

Data transmission Module MA58R

Operation Instruction

Version 1.0

1. Overview

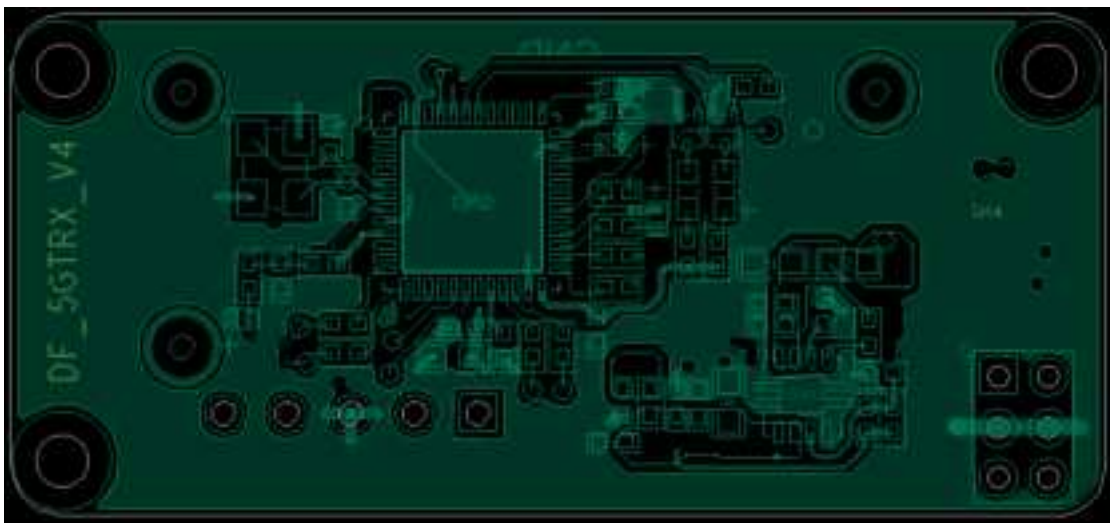
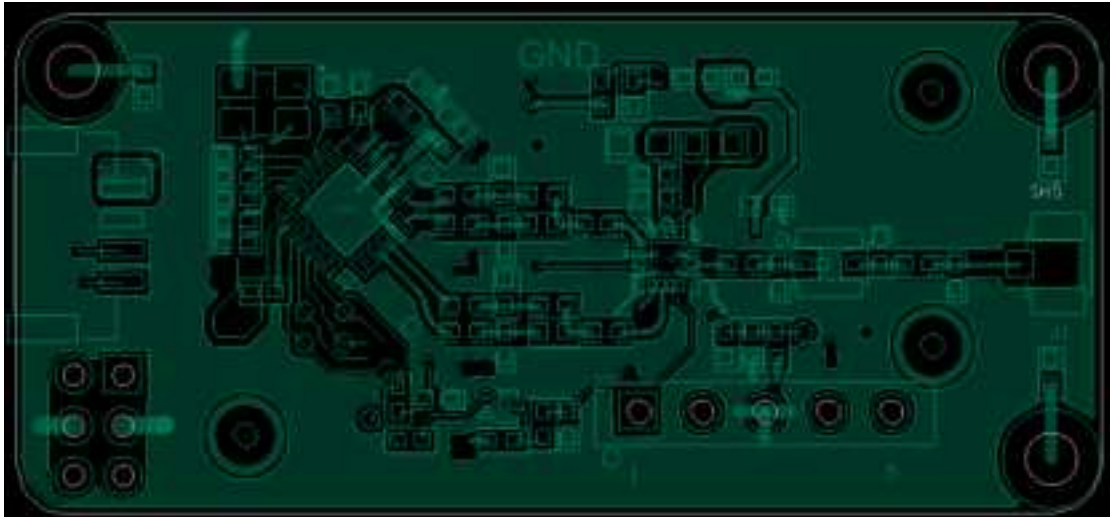
MA58R is a data transmission module designed and manufactured by Autel Robotics LTD., CO. The module is developed based on the A5130 radio frequency receiver chip and works in the 5.8G frequency band. It is used for remote and telemetry data communication transceiver modules. It has the functions of automatic and manual frequency points, and has selective anti-interference ability.

2. Characteristics

- (1) 5V single power supply
- (2) Universal serial port, IPEX generation antenna interface
- (3) Support automatic frequency selection and manual selection
- (4) Support wireless upgrade
- (5) Automatically reconnect after disconnection
- (6) Information transmission
- (7) Small and exquisite, easy to integrate Specification

Parameter	Description	Comments
MCU	SMT32F072	
Transceiver	A5130	
Frequency	5.8GHz: 5725-5755MHz	1MHz step
Bandwidth	1MHz	
Output Power	FCC CE	FCC: $\leq 26\text{dBm}$ CE: $\leq 20\text{dBm}$
Connector/Definition	SM04B-GHS-TB: 5VDC UART, Baud rate: 115200	
Antenna Port	IPEX one gen.	Support less than 5dBi antenna
DC Power	$5\text{V} \pm 1\text{V}$	
Power Consumption	$\leq 0.7\text{W}@ \text{FCC}$ $\leq 0.5\text{W}@ \text{CE}$	
Work Temperature	$-30^{\circ}\text{C} \sim 85^{\circ}\text{C}$	
Humidity	99% No condensation	
Storage Temperature	$-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$	

3. External dimension



FCC Statement

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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.

FCC Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains Transmitter Module FCC ID: 2AGNTM58A Or

Contains FCC ID: 2AGNTM58A”

The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed. The final host integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the module. When the module is installed inside another device, the user manual of the host must contain

below warning statements;

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: 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. T

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

IC STATEMENT

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic

Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences

et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

IC Radiation Exposure Statement

This modular complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter

must not be co-located or operating in conjunction with any other antenna or transmitter.

If the IC number is not visible when the module is installed inside another device, then the outside of the device into

which the module is installed must also display a label referring to the enclosed module. This exterior label can

use wording such as the following: "Contains IC: 20910-M58A"

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic

Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

2. Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation,

Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

ANT 1:

Dongguan Yijia Electronics Communication Technology Co.,Ltd./

DF15_ADS-B/5.8PCB21091814A

5.8GHz: 0.2 dBi (declare by Applicant)

ANT 2:

Dongguan Yijia Electronics Communication Technology Co.,Ltd./ ADS/B-5.8PCB21100910A

5.8GHz: -0.1 dBi (declare by Applicant)

ANT 3:

Dongguan Yijia Electronics Communication Technology Co.,Ltd./ ADS/B-5.8PCB21100910A

5.8GHz: -0.1 dBi (declare by Applicant)