

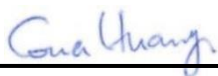
RF EXPOSURE EVALUATION REPORT

FCC ID : 2BSS5ROSER2401
Equipment : LTE Cat.1bis Module
Brand Name : U-TAW
Model Name : ROSE-R2401 MINIPCIE
Applicant : UTA WIRELESS S.R.L.
Milano (MI) VIA PRIVATA BASTIA 5 CAP 20121 ITALY
Manufacturer : UTA WIRELESS S.R.L.
Milano (MI) VIA PRIVATA BASTIA 5 CAP 20121 ITALY
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



SPORTON INTERNATIONAL INC. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA5O0138-03	Rev. 01	Initial issue of report	Apr. 24, 2026

**1. Description of Equipment Under Test (EUT)**

Product Feature & Specification	
EUT Type	LTE Cat. 1bis Module
Brand Name	U-TAW
Model Name	ROSE-R2401 MINIPCIE
FCC ID	2BSS5ROSER2401
Wireless Technology and Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Mode	LTE: QPSK, 16QAM

Reviewed by: Jason Wang**Report Producer: Paula Chen****2. Maximum RF average output power among production units**

Mode		Maximum Average power(dBm)
FDD LTE	Band 2	25.0
	Band 4	25.0
	Band 5	25.0
	Band 12	25.0
	Band 13	25.0
	Band 14	25.0
	Band 17	25.0
	Band 25	25.0
	Band 66	25.0
	Band 71	25.0



3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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 Exposures				
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
1500-100,000			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
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum ERP (dBm)	Maximum ERP (W)	Maximum EIRP (dBm)	Maximum EIRP (W)	Maximum ERP/EIRP Limit (W)	Maximum PG (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
LTE Band 2	8.0	25.00	30.850	1.216	33.000	1.995	2.00	1995.262	0.397	1.000
LTE Band 4	5.0	25.00	27.850	0.610	30.000	1.000	1.00	1000.000	0.199	1.000
LTE Band 5	9.4	25.00	32.250	1.679	34.400	2.754	7.00	2754.229	0.548	0.549
LTE Band 12	8.6	25.00	31.450	1.396	33.600	2.291	3.00	2290.868	0.456	0.466
LTE Band 13	9.1	25.00	31.950	1.567	34.100	2.570	3.00	2570.396	0.512	0.518
LTE Band 14	9.2	25.00	32.050	1.603	34.200	2.630	3.00	2630.268	0.524	0.525
LTE Band 17	8.6	25.00	31.450	1.396	33.600	2.291	3.00	2290.868	0.456	0.469
LTE Band 25	8.0	25.00	30.850	1.216	33.000	1.995	2.00	1995.262	0.397	1.000
LTE Band 66	5.0	25.00	27.850	0.610	30.000	1.000	1.00	1000.000	0.199	1.000
LTE Band 71	8.4	25.00	31.250	1.334	33.400	2.188	3.00	2187.762	0.435	0.442

4.2. Collocated Power Density Calculation

Note:

- This MPE analysis is applicable to any collocated transmitters, with the maximum EIRP for WLAN assumed to be 30 dBm and the maximum EIRP for BT assumed to be 20 dBm.

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Maximum PG (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
LTE Band 2	8.0	25.00	33.0	2.00	1995.26	0.397	1.000	0.397
LTE Band 4	5.0	25.00	30.0	1.00	1000.00	0.199	1.000	0.199
LTE Band 5	8.0	25.00	33.0	2.00	1995.26	0.397	0.549	0.723
LTE Band 12	7.6	25.00	32.6	1.82	1819.70	0.362	0.466	0.777
LTE Band 13	8.0	25.00	33.0	2.00	1995.26	0.397	0.518	0.767
LTE Band 14	8.1	25.00	33.1	2.04	2041.74	0.406	0.525	0.774
LTE Band 17	7.6	25.00	32.6	1.82	1819.70	0.362	0.469	0.772
LTE Band 25	8.0	25.00	33.0	2.00	1995.26	0.397	1.000	0.397
LTE Band 66	5.0	25.00	30.0	1.00	1000.00	0.199	1.000	0.199
LTE Band 71	7.3	25.00	32.3	1.70	1698.24	0.338	0.442	0.765
WLAN2.4GHz Band			30.0	1.00	1000.00	0.199	1.000	0.199
WLAN5/6GHz Band			30.0	1.00	1000.00	0.199	1.000	0.199
Bluetooth			20.0	0.10	100.00	0.020	1.000	0.020

WWAN Power Density / Limit	WLAN Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WWAN+WLAN+Bluetooth
0.777	0.199	0.020	0.996

Note:

- Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)], for WWAN + WLAN + Bluetooth.
- Considering the transmitters of the EIRP performance listed in the table above, the aggregated (power density / limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant.

**Conclusion:**

Based on FCC 47 CFR §2.1901, the analysis concludes that this product when transmitting in standalone within a host device, is compliant with the FCC RF exposure requirements in mobile exposure condition, provided the conducted power and antenna gain do not exceed the limits for each given frequency band per wireless technology as follow table:

Device	Technology	Band	Maximum Conducted Power (dBm)	Stanalone Maximum Antenna Gain (dBi)	Collocated Maximum Antenna Gain (dBi)
ROSE-R2401 MINIPCIE	LTE	LTE Band 2	25.0	8.0	8.0
		LTE Band 4	25.0	5.0	5.0
		LTE Band 5	25.0	9.4	8.0
		LTE Band 12	25.0	8.6	7.6
		LTE Band 13	25.0	9.1	8.0
		LTE Band 14	25.0	9.2	8.1
		LTE Band 17	25.0	8.6	7.6
		LTE Band 25	25.0	8.0	8.0
		LTE Band 66	25.0	5.0	5.0
		LTE Band 71	25.0	8.4	7.3