



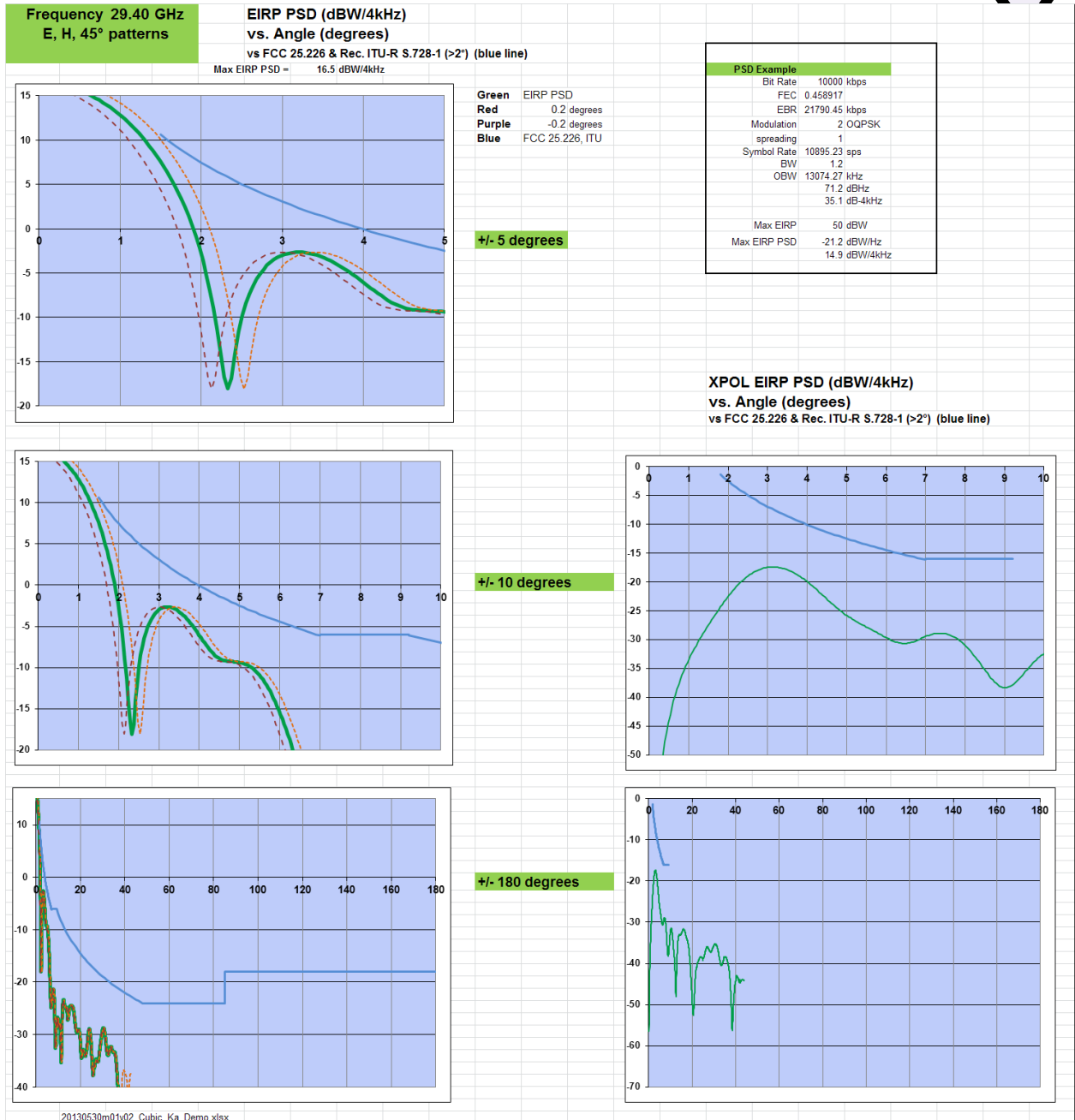
Directional Antenna Information:

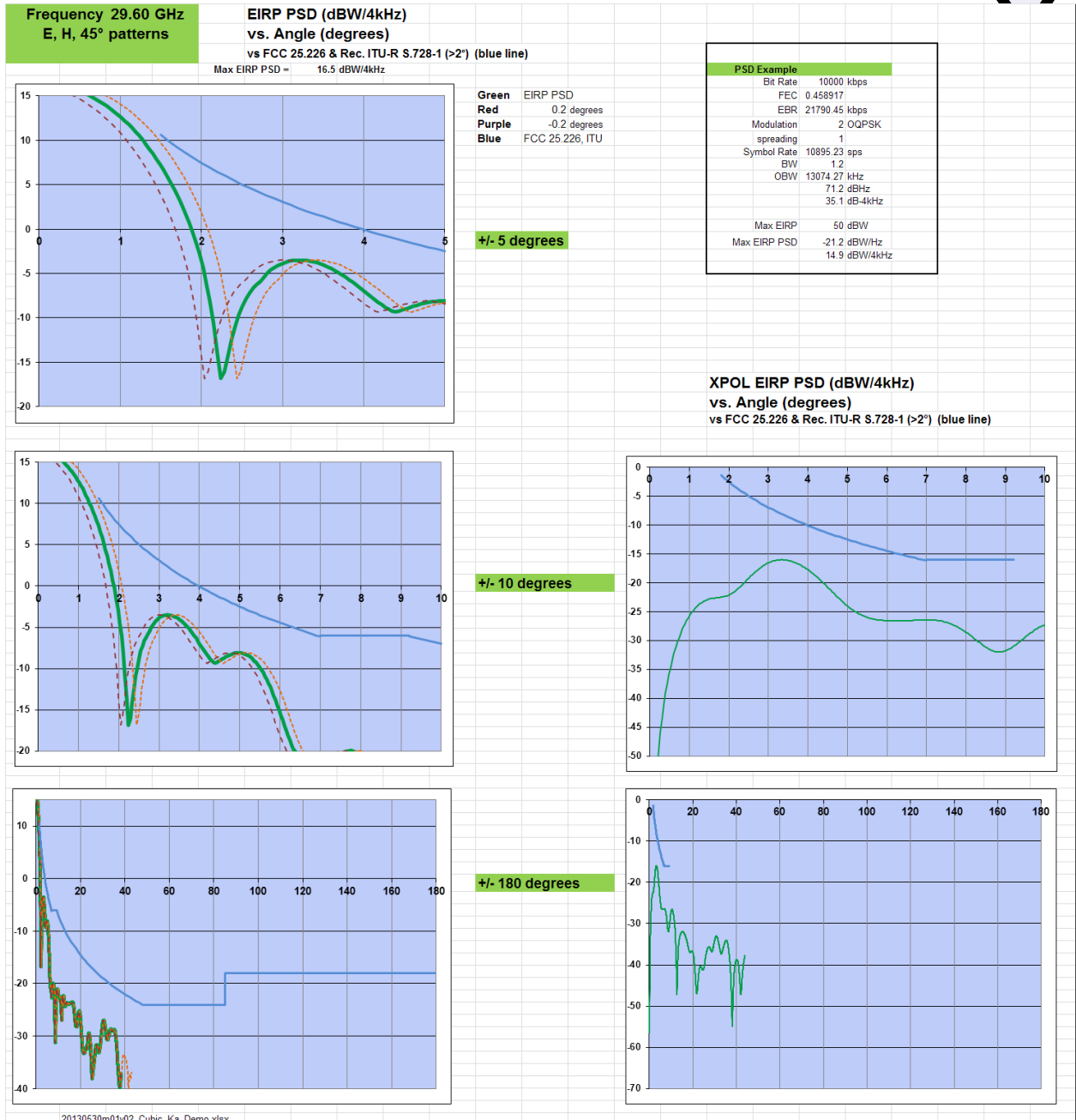
The antenna is a 17 inch (43 cm) parabolic reflector with a center feed/sub-reflector assembly.

The system (antenna and modem) will be operated in compliance with FCC 25.226 for co-pol and cross-pol. Plots are included below for 29.4, 29.6, 29.8, and 30.0 GHz. Antenna patterns are theoretical at this time and as such the pattern is symmetrical about the main beam. The main beam EIRP PSD will be managed to not exceed **16.5 dBW/4kHz** ensuring that the FCC 25.226 EIRP PSD requirement is not exceeded even when miss-pointing by 0.2 degrees.

The antenna is non-compliant with the antenna patterns of FCC 25.209.

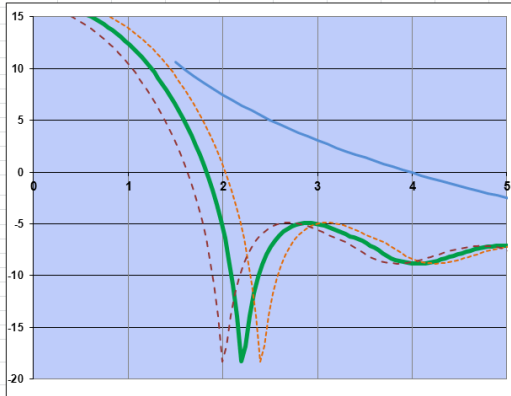
The ku band model (M17) of this antenna system has been licensed compliant with FCC 25.226 under Call Sign: E110012, File Number: SES-LIC-20110209-00132.





Frequency 29.80 GHz
E, H, 45° patterns

EIRP PSD (dBW/4kHz)
vs. Angle (degrees)
vs FCC 25.226 & Rec. ITU-R S.728-1 (>2°) (blue line)
Max EIRP PSD = 16.5 dBW/4kHz

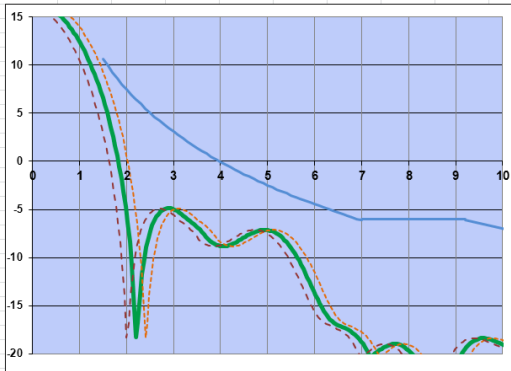


Green EIRP PSD
Red 0.2 degrees
Purple -0.2 degrees
Blue FCC 25.226, ITU

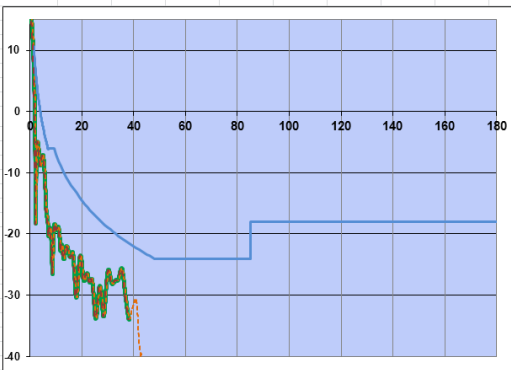
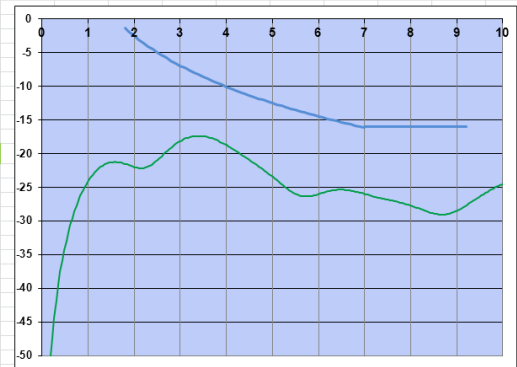
+/- 5 degrees

PSD Example	
Bit Rate	10000 kbps
FEC	0.458917
EBR	21790.45 kbps
Modulation	2 OQPSK
spreading	1
Symbol Rate	10895.23 sps
BW	1.2
OBW	13074.27 kHz
	71.2 dBHz
	35.1 dB-4kHz
Max EIRP	50 dBW
Max EIRP PSD	-21.2 dBW/Hz
	14.9 dBW/4kHz

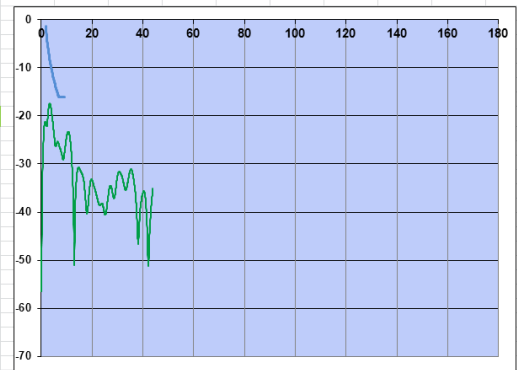
XPOL EIRP PSD (dBW/4kHz)
vs. Angle (degrees)
vs FCC 25.226 & Rec. ITU-R S.728-1 (>2°) (blue line)



+/- 10 degrees



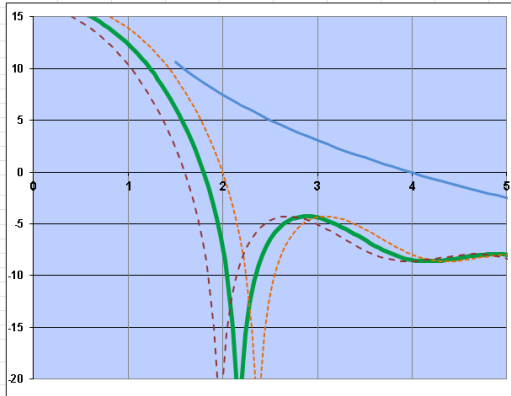
+/- 180 degrees



20130530m01v02_Cubic_Ka_Demo.xlsx

Frequency 30.00 GHz
E, H, 45° patterns

EIRP PSD (dBW/4kHz)
vs. Angle (degrees)
vs FCC 25.226 & Rec. ITU-R S.728-1 (>2°) (blue line)
Max EIRP PSD = 16.5 dBW/4kHz

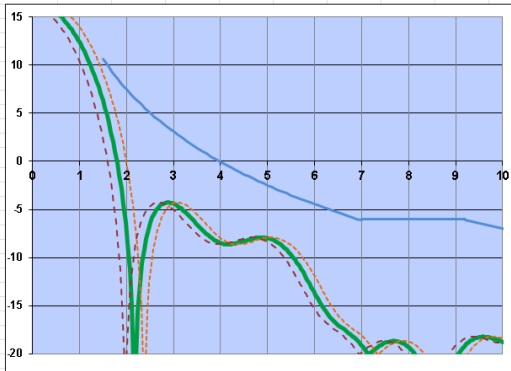


Green EIRP PSD
Red 0.2 degrees
Purple -0.2 degrees
Blue FCC 25.226, ITU

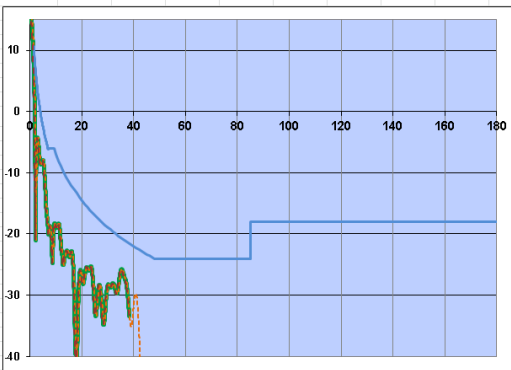
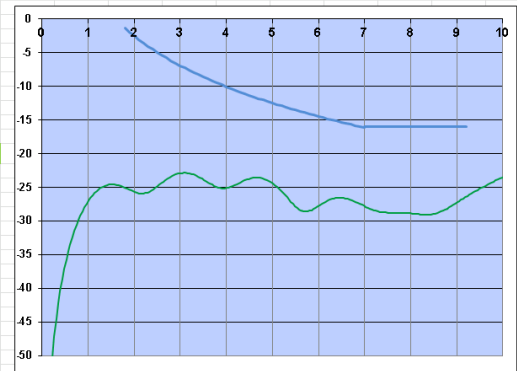
+/- 5 degrees

PSD Example	
Bit Rate	10000 kbps
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EBR	21790.45 kbps
Modulation	2 QPSK
spreading	1
Symbol Rate	10895.23 sps
BW	1.2
OBW	13074.27 kHz
	71.2 dBHz
	35.1 dB-4kHz
Max EIRP	50 dBW
Max EIRP PSD	-21.2 dBW/Hz
	14.9 dBW/4kHz

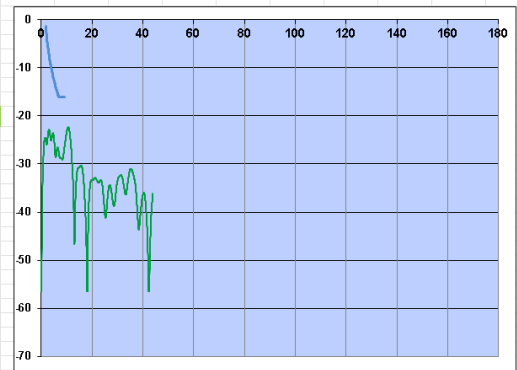
XPOL EIRP PSD (dBW/4kHz)
vs. Angle (degrees)
vs FCC 25.226 & Rec. ITU-R S.728-1 (>2°) (blue line)



+/- 10 degrees



+/- 180 degrees



20130530m0103_Cubic_Ka_Demo.xlsx