

	TEST REPOR	Τ				
FCC ID:	YJW-00013					
Test Report No::	TCT240821E016	(c)	(c)			
Date of issue::	Sep. 20, 2024					
Testing laboratory:	SHENZHEN TONGCE TESTING	LAB				
Testing location/ address:	2101 & 2201, Zhenchang Factory Subdistrict, Bao'an District, Shen People's Republic of China		•			
Applicant's name::	Superior communications					
Address::	5027 Irwindale Ave.Suite, Irwinda States	ale Ave, California 917	'06, United			
Manufacturer's name:	Guangdong Foxsky Technology	Co., Ltd				
Address::	Rm101-105, Bldg 10&11, LIANDO U Valley, No.252 Hexi Road, Sanhe Village, Tonghu Town, Zhongkai District, Huizhou, Guangdong, China					
Standard(s)::	FCC CFR Title 47 Part 15 Subpa	rt C				
Product Name::	Power Bank					
Trade Mark:	(AT&T)					
Model/Type reference:	00013, 00013/4461T(oracle# for 00014, 00014/4452T(oracle# for 00015, 00015/4453T(oracle# for	4452T),				
Rating(s)::	Rechargeable Li-ion Battery DC	3.85V				
Date of receipt of test item:	Aug. 21, 2024					
Date (s) of performance of test:	Aug. 21, 2024 ~ Sep. 20, 2024					
Tested by (+signature):	Aaron MO	Amon Magce				
Check by (+signature):	Beryl ZHAO	Boyl TCT				
Approved by (+signature):	Tomsin	Toms of				

General disclaimer:

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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com





Table of Contents

1.0	General Product Information	3
	1.1. EUT description	3
	1.2. Model(s) list	3
2.	Test Result Summary	4
3.	General Information	5
	_3.1. Test environment and mode	5
	3.2. Description of Support Units	5
4.		
	4.1. Facilities	6
	4.2. Location	6
	4.3. Measurement Uncertainty	6
5 .	Test Results and Measurement Data	7
	5.1. Antenna requirement	7
	5.2. Conducted Emission	8
	5.3. Radiated Spurious Emission Measurement	12
Αı	Appendix A: Photographs of Test Setup	
Aj	Appendix B: Photographs of EUT	



1. General Product Information

1.1. EUT description

Product Name:	Power Bank		
Model/Type reference:	00013		
Sample Number:	TCT240821E016-0101		
Operation Frequency:	116.03kHz ~174.68kHz	(0)	
Output power:	15W		
Modulation Technology:	Load modulation		
Antenna Type:	Inductive loop coil Antenna		
Rating(s):	Rechargeable Li-ion Battery DC 3.85	V	

1.2. Model(s) list

No.	Model No.	Tested with
	00013	
Other models	00013/4461T(oracle# for 4461T), 00014, 00014/4452T(oracle# for 4452T), 00015, 00015/4453T(oracle# for 4453T)	

Note: 00013 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names and color. So the test data of 00013 can represent the remaining models.

Page 3 of 21

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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. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.





3. General Information

3.1. Test environment and mode

Operating Environment:						
Condition	Conducted Emission	Radiated Emission				
Temperature:	25.7 °C	22.8 °C				
Humidity:	51 % RH	51 % RH				
Atmospheric Pressure:	1010 mbar	1010 mbar				
Test Mode:						
Mode 1	AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status>95%)					
Mode 2	AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status<50%)					
Mode 3	Mode 3 AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status<5%)					
Remark	All modes have been tested. The worst mode (Mode 3) reported for Conducted emission test and Radiated emission test.					

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
Adapter	EP-TA200	R37M4PR7QD4SE3	/	SAMSUNG
Mobile Phone	SM-G9350	R28HA2ER3GT	/	SAMSUNG

Note:

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



4. Facilities and Accreditations

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

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Innovation, Science and Economic

Development Canada for radio equipment testing.

4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, 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

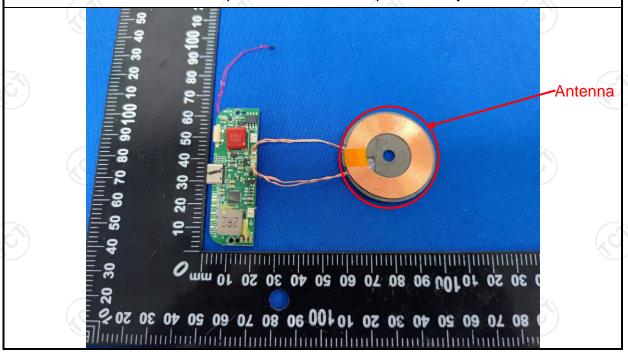
Standard requirement: FCC Part15 C Section 15.203

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 antennas are inductive loop coil antenna which permanently attached.





5.2. Conducted Emission

5.2.1. Test Specification

- Tool openious							
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	=auto				
	Frequency range	Limit (dBuV)				
	(MHz)	Quasi-peak	Average				
Limits:	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	Reference	e Plane					
Test Setup:	Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Ne Test table height=0.8m Refer to item 3.1	EMI Receiver	AC power				
Test Mode:	1. The E.U.T is connected	cted to an adapte	er through a line				
Test Procedure:	impedance stabilize provides a 50ohm/5 measuring equipmer 2. The peripheral device power through a Licoupling impedance refer to the block photographs). 3. Both sides of A.C. conducted interferent emission, the relative the interface cables	ation network 50uH coupling iment. ees are also connects SN that provides with 50ohm term diagram of the line are checked hee positions of equals must be change	(L.I.S.N.). This apedance for the ected to the main a 500hm/50uH nination. (Please test setup and ed for maximum and the maximum ipment and all of led according to				
	ANSI C63.10: 2013	on conducted me	asurement.				



5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)							
Equipment	Manufacturer	Model	Serial Number	Calibration Due			
EMI Test Receiver	R&S	ESCI3	100898	Jun. 26, 2025			
LISN	Schwarzbeck	NSLK 8126	8126453	Jan. 31, 2025			
Attenuator	N/A	10dB	164080	Jun. 26, 2025			
Line-5	TCT	CE-05	/	Jun. 26, 2025			
EMI Test Software	EZ_EMC	EMEC-3A1	1.1.4.2	1 (6			

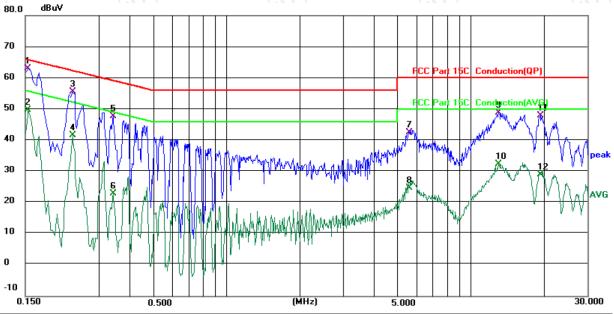




5.2.3. Test data

Please refer to following diagram for individual

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



Site 844 Shielding Room

Phase: L1

Temperature: 25.7 (°C)

Humidity: 51 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 9 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∀	dB	Detector	Comment
1	*	0.1539	53.39	9.67	63.06	65.79	-2.73	QP	
2		0.1539	39.99	9.67	49.66	55.79	-6.13	AVG	
3		0.2340	45.91	9.65	55.56	62.31	-6.75	QP	
4		0.2340	31.89	9.65	41.54	52.31	-10.77	AVG	
5		0.3420	37.78	10.00	47.78	59.15	-11.37	QP	
6		0.3420	12.93	10.00	22.93	49.15	-26.22	AVG	
7		5.6100	32.37	10.22	42.59	60.00	-17.41	QP	
8		5.6100	14.51	10.22	24.73	50.00	-25.27	AVG	
9		13.0540	38.59	10.29	48.88	60.00	-11.12	QP	
10		13.0540	22.18	10.29	32.47	50.00	-17.53	AVG	
11		19.3140	37.68	10.32	48.00	60.00	-12.00	QP	
12		19.3140	18.80	10.32	29.12	50.00	-20.88	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)

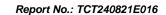
 $Limit (dB\mu V) = Limit stated in standard$

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

Q.P. =Quasi-Peak

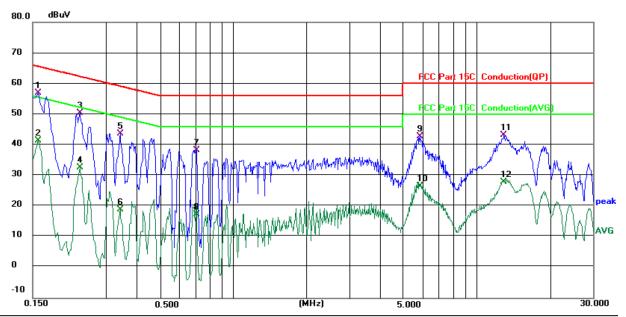
AVG =average

^{*} 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)



Site 844 Shielding Room Phase: N Temperature: 25.7 (°C) Humidity: 51 %

Power: DC 9 V(Adapter Input AC 120 V/60 Hz)

I imit:	FCC	Part	15C	Conduction(QF	2)

	it. I O	O i ait isc	Conduction	JII(QI)		. ever De e v (vidapie: inpat/vie 12e v/ee 112)						
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over					
		MHz	dBu∨	dB	dBu∀	dBu∀	dB	Detector	Comment			
1	*	0.1580	47.20	9.65	56.85	65.57	-8.72	QP				
2		0.1580	31.73	9.65	41.38	55.57	-14.19	AVG				
3		0.2340	40.69	9.63	50.32	62.31	-11.99	QP				
4		0.2340	22.95	9.63	32.58	52.31	-19.73	AVG				
5		0.3420	33.59	9.98	43.57	59.15	-15.58	QP				
6		0.3420	8.84	9.98	18.82	49.15	-30.33	AVG				
7		0.7019	27.95	10.36	38.31	56.00	-17.69	QP				
8		0.7019	6.98	10.36	17.34	46.00	-28.66	AVG				
9		5.8620	32.54	10.16	42.70	60.00	-17.30	QP				
10		5.8620	16.36	10.16	26.52	50.00	-23.48	AVG				
11		12.9740	33.01	10.27	43.28	60.00	-16.72	QP				
12		12.9740	17.54	10.27	27.81	50.00	-22.19	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 μ V) – Limits (dB μ V)

Q.P. =Quasi-Peak AVG =average

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

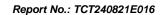




5.3. Radiated Spurious Emission Measurement

5.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.209								
Test Method:	ANSI C63.10	0: 2013							
Frequency Range:	9 kHz to 25 (GHz			(6)				
Measurement Distance:	3 m								
Antenna Polarization:	Horizontal &	Vertical							
Operation mode:	Refer to item	3.1	((C)	40				
	Frequency	Detector	RBW	VBW	Remark				
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value				
Receiver Setup:	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value				
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value				
Limit:	0.009-0.4 0.490-1.7 1.705-3 30-88 88-216 216-96 Above 9	490 705 60 60	Field Str (microvolts 2400/F(24000/F 30 100 150 200 500	s/meter) KHz) (KHz)	Measurement Distance (meters) 300 30 30 30 3 3 3 3 3				
Test setup:	For radiated emissions below 30MHz Distance = 3m Computer Pre-Amplifier Receiver 30MHz to 1GHz								





	Antenna Tower Search Antenna RF Test Receiver Ground Plane 1. For the radiated emission test below 1GHz:
Test Procedure:	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. 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 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 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.
Test mode:	Refer to section 3.1 for details
Test results:	PASS



5.3.2. Test Instruments

	Radiated Em	nission Test Site	e (966)			
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due		
EMI Test Receiver	R&S	ESCI7	100529	Jan. 31, 2025		
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 26, 2025		
Pre-amplifier	HP	8447D	2727A05017	Jun. 26, 2025		
Pre-amplifier	SKET	LNPA_0118G- 45	SK2021012 102	Jan. 31, 2025		
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Jan. 31, 2025		
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 26, 2025		
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 28, 2025		
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 28, 2025		
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 02, 2025		
Coaxial cable	SKET	RE-03-D	/	Jun. 26, 2025		
Coaxial cable	SKET	RE-03-M) /	Jun. 26, 2025		
Coaxial cable	SKET	RE-03-L	/	Jun. 26, 2025		
Antenna Mast	Keleto	RE-AM		1 6		
EMI Test Software	EZ_EMC	FA-03A2 RE+	1.1.4.2	1		

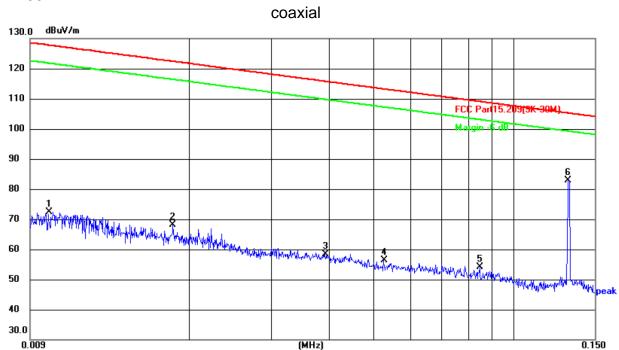




5.3.3. Test Data

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

9KHz-150KHz:



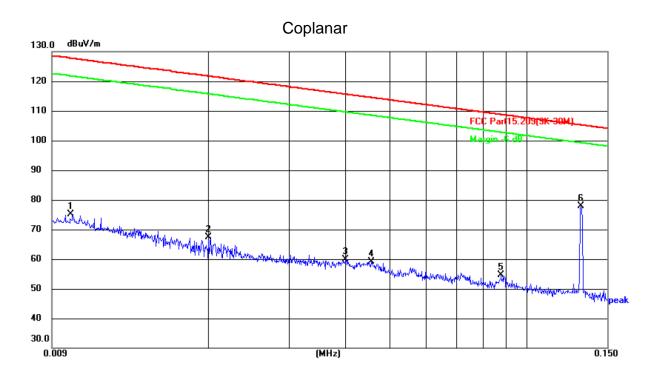
Site: 3m Anechoic Chamber Polarization: Coaxial Temperature: 24.8(℃) Humidity: 51 %

Limit: FCC Part15.209(9K-30M)

Power:DC 3.85 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0100	51.76	20.53	72.29	127.60	-55.31	peak	Р	
2	0.0183	47.49	20.55	68.04	122.36	-54.32	peak	Р	
3	0.0390	37.94	20.46	58.40	115.78	-57.38	peak	Р	
4	0.0525	35.97	20.31	56.28	113.20	-56.92	peak	Р	
5	0.0844	33.82	20.36	54.18	109.08	-54.90	peak	Р	
6 *	0.1317	62.29	20.60	82.89	105.21	-22.32	peak	Р	



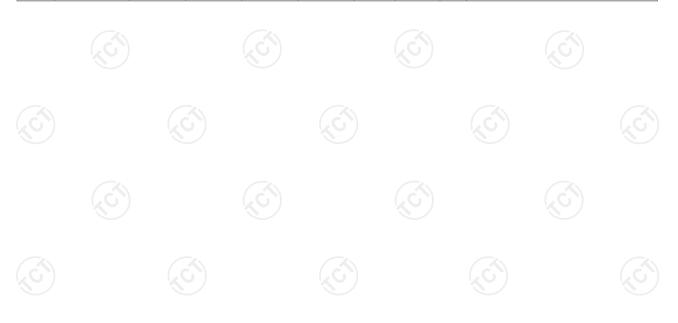


Site: 3m Anechoic Chamber Polarization: Coplanar Temperature: 24.8(°C) Humidity: 51 %

Limit: FCC Part15.209(9K-30M)

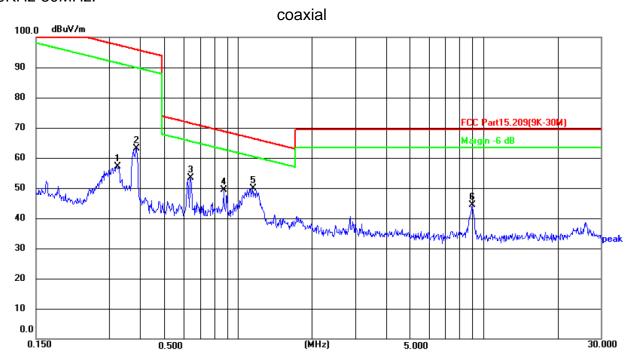
Power:DC 3.85 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0100	54.50	20.53	75.03	127.60	-52.57	peak	Р	
2	0.0200	46.78	20.56	67.34	121.58	-54.24	peak	Р	
3	0.0400	39.46	20.45	59.91	115.56	-55.65	peak	Р	
4	0.0454	38.85	20.39	59.24	114.46	-55.22	peak	Р	
5	0.0878	34.13	20.40	54.53	108.73	-54.20	peak	Р	
6 *	0.1313	57.34	20.60	77.94	105.24	-27.30	peak	Р	





150KHz-30MHz:



Site: 3m Anechoic Chamber Polarization: Coaxial Temperature: 24.8(℃) Humidity: 51 %

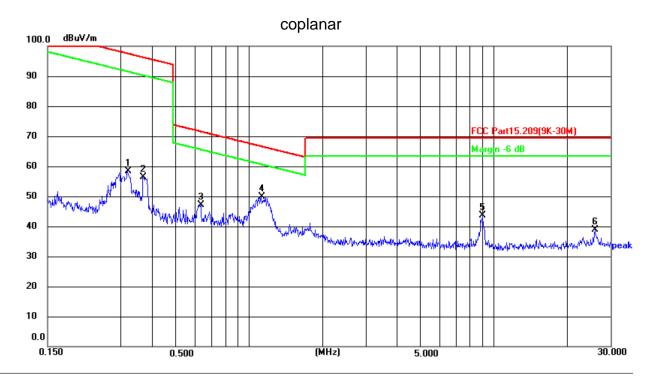
Limit: FCC Part15.209(9K-30M)

Power:DC 3.85 V

1		-	•						
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.3203	36.05	21.03	57.08	97.49	-40.41	peak	Р	
2	0.3855	42.01	21.15	63.16	95.88	-32.72	peak	Р	
3	0.6405	31.81	21.63	53.44	71.48	-18.04	peak	Р	
4	0.8738	27.24	22.10	49.34	68.79	-19.45	peak	Р	
5 *	1.1418	27.22	22.65	49.87	66.47	-16.60	peak	Р	
6	8.9826	5.97	38.45	44.42	69.50	-25.08	peak	Р	







Site: 3m Anechoic Chamber Polarization: Coplanar Temperature: 24.8(℃) Humidity: 51 %

Limit: FCC Part15.209(9K-30M)

Power:DC 3.85 V

			,						
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.3188	37.38	21.03	58.41	97.53	-39.12	peak	Р	
2	0.3686	35.20	21.12	56.32	96.27	-39.95	peak	Р	
3	0.6355	25.58	21.63	47.21	71.55	-24.34	peak	Р	
4 *	1.1191	27.24	22.61	49.85	66.65	-16.80	peak	Р	
5	9.0495	4.96	38.59	43.55	69.50	-25.95	peak	Р	
6	25.9186	18.89	20.06	38.95	69.50	-30.55	peak	Р	

Note:

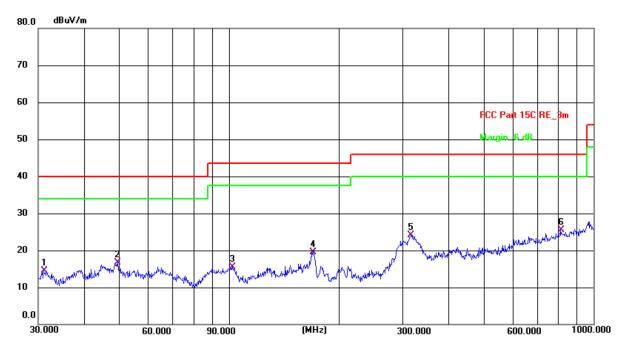
1. Both AC mode and Internal Battery Mode have been tested, only the worse mode (Internal Battery Mode which is the battery of the Apple watch is less than 1%) reported.





30MHz-1GHz

Horizontal:



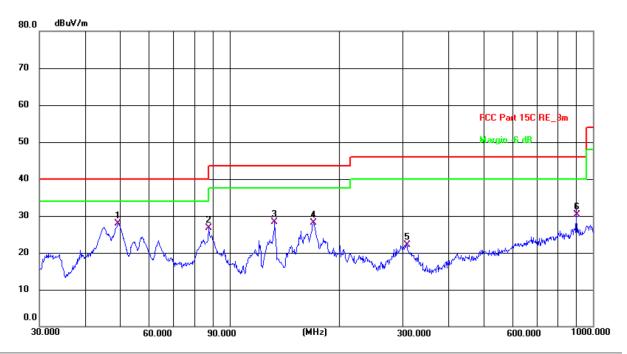
Site 3m Anechoic Chamber2 Polarization: Horizontal Temperature: 22.8(C) Humidity: 51 %

Ļimit: F	CC Part 15C F	RE_3m			Power:	DC 9 V(Adapter Input 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	31.0706	34.04	-19.49	14.55	40.00	-25.45	QP	Р	
2	49.5328	35.56	-18.76	16.80	40.00	-23.20	QP	Р	
3	102.3596	36.37	-20.94	15.43	43.50	-28.07	QP	Р	
4	170.1947	37.27	-17.85	19.42	43.50	-24.08	QP	Р	
5	315.4806	41.91	-17.86	24.05	46.00	-21.95	QP	Р	
6 *	813 1115	31 97	-6 55	25 42	46 00	-20 58	QP	Р	





Vertical:



Site 3m Anechoic Chamber2

Polarization: Vertical

Temperature: 22.8(C)

Humidity: 51 %

Limit: FCC Part 15C RE_3m

Power: DC 9 V(Adapter Input AC 120 V/60 Hz)

-		001 411 1001					1 5 7 7 (talpter inpart to 125 7 7 5 1 12)			
	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
	1 *	49.3594	46.60	-18.76	27.84	40.00	-12.16	QP	Р	
	2	87.7246	49.00	-22.30	26.70	40.00	-13.30	QP	Р	
	3	133.1510	46.58	-18.26	28.32	43.50	-15.18	QP	Р	
	4	170.1947	46.00	-17.85	28.15	43.50	-15.35	QP	Р	
	5	306.7537	40.05	-17.90	22.15	46.00	-23.85	QP	Р	
	6	900.1474	36.52	-6.13	30.39	46.00	-15.61	QP	Р	

Note:

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





TESTING CENTRE TECHNOLOGY Report No.: TCT240821E016

Appendix A: Photographs of Test Setup

Please refer to document Appendix No.: TCT240821E016-A

Appendix B: Photographs of EUT

Please refer to document Appendix No.: TCT240821E016-B & TCT240821E016-C

