

SPECIFICATION

Daxian Communication Technology Limited



Shenzhen Daxian Technology Co., Ltd.

Rhino Mobility LLC T100

Main+diversity+BT&WIFI&GPS antenna

Product specification

Guest households	Rhino Mobility LLC	frequency band	WCDMA: B1/2/4/5 LTE B1/B2/B3/B4/B5/B7/B12/B13/B14/B17/B18/B19/B20/B25/B26/B29/B30/B41B66/B71 BT/WIFI/GPS+diversity
Project name	T100	version	V05
Material No.	Main: 1T-100XX-009 Div: 2T-100XX-009 BT&WIFI&GPS: 3T-100XX-009	color	Black
R F design	Xitian.Chen	structure design	Ye zhi.Bi
Quality Manager	Ziyin.Hu	R & D director	Lei Zhang
Date	2023-07-11		

client confirmation:

Whether the assembly meets your requirements: OK NG

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Index

1.Electrical specification standard.....	4-6
1.1 -1.1.2Main+DIV+BWG Antenna matching.....	7-9
1.2 Antenna composition.....	9
2、 The Equipment of Active Test.....	10
3、 test.....	11
3.1 The Test of standing Wave (VSWR).....	11
3.1.1 test connection.....	11
3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS).....	11
3.2.1 Test site.....	11
3.2.2 Test instrument.....	11
3.2.3 test data	11-23
3.2.4-3.2.15 OTA Passive Efficiency&Gain Test.....	12-23
4、 Attachment chart.....	24-29
4.1-4.9.2、 VSWR parameter diagram.....	24-29

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1、Electrical specification standard

The frequency range of the antenna is

1920MHz~2170MHz,1850MHz~1990MHz,1710MHz~1880MHz,1710MHz~2155MHz,824MHz~894MHz,2500MHz~2690MHz,699MHz~746MHz,777MHz~756MHz,788MHz~768MHz,704MHz~746MHz,

815MHz~875MHz,830MHz~890MHz,832MHz~821MHz,1850MHz~1995MHz,814MHz~894MHz,717MHz~728MHz,2305MHz~2360MHz,2496MHz~2690MHz,1710MHz~2200MHz,612MHz~651MHz,2

400MHz~2500MHz,5150MHz~5850MHz , GPS : 1575MHz. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.

WCDMA<E -band B1				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
W/LTE -B1	1920~1980	≤4	2110~2170	≤4
WCDMA<E -band B2				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
W/LTE -B2	1850~1910	≤4	1930~1990	≤4
LTE -band B3				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B3	1710~1785	≤4	1805~1880	≤4
WCDMA<E -band B4				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
W/LTE -B4	1710~1755	≤4	2110~2155	≤4
WCDMA<E -band B5				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
W/LTE -B5	824~849	≤4	869~894	≤4
LTE -band B7				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B7	2500~2570	≤4	2620~2690	≤4
LTE -band B12				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B12	699~716	≤4	729~746	≤4

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LTE -band B13				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
LTE -B13	777~787	≤4	746~756	≤4
LTE -band B14				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
LTE -B14	788~798	≤4	758~768	≤4
LTE -band B17				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B17	704~716	≤4	734~746	≤4
LTE -band B18				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B18	815~830	≤4	860~875	≤4
LTE -band B19				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B19	830~845	≤4	875~890	≤4
LTE -band B20				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B20	832~862	≤4	791~821	≤4
LTE -band B25				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B25	1850~1915	≤4	1930~1995	≤4
LTE -band B26				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B26	814~849	≤4	859~894	≤4

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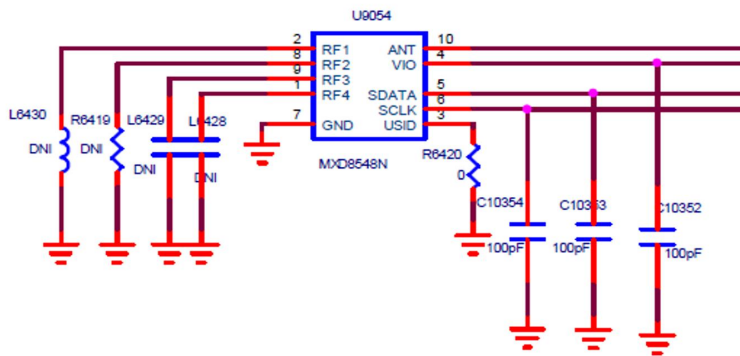
LTE -band B29				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
LTE -B29	717~728	≤4	717~728	≤4
LTE -band B30				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmit TX		The receiving end RX	
LTE -B30	2305~2315	≤4	2350~2360	≤4
LTE -band B41				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B41	2496~2690	≤4	2496~2690	≤4
LTE -band B66				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B66	1710~1780	≤4	2110~2200	≤4
LTE -band B71				
band	band (MHz)	VSWR	band (MHz)	VSWR
	The transmitter TX		The receiving end RX	
LTE -B71	612~651	≤4	612~651	≤4

Frequency Range	Frequency (MHz)	VSWR
BT	2400 ~ 2500	≤ 2
WIFI	2400 ~ 2500, 5150~ 5850	≤ 2
GPS	1575MHz	≤ 2

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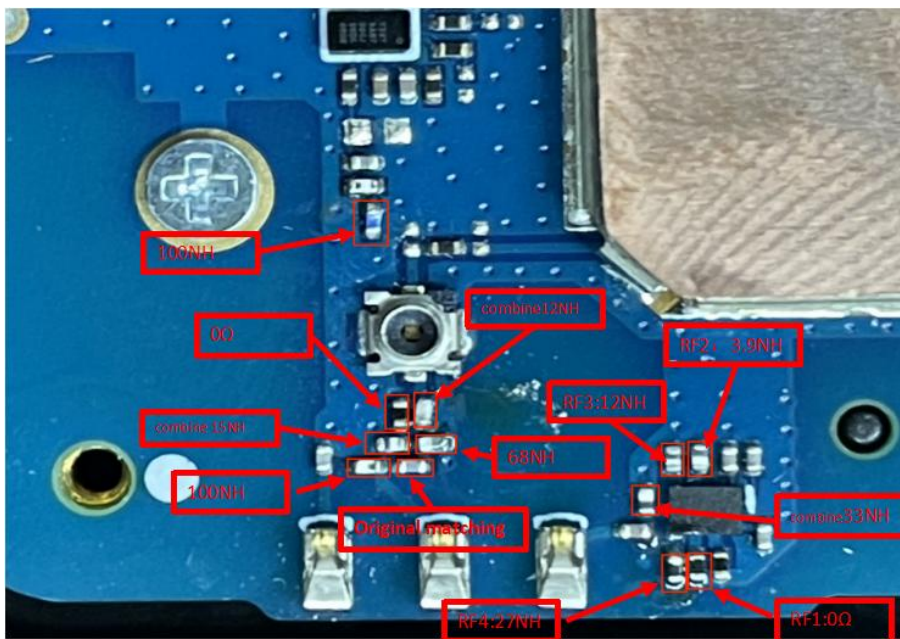
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1.1 antenna matching--MAIN



RF1: 0Ω
RF2: 3.9NH
RF3: 12NH
RF4: 27NH
Resident position: 33NH

Antenna switch logic	
all off:	LTE 71
RF1: on	WCDMA 1/2/4/5 LTE 1/2/3/4/5/7/18/19/25/26/30/41/66
RF2: on	LTE B20
RF3: on	LTE 13/14
RF4: on	LTE 12/17

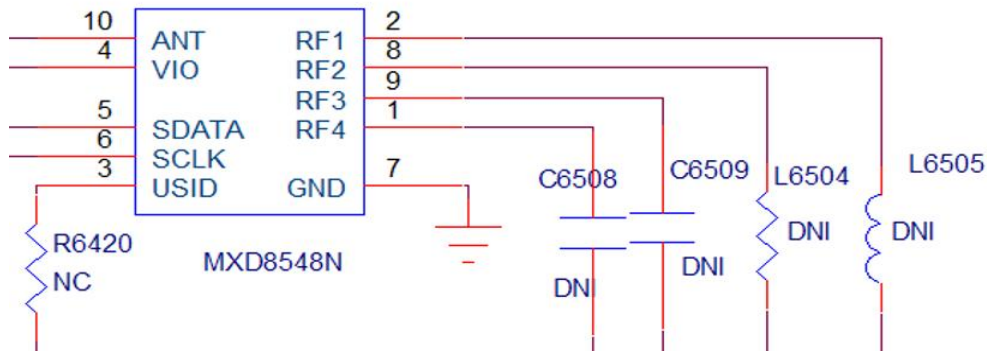


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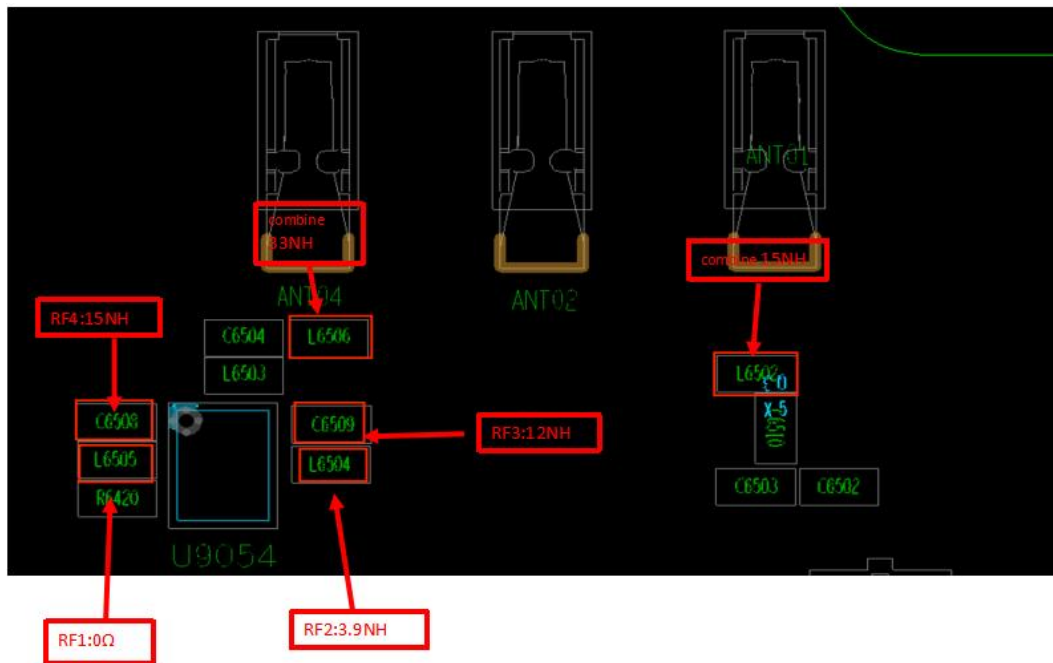
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1.1.1 antenna matching--diversity



Diversity antenna switch logic	
all off:	LTE 71
RF1: on	WCDMA 1/2/4/5 LTE 1/2/3/4/5/7/18/19/25/26/30/41/66
RF2: on	LTE B20
RF3: on	LTE 13/14
RF4: on	LTE 12/17

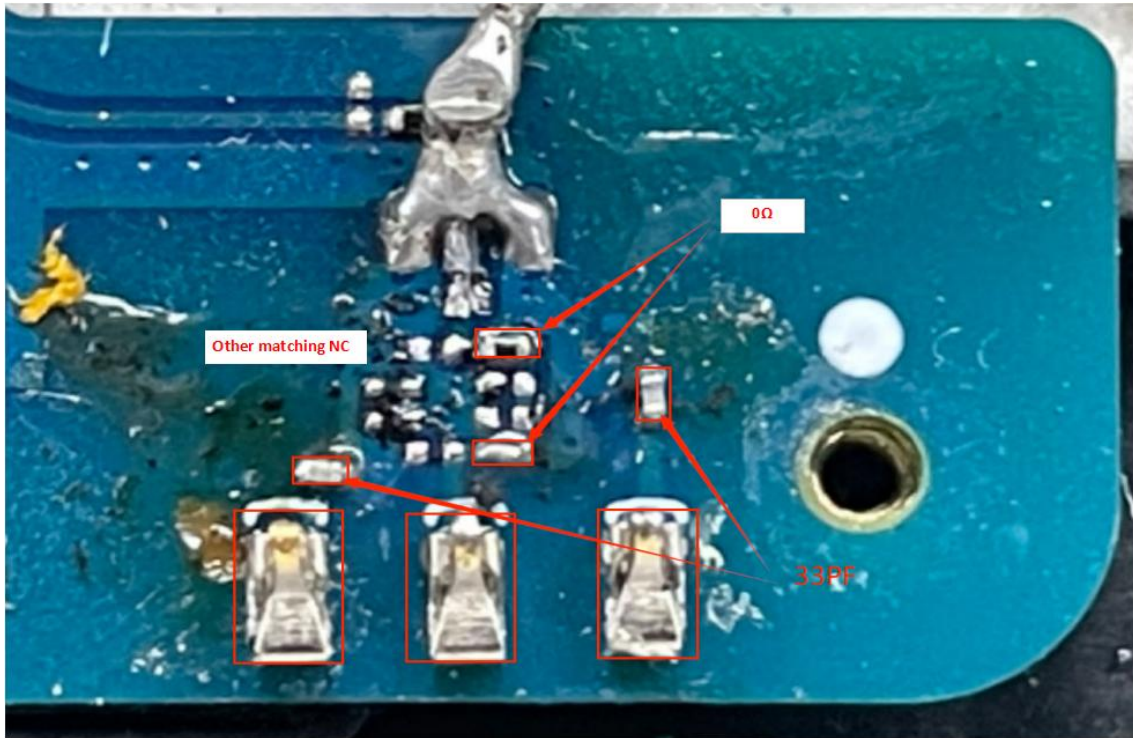


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1.1.2 antenna matching--BT&WIFI&GPS



1.2 Antenna composition

The antenna is mainly composed of FPC.

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2、 The Equipment of Active Test

Satimo 3D Chamber 6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL



Figure 2

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3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR): In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site:

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

3.2.2 Test instrument:

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data : In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test:

FRE-Band	TRP	TIS	FRE-Band	TRP	TIS
B1	19.53		B18	16.71	
	18.95			16.99	
	19.35	-97.34		17.68	-97.33
B2	19.68		B19	17.53	
	19.6			17.66	
	19.3	-96.91		18.18	-96.51
B3	19.92		B20	20.05	
	19.61			19.71	
	19.95	-94.95		19.56	-95.59
B4	20.5		B25	20.28	
	20.46			20	
	20.24	-99.17		20.06	-100.5
B5	17.39		B26	17.13	
	17.66			17.81	
	18.21	-95.67		18.46	-98.96
B7	21.31		B30	20.78	
	21.35			21.03	
	21.42	-94.87		21.12	-99.08
B12	16.43		B66	20.62	
	17.33			20.82	
	18.53	-98.54		21.12	-99.85
B13	20.13		B71	17.24	-95.42
	20.17			19.22	
	20.09	-92.32		20.36	
B14	21.68		B41	24.6	
	21.82			24.32	
	21.81	-95.26		23.72	-93.16
B17	17.81				
	18.18				
	18.96	-95.91			

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3.2.4 OTA Passive Efficiency&Gain Test--B850--MAIN:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
820	32.18	-4.92	-0.61	1910	49.74	-3.03	1.01
830	36.29	-4.4	-0.56	1920	48.39	-3.15	0.79
840	37.69	-4.24	-0.72	1930	46.88	-3.29	0.58
850	39.43	-4.04	-0.87	1940	46.97	-3.28	0.6
860	45.74	-3.4	-0.47	1950	45.4	-3.43	0.49
870	47.5	-3.23	0.6	1960	43.41	-3.62	0.16
880	45.31	-3.44	-0.13	1970	44.52	-3.51	0.14
890	41.19	-3.85	-0.41	1980	44.15	-3.55	-0.16
				1990	41.27	-3.84	-0.5
1700	59.4	-2.26	4.05	2000	39.05	-4.08	-0.81
1710	56.59	-2.47	3.82	2010	37.86	-4.22	-0.74
1720	54.61	-2.63	3.62	2020	38.26	-4.17	-0.34
1730	54.16	-2.66	3.43	2030	37.41	-4.27	-0.54
1740	54.81	-2.61	3.16	2040	36.64	-4.36	-0.54
1750	54.89	-2.61	3.05	2050	38.2	-4.18	-0.57
1760	56.48	-2.48	2.97	2060	37.78	-4.23	-0.53
1770	57.4	-2.41	2.99	2070	37.03	-4.31	-0.72
1780	58.93	-2.3	2.94	2080	36.49	-4.38	-0.5
1790	58.42	-2.33	2.94	2090	36.51	-4.38	-0.17
1800	58.59	-2.32	2.89	2100	36.84	-4.34	0.03
1810	58.49	-2.33	2.83	2110	36.4	-4.39	-0.22
1820	56.59	-2.47	2.7	2120	36.76	-4.35	-0.51
1830	55.17	-2.58	2.51	2130	38.29	-4.17	-0.39
1840	54.24	-2.66	2.45	2140	39.07	-4.08	-0.19
1850	52.97	-2.76	2.29	2150	40.15	-3.96	0.16
1860	53.17	-2.74	2.28	2160	41.68	-3.8	0.44
1870	53.56	-2.71	2.11	2170	42.55	-3.71	0.79
1880	53.4	-2.72	1.89	2180	43.73	-3.59	1.07
1890	53.48	-2.72	1.58	2190	43.45	-3.62	1.22
1900	51.84	-2.85	1.33	2200	43.94	-3.57	1.55

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2210	44.3	-3.54	1.62	2510	55.77	-2.54	4.96
2220	44.15	-3.55	1.76	2520	57.6	-2.4	5.16
2230	45.32	-3.44	1.88	2530	56.56	-2.47	4.95
2240	45.24	-3.44	1.92	2540	57.86	-2.38	5.16
2250	44.98	-3.47	1.99	2550	56.92	-2.45	5.09
2260	45.13	-3.46	2.02	2560	53.3	-2.73	4.99
2270	44.5	-3.52	2.01	2570	50.67	-2.95	4.76
2280	41.9	-3.78	2.01	2580	48.76	-3.12	4.58
2290	42.33	-3.73	2.25	2590	47.92	-3.2	4.43
2300	43.02	-3.66	2.49	2600	46.21	-3.35	4.21
2310	43.58	-3.61	2.82	2610	44.84	-3.48	4.01
2320	45.18	-3.45	3.27	2620	45.07	-3.46	3.94
2330	47.34	-3.25	3.68	2630	45.94	-3.38	4.14
2340	47.94	-3.19	3.91	2640	47.1	-3.27	4.15
2350	48.44	-3.15	4.05	2650	48.94	-3.1	4.4
2360	48.86	-3.11	4.19	2660	49.47	-3.06	4.33
2370	49.18	-3.08	4.28	2670	51.04	-2.92	4.41
2380	49.86	-3.02	4.49	2680	54.57	-2.63	4.64
2390	47.78	-3.21	4.62	2690	56.8	-2.46	4.64
2400	47.11	-3.27	4.72	2700	58.17	-2.35	4.68
2410	46.96	-3.28	4.99				
2420	46.05	-3.37	5.04				
2430	45.03	-3.47	5.04				
2440	44.96	-3.47	4.94				
2450	45.32	-3.44	4.96				
2460	46.65	-3.31	4.95				
2470	47.47	-3.24	4.96				
2480	48.11	-3.18	4.73				
2490	49.3	-3.07	4.66				
2500	53.2	-2.74	4.84				

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3.2.5 OTA Passive Efficiency&Gain Test--B12--MAIN:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	21.34	-6.71	-2.1	1910	40.35	-3.94	0.18
710	24.43	-6.12	-1.23	1920	42.46	-3.72	0.23
720	30.17	-5.2	-0.44	1930	42.8	-3.69	0.08
730	33.28	-4.78	-0.18	1940	43.55	-3.61	0.17
740	36.52	-4.37	0.1	1950	42.42	-3.72	0.01
750	36.99	-4.32	0.22	1960	41.2	-3.85	-0.11
760	36.82	-4.34	0.25	1970	42.28	-3.74	0
770	35.61	-4.48	0.43	1980	41.46	-3.82	-0.22
780	35.71	-4.47	0.67	1990	37.96	-4.21	-0.7
				2000	35.75	-4.47	-1.11
1700	19.98	-6.99	-1	2010	34.63	-4.61	-1.52
1710	18.37	-7.36	-1.29	2020	35.18	-4.54	-1.48
1720	16.96	-7.7	-1.55	2030	34.17	-4.66	-1.55
1730	15.42	-8.12	-1.99	2040	33.12	-4.8	-1.73
1740	14.68	-8.33	-2.51	2050	34.31	-4.65	-1.52
1750	14.39	-8.42	-2.92	2060	33.86	-4.7	-1.57
1760	13.71	-8.63	-3.59	2070	32.84	-4.84	-1.67
1770	11.93	-9.23	-4.51	2080	32.14	-4.93	-1.73
1780	10.8	-9.66	-5.16	2090	31.97	-4.95	-1.64
1790	10.32	-9.86	-5.37	2100	32.23	-4.92	-1.58
1800	10.15	-9.93	-5.53	2110	31.52	-5.01	-1.79
1810	9.8	-10.09	-5.64	2120	31.48	-5.02	-1.81
1820	10.14	-9.94	-5.87	2130	32.5	-4.88	-1.46
1830	11.85	-9.26	-5.28	2140	33.24	-4.78	-0.96
1840	14.44	-8.41	-4.17	2150	34.74	-4.59	-0.58
1850	16.75	-7.76	-3.41	2160	36.88	-4.33	-0.02
1860	20.46	-6.89	-2.54	2170	38.99	-4.09	0.48
1870	26.22	-5.81	-1.4	2180	41.45	-3.83	1.06
1880	31.62	-5	-0.57	2190	41.88	-3.78	1.48
1890	35.8	-4.46	-0.08	2200	42.47	-3.72	1.64
1900	38.02	-4.2	0.11	2210	43.69	-3.6	2.02

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2220	44.97	-3.47	2.08	2530	46.33	-3.34	5.42
2230	47.37	-3.24	2.41	2540	50.2	-2.99	5.9
2240	48.07	-3.18	2.33	2550	52.18	-2.83	6.06
2250	48.38	-3.15	2.49	2560	51.5	-2.88	6.15
2260	48.99	-3.1	2.58	2570	51.46	-2.89	6.12
2270	48.17	-3.17	2.61	2580	50.9	-2.93	6.08
2280	44.67	-3.5	2.11	2590	50.14	-3	5.99
2290	44.22	-3.54	2.08	2600	48.83	-3.11	5.74
2300	43.89	-3.58	2.05	2610	46.71	-3.31	5.55
2310	43.71	-3.59	2.06	2620	46.07	-3.37	5.28
2320	44.58	-3.51	2.47	2630	46.47	-3.33	5.34
2330	45.4	-3.43	2.9	2640	46.89	-3.29	5.23
2340	44.65	-3.5	3.08	2650	47.88	-3.2	5.34
2350	43.95	-3.57	3.26	2660	47.73	-3.21	5.26
2360	43.25	-3.64	3.34	2670	49.19	-3.08	5.32
2370	41.81	-3.79	3.39	2680	51.43	-2.89	5.5
2380	40.93	-3.88	3.5	2690	52.97	-2.76	5.42
2390	37.87	-4.22	3.73	2700	53.98	-2.68	5.42
2400	36.52	-4.37	3.78				
2410	35.39	-4.51	4.14				
2420	34	-4.69	4.22				
2430	33.47	-4.75	4.33				
2440	34.19	-4.66	4.48				
2450	34.96	-4.56	4.56				
2460	35.85	-4.46	4.62				
2470	35.94	-4.44	4.63				
2480	36.08	-4.43	4.52				
2490	36.42	-4.39	4.51				
2500	38.53	-4.14	4.74				
2510	40.89	-3.88	4.9				
2520	44.24	-3.54	5.29				

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3.2.6 OTA Passive Efficiency&Gain Test--B13--MAIN:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
740	32.99	-4.82	0.54	1910	50.31	-2.98	2.04
750	34.14	-4.67	0.7	1920	49.4	-3.06	1.76
760	35.64	-4.48	0.73	1930	47.98	-3.19	1.61
770	36.06	-4.43	0.95	1940	47.76	-3.21	1.48
780	38.05	-4.2	1.16	1950	45.76	-3.39	1.23
790	36.61	-4.36	1.34	1960	43.48	-3.62	0.69
800	43.19	-3.65	1.56	1970	44.04	-3.56	0.51
810	39.39	-4.05	0.67	1980	43.16	-3.65	0.09
				1990	39.99	-3.98	-0.41
1700	11.57	-9.37	-3.54	2000	38.09	-4.19	-0.64
1710	10.97	-9.6	-3.86	2010	37.6	-4.25	-0.56
1720	11.08	-9.55	-3.89	2020	38.89	-4.1	-0.1
1730	12.33	-9.09	-3.45	2030	38.33	-4.16	-0.23
1740	15.06	-8.22	-2.67	2040	37.57	-4.25	-0.17
1750	18.64	-7.3	-1.6	2050	38.96	-4.09	-0.15
1760	22.43	-6.49	-0.77	2060	38.49	-4.15	-0.11
1770	25.71	-5.9	-0.02	2070	37.54	-4.25	-0.2
1780	30.98	-5.09	0.73	2080	37.07	-4.31	-0.22
1790	35.68	-4.48	1.39	2090	37.14	-4.3	0.01
1800	39.6	-4.02	1.77	2100	37.78	-4.23	0.18
1810	42.14	-3.75	1.99	2110	37.49	-4.26	0.05
1820	44.51	-3.52	2.25	2120	37.87	-4.22	-0.04
1830	46.88	-3.29	2.4	2130	39.1	-4.08	-0.18
1840	48.48	-3.14	2.6	2140	39.51	-4.03	-0.3
1850	48.33	-3.16	2.55	2150	40.34	-3.94	-0.09
1860	50.11	-3	2.78	2160	41.78	-3.79	0.18
1870	52.7	-2.78	2.9	2170	42.29	-3.74	0.36
1880	53.31	-2.73	2.81	2180	43.24	-3.64	0.51
1890	53.09	-2.75	2.61	2190	42.45	-3.72	0.36
1900	51.63	-2.87	2.3	2200	41.49	-3.82	0.46

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2210	39.63	-4.02	0.44	2510	60.63	-2.17	5.63
2220	37.38	-4.27	0.63	2520	63.34	-1.98	5.89
2230	36.69	-4.36	0.82	2530	63.55	-1.97	5.92
2240	34.56	-4.61	0.9	2540	65.7	-1.82	6.19
2250	31.33	-5.04	0.78	2550	65.9	-1.81	6.19
2260	28.33	-5.48	0.64	2560	63.05	-2	6.13
2270	25.36	-5.96	0.55	2570	61.38	-2.12	5.93
2280	21.51	-6.67	0.22	2580	59.75	-2.24	5.76
2290	19.21	-7.16	0.12	2590	58.31	-2.34	5.55
2300	17.95	-7.46	0	2600	56.16	-2.51	5.23
2310	17.86	-7.48	0.2	2610	53.52	-2.71	5.02
2320	18.85	-7.25	0.54	2620	52.79	-2.77	4.81
2330	20.1	-6.97	1	2630	52.71	-2.78	4.89
2340	21.52	-6.67	1.37	2640	52.87	-2.77	4.78
2350	24.64	-6.08	1.98	2650	53.45	-2.72	4.83
2360	27.86	-5.55	2.69	2660	52.85	-2.77	4.64
2370	31.28	-5.05	3.19	2670	53.97	-2.68	4.64
2380	36.64	-4.36	4.1	2680	56.52	-2.48	4.81
2390	41.31	-3.84	4.77	2690	58.16	-2.35	4.77
2400	45.15	-3.45	5.28	2700	58.61	-2.32	4.74
2410	47.27	-3.25	5.55				
2420	48.32	-3.16	5.67				
2430	49.25	-3.08	5.72				
2440	49.96	-3.01	5.65				
2450	49.42	-3.06	5.58				
2460	50.67	-2.95	5.46				
2470	52.2	-2.82	5.44				
2480	52.65	-2.79	5.25				
2490	53.4	-2.72	5.19				
2500	57.16	-2.43	5.4				

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3.2.7 OTA Passive Efficiency&Gain Test--B20--MAIN:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
790	25.88	-5.87	0.17	1910	38.65	-4.13	-0.08
800	34.51	-4.62	0.93	1920	39.57	-4.03	-0.14
810	39.05	-4.08	0.99	1930	39.64	-4.02	-0.35
820	44.52	-3.51	1.07	1940	40.35	-3.94	-0.63
830	49.59	-3.05	1.33	1950	39.62	-4.02	-0.67
840	45.82	-3.39	0.22	1960	38.54	-4.14	-0.76
850	43.85	-3.58	-0.14	1970	39.91	-3.99	-0.58
860	45.18	-3.45	0.08	1980	39.59	-4.02	-0.63
870	46.06	-3.37	0.24	1990	36.83	-4.34	-1.07
880	42.35	-3.73	-0.62	2000	35.16	-4.54	-1.24
				2010	34.86	-4.58	-1.27
1700	45.92	-3.38	3.26	2020	36.01	-4.44	-1.04
1710	43.59	-3.61	3.11	2030	35.5	-4.5	-1.2
1720	41.88	-3.78	2.99	2040	35.15	-4.54	-1.27
1730	40.7	-3.9	2.75	2050	36.91	-4.33	-0.91
1740	40.86	-3.89	2.49	2060	36.89	-4.33	-0.59
1750	41.64	-3.8	2.35	2070	36.36	-4.39	-0.32
1760	42.69	-3.7	2.2	2080	36.16	-4.42	-0.12
1770	42.24	-3.74	1.97	2090	36.26	-4.41	-0.05
1780	42.2	-3.75	1.77	2100	36.8	-4.34	-0.07
1790	41.11	-3.86	1.61	2110	35.91	-4.45	-0.31
1800	39.67	-4.02	1.36	2120	35.62	-4.48	-0.61
1810	36.89	-4.33	1.02	2130	36.14	-4.42	-0.74
1820	33.13	-4.8	0.59	2140	36.12	-4.42	-0.33
1830	30.43	-5.17	0.2	2150	36.58	-4.37	-0.11
1840	28.9	-5.39	0.04	2160	37.52	-4.26	0.36
1850	27.45	-5.61	-0.31	2170	38.04	-4.2	0.71
1860	28.09	-5.51	-0.31	2180	39.13	-4.08	1.16
1870	30.82	-5.11	-0.15	2190	38.95	-4.09	1.54
1880	33.85	-4.7	0.01	2200	39.45	-4.04	1.73
1890	36.49	-4.38	0.1	2210	40.33	-3.94	2.07
1900	37.7	-4.24	0.03	2220	41.55	-3.81	2.09

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2230	44.06	-3.56	2.41	2550	49.32	-3.07	5.11
2240	45.1	-3.46	2.33	2560	46.39	-3.34	4.9
2250	45.49	-3.42	2.32	2570	44.3	-3.54	4.54
2260	46.33	-3.34	2.53	2580	42.79	-3.69	4.24
2270	45.98	-3.37	2.61	2590	41.88	-3.78	4.09
2280	43.26	-3.64	2.18	2600	40.71	-3.9	3.86
2290	43.42	-3.62	2.21	2610	39.73	-4.01	3.77
2300	43.84	-3.58	2.31	2620	40.41	-3.94	3.71
2310	44.37	-3.53	2.37	2630	41.72	-3.8	3.93
2320	46.01	-3.37	2.73	2640	43.23	-3.64	3.93
2330	47.8	-3.21	3.19	2650	44.9	-3.48	4.05
2340	48.11	-3.18	3.52	2660	45.8	-3.39	3.98
2350	48.27	-3.16	3.71	2670	47.87	-3.2	4.09
2360	48.53	-3.14	3.9	2680	50.86	-2.94	4.14
2370	48.33	-3.16	3.9	2690	53.21	-2.74	4.15
2380	48.55	-3.14	4.03	2700	54.71	-2.62	4.35
2390	45.94	-3.38	4.11				
2400	44.86	-3.48	4.08				
2410	44.08	-3.56	4.19				
2420	42.84	-3.68	4.28				
2430	41.77	-3.79	4.3				
2440	41.68	-3.8	4.23				
2450	42.14	-3.75	4.36				
2460	43.39	-3.63	4.41				
2470	43.6	-3.61	4.44				
2480	43.65	-3.6	4.23				
2490	44.56	-3.51	4.32				
2500	47.4	-3.24	4.66				
2510	48.85	-3.11	4.87				
2520	50.01	-3.01	5.15				
2530	49.42	-3.06	5.05				
2540	50.28	-2.99	5.35				

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3.2.8 OTA Passive Efficiency&Gain Test--B71--MAIN:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
620	19.97	-7	-1.82	1910	49.28	-3.07	1.57
630	22.25	-6.53	-1.83	1920	47.39	-3.24	1.4
640	24.93	-6.03	-1.68	1930	45.4	-3.43	1.31
650	26.52	-5.76	-1.28	1940	45.08	-3.46	1.13
660	26.39	-5.79	-1.25	1950	43.14	-3.65	0.95
670	27.62	-5.59	-0.82	1960	41.01	-3.87	0.6
680	29.37	-5.32	-0.44	1970	41.32	-3.84	0.53
				1980	40.75	-3.9	0.25
1700	60.79	-2.16	2.97	1990	37.57	-4.25	-0.31
1710	58.89	-2.3	3	2000	35.26	-4.53	-0.74
1720	57.11	-2.43	2.61	2010	33.92	-4.7	-0.95
1730	57.84	-2.38	2.76	2020	34.14	-4.67	-0.81
1740	59.46	-2.26	2.71	2030	33.15	-4.8	-1.12
1750	58.8	-2.31	2.63	2040	31.92	-4.96	-1.55
1760	59.3	-2.27	2.6	2050	32.73	-4.85	-1.62
1770	60.26	-2.2	2.77	2060	31.8	-4.98	-1.67
1780	62.51	-2.04	2.78	2070	30.95	-5.09	-1.41
1790	61.41	-2.12	2.77	2080	30.29	-5.19	-1.13
1800	60.81	-2.16	2.62	2090	30.44	-5.17	-0.84
1810	59.74	-2.24	2.63	2100	31.07	-5.08	-0.76
1820	58.6	-2.32	2.63	2110	30.7	-5.13	-1.02
1830	57.53	-2.4	2.58	2120	30.98	-5.09	-1.28
1840	56.12	-2.51	2.65	2130	32.14	-4.93	-1.03
1850	53.8	-2.69	2.46	2140	33.21	-4.79	-0.64
1860	53.69	-2.7	2.55	2150	34.35	-4.64	-0.38
1870	54.44	-2.64	2.44	2160	36.41	-4.39	0.04
1880	53.53	-2.71	2.29	2170	38.17	-4.18	0.59
1890	53.3	-2.73	2.05	2180	40.27	-3.95	1.06
1900	51.2	-2.91	1.77	2190	40.62	-3.91	1.3

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2200	41.29	-3.84	1.68	2490	36.54	-4.37	4.28
2210	42.56	-3.71	1.78	2500	40.3	-3.95	4.69
2220	43.44	-3.62	2	2510	43.3	-3.64	4.76
2230	45.52	-3.42	2.05	2520	46.66	-3.31	5.11
2240	45.55	-3.41	2.11	2530	48.38	-3.15	5.1
2250	45.63	-3.41	2.03	2540	51.32	-2.9	5.36
2260	45.93	-3.38	1.95	2550	53.31	-2.73	5.33
2270	44.98	-3.47	1.87	2560	51.66	-2.87	5.13
2280	42.17	-3.75	1.51	2570	51.79	-2.86	4.94
2290	41.86	-3.78	1.59	2580	51.06	-2.92	4.75
2300	41.89	-3.78	1.77	2590	51.07	-2.92	4.71
2310	41.85	-3.78	1.94	2600	50.2	-2.99	4.59
2320	42.73	-3.69	2.51	2610	48.35	-3.16	4.33
2330	43.71	-3.59	2.85	2620	47.91	-3.2	4.15
2340	43.09	-3.66	3.06	2630	48.13	-3.18	4.11
2350	42.45	-3.72	3.13	2640	49.52	-3.05	4.05
2360	41.54	-3.82	3.21	2650	50.39	-2.98	4.08
2370	40.2	-3.96	3.26	2660	50.94	-2.93	3.98
2380	38.9	-4.1	3.31	2670	52.01	-2.84	4.04
2390	36.28	-4.4	3.59	2680	54.82	-2.61	4
2400	34.77	-4.59	3.63	2690	56.16	-2.51	4
2410	33.61	-4.73	3.95	2700	56.49	-2.48	3.92
2420	32.26	-4.91	3.97				
2430	31.19	-5.06	4.03				
2440	31.4	-5.03	4.1				
2450	31.74	-4.98	4.17				
2460	32.86	-4.83	4.29				
2470	33.39	-4.76	4.2				
2480	34.97	-4.56	4.26				

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3.2.9 OTA Passive Efficiency&Gain Test--B850--diversity:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
820	25.41	-5.95	-3.19	1910	25.46	-5.94	-0.98
830	25.99	-5.85	-2.93	1920	25.19	-5.99	-0.79
840	30.73	-5.12	-2.35	1930	25.01	-6.02	-0.55
850	30.23	-5.2	-1.98	1940	25.08	-6.01	-0.38
860	32.31	-4.91	-1.54	1950	24.42	-6.12	-0.17
870	32.91	-4.83	-1.17	1960	23.82	-6.23	-0.38
880	30.57	-5.15	-1.48	1970	25.15	-5.99	0.03
890	27.3	-5.64	-2.2	1980	25.97	-5.86	0.06
900	23.14	-6.36	-2.58	1990	25.08	-6.01	0.16
910	22.57	-6.46	-3.46	2000	24.85	-6.05	0.34
				2010	25.46	-5.94	0.16
1700	30.13	-5.21	-1.27	2020	26.79	-5.72	0.06
1710	27.81	-5.56	-1.66	2030	25.93	-5.86	0.02
1720	26.19	-5.82	-1.99	2040	24.9	-6.04	-0.11
1730	25.6	-5.92	-2.04	2050	25.33	-5.96	-0.04
1740	24.78	-6.06	-2.18	2060	24.86	-6.05	-0.1
1750	23.34	-6.32	-2.36	2070	24.52	-6.1	-0.14
1760	23.48	-6.29	-2.48	2080	24.8	-6.06	-0.09
1770	24.84	-6.05	-2.31	2090	25.54	-5.93	0.08
1780	26.02	-5.85	-2.27	2100	26.57	-5.76	0.21
1790	25.29	-5.97	-2.1	2110	26.76	-5.73	0.25
1800	25.53	-5.93	-2.03	2120	27.5	-5.61	0.45
1810	27.03	-5.68	-1.35	2130	29.05	-5.37	0.71
1820	27.42	-5.62	-1.16	2140	30.16	-5.21	0.87
1830	26.79	-5.72	-0.94	2150	31.45	-5.02	1.1
1840	26.86	-5.71	-0.77	2160	33.27	-4.78	1.39
1850	27.01	-5.69	-0.86	2170	34.31	-4.65	1.59
1860	27.39	-5.62	-0.74	2180	35.1	-4.55	1.75
1870	26.84	-5.71	-1.18	2190	34.71	-4.6	1.77
1880	26.51	-5.77	-1.06	2200	34.93	-4.57	1.83
1890	26.87	-5.71	-1.15	2210	35.45	-4.5	1.87
1900	26.36	-5.79	-0.99	2220	34.68	-4.6	1.78

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2230	35.43	-4.51	1.82	2550	33.63	-4.73	1.72
2240	35.82	-4.46	1.93	2560	32.98	-4.82	1.74
2250	36.48	-4.38	2.11	2570	33.3	-4.78	1.71
2260	36.88	-4.33	2.24	2580	33.41	-4.76	1.63
2270	37.19	-4.3	2.39	2590	34.15	-4.67	1.65
2280	35.05	-4.55	1.97	2600	34.76	-4.59	1.56
2290	35.85	-4.45	2.09	2610	34.25	-4.65	1.49
2300	35.92	-4.45	2.01	2620	33.07	-4.81	1.26
2310	36.27	-4.4	2.06	2630	32.22	-4.92	1.14
2320	36.8	-4.34	2.47	2640	32.24	-4.92	1.05
2330	37.19	-4.3	2.73	2650	31.16	-5.06	0.92
2340	36.26	-4.41	2.69	2660	28.93	-5.39	0.62
2350	35.68	-4.48	2.67	2670	26.87	-5.71	0.12
2360	35.86	-4.45	2.63	2680	26.55	-5.76	0.29
2370	35.37	-4.51	2.44	2690	24.84	-6.05	0.01
2380	35.29	-4.52	2.26	2700	23.68	-6.26	-0.07
2390	33.66	-4.73	1.94				
2400	33.67	-4.73	1.87				
2410	33.68	-4.73	1.65				
2420	33.13	-4.8	1.59				
2430	33.17	-4.79	1.38				
2440	33.97	-4.69	1.18				
2450	34.95	-4.57	1.32				
2460	35.68	-4.48	1.42				
2470	35.99	-4.44	1.67				
2480	36.27	-4.4	1.74				
2490	35.77	-4.46	1.75				
2500	35.09	-4.55	1.58				
2510	34.71	-4.6	1.71				
2520	34.92	-4.57	1.87				
2530	34.19	-4.66	1.8				
2540	34.16	-4.66	1.9				

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3.2.10 OTA Passive Efficiency&Gain Test--B12--diversity:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	19.8	-7.03	-3.71	1910	23.5	-6.29	-1.17
710	20.15	-6.96	-3.75	1920	23.19	-6.35	-1.01
720	22.48	-6.48	-3.27	1930	23.15	-6.35	-0.76
730	23.97	-6.2	-2.67	1940	23.26	-6.33	-0.53
740	23.07	-6.37	-2.67	1950	22.77	-6.43	-0.38
750	20.86	-6.81	-3.18	1960	22.26	-6.52	-0.56
760	23.39	-6.31	-2.67	1970	23.7	-6.25	-0.05
770	22.72	-6.44	-3.07	1980	24.58	-6.09	0.04
780	24.21	-6.16	-2.96	1990	23.92	-6.21	0.07
				2000	23.7	-6.25	0.24
1700	29.74	-5.27	-1.57	2010	24.46	-6.12	0.14
1710	26.83	-5.71	-2.21	2020	25.75	-5.89	-0.08
1720	24.74	-6.07	-2.69	2030	24.95	-6.03	-0.29
1730	23.72	-6.25	-2.92	2040	23.89	-6.22	-0.6
1740	22.64	-6.45	-3.14	2050	24.18	-6.17	-0.63
1750	21.03	-6.77	-3.55	2060	23.59	-6.27	-0.65
1760	20.86	-6.81	-3.46	2070	23.21	-6.34	-0.66
1770	21.92	-6.59	-2.94	2080	23.46	-6.3	-0.61
1780	22.72	-6.44	-2.68	2090	24.14	-6.17	-0.43
1790	21.96	-6.58	-2.33	2100	25.26	-5.98	-0.28
1800	22.03	-6.57	-2.23	2110	25.48	-5.94	-0.19
1810	23.45	-6.3	-1.47	2120	26.23	-5.81	-0.02
1820	23.89	-6.22	-1.19	2130	27.9	-5.54	0.34
1830	23.54	-6.28	-1.01	2140	28.97	-5.38	0.48
1840	23.82	-6.23	-0.83	2150	30.53	-5.15	0.75
1850	24.15	-6.17	-0.9	2160	32.46	-4.89	1.02
1860	24.7	-6.07	-0.83	2170	33.59	-4.74	1.2
1870	24.24	-6.15	-1.24	2180	34.5	-4.62	1.43
1880	24.31	-6.14	-1.18	2190	34.14	-4.67	1.48
1890	24.8	-6.06	-1.3	2200	34.4	-4.63	1.53
1900	24.38	-6.13	-1.12	2210	34.8	-4.58	1.59

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2220	34.04	-4.68	1.52	2530	34.7	-4.6	1.52
2230	34.58	-4.61	1.67	2540	34.81	-4.58	1.68
2240	34.81	-4.58	1.68	2550	34.25	-4.65	1.54
2250	35.32	-4.52	1.86	2560	33.49	-4.75	1.52
2260	35.67	-4.48	1.95	2570	33.92	-4.7	1.49
2270	35.84	-4.46	2.09	2580	34.03	-4.68	1.44
2280	33.44	-4.76	1.63	2590	34.67	-4.6	1.41
2290	34.22	-4.66	1.74	2600	35.12	-4.54	1.23
2300	34.49	-4.62	1.66	2610	34.58	-4.61	1.17
2310	35.01	-4.56	1.7	2620	33.28	-4.78	0.88
2320	35.79	-4.46	1.95	2630	32.42	-4.89	0.8
2330	36.55	-4.37	2.3	2640	32.33	-4.9	0.67
2340	35.91	-4.45	2.38	2650	31.22	-5.06	0.58
2350	35.46	-4.5	2.45	2660	28.86	-5.4	0.25
2360	35.82	-4.46	2.45	2670	26.75	-5.73	-0.27
2370	35.41	-4.51	2.37	2680	26.5	-5.77	-0.01
2380	35.34	-4.52	2.18	2690	24.88	-6.04	-0.3
2390	33.67	-4.73	1.92	2700	23.81	-6.23	-0.33
2400	33.67	-4.73	1.88				
2410	33.57	-4.74	1.67				
2420	33.21	-4.79	1.59				
2430	33.11	-4.8	1.4				
2440	33.96	-4.69	1.24				
2450	35.06	-4.55	1.07				
2460	35.75	-4.47	1.14				
2470	36.11	-4.42	1.45				
2480	36.42	-4.39	1.46				
2490	36.08	-4.43	1.51				
2500	35.52	-4.49	1.37				
2510	35.01	-4.56	1.46				
2520	35.43	-4.51	1.63				

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