

PCTEST ENGINEERING LABORATORY, LLC.
9017-F/G Mendenhall Court
Columbia, MD 21045

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

(A2LA Cert. No. 2041.01) Revised 04/06/2021



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Test Report S/N: 1M2109090102-06.A3L	Test Dates: 09/15/2021-11/12/2021	EUT Type: Portable Handset		Page 182 of 185

Test Technology:

CEC: Energy Efficient Battery Charger System

Immunity

Test Method(s) ²:

Uniform Test Method for Measuring the Energy Consumption of Battery Chargers

EN/IEC 61000-4-2

3801 E. Plano Parkway, Ste 150
Plano, TX 75074

Test Technology:

Radiated Emissions
(10 Meter Test Distance)
(Frequency Range, 30 MHz – 1 GHz)

Test Method(s) ²:

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.1⁴:

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-NII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000 MHz

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Rule Subpart/Technology	Test Method	Maximum Frequency
U-NII 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

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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

⁴Accreditation 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.

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