

	TEST REPORT							
FCC ID:	2AQRG-W10							
Test Report No::	TCT220221E036							
Date of issue::	Mar. 01, 2022							
Testing laboratory:	SHENZHEN TONGCE TESTING LAB							
Testing location/ address:	FCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China							
Applicant's name::	Shenzhen Feihe Electronics Co., Ltd							
Address::	3/F, Bldg 3, HongFa Innovative Park, HuangMaBu Community, Baoan District, Shenzhen, 518101, China							
Manufacturer's name:	Shenzhen Feihe Electronics Co., Ltd							
Address:	3/F, Bldg 3, HongFa Innovative Park, HuangMaBu Community, Baoan District, Shenzhen, 518101, China							
Standard(s):	FCC CFR Title 47 Part 15 Subpart C							
Test item description:	LED table lamp							
Trade Mark:	N/A							
Model/Type reference:	W10							
Rating(s):	SWITCHING ADAPTER MODEL NO: GQ18-120150-AU Input: AC 100–240 V, 50/ 60 Hz, 0.5 A Max Output: DC 12.0 V, 1.5 A							
Date of receipt of test item:	Feb. 21, 2022							
Date (s) of performance of test:	Feb. 21, 2022 ~ Mar. 01, 2022							
Tested by (+signature):	Rieo LIU							
Check by (+signature):	Beryl ZHAO Roy(TCT)							
Approved by (+signature):	Tomsin							

General disclaimer:

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1. General Product Information

1.1.EUT description

Test item description:	LED table lamp		(3)
Model/Type reference:	W10		
Sample Number:	TCT220221E036-0101		
Operation Frequency:	124.52kHz – 172.44kHz	(0)	
Modulation Technology:	Load modulation		
Antenna Type:	Inductive loop coil Antenna		
Rating(s):	SWITCHING ADAPTER MODEL NO: GQ18-120150-AU Input: AC 100–240 V, 50/ 60 Hz, 0.5 A Max Output: DC 12.0 V, 1.5 A	(C)	

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.



2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious Emission	§15.209(a)(f)	PASS

Note:

- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.





3. General Information

3.1. Test environment and mode

Operating Environment:								
Condition	Conducted Emission	Radiated Emission						
Temperature:	25 °C	25.1 °C						
Humidity:	55 % RH	50 % RH						
Atmospheric Pressure:	1010 mbar	1010 mbar						
Test Mode:								
Engineering mode: Wireless charger output MAX load 5W mode.								

The sample was placed 0.8m for the measurement below above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case(Z axis) are shown in Test Results of the following pages.

3.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No. Serial No.		FCC ID	Trade Name	
Mobile Phone	SAMSUNG	SM-G9350	R28HA2E R3GT	SAMSUNG	

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.





Facilities and Accreditations 4.

4.1. Facilities

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

FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

• IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fugiao 5th Industrial Zone, Fuhai Street, Bao'an

District Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4.3. Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB



5. Test Results and Measurement Data

5.1. Antenna requirement

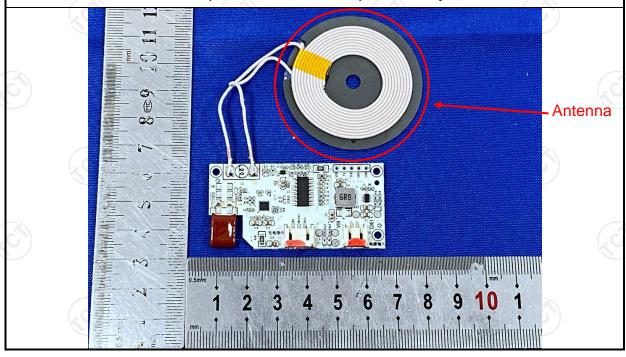
Standard requirement: FCC Part15 C Section 15.203

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

E.U.T Antenna:

The antenna is inductive loop coil antenna which permanently attached.





5.2. Conducted Emission

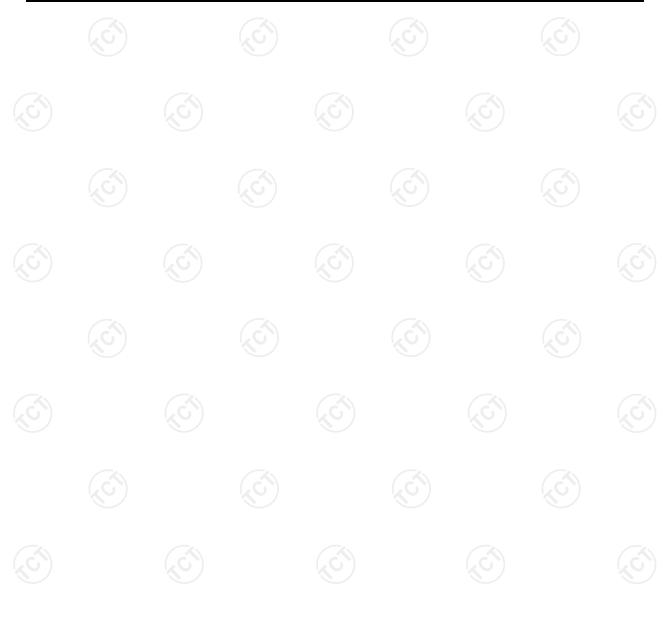
5.2.1. Test Specification

in rest opecification				
Test Requirement:	FCC Part15 C Section	15.207		
Test Method:	ANSI C63.10:2013			
Frequency Range:	150 kHz to 30 MHz			
Receiver setup:	RBW=9 kHz, VBW=30	kHz, Sweep time	e=auto	
	Frequency range (MHz)	Limit (Quasi-peak		
Limits:	0.15-0.5	66 to 56*	Average 56 to 46*	
Lillius.	0.15-0.5	56	46	
	5-30	60		
	1 × 0	50		
	Refere	nce Plane		
Test Setup:	Test table/Insulation plan Remark: E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Test table height=0.8m	EMI Receiver	ter — AC power	
Test Mode:	Transmitting Mode			
Test Procedure:	 The E.U.T is conne impedance stabilize provides a 500hm/s measuring equipme The peripheral device power through a LI coupling impedance refer to the block photographs). Both sides of A.C. conducted interferer emission, the relative the interface cables ANSI C63.10: 2013 	ration network 50uH coupling im nt. ces are also conne ISN that provides with 50ohm term diagram of the line are checke nce. In order to fine s must be change	(L.I.S.N.). This apedance for the ected to the main a 500hm/50uH mination. (Please test setup and ed for maximum and the maximum sipment and all of led according to	



5.2.2. Test Instruments

Cond	Conducted Emission Shielding Room Test Site (843)											
Equipment	Manufacturer	Model	Serial Number	Calibration Due								
EMI Test Receiver	R&S	ESCI3	100898	Jul. 07, 2022								
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	zbeck NSLK 8126 8126453		Mar. 11, 2022								
Line-5	тст	CE-05	N/A	Jul. 07, 2022								
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A								

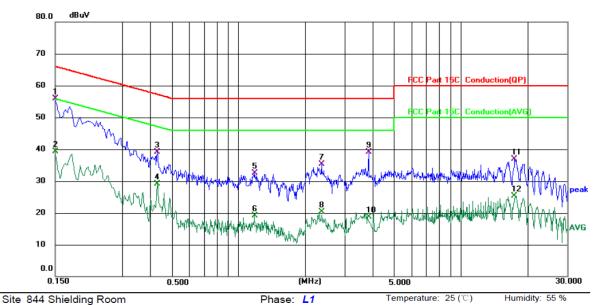




5.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.1500	46.34	9.60	55.94	66.00	-10.06	QP	
2	0.1500	29.71	9.60	39.31	56.00	-16.69	AVG	
3	0.4300	29.83	9.22	39.05	57.25	-18.20	QP	
4	0.4300	19.92	9.22	29.14	47.25	-18.11	AVG	
5	1.1820	23.17	9.35	32.52	56.00	-23.48	QP	
6	1.1820	9.73	9.35	19.08	46.00	-26.92	AVG	
7	2.3620	25.90	9.47	35.37	56.00	-20.63	QP	
8	2.3620	10.74	9.47	20.21	46.00	-25.79	AVG	
9	3.8580	29.61	9.55	39.16	56.00	-16.84	QP	
10	3.8580	9.10	9.55	18.65	46.00	-27.35	AVG	
11	17.4740	27.23	9.71	36.94	60.00	-23.06	QP	
12	17.4740	15.55	9.71	25.26	50.00	-24.74	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

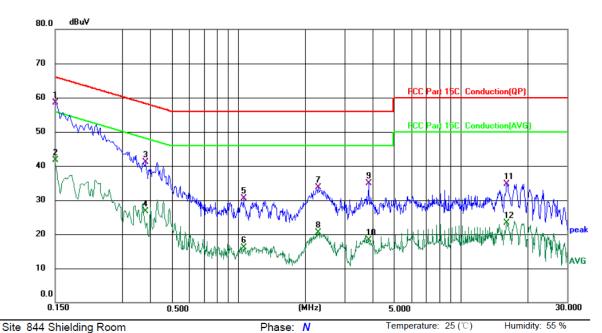
Q.P. =Quasi-Peak

AVG =average

^{*} is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz



Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	48.85	9.61	58.46	66.00	-7.54	QP	
2		0.1500	32.03	9.61	41.64	56.00	-14.36	AVG	
3		0.3820	31.85	9.27	41.12	58.24	-17.12	QP	
4		0.3820	17.49	9.27	26.76	48.24	-21.48	AVG	
5		1.0580	21.14	9.31	30.45	56.00	-25.55	QP	
6		1.0580	6.81	9.31	16.12	46.00	-29.88	AVG	
7		2.2940	24.24	9.39	33.63	56.00	-22.37	QP	
8		2.2940	11.05	9.39	20.44	46.00	-25.56	AVG	
9		3.8500	25.52	9.45	34.97	56.00	-21.03	QP	
10		3.8500	8.84	9.45	18.29	46.00	-27.71	AVG	
11		16.0900	25.00	9.69	34.69	60.00	-25.31	QP	
12		16.0900	13.66	9.69	23.35	50.00	-26.65	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement ($dB\mu V$) = Reading level ($dB\mu V$) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

Q.P. =Quasi-Peak AVG =average

^{*} is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz

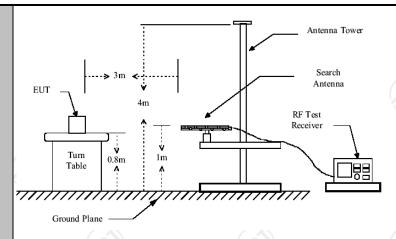


5.3. Radiated Spurious Emission Measurement

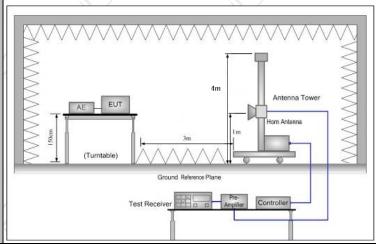
5.3.1. Test Specification

Toot Demuirement	ECC Daritat	C Cootie:	4E 200	(6)		(zG
Test Requirement:	FCC Part15		15.209			
Test Method:	ANSI C63.10): 2013				
Frequency Range:	9 kHz to 25 (GHz	3		(.ć	
Measurement Distance:	3 m					
Antenna Polarization:	Horizontal &	Vertical				
Operation mode:	Refer to item	3.1		(C)		ζĆ
	Frequency	Detector	RBW	VBW		Remark
	9kHz- 150kHz	Quasi-peal	200Hz	1kHz	Quas	si-peak Value
Receiver Setup:	150kHz- 30MHz	Quasi-peal	9kHz	30kHz	Quas	si-peak Value
•	30MHz-1GHz	Quasi-peal	120KHz	300KHz	Quas	si-peak Value
	Al 4011-	Peak	1MHz	3MHz		eak Value
	Above 1GHz	Peak	1MHz	10Hz	Ave	erage Value
	Frequen	_	Field Stro (microvolts	/meter)	Measurement Distance (meters)	
	0.009-0.490		2400/F(KHz)			300
	0.490-1.7		24000/F((KHz)	30	
	1.705-30		30		30	
	30-88 88-216		100 150		3	
Limit:	216-96		200		3	
Ellillit.	Above 9		500			3
	No.	5)		(0)		/C
	Frequency		Field Strength (microvolts/meter)		ment ce rs)	Detector
	Above 1GHz	,	500		(, C	Average
	7,5000 10112		5000			Peak
Test setup:	For radiated	Turn table	lm	Pre -	Compu	ter]
	30MHz to 10	Ground GHZ	1 Plane			(c





Above 1GHz



Test Procedure:

1. For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final



Test mode:	duty cycle is no less than 98 percent. VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. Refer to section 3.1 for details
	when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum
	emission being measured; (2) Set RBW=120 kHz for f < 1 GHz; VBW ≥RBW; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for f □ 1 GHz for peak measurement. For average measurement: VBW = 10 Hz, when
	measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 2. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 3. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 4. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the



5.3.2. Test Instruments

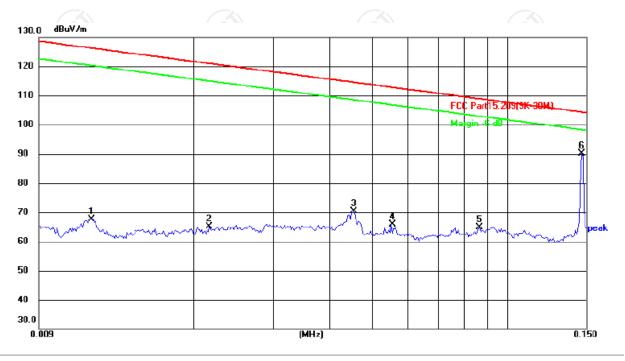
	Radiated En	nission Test Site	e (966)			
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due		
EMI Test Receiver	R&S	ESIB7	100197	Jul. 07, 2022		
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 07, 2022		
Pre-amplifier	SKET	LNPA_0118G- 45	SK2021012 102	Mar. 11, 2022		
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Apr. 08, 2022		
Pre-amplifier	HP	8447D	2727A05017	Jul. 07, 2022		
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 05, 2022		
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 04, 2022		
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 04, 2022		
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Apr. 10, 2023		
Antenna Mast	Keleto	RE-AM	N/A	N/A		
Coaxial cable	SKET	RC_DC18G-N	N/A	Apr. 08, 2022		
Coaxial cable	SKET	RC-DC18G-N	N/A	Apr. 08, 2022		
Coaxial cable	SKET	RC-DC40G-N	N/A	Jul. 07, 2022		
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A		



5.3.3. Test Data

Please refer to following diagram for individual 9KHz-30MHz

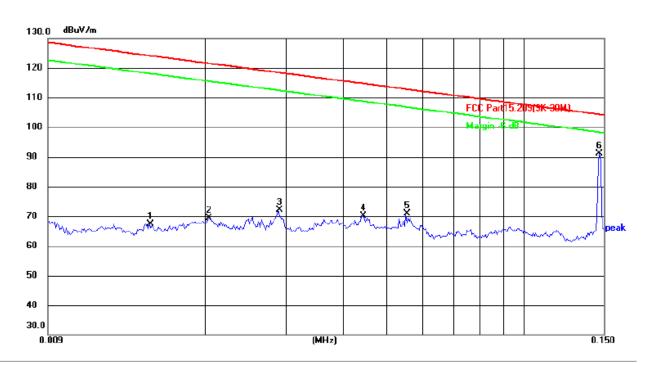
9KHz-150KHz:



Site Polarization: Coaxial Temperature: 24(°C)
Limit: FCC Part15.209(9K-30M) Power: AC 120 V60Hz Humidity: 52 %

-											
	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F		
	1	0.0118	46.85	20.81	67.66	126.17	-58.51	peak	Р		
	2	0.0216	44.29	20.73	65.02	120.92	-55.90	peak	Р		
	3	0.0452	49.50	20.79	70.29	114.50	-44.21	peak	Р		
	4	0.0551	45.05	20.81	65.86	112.78	-46.92	peak	Р		
	5	0.0866	43.92	20.97	64.89	108.85	-43.96	peak	Р		
	6 *	0.1466	69.73	20.47	90.20	104.28	-14.08	peak	Р		





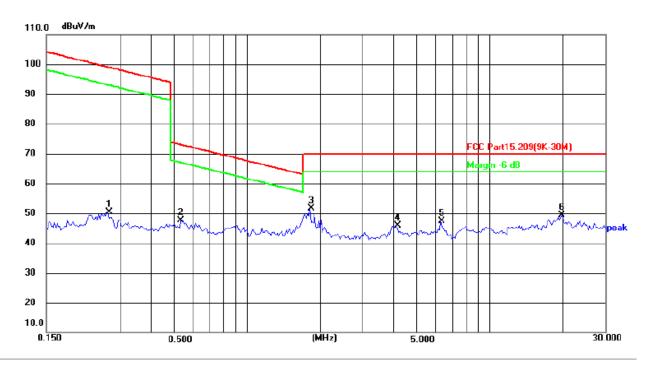
Site Polarization: Coplanar Temperature: 24($^{\circ}$ C) Limit: FCC Part15.209(9K-30M) Power: AC 120 V60Hz Humidity: 52 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	0.0151	46.66	20.80	67.46	124.03	-56.57	peak	Р
2	0.0203	48.57	20.75	69.32	121.45	-52.13	peak	Р
3	0.0289	51.43	20.68	72.11	118.39	-46.28	peak	Р
4	0.0444	49.41	20.76	70.17	114.66	-44.49	peak	Р
5	0.0551	50.05	20.81	70.86	112.78	-41.92	peak	Р
6 *	0.1466	70.73	20.47	91.20	104.28	-13.08	peak	Р



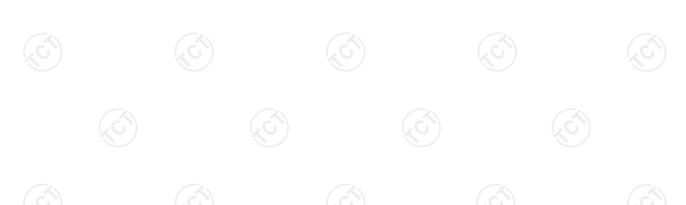


150KHz-30MHz:

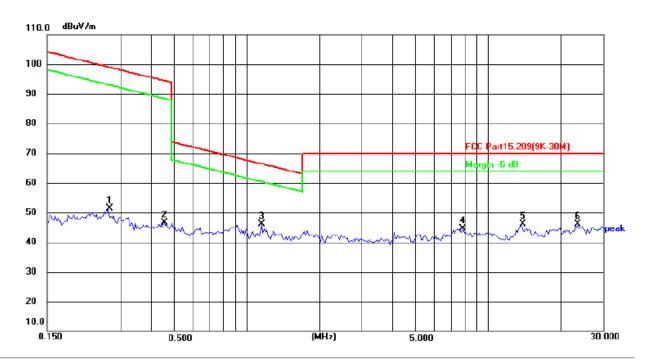


Site Polarization: Coaxial Temperature: 24($^{\circ}$ C) Limit: FCC Part15.209(9K-30M) Power: AC 120 V60Hz Humidity: 52 %

	No.	Frequency (MHz)			Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	
	1	0.2693	29.50	20.91	50.41	99.00	-48.59	peak	Р	
. [2	0.5377	26.02	21.71	47.73	73.00	-25.27	peak	Р	
	3 *	1.8278	27.51	24.23	51.74	70.00	-18.26	peak	Р	
	4	4.1467	17.02	28.98	46.00	70.00	-24.00	peak	Р	
	5	6.2792	14.20	33.12	47.32	70.00	-22.68	peak	Р	
	6	19.8116	29.66	19.80	49.46	70.00	-20.54	peak	Р	







Site Polarization: Coplanar Temperature: 24(°C)
Limit: FCC Part15.209(9K-30M) Power: AC 120 V60Hz Humidity: 52 %

2	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	-
	1	0.2693	30.50	20.91	51.41	99.00	-47.59	peak	Р	
	2	0.4584	25.10	21.51	46.61	94.38	-47.77	peak	Р	
	3 *	1.1567	23.21	22.88	46.09	66.36	-20.27	peak	Р	
	4	7.8511	8.46	36.20	44.66	70.00	-25.34	peak	Р	
	5	13.7982	26.46	19.59	46.05	70.00	-23.95	peak	Р	-
	6	23.4880	26.14	20.01	46.15	70.00	-23.85	peak	Р	

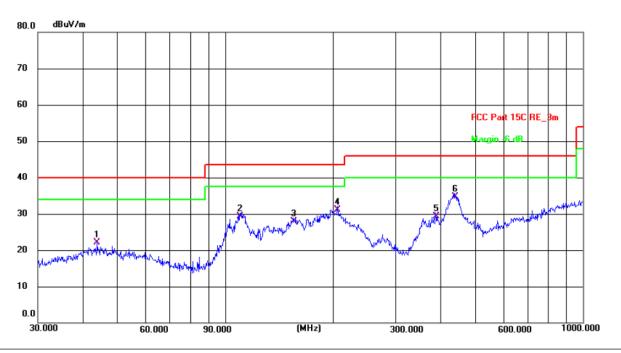


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30MHz-1GHz

Horizontal:



Site #2 3m Anechoic Chamber Polarization: Horizontal Temperature: 25.1(C) Humidity: 50 %

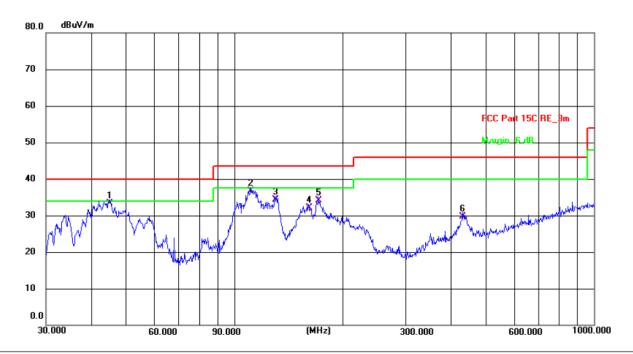
Limit: FCC Part 15C RE_3m Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	43.9658	8.11	13.91	22.02	40.00	-17.98	QP	Р	
2	110.1816	18.22	11.18	29.40	43.50	-14.10	QP	Р	
3	155.3643	14.52	13.38	27.90	43.50	-15.60	QP	Р	
4	206.3975	20.55	10.65	31.20	43.50	-12.30	QP	Р	
5	387.9919	12.47	16.83	29.30	46.00	-16.70	QP	Р	
6 *	438.6554	16.62	18.08	34.70	46.00	-11.30	QP	Р	





Vertical:



Site #2 3m Anechoic Chamber Polarization: Vertical Temperature: 25.1(C) Humidity: 50 %

Limit: FCC Part 15C RE_3m Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark
1 *	45.0583	19.41	13.89	33.30	40.00	-6.70	QP	Р	
2	110.9571	25.56	11.24	36.80	43.50	-6.70	QP	Р	
3	129.9226	21.80	12.60	34.40	43.50	-9.10	QP	Р	
4	160.9089	18.78	13.32	32.10	43.50	-11.40	QP	Р	
5	171.3926	21.88	12.22	34.10	43.50	-9.40	QP	Р	
6	431.0316	11.88	17.92	29.80	46.00	-16.20	QP	Р	

Note:

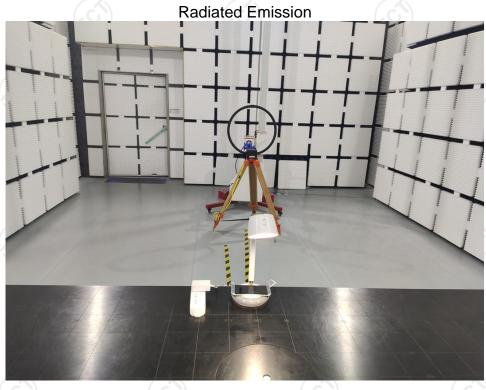
Emission Level=Peak Reading + Correction Factor; Correction Factor = Antenna Factor + Cable loss - Pre-amplifier





Appendix A: Photographs of Test Setup Product: LED table lamp

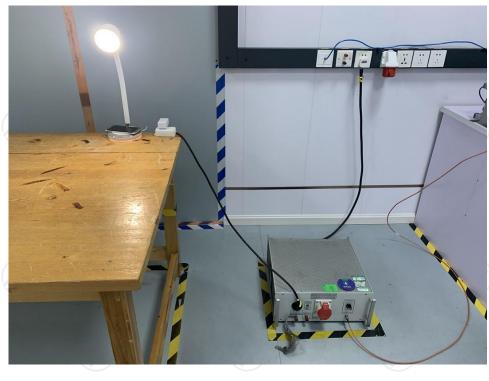
Model: W10







Conducted Emission

























































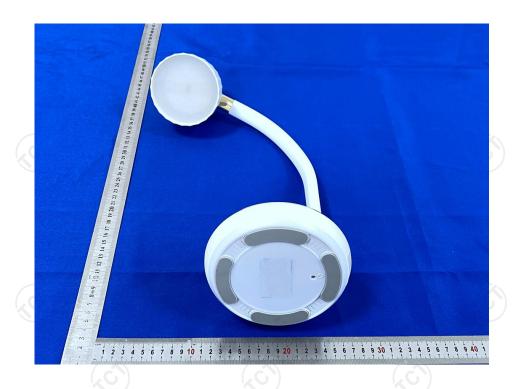


Appendix B: Photographs of EUT Product: LED table lamp Model: W10

















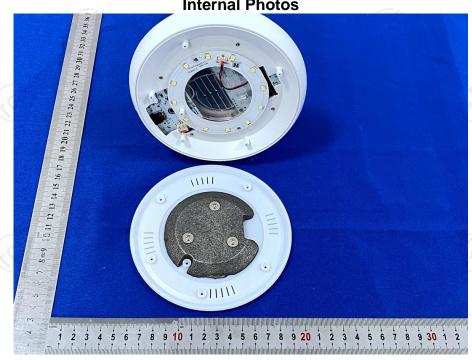


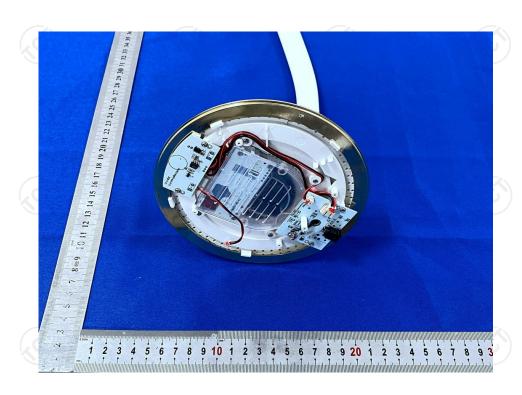






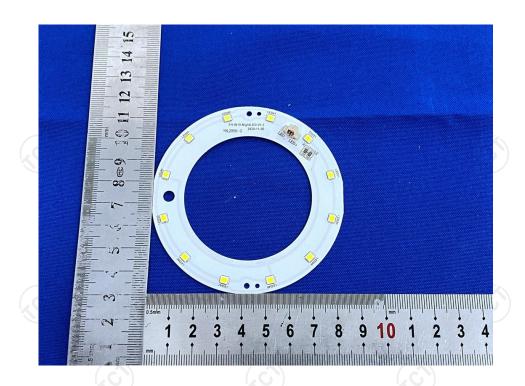
Product: LED table lamp Model: W10 Internal Photos







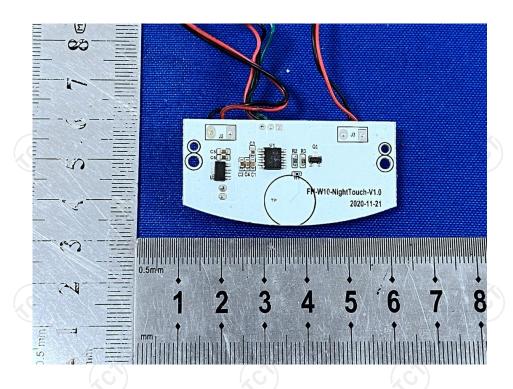


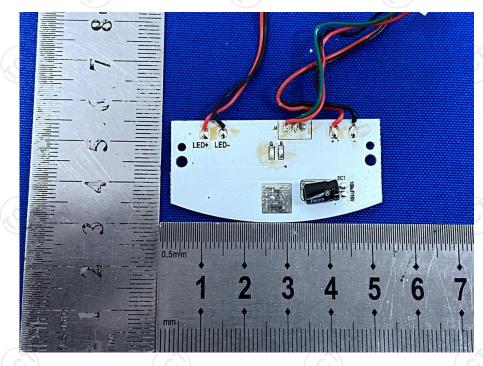




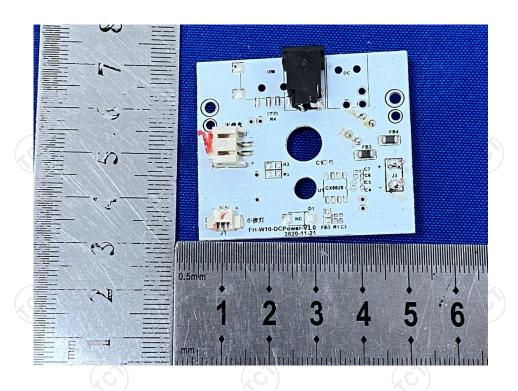


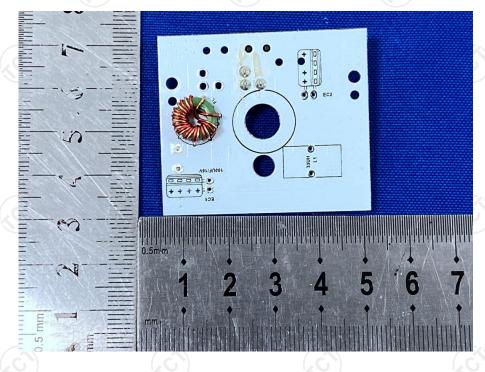






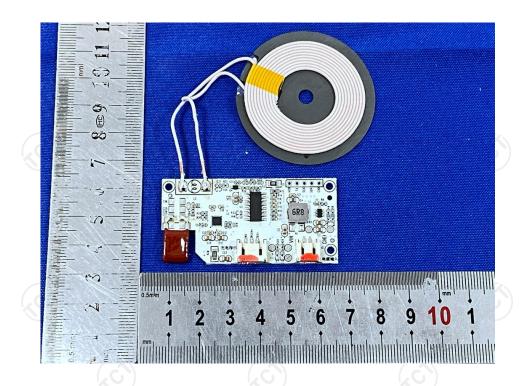


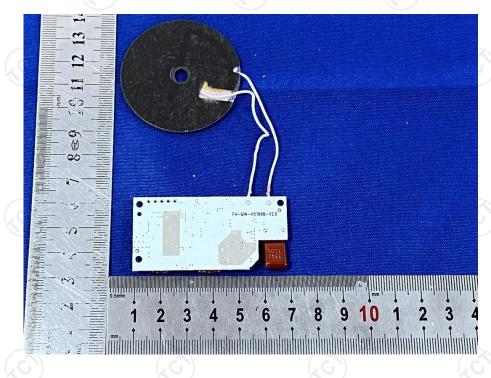






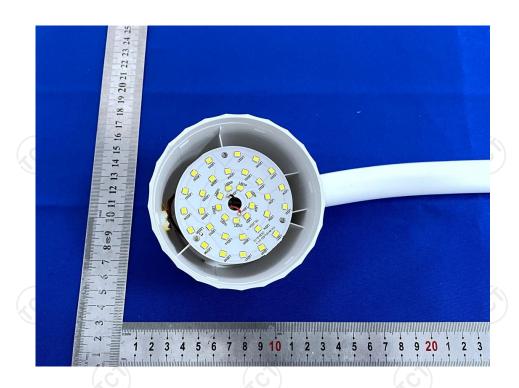






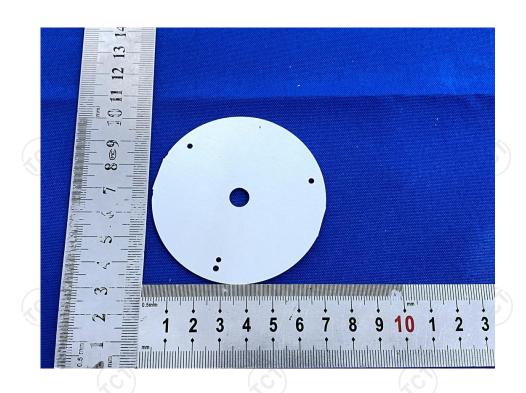


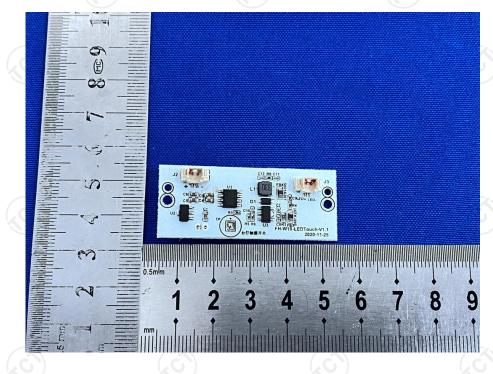






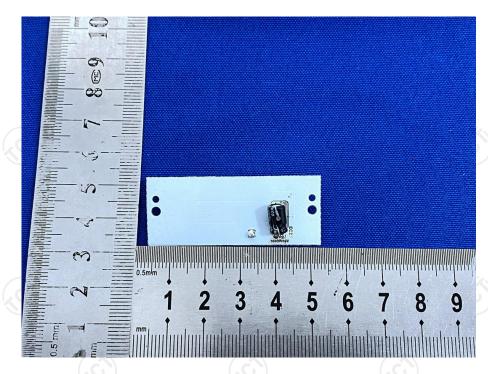












*****END OF REPORT****

