FCC REPORT

Applicant:	Shenzhen Aratek Biometrics Technology Co., Ltd.
Address of Applicant:	2F, T2-A Building, ShenZhen Software Park, South Area, Hi-Tech Park, Shenzhen, Guangdong, China
Equipment Under Test (EUT)	
Product Name:	BA8200-T, BA8200
Model No.:	BA8200-T, BA8200
FCC ID:	2AGUJBA8200
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.225
Date of sample receipt:	15 Jun., 2020
Date of Test:	16 Jun., to 08 Sep., 2020
Date of report issue:	09 Sep., 2020
Test Result:	PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of theCCISproduct certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

2 Version

Version No.	Date	Description
00	*09 Sep., 2020*	*Original*

Tested by: Yaro Wu ***Date:*** *09 Sep., 2020*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *09 Sep., 2020*

Project Engineer

3 Contents

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Field strength of the fundamental signal	15.225 (a)	Pass
Spurious emissions	15.225(d)& 15.209	Pass
20dB Bandwidth	15.215(c)	Pass
Frequency tolerance	15.225 (e)	Pass
Conducted Emission	15.207	Pass

Remark:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).*

Test Method:	*ANSI C63.4-2014* *ANSI C63.10-2013*

5 General Information

5.1 Client Information

Applicant:	Shenzhen Aratek Biometrics Technology Co., Ltd.
Address:	2F, T2-A Building, ShenZhen Software Park, South Area, Hi-Tech Park, Shenzhen, Guangdong, China
Manufacturer/ Factory :	Aratek Biometrics Technology Co., Ltd.
Address:	2F, T2-A Building, ShenZhen Software Park, South Area, Hi-Tech Park, Shenzhen, Guangdong, China

5.2 General Description of E.U.T.

Product Name:	BA8200-T, BA8200
Model No.:	BA8200-T, BA8200
Operation Frequency:	13.56MHz
Channel numbers:	1
Modulation type:	ASK
Antenna Type:	Induction Coil Antenna
AC adapter:	Model: 2K36WG-1200300W2 Input: AC100-240V, 50/60Hz, 0.8A Output: DC 12.0V, 3A
Remark:	The No.: BA8200-T and BA8200 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference that BA8200 only has facial recognition and RFID. However, BA8200-T contains facial recognition, fingerprint module, RFID and temperature module

Item	Model Number	Camera	Fingerprint	RFID	Temperature module
1	BA8200	1080P Dual HDR Camera with fill light, 105dB wide dynamic	None	ISO14443 A/B, MIFARE	None
2	BA8200-T	1080P Dual HDR Camera with fill light, 105dB wide dynamic	Optical Press	ISO14443 A/B, MIFARE	Infrared Temp Module

We pre-scanned the BA8200-T and BA8200, and found that the BA8200-T is in worse condition, so the report only reflects the worse mode data

Test Sample Condition:	The test samples were provided in good working order with no visible defects.

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation
Remark	During the test, pre-scan BA8200-T and BA8200, found BA8200-T was worse case. The report only reflects the worst mode.

Pre-Test Mode:

CCIS has verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	64.11	60.38	59.76

Final Test Mode:

According to ANSI C63.10 standards, the test results are both the “worst case” and “worst setup”: Y axis (see the test setup photo).

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
N/A	N/A	N/A	N/A	N/A

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.8 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.9 Test Instruments list

Radiated Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	044	03-07-2020	03-06-2021
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
				06-21-2020	06-20-2023
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2019	11-17-2020
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-07-2020	03-06-2021
Pre-amplifier	CD	PAP-1G18	11804	03-07-2020	03-06-2021
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-05-2020	03-04-2021
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2019	11-17-2020
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-05-2020	03-04-2021
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2020	03-06-2021
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2020	03-06-2021
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2020	03-06-2021
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200	Version: 2.0.0.0		

Conducted Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-05-2020	03-04-2021
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-05-2020	03-04-2021
LISN	CHASE	MN2050D	1447	03-05-2020	03-04-2021
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2017	07-20-2020
Cable	HP	10503A	N/A	03-05-2020	03-04-2021
EMI Test Software	AUDIX	E3	Version: 6.110919b		

6 Test results andMeasurement Data

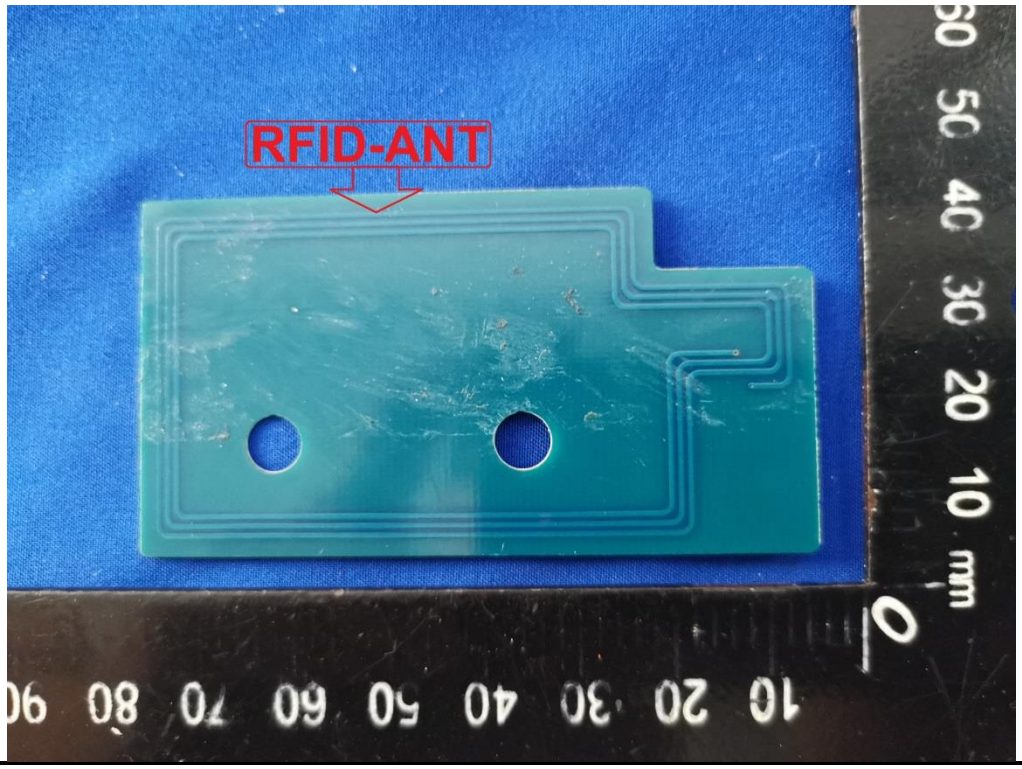
6.1 Antenna requirement

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.

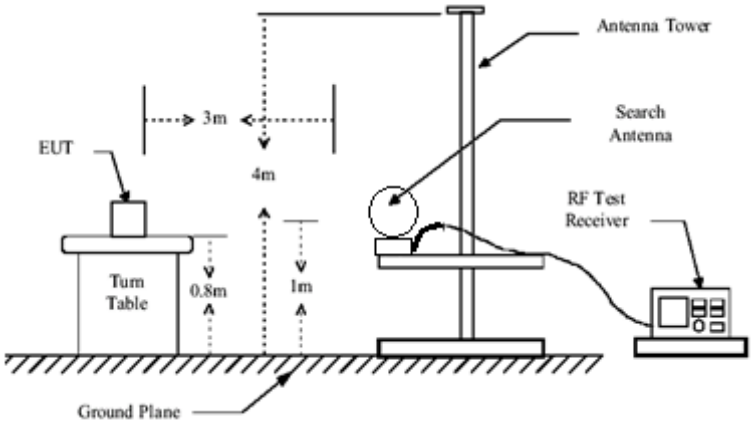
E.U.T Antenna:	

The EUT make use of an Induction coil antenna.

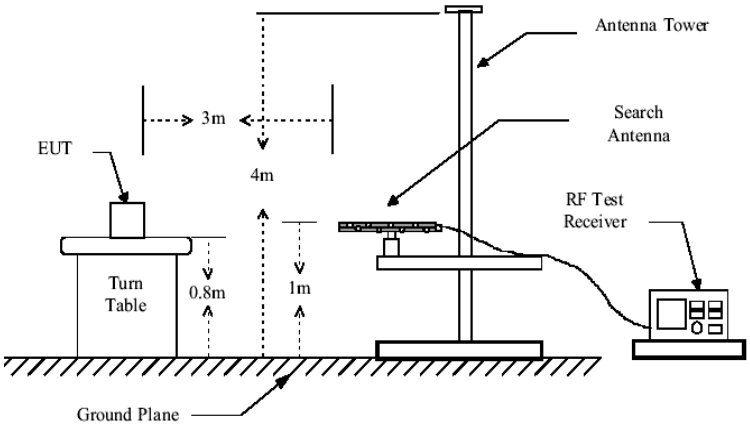


6.2 Radiated Emission

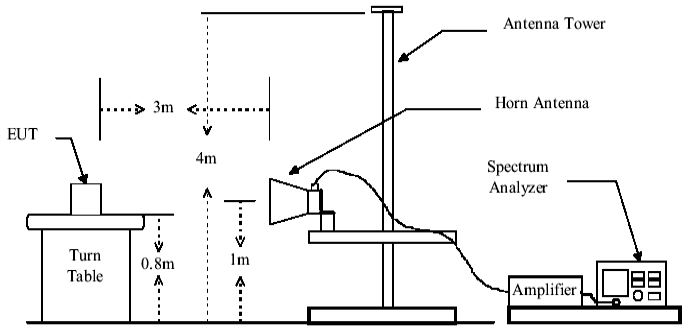
<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part15 C Section 15.225(a) and 15.209</td></tr>
<tr><td>TestFrequencyRange:</td><td colspan="5">9 kHz to 1000MHz</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m(Semi-Anechoic Chamber)</td></tr>
<tr><td rowspan="6">Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz-150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120kHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td>Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td></td><td colspan="4"></td></tr>
<tr><td rowspan="5">Limit:
(Field strength of the fundamental signal)</td><td colspan="2">Frequency</td><td colspan="2">Limit (uV/m @30m)</td><td>Limit (dBuV/m @3m)</td></tr>
<tr><td colspan="2">13.553MHz-13.567MHz</td><td colspan="2">15848</td><td>124.0</td></tr>
<tr><td colspan="2">13.410MHz-13.553MHz & 13.567MHz-13.710MHz</td><td colspan="2">334</td><td>90.5</td></tr>
<tr><td colspan="2">13.110MHz-13.410MHz & 13.710MHz-14.010MHz</td><td colspan="2">106</td><td>80.5</td></tr>
<tr><td colspan="5">Remark:
Per FCC part 15.31, when performing measurements at a distance which is closer than specified, the field strength results shall be extrapolated to the specified distance by using the square of an inverse linear distance extrapolation factor (i.e., 40 dB/decade) in conjunction with the slant-range distance defined in §15.3(hh) of this part.</td></tr>
<tr><td rowspan="8">Limit:
(Spurious Emissions)</td><td>Frequency (MHz)</td><td colspan="2">Limit (uV/m @3m)</td><td>Distance (m)</td></tr>
<tr><td>0.009-0.490</td><td colspan="2">2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td colspan="2">24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30</td><td colspan="2">30</td><td>30</td></tr>
<tr><td>30-88</td><td colspan="2">100</td><td>3</td></tr>
<tr><td>88-216</td><td colspan="2">150</td><td>3</td></tr>
<tr><td>216-960</td><td colspan="2">200</td><td>3</td></tr>
<tr><td>Above 1GHz</td><td colspan="2">500</td><td>3</td></tr>
<tr><td>Test Procedure:</td><td colspan="5">a. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter semi-anechoic camber. The table was rotated 360 degrees todetermine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, whichwas 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 thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatabletable 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 SpecifiedBandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limitspecified, then testing could be stopped and the peak values of the EUT wouldbe reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified andthen reported in a data sheet.</td></tr>
<tr><td>Test setup:</td><td colspan="5">9kHz-30MHz</td></tr>
</table>



30MHz-1GHz



Above 1GHz

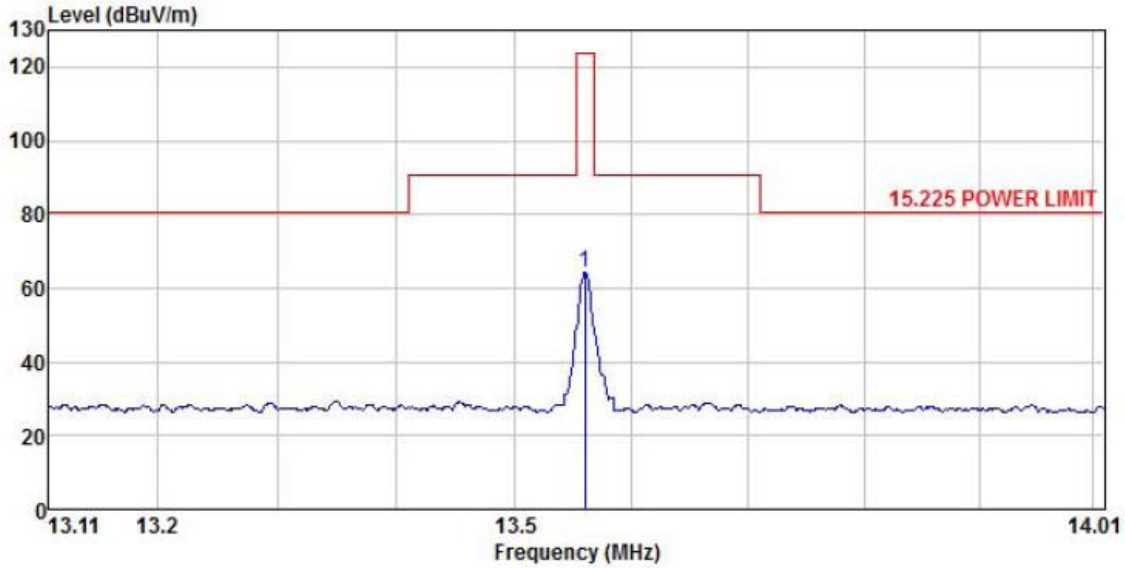


Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:

Field Strength of fundamental signal:

Product Name:	BA8200-T	**Product Model:**	BA8200-T
Test By:	Yaro	**Test mode:**	RFID Tx mode
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	13.560	44.11	19.59	0.41	0.00	0.00	64.11	124.00	-59.89	

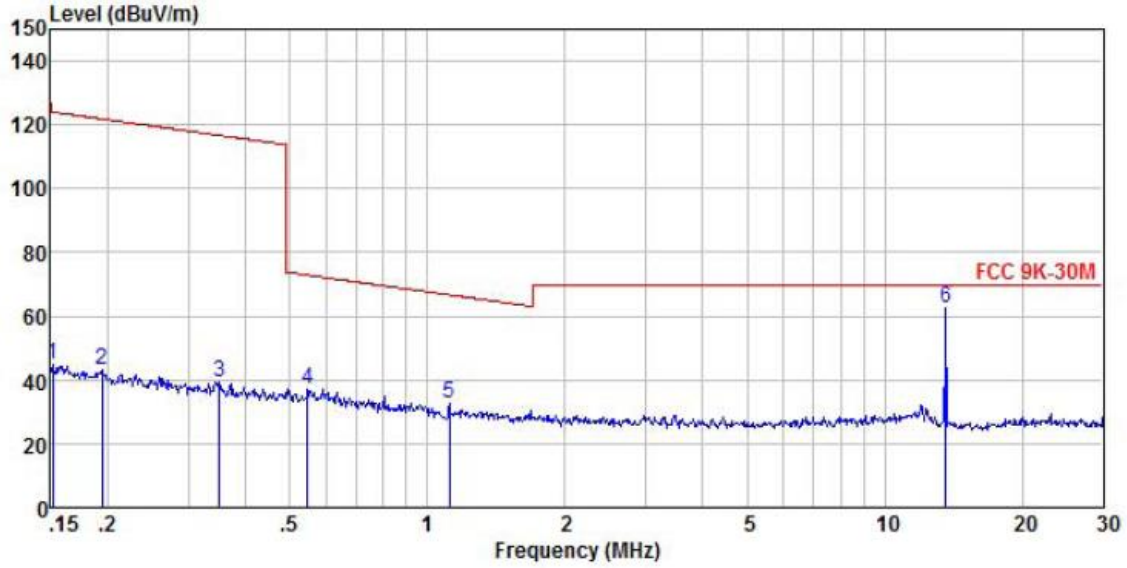
Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

Spurious Emissions:

Test frequency range: 9 kHz- 30 MHz

Product Name:	BA8200-T	**Product Model:**	BA8200-T
Test By:	Yaro	**Test mode:**	RFID Tx mode
Test Frequency:	150 kHz ~ 30 MHz	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

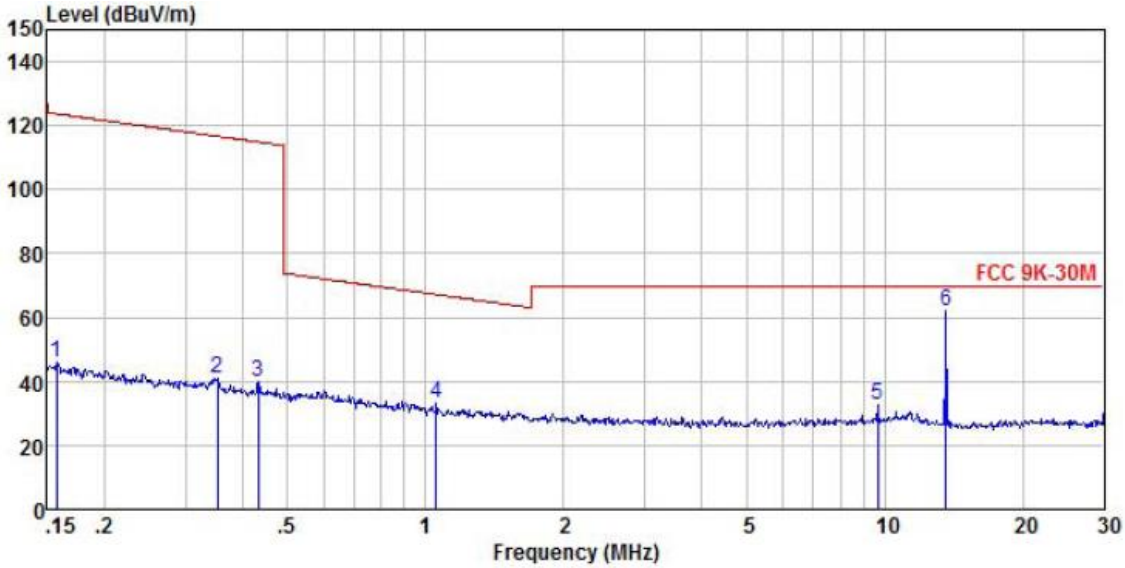


	Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	0.152	24.51	20.20	0.03	0.00	0.00	44.74	124.01	-79.27	
2	0.194	22.81	20.33	0.04	0.00	0.00	43.18	121.84	-78.66	
3	0.350	18.80	20.62	0.06	0.00	0.00	39.48	116.72	-77.24	
4	0.546	16.07	20.76	0.10	0.00	0.00	36.93	72.86	-35.93	
5	1.117	11.83	20.49	0.17	0.00	0.00	32.49	66.66	-34.17	
6	13.623	42.67	19.57	0.42	0.00	0.00	62.66	69.50	-6.84	

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of 9 kHz~150 kHz are background noise and very lower than the limit, not show in test report.*

Product Name:	BA8200-T	Product Model:	BA8200-T
Test By:	Yaro	Test mode:	RFID Tx mode
Test Frequency:	150 kHz ~ 30 MHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



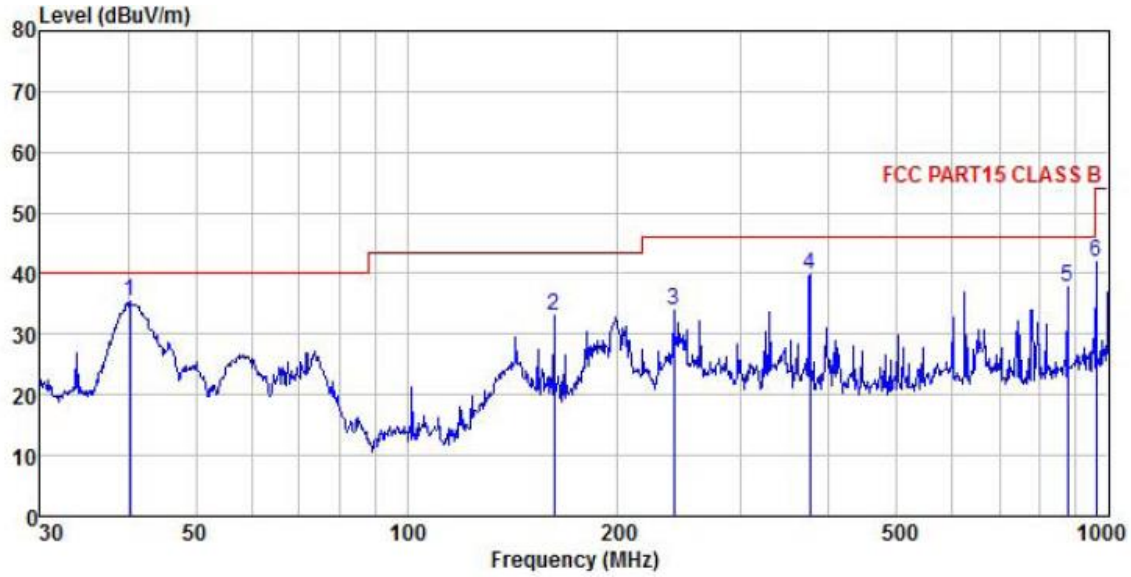
	Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	0.157	25.43	20.22	0.03	0.00	0.00	45.68	123.69	-78.01	
2	0.352	20.43	20.63	0.06	0.00	0.00	41.12	116.68	-75.56	
3	0.433	18.84	20.73	0.07	0.00	0.00	39.64	114.88	-75.24	
4	1.054	12.40	20.50	0.17	0.00	0.00	33.07	67.17	-34.10	
5	9.654	12.14	20.27	0.35	0.00	0.00	32.76	69.50	-36.74	
6	13.623	41.90	19.57	0.42	0.00	0.00	61.89	69.50	-7.61	

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of 9 kHz~150 kHz are background noise and very lower than the limit, not show in test report.*

Test frequency range: 30MHz-1000MHz

Product Name:	BA8200-T	**Product Model:**	BA8200-T
Test By:	Yaro	**Test mode:**	RFID Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

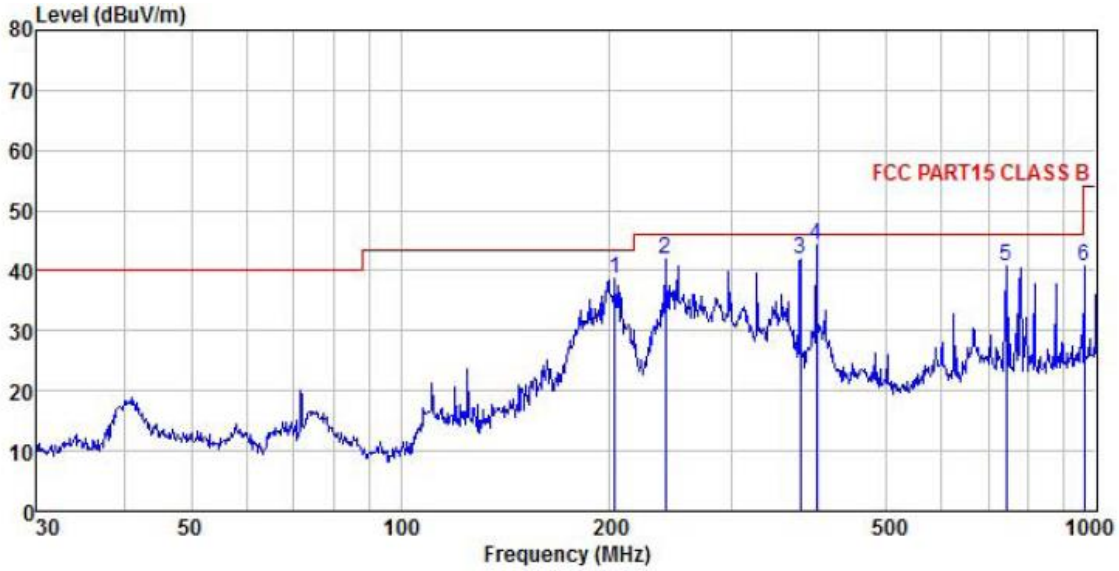


	Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	40.276	52.08	12.81	0.35	0.00	29.90	35.34	40.00	-4.66	QP
2	162.041	45.96	15.54	0.64	0.00	29.12	33.02	43.50	-10.48	QP
3	239.987	43.29	18.46	0.76	0.00	28.59	33.92	46.00	-12.08	QP
4	375.939	48.49	18.96	0.96	0.00	28.68	39.73	46.00	-6.27	QP
5	875.247	42.39	22.00	1.45	0.00	27.94	37.90	46.00	-8.10	QP
6	962.162	45.20	22.88	1.57	0.00	27.65	42.00	54.00	-12.00	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *The Aux Factor is a notch filter switch box loss, this item is not used.*

Product Name:	BA8200-T	Product Model:	BA8200-T
Test By:	Yaro	Test mode:	RFID Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%

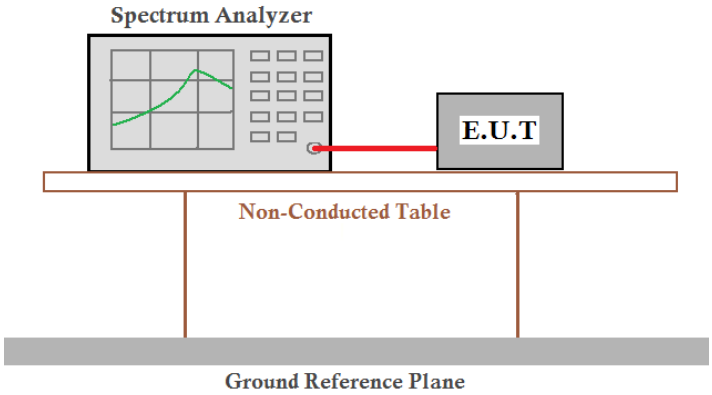


	Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	203.523	48.45	18.32	0.72	0.00	28.81	38.68	43.50	-4.82	QP
2	239.987	51.30	18.46	0.76	0.00	28.59	41.93	46.00	-4.07	QP
3	375.939	50.70	18.96	0.96	0.00	28.68	41.94	46.00	-4.06	QP
4	396.242	53.09	19.08	0.99	0.00	28.76	44.40	46.00	-1.60	QP
5	742.259	47.30	20.59	1.35	0.00	28.51	40.73	46.00	-5.27	QP
6	962.162	43.97	22.88	1.57	0.00	27.65	40.77	54.00	-13.23	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *The Aux Factor is a notch filter switch box loss, this item is not used.*

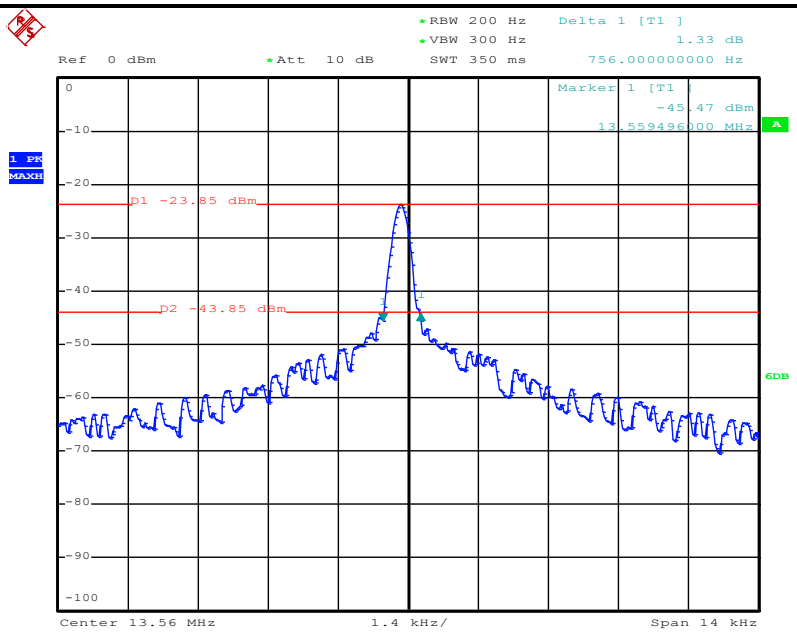
6.3 20dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.215 (c)
Receiver setup:	RBW=200Hz, VBW=300Hz, detector: Peak
Limit:	The fundamental emission be kept within at least the central 80% of the permitted band
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

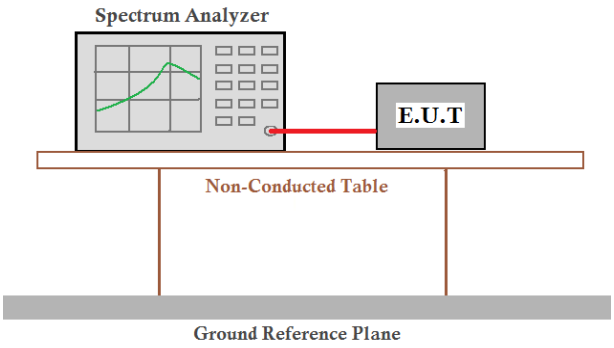
Measurement Data

20dB bandwidth (kHz)	Limit (kHz)	Results
0.756	11.2	Passed
Note: For 13.56MHz, permitted Band is 14 kHz, so the Limit is 11.2 kHz.		

Test plot as follows:



6.4 Frequency Tolerance

Test Requirement:	FCC Part15 C Section 15.225 (e)
Receiver setup:	RBW=200Hz, VBW=300Hz, span=14kHz, detector: Peak
Limit:	±0.01% of the operating frequency
Test mode:	Transmitting mode
Test Procedure:	**Frequency stability V.S. Temperature measurement** 1. The equipment under test was powered by a fresh battery. 2. RF output was connected to spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached **Frequency stability V.S. Voltage measurement** 1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

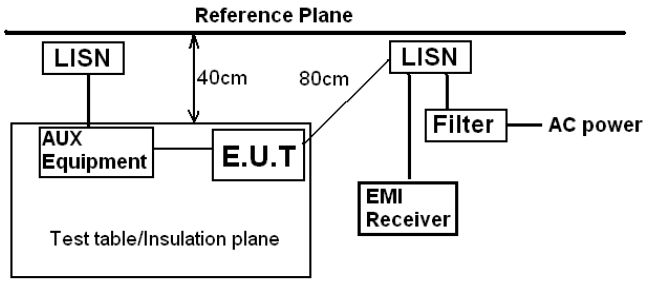
a) Frequency stability V.S. Temperature measurement

Voltage (Vdc)	Temperature (℃)	Frequency Tolerance (Hz)	Frequency Error (%)	Limit (%)	Results
12.0	-20	200	0.0015	±0.01	Pass
	-10	168	0.0012	±0.01	Pass
	0	173	0.0013	±0.01	Pass
	+10	186	0.0014	±0.01	Pass
	+20	184	0.0014	±0.01	Pass
	+30	178	0.0013	±0.01	Pass
	+40	183	0.0013	±0.01	Pass
	+50	194	0.0014	±0.01	Pass

b) Frequency stability V.S. Voltage measurement

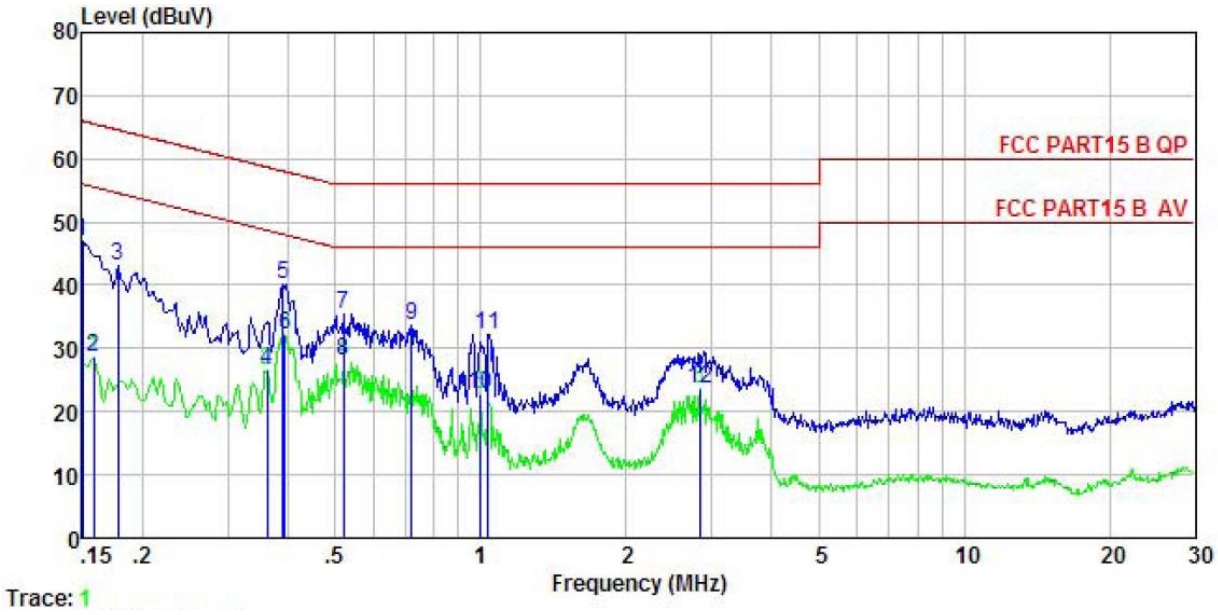
Temperature (℃)	Voltage (Vdc)	Frequency Tolerance (Hz)	Frequency Error (%)	Limit (%)	Results
12.0	10.2	198	0.0015	±0.01	Pass
	12.0	175	0.0013	±0.01	Pass
	13.8	183	0.0013	±0.01	Pass

6.5 Conducted Emission

Test Requirement:	FCC Part15 B Section 15.207		
Test Frequency Range:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dBµV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	0.5-30	60	50
	* Decreases with the logarithm of the frequency.		
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*		
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.).It provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10(latest version) on conducted measurement.		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

Measurement Data:

Product name:	BA8200-T	Product model:	BA8200-T
Test by:	Yaro	Test mode:	RFID Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%

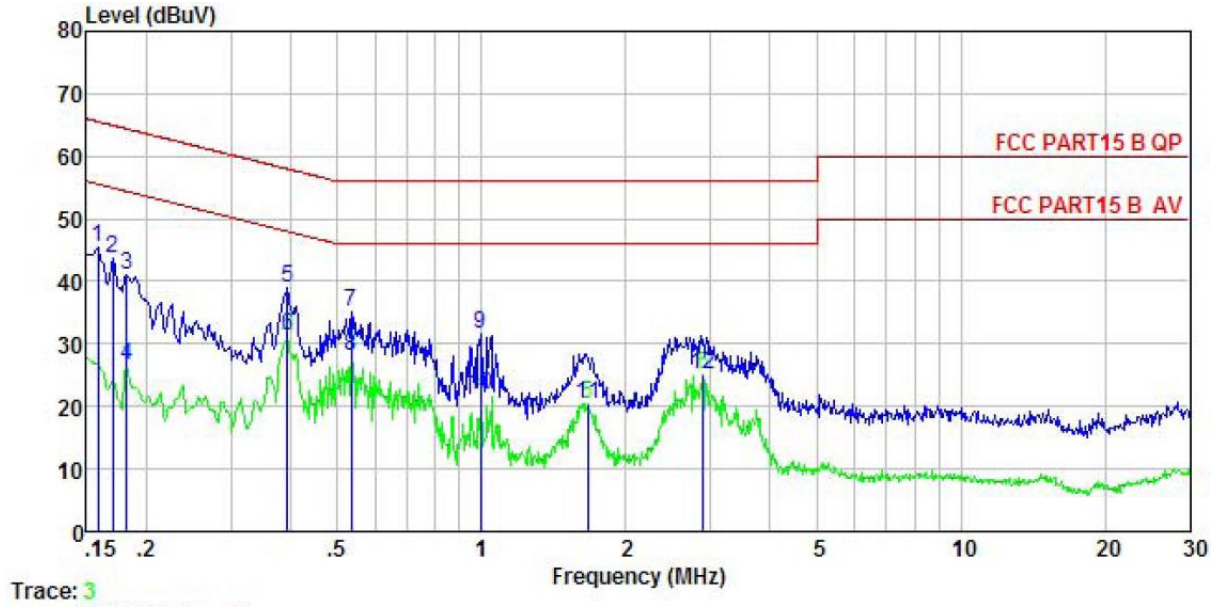


	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	36.56	-0.45	10.78	46.89	66.00	-19.11	QP
2	0.158	18.33	-0.44	10.77	28.66	55.56	-26.90	Average
3	0.178	32.74	-0.43	10.77	43.08	64.59	-21.51	QP
4	0.361	16.08	-0.38	10.73	26.43	48.69	-22.26	Average
5	0.389	29.79	-0.37	10.72	40.14	58.08	-17.94	QP
6	0.393	21.97	-0.37	10.72	32.32	47.99	-15.67	Average
7	0.521	25.14	-0.39	10.76	35.51	56.00	-20.49	QP
8	0.521	17.59	-0.39	10.76	27.96	46.00	-18.04	Average
9	0.720	23.38	-0.38	10.78	33.78	56.00	-22.22	QP
10	1.000	12.29	-0.38	10.87	22.78	46.00	-23.22	Average
11	1.032	21.82	-0.38	10.87	32.31	56.00	-23.69	QP
12	2.839	13.17	-0.44	10.93	23.66	46.00	-22.34	Average

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*

Product name:	BA8200-T	Product model:	BA8200-T
Test by:	Yaro	Test mode:	RFID Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%



	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.158	35.27	-0.68	10.77	45.36	65.56	-20.20	QP
2	0.170	33.62	-0.68	10.77	43.71	64.94	-21.23	QP
3	0.182	30.97	-0.69	10.77	41.05	64.42	-23.37	QP
4	0.182	16.38	-0.69	10.77	26.46	54.42	-27.96	Average
5	0.393	28.84	-0.64	10.72	38.92	57.99	-19.07	QP
6	0.393	21.14	-0.64	10.72	31.22	47.99	-16.77	Average
7	0.535	24.88	-0.65	10.76	34.99	56.00	-21.01	QP
8	0.535	17.83	-0.65	10.76	27.94	46.00	-18.06	Average
9	0.994	21.42	-0.63	10.87	31.66	56.00	-24.34	QP
10	1.000	11.60	-0.63	10.87	21.84	46.00	-24.16	Average
11	1.662	10.22	-0.66	10.94	20.50	46.00	-25.50	Average
12	2.900	14.84	-0.67	10.92	25.09	46.00	-20.91	Average

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*