



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

CETECOM INC.
411 Dixon Landing Road
Milpitas, CA 95035
Kevin Wang Phone: +1 408 586 6200
Email: contact@cetecom.com

ELECTRICAL

Valid to: December 31, 2023

Certificate Number: 2135.01

In recognition of the successful completion of the A2LA Accreditation Program, accreditation is granted to this laboratory to perform the following Electromagnetic Compatibility, SAR, Telecommunications, Wireless, Bluetooth and OTA testing:

Test

Test Methods¹

Electromagnetic Compatibility

Emissions

Radiated and Conducted

47 CFR Part 15B (using ANSI C63.4-2014), and Part 18 (using MP-5:1986); ICES-003; CISPR 11; EN 55011; AS/NZS CISPR 11; CISPR 22; EN 55022; AS/NZS CISPR 22; CISPR 32 (*excluding equipment within the scope of CISPR 13*); EN 55032; VCCI-CISPR 32:2016; KS C 9832:2019; RRA Public Notification 2017-19, Dec 28, 2017; RRA Announce 2017-71, Dec 28, 2017; CNS 13438; IEC 60601-1-2; EN 60601-1-2

Harmonic Current Emissions

EN 61000-3-2; IEC 61000-3-2; KN 61000-3-2; CNS 14934-2

Voltage Fluctuations and Flicker

EN 61000-3-3; IEC 61000-3-3; KN 61000-3-3; CNS 14934-3

Generic and Product Family Standards

IEC 61000-6-1; EN 61000-6-1; IEC 61000-6-2; EN 61000-6-2; IEC 61000-6-3; EN 61000-6-3; IEC 61000-6-4; EN 61000-6-4; EN 301 489-1; EN 301 489-3; EN 301 489-7; EN 301 489-17; KN 301-489-1; KN 301 489-17; EN 301 489-24; KS X 3124:2020; KS X 3126:2020; KS X 3129:2020

Immunity

EN 61000-6-1; IEC 61000-6-1; IEC 61000-6-2; EN 61000-6-2; AS/NZS 61000.6.1; CISPR 24; EN 55035; KS C 9835:2019; CNS 14675; AS/NZS CISPR 24; EN 55024

Electrostatic Discharge (ESD)

EN 61000-4-2; IEC 61000-4-2; KN 61000-4-2; CNS 14676-2

Radiated Immunity

EN 61000-4-3; IEC 61000-4-3; KN 61000-4-3; CNS 14676-3

Electrical Fast Transients/Bursts (EFT/B)

EN 61000-4-4; IEC 61000-4-4; KN 61000-4-4; CNS 14676-4

Test

Immunity (cont'd)
Surge

Conducted Immunity

Power Frequency Magnetic Immunity

Voltage Dips, Short Interruptions and
Voltage Variations

Radio Communications
Intentional Radiators

***Human Exposure to RF Electromagnetic
Fields***
Specific Absorption Rate (SAR)

Test Methods¹

EN 61000-4-5; IEC 61000-4-5; KN 6100-4-5; CNS 14676-5

EN 61000-4-6; IEC 61000-4-6; KN 61000-4-6; CNS 14676-6

EN 61000-4-8; IEC 61000-4-11; KN 61000-4-8; CNS 14676-8

EN 61000-4-11; IEC 61000-4-11; KN 61000-4-11;
CNS 14676-11

47 CFR Part 15C, E (using ANSI C63.10-2013 and/or
FCC KDB 905462 D02 (v02));
47 CFR Part 15D (using ANSI C63.17:2015);
47 CFR Parts 22, 24, 25, 27, 30, 74, 90, 95, 96, 97,
and 101 (using Part 2, ANSI/TIA 603-E or ANSI
C63.26:2015); 47 CFR Part 15F (using ANSI C63.10:2013);
RSS-GEN; RSS-HAC; RSS-102 measurement (RF Exposure,
SAR, and NS); SPR-002; RSS-111; RSS-112; RSS-119; RSS-
123; RSS-125; RSS-127; RSS-130; RSS-131; RSS-132; RSS-
133; RSS-134; RSS-135; RSS-137; RSS-139; RSS-140; RSS-
142; RSS-170; RSS-191; RSS-192; RSS-194; RSS-195; RSS-
196; RSS-197; RSS-199; RSS-210; RSS-211; RSS-213; RSS-
215; RSS-216; RSS-220; RSS-222; RSS-236; RSS-238; RSS-
243; RSS-244; RSS-246; RSS-247; RSS-251; RSS-252; RSS-
287; RSS-288;
QCVN 54:2020/BTTTT; QCVN 55:2011/BTTTT;
QCVN 18:2014/BTTTT; QCVN 65:2013/BTTTT;
TCVN 7189:2009; TCVN 7317:2003;
AS/NZS 4771; AS 2772.2; AS/NZS 4268;
MSIT Public Notification 2018-38; KS X 3123;
LP0002 Section 3.10 & 4.7;
N1: Specified Radio Equipment Specified in Article 38-2-2,
Paragraph 1, Item 1 of the Radio Law; Article 49-20, 21 of the
Ordinance Regulating Radio Equipment;
EN 300 328; EN 301 893; EN 300 220;
EN 300 440-1; EN 300 440-2; EN 300 330-1;
EN 300 330-2; EN 300 113; EN 300 487; EN 301 511;
EN 301 908-1; EN 301 908-2;
EN 301 908-6; EN 301 908-13; EN 301 908-14; EN 301 091-1;
EN 301 091-2; EN 301 091-3; EN 301 441; EN 302 065;
EN 302 208; EN 302 264; EN 302 502; EN 302 858;
EN 303 413; EN 303 417; ARIB T-33; ARIB T-66;
ARIB T-71; NOM 121-SCT1-2009

EN 50360; EN 50371; EN 62311; EN 62479; EN 50364;
EN 50566; FCC OET 65, Supplement C;
Australian Communications Authority,
Radio Communications (Electromagnetic Radiation,
Human Exposure) Standard 2003; IEC 62209-1; RSS-102;
IEC 62209-2; EN 62209-1; EN 62209-2; IEEE Std. C95.1;

Test

Specific Absorption Rate (SAR) (cont.)

Hearing Aid Compatibility (HAC)

Wireless Certification Schemes

OTA (Over The Air Performance)

Bluetooth

Wi-Fi

Spurious Emissions According to PTCRB

Mobile Communications

2G/3G/4G Audio

CTIA IoT Cybersecurity²

Test Methods¹

IEEE Std. C95.3; IEEE 1528:2003 + A1;
IEEC 1528a:2005; IEEE Std. 1528:2013; NZS 2772.1;
AS/NZS 2772.2

ANSI C63.19:2011; CTIA HAC

CTIA Test Plan for Wireless Device Over-the-Air Performance;
CTIA Test Plan for RF Performance Evaluation of Wi-Fi
Mobile Converged Devices;
T-MOBILE; AT&T; SPRINT; VODAFONE;
VzW LTE Over the Air Radiated Performance Test Plan;
VZW Over the Air Radiated Performance for CDMA & LTE
Multimode Devices Test Plan

T-Mobile Interoperability Handset Compatibility Testing

WMM System Interoperability Test Plan with Test
Engine; WMM Power Save System Interoperability
Test Plan; Wi-Fi WPS Test Plan Wi-Fi Alliance; 802.11n
2.0 System Interoperability Test Plan; 802.11 ac, Voice
Personal; Miracast; Wi-Fi Direct; WMM-AC; Passpoint

3GPP TS 34.114; 3GPP TS 25.144; 3GPP TS 34.124;
3GPP TS 36.124; 3GPP TS 38.124

AS/ACIF S042.1; 3GPP TS.26.132; 3GPP2 CS0056-A;
VzW Codec and Voice Quality;
CTIA Speech Performance Test Plan;
GSMA Minimum Requirements for Mobile Networks and
Terminals for the usage of the 'HD Voice' Logo with
GSM/UMTS (Annex C);
GSMA Minimum Requirements for Mobile Networks and
Terminals for the usage of the 'HD Voice' Logo with
CDMA2000 (Annex D);
GSMA Minimum Requirements for Mobile Networks and
Terminals for the usage of the 'HD Voice' Logo with LTE
(Annex F)

CTIA Cybersecurity Certification Test Plan for IoT Devices

¹ When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard test method per part C., Section 1 of A2LA R101 - *General Requirements - Accreditation of ISO-IEC 17025 Laboratories*.

² Accreditation to the requirements of the CTIA Certification Test Plan does not imply authorization by the CTIA Certification program. Please see the CTIA website <https://ctiacertification.org/test-labs/> for a listing of Authorized Test Labs (ATLs).

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1³:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	40000
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5 (February 1986)	40000
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	500000
<u>Unlicensed Personal Communication Systems Devices</u> Part 15D	ANSI C63.17:2013	40000
<u>U-NIII without DFS Intentional Radiators</u> Part 15E	ANSI C63.10:2013	40000
<u>U-NII with DFS Intentional Radiators</u> Part 15E	FCC KDB 905462 D02 (v02)	40000
<u>UWB Intentional Radiators</u> Part 15F	ANSI C63.10:2013	500000
<u>Commercial Mobile Services (FCC Licensed Radio Service Equipment)</u> Part 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E or ANSI C63.26:2015	40000
<u>General Mobile Radio Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (non-cellular), 90 (below 3 GHz), 95, 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-E or ANSI C63.26:2015	40000
<u>Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment)</u> Part 96	ANSI/TIA-603-E or ANSI C63.26:2015	40000
<u>Microwave and Millimeter Bands Radio Services</u> Parts 25, 30, 74, 90 (above 3 GHz), 95 (above 3 GHz), 97 (above 3 GHz), and 101	ANSI/TIA-603-E or ANSI C63.26:2015	200000
<u>RF Exposure</u> Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000



Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1³:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Hearing Aid Compatibility</u> Part 20 (HAC for Commercial Mobile Services)	ANSI C63.19:2011	3000

³Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (<https://apps.fcc.gov/oetcf/eas/>) for a listing of FCC approved laboratories.

On the following product types: Telecommunications Terminal Equipment (TTE), Radio Equipment, Network Equipment, Information Technology Equipment (ITE), Automotive Electronic Equipment, Radiocommunication Equipment and Systems, Vehicles, Medical Electrical Equipment, Motors, Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment, Household Appliances, Electric Tools, Low-voltage Switchgear and Controlgear, Programmable Controllers, Electrical Equipment for Measurement, Control and Laboratory Use





Accredited Laboratory

A2LA has accredited

CETECOM INC.

Milpitas, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 7th day of March 2022.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2135.01
Valid to December 31, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.