TEST REPORT

		-					
FCC ID :	2AW3R-CT5-49						
Test Report No:	TCT220620E024	(\mathcal{O})					
Date of issue:	Jul. 01, 2022						
Testing laboratory:	SHENZHEN TONGCE TESTING	LAB					
Testing location/ address:	2101 & 2201, Zhenchang Factory Fuhai Subdistrict, Bao'an District, 518103, People's Republic of Chi	Shenzhen, Guangdo					
Applicant's name: :	Shenzhen Annaijia Electronics Co	Shenzhen Annaijia Electronics Co., Ltd.					
Address:	3 Building, Quanxinyuan Industrial Park, Huafan Road, Dalang Street, Longhua District, Shenzhen, China						
Manufacturer's name :	Shenzhen Annaijia Electronics Co	o., Ltd.					
Address:	3 Building, Quanxinyuan Industrial Park, Huafan Road, Dalang Street, Longhua District, Shenzhen, China						
Standard(s):	FCC CFR Title 47 Part 15 Subpart C						
Product Name::	MagSafe magnetic suction wirele	ss charging bracket					
Trade Mark:	N/A						
Model/Type reference :	CT5-49	K)					
Rating(s):	Input: DC 5V, 2A/ DC 9V, 2A/ DC Output: 5W/ 7.5W/ 10W/ 15W	: 12V, 1.5A					
Date of receipt of test item	Jun. 20, 2022						
Date (s) of performance of test:	Jun. 20, 2022 - Jul. 01, 2022						
Tested by (+signature) :	Rleo LIU	Preo Un ONGCES					
Check by (+signature) :	Beryl ZHAO	Roy TCT	STIN				
Approved by (+signature):	Tomsin	Toms in 15 84					
	oduced except in full, without the his document may be altered or re						

This report shall not be reproduced except in full, without the written approval of SHENZHEN TONGCE TESTING LAB. This document may be altered or revised by SHENZHEN TONGCE TESTING LAB personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

R۵	nort	No ·	TCT	2206	20E024
ne	ρυιι	110	101	2200	LULUZ4

Table of Contents

TCT通测检测 TESTING CENTRE TECHNOLOGY

1.1	eneral Pro	iption		<u>v</u>		
	2. Model(s) lis est Result					
	eneral Info					
	eneral Init					
	2. Description					
	acilities ar					
	1. Facilities					
	2. Location					
	B. Measuremo					
5. Te	est Result	s and Me	asureme	ent Data .	 	 7
5.1	I. Antenna re	quirement			 (c)	 7
	2. Conducted					
5.3	3. Radiated S	purious Emi	ssion Measu	urement		12
Арр	endix A: F	Photograp	ohs of Te	est Setup		
Арр	endix B: F	Photograp	ohs of El	JT		



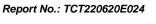
1. General Product Information

1.1.EUT description

Product Name:	MagSafe magnetic suction wireless charging bracket				
Model/Type reference:	CT5-49				
Sample Number:	TCT220620E024-0101				
Operation Frequency:	119.10kHz ~ 149.10kHz				
Modulation Technology:	Load modulation				
Antenna Type:	Inductive loop coil Antenna				
Rating(s):	Input: DC 5V, 2A/ DC 9V, 2A/ DC 12V, 1.5A Output: 5W/ 7.5W/ 10W/ 15W				

1.2.Model(s) list

None.





2. Test Result Summary

Requirement Antenna requirement			CFR 47 S	ection		Result	
			§15.203			PASS	
AC Power Line Conducted Emission			§15.207			PASS	
Spurious Er	mission		§15.209	(a)(f)		PASS	
ail: Test item de	oes not meet th	ne requirement					Rec.
				rd.			
	ower Line Emissi opurious En ASS: Test item de A: Test case of the test result ju	ower Line Conducted Emission Spurious Emission ASS: Test item meets the requal all: Test item does not meet the A: Test case does not apply the the test result judgment is deci	ower Line Conducted Emission Spurious Emission ASS: Test item meets the requirement. ail: Test item does not meet the requirement. /A: Test case does not apply to the test object the test result judgment is decided by the limit	ower Line Conducted Emission §15.209 Spurious Emission §15.209 ASS: Test item meets the requirement. all all: Test item does not meet the requirement. all A: Test case does not apply to the test object. be test result judgment is decided by the limit of test standa	ower Line Conducted Emission §15.207 Spurious Emission §15.209(a)(f) ASS: Test item meets the requirement. all: Test item does not meet the requirement. All: Test case does not apply to the test object. because the requirement is decided by the limit of test standard. Asset result judgment is decided by the limit of test standard. because the requirement.	ower Line Conducted Emission §15.207 Spurious Emission §15.209(a)(f) ASS: Test item meets the requirement. it: Test item does not meet the requirement. A: Test case does not apply to the test object. it: Test result judgment is decided by the limit of test standard.	ower Line Conducted Emission §15.207 PASS Spurious Emission §15.209(a)(f) PASS ASS: Test item meets the requirement. A: Test case does not apply to the test object. Image: Conducted by the limit of test standard. A: Test result judgment is decided by the limit of test standard. Image: Conducted by the limit of test standard. Image: Conducted by the limit of test standard.

3. General Information

3.1. Test environment and mode

Operating Environment:						
Condition	Conducted Emission	Radiated Emission				
Temperature:	25.3 °C	25.7 °C				
Humidity:	56 % RH	52 % RH				
Atmospheric Pressure:	1010 mbar	1010 mbar				

Test Mode:

Mode:	Wireless Charging (15W Max).

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	JD-050200	2012010907576735	/	JD
Loop coil load	1	1	/	

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.



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-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: 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

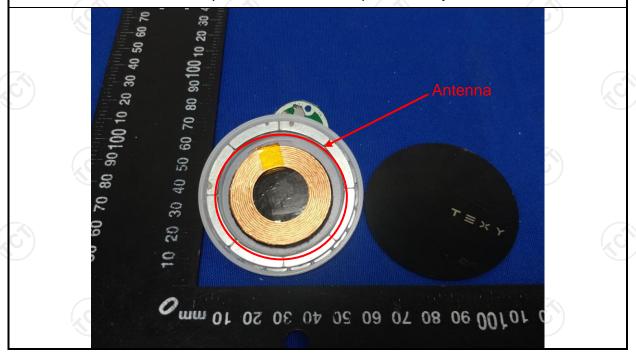
Standard requirement: FCC Part15 C Section 15.203

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 antenna is inductive loop coil antenna which permanently attached.



Page 7 of 31



5.2. Conducted Emission

5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section	15.207	No. Contraction of the second se		
Test Method:	ANSI C63.10: 2013				
Frequency Range:	150 kHz to 30 MHz	C)	(\mathbf{c})		
Receiver setup:	RBW=9 kHz, VBW=30	kHz, Sweep time	=auto		
	Frequency range	Limit (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		
	Refere	nce Plane			
Test Setup:	E.U.T Adap	EMI Receiver			
	Remark: E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Test table height=0.8m	n Network			
Test Mode:	E.U.T: Equipment Under Test LISN: Line Impedence Stabilization	n Network	~		
Test Mode: Test Procedure:	 E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Test table height=0.8m Refer to item 3.1 The E.U.T is connerimpedance stabilizing provides a 500hm/8 measuring equipme The peripheral device power through a Line coupling impedance refer to the block photographs). Both sides of A.C. conducted interferent emission, the relative the interface cables 	cted to an adapte ation network 50Uh coupling im nt. ces are also conne SN that provides with 50ohm term diagram of the line are checkence. In order to fir e positions of equ s must be chang	(L.I.S.N.). This pedance for the ected to the main a 50ohm/50Uh nination. (Please test setup and d for maximum nd the maximum ipment and all o ed according to		
	 E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Test table height=0.8m Refer to item 3.1 The E.U.T is connelimpedance stabilizing provides a 500hm/s measuring equipme The peripheral device power through a Licoupling impedance refer to the block photographs). Both sides of A.C. conducted interferent emission, the relative 	cted to an adapte ation network 50Uh coupling im nt. ces are also conne SN that provides with 50ohm term diagram of the line are checkence. In order to fir e positions of equ s must be chang	(L.I.S.N.). This pedance for the ected to the main a 500hm/50Ul hination. (Please test setup and d for maximun hd the maximun ipment and all c ed according to		

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	Jul. 07, 2022				
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Feb. 24, 2023				
Line-5 TCT		CE-05	N/A	Jul. 07, 2022				
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A				

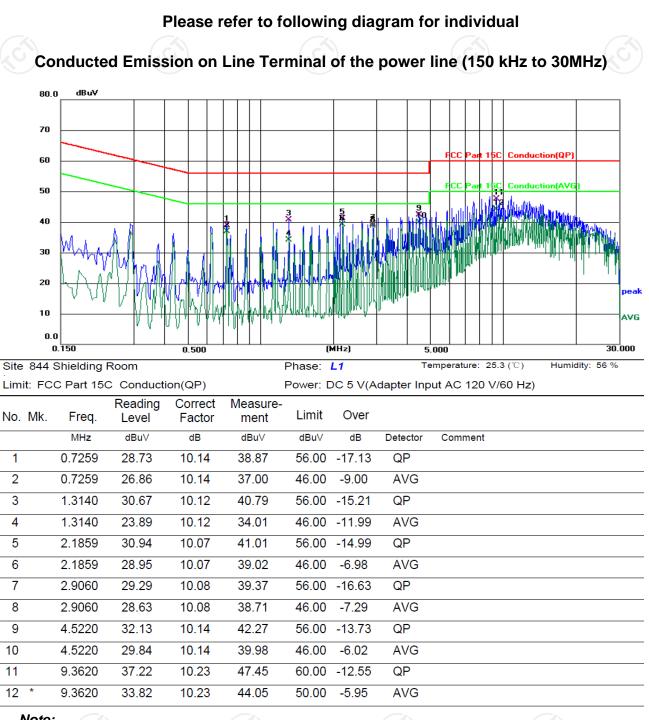


Page 9 of 31



5.2.3. Test data

TCT 通测检测 TESTING CENTRE TECHNOLOGY



Note:

 Freq. = Emission frequency in MHz

 Reading level (dBμV) = Receiver reading

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

 Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

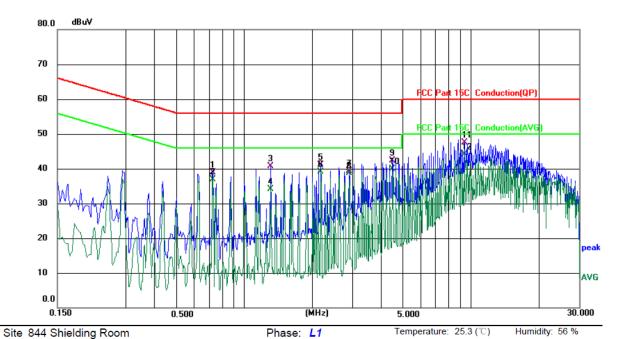
 Limit (dBμV) = Limit stated in standard

 Margin (dB) = Measurement (dBμV) - Limits (dBμV)

 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)

TCT 通测检测 TESTING CENTRE TECHNOLOGY

Power: DC 5 V(Adapter Input 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	0.7259	28.73	10.14	38.87	56.00	-17.13	QP	
2	0.7259	26.86	10.14	37.00	46.00	-9.00	AVG	
3	1.3140	30.67	10.12	40.79	56.00	-15.21	QP	
4	1.3140	23.89	10.12	34.01	46.00	-11.99	AVG	
5	2.1859	30.94	10.07	41.01	56.00	-14.99	QP	
6	2.1859	28.95	10.07	39.02	46.00	-6.98	AVG	
7	2.9060	29.29	10.08	39.37	56.00	-16.63	QP	
8	2.9060	28.63	10.08	38.71	46.00	-7.29	AVG	
9	4.5220	32.13	10.14	42.27	56.00	-13.73	QP	
10	4.5220	29.84	10.14	39.98	46.00	-6.02	AVG	
11	9.3620	37.22	10.23	47.45	60.00	-12.55	QP	
12 *	9.3620	33.82	10.23	44.05	50.00	-5.95	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

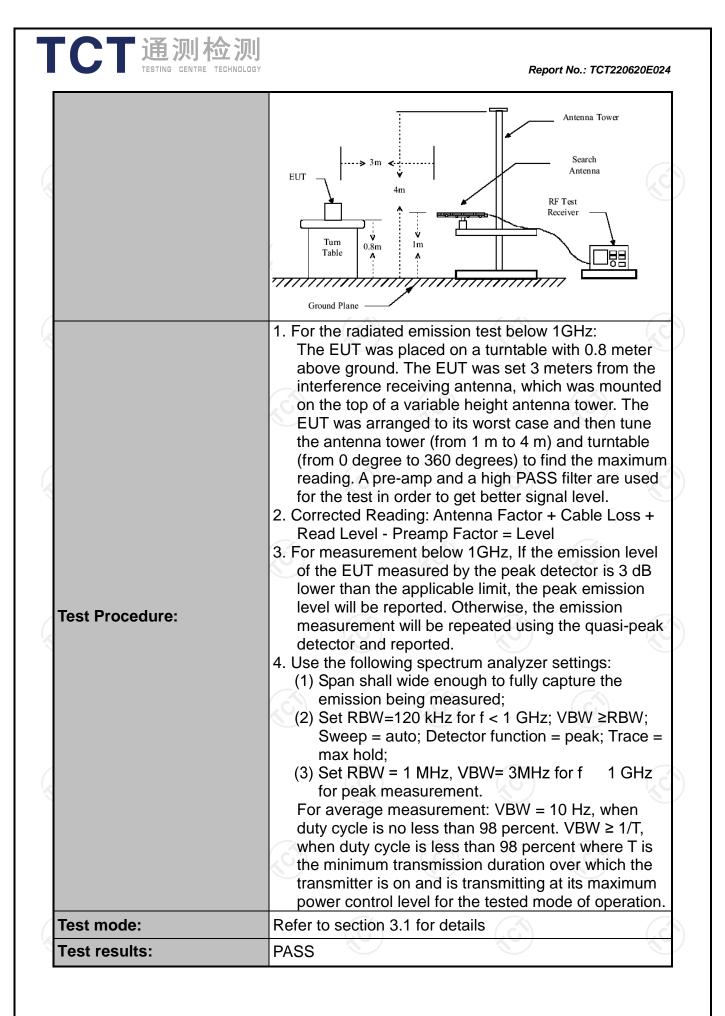
5.3. Radiated Spurious Emission Measurement

5.3.1. Test Specification

TCT通测检测 TESTING CENTRE TECHNOLOGY

Test Requirement:	FCC Part15 C Section 15.209									
Test Method:	ANSI C63.10: 2013									
Frequency Range:	9 kHz to 25 (GHz								
Measurement Distance:	3 m	C.	9		N. Contraction of the second s					
Antenna Polarization:	Horizontal &	Vertical								
Operation mode:	Refer to item	n 3.1	($\langle \zeta \rangle$	(
	Frequency	Detector	RBW	VBW	Remark					
	9kHz- 150kHz	Quasi-peak		1kHz	Quasi-peak Val					
Receiver Setup:	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Val					
·	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Val					
	Above 1GHz	Peak	1MHz	3MHz	Peak Value					
	Above 1GHZ	Peak	1MHz	10Hz	Average Value					
			(,	C)	(
	Frequen	ісу	Field Str (microvolts	-	Measurement Distance (meters)					
	0.009-0.4		2400/F(KHz)	300					
	0.490-1.7		24000/F		30					
Limit:	1.705-3		30		30					
	30-88		100		3					
	88-216		150		3					
	216-96 Above 9		<u>200</u> 500		3					
	Ś	(C)								
	For radiated	emissions	below 30	OMHz						
	Di	stance = 3m			Computer					
Test setup:	EUT C.Sm Turn table Receiver									
	30MHz to 1GHz									

Page 12 of 31

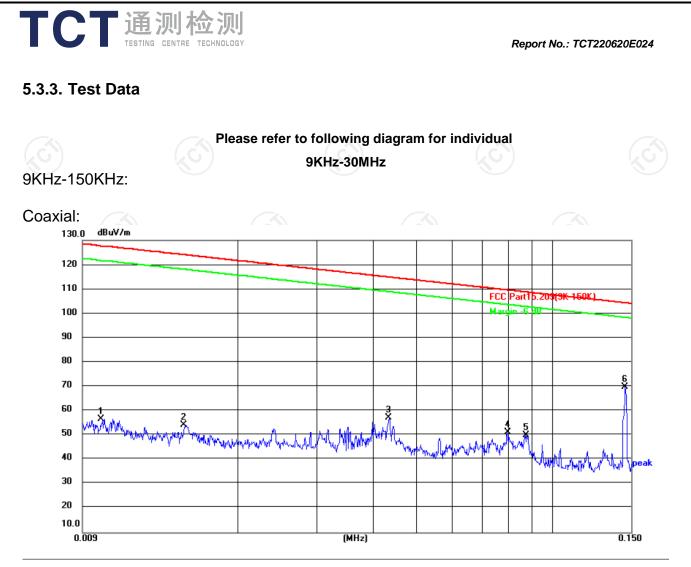


Page 13 of 31

5.3.2. Test Instruments

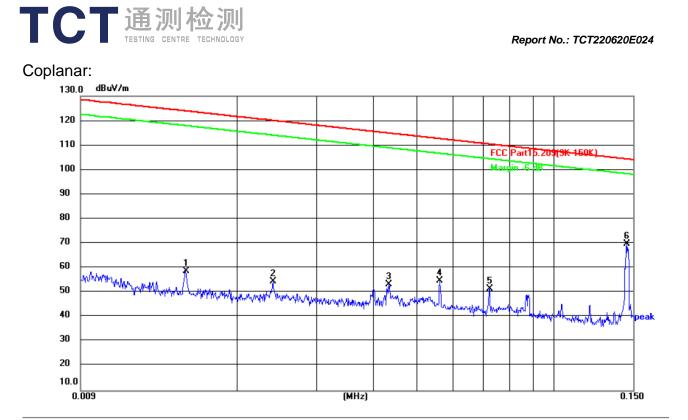
	Radiated En	nission Test Site	e (966)			
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due		
EMI Test Receiver	R&S	ESIB7	100197	Jul. 07, 2022		
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 07, 2022		
Pre-amplifier	SKET	LNPA_0118G- 45	SK2021012 102	Feb. 24, 2023		
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Feb. 24, 2023		
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	Feb. 24, 2023		
Coaxial cable	SKET	RC-DC18G-N	N/A	Feb. 24, 2023		
Coaxial cable	SKET	RC-DC40G-N	N/A	Jul. 07, 2022		
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A		

Page 14 of 31



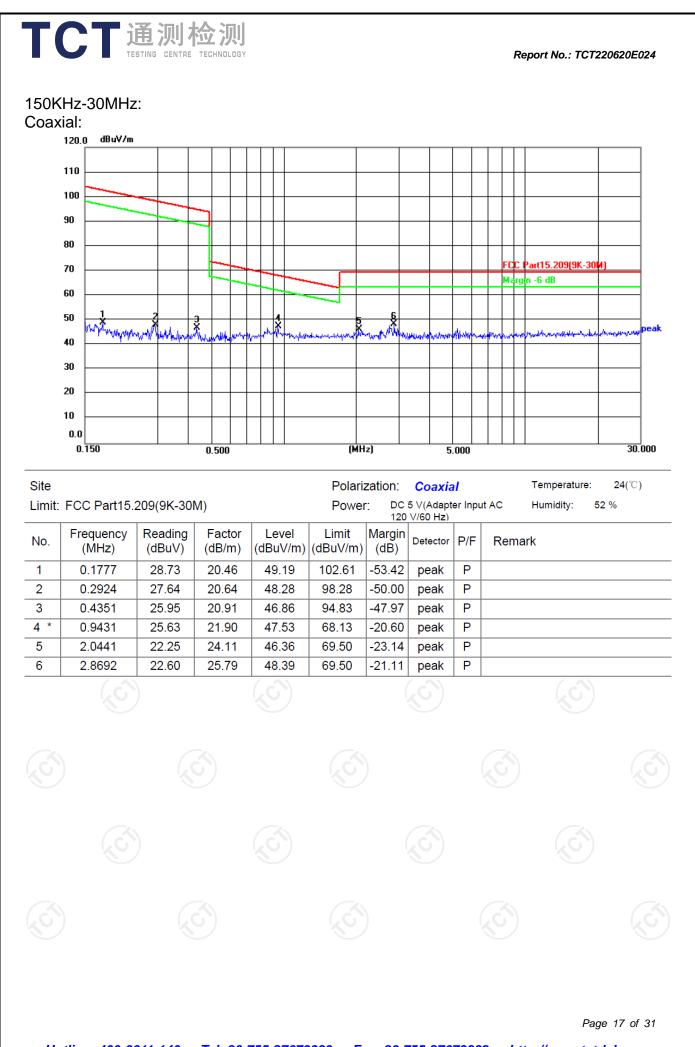
Site					Polariz	zation:	Coaxia	1	Temperature: 24(°C)
Limit:	FCC Part15.2	209(9K-150)K)		Power	•	5 V(Adapte V/60 Hz)	er Inpu	ut AC Humidity: 52 %
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0100	36.43	20.24	56.67	127.60	-70.93	peak	Ρ	
2	0.0151	33.95	20.32	54.27	124.03	-69.76	peak	Ρ	
3	0.0432	36.76	20.36	57.12	114.89	-57.77	peak	Ρ	
4	0.0793	31.02	20.37	51.39	109.62	-58.23	peak	Ρ	
5	0.0870	29.80	20.38	50.18	108.81	-58.63	peak	Ρ	
6 *	0.1454	49.34	20.42	69.76	104.35	-34.59	peak	Ρ	
			/			/			

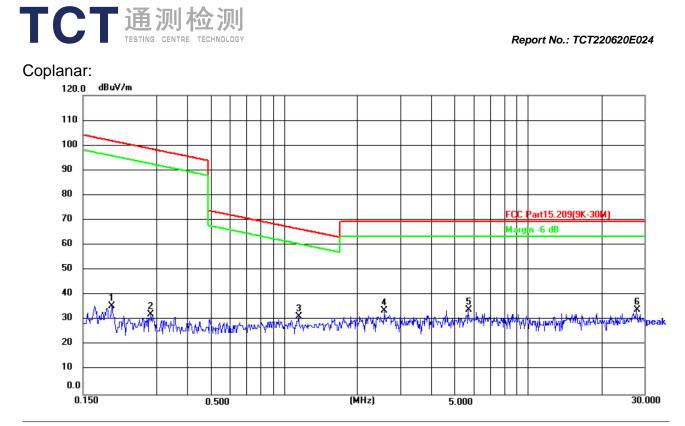
Page 15 of 31



Site					Polariz	ation:	Conpla	nar	Temperature: 24(°C)
Limit:	FCC Part15.2	K)		Power	•	5 V(Adapte V/60 Hz)	er Inpu	It AC Humidity: 52 %	
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0153	38.52	20.32	58.84	123.91	-65.07	peak	Ρ	
2	0.0239	34.18	20.37	54.55	120.04	-65.49	peak	Ρ	
3	0.0432	32.89	20.36	53.25	114.89	-61.64	peak	Ρ	
4	0.0560	34.49	20.38	54.87	112.64	-57.77	peak	Ρ	
5	0.0721	31.23	20.37	51.60	110.45	-58.85	peak	Ρ	
6 *	0.1454	49.34	20.42	69.76	104.35	-34.59	peak	Ρ	

Page 16 of 31



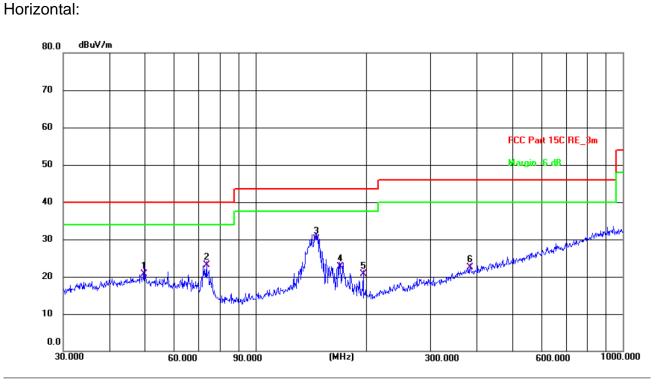


Site					Polar	ization:	Conpl	lanar		Temperature	: 24(° ℃)
Limit:	FCC Part15.	209(9K-30		Power: DC 5 V(Adapter Input AC 120 V/60 Hz)						52 %	
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark	(
1	0.1965	15.06	20.48	35.54	101.74	-66.20	peak	Ρ			
2	0.2847	11.56	20.62	32.18	98.52	-66.34	peak	Ρ			
3 *	1.1473	9.13	22.32	31.45	66.43	-34.98	peak	Ρ			
4	2.5807	8.46	25.20	33.66	69.50	-35.84	peak	Ρ			
5	5.6833	2.73	31.44	34.17	69.50	-35.33	peak	Ρ			
6	27.8552	13.95	20.18	34.13	69.50	-35.37	peak	Ρ			

Page 18 of 31



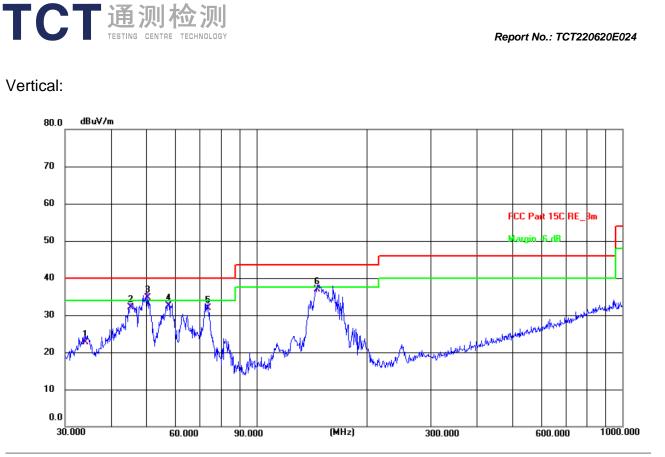
30MHz-1GHz



Site #2 3m Anechoic ChamberPolarization:HorizontalTemperature: 25.7(C)Humidity: 52 %Limit: FCC Part 15C RE_3mPower: DC 5 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	49.7066	6.89	13.79	20.68	40.00	-19.32	QP	Ρ	
2	73.6170	12.72	10.44	23.16	40.00	-16.84	QP	Р	
3 *	146.3734	16.85	13.30	30.15	43.50	-13.35	QP	Ρ	
4	169.5990	10.30	12.39	22.69	43.50	-20.81	QP	Р	
5	196.5098	10.37	10.43	20.80	43.50	-22.70	QP	Ρ	
6	383.9318	5.76	16.67	22.43	46.00	-23.57	QP	Ρ	
		1		XYI					

Page 19 of 31



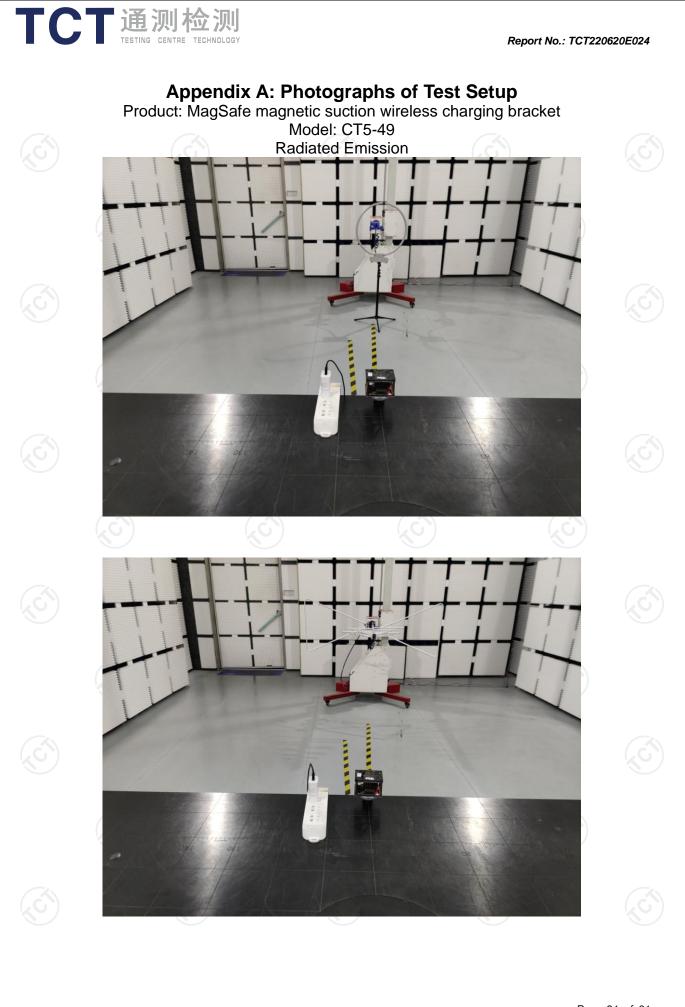
Site #2 3m Anechoic ChamberPolarization:VerticalTemperature: 25.7(C)Humidity: 52 %Limit: FCC Part 15C RE_3mPower: DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	34.0363	9.72	12.96	22.68	40.00	-17.32	QP	Ρ	
2	45.2166	18.26	13.89	32.15	40.00	-7.85	QP	Ρ	
3 *	50.5859	20.88	13.74	34.62	40.00	-5.38	QP	Ρ	
4	57.3923	19.25	13.29	32.54	40.00	-7.46	QP	Ρ	
5	73.6170	21.42	10.44	31.86	40.00	-8.14	QP	Ρ	
6	146.3734	23.54	13.30	36.84	43.50	-6.66	QP	Ρ	

Note:

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

Page 20 of 31



Page 21 of 31

