

RF EXPOSURE EVALUATION REPORT

Product Name: Titan Secure Base Controller

Trade Mark:



Model No.: TS-01-02-03

Report Number: 25071118985RFC-2

Test Standards: FCC 47 CFR Part 2.1091

FCC ID: 2BMES-TS01-02-03

Test Result: PASS

Date of Issue: February 24, 2026

Prepared for:

Titan Secure, Inc.

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Prepared by:

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UTTR-RF-FCCPART2.1091-V2.0

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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Titan Secure, Inc.
Address of Applicant:	2261 Market Street STE 10873, San Francisco, CA 94114, United States
Manufacturer:	Titan Secure (Pty) Ltd.
Address of Manufacturer:	Plot 1073 Erasmus Street, Mnandi Agricultural Holdings Centurion 0157, South Africa

1.2 EUT INFORMATION

Product Name:	Titan Secure Base Controller		
Model No.:	TS-01-02-03		
Trade Mark:			
DUT Stage:	Identical Prototype		
EUT Supports Function: (Provided by the customer)	2.4 GHz ISM Band:	Bluetooth V5.2	
		IEEE 802.11b/g/n (only Rx)	
	5 GHz U-NII Bands:	5 150 - 5 250 MHz: IEEE 802.11a/n/ac (only Rx)	
	E-UTRA Bands:	FDD Band 2/ 4/ 5	
	RNSS Bands:	1559-1610 MHz	BDS/ Galileo/ GLONASS/ GPS
Software Version:	3.0.8 (Provided by the customer)		
Hardware Version:	2.21 (Provided by the customer)		
Sample Received Date:	July 9, 2025		
Remark: The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.			

1.2.1 Description of Accessories

Refer to Report 25070818937EMC-1 for accessories.

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

EUT Supports Function		RF Test Report
E-UTRA Bands:	FDD Band 2/ 4/ 5	25071118985RFM-1
2.4 GHz ISM Band:	Bluetooth V5.2	25071118985RFC-1

1.4 OTHER INFORMATION

None.

1.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR Part 2.1091

All test items have been performed and recorded as per the above standards

1.6 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6th, Baoneng Science and Technology Park, Longhua Street, Longhua District, Shenzhen, China

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1.7 TEST FACILITY

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

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

2. EQUIPMENT LIST

Please refer to the RF test report.

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3. RF EXPOSURE EVALUATION

3.1 REFERENCE DOCUMENTS FOR EVALUATION

No.	Identity	Document Title
1	FCC 47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices.
2	FCC 47 CFR Part 1.1307	Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.
3	FCC 47 CFR Part 1.1310	Radiofrequency radiation exposure limits.
4	KDB 447498 D01 General RF Exposure Guidance v06	RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES FOR MOBILE AND PORTABLE DEVICES

3.2 RF EXPOSURE COMPLIANCE REQUIREMENT

3.2.1 Limits

3.2.1.1 FCC 47 CFR Part 2.1091

➤ Single RF sources

Evaluation of compliance with the exposure limits in § 1.1310 of this chapter, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), whichever is greater. For mobile devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 of this chapter is necessary if the ERP of the device is greater than ERP_{20cm} in the formula below. If the ERP of a single RF source at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP) in comparison with the following formula only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

d = the minimum separation distance (cm) in any direction from any part of the device antenna(s) or radiating structure(s) to the body of the device user.

➤ Multiple mobile or portable RF sources

For multiple mobile or portable RF sources within a device operating in the same time averaging period, routine environmental evaluation is required if the formula in § 1.1307(b)(3)(ii)(B) of this chapter is applied to determine the exemption ratio and the result is greater than 1.

$$\sum_{i=0}^a \frac{P_i}{P_{th,i}} + \sum_{j=0}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=0}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th} , including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

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P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i .

ERP_j = the ERP of fixed, mobile, or portable RF source j .

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source j , at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

$Evaluated_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

$Exposure\ Limit_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k , as applicable from § 1.1310 of this chapter.

3.2.1.2 KDB 447498 D04 V01

MPE-based Exemption: General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

3.2.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.3 RF EXPOSURE EVALUATION CALCULATION RESULTS

Note:

1. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3.3.1 Single RF sources Calculation

Operating Mode	Freq.	Tune-up Power	Tolerance	Ant. Gain	Calculated maximum ERP (P_{ant})		RF Exposure limit (P_{th})	P_{ant}/P_{th}	Results
	(MHz)	(dBm)		(dBi)	(dBm)	(mW)	(mW)		
Bluetooth	2402-2480	-1.5	+0.5/-1.5	2.5	1.5	1.4125	3060.00	0.0005	PASS
LTE Band 2 (RMS-Value)	1850-1910	14.0	+0.5/-1.5	1.9	16.4	43.6516	3060.00	0.0143	PASS
LTE Band 4 (RMS-Value)	1710-1755	15.0	+0.5/-1.5	1.9	17.4	54.9541	3060.00	0.0180	PASS
LTE Band 5 (RMS-Value)	824-849	14.5	+0.5/-1.5	1.8	14.65	29.1743	1727.06	0.0169	PASS
1). The EIRP and ERP calculated method is shown as below: $EIRP = \text{Average Power} + \text{Antenna Gain}$ $ERP = EIRP - 2.15\text{dB}$ 2). Frame-averaged power = $10 \times \log (\text{Burst-averaged power mW} \times \text{Slot used} / 8)$									

3.3.2 Multiple RF sources Calculation

3.3.2.1 List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Support/Not Support
1	WWAN + Bluetooth	Support

3.3.2.2 Results for transmit simultaneously

No.	Configurations	Maximum P_{ant}/P_{th}		Transmit simultaneously	Limit	Results
		WWAN	BT			
2	WWAN + Bluetooth	0.0180	0.0005	0.0185	1	PASS

APPENDIX 1 PHOTOS OF TEST SETUP

N/A

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal Photos.

*** End of Report ***

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