

EMC TEST CERTIFICATE



YORK EMC SERVICES Ltd
 46 WAVERLEY ROAD
 BEECHES INDUSTRIAL ESTATE
 YATE, BRISTOL BS37 5QT
 TEL: +44 (0)1454 326 998
 FAX: +44 (0)1454 326 930
 UKAS Testing Number 1574

Issued to: -	Bull Products Ltd Beacon House, 4 Beacon Road Rotherwas Industrial Estate Hereford, HR2 6JF	Order No.5203
---------------------	--	---------------

Electromagnetic Compatibility Test/s were performed on the apparatus as detailed: -

Description	CYGNUS 868 Alarm System. The product is a fire alarm system, which is able to link units wirelessly (868MHz) intended for use, principally, on construction sites. The units provided for test were production items however they were not individually identified by serial numbers		
Model numbers provided for test	CYG1-GSM/GPRS – Cygnus Fire Control Panel with GSM/GPRS Remote Link CYGIOU – Cygnus Input/Output Module CYGDI – Cygnus Detector Interface CYG2PIR – Cygnus Fire Call Point Alarm C/W PIR Intruder Sensor CYG2FPIR – Cygnus Fire Call Point/ First Aid Alert Alarm C/W PIR Intruder Sensor CYG2/85DBPIR – Cygnus Fire call Point Alarm 85dB (No Beacon) C/W PIR Intruder Sensor CYG3LPIR – Cygnus Lithium Heat Detector C/W PIR Intruder Sensor CYG4LPIR – Cygnus Lithium Smoke Detector C/W PIR Intruder Sensor CYG5PIR – Cygnus First Aid Call Point C/W PIR Intruder Sensor Type 2240– Mascot 6v dc Battery Charger		
Model numbers not provided for test but available as options	CYG1 – Cygnus Fire Control Panel CYG2 – Cygnus Fire Call Point Alarm CYG2L – Cygnus Fire Call Point Alarm with Lithium Battery CYG2/85DB – Cygnus Fire call Point Alarm 85dB (No Beacon) CYG2/85DBL – Cygnus Fire call Point Alarm 85dB (No Beacon) with Lithium Battery CYG2F – Cygnus Fire Call Point/ First Aid Alarm CYG2F – Cygnus Fire Call Point/ First Aid Alarm with Lithium Battery CYG3L – Cygnus Heat Detector with Lithium Battery CYG4L – Cygnus Smoke Detector with Lithium Battery CYG5 – Cygnus First Aid Call Point CYG5L – Cygnus First Aid Call Point with Lithium Battery		
Configuration/ Mode of Operation	Mode 1: Battery powered. Detector active, no alarm Mode 2: Battery powered. Alarm detected, sounder active Mode 3: Battery powered with charger on. Detector active, no alarm Mode4: Battery powered with charger on. Alarm detected, sounder active		
Date received	20/04/2015	Date Tested	20/04/2015 to 30/04/2015

Certificate No: -	B1700TC1	Job No: -	B2056-3	Date: -	30/04/2015	Page 1 of 4
PDF copy						

Tested by: -	Approved signatory: -
 D Bowley Test Engineer/Technician	 A Dace BA, iNCE Principal Engineer

The Copyright in this certificate is vested in York EMC Services Ltd. The Certificate may be reproduced in its entirety but reproduction of any extract is expressly forbidden.

EMC FORM Issue 1



1574

A BIS designated Notified Body No 1892
 Consultancy



INVESTORS IN PEOPLE

York EMC Services Ltd
 Market Square
 UNIVERSITY of York
 Heslington
 York
 YO10 5DD
 UK

T: +44 (0)1904 324440
 F: +44 (0)1904 324434
 E: enquiry@yorkemc.co.uk
 www.yorkemc.co.uk
 Registered in England and Wales
 Company Reg No. 6048589
 VAT Reg No. 647 2055 41

Specification/s	EN 301 489-3 V1.6.1 Product Standard	Electromagnetic compatibility and radio spectrum matters (ERM): Electromagnetic compatibility (EMC) standard for radio equipment and services, Part 3: Specific conditions for short range devices operating on frequencies between 9kHz & 40GHz
	EN 301 489-7 V1.3.1 Product Standard	Electromagnetic compatibility and radio spectrum matters (ERM): Electromagnetic compatibility (EMC) standard for radio equipment and services, Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS) (Not UKAS accredited)
	EN 301 489-1 V1.9.2 Reference Standard	Electromagnetic compatibility and radio spectrum matters (ERM): Electromagnetic compatibility(EMC) standard for radio equipment and services, Part 1: Common technical requirements
	EN61000-6-4:2007 Generic Standard	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards — Emission standard for industrial environments
	EN50130-4:2011 Product Standard	Alarm systems – Part 4: Electromagnetic compatibility – Product family standard: Immunity requirements for components for fire, intruder and social alarm systems.

The apparatus to which this certificate relates was tested against the above specifications. Full results are retained on file at the EMC Test Centre, Yate, Bristol. The apparatus was found to be compliant to the above specifications subject to the following conditions:

UKAS Accreditation

Tests marked "Not UKAS Accredited" in this certificate are not included in the UKAS Accreditation Schedule for our laboratory. Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

EUT Submitted

These results apply only to the particular EUT submitted, in the configuration used and in the mode of operation tested.

EN 301 489-3 V1.6.1 Electromagnetic compatibility and Radio spectrum Matters (ERM): Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for short range devices operating on frequencies between 9kHz and 40GHz			
EN 301 489-7 V1.3.1 Electromagnetic compatibility and radio spectrum matters (ERM): Electromagnetic compatibility (EMC) standard for radio equipment and services, Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS) (Not UKAS accredited)			
	Required?	Level	Result
EN301 489-1 v1.9.2 Table 1 and clause 8.4 Conducted Emissions EN55022:2010 Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.	Yes	Conducted emissions Class B, 150kHz to 30MHz Power lines	Pass
EN301 489-1 v1.9.2 Table 1 and clause 8.2 Radiated Emissions EN55022:2010 Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.	No	Radiated emissions Class B 30MHz to 1000MHz Applies to ancillary equipment only The requirements have been covered by the radio spurious emission tests of EN 300-220-2 which takes precedence	N/A
EN61000-3-2: 2006 +A1 +A2 Part 3-2: Limits – Limits for harmonic current emissions (equipment input current up to and including 16A per phase)	Yes	Class A	Pass
EN61000-3-3: 2013 Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current < 16A per phase and not subject to conditional connection.	Yes	Plt/dmax	Pass

Certificate No: -	B1700TC1	Job No: -	B2056-3	Date: -	30/04/2015	Page 2 of 4
--------------------------	-----------------	------------------	----------------	----------------	-------------------	--------------------

EN 301 489-3 V1.6.1 Electromagnetic compatibility and Radio spectrum Matters (ERM): Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for short range devices operating on frequencies between 9kHz and 40GHz

EN 301 489-7 V1.3.1 Electromagnetic compatibility and radio spectrum matters (ERM): Electromagnetic compatibility (EMC) standard for radio equipment and services, Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS) (Not UKAS accredited)

	Required?	Level	Result
EN 301 489-1 V1.9.2 Table 2 and clause 9.2 EN61000-4-2:2009 (IEC 61000-4-2008) Electromagnetic Compatibility (EMC) Part 4-2. Testing and measurement techniques - Electrostatic discharge immunity test	Yes	±8kV Air Discharge ±4kV Contact Discharge Tested as part of EN 50130-4:2011	Pass
EN 301 489-1 V1.9.2 Table 2 and clause 9.3, EN61000-4-3:2006 +A1 +A2 (IEC 61000-4-3:2006 +A1 +A2) Electromagnetic Compatibility (EMC) Part 4-3. Testing and measurement techniques – Radiated, radio frequency, electromagnetic field immunity test.	Yes	3V/m 80MHz-1000MHz 1400MHz – 2700MHz 80% 1kHz AM Tested as part of EN 50130-4:2011	Pass
EN 301 489-1 V1.9.2 Table 2 and clause 9.4, EN61000-4-4:2012 (IEC 61000-4-4:2012) Electromagnetic Compatibility (EMC) Part 4-4. Testing and measurement techniques – Electrical fast transient/burst immunity test	Yes	±1kV input ac power port 5kHz repetition frequency	Pass
EN 301 489-1 V1.9.2 Table 2 and clause 9.8 EN61000-4-5:2006 (IEC 61000-4-5:2005) Electromagnetic Compatibility (EMC) Part 4-5. Testing and measurement techniques. Section 5. Surge immunity test.	Yes	±1kV, 1.2/50 input ac power port, line to line ±2kV, 1.2/50 input ac power port, line to earth Tested as part of EN 50130-4:2011	Pass
EN 301 489-1 V1.9.2 Table 2 and clause 9.5 EN61000-4-6:2009 (IEC EN61000-4-6:2008) Electromagnetic Compatibility (EMC) Part 4-6. Testing and measurement techniques - Immunity to conducted disturbances induced by radio frequency fields.	Yes	3Vrms input ac power port 0.15-80MHz 1kHz 80% AM Tested as part of EN 50130-4:2011	Pass
EN 301 489-1 V1.9.2 Table 2 and clause 9.7 EN61000-4-11:2004 (IEC 61000-4-11:2004) Electromagnetic Compatibility (EMC) Part 4-11 Voltage dips, short interruptions and voltage variations immunity tests	Yes	0% residual voltage for 0.5 cycle 0% residual voltage for 1 cycle 70% residual voltage for 25 cycles 0% residual voltage for 250 cycles input ac power port,	Pass

EN61000-6-4:2007 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards — Emission standard for industrial environments

Note: EN61000-6-4 references dated basic standards. Standards with amendments have been used during testing as indicated below

Consisting of;	Required?	Level	Result
EN55016-2-1:2004 +A1 Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements	Yes	Class A (EN55011) Tested as part of EN301 489-1 and Class B Limits applied	Pass

EN55022:2010 (CISPR22) Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.	No	Class A No telecom ports	N/A
EN55016-2-3:2010 Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurement	Yes	Class A (30-6000MHz) (EN55011)	Pass

EN50130-4: 2011 Alarm systems - Part 4: Electromagnetic compatibility — Product family standard: Immunity requirements for components of fire, intruder and social alarm systems			
Note: EN50130-4: 2011 references dated basic standards. Standards with amendments have been used during testing as indicated below			
Consisting of;	Required?	Level	Result
EN61000-4-2: 2009 (IEC 61000-4-2008) Electromagnetic Compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test.	Yes	±8kV air discharge ±6kV contact discharge	Pass
EN61000-4-3: 2002 + A1 + A2 (IEC 61000-4-3:2006 +A1 +A2) Electromagnetic Compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	Yes	10V/m 80MHz to 2700MHz 1kHz 80% AM 10V/m 80MHz to 2700MHz 1Hz 50% PM	Pass
EN61000-4-4: 2012 (IEC 61000-4-4:2012) Electromagnetic Compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	Yes	±2kV input ac power port, 100kHz repetition frequency	Pass
EN61000-4-5: 2006 (IEC 61000-4-5:2005) Electromagnetic Compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test	Yes	±1kV, 1.2/50 input ac power port, line to line ±2kV, 1.2/50 input ac power port, line to earth	Pass
EN61000-4-6: 2009 (IEC EN61000-4-6:2008) Electromagnetic Compatibility (EMC) Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	Yes	10V/m input ac power port, 150kHz to 100MHz 1kHz 80% AM 150kHz to 100MHz 1Hz 50% PM	Pass
EN61000-4-11: 2004 (IEC 61000-4-11:2004) Electromagnetic Compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	Yes	40% residual for 10 cycles 70% residual for 25 cycle 80% residual for 250 cycle 0% residual for 250 cycle input ac power port,	Pass
EN50130-4: 2011 Alarm systems – Part 4: Electromagnetic compatibility – Product family standard: Immunity requirements for components for fire, intruder and social alarm systems Clause 7 Mains supply voltage variations (Not UKAS accredited)	Yes	ac mains supply Supply max Unom +10% Supply min Unom –15%	Pass

Opinions/Interpretations/Additional information

None

-----End of Certificate-----

Certificate No: -	B1700TC1	Job No: -	B2056-3	Date: -	30/04/2015	Page 4 of 4
--------------------------	-----------------	------------------	----------------	----------------	-------------------	--------------------