

深圳市凯普深通讯科技有限公司

Shenzhen Kaipushen Communication Technology Co., Ltd.

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Antenna debugging report



1. 基本信息。

客户名称		SOLIS TAG
项目名称		样工
工程师		
频段		4G LTE: B1/2/3/4/5/7/8/12/17/18/19/20/25/26/28/29/30/34/38/39/40/41/66 WiFi: 2, 4G/5, 8G
天线版本		V0.1版
目录		
序号	目 录	摘 要
1	20251220	整机测试数据
2	20251220	整机测试数据对比
3	20251230	增加WiFi 5, 8G数据

2. 整机照片, 环境处理。

图示1: 3D模型。



图示2: 整机图片。



图示3: 整机测试环境一。



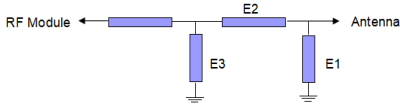
图示4: 整机测试环境二。



附加：后面有变动新增项，会增入图片。

3. 天线匹配电路。

1. 天线匹配电路：



贵司原匹配

4. OTA数据。

Information		SOLIS TAG-20251220			SOLIS TAG-20251222		
		测试样机数据1# (单电池供电)			测试样机数据1# (更换16cm充电板复测数据)		
	4G	channel	TRP	TIS	TRP	TIS	
4GLTE	FDD-B1(10M)	L	20.8		20.2		
		M	20.5		20.0		
		H	20.2	-95.5	19.8	-95.8	
	FDD-B2(10M)	L	20.8		20.8		
		M	20.6		20.5		
		H	20.2	-95.5	20.2	-95.8	
	FDD-B3(10M)	L	20.5		20.6		
		M	20.5		20.6		
		H	20.6	-94.5	20.5	-93.9	
	FDD-B4(10M)	L	20.8		18.6		
		M	20.4		19.0		
		H	20.1	-94.8	19.5	-93.6	
	FDD-B5(10M)	L	17.2		20.8		
		M	17.2		20.5		
		H	17.4	-89.9	20.0	-93.3	
	FDD-B7(10M)	L	20.2		20.0		
		M	20.8		19.5		
		H	20.9	-90.4	18.6	-85.6	
	FDD-B8(10M)	L	19.5		20.4		
		L	19.4		20.0		
		M	19.1	-92.3	18.8	-86.7	
	FDD-B12(10M)	H	17.5		11.5		
		L	17.7		11.0		
		M	18.0	-89.6	10.1	-75.9	
	FDD-B17(10M)	H	17.2		14.9		
		L	17.7		15.0		
		M	17.8	-87.8	16.3	-77.1	
	FDD-B18(10M)	H	16.2		17.8		
		L	16.7		18.0		
		M	17.0	-89.8	19.2	-87.8	
	FDD-B19(10M)	H	17.4		20.3		
		L	17.5		20.2		
		M	17.9	-90.7	20.3	-89.9	
	FDD-B20(20M)	H	17.5		19.8		
		L	17.7		20.0		
		M	17.8	-91.1	20.1	-94.6	
	FDD-B25(20M)	H	21.6		21.4		
		L	22.0		21.5		
		L	22.4	-95.2	22.0	-94.8	
	FDD-B26(20M)	M	17.3		18.5		
		H	17.7		19.0		
		L	18.6	-88.8	19.4	-87.1	
	FDD-B28(20M)	M	17.7		13.6		
		H	17.7		15.2		
		L	18.2	-91.0	19.2	-91.8	
	FDD-B30(20M)	M					
		H	23.6	-91.7	19.1	-85.8	
		L					
	TDD-B34(10M)	M	20.4		19.9		
		H	20.3		20.0		
		L	20.3	-92.5	20.1	-94.9	
	TDD-B38(20M)	M	21.9		23.1		
		H	21.9		23.0		
		L	22.0	-96.1	22.9	-96.8	
	TDD-B39(20M)	M	21.3		20.6		
		H	21.5		20.8		
		L	21.4	-94.6	20.0	-95.3	
	TDD-B40(20M)	L	21.3		21.5		
		M	21.5		19.0		
		H	22.0	-91.0	15.0	-60.3	
	TDD-B41(20M)	L	21.0		13.9		
		M	22.0		22.0		

	FDD-B66(10M)	H	22.4	-94.9	23.4	-97.5
		L	22.1		20.5	
		M	22.1		20.7	
		H	22.3	-94.9	21.3	-94.2
	3G		TRP	TIS	TRP	TIS
	W1	L	22.2			
		M	22.5			
		H	22.0	-108.4		
	W2	L	20.9			
		M	20.9			
		H	20.5	-107.1		
	W4	L	21.4			
		M	21.4			
		H	21.9	-109.8		
	W5	L	20.1			
		M	20.2			
		H	19.4	-105.7		
	W8	L	19.7			
		M	19.9			
		H	19.4	-105.1		
	WIFI		TRP	TIS	TRP	TIS
	2.4G(11M)	1	16.2	-83.6	16.9	-83.2
		6	16.4	-83.3	16.1	-82.5
		13	16.2	-83.1	15.8	-82.6
	2.4G(54M)	1	14.1	-71.8	14.5	-71.8
		6	14.4	-71.2	14.1	-73.2
		13	14.7	-71.1	14.2	-71.1
	2.4G(MC S7)	1	14.1	-67.3	15.0	-68.3
		6	14.1	-67.7	15.4	-68.7
		13	14.7	-67.1	15.1	-67.1
	5.8G(54M)	36	8.5	-74.3	8.7	-73.4
		149	5.4	-71.2	5.4	-72.4
		161	5.5	-72.1	5.2	-72.2

5. 无源数据。

1. 天线效率/增益：

Frequency(MHz)	Gain(dB)	Efficiency(dB)	Efficiency(%)	Frequency(Gain(dB)	Efficiency(dB)	Efficiency(%)	Frequency(η Gain(dB)	Efficiency(η Efficiency(%)			
700	-3.42	-6.36	23.11	2400	2.49	-1.97	63.54	5150	0.83	-4.12	38.69
710	-2.89	-5.68	27.01	2410	2.63	-1.96	63.75	5160	0.95	-4.05	38.98
720	-2.6	-5.22	30.03	2420	2.6	-1.98	63.4	5170	1.1	-3.99	39.89
730	-1.58	-4.48	35.65	2430	2.55	-2.03	62.66	5180	1.03	-4.07	39.22
740	-1.26	-3.98	39.96	2440	2.42	-2.03	62.63	5190	1.1	-3.95	40.3
750	-1.12	-3.78	41.89	2450	2.34	-2.09	61.74	5200	1.34	-3.91	40.68
760	-0.58	-3.48	44.9	2460	2.1	-2.17	60.7	5210	1.27	-3.72	42.47
770	-0.33	-3.25	47.34	2470	1.99	-2.19	60.42	5220	1.62	-3.72	42.51
780	-0.29	-3.16	48.36	2480	1.78	-2.24	59.7	5230	1.53	-3.51	44.54
790	0.03	-2.93	50.95	2490	1.53	-2.34	58.39	5240	1.44	-3.59	43.75
800	0.14	-2.82	52.22	2500	1.3	-2.39	57.71	5250	1.55	-3.69	42.79
810	0.34	-2.81	52.39					5260	1.59	-3.62	43.47
820	0.29	-2.76	52.97					5270	1.84	-3.41	45.59
830	0.28	-2.87	51.59					5280	1.88	-3.33	46.43
840	0.22	-3.06	49.39					5290	1.8	-3.4	45.72
850	-0.01	-3.29	46.86					5300	1.87	-3.32	46.52
860	-0.12	-3.6	43.66					5310	2	-3.43	45.43
870	-0.45	-3.79	41.83					5320	1.61	-3.45	45.16
880	-0.98	-3.97	40.08					5330	2.01	-3.32	46.53
890	-1.26	-4.27	37.44					5340	2.04	-3.37	45.98
900	-1.39	-4.52	35.36					5350	2.06	-3.28	47.03
910	-1.79	-4.91	32.25					5360	2.01	-3.26	47.21
920	-1.87	-5.36	29.13					5370	2	-3.31	46.68
930	-2.22	-5.68	27.06					5380	1.91	-3.36	46.08
940	-2.86	-6.12	24.44					5390	1.9	-3.34	46.38
950	-3.4	-6.6	21.87					5400	2.1	-3.26	47.26
960	-3.86	-6.98	20.05					5410	2.22	-3.11	48.88
1700	0.2	-3.63	43.3					5420	2.25	-3.05	49.59
1710	0.58	-3.47	45.02					5430	2.1	-2.93	50.98
1720	0.88	-3.32	46.51					5440	2.15	-3.04	49.64
1730	1.05	-3.38	47.04					5450	2.13	-3.05	49.52
1740	1.23	-3.25	47.28					5460	2.19	-3.01	50.04
1750	1.43	-3.17	48.23					5470	2.15	-3	50.16
1760	1.5	-3.19	47.99					5480	1.96	-3.02	49.94
1770	1.56	-3.22	47.65					5490	1.89	-2.99	50.18
1780	1.6	-3.18	48.08					5500	1.93	-2.99	50.27
1790	1.53	-3.21	47.74					5510	1.87	-3.01	50.05
1800	1.56	-3.2	47.86					5520	1.57	-3.03	49.81
1810	1.62	-3.23	47.51					5530	1.81	-3.11	48.85
1820	1.57	-3.28	47.01					5540	1.2	-3.19	47.97
1830	1.44	-3.37	46.02					5550	1.12	-3.21	47.75
1840	1.42	-3.47	44.99					5560	1.05	-3.3	46.79
1850	1.34	-3.56	44.09					5570	1.11	-3.33	46.43
1860	1.4	-3.56	44.06					5580	1.07	-3.42	45.45
1870	1.55	-3.61	43.54					5590	0.58	-3.7	42.67
1880	1.48	-3.66	43.04					5600	1	-3.76	42.09
1890	1.46	-3.59	43.77					5610	0.79	-3.86	41.12
1900	1.46	-3.58	43.87					5620	0.35	-3.88	40.89
1910	1.4	-3.61	43.52					5630	0.42	-3.93	40.45
1920	1.6	-3.49	44.77					5640	0.6	-4.01	39.69
1930	1.64	-3.51	44.6					5650	0.53	-4.34	36.8
1940	1.62	-3.53	44.32					5660	0.25	-4.45	35.89
1950	1.75	-3.47	44.97					5670	0.05	-4.75	33.46
1960	1.69	-3.63	43.31					5680	0	-4.65	34.31
1970	1.68	-3.73	42.34					5690	-0.2	-4.74	33.54
1980	1.82	-3.64	43.27					5700	-0.19	-4.81	33.07
1990	1.76	-3.75	42.2					5710	-0.14	-5.03	31.42
2000	1.68	-3.86	41.11					5720	-0.49	-5.21	30.1
2010	1.73	-3.75	42.21					5730	-0.35	-5.33	29.32
2020	1.57	-3.88	40.95					5740	-0.94	-5.48	28.31
2030	1.36	-4.04	39.46					5750	-0.5	-5.38	28.97
2040	1.27	-4	39.82					5760	-0.6	-5.31	29.43
2050	1.09	-4.12	38.69					5770	-0.8	-5.57	27.76
2060	0.79	-4.35	36.76					5780	-0.87	-5.77	26.46
2070	0.83	-4.31	37.04					5790	-1.06	-6	25.12
2080	0.59	-4.41	36.2					5800	-1.13	-6.32	23.34
2090	0.51	-4.52	35.35					5810	-1.77	-6.25	23.7
2100	0.65	-4.39	36.43					5820	-1.22	-6.32	23.35
2110	0.77	-4.38	36.47					5830	-1.42	-6.32	23.34
2120	0.76	-4.5	35.52					5840	-1.49	-6.38	23.03
2130	0.88	-4.41	36.24					5850	-1.92	-6.61	21.85
2140	0.92	-4.4	36.31								
2150	0.62	-4.45	35.88								
2160	0.74	-4.36	36.67								
2170	0.86	-4.27	37.39								
2180	0.98	-4.25	37.6								
2190	1.13	-4.16	38.38								
2200	1.21	-4.13	38.66								
2210	1.24	-4.15	38.45								
2220	1.34	-4.02	39.59								
2230	1.39	-3.87	40.98								
2240	1.39	-3.79	41.76								
2250	1.57	-3.58	43.85								
2260	1.58	-3.45	45.21								
2270	1.68	-3.36	46.12								
2280	1.75	-3.24	47.39								
2290	1.87	-3.14	48.52								
2300	1.95	-3.08	49.19								
2310	2.25	-2.93	50.98								
2320	2.34	-2.89	51.46								
2330	2.35	-2.9	51.24								
2340	2.38	-2.84	52.01								
2350	2.24	-2.87	51.6								
2360	1.98	-2.97	50.46								
2370	1.75	-2.88	51.54								
2380	1.64	-2.74	53.25								
2390	1.68	-2.64	54.46								
2400	1.75	-2.53	55.8								
2410	1.71	-2.47	56.65								
2420	2.17	-2.06	62.26								
2430	1.58	-2.3	58.88								
2440	1.7	-2.2	60.24								
2450	1.87	-2.19	60.39								
2460	1.94	-2.13	61.19								
2470	1.86	-2.05	62.38								
2480	1.74	-1.98	63.42								
2490	1.74	-1.96	63.66								
2500	1.81	-2.02	62.82								
2510	1.56	-2.02	62.74								
2520	1.47	-2.1	61.66								

2530	1.6	-2.21	60.08
2540	1.85	-2.3	58.88
2550	1.73	-2.39	57.69
2560	1.55	-2.5	56.2
2570	1.76	-2.58	55.2
2580	1.96	-2.69	53.8
2590	2	-2.78	52.69
2600	2.04	-2.87	51.64
2610	2.18	-2.95	50.75
2620	2.13	-3	50.11
2630	2.09	-3.02	49.88
2640	1.89	-3.07	49.33
2650	1.64	-3.13	48.65
2660	1.38	-3.16	48.3
2670	1.39	-3.2	47.85
2680	1.35	-3.25	47.37
2690	1.36	-3.26	47.25
2700	1.29	-3.26	47.17

6. 天线3D图：

