MEASUREMENT AND TECHNICAL REPORT

DATALOGIC
Via Candini, 2
40012 Lippo di Calderara di Reno
Bologna, BG
Italy

DATE: 24 June 2005

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	Jet	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) **15.225(a), 15.225(d), and 15.225(e)**

Report Prepared by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

TÜV AMERICA

TABLE OF CONTENTS

		Pages
1.0	**GENERAL INFORMATION**	3 - 5
1.1	Product Description	3 - 4
1.2	Related Submittal Grant	5
1.3	Tested System Details	5
1.4	Test Methodology	5
1.5	Test Facility	5
2.0	**SYSTEM TEST CONFIGURATION**	6
2.1	Justification	6
2.2	EUT Exercise Software	6
2.3	Special Accessories	6
2.4	Equipment Modifications	6
2.5	Configuration of Test System	6
3.0	**FIELD STRENGTH EQUIPMENT/DATA**	
	RADIATED SPURIOUS EMISSIONS EQUIPMENT/DATA	
	FREQUENCY TOLERANCE EQUIPMENT/DATA	7 - 12
4.0	**ATTESTATION STATEMENT**	13

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

1.0 GENERAL INFORMATION

1.1 Product Description

General Equipment Description -- *NOTE: This information will be input into your test report as shown below.*

EUT Description: Datalogic JET™ is a battery operated professional Portable Digital Assistant designed to capture, compute and communicate information.
Datalogic BLACKJET™ is the black cover version of Datalogic JET™.

EUT Name: JET 001-XXX: Bluetooth models
JET 501-XXX: Bluetooth, WiFi models
BLKJET 000-XXX: Batch models
BLKJET 001-XXX: Bluetooth models
BLKJET 500-XXX: WiFi models
BLKJET 501-XXX: Bluetooth, WiFi models

Model No.: -- Serial No.: --

Product Options: --

Configurations to be tested: --

EUT Specifications and Requirements

Length: 17,6 Width: 9 Height: 2,8 Weight: 424-463g

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: -- (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: --

Current (Amps/phase(max)): -- Current (Amps/phase(nominal)): --

Other: Battery Operated Equipment

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

Small Business

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

EUT Power Cable

☐ Permanent OR ☒ Removable Length (in meters): 1,5m
☐ Shielded OR ☐ Unshielded
☐ Not Applicable

EUT Interface Ports and Cables

Interface				Shielding								
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: *RS232*	☐	■	*2*	■	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	■	☐
RS232	☐	☒	1	☒	☐	--	--	--	--	2	☒	☐
USB	☐	☒	1	☒	☐	--	--	--	--	2	☒	☐

EUT Software.

Revision Level: --

Description: Operating System is Windows CE .NET.

Oscillator Frequencies

Frequency	***Derived Frequency***	***Component # / Location***	***Description of Use***
3,6863MHz	--	Main Board	CPU Clock
32768kHz	--	Main Board	Real Time Clock
4MHz	--	Main Board Laser version	Synchronization and data sampling
27MHz	--	Main Board Imager version	Synchronization and data sampling

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

1.2 Related Submittal Grant

None

1.3 Tested System Details

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system are:

None

1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

Test Summary					
Test Description	Paragraph Number	Summary of Results			Pass/Fail
		Low Channel	Mid Channel	High Channel	
Field Strength	15.225(a)	--	42.4 dBμV/m	--	Pass
Radiated Spurious Emissions	15.225(d)	--	23.6 dBμV/m @ 27.12 MHz	--	Pass
Frequency Tolerance	15.225(e)	--	-72 Hz @ +40° C +8 Hz @ 11.9 VDC	--	Pass
Intermodulation	--		No intermodulation products were detected over the frequency range 13 MHz to 2.495 GHz with all transmitters active.		Pass

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

1.5 Test Facility

The open area test site and conducted measurement data were tested by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Equipment Modifications

None

2.5 Configuration of Test System

See Test Setup Photos Exhibit

3.0 FIELD STRENGTH EQUIPMENT/DATA
RADIATED SPURIOUS EMISSIONS EQUIPMENT/DATA
FREQUENCY TOLERANCE EQUIPMENT/DATA

Test Conditions: FIELD STRENGTH EQUIPMENT/DATA: FCC Part 15.225(a)
RADIATED SPURIOUS EMISSIONS EQUIPMENT/DATA: FCC Part 15.225(d)
FREQUENCY TOLERANCE EQUIPMENT/DATA: FCC Part 15.225(e)

The following measurements were performed at the San Diego Testing Facility:

☐ **- Test not applicable**

■ - TR-2, Test Room, 16' x 10' x 9'
■ - Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego
■ - Roof (Small Open Area Test Site)

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
85662A	6495	Spectrum Analyzer	Hewlett Packard	2542A12099	02/05
E4440A	7500	Spectrum Analyzer	Hewlett Packard	MY43362168	12/04
AMF-5D-010180-35-10P	719	Preamplifier	Miteq	549460	VBU*
BRM50702	6815	2.4 to 2.5 GHz Band Reject Filter	Micro-Tronics	008	VBU*
FF6549-2	781	High Pass Filter	Sage	006	VBU*
FF6549-2	782	High Pass Filter	Sage	007	VBU*
FF6549-1	777	High Pass Filter	Sage	004	VBU*
3115	251	Double Ridge Guide Antenna	EMCO	2495	VBU*
CBL6111	6521	Bilog Antenna	Chase Electronics	1291	VBU*
T30RC	6225	Environmental Chamber	Tenney Environmental	27244-02	05/05
9252-50-R-24-BNC	458	LISN, 50 μH /250 μH/50 Ω/ 0.25 μF	Solar Electronics Co.	941719	07/04
ESHS 20	428	EMI Test Receiver	Rhode & Schwarz	837055/001	03/05
CAT-20	613	20 dB Attenuator	Mini-Circuits	--	VBU*
E4446A	6823	Spectrum Analyzer	Agilent	US44300486	04/05
FNR-880.450/25	208	Loop Antenna	Rohde & Schwarz	HFH-2-72.335.4711.52	06/04
3115	453	Double Ridge Antenna	EMCO	9412-4364	VBU*
E3611A	718	Power Supply	Hewlett Packard	KR73012637	VBU*

Remarks: One year calibration cycle for all test equipment and sites. (*) Verified Before Use.

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

TÜV AMERICA

EMISSIONS

Test Report #: SC501899

Test Method: FCC 15.225 Date: 15 Jun 05

EUT Model #: Jet

EUT POWER:
☐ 230 Vac/50 Hz ☐ 120 Vac/60 Hz
☑ Other: battery

EUT Description: RFID

NOTES: RBW = _____; VBW = _____; Receive antenna = _____; Amplifier Gain: _____

measured with loop antenna

Emission level (dBµV) = Measured Level + Antenna Correction Factor + Cable Loss - Amplifier Gain

FREQUENCY MHz	MEASURED LEVEL (dBµV)		ANTENNA CORRECTION FACTOR (dB/m)	CABLE LOSS (dB)	AMPLIFIER GAIN (dB)	EMISSION LEVEL (dBµV/m)		LIMIT	EUT MARGIN (dB)
	V qp	H				V	H		
13.56	22.4		20	0	0	42.4		94	-51.6
27.12	3.6		20	0	0	23.6		39.5	-15.9

Tested by: David Cruz
Printed

Signature

Reviewed by: JIM OWEN
Printed

Signature

ems.DOC Rev 09.97

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

Radiated RF Power Output

Report No: - SC501899

Company: - Data Logic

Equipment: - Jet-Net

CFR 47 Part 15.225 (a)

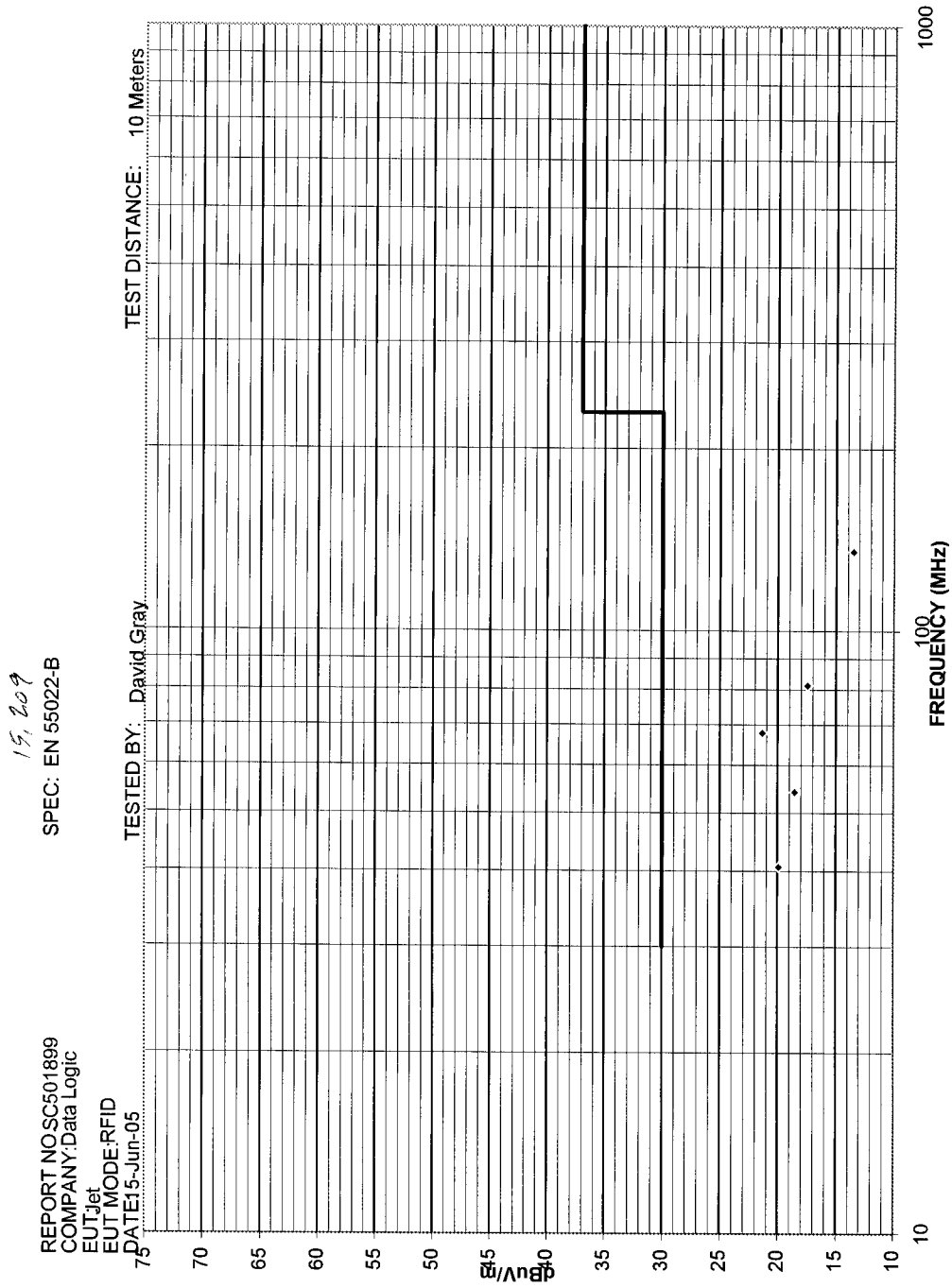
Tester: - Frank Harkins

Date: - June 5th 2005

Channel	Field Strength dBuV/m	Calculated Fundamental Emission uV	Field Strength Limit uV/m	Margin uV/m	Complies
RFID	42.4	131.83	15,848	15716.17	Yes

Remarks: - Due to the EUT having an integral antenna fitted, this transmitted channel was measured at 3m.

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364


REPORT NO:SC501899
COMPANY:Data Logic
EUT:Jet
EUT MODE:RFID
DATE15-Jun-05
SPEC: EN 55022-B
TESTED BY: David Gray
TEST DISTANCE: 10 Meters
dBuV/m
FREQUENCY (MHz)
75
70
65
60
55
50
45
40
35
30
25
20
15
10
1000
100
10

TÜV AMERICA

REPORT No: SC501899

CUSTOMER: Data Logic

E U T: Jet

EUT MODE: RFID

DATE: 15-Jun-05 TESTED BY: David Gray

NOTES: Quasi-Peak with 120 KHz measurement bandwidth.

SPEC: EN 55022-B
15, 209

TEST DIST: 10 Meters

TEST SITE: 1

BICONICAL: 738

LOG PERIODIC: 738

RCVR: 6723

Temperature: 22 Relative Humidity: 40

EUT MARGIN -8.6 dB at 67.8 MHz

ver 1.9

FREQUENCY (MHz)	VERTICAL measured (dBuv)	HORIZONTAL measured (dBuV)	CORRECTION FACTOR (dB/m)	MAXIMUM CORRECTED (dBuV/m)	SPECIFIED LIMIT (dBuV/m)	EUT MARGIN (dB)	EUT ROTATION (degrees)	ANTENNA HEIGHT (meters)
40.68	0.7	-2	19.2	**19.9**	30	-10.1	0	1
54.25	2.5	-1	16.0	**18.5**	30	-11.5	0	1
67.80	11.1	4.2	10.3	**21.4**	30	-8.6	0	1
81.36	7.2	2.7	10.3	**17.5**	30	-12.5	0	1
135.60	1	-0.5	12.5	**13.5**	30	-16.5	0	1

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

SC501899 - Jet

Frequency Tolerance (Carrier Deviation) - FCC Part 15.225(e)

Voltage	Temp	Measured Frequency	± Deviation	% of Fundamental
14 VDC	+ 50° C	13563293 Hz	-48 Hz	0.00035 %
14 VDC	+ 40° C	13563269 Hz	-72 Hz	0.00053 %
14 VDC	+ 30° C	13563293 Hz	-48 Hz	0.00035 %
14 VDC	+ 20° C	13563277 Hz	-64 Hz	0.00047%
14 VDC	+ 10° C	13563273 Hz	-68 Hz	0.0005 %
14 VDC	0° C	13563281 Hz	-60 Hz	0.00044 %
14 VDC	- 10° C	13563293 Hz	-48 Hz	0.00035 %
14 VDC	- 20° C	13563281 Hz	-60 Hz	0.00044 %

RBW = 1 kHz
VBW = 10 kHz
Fundamental at 14 VDC and +20° C = 13.563341 MHz

Voltage	Measured Frequency	± Deviation	% of Fundamental
11.9 VDC	13563333 Hz	8 Hz	0.000059 %
12.7 VDC	13563343 Hz	-2 Hz	0.000015 %
13.6 VDC	13563339 Hz	2 Hz	0.000015 %
14.4 VDC	13563338 Hz	3 Hz	0.000022 %
15.3 VDC	13563343 Hz	2 Hz	0.000015 %
16.1 VDC	13563338 Hz	3 Hz	0.000022 %

RBW = 1 kHz
VBW = 10 kHz
Fundamental at 14 VDC and +20° C = 13.563341 MHz

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

4.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, Part(s) 15.225(a), 15.225(d), and 15.225(e)

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, Part(s) 15.225(a), 15.225(d), and 15.225(e)

Testing Start Date: 18 April 2005

Testing End Date: 15 June 2005

- TÜV AMERICA, INC. -

Responsible Engineer:

David Gray
(EMC Engineer in Charge)

Responsible Engineer:

Frank Harkins
(EMC Engineer)

TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364