

	Doc. Type	C Initials R		Page of Pages
	Product Specification	YS.Cho	Project MGR	1/11
	Concerning	Doc. No.	Rev.	Date
	MX-1110/MX-1111	-	1.0	01/19/00

Product Specification

MX-1110/MX-1111

CDMA / AMPS Dual Mode Cellular Phone

MSM-3000 Chipset Solution

Maxon America Inc.

Digital Wireless Product.

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		2/11
	Concerning	Doc. No.	Rev.	Date	
	MX-1110/MX-1111	-	1.0	01/19/00	

Table of Contents:

1. INTRODUCTION	3
2. STANDARD PACKAGE.....	3
3. PHYSICAL FEATURE	3
3.1 WEIGHT AND DIMENSIONS (L X W X T).....	3
3.2 ANTENNA TYPE AND SHAPE :	3
3.3 BATTERY TALK/STANDBY TIME (STANDBY/TALK WITH SLOT CYCLE 2):	4
3.4 DISPLAY :	4
3.5 KEYPAD :	4
3.6 INTERFACE CONNECTORS:.....	4
3.7 SHAPE-BAR:.....	5
3.8 SHAPE-FLIP :	6
3.9 COLOR :	7
4. ASSOCIATED PRODUCTS	7
5. USER INTERFACE REQUIREMENTS.....	8
5.1 LANGUAGE	8
5.2 FEATURES	8
5.2.1 Basic cellular phone features.....	8
5.2.2 Future coming potential features	9
5.3 NAM.....	9
6. PERFORMANCE REQUIREMENTS.....	9
6.1 RF SPECIFICATION.	9
6.2 ELECTRICAL SPECIFICATIONS.	10
6.3 MECHANICAL SPECIFICATION.	10
6.4 ENVIRONMENTAL SPECIFICATION.	10
7. CERTIFICATION AND REGULATORY REQUIREMENTS.....	10
8. REVISIONS:	11

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		3/11
	Concerning	Doc. No.	Rev.		Date
	MX-1110/MX-1111	-	1.0		01/19/00

1. INTRODUCTION

This document is for the brief product specification for the CDMA/AMPS dual mode cellular phone, which internally in the Maxon organization is known as MX-1110(bar type) and MX-1111(flip type).

The Maxon MX-1110/MX-1111 is IS-95 compatible transceiver unit which provides;

- Long battery standby time by adopting MSM3000 and PM1000 chipset solution.
- 13.8mm of Slim size for ease of hand carry(with optional slim battery, bar type).
- 79g(2.9oz) of light weight(with optional slim battery, bar type).

2. STANDARD PACKAGE

- MX-1110/MX-1111 CDMA/AMPS Phone.
 - MX-1110 is bar type design.(55g/7.9mm thick)
 - MX-1111 is flip type design.(59g/9.7mm thick)
- One hour quick wall cube.
- STD 600mAh NiMH Battery(MBN-0600).
- No vibrator.
- Non-retractable fixed antenna.
- User's Guide and packing material.
 - MBL-0600 is 600mA slim Li-ion battery.(24g/5.8mm thick)
 - MBN-0600 is 600mA standard NiMH battery.(50g/8.1mm thick)
 - MBL-0930 is 930mA Li-ion battery.(38g/8.1mm thick)
 - MBL-1450 is 1450mA Li-ion battery.(57g/12.7mm thick)

3. PHYSICAL FEATURE

This section states the physical/mechanical requirements to MX-1110.

3.1 Weight and Dimensions (L X W X T)

- Bar with MBL-0600 battery : 79g/ 115 X 45 X 13.7(mm)
- Bar with MBN-0600 battery : 105g/ 115 X 45 X 16.0(mm)
- Bar with MBL-0930 battery : 93g/ 115 X 45 X 16.0(mm)
- Bar with MBL-1450 battery : 112g/ 115 X 45 X 20.6(mm)
- Flip with MBL-0600 battery : 83g/ 115 X 45 X 15.5(mm)
- Flip with MBN-0600 battery : 109g/ 115 X 45 X 17.8(mm)
- Flip with MBL-0930 battery : 97g/ 115 X 45 X 17.8(mm)
- Flip with MBL-1450 battery : 116g/ 115 X 45 X 22.4(mm)

3.2 Antenna Type and shape :

- Accept both fixed and retractable.

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		4/11
	Concerning	Doc. No.	Rev.	Date	
	MX-1110/MX-1111	-	1.0	01/19/00	

3.3 Battery Talk/Standby time (Standby/Talk with Slot cycle 2):

- MBL-0600 : 60 hours/2.0 hours.
- MBN-0600 : 60 hours/2.0 hours.
- MBL-0930 : 93 hours/3.0 hours.
- MBL-1450 : 145 hours/4.5 hours.

3.4 Display :

- Full graphic LCD, 56 x 106 dots.
- Flashing LED lamp for incoming call and message waiting indication.

3.5 Keypad :

- Power On/Off push switch.
- Enter/Backspace key for ease of menu navigation.
- Four direction navigational keys.(<^>v)
- 0-9,*,# keys.
- Side volume up/down keys.

3.6 Interface connectors:

- 2.5φ Ear-Mic jack.
- Custom made system connector.

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification Concerning MX-1110/MX-1111	YS.Cho	Project MGR		5/11
		Doc. No.		Rev.	Date
		-		1.0	01/19/00

3.7 Shape-Bar:



	Doc. Type	C	Initials	R	Page of Pages
	Product Specification Concerning MX-1110/MX-1111	YS.Cho	Project MGR		6/11
		Doc. No.		Rev.	Date
		-		1.0	01/19/00

3.8 Shape-Flip :



	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		7/11
	Concerning	Doc. No.	Rev.		Date
	MX-1110/MX-1111	-	1.0		01/19/00

3.9 Color :

- Black, Yellow & Black, Red & Black, Blue & Black combination of front and rear cabinets. Platinum, Gold, Wine, etc.
- Display window must be made of a anti-scratch material of which hardness should be more than 6H and display back-light must be uniform covering the whole display area.
- Diverse coloring shall be tried and required as per market demand and trend.

4. ASSOCIATED PRODUCTS

Associated products are the following accessories:

- Ear-Micropone.
- 110 Volts wall cube(linear travel charger).
- 220 Volts wall cube(linear travel charger).
- Switching travel charger(110-220Volts).
- Cigar charger.
- Two port desktop charger.
- Vibrator(factory installed).
- Retractable antenna(either factory installed or after market).
- User Guide(English/Spanish/Portuguese).
- Gift Box.(white box)
 - Slot for MX-1110/MX-1111/MX-1920/MX-1921
 - Slot for wall cube/switching travel charger.
 - Slot for two battery packs.
 - Slot for simple car cradle.
 - Slot/space for user manual.
- Bulk packing.
- MBL-0600(Blue color on battery label denote Li-ion).
- MBN-0600(Green color on battery label denote NiMH).
- MBL-0930(Blue color on battery label denote Li-ion).
- MBL-1450(Blue color on battery label denote Li-ion).
- Hand Strap.
- Leather Case.
- Data Cable.
- Hands free.
- Simple car cradle.

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		8/11
	Concerning	Doc. No.		Rev.	Date
	MX-1110/MX-1111	-		1.0	01/19/00

5. USER INTERFACE REQUIREMENTS

5.1 Language

- Support English first.
- MX-1110 hardware must be able to support programmable graphic font to support various characters such as
 - Spanish.
 - Portuguese.
 - Hebrew.
 - GB2312 and GB5199 Chinese fonts.

5.2 Features

MX-1100/MX-1111 will support the following features:

5.2.1 Basic cellular phone features.

- Authentication (CDMA and AMPS).
- Automatic / Manual Roaming.
- Call waiting / forwarding/Three way calling.
- Easy access to phone book.
- Easy access to menu features.
- DTMF tones.
- Key lock – Only Incoming call receivable.
- Phone Lock.
- Any key activation to receive an incoming call.
- Scratch pad.
- Silent alert & Vibrator.
- Alert of call link.
- Voice mail alert.
- One-touch dialling.
- Multiple ring options (Around 20-40 musical tones to compete with others).
- Differentiated ring tones / melodies by caller.
- 10 memory stack of last number redial .
- Call timer (Last call, total air, Roam).
- Sophisticated call timer that shows remaining time per individual call plan.
- Phone Book store up to 200 telephone numbers and names.
- Display of own number.
- User programmable banner display.
- Display of Incoming caller's Identification..
- Display of missed caller's name if the number is part of phone book.
- Display missed call counter with time stamping.
- Real time clock.
- Remind Beep Generation (Out of range, In-using , Roaming).
- SMS.

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		9/11
	Concerning	Doc. No.	Rev.	Date	
	MX-1110/MX-1111	-	1.0	01/19/00	

- EVRC.
- Preferred Roaming List(PRL)
- Dynamic Font adjustment : 2 types.
- Alarm clock.
- Calculator.
- World Wide Clock.
- International dial code.

5.2.2 Future coming potential features

Some of following enhanced features will not be implemented by the point of initial product release.

- OTA (IS-683A)
- Internet Web browsing(Phone.com).
- Email client.
- Voice Dialling.
- Enhanced text input for email/SMS.
- Voice Storage.
- Game(s).
- Calendar.
- Computer linked scheduler with reminder.
- Personalised Ring tones (user programmable).

5.3 NAM

4 different NAM location available.

6. PERFORMANCE REQUIREMENTS

6.1 RF Specification.

Operating Mode :	IS-95 CDMA and AMPS.		
Operating Frequencies :	- TX	: 824.04 ~ 848.97Mhz.	
	- RX	: 869.04 ~ 893.97Mhz.	
Maximum Transmit Power:	- CDMA	: +23dBm minimum.	
	- FM	: +24dBm minimum.	
Receiver Sensitivity :	- CDMA	: Better than -104dBm @ 0.5% FER.	
	- FM	: Better than -116dBm @12dB SINAD.	
Frequency Stability :	Better than +/-2.5 ppm.		
Antenna Interface :	50 ohms.		

	Doc. Type	C	Initials	R	Page of Pages
	Product Specification	YS.Cho	Project MGR		10/11
	Concerning	Doc. No.		Rev.	Date
	MX-1110/MX-1111	-		1.0	01/19/00

- All the RF specification are compliant with IS-98A.

6.2 Electrical Specifications.

Main Power Source : 3.7Volts 3cell NiMH or 3.7Volts 1cell Li-ion.

Charging Power Source : Country specific wall cube.

Standby and Talk time(Standby/Talk when Slot Cycle 2)

- Slim battery : 60 hours/2.0 hours.
- Standard battery : 60 hours/2.0 hours.
- Extended battery : 180 hours/5.0 hours.

Battery Recharge time

- Slim battery : 1 hours for 80% charge.
- Standard battery : 1 hours for 80% charge.
- Extended battery : 3 hours for 80% charge.

Surge Protection : **TBD**

6.3 Mechanical Specification.

Shock : EIA/TIA-571, Paragraph 4.1.1.1

Vibration : Required to survive typical transportation and shipping induced vibrations, as defined by paragraph 4.1.1.2. of EIA/TIA-571 with packaged with packing material.

6.4 Environmental Specification.

Operating Temperature : -30°C to +60°C
Charging Temperature : +0°C to +45°C
Operating Humidity Range : 0 – 95%, non-condensing.
Storage Temperature : -40°C to +70°C

7. CERTIFICATION AND REGULATORY REQUIREMENTS.

MX-1110 will Compliance with all or part of the following regulatory standards.

- Federal Communications Commission, Part 15, Class B
- Federal Communications Commission, CFAR-47, Subsection 22.
- Canadian Standards Association CSA1950
- IS-95 Mobile Station – Base station Compatibility Standard for Dual Mode Wide-Band Spread Spectrum Cellular System.
- IS-98A Recommended Minimum Performance Standards for Dual-Mode Wideband Spread Spectrum Cellular Mobile stations.
- IS-707 and 99 data services.

