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1<sup>st</sup> March 2017

Telecommunication Certification Body  
UL VS Ltd  
Unit 3 Horizon  
Wade Road  
Kingsland Business Park  
Basingstoke  
Hampshire  
RG24 8AH  
United Kingdom

Subject: FCC Class III Permissive change for FCC ID: QWP-45700

Applicant: Cambium Networks Ltd

Dear Examiner,

Regarding FCC ID: QWP-45700, we attest that we are applying under 15.407(b)(4)(ii) and that this device meets the requirements of Part 15.247(d). The emissions limits comply with Part 15.247(d) for all the antenna types supported by the product. We acknowledge that for the antenna types approved for use in this application that Cambium Networks cannot market, sell or import them after 2nd March 2018 without further approvals.

Antenna types supported: - Dual Polarized Plate Antenna, Parabolic Dish Antenna, Sectorized Antenna and OMNI Antenna.

A list of approved antennas is given in the PTP 700 User Guide, extract attached.

Sincerely yours,



Donald W Reid  
CEng MIET  
Principal Regulatory Engineer  
Cambium Networks Ltd

**Table 17** Antennas permitted for deployment in USA – 5.8 GHz

Manufacturer	Antenna type	Nominal gain (dBi)	Cambium part number
Gabriel	6-foot Standard Dual QuickFire Parabolic, QFD6-52-N	37.7	
Gabriel	6-foot Standard QuickFire Parabolic, QF6-52-N	37.7	
Radio Waves	6-foot Dual-Pol Parabolic, HPD6-5.2NS	37.7	RDH4511
Radio Waves	6-foot Parabolic, SP6-2/5	37.7	
Radio Waves	6-foot Parabolic, SP6-5.2	37.7	
Andrew	6-foot Dual-Pol Parabolic, PX6F-52	37.6	
Andrew	6-foot Parabolic, P6F-52	37.6	RDH4525
Radio Waves	6-foot Dual-Pol Parabolic, SPD6-5.2	37.5	RDH4506
Gabriel	6-foot High Performance QuickFire Parabolic, HQF6-52-N	37.4	
RFS	6-foot HP Parabolic, SDF6-52AN	37.4	
RFS	6-foot Parabolic, SPF6-52AN	37.4	
Gabriel	6-foot High Performance Dual QuickFire Parabolic, HQFD6-52-N	37.3	
Andrew	4-foot Dual-Pol Parabolic, PX4F-52	34.9	RDG4453
Andrew	4-foot Parabolic, P4F-52	34.9	RDH4524
Gabriel	4-foot Standard QuickFire Parabolic, QF4-52-N	34.8	
Gabriel	4-foot Standard QuickFire Parabolic, QF4-52-N-RK	34.8	
Radio Waves	4-foot Parabolic, SP4-5.2	34.8	
Gabriel	4-foot Standard Dual QuickFire Parabolic, QFD4-52-N	34.7	
Gabriel	4-foot Standard Dual QuickFire Parabolic, QFD4-52-N-RK	34.7	
Radio Waves	4-foot Dual-Pol Parabolic, HPD4-5.2NS	34.7	RDH4510
Radio Waves	4-foot Parabolic, SP4-2/5	34.6	
Gabriel	4-foot High Performance QuickFire Parabolic, HQF4-52-N	34.4	
Radio Waves	4-foot Dual-Pol Parabolic, SPD4-5.2	34.4	RDH4505
Gabriel	4-foot High Performance Dual QuickFire Parabolic, HQFD4-52-N	34.3	

Manufacturer	Antenna type	Nominal gain (dBi)	Cambium part number
RFS	4-foot HP Parabolic, SDF4-52AN	33.9	
RFS	4-foot Parabolic, SPF4-52AN	33.9	
Andrew	3-foot Dual-Pol Parabolic, PX3F-52	33.4	
Andrew	3-foot Parabolic, P3F-52	33.4	
Stella Doradus	4-foot Single-Pol, 56 PSD113	32.4	
Radio Waves	3-foot Dual-Pol Parabolic, HPD3-5.2NS	32.3	RDH4509
Radio Waves	3-foot Parabolic, SP3-2/5	31.4	
Radio Waves	3-foot Parabolic, SP3-5.2	31.4	RDH4513
Gabriel	2.5-foot Standard QuickFire Parabolic, QF2.5-52-N	31.2	
Gabriel	2.5-foot Standard Dual QuickFire Parabolic, QFD2.5-52-N	31.1	
Radio Waves	3-foot Dual-Pol Parabolic, SPD3-5.2	31.1	RDH4504
Andrew	2-foot Dual-Pol Parabolic, PX2F-52	29.4	
Andrew	2-foot Parabolic, P2F-52	29.4	
MTI	3-foot Single-Pol, MT-487000/N	29	
Radio Waves	2-foot Parabolic, SP2-5.2	29	
Radio Waves	2-foot Dual-Pol Parabolic, HPD2-5.2NS	28.8	RDH4508
Gabriel	2-foot Standard QuickFire Parabolic, QF2-52-N	28.5	
Gabriel	2-foot Standard QuickFire Parabolic, QF2-52-N-RK	28.5	
MTI	2-foot Dual-Pol, MT-486013/N	28.5	
MTI	2-foot Single-Pol, MT-466009/N	28.5	
Gabriel	2-foot Standard Dual QuickFire Parabolic, QFD2-52-N	28.4	
Gabriel	2-foot Standard Dual QuickFire Parabolic, QFD2-52-N-RK	28.4	
Radio Waves	2-foot Parabolic, SP2-2/5	28.3	
Gabriel	2-foot High Performance QuickFire Parabolic, HQF2-52-N	28.2	
Gabriel	2-foot High Performance Dual QuickFire Parabolic, HQFD2-52-N	28.1	
Radio Waves	2-foot Dual-Pol Parabolic, SPD2-5.2	28.1	RDH4503

Manufacturer	Antenna type	Nominal gain (dBi)	Cambium part number
RFS	2-foot Parabolic, SPF2-52AN	27.9	
Stella Doradus	2-foot Single-Pol, 56 PSD61	27	
MARS	MA-WS54-50R Flat Plate (Dual-Pol)	23	Integrated
MTI	15 inch Dual-Pol Flat Panel, MT-485025/NVH	23	
RFS	1-foot Flat Panel, MA0528-23AN	23	
Andrew	1.25-foot Flat Panel Dual, UBX375-4-1	21	
Andrew	1-foot Flat Panel Single, UBP300-4-1	21	
MARS	Small Form Factor Flat Plate Antenna MA-EM56-DP19CM.	19	Integrated
Laird	60 Sectorized (Dual-Pol)	17	
Laird	90 Sectorized (Dual-Pol)	17	
KPPA	OMNI (Dual-Pol)	13	

## IC approved antennas

For connectorized units operating in Canada, choose external antennas from [Table 18](#) (4.9 GHz), [Table 19](#) (5.2 GHz), [Table 20](#) (5.4 GHz) or [Table 21](#) (5.8 GHz). These are approved by IC for use with the product and are constrained by the following limits for single- or dual-polarization parabolic dish antennas:

- 4.9 GHz – 37.2 dBi maximum per polarization.
- 5.2 GHz – 28.5 dBi maximum per polarization.
- 5.4 GHz – 28.5 dBi maximum per polarization.
- 5.8 GHz – 38.1 dBi maximum per polarization.



### Caution

Antennas not included in these tables are strictly prohibited for use with the PTP 700 in the specified bands.



### Caution

This radio transmitter (IC certification number 109AO-45700) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.