

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

Test Report Serial No:
RFI/RPT1/RP73656JD04B

This Test Report Is Issued Under The Authority
Of Steve Flooks, Service Leader:



pp

Checked By:



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Issue Date: 28 November 2008

Test Dates: 13 October 2008

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RFI GLOBAL SERVICES LTD

Test Report

Serial No: RFI/RPT1/RP73656JD04B

Page: 2 of 15

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**Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00**

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

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Test of: Flaik Pty Ltd
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Table of Contents

1. Customer Information	4
2. Equipment Under Test (EUT)	5
3. Test Specification, Methods and Procedures	7
4. Deviations from the Test Specification	8
5. Operation and Configuration of the EUT during Testing	9
6. Summary of Test Results.....	10
7. Measurements, Examinations and Derived Results.....	11
8. Measurement Uncertainty.....	14
Appendix 1. Test Equipment Used.....	15

**Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00**

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

1. Customer Information

Company Name:	Flaik Pty Ltd
Address:	Suite 42, Level 2, Benson House 2 Benson Street Toowong Queensland 4066
Contact Name:	Mr. D Wood

Test of: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

2. Equipment Under Test (EUT)

2.1. Identification of Equipment Under Test (EUT)

Description:	GSM Tracking Device
Brand Name:	Flaik
Model Name or Number:	GSM 2.00
Serial Number:	None Stated
IMEI Number:	353806010006875
Hardware Version Number:	2
Software Version Number:	205
FCC ID Number:	WL5FLAIKGSM200
Date of Receipt:	07 October 2008

2.2. Description of EUT

The equipment under test is a GSM Tracking Device with GPS capabilities. The device operates in the GSM850 and PCS1900 bands.

2.3. Modifications Incorporated in the EUT

There were no modifications made to the EUT during the test period.

2.4. Accessories

The following accessories were supplied with the EUT during testing:

Description:	Battery
Brand Name:	None Stated
Model Name or Number:	NL 583759LT20
Serial Number:	None Stated
Connected to Port	3 Pin connector

2.5. Support Equipment

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

Description:	Radio Communication Analyser
Brand Name:	Anritsu
Model Name or Number:	MT8820A
Serial Number:	6K00000647
Connected to Port:	Air Link to EUT

Test of: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

2.6. Additional Information Related to Testing

Equipment Category	GSM850 / PCS1900		
Type of Unit	Portable Transceiver		
Intended Operating Environment:	Within GSM coverage		
Transmit Frequency Range:	Part 22 GSM850: 824 MHz to 849 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	128	824.2
	Middle	189	836.4
	Top	251	848.8
Maximum Power Output (ERP):	27.5 dBm		
Transmit Frequency Range:	Part 24 PCS1900: 1850 MHz to 1910 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	512	1850.2
	Middle	660	1879.8
	Top	810	1909.8
Maximum Power Output (EIRP):	32.2 dBm		

Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

3. Test Specification, Methods and Procedures

3.1. Test Specification

Reference:	FCC Part 22: 2007 Subpart H (Cellular Radiotelephone Service)
Title:	Code of Federal Regulations, Part 22 (47CFR22) Public Mobile Services.

Reference:	FCC Part 24: 2007 Subpart E (Broadband PCS)
Title:	Code of Federal Regulations, Part 24 (47CFR24) Personal Communication Services.

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 (1987)

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.

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: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

4. Deviations from the Test Specification

There were no deviations from the test specification.

Test of: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

5. Operation and Configuration of the EUT during Testing

5.1. Operating Modes

The EUT was tested in the following operating mode(s) unless otherwise stated:

- PCS1900 call allocated on the top, middle and bottom channels of the assigned frequency block.
- GSM850 call allocated on the top, middle and bottom channels of the assigned frequency block.

Connected (via wireless link) to a GSM system simulator, operating in GSM transceiver mode.

5.2. Configuration and Peripherals

The EUT was tested in the following configuration(s) unless otherwise stated:

- Standalone battery powered

Test of: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

6. Summary of Test Results

FCC Part 22

Range of Measurements	Specification Reference	Port Type	Result
Transmitter Effective Radiated Power (ERP)	22.913(a)	Antenna	Complied

FCC Part 24

Range of Measurements	Specification Reference	Port Type	Result
Transmitter Effective Isotropic Radiated Power (EIRP)	24.232	Antenna	Complied

6.1. Location of Tests

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

6.2. Site Registration Number

209735

Test of: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only.

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: **Flaik Pty Ltd**
GSM Tracking Device - GSM 2.00

To: **FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)**

7.2. Test Results – FCC Part 22 (Subpart H)

7.2.1. Transmitter Equivalent Radiated Power (ERP)

Ambient Temperature: 24°C

Relative Humidity: 48%

Tests were performed using the test methods detailed in ANSI TIA-603-C-2004 referencing FCC CFR Part 2.

Results:

Channel	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	824.2	27.5	38.4	10.9	Complied
Middle	836.6	26.4	38.4	12.0	Complied
Top	848.8	26.3	38.4	12.1	Complied

**Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00**

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

7.3. Test Results – FCC Part 24 (Subpart E)

7.3.1. Transmitter Equivalent Isotropic Radiated Power (EIRP)

Ambient Temperature: 24°C Relative Humidity: 48%

Relative Humidity: 48%

Tests were performed using the test methods detailed in ANSI TIA-603-C-2004 referencing FCC CFR Part 2.

Results:

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter EIRP (dBm)	Limit EIRP (dBm)	Margin (dB)	Result
Bottom	1850.2	Horizontal	31.3	33.0	1.7	Complied
Middle	1879.8	Horizontal	32.2	33.0	0.8	Complied
Top	1909.8	Horizontal	31.9	33.0	1.1	Complied

**Test of: Flaik Pty Ltd
GSM Tracking Device - GSM 2.00**

To: FCC Part 22: 2007 (Subpart H) and FCC Part 24: 2007 (Subpart E)

8. Measurement Uncertainty

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.

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

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

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".

Test Name	Confidence Level	Calculated Uncertainty
Equivalent Radiated Power (ERP)	95%	±2.94 dB
Equivalent Isotropic Radiated Power (EIRP)	95%	±2.94 dB

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: **Flaik Pty Ltd**
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Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
A1299	Antenna	Schaffner	CBL6143	5094	28 Jul 2008	12
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A436	Antenna	Flann	20240-20	330	24 Apr 2006	36
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	19 Feb 2008	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	26 Aug 2008	12

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