

ATTACHMENT E.

- USER MANUAL -

HCT CO., LTD.

SAN 136-1, AMI-RI, BUBAL-EUP, ICHEON-SI, KYOUNGKI-DO, 467-701, KOREA
TEL:+82 31 639 8517 FAX:+82 31 639 8525 www.hct.co.kr

Application Manual

MTM-CM4000MSP are wireless sensor network module

We can monitor environmental information by using temperature/humidity/tilt/luminous intensity/air quality/water quality/... sensor applied MTM series

MTM series in local area sense the environmental information and transmit the information to the base station

Base station is composed of MTM series and monitoring tool like as P.C

MTM series in Base station is connected to P.C by using serial cable like as USB cable

**MTM series use the wireless communication among MTM series
The major application field of MTM series are agriculture, construction, safety, security**

MTM-CM4000MSP Specification

구분	사양	비고
Model No.	MTM-CM4000MSP	
Processor	MSP430F1611	
memory	48KB	program flash
	10K Byte	Data RAM
	16KB	External EEPROM
Current Draw	20mA	Tx mode
	20mA	Rx mode
ADC	12bit resolution	8 channels
Interface	UART, SPI, I ₂ C	Serial interfaces
Connector	12Pin male R/A	External system interface (ERNI)
	51 pin connector	External sensor interface
Freq. band	2.4G ~2.485GHZ	IEEE 802.15.4 compliant
Sensitivity	-95 dBm typ.	Receive sensitivity
Transfer rate	250Kbps	
RF power	-25dBm ~ 0dBm	
Range	100m(open space)	
Power supply	2.5V ~ 3.3V	
Antenna	PCB antenna	

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum 20 cm between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.