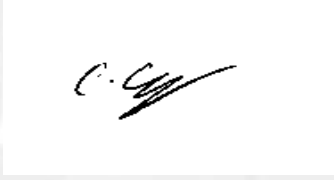
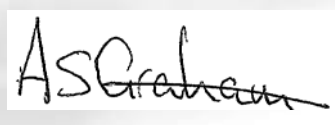


**TEST REPORT  
FROM  
RFI GLOBAL SERVICES LTD**

**Test of: Datalogic Scanning Group S.r.l, Gryphon GM4100 Family**

**To: 47CFR15.107 and 47CFR15.109**

**Test Report Serial No: RFI-EMC-RP76554JD01A**

<p>This test report is issued under the authority of Scott D'Adamo, Group Service Manager:</p>  <p>pp</p>	
<p><b>Checked By:</b></p>	<p><b>Andy Graham</b></p>
<p><b>Signature:</b></p>	
<p><b>Date of Issue:</b></p>	<p><b>15 December 2009</b></p>

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## 1. CUSTOMER DETAILS

<b>Company Name:</b>	Datalogic Scanning group S.r.l.
<b>Address:</b>	Via San Vitalino 13 Calderara di Reno Bologna 40012 Italy

## 2. MANUFACTURER DETAILS



<b>Company Name:</b>	Datalogic Scanning Slovakia s.r.o
<b>Address:</b>	Prilohy 588/47 919 26 Zavar Slovakia



### 3. SUMMARY OF TESTING

#### 3.1. Test Specification

<b>Reference:</b>	47CFR15.107 and 47CFR15.109
<b>Title:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart B (Radio Frequency Devices) – Sections 15.107 and 15.109

#### 3.2. Summary of Test Results

Clause	Measurement Type	Applicability	Result
<b>EMISSIONS</b>			
15.107	Radiated Emissions (Enclosure)	Y	
15.109	Conducted Emissions (AC Mains Input/Output Ports)	Y	

**KEY:**  = Complied  = Did not comply

#### 3.3. Location of Testing

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire RG24 8AH.

#### 3.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above, nor from the requirements defined in the basic standards called up within it.

## 4. EQUIPMENT UNDER TEST (EUT)

### 4.1. Description of EUT

The EUT was a barcode reader

### 4.2. Identification of Equipment under Test (EUT)

ID#	Description	Brand Name	Model No	Serial No
1	Barcode reader	Datalogic	Gryhon GM 4100-BK-D433MHz	E09H11604
2	Docking bay	Datalogic	Gryhon BC4010-BK-910-CF	E09P00000
3	AC Adapter	Phihong	PSAA18U-120	093400032A1

### 4.3. Port Identification

Port	Description	Type
1	Enclosure	-
2	CAB-327	Serial
3	AC Mains	2-core

### 4.4. Operating Modes

Mode Reference	Definition
Receive	The EUT was set in to a continuous receive mode.

NOTE: The reason for choosing this operating mode was that it had been defined by the customer as being typical of normal use and likely to be a worst case with regards to EMC.

### 4.5. Radio Characteristics

Highest internally Generated clock or oscillator frequency: (MHz): 910

### 4.6. Modifications

NOTE: No modifications were made to the EUT during the course of testing.

### 4.7. Additional Information Related to Testing

<b>Equipment Category:</b>	Data Scanner
<b>Intended Operating Environment:</b>	Residential / Commercial / Light industry
<b>Cycle Time:</b>	< 1s
<b>Power Supply Requirement(s):</b>	Nominal 110 V, 60 Hz AC Mains Supply
<b>Weight:</b>	246 g
<b>Dimensions:</b>	190 x 100 x 60 mm

## 5. SUPPORT EQUIPMENT

### 5.1. Identification of Support Equipment

Description	Manufacturer	Model No	Serial No
Notebook PC	Dell	D600	CN-0G5152-48643-43E-7511

### 5.2. Interconnecting Cables

Cable Type	Shielded	Length (m)	Ferrite	Connection 1	Connection 2
Serial	N	2.1	N	EUT	Notebook PC
2-core	N	1.5	N	Docking Bay	AC Adapter
IEC	Y	1.8	N	AC Adapter	AC Mains Supply



## 6. MONITORING PERFORMANCE

### 6.1. Overview

Only emissions tests were performed, therefore performance criteria were not applicable

### 6.2. Monitoring EUT Performance during Testing

<b>For the purposes of testing, the term “<i>operate as intended</i>” was defined as:</b>	The EUT remained in continuous receive mode.
<b>For the purposes of testing, an “<i>unintentional response</i>” was defined as:</b>	Not applicable
<b>Method used to determine whether user control functions and stored data were lost after the EMC exposure:</b>	Not applicable
<b>Method used to verify that a communications link was established and maintained (if appropriate):</b>	Not applicable
<b>Method of assessment of level of performance or degradation of performance during and/or after EMC exposure:</b>	The EUT failed to remain in continuous receive mode.

## 7. MEASUREMENT UNCERTAINTY

### 7.1. Overview

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 regarding the uncertainty of approximation.

The measurement uncertainty may need to be taken into account when interpreting the test results included within this test report.

### 7.2. Method of calculation

The methods used to calculate the uncertainties included within this test report 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 United Kingdom Accreditation Service (UKAS) is followed.

## 8. MEASUREMENTS, EXAMINATIONS AND DERIVED RESULTS

### 8.1. General Comments

8.1.1. This section contains the test result sheets for the measurements listed in Section 3.2. *Summary of Test Results* (above).

8.1.2. The measurement uncertainties stated in the test result sheets were calculated in accordance with documented best practice and represent a confidence level of 95%. Where only confidence level is given, it has been demonstrated that the relevant items of test equipment used meet the specified requirements in the standard with at least this level of confidence.

8.1.3. Please refer to Section 7. *Measurement Uncertainty* on page 10 for details of our treatment of measurement uncertainty.

## RADIATED EMISSIONS - TEST RESULTS

This test is not covered by the scope of RFI's UKAS Accreditation under ISO/IEC 17025: 2005.

### GENERAL INFORMATION

<b>RFI JOB NUMBER:</b>	76554JD01	<b>TEST SITE ID:</b>	Site 1
<b>EUT:</b>	Gryphon GM4100 Family	<b>TEMPERATURE:</b>	22 °C to 24 °C
<b>TEST ENGINEER:</b>	Gareth Bragg	<b>RELATIVE HUMIDITY:</b>	31 % to 31 %
<b>DATE OF TEST:</b>	01 Dec 2009	<b>ATMOSPHERIC PRESSURE:</b>	1003mb to 1003 mb
<b>FIELD TYPE:</b>	Electric Field	<b>MEASUREMENT DISTANCE:</b>	3 Metres
<b>UNCERTAINTY (±):</b>	±4.68 dB	<b>EQUIPMENT CLASS:</b>	Class B
<b>MEASUREMENT UNITS:</b>	dBµV/m	<b>TEST ENVIRONMENT:</b>	Test Site

### TEST SPECIFICATION DETAILS

The EUT has been configured and tested in accordance with the methods and procedures detailed within the following basic standard:

<b>REFERENCE:</b>	47CFR15.109
<b>TITLE:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart B (Radio Frequency Devices) - Section 15.109

### COMMENTS

None

### DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

### EUT RELATED

<b>OPERATING MODE:</b>	Receive
<b>FUNCTION(S) MONITORED:</b>	Not Applicable

### MEASUREMENT RESULTS

No.	Frequency (MHz)	Polarity	Detector	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Graph No.	Result
1	30.078	Vertical	Quasi-Peak	13.4	40.0	26.6	GPH\76554JD01\001	Complied
2	63.609	Vertical	Quasi-Peak	2.1	40.0	37.9	GPH\76554JD01\001	Complied
3	101.967	Vertical	Quasi-Peak	20.3	43.5	23.2	GPH\76554JD01\001	Complied
4	166.038	Horizontal	Quasi-Peak	26.0	43.5	17.5	GPH\76554JD01\001	Complied
5	191.982	Horizontal	Quasi-Peak	25.2	43.5	18.3	GPH\76554JD01\001	Complied
6	264.012	Horizontal	Quasi-Peak	30.1	46.0	15.9	GPH\76554JD01\001	Complied
7	575.987	Horizontal	Quasi-Peak	29.2	46.0	16.8	GPH\76554JD01\001	Complied
8	939.850	Horizontal	Quasi-Peak	28.2	46.0	17.8	GPH\76554JD01\001	Complied
9	1000 to 4000			Refer to Note 1			GPH\76554JD01\002	Complied
10	4000 to 7000			Refer to Note 1			GPH\76554JD01\003	Complied

### NOTES

N/A No emissions were noted above the noise floor of the measurement system. Therefore no further measurements were made.

**TEST EQUIPMENT USED**

RFI ID	INSTRUMENT DESCRIPTION	MODEL NUMBER	CALIBRATION DUE	INTERVAL
K0001	5m Semi-Anechoic Chamber	N/A	04 May 2010	12
M245	Meteorological Unit	M245	21 Jul 2010	12
M1273	20 Hz - 26.6 GHz EMI Test Receiver, Rhode & Schwarz	ESIB 26	01 Apr 2010	12
C1116	Uwave cable	ufa 210A-1-0360-50x50	25 Oct 2010	12
G0543	Amplifier 9KHz - 1GHZ	310N	04 Jun 2010	12
A1970	1-18GHz Pre-Amp	N/A	25 Jan 2010	03
C1302	3m Rosenberger Cable	FA210A1030005050	03 Apr 2010	12
C1303	8m Rosenberger Cable	FA210A1080005050	03 Apr 2010	12
C1306	15m Rosenberger Cable	FA210A0015005050	03 Apr 2010	12
C1160	Rosenberger Cable	FA210A1050005050	03 Apr 2010	12

## CONDUCTED EMISSIONS - TEST RESULTS

This test is not covered by the scope of RFI's UKAS Accreditation under ISO/IEC 17025: 2005.

### GENERAL INFORMATION

<b>RFI JOB NUMBER:</b>	76554JD01	<b>TEST SITE ID:</b>	Site 1
<b>EUT:</b>	Gryphon GM4100 Family	<b>TEMPERATURE:</b>	24 °C to 24 °C
<b>TEST ENGINEER:</b>	Gareth Bragg	<b>RELATIVE HUMIDITY:</b>	31 % to 30 %
<b>DATE OF TEST:</b>	01 Dec 2009	<b>ATMOSPHERIC PRESSURE:</b>	1003 mb to 1002 mb
<b>UNCERTAINTY (±):</b>	±3.99 dB	<b>EQUIPMENT CLASS:</b>	Class B
<b>CATEGORY:</b>	Not applicable	<b>MEASUREMENT METHOD:</b>	LISN (AC)

### TEST SPECIFICATION DETAILS

The EUT has been configured and tested in accordance with the methods and procedures detailed within the following basic standard:

<b>REFERENCE:</b>	47CFR15.107
<b>TITLE:</b>	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart B (Radio Frequency Devices) - Section 15.107

### COMMENTS

None

### DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

### EUT RELATED

<b>OPERATING MODE:</b>	Receive
<b>FUNCTION(S) MONITORED:</b>	Not Applicable.

### MEASUREMENT RESULTS

No.	Frequency (MHz)	Line	Detector	Level (dBµV)	Limit (dBµV)	Margin (dB)	Graph No.	Result
1	0.173	Neutral	Quasi-Peak	43.6	64.8	21.2	GPH\76554JD01\004	Complied
2	0.177	Live 1	Average (CISPR)	26.9	54.6	27.7	GPH\76554JD01\004	Complied
3	0.231	Neutral	Quasi-Peak	37.3	62.4	25.1	GPH\76554JD01\004	Complied
4	0.236	Live 1	Average (CISPR)	21.5	52.3	30.8	GPH\76554JD01\004	Complied
5	0.290	Live 1	Quasi-Peak	31.9	60.5	28.7	GPH\76554JD01\004	Complied
6	0.290	Live 1	Average (CISPR)	15.4	50.5	35.1	GPH\76554JD01\004	Complied
7	0.429	Live 1	Average (CISPR)	18.3	47.3	29.0	GPH\76554JD01\004	Complied
8	0.434	Live 1	Quasi-Peak	30.5	57.2	26.7	GPH\76554JD01\004	Complied
9	0.947	Neutral	Average (CISPR)	12.5	46.0	33.5	GPH\76554JD01\004	Complied
10	0.969	Neutral	Quasi-Peak	21.4	56.0	34.6	GPH\76554JD01\004	Complied
11	9.857	Neutral	Average (CISPR)	27.9	50.0	22.1	GPH\76554JD01\004	Complied
12	9.861	Neutral	Quasi-Peak	33.6	60.0	26.4	GPH\76554JD01\004	Complied

**NOTES**

N/A During measurement the engineer did not record any specific notes relevant to report.

**TEST EQUIPMENT USED**

RFI ID	INSTRUMENT DESCRIPTION	MODEL NUMBER	CALIBRATION DUE	INTERVAL
K0001	5m Semi-Anechoic Chamber	N/A	04 May 2010	12
M1273	20 Hz - 26.6 GHz EMI Test Receiver, Rhode & Schwarz	ESIB 26	01 Apr 2010	12
C1304	3m Rosenberger Cable	FA210A1030005050	03 Apr 2010	12

## 9. PHOTOGRAPHS OF EUT

This section contains the following photographs:

Photo Reference Number	Title
PHT\76554JD01\001	Test Configuration Photograph - Conducted Emissions
PHT\76554JD01\002	Test Configuration Photograph - Radiated Emissions



**PHT76554JD01\001 - Test Configuration Photograph - Conducted Emissions**



**PHT76554JD01\002 - Test Configuration Photograph - Radiated Emissions**



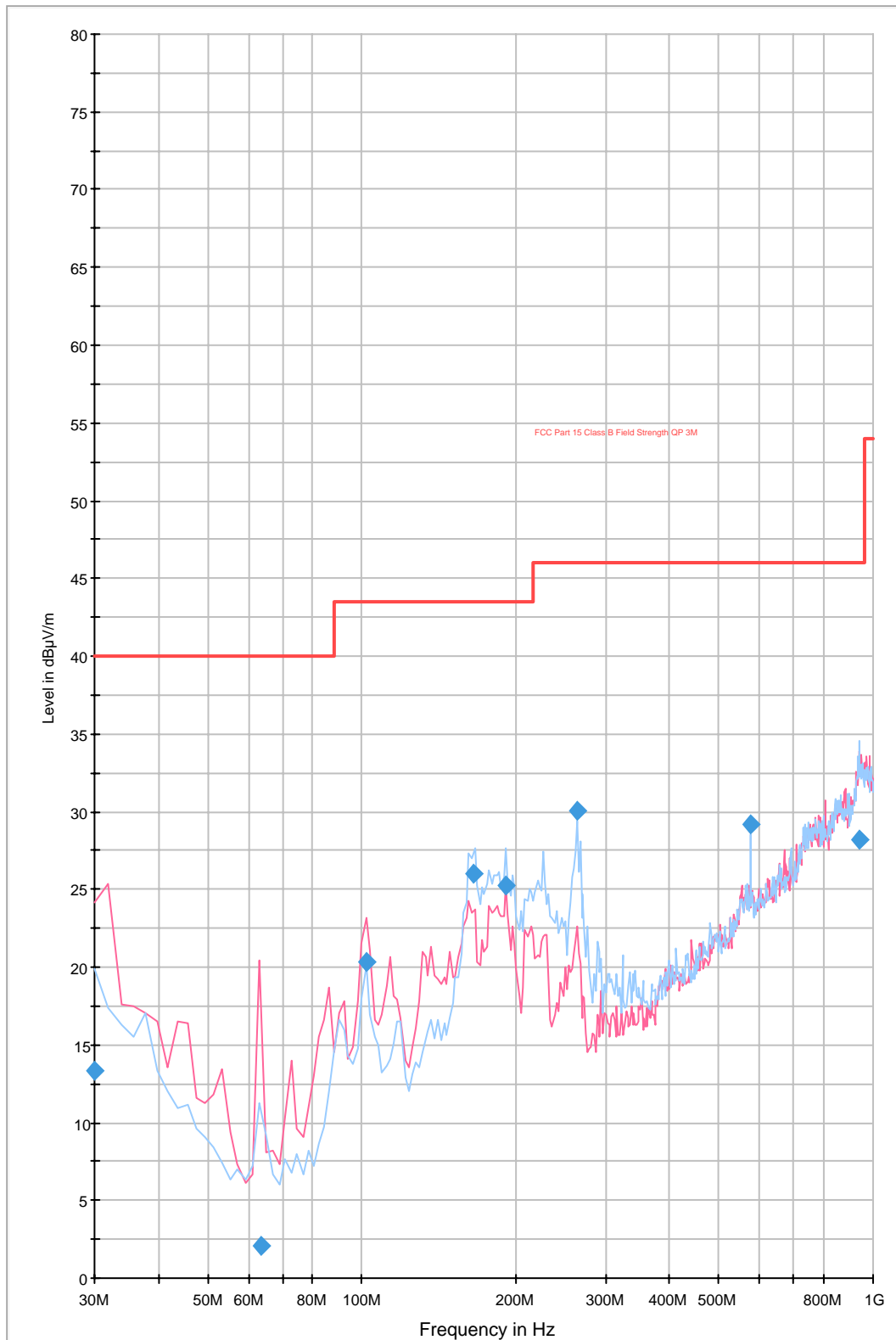
## 10. GRAPHICAL TEST RESULTS

10.1. This section contains the graphical results for the measurements listed in Section 3.2. *Summary of Test Results* (above).

Graph Number	Title
GPH\76554JD01\001	Radiated Emissions Pre-Scan (30 MHz to 1000 MHz)
GPH\76554JD01\002	Radiated Emissions Pre-Scan (1000 MHz to 4000 MHz)
GPH\76554JD01\003	Radiated Emissions Pre-Scan (4000 MHz to 7000 MHz)
GPH\76554JD01\004	Conducted Emissions Pre-Scan (0.15 MHz to 30 MHz)

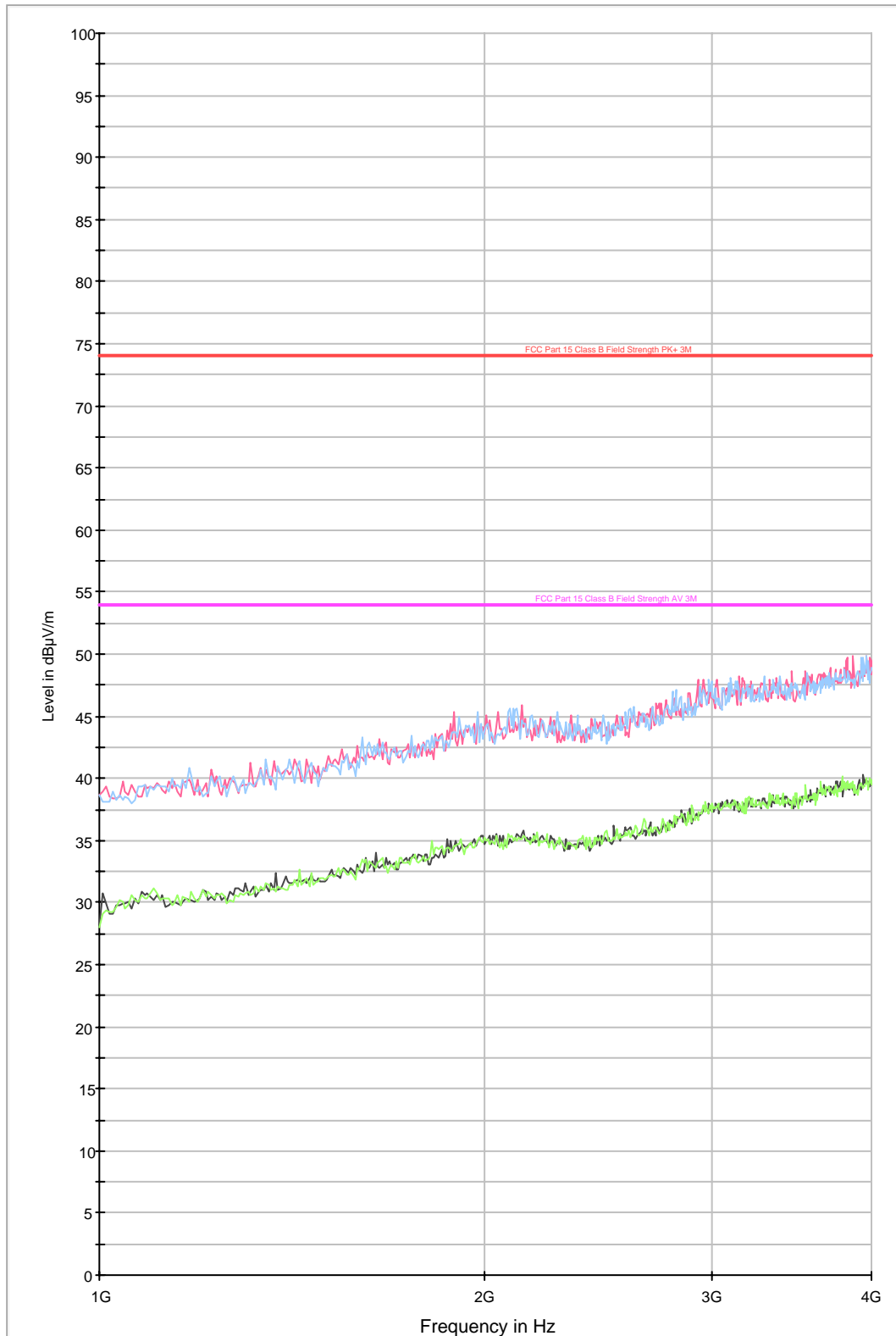
**GPH76554JD01\001**

FCC Part 15.109 Radiated Emissions Class B 30MHz-1GHz



**GPH76554JD01\002**

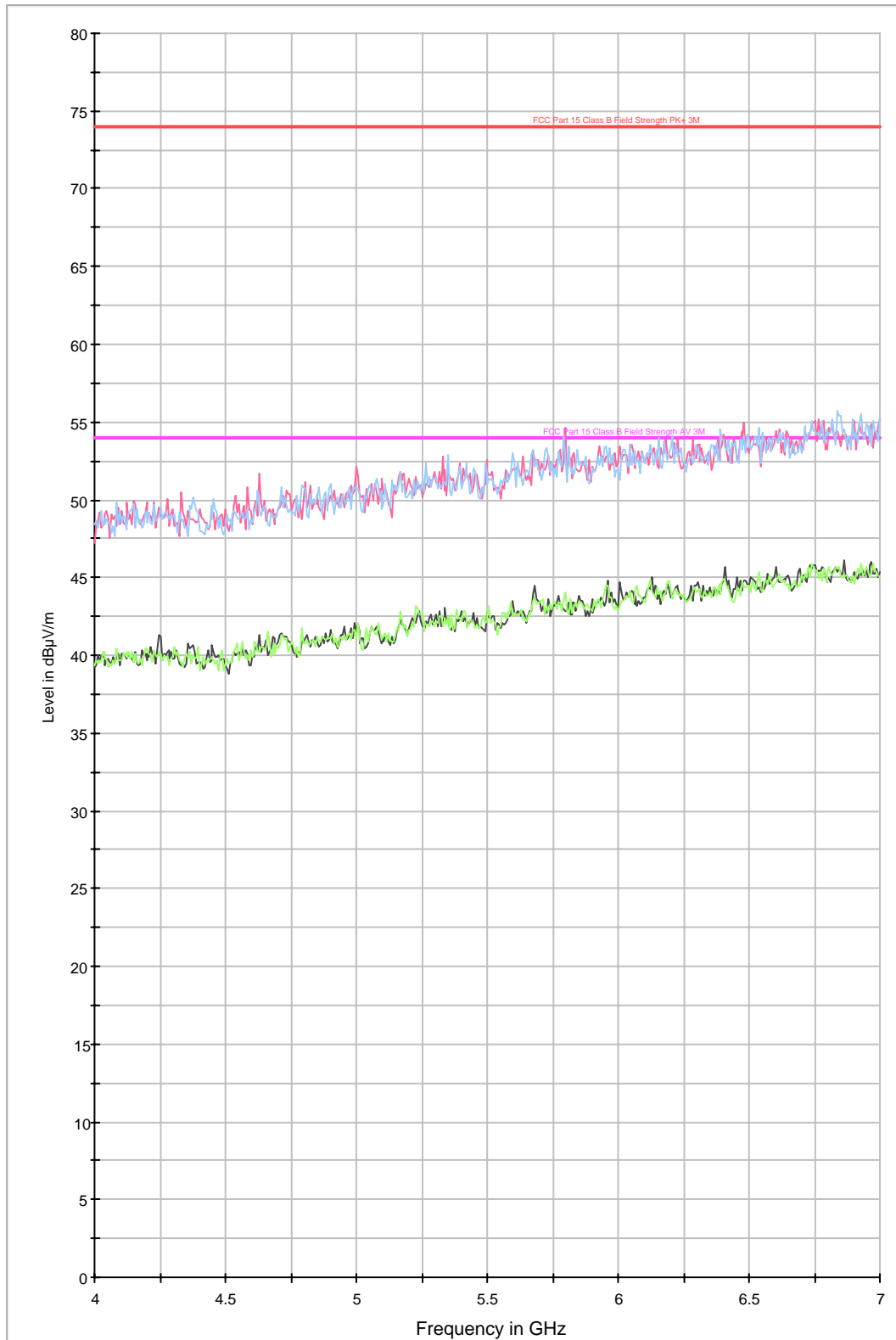
FCC Part 15.109 Radiated Emissions Class B 1-4GHz





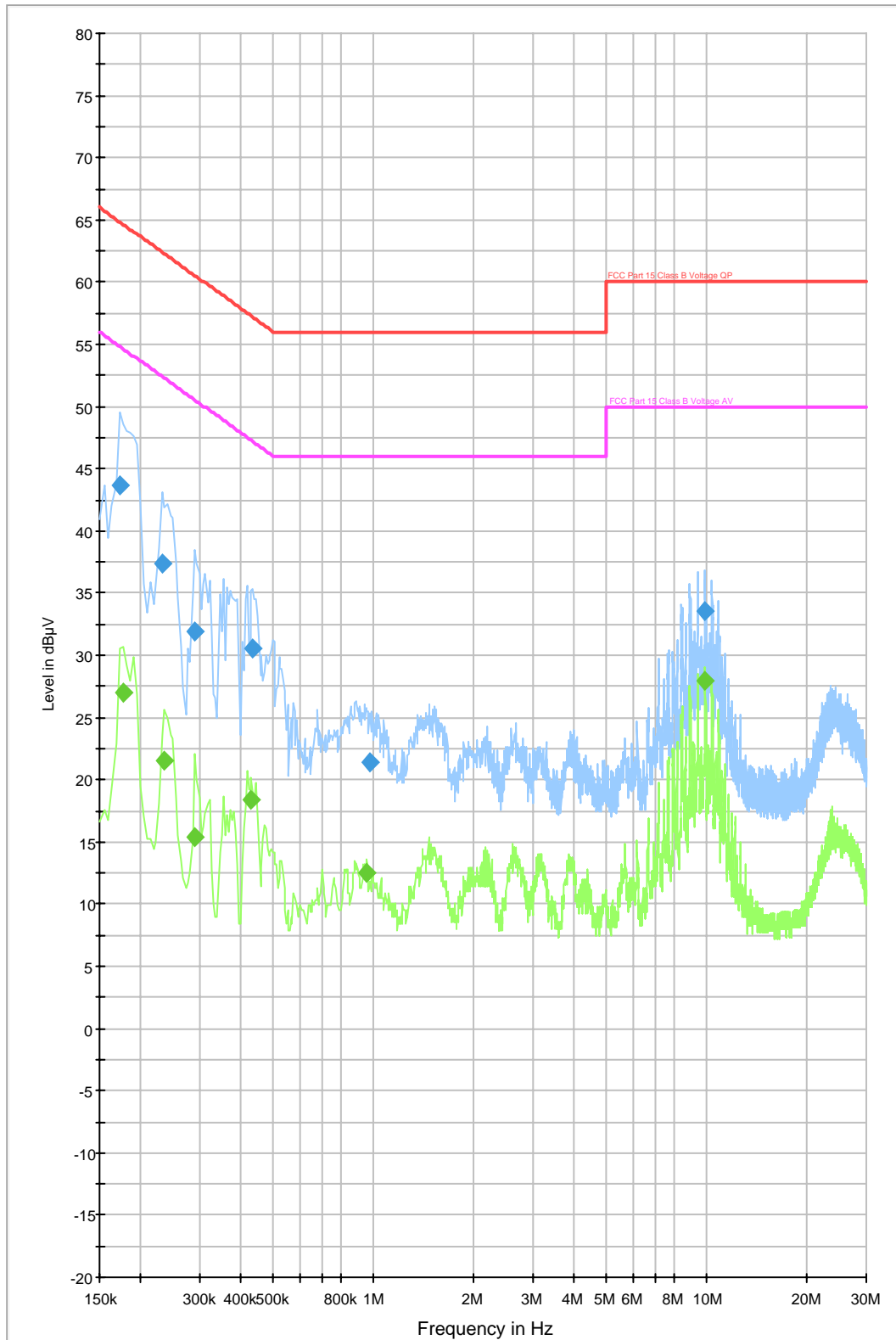
**GPH76554JD01\003**

FCC Part 15.109 Radiated Emissions Class B 4-7GHz



**GPH\76554JD01\004**

FCC Part 15.107 Conducted Emissions Class B



## 11. TEST CONFIGURATION DRAWING

11.1. This section contains the Test Configuration Drawings for the measurements listed in Section 7: Measurements, Examinations and Derived Results.

Test Configuration Reference Number	Title
DRG\76554JD01\001	Schematic diagram of the EUT, support equipment and interconnecting cables used for the test



**DRG\76554JD01\001 - Schematic diagram of the EUT, support equipment and interconnecting cables used for the test**

