

CREDITS TECHNOLOGY

SHEET FOR APPROVAL

(Revision : R : A0)

	CUSTOMER(客户名称)	亲觅	
	CS P/N(客户机种)	S133- (LDS)	
	PART NAME(品名)		
	FREQUENCY(频率)	LTE/GPS/DIV	
	CREDITS NO.(物料编号)		
	DATE(日期)	2025-5-20	

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 (深圳科瑞迪斯科技有限公司)			
QA (品质)	ME (结构)	RF (射频)	MANAGER (经理)

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

Rev: R:A0

CREDITS P/N :

Editor:

Page 1 of 7

Index

1.			General Description	1
2.			Electrical Specifications	2
	2-1		Set-up	2
		2-1-1	<i>Frequency Band</i>	2
		2-1-2	<i>Impedance</i>	2
		2-1-3	<i>Matching Requirements</i>	2
		2-1-4	<i>VSWR</i>	2
	2-2		Test Data	3to4
		2-2-1	<i>VSWR</i>	3
		2-2-2	<i>TRP&T</i>	4
3.			Mechanical Specification	5to7
	3-1		Mechanical Configuration	5
		3-1-1	Mechanical Configuration	5
		3-1-2	Mechanical Configuration	6
	3-2		Measurement Data	7
	3-3		Salt-Spray Test	7
4.			Environment Characteristics	7

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

Rev: R:A0

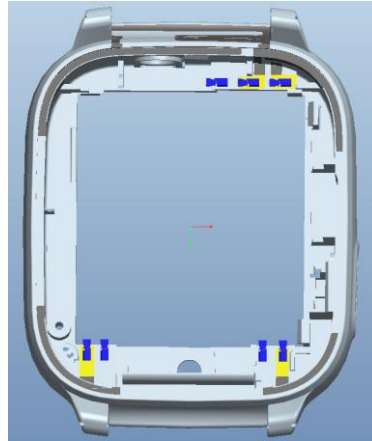
CREDITS P/N :

Editor:

Page 2 of 7

1. General Description

This report summarizes the electrical performance results of the proposed Internal antenna to support the S133 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	$\geq -1.0\text{dBi}$
960MHz	≤ 3.0	960MHz	$\geq -1.0\text{dBi}$
1710MHz	≤ 3.5	1710MHz	$\geq -1.0\text{dBi}$
1880MHz	≤ 3.5	1880MHz	$\geq -1.0\text{dBi}$

※Measuring a 50 Ω 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 S133 VSWR

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

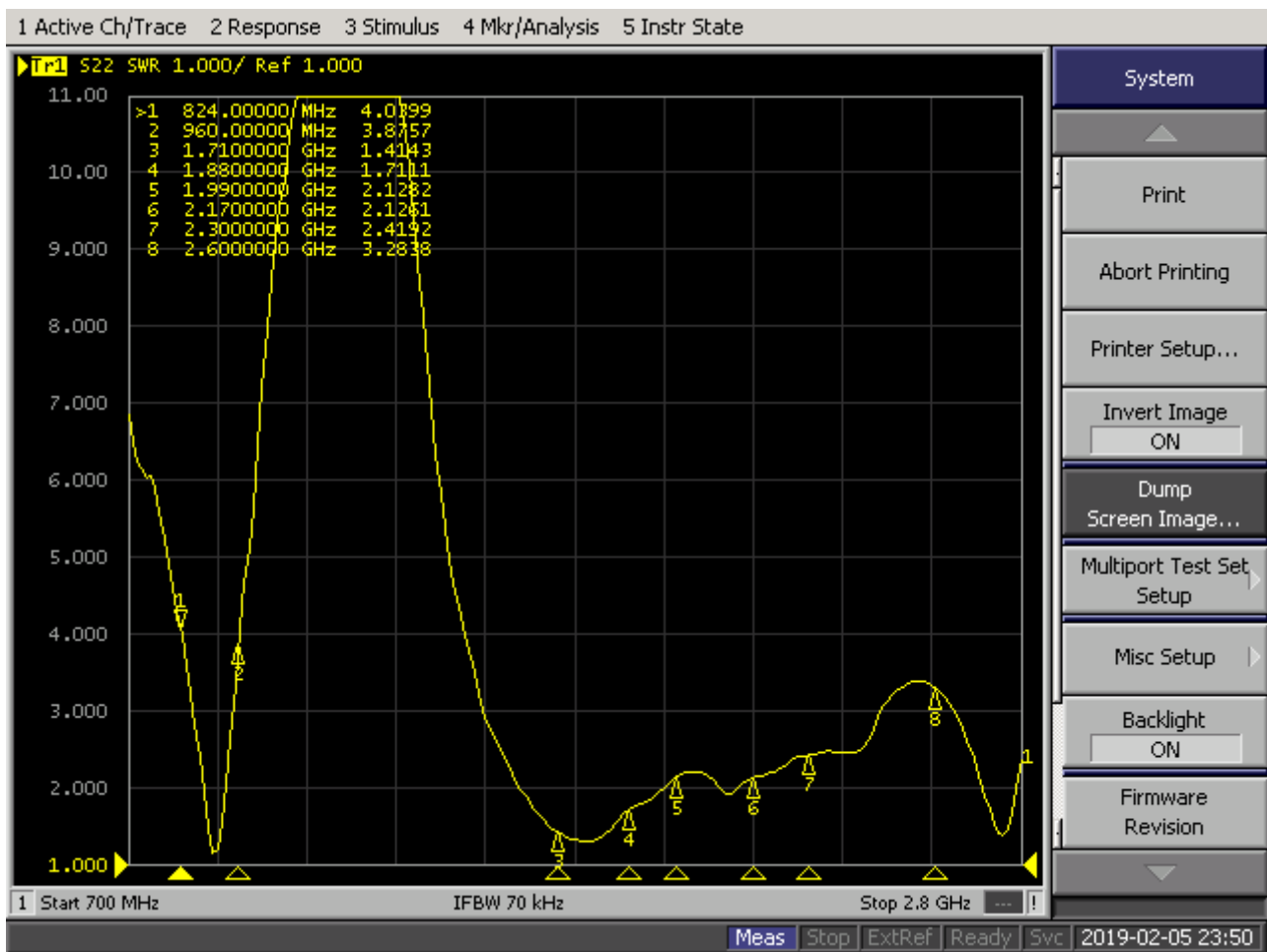
Rev: R:A0

CREDITS P/N :

Editor:

Page 3 of 7

Model No:S133	File:
CREDITS NO:	Note: LTE-VSWR
Sample No:	
Test Condition: Free Space	Matching: 客供
Confirmation:	Engineer:



Model No:S133	File:
CREDITS NO:	Note:

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

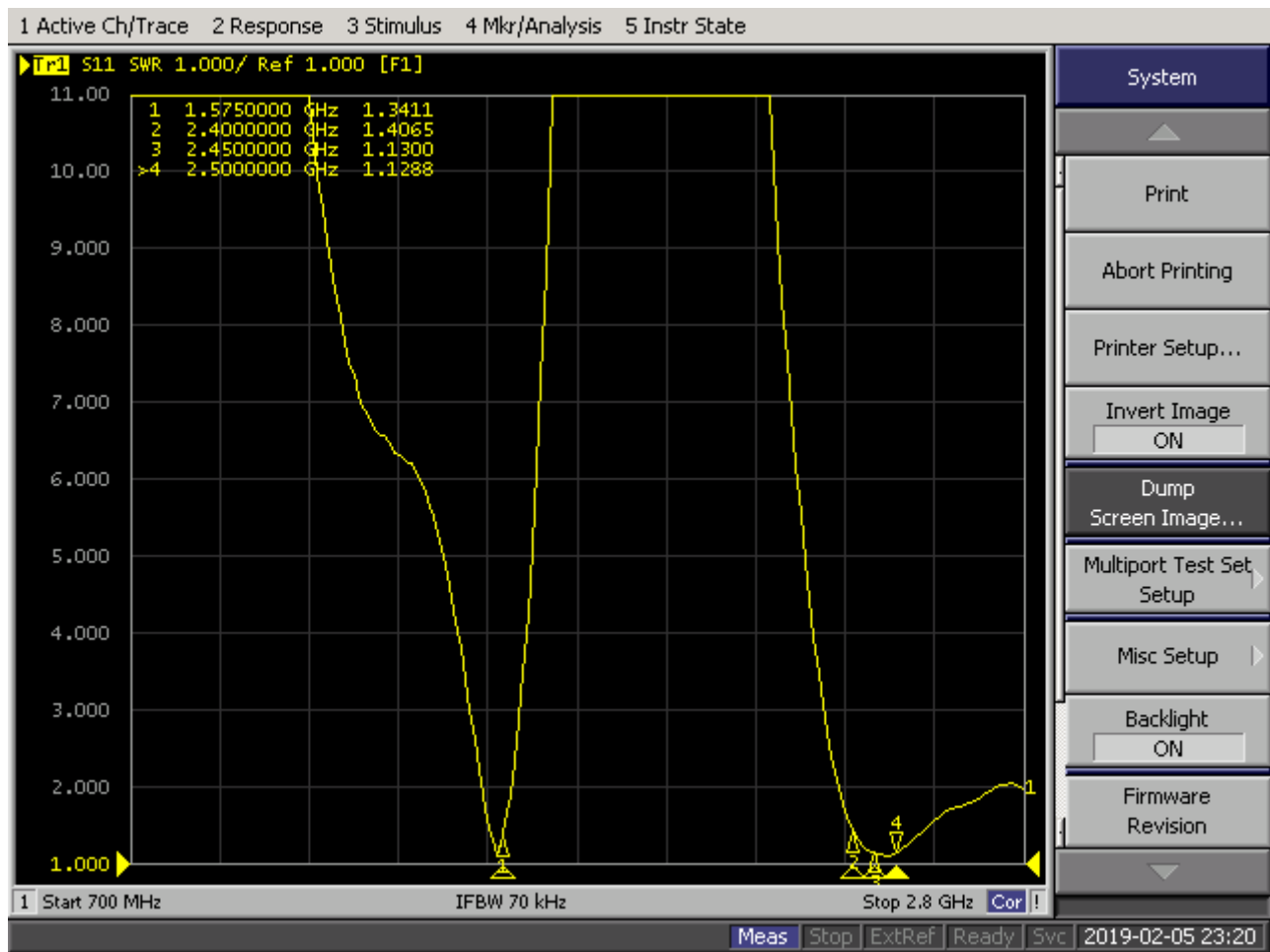
Rev: R:A0

CREDITS P/N :

Editor:

Page 4 of 7

Sample No:	GPS/WIFI-VSWR
Test Condition: Free Space	Matching: 客供
Confirmation:	Engineer:



Model No:S133

File:

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

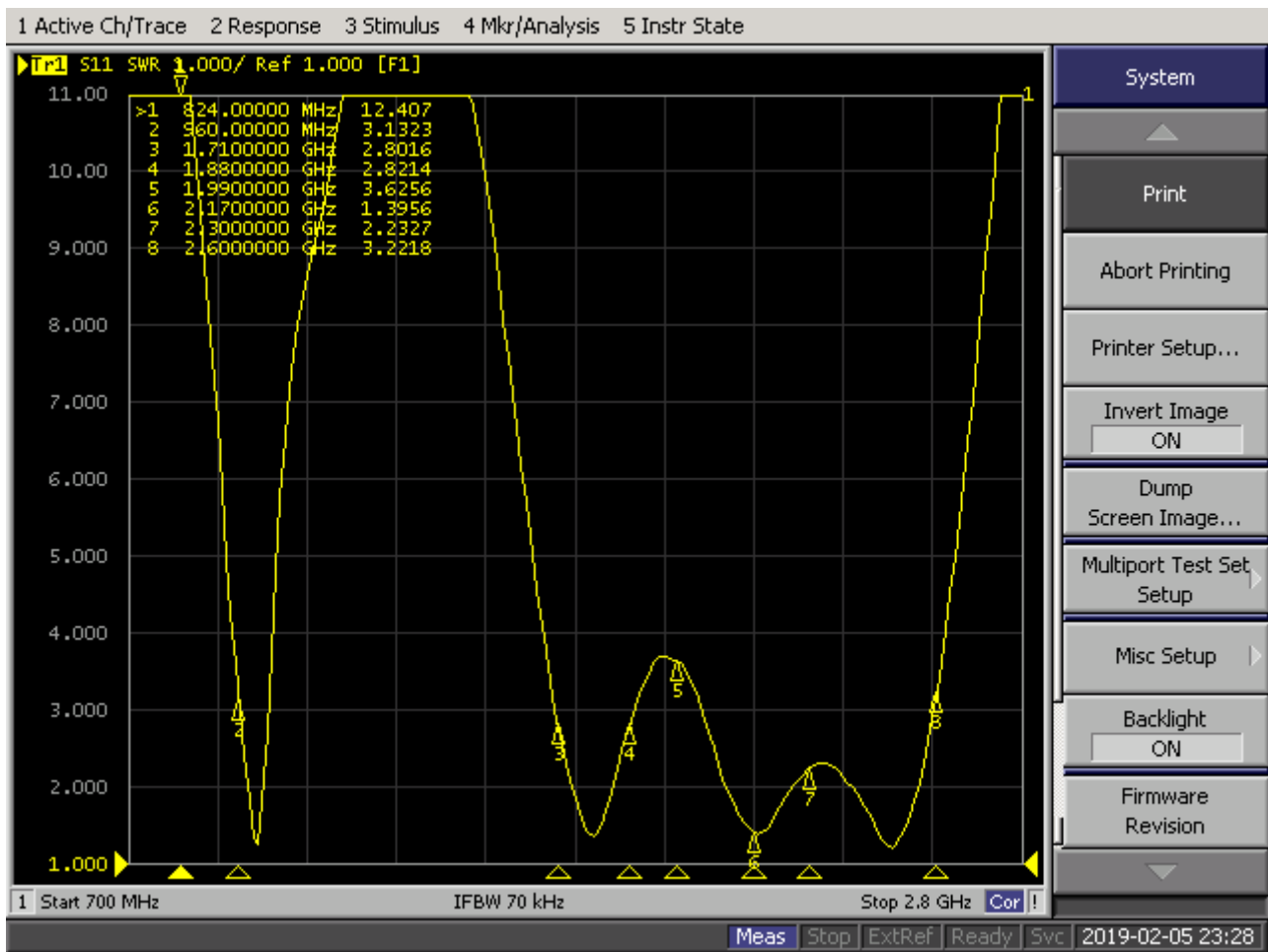
Rev: R:A0

CREDITS P/N :

Editor:

Page 5 of 7

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



2-3-1 主天线 增益(GAIN)/ 效率(EFFICIENCY)

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

Rev: R:A0

CREDITS P/N :

Editor:

Page 6 of 7

Passive Test For LTE										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)
700	9.4	-10.27	-6.38	-8.53	5.708	3.69	-6.38	-21.18	3.89	30
750	9.11	-10.4	-6.58	-8.73	5.5	3.61	-6.58	-21.98	3.82	30
800	9.4	-10.27	-6.53	-8.68	5.655	3.749	-6.53	-21.95	3.74	30
850	10.17	-9.93	-6.33	-8.48	6.068	4.104	-6.33	-21.71	3.6	30
900	10.79	-9.67	-6.17	-8.32	6.405	4.381	-6.17	-21.49	3.5	30
950	11.79	-9.28	-5.84	-7.99	6.992	4.803	-5.84	-21.14	3.45	30
1700	24.68	-6.08	-3.29	-5.44	13.365	11.317	-3.29	-16.72	2.79	30
1750	26.18	-5.82	-3.02	-5.17	14.04	12.136	-3.02	-16.32	2.8	30
1800	26.89	-5.7	-2.84	-4.99	14.248	12.642	-2.84	-16.18	2.86	30
1850	27.68	-5.58	-2.69	-4.84	14.472	13.21	-2.69	-16.49	2.89	30
1900	28.32	-5.48	-2.57	-4.72	14.62	13.696	-2.57	-16.93	2.91	30
1950	28.53	-5.45	-2.5	-4.65	14.527	14.007	-2.5	-17.46	2.95	30
2000	28.75	-5.41	-2.42	-4.57	14.486	14.266	-2.42	-17.91	2.99	30
2050	29.92	-5.24	-2.24	-4.39	15.018	14.899	-2.24	-18.26	3	30
2150	31.16	-5.06	-2.07	-4.22	15.637	15.525	-2.07	-18.42	2.99	30
2200	32.12	-4.93	-1.94	-4.09	16.112	16.005	-1.94	-18.48	3	30
2250	32.78	-4.84	-1.89	-4.04	16.433	16.347	-1.89	-18.57	2.95	30
2300	32.51	-4.88	-1.97	-4.12	16.265	16.244	-1.97	-18.44	2.91	30
2350	32.09	-4.94	-2.06	-4.21	15.953	16.14	-2.06	-18.26	2.88	60
2400	32.12	-4.93	-2.1	-4.25	15.798	16.324	-2.1	-18.12	2.84	60
2450	31.97	-4.95	-2.16	-4.31	15.576	16.394	-2.16	-18.03	2.8	60
2500	32.1	-4.93	-2.17	-4.32	15.509	16.596	-2.17	-17.88	2.77	60
2550	32.76	-4.85	-2.11	-4.26	15.658	17.099	-2.11	-17.43	2.74	60
2600	32.84	-4.84	-2.13	-4.28	15.544	17.3	-2.13	-17.17	2.71	60

2-3-2 副天线增益(GAIN)/ 效率(EFFICIENCY)

Passive Test For LTE										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)
2300	31.16	-5.06	-2.07	-4.22	15.637	15.525	-2.07	-18.42	2.99	30
2350	32.12	-4.93	-1.94	-4.09	16.112	16.005	-1.94	-18.48	3	30
2400	32.78	-4.84	-1.89	-4.04	16.433	16.347	-1.89	-18.57	2.95	30
2450	32.51	-4.88	-1.97	-4.12	16.265	16.244	-1.97	-18.44	2.91	30
2500	32.09	-4.94	-2.06	-4.21	15.953	16.14	-2.06	-18.26	2.88	60
2550	32.12	-4.93	-2.1	-4.25	15.798	16.324	-2.1	-18.12	2.84	60
2600	31.97	-4.95	-2.16	-4.31	15.576	16.394	-2.16	-18.03	2.8	60

2-3-3 三合一增益(GAIN)/ 效率(EFFICIENCY)

Passive Test For GPS/WIFI												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
1560	24.92	-6.03	-3.26	-5.41	8.626	16.297	-3.26	-15.89	2.78	60	45.68	47.39
1570	24.49	-6.11	-3.35	-5.5	8.579	15.91	-3.35	-16.13	2.76	60	45.57	47.36
1580	24.2	-6.16	-3.41	-5.56	8.605	15.594	-3.41	-16.31	2.75	90	45.47	47.38
2400	22.74	-6.43	-3.38	-5.53	8.233	14.504	-3.38	-16.36	3.05	90	45.37	47.32
2450	22.28	-6.52	-3.37	-5.52	8.043	14.241	-3.37	-16.45	3.15	60	45.36	47.31
2500	21.3	-6.72	-3.52	-5.67	7.687	13.61	-3.52	-16.49	3.2	60	45.43	47.42

2-3-4 TRP&TIS

ynamic Test Report

App No:

Test Date:2025-5-20

Operating Model: EGSM

Matching Circule:

ANTENNA SPECIFICATION0

CUS P/N :S133

CREDITS P/N :

ApplicationDate: 2025-5-20

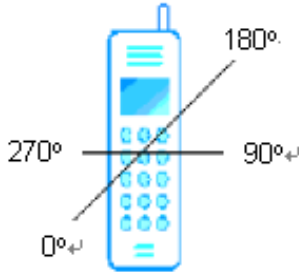
Editor:

Rev: R:A0

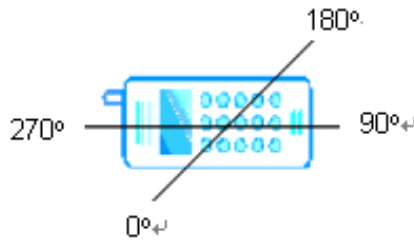
Page 7 of 7

Text condition : CTIA Chamber ;

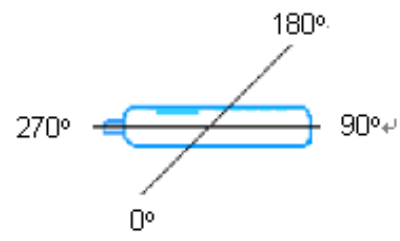
HP8960/5515C



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)	14.6	15.08	15.48	TIS (dBm)	-94.25	TRP (dBm)	15.31	15.88	15.87	TIS (dBm)	-92.47
NHPRP (dBm)	14.6	15.08	15.48	NHPIS (dBm)	-94.25	NHPRP (dBm)	15.31	15.88	15.87	NHPIS (dBm)	-92.47
MAX (dBm)	17.25	17.71	18.53	MAX (dBm)	-97.16	MAX (dBm)	17.54	18.26	18.37	MAX (dBm)	-95.61
EIRP peak	17.25	17.71	18.53	EIS peak	-97.16	EIRP peak	17.54	18.26	18.37	EIS peak	-95.61
Min (dBm)	7.97	8.44	4.67	Min (dBm)	-87.9	Min (dBm)	9.55	10.36	10.17	Min (dBm)	-87.42
Test Result	LTE5 TRP			Test Result	LTE5 TIS	Test Result	LTE7 TRP			Test Result	LTE7 TIS
	20450	20525	20600		2525		20800	21100	21400		3100
Frequency	829	836.5	844	Frequency	881.5	Frequency	2505	2535	2565	Frequency	2655
BW	10M	10M	10M	BW	10M	BW	10M	10M	10M	BW	10M
TRP (dBm)	7.89	7.64	7.15	TIS (dBm)	-82.44	TRP (dBm)	16.61	18.09	18.64	TIS (dBm)	-88.45
NHPRP (dBm)	7.89	7.64	7.15	NHPIS (dBm)	-82.44	NHPRP (dBm)	16.61	18.09	18.64	NHPIS (dBm)	-88.45
MAX (dBm)	10.01	9.71	9.14	MAX (dBm)	-84.52	MAX (dBm)	19.08	20.97	21.46	MAX (dBm)	-91.33
EIRP peak	10.01	9.71	9.14	EIS peak	-84.52	EIRP peak	19.08	20.97	21.46	EIS peak	-91.33
Min (dBm)	2.82	3.42	-1.89	Min (dBm)	-77.52	Min (dBm)	14.34	15.47	16.16	Min (dBm)	-85.17
Test Result	LTE12 TRP			Test Result	LTE12 TIS	Test Result	LTE17 TRP			Test Result	LTE17 TIS
	23060	23095	23130		5095		23780	23790	23800		5790
Frequency	703	706.5	710	Frequency	736.5	Frequency	709	710	711	Frequency	740
BW	10M	10M	10M	BW	10M	BW	10M	10M	10M	BW	10M
TRP (dBm)	5.53	6.89	8.14	TIS (dBm)	-78.93	TRP (dBm)	7.04	7.6	8.19	TIS (dBm)	-81.54
NHPRP (dBm)	5.53	6.89	8.14	NHPIS (dBm)	-78.93	NHPRP (dBm)	7.04	7.6	8.19	NHPIS (dBm)	-81.54
MAX (dBm)	7.18	8.98	9.78	MAX (dBm)	-82.65	MAX (dBm)	8.62	9.4	9.81	MAX (dBm)	-84.36
EIRP peak	7.18	8.98	9.78	EIS peak	-82.65	EIRP peak	8.62	9.4	9.81	EIS peak	-84.36
Min (dBm)	-0.66	-12.73	0.77	Min (dBm)	-41.09	Min (dBm)	-0.3	-4.44	2.08	Min (dBm)	-41.05
Test Result	LTE13 TRP			Test Result	LTE13 TIS	Test Result	LTE66 TRP			Test Result	LTE66 TIS
	23230				5230		132022	132422	132822		66886
Frequency	782			Frequency	751	Frequency	1715	1755	1795	Frequency	2155
BW	10M			BW	10M	BW	10M	10M	10M	BW	10M
TRP (dBm)	9.01			TIS (dBm)	-82.95	TRP (dBm)	14.14	14.67	15.04	TIS (dBm)	-94.93
NHPRP (dBm)	9.01			NHPIS (dBm)	-82.95	NHPRP (dBm)	14.14	14.67	15.04	NHPIS (dBm)	-94.93
MAX (dBm)	10.87			MAX (dBm)	-85.58	MAX (dBm)	17.06	18.34	18.82	MAX (dBm)	-97.53
EIRP peak	10.87			EIS peak	-85.58	EIRP peak	17.06	18.34	18.82	EIS peak	-97.53
Min (dBm)	-7.79			Min (dBm)	-55.83	Min (dBm)	8.57	8.59	8.78	Min (dBm)	-85.02

3. Mechanical Specification

3-1-1 Mechanical Configuration(组装图)

3-2 Measurement Data

ANTENNA SPECIFICATION0

CUS P/N :S133

ApplicationDate: 2025-5-20

Rev: R:A0

CREDITS P/N :

Editor:

Page 8 of 7

3-3 *Salt-Spray test*

35°C, 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°C 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°C 2.Humidity: 0%RH 3.Time:48hrs	The VSWR, Gain, Radiation Pattern must be met specifications after these test.

ANTENNA SPECIFICATION0

CUS P/N :S133

CREDITS P/N :

ApplicationDate: 2025-5-20

Editor:

Rev: R:A0

Page 9 of 7

