
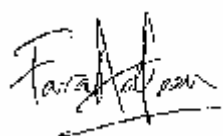



## TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon

To: FCC Part 15.249

**Test Report Serial No:**  
RFI/MPTE1/RP47743JD01A

<b>This Test Report Is Issued Under The Authority Of Andrew Brown, Operations Manager:</b> 	
<b>Tested By: Fara Razally</b> 	<b>Checked By: Tony Henriques</b> 
<b>Report Copy No:</b> PDF01	
<b>Issue Date: 11 November 2005</b>	<b>Test Dates: 27 October to 28 October 2005</b>

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields.

This report may be copied in full. The results in this report apply only to the sample(s) tested.

**RFI Global Services Ltd**

Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG

Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001

Email: [info@rfi-global.com](mailto:info@rfi-global.com) Website: [www.rfi-global.com](http://www.rfi-global.com)

Registered in England and Wales. Company number: 2117901

**Test of:** Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
**To:** FCC Part 15.249

---

This page has been left intentionally blank.

Test of:       Datalogic S.p.A.  
              Gryphon M100 and OM-Gryphon  
To:            FCC Part 15.249

---

**Table of Contents**

1. Client Information .....4

2. Equipment Under Test (EUT) .....5

3. Test Specification, Methods and Procedures .....7

4. Deviations from the Test Specification .....8

5. Operation of the EUT During Testing.....9

6. Summary of Test Results .....10

7. Measurements, Examinations and Derived Results .....11

8. Measurement Methods .....23

9. Measurement Uncertainty .....25

Appendix 1. Test Equipment Used .....26

Appendix 2. Test Configuration Drawings.....27

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **1. Client Information**

<b>Company Name:</b>	Datalogic S.p.A.
<b>Address:</b>	Via Candini, 2 Lippo di Calderara di Reno Bologna Italy 40012
<b>Contact Name:</b>	Mr P Guerzoni

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **2. Equipment Under Test (EUT)**

The following information (with the exception of the Date of Receipt) has been supplied by the client:

### **2.1. Identification of Equipment Under Test (EUT)**

<b>Description:</b>	Barcode reader Handset
<b>Brand Name:</b>	Gryphon
<b>Model Name or Number:</b>	Gryphon M100
<b>Serial Number:</b>	C04C13280
<b>Country of Manufacture:</b>	Italy
<b>FCC ID:</b>	OMJ0015
<b>Date of Receipt:</b>	27 October 2005

<b>Description:</b>	Cradle
<b>Brand Name:</b>	Gryphon
<b>Model Name or Number:</b>	OM-Gryphon
<b>Serial Number:</b>	C05P00014
<b>Country of Manufacture:</b>	Italy
<b>FCC ID:</b>	OMJ0015
<b>Date of Receipt:</b>	27 October 2005

### **2.2. Accessories**

The following accessories were supplied with the EUT:

<b>Description:</b>	AC/DC Power Supply
<b>Brand Name:</b>	Alpha Electronics
<b>Model Name or Number:</b>	BFL 25 412-115 P
<b>Serial Number:</b>	PG 110
<b>Cable Length and Type:</b>	18AW GX2C, 3.3m
<b>Connected to Port:</b>	DC Input to Cradle

<b>Description:</b>	RJ45 to Serial Cable
<b>Model Name or Number:</b>	CAB 350
<b>Serial Number:</b>	None Stated
<b>Cable Length and Type:</b>	Multicore, 1.8m
<b>Connected to Port:</b>	RJ45 Interface

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

### **2.3. Description of EUT**

The equipment under test consists of a barcode reader handset and cradle that together make up a barcode reader system. Both units contain the exact same single channel 910 MHz transceiver module.

### **2.4. Modifications Incorporated in the EUT**

During the course of testing the EUT was not modified.

### **2.5. Additional Information Related to Testing**

Power Supply Requirement:	Nominal 115 V 60 Hz AC Mains Supply		
Intended Operating Environment:	Commercial and Light Industry		
Equipment Category:	Portable and Base Station		
Type of Unit:	Transceivers		
Interface Ports:	Comms Port (Base Station) DC Input (Base Station)		
Transmit & Receive Frequency Range:	910 MHz, single frequency operation		
Transmit & Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Single	N/A	910
Highest Fundamental Frequency:	910 MHz		

### **2.6. Support Equipment**

The following support equipment was used to exercise the EUT during testing:

Description:	Personal Computer
Brand Name:	Dell Latitude C840
Model Name or Number:	PP01X
Serial Number:	6J044 A01
Cable Length and Type:	Multicore, 1.8m
Connected to Port:	Base Station Comms Port

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

### **3. Test Specification, Methods and Procedures**

#### **3.1. Test Specifications**

<b>Reference:</b>	FCC Part 15 Subpart C: 2004 (Sections 15.249).
<b>Title:</b>	Code of Federal Regulations, Part 15 (47CFR215) Radio Frequency Devices.
<b>Comments:</b>	A description of the test facility used for this test is on file with, and has been accepted by, the Federal Communications Commission as required by Section 2.948 of Federal Rules.

#### **3.2. Methods and Procedures**

The methods and procedures used were as detailed in:

ANSI/TIA-603-B-2003

Land Mobile Communications Equipment, Measurements and performance Standards

ANSI C63.2 (1996)

Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2003)

Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)

Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)

Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)

Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

DA00-705 (2000)

Title: Filing and Frequency Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

#### **3.3. Definition of Measurement Equipment**

The measurement equipment used complied with the requirements of the standards referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

#### **4. Deviations from the Test Specification**

None.



Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **5. Operation of the EUT During Testing**

### **5.1. Operating Modes**

The EUT was tested in the following operating modes, unless otherwise stated.

Preliminary radiated scans were performed on the handset and cradle (base station) separately and then with the handset in the cradle. The combination that exhibited the worse case mode of operation was then used to perform final measurements. This was found to be with the handset sitting in the cradle in the configuration detailed below.

Continuous transmit or receive as required.

### **5.2. Configuration and Peripherals**

The EUT was tested in the following configuration:

Tested with the handset sat in the cradle. The cradle being powered via its AC adapter.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **6. Summary of Test Results**

Range of Measurements	Specification Reference	Port Type	Compliance Status
Receiver AC Conducted Spurious Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: 2004 Section 15.107	AC Mains	Complied
Receiver Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2004 Section 15.109	Enclosure	Complied
Transmitter Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2004 Section 15.249(a)(d)(e) & 15.209	Antenna	Complied
Transmitter Band Edge Radiated Emissions	C.F.R. 47 FCC Part 15: 2004 Section 15.249(d) & 15.209	Antenna	Complied

### **6.1. Location of Tests**

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **7. Measurements, Examinations and Derived Results**

### **7.1. General Comments**

7.1.1. This section contains test results only.

7.1.2. Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to Section 8 for details of measurement uncertainties.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **7.2. Receiver AC Conducted Spurious Emissions: Section 15.107**

7.2.1. The EUT was configured for AC conducted emissions measurements as described in Section 8 of this report.

7.2.2. Tests were performed to identify the maximum emission levels on the AC mains line of the EUT.

### **Results:**

#### **Quasi-Peak Detector Measurements on Live and Neutral Lines**

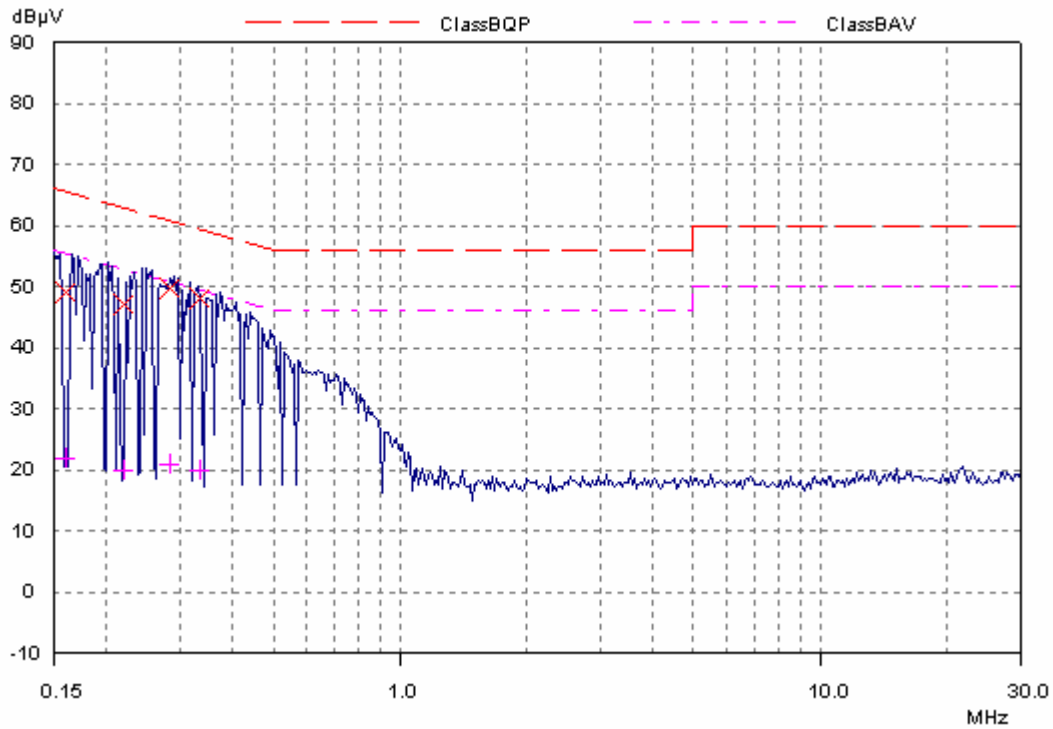
Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.16090	Live	49.00	65.42	16.42	Complied
0.22064	Live	46.94	62.79	15.85	Complied
0.28357	Live	49.58	60.71	11.13	Complied
0.33307	Live	48.11	59.37	11.26	Complied

#### **Average Detector Measurements on Live and Neutral Lines**

Frequency (MHz)	Line	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Result
0.16090	Live	21.98	55.42	33.44	Complied
0.22064	Live	19.77	52.79	33.02	Complied
0.28357	Live	20.91	50.71	29.80	Complied
0.33307	Live	19.90	49.37	29.47	Complied

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

### Receiver AC Conducted Spurious Emissions: Section 15.107 (Continued)



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

### **7.3. Receiver Radiated Spurious Emissions: Section 15.109**

#### **7.3.1. Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)**

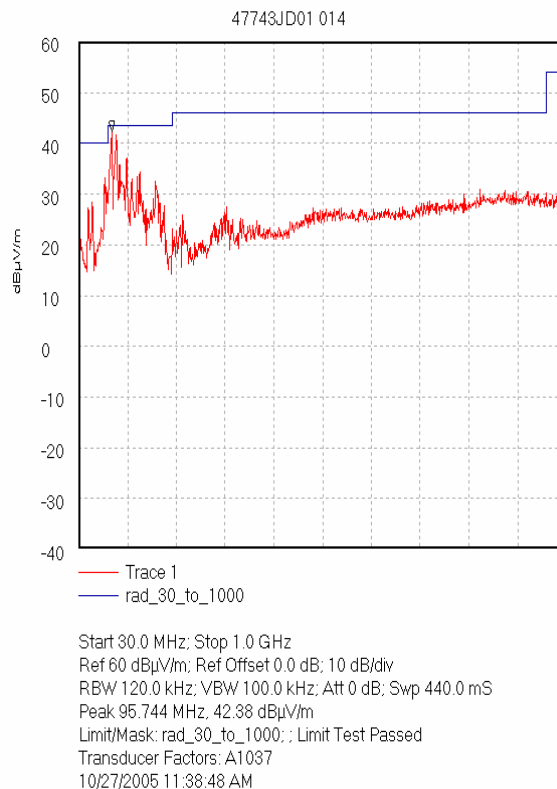
7.3.1.1. The EUT was configured for radiated emissions testing as described in Section 8 of this report.

7.3.1.2. Tests were performed to identify the maximum receiver or standby radiated emission levels.

#### **Results:**

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
95.536	Horizontal	27.0	43.5	16.5	Complied

*Note: All other emissions were at least 20 dB below the appropriate limit*



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

**7.4. Receiver Radiated Spurious Emissions: Section 15.109 (Continued)****7.4.1. Electric Field Strength Measurements (Frequency Range: 1 to 5 GHz)****Results:****Highest Peak Level:**

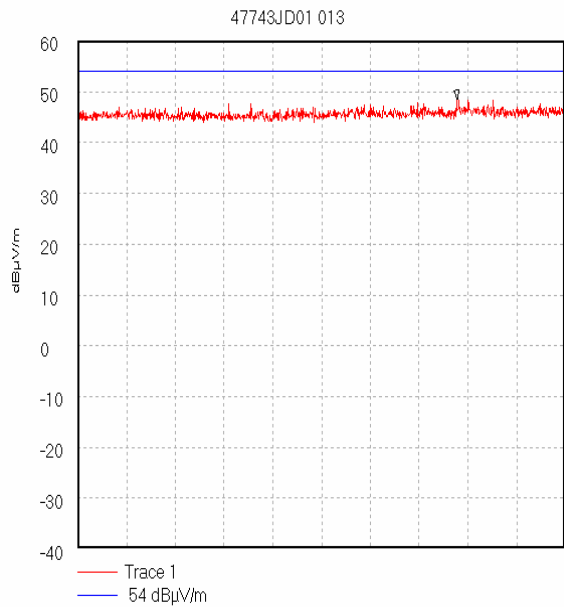
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
3600.184	Vertical	21.3	24.2	2.0	47.5	74.0	26.5	Complied

**Highest Average Level:**

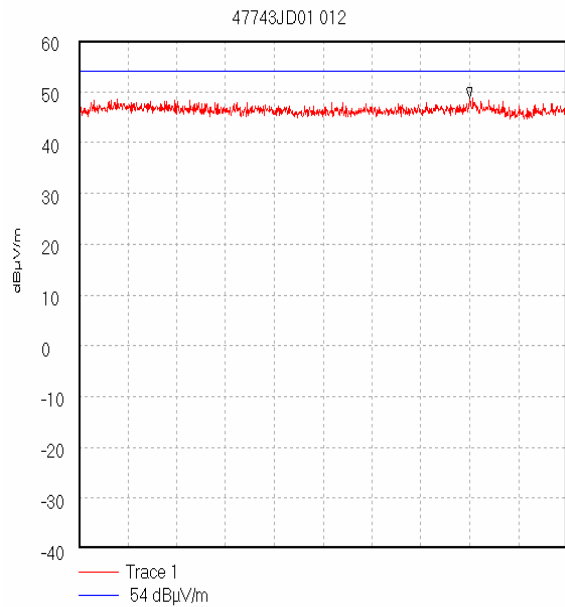
Frequency (MHz)	Antenna Polarity	Detector Level (dB $\mu$ V)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
3600.184	Vertical	-0.9	24.2	2.0	25.3	54.0	28.7	Complied

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

Receiver Radiated Spurious Emissions: Section 15.109 (Continued)



Start 1.0 GHz; Stop 2.0 GHz  
Ref 60 dBµV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS  
Peak 1.778 GHz, 48.48 dBµV/m  
Display Line: 54 dBµV/m;  
Transducer Factors: 1 to 2  
10/27/2005 11:32:54 AM

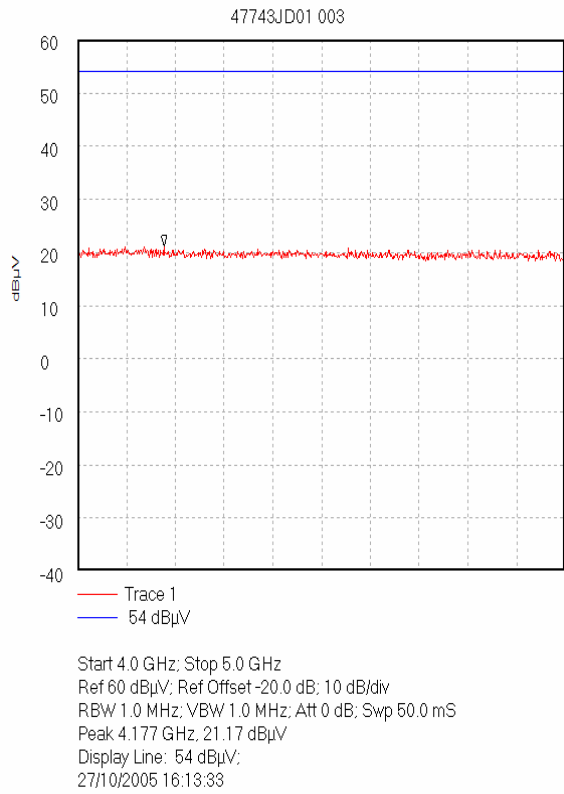


Start 2.0 GHz; Stop 4.0 GHz  
Ref 60 dBµV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS  
Peak 3.6 GHz, 48.83 dBµV/m  
Display Line: 54 dBµV/m;  
Transducer Factors: 2 to 4  
10/27/2005 11:30:13 AM



Test of:       Datalogic S.p.A.  
              Gryphon M100 and OM-Gryphon  
To:            FCC Part 15.249

**Receiver Radiated Spurious Emissions: Section 15.109 (Continued)**



*Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

## 7.5. Transmitter Radiated Emissions: Section 15.249(a)(d)(e) & Section 15.209

### 7.5.1. Electric Field Strength Measurements: 30 to 1000 MHz

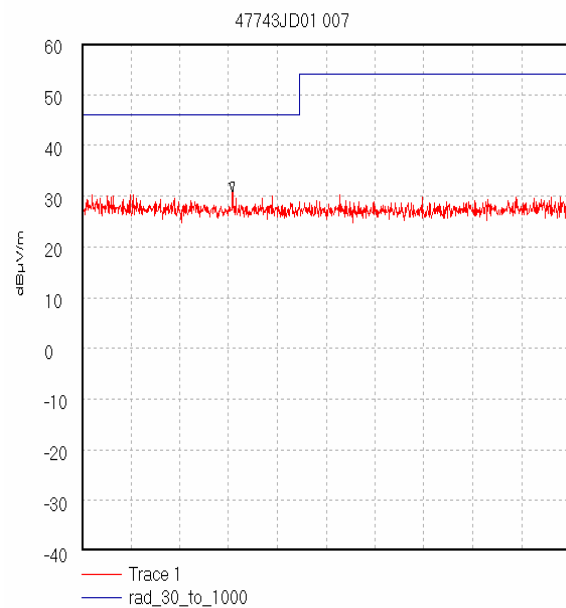
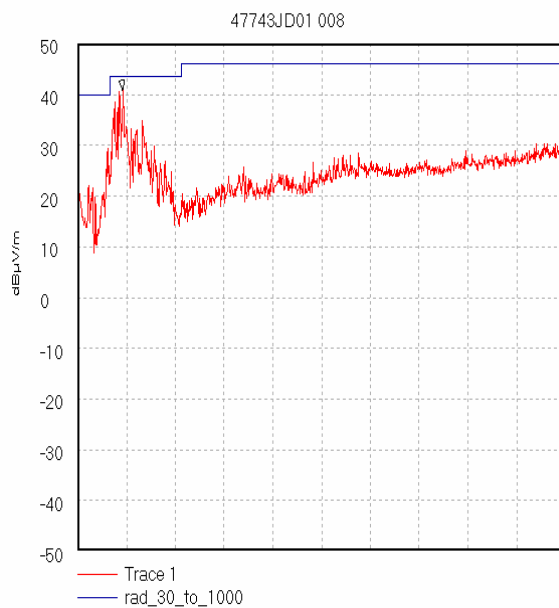
7.5.1.1. The EUT was configured for radiated emissions testing as described in Section 8 of this report.

7.5.1.2. Tests were performed to identify the maximum radiated spurious emission levels.

#### Results:

Frequency (MHz)	Antenna Polarity	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
110.487	Vertical	20.7	43.5	22.8	Complied

Note: All other emissions were at least 20 dB below the appropriate limit



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

**Transmitter Radiated Emissions: Section 15.249(a)(d)(e) & Section 15.209 (Continued)****7.5.2. Electric Field Strength Measurements (Frequency Range: 1 to 10 GHz)****Results:****Highest Peak Level:**

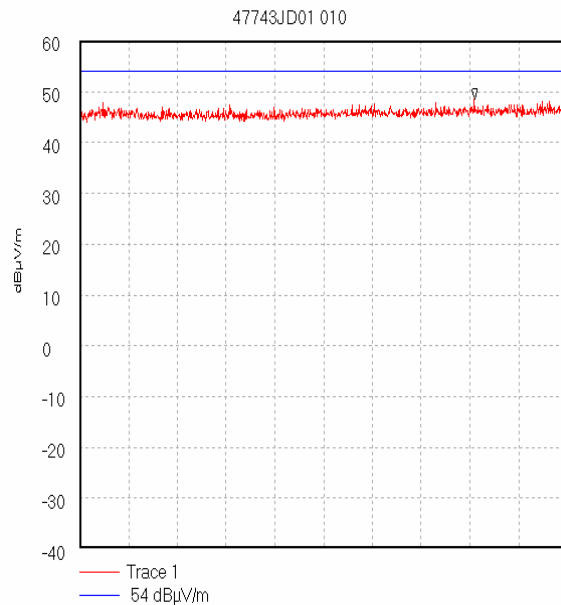
Frequency (MHz)	Antenna Polarity	Detector Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1820.1	Vertical	25.9	21.5	1.2	48.6	74.0	25.4	Complied
4550.7	Vertical	26.3	24.2	2.0	52.5	74.0	21.5	Complied
5460.3	Vertical	24.0	24.2	2.0	50.2	74.0	23.8	Complied
6370.3	Vertical	21.4	26.8	2.3	50.5	74.0	23.8	Complied
8189.9	Horizontal	7.9	26.8	2.3	37.0	74.0	37.0	Complied

**Highest Average Level:**

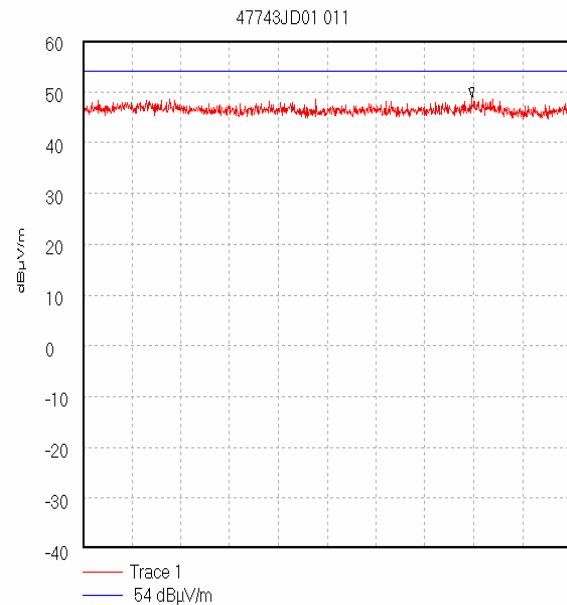
Frequency (MHz)	Antenna Polarity	Detector Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1820.1	Vertical	22.0	21.5	1.2	44.7	54.0	9.3	Complied
4550.7	Vertical	22.0	24.2	2.0	48.2	54.0	5.8	Complied
5460.3	Vertical	13.5	24.2	2.0	39.7	54.0	14.3	Complied
6370.3	Vertical	12.6	26.8	2.3	41.7	54.0	12.3	Complied
8189.9	Horizontal	-4.9	26.8	2.3	24.2	54.0	29.8	Complied

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

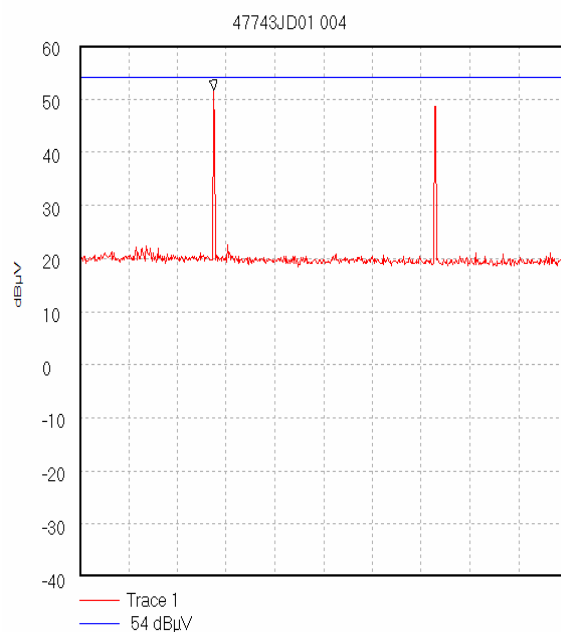
### Transmitter Radiated Emissions: Section 15.249(a)(d)(e) & Section 15.209 (Continued)



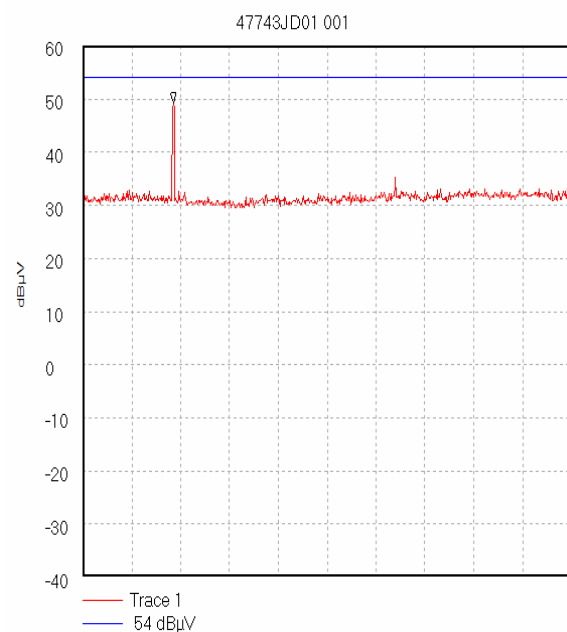
Start 1.0 GHz; Stop 2.0 GHz  
Ref 60 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS  
Peak 1.81 GHz, 48.58 dBμV/m  
Display Line: 54 dBμV/m;  
Transducer Factors: 1 to 2  
10/27/2005 11:25:03 AM



Start 2.0 GHz; Stop 4.0 GHz  
Ref 60 dBμV/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS  
Peak 3.593 GHz, 48.86 dBμV/m  
Display Line: 54 dBμV/m;  
Transducer Factors: 2 to 4  
10/27/2005 11:27:51 AM



Start 4.0 GHz; Stop 6.0 GHz  
Ref 60 dBμV; Ref Offset -20.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 50.0 mS  
Peak 4.55 GHz, 51.67 dBμV  
Display Line: 54 dBμV;  
27/10/2005 16:17:46

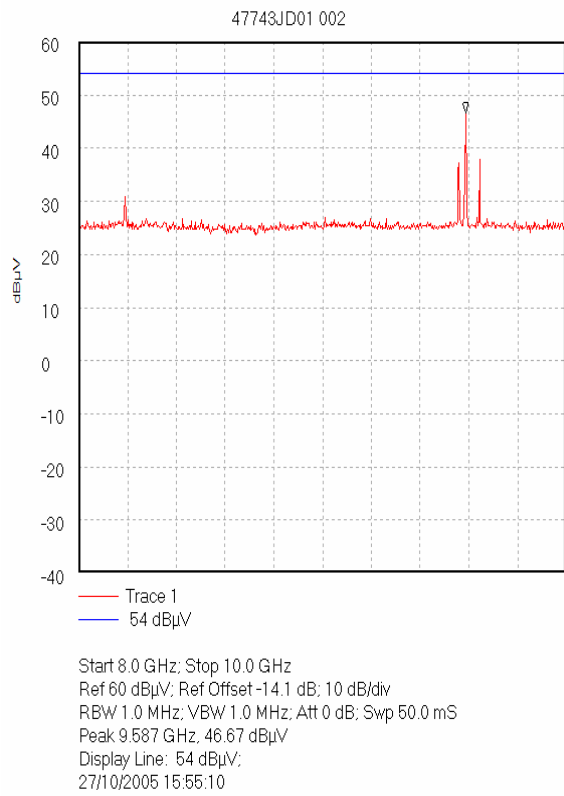


Start 6.0 GHz; Stop 8.0 GHz  
Ref 60 dBμV; Ref Offset -8.0 dB; 10 dB/div  
RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 50.0 mS  
Peak 6.37 GHz, 49.33 dBμV  
Display Line: 54 dBμV;  
27/10/2005 15:40:57

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

**Transmitter Radiated Emissions: Section 15.249(a)(d)(e) & Section 15.209 (Continued)**



*Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.*

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

## 7.6. Transmitter Radiated Emissions at Band Edges: Section 15.249(d) & 15.209

7.6.1. The EUT was configured for transmitter radiated emissions testing described in Section 8 of this report.

7.6.2. Tests were performed to identify the maximum emissions level at the band edges of the frequency band that the EUT will operate over.

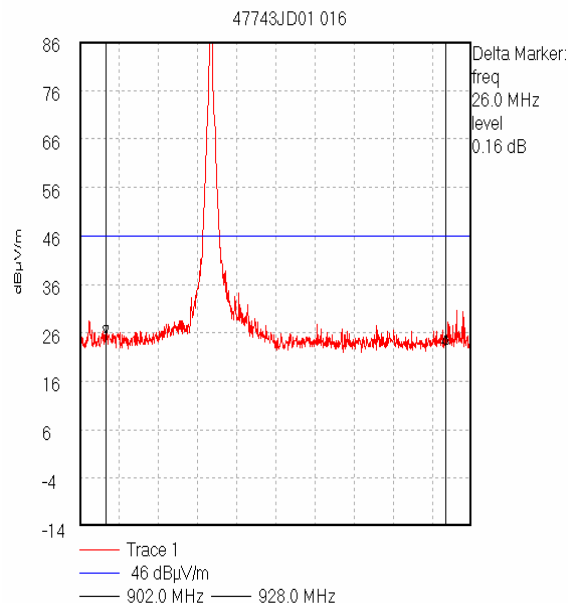
### Results:

#### Bottom Band Edge

Frequency (MHz)	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
902	25.6	46.0	20.4	Complied

#### Top Band Edge

Frequency (MHz)	Q-P Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
928	25.8	46.0	20.2	Complied



Start 900.0 MHz; Stop 930.0 MHz  
Ref 86 dB $\mu$ V/m; Ref Offset 0.0 dB; 10 dB/div  
RBW 120.0 kHz; VBW 100.0 kHz; Att 0 dB; Swp 20.0 mS  
Marker 902.0 MHz, 25.59 dB $\mu$ V/m  
Delta 928.0 MHz, 25.75 dB $\mu$ V/m  
Display Line: 46 dB $\mu$ V/m; Limit Test Failed  
28/10/2005 15:59:22

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **8. Measurement Methods**

### **8.1. AC Mains Conducted Emissions**

AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

The test was performed in a shielded enclosure with the equipment arranged as detailed in the standard on a wooden bench using the floor of the screened enclosure as the ground reference plane. The EUT was powered with 115V 60 Hz AC mains supplied via a Line Impedance Stabilisation Network (LISN).

Initial measurements in the form of swept scans covering the entire measurement band were performed in order to identify frequencies on which the EUT was generating interference. In order to minimise the time taken for these swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidths (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

Following the initial scans, a graph was produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested (at individual frequencies) using the appropriate detector function.

The test equipment settings for conducted emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Quasi-Peak (CISPR)/Average
Mode:	Max Hold	Not applicable
Bandwidth:	10 kHz*	9 kHz*
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## 8.2. Radiated Emissions

Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

Initial measurements covering the entire measurement band in the form of swept scans in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. In order to minimise the time taken for the swept measurements, a Peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates.

The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. Any emission within 20 dB of the limit were then measured on the open area test site, except in cases where the noise floor was within 20 dB of the limit, in these cases the highest point of the noise floor was measured.

In either case the measurement was made at the appropriate distance using a measuring receiver with a Quasi-Peak detector for measurements below 1000 MHz and an Average detector for measurements above 1000 MHz.

For the final measurements the EUT was arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2003 Clause 5.4.

All measurements on the open area test site were performed using broadband antennas.

On the open area test site, at each frequency where a signal was to be measured, the trace was maximised by rotating a turntable through 360°. The angle at which the maximum signal was observed was locked out. For frequencies below 1000 MHz the test antenna was varied in height between 1 m and 4 m in order to further maximise the target emission.

For frequencies above 1000 MHz where a horn antenna was used, height searching was performed to locate the optimal height of the horn with respect to the EUT. At this point the horn was locked off and the turntable was again rotated through 360° to maximise the target signal. It should be noted that the received signal from the EUT would diminish very quickly after it exits the beam width of the horn antenna, for this reason it may not be necessary to fully height search with the horns.

At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT.

Scans were performed to the upper frequency limits as stated in Section 15.33

The final field strength was determined as the indicated level in dB $\mu$ V plus cable loss and antenna factor.

The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements Below 1 GHz	Final Measurements Above 1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak / Average
Mode:	Max Hold	Not applicable	Max Hold
Bandwidth:	(120 kHz < 1 GHz) (1 MHz > 1 GHz)	120 kHz	1 MHz
Amplitude Range:	100 dB	100 dB	100 dB
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable



Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

## **9. Measurement Uncertainty**

9.1. No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

9.2. The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

9.3. The uncertainty of the result may need to be taken into account when interpreting the measurement results.

9.4. The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	+/- 3.25 dB
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	+/- 5.26 dB
Radiated Spurious Emissions	1 GHz to 40 GHz	95%	+/- 3.03 dB

9.5. The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

### **Appendix 1. Test Equipment Used**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.
A027	Horn Antenna	Eaton	9188-2	301
A031	Horn Antenna	Eaton	91889-2	557
A1037	Bilog Antenna	Chase EMC Ltd	CBL6112 B	2413
A1069	LISN	Rohde & Schwarz	ESH3-Z5	837469/012
A1360	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	A1360-20112003
A254	Horn Antenna	Flann Microwave	14240-20	139
A259	Bilog Antenna	Chase	CBL6111	1513
A392	Attenuator	Suhner	6803.17. B	None
A428	Horn Antenna	Flann	12240-20	134
A429	Horn Antenna	Flann	16240-20	561
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008
M023	ESVP Receiver	Rohde & Schwarz	ESVP	872 991/027
M028	Spectrum Analyser	Rohde & Schwarz	FSB	860 001/009 (RU); 860 161/007 (DU)
M090	Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:838494/005 RU:836833/001
S201	Site 1	RFI	1	
S202	Site 2	RFI	2	S202-15011990

**NB** In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

---

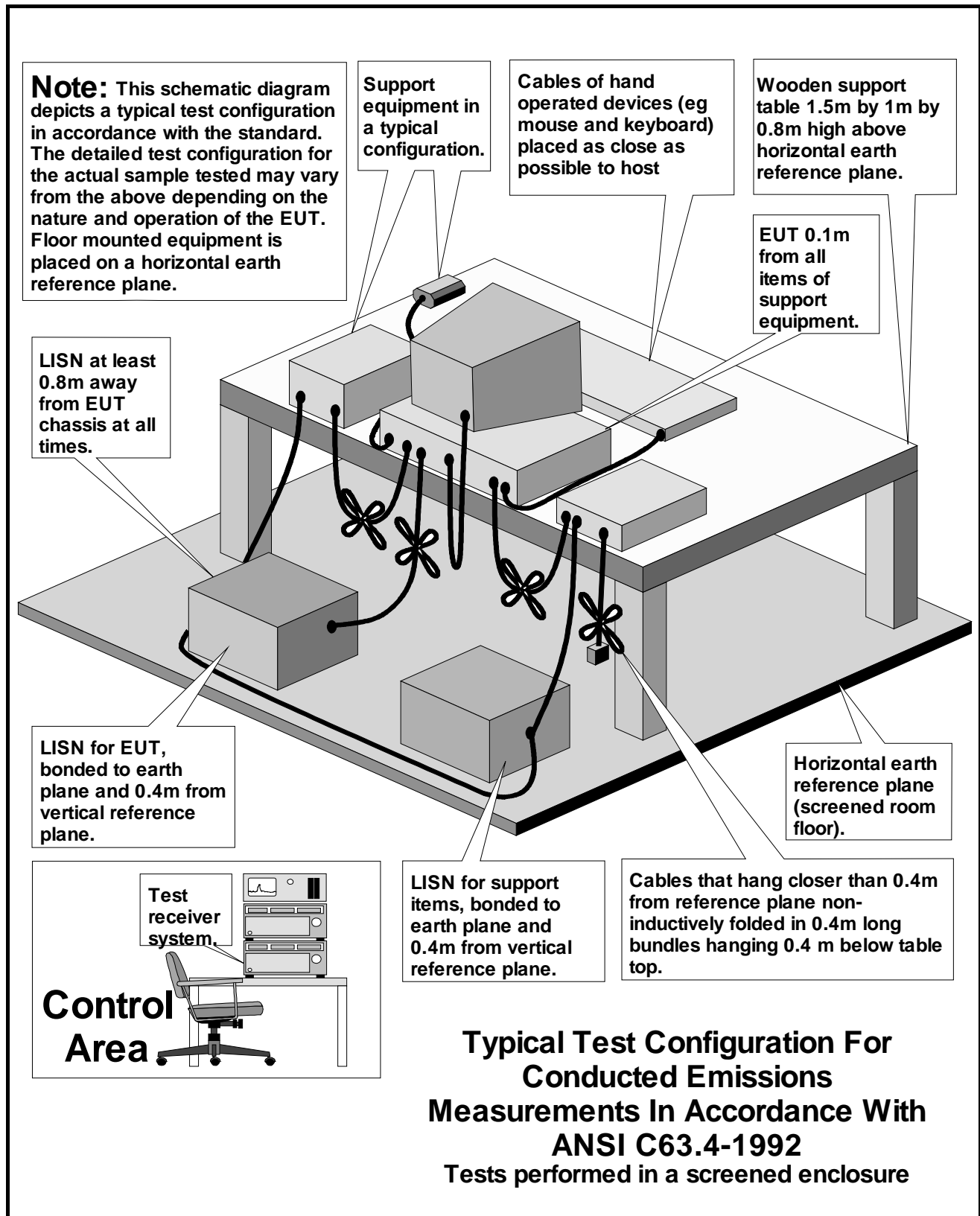
## **Appendix 2. Test Configuration Drawings**

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\47743JD01\EMICON	Test configuration for measurement of conducted emissions.
DRG\47743JD01\EMIRAD	Test configuration for measurement of radiated emissions.

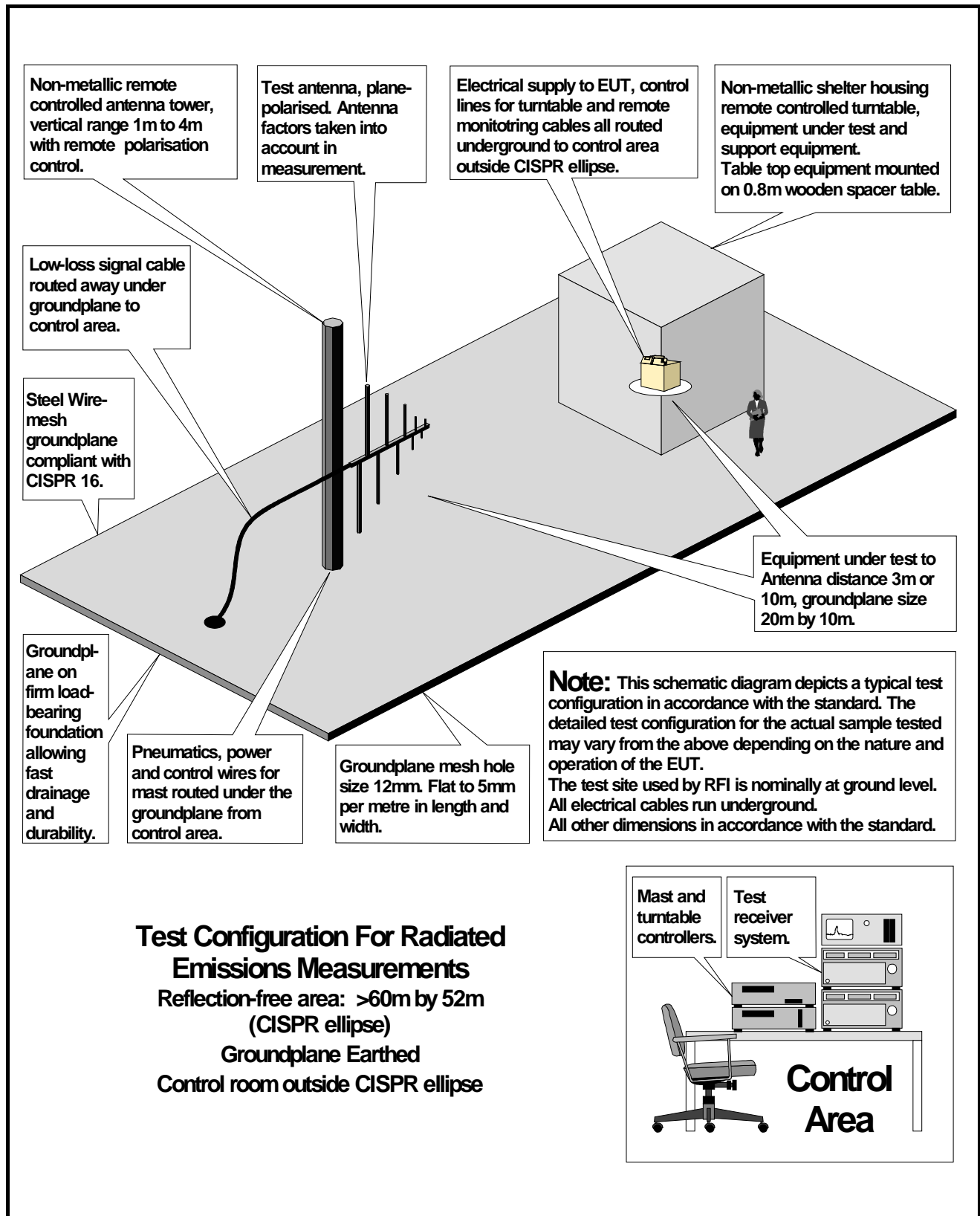
Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

DRG47743JD01\EMICON



Test of: Datalogic S.p.A.  
Gryphon M100 and OM-Gryphon  
To: FCC Part 15.249

DRG\47743JD01\EMIRAD



**Test of:** Datalogic S.p.A.  
**To:** Gryphon M100 and OM-Gryphon  
FCC Part 15.249

---

This page has been left intentionally blank.