



Amphenol

DATA SHEET

MINDRAY 高端监护仪 WIFI ANTENNA

Project:	Author: Neil.Xu	File Name: MINDRAY 高端监护仪 WIFI ANTENNA DATA SHEET
Date: 2015-6-9		
Revision:		
A		
CONFIDENTIAL		
Shanghai Amphenol Airwave Communication Electronics Co.,Ltd		

Date:	Revision:	Updates and changes:	Issued by:

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1 Antenna description

This report summarizes the electrical results of the proposed antenna to support the MINDRAY 高端监护仪 WIFI antenna program. It is external antenna. Antenna's frequency band is 2400-3000MHz&5150MHz-5850MHz. The polarisation of antenna is linear polarisation with 50ohm Nominal input impedance.

1.1 Part number

The antenna part number MG7018-41-000-R

1.2 Antenna pictures



2 Electrical Performance

2.1 Specification

Specification for MINDRAY 高端监护仪WIFI ANTENNA							
Frequency(MHz)	2400	2500	2800	3000	3200	5150	5850
VSWR	<2	<2	<2	<2	<2	<2.5	<2.5

2.2 Measurement Set-up

2.2.1 VSWR and return loss

VSWR measurements (S_{11}) were performed using an Agilent ENA series Network Analyser and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

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2.2.2 Efficiency, Gain and TRP/TIS

The gain of the antenna was measured in Amphenol's 3D anechoic chamber in Shanghai, China. The chamber is a Satimo Stargate 64 multi probe system capable of doing tests from 380MHz to 6GHz. coaxial chokes on the feed cable were used to mitigate surface currents during passive tests. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a CMU 200 to establish the connection with the mobile device and read the power.

2.3 Reference measurement data

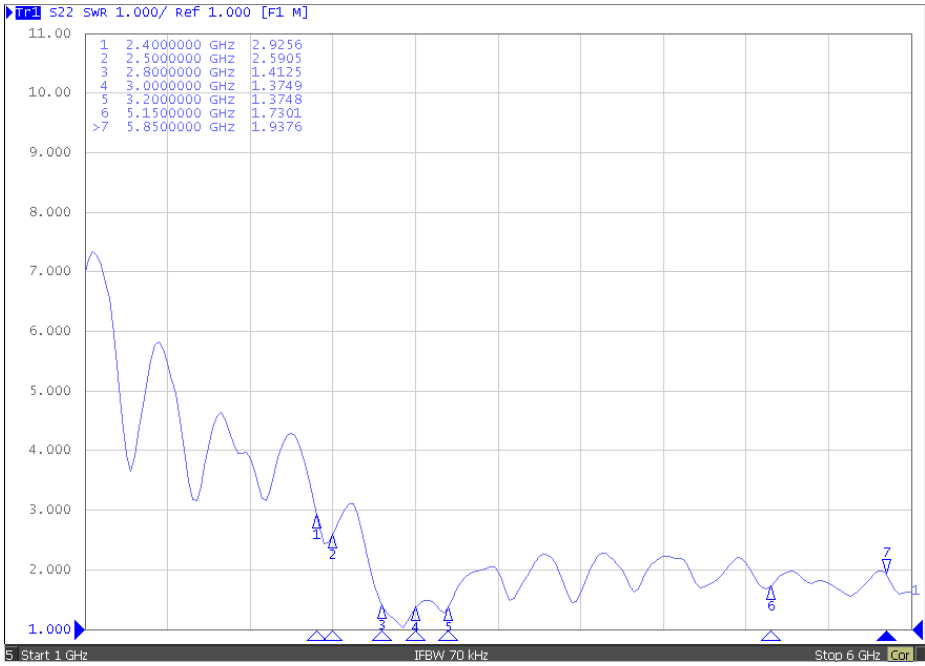
2.3.1 Efficiency&Gain

		Gain				Gain				Gain	
Frequency	Efficiency	AVE (dB)	Peak(dB)	Frequency	Efficiency	AVE (dB)	Peak(dB)	Frequency	Efficiency	AVE (dB)	Peak(dB)
2400	34%	-4.67	0.87	2800	68%	-1.66	2.73	5100	47%	-3.23	0.85
2410	36%	-4.46	1.10	2820	70%	-1.56	2.82	5200	47%	-3.31	0.79
2420	38%	-4.22	1.43	2840	71%	-1.49	2.75	5300	49%	-3.07	0.6
2430	38%	-4.17	1.45	2860	74%	-1.29	2.75	5400	49%	-3.1	0.39
2440	39%	-4.09	1.64	2880	76%	-1.17	2.81	5500	50%	-3.04	0.77
2450	40%	-3.95	1.75	2900	76%	-1.18	2.45	5600	52%	-2.87	0.94
2460	41%	-3.89	1.87	2920	75%	-1.26	2.31	5700	51%	-2.96	0.84
2470	41%	-3.85	1.86	2940	76%	-1.2	2.3	5800	47%	-3.25	0.92
2480	41%	-3.91	1.82	2960	75%	-1.25	2.27	5900	49%	-3.08	1.32
2490	39%	-4.04	1.60	2980	73%	-1.35	2.27	AVG	49%	-3.1	0.83
2500	39%	-4.11	1.61	3000	73%	-1.38	2.21				
AVG	39%	-4.12	1.54	3020	70%	-1.52	2.08				
				3040	73%	-1.38	2.35				
				3060	73%	-1.38	2.32				
				3080	72%	-1.42	2.6				
				3100	72%	-1.42	2.95				
				3120	70%	-1.52	2.92				
				3140	71%	-1.48	3.35				
				3160	69%	-1.63	3.45				
				3180	68%	-1.7	3.65				
				3200	68%	-1.67	3.62				
				AVG	72%	-1.42	2.71				

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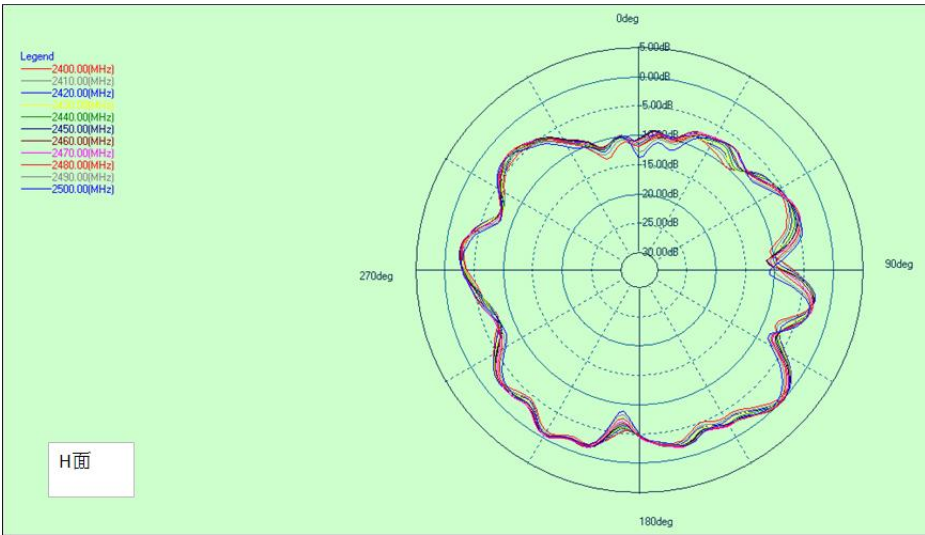
3 Plots&3D Radiation Pattern

3.1 VSWR

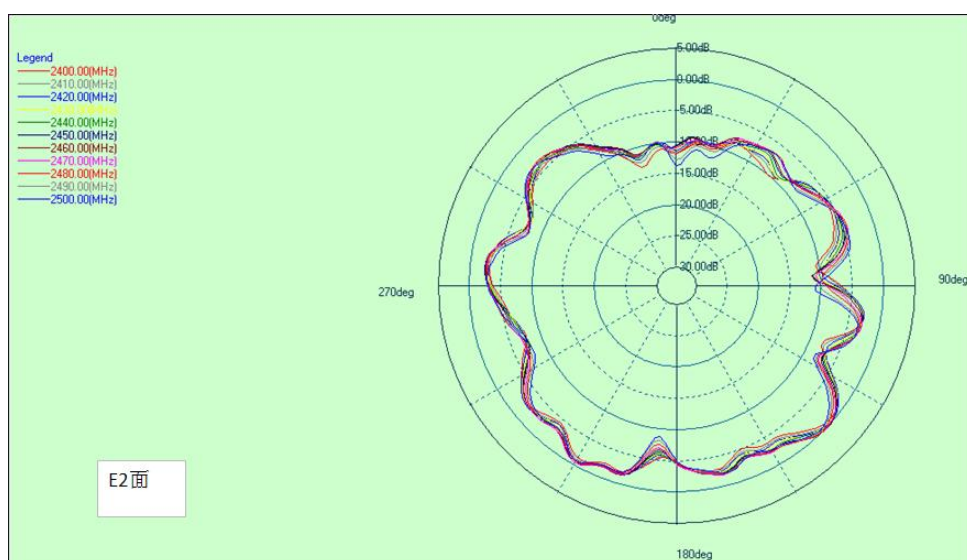
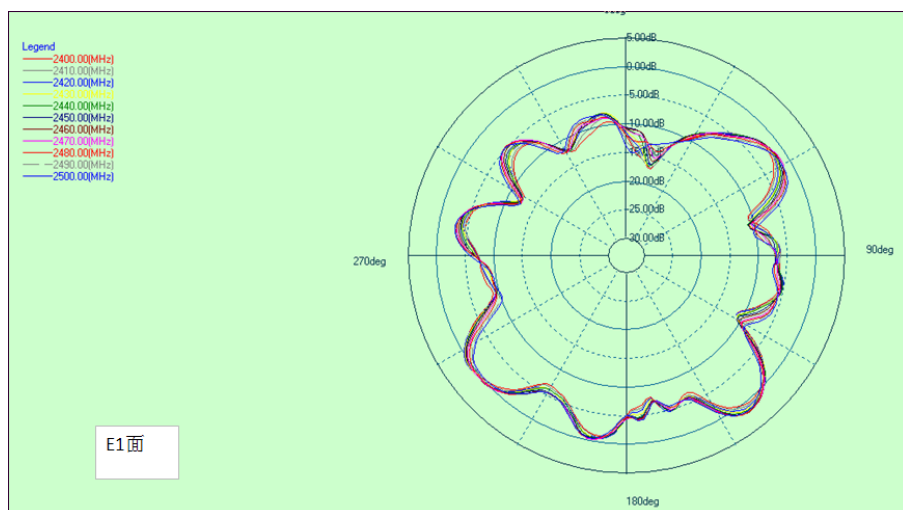


3.2 3D Radiation Pattern

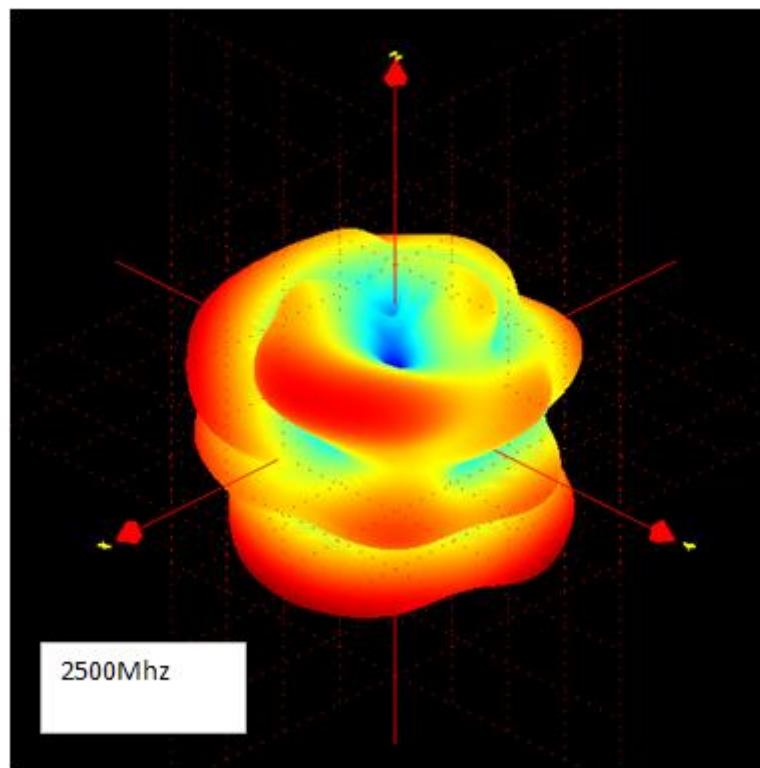
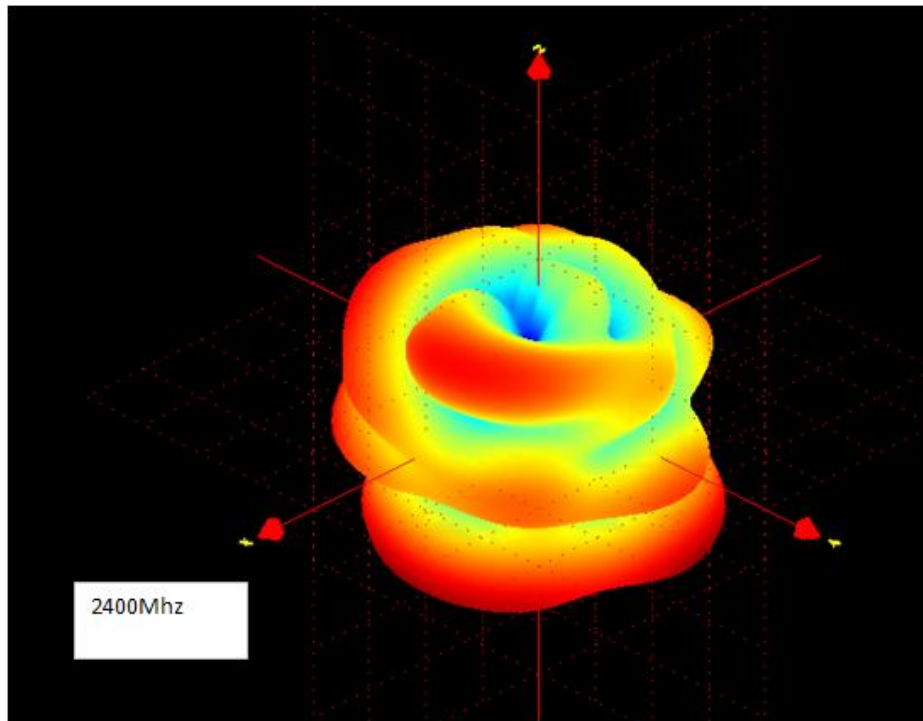
2400Mhz-2500Mhz



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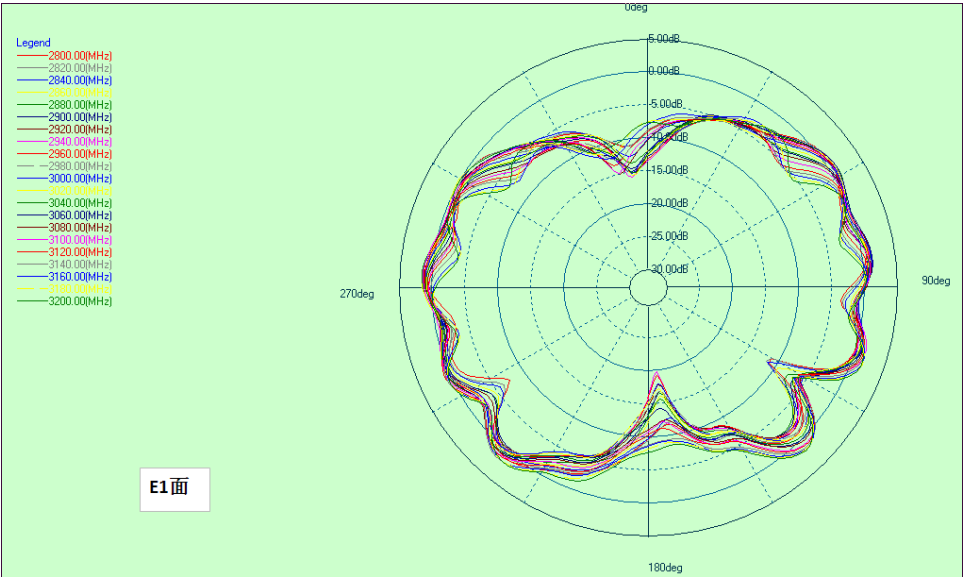
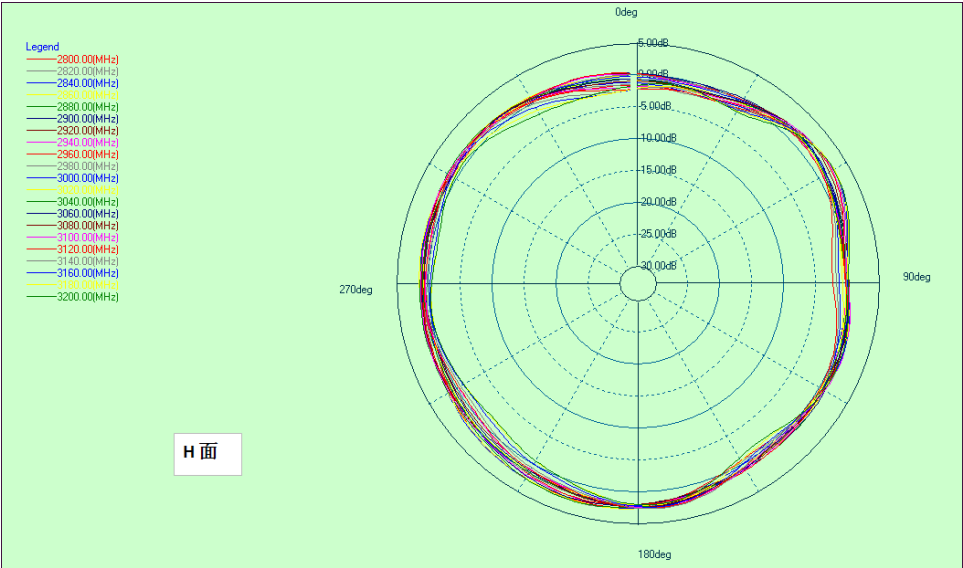


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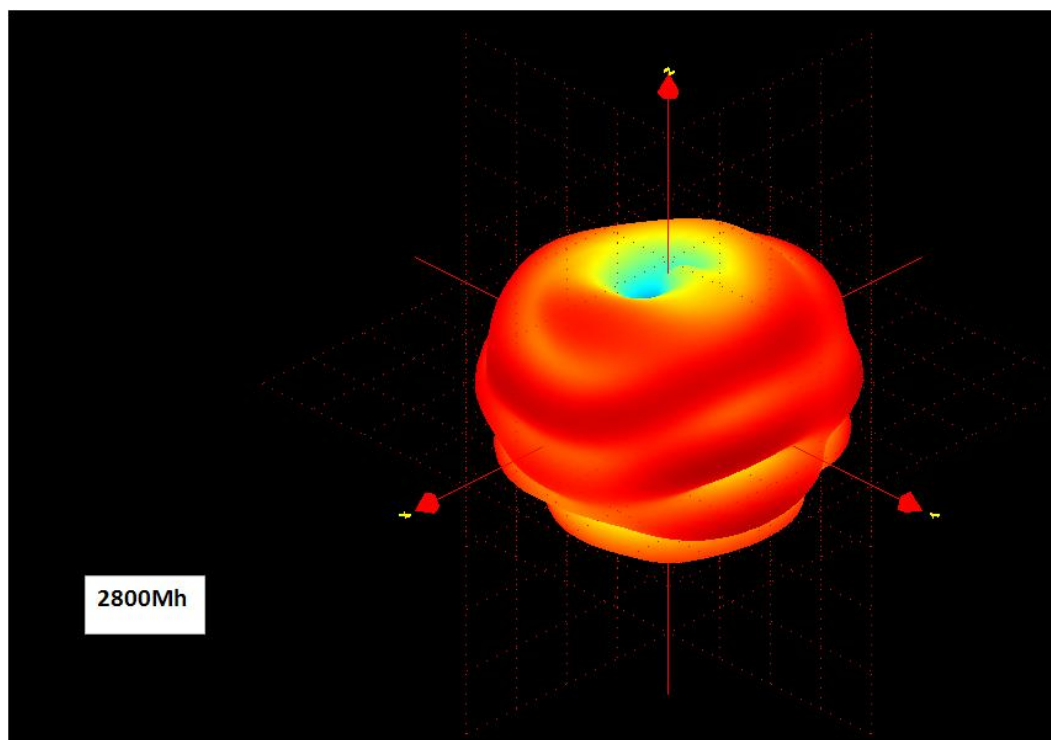
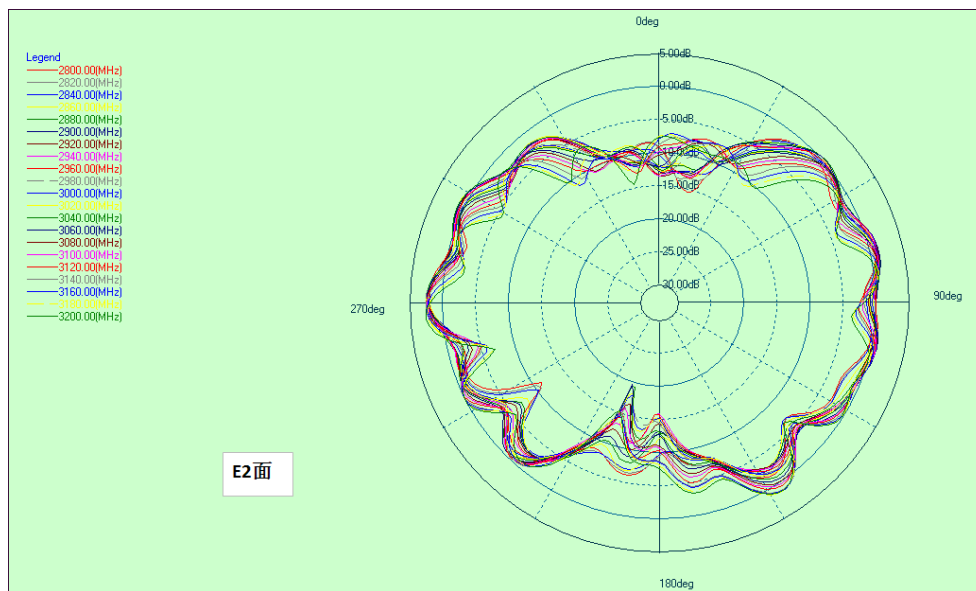


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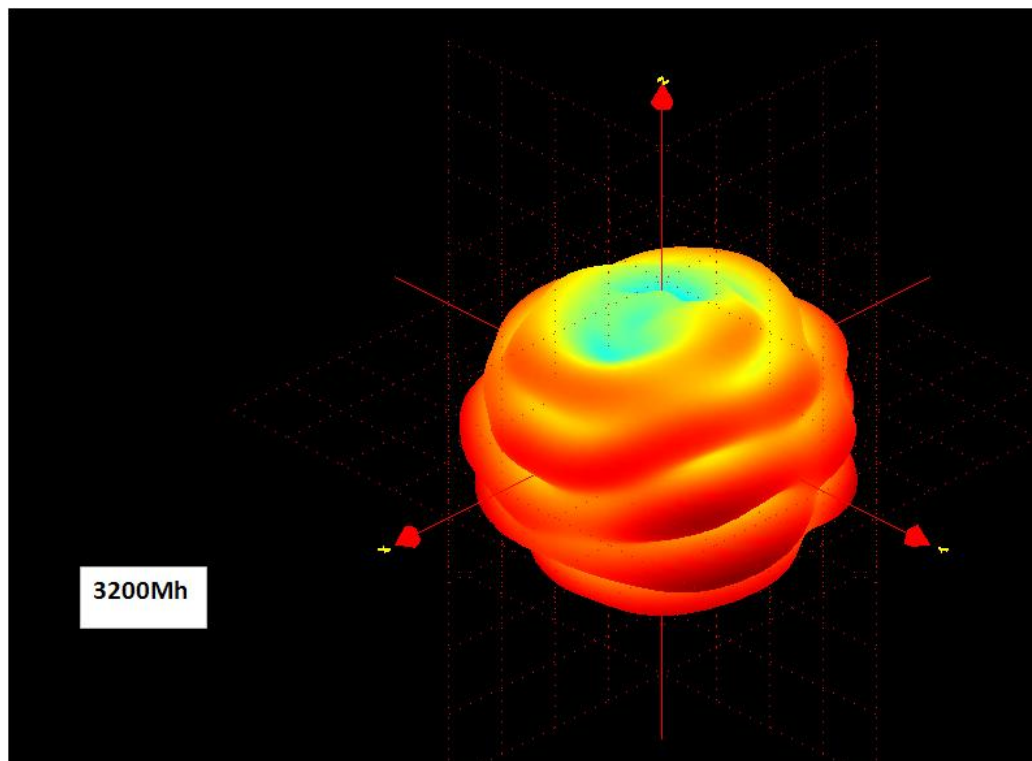
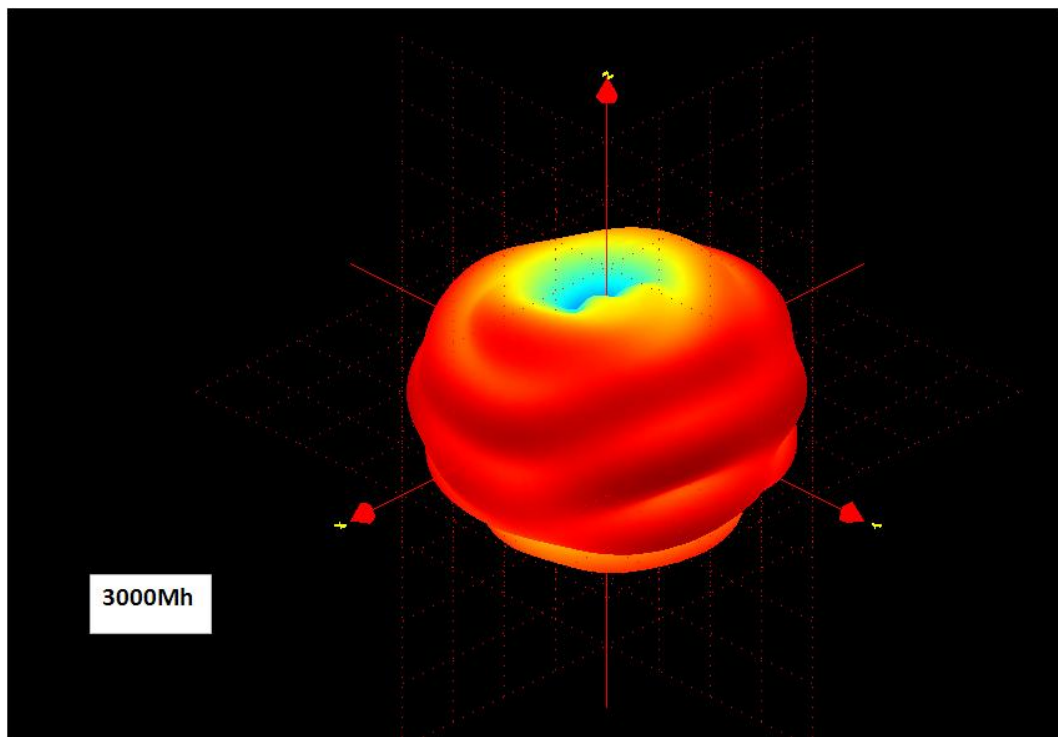
2800Mhz-3200Mhz



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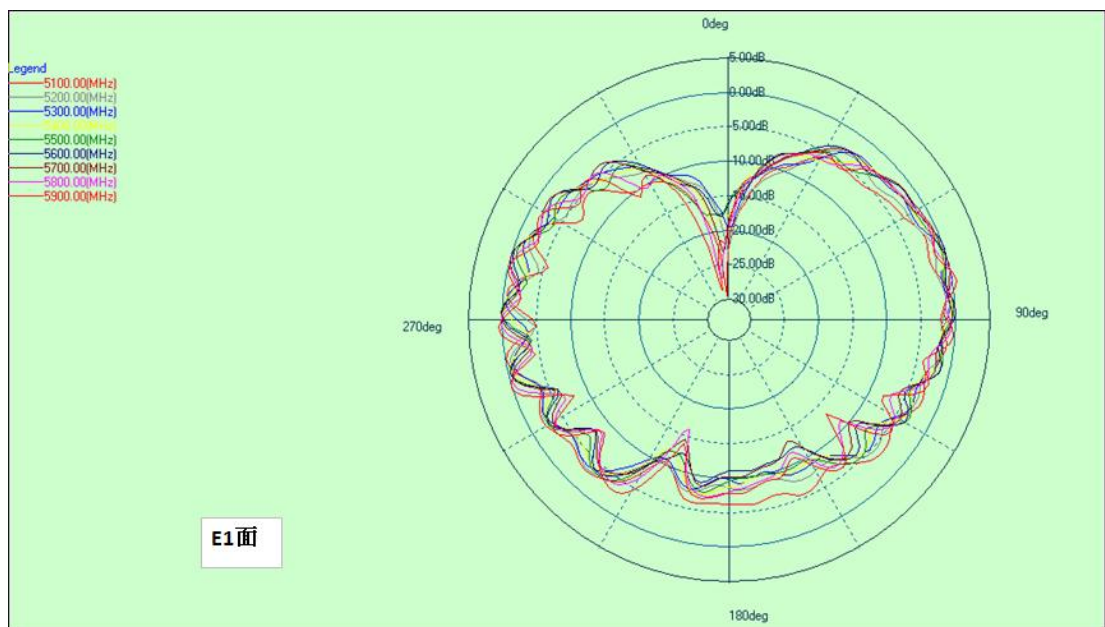
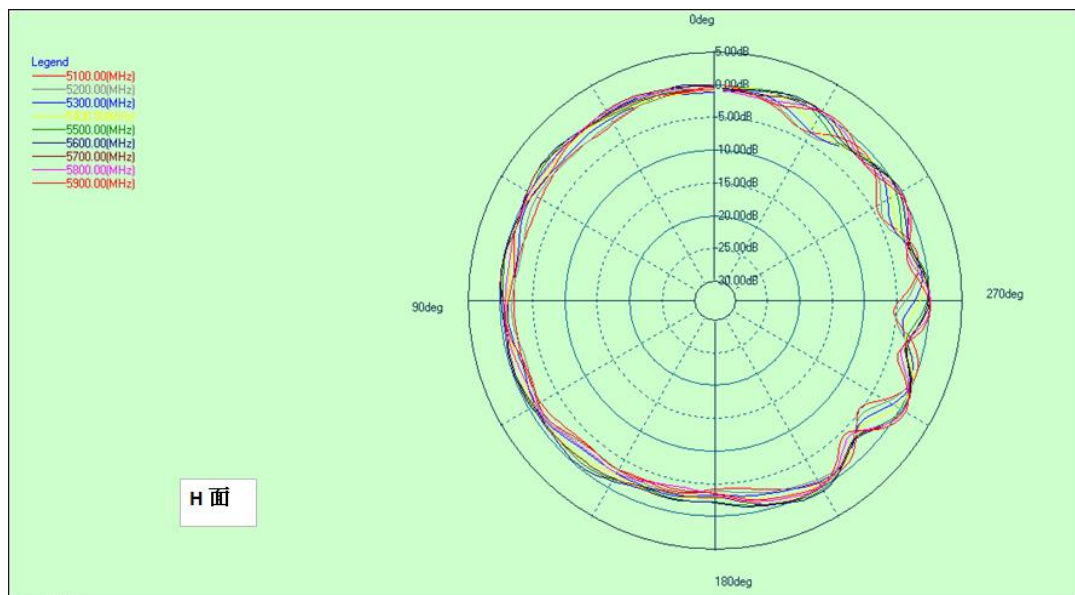


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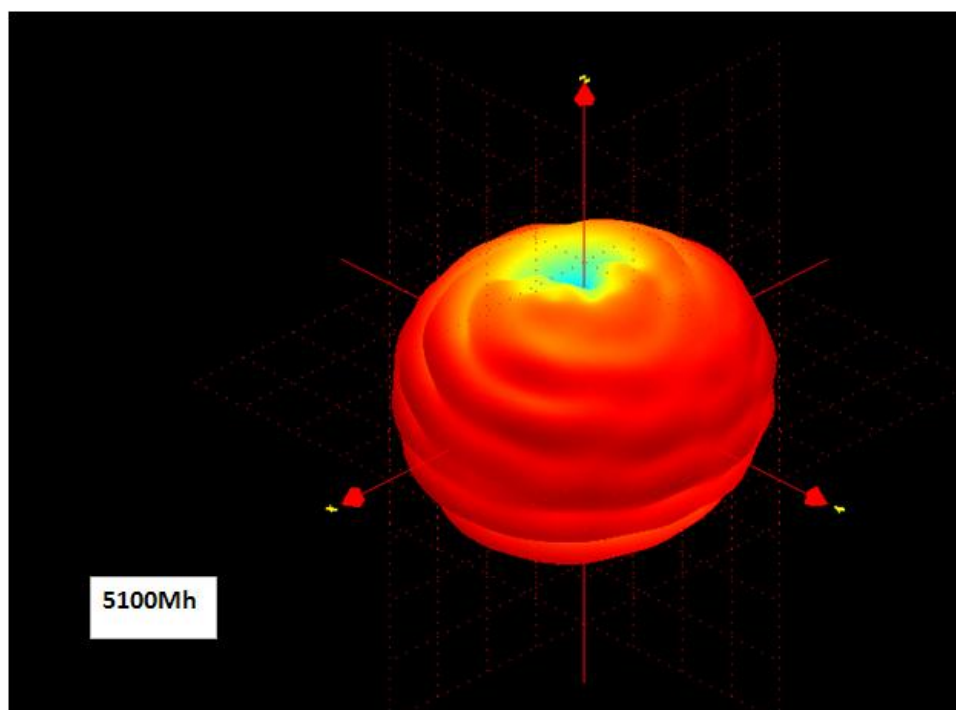
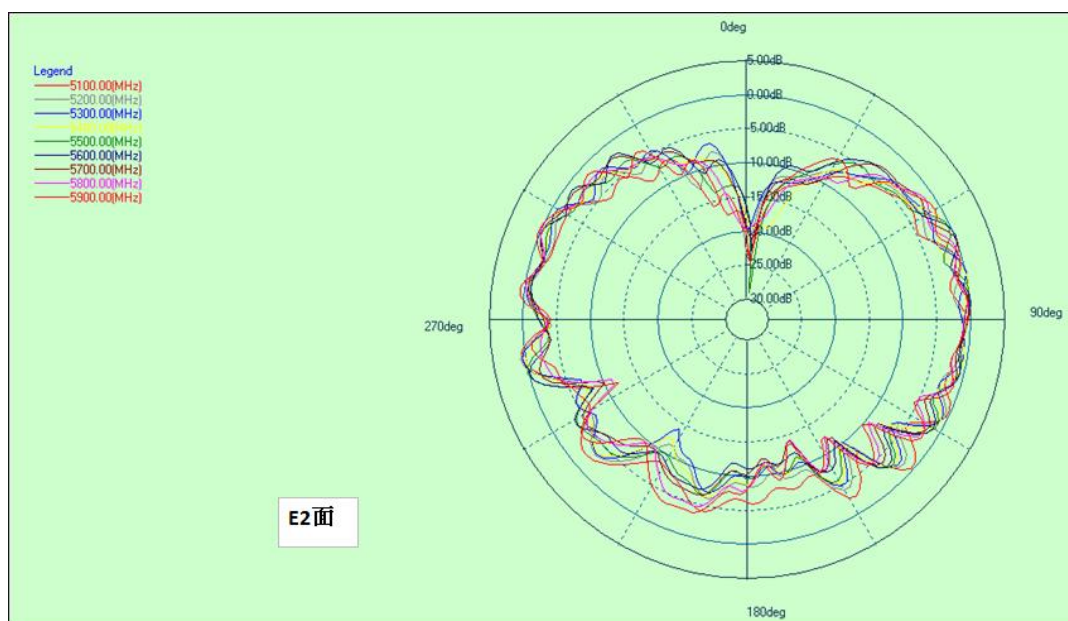


5100Mhz-5850Mhz

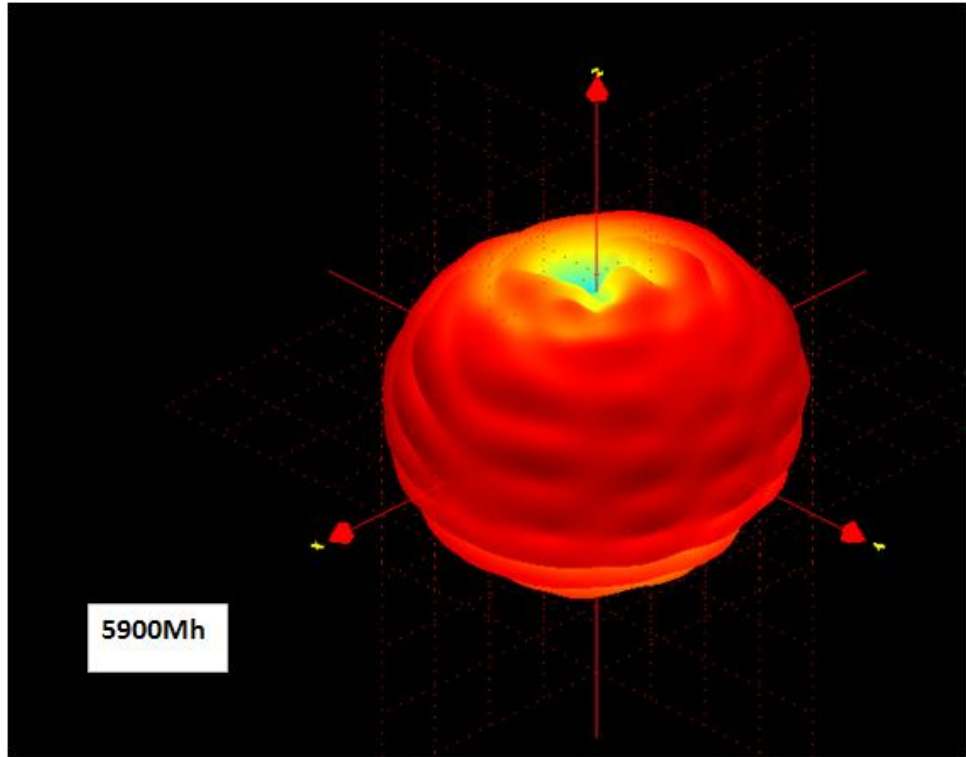
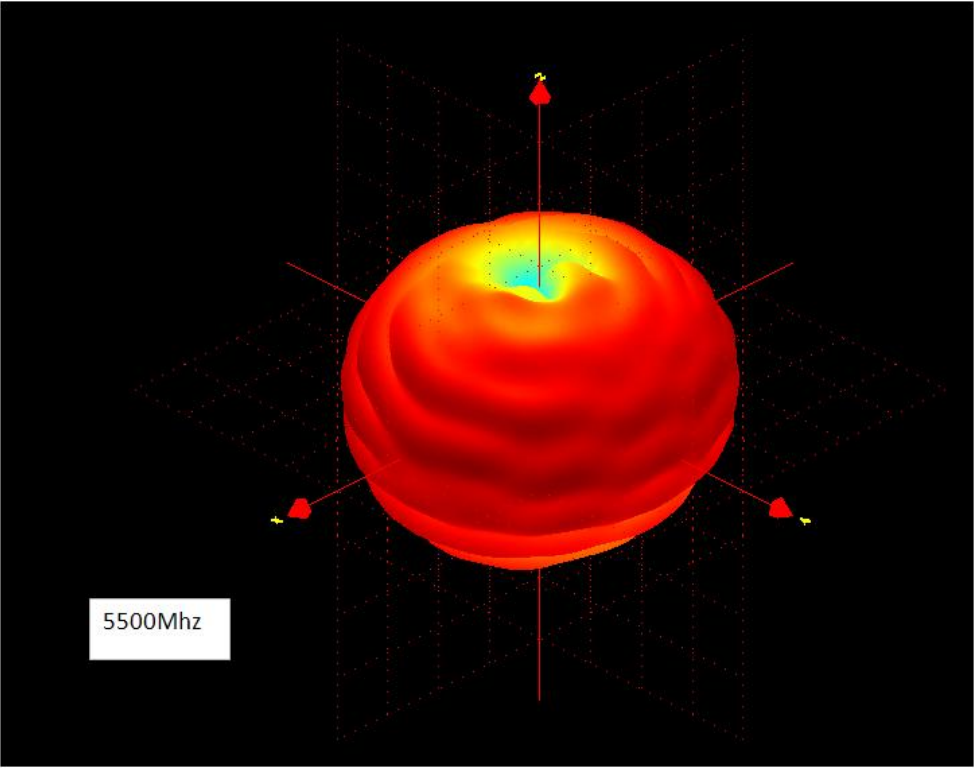
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4



THE TENSILE AND COMPRESSION TENSILE AND PROPERTIES FOR SAE AND SMALL AND BE SPECIFIED IN MODEL OR PART WITHOUT SAE'S COMMENT		MATERIAL: SEE TABLE	
TREATMENT: NA		Shanghai Aphermed Airwave Communication Electronics Co.,Ltd	
	UNIT: mm	SCALE: 1:0.8	PART NUMBER
DESIGN: Tsg Wang	VERIFY:	PROJECT:	
EE/ENC: ME	CHECK:	M67018-41-000-R-FC	
DATE: 2015-05-11	SHEET: 1/21	WIP ANTENNA ASSY APPEARANCE	
DRAWING 1/1		A4-SHEET	

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5 Reliability test

 Shanghai Amphenol Airwave Communication Electronic Co.,Ltd 											
The Reliability of product test report											
Customer Name:	I	Supplier Name:	SAA	Product No:	BSR MG7018-41-000-R-FC		Sample:	20PCS	Date:		
TEST DATE	Test option	TEST ITEM	CONDITIONS OF MEASUREMENT AND REQUIREMENTS			APPARATUS	RESULT OF MEASUREMENT				
2015-06-04~ 2015-06-06	☐ Out of housing ☐ In housing ☐ Out of SAA ☒ In SAA	High Flow Temp. Test	Expose antenna of 24 hours at +30℃ and 24 hours at -40℃, then check the appearance against the specifications in normal temperature.			High temp. machine & Thermal shock machine	1	2	3	4	5
							+30℃/-40℃	+30℃/-40℃	+30℃/-40℃	+30℃/-40℃	+30℃/-40℃
							OK	OK	OK	OK	OK
2015-06-03~ 2015-06-04	☒ Out of housing ☐ In housing ☐ Out of SAA ☒ In SAA	Thermal Shock Test	5 repeated cycles of 2 hours at +30℃ and 2 hours at -40℃, then check the appearance against the specifications in normal temperature.			Thermal shock machine	1	2	3	4	5
							+30℃/-40℃	+30℃/-40℃	+30℃/-40℃	+30℃/-40℃	+30℃/-40℃
							OK	OK	OK	OK	OK
2015-05-29~ 2015-05-31	☒ Out of housing ☐ In housing ☐ Out of SAA ☒ In SAA	High temp. High humidity test	Expose antenna to +65 degrees and 30% relative humidity for 48 hour, then check the appearance against the specifications in normal temperature.			Standard Temp. Humidity Chamber	1	2	3	4	5
							+65℃ 30%	+65℃ 30%	+65℃ 30%	+65℃ 30%	+65℃ 30%
							OK	OK	OK	OK	OK
2015-05-27~ 2015-05-29	☒ Out of housing ☐ In housing ☐ Out of SAA ☒ In SAA	Salt spray test	Antenna be exposed in a 35 degrees, 5% salt fog chamber for 48 hours then check the appearance against the specifications in normal temperature.			Salt spray Machine	1	2	3	4	5
							35℃ 15%	35℃ 15%	35℃ 15%	35℃ 15%	35℃ 15%
							OK	OK	OK	OK	OK

Made by: Fangchunhui

Checked by: Lois Chen

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Inspection Report : First Article/ Vendor Sample Evaluation

Part Name: TENNA ASSY APPE	Part No.: MG7018-41-000-R-FC	Mold No.: N/A	Material Type: N/A	Rev No.: FC
☐ Customer	☐ Supplier	Project Name: 迈瑞高端监护仪	Color: N/A	Sub. No. 1
			Page: 1	of 1

Dimensional Inspection

Specification					To be filled by Amphenol							Disposition			Remark			
No.	Print Zone	Sign	Nominal	+ -	Shot No.	Shot 1	Shot 2	Shot 3	/	/	/	/	/	EQPT		Acc	Con. Acc	Rel
1	A5		268.00	3.00 3.00		267.0	266.5	267.0						钢尺	✓			
2	B3		20.00	1.00 1.00		19.191	19.016	19.464						OMX	✓			
3	B5		20.00	1.00 1.00		19.035	19.557	19.800						OMX	✓			
4	A6		83.00	3.00 3.00		83.0	83.5	83.0						钢尺	✓			
5	A6		49.00	3.00 3.00		49.0	49.5	49.0						钢尺	✓			
6	A6		44.00	3.00 3.00		44.0	44.5	44.0						钢尺	✓			
7	A7		44.00	0.30 0.30		43.770	43.842	43.850						OMX	✓			
7	B6		4.50	0.30 0.30		4.618	4.393	4.582						OMX	✓			
8	A7		15.00	1.00 1.00		14.766	15.413	15.689						OMX	✓			
9	A8		4.00	0.10 0.10		3.95	4.00	4.00						DC	✓			
10	A8		5.40	0.20 0.20		5.55	5.52	5.45						DC	✓			
11	B2		1.13	0.10 0.10		1.14	1.14	1.14						DC	✓			
12	B3		2.60	0.20 0.20		2.73	2.69	2.69						DC	✓			
13	B4		2.60	0.20 0.20		2.70	2.73	2.70						DC	✓			
14	B5		3.90	0.20 0.20		3.770	3.740	3.805						OMX	✓			
16	B6		14.00	2.00 2.00		15.931	15.853	15.960						OMX	✓			
17	B8		14.00	1.00 1.00		14.015	14.346	14.030						OMX	✓			
18	C5		388.00	3.00 3.00		388.0	388.5	388.5						钢尺	✓			

Equipment ID:

DC - "Digital Caliper"

DI - "Dial Indicator"

PLG - "Plug Gauge"

PLG - "Plug Gauge"

LG - "Loop Gauge"

PG - "Pin Gauge"

RG - "Radii Gauge"

PP - "Profile Projector"

OMM - "Objective Measuring Machine"

Disposition:

Acc - "Accept"

Rel - "Reject"

Con. Acc - "Conditional Accept (faulty, but accept)"

ME Engineer:

Teg Weng

Inspector

Date

QA Approval

Date

Inspector

Date

Inspector

Date

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