CFR 47 Part 15 Test Report

Test Report Number: WR895.004

Terminal device: FCC ID: GMLRM-88A Model: E62-1 Type: RM-88 HW: 4004, SW: VP 5.4802.00
(Detailed information is listed in section 4).

Originator: Hai To
Function: TCC - Dallas – EMC
Version/Status: 2.0 Approved
Location: QATrax
Date: 28-Mar-06

Change History:

Version	*Date*	*Status*	*Handled By*	*Comments*
0.1	19-Jan-06	Draft	Hai To	
0.2	19-Jan-06	Proposal	Hai To	
0.3	20-Jan-06	Reviewed	Michael Sundstrom	
1.0	20-Jan-06	Approved	Michael Sundstrom	
1.1	28-Mar-06	Reviewed	Michael Sundstrom	
2.0	28-Mar-06	Approved	Michael Sundstrom	FCC ID Revised

Testing laboratory:
Test & Certification Center (TCC) Dallas
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6021 Connection Drive
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Tel. 972-894-5000

Client:
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Date and signatures: **28-Mar-06**

For the contents:

Hai To
Test Operator

Michael Sundstorm
Technical Reviewed

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1. GENERAL

1.1 Quality System

The quality system in place for TCC-Dallas conforms to ISO/IEC 17025 and has been audited to the standard by A2LA (American Association of Laboratory Accreditation). TCC - Dallas has also been audited using the ISO 9000 Quality System, as part of Nokia Mobile Phones, Inc., by ABS (American Bureau of Shipping) Quality Evaluations Inc.

TCC-Dallas is a recognized laboratory with the Federal Communications Commission in filing applications for Certification under Parts 15 and 18, Registration Number 100060, and Industry Canada, Registration Number IC 661N.

1.2 Objective

All tests and measurement data shown was performed to determine whether the selected handset was in compliance as specified in FCC: CFR47 Parts 15.107, 15.207.

1.3 Test Summary

Test Results: *The test result relates only to those tested devices mentioned in Section 4 of this test report.*

Test Performed	Reference	Section of Report	Complies / Does not comply / Not Tested
AC Conducted Emissions	FCC Part 15.107	6	Complies

2. STANDARDS BASIS

Testing has been carried out in accordance with:

REF.	Code of the standard	Name of the standard
1	ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.
2	FCC: CFR 47 Part 15	Code of Federal Regulations (CFR) Title 47, Part 15 – Radio Frequency Devices: Subpart B – Unintentional Radiators and Subpart C – Intentional Radiators
3	CISPR 22 / EN55022	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.
4	ICES-003	Digital Apparatus, Industry Canada
5	RSS-132	800 MHz Cellular Telephones Employing New Technologies
6	RSS-133	2 GHz Personal Communications Services, Industry Canada
7	RSS-212	Test Facilities and Test Methods for Radio Equipment, Industry Canada (Provisional)
8	RSP-100	Radio Equipment Certification Procedure

Note: Unless otherwise stated, (by reference to a version number and a publication date), the latest version of the above documents applies.

Deviations:

Not Applicable.

3. LIST OF ABBREVIATIONS, ACRONYMS AND TERMS

3.1 Abbreviations

dB - decibel

dBm - decibels per milliwatt (absolute measurement)

dBµV - decibel per microvolt

dBµV/m - decibel of microvolt per meter

GHz - gigahertz or 1000000000 hertz

kHz - kilohertz or 1000 hertz

MHz - megahertz or 1000000 hertz

3.2 Acronyms

AMPS - Advanced Mobile Phone System

BSS - Base Station Simulator

CDMA - Code Division Multiple Access

EMC - Electromagnetic Compatibility

EMI - Electromagnetic Interference

EUT - Equipment under Test

GSM - Global System for Mobile communications

PCS - Personal Communications Services

RF - Radio Frequency

TDMA - Time Division Multiple Access

3.3 Terms

Base Station Simulator (BSS) - simulates all the necessary signals that a phone would experience while on a live network. There are many types of base station simulators catering for all current protocols, i.e., GSM, AMPS, TDMA, and CDMA.

Cellular - refers to a frequency in the 800MHz band.

PCS - refers to a frequency in the 1900MHz band.

4. EQUIPMENT-UNDER-TEST (EUT)

The results in this report relate only to the items listed below:

4.1 Description of Tested Device(s):

Test Performed	Mode of Operation	Date of Receipt	Condition of Sample	Item	Identifying Information
FCC Part 15.107	GSM1900 USB File Transfer	8-Dec-05	Functional	Phone	FCC ID: GMLRM-88A Type: RM-88 Build: 4.0 SW: 5.4802 IMEI: 011004001923938
FCC Part 15.107	GSM1900 USB File Transfer	8-Dec-05	N/A	Mini SD Card	Type: 512MB Model: S512T
FCC Part 15.107	GSM1900 USB File Transfer	8-Dec-05	N/A	Battery	Type: BP-5L Other: 3.7vdc
FCC Part 15.107	GSM1900 USB File Transfer	8-Dec-05	N/A	Charger	Type: AC-4U
FCC Part 15.107	GSM1900 USB File Transfer	N/A	N/A	Laptop	Manufacturer: IBM Model: T40 Type: 2373 SN: 99ZVGF9
FCC Part 15.107	GSM1900 USB File Transfer	N/A	N/A	Data cable	Type: DKE-2 SN: 10888
FCC Part 15.107	GSM1900 USB File Transfer	N/A	N/A	AC Adapter	Manufacturer: IBM PN: 02K6543

5. TEST EQUIPMENT LIST

The listing below indicates the test equipment utilized for the test (s). Calibration interval on all items listed can be obtained from the Engineering Services Group within NMP, Product Creation - Dallas. Where relevant, measuring equipment is subjected to in-service checks between testing. TCC - Dallas shall notify clients promptly, in writing, of identification of defective measuring equipment that casts doubt on the validity of results given in this report.

Section of Report	NMP#	Test Equipment	Mfr. #	Model #	Calibration Due Date	Calibration Interval
6	03008	LISN	EMCO	3816/2	23-Aug-06	12 Mos
6	02664	EMI Receiver	Hewlett Packard	8546 / 85460A	09-Feb-06	12 Mos
6	03461	Base Station	R&S	CM200	05-Sept-06	12 Mos
6	02680	EMI Analyzer	Agilent	E7405A	01-Jun-06	12 Mos
6	N/A	10dB Attenuator	Weinschel	Model 2	N/A	N/a

6. AC CONDUCTED EMISSIONS

Specification: FCC Part 15.107

6.1 Setup

Testing was performed in accordance with ANSI C63.4, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.

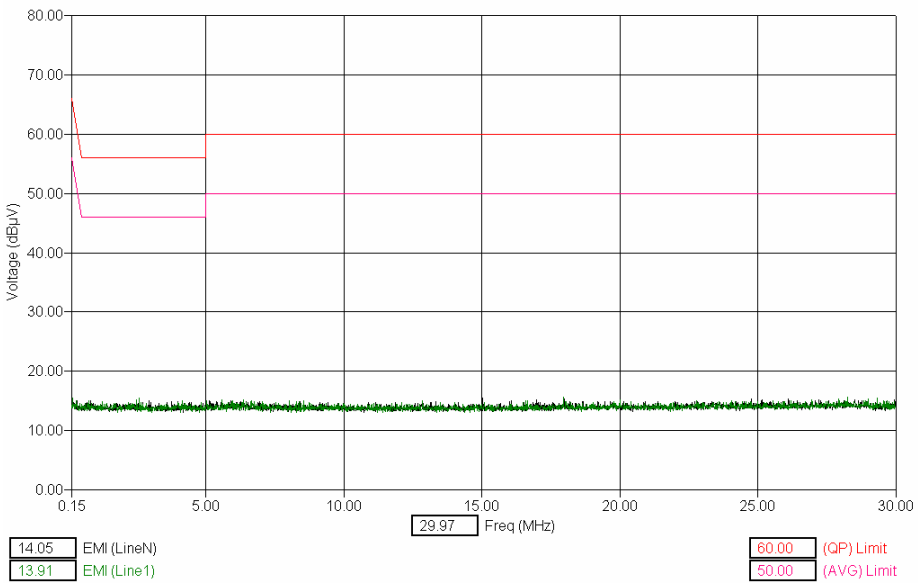
6.2 Pass/Fail Criteria

Frequency Range	AC Conducted Emission Limits (CISPR 22)	
	Quasi-peak (dBµV)	Average (dBµV)
0.15MHz - 0.5MHz	66 - 56	56 - 46
0.5MHz - 5MHz -	56	46
5MHz - 30MHz	60	50

6.3 Detailed Test Results

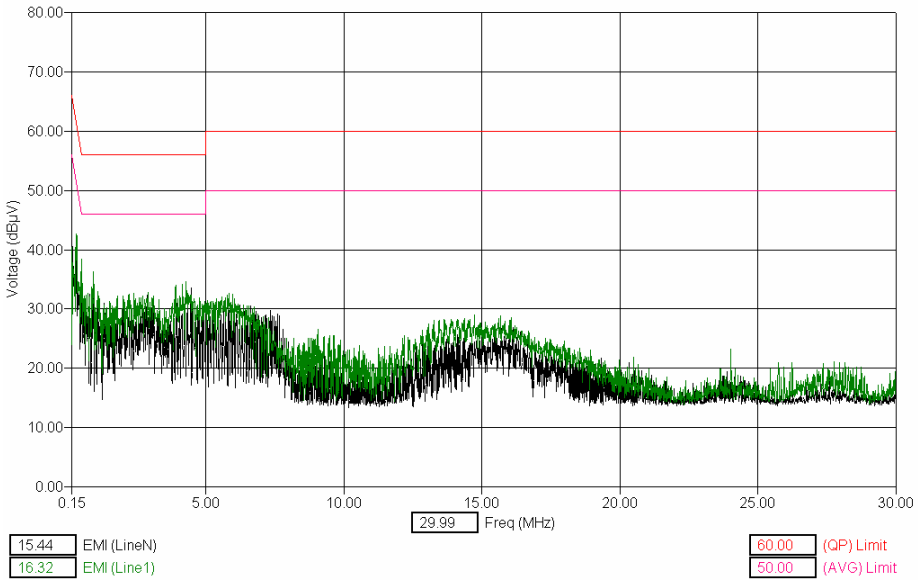
Test Technician / Engineer	Hai To
Date of Measurement	19-Jan-06
Temperature	22 °C
Humidity	43 %RH
Test Result	Complies with FCC Part 15.107

6.3.1 Ambient Scan



6.3.2 FCC Part 15.107

GSM1900, Channel 661, RM-88 with AC-4U, DKE-2



Freq (Max) (MHz)	(AVG) Trace (dBµV)	(QP) Trace (dBµV)	Transducer (dB)	Cable (dB)	Line	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)
0.150	4.80	32.29	0.12	0.04	N	4.96	32.45	56.00	66.00
0.316	17.65	36.53	0.15	0.07	L1	17.87	36.75	49.68	59.68
4.305	5.11	31.30	0.26	0.00	L1	5.37	31.56	46.00	56.00
4.479	19.01	29.51	0.27	0.00	N	19.28	29.78	46.00	56.00
7.319	18.93	28.04	0.29	0.00	N	19.22	28.33	50.00	60.00
24.010	7.97	15.56	0.58	0.00	L1	8.55	16.14	50.00	60.00