



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CETECOM INC.  
411 Dixon Landing Road  
Milpitas, CA 95035  
Franz Engert Phone: 408 586 6205

ELECTRICAL

Valid to: December 31, 2019

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 Methods<sup>1,2</sup>**

***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; KN 32; 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 61000-6-3; EN 61000-6-3; 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; EN 301489-52

***Immunity***

EN 61000-6-1; IEC 61000-6-1; AS/NZS 61000.6.1; CISPR 24; EN 55035; KN 35; 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

Surge

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

Conducted Immunity

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

**Test**

*Immunity (cont'd)*

Voltage Dips, Short Interruptions and Voltage Variations

***Radio Communications***

*Intentional and Unintentional Radiators*

**Test Methods<sup>1,2</sup>**

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

47 CFR Parts 2 and 11;  
47 CFR Part 15B (using ANSI C63.4-2014);  
47 CFR Part 15C, E (using ANSI C63.10-2013 and/or FCC KDB 905462 D02 (v02));  
47 CFR Part 18 (using FCC MP-5:1986);  
47 CFR Parts 22, 24, 25, 27, 90, 95, 97, and 101 (using Part 2, ANSI/TIA 603-D); ANSI/TIA 603-C;  
RSS-102; RSS-112; RSS-130; RSS-132; RSS-133; RSS-134; RSS-139; RSS-170; RSS-199; RSS-210; RSS-213; RSS-215; RSS-216; RSS-220; RSS-222; RSS-243; RSS-244; RSS-247; RSS-GEN;  
QCVN 54:2011/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; MIST Public Notification 2018-38; KS X 3123; LP0002 Section 3.10 and 4.7; B1: 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 301 511; EN 301 908-1; EN 301 908-2; EN 301 908-6; EN 301 908-13; EN 301 908-14; EN 303 413; ARIB T-33; ARIB T-66; ARIB T-71; NOM 121-SCT1-2009

***Human Exposure to RF Electromagnetic Fields***

*Specific Absorption Rate (SAR)*

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

***Hearing Aid Compatibility (HAC)***

ANSI C63.19:2011; CTIA HAC



**Test**

**Test Methods<sup>1,2</sup>**

***Wireless Certification Schemes***  
*OTA (Over The Air Performance)*

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

*Bluetooth*

T-Mobile Interoperability Handset Compatibility Testing

*Wi-Fi*

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

*Spurious Emissions According to PTCRB*

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

***Mobile Communications***  
2G/GSM/GERAN

ETSI TS 151 010-1; 3GPP TS 51.010-1;  
ETSI TS 151 010-2; 3GPP TS 51.010-2;  
ETSI TS 126 132; 3GPP TS 26.132;  
ETSI EN 301 511;  
PTCRB NAPRD03; PTCRB PPMD;  
GCF-CC;  
AS/CA S042.1;  
AS/ACIF S042.3; QCVN 12:2010/BTTTT

3G/WCDMA/UTRA  
4G/LTE/E-UTRA

ETSI TS 126.132; 3GPP TS 26.132;  
PTCRB NAPRD03; PTCRB PPMD; GCF-CC;  
QCVN 15:2010/BTTTT

2G/3G/4G Carrier Acceptance

VzW LTE Over-the-Air Radiated Performance Test Plan;  
VZW Over-the-Air Radiated Performance for CDMA & LTE  
Multimode Devices Test Plan;  
VzW Codec and Voice Quality;  
VzW IMS VoIP (Acoustic tests only);  
VZW LTE OTADM Test Plan;  
VZW Voice over Wi-Fi;  
GCF-TS027 e1xCSFB Conformance Test Specification;  
GCF-TS28 LTE-CDMA2000 Inter-Radio Access Technology  
Conformance Test Specification

**Test****Test Methods<sup>1,2</sup>*****Mobile Communications (cont'd)***

2G/3G/4G Audio

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)

<sup>1</sup> This laboratory location is not currently accredited for RSS-111, RSS-119, RSS-123, RSS-125, RSS-127, RSS-131, RSS-135, RSS-137, RSS-197, RSS-211, RSS-236, RSS-238, RSS-251, RSS-287, and RSS-288, but sub-contracts these tests in support of Innovation Science and Economic Development's (ISED) Radio Scope 1 and Radio Scope 3 for their Product Certification Body (A2LA Certificate #2135.03), as permitted by ISED document CB-02, "Recognition Criteria, and Administrative and Operational Requirements Applicable to Certification Bodies (CB) for the Certification of Radio Apparatus to Industry Canada's Standards and Specifications".

<sup>2</sup> When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is expected to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - General Requirements - Accreditation of ISO-IEC 17025 Laboratories.

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1<sup>3</sup>:

<b>Rule Subpart/Technology</b>	<b>Test Method</b>	<b>Maximum Frequency (MHz)</b>
Unintentional Radiators Part 15B	ANSI C63.4:2014	40000
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	40000
Intentional Radiators Part 15C	ANSI C63.10:2013	40000
U-NIII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000
U-NII with DFS Intentional Radiators Part 15E	FCC KDB 905462 D02 (v02)	40000



Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1<sup>3</sup>:

<b>Rule Subpart/Technology</b>	<b>Test Method</b>	<b>Maximum Frequency (MHz)</b>
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Part 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-D	40000
General Mobile Radio Services (FCC Licensed Radio Service Equipment) Parts 22 (non-cellular), 90 (below 3 GHz), 95, 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-D	40000
RF Exposure Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000
Hearing Aid Compatibility Part 20 (HAC for Commercial Mobile Services)	ANSI C63.19:2011	3000

<sup>3</sup>Accreditation 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 17025:2005 *General requirements for the competence of testing and calibration laboratories*. 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 6<sup>th</sup> day of July 2018.

A blue ink signature of the Senior Director of Accreditation Services.

Senior Director, Accreditation Services  
For the Accreditation Council  
Certificate Number 2135.01  
Valid to December 31, 2019  
Revised February 27, 2019

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