SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

PCTEST ENGINEERING LABORATORY, LLC
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ELECTRICAL[1]

Valid To: May 31, 2022 Certificate Number: 2041.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above, ***as well as the two satellite laboratory locations listed below***, to perform the following Electromagnetic Compatibility, SAR, HAC, Telecommunications, OTA, Battery, RF, and Conformance and Protocol testing of wireless devices:

Test Technology:	**Test Method(s) [2]:**
Emissions Radiated and Conducted	CFR 47, FCC Parts 15B/C/D/E/F/G/H (using ANSI C63.4:2014, ANSI C63.10:2013, ANSI C63.17:2013, and FCC KDB 905462 D02 (v02)), 18 (using MP-5:1986); ANSI C63.10:2020; KDB 987594; ETSI TS 134 124 Universal Mobile Telecommunications System (UMTS); (3GPP TS 34.124); (3GPP TS38.124 NR; Electromagnetic Compatibility (EMC) Requirements for Mobile Terminals and Ancillary Equipment); ETSI TS 136 124 LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); (3GPP TS 36.124); ETSI TS 151 010-1 Digital Cellular Telecommunications System (Phase 2+) (GSM); 3GPP TS 51.010-1, Section 12 (Conducted and Radiated Spurious Emissions); EN55011; EN 55032; CNS 13438 (up to 6 GHz); AS/NZS CISPR 11; IEC/CISPR 11; CISPR 32; FCC OET/MP-5; ICES-003; KN 11; KN 32; VCCI V-3(2016.11); VCCI V-3 (2015.04); VCCI 32-1: VCCI-CISPR 32
Accessibility	CFR 47, FCC Part 14
Transmitter/Receiver	RSS 111; RSS 112; RSS 117; 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 141; RSS 142; RSS 170; RSS 181; RSS 182; 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; RSS 310; RSS Gen

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Test Technology:	**Test Method(s) [2]:**
SAR/RF Exposure	IEEE 1528-2013; RSS 102 Issue 5 (2015); EN 50360-2017; EN 62209-1:2016; EN 62209-2:2010; IEC 62209-1 2nd Edition 2016; IEC 62209-2 2010; IEC PAS 63083-2017; EN 50566-2017; IEC 62209-2 AMD 1; Australian Communications Authority Radio Communications (Electromagnetic Radiation – Human Exposure) Standard 2014; FCC KDB 248227 D01; FCC KDB 447498 D01, D02, and D03; FCC KDB 615223 D01; FCC KDB 616217 D04; FCC KDB 643646 D01; FCC KDB 648474 D03 and D04; FCC KDB 680106 D01; FCC KDB 865664 D01 and D02; FCC KDB 941225 D01, D05, D05A, D06, and D07; EN 50401:2017; EN 50385:2017; IEC 62311:2008; IEC 62479:2010; EN 62479:2010; EN 50663:2017; EN 62311:2007; EN 62232:2017; IEC 62232:2017; IEEE C95.1-2005; IEEE C95.1-1992; IEEE C95.3-2002; RSS-102 (SAR. RF Exposure, NS), SPR-003; SPR-002; SPR-001; SPR-004; IEC TR 62630:2010; IEEE C95.3.1:2010; IEC TR 63170:2018; AS/NZS 2772.2:2016; EN 62209-3: 2019; IEC 62209-3:2019; C95.1: 2019; ICNIRP (100KHz – 300 GHz): 2020; IEC 62311:2019; EN 62311:2020; IEC/IEEE 62209-1528:2020; RRA Public Notification 2018-18, December 7, 2018
Hearing Aid Compatibility	ANSI C63.19:2007; ANSI C63.19:2011; ANSI C63.19:2019; CTIA Test Plan for Hearing Aid Compatibility v.3.1.1 (2017); FCC KDB 285076, D01 & D02; RSS-HAC
United States Radio	47 CFR FCC Parts 20, 22, 24, 25, 27, 30, 73, 74, 80, 87, 90, 95, 96, 97, 101 (using ANSI/TIA-603-E, TIA-102.CAAA-E, ANSI C63.26:2015); ANSI/TIA-603-D; TIA-102.CAAA-D; FCC KDB 935210 D03 (v04); FCC KDB 935210 D04 (v02); FCC KDB 935210 D05 (v01)
European Radio	ETSI EN 302 065-1 Version 2.1.1 (2016-11); ETSI EN 302 065-2 Version 2.1.1 (2016-11); ETSI EN 302 065-3 Version 2.1.1 (2016-11); ETSI EN 302 065-4 Version 1.1.1 (2016-11); ETSI EN 302 291-1 Version 1.1.1 (2005-07); ETSI EN 302 291-2 Version 1.1.1 (2005-07); ETSI EN 302 502 Version 2.1.3 (2017-07); ETSI EN 302 510-1 Version 1.1.1; ETSI EN 302 510-2 Version 1.1.1; ETSI EN 302 537 Version 2.1.1 (2016-10); ETSI EN 301 511 Version 12.5.1 (2017-03); ETSI EN 301 839 Version 2.1.1 (2016-04); ETSI EN 301 893 Version 2.1.1 (2017-05); ETSI EN 301 893 Version 1.8.1 (2015-03); ETSI EN 301 908-1 Version 13.1.1 (2019-11); ETSI EN 301 908-13 Version 13.1.1 (2019-11)**;**

Test Technology:	**Test Method(s) [2]:**
European Radio (cont'd)	ETSI EN 300 220-1 Version 3.1.1 (2017-02); ETSI EN 300 220-2 Version 3.2.1 (2018-06); ETSI EN 300 328 Version 2.1.1 (2016-11); ETSI EN 300 328 Version 2.2.2 (2019-07); ETSI EN 300 330 Version 2.1.1 (2017-02); ETSI EN 300 440 Version 2. (22.1 (2018-07); ETSI EN 300 440-2 Version 1.4.1 (2010-08); KS X 3123, KS X 3142, KS X 3270, KS X 3271; LP0002; DGT LP0002;
Korean Radio	Regulations on Radio Equipment (MSIT Ordinance MSIT No. 63, Dec. 24, 2020); Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2020-59, Oct. 16, 2020); Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2019-4, January 16, 2019); Equipment to be Subject of the Test Procedure for Electromagnetic Field Strength and Specific Absorption Rate (RRA Public Notification 2019-1, January 17, 2019); Technical Requirements for Radio Equipment for Telecommunication Services (RRA Public Notification 2019-9, June 3, 2019); Technical Requirements for Measurement and Test Procedure of Specific Absorption Rate (RRA Public Notification 2018-18, Dec 7, 2018); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2019-3, March 4, 2019)
Australia/New Zealand Radio	AS/NZS 4268:2017
Licensed Wireless Devices	ANSI C63.26:2015
Wired and Wireless Conformance	
5G NR	3GPP TS 38.508-1; 3GPP TS 38.508-2; 3GPP TS 38.521-1; 3GPP TS 38.521-2; 3GPP TS 38.521-3; 3GPP TS 38.521-4; 3GPP TS 38.522; 3GPP TS 38.523-1; 3GPP TS 38.523-2; 3GPP 38.523-3; 3GPP TS 38.533; VZW 5G NR FR2 RFOTA; VZW 5G Protocol Pre-Conformance (TS 38.523-1); VZW 5G NR FR1 Supp RF; VZW 5G NR RF Pre Conformance (TS 38.521-3); VZW 5G NR Radio Resource Management (RRM) Pre-Confromance (TS 38.533)

Test Technology:	**Test Method(s) [2]:**
LTE	3GPP TS 36.521-1; 3GPP TS 36.521-3; 3GPP TS 36.523-1; 3GPP 37.571-1; 3GPP 37.571-2; 3GPP TS 34.229; 3GPP Carrier Aggregation; PTCRB NAPRD.03; PTCRB PPMD; PTCRB Cat-M (per RFT132 eMTC); PVG.09 LTE Data Throughput & TR 37.901 Data Throughput Performance; PVG.04 PTCRB Radiated Spurious Emissions; Global Certification Forum (GCF-CC) Certification / LTE Field Test (TS.11) [3]; 3GPP Cat-NB & Cat-M; MetroPCS Lab Conformance; AT&T LTE Conformance; AT&T IoT Accelerator Conformance, 19263; VZW Lab Conformance; VZW Supl RF; VZW FR2 Supplementary RF, VZW FR1 Supplementary RF; VZW Supl Signaling Conformance; VZW Supl RRM; VZW LTE LBS Performance; VZW Safe for Network (SFN), VZW Phase 1, VZW Open Development and Field Interoperability Testing (FIT) [3]; VZW Network Extender; VZW PCO; VZW Data Retry; VZW Data Throughput; VZW SMS; VZW AT Commands; VZW CMAS; VZW eMBMS; VZW APN; VZW Cat-M VoLTE; Live Network Extender and Android Test Plan; Sprint LTE Test Plan; Sprint LTE Safe for Network (SFN); Sprint LTE Conformance; Sprint LTE IoT; Sprint Lab Conformance; USCC Lab Conformance; KDDI LTE Device Testing; SoftBank LTE Testing
WCDMA (UTRA)	3GPP TS 34.121-1; 3GPP TS 34.123-1; SoftBank Mobile WCDMA Testing
SVLTE / Multimode	CDMA-LTE Inter-RAT (iRAT); CDMA-LTE Inter-RAT SVD; SVLTE: 1x RF with LTE Data Cal; SVLTE: LTE RF with 1x Voice Call; SVD and SVLTE: LTE Data Throughput with 1x Voice Call; eHRPD; GMSS; SVD GMSS; E911 Data Call Processing; Stress Testing; RSSI for MM Devices; SVD Interband; LTE LBS Performance; VZW Multimode Supl Signaling; VZW Multimode SMS; VZW Multimode Data Retry
VoLTE	IMS VoIP; Rich Communication Services (RCS); VoLTE to 1xRTT Fallback for SVLTE (1xRTT Fallback); IMS Registration and Retry; ePDG Live Network; E911 for VoLTE; VZW hVoLTE; VZW VoIP and VT Performance; VZW Interband RRM and Protocol

Test Technology:	**Test Method(s) [2]:**
Carrier Aggregation	VZW Carrier Aggregation Supplementary RF; VZW Carrier Aggregation Data Throughout
UICC	USIM/USAT/CSIM/ISIM Interaction Test Plan (LTE/WCDMA/GSM/CDMA/MM); 3GPP TS 31.121; 3GPP TS 31.124; ETSI TS 102 230; SIM Application Interaction Test Plan; UICC USIM ISIM Electrical; UICC USIM ISIM Protocol (LTE/WCDMA/GSM/CDMA); SWP/HCI ETSI TS 102 694-1; ETSI TS 102 695-1
SunSpec Alliance	SunSpec – CSIP (Common Smart Inverter Profile) Conformance Test Procedures; SunSpec – Advanced Function Inverter Test Lab Specification; SunSpec – UL1741 Supplement SA/Rule 21 Implementation Guide; IEEE 2030.5-2018 Smart Energy Profile Application Protocol
CBRS (OnGo) / WInnForum	CBRS Alliance Certification Test Plan; WInnForum Conformance and Performance Test Technical Standards

[1] This accreditation covers testing performed at the main laboratory listed above, and the two satellite laboratories listed below:

Test Technology:	**Test Method(s) [2]:**
Wireless	3GPP2 C.S0011-C 20-Feb-2006 (TIA-98D/E/F) (*excluding Sections 3.2.1.3, 3.2.3.2, 3.3.3, 3.3.4, 3.3.5, 3.3.6, 3.4.6, 3.4.8, 3.4.10, 3.4.11, 3.4.12, 3.4.13, 3.7.2, 4.4.8, 4.4.9.2.1, 4.4.10, 4.4.11*); 3GPP2 C.S0043-0 24-Sep-2004 (TIA-1035); 3GPP2 C.S0036-0 11-Mar-2002 (TIA-916); 3GPP2 C.S0036-A 23-May-2011 (TIA-916-A); 3GPP2 C.S0037-0 19-Apr-2002 (TIA-918); 3GPP2 C.S0056-0 22-Jul-2005 (TIA-1042); 3GPP2 C.S0059-0 20-Aug-2008 (TIA-1038); 3GPP2 C.S0060-0 06-Dec-2005 (TIA-1044); 3GPP2 C.S0061-0 22-Jun-2005 (TIA-1045); 3GPP2 C.S0062-0 14-May-2007 (TIA-1046); 3GPP2 C.S0073-0 26-Sep-2005 (TIA-1084); 3GPP2 C.S0073-B 21-Aug-2009 (TIA n/a); 3GPP2 C.S0094-0 30-Oct-2008 (TIA-1157); CTIA Conformance Test Plan for CDMA Wireless Devices; GCF Certification Criteria 2 (CAG2) Test Plan; VZW Wireless Priority Services (WPS); VZW Safe for Network (SFN); VZW Open Development (OD) Device Specifications; VZW Location Based Services (LBS); VZW CMAS; VZW NBPCD; VZW Phase 1
EVDO	3GPP2 C.S0033-0 12-Dec-2003 (TIA-866); 3GPP2 C.S0033-A 14-Dec-2005 (TIA-866); 3GPP2 C.S0038-0 19-Apr-2002 (TIA-919); 3GPP2 C.S0038-A 26-Sep-2005 (TIA-919); 3GPP2 C.S0038-B 30-Mar-2009 (TIA n/a); 3GPP2 C.S0037-0 19-Apr-2002 (TIA-918); CTIA Conformance Test Plan for CDMA Wireless Devices; GCF Certification Criteria 2 (CAG2) Test Plan

Test Technology:	**Test Method(s) [2]:**
Emissions Radiated and Conducted	CFR 47, FCC Parts 15B/C/D/E/F/G/H (using ANSI C63.4:2014, ANSI C63.10:2020, ANSI C63.10:2013; ANSI C63.17:2013, FCC KDB 905462, and KDB 987594, 18 (using MP-5:1986); ANSI C63.10:2013; ETSI TS 134 124 Universal Mobile Telecommunications System (UMTS); (3GPP TS 34.124); ETSI TS 136 124 LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); (3GPP TS 36.124); (3GPP TS38.124 NR; Electromagnetic Compatibility (EMC) Requirements for Mobile Terminals and Ancillary Equipment); ETSI TS 151 010-1 Digital Cellular Telecommunications System (Phase 2+) (GSM); 3GPP TS 51.010-1, Section 12 (Conducted and Radiated Spurious Emissions); EN55011; EN 55032; CNS 13438 (up to 6 GHz); AS/NZS CISPR 11; IEC/CISPR 11; CISPR 32; FCC OET/MP-5; ICES-003; KN 11; KN 32; VCCI V-3(2016.11); VCCI V-3 (2015.04); VCCI 32-1: VCCI-CISPR 32
Accessibility	CFR 47, FCC Part 14
Transmitter/Receiver	RSS 111; RSS 112; RSS 117; 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 141; RSS 142; RSS 170; RSS 181; RSS 182; 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; RSS 310; RSS Gen
Hearing Aid Compatibility	ANSI C63.19:2007; ANSI C63.19:2011; ANSI C63.19:2019; CTIA Test Plan for Hearing Aid Compatibility v.3.1.1 (2017); FCC KDB 285076, D01 & D02; RSS-HAC
United States Radio	47 CFR FCC Parts 20, 22, 24, 25, 27, 30, 73, 74, 80, 87, 90, 95, 96, 97, 101 (using ANSI/TIA-603-E, TIA-102.CAAA-E, ANSI C63.26:2015); FCC KDB 935210;
European Radio	ETSI EN 302 065-1 Version 2.1.1 (2016-11); ETSI EN 302 065-2 Version 2.1.1 (2016-11); ETSI EN 302 065-3 Version 2.1.1 (2016-11); ETSI EN 302 065-4 Version 1.1.1 (2016-11); ETSI EN 302 291-1 Version 1.1.1 (2005-07); ETSI EN 302 291-2 Version 1.1.1 (2005-07); ETSI EN 302 502 Version 2.1.3 (2017-07); ETSI EN 302 510-1 Version 1.1.1; ETSI EN 302 510-2 Version 1.1.1; ETSI EN 302 537 Version 2.1.1 (2016-10); ETSI EN 301 511 Version 12.5.1 (2017-03); ETSI EN 301 839 Version 2.1.1 (2016-04); ETSI EN 301 893 Version 2.1.1 (2017-05); ETSI EN 301 893 Version 1.8.1 (2015-03);

Test Technology:	**Test Method(s) [2]:**
European Radio (cont'd)	ETSI EN 301 908-1 Version 13.1.1 (2019-11); ETSI EN 301 908-13 Version 13.1.1 (2019-11)**;** ETSI EN 300 220-1 Version 3.1.1 (2017-02); ETSI EN 300 220-2 Version 3.2.1 (2018-06); ETSI EN 300 328 Version 2.1.1 (2016-11); ETSI EN 300 328 Version 2.2.2 (2019-07); ETSI EN 300 330 Version 2.1.1 (2017-02); ETSI EN 300 440 Version 2. (22.1 (2018-07); ETSI EN 300 440-2 Version 1.4.1 (2010-08); KS X 3123, KS X 3142, KS X 3270, KS X 3271; LP0002; DGT LP0002;
Korean Radio	Regulations on Radio Equipment (MSIT Ordinance MSIT No. 1 July 26, 2017); Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2019-105, December 23, 2019); Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2019-4, January 16, 2019); Equipment to be Subject of the Test Procedure for Electromagnetic Field Strength and Specific Absorption Rate (RRA Public Notification 2019-1, January 17, 2019); Technical Requirements for Radio Equipment for Telecommunication Services (RRA Public Notification 2019-9, June 3, 2019); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2019-3, March 4, 2019)
Australia/New Zealand Radio	AS/NZS 4268:2017
Licensed Wireless Devices	ANSI C63.26:2015

Test Technology:	**Test Method(s) [2]:**
OTA *OTA Anechoic Chambers*	CTIA Test Plan for Wireless Device Over-the-Air Performance for CDMA, 1xEVDO Rev0/A, GSM, GPRS, EGPRS, UMTS (W-CDMA), LTE, CDMA A-GPS, GSM A-GPS, UMTS WCDMA A-GPS; LTE A-GPS A-Glonass and SIB8 / SIB16; PTCRB NAPRD03; PTCRB PPMD; OTA Carrier Aggregation; OTA ECC Measurements; VZW OTA Radiated Performance for CDMA & LTE Multimode Devices; VZW Location Determination Test Plan; VZW LTE-LBS Performance Test Plan; SPRINT OTA Antenna Performance Test Plan; AT&T 13340 OTA; AT&T IoT Accelerator; USCC CDMA Over The Air Radiated Test Plan; USCC LTE Over The Air Radiated Test Plan; CTIA Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices (Wi-Fi Alliance); GSMA TS.24 Operator Acceptance Values for Device Antenna Performance; 3GPP TS 34.114 Technical Specification UE/MS OTA Antenna Performance; 3GPP TS 37.544 Technical Specification UTRA & E-UTRA UE OTA Antenna Performance
CTIA IoT Security	CTIA Cybersecurity Certification Test Plan for IoT Devices
SunSpec Alliance	SunSpec – CSIP (Common Smart Inverter Profile) Conformance Test Procedures; SunSpec – Advanced Function Inverter Test Lab Specification; SunSpec – UL1741 Supplement SA/Rule 21 Implementation Guide; IEEE 2030.5-2018 Smart Energy Profile Application Protocol
CBRS (OnGo) / WInnForum	CBRS Alliance Certification Test Plan; WInnForum Conformance and Performance Test Technical Standards

Test Technology:	**Test Method(s) [2]:**
Battery Safety	IEEE 1725 Standard for Rechargeable Batteries for Cellular Telephones; CTIA Certification Requirements for Battery System Compliance to IEEE 1725; IEEE 1625 Standard for Rechargeable Batteries for Multi-Cell Mobile Computing Devices; CTIA Certification Requirements for Battery System Compliance to IEEE 1625; UL1642 Standard for Lithium Batteries; UL 2054 Household and Commercial Batteries; UL 62133; IEC 62133 Secondary Cells and Batteries containing Alkaline or other Non-Acid Electrolytes – Safety Requirements for Portable Sealed Secondary Cells & Batteries made from them, for use in Portable Applications
UNDOT Battery Transportation Safety	United Nations Document ST/SG/AC.10/11/Section 38.3 Recommendations on the Transport of Dangerous Goods; Manual of Tests and Criteria; IEC 62281 – Safety of Primary and Secondary Lithium Cells and Batteries During Transport Altitude Simulation Temperature Cycling Mechanical Shock Vibration Short Circuit Overcharge Impact/Crush Forced Discharge
Aerospace Battery Performance and Safety	NASA Specification for Acceptance Testing of Commercial Lithium Ion Cell Lots Engineering Directorate Propulsion & Power Division, EP-WI-031
Hardware Reliability	CTIA Device Hardware Reliability Test Plan
Determining Battery Life	CTIA Battery Life Test Plan
Safety Requirement for Portable Sealed Secondary Cells	IEC 62133; EN 62133
CEC: Energy Efficient Battery Charger System	Uniform Test Method for Measuring the Energy Consumption of Battery Chargers

Test Technology:	**Test Method(s) [2]:**
Immunity	EN/IEC 61000-4-2

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Test Technology:	**Test Method(s) [2]:**
Radiated Emissions (10 Meter Test Distance) (Frequency Range, 30 MHz – 1 GHz)	CFR 47, FCC Parts 15B (using ANSI C63.4:2014) EN55011; EN 55032; CNS 13438 (up to 6 GHz); AS/NZS CISPR 11; IEC/CISPR 11; CISPR 32; FCC OET/MP-5; ICES-003; KN 11; KN 32; VCCI V-3(2016.11); VCCI V-3 (2015.04); VCCI 32-1: VCCI-CISPR 32

[2] 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*.

[3] This laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests.

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[4]:

Rule Subpart/Technology	**Test Method**	**Maximum Frequency**
Unintentional Radiators Part 15B	ANSI C63.4:2014	40000 MHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	333000 MHz
Intentional Radiators Part 15C	ANSI C63.10:2013	333000 MHz
Unlicensed Personal Communication Systems Devices Part 15D	ANSI C63.17:2013	20000 MHz
U-NIII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000 MHz

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[4]:

Rule Subpart/Technology	Test Method	Maximum Frequency
U-NIII with DFS Intentional Radiators Part 15E	FCC KDB 905462 D02 (v02)	40000 MHz
UWB Intentional Radiators Part 15F	ANSI C63.10:2013	200000 MHz
BPL Intentional Radiators Part 15G	ANSI C63.10:2013	40000 MHz
White Space Device Intentional Radiators Part 15H	ANSI C63.10:2013	40000 MHz
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	333000 MHz
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-E; TIA-102.CAAA-E; ANSI C63.26:2015	333000 MHz
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) Part 96	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	333000 MHz
Maritime and Aviation Radio Services Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26:2015	333000 MHz
Microwave and Millimeter Bands Radio Services Parts 25, 30, 74, 90 (M, DSRC, Y, Z), 95 (M and L), and 101	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	333000 MHz
Broadcast Radio Services Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	333000 MHz
RF Exposure Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000 MHz
Hearing Aid Compatibility Part 20 (HAC for Commercial Mobile Services)	ANSI C63.19:2011	6000 MHz

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[4]:

Rule Subpart/Technology	**Test Method**	**Maximum Frequency**
Signal Boosters Part 20 (Wideband Consumer Signal Boosters, Provider-specific signal boosters, and Industrial Signal Boosters) Section 90.219	ANSI C63.26:2015	333000 MHz

[4]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.

Accredited Laboratory

A2LA has accredited

PCTEST ENGINEERING LABORATORY, LLC

Columbia, MD

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 29th day of September 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2041.01
Valid to May 31, 2022

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