

FCC MPE TEST REPORT

Project Number : EA2109C-046
Test Report Number : TR-W2110-016
Type of Equipment : HelloClick
Model Name : HFB-E100
FCC ID : 2A3FN-HFB-E100
Multiple Model Name : N/A
Applicant : HelloFactory Co.,Ltd.
Address : 3th, Jeongjin Bldg. (Yeoksam-dong), 13, Seolleung-ro 107-gil,
Gangnam-gu, Seoul, Republic of Korea
Manufacturer : HelloFactory Co.,Ltd.
Address : 3th, Jeongjin Bldg. (Yeoksam-dong), 13, Seolleung-ro 107-gil,
Gangnam-gu, Seoul, Republic of Korea
Regulation : FCC CFR 47 Part 2.1091
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Date of Receipt : 2021-09-14
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Test Result : PASS

This test report only contains the result of a single test of the sample supplied for the examination.
 It is not a generally valid assessment of the features of the respective products of the mass-production.

Prepared by Kim, Do-heon / Senior Engineer


 Signature

2021-10-27
 Date

Reviewed by Choi, Yeong-min / Technical Manager


 Signature

2021-10-27
 Date

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Release Control Record

Issue Report No.	Issued Date	Revisions	Effect Section
TR-W2110-016	2021-10-27	Initial Release	All

1. EUT (Equipment Under Test) INFORMATION

1.1 General Description

The HelloFactory Co.,Ltd., Model HFB-E100 (referred to as the EUT in this report) is a HelloClick. The EUT is a device for transferring Bluetooth low energy signal to a Bluetooth low energy Device through wireless communication. The product specification described herein was obtained from product data sheet or user's manual.

Operating Frequency	2 402 MHz ~ 2 480 MHz
Kind of Class	DTS – Digital Transmission System
Max. RF Output Power	-4.54 dBm
Modulation Types	GFSK
Number of Channels	40 CH
Channel Bandwidth	2 MHz
Generated or used Freq. in EUT	32.768 kHz, 32 MHz
Type of Antenna	☒ Integrated Type ☐ Dedicated Type ☒ Chip Antenna (3.2 mm x 1.6 mm)
Antenna Gain	2.50 dBi
Normal Test Voltage	DC 3 V
Electrical Rating	DC 3 V
Test SW Version	Tera Term Version 4.91
RF power setting in TEST SW	4
Software Version	V 1.0
Hardware Version	V 1.0

1.2 Additional Model

None

2. TEST RESULT

2.1 Measured RF Output Level

Operating Mode	Data Rate	Channel	Frequency (MHz)	Output Power (dBm)
Bluetooth Low Energy	1 Mbps	Low	2 402	-5.44
		Middle	2 440	-4.54
		High	2 480	-5.15

2.2 Test result

According to FCC KDB 447498 D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,

where,

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to two decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

For the present device, the conducted output power is -4.54 dBm at Middle Channel.

So, max. power of channel, including tune-up tolerance = 0.35 mW, min. test separation distance is considered 5 mm and $f(\text{GHz}) = 2.440$

$(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \times [\sqrt{f(\text{GHz})}]$

$= (0.35 / 5) \times (\sqrt{2.440}) = 0.11 \leq 3.00$

Hence the SAR Exclusion Threshold condition is satisfied and the SAR evaluation for general population exposure conditions is not required.