

AKKREDITOITU TESTAUSLABORATORIO*ACCREDITED TESTING LABORATORY***EUROFINS ELECTRIC & ELECTRONICS FINLAND OY**

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Testausalat
*Fields of testing***EMC/RF**
EMC/RF testing

Materiaali- ja tuotetestaus
Material and product testing

Sähkölaitteet ja tarvikkeet
Electrical equipment and accessories

PÄTEVYYSALUE SCOPE OF ACCREDITATION			
Testattava materiaali / tuote <i>Material / product tested</i>	Testattava komponentti / parametri / ominaisuus <i>Component / parameter / characteristic tested</i>	Testausmenetelmä / standardi / tekniikka <i>Test method / standard specification / techniques</i>	Toimipaikka <i>Site</i>
EMC/RF, EMC <i>EMC/RF-testing, EMC</i>			
Sähköiset ja elektroniset laitteet <i>Electrical and electronic equipment</i> Radiolaitteet <i>Radio equipment</i> Sähköiset testaus-, mittaus- ja laboratoriolaitteet <i>Electrical equipment for measurement, control and laboratory use</i>	Sähkömagneettinen yhteensopivuus (EMC) <i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements</i>	<i>EN 301 489-1</i>	Oulu (Yrttpellontie), Salo
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz</i>	<i>EN 301 489-3</i>	Oulu (Yrttpellontie), Salo
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 5: Specific conditions for Private land mobile radio (PMR) and ancillary equipment (speech and non-speech) and Terrestrial Trunked Radio (TETRA)</i>	<i>EN 301 489-5</i>	Salo
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems</i>	<i>EN 301 489-17</i>	Oulu (Yrttpellontie), Salo
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in</i>	<i>EN 301 489-19</i>	Oulu (Yrttpellontie), Salo

	<i>the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band (ROGNSS) providing positioning, navigation, and timing data</i>		
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 20: Specific conditions for Mobile Earth Stations (MES) used in the Mobile Satellite Services (MSS)</i>	<i>EN 301 489-20</i>	Oulu (Yrttpellontie)
	<i>ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 34: Specific conditions for External Power Supply (EPS) for mobile phones</i>	<i>EN 301 489-34</i>	Oulu (Yrttpellontie)
	<i>Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication Mobile and portable (UE) radio and ancillary equipment</i>	<i>EN 301 489-52</i>	Oulu (Yrttpellontie), Salo
	<i>Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)</i>	<i>IEC/EN 61000-3-2</i>	Oulu (Yrttpellontie), Salo
	<i>Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection</i>	<i>IEC/EN 61000-3-3</i>	Oulu (Yrttpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test</i>	<i>IEC/EN 61000-4-2</i>	Oulu (Yrttpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency,</i>	<i>IEC/EN 61000-4-3</i>	Oulu (Elektroniikkatie), Salo

	<i>electromagnetic field immunity test</i>		
	<i>Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test</i>	<i>IEC/EN 61000-4-4</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test</i>	<i>IEC/EN 61000-4-5</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields</i>	<i>IEC/EN 61000-4-6</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test</i>	<i>IEC/EN 61000-4-8</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques - Impulse magnetic field immunity test</i>	<i>IEC/EN 61000-4-9</i>	Oulu (Yrtpellontie)
	<i>Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests</i>	<i>IEC/EN 61000-4-11</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments</i>	<i>IEC/EN 61000-6-1</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments</i>	<i>IEC/EN 61000-6-2</i>	Oulu (Yrtpellontie), Salo
	<i>Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments</i>	<i>IEC/EN 61000-6-3</i>	Oulu (Yrtpellontie), Salo

	<i>Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments</i>	<i>IEC/EN 61000-6-4</i>	Oulu (Yrttpellontie), Salo
	<i>Industrial, scientific and medical (ISM) radio-frequency equipment – Electromagnetic disturbance characteristics – Limits and methods of measurement.</i>	<i>CISPR 11 / EN 55011</i>	Oulu (Yrttpellontie), Salo
	<i>Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement</i>	<i>CISPR 22 / EN 55022</i>	Oulu (Yrttpellontie), Salo
	<i>Information technology equipment - Immunity characteristics - Limits and methods of measurement</i>	<i>CISPR 24 / EN 55024</i>	Oulu (Yrttpellontie)
	<i>Electromagnetic compatibility of multimedia equipment - Emission Requirements</i>	<i>CISPR 32 / EN 55032</i>	Oulu (Yrttpellontie) Salo
	<i>Electromagnetic Compatibility of multimedia equipment – Immunity Requirements</i>	<i>CISPR35 / EN 55035</i>	Oulu (Yrttpellontie), Salo
	<i>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</i>	<i>IEC/EN 61326-1</i>	Oulu (Yrttpellontie), Salo
	<i>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</i>	<i>IEC/EN 61326-2-1</i>	Oulu (Yrttpellontie)
	<i>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</i>	<i>IEC/EN 61326-2-2</i>	Oulu (Yrttpellontie)
	<i>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</i>	<i>IEC/EN 61326-2-3</i>	Oulu (Yrttpellontie)
	<i>Electrical equipment for measurement, control and laboratory use - EMC</i>	<i>IEC/EN 61326-2-4</i>	Oulu (Yrttpellontie)

	<i>requirements - Part 1: General requirements</i>		
	<i>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</i>	<i>IEC/EN 61326-2-5</i>	Oulu (Yrttpellontie)
	<i>Conformance testing of GSM Terminals (Methods and tests) GSM Frequency bands included: GSM850, GSM900, GSM1800 and GSM1900</i>	<i>3GPP TS 51.010-1 subclauses 12.1 and 12.2</i>	Oulu (Yrttpellontie)
	<i>Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW</i>	<i>EN 300 220 (EN 300 220-2, 4.2.2 Unwanted emissions in the spurious domain (EN 300 220-1, 5.9 Unwanted emissions in the spurious domain)</i>	Oulu (Yrttpellontie)
	<i>Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques</i>	<i>EN 300 328</i>	Oulu (Yrttpellontie)
	<i>Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz</i>	<i>EN 300 330 4.3.8 Transmitter radiated spurious domain emission limits < 30 MHz 4.3.9 Transmitter radiated spurious domain emission limits > 30 MHz 4. 4.2 Receiver spurious emissions</i>	Oulu (Yrttpellontie)
	<i>Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range</i>	<i>EN 300 440 4.3.5 Spurious radiations</i>	Oulu (Yrttpellontie)
	<i>Satellite Earth Stations and Systems (SES); Global Navigation Satellite System (GNSS) receivers; Radio equipment operating in the 1 164 MHz to 1 300 MHz and 1 559 MHz to 1 610 MHz frequency bands</i>	<i>EN 303 413 5.5 Receiver spurious emissions test</i>	Oulu (Yrttpellontie)

	<i>Global System for Mobile communications (GSM); Mobile Stations (MS) equipment</i>	<i>ETSI EN 301 511 clauses 5.2.16 and 5.2.17</i>	Oulu (Yrttpellontie)
	<i>Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN</i>	<i>ETSI EN 301 893</i>	Oulu (Yrttpellontie)
	<i>IMT cellular networks</i>	<i>ETSI EN 301 908-1 Radiated Emissions UE (Devices falling under -2 and -13).</i>	Oulu (Yrttpellontie)
	<i>Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results</i>	<i>IEC/EN 60945</i>	Salo
	<i>Building hardware. Mechatronic cylinders. Requirements and test methods</i>	<i>EN 15684 4.8.10 Electrostatic discharge attack</i>	Salo
	<i>Railway applications. Electromagnetic compatibility. Part 3-2: Rolling stock. Apparatus</i>	<i>EN 50121-3-2</i>	Salo
	<i>Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances – Requirements and tests</i>	<i>IEC/EN 60601-1-2</i>	Salo
	<i>Specification for radio disturbance and immunity measuring apparatus and methods. Part 2-3: Methods of measurement of disturbances and immunity. Radiated disturbance measurements</i>	<i>CISPR 16-2-3 / EN 55016-2</i>	Salo
	<i>Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements</i>	<i>CISPR 16-2-1 / EN 55016-2-1</i>	Salo
EMC/RF-testaus, FCC-testaus EMC/RF testing, FCC testing			

<i>Electrical and electronic equipment (Unintentional radiators)</i>	<i>CFR 47 Subpart 15 B</i>	<i>ANSI C63.4-2014 Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz)</i>	<i>Oulu, Yrttipellontie</i>
<i>Industrial, Scientific, and Medical Equipment</i>	<i>CFR 47 Subpart 18</i>	<i>FCC MP-5:1986-02 FCC Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical Equipment</i>	<i>Oulu, Yrttipellontie</i>
<i>Intentional radiators</i>	<i>CFR 47 Subpart 15 C</i>	<i>ANSI C63.10-2013 Compliance Testing of Unlicensed Wireless Devices</i>	<i>Oulu, Yrttipellontie</i>
<i>U-NII without DFS Intentional Radiators</i>	<i>CFR 47 Subpart Part 15 E</i>	<i>ANSI C63.10 – 2013 KDB 789033</i>	<i>Oulu, Yrttipellontie</i>
<i>U-NII with DFS Intentional Radiators</i>	<i>CFR 47 Subpart 15 E</i>	<i>ANSI C63.10 – 2013 KDB 905462 D02 (v02)</i>	<i>Oulu, Yrttipellontie</i>
EMC/RF-testaus, ISED-testaus EMC/RF testing, ISED testing			
<i>Electrical and electronic equipment Unintentional radiators</i>	<i>ICES-003, Issue 7 Information Technology Equipment (Including Digital Apparatus) - Limits and Methods of Measurement</i>	<i>ANSI C63.4-2014 amended as per ANSI C63.4a-2017 Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz</i>	<i>Oulu, Yrttipellontie</i>

<i>Radio Equipment</i>	<i>RSS-Gen, Issue 5, Amendment 1 General Requirements for Compliance of Radio Apparatus</i>		Oulu, Yrtypellontie
	<i>RSS-247, Issue 2 Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence Exempt Local Area Network (LE-LAN) Devices (with and without DFS)</i>	<i>ANSI C63.10- 2013 Compliance Testing of Unlicensed Wireless Devices</i>	Oulu, Yrtypellontie
Materiaali- ja tuotetestaus, Ympäristöolosuhdetestaus Material and product testing, Environmental testing			
<i>Sähkö- ja elektroniikkalaitteet Electrical and electronics equipment</i>	<i>Kylmä Cold</i>	<i>EN 60068-2-1 (IEC 60068-2-1) MIL-STD-810, Method 502 (Low Temperature)</i>	Espoo
	<i>Kuiva lämpö Dry heat</i>	<i>EN 60068-2-2 (IEC 60068-2-2) MIL-STD 810, Method 501 (High Temperature)</i>	Espoo
	<i>Tärinä, sinimuotoinen Vibration (sinusoidal)</i>	<i>EN 60068-2-6 (IEC 60068-2-6)</i>	Espoo
	<i>Suolasumu Salt mist</i>	<i>EN 60068-2-11 (IEC 60068-2-11) SFS-EN ISO 9227 MIL-STD 810, Method 509 (Salt Fog)</i>	Espoo
	<i>Lämpötilan vaihtelu Change of temperature</i>	<i>EN 60068-2-14 (IEC 60068-2-14) Ei menetelmä NC No method Nc MIL-STD 810, Method 503 (Temperature Shock)</i>	Espoo
	<i>Isku Shock</i>	<i>EN 60068-2-27 (IEC 60068-2-27) MIL-STD 810, Method 516.8 (Shock)</i>	Espoo
	<i>Vaihteleva kostea lämpö Damp heat, cyclic</i>	<i>EN 60068-2-30 (IEC 60068-2-30)</i>	Espoo

		MIL-STD 810, Method 507 (Humidity)	
	Vapaa pudotus <i>Free fall</i>	EN 60068-2-31 (IEC 60068-2-31)	Espoo
	Lämpötilan ja kosteuden perättäistesti <i>Composite temperature / humidity cyclic test</i>	EN 60068-2-38 (IEC 60068-2-38) MIL-STD 810, Method 524 (Freeze / Thaw Lab Testing)	Espoo
	Suolasumu, jaksottainen <i>Salt mist, cyclic (sodium chlorine solution)</i>	EN 60068-2-52 (IEC 60068-2-52)	Espoo
	Tärinä, laajakaistainen satunnaistärinä ja ohjeet <i>Vibration, broad-band random (digital control) and guidance</i>	EN 60068-2-64 (IEC 60068-2-64) MIL-STD 810, Method 514 (Vibration)	Espoo
	Jatkuva kostea lämpö, kiihdytetty testi, ensijaisesti komponenteille <i>Damp heat, steady state, primarily intended for components</i>	EN 60068-2-67 (IEC 60068-2-67)	Espoo
	Jatkuva kostea lämpö <i>Damp heat, steady state</i>	EN 60068-2-78 (IEC 60068-2-78)	Espoo
	Sähkölaitteiden koteloitiluokat (IP-koodi) <i>Electrical equipment, Classification of degrees of protection provided by enclosures (IP Code)</i>	EN 60529 Vierasaine- ja pölysuojaus: IP1X - IP6X Vesisuojaus: IPX1 - IPX9 <i>Protection against solid foreign object and dust: IP1X to IP6X Water protection: IPX1 to IPX9</i> MIL-STD 810, Method 512 (Immersion)	Espoo
	Yhdistetty tärinätesti <i>Vibration, mixed-mode</i>	EN 60068-2-80 (IEC 60068-2-80)	Espoo
	Voimakas vesisuihku <i>Hosedown</i>	NEMA 250-2014, Type 4	Espoo

	Irtokuljetus <i>Loose cargo testing</i>	IEC 60068-2-55 ISTA 2A	Espoo
	Koteloiden iskutestaus (IK-luokat) <i>Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts.</i>	SFS-EN 62262 (IEC 62262)	Espoo
Sähkölaitteet ja tarvikkeet, Elektroniikka <i>Electrical equipment and accessories, Electronic Equipments (TRON, OFF)</i>			
Laboratorio- ja mittauslaitteet <i>Laboratory and measuring equipment</i>	Turvallisuustestaus <i>Safety</i>	IEC/EN/UL/CSA/ AS 61010-1: 4.4 testing in single fault conditions 5.1.3 measurement of input power 5.3 durability of markings 6.2 accessibility 6.3 measurement of leakage current 6.5.2 bonding impedance 6.6.4 terminals for stranded conductors 6.7 measurement of clearance, creepage distance and distance through insulation 6.8 voltage test 6.10.2 cord entry and cord anchorage test 6.10.3 capacitor discharge 7.3.4 Limitation of force and pressure	Oulu, Elektroniikkatie

		<p>7.3.5 Gap limitations between moving parts</p> <p>7.4 stability tests</p> <p>7.5 strength of handles</p> <p>7.6 wall mounting</p> <p>8.2 enclosure rigidity tests</p> <p>8.3 drop test</p> <p>9.3.2 Constructional requirements</p> <p>9.4 limited energy circuit</p> <p>10.4.1 temperature test</p> <p>10.5.2 thermoplastic material test</p> <p>10.5.3 Ball pressure apparatus</p> <p>11.1-11.5 protection against hazards from fluids</p> <p>13.2.2 batteries and battery charging</p> <p>EN IEC 61010-2-010 / IEC 61010-2-010</p> <p>EN IEC 61010-2-081 / IEC 61010-2-081</p> <p>EN 61010-2-101 / IEC 61010-2-101</p>	
<p>Audio- ja videolaitteet sekä tieto- ja tietoliikennetekniikan laitteet</p> <p><i>Audio/video, information</i></p>	<p>Turvallisuustestaus</p> <p><i>Safety</i></p>	<p>IEC/EN/UL/CSA/ AS 62368-1:</p> <p>4.8 Coin/button cell batteries</p>	<p>Oulu, Elektroniikkatie</p>

<p><i>and communication technology equipment</i></p>		<p>5: <i>Classification of electrical energy sources</i></p> <p>5.3.2 <i>accessibility</i></p> <p>5.4.1.10 <i>Ball pressure test</i></p> <p>5.4.2-5.4.4 <i>measurement of clearance, creepage distance and distance through insulation</i></p> <p>5.4.8 <i>humidity conditioning</i></p> <p>5.4.9 <i>electrical strength test</i></p> <p>5.4.10 <i>safeguards against transient voltages from external circuits</i></p> <p>5.4.11 <i>Separation between external circuit and earth</i></p> <p>5.5.2.2 <i>capacitor discharge</i></p> <p>5.6.4.1 <i>bonding impedance</i></p> <p>5.7 <i>touch current</i></p> <p>6: <i>Classification of power sources</i></p> <p>8: <i>Classification of mechanical energy source</i></p> <p>8.6 <i>stability tests</i></p>	
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		<p>8.7 wall mounting</p> <p>8.8 strength of handles</p> <p>8.9 wheels and castors</p> <p>8.10 carts and stands</p> <p>8.11 rack mounted equipment</p> <p>8.12 telescoping or rod antennas</p> <p>9: Classification of thermal energy sources</p> <p>9.2.5 temperature tests</p> <p>9.6 requirements for wireless power transmitters</p> <p>B.2.5 Input test</p> <p>B.2.6 Operating temperature measurement conditions</p> <p>B.3 Simulated abnormal operating conditions</p> <p>B.4 Simulated single fault conditions</p> <p>Annex E: Audio amplifiers</p> <p>F.3 Durability of markings</p> <p>G.7 Cord anchorage and strain relief test for non-detachable</p>	
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		<p><i>power supply cords</i></p> <p><i>M.3 Protection circuits for batteries provided within the equipment</i></p> <p><i>M.4 Additional safeguards for equipment containing a secondary lithium battery</i></p> <p><i>M.5 Risks of burn due to short-circuit</i></p> <p><i>M.6 Prevention of short-circuits and protection from other effects of electric current</i></p> <p><i>M.9 Preventing electrolyte spillage</i></p> <p><i>P.2 Safeguards against entry of solid foreign objects</i></p> <p><i>Q.1 Limited Power Source; a), b) and c)</i></p> <p><i>T.2 Steady force test 10 N</i></p> <p><i>T.3 Steady force test 30 N</i></p> <p><i>T.4 Steady force test 100 N</i></p> <p><i>T.5 Steady force test 250 N</i></p> <p><i>T.6 Enclosure impact test</i></p> <p><i>T.7 Drop test</i></p> <p><i>T.8 Stress relief test</i></p> <p><i>T.9 Impact test</i></p> <p><i>T.10 Glass fragmentation test</i></p>	
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<p>Audio- ja videolaitteet sekä tieto- ja tietoliikennetekniikan laitteet <i>Audio/video, information and communication technology equipment</i></p>	<p>Turvallisuustestaus <i>Safety</i></p>	<p><i>IEC/EN 62368-3</i> <i>5.3.2 DC power transfer interconnection to other equipment (current measurement)</i> <i>5.4.1 Requirement for the PSE (voltage measurement)</i> <i>5.4.2 Requirement for the PD (voltage measurement)</i></p>	<p>Oulu, Elektroniikkatie</p>
<p>Sähkö- ja elektroniikkalaitteet <i>Electrical and electronics equipment</i></p>	<p>Turvallisuustestaus <i>Safety</i></p>	<p><i>IEC/EN 60529</i> Sähkölaitteiden kotelointiluokat (IP-koodi) <i>Degrees of protection provided by enclosures (IP Code)</i> <i>Tests for protection of persons against access to hazardous parts and protection of equipment against solid foreign objects indicated by the first characteristic numeral (IP1X-6X)</i> <i>Tests for protection against water indicated by the second characteristic numeral (IPX1-4, IPX5, IPX7, IPX8)</i></p>	<p>Oulu, Yrttpellontie</p>
<p>Sähkölaitteet ja –tarvikkeet, Räjähdyssuojatut laitteet <i>Electrical equipment and accessories, ATEX</i></p>			
<p>Yleiset vaatimukset <i>General requirements</i></p>	<p>Tyypinhyväksyntätestit <i>Type approval tests</i></p>	<p>IEC/EN 60079-0</p>	<p>Espoo</p>

			Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Öljytäyteinen rakenne "o" <i>Oil immersion "o"</i>		IEC/EN 60079-6	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Suojatuuletettu rakenne "p" <i>Pressurized apparatus "p"</i>		IEC/EN 60079-2	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Hiekkatäyteinen rakenne "q" <i>Powder filling "q"</i>		IEC/EN 60079-5	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Räjähdyspaineen kestävä rakenne "d" <i>Flameproof enclosure "d"</i>		IEC/EN 60079-1, lukuun ottamatta kohtia 15.2.2, 15.3, 15.4, 15.5 ja 19.4 <i>except tests in items 15.2.2., 15.3, 15.4, 15.5 and 19.4</i>	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Varmennettu rakenne "e" <i>Increased safety "e"</i>		IEC/EN 60079-7, lukuunottamatta kohdan 6.2.3 testejä <i>except tests in item 6.2.3</i>	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>

Luonnostaan vaaraton rakenne "i" <i>Intrinsic safety "i"</i>		IEC/EN 60079-11	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Suojausrakenne "n" <i>Type of protection "n"</i>		IEC/EN 60079-15	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Massaan valettu rakenne "m" <i>Encapsulation "m"</i>		IEC/EN 60079-18	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Luonnostaan vaarattomat kenttäväylät (FISCO) ja sytyttämättömät kenttäväylät (FNICO) <i>Fieldbus intrinsically safe concept (FISCO) and Fieldbus non-incendive concept (FNICO)</i>		IEC/EN 60079-27	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Optista säteilyä käyttävien laitteiden ja tiedonvälitysjärjestelmien suojaus <i>Protection of equipment and transmission systems using optical radiation</i>		IEC/EN 60079-28	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Exi -järjestelmät <i>Intrinsically-safe electrical systems "i"</i>		IEC/EN 60079-25	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>

Pölyräjähdysvaarallisiin tiloihin tarkoitetut koteloinnilla suojatut sähkölaitteet <i>Electrical apparatus protected by enclosure for use in the presence of combustible dust</i>		IEC/EN 60079-31	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Ryhmän II, laiteluokan 1 G sähkölaitteet <i>Equipment with Equipment Protection Level (EPL) Ga</i>		IEC/EN 60079-26	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Ryhmän I, laiteluokan M1 laitteet, jotka on tarkoitettu pysyvän toiminnassa ilmaseoksissa, joissa räjähdysvaaran aiheuttaa kaivoskaasu ja/tai hiilipöly <i>Group I, Category M1 equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust</i>	Tyyppihyväksyntätestit <i>Type approval tests</i>	EN 50303	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Räjähdysvaarallisessa ilmaseoksessa toimivien puhaltimien suunnittelu <i>Design of fans working in potentially explosive atmospheres</i>		EN 14986	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Laitekoonpanot <i>Equipment assemblies</i>		IEC TS 60079-46:2017 Explosive atmospheres - Part 46: Equipment assemblies	Espoo Witness-testaus yhteistyökumppanin tiloissa <i>Witness testing in business partner's premises</i>
Sähkölaitteet ja –tarvikkeet, Räjähdysuojatut laitteet, Muut kuin sähkölaitteet <i>Electrical equipment and accessories, ATEX, non-electric</i>			

<p>Räjähdyksvaaralliset tilat. Osa 36: Räjähdyksvaarallisten tilojen muut kuin sähkölaitteet. Perusmenetelmät ja vaatimukset <i>Explosive atmospheres. Part 36: Non-electrical equipment for explosive atmospheres. Basic method and requirements</i></p>		<p>EN ISO/IEC 80079-36</p>	<p>Espoo</p>
<p>Räjähdyksvaaralliset tilat. Osa 37: Räjähdyksvaarallisten tilojen muut kuin sähkölaitteet. Muut kuin sähköiset suojaustyypit. Suojaus rakenteellisella turvallisuudella "c", suojaus syttymislähteiden valvonnalla "b", suojaus nesteeseen upottamalla "k" <i>Explosive atmospheres. Part 37: Non-electrical equipment for explosive atmospheres. Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k".</i></p>		<p>EN ISO/IEC 80079-37</p>	<p>Espoo</p>
<p>Kun standardista ei ole mainittu vuosilukua, niin akkreditointi koskee standardin viimeisintä versiota. Tarkka lista standardeista on saatavilla laboratorion kautta. <i>When the approval year of the standard is not specified accreditation covers the latest version of the method. Detailed list of standards is available from the laboratory.</i></p>			