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Report On

FCC and Industry Canada Testing of the
Motorola RS507 Hands Free Imager

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FCC ID: UZ7RS507
IC ID: 109AN-RS507

Document 75903870 Report 03 Issue 2

March 2009





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TUV Product Service Ltd, Octagon House, Concorde Way, Segensworth North,
Fareham, Hampshire, United Kingdom, PO15 5RL
Tel: +44 (0) 1489 558100. Website: www.tuvps.co.uk

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PREPARED FOR Motorola Inc.
One Motorola Plaza
Holtsville
NY 11742-1300
USA

PREPARED BY 

A Guy
EMC Engineer

APPROVED BY 


J Adams
Authorised Signatory

DATED 13 March 2009

This report has been up-issued to Issue 2 to correct typographical errors.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47: Parts 15 B and RSS-Gen Issue 2. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);


P Harrison



C Lewis





CONTENTS

Section		Page No
1	REPORT SUMMARY	3
1.1	Introduction	4
1.2	Brief Summary of Results	5
1.3	Declaration of Build Status	6
1.4	Product Information	7
1.5	Test Conditions	10
1.6	Deviations From the Standard	10
1.7	Modification Record	10
2	TEST DETAILS	11
2.1	Radiated Emissions (Enclosure Port)	12
3	TEST EQUIPMENT USED	18
3.1	Test Equipment Used	19
3.2	Measurement Uncertainty	20
4	PHOTOGRAPHS.....	21
4.1	Test Set Up Photographs	22
5	ACCREDITATION, DISCLAIMERS AND COPYRIGHT	24
5.1	Accreditation, Disclaimers and Copyright.....	25



SECTION 1

REPORT SUMMARY

FCC and Industry Canada Testing of the
Motorola RS507 Hands Free Imager



1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Motorola Inc RS507 Hands Free Imager to the requirements of FCC CFR 47 Part 15B and RSS-Gen Issue 2.

Objective	To perform FCC and Industry Canada Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Motorola
Model Number	RS507
Serial Number(s)	MXA4NG86
Software Version	V64
Hardware Version	Rev A
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15B: 2006 RSS-Gen Issue 2: 2007
Incoming Release Date	Declaration of Build Status 26 January 2009
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	NP4076771 14 May 2008
Start of Test	19 January 2009
Finish of Test	22 January 2009
Name of Engineer(s)	PJ Harrison C Lewis
Related Document(s)	ANSI 63.4 : 2001



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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 15B and RSS-Gen Issue 2, is shown below.

Configuration 1 - Stand Alone (Bluetooth Idle)							
Section	Spec Clause		Test Description	Mode	Mod State	Result	Base Standard
	FCC	IC					
2.1	15.109	7.2.3	Radiated Emissions (Enclosure Port)	Receive Mode	0	Pass	ANSI 63.4:
	15.107	7.2.2	Conducted Emissions (AC Power Port)	Receive Mode		N/A	ANSI 63.4

Configuration 2 - Connected to WT4090							
Section	Spec Clause		Test Description	Mode	Mod State	Result	Base Standard
	FCC	IC					
2.1	15.109	7.2.3	Radiated Emissions (Enclosure Port)	Receive Mode	0	Pass	ANSI 63.4
	15.107	7.2.2	Conducted Emissions (AC Power Port)	Receive Mode		N/A	ANSI 63.4

N/A – Not Applicable



1.3 DECLARATION OF BUILD STATUS

Manufacturer	<u>Motorola</u>
Country of origin	<u>Mexico</u>
UK Agent	<u>Motorola</u>
Technical Description	<u>Wireless Hands Free Imager Barcode Reader and accessories</u>
Accessories Listed	<u>Corded adapter ADPTRWT-RS507-R Standard battery BTRY-RS50EAB00-01 Extended battery BTRY-RS50EAB02-01</u>
Model No	<u>RS507</u>
Part No	<u>RS507-IM20000CTWR, RS507-IM20000SNWR RS507-IM20000STWR , RS507-IM20000ENWR</u>
Serial No	<u>MXA4NG86 (Application unit)</u>
Drawing Number	<u>-</u>
Build Status	<u>PILOT</u>
Software Issue	<u>V64</u>
Hardware Issue	<u>REV A</u>
FCC ID	<u>UZ7RS507</u>
Industry Canada ID	<u>109AN-RS507</u>
Signature	<u>Michael Blinshtain</u>
Date	<u>01-26-2009</u>
D of B S Serial No	<u>75903870-41000</u>

Note: This document has been prepared to enable manufacturers with no mechanism for producing their own Declaration of Build Status, to declare the build state of the equipment submitted for test.

No responsibility will be accepted by TÜV Product Service as to the accuracy of the information declared in this document by the manufacturer.



1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Motorola RS507 Hands Free Imager as shown in the photograph below. A full technical description can be found in the Manufacturers documentation.



Equipment Under Test Bluetooth version



Equipment Under Test with direct cable link



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1.4.2 Test Configuration

Configuration 1: Stand Alone (Bluetooth Idle)

The EUT was configured in accordance with FCC CFR 47 Part 15B and RSS-Gen Issue 2.

Configuration 2: Connected to WT4090

The EUT was configured in accordance with FCC CFR 47 Part 15B and RSS-Gen Issue 2.

1.4.3 EUT Cable / Port Identification

Port	Max Cable Length specified	Usage	Type	Screened	Configuration and Mode (if different)
DC corded adapter	~ 15cm	DC and signal	Multicore	No	Configuration 2 Mode 1 only

1.4.4 Modes of Operation

Modes of operation of each EUT during testing were as follows:

Mode 1 - Receive Mode

Information on the specific test modes utilised are detailed in the test procedure for each individual test.



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1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was Battery Powered for configuration 1 and DC Powered in configuration 2.

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation
IC2932B-1 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.7 MODIFICATION RECORD

No modifications were made to the EUT during testing.



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SECTION 2

TEST DETAILS

FCC and Industry Canada Testing of the
Motorola RS507 Hands Free Imager



2.1 RADIATED EMISSIONS (ENCLOSURE PORT)

2.1.1 Specification Reference

FCC CFR 47 Part 15B, Clause 15.109
RSS-Gen Issue 2, Clause 7.2.3

2.1.2 Equipment Under Test

RS507 Hands Free Imager, S/N: MXA4NG86

2.1.3 Date of Test and Modification State

19 January 2009 - Modification State 0

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of ANSI 63.4.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1
Configuration 2 - Mode 1

2.1.6 Environmental Conditions

	19 January 2009
Ambient Temperature	24°C
Relative Humidity	25%
Atmospheric Pressure	977mbar



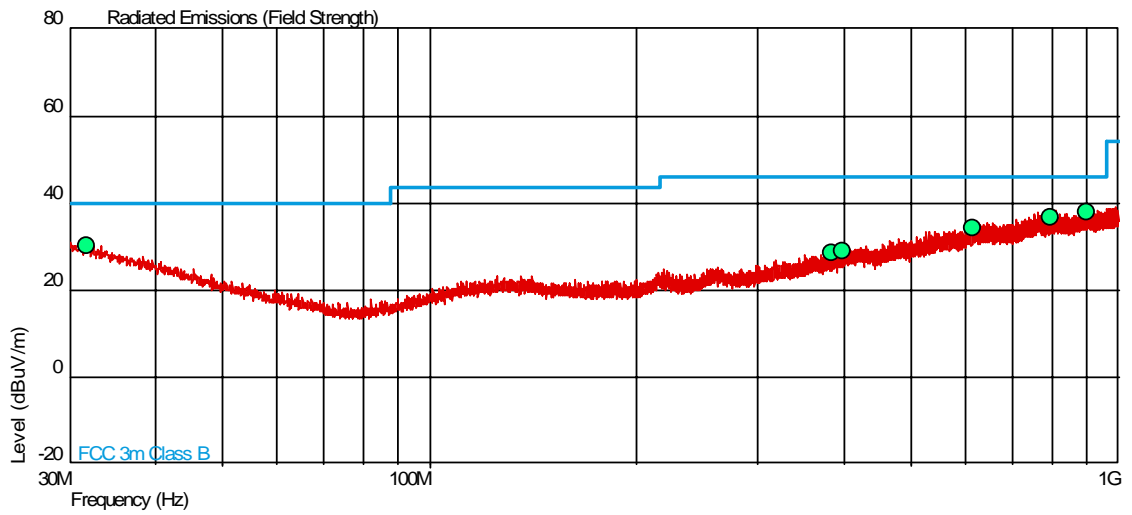
2.1.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15B and RSS-Gen Issue 2 for Radiated Emissions (Enclosure Port).

The test results are shown below.

Configuration 1 - Mode 1

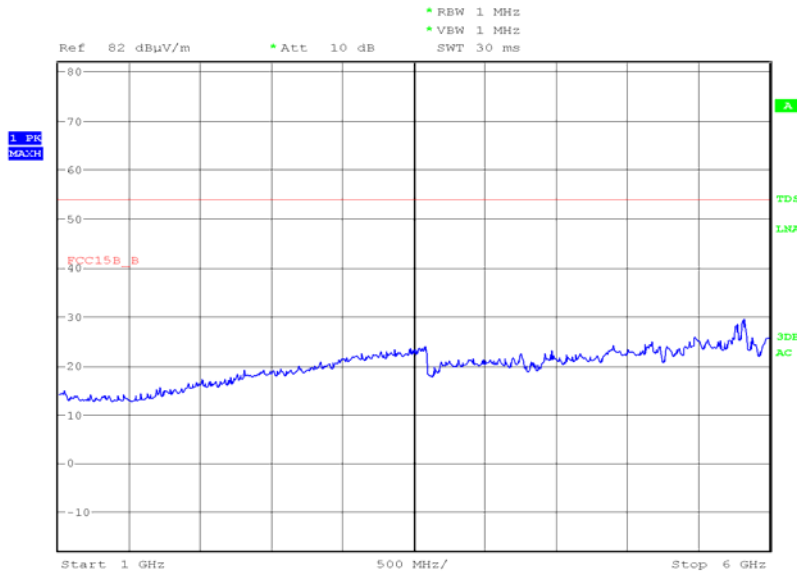
30MHz to 1GHz



Frequency (MHz)	QP Level (dBuV/m)	QP Level (uV/m)	QP Limit (dBuV/m)	QP Limit (uV/m)	QP Margin (dBuV/m)	QP Margin (uV/m)	Angle(Deg)	Height(m)	Polarity
31.754	30.4	33.1	40.0	100	-9.6	-66.9	144	1.00	Horizontal
383.847	28.4	26.3	46.0	200	-17.6	-173.7	37	1.00	Horizontal
398.562	29.1	28.5	46.0	200	-16.9	-171.5	86	3.81	Horizontal
616.478	34.4	52.5	46.0	200	-11.6	-147.5	338	1.00	Vertical
796.252	36.8	69.2	46.0	200	-9.2	-130.8	75	1.00	Vertical
899.622	37.7	76.7	46.0	200	-8.3	-123.3	286	1.50	Vertical

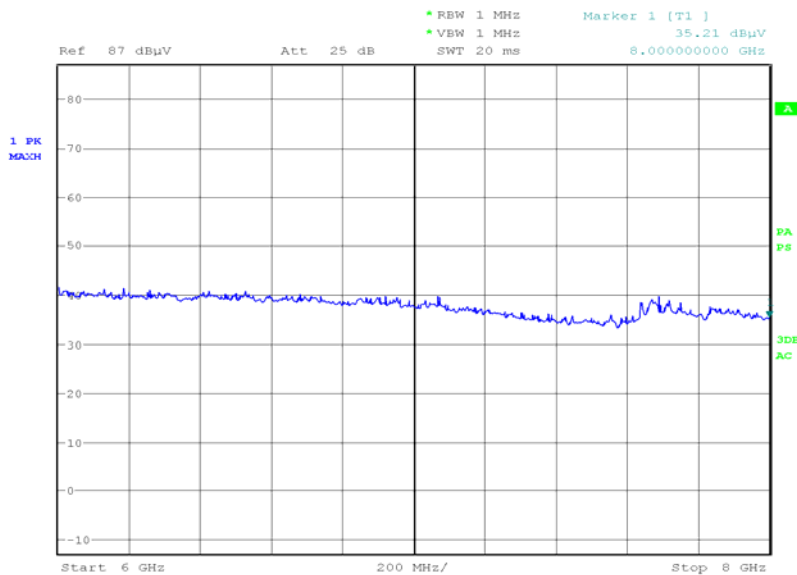


1GHz to 6GHz



Date: 19.JAN.2009 17:31:32

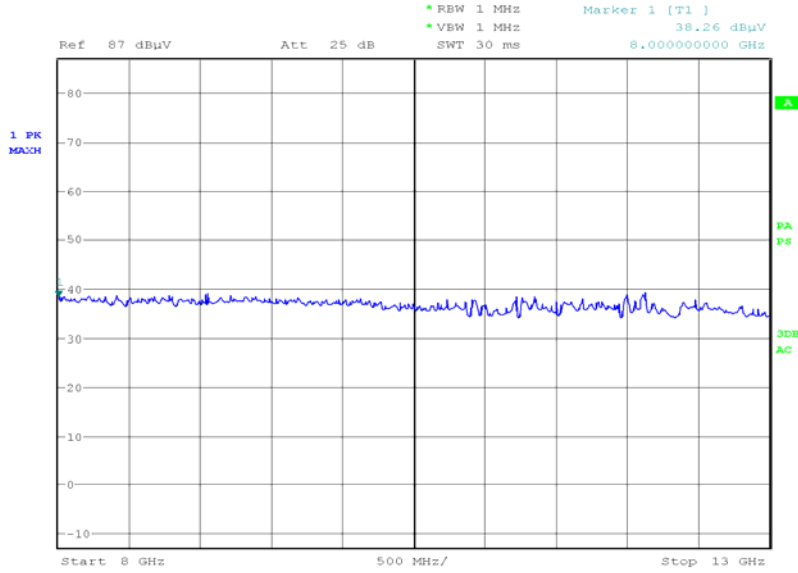
6GHz to 8GHz



Date: 22.JAN.2009 12:18:55



8GHz to 13GHz

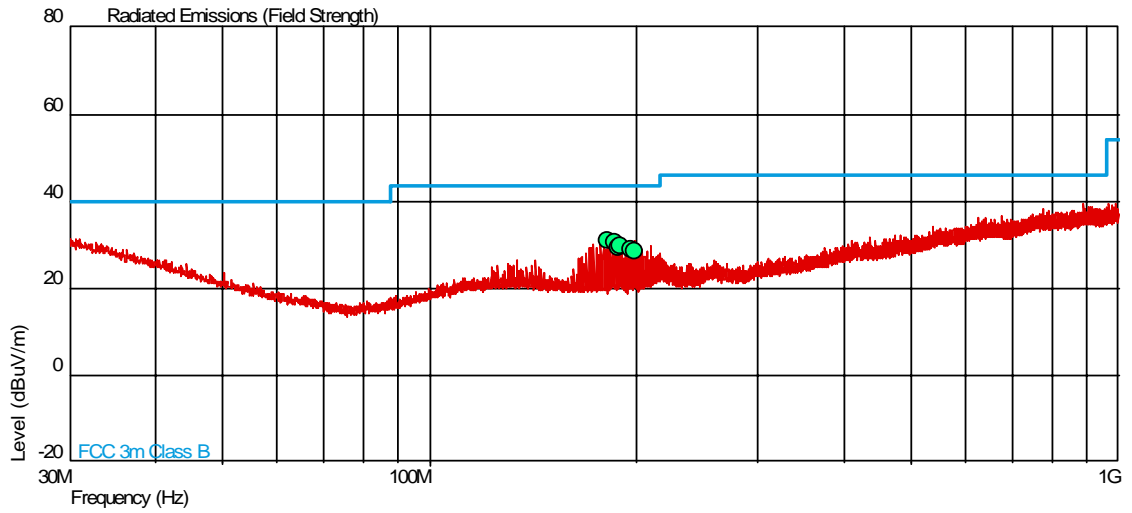


Date: 22.JAN.2009 12:05:00



Configuration 2 - Mode 1

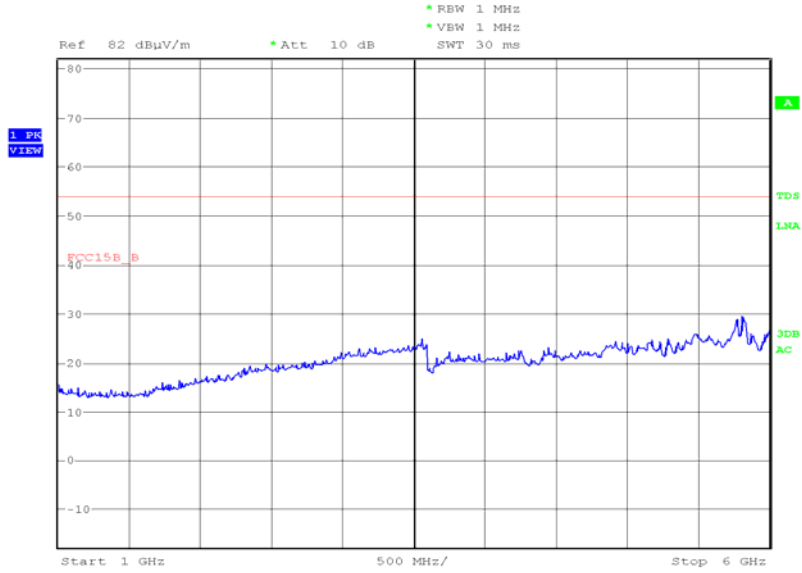
30MHz to 1GHz



Frequency (MHz)	QP Level (dBuV/m)	QP Level (uV/m)	QP Limit (dBuV/m)	QP Limit (uV/m)	QP Margin (dBuV/m)	QP Margin (uV/m)	Angle(Deg)	Height(m)	Polarity
181.269	31.2	36.3	43.5	150.0	-12.3	-113.7	360	1.83	Horizontal
185.463	30.8	34.7	43.5	150.0	-12.7	-115.3	2	1.89	Horizontal
188.238	29.3	29.2	43.5	150.0	-14.2	-120.8	9	1.34	Horizontal
189.546	29.9	31.3	43.5	150.0	-13.6	-118.8	360	1.08	Horizontal
196.557	29.1	28.5	43.5	150.0	-14.4	-121.5	11	1.67	Horizontal
197.918	28.4	26.3	43.5	150.0	-15.1	-123.7	354	1.00	Horizontal



1GHz to 6GHz



Date: 19.JAN.2009 17:23:10



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SECTION 3

TEST EQUIPMENT USED



3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.1 EMC - Radiated Emissions					
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	6-Sep-2009
Pre-Amplifier	Phase One	PS04-0085	1532	12	15-Sep-2009
Pre-Amplifier	Phase One	PS04-0086	1533	12	15-Sep-2009
Screened Room (5)	Rainford	Rainford	1545	36	11-Feb-2011
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Turntable/Mast Controller	EMCO	2090	1607	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	28-Nov-2009
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	20-Aug-2009

TU – Traceability Unscheduled



3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU
Radiated Emissions, Bilog Antenna, AOATS	30MHz to 1GHz Amplitude	5.1dB*
Radiated Emissions, Horn Antenna, AOATS	1GHz to 40GHz Amplitude	6.3dB*
Conducted Emissions, LISN	150kHz to 30MHz Amplitude	3.2dB*

Worst case error for both Time and Frequency measurement 12 parts in 10^6 .

* In accordance with CISPR 16-4

† In accordance with UKAS Lab 34



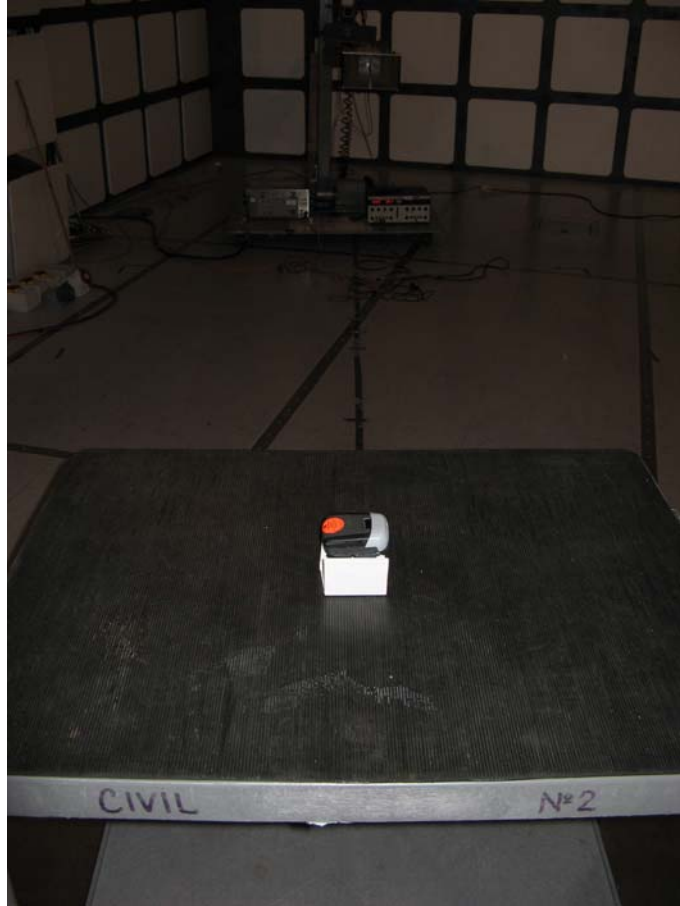
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SECTION 4

PHOTOGRAPHS



4.1 TEST SET UP PHOTOGRAPHS



Radiated Emissions (Enclosure Port) Configuration 1



Radiated Emissions (Enclosure Port) Configuration 2



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SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT



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5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA
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