

2025.06.25

RA-N2501-02

APPROVAL SHEET

MODEL : SRL3+
Antenna layout

Review	Consent	Approval

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1. Revision History

NO.	Before	After	Reason	Date
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

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2.Product Information

2.1 General Features

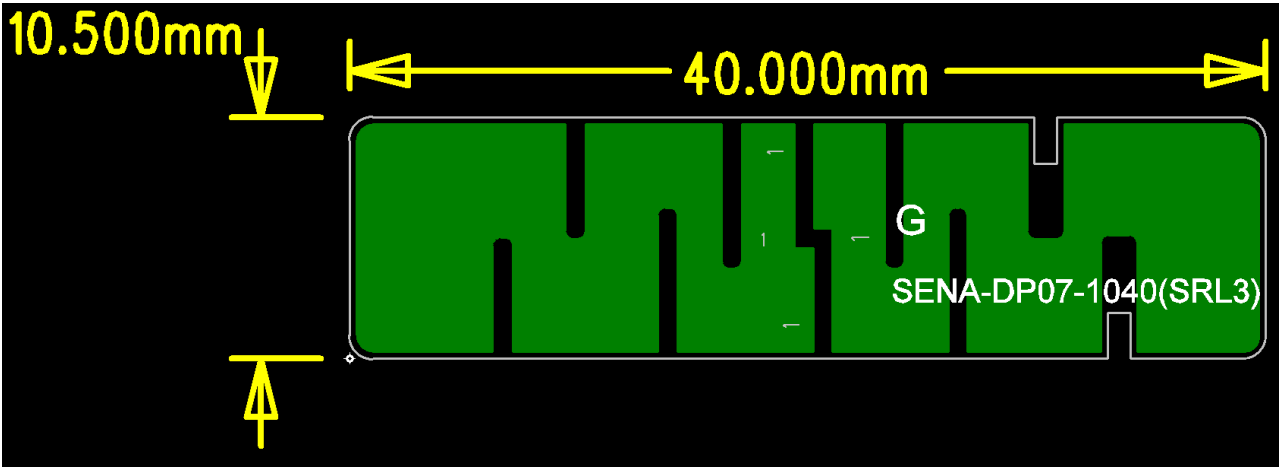
PART NUMBER	GRSN22128BT52
ANTENNA TYPE	PCB Pattern Antenna
APPLICATIONS	Bluetooth

2.2 Electrical Specifications

Frequency Range1 (TX)		2400MHz~2485MHz	
Frequency Range1 (RX)		2400MHz~2485MHz	
IMPEDANCE		50 Ω	
V.S.W.R	TX	2400MHz	2485MHz
		3 ↓	3 ↓
	RX	2400MHz	2485MHz
		3 ↓	3 ↓
RADIATION PATTERN		Omni-directional	
POLARIZATION		Linear	

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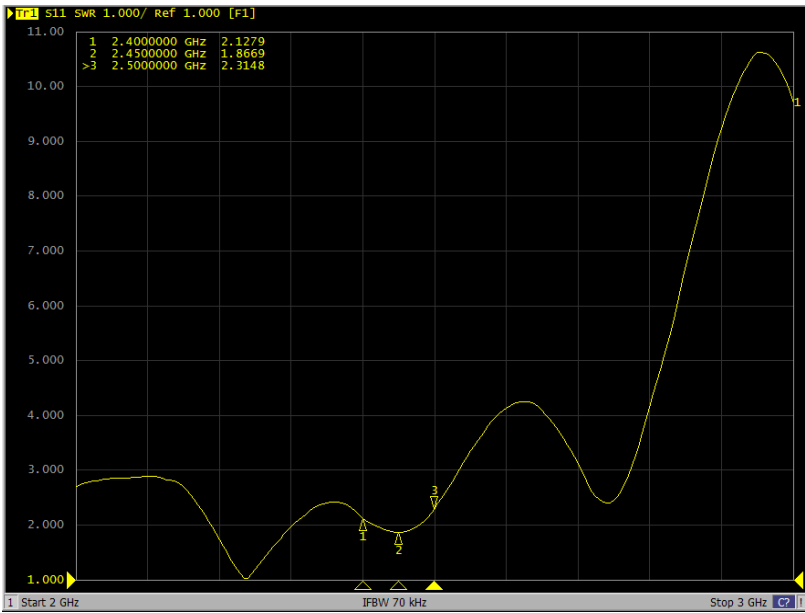
2.3 Antenna Dimensioin



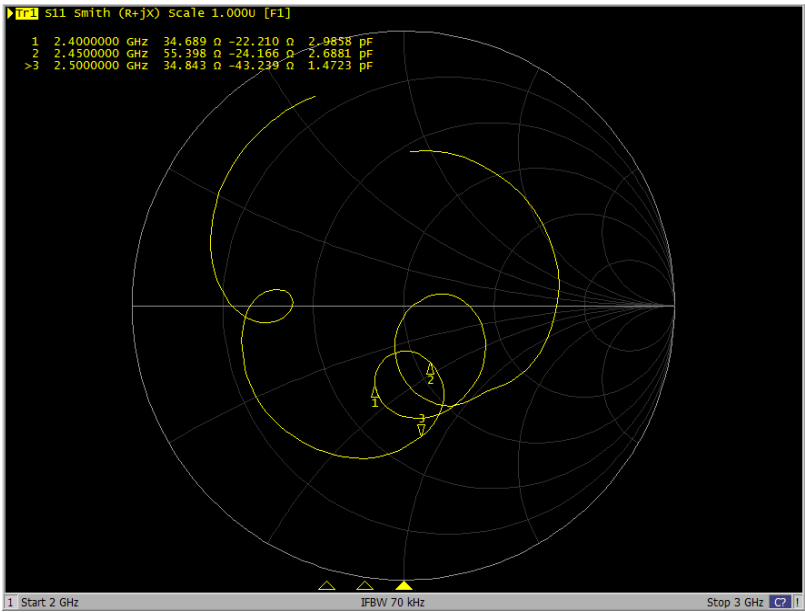
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3. Electrical Characterristics

3.1 VSWR

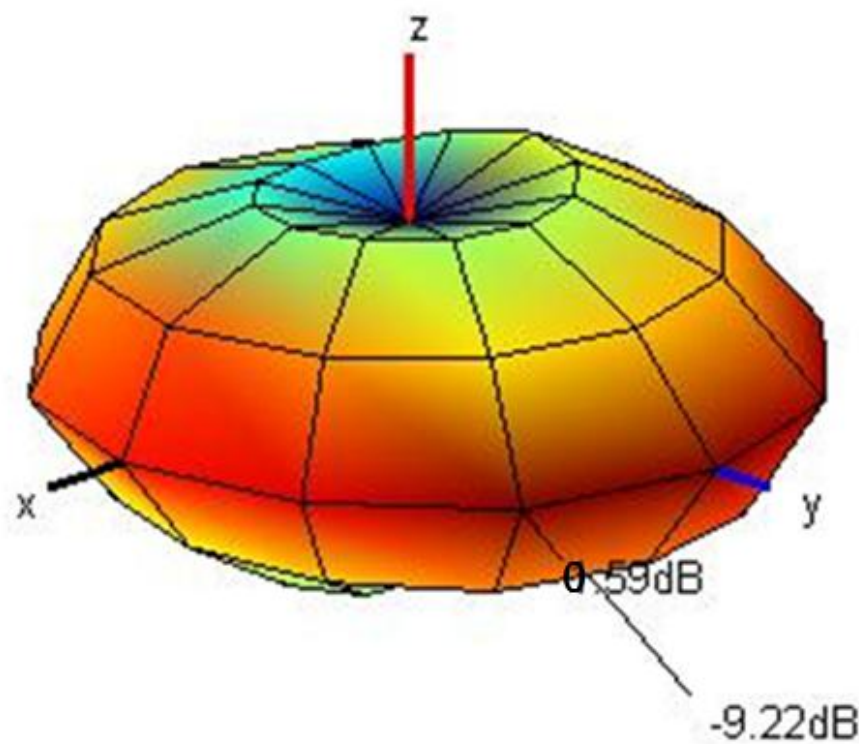


3.2 SMITH CHART

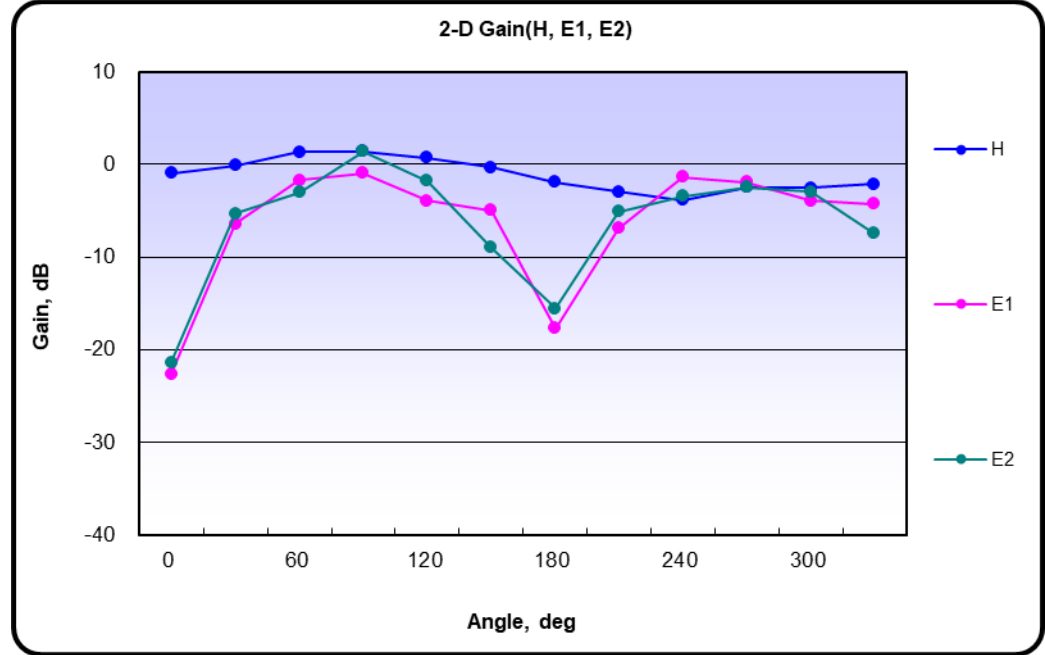


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3.3 3D-PLoTs



3.4 2D-GAIN



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4. 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)		-2.76	-2.80	-2.92	-2.88	-2.98	-2.72	-2.41	-2.29	-2.50	-2.41
Efficiency(%)		52.9	52.5	51.0	51.5	50.3	53.5	57.4	59.0	56.3	57.5
TRG(dB)		-3.18	-3.20	-3.34	-3.29	-3.41	-3.16	-2.84	-2.69	-2.93	-2.82
TRG _{Theta} (dB)		0.97	1.06	0.88	1.10	0.89	1.27	1.50	1.85	1.48	1.42
TRG _{Phi} (dB)		-11.24	-11.64	-10.93	-10.69	-11.41	-10.99	-9.95	-9.63	-9.78	-9.50
UHRG(dB)		-5.68	-5.77	-5.88	-5.87	-5.97	-5.71	-5.43	-5.32	-5.56	-5.50
UHRG/TRG(%)		51.0	50.5	50.6	50.2	50.3	50.2	49.9	49.7	49.4	49.0
H-Plane		-1.17	-1.11	-1.29	-1.21	-1.29	-1.05	-0.71	-0.62	-0.84	-0.83
E1-Plane, AVG(dB)		-4.70	-4.65	-4.84	-4.72	-4.85	-4.54	-4.20	-3.98	-4.17	-3.98
E2-Plane, AVG(dB)		-3.92	-4.11	-4.27	-4.15	-4.32	-4.00	-3.92	-3.88	-3.89	-3.78
Peak Gain(dB)		0.24	0.39	0.23	0.25	0.26	0.34	0.37	0.55	0.54	0.59
Directivity(dB)		3.01	3.18	3.15	3.13	3.25	3.05	3.03	3.14	3.04	3.00
Minimum Gain(dB)		-11.04	-11.45	-10.77	-10.43	-10.99	-10.65	-9.57	-9.19	-9.44	-9.22

		11	12	13	14	15	16	17	18	19	20
Frequency(MHz)		2450	2455	2460	2465	2470	2475	2480	2485	2490	2497
Efficiency(dB)		-2.67	-2.55	-2.60	-2.57	-2.59	-2.86	-3.18	-3.99	-3.92	-4.10
Efficiency(%)		54.0	55.6	54.9	55.3	55.0	51.7	48.0	39.9	40.6	38.9
TRG(dB)		-3.08	-2.93	-2.98	-2.94	-2.94	-3.20	-3.51	-4.31	-4.21	-4.38
TRG _{Theta} (dB)		1.08	1.31	1.18	1.19	0.87	0.54	0.15	-0.84	-0.70	-0.83
TRG _{Phi} (dB)		-9.44	-8.81	-8.37	-8.17	-8.02	-8.11	-8.12	-9.14	-8.88	-9.48
UHRG(dB)		-5.80	-5.67	-5.71	-5.66	-5.64	-5.85	-6.15	-6.91	-6.81	-6.99
UHRG/TRG(%)		48.7	48.8	48.9	49.1	49.6	50.3	50.5	51.0	51.4	51.4
H-Plane		-1.16	-1.03	-1.09	-1.11	-1.22	-1.58	-1.96	-2.71	-2.67	-2.97
E1-Plane, AVG(dB)		-4.26	-4.14	-4.07	-4.20	-4.14	-4.39	-4.67	-5.53	-5.40	-5.71
E2-Plane, AVG(dB)		-3.98	-3.84	-3.86	-3.78	-3.71	-3.92	-4.12	-4.98	-4.79	-4.83
Peak Gain(dB)		0.24	0.39	0.31	0.19	0.07	-0.39	-0.84	-1.83	-1.54	-1.82
Directivity(dB)		2.91	2.94	2.91	2.76	2.66	2.47	2.34	2.16	2.38	2.27
Minimum Gain(dB)		-9.19	-8.45	-8.24	-7.95	-8.00	-7.94	-8.04	-9.09	-8.58	-9.47

Average Efficiency	-2.86 dBi	51.81%
Peak Gain	0.59 dBi	