

Date: November 6, 2024

Federal Communications Commission  
7435 Oakland Mills Road  
Columbia, MD 21046  
Attn: Reviewing Engineer

Re: FCC ID: 2ALIY-GCM6201NA

Applicant: GCT SEMICONDUCTOR, INC  
Correspondence Reference Number: 603348  
Form 731 Confirmation Number: TC772518  
Date of Original E-mail: 11/01/2024

To whom it may concern:

HCT America has been informed by GCT Semiconductor Inc the referenced ID is intended for Ligado ATC networks.

Please advise if the appropriate limits are as follows per FCC Docket 20-48:

Link: <https://www.fcc.gov/document/fcc-approves-ligado-l-band-application-facilitate-5g-iot>

## **2. Power Levels and Operating Restrictions**

134. *Downlink Power Level.* Consistent with the DOT ABC Report and Ligado's May 31, 2018 amendment (in fulfillment of its December 2015 commitment to abide by the recommendation of the FAA), Ligado's ATC base stations operating in the 1526-1536 MHz band shall not exceed an EIRP of 9.8 dBW (10 W) with a +/- 45 degree cross-polarized base station antenna. Based on FAA analysis, the minimum inter-station separation distance shall be 433 meters in a hexagonal grid.

135. *Uplink Power Level.* Consistent with Ligado's agreements with the GPS companies, Ligado shall not exceed a power level of -7 dBW in the 1627.5-1637.5 MHz and the 1646.5-1656.5 MHz uplink bands, but that, for a period of five years, the maximum EIRP for the lowest five megahertz of this spectrum—that is, 1627.5-1632.5 MHz—will ramp up from -31 dBW at 1627.5 MHz to -7 dBW at 1632.5 MHz before becoming subject to the -7 dBW limit for the entire segment.

136. *No Terrestrial Operation in the Upper-Downlink Band.* Consistent with its agreements with the GPS companies and its May 2018 amendment, Ligado shall not operate using its ATC authority in its MSS downlink spectrum from 1545-1555 MHz.

137. *ATC Base Station Limitation in Lower Downlink.* Consistent with its May 2018 amendment (incorporating the FAA's assessment in the DOT ABC Report), Ligado shall be prohibited from operating any ATC base station antenna in its lower downlink band, 1526-1536 MHz, at a location less than 250 feet laterally or less than 30 feet below an obstacle clearance surface established by the FAA under 14 CFR Part 77 and implementing orders and decisions. To ensure compatibility with 14 CFR Part

77, no Ligado tower may be located such that the 250-foot standoff cylinder would pierce the obstacle clearance surface.

138. *Commencement of operations.* Ligado shall be prohibited from commencing commercial terrestrial operations in the 1525-1559 or the 1626.5-1660.5 MHz bands until at least 90 days from the release of this Order and Authorization. However, for commercial terrestrial operations in the 1526-1536 MHz band, Ligado shall also comply with the additional temporal restrictions in Condition 4, below, prior to commencing operations.

### **3. Out-of-Band Emissions**

139. *ATC Mobile Terminal Emissions.* Consistent with the decisions above and Ligado's commitment in the 2015 modification applications, the EIRP for Ligado's ATC mobile terminal out-of-channel emissions shall be limited to:

- (i) -67 dBW/4kHz at 1627.5 MHz;
- (ii) a level determined by linear interpolation from -67 dBW/4kHz at 1627.5 MHz to -100 dBW/MHz at 1610 MHz in the 1627.5-1610 MHz frequency range;
- (iii) a level determined by linear interpolation from -100 dBW/MHz at 1610 MHz to -105 dBW/MHz at 1608 MHz in the 1610-1608 MHz frequency range;
- (iv) -105 dBW/MHz in the 1541-1608 MHz frequency range;
- (v) -58 dBW/4 kHz at a 1 megahertz offset beyond the edges of the authorized and internationally coordinated MSS frequency assignment at 1646.5-1656.5 MHz.

140. *ATC Mobile Terminal Discrete Emissions.* Consistent with its commitment in the 2015 modification applications, the EIRP for Ligado's ATC mobile terminal discrete emissions shall be limited to:

- (i) a level determined by linear interpolation from -44 dBW/700 Hz at 1625 MHz to -110 dBW/700 Hz at 1610 MHz in the 1625-1610 MHz frequency range;
- (ii) a level determined by linear interpolation from -110 dBW/700 Hz at 1610 MHz to -115 dBW/700 Hz at 1608 MHz in the 1610-1608 MHz frequency range;
- (iii) -115 dBW/700 Hz in the 1608-1559 MHz frequency range;
- (iv) -132 dBW/2 kHz in the 1559-1541 MHz frequency range.

141. *ATC Base Station Emissions.* Consistent with its commitment in the 2015 modification applications, the EIRP for Ligado's ATC base station emissions shall be limited to:

- (i) -85 dBW/MHz in the 1541-1559 MHz and 1610-1650 MHz frequency ranges;
- (ii) -100 dBW/MHz in the 1559-1610 MHz frequency range.

142. *ATC Base Station Discrete Emissions.* Consistent with its commitment in the 2015 modification applications, the EIRP for Ligado's ATC base station discrete emissions shall be limited to:

- (i) -112 dBW/2 kHz in the 1541-1559 MHz frequency range;
- (ii) -110 dBW/700 Hz in the 1559-1610 MHz frequency range;
- (iii) -95 dBW/700 Hz in the 1610-1650 MHz frequency range.

143. *Equipment Authorization.* Ligado shall ensure that test results demonstrating compliance with the foregoing limits on emissions in the 1559-1610 MHz band are included in any application for

Please advise how to proceed

Sincerely,

HCT America TCB