



FCC TEST REPORT

FCC ID: 2BODY-3N160K-A

On Behalf of

Shenzhen Firstar Battery Co., Limited

Power bank

Model No.: 3N160K-A, 3N160K-B, 3N160K-C,
3N160K-D, 3N160K-E, 3N160K-F, 3N160K-G,
3N160W-A, 3N160W-B, 3N160W-C, 3N160W-D,
3N160W-E, 3N160W-F, 3N160W-G

Prepared for : Shenzhen Firstar Battery Co., Limited
Address : No.A2 Building, Fuzhong Industrial Park, Fuzhong Rd, Fuyong Town, Bao'an District, Shenzhen, China

Prepared By : Shenzhen PSI Testing Co., Ltd.
Address : 1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Report Number : psi2503095-C01-R01
Date of Receipt : March 10, 2025
Date of Test : March 11, 2025-March 21, 2025
Date of Report : March 22, 2025
Version Number : V0

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TEST REPORT DECLARATION

Applicant : Shenzhen Firstar Battery Co., Limited

Address : No.A2 Building, Fuzhong Industrial Park, Fuzhong Rd, Fuyong Town, Bao an District,Shenzhen,China

Manufacturer : Shenzhen Firstar Battery Co., Limited

Address : No.A2 Building, Fuzhong Industrial Park, Fuzhong Rd, Fuyong Town, Bao an District,Shenzhen,China

EUT Description : Power bank

(A) Model No. : 3N160K-A,3N160K-B,3N160K-C,3N160K-D, 3N160K-E,3N160K-F,3N160K-G,3N160W-A, 3N160W-B,3N160W-C,3N160W-D,3N160W-E, 3N160W-F,3N160W-G

(B) Trademark : myCharge

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C

ANSI C63.10:2013

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC CFR Title 47 Part 15 Subpart C requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....: Felix Pang
 Test Engineer 

Approved by (name + signature).....: Simple Guan
 Project Manager 

Date of issue.....: January 5, 2025

Revision History

Revision	Issue Date	Revisions	Revised By
V0	March 22, 2025	Initial released Issue	Felix Pang

1. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Spurious Emission	§15.209	PASS
Occupied Bandwidth	§15.215 (c)	PASS

Note:

1. *PASS: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*
5. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

2. General Information

2.1. Description of Device (EUT)

EUT Name	:	Power bank
Model No.	:	3N160K-A, 3N160K-B, 3N160K-C, 3N160K-D, 3N160K-E, 3N160K-F, 3N160K-G, 3N160W-A, 3N160W-B, 3N160W-C, 3N160W-D, 3N160W-E, 3N160W-F, 3N160W-G
DIFF.	:	The product model name is different, the colors is different, everything else is the same.
Power supply	:	Input: 100-240VAC 50-60Hz 0.2A USB-C Input: PD20W USB-C Output: PD 20W Wireless Output: 5W 7.5W 15W Capacity: 22.8Wh
Radio Technology	:	Wireless power transmission systems
Operation frequency	:	115KHz -205KHz, 329KHz
Modulation	:	ASK
Antenna Type	:	Coil Antenna
Connector cable loss	:	0dB
Software version	:	N/A
Hardware version	:	N/A
Note	:	Antenna information is provided by applicant. Testing lab is not responsible for the accuracy of the information.

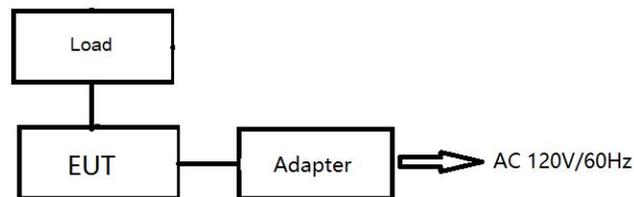
2.2. Accessories of Device (EUT)

Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
specifications	:	N/A

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Adapter	Apple	A2244	N/A	N/A
2	Load	Yuebuzhe	YBZ	N/A	N/A

2.4. Block Diagram of connection between EUT and simulators



2.5. Description of Test Modes

Number	Modes
1	AC/DC Adapter+Mobile phone output:15W + headset output :5W+ watch output:2W
2	Mobile phone output:15W
3	Mobile phone output:10W
4	Mobile phone output:7.5W
5	Mobile phone output:5W
6	headset output :5W
7	watch output:2W
8	No Load

Note:1. All test modes has been tested, this report only reflected the worst mode.
2. Mode 1 is worst case for Conducted Emission and Spurious Emission.

2.6. Test Conditions

Items	Required
Temperature range:	15-35°C
Humidity range:	25-75%
Pressure range:	86-106kPa

2.7. Test Facility

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission

Registration Number: 916281

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power Line Conducted Emissions Test	2.17dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	2.74dB(Polarize: V)
	2.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 18GHz)	4.29dB(Polarize: V)
	4.82dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	48.24KHz
Uncertainty for conducted RF Power	0.41dB
Occupied Bandwidth	968Hz

2.9. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	N/A	/	2022.12.20	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2024.12.18	1 Year
3.	L.I.S.N.#1	Rohde&Schwarz	ENV216	102282	/	2024.12.18	1 Year
4.	L.I.S.N.#2	RFT	NNB111	13835240	/	2024.12.18	1 Year
5.	Loop Antenna	Schwarz beck	FMZB 1519B	00128	/	2025.01.02	2 Year
6.	Bilog Antenna	Schwarz beck	VULB 9168	01448	/	2025.01.02	2 Year
7.	Spectrum Analyzer	Rohde&Schwarz	FSV-40N	101648	3.70	2024.12.18	1 Year
8.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
9.	Amplifier	SKET	LAPA_01G1 8G-45dB	SK2022032901	/	2024.12.18	1 Year
10.	Horn Antenna	Schwarz beck	BBHA 9170	00946	/	2024.12.31	2 Year
11.	Amplifier	SKET	LNPA_0118 G-45	SK2020010801	/	2024.12.18	1 Year
12.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02-1111533-Fz	/	2024.12.18	1 Year
13.	RF Sensor Unit	Tachoy	TR1029-2	20220428P008	/	2024.12.18	1 Year
14.	Spectrum Analyzer	Agilent	N9020A	MY51281067	A.14.03	2024.12.18	1 Year
15.	Temp. & Humid Chamber	Auchno	9606	/	/	2024.12.18	1 Year
16.	Regulated DC Power Supply	Xinouhua	ADC120V10 A	202211251638		2024.12.18	1 Year
17.	6dB Attenuator	Schwarzbeck	DGA 9552N 6dB	CK4186	/	2024.12.18	1 Year
For Test Software Information							
Item	Software Name	Manufacturer			Version		
RE	EZ EMC	Farad			PSI-3A1		
CE	EZ EMC	Farad			PSI-3A1		
RF	RTS	TACHOY			V1.0.0		

3. Test Results and Measurement Data

3.1. Conducted Emission

3.1.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	<p><i>Remark</i> E.U.T.: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test Mode:	Transmitting Mode														
Test Procedure:	<ol style="list-style-type: none"> 1. The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides 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: 2013 on conducted measurement. 														
Test Result:	PASS														

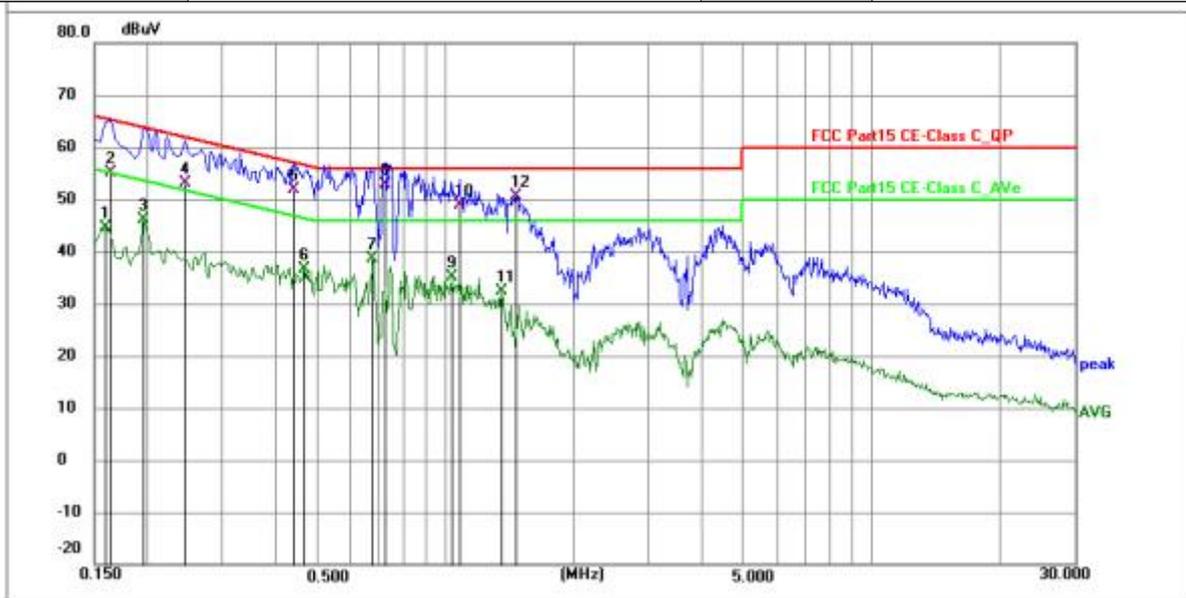
3.1.2. Test data

Please refer to following diagram for individual

Test Mode	: Mode 1
Test Results	: PASS
Note:	<ol style="list-style-type: none">1. The test results are listed in next pages.2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out.3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Mode 1:

Temperature	26°C	Humidity	54%
Pol	Line		AC 120V/60Hz

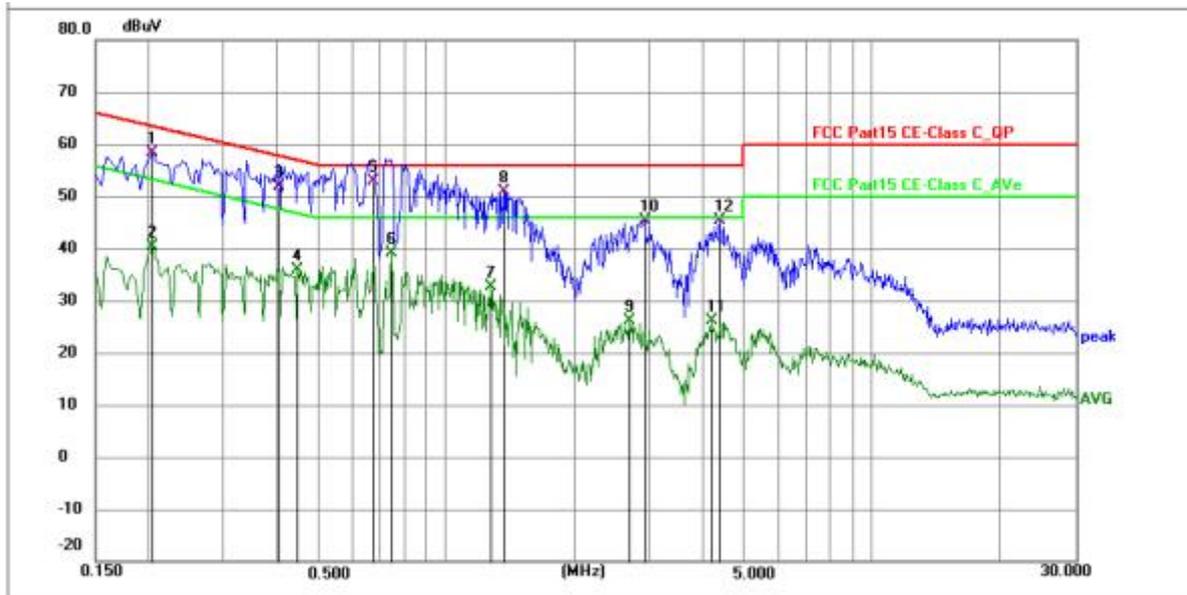


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1590	34.02	10.57	44.59	55.52	-10.93	AVG	P	
2	0.1641	44.62	10.58	55.20	65.25	-10.05	QP	P	
3	0.1955	35.44	10.65	46.09	53.80	-7.71	AVG	P	
4	0.2455	42.54	10.66	53.20	61.91	-8.71	QP	P	
5	0.4397	41.13	10.67	51.80	57.07	-5.27	QP	P	
6	0.4661	26.06	10.67	36.73	46.58	-9.85	AVG	P	
7	0.6753	27.99	10.59	38.58	46.00	-7.42	AVG	P	
8 *	0.7198	42.39	10.61	53.00	56.00	-3.00	QP	P	
9	1.0320	24.20	10.85	35.05	46.00	-10.95	AVG	P	
10	1.0766	38.06	10.84	48.90	56.00	-7.10	QP	P	
11	1.3521	21.57	10.79	32.36	46.00	-13.64	AVG	P	
12	1.4640	39.74	10.77	50.51	56.00	-5.49	QP	P	

Level = Reading + Factor Margin = Level - Limit

Pol

Neutral

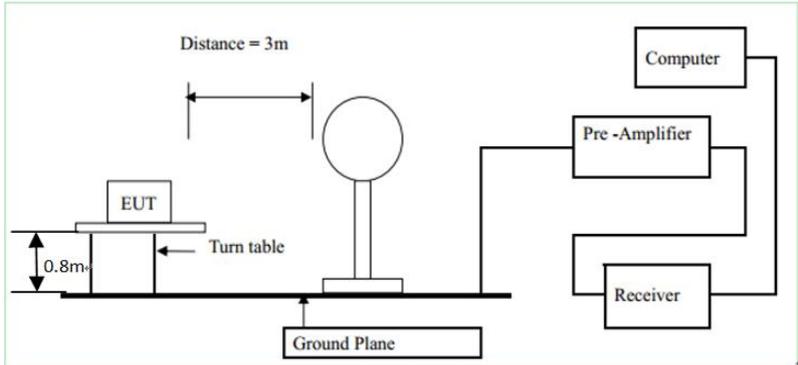


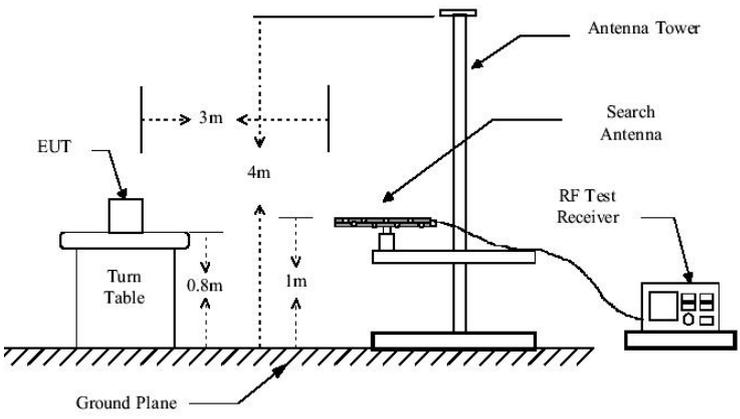
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2040	47.90	10.56	58.46	63.45	-4.99	QP	P	
2	0.2040	29.75	10.56	40.31	53.45	-13.14	AVG	P	
3	0.4020	41.20	10.70	51.90	57.81	-5.91	QP	P	
4	0.4470	25.14	10.73	35.87	46.93	-11.06	AVG	P	
5 *	0.6720	42.13	10.87	53.00	56.00	-3.00	QP	P	
6	0.7440	28.32	10.89	39.21	46.00	-6.79	AVG	P	
7	1.2705	21.64	10.89	32.53	46.00	-13.47	AVG	P	
8	1.3650	40.03	10.90	50.93	56.00	-5.07	QP	P	
9	2.6880	15.28	10.94	26.22	46.00	-19.78	AVG	P	
10	2.9175	34.40	10.93	45.33	56.00	-10.67	QP	P	
11	4.2090	15.10	10.92	26.02	46.00	-19.98	AVG	P	
12	4.3620	34.55	10.95	45.50	56.00	-10.50	QP	P	

Level = Reading + Factor Margin = Level - Limit

Radiated Spurious Emission Measurement

3.1.3. Test Specification

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10: 2013				
Frequency Range:	9 kHz to 1 GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Coaxial & Coplanar(9KHz-30MHz) Horizontal & Vertical(30MHz-1GHz)				
Operation mode:	Mode 1				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Note: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 KHz, 110-490 KHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.				
Limit:	Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)		
	0.009-0.490	2400/F(KHz)	300		
	0.490-1.705	24000/F(KHz)	30		
	1.705-30	30	30		
	30-88	100	3		
	88-216	150	3		
	216-960	200	3		
	Above 960	500	3		
Test setup:	For radiated emissions below 30MHz				
	 <p>30MHz to 1GHz</p>				

	
Test Procedure:	<ol style="list-style-type: none"> 1. For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. 2. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 3. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 4. Use the following spectrum analyzer settings: <ol style="list-style-type: none"> (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold; For average measurement: $VBW = 10$ Hz, when duty cycle is no less than 98 percent. $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test mode:	Refer to section 4.1 for details
Test results:	PASS

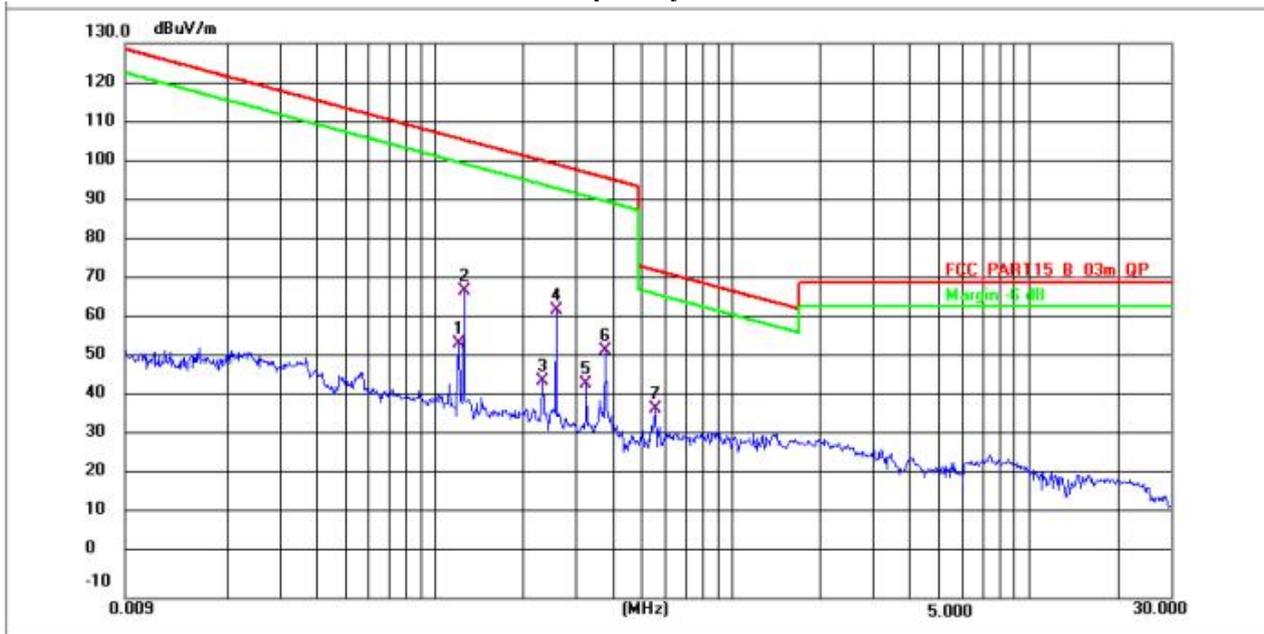
3.1.4. Test Data

Please refer to following diagram for individual

Frequency Range	: 9KHz~30MHz
Test Mode	: Mode 1
Test Results	: PASS
Note:	<ol style="list-style-type: none">1. The test results are listed in next pages.2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

Mode 1:

Antenna polarity: Coaxial



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	0.1200	84.51	-30.23	54.28	106.01	-51.73	QP	P
2	0.1250	97.76	-30.23	67.53	105.66	-38.13	QP	P
3	0.2300	74.62	-29.75	44.87	100.37	-55.50	QP	P
4	0.2555	92.30	-29.68	62.62	99.45	-36.83	QP	P
5	0.3245	73.75	-29.54	44.21	97.38	-53.17	QP	P
6	0.3740	81.75	-29.43	52.32	96.15	-43.83	QP	P
7 *	0.5522	66.81	-29.02	37.79	72.76	-34.97	QP	P

Level = Reading + Factor Margin = Level – Limit

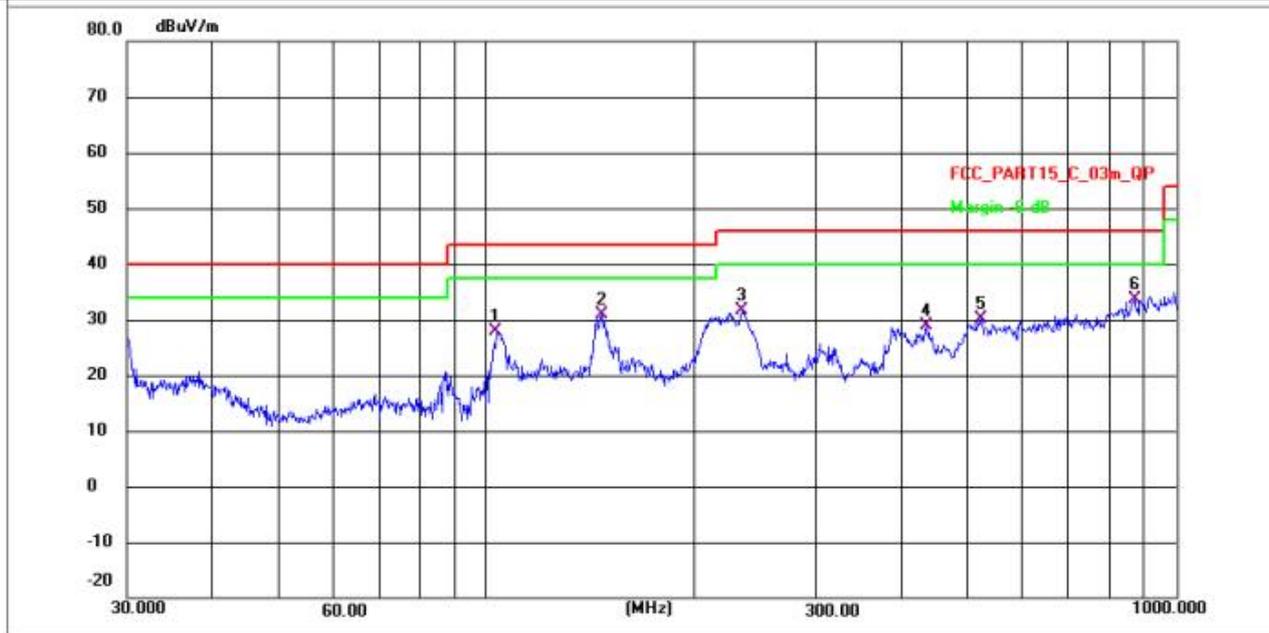
Note: All polarization has been tested and only the worst polarization direction data is displayed.

Frequency Range	: 30MHz~1000MHz
Test Mode	: Mode 1
Test Results	: PASS
Note:	<ol style="list-style-type: none">1. The test results are listed in next pages.2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

Mode 1:

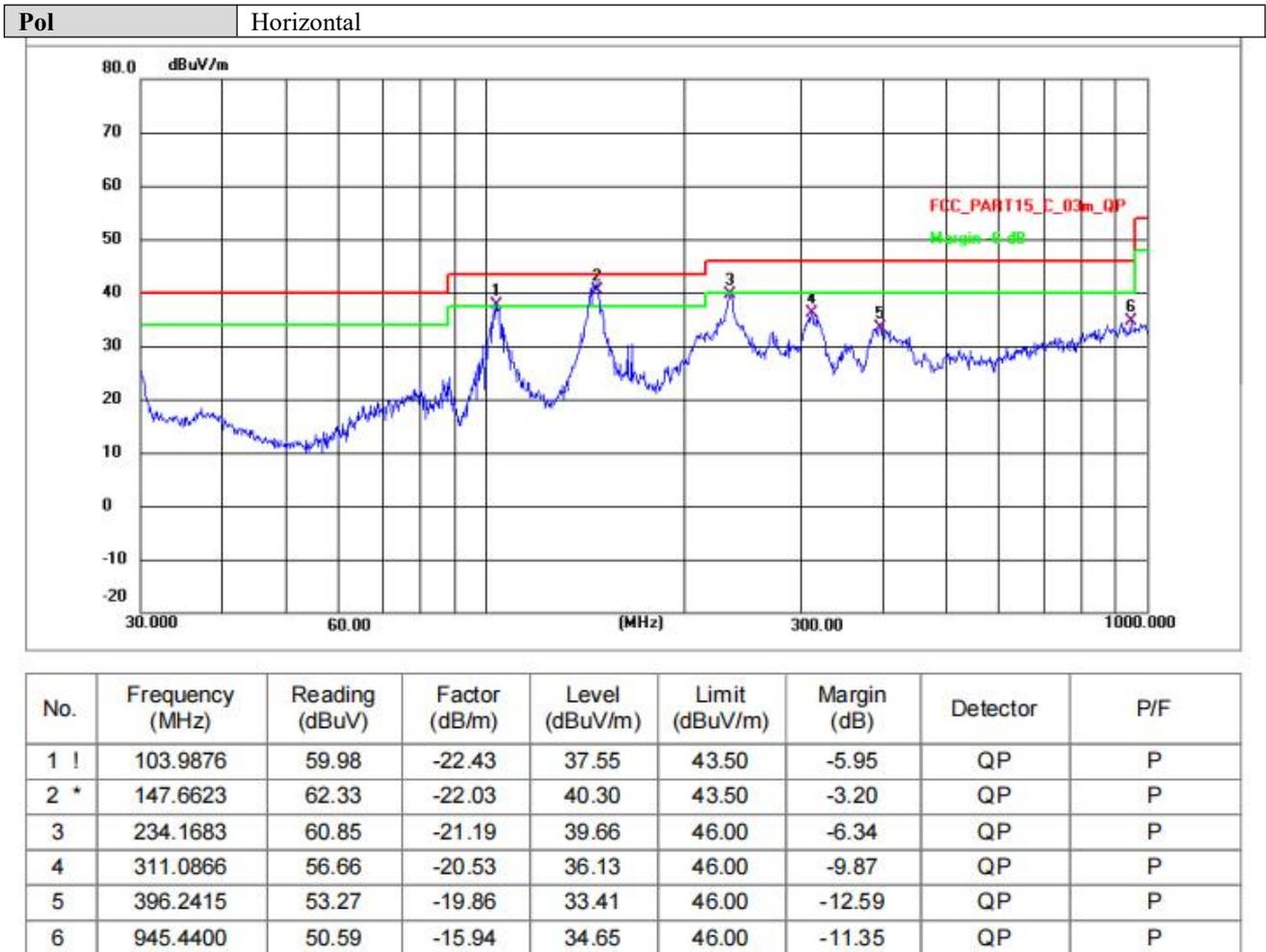
30MHz-1GHz

Temperature	26°C	Humidity	53%
Pol	Vertical	Test Voltage	AC 120V/60Hz



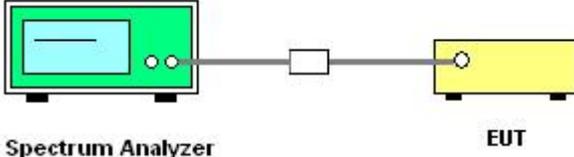
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	103.2609	50.31	-22.44	27.87	43.50	-15.63	QP	P
2	146.6304	52.83	-22.04	30.79	43.50	-12.71	QP	P
3	234.9909	52.87	-21.19	31.68	46.00	-14.32	QP	P
4	435.5898	48.38	-19.52	28.86	46.00	-17.14	QP	P
5	520.8882	48.89	-18.85	30.04	46.00	-15.96	QP	P
6 *	870.6554	50.30	-16.70	33.60	46.00	-12.40	QP	P

Level = Reading + Factor Margin = Level – Limit



Level = Reading + Factor Margin = Level – Limit

3.2. Test Specification

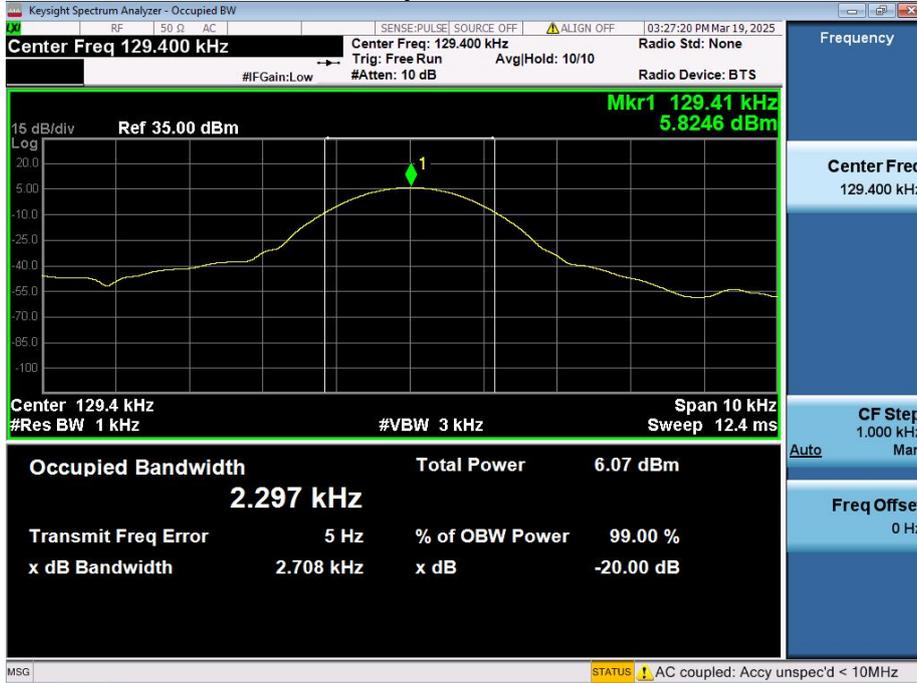
Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW\geq1% of the 20 dB bandwidth; VBW\geqRBW; Sweep = auto; Detector function = peak; Trace = max hold. 4. Measure and record the results in the test report.
Test setup:	 <p>The diagram illustrates the test setup. On the left is a green Spectrum Analyzer with a screen and two knobs. A cable connects it to a small white rectangular component, which is then connected to a yellow EUT (Equipment Under Test) with a circular antenna-like feature. Labels 'Spectrum Analyzer' and 'EUT' are placed below their respective components.</p>
Test Mode:	Mode 2 & Mode 3 & Mode 4 & Mode 5 & Mode 6 & Mode 7
Test results:	PASS

3.2.1. Test data

Mode 2:

Frequency(kHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
129	2.297	---	Pass

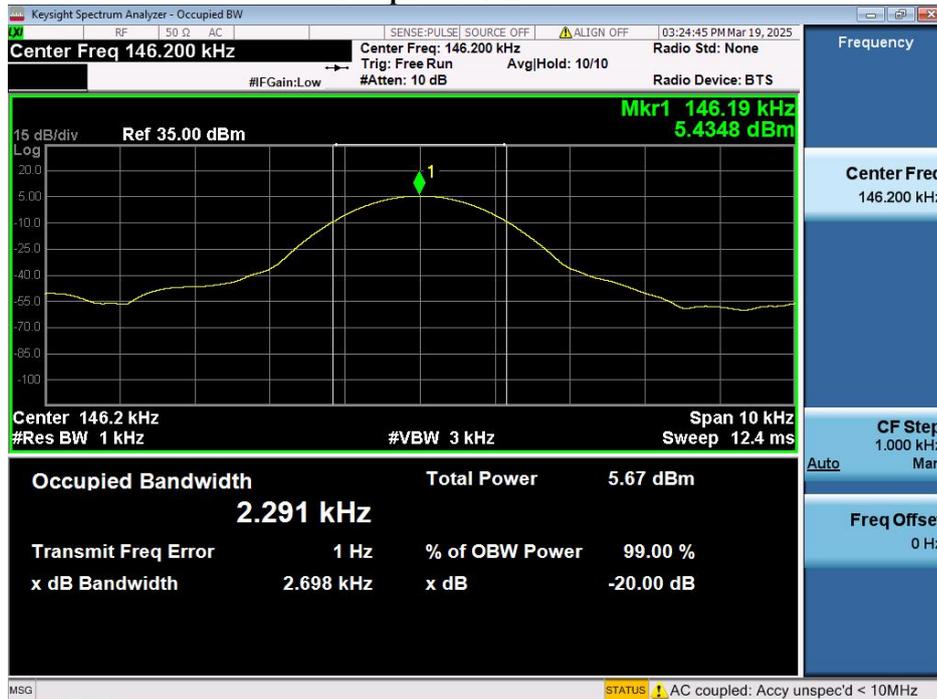
Test plots as follows:



Mode 3:

Frequency(kHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
146	2.291	---	Pass

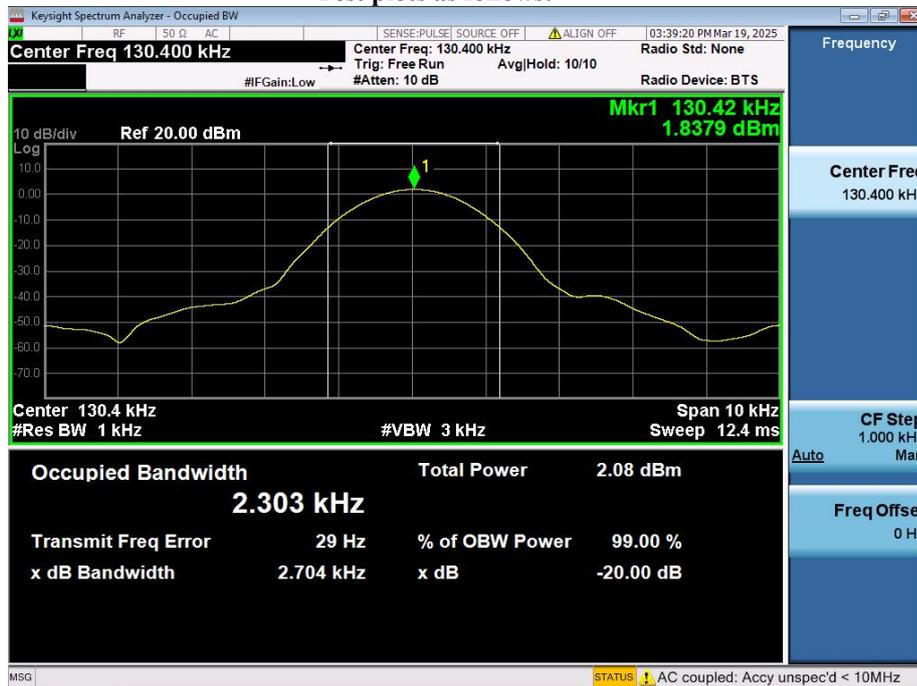
Test plots as follows:



Mode 4:

Frequency(kHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
130	2.303	---	Pass

Test plots as follows:



Mode 5:

Frequency(kHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
120	2.290	---	Pass

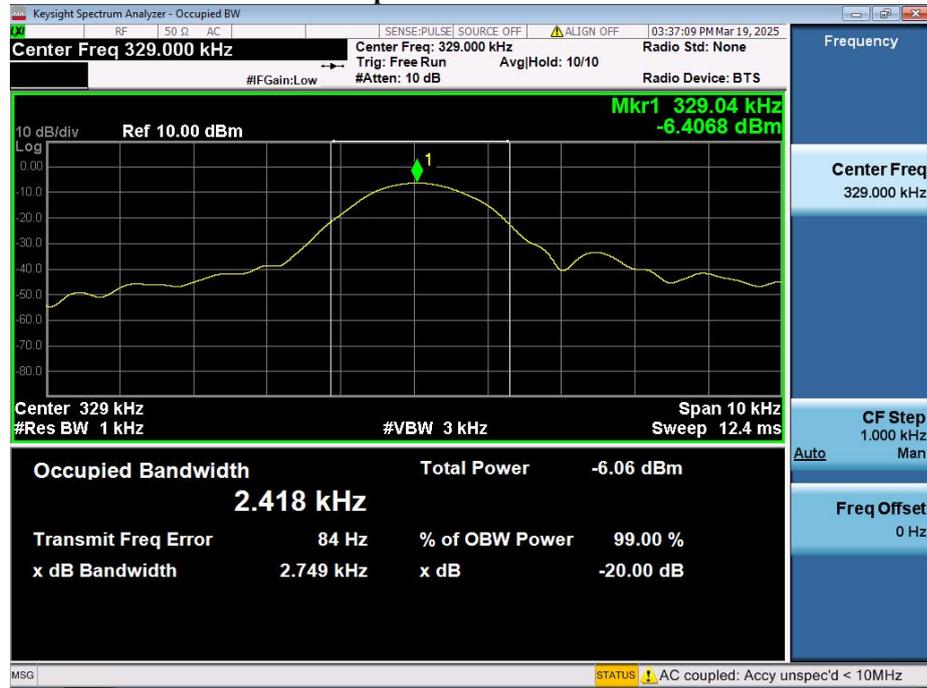
Test plots as follows:



Mode 6:

Frequency(kHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
329	2.418	---	Pass

Test plots as follows:



Note: Mode 7 is standby mode and does not have a transmission frequency.

4. Photos of test setup

Reference to the **appendix I Test Setup Photo** for details.

5. Photos of EUT

Reference to the **appendix II external photos** and **appendix III internal photos** for details.

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