

November 28, 2017

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street N.W.
Washington, DC 20554

Re: Request for grant of five-year experimental license term for market trial, Experimental License File No. 0841-EX-CN-2017

Dear Ms. Dortch:

Pursuant to the provisions of Section 5.71 of the Commission's rules governing the term length of an experimental radio license and procedures for requesting a longer term,¹ 3DB Communication Inc. ("3DB") respectfully requests a five-year license term for the above-captioned experimental license application.² While the standard duration for conventional experimental licenses is two years, the Commission's rules permit an experimental license term length of five years if the applicant provides justification.³

As explained in the narrative description contained in Exhibit 1 of the Application, 3DB intends to conduct a market trial that would analyze changing propagation conditions and evaluate various communication modes for high frequency ("HF") media. The five-year market trial will allow 3DB to determine, among other things: (1) commercial usage; (2) commercial pricing; (3) target-customer demographics; (4) operational performance and reliability; and (5) potential adoption and growth rates in the market.⁴ 3DB intends to conduct this study over a period of five years to develop its understanding of market conditions and thus requests that the Commission grant an experimental license for the duration of the study.

The length of the study is necessary for 3DB to verify operation under all HF propagation conditions.

HF signal propagates through the ionosphere where the ionospheric properties have been ionized by flares and prominences from sunspot number. This has significant effect on the stability of the ionosphere, resulting in the frequencies that can be used for HF communications to vary depending on the time of day, season, year and the 11-year solar cycle.⁵

"Solar cycles usually take a few years to build from solar minimum . . . to Solar Max."⁶ Since Solar Cycle 24 is expected to end in 2019, a five-year study duration should be able to capture the full range of solar impact on HF propagation conditions. This would also allow 3DB to test beam propagation through multiple seasonal cycles. Additionally, a five-year license term will provide sufficient time for 3DB to test a range of different types of equipment (e.g., antennas and amplifiers) through the end of Solar Cycle 24 and into Solar Cycle 25.

¹ 47 C.F.R. § 5.71.

² 3DB Communication Inc., Experimental License Application, ELS File No. 0841-EX-CN-2017 (filed Nov. 17, 2017) ("Application").

³ See 47 C.F.R. § 5.71(a)(1).

⁴ See Application Exhibit 1 at 3.

⁵ Malik, R.A., *et al.*, *The influence of sunspot number on high frequency radio propagation*, IEEE Xplore Digital Library (Feb. 19, 2015), available at <http://bit.ly/2BoMqy9>.

⁶ Phillips, Tony, *Solar Cycle 24 Begins*, NASA (Jan. 10, 2008), available at <https://go.nasa.gov/2BoA2OB>.

While this application closely resembles the applicant's previously granted application in File No. 0300-EX-CN-2017, the prior application – unlike the current application – did not request market-trial authority pursuant to section 5.3(k) of the Commission's rules and as may be subject to the conditions of section 5.602 of the Commission's rules as appropriate.⁷

Please direct any questions to me.

Respectfully submitted,

/s/ Sarah K. Leggin

Sarah K. Leggin
Counsel to 3DB Communication Inc.

⁷ 47 C.F.R. §§ 5.3(k), 5.602.