# EXHIBIT B

Test Report

Report No.

S0715697

Specifications
Test Method

FCC Part 15 - Notification ANSI C63.4 1992

Applicant address

23, Lane 2, Jing Wu Road, Taichung, Taiwan, R.O.C.

Applicant
Items tested
Model No.

Sekaku Electron Industry Co., Ltd. WIRELESS RECEIVER

WR-211DV (Sample #S07697)

Results

Sample received

date

As detailed within this report

07/17/1998 (month / day / year)

Prepared by

Authorized by

Issue date

project engineer

Vice General Manager

(Jacob Lin)

(month / day / year )

Modifications

Tested by

Office at

Open site at

None /

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- (2) This report must not be used by the client to claim product endorsement by <u>NVLAP or nay agency of U.S. Government.</u>

★ FCC ID: H38WR-211DV

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## Chapter 1 Introduction

#### Description of EUT:

These products are professionally designed wireless microphone and receiver system made-up of diverse circuit. It can receive one frequency between 174 MHz and 216 MHz. This microphone is worn by a performer and other participants in a program, filming, reporting ...... etc.

#### Connection of EUT:

- (1)Connect the EUT's audio output to guitar amplifier by an audio cable .
- (2)Plug the adapter into the EUT.
- (3)Pull out the antenna vertically.

#### Test method:

There are three EUTs tested which are operatd at 174.1, 194.82, 214.82 MHz separately. Turn on the receiver and the speaker. There is a signal generator connected with a field probe, which can transmit the receiving frequency, put near the EUT. The test data also showed three EUT's emission.

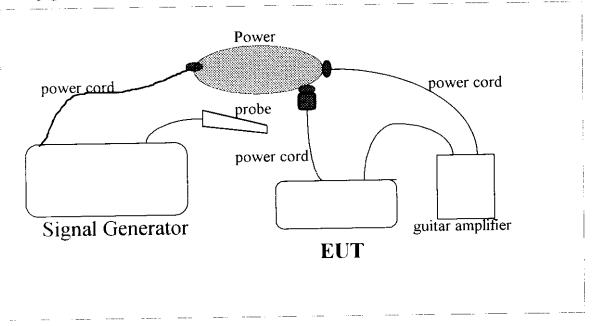
(If the emission is close to the ambience, the resolution BW and view resolution will be reduced and the data will be recorded by detection of maximum hold peak mode.)

### Statement of transition provision for compliance with the rules

The EUT receives the signal which only send from the wireless microphone. The EUT won't be influenced by the transition provision, it will be continue to comply with the regulations of the FCC Part 15. (The relative wireless microphone FCC ID:H38VXM-198TS).

The testing configuration of test setup is showing in the next page.

#### Configuration of test setup



#### **Connections:**

- \* The Adapter 120Vac/15Vdc,400 mA, 190 cm long, non-shielded.
- \* The Audio cable dual head 6.3Ø, 126 cm, non-shielded.

### List of support equipment

### Conducted (Radiated) test:

Guitar Amprifier: Dragon (KIKUTANI MUSIC COL,LTD.)

GA-10 (RMS-100) Model No. :

110vac 60Hz Power type

Non-shield, 1.2m long Power code

HP Field Probe 30MHz~1GHz Field Probe:

HP11940A Model No. : 2650A03038 Serial No. :

Signal Generator: HP 9KHz~4000MHz

8648D Model No.

Serial No. 3613A00117 110vac 60Hz Power type

Non - Shielded Power cord

# Chapter 2 Conducted emission test

#### Test condition and set up:

All the equipment is placed and setup according to the ANSI C63.4 - 1992. The EUT is assembled on a wooden table which is 80 cm high, is placed 40 cm from the back-wall which is a vertical conducting plane. One LISN is for EUT, the other LISN is for support equipment. They are all placed on the conductive ground. The EUT's LISN is connected to a line switch box for selecting L1 or L2, then connect to a preamplifier and spectrum.

The spectrum scans from 450KHz to 30MHz. Conducted emission levels are detected at max. peak mode. But if the max. peak mode failed ,it will be measured by CISPR's quasipeak detection mode.

While testing, there is a worst-emission plot printed at peak detection mode, and there are more than 6 highest emissions relative to limit recorded. The plot is kept as the original data, not included in test report.

### List of test Instrument:

				<u>Calibration</u>	<u> Date</u>
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
Spectrum analyzer	8591EM	ΗP	3619A00821	08/29/97	08/29/98
LISN (EUT)	3825/2	EMCO	9411-2284	05/15/98	05/15/99
LISN (Support E.)	3825/2	EMCO	9210-2007	05/15/98	05/15/99
Preamplifier	8447F	ΗP	2944A03706	05/15/98	05/15/99
Line switch box	AC1-003	TRC		05/15/98	05/15/99
Line selector	AC1-002	TRC		05/15/98	05/15/99

The level of confidence of 95% ,the uncertainty of measurement of conducted emission is  $\pm~2.4~\text{dB}$  .

Test Result : Pass (Appendix A)

#### Chapter 3 Radiated emission test

#### Test condition and set up:

**Pretest:** Prior to the final test (OATS test), the EUT is placed in a shielded enclosure, GTEM, and scan from 30MHz to 1GHz. This is done to ensure the radiation exactly emits form the EUT.

Final test: Final radiation measurements is made on a second open-field test site. The EUT is placed on a nonconductive table which is 0.8 m height, the top surface is 1.0 x 1.5 meter. All the placement is according to ANSI C63.4 - 1992.

The spectrum is examined from 30 MHz to 1000 MHz measured by HP spectrum.

The EMCO whole range Antenna is used to measure frequency from 30 MHz to 1GHz. The final test is used the spectrum HP 8594EM.

Measure more than six top marked frequencies generated form pretest by computer step by step at each frequency. The EUT is rotated 360 degrees, and antenna is raised and lowered from 1 to 4 meter to find the maximum emission levels. The antenna is used with both horizontal and vertical polarization.

Appropriated preamplifier which is made by TRC is used for improving sensitivity and precautions is taken to avoid overloading. The spectrum analyzer's 6dB bandwidth is set to 120 K Hz, and the EUT is measured at quasi-peak mode.

If the emission is close to the frequency band of ambience, the data will be rechecked by the tester and the corrected data will be written in the test data sheet. If the emission is just within the ambience, the data from GTEM will be taken as the final data.

#### List of test Instrument:

				<b>Calibration</b>	<u> Date</u>			
Instrument name	Model No.	Brand	Serial No.	Last	Next			
Spectrum analyzer	8568B	ΗP	3004A18617	05/15/98	05/15/99			
Quasi-peak Adapter	85650A	ΗP	2521A00984	05/15/98	05/15/99			
RF Pre-selector	85685A	ΗP	2947A01011	05/15/98	05/15/99			
Spectrum analyzer	8594EM	ΗP	3619A00198	08/13/97	08/13/98			
Antenna(30M-2G Hz)	3142	EMCO	9610-1094	10/30/97	10/30/98			
Open test side (Antenna	Open test side (Antenna, Amplify, cable calibrated together)							

The level of confidence of 95%, the uncertainty of measurement of radiated emission is  $\pm 4.96 \text{ dB}$ .

### Test Result: Pass (Appendix B)

# Appendix A

# Conducted Emission Test Result (Frequency 174.10 MHz)

Humidity: 50 % RH Testing room: Temperature  $\pm$  24  $^{\circ}$  C

Line 1

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)	
455.00	41.74	48.00	-6.26	
470.00	41.31	48.00	-6.69	
483.00	40.44	48.00	-7.56	
524.00	38.24	48.00	-9.76	
549.00	37.04	48.00	-10.96	
586.00	35.45	48.00	-12.55	
612.00	33.83	48.00	-14.17	
624.00	33.55	48.00	-14.45	
658.00	31.86	48.00	-16.14	
729.00	29.73	48.00	-18.27	

Line 2

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV)	Margin (dB)	
467.00	39.23	48.00	-8.77	
486.00	38.07	48.00	-9.93	
499.00	37.67	48.00	-10.33	
518.00	36.23	48.00	-11.77	
556.00	34.33	48.00	-13.67	
575.00	33.37	48.00	-14.63	
601.00	31.69	48.00	-16.31	
612.00	31.62	48.00	-16.38	
637.00	31.28	48.00	-16.72	
654.00	29.38	48.00	-18.62	

# (Frequency 194.82 MHz)

#### Line 1

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)	
457.00	34.94	48.00	-13.06	
499.00	33.57	48.00	-14.43	
571.00	29.52	48.00	-18.48	
590.00	27.25	48.00	-20.75	
641.00	24.87	48.00	-23.13	
675.00	21.70	48.00	-26.3C	
764.00	24.48	48.00	-23.52	
1120.00	25.88	48.00	-22.12	
23350.00	22.22	48.00	-25.78	
23940.00	22.74	48.00	-25.26	

#### Line 2

Frequency (MHz)	Amplitude (dBuV)	Limit (dBuV)	Margin (dB)	
455.00	39.51	48.00	-8.49	
480.00	39.52	48.00	-8.48	
489.00	38.92 48.00		-9.08	
534.00	37.92	48.00	-10.08	
553.00	37.37	48.00	-10.63	
628.00	33.20	48.00	-14.80	
645.00	32.21	48.00	-15.79	
671.00	31.05	48.00	-16.95	
692.00	30.84	48.00	-17.16	
719.00	30.11	48.00	-17.89	

## (Frequency 214.82 MHz)

Line 1

Frequency (MHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)	
455.00	39.48	48.00	-8.52	
470.00	39.59	48.00	-8.41	
	38.14	48.00	-9.86	
502.00	38.31	48.00	-9.69	
524.00	36.81	48.00	-11.19	
534.00	36.81	48.00	-11.19	
564.00	34.93	48.00	-13.07	
604.00	33.29	48.00	-14.71	
624.00	31.70	48.00	-16.30	
663.00	30.76	48.00	-17.24	

Line 2

Frequency	Amplitude	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	(dB)	
461.00	40.57	48.00	-7.43	
477.00	40.14	48.00	-7.86	
489.00	39.36	48.00	-8.64	
499.00	39.38	48.00	-8.62	
518.00	38.50	48.00	-9.50	
534.00	37.99	48.00	-10.01	
549.00	36.39	48.00	-11.61	
582.00	34.30	48.00	-13.70	
604.00	33.69	48.00	-14.31	
654.00	31.97	48.00	-16.03	

### Appendix B

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# Radiated Emission Test Result : (Frequency 174.10 MH Horizontal)

Test Conditions:

Testing room: Temperature : 26.50° C Humidity: ,0% RH
Testing site : Temperature : 32.30° C Humidity: 82 % RH

Frequency	Reading Amplitude	Ant.	Table	00110111	Corrected Amplitude		Margin
MHz	dBuV	m	degree	dB/m	aba IIII	dBuV/m	:

163,410	61.22	1 00	41	-22.59	38.63	43.50	-4.87
217.880	50.58	1.00	297	-20.31	30.27	46.00	-15.73
272 340	43.71	1.00	238	-17.75	25.96	46.00	-20.04
326.810	36.62	1.00	69	-14.51	22.11	46.00	-23.89
381.280	37.59	1.00	58	-13.44	24.15	46.00	-21.85
435.750	38.57	1.00	105	-8.43	30.14	46.00	-15.86
653.620	46.71	1.00	101	-13.07	33.64	46.00	-12.36
708.090	44.60	1.00	79	-13.22	31.38	46.00	-14.62

#### Note:

(For example : 30MHz correction factor = 15.5 + (-15.26) = 0.24 dB/m)

<sup>1.</sup> Margin = Amplitude - limit, and the street as the median the street angle.

<sup>2.</sup>Corrected Amplitude = Reading Amplitude - Correction Factors

<sup>3.</sup> Correction factor = Antenna factor + ( Cable Loss - Amplitude gain)

# Radiated Emission Test Result :(Vertical)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB	
			<u> </u>				
163.410	56.61	3.03	316	-22.59	34.02	43.50	-9.48
217.880	36.63	1.00	130	-20.31	16.32	46.00	-29.68
272.340	35.60	1.00	296	-17.75	17.85	46.00	-28.15
326.810	40.37	1.00	53	-14.51	25.86	46.00	-20.14
381.280	44.77	1.00	12	-13.44	31.33	46.00	-14.67
435,750	41.63	1.00	16	-8.43	33.20	46.00	-12.80
	54.74	1.00	101	-13.07	41.67	46.00	-4.33
653.620 708.090	52.54	1.00	108	-13.22	39.32	46.00	-6.68

# Radiated Emission Test Result : (Frequency 194.82 MP. Horizontal)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
			<del>-</del>	<u> </u>			
137.020	49.62	1.00	246	-24.42	25.20	43.50	-18.30
205.530	47.85	1.00	64	-20.40	27.45	43.50	-16.05
274.040	37.43	1.00	74	-17.68	19.75	46.00	-26.25
342.550	37.84	1.00	243	-14.59	23.25	46.00	-22.75
411.050	41.40	1.00	102	-13.28	28.12	46.00	-17.88
616.580	39.17	3.02	51	-13.59	25.58	46.00	-20.42
685.090	39.58	1.00	114	-12.46	27.12	46.00	-18.88
890.620	45.17	1.00	219	-13.98	31.19	46.00	-14.81

# Radiated Emission Test Result : (Frequency 194.82 MH Vertical)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
		<u> </u>	!	<u> </u>			
137.020	52.29	1.00	319	-24.42	27.87	43.50	-15.63
205.530	48.32	3.03	137	-20.40	27.92	43.50	-15.58
274.040	37.34	1.00	1	-17.68	19.66	46.00	-26.34
342.550	39.69	1.00	25	-14.59	25.10	46.00	-20.90
411.050	47.10	1.00	246	-13.28	33 82	46.00	-12.18
616.580	43.73	1.00	15	-13.59	30.14	46.00	-15.86
685.090	45.26	1.00	309	-12.46	32.80	46.00	-13.20
890.620	47.22	3.03	276	-13.98	33.24	46.00	-12.76

## Radiated Emission Test Result : (Frequency 214.82 MH Horizontal)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
	1	u <del>-</del>	<u> </u>			-	
150.350	48.36	1.00	46	-23.48	24.88	43.50	-18.62
225.530	57.38	1.00	275	-19.91	37.47	46.00	-8.53
375.870	42.41	1.00	73	-13.55	28.86	46.00	-17.14
451.050	47.33	1.00	118	-10.17	37.16	46.00	-8.84
526.220	40.12	1.00	111	-10.96	29.16	46.00	-16.84
601.400	48.71	3.02	251	-13.09	35.62	46.00	-10.38
676,580	45.42	1.00	251	-12.43	32.99	46.00	-13.01
***							

# Radiated Emission Test Result : (Frequency 214.82MHz Vertical)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
			1			1	
150.350	48.25	1.00	23	-23.48	24.77	43.50	-18.73

150.350	48.25	1.00	23	-23.48	24.77	43.50	-18.73
225.530	52.91	1.00	124	-19.91	33.00	46.00	-13.00
375.870	49.71	1.00	20	-13.55	36.16	46.00	-9.84
451.050	52.70	1.00	302	-10.17	42.53	46.00	-3.47
526.220	43.29	1.00	8	-10.96	32.33	46.00	-13.67
601.400	43.41	1.00	202	-13.09	30.32	46.00	-15.68
676.580	50.44	1.00	313	-12.43	38.01	46.00	-7.99
***							

#### Final statement:

This test report, measurements made by TRC are traceable to the NIST.