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Model	Type	Rev.	Startellabs	IR
ST9730 MAIN	Carrier+FPCB		ST SUNLAB	IR

APPROVAL SHEET

Customer : ST SUNLAB

Company : Startellabs

Item : Main Antenna

Model : ST9730 MAIN

Customer P/N :

Maker Code : STCFM02



Department	Design	Check	Approval
ST SUNLAB			
STARTELLABS			

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1.1 History List of Approval Sheet

[illegible]

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2. Circuit Specification

2.1 Test Setting

2.1.1 Test Environment (Condition+A338/Method)

① VSWR

Step 1. Connect ANT port with cable included adaptor to port1 of Network analyzer

Step 2. Point out markers on network analyzer display at target frequencies.

Step 3. Inspect VSWR



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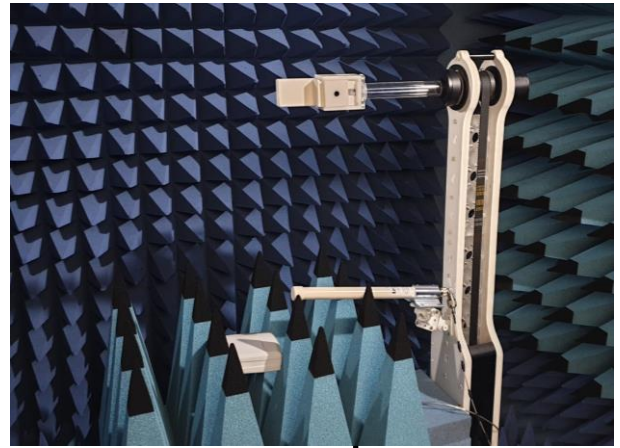
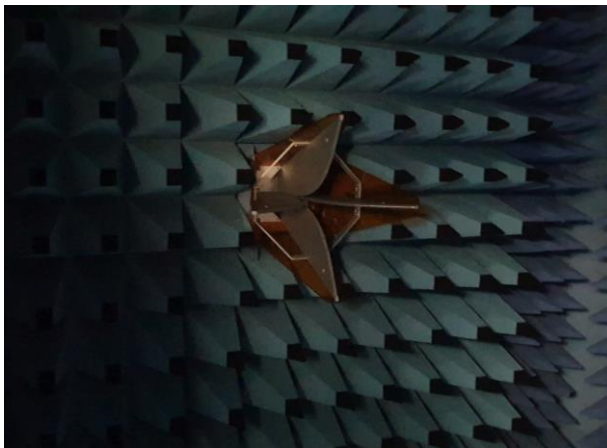
② Radiation Pattern and Gain

Step 1. Calibrate chamber system for gain measurement using horn antenna.

At the same time set up software program for chamber system control.

Step 2. Change over from a horn antenna to measuring antenna on target positioner

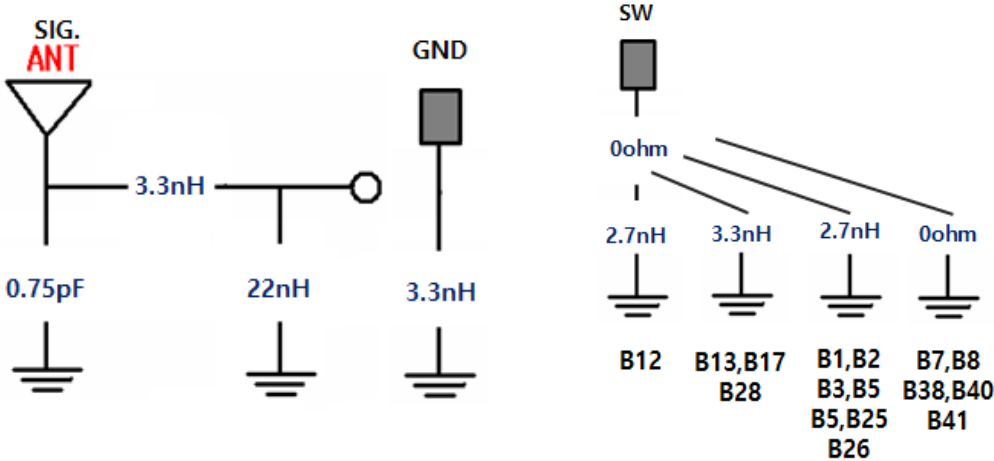
Step 3. Start a software program for chamber system control & measuring.



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2.2 Electrical Specification

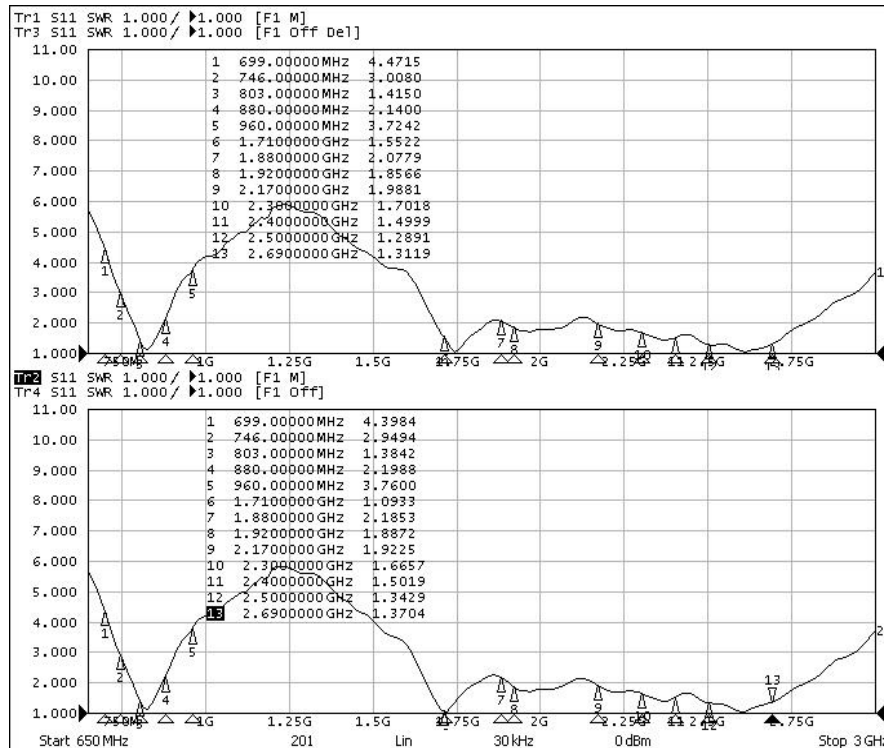
Main Antenna							
Frequency[MHz]	B12	B13,B17,B28	B5,B26	B8	B1,B2,B3, B4,B25	B40	B7,B38,B41
	699~746	703~803	814~894	880~960	1710~2170	2300~2400	2496~2690
VSWR	≤ 5.6	≤ 5.6	≤ 3.1	≤ 4.7	≤ 4.2	≤ 2.7	≤ 2.3
Peak Gain[dBi]	-0.5	-0.3	-0.2	-0.2	+3.2	+0.3	+0.1
Avg Gain[dBi]	-6.7	-6.7	-4.9	-5.4	-5.1	-6.2	-5.7
Directivity	Omni-directional						
Polarization	Linear						
Feed Impedance	50 Ohms						
Power Handling	2Watt						
Matching Value							

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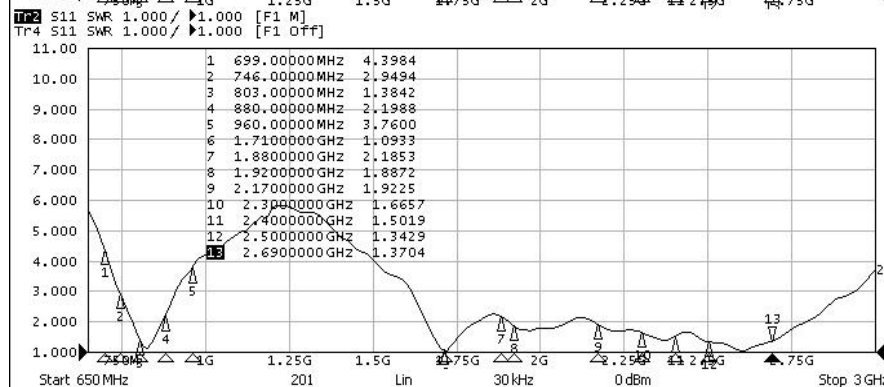
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2.2.1 Electrical Spec. of Set (With VSWR)

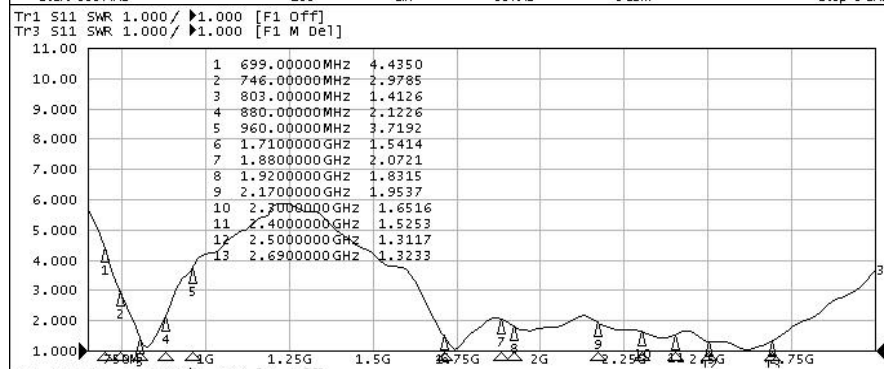
RF1(B12)



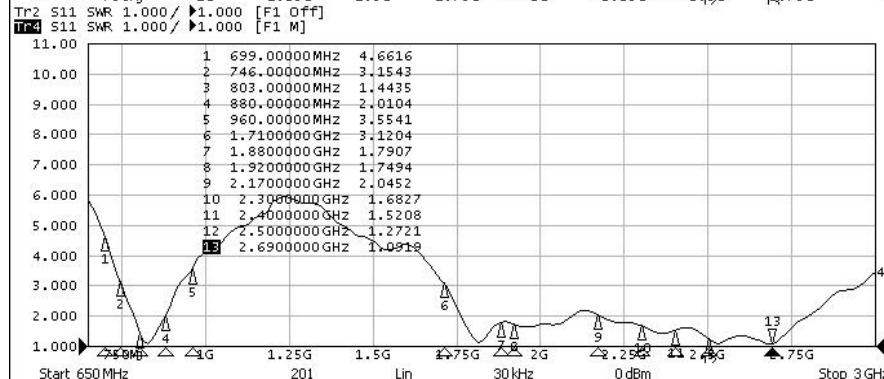
RF2
(B13,B17,B28)



RF3
(B5,B26,B1,
B2,B3,B4,B25)



RF4
(B8,B7,B38,
B40,B41)

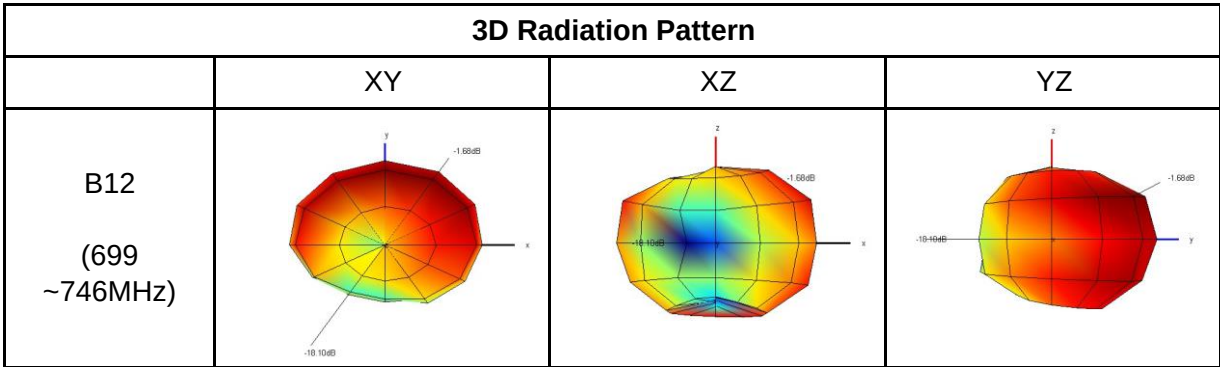


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2.2.2 Passive Gain & 3D Pattern

Frequency[MHz]	Peak Gain[dBi]	Efficiency[dBi]	Efficiency[%]
699	-2.60	-5.71	26.9
716	-1.35	-4.96	31.9
729	-1.02	-4.58	34.9
746	-0.52	-3.79	41.8
791	-0.33	-3.35	46.2
803	-0.53	-3.34	46.3
824	-1.07	-3.73	42.3
849	-0.23	-3.83	43.4
880	-0.21	-3.78	44.6
894	-0.47	-3.95	40.8
915	-1.07	-4.01	38.9
939	-1.25	-4.36	38.1
960	-1.46	-4.40	36.8
1710	0.90	-3.22	47.6
1760	0.59	-2.89	51.4
1820	0.79	-2.75	53.1
1880	1.49	-2.70	53.7
1930	2.71	-1.90	64.6
1990	3.23	-2.22	60.0
2170	-0.45	-4.17	38.2
2300	0.38	-5.18	30.3
2350	-0.15	-5.07	31.1
2400	0.19	-5.25	29.9
2500	-0.52	-4.79	33.2
2600	-0.20	-4.31	37.1
2690	0.17	-4.75	33.5



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3D Radiation Pattern			
	XY	XZ	YZ
B13,B17,B28 (703 ~803MHz)			
B5,B26 (814 ~894MHz)			
B8 (889 ~960MHz)			
B1,B2,B3, B4,B25 (1710 ~2170MHz)			
B40 (2300 ~2400MHz)			
B7,B38,B41 (2496 ~2690MHz)			

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3. Mechanical Specification

3.1 Material Certificate

Product Name		ST9730 MAIN		
Ant Type		Carrier+FPCB		
No	Part Name	Raw Material	FINISH/COLOR	REMARKS
1	Carrier	ABS	WHITE	-
2	Radiator	FPCB	COVERLAY/BLACK	-

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3.2 Assy Drawing

