

ITU-APT Foundation of India (IAFI)

World Wi-Fi Day Celebrations

Unlocking the Full Potential of 6GHz Wi-Fi in India: Policy, Power & Possibilities

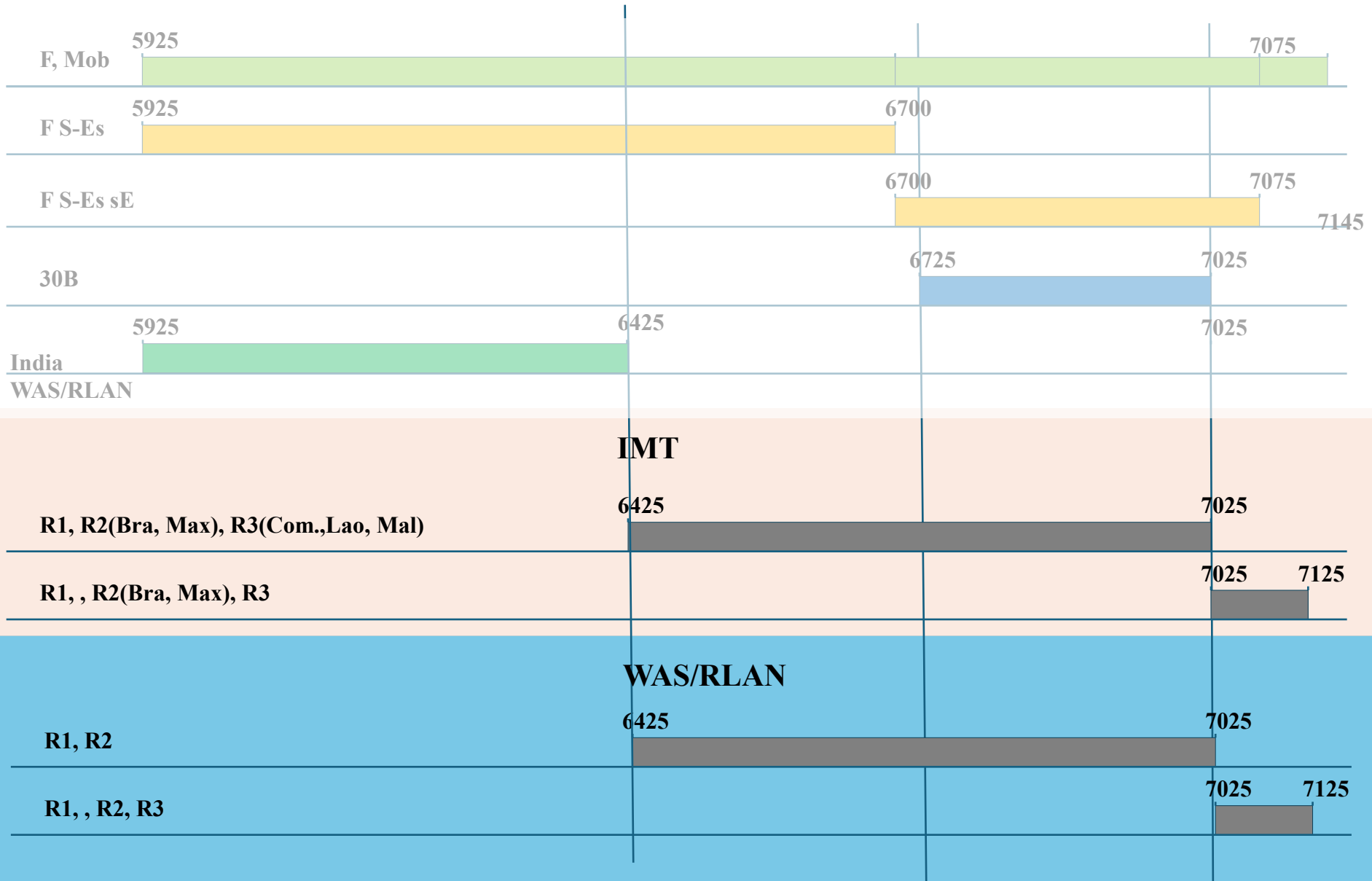
How can India align with global best practices while addressing local realities?

Mahendra Pal Singh Alawa

Joint Wireless Advisor

24-06-2026

Global situation on IMT and WAS/RLAN as per RR in (6GHz) WRC23 (out come)



Global situation on IMT and WAS/RLAN as per RR in (6GHz)

WRC23 (out come)

5.457D In Cambodia, Lao P.D.R. and the Maldives, the frequency band **6 425-7 025 MHz** is identified for the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Resolution 220 (WRC-23) applies. (WRC-23)

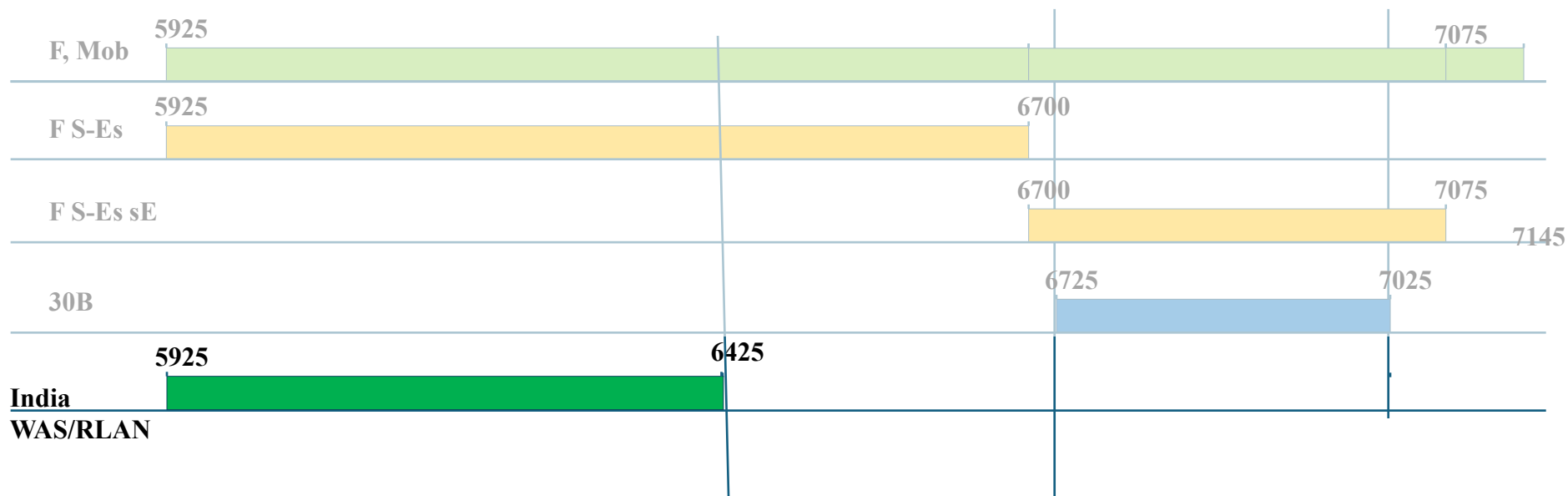
5.457E The frequency bands **6 425-7 125 MHz** in Region 1 and **7 025-7 125 MHz** in Region 3 are identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution 220 (WRC-23) applies.

The frequency bands are also used for the implementation of wireless access systems (WAS), including radio local area networks (RLANs). (WRC-23)

5.457F In Brazil and Mexico, the frequency band **6 425-7 125 MHz** is identified for the terrestrial component of International Mobile Telecommunications (IMT). The use of this frequency band for the implementation of IMT is subject to seeking agreement under No. 9.21 with neighbouring countries. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. Resolution 220 (WRC-23) applies.

The frequency band is also used for the implementation of wireless access systems (WAS), including radio local area networks (RLANs). (WRC-23)

India's identification of WAS/RLAN in (6GHz) band



Table

Low power indoor and Very Low Power Outdoor WAS/RLAN Access Points and devices

Device Type	Max. PSD e.i.r.p for in-band emissions	Max. e.i.r.p for in band emissions	Max. Emission Bandwidth	Out of band emissions (Max e.i.r.p density)
Low Power Indoor	5 dBm/MHz	30 dBm	320 MHz	-27 dBm/MHz
Very Low Power Outdoor	-5 dBm/MHz	14 dBm	320 MHz	-27 dBm/MHz

6 GHz Wi-Fi : Band adoptions globally



● Adopted 5925/5945-6425 MHz

Adopted 5925-7125 MHz

Source: wi-fi.org

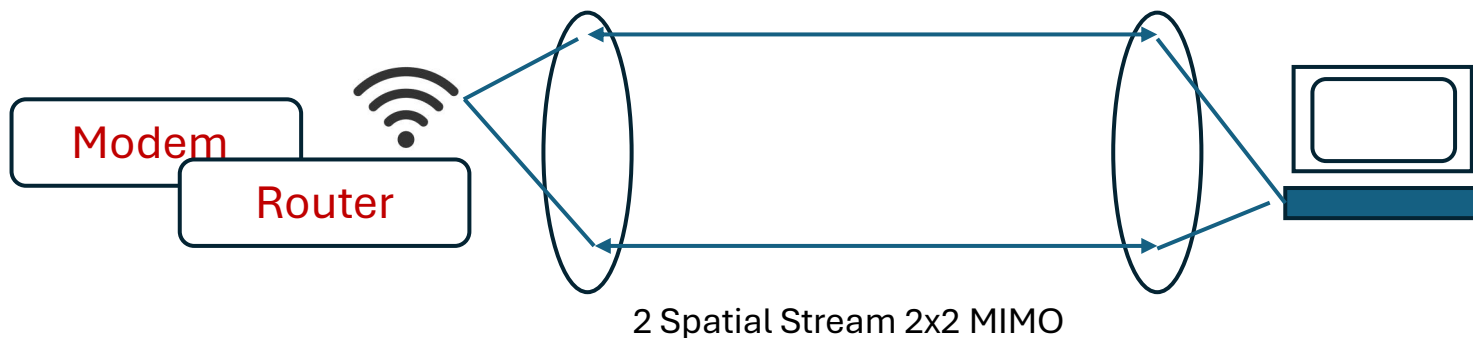
Total countries: 114

6 GHz Wi-Fi : Spectral efficiency & Local realities

Modulation : 1024-QAM

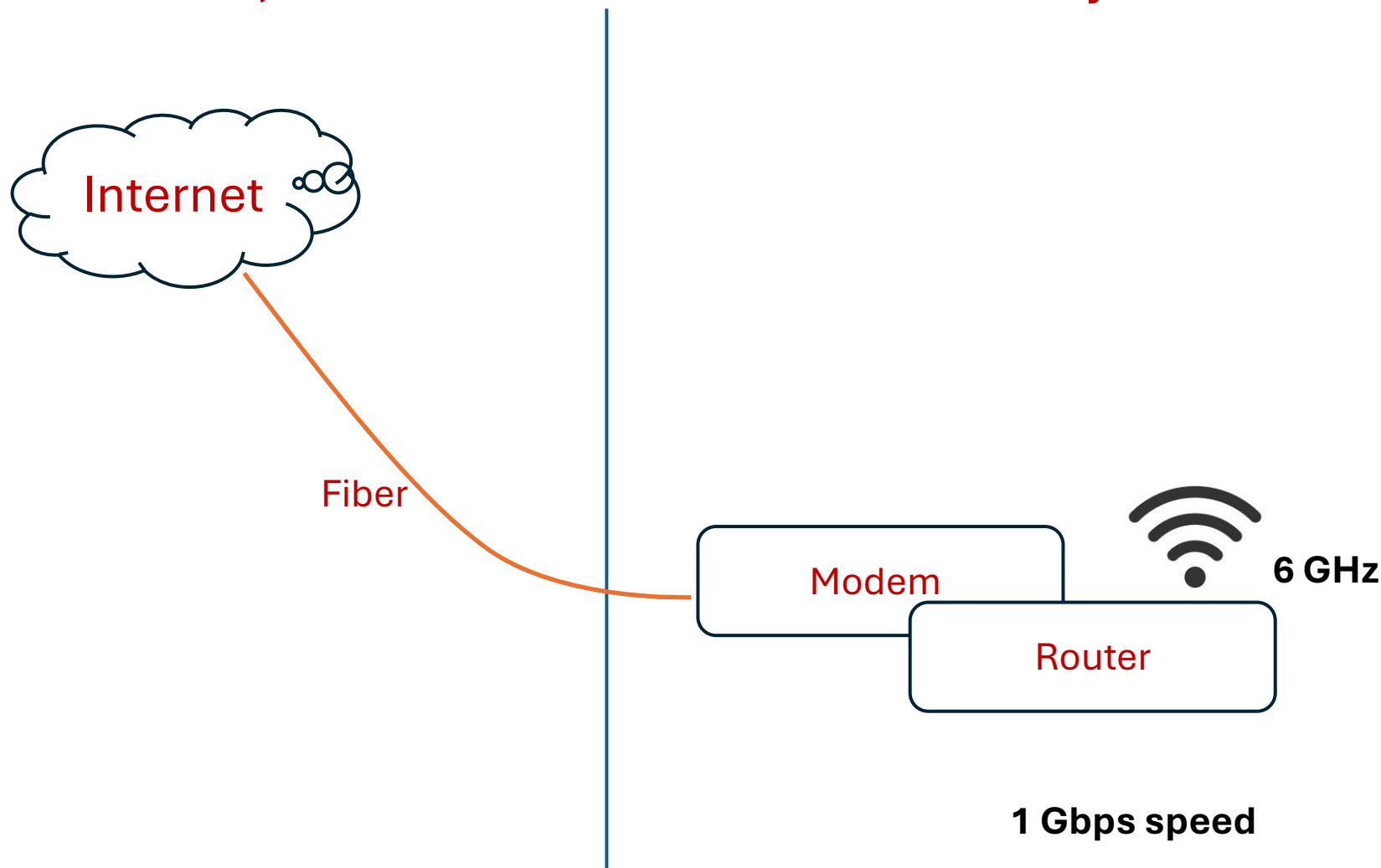
Max spectral Efficiency : 8.33 bps/Hz per spatial stream

Bandwidth	1 Spatial Stream	2 Spatial Streams	4 Spatial Streams
20 MHz	166.7 Mbps	333.3 Mbps	666.7 Mbps
80 MHz	666.7 Mbps	1.33 Gbps	2.67 Gbps
160 MHz	1.33 Gbps	2.67 Gbps	5.33 Gbps
320 MHz (Wi-Fi 7)	2.67 Gbps	5.33 Gbps	10.67 Gbps



6 GHz Wi-Fi : Local realities

Basic diagram illustrating internet connectivity via fiber, with Wi-Fi used for last-mile connectivity



Thank you

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