25.05.21

RA-N2505-15

APPROVAL SHEET

MODEL : LATITUDU S2
Bluetooth
Antenna layout

Review	Consent	Approval

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1. Revision History

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2. Product Information

2.1 General Features

PART NUMBER	GradiANT
ANTENNA TYPE	PCB pattern Antenna
APPLICATIONS	Bluetooth

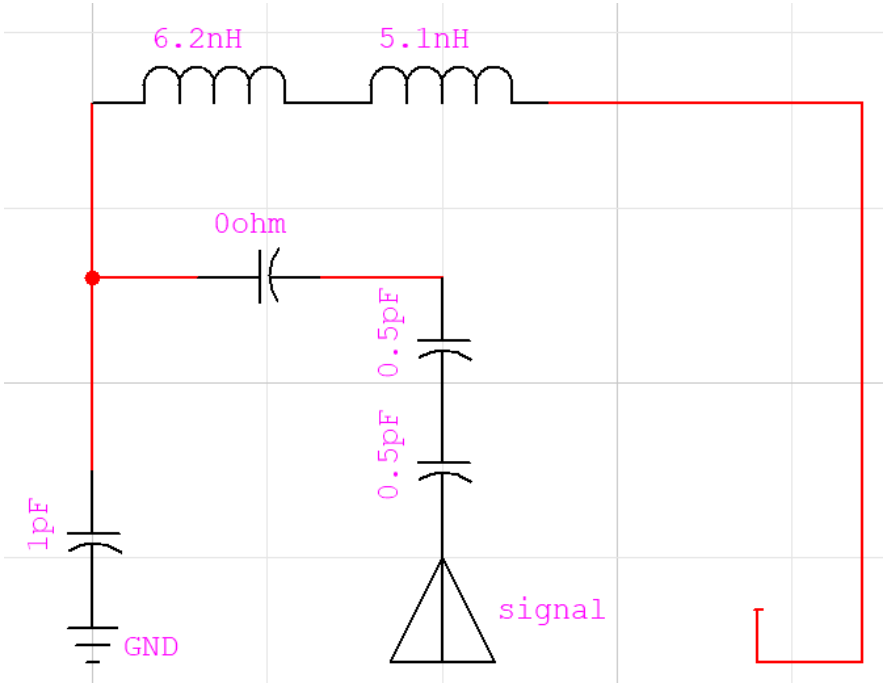
2.2 Electrical Specifications

Frequency Range1 (TX)		2400MHz~2485MHz	
Frequency Range1 (RX)		2400MHz~2485MHz.	
IMPEDANCE		50 Ω	
V.S.W.R	TX	2400MHz	2485MHz
		5↓	5↓
	RX	2400MHz	2485MHz
		5↓	5↓
RADIATION PATTERN		Omni-directional	
POLARIZATION		Linear	

3. Pattern Specifications

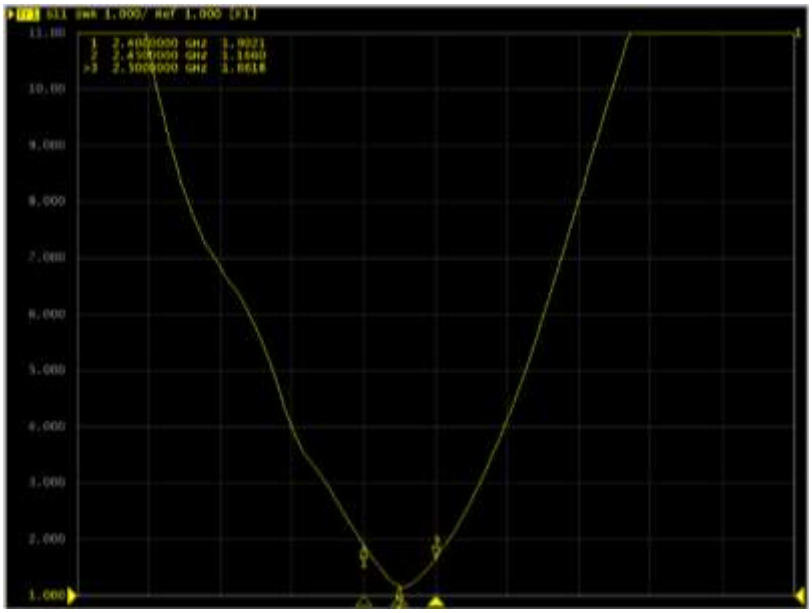
4. Matching Network

Capacitor value can be changed depending on different situation

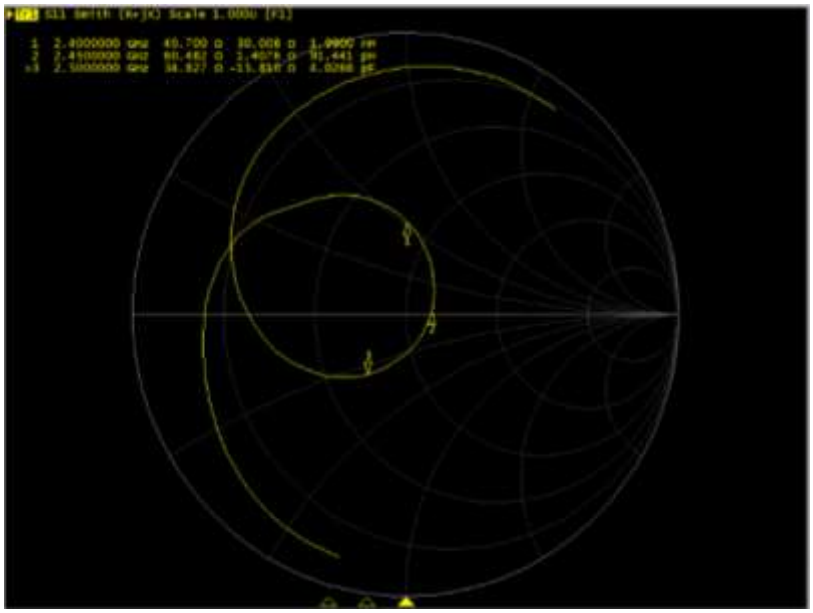


5. Electrical Characterristics

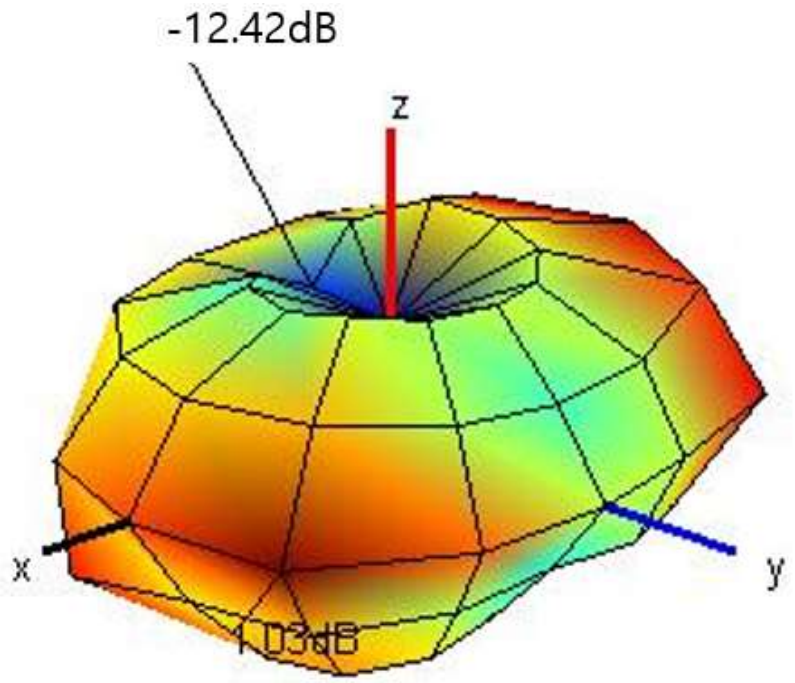
5.1 VSWR



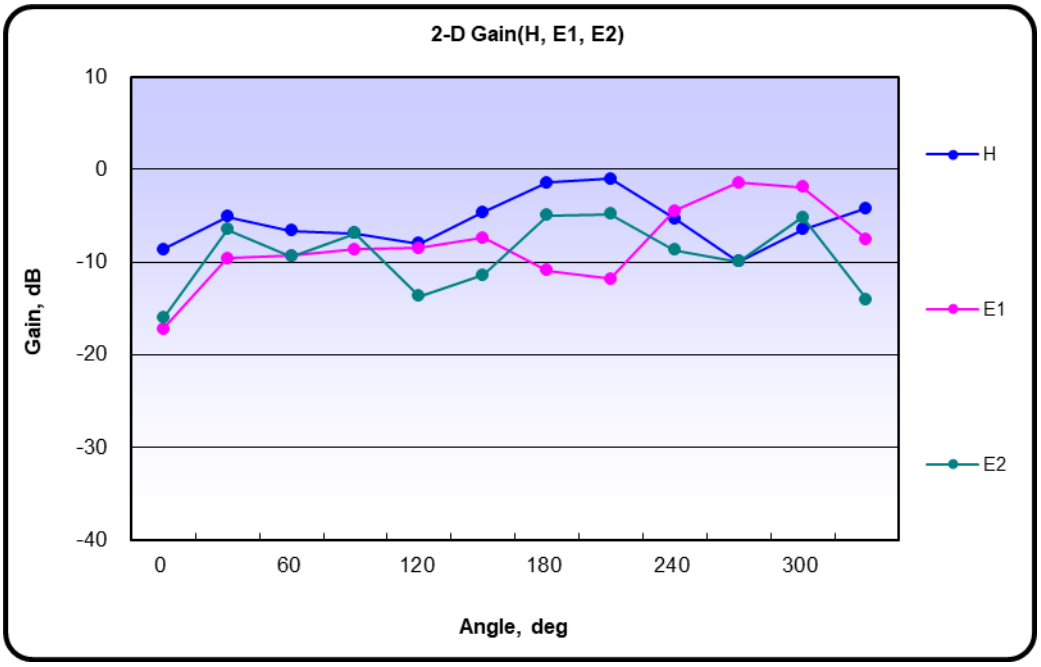
5.2 SMITH CHART



5.3 3D-PLOTs



5.4 2D-Gain



6. Passive Measurement

	1	2	3	4	5	6	7	8	9	10
Frequency [MHz]	**2400**	**2405**	**2410**	**2415**	**2420**	**2425**	**2430**	**2435**	**2440**	**2445**
Efficiency [dB]	**-3.71**	**-3.71**	**-3.70**	**-3.87**	**-4.01**	**-4.22**	**-3.98**	**-3.82**	**-3.60**	**-3.59**
Efficiency [%]	**42.5**	**42.6**	**42.6**	**41.0**	**39.7**	**37.8**	**40.0**	**41.5**	**43.6**	**43.7**
TRG$_\theta$ [dB]	-6.11	-6.08	-6.05	-6.21	-6.37	-6.63	-6.29	-6.10	-5.91	-5.92
TRG$_\varphi$ [dB]	-7.43	-7.46	-7.50	-7.69	-7.79	-7.93	-7.81	-7.71	-7.44	-7.41
UHRG [dB]	-6.93	-6.93	-6.97	-7.14	-7.28	-7.52	-7.24	-7.08	-6.88	-6.89
UHRG/TRG [%]	47.7	47.6	47.2	47.2	47.1	46.8	47.2	47.3	47.0	46.8
H-Plane	-5.51	-5.47	-5.33	-5.42	-5.53	-5.70	-5.31	-5.12	-4.87	-4.91
E1-Plane, AVG [dB]	-6.53	-6.49	-6.51	-6.63	-6.86	-7.06	-6.74	-6.56	-6.38	-6.41
E2-Plane, AVG [dB]	-7.86	-7.84	-7.94	-8.17	-8.26	-8.52	-8.35	-8.19	-8.00	-7.99
Peak Gain [dB]	0.75	0.68	0.71	0.69	0.59	0.38	0.61	0.67	0.93	1.03
Directivity [dB]	4.46	4.39	4.42	4.57	4.60	4.61	4.59	4.49	4.53	4.62
Minimum Gain [dB]	-11.63	-11.78	-12.26	-12.26	-12.50	-12.86	-12.60	-12.20	-12.15	-12.42

	11	12	13	14	15	16	17	18	19	20
Frequency [MHz]	**2450**	**2455**	**2460**	**2465**	**2470**	**2475**	**2480**	**2485**	**2490**	**2497**
Efficiency [dB]	**-3.74**	**-4.00**	**-4.14**	**-4.11**	**-3.82**	**-3.78**	**-3.87**	**-4.33**	**-5.04**	**-5.02**
Efficiency [%]	**42.3**	**39.8**	**38.5**	**38.8**	**41.5**	**41.9**	**41.0**	**36.9**	**31.3**	**31.4**
TRG$_\theta$ [dB]	-6.06	-6.25	-6.46	-6.43	-6.11	-6.02	-6.05	-6.62	-7.27	-7.19
TRG$_\varphi$ [dB]	-7.57	-7.93	-7.98	-7.95	-7.70	-7.74	-7.91	-8.20	-9.00	-9.08
UHRG [dB]	-7.02	-7.28	-7.42	-7.39	-7.10	-7.05	-7.13	-7.54	-8.28	-8.20
UHRG/TRG [%]	47.0	47.0	47.0	47.0	47.0	47.1	47.2	47.8	47.5	48.1
H-Plane	-4.99	-5.16	-5.27	-5.24	-4.85	-4.64	-4.64	-5.29	-5.95	-5.84
E1-Plane, AVG [dB]	-6.56	-6.81	-6.95	-7.02	-6.63	-6.53	-6.68	-7.14	-7.81	-7.77
E2-Plane, AVG [dB]	-8.20	-8.39	-8.59	-8.54	-8.31	-8.23	-8.17	-8.91	-9.47	-9.36
Peak Gain [dB]	1.01	0.75	0.54	0.65	0.83	1.19	0.96	0.53	-0.17	-0.07
Directivity [dB]	4.75	4.74	4.69	4.77	4.65	4.98	4.83	4.86	4.87	4.96
Minimum Gain [dB]	-12.03	-11.75	-11.40	-12.07	-11.74	-12.57	-12.14	-13.26	-12.42	-13.21

Average Efficiency	**-3.99dBi**	**39.93%**
Average Efficiency	**1.19dBi**	