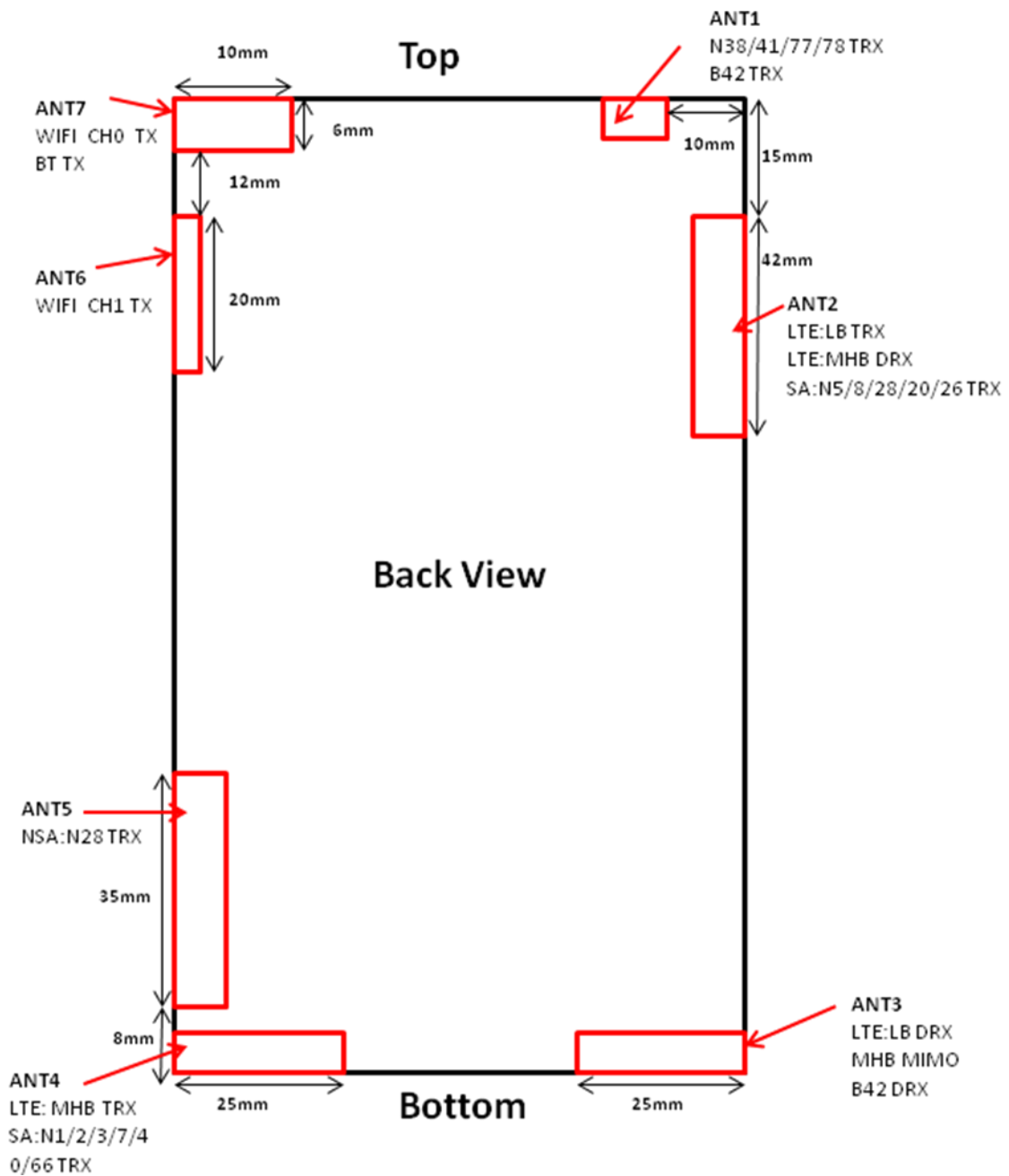


Shenzhen Tengfei Technology Management Ltd.

Antenna parameter sheet for NX769J

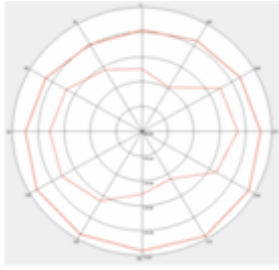
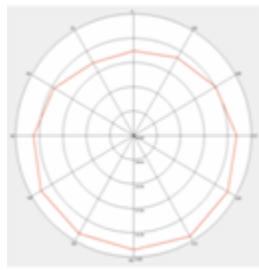
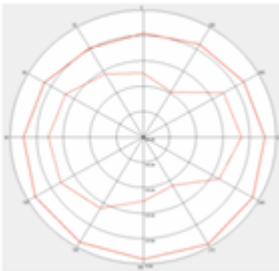
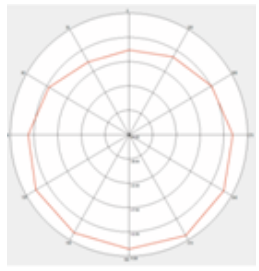
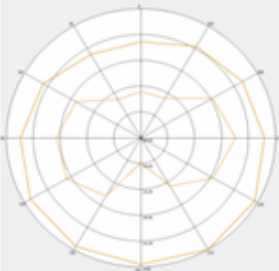
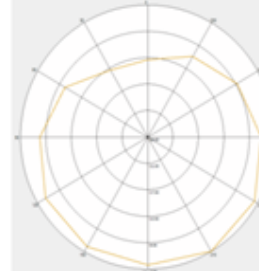
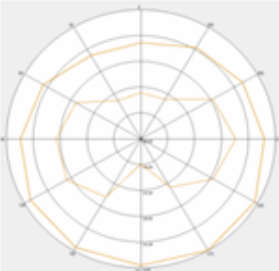
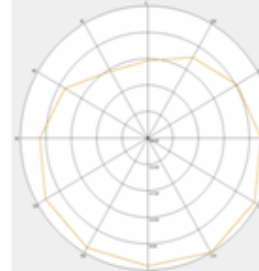
	Main antenna	Diversity antenna	GPS/WIFI/BT antenna	NR antenna
Antenna type	Internal PIFA	Internal PIFA	Internal PIFA	Internal PIFA
Model	NX769_main antenna	NX769_Diversity antenna	NX769_GPS/WIFI/BT antenna	NX769_NR antenna
Antenna manufacturer	Shenzhen Zhongtian Xun Communication Technology Shares Co., Ltd.			
Antenna position	up	bottom	up	up

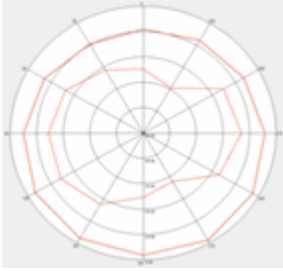
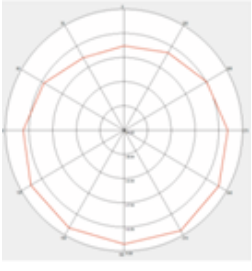
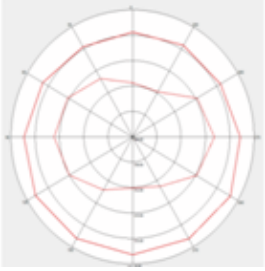
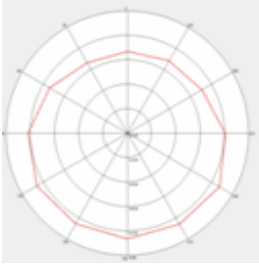
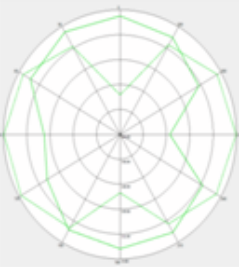
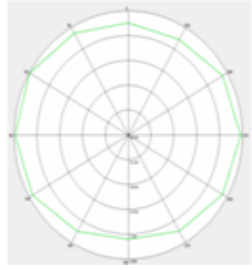
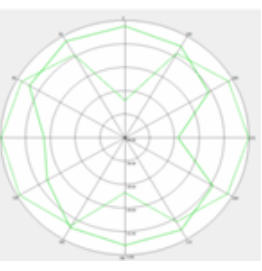
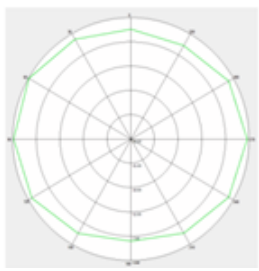
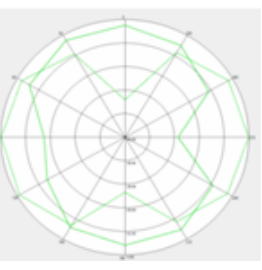
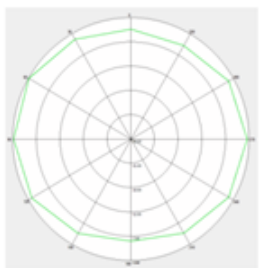
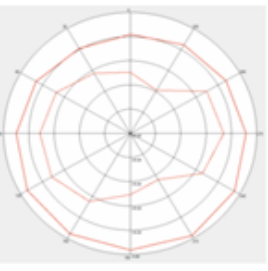
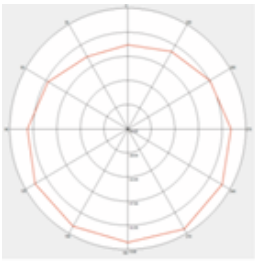


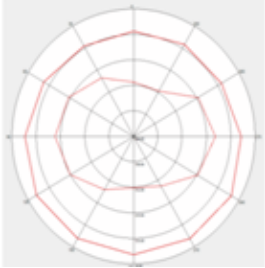
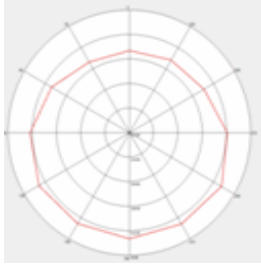
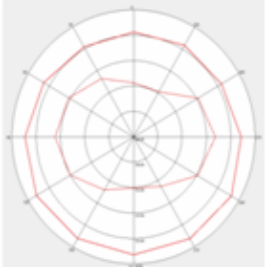
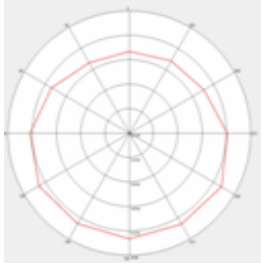
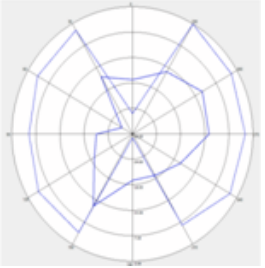
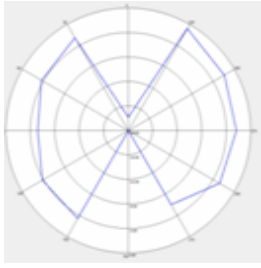
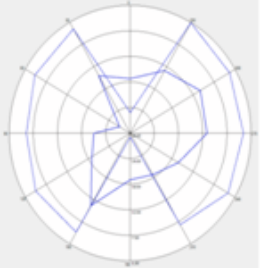
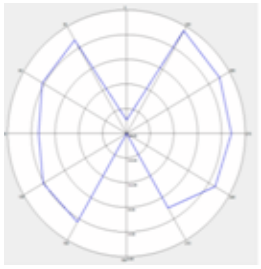
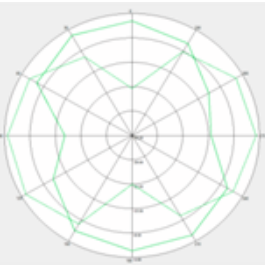
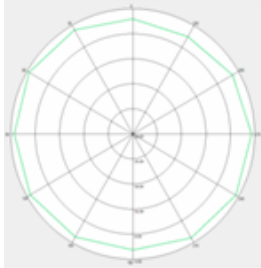
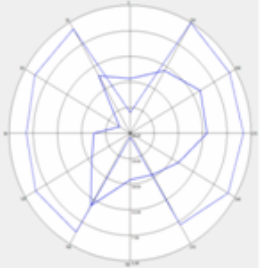
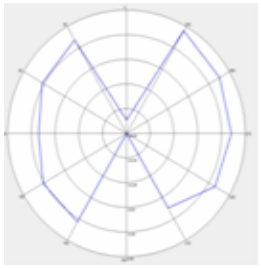
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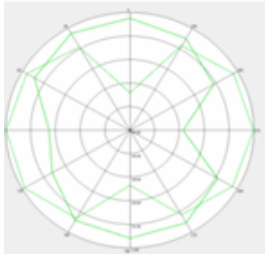
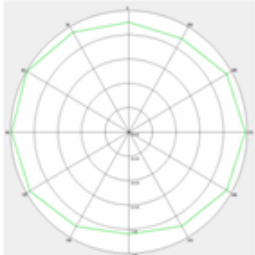
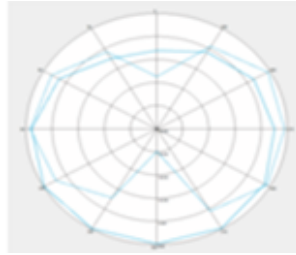
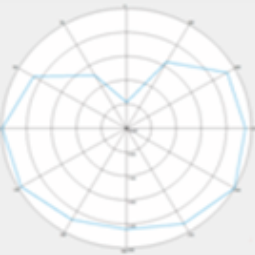
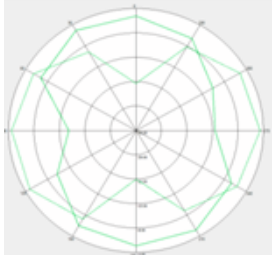
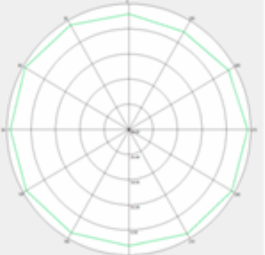
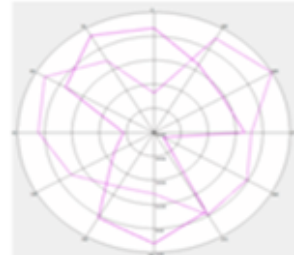
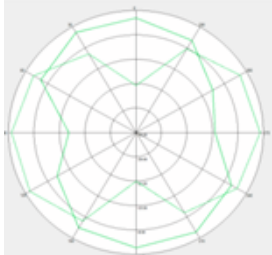
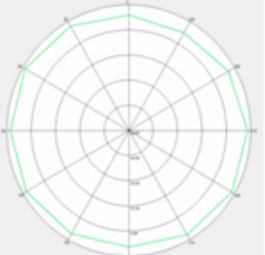
1. LTE LB switches between ANT2 and ANT3;
2. LTE MHB switches between ANT4 and ANT2;
3. B42 switches between ANT1 and ANT3.

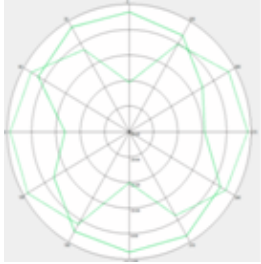
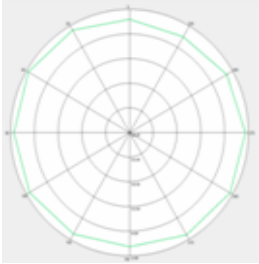
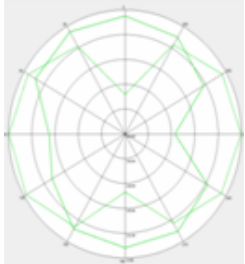
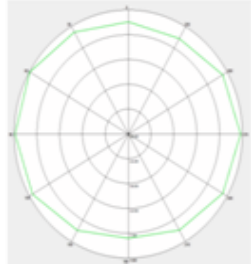
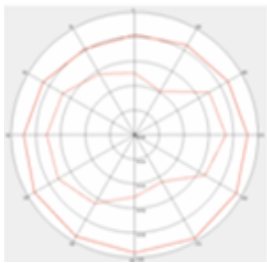
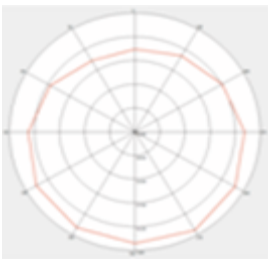
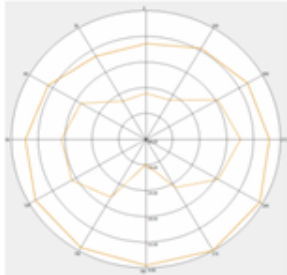
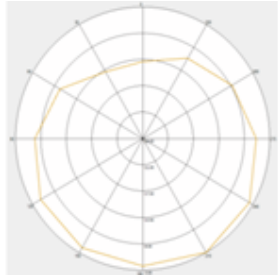
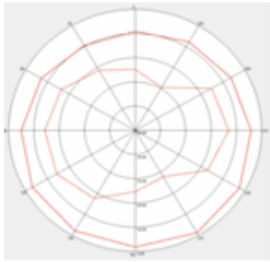
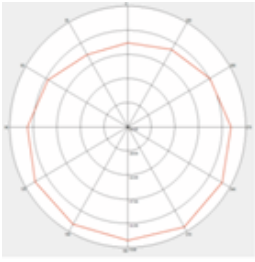
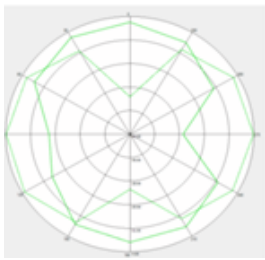
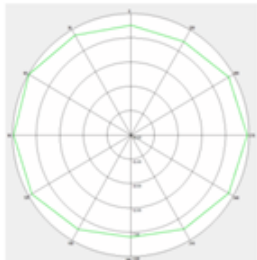
Radiated pattern diagram

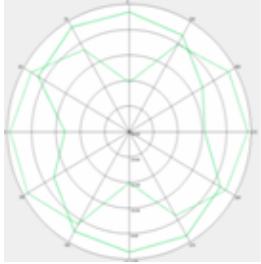
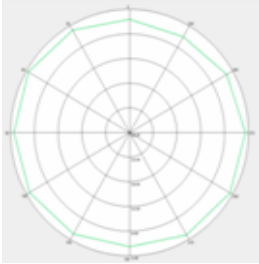
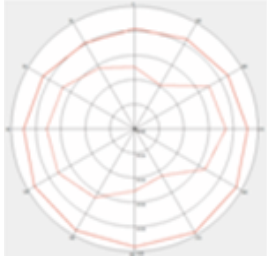
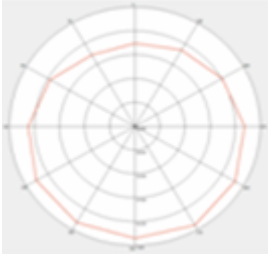
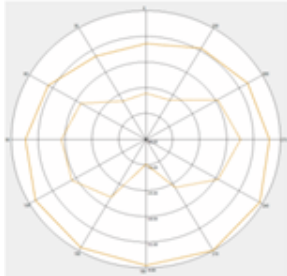
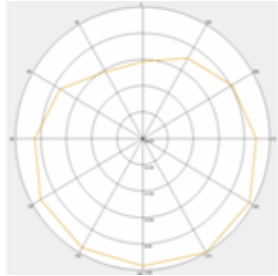
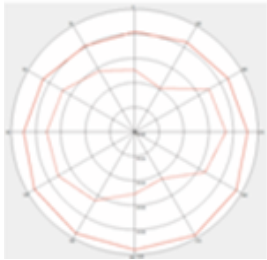
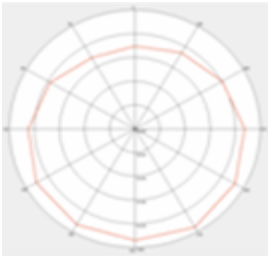
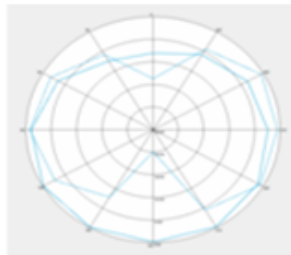
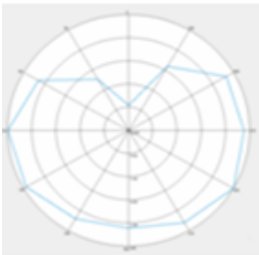
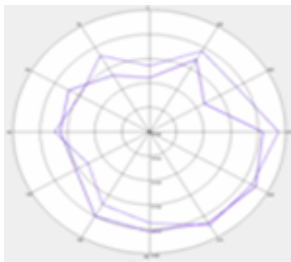
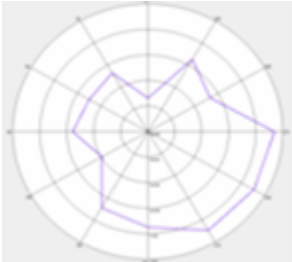
Antenna	PIFA Antenna (Main antenna)		
Band	Radiated pattern diagram		Gain data (dBi)
	H\V	H+V	
LTE B19 (834MHz)			-3.4
LTE B20 (831MHz)			-3.4
LTE B5 (840MHz)			-3.4
LTE B8 (910MHz)			-2.3

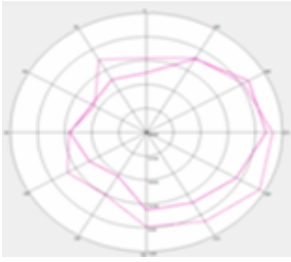
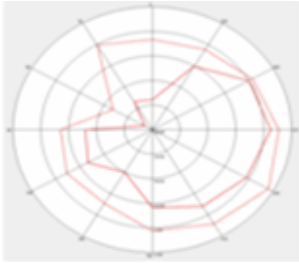
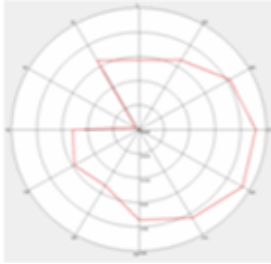
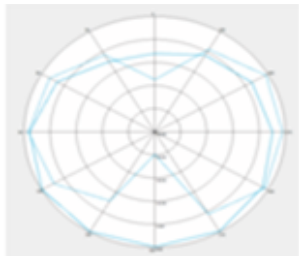
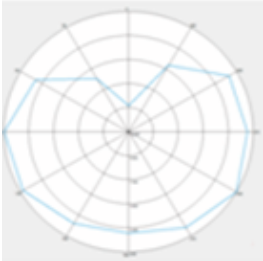
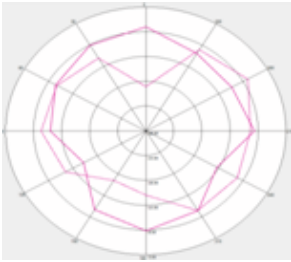
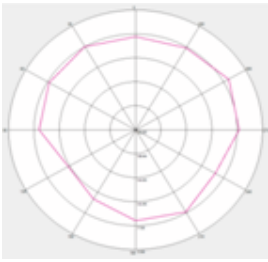
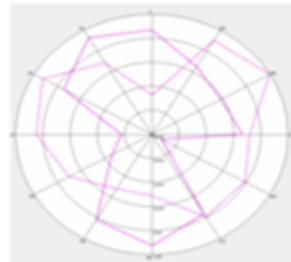
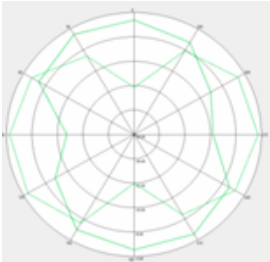
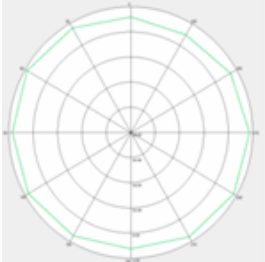
LTE B26 (831MHz)			-3.4
LTE B28 (720MHz)			-4.7
LTE B4 (1740MHz)			-1.5
LTE B2 (1850MHz)			-1.5
LTE B3 (1715MHz)			-1.5
LTE B18 (830MHz)			-3.4

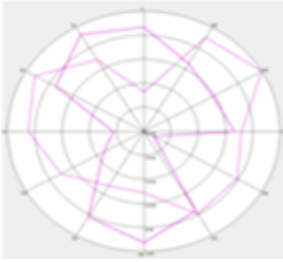
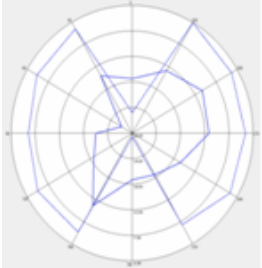
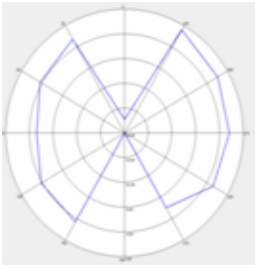
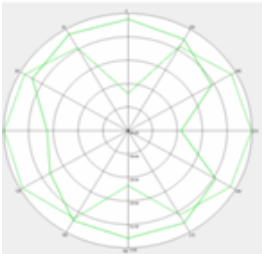
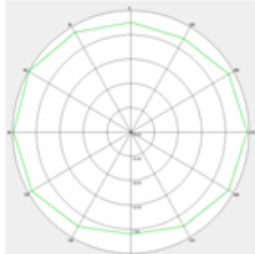
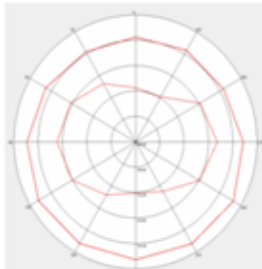
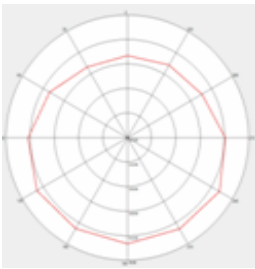
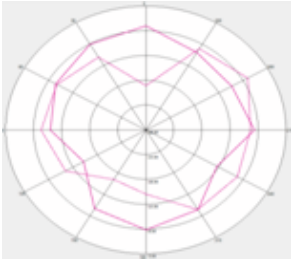
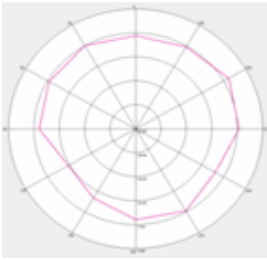
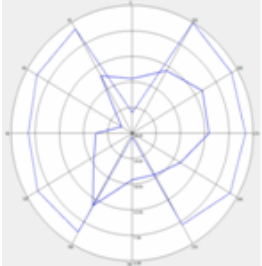
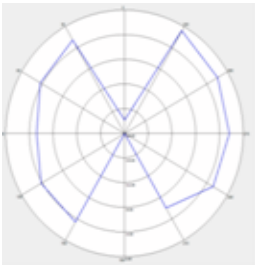
LTE B17 (710MHz)			-4.7
LTE B12 (710MHz)			-4.7
LTE B66 (1740MHz)			-1.5
LTE B7 (2500MHz)			-1.5
LTE B1 (1930MHz)			-1.3
LTE B38 (2600MHz)			-1.8

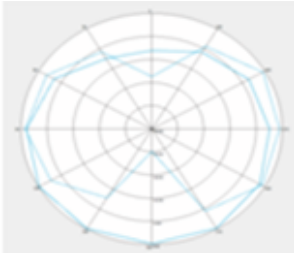
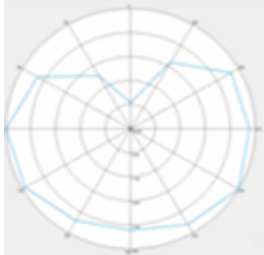
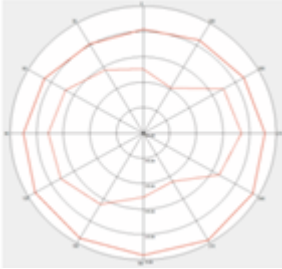
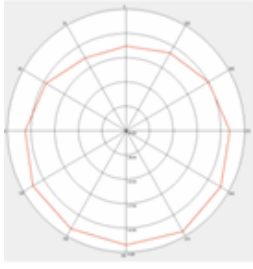
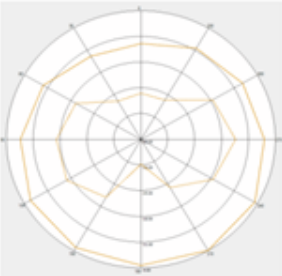
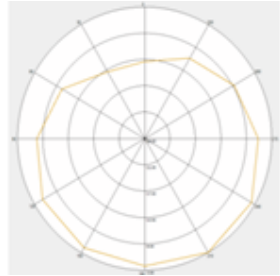
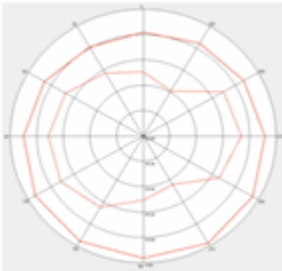
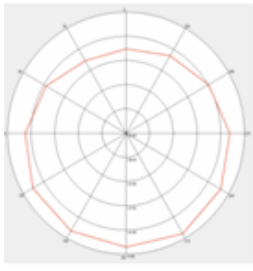
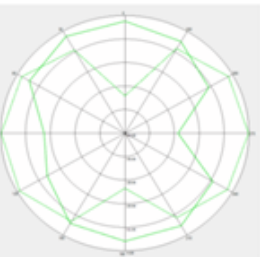
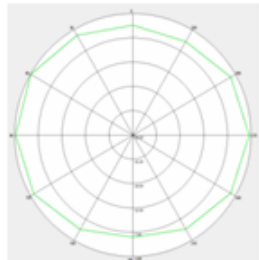
LTE B39 (1920MHz)			-1.5
LTE B40(2350MHz)			-1.6
LTE B41(2600MHz)			-1.8
LTE B34 (2010MHz)			-1.5
LTE B42(3500M)			-0.5
WCDMA B1 (1930MHz)			-1.3

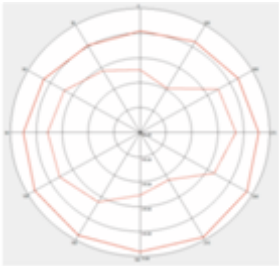
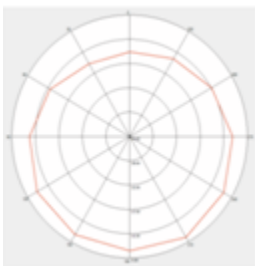
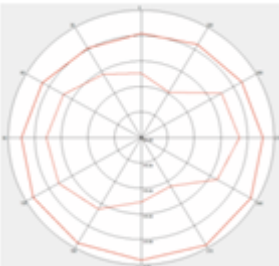
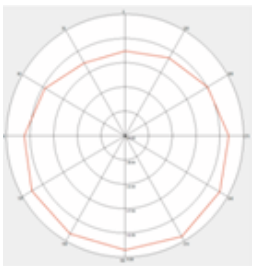
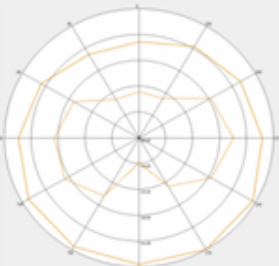
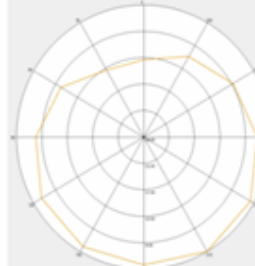
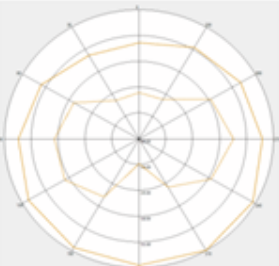
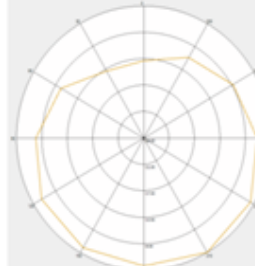
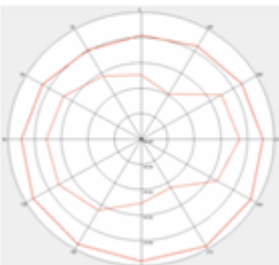
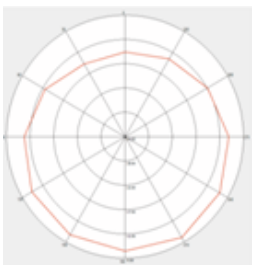
WCDMA B2 (1850MHz)			-1.5
WCDMA B4 (1740MHz)			-1.5
WCDMA B5 (835MHz)			-3.4
WCDMA B8 (910MHz)			-2.3
WCDMA B6 (830MHz)			-3.4
GSM B3 (1715MHz)			-1.5

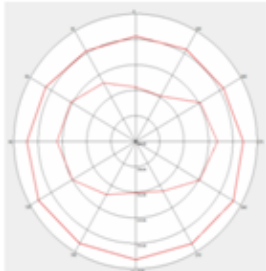
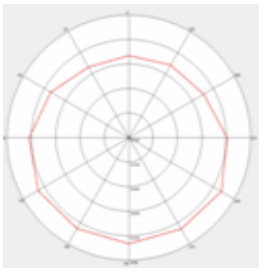
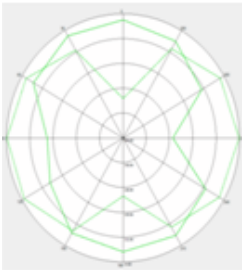
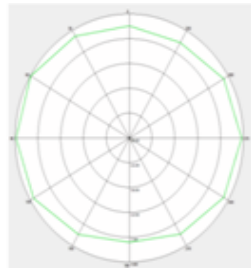
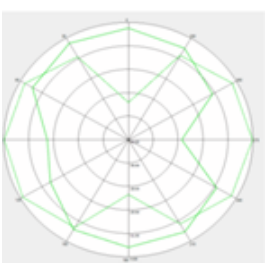
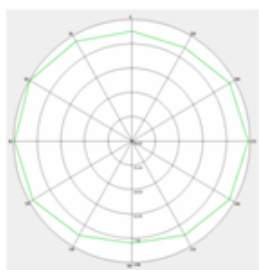
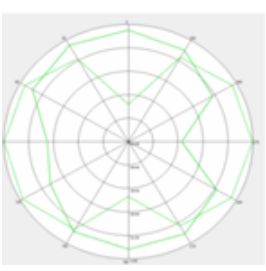
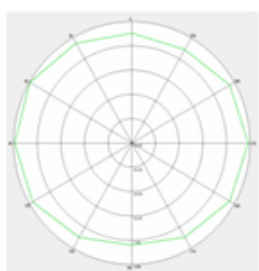
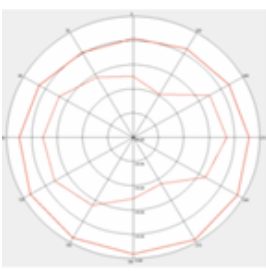
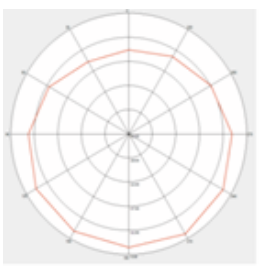
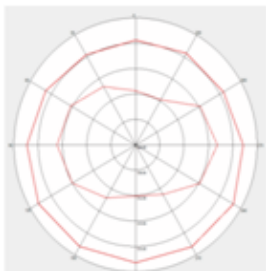
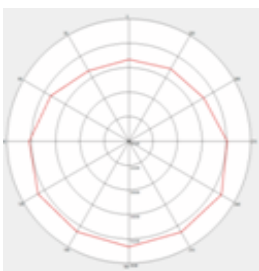
GSM B2 (1850MHz)			-1.5
GSM B5 (835MHz)			-3.4
GSM B8 (910MHz)			-2.3
CDMA BC0 (835MHz)			-3.4
WIFI 2.4G 11g (2420MHz) CH0			0.7
WIFI 5G 11a (5150MHz) CH0			-0.2

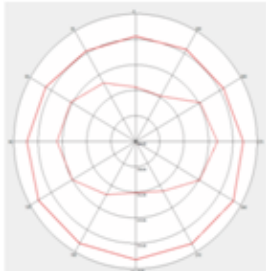
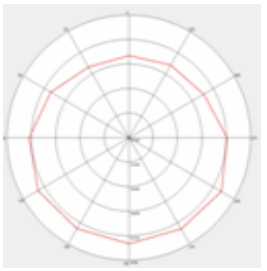
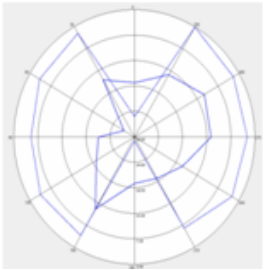
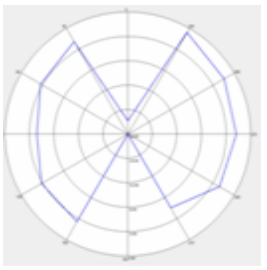
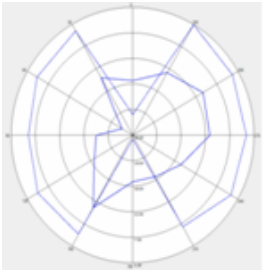
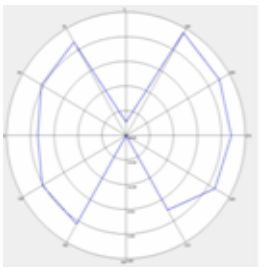
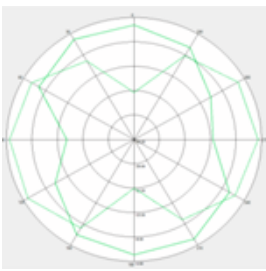
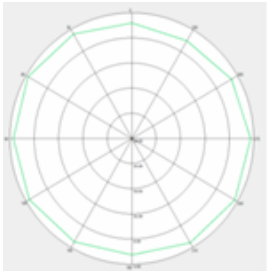
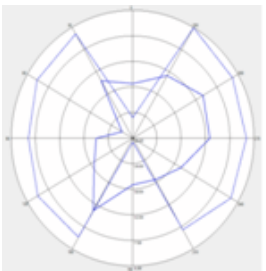
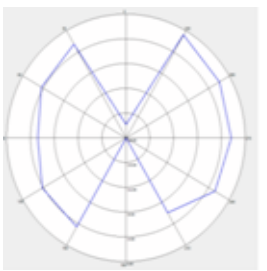
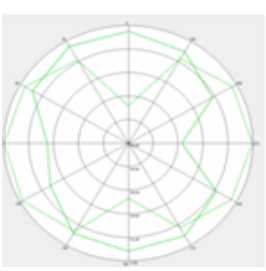
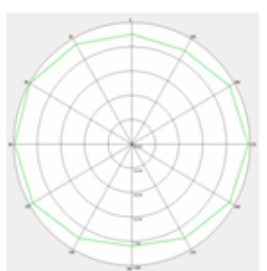
WIFI 5G 11a (5500MHz) CH0			-0.5
WIFI 5G 11a (5850MHz) CH0			-2
BT(2425MHz)			0.7
N66(1750MHz)			-0.5
N41(2600MHz)			-1
N1(1930MHZ)			-1.3

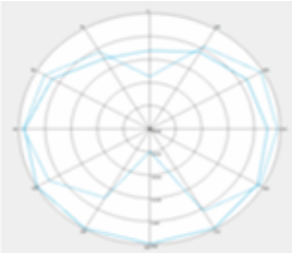
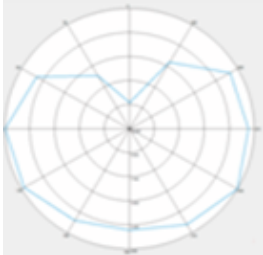
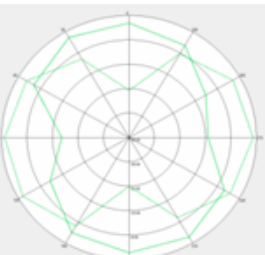
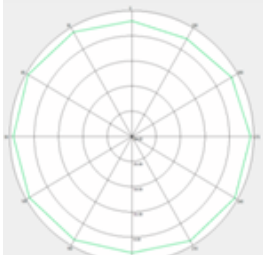
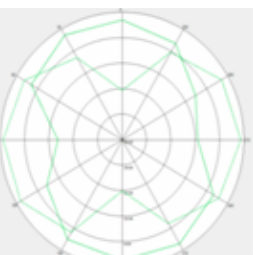
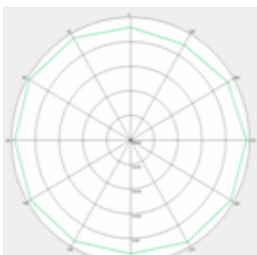
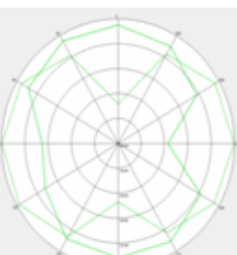
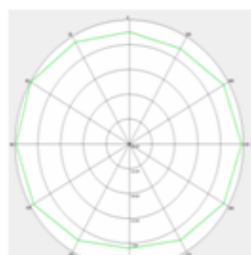
N78(3800M)			-0.5
N7(2500MHZ)			-2.2
N3(1715MHZ)			-1.5
N28(720MHZ)			-4.7
N77(4100M)			-0.5
N38 (2600MHz)			-1.8

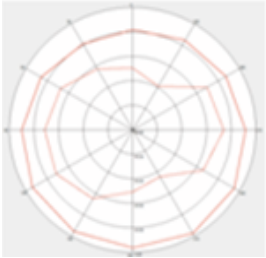
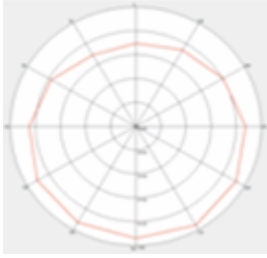
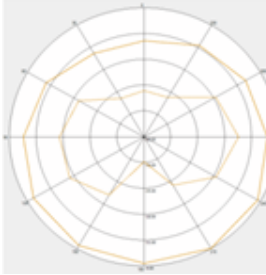
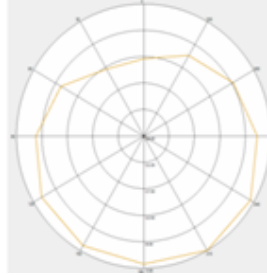
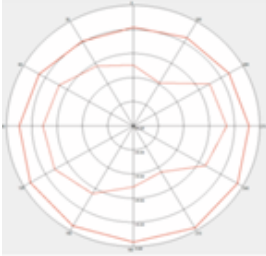
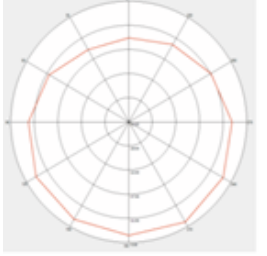
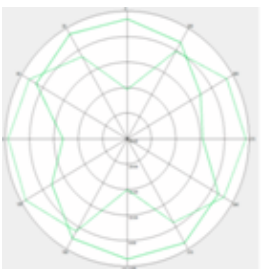
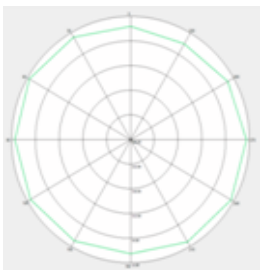
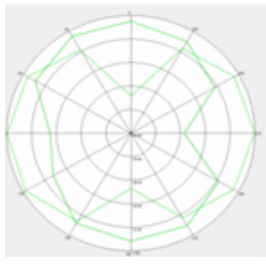
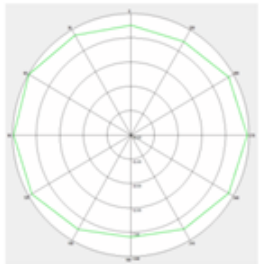
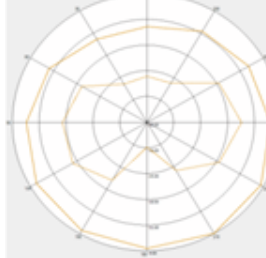
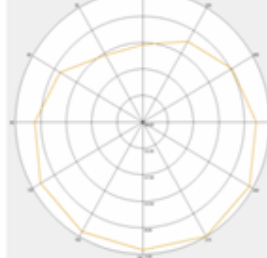
N40(2350MHz)			-1.6
N20 (831MHZ)			-3.4
N5 (840MHz)			-3.4
N26 (814MHz)			-3.4
N2 (1850MHz)			-1.5

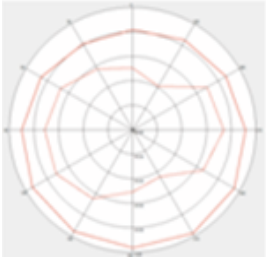
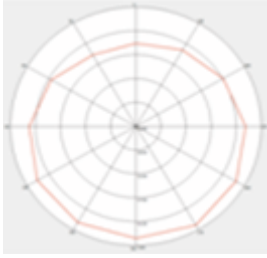
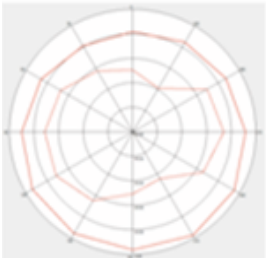
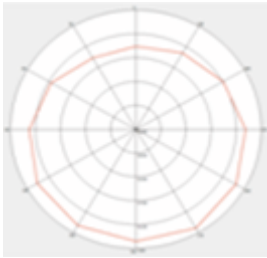
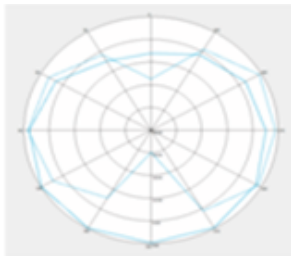
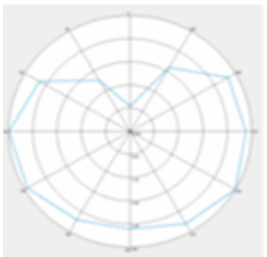
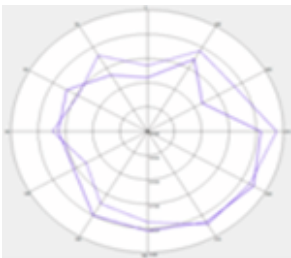
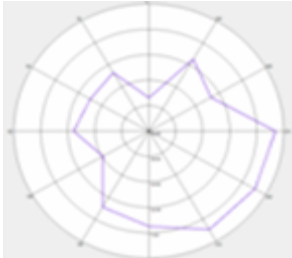
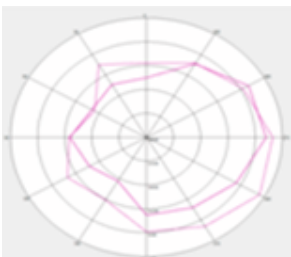
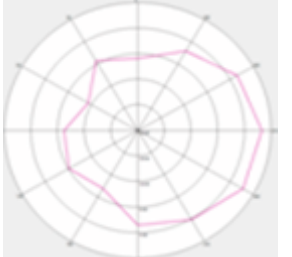
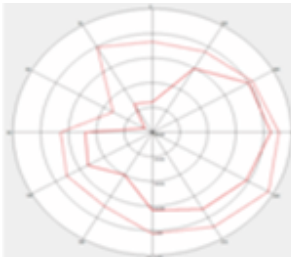
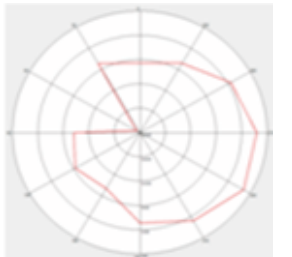
Antenna	PIFA Antenna (Diversity antenna)		
Band	Radiated pattern diagram		Gain data (dBi)
	H\V	H+V	
LTE B19 (834MHz)			-4.5
LTE B20 (831MHz)			-4.5
LTE B5 (840MHz)			-4.5
LTE B8 (910MHz)			-5
LTE B26 (831MHz)			-4.5

LTE B28 (720MHz)			-4.9
LTE B4 (1740MHz)			-3
LTE B2 (1850MHz)			-3
LTE B3 (1715MHz)			-3
LTE B18 (830MHz)			-4.5
LTE B17 (710MHz)			-4.9

LTE B12 (710MHz)			-4.9
LTE B66 (1740MHz)			-3
LTE B7 (2500MHz)			-2.2
LTE B1 (1930MHz)			-2.1
LTE B38 (2600MHz)			-2.2
LTE B39 (1920MHz)			-2.1

LTE B40(2350MHz)			-2.2
LTE B41(2600MHz)			-2.2
LTE B42(3500M)			-1
WCDMA B1 (1930MHz)			-2.1
WCDMA B2 (1850MHz)			-2.1
WCDMA B4 (1740MHz)			-3

WCDMA B5 (835MHz)			-4.5
WCDMA B8 (910MHZ)			-5
WCDMA B6 (830MHz)			-4.5
GSM B2 (1850MHz)			-2.1
GSM B3 (1715MHz)			-3
GSM B8 (910MHZ)			-5

GSM B5 (835MHz)			-4.5
CDMA BC0 (835MHz)			-4.5
WIFI 2.4G 11g (2420MHz) CH1			-0.5
WIFI 5G 11a (5150MHz) CH1			-0.8
WIFI 5G 11a (5500MHz) CH1			-1
WIFI 5G 11a (5850MHz) CH1			-0.5

VSWR&Gain

Main antenna									
Freq(MHz)	703	824	960	1710	1990	2170	2500	2690	3500
VSWR	3.5	3	3.2	1.5	1.2	2.4	1.8	2.3	2
Gain(dBi)	-4.7	-3.4	-3.6	-1.5	-1.3	-2	-1.5	-2.07	-0.5
Diversity antenna									
Freq(MHz)	703	824	960	1710	1990	2170	2500	2690	3500
VSWR	6	3.4	3.8	2.1	1.8	2	1.5	1.9	3
Gain(dBi)	-4.9	-4.5	-5	-3	-2.1	-2.1	-2.2	-2.2	-1
GPS/WIFI CH0/BT antenna									
Freq(MHz)	1571	2400	2500	5200	5500	5800			
VSWR (MHz)	2	2.1	2.1	3	2.1	4			
Gain(dBi)	-1	0.7	0.7	-0.2	-0.5	-2			
WIFI CH1 antenna									
Freq(MHz)		2400	2500	5200	5500	5800			
VSWR (MHz)		2.6	2.6	2.8	3	2.5			
Gain(dBi)		-0.5	-0.5	-0.8	-1	-0.5			
NR antenna									
Freq(MHz)	1700	2500	2700	3500					
VSWR (MHz)	2.6	2.4	2.6	2					
Gain(dBi)	-0.5	-0.5	-1	-0.5					

TRP&TIS (Free Space)

Band	WCDMA B2			WCDMA B4			WCDMA B5		
TRP(dBm)	18.02	18.08	18.18	17.83	17.87	17.87	16.16	16.19	16.57
TIS(dBm)	-107.7	-107.8	-107	-106.8	-106.5	-106.7	-104.6	-104.2	-103.7
Band	WCDMA B1			WCDMA B8			WCDMA B6		
TRP(dBm)	18.2	18.1	17.58	15.24	15.15	14.87	17.24	17.15	17.07
TIS(dBm)	-106.6	-106.8	-106.8	-105.1	-104.8	-104.2	-106.1	-106.5	-106.3
Band	WCDMA B19								
TRP(dBm)	16.19	16.56	16.57						
TIS(dBm)	-105.8	-104.5	-104.7						
Band	LTE B7			LTE B4			LTE B2		
TRP(dBm)	17.80	18.11	18.48	18.55	18.42	18.61	18.24	18.15	17.87
TIS(dBm)	-90.3	-90.8	-91.2	-96.7	-96.8	-96.7	-95.8	-95.6	-95.9
Band	LTE B5			LTE B18			LTE B19		
TRP(dBm)	16.38	16.39	16.22	15.66	15.86	16	16.43	16.75	16.78
TIS(dBm)	-91.09	-91.21	-91.24	-91.05	-91.27	-90.8	-89.94	-90.5	-90.6
Band	LTE B26			LTE B12			LTE B66		
TRP(dBm)	15.47	16.06	16.5	16.95	16.88	16.82	17.84	17.63	17.81
TIS(dBm)	-93.24	-94.25	-93.33	-90.20	-90.03	-90.41	-96.3	-96.29	-96.38
Band	LTE B1			LTE B3			LTE B8		
TRP(dBm)	18.35	18.02	18.01	17.45	17.92	18.11	15.53	15.13	14.87
TIS(dBm)	-96.1	-96.2	-96.1	-95.7	-95.8	-95.7	-91.7	-90.1	-89.4
Band	LTE B28			LTE B19			LTE B20		
TRP(dBm)	16.55	16.42	14.61	16.55	16.92	16.91	16.95	16.44	16.77
TIS(dBm)	-91.3	-91.1	-88.73	-91.71	-91.82	-91.76	-91.1	-91.83	-91.1
Band	LTE B34			LTE B38			LTE B39		
TRP(dBm)	17.53	17.58	17.21	18.55	18.42	18.61	18.5	18.2	18.01
TIS(dBm)	-92.76	-93.4	-92.79	-90.37	-90.58	-90.32	-92.78	-93.38	-93.17
Band	LTE B40			LTE B41			LTE B42		
TRP(dBm)	18.56	18.49	18.62	19.5	19.4	19.63	18.55	18.42	18.61
TIS(dBm)	-91.74	-91.82	-91.71	-91.7	-91.88	-91.9	-92.5	-92.18	-91.7
Band	LTE B17								
RP(dBm)	16.46	16.49	16.31						
TIS(dBm)	-90.72	-92.1	-91.14						
Band	NR 66			NR 41			NR 38		
RP(dBm)	18.84	18.63	18.81	20.42	20.05	20.04	17.32	17.87	17.34
TIS(dBm)	-91.38	-91.94	-91.63	-86.67	-86.39	-86.33	-85.38	-85.94	-86.38

Band	NR 40			NR 78			NR 77		
RP(dBm)	18.3	17.8	18.07	20.1	20.3	19.14	20.24	20.67	17.14
TIS(dBm)	-90.78	-90.91	-90.33	-86.45	-86.19	-86.67	-86.56	-86.07	-84.97
Band	NR 1			NR 3			NR 7		
RP(dBm)	18.71	18.62	18.11	17.35	17.01	17.01	17.38	17.02	17.47
TIS(dBm)	-94.32	-94.17	-94.07	-93.42	-94.1	-94.39	-91.08	-91.41	-90.67
Band	NR 8			NR 20			NR 5		
RP(dBm)	15.85	15.42	15.38	16.39	16.44	16.12	16.75	16.67	16.18
TIS(dBm)	-90.04	-90.1	-89.45	-91.67	-92.1	-91.9	-91.72	-91.1	-90.12
Band	NR 2			NR 26			NR 28		
RP(dBm)	17.33	17.47	17.09	17.3	17.01	17.38	16.35	15.42	14.87
TIS(dBm)	-92.38	-92.9	-92.3	-92.01	-91.69	-91.88	-90.72	-89.7	-89.14
Band	GSM B2			GSM B5			GSM B8		
TRP(dBm)	24.5	24.9	25.1	25.4	25.4	25.2	24.1	23.48	23.2
TIS(dBm)	-105.7	-105.6	-105.2	-102.2	-102.4	-102	-101.2	-101	-100.8
Band	GSM B3								
TRP(dBm)	23.3	23.8	24.18						
TIS(dBm)	-105.2	-105.3	-105.2						
Band	CDMA BC0								
TRP(dBm)	17.3	17.2	17.4						
TIS(dBm)	-102.3	-102.7	-102						

Authorized signature: Mei Jing Position: ____ Product Manager ____