

TANCELL

5G Schematics, Wiring & Dimensions

Installation / Connection Drawing Package

Document owner	Tancell Engineering
Revision	1.0
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Classification	Technical / Engineering Reference
Standards basis	3GPP 5GS / 5G NR; O-RAN architecture concepts

Important: This package is a Tancell engineering reference design. Test values marked 'sample' or 'simulated' are not third-party certification results and must be replaced by measured laboratory/site data before regulatory submission or customer acceptance.

Document scope

This document set defines a vendor-neutral 5G mobile integration baseline covering UE-to-RAN connectivity, radio unit integration, transport/fronthaul, synchronization, DC power, grounding, mechanical installation, commissioning, alarms and acceptance testing. It is intended for engineering, tender, installation and FAT/SAT preparation.

Reference standards

Primary architecture reference: 3GPP TS 23.501 (5G System architecture). Radio/base-station reference: 3GPP TS 38.104 / ETSI TS 138 104. Open RAN transport drawings use O-RAN split 7-2x concepts. Always validate band, power, emissions, EMC, electrical safety and local spectrum/licensing requirements for the target country.

1. Installation drawings

Mechanical, cabinet, cable and connector reference drawings.

TANCELL - Drawing 01: Mechanical Dimension

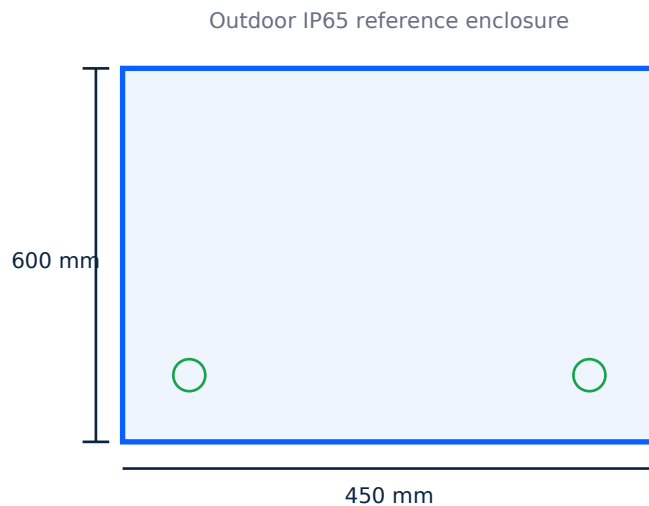


Figure 1. Mechanical Dimension. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 02: Outdoor Enclosure

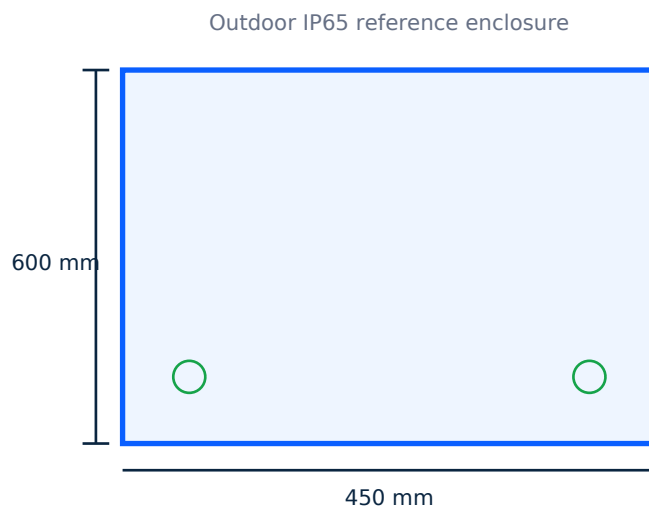


Figure 2. Outdoor Enclosure. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 03: Rack Mechanical

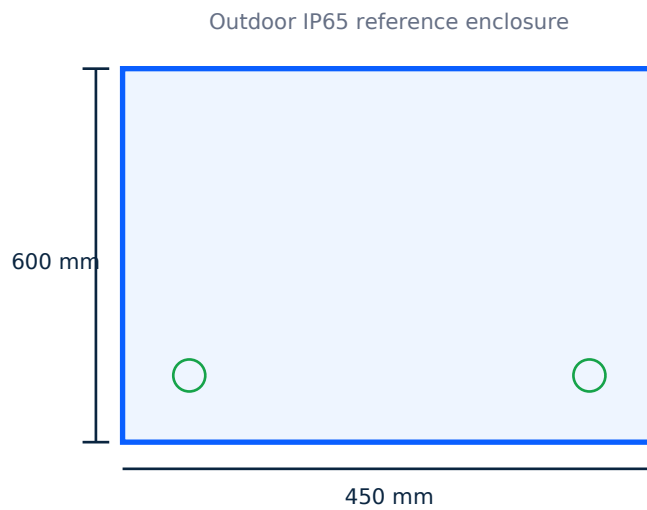


Figure 3. Rack Mechanical. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 04: Connector Pinout

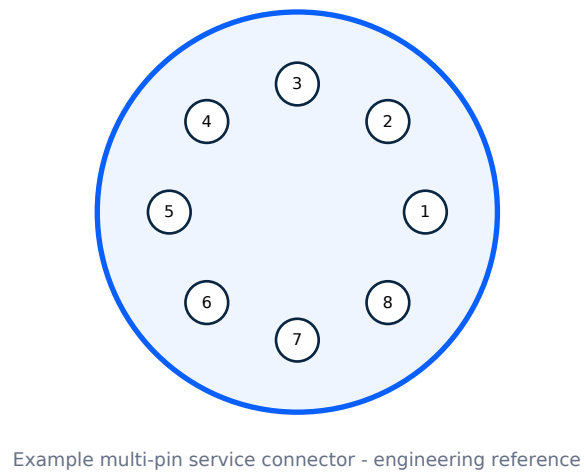


Figure 4. Connector Pinout. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 05: RF Antenna Cabling

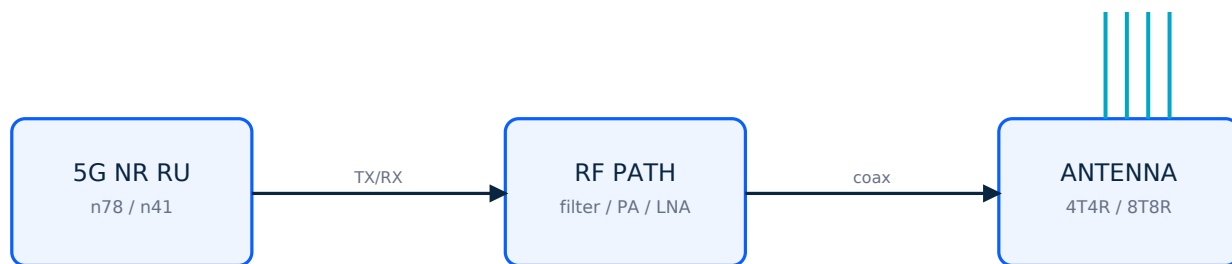


Figure 5. RF Antenna Cabling. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 06: Ethernet Fronthaul

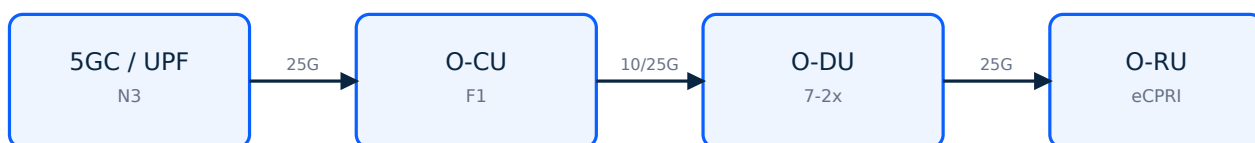


Figure 6. Ethernet Fronthaul. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 07: Power Distribution

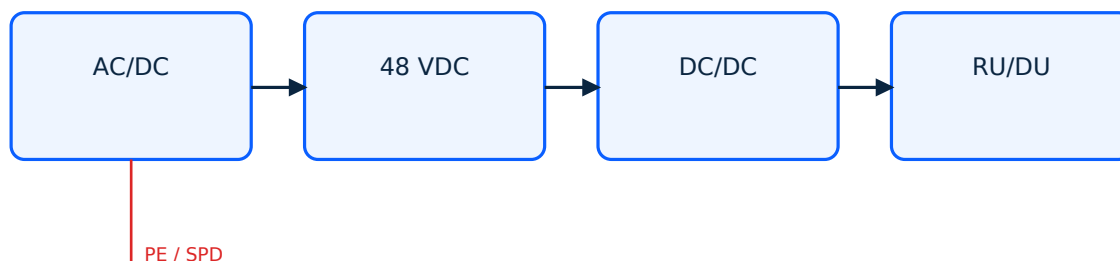


Figure 7. Power Distribution. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 08: Timing Sync



Figure 8. Timing Sync. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

2. Connection schematics

Field connection and interconnect references for RAN, transport, DC power and alarms.

TANCELL - Drawing 09: RF Chain



Figure 9. RF Chain. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 10: Antenna Connection



Figure 10. Antenna Connection. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 11: Ethernet Transport

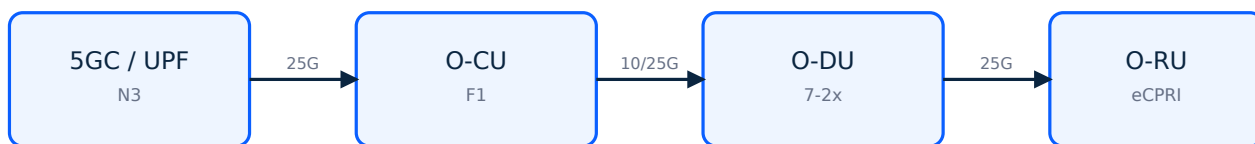


Figure 11. Ethernet Transport. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 12: Fronthaul 7-2x

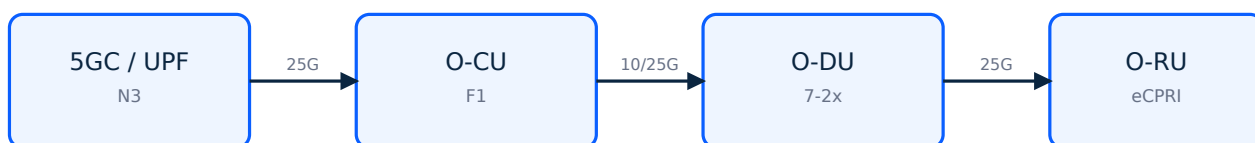


Figure 12. Fronthaul 7-2x. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 13: Power Distribution

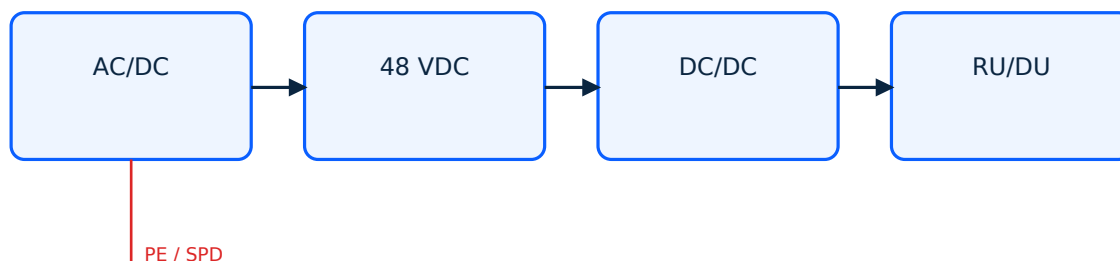


Figure 13. Power Distribution. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 14: Grounding Bonding

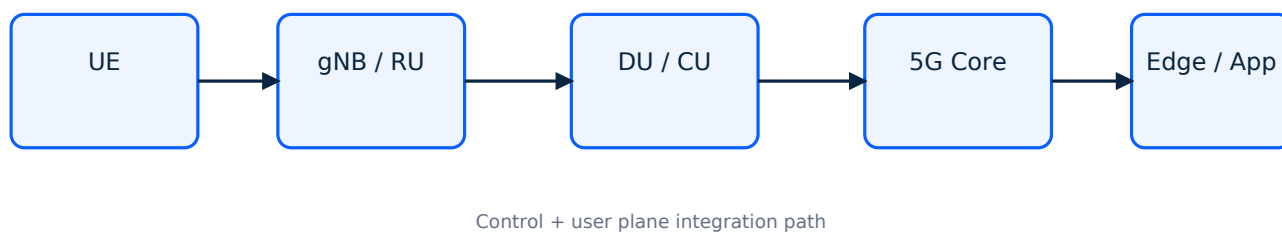
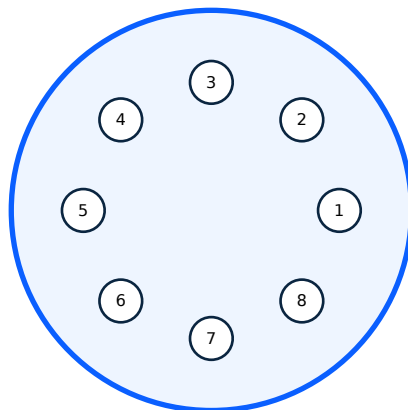


Figure 14. Grounding Bonding. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 15: Alarm Connector Pinout



Example multi-pin service connector - engineering reference

Figure 15. Alarm Connector Pinout. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 16: Timing Sync



Figure 16. Timing Sync. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

3. Site integration details

Typical site topology, service access and commissioning connection arrangements.

TANCELL - Drawing 17: DC Distribution

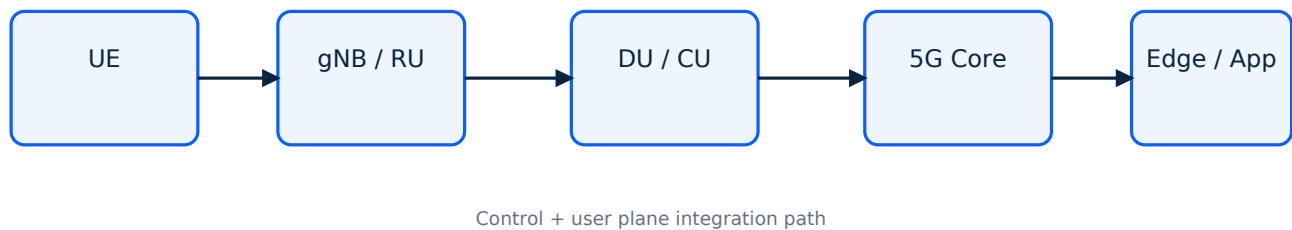


Figure 17. DC Distribution. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 18: Mechanical Dimension

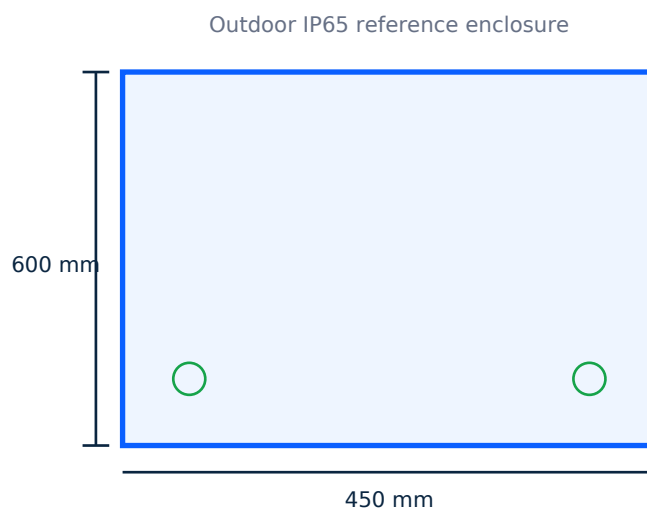


Figure 18. Mechanical Dimension. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 19: Site Integration



Control + user plane integration path

Figure 19. Site Integration. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 20: Service Laptop Connection



Control + user plane integration path

Figure 20. Service Laptop Connection. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 21: GPS Timing



Figure 21. GPS Timing. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.

TANCELL - Drawing 22: Fiber Patch Layout

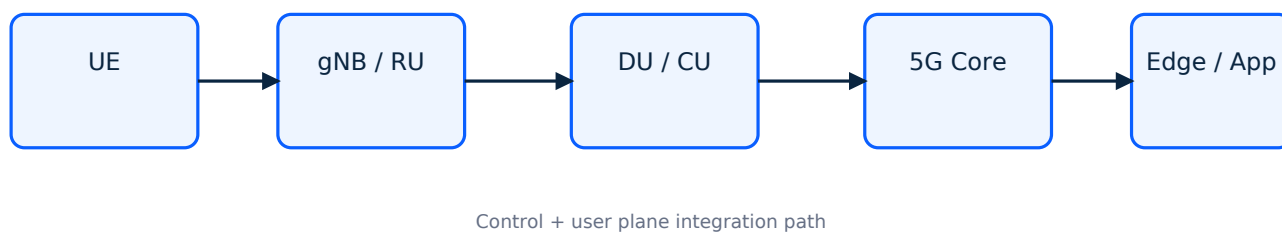


Figure 22. Fiber Patch Layout. Tancell engineering reference; dimensions/interfaces are to be verified against selected hardware BOM.