

Test Report

Verified code: 782734

Report No.: E20230717807601-2

Customer: Faurecia Clarion Electronics (Xiamen) Co., Ltd.

Address: 6F, No.40, Guanri Road, Software Park Stage II, Xiamen City, Fujian Province, P.R. China

Sample Name: RN WCBS

Sample Model: Z0003NI

Receive Sample Date: Jul.25,2023

Test Date: Aug.02,2023 ~ Aug.28,2023

Reference Document: CFR 47, FCC Part 15 Subpart C

Test Result: Pass

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Wen Wenwen

Reviewed by: Jiang Tao
Jiang Tao

Approved by: Xiao Liang
Xiao Liang

GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2023-10-26

GRG METROLOGY & TEST GROUP CO., LTD.

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20230717807601-2	Original Issue	2023-10-25

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1. TEST RESULT SUMMARY

Technical Requirements		
CFR 47, FCC Part 15 Subpart C, ANSI C63.10:2013		
Item	FCC Standard Chapter	Result
Antenna requirements	§15.203	Complied
Radiated Spurious Emissions	§15.209 & §15.205	Complied
20dB Bandwidth	§15.215	Complied
AC Conducted Emission	§15.207	N/A

Note: The EUT wireless charger antenna is coil antenna, which accordance 15.203 is considered sufficient to comply with the provisions of this section. The EUT is power by battery, the AC conduction emission is not applicant.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name: Faurecia Clarion Electronics (Xiamen) Co., Ltd.
Address: 6F, No.40, Guanri Road, Software Park Stage II, Xiamen City, Fujian Province, P.R. China

2.2 MANUFACTURER

Name: Faurecia Clarion Electronics (Xiamen) Co., Ltd.
Address: 6F, No.40, Guanri Road, Software Park Stage II, Xiamen City, Fujian Province, P.R. China

2.3 FACTORY

Name 1: Faurecia Clarion Electronics (Fengcheng) Co. Ltd.
Address 1: No.12 High-Tech Road, Fengcheng High Technology Industry Park, Yi chun City, Jiangxi Province, P.R. China.
Name 2: ELECTRÓ NICA CLARION, S.A. DE C.V.
Address 2: Av. Nueve Oriente No. 3, Col. Zona Industrial Valle de Oro. 76803 – San Juan del Río (Mexico)

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name: RN WCBS
Product Model: Z0003NI
Adding Model: /
Model Difference: /
Trade Name:  , 
Power Supply: DC 9V-16V by battery, typical voltage DC 12V, Rating current ≤2.54A
Frequency Band: 120kHz for wireless charger
Maximum field strength: 58.43dB μ V/m@3m
FCC ID: WY2Z0003NI
Antenna Type: Coil Antenna for wireless charger
Modulation type: FSK for wireless charger
Sample submitting way: Provided by customer Sampling
Sample No: E20230717807601-0001

Temperature Range: -30°C ~ +60°C

Hardware version: 285J95096R

Software version: 283H57049R

Note: The basic description of the EUT is provided by the applicant. This report is made Solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

2.5 TEST MODE

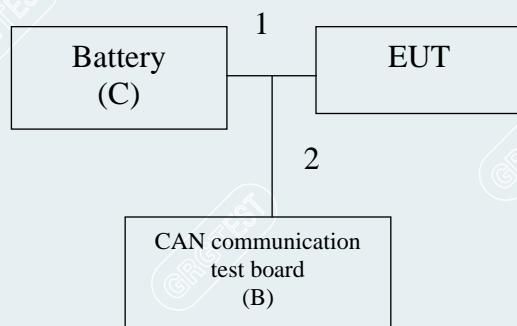
Mode No.	Description of the modes
Mode 1	EUT Standby Mode+ CAN communication test board
Mode 2	EUT charging mode + RX load(5W)+ CAN communication test board
Mode 3	EUT charging mode + RX load(10W)+ CAN communication test board
Mode 4	EUT charging mode + RX load(15W)+ CAN communication test board

Note:

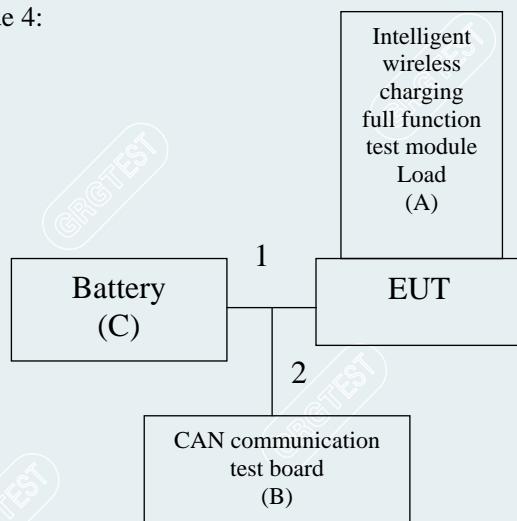
- 1.EUT does not support 7.5W function in the QI protocol of wireless charging systems.
- 2.Wireless charging between EUT and Load is achieved through coil induction coupling without any other communication.

2.6 BLOCK DIAGRAM

Mode 1:



Mode 2 to mode 4:



2.7 LOCAL SUPPORTIVE INSTRUMENTS

No.	Name of Equipment	Manufacturer	Model	Serial Number
A	Intelligent wireless charging full function test module Load	/	/	/
B	CAN communication test board	/	HBHQ-TEST-01	700009064
C	Battery	/	L2-400	D8J16H288-0610

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Note
1	DC Cable	1	No	0	Unshielded 1.0m
2	DC Cable	1	No	0	Unshielded 1.0m

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3. LABORATORY AND MEASUREMENT UNCERTAINTY

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add : No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District
 Shenzhen, 518110, People's Republic of China

P.C. : 518110

Tel : 0755-61180008

Fax : 0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA A2LA(Certificate#:2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada ISED (Company Number: 24897, CAB identifier:CN0069)

USA FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site,
<http://www.grgtest.com>

3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Uncertainty
RF frequency	6.00×10^{-6}
Humidity	6.00%
Temperature	2.00°C

Measurement	Frequency	Uncertainty
Radiated Emission	Coaxial	9kHz~30MHz
	Coplanar	9kHz~30MHz
	Horizontal	30MHz~200MHz
	Horizontal	200MHz~1000MHz
	Vertical	30MHz~200MHz
	Vertical	200MHz~1000MHz

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95%.

This uncertainty represents an expanded uncertainty factor of $k=2$.

4. LIST OF USED TEST EQUIPMENT AT GRGT

4.1 LIST OF USED TEST EQUIPMENT

Name of equipment	Manufacturer	Model	Serial number	Calibration due
Radiated Spurious Emissions & 20dB Bandwidth				
Receiver	R&S	ESR26	101758	2023-10-27
Spectrum Analyzer	R&S	FSV30	104381-rH	2023-11-17
Loop Antenna	schwarzbeck	FMZB 1513-60	1513-60-56	2024-07-15
Bi-log Antenna	schwarzbeck	VULB 9160	VULB9160-3402	2023-10-23
Preamplifiers	SHIRONG ELECTRONIC	DLNA-30M1G-G40	20200928001	2023-08-19
Test Software	Tonscend	JS32-RE/2.5.1.5		

Note: The calibration interval of the test instruments is 12 months. The Preamplifiers frequency range in this report is 30MHz to 1GHz only.

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5. RADIATED SPURIOUS EMISSIONS

5.1 LIMITS

Frequency (MHz)	Quasi-peak(μ V/m)	Measurement distance(m)	Quasi-peak(dB μ V/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(kHz)	30	73.8~63
1.705-30.0	30	30	69.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

NOTE: (1) The lower limit shall apply at the transition frequencies.

5.2 TEST PROCEDURES

1) Sequence of testing 9kHz to 30MHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 ° to 360 °.
- The antenna height is 1 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- Identified emissions during the pre measurement the software maximizes by rotating the turntable position (0 ° to 360 °) and by rotating the elevation axes (0 ° to 360 °).
- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

2) Sequence of testing 30MHz to 1GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 ° to 360 °.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 to 4 meter.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 ° to 360 ° and antenna movement between 1 and 4 meter.
- The final measurement will be done with QP detector with an EMI receiver.
- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

MEASURING INSTRUMENTS SETTING

9kHz to 150kHz

Receiver parameters	Setting
RBW	200Hz
VBW	200Hz
Start frequency	9kHz
Stop frequency	150kHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

150kHz to 30MHz

Receiver parameters	Setting
RBW	9kHz
VBW	10kHz
Start frequency	150kHz
Stop frequency	30MHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

30MHz to 1GHz

Receiver parameters	Setting
RBW	100kHz
VBW	300kHz
Start frequency	30MHz
Stop frequency	1GHz
Sweep time	Auto
Detector	QP
Trace mode	Max Hold

5.3 TEST SETUP

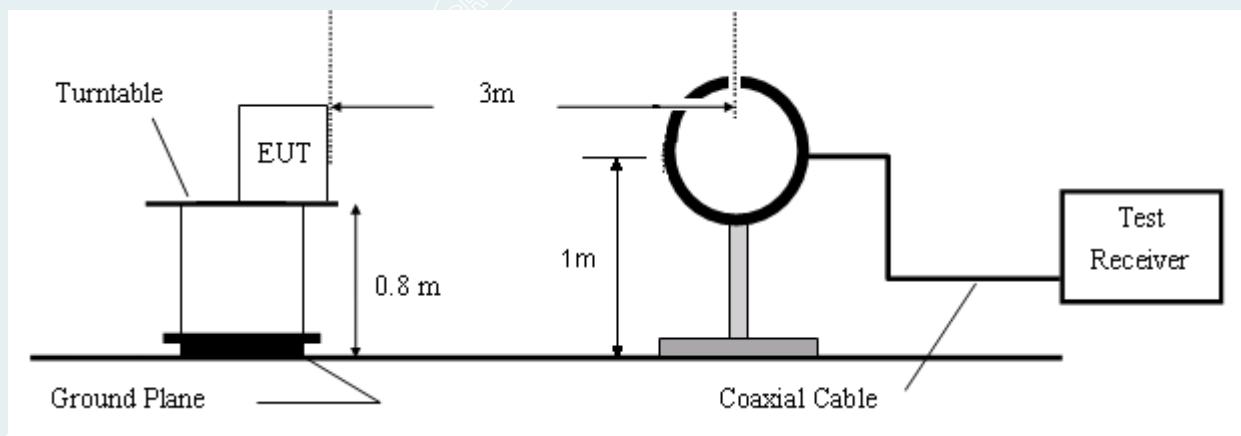


Figure 1. 9kHz to 30MHz radiated emissions test configuration

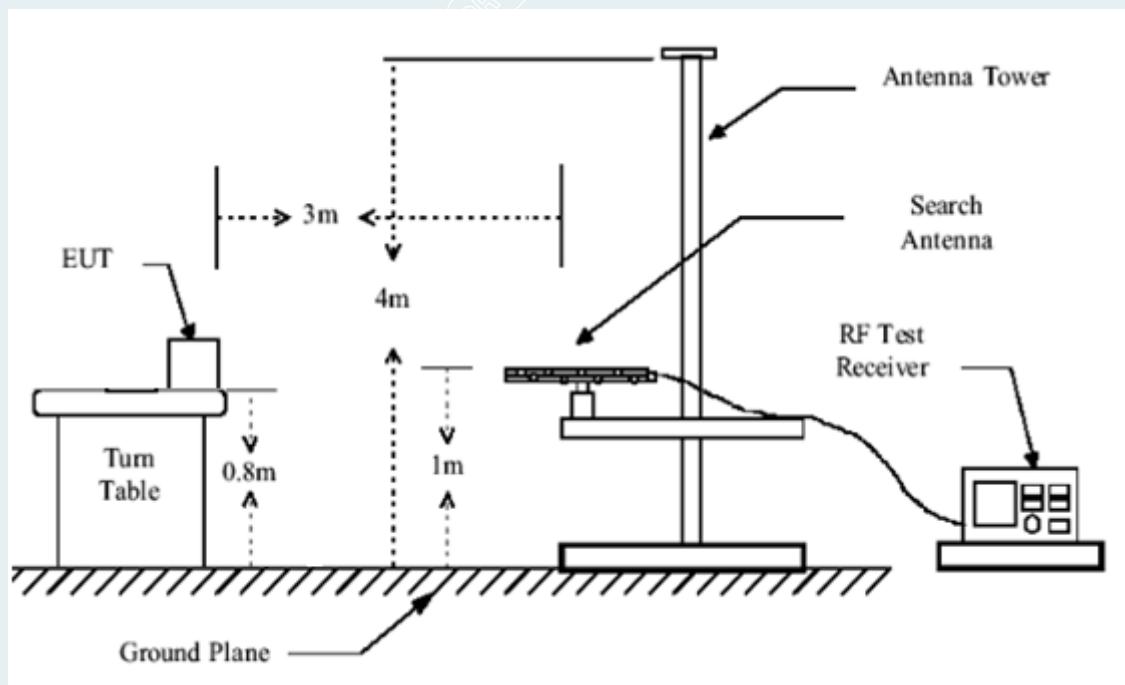


Figure 2. 30MHz to 1GHz radiated emissions test configuration

5.4 DATA SAMPLE

0.009MHz to 30MHz

NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	XXX	28.60	50.34	21.74	112.63	62.29	PK	100	93	Coplanar	PASS
2	XXX	29.88	51.89	22.01	107.25	55.36	PK	100	93	Coplanar	PASS

Frequency (MHz) = Emission frequency in MHz

Ant.Pol. (Coplanar/ Coaxial) = Antenna polarization

Reading (dB μ V/m) = Uncorrected Analyzer / Receiver reading

Factor (dB) = Antenna factor + Cable loss – Amplifier gain

Level (dB μ V/m) = Reading (dB μ V/m) + Factor (dB)

Limit (dB_uV/m) = Limit stated in standard
 Margin (dB) = Limit (dB_uV/m) – Level (dB_uV/m)
 PK = Peak Reading

30MHz to 1GHz

Suspected Data List										
NO.	Freq. [MHz]	Reading [dB _u V/m]	Level [dB _u V/m]	Factor [dB]	Limit [dB _u V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	62.87	34.23	-28.64	40.00	5.77	PK	200	351	Horizontal

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dB _u V/m]	Level [dB _u V/m]	QP Limit [dB _u V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	-28.64	54.02	25.38	40.00	14.62	100	196	Horizontal

Frequency (MHz) = Emission frequency in MHz
 Reading (dB_uV/m) = Uncorrected Analyzer / Receiver reading
 Level (dB_uV/m) = Reading (dB_uV/m) + Factor (dB)
 Limit (dB_uV/m) = Limit stated in standard
 Margin (dB) = Limit(dB_uV/m)- Level(dB_uV/m)
 QP = Quasi-peak Reading

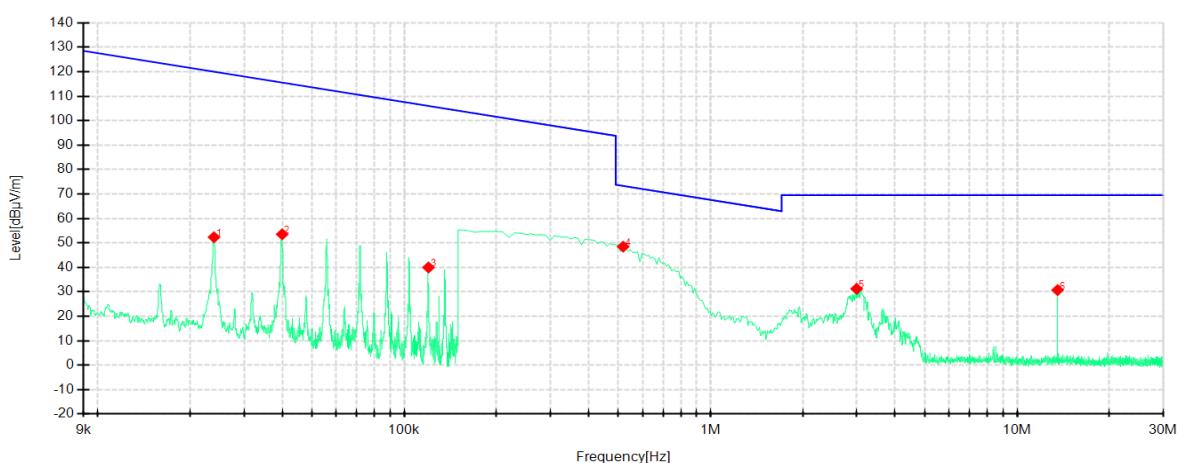
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5.5 TEST RESULTS

9kHz-30MHz

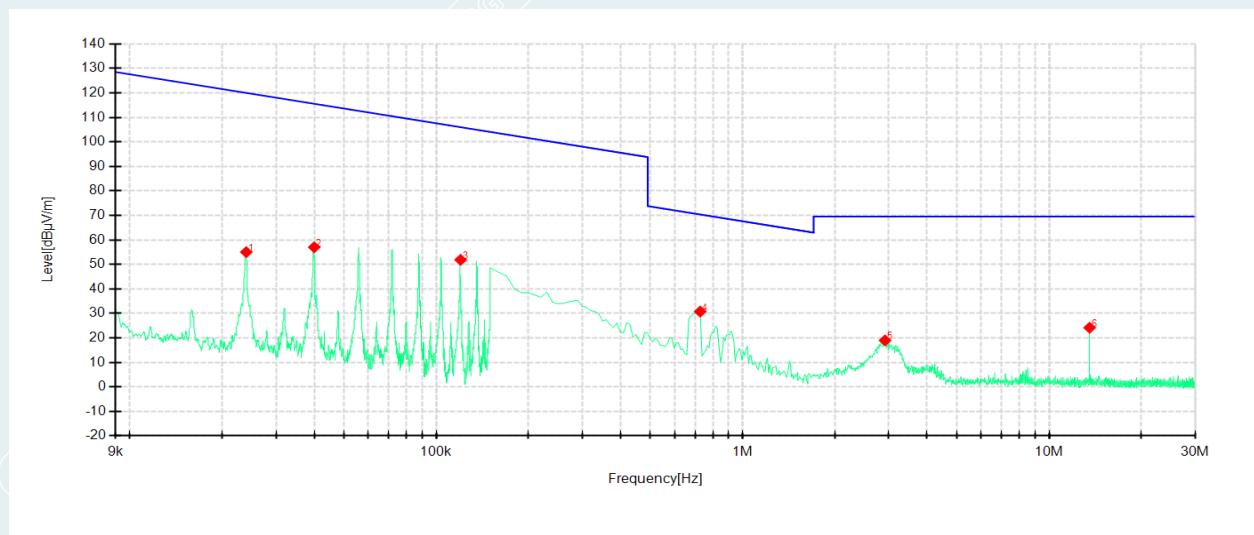
Note: If the margin of the pre-test results is greater than 6dB, it meets the requirements of quasi peak or average values, and final testing is no longer required.

Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 1	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-09	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0239	84.12	52.33	-31.79	120.02	67.64	PK	100	197	Coplanar	PASS
2	0.0400	85.53	53.53	-32.00	115.57	62.04	PK	100	74	Coplanar	PASS
3	0.1200	71.58	39.96	-31.62	106.02	66.00	PK	100	74	Coplanar	PASS
4	0.5182	79.61	48.47	-31.14	73.31	24.84	PK	100	49	Coplanar	PASS
5	2.9957	62.33	31.22	-31.11	69.54	38.32	PK	100	15	Coplanar	PASS
6	13.5626	61.06	30.71	-30.35	69.54	38.83	PK	100	104	Coplanar	PASS

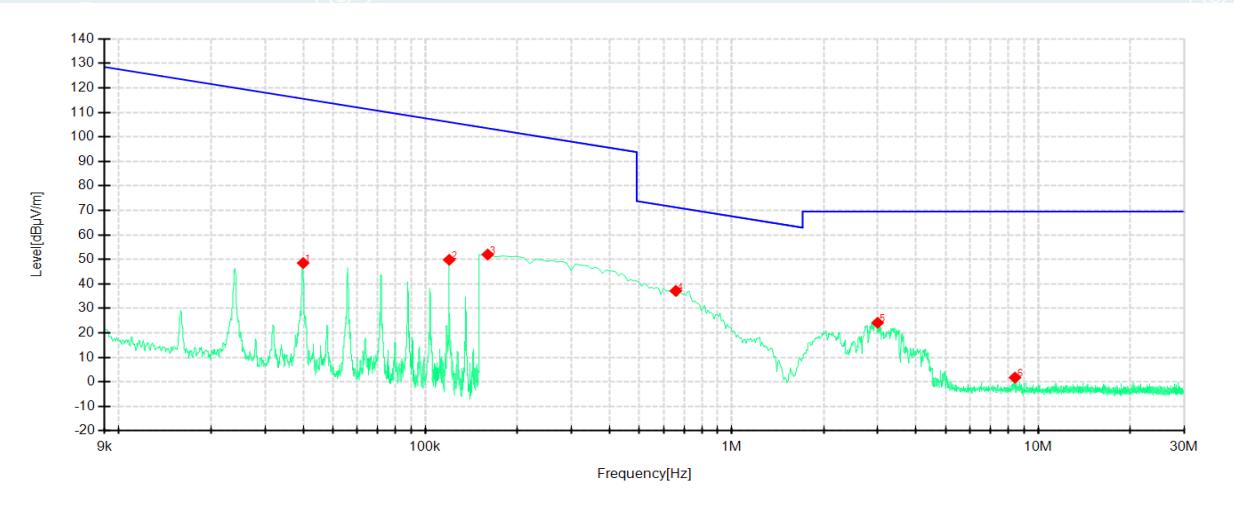


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0240	86.81	55.02	-31.79	120.00	64.98	PK	100	277	Coaxial	PASS
2	0.0400	89.02	57.02	-32.00	115.57	58.55	PK	100	35	Coaxial	PASS
3	0.1201	83.48	51.86	-31.62	106.02	54.16	PK	100	0	Coaxial	PASS
4	0.7271	61.91	30.74	-31.17	70.37	39.63	PK	100	279	Coaxial	PASS
5	2.9161	50.10	18.97	-31.13	69.54	50.57	PK	100	222	Coaxial	PASS
6	13.5626	54.49	24.14	-30.35	69.54	45.40	PK	100	15	Coaxial	PASS

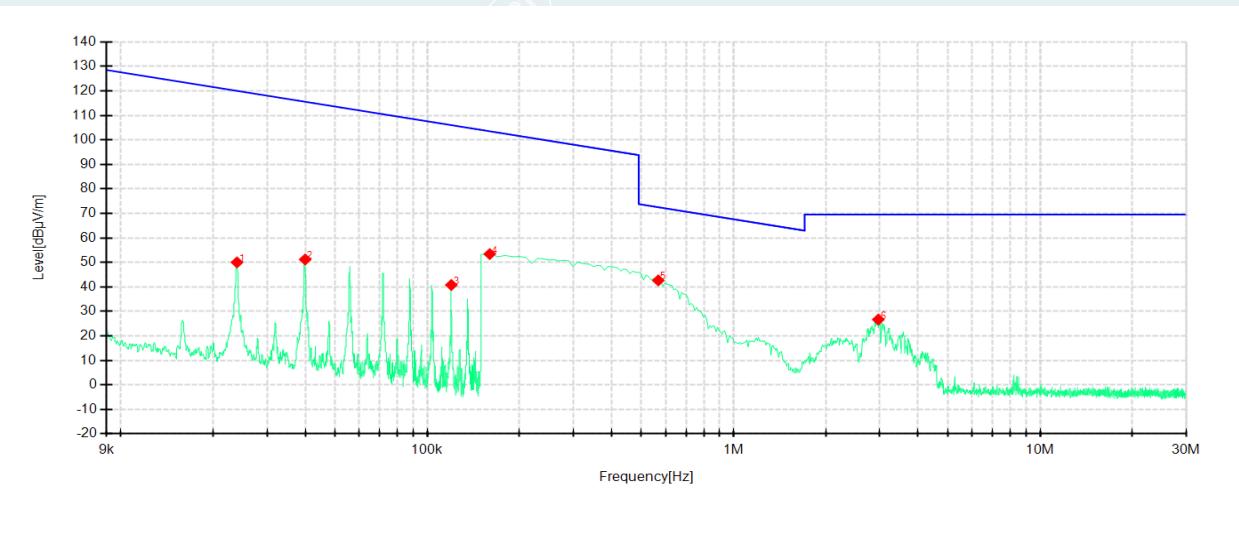
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Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 2	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-09	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0400	80.51	48.51	-32.00	115.57	67.06	PK	100	331	Coplanar	PASS
2	0.1198	81.45	49.83	-31.62	106.03	56.17	PK	100	289	Coplanar	PASS
3	0.1600	83.42	51.98	-31.44	103.52	51.54	PK	100	76	Coplanar	PASS
4	0.6575	68.31	37.15	-31.16	71.25	34.10	PK	100	94	Coplanar	PASS
5	2.9957	55.25	24.14	-31.11	69.54	45.40	PK	100	58	Coplanar	PASS
6	8.4085	32.36	1.75	-30.61	69.54	67.79	PK	100	29	Coplanar	PASS

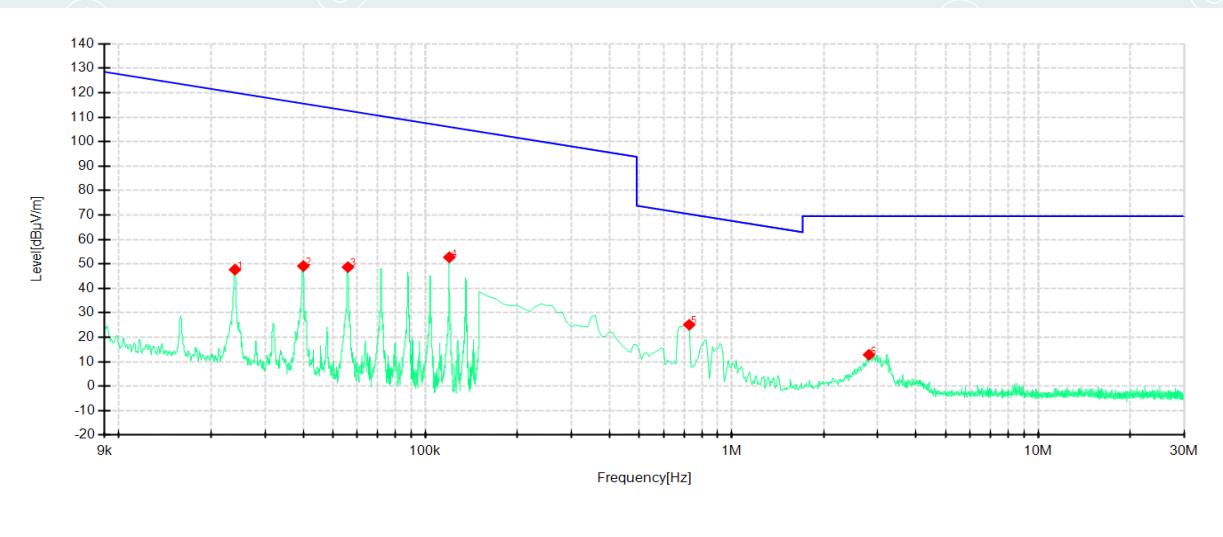


Suspected Data List

NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0239	81.80	50.01	-31.79	120.02	69.98	PK	100	290	Coaxial	PASS
2	0.0400	83.20	51.20	-32.00	115.57	64.37	PK	100	103	Coaxial	PASS
3	0.1199	72.40	40.78	-31.62	106.03	65.25	PK	100	197	Coaxial	PASS
4	0.1600	84.84	53.40	-31.44	103.52	50.12	PK	100	170	Coaxial	PASS
5	0.5679	73.79	42.65	-31.14	72.52	29.87	PK	100	157	Coaxial	PASS
6	2.9659	57.77	26.66	-31.11	69.54	42.88	PK	100	144	Coaxial	PASS

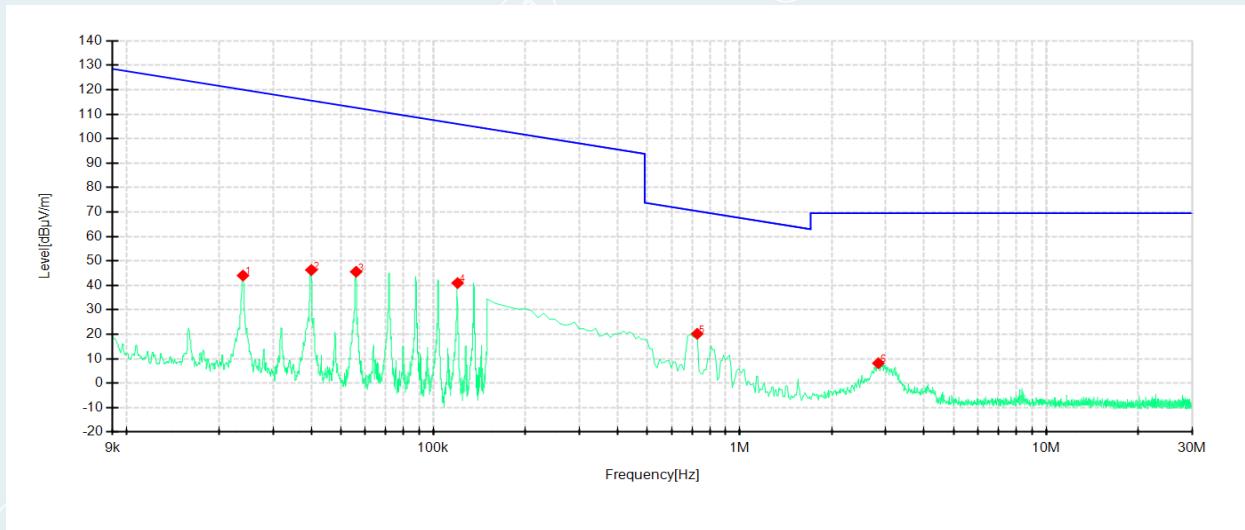
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Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 3	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-09	/	/



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0239	79.45	47.66	-31.79	120.02	72.22	PK	100	331	Coplanar	PASS
2	0.0400	81.12	49.12	-32.00	115.56	66.21	PK	100	99	Coplanar	PASS
3	0.0560	80.63	48.69	-31.94	112.65	63.96	PK	100	73	Coplanar	PASS
4	0.1199	84.34	52.72	-31.62	106.03	53.31	PK	100	46	Coplanar	PASS
5	0.7271	56.28	25.11	-31.17	70.37	45.26	PK	100	293	Coplanar	PASS
6	2.8067	43.96	12.83	-31.13	69.54	56.71	PK	100	360	Coplanar	PASS

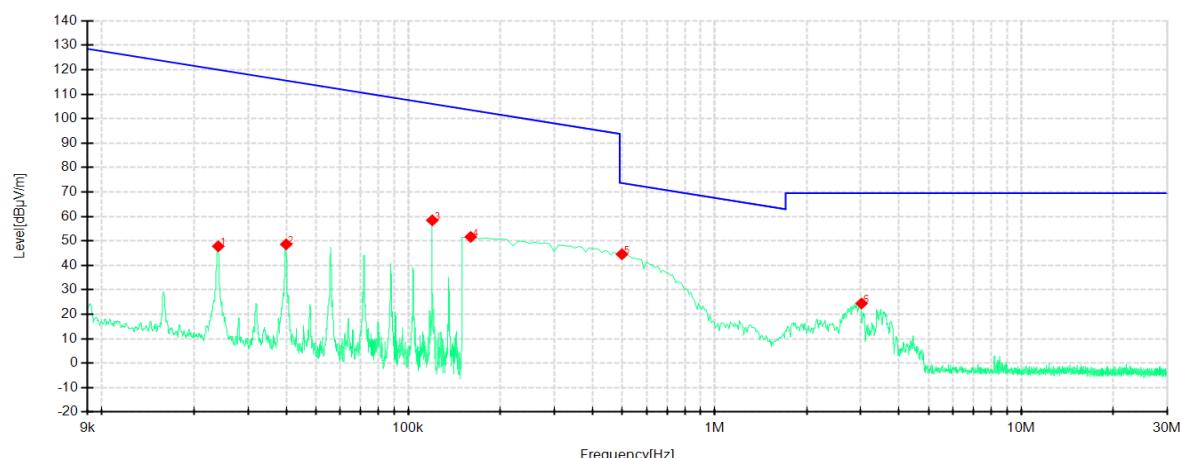


Suspected Data List

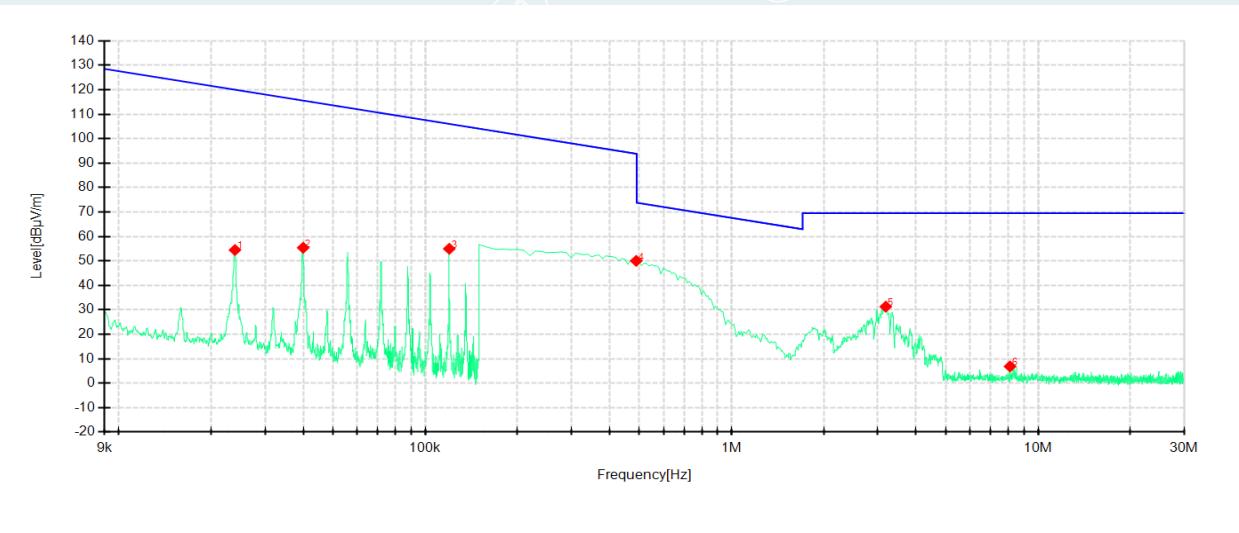
NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0239	75.80	44.01	-31.79	120.02	75.85	PK	100	250	Coaxial	PASS
2	0.0400	78.28	46.28	-32.00	115.56	69.26	PK	100	6	Coaxial	PASS
3	0.0560	77.51	45.57	-31.94	112.63	66.74	PK	100	6	Coaxial	PASS
4	0.1201	72.55	40.93	-31.62	106.01	64.68	PK	100	6	Coaxial	PASS
5	0.7271	51.35	20.18	-31.17	70.37	50.19	PK	100	299	Coaxial	PASS
6	2.8365	39.28	8.15	-31.13	69.54	61.39	PK	100	47	Coaxial	PASS

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Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 4	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-09	/	/



Suspected Data List												
NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict	
1	0.0240	79.58	47.79	-31.79	120.00	72.21	PK	100	196	Coplanar	PASS	
2	0.0400	80.61	48.61	-32.00	115.57	66.96	PK	100	87	Coplanar	PASS	
3	0.1198	90.05	58.43	-31.62	106.03	47.48	PK	100	277	Coplanar	PASS	
4	0.1600	83.07	51.63	-31.44	103.52	51.89	PK	100	50	Coplanar	PASS	
5	0.4983	75.69	44.56	-31.13	73.65	29.09	PK	100	30	Coplanar	PASS	
6	3.0156	55.52	24.41	-31.11	69.54	45.13	PK	100	16	Coplanar	PASS	



Suspected Data List

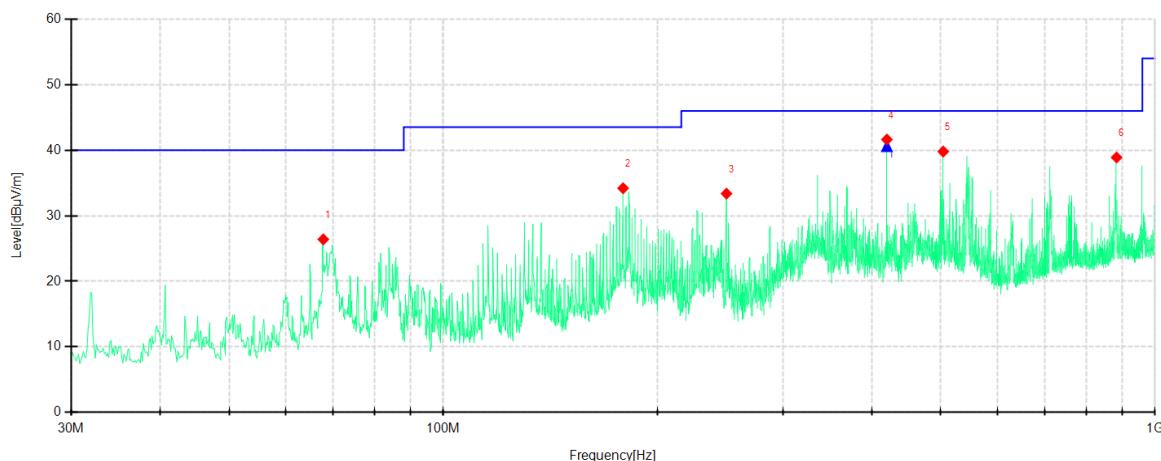
NO .	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	0.0239	86.25	54.46	-31.79	120.02	95.48	PK	100	276	Coaxial	PASS
2	0.0400	87.39	55.39	-32.00	115.57	90.18	PK	100	222	Coaxial	PASS
3	0.1198	86.59	54.97	-31.62	106.03	81.02	PK	100	194	Coaxial	PASS
4	0.4883	81.14	50.02	-31.12	93.83	43.81	PK	100	205	Coaxial	PASS
5	3.1848	62.41	31.31	-31.10	69.54	68.23	PK	100	177	Coaxial	PASS
6	8.1001	37.46	6.84	-30.62	69.54	92.70	PK	100	106	Coaxial	PASS

----- The following blanks -----

30MHz-1GHz

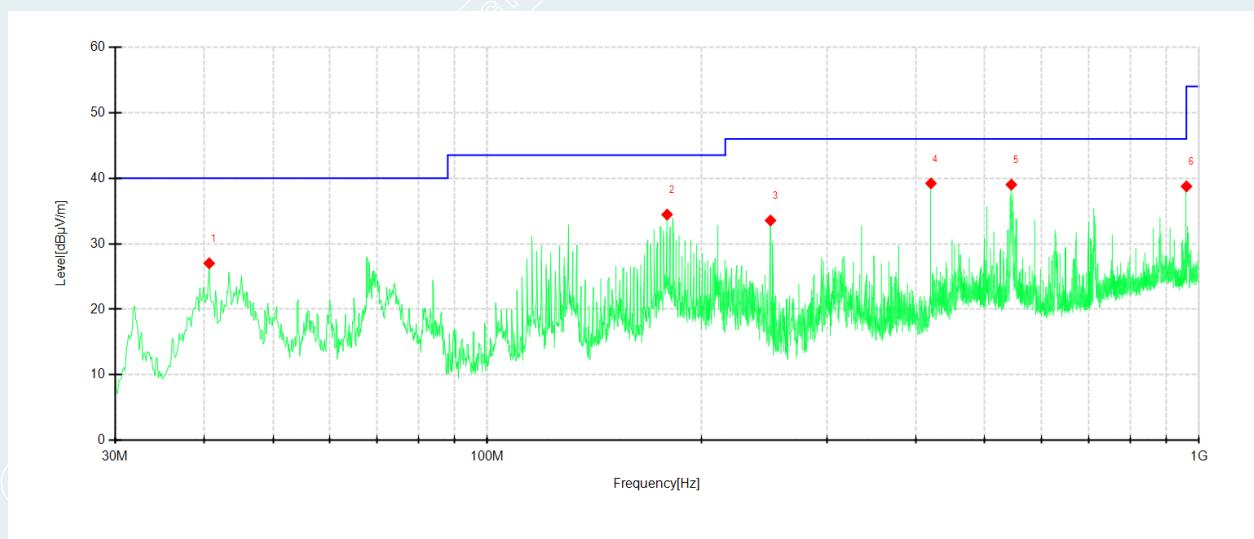
Note: If the margin of the pre test results is greater than 6db, it meets the requirements of quasi peak or average values, and final testing is no longer required.

Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 1	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-02	/	/



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	67.8347	56.91	26.40	-30.51	40.00	13.60	PK	200	255	Horizontal	PASS
2	178.9136	63.67	34.20	-29.47	43.50	9.30	PK	200	205	Horizontal	PASS
3	249.9750	62.70	33.38	-29.32	46.00	12.62	PK	200	343	Horizontal	PASS
4	419.9887	65.19	41.62	-23.57	46.00	4.38	PK	100	254	Horizontal	PASS
5	504.0255	61.15	39.80	-21.35	46.00	6.20	PK	100	16	Horizontal	PASS
6	883.1004	54.29	38.89	-15.40	46.00	7.11	PK	100	343	Horizontal	PASS

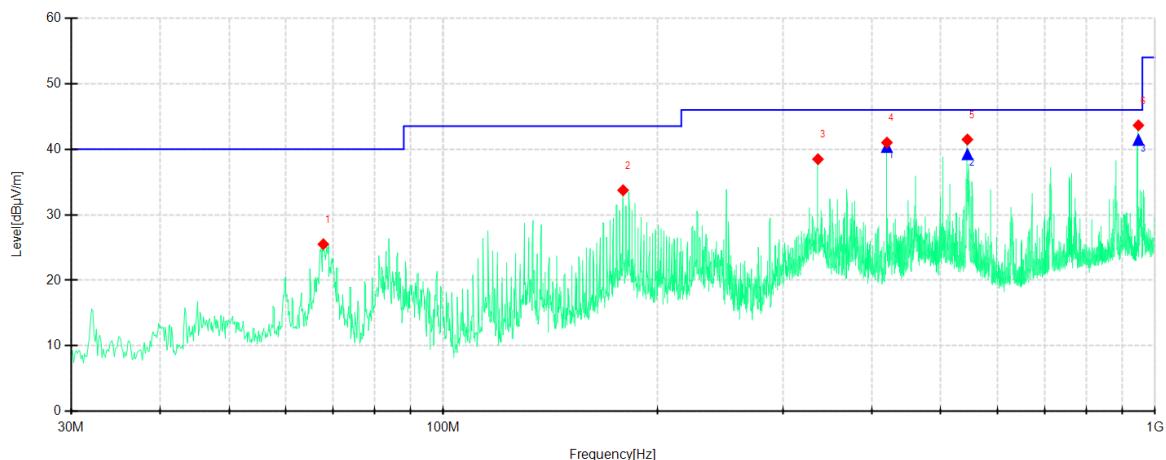
Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	420.0191	-23.57	64.17	40.60	46.00	5.40	100	248.7	Horizontal	PASS



Suspected Data List											
NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	40.6713	55.67	27.02	-28.65	40.00	12.98	PK	100	187	Vertical	PASS
2	178.9136	63.92	34.45	-29.47	43.50	9.05	PK	100	106	Vertical	PASS
3	249.9750	62.87	33.55	-29.32	46.00	12.45	PK	100	87	Vertical	PASS
4	420.1100	62.78	39.21	-23.57	46.00	6.79	PK	200	143	Vertical	PASS
5	544.8919	59.53	39.01	-20.52	46.00	6.99	PK	200	273	Vertical	PASS
6	960.2250	53.75	38.75	-15.00	54.00	15.25	PK	200	233	Vertical	PASS

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Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 2	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-02	/	/

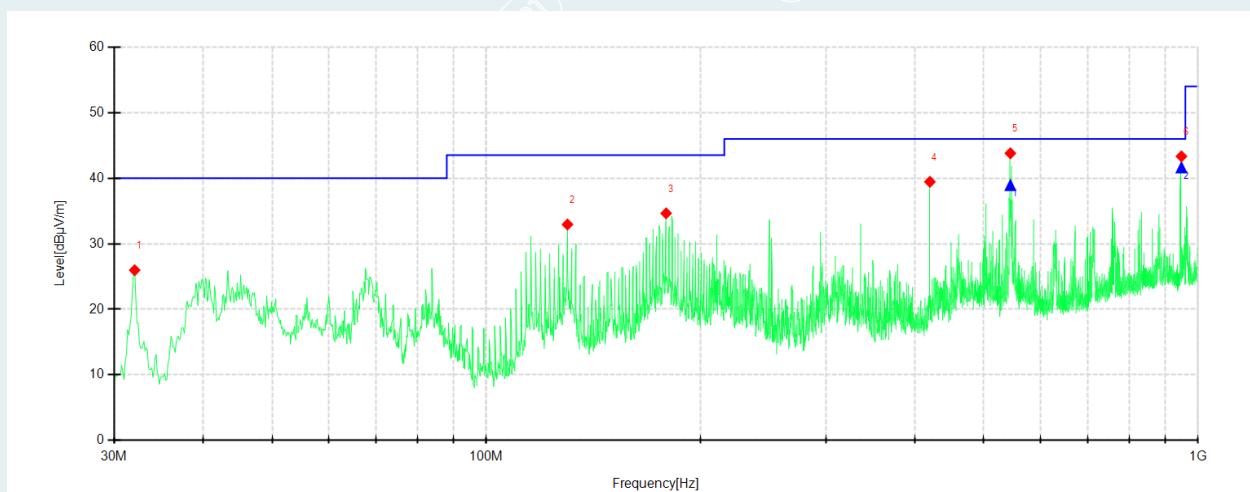


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	67.8347	56.02	25.51	-30.51	40.00	14.49	PK	100	224	Horizontal	PASS
2	178.9136	63.21	33.74	-29.47	43.50	9.76	PK	200	223	Horizontal	PASS
3	336.0733	64.83	38.48	-26.35	46.00	7.52	PK	100	345	Horizontal	PASS
4	420.1100	64.58	41.01	-23.57	46.00	4.99	PK	100	254	Horizontal	PASS
5	545.0131	62.00	41.48	-20.52	46.00	4.52	PK	200	244	Horizontal	PASS
6	947.7347	59.05	43.64	-15.41	46.00	2.36	PK	100	164	Horizontal	PASS

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	420.0128	-23.57	63.90	40.33	46.00	5.67	100	257.9	Horizontal	PASS
2	545.0289	-20.52	59.72	39.20	46.00	6.80	200	258.8	Horizontal	PASS
3	947.6110	-15.41	56.80	41.39	46.00	4.61	182	95	Horizontal	PASS



Suspected Data List

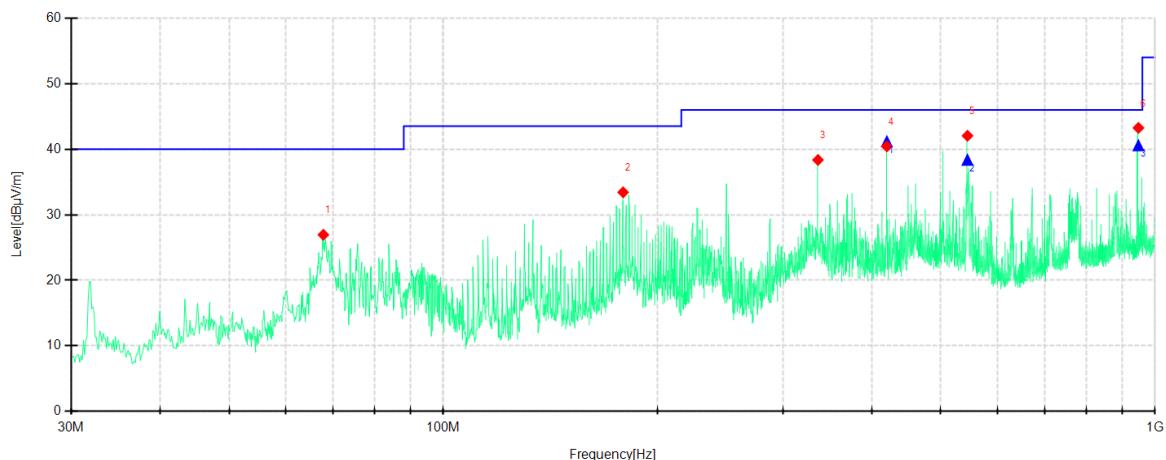
NO.	Freq. [MHz]	Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	32.0615	55.09	25.97	-29.12	40.00	14.03	PK	100	263	Vertical	PASS
2	130.0438	61.88	32.94	-28.94	43.50	10.56	PK	100	314	Vertical	PASS
3	178.9136	64.11	34.64	-29.47	43.50	8.86	PK	100	95	Vertical	PASS
4	419.9887	63.02	39.45	-23.57	46.00	6.55	PK	100	314	Vertical	PASS
5	544.8919	64.32	43.80	-20.52	46.00	2.20	PK	100	294	Vertical	PASS
6	947.7347	58.74	43.33	-15.41	46.00	2.67	PK	200	186	Vertical	PASS

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dB μ V/m]	Level [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	544.9313	-20.52	59.45	38.93	46.00	7.07	101	288.7	Vertical	PASS
2	947.6110	-15.41	57.03	41.62	46.00	4.38	166	12.2	Vertical	PASS

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Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 3	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-02	/	/

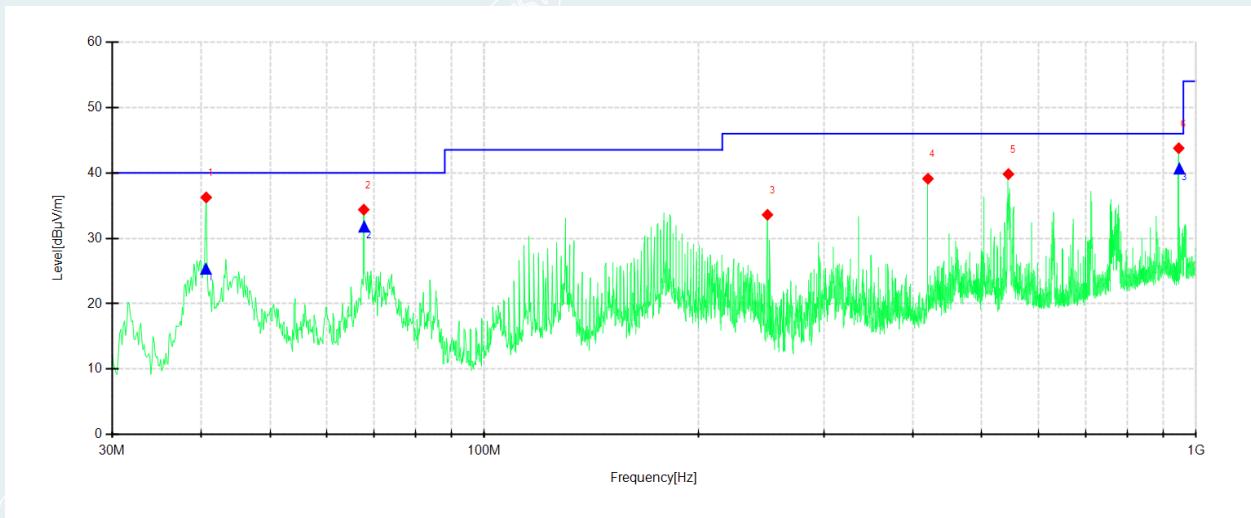


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	67.8347	57.46	26.95	-30.51	40.00	13.05	PK	100	24	Horizontal	PASS
2	178.9136	62.90	33.43	-29.47	43.50	10.07	PK	200	206	Horizontal	PASS
3	336.0733	64.71	38.36	-26.35	46.00	7.64	PK	100	15	Horizontal	PASS
4	419.9887	64.00	40.43	-23.57	46.00	5.57	PK	100	254	Horizontal	PASS
5	545.1344	62.57	42.05	-20.52	46.00	3.95	PK	200	254	Horizontal	PASS
6	947.7347	58.66	43.25	-15.41	46.00	2.75	PK	100	195	Horizontal	PASS

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	419.9887	-23.57	64.73	41.16	46.00	4.84	100	248.6	Horizontal	PASS
2	544.9766	-20.52	58.88	38.36	46.00	7.64	200	249.5	Horizontal	PASS
3	947.6110	-15.41	55.97	40.56	46.00	5.44	188	320.6	Horizontal	PASS

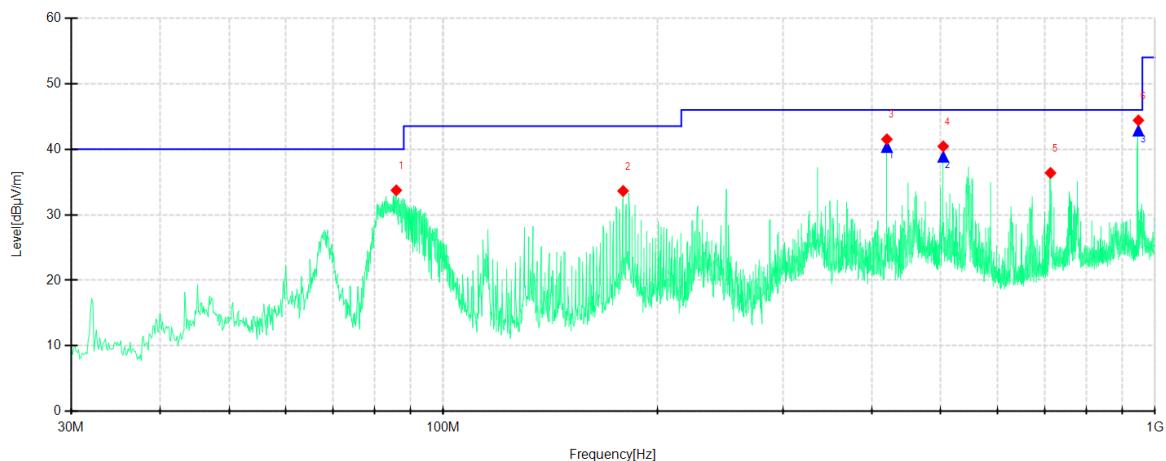


Suspected Data List											
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	40.6713	64.90	36.25	-28.65	40.00	3.75	PK	100	167	Vertical	PASS
2	67.7135	64.87	34.38	-30.49	40.00	5.62	PK	100	167	Vertical	PASS
3	249.9750	62.92	33.60	-29.32	46.00	12.40	PK	100	97	Vertical	PASS
4	420.1100	62.68	39.11	-23.57	46.00	6.89	PK	200	74	Vertical	PASS
5	545.0131	60.33	39.81	-20.52	46.00	6.19	PK	200	311	Vertical	PASS
6	945.6732	59.20	43.77	-15.43	46.00	2.23	PK	200	351	Vertical	PASS

Final Data List											
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict	
1	40.6319	-28.65	53.97	25.32	40.00	14.68	100	110.1	Vertical	PASS	
2	67.7987	-30.49	62.26	31.77	40.00	8.23	119	271.1	Vertical	PASS	
3	947.6298	-15.43	56.05	40.62	46.00	5.38	105	112.5	Vertical	PASS	

----- The following blanks -----

Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Mode:	Mode 4	Voltage:	DC 12V
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Engineer:	Zhang zishan
Tested Date:	2023-08-02	/	/

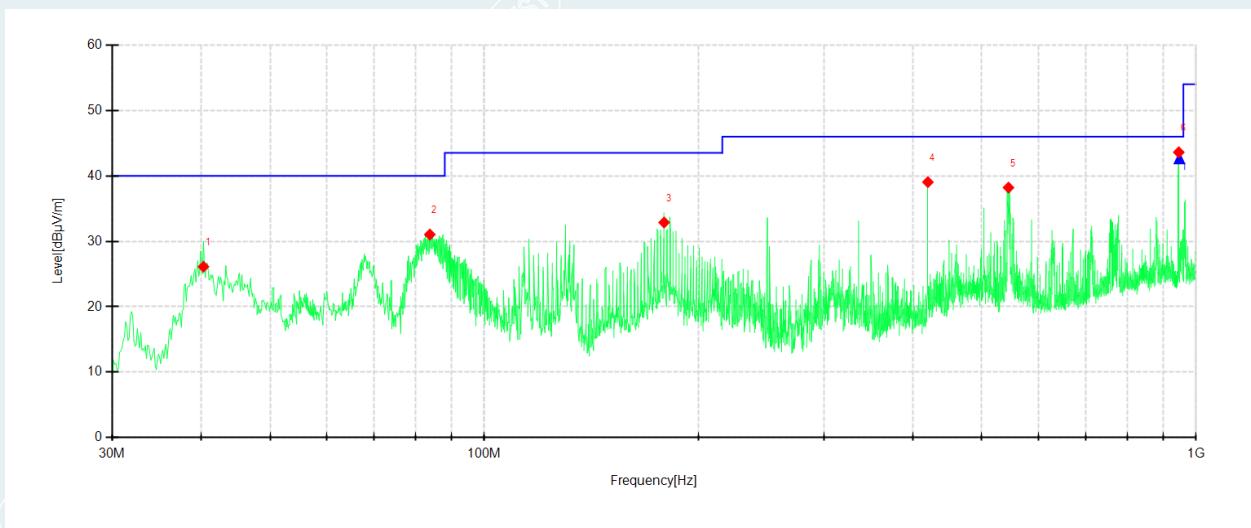


Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	85.9032	67.00	33.73	-33.27	40.00	6.27	PK	200	227	Horizontal	PASS
2	178.9136	63.10	33.63	-29.47	43.50	9.87	PK	200	217	Horizontal	PASS
3	419.9887	65.08	41.51	-23.57	46.00	4.49	PK	100	246	Horizontal	PASS
4	504.0255	61.78	40.43	-21.35	46.00	5.57	PK	100	136	Horizontal	PASS
5	713.0866	53.97	36.38	-17.59	46.00	9.62	PK	100	116	Horizontal	PASS
6	947.7347	59.81	44.40	-15.41	46.00	1.60	PK	100	265	Horizontal	PASS

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	420.0556	-23.57	63.90	40.33	46.00	5.67	100	250.2	Horizontal	PASS
2	504.0401	-21.35	60.18	38.83	46.00	7.17	108	135.6	Horizontal	PASS
3	947.5700	-15.41	58.23	42.82	46.00	3.18	198	196.1	Horizontal	PASS



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	40.3075	54.78	26.12	-28.66	40.00	10.02	PK	100	304	Vertical	PASS
2	83.8417	64.30	31.04	-33.26	40.00	8.51	PK	200	0	Vertical	PASS
3	178.9136	62.35	32.88	-29.47	43.50	9.13	PK	100	96	Vertical	PASS
4	419.9887	62.62	39.05	-23.57	46.00	6.54	PK	200	125	Vertical	PASS
5	545.1344	58.73	38.21	-20.52	46.00	7.79	PK	100	266	Vertical	PASS
6	945.6732	59.04	43.61	-15.43	46.00	1.60	PK	200	324	Vertical	PASS

Final Data List											
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict	
1	947.6168	-15.43	58.09	42.66	46.00	3.34	200	181.4	Vertical	PASS	

----- The following blanks -----

6. 20DB BANDWIDTH

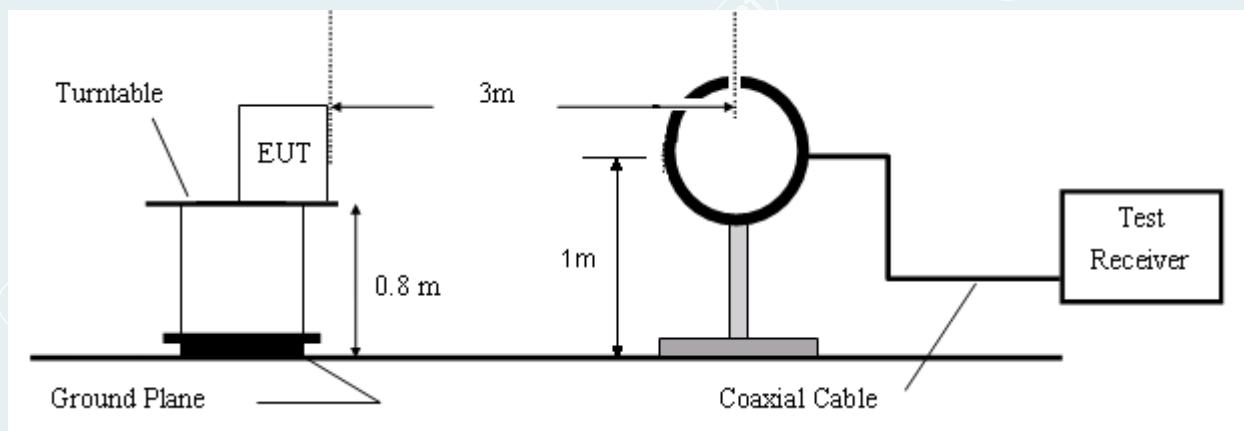
6.1 LIMITS

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

6.2 TEST PROCEDURES

- 1) The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- 2) If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- 3) If the EUT is a floor standing device, it is placed on the ground.
- 4) Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- 5) The measurement distance is 3 meter.
- 6) The EUT was set into operation.
- 7) Adjust the test instrument for the following setting.
RBW: 1Hz.
VBW: 3 times of the RBW.
Detector: Peak.
Sweep time: Auto.
- 8) Allow trace to fully stabilize.

6.3 TEST SETUP



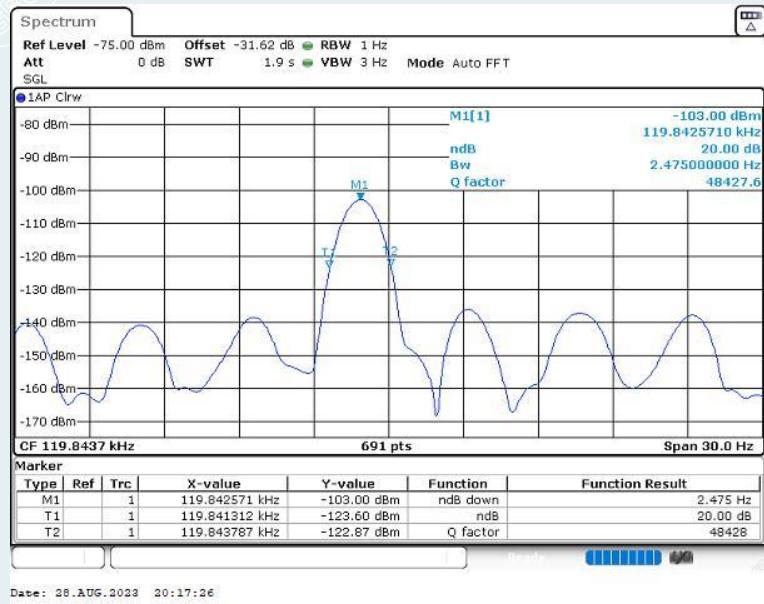
6.4 TEST RESULTS

Project Information			
Application No.:	E20230717807601	EUT:	RN WCBS
Model:	Z0003NI	SN:	E20230717807601-0001
Environment:	Temp: 27.5°C; Humi: 57%; 101.0kPa	Voltage:	DC 12V
Engineer:	Zhang zishan	Test date:	2023-08-28

Note: There are no fundamental frequency in mode 1.

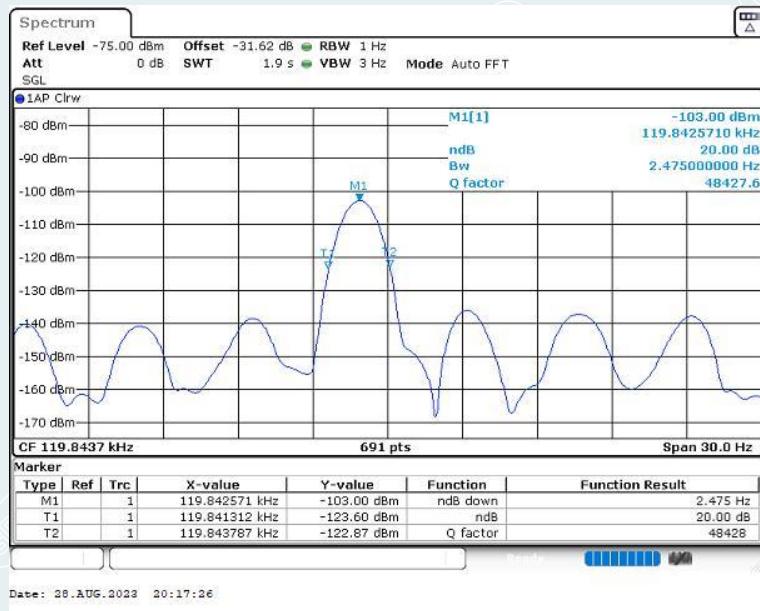
For mode 2:

Frequency (kHz)	20dB Bandwidth (Hz)	limit	Test Result
119.8437	2.475	N/A	Complied



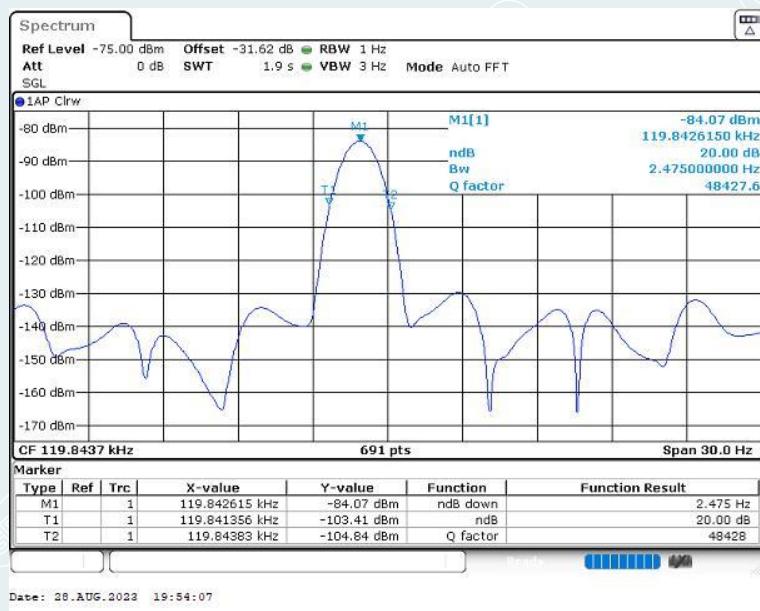
For mode 3:

Frequency (kHz)	20dB Bandwidth (Hz)	limit	Test Result
119.8437	2.475	N/A	Complied



For mode 4:

Frequency (kHz)	20dB Bandwidth (Hz)	limit	Test Result
119.8437	2.475	N/A	Complied



7. PHOTOGRAPHS OF TEST SET-UP

Please refer to the attached document E20230717807601-10-test setup photo.

8. PHOTOGRAPHS OF THE EUT

Please refer to the attached document E20230717807601-11-EUT photo.

----- End of Report -----