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Report On

EMC Testing of the
Philips Technologies
CT9A9j

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FCC ID: RXXCT9A9J

Document 75902829 Report 01 Issue 2 March 2008

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REPORT ON

EMC Testing of the
Philips Technologies
CT9A9j

Document 75902829 Report 01 Issue 2

March 2008

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DATED 20 March 2008

This report has been up-issued to Issue 2 to correct the FCC ID and include Conducted Emissions Results.

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: Part 15 B. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

S Hartley

Product Service

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SECTION 1

REPORT SUMMARY

EMC Testing of the
Wiz4com Technologies
CT9A9j

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Philips Technologies CT9A9j to the requirements of FCC Part 15B: 2006.

Objective	To perform Electromagnetic Compatibility (EMC) Qualification Approval Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Philips
Model Number(s)	867000038409
Serial Number(s)	IMEI 358233000056239
Software Version	64604
Hardware Version	PR3
FCC ID	RXXCT9A9J
Number of Samples Tested	One
Test Specification/Issue/Date	FCC Part 15B: 2006
Incoming Release Date	Not Formally Released 11 January 2007
Disposal Reference Number Date	Packing Note 75902829 24 January 2008
Order Number Date	07/0000001670 20 December 2008
Start of Test	02 February 2008
Finish of Test	17 March 2008
Name of Engineer(s)	S Hartley
Related Document(s)	ANSI C63.4: 2003

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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC Part 15B: 2006, is shown below.

Configuration 1 - Bluetooth						
Section	Spec Clause	Test Description	Mode	Mod State	Result	Base Standard
2.1	15.109	Radiated Emissions (Enclosure Port)	Standby/Idle	0	Pass	-
	15.107	Conducted Emissions (AC Power Port)	Standby/Idle	N/A	N/A	-

Configuration 2 - GSM 850						
Section	Spec Clause	Test Description	Mode	Mod State	Result	Base Standard
2.1	15.109	Radiated Emissions (Enclosure Port)	Standby/Idle	0	Pass	-
	15.107	Conducted Emissions (AC Power Port)	Standby/Idle	N/A	N/A	-

Configuration 3 - GSM 1900						
Section	Spec Clause	Test Description	Mode	Mod State	Result	Base Standard
2.1	15.109	Radiated Emissions (Enclosure Port)	Standby/Idle	0	Pass	-
	15.107	Conducted Emissions (AC Power Port)	Standby/Idle	N/A	N/A	-

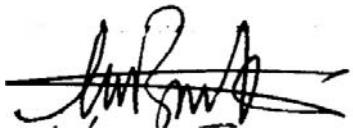
Configuration 4 - EUT + AC Adaptor						
Section	Spec Clause	Test Description	Mode	Mod State	Result	Base Standard
2.1	15.109	Radiated Emissions (Enclosure Port)	Standby/Idle	N/A	N/A	-
2.2	15.107	Conducted Emissions (AC Power Port)	Standby/Idle	0	Pass	-

N/A – Not Applicable; N/R – Not Requested; N/T – Not Tested

Product Service

1.3 DECLARATION OF BUILD STATUS

MAIN EUT			
MANUFACTURING DESCRIPTION	Cellular Mobile Phone		
MANUFACTURER	Phillips		
TYPE	Cellular Mobile Phone		
PART NUMBER	867000038409		
SERIAL NUMBER			
HARDWARE VERSION	PR3		
SOFTWARE VERSION	64604		
TRANSMITTER OPERATING RANGE	Part 22(824.2-848.8 MHz) Part 24 (1850.2-1909.8 MHz)		
RECEIVER OPERATING RANGE	Part 22(869.2-893.8 MHz) Part 24 (1930.2-1989.8 MHz)		
COUNTRY OF ORIGIN	China		
INTERMEDIATE FREQUENCIES	Direct conversion		
ITU DESIGNATION OF EMISSION	300KGXW		
HIGHEST INTERNALLY GENERATED FREQUENCY			
OUTPUT POWER (W or dBm)	32dBm		
FCC ID	RXXCT9A9J		
INDUSTRY CANADA ID	Not Applicable		
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)			
BATTERY/POWER SUPPLY			
MANUFACTURING DESCRIPTION	Battery		
MANUFACTURER	XWODA		
TYPE	Lithium Ion		
PART NUMBER	AB0950AWM		
VOLTAGE	3.7V		
COUNTRY OF ORIGIN	China		
MODULES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
POWER			
FCC ID			
COUNTRY OF ORIGIN			
INDUSTRY CANADA ID			
EMISSION DESIGNATOR			
DHSS/FHSS/COMBINED OR OTHER			
ANCILLARIES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
PART NUMBER			
SERIAL NUMBER			
COUNTRY OF ORIGIN			

Signature 

Date 29 January 2008

Product Service

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Philips Technologies CT9A9j as shown in the photograph below. A full technical description can be found in the Manufacturers documentation.

Equipment Under Test

Product Service

1.4.2 Test Configuration

Configuration 1: Bluetooth

The EUT was configured in accordance with FCC Part 15B: 2006.

Configuration 2: GSM 850

The EUT was configured in accordance with FCC Part 15B: 2006.

Configuration 3: GSM 1900

The EUT was configured in accordance with FCC Part 15B: 2006.

Configuration 4: EUT + AC Adaptor

The EUT was configured in accordance with FCC Part 15B: 2006.

1.4.3 Modes of Operation

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

Mode 1 - Standby/Idle

Product Service

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, test laboratories or an open test area as appropriate.

The EUT was powered from a battery supply / 110AC 60Hz as appropriate.

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90987 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.

Product Service

SECTION 2

TEST DETAILS

EMC Testing of the
Philips Technologies
CT9A9j

Product Service

2.1 RADIATED EMISSIONS (ENCLOSURE PORT)

2.1.1 Specification Reference

FCC Part 15B: 2006, Clause 15.109

2.1.2 Equipment Under Test

CT9A9j, S/N: IMEI 358233000056239

2.1.3 Date of Test

02 February 2008

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 : 2006.

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

Configuration 1 - Mode 1
Configuration 2 - Mode 1
Configuration 3 - Mode 1

2.1.6 Environmental Conditions

	02 February 2008
Ambient Temperature	19 - 20°C
Relative Humidity	26%
Atmospheric Pressure	1013mbar

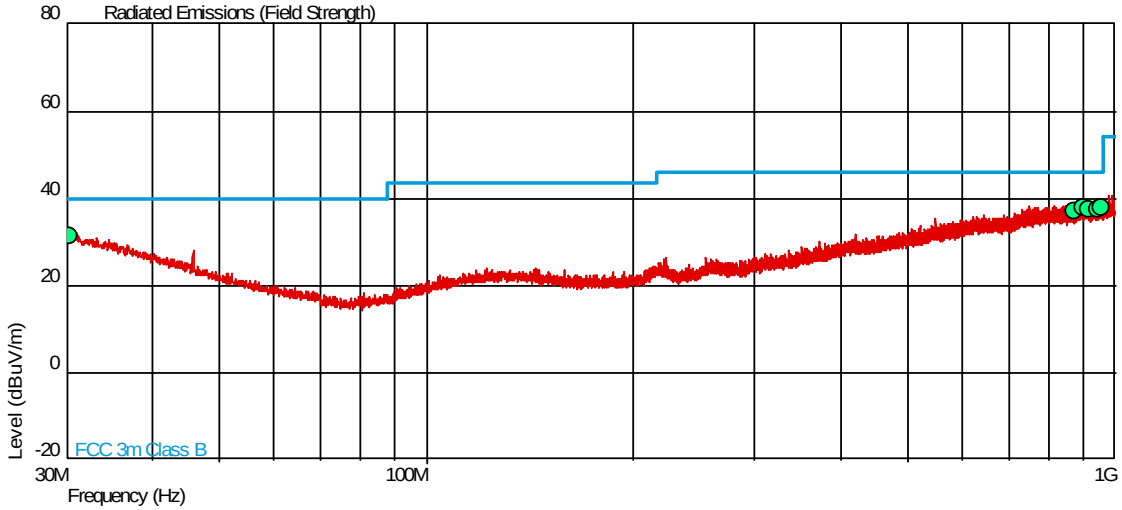
Product Service

2.1.7 Test Results

For the period of test the EUT met the requirements of FCC Part 15B: 2006 for Radiated Emissions (Enclosure Port).

The test results are shown below.

Configuration 1 - Mode 1

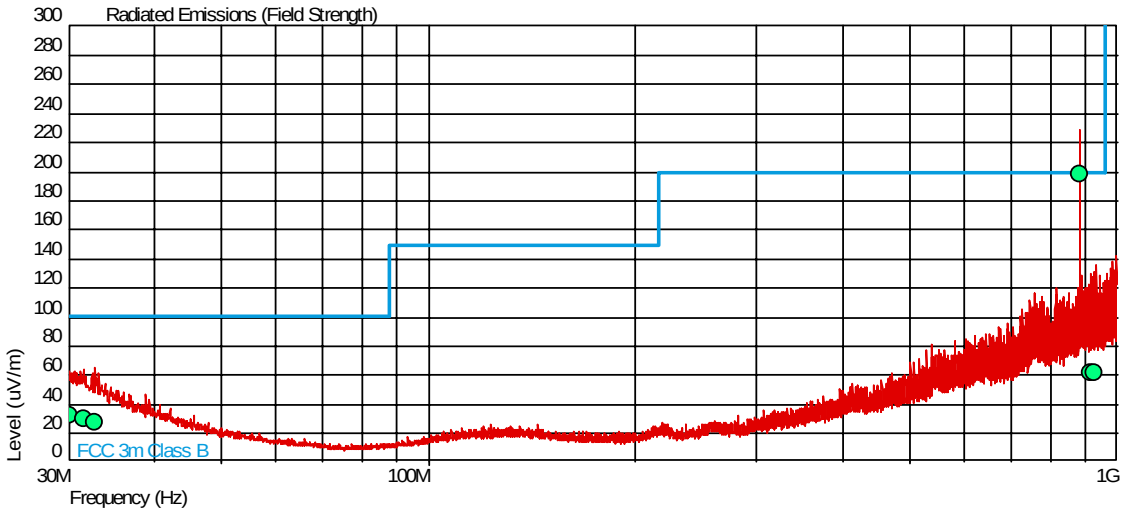


No emissions found; noise floor measurements made:

Frequency (MHz)	QP Level (uV/m)	QP Limit (uV/m)	QP Margin (uV/m)	Angle (Deg)	Height (m)	Polarity
30.243	37.1	100	62.9	315	1.00	Vertical
870.457	71.6	200	128.4	135	1.00	Horizontal
899.896	77.6	200	122.4	45	1.00	Horizontal
918.714	76.7	200	123.3	135	1.00	Horizontal
941.800	76.7	200	123.3	225	1.00	Vertical
955.186	78.5	200	121.5	315	1.00	Vertical

Product Service

Configuration 2 - Mode 1



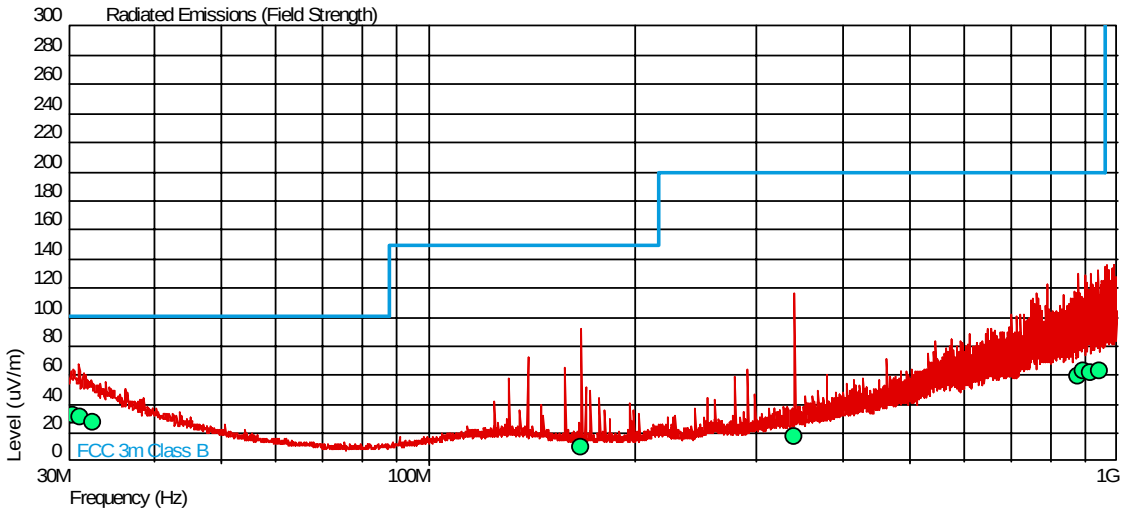
Frequency (MHz)	QP Level (uV/m)	QP Limit (uV/m)	QP Margin (uV/m)	Angle(Deg)	Height(m)	Polarity
30.024	32.7	100.0	-67.3	56	1.00	Vertical
31.504	29.9	100.0	-70.1	160	4.00	Horizontal
32.833	27.5	100.0	-72.5	65	1.00	Horizontal
881.391*	199.5	200.0	-0.5	210	1.00	Horizontal
918.571	62.3	200.0	-137.7	179	1.00	Horizontal
926.501	62.3	200.0	-137.7	208	3.90	Horizontal

Note

* Emissions proven to be emanating from CMU 200 Test Set

Product Service

Configuration 3 - Mode 1



Frequency (MHz)	QP Level (uV/m)	QP Limit (uV/m)	QP Margin (uV/m)	Angle(Deg)	Height(m)	Polarity
30.091	32.7	100.0	-67.3	360	1.33	Horizontal
30.441	32.0	100.0	-68.0	277	1.00	Horizontal
31.144	30.9	100.0	-69.1	207	1.00	Vertical
32.570	27.9	100.0	-72.1	218	1.00	Vertical
166.440	10.2	150.0	-139.8	134	1.00	Vertical
339.193	18.2	200.0	-181.8	36	1.00	Vertical
878.670	59.6	200.0	-140.4	126	1.00	Vertical
896.171	63.1	200.0	-136.9	277	1.00	Vertical
918.364	62.4	200.0	-137.6	314	1.00	Vertical
944.014	62.4	200.0	-137.6	231	2.02	Vertical

2.2 CONDUCTED EMISSIONS (AC POWER PORT)

2.2.1 Specification Reference

FCC Part 15B: 2006, Clause 15.107

2.2.2 Equipment Under Test

CT9A9j, S/N: IMEI 358233000056239

2.2.3 Date of Test

17 March 2008

2.2.4 Test Equipment Used

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

2.2.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC Part 15B: 2006.

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

Configuration 4 - Mode 1

2.2.6 Environmental Conditions

	17 March 2008
Ambient Temperature	21°C
Relative Humidity	30%
Atmospheric Pressure	1012mbar

Product Service

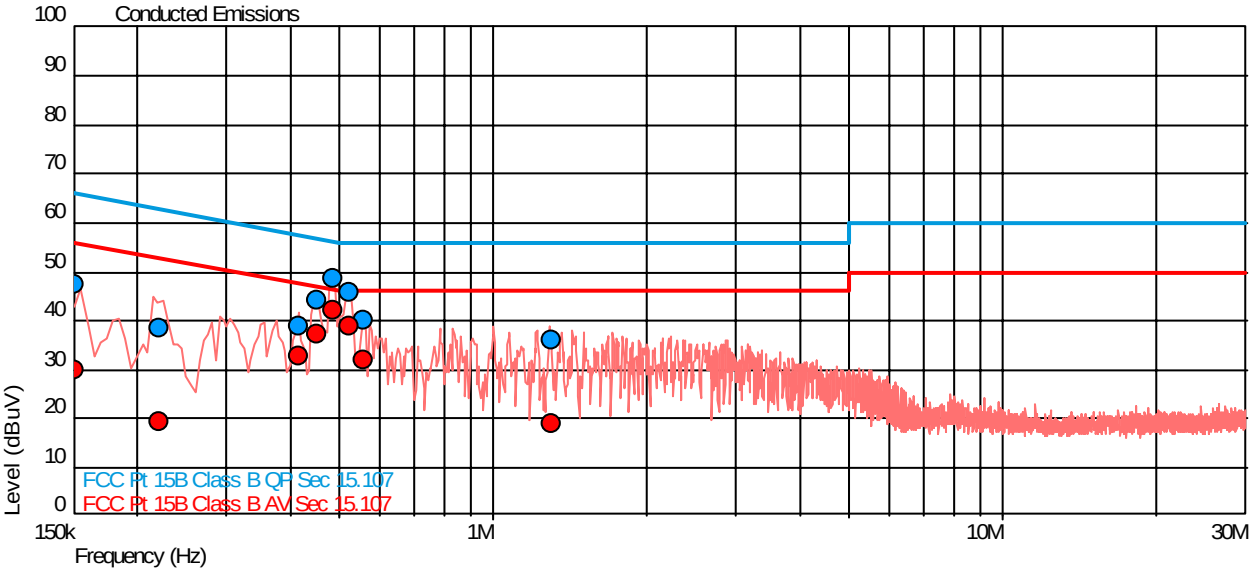
2.2.7 Test Results

For the period of test the EUT met the requirements of FCC Part 15B: 2006 for Conducted Emissions (AC Power Port).

The test results are shown below.

Configuration 4 - Mode 1

Live Line

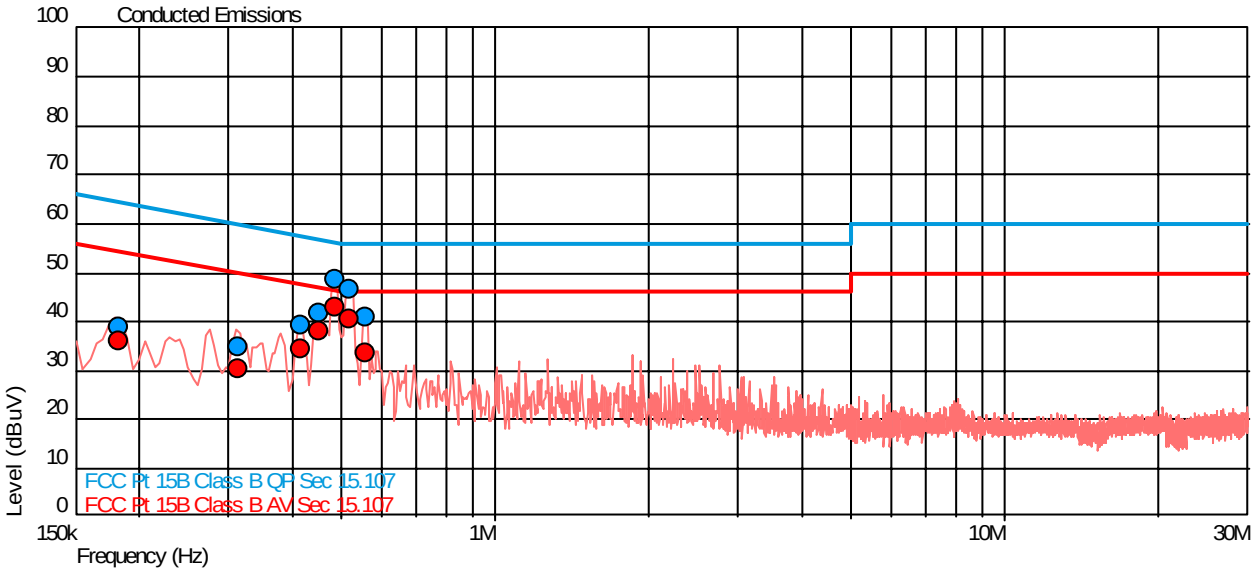


Final Result

Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.150	47.2	66.0	-18.8	29.7	56.0	-26.3
0.222	38.3	62.8	-24.5	19.1	52.8	-33.6
0.416	38.9	57.5	-18.7	32.9	47.5	-14.6
0.451	43.9	56.9	-12.9	37.1	46.9	-9.8
0.485	48.8	56.3	-7.5	41.9	46.3	-4.3
0.520	45.9	56.0	-10.1	39.0	46.0	-7.0
0.555	40.2	56.0	-15.8	32.0	46.0	-14.0
1.297	36.1	56.0	-19.9	19.0	46.0	-27.0

Product Service

Neutral Line



Final Result

Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.183	39.0	64.3	-25.3	36.1	54.3	-18.3
0.314	34.9	59.9	-24.9	30.4	49.9	-19.5
0.416	39.2	57.5	-18.3	34.3	47.5	-13.2
0.451	41.5	56.9	-15.3	38.2	46.9	-8.7
0.485	48.5	56.3	-7.7	43.1	46.3	-3.2
0.520	46.6	56.0	-9.4	40.4	46.0	-5.6
0.555	40.9	56.0	-15.1	33.6	46.0	-12.4

Product Service

SECTION 3

TEST EQUIPMENT USED

Product Service

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 2.2 EMC - Conducted Emissions					
Transient Limiter	Hewlett Packard	11947A	15	12	29-Sep-2008
Radiocommunications Tester	Rohde & Schwarz	CMU 200	39	12	27-Oct-2008
LISN (1 Phase)	Chase	MN 2050	336	12	17-Mar-2008
Screened Room (1)	Rainford	Rainford	1541	-	TU
EMI Test Receiver	Rohde & Schwarz	ESIB26	2028	12	25-Jun-2008
Harmonics & Flicker System	Schaffner	1000-1	2764	12	24-Jul-2008
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	28-Jan-2009
AC Power Source (Harmonic & Flicker)	Schaffner	NSG 1007	3525	12	13-Feb-2009
Section 2.1 EMC - Radiated Emissions					
Signal Generator 10kHz to 2.7GHz	Marconi	2031	19	12	17-Jan-2009
Radiocommunications Tester	Rohde & Schwarz	CMU 200	39	12	27-Oct-2008
Signal Generator	Hewlett Packard	8672A	223	12	22-Feb-2008
Antenna (Double Ridge Guide)	Link Microtek Ltd	AM180HA-K-TU2	230	24	22-Jun-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Jun-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	235	12	29-Jun-2008
Communications Tester	Rohde & Schwarz	CMU 200	442	12	21-Jun-2008
Pre-Amplifier	Phase One	PS04-0086	1533	0	TU
Pre-Amplifier	Phase One	PSO4-0087	1534	0	TU
Screened Room (5)	Rainford	Rainford	1545	36	1-Mar-2008
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Turntable/Mast Controller	EMCO	2090	1607	-	TU
High Pass Filter (4GHz)	RLC Electronics	F-100-4000-5-R	2773	12	21-May-2008
Antenna (Bilog)	Chase	CBL6143	2904	24	28-Nov-2009
Antenna (Log Periodic)	Schaffner	UPA6108	3108	12	31-Mar-2008
Compliance 3 Emissions	Schaffner	C3e Software V.4.00.00	3274	-	N/A - Software
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	28-Jan-2009

TU – Traceability Unscheduled

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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*
Conducted Emissions, ISN	150kHz to 30MHz Amplitude	2.1dB
Substitution Antenna, Radiated Field	30MHz to 18GHz Amplitude	2.6dB
Discontinuous Interference	150kHz to 30MHz Amplitude	3.0dB*
Interference Power	30MHz to 300MHz Amplitude	3.0dB*
Radiated E-Field Susceptibility	26MHz to 2.5GHz Test Amplitude	1.4dB†
Conducted Susceptibility	100kHz to 250MHz Amplitude	1.8dB†
Power Frequency Magnetic Field	50Hz/60Hz Amplitude	0.45%
Magnetic Emissions	9kHz to 30MHz Amplitude	3.4dB*
Magnetic Field/Flux iaw EN 50366	10Hz to 400kHz	2.64%
Harmonics and Flicker	The test was applied using proprietary equipment that meets the requirements of EN 61000-3-2 and EN 61000-3-3	—
Mains Voltage Variations and Interrupts	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-11	—
Fast Transient Burst	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-4	—
Electrostatic Discharge	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-2	—
Surge	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-5	—
Vehicle Transients	The test was applied using proprietary equipment that meets the requirements of ISO 7637-1 and 2	—
Compass Safe Distance	Azimuth Accuracy	0.10°

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

Product Service

SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

Product Service

4.1 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 (Not UKAS Accredited).