

Comparison of POYNTING XPOL-1-5G V2 vs V3

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Summary of Technical and Performance Differences

Feature	XPOL-1-5G (V2)	XPOL-1-5G+ (V3)	V3 Improvements
Frequency Range	617–3800 MHz	410–6000 MHz	Much wider band coverage (adds sub-500 MHz support and extended 6 GHz range)
Peak Gain	3.5 dBi	7 dBi	Double the peak gain – better signal strength and range
Peak Gain by Band	0.5 → 3.5 dBi	–4 → 7 dBi	Higher gain across frequency bands
Radiation Pattern	More uniform with better omnidirectionality	Higher gain causes more variations in the radiation patterns	
MIMO Configuration	2×2 or 4×4 MIMO	2×2 or 4×4 MIMO	Same options
Polarisation	Cross-polarised (Vertical and Horizontal)	Cross-polarised (+45°, –45°, Vertical, Horizontal)	Better isolation and spatial diversity
VSWR	≤ 2.5 : 1	≤ 2.5 : 1 (across 90% of bands)	Similar efficiency
Coax Cable	HDF 195 (5 m)	HDF 195 (5 m)	No changes

Connectors	SMA (M)	SMA (M)	No changes
Mechanical Design	IP65 ASA enclosure	IP65 ASA enclosure	Same enclosure
Mounting Options	Wall, pole, or window	Wall, pole, or window	No changes
Dimensions	246 × 157 × 88 mm	246 × 157 × 88 mm	Same enclosure

Gain across Frequency Bands

Frequency Bands	XPOL-1-5G (V2)	XPOL-1-5G+ (V3)
410 – 470 MHz	NA	-4 dBi
617 – 960 MHz	0.5 dBi	1.5 dBi
1427 – 1517 MHz	2 dBi	2 dBi
1710 – 2700 MHz	3 dBi	6 dBi
3300 – 4200 MHz	3.5 dBi	7 dBi
4400 – 6000 MHz	NA	5 dBi

Expected Performance in Different Environments

Environment	XPOL-1-5G (V2)	XPOL-1-5G+ (V3)	Summary
Urban	Excellent	Excellent	Both suitable, but V2's lower gain prevents overshoot and might be a more cost-effective solution.
Suburban	Good	Excellent	V3's higher gain extends reach to suburban or edge-of-coverage zones
Rural / Remote	Fair	Good	V3 presents a peak gain of around 2 dBi @ 610-960 MHz, making it better suited for rural areas
Low-frequency (700 MHz or below)	Supported down to 617 MHz	Supports 410-470 MHz	V3 future-proof for countries/carriers using sub-600 MHz bands (e.g. 450 MHz, 470 MHz)

High-frequency (5G mmWave)	Not supported (> 3800 MHz)	Up to 6000 MHz	V3 ready for extended 5G bands and CBRS+ ranges
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Summary of Improvements in XPOL-1-5G+

Main Performance Upgrades:

- **Peak Gain doubled** (3.5 → 7 dBi)
- **Frequency range expanded** (617–3800 → 410–6000 MHz)
- **Enhanced polarization** (adds +45 and -45 +polarizations)
- **More future-proof** for emerging sub-1GHz and 5–6 GHz 5G bands
- **Broader use cases:** urban, suburban **and** rural

Conclusion

The conclusion is that the **XPOL-1-5G+ (V3)**, with its higher gain on the lower frequencies, is a better option in rural areas. It is also a great option for suburban or even some urban areas, namely when a directional antenna may not be the best option (due to higher reliability/omni-directionality requirements or when obstructions directly impact the line of sight).

In contrast, the **XPOL-1-5G (V2)**, with its lower gain, is generally better suited for urban applications. The reduced gain provides better pattern control and a wider vertical aperture, improving signal capture in areas with obstructions and more challenging environments. In these areas, reflected signals can arrive from any horizontal or vertical directions, and a wider vertical aperture will be beneficial. Additionally, the V2 is a more cost-effective solution when cell towers are closer to the antenna installation location.