HD Anywhere
Ver6.0: February 2018

The Ultimate Source for Your

Multimedia Communications

Low Latency (30ms ~ 80ms)

Full HD Encoding & Streaming by H.264

Radio Coverage: Maximum 1,500m (5,000ft) at line of sight

Wireless Multimedia Solutions
NIMBUS

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WiMi 6220

Wireless HD/3G-SDI, HDMI with Low Latency (80ms)
Live Streaming by H.264 Encoder
Radio Coverage: Maximum 1,500m (5,000ft) at line of sight

Characteristics of **WiMi6220**

Full HD sender (Wireless or Ethernet)

- H.264 (MPEG-4 Parts10: AVC)
- Baseline-Profile with level 4.2
- Low latency of encoding/decoding: 80~100ms
- Transport 1080p60 full HD over wireless/Ethernet
- SD/HD/3G-SDI video in/out with embedded audio
- HDMI video in/out with embedded audio
- Selection of encoding rate & Wi-Fi frequencies
- Embedded wireless Intercom, 2-way talk-back
- 480i59.94, 576i/50, 720p60/59.94/50/30/29.97/25/24/23.98,
- 1080i60/59.94/50, 1080p60/59.94/50/30/29.97/25/24/23.98 and PsF format

Live streaming from broadcast/DSLR camera over wireless/Internet

- Full HD live streaming server on transmitter & receiver
- RTSP streaming server (RTP/UDP)
- MPEG2TS streaming (UDP)
- Relay streaming server (RTSP/MPEG2TS) on the receiver

Save bandwidth cost with multicasting

- Maximum 2/4 receivers in wireless multicasting

Comfortable & wide coverage over wireless /Internet

- Wireless: up to maximum 1,500m (5,000 ft) @ line of sight
- Wide Wi-Fi radio channel: 12 Ch @ 40MHz, 23 Ch @20MHz
- Small form factor (Enclosure): 144 x 91 x 26 (mm)
- DC input range & Power: 6.8V ~ 16V, 11W (TX), 10W (RX)

Applications

- Wireless Camera
- Live Broadcasting
- Medical Imaging
- Board Solutions for OEM
- Low-cost Full HD Encoder
- Full HD Live Streaming
- RTSP/MPEG-2TS Server

WiMi6220T/R

WiMi6220T

WiMi6220R

Interfaces of **WiMi6220**

Video Interfaces

- SD/HD/3G-SDI input and output: up to 1080p60
- HDMI input and output: up to 1080p60

Audio Interfaces

- Embedded audio on SDI and HDMI port
- Wireless intercom jack: 3mm mini stereo phone with mic

Network & Control Interfaces

- 10/100 BASE-TX, cat.5e UTP cable
- IEEE 802.11ac, 5 GHz (12 Ch. @ 40MHz, 23 Ch. @20MHz)
- Full duplex RS-422 interface for relaying external camera control signals (CCU, PTZ)
- Ethernet over Wi-Fi for relaying Ethernet-based CCU/PTZ

Supported SDI Format

Standard	Description
SMPTE 244 (NTSC)	480i59.94
IEC61179-5 (PAL)	576i50
SMPTE 296M	720p23.98, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60
SMPTE 274M	1080i50, 1080i59.94, 1080i60,1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30,1080p23.98, 1080p24, 1080p25, 1080p29.97,1080p30, 1080p50, 1080p59.94, 1080p60

SDI Compliance

Standard	Description
SMPTE 259M	SDTV Digital Signal/Data Serial Digital Interface
SMPTE 292M	1.5Gb/s Signal/Data Serial Digital Interface
SMPTE 425M	3Gb/s Signal/Data Serial Digital Interface
SMPTE 299M	16bit Digital Audio Format for SMPTE 292M
SMPTE 352M	Video Payload Identification for Digital Interfaces

Radio Specification

	Description
Wi-Fi Standard	IEEE 802.11ac, FCC/CE/Japan/KC Approval
Frequency	U-NII-1(5.15~5.25GHz), U-NII-2A(5.25~5.35GHz), U-NII-2C(5.47~5.725GHz), U-NII-3(5.725~5.85GHz)
Number of Wi-Fi Ch.	12 Wi-Fi channels @ 40MHz channel bandwidth
Transmission Distance	Up to 1,500m (5,000 ft) @ line of sight
Transmission Power	Max. 63mW (18 dBm)/chain, Total: 190mW (22.8 dBm)
Antenna	3T x 3R MIMO

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WiMi 5150A

HDMI video over Wireless by H.264 with Zero Latency(30ms)

Radio Coverage: 1,500m (5,000ft) at line of sight

Characteristics of **WiMi5150A**

Full HD sender & receiver

- H.264 (MPEG-4 Parts10: AVC)
- Baseline profile with level 4.2
- Zero delay (10ms), end-to-end (30ms), H.264 engine
- Transmission of 1080p60 HDMI over Wi-Fi
- Video formats of DTV and VESA Spec.

Small Form Factor

- WiMi5150A (w/ Antenna): 220 x 90 x 30 (mm), 350g
- WiMi5150A (Main Body): 80 x 90 x 30 (mm), 270g

Live streaming from DSLR, Camcorder over Wi-Fi

- Full HD live streaming server on transmitter
- RTSP streaming server (RTP/UDP)

Applications & Interfaces of **WiMi5150A**

Multicasting

- Max. 3 receiver for wireless
- Multiple pair s of operation at one location

Comfortable & Wide coverage of Wireless

- Wireless: up to 1,500m (5,000ft) @ line of sight in open space
- IEEE 802.11ac, 5 GHz , 11 Ch. available @ 40MHz bandwidth

Applications

- Drone/UAV Video transmission
- Wireless ENG/DSLR Camera
- Digital signage, wireless Kiosk, medical imaging

Interfaces

- HDMI: 1080p60, HDMI v1.3 compatible
- DIP switches: Selection of Wi-Fi frequency and encoding rate
- USB: Firmware update

WiMi5150AT/R

Front View

Rear View

Video & Radio of **WiMi5150A**

Supported Video Format	
Standard	Description
DTV (NTSC/PAL)	1920x1080i50, 1920x1080i59.94, 1920x1080p24, 1920x1080p50, 1920x1080p59.94, 1280x720p50, 1280x720p59.94, 720x480i59.94, 720x480p59.94, 768x576i50, 768x576p50
VESA	UXGA(1600x1200p60), SXGA(1280x1024p60), SXGA-(1280x960p60), WXGA(1280x768p60), XGA(1024x768p60), SVGA(800x600p60), VGA(640x480p60), 1080p30, 1080p50, 1080p59.94, 1080p60

Radio Specification	
	Description
Wi-Fi Standard	IEEE 802.11ac, FCC/CE/Japan/KC Approval
Frequency	U-NII-1(5.15~5.25GHz), U-NII-2A(5.25~5.35GHz), U-NII-2C(5.47~5.725GHz), U-NII-3(5.725~5.85GHz)
Number of Wi-Fi Ch.	11 Wi-Fi channels @ 40MHz channel bandwidth
Transmission Distance	Up to 1,500m (5,000 ft) @ line of sight
Transmission Power	Max. 63mW (18 dBm)/chain, Total: 190mW (22.8 dBm)
Antenna	3T x 3R MIMO

Applications of **WiMi5150A**

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WiMi 5200

Wireless SDI for HD/3G-SDI by H.264 with Zero Latency(30ms)

Radio Coverage: 600m (2,000ft) at line of sight

Characteristics of **WiMi5200**

Full HD sender & receiver

- H.264 (MPEG-4 Parts10: AVC)
- Baseline profile with level 4.2
- Zero delay (10ms), end-to-end (30ms), H.264 engine
- Transmission of 1080p60 3G-SDI over Wi-Fi
- Video formats of DTV Spec.

Small Form Factor

- WiMi5200 (w/ Antenna): 258 x 68 x 25 (mm), 310g
- WiMi5200 (Main Body): 118 x 68 x 25 (mm), 260g

Live streaming from Camcorder over Wi-Fi

- Full HD live streaming over Wi-Fi

Applications & Interfaces of **WiMi5200**

Multi Camera Shooting

- Multiple pairs of operation at one location

Comfortable & Wide coverage of Wireless

- Wireless: up to 600m (2,000ft) @ line of sight in open space
- IEEE 802.11n, 5 GHz (12 Ch. @ 40MHz)

Applications

- Drone/UAV Video transmission
- Wireless ENG/SDI camera
- Digital signage, wireless Kiosk, medical imaging

Interfaces

- SDI input with looped SDI output
- DIP switches: Selection of Wi-Fi frequency and encoding rate
- USB: Firmware update

WiMi5200T/R

Front View (WiMi5200T/R)

Rear View (WiMi5200T/R)

Video & Radio of **WiMi5200**

Supported Video Format	
Standard	Description
SMPTE 244 (NTSC)	480i59.94 (Output: 1080i59.94)
IEC61179-5 (PAL)	576i50 (Output: 1080i50)
SMPTE 296M	720p50, 720p59.94, 720p60
SMPTE 274M	1080PsF25, 1080PsF29.97, 1080PsF30 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30 1080i50, 1080i59.94, 1080i60 1080p50, 1080p59.94, 1080p60

Radio Specification	
	Description
Wi-Fi Standard	IEEE 802.11n, FCC/CE/KC Approval
Frequency	U-NII-1(5.15~5.25GHz), U-NII-2A(5.25~5.35GHz), U-NII-2C(5.47~5.725GHz), U-NII-3(5.725~5.85GHz)
Number of Wi-Fi Ch.	12 Wi-Fi channels @ 40MHz channel bandwidth
Transmission Distance	Up to 600m (2,000 ft) @ line of sight
Transmission Power	Max. 50mW (17 dBm)/chain, Total: 100mW (20 dBm)
Antenna	2T x 2R MIMO

Applications of **WiMi5200**

Camera Shooting

HD-SDI Camera

HD-SDI Camcoder

Broadcasting Monitor

Switcher Mixer

Outdoor Display

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WiMi 6400

Low Latency (80ms)
Full HD & Streaming by
H.264 Encoder

Characteristics of **WiMi6400**

Full HD sender over Ethernet/Internet

- H.264 (MPEG-4 Parts10: AVC)
- Baseline Profile with level 4.2
- Low latency ,end-to-end (80~100ms), H.264 engine
- Transport 1080p60 full HD over Ethernet/Internet
- SD/HD/3G-SDI interface compliant with SMPTE
- Video formats of DTV and VESA spec.
- 2 channel Linear-PCM and G.711 compressed audio
- Maximum encoding rate of 30Mbps
- Back channel audio

Save bandwidth cost

- Multicasting: No limits on the number of receivers with multicast IP address
- Relay Streaming server on the receiver side

Live streaming from CCTV, Camera over Internet

- Full HD live streaming server (Transmitter & Receiver)
- RTSP streaming server (RTP/UDP)
- MPEG-2 TS/UDP streaming
- Flexible video output with video scaler on the receiver
- Easy control with Web User Interface via Android smart phone
- Full duplex serial port for relaying external control signals
- HD contents display for digital signage

Applications

- Digital Signage
- Control Room
- Medical Imaging
- Full HD Video TX
- Low-cost Full HD Encoder
- Full HD Live Streaming
- RTSP/MPEG-2 TS Server
- Education/Multi-Vision

WiMi6400T/R

WiMi6400T

WiMi6400R

Interfaces of **WiMi6400**

Video Interfaces

- SD/HD/3D-SDI (SMPTE standard)
- HDMI (DVI): up to 1080p60, HDMI v1.3 compatible
- PC (HD-15): VESA formats up to 1920 x 1080p60

Audio Interfaces

- Digital: Linear PCM (44.1kHz/48kHz)
- Analog: Stereo, 48kHz 16-bit linear PCM, G.711
- Back channel audio: 8kHz 16-bit linear PCM
- Analog audio jack: 3mm mini stereo phone

Network Interfaces

- 10/100 BASE-TX, Cat.5e UTP cable
- Power over Ethernet (PoE) device (Option)
- USB: Web UI via Android smart phone with free Android application, WiMi Connector

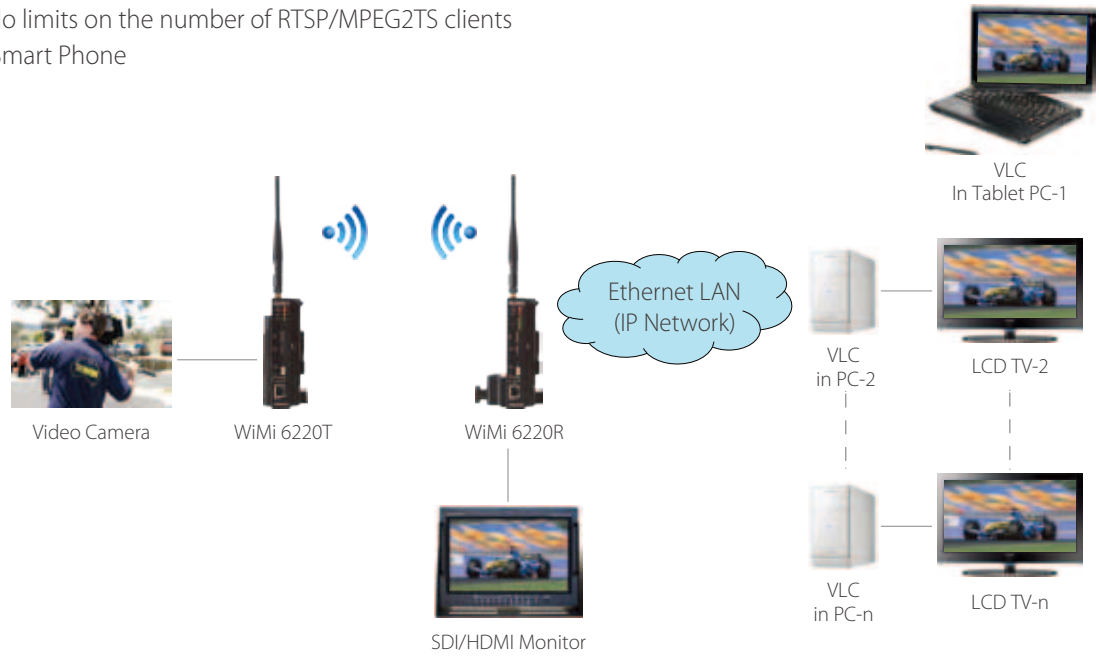
Video Specifications of **WiMi6400**

HDMI (VESA)	1080p60/p59.94/p50/p30/p29.97/p24/ p23.98/i59.94/i50, 720p60/p59.94/p50, 576p50, WSXGA+(1680x1050), SXGA(1280x1024), WXGA(1280x800), XGA(1024x768), SVGA(800x600), VGA(640x480)
SMPTE244	480i59.94 (NTSC)
IEC61179-5	576i50 (PAL)
SMPTE 296M	720p23.98, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60
SMPTE 274M	1080i50, 1080i59.94, 1080i60, 1080PsF23.98, 080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60

Relay Streaming Server in
WiMi6220R

Relay Streaming Server in WiMi6220R

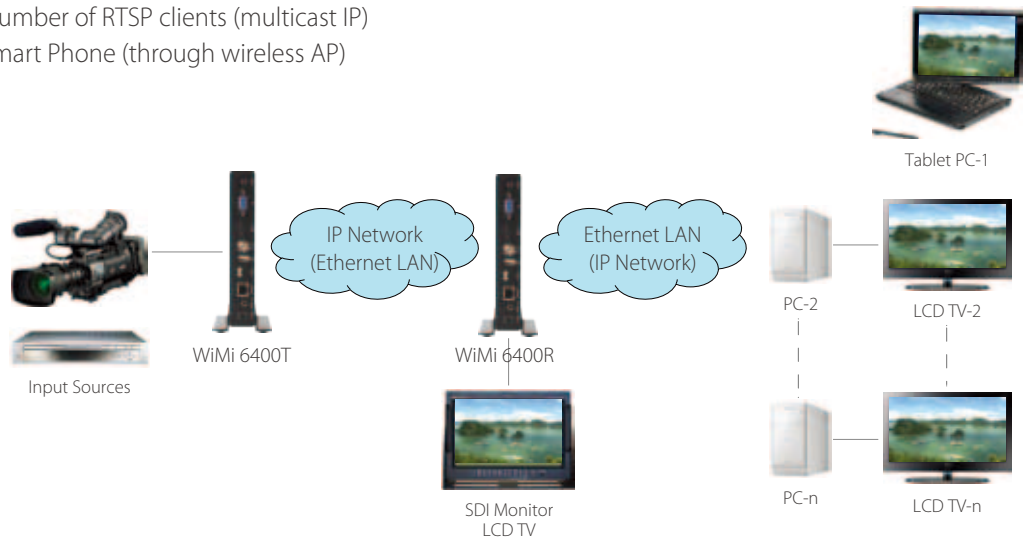
- Watch video through your PC over Ethernet LAN (IP)
- Unicast IP: Maximum 32 RTSP clients with limited encoding rate
- Multicast IP: No limits on the number of RTSP/MPEG2TS clients
- PC, Tablet or Smart Phone



Relay Streaming Server in
WiMi6400R

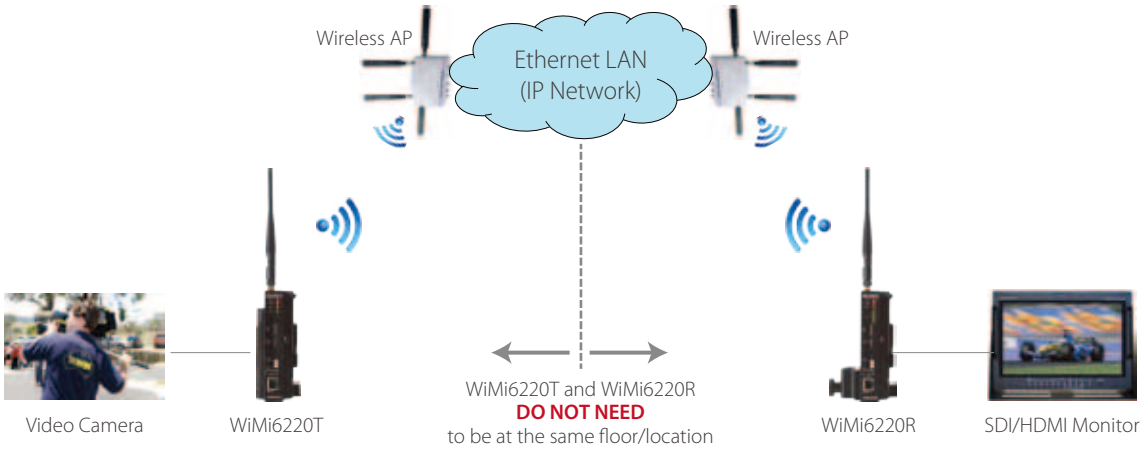
Relay Streaming Server in WiMi6400R

- Simultaneous decoding and streaming in the WiMi6400R
- Save cost with single video delivery over public IP network for video distribution without multiple video transmissions.
- Watch video with your PC over Ethernet LAN (IP)
- Maximum 32 RTSP clients with limited encoding rate (unicast IP)
- No limits on the number of RTSP clients (multicast IP)
- PC, Tablet PC or Smart Phone (through wireless AP)



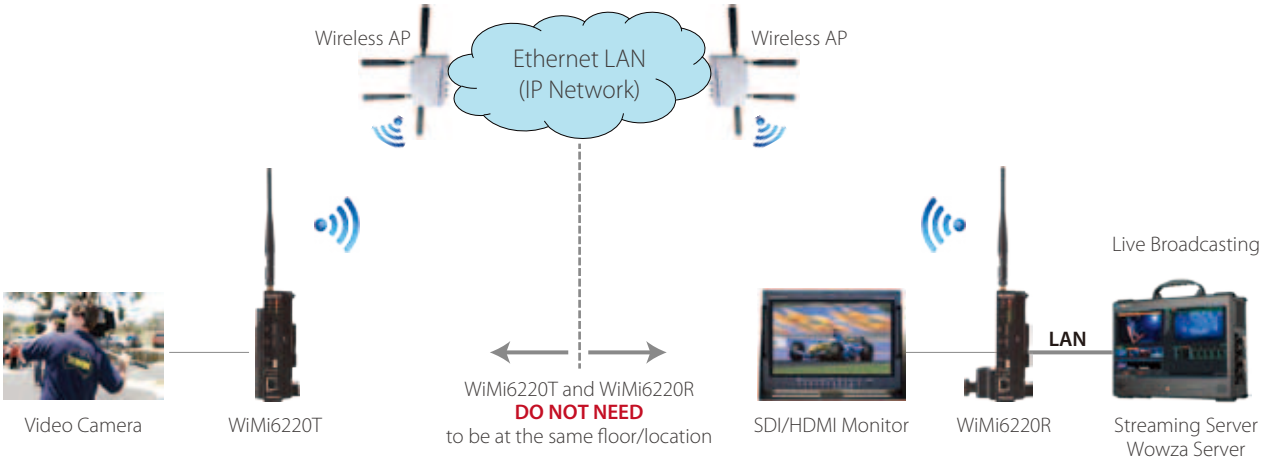
Station(Client)-mode Operation of **WiMi6220T/WiMi6220R**

- An WiMi6220T in Station mode and an WiMi6220R in Station mode can transmit and receive the video when those are connected each other through one or two wireless Access Points (APs).
- If the WiMi6220T and WiMi6220R were connected to the two different wireless APs, then two APs must be connected through the LAN or IP network.
- Wireless IP address of the WiMi6220T and WiMi6220R can be assigned by user, or DHCP of the wireless AP.
- The WiMi6220R can be located anywhere if both the wireless APs are connected each other via IP network.



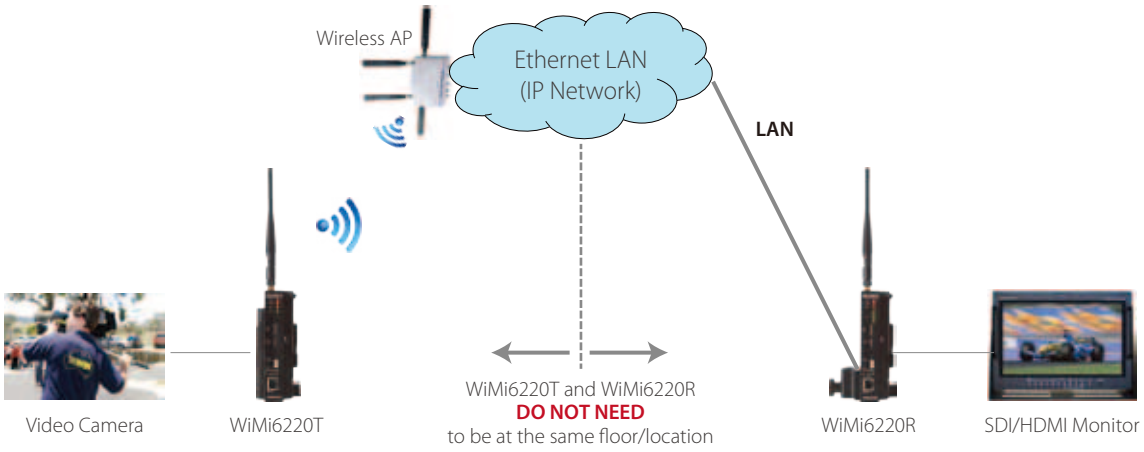
Station(Client)-mode Operation of **WiMi6220T/WiMi6220R** with Relay Streaming Server

- An WiMi6220T in Station mode and an WiMi6220R in Station mode can transmit and receive the video when those are connected each other through one or two wireless Access Points (APs).
- If the WiMi6220T and WiMi6220R were connected to the two different wireless APs, then two APs must be connected through the LAN or IP network.
- Wireless IP address of the WiMi6220T and WiMi6220R can be assigned by user, or DHCP of the wireless AP.
- The WiMi6220R can be located anywhere if both the wireless APs are connected each other via IP network.
- The WiMi6220R can be used for a relaying server for the broadcasting of live video



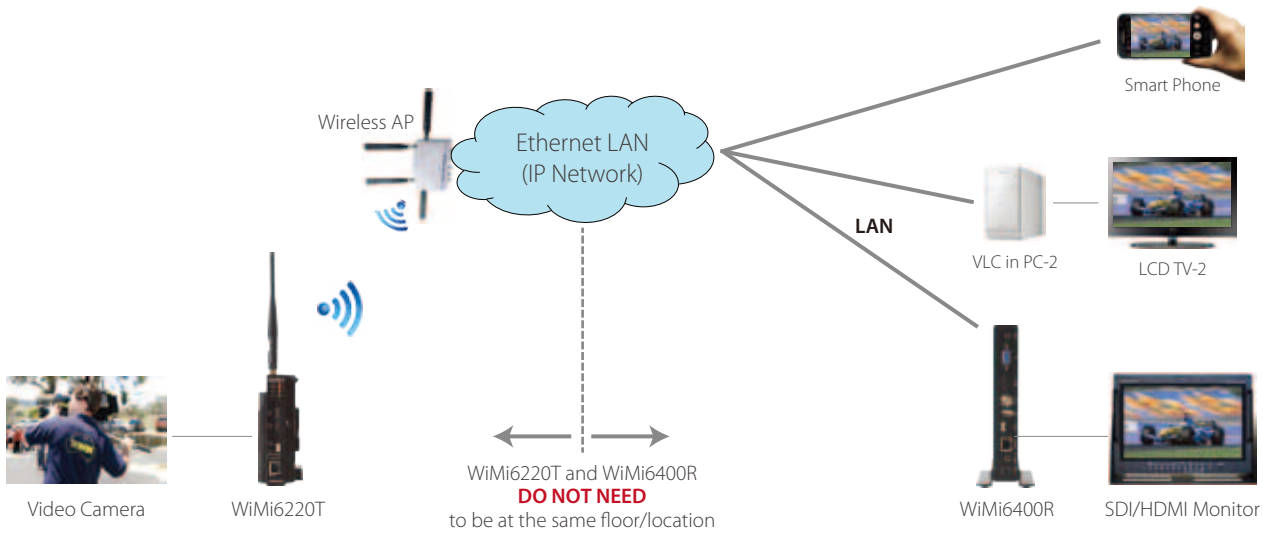
Station(Client)-mode Operation of **WiMi6220T** LAN-mode of **WiMi6220R**

- When an WiMi6220T in Station mode is connected to an wireless AP, and the wireless AP is connected to the LAN/IP network,
- An WiMi6220R with LAN mode can decode the video at anywhere the IP network is available.



Station(Client)-mode Operation of **WiMi6220T** and the use of **WiMi6400R** or Software Decoder

- When an WiMi6220T in Station modeis connected to an wireless AP, and the wireless AP is connected to the LAN/IP network,
- An WiMi6400R or software decoder like VLC player can decode the video at anywhere the IP network is available.



Nimbus, Inc. WiMi series offers Wireless/Ethernet H.264, Full HD (1920x1080p60), encoder/decoder solutions with near zero end-to-end latency (30ms ~ 80ms) over Wi-Fi or Ethernet/IP network with the coverage of maximum 1.5km (5,000ft).

- WiMi5150A

Wireless HDMI with 30ms of end-to-end latency,
Maximum radio coverage of 1,500m (5,000ft) @ LOS

- WiMi6220

Wireless HD-SDI/HDMI solution,
Maximum radio coverage of 1,500m (5,000ft) @ LOS

- WiMi6400

HD-SDI/HDMI/VGA transmission
over Ethernet or IP network

WiMi5150A

WiMi6220

WiMi6400

Comparison of WiMi5150A, WiMi6220 & WiMi6400

Functions/Interfaces	WiMi5150A	WiMi6220	WiMi6400
Maximum Encoding Rate	~ 25 Mbps	~ 25 Mbps	~ 25 Mbps
Encoding/Decoding Latency	30ms	90ms	90ms
HDMI Port	TX/RX	TX/RX	TX/RX
HD-SDI (3G-SDI) Interface	-	TX/RX	TX/RX
Analog Audio Out (48kHz, 16-bit)	-	-	mini stereo phone jack
Wi-Fi	802.11ac (5GHz)	802.11ac (5GHz)	-
Max. Radio Coverage (line of sight)	1,500m (5,000ft)	1,500m (5,000ft)	-
RTSP, MPEG-2 TS Streaming	Yes	Yes	Yes
RTSP, MPEG-2 TS Relay Streaming on Receiver	-	Yes	Yes
Relaying Control Data (CCU)	-	RS422	TTL
Ethernet over Wi-Fi (CCU)	-	Yes	-
Station (Client) Mode of Wi-Fi	-	Yes	-
2-way Talk-Back Audio (Intercom)	-	mini stereo phone jack	Back channel audio
Ethernet	-	10/100Base-TX	10/100Base-TX
Web UI on USB port	Yes	Yes	Yes
Battery Plate	SONY NP Battery	V-lock/Anton Bauer	-
Enclosure Dimensions (H x W x D, mm)	80 x 90 x 30	144 x 91 x 26	184 x 117 x 30
Power Consumption	11 Watts	11 Watts	12 Watts
Major Applications	Short/Long range Wireless HDMI	Short/Long range Wireless HD-SDI/HDMI (Broadcasting)	Ethernet/IP Network VGA/HDMI/HD-SDI (Broadcasting)

Note :

Wireless Multimedia Solutions
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