



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NTS LABS, LLC FREMONT & NEWARK <sup>1</sup>  
41039 Boyce Road  
Fremont, CA 94538  
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ELECTRICAL (EMC)

Valid to: September 30, 2023

Certificate Number: 0214.26

In recognition of the successful completion of the A2LA evaluation process accreditation is granted to this laboratory listed above, *as well as the 2 satellite laboratories listed below*, to perform the following electromagnetic compatibility, NEBS, radio, wireless, telecom and energy producing/measuring devices, and product safety tests:

**Test:**

**Test Method(s) <sup>2,3</sup>:**

***Emissions***

Radiated & Conducted  
(3, 5 & 10 meter Semi-anechoic  
chambers)

**Test:****Test Method(s) <sup>2,3</sup>:*****Immunity (cont.)***

Conducted Immunity	EN 61000-4-6; IEC 61000-4-6; KS C 9610-4-6
Power Frequency Magnetic Field Immunity	EN 61000-4-8; IEC 61000-4-8; KS C 9610-4-8
Pulse Magnetic Field Immunity	EN 61000-4-9; IEC 61000-4-9
Voltage Dips, Short Interruptions, and Line Voltage Variations	EN 61000-4-11; IEC 61000-4-11; KS C 9610-4-11
Generic and Product Family Standards	IEEE 1613; IEEE 1613a; IEC 60533; IEC 61850-3; BS EN 61850-3; IEEE 37.90.1; IEC 60092-504 ( <i>Section 5: Table 1, Items 4a, 4b, 5, 11a &amp; 11b only</i> ); EN 61000-6-1; IEC 61000-6-1; BS EN 61000-6-1; KS C 9610-6-1; EN 61000-6-2; IEC 61000-6-2; BS EN 61000-6-2; KS C 9610-6-2; EN 61000-6-3; IEC 61000-6-3; BS EN 61000-6-3; KS C 9610-6-3; AS/NZS 61000.6.3; EN 61000-6-4; IEC 61000-6-4; BS EN 61000-6-4; KS C 9610-6-4; AS/NZS 61000.6.4; IEC 61000-6-5; EN 61000-6-5; CISPR 13; CNS 13439; EN 50121-1; BS EN 50121-1; EN 50121-3-2; BS EN 50121-3-2; EN 50121-4; BS EN 50121-4; IEC 62236-4; EN 50155; EN 55013; KN 13; - 4;

**Test:**

Generic and Product Family  
Standards (*cont.*)

**Test Method(s) <sup>2,3</sup>:**

EN 301 437; EN 300 386; BS EN 300 386; EN 301 449  
(4.2.2.2.2, 4.2.2.2.3, 4.2.3, 4.2.4, 4.2.5, 4.2.6, and 4.2.7 only);  
ETSI EN 300 132-2; ETSI EN 300 132-3;  
EU-ITU-T: K.20 (*except 2.1.5, 2.1.6, 2.2 above 600V, 4.2  
above 600V, 5.1.2 & 5.2.2 above 600V*), K.21 (*except 2.1.5,  
2.1.6, 2.2 above 600V, 4.1.5, 4.2 above 600V, and 5.1.2 &  
5.2.2 above 600V*);  
British Telecommunications Standard GS7;  
TEC/EMI/TEL-001/01/FEB-09;  
Deutsche Telekom EMC Specification 1 TR 9;  
ANATEL Resolution 442;  
Enforcement Decree of MSIT NO. 1, July 26, 2017;  
TEC-SD-DD-EMC-221-05-OCT-16

Technical Regulations for the Republic  
of Korea

Notice on Conformity Assessment of Broadcasting and

**Test:**

**Test Method(s) <sup>2,3</sup>:**

***Automotive EMC (cont.)***

ESD

ISO 10605 (*excluding clause 10 vehicle test method*);  
ISO 13766-1 (*excluding clauses 4.2, 4.3, 4.5*);  
ISO 13766-2 (*excluding clause 5.2*);  
ISO 14982 (*excluding clauses 6.1, 6.2, 6.3*)

Conducted Transient Immunity  
Broadband & Narrowband  
Emissions

ISO 7637-2; ISO 7637-3; ISO 13766-1; ISO 14982  
ISO 13766-1 (*excluding clauses 4.2, 4.3, 4.5*);  
ISO 13766-2 (*excluding clause 5.2*);  
ISO 14982 (*excluding clauses 6.1, 6.2, 6.3*)

Wireless (*Excluding HAC & SAR as applicable*)

ANSI/TIA 603-E; EN 300-113; EN 300 220-1; EN 300 220-2;  
EN 300 220-3; EN 300 220-4; EN 300 328; EN 300 330;  
EN 300 440; EN 300 761-1; EN 300 761-2; EN 301-357;  
EN 301 839; EN 301 893; EN 301 489-1 to -6; EN 301 489-9;  
EN 301 489-12; EN 301 489-13; EN 301 489-15;  
EN 301 489-17; EN 301 489-19; EN 301 489-20;  
EN 301 489-22; EN 301 489-27 to -29; EN 301 489-31;  
EN 301 489-33 to -35; EN 301 489-50, EN 301 489-51,  
EN 301 489-53; EN 301 511; EN 301 908-1; EN 301 908-5;  
EN 303 413; ETSI ES 201 468; ES 203 021; BS 301 489-1;  
BS EN 301 489-34; KS X 3124; KS X 3125; KN 301 489-7;  
KS X 3126; KN 301 489-24; KS X 3134;  
EN 302 208; EN 302 291; EN 302 502;  
Radiocommunications Standard 2014 (Short Range Devices);  
AS/NZS 4268; NOM-121-SCTI-2009; LP0002;  
HKCA 1039; HKCA 1049;  
Republic of Korea - Regulations on Radio Equipment  
QCVN 18:2014/BTTTT;  
QCVN 47:2015/BTTTT; QCVN 55:2015/BTTTT;  
QCVN 73:2013/BTTTT; QCVN 74:2013/BTTTT;  
QCVN 88:2015/BTTTT; QCVN 94:2015/BTTTT;  
QCVN 95:2015/BTTTT; QCVN 96:2015/BTTTT;  
QCVN 54:2011/BTTTT; QCVN 65:2013/BTTTT;  
TCN 68.242:2006; ANATEL Resolution 506;  
Israel - Wireless Telegraph Ordinance (Ordinance  
Non-application Directive) 1982;  
IMDA TS SRD; IMDA TS LMR

Industry Canada Radio Standards  
Specifications (RSS) in Category I  
Equipment Standards List (*Excluding  
HAC & SAR as applicable*)

RSS-GEN; RSS-102 measurement (RF Exp and NS);  
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

**Test:**

Intentional and Unintentional Radiators to FCC Regulations, up to 200 GHz (*Excluding HAC & SAR as applicable*)

**Test Method(s) <sup>2,3</sup>:**

47 CFR (FCC Rules) Parts 2 and 11;  
47 CFR (FCC Rules) Part 15B (using ANSI C63.4:2014);  
47 CFR (FCC Rules) Part 15C (using ANSI C63.10:2013);  
47 CFR (FCC Rules) Part 15D (using ANSI C63.17:2013);  
47 CFR (FCC Rules) Part 15E (using ANSI C63.10:2013, FCC KDB 789033, FCC KDB 905462 D01 (v01));  
47 CFR (FCC Rules) Part 15F (using ANSI C63.10:2013);  
47 CFR (FCC Rules) Part 15G (using ANSI C63.10:2013);  
47 CFR (FCC Rules) Part 15H (using ANSI C63.10:2013);  
47 CFR (FCC Rules) Part 18 (using FCC MP-5:1986);  
47 CFR (FCC Rules) Part 20 (signal boosters) (using ANSI C63.26:2015);  
47 CFR (FCC Rules) Parts 22 (cellular and non-cellular), 24,

**Test:**

***Energy Efficiency Tests***

Energy Efficiency for Transport and Optical Access

**Test Method(s) <sup>2,3</sup>:**

ATIS-0600015.2018 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting General Requirements;  
ATIS-0600015.02.2016 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting –Transport & Optical Access Requirements;  
ATIS-0600015.03.2016 Energy Efficiency for Telecommunication Equipment Methodology for Measurement and Reporting for Router and Ethernet Switch Products;  
ATIS-0600015.01.2014 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting – Server Requirements;  
ATIS-0600015.11.2016 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting DC/DC Converter Requirements;  
ECR Draft 3.0.1, December 2010;  
ETSI ES 203 136 V1.2.1, October 2017;  
Verizon VZ.TPR.9205, Issue 7, October 2018

**Test:**

Information Technology Audio Video  
(ITAV)

*(excluding Vicat Test, Tracking Index,  
Mandrel Test, Laser Radiation, X-ray  
Test, UV Radiation, Acoustic Test, Test for  
FIW, Abrasion Resistance Test,  
Hydrostatic Pressure Test, Oil Resistance  
Test, Water Spray Excessive Dust Test)*

Miscel3 (261 696.48 283.5 (t)-3.1 ( )-10.4

**Test Method(s) <sup>2,3</sup>:**

IEC 62368-1; BS EN 62368-1; UL 62368-1;  
CSA C22.2 No. 62368-1 T196.-9 11.04TEM44.28 Tm1:2

324 N. Mary Avenue  
Sunnyvale, CA 94086

**Test:**

**Test Method(s) <sup>2,3</sup>:**

***Emissions***

Radiated and Conducted  
(5 meter Semi-anechoic chambers)

Code of Federal Regulation (CFR) 47, FCC Part 15B  
(using ANSI C63.4:2014);  
EN 55011; BS EN 55011; KS C 9811; CISPR 11;  
AS/NZS CISPR 11;  
ICES-001; ICES-003; ICES-005; ICES-006;  
VCCI V-3 (up to 6 GHz); VCCI-CISPR 32;  
TEC/EMI/TEL-001/01/FEB-09; QCVN 118:2018/BTTTT;  
CISPR 22; AS/NZS CISPR 22; EN 55022;  
CNS 13438 (Excluding Radiated Emissions below 1 GHz);  
EN 55032 (excluding Annex H); CISPR 32 (excluding Annex H);  
AS/NZS CISPR 32(excluding Annex H);  
BS EN 55032 (excluding Annex H);  
KS C 9832 (Excluding Radiated Emissions below 1 GHz)

Current Harmonics

EN IEC 61000-3-2; IEC 61000-3-2; KS C 9610-3-2;  
BS EN IEC 61000-3-2; IEC 61000-3-11; EN 61000-3-11;  
KS C 9610-3-11

Voltage Fluctuations

EN 61000-3-3; IEC 61000-3-3; KS C 9610-3-3;  
BS EN IEC 61000-3-3; IEC 61000-3-12; EN 61000-3-12;  
KS C 9610-3-12

***Immunity***

Electrostatic Discharge (ESD)

EN 61000-4-2; IEC 61000-4-2; KS C 9610-4-2

Radiated Immunity

EN 61000-4-3; IEC 61000-4-3; KS C 9610-4-3

Electrical Fast Transient/Burst

EN 61000-4-4; IEC 61000-4-4; KS C 9610-4-4

Surge Immunity

EN 61000-4-5; IEC 61000-4-5; KS C 9610-4-5

Conducted Immunity

EN 61000-4-6; IEC 61000-4-6; KS C 9610-4-6

Voltage Dips and Interrupts

EN 61000-4-11; IEC 61000-4-11; KS C 9610-4-11

Generic and Product Family  
Standards

CISPR 35 (excluding all Annexes but Annex F.1 – F.3);  
KS C 9835 (excluding all Annexes but Annex F.1 – F.3);  
BS EN 55035 (excluding all Annexes but Annex F.1 – F.3);  
EN 300 386; BS EN 300 386;  
CISPR 24; EN 55024; BS EN 55024; TCVN 7317;  
EN 61000-6-1; KS C 9610-6-1;  
AS/NZS 61000-6-1; BS EN IEC 61000-6-1;  
EN 61000-6-2; KS C 9610-6-2;  
AS/NZS 61000-6-2; BS EN IEC 61000-6-2;  
EN 61000-6-3; KS C 9610-6-3 (Excluding 30-1000 MHz);  
AS/NZS 61000-6-3; BS EN IEC 61000-6-3;  
EN 61000-6-4; KS C 9610-6-4 (Excluding 30-1000 MHz);  
AS/NZS 61000-6-4; BS EN 61000-6-4;



**Test:**

**Test Method(s)<sup>2,3:</sup>**

Generic and Product Family Standards (*cont.*)

IEC 61000-6-5; EN 61000-6-5; BS EN 61000-6-5; TEC-SD-DD-EMC-221-05-OCT-16

***Network Equipment Building Systems (NEBS)***

Telcordia GR-1089-CORE, Sections 1, 2, 3, 4.1 to 4.3, 4.5, 4.6, 4.7 (*Excluding AC Power Fault*), 7, 9, and 10

Generic and Product Family Standards

British Telecommunications Standard GS7; Deutsche Telekom EMC Specification 1 TR 9; EN 50121-1; BS EN 50121-1; EN 50121-4; BS EN 50121-4; IEEE 1613; IEEE 1613.a; IEC 62236-4; IEC 61850-3 (*excluding magnetic immunity*)

Wireless (*Excluding HAC and SAR as applicable*)

ETSI EN 301 489-1; BS EN 301 489-1; ETSI EN 301 489-24; KS X 3123 (EMC only)

***Energy Efficiency Tests***

Telecommunication Equipment Router and Ethernet Switch Products

ATIS 0600015: 2018 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting General Requirements;

Small Network Equipment Transport and Optical Access

ATIS 0600015.03.2016 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting for Router and Ethernet Switch Products;

ATIS-0600015.02.2016 Energy Efficiency for Telecommunication Equipment: Methodology for Measurement and Reporting –Transport & Optical Access Requirements;

ECR Draft 3.0.1, December 2010; ETSI ES 203 136 V1.2.1, October 2017; Verizon VZ.TPR.9205, Issue 7, October 2018

**On the following types of equipment:**

Telecommunications Terminal Equipment (TTE); Network Equipment; Information Technology Equipment (ITE); Medical Electrical Equipment; Industrial, Commercial, and Medical Test Equipment; Professional Audio and Video Equipment; Radio Equipment; Electronic (Digital) Products; Industrial and Scientific Instruments; Cabled Distribution Systems, Automotive.

<sup>2</sup> The laboratory is only accredited for testing activities outlined within the test methods listed above.







# Accredited Laboratory

A2LA has accredited

## NTS LABS, LLC FREMONT & NEWARK

Fremont , 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



Presented this 25<sup>th</sup> day of February 2022.

Mr. Trace McInturff, Vice President , Accreditation Services  
For the Accreditation Council  
Certificate Number 0214.26  
Valid to September 30, 2023  
Revised September 1, 2022

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