HomeTek Technology Inc.

ADDRESS: No.85-5, Shir Men Road, Tu Cheng City,
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PHONE : 886-2-22608375 FAX : 886-2-22748013
E - mail : hometek@ms15.hinet.net

FCC TEST REPORT
FOR

APPLICANT : SILITEK CORPORATION.
ADDRESS : 10F, 25, Sec. 1, Tung Hwa S. Rd.,
Taipei, Taiwan, R. O. C.

EUT : Keyboard
MODEL NO. : SK-6200
FCC ID : GYUR80SK

Under Part 15, SUBPART B.

CLASS B

Certification

PREPARED BY :

HomeTek Technology Inc.

No. 85-5, Shir Men Road, Tu Cheng City,

Taipei Hsien. TAIWAN, R. O. C.

Report # : FB8H012

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TEST REPORT CERTIFICATION

EUT	: Keyboard
MODEL NO.	: SK-6200
FCC ID	: GYUR80SK
Final Test Date	: 8/11/99 REPORT #: FB8H012
APPLICANT	: SILITEK CORPORATION.
ADDRESS	: 10F, 25, Sec. 1, Tung Hwa S. Rd.,
	Taipei, Taiwan, R. O. C.

MEASUREMENT PROCEDURE USED :

PART 15 SUBPART B OF FCC RULES AND REGULATIONS
(47 CFR PART 15) FCC / ANSI C63.4-1992

WE HEREBY SHOW THAT :
THE MEASUREMENT SHOWN IN THE ATTACHMENT WERE MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE MAXIMUM ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE FCC LIMITS APPLICABLE.
THIS TEST RESULTS OF THIS REPORT APPLIES TO ABOVE TESTED SAMPLE ONLY.
THIS TEST REPORT SHALL NOT BE REPRODUCE IN PART WITHOUT WRITTEN APPROVAL OF HOMETEK TECHNOLOGY INC.

TEST ENGINEER : Dick DATE : 8/20/99
DICK TSAI

CHECK BY : Susan DATE : 8/20/'99
SUSAN HUANG

APPROVED BY : Grant Huang DATE : 8/20/99
GRANT HUANG/Manager

TABLE OF CONTENTS

GENERAL INFORMATION

1 APPLICANT : SILITEK CORPORATION.

2 ADDRESS : 10F, 25, Sec. 1, Tung Hwa S. Rd.,
Taipei, Taiwan, R. O. C.

3 MANUFACTURER : SILITEK CORPORATION.

4 ADDRESS : 10F, 25, Sec. 1, Tung Hwa S. Rd.,
Taipei, Taiwan, R. O. C.

5 DESCRIPTION OF EUT :

EUT	: Keyboard
FCC ID	: GYUR80SK
Model Number	: SK-6200
Serial #	: N/A
Data Cable	: SHIELDED
Power Cord	: N/A
Power Supply Type	: N/A

6 FEATURES OF EUT :

6.1	PC/AT, PS/2	This keyboard is designed to be AT, PS/2 mode Mode Selection selection is done by auto-switchable.
6.2	Mode	There are three LEDs on the keyboard to indicate Indicators 'Caps Lock', 'Num Lock' and 'Scroll Lock'. The LEDs are 'toggled'. The first depression of the key turns on the LED. The second depression turns the LED off and so on. LEDs are off on power-up or software reset, but will flash during power-on initialization.
6.3	Type Ahead	The keyboard has 16 keys type ahead capability.This means that you can depress 16 keys before host can receive. If more keys are pressed before the host allows keyboard output, the additional data is lost.
6.4	Typematic	With the exception of the Pause key, all keys are Delay and typematic. When a key is pressed and held down, the Repeat keyboard delays 0.5 sec. and begins sending a make Rate Code for that key at a rate of 10.9 characters per second. (The delay is called typematic Delay and the rate is called Repeat Rate.) If two or more keys are pressed, only the last key pressed is repeated at the repeat rate. Typematic operation stops only when the last key pressed is released, even if other keys are still held down. If a key is pressed and held down while keyboard transmission is disable, only the first make code is stored in the type ahead buffer. This prevents the type ahead buffer overflow as result of typematic action. In AT mode, the typematic delay and repeat rate are programmable, this is done by command from host. The default data: Typematic Delay = 0.5 sec. Repeat Rate = 10.9 characters per sec.

6.5	Pseudo	The 'N' key roll-over capability where 'N' is the total N key number of keys on the keyboard 'N' key roll is the Roll-over number of keys that may be held depressed simultaneously capability and have the keyboard generate the appropriate code for each pressed and released key without keyboard interruption.
6.6	Diagnostic	The keyboard microprocessor will perform a diagnostic test self-test after Power-up or after the host system signals the keyboard to perform a software Reset. The microprocessor will check its data memory locations, do a sum-check internal RAM check and check for any depressed keys. If the diagnostic test is correct, the keyboard will transmit an 'AA HEX' code. This will be the first transmission following a Power-Up condition. If the diagnostic test was unsuccessful, then the keyboard will transmit an 'FD/FC HEX' code. In either case, after the diagnostic check the keyboard will begin normal operation.

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	FEB/99
2	LISN	50 Ω/50uH/100A 9KHz ~ 30MHz	SCHWARZ BECK	NNLK 8121	FEB/99
3	LISN	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESH3-Z5	FEB/99
4	ESXS-K1	Version 2.03b	ROHDE & SCHWARZ	1082.9678.02 840.913/246	N/A
5	Cables	10KHz ~ 30MHz		NO : 10	JUL/99
6	Pulse Limiter	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESH3Z2 357.8810.52	JUL/99

2 TEST PROCEDURE

2.1 The EUT was tested according to **EN55022** Class B.

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.

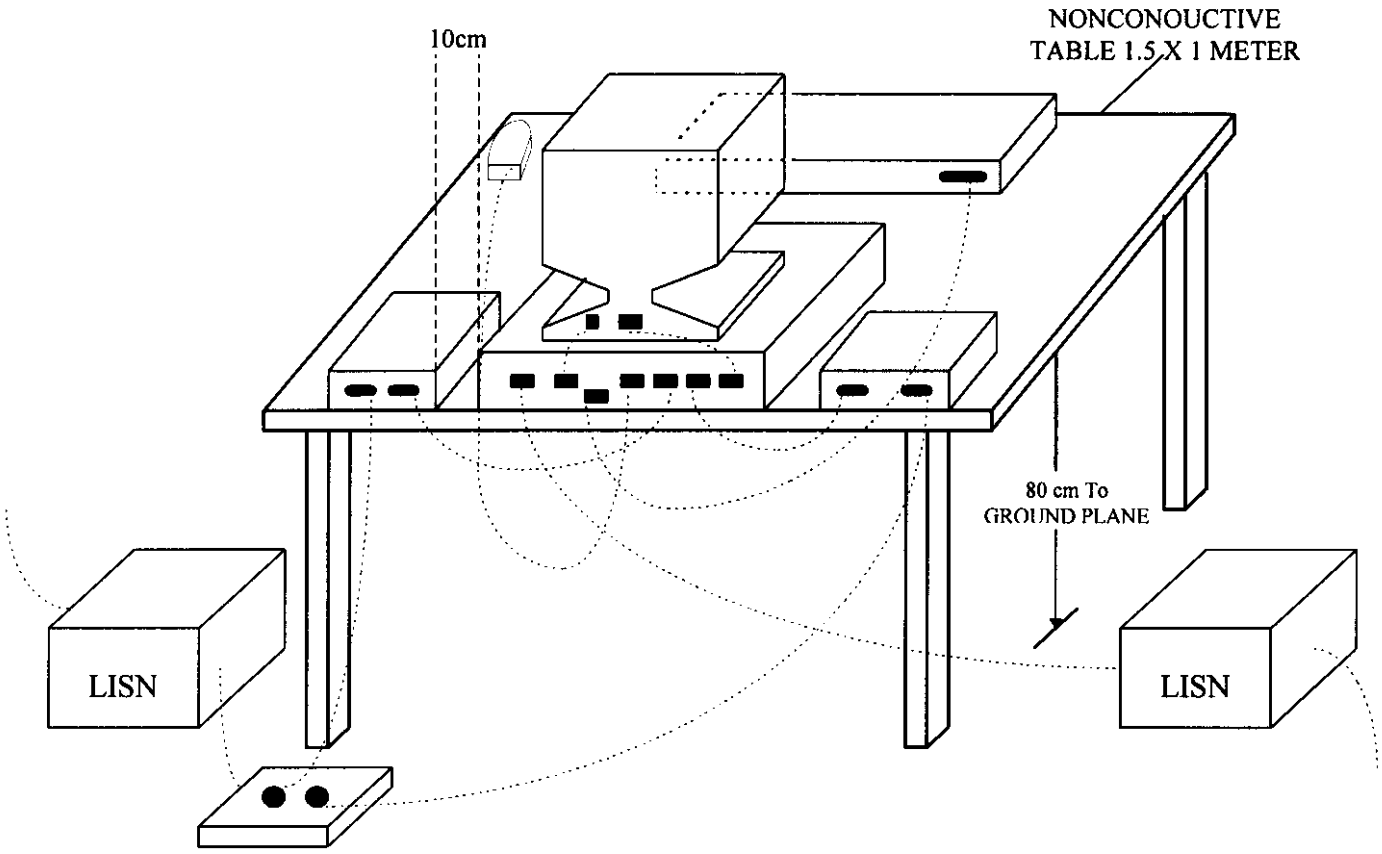
2.4 The LISN used was 50 Ohm / 50 uHenry as specified by **EN55022,** and AC power source is 110V/60Hz.

2.5 All the support peripherals are connect to the other LISN.

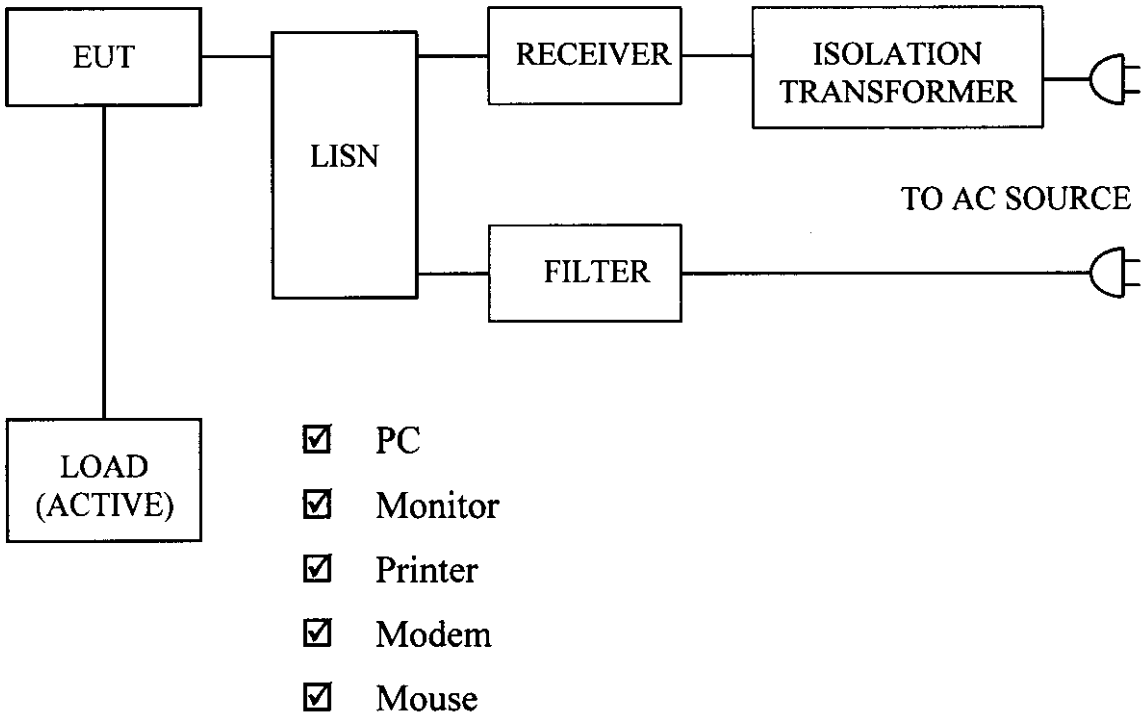
2.6 Cables and peripherals were moved to find the maximum emission levels for each frequency.

3 TEST SETUP

3.1 Typical : Setup Of Conducted Test



3.2 Block Diagram Of Conducted Test



- ☑ PC
- ☑ Monitor
- ☑ Printer
- ☑ Modem
- ☑ Mouse

4 CONFIGURATION OF THE EUT

The EUT was configured according to **EN55022**. 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	:	Keyboard
Manufacturer	:	SILITEK
Model Number	:	SK-6200
Serial Number	:	N/A
FCC ID	:	GYUR80SK
Data Cable	:	Shielded
Power Cord	:	N/A

4.2 PERIPHERALS

☑ Host Personal Computer

Manufacturer	:	HP
Model Number	:	Vectra VE 5/133
Serial Number	:	SG71700544
FCC ID	:	B94VECTRAVE53
Data Cable	:	Shielded
Power Cord	:	Un-Shielded, 1.8 m

☑ Monitor

Manufacturer	:	GVC
Model Number	:	M1448P
Serial Number	:	4PTA730020050
FCC ID	:	DK4M1448
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	:	MY77T1D0DD
FCC ID	:	B94C2642X
Data Cable	:	Shielded, 1.5 m, Connected to the Printer port
Power Cord & Adaptor	:	Un-Shielded, 1.8 m

☑ Modem

Manufacturer	:	DATATRONIC
Model Number	:	2814CX
Serial Number	:	1150541132
FCC ID	:	FCC DoC
Data Cable	:	Shielded, 1.5 m, Connected to the COM port
Power Cord & Adaptor	:	Un-Shielded, 1.8 m

☑ Mouse (PSII)

Manufacturer	:	HP
Model Number	:	M-S34
Serial Number	:	LZA72270727
FCC ID	:	DZL211029
Data Cable	:	Shielded, 1.8 m, Connected to the PSII port
Power Cord	:	N/A

4.3 REMARK :

5 EUT OPERATING CONDITION

5.1 Operating condition is according to **EN55022**.

5.2 The oscillator frequency of the EUT were 4 MHz.

5.3 Turn on the power 110VAC/60Hz 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

6 LIMIT OF CONDUCTED POWER LINE EMISSION CLASS B :

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

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 : 27 ℃, Humidity : 75 % RH.

7.4 Deviations from the specifications : None

7.5 Quasi-Peak :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.170	32.54	32.95	64.96
0.357	45.78	45.60	58.80
0.840	13.87	36.32	56.00
4.640	33.25	22.80	56.00
10.700	27.54	27.96	60.00
22.160	34.68	33.25	60.00

7.6 Average :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.170	24.41	27.29	54.96
0.357	33.87	39.83	48.80
0.840	8.38	30.43	46.00
4.640	25.14	18.29	46.00
10.850	24.72	25.20	50.00
22.160	22.32	25.16	50.00

REMARK :

1. Model : SK-6200
2. Measuring mode :
3. Uncertainty in conduction emission measured : $< \pm 2.0$dB.
4. " * ", means this data is worse case emission level.
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 ☑ OATS 2				JUN/99 JUN/99
2	SPECTRUM ANALYZER	9KHz ~ 1.8GHz	HP	HP8591 3710A06158	Open Site I	MAR/99
3	EMI TEST RECEIVER	20MHz ~ 1GHz	ROHDE & SCHWARZ	ESVS10 845165/017	Open Site I	MAR/99
4	PRE-AMPLIFIER	0.1MHz ~ 1.3 GHz	HP	8447D 1937A02095	Open Site I	MAY/99
5	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	ESMI 845442/006	Open Site II	APR/99
6	PRE-AMPLIFIER	20MHz ~ 7GHz	ROHDE & SCHWARZ	ESMI-Z7 846363/001	Open Site II	APR/99
7	ANTENNA (BI-LOG)	25MHz ~ 2GHz	ARA	LPB2520 S/N:1096	Open Site II	MAR/99
8	ANTENNA (BI-LOG)	25MHz ~ 2GHz	ARA	LPB2520 S/N:1095	Open Site I	MAR/99
9	CABLES	30MHz ~ 1GHz		No. 2, No. 4 No. 1, No. 3	OATS 1 OATS 2	JUL/99 JUL/99
10	ANTENNA (DIPOLE)	30 ~ 300MHz	ROHDE & SCHWARZ	HZ-12 842899/08		JUL/99
11	ANTENNA (DIPOLE)	300 ~ 1000MHz	ROHDE & SCHWARZ	HZ-13 842007/0004		JUL/99
12	EMIVM	30 ~ 1000MHz	AUDIX	A582445 A582443	OATS 1 OATS 2	N/A

Note : 1. Items 1 ~ 9 upon which need to calibrated are with period of 1 year, except item 10-11.

2. Items 5 is used for the final measurement.

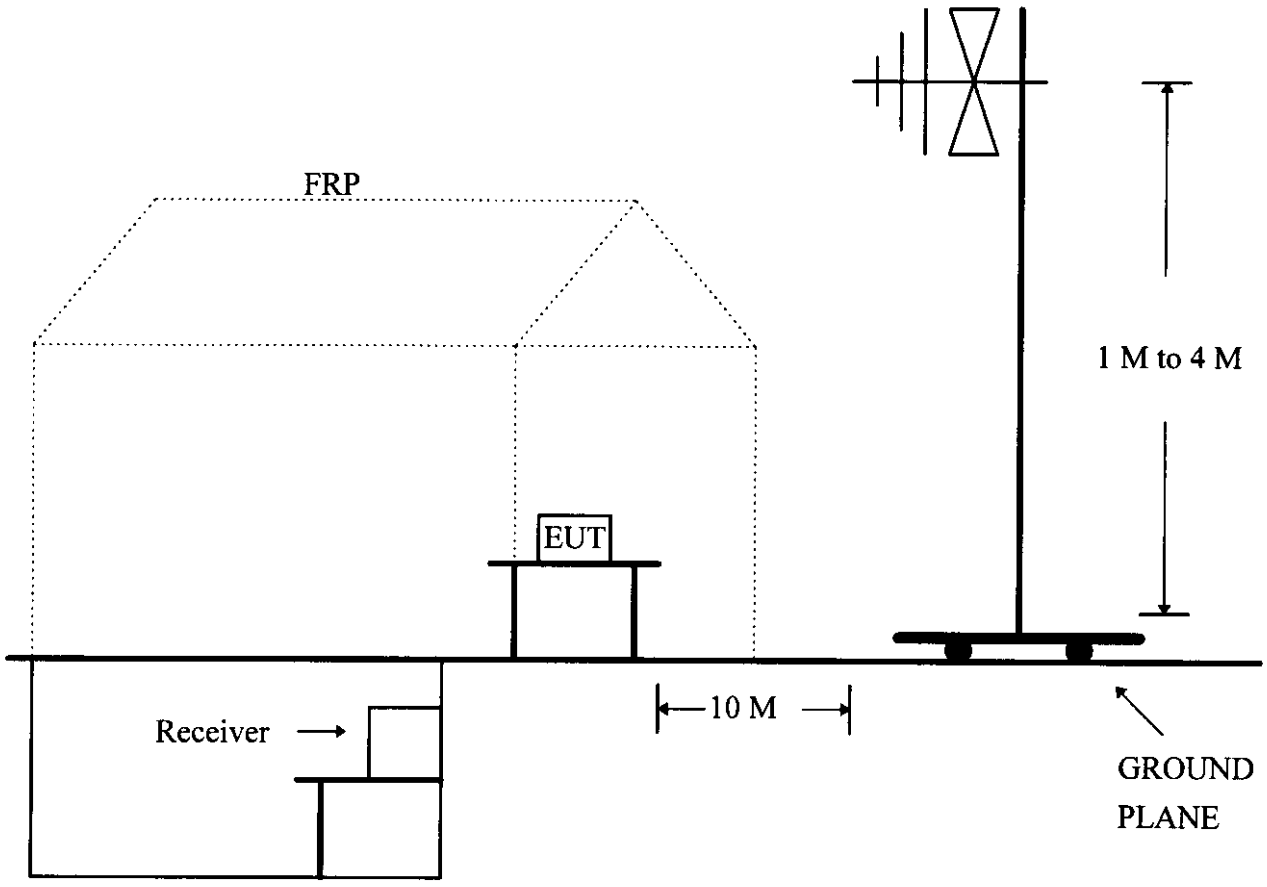
2 TEST PROCEDURE

2.1 The EUT was test according to **EN55022**.

2.2 The radiated test was performed at HomeTek Lab's Open Site II.

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 II.

6 LIMIT OF RADIATED EMISSION CLASS B :

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

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 peak reading at 10 meters.

7.3 The measurements were made at 10 meters of HomeTek Lab's open site II.

7.4 Temperature : 27 ℃, Humidity : 75 % 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)
57.26	10.14	8.37	0.74	19.25	30
67.03	14.54	5.81	0.79	21.14	30
113.04	6.86	9.78	0.94	17.58	30
181.12	13.19	9.02	1.19	23.40	30
279.98	3.39	15.33	1.42	20.14	37
397.90	13.30	15.51	1.73	30.54	37
501.13	4.86	17.80	2.03	24.69	37
819.93	3.47	22.94	2.69	29.10	37

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 819.93 MHz .
- Corrected Reading : (3.47) + (22.94) + (2.69) = 29.10 . (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)
63.22	12.44	9.78	0.74	22.96	30
116.41	10.17	11.25	0.94	22.36	30
160.36	10.53	8.50	1.04	20.07	30
229.09	8.06	11.86	1.28	21.20	30
273.39	5.61	13.00	1.45	20.06	37
400.89	7.20	15.30	1.68	24.18	37
501.14	4.38	17.70	2.03	24.11	37
825.75	2.34	21.71	2.69	26.74	37

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 825.75 MHz .
- Corrected Reading : (2.34) + (21.71) + (2.69) = 26.74 . (Emission Level)

REMARK :

1. Model : SK-6200
2. Measuring mode :
3. Uncertainty in radiated emission measured : < ± 4.0dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**