Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

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Accredited to ISO/IEC 17025:2017

QinetiQ Ltd

Issue No: 044 **Issue date:** 05 February 2024

RF, E3 Test & Evaluation
Cody Technology Park
A5 Building, Room 2.47G
Ively Road
Farnborough
Hampshire
GU14 0LX

Contact: Mr Gavin Barber
Tel: +44 (0)1252 392500
Fax: +44 (0)1252 397058
E-Mail: gdbarber@qinetiq.com
Website: www.qinetiq.com

Testing performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address Cody Technology Park A5 Building, Room 2.47G Ively Road Farnborough Hampshire GU14 0LX	**Local contact** Mr Gavin Barber Tel: +44 (0)1252 393649 Fax: +44 (0)1252 397058 Email: gdbarber@qinetiq.com Website: www.qinetiq.com	Testing: Military EMC Tests Civil EMC Tests Full Aircraft EMC Tests	A
Address MOD Boscombe Down Salisbury Wiltshire SP4 0JF	**Local contact** Mr Elliot Jenkins Tel: +44 (0)1980662828 Email: ebjenkins@QinetiQ.com Website: www.qinetiq.com	Testing: Military aircraft EMC Tests RF Environment Test	B

Site activities performed away from the locations listed above

Location details	Activity	Location code
Any	Testing: Civil and Military EMC Tests Civil and Military EMC Tests for Large Vehicles, Platforms and Systems Note: Where applicable these tests must be carried out in a screened enclosure or other arrangements made to prevent contravention of the Wireless Communications Act.	D

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Aerospace Components and Equipment Batteries and Cells Circuit Breakers and Switches Coatings: Metallic Communications Equipment Composite Materials Compressors Computers and Peripherals Construction Plant and Equipment Construction Products Control Equipment Domestic Appliances: Electrical Door Safety Devices Electrical and Electronic Components Electrical and Electronic Products Electrical Cables Electro-mechanical Devices Electronic Products: Digital Explosion Protected Electrical Equipment Fans Filters and Filter Media Equipment Flowmeters Foundry Equipment Furnaces, Kilns and Ovens Fuses: Electrical Fuses: Weapons Galley/Ancillary Equipment Mechanical Products and Plant Medical/Dental Equipment Micro-electronic Circuits and Components Mining Equipment and Plant Missile Components Missiles: Guided and Unguided	**1 MILITARY EMC TESTS** 1.1 Conducted Emissions 1.1.1 Conducted Current Emissions Power, Control and Signal Lines 20 Hz to 150 MHz	DEF STAN 59-411:2007 Part 3, Issue 1 Including Amendment 1:2008 DCE 02. A and B DEF STAN 59-411:2014 Part 3, Issue 2 DCE 02. A and B DEF STAN 59-411:2019 Part 3, Issue 3 DCE 02. A and B DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCE 01.B DEF STAN 59-411:2014 Part 3, Issue 2 DCE 01.B DEF STAN 59-411:2019 Part 3, Issue 3 DCE 01.B SPE-J-000-E-1000, Feb 1991, Issue 1 CE-EFA-1 and CE-EFA-2 MIL STD 461D, E, F, G CE 101 RTCA/DO-160D Section 21.3 RTCA/DO-160 E, F, G Section 21.4	A, D A, D A, D A, D A, D A, D A, D A, D A, D A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Continued from Page 2	**1 MILITARY EMC TESTS (cont'd)**		
Motor Vehicle Accessories and Components Motors: Electrical Navigation Equipment Office Equipment: Electrical Optical and Photometric Equipment Power Supplies: Electrical Pumps Radar Equipment Radio and TV Equipment Rescue Appliances and Equipment Safety Appliances and Equipment Satellites and Sub-Assemblies Security Equipment Sensors Smoke Detectors Sonar Equipment Switchboards: Electrical Telecommunications Equipment Tools: Machine Transformers: Electrical Video Equipment Weapons Systems and Sub-Assemblies	1.1.2 Conducted Voltage Emissions Power Lines 15 kHz to 100 MHz 20 Hz to 10 MHz	MIL STD 461D, E, F, G CE 102	A, D
	1.2 Exported Transients Power Lines 2000 V peak	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCE 03.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DCE 03.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCE 03.B	A, D
		SPE-J-000-E-1000, Feb 1991, Issue 1 CE-EFA-3	A, D
	1.3 Radiated Emissions 1.3.1 E Field: 14 kHz to 18 GHz Installed Antenna: 1.6 MHz to 76 MHz	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DRE 01.B, DRE 03.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DRE 01.B, DRE 03.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DRE 01.B	A, D
		DEF STAN 59-411:2014 Part 4, Issue 2 DRE 04.B	A, D
		DEF STAN 59-411:2019 Part 4, Issue 3 DRE 04.B, DRE 05.B	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.3 Radiated Emissions (cont'd)	SPE-J-000-E-1000 Feb 1991, Issue 1 RE-EFA-1	A, D
	1.3.1 E Field: 10 kHz to 18 GHz	RTCA/DO-160D Section 21.5 and 21.6	A, D
		RTCA/DO-160E, F, G	A, D
		MIL STD 461D, E, F, G RE 102	A, D
	1.3.2 H Field: 20 Hz to 100 kHz	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DRE 02.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DRE 02.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DRE 02.B	A, D
	30 Hz to 100 kHz	MIL STD 461D E, F, G RE 101	A, D
	1.4 Conducted Susceptibility	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 01.B	A, D
	1.4.1 Power Lines, Differential Mode 20 Hz to 400 MHz	DEF STAN 59-411:2014 Part 3, Issue 2 DCS 01.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCS 01.B	A, D
		SPE-J-000-E-1000 Feb 1991, Issue 1 CS-EFA-1	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.4 Conducted Susceptibility (cont'd)	MIL STD 461D, E, F, G CS 101 and CS 114	A, D
	1.4.1 Power Lines, Differential Mode (cont'd)	RTCA/DO-160D, E, F, G Section 18.3.1 Section 18.3.2	A, D
	1.4.2 Power, Control and Signal Lines Common Mode 10 kHz to 400 MHz	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 02 A and B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DCS 02. A and B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCS 02. A and B	A, D
		SPE-J-000-E-1000 Feb 1991, Issue 1 CS-EFA-2	A, D
		MIL STD 461D, E, F, G CS 114	A, D
		MIL STD 461D, E, F, G CS 115	A, D
		RTCA/DO-160D, E, F, G Section 20.4	A, D
	1.4.3 Control and Signal Lines 20 Hz to 50 kHz	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 03.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DCS 03.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCS 03.B	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.4 Conducted Susceptibility (cont'd)	SPE-J-000-E-1000 Feb 1991, Issue 1 RS-EFA-2	A, D
	1.4.3 Control and Signal Lines 20 Hz to 50 kHz (cont'd)	RTCA/DO-160D, E, F, G Section 19.3.3	A, D
		RTCA/DO-160E, G Section 19.3.2	A, D
	1.4.4 Low Level Swept Current (LLSC) 200 kHz to 450 MHz	DEF STAN 59-411:2007 Part 4, Issue 1, including Amendment 1:2008 Annex A and B	B, D
		DEF STAN 59-411:2014 Part 4, Issue 2, Annex A and B	B, D
		DEF STAN 59-411:2019 Part 4, Issue 3, Annex A and B	D
		EUROCAE ED-107A section 6.4.3	B,D
	1.4.5 Bulk Current Injection (BCI) 200 kHz to 450 MHz	DEF STAN 59-411:2007 Part 4, Issue 1, including Amendment 1:2008 Annex A and B	B,D
		DEF STAN 59-411:2014 Part 4, Issue 2, Annex A and B	B,D
		EUROCAE ED-107A section 8.3.1	B,D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)** 1.5 Transient Susceptibility Power, Control and Signal Lines 1.5.1 Imported Long Transient Susceptibility 700V 30A peak	DEF STAN 59-411:2007 Part 3 Issue 1, Including Amendment 1:2008 DCS 04.B DEF STAN 59-411:2014 Part 3, Issue 2 DCS 04.B DEF STAN 59-411:2019 Part 3, Issue 3 DCS 04.B	A, D A, D A, D
	1.5.2 Externally Generated Transients (Switching and NEMP) 100A peak	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 05.B DEF STAN 59-411:2014 Part 3, Issue 2 DCS 05.B DEF STAN 59-411:2019 Part 3, Issue 3 DCS 05.B	A, D A, D A, D
	1.5.3 Imported Long Transient Susceptibility 2350V 100A peak	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 06.B DEF STAN 59-411:2014 Part 3, Issue 2 DCS 06.B DEF STAN 59-411:2019 Part 3, Issue 3 DCS 06.B	A, D A, D A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.5 Transient Susceptibility Power, Control and Signal Lines		
	1.5.4 Imported Low Frequency Transients 2500V peak	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 12.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DCS 12.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCS 12.B	A, D
		RTCA/DO-160E, F Section 17	A, D
	1.5.5 Damped Sinusoidal Transients Cables and Power leads 10 kHz to 100 MHz	MIL STD 461D, E, F, G CS 116	A, D
	1.6 ESD Up to 15 kV	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008 DCS 10.B	A, D
		MIL STD 461G CS118	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DCS 10.B	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DCS 10.B	A, D
		RTCA-DO-160D, E, F, G Section 25	A, D
		EN 61000-4-2:1995 EN 61000-4-2:2009	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.7 Radiated Susceptibility		
	1.7.1 Magnetic Field 20 Hz to 50 kHz	DEF STAN 59-411:2007 Part 3, Issue 1, including Amendment 1:2008 DRS 01.A DRS 01.B,	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DRS 01. A and B,	A, D
		DEF STAN 59-411:2019 Part 3, Issue 3 DRS 01. A and B,	A, D
		RTCA/DO-160D, E, F, G Section 19.3.1	A, D
		MIL STD 461F, G RS 101	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.7 Radiated Susceptibility		
	1.7.2 Electric Field 14 kHz to 18 GHz	DEF STAN 59-411:2007 Part 3, Issue 1, Including Amendment 1:2008	A, D
	Field Strength Dependent on EUT Size and Frequency Range:	DRS 02.A DRS 02.B	A, D
		DEF STAN 59-411:2014 Part 3, Issue 2 DRS 02. A and B	A, D
	10 kHz - 100 MHz up to 400 V/m	DEF STAN 59-411:2019 Part 3, Issue 3 DRS 02. A and B	A, D
	100 MHz - 18 GHz up to 200 V/m	SPE-J-000-E-1000 Feb 1991, Issue 1 RS-EFA-3	A, D
	10 kHz to 18 GHz	MIL STD 461D, 1E F, G RS 103	A, D
	14 kHz to 18 GHz	RTCA/DO-160D Section 20.5	A, D
		RTCA/DO-160D Change No 1, Section 20.5	A, D
		RTCA/DO-160E, F, G Section 19.3.4	A, D
		RTCA/DO-160E, F, G Section 20.5	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)** 1.7 Radiated Susceptibility 1.7.3 Alternative Method Reverberation Chamber 200 MHz to 18 GHz Mode Stir Approximate Achievable Field Strengths: GHz V/m 0.2-0.3 1000 0.3-1.0 1800 1.0-1.5 8000 1.5-2.0 8000 2.0-2.5 6500 2.5-4.0 7200 4.0-5.0 6500 5.0-6.0 6000 6.0-15.0 6500 15.0-18.0 4800	ED14D, Section 20:1997 ED14G, Section 20:2010 RTCA DO-160D Section 20.5 RTCA DO-160G Section 20.6	A A A A
	1.7.4 Alternative Method Reverberation Chamber 200 MHz to 18 GHz Mode Tuned Approximate Achievable Field Strengths: GHz V/m 0.2-0.3 480 0.3-0.4 550 0.4-0.5 650 0.5-0.6 750 0.6-0.7 800 0.7-0.8 850 0.8-0.9 900 0.9-1.0 950 1.0-2.0 2000 2.0-18.0 1000	MIL STD 461F, G RS103	A

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.8 Magnetostatic Field (DC) Susceptibility Max EUT size: 1.1 m x 1.1 m x 1.1 m Field strength up to 3600 A/m (6.75 mT) Other EUT sizes and field strengths accommodated on request	DEF STAN 59-411:2007 Part 3 Issue 1, Including DRS 03B DEF STAN 59-411:2014 Part 3, Issue 2 DRS 03.B DEF STAN 59-411:2019 Part 3, Issue 3 DRS 03.B	A, D A, D A, D
	1.9 Low Level Swept Field 100MHz to 18GHz	EUROCAE ED-107A section 6.4.4 DEF STAN 59-411:2014 Part 4 Issue 2 DEF STAN 59-411:2019 Part 4 Issue 3	A, D A, D
	1.10 High Level Radiated Susceptibility 10 kHz to 30 MHz 100 to 200V/m Height dependent 30 MHz to 1GHz Up to 500V/m See DEF STAN 59-411 Tables 7 to 11 for full capability Minimum of 1000V/m up to and in excess of 3000V/m depending on on test site, Frequency range required and EUT.	EUROCAE ED-107A section 7.4.2 DEF STAN 59-411:2014 Part 4 Issue 2	A, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**1 MILITARY EMC TESTS (cont'd)**		
	1.11 RF Radiation Surveys 10 kHz to 40 GHz	BS EN 60945:2002, Clause 12.2 IEC 945:2002, Clause 12.2	A, D
		RF surveys for EM Environments and Hazards of Electromagnetic Energy to Personnel, as Documented in-house Work Instruction QQ/EMEA/EO/WI220836/2.0	A, D

Facilities for EMC Testing:

Screened Enclosures (dimensions L x B x H in metres)

10 x 6 x 7 (ferrite lined semi-anechoic Tempest/EMC) Chamber F
8 x 5 x 6 (ferrite lined semi-anechoic) Chamber H

Maximum EUT size: Note: The access doors restrict the size of EUT

Door size 3 m x 3 m Chamber F
Door size 1.5 m x 2.5 m Chamber H

Power Supplies available:

Three phase:	200V	32A	400 Hz
	200V	16A	400 Hz A/C Supply
	415V	63A	50 Hz
	200V	32A	400 Hz (Rotary Generator)
	440V	60A	60 Hz
	415V	32A	50Hz
Single phase:	230V	100A	50 Hz
	115V	1 kVa	400 Hz
	115V	50A	60 Hz (External Inverter only)
DC:	28V	100A	

Other specialist supplies available on request

Compressed air up to 100 psi, in F & H

and all environmental areas
Domestic Water services available at mains pressure

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
As listed on Pages 2 and 3	**2. RF ENVIRONMENT TESTING** 5 MHz to 34.8GHz Specific bands covered: HF (ITU band 7) 5-30 MHz Nominal Field strength: Vert: 200 V/m Horiz: 50 V/m VHF (ITU band 8) 30-200 MHz Nominal Field strength: Vert: 200 V/m Horiz: 200 V/m UHF (ITU band 9) 200-1000 MHz Nominal Field strength: Vert: 150 V/m Horiz: 150 V/m	DEF STAN 59-411 Part 4 Issue 2	B
END			