



Taoglas Invisible Antenna™

Part No: TFX62.A

Description

TFX62.A - Cellular Invisible Antenna

Features:

600-6000MHz
Worldwide 5G/4G Bands
Efficiencies up to 60%
Transparent Ultra Low Profile
Dims: 110mm * 160mm
Connector: FAKRA D (M) Viole

RoHS & Reach Compliant



1.	Introduction	3
2.	Specification	4
3.	Mechanical Drawing	6
4.	Packaging	7
5.	Antenna Characteristics	8
6.	Radiation Patterns	12
	Changelog	21

Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein. Reproduction, use or disclosure to third parties without express permission is strictly prohibited.















1. Introduction



The TFX62 is a first of its kind, invisible antenna designed to cover worldwide 4G bands from 600-6000MHz. The TFX62 has been expertly engineered by Taoglas with innovation in mind, the design is based on our excellent design history in pioneering flexible PCB antenna technology. TFX62 is supplied with pre adhered adhesive for ease of installation and has an enclosed carrier terminated with a FAKRA connector.

The transparent flexible antennas are an alternative to standard Flexible PCB antennas where the user may want to install an antenna in a covert area or on a surface, they may want to keep visible. The performance of the antenna is based on the environment where it is placed, care should be taken to mount at least 20mm from metal components where possible.

Typical Applications Include:

- Automotive and Commercial Transportation
- EV Charging and Parking Bays
- Digital Signage and Display screens
- Point Of Sale Kiosks

The installation of the TFX series follows a similar installation method to flexible PCB antennas. Installing a transparent material may show obvious flaws/debris, take care to wipe the area clean before adhering the antenna. The flexible antenna can be disconnected from the body to make installation easier. Where support may be an issue, we would advise using a double-sided adhesive on the housing to ensure the housing body installation does not add any additional pull force to the antenna as this will affect the antennas performance and the adhesive's performance. The feed is not designed to be load bearing and loads of over 0.5Kg can break or damage the feed resulting in the antenna disconnecting.

The TFX62 is connected via a FAKRA Code D male connector for ease of installation. If a custom connector is required please contact your regional Taoglas customer support team.



2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band71	617-698	12.4	-9.08	-4.93				
4G/3G Band 12,13,14,17,28,29	698-806	18.4	-7.36	-2.68				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	37.1	-4.31	0.04				
5GNR/4G Band 21,32,74,75,76	1427-1518	33.9	-4.70	-0.23				
4G/3G Band 1,2,3,4,9,23,25,35,39,6 6	1710-2200	50.4	-2.97	2.72	50 Ω	Linear	Omni	2W
4G/3G Band 7,30,38,40,41	2300-2690	44.4	-3.53	2.91				
5GNR/4G Band 22,42,48,77,78,79	3300-5000	48.2	-3.17	4.91				
LTE5200/Wi-Fi5800	5150-5925	33.5	-4.75	4.56				

Mechanical				
Dimensions	110 x 160mm			
Weight	5g			
Material (Housing)	ABS/PC			
Material (Antenna)	PET			
VLT (Visible Light Transmission)	78.1% TCF (Transparent Conductive Film)			
Connector	Code D FAKRA (M) Violet			

Environmental		
Operation Temperature	-40°C to 85°C	
Storage Temperature	-40°C to 85°C	
Relative Humidity	Non-condensing 65°C 95% RH	

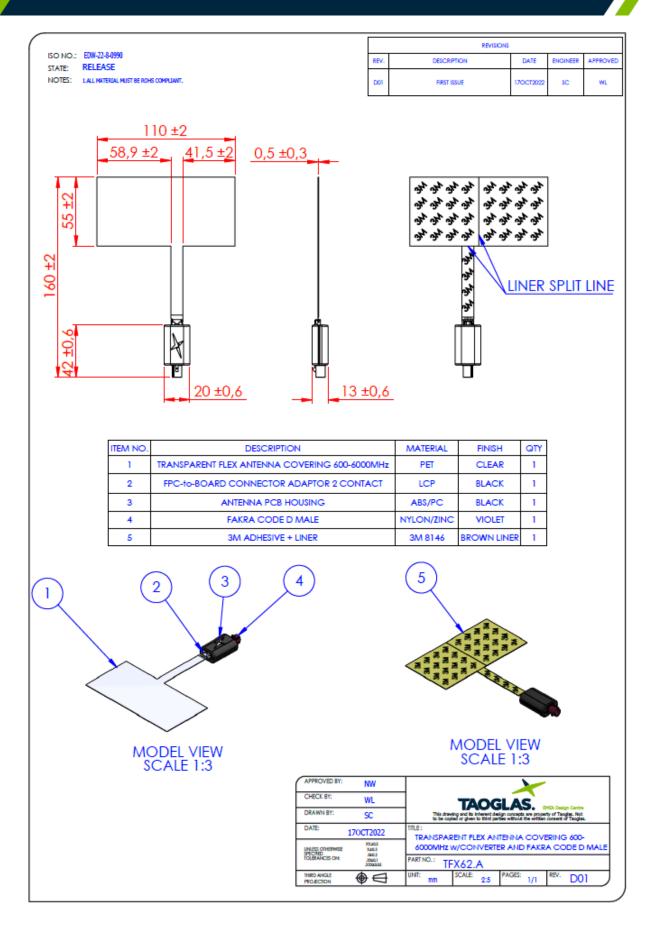


Band Number Diplink		5G/4G	Bands	
Bi	Band Number			A+ / TD-SCDMA
81 1920 to 1980 2110 to 2170	Dana Number			
82 1380 to 1910 1930 to 1990 Y 83 1710 to 1785 1805 to 1880 Y 84 1710 to 1785 1210 to 1215 Y 85 824 to 849 89 to 894 Y 87 2500 to 2570 2620 to 2600 Y 88 88 880 to 915 97 1849 1844 9 to 1879 9 Y 811 14273 to 1447 9 1844 9 1879 9 Y 812 693 to 1749 1475 9 179 to 1475 9 Y 813 777 to 77 746 779 to 746 X 813 777 to 787 746 to 756 779 to 746 X 811 770 to 716 779 to 746 X 812 799 to 746 X 813 9 15 to 830 788 788 to 788 Y 815 9 15 to 830 850 850 Y 816 9 10 10 10 10 10 10 10 10 10 10 10 10 10	P1	-		
83 1710 to 1755 2110 to 2155 ✓ 85 82 4 to 849 869 to 894 ✓ 87 250 to 2570 262 to 25800 ✓ 88 880 to 915 925 to 960 ✓ 89* 1749 to 1447 9 1844 to 1879 9 ✓ 811 1427 to 1447 9 1475 to 1945 5 ✓ 812 698 to 716 729 to 746 × 813 777 to 737 746 to 756 ✓ 814 788 to 798 738 to 768 ✓ 817 704 to 716 734 to 746 × 818 815 to 830 860 to 875 ✓ 820 832 to 825 875 to 890 ✓ 821 1447 to 1462 9 149 to 151 to 90 ✓ 822 381 to 826 731 to 821 ✓ 823 1285 to 1600 5 152 to 159 ✓ 824 1678 to 1600 5 152 to 159 ✓ 825 185 to 1915 193 to 193 ✓ 826 170 to 2				
### 1710 to 1755 ### 1720 to 172				
87 2500 c 2570 2620 t 2690				
87				
B8				
B9*				
B11				✓
B12				✓
B14				*
### 818 ### 815 to 830	B13	777 to 787	746 to 756	✓
B18	B14	788 to 798	758 to 768	✓
819 830 0 845 751 0890 820 832 to 862 791 to 821 821 1447.9 to 1462.9 1495.9 to 1510.9 822* 341 0 8490 3510 0 8990 823* 2000 to 2020 2180 to 200 824 1626.5 to 1660.5 1525 to 1559 825 1850 to 1915 1930 to 1995 826 814 0 849 899 to 894 827* 807 to 824 852 to 869 827* 807 to 824 852 to 869 828 703 to 748 758 to 803 829 717 to 728 830 2305 to 2315 2350 to 2360 831 452.5 to 457.5 462.5 to 466.5 832 1452 to 1466 834 2010 to 2025 835 1850 to 1910 836 1930 to 1930 837 1910 to 1930 838 2570 to 260 839 1880 to 1920 840 2300 to 2400 841 2496 to 2600 842 3400 to 3800 844 2496 to 2600 845 1447 to 1467 846 5150 to 8925 847 5855 to 5925 848 3 3600 to 3800 849 3550 to 3700 840 3550 to 3700 841 2496 to 2600 842 3400 to 3800 845 1447 to 1467 846 5150 to 8925 847 5855 to 5925 848 3 3500 to 3400 849 3550 to 3700 849 3550 to 3700 849 3550 to 3700 849 3550 to 3700 850 1422 to 1517 866 1710 to 170 866 1710 to 170 873 to 199 to 200 874 to 1462 875 to 1475 to 1432 876 1427 to 1432 877 1530 to 465 878 1427 to 1432 879 1427 to 1432 870 1695 to 1710 871 to 552 872 451 to 456 873 450 to 465 874 1427 to 1432 875 1427 to 1432 877 1427 to 1432 877 1427 to 1432 878 1427 to 1432 879 1427 to 1432 870 1695 to 1710 870 1695 to 1710 871 1663 to 658 872 451 to 456 873 1427 to 1432 874 1427 to 1432 875 1427 to 1432 876 1427 to 1432 877 1427 to 1432 877 1427 to 1432 879 1427 to 1432 879 14400 to 550 879 14400 to 550 879 1477 to 1432 879 1477 to 1470 879 1477 to 1432 879 1477 to 1476 to 1470 879 1477 to 1470 879 1477 to 1476 879 1477 to 1470 879 1477 to 1476 875 1477 to 1476 875 1477 to 1476	B17	704 to 716	734 to 746	#
820 832 10 862 791 to 821 821 1447.9 to 1462.9 1495.9 to 1510.9 822* 3410 to 3490 3510 to 3590 823* 2000 to 2020 2180 to 2200 824 1626.5 to 1660.5 1525 to 1559 825 1850 to 1915 1930 to 1995 826 814 to 849 859 to 894 827* 807 to 824 852 to 869 828 703 to 748 758 to 803 829 717 to 728 830 2305 to 2315 2355 8331 452.5 to 457.5 831 452.5 to 457.5 462.5 to 467.5 832 1452 to 1496 834 2000 to 2025 835 1880 to 1910 836 1930 to 1990 837 1910 to 1990 838 2277 to 260 839 1880 to 1990 837 1910 to 1990 838 2270 to 260 839 1880 to 1990 841 2496 to 2600 842 3400 to 3600 841 2496 to 2600 842 3400 to 3600 844 350 to 3600 845 1447 to 1467 846 5150 to 5925 847 585 to 5925 848 3550 to 3700 849 3550 to 3700 849 3550 to 3700 849 3550 to 3700 840 658 to 716 857 1427 to 1432 869 1710 to 1780 873 1432 to 1517 866 1710 to 1780 873 1432 to 1518 874 1457 to 1457 875 to 461 to 466 875 to 457 to 457 876 1427 to 1432 877 878 450 to 465 879 4400 to 5800 877 878 578 578 579 579 579 579 579 579 579 579 579 579	B18	815 to 830	860 to 875	✓
B21 1447 9 to 1462.9 1495 9 to 1510.9 B22* 3410 to 3490 3510 to 3500 B23* 2000 to 2020 2180 to 2200 B24 1626.5 to 1660.5 1525 to 1559 B25 1830 to 1915 1930 to 1995 B26 814 to 849 859 to 894 B27* 807 to 824 852 to 869 B28 703 to 748 758 to 803 B29 717 to 728 B30 2305 to 2315 2350 to 2360 B31 452.5 to 457.5 462.5 to 467.5 B32 1452 to 1496 462.5 to 467.5 B33 1850 to 1910 √ B34 1850 to 1910 √ B35 1850 to 1910 √ B36 1990 to 1990 √ B37 1910 to 1930 √ B38 2570 to 2620 √ B41 2496 to 2690 √ B42 3400 to 3600 √ B41 2496 to 2690 √ B42 3400 to 3600 √ B43 3600 to 3800 √ B44 147 to 147 √ B45 1447 to 1467 √ B46 5150 to 5925 √ B47 58	B19	830 to 845	875 to 890	✓
822* 3410 to 3490 3510 to 3590 ✓ 824 1626.5 to 1660.5 1525 to 1559 ✓ 825 1850 to 1915 1930 to 1995 ✓ 826 814 to 849 859 to 894 ✓ 827* 80 to 824 852 to 869 ✓ 828 70 3 to 748 758 to 803 ✓ 829 717 to 728 ✓ 830 2305 to 2315 2350 to 2360 ✓ 831 452.5 to 457.5 462.5 to 467.5 × 834 2010 to 2025 ✓ ✓ 835 1850 to 1910 ✓ ✓ 836 1930 to 1930 ✓ ✓ 837 1910 to 1930 ✓ ✓ 839 1880 to 1920 ✓ ✓ 841 2496 to 2600 ✓ ✓ 841 2496 to 2600 ✓ ✓ 842 3400 to 3600 ✓ ✓ 843 3600 to 3800 ✓ ✓ 844 585 to 5925 ✓ ✓ 847 585 to 5925 ✓<	B20	832 to 862	791 to 821	✓
B22* 2000 to 2020	B21	1447.9 to 1462.9	1495.9 to 1510.9	✓
B24	B22*	3410 to 3490	3510 to 3590	
825 1850 to 1915 1330 to 1995 826 814 to 849 859 to 894 827* 807 to 824 852 to 869 828 703 to 748 758 to 803 717 to 728 728 830 2305 to 2315 2350 to 2360 831 452.5 to 457.5 462.5 to 467.5 832 1452 to 1496 462.5 to 467.5 834 2010 to 2025 4 835 1850 to 1910 4 836 1930 to 1990 4 837 1910 to 1930 4 838 2570 to 2620 4 839 1880 to 1920 4 840 2300 to 2400 4 841 2496 to 2690 4 842 3400 to 3600 4 843 3600 to 3800 4 844 147 to 1467 4 846 5150 to 5925 4 848 3550 to 3700 4 849 3550 to 3700 4 850 1437 to 1432 4 851 1427 to 1432 4 866 1710 to 1780 2110 to 2200 4 868 698 to 728 753 to 783 4 870 1695 to 1710	B23*	2000 to 2020	2180 to 2200	✓
B26	B24	1626.5 to 1660.5	1525 to 1559	
B27* 807 to 824 852 to 869	B25	1850 to 1915	1930 to 1995	
B28	B26	814 to 849	859 to 894	
Record Section Secti	B27*	807 to 824	852 to 869	
B30	B28	703 to 748	758 to 803	
B31 452.5 to 457.5 462.5 to 467.5 x B32 1452 to 1496 B34 2010 to 2025 B35 1850 to 1910 B36 1930 to 1990 B37 1910 to 1930 B38 2570 to 2620 B40 2300 to 2400 B41 2496 to 2690 B41 2496 to 2690 B43 3600 to 3800 B45 1447 to 1467 B46 5150 to 5925 B47 5855 to 5925 B48 3550 to 3700 B50 1432 to 1517 B51 1427 to 1432 B52 3300 to 3400 B53 1920 to 2010 2110 to 2200	B29	717 t	o 728	
B32 1452 to 1496 / B34 2010 to 2025 / B35 1850 to 1910 / B36 1930 to 1990 / B37 1910 to 1930 / B38 2570 to 2620 / B39 1880 to 1920 / B40 2300 to 2400 / B41 2496 to 2690 / B42 3400 to 3600 / B43 3600 to 3800 / B44 3400 to 3600 / B45 1447 to 1467 / B46 5150 to 5925 / B47 5855 to 5925 / B48 3550 to 3700 / B49 3550 to 3700 / B50 1432 to 1517 / B51 1427 to 1432 / B52 3300 to 3400 / B53 2483.5 to 2495 / B66 1710 to 1780 2110 to 2200 / B68 698 to 728 753 to 783 / B70 1695 to 1710 1995		2305 to 2315	2350 to 2360	
B34 2010 to 2025 ✓ B35 1850 to 1910 ✓ B36 1930 to 1990 ✓ B37 1910 to 1930 ✓ B38 2570 to 2620 ✓ B40 2300 to 2400 ✓ B41 2496 to 2690 ✓ B42 3400 to 3600 ✓ B43 3600 to 3800 ✓ B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B66 1710 to 1780 2110 to 2200 ✓ B67 1920 to 2010 2110 to 2200 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ×		452.5 to 457.5	462.5 to 467.5	
B35		1452 t	o 1496	
B36				
B37 1910 to 1930 ✓ B38 2570 to 2620 ✓ B40 1880 to 1920 ✓ B41 2496 to 2690 ✓ B42 3400 to 3600 ✓ B43 3600 to 3800 ✓ B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 × B73 450 to 455 460 to 465 × B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ ✓ B76 <td< th=""><th></th><th></th><th></th><th></th></td<>				
B38				
B39				
B40 2300 to 2400 ✓ B41 2496 to 2690 ✓ B42 3400 to 3600 ✓ B43 3600 to 3800 ✓ B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 × B73 450 to 455 461 to 466 × B74 1427 to 1470 1475 to 1518 ✓ B75 1427 to 1432 ✓ ✓				
841 2496 to 2690 ✓ 842 3400 to 3600 ✓ 843 3600 to 3800 ✓ 845 1447 to 1467 ✓ 846 5150 to 5925 ✓ 847 5855 to 5925 ✓ 848 3550 to 3700 ✓ 849 3550 to 3700 ✓ 850 1432 to 1517 ✓ 851 1427 to 1432 ✓ 852 3300 to 3400 ✓ 853 2483.5 to 2495 ✓ 865 1920 to 2010 2110 to 2200 ✓ 866 1710 to 1780 2110 to 2200 ✓ 868 698 to 728 753 to 783 ✓ 869 2570 to 2620 ✓ 870 1695 to 1710 1995 to 2020 ✓ 871 663 to 698 617 to 652 ✓ 872 451 to 456 461 to 466 * 873 450 to 455 460 to 465 * 874 1427 to 1470 1475 to 1518 ✓ 875 1432 to 1517 ✓ <th></th> <th></th> <th></th> <th></th>				
B42 3400 to 3600 ✓ B43 3600 to 3800 ✓ B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B71 663 to 698 677 to 652 ✓ B72 451 to 456 461 to 466 x B73 450 to 455 460 to 465 x B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 300 to 300 ✓ B79 4400 to 5000 ✓ B				
B43 3600 to 3800 ✓ B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 * B73 450 to 455 460 to 465 * B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 3000 ✓ B78 3300 to 3000 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B45 1447 to 1467 ✓ B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 * B73 450 to 455 460 to 465 * B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ ✓ B77 3300 to 4200 ✓ ✓ B79 4400 to 5				
B46 5150 to 5925 ✓ B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 × B73 450 to 455 460 to 465 × B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B47 5855 to 5925 ✓ B48 3550 to 3700 ✓ B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746				
B48 3550 to 3700				
B49 3550 to 3700 ✓ B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 × B73 450 to 455 460 to 465 × B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B50 1432 to 1517 ✓ B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 3800 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B51 1427 to 1432 ✓ B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B52 3300 to 3400 ✓ B53 2483.5 to 2495 ✓ B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B53 2483.5 to 2495 B65 1920 to 2010 2110 to 2200 B66 1710 to 1780 2110 to 2200 B68 698 to 728 753 to 783 B69 2570 to 2620 B70 1695 to 1710 1995 to 2020 B71 663 to 698 617 to 652 B72 451 to 456 461 to 466 B73 450 to 455 460 to 465 B74 1427 to 1470 1475 to 1518 B75 1432 to 1517 B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B65 1920 to 2010 2110 to 2200 ✓ B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B66 1710 to 1780 2110 to 2200 ✓ B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B68 698 to 728 753 to 783 ✓ B69 2570 to 2620 ✓ B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B69 2570 to 2620 B70 1695 to 1710 1995 to 2020 B71 663 to 698 617 to 652 B72 451 to 456 461 to 466 B73 450 to 455 460 to 465 B74 1427 to 1470 1475 to 1518 B75 1432 to 1517 B76 1427 to 1432 B77 3300 to 4200 B78 3300 to 3800 B79 4400 to 5000 B85 698 to 716 728 to 746				
B70 1695 to 1710 1995 to 2020 ✓ B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B71 663 to 698 617 to 652 ✓ B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				
B72 451 to 456 461 to 466 ★ B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				✓
B73 450 to 455 460 to 465 ★ B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓				#
B74 1427 to 1470 1475 to 1518 ✓ B75 1432 to 1517 ✓ B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓		450 to 455		*
B76 1427 to 1432 ✓ B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓	B74	1427 to 1470	1475 to 1518	✓
B77 3300 to 4200 ✓ B78 3300 to 3800 ✓ B79 4400 to 5000 ✓ B85 698 to 716 728 to 746 ✓	B75	1432 t	o 1517	✓
B78 3300 to 3800	B76	1427 t	o 1432	
B79 4400 to 5000	В77	3300 t	o 4200	
B85 698 to 716 728 to 746 ✓	B78	3300 t	o 3800	
	B79	4400 t	o 5000	
B87 410 to 415 420 to 425	B85	698 to 716	728 to 746	✓
B88 412 to 417 422 to 427	B88	412 to 417	422 to 427	*

5



3. Mechanical Drawing





4. Packaging

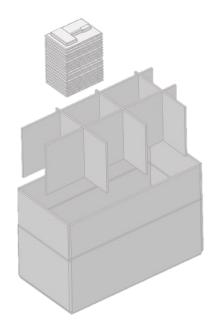
1 PCS / Blister Box Box: 207.3 x 154.5 x 19.3mm



18 PCS / Column



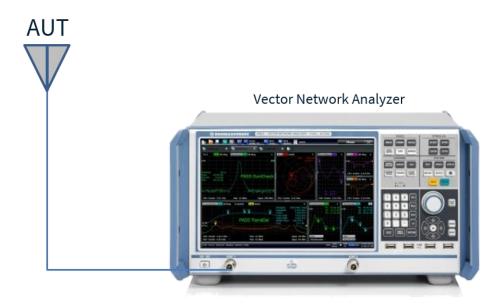
108 PCS / Carton 1 SET / Partition board Carton: 740 x 370 x 300mm Carton Label

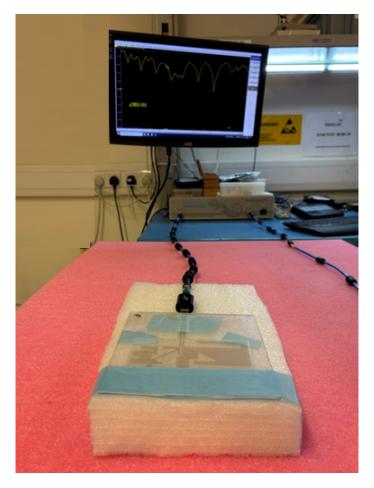




5. Antenna Characteristics

5.1 Test Setup

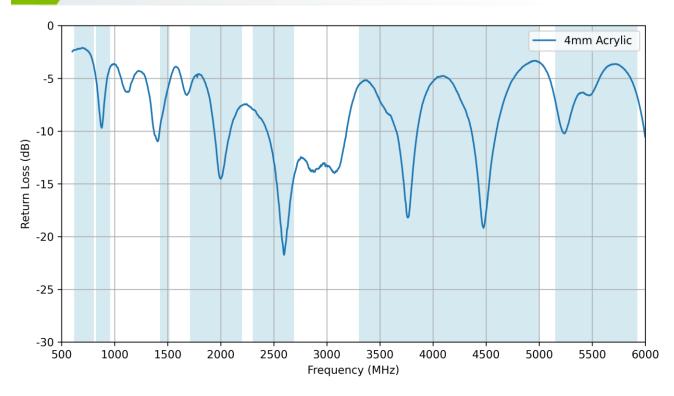




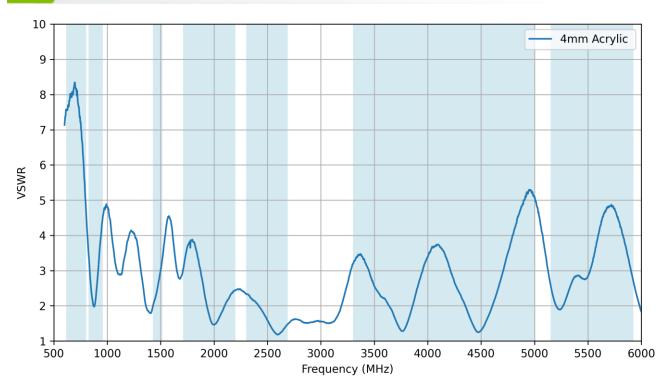
VNA Test Set-up



5.2 Return Loss

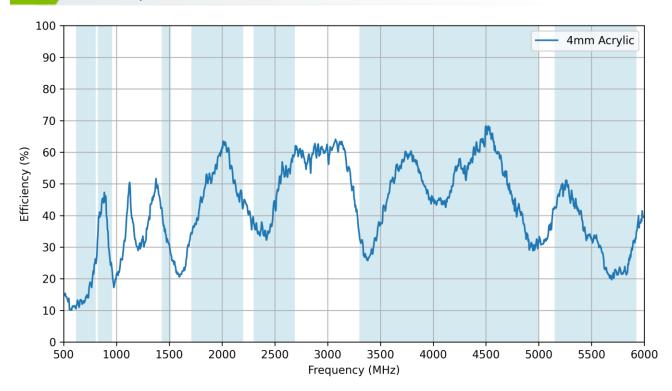


5.3 VSWR

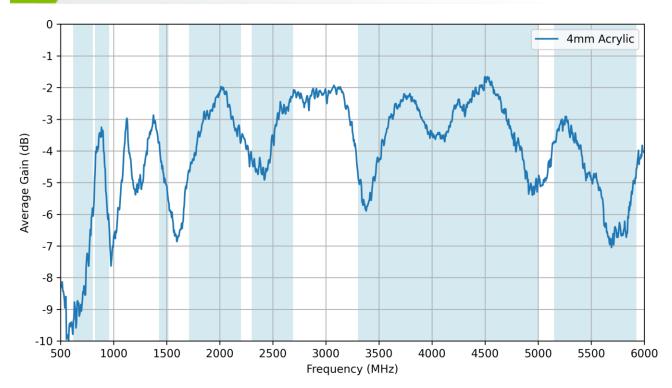




5.4 Efficiency

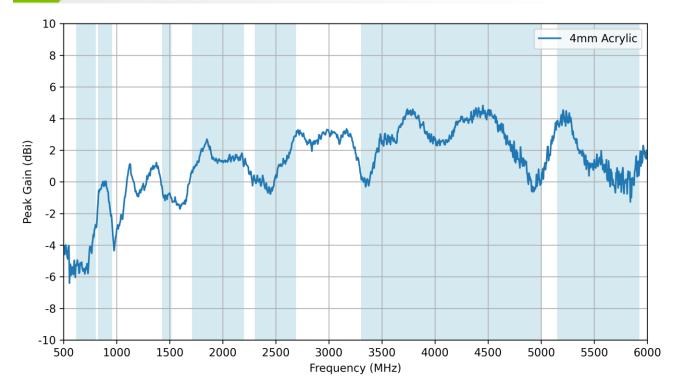


5.5 Average Gain





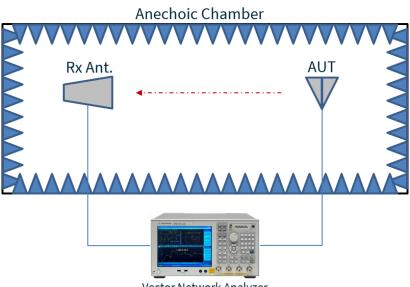
5.6 Peak Gain (Gtotal)



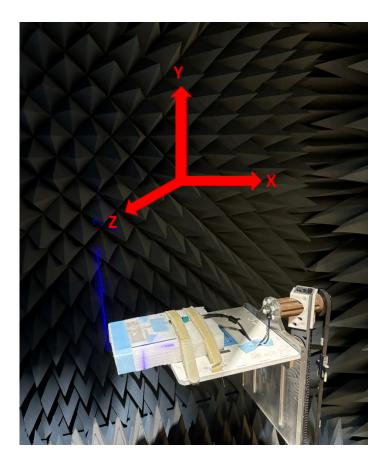


Radiation Patterns

Test Setup



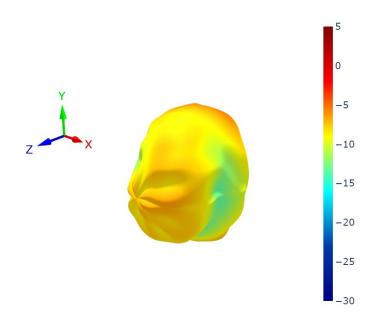
Vector Network Analyzer

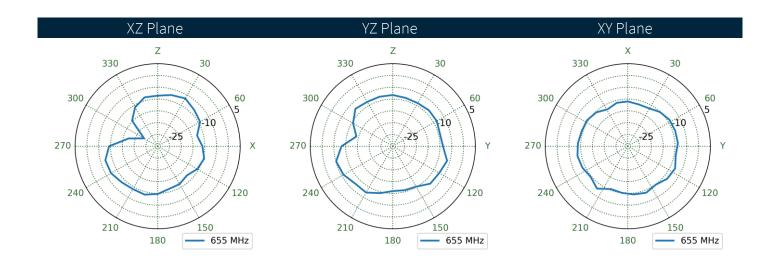


Chamber Test Set-up



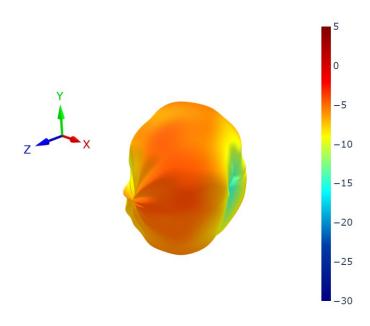
4mm Acrylic Patterns at 655 MHz

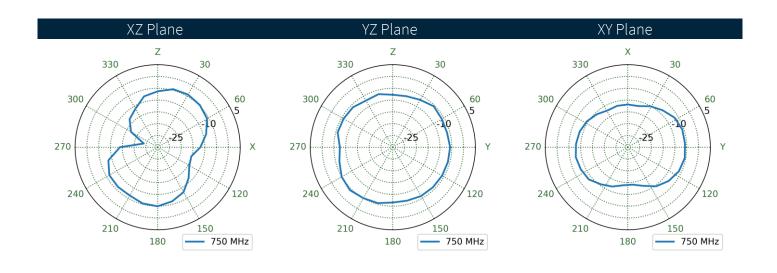






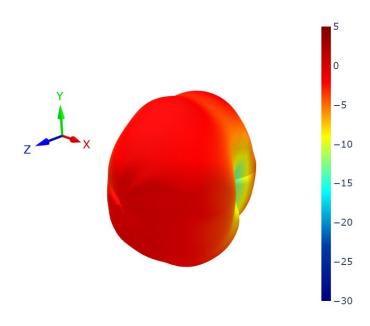
4mm Acrylic Patterns at 750 MHz

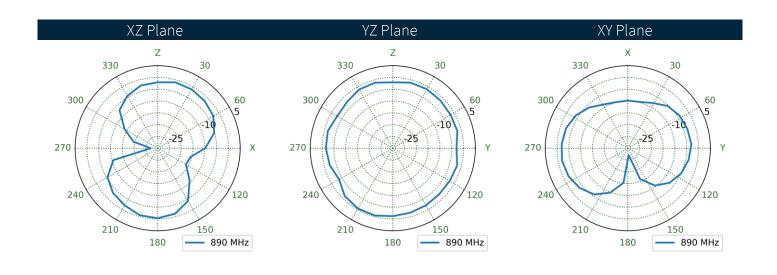






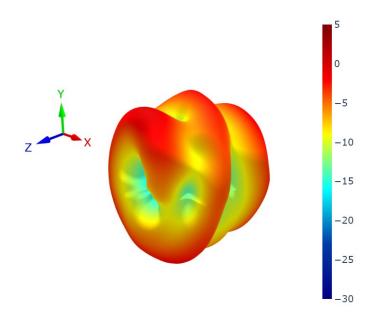
6.4 4mm Acrylic Patterns at 890 MHz

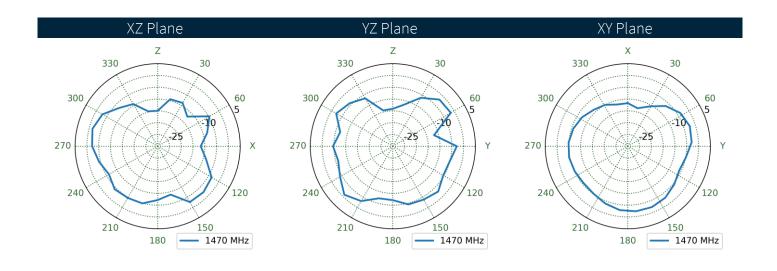






4mm Acrylic Patterns at 1470 MHz

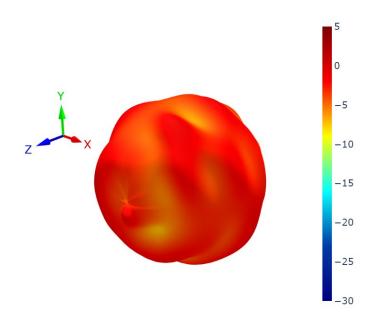


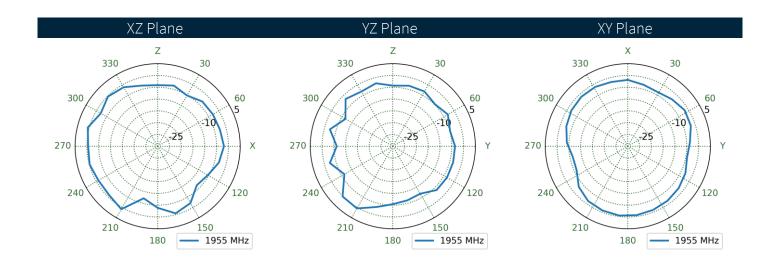




4mm Acrylic Patterns at 1955 MHz

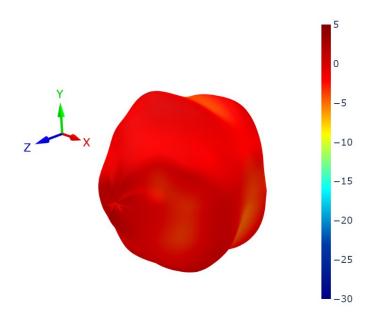
6.6

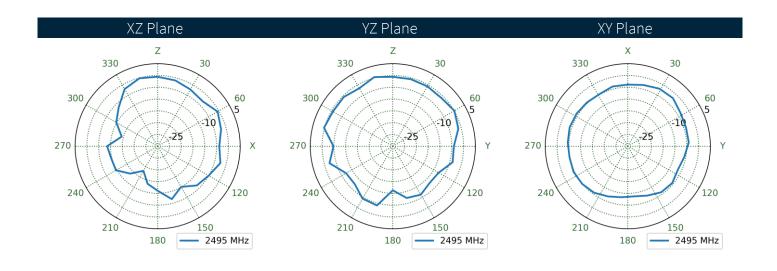






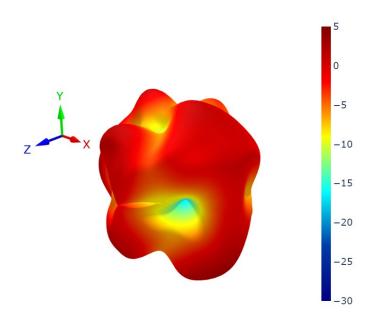
4mm Acrylic Patterns at 2495 MHz

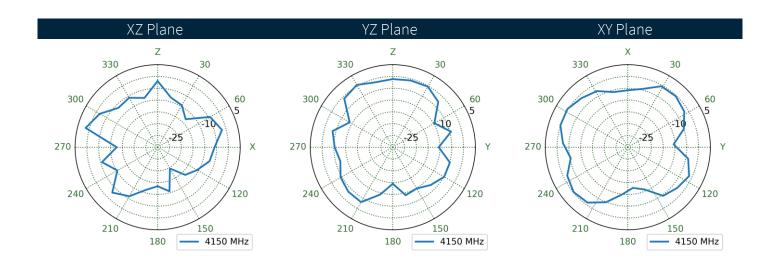






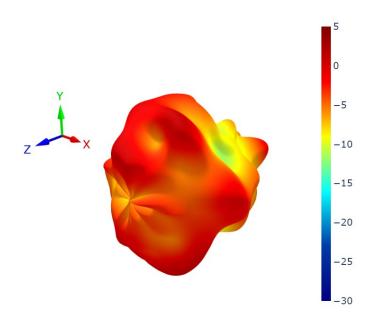
4mm Acrylic Patterns at 4150 MHz

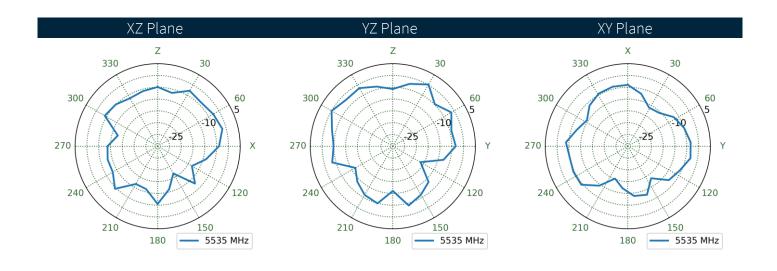






4mm Acrylic Patterns at 5535 MHz







Changelog for the datasheet

SPE-22-8-162 - TFX62.A

Revision: E (Current Version)		
Date:	2024-09-06	
Notes:	Retest and full datasheet update	
Author:	Gary West	

Previous Revisions

Revision:	
Date:	2024-07-25
Notes:	Updated environment table and packaging information
Author:	Cesar Sousa
Revision: C	
Date:	2023-05-18

Revision: C	
Date:	2023-05-18
Notes:	Updated Specifications
Author:	Cesar Sousa

Revision: B	
Date:	2023-01-31
Notes:	Updated data, Covers up to 6GHz.
Author:	Gary West

Revision: A (Origina	Revision: A (Original First Release)		
Date:	2022-11-22		
Notes:	First initial Release		
Author:	Gary West		





www.taoglas.com

