AMN41012 and AMN42012

Installation Manual

An AMIMON Ltd.. Document

Version 1.0

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

Revision History

Version	Date	Description
1.0	Jan 2,2019	Initial Release

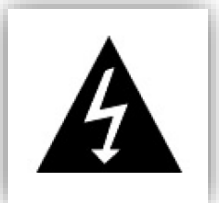
Safety Instructions

- 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.

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: -20 ÷ 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 **IC**	VQSAMN41012 7680A- AMN41012

Table 1: AMN41012 - *Technical Specifications*

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 12dBi directional Antenna gain
Environment:	Operational: -20 ÷ 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 **IC**	VQSAMN42012 7680A- AMN42012

Table 2: AMN42012 - *Technical Specifications*

Product Description

(1) AMN41012

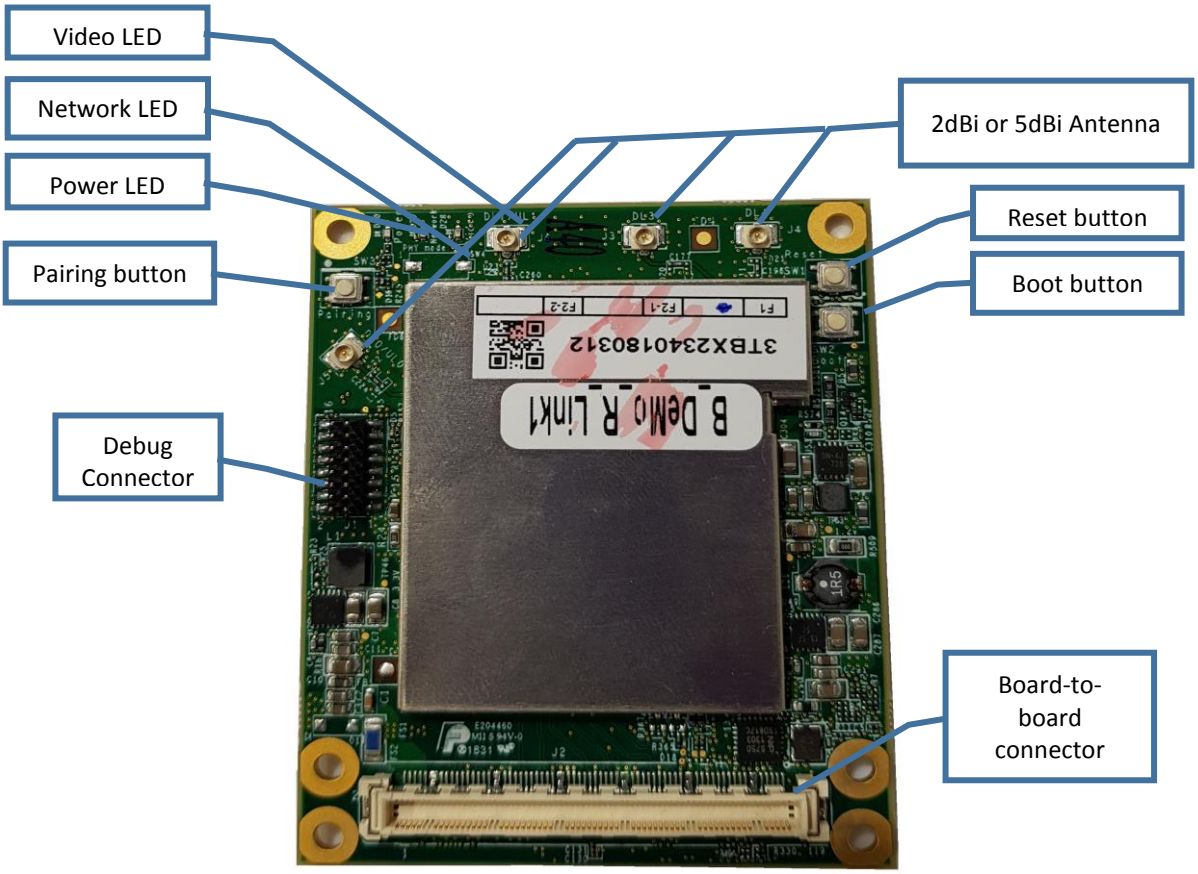


Figure 1 –AMN41012 top view

(2) AMN42012

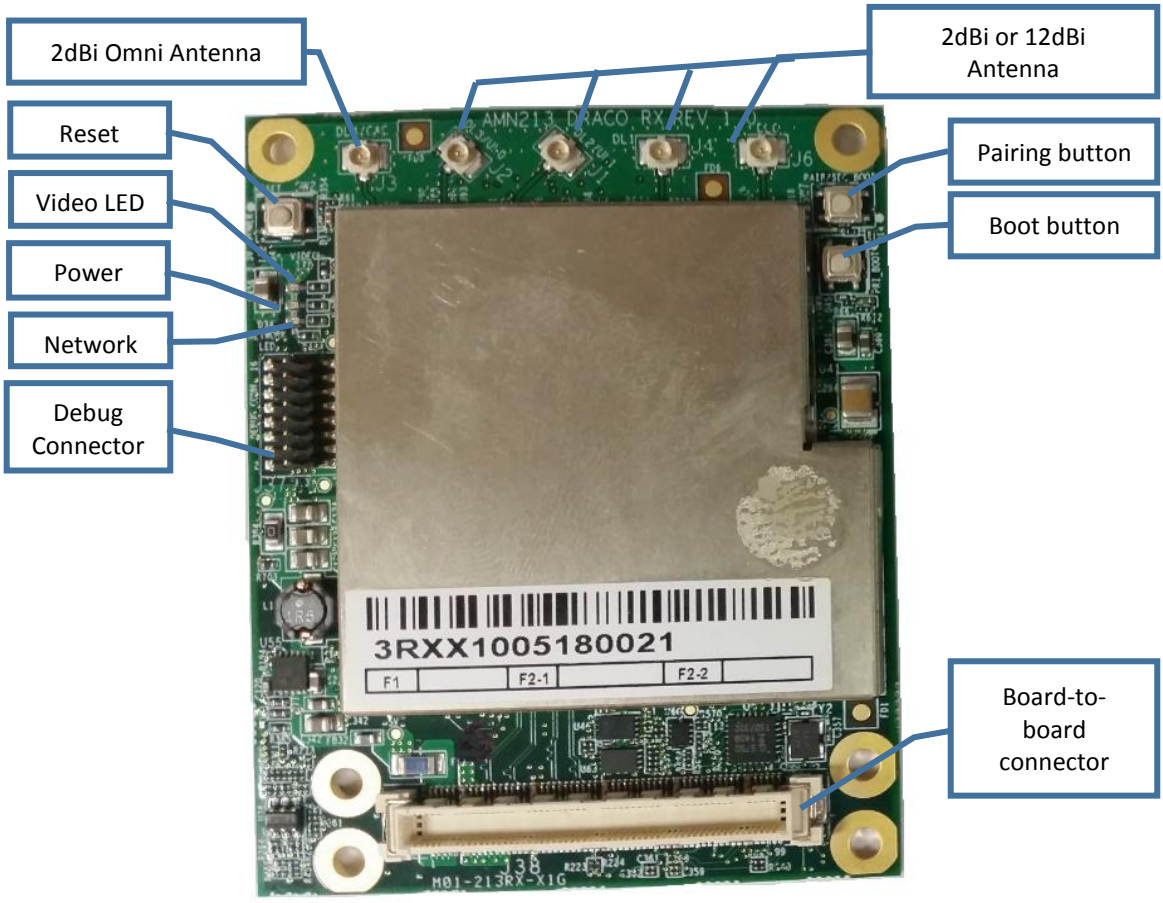


Figure 2 – AMN42012 top view

(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

(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.

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.

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.