CREDITS TECHNOLOGY

SHEET FOR APPROVAL

（Revision：R：A0）

	CUSTOMER(客户名称)	亲觅	
	CS P/N(客户机种)	**S118W- (LDS)**	
	PART NAME(品名)		
	FREQUENCY(频率)	**LTE/GPS/DIV**	
	CREDITS NO.(物料编号)		
	DATE(日期)	**2023-10-08**	

CUSTOMER（客户确认）			
QA (品质)	**ME （结构）**	**RF （射频）**	**MANAGER （经理）**

Remark(备注)：

SHENZHEN CREDITS TECHNOLOGY CO., LTD （701 Guoxin Securities, No. 1012 Hongling Middle Road, Hongcun Community, Guiyuan Street, Luohu District, Shenzhen, China）			
QA (品质)	**ME （结构）**	**RF （射频）**	**MANAGER （经理）**

ANTENNA SPECIFICATION0

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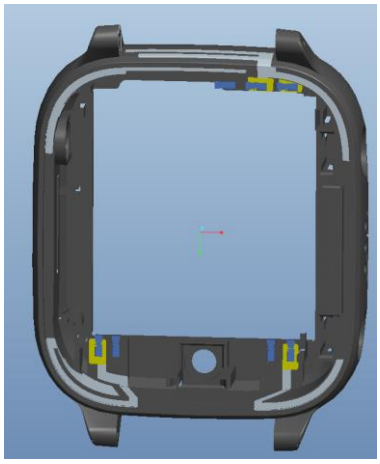
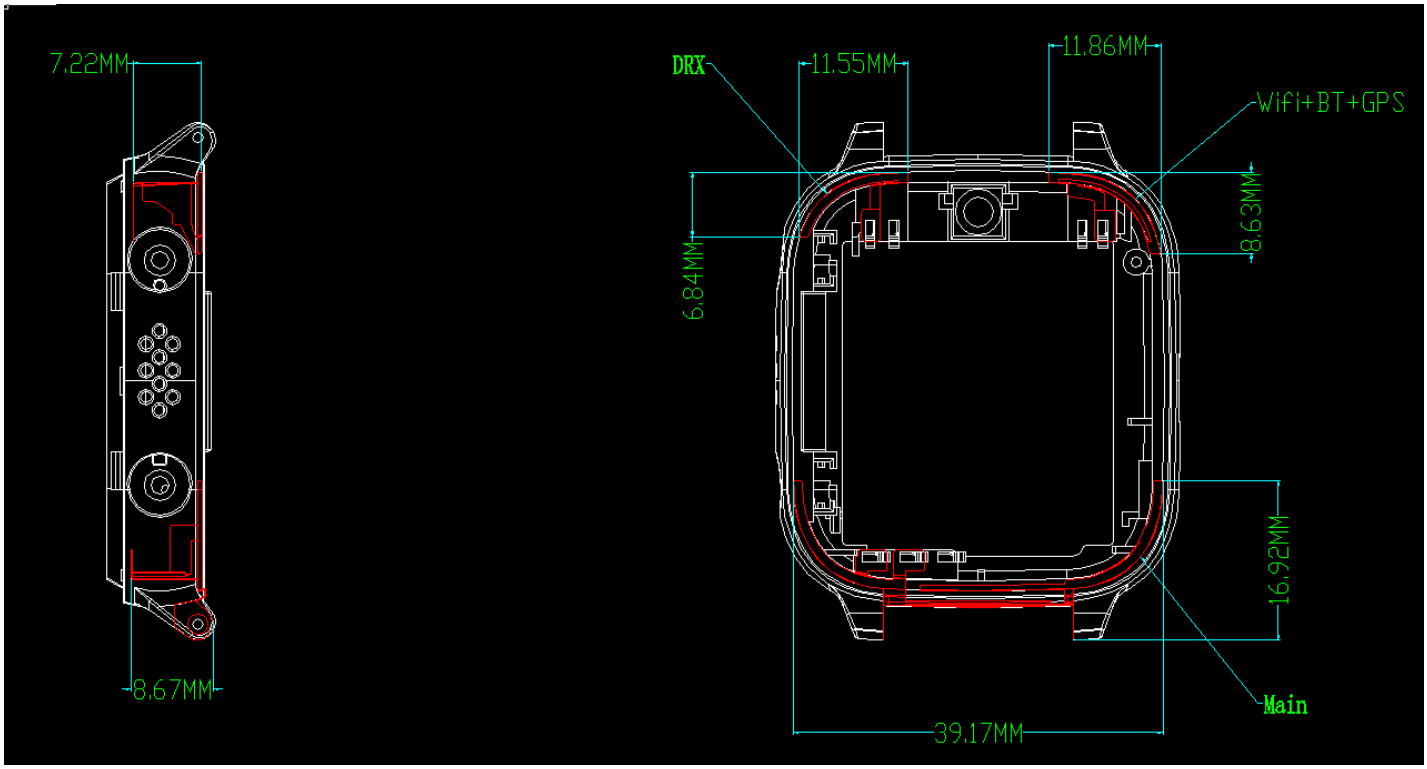
ANTENNA SPECIFICATION0

1. General *Description*

This report summarizes the electrical performance results of the proposed Internal antenna to support the S118W program. The antenna is an assembly LTE





2. *Electrical Specifications*

2-1 *Set-up*

2-1-1 *Frequency Band*

Frequency Band	Tx(MHz)	Rx(MHz)

GSM900	**880 ~ 915**	**925 ~ 960**
DCS1800	**1710 ~ 1785**	**1805 ~ 1880**
CDMA	**824 ~ 894**	

2-1-2 Impedance

Nominal Impedance(including matching circuit) : 50 ohms

2-1-3 Matching Requirements

The matching circuit on the PCB of the handset is according to Figure 1

Optimum matching circuit is highly dependent on the handset and thus.

Final matching circuit layout and values will be defined when handset is available.

客供

2-1-4 VSWR And GAIN

VSWR		**GAIN**	
Freq. Band	OPEN SPEC	**Band Freq.**	**OPEN SPEC**
880MHz	**≦3.0**	**880MHz**	**≧-1.0dBi**
960MHz	**≦3.0**	**960MHz**	**≧-1.0dBi**
1710MHz	**≦3.5**	**1710MHz**	**≧-1.0dBi**
1880MHz	**≦3.5**	**1880MHz**	**≧-1.0dBi**

※Measuring a 50Ω test jig is connected to a network analyzer to measure the VSWR

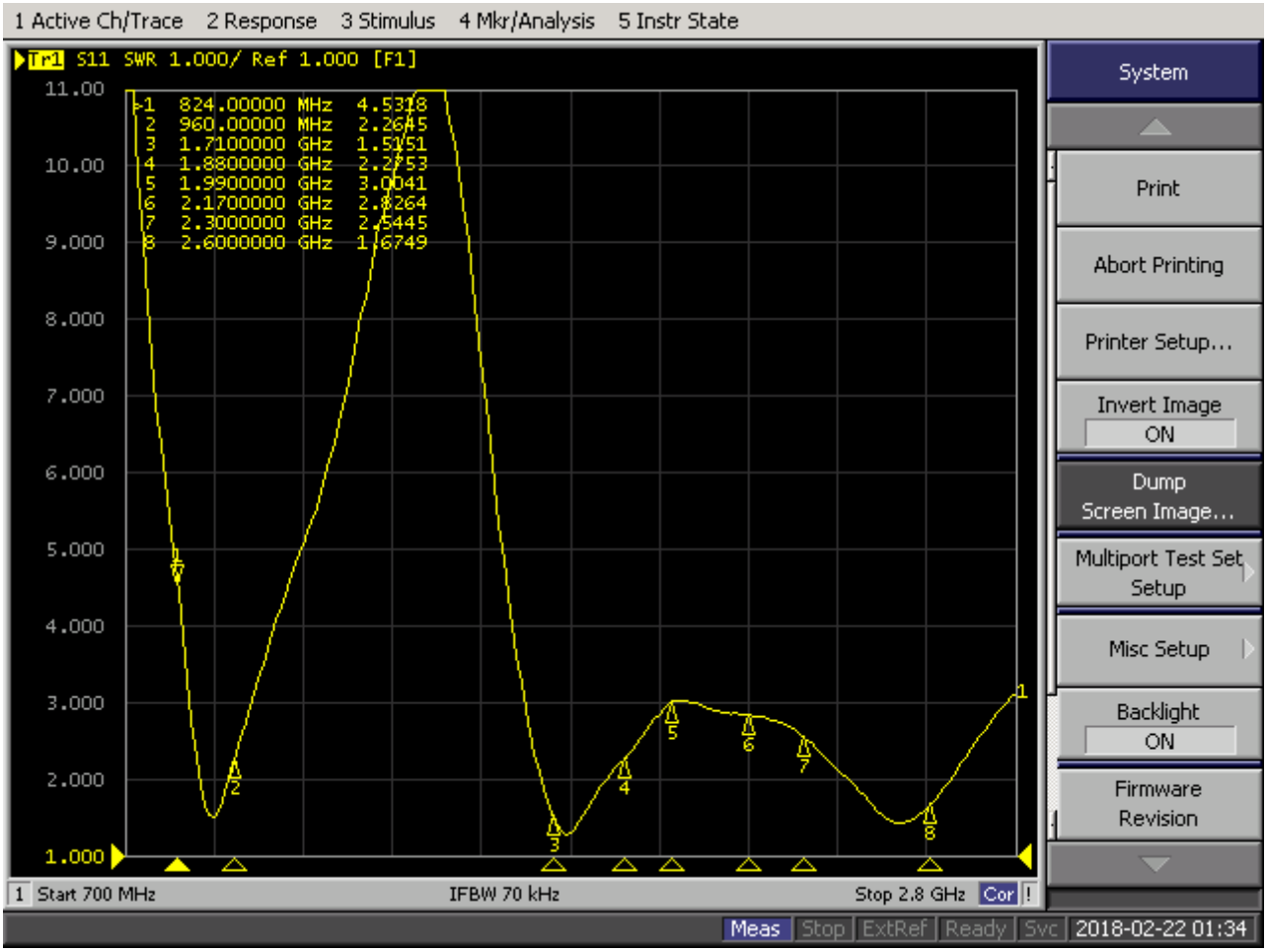
※※All test value is done in customer approval fixture.

2-2 Test Data

2-2-1 S118W VSWR

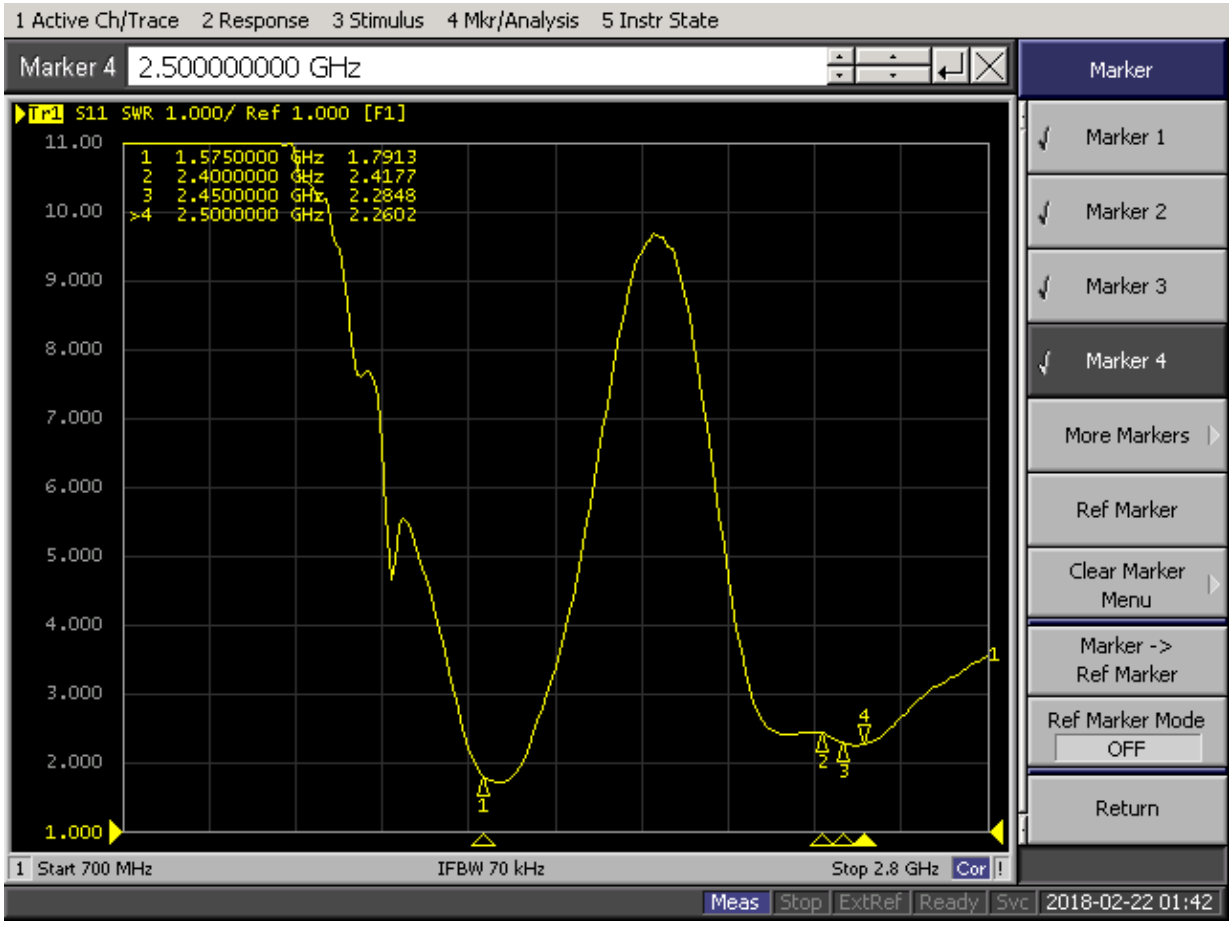
Model No:S118W	**File:**
CREDITS NO:	Note: LTE-VSWR
Sample No:	
Test Condition: Free Space	Matching: 客供
Confirmation:	Engineer:

ANTENNA SPECIFICATION0



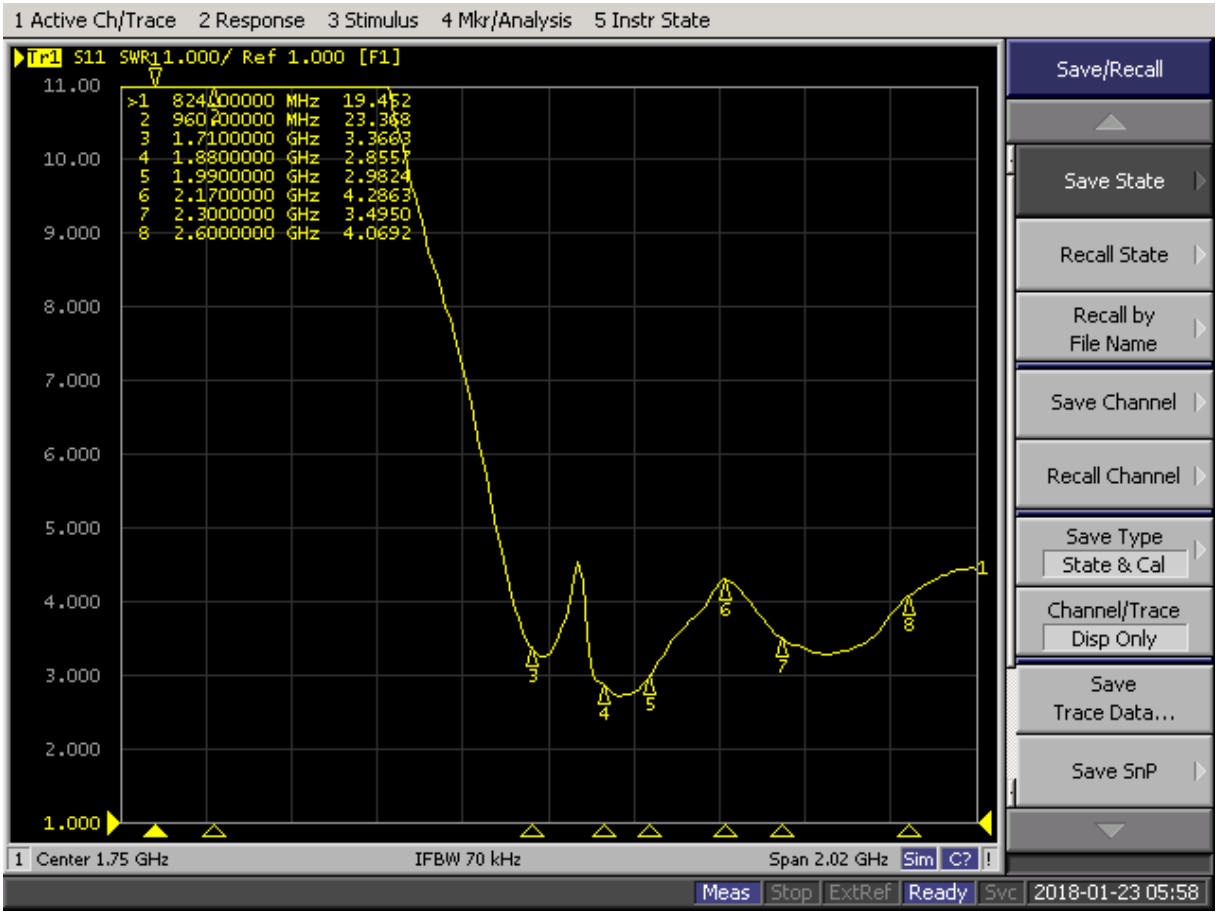
Model No:S118W	**File:**
CREDITS NO:	Note: GPS/WIFI-VSWR
Sample No:	
Test Condition: Free Space	Matching: 客供
Confirmation:	Engineer:

ANTENNA SPECIFICATION0



Model No:S118W	**File:**
CREDITS NO:	Note: DIV-VSWR
Sample No:	
Test Condition: Free Space	Matching: 客供
Confirmation:	Engineer:

ANTENNA SPECIFICATION0



2-3-1 主天线 增益(GAIN)/ 效率(EFFICIENCY)

Passive Test For LTE										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
700	8.41	-10.75	-6.93	-9.08	4.996	3.415	-6.93	-15.83	3.82	60
750	9.28	-10.32	-6.43	-8.58	5.448	3.832	-6.43	-15.12	3.89	60
800	9.5	-10.22	-6.34	-8.49	5.45	4.053	-6.34	-14.66	3.88	60
850	9.77	-10.1	-6.5	-8.65	5.472	4.299	-6.5	-14.42	3.6	60
950	10.37	-9.84	-6.67	-8.82	5.757	4.618	-6.67	-14.33	3.17	60
1700	28.7	-5.42	-1.53	-3.68	12.58	16.115	-1.53	-15.99	3.89	30
1750	29.81	-5.26	-1.63	-3.78	13.103	16.703	-1.63	-15.36	3.62	30
1800	31.31	-5.04	-1.58	-3.73	13.74	17.568	-1.58	-14.89	3.47	30
1850	26.87	-5.71	-1.83	-3.98	12.472	14.402	-1.83	-16.73	3.87	0
1900	26.5	-5.77	-1.72	-3.87	12.051	14.444	-1.72	-17.15	4.04	0
1950	26.43	-5.78	-1.71	-3.86	11.81	14.624	-1.71	-16.85	4.07	0
2000	26.15	-5.83	-1.72	-3.87	11.502	14.644	-1.72	-16.77	4.11	0
2050	26.97	-5.69	-1.6	-3.75	11.783	15.183	-1.6	-16.45	4.09	0
2100	27.32	-5.64	-1.98	-4.13	13.024	14.297	-1.98	-15.25	3.66	0
2150	27.57	-5.59	-1.9	-4.05	13.032	14.543	-1.9	-15.94	3.7	0
2200	25.15	-5.99	-2.37	-4.52	12.133	13.015	-2.37	-14.79	3.62	0
2250	23.78	-6.24	-2.86	-5.01	11.775	12.004	-2.86	-14.07	3.38	0
2300	23.02	-6.38	-3.44	-5.59	12.919	10.096	-3.44	-11.48	2.94	60
2350	23.32	-6.32	-3.49	-5.64	12.701	10.614	-3.49	-11.89	2.83	60
2400	23.27	-6.33	-3.41	-5.56	12.213	11.057	-3.41	-12.45	2.92	0
2450	23.91	-6.21	-3.04	-5.19	12.146	11.763	-3.04	-13.07	3.17	0
2500	22.83	-6.41	-0.98	-3.13	11.248	11.586	-0.98	-16	5.44	0
2550	23.69	-6.25	-0.88	-3.03	11.664	12.023	-0.88	-16.04	5.38	0
2600	21.73	-6.63	-1.15	-3.3	10.514	11.221	-1.15	-16.06	5.48	0
2650	21.17	-6.74	-1.22	-3.37	9.985	11.19	-1.22	-15.44	5.52	0

2-3-2 副天线增益(GAIN)/ 效率(EFFICIENCY)

Passive Test For Div										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
2300	24.46	-6.12	-0.79	-2.94	12.157	12.303	-0.79	-16.17	5.32	0
2350	24.42	-6.12	-0.86	-3.01	12.292	12.131	-0.86	-15.61	5.26	0
2400	25.12	-6	-0.83	-2.98	12.712	12.407	-0.83	-15.13	5.17	0
2450	26.27	-5.8	-0.78	-2.93	13.469	12.803	-0.78	-14.72	5.02	0
2500	27.23	-5.65	-0.78	-2.93	14.09	13.135	-0.78	-14.13	4.87	0
2300	28.26	-5.49	-0.7	-2.85	14.586	13.672	-0.7	-13.49	4.79	0
2350	29.05	-5.37	-0.73	-2.88	14.75	14.298	-0.73	-13.08	4.64	0
2400	29.3	-5.33	-0.8	-2.95	14.638	14.667	-0.8	-13.04	4.53	0
2450	29.88	-5.25	-0.75	-2.9	14.651	15.232	-0.75	-12.84	4.49	0
2500	30.04	-5.22	-0.86	-3.01	14.389	15.653	-0.86	-12.48	4.36	30
2550	30.01	-5.23	-1.01	-3.16	14.014	15.993	-1.01	-12.02	4.22	90
2600	30.04	-5.22	-1.09	-3.24	13.772	16.272	-1.09	-12.48	4.13	90
2650	30.22	-5.2	-1.21	-3.36	13.587	16.635	-1.21	-13.03	3.98	90
2700	30.11	-5.21	-1.43	-3.58	13.148	16.957	-1.43	-13.7	3.79	90

2-3-3 三合一增益(GAIN)/ 效率(EFFICIENCY)

Passive Test For GPS/BT										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
1570	30.96	-5.09	-0.19	-2.34	7.931	23.033	-0.19	-15.71	4.9	0
1575	31.5	-5.02	-0.14	-2.29	8.143	23.355	-0.14	-15.81	4.87	0
1580	31.45	-5.02	-0.18	-2.33	8.278	23.169	-0.18	-16.12	4.85	0
2400	29.45	-5.31	-1.26	-3.41	16.785	12.66	-1.26	-16.38	4.05	0
2420	29.83	-5.25	-1.15	-3.3	16.855	12.973	-1.15	-15.91	4.11	0
2440	28.73	-5.42	-1.29	-3.44	16.097	12.637	-1.29	-15.68	4.13	0
2460	29.29	-5.33	-1.13	-3.28	16.212	13.074	-1.13	-15.11	4.2	0
2480	29.81	-5.26	-1	-3.15	16.273	13.533	-1	-15.19	4.26	0
2500	28.59	-5.44	-1.16	-3.31	15.345	13.249	-1.16	-15.3	4.28	0

2-3-4 **TRP&TIS**

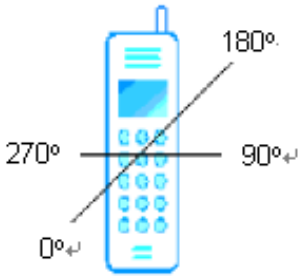
ynamic Test Report

App No: **Test Date:2023-10-08** **Operating Model: EGSM**

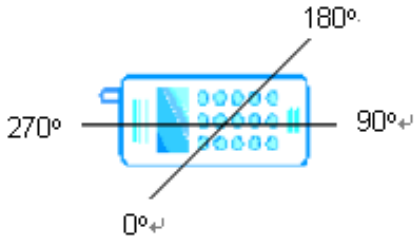
Matching Circule:

Text condition : CTIA Chamber ;

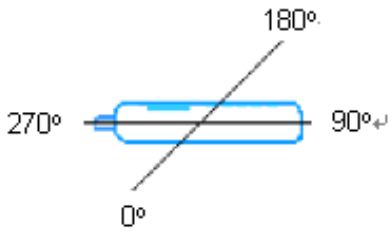
HP8960/5515C



H-Plane



E-Plane



E2-Plane

Test Result	LTE2 TRP			Test Result	LTE2 TIS	Test Result	LTE4 TRP			Test Result	LTE4 TIS
	18650	18900	19150		900		20000	20175	20350		2175
Frequency	1855	1880	1905	Frequency	1960	Frequency	1715	1732.5	1750	Frequency	2132.5
BW	10M	10M	10M	BW	10M	BW	10M	10M	10M	BW	10M
TRP(dBm)	14.97	15.05	13.7	TIS(dBm)	-89.8	TRP(dBm)	17.06	17.37	17.19	TIS(dBm)	-87.72
NHPRP(dBr	14.97	15.05	13.7	NHPIS(dBr	-89.8	NHPRP(dBr	17.06	17.37	17.19	NHPIS(dBr	-87.72
MAX(dBm)	18.02	17.62	16.38	MAX(dBm)	-92.33	MAX(dBm)	18.94	19.3	19.16	MAX(dBm)	-90.35
EIRP peak	18.02	17.62	16.38	EIS peak	-92.33	EIRP peak	18.94	19.3	19.16	EIS peak	-90.35
Min(dBm)	6.26	6.01	2.86	Min(dBm)	-74.59	Min(dBm)	8.16	7.44	9.8	Min(dBm)	-82.25
Test Result	LTE7 TRP			Test Result	LTE7 TIS	Test Result	LTE17 TRP			Test Result	LTE17 TIS
	20800	21100	21400		3100		23780	23790	23800		5790
Frequency	2505	2535	2565	Frequency	2655	Frequency	709	710	711	Frequency	740
BW	10M	10M	10M	BW	10M	BW	10M	10M	10M	BW	10M
TRP(dBm)	14.43	13.9	13.74	TIS(dBm)	-84.84	TRP(dBm)	6.32	5.29	6.57	TIS(dBm)	-77.94
NHPRP(dBr	14.43	13.9	13.74	NHPIS(dBr	-84.84	NHPRP(dBr	6.32	5.29	6.57	NHPIS(dBr	-77.94
MAX(dBm)	18.01	17.94	17.59	MAX(dBm)	-88.74	MAX(dBm)	8.39	7.85	8.6	MAX(dBm)	-79.89
EIRP peak	18.01	17.94	17.59	EIS peak	-88.74	EIRP peak	8.39	7.85	8.6	EIS peak	-79.89
Min(dBm)	-19.27	3.58	1.71	Min(dBm)	-67.94	Min(dBm)	-0.8	-12.98	-0.99	Min(dBm)	-41.05
Test Result	LTE5 TRP			Test Result	LTE5 TIS						
	20450	20525	20600		2525						
Frequency	829	836.5	844	Frequency	881.5						
BW	10M	10M	10M	BW	10M						
TRP(dBm)	6.61	7.09	6.71	TIS(dBm)	-83.23						
NHPRP(dBr	6.61	7.09	6.71	NHPIS(dBr	-83.23						
MAX(dBm)	8.8	9.26	8.68	MAX(dBm)	-85.21						
EIRP peak	8.8	9.26	8.68	EIS peak	-85.21						
Min(dBm)	-13.33	-1.27	-0.67	Min(dBm)	-41.43						

3. Mechanical Specification

3-1-1 ***Mechanical Configuration(组装图)***

3-2 ***Measurement Data***

3-3 ***Salt-Spray test***

35℃, 85%RH, 48Hours(According to MIL-STD-810E)The salt-spray is generated from a 5% salt solution., The VSWR, Gain, Radiation Pattern must be met specifications after the salt-spray test.

4. Environment Characteristic

NO.	ITEM	TEST CONDITION	SPECIFICATION
4-1	High Temperature/Humidity Storage Test(non operating)	1.Temperature: +70 ±2℃ 2.Humidity: 90~95%RH 3.Time: 48hrs	No material deformation is allowed.
4-2	Low Temperature/Humidity Storage Test(non operating)	1.Temperature: -30±2℃ 2.Humidity: 0%RH 3.Time:48hrs	The VSWR, Gain, Radiation Pattern must be met specifications after these test.

ANTENNA SPECIFICATION0

CUS P/N :S118W | ApplicationDate: 2023-10-08 | Rev: R:A0

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