4G Cellular Antenna

Internal Antenna

Band	Internal antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension (mm)	Polarization	Impedance	Operating Temperature
NBIoT	Internal	FHAN0S00	LPWA SMD Chip Antenna	Cirocomm	700 – 960 & 1710 – 2690	40x8x3.2	Linear	50 Ω	-40ºC to + 85ºC

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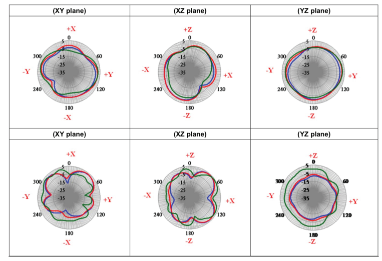
Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension (mm)	Polarization	Impedance	Operating Temperature
4G	Internal	RFPCA3505 00NNTB003	SMD Chip antenna	Walsin	698 ~ 960 1710~ 2170 2500~ 2700	35.0 X 5.0 X 3.0	Linear	50 Ω	-40ºC to + 85ºC

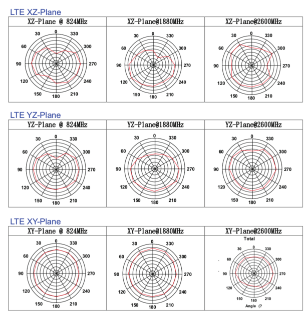
Antenna Return loss and VSWR Data	
Working Frequency Range	698 ~ 960 MHz / 1710 ~ 2690 MHz
Effeciency	69% / 72% max.
VSWR	3.0 max



Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	Internal	EHA8AI00	flexi PCB with u.FL	Cirocomm	698 ~ 960 1710 ~ 2170 2500 ~ 2700	120 30 *0.15 mm	Linear	50 Ω	-40ºC to + 85ºC

Antenna Return Loss and VSWR Data						
Frequency(MHz)	698	960	1710	2170	2500	2700
Return Loss (dB)	-4.64	-4.42	-11.92	-13.82	-11.88	-11.41
VSWR	3.87	4.01	1.67	1.51	1.68	1.73

Antenna parameter Summary						
Frequency(MHz)	698	960	1710	2170	2500	2700
Efficiency(%)	77.53	38.41	92.3	67.8	70.87	71.77
Average Gain(dBi)	-1.1	-4.15	-0.34	-1.68	-1.49	-1.44
Peak Gain(dBi)	1.35	-1.24	3.96	2.77	1.83	3.46



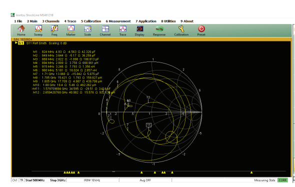
Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	Internal	NAPL -LTE11020	flexi PCB with u.FL	Nexcomm	698 – 960 & 1710 – 2700	110*20*0.2mm	Linear	50 Ω	-40ºC to + 85ºC

Antenna Return loss and VSWR Data	
Gain	V.S.W.R
3 dBi	< 3.0

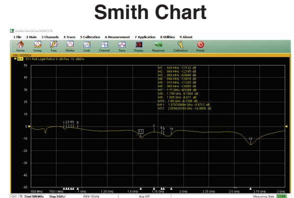
NXM R&D - RF Tuning Services

1. Antenna selection, placement, RF connector selection and counselling on PCB layout, Tuning solution for required band of interest.
2. Measurement and characterization of integrated antenna upto 6 GHz (Deliverables: S11 parameter file(.s1p), Return loss, VSWR and Smith chart along with detailed test report)
3. Bare PCB RF Feedline measurement upto 6GHz (Deliverables: S11 parameter file (.s1p), Return loss, VSWR and Smith chart along with detailed test report)

Test Set Up



Smith Chart



Return loss

NEXCOMM Asia

External Antenna

NEXCOMM Asia

Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	External	LWC-4G-MM-06	Extended cable SMA conn	Lambdoid	700 – 960 & 1710 – 2700	App 310 x ϕ32 mm	Linear	50 Ω	-40°C to + 85°C

Antenna Return loss and VSWR Data		
Band	Impedance(Ω)	VSWR
6/7 dBi	50	< 2.0

PSA PASSIVE SYSTEM ALLIANCE WALSIN TECHNOLOGY CORPORATION

Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	External	RFDPA131000SMTB809	Flexi angle Type antenna	Walsin	700 – 960& 1710 – 2690	App 155 mm x ϕ10 mm	Linear	50 Ω	-40°C to + 85°C

SINBON

Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	External	LTE Band w/o cable	Full-Band LTE High Speed External Antenna	Sinbon	700 – 960& 1710 – 2690		Linear	50 Ω	-40°C to + 85°C

SINBON

Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	External	LTE Band with cable	Full-Band LTE High-Speed External Antenna W/ Cable	Sinbon	700 – 960 & 1710 – 2690		Linear	50 Ω	-40°C to + 85°C

SINBON

Band	Antenna	Part number	Description	Make	Working Frequency (MHz)	Dimension	Polarization	Impedance	Operating Temperature
4G	External	LTE+GNSS	Full-band LTE/GPS External Antenna W/ Cable	Sinbon	700 – 960 & 1710 – 2690		Linear	50 Ω	-40°C to + 85°C

NEXCOMM Asia

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