ELECTROMAGNETIC EMISSONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C REQUIREMENT

OF

FCC ID: GYUR93SK

RF WIRELESS KEYBOARD

MODEL NO: SK-8808

REPORT NO: RF00001

JAN. 09, 2001

Prepared for

SILITEK CORPORATION
10F, 25, SEC.1, TUNG HWA S.RD.,
TAIPEI, R.O.C.

Prepared by

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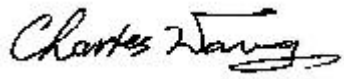
TABEL OF CONTENTS **PAGE**

1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	SILITEK CORPORATION
		10F, 25, SEC.1, TUNG HWA S.RD.,TAIPEI, R.O.C.
CONTACT PERSON	:	ANDREW LIN / PRODUCT MANAGER
TELPHONE NO	:	(02) 2793-7055 EXT 214
EUT DESCRIPTION	:	RF WIRELESS KEYBOARD
MODEM NAME	:	SK-8808
DATE OF MEASUREMENT:		NOV. 28, 2000

LIMITES APPLY TO: FCC PART 15 SECTION 15.227	
TECHNICAL LIMITS	**MEASUREMENT RESULT**
Radiated Emission/ 15.205 & 15.209	PASS
AC Line Conducted Emission/15.207	PASS
Emission in operating band/15.227	PASS

The above equipment was tested by C&C Laboratory Co. Ltd. for compliance with the requirements set forth in CFR 47 PART 15, SUBPART C. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requires.



Charles Wang/ Technical Director
C&C Laboratory Co. Ltd.

2. DESCRIPTION OF EQUIPMENT UNDER MEASUREMENT (EUT)

SK-8808 is a wireless keyboard product which allows its users to connect it to the USB port of PC through its receiver unit and wireless controlled by host keyboard unit (Transmitter) to form a typical application as a traditional keyboard

Transmitter Technical Data	
Actual Operating Frequency	27.12 MHz +/- 0.163 MHz
Transmit Power	4mW(+6dBm)
Modulation scheme	FSK
Power consumption	14.5 +/- 2mA for keyboard at operation mode 12 +/- 5uA for keyboard at sleep mode
Channel	6 channel with 4 bit security ID for keyboard
Receiver power consumption	52 mA at operation mode and 466 uA at sleep mode
Receiver Sensibility	-95 dBm
Antenna type	Antenna match at 27 MHz
Operation range	2 meter
DC voltage	3V(4*AAA Alkaline battery for keyboard)
Receiver	Dual Super Heterodyne Type

Receiver Technical Data	
PC interface type	From USB interface
DC voltage	From PC
Antenna type	Antenna match at 27 MHz

3. ANTENNA CONNECTION

The RF wireless keyboard equipped with an integrated antenna fixed permanently in transmitting unit, user can't changeable.

4. CHANNEL USAGE

The operating frequency used is 26.997 MHz, it is subject to the requirement of FCC CFR 47 ¡ 15.227.

5. THEORY OF OPERATION

The unit is working at 26.997 MHz as a carrier to send communication signal to PC through a receiver which is sold together with the transmitter (Key board host unit).

6. EUT SETUP FOR MEASUREMENT PURPOSE

The EUT (transmitter) was setup as a minimum test configuration as like testing to regular ITE product as per requirement described in ANSI C63.4-1992. The 'H' key was pressed by a non-metallic material intending to send 'H' message to PC through the receiving unit and the 'H' message was shown on the screen of Monitor.

7. MEASUREMENT LOCATION

All emissions tests were performed at:

C&C Laboratory Co. Ltd.

No.15, 14 Lin, Chin Twu Chi, Lu Chu Hsiang, Taoyuan, Taiwan R.O.C.

C&C has site descriptions on file with the FCC for 10 and 3 meter site configurations. C&C is a A2LA accredited facility.

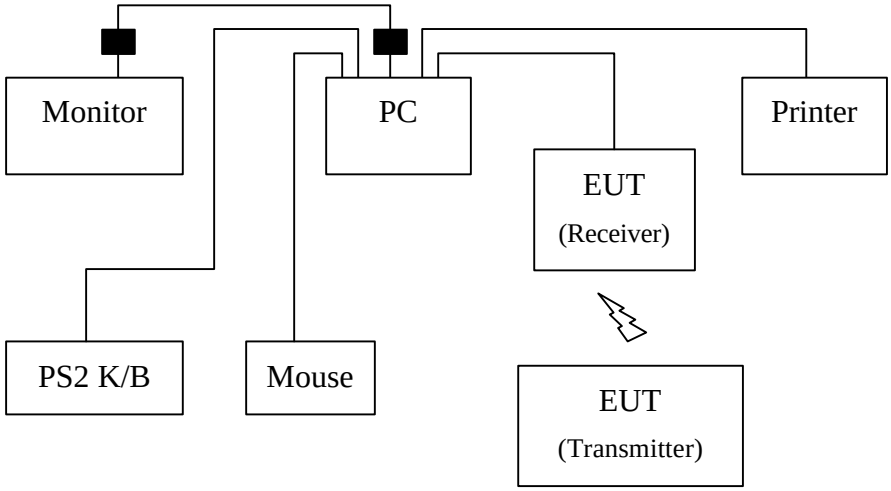
Radiated emissions from the EUT were performed at site 4, one of our 10 meters sites.

Conducted emissions from the EUT where is powered form host (PC) unit were performed at Shielded room # 4.

8. SUPPORT EQUIPMENT

No.	Equipment	Model #	Serial #	FCC ID	Trade Name	Data Cable	Power Cord
1.	Monitor	D2827A	KR92316215	C5F7NFCMC1518X	HP	Shielded, 1.5m (with two cores)	Unshielded, 1.8m
2.	PC	D84XX	SG93000552	FCC DoC	HP	N/A	Unshielded, 1.8m
3.	Mouse	M-S43	LZA93405343	DZL211106	Logitech	Shielded, 1.8m	N/A
4.	PS2 K/B	SK-2502C	M990543850	FCC DoC	HP	Shielded, 1.8m	N/A
5.	Printer	2225C	2909S40149	DSI6XU2225	HP	Shielded, 1.8m	Unshielded, 1.8m

9. MEASUREMENT CONFIGURATION(SIGNAL PATH ONLY)



10. MEASUREMENT PROCEDURES AND MEASUREMENT RESULTS

- ***Radiated Emissions (General Requirements)***

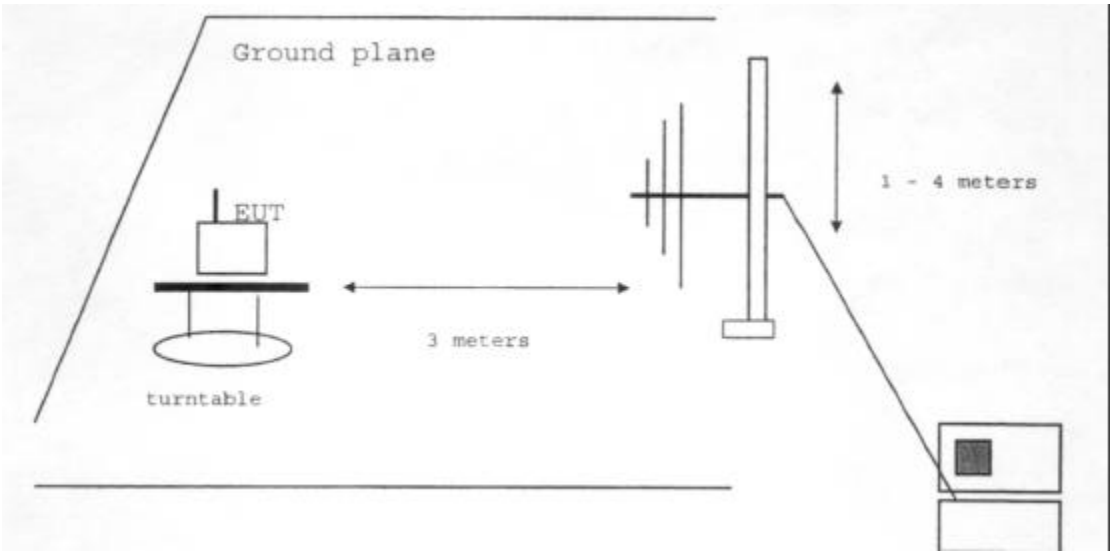
Measurement Requirement: 15.205, 15.209

Measurement facility used for Radiated Emissions

Open Area Measurement Site # 4					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
Spectrum Analyzer	ADVANMEASUREMENT	R3132	91700456	02/15/2000	02/14/2001
Pre-Amplifier	HP	8447F	2944A03748	10/22/1999	10/21/2000
EMI Measurement Receiver	R&S	ESCS30	845552/030	12/04/1999	12/03/2000
Precision Dipole	R&S	HZ-12	846932/0004	07/14/2000	07/13/2001
Precision Dipole	R&S	HZ-13	846556/0008	07/14/2000	07/13/2001
Bilog Antenna	CHASE	CBL 6112B	2462	01/13/2000	01/12/2001
Turn Table	Chance most	N/A	N/A	N.C.R	N.C.R
Antenna Tower	Chance most	N/A	N/A	N.C.R	N.C.R
Controller	Chance most	N/A	N/A	N.C.R	N.C.R
RF Switch	ANRITSU	MP59B	M51067	N.C.R	N.C.R
Site NSA	C&C Lab.	N/A	N/A	12/26/1999	12/25/2000

Measurement Procedures

1. The EUT was placed on a metal free table on the outdoor ground plane. The search antenna was placed 3 meter from the EUT. Measurement distance is chosen so that the noise floor of the measurement system is at least 6dB below the specification limits.
2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205.
3. The resolution bandwidth of test receiver was set at 120 kHz and the video bandwidth was set at greater than resolution bandwidth.
4. Once maximum direction was determined, the searching antenna was raised and lowered in both vertical and horizontal polarization. The maximum readings so obtained are recorded in the data listed below.
5. General measurement set up drawing.



Measurement Results (1/2):

Measured by: Eric Lin Polar: Vertical – 3 m
Detector Function: Quasi-Peak with 120kHz Resolution B.W. Measurement Results: Passed
Temperature: 26 ℃ Humidity: 70 % RH
(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m)	Limits	Margin (dB)
120.02	21.2	14.9	36.1	43.5	-7.4
168.03	27.5	10.9	38.4	43.5	-5.1
387.76	12.1	18.8	30.9	46.0	-15.1
504.11	16.2	20.1	36.3	46.0	-9.7
511.39	16.3	20.3	36.6	46.0	-9.4
624.09	18.3	21.8	40.1	46.0	-5.9

Measurement Results (2/2):

Measured by: Eric Lin Polar: Horizontal – 3 m
Detector Function: Quasi-Peak with 120kHz Resolution B.W. Measurement Results: Passed
Temperature: 26 ℃ Humidity: 70 % RH
(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m)	Limits	Margin (dB)
120.03	18.2	14.9	33.1	43.5	-10.4
168.04	24.5	10.9	35.4	43.5	-8.1
264.05	22.3	14.2	36.5	46.0	-9.5
312.05	18.6	15.7	34.3	46.0	-11.7
336.05	22.5	16.0	38.5	46.0	-7.5
363.71	13.7	17.1	30.8	46.0	-15.2

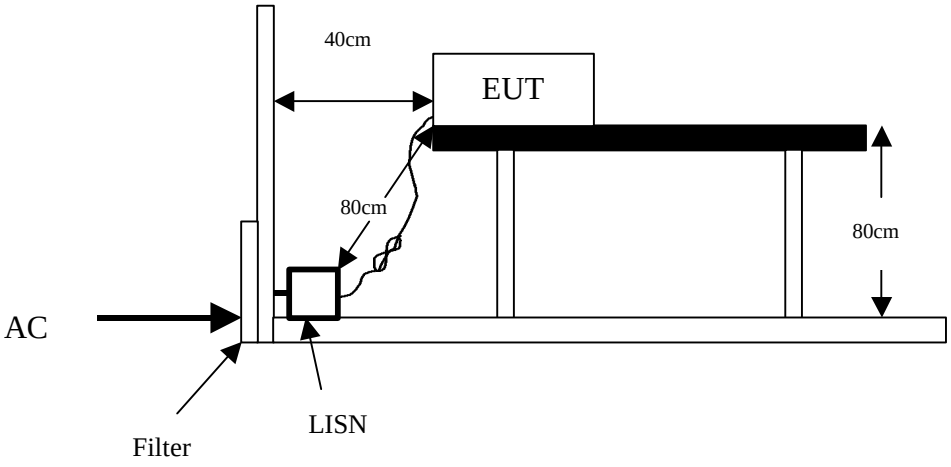
- ***AC Line Conducted Emissions***

Measurement facility used for Conducted Emissions

Conducted Emission Test Site # 4					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
EMI Test Receiver	R&S	ESHS10	843743/015	12/10/1999	12/09/2000
LISN	EMCO	3825/2	9003/1382	01/10/2000	01/09/2001
LISN	R&S	ESH2-Z5	843250/010	12/06/1999	12/05/2000

Measurement Procedure

1. The EUT was placed on a wooden table 40 cm from a vertical ground plane and approximately 80 cm above the horizontal ground plane on the floor, The EUT was set to transmit in a normal hopping mode.
2. Line conducted data was recorded for both NEUTRAL and HOT lines.
3. General measurement set up drawing.



Measurement Results: N/A (Since the EUT is powered by battery, 15.207 line conducted test is not required)

➢ ***THE EMISSION LEVEL IN OPERATING BAND***

As per the requirement of FCC ¡ 15.227, any emission within this band shall not exceed 10000uV/m (80dBuV/m) at 3 meters.

The measurement procedure and setup are same as radiated emission measurement. The test result as listed at next page.

Measurement facility used for the emission level in operating band

OATS #4					
EQUIPMENT TYPE	*** MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
EMI Test Receiver	R&S	ESHS10	843743/015	12/10/1999	12/09/2000
Loop Antenna	EMCO	6502	2356	04/20/2000	04/19/2001

Measurement Procedure

1. The EUT was placed on a metal free table and with 80 cm above ground. The loop antenna was placed at 3 meters distance from the EUT and the center of the loop shall be 1 meter above the ground as per ANSI C63.4-1992.
2. The turntable was slowly rotated to locate the direction of maximum emission.
3. The resolution bandwidth of test receiver was set at 9 kHz and the video bandwidth was set at greater than resolution bandwidth.
4. Once maximum direction was determined. The maximum readings so obtained are recorded in the data listed below.
5. Both vertical and horizontal polarization shall be tested.

Measurement Results:

Measured by: Bob Lin Polar: Vertical – 3 m
Detector Function: Average/Peak Measurement Results: Passed
Temperature: 26 ℃ Humidity: 70 % RH
(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m)	Limits	Margin (dB)
26.9849	46.0	10.1	56.1	80.0	-23.9 (Av)
26.9849	48.5	10.1	58.6	100.0	-41.4 (Pk)

Measured by: Bob Lin Polar: Horizontal – 3 m
Detector Function: Average/Peak Measurement Results: Passed
Temperature: 20 ℃ Humidity: 68 % RH
(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m)	Limits	Margin (dB)
26.9862	40.7	10.1	50.8	80.0	-29.2 (Av)
26.9849	44.2	10.1	54.3	100.0	-45.7 (Pk)

- ***OPERATING RANGE VERIFICATION***

The stipulated operating rage of FCC §15.227 is 26.96 to 27.28 MHz. The band edge requirement meets the requirement from the spectrum plot shown below.