REPORT NO:	RF89062202
PRODUCT:	Wireless Keyboard
MODEL NO:	KB-16M Wireless
SERIAL NO:	N/A
CLIENT:	KYE SYSTEMS CORP.
ADDRESS	No. 492, Sec. 5, Chung Hsin Rd., San Chung, Taipei Hsien, Taiwan, R.O.C.
ISSUED BY:	Advance Data Technology Corporation (ADT Corp.)
OFFICE ADDRESS:	11F, No. 1, Sec. 4, Nan-King East Rd., Taipei, Taiwan, R.O.C.
LABORATORY ADDRESS:	No. 47, 14 Ling, Chia Pao Tsuen, Lin Kou Hsiang, Taipei Hsien, Taiwan, R.O.C.
TEST STANDARD:	47CFR Part 15, Subpart C (15.227)
TEST DATE:	Jul.11, 2000
TEST RESULT:	Pass

Accredited Laboratory

CONTENTS

1. CERTIFICATION

Issue Date: Jul. 11, 2000

PRODUCT:	Wireless Keyboard
MODEL NO:	KB-16M Wireless
FCC ID:	FSUGKZG6
CLIENT:	KYE SYSTEM CORP.
TEST STANDARD:	FCC 47CFR Part 15, Subpart C (Section 15.227) ANSI C63.4-1992

We, **ADVANCE DATA TECHNOLOGY CORPORATION,** hereby certify that one sample of the designated sample has been tested in our facility. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate representation of the measurements of the sample's EMI characteristics and the energy emitted under the conditions herein specified.

TESTED BY: _____ **DATE:** _____
Ellis Wu

CHECKED BY: _____ **DATE:** _____
Delphine Chen

APPROVED BY: _____ **DATE:** _____
Dr. Alan Lane, Manager

2. SUMMARY OF TEST RESULTS & GENERAL STATEMENT OF CERTIFICATION

The EUT has been tested according to the following specifications:

47 CFR Part 15, Subpart C			
PARAGRAPH.	TEST REQUIREMENTS	COMPLIANCE (YES/NO)	TEST RESULT
15.107, 15.109	**AC Power Conducted Emissions Spec.: 48 dBuV**	**N/A**	**N/A**
15.227	**Transmitter Radiated Emissions**	**Yes**	**Minimum passing margin is –11.0 dBuV At 426.26 MHz**

3. GENERAL INFORMATION

3.1 General Description of EUT

Product:	**Wireless Keyboard**
Model No:	**KB-16M Wireless**
Power Supply:	**6VDC (four AAA batteries)**
Modulation Type:	**FSK**
Operating Frequency:	**27 MHz**
Number of Channel:	**2**
Channel Spacing:	**50kHz**
Associated devices:	**N/A**

Note: The latest innovation in wireless technology is the NewScroll Wireless keyboard. The keyboard can be used from a distance from up to 1.5m, even if desktop items are between it and the receiver.

The other detailed information, please refer to user's manual.

3.2 Description of Test mode

The EUT has 2 channels for data transmission. According to Part 15, Sec. 15.31(m), the channel 2 was chosen for evaluation.
Below is the channel & frequency table:

Channel	Frequency
1	27.145 MHz
2	27.195 MHz

3.3 Test Methodology

These tests were conducted on a sample of EUT for the evaluation in compliance with FCC CFR47 Part 15, Subpart C (15.227).

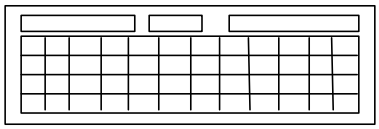
Both conducted and radiated emissions measurements were conducted in accordance with ANSI C63.4:1992.

3.4 Support Units List

N/A

3.5 Configuration of System Under Test

Wireless Keyboard Model :KB-16M Wireless



Note: the drawing is only for your reference, please have a look at the attached photo for the actual one.

4. GENERAL INFORMATION OF TEST FACILITY

4.1 Test Lab.:

☑ **Lin Kuo EMC Lab.**
No. 47, 14 Ling, Chia Pau Tsuen, Lin Kuo Hsiang, Taipei, Taiwan, R.O.C.

☐ **Hsin Chu EMC Lab.**
No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, R.O.C.

4.2 Calibration Interval :

All calibration interval of the test sites and test instruments is 12 months. The calibrations are traceable to NML/ROC and NIST/USA.

5. TEST PROCEDURES AND TEST RESULTS

5.1 Conducted Emission Measurement

This EUT is excused from investigation of conducted emission, for it is powered by battery only. According to paragraph 15.207(a), measurements to demonstrate compliance with the conducted limited are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

5.2 Radiated Emission Measurement

5.2.1 Test instruments

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	**8590L**	**3544A01176**	**Apr 18, 2001**
HP Preamplifier	**8447D**	**2944A08485**	**Oct. 23, 2000**
HP Preamplifier	**8347A**	**3307A01088**	**Sep. 09, 2000**
ROHDE & SCHWARZ TEST RECEIVER	**ESMI**	**839013/007 839379/002**	**Aug. 27, 2000**
SCHWARZBECK Tunable Dipole Antenna	**VHA 9103 UHA 9105**	**E101051 E101055**	**Nov. 25, 2000**
CHASE BILOG Antenna	**CBL6112A**	**2221**	**Aug. 10, 2000**
SCHWARZBECK Horn Antenna	**BBHA9120-D**	**D130**	**Jul. 09, 2001**
SCHWARZBECK Horn Antenna	**BBHA9170**	**123**	**Jan. 31, 2001**
EMCO Turn Table	**1060**	**1115**	**N/A**
SHOSHIN Tower	**AP-4701**	**A6Y005**	**N/A**
Open Field Test Site	**Site 5**	**ADT-R05**	**Aug. 09, 2000**

The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMAS document NIS81.

5.2.2 Test Procedure

a. The EUT was placed on the top of a turn table 0.8 meter above ground at a 3-meter open field site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.

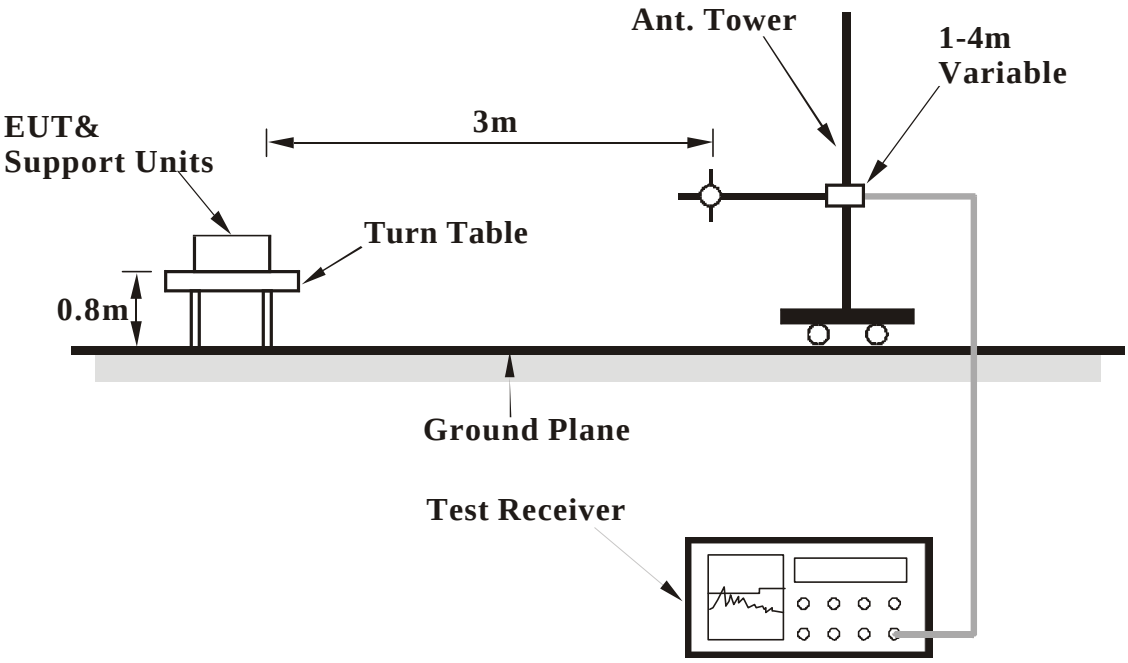
c. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the interference-receiving antenna was moved from 1 meter to 4 meter height above ground and the turn table was rotated from 0 degree to 360 degrees to find the maximum reading.

e. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and peak values of EUT will be reported. Otherwise the emissions which do not have 10 dB margin will be re-tested one by one using the quasi- peak method or average method as specified and then reported.

5.2.3 Test Setup



5.2.4 Photograph of Test Setup

5.2.5 EUT Operating condition

Set the EUT to transmit continuously at 27MHz channel 1 frequency band. Such function can be activated by pressing two buttons of the keyboard at the same time.

5.2.6 Climate Condition

The temperature and related humidity in test site is 25℃ and 65% respectively.

5.2.7 Test Results

5.2.7.1 Fundamental Frequency

ANTENNA POLARITY: Vertical		**Detector Function :** Pk Average				**6dB Bandwidth : 120 kHz.**				**Distance : 3 M Frequency Range : 30 – 1000 MHz.**	
Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)		Antenna Height (cm)	Table Angle (Degree)
		P.K.	A.V.	P.K.	A.V.	P.K.	A.V.	P.K	A.V.		
27.203	8.4	57.3	-	65.7	-	100	80	-34.3	-	100	70

ANTENNA POLARITY: Horizontal		**Detector Function :** Pk Average				**6dB Bandwidth : 120 kHz.**				**Distance : 3 M Frequency Range : 30 – 1000 MHz.**	
Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)		Antenna Height (cm)	Table Angle (Degree)
		P.K.	A.V.	P.K.	A.V.	P.K.	A.V.	P.K	A.V.		
*27.202	8.4	57.4	-	65.8	-	100	80	-34.2	-	244	367

Remarks: 1. Emission level (dBuV/m) = Correction Factor (dB) + Reading value (dBuV).

2. Correction Factor (dB) = Ant. Factor (dB)+Cable loss (dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission level - Limit value

5. The limit value is defined as per 15.227

5.2.7.2 Harmonics and Spurious

ANTENNA POLARITY: Vertical		**Detector Function : Quasi-Peak**		**6dB Bandwidth : 120 kHz.**		**Distance : 3 M Frequency Range : 30 – 1000 MHz.**	
Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
54.36	7.5	12.0	19.5	40.0	-20.5	-100	-7
190.36	10.5	6.6	17.1	43.5	-26.4	220	271
299.16	14.9	3.1	18.0	46.0	-28.0	139	205
435.16	18.5	0.8	19.3	46.0	-26.7	194	337
462.24	18.9	10.6	29.5	46.0	-16.5	236	63
489.44	19.6	8.9	28.5	46.0	-17.5	230	82
516.64	20.2	5.1	25.3	46.0	-20.7	230	363
543.84	20.7	2.6	23.3	46.0	-22.7	110	-7

Remarks: 1. Emission level (dBuV/m) = Correction Factor (dB) + Reading value (dBuV).

2. Correction Factor (dB) = Ant. Factor (dB)+Cable loss (dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission level - Limit value

5. The limit value is defined as per 15.227

ANTENNA POLARITY: Horizontal		Detector Function : Quasi-Peak		6dB Bandwidth : 120 kHz.		Distance : 3 M Frequency Range : 30 – 1000 MHz.	
Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
54.35	7.5	16.8	24.3	40.0	-15.7	202	329
135.96	12.7	4.6	17.3	43.5	-26.2	243	362
190.35	10.5	15.3	25.8	43.5	-17.7	210	-2
244.70	13.3	5.6	18.6	46.0	-27.4	126	362
299.10	14.9	6.8	21.7	46.0	-24.3	108	33
407.88	18.1	2.7	20.8	46.0	-25.2	100	205
435.06	18.4	8.7	27.1	46.0	-18.9	211	32
462.26	18.9	16.1	35.0	46.0	-11.0	200	36
489.46	19.6	13.2	32.8	46.0	13.2	195	367
516.63	20.2	7.7	27.9	46.0	-18.1	186	38
543.83	20.7	5.2	25.9	46.0	-20.1	186	345

Remarks: 1. Emission level (dBuV/m) = Correction Factor (dB) + Reading value (dBuV).

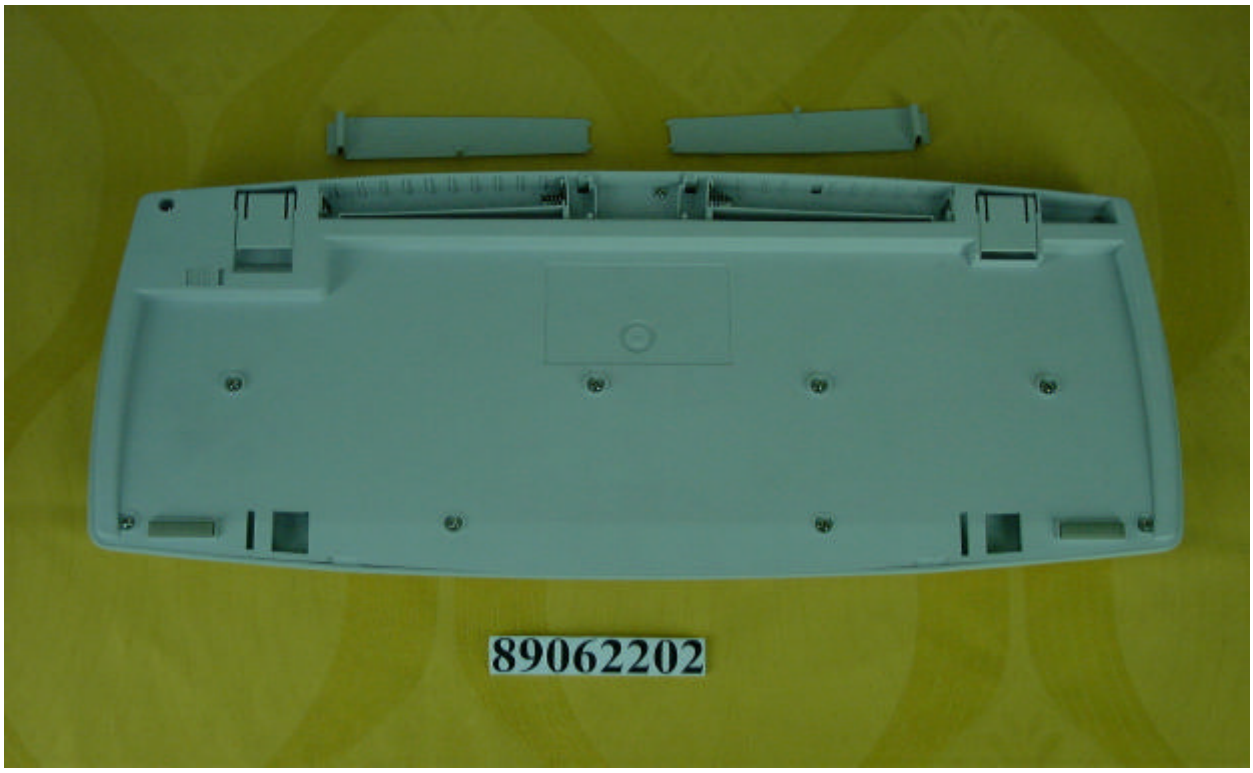
2. Correction Factor (dB) = Ant. Factor (dB)+Cable loss (dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission level - Limit value

5. The limit value is defined as per 15.227

6. Photograph of the EUT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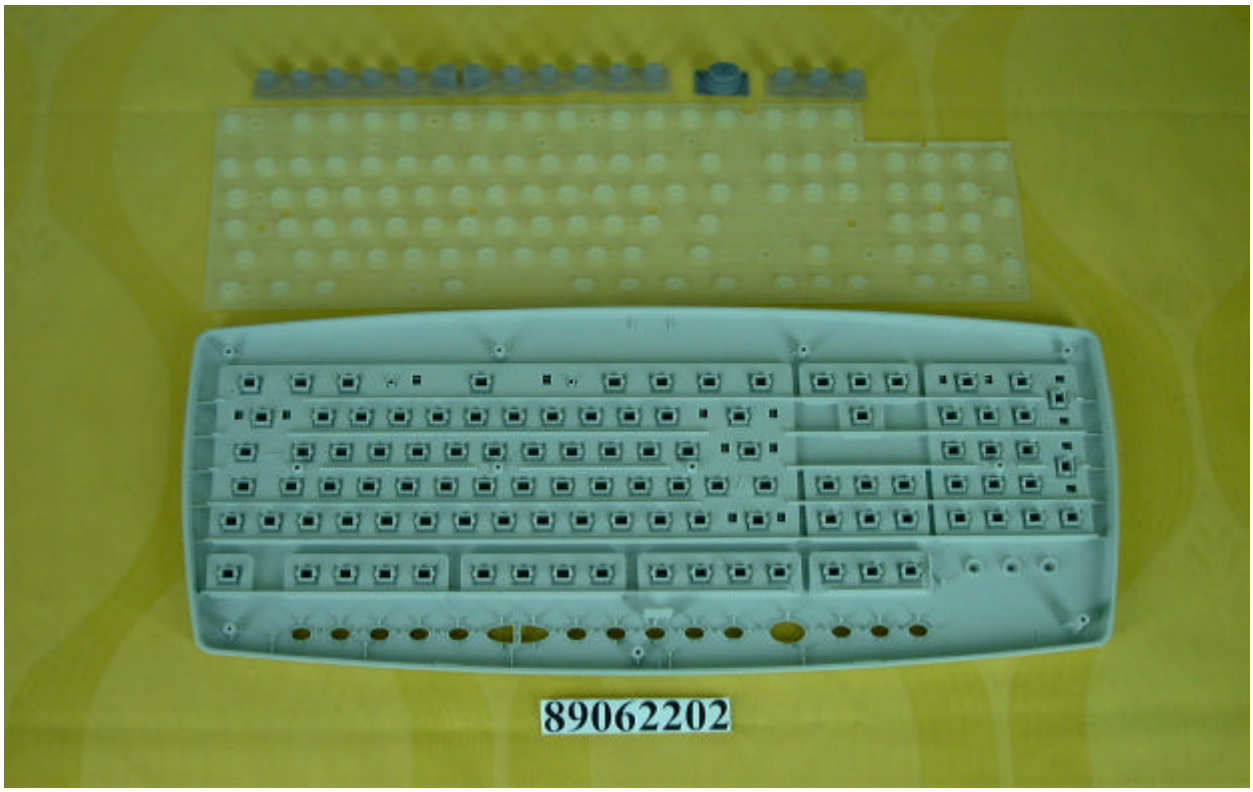
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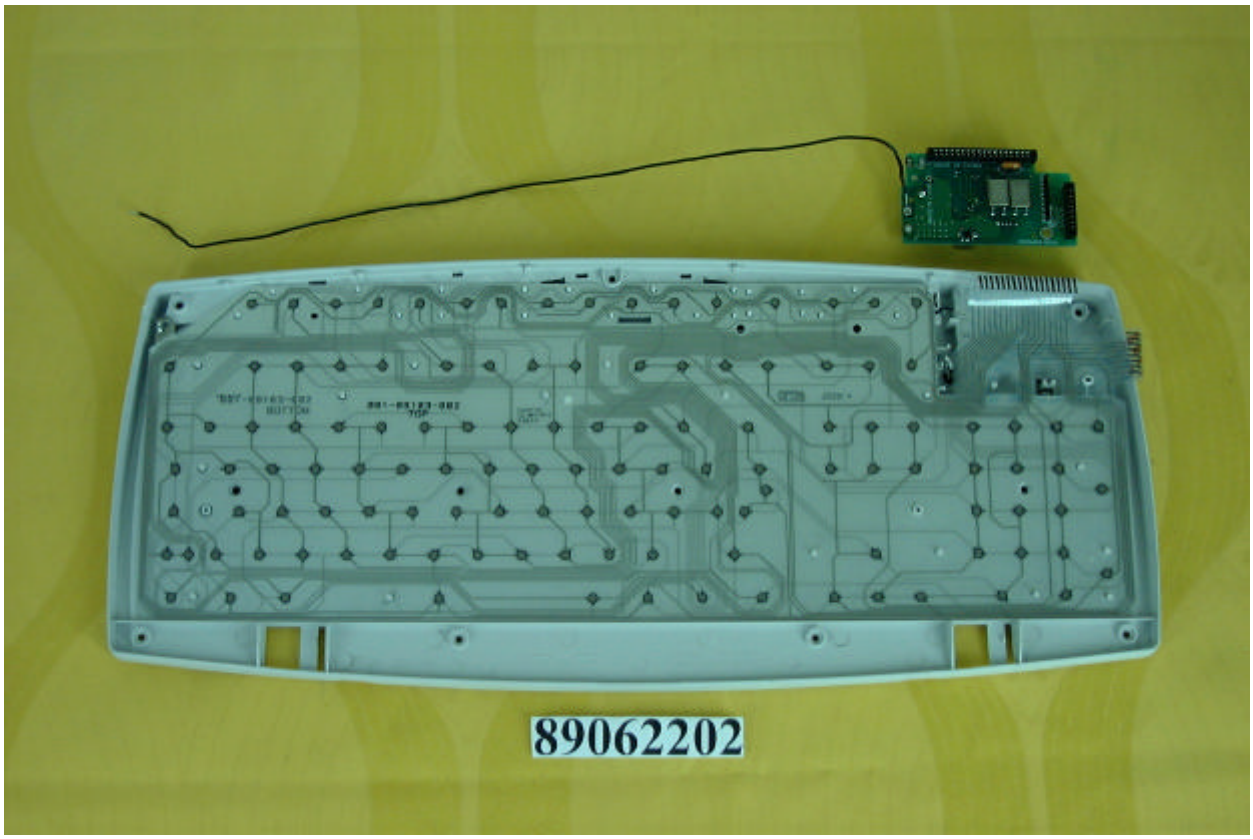
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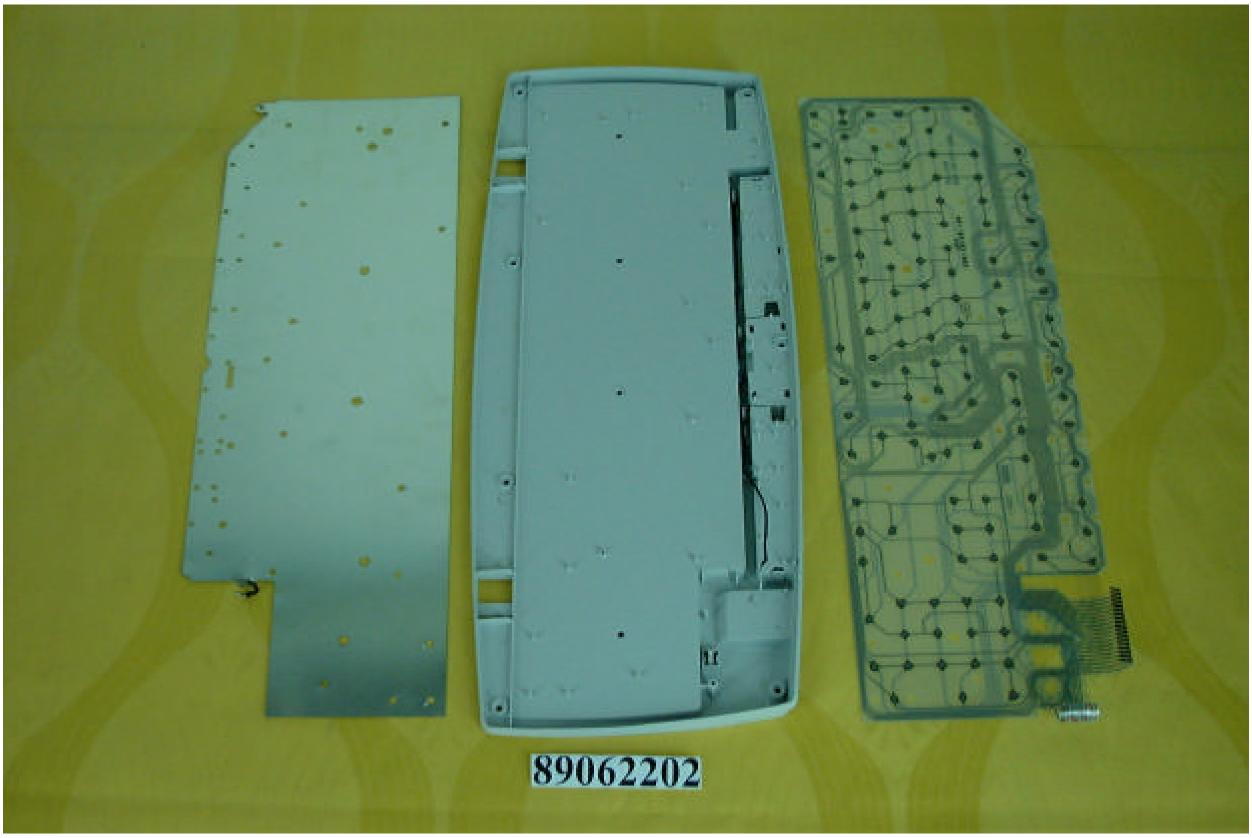
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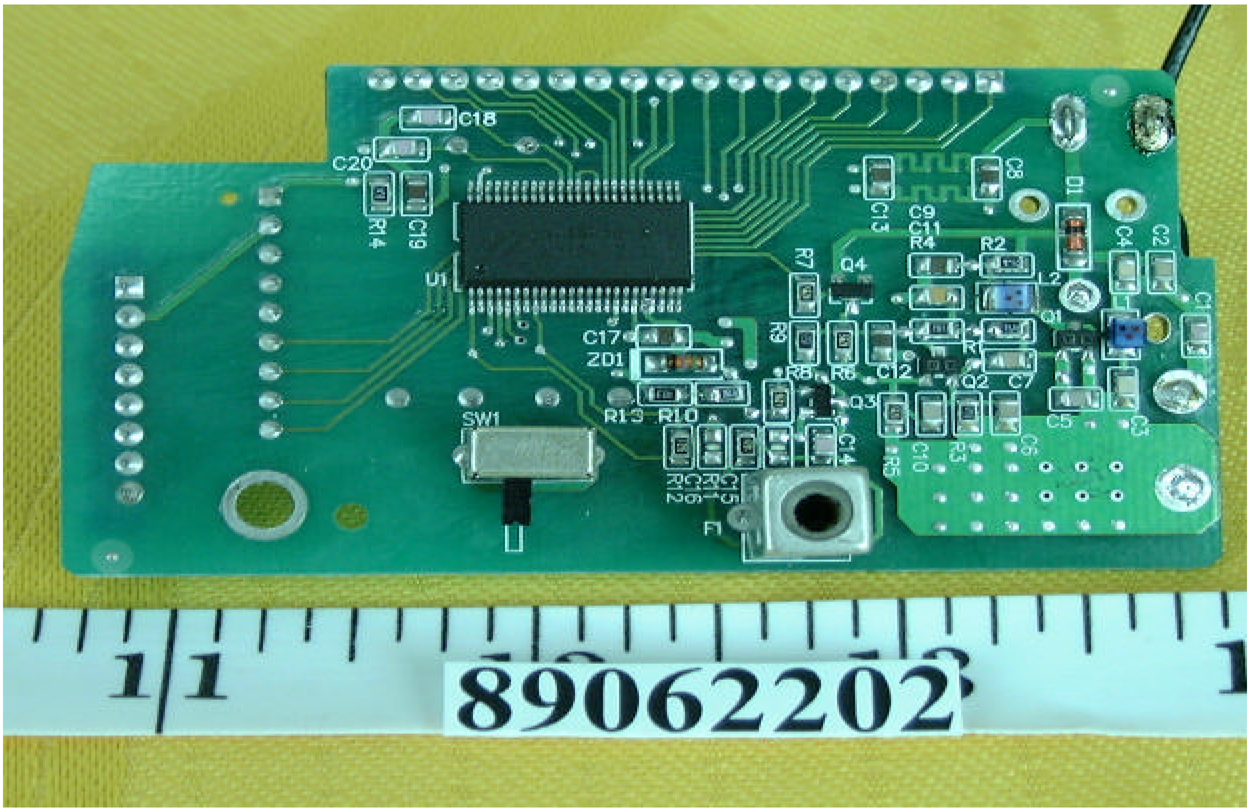
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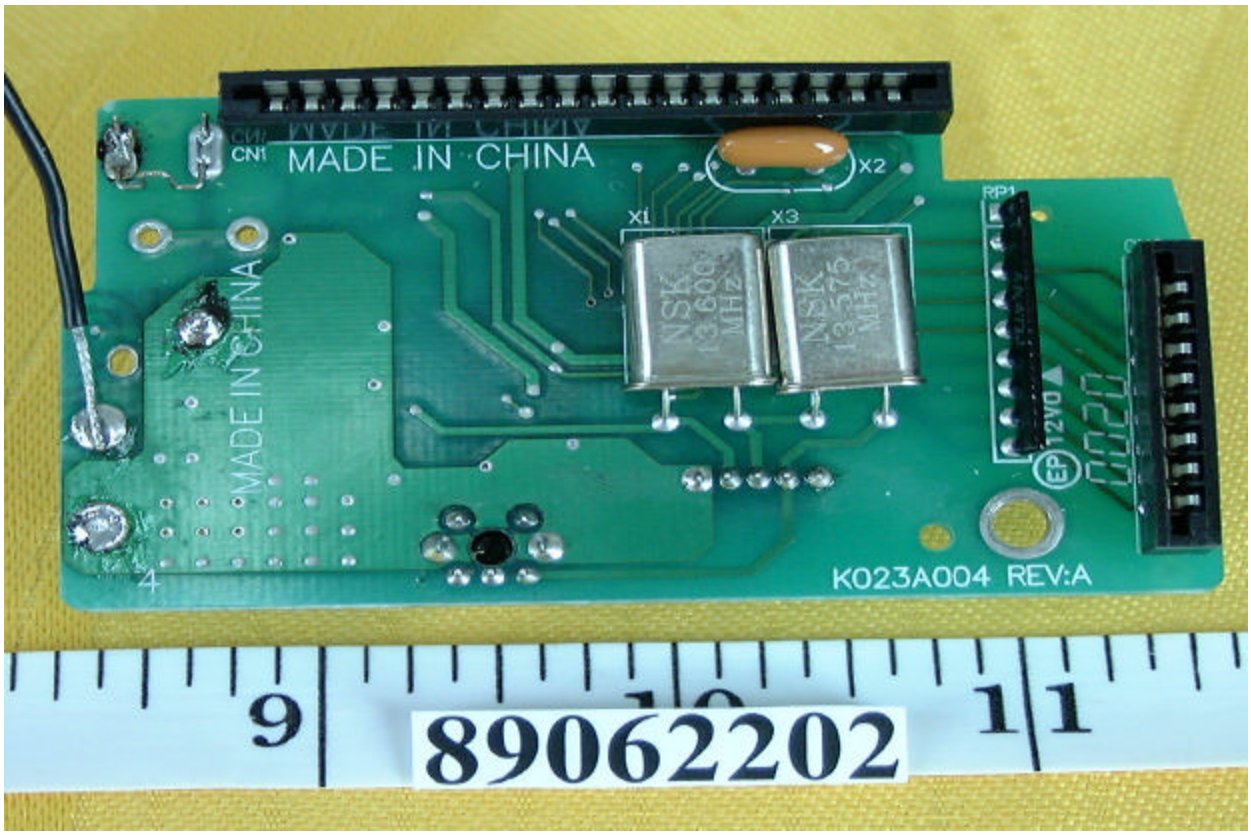
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