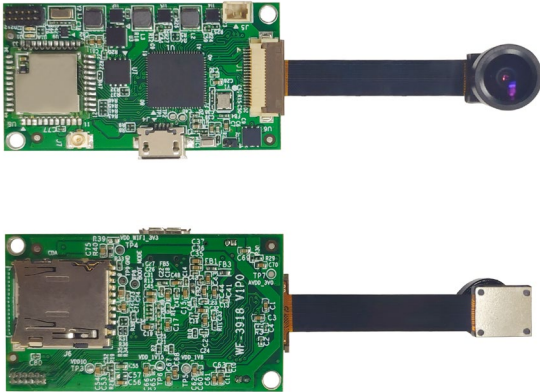


**WiFi Video Module
WFV3918**

Amp'ed RF Technology, Inc.

WFV3918 Product Specification



Description

Amp'ed RF Tech presents the WFV3918 Wi-Fi 5GHz band video module. The WFV3918 is a small footprint low cost RF video module, supporting 720p video resolution, both live streaming and SD card storage, up to 300m range line-of-sight (5GHz band). Intended to help customers shorten product development cycles and reduce cost, this module is ready to go. Typical applications include:

- Drone/RC vehicle camera
- Home security
- Remote audio & video transmission
- Smart home control

Features

Hardware

- Wi-Fi: ACC1340
- CPU: AK3918E
- 25mm x 45mm
- Mems microphone
- Speaker output
- RoHS conformance

Video

- 1280x720P, 25 fps
- H.264/MJPEG encoding

WLAN

- 802.11a/b/g/n
- High Band: 5GHz (2.4GHz optional)
- Output Power, +24dBm for 5GHz
- Wi-Fi Direct
- Soft Access Point
- Security: WPAI/WPA2, AES, WEP
- 300m line-of-sight range

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1. Hardware Specifications

General Conditions (VIN= 3.3V and 25°C)

1.1. Recommended Operating Conditions

Rating	Min	Typical	Max	Unit
Operating Temperature Range	0	-	40	°C
Supply Voltage VIN	3.3	3.6	5.0	Volts
Signal Pin Voltage	-	3.3	-	Volts
RF Frequency for 2.4G (optional)	2400	-	2483.5	MHz
RF Frequency for 5G	5150	-	5850	MHz

1.2. Absolute Maximum Ratings

Rating	Min	Typical	Max	Unit
Storage temperature range	-40	-	+70	°C
Supply voltage VIN	-0.3	-	+4.8	Volts
I/O pin voltage VIO	-0.3	-	+4.8	Volts
RF input power	-	-	-5	dBm

1.3. I/O Operating Conditions

Symbol	Parameter	Min	Max	Unit
V _{IL}	Low-Level Input Voltage	-	0.6	Volts
V _{IH}	High-Level Input Voltage	1.3	-	Volts
V _{OL}	Low-Level Output Voltage	-	0.2	Volts
V _{OH}	High-Level Output Voltage	2.95	-	Volts
I _{OL}	Low –Level Output Current	-	4.0	mA
I _{OH}	High-Level Output Current	-	4.0	mA

1.4. Current Consumption

VIN=3.3v	Avg	Unit
Idle	75	mA
Video streaming 720P	200	mA
I _{peak} : system maximum peak current draw	450	mA

1.5. Selected RF Characteristics

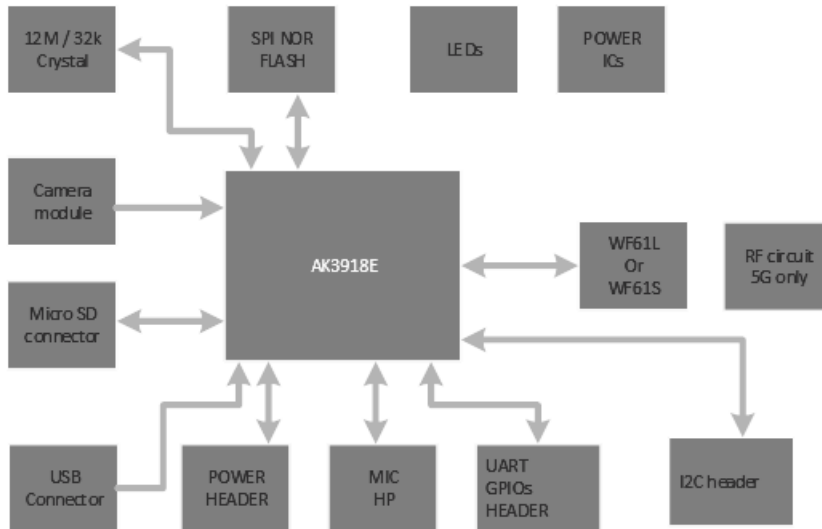
Parameters	Conditions	Typical	Unit
Antenna load		50	ohm
Wi-Fi Receiver 5GHz 11n			
Sensitivity	BPSK 6.5Mbps@PER<10%,Nss=1	-91	dBm
Sensitivity	QPSK 13Mbps@PER<10%, Nss=1	-88	dBm
Sensitivity	16QAM 26MbpsPER<10%,Nss=1	-83	dBm
Sensitivity	64QAM 65MbpsPER<10%,Nss=1	-72.5	dBm
Wi-Fi Transmitter 5GHz, 11n			
Output Power	802.11n MCS-1	24	dBm

1.6. Pin Assignment/Connectors

J5	Type	Pin #	Description
VDD		1	VIN from BATT, 3.3-5.0V
GND		2	Ground
J1	Type	Pin #	Description
GND		1	
I2C_SDA	I/O	2	
AVDD		3	AVDD 3.0V
I2C_SCL	I/O	4	
CIS_RSTN		5	
CIS_VSYNC		6	
CIS_HREF		7	
DVDD		8	VDD 1.8V
DOVDD		9	AVDD 3.0V
VID9		10	
MCLK	I/O	11	
VID8		12	
GND		13	DGND
VID7		14	
PCKL	I/O	15	
VID6		16	
VID2		17	
VID5		18	
VID3		19	
VID4		20	
GND		21	
GND		22	
J3	Type	Pin #	Description
I2C_SDA	I/O	1	
I2C_SCL	I/O	2	
CIS_PWDN		3	

AK_TXD1		4	
RXD2	I/O	5	
AK_RXD1	I/O	6	
TXD2		7	
GPIO 15		8	
GND		9	
PWR_LED		10	
GPIO 47		11	
GPIO 11		12	

3. Hardware Block Diagram



4. Startup guide

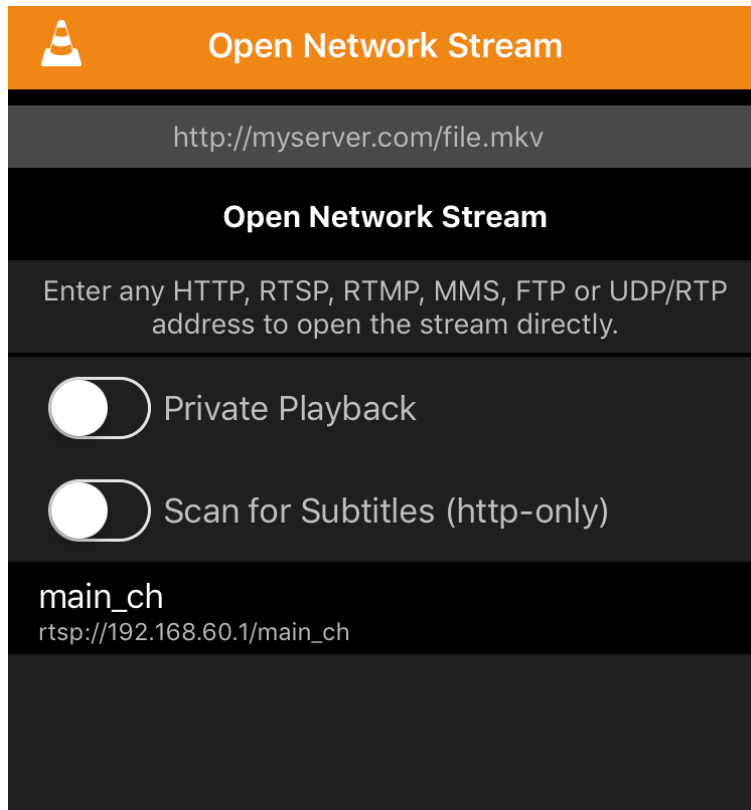
- 3.1. Power up the video module by applying Vin and GND to J5 pins 1 & 2. Note that the USB connector does NOT supply Vin power.
- 3.2. Download and install the app “VLC” from “Google Play” or “Apple Store”. Note that other video players supporting RTSP protocol will also work.



3.3. Connect the WiFi from mobile phone.

- The SSID is “ART_IPCAM_XXXXXX”, where XXXXXX is the session MAC address of the device.
- The default password is “12345678”.
- The WFV3918 will assign the mobile phone an IP Address: 192.168.60.20 (to the first phone connection and incrementing after that).

3.4. Launch the app, VLC, and select the network stream RTSP option using this channel: `rtsp://192.168.60.1/main_ch`. This RTSP channel is not the same as the phone's IP Address above.



3.5. For technical support, please contact us at: support@ampedrftech.com

5. Ordering Information

Part Name	Description
WFV3918	720p Video module, 5Ghz WiFi

6. Revision History

Date	Revision	Description
1-May-2018	1.0	Initial release
18-Jan-2019	1.1	Updated SSID name
28-Jan-2019	1.2	Updated picture and diagram
22-Feb-2019	1.3	New usage instructions