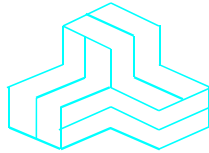


ENGINEERING TEST REPORT



ATEQ VT18 TPMS Tool
Model: VT18
FCC ID: 2AK5Y-VT18

Applicant:

Control Technology China Co., LTD
No. 98, Jianpeng Road
Jiuting Town, Songjiang District
Shanghai 201615
China

In Accordance With
Federal Communications Commission (FCC)
Part 15, Subpart C, Section 15.209

UltraTech's File No.: 26ATEQ019_FCC15C209

This Test report is Issued under the Authority of
Tri M. Luu
Vice President of Engineering
UltraTech Group of Labs

Date: April 23, 2026

Report Prepared by: Dan Huynh

Tested by: Angus Au

Issued Date: April 23, 2026

Test Date(s):
March 2 - 30, 2026

- *The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.*
- *This report must not be used by the client to claim product endorsement by any agency of the US Government.*
- *This test report shall not be reproduced, except in full, without a written approval from UltraTech*

UltraTech

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Lab Code: 0685



APEC TEL CA0001



1309



CA 0001/2049



AT-1945



SL2-IN-E-1119R



Korea KCC-RRR
CA0001

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EXHIBIT 1. INTRODUCTION

1.1. SCOPE

Reference:	FCC Part 15, Subpart C
Title:	Code of Federal Regulations (CFR), Title 47 Telecommunication, Part 15, Subpart C Intentional Radiators
Purpose of Test:	Equipment Certification for FCC Part 15C.
Test Procedures:	ANSI C63.4 and ANSI C63.10
Environmental Classification:	Commercial, industrial or business environment

1.2. RELATED SUBMITTAL(S)/GRANT(S)

None.

1.3. NORMATIVE REFERENCES

Publication	Year	Title
FCC 47 CFR 15	2025	Code of Federal Regulations (CFR), Title 47 – Telecommunication, Part 15 – Radio Frequency Devices
ANSI C63.4	2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40 GHz
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

EXHIBIT 2. PERFORMANCE ASSESSMENT

2.1. CLIENT INFORMATION

Applicant	
Name:	Control Technology China Co., LTD
Address:	No. 98, Jianpeng Road Jiuting Town, Songjiang District Shanghai 201615 China

Manufacturer	
Name:	Control Technology China Co., LTD
Address:	No. 98, Jianpeng Road Jiuting Town, Songjiang District Shanghai 201615 China

2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

The following information (with the exception of the Date of Receipt) has been supplied by the applicant.

Brand Name:	Control Technology China Co., LTD
Product Name:	ATEQ VT18 TPMS Tool
Model Name or Number:	VT18
Serial Number:	Test sample
Type of Equipment:	Part 15 Low Power Transmitter Below 1705 kHz
Input Power Supply Type:	Li-ion battery / External USB AC Adapter or PC USB Port
Primary User Functions of EUT:	Handheld TPMS (Tire Pressure Monitoring System) diagnostic tool for passenger vehicles.

2.3. EUT'S TECHNICAL SPECIFICATIONS

Transmitter	
Intended Operating Environment:	Commercial, light industry & heavy industry
Power Supply Requirement:	5V DC
Operating Frequency Range:	125 kHz
Field Strength:	68.74 dB μ V/m peak at 3m distance
20 dB Bandwidth:	4.407 kHz
Modulation Type:	ASK
Antenna Connector Type:	Integral coil antenna

The EUT contained an integrated certified ESPRESSIF SYSTEMS (SHANGHAI) CO., LTD Wi-Fi & Bluetooth Internet of Things Module (FCC ID: 2AC7Z-ESPC3WROOM). The module test data were leveraged in this filing.

2.4. LIST OF EUT'S PORTS

Port Number	EUT's Port Description	Number of Identical Ports	Connector Type	Cable Type (Shielded/Non-shielded)
1	USB-C — Charging and data communication	1	USB Type-C	Min. 2 m; shielded (data) / non-shielded (charge)

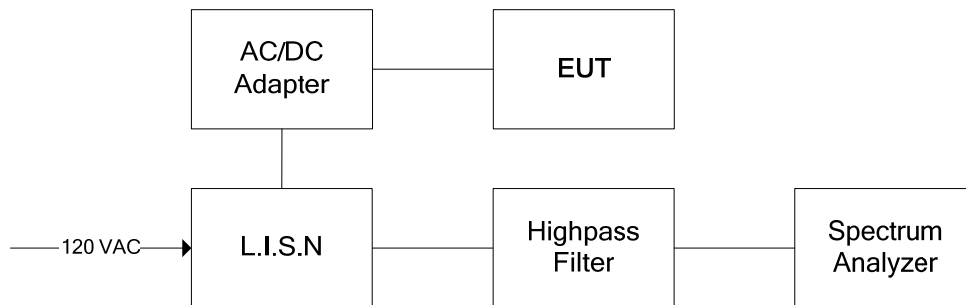
2.5. ANCILLARY EQUIPMENT

The EUT was tested while connected to the following representative configuration of ancillary equipment necessary to exercise the ports during tests:

- 1) J&S AC Adapter, M/N: JS-SW1260502000UN

2.6. TEST SETUP BLOCK DIAGRAM

2.6.1. Conducted Emissions



2.6.2. Radiated Emissions

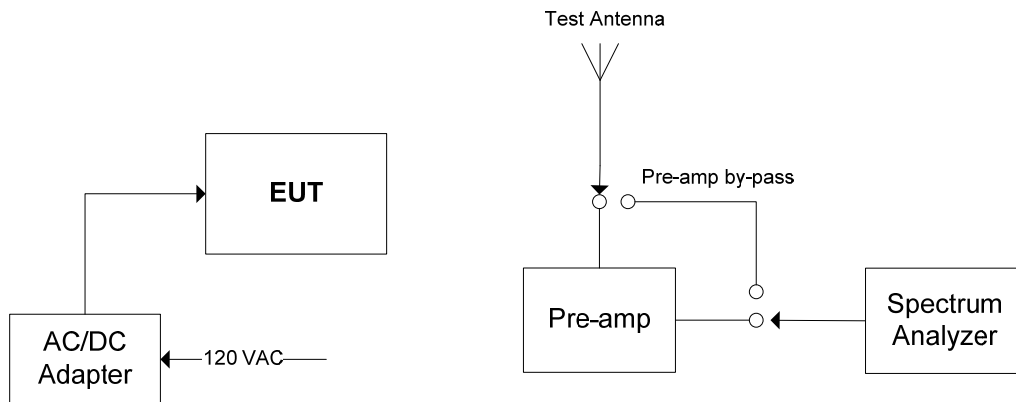


EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS

3.1. CLIMATE TEST CONDITIONS

The climate conditions of the test environment are as follows:

Temperature:	21 to 23 °C
Humidity:	45 to 58%
Pressure:	102 kPa
Power input source:	120 VAC via AC/DC Adapter

3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS

Operating Modes:	The EUT was configured for continuous transmission for the duration of testing.
Special Test Software:	N/A
Special Hardware Used:	N/A
Transmitter Test Antenna:	The EUT was tested with the antenna fitted in a manner typical of normal intended use as integral antenna equipment.

Transmitter Test Signals	
Frequency Band(s):	125 kHz
Test Frequency(ies):	125 kHz
RF Power Output:	68.74 dBµV/m Peak at 3m distance
Normal Test Modulation:	ASK
Modulating Signal Source:	Internal

EXHIBIT 4. SUMMARY OF TEST RESULTS

4.1. TEST LAB AND LOCATION

Company Name:	Ultratech Engineering labs Inc.	
Address:	3000 Bristol Circle, Oakville, Ontario, Canada, L6H 6G4 Tel.: (905) 829-1570 Fax.: (905) 829-8050 Website: www.ultratech-labs.com ,	
Test Site/Company Number:	FCC	ISED
	MRA: APEC TEL Designation no. CA0001 FRN: 0003781366	Company No.: 2049A CAB Identifier: CA0001

4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

FCC Section(s)	Test Requirements	Compliance (Yes/No)
15.203	Antenna Requirement	Yes*
15.207(a)	Power Line Conducted Emissions	Yes
15.209(a)	20 dB Bandwidth	Yes
15.209	Transmitter Radiated Emissions - Fundamental, Harmonic and Spurious Emissions	Yes

* The EUT complies with the requirement; it employs integral antenna.

4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

None.

EXHIBIT 5. TEST DATA

5.1. POWER LINE CONDUCTED EMISSIONS [§15.207(a)]

5.1.1. Limit(s)

The equipment shall meet the limits of the following table:

Frequency of emission (MHz)	Conducted Limits (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases linearly with the logarithm of the frequency

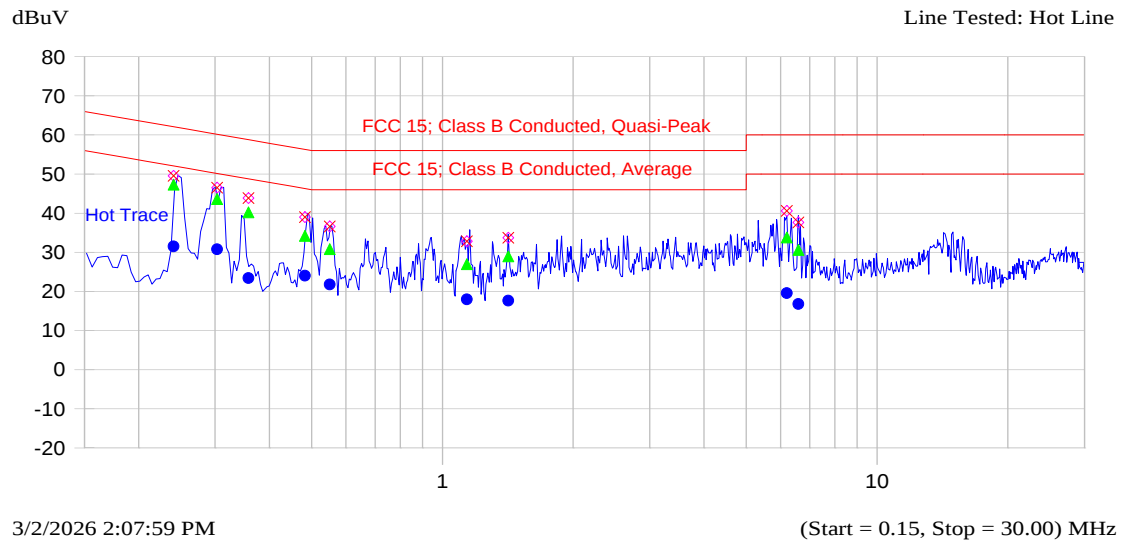
5.1.2. Method of Measurements

ANSI C63.4

5.1.3. Test Data

Plot 5.1.3.1. Power Line Conducted Emissions
Line Voltage 120 VAC, Line Tested: Hot

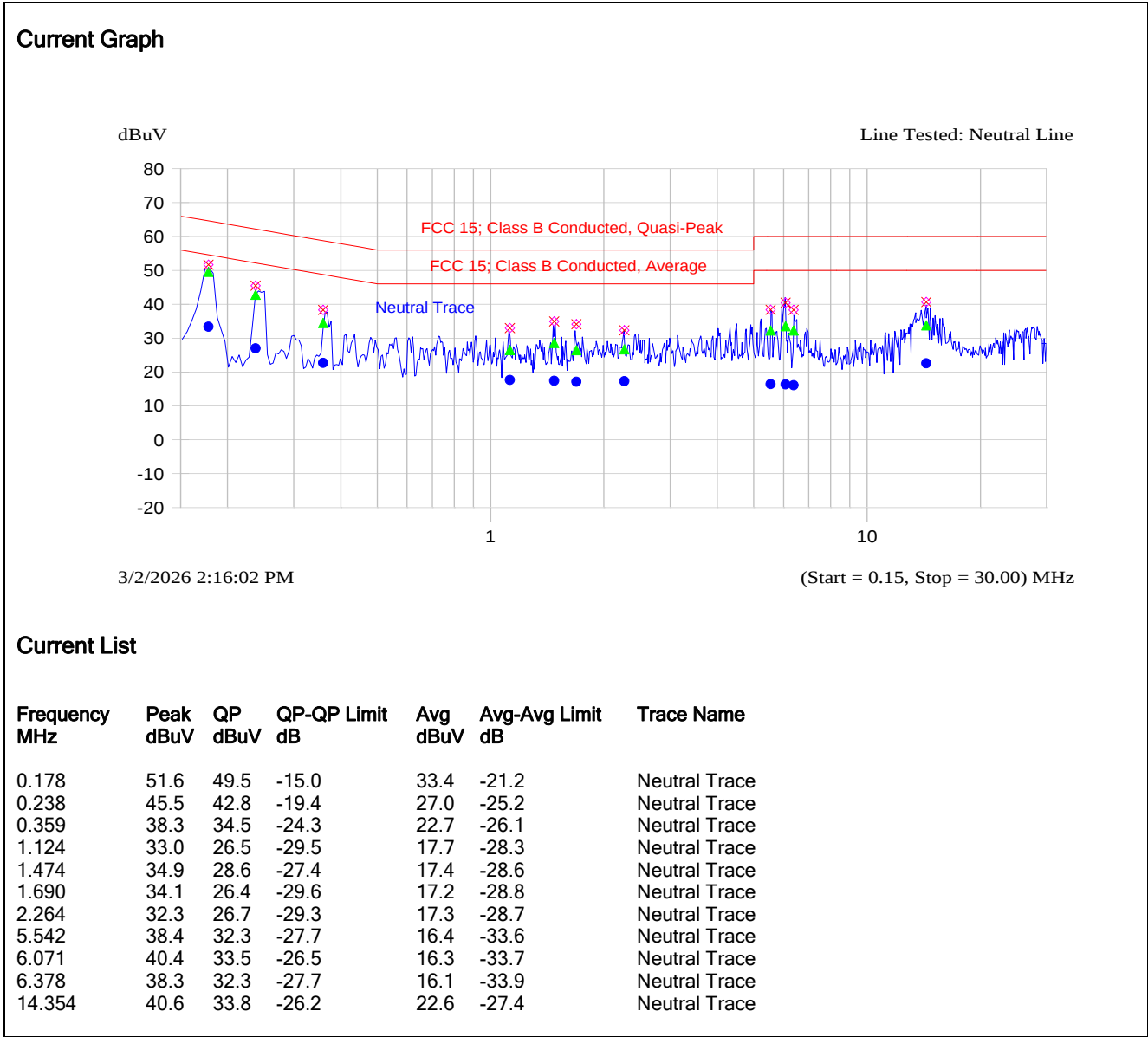
Current Graph



Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.241	49.5	47.3	-14.8	31.5	-20.6	Hot Trace
0.303	46.5	43.6	-16.5	30.8	-19.4	Hot Trace
0.358	43.8	40.2	-18.6	23.4	-25.4	Hot Trace
0.483	39.0	34.2	-22.1	24.0	-22.3	Hot Trace
0.550	36.6	30.8	-25.2	21.8	-24.2	Hot Trace
1.138	32.8	27.0	-29.0	18.0	-28.0	Hot Trace
1.418	33.7	29.0	-27.0	17.6	-28.4	Hot Trace
6.200	40.6	33.8	-26.2	19.6	-30.4	Hot Trace
6.592	37.6	30.6	-29.4	16.8	-33.2	Hot Trace

Plot 5.1.3.2. Power Line Conducted Emissions
Line Voltage120 VAC, Line Tested: Neutral



5.2. TRANSMITTER RADIATED EMISSIONS [47 CFR §§ 15.209 & 15.205]

5.2.1. Limit(s)

§ 15.209 Radiated emission limits; general requirements.

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

(b) In the emission table above, the tighter limit applies at the band edges.

(c) The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission. For intentional radiators which operate under the provisions of other sections within this part and which are required to reduce their unwanted emissions to the limits specified in this table, the limits in this table are based on the frequency of the unwanted emission and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(d) 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.

(e) The provisions in §§15.31, 15.33, and 15.35 for measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

(f) In accordance with §15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation of a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in §15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in §15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit. Emissions which must be measured above the tenth harmonic of the highest fundamental frequency designed to be emitted by the

intentional radiator and which fall within the restricted bands shall comply with the general radiated emission limits in §15.109 that are applicable to the incorporated digital device.

(g) Perimeter protection systems may operate in the 54-72 MHz and 76-88 MHz bands under the provisions of this section. The use of such perimeter protection systems is limited to industrial, business and commercial applications.

5.2.2. Method of Measurements

ANSI C63.10 for measurement methods.

5.2.3. Test Data

Remarks:

- The measuring receiver shall be tuned over the frequency range 10 kHz to 1 GHz.
- All spurious emissions that are in excess of 20 dB below the specified limit shall be recorded.
- EUT was initially tested at 3m and the value measured at 3m shall be extrapolated as applicable to compare with limit and measurement distance specified in section 15.209(a).
- Extrapolation factor of 40dB/decade shall be used for frequencies below 30 MHz.

5.2.3.1. Fundamental Emissions

Remarks: - Field strength limit of the fundamental 125 kHz at 300m distance is $20\log(2400/125) = 25.7$ dBμV/m - For frequency band 0.009- 0.490 MHz, the measured E-Field at 3m (column 2) will be extrapolated to 300m E-Field Level (column 3) using the extrapolation factor of $40\log(3/300) = -80$ dB					
---	--	--	--	--	--

Frequency (kHz)	Peak E-Field at 3m (dBμV/m)	Extrapolated E-Field Level at 300m (dBμV/m)	Antenna Plane (H/V)	§ 15.209 (a) Limits at 300m (dBμV/m)	Margin (dB)
125	68.74	-11.26	V	25.7	-37.0
125	68.22	-11.78	H	25.7	-37.5

5.2.3.2. Harmonic/Spurious Emissions

Remarks: - For frequency band 0.009- 0.490 MHz, the measured E-Field at 3m (column 2) will be extrapolated to 300m E-Field Level (column 3) using the extrapolation factor of $40\log(3/300) = -80$ dB - For frequency bands 0.490-1.705 MHz and 1.705-30.0 MHz, the measured E-Field at 3m (column 2) will be extrapolated to 30m E-Field Level (column 3) using the extrapolation factor of $40\log(3/30) = -40$ dB					
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Frequency (MHz)	Peak E-Field @ 3m (dBμV/m)	Extrapolated E-Field Level (dBμV/m)	Antenna Plane (H/V)	§ 15.209 (a) Limits (dBμV/m)	Margin (dB)
0.010 - 0.490	*	*	H / V	*	*
0.490 - 1.705	*	*	H / V	*	*
1.705 - 30.0	*	*	H / V	*	*

* No emissions or harmonics were detected within 20 dB of the limit.

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 26ATEQ019_FCC15C209
April 23, 2026

All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

5.3. 20 dB BANDWIDTH [47 CFR 15.209 (a)]

5.3.1. Limit(s)

Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., [§§ 15.231](#) and [15.241](#).

5.3.2. Method of Measurements

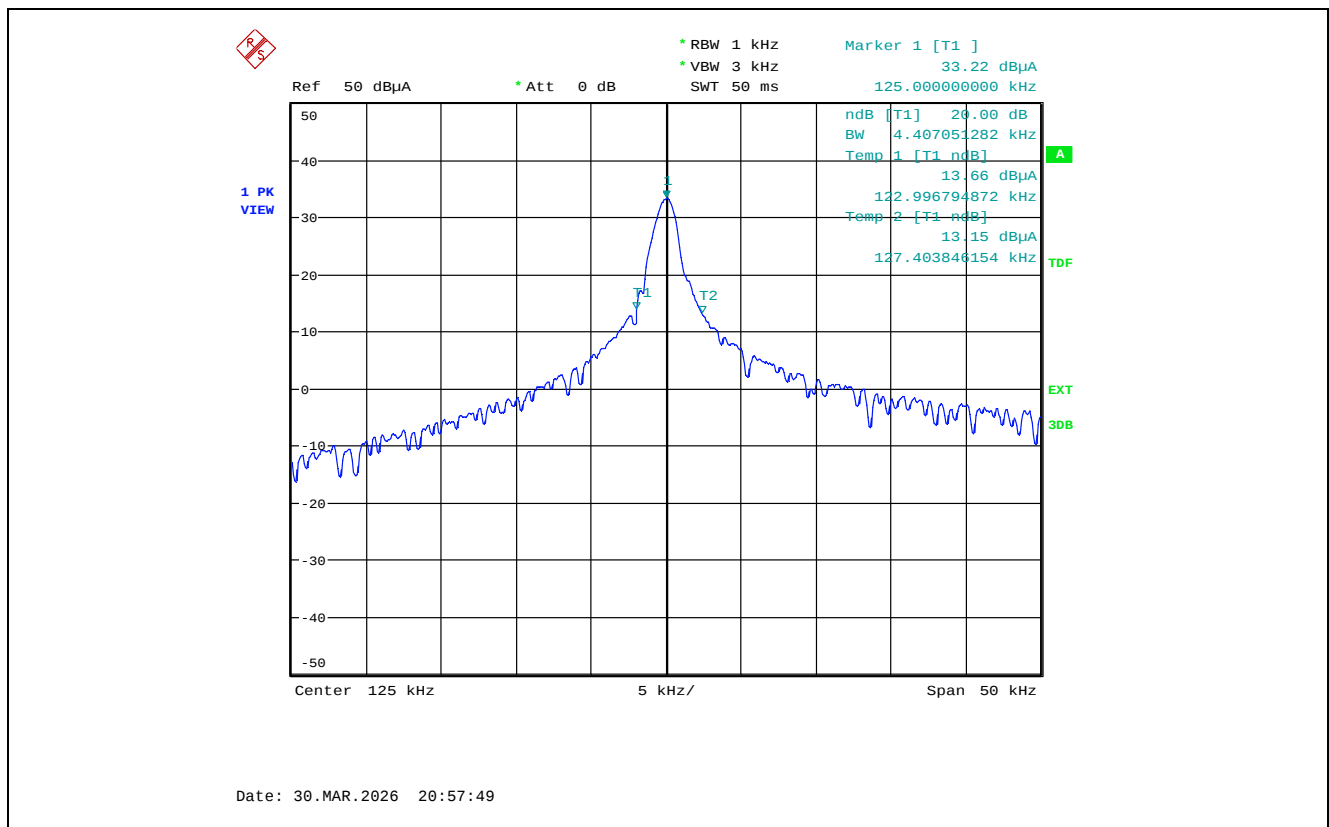
ANSI C63.10

5.3.3. Test Data

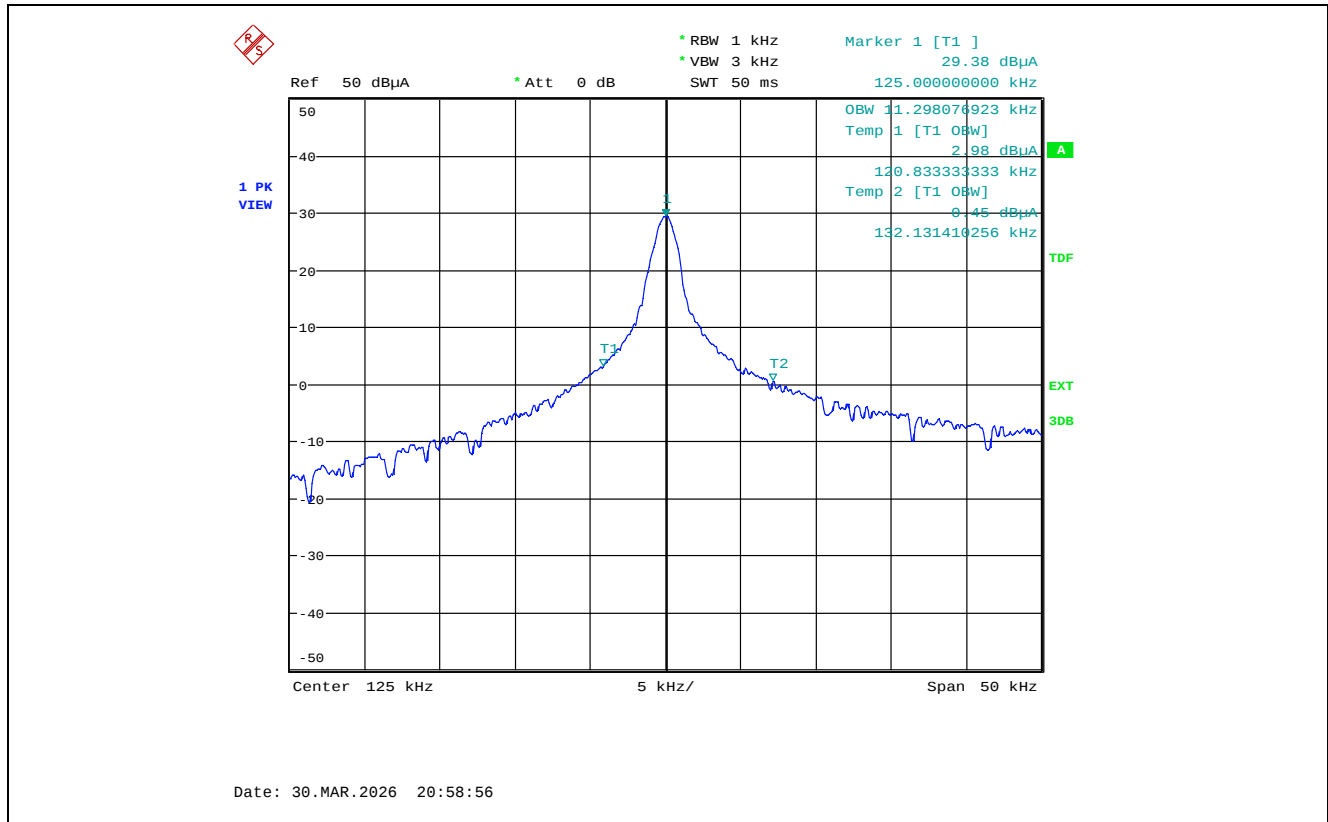
Channel Frequency	20 dB Bandwidth	99 %Occupied Bandwidth
125 kHz	4.407 kHz	11.298 kHz

See the following plot for details.

Plot 5.3.3.1. 20 dB Bandwidth, Fc: 125 kHz



Plot 5.3.3.2. 99% Occupied Bandwidth, Fc: 125 kHz



ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4

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EXHIBIT 6. TEST EQUIPMENT LIST

Test Instruments	Manufacturer	Model No.	Serial No.	Frequency Range	Cal. Due Date
Spectrum Analyzer	Hewlett Packard	8593EM	3710A00223	9 kHz–26.5 GHz	02 Sep 2026
Highpass Filter	Rohde & Schwarz	EZ-25	100064	Passband 150kHz to 30 MHz	29 Oct 2026
LISN	EMCO	3825/2	8907-1531	9 kHz–30 MHz	07 Apr 2027
Spectrum Analyzer	Rohde & Schwarz	ESU40	100037	20Hz-40GHz	15 Sep 2026
Loop Antenna	EMCO	6502	9104-2611	10kHz-30MHz	13 Jun 2026
Biconilog Antenna	EMCO	3142B	1575	26MHz-3000MHz	12 Nov 2026

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EXHIBIT 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the requirements of CISPR 16-4-2 @ IEC:2003 and JCGM 100:2008 (GUM 1995) – Guide to the Expression of Uncertainty in Measurement.

Test Description	Expanded Uncertainty, K=2 for 95% Confidence Level
Power Line Conducted Emissions	± 2.62 dB
Radiated Emissions	± 2.68 dB (10 kHz - 30 MHz)
	± 4.30 dB (30 MHz – 1 GHz)
Frequency Stability/Bandwidth	± 2 Hz

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