



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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TESTING

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I. Electrical

Table with 3 columns: FIELD OF TEST, SPECIFIC TESTS OR PROPERTIES MEASURED, SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED. Row 1: Emissions Standards, Radiated and Conducted Emissions (40 Hz to 30 GHz), FCC Part 15 B/C/D/E using ANSI C63.4 (2003) & ANSI C63.17; FCC Part 18 using FCC OST/MP-05 (1986); FCC Report and Order ET Docket 98-153 (FCC 02-48); Procedures IDB 20040420-001; Procedures in IDB 20021108-001 with FCC Method 47 CFR Part 15, Subpart F: DA 00-705 (March 30, 2000) and KDB Pub. No.558074, KDB Pub. No. 200433; DA 02-2138; CISPR 22 (1997)+A1, (2000)+A2, (2002), CISPR 22 (2005); EN 55022 (1998)+A1, (2000)+A2, (2003), EN 55022 (2006); AS/NZS CISPR 22; CAN/CSA-CEI/IEC CISPR 22; CNS 13438; KN 22 with RRL Notice # 2007-100 (Dec 26, 2007); CISPR 11 (1997)+A1, (1999)+A2, (2002); EN 55011 (1998)+A1, (1999)+A2, (2002); AS/NZS CISPR 11; KN11 with RRL Notice 2007-100 (Dec 26, 2007); CNS 13803



FIELD OF TEST	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
Emission Standards	Harmonics Emissions	IEC 61000-3-2 (2000)+A1, (2001)+A2, (2004), IEC 61000-3-2 (2005); EN 61000-3-2 (2000)+A2, (2005), EN 61000-3-2 (2006); AS/NZS 61000-3-2
	Flicker Emissions	IEC 61000-3-3 (1994)+A1, (2001)+A2, (2005); EN 61000-3-3 (1995)+A1, (2001)+A2, (2005); AS/NZS 61000-3-3
	Product Specific Emissions	IEC 61000-6-3; EN 61000-6-3; AS/NZS 61000.6.3; IEC 61000-6-4; EN 61000-6-4; AS/NZS 61000.6.4; CISPR 14-1 (2000)+A1, (2001)+A2, (2002), (excluding measurement of clicks); EN 55014-1 (2000)+A1, (2001)+A2, (2002), (excluding measurement of clicks); AS/NZS CISPR 14-1 (excluding measurement of clicks); CNS 13783-1 (2001)+A1, (excluding measurement of clicks); CISPR 25, sections 6.2, 6.3 and 6.4 only
Immunity Standards	ESD Immunity Testing	IEC 61000-4-2 (1995)+A1, (1997)+A2, (1998); EN 61000-4-2 (1995)+A1, (1999)+A2, (2001); KN 61000-4-2
	RF Immunity Radiated Immunity (Up to 2.7 GHz, 20 V/m)	IEC 61000-4-3 (2002)+A1, (2002); IEC 61000-4-3 (2006); EN 61000-4-3 (2002)+A1, (2003), EN 61000-4-3 (2006); KN 61000-4-3
	EFT	IEC 61000-4-4 (1995)+A1, (2000)+A2, (2001); IEC 61000-4-4 (2004); EN 61000-4-4 (1995)+A1, (2001)+A2, (2002); EN 61000-4-4 (2004); KN 61000-4-4
	Surge	IEC 61000-4-5 (1995)+A1, (2000), IEC 61000-4-5 (2005); EN 61000-4-5 (1995)+A1, (2001), EN 61000-4-5 (2006); KN 61000-4-5



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Immunity Standards	Conducted Immunity	IEC 61000-4-6 (1996)+A1, (2001), IEC 61000-4-6 (2003)+A1, (2004)+A2, (2006); EN 61000-4-6 (1996)+A1, (2001), EN 61000-4-6 (2007), KN 61000-4-6
	Low Frequency Magnetic Immunity	IEC 61000-4-8 (1993)+A1, (2000); EN 61000-4-8 (1994)+A1, (2001); KN 61000-4-8
	Pulse Magnetic	IEC 61000-4-9 (1993)+A1, (2000); EN 610000-4-9 (1993)+A1, (2001)
	Damped Oscillatory Magnetic	IEC 61000-4-10 (1993)+A1, (2000); EN 61000-4-10 (1993)+A1, (2001)
	Power Dips and Interrupts	IEC 61000-4-10 (1993)+A1, (2000); EN 61000-4-10 (1993)+A1, (2001)
	Ring Wave Immunity	IEC 61000-4-12 (1995)+A1, (2000), IEC 61000-4-12 (2006); EN 61000-4-12 (1995)+A1, (2001), EN 61000-4-12 (2006)
	Product Specific Immunity	CISPR 24 (1997)+A1, (2001)+A2, (2002); EN55024 (1998)+A1, (2001)+A2, (2003); KN 24 with RRL Notice No 2007-101, (Dec 26, 2007); AS/NZS CISPR 24:2002; EN 61000-6-1; EN 61000-6-2; AS/NZS 4254.1; EN 55103-2; EN 50130-4
	Combined Emissions/Immunity Generic/Specific Standards	IEC 60601-1-2; EN 60601-1-2; IEC 61326; EN 61326



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Radio Testing	Australia/New Zealand	AS/NZS 4268
	Europe	ETSI EN 300 330-2; ETSI EN 300 390-2; ETSI EN 300 440-2; ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-4; ETSI EN 301 489-5; ETSI EN 301 489-7; ETSI EN 301 489-8; ETSI EN 301 489-12; ETSI EN 301 489-15; ETSI EN 301 489-17; ETSI EN 300 826; ETSI EN 302 326-1; ETSI EN 301-489-20; ETSI EN 301 428; ETSI EN 301-443; ETSI EN 301 459; ETSI EN 302 208-2; ETSI EN 300-219-2; ETSI EN 300-219-1; ETSI EN 301 681; ETSI EN 301 426 (sections 4.2.1 and 4.2.2 only); ETSI EN 301 721 (sections 4.2.1, 4.2.2, 4.2.3 and 4.2.
	USA	TIA/EIA 603-C using 47 CFR Parts 2, 22 (cellular and non-cellular), 4, 25, 26, 27, 74, 80, 87, 90, 95, 97 and 101, IEEE C63.10
	Canada	RSS-Gen; RSS-102 (<i>excluding SAR</i>); RSS-111; RSS-112; RSS-117; RSS-118; RSS-119; RSS-123; RSS-125; RSS-128; RSS-129; RSS-131; RSS-132; RSS-133; RSS-134; RSS-135; RSS-136; RSS-137; RSS-138; RSS-139; RSS-141; RSS-142; RSS-170; RSS-181; RSS-182; RSS-188; RSS-191; RSS-192; RSS-193; RSS-194; RSS-195; RSS-210; RSS-213; RSS-215; RSS-220; RSS-243; RSS-287; RSS-310



FIELD OF TEST	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
Military EMC	Conducted Emissions	MIL-STD-461E, F: Methods CE101, CE102, CE106; MIL-STD-462D: Methods CE101, CE102, CE106; MIL-STD-462: Methods CE01, CE02, CE03, CE06
	Radiated Emissions	MIL-STD-461E, F: Methods RE101, RE102 and RE103; MIL-STD-462D: Methods RE101, RE102 and RE103; MIL-STD-462: Methods RE01, RE02 and RE03
	Conducted Susceptibility	MIL-STD-461E, F: Methods CS101, CS 103; CS 104; CS 105, CS109, CS114, CS115, CS116; MIL-STD-462D: Methods CS101, CS103, CS114, CS115, CS116; MIL-STD-462: Methods, CS01, CS02, CS03, CS04, CS05, CS06, CS08
	Radiated Susceptibility	MIL-STD-461E, F: Methods RS101, RS103; MIL-STD-461/462D: Methods RS101, RS103
Airborne Equipment	Power Input	RTCA DO-160E, F: Section 16
	Voltage Spikes	RTCA DO-160E, F: Section 17
	Audio Frequency Conducted Susceptibility	RTCA DO-160E, F: Section 18
	Induced Signal Susceptibility	RTCA DO-160E, F: Section 19
	Conducted Susceptibility and Radiated Susceptibility	RTCA DO-160E, F: Section 20.4 Section 20.5
	Lighting Induced Transient Susceptibility	RTCA DO-160E, F: Section 22
	ESD	RTCA DO-160E, F: Section 25

FIELD OF TEST	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
Product Safety*	ITE	IEC 60950 (2001); IEC 60950-1 (2005); EN 60950 (2000), EN 60950-1 (2006); AS/NZS 60950-1 (2003); ANSI/UL 60950-1 (2007); CAN/CSA C22.2 60950-1 (2007)
	Measurement Control and Lab Use	IEC 61010-1 (2001); EN 61010-1 (2001) UL 61010-1 (2004); CAN/CSAC22.2 61010-1 (2004)
	Medical Equipment	IEC 60601-1 (1988); IEC 60601-1-2; EN 60601-1 (1990); EN 60601-1-2; UL 60601-1 (2003)
	Machinery	IEC 60204-1 (1997); EN 60204-1 (1997)
	Transmitters	EN 60215 (1989)
	Household & Similar Electronics	UL/IEC/EN60335-1
	Audio, Video and Similar Electronic App.	UL/IEC/EN60335-1



II. Environmental

FIELD OF TEST	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED
Environmental*	Humidity	MIL-STD-810, Method 507.4
	Immersion	MIL-STD-810, Method 512.4
	Low Pressure (Altitude)	MIL-STD-810: Method 500
	High Temperature	MIL-STD-810, Method 501.4
	Low Temperature	MIL-STD-810, Method 502.4
	Temperature Shock	MIL-STD-810: Method 503
	Contamination by Fluids	MIL-STD-810: Method 504
	Humidity	MIL-STD-810, Method 507.4
	Salt Fog	MIL-STD-810: Method 509
	Immersion	MIL-STD-810, Method 512.4
	Vibration	MIL-STD-810: Method 514
	Shock	MIL-STD-810: Method 516
	Temperature and Altitude	RTCA DO-160E, F: Section 4
	Temperature Variation	RTCA DO-160E, F: Section 5
	Humidity	RTCA DO-160E, F: Section 6
	Operational Shocks and Crash Safety	RTCA DO-160E, F: Section 7
	Vibration	RTCA DO-160E, F: Section 8
	Waterproofness	RTCA DO-160E, F: Section 10

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Environmental*	Fluids Susceptibility	RTCA DO-160E, F: Section 11
	Salt Fog	RTCA DO-160E, F: Section 14
	Flammability	RTCA DO-160E, F: Section 26
	Cold	IEC60068-2-1
	Dry Heat	IEC60068-2-2
	Steady State Damp Heat	IEC60068-2-3
	Sinusoidal Vibration	IEC60068-2-6
	Salt Mist	IEC60068-2-11
	Low Air Pressure	IEC60068-2-13
	Change of Temperature	IEC60068-2-14
	Shock	IEC60068-2-27
	Bump	IEC60068-2-29
	Cyclic Damp Heat	IEC60068-2-30
	Drop and Topple	IEC60068-2-31
Free Fall	IEC60068-2-32	



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Environmental*	Cyclic Composite Temperature and Humidity	IEC60068-2-38
	Combined Cold/Low Air Pressure	IEC60068-2-40
	Combined Dry Heat/Low Air Pressure	IEC60068-2-41
	Immersion in Cleaning Solvents	IEC60068-2-45
	Combined Cold/Vibration	IEC60068-2-50
	Combined Dry Heat/Vibration	IEC60068-2-51
	Cyclic Salt Mist	IEC60068-2-52
	Test Cb: Damp Heat Steady State	IEC60068-2-56
	Test Fh: Broadband Random Vibration	IEC60068-2-64
	Test Xc: Fluid Contamination	IEC60068-2-74
	Test Cab: Damp heat, steady state	IEC60068-2-78

Notes:

1. This scope of accreditation also covers Environmental and Safety testing done at a satellite laboratory at 4840 Winchester Blvd, Suite 4, Frederick, MD 21703.
2. Tests identified by an asterisk (*) are done at this satellite site.
3. This scope is part of and must be included with the Certificate of Accreditation No. AT -1448



Vice President