1. Introduction

This document describes the specification and features of CHEMLINK 5.8GHz Audio/Video Transmitter and Receiver Modules with Main Board（baseband）which use FM modulation technology for wireless A/V transmission application.

2. Features

2.1 Avoid interference from crowded 2.4GHz ISM applications such as Video Sender, 802.11b Wireless LAN, Bluetooth, Cordless Phone, Microwave Oven, etc.
2.2 Operating Frequency of 5725 ~ 5875MHz（8 Channels）
2.3 Directional Antenna minimizes multi-path and interference
2.4 Up to 300 feet range, clear line of sight
2.5 Support NTSC TV signal
2.6 High S/N Video output and Stereo Audio output

3. Specification

3.1 Transmitter Module – VT5N1-2

3.1.1 General specification

Input Voltage（module）	DC 5V / 8V ±0.15V
Current Consumption	< 300mA
Antenna Type	Patch
Operation temperature & humidity	0℃ ~ +50℃ less than 85%
Storage temperature & humidity	-20℃ ~ +70℃ less than 90%

3.1.2 Electrical specification

RF

Output power @ connector	+10dBm
Modulation Type	FM
RF Deviation（FM）	6.4MHz peak to peak
Channel Frequency	CH1 5733 MHz
	CH2 5752 MHz
	CH3 5771 MHz
	CH4 5790 MHz
	CH5 5809 MHz
	CH6 5828 MHz
	CH7 5847 MHz
	CH8 5866 MHz
Channel Selection	Dip Switch
Frequency Stability	±250KHz
Output Flatness	0 ~ +3dB

Video

Input Level	1V peak to peak
Impedance	75 ohms
Pre-Emphasis	NTSC
D.G.	< ±3%
D.P.	< ±3%

Audio

Input Level	2V peak to peak
Impedance	600 ohms
Frequency Response	30Hz ~ 12KHz
Audio Carrier Frequency（L）	6.0MHz ±25KHz
Audio Carrier Frequency（R）	6.5MHz ±25KHz
Audio Distortion	3% max. THD
AM Rejection	40dB min.

3.2 Tx Main Board（baseband）

Input Voltage	DC 12V
Current Consumption	< 500mA
Video Input Level	$1V_{p-p}$（Yellow）
Video Impedance	75 ohms
Audio Impedance	2 V_{p-p}
	R（Red）
	L（White）
Frequency Control	I^2C Bus

3.3 Receiver Module – VR511-2

3.2.1 General specification

Input Voltage	DC 5V ±0.15V
Current Consumption	< 350mA
Antenna Type	Patch
Operation temperature & humidity	0℃ ~ +50℃ less than 85%
Storage temperature & humidity	-20℃ ~ +70℃ less than 90%

3.2.2 Electrical specification

RF

Input Frequency Range	5725 ~ 5875MHz
Input Level @ connector	-25 ~ -80dBm
IF Frequency	479.5MHz
IF Bandwidth	18MHz
Gain Flatness	3dB max.
Noise Figure	2dB Typical
Input Return Loss	7dB Typical
LO. Drift	±250KHz
LO. Leakage	-50dBm max.
Image Rejection	40dB

Video

Output Level	1V ±0.15V_{p-p} Load.
Impedance	75 ohms
De-Emphasis	NTSC
D.G.	< ±8%
D.P.	< ±8%
Video S/N Ratio	38dB min.

Audio

Output Level	1.4V_{p-p}
Impedance	600 ohms
Frequency Response	30Hz ~ 12KHz

3.4 Rx Main Board（baseband）

Input Voltage	DC 12V
Current Consumption	< 500mA
Video Input Level	1V ±0.15V_{p-p} Load（Yellow）
Video Impedance	75 ohms
Audio Impedance	1.4 V_{p-p} R（Red） L（White）
Frequency Control	I^2C Bus
Baseband Output Level	0.25 V_{p-p}（Typical）