KC.IA.00260（WIFI/GPS）

Antenna Specification

1. Application:

This application shall apply for antenna unit which shall be used such as automotive, conventional communications, smart home, etc..

1. Electrical Specification:

Those specifications were specially defined for customer's model, and all characteristics were measured under the model's handset testing jig .

2-1. Frequency Band:

Frequency Band	MHz
WIFI2.4/5.8G/1575.42	2400-2500/5150-5850/GPS

2-2. Impedance

50 ohm nominal

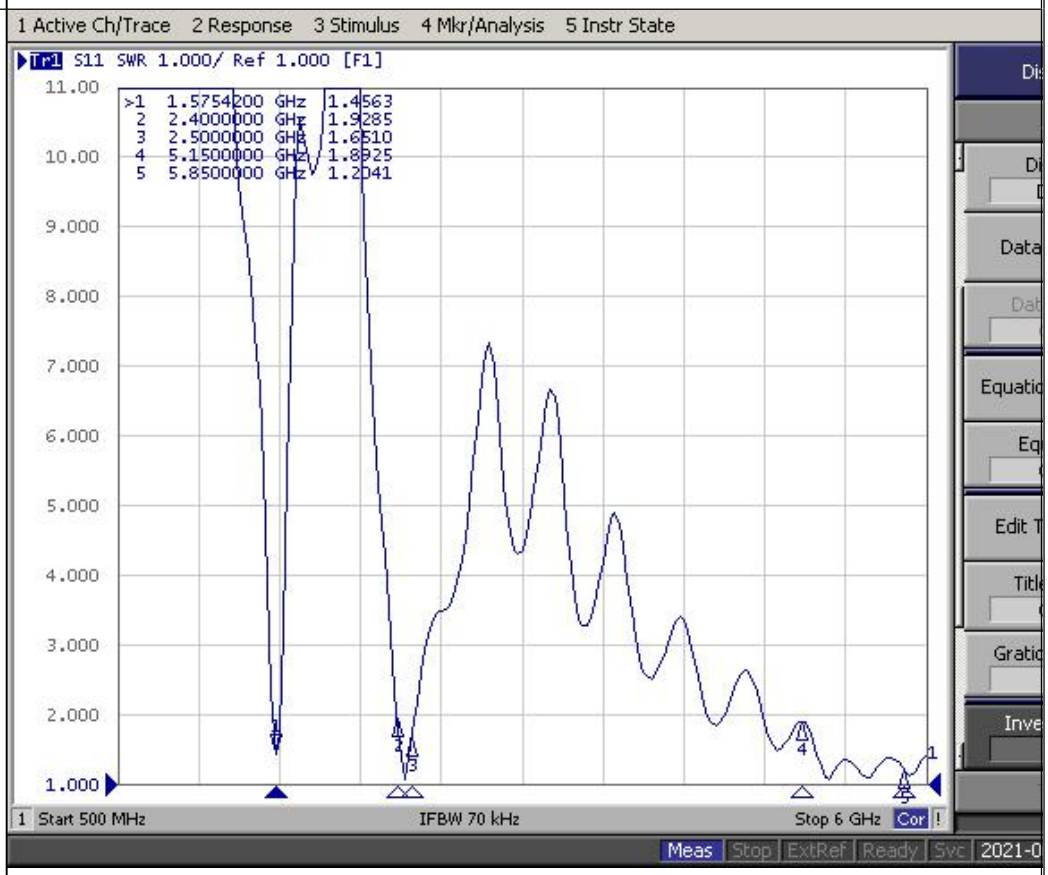
2-3. VSWR

2-3-1.Measurement frequency points and VSWR value

Frequency Band(MHz)	2400	2500	5150	5850	1575
2-3-3. Typical Value:	1.92	1.65	1.89	1.20	1.45

2-3-2. VSWR

Frequency Band(MHz)	2400	2500	5150	5850	1575
2-3-3. Typical Value:	≤2	≤2	≤2	≤2	≤2

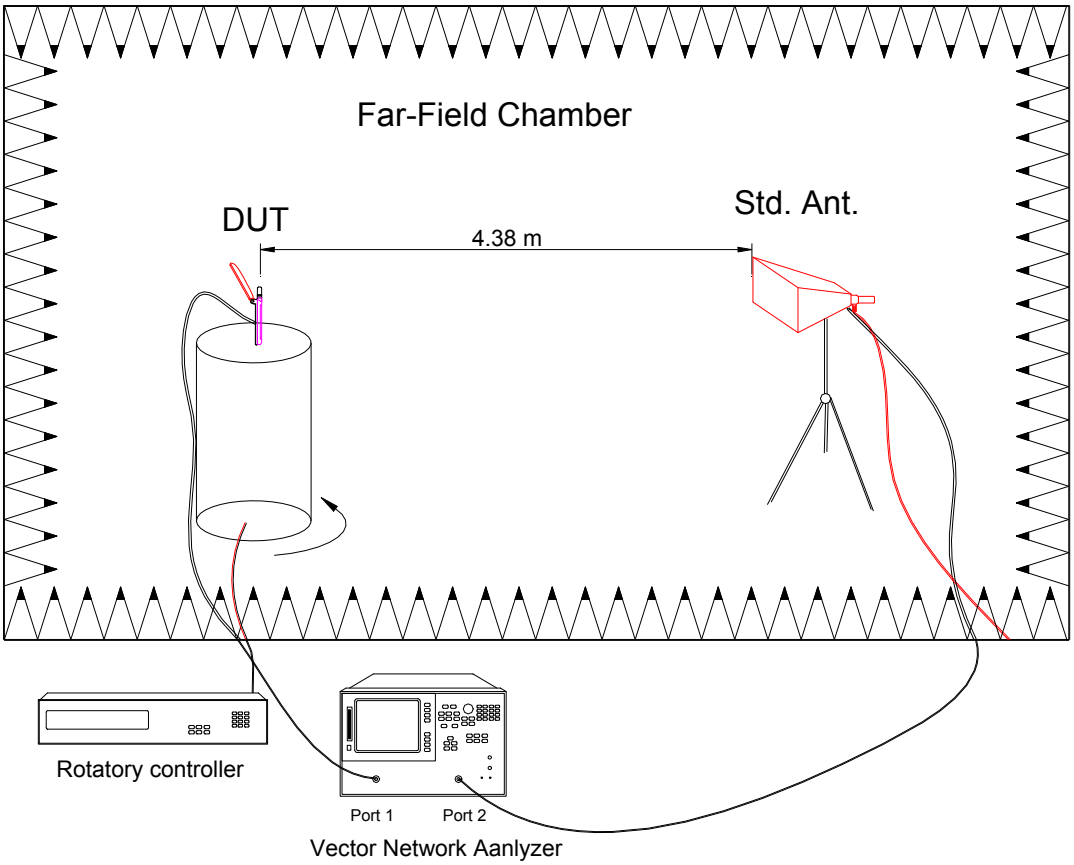
2-3-4 Measuring Method	1. A 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm
2-3-5 Picture	

2-4. Efficiency and Gain

4-5.1 Measure method

1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

4-5.2 Chamber definition



1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

2-4-1 Efficiency and Gain

FEITUKEJI							
Frequency ID	1	2	3	4	5	6	7
Frequency (MHz)	1550.0	1555.0	1560.0	1565.0	1570.0	1575.0	1580.0
Point Values							
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-3.55	-3.71	-3.90	-4.04	-4.25	-4.50	-4.72
Peak EIRP (dBm)	0.84	0.56	0.49	0.48	0.37	0.14	-0.17
Directivity (dBi)	4.39	4.27	4.39	4.52	4.62	4.63	4.55
Efficiency (dB)	-3.55	-3.71	-3.90	-4.04	-4.25	-4.50	-4.72
Efficiency (%)	44.10	42.50	40.80	39.40	37.60	35.50	33.70
Gain (dBi)	0.84	0.56	0.49	0.48	0.37	0.14	-0.17
NHPRP ±Pi/4 (dBm)	-5.07	-5.23	-5.40	-5.53	-5.70	-5.90	-6.09
NHPRP ±Pi/6 (dBm)	-6.56	-6.71	-6.87	-6.98	-7.14	-7.34	-7.53
NHPRP ±Pi/8 (dBm)	-7.70	-7.83	-7.97	-8.05	-8.18	-8.37	-8.57
Upper Hem. PRP (dBm)	-7.65	-7.80	-7.97	-8.10	-8.27	-8.46	-8.60
Lower Hem. PRP (dBm)	-5.70	-5.86	-6.05	-6.21	-6.44	-6.73	-7.00
Upper Hem. PRP (%)	17.18	16.58	15.94	15.50	14.91	14.27	13.80
Lower Hem. PRP (%)	26.93	25.95	24.82	23.93	22.68	21.22	19.94

Frequen	12	13	14	15	16	17	18	19	20	21	22
Frequen	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Por	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rac	-2.84	-2.79	-2.76	-2.76	-2.77	-2.73	-2.69	-2.71	-2.72	-2.68	-2.63
Peak EI	3.46	3.25	3.02	2.94	3.05	3.20	3.41	3.51	3.55	3.61	3.70
Directiv	6.29	6.04	5.78	5.69	5.81	5.93	6.10	6.22	6.27	6.29	6.34
Efficienc	-2.84	-2.79	-2.76	-2.76	-2.77	-2.73	-2.69	-2.71	-2.72	-2.68	-2.63
Efficienc	52.10	52.60	53.00	53.00	52.90	53.30	53.90	53.60	53.50	54.00	54.60
Gain (dE	3.46	3.25	3.02	2.94	3.05	3.20	3.41	3.51	3.55	3.61	3.70
NHPRP ±	-4.07	-4.05	-4.03	-4.04	-4.05	-3.99	-3.92	-3.92	-3.92	-3.86	-3.82
NHPRP ±	-5.52	-5.54	-5.55	-5.58	-5.58	-5.53	-5.44	-5.43	-5.40	-5.33	-5.26
NHPRP ±	-6.66	-6.72	-6.76	-6.80	-6.82	-6.77	-6.68	-6.66	-6.62	-6.52	-6.43
Upper H	-5.48	-5.40	-5.29	-5.22	-5.21	-5.18	-5.15	-5.18	-5.19	-5.14	-5.09
Lower H	-6.25	-6.24	-6.31	-6.39	-6.43	-6.39	-6.32	-6.33	-6.35	-6.31	-6.27
Upper H	28.33	28.81	29.60	30.04	30.12	30.31	30.54	30.32	30.29	30.63	30.95
Lower H	23.72	23.78	23.41	22.97	22.76	22.98	23.31	23.27	23.19	23.37	23.61

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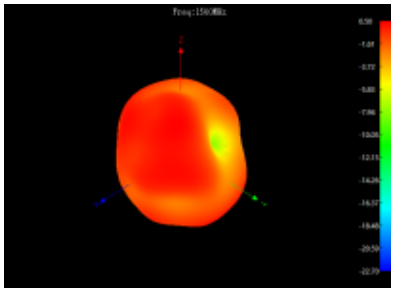
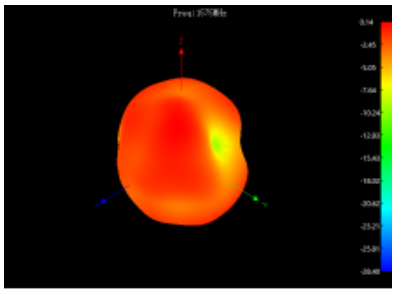
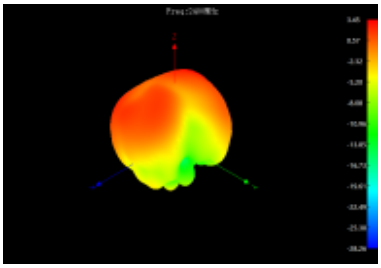
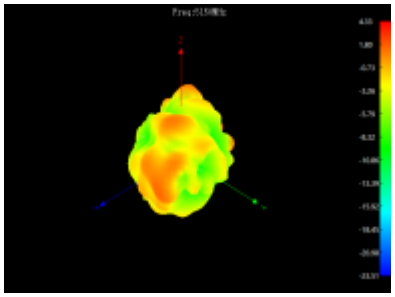
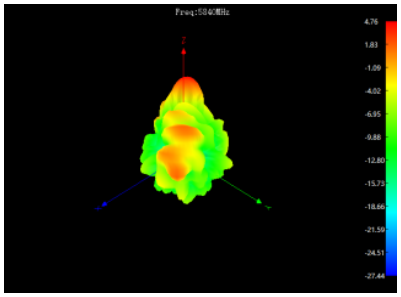
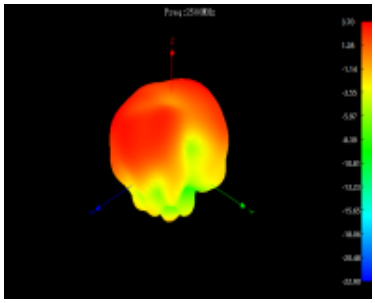
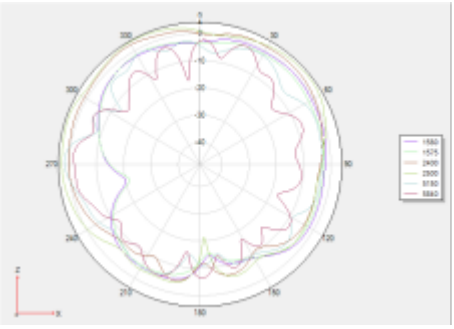
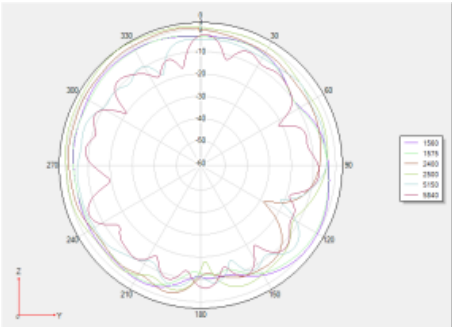
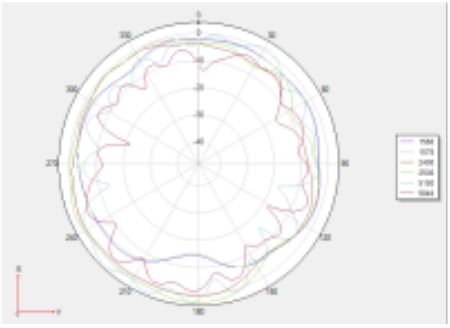
Frequen	23	28	33	38	43	48	53	58	63	68	73	78	83	88	93
Frequen	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Point Values															
Ant. Por	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rac	-2.28	-2.43	-1.91	-2.09	-2.21	-1.88	-2.09	-2.06	-1.93	-1.85	-1.64	-1.82	-1.75	-1.72	-1.95
Peak EIR	4.33	4.01	4.61	4.71	4.90	5.58	5.21	5.00	4.72	4.49	4.99	4.88	4.90	5.06	4.76
Directiv	6.61	6.44	6.52	6.80	7.11	7.45	7.30	7.05	6.66	6.34	6.63	6.70	6.65	6.78	6.71
Efficienc	-2.28	-2.43	-1.91	-2.09	-2.21	-1.88	-2.09	-2.06	-1.93	-1.85	-1.64	-1.82	-1.75	-1.72	-1.95
Efficienc	59.10	57.20	64.40	61.80	60.10	64.90	61.80	62.30	64.10	65.20	68.50	65.80	66.90	67.40	63.80
Gain (dB	4.33	4.01	4.61	4.71	4.90	5.58	5.21	5.00	4.72	4.49	4.99	4.88	4.90	5.06	4.76
NHPRP =	-3.58	-3.76	-3.29	-3.51	-3.65	-3.30	-3.52	-3.49	-3.36	-3.32	-3.16	-3.40	-3.38	-3.40	-3.67
NHPRP =	-4.95	-5.08	-4.59	-4.77	-4.88	-4.52	-4.75	-4.73	-4.62	-4.58	-4.41	-4.66	-4.65	-4.68	-4.97
NHPRP =	-6.08	-6.14	-5.58	-5.70	-5.74	-5.38	-5.65	-5.69	-5.60	-5.54	-5.33	-5.58	-5.55	-5.57	-5.87
Upper H	-4.72	-4.88	-4.35	-4.47	-4.53	-4.12	-4.28	-4.21	-4.07	-3.95	-3.67	-3.77	-3.67	-3.63	-3.86
Lower H	-5.95	-6.08	-5.57	-5.84	-6.05	-5.81	-6.11	-6.13	-6.03	-6.03	-5.92	-6.22	-6.20	-6.20	-6.44
Upper H	33.70	32.54	36.72	35.69	35.20	38.71	37.29	37.90	39.16	40.30	42.94	41.93	42.91	43.36	41.08
Lower H	25.44	24.67	27.71	26.07	24.86	26.22	24.51	24.40	24.92	24.95	25.58	23.89	23.97	23.99	22.69

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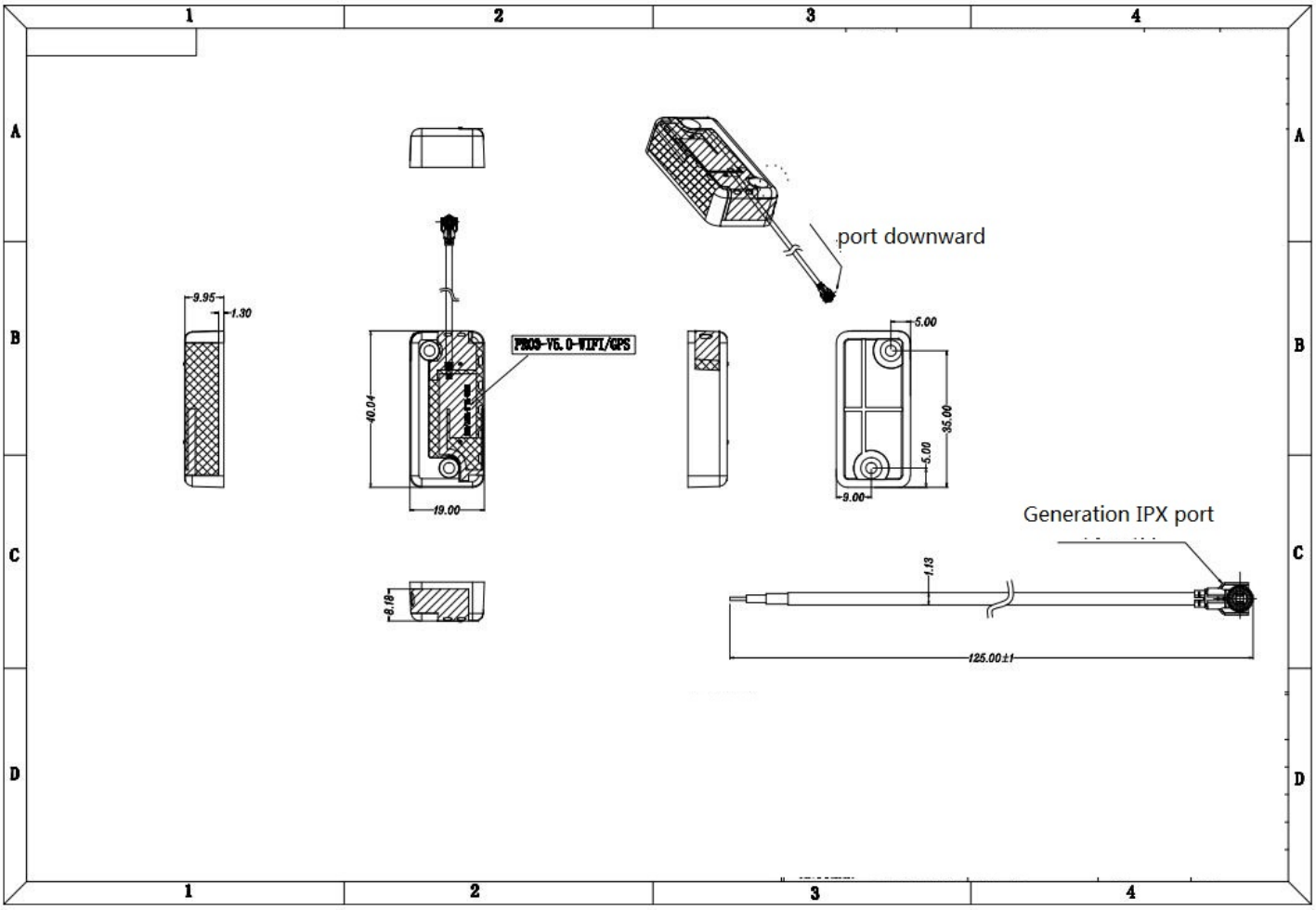
3. Mechanical Specification:

3-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing



3-2. Connector appearance:

IPEX

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DESIGNED BY: De wen	APPROVED BY: YS		
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4 .Packaging specification

Product number: xxxxx

Product model: xxxxx

一、Label requirements:

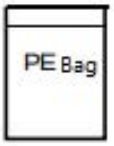
Customer	xxx		
supplier	xxxxx		
Material coding	xx		
Product model	xx		
Number	XXX PCS	Factory date	X X X
Remarks			

二、Boxing:

Job description:

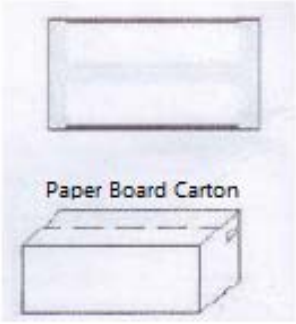
1. Inner packaging:

   XXpcs A bag



2. External packaging:

   Xx PCS ;



3. Matters needing attention:

   a. Whether to add partition and pearl cotton;

   b. Label attachments, such as ROHS, etc.;

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