Application for FCC Certification
On behalf of
VTech Communications Ltd.
Digital Satellite Receiver With Integrated DVD Player

Model No.: DVD01
FCC ID: EW7DVD01

Prepared For : VTech Communications Ltd.
23/F, Taiping Industrial Centre, Block 1,
57 Tingkok Road, Taipo, N.T., Hong Kong

Prepared By : AUDIX Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F00025
Date of Test : May 25-June 8, 2000
Date of Report : June 25, 2000

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TEST REPORT FOR FCC CERTIFICATION

Applicant : VTech Communications Ltd.

Manufacturer : VTech Communications Ltd.

EUT Description : Digital Satellite Receiver With Integrated DVD Player

(A) Model No. : DVD01

(B) Serial No. : ACI-20000525001

(C) Power Supply : AC 120V/60Hz

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 1998 AND ANSI C63.4:1992

The device described above is tested by AUDIX Technology (Shanghai) Co., Ltd.

The test results are contained in this test report and AUDIX Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology (Shanghai) Co., Ltd.

Date of Test : May 25-June 8, 2000

Prepared by : (TELLEN KING) Test Engineer : (MAGGIE HSU)

For and on behalf of AUDIX TECHNOLOGY (SHANGHAI) CO.,LTD.

Reviewer : (HALL WANG) Approved Signatory: (JEREMY GENG)

Authorized Signature(s)

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test

Description	:	Digital Satellite Receiver With Integrated DVD Player
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model Number	:	DVD01
Serial No.	:	ACI-20000525001
FCC ID	:	EW7DVD01
Applicant	:	VTech Communications Ltd. 23/F, Taiping Industrial Centre, Block 1, 57 Tingkok Road, Taipo, N.T., Hong Kong
Manufacturer	:	VTech Communications Ltd. 23/F, Taiping Industrial Centre, Block 1, 57 Tingkok Road, Taipo, N.T., Hong Kong
Power Cord	:	Unshielded, Nondetachable, 2.20m
Data Cable (Audio)	:	Unshielded, Detachable, 1.15m
Data Cable (Video)	:	Unshielded, Detachable, 1.15m

1.2 Supported Simulators

(a) TELEVISION

Model Number	:	T2131D
Serial Number	:	HQ818M42928
Manufacturer	:	KONKA
Power Cord	:	Unshielded, Nondetachable, 2.38m
Audio Cable	:	Unshielded, Detachable, 1.50m
Video Cable	:	Unshielded, Detachable, 1.50m
S-Video Cable	:	Shielded, Detachable, 1.70m

(b) COLOR TV PATTEM GENERATOR

Model Number	:	DM5418TDSI
Serial Number	:	9452 054 18761
Manufacturer	:	PHLIPS
Power Cord	:	Unshielded, Detachable, 2.30m
Data Cable	:	Shielded, Detachable, 1.00m

1.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber)	:	Sept. 17, 1998 file on Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, USA
Name of Firm	:	AUDIX Technology (Shanghai) Co., Ltd.
Site Location	:	3 F., 34 Bldg., 680 Guiping Rd., Caohejing Hi-Tech Park, Shanghai, China
NVLAP Lab Code	:	200371-0

1.4 Measurement Uncertainty

Conducted Emission Uncertainty	:	U=2.66dB
Radiated Emission Uncertainty	:	U=3.90dB

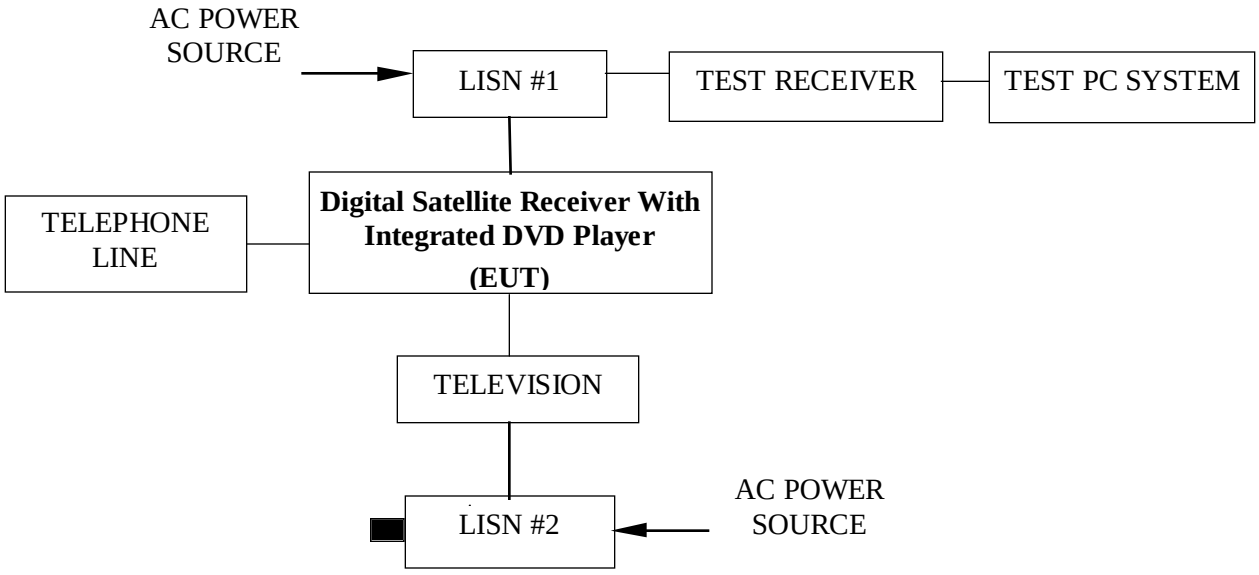
2 CONDUCTED EMISSION TEST

2.1 Test Equipment

The following test equipment are used during the conducted emission test in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	844077/020	May 24, 2000	1 Year
2.	Line Impedance Stabilization Network (LISN) #1	Kyoritsu	KNW-407	8-1280-4	Jun 04, 2000	1 Year
3.	LISN #2	Kyoritsu	KNW-407	8-1280-5	Apr 27, 2000	1 Year

2.2 Block Diagram of Test Setup



: 50 Ω TERMINATOR
: SIGNAL LINE
: POWER LINE

2.3 Conducted Emission Limit

Frequency (MHz)	Maximum RF Line Voltage	
	(μV)	dB(μV)
0.45 ~ 30	250	48
NOTE 1 – RF Line Voltage dB(μV) = 20 log RF Line Voltage (μV)		

2.4 Test Configuration

The EUT (listed in Sec. 1.1) and the supported simulator (listed in Sec 1.2) were installed to meet FCC requirement and operating in a manner which tends to maximize its emission level in a normal application.

2.5 Operating Condition of EUT

(a) Setup the EUT and the simulator as shown in section 2.2.

(b) Turn on the power of all equipment.

(c) The EUT was in Sat mode;

(d) Inserted the Demonstration DVD into the EUT;

(e) The EUT will be in DVD mode.

(f) Turn off the power of EUT, the EUT will be in TV mode.

2.6 Test Procedure

The EUT was connected to the power mains through a Line Impedance Stabilization Network (LISN #1). The other supported simulated device power cords was connected to the power mains through LISN #2. This provided a 50 Ω coupling impedance for the measuring equipment.
Both sides of AC line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4-1992 during conducted emission test.
The bandwidth of Test Receiver ESHS10 was set at 10 kHz.
The frequency range from 450 kHz to 30 MHz was checked. The test mode (Sat mode, DVD mode, TV mode) were done on conducted emission test and the emission of Sat mode and DVD mode were higher, only the test results of Sat mode and DVD mode are listed in Sec. 2.7.
The waveform is attached in APPENDIX I.

2.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

EUT	:	Digital Satellite Receiver With Integrated DVD Player	Temperature :	22	
Model No.	:	DVD01	Humidity	:	53%
Test Mode	:	SAT mode	Date of Test	:	June 3, 2000

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	17.972	0.40	34.66	35.06	48.00	12.94
	18.431	0.40	33.60	34.00	48.00	14.00
	20.300	0.41	38.63	39.04	48.00	8.96
	21.802	**0.44**	**40.63**	**41.07**	**48.00**	**6.93**
	22.642	0.46	36.82	37.28	48.00	10.72
	24.114	0.48	35.33	35.81	48.00	12.19
VB	17.673	0.50	25.49	25.99	48.00	22.01
	18.981	0.50	34.01	34.51	48.00	13.49
	20.130	0.50	38.54	39.04	48.00	8.96
	21.986	0.50	37.19	37.69	48.00	10.31
	23.613	0.50	36.08	36.58	48.00	11.42
	25.575	0.54	37.07	37.61	48.00	10.39

Note 1. Emission Level = Meter Reading + Factor
Note 2. Factor = Insertion Loss + Cable Loss
Note 3. All reading are Quasi-Peak Values.
Note 4. The worst emission is detected at 21.802 MHz with corrected signal level of 41.07dB(μV) (limit is 48.00 dB(μV)), when the VA of the EUT is connected to LISN.

TEST ENGINEER: Maggie hsu
(MAGGIE HSU)

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

EUT :	Digital Satellite Receiver With Integrated DVD Player	Temperature :	22
Model No. :	DVD01	Humidity :	53%
Test Mode :	DVD mode	Date of Test :	June 3, 2000

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	17.673	0.40	33.95	34.35	48.00	13.65
	18.586	0.40	33.73	34.13	48.00	13.87
	19.302	0.40	37.84	38.24	48.00	9.76
	21.620	0.43	37.48	37.91	48.00	10.09
	23.913	**0.48**	**38.34**	**38.82**	**48.00**	**9.18**
	24.938	0.50	35.31	35.81	48.00	12.19
VB	2.571	0.43	26.13	26.56	48.00	21.44
	4.185	0.48	29.93	30.41	48.00	17.59
	19.629	0.50	35.91	36.41	48.00	11.59
	21.260	0.50	36.61	37.11	48.00	10.89
	22.642	0.50	36.68	37.18	48.00	10.82
	25.149	0.51	36.81	37.32	48.00	10.68

Note 1. Emission Level = Meter Reading + Factor
Note 2. Factor = Insertion Loss + Cable Loss
Note 3. All reading are Quasi-Peak Values.
Note 4. The worst emission is detected at 23.913 MHz with corrected signal level of 38.82dB(μV) (limit is 48.00 dB(μV)), when the VA of the EUT is connected to LISN.

TEST ENGINEER: Maggie.hsu
(MAGGIE HSU)

3 RADIATED EMISSION TEST

3.1 Test Equipment

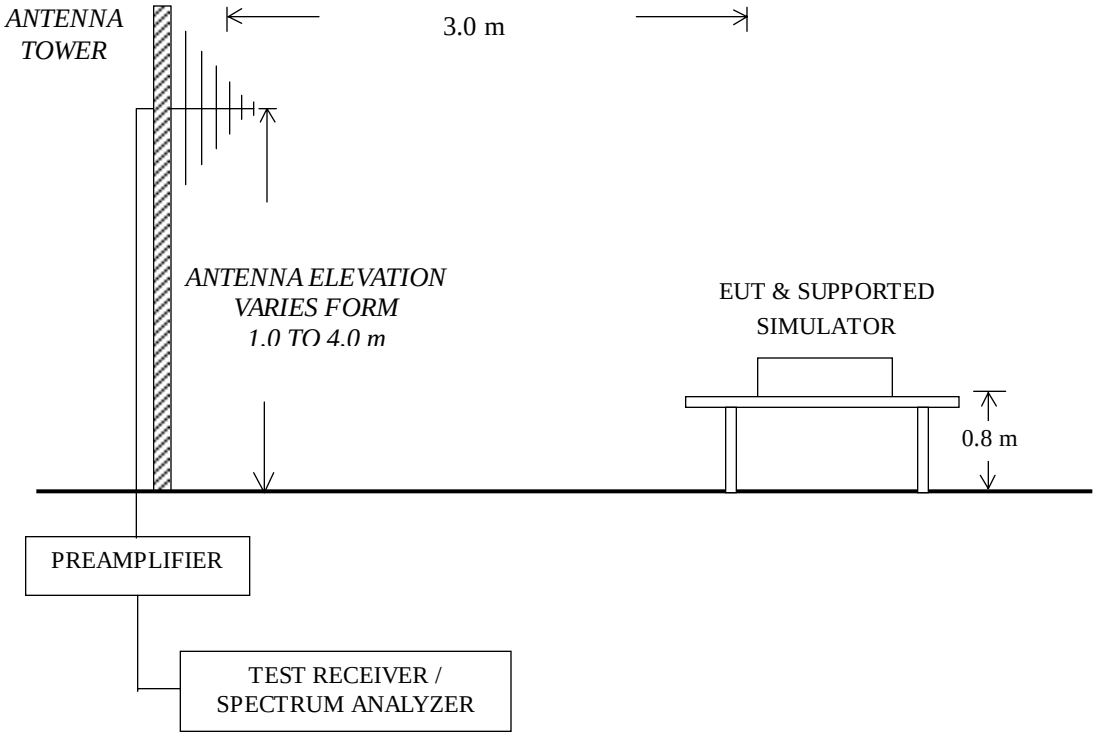
The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	May 28,2000	1 Year
2.	Preamplifier	HP	8447D	2944A06849	June 03, 2000	1/2 Year
3.	Bilog Antenna	Chase	CBL6111	1146	June 02, 2000	1/2 Year
4.	Test Receiver	Rohde & Schwarz	ESVS10	844594/001	May 24,2000	1 Year

3.2 Block Diagram of Test Setup

(a) EUT and supported simulator

(b) Radiated emission test setup



3.3 Radiated Emission Limit

Frequency (MHz)	Distance (m)	Field strength limits (μV/m)	
		(μV/m)	dB(μV/m)
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

Note 1. Emission Level dB(μV/m) = 20 log Emission Level (μV/m)
Note 2. The tighter limit applies at the band edges.
Note 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4 Test Configuration

The configuration of the EUT and simulators are same as those used in conducted test.

Please refer to Sec. 2.4.

3.5 Operating Condition of EUT

Same as conducted test which is listed in Sec. 2.5, except the test set up replaced by Sec. 3.2.

3.6 Test Procedure

The EUT and simulator were placed on a turn table which is 0.8 meter above ground. The turn table rotated 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 an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) or dipole antenna were used as receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C 63.4-1992 requirements during radiated emission test.

The bandwidth setting on Test Receiver ESVS10 was 120 kHz.

The frequency range from 30 MHz to 1000 MHz was checked. The test mode (Sat mode, DVD mode, TV mode) were done on radiated emission test and the emission of Sat mode and DVD mode were higher, only the test results of Sat mode and DVD mode are listed in Sec. 3.7.

3.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

EUT	:	Digital Satellite Receiver With Integrated DVD Player	Temperature :	22
Model No.	:	DVD01	Humidity :	53%
Test Mode	:	Sat mode	Date of Test :	June 6, 2000

Polarization	Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV/m)	Limits dB(μV/m)	Margin (dB)
Horizontal	136.500	11.60	3.96	25.10	48.90	39.36	43.50	4.14
	318.500	**14.80**	**5.94**	**25.30**	**47.30**	**42.74**	**46.00**	**3.26**
	364.000	15.86	6.41	25.69	43.80	40.38	46.00	5.62
	390.100	16.43	6.66	25.91	44.30	41.48	46.00	4.52
	409.500	16.94	6.88	26.05	44.40	42.17	46.00	3.83
	837.000	23.37	10.84	26.51	33.40	41.10	46.00	4.90
Vertical	115.200	12.57	3.59	25.10	48.00	39.06	43.50	4.44
	136.500	11.60	3.96	25.10	50.30	40.76	43.50	2.74
	381.700	16.26	6.59	25.86	40.90	37.89	46.00	8.11
	409.400	**16.94**	**6.88**	**26.05**	**46.15**	**43.92**	**46.00**	**2.08**
	459.000	18.51	7.51	26.42	39.30	38.90	46.00	7.10
	623.538	20.79	8.93	26.70	38.90	41.92	46.00	4.08

Note 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Preamp Factor
Note 2. All reading are Quasi-Peak values.
Note 3. The worst emission at horizontal polarization was detected at 318.500 MHz with corrected signal level of 42.74 dB(μV/m) (limit is 46.00 dB(μV/m)), when the antenna was 1.17m height and the turn table was at 149°.
Note 4. The worst emission at vertical polarization was detected at 409.400 MHz with corrected signal level of 43.92 dB(μV/m) (limit is 46.00 dB(μV/m)), when the antenna was 1.00m height and the turn table was at 212°.
Note 5. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
Note 6. At the frequency 318.500, 409.500, 136.500, 409.400 MHz, the measured result is below the specification limit by a margin less than the measurement uncertainty. It is not therefore possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a higher probability that the product tested complies with the specification limit.

TEST ENGINEER: Maggie.hsu
(MAGGIE HSU)

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

EUT	:	Digital Satellite Receiver With Integrated DVD Player	Temperature :	22	
Model No.	:	DVD01	Humidity	:	53%
Test Mode	:	DVD mode	Date of Test	:	June 6, 2000

Polarization	Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV/m)	Limits dB(μV/m)	Margin (dB)
Horizontal	136.500	11.60	3.96	25.10	45.10	35.56	43.50	7.94
	180.000	9.52	4.55	25.10	49.00	37.97	43.50	5.53
	318.500	14.80	5.94	25.30	38.50	33.94	46.00	12.06
	364.000	**15.86**	**6.41**	**25.69**	**47.90**	**44.48**	**46.00**	**1.52**
	405.000	16.80	6.82	26.03	38.10	35.69	46.00	10.31
	409.500	16.94	6.88	26.05	42.70	40.47	46.00	5.53
Vertical	49.870	8.54	2.40	25.37	49.30	34.87	40.00	5.13
	115.200	12.57	3.59	25.10	49.10	40.16	43.50	3.34
	136.500	11.60	3.96	25.10	50.90	41.36	43.50	2.14
	364.000	15.86	6.41	25.69	48.10	44.68	46.00	1.32
	405.000	16.80	6.82	26.03	39.40	36.99	46.00	9.01
	409.500	**16.94**	**6.88**	**26.05**	**47.30**	**45.07**	**46.00**	**0.93**

NOTE 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Preamp Factor
NOTE 2. All reading are Quasi-Peak values.
NOTE 3. The worst emission at horizontal polarization was detected at 364.000 MHz with corrected signal level of 44.48 dB(μV/m) (limit is 46.00 dB(μV/m)), when the antenna was 1.00m height and the turn table was at 351°.
NOTE 4. The worst emission at vertical polarization was detected at 409.500 MHz with corrected signal level of 45.07 dB(μV/m) (limit is 46.00 dB(μV/m)), when the antenna was 1.00m height and the turn table was at 176°.
NOTE 5. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
NOTE 6. At the frequency 364.000, 115.200, 136.500, 364.000, 409.500 MHz, the measured result is below the specification limit by a margin less than the measurement uncertainty. It is not therefore possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a higher probability that the product tested complies with the specification limit.

TEST ENGINEER: Maggie hsu
(MAGGIE HSU)

4 OUTPUT SIGNAL LEVEL MEASUREMENT

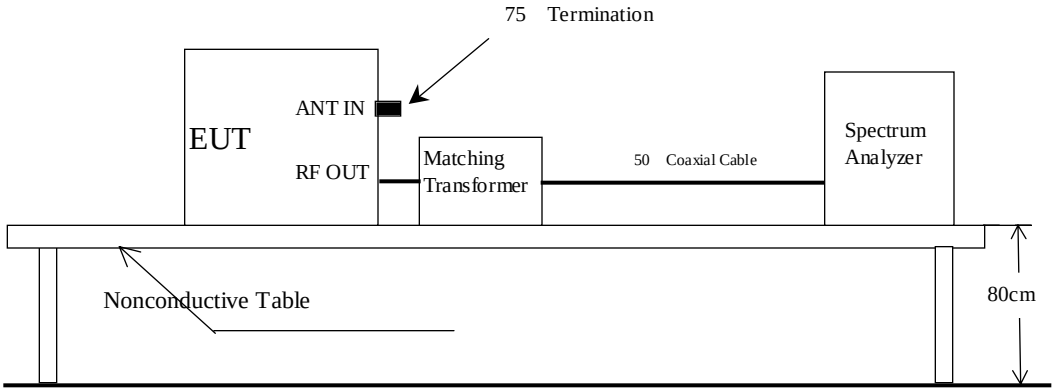
4.1 Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	May 28,2000	1 Year

4.2 Block Diagram of Test Setup

(a) DVD mode and Sat mode

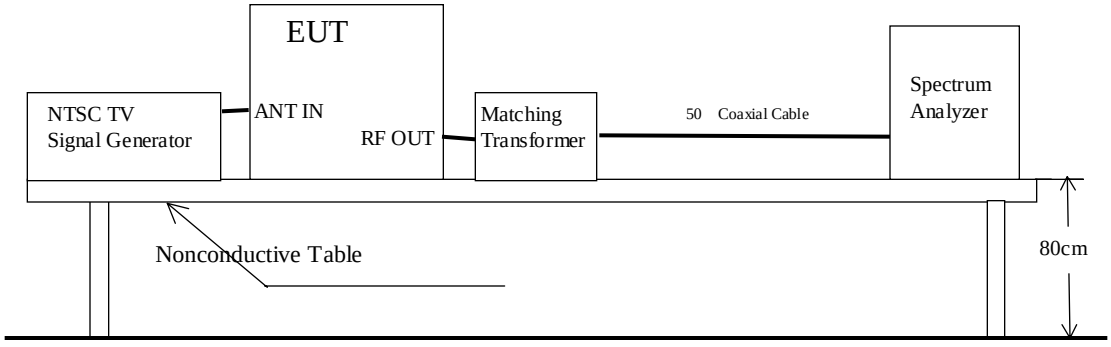
Shielded Room



Metallic Ground Plane

(b) TV mode (0dBmV NTSC TV Signal Input)

Shielded Room



Metallic Ground Plane

4.3 Output Signal Limit

FCC Rule Part 15,§15.115 (b) (1) (ii)

4.4 Test Procedure

(a) Configurate the EUT System in accordance with ANSI C63.4-1992 section 12.2.

see also the block diagram and the photographs of EUT System configuration in this report.

(b) Unused RF input/output terminals are terminated in the proper impedance.

(c) Activate the EUT system.

(d) Set the spectrum analyzer as follows.

Frequency Span	: 1 MHz
Resolution bandwidth	: 100 kHz
Video bandwidth	: 3 MHz
Detector function	: Peak mode

(e) The RF output terminal is connected to the spectrum analyzer through the matching transformer with a calibrated 50 coaxial cable.

(f) Then, the RF output signal level is measured under the EUT condition produced the maximum signal level.

4.5 Test Results

EUT	:	Digital Satellite Receiver With Integrated DVD Player	Temperature	:	20
Model No.	:	DVD01	Humidity	:	53%
Test Mode	:	DVD, Sat and TV mode	Date of Test	:	June 8, 2000

Emission Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBμV) 50	Signal Level (dBμV) 75	Limits (dBμV) 75	Margin (dB)
Test Channel #3					
61.25	2.0	64.83	66.83	69.5	2.67
65.75	2.0	51.20	53.20	56.5	3.30
Test Channel #4					
67.25	2.1	65.26	67.36	69.5	2.14
71.75	2.1	50.77	52.87	56.5	3.63

Note1. The correction factor consist of the voltage loss of the impedance matching transformer and the coaxial cable used for the test.

Note2. The spectrum was checked in each test mode and operation mode, and the maximum measured data was reported.

Note3. Sample Calculation

Frequency : 61.25MHz (Test Channel#3)
Meter Reading : 64.83 dB∝V/50
Correction Factor : 2.0 dB
Then, the output signal level is calculated as follows.
Signal Level= 64.83 + 2.0 =66.83 dB∝V/75

Note4. Summary of Test Results

Minimum margin was 2.14 dB at 67.25 MHz, test channel #4.

TEST ENGINEER: Maggie Hsu
(MAGGIE HSU)

5 OUTPUT TERMINAL CONDUCTED SPURIOUS EMISSION MEASUREMENT

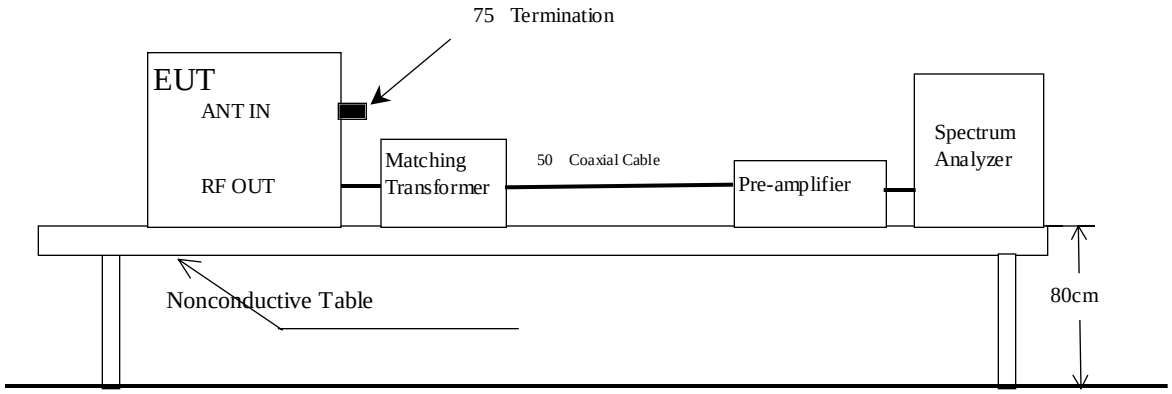
5.1 Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	May 28,2000	1 Year
2.	Preamplifier	HP	8447D	2944A06664	June 10,2000	1/2 Year

5.2 Block Diagram of Test Setup

(a) DVD mode and Sat mode

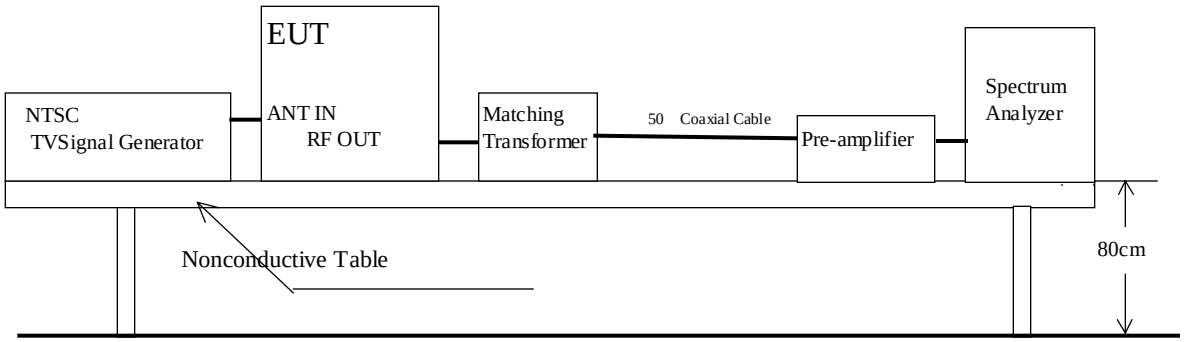
Shielded Room



Metallic Ground Plane

(b) TV mode (0dBMV NTSC TV Signal Input)

Shielded Room



Metallic Ground Plane

5.3 Output Signal Limits

FCC Rule Part 15,§15.115 (b) (2) (ii)

5.4 Test Procedure

(a) Configurate the EUT System in accordance with ANSI C63.4-1992 section 12.2.

See also the block diagram and the photographs of EUT System configuration in this report.

(b) Unused RF input/output terminals in the proper impedance.

(c) Activate the EUT system.

(d) Set the spectrum analyzer as follows.

Frequency Span	: 1 MHz
Resolution bandwidth	: 100 kHz
Video bandwidth	: 3 MHz
Detector function	: Peak mode

(e) The RF output terminal is connected to the spectrum analyzer through the matching transformer with a calibrated 50 coaxial cable.

(f) The spectrum was scanned from 30 MHz to more than 4.6 MHz below the visual carrier frequency, and from more than 7.4 MHz above the visual carrier frequency to 1000 MHz, and the three highest emissions are selected under the EUT condition produced the maximum signal level at each frequency range.

(g) Then, the RF output terminal conducted spurious emission level is measured under the EUT condition produced the maximum signal level.

5.5 Test Results

EUT	:	Digital Satellite Receiver With Integrated DVD Player	Temperature :	20	
Model No.	:	DVD01	Humidity :	53%	
Test Mode	:	DVD, Sat and TV mode	Date of Test :	June 8, 2000	

Emission Frequency [MHz]	Correction Factor dB	Meter Reading (dBμV) 50	Signal Level (dBμV) 75	Limits (dBμV) 75	Margin (dB)
Test Channel #3					
47.79	-23.3	37.18	13.88	39.5	25.62
54.09	-23.3	45.38	22.08	39.5	17.42
54.50	-23.3	44.03	20.73	39.5	18.77
56.23	-23.3	43.94	20.64	39.5	18.86
68.45	-23.2	35.17	11.97	39.5	27.53
74.83	-23.2	37.43	14.23	39.5	25.27
Test Channel #4					
58.25	-23.3	31.37	8.07	39.5	31.43
60.05	-23.3	35.15	11.85	39.5	27.65
61.96	-23.3	35.11	11.81	39.5	27.69
74.41	-23.2	35.08	11.88	39.5	27.62
76.25	-23.2	31.28	8.08	39.5	31.42
80.79	-23.2	36.78	13.58	39.5	25.92

Note1. The correction factor consist of the voltage loss of the impedance matching transformer and the coaxial cable used for the test, and consist of the gain of pre-amplifier.

Note2. The spectrum was checked in each test mode and operation mode, and the maximum measured data was reported.

Note3. Sample Calculation

Frequency : 47.79 MHz (Test Channel #3)
Meter Reading : 37.18 dBμV/50
Correction Factor : -23.3 dB

Then, the output signal level is calculated as follows.

Signal Level= 37.18 – 23.3 = 13.88 dBμV/75

Note4. Summary of Test Results

Minimum margin was 17.42 dB at 54.09 MHz, test channel #3.

TEST ENGINEER: Maggie Hsu
(MAGGIE HSU)

6 TRANSFER SWITCH MEASUREMENT

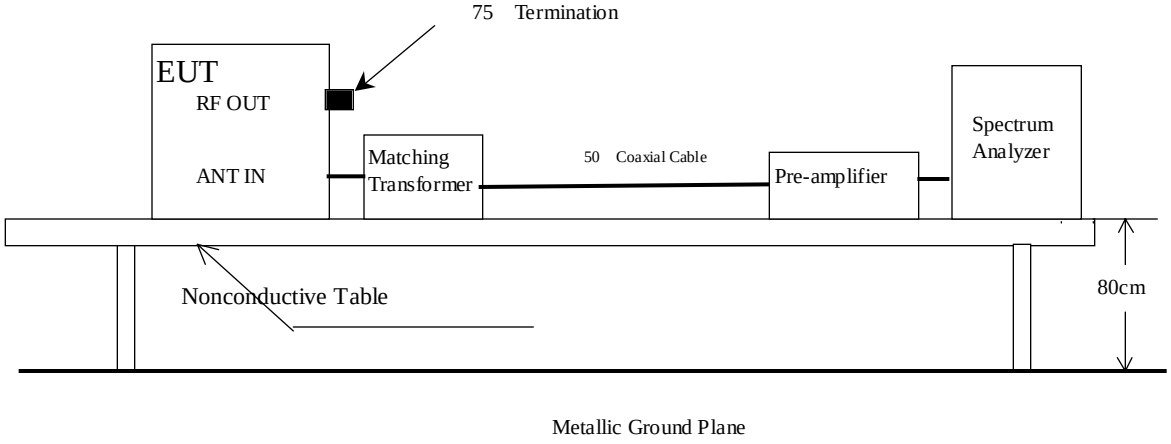
6.1 Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	May 28,2000	1 Year
2.	Preamplifier	HP	8447D	2944A06664	June 10,2000	1/2 Year

6.2 Block Diagram of Test Setup

(a) DVD mode and Sat mode

shielded Room



6.3 Limit of the signal appearing at the receiving antenna input terminals

FCC Rule Part 15,§15.115 (c) (1) (ii).

6.4 Test Procedure

(a) Configurate the EUT System in accordance with ANSI C63.4-1992 section 12.2.

see also the block diagram and the photographs of EUT System configuration in this report.

(b) Unused RF input/output terminals are terminated in the proper impedance.

(c) Activate the EUT system.

(d) Set the spectrum analyzer as follows.

Frequency Span	: 1 MHz
Resolution bandwidth	: 100 kHz
Video bandwidth	: 3 MHz
Detector function	: Peak mode

(e) The antenna input terminal is connected to the input of pre-amplifier through the matching transformer with a calibrated 50 coaxial cable. And the output of pre-amplifier is connected to the spectrum analyzer.

(f) Then, the signal level on the antenna input terminal is measured under the EUT condition produced the maximum signal level.

6.5 Test Results

EUT : Digital Satellite Receiver With Integrated DVD Player Temperature : 20

Model No. : DVD01 Humidity : 53%

Test Mode : DVD, Sat and TV mode Date of Test : June 8, 2000

Emission Frequency [MHz]	Correction Factor (dB)	Meter Reading (dBμV) 50	Signal Level (dBμV) 75	Limits (dBμV) 75	Margin (dB)
Test Channel #3 61.25	-23.3	25.7	2.4	9.5	7.1
Test Channel #4 67.25	-23.2	30.36	7.16	9.5	2.34

Note1. The correction factor consist of the voltage loss of the impedance matching transformer and the coaxial cable used for the test, and consist of the gain of pre-amplifier.

Note2. The spectrum was checked in each test mode and operation mode, and the maximum measured data was reported.

Note3. Sample Calculation

Frequency : 61.25 MHz (Test Channel #3)
Meter Reading : 25.7 dBμV/50
Correction Factor : -23.3 dB
Then, the output signal level is calculated as follows.
Signal Level= 25.7 – 23.3 = 2.4 dBμV/75

Note4. Summary of Test Results

Minimum margin was 2.34 dB at 67.25 MHz, test channel #4.

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