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GENERAL INFORMATION

- 1 APPLICANT : SAINT SONG CORP.
- 2 ADDRESS : 4F, No. 12, Lane 94, Tsao Ti Wei,
Shen Keng Hsiang, Taipei Hisen,
Taiwan, R. O. C.
- 3 MANUFACTURER : Orient Semiconductor Electronics Ltd.
- 4 ADDRESS : No. 16, East 3rd St.,
N.E. PZ, Kaohsiung,
Taiwan, 811, R. O. C.
- 5 DESCRIPTION OF EUT :
- EUT : Pocket PC
- FCC ID : #####
- Model Number : CG-I
- Serial # : N/A
- Data Cable (RJ45) : SHIELDED
- Power Cord (AC) : UN-SHIELDED
- Power Cord (DC) : UN-SHIELDED
- Power Supply Type : SWITCHING ADAPTOR

5.1 The EMI test data of worst case of test modes were shown in the test report.

6 FEATURES OF EUT :

6.1 Processing Unit

- Runs on the latest Intel Socket 370 Pentium III CPU. Available in CPU clock speeds starting at 500MHz.
- Also can run on Intel Socket 370 Celeron CPU that includes 128KB L2 cache with several clock speeds starting at 500MHz.
- System bus frequency at 66MHz, 100MHz.
- Intel processor ensures your PC is fully compatible with an entire library of PC software based on several operating systems especially Windows 98, Windows Millennium. Windows NT, Windows 2000, and Linux.

6.2 Main Memory

- Provides one 144-pin SODIMM (Small Outline Dual Inline Memory Module) memory slot for main system memory configuration up to maximum 256MB.
- Uses PC-100 SDRAM SODIMM module at 64MB, 128MB and 256MB module.

6.3 Audio System

- Built-in 16-bit stereo Sound Blaster compatible, full duplex 3D Stereo Sound.
- Built-in Speaker.
- One 3.5mm microphone input jack.
- One 3.5mm line output jack for external speaker.

6.4 Storage

- Built-in high-capacity 2.5-inch (9.5mm high) Hard Disk Drive and supports Ultra-DMA 33/66.
- Built-in CD-ROM or DVD-ROM or CD-RW drive.
- Optional Floppy Disk Drive via USB port or Parallel port.

6.5 Video

- Built-in full-motion video accelerator.
- Hardware motion compensation for Software MPEG-2 (DVD playback) at 30fps.
- Integrated 4MB display cache DRAM.
- Supports up to 1280 by 1024 pixel resolution at 24-bit color.
- 15-pin mini D-sub VGA connector for external monitor.
- S Video Port.
- AV Video Port.



6.6 I/O Ports

- Two USB ports.
- One 9-pin Serial Port (RS-232).
- One 25-pin Parallel Port (EPP/ECP).
- One 6-pin PS/2 Mouse Port.
- One 6-pin PS/2 Keyboard Port.

6.7 Communications

- Optional Internal 10/100Base-T Ethernet LAN (RJ-45 port).
- Optional Internal 56K V.90 modem card (RJ-11 port).



MODIFICATION LIST

THE FOLLOWING ACCESSORIES WERE ADDED TO THE EUT DURING TESTING :

NO MODIFICATION BY HOMETEK TECHNOLOGY INC.

CONDUCTED POWER LINE TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the conducted test :

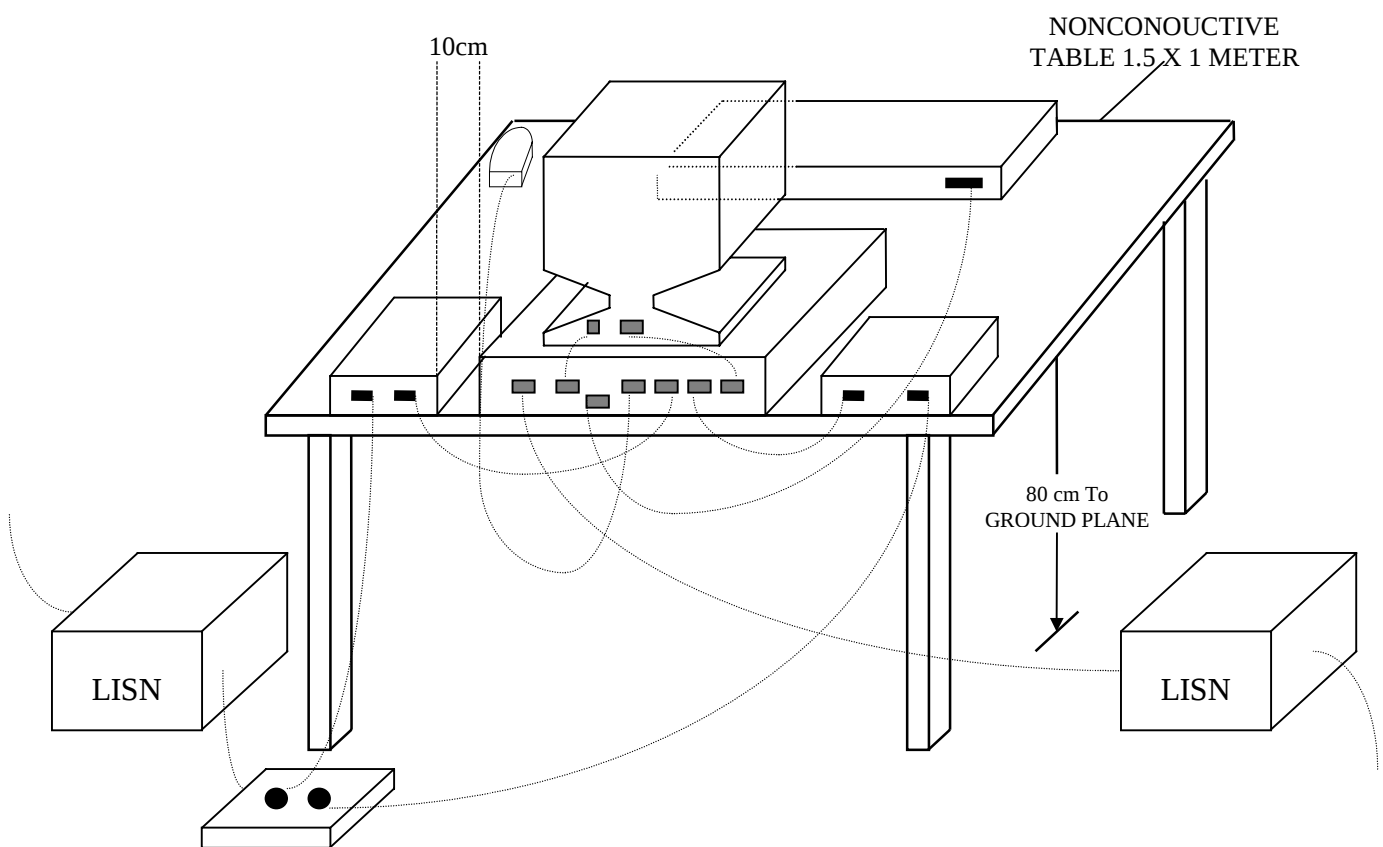
Item	Instruments/ Facilities	Specification	Manufacturer	Model #	Date Of Cal.
1	EMI Receiver	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESHS 30	MAR/2000
2	LISN	50 Ω /50uH/100A 9KHz ~ 30MHz	SCHWARZ BECK	NNLK 8121	MAR/2000
3	LISN	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESH3-Z5	MAR/2000
4	ESXS-K1	Version 2.03b	ROHDE & SCHWARZ	1082.9678.02 840.913/246	N/A
5	Cables	10KHz ~ 30MHz		NO : 10	JUL/2000

2 TEST PROCEDURE

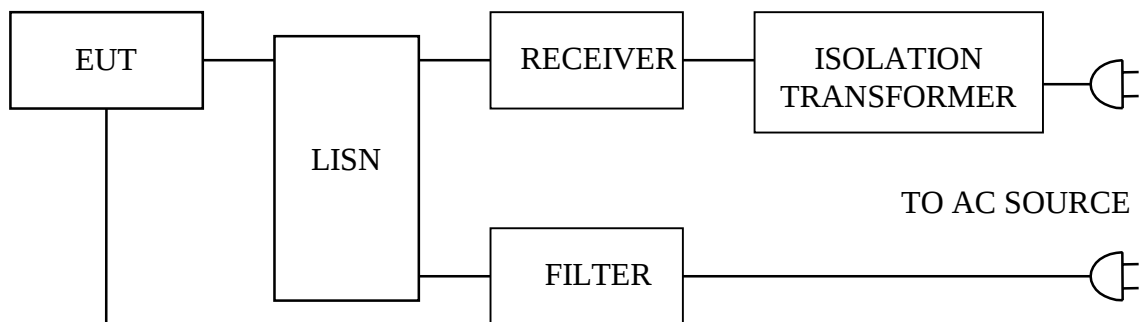
- 2.1 The EUT was tested according to **ANSI C63.4 - 1992 & CISPR 22.**
- 2.2 The EUT was placed 0.4 meter from the conducting wall of shielding room and kept at least 0.8 meter from any other grounded conducting surface.
- 2.3 The frequency range form 0.15 MHz to 30 MHz was investigated.
- 2.4 The LISN used was 50 Ohm / 50 uHenry as specified by **ANSI C63.4 - 1992 & CISPR 22.**
and AC power source is 110V/60Hz.
- 2.5 All the support peripherals are connect to the other LISN.
- 2.6 Cables and peripherals were moved to find the maximum emission levels for each frequency.

3 TEST SETUP

3.1 Typical : Setup Of Conducted Test



3.2 Block Diagram Of Conducted Test



- ☒ Monitor
- ☒ Printer
- ☒ Modem
- ☒ Mouse
- ☒ Key Board
- ☒ TV
- ☒ Joystick
- ☒ Micro Phone
- ☒ Speaker
- ☒ Adaptor
- ☒ Network Cable
- ☒ Telephone

4 CONFIGURATION OF THE EUT

The EUT was configured according to **ANSI C63.4 - 1992 & CISPR 22**. All I/O ports were connected to the appropriate peripherals. All peripherals and cables are listed below (including internal device) :

4.1 EUT

EUT Type : ☐Proto Type ☒Engineer Type ☐Mass Production
Condition when received : ☒Good ☐Damage : _____
Connector Type : ☒Metal Type ☐Plastic Type
Device : Pocket PC
Applicant : SAINT SONG CORP.
Manufacturer : Orient Semiconductor Electronics Ltd.
Model Number : CG-I
Serial Number : N/A
FCC ID : #####
Data Cable (RJ45) : Shielded, 10 m
Power Cord (Adaptor) AC : Un-Shielded, 1.8 m
Power Cord (Adaptor) DC : Un-Shielded, 1.2 m

4.2 PERIPHERALS

☒ Monitor

Manufacturer : HITACHI
Model Number : CM1711MU
Serial Number : 95092015
FCC ID : KRY9501CDTC95
Data Cable : Shielded, 1.5 m, Connected to the VGA port
Power Cord : Un-Shielded, 1.8 m

☒ Printer

Manufacturer : HP
Model Number : DJ400
Serial Number : MY7781C1BB
FCC ID : B94C2642X
Data Cable : Shielded, 1.5 m, Connected to the Printer port
Power Cord & Adaptor : Un-Shielded, 1.8 m

☒ Modem

Manufacturer : ACEEX
Model Number : 1414
Serial Number : 9013522
FCC ID : IFAXDM1414
Data Cable : Shielded, 1.5 m, Connected to the COM port
Power Cord & Adaptor : Un-Shielded, 1.8 m

☒ Mouse (PSII)

Manufacturer : Logitech
Model Number : M-S34
Serial Number : LZE02356620
FCC ID : DZL244029
Data Cable : Shielded, 1.8 m, Connected to the PSII port
Power Cord : N/A

☒ KeyBoard (PSII)

Manufacturer : AST
Model Number : SK-2000REW
Serial Number : N/A
FCC ID : GYUR26SK
Data Cable : Shielded, 1.5 m, Connected to the PSII port
Power Cord : N/A

☒ KeyBoard (USB)

Manufacturer : BTC
Model Number : 7932M
Serial Number : G91400413
FCC ID : E5XKB7932MUF0310
Data Cable : Un-Shielded, 1.8 m, Connected to the USB port
Power Cord : N/A

☒ TV

Manufacturer : NEC
Model Number : C-19R25(T)
Serial Number : N/A
FCC ID : N/A
Data Cable : Shielded, 1.5 m, Connected to the AV/S-Video port
Power Cord : Un-Shielded

☒ Joystick

Manufacturer : Microsoft
Model Number : X04-97602
Serial Number : 9760200246877
FCC ID : FCC DoC
Data Cable : Un-Shielded, 2 m, Connected to the Game port
Power Cord : N/A

☒ Micro Phone

Manufacturer : SR
Model Number : SR-M02
Serial Number : N/A
FCC ID : N/A
Data Cable : Shielded, Connected to the MIC port
Power Cord : N/A

☒ Speaker

Manufacturer : JASS HIPSTER
Model Number : J-008
Serial Number : N/A
FCC ID : N/A
Data Cable : Shielded, 1.5 m, Connected to the Line Out port
Power Cord : N/A

☒ Telephone

Manufacturer : U-TECH
Model Number : SA-917
Serial Number : 308004060
FCC ID : N/A
Data Cable : Shielded
Power Cord : N/A

☒ Adaptor

Manufacturer : ILAN
Model Number : F17003B
Serial Number : N/A
FCC ID : N/A
Data Cable : N/A
Power Cord (AC) : N/A
Power Cord (DC) : Un-Shielded, 1.2 m

4.3 Internal Devices

☒ CD ROM

Manufacturer : NEC
Model Number : CDR-2800C
Serial Number : 9ZS89176112
FCC ID : N/A
Data Cable : N/A
Power Cord : N/A

☒ HDD

Manufacturer : FUJITSU
Model Number : MHM2100AT
Serial Number : 01040884
FCC ID : N/A
Data Cable : N/A
Power Cord : N/A

☒ Modem Card

Manufacturer : Actiontec
Model Number : MD560PMI
Serial Number : TOEB04001119
FCC ID : N/A
Data Cable : N/A
Power Cord : N/A

4.4 REMARK :

5 EUT OPERATING CONDITION

- 5.1 Operating condition is according to **ANSI C63.4 - 1992 & CISPR 22**.
- 5.2 CPU : Pentium III - 650 MHz
CPU Clock : 100 MHz
- 5.3 Turn on the power of all equipments.
- 5.4 Test program sent “H” pattern to peripherals as following :
- 5.4.1 Printer
 - 5.4.2 Monitor
 - 5.4.3 Modem
 - 5.4.4 Keyboard
- 5.5 **The photos of conducted test configuration, please refer to appendix A.**

6 LIMIT OF CONDUCTED POWER LINE EMISSION CLASS B :

CISPR 22

Frequency Range	Quasi Peak	Average
0.15 ~ 0.5 MHz	66 - 56 dBuV	56 - 46 dBuV
0.5 ~ 5 MHz	56 dBuV	46 dBuV
5 ~ 30 MHz	60 dBuV	50 dBuV

- 6.1 In the above table, the tighter limit applies at the band edges.

7 RESULT OF CONDUCTED POWER LINE TEST

7.1 The frequency range from 0.15 MHz to 30 MHz was investigated. All readings are quasi-peak values and average.

7.2 IF bandwidth : 9 kHz, Meas Time : 1 sec.

7.3 Temperature : 20 °C, Humidity : 72 % RH.

7.4 Deviations from the specifications : None

7.5 Line :

Frequency (MHz)		Level (dBuV)		Limit (dBuV)		Margin (dBuV)	
Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.160	0.205	54.88 *	43.60	65.46	53.41	-10.58	-9.81
0.270	0.270	48.24 *	38.38	61.12	51.12	-12.88	-12.74
0.547	0.547	38.21 *	33.49	56.00	46.00	-17.79	-12.51
3.520	3.520	40.38 *	29.23	56.00	46.00	-15.62	-16.77
5.000	6.640	31.09 *	23.53	60.00	50.00	-28.91	-26.47
12.300	12.300	30.60 *	22.22	60.00	50.00	-29.40	-27.78

7.6 Neutral :

Frequency (MHz)		Level (dBuV)		Limit (dBuV)		Margin (dBuV)	
Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.160	0.205	55.11 *	42.53	65.46	53.41	-10.35	-10.88
0.235	0.275	49.01 *	35.50	62.27	50.97	-13.26	-15.47
1.760	1.720	36.49 *	24.08	56.00	46.00	-19.51	-21.92
3.520	3.520	41.45 *	30.94	56.00	46.00	-14.55	-15.06
8.760	8.760	33.16 *	24.42	60.00	50.00	-26.84	-25.58
13.740	12.840	32.39 *	23.26	60.00	50.00	-27.61	-26.74

REMARK :

1. Model : CG-I
2. Measuring mode : TV MODE
3. Uncertainty in conduction emission measured : $< \pm 2.0\text{dB}$.
4. “*”, means this data is peak measuring as peak value is under Q.P. Limit or Average Limit 3dB margin.
5. Result : **PASSED**

RADIATED EMISSION TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the radiated emission test :

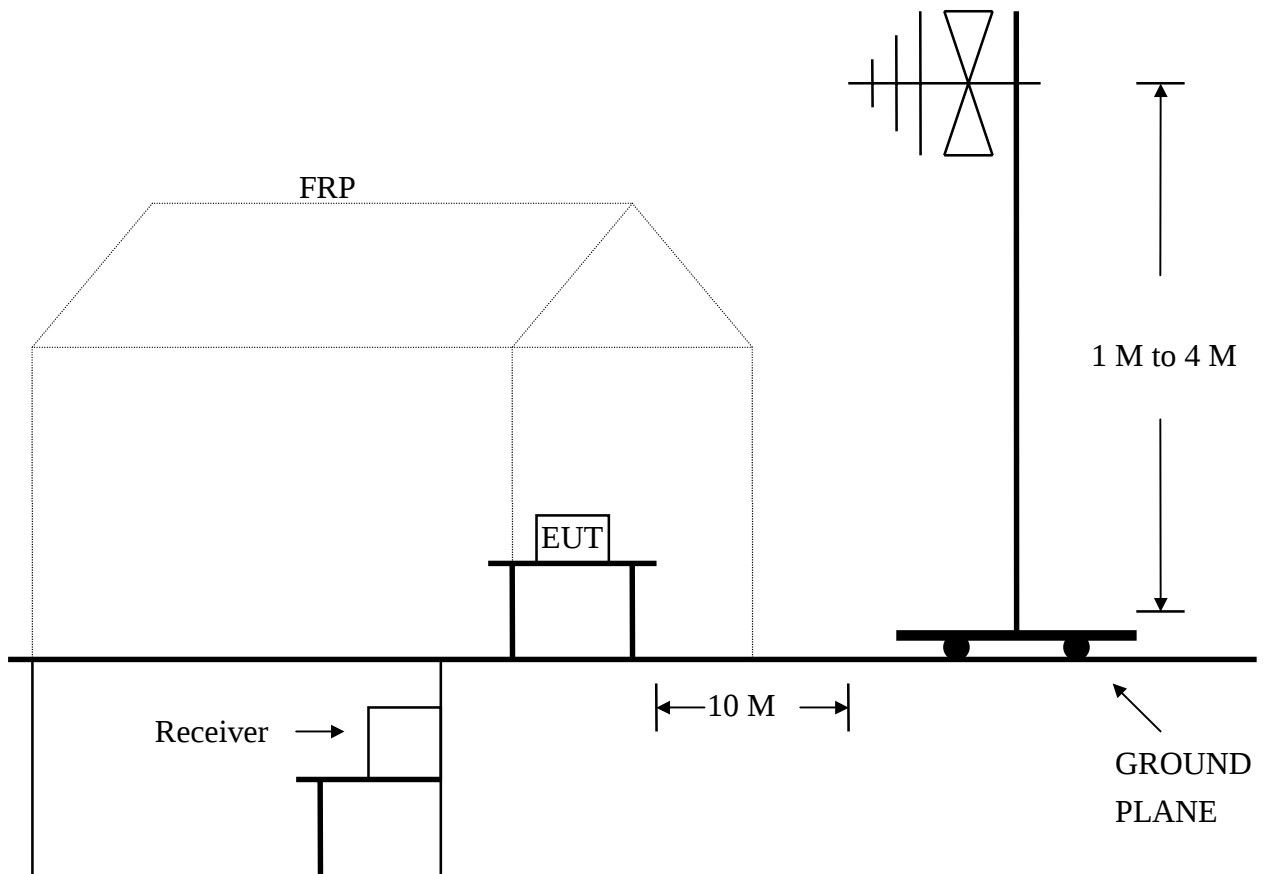
Item	Instruments /facilities	Specification	Manufacturer	Model # / S/N#	Location	Date of Cal.
1	OPEN AREA TEST SITE	☑ OATS 1				JUL/2000
2	EMI TEST RECEIVER	20MHz ~ 5GHz	ROHDE & SCHWARZ	ESBI 845636/007	Open Site I	SEP/2000
3	PRE-AMPLIFIER	0.1MHz ~ 1.3 GHz	HP	8447D 1937A02095	Open Site II	APR/2000
4	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	ESMI 845442/006	Open Site II	APR/2000
5	PRE-AMPLIFIER	20MHz ~ 7GHz	ROHDE & SCHWARZ	ESMI-Z7 664126/008	Open Site I	SEP/2000
6	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2614	Open Site II	JUN/2000
7	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2611	Open Site I	JUN/2000
8	CABLES	30MHz ~ 1GHz		No. 2, No. 4 No. 1, No. 3	OATS 1 OATS 2	JUL/2000 JUN/2000
9	ANTENNA (DIPOLE)	30 ~ 300MHz	ROHDE & SCHWARZ	HZ-12 842899/08		JUL/2000
10	ANTENNA (DIPOLE)	300 ~ 1000MHz	ROHDE & SCHWARZ	HZ-13 842007/0004		JUL/2000
11	EMIVM	30 ~ 1000MHz	AUDIX	A582445 A582443	OATS 1 OATS 2	N/A

Note : Items 1 ~ 8 upon which need to calibrated are within period of 1 year, except item 9-10.

2 TEST PROCEDURE

- 2.1 The EUT was test according to **ANSI C63.4 - 1992 & CISPR 22**.
- 2.2 The radiated test was performed at HomeTek Lab's Open Site I.
- 2.3 The frequency range from 30 MHz to 1 GHz, the measurement were made at 10 meters, with a BI-log antenna.

3 TEST SETUP



4 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

5 EUT OPERATING CONDITION

5.1 Same as “Conducted Power Line test”, section 5

5.2 The radiated emission in the frequency range from 30 MHz - 1000 MHz was test in a horizontal and vertical polarization at HomeTek Lab’s open site I.

5.3 The photos of radiated test configuration, please refer to appendix A.

6 LIMIT OF RADIATED EMISSION CLASS B :

CISPR 22

Frequency (MHz)	Measurement Distance	Limit (dBuV/m)
30 - 230	10 (M)	30
230 - 1000	10 (M)	37

6.1 The tighter limit shall apply at the edge between two frequency bands.

6.2 Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

7 RESULT OF RADIATED EMISSION TEST

- 7.1 The frequency range from 30 MHz to 1 GHz was investigated. All readings are quasi-peak values with resolution bandwidth of 120 kHz.
- 7.2 The measurements above 1 GHz with a resolution bandwidth of 1 MHz are Average values reading at 10 meters.
- 7.3 The measurements were made at 10 meters of HomeTek Lab's open site I.
- 7.4 Temperature : 23 °C, Humidity : 55 % RH.
- 7.5 Radiated Emission data : **Horizontal**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV)
108.95	14.21	11.42	0.71	26.34 *	30	-3.66
169.33	18.13	8.98	0.57	27.68	30	-2.32
181.50	16.63	8.48	0.62	25.73 *	30	-4.27
213.93	11.51	9.86	1.16	22.53	30	-7.47
270.97	17.40	11.90	1.32	30.62	37	-6.38
298.94	18.95	12.79	1.50	33.24	37	-3.76
400.62	10.13	16.29	1.90	28.32	37	-8.68
641.13	11.68	18.56	2.11	32.35	37	-4.65

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 641.13 MHz .
- Corrected Reading : (11.68) + (18.56) + (2.11) = 32.35 . (Emission Level)

7.6 Radiated Emission data : **Vertical**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV)
58.15	20.55	6.12	0.61	27.28	30	-2.72
84.01	18.97	7.28	0.55	26.80	30	-3.20
111.45	16.27	11.68	0.71	28.66	30	-1.34
168.51	10.96	9.02	0.58	20.56	30	-9.44
237.06	17.49	10.74	1.22	29.45	37	-7.55
285.62	14.52	12.36	1.40	28.28	37	-8.72
400.73	7.94	16.29	1.90	26.13	37	-10.87
498.22	12.80	16.47	2.23	31.50	37	-5.50

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 498.22 MHz .
- Corrected Reading : (12.80) + (16.47) + (2.23) = 31.50 . (Emission Level)

REMARK :

1. Model : CG-I
2. Measuring mode : TV MODE
3. Uncertainty in conduction emission measured : $< \pm 2.0\text{dB}$.
4. “*”, means this data is peak measuring as peak value is under Q.P. Limit or Average Limit 3dB margin.
5. Result : **PASSED**

PHOTO OF FCC ID LABEL**SAMPLE OF FCC ID LABEL :**

FCC ID : PN9CG-I

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 that may cause
undesired operation.

Please refer to appendix B photo of ID location.