



# ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR FCC CERTIFICATION

**Test Report No.** : E057R-071

**Applicant** : MAXTEL Co., Ltd.

**Address** : #1402, Hyundai Town Vill, 848-1, Janghang-Dong, Ilsan-Gu, Goyang-City  
Gyeonggi-Do, Korea

**Manufacturer** : MAXTEL Co., Ltd.

**Address** : #1402, Hyundai Town Vill, 848-1, Janghang-Dong, Ilsan-Gu, Goyang-City  
Gyeonggi-Do, Korea

**Type of Equipment** : PAGER (All other receiver subject to Part 15)

**FCC ID** : SNXNXP800

**Model Name** : NXP-800

**Serial number** : N/A

**Total page of Report** : 10 pages (including this page)

**Date of Incoming** : June 29, 2005

**Date of Issuing** : July 22, 2005

## SUMMARY

The equipment complies with the requirements of FCC CFR 47 PART 15 SUBPART B, SECTION 15.101.

This test report contains only the results of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

Prepared by:   
Young-Min, Choi / Project Engineer  
EMC Div.  
ONETECH Corp.

Reviewed by:   
Y. K. Kwon / Director  
EMC Div.  
ONETECH Corp.



## CONTENTS

	Page
1. VERIFICATION OF COMPLIANCE .....	3
2. GENERAL INFORMATION.....	4
2.1 PRODUCT DESCRIPTION .....	4
2.2 RELATED SUBMITTAL(S) / GRANT(S) .....	4
2.3 TEST SYSTEM DETAILS .....	4
2.4 TEST METHODOLOGY .....	4
2.5 TEST FACILITY .....	4
3. SYSTEM TEST CONFIGURATION.....	5
3.1 JUSTIFICATION .....	5
3.2 EUT EXERCISE SOFTWARE.....	5
3.3 CABLE DESCRIPTION .....	5
3.4 NOISE SUPPRESSION PARTS ON CABLE .....	5
3.5 EQUIPMENT MODIFICATIONS .....	5
3.6 CONFIGURATION OF TEST SYSTEM .....	5
4. PRELIMINARY TEST .....	6
4.1 AC POWER LINE CONDUCTED EMISSION TEST .....	6
4.2 RADIATED EMISSION TEST .....	6
5. FINAL RESULT OF MEASUREMENT .....	7
5.1 RADIATED EMISSION TEST .....	7
5.1.1 TEST DATA FOR THE NEAR BOTTOM FREQUENCY .....	7
5.1.2 TEST DATA FOR THE NEAR TOP FREQUENCY .....	8
6. FIELD STRENGTH CALCULATION .....	9
7. LIST OF TEST EQUIPMENT.....	10

**1. VERIFICATION OF COMPLIANCE**

- APPLICANT : MAXTEL Co., Ltd.  
- ADDRESS : #1402, Hyundai Town Vill, 848-1, Janghang-Dong, Ilsan-Gu, Goyang-City Gyeonggi-Do, Korea  
- CONTACT PERSON : Mr. Han Ho, Jung / President  
- TELEPHONE NO : +82-31-907-9055  
- FCC ID : SNXNXP800  
- MODEL NO/NAME : NXP-800  
- SERIAL NUMBER : N/A  
- DATE : July 22, 2005

EQUIPMENT CLASS	CXX – Communications Receiver for use with licensed Tx and CBs
E.U.T. DESCRIPTION	PAGER
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2003
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15, SECTION 15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

- The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.



## 2. GENERAL INFORMATION

### 2.1 Product Description

The MAXTEL Co., Ltd., Model NXP-800 (referred to as the EUT in this report) is a FLEX Numeric Pager which using a microcomputer to control radio frequency (RF) circuits and other customized decoding hardware to receive, decode, store. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
RECEIVING FREQUENCY	929.0125MHz ~ 931.9875MHz
DETECT METHOD	Super heterodyne Detector
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1MHz)	1 <sup>st</sup> Local Osc. Frequency = (Tuning Frequency – 21.4MHz) / 12.8 MHz 2 <sup>nd</sup> : 20.945MHz on the main board
INTERMITTENT FREQUENCY	21.4MHz
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1MHz)	12.8 MHz and 20.945MHz on the main board
POWER REQUIREMENT	DC1.5V AAA Type Battery
NUMBER OF LAYERS	2 Layers: Main and LCD Board

### 2.2 Model Differences:

The difference(s) compared to the EUT is as follows: None.

### 2.3 Related Submittal(s) / Grant(s)

Original submittal only

### 2.4 Test System Details

The model numbers for all the equipments that were used in the tested system is:

Model	Manufacturer	FCC ID	Description	Connected to
NXP-800	MAXTEL Co., Ltd.	SNXNXP800	PAGER (EUT)	N/A
TC-1101A	TESCOM	N/A	FLEX PAGER TESTER	N/A

### 2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2001. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

### 2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-080, Korea. Description details of test facilities were submitted to the Commission on April 04, 2003. (Registration Number: 340658)

It should not reproduced except in full, without the written approval of ONETECH.

FCC-003 (Rev.0)

**HEAD OFFICE** : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea  
(TEL: +82-31-746-8500, FAX: +82-31-746-8700)

**EMC Testing Dept** : 426-1 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)



### 3. SYSTEM TEST CONFIGURATION

#### 3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
MAIN BOARD	MAXTEL Co., Ltd.	NXP800DT	N/A
SUB BOARD	MAXTEL Co., Ltd.	NXP800-RF	N/A

#### 3.2 EUT exercise Software

During Radiated Emission Tests, TESCOM signal generator model no: TC-1101A was used to radiate an modulated CW signal to EUT at 1 near top, and 1 near bottom frequency in order to stabilize the local oscillator of the EUT.

Also to get a maximum emission level from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes.

#### 3.3 Cable Description

-. Not applicable

#### 3.4 Noise Suppression Parts on Cable

-. Not applicable

#### 3.5 Equipment Modifications

To achieve compliance to CLASS B levels, the following change(s) was made by ONETECH Corp. during compliance testing:

“There were no Modified items during EMI test”

#### 3.6 Configuration of Test System

**Line Conducted Test** : It does not need to test this requirement, because of the power of the EUT is supplied from a DC battery

**Radiated Emission Test** : Preliminary radiated emission test was conducted using the procedure in ANSI C63.4: 2003 8.3.1.1 to determine the worse operating conditions. Final radiated emission test was conducted at 3 meters open area test site.



#### 4. PRELIMINARY TEST

##### 4.1 AC Power line Conducted Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
N/A	N/A
It does not need to test this requirement, because of the power of the EUT is supplied from a DC battery.	

##### 4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Standby	
Receiving	X

**5. FINAL RESULT OF MEASUREMENT**

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level

**5.1 Radiated Emission Test****5.1.1 Test data for the near bottom frequency**

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 48 % Temperature : 25 °C  
 Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109  
 Type of Test : All other receiver subject to Part 15  
 Result : PASSED BY -6.39 dB at 907.57 MHz

EUT : PAGER Date: July 04, 2005  
 Operating Condition : Receiving mode  
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)  
 Distance : 3 Meter  
 Receiving Frequency : 929.0125MHz

Radiated Emissions		Ant	Correction Factors		Total	FCC CLASS B	
Frequency (MHz)	Amplitude (dBuV)	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
226.71	9.77	H	16.64	3.03	29.44	46.02	-16.58
395.33	8.12	H	15.36	4.38	27.86	46.02	-18.16
454.43	8.65	H	16.81	4.59	30.05	46.02	-15.97
649.10	9.12	V	19.26	5.69	34.07	46.02	-11.95
790.69	8.16	V	20.55	7.14	35.85	46.02	-10.17
907.57	9.48	H	22.88	7.27	39.63	46.02	-6.39
Other frequencies up to 5GHz were not observed during the test.							

Radiated Emission Tabulated Data

Remark: "H": Horizontal, "V": Vertical

Tested by: Ki-Hong, Nam / Test Engineer

**5.1.2 Test data for the near top frequency**

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 48 % Temperature : 25 °C  
 Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109  
 Type of Test : All other receiver subject to Part 15  
 Result : PASSED BY -4.86 dB at 910.56 MHz

EUT : PAGER Date: July 04, 2005  
 Operating Condition : Receiving mode  
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)  
 Distance : 3 Meter  
 Receiving Frequency : 931.9875MHz

Radiated Emissions		Ant	Correction Factors		Total	FCC CLASS B	
Frequency (MHz)	Amplitude (dBuV)	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
114.35	10.84	H	12.17	1.94	24.95	43.52	-18.57
227.68	9.44	H	16.65	3.04	29.13	46.02	-16.89
350.75	9.22	V	14.36	4.20	27.78	46.02	-18.24
394.35	10.50	H	15.33	4.38	30.21	46.02	-15.81
790.61	8.11	H	20.55	7.14	35.80	46.02	-10.22
910.56	10.97	H	22.86	7.33	41.16	46.02	-4.86
Other frequencies up to 5GHz were not observed during the test.							

Radiated Emission Tabulated Data

Remark: "H": Horizontal, "V": Vertical

**Tested by: Ki-Hong, Nam / Test Engineer**





## 6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+ Meter reading (dBuV)

+ Cable Loss (dB)

+ Antenna Factor (Loss) (dB/meter)

---

= Corrected Reading (dBuV/meter)

- Specification Limit (dBuV/meter)

= dB Relative to Spec (+/- dB)



## 7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS10	827864/005	DEC/04	12MONTH	■
2.	Test receiver	R/S	ESHS10	834467/007	MAY/05	12MONTH	
3.	Spectrum analyzer	HP	85680B	3001A04955	APR/05	12MONTH	■
4.	Spectrum analyzer	HP	8568B	3109A05456	MAR/05	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	MAR/05	12MONTH	■
6.	Quasi-Peak Adapter	HP	85650A	3107A01542	MAR/05	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	APR/05	12MONTH	
8.	Biconical antenna	EMCO	3110	9003-1121	FEB/05	12MONTH	
		Schwarzbeck	VHA9103	91031852	JAN/05		■
9.	Log Periodic antenna	EMCO	3146	9001-2614	FEB/05	12MONTH	
				9109-3217	MAY/04		
		Schwarzbeck	9108-A(494)	62281001	FEB/05		■
10.	Horn antenna	Schwarzbeck	BBHA 9120D	BBHA9120D294	JUNE/05	12MONTH	■
11.	LISN	EMCO	3825/2	9109-1867	JUL/04	12MONTH	
				9109-1869	OCT/04		
		Schwarzbecj	NSLK 8018	8126-216	JUNE/05		
12.	Microwave System Preamplifer	Agilent	83051A	3950M00201	JUNE/05	12MONTH	■
13.	Position Controller	HD GmbH	HD100	N/A	N/A	N/A	■
14.	Turn Table	HD GmbH	DS420S	N/A	N/A	N/A	■
15.	Antenna Master	HD GmbH	MA240	N/A	N/A	N/A	■