

RF EXPOSURE Test Report

Report No. : MTi251216001-1101E2
Date of issue : 2026-01-30
Applicant : LEEDARSON LIGHTING CO., LTD.
Product : LED lamp
Model(s) : 15aSA-A1600ST-Q1QM-01,
15aSy-A1600ST-Q1QM-xx, 15A21100D6CCTxx,
14A21100D6CCTxx
FCC ID : 2AB2Q-15A1600STQ1QM

Shenzhen Microtest Co., Ltd.

TEST REPORT

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Test Result Certification		
Applicant	LEEDARSON LIGHTING CO., LTD.	
Applicant Address	Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China	
Manufacturer	LEEDARSON LIGHTING CO., LTD.	
Manufacturer Address	Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China	
Product description		
Product name	LED lamp	
Trademark	N/A	
Model name	15aSA-A1600ST-Q1QM-01	
Series Model(s)	15aSy-A1600ST-Q1QM-xx, 15A21100D6CCTxx, 14A21100D6CCTxx	
Model difference:	All the models are the same circuit and module, except the model name, color, appearance and package(Where "y" may be "A" to "Z", which designates there is a difference in the surface striations at the junction between the metal lamp cap and the plastic part; "xx" may be "00" to "99", which designates for different beam angle, color of eyelet contact, different package of style.).	
Standards	47 CFR Part 2.1091	
Test method	KDB 447498 D01 v06	
Testing Information		
Date of test	2025-12-25 to 2026-01-28	
Test Result	Pass	
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Approved by:	Lewis Lian	<i>Lewis Lian</i>

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.

2 Measurement Result

FSK:

Operation Frequency: 5730-5820MHz,
conducted power comes from the following calculations:

9.5 Equations to calculate EIRP

Calculate the EIRP from the radiated field strength in the far field using Equation (22):

$$EIRP = E_{Meas} + 20\log(d_{Meas}) - 104.7 \quad (22)$$

where

$EIRP$ is the equivalent isotropically radiated power, in dBm
 E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m
 d_{Meas} is the measurement distance, in m

NOTE—Because this equation yields the identical result whether the field strength is extrapolated using the default 20 dB/decade of distance extrapolation factor, or the field strength is not extrapolated for distance, this equation can generally be applied directly (with no further correction) to determine EIRP. In some cases, a different distance correction factor may be required; see 9.1.

Channel Freq. (MHz)	modulation	Measured Power (dBuV/m)	Measured Power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
					tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numerical	(mW/cm2)	(mW/cm2)
5730	FSK	85.28	-9.92	(-9) ±1	-8	0.16	3.4	2.19	0.00007	1
5775	FSK	83.10	-12.1	(-12) ±1	-11	0.08	3.4	2.19	0.00003	1
5820	FSK	83.00	-12.2	(-12) ±1	-11	0.08	3.4	2.19	0.00003	1

$EIRP (dBm) = E (dBμV/m) + 20\log(D) - 104.8$; where D is the measurement distance in m.

The measuring distance is 3m, then $20*\log(3)=9.5424$

Then, $EIRP (dBm) = E (dBμV/m) + 9.5424 - 104.8 = E (dBμV/m) - 95.2$

Conclusion:

For the max result: $0.00007 \leq 1$ for 1g SAR test exclusion threshold, No SAR is required.

Statement

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***** END OF REPORT *****