SUPPLEMENT A

Please note that for Questions A), B), and C) below, OneWeb will demonstrate its compliance with applicable EPFD limits, option 2).

A) For operations in the 14-14.5 GHz band,

1) Please reduce the power of emission 113MG7D from 7.67kW (ERP), and 58kW (ERP) and to 2780W(ERP),

2) or demonstrate that your proposed operations of emission 113MG7D with power 7.67kW (ERP) and 58kW (ERP) via OneWeb's NGSO satellites will be in compliance with the equivalent power Flux-density limit (-160 dBW/m2/40 KHz) of 47 CFR § 25.208(k) Article 22.5D of the ITU Radio Regulations. Also, please provide the detail calculation, data/number/value and formula that used to calculate the result of EPFD levels,

3) or remove the proposed operation.

While the peak EIRP density of the experimental user terminals may be as high as 20 dBW/40 KHz at their boresights, the OneWeb system will never allow its earth stations to radiate directly at the GSO arc. In fact, no OneWeb earth station will orient its boresight within 6 degrees of the GSO arc at any time. This is depicted in the figure below, which depicts how an experimental user terminal on the surface of earth is prohibited from pointing its boresight near the GSO arc.

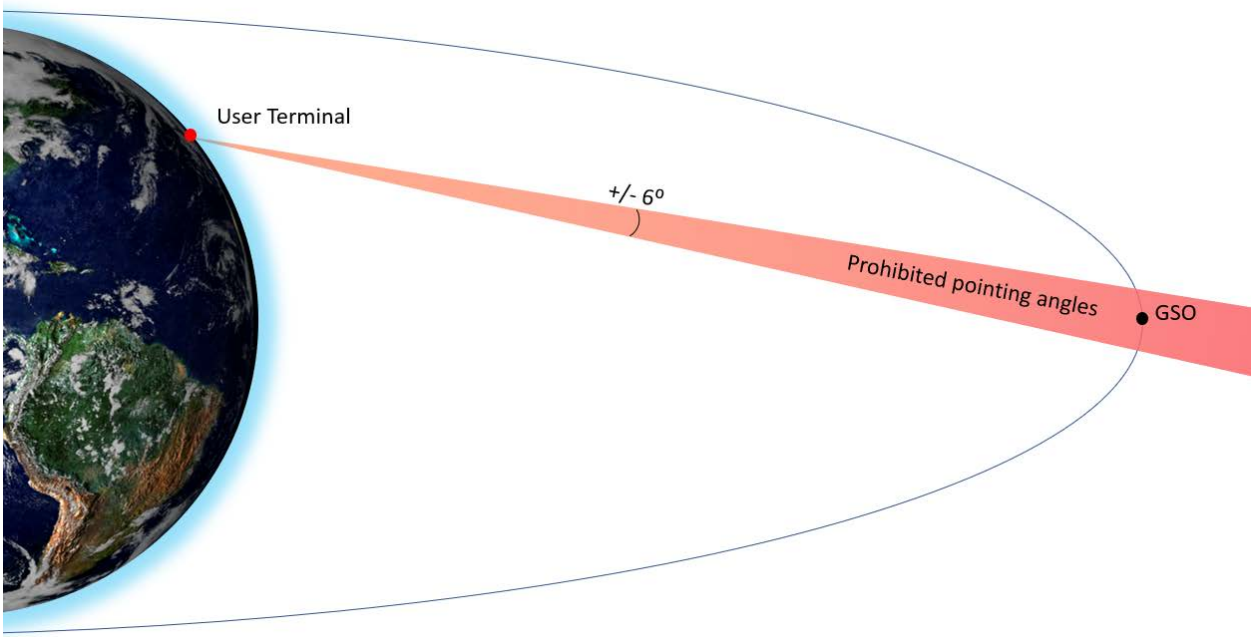

Diagram 1

For this reason, the GSO arc will only experience interference values that pertain to earth station antenna off-axis angles greater than or equal to 6 degrees. This is depicted below, demonstrating the difference between the EIRP density values within 6 degrees of the boresight of the OneWeb earth station (not experienced by the GSO arc) and the EIRP density that the GSO arc would experience.

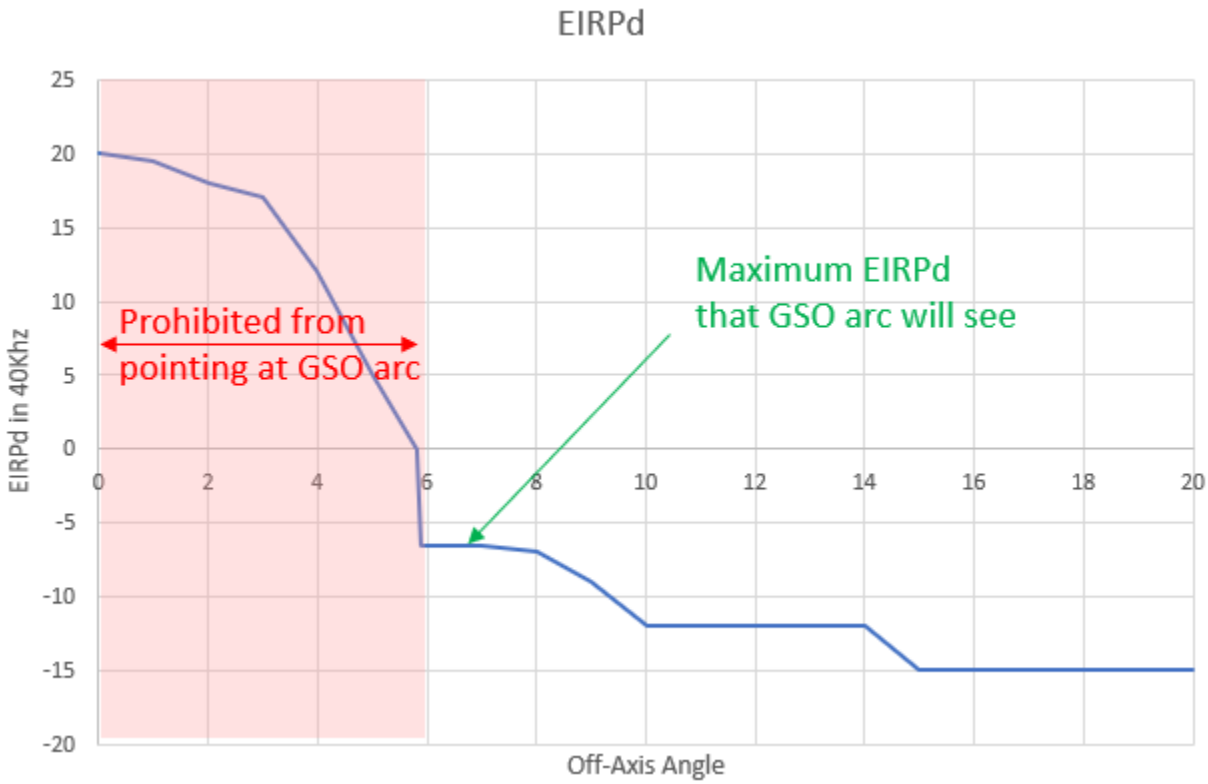

Diagram 2

The maximum EIRP density that will be radiated towards a victim satellite at any point on the GSO arc would therefore be -6.5 dBW/40 KHz.

The minimum spreading loss, in the log scale, from a single experimental user terminal in the United States to the GSO arc is equal to -10*log(4*pi*D^2), or -162.2 dB/m^2, where D is 36,500 km. Thus, the maximum EPFD at any GSO victim satellite would be no more than: -6.5 dBW/40 KHz - 162.2 dB/m^2 = -168.7 dBW/m^2/40 KHz.

The $EPFD_{up}$ limit in the Ku-band is -160 dBW/m^2/40 KHz. In theory, this means that multiple experimental user terminals could operate at maximum EIRP and minimum GSO avoidance angle from the same location, and still result in acceptable EPFD at a victim GSO satellite. Regardless of the number of experimental user terminals at a single location, each experimental user terminal at the test site would be operating on a different channel to avoid co-interference, and therefore would result in little-to-no aggregation in a given 40 kHz reference band. As such,

there will be significant margin in the resultant EPFD levels with respect to the operation of OneWeb's experimental user terminals described in this application.

The following additional explanation is provided to demonstrate how the OneWeb system complies with EPFDup limits by using a 6-degree GSO avoidance angle.

The figure below depicts how the OneWeb system (only one plane shown for clarity) will employ progressive pitch so that the center of the satellite footprint (coverage area) is biased towards the Equator. Through this pitching bias, every OneWeb earth station will be able to maintain connection to a OneWeb satellite while also maintaining at least 6 degrees of avoidance with the GSO arc. Even at the extreme case, such as an experimental user terminal on the equator (which may not be relevant to this experimental license application), the GSO avoidance angle is maintained by prohibiting user terminals from connecting with the OneWeb satellite directly overhead, and instead connecting to adjacent satellites which will increase the GSO avoidance angle.

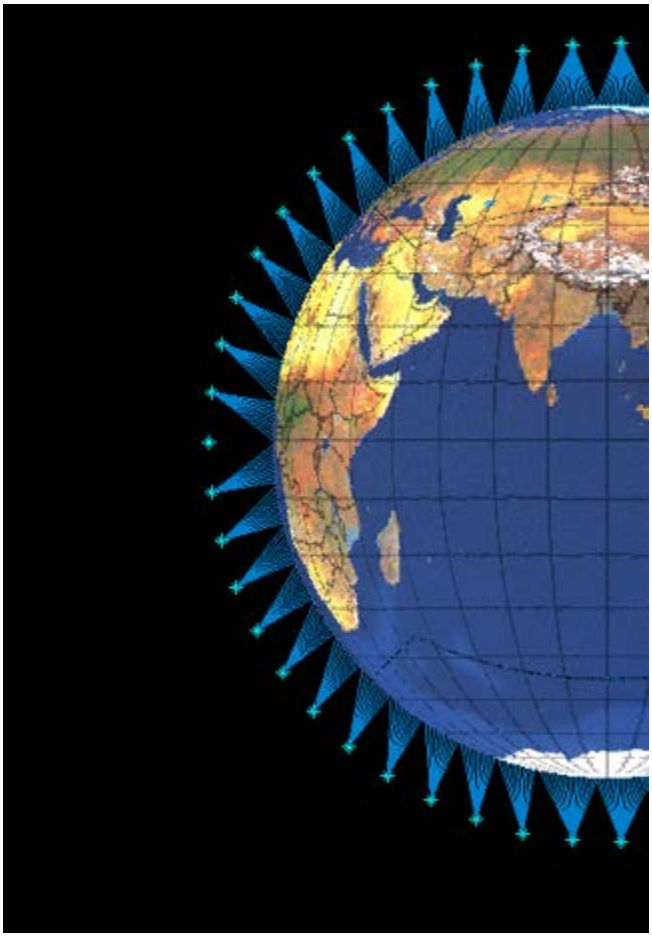

Diagram 3

B) For operations in the 27.5-28.6 GHz and 29.5-30 GHz frequency bands,

1) Please reduce the power of emission 113MG7D from 153.1kW (ERP) to 1750W (ERP),

2) or demonstrate that your proposed operations of emission 113MG7D with power 153.1kW (ERP) via OneWeb's NGSO satellites will be in compliance with the equivalent power Flux density limit (-162 dBW/m2/40 KHz) of 47 CFR § 25.208(k) Article 22.5D of the ITU Radio Regulations. Also, please provide the detail calculation, data/number/value and formula that used to calculate the result of EPFD levels,

3) or remove the proposed operation.

While the peak EIRP density of the experimental Ka-band earth stations may be as high as 30 dBW/40 KHz at their boresights, the OneWeb system will never allow its earth stations to radiate directly at the GSO arc. In fact, no OneWeb earth station will orient its boresight within 6 degrees of the GSO arc at any time. This is depicted in the figure below, which depicts how an experimental earth station on the surface of earth is prohibited from pointing its boresight near the GSO arc.

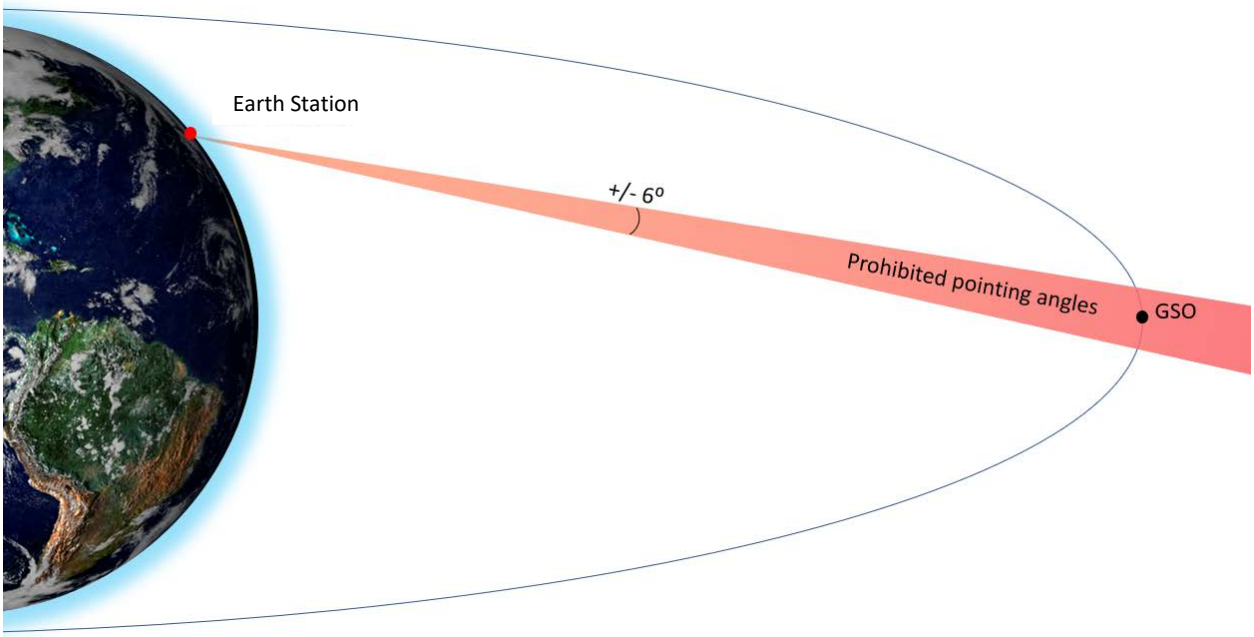

Diagram 4

For this reason, the GSO arc will only experience interference values that pertain to earth station antenna off-axis angles greater than or equal to 6 degrees. This is depicted below, demonstrating the difference between the EIRP density values within 6 degrees of the boresight of the OneWeb earth station (not experienced by the GSO arc) and the EIRP density that the GSO arc would experience.

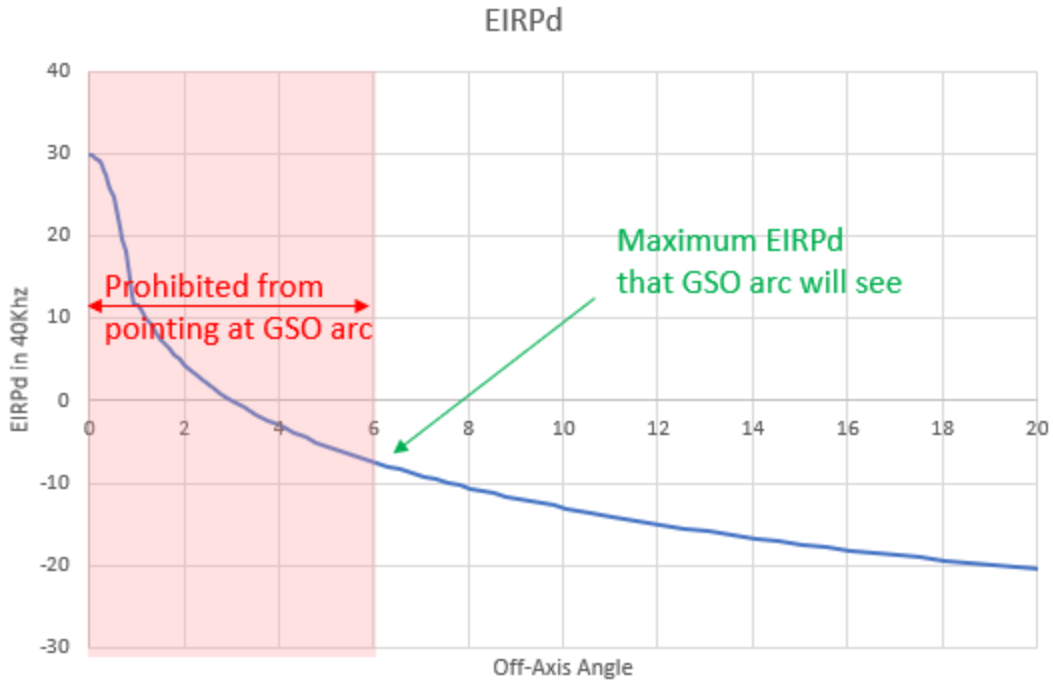

Diagram 5

The maximum EIRP density that will be radiated towards a victim satellite at any point on the GSO arc would therefore be -7.5 dBW/40 KHz.

The minimum spreading loss, in the log scale, from a single experimental user terminal in the United States to the GSO arc is equal to $-10*\log(4*\pi*D^2)$, or -162.2 dB/m^2, where D is 36,500 km. Thus, the maximum EPFD at any GSO victim satellite would be no more than: -7.5 dBW/40 KHz - 162.2 dB/m^2 = -169.7 dBW/m^2/40 KHz.

The $EPFD_{up}$ limit in the Ka-band is -162 dBW/m^2/40 KHz. In theory, this means that multiple experimental earth stations could operate at maximum EIRP and minimum GSO avoidance angle from the same location, and still result in acceptable EPFD at a victim GSO satellite. As such, there will be significant margin in the resultant EPFD levels with respect to the operation of OneWeb's experimental earth stations described in this application.

C) For operations in the 27.5-28.6 GHz and 29.5-30 GHz frequency bands,

1) Please reduce the power of emission 250MG7D from 193kW (ERP) to 3850W (ERP),

2) or demonstrate that your proposed operations of emission 113MG7D with power 153.1kW (ERP) via OneWeb's NGSO satellites will be in compliance with the equivalent power Flux-density limit (-162 dBW/m2/40 KHz) of 47 CFR § 25.208(k) Article 22.5D of the ITU Radio Regulations. Also, please provide the detail calculation, data/number/value and formula that used to calculate the result of EPFD levels,

3) or remove the proposed operation.

Please see answer to B) above.

D) Please certify that your proposed operations and communication between earth stations (user terminals) and satellites are in compliance with all existing and future coordination agreements between United Kingdom and other administrations, GSO and NGSO satellite operators.

OneWeb certifies that the proposed operations and communications will be in compliance with all existing and future coordination agreements between the United Kingdom and other administrations, GSO, and NGSO satellite operators.