RF MEASUREMENT REPORT

FCC ID:	U4GDL36LT
Applicant:	Datalogic S.r.l.
Product:	Barcode Reader
Model No.:	DL36LT
Brand Name:	DATALOGIC
FCC Classification:	Part 15 Low Power Communication Device Transmitter (DXX)
FCC Rule Part(s):	Part 15 Subpart C (Section 15.225)
Result:	Complies
Test Date:	2022-09-14 ~ 2023-03-02

Reviewed By: Jame Yuan

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2209RSU001-U6	Rev. 01	Initial Report	2023-02-02	Invalid
2209RSU001-U6	Rev. 02	Update one typo	2023-02-10	Invalid
2209RSU001-U6	Rev. 03	Add spot check test data	2023-03-02	Valid

Note 1: This report was based on original MRT report no. 2209RSU002-U6 (Model: DL36WF). DL36WF have same hardware design with DL36LT except removing the WWAN chipset, any others are the same, so all RF test data of NFC was reused.

Note 2: This report was based on original MRT report no. 2209RSU002-U6 (Model: DL36WF). DL36WF have same hardware design with DL36LT except removing the WWAN chipset, any others are the same, so all RF test data of NFC was reused.

Test Description	Remark
In-Band Emission	Spot Check
Out-Band Emission	Spot Check
20dB Bandwidth	Reuse
Frequency Stability Tolerance	Reuse
AC Conducted Emissions 150kHz - 30MHz	Reuse

CONTENTS

1. General Information

1.1. Applicant

Datalogic S.r.l.

Via San Vitalino no.13, Calderara di Reno -40012(BO)-Italy

1.2. Manufacturer

Datalogic S.r.l.

Via San Vitalino no.13, Calderara di Reno -40012(BO)-Italy

1.3. Testing Facility

<table>
<tr><td>☒</td><td colspan="5">Test Site – MRT Suzhou Laboratory</td></tr>
<tr><td rowspan="4"></td><td colspan="5">Laboratory Location (Suzhou - Wuzhong)
D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Laboratory Location (Suzhou - SIP)
4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China</td></tr>
<tr><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td colspan="3">A2LA: 3628.01</td><td colspan="2">CNAS: L10551</td></tr>
<tr><td colspan="3">FCC: CN1166</td><td colspan="2">ISED: CN0001</td></tr>
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☐C-20103</td><td>☐T-20020
☐T-20104</td></tr>
<tr><td>☐</td><td colspan="5">Test Site – MRT Shenzhen Laboratory</td></tr>
<tr><td rowspan="3"></td><td colspan="5">Laboratory Location (Shenzhen)
1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</td></tr>
<tr><td colspan="5">Laboratory Accreditations</td></tr>
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ISED: CN0105</td></tr>
<tr><td>☐</td><td colspan="5">Test Site – MRT Taiwan Laboratory</td></tr>
<tr><td rowspan="3"></td><td colspan="5">Laboratory Location (Taiwan)
No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</td></tr>
<tr><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td colspan="3">TAF: L3261-190725
FCC: 291082, TW3261</td><td colspan="2">ISED: TW3261</td></tr>
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1.4. Product Information

Product Name	Barcode Reader
Model No.	DL36LT
Serial No.	S22HC0118 S22HC0094
NFC Specification	13.56MHz
Wi-Fi Specification	802.11a/b/g/n/ac
Bluetooth Specification	v5.2 dual mode
WPT Specification	119-140kHz, WPT client type
GNSS Specification	GPS/GNSS/Beidou/Galileo/SBAS
3GPP Specification	GSM 850/1900 WCDMA Band 2/4/5 LTE Band 2/4/5/7/12/13/17/25/26
Operating Temp.	-20 ~ 50℃
Power Type	3.60 ~ 4.35Vdc, typical 3.8Vdc
Accessories	
AC Adapter	Model: S008ACM0500200 Input: 100-240V ~ 50/60Hz, 0.3A Output: 5V, 2A, 10W
Rechargeable Li-ion Battery 1#	Model No.: BTDL36 Rated Voltage: 3.8V Rated Capacity: 3980mAh/15.1Wh Limited Charge Voltage: 4.35V
Rechargeable Li-ion Battery 2#	Model No.: BTDL35 Rated Voltage: 3.8V Rated Capacity: 3980mAh/15.1Wh Limited Charge Voltage: 4.35V
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

Frequency Range	13.56MHz
Channel Number	1
Type of modulation	ASK
Antenna Type	Loop Antenna

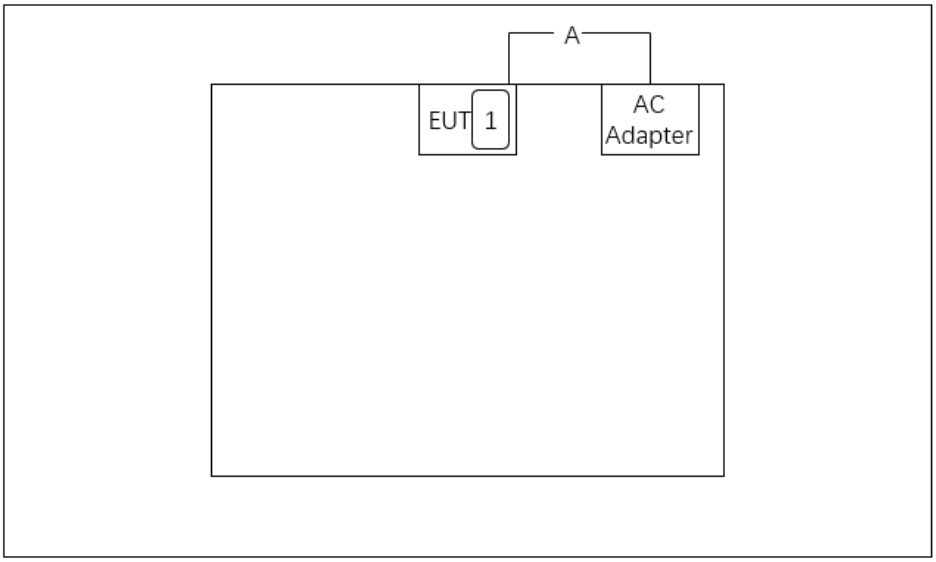
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by NFC

2.2. Test Configuration and Software

The device was tested per the guidance ANSI C63.10-2013 that was used to reference the appropriate EUT setup for radiated spurious emissions and AC line conducted emission testing.



Product		Manufacturer	Model No.
1	NFC card	N/A	N/A
Cable Type		Cable Description	
A	Power Cable	Shielded, 1.1m	

2.3. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.225
- ANSI C63.10-2013

2.4. Test Environment Condition

Ambient Temperature	15 ~ 35 °C
Relative Humidity	20 ~75 %RH

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 shall be considered sufficient to comply with the provisions of this section."

- The antenna of the this device is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022-12-29	WZ-AC1
				1 year	2023-12-28	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2023-06-21	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2023-04-21	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE06403	1 year	2023-06-06	WZ-AC1
Thermohygrometer	testo	Testo 608-H1	MRTSUE11039	1 year	2022-11-11	WZ-AC1
				1 year	2023-11-01	WZ-AC1
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2022-10-28	WZ-AC1/WZ-TR3
				1 year	2023-09-29	WZ-AC1
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2023-06-04	WZ-SR2
Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	5 years	2026-12-20	WZ-SR2
Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2023-06-06	WZ-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2022-11-01	WZ-SR2
				1 year	2023-10-27	WZ-SR2
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2022-10-10	WZ-TR3
				1 year	2023-10-08	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2023-06-06	WZ-TR3
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2023-06-04	WZ-TR3

Software	Version	Function
EMI Software	V3.0.0	EMI Test Software
Controller_MF 7802	2.03C	RE Antenna & Turntable

5. Decision Rules and Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT 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.

AC Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): Horizontal: 9kHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 9kHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB

6. Test Result

6.1. Summary

FCC Part Section(s)	Test Description	Test Condition	Test Result	Reference
15.225 (a), (b), (c)	In-Band Emission	Radiated	Pass	Section 6.2
15.225(d)	Out-Band Emission		Pass	Section 6.3
15.215(c)	20dB Bandwidth		Pass	Section 6.4
15.225(e)	Frequency Stability Tolerance		Pass	Section 6.5
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass	Section 6.6

Note: For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. In-band Emission Measurement

6.2.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.225		
Frequency (MHz)	Distance (m)	Level (μV/m)
13.553 ~13.567	30	15848
13.410 ~13.553, 13.567 ~13.710	30	334
13.110 ~13.410, 13.710 ~14.010	30	106
Note 1: The lower limit shall apply at the transition frequency. Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system. Note 3: E field strength (dBμV/m) = 20 log E field strength (μV/m)		

6.2.2. Test Procedure

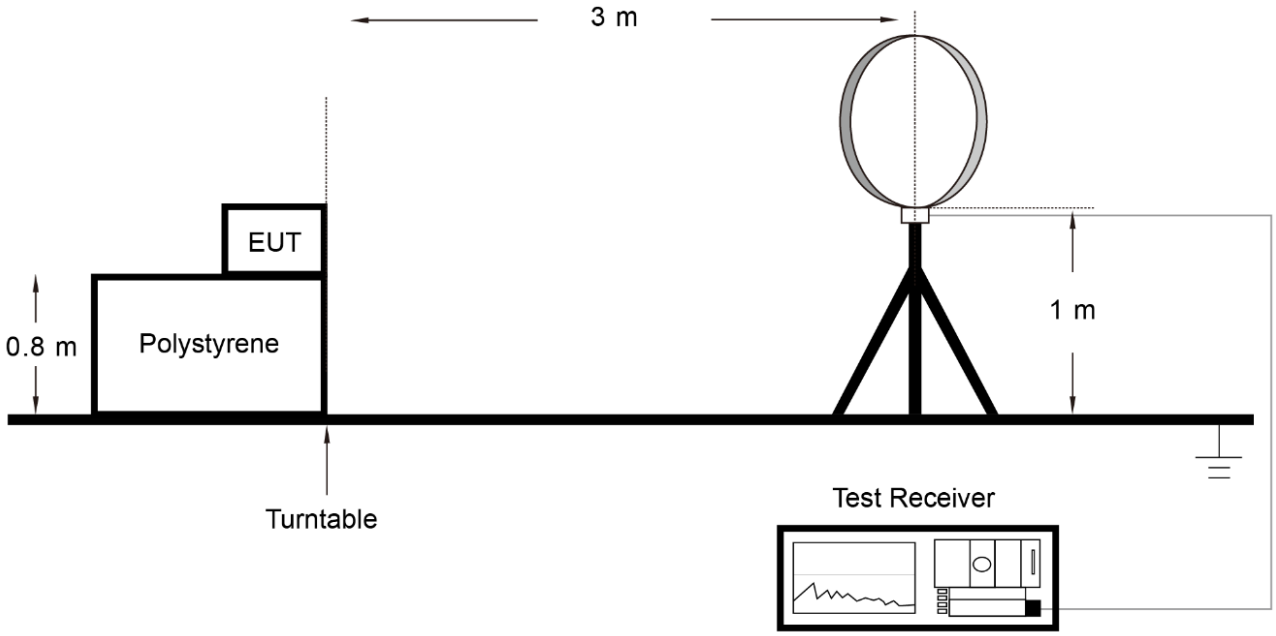
ANSI C63.10-2013 - Section 6.4.7

6.2.3. Test Setting

1. RBW = 9kHz
2. VBW = 3 * RBW
3. Detector = Peak
4. Trace mode = Max hold
5. Sweep = Auto couple
6. Allow the trace to stabilize

6.2.4. Test Setup

9kHz ~ 30MHz Test Setup:



6.2.5. Test Result

Refer to Appendix A.1.

6.3. Out-band Emission Measurement

6.3.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (μV/m)
0.009 - 0.490	300	2400/F (kHz)
0.490 - 1.705	30	24000/F (kHz)
1.705 - 30	30	30
30 - 88	3	100
88 - 216	3	150
216 - 960	3	200
Above 960	3	500
Note 1: The lower limit shall apply at the transition frequency. Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system. Note 3: E field strength (dBμV/m) = 20 log E field strength (μV/m)		

6.3.2. Test Procedure

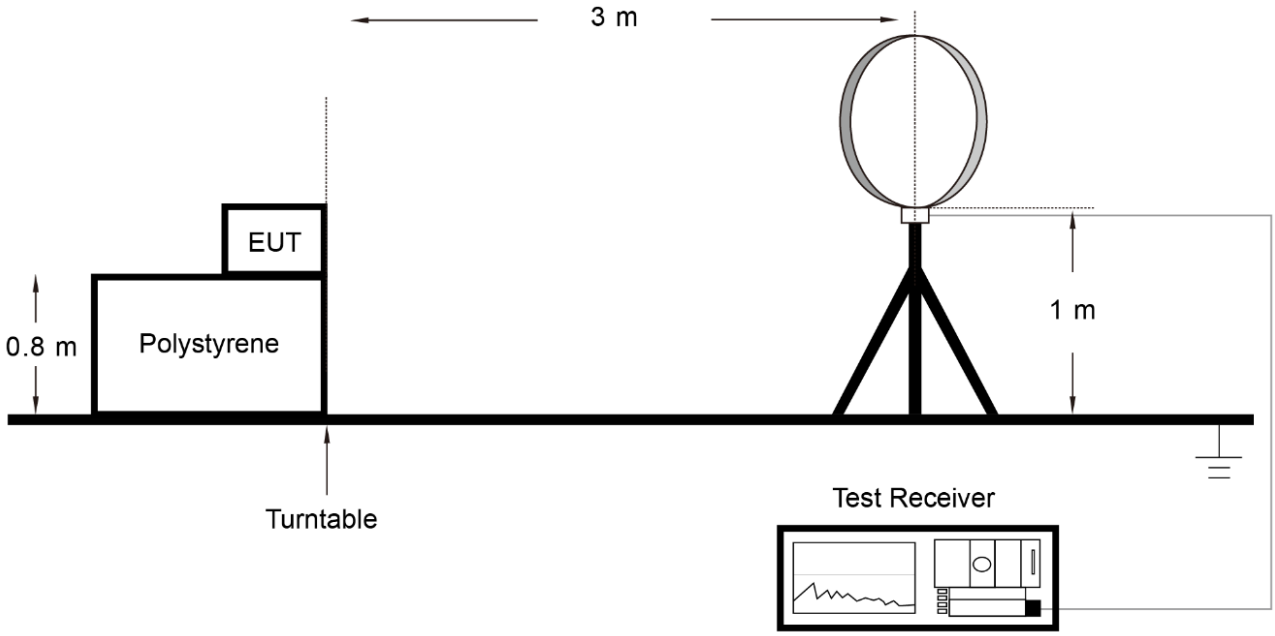
ANSI C63.10-2013 - Section 6.5.4

6.3.3. Test Setting

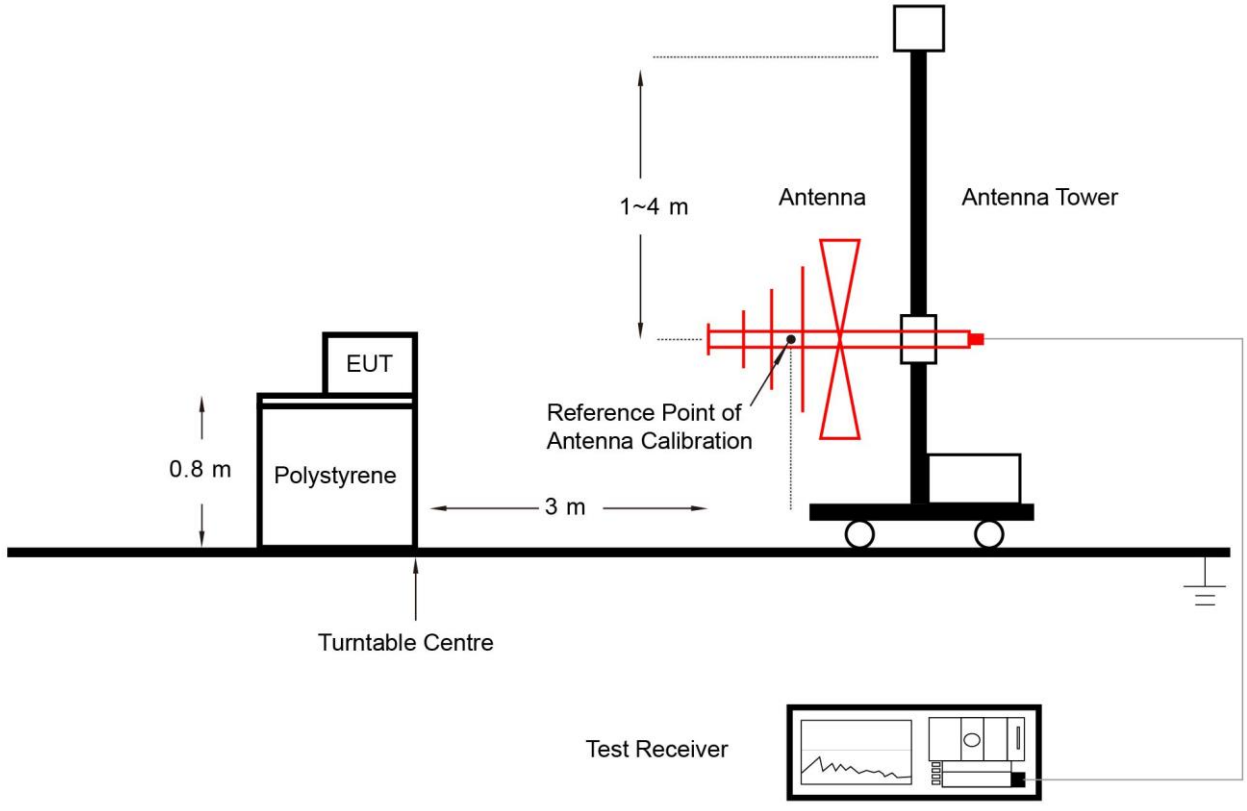
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 9kHz for emission below 30MHz and 100kHz for emission between 30MHz and 1GHz
3. VBW = 3 * RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace to stabilize

6.3.4. Test Setup

9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



6.3.5. Test Result

Refer to Appendix A.2.

6.4. Occupied Bandwidth Measurement

6.4.1. Test Limit

The occupied bandwidth is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequency.

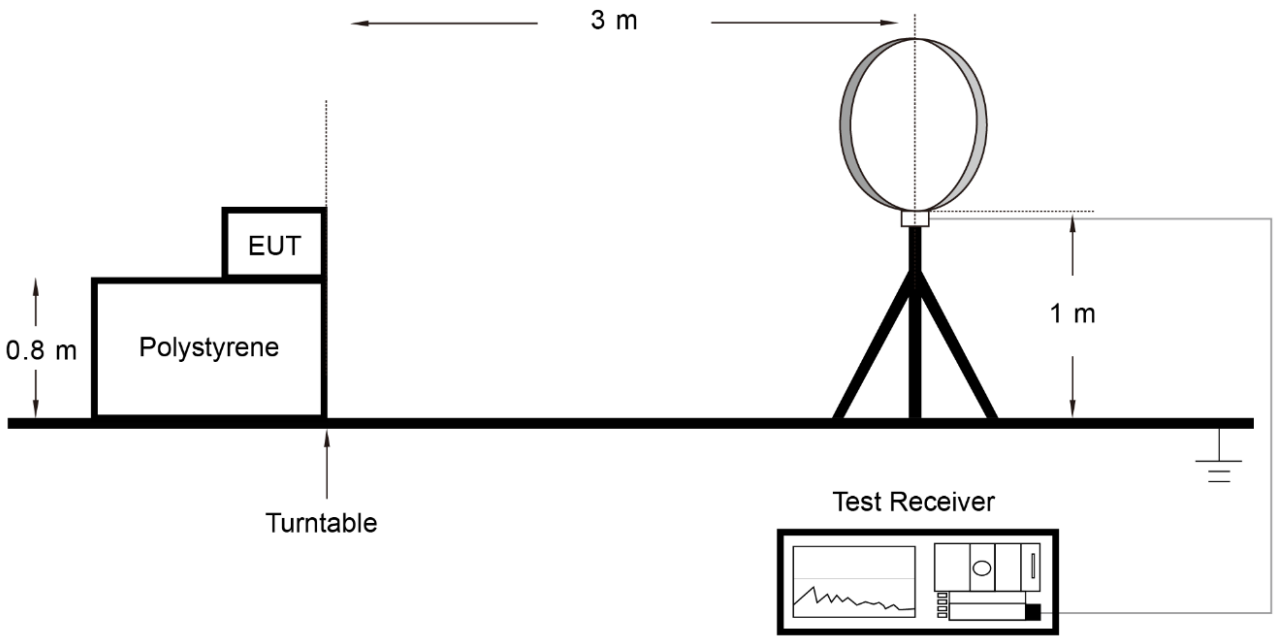
6.4.2. Test Procedure

ANSI C63.10-2013 - Section 6.9.2

6.4.3. Test Setting

1. Set RBW ≥ 1% to 5% of the 20dB bandwidth
2. VBW = approximately three times RBW
3. Span = approximately 2 to 5 times the 20dB bandwidth
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. 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.

6.4.4. Test Setup



6.4.5. Test Result

Refer to Appendix A.3.

6.5. Frequency Tolerence Measurement

6.5.1. Test Limit

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency.

6.5.2. Test Procedure

ANSI C63.10-2013 - Section 6.8

6.5.3. Test Setting

Frequency Stability Under Temperature Variations:

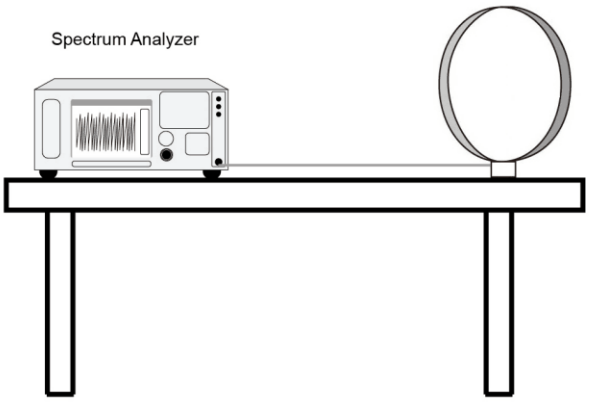
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ decreased per stage until the lowest temperature reached.

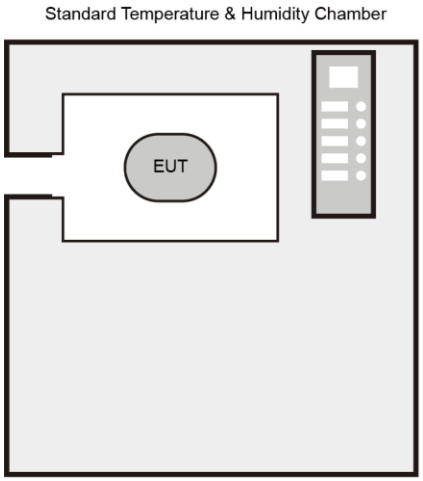
Frequency Stability Under Voltage Variations:

Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. 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. For hand-carried battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

6.5.4. Test Setup





6.5.5. Test Result

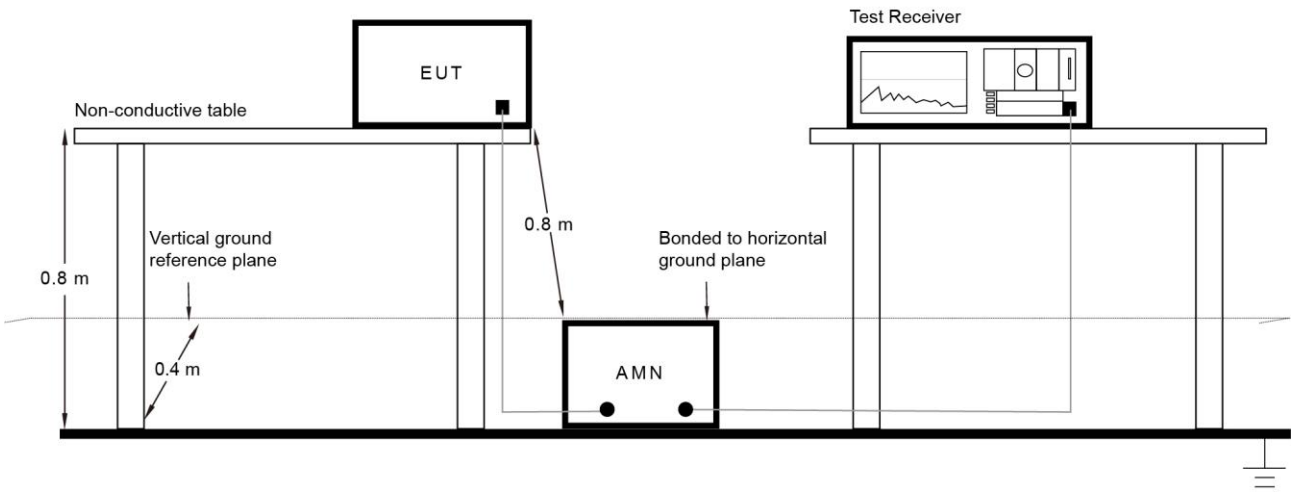
Refer to Appendix A.4.

6.6. AC Conducted Emissions Measurement

6.6.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies.		
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

6.6.2. Test Setup



6.6.3. Test Result

Refer to Appendix A.5.

Appendix A - Test Result

A.1 In-band Emission Test Result

Test Engineer	Charles Zhang	Test Date	2023-03-02
Test Mode	Mode1	Test Site	WZ-AC1

Spot Check Test Data

Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (@3m) (dBμV/m)	Margin [dB]
Coaxial					
13.349	15.836	17.150	32.986	80.506	-47.520
13.450	15.034	17.149	32.183	90.488	-58.305
13.560	38.699	17.147	55.846	123.999	-68.153
13.665	9.773	17.146	26.919	90.488	-63.569
13.770	16.279	17.145	33.424	80.506	-47.082
Coplanar					
13.347	8.289	17.150	25.439	80.506	-55.067
13.446	5.933	17.149	23.082	90.488	-67.406
13.561	35.407	17.147	52.554	123.999	-71.445
13.637	6.118	17.147	23.265	90.488	-67.223
13.771	9.512	17.145	26.657	80.506	-53.849

Note

1. All measurements were performed using a loop antenna. The antenna was positioned in two orthogonal (coaxial and coplanar) and the position with the highest emission level was recorded.
2. Measurements were tested at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).
   Extrapolation Factor = 20*Log $(30/3)^2$ = 40 dB
   For example, Limit (@3m) = 20*log(106) + 40 = 80.506 dBμV/m

All measurements were recorded using an EMI test receiver employing a peak detector.

Test Engineer	Charles Zhang	Test Date	2022-09-14
Test Mode	Mode1	Test Site	WZ-AC1

Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (@3m) (dBμV/m)	Margin [dB]
Coaxial					
13.349	19.578	17.038	36.616	80.506	-43.890
13.450	24.996	17.036	42.032	90.488	-48.456
13.560	42.396	17.034	59.430	123.999	-64.569
13.665	27.062	17.032	44.094	90.488	-46.394
13.770	19.600	17.030	36.630	80.506	-43.876
Coplanar					
13.347	17.119	17.038	34.157	80.506	-46.349
13.446	20.797	17.036	37.833	90.488	-52.655
13.561	39.477	17.034	56.511	123.999	-67.488
13.637	20.240	17.033	37.273	90.488	-53.215
13.771	16.484	17.030	33.514	80.506	-46.992

Note

3. All measurements were performed using a loop antenna. The antenna was positioned in two orthogonal (coaxial and coplanar) and the position with the highest emission level was recorded.
4. Measurements were tested at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).
   Extrapolation Factor = $20*\text{Log}\ (30/3)^2 = 40$ dB
   For example, Limit (@3m) = 20*log(106) + 40 = 80.506 dBμV/m
5. All measurements were recorded using an EMI test receiver employing a peak detector.

A.2 Out-Band Emission Test Result

Test Engineer	Charles Zhang	Test Date	2023-03-02
Test Mode	Mode1	Test Site	WZ-AC1

Spot Check Test Data

Out-Band Emission Below 30MHz						
Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit(@3m) (dBμV/m)	Margin (dB)	Detector
Coaxial						
1.568	11.248	17.622	28.870	63.726	-34.856	Peak
Coplanar						
1.598	11.774	17.619	29.393	63.561	-34.168	Peak

Out-Band Emission Above 30MHz							
Polarization	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
H	30.825	1.172	17.282	18.454	40	-21.546	Peak
H	36.6	2.241	17.897	20.138	40	-19.862	Peak
H	45.015	1.348	18.374	19.722	40	-20.278	Peak
H	57.775	2.68	17.658	20.338	40	-19.662	Peak
H	76.475	1.801	14.947	16.748	40	-23.252	Peak
H	116.075	2.131	15.347	17.478	43.5	-26.022	Peak
V	35.445	2.543	17.749	20.292	40	-19.708	Peak
V	40.67	9.99	18.261	28.251	40	-11.749	Peak
V	46.06	1.845	18.364	20.209	40	-19.791	Peak
V	57.555	3.211	17.679	20.89	40	-19.11	Peak
V	81.37	2.333	13.63	15.963	40	-24.037	Peak
V	118.385	1.732	15.617	17.349	43.5	-26.151	Peak

Note

1. Below 30MHz measurement was performed using a loop antenna. The antenna was positioned in two orthogonal (coaxial and coplanar) and the position with the highest emission level was recorded.
2. Measurements were tested at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).
   Extrapolation Factor = $40*\text{Log}(30/3)^2$= 40 dB
   For example, Limit (@3m) = 20*log (30) + 40 = 69.54 dBμV/m

All measurements were recorded using an EMI test receiver employing a peak detector.

Test Engineer	Charles Zhang	Test Date	2022-09-14
Test Mode	Mode1	Test Site	WZ-AC1

Out-Band Emission Below 30MHz						
Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit(@3m) (dBμV/m)	Margin (dB)	Detector
Coaxial						
1.568	16.376	17.492	33.868	63.697	-29.829	Peak
Coplanar						
1.598	16.712	17.491	34.203	63.533	-29.330	Peak

Out-Band Emission Above 30MHz							
Polarization	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
H	30.825	3.427	17.282	20.709	40.000	-19.291	Peak
H	36.600	4.435	17.897	22.332	40.000	-17.668	Peak
H	45.015	4.796	18.374	23.170	40.000	-16.830	Peak
H	57.775	2.991	17.658	20.649	40.000	-19.351	Peak
H	76.475	4.613	14.947	19.560	40.000	-20.440	Peak
H	116.075	4.257	15.347	19.604	43.500	-23.896	Peak
V	35.445	6.945	17.749	24.694	40.000	-15.306	Peak
V	40.670	10.153	18.261	28.414	40.000	-11.586	Peak
V	46.060	4.379	18.364	22.743	40.000	-17.257	Peak
V	57.555	3.665	17.679	21.344	40.000	-18.656	Peak
V	81.370	6.353	13.630	19.983	40.000	-20.017	Peak
V	118.385	3.523	15.617	19.140	43.500	-24.360	Peak

Note

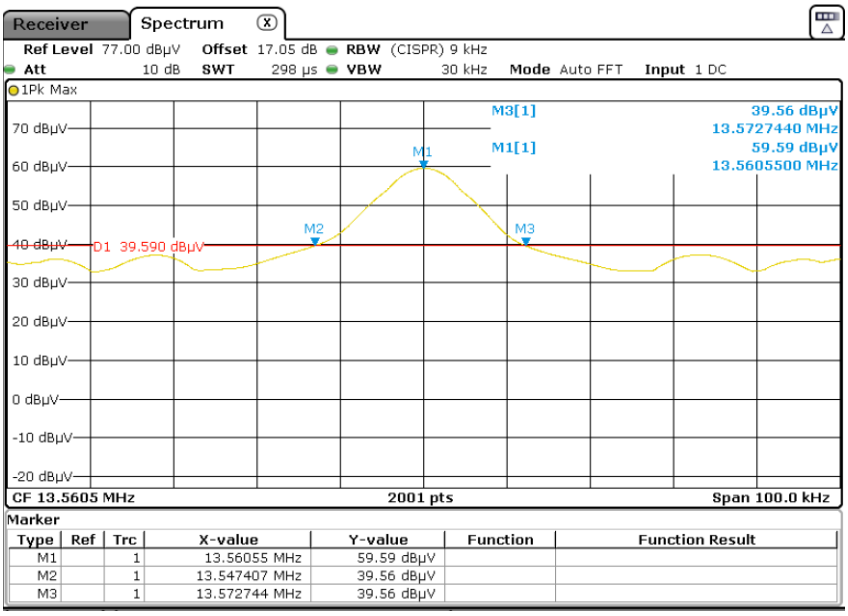
3. Below 30MHz measurement was performed using a loop antenna. The antenna was positioned in two orthogonal (coaxial and coplanar) and the position with the highest emission level was recorded.
4. Measurements were tested at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).
   Extrapolation Factor = $40*\text{Log}(30/3)^2$= 40 dB
   For example, Limit (@3m) = 20*log (30) + 40 = 69.54 dBμV/m
5. All measurements were recorded using an EMI test receiver employing a peak detector.

A.3 Occupied Bandwidth Test Result

Test Engineer	Charles Zhang	Test Date	2022-09-14
Test Mode	Mode 1	Test Site	WZ-AC1

Frequency (MHz)	20dB Occupied Bandwidth (kHz)
13.56	25.337

20dB Occupied Bandwidth



Note: Because the measured signal is CW or CW-like adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW.

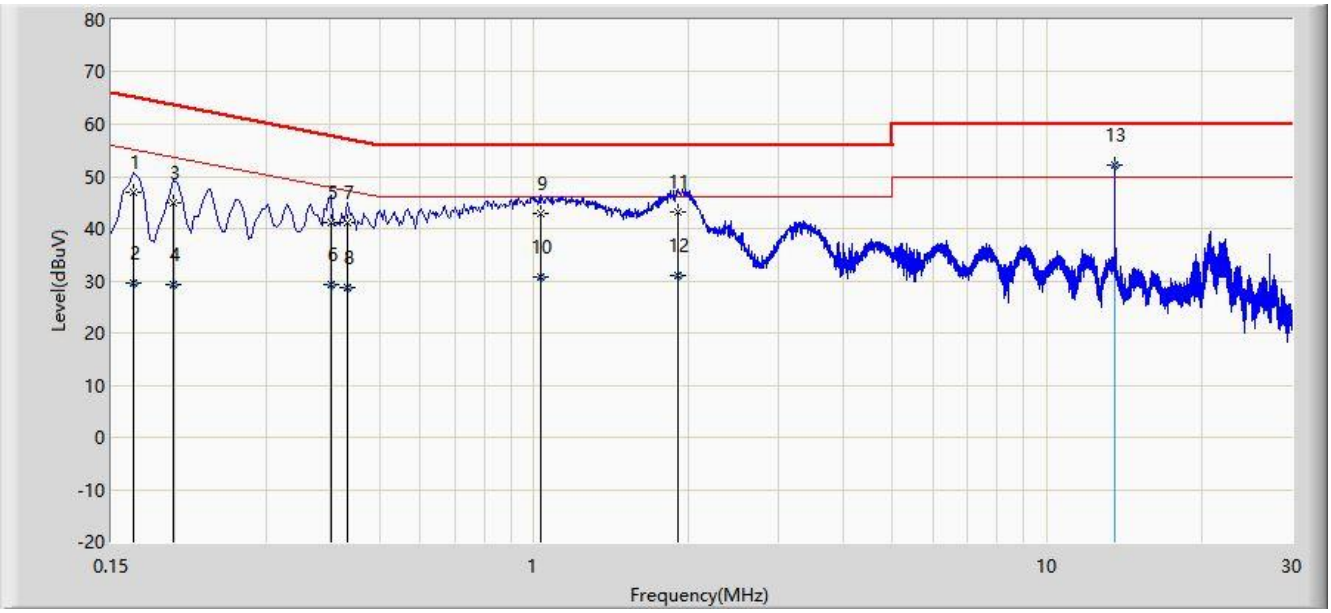
A.4 Frequency Stability Tolerance Test Result

Test Engineer	Charles Zhang	Test Date	2022-10-09
Test Mode	Mode 1	Test Site	WZ-TR3

Reference Voltage: 3.8V			
Deviation Limit: +/- 0.01% = +/- 1356Hz			
Voltage (%)	Power Battery	Temp (°C)	Frequency Deviation (Hz)
100	3.80V	-20	537
		-10	-216
		0	149
		+10	577
		+20	597
		+30	365
		+40	-224
		+50	301
Battery Upper	4.35V	+ 20	-204
Battery End Point	3.60V	+ 20	-39
Note: Battery Upper and End Point voltage are declared by the applicant.			

A.5 AC Conducted Emissions Test Result

Site: WZ-SR2	Test Date: 2022-10-09
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off_E	Polarity: Line
EUT: Barcode Reader	Power: AC 120V/60Hz
Test Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1		0.166	47.099	37.219	-18.060	65.158	9.880	QP
2		0.166	29.448	19.568	-25.710	55.158	9.880	AV
3		0.198	44.984	35.103	-18.710	63.694	9.881	QP
4		0.198	29.279	19.398	-24.415	53.694	9.881	AV
5		0.402	41.287	31.360	-16.525	57.812	9.927	QP
6		0.402	29.367	19.440	-18.445	47.812	9.927	AV
7		0.434	41.281	31.347	-15.895	57.176	9.934	QP
8		0.434	28.673	18.739	-18.503	47.176	9.934	AV
9		1.034	42.841	32.860	-13.159	56.000	9.981	QP
10		1.034	30.587	20.606	-15.413	46.000	9.981	AV
11	*	1.910	43.313	33.314	-12.687	56.000	9.998	QP
12		1.910	31.078	21.079	-14.922	46.000	9.998	AV
13		13.562	52.077	40.997	NaN	NaN	11.080	PK

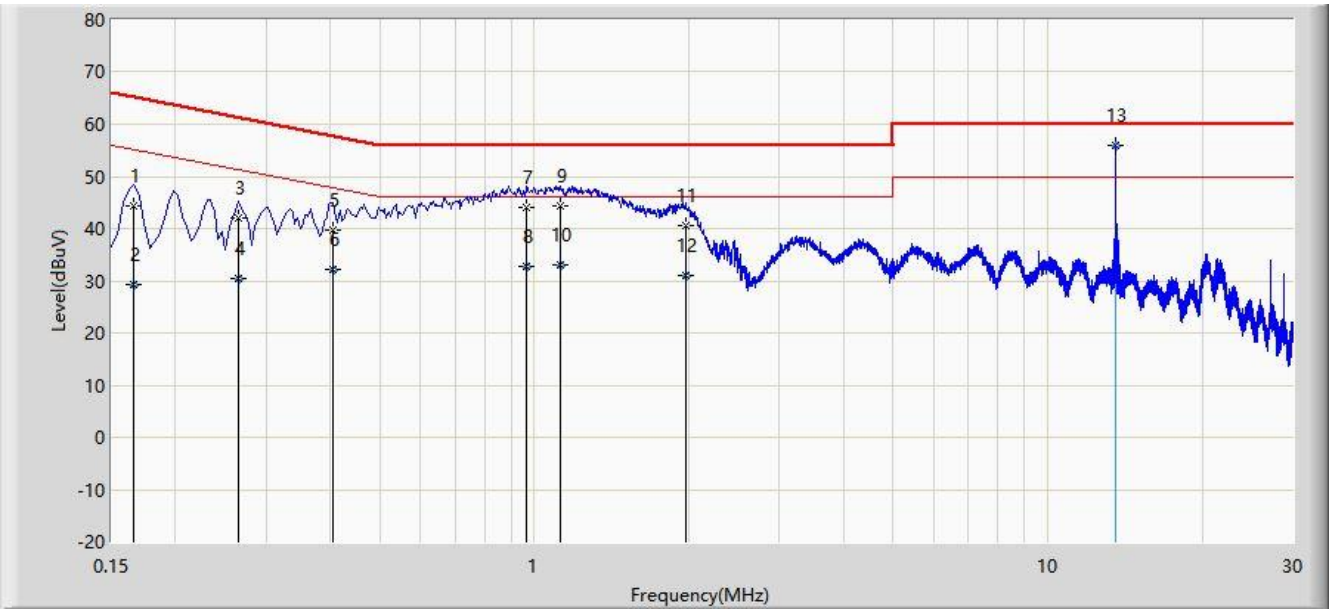
Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Note 4: It is authenticated that the point (13) is NFC fundamental signal, Data under below indicates that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

Site: WZ-SR2	Test Date: 2022-10-09
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off_E	Polarity: Neutral
EUT: Barcode Reader	Power: AC 120V/60Hz
Test Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1		0.166	44.391	34.488	-20.767	65.158	9.903	QP
2		0.166	29.379	19.475	-25.779	55.158	9.903	AV
3		0.266	42.022	32.101	-19.220	61.242	9.921	QP
4		0.266	30.361	20.440	-20.881	51.242	9.921	AV
5		0.406	39.819	29.874	-17.911	57.730	9.944	QP
6		0.406	32.270	22.326	-15.460	47.730	9.944	AV
7		0.962	43.931	33.934	-12.069	56.000	9.998	QP
8		0.962	32.850	22.852	-13.150	46.000	9.998	AV
9	*	1.126	44.280	34.278	-11.720	56.000	10.002	QP
10		1.126	33.056	23.054	-12.944	46.000	10.002	AV
11		1.970	40.484	30.465	-15.516	56.000	10.019	QP
12		1.970	30.909	20.890	-15.091	46.000	10.019	AV
13		13.562	56.032	44.933	NaN	NaN	11.099	PK

Note 1: " * ", means this data is the worst emission level.

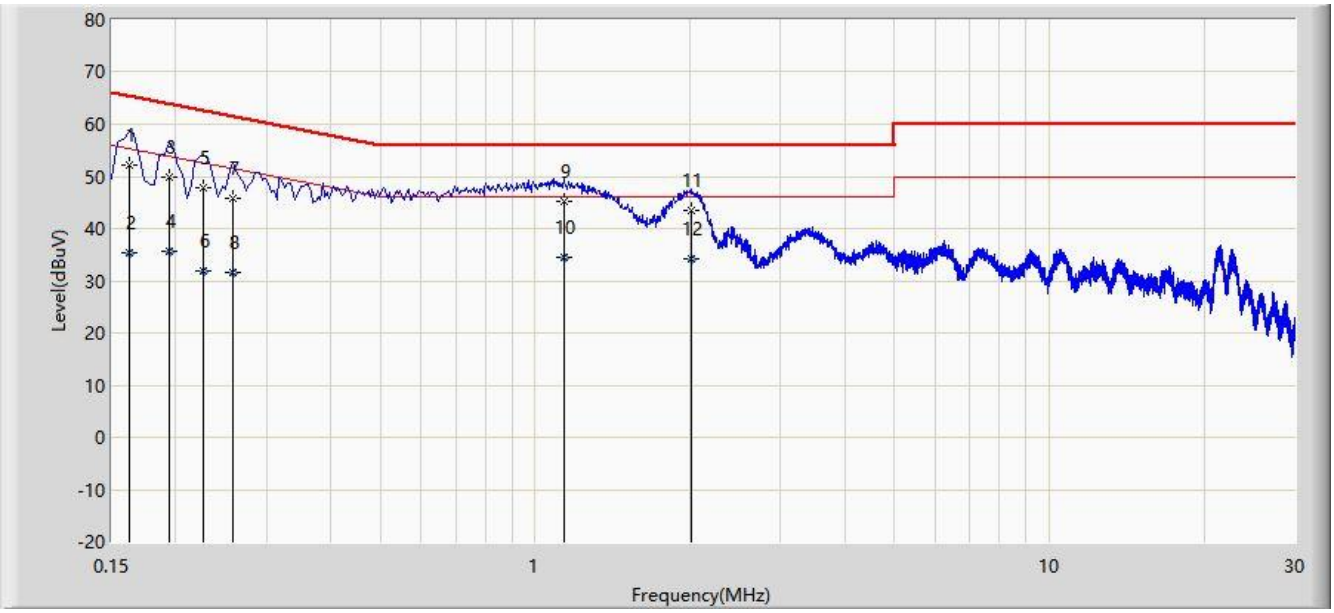
Note 2: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Note 4: It is authenticated that the point (13) is NFC fundamental signal, Data under below indicates that when

the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

Site: WZ-SR2	Test Date: 2022-10-09
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off_E	Polarity: Line
EUT: Barcode Reader	Power: AC 120V/60Hz
Note: NFC Antenna port terminated	



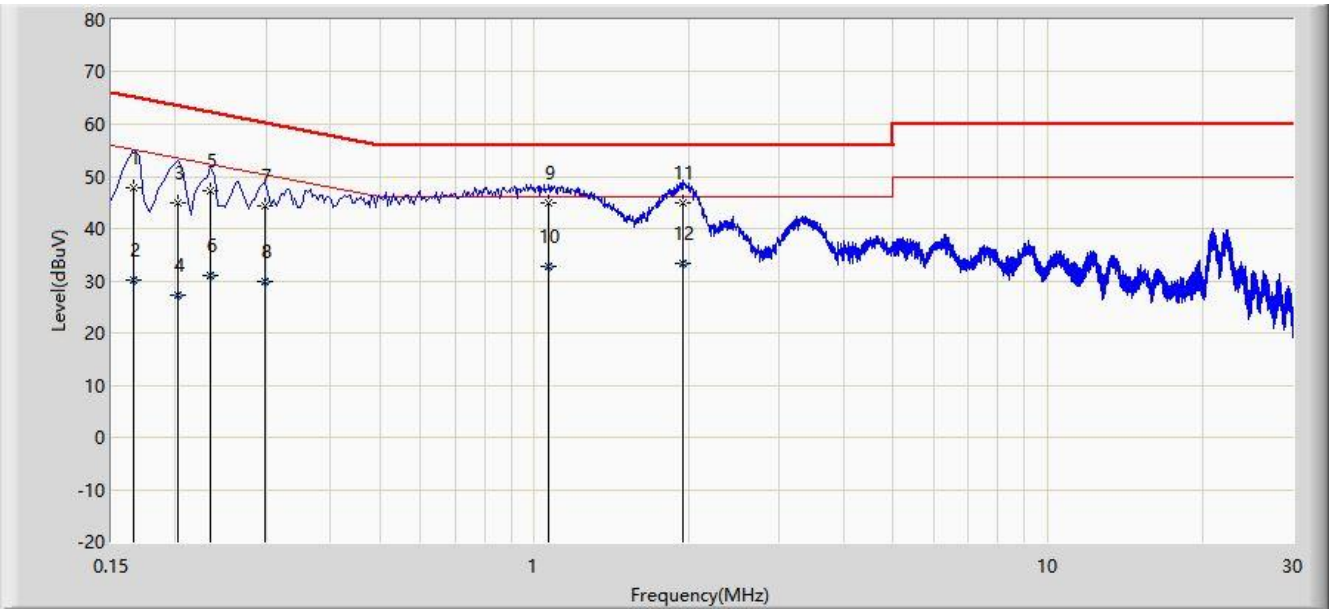
No	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1		0.162	52.220	42.340	-13.140	65.361	9.880	QP
2		0.162	35.372	25.492	-19.988	55.361	9.880	AV
3		0.194	49.756	39.875	-14.108	63.864	9.881	QP
4		0.194	35.627	25.746	-18.237	53.864	9.881	AV
5		0.226	47.887	38.001	-14.709	62.595	9.885	QP
6		0.226	31.747	21.861	-20.849	52.595	9.885	AV
7		0.258	45.879	35.985	-15.617	61.496	9.894	QP
8		0.258	31.643	21.750	-19.852	51.496	9.894	AV
9	*	1.138	45.133	35.150	-10.867	56.000	9.983	QP
10		1.138	34.485	24.503	-11.515	46.000	9.983	AV
11		2.006	43.552	33.549	-12.448	56.000	10.003	QP
12		2.006	34.229	24.227	-11.771	46.000	10.003	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: WZ-SR2	Test Date: 2022-10-09
Limit: FCC_Part15.207_CE_AC Power	Engineer: Helen Han
Probe: ENV216_101683_Filter Off_E	Polarity: Neutral
EUT: Barcode Reader	Power: AC 120V/60Hz
Note: NFC Antenna port terminated	



No	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1		0.166	47.743	37.839	-17.416	65.158	9.903	QP
2		0.166	30.069	20.165	-25.089	55.158	9.903	AV
3		0.202	44.833	34.923	-18.695	63.528	9.910	QP
4		0.202	27.355	17.445	-26.173	53.528	9.910	AV
5		0.234	47.329	37.414	-14.977	62.307	9.916	QP
6		0.234	30.921	21.006	-21.385	52.307	9.916	AV
7		0.298	44.296	34.369	-16.003	60.298	9.926	QP
8		0.298	29.942	20.016	-20.356	50.298	9.926	AV
9		1.066	44.842	34.841	-11.158	56.000	10.001	QP
10		1.066	32.807	22.805	-13.193	46.000	10.001	AV
11	*	1.950	44.900	34.881	-11.100	56.000	10.019	QP
12		1.950	33.289	23.270	-12.711	46.000	10.019	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Appendix B - Test Setup Photograph

Refer to “2209RSU001-UT” file.

Appendix C - EUT Photograph

Refer to “2209RSU001-UE” file.

The End