

A Note on the Calculations of the Uplink and Downlink Power Levels

In the exhibit labeled “PDF of Frequency Spreadsheet” the ERP power levels of the bands labeled “Uplink” at the extreme right of the table, do not include any attenuation due to absorber placed around the antennas, or for building attenuation effects. These levels are the expected levels coming out of the test antennas. For the transponder channels labeled “Downlink” we factored in 50 dB of absorber attenuation and 20 dB of building into the ERP numbers as detailed in the exhibit “PDF of Power and Transmitter number justification”, and repeated here for clarity:

Gain Progression for the Transponder Downlinks

Optus (D1 & D2):

Xponder Power (Watts)	Ant Gain (dB)	Chamber Atten (dB)	Bldg Atten (dB)	System Losses (dB)	ERP (dBw)
150	35.15	50	20	2	-15.09
125	38.64	50	20	2	-12.39
44	44.26	50	20	2	-11.31

PAS-11:

Xponder Power (Watts)	Ant Gain (dB)	Chamber Atten (dB)	Bldg Atten (dB)	System Losses (dB)	ERP (dBw)
150	37.52	50	20	2	-12.72

Horizons-2:

Xponder Power (Watts)	Ant Gain (dB)	Chamber Atten (dB)	Bldg Atten (dB)	System Losses (dB)	ERP (dBw)
150	36.34	50	20	2	-13.90