Nemko Korea CO., Ltd.

300-2, Osan-Ri, Mohyun-Myun, Yongin-City, Kyungki-Do, KOREA
TEL:+82 31 322 2333 FAX:+82 31 322 2332

FCC EVALUATION REPORT FOR CERTIFICATION

Manufacturer :

Samsung Electro-Mechanics Co., Ltd.
314, Maetan-3dong, Paldal-Gu, Suwon-City
Kyungki-Do, Korea
Attn : Mr. J. H. Lim

Dates of Issue : April 17, 2001
Test Report No. : NK2BE169
Test Site : Nemko Korea Co., Ltd.
EMC site, Korea

FCC ID	***E2XDSR2700***
Brand Name	***SAMSUNG***
CONTACT PERSON	**Samsung Electro-Mechanics Co., Ltd.** **314, Maetan-3dong, Paldal-gu, Suwon-city,** **Kyungki-do,Korea** **Mr. J. H. Lim** **Telephone No. : +82 31 210 6497**

FCC Rule Part(s):	Part 15 & 2
Classification :	FCC Class B Device
EUT Type:	Digital Satellite Receiver
Port/Connector(s) :	TV(Audio L R, Video), VCR(Audio L R, Video), LNB IN S-Video, Data port, In From Ant. Out to TV

The device bearing the trade name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-1992.

I attest to the accuracy of data and all measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested By : M. K. Oh
Engineer

Reviewed By : H.H. Kim
Manager & Chief Engineer

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SCOPE

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission under FCC part 15 verification.

Responsible Party* :	Samsung Electro-Mechanics Co., Ltd.
Contact Person :	Mr. J. H. Lim
	Tel No.: +82 31 210 6318
Manufacturer :	Samsung Electro-Mechanics Co., Ltd.
	314, Maetan-3dong, Paldal-Gu, Suwon-City, Kyungki-Do, Korea
	Tel No.: +82 31 210 6318

- FCC ID: E2XDSR2700
- Basic Model: DSR2700
- Brand Name: Samsung
- EUT Type: Digital Satellite Receiver
- Frequency Range: 950 to 2150MHz
- Input Impedance: 75ohm unbalanced
- Voltage: 90 - 120V AC 60Hz,

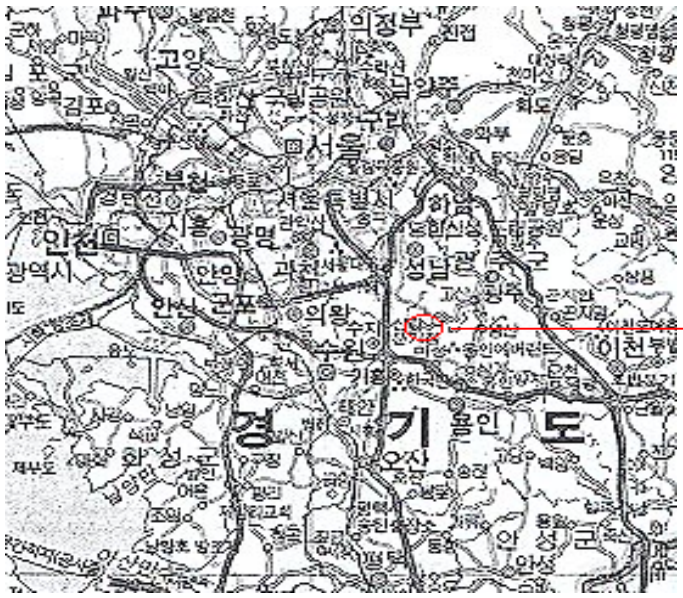
- Classification: FCC Class B
- Rule Part(s): FCC Part 15 & Part 2
- Test Procedure(s): ANSI C63.4 (1992)
- Dates of Test: April 16, 2001
- Place of Tests: Nemko Korea Co., Ltd. EMC Site
- Test Report No.: NK2BE169

** NOTE: Please refer to the duties and responsibilities of the Responsible Party attached.*

INTRODUCTION

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-1992) was used in determining radiated and conducted emissions emanating from **Samsung Electro-Mechanics Co., Ltd.**
FCC ID : **E2XDSR2700,Digital Satellite Receiver.**

These measurement tests were conducted at ***Nemko Korea Co., Ltd. EMC Laboratory*** .
The site address is 300-2, Osan-Ri, Mohyun-Myun, Yongin-City, Kyungki-Do, KOREA
The area of Nemko Korea Corporation LTD. EMC Test Site is located in a mountain area at 50 kilometers (30 miles) southeast and Seoul International Airport (Kimpo Airport), 30 kilometers (18miles) south-southeast from central Seoul.
It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures.
The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4 on October 19, 1992.



Nemko Korea Co., Ltd.
OPEN AREA TEST SITE
300-2, Osan-Ri, Mohyun-Myun, Yongin-City Kyungki-Do,KOREA 449-852
Tel)+82-31-322-2333
Fax)+82-31-322-2332

Fig. 1. The map above shows the Seoul in Korea vicinity area.
The map also shows Nemko Korea Corporation Ltd. EMC Lab and Kimpo Airport.

TEST CONDITIONS & EUT INFORMATION

Operating During Test

The receiver was tuned to the RF output frequency of color bar signal generator, with a pattern defined as 100/0/75/0 in the CCIR recommendation 471.

Support Equipment

Equipment	Manufacturer	Model	Serial Number
TV	Anam	TLV-1491XKT	N/A
Pattern Generator	Leader	LCG-401	4120482
Digital Video Transmitter	Tektronix	DVT2000	2072.5501.81
MPEG Measurement Generator	Rohde&Schwarz	DVG	831855/017

EUT Information

Clock :	X102(27MHz), Y1(15MHz)
Chipset(s) :	U101(ST20TP2), U401(Sti3502A)
Port(s) :	TV(Audio L R, Video),VCR(Audio L R, Video), S-Video In from Ant. Out to TV, Data Port, LNB In

DESCRIPTION OF TESTS

Conducted Emissions

The Line conducted emission test facility is located inside a 4 X 7 X 2.5 meter shielded enclosure.
It is manufactured by EM engineering. The shielding effectiveness of the shielded room is in accordance with MIL-STD-285 or NSA 65-6.
A 1mX 1.5M wooden table 0.8m height is placed 0.4m away from the vertical wall and 1.5m away from the side of wall of the shielded room
Rohde & Schwarz LISN and PMM LISN L3-32 50ohm/50uH line impedance stabilization network are bonded to the shielded room.
The EUT is powered from the Rohde & Schwarz LISN and the support equipment is powered from the PMM LISN. Power to the LISN s are filtered by high-current high insertion loss Power line filters. The purpose of filter is to attenuate ambient signal interference and this filter is also bonded to shielded enclosure. All electrical cables are shielded by tinned copper zipper tubing with inner diameter of 1/2".
If DC power device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the LISNs,
All interconnecting cables more than 1 meter were shortened by non inductive bundling (serpentine fashion) to a 1 meter length.
Sufficient time for EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT.
The spectrum was scanned from 450KHz to 30MHz with 20msec sweep time.
The frequency producing the maximum level was re-examined using the EMI test receiver. (Rohde & Schwarz ESCS30).
The detector function was set to CISPR quasi-peak mode.
The bandwidth of receiver was set to 9KHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.
Each emission was maximized by; switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux AC outlet, if applicable; which ever determined the worst case emission.
Each EME reported was calibrated using the R&S signal generator.

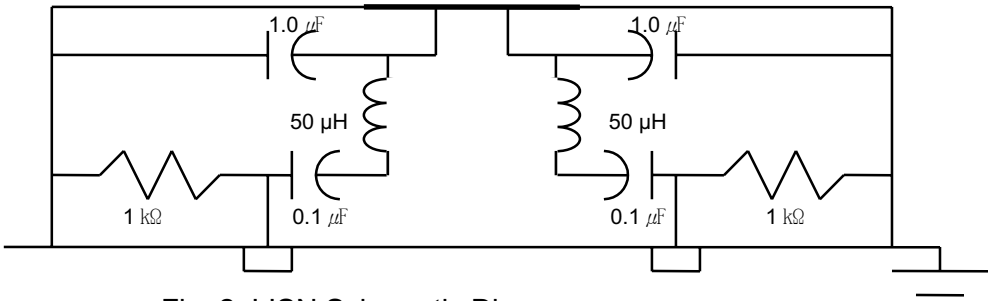


Fig. 2. LISN Schematic Diagram

DESCRIPTION OF TESTS

Radiated Emissions

Preliminary measurement were made indoors at 1 meter using broad band antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The Technology configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna was note for each frequency found.
The spectrum was scanned from 30 to 1000MHz using Biconical log Antenna(ARA, LPB-2520/A). Above 1GHz, log periodic antenna (Rohde Schwarz HL025:upto 18GHz) was used.
Final Measurements were made outdoors at 3 or 10m test range using Logbicon Super Antenna(Schwarzbeck, VULB9166) or log periodic antenna.(Rohde Schwarz HL025)
The test equipment was placed on a wooden table.
Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.
Each frequency found during pre-scan measurements was reexamined and investigated using EMI test receiver.(ESCS30)
The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120KHz or 1MHz depending on the frequency or type of signal.
The half wave dipole antenna was tuned to the frequency found during preliminary radiated measurements.
The EUT support equipment and interconnecting cables were re configured to the setup producing the maximum emission for the frequency and were placed on top of a 0.8m high non- metallic 1.0X 1.5 meter table.
The EUT, support equipment and interconnecting cables were re-arranged and manipulated to maximize each EME emission.
The turn table containing the Technology was rotated; the antenna height was varied 1 to 4meter and stopped at the azimuth or height producing the maximum emission Each emission was maximized by : switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux AC outlet, if applicable; which ever determined the worst case emission.
Each EME reported was calibrated using the R/S signal generator.

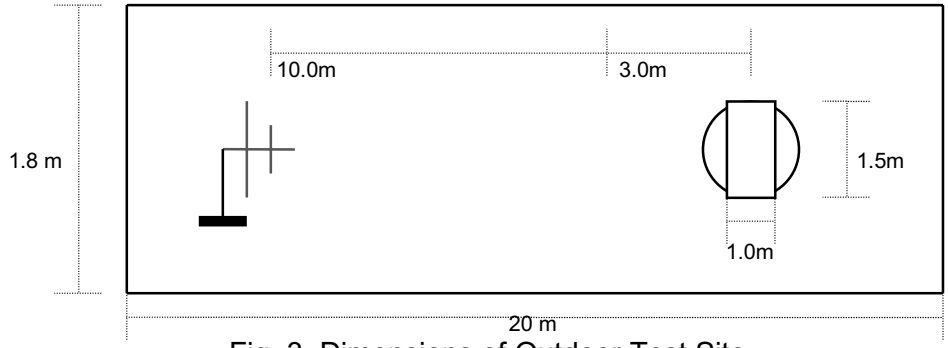


Fig. 3. Dimensions of Outdoor Test Site

DESCRIPTION OF TESTS

Antenna-Conducted Power Measurements

Power on the receive antenna terminals was to be determined by measurement of the voltage present at these terminals.
Antenna –conducted power measurements was performed with the EUT antenna terminals connected directly to measuring instrument (Rohde&Schwarz, ESCS 30) using a impedance-matching network(Rohde&Schwarz, RAM358.5414.02) to connect the measurement instrument to the antenna terminals of the EUT. Losses in decibels in impedance-matching network used was added to the measured values in dBuV.
With the receiver tuned to one of the number of frequency and voltage present at the antenna input terminals over the frequency range specified in the individual equipment requirements. The measurements was repeated with the receiver tuned to another frequency until the number of frequencies had been successively measured.
Power on the receive antenna terminals in the ratio of V^2/R, where V is the loss-corrected voltage measured at the antenna terminals, and R is the impedance of the measuring instrument.

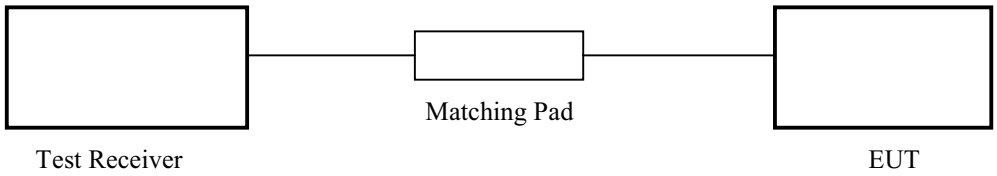


Fig. 4. Description of Test

DESCRIPTION OF TESTS

Output-Conducted Level Measurements

The output signal level was the maximum voltage level present at the output terminal of EUT on a particular frequency during normal use.
Measurements was made of the levels of the aural carrier, visual carrier and all spurious emissions.
Measurements was made by direct connection to the measuring instrument(Rohde&Schwarz, ESCS 30) with proper impedance matching(Rohde&Schwarz, RAM358.5414.02) between the measuring instrument and the EUT.
Losses in decibels in impedance-matching network used was added to the measured values in dBuV. The cable was supported between the EUT and the measuring instrument in a straight horizontal line so it had at least 75 cm clearance from any conducting surface.
The EUT was provided with a typical signal consistent with normal operation. For each channel on which the EUT operated and in each mode in which the EUT operated the level the video carrier, audio carrier, the spurious emissions over the frequency range measured and recorded.

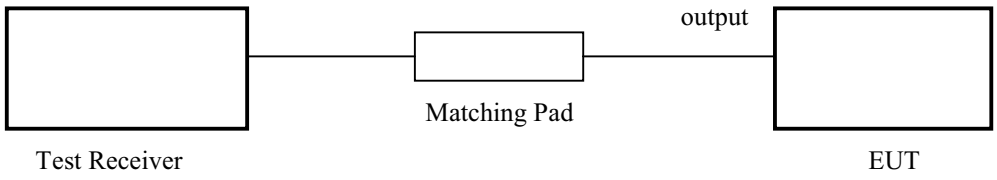


Fig. 5. Description of Test

DESCRIPTION OF TESTS

Antenna Transfer Switch Measurements

Isolation was measured for all positions of an antenna transfer switch on all output channels of the EUT. TV interface device transfer switch isolation is the difference the levels of a signal going into one antenna input port of the switch and that of the same signal coming out of another antenna terminal of the transfer switch. The isolation of an antenna transfer switch equipped with coaxial connectors was performed by measuring the maximum voltage of the visual carrier. Using an impedace-matching device(Rohde&Schwarz, RAM358.5414.02), the length of coaxial cable was connected between the antenna terminal of the switch and the measuring instrument(Rohde&Schwarz, ESCS 30).
The measuring instrument was tuned to the output channel of the EUT in peak mode and the voltage levels was measured and recorded.

TEST DATA

Conducted Emissions

FCC ID : E2XDSR2700
Test Mode : Tuned to satellite broadcasting frequency

FREQ (MHz)	LEVEL(dBμV)	LINE	LIMIT(μV)	(μV)	MARGIN*(dB)
0.45	34.1	L	250	50.70	13.9
5.50	35.4	N	250	58.88	12.6
8.28	31.9	N	250	39.36	16.1
16.51	37.1	L	250	71.61	10.9
17.95	36.0	N	250	63.10	12.0
23.45	30.6	N	250	33.88	17.4

Table 1. Line Conducted Emissions Tabulated Data

NOTES:
1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3.The limit for Class B device is 250 μV from 450 kHz to 30MHz.
4.Line H = Hot Line N = Neutral

*Tested by **M. K. Oh***

TEST DATA

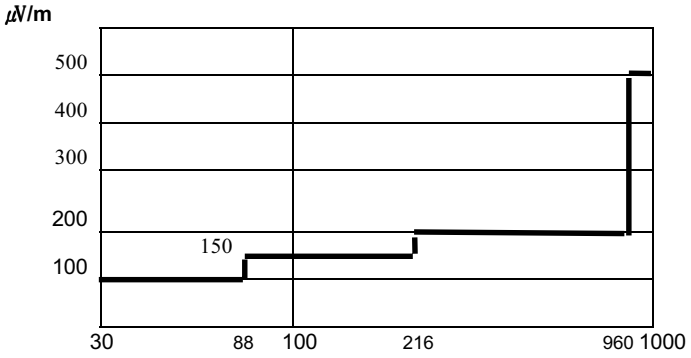
Radiated Emissions

FCC ID : E2XDSR2700
Test Mode : Tuned to satellite broadcasting frequency

Frequency (MHz)	Reading (dBμV)	Pol* (H/V)	AF+CL+Amp (dB)**	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
81.00	53.5	H	-20.5	33.0	40.0	7.0
162.00	46.5	H	-12.9	33.6	43.5	9.9
199.80	48.5	V	-13.7	34.8	43.5	8.7
299.70	46.4	H	-11.3	35.1	46.0	10.9
720.14	35.3	H	-0.4	34.9	46.0	11.1
900.18	31.5	H	3.9	35.4	46.0	10.6

*) No values due to local oscillator(above 1GHz)higher than 20dB below the limit was measured during radiated disturbance.

Table 2. Radiated Measurements at 3meters



NOTES:

1. All modes of operation were investigated the worst-case emission are reported.

2. The radiated limits are shown on Figure 4. Above 1GHz the limit is 500 μV/m.

Fig. 6. Limits at 3 meters

NOTES:

1. *Pol. H =Horizontal V=Vertical

2. **AF+CL+Amp. = Antenna Factor + Cable Loss + Amplifier.

3. Measurements using CISPR quasi-peak mode. Above 1GHz, peak detector function mode is used using a resolution bandwidth of 1MHz and a video bandwidth of 1MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

Tested by ***M. K. Oh***

TEST DATA

Antenna-Conducted Power Measurements

FCC ID : E2XDSR2700
Test Mode : Tuned to satellite broadcasting frequency

T. Freq.* (MHz)	Frequency (MHz)	Reading (dBμV)	MPL ** (dB)	Result (dBμV)	Limit		Margin (dB)
					(nW)	(dBμV)	
950	1429.50	13.7	7.5	21.2	2.0	50.0	28.8
1550	2029.50	9.2	7.5	16.7	2.0	50.0	33.3
2150	2629.50	15.7	7.5	23.2	2.0	50.0	26.8

***** No values higher than 10dB below the limit was measured during Antenna-Conducted Power testing.

Table 3. Antenna-Conducted Power Measurements

NOTES:

1. *T. Freq. = Tuned Frequency

2. **MPL = Impedance Matching Network Loss

3. Measurements using CISPR quasi-peak mode. The limits is 2.0 nanowatts from 30MHz to 960MHz.

*Tested by **M. K. Oh***

TEST DATA

Output-Conducted Level Measurements

FCC ID : E2XDSR2700
Test Mode : Tuned to satellite broadcasting frequency

Channel	Frequency (MHz)	Reading (dBμV)	MPL * (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
3	56.70	44.4	5.7	50.1	56.5	6.4
	61.20	59.9	5.7	65.6	69.5	3.9
	65.70	44.4	5.7	50.1	56.5	6.4
4	62.70	44.8	5.7	50.5	56.5	6.0
	67.20	61.4	5.7	67.1	69.5	2.4
	71.70	44.4	5.7	50.1	56.5	6.4

*) No values higher than 30dB below the limit in other frequencies was detected during output-conducted level measurements.

Table 4. Output-Conducted Level Measurements

NOTES:

1. *MPL = Impedance Matching Network Loss
2. Measurements using in peak mode. The limits is 346.4 times the square root of (R) for the video signal and 77.5 times the square root of (R) for the audio signal.

*Tested by **M. K. Oh***

TEST DATA

Antenna Transfer Switch Measurements

FCC ID : E2XDSR2700
Test Mode : Tuned to broadcasting frequency

Channel	Frequency (MHz)	Reading (dBμV)	MPL * (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
3	61.20	-	5.7	-	9.5	-
	61.20	-	5.7	-	9.5	-
4	67.20	-	5.7	-	9.5	-
	67.00	-	5.7	-	9.5	-

*) - ; No values in other frequencies was detected during antenna transfer switch measurements.

Table 5. Antenna Transfer Switch Measurements

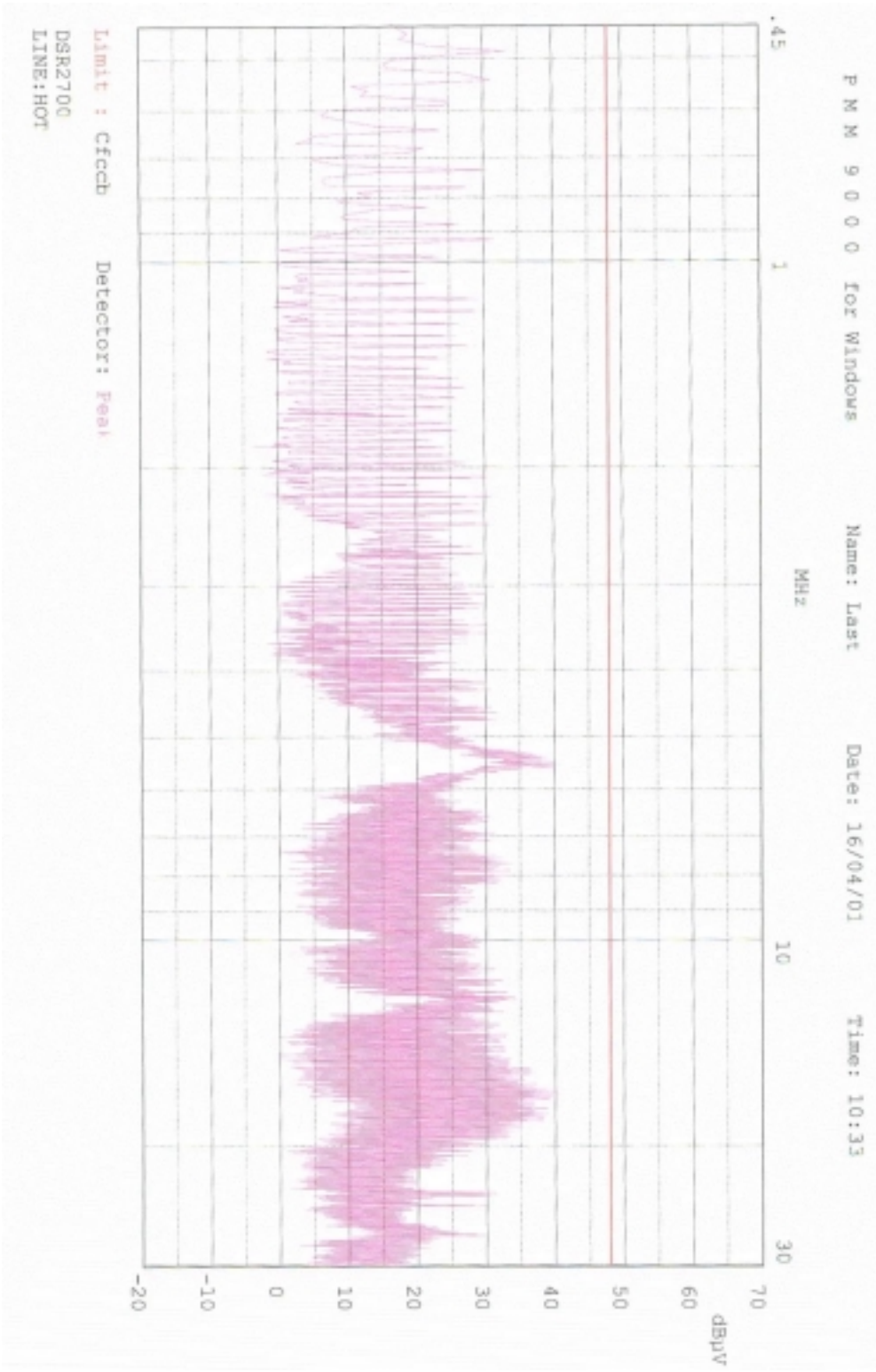
NOTES:

1.*MPL = Impedance Matching Network Loss
2. Measurements using in peak mode. The limits is 0.346 times the square root of (R).

*Tested by **M. K. Oh***

PLOTS OF EMISSIONS

- ***Conducted Emission at the Mains port(Line)***



PLOTS OF EMISSIONS

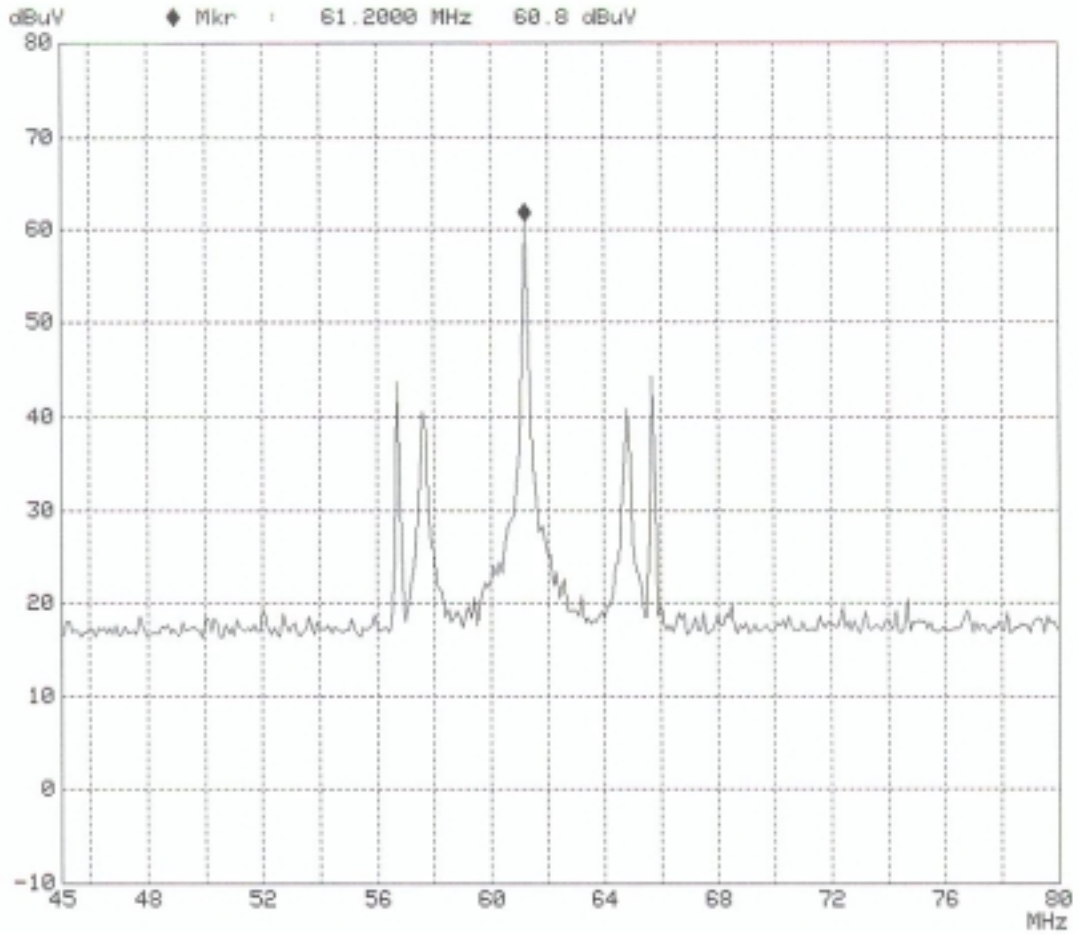
- ***Conducted Emission at the Mains port(Neutral)***

PLOTS OF EMISSIONS

- ***Output-Conducted Level Measurements(Channel 3)***

```
Scan Settings (1 Range)
|--------- Frequencies -----------||--------- Receiver Settings ----------|
   Start       Stop        Step      IF BW  Detector  M-Time  Atten Preamp
  45M         80M        100k       120k       PK      20ms  10dBLN   OFF

Final Measurement: x QP
                   Meas Time:     1 s
                   Subranges:     8
                   Acc Margin:  40dB
```

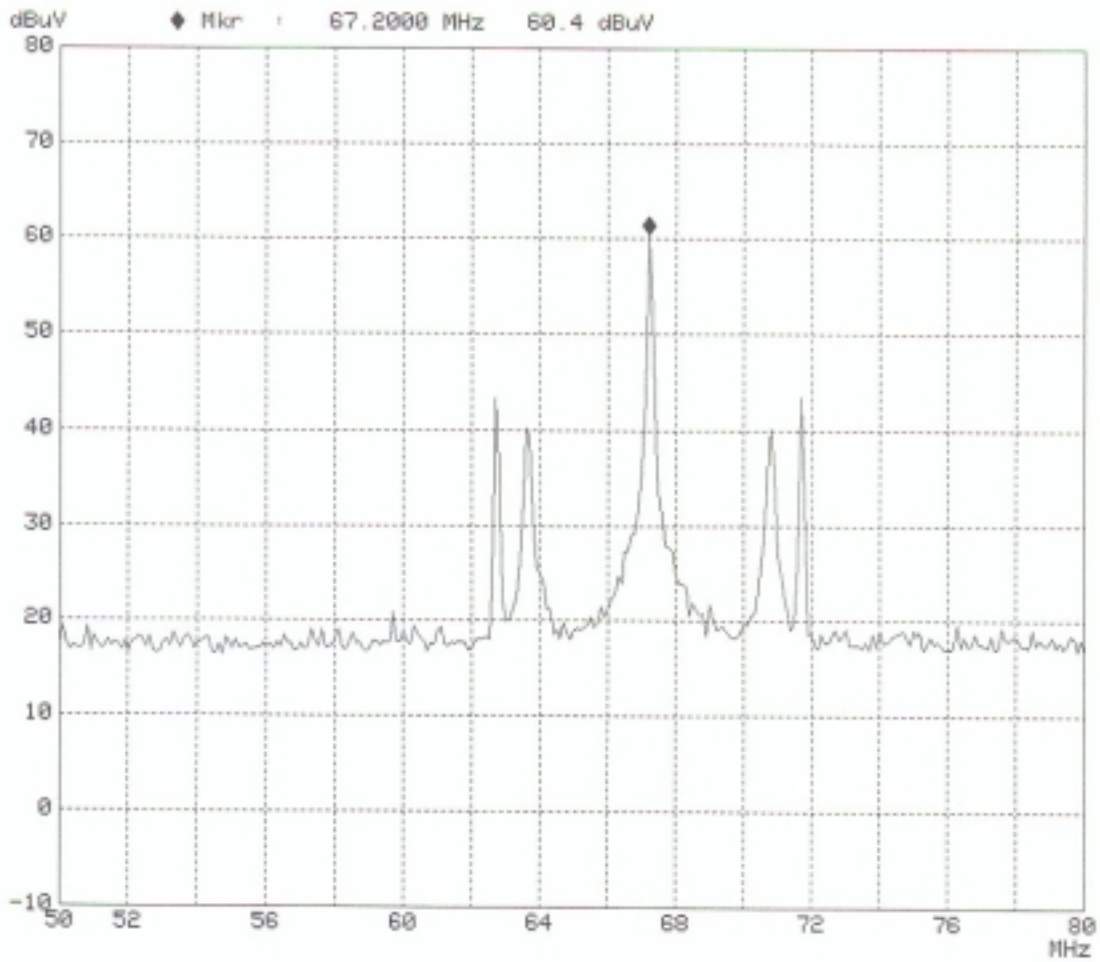


PLOTS OF EMISSIONS

- ***Output-Conducted Level Measurements(Channel 4)***

```
Scan Settings (1 Range)
|--------- Frequencies -----------||--------- Receiver Settings ---------|
   Start       Stop        Step      IP BW  Detector  M-Time  Atten Preamp
  50M         80M        100k       120k       PK      20ms  10dBLN   OFF

Final Measurement: x QP
                   Meas Time:    1 s
                   Subranges:    8
                   Acc Margin:  40dB
```



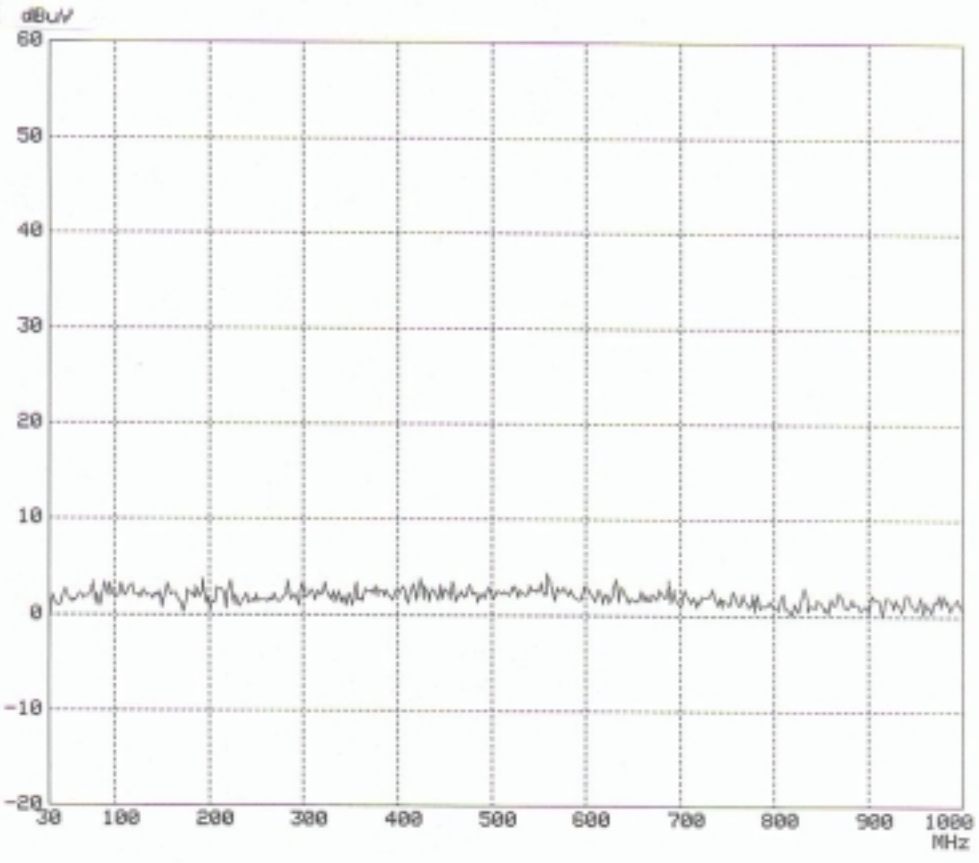
PLOTS OF EMISSIONS

- ***Antenna Transfer Switch Measurement(Channel 3)***

```
Scan Settings (1 Range)
|--------- Frequencies ----------||--------- Receiver Settings ---------|
   Start       Stop        Step      IF BW  Detector  M-Time  Atten Preamp
  30M       1000M        200k       120k       PK      20ms  10dBLN   OFF

Transducer No. Start       Stop       Name
             7    30M      1000M       10

Final Measurement: x Hor-Max / + Vert-Max
                   Meas Time:    1 s
```



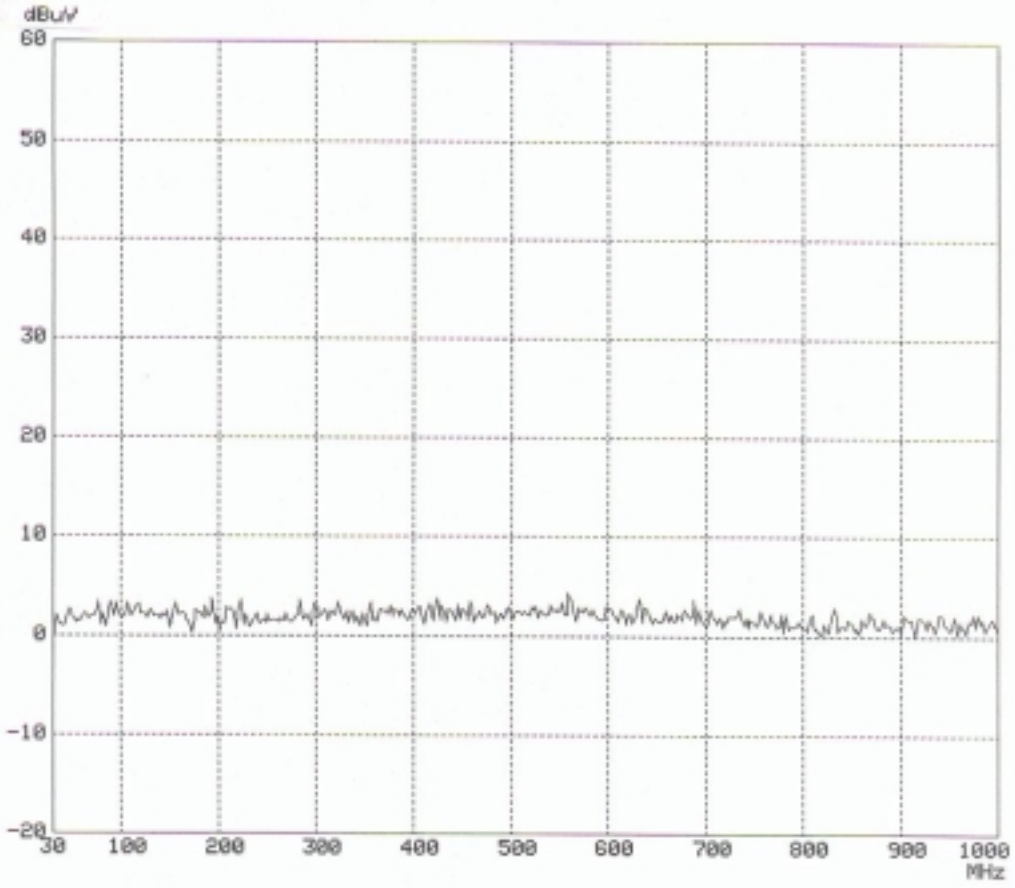
PLOTS OF EMISSIONS

- ***Antenna Transfer Switch Measurement(Channel 4)***

```
Scan Settings (1 Range)
|--------- Frequencies ----------||--------- Receiver Settings ---------|
   Start       Stop        Step      IF BW  Detector  M-Time  Atten Preamp
  30M       1000M        200k       120k       PK      20ms  10dBLN   OFF

Transducer No. Start       Stop       Name
            7    30M      1000M        10

Final Measurement: x Hor-Max / + Vert-Max
                   Meas Time:    1 s
```



SAMPLE CALCULATIONS

$$\text{dB } \mu V = 20 \log_{10} (\mu V/\text{m})$$

$$\mu V = 10^{(\text{dB } \mu V/20)}$$

EX. 1.

@20.3 MHz Class B limit = 250 μV = 48.0 dB μV

Reading = 40.8 dB μV (calibrated level)
$10^{(40.8/20)}$ = 109.64 μV
Margin = 48.0 - 40.8 = 7.2
7.2 dB below limit

EX. 2.

@57.7 MHz Class B limit = 100 μV/m = 40.0 dB μV/m

Reading = 19.1 dB μV(calibrated level)
Antenna factor + Cable Loss = 10.12 dB
Total = 29.22 dB μV/m
Margin = 40.0 - 29.22 = 10.78
10.78 dB below the limit

EX. 3.

@98.20 MHz Class B limit = 2 nW = 50.0 dB μV

Reading = 19.1 dB μV(calibrated level)
Impedance matching Network Loss = 7.5 dB
Total = 26.6 dB μV
Margin = 50.0 – 26.6 = 23.4
23.4 dB below the limit

ACCURACY OF MEASUREMENT

The Measurement Uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 with the confidence level of 95%

1. Radiation Uncertainty Calculation

Contribution	*Probability Distribution*	*Uncertainty(+/-dB)*
Antenna Factor	Normal (k=2)	± 0.5
Cable Loss	Normal (k=2)	± 0.04
Receiver Specification	Rectangular	± 2.0
Antenna directivity	Rectangular	± 1.0
Antenna Factor variation with Height		
Antenna Phase Center Variation		
Antenna Factor Frequency Interpolation		
Measurement Distance Variation		
Site Inperfections	Rectangular	± 2.0
Mismatch:Receiver VRC ri=0.3 Antenna VRC rR=0.1(Bi)0.4(Lp) Uncertainty Limits 20Log(1+/-ri rR)	U-Shaped	+ 0.25 / - 0.26
System Repeatibilty	Std.deviation	± 0.05
Repeatability of EUT	-	-
Combined Standard Uncertainty	Normal	± 1.77
Expended Uncertainty U	Normal (k=2)	± 3.5

2. Conducted Uncertainty Calculation

Contribution	*Probability Distribution*	*Uncertainty(+/-dB)*
Receiver Specification	Normal (k=2)	± 2.0
LISN coupling spec.	Normal (k=2)	± 0.4
Cable and input attenuator cal.	Rectangular	± 0.4
Mismatch:Receiver VRC ri=0.3 LISN vrc rg=0.1 Uncertainty Limits 20Log(1+/-ri rR)	U-Shaped	± 0.26
System Repeatibilty	Std.deviation	± 0.68
Repeatability of EUT	-	-
Combined Standard Uncertainty	Normal	± 1.18
Expended Uncertainty U	Normal (k=2)	± 2.4

TEST EQUIPMENT

No.	Instrument	Manufacturer	Model	Calibration Date
1	*Test Receiver	R & S	ESCS 30	2001.01
2	*Test Receiver	PMM	PMM9000	2000.04
3	*Amplifier	HP	8447F	2000.08
4	*Amplifier	HP	8447F	2000.08
5	Spectrum Analyzer	Advantest	R4136	2000.12
6	*Logbicon Super Antenna	Schwarzbeck	VULB9166	2001.01
7	Log-Periodic Antenna	R & S	HL025	2001.01
8	Dipole Antenna	R & S	VHA9103	2001.01
9	Dipole Antenna	R & S	UHA9105	2001.01
10	Biconical Antenna	Schwarzbeck	VHA9103	2001.01
11	Biconical Log Antenna	ARA	LPB-2520/A	2001.01
12	Asorbing Clamp	R & S	MDS21	2001.01
13	High Voltage Probe	R & S	ESH2-Z3	2001.02
14	Signal Generater	R & S	SMP02	2001.01
15	*Matching Pad	R & S	RAM358.5414.02	2000.05
16	LISN	R & S	ESH3-Z5	2001.02
17	LISN	PMM	L3-9103	2000.04
18	*Position Controller	EM Eng.	N/A	N/A
19	*Turn Table	EM Eng.	N/A	N/A
20	*Antenna Mast	EM Eng.	N/A	N/A
21	*Anechoic Chamber	EM Eng.	N/A	N/A
22	*Shielded Room	EM Eng.	N/A	N/A

***) Test equipment used during the test**

RECOMMENDATION/CONCLUSION

The data collected shows that the **Samsung Electro-Mechanics Co., Ltd.** FCC ID : **E2XDSR2700, Digital Satellite Receiver.** complies with § 15.107 ,15.109, 15.111 and 15.115 of the FCC Rules.

The highest emission observed was at **16.51 MHz** for conducted emissions with a margin of **10.9 dB,** at **81.00 MHz** for radiated emissions with a margin of **7.0 dB,** at **2629.5 MHz** for antenna-conducted power measurements with a margin of **26.8dB** and at **67.2MHz** for output-conducted level measurements with a margin of **2.4dB.**

APPENDIX A – SAMPLE LABEL

Labelling Requirements

The sample label shown shall be *permanently affixed* at a conspicuous location on the device and be readily visible to the user at the time of purchase.

FCC ID: E2XDSR2700
Trade Name: Samsung
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

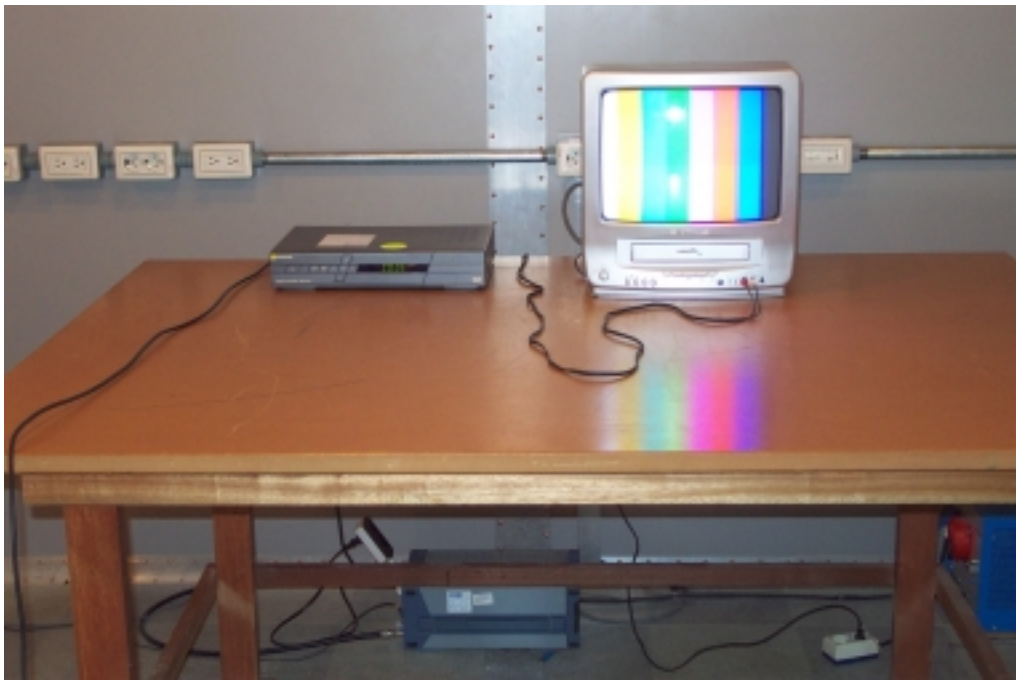
- **FCC ID Location of EUT**

APPENDIX B – CIRCUIT DIAGRAM

APPENDIX C – TEST PHOTOGRAPHS

The **Conducted Test Picture** and **Radiated Test Picture** and **Antenna-Conducted Power Picture Output-conducted Level Measurement** show the worst-case configuration and cable placement.

- **Conducted Test Picture**



- **Radiated Test Picture**