

TEST REPORT

Report No.: BCTC2503467571-2E

Applicant: ZHEJIANG KEHON INTELLIGENT SCIENCE &

TECHNOLOGY CO.,LTD.

Product Name: Smart Door Lock

Test Model: ZN-S02

Tested Date: 2025-03-18 to 2025-04-17

Issued Date: 2025-04-18

Shenzhen BCTC Testing Co., Ltd.



No.: BCTC/RF-EMC-005 Page: 1 of 32 / / / Edition: B.2



FCC ID: 2BCIBZN-S02

Product Name: Smart Door Lock

Trademark: N/A

Model/Type reference: ZN-S02

Prepared For: ZHEJIANG KEHON INTELLIGENT SCIENCE & TECHNOLOGY CO.,LTD.

Address: Cangshan Block, Lijin Hardware Science & Technology Industrial Park, Huzhen

Town, Jinyun County, Lishui City, Zhejiang, China

Manufacturer: ZHEJIANG KEHON INTELLIGENT SCIENCE & TECHNOLOGY CO.,LTD.

Address: Cangshan Block, Lijin Hardware Science & Technology Industrial Park, Huzhen

Town, Jinyun County, Lishui City, Zhejiang, China

Prepared By: Shenzhen BCTC Testing Co., Ltd.

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road,

Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

Sample Received Date: 2025-03-18

Sample tested Date: 2025-03-18 to 2025-04-17

Issue Date: 2025-04-18

Report No.: BCTC2503467571-2E

Test Standards FCC Part15.225 ANSI C63.10-2013

Test Results PASS

Remark: This is NFC radio test report.

Tested by:

Lei Chen

Lei Chen/Project Handler

Approved by:

Zero Zhou/Reviewer

Edition: B:2

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

No.: BCTC/RF-EMC-005 Page: 2 of 32 / /

Table Of Content

Test	Report Declaration	Page
1.	Version	5
	Test Summary	
3.	Measurement Uncertainty	
4.	Product Information And Test Setup	
4.1	Product Information	
4.2	Test Setup Configuration	8
4.3	Support Equipment	
4.4	Channel List	
4.5	Test Mode	9
5.	Test Facility And Test Instrument Used	10
5.1	Test Facility	
5.2	Test Instrument Used	10
6.	Conducted Emissions	12
6.1	Block Diagram Of Test Setup	12
6.2	Limit	12
6.3	Test Procedure	12
6.4	EUT operating Conditions	
6.5	Test Result	
7.	Radiated Emissions	
7.1	Block Diagram Of Test Setup	
7.2	Limit	
7.3	EUT Operating Conditions	
7.4	Test Result	
8.	Radiated Band Emission Measurement	
8.1	Block Diagram Of Test Setup	21
8.2	Limit	21
8.3	Test Procedure EUT Operating Conditions Test Result Bandwidth Test Block Diagram Of Test Setup	22
8.4	EUT Operating Conditions	22
8.5	Test Result	23
9.	Bandwidth Test	24
9.1	Block Diagram Of Test Setup	22
9.2	Lest Procedure	24
9.3	EUT Operation Conditions	24
9.4	Test Result.	25
10.	Transmitter Frequency Stability	26
10.1	Block Diagram Of Test Setup	26
10.2	Limit	26
10.3	TUT Operating Conditions	26
10.4	EUT Operating Conditions	26
10.5	Antenna Requirement	2/
11.	Standard Requirement	28
11.1	Standard Reduirement	∠≿

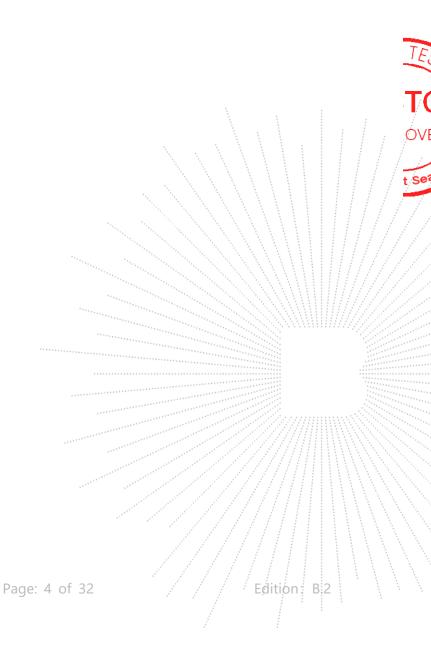


No.: BCTC/RF-EMC-005

Report No.: BCTC2503467571-2E

11.2	EUT Antenna	.28
	EUT Photographs	
	EUT Test Setup Photographs	

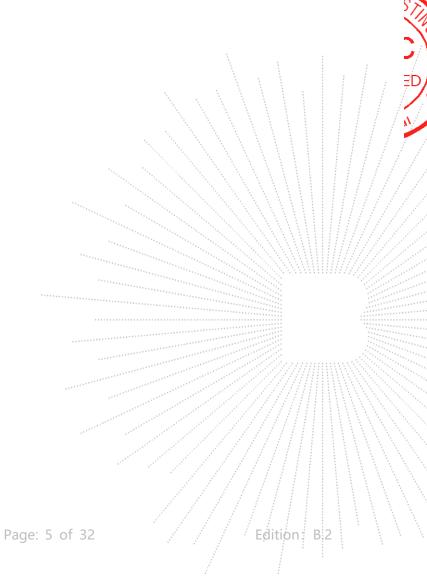
(Note: N/A Means Not Applicable)





1. Version

Report No.	Issue Date	Description	Approved
BCTC2503467571-2E	2025-04-18	Original	Valid



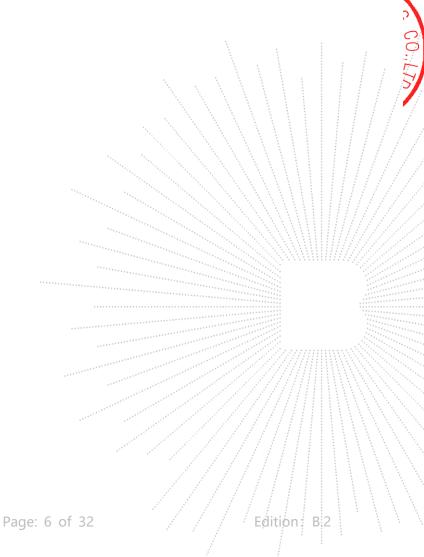
No.: BCTC/RF-EMC-005 Page: 5 of



2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	15.207	Conducted Emission	PASS
2	Part 15.209(a), 15.225(d)	Radiated Spurious Emission	PASS
3	15.215	Bandwidth	PASS
4	Part 15.209(a), 15.225(a)(b)(c)(d)	Band Edge Emission	PASS
5	Part 15.225(e)	Transmitter Frequency Stability (Temperature & Voltage Variation)	PASS
6	15.203	Antenna Requirement	PASS



No.: BCTC/RF-EMC-005 Page: 6 of 3



3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(9KHz-30MHz)	U=3.7dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission (150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59℃

No.: BCTC/RF-EMC-005 Page: 7 of 32 / / Edition: B2



4. Product Information And Test Setup

4.1 Product Information

Model/Type reference: ZN-S02

Model differences: N/A

Hardware Version: N/A

Software Version: N/A

Operation Frequency: 13.56 MHz

Modulation Type: ASK
Number Of Channel 1 CH

Antenna installation: PCB antenna

Antenna Gain: 1.6 dBi

Remark:

customer, and the test data is affected by the customer information.

☐ The antenna gain of the product is provided by the customer, and the test data

is affected by the customer information.

Ratings: DC 6V(4*1.5V) from battery, DC 5V from type-c

4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Smart Door Lock	N/A	ZN-S02	N/A	\\\ EUT
E-2	Adapter		CD289	100 mg 2 mg	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1			0.5m	DC cable unshielded

Notes

- 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.

No.: BCTC/RF-EMC-005 Page: 8 of 32 / / / Edition: B2



4.4 Channel List

Channel List			
Channel Frequency(MHz)			
01	13.56		

4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

For All Mode	Description
Mode 1	TX Mode

Link mode(conducted emission and Radiated emission)			
Final Test Mode Description			
Mode 1	TX Mode		

Notes:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) Fully-charged battery is used during the test.

Edition: B₂

No.: BCTC/RF-EMC-005 Page: 9 of 32



5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850 A2LA certificate registration number is: CN1212

ISED Registered No.: 23583 ISED CAB identifier: CN0017

5.2 Test Instrument Used

Conducted Emissions Test							
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.		
Receiver	R&S	ESR	102075	May 16, 2024	May 15, 2025		
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025		
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\		
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	May 16, 2024	May 15, 2025		

RF Conducted Test					1
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 16, 2024	May 15, 2025
Power Sensor (AV)	Keysight	E9300A	\	May 16, 2024	May 15, 2025
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025

No.: BCTC/RF-EMC-005 Page: 10 of 32 / / Edition: B.2



Radiated Emissions Test (966 Chamber01)							
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.		
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026		
Receiver	R&S	ESR	102075	May 16, 2024	May 15, 2025		
Receiver	R&S	ESRP	101154	May 16, 2024	May 15, 2025		
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 16, 2024	May 15, 2025		
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 21, 2024	May 20, 2025		
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 21, 2024	May 20, 2025		
Amplifier	SKET	LAPA_01G18 G-45dB	SK202104090 1	May 16, 2024	May 15, 2025		
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025		
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 16, 2024	May 15, 2025		
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 21, 2024	May 20, 2025		
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025		
Software	Frad	EZ-EMC	FA-03A2 RE	\	\		

No.: BCTC/RF-EMC-005 Page: 11 of 32



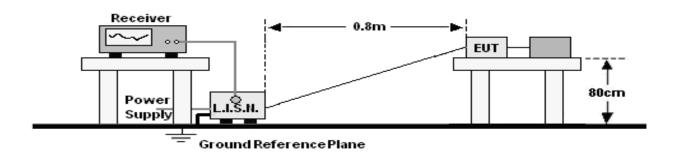
Edition: B.2





6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

EDECLIENCY (MU-)	Limit (dBuV)		
FREQUENCY (MHz)	Quas-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	
0.50 -5.0	56.00	46.00	
5.0 -30.0	60.00	50.00	

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The lower limit shall apply at the transition frequencies.

6.3 Test Procedure

Receiver Parameters	Setting
Attenuation	10 dB \ \ \ \ \
Start Frequency	0,15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

- a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 EUT operating Conditions

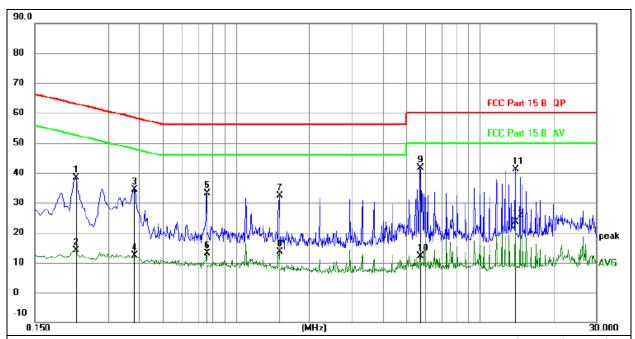
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

No.: BCTC/RF-EMC-005 Page: 12 of 32 / / / Edition: B.2



6.5 Test Result

Temperature:	23.9 ℃	Relative Humidity:	50%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 1	Test Voltage :	AC 120V/60Hz



Remark:

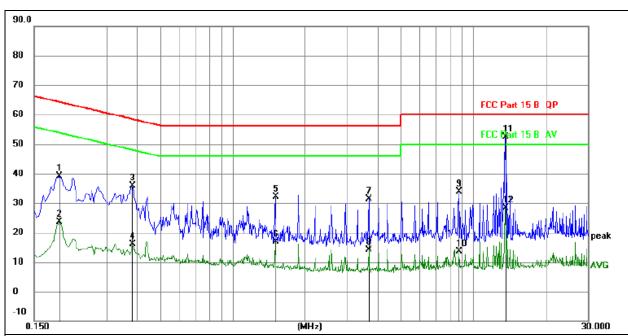
- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.
- 3. Measurement=Reading Level+ Correct Factor
- 4. Over=Measurement-Limit

O VCI –	ivicasar	CITICITE EITHE					3 3 3	
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz		dB	dBuV	dBu∀	dB	Detector
1		0.2220	18.27	20.07	38.34	62.74	-24.40	QP
2		0.2220	-5.93	20.07	14.14	52.74	-38.60	AVG
3		0.3840	14.42	20.08	34.50	58.19	-23.69	QP
4		0.3840	-7.70	20.08	12.38	48.19	-35.81	AVG
5		0.7619	13.03	20.09	33.12	56.00	-22.88	QP
6		0.7619	-6.97	20.09	13.12	46.00	-32.88	AVG
7		1.5044	12.28	20.09	32.37	56.00	-23.63	QP
8		1.5044	-6.47	20.09	13.62	46.00	-32.38	AVG
9	*	5.6984	21.44	20.15	41.59	60.00	-18.41	QP
10		5.6984	-8.08	20.15	12.07	50.00	-37.93	AVG
11		14.0145	20.93	20.28	41.21	60.00	-18.79	QP
12		14.0145	3.27	20.28	23.55	50.00	-26.45	AVG

No.: BCTC/RF-EMC-005 Page: 13 of 32 / / Edition: B.2



Temperature:	23.9 ℃	Relative Humidity:	50%
Pressure:	101KPa	Phase :	Ν
Test Mode:	Mode 1	Test Voltage:	AC 120V/60Hz



Remark:

- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.
- 3. Measurement=Reading Level+ Correct Factor
- 4. Over=Measurement-Limit

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz		dB	dBuV	dBu∨	dB	Detector
1	0.1904	18.95	20.07	39.02	64.02	-25.00	QP
2	0.1904	3.68	20.07	23.75	54.02	-30.27	AVG
3	0.3832	15.73	20.08	35.81	58.21	-22.40	QP
4	0.3832	-3.92	20.08	16.16	48.21	-32.05	AVG
5	1.5033	11.93	20.09	32.02	56.00	-23.98	QP
6	1.5033	-3.22	20.09	16.87	46.00	-29.13	AVG
7	3.6806	11.22	20.13	31.35	56.00	-24.65	QP
8	3.6806	-5.94	20.13	14.19	46.00	-31.81	AVG
9	8.7293	13.69	20.17	33.86	60.00	-26.14	QP
10	8.7293	-6.65	20.17	13.52	50.00	-36.48	AVG
11 *	13.5870	32.12	20.27	52.39	60.00	-7.61	QP
12	13.5870	8.16	20.27	28.43	50.00	-21.57	AVG
1							

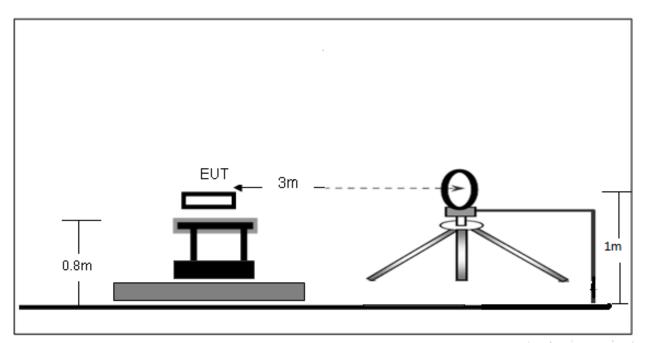
No.: BCTC/RF-EMC-005 Page: 14 of 32 Edition: B.2



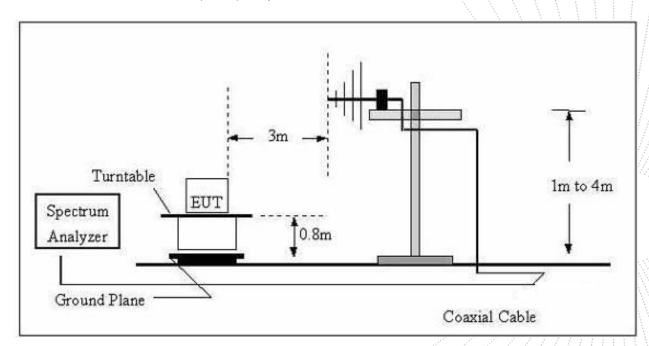
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



No.: BCTC/RF-EMC-005 Page: 15 of 32 / / Edition: B.2

TC

еро



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance			
(MHz)	uV/m	(m)	uV/m	dBuV/m		
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log ^{(2400/F(kHz))} + 80		
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log ^{(24000/F(kHz))} + 40		
1.705 ~ 30	30	30	100 * 30	20log ⁽³⁰⁾ + 40		
30 ~ 88	100	3	100	20log ⁽¹⁰⁰⁾		
88 ~ 216	150	3	150	20log ⁽¹⁵⁰⁾		
216 ~ 960	200	3	200	20log ⁽²⁰⁰⁾		
Above 960	500	3	500	20log ⁽⁵⁰⁰⁾		

Receiver Parameter	Setting	
Attenuation	Auto	
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP	
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP	
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP	

Below 1GHz test procedure as below:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

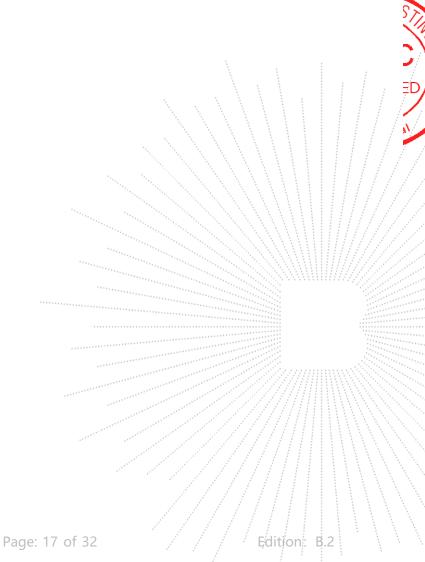
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

No.: BCTC/RF-EMC-005 Page: 16 of 32 / / / Edition: B.2



7.3 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

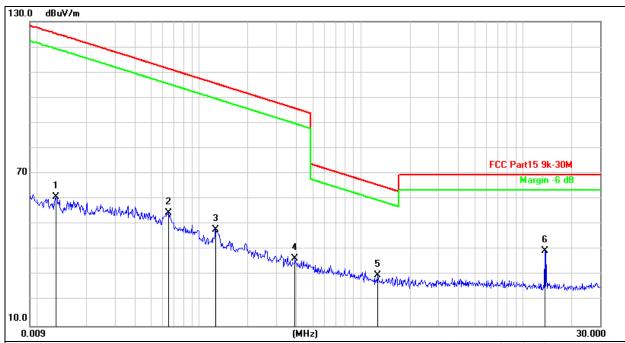


No.: BCTC/RF-EMC-005 Page: 17 of 3



7.4 Test Result

Temperature:	25.4 ℃	Relative Humidity:	55%
Pressure:	101 kpa	Polarization:	Coaxial
Test Mode:	Mode 1	Remark:	N/A



Remark:

- 1.Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. Measurement=Reading Level+ Correct Factor
- 3. Over=Measurement-Limit

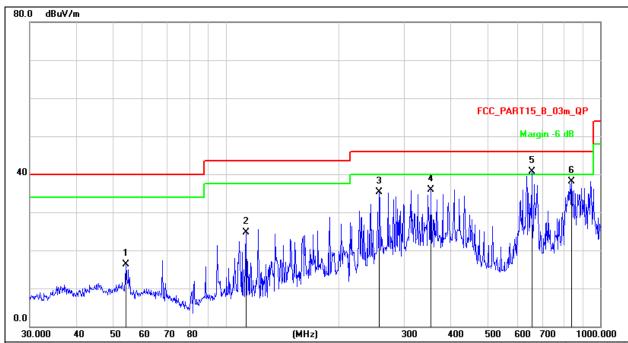
No. IV	lk. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	0.0131	68.31	-7.46	60.85	125.2	-64.41	peak
2	0.0646	62.20	-7.58	54.62	111.4	-56.78	peak
3	0.1267	55.62	-7.54	48.08	105.5	-57.47	peak
4	0.3911	44.32	-7.65	36.67	95.76	-59.09	peak
5	1.2681	37.43	-7.35	30.08	65.56	-35.48	peak
6 *	13.6585	46.74	-7.23	39.51	69.54	-30.03	peak

No.: BCTC/RF-EMC-005 Page: 18 of 32 / / Edition: B.2



Between 30MHz - 1GHz

Temperature:	25.4 ℃	Relative Humidity:	55%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 1	Remark:	N/A



Remark:

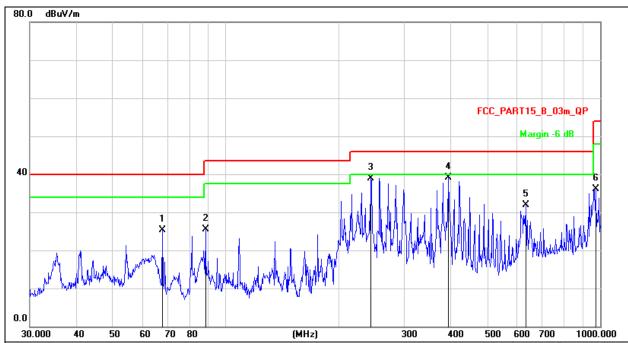
- 1.Factor = Antenna Factor + Cable Loss Pre-amplifier.2. Measurement=Reading Level+ Correct Factor
- 3. Over=Measurement-Limit

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		54.2610	30.74	-14.48	16.26	40.00	-23.74	QP
2		113.3161	41.66	-16.86	24.80	43.50	-18.70	QP
3		257.4221	49.39	-14.13	35.26	46.00	-10.74	QP
4		352.9433	47.39	-11.44	35.95	46.00	-10.05	QP
5	*	656.5298	46.82	-6.10	40.72	46.00	-5.28	QP
6		839.1816	42.10	-4.07	38.03	46.00	-7.97	QP

No.: BCTC/RF-EMC-005 Page: 19 of 32 Edition: B.2



Temperature:	25.4 ℃	Relative Humidity:	55%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 1	Remark:	N/A



Remark:

- 1.Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. Measurement=Reading Level+ Correct Factor
- 3. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		67.6751	42.69	-17.36	25.33	40.00	-14.67	QP
2		88.3421	43.30	-17.79	25.51	43.50	-17.99	QP
3		244.2321	53.41	-14.45	38.96	46.00	-7.04	QP
4	*	393.4723	50.07	-10.92	39.15	46.00	-6.85	QP
5		633.9071	38.30	-6.44	31.86	46.00	-14.14	QP
6	,	972.3374	38.86	-2.68	36.18	54.00	-17.82	QP

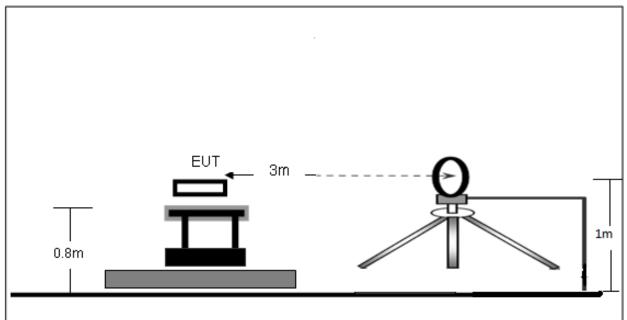
No.: BCTC/RF-EMC-005 Page: 20 of 32 / / Edition B.2



8. Radiated Band Emission Measurement

8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Below 30MHz



8.2 Limit

FCC Part15 C Section 15.209 and 15.225

LIMITS OF RADIATED EMISSION MEASUREMENT (Below 30MHz)

- a. 15.848 microvolts/m (84 dBµ V/m) at 30 m, within the band 13.553- 13.567 MHz.
- b. 334 microvolts/m (50.5 dB μ V/m) at 30 m, within the bands 13.410- 13.553 MHz and 13.567- 13.710 MHz.
- c. 106 microvolts/m (40.5 dB μ V/m) at 30 m, within the bands 13.110- 13.410 MHz and 13.710- 14.010 MHz
- d. 30 microvolts/m (29.5 dB μ V/m) at 30 m, outside the band 13.110–14.010 MHz.

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

No.: BCTC/RF-EMC-005 Page: 21 of 32 / / Edition: B.2

,TC

3C PPF

еро



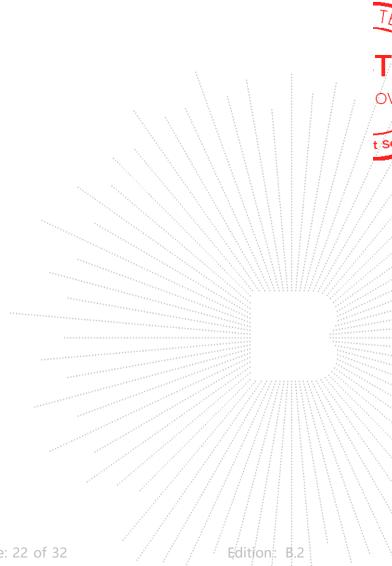
8.3 Test Procedure

- a. The Product is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.
- b. For each suspected emission, the Product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- c. The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

8.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.5 Unless otherwise a special operating condition is specified in the follows during the testing.

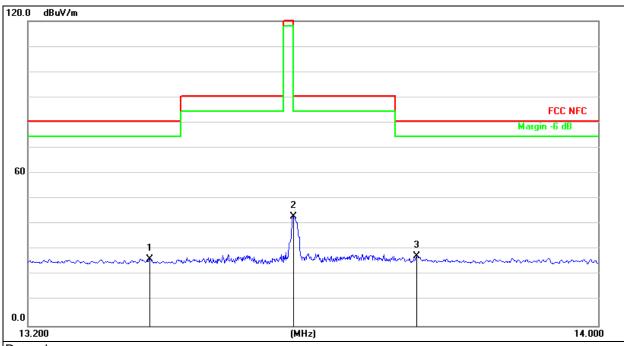
The report only show the worst antenna Polarity's data.



No.: BCTC/RF-EMC-005 Page: 22 of 32



8.5 Test Result



Remark:

- 1.Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. Measurement=Reading Level+ Correct Factor
- 3. Over=Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBuV/m	dB/m	dB	Detector
1		13.3680	35.67	-9.32	26.35	80.50	-54.15	peak
2	*	13.5670	52.34	-9.29	43.05	90.50	-47.45	peak
3		13.7408	36.58	-9.26	27.32	80.50	-53.18	peak

No.: BCTC/RF-EMC-005 Page: 23 of 32

Edition: B.2



9. Bandwidth Test

9.1 Block Diagram Of Test Setup

EUT SPECTRUM ANALYZER

9.2 Test Procedure

FCC Part15 (15.215)						
Section Test Item						
15.215	Bandwidth					

- 1. Set RBW = 1% to 5% of the OBW
- 2. Set the video bandwidth (VBW) ≥RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

9.3 EUT Operation Conditions

The EUT tested system was configured as the statements of 4.2 Unless otherwise a special operating condition is specified in the follows during the testing.

No.: BCTC/RF-EMC-005 Page: 24 of 32

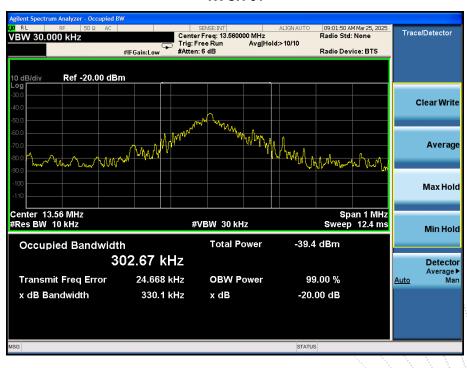


9.4 Test Result

Temperature:	26℃	Relative Humidity:	54%
Test Mode:	ASK	Test Voltage:	DC 6V

Frequency (MHz)	-20dB bandwidth (MHz)		
13.56	0.3301		

TX CH 01



No.: BCTC/RF-EMC-005 Page: 25 of 32 / / Edition: B.2



10. Transmitter Frequency Stability

10.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

10.2 Limit

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery. Limit: $\pm 0.01\%$ of 13.56MHz=1356Hz

10.3 Test Procedure

- 1. Set RBW = 10 kHz.
- 2. Set the video bandwidth (VBW) ≥RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. The transmitter output (antenna port) was connected to the spectrum analyzer.

10.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.5 Unless otherwise a special operating condition is specified in the follows during the testing.

No.: BCTC/RF-EMC-005 Page: 26 of 32 / / /



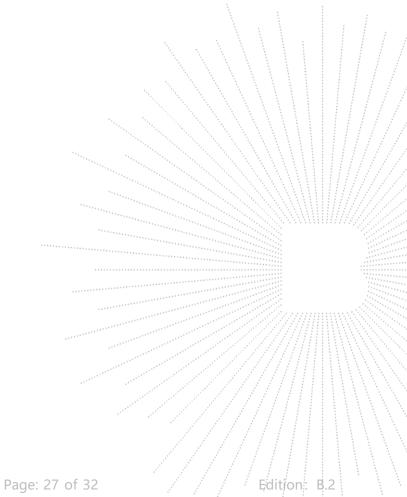
Edition: B.2



10.5 Test Result

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 6V
Test Mode:	TX Mode		

	Test Conditions			/ Deviation		
Frequency (MHz)	Power(Vdc)	Temperature (°C)	Measured Freq.	Frequency Error(Hz)	Limit(Hz)	Result
	6	-20	13.56003	30	1356	
	6	-10	13.56005	50	1356	
	6	0	13.56001	10	1356	
	6	10	13.56007	70	1356	
10 FC	6	20	13.56010	100	1356	PASS
13.56	6	30	13.56004	40	1356	PASS
	6	40	13.56002	20	1356	
	6	50	13.56006	60	1356	
	5.1	20	13.56008	80	1356	
	6.9	20	13.56015	150	1356	



No.: BCTC/RF-EMC-005 Page: 27 of 3



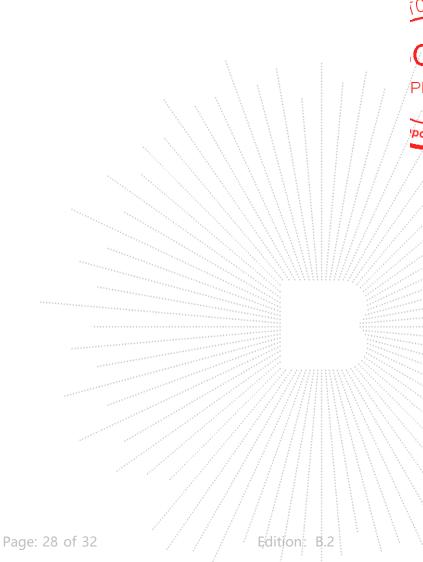
11. Antenna Requirement

11.1 Standard Requirement

15.203 requirement: For intentional device, according to 15.203: 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.

11.2 EUT Antenna

The EUT antenna is PCB antenna, It comply with the standard requirement.



No.: BCTC/RF-EMC-005 Page: 28 of 3



12. EUT Photographs

EUT Photo 1



EUT Photo 2



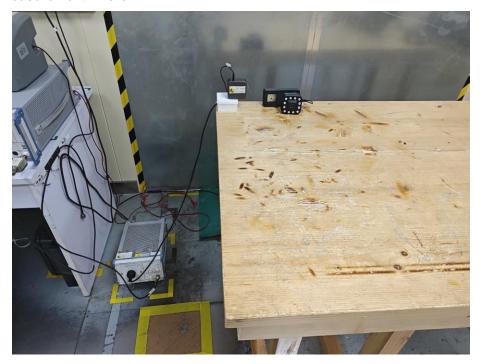
NOTE: Appendix-Photographs Of EUT Constructional Details.

No.: BCTC/RF-EMC-005 Page: 29 of 32 / / / Edition: B.2



13. EUT Test Setup Photographs

Conducted Measurement Photo

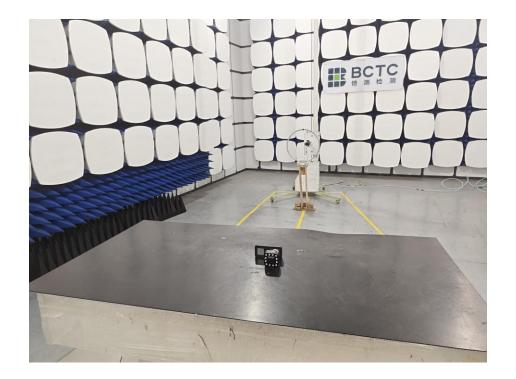


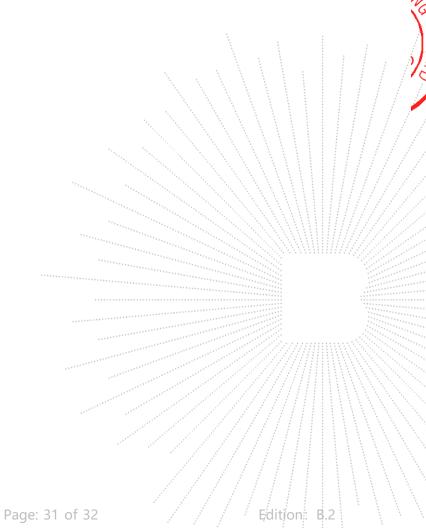
Radiated Measurement Photos



No.: BCTC/RF-EMC-005 Page: 30 of 32 / / Edition: B.2







No.: BCTC/RF-EMC-005 Page: 31 of 3



STATEMENT

- 1. The equipment lists are traceable to the national reference standards.
- 2. The test report can not be partially copied unless prior written approval is issued from our lab.
- 3. The test report is invalid without the "special seal for inspection and testing".
- 4. The test report is invalid without the signature of the approver.
- 5. The test process and test result is only related to the Unit Under Test.
- 6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
- 7. The quality system of our laboratory is in accordance with ISO/IEC17025.
- 8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

**** END ****

No.: BCTC/RF-EMC-005 Page: 32 of 32 / / /