

MIMO SAR Verification Results

N77 Part27Q UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	12.6	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	13.7	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	12.6	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	12.60	Measured MIMO SAR at meas. Ptest (W/kg)	0.755
Reported SAR _{MIMO}	0.950	Calc. SAR	2.124

N77 Part27O UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	12.6	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	13.7	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	12.6	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	12.60	Measured MIMO SAR at meas. Ptest (W/kg)	0.668
Reported SAR _{MIMO}	0.841	Calc. SAR	2.124

N77 Part96 UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	12.6	SISO Ant8 Pmax (dBm)	24.7
SISO Ant9 Plimit (dBm)	13.7	SISO Ant9 Pmax (dBm)	24.7
Ptest (dBm)	12.6	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	12.60	Measured MIMO SAR at meas. Ptest (W/kg)	0.895
Reported SAR _{MIMO}	1.127	Calc. SAR	2.124

FR1 n41 UL-MIMO (Ant8+5) DS17 Body worn			
SISO Ant8 Plimit (dBm)	10.2	SISO Ant8 Pmax (dBm)	24.2
SISO Ant5 Plimit (dBm)	17.1	SISO Ant5 Pmax (dBm)	24.2
Ptest (dBm)	10.2	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	10.20	Measured MIMO SAR at meas. Ptest (W/kg)	0.811
Reported SAR _{MIMO}	1.021	Calc. SAR	1.440

N48 UL-MIMO (Ant8+9) DS17 Body worn			
SISO Ant8 Plimit (dBm)	13.4	SISO Ant8 Pmax (dBm)	17.0
SISO Ant9 Plimit (dBm)	14.5	SISO Ant9 Pmax (dBm)	17.0
Ptest (dBm)	13.4	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.95	Back off	0
Measured MIMO Ptest (dBm)	13.40	Measured MIMO SAR at meas. Ptest (W/kg)	0.869
Reported SAR _{MIMO}	1.094	Calc. SAR	2.124

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)	0.623
Reported SAR _{MIMO}	0.784	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)	0.521
Reported SAR _{MIMO}	0.656	Calc. SAR	2.392

N77 Part96 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)	0.659
Reported SAR _{MIMO}	0.830	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)	0.455
Reported SAR _{MIMO}	0.573	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)	0.143
Reported SAR _{MIMO}	0.180	Calc. SAR	2.392

MIMO SAR Test Results

Plot No	Band	SW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq (MHz)	Power Setting	Sample	Average Power (dBm)	Time-Up Limit (dBm)	Time-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Dn (dB)	Measured 1g-SAR (W/kg)	Reported 1g-SAR (W/kg)
	FR1 n77	100M	BPSK	135	69	Edge 1	0mm	Ant B-9(B)	DS17	633332	3499.98	130	Without Scanner	13.21	13.6	1.094	100	1.000	-0.03	0.709	0.776
	FR1 n77	100M	BPSK	135	69	Bottom Face	0mm	Ant B-9(B)	DS17	633332	3499.98	140	Without Scanner	13.78	14.7	1.296	100	1.000	0.06	0.755	0.933
	FR1 n77	100M	BPSK	1	1	Edge 2	17mm	Ant B-9(B)	DS10	633332	3499.98	240	Without Scanner	24.29	25.7	1.384	100	1.000	-0.05	0.532	0.735
	FR1 n77	100M	BPSK	135	69	Edge 4	9mm	Ant B-9(B)	DS10	633332	3499.98	240	Without Scanner	24.56	25.7	1.309	100	1.000	-0.04	0.625	0.816
	FR1 n77n78	100M	BPSK	135	69	Edge 1	0mm	Ant B-9(B)	DS17	641666	3624.99	130	Without Scanner	13.29	13.6	1.074	100	1.000	0.06	0.669	0.717
	FR1 n77n78	100M	BPSK	135	69	Bottom Face	0mm	Ant B-9(B)	DS17	641666	3624.99	140	Without Scanner	13.79	14.7	1.233	100	1.000	0.04	0.535	0.660
	FR1 n77n78	100M	BPSK	135	69	Edge 2	17mm	Ant B-9(B)	DS10	641666	3624.99	240	Without Scanner	24.27	25.7	1.390	100	1.000	-0.09	0.506	0.703
	FR1 n77n78	100M	BPSK	135	69	Edge 1	11mm	Ant B-9(B)	DS10	641666	3624.99	240	Without Scanner	24.51	25.7	1.315	100	1.000	0.07	0.521	0.685
	FR1 n77	100M	BPSK	1	1	Edge 1	0mm	Ant B-9(B)	DS17	656000	3840	130	Without Scanner	13.2	13.6	1.096	100	1	0.01	0.895	0.981
	FR1 n77	100M	BPSK	1	1	Bottom Face	0mm	Ant B-9(B)	DS17	656000	3840	140	Without Scanner	13.81	14.7	1.227	100	1.000	0.06	0.623	0.764
	FR1 n77	100M	BPSK	1	1	Edge 2	17mm	Ant B-9(B)	DS10	656000	3840	240	Without Scanner	24.24	25.7	1.400	100	1.000	0.04	0.699	0.923
	FR1 n77	100M	BPSK	1	1	Edge 2	9mm	Ant B-9(B)	DS10	656000	3840	240	Without Scanner	24.85	25.7	1.216	100	1.000	-0.04	0.561	0.682
	FR1 n41	100M	BPSK	135	69	Edge 1	0mm	Ant B-9(B)	DS17	518598	2592.99	105	Without Scanner	10.11	11.2	1.285	100	1.000	0.03	0.765	0.983
	FR1 n41	100M	BPSK	1	1	Bottom Face	0mm	Ant B-9(B)	DS17	518598	2592.99	170	Without Scanner	17.1	18.1	1.259	100	1.000	0.04	0.811	1.021
	FR1 n41	100M	BPSK	1	1	Edge 1	49mm	Ant B-9(B)	DS10	518598	2592.99	240	Without Scanner	24.72	25.2	1.117	100	1.000	0.06	0.296	0.286
	FR1 n41	100M	BPSK	1	1	Bottom Face	20mm	Ant B-9(B)	DS10	518598	2592.99	240	Without Scanner	24.65	25.2	1.135	100	1.000	0.02	0.456	0.516
	FR1 n48	40M	BPSK	1	53	Edge 1	0mm	Ant B-9(B)	DS17	645332	3679.98		Without Scanner	13.38	14.4	1.265	100	1.000	0.01	0.854	1.080
	FR1 n48	40M	BPSK	1	1	Bottom Face	0mm	Ant B-9(B)	DS17	641666	3624.99	140	Without Scanner	14.39	15.5	1.233	100	1.000	0.09	0.860	1.071
	FR1 n48	40M	BPSK	1	1	Edge 2	17mm	Ant B-9(B)	DS10	641666	3624.99		Without Scanner	16.89	18	1.294	100	1.000	0.06	0.115	0.149
	FR1 n48	40M	BPSK	1	1	Edge 1	11mm	Ant B-9(B)	DS10	641666	3624.99		Without Scanner	16.8	18	1.318	100	1.000	0.04	0.143	0.168