



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

ITC Engineering Services, Inc.
9959 Calaveras Road, P.O. Box 543
Sunol CA 94586

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of tests to which this accreditation applies.

L2470

Certificate Number



ANAB Approval

Certificate Valid: 09/13/2017-02/07/2018
Version No. 004 Issued: 09/13/2017



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ITC Engineering Services, Inc.

9959 Calaveras Road PO Box 543
Sunol, CA 94586

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TESTING

Valid to: **February 7, 2018**

Certificate Number: **L2470**

Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Unintentional Radiators (FCC Part 15, Subpart B)	<ul style="list-style-type: none"> ANSI C63.4-2014 		
Industrial, Scientific, and Medical Equipment (FCC Part 18) <ul style="list-style-type: none"> Consumer ISM equipment 	<ul style="list-style-type: none"> FCC MP-5, (February 1986) 		
Intentional Radiators (FCC Part 15 Subpart C)	<ul style="list-style-type: none"> ANSI C63.10-2013 		
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E) <ul style="list-style-type: none"> Unlicensed National Information Infrastructure Devices (U-NII without DFS) 	<ul style="list-style-type: none"> ANSI C63.10-2013 	KDB Publication 789033,	
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E) <ul style="list-style-type: none"> Unlicensed National Information Infrastructure U-NII) Devices with Dynamic Frequency Selection (DFS) 	<ul style="list-style-type: none"> FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures New Rules v01 (April 8, 2016) 		
UWB Intentional Radiators (FCC Part 15, Subpart F) <ul style="list-style-type: none"> Ultra-wideband Operation 	<ul style="list-style-type: none"> ANSI C63.10-2013 		
BPL Intentional Radiators (FCC Part 15, Subpart G) <ul style="list-style-type: none"> Access Broadband Over Power Line (Access BPL) 	<ul style="list-style-type: none"> ANSI C63.10-2013 		

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Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
White Space Device Intentional Radiators (FCC Part 15, Subpart H) •White Space Devices	• ANSI C63.10-2013		

Electromagnetic Compatibility

Field of Test	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
EMC- Emission	Radiated and Conducted	<p>CISPR 22: 2008; EN 55022:2010; CISPR 32:2015; EN55032:2015; KN 32 AS/NZS CISPR 22:2010; CISPR 25:2016; ISO 13766:2006; EN 13309:2010; ISO 11452-1:2015; ISO 11452-2:2004; CNS 13438 (up to 6 GHz):2006 ICES-001: Issue 4: June 2006; ICES-003 Issue 6: June 2016; VCCI V-3 (up to 6 GHz): 2015-04; VCCI V-5 2015; CISPR 11: 2015; EN 55011:2016; KN 11; AS/NZS CISPR 11:2011; KN 301 489-1 V1.5.1:2004 KN 301 489-17:2015 (Annex 8-13) CNS 13803:2003; CISPR 15: 2015; EN 55015: 2015; MIL-STD-461F, MIL-STD-462D, MIL-STD-461G</p>
Low Frequency	Harmonics Voltage Fluctuations/Flicker	<p>IEC 61000-3-2: 2014; AS/NZ 61000-3-2:2013; EN 61000-3-2: 2014 (Annex 1-2); KN 61000-3-3:2015; AS/NZS 61000-3-2: 2013; AS/NZ 61000-3-3:2012 IEC 61000-3-3:2013; EN 61000-3-3:2013; IEC 61000-3-11:2000; EN 61000-3-11:2001</p>

Electromagnetic Compatibility

Field of Test	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
EMC -Immunity	Electrostatic Discharge (ESD) Radiated Immunity Electrical Fast Transients/Burst (EFT) Surge Immunity Conducted Immunity Magnetic Field Immunity Voltage Dips	CSPR 24:2010; EN55024:2010 AS/NZ CISPR 24:2013; IEC 61000-6-1:2016; IEC 61000-6-2:2016 IEC 61326-1:2012 IEC 61000-4-2: 2008; EN 61000-4-2:2009; KN 61000-4-2:2015; ISO 10605:2008; IEC 61000-4-3: 2010; EN 61000-4-3::2010; KN 61000-4-3:2015; MIL-STD-461F, MIL-STD-462D, MIL-STD-461G; ISO 13766:2006; DNVGL-CG-0339:2015; MIL-STD 1275D; MIL-STD. 1275E IEC 61000-4-4:2012; EN 61000-4-4:2012; KN 61000-4-4:2015; IEC 61000-4-5:2014; EN 61000-4-5:2014; KN 61000-4-5:2015; IEC 61000-4-6:2013-10; EN 61000-4-6:2014; KN 61000-4-6:2015; IEC 61000-4-8: 2009; EN 61000-4-8:2010; KN 61000-4-8:2015; IEC 61000-4-11:2004; EN 61000-4-11:2004; KN 61000-4-11:2015; BS EN 50498:2010
EMC	Automotive	ISO 7637 - 2:2011; EN 50436-01:2014; EN 50436-02:2015; EN 50436-06:2015; [Docket No. NHTSA-2013-0058] Model Specifications for Breath Alcohol Ignition Interlock Devices: Canada CSTT-HVC-TR-150:2008
EMC	Product Family and Generic Standards	IEC 61000-6-1:2016; EN 61000-6-1:2007; IEC 61000-6-2:2016; EN 61000-6-2:2005; IEC 61000-6-3:2010; EN 61000-6-3:2011; IEC 61000-6-4:2010; EN 61000-6-4:2011; IEC 61326-1:2012; EN 61326-1:2013; IEC 60601-1-2:2014; EN 60601-1-2:2015; CISPR 24:2015; EN 55024:2015; IEC 61326-1:2012; EN 61326-1:2013; IEC 60601-1-2:2014; EN 60601-1-2:2015



Electromagnetic Compatibility

Field of Test	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
Product Safety	Insulation Resistance, Leakage Current, Temperature, Humidity, Impact, Acoustic, Abnormal, Tilt, Construction Review, Force Gauge, Articulate Finger, Hot Wire Ignition Dielectric Withstand Test (Hipot) and Testing of Automatic Gas Burner Control Systems	UL 60950-1:2007; IEC 60950-1 (excluding clause 4.3.13.2):2013; EN 60950-1:2013; AS/NZS 60950:2015; IEC 61010-1:2010/AMD1:2016 (excluding clauses 12.2.1 and 13.3); EN 61010-1 (excluding clauses 12.2.1 and 13.3:2010); IEC 60601-1:2012 (excluding clauses 9.7.5 and 10.1); IEC 60601-1-3:2008/AMD 1:2013; EN 60601-1-3: 2008/AMD 11:2016; IEC 60601-2-22:2012; EN 60601-2-22:2013; IEC 60601-2-37:2007+A1:2015; EN 60601-2-37:2007+A1:2015; IEC 60204-1:2016; EN 60204-1: 2006+A1:2009; IEC 60529:2013; BS EN 60529:1992+A2:2013; IEC 60825-1:2014; EN 60825-1:2014; MIL-STD-202G, Method 301; EN 298:2012; EN 230:2005; EN 60730-1:2016
Environmental	Environmental Simulation	MIL-STD-810F; MIL-STD-810G; IEC 60529:2013
Republic of Korea Regulations	<p>Technical Requirements for Electromagnetic Compatibility</p> <p>Test Methods for Electromagnetic Compatibility Conformity Assessment</p> <p>Procedure of Radio Equipment Regulations on Radio Equipment</p>	<p>RRA Public Notification 2015-27, December 3, 2015</p> <p>RRA Announce 2015-110, December 3, 2015 (Annexes 2, 5, 8-3, 8-1, 9) (Annexes 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7)</p> <p>MSIP Public Notification 2014-59, Enforcement Decree MISP No. 78, August 12, 2016</p>

Radio

Test Method	Test Specification(s)	Range	Comments
EN 300 220-1 V2.4.1 (2012-05); EN 300 220-2 V2.4.1 (2012-05); EN 300 328 V2.1.1 (2016-11); 300 440-1 V1.6.1 (2010-08); EN 300 440-2 V1.4.1 (2010-08); EN 300 386 V2.1.1 (2016-07); EN 301 893 V1.8.1 (2015-03) (Including DFS); EN 301 511 V9.0.2 (2003-03); EN 301 489-1 V1.9.2 (2011-09) RSS 135 Issue 2, June 2009; RSS 210 Issue 9, August 2016; RSS 247 (including DFS testing) Issue 1 May 2015; RSS 132 Issue 3 January 2013; RSS 133 Issue 6 January 2013; RSS 215 Issue 2, June 2009; RSS 310 Issue 4 July 2015; RSS-Gen Issue 4 November 2014; AS/NZS 4268:2016	Radio / RED		

Notes:

1. * = as applicable
2. This scope is formatted as part of a single document including Certificate of Accreditation No. L2470



Vice President

