

PCTA200 Antenna Specifications

DV

2020/06/01

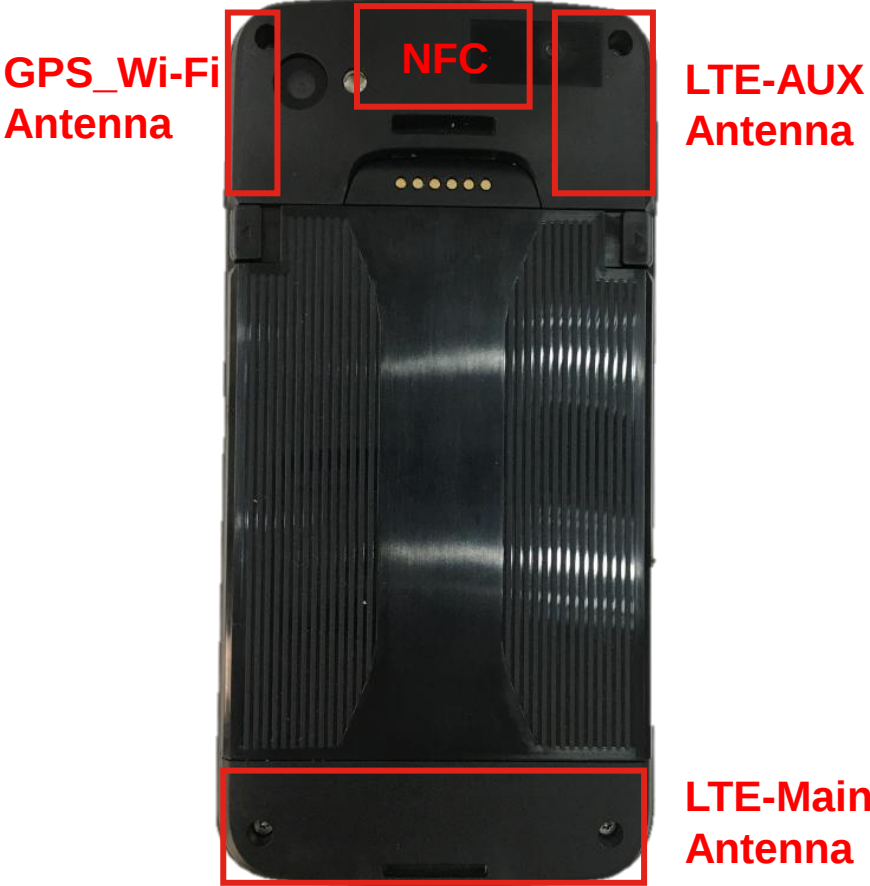
Antenna Team



Agenda

- Antenna Location
- Antenna Dimension
- Antenna Passive Result
 - LTE-Main Antenna
 - LTE-AUX Antenna
 - GPS_Wi-Fi Antenna
 - NFC Antenna

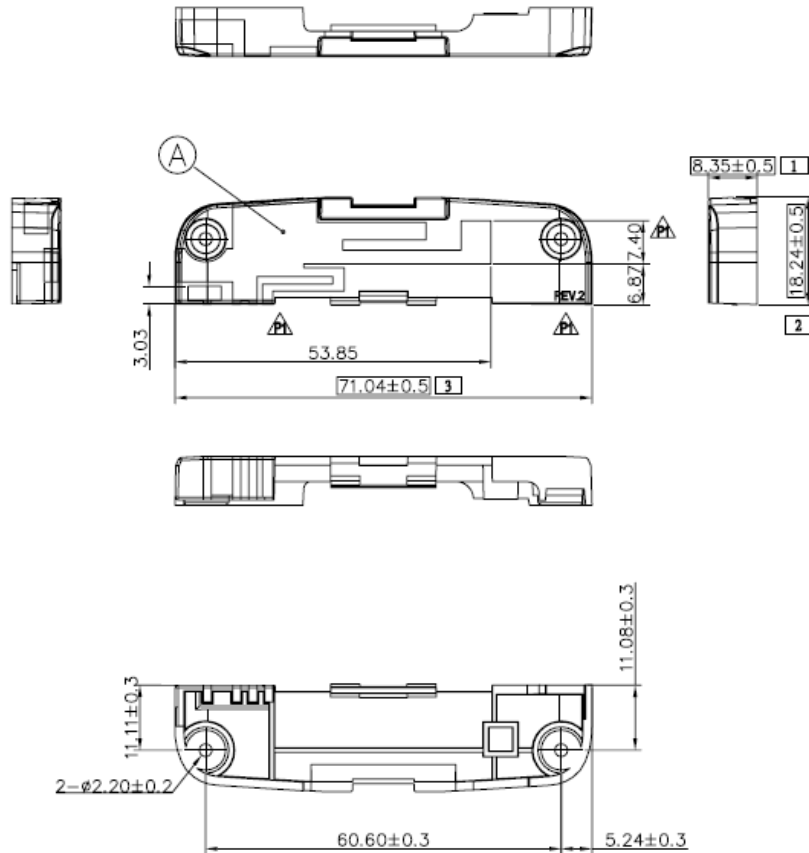
Antenna Location



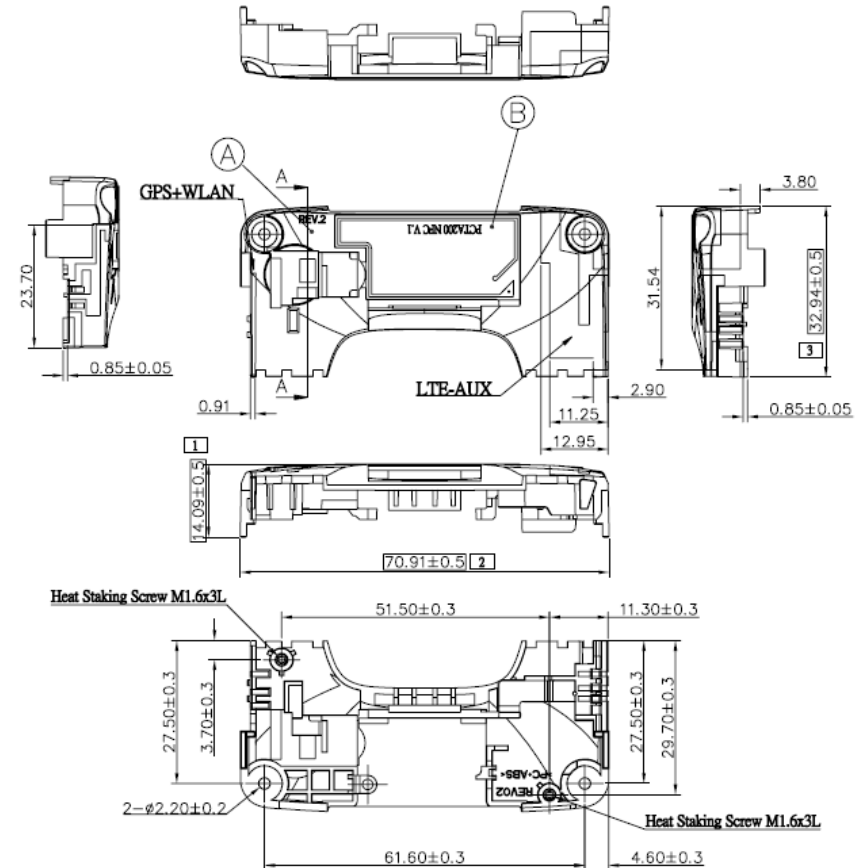
Antenna	Antenna type	Antenna Manufacturer
LTE-Main	PIFA	INPAQ TECHNOLOGY CO., LTD
LTE-AUX	PIFA	INPAQ TECHNOLOGY CO., LTD
GPS_Wi-Fi	PIFA	
NFC	Loop	

Antenna Dimension

LTE-Main Antenna

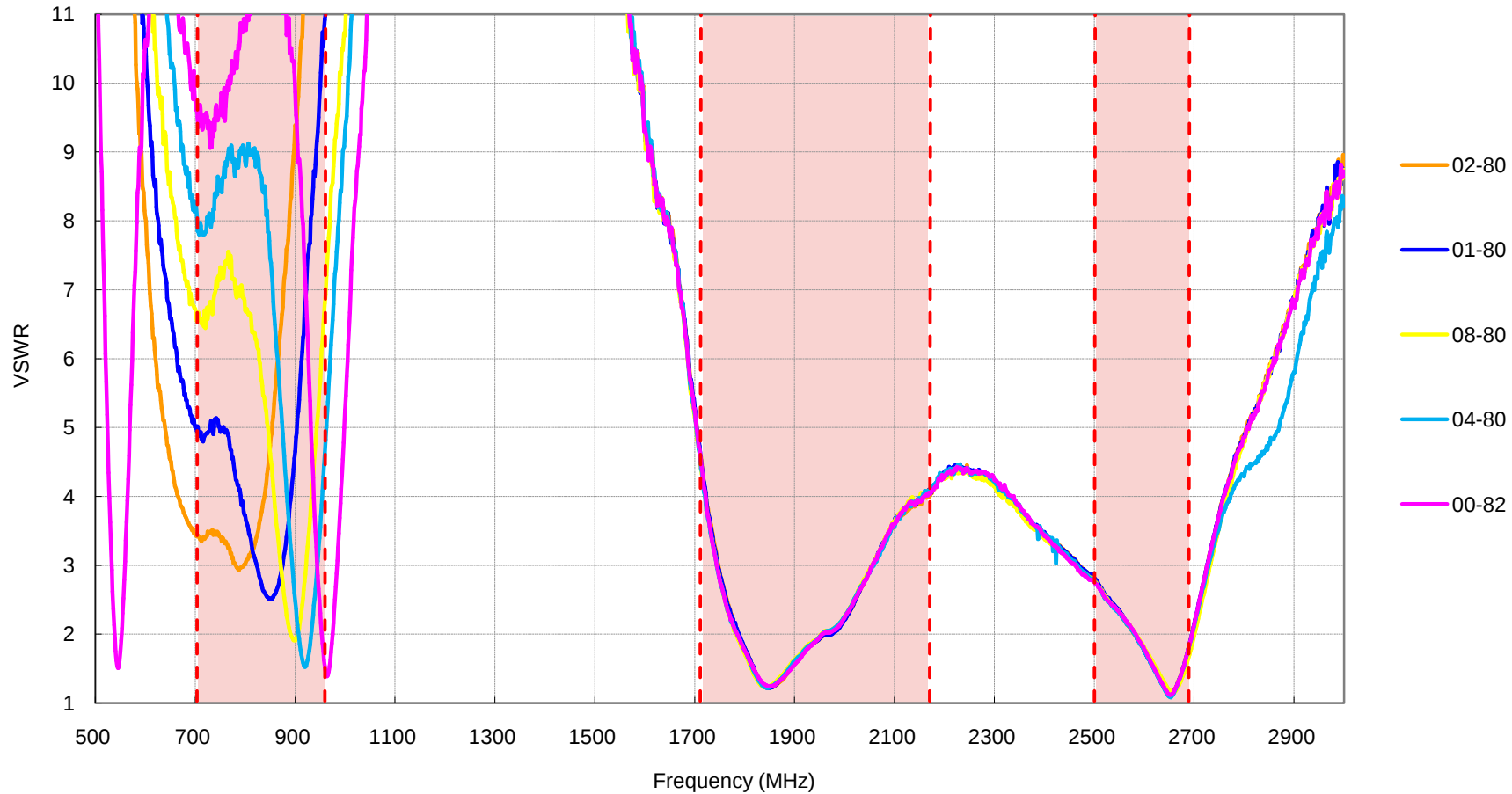


LTE-AUX/ GPS/ Wi-Fi/ NFC Antenna



LTE-Main Antenna

LTE-Main S-parameters



LTE-Main Performance

		B28 TX										B28 RX					B20 RX		B19 TX				B5 TX		B20 TX				B19 RX		B5 RX		B8 TX				B8 RX			
Frequency (MHz)		699	704	710	716	729	734	740	746	748	751	756	777	782	787	791	806	821	824	836	849	862	869	880	894	900	915	925	940	960										
Spec			15	15	15	15	15	15	15	15		15	15	15	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20										
Tune Code	02-80	18.96	18.76	18.48	18.17	19.3	18.11	17.64	16.44	15.8	16.27	15.69	17.39	18.59	19.22	19.73	19.74	16.03	15.4	12.76	10.28	8.435	7.496	6.246	4.816	4.458	3.702	3.318	2.774	2.34										
	01-80	13.44	13.59	13.7	13.71	15.38	14.77	14.63	13.97	13.51	14.03	13.99	17.92	20.01	21.54	22.96	27.52	28.52	28.89	28.36	27.68	25.35	23.41	19.96	15.03	13.46	10.2	8.618	6.729	5.263										
	08-80	8.755	8.939	9.063	9.109	10.33	9.98	9.923	9.472	9.153	9.461	9.446	11.99	13.55	14.6	15.68	19.13	20.85	21.63	23.3	26.6	30.65	32.53	34.41	33.25	32.18	26.74	22.54	16.46	11.42										
	04-80	4.613	4.812	4.978	5.1	5.986	5.867	5.95	5.733	5.558	5.751	5.766	7.303	8.323	9.007	9.701	11.86	12.84	13.31	14.39	16.44	19.72	21.66	24.98	28.88	31.03	33.61	32.54	25.31	16.64										
	00-82	0.632	0.646	0.694	0.734	0.963	1.002	1.12	1.152	1.148	1.228	1.27	1.642	1.88	2.067	2.268	3.027	3.309	3.414	3.677	4.039	4.702	5.056	5.706	6.582	7.28	9.72	12.88	19.98	29.73										

		B4 TX				B2 TX						B2 RX						B4 RX				B7 TX				B38		B7 RX												
		B3 TX						B3 RX				B1 TX						B1 RX				B41																		
Frequency (MHz)		1710	1730	1750	1755	1770	1785	1805	1840	1850	1880	1900	1910	1920	1930	1950	1960	1980	1990	2010	2018	2025	2110	2140	2155	2170	2300	2350	2400	2500	2515	2535	2555	2570	2595	2620	2630	2655	2680	2690
Spec		35	35	35	35	35	35	35	35	35	35	35		35	35	35	35	35					30	30	30	30				35	35	35	35	35	35	35	35	35	35	35
Tune Code	02-80	36.42	38.95	45.66	47.99	53.34	58.81	59.41	60.32	61.82	62.18	59.46	57.91	55.26	52.9	52.98	55.28	51.71	49.57	47.98	48.1	47.75	32.97	33.39	32.48	31.75	28.99	30.36	29	34.05	35.49	36.06	39.62	43.06	45.24	48.24	51.81	50.17	40.1	34.86
	01-80	36.51	39.06	45.76	48.07	53.48	58.9	59.48	60.34	61.8	62.09	59.37	57.82	55.16	52.79	52.87	55.16	51.58	49.45	47.88	48.03	47.64	32.9	33.33	32.42	31.7	28.99	30.39	29	35.01	35.47	36.03	39.58	43.05	45.22	48.17	51.74	49.95	39.78	35.61
	08-80	37.26	39.8	46.47	48.8	54.18	59.54	59.94	60.32	61.67	61.58	58.7	57.11	54.49	52.13	52.14	54.41	50.93	48.85	47.34	47.48	47.15	32.57	33.01	32.14	31.46	29.08	30.53	29.06	33.65	35.16	35.82	39.34	42.52	43.79	46.11	49.47	48.56	40.01	35.16
	04-80	37.02	39.55	46.21	48.55	53.9	59.32	59.84	60.37	61.78	61.85	59.05	57.49	54.84	52.51	52.54	54.85	51.34	49.25	47.71	47.84	47.47	32.83	33.27	32.37	31.69	29.12	30.48	29.06	33.86	35.35	35.9	39.51	43	45.1	48.03	51.44	49.11	38.61	32.56
	00-82	36.71	39.19	45.82	48.18	53.55	58.93	59.54	60.18	61.64	61.68	58.95	57.42	54.83	52.47	52.47	54.75	51.29	49.17	47.58	47.69	47.31	32.74	33.22	32.3	31.61	28.88	30.19	28.84	33.61	35.11	35.59	39.14	42.64	44.6	47.7	51.2	49.44	39.2	33.07

Efficiency Unit: (%)

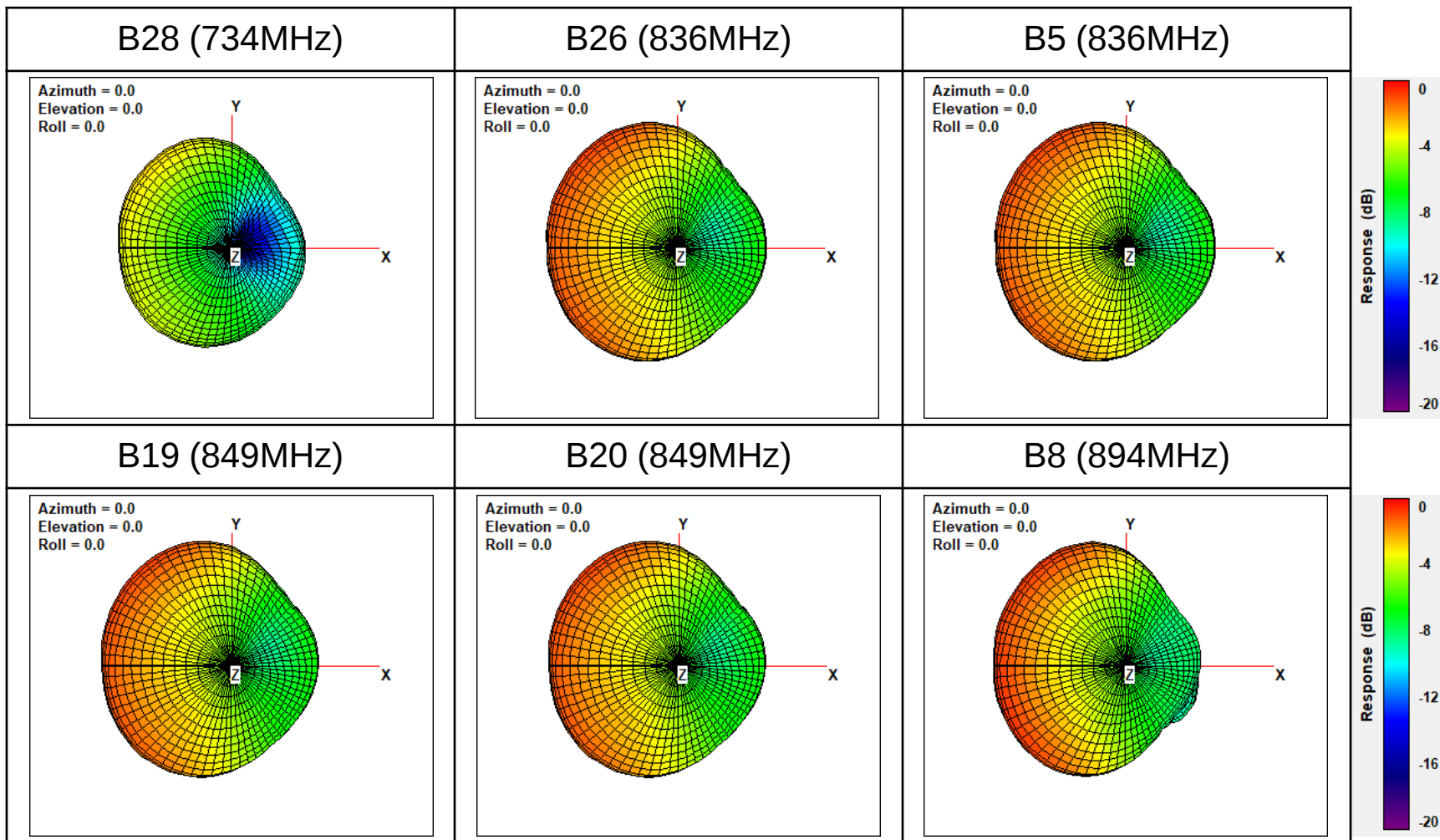
LTE-Main Peak Gain

Frequency (MHz)	699	704	710	716	729	734	740	746	748	751	756	777	782	787	791	806	821	824	836	849	862	869	880	894	900	915	925	940	960
Peak Gain (dBi)	-2.85	-2.74	-2.82	-2.96	-2.60	-2.78	-2.90	-3.20	-3.65	-3.31	-3.56	-3.73	-3.24	-2.68	-2.30	-1.12	-0.86	-0.76	-0.80	-0.82	-0.53	-0.30	-0.19	-0.51	-0.62	-0.39	-0.70	-2.05	-1.19

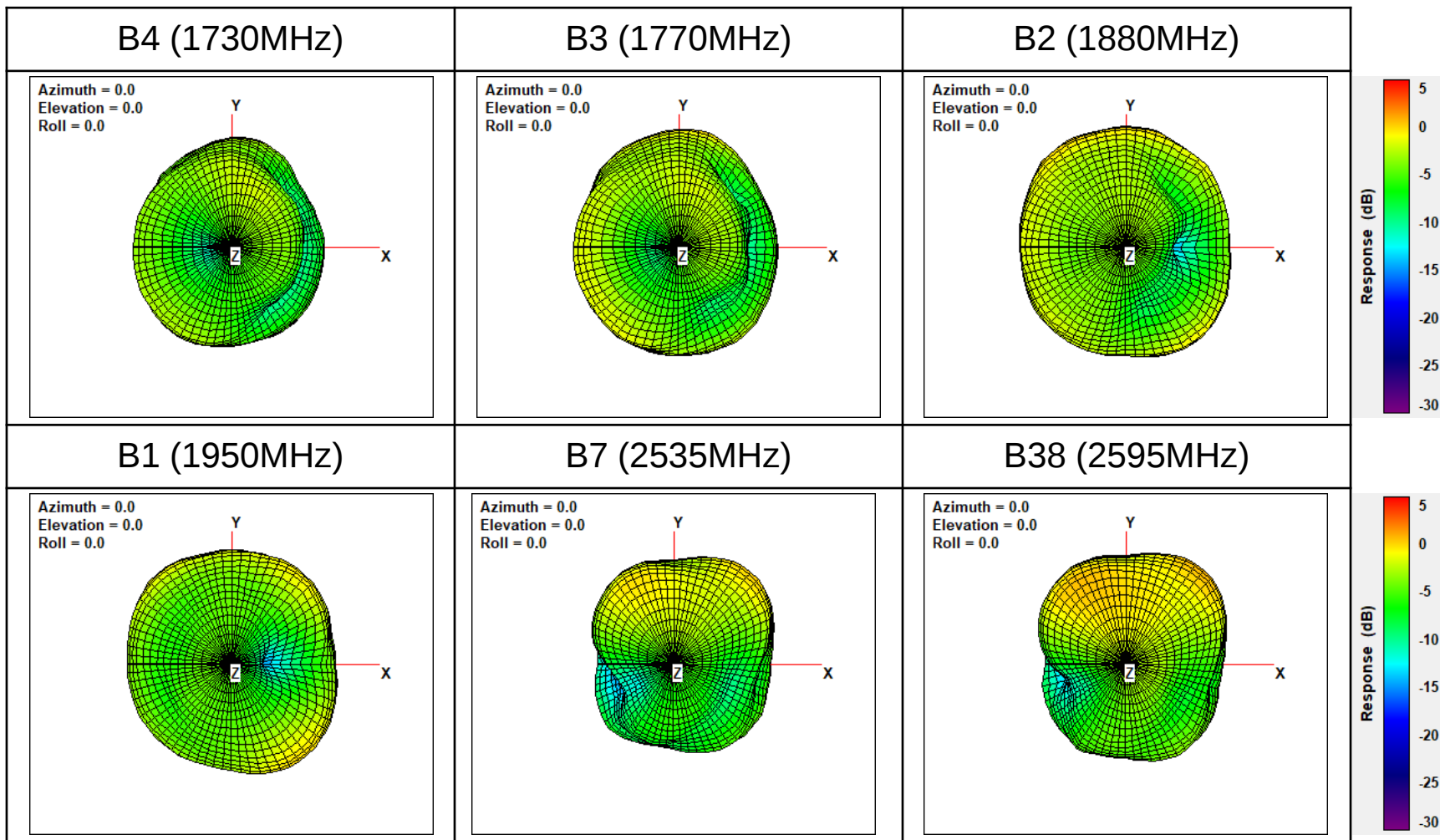
Frequency (MHz)	1710	1730	1750	1755	1770	1785	1805	1840	1850	1880	1900	1910	1920	1930	1950	1960	1980	1990	2010	2018	2025	2110	2140	2155	2170	2300	2350	2400	2500	2515	2535	2555	2570	2595	2620	2630	2655	2680	2690
Peak Gain (dBi)	0.57	1.10	1.71	1.93	2.23	3.00	2.35	2.22	2.25	1.93	1.93	1.85	1.60	1.26	1.13	1.25	0.72	0.52	0.80	0.98	1.03	0.87	0.88	0.80	0.55	0.04	0.15	0.12	1.02	0.91	0.76	1.36	1.39	1.47	1.42	1.59	1.35	0.27	-0.47

Unit: (dBi)

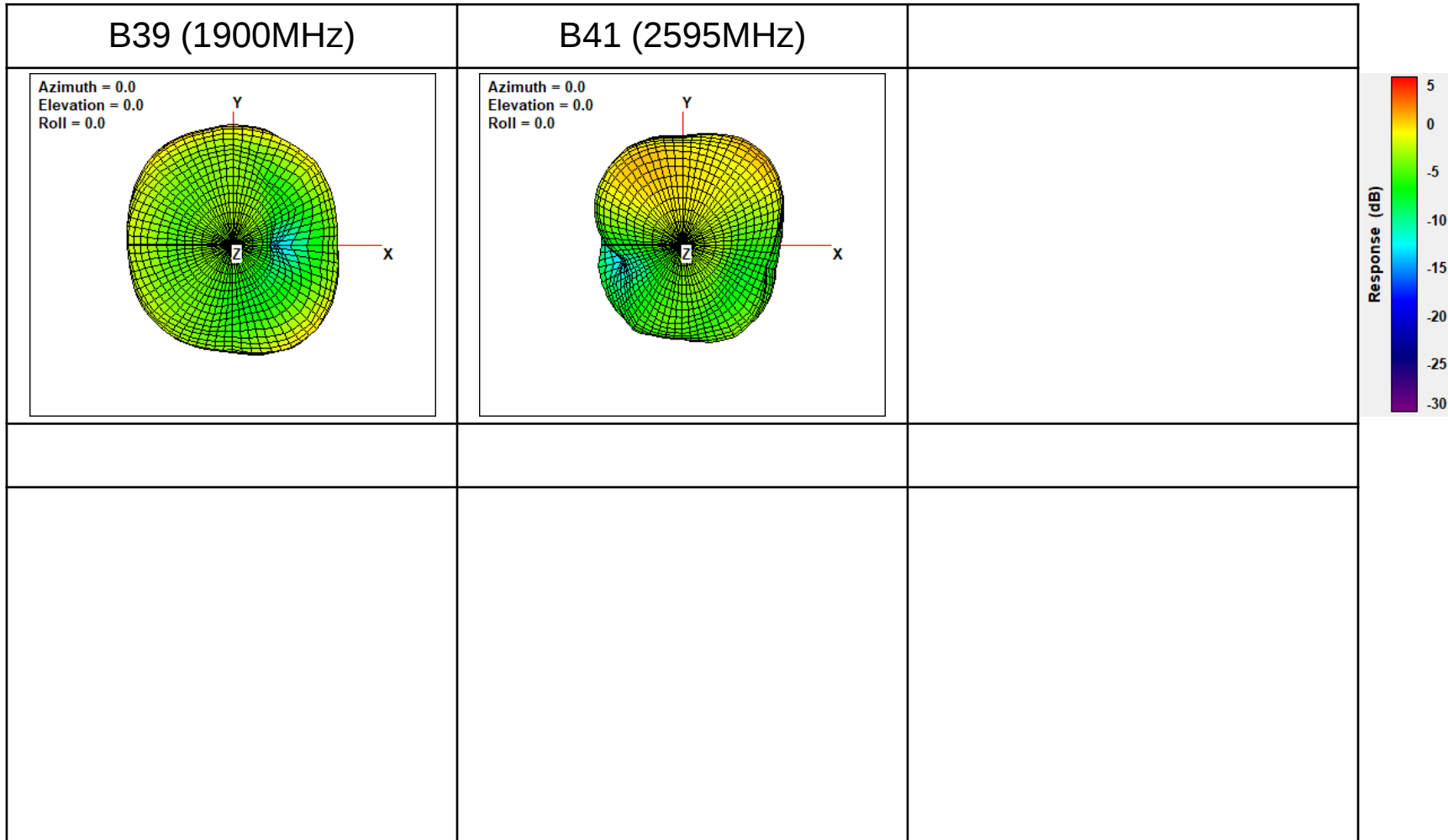
LTE-Main Pattern



LTE-Main Pattern

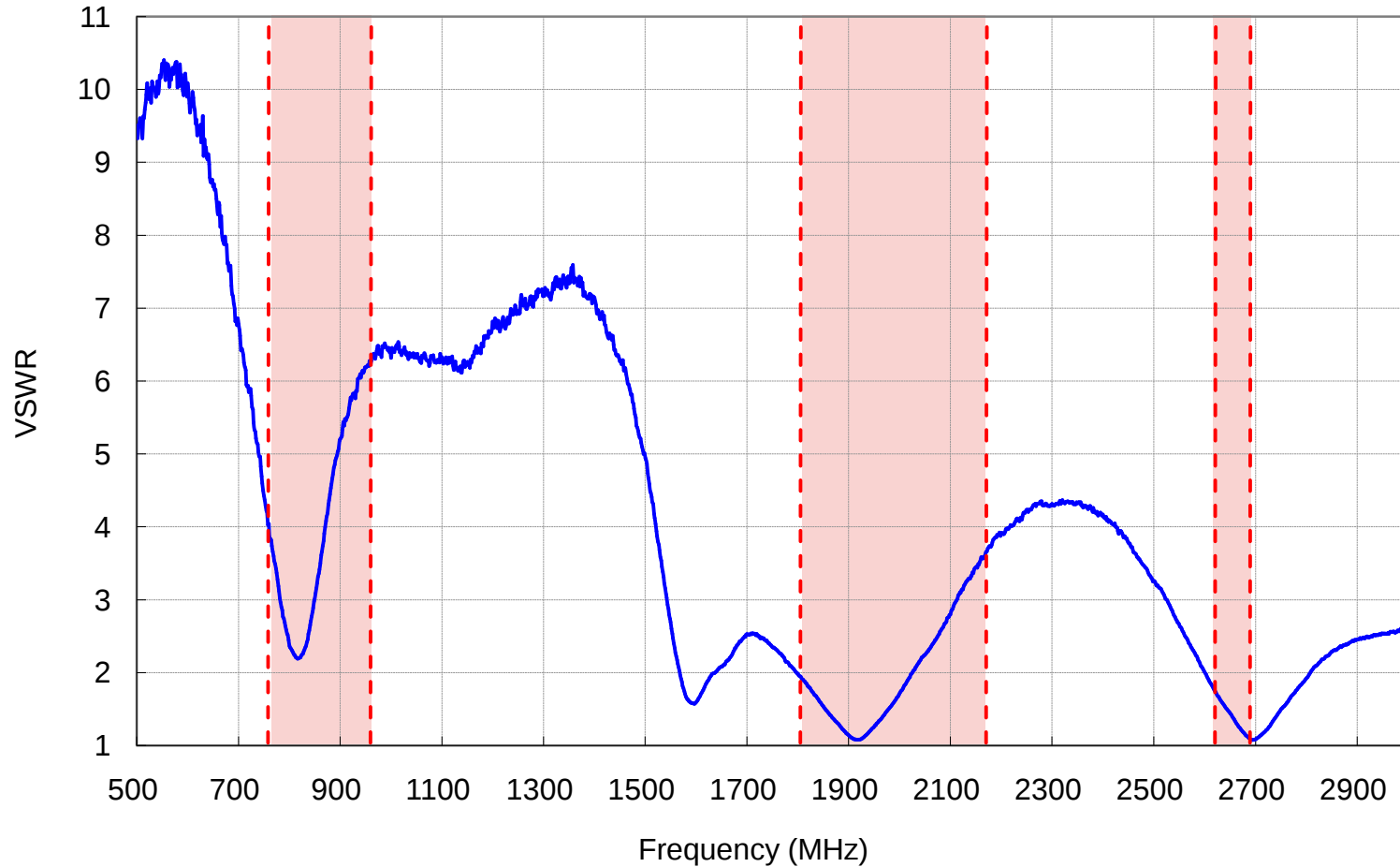


LTE-Main Pattern



LTE-AUX Antenna

LTE-AUX S-parameters



LTE-AUX Performance

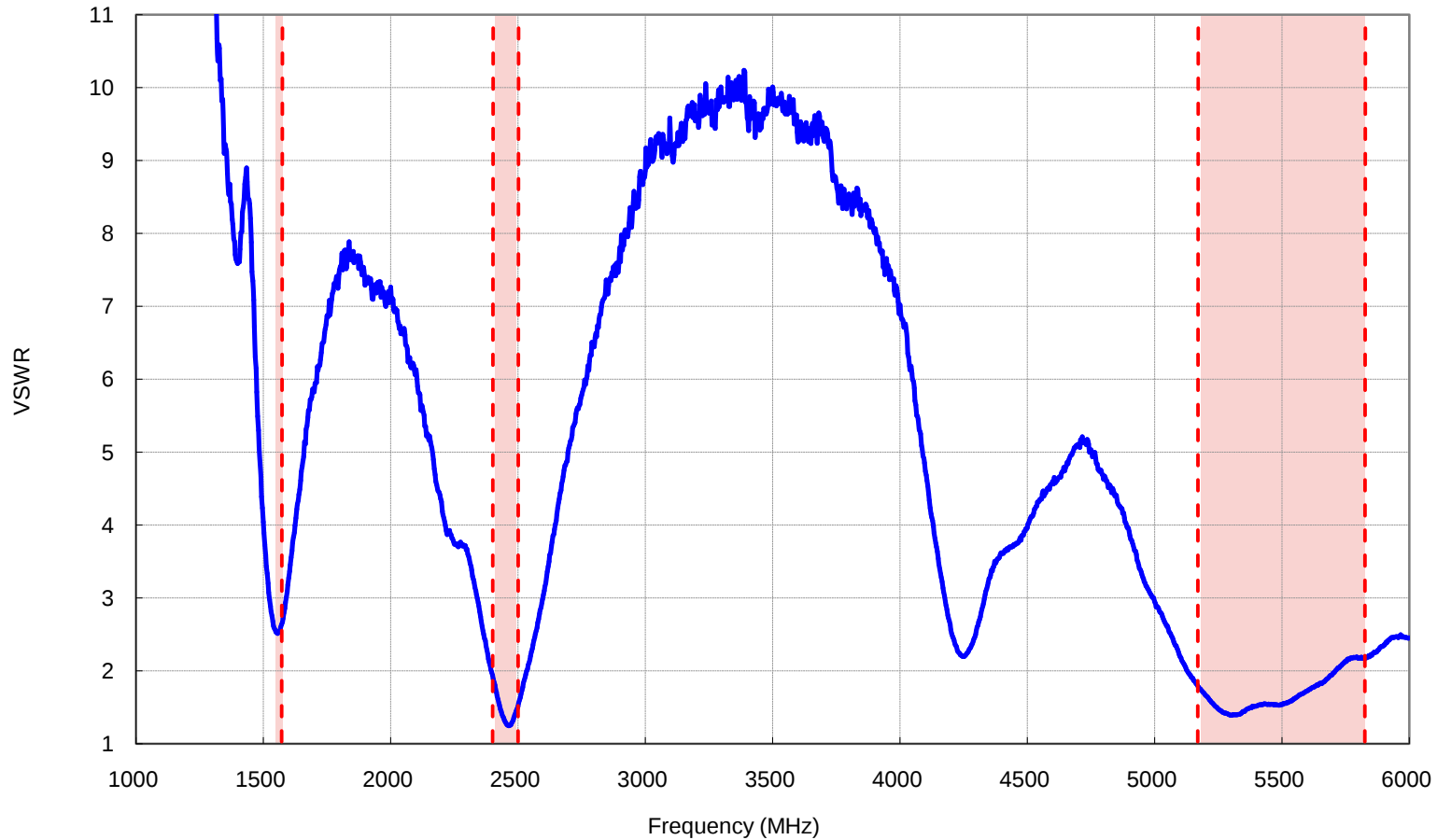
												B20 RX						B19 RX				B5 RX		B26 RX				B8 RX			
Frequency (MHz)	699	704	710	716	729	734	740	746	748	751	756	777	782	787	791	806	821	824	836	849	862	869	880	894	900	915	925	940	960		
Spec						6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		
AUX	9.81	10.31	10.79	11.28	13.94	14.10	15.36	15.71	15.64	16.83	17.66	24.72	26.92	28.17	29.72	36.46	34.90	34.73	30.39	24.87	19.17	16.32	12.59	9.82	9.37	8.51	8.26	7.20	6.40		

																												B38																								
							B3 RX											B2 RX											B4 RX																				B7 RX			
																						B1 RX								B41																						
Frequency (MHz)	1710	1730	1750	1755	1770	1785	1805	1840	1850	1880	1900	1910	1920	1930	1950	1960	1980	1990	2010	2018	2025	2110	2140	2155	2170	2300	2350	2400	2500	2515	2535	2555	2570	2595	2620	2630	2655	2680	2690													
Spec							12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5				12.5	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8											
AUX	16.70	13.50	13.45	13.80	14.73	16.17	17.78	22.10	24.07	29.63	31.95	32.61	32.19	31.73	32.52	34.22	32.64	31.22	28.63	28.06	27.32	15.38	13.07	12.97	12.59	10.07	11.00	11.20	17.63	18.96	20.43	24.73	27.39	29.18	30.64	32.82	33.72	33.26	32.00													

Efficiency Unit: (%)

GPS_Wi-Fi Antenna

GPS_Wi-Fi S-parameters



GPS_Wi-Fi Performance

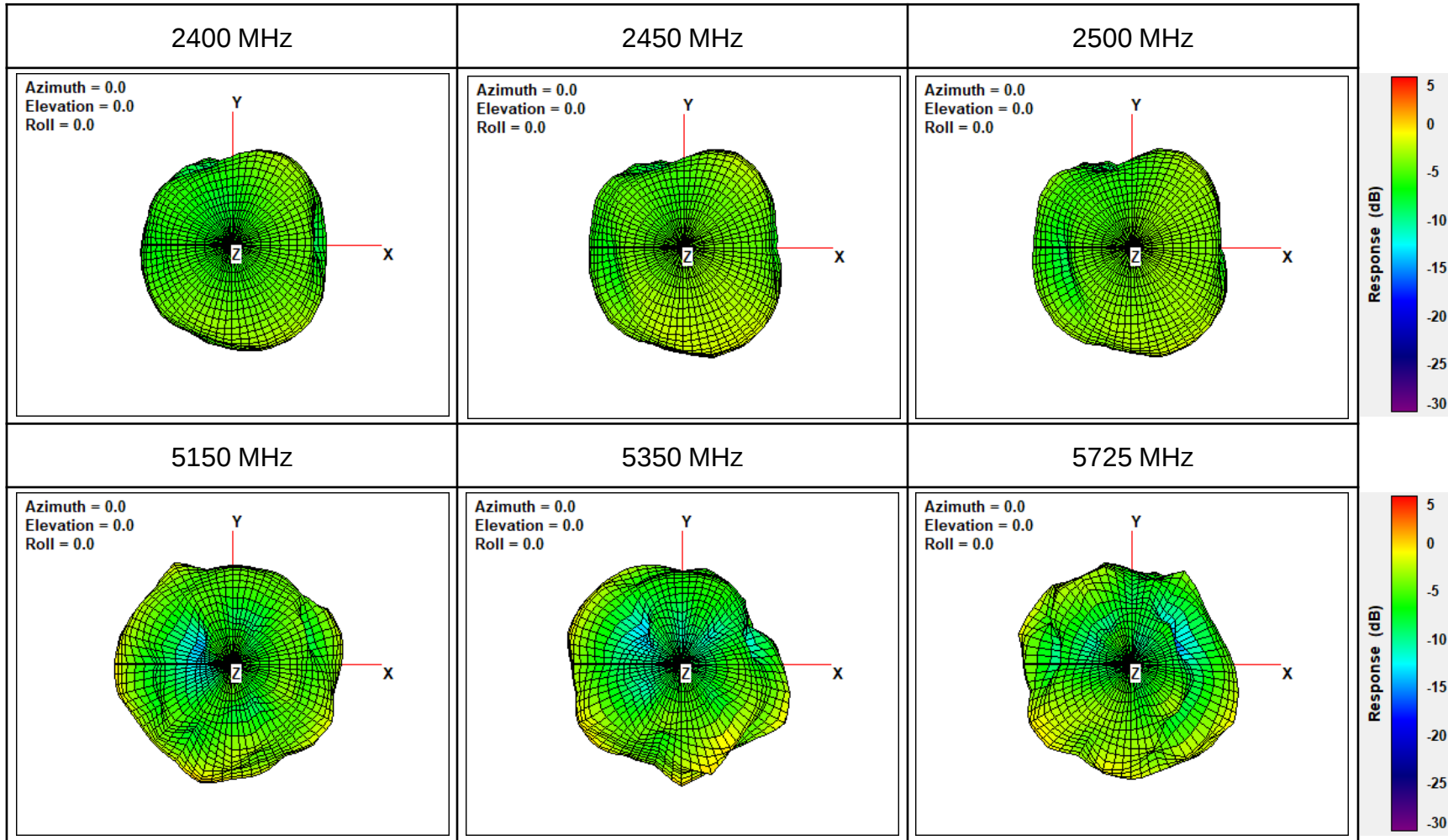
	GPS		Wi-Fi 2.4GHz		Wi-Fi 5GHz				
Frequency	1575.42	1602	2400	2450	2500	5150	5350	5725	5825
Spec	20	20	30	30	30	35	35	35	35
Efficiency(%)	26.09 %	25.26 %	32.46 %	40.10 %	39.59 %	39.53 %	38.07 %	40.15 %	41.79 %

Wi-Fi Peak Gain

Frequency	2400	2450	2500	5150	5350	5725	5825
Peak Gain (dBi)	0.76	3.00	1.46	1.07	3.00	2.23	1.65

Unit: (dBi)

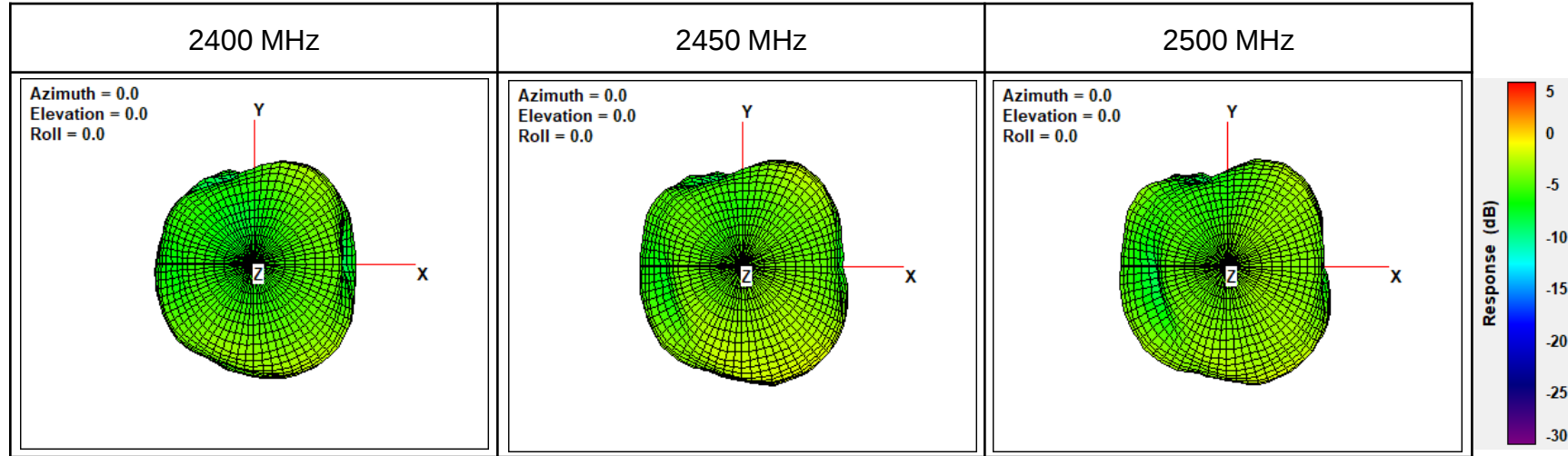
Wi-Fi Pattern



BT Performance

Frequency	2400	2450	2500
Spec	30	30	30
Efficiency(%)	32.46 %	40.10 %	39.59 %
Peak Gain (dBi)	0.76	3.00	1.46

BT Pattern



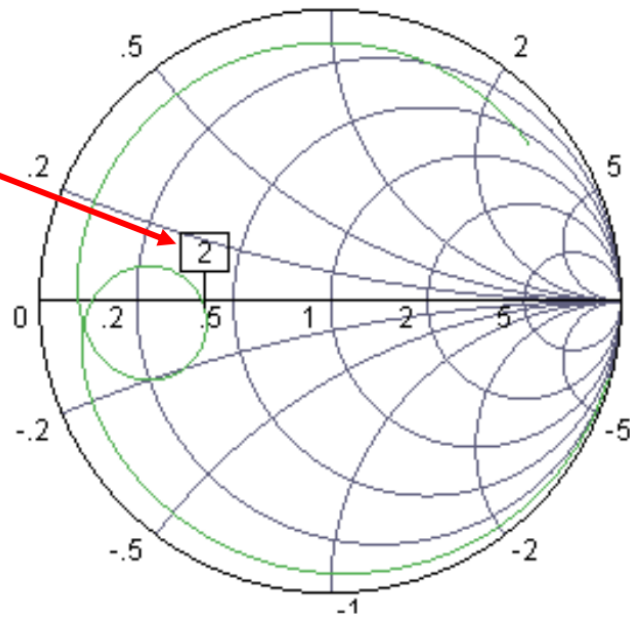
NFC Antenna

NFC S-parameters

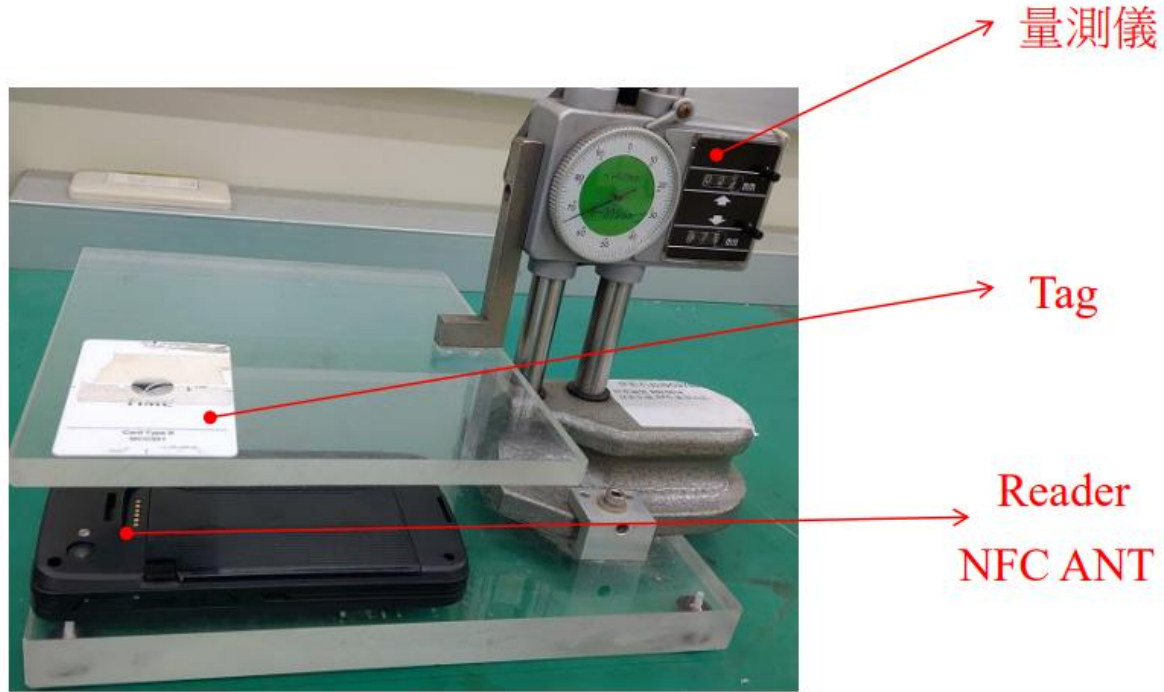
S11 Refl Smith Scaling: 0 dB

>M2 : 13.56 MHz 19.918 Ω -1.735 Ω 6.766 nF

19.9R-J1.7



NFC Reading distance



Type/ ISO	Type1	Type2	Type3	Type4	TypeV	Type B	天現有效面積
TAG IC	Topaz	Mifare UL	FeliCa	Mifare Desfire EV1	NXP I-code	Fime MCC351	
	41	40	39	22	49	23	
							515mm

Thank you!



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