

SPECIFICATION

SHEET FOR APPROVAL

(Revision: R: A1)

CUSTOMER(客户名称)	广州通则康威智能科技有限公司	
CS P/N(客户机种)	S20-TCL	T22
PART NAME(品名)	Antenna bracket assembly	
FREQUENCY(频率)	700-960+1710-2690MHz	
ZTX NO.(物料编号)	2.00005632	01.52301346
DATE(日期)	2022-08-09	

CUSTOMER			
QA CHECKED	ME CHECKED	RF CHECKED	MANAGER CHECKED

Remark(备注):

Sign(客户确认签字盖章): _____

ZHONG TIAN XUN TECHNOLOGY CO., LTD				
MANAGER CHECKED	MANAGER CHECKED	ME CHECKED	RF CHECKED	LISTER
		刘亭茹 TINGRU LIU	黄琼 QIONG HUANG	



深圳市中天迅通信科技股份有限公司
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ANTENNA SPECIFICATION

CUS P/N :S20-TCL Antenna bracket assembly
ZTX P/N :S20-TCL Antenna bracket assembly

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Revision history

NO	Date	State
A1	2022- 07-23	The first edition



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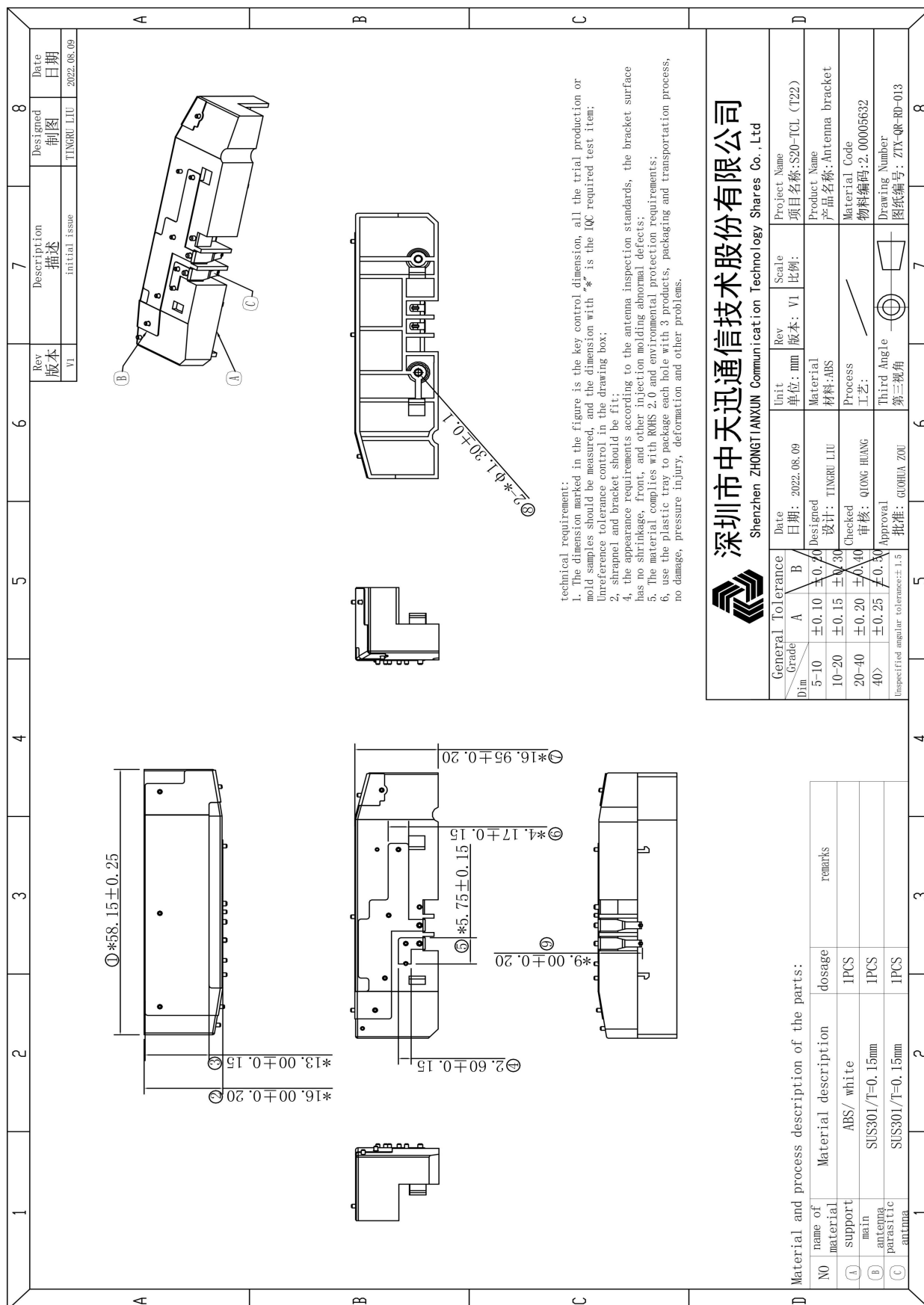
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1-1 Mechanical Configuration (S20-TCL Antenna bracket assembly)



 **深圳市中天迅通信股份有限公司**
Shenzhen ZHONGTI ANXUN Communication Technology Shares Co., Ltd

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2.Antenna test data

2-1 Test Data

	信道	FS(free space)	
		TRP	TIS
GSM900	975	27. 68	
	38	27. 24	
	124	26. 64	-101. 8
DCS1800	512	24. 82	
	699	25. 27	
	885	25. 31	-105. 17
PCS1900	512	26. 87	
	661	26. 31	
	810	26. 54	-102. 59
	信道	FS(free space)	
		TRP	TIS
WCDMA B1	9612	20. 12	
	9750	19. 36	
	9888	20. 28	-104. 81
WCDMA B8	2712	19. 36	
	2788	18. 71	
	2863	18. 82	-104. 15
	信道	FS(free space)	
		TRP	TIS
FDD B1	18050	19. 88	
	18300	19. 02	
	18550	20. 17	-94. 12
FDD B3	19250	20. 11	
	19575	19. 84	
	19900	20. 9	-94. 52
FDD B7	20800	19. 45	
	21100	19. 66	
	21400	20. 17	-93. 88



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	信道	FS(free space)	
		TRP	TIS
FDD B8	21500	20. 51	
	21625	19. 47	
	21750	18. 94	-94. 2
FDD B20	24200	19. 46	
	24300	18. 97	
	24400	19. 02	-92. 38
FDD B28A	27260	18. 03	
	27320	18. 49	
	27385	18. 18	-92. 1
	信道	FS(free space)	
		TRP	TIS
FDD B28B	27485	19. 05	
	27550	18. 49	
	27610	18. 08	-93. 69
TDD B38	37850	19. 28	
	38000	19. 38	
	38150	18. 8	-90. 85
FDD B40	38750	18. 47	
	39150	18. 62	
	39550	18. 39	-90. 92
	信道	FS(free space)	
		TRP	TIS
TDD B41	40340	19. 69	
	40620	19. 12	
	41100	18. 72	-91. 13



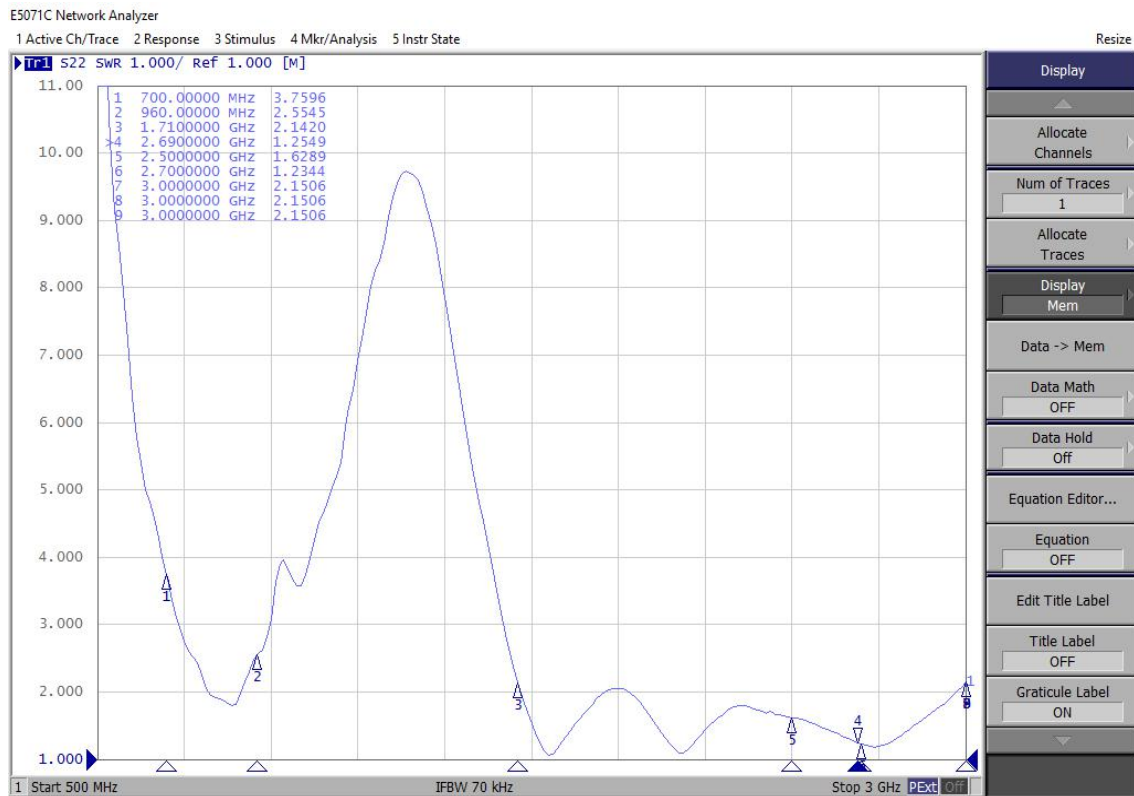
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2-2 VSWR



2-3 No-source test data

Frequency	Efficiency	Efficiency	Gain . dB	Frequency	Efficiency	Efficiency	Gain . dB
7E+08	38%	-4.23	1.38	1.71E+09	45%	-3.45	3.74
7.1E+08	39%	-4.07	2.09	1.72E+09	44%	-3.55	3.64
7.2E+08	41%	-3.87	2.39	1.73E+09	47%	-3.26	3.83
7.3E+08	43%	-3.62	2.05	1.74E+09	48%	-3.19	3.90
7.4E+08	46%	-3.41	1.95	1.75E+09	51%	-2.89	4.16
7.5E+08	47%	-3.28	2.14	1.76E+09	50%	-3.02	3.89
7.6E+08	48%	-3.16	2.26	1.77E+09	52%	-2.82	4.00
7.7E+08	50%	-3.02	2.46	1.78E+09	54%	-2.68	4.13
7.8E+08	51%	-2.92	2.42	1.79E+09	55%	-2.61	4.14
7.9E+08	52%	-2.85	2.40	1.8E+09	57%	-2.47	4.26
8E+08	53%	-2.77	2.93	1.81E+09	58%	-2.40	4.42
8.1E+08	55%	-2.57	3.41	1.82E+09	59%	-2.28	4.47
8.2E+08	55%	-2.57	3.40	1.83E+09	58%	-2.37	4.25
8.2E+08	59%	-2.28	3.57	1.84E+09	59%	-2.27	4.40
8.3E+08	55%	-2.63	3.03	1.85E+09	60%	-2.22	4.58
8.4E+08	54%	-2.68	2.64	1.86E+09	60%	-2.24	4.66
8.5E+08	53%	-2.73	2.56	1.87E+09	59%	-2.28	4.61
8.6E+08	54%	-2.70	2.79	1.88E+09	58%	-2.38	4.34
8.7E+08	54%	-2.67	3.04	1.89E+09	58%	-2.36	4.17
8.8E+08	52%	-2.81	2.81	1.9E+09	60%	-2.25	4.42
8.9E+08	51%	-2.90	2.59	1.91E+09	60%	-2.21	4.53
8.9E+08	51%	-2.92	2.98	1.92E+09	60%	-2.24	4.56
9E+08	51%	-2.94	3.04	1.93E+09	61%	-2.17	4.55
9.1E+08	50%	-2.98	3.20	1.94E+09	63%	-2.01	4.58
9.2E+08	49%	-3.09	2.81	1.95E+09	61%	-2.14	4.40
9.3E+08	48%	-3.22	2.34	1.96E+09	59%	-2.28	4.30
9.4E+08	47%	-3.32	2.55	1.97E+09	60%	-2.23	4.44
9.5E+08	45%	-3.46	2.51	1.98E+09	62%	-2.11	4.64
9.6E+08	42%	-3.76	2.32	1.99E+09	61%	-2.18	4.58
				2E+09	61%	-2.17	4.14
				2.01E+09	62%	-2.09	4.04
				2.02E+09	62%	-2.11	3.78
				2.03E+09	61%	-2.18	3.83
				2.04E+09	62%	-2.11	3.77
				2.05E+09	64%	-1.91	3.85
				2.06E+09	65%	-1.89	3.82



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Frequency	Efficiency	Efficiency	Gain . dB	Frequency	Efficiency	Efficiency	Gain . dB
2.07E+09	61%	-2.11	3.63	2.41E+09	47%	-3.24	1.30
2.08E+09	60%	-2.22	3.51	2.42E+09	50%	-3.01	1.59
2.09E+09	61%	-2.12	3.51	2.43E+09	52%	-2.80	2.03
2.1E+09	64%	-1.92	3.58	2.44E+09	50%	-3.04	1.93
2.11E+09	63%	-1.99	3.25	2.45E+09	50%	-3.02	1.62
2.12E+09	63%	-2.02	3.10	2.46E+09	48%	-3.16	1.88
2.13E+09	63%	-1.99	3.45	2.47E+09	50%	-2.97	1.94
2.14E+09	63%	-1.98	3.37	2.48E+09	50%	-3.03	1.75
2.15E+09	64%	-1.97	3.15	2.49E+09	50%	-3.03	1.55
2.16E+09	62%	-2.08	2.76	2.5E+09	50%	-3.02	1.64
2.17E+09	64%	-1.93	2.97	2.51E+09	49%	-3.07	1.81
2.18E+09	64%	-1.95	3.05	2.52E+09	51%	-2.94	1.76
2.19E+09	65%	-1.88	3.25	2.53E+09	48%	-3.18	1.56
2.2E+09	62%	-2.05	3.05	2.54E+09	50%	-2.98	1.88
2.21E+09	61%	-2.14	2.55	2.55E+09	51%	-2.91	1.92
2.22E+09	59%	-2.29	2.26	2.56E+09	53%	-2.76	1.87
2.23E+09	57%	-2.47	1.69	2.57E+09	52%	-2.80	1.89
2.24E+09	59%	-2.31	2.07	2.58E+09	52%	-2.84	2.04
2.25E+09	56%	-2.50	1.90	2.59E+09	53%	-2.75	1.99
2.26E+09	57%	-2.44	2.24	2.6E+09	52%	-2.86	1.64
2.27E+09	56%	-2.54	2.15	2.61E+09	52%	-2.87	1.58
2.28E+09	54%	-2.64	2.21	2.62E+09	52%	-2.85	1.43
2.29E+09	53%	-2.80	1.78	2.63E+09	53%	-2.74	1.57
2.3E+09	51%	-2.89	1.45	2.64E+09	53%	-2.80	1.69
2.31E+09	53%	-2.79	1.64	2.65E+09	52%	-2.82	1.81
2.32E+09	49%	-3.07	1.28	2.66E+09	54%	-2.71	2.03
2.33E+09	52%	-2.88	1.51	2.67E+09	55%	-2.62	2.14
2.34E+09	52%	-2.81	1.65	2.68E+09	54%	-2.69	2.22
2.35E+09	53%	-2.74	1.77	2.69E+09	54%	-2.66	2.44
2.36E+09	51%	-2.89	1.39				
2.37E+09	48%	-3.22	1.12				
2.38E+09	50%	-3.04	1.34				
2.39E+09	50%	-3.02	1.54				
2.4E+09	52%	-2.83	1.84				

2-4 Matching circuit

N/A

2-5 Environment treatment

N/A



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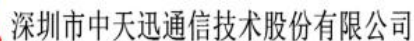
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3.FAI



SHENZHEN ZHONGTIAN XUN Communication Technology Co.,Ltd.

FAI

Customer Name		TONGZHE			Product Name		S20-TCL(T22) Antenna bracket assembly				Amount		5SET			
Product Material		Plastic support			Color		White				Date		2022/7/22			
product type: ☒ New appearance product ☐ Modified shape product ☐ Production ☐ Product style																
NO	type	Required size	+Tolerance	-Tolerance	measured size										Decision	comment
					1	2	3	4	5	6	7	8	9	10		
1	*	58.15	0.25	-0.25	58.13	58.06	58.09	58.08	58.11						OK	
2	*	16.00	0.20	-0.20	16.10	16.11	16.10	16.09	16.12						OK	
3	*	13.00	0.15	-0.15	12.97	13.00	12.98	13.00	12.98						OK	
4		2.60	0.15	-0.15	2.58	2.59	2.60	2.58	2.59						OK	
5	*	5.75	0.15	-0.15	5.72	5.76	5.74	5.74	5.75						OK	
6	*	4.17	0.15	-0.15	4.16	4.18	4.17	4.18	4.18						OK	
7	*	16.95	0.20	-0.20	16.95	16.93	16.96	16.97	16.94						OK	
8	*Ø	1.30	0.10	-0.10	1.34	1.35	1.34	1.36	1.34						OK	
8	*Ø	1.30	0.10	-0.10	1.34	1.34	1.35	1.34	1.35						OK	
9		9.00	0.20	-0.20	8.81	8.82	8.83	8.84	8.82						OK	
11																
12																
13																
14																
15																
16																
17																
18																
Total judgment: ☒ OK ☐ NG ratify: Deng Xiaohua check:Yi Ailing make: Li Li Hua comment:																

Form number : ZTX-QR-QA-016 Version: A1



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4. Test Report



深圳市中天迅通信技术有限公司
SHENZHEN ZHONGTIAN XUN Communication Technology Co., Ltd.

测试报告(Test Report)															
样品名称 (Product name)		Antenna bracket assembly		样品型号 (Part Model)		S20-TCL (T22)		环境温度 (Ambient temperature)		20±5℃		测试日期 (Date of test)		2022/9/12	
样品数量 (Specimens quantity)		12PCS		客户料号 (Customer number)		/		相对湿度 (Relative humidity)		50-60%RH		委托单位 (Client/Dept)		品质部	
测试原因 (Test reasons)				■新型号/材料验证 ☐ 新工艺验证 ☐ ORT测试 ☐ 过期物料 ☐ 客户投诉/要求 ☐ 高不良率 ☐ 其他: 定期可行性分析 ■ New model / material verification ☐ New process Verification ☐ ORT test ☐ Expired materials ☐ Customer complaints / requirements ☐ High failure rate ☐ Other: <u>regular feasibility analysis</u>				测试依据 (Test documentation)				☐ 产品图纸 ☐ 天线可靠性检验基准书 ■ 客户要求 ☐ 出货检验基准书 ☐ 其他: ☐ Product drawings ☐ antenna reliability inspection reference book ■ The Customer requests the ☐ shipment inspection benchmark document ☐ other:			
序号 (NO)	测试项目 (Test project)	样品数 (Samples Qty.)	测试仪器 (Test equipment)	测试条件与要求 (Test condition and note)				测试结果 (Test result)	结论 (Conclude) (Pass/Fail)	样品图片/实测值 Sample pictures / the measured values					
1	盐雾测试 Salt Spray Test	3 PCS	盐雾测试仪 Salt spray tester	1.将产品以30度±5度放置于试验箱 2.调试好试验箱参数: NaCl (无水); 浓度5%±1%; pH值: 6.5~7.2; 试验箱温度: 35±1℃; 压缩空气压力:1.0±0.01(KG/M2)喷雾量: 1.0~2.0ML/80CM2/H.相对湿度:85%±2%;试验品放置角度:30度+/-10度 3.放置时间为24小时. 4.清洗后在室温条件下放置2H观察 要求: 镀(涂)层无脱落、起泡、腐蚀、氧化等不良现象; 产品表面不可有锈斑等不良现象 1. Place the product in the test chamber at 30 ° ± 5 ° 2. Adjust the parameters of the test chamber: NaCl (no water); Concentration 5%±1%; pH value: 6.5 ~ 7.2; Laboratory temperature: 35±1℃; Compressed air pressure :1.0±0.01(KG/M2) spray volume :1.0 ~ 2.0ML/80CM2/H. Relative humidity :85%±2%; Test product placement Angle :30 degrees +/-10 degrees 3. The storage time is 24 hours. 4. After cleaning, place in room temperature for 2 hours for observation. Requirements: plating (coating) layer without shedding, foaming, corrosion, oxidation and other undesirable phenomena; Product surface shall not have rust spots and other undesirable phenomena				均未出现镀层脱落及氧化现象。 No coating shedding and oxidation occurred.	Pass	  					
2	高温测试 High temperat ure test	3 PCS	高低温交变湿热试 验箱 High and low temperature alternating humidity and heat test chamber	1.将样品放入高温 75 °C±3℃ 的环境中保持2小时后取出 2.在室温条件下放置2H. 1. Put the sample into a high temperature environment of 75 °C±3℃ for 2 hours and then take it out 2. Store at room temperature for 2 hours.				产品表面无起皱, 无起泡, 无起翘, 无脱落。 Product surface no wrinkle, no bubbling, no warping, no shedding.	Pass	  					
3	低温测试 low temperat ure test	3 PCS	低温冰箱 cryogenic refrigerator	1.将样品放入低温 -40 °C±3℃ 的环境中保持2小时后取出 2.在室温条件下放置2H. 1. Put the sample into a low temperature -40 °C±3℃ environment for 2 hours before taking it out 2. Store at room temperature for 2 hours.				产品表面无起皱, 无起泡, 无起翘, 无脱落 1. Put the sample into a low temperature -40 °C±3℃ environment for 2 hours before taking it out	Pass	  					



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4	高温高湿 储存测试 High temperat ure and high humidity storage test	3 PCS	高低温交变湿热 试验箱 High and low temperature alternating humidity and heat test chamber	1.取样3pcs 2.将测试样品置于测试箱中(温度 $40\pm 3^{\circ}\text{C}$, 湿度90% ~ 95% RH), 放置21H后取出检 查. 1. Sample 3pcs 2. Put the test sample in the test box (temperature $40\pm 3^{\circ}\text{C}$, humidity 90% ~ 95% RH), and take it out for examination after 21H.	产品表面无起皱, 无起泡, 无起翘, 无脱 落 Product surface no wrinkle, no bubbling, no warping, no shedding	Pass	
备注(Comments):							
核准(Approved by): 邓孝华 Deng Xiaohua 审核(Checked by): 易爱玲 Yi Ailing 测试(Name of operator): 李丽华 Li Li Hua							

表单编号: ZTX-QR-QA-076 版本: A1



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5.Environment Characteristic

NO.	ITEM	TEST CONDITION	SPECIFICATION
5-1	High Temperature/Humidity Storage Test(non operating)	1.Temperature: $+70 \pm 2^{\circ}\text{C}$ 2.Humidity: 90~95%RH 3.Time: 48hrs	No material deformation is allowed.
5-2	Low Temperature/Humidity Storage Test(non operating)	1.Temperature: $-30 \pm 2^{\circ}\text{C}$ 2.Humidity: 0%RH 3.Time:48hrs	The VSWR, Gain, Radiation Pattern must be met specifications after these test.



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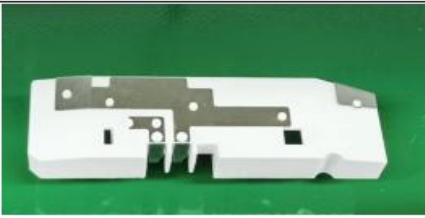
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6.The packing way

S20-TCL (T22) Antenna bracket assembly 包装方式 Packaging Method		审核 to examine	制作人 producer
文件编号 : ZTX-QD-WI-ASSY-293 Document number: ZTX-QD-WI-ASSY-293	版本 : 01版 Version:Version 01 "	党非非 2022/8/2	曹先浪 2022/8/2
		产品料号 : Product part number:	
		产品名称 : Product Name:	
		产品版本 : Product version:	
图一：吸塑盘 Figure 1: Plastic suction disc	图二：产品图片 Figure 2: Product Image	包装方式：吸塑盒+纸箱 Packaging method: Blister box+cardboard box	
		包装数量 Packaging quantity	
		备注: 1、内包装材料：吸塑盒 2、外包装材料：纸箱 注意事项: 1. 将QC判定OK的产品，每一格放3pcs，整齐摆放在吸塑盒中，一共45PCS，共装10盒450pcs，再缠绕两道圈膜将产品固定住并贴上数量标签；外箱表面贴上中天讯出货标签（产品料号，名称，数量，生产日期），RoHS标签、重量标签（尾数增加尾数标签）； 2. 出货标签实际以客户要求版式内容为准； 3. 数量不满一袋或一内盒，按一袋或一盒按原包装进行包装，数量不满一箱按实际盒数进行摆放，剩余空间用泡沫塞满纸箱进行包装。 Remarks: 1. Inner packaging material: blister box 2. Outer packaging material: cardboard box matters needing attention: 1. Place 3 pieces of products that have been determined as OK by QC in each cell and neatly place them in a blister box. A total of 45 pieces are packed in 10 boxes of 450 pieces, and then wrap two wraps to secure the products and attach quantity labels; Attach Zhongtianxun shipping labels (product part number, name, quantity, production date), RoHS labels, and weight labels on the surface of the outer box (with a trailing number added); 2. The shipping label is actually based on the format content requested by the customer; 3. If the quantity is less than one bag or one inner box, it should be packaged according to the original packaging. If the quantity is less than one box, it should be placed according to the actual number of boxes. The remaining space should be filled with foam in the cardboard box for packaging.	
图三：取一吸塑盘放置在桌面将检查OK的产品，一盒产品仔细检查产品放置方向统一，如图三所示放置在吸塑盒里，将吸塑盒装满，一个格子装3pcs产品。 Figure 3: Take a suction cup and place it on the desktop to check the products that have passed the inspection. Carefully check the placement direction of the products on the suction cup, as shown in Figure 3, and fill the suction box with plastic. A grid pack of 3pcs products.	图四：点数10盒产品在顶部放置一个空的吸塑盘然后缠绕两道圈膜将产品固定住； Figure 4: Count 10 plates of products and place an empty suction plate on top, then wrap two layers of wrapping film to fix the product;		
			
图五：贴上数量标签 Figure 5: Attach quantity labels	图六：取底部按“工”字型封箱OK的外箱底部放一张平卡将围好围膜的产品装入纸箱，在产品顶部盖上1PCS平卡； Figure 6: Place a flat card at the bottom of the outer box that has been sealed according to the "I" shape, and place the wrapped product into the cardboard box. Cover the top of the product with 1 piece of flat card;		
		研发 research and development	
		品质 quality	
		生产 produce	
图五：外箱标签（仅供参考，以客户标准模板为准） Figure 5: Outer box label (for reference only, subject to customer standard template)	图六：纸箱封箱方式（贴上Rohs/重量标签，尾数增加尾数标签，每箱只允许一个尾数） Figure 6: Carton sealing method (attach Rohs/weight labels, add mantissa labels to the mantissa, and only allow one mantissa per box)		

