

Antennas

☉ GSM / UMTS / LTE / WiFi Antennas ▶ 704 / 850 / 900 / 1800 / 1900 / 2100MHz / 2.4GHz / 5GHz



Gain	1.5dBi	3.5dBi	5dBi	5dBi	5dBi	3dBi	3dBi	3dBi	5dBi	4dBi	6dBi
Dimension (LxWxH)	58*16.7*Ø9.4	88*27*Ø9.4 105*27*Ø9.4	150*27*Ø9.4 168*27*Ø9.4	144*30 182*30	115*38.5 138*18.8	235*Ø29	104*10.6*4.5	115*22*7	18.3*Ø65	75.6*Ø42	57.2*9*0.8
GSM+3G 850/900/1800/1900/2170MHz	EEN-501	EEN-502	EEN-404			ECH-401	EPH-401	EPH-402	GSM-4S	EEH-401	GEPH-027
LTE 4G 704-960/1710-2690MHz		EEN-L01		LTE-EEN001					LTE-4S	EEH-L01	
WiFi & BT 2400-2500MHz	EEN-101	EEN-105	EEN-106					EPH-101	WiFi-4S	EEH-101	
WiFi(2.4+5GHz) 2400-2500/5100-5800MHz					UEN-203					EEH-201	

Unit: mm

☉ GPS / GLONASS Antenna Modules



Model	D-10	D-12J	AM-15G
Gain	17dB	25dB	24dB
Dimension (LxWxH)	10*10*6.95	12*12*6.5	15*15*5.2
Power Supply	2.8V~3.3V	2.8V~3.7V	3V~6V
Current Consumption	2.8~5.1mA@3V	4.7~8.7mA@3V	4.7~8.7mA@3V
Noise Figure	<1.5	<1.5	<1.5

Unit: mm

☉ GPS / GLONASS Antennas



Model	MK-76	MA-25	SM-76G	DS-28	RV-76G	DS-56
Gain	27dB	30dB	30dB	30dB	30dB	30dB
Dimension (LxWxH)	34*25*10.5	46*38*12.5	58*48*15	46*38*12.3	16*Ø60	71.3*Ø80
Power Supply	2.5V~5.5V	2.5V~5.5V	2.5V~5.0V	2.5V~5.0V	2.5V~5.0V	3.0V~5.0V
Current Consumption	7~13mA@5V	8~13mA@3V	7~13mA@5V	7~13mA@5V	7~13mA@3V	5.2~6.2mA@5V
Noise Figure	<1.5	<1.5	<2.0	<2.0	<2.0	<2.0

Unit: mm

☉ Outdoor Antennas



Frequency	850/900/1800 /1900/2100MHz
Gain	6dBi
Dimension (HxDia.)	330*Ø30 mm
VSWR	<2.0

Model: EHN-401



Model: EHN-106

Frequency	2400~2483.5 MHz
Gain	7dBi
Dimension (HxDia.)	490*Ø40 mm
VSWR	<2.0



Model: TPH-101

Frequency	5150~5875 MHz
Gain	23dBi
Dimension (LxWxH)	320*320*18mm
VSWR	<2.0



Model: DPH-L01

Frequency	698~960 MHz /1710~2700 MHz
Gain	5 / 7 dBi
Dimension (LxWxH)	210*180*43mm
VSWR	<2.0



Model: SA-200

Frequency	1575.42MHz
Gain	28dB
Dimension (HxDia.)	74*Ø115mm
Power Supply	4.0~6.0V
Current Consumption	28mA
VSWR	<1.5

GPS Receiver



Model	GU-158
Dimension (LxWxH)	46.4*38.4*16.1
Sensitivity	-160dbm
Cold Start	41sec.
Update Rate	1~5Hz
Current Consumption	47mA~67mA
Interface	USB 2.0, TTL, RS-232

Modules



Model	FV-22	FV-U8	GM-12TA	GM-1315LA	GM-22
Dimension (LxWxH)	22*22*8 Ant.18*18*4	30*30*8.6 Ant.25*25*4	19.8*14*2.8 Ant.12*12*4	42*14*7.1 Ant.12*12*4	15.4*13.4*2.95
Sensitivity	-159dbm	-160dbm	-160dbm	-160dbm	GPS-162dbm GLONASS-158dbm
Cold Start	50sec.	50sec.	45sec.	45sec.	30sec.
Update Rate	1Hz	1~5Hz	1Hz	1Hz	1Hz~10Hz
Current Consumption	47mA~67mA	47mA~67mA	47mA~67mA	47mA~67mA	48mA
Interface	6-pin Header Pads	8Pin Con.	Stamp Hole	6Pin Con.	Stamp Hole

Unit: mm

☉ Combo Antennas ▶ GPS, GLONASS, VHF, UHF, GSM, UMTS LTE, WiFi / BT

- GPS: 1575MHz
- GLONASS: 1602MHz
- Cellular: 850/ 900/ 1800/ 1900/ 2100MHz
- VHF: 30~300MHz
- UHF: 430~470MHz
- WiFi/ BT: 2.4~2.5GHz
- WiFi 5G: 5.2~5.8GHz
- LTE: 704~960/ 1710~2690MHz

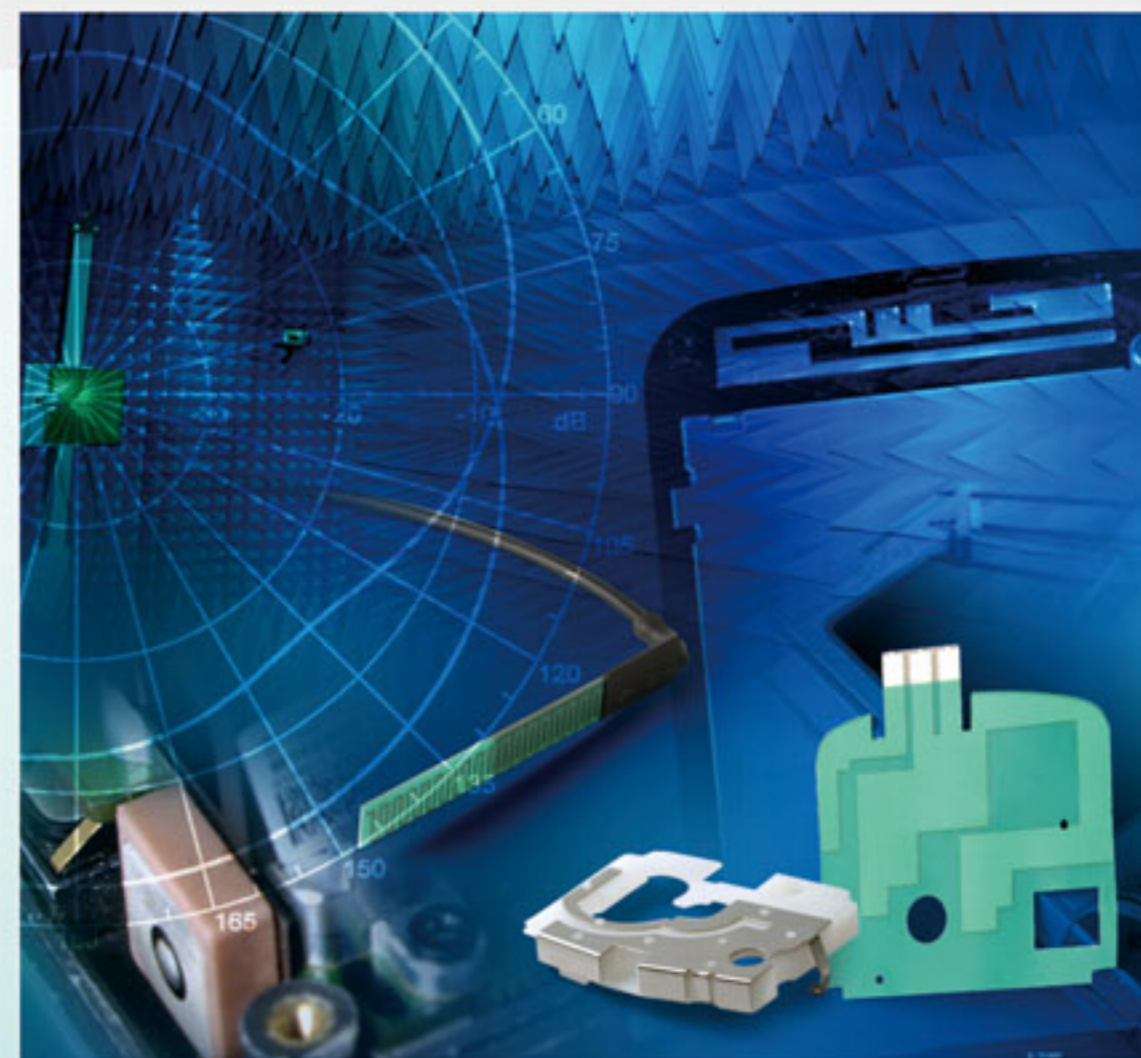


Model	1 Series	2 Series	3 Series	4 Series	7 Series	9 Series	10 Series
Frequency	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
Gain (GNSS/LTE/WiFi)	24 / 1.7 / 3.2	27 / 0	27 / 2.5 / 0	27 / 5.5 / 2.3	27 / 4.3	27 / 6.1 / 5.5	27 / 6.9 / 3.9
Dimension (HxDia.) S: cable side-out	18.6*49*49	16*Ø60 320*Ø15.3	17*Ø65 S: 15*Ø65	20*Ø65 S: 18.3*Ø65	12.2*Ø51	37.5*Ø80 S: 43.7*Ø80	43.5*Ø103 S: 57*Ø103
Power Supply	3.0~6.0V	4.5~5.5V	2.7~5.5V	3.0~5.5V	3.0~5.5V	3.0~5.0V	3.0~5.0V
Current Consumption	7~13mA@5V	22~32mA@5V	13mA	7~13mA@5V	7~13mA@3V	7~13mA@5V	7~13mA@5V
VSWR	<2.0	<1.5	<1.5	<2.0	<2.0	<2.0	<1.8

Unit: mm

* All the specifications are subject to change without prior notice.

San Jose Technology Antenna Solutions



www.sanav.com



▶▶ Why Professional Custom Antenna Design Is Required?

Version 16.



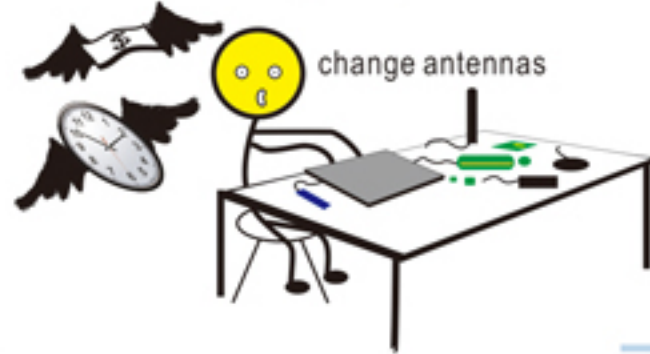
Customized Antennas & Modules

Find many "standard" antennas by Google.



1

Change many antennas for enhancing the performance.



4

Working hard on project design.



2

If consulted with a reliable antenna supplier in the beginning.



5

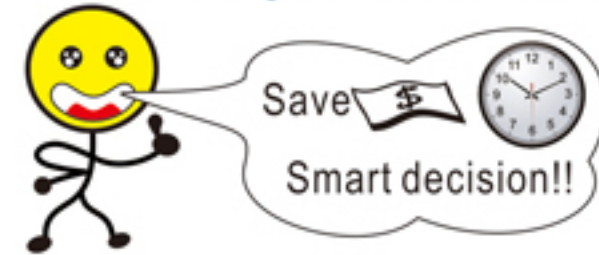
After design is done.....



3

SANAV utilizes facilities and tools to design antennas for your wireless devices and also provides detailed test reports!!

Passing the test in the shortest time.



6

SANAV Provides Trust-Worthy Antenna Design and Manufacturing:



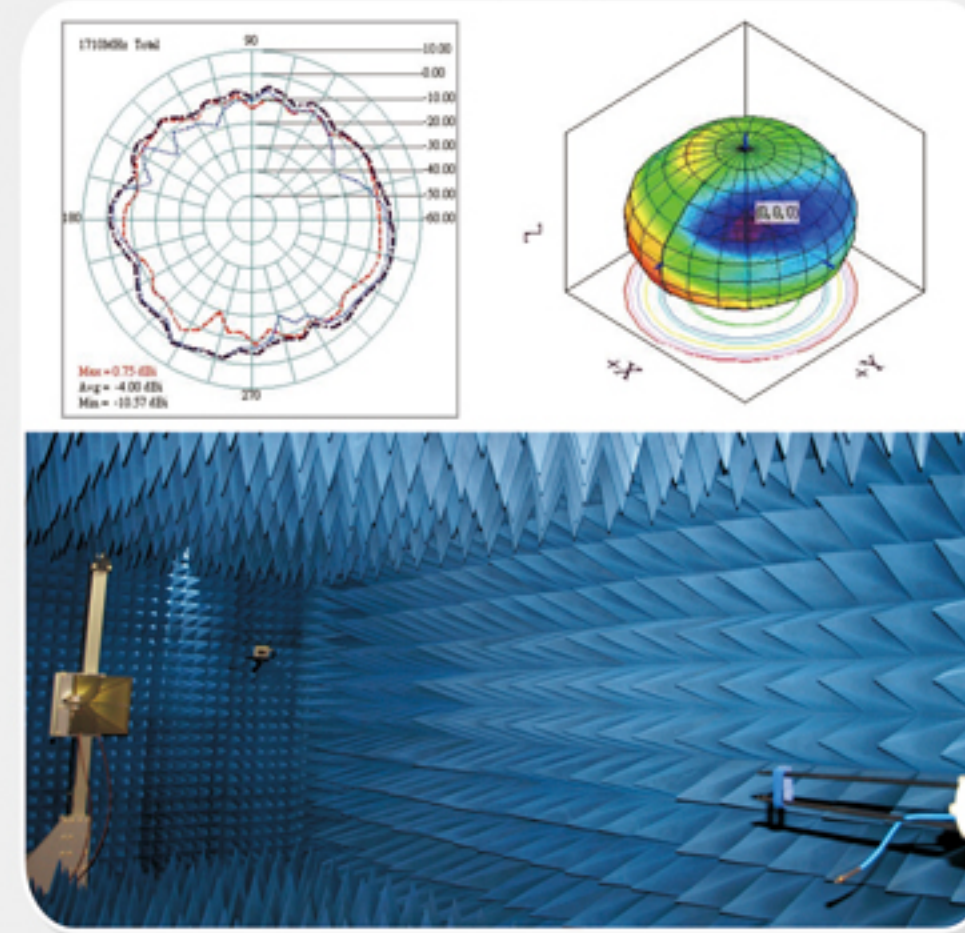
Prototyping & Engraving Machine

- Save mockup tooling time and cost.
- Engrave antenna circuit shortly and react quickly for design changes.



Network & Spectrum Analyzer

- Measure VSWR and Smith Chart.
- Measure antenna gain & TRP test.



3D RF Anechoic Chamber

- TRP/TIS active pretest for GSM/GPRS.
- Provide debug services.
- Passive 2D & 3D gain measuring and testing.

Why Professional Custom Antenna Design is Required?

Antenna radiation efficiency can be easily affected by the dielectric coefficient and mechanism of the device.

There could be EMI and RF interference nearby which obstruct the overall performance.

So finding a reliable antenna design & manufacturing partner for your wireless device is always a smart choice!!!

Process of the Custom Antenna Design:

Product Planning



Quotation



Prototype



Production Pilot Run



Production

- Components layout on the PCB.
- Determine antenna type to use.
- The space available for the antenna.
- Discuss possible RF signals or module nearby the antenna.
- Freeze the specs of antenna.

- Confirm antenna SPEC and quote.

- Submit antenna samples for feasibility tests.
- Passive test with the device after mockup antenna samples is ready (non-working device is fine at this stage)
- Discuss the possibility to improve or fine tune the antenna efficiency based on the submitted antenna samples.

- Functionality tests.
- Antenna fine tuned for the mass production if necessary.

- Product released.

