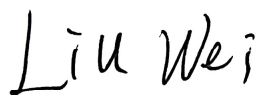


EMC TEST REPORT

Applicant Copeland Comfort Control LP
FCC ID 2A4JN-1F88U42
Product WIFI Smart Thermostat
Brand WIFI Smart Thermostat
Model 1F88U-42WFTR; 1F88U-42WFAS
Report No. EFTA25070329-IE-09-E1V1
Issue Date February 5, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2025)/ ANSI C63.4-2014**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	January 19, 2026
Rev.1	Updated information.	February 5, 2026
Note: This revised report (Report No.: EFTA25070329-IE-09-E1V1) supersedes and replaces the previously issued report (Report No.: EFTA25070329-IE-09-E1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

Number	Test Case	Clause in FCC Rules	Conclusion
1	Radiated Emission	FCC Part15.109, ANSI C63.4-2014	PASS
2	Conducted Emission	FCC Part15.107, ANSI C63.4-2014	PASS
Date of Testing: November 19, 2025 ~ December 8, 2025			
Date of Sample Received: November 19, 2025			
Note:			
1. The conformity assessment in this report is based on a direct comparison of the test results with the limits by Eurofins TA Technology (Shanghai) Co., Ltd., without considering measurement uncertainty.			

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City: Shanghai
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E-mail: Kain.Xu@cpt.eurofinscn.com

2 General Description of Equipment Under Test

2.1 Applicant and Manufacturer Information

Applicant	Copeland Comfort Control LP
Applicant address	8100 West Florissant Ave, St. Louis, United States of America
Manufacturer	Copeland Comfort Control LP
Manufacturer address	8100 West Florissant Ave, St. Louis, United States of America

2.2 General Information

EUT Description			
Device Type	Movable Device		
Model	1F88U-42WFTR; 1F88U-42WFAS		
Lab internal SN	250801-24-017		
HW Version	0059 5601003		
SW Version	7017810301-b3fbe00		
Power Rating	24VAC		
Connecting I/O Port(s)	Please refer to the User's Manual.		
Antenna Type	Internal Antenna		
Frequency	Band	Tx (MHz)	Rx (MHz)
	Bluetooth	2400 ~ 2483.5	2400 ~ 2483.5
	Bluetooth LE	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 2.4GHz	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5GHz (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5GHz (U-NII-3)	5725 ~ 5850	5725 ~ 5850
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. The customer claims that 1F88U-42WFTR; 1F88U-42WFAS are only different in logo, and the others are the same. This report only tests 1F88U-42WFTR.			

2.3 Applied Standards

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

Test standards

FCC Code CFR47 Part15B (2025)

ANSI C63.4-2014

2.4 Test Mode

Test Mode	
Mode 1	Adapter + EUT + Standby

Test Type	Test Mode	Worst Mode
Radiated Emission	Mode 1	Mode 1
Conducted Emission	Mode 1	Mode 1
After technical evaluation or/and preliminary test, the test data of the worst-case condition was recorded in this report.		

3 Test Case Results

3.1 Radiated Emission

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	30% ~ 60%

Methods of Measurement

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated signal level.

The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.

Set the spectrum analyzer in the following:

Below 1GHz:

RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

Above 1GHz:

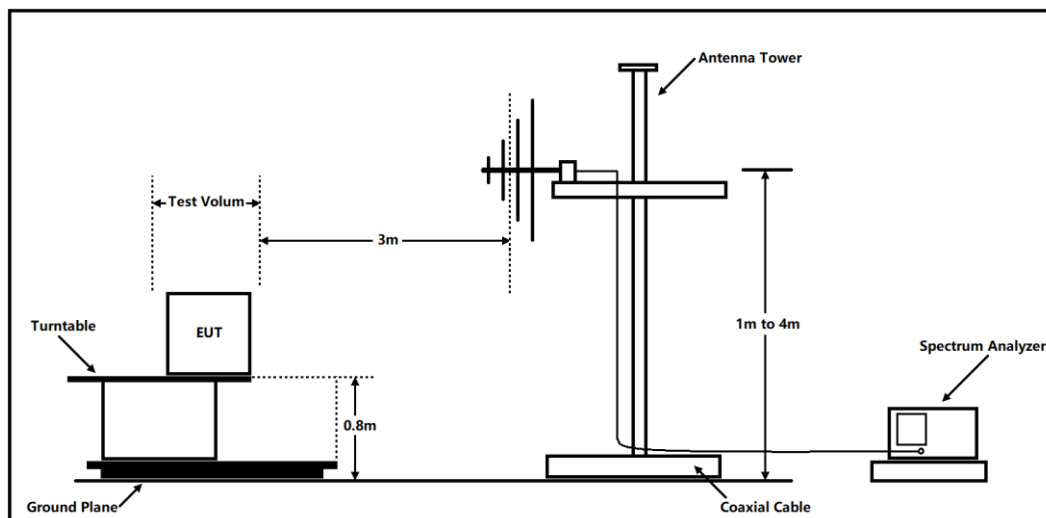
(a) PEAK Detector: RBW=1MHz / VBW=3MHz/ Sweep=AUTO

(b) AVERAGE Detector: RBW=1MHz / VBW=3MHz / Sweep=AUTO

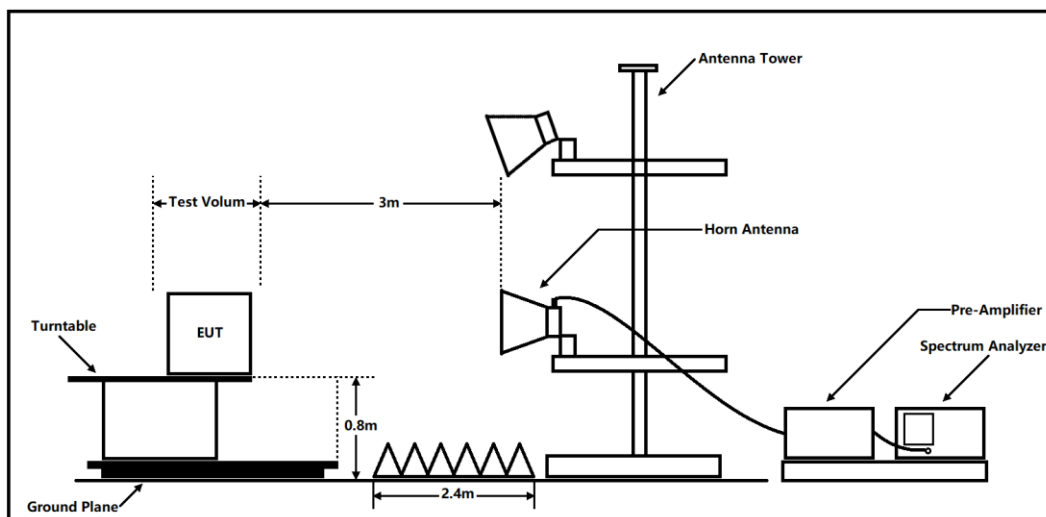
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

Test Setup

Below 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast.

Limits

Class B

Frequency (MHz)	Field Strength (dB μ V/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5 th harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

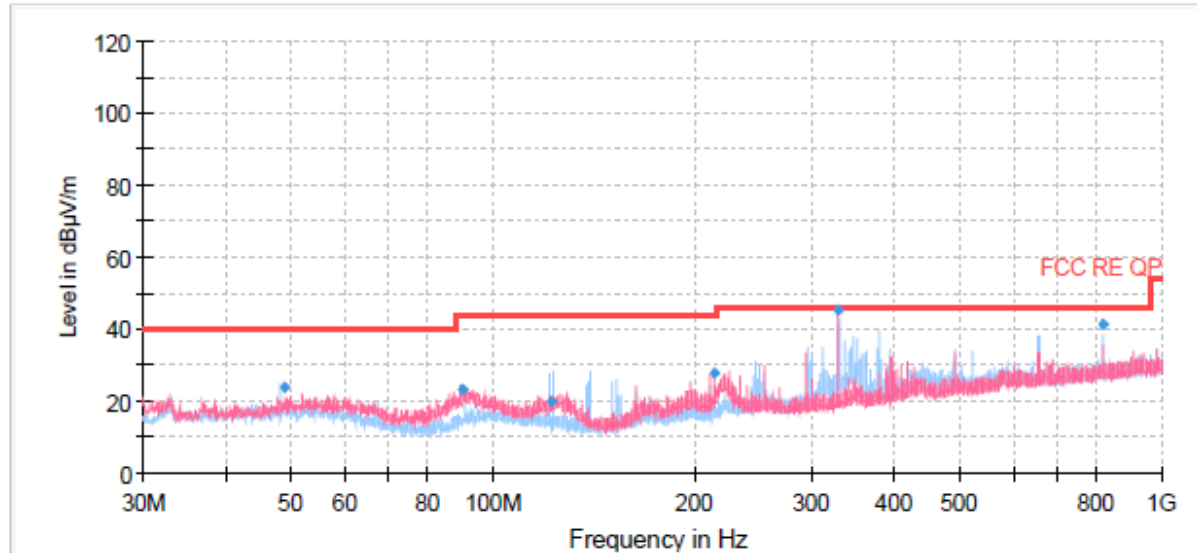
Frequency range of radiated measurements

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. The Emissions in the frequency band 18GHz – 26.5GHz is more than 20dB below the limit are not reported.

The following graphs display the maximum values of horizontal and vertical by software.



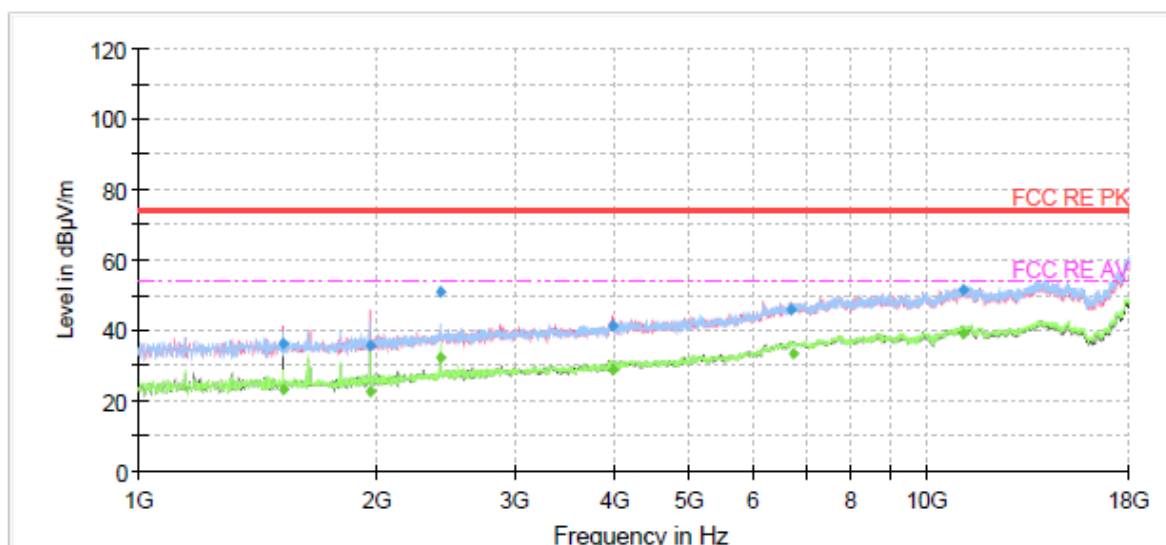
QP Level @Spectrum Overview H QP Level @Spectrum Overview V QP Level @Final Results QP Limit

Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
48.59	23.53	40.00	16.47	108.0	H	31.00	20
89.88	23.09	43.50	20.41	111.0	V	17.00	17
122.74	20.03	43.50	23.47	125.0	H	22.00	16
214.93	27.81	43.50	15.69	100.0	V	176.00	18
327.73	45.51	46.00	0.49	125.0	V	87.00	22
819.29	41.40	46.00	4.60	184.0	H	172.00	30

Remark: 1. Correction Factor = Antenna factor + Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak



PK Level @Spectrum Overview H (blue line) PK Level @Spectrum Overview V (pink line) PK Level @Final Results (blue diamonds) PK Limit (red line)
 AVG Level @Spectrum Overview H (green line) AVG Level @Spectrum Overview V (pink line) AVG Level @Final Results (green diamonds) AVG Limit (pink line)

Radiated Emission from 1GHz to 18GHz

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1522.75	36.45	---	74.00	37.55	1000.00	108.0	V	344.00	-14
1522.75	---	23.22	54.00	30.78	1000.00	125.0	V	340.00	-14
1964.75	---	22.90	54.00	31.10	1000.00	116.0	V	217.00	-12
1964.75	35.49	---	74.00	38.51	1000.00	125.0	V	210.00	-12
2413.13	---	32.00	54.00	22.00	1000.00	102.0	H	339.00	-10
2413.13	50.77	---	74.00	23.23	1000.00	100.0	H	356.00	-10
3983.50	---	28.62	54.00	25.38	1000.00	124.0	H	17.00	-4
3998.38	41.37	---	74.00	32.63	1000.00	108.0	V	0.00	-5
6699.25	45.87	---	74.00	28.13	1000.00	125.0	V	292.00	1
6748.13	---	33.47	54.00	20.53	1000.00	188.0	V	315.00	1
11074.63	51.65	---	74.00	22.35	1000.00	100.0	H	0.00	7
11098.00	---	38.84	54.00	15.16	1000.00	113.0	H	24.00	7

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit – MaxPeak / Average

3.2 Conducted Emission

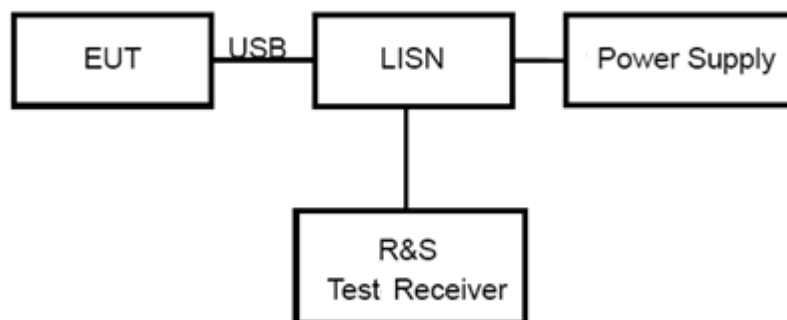
Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	30% ~ 60%

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

Test Setup



Note: Power Supply is AC Power source and it is used to change the voltage 120V/60Hz.

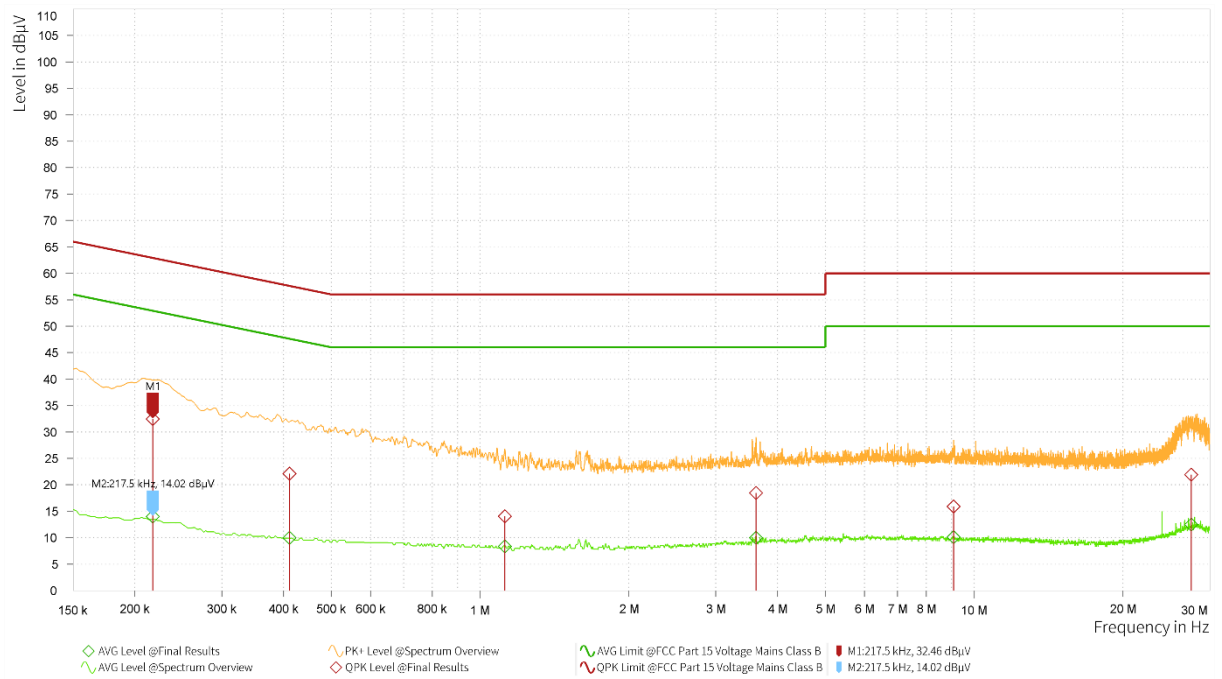
Limits

Frequency (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 to 56 *	56 to 46*
0.5 - 5	73	60	56	46
5 - 30	73	60	60	50

*: Decreases with the logarithm of the frequency.

Note: The EUT should meet CLASS B limit.

Test Results

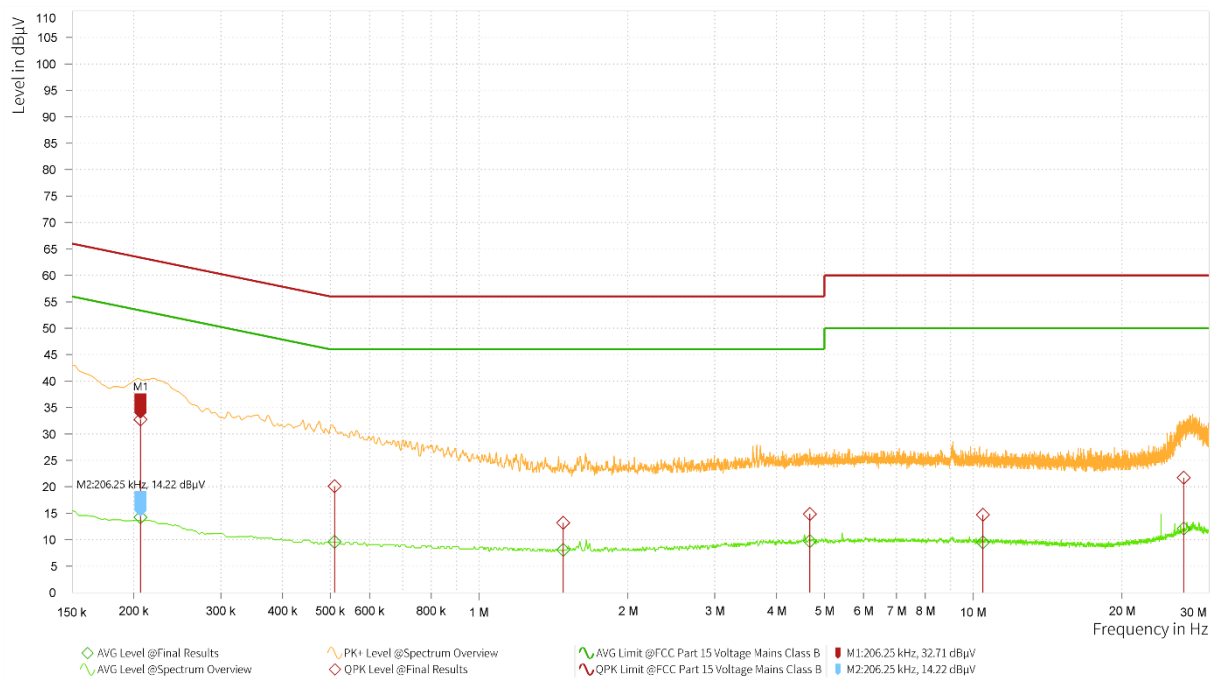


Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	AVG Level [dBμV]	AVG Limit [dBμV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.218	32.46	62.91	30.46	14.02	52.91	38.90	21.00	L1	9.000	1.000
0.411	22.12	57.63	35.51	9.94	47.63	37.68	20.86	L1	9.000	1.000
1.122	14.06	56.00	41.94	8.35	46.00	37.65	20.07	L1	9.000	1.000
3.620	18.47	56.00	37.53	9.97	46.00	36.03	19.44	L1	9.000	1.000
9.089	15.90	60.00	44.10	10.12	50.00	39.88	19.41	L1	9.000	1.000
27.510	21.91	60.00	38.09	12.46	50.00	37.54	19.81	L1	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

L line

Conducted Emission from 150 kHz to 30 MHz



Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	AVG Level [dBμV]	AVG Limit [dBμV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [s]
0.206	32.71	63.35	30.64	14.22	53.35	39.13	21.02	N	9.000	1.000
0.510	20.12	56.00	35.88	9.59	46.00	36.41	20.78	N	9.000	1.000
1.480	13.19	56.00	42.81	8.05	46.00	37.95	19.86	N	9.000	1.000
4.670	14.85	56.00	41.15	9.70	46.00	36.30	19.42	N	9.000	1.000
10.473	14.69	60.00	45.31	9.48	50.00	40.52	19.45	N	9.000	1.000
26.680	21.73	60.00	38.27	12.10	50.00	37.90	19.88	N	9.000	1.000

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 kHz to 30 MHz

4 Uncertainty Measurement

Case	Uncertainty	Factor k
Radiated Emission 30MHz – 200MHz	4.17 dB	1.96
Radiated Emission 200MHz – 1GHz	4.84 dB	1.96
Radiated Emission 1GHz – 18GHz	4.35 dB	1.96
Radiated Emission 18GHz – 26.5GHz	5.90 dB	1.96
Radiated Emission 26.5GHz – 40GHz	5.92 dB	1.96
Conducted Emission	2.57 dB	2

5 Main Test Instruments

Name of Equipment	Manufacturer	Type/Model	Serial Number/Version	Calibration Date	Expiration Time
Radiated Emission					
EMI Test Receiver	R&S	ESCI3	100948	2025-05-07	2026-05-06
Signal Analyzer	R&S	FSV40	101186	2025-05-06	2026-05-05
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1023	2023-07-14	2026-07-13
Horn Antenna	SCHWARZBECK	BBHA 9120D	430	2024-07-18	2027-07-17
Amplifier	R&S	SCU18F	101022	2025-05-06	2026-05-05
Software	R&S	EMC32	9.26.01	/	/
Conducted Emission					
Artificial main network	R&S	ENV216	102191	2024-12-02	2026-12-01
				2025-11-24	2026-11-23
EMI Test Receiver	R&S	ESR	101667	2025-05-06	2026-05-05
Software	R&S	ELEKTRA	5.02.1	/	/

6 The EUT Appearance

Refer to *EUT Appearance*.

7 Test Setup Photos

Refer to *EMC Test Setup*.

***** END OF REPORT *****