FCC CERTIFICATION
On Behalf of
Eric Beare Associates Limited

Wireless Travel Mouse & Hubs
Model No.: BD9820

FCC ID: WIK9820

Prepared for	:	Eric Beare Associates Limited
Address	:	Unit 1202-1204, New Kowloon Plaza, 38 Tai Kok Tsui Road, Kowloon, Hong Kong
Prepared by	:	ACCURATE TECHNOLOGY CO. LTD
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number	:	ATE20081295
Date of Test	:	July 9, 2008
Date of Report	:	July 10, 2008

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Description Page

Test Report Certification

Applicant	:	Eric Beare Associates Limited
Manufacturer	:	Eric Beare Associates Limited
EUT Description	:	Wireless Travel Mouse & Hubs
		(A) MODEL NO.: BD9820
		(B) SERIAL NO.: N/A
		(C) POWER SUPPLY: 3.0V DC ("AAA" batteries 2×)

Measurement Procedure Used:

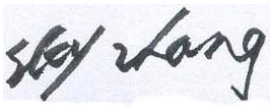
FCC Rules and Regulations Part 15 Subpart C Section 15.227: 2007 & ANSI C63.4:2003

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.227 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

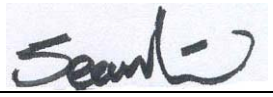
Date of Test : July 9, 2008

Prepared by :



(Engineer)

Approved & Authorized Signer :



(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Wireless Travel Mouse & Hubs
Model Number	:	BD9820
Power Supply	:	3.0V DC ("AAA" batteries 2×)
Applicant	:	Eric Beare Associates Limited
Address	:	Unit 1202-1204, New Kowloon Plaza, 38 Tai Kok Tsui Road, Kowloon, Hong Kong
Manufacturer	:	Eric Beare Associates Limited
Address	:	Unit 1202-1204, New Kowloon Plaza, 38 Tai Kok Tsui Road, Kowloon, Hong Kong
Date of sample received	:	July 8, 2008
Date of Test	:	July 9, 2008

1.2.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen Listed by FCC The Registration Number is 752051 Listed by Industry Canada The Registration Number is 5077A-2 Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.3.Measurement Uncertainty

Conducted emission expanded uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty	=	4.12dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	03.29.2009
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	03.29.2009
Spectrum Analyzer	Agilent	E7405A	MY45115511	03.29.2009
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	03.31.2009
Loop Antenna	Schwarzbeck	FMZB1516	1516131	03.28.2009
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	03.29.2009
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	12.20.2008
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	10.10.2008
LISN	Rohde&Schwarz	ESH3-Z5	100305	03.29.2009
LISN	Schwarzbeck	NLSK8126	8126431	03.29.2009

3. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
Section 15.207	Conducted Emission	N/A
Section 15.209 Section 15.227(b)	Radiated Emission	Compliant
Section 15.227(a)	Fundamental Radiated Emission	Compliant
Section 15.227	Band Edge	Compliant

4. RADIATED EMISSION FOR FCC PART 15 SECTION 15.227(B)

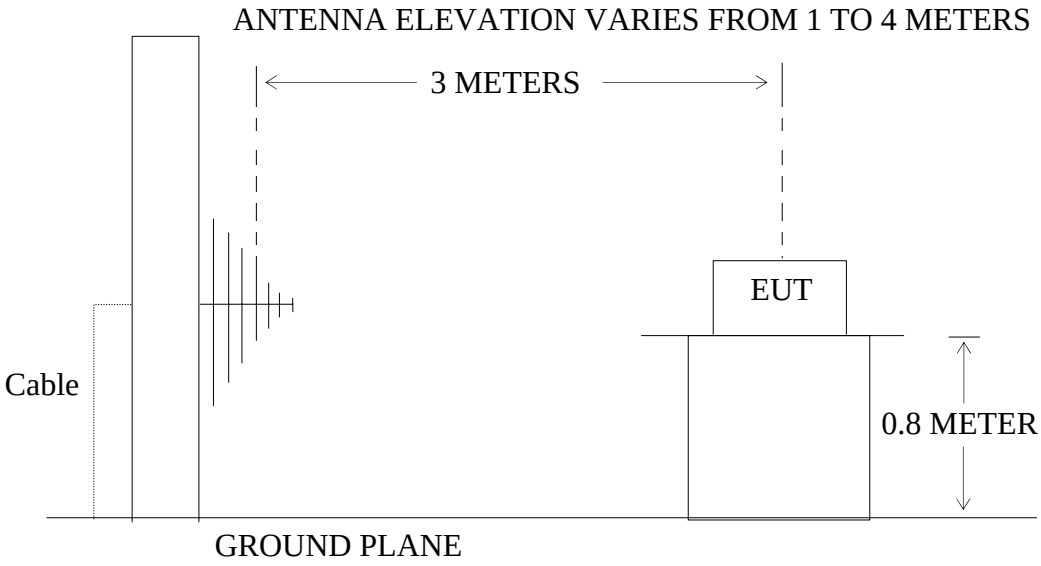
4.1.Block Diagram of Test Setup

4.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wireless Travel Mouse & Hubs)

4.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Wireless Travel Mouse & Hubs)

4.2. The Field Strength of Radiation Emission Measurement Limits

4.2.1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209

Radiation Emission Measurement Limits According to Section 15.209(a)

Frequency (MHz)	Limit,		
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dBμV/m)	The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	

4.3. Configuration of EUT on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.3.1. Wireless Travel Mouse & Hubs (EUT)

Model Number : BD9820
Serial Number : N/A
Manufacturer : Eric Beare Associates Limited

4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.1.

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in TX modes and measure it.

4.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C 63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver (R&S ESCS30) is set at 120KHz in 30-1000MHz.
The frequency range from 30MHz to 1000MHz is checked.
The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

4.6. The Field Strength of Radiation Emission Measurement Results

PASS.

The frequency range 30MHz to 1000MHz is investigated.

Date of Test:	July 9, 2008	Temperature:	25°C
EUT:	Wireless Travel Mouse & Hubs	Humidity:	52%
			3.0V DC ("AAA" battery
Model No.:	BD9820	Power Supply:	2×)
Test Mode:	TX	Test Engineer:	Feng

Polarization	Frequency (MHz)	Reading(dBμV/m) QP	Factor Corr.(dB)	Result(dBμV/m) QP	Limits(dBμV/m) QP	Margin(dB) QP
Horizontal	324.5368	15.75	19.53	35.28	46.00	-10.72
Horizontal	540.8826	16.65	25.00	41.65	46.00	-4.35
Horizontal	567.8988	17.03	25.24	42.27	46.00	-3.73
Vertical	567.9200	15.06	25.24	40.30	46.00	-5.70
Vertical	594.9729	15.64	25.46	41.10	46.00	-4.90

Note:

1. The spectral diagrams in appendix 1 display the measurement of peak values with corrected factors counted.

2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain

5. FUNDAMENTAL RADIATED EMISSION FOR FCC PART 15 SECTION 15.227(A)

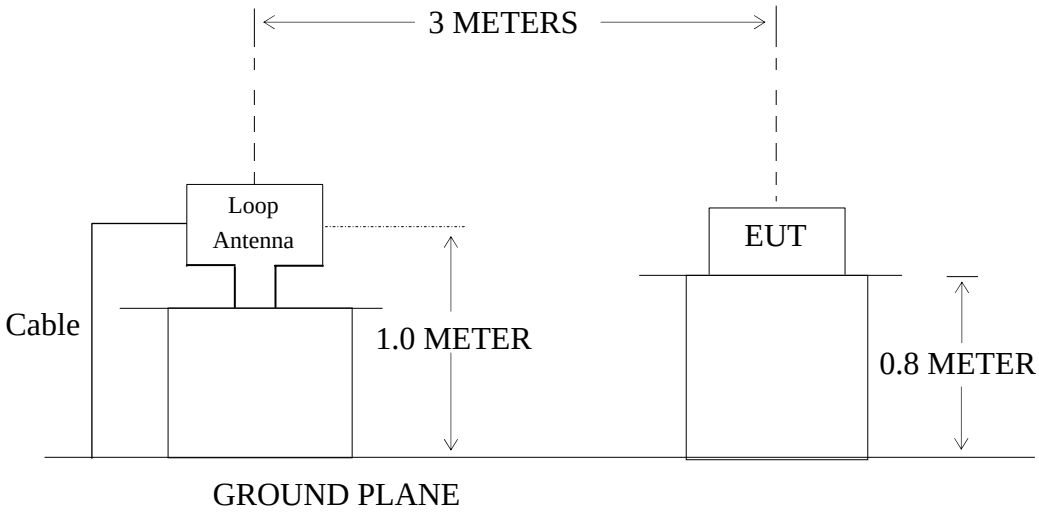
5.1.Block Diagram of Test Setup

5.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wireless Travel Mouse & Hubs)

5.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Wireless Travel Mouse & Hubs)

5.2.The Emission Limit For Section 15.227(a)

5.2.1.The field strength of any emission within this band shall not exceed 10,000microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in Section 15.35 for limiting peak emission apply.

5.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.3.1.Wireless Travel Mouse & Hubs (EUT)

Model Number	**:**	BD9820
Serial Number	**:**	N/A
Manufacturer	**:**	Eric Beare Associates Limited

5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX mode and measure it.

5.5.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. A calibrated Loop antenna is used as receiving antenna. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C 63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver (R&S ESCS30) is set at 9KHz in 9kHz-30MHz.

5.6. The Emission Measurement Result

PASS.

Date of Test:	July 9, 2008	Temperature:	25°C
EUT:	Wireless Travel Mouse & Hubs	Humidity:	52%
Model No.:	BD9820	Power Supply:	3.0V DC (“AAA” battery 2×)
Test Mode:	TX	Test Engineer:	Feng

Fundamental Radiated Emissions

Test conditions		Fundamental Frequency	
		27.045MHz	
T_{nom}(25°C)	V_{nom} (3.0V DC)	(dBμV/m)/(μV/m) PEAK	(dBμV/m)/(μV/m) AV
		41.60/120.23	38.20/81.28
Limit		100/100,000	80/10,000
Note: Measurement was performed with modulated signal with average detector and peak detector.			

6. BAND EDGES

6.1.The Requirement

6.1.1.The wanted emission within the band 26.96-27.28MHz.

6.2.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.2.1.Wireless Travel Mouse & Hubs (EUT)

Model Number	**:**	BD9820
Serial Number	**:**	N/A
Manufacturer	**:**	Eric Beare Associates Limited

6.3.Operating Condition of EUT

6.3.1.Setup the EUT and simulator as shown as Section 5.1.

6.3.2.Turn on the power of all equipment.

6.3.3.Let the EUT work in TX mode and measure it.

6.4.Test Procedure

The transmitter output was fed into the spectrum analyzer and photo was taken. The vertical scale is set to 10dB per division; the horizontal scale is set to 32kHz per division. Star frequency are 26.96MHz, stop frequency are 27.28MHz.
RBW are 3kHz, VBW are 10kHz, Sweep time are 50ms.

6.5. The Measurement Result

The EUT does meet the requirement.

The spectral diagrams attached in appendix 1.

APPENDIX I
(Test Curves)

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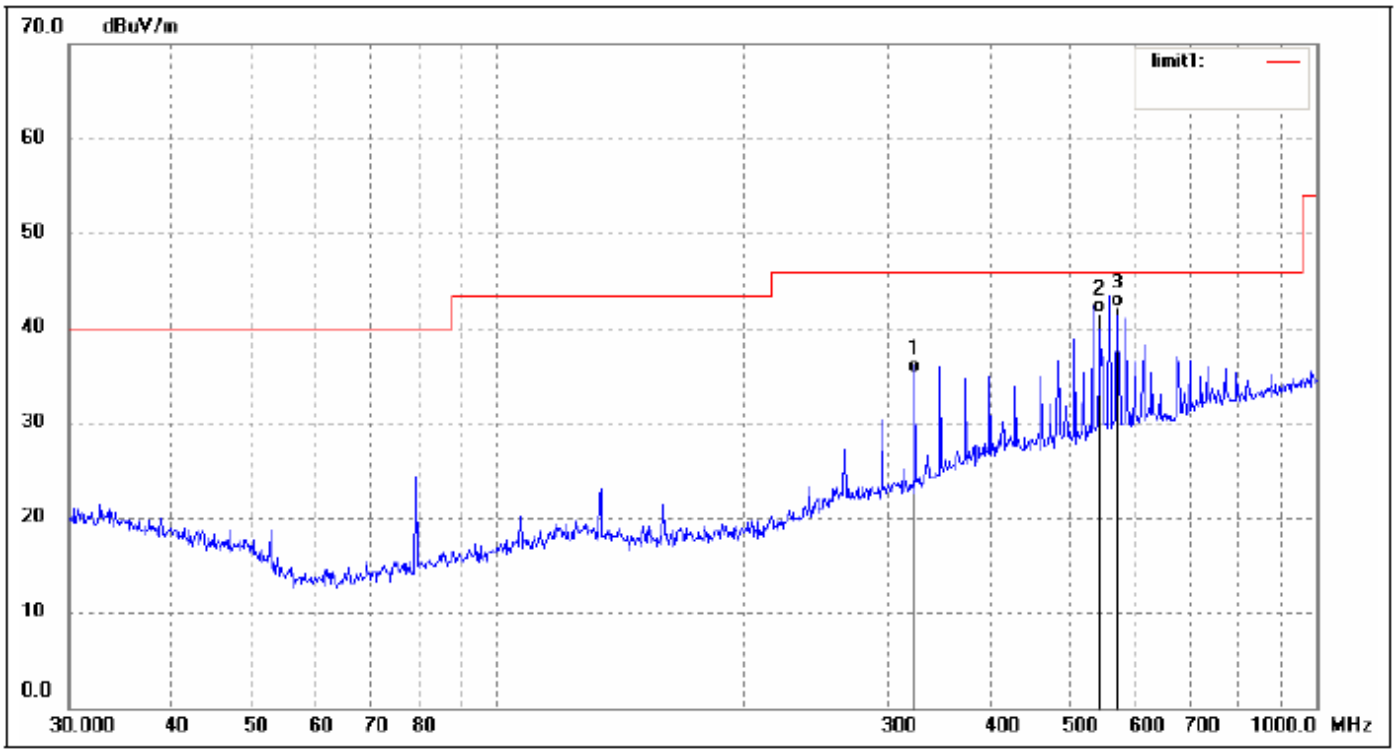
http://www.atc-lab.com

Job No.:	RTTE #175	Polarziation:	Horizontal
Standard:	FCC Class B 3M Radiated	Power Source:	DC 3V
Test item:	Radiation Test	Date:	08/07/09/
Temp.(℃)/Hum.(%RH):	25(℃)/52%RH	Time:	8/57/35
EUT:	Wireless Travel Mouse & Hubs	Test By:	feng
Mode:	TX	Distance:	3m
Model:	BD9820		
Manufacturer:	Eric Beare Associates Limited		
Note:	Sample No.:082583	Report No.:ATE20081295	



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	324.5368	15.75	19.53	35.28	46.00	-10.72	QP
2	540.8826	16.65	25.00	41.65	46.00	-4.35	QP
3	567.8988	17.03	25.24	42.27	46.00	-3.73	QP

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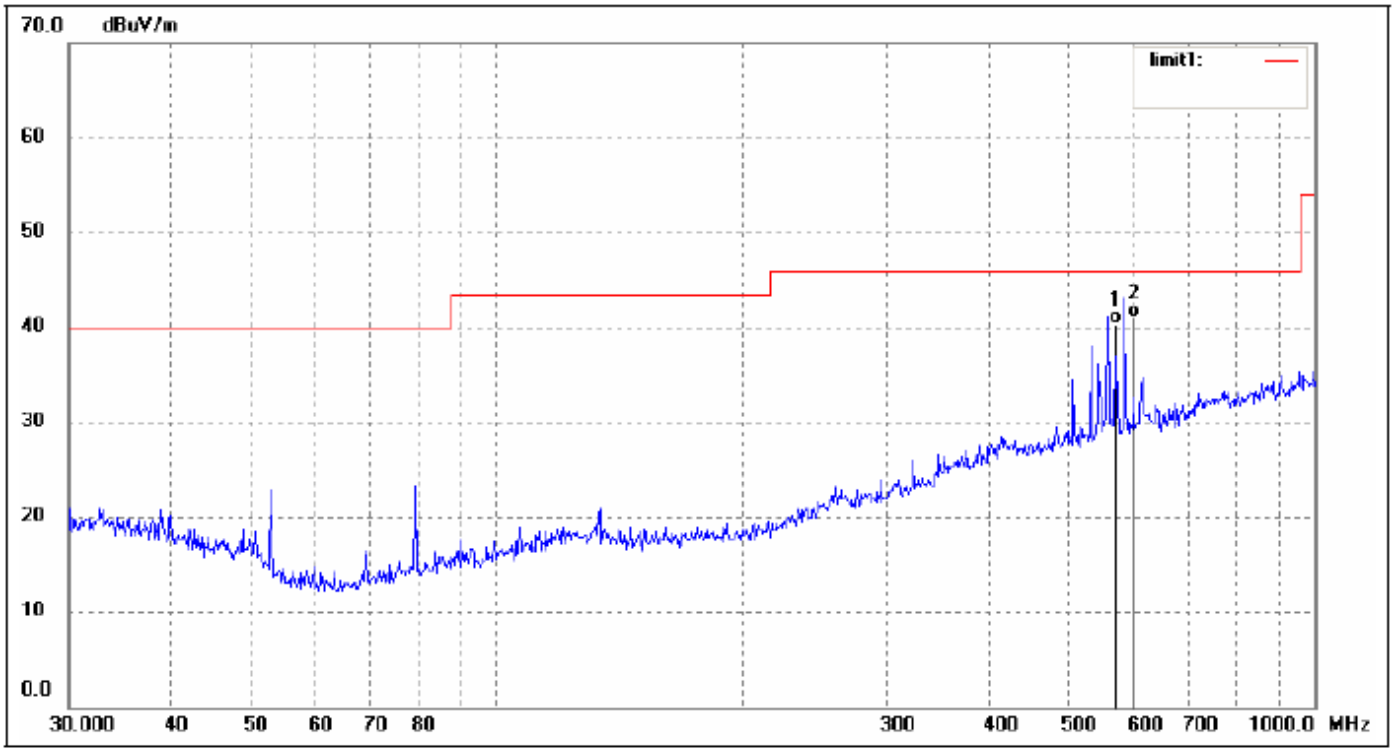
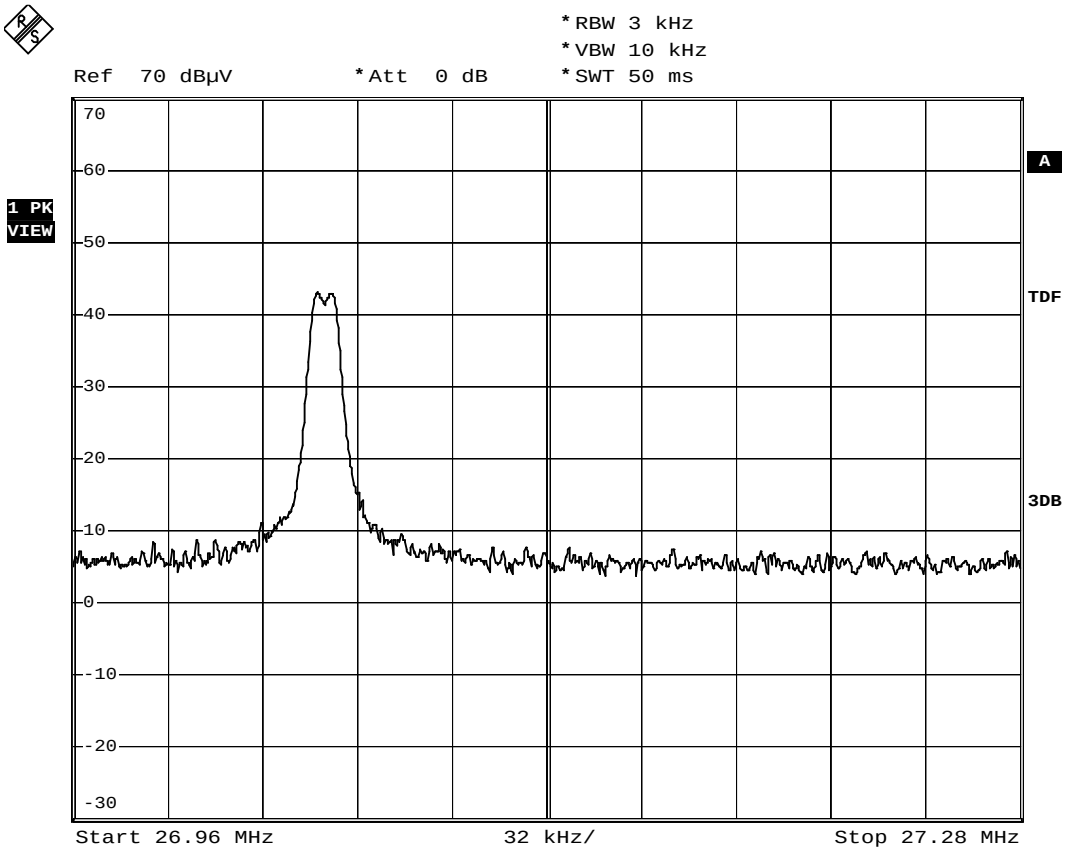
Job No.:	**RTTE #169**	**Polarziation:**	**Vertical**
Standard:	**FCC Class B 3M Radiated**	**Power Source:**	**DC 3V**
Test item:	**Radiation Test**	**Date:**	**08/07/09/**
Temp.(℃)/Hum.(%RH):	**25(℃)/52%RH**	**Time:**	**9/16/07**
EUT:	**Wireless Travel Mouse & Hubs**	**Test By:**	**feng**
Mode:	**TX**	**Distance:**	**3m**
Model:	**BD9820**		
Manufacturer:	**Eric Beare Associates Limited**		
Note:	**Sample No.:082583**	**Report No.:ATE20081295**	



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	567.9200	15.06	25.24	40.30	46.00	-5.70	QP
2	594.9729	15.64	25.46	41.10	46.00	-4.90	QP



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