

# Japan Specified Radio Test Report

**Applicant** : ACCO Brands USA LLC

**Address** : 4 Corporate Drive, Lake Zurich, Illinois 60047,  
USA

**Product Name** : Pro Fit Ergo TB550 Trackball

**Report Date** : May 04, 2023

**Shenzhen Anbotek Compliance Laboratory Limited**



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## TEST REPORT

Applicant : ACCO Brands USA LLC  
Manufacturer : ACCO Brands USA LLC  
Product Name : Pro Fit Ergo TB550 Trackball  
Model No. : M01679-T  
Trade Mark : Kensington  
Rating(s) : Input: 5V $\pm$ 250mA( with DC 3.7V, 500mAh battery inside)

Test Standard(s) : **MIC Notice No.88 Annex43**  
**Certificate regulation article 2, paragraph 1, item 19**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the MIC Notice No.88 Annex43 and Certificate regulation article 2, paragraph 1, item 19 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt

Feb. 03, 2023

Date of Test

Feb. 03 ~ 14, 2023

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Revision History

Report Version	Description	Issued Date
R00	Original Issue.	May 04, 2023



## 1. General Information

### 1.1. Client Information

Applicant	:	ACCO Brands USA LLC
Address	:	4 Corporate Drive, Lake Zurich, Illinois 60047, USA
Manufacturer	:	ACCO Brands USA LLC
Address	:	4 Corporate Drive, Lake Zurich, Illinois 60047, USA

### 1.2. Description of Device (EUT)

Product Name	:	Pro Fit Ergo TB550 Trackball
Model No.	:	M01679-T
Trade Mark	:	Kensington
Test Power Supply	:	DC 3.7V battery inside
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Hardware Version	:	Ver:A
Software Version	:	V3.13
Adapter	:	N/A

#### RF Specification

Operation Mode	:	<input type="checkbox"/> DSSS <input checked="" type="checkbox"/> FHSS
Operation Frequency	:	2403~2480 MHz
Number of Channel	:	16 Channels
Modulation Type	:	GFSK
Antenna Type	:	PCB Antenna
Antenna Gain(Peak)	:	-0.08 dBi (Provided by customer)
Rated output Power	:	0.05 mW/MHz Max.

**Remark:** 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.





### 1.3. Auxiliary Equipment Used During Test

Description	Rating(s)
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### 1.4. Description of Test Configuration

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
<b>01</b>	<b>2403</b>	05	2422	<b>09</b>	<b>2441</b>	13	2463
02	2407	06	2426	10	2445	14	2466
03	2414	07	2436	11	2453	15	2473
04	2419	08	2439	12	2459	<b>16</b>	<b>2480</b>

Note:

1.EUT was tested with channel 01, 09 and 16.

### 1.5. Test Conditions

	Normal Test Conditions
Temperature	15°C - 35°C
Relative Humidity	20% - 75%
Pressure Range	86-106kPa

### 1.6. Test Voltage

#### Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input To EUT	DC 3.7V	DC 4.07V	DC 3.33V
Output To RF Module	DC 3.3V	DC 3.3V	DC 3.3V
Voltage Variation (%)	--	0.00%	0.00%

Note: Voltage Variation (%)=(Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage\* 100

For extreme voltage test, we have tested the relationship between the external power supply and RF IC power supply. Base on the test results, only the normal voltage was selected to perform all items.



### 1.7. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	MAX Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 13, 2022	1 Year
2.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 13, 2022	1 Year
3.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 22, 2022	1 Year
4	MXG RF Vector Signal Generator	Agilent	N5182A	MY47420647	Feb.28, 2022	1 Year

### 1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111.

#### ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

#### Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102





## 2. Summary Of Test Results

Test Standard	Description of Test	Result
Article 2 Paragraph 1 Item 19	Antenna power	Complies
	Antenna Power Tolerance	Complies
	Frequency Tolerance	Complies
	Occupied Bandwidth	Complies
	Spread Bandwidth	Complies
	Spurious Emissions	Complies
	Carrier sensing function	N/A
	Interference prevention function	Complies
	Secondary Radiated Emissions	Complies
	Dwell Time	Complies
	Transmission Radiated Angle Width (3dB Beam Bandwidth)	N/A
	Antenna Absolute Gain	N/A

**Note:**

(1) N/A is an abbreviation for Not Applicable.

(2) This device have more than 1 subcarrier in 1MHz, compliance with the requirement.



### 3. Frequency Tolerance Test

#### 3.1. Test Limit

Test Limit	$\pm 50$ ppm
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#### 3.2. Test Setup



#### 3.3. Test Procedure

Test Frequency= test channel

RBW=VBW=10KHz

Span=1MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

#### 3.4. Test Data

**PASS**

Please refer to Appendix A of the Appendix Test Data.



## 4. Antenna Power Test

### 4.1. Test Limit

No.	Modulation type	Antenna Power Limit	EIRP Limit	
			Omnidirectional case	Directional case
(1)	FH, FH+DS, FH+OFDM (2427 - 2470.75 MHz)	3mW/MHz	6.91dBm/MHz	16.91dBm/MHz
(2)	OFDM OBW≤26MHz, DS, FH other than (1)	10mW/MHz	12.14dBm/MHz	22.14dBm/MHz
(3)	OFDM (OBW 26-40MHz)	5mW/MHz	9.13dBm/MHz	19.13dBm/MHz
(4)	Other than (1)&(2)&(3)	10mW	12.14dBm	22.14dBm
(5)	Tolerance	-80% ~ +20%	/	/

### 4.2. Test Setup



### 4.3. Test Configuration

1. Search Frequency of Peak Power

Test Frequency: test channel,

RBW=VBW=1MHz, Span=40MHz, Sweep time=Auto, Detector mode =Positive peak

2. Measure of average burst power

Test Frequency: frequency of peak power

RBW=VBW=1MHz, Span=0Hz, Sweep time=Auto, Detector mode=RMS

3. Antenna power= average burst power

### 4.4. Test Data

#### Pass

Please refer to Appendix B of the Appendix Test Data.





## 5. Occupied Bandwidth (99%) Test

### 5.1. Test Limit

Modulation type	Limit
FH:	83.5MHz or less
FH + DS:	83.5MHz or less
FH + OFDM:	83.5MHz or less
OFDM:	40MHz or less
Others:	26MHz or less

### 5.2. Test Setup



### 5.3. Test Procedure

Test Frequency= test channel

RBW=VBW=300KHz

Span=40MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

### 5.4. Test Data

**PASS**

Please refer to Appendix C of the Appendix Test Data.



## 6. Spread-Spectrum Bandwidth (90%) Test

### 6.1. Test Limit

Test Limit	Spread bandwidth: $\geq 500\text{KHz}$
	Spreading factor: $\geq 5$

### 6.2. Test Setup



### 6.3. Test Procedure

Test Frequency= test channel

RBW=VBW=300KHz

Span=40MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

### 6.4. Test Data

**PASS**

Please refer to Appendix D of the Appendix Test Data.



## 7. Spurious Emissions Intensity Test

### 7.1. Test Limit

Frequency Range	Test Limit
≤2387MHz	≤2.5μW (-26dBm)
2387MHz to 2400MHz	≤25μW (-16dBm)
2483.5MHz to 2496.5MHz	≤25μW (-16dBm)
≥2496.5MHz	≤2.5μW (-26dBm)

### 7.2. Test Setup



### 7.3. Test Procedure

Test Frequency: test channel,

RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Positive peak

### 7.4. Test Data

**Pass**

Please refer to Appendix E of the Appendix Test Data.



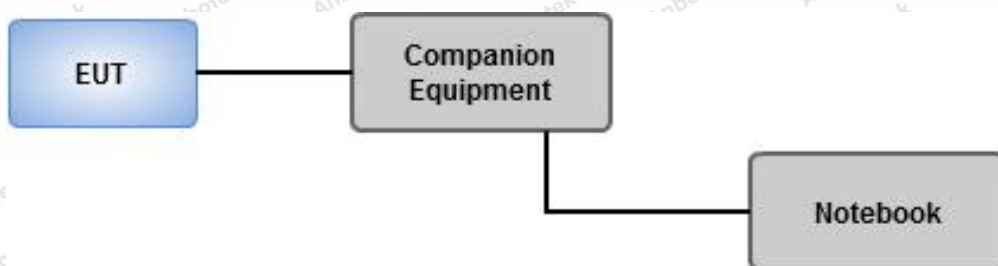


## 8. Interference Prevention Function

### 8.1. Test Limit

Test Limit	The identification code shall be 48 bits long
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### 8.2. Test Setup



### 8.3. Test Configuration

1. Set EUT under operating mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Record the max. reading.
4. Confirm the MAC address of EUT

### 8.4. Test Data

Test Mode	ID Code	Test Results
2.4G	A3:17:3C:45:A6:B2	Complies



## 9. Secondary Radiated Emissions Test

### 9.1. Test Limit

Frequency Range	Test Limit
30~ 1000MHz	$\leq 4.0\text{nW}$ (-54dBm)
1000~ 12500MHz	$\leq 20\text{nW}$ (-47dBm)

### 9.2. Test Setup



### 9.3. Test Configuration

Test Frequency: test channel,

Below 1GHz, RBW=VBW=100KHz;

Above 1GHz, RBW=VBW=1MHz,

Sweep time=Auto, Detector mode=Positive peak

### 9.4. Test Data

**Pass**

Please refer to Appendix F of the Appendix Test Data.



## 10. Dwell Time Measurement

### 10.1. Test Limit

Test Limit	0.4 second or less
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### 10.2. Test Setup



### 10.3. Test Configuration

Test Frequency: test channel,

RBW=VBW=1MHz, Span=0MHz, Detector mode=Positive peak

### 10.4. Test Data

Pass

Please refer to Appendix G of the Appendix Test Data.





## **AAPPENDIX I -- TEST SETUP PHOTOGRAPH**

Please refer to separated files Appendix I -- Test Setup Photograph

## **APPENDIX II -- EXTERNAL PHOTOGRAPH**

Please refer to separated files Appendix II -- External Photograph

## **APPENDIX III -- INTERNAL PHOTOGRAPH**

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

