

From: Cameron Kilton

To: Nimesh Sangani

Date: December 01, 2021

Subject: Additional Information Request

Message:

Please find my answers below

1) Please provide the size (meter), antenna gain (dBi) of the Cambium Networks ePMP 6000 antenna fixed tower and the Cambium Networks ePMP 600 remote antennas.

The ePMP 6000 sector antenna gain is 18 dBi.

The Force 600C dish antenna gain is 25 dBi.

2) Please note: Operation must not exceed 6 dBi (Gain) antenna, the conducted power/ output power, and maximum EIRP limits of the Unlicensed Use of the 6 GHz Band, 35 FCC Rcd 3852, 3853 (2020), including footnote 34.

EIRP is limited to 36 dBm including 30 dBm Total Power + 6 dBi antenna

For Cambium ePMP devices this is an equivalent of

ePMP 6000: 18 dBm Total Power + 18 dBi antenna

Force 600C: 11 dBm Total Power + 25 dBi antenna

Note that EIRP limit is enforced by FW based on such configuration parameters as Country Code and Antenna Gain.

3) Please confirm that the test is conduct at outdoor.

Confirmed - ePMP devices are designed for outdoor deployments including IP67 housings protection.

4) Please confirm the UNII-5 antenna (Cambium Networks ePMP 6000) at fixed tower will be used as outdoor standard power access points (AFC Controlled) and fixed client device: Please note : For operation in the 5925-6425 MHz (U-NII-5) frequency band, the maximum output power from the outdoor standard power access points (AFC Controlled) and fixed client device must not exceed 1 watt (30 dBm) into a 6 dBi (Gain) antenna for a total of 36 dBm EIRP (36 dBm EIRP = 4 watt EIRP = 6 dBW EIRP = 2.43W ERP). In addition, the maximum power spectral density shall not exceed 23 dBm (200mW) in any 1-megahertz band: Antenna Gain output power/ authorized power Maximum EIRP 6]

Confirmed - The ePMP 6000 mounted on fixed tower works as a Standard Power Access Point under AFC control (36 dBm EIRP, 23 dBm/MHz PSD).

The Force 600C mounted on fixed structure works as Fixed Client under AFC control (36 dBm EIRP, 23 dBm/MHz PSD).

Note that AFC support is pending FCC certification of AFC operators expected in H2 2022.

Until that outdoor tests are conducted according to 6 GHz trail licenses.

5) Please amend the proposed power from 4W (ERP) to Maximum EIRP: 2.43W ERP/ 4 watts

Max Total Power for ePMP devices

ePMP 6000: 33 dBm / 2 W

Force 600C: 30 dBm / 1 W

Note that max power corresponds MCS0. For higher MCSs it is lower due to back off for higher order QAMs.

6) Please confirm the UNII-7 remote antenna (Cambium Networks ePMP 600) will be used as client device (Client Connected to outdoor standard power access point): Please note : () For client device (Client Connected to outdoor standard power access point), operating in the 6.525-6.875 GHz (U-NII-7) frequency band, the maximum power spectral density must not exceed 17 dBm (0.05 W) EIRP in any 1-megahertz band. In addition, the maximum EIRP over the frequency band of operation must not exceed 30 dBm (30 dBm EIRP = 0.61 W ERP = 1 watt = 0dBW): Frequency band Max. authorized power Maximum EIRP 6.525-6.875 GHz 0.61 W ERP 0.61 W ERP/1 watt/ 30 dBm/ 0dBW 7) If UNII-7 remote antenna (Cambium Networks ePMP 600) will be used as client device (Client Connected to outdoor standard power access point), please amend the proposed power from 4W (ERP) to Maximum EIRP: 0.61 W ERP/1 watt.

The Force 600C is operating primarily as a Fixed Client (as mentioned in 4th questions). However occasionally it can work as a Client device limited by 30 dBm EIRP, 17 dBm/MHz PSD, e.g. prior to AFC registration or if AFC link is down.

Let me know if you need additional info.