

Test report

Number T251-0895/24

Project file: C20241801

Date: 2025-02-06

Pages: 6

Product: Televend

Type reference: T1PRO

Ratings: 10 - 15 V d.c.; 8 W
Protection class II

Trademark:



Applicant: Intis Ltd.
Bani 73a, HR-10010 Zagreb, Croatia

Manufacturer: Intis Ltd.
Bani 73a, HR-10010 Zagreb, Croatia

Place of manufacture: Intis Ltd.
Bani 73a, HR-10010 Zagreb, Croatia

Summary of testing

Testing method: 47 CFR FCC Part 1.1307(clause (b)(1)(i)(B) and (b)(3)(ii)(B))

Testing location: SIQ Ljubljana
Mašera-Spasičeva ulica 10, SI-1000 Ljubljana, Slovenia

Remarks: Date of receipt of test items: 2024-09-23
Number of items tested: 2
Date of performance of tests: 2024-10-17
The test results presented in this report relate only to the items tested.
The test items were tested in the condition as received.
The product complies with the requirements of the testing methods.

Tested by: Nik Vončina

Approved by: Marjan Mak

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1 GENERAL

History sheet			
Date	Report No.	Change	Revision
2025-02-06	T251-0895/24	Initial Test Report issued.	--

1.1 Equipment under test

Televend

Type: **T1PRO**

Environment: Uncontrolled / General Public

Assessment distance: 20 cm

FCC ID: **2A8XO-T1PROY2409**

FCC ID of pre-certified built-in LTE module: **QIPPLS63-W-B**

Reviewed test reports:

- T251-0842/24 from SIQ Ljubljana.
- 220730738RFC-1 from Shenzhen UnionTrust Quality and Technology Co., Ltd.



2 ASSESSMENT PROCEDURE

MPE EVALUATION OF FIXED DEVICES

According to 47 CFR 1.1307 clause (b)(1)(i)(B):

With respect to the limits on human exposure to RF provided in § 1.1310 of this chapter, applicants to the Commission for the grant or modification of construction permits, licenses or renewals thereof, temporary authorities, equipment authorizations, or any other authorizations for radiofrequency sources must prepare an evaluation of the human exposure to RF radiation pursuant to § 1.1310 and include in the application a statement confirming compliance with the limits in § 1.1310.

Limits:

TABLE 1 - LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging 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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

Calculation:

$$P_d = \frac{P_t}{4 * \pi * R^2}$$

Where:

P_d = Power density in mW/cm²

P_t = EIRP in mW

π = 3.14

R = Evaluation distance

According to 47 CFR 1.1307 clause (b)(3)(ii)(B):

(ii) For multiple RF sources: Multiple RF sources are exempt if:

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1.

Maximum contribution of each technology is calculated with calculated power density compared to the limit.

Maximum contribution = Power density / Power density Limit

3 MEASUREMENTS / CALCULATIONS

Antenna type and gain - BLE: Integral antenna, 0.5 dBi

Antenna type and gain - LTE: SMA antenna; 1.5 dBi @ 698-960MHz, 3.5 dBi @ 1710-2170 MHz and -6.3 dBi @ 2100-2700 MHz

GSM module works with 1Tx duty cycle when operating (Maximum mode).

1Tx mode = $10 \cdot \log_{10}(1/8) = -9.031$

Power of GSM850 and GSM1900 measured with continuous transmission are due this lowered by 9.031, to get the actual average power. For other technologies used, 100% duty cycle is taken.

47 CFR FCC Part 1.1307(Clause (b)(3)(ii)(B)):

There is simultaneous transmission.

Standalone contributions LTE module at 20 cm distance:

Band	Maximum average output power with antenna gain and calculated duty cycle (dBm)	Power density [mW/cm ²]	Power density Limit [mW/cm ²]	Maximum contribution
GSM850	25.61	0.07242	0.54947	0.13180
GSM1900	24.74	0.05927	1	0.05927
WCDMA B2	27.25	0.10567	1	0.10567
WCDMA B4	27.33	0.10763	1	0.10763
WCDMA B5	25.28	0.06714	0.54947	0.12218
LTE B2	27.14	0.10303	1	0.10303
LTE B4	25.88	0.07708	1	0.07708
LTE B5	22.25	0.03342	0.54947	0.06082
LTE B7	16.85	0.00964	1	0.00964
LTE B12	22.93	0.03908	0.46600	0.08386
LTE B13	22.46	0.03507	0.51800	0.06771
LTE B26	22.79	0.03784	0.54267	0.06973
LTE B38	16.89	0.00973	1	0.00973
LTE B41	16.92	0.00979	1	0.00979
LTE B66	27.08	0.10161	1	0.10161

Standalone contributions BLE module at 20 cm distance:

Band	Maximum average output power with antenna gain and calculated duty cycle (dBm)	Power density [mW/cm ²]	Limit [mW/cm ²]	Maximum contribution
2.4 GHz	2.9	0.00039	1	0.00039

* Gated power with Duty Cycle calculated in

** tolerance already included

Conclusion: PASS; SAR Evaluation is not required due to SAR Test Exclusion Thresholds are met.

Calculation of maximum simultaneous transmission of both modules:

Frequency band	Frequency band			
	simultaneous transmission	BLE - 2.4 GHz	Limit	Result
	GSM850	0.13219	1	PASS
	GSM1900	0.05966	1	PASS
	WCDMA B2	0.10606	1	PASS
	WCDMA B4	0.10802	1	PASS
	WCDMA B5	0.12257	1	PASS
	LTE B2	0.10342	1	PASS
	LTE B4	0.07747	1	PASS
	LTE B5	0.06120	1	PASS
	LTE B7	0.01003	1	PASS
	LTE B12	0.08425	1	PASS
	LTE B13	0.06809	1	PASS
	LTE B26	0.06036	1	PASS
	LTE B38	0.07012	1	PASS
	LTE B41	0.01011	1	PASS
	LTE B66	0.01018	1	PASS

Conclusion: PASS; SAR Evaluation due to simultaneous transmission is not required due to sum of the fractional contributions is in all combinations less than 1.