

DIY Module Series

# FPV Video Receiver

## FS12R9MV

1080~1360MHz -95dBm

### KEY FEATURES

- Power Supply: 5.0V
- Current Consumption: 380±30mA
- Operating Temperature: -10~+65°C
- Storing Temperature: -30~+85°C
- Operating Humidity: 85% RH
- Receiving Frequency Range: 1080~1360MHz
- Voltage Standing Wave Ratio: 2:1
- Demodulation System: FM/PLL
- IF: 480MHz
- ANT.Input Impedance: 50Ω, Typ.
- LO Frequency Stabilization: ±200kHz
- LO Frequency Precision: ±200kHz
- LO Control: PLL
- Input LO Leak: -65dBm
- Receiving Sensitivity: -95dBm±2
- Input Level Range: -95dBm~+5dBm
- Video Output Impedance: 75Ω, Typ.
- Video Output Level: 1±0.2Vp-p, Typ.
- Video Polarity: Negative
- Video Frequency Response: ±5dB, Max. 50Hz~6MHz
- Differential Gain: ±5%, Max
- Differential Phase: ±5Deg., Max
- 3Db IF WIDEBAND: 16.5MHz
- S/N: 38dB, Min
- RSSI Slope: 22mv/dBm or 45mv/dBm
- Weight: 5.4g
- Dimensions: L37 x W26.3 x H3.2(4.5)mm



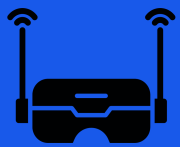
Board code: VM1373R

### APPLICATIONS

- FPV Drone Racing
- UAV Communication Systems
- Remote Vehicle Monitoring
- Wireless Video Transmission Systems

### \*Frequency bands

A	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
		1080MHz	1120MHz	1160MHz	1200MHz	1240MHz	1280MHz	1320MHz
B	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
		1080MHz	1120MHz	1160MHz	1200MHz	1258MHz	1280MHz	1320MHz



Pin No.	Function
1	+5V IN
2	S1, Frequency SEL.
3	GND
4	NC
5	NC
6	Video Out
7	CS3: Refer to Table1
8	CS2: Refer to Table1
9	CS1: Refer to Table1
10	RSSI
11	GND
12	GND
13	GND
14	ANT IN
15	GND

PAD No.	Function
2	Connected with S1
7	Connected with CS3
8	Connected with CS2
9	Connected with CS1
0	Connected with GND



Using the E4421B signal generator as the signal input source for the module, the RSSI output voltage at the 1080MHz frequency point is for reference only.

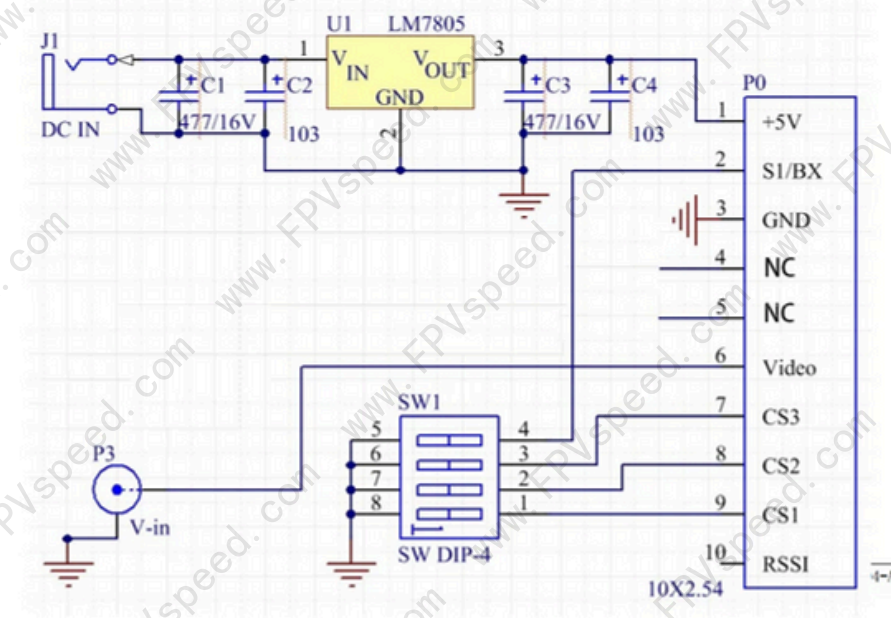
Input Signal Strength	RSSI Output Voltage	Input Signal Strength	RSSI Output Voltage
-90dB	0.38V	-60dB	1.035V
-85dB	0.48V	-55dB	1.15V
-80dB	0.58V	-50dB	1.24V
-75dB	0.68V	-45dB	1.26V
-70dB	0.81V	-40dB	1.28V
-65dB	0.92V		

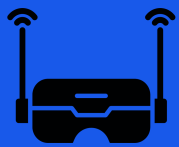


**TABLE 1**

Channel/LO	P7(CS3)	P8(CS2)	P9(CS1)	P2(S1)	
Frequency Band A (S1=H)					
A1: 1080MHz/1560MHz	0	0	0	1	
A2: 1120MHz/1600MHz	0	0	1	1	
A3: 1160MHz/1640MHz	0	1	0	1	
A4: 1200MHz/1680MHz	0	1	1	1	
A5: 1240MHz/1720MHz	1	0	0	1	
A6: 1280MHz/1760MHz	1	0	1	1	
A7: 1320MHz/1800MHz	1	1	0	1	
A8: 1360MHz/1840MHz	1	1	1	1	
Frequency Band B (S1=L)					
B1: 1080MHz/1560MHz	0	0	0	0	
B2: 1120MHz/1600MHz	0	0	1	0	
B3: 1160MHz/1640MHz	0	1	0	0	
B4: 1200MHz/1680MHz	0	1	1	0	
B5: 1258MHz/1738MHz	1	0	0	0	
B6: 1280MHz/1760MHz	1	0	1	0	
B7: 1320MHz/1800MHz	1	1	0	0	
B8: 1360MHz/1840MHz	1	1	1	0	

### APPLICATION CIRCUIT





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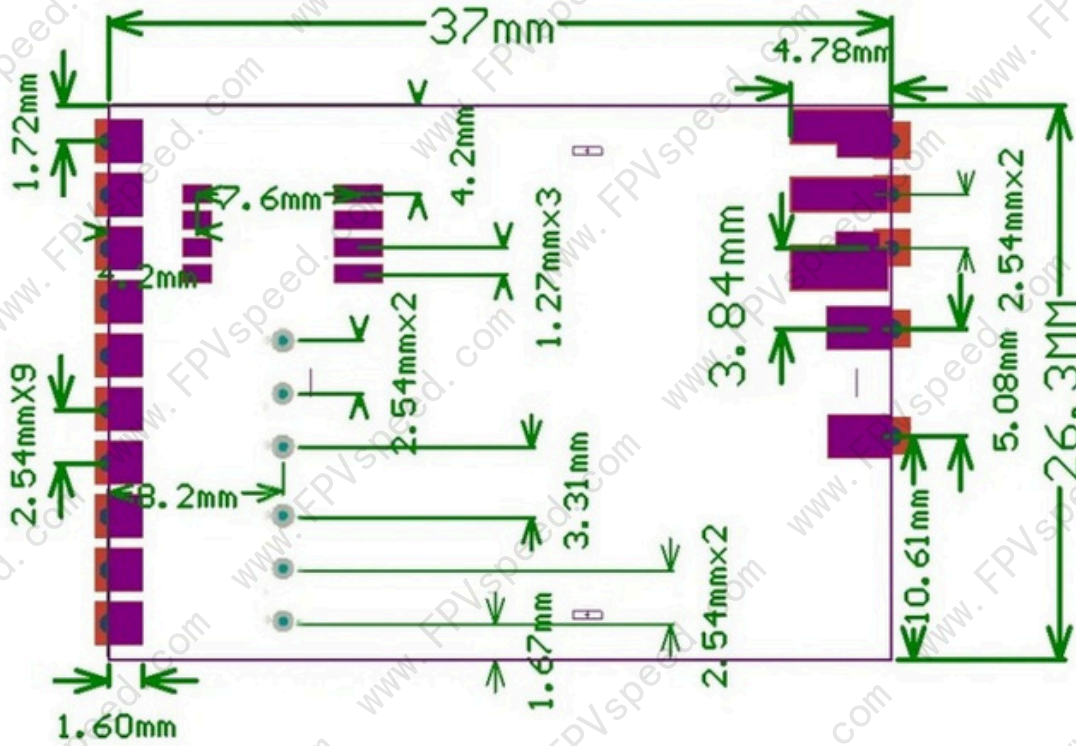
# FPV Video Receiver

## FS12R9MV

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### RSSI SIGNAL DETECTION VOLTAGE VALUE TEST RECORD

-90		-80		-70		-60		-50
1.11		1.53		2.10		2.46		2.81
1.12		1.38		1.97		2.56		2.70
1.05		1.61		2.29		2.73		2.75
0.98		1.40		2.08		2.56		2.71
1.03		1.35		2.15		2.73		2.70
1.11		1.64		2.18		2.65		2.78
1.00		1.63		2.06		2.61		2.73
1.12		1.45		2.18		2.65		2.74
1.00		1.60		2.11		2.70		2.67
1.10		1.65		2.11		2.61		2.68
0.99		1.57		2.19		2.62		2.82
0.89		1.47		2.22		2.57		2.83
1.08		1.59		2.05		2.98		2.79
1.07		1.63		1.94		2.67		2.83
1.03		1.73		1.95		2.63		2.84
1.11		1.53		2.14		2.62		2.83
1.06		1.50		2.03		2.52		2.84
1.05		1.65		2.18		2.55		2.83
0.97		1.52		2.15		2.77		2.80
1.11		1.50		2.22		2.73		2.85
1.08		1.60		2.18		2.70		2.81
1.06		1.51		2.27		2.60		2.81
0.94		1.49		2.30		2.65		2.92
1.08		1.61		2.16		2.67		2.80
1.18		1.40		2.23		2.62		2.79
0.94		1.59		2.12		2.68		2.88
0.80		1.57		2.04		2.54		2.81
1.12		1.52		2.17		2.72		2.80
0.91		1.63		2.01		2.62		2.80
1.09		1.67		1.89		2.68		2.84



Please note, our module comes in two thicknesses: 3.2mm and 4.5mm. The 4.5mm version offers 3dB greater sensitivity than the 3.2mm when used with shielding covers of varying heights. Ensure to specify your choice clearly when ordering with our sales team.

### DISCLAIMER

**!** This product is intended for civilian and commercial use only. It is strictly prohibited from being used for any military purposes or activities.