

# FCC Test Report

## E4064135401KY

Type / Model Name: 45146

Product Description: Remote keypad

Applicant: JASCO PRODUCT COMPANY

FCC ID: QOB45146

## FCC -- TEST REPORT

<b>Test Report No. :</b> <b>E4064135401KY</b>	January 13, 2010 Date of issue
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Type / Model Name            : 45146

Product Description            : Remote keypad

**Applicant**                        : JASCO PRODUCT COMPANY

Address                            : 10E, MEMORIAL, OKLAHOMA CITY  
OK, 73114,  
USA

<b>Test Result</b> according to the standards listed in clause 1 test standards:	<b>PASS</b>
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The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

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## **1 TEST STANDARDS**

The tests were performed according to following standards:

FCC Part 15, July 10, 2008

Federal Communications Commission, Part 15 – Radio  
Frequency Device

ANSI C63.4:2003

Method of Measurement of Radio-Noise Emissions from Low-  
Voltage Electrical and Electronic Equipment in the Range of  
9 kHz to 40 GHz

## 2 SUMMARY

### GENERAL REMARKS:

None

### FINAL ASSESSMENT:

The equipment under test fulfils the technical requirement cited in section 15.231 of FCC Part 15

Date of receipt of test sample : December 30, 2009

Testing commenced on : December 30, 2009

Testing concluded on : January 13, 2009

Reviewed by:

Prepared by:

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Wilson Loke  
Senior Manager

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Kidd Yang  
Engineer

### 3 EQUIPMENT UNDER TEST

#### 3.1 Photo documentation of the EuT



Front View



Back View

### 3.2 Power supply system utilised

Power supply voltage: 3VDC(CR2032 lithium battery)

### 3.3 Short description of the Equipment under Test (EuT)

The Equipment under test (EUT) is a 318MHz transmitter. The main function of the EUT is acted as a remote control to provide a control signal to the main control panel. When the button is pressed, the transmitter will transmit the signal by Pulsed Code Modulation to the main control panel (receiver) to control any device controlled by the main control panel. The EUT is powered by one 3VDC lithium battery.

Number of tested samples: One  
 Serial number: Not Labelled  
 Dimensions: L: 11.5cm W: 7.0cm H: 1.0cm

#### EuT operation mode:

The equipment under test was operated during the measurement under the following conditions:

- Operation mode 1: Transimmitting mode \_\_\_\_\_
- Operation mode 2: N/A \_\_\_\_\_
- Operation mode 3: N/A \_\_\_\_\_

#### EuT configuration:

(The CDF filled by the applicant can be viewed at the test laboratory.)

#### The following peripheral devices and interface cables were connected during the measurements:

- None \_\_\_\_\_ Model : \_\_\_\_\_
- \_\_\_\_\_ Model : \_\_\_\_\_
- \_\_\_\_\_ Model : \_\_\_\_\_
- \_\_\_\_\_ Model : \_\_\_\_\_
- \_\_\_\_\_ Model : \_\_\_\_\_
- \_\_\_\_\_ Model : \_\_\_\_\_

## **4 TEST ENVIRONMENT**

### **4.1 Address of the test laboratory**

**emitel (Shenzhen) Limited  
Building 2, 171 Meihua Road,  
Futian District,  
Shenzhen, 518049  
China**

**FCC Registration No.: 746887**

### **4.2 Environmental conditions**

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 86-106 kPa

### **4.3 Statement of the measurement uncertainty**

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 /11.2003 „Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements“ and is documented in the quality system acc. to ISO 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.



## 5 TEST CONDITIONS AND RESULTS

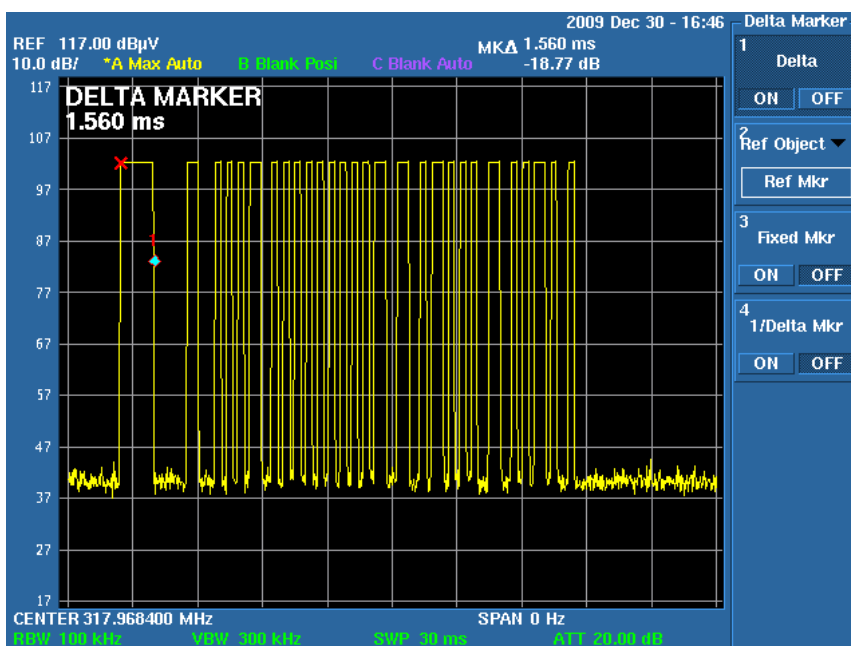
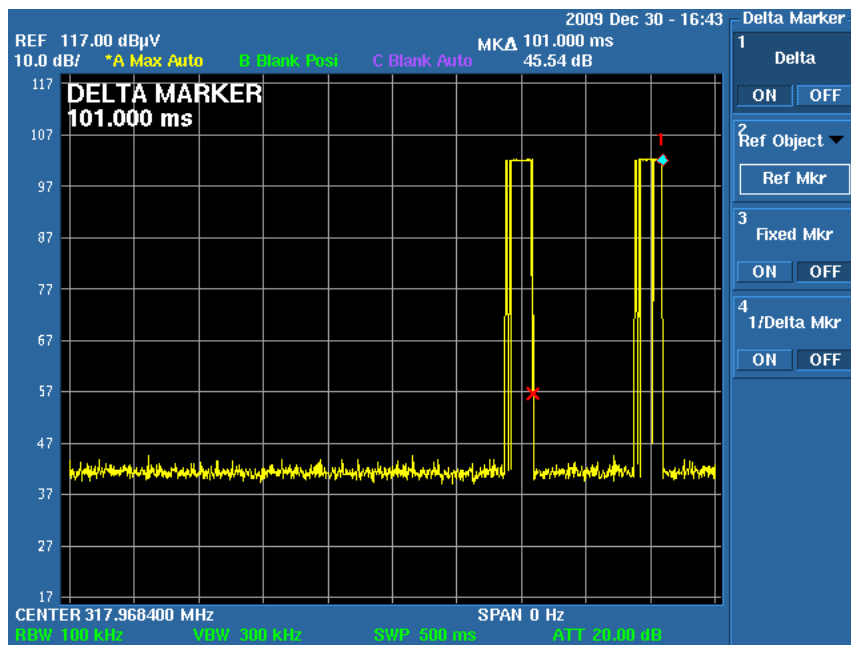
### 5.1 Average Factor

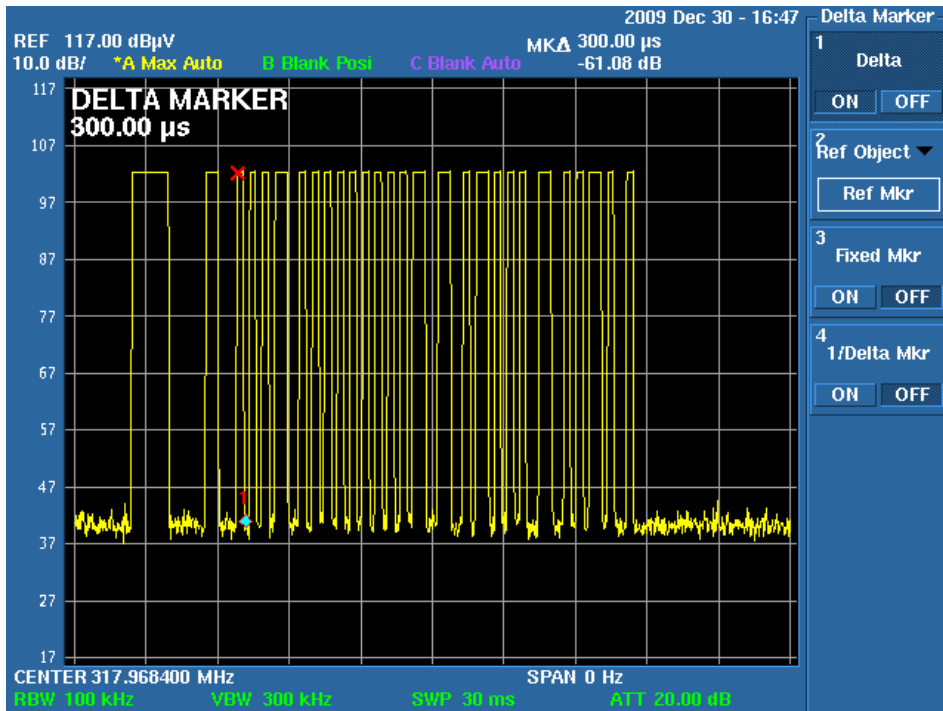
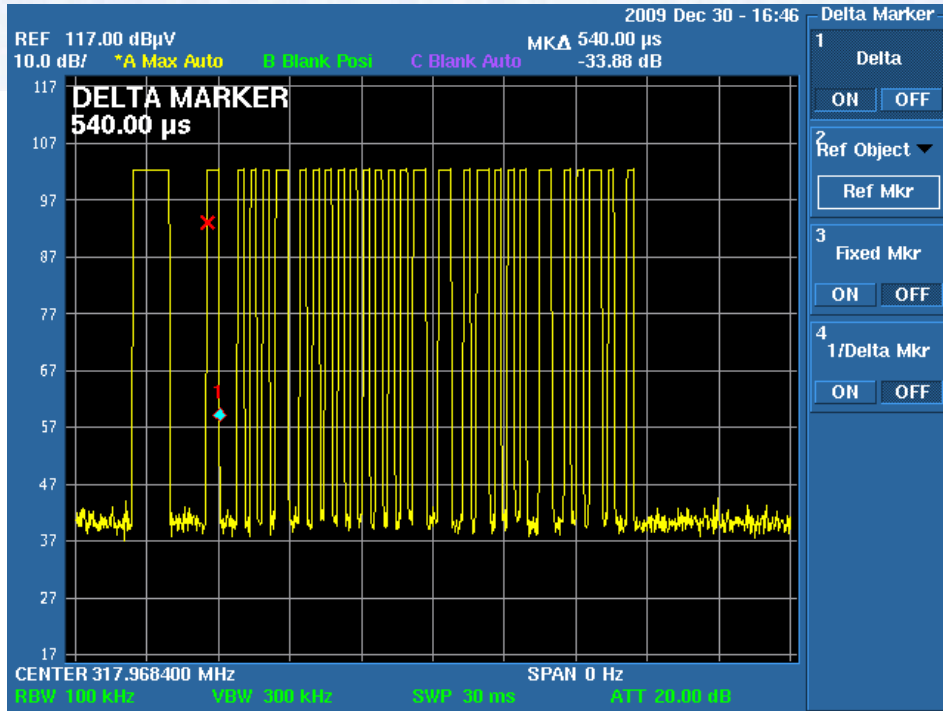
For test instruments and accessories used see section 6.

#### 5.1.1 Description of the test location

Test location: Shield room

#### 5.1.2 Photo documentation of test





**5.1.3 Test result**

$T_{on} =$	$1.56 + 0.54 * 7 + 0.3 * 20$
$=$	11.34ms
Average Factor (Press Switch) $=$	$20 \log(11.34 \text{ms} / 100 \text{ms})$
$=$	-18.9dB

**Remarks:**

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## 5.2 Radiated Emission

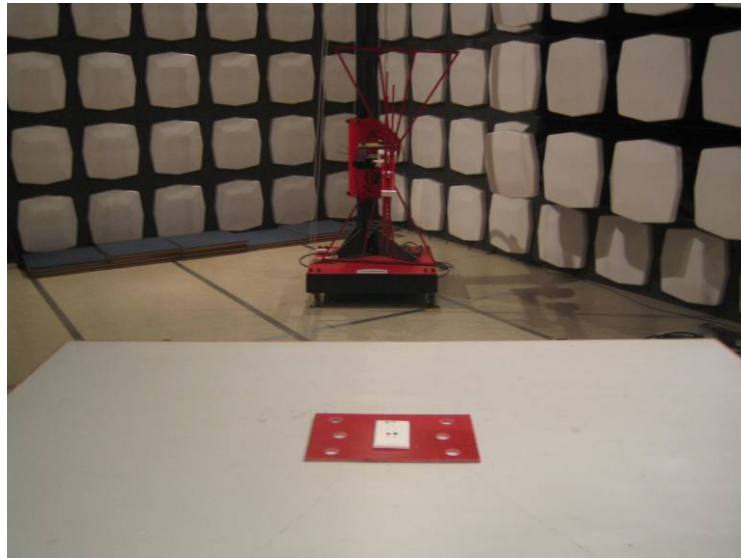
For test instruments and accessories used see section 6.

### 5.2.1 Description of the test location

Test location: Semi-anecholic Chamber

Test distance: 3m

### 5.2.2 Photo documentation of test



### 5.2.3 Test result

Frequency range: 30MHz to 3180MHz

Min. limit margin: -7.8dB

The requirements of section 15.231(b) are **FULFILLED**.

Remarks:

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## 5.2.4 Test protocol

Worst Case Operation mode: Transmitting mode

Result: PASS

Remarks:

Date: Dec 30, 2009

Tested by: Kidd Yang

Start frequency [MHZ]	Stop frequency [MHZ]	Resolution bandwidth	Vedio bandwidth	step size	Measurement time	Detector
30	1000	120 KHz	1 MHz	40 KHz	100ms	Peak
1000	3180	1 MHz	3 MHz	400 KHz	100ms	Peak

Polarization	Frequency (MHz)	Read Value (dBuV/m)	Antenna Factor(dB)	Cable Loss(dB)	Measured Result (dBuV/m)	PK limit (dBuV/m)	margin (dB)
H	318.00	57.7	14.8	1.1	73.6	95.8	-22.2
V	318.00	60.8	14.3	1.1	76.2	95.8	-19.6
V	636.00	43.7	20.5	1.9	66.1	75.8	-9.7
V	954.00	21.3	23.1	2.2	46.6	75.8	-29.2
V	1422.00	13.1	26.3	2.9	42.3	74.0	-31.7
V	1721.00	10.5	27.3	3.7	41.5	74.0	-32.5
V	2544.00	34.9	25.3	3.1	63.3	75.8	-12.5
H	2862.00	35.6	26.4	3.1	65.1	74.0	-8.9

Polarization	Frequency (MHz)	Detector	Measured Result (dBuV/m)	Average Factor (dB)	Calculated Average Value (dBuV/m)	AV limit (dBuV/m)	margin (dB)
H	318.00	Peak	73.6	-18.9	54.7	75.8	-21.1
V	318.00	Peak	76.2	-18.9	57.3	75.8	-18.5
V	636.00	Peak	66.1	-18.9	47.2	55.8	-8.6
V	954.00	Peak	46.6	-18.9	27.7	55.8	-28.1
V	1422.00	Peak	42.3	-18.9	23.4	54.0	-30.6
V	1721.00	Peak	41.5	-18.9	22.6	54.0	-31.4
V	2544.00	Peak	63.3	-18.9	44.4	55.8	-11.4
H	2862.00	Peak	65.1	-18.9	46.2	54.0	-7.8

Remarks: 1) The emissions lower than 20dB below the limit are not measured.

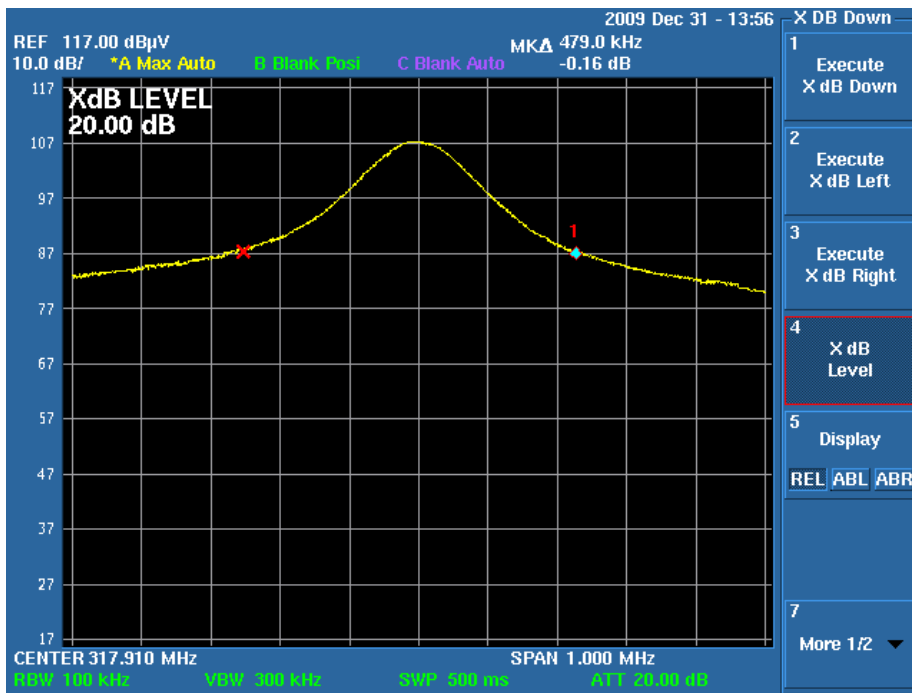
2) Testing is include the rotation of the EUT through three orthogonal axes to determine the maximum emission.

### 5.3 Bandwidth

#### 5.3.1 Description of the test location

Test location: Shielded Room

#### 5.3.2 Photo documentation of the test



#### 5.3.3 Test result

Measured Occupied Bandwidth (kHz)	Limit (kHz)
479	795

The requirements of section 15.231(c) is **FULFILLED**

Remarks:

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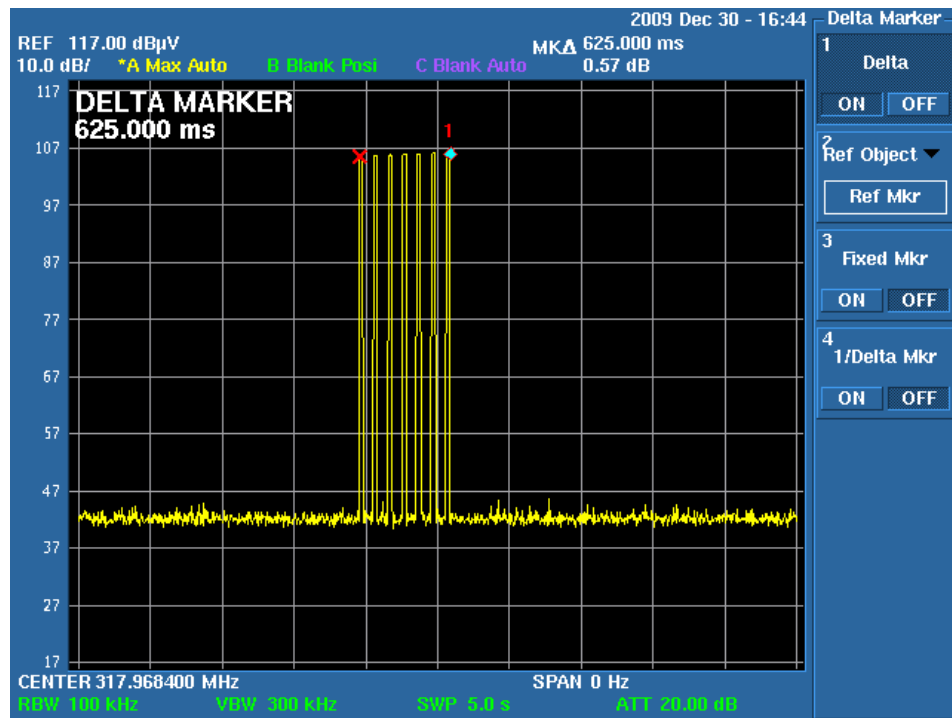
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## 5.4 Provision of Momentary operation

### 5.4.1 Description of the test location

Test location: Shielded Room

### 5.4.2 Photo documentation of the test



### 5.4.3 Test result

The time of stopping transmission after switch releasing (s)	Limit (s)
0.625	5

The requirement of section 15.231(a)(1) is **FULFILLED**

Remarks:

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## **6 USED TEST EQUIPMENT AND ACCESSORIES**

All test instruments used, in addition to the test accessories, are calibrated and verified regularly.

<b>Test Item</b>	<b>Model / Type</b>	<b>Kind of Equipment</b>	<b>Manufacturer</b>	<b>Last Cal. Date</b>	<b>Equipment No.</b>
Radiated Emission	ESPI3	EMI Test Receiver	Rohde & Schwarz	Apr 16, 2009	04-02/03-06-002
	U3772	Spectrum Analyzer	Advantest	Apr 16, 2009	04-02/11-08-001
	3142C	Biconilog Antenna	EMCO	Jan 08, 2009	04-02/24-06-001
	3117	Horn Antenna	ETS Lindgren	Feb 04, 2009	04-02/24-07-001
Bandwidth	U3772	Spectrum Analyzer	Advantest	Apr 16, 2009	04-02/11-08-001
Momentary operation	U3772	Spectrum Analyzer	Advantest	Apr 16, 2009	04-02/11-08-001
Average Factor	U3772	Spectrum Analyzer	Advantest	Apr 16, 2009	04-02/11-08-001