

<b>Certification Document</b>	<b>AVTX24 User manual integration instructions</b>	
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## 1. Generally

The module is only used in professional industrial radio applications.

For integration in host device this integration instructions define requirements for installation, safety instructions written in host manual and the labeling requirements.

Changes or modifications made to this module not expressly approved by the party responsible for compliance may void the authorization to operate this equipment.

The module is exclusively approved for the integration into host devices by the Grantee, HBC-radiomatic or authorized OEM integrator (hereinafter called "integrator"). The installation of the module must be done by professional installers. The integrator must observe that only the approved/tested antennas are used or antennas that are in accordance to FCC rule § 15.204.

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. This device AVTX24 (FCC ID: 2AGPOAVTX24) is evaluated for a separation distance of 5 mm.

To maintain compliance with FCC RF exposure requirements, the use of accessories that may not comply with FCC RF exposure requirements, must be avoided.

This device meets the IC RF exposure guidelines with a minimum separation distance of 5 mm. Noncompliance with the above restrictions may result in violation of RF exposure guidelines.

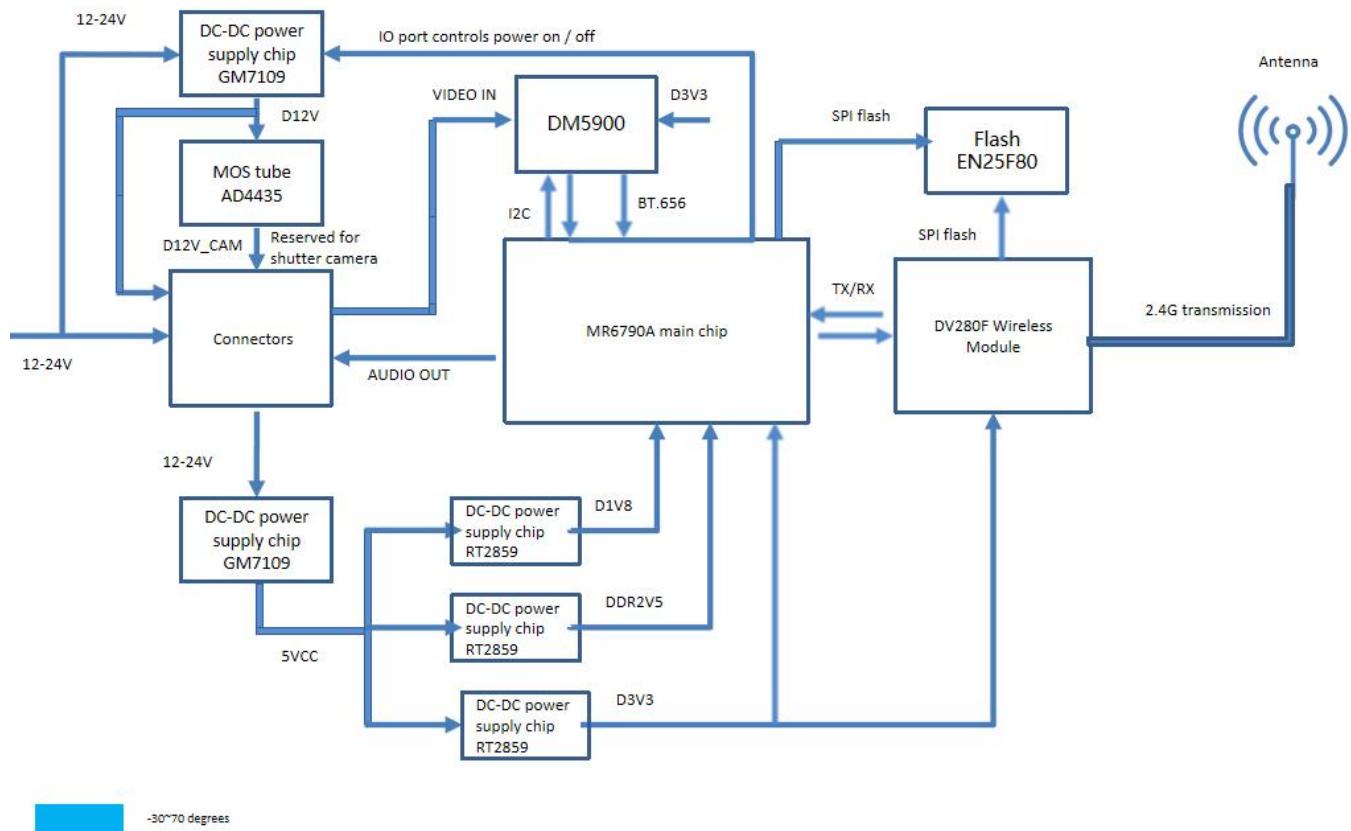
Cet appareil a été testé et est conforme aux directives d'exposition aux radiofréquences d'IC avec une distance de séparation minimale de 5 mm. Le non-respect des restrictions ci-dessus peut entraîner une violation des directives d'exposition aux radiofréquences.

## 2. Product overview

### 2.1. The product overview of the TX module

The AVTX24 wireless transmitter module uses the DV280F wireless chip, which works in the 2.4G frequency band, with a receiving frequency range of 2400 ~ 2483.5MHz, and an RF transmission rate of 4MHz BER<1E-3 . AVTX24 supports a wide voltage of 10-36V , and is composed of the main chip MR6790A integrated with an MCU , an image processing engine, and an M-JPEG/MPEG-4 image compression / decompression engine, which can achieve high image quality of CIF30 fps , VGA or D1 30 fps , and HD 20 fps . It has built-in TV encoders for NTSC and PAL systems, a 3- channel ADC with 10 - bit accuracy , an IIS interface, a USB interface, and an embedded 32- bit RISC processor. It can support CMOS and CCD image sensors with a resolution of up to 3M pixels . It also has a CCIR656 input interface for receiving signals from applications.

### 2.2. Wireless AVTX24 System Chart



### **3. Installation**

#### **3.1. Possible Hosts**

The module AVTX24 may be installed in every HBC product. It must be supplied with a DC voltage of 10 V up to 30 V for the VCC-Input.

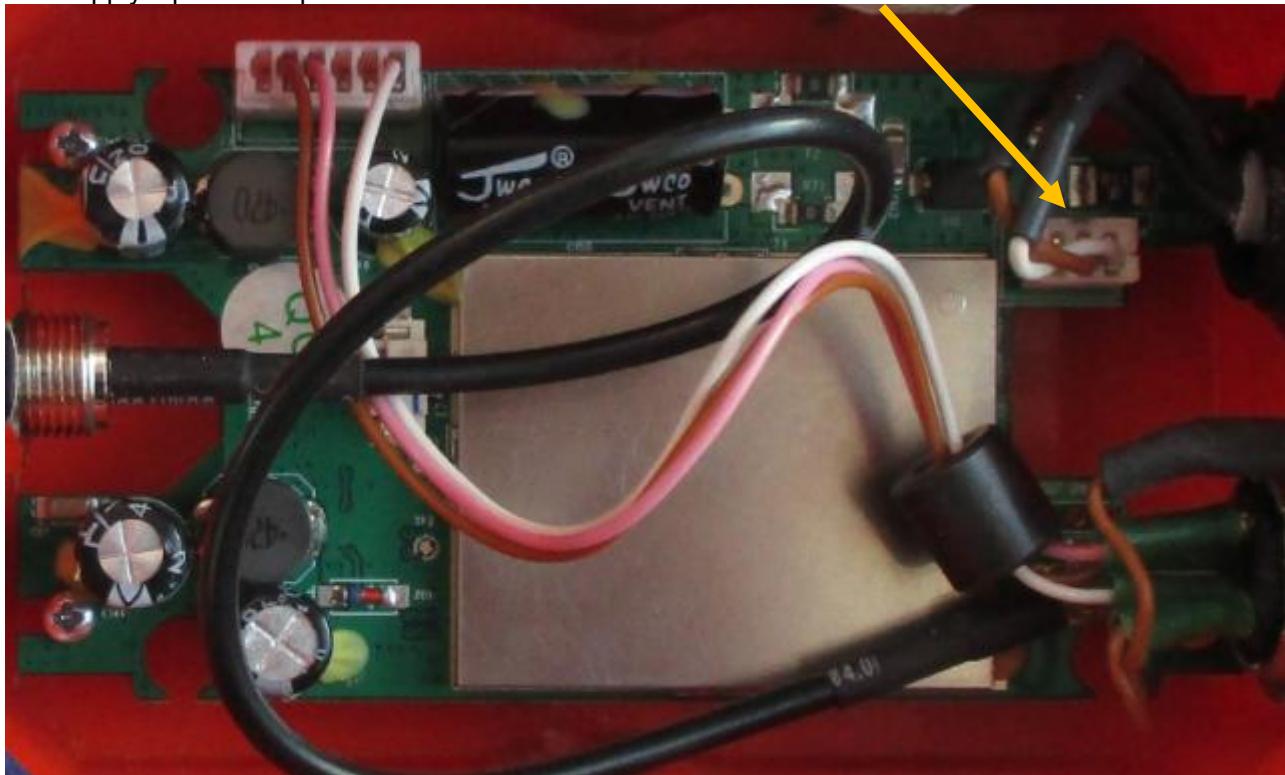
#### **3.2. Installation process**

The module AVTX24 has to be mounted with 4 screws onto the host board or housing according to the next picture.



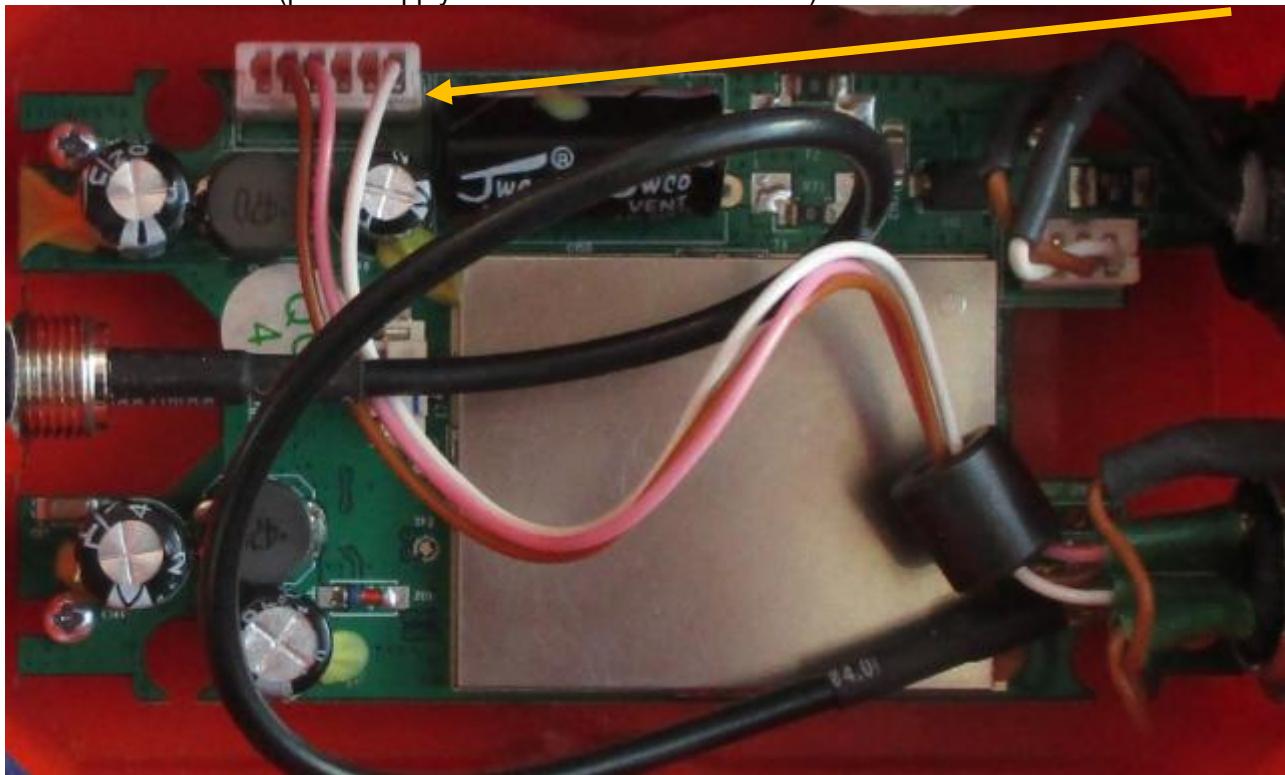
### **3.3. Supply-input**

The supply input 10 V up to 30 V has to be connected at this connector



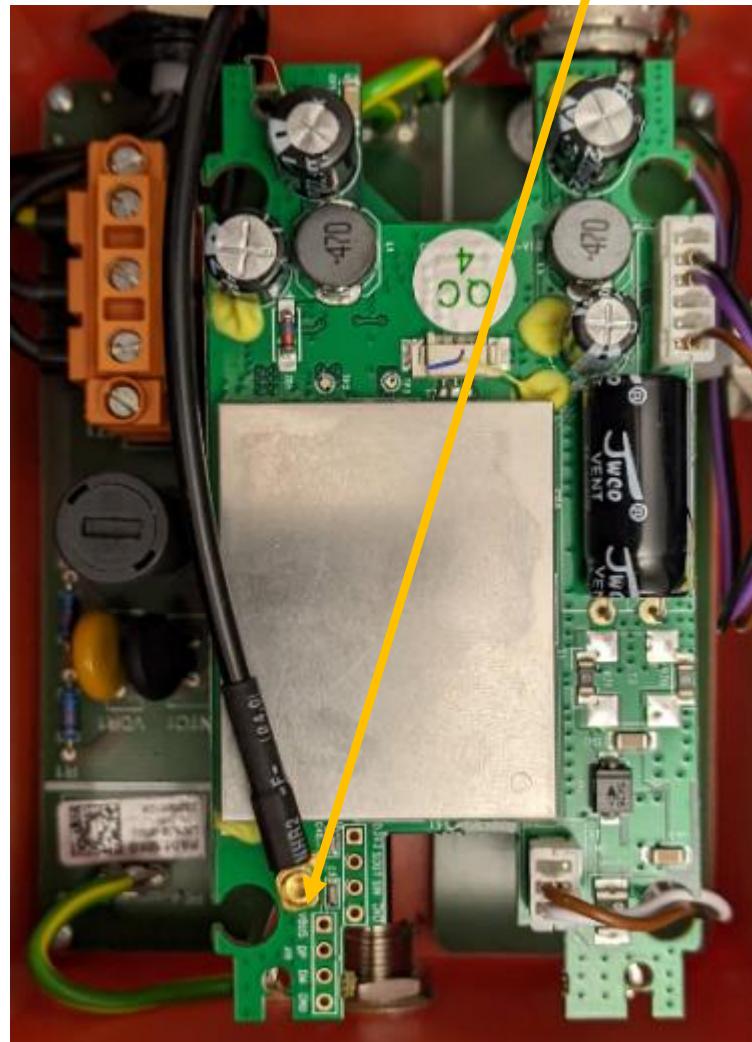
### **3.4. Camera interface**

The camera interface (power supply for camera + video interface) has to be connected at this connector:



### 3.5. Antenna-connector

A MMCX-Connector has to be plugged into BU1 for connecting the antenna to AVTX24 according to the next picture.



## 4. FCC notes

### 4.1. Section 15.19

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.

### 4.2. Section 15.21 Statement

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

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#### **4.3. Section 15.105 (a) Statement**

This equipment has been tested and found to comply with the limits for part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **5. IC notes**

#### **5.1. RSS-GEN – User Manual Statements (English/French)**

This device complies with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage; et
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### **6. RF exposure statement**

This module will be integrated with internal and external antennas in different host devices. For each final host device, the RF exposure conditions to comply with FCC / ISED requirements will be individually defined and the user instructions of the host device will have appropriate installation or usage instructions. In general, the final host device will be used in such a manner that the potential for human contact including by-standers during normal operation is minimized.

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## **7. Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01**

### **7.1. List of applicable FCC / ISED rules**

FCC:	ISED:
47CFR Part 15C	RSS-247

### **7.2. Specific operational use conditions**

Depending on the used antenna type (internal / external) the RF Module can be either integrated in portable or mobile/fixed categorized host devices.

The maximum allowed antenna gain is 6,0 dBi.

RF Exposure considerations must be done for each individual host type/antenna combination.

### **7.3. Module procedures**

This module is exclusively approved for the integration into host devices by integrators.

### **7.4. RF exposure considerations**

For all final host devices, the RF exposure is observed in integration process in accordance to the MPE calculation.

For any application the necessary separation distance between the radiating part (antenna) and the human body incl. bystander will be calculated based on the module output power in combination with the antenna gain of the used antenna and position with respect to FCC KDB447498 and ISED RSS-102.

### **7.5. Antennas**

The antenna that is used in connection with AVTX24 depends on host device.

### **7.6. Label and compliance information**

The AVTX24 is marked in accordance with applicable rules.

The host device will be labelled as follows:

Contains FCC ID: 2AGPOAVTX24

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.

Contains IC: 33278-AVTX24

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## **7.7. Information on test modes and additional testing requirements**

The integrator is responsible for the compliance of the final product that incorporates with this transmitter module.

## **7.8. Additional testing, Part 15 Subpart B disclaimer**

The module itself is not a subpart B device. The host device in which the module will be installed has to be observed under applicable requirements of § 15.101 - §15.123.

## **7.9. Statements for host manual**

### **Statement FCC §15.105 for host manual**

This equipment has been tested and found to comply with the limits for part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **Statement ISED for host manual**

This device complies with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage; et
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### **Modification statement, FCC § 15.21**

In the host manual the following statement will be included:

“Changes or modifications made to this equipment not expressly approved by the party responsible for compliance may void the FCC authorization to operate this equipment.”