RF Exposure Evaluation

Applicant	:	REYAX Technology Co
Product	:	2.4GHz Bluetooth - Low Energy Module with Integrated Antenna
Model	:	RYB2340
FCC ID	:	QLYRYB2340

In accordance with

FCC rule Part §1.13101

RESPONSIBLE FOR	NAME	SIGNATURE	DATE
Approved By	**Jack Chang**		**2025.09.19**
Prepared By	**Ariel Hsu**		**2025.09.19**

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service control rules.

EXECUTIVE SUMMARY

TÜV SÜD Asia Ltd., reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Asia Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Asia Ltd. issued reports.

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1 General Information

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

History of this test report

Issue	Description of Change	Date of Issue
1	Initial Issue	2025-09-19

1.2 Introduction

The information contained in this report is intended to show verification of RF qualification approval. The testing requirements of the standards for the tests listed in Section 1.5.

Applicant	:	REYAX TECHNOLOGY CO., LTD
Address	:	4F.-15, No.26, Ln. 321, Yangguang St., Neihu Dist. Taipei City 11491 Taiwan
Manufacturer	:	Gershin Electronics Ltd.
Brand Name	:	REYAX
Product Name	:	2.4GHz Bluetooth - Low Energy Module with Integrated Antenna
Model Number(s)	:	RYB2340
Date of Receipt of EUT	:	2025-07-07
Start of Test	:	2025-09-03
Finish of Test	:	2025-09-09
Test Laboratory	:	TÜV SÜD Asia Ltd., Taiwan Branch
Address	:	7F., No. 37, Sec. 2, Zhongyang S. Rd., Beitou District, Taipei City 11270, R.O.C. Taiwan
Test Location	:	TÜV SÜD Asia Ltd., Taiwan Branch, Guishan Laboratory
Address	:	No. 31, Dinghu Road, Guishan District, Taoyuan City, TAIWAN (R.O.C.)

The test facility is accredited by TAF (member of ILAC), under number 2573 according to ISO/IEC 17025: 2017.

FCC Designation Number No.: TW2573

1.3 Applied Standard

FCC rule Part §2.1091
FCC Part §1.1310 FCC KDB 447498 D04 Interim General RF Exposure Guidance v01 OET Bulletin 65

1.4 Deviation from standards

None

1.5 Reference Test Report

Test Lab	TÜV SÜD Asia Ltd., Taiwan Branch
Report Number	6128625056401

2 General EUT Information

All information in this chapter was provided by the applicant.

2.1 Technical Specification of EUT

Items	EUT information
Operating Frequency	2402 ~ 2480 MHz
Channel number	40
Maximum Output Power (dBm)	BLE 125kbps: 7.16dBm BLE 500kbps: 7.23dBm BLE 1Mbps: 7.32dBm BLE 2Mbps: 7.31dBm
Operation Voltage	3.3Vdc
Modulation	GFSK
Test Software Version	TI smartRF studio 8 v1.2.1

2.2 Antenna List

	Antenna Type	Brand	Model	Connector	Freq. (MHz)	Peak Antenna Gain (dBi)
Main	PCB	REYAX	RYB2340	Permanently attached antenna	2400 ~ 2483.5	1.16

3 FCC Maximum Permissible Exposure Evaluation

3.1 Introduction

This Standard specifies requirements for, and provides guidance on, assessing compliance with the exposure limits of radiofrequency (RF) safety standards such as IEEE Std C95.1. This includes methodologies for making an assessment (by measurement or computation) of human exposure to ambient RF fields and induced body currents in the frequency range of 0 kHz to 300 GHz.

This Standard may also be used as a guide for making low-level environmental exposure assessments in areas around RF sources listed above, as well as other sources such as Wi-Fi devices.

3.2 Reference Levels

Where appropriate, the reference levels are derived from the basic restrictions by mathematical modelling and by extrapolation from the results of laboratory investigations at specific frequencies. They are given for the condition of maximum coupling of the field to the exposed individual, thereby providing maximum protection.

According to FCC 1.1310, the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

The FCC MPE limits from 47 CFR §1.1310 are shown in the table below

Frequency Range [MHz]	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Average Time [minutes]
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f^2	6
30 – 300	61.4	0.163	1.0	6
300 – 1500			f/300	6
1500 – 100000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f^2	30
30 – 300	27.5	0.073	0.2	30
300 – 1500			f/1500	30
1500 – 100000			1.0	30

NOTE –

(1) *f* is the frequency in MHz.

(2) Provided that basic restrictions are met and adverse indirect effects can be excluded, field strength values can be exceeded. For the specific case of occupational exposures at frequencies up to 100 kHz, the derived electric fields can be increased by a factor of 2 under conditions in which adverse indirect effects from contact with electrically charged conductors can be excluded.

(3) For frequencies between 100 kHz and 10 GHz, the quantities Seq, E2 and H2 are averages over any 6 minutes.

(4) For frequencies exceeding 10 GHz, Seq, the quantities E2 and H2 are averages over any 68/f 1.05 minutes (f in GHz).

3.3 Classification of the Assessment Methods

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human body.

MPE Calculation Method according to KDB 447498 D01 General RF Exposure Guidance v06 & OET Bulletin 65.

Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm^2)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

3.4 Power Density Calculation (Worst Case)

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max.Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm^2)	Limit (mW/cm^2)	Pass / Fail	Power Density / Limit
BT LE	2402.00	20	7.32	1.16	7.05	0.0014	1.000	Pass	0.001