

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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In the Matter of	)	
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Protecting Against National Security Threats to the	)	WC Docket No. 18-89
Communications Supply Chain Through FCC	)	
Programs	)	
	)	

**COMMENTS OF AIRSPAN NETWORKS INC.**

Airspan Networks Inc. respectfully submits these comments in response to the Wireline Competition Bureau’s Public Notice on the Supply Chain Reimbursement Program Study (“Report”) and the preliminary Catalog of Eligible Expenses and Estimated Costs (“Cost Catalog”).<sup>1</sup>

**INTRODUCTION**

As one of the only 5G standalone, end-to-end Open Radio Access Networks (“Open RAN”) solutions providers based in the United States, Airspan welcomes the opportunity to participate in this proceeding, which will set the tone for how carriers approach identifying secure, reliable, and cost-effective equipment suppliers while also securing their networks from untrusted vendors. Airspan believes the Report and Cost Catalog generally take a fair and reasonable approach in identifying the various concerns carriers will face as part of the Secure and Trusted Communications Networks Reimbursement Program (“Reimbursement Program”).

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<sup>1</sup> *Wireline Competition Bureau Seeks Comment on a Report and Preliminary Cost Catalog and Replacement List to Help Providers Participate in the Supply Chain Reimbursement Program*, Public Notice, WC Docket No. 18-89, DA 21-355 (rel. Mar. 25, 2021).

Nevertheless, Airspan encourages the Bureau to remove the Open RAN Logical Diagram listed in Appendix A of the Report<sup>2</sup> as it does not accurately identify the full complement of Open RAN capabilities nor does it accurately capture the placement of certain software and hardware in the RAN ecosystem. Airspan also requests that the Commission expand the definition of microwave in the Report<sup>3</sup> to explicitly include radios that operate in the 5.725-5.850 (“5.8”) GHz band, which can deliver the same performance level as those operating at higher microwave frequencies but at lower cost. Lastly, Airspan urges the Bureau to conduct further study of the cost estimates listed in the Cost Catalog in order to better reflect the efficiencies that have been realized by the latest network architectures and consider competitive pricing in its evaluation of carriers’ initial reimbursement cost estimates for participation in the Reimbursement Program. This level of examination will help guarantee that the monies allocated for the Reimbursement Program are distributed in the most advantageous and efficient means possible. With the adoption of these proposals, the Bureau’s Report and Cost Catalog will be effective tools in the removal and replacement of equipment from those vendors that pose an unacceptable risk to national security.

## **DISCUSSION**

Airspan is at the forefront of 5G RAN and Fixed Wireless Access deployment, offering innovative 4G and 5G solutions coupled with Citizens Broadband Radio Service spectrum and point-to-multipoint solutions. With a portfolio spanning 150 patents and a U.S. customer base that includes Motorola Solutions, Cisco, and numerous carriers and Wireless Internet Service

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<sup>2</sup> See *id.* at attachment 1, p. A1 (Figure 5 Open RAN Logical Diagram).

<sup>3</sup> See *id.* at 47.

Providers—not to mention over 1,000 other customers in over 100 countries worldwide—  
Airspan is distinctively well-positioned to address the issues raised in this proceeding.

While the Report and Cost Catalog generally take a fair and reasonable approach, Airspan takes issue with the Open RAN Logical Diagram in Appendix A of the Report, which purports to identify the network components applicable for potential replacement in an Open RAN network configuration. This diagram is flawed in two key respects. First, the identification by color-coding of those aspects of an Open RAN system that should be allowable for replacement under the Reimbursement Program and those that should not is completely arbitrary. In this stage of the process, the Bureau should not be making any presuppositions for what should and should not be covered under Open RAN architecture, especially given that the Commission is currently seeking additional information on this cutting-edge networking solution.<sup>4</sup>

Additionally, the Open RAN diagram is misleading in that Distribution Units (“DU”) software is only shown on Commercial Off the Shelf (“COTS”) data center computers. But in many real-world scenarios today, DU software and hardware are also often used in the RAN element of the network along with such networking components as macro remote radio units and/or small cells. Indeed, approximately 50 percent of Open RAN hardware shipped by Airspan has DU software integrated into the Radio Unit. It is not accurate then to dictate that this software must reside on the COTS-based server because doing so will unnecessarily force unrealistic latency requirements on network operators. DU software must have the flexibility to be hosted on either the RAN side or the data center side to avoid this problematic outcome. As

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<sup>4</sup> *In re Promoting the Deployment of 5G Open Radio Access Networks*, Notice of Inquiry, GN Docket No. 21-63, FCC 21-31 (rel. Mar. 18, 2021).

such, this diagram should be removed from the final Report as it does not accurately reflect the real-world architecture of many Open RAN systems in operation today.

Airspan further encourages the Bureau to include radios that operate in the 5.8 GHz band in the final Report's definition of "microwave" communications technology.<sup>5</sup> In today's world, 5.8 GHz radios can achieve the same performance level as microwave radios but at a fraction of the cost. Thus, to exclude these radios risks inefficiently allocating the limited resources appropriated to the Reimbursement Program. Airspan therefore suggests the following revision to the Report's current definition of microwave radio: "Operators incorporate microwave technology for providing point-to-point and point-to-multipoint solutions within their network, *including point-to-point applications of 5.8 and 6 GHz band technology.*" Adopting this approach will promote additional flexibility to carriers participating in the Reimbursement Program and encourage more cost-effective deployment.

Finally, Airspan recommends that the Bureau conduct further study of the price estimates listed in the Cost Catalog and consider competitive pricing in its evaluation of carriers' initial reimbursement cost estimates for participation in the Reimbursement Program, as the Cost Catalog's pricing appears grossly inflated. For example, some of the *lower* bound cost estimates listed in the Cost Catalog are as much as three times (3x) the price Airspan currently offers for equivalent hardware and other network elements. And network equipment and services are becoming less expensive by the day due to the ongoing evolution of network architecture design and equipment manufacturing. Accordingly, the Bureau should ensure that when federal funds are being used to reimburse carriers for replacing their network equipment, the price paid for such equipment is competitive.

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<sup>5</sup> See Report at 47.

## CONCLUSION

For these reasons, Airspan encourages the Bureau to update the Report to remove any preconceived notions about the capabilities of an Open RAN network configuration, recognize technological developments in the microwave-networking arena, and conduct further study of its cost estimates as well as incorporate competitive pricing in its assessment for participation in the Reimbursement Program. Taking these actions will expedite the ability of carriers to secure their networks in a timely and efficient manner, promote technological neutrality in implementation of the Reimbursement Program, and ensure efficient use of limited federal resources.

Respectfully submitted,

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