

# Introduction



O-RAN Portal Home | By using this website you agree to [O-RAN ALLIANCE Copyright Policies](#)

Workgroup Number	WG7
Workgroup Name	White-Box Hardware Workgroup
Task Groups	Deployment Scenarios and BS Classes - <b>TG1</b> Indoor Picocell, FR1/FR2 - <b>TG2</b> Outdoor Microcell, FR1, FR2 - <b>TG3</b> Outdoor Macrocell ( <b>OMAC</b> ) FHGWs for O-RAN and Brownfields - <b>TG7</b>
Workgroup Character	To specify and release complete Hardware reference design of a high performance, spectral and energy efficient white-box base stations for deployment scenarios as specified by service operators.
Workgroup Scope	<p><b>Must have:</b></p> <p>Within this scope any kinds of design material are not precluded, such as documentation of reference hardware and software architectures, detailed schematic of reference design, POC hardware, test cases for verification and certification of all base station types and usage scenarios. Component selection for example implementation of white box hardware is allowed for WG7, but would not be mandatory in any Specification. Any WG7 Draft Specifications proposed for adoption as O-RAN Alliance Final Specifications will not include mandatory requirements to use specific chipsets or components.</p> <p>WG7 may deliver multiple specifications per deployment scenario depending on their deployment use-case and /or architecture (e.g. integrated vs split with multiple LLS options) . Each WG7 white box Hardware Specification will include information for:</p> <ul style="list-style-type: none"><li>• O-CU; and</li><li>• O-DU; and</li><li>• O-RU; and</li><li>• Fronthaul gateway (if needed)</li></ul> <ol style="list-style-type: none"><li>1. All fronthaul interfaces shall be based on:</li><li>2. WG4 (open fronthaul interface group) released interfaces; or</li><li>3. O-RAN approved publicly available external interfaces; or</li><li>4. fronthaul interfaces made available and published as part of an O-RAN approved WG7 reference design.</li></ol> <p><b>Nice to have:</b></p> <ul style="list-style-type: none"><li>• Detailed schematic of reference design is used to describe the design of white box hardware. It only contains the components and the interface connection relationship among them. This reference design schematic is an example of how to implement a white box hardware. The schematic is not mandatory for usage to the vendors. Each device may be replaced by other components in specific or alternate implementations according to need for performance enhancement or cost reduction or additional functionality of white boxes.</li></ul> <p><b>Not in scope:</b></p> <ul style="list-style-type: none"><li>• WG7 shall NOT specify any software specifications for O-CU and O-DU. However, it may include an O-RU software if needed and if it is submitted and approved as part of a reference design.</li></ul>
Workgroup Co-chairs	AT&T (ATT): Saeed Ghassemzadeh Qualcomm (QCM): Jack Nasielski China Mobile (CMCC): Jinyu Cao Baicells (BAI): Li Wang