

MIMO SAR verification results

N77 Part27Q UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	11.4	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	12.9	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	11.4	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	11.40	Measured MIMO SAR at meas. Ptest (W/kg)	0.834
Reported SAR _{MIMO}	1.050	Calc. SAR	2.043

N77 Part27O UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	11.4	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	12.9	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	11.4	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	11.40	Measured MIMO SAR at meas. Ptest (W/kg)	0.901
Reported SAR _{MIMO}	1.134	Calc. SAR	2.043

N77 Part96 UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	11.4	SISO Ant8 Pmax (dBm)	18.0
SISO Ant9 Plimit (dBm)	12.9	SISO Ant9 Pmax (dBm)	18.0
Ptest (dBm)	11.4	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	11.40	Measured MIMO SAR at meas. Ptest (W/kg)	0.624
Reported SAR _{MIMO}	0.766	Calc. SAR	2.043

FR1 n41 UL-MIMO (Ant8+5) DS17 Body worn			
SISO Ant8 Plimit (dBm)	13.4	SISO Ant8 Pmax (dBm)	24.2
SISO Ant5 Plimit (dBm)	12.5	SISO Ant5 Pmax (dBm)	24.2
Ptest (dBm)	12.5	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	12.50	Measured MIMO SAR at meas. Ptest (W/kg)	0.869
Reported SAR _{MIMO}	1.094	Calc. SAR	2.168

N48 UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	12.0	SISO Ant8 Pmax (dBm)	17.0
SISO Ant9 Plimit (dBm)	13.9	SISO Ant9 Pmax (dBm)	17.0
Ptest (dBm)	12.0	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	12.00	Measured MIMO SAR at meas. Ptest (W/kg)	0.845
Reported SAR _{MIMO}	1.064	Calc. SAR	1.968

N77 Part27Q UL-MIMO (Ant8+9) DS10 Body worn			
SISO Ant8 Plimit (dBm)	24.7	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	24.7	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	24.7	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	24.70	Measured MIMO SAR at meas. Ptest (W/kg)	0.532
Reported SAR _{MIMO}	0.670	Calc. SAR	2.392

N77 Part27O UL-MIMO (Ant8+9) DS10 Body worn			
SISO Ant8 Plimit (dBm)	24.7	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	24.7	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	24.7	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	24.70	Measured MIMO SAR at meas. Ptest (W/kg)	0.589
Reported SAR _{MIMO}	0.742	Calc. SAR	2.392

N77 Part96 UL-MIMO (Ant8+9) DS10 Body worn			
SISO Ant8 Plimit (dBm)	18.0	SISO Ant8 Pmax (dBm)	18.0
SISO Ant9 Plimit (dBm)	18.0	SISO Ant9 Pmax (dBm)	18.0
Ptest (dBm)	18.0	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	18.00	Measured MIMO SAR at meas. Ptest (W/kg)	0.435
Reported SAR _{MIMO}	0.548	Calc. SAR	2.392

FR1 n41 UL-MIMO (Ant8+5) DS10 Body worn			
SISO Ant8 Plimit (dBm)	24.2	SISO Ant8 Pmax (dBm)	24.2
SISO Ant5 Plimit (dBm)	24.2	SISO Ant5 Pmax (dBm)	24.2
Ptest (dBm)	24.2	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	24.20	Measured MIMO SAR at meas. Ptest (W/kg)	0.761
Reported SAR _{MIMO}	0.958	Calc. SAR	2.392

N48 UL-MIMO (Ant8+9) DS10 Body worn			
SISO Ant8 Plimit (dBm)	17.0	SISO Ant8 Pmax (dBm)	17.0
SISO Ant9 Plimit (dBm)	17.0	SISO Ant9 Pmax (dBm)	17.0
Ptest (dBm)	17.0	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	17.00	Measured MIMO SAR at meas. Ptest (W/kg)	0.211
Reported SAR _{MIMO}	0.266	Calc. SAR	2.392

MIMO SAR Test results

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (mW)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77	100M	BPSK	1	1	Edge 4	0mm	Ant 8+9(8)	DSI 7	633332	3499.98	Without Scanner	11.21	12.4	1.315	100	1.000	0.08	0.834	1.097
	FR1 n77	100M	BPSK	135	69	Bottom Face	0mm	Ant 8+9(9)	DSI 7	633332	3499.98	Without Scanner	13.75	13.9	1.035	100	1.000	0.03	0.605	0.626
	FR1 n77	100M	BPSK	1	1	Bottom Face	41mm	Ant 8+9(8)	DSI 0	633332	3499.98	Without Scanner	24.11	25.7	1.442	100	1.000	0.01	0.322	0.464
	FR1 n77	100M	BPSK	1	1	Bottom Face	16mm	Ant 8+9(9)	DSI 0	633332	3499.98	Without Scanner	24.51	25.7	1.315	100	1.000	-0.08	0.532	0.7
	FR1 n77	100M	BPSK	135	69	Edge 4	0mm	Ant 8+9(8)	DSI 7	656000	3840	Without Scanner	11.13	12.4	1.340	100	1.000	0.12	0.411	0.551
	FR1 n77	100M	BPSK	1	1	Edge 4	0mm	Ant 8+9(9)	DSI 7	656000	3840	Without Scanner	13.85	13.9	1.012	100	1.000	-0.17	0.901	0.912
	FR1 n77	100M	BPSK	1	1	Bottom Face	41mm	Ant 8+9(8)	DSI 0	656000	3840	Without Scanner	24.13	25.7	1.435	100	1.000	0.08	0.222	0.319
	FR1 n77	100M	BPSK	1	1	Bottom Face	16mm	Ant 8+9(9)	DSI 0	656000	3840	Without Scanner	24.77	25.7	1.239	100	1.000	-0.03	0.589	0.73
	FR1 n77/n78	100M	BPSK	1	1	Edge 4	0mm	Ant 8+9(8)	DSI 7	641666	3624.99	Without Scanner	11.31	12.4	1.285	100	1.000	-0.08	0.611	0.785
	FR1 n77/n78	100M	BPSK	1	1	Edge 4	0mm	Ant 8+9(9)	DSI 7	641666	3624.99	Without Scanner	13.89	13.9	1.002	100	1.000	-0.18	0.624	0.625
	FR1 n77/n78	100M	BPSK	1	1	Bottom Face	41mm	Ant 8+9(8)	DSI 0	641666	3624.99	Without Scanner	24.29	25.7	1.384	100	1.000	0.1	0.308	0.426
	FR1 n77/n78	100M	BPSK	1	1	Edge 4	27mm	Ant 8+9(9)	DSI 0	641666	3624.99	Without Scanner	24.47	25.7	1.327	100	1.000	0.1	0.435	0.577
	FR1 n41	100M	BPSK	270	0	Bottom Face	0mm	Ant 8+5(5)	DSI 7	518598	2592.99	Without Scanner	23.89	24.7	1.205	100	1.000	0.01	0.869	1.047
	FR1 n41	100M	BPSK	270	0	Edge 4	0mm	Ant 8+5(8)	DSI 7	518598	2592.99	Without Scanner	23.82	24.7	1.225	100	1.000	0.08	0.852	1.044
	FR1 n41	100M	BPSK	1	1	Bottom Face	19mm	Ant 8+5(5)	DSI 0	518598	2592.99	Without Scanner	24.58	25.2	1.153	100	1.000	0.12	0.761	0.877
	FR1 n41_HPUE	100M	BPSK	1	1	Edge 1	18mm	Ant 8+5(8)	DSI 0	518598	2592.99	Without Scanner	26.84	27	1.038	50	1.000	0.03	0.601	0.624
	FR1 n48	40M	BPSK	50	28	Edge 4	0mm	Ant 8+9(8)	DSI 7	641666	3624.99	Without Scanner	11.91	13	1.285	100	1.000	0.01	0.845	1.086
	FR1 n48	40M	BPSK	50	28	Edge 4	0mm	Ant 8+9(9)	DSI 7	645332	3679.98	Without Scanner	13.56	14.9	1.361	100	1.000	0.01	0.805	1.096
	FR1 n48	40M	BPSK	1	1	Edge 1	18mm	Ant 8+9(8)	DSI 0	641666	3624.99	Without Scanner	16.78	18	1.324	100	1.000	0.01	0.211	0.279
	FR1 n48	40M	BPSK	1	1	Edge 4	27mm	Ant 8+9(9)	DSI 0	641666	3624.99	Without Scanner	16.68	18	1.355	100	1.000	0.02	0.205	0.278