

Test report No:
2550082R.701

FCC TEST REPORT

Product Name	Two Phase Three Wire Multi-Tariff Meter
Trademark	
Model and /or type reference	DDSF149
FCC ID	2BQFVDDSF149
Applicant's name / address	Ningbo Jianan Electronics Co.,Ltd. No. 315, Kaiyuan Road, Cixi City, Zhejiang Province, China
Test method requested, standard	CFR 47, FCC Part 15 C § 15.249 ANSI C63.10:2020
Verdict Summary	IN COMPLIANCE
Tested by (name / position & signature)	Jun Xu/ Project Manager 
Approved by (name / position & signature)	Frank He/Technical Manager 
Date of issue	2025-08-03
Report Version	V1.0
Report template No	Template_FCC 15.249-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date (receive sample)	May. 07, 2025
Date (start test)	May. 10, 2025
Date (finish test)	May. 25, 2025

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2550082R.701	V1.0	Initial issue of report.	2025-08-03

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with CFR 47, FCC Part 15 Subpart C, ANSI C63.10:2020.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Channel List.

USED EQUIPMENT

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
Coaxial Cable	N/A	N/A	2478	2024.06.11	2025.06.10	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	RF07	2024.07.04	2025.07.03	N/A	N/A
MAX Signal Analyzer	Keysight	N9010A	MY48030494	2024.10.26	2025.10.25	A.14.03	N/A

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100175	2025.03.23	2026.03.22	4.42 SP1	N/A
Two-Line V-Network	R&S	ENV 216	101044	2024.10.26	2025.10.25	N/A	N/A
Two-Line V-Network	R&S	ENV 216	101189	2025.05.10	2026.05.09	N/A	N/A
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2025.03.16	2026.03.15	N/A	N/A
Coaxial Cable	Huber+Suhner	RG 223	TR1-C1	2025.03.16	2026.03.15	N/A	N/A
Impedance Stabilization Network	Teseq GmbH	ISN T800	57318	2025.02.25	2026.02.24	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	EMC01	2024.06.17	2025.06.16	N/A	N/A
Shielding room	Quietek	4.9m*4m*3m	TR1	2023.03.04	2028.03.03	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	N/A

Radiated Emission(9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100176	2025.03.23	2026.03.22	4.42 SP3	N/A
Loop Antenna	SCHWARZBECK	FMZB 1513-60 B	00027	2024.05.28	2025.05.27	N/A	N/A
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2024.09.08	2025.09.07	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2024.07.04	2025.07.03	N/A	N/A
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2025.03.16	2026.03.15	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

Radiated Emission (1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
EXA Spectrum Analyzer	Keysight	N9020B	MY60112218	2024.11.02	2025.11.01	A.31.05	N/A
Pre-Amplifier	CYDZ	EMC184045SE	980263	2025.05.10	2026.05.09	N/A	N/A
Preamplifier	CHENGYI	EMC184045SE	980263	2024.07.06	2025.07.05	N/A	N/A
DRG Horn	ETS-Lindgren	3117	00167055	2024.08.29	2025.08.28	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2024.05.30	2025.05.29	N/A	N/A
Filter Switch Box	MVE	MSW-F196	C070001S	2025.03.15	2026.03.14	N/A	N/A
Temperature/ Humidity Meter	RTS	RTS-8S	THM-024	2025.04.30	2026.04.29	N/A	N/A
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2025.01.18	2026.01.17	N/A	N/A
Cable	Rosenberger	LA1-C011-1000	0523	2024.05.26	2025.05.25	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Test item	Uncertainty
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 Db Horizontal: 18GHz~26.5GHz: 5.20 dB Vertical: 18GHz~26.5GHz: 4.90 dB
The fundamental field strength and the harmonics	$\pm 1.27\text{dB}$
Radiated Emission Band Edge	$\pm 3.9\text{ dB}$
Occupied Bandwidth	$\pm 1\text{kHz}$

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name	Two Phase Three Wire Multi-Tariff Meter		
Model No.	DDSF149		
Trademark			
Manufacturer	Ningbo Jianan Electronics Co.,Ltd.		
Manufacturer Address	No. 315, Kaiyuan Road, Cixi City, Zhejiang Province, China		
FCC ID	2BQFVDDSF149		
Hardware Version	V01		
Software Version	V25179923		
Power Supply	120Vac		
Wireless specification	SRD		
Operating frequency range(s)	902~928MHz		
Type of Modulation	FSK		
Number of channel	3		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	Others:.....	
Antenna Type	☐	External	☐ Dipole
			☐ Sectorized
	☒	Internal	☐ PIFA
			☒ PCB
			☐ Dipole
			☐ Others.....
Note:The EUT is available in one model, but with two different wiring methods, symmetrical and asymmetrical, Different wiring methods have no effect on RF performance, so we only tested the EUT with symmetrical wiring method.			

1.2 Channel List

Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	903 MHz	02	915 MHz	03	919 MHz	--	--

Note: The general description of the Item(s), channel list in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Accessories Information

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/
software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

2.2 Testing process

1	EUT Power On.
2	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.249	2024	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC 15.207	PASS	Please refer to Appendix A
The fundamental field strength and the harmonics	FCC 15.249(a)	PASS	Please refer to Appendix B
Radiated Emission	FCC 15.249(d), FCC 15.209,15.205	PASS	Please refer to Appendix C
Band Edge	FCC 15.249(d), FCC 15.209,15.205	N/A	No restricted band in the range ± 2 channel bandwidths of the Band-edges of the specified emission band. (608 MHz - 614 MHz and 960 MHz - 1240 MHz).
20dB Bandwidth	FCC 15.215(c)	PASS	Please refer to Appendix D
Antenna Requirement	FCC 15.203	PASS	---

3.4 Test Matrix

Test item	DDSF149	
	1(#1)	2(#2)
AC Power Line Conducted Emission	☐	☒
The fundamental field strength and the harmonics	☐	☒
Radiated Emission Test	☐	☒
20 dB Bandwidth	☒	☐

3.5 Test Facility

USA : FCC Designation Number: CN1199

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: PASS

4.1.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

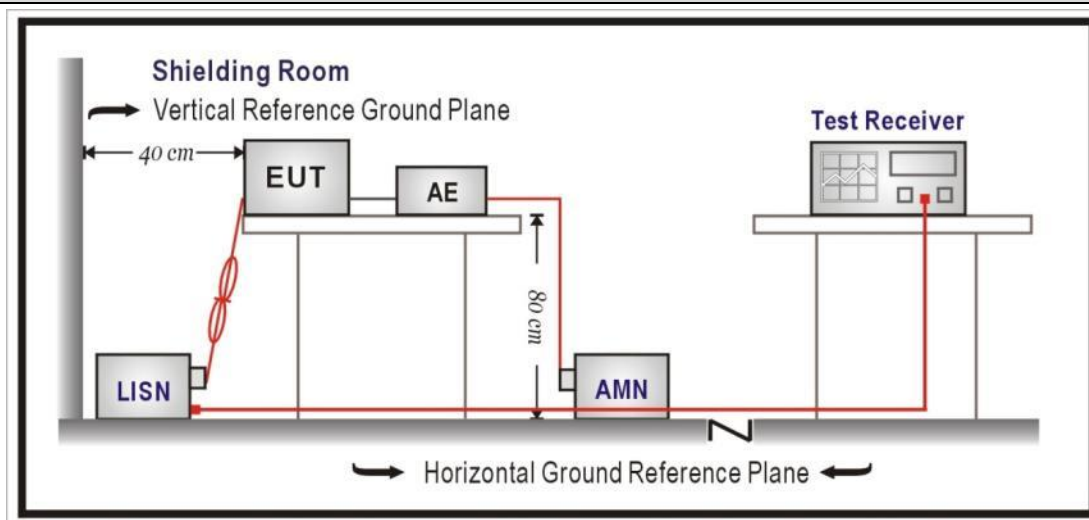
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.2 Radiated Emission Test**VERDICT: PASS****4.2.1 Limit**

Fundamental and Harmonics Radiated Emissions 15.249(a) Limit

Fundamental Frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902 – 928 MHz	50	500
2400 -2483.5 MHz	50	500
5725 -5875 MHz	50	500
24.0 – 24.25 GHz	250	2500

Note: 1. RF Voltage (dBuV)=20 log Voltage(uV)

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.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. Measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

Spurious Radiated Emissions 15.249(d) Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

Restricted Bands of operation for FCC

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Band Emissions Limit

Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88-216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

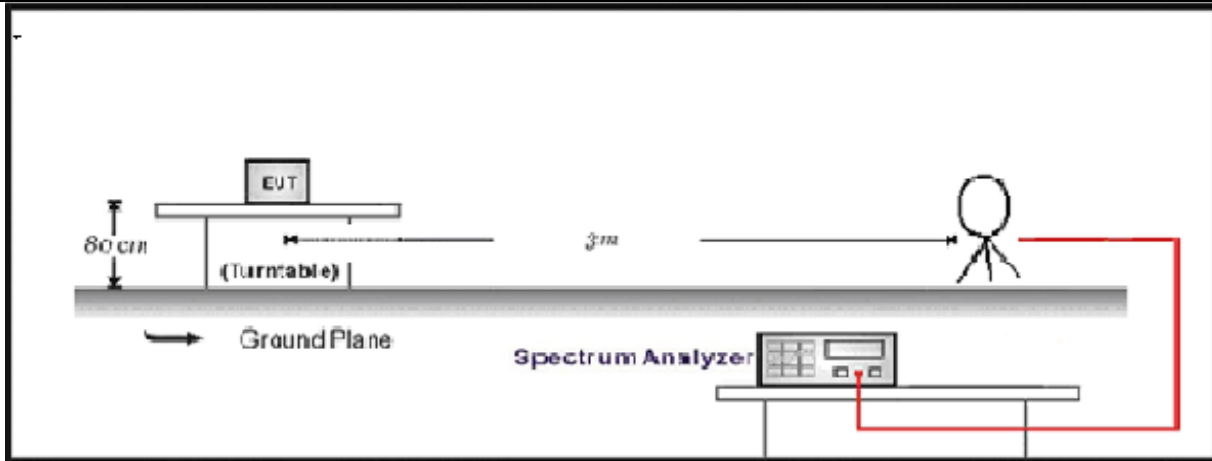
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment.

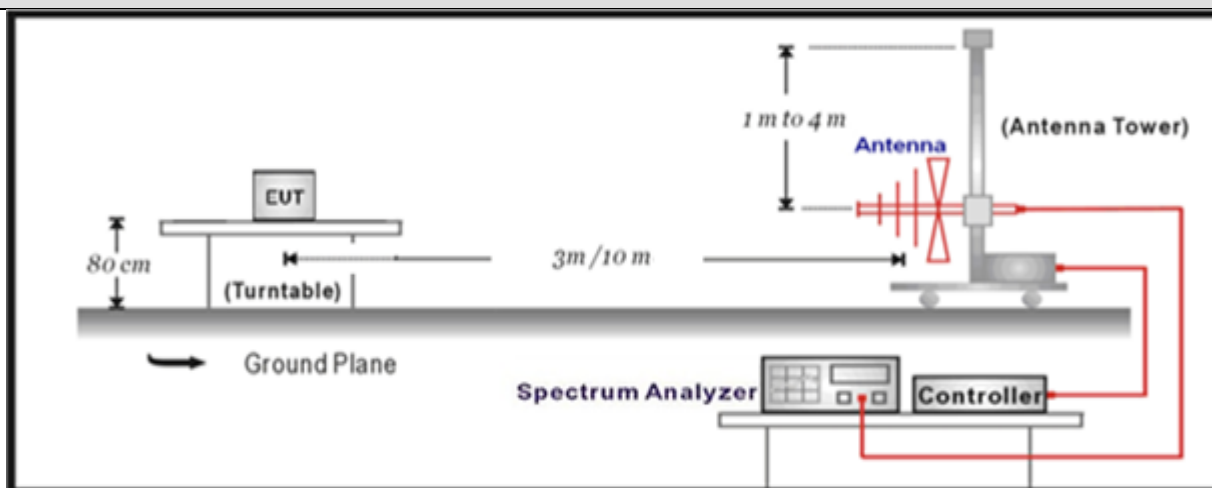
Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

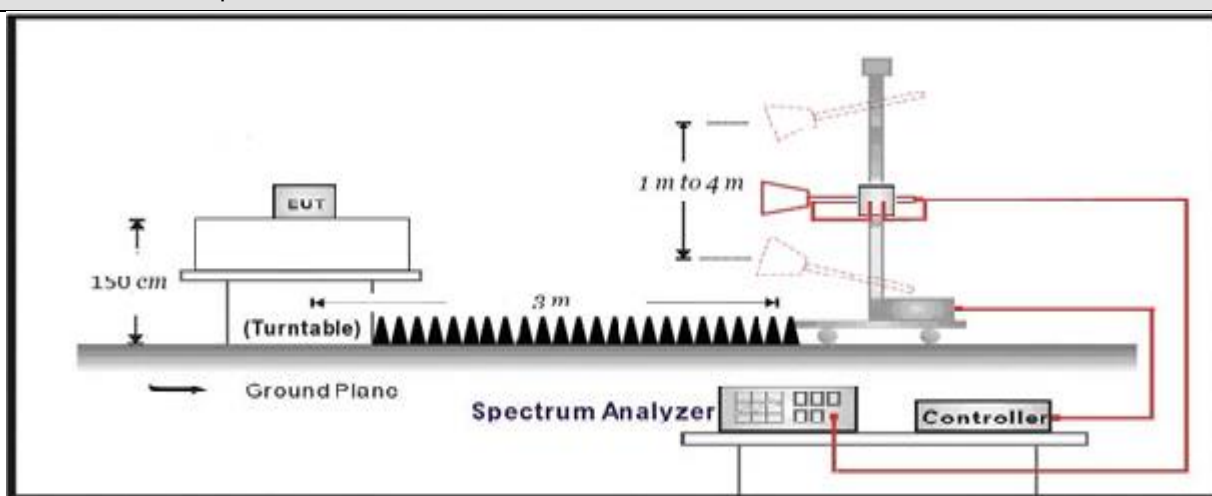
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

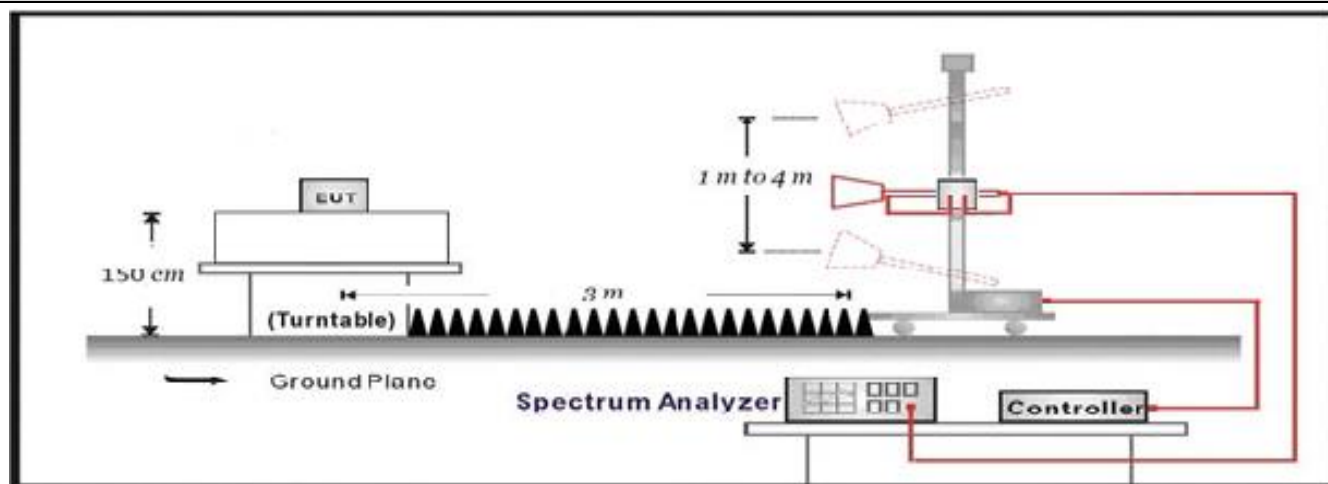
4.3 Band Edge

VERDICT: N/A

4.3.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.209,15.205		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3
Standard		FCC Part 15 Subpart C Paragraph 15.249(d)		
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.				

4.3.2 Test Setup



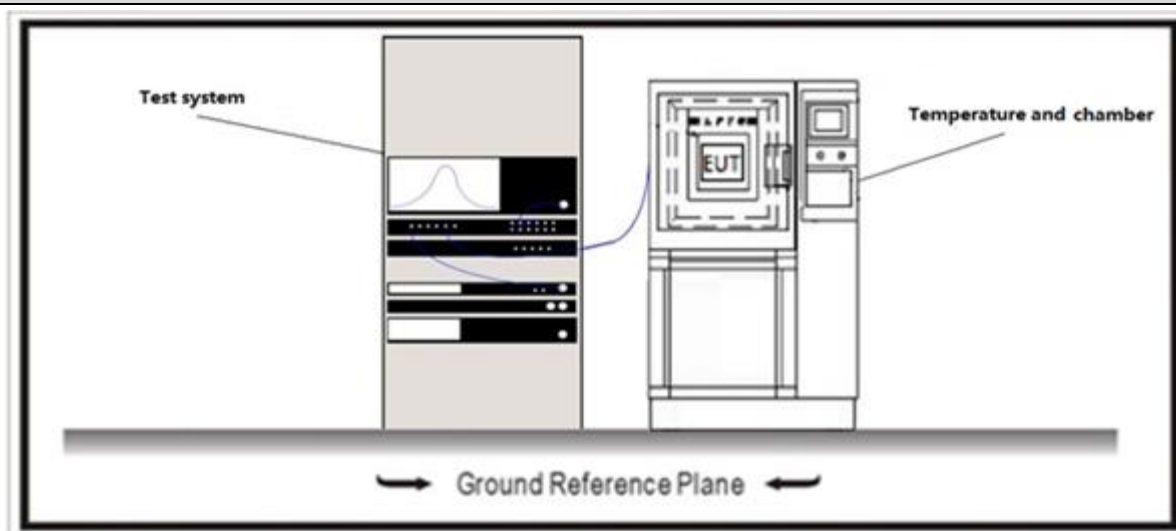
4.3.3 Test Procedure

	References Rule	Chapter	Description
☐	ANSI C63.10	6.10	Band-edge testing
☐	☐ ANSI C63.10	6.10.5	Restricted-band band-edge measurements
☐	☐ ANSI C63.10	6.10.6	Marker-delta method
☐	ANSI C63.10	11.12	Emissions in restricted frequency bands
☐	☐ ANSI C63.10	11.12.2	Antenna-port conducted measurements
☐	☐ ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
☐	☒ ANSI C63.10	11.12.2.4	Peak power measurement procedure
☐	☒ ANSI C63.10	11.12.2.5	Average power measurement procedures

4.4 20 dB Bandwidth**VERDICT: PASS****4.4.1 Limit****Standard**

FCC Part 15 Subpart C Paragraph 15.215

Contained within the frequency band designated in the rule section under which the equipment is operated.

4.4.2 Test Setup**4.4.3 Test Procedure**

	Reference Rule	Chapter	Description
☒	ANSI C63.10	6.9	Occupied bandwidth tests
☒	ANSI C63.10	6.9.2	Option 1
☐	ANSI C63.10	6.9.3	Option 2

4.5 Antenna Requirement

VERDICT: PASS

4.5.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.203
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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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.5.2 Antenna Connector Construction:

- | | |
|-------------------------------------|--|
| ☒ | The use of a permanently attached antenna |
| ☐ | The antenna use of a unique coupling to the intentional radiator |
| ☐ | The use of a nonstandard antenna jack or electrical connector |

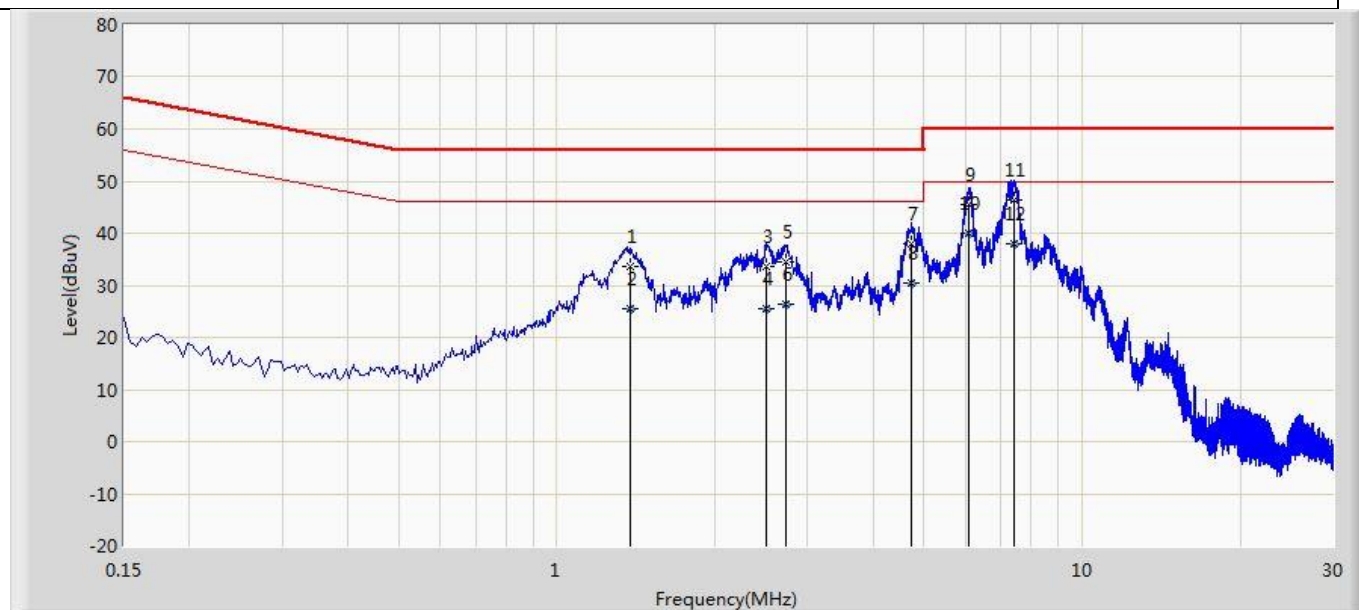
Please refer to the attached document "Internal Photograph" to show the antenna connector.

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

Appendix A: AC Power Line Conducted Emission

Site: TR1	Time: 2025/05/25
Limit: FCC_Part15.207	Margin: 0
Probe: NNLK 8129_(0.009-30MHz)	Polarity: Line
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 240Vac, 60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		1.378	33.651	33.108	-22.349	56.000	0.473	0.070	0.000	QP
2		1.378	25.463	24.920	-20.537	46.000	0.473	0.070	0.000	AV
3		2.498	33.586	33.214	-22.414	56.000	0.273	0.099	0.000	QP
4		2.498	25.500	25.129	-20.500	46.000	0.273	0.099	0.000	AV
5		2.730	34.372	33.997	-21.628	56.000	0.270	0.104	0.000	QP
6		2.730	26.326	25.951	-19.674	46.000	0.270	0.104	0.000	AV
7		4.738	37.870	37.488	-18.130	56.000	0.243	0.138	0.000	QP
8		4.738	30.535	30.154	-15.465	46.000	0.243	0.138	0.000	AV
9		6.082	45.643	45.116	-14.357	60.000	0.370	0.157	0.000	QP
10	*	6.082	40.040	39.513	-9.960	50.000	0.370	0.157	0.000	AV
11		7.410	46.454	45.798	-13.546	60.000	0.481	0.174	0.000	QP
12		7.410	38.063	37.407	-11.937	50.000	0.481	0.174	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: TR1	Time: 2025/05/25
Limit: FCC_Part15.207	Margin: 0
Probe: NNLK 8129_(0.009-30MHz)	Polarity: Neutral
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 220Vac, 60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		1.290	35.280	34.688	-20.720	56.000	0.526	0.067	0.000	QP
2		1.290	28.169	27.577	-17.831	46.000	0.526	0.067	0.000	AV
3		2.562	40.693	40.068	-15.307	56.000	0.525	0.100	0.000	QP
4		2.562	33.592	32.967	-12.408	46.000	0.525	0.100	0.000	AV
5		3.870	42.272	41.656	-13.728	56.000	0.490	0.125	0.000	QP
6		3.870	35.159	34.543	-10.841	46.000	0.490	0.125	0.000	AV
7		5.194	47.473	46.873	-12.527	60.000	0.454	0.146	0.000	QP
8	*	5.194	40.298	39.697	-9.702	50.000	0.454	0.146	0.000	AV
9		6.406	39.789	39.211	-20.211	60.000	0.418	0.160	0.000	QP
10		6.406	30.129	29.551	-19.871	50.000	0.418	0.160	0.000	AV
11		7.562	44.961	44.401	-15.039	60.000	0.385	0.176	0.000	QP
12		7.562	36.021	35.460	-13.979	50.000	0.385	0.176	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Appendix B: The fundamental field strength and the harmonics

Freq. (MHz)	Read Level (dBuV) AV/PK	Measure Level (dBuV/m)	Factor (dB)	Reading Level (dBuV)	HORIZ/ VERT	Limits (dBuV/m) AV/PK	Margin (dB)
903	PK	79.363	29.032	50.331	H	114	34.637
903	AV	79.218	29.032	50.186	H	94	14.782
903	PK	70.981	29.032	41.949	V	114	43.019
903	AV	70.903	29.032	41.871	V	94	23.097
915	PK	80.800	29.120	51.680	H	114	33.2
915	AV	80.764	29.120	51.644	H	94	13.236
915	PK	68.641	29.120	39.521	V	114	45.359
915	AV	68.537	29.120	39.417	V	94	25.463
919	PK	73.272	29.149	44.123	H	114	40.728
919	AV	73.529	29.149	44.380	H	94	20.471
919	PK	62.735	29.149	33.586	V	114	51.265
919	AV	62.633	29.149	29.149	V	94	31.367

Note: 1. Radiated Emissions = Factor+ Reading Level

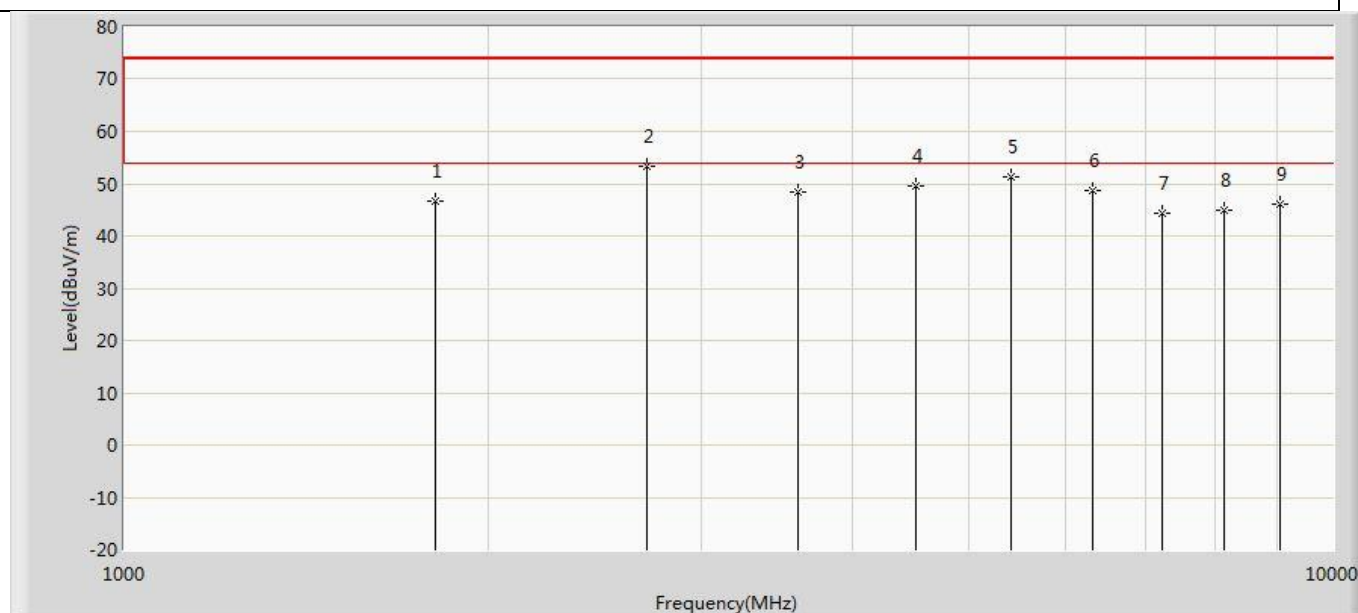
2. Margin = Limits - Radiated Emissions

3. AV Limit (dBuV/m)=20 log Voltage(uV)=20 log (50000)=94 dBuV /m

4. PK Limit (dBuV/m)= AV Limit +20dB=114 dBuV /m

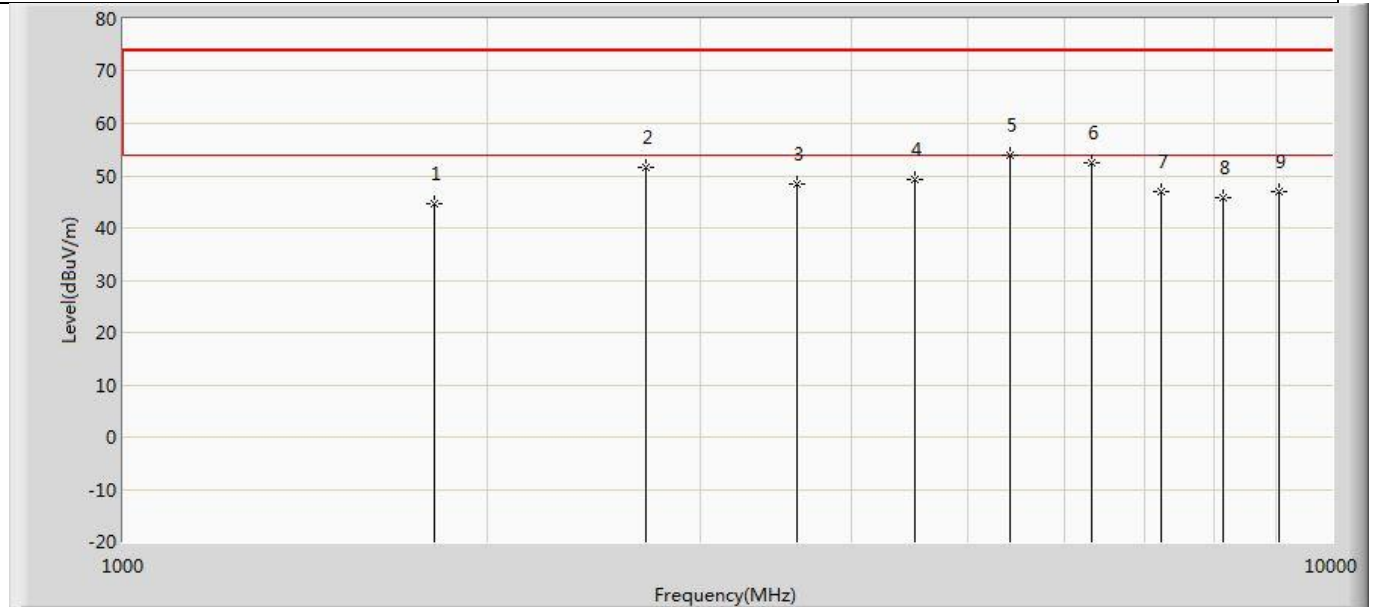
Appendix C: Radiated Emission

Profile: 2550082R	Page No.: 38
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 903MHz	



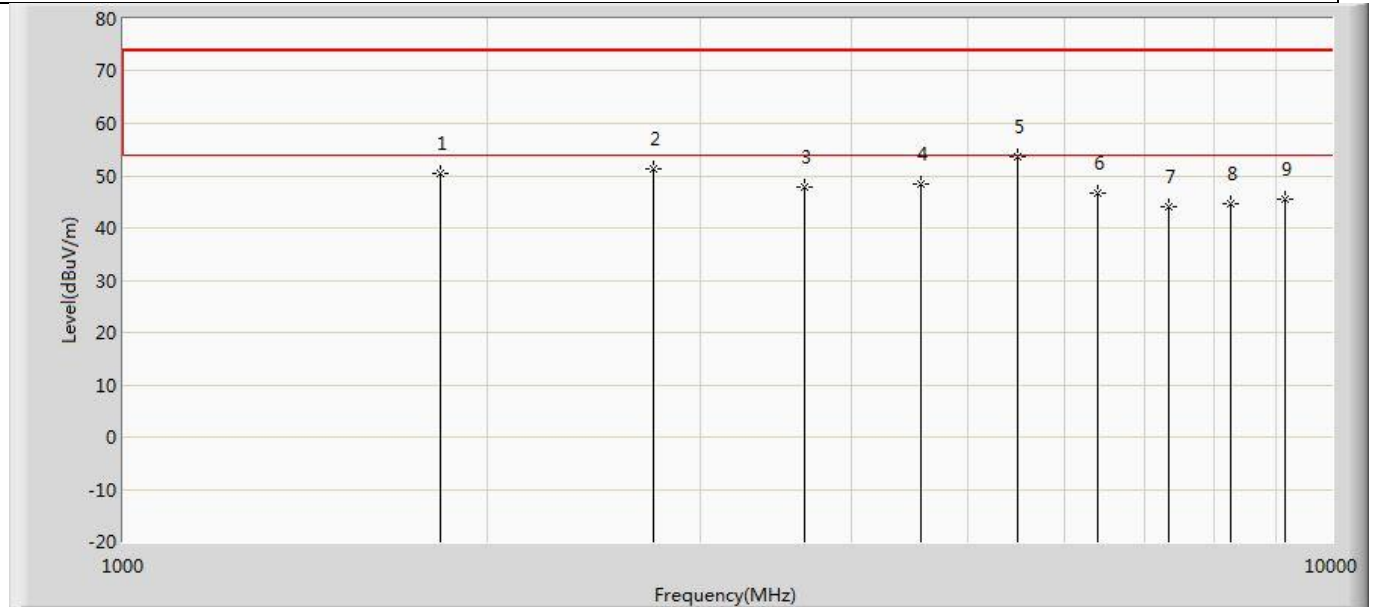
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1810.000	46.656	58.350	-27.344	74.000	-11.694	PK
2	*	2710.000	53.256	61.994	-20.744	74.000	-8.739	PK
3		3610.000	48.510	55.148	-25.490	74.000	-6.638	PK
4		4519.000	49.674	53.322	-24.326	74.000	-3.648	PK
5		5419.000	51.389	53.863	-22.611	74.000	-2.474	PK
6		6319.000	48.726	49.294	-25.274	74.000	-0.569	PK
7		7224.000	44.278	44.923	-29.722	74.000	-0.646	PK
8		8127.000	45.022	45.035	-28.978	74.000	-0.014	PK
9		9030.000	46.004	45.503	-27.996	74.000	0.501	PK

Profile: 2550082R	Page No.: 39
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 903MHz	



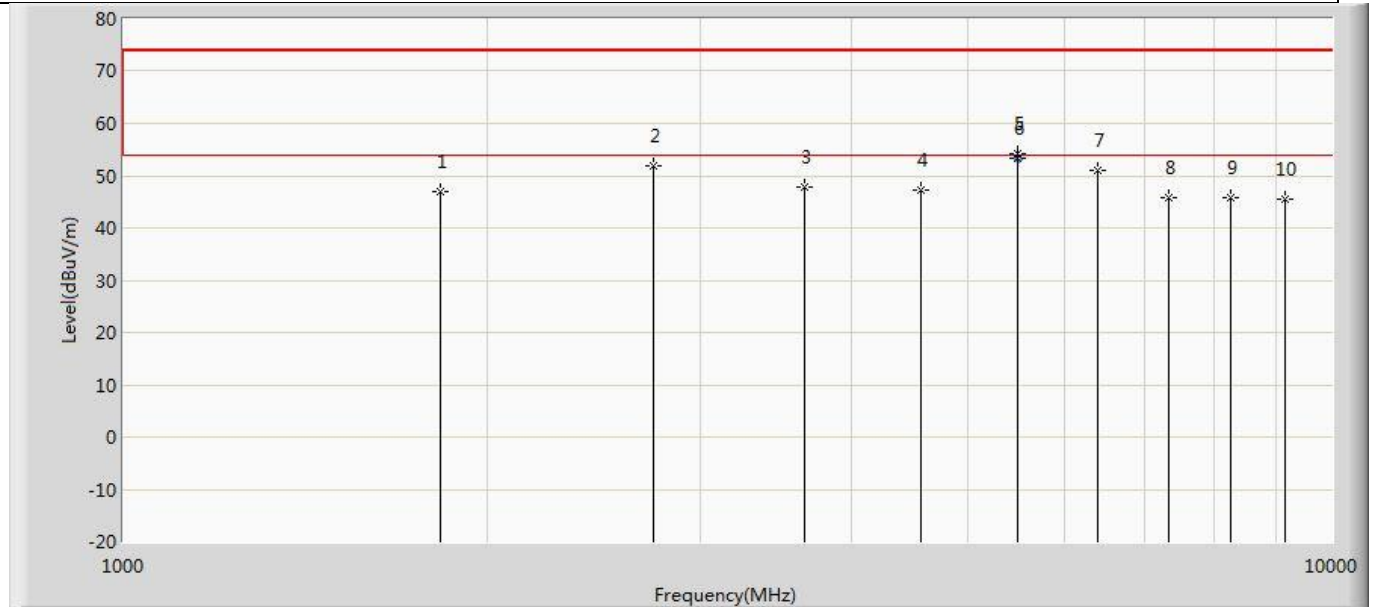
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1810.000	44.719	56.413	-29.281	74.000	-11.694	PK
2		2710.000	51.461	60.199	-22.539	74.000	-8.739	PK
3		3610.000	48.367	55.005	-25.633	74.000	-6.638	PK
4		4519.000	49.181	52.829	-24.819	74.000	-3.648	PK
5	*	5419.000	53.776	56.250	-20.224	74.000	-2.474	PK
6		6319.000	52.398	52.966	-21.602	74.000	-0.569	PK
7		7228.000	47.017	47.515	-26.983	74.000	-0.498	PK
8		8127.000	45.769	45.782	-28.231	74.000	-0.014	PK
9		9030.000	47.075	46.574	-26.925	74.000	0.501	PK

Profile: 2550082R	Page No.: 40
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 915MHz	



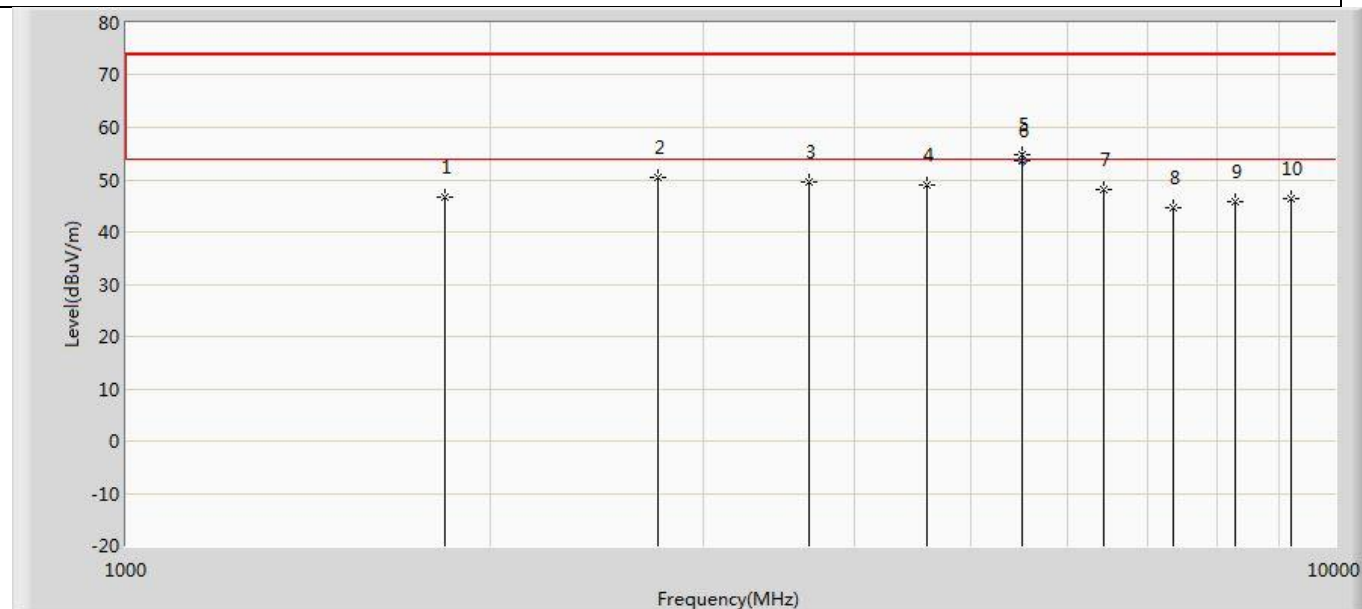
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1828.000	50.393	61.728	-23.607	74.000	-11.335	PK
2		2746.000	51.383	60.103	-22.617	74.000	-8.721	PK
3		3664.000	47.808	54.164	-26.192	74.000	-6.356	PK
4		4573.000	48.377	52.576	-25.623	74.000	-4.200	PK
5	*	5491.000	53.731	56.372	-20.269	74.000	-2.641	PK
6		6409.000	46.662	48.150	-27.338	74.000	-1.488	PK
7		7320.000	44.115	44.962	-29.885	74.000	-0.847	PK
8		8235.000	44.742	44.218	-29.258	74.000	0.524	PK
9		9150.000	45.524	44.945	-28.476	74.000	0.578	PK

Profile: 2550082R	Page No.: 41
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 915MHz	



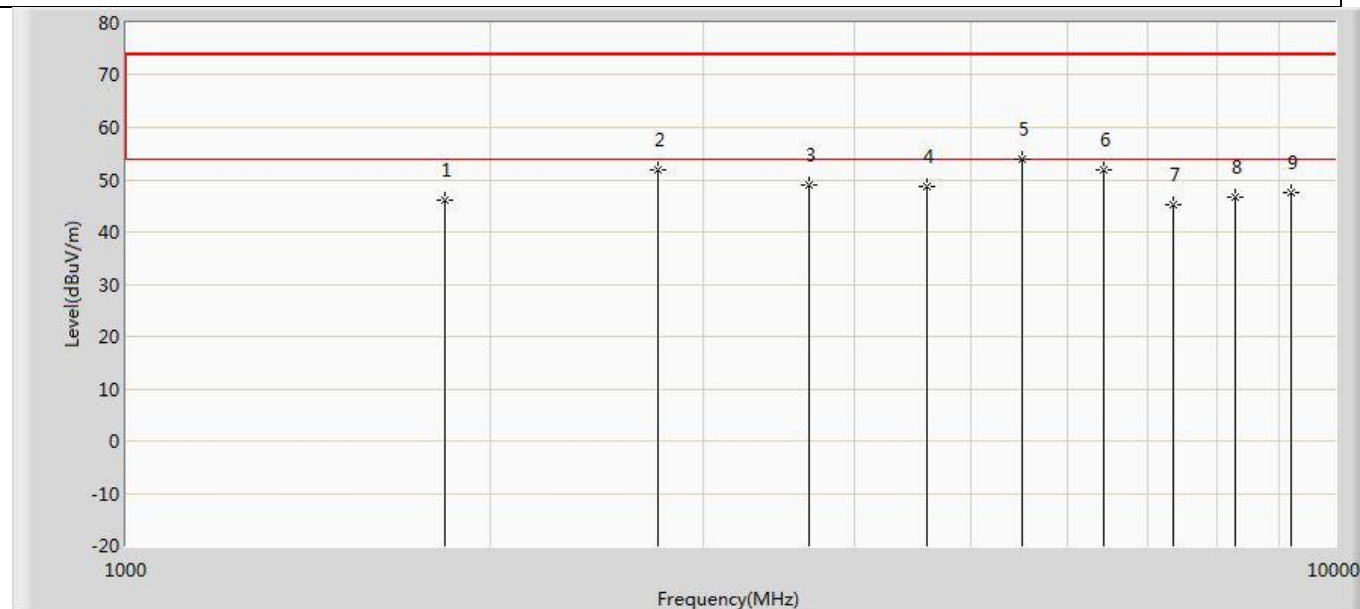
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1828.000	46.863	58.198	-27.137	74.000	-11.335	PK
2		2746.000	51.883	60.603	-22.117	74.000	-8.721	PK
3		3664.000	47.848	54.204	-26.152	74.000	-6.356	PK
4		4573.000	47.332	51.531	-26.668	74.000	-4.200	PK
5		5491.000	54.145	56.786	-19.855	74.000	-2.641	PK
6	*	5491.000	53.279	55.920	-0.721	54.000	-2.641	AV
7		6409.000	50.916	52.404	-23.084	74.000	-1.488	PK
8		7320.000	45.668	46.515	-28.332	74.000	-0.847	PK
9		8235.000	45.743	45.219	-28.257	74.000	0.524	PK
10		9150.000	45.573	44.994	-28.427	74.000	0.578	PK

Profile: 2550082R	Page No.: 42
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 919MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1837.000	46.743	57.876	-27.257	74.000	-11.133	PK
2		2755.000	50.514	59.146	-23.486	74.000	-8.633	PK
3		3673.000	49.567	55.963	-24.433	74.000	-6.395	PK
4		4591.000	49.069	53.271	-24.931	74.000	-4.202	PK
5		5518.000	54.644	56.806	-19.356	74.000	-2.163	PK
6	*	5518.000	53.518	55.680	-0.482	54.000	-2.163	AV
7		6436.000	48.254	49.401	-25.746	74.000	-1.147	PK
8		7352.000	44.563	44.799	-29.437	74.000	-0.235	PK
9		8271.000	45.733	45.506	-28.267	74.000	0.227	PK
10		9190.000	46.278	44.613	-27.722	74.000	1.665	PK

Profile: 2550082R	Page No.: 43
Engineer: Yu Liu	
Site: AC5	Time: 2025/05/17 - 13:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 120Vac/60Hz
Note: Mode 1 : Transmit at 919MHz	



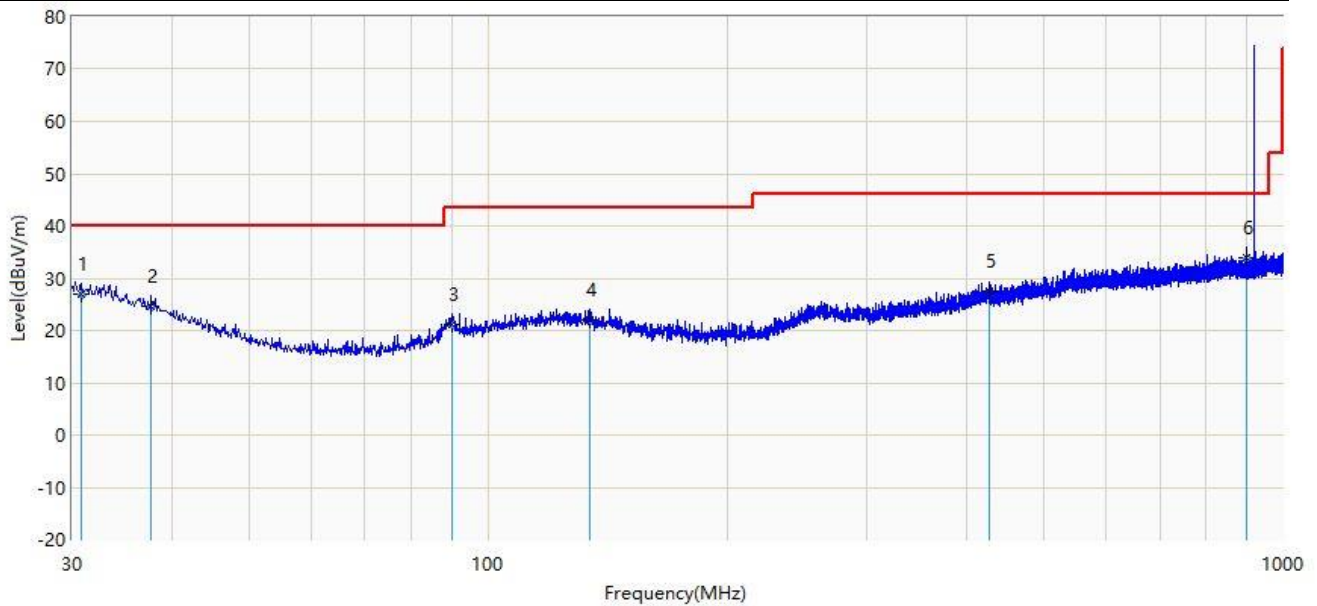
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		1837.000	45.997	57.130	-28.003	74.000	-11.133	PK
2		2755.000	51.974	60.606	-22.026	74.000	-8.633	PK
3		3673.000	49.016	55.412	-24.984	74.000	-6.395	PK
4		4591.000	48.800	53.002	-25.200	74.000	-4.202	PK
5	*	5518.000	53.902	56.064	-20.098	74.000	-2.163	PK
6		6436.000	51.799	52.946	-22.201	74.000	-1.147	PK
7		7352.000	45.266	45.502	-28.734	74.000	-0.235	PK
8		8271.000	46.562	46.335	-27.438	74.000	0.227	PK
9		9190.000	47.525	45.860	-26.475	74.000	1.665	PK

Note:

1. Measured Level = Reading Level + Factor.
2. The test frequency range 9kHz~30MHz and above 18GHz, worst case are at least 20dB below the limits, therefore no data appear in the report.
3. This limit applies for both peak and average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

The worst case of Radiated Emission below 1GHz:

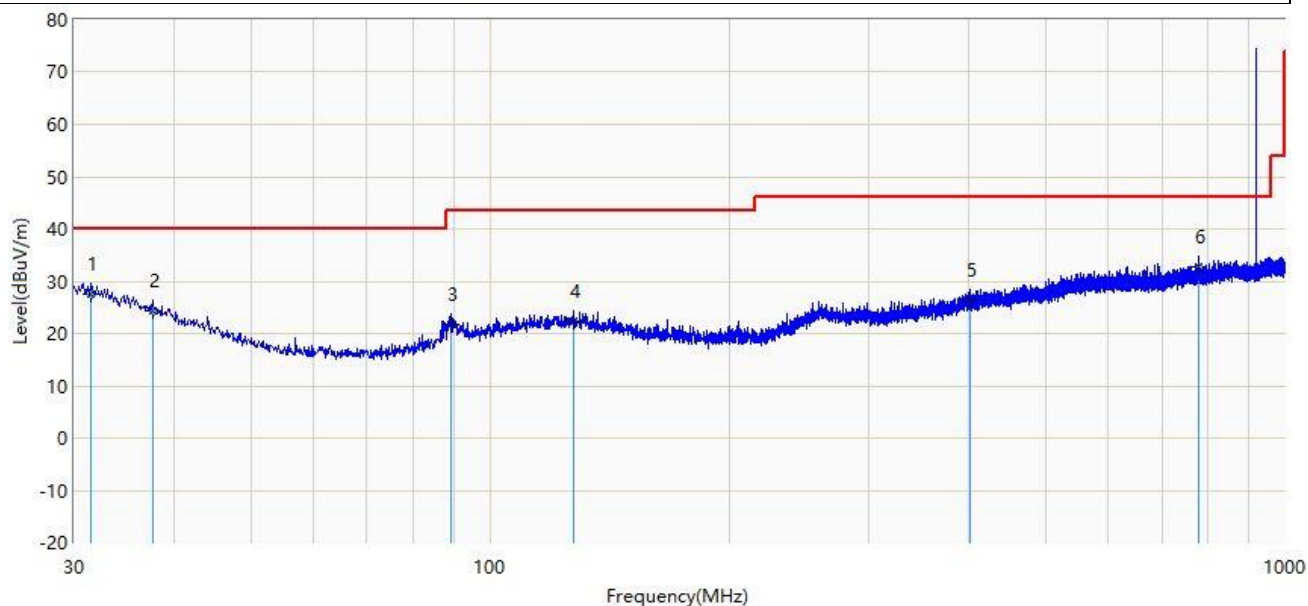
Profile: 2550082R	Page No.: 13
Engineer: Yu Liu	
Site: AC2	Time: 2025/05/17 - 13:47
Limit: FCC_Part 15.109_RE (3m)_Class B	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)-2024	Polarity: Horizontal
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 230Vac/50Hz
Note: mode 1:zansan	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		30.849	27.095	2.429	-12.905	40.000	24.666	QP
2		37.760	24.594	3.337	-15.406	40.000	21.257	QP
3		90.019	21.194	5.152	-22.306	43.500	16.041	QP
4		134.154	22.092	3.141	-21.408	43.500	18.951	QP
5		426.487	27.410	3.044	-18.590	46.000	24.366	QP
6	*	898.514	33.985	4.967	-12.015	46.000	29.018	QP

Note:After Mark6, the baseband field strength.

Profile: 2550082R	Page No.: 14
Engineer: Yu Liu	
Site: AC2	Time: 2025/05/17 - 13:49
Limit: FCC_Part 15.109_RE (3m)_Class B	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)-2024	Polarity: Vertical
EUT: Two Phase Three Wire Multi-Tariff Meter	Power: 230Vac/50Hz
Note: mode 1:zansan	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	31.455	27.652	3.246	-12.348	40.000	24.406	QP
2		37.639	24.482	3.161	-15.518	40.000	21.321	QP
3		89.291	21.678	5.754	-21.822	43.500	15.925	QP
4		127.243	22.453	3.169	-21.047	43.500	19.284	QP
5		401.267	26.354	2.676	-19.646	46.000	23.678	QP
6		777.749	32.640	4.167	-13.360	46.000	28.473	QP

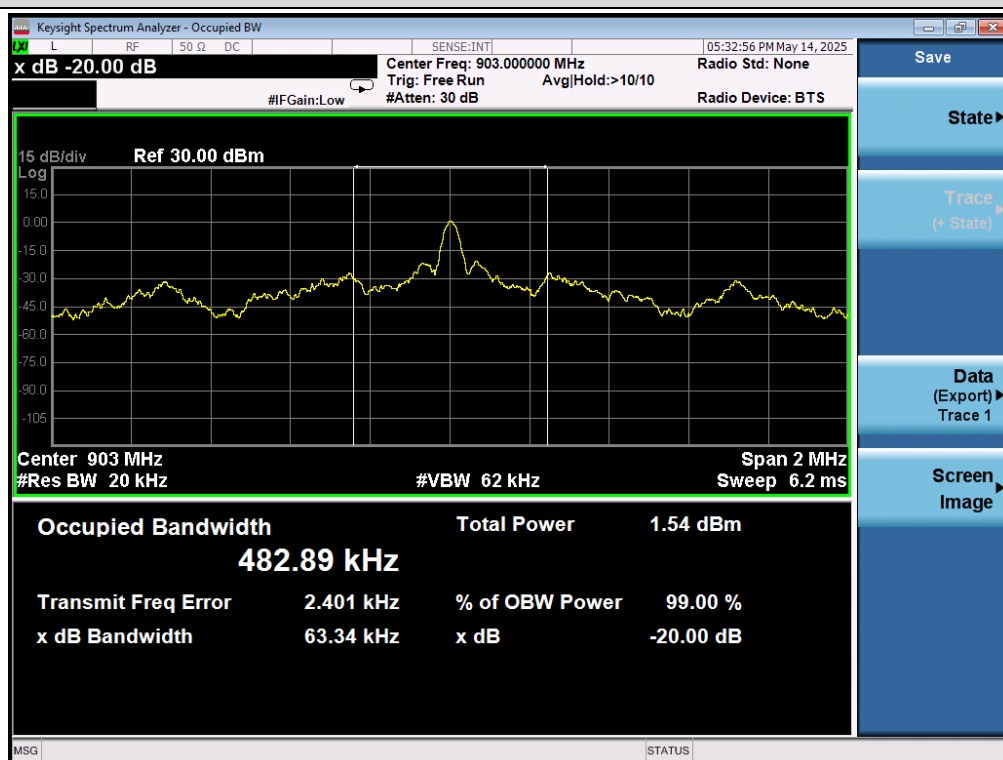
Note: After Mark6, the baseband field strength.

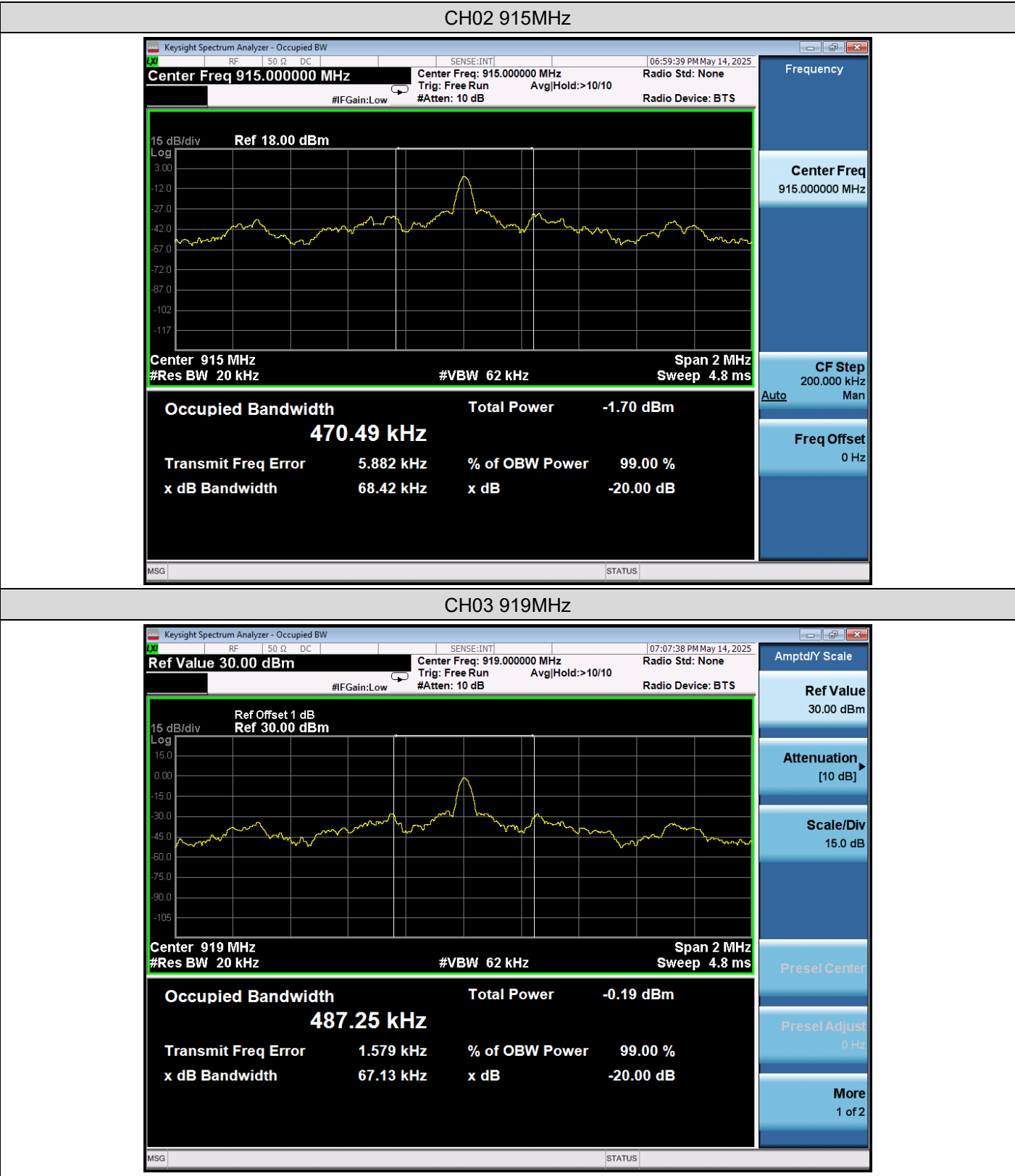
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp)

Appendix D: 20dB Bandwidth

CH.	Test Freq. (MHz)	20dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	903	63.34	Within operation in frequency band	Pass
02	915	68.42	Within operation in frequency band	Pass
03	919	67.13	Within operation in frequency band	Pass

CH01 903MHz





The End