Any questions before quiz

Quiz + Team Quiz + Talk through solution

Make a harmonic power budget for an amplifier chain

- Carrier frequency is 2.4GHz
- Chain goes: amp-filter-amp
- Amplifiers: https://www.minicircuits.com/pdfs/ZRL-3500+.pdf
- Filter: https://www.minicircuits.com/pdfs/VBF-2435+.pdf
- Input power scenarios:
  - one tone at 3dBm,
  - two tones at 0dBm, one at 2.4GHz and one at 2.42GHz
  - one tone at 0dBm + a blocker at 2.6 GHz and 20dBm

Spectral Regrowth – intermodulation with a wider-band input signal

General Distortion Product $-\frac{1}{2^n}\sum_{k=0}^{n}\binom{n}{k}e^{jk\theta}e^{-j(n-k)\theta}$

Harmonic Budget Reference:

Stage	Description	Output power at 2.4GHz	at 2.42GHz	at 2.6GHz	at HD2	at HD3	at IM2	at IM3
0	input							
1	amplifier							
2	filter							
3	amplifier							

Harmonic budget Doc from 2023

https://docs.google.com/spreadsheets/d/1YydLG_85zXDf6ByiDYrUD65WFG1JXxCtLu2gmLW86NY/edit?usp=sharing