:** ANSI C63.4:2003

DA 00-705

**Test Result:** The equipment under test was found to be compliance with the requirements of

the standards applied.

Issue Date: Mar. 26,2008

Tested by: Reviewed by: Approved by:

David Cho(n) Hatom

David / Engineer Chris Du / Supervisor Steven Lee / Manager

**Other Aspects:** 

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of NS Technology Co., Ltd.

#### 1. GENERAL PRODUCT INFORMATION

#### 1.1. Product Function

This is a car DVD player with a standard bluetooth function. It can make a short distant wireless connection with the other bluetooth products. For example, mobile handset and earphone with bluetooth. Details please refer to Technical Construction Form and User Manual.

#### 1.2. Description of Device (EUT)

E.U.T. : CAR DVD PLAYER

Model No. : DV7310(FORYOU);AMM10N(ADVENT);

VM9512(JENSEN); VME9512TS(AUDIOVOX);

VM9512HD(JENSEN)

Type of the Equipment : Combined Equipment
Operating Frequency : 2400MHz to 2483.5MHz

Number of Channels : 79 Channels

Channel Separation : 1MHz

Type of Modulation : FHSS(Frequency Hopping Spread Spectrum);

Adaptive Frequency Hopping(AFH) is used.

Dwell time : Each channel is less than 0.4S.

Antenna Type : Integral

System Input Voltage : Nominal Voltage: DC 12V

Temperature Range(Operating) : +15 ~+ 35℃

#### 1.3. Difference between Model Numbers

All model numbers use identical circuit and PCB layout. Only the model names are different.

#### 1.4. Independent Operation Modes

The basic operation modes are:

Channel No.	Operation Frequency(MHz)	Channel No.	Operation frequency(MHz)
CH1	2402	CH41	2442
CH2	2403	CH42	2443
CH3	2404	CH43	2444
CH4	2405	CH44	2445
CH5	2406	CH45	2446
CH6	2407	CH46	2447
CH7	2408	CH47	2448
CH8	2409	CH48	2449
CH9	2410	CH49	2450
CH10	2411	CH50	2451
CH11	2412	CH51	2452
CH12	2413	CH52	2453
CH13	2414	CH53	2454
CH14	2415	CH54	2455
CH15	2416	CH55	2456
CH16	2417	CH56	2457
CH17	2418	CH57	2458
CH18	2419	CH58	2459
CH19	2420	CH59	2460

CH20	2421	CH60	2461
CH21	2422	CH61	2462
CH22	2423	CH62	2463
CH23	2424	CH63	2464
CH24	2425	CH64	2465
CH25	2426	CH65	2466
CH26	2427	CH66	2467
CH27	2428	CH67	2468
CH28	2429	CH68	2469
CH29	2430	CH69	2470
CH30	2431	CH70	2471
CH31	2432	CH71	2472
CH32	2433	CH72	2473
CH33	2434	CH73	2474
CH34	2435	CH74	2475
CH35	2436	CH75	2476
CH36	2437	CH76	2477
CH37	2438	CH77	2478
CH38	2439	CH78	2479
CH39	2440	CH79	2480
CH40	2441		

The tested modes are:

- 1.4.1. CH1 (2402MHz)
- 1.4.2. CH40 (2441MHz)
- 1.4.3. CH79 (2480MHz)

#### 2. TEST SITES

#### 2.1. Test Facilities

EMC Lab : Certificated by TUV Rheinland, Germany.

Date of registration: July 28, 2003

Certificated by FCC, USA Registration No.: 897109

Date of registration: October 10, 2003

Certificated by VCCI, Japan

Registration No.: R-1798 & C-1926 Date of registration: January 30, 2004

Certificated by CNAL, CHINA

Registration No.: L1744

Date of registration: November 25, 2004

Certificated by Intertek ETL SEMKO

Registration No.: TMP-013

Date of registration: June 11, 2005

Certificated by TUV/PS, Hong Kong Date of registration: December 1, 2005

Certificated by Industry Canada

Registration No.: 5936

Date of registration: March 24, 2006

Certificated by ATCB, America

Date of registration: August 03, 2006

Name of Firm : NS Technology Co., Ltd.

Site Location : Chenwu Industrial Zone, Houjie Town, Dongguan City,

Guangdong, China

#### 2.2. List of Test and Measurement Instruments

## 2.2.1. For maximum conducted output power test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100199	Mar.24,07	Mar.24,08
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Amplifier	HP	8449B	3008A00975	May 2,07	May 2,08
Signal Generator	HP	83732B	6K00003294	Apr.11,07	Apr.11,08
Signal Generator	HP	8648A	3426A01263	Apr.11,07	Apr.11,08
Bilog Antenna	EMCO	3142B	00022050	May 2,07	May 2,08
Bilog Antenna	EMCO	3142C	00023011	May 2,07	May 2,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08
Horn Antenna	EMCO	3117	00062560	May 2,07	May 2,08

#### 2.2.2. For occupied bandwidth test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08

#### 2.2.3. For dwell time test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08

## 2.2.4. For adjacent channel separation test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08

#### 2.2.5. For channel number test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08

#### 2.2.6. For radiation Emission Test

Equipment Manufacturer N		Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100199	Mar.24,07	Mar.24,08
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Amplifier	Agilent	8447D	2944A10488	May 2,07	May 2,08
Signal Generator	HP	8648A	3426A01263	Apr.11,07	Apr.11,08
Bilog Antenna	EMCO	3142B	00022050	May 2,07	May 2,08
Bilog Antenna	EMCO	3142C	00023011	May 2,07	May 2,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08
Horn Antenna	EMCO	3117	00062560	May 2,07	May 2,08

#### 2.2.7. For band edge test

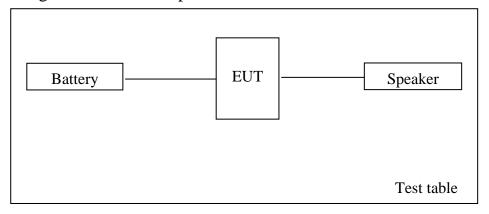
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	Mar.24,07	Mar.24,08
Horn Antenna	EMCO	3117	00062558	May 2,07	May 2,08

## 3. TEST SET-UP AND OPERATION MODES

## 3.1. Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its highest possible radiated level. The test modes were adapted accordingly in reference to the Operating Instructions.

## 3.2. Block Diagram of Test Set-up



(EUT:CAR DVD PLAYER)

# 3.3. Test Operation Mode and Test Software Refer to clause 1.4

- 3.4. Special Accessories and Auxiliary Equipment None.
- 3.5. Countermeasures to Achieve EMC Compliance None.

## 4. TEST SUMMARY

## Test items and result lists

Test items	Test result
Conducted emission	N/A
Maximum Peak Conducted Output Power	PASS
20dB Occupied Bandwidth	PASS
Dwell time	PASS
Adjacent Channel Separation	PASS
Channel number	PASS
Radiated Emission	PASS
Band Edge	PASS

Note: N/A stand for not applicable.

## 4.1. Maximum Peak Conducted Output Power

#### 4.1.1. Test limits

The maximum peak conducted output power shall less than 1W(30dBm).

#### 4.1.2. Test procedure

- 1.Ensure the spectrum analyzer is calibrated and during a valid calibration.
- 2. The EUT was placed on a turntable which is 0.8m above ground plane.
- 3. Set the EUT work on the CH1, CH40,CH79 individually.
- 4. Set spectrum analyzer center frequency = operation frequency,

RBW=1MHz, VBW=3MHz, Sweep = auto sweep

5. Set SA trace max hold, then view.

Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

#### 4.1.3 Test setup diagram



#### 4.1.4. Test result

Test condition: Temp:25.5℃; Humi:55% Test voltage: DC 13.2V

Test condition	. remp.23	.5 0 , 114	1111.5570	Test voltage. De	15.2
Operation	Spectrum	Cable	Ant	Transmitter	Limit
frequency	analyzer	loss	gain	Effective	
	Power			radiated power	
MHz	dBm	dB	dBi	dBm	dBm
2402	-5.15	2.23	6.0	-1.38	
2441	-4.60	2.23	6.1	-0.73	30
2480	-4.42	2.23	6.2	-0.45	
Measure	ment uncerta	inty		±6dB	

**Note:** Transmitter Effective Isotropic radiated power =SA +cable loss+Ant gain

## 4.2. 20dB Occupied Bandwidth

#### 4.2.1. Test limits

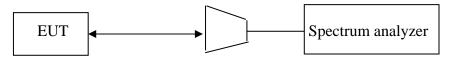
No requirement.

#### 4.2.2. Test procedure

- 1. The EUT was placed on a turntable which is 0.8m above ground plane.
- 2. Set the EUT work on the CH1, CH40,CH79 individually.
- 3. Set SA Center Frequency = Operation frequency, RBW=10kHz, VBW=30kHz.
- 4. Set SA trace max hold, then view.

Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

#### 4.2.3. Test setup diagram

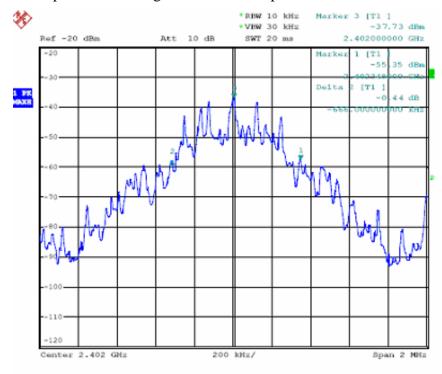


#### 4.2.4. Test result

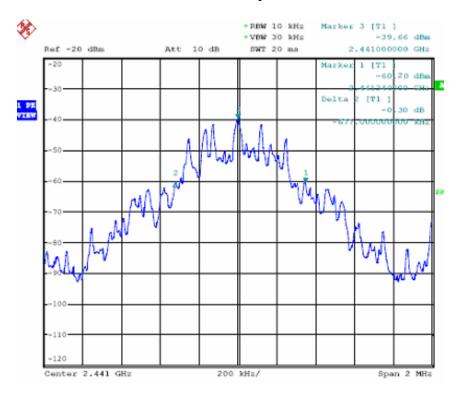
#### **Pass**

Test Channel	Frequency MHz	20dB Occupied bandwidth KHz
CH1	2402	666
CH40	2441	677
CH79	2480	667

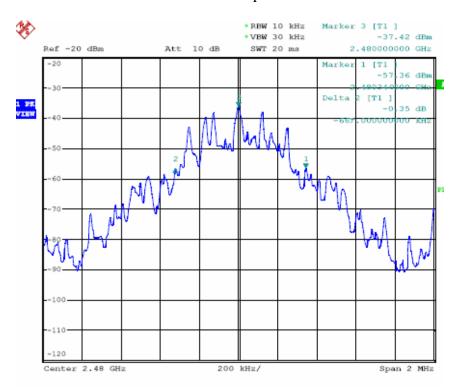
Test plot as following: CH 1 test plot



## CH 40 test plot



## CH79 test plot



#### 4.3. Dwell Time

#### 4.3.1. Limit

The maximum dwell time shall be 0.4s within a period of 0.4 seconds multiplied by the number of hopping channels employed..

#### 4.3.2. Test procedure

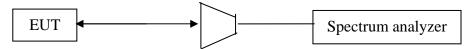
- 1. The EUT was placed on a turntable which is 0.8m above ground plane.
- 2. Set the EUT work on the CH1, CH40, CH79 individually.
- 3. Set SA Center Frequency = Operation frequency, RBW:100KHz;

VBW:100KHz; Sweep time:1s and 5ms; SPAN:0Hz

4. Set SA trace max hold, then view.

Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

#### 4.3.3. Test setup diagram

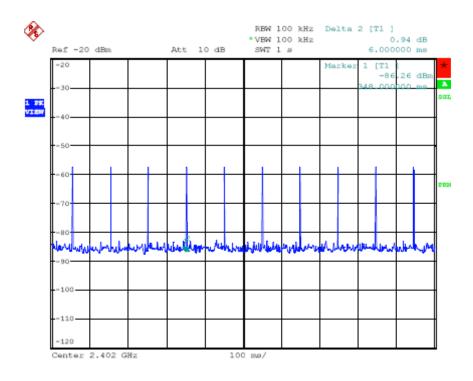


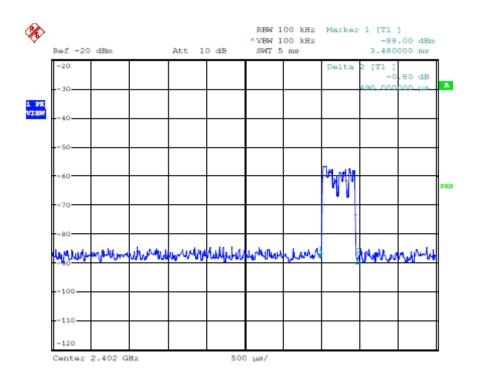
#### 4.3.4. Test result

Test Channel	Numbers of emission in 31.6s(79*0.4s)	Single transmission time(ms)	Total transmission time in 31.6s(79*0.4s)	Limit	result
CH1	10*31.6	0.490	154.84ms	400ms	pass
CH40	10*31.6	0.500	158.00ms	400ms	pass
CH79	10*31.6	0.500	158.00ms	400ms	pass

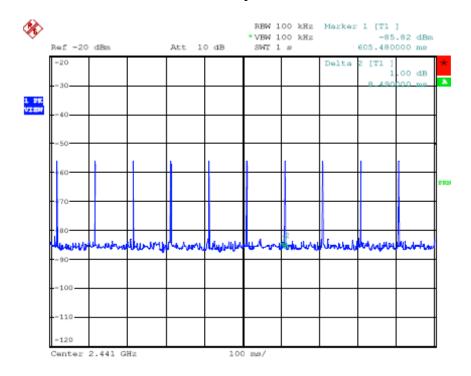
The dwell time is lesser than 0.4s within a period of 0.4 seconds multiplied by the number of hopping channels employed. comply with the standard requirement. The test plots as following:

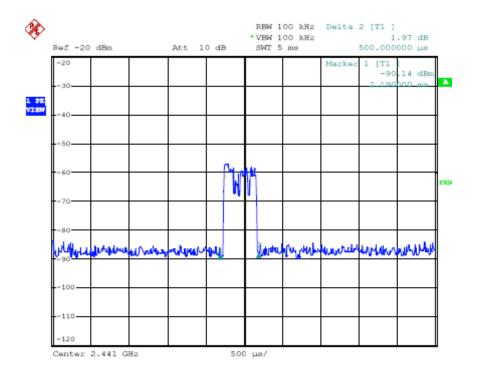
## CH1 test plot



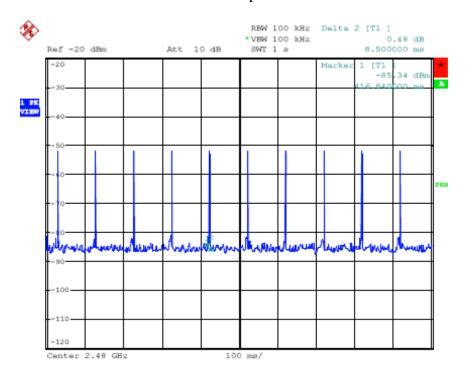


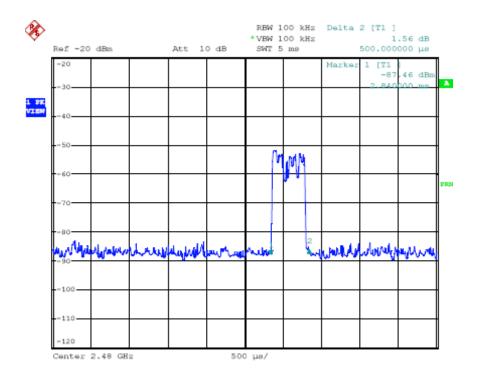
## CH40 test plot





## CH79 test plot





## 4.4. Adjacent Channel Separation

#### 4.4.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hoping channel. whichever is greater.

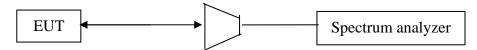
#### 4.4.2. Test procedure

Test was performed at normal test condition and test in the lowest frequency and the middle frequency and the highest frequency.

RBW:100kHz; VBW:300kHz; Sweep time:2.5ms;

Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

#### 4.4.3. Test setup diagram



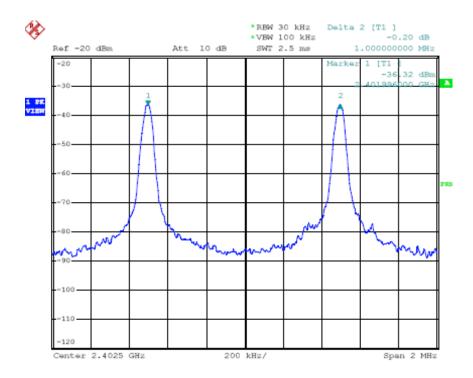
#### 4.4.4. Test result

Pass.

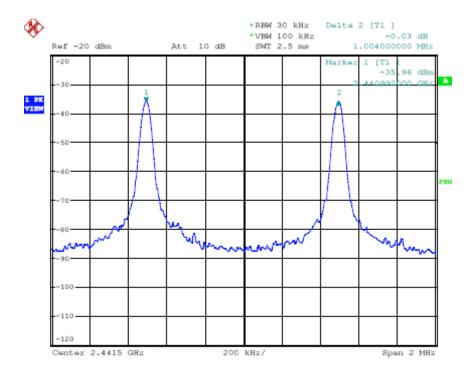
Test Channel	test frequency	Two Adjacent Channel spacing	Limit
MHz	MHz	MHz	kHz
CH1	2402	1.000	
CH2	2403	1.000	
CH39	2439	1.004	≥20dB
CH40	2440	1.004	bandwidth
CH78	2479	1.000	
CH79	2480	1.000	

The two adjacent channel spacing is greater than 20dB bandwidth. comply with standard requirement. The test plots as following:

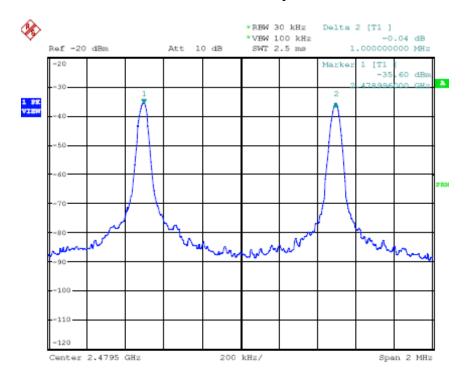
## CH1 test plot



## CH40 test plot



# CH79 test plot



#### 4.5. Channel Number

#### 4.5.1. Limit

Frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

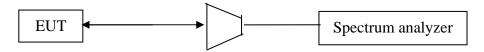
#### 4.5.2. Test procedure

Test was performed at normal test condition

RBW:100kHz; VBW:100kHz; Sweep time: 10ms;

Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

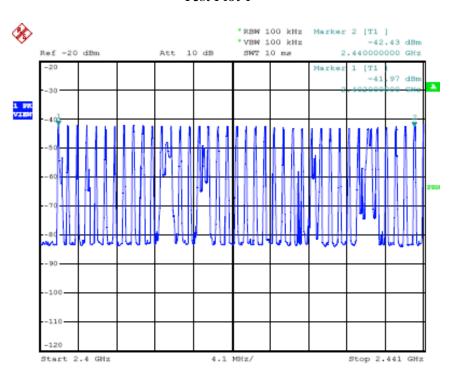
#### 4.5.3. Test setup diagram



#### 4.5.4. Test result

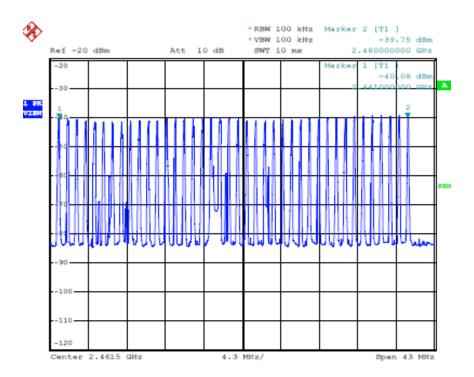
Total channel numbers are 79 .compliance with standard requirement.

The test plots as following:



Test Plot 1

#### Test Plot 2



FCC ID: VIPFGEDV7310

4.6. Radiated Emission

4.6.1. Test limits

1) FCC part 15C section 15.209

2) FCC part 15C section 15.247(d)

3) FCC Part 15C section 15.205

4.6.2. Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table

can rotate 360 degrees to determine the position of the maximum emission level. The

EUT was set 3 meters away from the receiving antenna which was mounted on a antenna

tower. At the frequency band of 30MHz to 1GHz, The measuring antenna moved up and

down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and

vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as

a receiving antenna. At the frequency band of 1GHz to 25GHz, The measuring antenna

moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used

as a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120 KHz and

300KHz for Quasi-peak detection at frequency below 1GHz.

The resolution bandwidth and video bandwidth of the test receiver was 1MHz and 3MHz

for Peak detection at frequency above 1GHz.

For Average measurement at frequency above 1GHz. The resolution bandwidth of the test

receiver was 1MHz; due to the shortest pulse width T is 116us, according the video

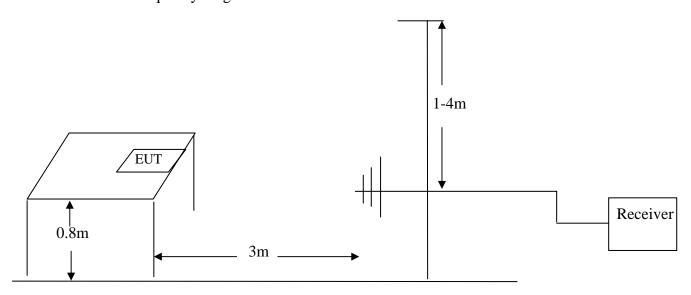
bandwidth should not smaller than 1/T, so the video bandwidth is 10kHz.

The EUT was tested in Chamber Site.

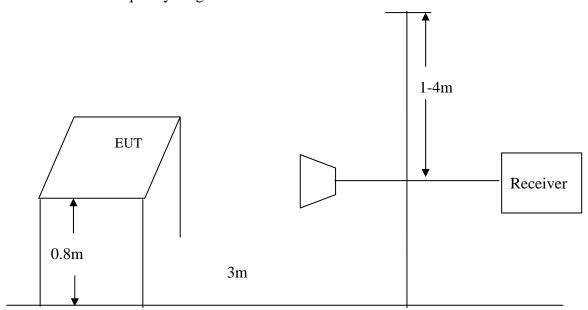
Note: Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

## 4.6.3 Test Setup Diagram

## 4.6.3.1. Frequency range: 30MHz-1000MHz



## 4.6.3.2. Frequency range: 1 GHz -25GHz



4.6.4.Test Result

Pass.

#### CH1 2402MHz test data

Frequency	Antenna Factor	Cable Loss	Meter Reading	Emission Level	Over Limits	Limits	Detector	Polarity
MHz	dB	dB	dΒμV	$dB\mu V/m$	dB	dBμV/m		
162.89	11.82	1.98	29.18	42.98	-0.52	43.50	QP	Н
298.69	15.29	2.86	27.11	45.26	-0.74	46.00	QP	Н
594.54	20.07	4.37	21.24	45.68	-0.32	46.00	QP	Н
1505.25	27.81	2.15	26.35	56.31	-17.69	74.00	PK	Н
1505.20	27.81	2.15	14.36	44.32	-9.68	54.00	AV	Н
1602.00	28.48	2.16	28.70	59.34	-14.66	74.00	PK	Н
1602.00	28.48	2.16	18.05	48.69	-5.31	54.00	AV	Н
*2402.00	31.51	2.23	51.38	85.12			PK	Н
*2402.00	31.51	2.23	32.55	66.29			AV	Н
15466.5	41.67	3.03	23.64	68.34	-5.66	74.00	PK	Н
15466.5	41.67	3.03	5.31	50.01	-3.99	54.00	AV	Н
109.54	10.77	1.58	29.80	42.15	-1.35	43.50	QP	V
446.13	17.30	3.61	24.70	45.61	-0.39	46.00	QP	V
741.98	22.11	5.19	18.02	45.32	-0.68	46.00	QP	V
1602.00	28.48	2.16	30.01	60.65	-13.35	74.00	PK	V
1602.00	28.48	2.16	17.12	47.76	-6.2	54.00	AV	V
*2402.00	31.51	2.23	53.61	87.35			PK	V
*2402.00	31.51	2.23	32.23	65.97			AV	V
2501.50	31.60	2.23	22.34	56.17	-17.83	74.00	PK	V
2501.50	31.60	2.23	11.24	45.07	-8.93	54.00	AV	V
15516.3	41.73	3.03	18.36	63.12	-10.88	74.00	PK	V
15516.3	41.73	3.03	4.32	49.08	-4.92	54.00	AV	V

Notes: 1.The readings were Quasi-Peak values below 1GHz.

The readings were Peak values + Average values above 1GHz

- 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading
- 3. Test uncertainty:  $\pm 4.76$ dB at a level of confidence of 95%.
- 4. The frequency with \* stands for carrier frequency.
- 5. Peak Limit=Average Limit+20dB

CH40 2441MHz test data

Frequency	Antenna	Cable	Meter	Emission	Over	Limits		
	Factor	Loss	Reading	Level	Limits		Detector	Polarity
MHz	dB	dB	$dB\mu V$	$dB\mu V/m$	dB	$dB\mu V/m$		
162.89	11.82	1.98	29.35	43.15	-0.35	43.50	QP	Н
298.68	15.29	2.86	27.23	45.38	-0.62	46.00	QP	Н
446.13	17.30	3.61	24.70	45.61	-0.39	46.00	QP	Н
1596.3	28.46	2.16	25.31	55.93	-18.14	74.00	PK	Н
1596.3	28.46	2.16	12.28	42.9	-10.36	54.00	AV	Н
*2441.00	31.55	2.23	57.36	91.14			PK	Н
*2441.00	31.55	2.23	35.80	69.58			AV	Н
2668.50	31.71	2.24	21.54	55.49	-18.51	74.00	PK	Н
2668.50	31.71	2.24	10.24	44.19	-9.81	54.00	AV	Н
15470.40	41.67	3.03	22.06	66.76	-7.24	74.00	PK	Н
15470.40	41.67	3.03	5.61	50.31	-3.69	54.00	AV	Н
109.54	10.77	1.58	29.77	42.12	-1.38	43.50	QP	V
162.88	11.82	1.98	29.18	42.98	-0.52	43.50	QP	V
594.54	20.07	4.37	17.56	42.00	-1.5	43.50	QP	V
1100.05	27.30	2.11	28.15	57.56	-16.44	74.00	PK	V
1100.05	27.30	2.11	15.31	44.72	-9.28	54.00	AV	V
1601.98	28.48	2.16	19.89	50.53	-23.47	74.00	PK	V
1601.98	28.48	2.16	10.34	40.98	-13.02	54.00	AV	V
*2441.00	31.55	2.23	50.89	84.67			PK	V
*2441.00	31.55	2.23	28.33	62.11			AV	V
15440.00	41.62	3.03	25.30	60.95	-4.05	74.00	PK	V
15439.00	41.62	3.03	6.34	50.99	-3.01	54.00	AV	V

Notes: 1. The readings were Quasi-Peak values below 1GHz.

The readings were Peak values + Average values above 1GHz

- 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading
- 3. Test uncertainty:  $\pm 4.76$ dB at a level of confidence of 95%.
- 4. The frequency with \* stands for carrier frequency.
- 5. Peak Limit=Average Limit+20dB

CH79 2480MHz test data

Frequency	Antenna	Cable	Meter	Emission	Over	Limits		
	Factor	Loss	Reading	Level	Limits		Detector	Polarity
MHz	dB	dB	dΒμV	$dB\mu V/m$	dB	$dB\mu V/m$		
162.89	11.82	1.98	28.90	42.70	-0.8	43.50	QP	Н
256.98	14.26	2.57	28.50	45.33	-0.67	46.00	QP	Н
769.14	22.36	5.36	16.23	43.95	-2.05	46.00	QP	Н
1602.00	28.48	2.16	26.16	56.80	-17.2	74.00	PK	Н
1602.00	28.48	2.16	12.56	43.20	-10.8	54.00	AV	Н
2127.00	31.23	2.21	18.86	52.3	-21.70	74.00	PK	Н
2127.00	31.23	2.21	6.96	40.40	-13.60	54.00	AV	Н
*2480.00	31.59	2.23	55.08	88.90			PK	V
*2480.00	31.59	2.23	27.84	61.66			AV	V
15468.50	41.67	3.03	20.08	64.78	-9.22	74.00	PK	Н
15468.50	41.67	3.03	4.48	49.18	-4.82	54.00	AV	Н
162.89	11.82	1.98	28.8	42.60	-0.9	43.50	QP	V
449.04	17.34	3.63	24.43	43.10	-0.4	43.50	QP	V
577.08	19.49	4.25	18.99	42.73	-0.77	43.50	QP	V
1091.00	27.3	2.11	26.31	55.72	-18.28	74.00	PK	V
1091.00	27.3	2.11	12.91	42.32	-11.68	54.00	AV	V
1598.50	28.46	2.16	24.78	55.40	-18.60	74.00	PK	V
1598.50	28.46	2.16	11.38	42.0	-12.00	54.00	AV	V
*2480.00	31.59	2.23	50.91	84.73			PK	V
*2480.00	31.59	2.23	24.30	58.12			AV	V
15438.00	41.62	3.03	20.75	65.40	-8.60	74.00	PK	V
15438.00	41.62	3.03	5.350	50.00	-4.00	54.00	AV	V

Notes: 1. The readings were Quasi-Peak values below 1GHz.

The readings were Peak values + Average values above 1GHz

- 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading
- 3. Test uncertainty:  $\pm 4.76$ dB at a level of confidence of 95%.
- 4. The frequency with \* stands for carrier frequency.
- 5. Peak Limit=Average Limit+20dB

## 4.7. Band Edge

#### 4.7.1. Test limits

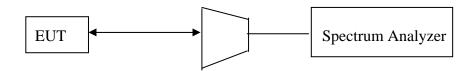
In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20dB below that in 100kHz bandwidth within the band that contains the highest level of the desired power.

#### 4.7.2. Test procedure

- 1. The EUT was placed on a turntable which is 0.8m above ground plane.
- 2. Set EUT as continuous transmitting mode.
- 3. Set the EUT work on the CH1, CH79individually.
- 4. Set SPA Frequency = Operation frequency, for PK: RBW =100kHz, VBW ≥ RBW
- 5. Set SPA trace max hold, then view.

Note : Test procedure in accordance with public notice DA 00-705 and ANSI C63.4:2003

#### 4.7.3. Test setup diagram



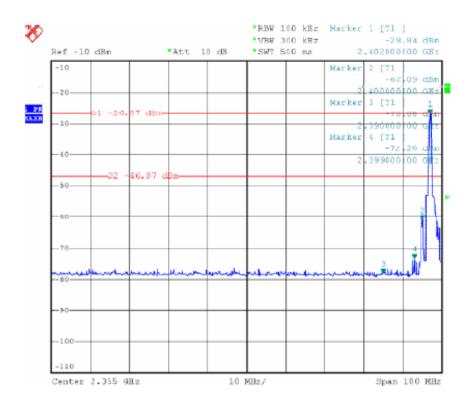
#### 4.7.4. Test result

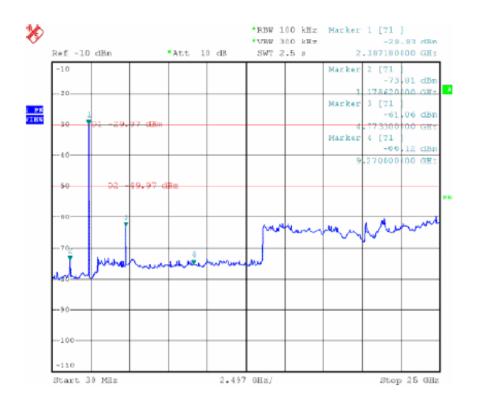
The spectrum plots are attached on the following 4 images. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

Note 1: The band edge emission plot on page 27 shows 43.13dBc between carrier maximum power and local maximum emission in restrict band(2.390GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.6.4 is 87.35dBuV/m (peak). So the maximum field strength in restrict band is 87.35-43.13 = 44.22dBuV/m, which is under 74dBuV/m limit.

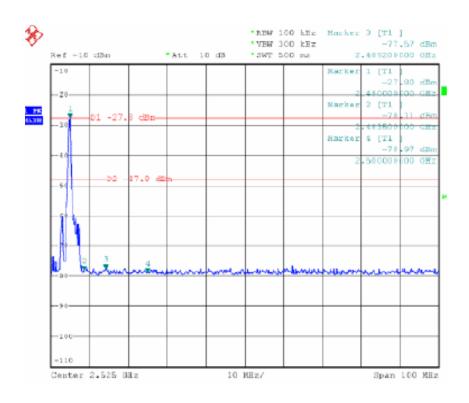
Note 2: The band edge emission plot on page 28 shows 49.77dBc between carrier maximum power and local maximum emission in restrict band(2.4835GHz). The emission of carrier strength list in the test result of channel 79 at the item 4.6.4 is 84.73dBuV/m (peak). So the maximum field strength in restrict band is 84.73-49.77 = 34.96dBuV/m, which is under 74dBuV/m limit.

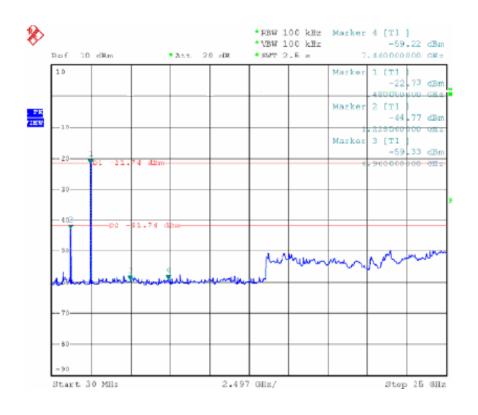
#### CH1 2402MHz





#### CH79 2480MHz





## 4.8. Antenna Requirement

#### 4.8.1. 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 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### 4.8.2. Antenna connected construction

The antenna used in this product is integrated antenna on the main PCB and no consideration of replacement.