

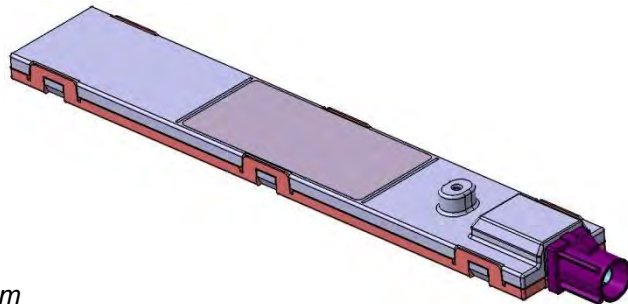
Datenblatt Datasheet

Ecall-Antenne
Ecall Antenna

Molex: 6 40 18

Audi: 4M0.035.504.A

LTE weltweit
LTE worldwide



- Montage ohne elektrisches Gegengewicht,
Mindestabstand zur Masse 10mm
- *free air mount, distance to ground min. 10mm*

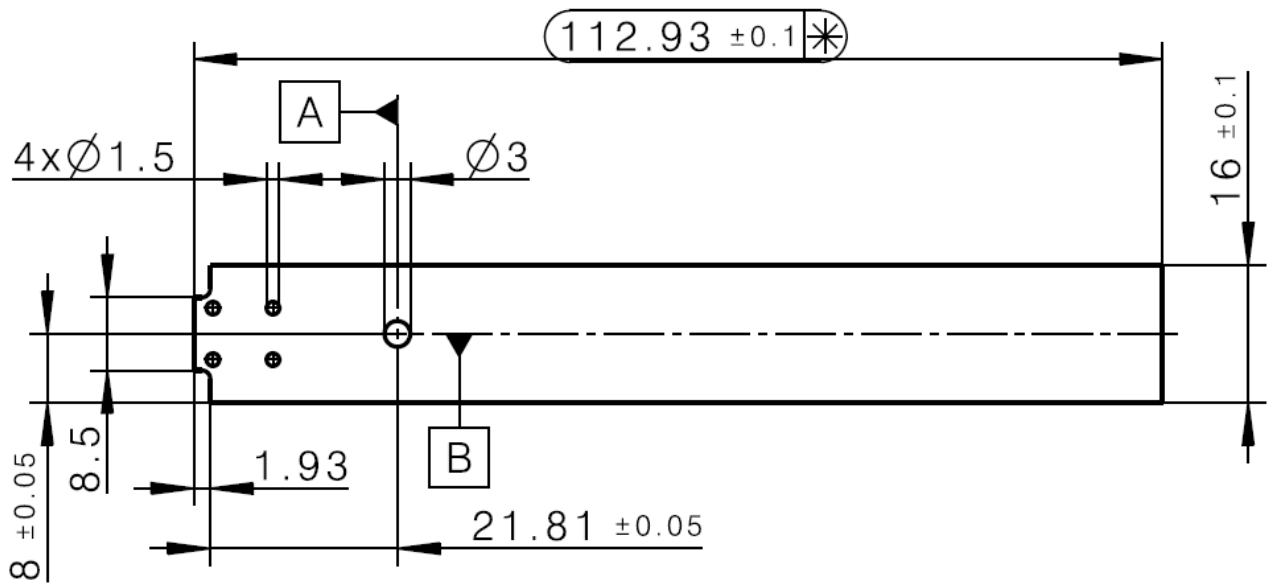
Technische Daten / Technical Data

Frequenzbereich / <i>Frequency Range</i>	617 – 5000 MHz
Impedanz / <i>Impedance</i>	50Ω
Gewinn / <i>Gain</i>	0,6dB
Max. Gewinn / <i>Peak Gain</i>	3,7dBi
Belastbarkeit / <i>Max. Power</i>	10W gepulst / <i>pulsed</i>
Dimensionen der Antenne / <i>Dimensions of Antenna</i>	126,50 x 20,00 x 10,55mm
Anschluss / <i>Connector</i>	Fakra Kodierung A / <i>code A</i>

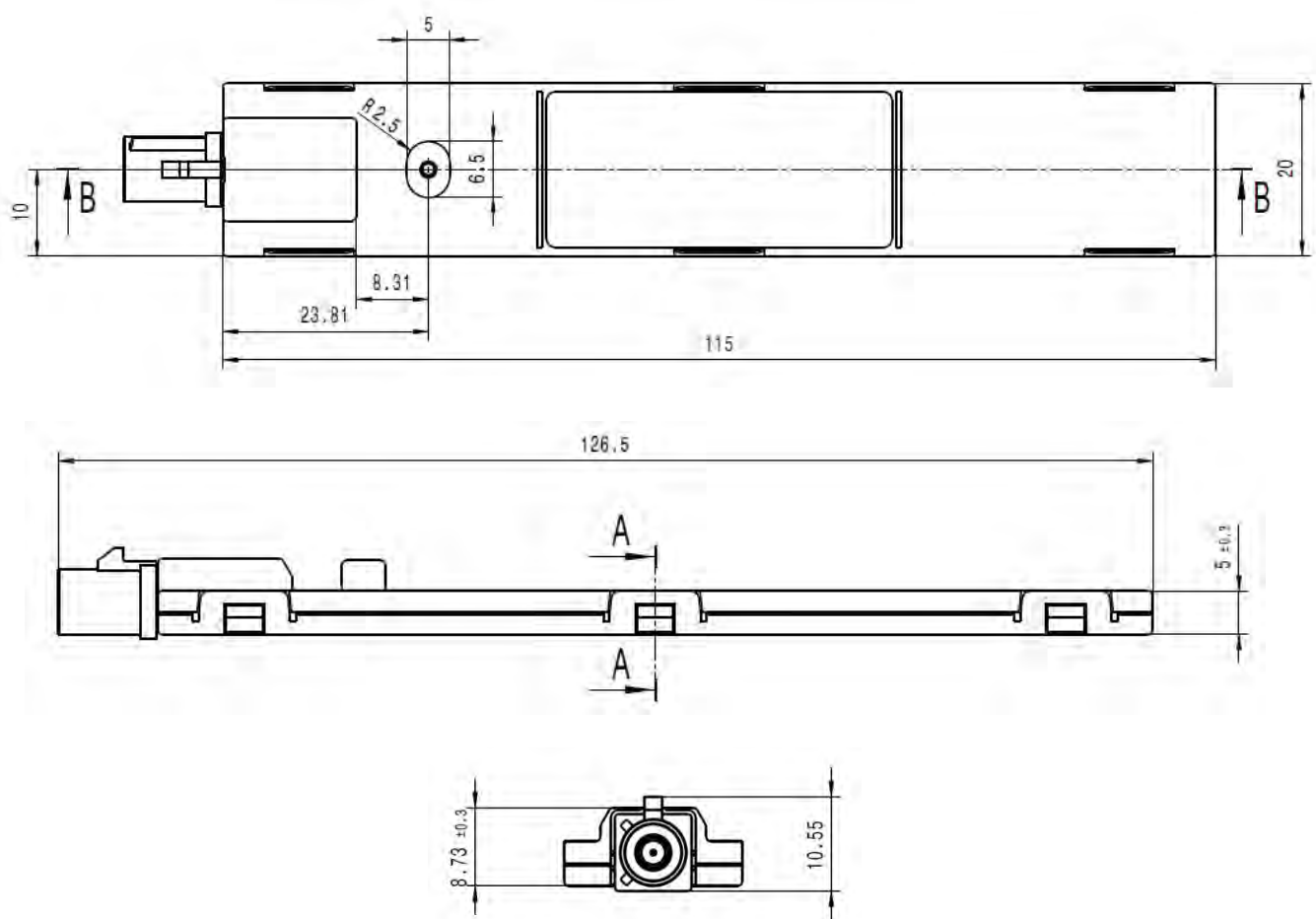
Contents

Ecall-Antenne	1
Molex: 6 40 18.....	1
VW/Audi: 4M0.035.504.A	1
dimensions component.....	2
Polar Plot Horizontal Cut.....	3
Polar Plot Vertical Cut	12
antenna peak values	21

dimensions antenna itself



dimensions component



Polar Plot Horizontal Cut

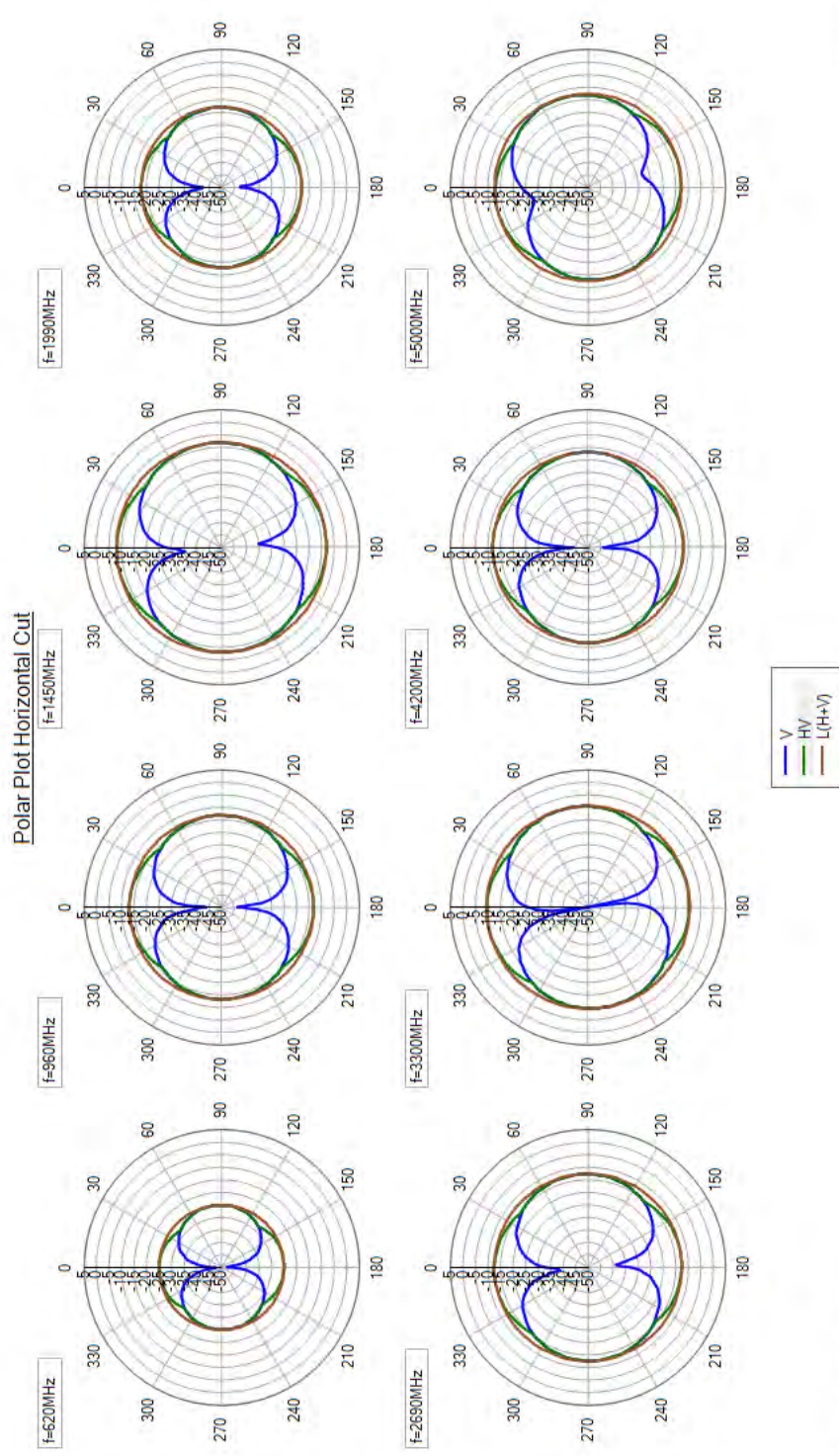
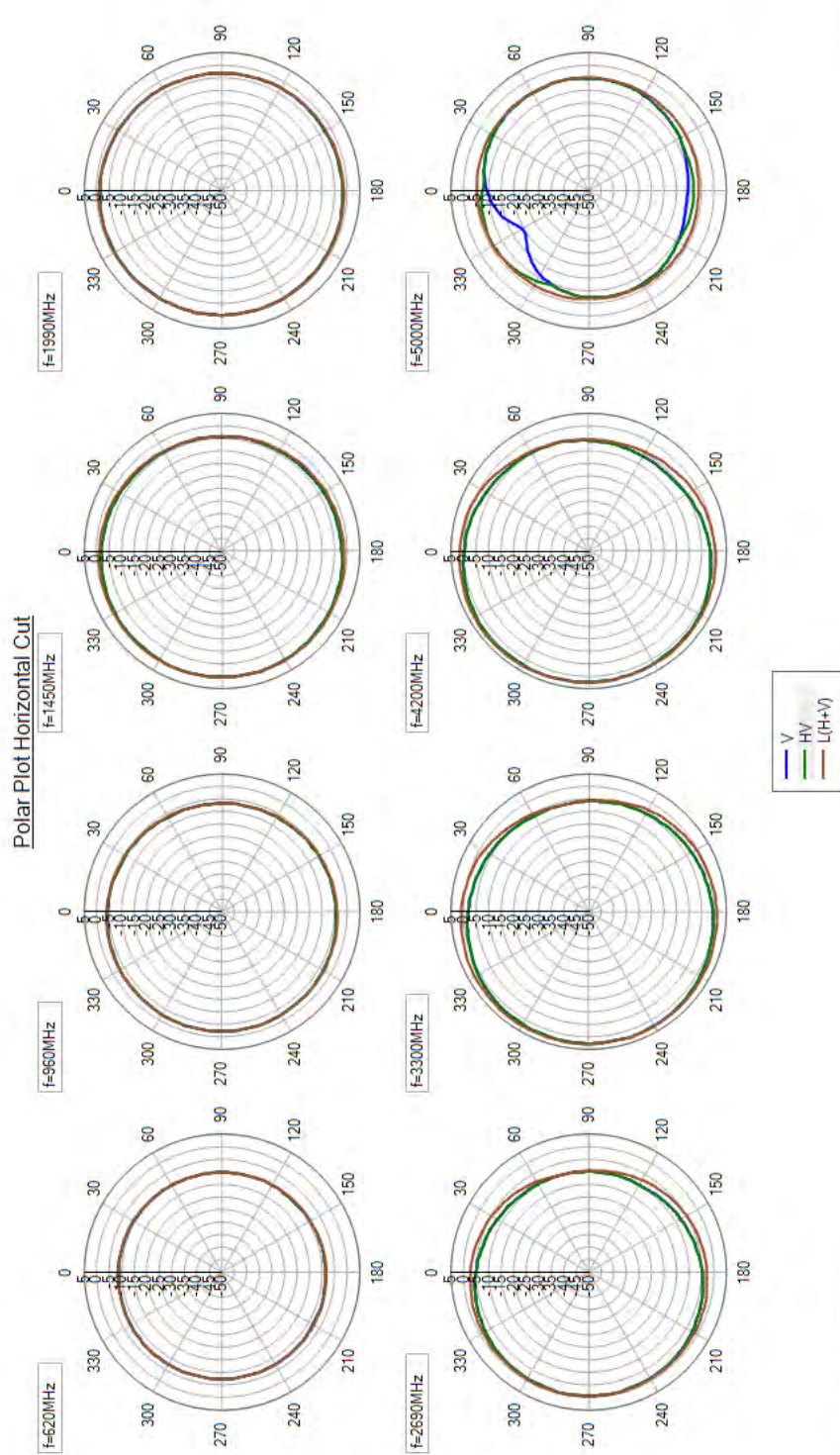


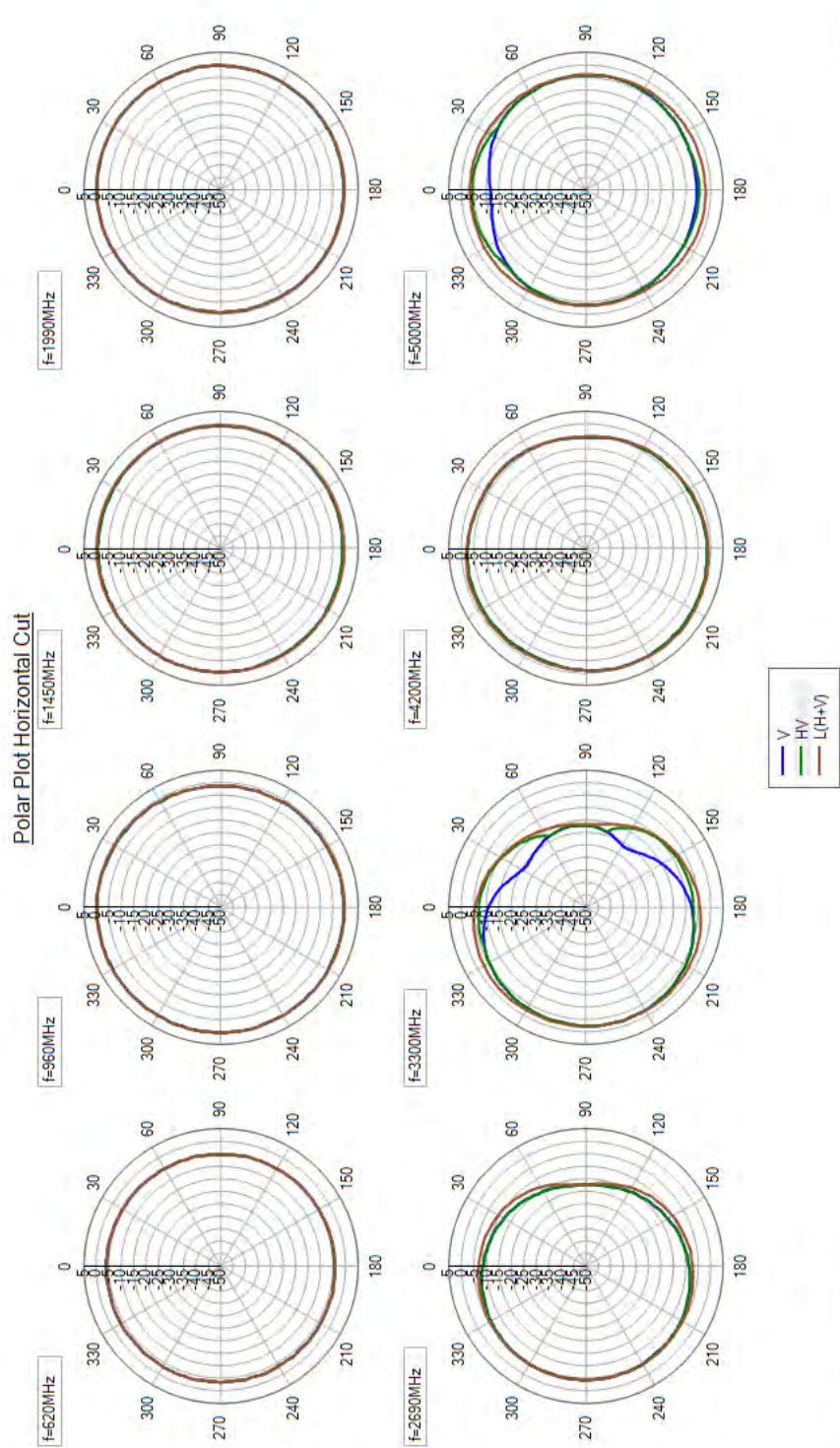
Figure 1 - eCall 5G antenna, Polar Plot Horizontal Cut, E=-90°



8/17/2022

Copyright Molex - LASET V4.9.3

Figure 2 - eCall 5G antenna, Polar Plot Horizontal Cut, E=-66°



8/17/2022

Copyright Molex - LASET V4.9.3

Figure 3 - eCall 5G antenna, Polar Plot Horizontal Cut, E=-45°

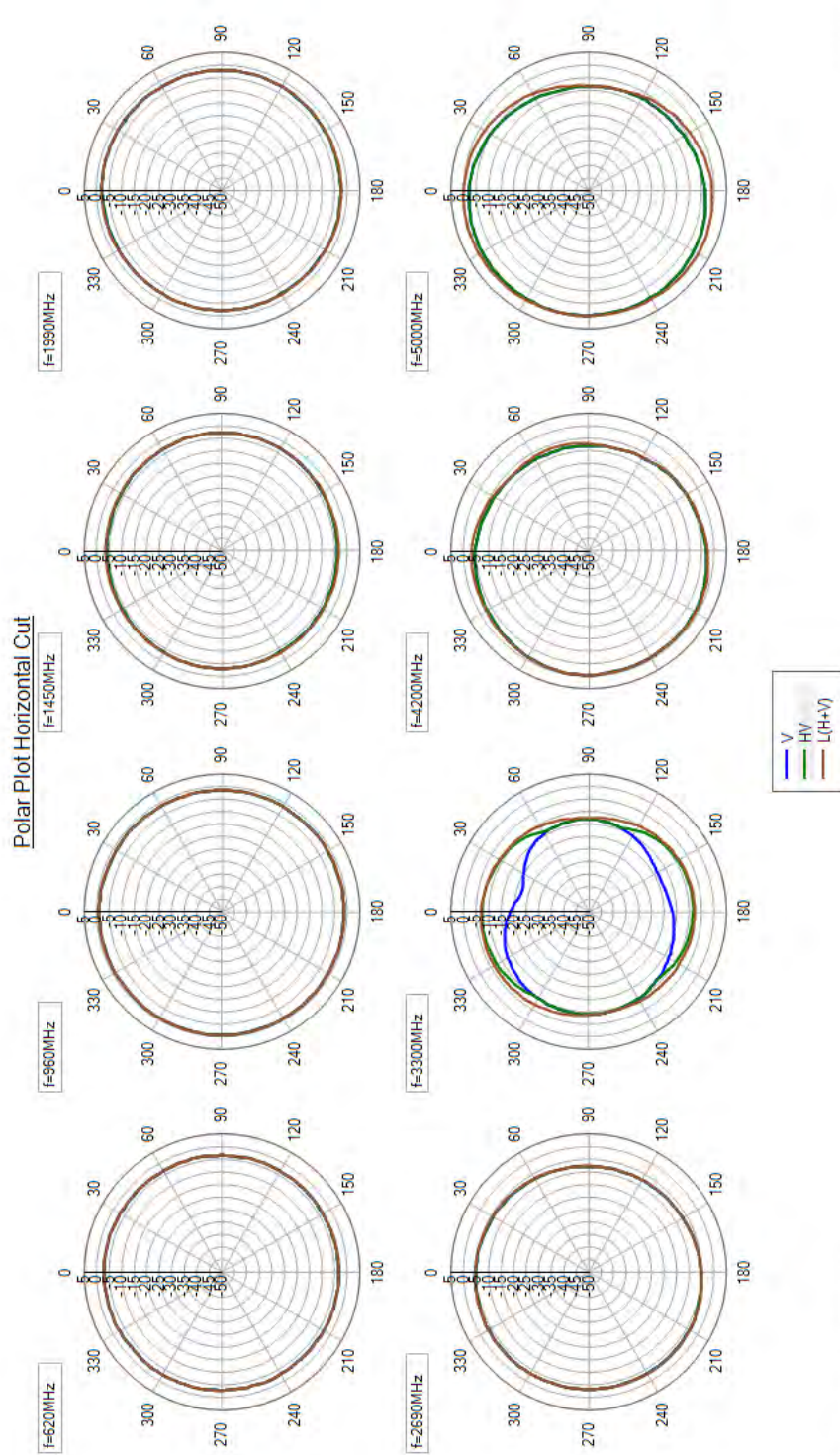


Figure 4 - eCall 5G antenna, Polar Plot Horizontal Cut, E=-24°

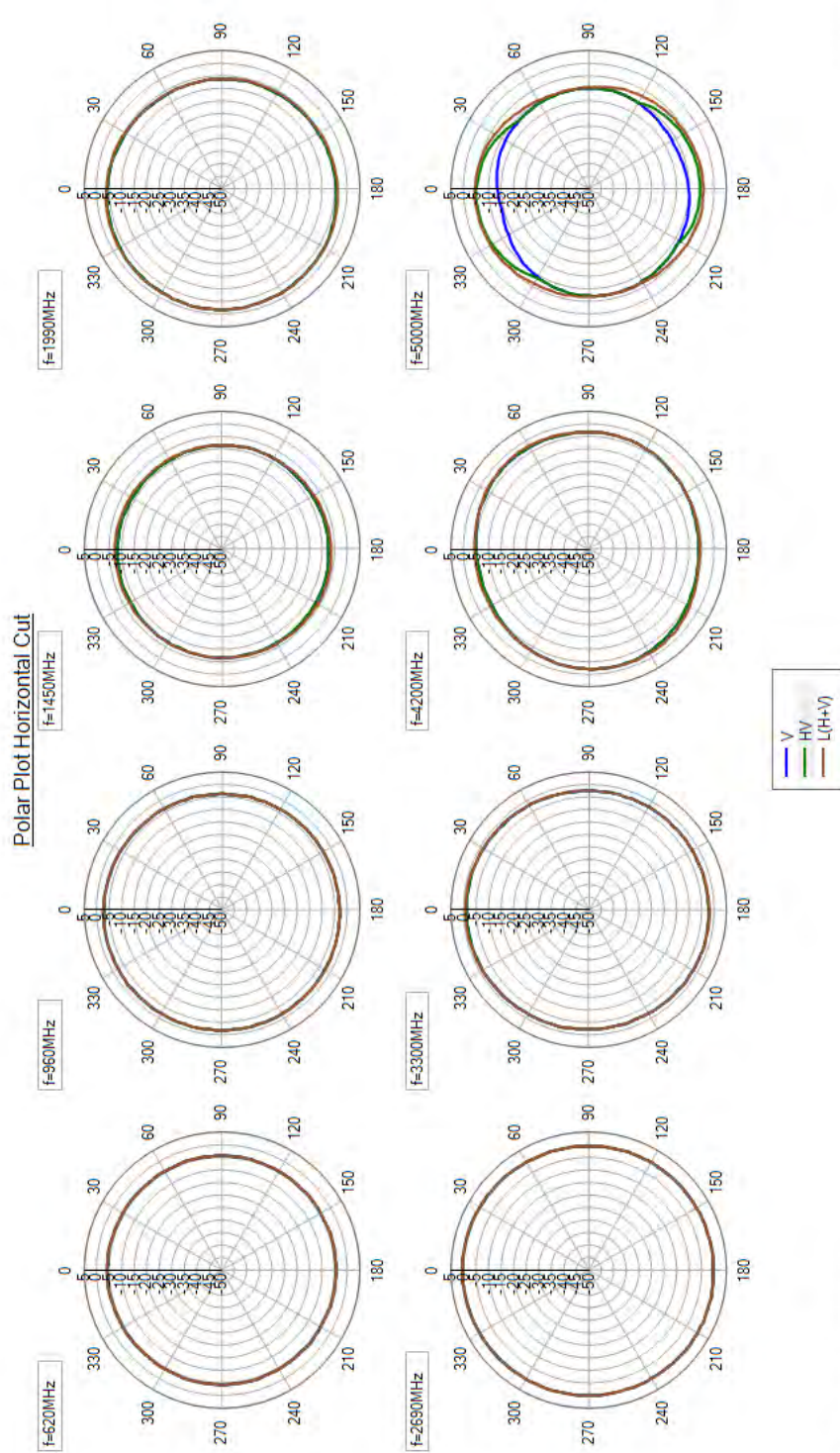


Figure 5 - eCall 5G antenna, Polar Plot Horizontal Cut, E=0°

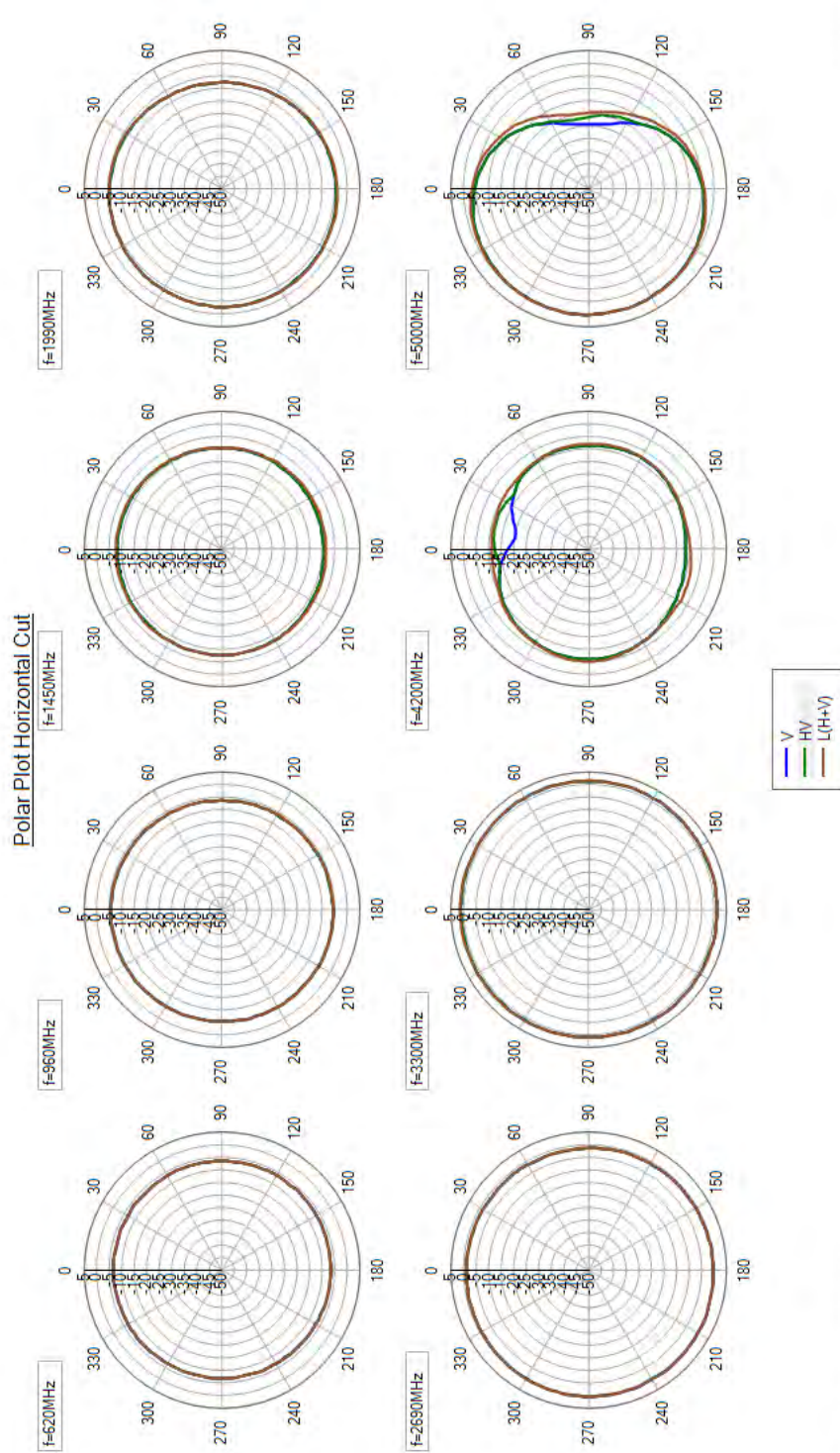


Figure 6 - eCall 5G antenna, Polar Plot Horizontal Cut, E=24°

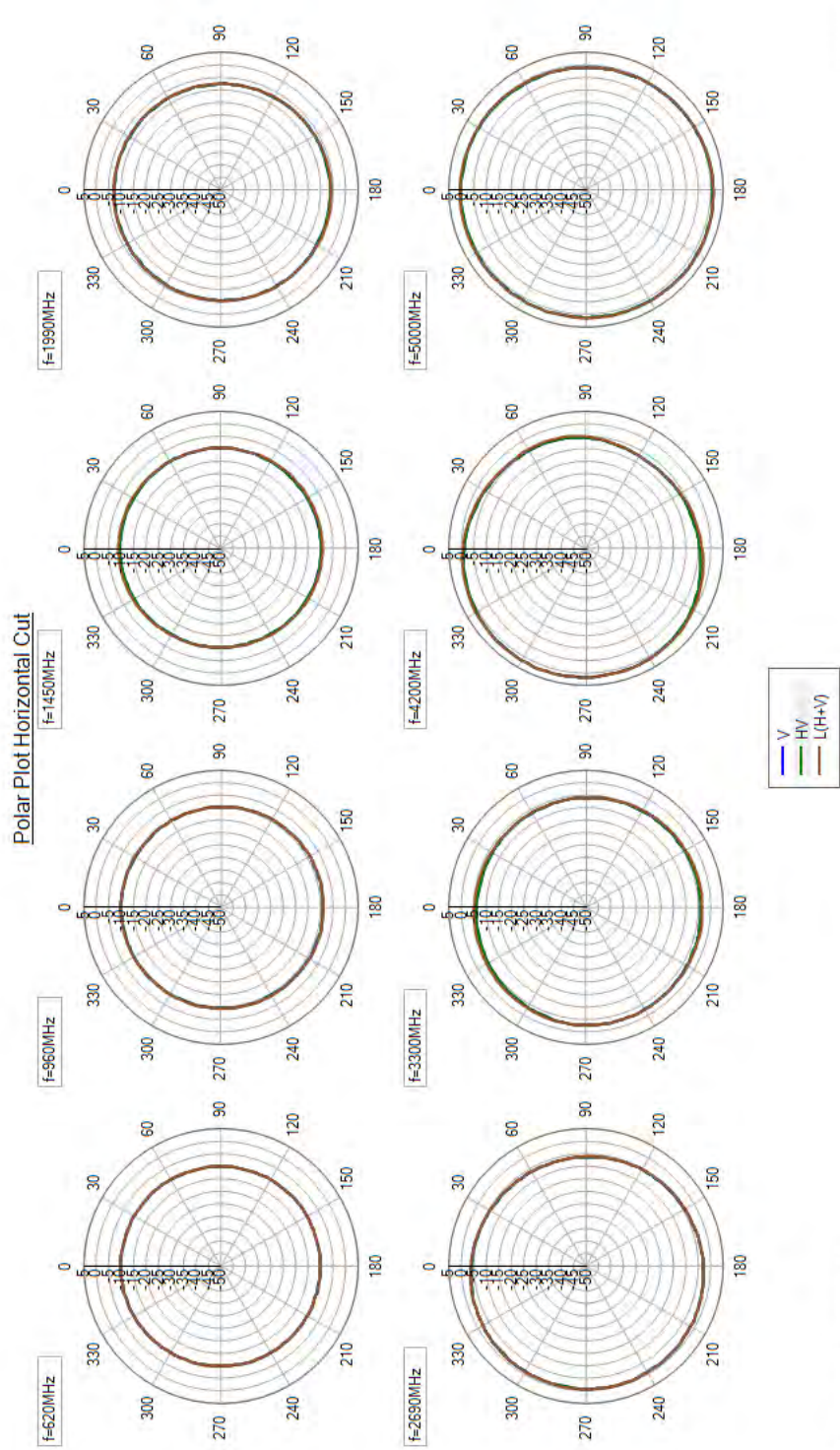


Figure 7 - eCall 5G antenna, Polar Plot Horizontal Cut, E=45°

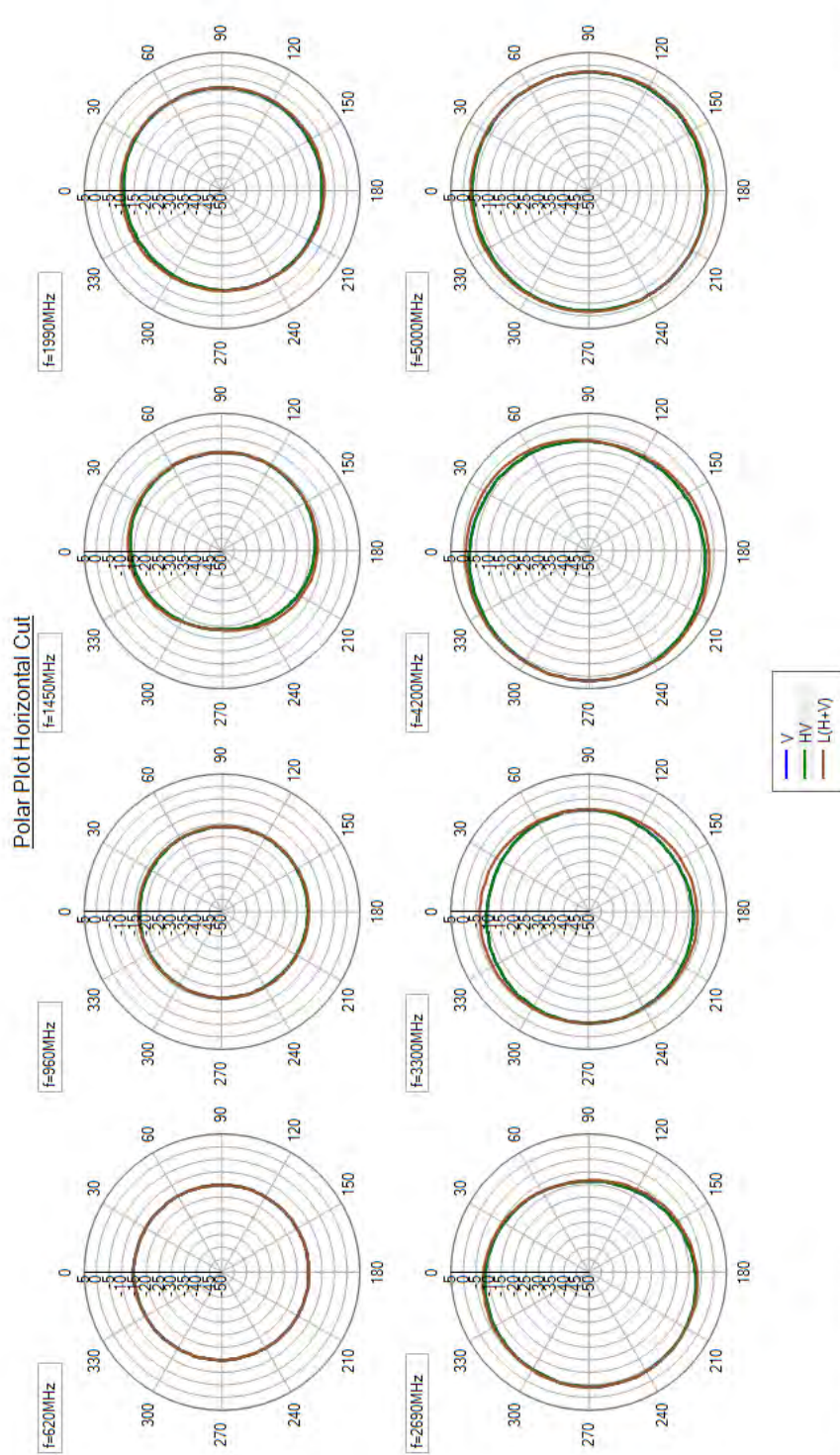


Figure 8 - eCall 5G antenna, Polar Plot Horizontal Cut, E=66°

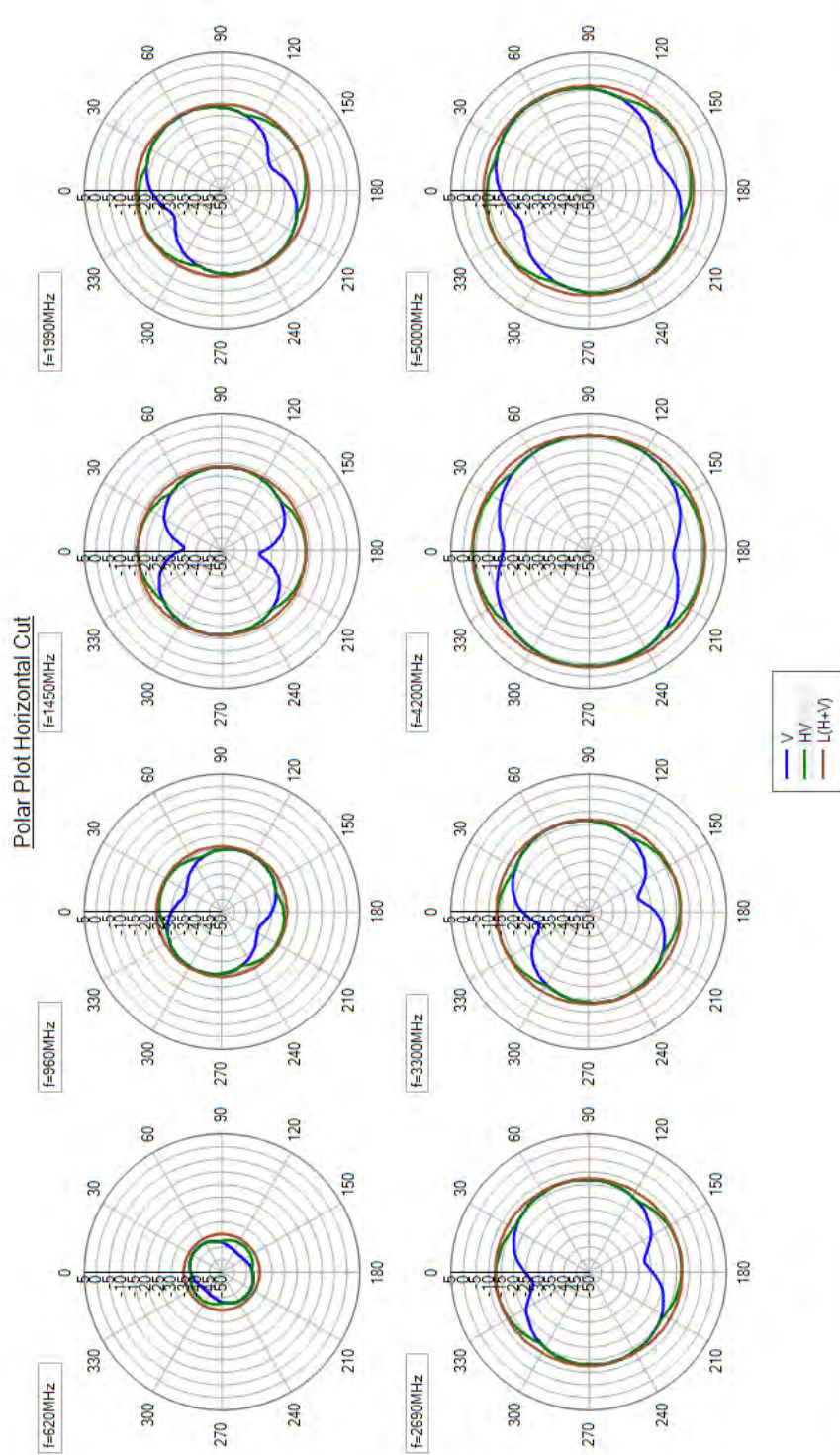


Figure 9 - eCall 5G antenna, Polar Plot Horizontal Cut, E=90°

Polar Plot Vertical Cut

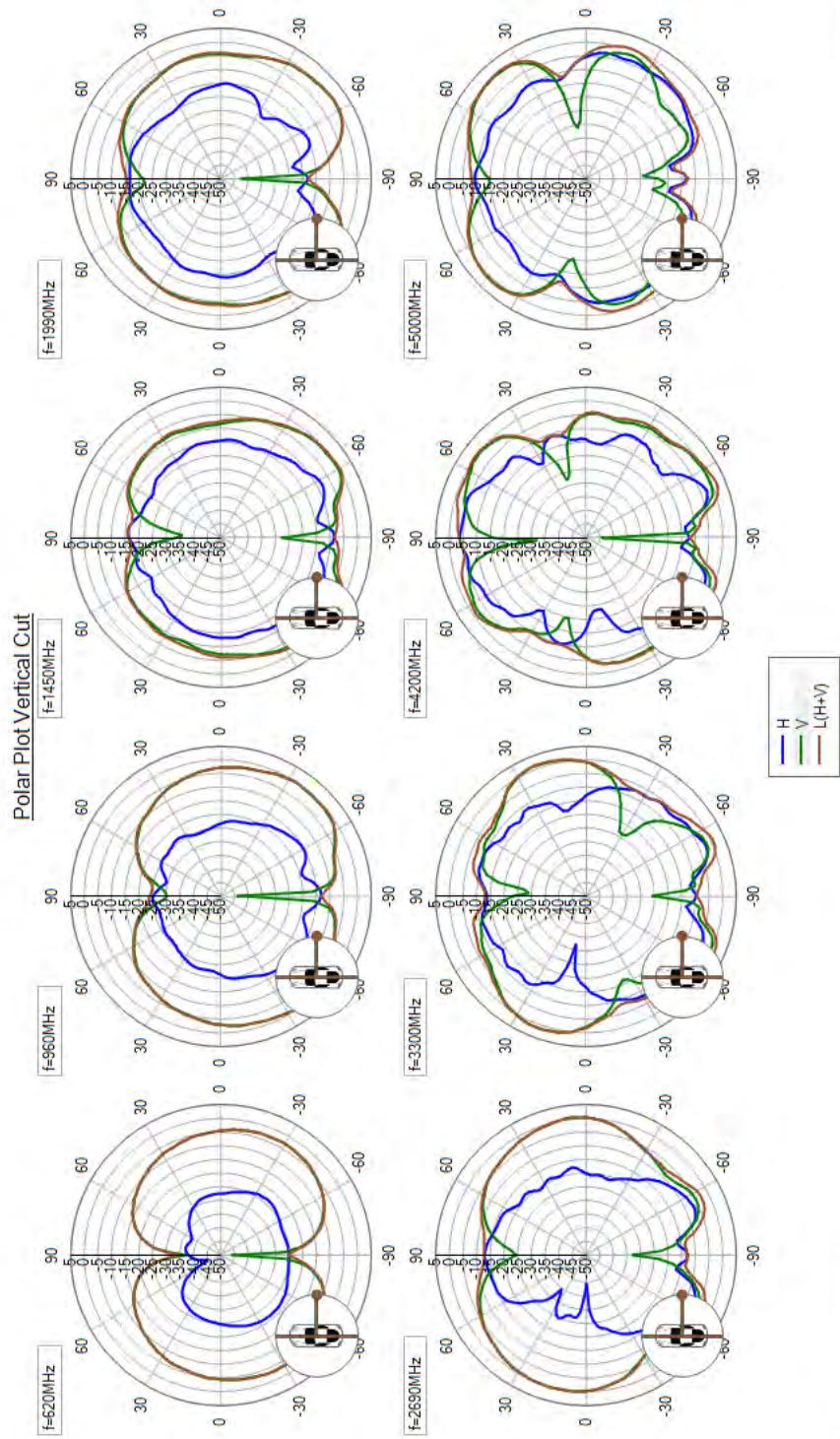
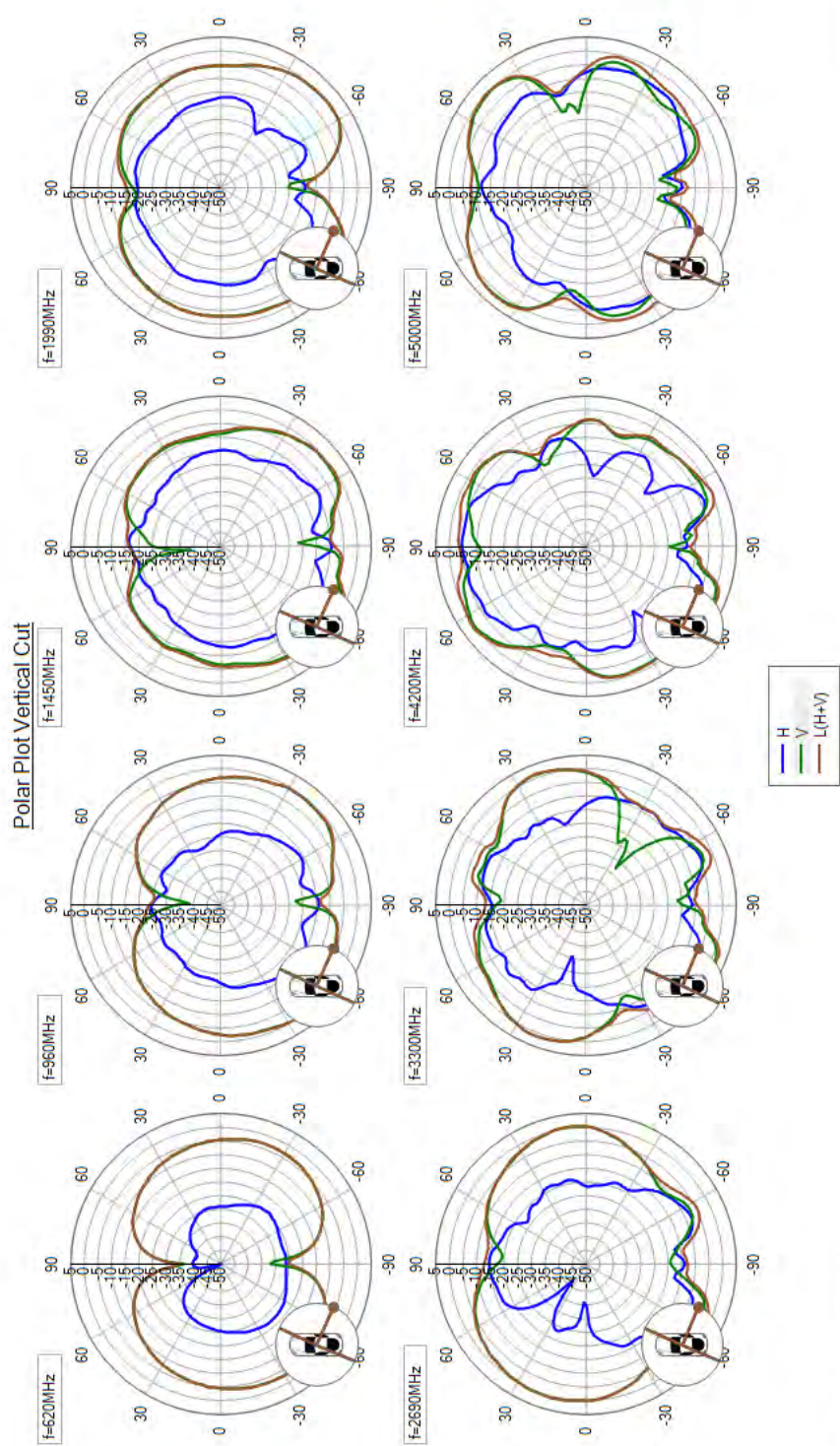


Figure 10 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=0°



3/1/2022

Copyright Moler-LASSET V4.3.3

Figure 11 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=24°

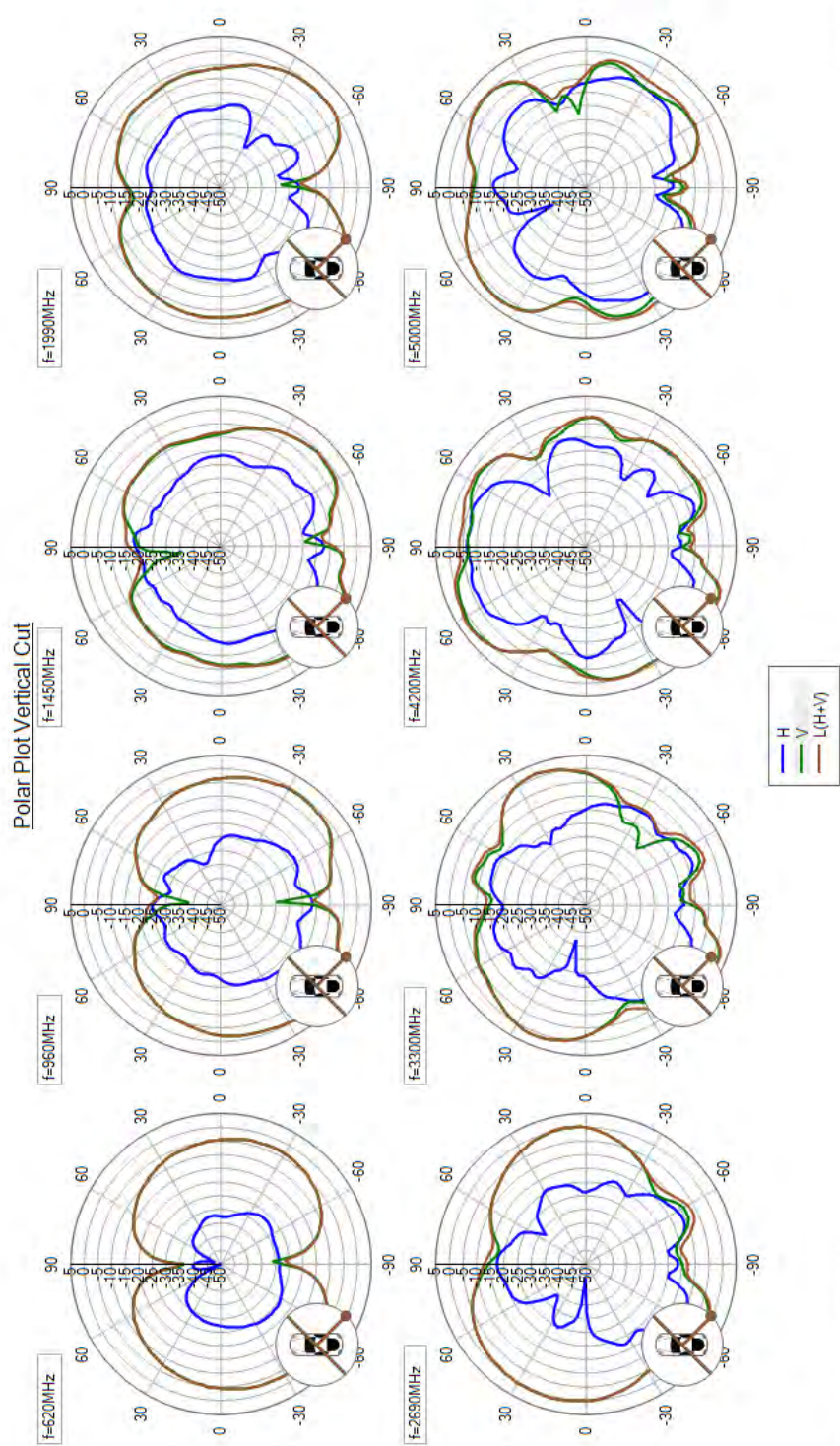
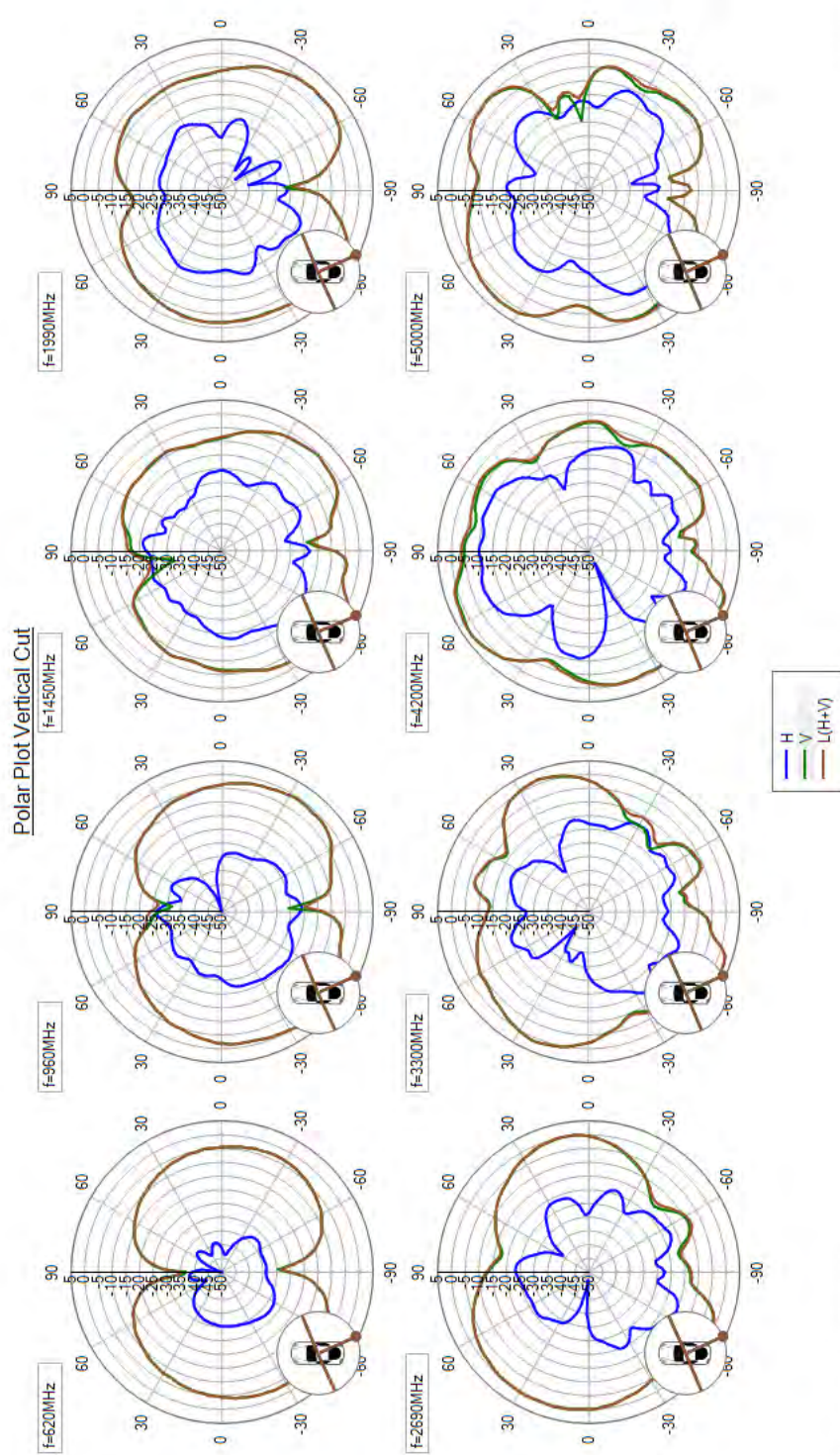


Figure 12 - eCall 5G antenna, Polar Plot Vertical Cut, $\Phi=45^\circ$



3/1/2022

Copyright Moler - LASET v4.3.3

Figure 13 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=66°

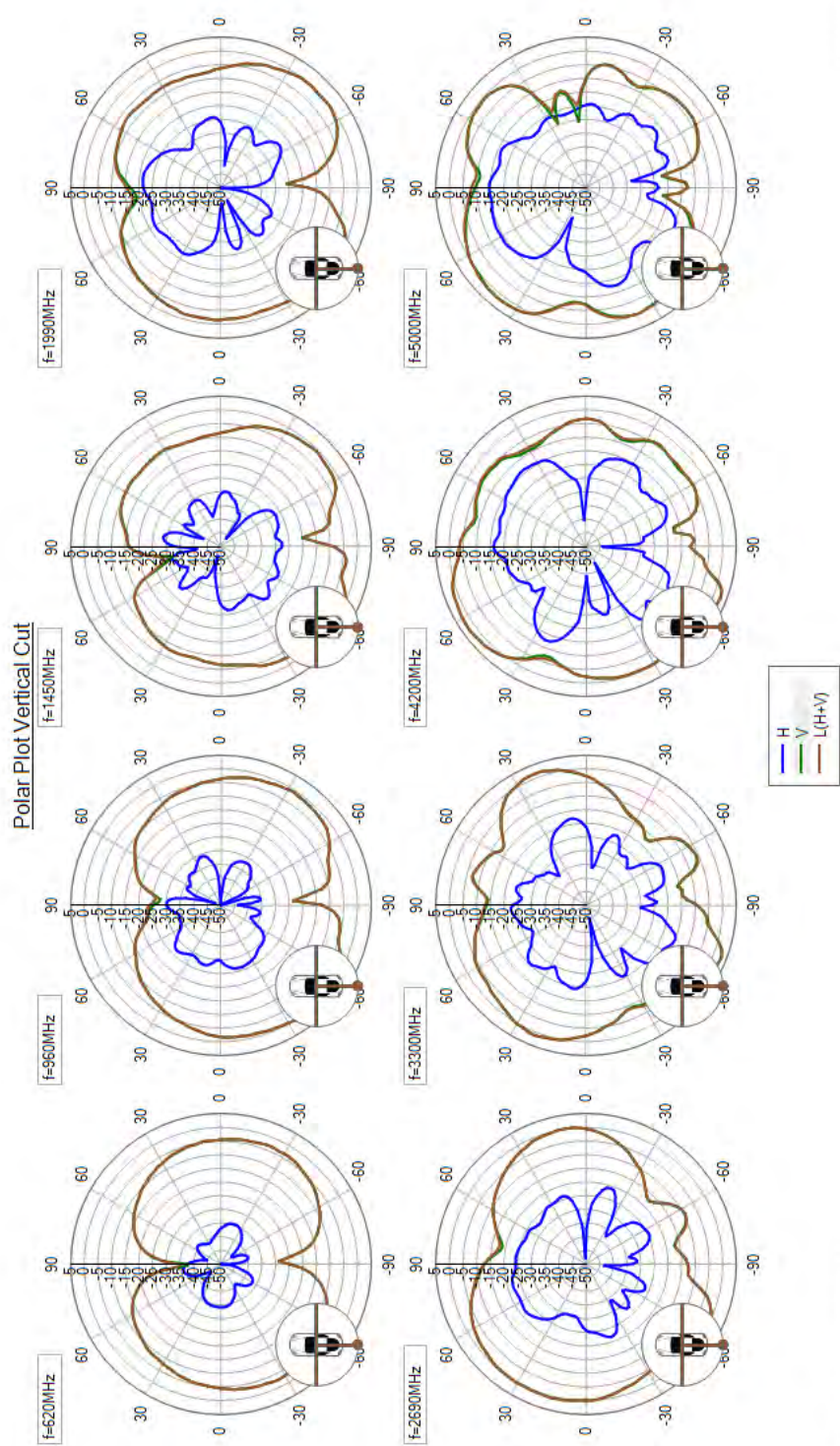


Figure 14 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=90°

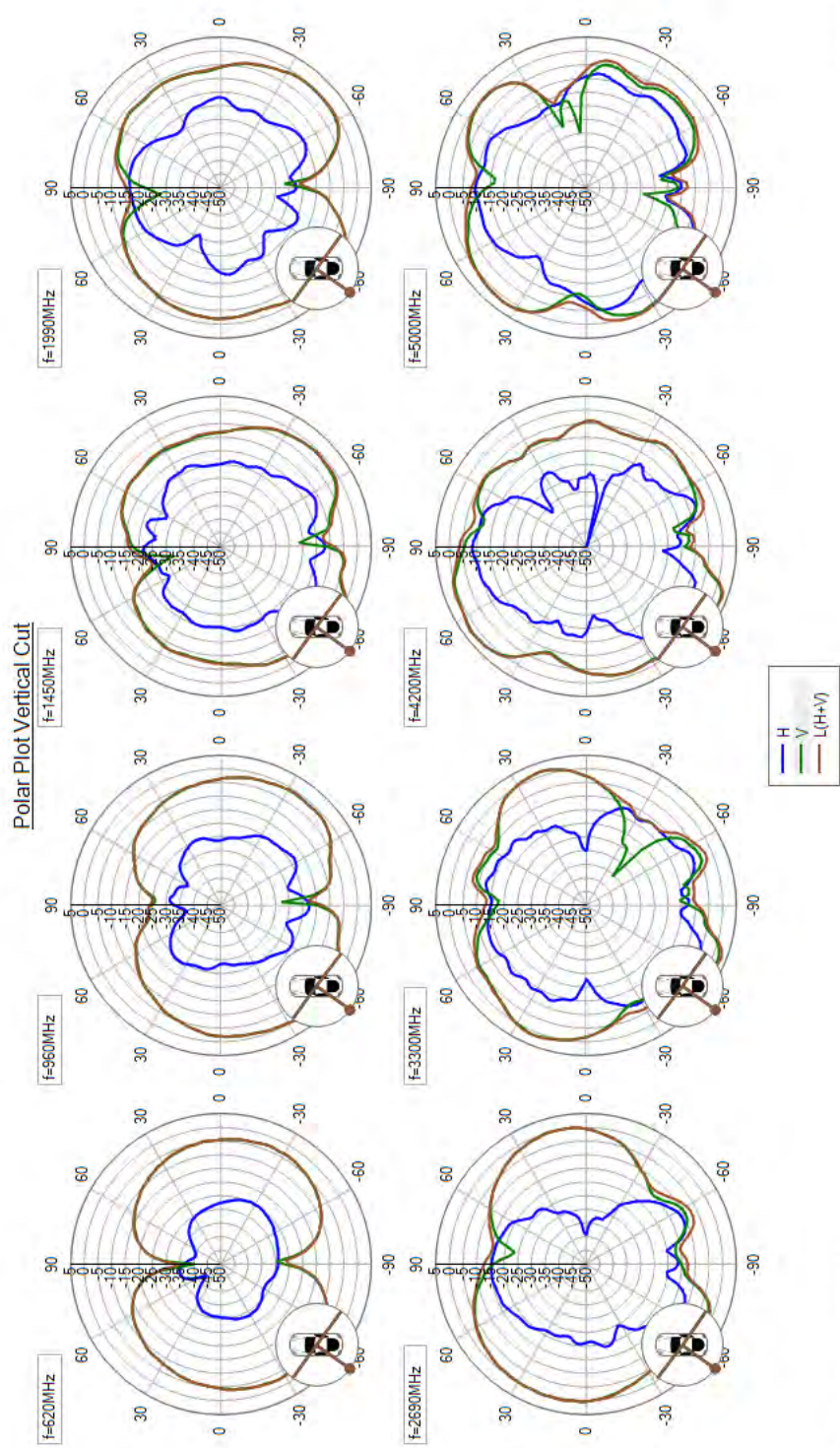


Figure 15 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=126°

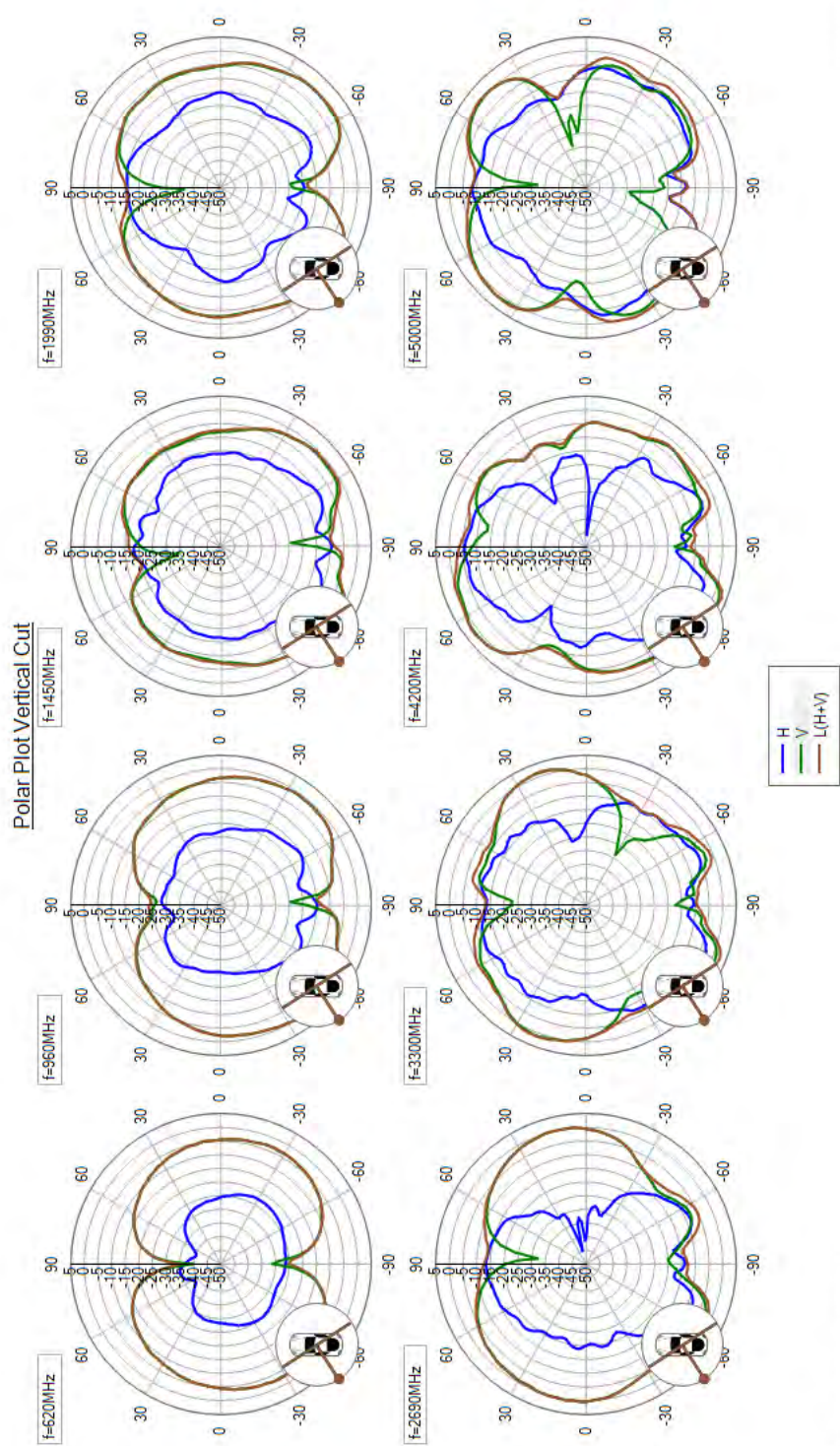


Figure 16 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=147°

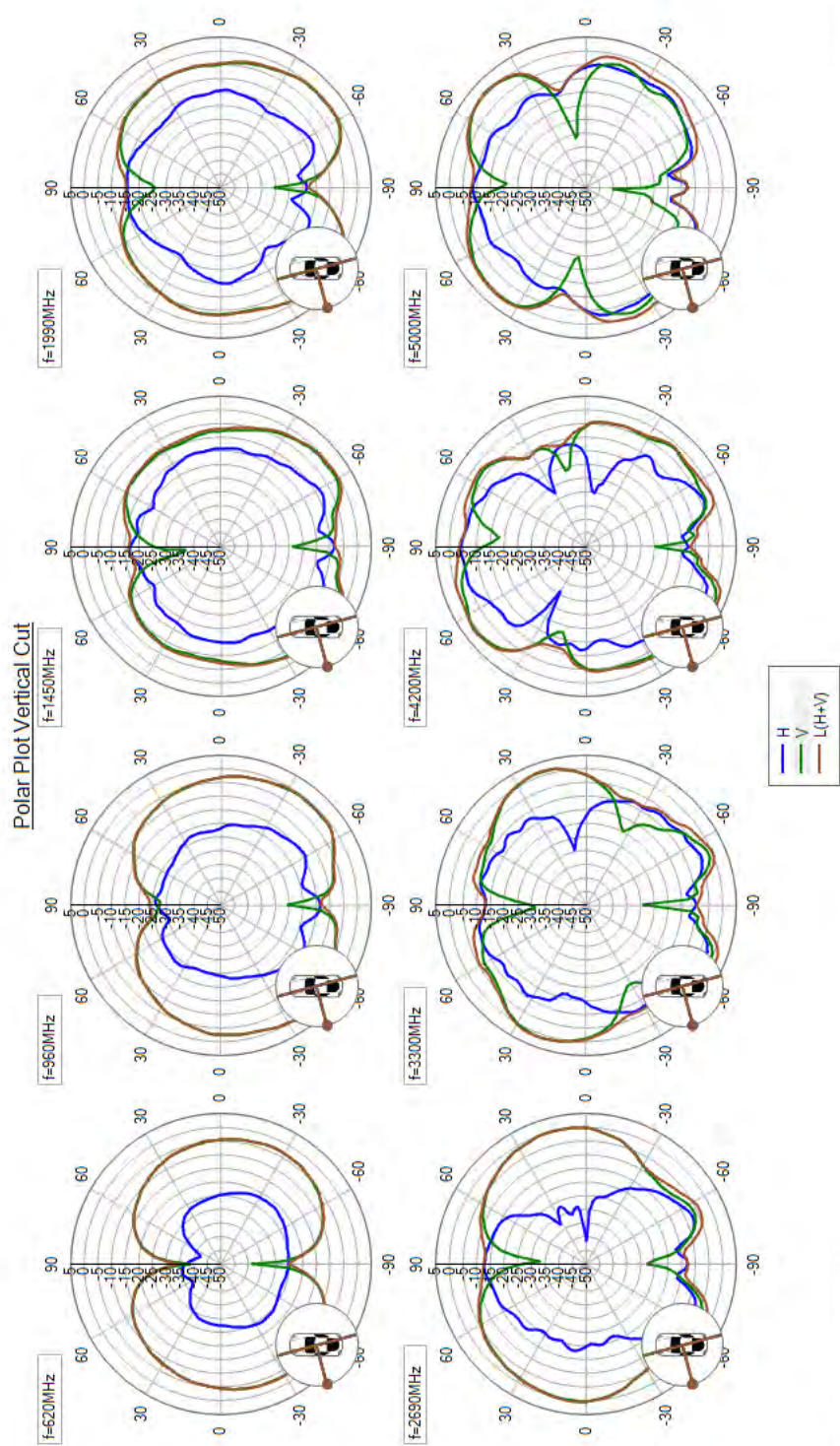


Figure 17 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=165°

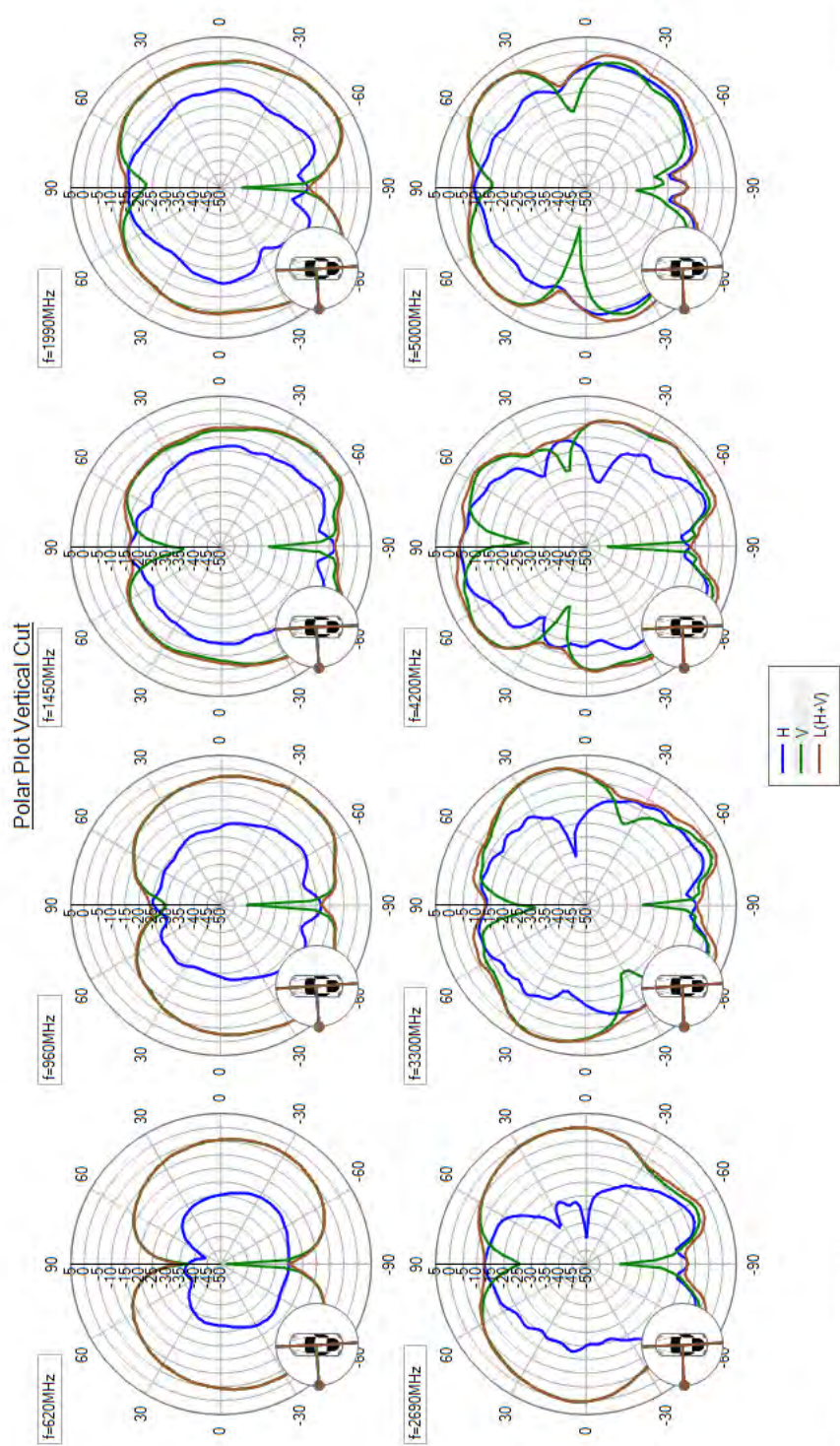


Figure 18 - eCall 5G antenna, Polar Plot Vertical Cut, Phi=177°

antenna peak values

H - overall peak				V - overall peak				L(H+V) - overall peak			
f [MHz]	max [dB]	phi [°]	elevation [°]	f [MHz]	max [dB]	phi [°]	elevation [°]	f [MHz]	max [dB]	phi [°]	elevation [°]
4590	-0.59812	174	-69	4110	3.46086	285	-69	4110	3.673421	312	-69

H - peak values				V - peak values				L(H+V) - peak values			
f [MHz]	max [dB]	phi [°]	elevation [°]	f [MHz]	max [dB]	phi [°]	elevation [°]	f [MHz]	max [dB]	phi [°]	elevation [°]
600	-22.0111	180	-39	600	-3.56761	282	-27	600	-3.56665	282	-27
610	-21.3432	180	-39	610	-3.2078	279	-30	610	-3.20709	279	-30
620	-21.4098	180	-39	620	-2.77986	285	-30	620	-2.77762	288	-30
630	-20.7551	180	-39	630	-2.54949	288	-30	630	-2.54547	291	-30
640	-20.0175	183	-42	640	-2.22305	300	-30	640	-2.21586	309	-30
650	-20.0783	177	-45	650	-2.16786	306	-33	650	-2.15264	318	-33
660	-20.088	174	-48	660	-2.00196	285	-36	660	-1.99758	288	-36
670	-19.9789	177	-48	670	-1.95017	279	-36	670	-1.94775	282	-36
680	-19.3045	177	-48	680	-1.8086	279	-33	680	-1.80712	282	-33
690	-18.6729	174	-48	690	-1.72113	282	-27	690	-1.71954	282	-27
700	-18.5169	174	-45	700	-1.66807	285	-30	700	-1.66417	288	-30
710	-18.2717	177	-45	710	-1.48844	285	-30	710	-1.48263	288	-30
720	-18.1628	177	-48	720	-1.27846	282	-33	720	-1.27308	288	-33
730	-18.0041	177	-48	730	-1.1976	282	-36	730	-1.19238	285	-36
740	-17.6266	183	-51	740	-1.16424	279	-39	740	-1.16163	279	-39
750	-17.2604	180	-51	750	-0.95909	279	-39	750	-0.95794	282	-39
760	-17.1683	177	-51	760	-0.86208	285	-36	760	-0.8604	288	-36
770	-17.1761	177	-51	770	-0.82655	285	-36	770	-0.82253	291	-36
780	-16.7125	174	-54	780	-0.88819	279	-36	780	-0.88504	282	-36
790	-16.5821	177	-54	790	-1.02131	279	-36	790	-1.01667	279	-36
800	-16.7168	180	-54	800	-0.90821	276	-33	800	-0.90286	279	-33
810	-16.5061	183	-54	810	-0.771	279	-33	810	-0.76351	282	-33
820	-15.8571	183	-51	820	-0.62595	282	-36	820	-0.61799	288	-33
830	-15.2238	180	-51	830	-0.52161	279	-39	830	-0.51704	279	-39
840	-15.5259	180	-51	840	-0.46945	279	-42	840	-0.46812	276	-42
850	-14.9579	0	-90	850	-0.59129	273	-48	850	-0.59022	273	-48
860	-15.1744	0	-90	860	-0.61307	273	-48	860	-0.61243	273	-48
870	-15.1793	180	-57	870	-0.54456	276	-45	870	-0.5421	279	-45
880	-14.7027	180	-57	880	-0.36176	276	-42	880	-0.35668	279	-42
890	-14.2946	183	-57	890	-0.22737	279	-36	890	-0.2207	279	-36
900	-14.0382	180	-57	900	-0.10375	279	-33	900	-0.09709	279	-33
910	-13.7532	0	-90	910	-0.09788	282	-36	910	-0.09278	282	-36
920	-14.0223	180	-87	920	-0.20254	285	-36	920	-0.1962	285	-36
930	-13.8631	183	-57	930	-0.31343	273	-51	930	-0.30792	273	-51
940	-13.804	183	-57	940	-0.12572	273	-51	940	-0.12124	270	-51
950	-13.4949	3	-90	950	0.310473	273	-54	950	0.312197	270	-54
960	-13.2261	0	-90	960	0.45301	273	-54	960	0.455257	273	-54
1427.9	-5.35629	174	-90	1427.9	1.584042	267	-60	1427.9	1.592358	273	-60

1430	-5.63698	174	-90	1430	1.492073	267	-60	1430	1.499624	273	-60
1440	-6.98678	174	-90	1440	1.285991	267	-60	1440	1.291949	267	-60
1450	-7.97227	180	-63	1450	1.203	270	-60	1450	1.209701	270	-60
1452	-7.89629	183	-63	1452	1.095205	270	-60	1452	1.100228	270	-60
1460	-7.35975	180	-63	1460	1.088894	273	-60	1460	1.091398	273	-60
1462	-7.21892	177	-63	1462	1.138546	273	-60	1462	1.140873	276	-60
1470	-6.71903	174	-63	1470	1.174438	273	-60	1470	1.176462	276	-60
1472	-6.64874	171	-63	1472	1.262212	273	-60	1472	1.265304	276	-60
1480	-6.71514	171	-63	1480	1.278613	270	-60	1480	1.283239	276	-60
1482	-6.76223	171	-63	1482	1.21327	270	-60	1482	1.218646	279	-60
1490	-6.75174	171	-63	1490	0.989354	270	-60	1490	1.006162	288	-60
1492	-6.6906	171	-63	1492	0.893289	270	-60	1492	0.908282	288	-60
1500	-6.67836	171	-63	1500	0.357833	270	-60	1500	0.366234	279	-60
1510	-6.45065	177	-90	1510	-0.12303	270	-63	1510	-0.10001	87	-45
1710	-10.3313	168	-63	1710	1.353158	273	-60	1710	1.35683	276	-60
1720	-10.5915	171	-60	1720	1.255129	273	-60	1720	1.260541	276	-60
1730	-10.8438	171	-60	1730	1.143788	273	-60	1730	1.148754	276	-60
1740	-10.8734	174	-63	1740	0.974466	273	-60	1740	0.97774	276	-60
1750	-10.6882	171	-63	1750	0.895904	270	-60	1750	0.897813	273	-60
1760	-10.4339	168	-63	1760	0.887424	273	-60	1760	0.888588	276	-60
1770	-10.6456	168	-63	1770	0.928419	273	-60	1770	0.930883	276	-60
1780	-11.0576	165	-63	1780	0.873428	273	-60	1780	0.881172	282	-60
1790	-11.5218	165	-63	1790	0.823925	276	-60	1790	0.837828	285	-60
1800	-11.5056	165	-63	1800	0.748776	276	-60	1800	0.767298	291	-60
1810	-11.4746	165	-63	1810	0.735648	276	-60	1810	0.740179	282	-60
1820	-11.8034	168	-63	1820	0.554556	273	-60	1820	0.555285	276	-60
1830	-12.3579	171	-60	1830	0.379154	276	-60	1830	0.384316	282	-60
1840	-12.7303	168	-60	1840	0.447473	276	-60	1840	0.464777	288	-60
1850	-12.6445	168	-63	1850	0.396906	279	-60	1850	0.413529	291	-60
1860	-12.2758	171	-63	1860	0.250132	279	-60	1860	0.258006	291	-60
1870	-12.1667	174	-63	1870	0.247267	279	-60	1870	0.249018	285	-60
1880	-12.3466	174	-63	1880	0.425285	279	-60	1880	0.428835	279	-60
1890	-12.4941	171	-63	1890	0.701019	279	-60	1890	0.711062	285	-60
1900	-12.5163	171	-63	1900	0.775584	282	-60	1900	0.791502	288	-60
1910	-12.457	171	-63	1910	0.691913	288	-60	1910	0.718809	300	-60
1920	-12.2779	171	-63	1920	0.552322	321	-57	1920	0.633102	330	-57
1930	-12.468	168	-63	1930	0.388135	324	-57	1930	0.472064	333	-57
1940	-12.6451	168	-63	1940	0.372108	291	-60	1940	0.416767	339	-57
1950	-12.8045	168	-63	1950	0.564722	294	-60	1950	0.599662	309	-60
1960	-12.8631	171	-63	1960	0.616082	300	-60	1960	0.65195	312	-60
1970	-12.5807	171	-63	1970	0.632084	303	-60	1970	0.665286	312	-60
1980	-12.4474	171	-63	1980	0.427817	300	-60	1980	0.45627	309	-60
1990	-12.5004	174	-63	1990	0.468863	303	-60	1990	0.502599	312	-60
2000	-12.2089	348	-63	2000	0.738392	294	-60	2000	0.840526	306	-60
2010	-12.0557	351	-63	2010	0.761152	297	-60	2010	0.875623	306	-60
2020	-11.1221	351	-63	2020	0.969221	300	-60	2020	1.128499	309	-60
2030	-10.2359	348	-63	2030	1.075982	300	-60	2030	1.274799	309	-60
2040	-10.0388	345	-63	2040	0.887328	300	-60	2040	1.100995	312	-60

2050	-10.4747	345	-63	2050	0.625649	297	-60	2050	0.81454	312	-60
2060	-11.265	351	-63	2060	0.235213	291	-60	2060	0.372288	309	-60
2070	-11.6067	354	-63	2070	0.084358	288	-60	2070	0.228489	321	-57
2080	-11.4969	354	-63	2080	0.197788	288	-60	2080	0.360904	321	-57
2090	-11.548	357	-63	2090	0.415687	288	-60	2090	0.506092	303	-60
2100	-12.1965	3	-63	2100	0.374748	291	-60	2100	0.440014	303	-60
2110	-13.0765	3	-63	2110	0.15769	294	-60	2110	0.209325	303	-60
2120	-12.5834	177	-63	2120	-0.0931	315	-57	2120	-0.02993	318	-57
2130	-12.456	177	-63	2130	-0.07976	315	-57	2130	-0.01513	321	-57
2140	-12.5338	174	-63	2140	0.204439	312	-57	2140	0.277264	318	-57
2150	-12.8263	174	-63	2150	0.213896	309	-57	2150	0.286024	315	-57
2160	-13.265	174	-63	2160	0.037609	309	-57	2160	0.103854	315	-57
2170	-13.4512	180	-63	2170	-0.10426	267	6	2170	-0.09208	264	6
2300	-11.7586	357	-60	2300	1.217748	258	15	2300	1.229051	258	15
2310	-11.8542	357	-60	2310	1.563132	258	15	2310	1.584497	258	15
2320	-11.5408	0	-60	2320	1.673996	261	12	2320	1.674547	261	12
2330	-11.5985	357	-60	2330	1.678867	261	12	2330	1.683656	261	12
2340	-11.0042	357	-60	2340	1.448904	261	9	2340	1.458831	261	9
2350	-11.3946	357	-60	2350	1.375331	261	9	2350	1.380555	261	9
2360	-11.7997	357	-63	2360	1.482603	261	12	2360	1.490237	258	12
2370	-11.914	354	-63	2370	1.604387	261	12	2370	1.656068	258	12
2380	-12.1595	180	-63	2380	1.656648	261	15	2380	1.688196	258	15
2390	-11.6179	357	-63	2390	1.627052	261	15	2390	1.638096	261	15
2400	-11.7109	186	-63	2400	1.669086	261	15	2400	1.705356	258	15
2410	-11.508	0	-63	2410	1.765169	264	12	2410	1.782137	261	12
2420	-11.1821	0	-63	2420	1.932708	261	12	2420	1.956862	258	12
2430	-10.5899	183	-63	2430	2.142806	264	9	2430	2.178164	261	9
2440	-10.2584	183	-63	2440	2.449852	267	6	2440	2.47526	264	6
2450	-10.1025	180	-63	2450	2.366342	264	6	2450	2.390754	264	6
2460	-10.0069	357	-63	2460	2.103644	264	9	2460	2.123012	264	9
2470	-9.95003	357	-63	2470	1.728689	264	9	2470	1.743006	264	9
2480	-9.66587	354	-63	2480	1.820125	264	12	2480	1.824175	264	12
2490	-9.47063	354	-63	2490	2.073725	264	12	2490	2.074013	264	12
2500	-9.56739	357	-63	2500	2.277847	264	12	2500	2.283328	264	12
2510	-9.30409	0	-63	2510	2.245808	264	12	2510	2.253433	264	12
2520	-9.06535	0	-63	2520	1.869745	267	9	2520	1.876333	270	9
2530	-8.97232	357	-63	2530	1.523079	267	9	2530	1.526819	267	9
2540	-8.97877	354	-63	2540	1.2614	264	9	2540	1.261757	264	9
2550	-8.982	357	-63	2550	1.147203	264	9	2550	1.149085	264	9
2560	-8.65351	354	-63	2560	1.295631	264	9	2560	1.297935	267	9
2570	-8.33784	354	-63	2570	1.475528	258	12	2570	1.476708	264	12
2580	-8.12026	354	-63	2580	1.37004	270	12	2580	1.371303	270	12
2590	-8.27921	357	-63	2590	1.080722	276	12	2590	1.081985	276	12
2600	-8.36325	357	-66	2600	0.970352	264	15	2600	0.973362	261	15
2610	-8.27293	357	-66	2610	0.852463	246	15	2610	0.861229	234	15
2620	-7.94427	354	-66	2620	0.961904	231	15	2620	0.976248	228	15
2630	-7.64256	354	-66	2630	0.968454	297	6	2630	0.992223	300	6
2640	-7.48146	354	-66	2640	0.942532	297	6	2640	1.010033	351	6

2650	-7.07818	354	-66	2650	1.092023	6	6	2650	1.167162	3	6
2660	-6.99647	354	-66	2660	0.981138	15	6	2660	1.044173	12	6
2670	-6.88811	354	-66	2670	0.843329	18	6	2670	0.885992	18	6
2680	-6.92561	357	-66	2680	0.701246	21	6	2680	0.74338	18	6
2690	-6.92245	357	-66	2690	0.657979	222	15	2690	0.665386	222	15
3300	-2.31039	345	-69	3300	2.953047	264	-69	3300	3.016252	285	-69
3310	-2.56807	348	-66	3310	2.791285	264	-69	3310	2.848764	282	-69
3320	-2.81488	348	-66	3320	2.903796	261	-69	3320	2.928626	276	-69
3330	-2.94949	345	-69	3330	3.123307	261	-69	3330	3.134425	261	-69
3340	-2.83075	348	-69	3340	3.391161	261	-69	3340	3.40743	261	-69
3350	-2.7713	348	-69	3350	3.453635	261	-69	3350	3.472241	261	-69
3360	-2.75327	345	-69	3360	3.304567	261	-69	3360	3.33084	264	-69
3370	-2.7205	345	-69	3370	2.892973	261	-69	3370	2.940462	279	-69
3380	-2.73614	345	-69	3380	2.626056	261	-69	3380	2.67115	282	-69
3390	-2.76407	345	-69	3390	2.728332	258	-69	3390	2.745852	276	-69
3400	-3.0087	345	-69	3400	3.025786	258	-69	3400	3.03306	255	-69
3410	-3.15033	348	-69	3410	3.312285	261	-69	3410	3.32199	261	-69
3420	-2.99694	345	-69	3420	3.459751	261	-69	3420	3.47165	261	-69
3430	-3.07469	345	-69	3430	3.213022	261	-69	3430	3.237836	279	-69
3440	-3.34438	345	-69	3440	2.882489	264	-69	3440	2.900929	270	-69
3450	-3.56621	345	-69	3450	2.803299	264	-69	3450	2.820052	264	-69
3460	-3.48144	345	-69	3460	2.823384	261	-69	3460	2.854069	267	-69
3470	-3.37071	345	-69	3470	2.978275	261	-69	3470	3.014285	270	-69
3480	-3.36744	345	-69	3480	3.21303	264	-69	3480	3.246178	270	-69
3490	-3.57252	345	-69	3490	3.028048	261	-69	3490	3.056078	282	-69
3500	-3.62028	345	-69	3500	2.687696	264	-69	3500	2.75784	288	-69
3510	-3.48663	345	-69	3510	2.521457	264	-69	3510	2.612799	291	-69
3520	-3.4383	342	-69	3520	2.572346	264	-69	3520	2.66346	291	-69
3530	-3.47784	345	-69	3530	2.748787	264	-69	3530	2.812945	291	-69
3540	-3.73339	345	-69	3540	2.952501	264	-66	3540	2.982034	270	-66
3550	-3.90624	345	-69	3550	3.034594	258	-66	3550	3.073322	249	-66
3560	-3.96748	345	-69	3560	2.926416	264	-66	3560	2.978477	270	-66
3570	-3.94654	345	-69	3570	2.762769	267	-69	3570	2.846678	285	-69
3580	-3.83883	342	-69	3580	2.655632	72	27	3580	2.693465	294	-69
3590	-3.78757	342	-69	3590	2.94206	75	27	3590	2.956953	72	27
3600	-3.74387	345	-69	3600	2.955601	75	27	3600	2.973554	75	27
3610	-4.12092	345	-66	3610	2.870474	75	27	3610	2.891851	72	27
3620	-4.37145	348	-69	3620	2.850099	72	27	3620	2.872707	72	27
3630	-4.5897	348	-69	3630	2.796953	72	27	3630	2.817522	72	27
3640	-4.7401	345	-69	3640	2.708724	72	27	3640	2.724848	72	27
3650	-4.77372	342	-66	3650	2.805998	78	30	3650	2.810306	75	30
3660	-4.65662	342	-66	3660	2.977243	81	30	3660	2.981372	78	30
3670	-4.97951	345	-66	3670	3.079467	93	33	3670	3.088468	93	33
3680	-5.34824	345	-66	3680	3.117356	93	33	3680	3.127636	93	33
3690	-5.24572	345	-66	3690	3.171485	84	30	3690	3.183926	81	30
3700	-5.15738	345	-66	3700	3.096264	78	30	3700	3.108863	72	27
3710	-5.04913	345	-66	3710	3.091713	75	27	3710	3.101353	72	27
3720	-5.096	345	-66	3720	3.053034	99	33	3720	3.056657	99	33

3730	-5.50114	351	-69	3730	3.082959	99	33	3730	3.086098	99	33
3740	-5.54929	348	-66	3740	3.192496	96	33	3740	3.197155	96	33
3750	-5.45046	348	-66	3750	3.164993	93	33	3750	3.171677	93	33
3760	-5.54489	345	-66	3760	3.070748	93	33	3760	3.076767	93	33
3770	-5.53536	345	-66	3770	3.09727	96	33	3770	3.106058	96	33
3780	-5.4777	345	-66	3780	3.131455	267	-27	3780	3.135355	267	-27
3790	-5.78625	348	-66	3790	3.03415	264	-27	3790	3.040938	264	-27
3800	-5.97216	348	-66	3800	2.866682	96	39	3800	2.886237	99	39
3810	-6.0148	348	-66	3810	2.831474	99	39	3810	2.854828	99	39
3820	-6.19582	351	-66	3820	2.848315	261	-30	3820	2.85679	261	-30
3830	-6.27513	354	-66	3830	2.921459	264	-27	3830	2.929808	264	-27
3840	-6.42253	354	-66	3840	2.981561	267	-21	3840	2.990708	267	-21
3850	-6.70082	354	-66	3850	2.854779	267	-21	3850	2.864528	267	-21
3860	-6.78753	351	-66	3860	2.679698	267	-21	3860	2.68861	267	-21
3870	-6.78307	351	-66	3870	2.53178	264	-21	3870	2.536266	267	-21
3880	-6.87825	351	-66	3880	2.272299	264	-21	3880	2.274713	267	-21
3890	-6.92804	354	-66	3890	1.897838	267	-21	3890	1.904312	267	-21
3900	-6.69139	345	-15	3900	1.678386	264	-6	3900	1.681996	264	-6
3910	-6.40945	348	-15	3910	1.566226	264	-6	3910	1.571176	264	-6
3920	-5.97521	348	-15	3920	1.495788	261	-3	3920	1.506665	261	-3
3930	-5.64016	351	-15	3930	1.411215	261	3	3930	1.442993	258	3
3940	-5.40117	354	-12	3940	1.165678	261	6	3940	1.203248	258	6
3950	-5.0653	354	-12	3950	1.012765	261	6	3950	1.053829	255	6
3960	-4.89947	354	-12	3960	0.85392	261	9	3960	0.904523	258	9
3970	-4.58598	351	-9	3970	0.895094	261	9	3970	0.96864	255	9
3980	-4.19358	351	-6	3980	0.822343	261	9	3980	0.919806	252	9
3990	-3.95161	354	-6	3990	0.694094	291	-69	3990	1.181533	315	-69
4000	-3.70421	0	-69	4000	0.994886	288	-69	4000	1.486771	312	-69
4010	-3.36226	0	-69	4010	1.265216	285	-69	4010	1.709338	312	-69
4020	-2.99769	0	-69	4020	1.865629	282	-69	4020	2.194817	312	-69
4030	-3.06217	0	-69	4030	2.0889	282	-69	4030	2.330628	312	-69
4040	-2.8085	3	-69	4040	2.434355	282	-69	4040	2.694612	312	-69
4050	-2.64305	3	-69	4050	2.687923	285	-69	4050	2.961561	312	-69
4060	-2.70808	6	-69	4060	2.575208	288	-69	4060	2.842272	309	-69
4070	-2.59732	9	-69	4070	2.5156	288	-69	4070	2.82156	312	-69
4080	-2.64139	6	-69	4080	2.47062	285	-69	4080	2.797242	312	-69
4090	-2.7588	3	-69	4090	2.574322	285	-69	4090	2.862745	312	-69
4100	-2.54373	0	-69	4100	3.0472	285	-69	4100	3.288255	312	-69
4110	-2.41312	3	-69	4110	3.46086	285	-69	4110	3.673421	312	-69
4120	-2.57994	6	-69	4120	3.232067	288	-69	4120	3.465901	312	-69
4130	-2.57738	6	-69	4130	2.939729	288	-69	4130	3.233148	312	-69
4140	-2.61741	3	-69	4140	2.721978	288	-69	4140	3.04921	315	-69
4150	-2.99069	6	-69	4150	2.302142	291	-69	4150	2.632933	315	-69
4160	-3.13651	6	-69	4160	2.486607	291	-69	4160	2.805959	315	-69
4170	-3.02219	3	-69	4170	3.052985	291	-69	4170	3.327746	315	-69
4180	-2.90042	3	-69	4180	3.319355	291	-69	4180	3.556732	312	-69
4190	-2.71147	3	-69	4190	3.380663	288	-69	4190	3.613664	312	-69
4200	-2.62052	3	-69	4200	2.995742	288	-69	4200	3.28076	312	-69

4210	-2.87825	3	-69	4210	2.42085	288	-69	4210	2.747474	315	-69
4220	-2.84294	0	-69	4220	2.480237	288	-69	4220	2.808734	315	-69
4230	-2.89684	3	-69	4230	2.70077	288	-69	4230	3.020733	315	-69
4240	-3.10179	0	-69	4240	2.797298	291	-69	4240	3.103555	315	-69
4250	-3.02044	3	-69	4250	2.968036	291	-69	4250	3.265339	315	-69
4260	-2.90211	0	-69	4260	2.755853	291	-69	4260	3.073771	315	-69
4270	-2.87473	3	-69	4270	2.392595	291	-69	4270	2.740293	315	-69
4280	-2.72942	3	-69	4280	2.383312	288	-69	4280	2.720945	315	-69
4290	-2.68886	3	-69	4290	2.505834	285	-69	4290	2.809329	315	-69
4300	-2.6395	0	-69	4300	2.629692	285	-69	4300	2.901763	315	-69
4310	-2.58285	0	-69	4310	2.84279	285	-69	4310	3.074483	312	-69
4320	-2.51088	0	-69	4320	2.897238	285	-69	4320	3.136235	312	-69
4330	-2.61741	0	-69	4330	2.585684	285	-69	4330	2.853781	312	-69
4340	-2.41501	0	-69	4340	2.527523	285	-69	4340	2.847462	315	-69
4350	-2.46638	0	-69	4350	2.590631	282	-69	4350	2.891395	315	-69
4360	-2.46685	0	-69	4360	2.587188	282	-69	4360	2.862997	315	-69
4370	-2.18395	357	-69	4370	2.938523	282	-69	4370	3.183285	312	-69
4380	-1.98427	357	-69	4380	3.039907	282	-69	4380	3.270399	312	-69
4390	-1.92391	357	-69	4390	2.874841	279	-69	4390	3.091212	309	-69
4400	-1.72102	357	-69	4400	2.785734	279	-69	4400	3.045971	312	-69
4410	-1.6567	357	-69	4410	2.660008	276	-69	4410	2.954027	315	-69
4420	-1.71808	354	-69	4420	2.603504	276	-69	4420	2.897631	315	-69
4430	-1.65877	354	-69	4430	2.980898	276	-69	4430	3.194477	312	-69
4440	-1.60473	354	-69	4440	3.212302	276	-69	4440	3.362273	309	-69
4450	-1.51001	354	-69	4450	3.152391	276	-69	4450	3.2897	309	-69
4460	-1.26449	357	-69	4460	3.160365	276	-69	4460	3.342176	312	-69
4470	-1.18422	354	-69	4470	3.018575	273	-69	4470	3.219875	312	-69
4480	-1.29545	174	-69	4480	2.684187	273	-69	4480	2.860231	309	-69
4490	-1.24825	174	-69	4490	2.728643	270	-69	4490	2.850295	306	-69
4500	-1.23896	177	-69	4500	2.793139	267	-69	4500	2.990907	219	-69
4510	-1.24908	351	-69	4510	2.771496	267	-69	4510	3.001471	219	-69
4520	-1.09782	354	-69	4520	2.9879	267	-69	4520	3.180156	219	-69
4530	-1.04889	354	-69	4530	2.981086	267	-69	4530	3.121536	222	-69
4540	-1.01477	351	-69	4540	2.817345	267	-69	4540	2.998553	219	-69
4550	-0.88916	174	-69	4550	2.824804	264	-69	4550	3.11762	219	-69
4560	-0.73813	177	-69	4560	2.960934	261	-69	4560	3.334015	219	-69
4570	-0.6927	177	-69	4570	2.850939	261	-69	4570	3.233338	219	-69
4580	-0.6092	174	-69	4580	2.931683	258	-69	4580	3.259444	219	-69
4590	-0.59812	174	-69	4590	2.846199	258	-69	4590	3.152767	219	-69
4600	-0.71339	174	-69	4600	2.621051	258	-69	4600	2.99651	219	-69
4610	-0.61899	174	-69	4610	2.499646	258	-69	4610	2.988494	216	-69
4620	-0.61364	174	-69	4620	2.441003	255	-69	4620	2.960748	216	-69
4630	-0.72036	174	-69	4630	2.434212	252	-69	4630	2.946388	216	-69
4640	-0.73868	345	-69	4640	2.453071	252	-69	4640	2.974477	219	-69
4650	-0.78334	174	-69	4650	2.296841	252	-69	4650	2.911717	216	-69
4660	-0.75992	174	-69	4660	2.044652	249	-69	4660	2.750288	213	-66
4670	-0.79206	174	-69	4670	1.932082	246	-69	4670	2.657417	213	-66
4680	-0.97503	174	-69	4680	1.728972	246	-66	4680	2.504822	213	-66

4690	-1.27682	174	-69	4690	1.33284	249	-66	4690	2.166553	213	-66
4700	-1.63902	174	-69	4700	1.18622	246	-66	4700	1.977902	213	-66
4710	-2.20751	177	-69	4710	1.024582	246	-69	4710	1.770136	213	-66
4720	-2.47405	336	-15	4720	0.85351	243	-69	4720	1.454145	219	-69
4730	-2.2322	339	-18	4730	0.792061	243	-69	4730	1.412495	219	-69
4740	-1.79706	339	-18	4740	0.728858	246	-69	4740	1.342813	219	-69
4750	-1.4472	339	-18	4750	0.620072	243	-69	4750	1.184214	219	-69
4760	-1.24591	339	-18	4760	0.331852	231	-69	4760	0.958536	216	-69
4770	-1.21994	339	-18	4770	-0.10062	231	-72	4770	0.6457	336	-21
4780	-1.15399	339	-18	4780	0.292465	303	27	4780	0.902	339	-24
4790	-1.19349	339	-18	4790	0.638122	300	27	4790	1.102784	336	-21
4800	-1.25155	339	-18	4800	0.949749	300	27	4800	1.237063	336	-21
4810	-1.22164	339	-18	4810	1.043944	297	27	4810	1.344009	336	-21
4820	-1.39733	339	-18	4820	1.078794	294	27	4820	1.273998	336	-21
4830	-1.41558	339	-18	4830	1.248246	285	27	4830	1.31834	336	-21
4840	-1.45216	339	-18	4840	1.1529	288	27	4840	1.273555	336	-21
4850	-1.41816	339	-18	4850	1.220709	288	27	4850	1.377143	339	-21
4860	-1.47585	339	-18	4860	1.374318	285	27	4860	1.530649	339	-21
4870	-1.64532	342	-18	4870	1.440008	288	27	4870	1.577169	336	-24
4880	-1.85388	342	-18	4880	1.474483	285	30	4880	1.566513	336	-24
4890	-2.13573	342	-18	4890	1.537445	240	36	4890	1.68408	225	36
4900	-2.29835	339	-15	4900	1.569141	237	36	4900	1.708527	228	36
4910	-2.26991	339	-12	4910	1.652536	234	36	4910	1.788426	225	36
4920	-2.37991	336	-12	4920	1.594499	234	36	4920	1.757165	225	36
4930	-2.28989	339	-12	4930	1.644867	231	36	4930	1.850817	222	36
4940	-2.23356	339	-12	4940	1.847732	231	36	4940	2.0669	222	36
4950	-2.29496	339	-12	4950	1.866801	231	36	4950	2.056386	222	36
4960	-2.58504	339	-12	4960	1.773477	231	36	4960	1.939387	222	36
4970	-2.74451	339	-9	4970	1.681229	234	36	4970	1.847176	222	36
4980	-2.72509	336	-9	4980	1.692553	234	36	4980	1.847683	225	36
4990	-2.68442	336	-9	4990	1.74345	234	36	4990	1.877218	228	36
5000	-2.68274	339	-9	5000	1.83138	231	39	5000	1.961697	225	39