

		Revision
		B
	Antenna Datasheet – JPM Chase Stick	Release Date
		01-10-2025

Antenna Datasheet

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1 Antennas overview

There are 4 antennas embedded in the device.

Main cellular antenna (698-869Mhz, 1710-2200Mhz, 2500-2690Mhz) is FPC monopole antenna glued in the back cover of the device see Figure 1

Diversity cellular antenna (698-869Mhz, 1710-2200Mhz, 2500-2690Mhz) is FPC monopole antenna glued in the back cover of the device see Figure 1

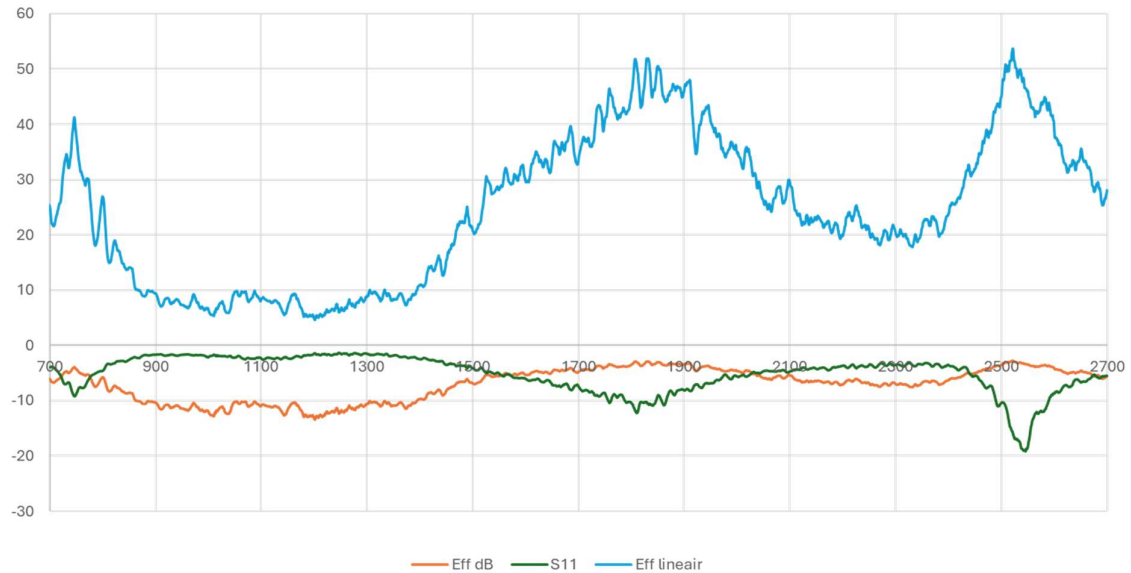
GNSS antenna (1574-1610Mhz) is a metal stamped PIFA heat staked in the back cover see Figure 1

WIFI/BLE antenna (2.4Ghz/5Ghz) is a PCB IFA structure see Figure 2

Antennas are RoHS and REACH Compliant

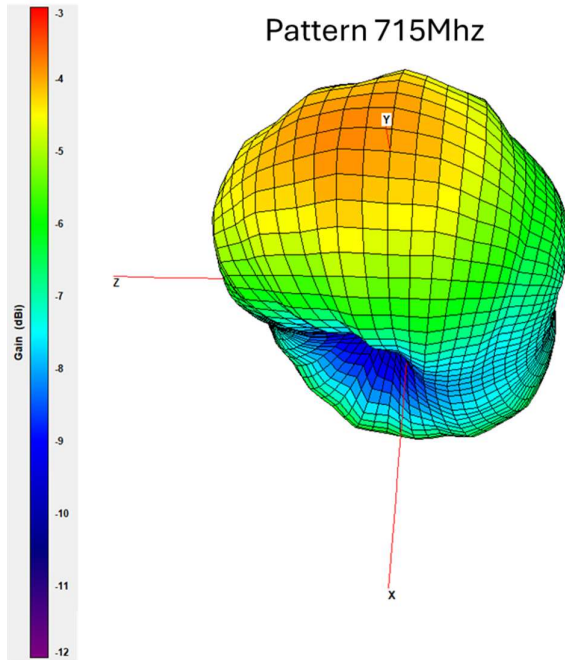
3 Main cellular antenna

3.1 Main cellular Efficiency and S11 plots

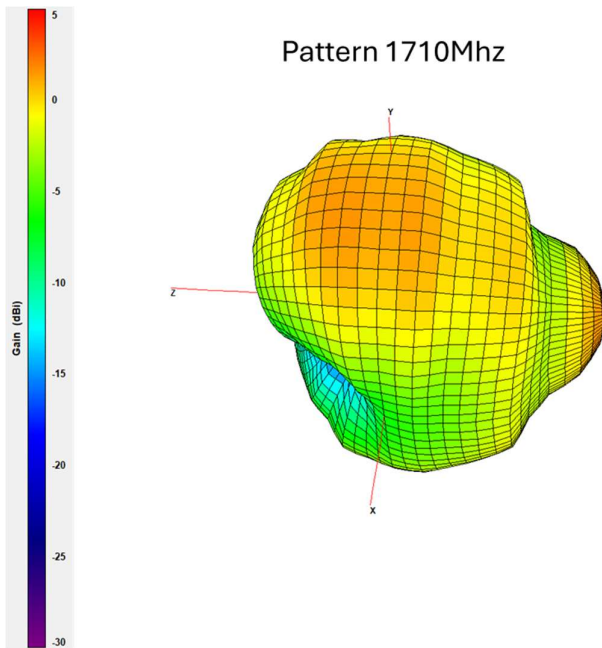


3.2 Main cellular Pattern measurement

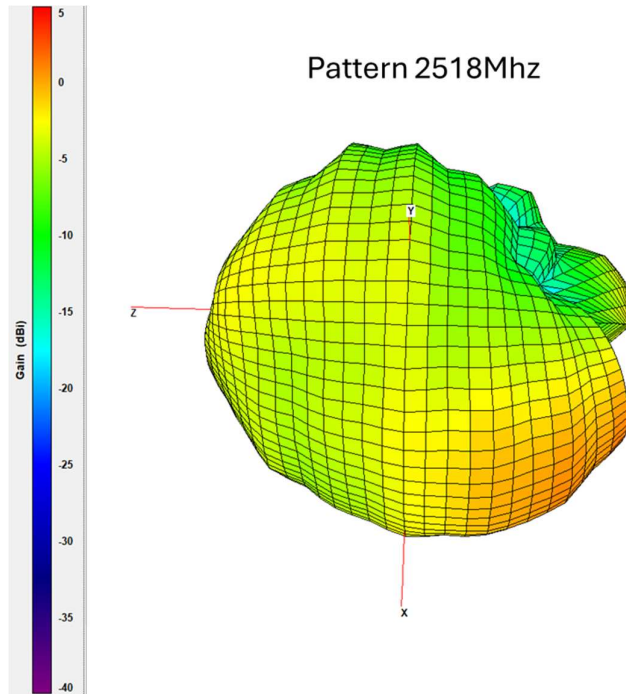
Low band



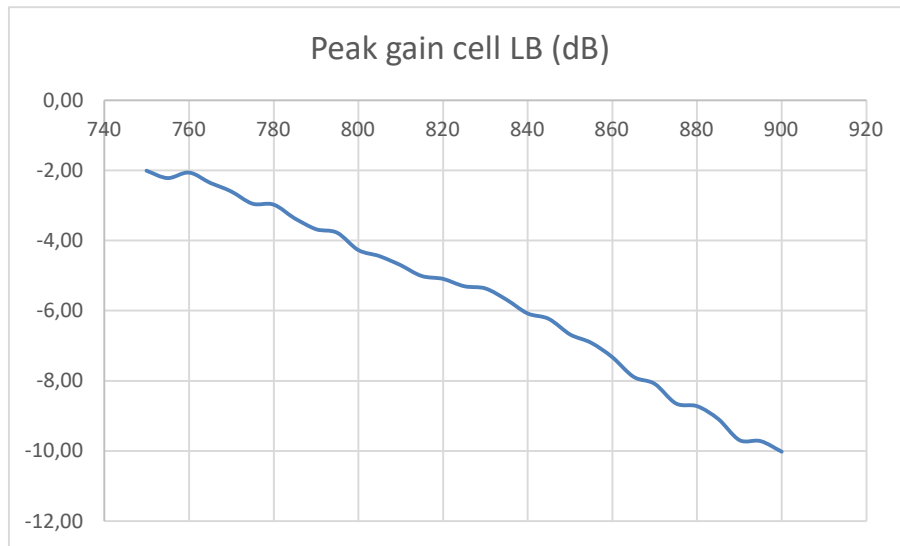
Midband



High band



3.3 Main cellular Peak gain measurement



Freq Mhz	Gain dB
650	-7,57
655	-7,21
660	-6,79

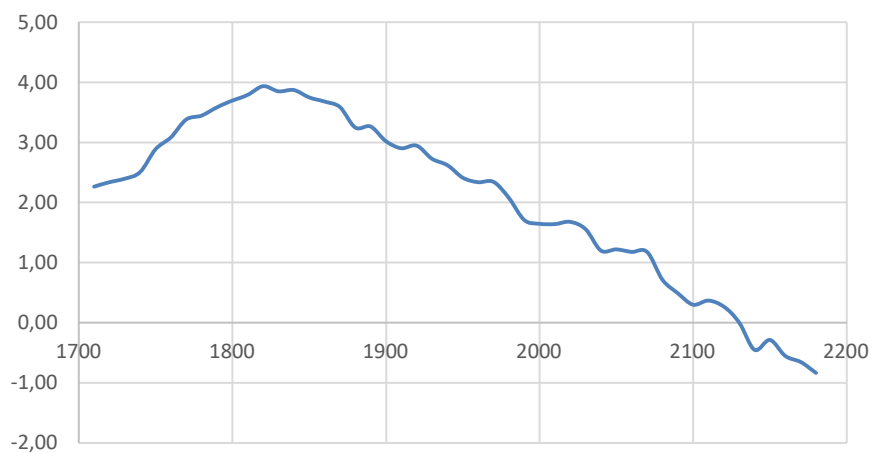
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665	-6,43
670	-6,24
675	-5,97
680	-5,43
685	-5,17
690	-4,66
695	-4,26
700	-3,74
705	-3,28
710	-2,92
715	-2,64
720	-2,42
725	-2,03
730	-1,87
735	-1,94
740	-1,84
745	-1,84
750	-2,01
755	-2,22
760	-7,07
765	-2,35
770	-2,60
775	-2,95
780	-2,97
785	-3,37
790	-3,68
795	-3,78
800	-4,27

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805	-4,44
810	-4,70
815	-5,01
820	-5,10
825	-5,31
830	-5,37
835	-5,69
840	-6,08
845	-6,24
850	-6,68
855	-6,92
860	-7,33
865	-7,89
870	-8,08
875	-8,64
880	-8,72
885	-9,09
890	-9,69
895	-9,72
900	-10,02

Peak gain cell main MB (dB)

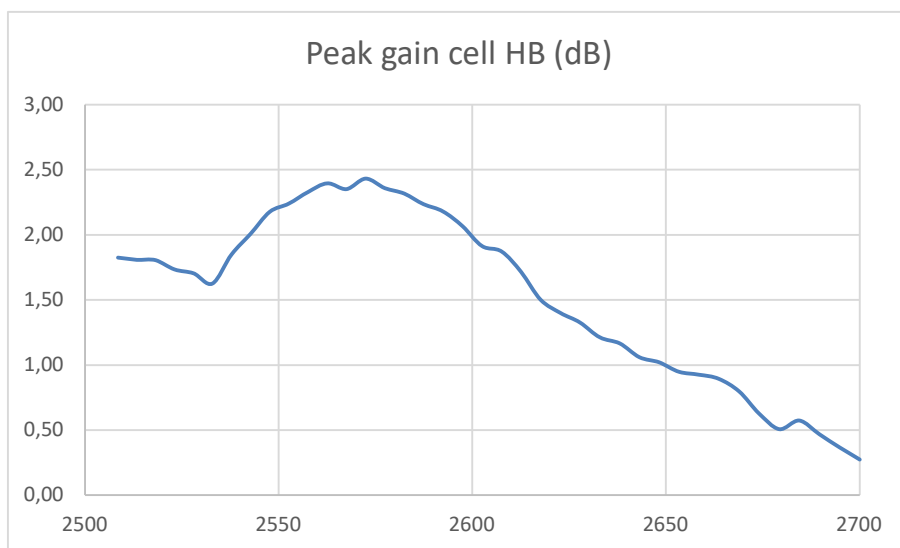


Freq Mhz	Gain dB
1710	2,26
1720	2,34
1730	2,40
1740	2,51
1750	2,89
1760	3,08
1770	3,38
1780	3,45
1790	3,58
1800	3,69
1810	3,79
1820	3,93
1830	3,85
1840	3,87
1850	3,75
1860	3,68
1870	3,59

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1880	3,24
1890	3,26
1900	3,02
1910	2,90
1920	2,95
1930	2,73
1940	2,62
1950	2,41
1960	2,34
1970	2,34
1980	2,08
1990	1,71
2000	1,64
2010	1,64
2020	1,68
2030	1,56
2040	1,20
2050	1,22
2060	1,18
2070	1,18
2080	0,72
2090	0,49
2100	0,30
2110	0,37
2120	0,27
2130	0,00
2140	-0,45
2150	-0,28

2160	-0,55
2170	-0,65
2180	-0,84



Freq Mhz	Gain dB
2470	0,80
2474,79	1,06
2479,58	1,15
2484,38	1,30
2489,2	1,50
2494,02	1,57
2498,85	1,75
2503,69	1,82
2508,54	1,82
2513,4	1,81
2518,27	1,80
2523,15	1,73
2528,04	1,70

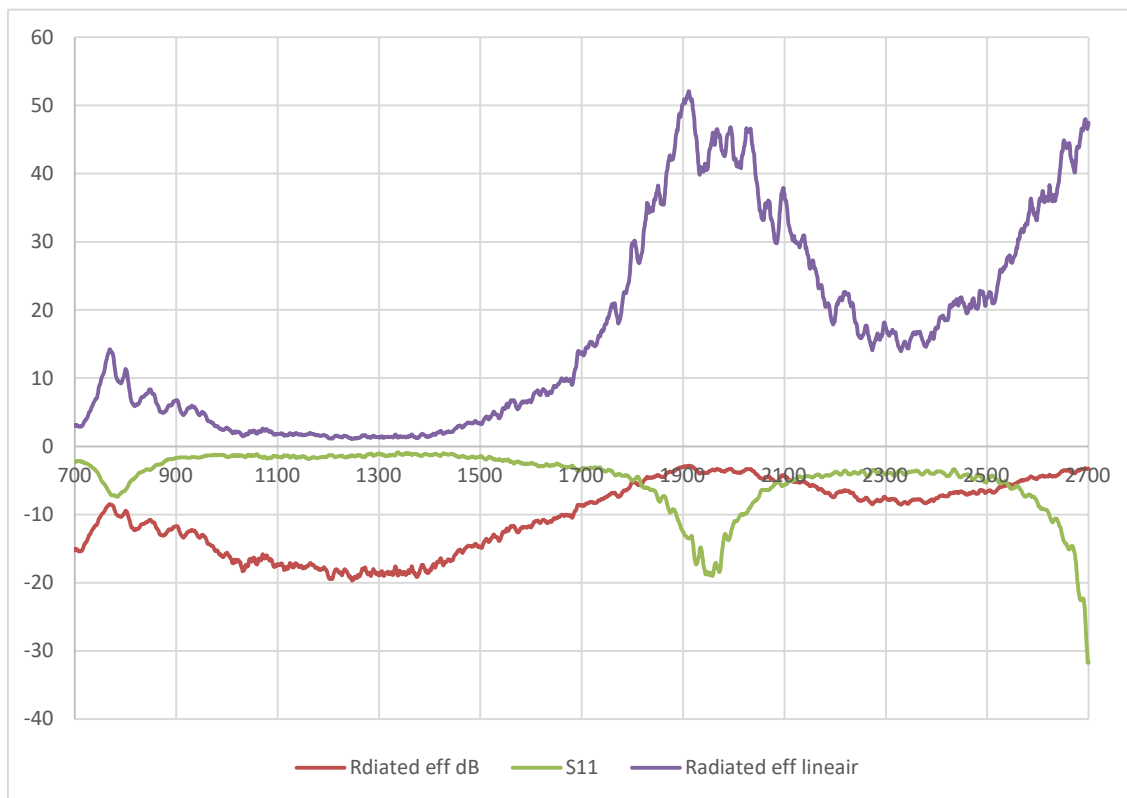
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2532,94	1,63
2537,85	1,85
2542,76	2,01
2547,69	2,18
2552,62	2,24
2557,57	2,33
2562,52	2,40
2567,49	2,35
2572,46	2,43
2577,45	2,36
2582,44	2,32
2587,44	2,24
2592,46	2,18
2597,48	2,07
2602,51	1,91
2607,55	1,87
2612,61	1,71
2617,67	1,50
2622,74	1,40
2627,82	1,33
2632,91	1,21
2638,01	1,17
2643,12	1,06
2648,24	1,02
2653,37	0,95
2658,51	0,93
2663,67	0,89
2668,83	0,80

2674	0,63
2679,18	0,51
2684,37	0,57
2689,57	0,47
2694,78	0,37
2700	0,27

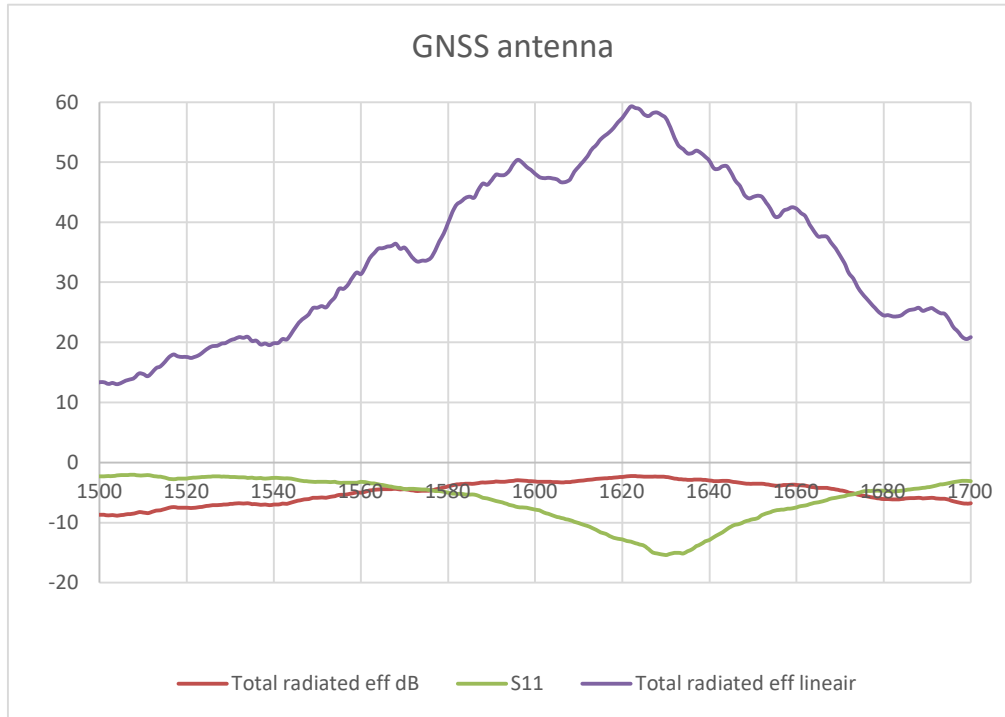
4 Diversity cellular antenna

4.1 Diversity cellular Efficiency and S11 plots



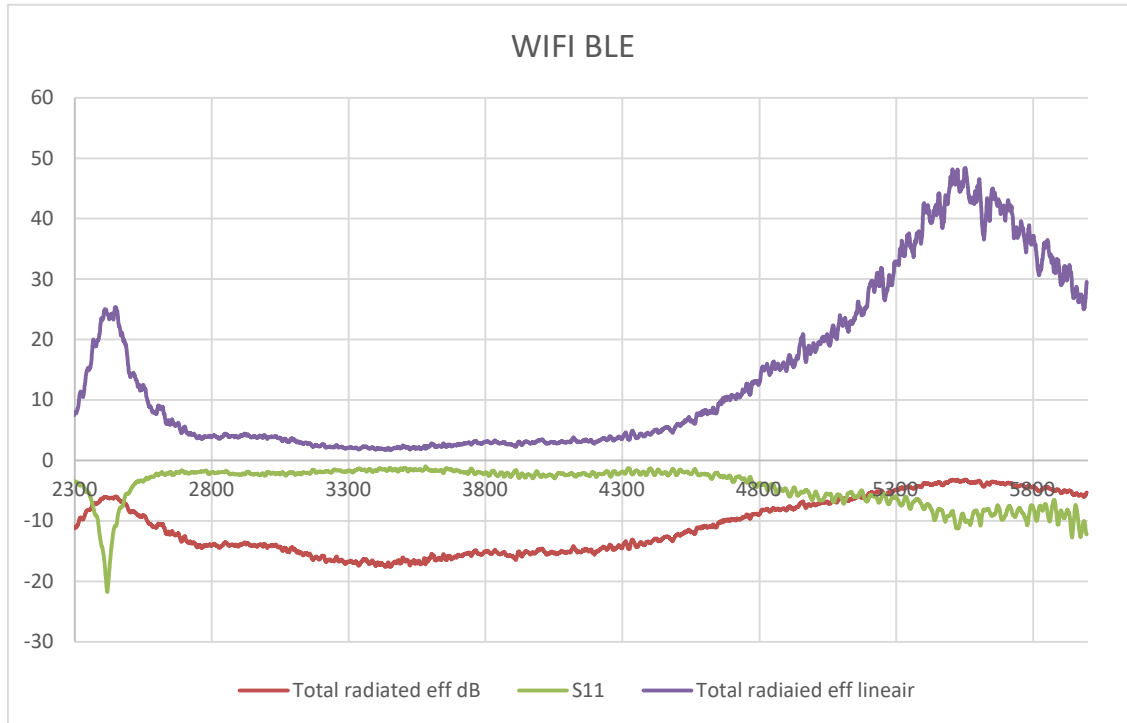
5 GNSS antenna

5.1 GNSS Efficiency and S11 plots



6 WIFI/BLE antenna

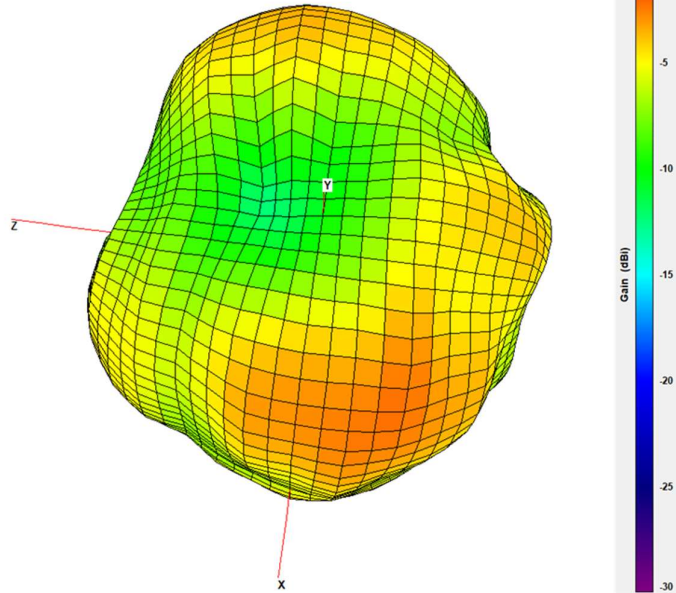
6.1 WIFI/BLE Efficiency and S11 plots



6.2 WIFI/BLE Pattern measurement

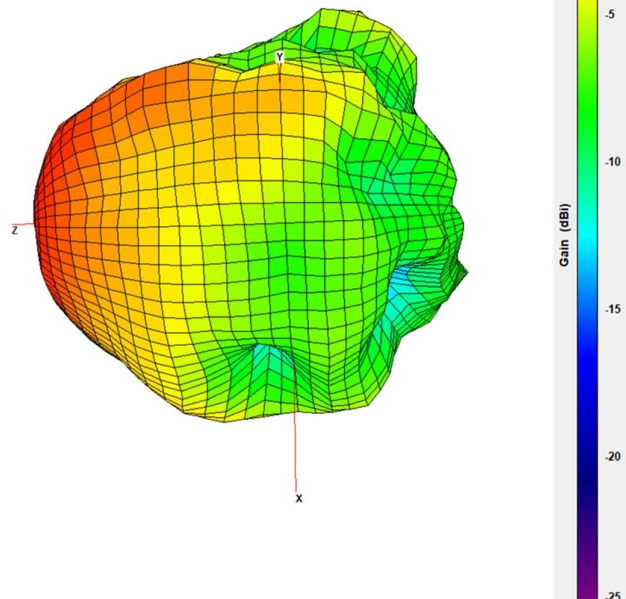
2.4Ghz band

Pattern 2445Mhz

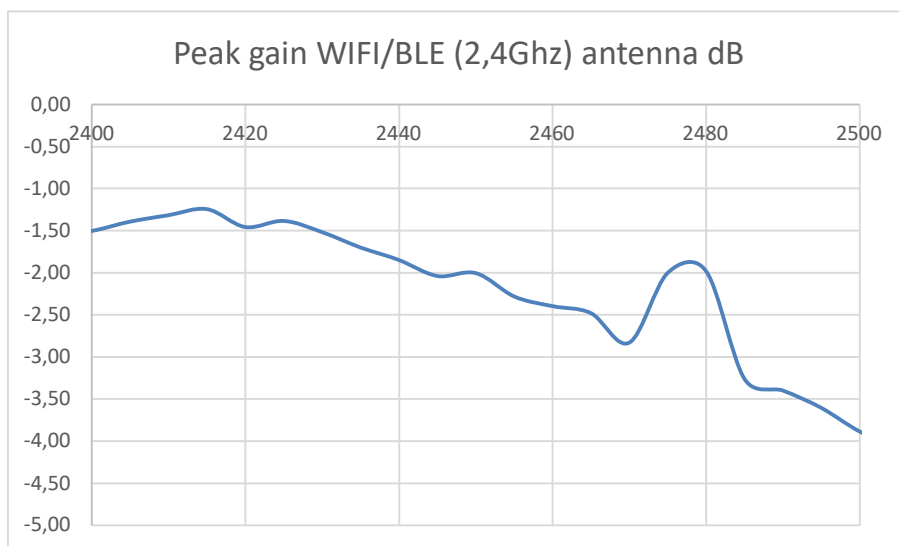


5Ghz band

Pattern 5240Mhz

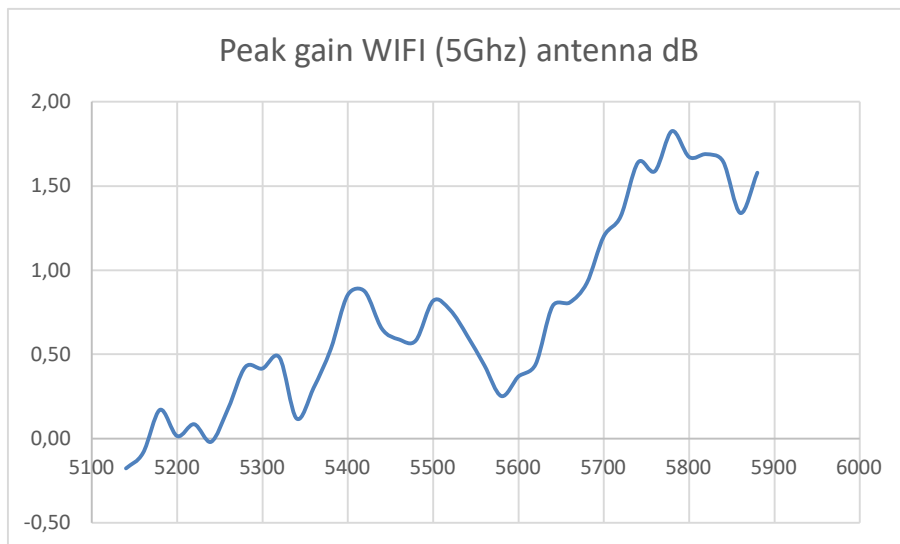


6.3 WIFI/BLE Peak gain measurement



Freq MHz	Gain dB
2385	-1,76
2390	-1,69
2395	-1,56
2400	-1,50
2405	-1,39
2410	-1,32
2415	-1,24
2420	-1,46
2425	-1,38
2430	-1,52
2435	-1,70
2440	-1,85
2445	-2,04
2450	-2,00
2455	-2,28
2460	-2,40
2465	-2,48
2470	-2,83
2475	-2,00
2480	-1,98
2485	-3,26
2490	-3,40
2495	-3,61

2500	-3,89
2505	-4,09
2510	-4,40
2515	-4,53
2520	-4,69



Freq MHz	Gain dB
5140	-0,18
5160	-0,09
5180	0,17
5200	0,01
5220	0,08
5240	-0,02
5260	0,18
5280	0,42
5300	0,41
5320	0,48
5340	0,12
5360	0,30
5380	0,53
5400	0,85
5420	0,87
5440	0,65
5460	0,59

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5480	0,58
5500	0,82
5520	0,76
5540	0,61
5560	0,43
5580	0,25
5600	0,37
5620	0,44
5640	0,79
5860	0,81
5680	0,92
5700	1,20
5720	1,32
5740	1,64
5760	1,59
5780	1,83
5800	1,67
5820	1,69
5840	1,64
5860	1,34
5880	1,58