



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL (EMC)

Valid to: December 31, 2023

Certificate Number: 0214.19

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility/interference (EMC/EMI), NEBS, wireless, and telecom tests:

<u>Test Technology:</u>	<u>Test Capabilities:</u>	<u>Test Method(s) ¹:</u>
<i>Emissions</i> Radiated Emissions (3 m Semi Anechoic Chamber, 10 m Semi Anechoic Chamber)	60 Hz to 40 GHz	47 CFR, FCC Part 15 (Subpart B) using ANSI C63.4:2014; 47 CFR, FCC Part 18 using MP5:1986; CISPR 11; EN 55011; AS/NZS CISPR 11:2011; KS C 9811; CISPR 25 (section 6.5); CISPR 32 (excluding Annex H); EN 55032 (excluding Annex H); KS C 9832 (excluding Annex H); VCCI-CISPR 32:2016 (excluding Annex H); CNS 13438 (up to 6 GHz); QCVN 118: 2018/BTTTT; ICES-003; ICES-002; EN 13309; ISO 13766-1:2018; ISO 13766-2:2018; MIL-PRF-28800F; MIL-STD-461 B-G (Methods RE101, RE102, RE103); MIL-STD-462; RTCA/DO-160 C-G (Sections 15, 21); GR 1089-CORE
Conducted Emissions	30 Hz to 100 MHz	47 CFR, FCC Part 15 (Subpart B) using ANSI C63.4:2014; FCC Part 18 (using MP5:1986); CISPR 11; EN 55011; AS CISPR 11; KS C 9811; CISPR 25 (sections 6.3 and 6.4); CISPR 32; EN 55032; KS C 9832; VCCI-CISPR 32 :2016 ; CNS 13438; QCVN 118: 2018/BTTTT; ICES-003; ICES-002; ISO 13766;

<u>Test Technology:</u>	<u>Test Capabilities:</u>	<u>Test Method(s) ¹:</u>
Conducted Emissions (cont'd)	30 Hz to 100 MHz	MIL-STD-461 B-G (Methods CE101, CE102); MIL-STD-462; MIL-PRF-28800F; RTCA/DO-160 C-G (Section 21); GR 1089-CORE
Current Harmonics		IEC/EN 61000-3-2; AS/NZS 61000.3.2
Flicker		IEC/EN 61000-3-3; AS/NZS 61000.3.3
<i>Immunity</i>		
Electrostatic Discharge (ESD)	15 kV air, 8 kV contact	EN/IEC 61000-4-2; KS C 9610-4-2; MIL-PRF-28800F; RTCA/DO-160 C-G (Section 25); ISO 13766; GR-1089-CORE
Radiated Immunity	10 kHz to 40 GHz	EN/IEC 61000-4-3; KS C 9610-4-3; MIL-STD-461 B-G (Methods RS101, RS103); MIL-STD-462; MIL-PRF-28800F; DoD-STD-1399, Section 300A and B; IEEE P1613; MIL-STD 1275; EN/IEC 55104; ISO 13766-1:2018; ISO 13766-2:2018; EN 13309; GR-1089-CORE; ISO 11452-2; RTCA/DO-160 C-G (Section 20)
Electrical Fast Transient/Burst		EN/IEC 61000-4-4; KS C 9610-4-4; MIL-PRF-28800F; IEEE P1613; GR-1089-CORE
Surge		EN/IEC 61000-4-5; KS C 9610-4-5; IEEE P1613; IEEE 37.90.1; K20; K21; RTCA/DO-160 C-G (Section 22); GR-1089-CORE
Conducted Immunity	10 kHz to 400 MHz	EN/IEC 61000-4-6; KS C 9610-4-6; MIL-STD-1399; MIL-STD-461 B-G (Methods CS101, CS102, CS103, CS104, CS105, CS109, CS114, CS115, CS116, CS117, CS118); MIL-STD-462; MIL-PRF-28800F; GR-1089-CORE; RTCA/DO-160C-G (Sections 16, 17, 18,19, 20, 22)
Power Frequency Magnetic Field Immunity		EN/IEC 61000-4-8 (excluding short duration mode); KS C 9610-4-8 (excluding short duration mode)
Voltage Dips, Short Interruptions and Line Voltage Variations		EN/IEC 61000-4-11; KS C 9610-4-11
DC Power Transients		MIL-HDBK-704/2-8; EN 300 132; ANSI T1.315; ATT-TP-76200; ATT-TP-76450

Test Technology:**Test Capabilities:****Test Method(s) ¹:*****Immunity (cont.)***

Lightning

GR-1089-CORE;
MIL-HDBK-704/2-8Steady State Power
InductionGR-1089-CORE; ETSI EN 300 386;
AT&T-TP76200

DC Potential

GR-1089-CORE; AT&T-TP76200

Electrical Safety

GR 1089-CORE; AT&T-TP76200

Bonding & Grounding

GR 1089-CORE; AT&T-TP76200

Insulation Resistance

GR-49-CORE; GR-937-CORE;
GR-950-CORE; GR-2916-COREEnergy Efficiency for
Telecom Equipment

ATIS-0600015; VZ.TPR.9205;

Heat Dissipation

GR-63-CORE; ATIS-0600010

DC Power Port

GR-1089-CORE (Section 10)

***Generic/Product Family
Standards and Industry
Standards***EN/IEC 61000-6-1; KS C 9610-6-1;
EN/IEC 61000-6-2; KS C 9610-6-2;
EN/IEC 61000-6-3; KS C 9610-6-3;
AS/NZS 61000.6.3;
EN/IEC 61000-6-4; KS C 9610-6-4;
AS/NZS 61000.6.4;
CISPR 24; EN 55024; KS C 9824;
EN 61326; ETSI EN 300 386; GR-1089-CORE;
ATT-TP-76200; EN/IEC 60601-1-2; EN 50082;
EN 61326; IEC 60601-1-2;
CISPR 14-2; KS C 9814-2; EN 55014-2;
CISPR 35 (*excluding Annex A and G*);
EN 55035 (*excluding Annex A and G*);
KS C 9835 (*excluding Annex A and G*);
IEEE P1613**On the following products or types of products:**

Telecommunications Terminal Equipment (TTE); Network Equipment; Information Technology Equipment (ITE); Industrial, Commercial, and Military Test Equipment.

¹When 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 measurement method, per part C., Section 1 of A2LA R101 - *General Requirements-Accreditation of ISO-IEC 17025 Laboratories*.

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1²:

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

²Accreditation 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

NTS LABS, LLC PLANO

Plano, TX

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 11th day of July 2022.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0214.19
Valid to December 31, 2023
Revised October 11, 2022

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