Product	
Product Name	VTX Pilotix R3000 (4.9-6.2G 3W)
Model	R3000 (4.9-6.2G 3W)
SKU	5226
Description	High-Power long range Video Transmitter
Specification	
Frequency range	4.9 GHz to 6.2GHz
Output Power	Up to 3W (3000mW)
Protocol	TBS SmartAudio
Video Format	NTSC/PAL
Channels	64CH
Supported Bands	A-B-E-F-R-L-X-Y
Power Levels	PIT/ 25mW/ 1W/ 2W/ 3W@12V/980mA
Antenna Interface	MMCX
Input Voltage	7–36V (2S - 6S LiPo)
RF Impedance	50 Ω
Video Input Impedance	75 Ω
Cooling	Built-in fan
Indications	Three color light
Buttons	×2
Size (mm)	53×29.5×14.7
Weight (g)	31
Mounting	20×20mm/M2
Working temperature	-10 - 60°C
Package includes	
×1 VTX Pilotix R3000 (4.9-6.2G 3W)	
×1 Cable SH1.0 - 8P on VTX to 6P on FC (105mm)	
×1 Pigtail MMCX (65mm)	
Note:	
The above parameters are measured under laboratory conditions.	
Some standard channels may not be displayed due to technical limitations.	

• Support 64CH
• Ultra-wide frequency range of 4.9–6.2 GHz, including non-standard frequencies up to 6.2 GHz
• Output power up to 3W, ensuring long-range video transmission
• TBS SmartAudio protocol, allowing direct VTX control
• Intelligent indication and control system with LED backlighting
• Built-in fan for cooling prevents overheating

Wiring diagram:

⚠️ The antenna should be installed before using!

Make sure the pin assignments on your flight controller match the required connections.

Pin Number	VTX Pin Name (8pins)	Signal	Line	Color	FC Pin Name (6pins)
1	GND	-	Black		GND
2	V-IN	+	Red	🟥	5V or VC
3	V-IN	+			none
4	GND	-			none
5	DATA	TBS SmartAudio	White		TX (uart)
6	5V-OUT	+ OUT (to ext. cam.)			none
7	GND	- OUT (to ext. cam.)			none
8	VIDEO	CVBS	Yellow	🟨	VTX

VTX table:

FR/CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865	5845	5825	5805	5785	5765	5745	5725
B	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917
L	5362	5399	5436	5473	5510	5547	5584	5621
X	4990	5020	5050	5080	5110	5140	5170	5200
Y*	6002	6028	6054	6080	6106	6132	6158	6184

⚠️ ***Protocol: TBS Smart Audio need to open factory mode in BetaFlight when using 6.2G, because Betaflight have some limit with frequency over 6000.**
On the monitor, the Y band may be displayed as the Z band.
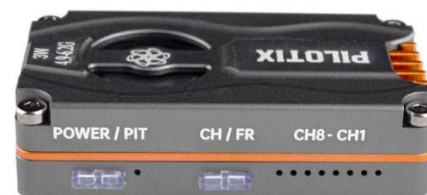

POWER/PIT Button Functions:

Short Press (to switch power mode):

- o **Green LED:** VTX power is set to **25mW** (Min. power)
- o **Yellow LED:** VTX power is set to **1W**
- o **Red LED:** VTX power is set to **2W**
- o **Purple LED:** VTX power is set to **3W** (Max. power)

Long Press (for PIT mode):

- o **Long Press (2 seconds):** Switches to **PIT mode**
- o **Green Flashing LED:** Indicates that the VTX is in **PIT mode**

Band/CH Button Functions:

Short Press (to switch frequency points):

- o The **8 blue lights** indicate different frequency points (CH1 to CH8).
- o **Short press** cycles through the channels: **CH1 → ... → CH8**.
- o The channel indicator lights will change as you cycle through the channels.

Press and Hold for 2 Seconds (to enter frequency group switching mode):

- o After holding for **2 seconds**, both **blue lights** will light up at the same time. This indicates that you're now in **frequency group switching mode**.

Press and Hold for 5 Seconds (to switch frequency groups):

- o After entering frequency group switching mode (both blue lights on), **hold for another 5 seconds** to switch between different frequency groups.
- o Once the frequency group is changed, it will **automatically save** the setting and **exit the mode**.

Frequency Group Indicator Lights:

- The **blue lights** indicate the frequency group, and they are associated with the following groups:
  - o **Group A**: 12 lights on (Blue light 1 and Blue light 2 on together).
  - o **Group B**: 23 lights on (Blue light 2 and Blue light 3 on together).
  - o **Group E**: 34 lights on (Blue light 3 and Blue light 4 on together).
  - o **Group F**: 45 lights on (Blue light 4 and Blue light 5 on together).
  - o **Group R**: 56 lights on (Blue light 5 and Blue light 6 on together).
  - o **Group L**: 67 lights on (Blue light 6 and Blue light 7 on together).
  - o **Group X**: 35 lights on (Blue light 3 and Blue light 5 on together).

Summary of Band/CH Button Functions:

1. **Short press**: Switch between **CH1 to CH8**.
2. **Press and hold 2 seconds**: Enter **frequency group switching mode** (both blue lights on).
3. **Press and hold 5 seconds**: Switch between **frequency groups** (A, B, E, F, R, L, X) and **save the setting**.