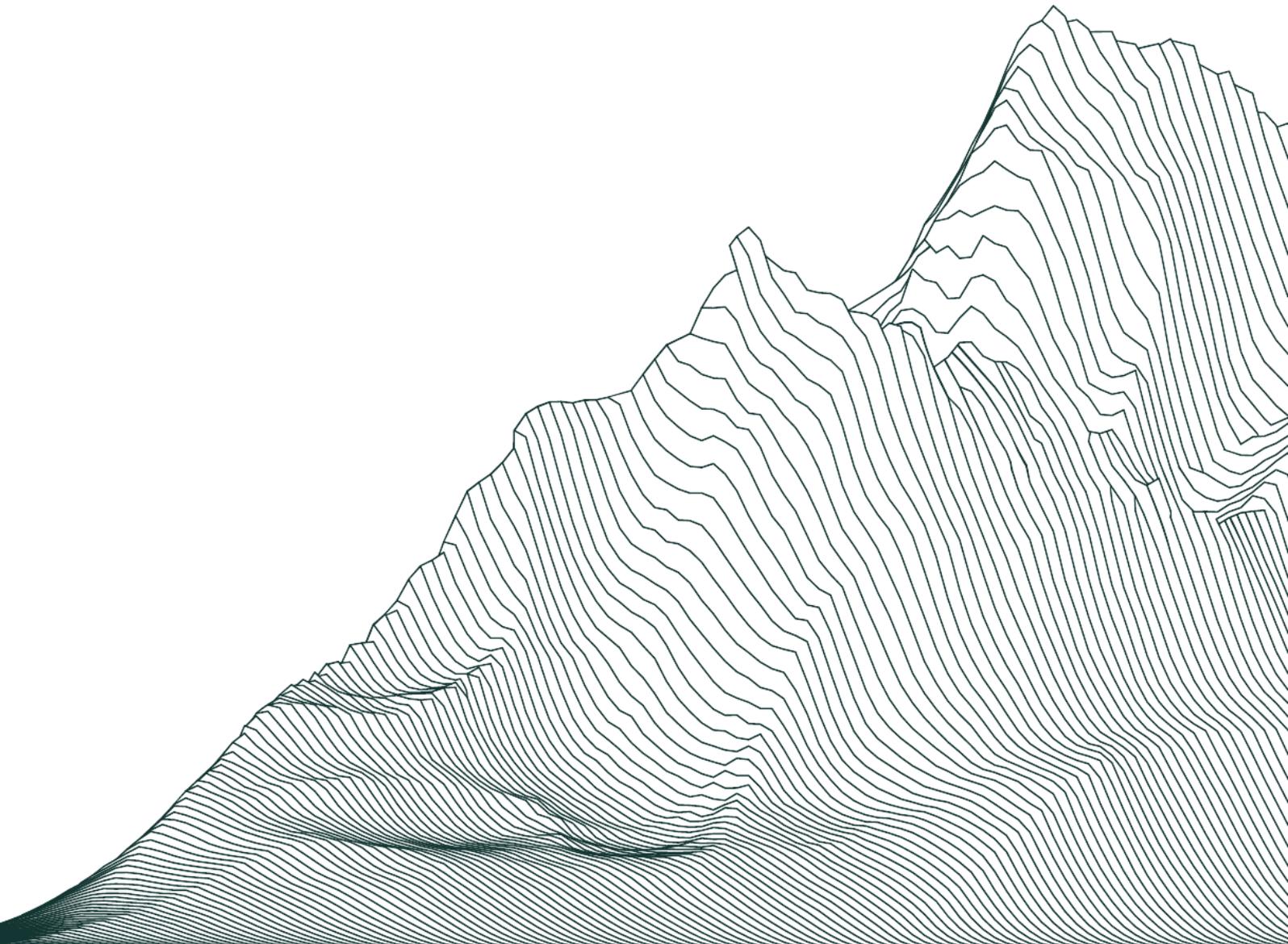


Navigator Antenna Specification

Ari Korva, Jouni Lifländer

31.7.2024

Haltian Oy



1.1.2. Mid and High Band Resonance

- Frequency Range 1710 - 2700 MHz
- Max TX Antenna Gain 2,25 dBi @ 2300 MHz (band 40)
- Antenna Efficiency, Average -4,86 dB
- Max TX Antenna Gain @ Band
 - Band 1 0,79 dBi
 - Band 2 1,40 dBi
 - Band 3 1,22 dBi
 - Band 4 0,74 dBi
 - Band 7 0,91 dBi
 - Band 25 1,40 dBi
 - Band 34 -4,24 dBi
 - Band 38 0,84 dBi
 - Band 39 0,97 dBi
 - Band 40 2,25 dBi
 - Band 41 0,97 dBi
 - Band 66 1,22 dBi

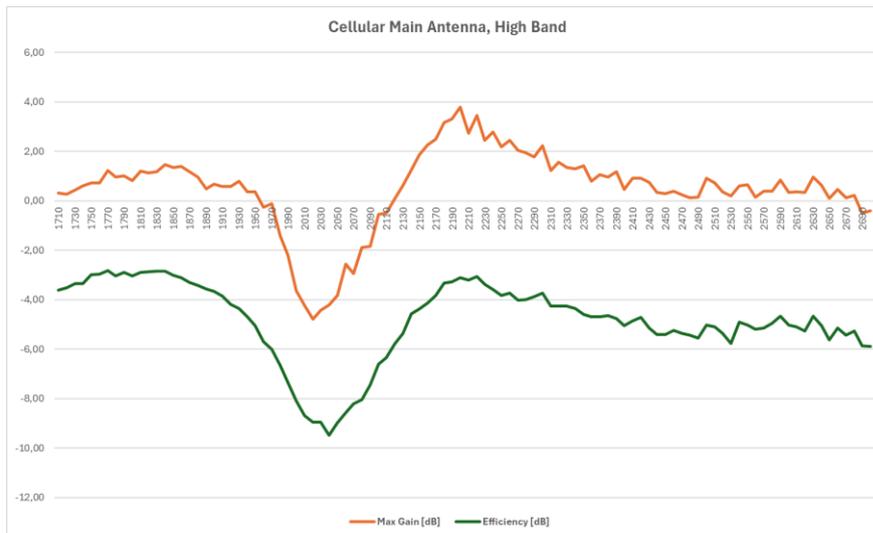


Figure 2. Cellular Main Antenna, Mid and High Band



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1.2. Secondary Antenna (RX only)

- Manufacturer Suntak
- Model FPC

1.2.1. Low Band Resonance

- Frequency Range 698 - 960 MHz
- Max Rx Antenna Gain -0,16 dBi @ 960 MHz (band 8)
- Antenna Efficiency, Average -6,46 dB

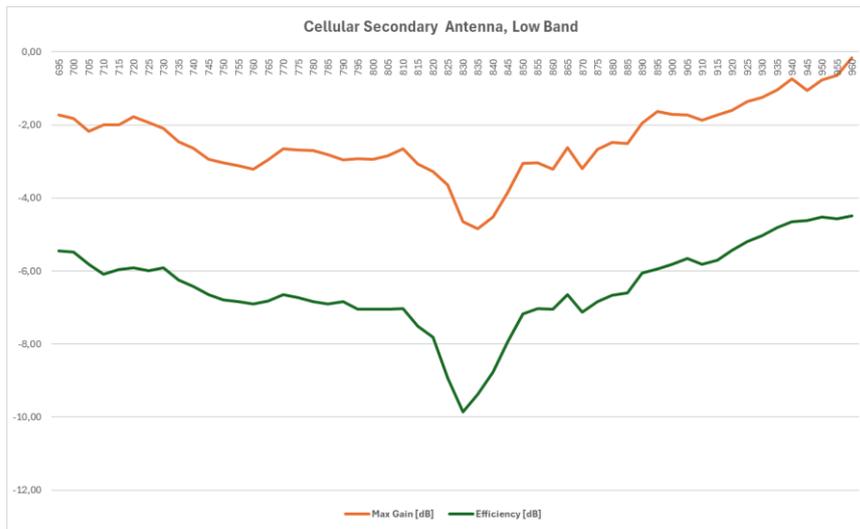


Figure 3. Cellular Secondary Antenna, Low Band



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1.2.2. Mid and High Band Resonance

- Frequency Range 1710 - 2700 MHz
- Max Rx Antenna Gain 5,17 dBi @ 2200 MHz (band 66)
- Antenna Efficiency, Average -5,26 dB

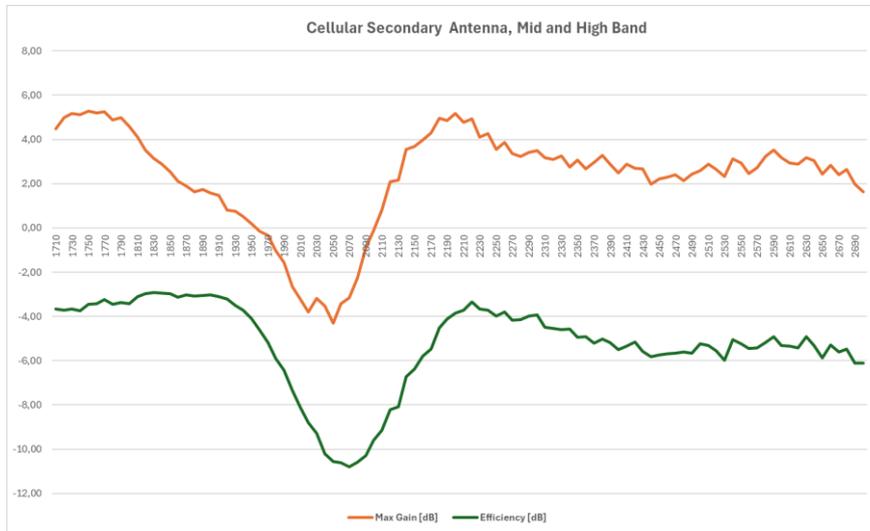


Figure 4. Cellular Secondary Antenna, Mid and High Band



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2. Wi-Fi/Bluetooth and GNSS Antenna

- Manufacturer Johanson
- Model 2450AD47A1590 SMD
- Frequency Range 2400/1561/1575/1602 MHz

2.1. Wi-Fi/Bluetooth Antenna

- Frequency Range 2400 - 2485 MHz
- Max TX Antenna Gain 2,19 dBi @ 2480 MHz
- Antenna Efficiency, Average -4,70 dB

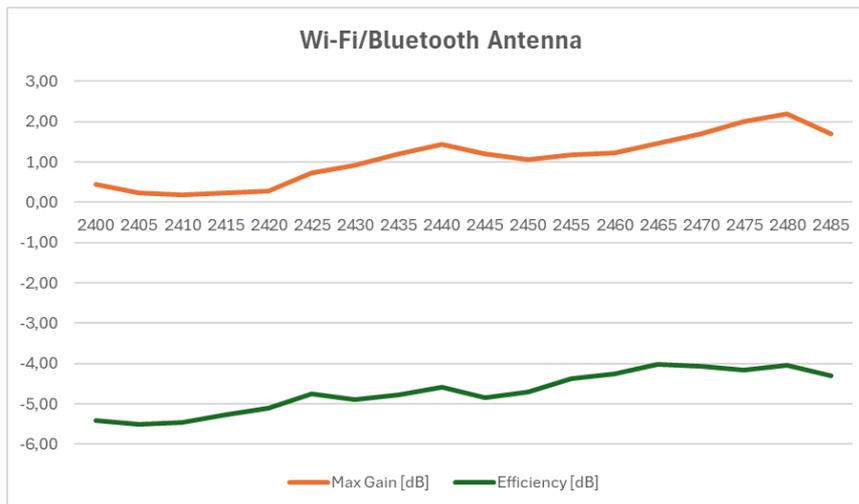


Figure 5. Wi-Fi/Bluetooth Antenna



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2.2. GNSS Antenna

- Frequency Range 1560 - 1606 MHz
- Max RX Antenna Gain - 0,36 dBi @ 1606 MHz
- Antenna Efficiency, Average -5,17 dB

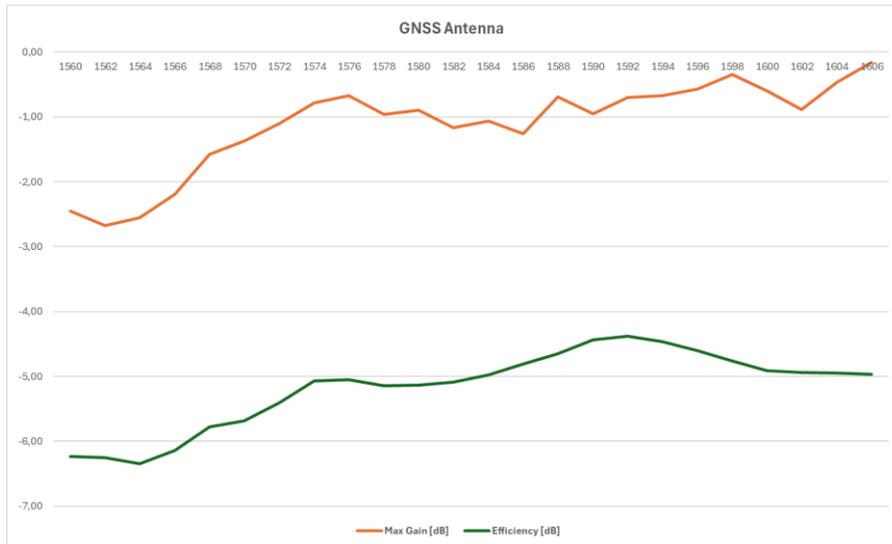


Figure 6. GNSS Antenna



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3.2. SubGHz Antenna, High Band

- Manufacturer: Suntak
- Model: FPC
- Frequency Range: 865 - 927 MHz
- Max TX Antenna Gain: -4,85 dBi @ 868 MHz band
-2,51 dBi @ 907 MHz band
- Antenna Efficiency, Average: -8,61 dB @ 868 MHz band
-7,89 dB @ 915 MHz band

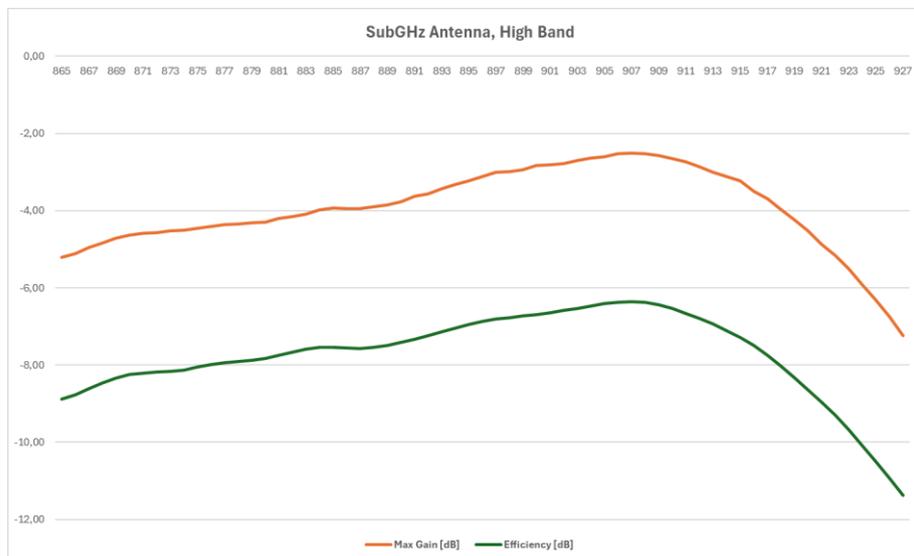


Figure 8. SubGHz Antenna, High Band



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