

TEST REPORT

Application No.: CPSN/00117/25
Applicant: TIREVIO INC
Address of Applicant: 202 W RIDGE RD, GRIFFITH, IN 46319,USA
Manufacturer: Viatire Tech Sdn. Bhd.
Address of Manufacturer: 1619 & 1620 Jalan Nafiri, Kawasan Perusahaan Valdor, 14200 Sungai Jawi, Pulau Pinang.
Equipment Under Test (EUT):
EUT Name: TMTIV01B
Model No.: TMTIV01B
FCC ID: 2BQXA-TMTIV01B
Standard(s) : 47 CFR Part 1.1307; 47 CFR Part 2.1091
 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2025-08-27
Date of Test: 2025-09-03 to 2025-09-17
Date of Issue: 2025-09-30

Test Result:	The submitted sample was found to comply with the test requirement
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EZMITH HAIKAL BIN AMIRNUDDIN
EMC/RF ENGINEER



AHMAD ZAKUAN BIN AMINUDIN
LABORATORY MANAGER



Test Report No.: CPEMRF/00064/25
Date: 2025-09-30

Revision Record		
Revision No.	Date	Remark
N/A	N/A	N/A

2 Test Summary

Radio Spectrum Technical Requirement		
Item	Standard	Result
RF Exposure	47 CFR Part 1.1307 47 CFR Part 2.1091 KDB 447498 D01	Pass

Declaration of EUT Family Grouping:

N/A

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4 General Information

4.1 Details of E.U.T.

Rated voltage/frequency:	2.95 – 3.5VDC
Test voltage:	N/A
Operation Frequency:	315MHz & 433.92MHz
Modulation Type:	FSK
Channel Spacing:	N/A
Data Rate:	N/A
Number of Channels:	N/A
Firmware Version:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Antenna Type:	Monopole antenna
Antenna Gain:	N/A

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Modifications to the Test Item during Testing

N/A

4.4 Test Location

All tests were performed at:

SGS (Malaysia) Sdn. Bhd.

No. 60, Jalan i-Park SAC 6, Taman Perindustrian i-Park SAC, Senai, 81400, Johor, Malaysia

Remark: No tests were sub-contracted.

4.5 Test Facility

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

- **FCC Recognized Test Firm (Registration No.: 613970)**

SGS (Malaysia) Sdn. Bhd. has been recognized by the (FCC) Federal Communications Commission.

Designation Number: MY0007, Test Firm Registration Number: 613970

- **DSM Accreditation (SAMM NO: SAMM 382)**

SGS Senai has met the requirement of ISO/IEC 17025:2017 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations.

- **A2LA Accreditation (Certificate No. 7433.01)**

SGS (Malaysia) Sdn. Bhd. is accredited by the American Association for Laboratory Accreditation (A2LA).

4.6 Deviation from Standards

None.

5 RF Exposure For FCC
5.1 Test Requirement
CFR 47 Part 1.1310

5.2 Limit

1mW Blanket Exemption

The 1 mW Blanket Exemption of §1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1-mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph §1.1307(b)(3)(ii)(A).

The 1-mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

MPE-based Exemption

According to 47 CFR §1.1310, the criteria listed in below table shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093.

Table 1 - Limits for Maximum Permissible Exposure (MPE)

Frequency range	E-field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(I) 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
(II) 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

Notes:

f = frequency in MHz

* = Plane-wave equivalent power density

SAR-based Exemption

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of §1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

5.3 Test Data and Test Result

Maximum Transmit Power

Test Mode	Test Frequency (MHz)	Polarization	E[dBμV/m] for d= 3m	ERP (dBm)	ERP (mW)
FSK	433.92	Horizontal	61.09	-36.26	0.0002365
FSK	433.92	Vertical	43.19	-54.16	0.00000384
FSK	315	Horizontal	68.32	-29.03	0.00125026
FSK	315	Vertical	56.39	-40.96	0.00008017

Note: Refer to report No. CPEMRF0006325 for EUT field strength value.

Calculation:

$$\text{EIRP (dBm)} = \text{E(dB}\mu\text{V/m)} - 95.2$$

$$\text{EIRP (mW)} = 10^{(\text{EIRP(dBm)}/10)}$$

$$\text{ERP (dBm)} = \text{EIRP (dBm)} - 2.15$$

$$\text{ERP (mW)} = 10^{(\text{ERP(dBm)}/10)}$$

RF Exposure Calculation

Evaluation Method	Separation distance between the antenna to person (R)	Exempt Limit(mW)	Verdict
Blanket 1 mW Blanket Exemption	No distance requirement	1mW	Yes
MPE-based Exemption(ERP)	$(\lambda/2\pi) < R$	N/A	N/A
SAR-based Exemption(Pth)	$0.5\text{cm} < R < 40\text{cm}$	N/A	N/A

- - - End of Test Report - - -