

RF EXPOSURE Test Report

Report No. : MTi230621033-22E2

Date of Issue : 2025-03-03

Applicant : Shenzhen Fuwit Technology Co., Ltd

Product : UHF RFID Reader

Model(s) : FU-M6-IN1

FCC ID : 2A9GZ-FUM6IN1

Shenzhen Microtest Co., Ltd.

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Test Result Certification		
Applicant	Shenzhen Fuwit Technology Co., Ltd	
Applicant Address	3613 Changping Business Building, No. 99, Honghua Road, Futian Free Trade Zone, Shenzhen, China	
Manufacturer	Shenzhen Fuwit Technology Co., Ltd	
Manufacturer Address	3613 Changping Business Building, No. 99, Honghua Road, Futian Free Trade Zone, Shenzhen, China	
Product description		
Product name	UHF RFID Reader	
Trademark	FUWIT	
Model name	FU-M6-IN1	
Series Model(s)	N/A	
Standards	47 CFR Part 2.1091	
Test method	KDB 447498 D01 v06	
Testing Information		
Date of test	2025-02-06 ~ 2025-02-28	
Test Result	Pass	
Prepared by	Letter Lan	<i>Letter. Lan.</i>
Reviewed by	David Lee	<i>David. Lee</i>
Approved by	Leon Chen	<i>Leon chen</i>

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1 RF EXPOSURE EVALUATION

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)

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

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

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2 Measurement Result

BT:

Operation Frequency:

NA2 mode: 917.4 MHz ~ 927.2 MHz

NA3 mode: 917.5 MHz ~ 922.5 MHz

Power density limited: 1mW/ cm²

Antenna Type: PCB Antenna

Antenna 1 gain: 5.82dBi

R=20cm

$mW=10^{(dBm/10)}$

Antenna gain Numeric= $10^{(dBi/10)}=10^{(5.82/10)}=3.82$

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm ²)	(mW/cm ²)
				(dBm)	(mW)	(dBi)	Numeric		
917.4	NA2 mode	26.492	26±1	27	501.187	5.82	3.82	0.3808	0.612
922.4		26.616	26±1	27	501.187	5.82	3.82	0.3808	0.615
927.2		26.749	26±1	27	501.187	5.82	3.82	0.3808	0.618
917.5	NA3 mode	26.527	26±1	27	501.187	5.82	3.82	0.3808	0.612
920.0		26.586	26±1	27	501.187	5.82	3.82	0.3808	0.613
922.5		26.670	26±1	27	501.187	5.82	3.82	0.3808	0.615

Conclusion:

For the max result: $0.3808 \leq 0.618$ test exclusion threshold, No SAR is required.

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Statement

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2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
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***** END OF REPORT *****