

M3 SKY

Slim and Light Industrial PDA with wide range of Accessories.
Suitable in **all environment and work.**



Strong Data Collection

M3 SKY series is the most popular product of M3 Mobile in worldwide. It supports WWAN (GSM, HSDPA), HF-RFID, LF-RFID, 1D and 2D scanner depending on its model and options. Also, Alpha-Numeric, QWERTY and AZERTY optional keypads enhances the work environment. Furthermore, its wide range of available accessories makes it virtually suitable for any application. The flexible options and performance will give you satisfaction and cost efficiency.



Key Features



1D / 2D / RFID (LF/HF)

Superior scanner / RFID application provides real-time data capture and automatic data processing so that you can expect flexibility of work and cost-efficiency.

Maximum Data Capture



Multi-mode Radio (HSDPA / Wi-Fi / Bluetooth, IrDA)

Wireless data transmission through 3.5G, WLAN, Bluetooth and IrDA make your business easier and more comfortable.

Extended Battery



Battery (Li-ion 3.7V, 2,200mAh / 4,400mAh)

Extended battery is suitable for long shift duration. M3 SKY can be used even in a non-rechargeable environment with long lasting battery.



Military STD-810F

The MIL-STD-810F certification demonstrates the ruggedness of the M3 SKY and its appropriateness for use on extreme conditions such as military operations, field service and warehouse management.

Multi-function Keypads

Multi-functional keys of QWERTY, AZERTY keypads are designed for versatile performance. As hot keys, these are going to make the direct access be possible and increase users' working speed.



AlphaNumeric (26 keys)



QWERTY (49 keys)



AZERTY (49 keys)



Slim and Light

M3 SKY is slim and light but rugged. It can be used for ticketing and/or asset management wherever the mobile device is needed.

Slim but Powerful



Endurance for temperature

M3 SKY can be operated within -20°C to 60°C and its storage temperature is -30°C to 70°C. It will guarantee the normal function at any temperature of working environment.

Tough Environment



IP 65 Sealing, 1.5m Drop (Ingress Protection, Drop to steel surface)

M3 SKY is suitable to use in a tough environment; withstands drop from 1.5m and protects against dust and water.





M3 SKY Specification

PHYSICAL CHARACTERISTICS

Dimension

Standard	163.5 mm x 78.6 mm x 24.9 mm, 6.4" x 3.1" x 0.9"
HF RFID	163.5 mm x 78.6 mm x 27.9 mm
LF RFID	163.5 mm x 78.6 mm x 27.9 mm



Weight (incl. battery)

Standard	320 g, 11.2 oz.
HF RFID	343 g, 12.1 oz.
LF RFID	343 g, 12.1 oz.

Display 3.5" QVGA TFT LCD, 240 x 320 pixels

Touch Panel Glass analog resistive touch

Battery

Main Battery



Standard Battery,
Li-ion 3.7 V, 2,200 mAh

Extended Battery,
Li-ion 3.7 V, 4,400mAh



Backup Battery Li-ion 3.7 V, 200 mAh (not user accessible)

Notification Vibration and LEDs

Keypads AlphaNumeric, QWERTY, AZERTY

PERFORMANCE CHARACTERISTICS

Multi-Processor

CPU	Marvell PXA-270 624 MHz
Radio	ARM 9 series
OS	Microsoft® Windows Mobile® 6.1
Memory	RAM: 128 MB, ROM: 256 MB External SD: MicroSD with SDHC (up to 32 GB)
Interfaces	USB Host 1.1 / Client 1.1 Ethernet (via accessory) RS232 Serial (via accessory)

Battery Performance

Standby	390 hours (standard), 780 hours (extended)
Talk time	6 hours (standard), 12 hours (extended)

WIRELESS RADIO CHARACTERISTICS

WWAN

2G	GSM / GPRS / EDGE: Quad band (850 / 900 / 1800 / 1900 MHz)
3.5G	UMTS / HSDPA: Tri band (850 / 1900 / 2100 MHz)

Bluetooth Class II, v1.2 (integrated antenna)

GPS CHARACTERISTICS

Assisted GPS

Accuracy ¹	Position	2.5 m CEP
	SBAS	2.0 m CEP
Acquisition ¹	Cold Start	29 seconds
	Warm Start	29 seconds
	Hot Start	< 1 second
Velocity limits:	515 m/s, 1000 knots	

WIRELESS LAN CHARACTERISTICS

Bands IEEE 802.11 b/g

Chipset Broadcom BCM4318E

Data Rate 802.11b (DSSS): 1, 2, 5.5, 11 Mbps
802.11g (OFDM): 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Regulatory Domain

FCC	(Americas, Asia ² , Mid East ²)	MIC (TELEC)	(Japan)
ETSI	(Europe, Asia ² , Mid East ² , Africa)	KC (KCC)	(Korea)

2.4 GHz Frequency Bands

FCC	2.4 to 2.473 GHz,	ETSI	2.4 to 2.483 GHz
MIC	2.4 to 2.495 GHz,	KC	2.4 to 2.483 GHz

2.4 GHz Operating Channels

FCC	11 (3 non overlapping)	ETSI	13 (3 non overlapping)
MIC	14 (4 non overlapping)	KC	13 (3 non overlapping)

Security

Standards WEP, WPA, WPA2

Encryption WEP, TKIP, AES

Encryption Key Provisioning:

Static (40 and 128 bit length)

Pre-shared (PSK)

Dynamic

802.1X Extensible Authentication Protocol Types:

EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC,
PEAP-MSCHAPv2, PEAP-TLS, LEAP

Certification

Wi-Fi Alliance	802.11 a / b / g, WPA Enterprise, WPA2 Enterprise
CCXv4	Cisco Compatible Extensions

USER ENVIRONMENT

Operating Temperature -20 °C ~ 60°C, -4 °F ~ 140 °F

Storing Temperature -30 °C ~ 70°C, -22 °F ~ 158 °F

Humidity 90% non-condensing

Drop Test 1.5 m , 5 ft. (2 drops for each side)

IP Rating IP65

Electrostatic Discharge +/-8 kV air discharge

Clock Integrated real time clock (backup battery keeps the time info. while replacing the main battery)

¹ All SV @ -130 dBm.
² Part of the region.



M3 SKY Specification (contd.)

DATA CAPTURE CHARACTERISTICS

1D Scanner³ Characteristics

Light Source	650 nm visible laser diode
Scan Rate	100 scans/sec
Decode Rate	100 decodes/sec
Reading Angle	54°, effective 44°
Pitch Angle	+/- 35°
Skew Angle	+8° ~ +50°, -8° ~ -50°
Tilt Angle	+/- 20°
Ambient fluorescent light rejection	4,000 lux max.
Ambient white light rejection	4,000 lux max.
Ambient direct sun light rejection	8,000 lux max.
Laser Safety Class	IEC825, Class I laser product
EMC	EN 55022, EN 55024



1D Scanner

High Frequency RFID (HF)

Frequency	13.56 MHz
Standards	ISO14443A, ISO14443B, ISO15693, I-CODE
Tag-ICs	Mifare [®] Standard, Mifare [®] 4k, Mifare [®] ProX, Mifare [®] Ultralight, Mifare [®] DESfire, Mifare [®] Mini, SLE66CLX320P, SLE55R04/08, Smart MX, Jewel, Topaz, SLE6666CL160S, SLIX4k, Sharp B, ASK GTML, ASK GTML2 ISO, TOSMART P0032/64, SR176, EM4135, ICode [®] SLI, LRI12, LRI64, LRI128, LRI2k, SRF55VxxP, SRF55VxxS, TempSense, Tag-It [™] HF-I Std, Tag-It [™] HF-I Pro, ICode [®] , ICode [®] EPC, ICode [®] UID



HF RFID

2D Imager³ Characteristics

Focal Point	17.8 cm, 7"
Image Sensor	752 x 480 CMOS sensors
Motion Tolerance	10.2 cm, 4" per second
Rotational Sensitivity	360°
Viewing Angle	+/- 40°
Ambient Light	Total darkness to 100,000 lux (full sunlight)
Illumination LEDs	626 nm +/- 30 nm
Aiming	LEDs: 526 nm +/- 30 nm Laser: 650 nm +/- 10 nm



2D Imager

Ultra High Frequency RFID (UHF)

Frequency	125 kHz and 134.2 kHz
Tag-ICs	EM4x02, EM4x50, HITAG1, HITAG2, HITAG S, EM4x05 (ISO-FDXB), Q5, TI-RFID 64bit RO, TI-RFID 64bit RW, TI-RFID 1088bit



LF RFID

Camera Characteristics

Resolution	2 M pixel
Flash	User controllable LED flash
Focus	Auto focus

Certifications and Partners



³ Characteristics are based on the default option.

M3 SKY Specification (contd.)

DATACAPTURE CHARACTERISTICS (contd.)

High Frequency RFID (HF) Supported Tag Details

Tag	Manufacturer	Serial Number	Read/Write operation	Transfer command	Comments
ISO 14443 A					
MIFARE® Standard	NXP	✓	✓	✓	
MIFARE® 4k	NXP	✓	✓	✓	
MIFARE® Ultralight	NXP	✓	✓	✓	
MIFARE® ProX	NXP	✓	✓	✓	
MIFARE® DESFire	NXP	✓	-	✓	
MIFARE® Mini	NXP	✓	✓	✓	
SLE66CLX320P	Infineon	✓	-	✓	Encryption not included
SLE 55R04 / 08	Infineon	✓	-	✓	Encryption included
Smart MX	NXP	✓	-	✓	
Jewel	Innovision	✓	✓	✓	
Topaz	Innovision	✓	✓	✓	
ISO 14443 B					
SLE6666CL 160S	Infineon	✓	-	✓	
SR176	STM	✓	✓	✓	
SLIX 4K	STM	✓	✓	✓	
ASK GTML2 ISO	ASK	✓	-	✓	
ASK GTML	ASK	✓	-	✓	Extended setup needed
Sharp B	Sharp	✓	-	✓	
TOSMART P0032/64	Toshiba	✓	-	✓	
Dual Interface					
ISO 14443 A compliant	Various	✓	-	✓	
ISO 14443 B compliant	Various	✓	-	✓	
ISO 15693					
EM 4135	EM	✓	✓	✓	
ICode® SLI	NXP	✓	✓	✓	
LRI12	STM	✓	✓	✓	
LRI64	STM	✓	✓	✓	With 10% modulation index
LRI128	STM	✓	✓	✓	
LRI2k	STM	✓	✓	✓	Better performance with 10% modulation index
SRF55VxxP	Infineon	✓	✓	✓	
SRF55VxxS	Infineon	✓	✓	✓	Encryption included
Tag-it™ HF-I Std	TI	✓	✓	✓	
Tag-it™ HF-I Pro	TI	-	-	✓	Only in addressed mode
TempSense	KSW	✓	-	✓	Temperature logging
ICode					
ICode®	NXP	✓	✓	✓	
ICode® EPC	NXP	✓	✓	✓	
ICode® UID	NXP	✓	✓	✓	



M3 SKY Specification (contd.)

DATA CAPTURE CHARACTERISTICS (contd.)

Low Frequency RFID (LF) Supported Tag Details

Tag	Serial Number	Read block	Write block	Properties
EM4x02	✓	-	-	5 bytes R/O
EM4x50	✓	✓	✓	32 x 4 bytes R/W, password
HITAG1	✓	✓	✓	64 x 4 bytes R/W
HITAG S	✓	✓	✓	1, 8 or 64 x 4 bytes R/W
HITAG2	✓	✓	✓	7 x 4 bytes R/W, password
EM4x05 (ISO-FDXB)	✓	-	-	8 bytes R/O
Q5	✓	✓	✓	8 x 4 R/W, password
TI-RFID SYSTEMS 64 Bit R/O	✓	-	-	8 bytes R/O
TI-RFID SYSTEMS 64 Bit R/W	✓	✓	✓	8 bytes R/W
TI-RFID SYSTEMS 1088 Bit Multipage	✓	✓	✓	17 x 8 bytes R/W

Accessories

Extra Accessories specifically designed for M3 SKY enhances the PDA's functionality and broaden its applicable area. Its wide range of extra accessories will make M3 SKY to be suitable virtually in any environment.

Cradles



M3 SKY has various types of cradle for charging and DataSync. Besides the basic Single Slot Cradle, Single Slot Ethernet Cradle can be used for Ethernet and Vehicle Cradle is for charging M3 SKY device in the car. And GPS function can also be used while charging the device through the optional GPS. Also, 4-Slot Ethernet Cradle, combined with 4 cradles all together, charges four of M3 SKY device at the same time and is able to be DataSync with PC.

Pistol Grip

Optional pistol grip is for scan-intensive environments. This handy equipment will improve your ergonomics and increase your satisfaction.



Snap-on



Snap-on provides almost the same functions of cradle but is optimized for using field environment.

There are other accessories;

Charging Holster and Leather Case for M3 ORANGE.

Charging holster is a portable battery charger which is best solution for field service area.

To be handy for carrying and protect M3 ORANGE from any circumstances, a leather case will be a good solution. Users can choose belt type or strap type with this optional accessory.

Other Useful Accessories



* Each extra accessory's manual can be downloaded at M3 Mobile technical support webpage. <http://support.m3mobile.co.kr>



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