AMIMON

AMN41012 and AMN42012

Installation Manual

Table of Contents

AMIMON

Important Notice

AMIMON Ltd. reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to AMIMON's terms and conditions of sale supplied at the time of order acknowledgment.

AMIMON warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with AMIMON's standard warranty. Testing and other quality control techniques are used to the extent AMIMON deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

AMIMON assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using AMIMON components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

AMIMON does not warrant or represent that any license, either express or implied, is granted under any AMIMON patent right, copyright, mask work right, or other AMIMON intellectual property right relating to any combination, machine, or process in which AMIMON products or services are used. Information published by AMIMON regarding third-party products or services does not constitute a license from AMIMON to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from AMIMON under the patents or other intellectual property of AMIMON.

Reproduction of information in AMIMON data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. AMIMON is not responsible or liable for such altered documentation.

Resale of AMIMON products or services with statements different from or beyond the parameters stated by AMIMON for that product or service voids all express and any implied warranties for the associated AMIMON product or service and is an unfair and deceptive business practice. AMIMON is not responsible or liable for any such statements.

All company and brand products and service names are trademarks or registered trademarks of their respective holders.

Please refer to the regulatory guide regarding regulatory information that needs to be on the labeling and user manual.

AMIMON

Revision History

| Version	Date	Description
1.0	Jan 2, 2019	Initial Release

AMIMON

Safety Instructions

- When operating this equipment, read and follow all the instructions in this manual
- Do not open unit
- Do not block air ventilation
- Use only accessories/batteries/ power supplies provided, specified or recommended by AMIMON.
- When devices are switched on keep away at least 20 cm from your body.
- People with pacemakers should ALWAYS keep the device at the listed distance from their pacemaker when turned ON. Should you have any reason to suspect that interference is taking place, you should turn your device OFF.
- Do not expose to moisture, excessive heat or fire
- Keep away from water and other liquids
- Do not power the device when it is wet or damp
- Use the mains plug to disconnect the apparatus.
- Clean with a dry cloth only
- Unplug this apparatus during lightning storms or when unused for long periods of time
- To reduce the risk of fire or electric shock, refer servicing to qualified service personnel
- Please avoid electrostatic discharge from the antenna ports for proper operation
- WARNING – do not touch. Please beware of hot surfaces of the devices and wait until it cools off
- Please avoid electrostatic discharge from the antenna ports for proper operation
- Keep these instructions in a safe and accessible place for future use.
- Declared maximum operating temperature: +50°C

Explanation of graphical symbols:

High Voltage Sign: warns the user of the presence of uninsulated "dangerous voltage" within the product enclosure, which may be of sufficient magnitude to constitute a risk.
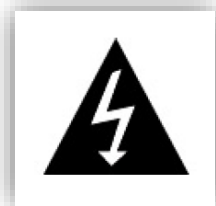
General Warning Sign: warns the user of the presence of important operating and maintenance (servicing) instructions in the product manual.

AMIMON

Introduction

The **AMN41012** and **AMN42012** are wireless video system comprising of a video transmitter and video receiver modules, that operate at the 5GHz unlicensed band.

It is are based on AMIMON's Professional chipset that consist of the AMN2130 and AMN2230 baseband receiver and the MAXIM 2850 and 2851 ICs, providing the ultimate solution for 4K Video transmission. The perfect video, audio quality, the high robustness and the invisible latency of the wireless system are unmatched by any other wireless technology and presents a true alternative to cable. The system transmits **uncompressed** video and audio streams wirelessly and thus simplifies and eliminates system issues, such as: lip-sync, large buffers and other burdens like retransmissions or error propagation.

System Technical Specifications:

AMN41012	
Frequency Control:	**Non-DFS Frequencies** : 5.150~ 5.250 GHz for EU 5.150 ~ 5.250 GHz and 5.725~5.825 GHz for US **DFS Frequencies** (used only in Aerial mode): 5.250-5.350 GHz and 5.470 ~ 5.725 GHz for EU 5.250-5.330 GHz and 5.470 ~ 5.725 GHz for US 5.250-5.350 GHz and 5.470 ~ 5.6GHz and 5.650 ~ 5.710 GHz for Canada **SRD Frequencies (EU):** 5.725 ~ 5.875 GHz for EU
Antenna:	Total connectors: 2 or 4 2 or 4 transmitting ports of which 2 ports also act as receiving ports using diversity through a single receive chain External using on-board UFL Connectors: 2dBi or 5dBi omni Antenna gain
Environment:	Operational: -10 ÷ 50°C, 10 ÷ 90% humidity Storage: -20 ÷ 55° C, 10% ÷ 90% humidity
Voltage:	5V$_{DC}$ ±10%
Size:	L: 70.0mm x W: 56.1mm x H: 7.5mm
User Control:	3 LEDs indicating Power, Video lock and Network lock 3 buttons for pairing, reset, boot;
FCC ID	VQSAMN41012
IC	7680A- AMN41012

Table 1: **AMN41012 -** *Technical Specifications*

AMIMON

AMN42012	
Frequency Control:	**Non-DFS Frequencies** : 5.150~ 5.250 GHz for EU 5.150 ~ 5.250 GHz and 5.725~5.825 GHz for US **DFS Frequencies** (used only in Aerial mode): 5.250-5.350 GHz and 5.470 ~ 5.725 GHz for EU 5.250-5.330 GHz and 5.470 ~ 5.725 GHz for US 5.250-5.350 GHz and 5.470 ~ 5.6GHz and 5.650 ~ 5.710 GHz for Canada **SRD Frequencies (EU):** 5.725 ~ 5.875 GHz for EU
Antenna:	Total connectors: 5 1 transmitting chain with antenna diversity and 5 receive ports External using on-board UFL Connectors: 2dBi omni Antenna gain or 11dBi directional Antenna gain
Environment:	Operational: -10 ÷ 50°C , 10 ÷ 90% humidity Storage: -20 ÷ 55° C, 10 ÷ 90% humidity
Voltage:	$5V_{DC}$ ±10%
Size:	L: 70.0mm x W: 55.0mm x H: 7.5mm
User Control:	3 LEDs indicating Power, Video lock and Network lock 3 buttons for pairing, reset, boot;
FCC ID	VQSAMN42012
IC	7680A- AMN42012

Table 2: **AMN42012 -** *Technical Specifications*

AMIMON

Product Description

(1)   AMN41012
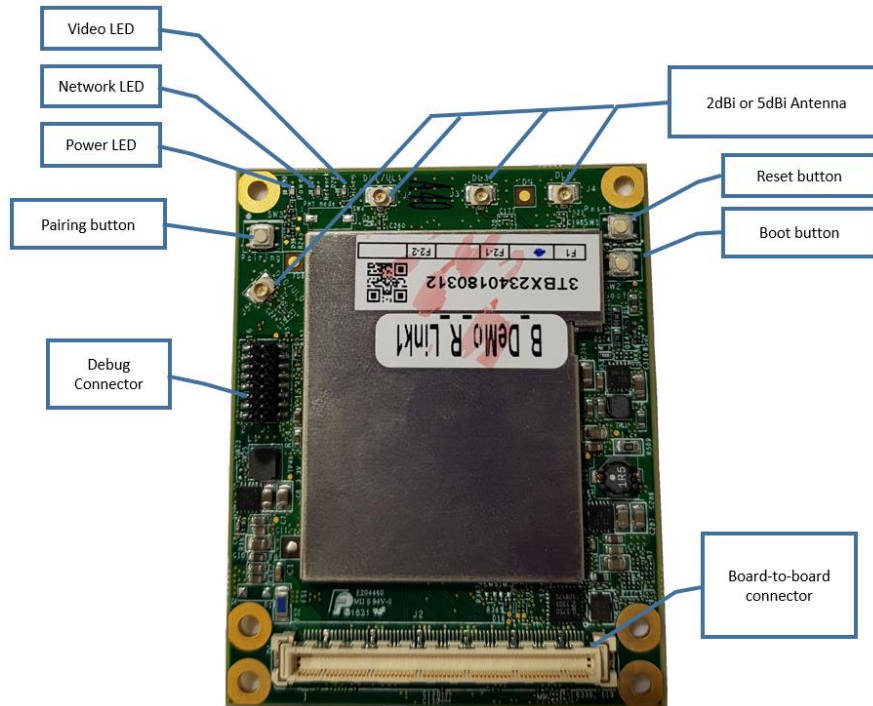
Figure 1 –AMN41012 top view

AMIMON

(2) AMN42012

Labels on the figure:
- 2dBi Omni Antenna
- 2dBi or 11dBi Antenna
- Reset button
- Video LED
- Power LED
- Network LED
- Debug Connector
- Pairing button
- Boot button
- Board-to-board connector

3RXX1005180021
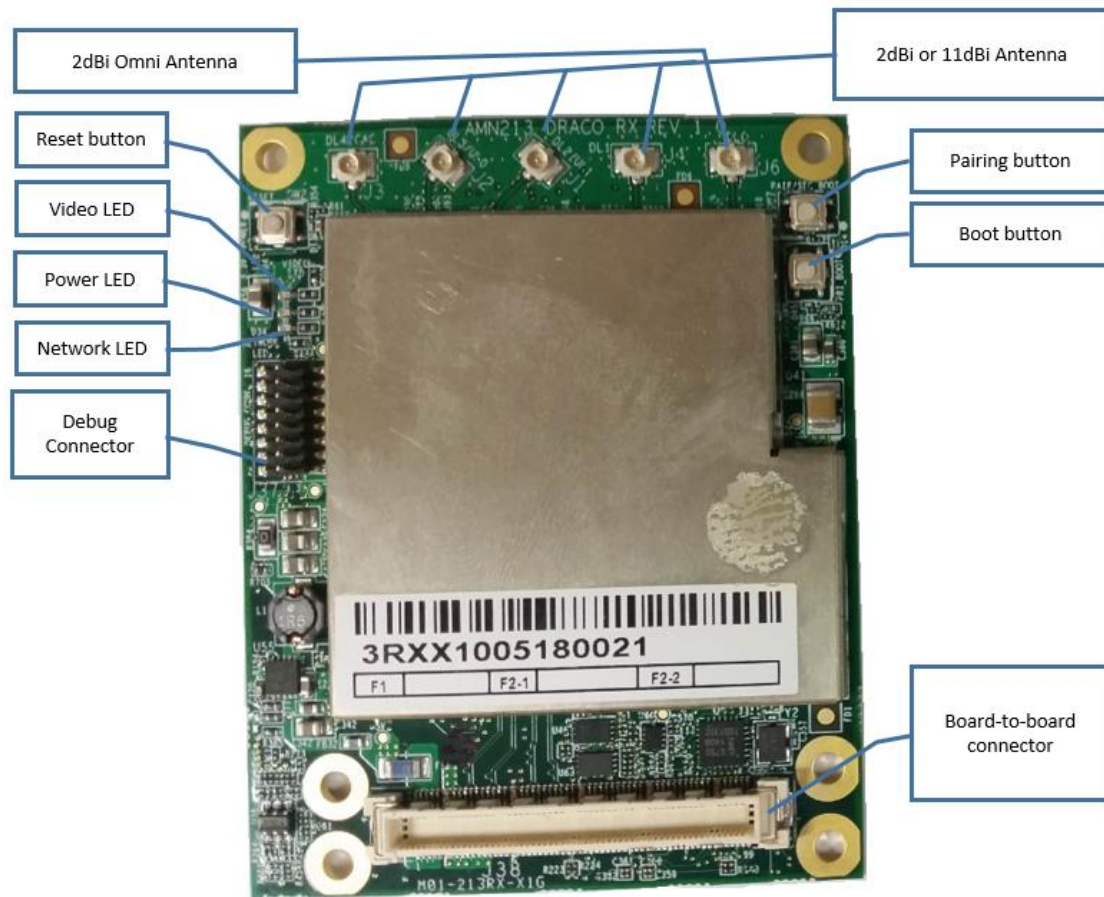
Figure 2 – AMN42012 top view

AMIMON

(3) LED behaviors

Network LED

Flashing Rate	Indication
Fast blinking (errors)	Stuck in bootloader / MAC not alive / No XML / default calibration
Off	Not registered to TX / power down / disconnected/ Waiting for user response at registration
Normal blinking	Searching for TX
Fast blinking	During registration / out of range
On	In link

Table 3 - Network LED

Video LED

Flashing Rate	Indication
Fast blinking (errors)	Stuck in bootloader / MAC not alive / No XML / default calibration
Off	Not registered to TX / power down / disconnected/ Waiting for user response at registration
Normal blinking	Searching for TX
Fast blinking	During registration / out of range
On	In link

Table 4 - Video LED

Power LED

Flashing Rate	Indication
Off	No power, power level is below acceptable levels
On	Power is supplied and ON/OFF switch is on (when exist).

Table 5 - Power LED

AMIMON

(4) Board-to-Board Connector

The Interface connector provides various interfaces to communicate between the module and the MCU to configure video related parameters and settings, or receive the network status and communication related parameters.

The following interface options are available:

- External Power Supply voltage (5VDC ±10%)

- Signal Ground

- Video signal

- I2S audio interface

- I2C bus

- Indication output (Power, Network, Video Indications)

- Board attached ID pins

- UART

- USB

- SPI

Contact Amimon to request the complete pin allocation and functional description of the interface board.

AMIMON

Installation

The modules are designed to be integrated with any compatible Video Interface Board (VIB), to provide a complete wireless Video Solution.

At common application, the VIB shall provide standard video interface that can be connected to standard video monitor. This video interface may be HDMI, HD-SDI or any other standard or custom video interface.

It is advised to verify compatibility of the VIB to the interface connector type, pin functionality, and signal compatibility of the modules, before initiating the installation.

At installation, make sure that the modules are firmly attached and secured to the VIB by proper mechanical means.

Installation of the modules must provide the adequate heat dissipation means to provide the modules ambient temperature within the product operating conditions as specified.

AMIMON

See 'Product Description' for port location described in this section.

1. Connect AMIMON modules to the compatible Video Interface Board (VIB).
2. Connect the antennas to the modules. Only use antennas provided by AMIMON
3. Connect the receiver VIB to a video monitor through the supported video interface of the VIB.
4. Connect the transmitter VIB to a video source (for example, camera) through the supported video interface of the VIB.
5. Power ON the VIB according to its operating manual.
6. Set the Antenna orientation of the receiver module to perform optimal performance:

   One option is to separate the antennas to match the picture. Receiving antennas should be oriented in the same plane as the transmitting antenna.
7. If the devices are not paired to each other, press the "pairing" button on each module.

Note: For maximal range

- Keep line of sight between the transmitter and the receiver.
- Avoid placing any obstacles besides the transmitter or the receiver.
- Position both transmitter and receiver in an upwards position, for enhanced antennas performance.
- Mount the modules with proper air ventilation.
- Use only approved accessories recommended by Amimon
- Avoid Co-location: Place the modules and their antennas as far away as possible from other transceiver devices, 20cm separation is a minimal distance unless otherwise specified in the Grant.
- Avoid Proximity to Metal Objects: The antennas must be at least 7 cm away from any metal object.