

FCC ID : N7U-ERFOLG2

REPORT OF MEASUREMENTS

Date: November 26, 1998 Issue in : Tokyo, Japan

JOA APPLICATION NO.: 80-80476

Manufacturer Applicant : Techtuit Co., Ltd.
Techtuit Bldg. 6-17-2, Kameido,
Koto-ku 136-0071, Japan Integrated Display Technology International Ltd. 41, Man Yue Street Kaiser Estate 9/F Block C Hung Hom, Kewloon, Heng Kong

Description of Equipment : LOVEGETY (Transceiver)

H @ Q Q D B Model No.
Operating Frequency
Tuning Frequency Power Supply Trade Name 300 MHz 315 MHz 3 VDC N7U-ERFOLG2 ERFOLG LOVEGETY II -2

FCC Rules & Regulations Part 15 Subpart B&C (June 23, 1989)

Applicable Rule

Place of Measurement : JQA EMC Engineering Dept

: November 13, 1998 (Completed)

6. Date of Measurement

Total Pages of This Report : 13 (including this page)

8. I certify that I am authorized to sign for the report and that all the statement in this report and in the exhibits hereto are true and correct to the best my knowledge and belief.

Shigeru Osawa, Assistant Manager Testing Div EMC Engineering Dept



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[Transmitter portion]

1. Transmitter Fundamental and Spurious Emission: [§15.231(b)]

Measurement Method Employed:

Measurements were made under the conditions specified ANSI C63.1.

mode for the purpose of the measurements. In order to secure the continuous operation of The transmitter under test was operated continuously in its normal operating the device under test, rewiring in the circuit was down by the

manufacturer so as to affect its intended operation.

The receiving antenna polarized horizontally was varied from 1 to 4 meters and the wooden turritable was rotated 360 degrees to obtain the highest reading on the field strength meter or on the display of the spectrum analyzer. And also, each emission was to be maximized by changing the orientation of the transmitter under test. The device was tested three orthogonal planes. vertically. These measurements were repeated with the receiving antenna polarized

Distance of Measurement Operating Frequency Measurement Results:

: 300 MHz : 3.0 meters

	Antenna	Amp.	Meter	Reading	Field :	Strength
Frequency	Factor	Gain	Horiz.	Vert.		Vert.
(MHz)	(dB)	(dB)	(dB/uV)	(dB/uV)	(uV/m)	(uV/m)
Fundamental	,					•
300	22.4		45.1	41.6	2371.4	1584.9
Harmonic Fr	Frequency					
	30.5	t	17.4	16.8	248.3	231.7
900	36.0	ī	6.5	5.5	133.4	113.9
1200	26.1	ı	< 10.0	< 10.0	< 63.9	< 63.9
1500	28.9	ı	< 10.0	< 10.0	< 87.9	< 87.9
1800	30.6	ı	< 10.0	< 10.0	< 106.8	< 105.8
2100	32.4	46.8	< 52.0	< 52.0	< 75.5	< 75.5
2400	33.6	46.8	< 52.0	< 52.0	< 87.1	< 87.1
2700	34.6	46.8	< 52.0	< 52.0	< 98.0	< 93.0
3000	35.8	46.7	< 52.0	< 52.0	< 113.5	< 113.5



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Note: 1. The spectrum was checked from 30 MHz to tenth harmonics. All emissions not listed were found to be more than 20 dB below the limits.

The symbol of "<" means "or less".

3. The cable loss was included in the antenna factor.

4. Sample calculation :

at 300 MHz

10(AF+Mr)/20 = 10(22.4+45.1)/20 = 2371.4 uV/m

Where,

 ${\tt Af} = {\tt Antenna} \ {\tt Factor} \ {\tt including} \ {\tt the} \ {\tt cable} \ {\tt loss}.$ ${\tt Mr} = {\tt Meter} \ {\tt Reading}$

6. Measuring Instrument Setting:

Field Strength Meter: (<1000 MHz)

Detector function : CISPR Quasi-Peak IF Bandwidth : 120 kHz

Spectrum Analyzer: (>1000 NHz)

Resolution Bandwidth 1 MHz Detector function : Peak

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Radiated Fundamental & Spurious Emissions

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Operating Frequency: 300 MHz

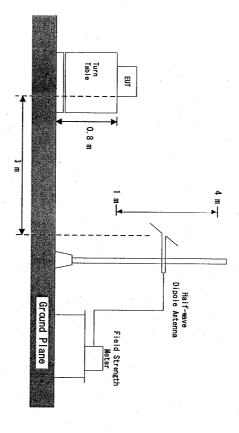
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Frequency in [GHz]

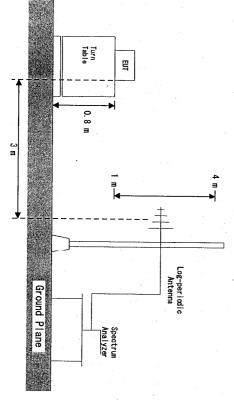


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MESUREMENT SET-UP FOR UP TO 1 GHz



MESUREMENT SET-UP FOR ABOVE 1 GHz



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Emission Limitation: [\$15.231(c)]

Measurement Method Employed: By using a spectrum analyzer with a vertical antenna for picking up the signal, the measurements of the fundamental frequency were made under the following transmitting modes of the EUT.

Measurements Results . Specified Limits: (.25 % of the Fundamental Fraquency 300 MHz x 0.0025 = 750 kHz Refer to the attached graphs.

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Emission Limitation

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Model: LOVEGETY II-2

Mode of EUT : Transmit

Relative Level to Reference (dB) 성 REF 67.7dBuV RES BW 100.0kHz -4000 -3000 -2000 -1000 Deviation from Center Frequency (kHz) CENTER 300.510MHz VBW 10C.0kHz SPAN 10000kHz SWP 1.0sec 5000

Relative Level to Reference (dB)

REF 67.7dBuV RES BW 100.0kHz

CENTER 300.510MHz VBW 10).0kHz

SWP 0.2sec SPAN 5000kHz

Limit -20dB

FCC ID : N7U-ERFOLG2 Model : LOVEGETY II-2

Emission Limitation

Mode of EUT : Transmit

-2000 -1500 -1000 -500 0 -1(00 -500 0 500 1000 1500 2000 Deviation from Center Frequency (kHz) 2500

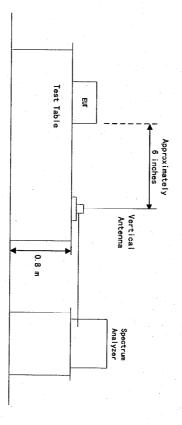
465.00kHz

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MESUREMENT SET-UP FOR BAND WIDTH



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[Receiver portion]

3. Radiated Spurious Emissions: [§ 15.109(a)]

Measurements were made under the conditions specified ANSI C63.4. The field strength measurements of the equipment under test were made at the distance of 3 meters away from the device which was placed on the wooden turntable 0.8 meter in height. Measurement Method Employed:

The receiving antenna polarized horizontally was varied from 1 to 4 meters and the wooden turntable was rotated through 360 degrees to obtain the highest reading on the field strength meter. The device was tested three orthogonal planes.

vertically. These measurements were repeated with the receiving antenna polarized

Measurement Results:

Tuning Frequency
Distance of Measurement : 315 MHz : 3.0 meters

Antenna Factor Meter Reading

Frequency (MHz) 318.770 500.000 1000.000 (dB) 23.1 Horizontal (dB/uV) 13.7 < -5.0 < -5.0 < -5.0 Vertical (dB/uV) 10.2 < -5.0 < -5.0 < -5.0 (uV/m) 69.2 < 14.3 < 24.0 < 41.7 Horizontal Field Strength at 3 m Vertical (uV/m) 46.2 < 14.3 < 24.0 < 41.7

Note: 1. The spectrum was checked from 30 MHz to 1000 MHz

All emissions not listed were found to be more than 20 dB below the limits.

2.The symbol of "<" means "or less".
3.The cable loss was included in the antenna factor.
4.Sample calculation :</pre>

At 318.770 MHz

10(Af+Mr)/20 = 10(23.1+13.7)/20 = 69.2 uV/m

Where,

Af = Antenna Factor including the cable loss. Mr = Meter Reading

6.Measuring Instrument Setting:

Detector function : CISPR quasi-peak IF Bandwidth : 120 kHz

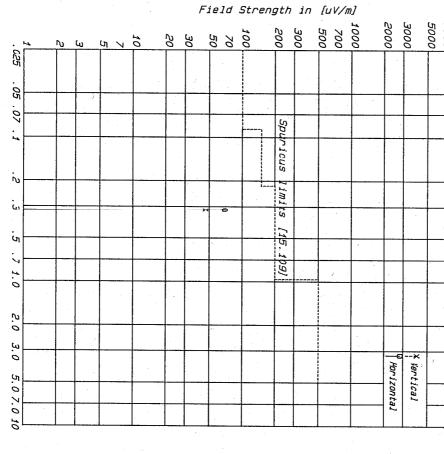


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Radiated Spurious Emission Measurement

RX FCC ID : None Tuning Frequency: 315.000 MHz

10000 7000



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LIST OF MEASUREMENT EQUIPMENT EQUIPMENT (Model No.)	ENT Manufacturer	Date of Cal.
1. Field Strength Meter		
ESVP	Rohde & Schwarz	Мау 1998
2. Spectrum Analyzer		
8566B	Hewlett Packard Inc.	April 1998
3. Tuned Dipole Antenna		
KBA-511 KBA-611	Kyoritsu Electrical Works Kyoritsu Electrical Works	November 1998 November 1998
4. Vertical Antenna		
91972-2	Stoddard Aircraft Radio Co., Ltd.	•
5. Log-periodic Antenna		
нь 025	Rohde & Schwarz	November 1998



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for Horizontal Plane



for Vertical Plane

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