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Title:	Antenna Gain Report
	CTSN-09S
Doc No:	TSR_10311
Version:	V3.0
Date:	20/05/2024

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Antenna Gain Report on CTSN-09S



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Document Name	Document Description
Antenna Gain Report	For the specific project, eirp measurement and antenna gain characteristic calculation on 3 channels inside the 2.4GHz ISM frequency range

Prepared by	Date	Department	Signature
Edoardo Regini	20/05/2024		
Reviewed by	Date	Department	Signature
Simona Scotti	20/05/2024		

Change Log Author	Date	Version	Description of Changes
Edoardo Regini	19/03/2024	V1.0	First Version
Edoardo Regini	21/03/2024	V2.0	Calibration instrument added
Edoardo Regini	20/05/2024	V3.0	Minor changes



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Scope

This document reports the eirp measurement done on CTSN-09S product and power measured at the connector. Antenna Gain is calculated using the following formula:

$$G_a = eirp - P_T$$

where,

$eirp = \text{Effective Isotropic Radiated Power (dBm)}$
 $P_T = \text{Output power of the transmitter (dBm)}$
 $G_a = \text{Antenna Gain (dBi)}$

P_T already takes into account the loss of the cable used during the conducted measurement

Samples Tested

Product Name	HW Ver	ID	SW Ver	Notes
CTSN-09S	V1.0	RT_L	1.0	Antenna connected to the Pirelli CT-0618 RF out as in the field configuration SW in line with the field application, but RF out set as continuous transmitting on the low channel 2407.125 MHz using the Direct Test Mode settings available
CTSN-09S	V1.0	RT_M	1.0	Antenna connected to the Pirelli CT-0618 RF out as in the field configuration SW in line with the field application, but RF out set as continuous transmitting on the mid channel 2440.856 MHz using the Direct Test Mode settings available
CTSN-09S	V1.0	RT_H	1.0	Antenna connected to the Pirelli CT-0618 RF out as in the field configuration SW in line with the field application, but RF out set as continuous transmitting on the high channel 2476.835 MHz using the Direct Test Mode settings available
CTSN-09S	V1.0	CT_L	1.0	Modified HW: w.fl connector to the Pirelli CT-0618 RF out. Antenna not connected Used for Conducted measurements SW in line with the field application, but RF out set as continuous transmitting on the low channel 2407.125 MHz using the Direct Test Mode settings available
CTSN-09S	V1.0	CT_M	1.0	Modified HW: w.fl connector to the Pirelli CT-0618 RF out. Antenna not connected Used for Conducted measurements SW in line with the field application, but RF out set as continuous transmitting on the mid channel 2440.856 MHz using the Direct Test Mode settings available
CTSN-09S	V1.0	CT_H	1.0	Modified HW: w.fl connector to the Pirelli CT-0618 RF out. Antenna not connected Used for Conducted measurements SW in line with the field application, but RF out set as continuous transmitting on the high channel 2476.835 MHz using the Direct Test Mode settings available



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Test Summary

Max Peak Gain @ 2407.125 MHz : -6.00 dBi

Cahnnel	Frequency [MHz]	Polarization [V/H]	Max eirp [dBm]	*P _T [dBm]	G _a [dBi]
Low	2407.125	N/A	-15,25	-9,25	-6,00
Mid	2440.856	N/A	-15,49	-9,35	-6,14
High	2476.835	N/A	-17,14	-9,63	-7,51

$G_a = eirp - P_T$

(*) Note: Power at the connector are taken from UL report 24-4791111799-3-1-1-RAD-A

Max Average Gain @ 2407.125 MHz: -9.05 dBi

Cahnnel	Frequency [MHz]	Polarization [V/H]	Avg eirp [dBm]	*P _T [dBm]	G _a [dBi]
Low	2407.125	N/A	-18,30	-9,25	-9,05
Mid	2440.856	N/A	-18,51	-9,35	-9,16
High	2476.835	N/A	-19,99	-9,63	-10,36

$G_a = eirp - P_T$

(*) Note: Power at the connector are taken from UL report 24-4791111799-3-1-1-RAD-A



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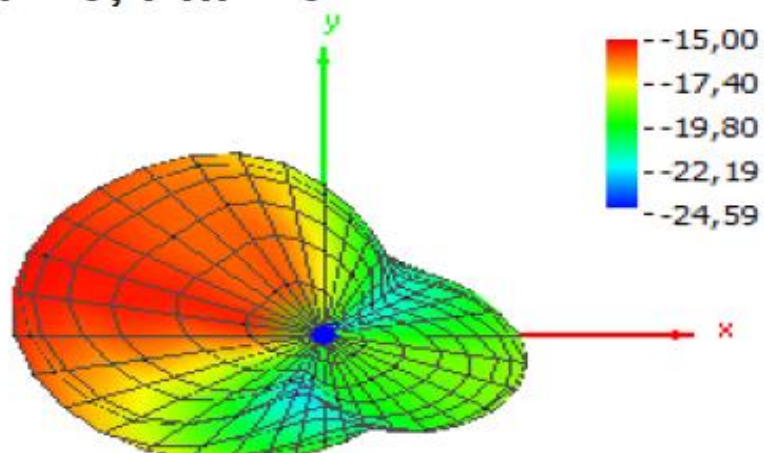
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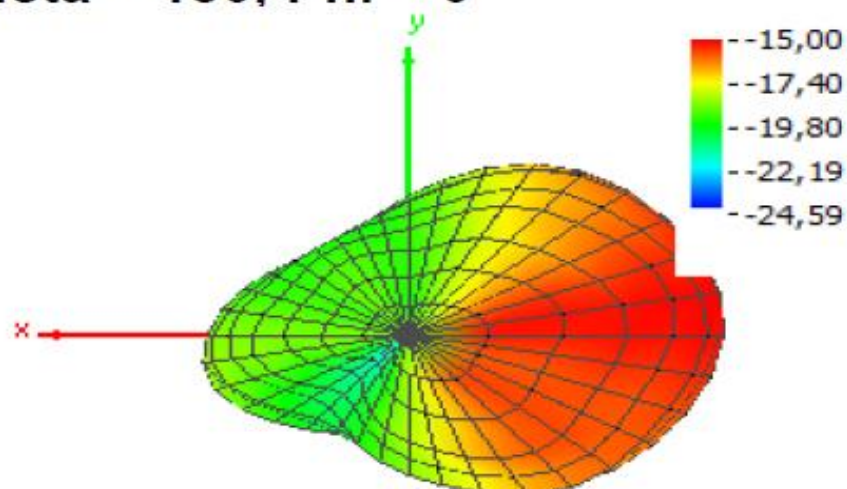
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Test @ 2407.125MHz

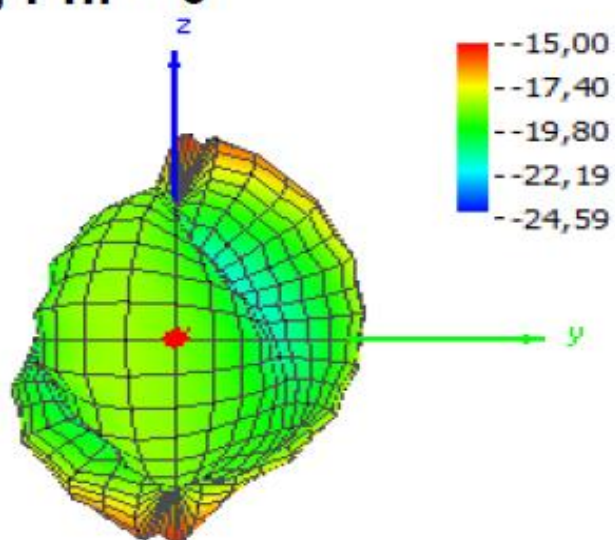
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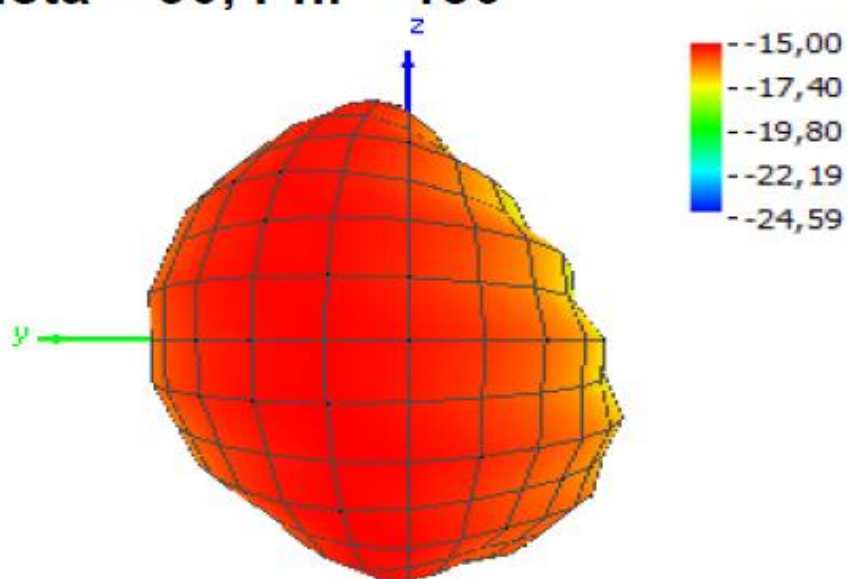
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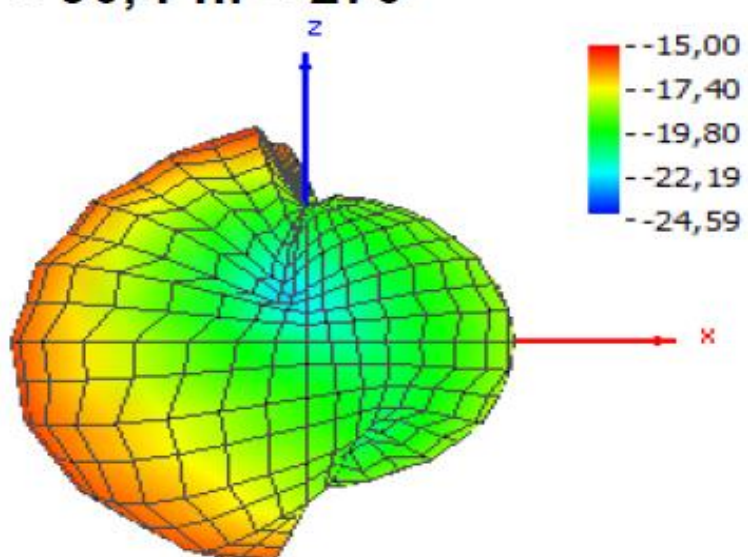
Theta = 90, Phi = 0



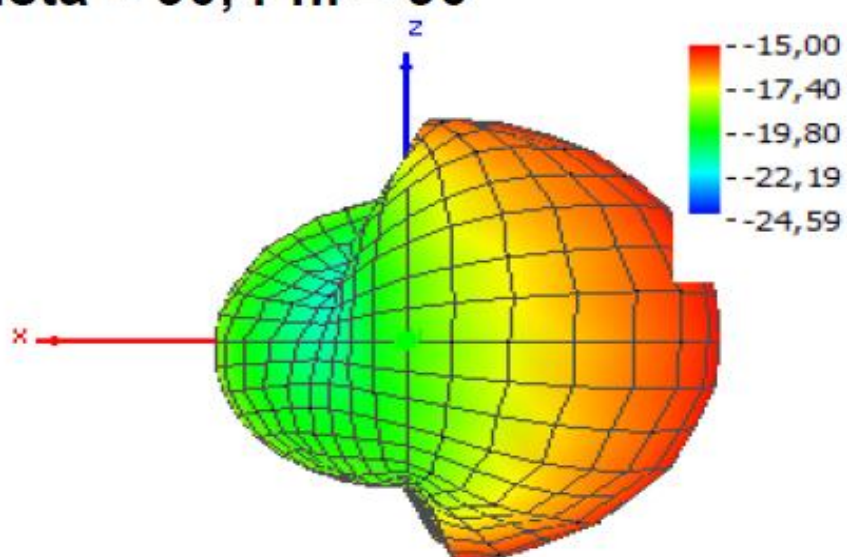
Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 90, Phi = 90



		Elevation [deg]																		
		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Azimuth [deg]	0	-33,43	-28,90	-25,61	-23,45	-21,66	-20,60	-19,63	-19,15	-18,76	-18,80	-19,01	-19,55	-20,39	-21,65	-23,52	-25,97	-30,36	-36,01	-36,01
	10	-33,43	-29,57	-26,70	-24,08	-22,68	-21,20	-20,48	-19,67	-19,51	-19,37	-19,64	-20,11	-20,94	-22,21	-24,03	-26,77	-30,86	-36,01	-36,01
	20	-33,43	-30,72	-27,95	-25,31	-23,84	-22,12	-21,52	-20,48	-20,41	-20,13	-20,41	-20,77	-21,65	-22,86	-24,70	-27,57	-31,40	-36,01	-36,01
	30	-33,43	-32,09	-29,69	-26,68	-25,25	-23,29	-22,65	-21,48	-21,35	-21,01	-21,30	-21,53	-22,41	-23,56	-25,40	-28,17	-31,94	-36,01	-36,01
	40	-33,43	-33,98	-31,67	-28,27	-26,72	-24,63	-23,81	-22,56	-22,31	-21,92	-22,15	-22,40	-23,19	-24,37	-26,10	-28,74	-31,91	-36,01	-36,01
	50	-33,43	-36,01	-33,74	-29,83	-27,86	-25,65	-24,60	-23,42	-22,95	-22,62	-22,72	-23,04	-23,69	-24,81	-26,35	-28,88	-31,40	-34,98	-36,01
	60	-33,43	-36,01	-35,43	-30,66	-28,14	-26,00	-24,69	-23,62	-23,00	-22,77	-22,72	-23,12	-23,54	-24,76	-25,95	-28,36	-30,41	-34,12	-36,01
	70	-33,43	-36,01	-35,54	-30,36	-27,71	-25,60	-24,15	-23,19	-22,55	-22,31	-22,18	-22,64	-22,97	-24,13	-25,13	-27,48	-29,39	-33,30	-36,01
	80	-33,43	-36,01	-34,17	-29,36	-26,64	-24,64	-23,22	-22,37	-21,76	-21,56	-21,43	-21,89	-22,16	-23,32	-24,24	-26,41	-28,37	-32,61	-36,01
	90	-33,43	-36,01	-31,72	-27,83	-25,24	-23,52	-22,10	-21,32	-20,70	-20,59	-20,42	-20,94	-21,13	-22,32	-23,17	-25,37	-27,24	-31,82	-36,01
	100	-33,43	-34,19	-29,64	-26,21	-23,90	-22,20	-20,84	-20,19	-19,54	-19,50	-19,26	-19,86	-20,00	-21,22	-22,05	-24,29	-26,19	-30,89	-36,01
	110	-33,43	-32,05	-28,04	-24,81	-22,65	-20,99	-19,72	-19,04	-18,39	-18,34	-18,12	-18,70	-18,81	-20,09	-20,92	-23,21	-25,09	-29,84	-36,01
	120	-33,43	-30,75	-26,97	-23,69	-21,58	-19,99	-18,70	-18,02	-17,39	-17,32	-17,12	-17,68	-17,86	-19,08	-19,93	-22,20	-24,20	-28,95	-36,01
	130	-33,43	-29,88	-26,02	-22,71	-20,59	-19,04	-17,85	-17,17	-16,58	-16,53	-16,39	-16,89	-17,16	-18,34	-19,32	-21,59	-23,65	-28,53	-36,01
	140	-33,43	-29,03	-25,14	-21,88	-19,90	-18,35	-17,24	-16,53	-16,04	-15,96	-15,89	-16,38	-16,73	-17,91	-18,93	-21,20	-23,45	-28,59	-36,01
	150	-33,43	-28,26	-24,42	-21,19	-19,30	-17,79	-16,74	-16,08	-15,61	-15,54	-15,51	-16,01	-16,40	-17,61	-18,68	-21,05	-23,35	-28,67	-36,01
	160	-33,43	-27,56	-23,90	-20,64	-18,89	-17,34	-16,38	-15,71	-15,31	-15,26	-15,29	-15,74	-16,20	-17,39	-18,55	-20,96	-23,29	-28,76	-36,01
	170	-33,43	-27,17	-23,69	-20,38	-18,70	-17,09	-16,28	-15,51	-15,26	-15,25	-15,27	-15,67	-16,25	-17,37	-18,64	-20,98	-23,40	-28,87	-36,01
	180	-33,43	-27,15	-23,83	-20,39	-18,87	-17,14	-16,45	-15,56	-15,42	-15,26	-15,47	-15,82	-16,55	-17,57	-18,95	-21,19	-23,70	-29,06	-36,01
	190	-33,43	-27,60	-24,39	-20,74	-19,31	-17,43	-16,87	-15,86	-15,84	-15,56	-15,89	-16,18	-16,96	-17,99	-19,41	-21,62	-24,15	-29,42	-36,01
	200	-33,43	-28,54	-25,26	-21,35	-19,96	-17,95	-17,45	-16,35	-16,36	-16,04	-16,39	-16,65	-17,50	-18,48	-19,93	-22,09	-24,68	-29,77	-36,01
	210	-33,43	-30,00	-26,67	-22,26	-20,88	-18,66	-18,24	-16,97	-17,10	-16,67	-17,09	-17,21	-18,14	-19,07	-20,57	-22,67	-25,28	-30,28	-36,01
	220	-33,43	-32,35	-28,74	-23,64	-22,32	-19,70	-19,45	-17,91	-18,14	-17,54	-18,03	-18,01	-18,99	-19,78	-21,33	-23,32	-25,82	-30,64	-36,01
	230	-33,43	-35,96	-31,47	-25,57	-24,08	-21,13	-20,89	-19,11	-19,38	-18,63	-19,08	-18,93	-19,88	-20,59	-22,07	-23,93	-26,17	-30,61	-36,01
	240	-33,43	-36,01	-34,68	-27,77	-26,00	-22,83	-22,37	-20,48	-20,65	-19,88	-20,18	-19,97	-20,75	-21,35	-22,65	-24,36	-26,51	-30,47	-36,01
	250	-33,43	-36,01	-36,01	-29,77	-27,40	-24,32	-23,56	-21,80	-21,75	-20,97	-21,13	-20,91	-21,61	-22,16	-23,35	-24,92	-26,97	-30,78	-36,01
	260	-33,43	-36,01	-35,33	-30,44	-27,73	-25,24	-24,16	-22,76	-22,43	-21,81	-21,89	-21,71	-22,40	-22,90	-24,17	-25,66	-27,77	-31,34	-36,01
	270	-33,43	-36,01	-32,38	-29,36	-26,93	-25,23	-24,02	-23,10	-22,66	-22,36	-22,39	-22,44	-23,13	-23,77	-25,08	-26,63	-28,91	-32,32	-36,01
	280	-33,43	-33,30	-30,01	-27,66	-25,67	-24,55	-23,39	-22,95	-22,48	-22,52	-22,56	-23,02	-23,73	-24,68	-26,09	-27,83	-30,24	-33,57	-36,01
	290	-33,43	-31,23	-28,21	-26,19	-24,40	-23,50	-22,48	-22,38	-21,88	-22,24	-22,29	-23,24	-23,81	-25,29	-26,71	-28,99	-31,39	-34,69	-36,01
	300	-33,43	-29,76	-27,06	-24,91	-23,29	-22,46	-21,53	-21,51	-21,05	-21,55	-21,59	-22,85	-23,35	-25,31	-26,52	-29,54	-32,14	-36,01	-36,01
	310	-33,43	-28,77	-26,21	-23,92	-22,42	-21,50	-20,63	-20,66	-20,22	-20,70	-20,76	-22,07	-22,50	-24,57	-25,80	-29,33	-31,87	-36,01	-36,01
	320	-33,43	-28,17	-25,53	-23,23	-21,74	-20,80	-20,02	-19,93	-19,51	-19,95	-20,01	-21,26	-21,65	-23,71	-24,85	-28,49	-31,04	-36,01	-36,01
	330	-33,43	-27,66	-25,12	-22,70	-21,29	-20,21	-19,47	-19,24	-18,86	-19,23	-19,28	-20,45	-20,86	-22,80	-23,95	-27,50	-30,20	-36,01	-36,01
	340	-33,43	-27,50	-24,99	-22,37	-21,00	-19,81	-19,14	-18,74	-18,42	-18,66	-18,76	-19,73	-20,23	-22,05	-23,30	-26,69	-29,59	-36,01	-36,01
	350	-33,43	-27,63	-25,23	-22,39	-21,21	-19,71	-19,20	-18,52	-18,39	-18,40	-18,66	-19,36	-20,03	-21,61	-23,02	-26,23	-29,45	-36,01	-36,01
	360	-33,43	-28,90	-25,61	-23,45	-21,66	-20,60	-19,63	-19,15	-18,76	-18,80	-19,01	-19,55	-20,39	-21,65	-23,52	-25,97	-30,36	-36,01	-36,01

Peak eirp	-15,25	[dBm]
Directivity	3,05	[dBi]
Avg eirp	-18,30	[dBm]



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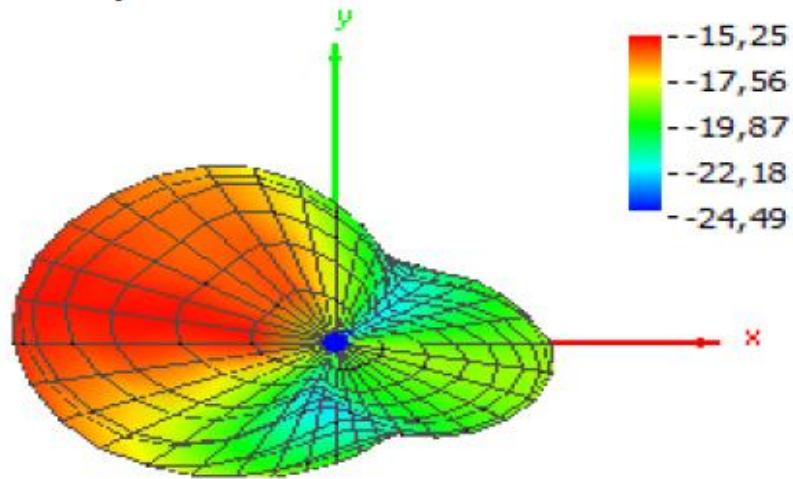
Version: V3.0

Date: 20/05/2024

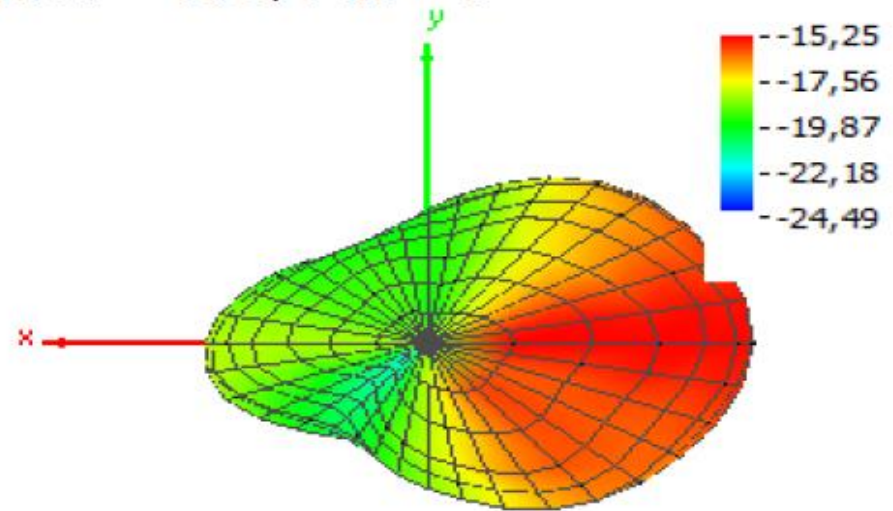
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Test @ 2440.856MHz

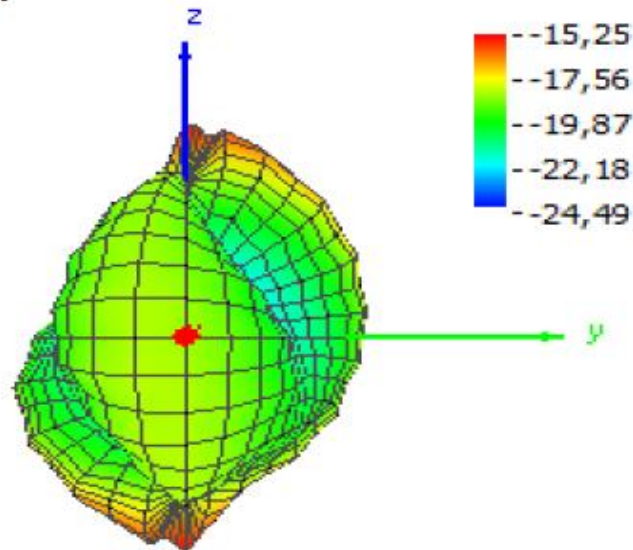
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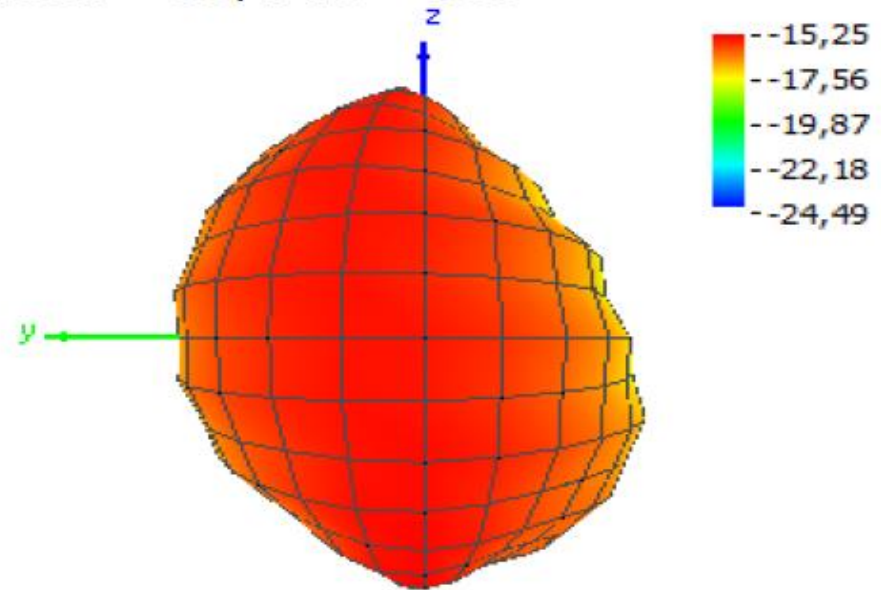
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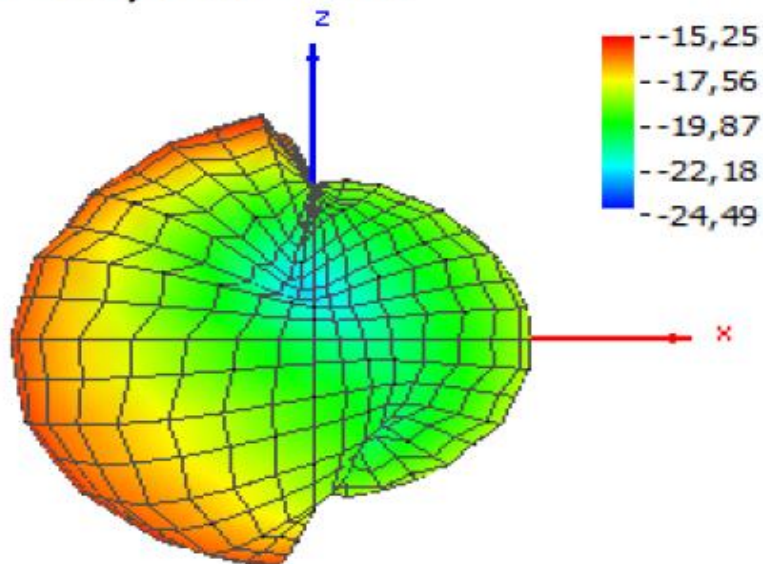
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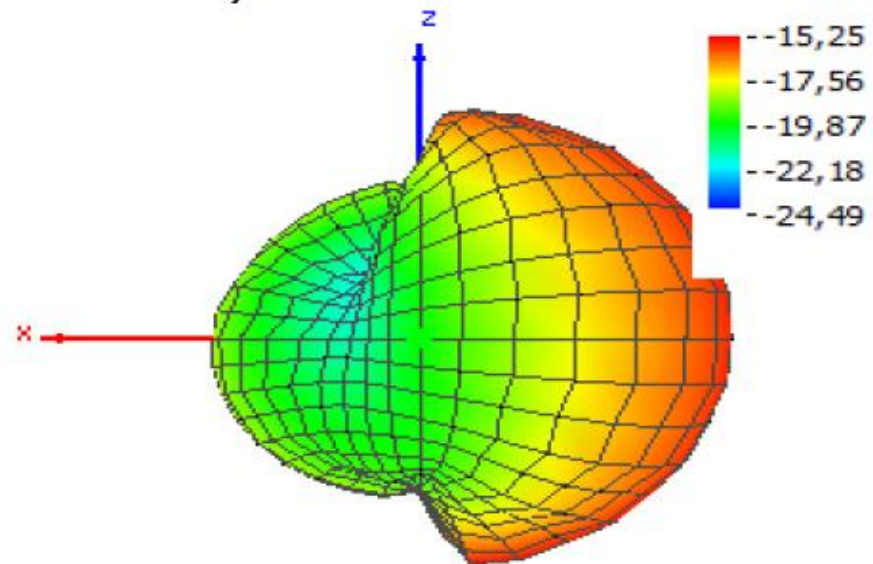
Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 90, Phi = 90



		Elevation [deg]																		
		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Azimuth [deg]	0	-34,27	-28,89	-25,60	-23,29	-21,39	-20,26	-19,32	-18,82	-18,52	-18,56	-18,82	-19,36	-20,28	-21,49	-23,44	-25,88	-30,49	-35,84	-35,84
	10	-34,27	-29,47	-26,49	-23,74	-22,26	-20,76	-20,05	-19,21	-19,17	-19,05	-19,39	-19,88	-20,78	-22,07	-23,93	-26,65	-30,98	-35,84	-35,84
	20	-34,27	-30,81	-27,76	-24,82	-23,37	-21,71	-21,06	-20,01	-20,07	-19,82	-20,21	-20,58	-21,52	-22,74	-24,58	-27,47	-31,57	-35,84	-35,84
	30	-34,27	-32,04	-29,33	-26,08	-24,79	-22,79	-22,17	-21,01	-21,05	-20,63	-21,10	-21,41	-22,37	-23,49	-25,39	-28,23	-32,12	-35,84	-35,84
	40	-34,27	-33,84	-31,31	-27,58	-26,23	-24,05	-23,41	-22,16	-22,07	-21,67	-22,06	-22,29	-23,22	-24,37	-26,17	-29,02	-32,43	-35,84	-35,84
	50	-34,27	-35,84	-33,14	-29,31	-27,53	-25,35	-24,41	-23,24	-22,94	-22,54	-22,83	-23,15	-23,92	-25,12	-26,70	-29,32	-32,19	-35,84	-35,84
	60	-34,27	-35,84	-34,64	-30,37	-28,21	-26,07	-24,89	-23,74	-23,26	-22,99	-23,07	-23,48	-24,06	-25,29	-26,58	-29,16	-31,52	-35,00	-35,84
	70	-34,27	-35,84	-35,16	-30,57	-28,10	-26,03	-24,64	-23,63	-23,01	-22,80	-22,74	-23,21	-23,61	-24,87	-25,96	-28,42	-30,40	-33,98	-35,84
	80	-34,27	-35,84	-34,44	-29,94	-27,43	-25,38	-23,97	-23,06	-22,40	-22,21	-22,08	-22,59	-22,87	-24,12	-25,14	-27,38	-29,51	-33,51	-35,84
	90	-34,27	-35,84	-32,63	-28,68	-26,19	-24,38	-22,94	-22,17	-21,44	-21,34	-21,15	-21,69	-21,93	-23,20	-24,14	-26,48	-28,58	-33,12	-35,84
	100	-34,27	-35,35	-30,42	-27,12	-24,77	-23,15	-21,74	-21,07	-20,35	-20,29	-20,08	-20,69	-20,86	-22,17	-23,10	-25,48	-27,60	-32,54	-35,84
	110	-34,27	-33,00	-28,82	-25,69	-23,50	-21,94	-20,58	-19,94	-19,21	-19,20	-18,96	-19,59	-19,74	-21,09	-21,97	-24,41	-26,58	-31,71	-35,84
	120	-34,27	-31,36	-27,61	-24,51	-22,38	-20,86	-19,50	-18,87	-18,13	-18,12	-17,90	-18,50	-18,69	-20,03	-20,94	-23,36	-25,56	-30,75	-35,84
	130	-34,27	-30,47	-26,58	-23,45	-21,32	-19,84	-18,54	-17,91	-17,22	-17,22	-17,05	-17,62	-17,88	-19,17	-20,17	-22,59	-24,83	-30,27	-35,84
	140	-34,27	-29,70	-25,67	-22,53	-20,47	-18,97	-17,79	-17,16	-16,56	-16,53	-16,46	-17,00	-17,37	-18,62	-19,71	-22,12	-24,47	-30,18	-35,84
	150	-34,27	-28,80	-24,86	-21,75	-19,82	-18,34	-17,25	-16,59	-16,10	-16,07	-16,05	-16,58	-17,03	-18,32	-19,47	-21,98	-24,44	-30,44	-35,84
	160	-34,27	-27,97	-24,20	-21,08	-19,29	-17,80	-16,82	-16,20	-15,75	-15,71	-15,76	-16,31	-16,81	-18,09	-19,33	-21,87	-24,46	-30,89	-35,84
	170	-34,27	-27,35	-23,82	-20,63	-18,94	-17,44	-16,56	-15,87	-15,55	-15,49	-15,63	-16,15	-16,76	-18,02	-19,36	-21,89	-24,61	-31,08	-35,84
	180	-34,27	-27,08	-23,73	-20,47	-18,93	-17,33	-16,59	-15,79	-15,62	-15,49	-15,76	-16,22	-16,96	-18,18	-19,63	-22,13	-24,96	-31,43	-35,84
	190	-34,27	-27,21	-24,04	-20,62	-19,20	-17,48	-16,88	-15,99	-15,93	-15,78	-16,12	-16,55	-17,37	-18,56	-20,08	-22,57	-25,47	-31,80	-35,84
	200	-34,27	-27,69	-24,65	-21,03	-19,69	-17,85	-17,33	-16,37	-16,41	-16,22	-16,63	-17,00	-17,89	-19,07	-20,64	-23,09	-26,09	-32,21	-35,84
	210	-34,27	-28,63	-25,61	-21,75	-20,40	-18,43	-17,99	-16,92	-17,02	-16,79	-17,26	-17,57	-18,50	-19,66	-21,32	-23,75	-26,80	-32,77	-35,84
	220	-34,27	-30,33	-27,22	-22,84	-21,53	-19,27	-18,97	-17,69	-17,91	-17,55	-18,05	-18,30	-19,29	-20,41	-22,12	-24,50	-27,49	-33,34	-35,84
	230	-34,27	-32,73	-29,38	-24,43	-23,02	-20,47	-20,20	-18,74	-19,04	-18,58	-19,07	-19,21	-20,22	-21,27	-22,88	-25,16	-27,87	-33,39	-35,84
	240	-34,27	-35,84	-31,89	-26,36	-24,73	-22,00	-21,63	-20,04	-20,24	-19,70	-20,12	-20,17	-21,09	-22,06	-23,54	-25,68	-28,28	-33,15	-35,84
	250	-34,27	-35,84	-34,35	-28,32	-26,30	-23,47	-22,91	-21,27	-21,35	-20,77	-21,10	-21,08	-21,91	-22,76	-24,20	-26,19	-28,63	-33,08	-35,84
	260	-34,27	-35,84	-35,55	-29,67	-27,26	-24,61	-23,80	-22,36	-22,21	-21,68	-21,89	-21,94	-22,68	-23,51	-24,90	-26,77	-29,24	-33,58	-35,84
	270	-34,27	-35,84	-34,39	-29,90	-27,41	-25,22	-24,17	-22,99	-22,68	-22,30	-22,47	-22,62	-23,39	-24,29	-25,75	-27,63	-30,11	-34,55	-35,84
	280	-34,27	-35,84	-32,32	-29,05	-26,75	-25,09	-24,01	-23,18	-22,80	-22,63	-22,80	-23,18	-23,93	-25,09	-26,54	-28,59	-31,33	-35,84	-35,84
	290	-34,27	-33,88	-30,22	-27,70	-25,68	-24,50	-23,38	-22,99	-22,49	-22,62	-22,75	-23,51	-24,16	-25,59	-27,09	-29,51	-32,24	-35,84	-35,84
	300	-34,27	-31,92	-28,84	-26,37	-24,60	-23,52	-22,48	-22,31	-21,78	-22,10	-22,19	-23,24	-23,77	-25,53	-27,00	-30,02	-32,84	-35,84	-35,84
	310	-34,27	-30,67	-27,67	-25,26	-23,51	-22,53	-21,50	-21,42	-20,85	-21,26	-21,31	-22,53	-22,97	-24,92	-26,30	-29,79	-32,53	-35,84	-35,84
	320	-34,27	-29,72	-26,69	-24,24	-22,59	-21,59	-20,65	-20,46	-19,99	-20,33	-20,43	-21,60	-22,03	-23,95	-25,21	-28,86	-31,67	-35,84	-35,84
	330	-34,27	-28,96	-26,01	-23,49	-21,86	-20,81	-19,91	-19,67	-19,24	-19,55	-19,60	-20,72	-21,15	-23,00	-24,27	-27,85	-30,68	-35,84	-35,84
	340	-34,27	-28,45	-25,52	-22,87	-21,33	-20,16	-19,32	-18,98	-18,61	-18,85	-18,92	-19,92	-20,43	-22,19	-23,49	-26,90	-29,90	-35,84	-35,84
	350	-34,27	-28,27	-25,46	-22,61	-21,21	-19,83	-19,11	-18,56	-18,34	-18,42	-18,62	-19,41	-20,00	-21,65	-23,07	-26,33	-29,62	-35,84	-35,84
	360	-34,27	-28,89	-25,60	-23,29	-21,39	-20,26	-19,32	-18,82	-18,52	-18,56	-18,82	-19,36	-20,28	-21,49	-23,44	-25,88	-30,49	-35,84	-35,84

Peak eirp	-15,49	[dBm]
Directivity	3,02	[dBi]
Avg eirp	-18,51	[dBm]



Pirelli Tyre S.p.A.

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Title: Antenna Gain Report

CTSN-09S

Doc No: TSR_10311

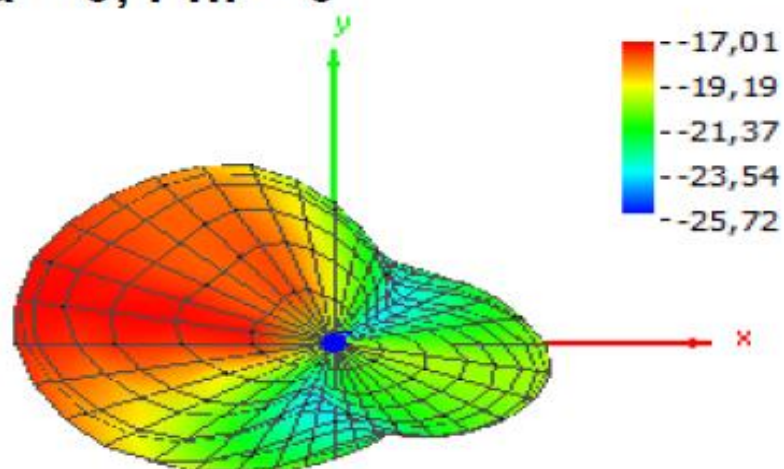
Version: V3.0

Date: 20/05/2024

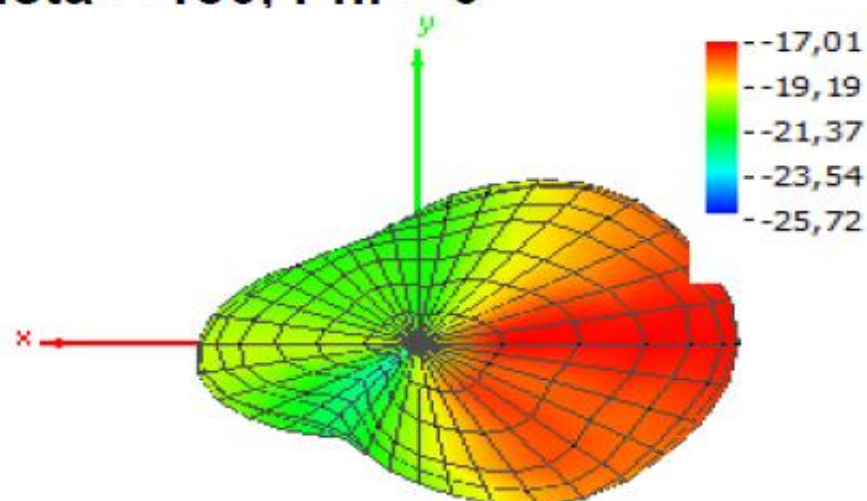
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Test @ 2476.835MHz

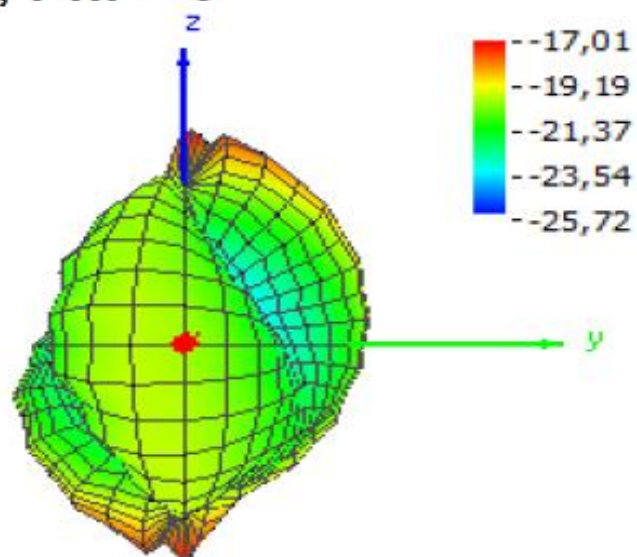
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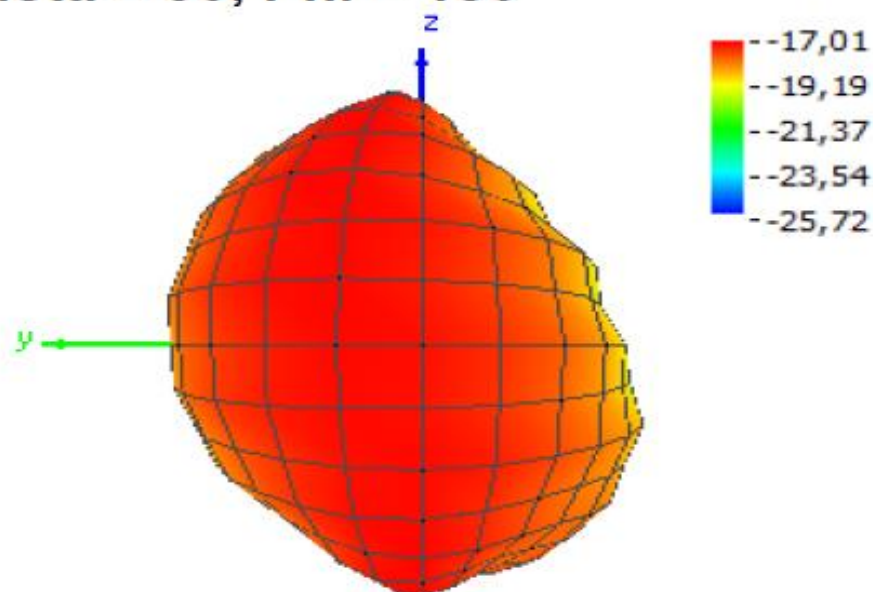
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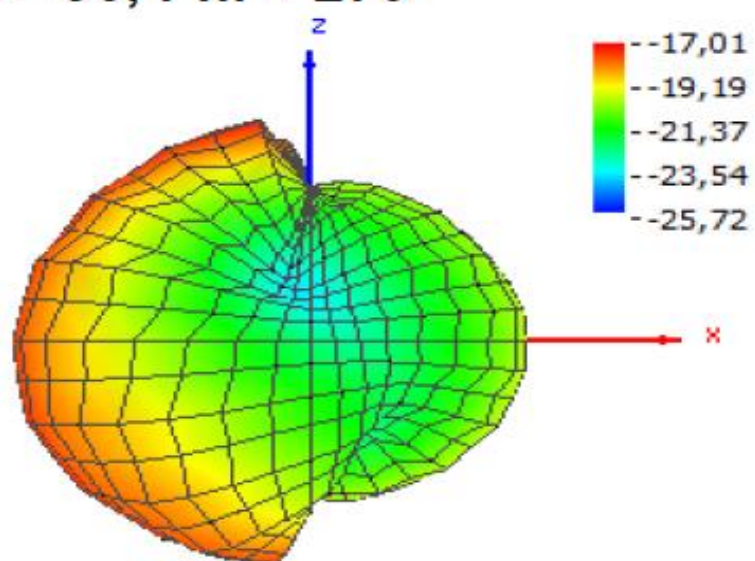
Theta = 90, Phi = 0



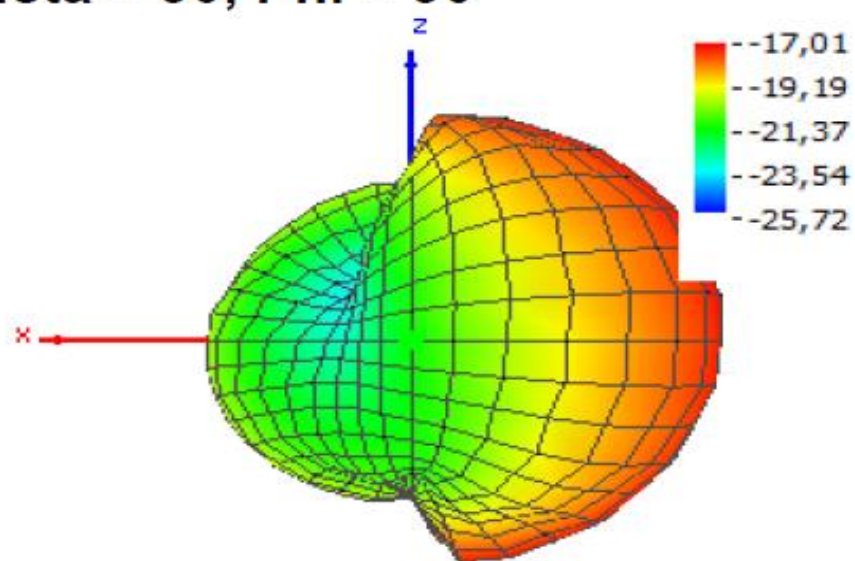
Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 90, Phi = 90



		Elevation [deg]																		
		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Azimuth [deg]	0	-35,65	-31,23	-27,52	-25,12	-23,23	-22,02	-21,00	-20,49	-20,15	-20,13	-20,38	-20,92	-21,76	-22,98	-24,85	-27,26	-31,74	-35,65	-35,65
	10	-35,65	-32,12	-28,70	-25,75	-24,18	-22,59	-21,81	-20,97	-20,85	-20,71	-21,00	-21,45	-22,33	-23,58	-25,36	-28,14	-32,34	-35,65	-35,65
	20	-35,65	-33,54	-30,17	-26,99	-25,43	-23,58	-22,87	-21,83	-21,79	-21,49	-21,86	-22,17	-23,07	-24,24	-26,04	-28,76	-32,84	-35,65	-35,65
	30	-35,65	-35,33	-31,92	-28,36	-26,82	-24,79	-24,04	-22,91	-22,76	-22,38	-22,78	-23,00	-23,96	-25,09	-26,85	-29,63	-33,49	-35,65	-35,65
	40	-35,65	-35,65	-33,76	-30,06	-28,23	-26,17	-25,24	-24,04	-23,78	-23,40	-23,73	-23,97	-24,81	-25,88	-27,64	-30,41	-33,76	-35,65	-35,65
	50	-35,65	-35,65	-35,42	-31,38	-29,41	-27,27	-26,16	-24,98	-24,61	-24,27	-24,47	-24,75	-25,44	-26,61	-28,17	-30,84	-33,63	-35,65	-35,65
	60	-35,65	-35,65	-35,65	-31,95	-29,59	-27,60	-26,36	-25,33	-24,82	-24,55	-24,58	-25,00	-25,51	-26,72	-27,97	-30,50	-32,93	-35,65	-35,65
	70	-35,65	-35,65	-35,30	-31,41	-29,22	-27,29	-26,00	-25,07	-24,45	-24,24	-24,18	-24,66	-25,11	-26,35	-27,44	-29,82	-32,08	-35,65	-35,65
	80	-35,65	-35,65	-33,84	-30,43	-28,29	-26,51	-25,27	-24,36	-23,81	-23,63	-23,54	-24,03	-24,36	-25,60	-26,61	-28,92	-31,02	-35,01	-35,65
	90	-35,65	-35,46	-31,85	-28,84	-26,89	-25,35	-24,10	-23,39	-22,77	-22,71	-22,60	-23,14	-23,42	-24,64	-25,66	-27,94	-30,05	-34,65	-35,65
	100	-35,65	-33,20	-29,98	-27,30	-25,51	-24,06	-22,90	-22,26	-21,67	-21,62	-21,51	-22,11	-22,40	-23,61	-24,56	-26,89	-29,10	-34,08	-35,65
	110	-35,65	-31,67	-28,76	-26,09	-24,35	-22,93	-21,81	-21,21	-20,59	-20,59	-20,46	-21,03	-21,28	-22,55	-23,51	-25,83	-28,01	-33,00	-35,65
	120	-35,65	-30,63	-27,86	-25,16	-23,37	-21,91	-20,84	-20,21	-19,58	-19,57	-19,44	-20,01	-20,28	-21,54	-22,51	-24,83	-27,04	-32,19	-35,65
	130	-35,65	-30,23	-27,14	-24,26	-22,44	-21,02	-19,93	-19,32	-18,75	-18,72	-18,66	-19,18	-19,53	-20,77	-21,79	-24,10	-26,35	-31,73	-35,65
	140	-35,65	-29,78	-26,42	-23,50	-21,69	-20,28	-19,22	-18,62	-18,11	-18,09	-18,08	-18,60	-19,04	-20,26	-21,40	-23,74	-26,15	-31,71	-35,65
	150	-35,65	-29,21	-25,80	-22,88	-21,13	-19,71	-18,74	-18,11	-17,68	-17,69	-17,67	-18,26	-18,76	-19,98	-21,22	-23,65	-26,16	-32,15	-35,65
	160	-35,65	-28,66	-25,33	-22,37	-20,65	-19,22	-18,32	-17,73	-17,33	-17,33	-17,39	-17,98	-18,55	-19,80	-21,10	-23,63	-26,28	-32,63	-35,65
	170	-35,65	-28,40	-25,12	-22,04	-20,42	-18,94	-18,14	-17,47	-17,18	-17,14	-17,32	-17,87	-18,50	-19,78	-21,15	-23,69	-26,46	-32,77	-35,65
	180	-35,65	-28,43	-25,17	-22,00	-20,50	-18,89	-18,19	-17,43	-17,30	-17,19	-17,48	-17,97	-18,74	-19,96	-21,45	-23,96	-26,84	-33,09	-35,65
	190	-35,65	-28,81	-25,68	-22,29	-20,83	-19,15	-18,56	-17,68	-17,65	-17,52	-17,86	-18,30	-19,16	-20,38	-21,93	-24,41	-27,36	-33,54	-35,65
	200	-35,65	-29,50	-26,30	-22,77	-21,36	-19,56	-19,02	-18,11	-18,14	-17,97	-18,35	-18,76	-19,69	-20,88	-22,49	-24,97	-28,06	-34,10	-35,65
	210	-35,65	-30,76	-27,45	-23,50	-22,13	-20,16	-19,73	-18,66	-18,79	-18,57	-19,00	-19,34	-20,33	-21,53	-23,20	-25,67	-28,79	-34,59	-35,65
	220	-35,65	-32,68	-29,04	-24,61	-23,24	-21,05	-20,68	-19,49	-19,67	-19,39	-19,87	-20,08	-21,13	-22,29	-24,01	-26,38	-29,51	-35,21	-35,65
	230	-35,65	-35,35	-31,15	-26,21	-24,73	-22,29	-21,91	-20,56	-20,79	-20,38	-20,85	-21,01	-22,06	-23,10	-24,78	-27,13	-29,89	-35,24	-35,65
	240	-35,65	-35,65	-33,46	-28,04	-26,33	-23,74	-23,27	-21,83	-21,95	-21,48	-21,85	-21,96	-22,89	-23,88	-25,36	-27,62	-30,15	-34,94	-35,65
	250	-35,65	-35,65	-35,23	-29,74	-27,67	-25,11	-24,48	-23,02	-23,01	-22,47	-22,86	-22,86	-23,70	-24,60	-26,05	-28,04	-30,70	-35,03	-35,65
	260	-35,65	-35,65	-35,47	-30,79	-28,44	-26,08	-25,24	-24,00	-23,80	-23,33	-23,60	-23,70	-24,49	-25,30	-26,75	-28,79	-31,25	-35,43	-35,65
	270	-35,65	-35,65	-34,05	-30,66	-28,31	-26,47	-25,40	-24,50	-24,14	-23,91	-24,06	-24,36	-25,13	-26,11	-27,56	-29,49	-32,16	-35,65	-35,65
	280	-35,65	-35,65	-32,18	-29,66	-27,56	-26,20	-25,16	-24,50	-24,18	-24,07	-24,25	-24,76	-25,50	-26,76	-28,23	-30,45	-33,21	-35,65	-35,65
	290	-35,65	-33,72	-30,67	-28,51	-26,64	-25,53	-24,57	-24,19	-23,78	-23,98	-24,11	-24,92	-25,63	-27,17	-28,73	-31,19	-34,05	-35,65	-35,65
	300	-35,65	-32,32	-29,44	-27,39	-25,63	-24,68	-23,68	-23,55	-23,03	-23,43	-23,53	-24,64	-25,18	-27,11	-28,54	-31,62	-34,34	-35,65	-35,65
	310	-35,65	-31,38	-28,53	-26,34	-24,72	-23,71	-22,77	-22,68	-22,19	-22,61	-22,62	-23,88	-24,32	-26,42	-27,65	-31,20	-33,94	-35,65	-35,65
	320	-35,65	-30,65	-27,87	-25,53	-23,88	-22,90	-21,96	-21,83	-21,40	-21,76	-21,76	-22,99	-23,43	-25,38	-26,61	-30,27	-32,88	-35,65	-35,65
	330	-35,65	-30,12	-27,36	-24,88	-23,26	-22,20	-21,30	-21,09	-20,66	-20,98	-21,01	-22,11	-22,53	-24,40	-25,61	-29,13	-31,82	-35,65	-35,65
	340	-35,65	-29,82	-27,05	-24,40	-22,84	-21,65	-20,83	-20,44	-20,10	-20,32	-20,37	-21,36	-21,81	-23,56	-24,86	-28,18	-31,09	-35,65	-35,65
	350	-35,65	-29,91	-27,12	-24,17	-22,90	-21,38	-20,71	-20,10	-19,88	-19,89	-20,10	-20,84	-21,49	-23,04	-24,41	-27,64	-30,80	-35,65	-35,65
	360	-35,65	-31,23	-27,52	-25,12	-23,23	-22,02	-21,00	-20,49	-20,15	-20,13	-20,38	-20,92	-21,76	-22,98	-24,85	-27,26	-31,74	-35,65	-35,65

Peak eirp	-17,14	[dBm]
Directivity	2,85	[dBi]
Avg eirp	-19,99	[dBm]