

FCC Radio Test Report

FCC ID: RFARWSS125

This report concerns (check one) : ☒ Original Grant ☐ Class II Change

Issued Date : May. 17, 2007

Report No. : 0612C094

Equipment : DVD HOME THEATRE SYSTEM

Model Name : HTS3545W/37; HTS35**W/37 (**=45 or 44 or 55)

Applicant : Eastech Electronics Taiwan Inc.

Address : 13F, NO. 99, Section 1, Nankan Rd. 338,
Luchu Shiang, Taoyuan Hsien, Taiwan

Tested by:

Neutron Engineering Inc. EMC Laboratory

Data of Test:

Jan. 10, 2007 ~ Feb. 26, 2007

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Table of Contents	Page
1 . CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	11
3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	12
3.5 DESCRIPTION OF SUPPORT UNITS	13
4 . EMC EMISSION TEST	14
4.1 CONDUCTED EMISSION MEASUREMENT	14
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	14
4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING	14
4.1.3 TEST PROCEDURE	15
4.1.4 DEVIATION FROM TEST STANDARD	15
4.1.5 TEST SETUP	15
4.1.6 EUT OPERATING CONDITIONS	16
4.1.7 TEST RESULTS	17
4.2 RADIATED EMISSION MEASUREMENT	19
4.2.1 RADIATED EMISSION LIMITS	19
4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING	20
4.2.3 TEST PROCEDURE	21
4.2.4 DEVIATION FROM TEST STANDARD	21
4.2.5 TEST SETUP	22
4.2.6 EUT OPERATING CONDITIONS	22
4.2.7 TEST RESULTS (BETWEEN 30 – 1000 MHZ)	23
4.2.8 TEST RESULTS (ABOVE 1000 MHZ)	25
4.2.9 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)	37
5 . NUMBER OF HOPPING CHANNEL	41
5.1 APPLIED PROCEDURES / LIMIT	41
5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING	41
5.1.2 TEST PROCEDURE	41
5.1.3 DEVIATION FROM STANDARD	41
5.1.4 TEST SETUP	41
5.1.5 EUT OPERATION CONDITIONS	41

Table of Contents	Page
5.1.6 TEST RESULTS	42
6 . BANDWITH TEST	43
6.1 APPLIED PROCEDURES / LIMIT	43
6.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING	43
6.1.2 TEST PROCEDURE	43
6.1.3 DEVIATION FROM STANDARD	43
6.1.4 TEST SETUP	43
6.1.5 EUT OPERATION CONDITIONS	43
6.1.6 TEST RESULTS	44
7 . PEAK OUTPUT POWER TEST	46
7.1 APPLIED PROCEDURES / LIMIT	46
7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING	46
7.1.2 TEST PROCEDURE	46
7.1.3 DEVIATION FROM STANDARD	46
7.1.4 TEST SETUP	46
7.1.5 EUT OPERATION CONDITIONS	46
7.1.6 TEST RESULTS	47
8 . ANTENNA CONDUCTED SPURIOUS EMISSION	49
8.1 APPLIED PROCEDURES / LIMIT	49
8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING	49
8.1.2 TEST PROCEDURE	49
8.1.3 DEVIATION FROM STANDARD	49
8.1.4 TEST SETUP	50
8.1.5 EUT OPERATION CONDITIONS	50
8.1.6 TEST RESULTS	51
9 . RF EXPOSURE TEST	53
9.1 APPLIED PROCEDURES / LIMIT	53
9.1.1 MEASUREMENT INSTRUMENTS LIST	53
9.1.2 MPE CALCULATION METHOD	53
9.1.3 DEVIATION FROM STANDARD	54
9.1.4 TEST SETUP	54
9.1.5 EUT OPERATION CONDITIONS	54
9.1.6 TEST RESULTS	55
10 . DWELL TIMEN	56
10.1 APPLIED PROCEDURES / LIMIT	56
10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING	56
10.1.2 TEST PROCEDURE	56
10.1.3 DEVIATION FROM STANDARD	56
10.1.4 TEST SETUP	57

Table of Contents	Page
10.1.5 EUT OPERATION CONDITIONS	57
10.1.6 TEST RESULTS	58
11 . EUT TEST PHOTO	61

1. CERTIFICATION

Equipment: DVD HOME THEATRE SYSTEM

Trade Name : philips

Model Name : HTS3545W/37; HTS35**W/37 (**=45 or 44 or 55)

Applicant: Eastech Electronics Taiwan Inc.

Test Item: ENGINEERING SAMPLE

Standards: FCC Part15, Subpart C(15.247) / ANCI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-0612C094) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and CNLA according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (c)	Antenna conducted Spurious Emission	PASS	
15.247 (a)(1)	Hopping Channel Separation	PASS	
15.247 (b)(1)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (b)(1)	Number of Hopping Frequency	PASS	
15.247 (a)(1)	Dwell Time	PASS	
15.205	Restricted Bands	PASS	
15.203	Antenna Requirement	PASS	
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **C01/OS01** at the location of No.132-1, Lane 329, Sec. 2, Palain Road, Shijr City, Taipei, Taiwan.

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95 %**.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U , (dB)	NOTE
OS-01	ANSI	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
OS-02	ANSI	30MHz ~ 200MHz	V	2.48	
		30MHz ~ 200MHz	H	2.16	
		200MHz ~ 1,000MHz	V	2.50	
		200MHz ~ 1,000MHz	H	2.66	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	DVD HOME THEATRE SYSTEM														
Trade Name	philips														
Model Name	HTS3545W/37; HTS35**W/37 (**=45 or 44 or 55)														
OEM Brand/Model Name	N/A														
Model Difference	Model difference between each other only the changes in which not effective the EMI performance.														
Product Description	<p>The EUT is a DVD HOME THEATRE SYSTEM.</p> <table border="1"> <tr> <td>Operation Frequency:</td><td>2403.328~2479.104MHz.</td></tr> <tr> <td>Modulation Type:</td><td>FHSS</td></tr> <tr> <td>Bit Rate of Transmitter</td><td>1.536Mbps</td></tr> <tr> <td>Number Of Channel</td><td>38 CH .Please see Note 2.</td></tr> <tr> <td>Antenna Designation:</td><td>Please see Note 3.</td></tr> <tr> <td>Antenna Gain(Peak)</td><td>Please see Note 3.</td></tr> <tr> <td>Output Power:</td><td>15.91 dBm (Max.)</td></tr> </table> <p>Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.</p>	Operation Frequency:	2403.328~2479.104MHz.	Modulation Type:	FHSS	Bit Rate of Transmitter	1.536Mbps	Number Of Channel	38 CH .Please see Note 2.	Antenna Designation:	Please see Note 3.	Antenna Gain(Peak)	Please see Note 3.	Output Power:	15.91 dBm (Max.)
Operation Frequency:	2403.328~2479.104MHz.														
Modulation Type:	FHSS														
Bit Rate of Transmitter	1.536Mbps														
Number Of Channel	38 CH .Please see Note 2.														
Antenna Designation:	Please see Note 3.														
Antenna Gain(Peak)	Please see Note 3.														
Output Power:	15.91 dBm (Max.)														
Channel List	Please refer to the Note 2.														
Power Source	AC Mains.														
Power Rating	AC I/P 120V, 60Hz														
Connecting I/O Port(s)	Please refer to the User's Manual														
Products Covered	N/A														

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2403.328	13	2429.952	26	2456.576
01	2405.376	14	2432.000	27	2458.624
02	2407.424	15	2434.048	28	2460.672
03	2408.472	16	2436.096	29	2462.720
04	2411.520	17	2438.144	30	2464.768
05	2413.568	18	2440.192	31	2466.816
06	2415.616	19	2442.240	32	2468.864
07	2417.664	20	2444.288	33	2470.912
08	2419.712	21	2446.336	34	2472.960
09	2421.760	22	2448.384	35	2475.008
10	2423.808	23	2450.432	36	2477.056
11	2425.856	24	2452.480	37	2479.104
12	2427.904	25	2454.528		

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	ElevenEngineering	WHAM2	Dipole antenna	NA	2.0

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX (CH00)

For Conducted Emission	
Final Test Mode	Description
Mode 1	TX sample

For Radiated Emission	
Final Test Mode	Description
Mode 1	TX (CH00)
Mode 2	TX (CH19)
Mode 3	TX (CH37)

Note:

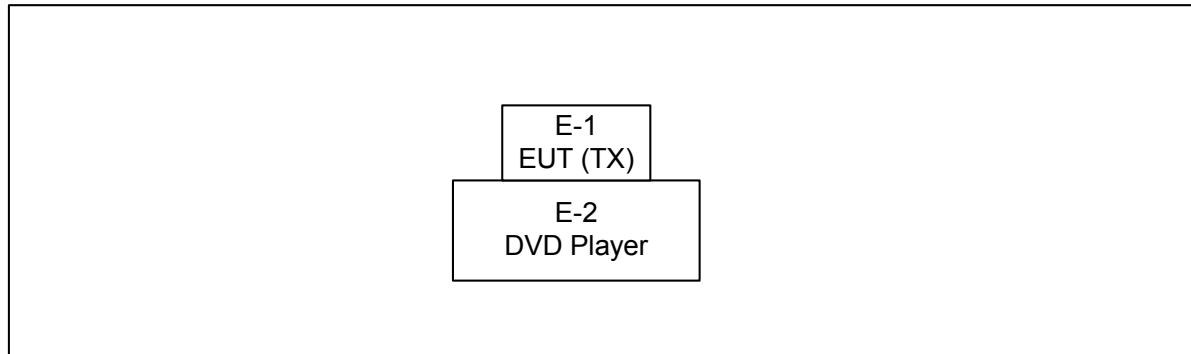
- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis. The worst case was found positioned on Y-plane. Therefore only the test data of this Y-plane was used for radiated emission measurement test.
Test data of TX mode was used for conduction emission measurement test.

3.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Test program: SQ15_RFM_DMv3.4		
Frequency	2403.328 MHz	2442.240 MHz	2479.104 MHz
Power Parameters	Def.	Def.	Def.

3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	DVD HOME THEATRE SYSTEM	philips	HTS3545W/37	RFARWSS125	N/A	EUT
E-2	DVD Player	N/A	N/A	N/A	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
N/A				

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00042991	Jan. 08, 2008
2	Pulse Limiter	Electro-Metrics	EM-7600	112644	Nov. 28, 2007
3	50Ω Terminator	N/A	N/A	N/A	May.10, 2008
4	Test Cable	N/A	C01	N/A	Nov. 28, 2007
5	EMI Test Receiver	R&S	ESCI	100082	Jan. 31, 2008

Remark: " N/A" denotes No Model No. , Serial No. or No Calibration specified.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

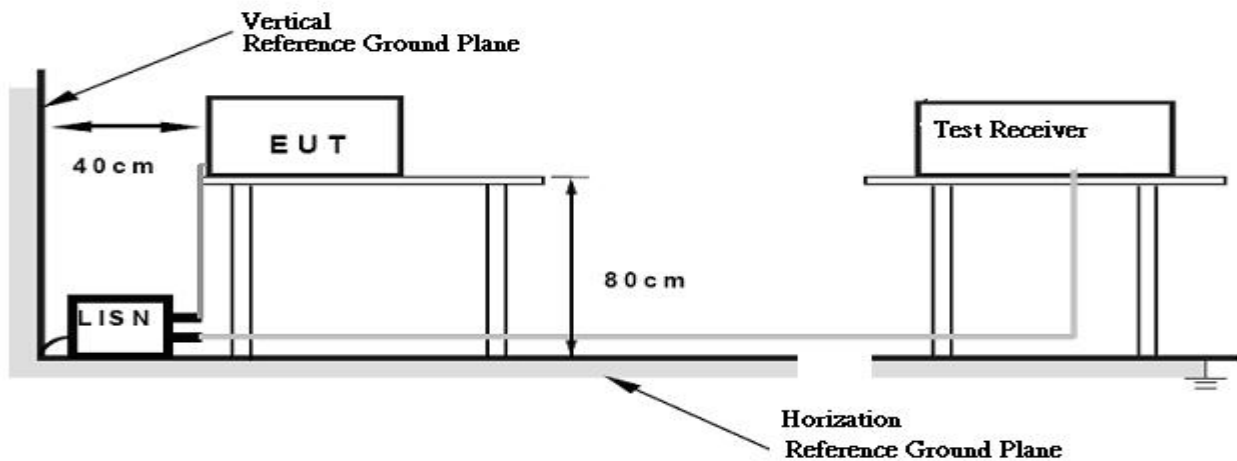
4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

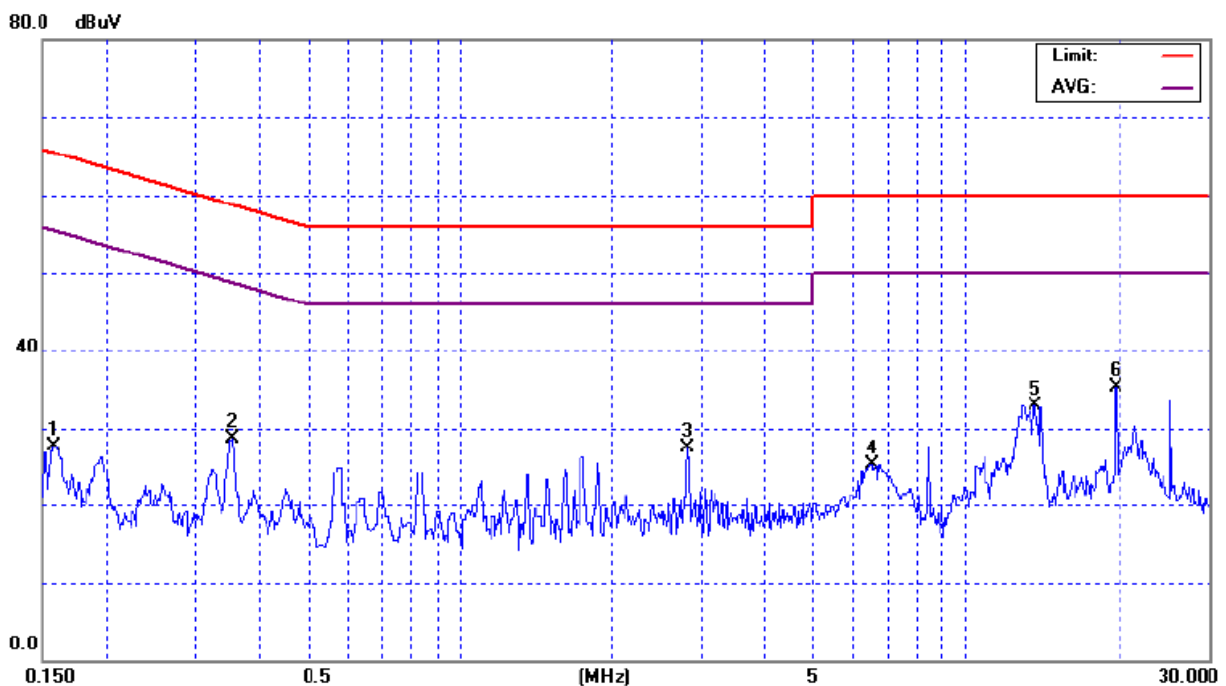
4.1.7 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	25 °C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX sample		
Note :	NA		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.16	Line	27.75	*	65.58	55.58	-37.83	(QP)
0.36	Line	28.61	*	58.84	48.84	-30.23	(QP)
2.82	Line	27.42	*	56.00	46.00	-28.58	(QP)
6.50	Line	25.39	*	60.00	50.00	-34.61	(QP)
13.65	Line	32.98	*	60.00	50.00	-27.02	(QP)
19.75	Line	35.36	*	60.00	50.00	-24.64	(QP)

Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ * ” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.

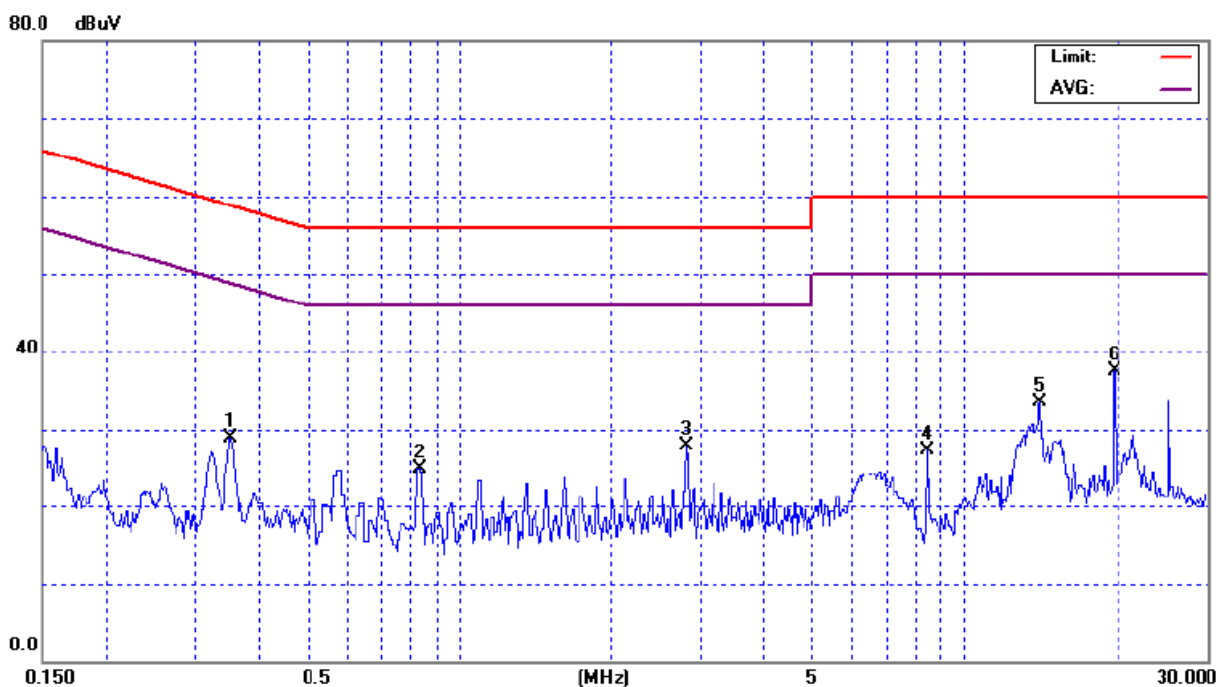


EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	25 °C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX sample		
Note :	NA		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.35	Neutral	28.92	*	58.91	48.91	-29.99	(QP)
0.83	Neutral	24.91	*	56.00	46.00	-31.09	(QP)
2.82	Neutral	27.85	*	56.00	46.00	-28.15	(QP)
8.45	Neutral	27.28	*	60.00	50.00	-32.72	(QP)
14.10	Neutral	33.41	*	60.00	50.00	-26.59	(QP)
19.75	Neutral	37.56	*	60.00	50.00	-22.44	(QP)

Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ * ” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 Radiated Emission Limits (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15B.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Log-Bicon Antenna	Schwarzbeck	VULB 9160	3058	Nov. 28, 2007
2	Test Cable	N/A	10M_OS02	N/A	Nov. 28, 2007
3	Test Cable	N/A	OS02-1/-2/-3	N/A	Nov. 28, 2007
4	Pre-Amplifier	Anritsu	MH648A	M09961	Nov. 28, 2007
5	EMI Test Receiver	R&S	ESCI	100082	Jan. 31, 2008
6	Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A
7	Turn Table	Chance Most	CMTB-1.5	N/A	N/A
8	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008
9	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-325	Oct. 25, 2007
10	Horn Antenna	Schwarzbeck	BBHA9170	9170187	Oct. 25, 2007
11	Microwave Pre-amplifier	Agilent	8449B	3008A01714	Mar. 10, 2008
12	Microflex Cable	United Microwave	57793	1m	Mar. 10, 2008
13	Microflex Cable	United Microwave	A30A30-5006	10M	Jul. 08, 2007

Remark: " N/A " denotes No Model Name / Serial No. and No Calibration specified.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	100KHz / 100KHz for peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.3 TEST PROCEDURE

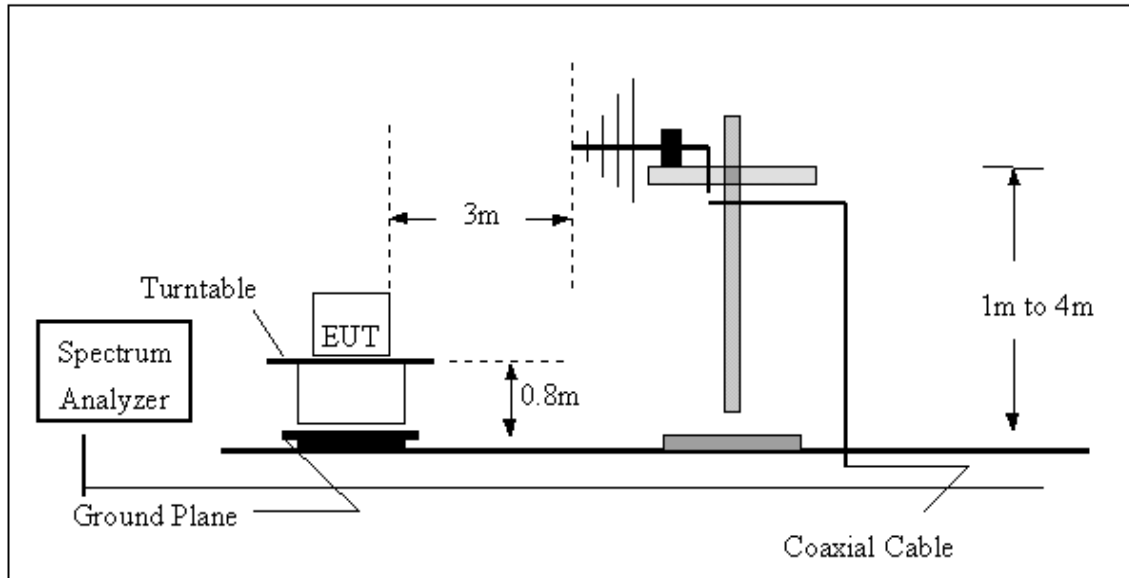
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

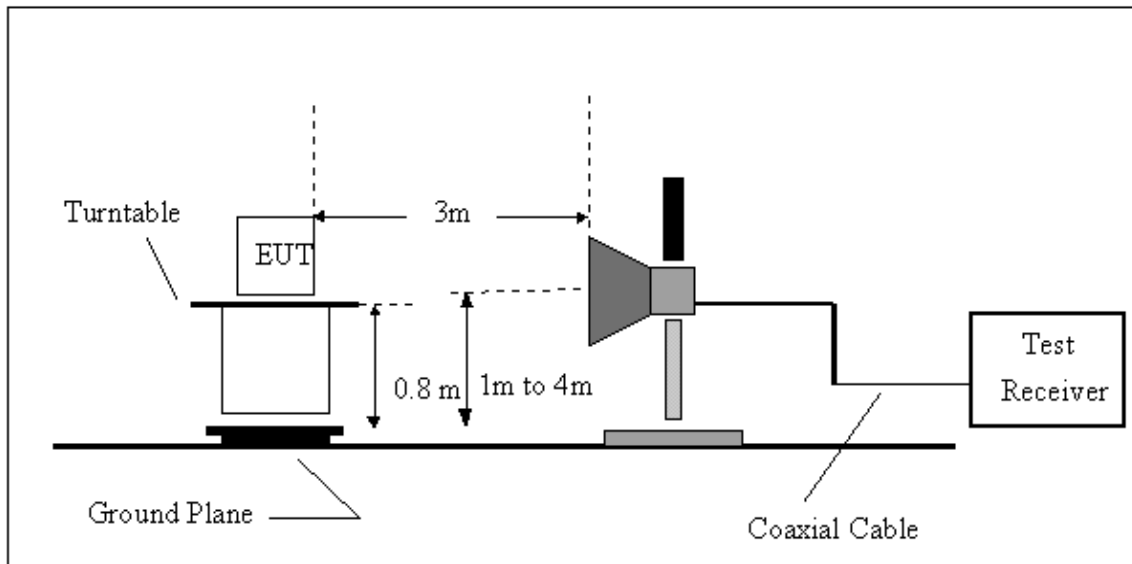
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

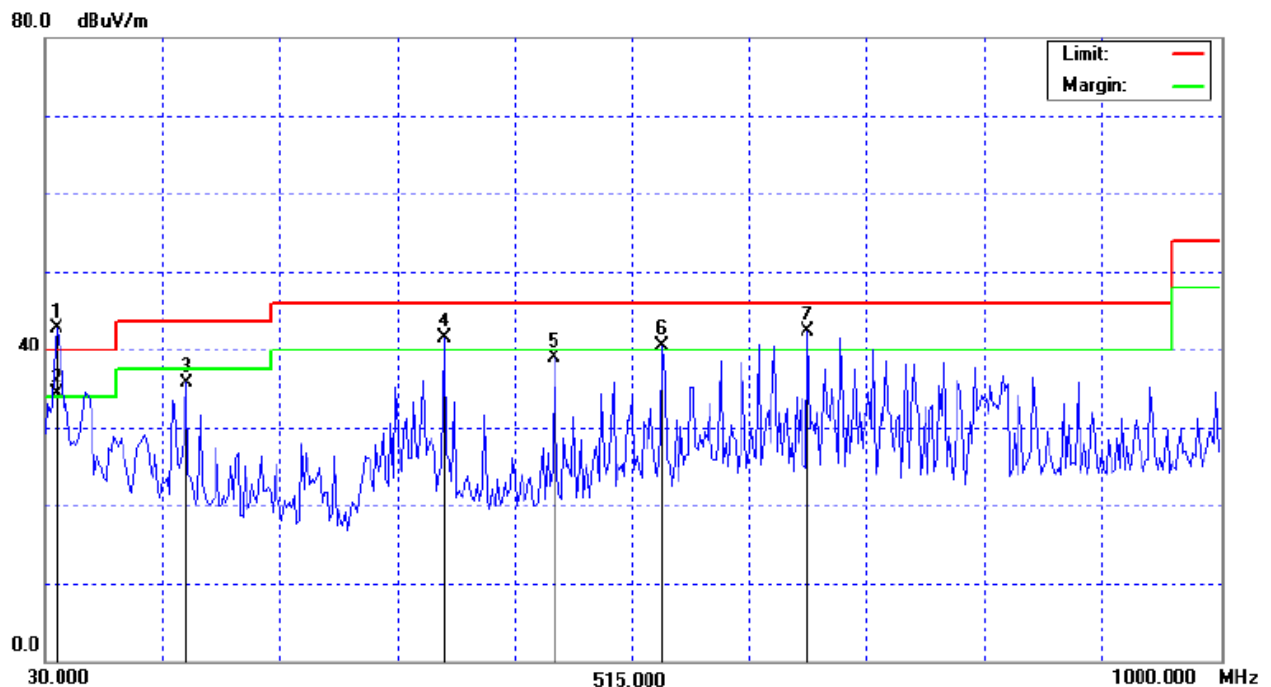
4.2.7 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH19)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
39.70	V	51.48	-17.25	34.23	40.00	- 5.77	QP
146.40	V	56.41	-20.78	35.63	43.50	- 7.87	
359.80	V	54.71	-13.27	41.44	46.00	- 4.56	
450.98	V	50.38	-11.54	38.84	46.00	- 7.16	
540.22	V	50.41	-9.98	40.43	46.00	- 5.57	
660.50	V	49.34	-7.05	42.29	46.00	- 3.71	

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (2) EUT Orthogonal Axis :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission .
- (4) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

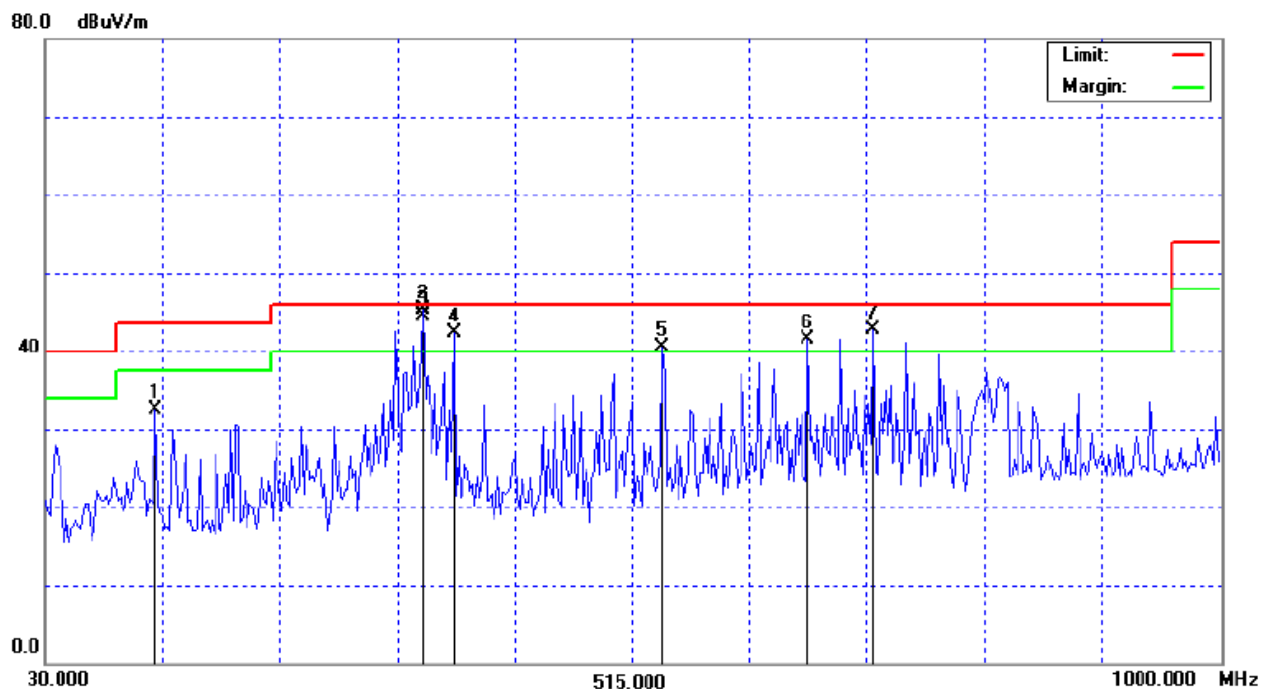


EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH19)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
121.18	H	54.24	-21.77	32.47	43.50	- 11.03	
342.34	H	58.08	-13.65	44.43	46.00	- 1.57	QP
367.56	H	55.44	-13.07	42.37	46.00	- 3.63	
540.22	H	50.41	-9.98	40.43	46.00	- 5.57	
660.50	H	48.64	-7.05	41.59	46.00	- 4.41	
714.82	H	49.13	-6.39	42.74	46.00	- 3.26	

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (2) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (3) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission .
- (4) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



4.2.8 TEST RESULTS (ABOVE 1000 MHZ)

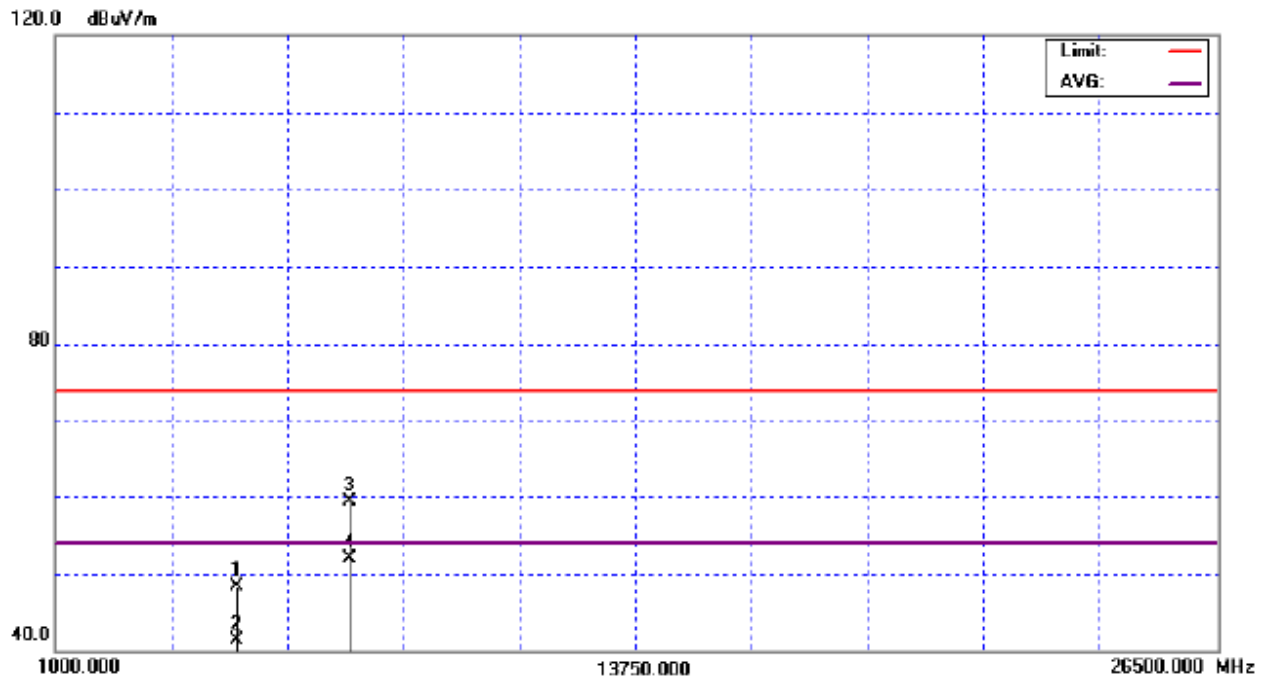
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH37)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4957.20	V	44.34	37.36	3.97	48.31	41.33	74.00	54.00	X/H
7439.00	V	50.24	42.74	9.15	59.39	51.89	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

Orthogonal Axis : X
TX (CH37)(Above 1000 MHz, Vertical)

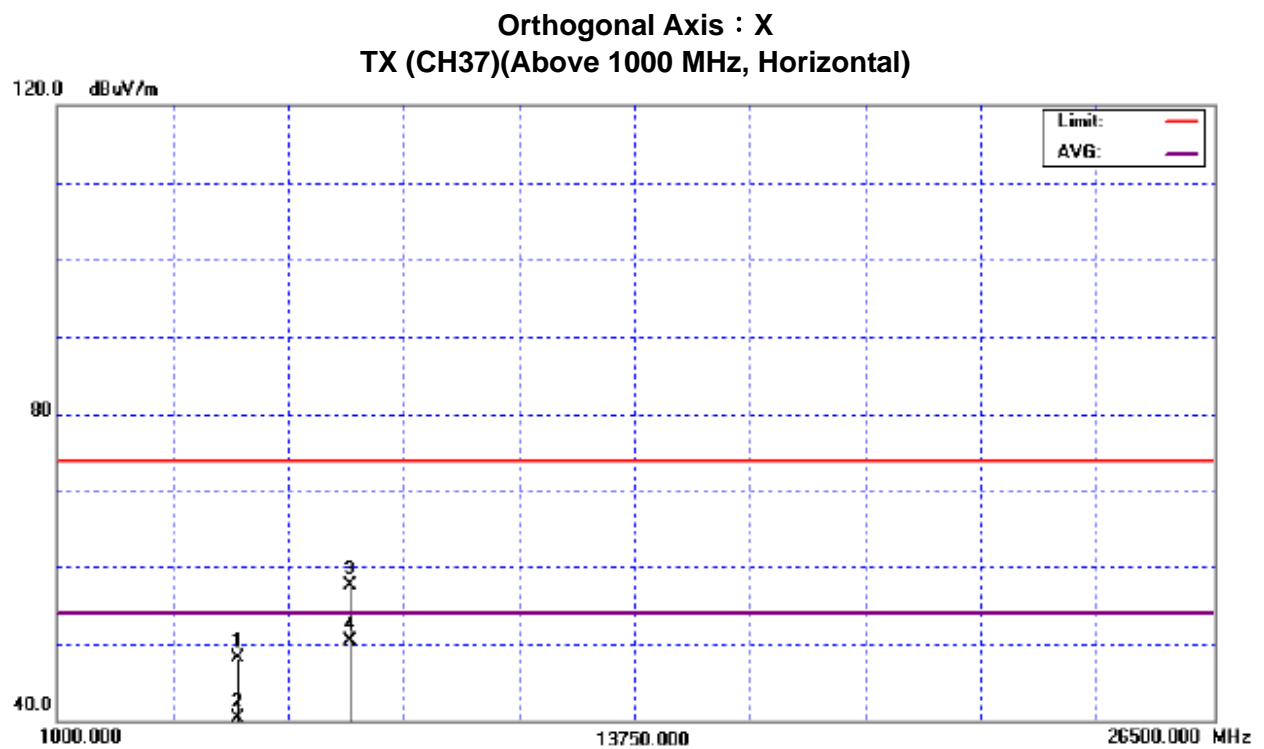


EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH37)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4957.04	H	44.22	36.41	3.97	48.19	40.38	74.00	54.00	X/H
7435.72	H	48.32	41.24	9.14	57.46	50.38	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand



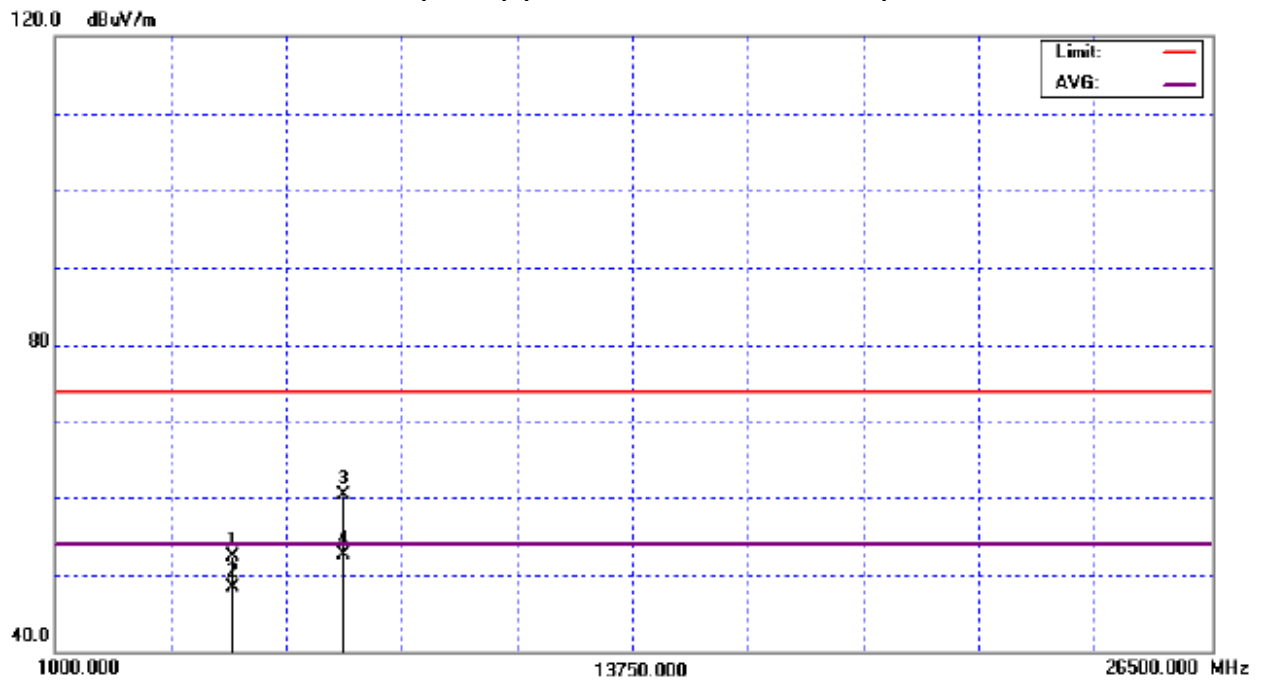
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH19)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4883.28	V	48.51	44.63	3.75	52.26	48.38	74.00	54.00	X/H
7328.28	V	51.55	43.74	8.72	60.27	52.46	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency . "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

Orthogonal Axis : X
TX (CH19) (Above 1000 MHz, Vertical)



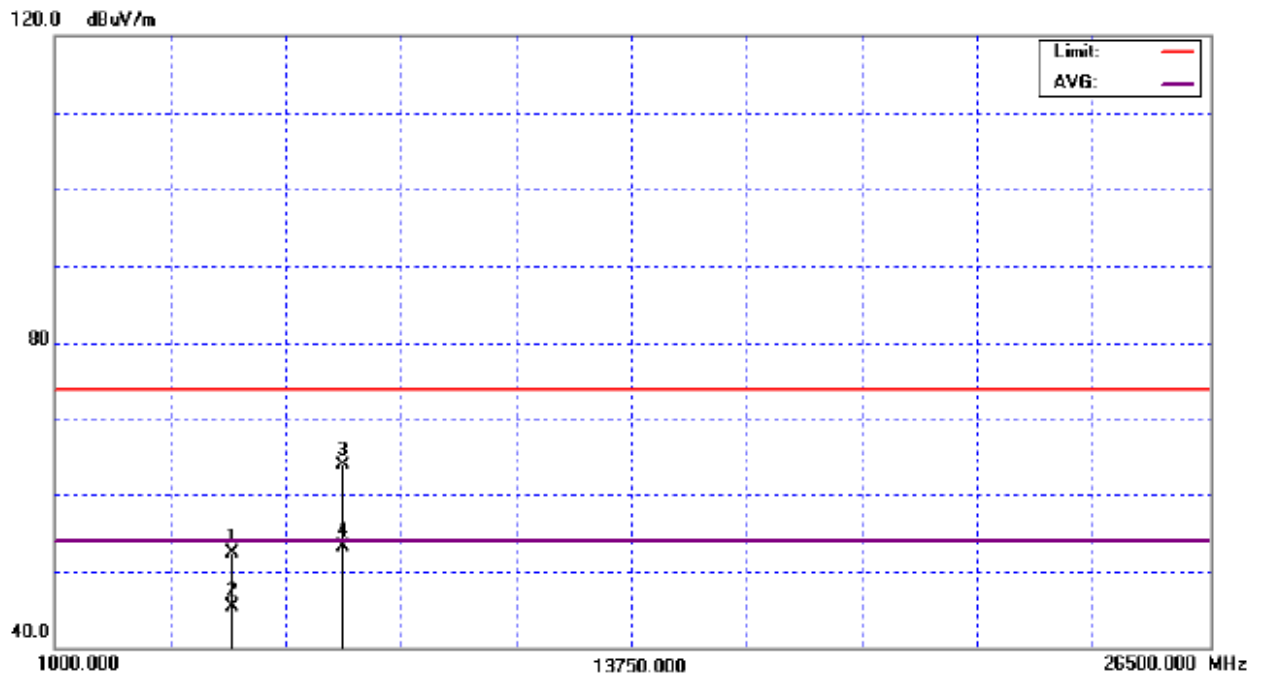
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH19)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4883.32	H	48.62	41.63	3.75	52.37	45.38	74.00	54.00	X/H
7328.28	H	55.23	44.32	8.72	63.95	53.04	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

Orthogonal Axis : X
TX (CH19) (Above 1000 MHz, Horizontal)



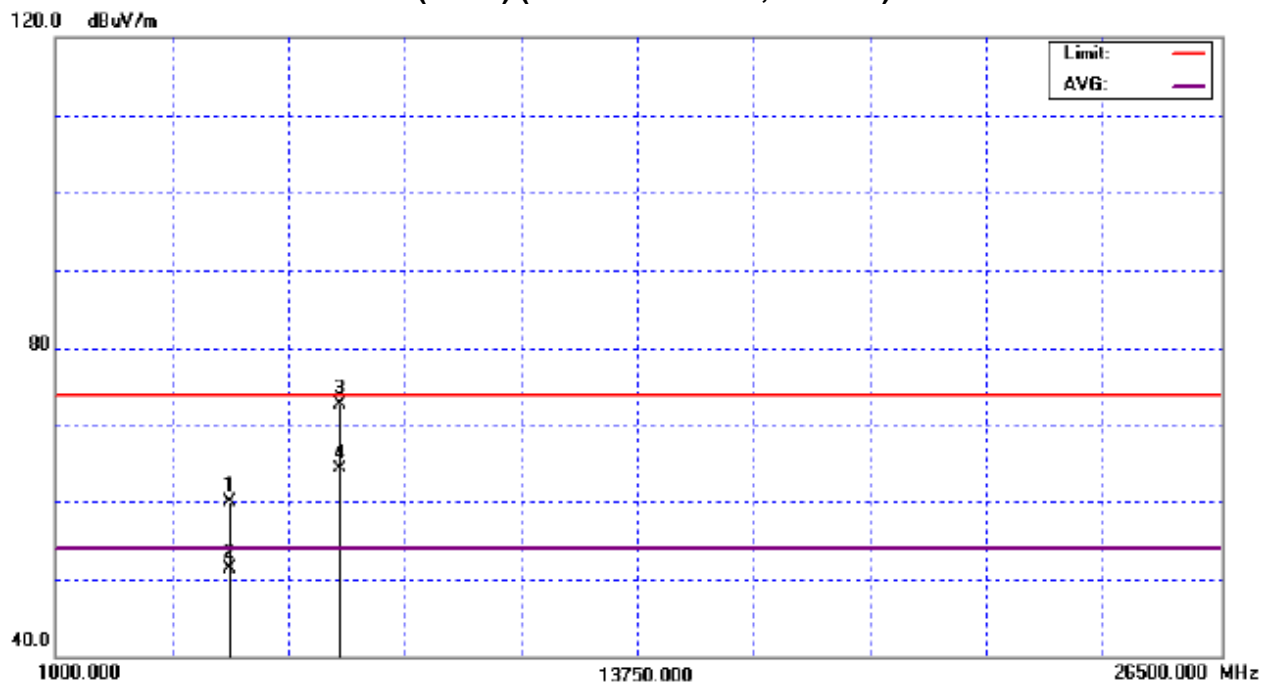
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4806.20	V	56.34	47.73	3.51	59.85	51.24	74.00	54.00	X/H
7211.08	V	64.38	56.07	8.25	72.63	64.32	74.00	54.00	7

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) This frequency is not in chapter 15.205(Restricted bands),so the limit have to down 20dB form fundamental frequency

Orthogonal Axis : X
TX (CH00) (Above 1000 MHz, Vertical)

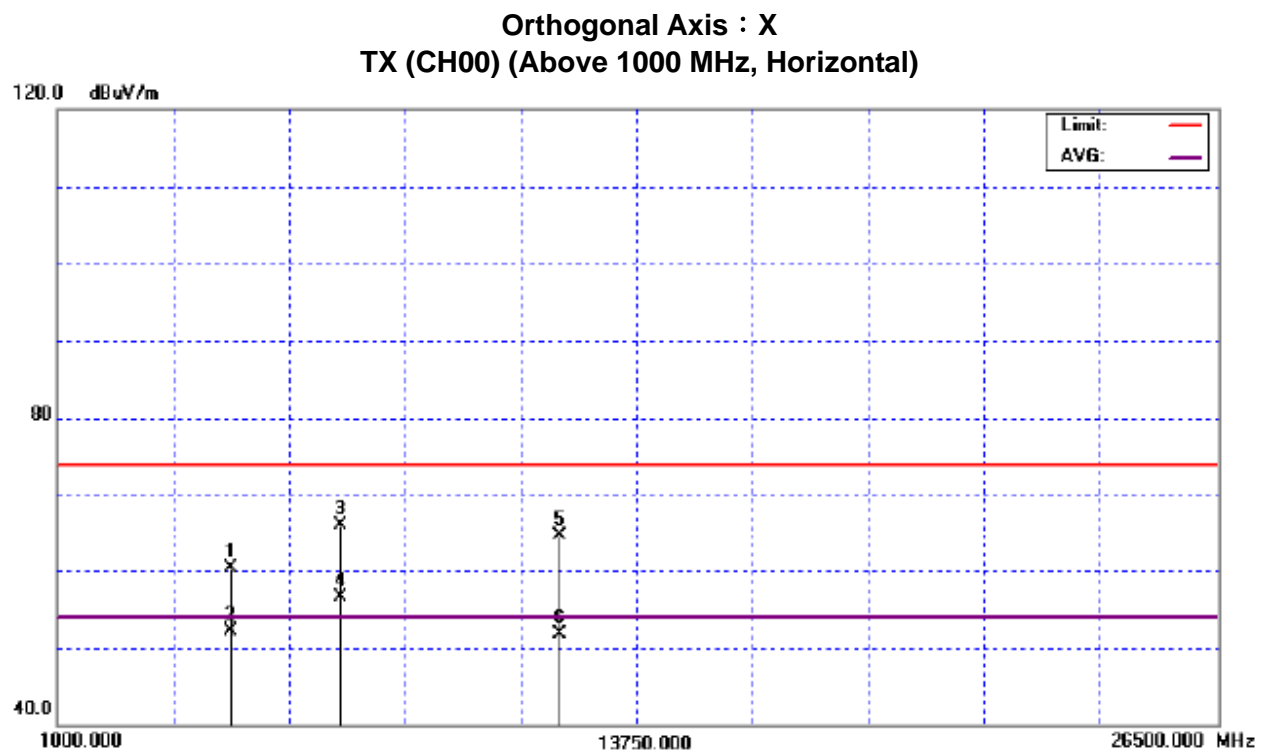


EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	20 °C	Relative Humidity :	60 %
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00)	EUT Orthogonal Axis :	X

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
4806.04	H	56.81	48.61	3.51	60.32	52.12	74.00	54.00	X/H
7209.00	H	57.90	48.32	8.24	66.14	56.56	74.00	54.00	7
12019.20	H	50.94	37.95	13.80	64.74	51.75	74.00	54.00	X/H

Remark :

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform .
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency . "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) This frequency is not in chapter 15.205(Restricted bands),so the limit have to down 20dB form fundamental frequency



4.2.9 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

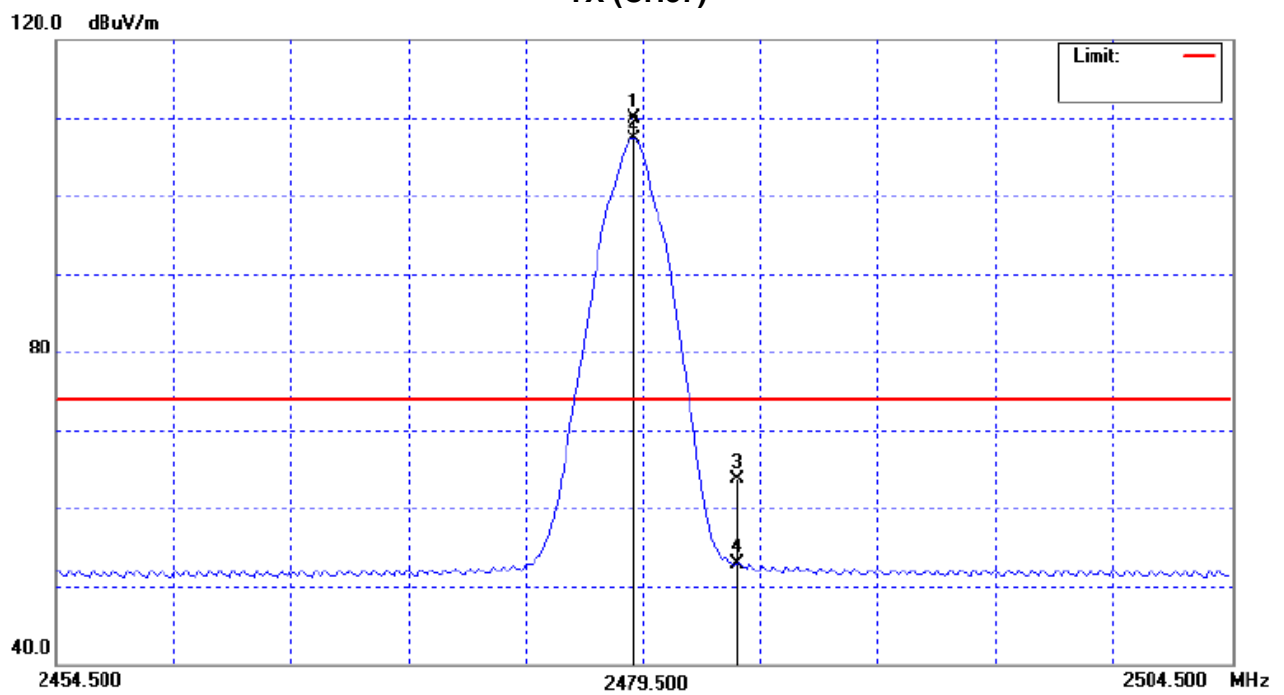
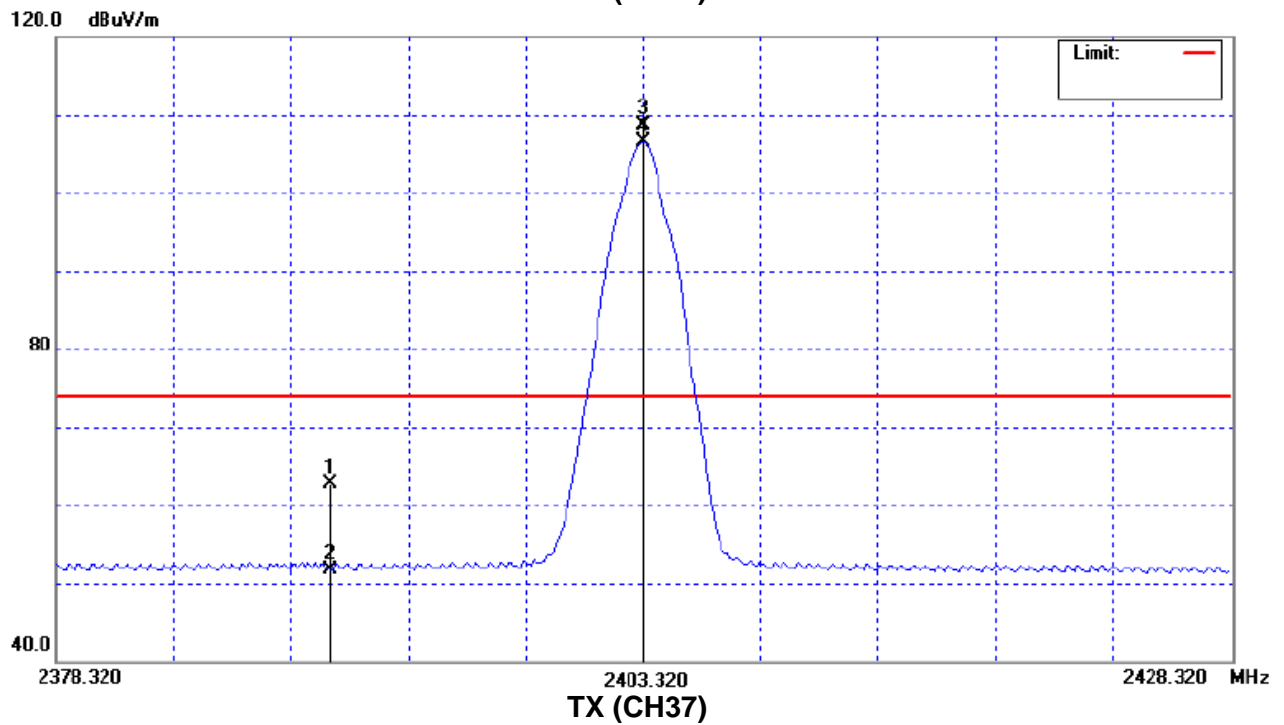
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Vertical TX CH00/37		
Note :	1. The transmitter was setup to transmit at the lowest channel (TX (CH00)). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was setup to transmit at the highest channel (TX (CH37)). Then the field strength was measured at 2483.5-2500 MHz.		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	30.60	19.69	32.05	62.65	51.74	74.00	54.00	CH00
2483.50	V	31.35	20.48	32.35	63.70	52.83	74.00	54.00	CH37

Remark :

- (1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission °.
- (2) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

Restricted Bands Requirements, Vertical TX (CH00)



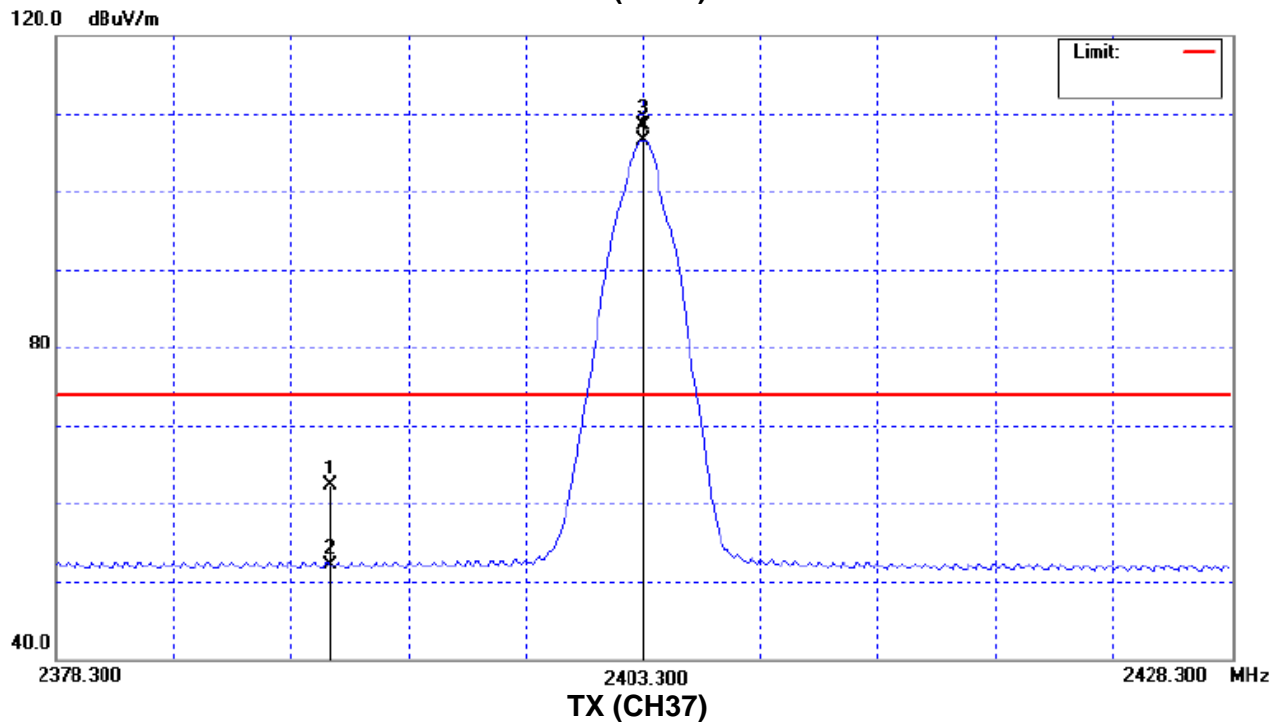
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Horizontal TX CH00/37		
Note :	1. The transmitter was setup to transmit at the lowest channel (TX (CH00)). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was setup to transmit at the highest channel (TX (CH37)). Then the field strength was measured at 2483.5-2500 MHz.		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	30.32	19.97	32.05	62.37	52.02	74.00	54.00	CH00
2483.50	H	30.10	19.79	32.35	62.45	52.14	74.00	54.00	CH37

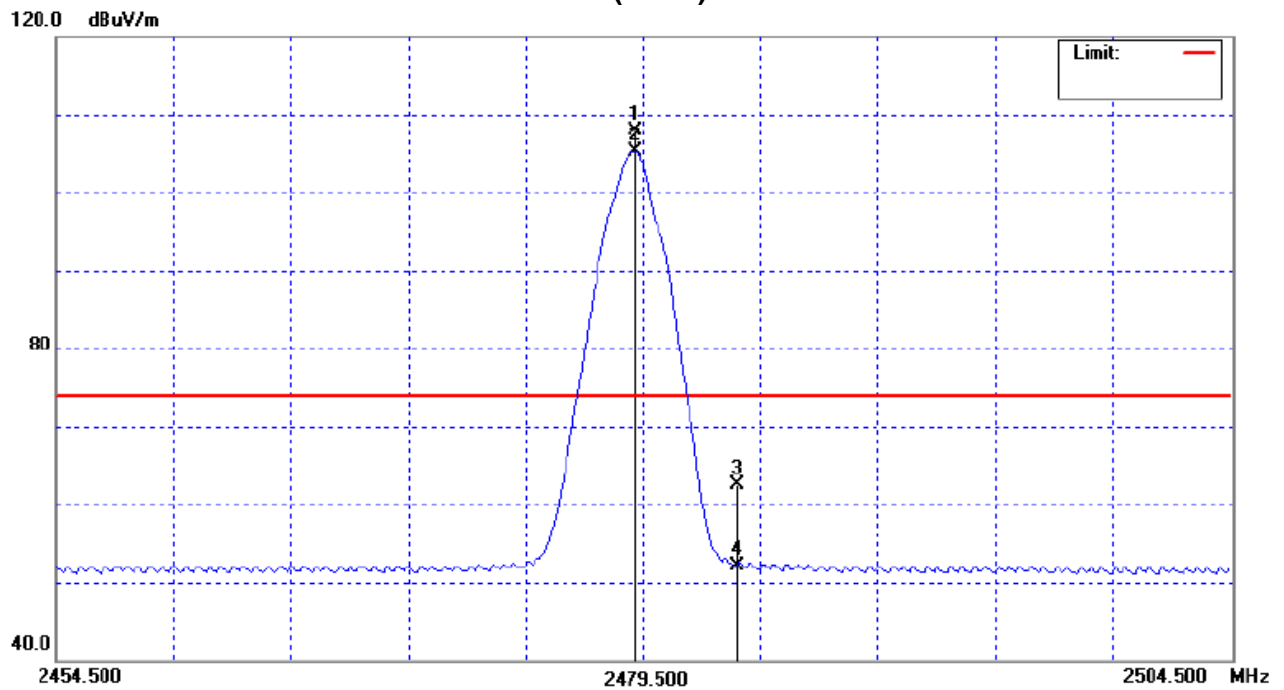
Remark :

- (1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (2) EUT Orthogonal Axis :
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand

Restricted Bands Requirements, Horizontal TX (CH00)



TX (CH37)



5. NUMBER OF HOPPING CHANNEL

5.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247 (a)(1)(ii)	Number of Hopping Channel	2400-2483.5	PASS

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

5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

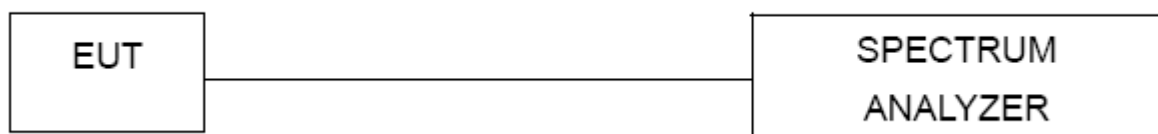
5.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



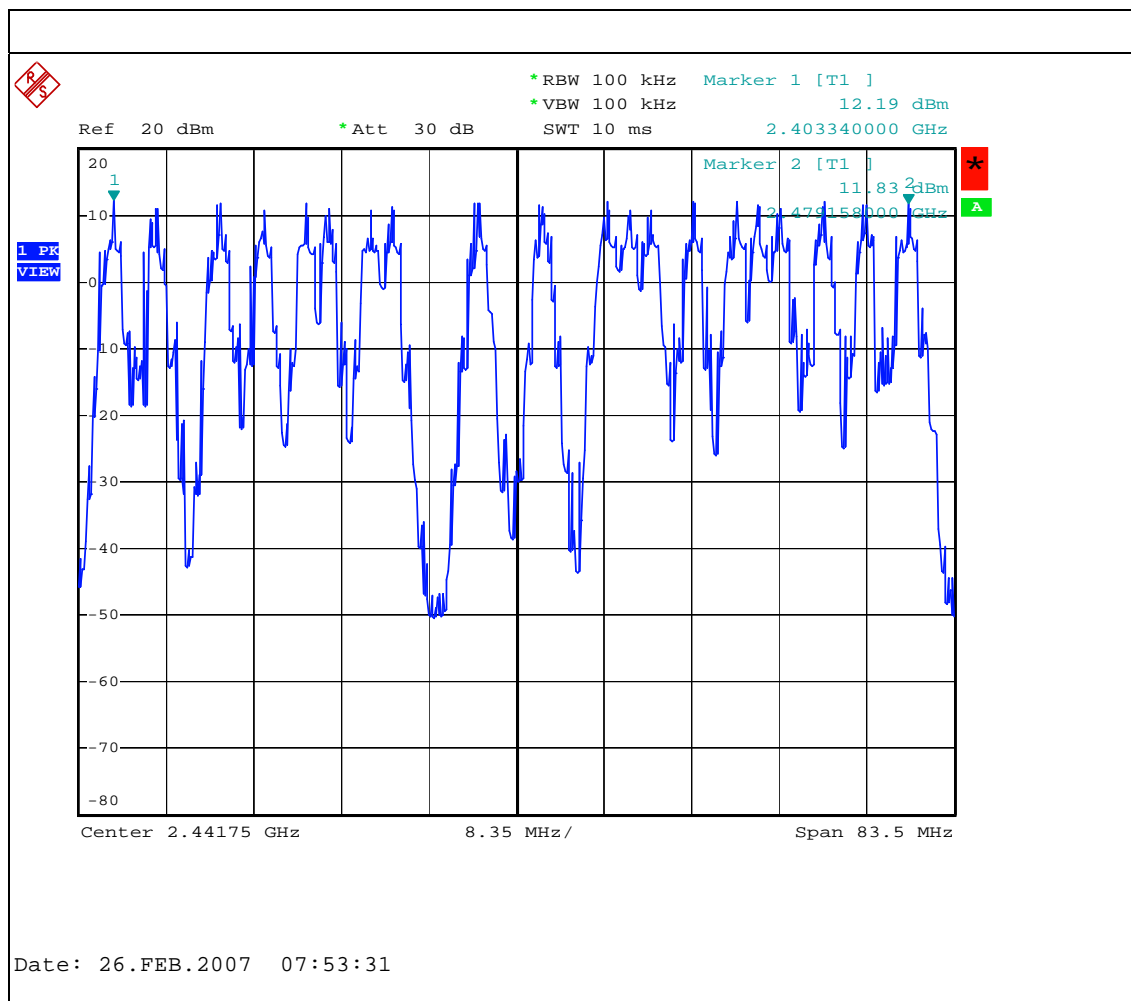
5.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Hopping Mode		

Number of Hopping Channel	20
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6. BANDWIDTH TEST

6.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)	Bandwidth	Minimal 25 kHz or<= 20dB bandwidth	2400-2483.5	PASS

6.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
VB	100 kHz (20dB Bandwidth) / 300 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP



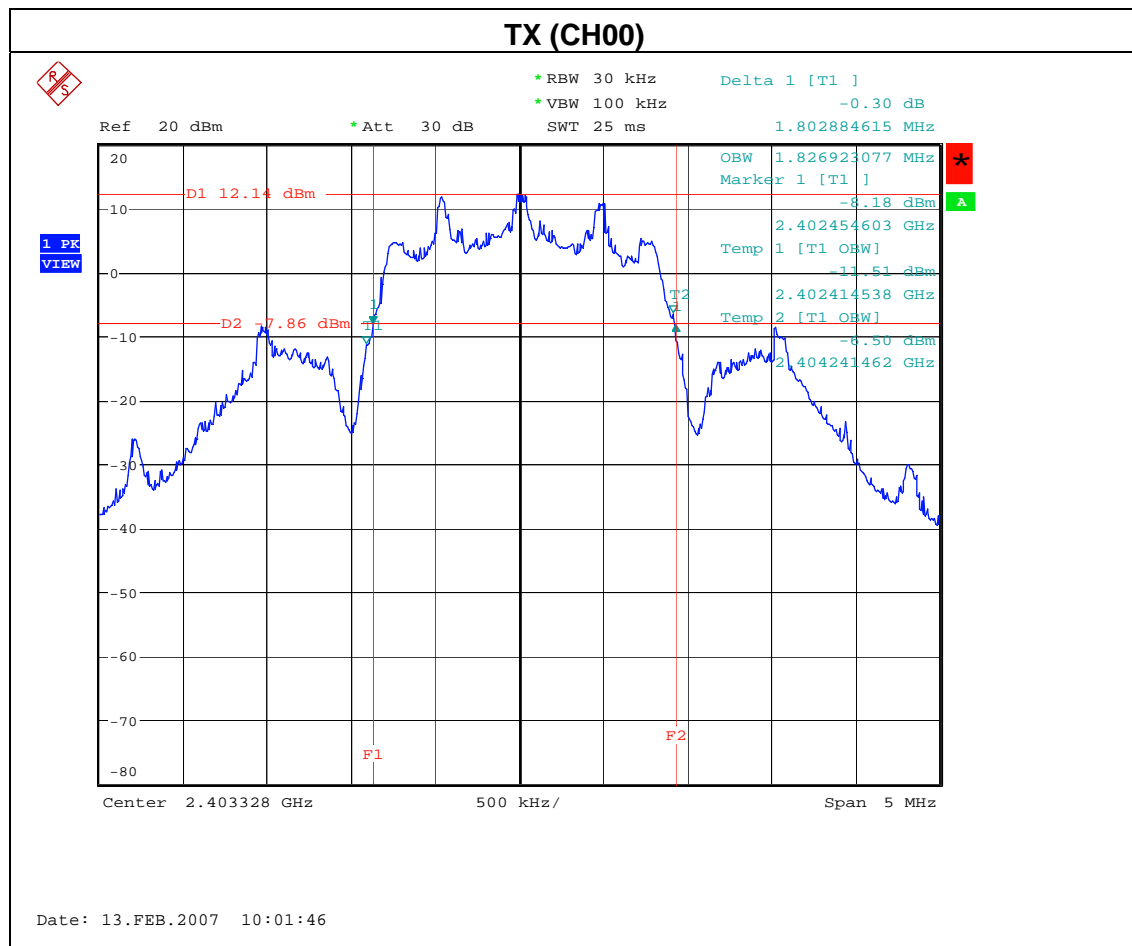
6.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.6 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00) / TX (CH19) /TX (CH37)		

Frequency	20dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2403.328 MHz	1.802	<= 2.048MHz	PASS
2442.240 MHz	1.778	<= 2.048MHz	PASS
2479.104 MHz	1.800	<= 2.048MHz	PASS

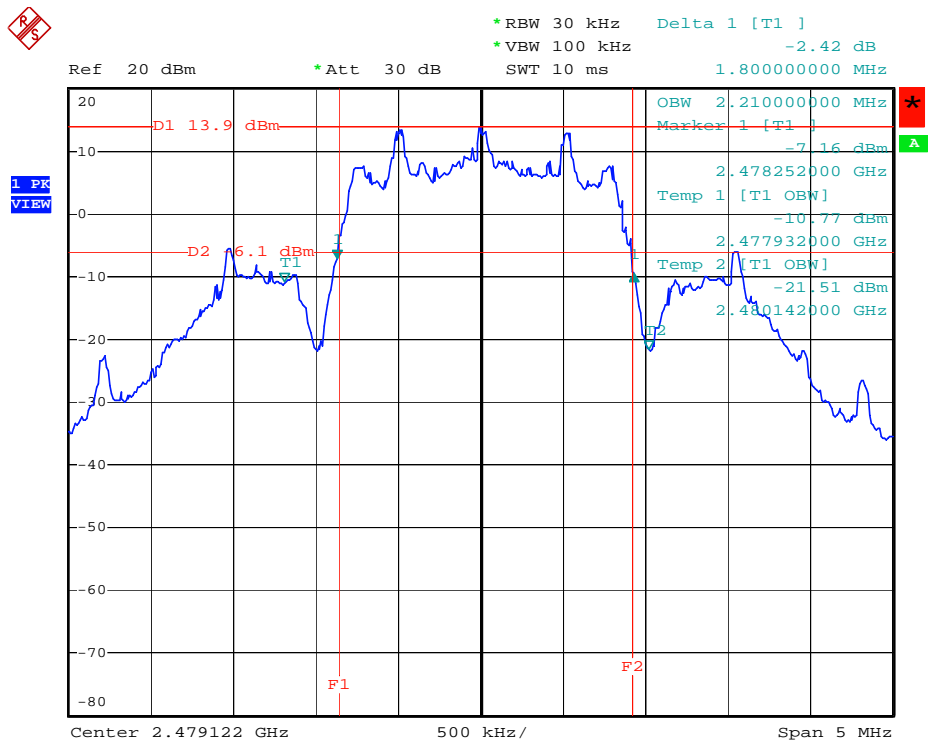


TX (CH19)



Date: 13.FEB.2007 09:54:18

TX (CH37)



Date: 26.FEB.2007 09:30:38

7. PEAK OUTPUT POWER TEST

7.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(1)	Peak Output Power	0.125 Watts	2400-2483.5	PASS

For Hopping with less than 75 channels the max power is 0.125 Watts

7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

7.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 3MHz, VBW= 3MHz, Sweep time = Auto.

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP



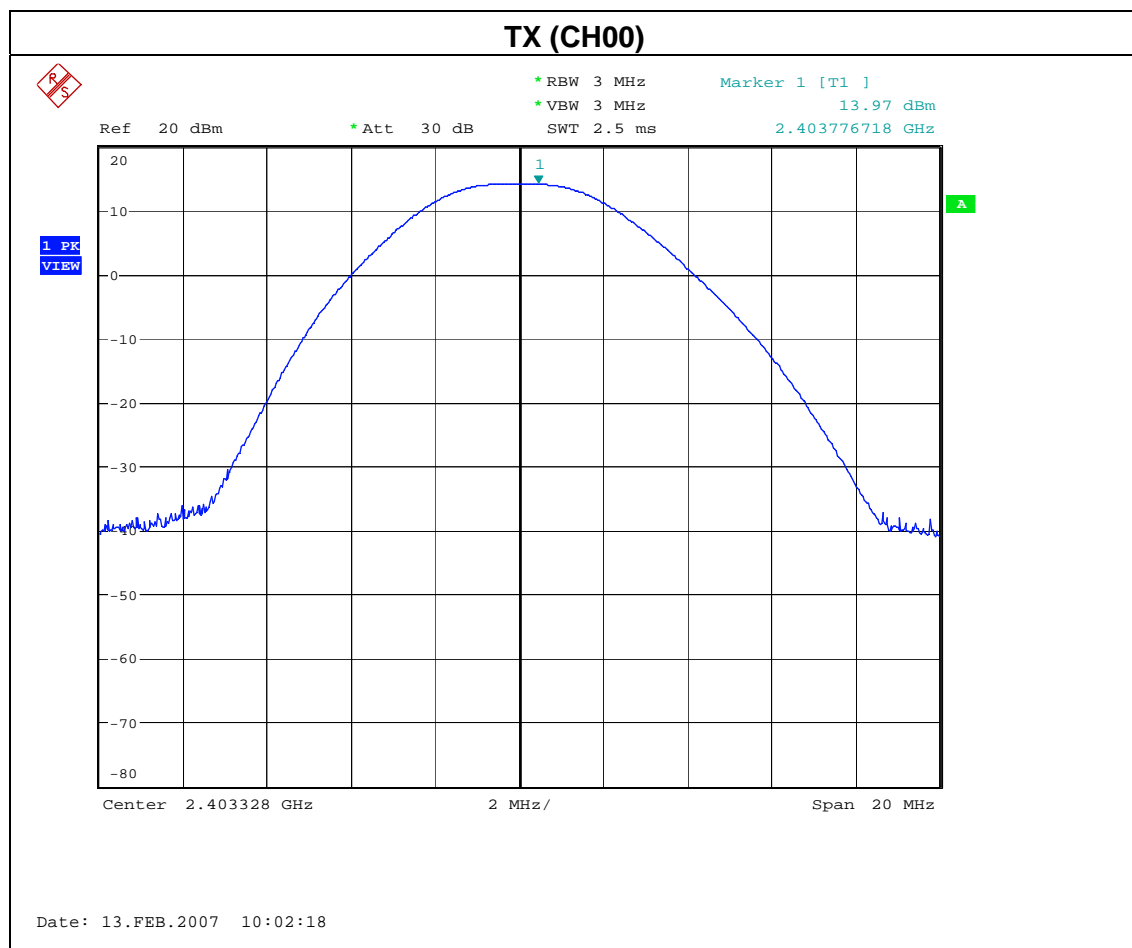
7.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

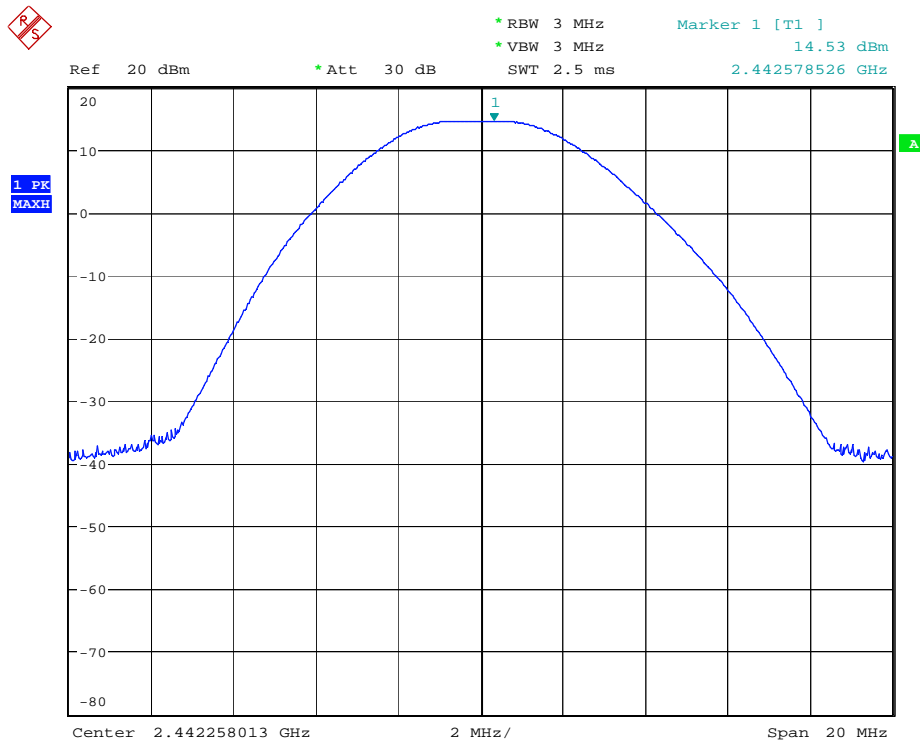
7.1.6 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00)/ TX (CH19) /TX (CH37)		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
TX (CH00)	2403.328	13.97	20.97	0.125
TX (CH19)	2442.240	14.53	20.97	0.125
TX (CH37)	2479.104	15.91	20.97	0.125

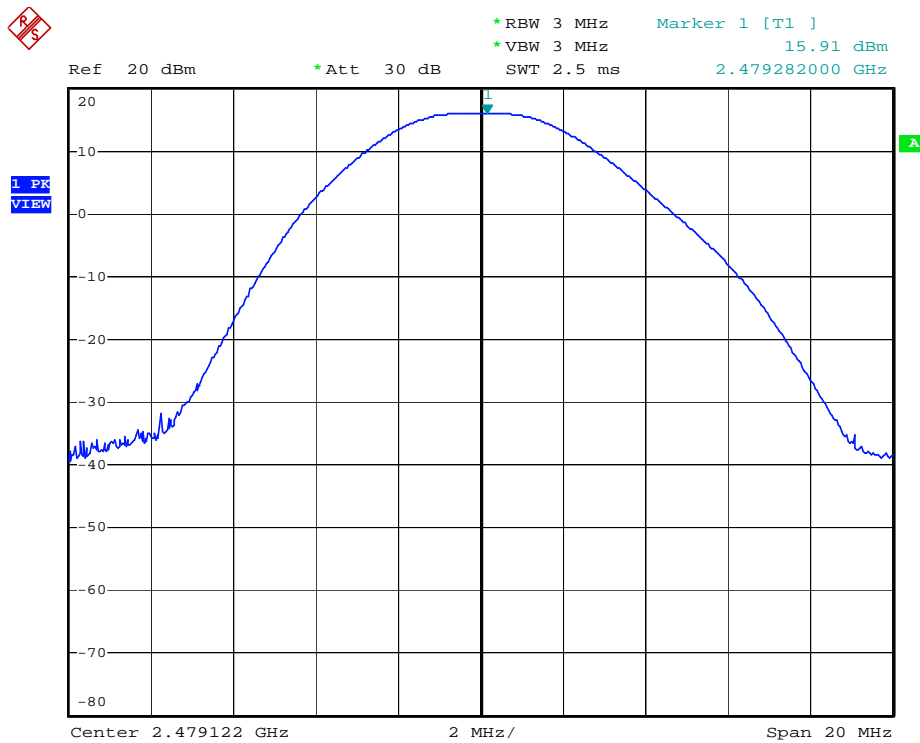


TX (CH19)



Date: 13.FEB.2007 09:46:31

TX (CH37)



Date: 26.FEB.2007 09:31:16

8. ANTENNA CONDUCTED SPURIOUS EMISSION

8.1 Applied procedures / limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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

8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

The following table is the setting of the spectrum analyzer.

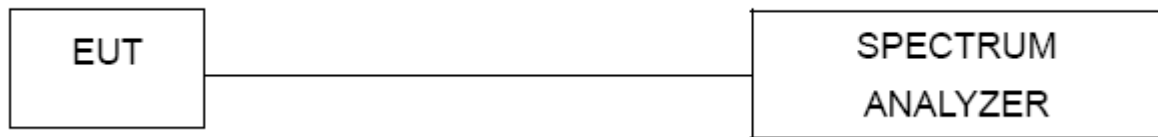
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	100 KHz /100 KHz for Peak

8.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP**8.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.6 TEST RESULTS

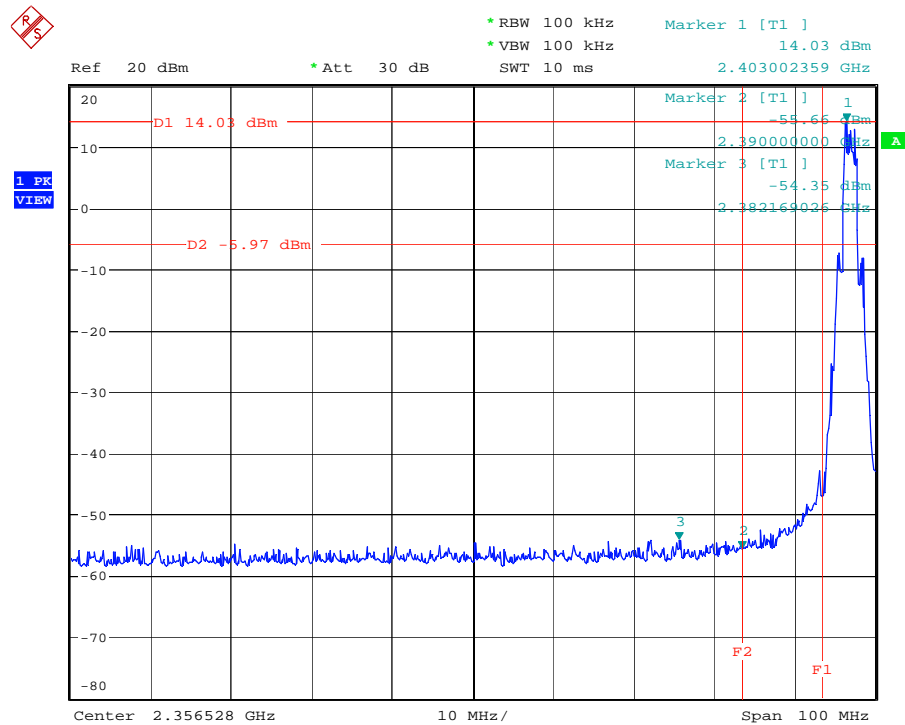
EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00) /TX (CH37)		

The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2390.00	-55.66	2483.500	-47.38

Result

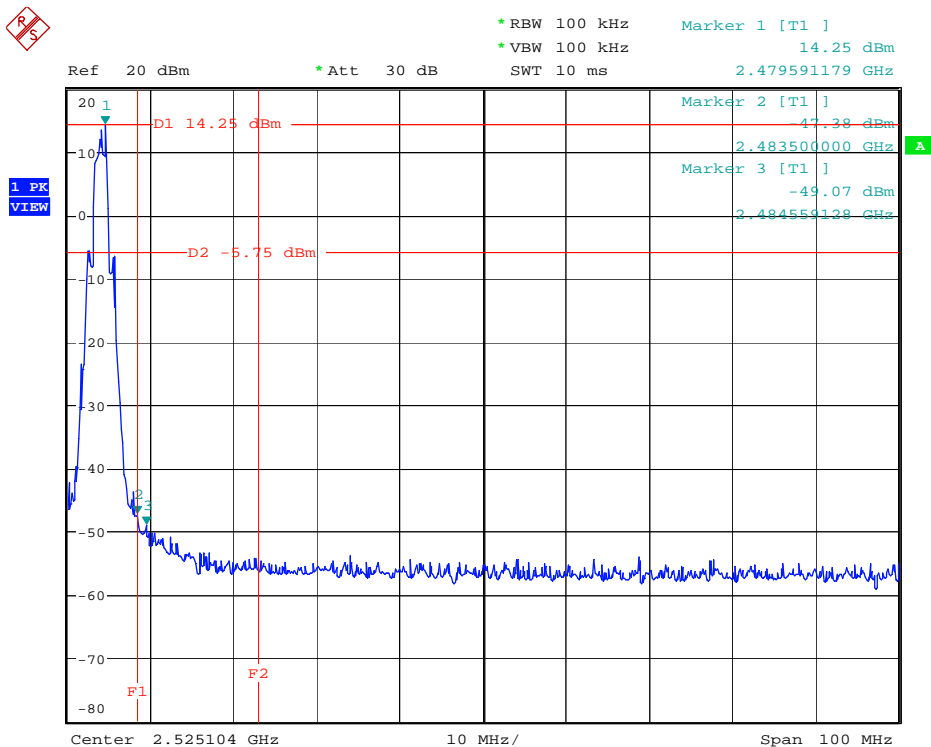
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

TX (CH00) (Lower)



Date: 13.FEB.2007 10:00:23

TX (CH37) (Upper)



Date: 13.FEB.2007 10:04:46

9. RF EXPOSURE TEST

9.1 Applied procedures / limit

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

9.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

9.1.2 MPE CALCULATION METHOD

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

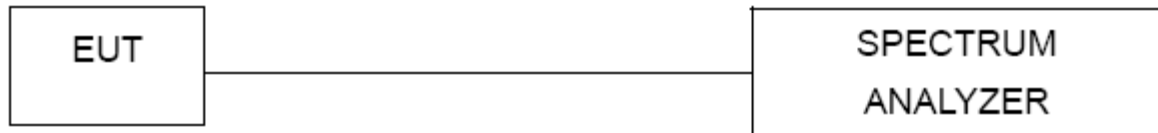
The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP**9.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.1.6 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX (CH00) , TX (CH19), TX (CH37)		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2	1.5849	15.9100	38.9942	0.012301	1	Complies

10. DWELL TIMEN

10.1 Applied procedures / limit

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

Channels in Specified Band Investigated:

38 channel frequency hopping set called out in script provided by customer

10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Jan. 08, 2008

Remark: " N/A" denotes No Model Name, Serial No. or No Calibration specified.

10.1.2 TEST PROCEDURE

Requirement: Per 47 CRF 15.247(a)(1), the average dwell time per hopping channel is measured.

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 38 channels. 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 hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 28 channels are used.

The measurement is made with the spectrum analyzer span set to zero, the resolution bandwidth set to 1 MHz, and the video bandwidth set to 100 kHz. The measurement is made in two steps. First, the sweep speed is adjusted to capture the pulse width or dwell time of a single transmission. Then, the sweep speed is set to 6 seconds to count the number of transmissions during that period. The dwell time of a single transmission multiplied by the number of transmissions during a 6 second period equals the average time of occupancy during a 30 second period.

Dwell time = (single transmission (4.76 mS)) X (Number of channels (38) x 0.4S) = 0.352 Seconds

Configuration: The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The measurements were made using a direct connection between the RF output of EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

10.1.3 DEVIATION FROM STANDARD

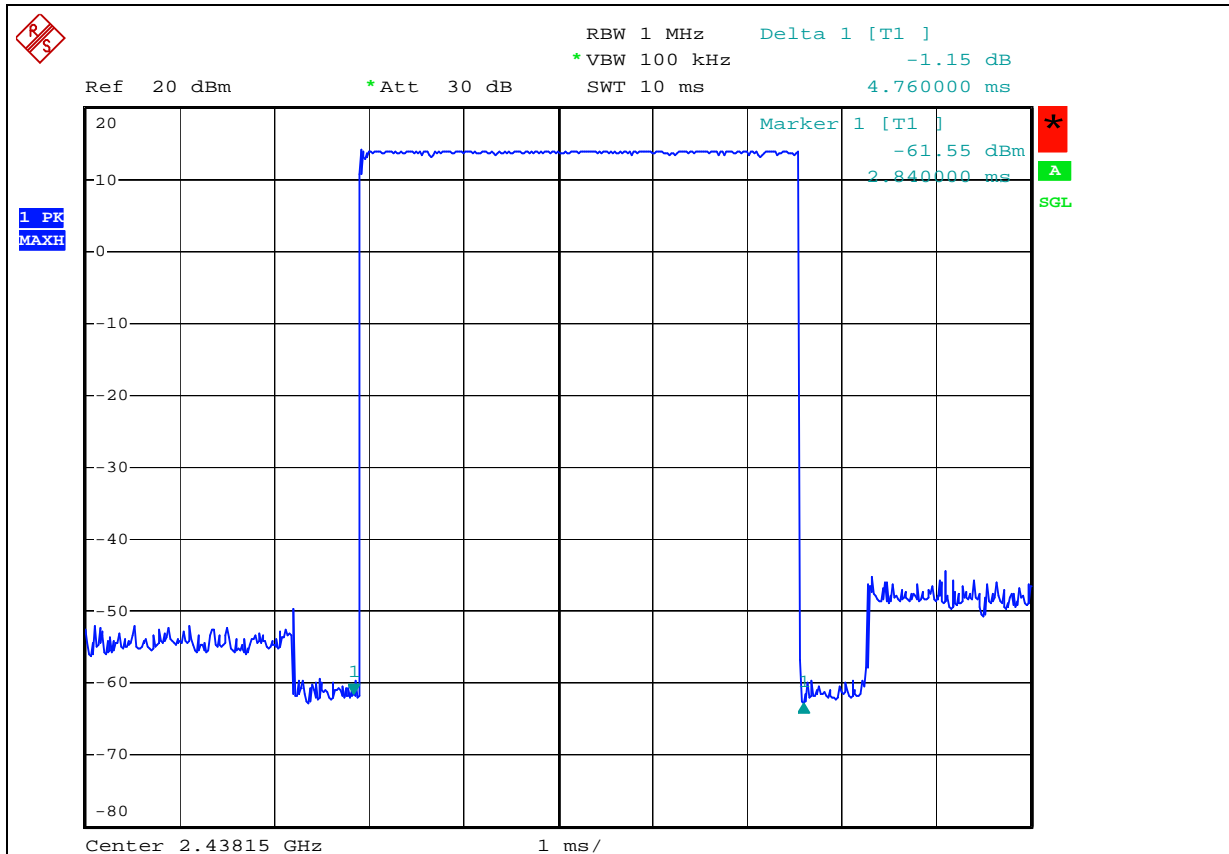
No deviation.

10.1.4 TEST SETUP**10.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

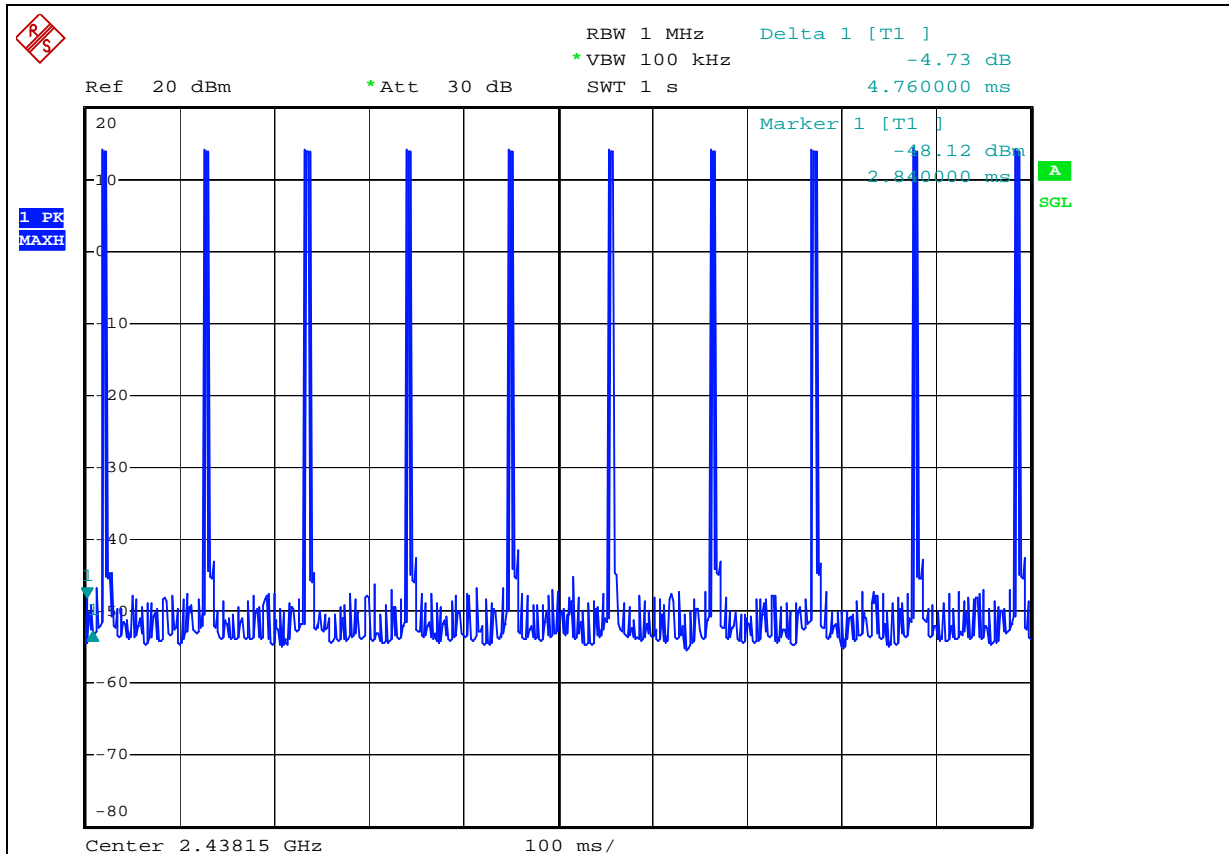
10.1.6 TEST RESULTS

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Dwell Time		



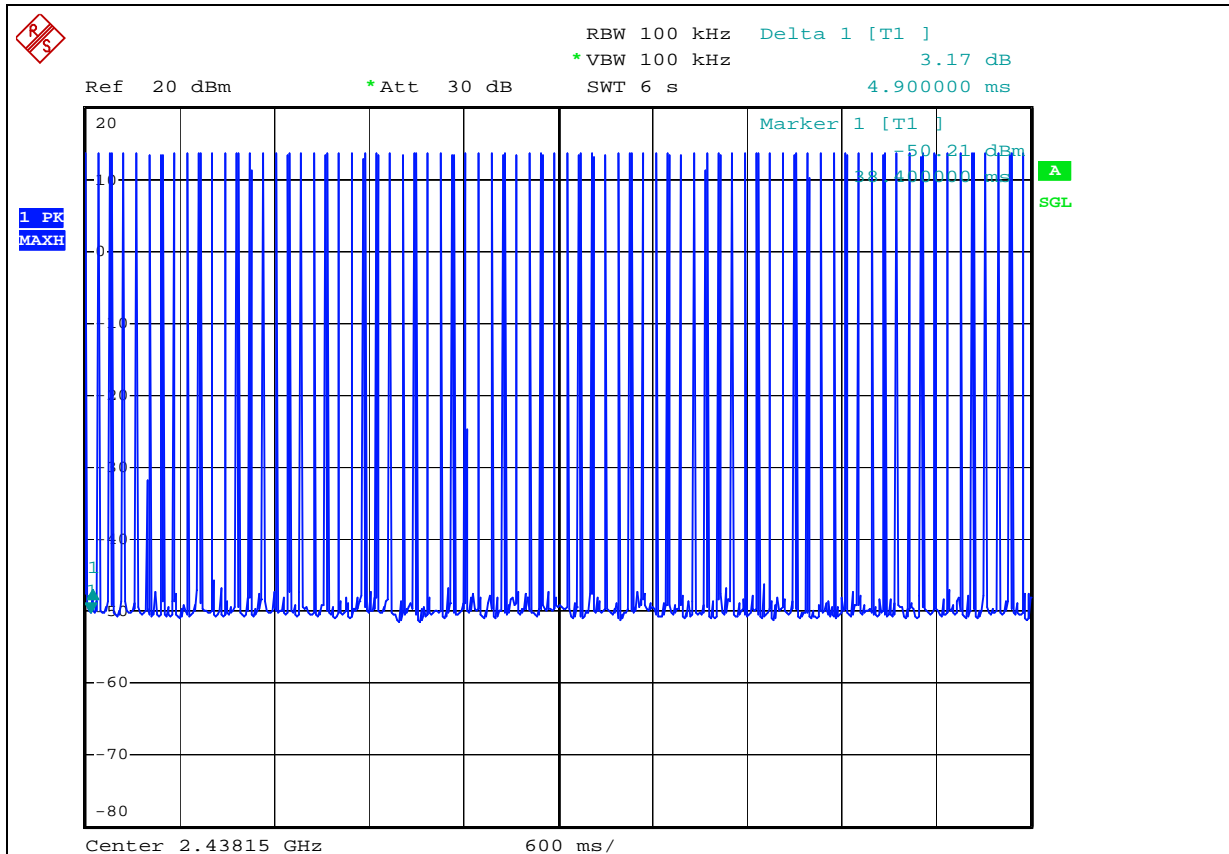
Date: 26.FEB.2007 08:30:23

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Dwell Time (1 Seconds)		



Date: 26.FEB.2007 08:35:08

EUT :	DVD HOME THEATRE SYSTEM	Model No. :	HTS3545W/37
Temperature :	23 °C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Dwell Time (6 Seconds)		

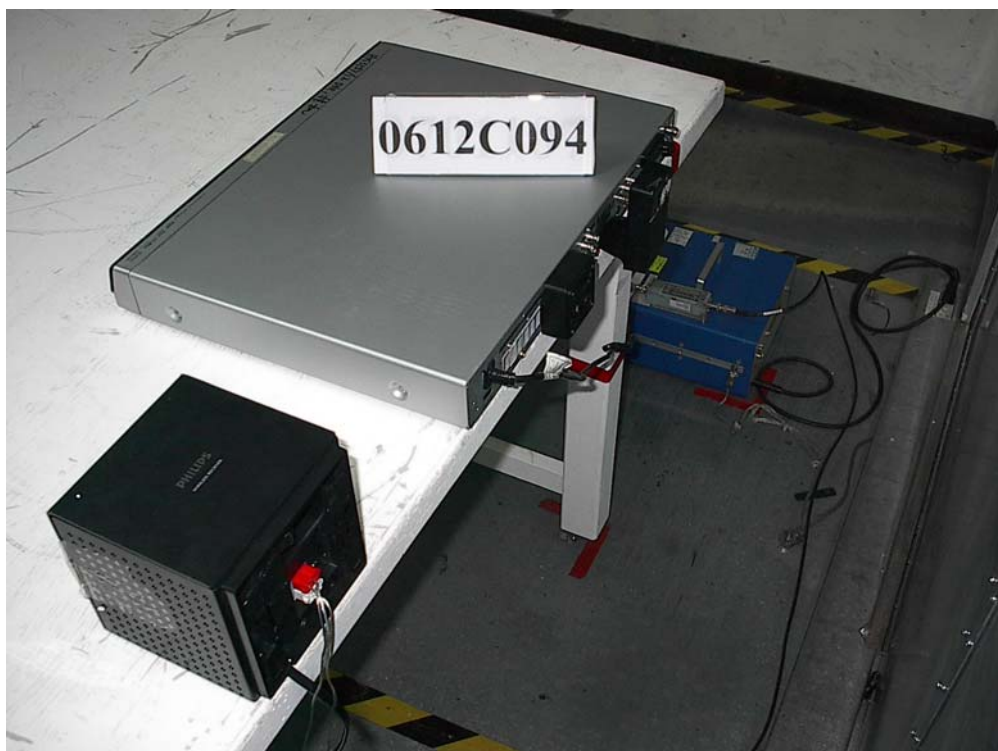


Date: 26.FEB.2007 08:59:31

11. EUT TEST PHOTO

Conducted Measurement Photos

Test Mode: TX



**Radiated Measurement Photos
EUT Orthogonal Axis : X**

