

TABLE OF CONTENTS

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

REPORT CONTAINING:

PAGE	1.....	TEST EQUIPMENT LIST
PAGE	2.....	TEST PROCEDURE
PAGE	3.....	RADIATION INTERFERENCE TEST DATA
PAGE	4.....	OCCUPIED BANDWIDTH
PAGE	5.....	OCCUPIED BANDWIDTH PLOT

EXHIBITS CONTAINING:

EXHIBIT	1.....	FCC ID LABEL SAMPLE
EXHIBIT	2.....	SKETCH OF FCC ID LABEL LOCATION
EXHIBIT	3.....	BLOCK DIAGRAM
EXHIBIT	4.....	SCHEMATIC
EXHIBIT	5.....	INSTRUCTION MANUAL
EXHIBIT	6A.....	EXTERNAL PHOTO - FRONT VIEW
EXHIBIT	6B.....	EXTERNAL PHOTO - REAR VIEW
EXHIBIT	7A.....	INTERNAL PHOTO - SOLDER VIEW
EXHIBIT	7B.....	INTERNAL PHOTO - COMPONENT VIEW
EXHIBIT	7C.....	INTERNAL PHOTO - COMPONENT VIEW - SHIELD REMOVED
EXHIBIT	8.....	CIRCUIT DESCRIPTION
EXHIBIT	9.....	TEST SET UP PHOTO
EXHIBIT	10.....	CONFIDENTIALITY REQUEST LETTER

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc
TABLE OF CONTENTS LIST

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

TEST EQUIPMENT LIST

- 1._X_Spectrum Analyzer: HP 8566B-Opt 462, S/N 3138A07786, w/
preselector HP 85685A, S/N 3221A01400, Quasi-Peak Adapter
HP 85650A, S/N 3303A01690 & Preamplifier HP 8449B-OPT H02,
S/N 3008A00372 Cal. 8/31/01 Due 8/31/02
- 2.___ Biconnical Antenna: Eaton Model 94455-1, S/N 1057,
Cal. 10/1/01 Due 10/1/02
- 3.___ Biconnical Antenna: Electro-Metrics Model BIA-25, S/N 1171
Cal. 4/26/01 Due 4/26/03
- 4.___ Log-Periodic Antenna: Electro-Metrics Model EM-6950, S/N 632
Char. 10/15/01 Due 10/15/02
- 5._X_Log-Periodic Antenna: Electro-Metrics Model LPA-30, S/N 409
Char. 10/16/01 Due 10/16/02
- 6.___ Log-Periodic Antenna: Electro-Metrics Model LPA-25, S/N 1122
Char. 2/10/01 Due 3/10/02
- 7.___ Double-Ridged Horn Antenna: Electro-Metrics Model RGA-180,
1-18 GHz, S/N 2319 Cal. 12/19/01 Due 12/19/02
- 8.___ 18-26.3GHz Systron Donner Standard Gain Horn #DBE-520-20
No Cal Required
- 9.___ Horn 40-60GHz: ATM Part #19-443-6R No Cal Required
- 10.___ Line Impedance Stabilization Network: Electro-Metrics Model
EM-7820, w/NEMA Adapter S/N 2682 Cal. 3/16/01 Due 3/16/02
- 11.___ Temperature Chamber: Tenney Engineering Model TTRC, S/N 11717-7
Char. 1/22/02 Due 1/22/03
- 12.___ Frequency Counter: HP Model 5385A, S/N 3242A07460
Char. 12/11/01 Due 12/11/02
- 13.___ Peak Power Meter: HP Model 8900C, S/N 2131A00545
Char. 1/26/01 Due 1/26/02
- 14._X_Open Area Test Site #1-3meters Cal. 12/22/99
- 15.___ Signal Generator: HP 8640B, S/N 2308A21464
Cal. 11/15/01 Due 11/15/02
- 16.___ Passive Loop Antenna: EMCO Model 6512, 9KHz to 30MHz, S/N
9706-1211 Char. 7/10/01 Due 7/10/02
- 17.___ Dipole Antenna Kit: Electro-Metrics Model TDA-30/1-4, S/N 152
Cal. 3/21/01 Due 3/21/02
- 18.___ AC Voltmeter: HP Model 400FL, S/N 2213A14499
Cal. 10/9/01 Due 10/09/02
- 19._X_Digital Multimeter: Fluke Model 77, S/N 35053830
Char. 1/8/02 Due 1/8/03
- 20.___ Oscilloscope: Tektronix Model 2230, S/N 300572
Char. 2/1/01 Due 2/1/02

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc

PAGE #: 1

TEST PROCEDURES

GENERAL: This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a preselector. In the frequency range 10 kHz to 30 MHz the RBW was 10 kHz and from 30-1000 MHz the RBW of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300 kHz. The ambient temperature of the UUT was 57° with a humidity of 43%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF = FS

33 20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc

PAGE #: 2

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.209

REQUIREMENTS: 1705 to 30 MHz: 49.54 dBuV/M @ 3 METERS
30 to 88 MHz: 40.00 dBuV/M @ 3 METERS
88 to 216 MHz: 43.52 dBuV/M
216 to 960 MHz: 46.02 dBuV/M
ABOVE 960 MHz: 54.00 dBuV/M

TEST RESULTS: A search was made of the spectrum from 25 MHz to 10th harmonic and the measurements indicate that the unit Does meet the FCC requirements.

TEST DATA:

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
462.70	25.5	H	2.99	17.21	45.70	0.30

SAMPLE CALCULATION: FSdBuV/m = MR(dBuV) + ACFdB.

TEST PROCEDURE: ANSI C63.4-1992 using Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Preselector, a Hewlett Packard Model 85650A Quasi-Peak adapter, Electro-Metric Dipole Kit. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worst case emissions were reported. The EUT was measured in three(3) orthogonal planes. The unit was measured at TIMCO ENGINEERING, INC. located at 849 N.W. State Road 45 Newberry, Florida 32669.

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY: JOE SCOGLIO DATE: 2/11/02

APPLICANT: LOYAL TECHNOLOGY CO., LTD.

FCC ID: ICK-FRS-4622

REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc

PAGE #: 3

APPLICANT: LOYAL TECHNOLOGY CO., LTD.
FCC ID: ICK-FRS-4622
NAME OF TEST: Occupied Bandwidth
RULES PART NO.: 15.209
REQUIREMENTS: The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits of 15.209, whichever permits the higher emission levels.

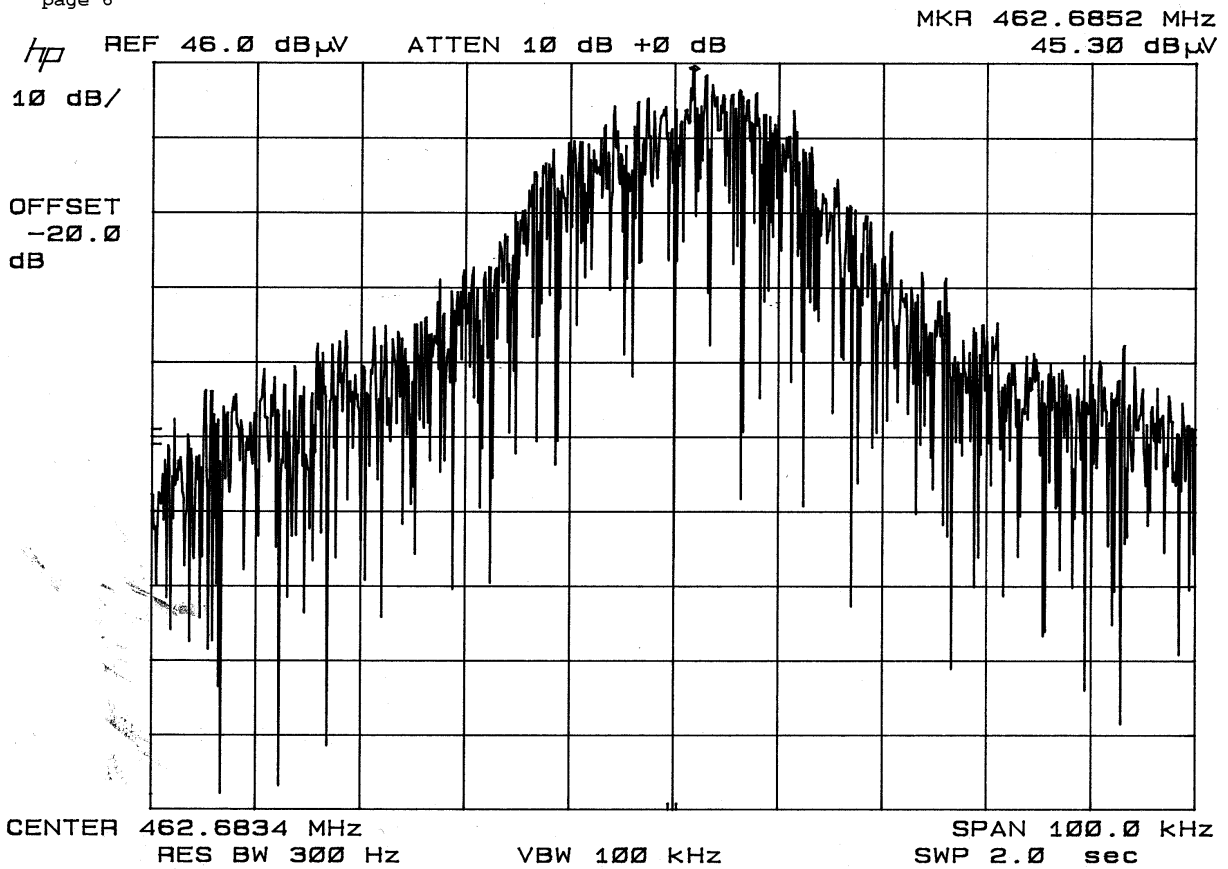
THE GRAPH ON THE FOLLOWING PAGE REPRESENTS THE EMISSIONS TAKEN FOR THE DEVICE.

METHOD OF MEASUREMENT: A small sample of the transmitter output was fed into the spectrum analyzer and the above photo was taken. The vertical scale is set to -10 dBm per division. The horizontal scale is set to 10 kHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

PERFORMED BY: JOE SCOGLIO February 11, 2002

APPLICANT: LOYAL TECHNOLOGY CO., LTD.
FCC ID: ICK-FRS-4622
REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc
PAGE #: 4



APPLICANT: LOYAL TECHNOLOGY CO., LTD.
FCC ID: ICK-FRS-4622
REPORT #: L\LOYALICK\87HT2\87HT2TestReport.doc
PAGE #: 5