



MIMO SAR verification results

N77 UL-MIMO (Ant4+6) DSI2 Head				N77 UL-MIMO (Ant4+6) DSI1 Hotspot(RFID OFF)			
SISO Ant4 Plimit (dBm)	15.2	SISO Ant4 Pmax (dBm)	23.0	SISO Ant4 Plimit (dBm)	22.2	SISO Ant4 Pmax (dBm)	23.0
SISO Ant6 Plimit (dBm)	24.4	SISO Ant6 Pmax (dBm)	23.0	SISO Ant6 Plimit (dBm)	19.7	SISO Ant6 Pmax (dBm)	23.0
Ptest (dBm)	15.2	Total uncertainty (dB)	1.0	Ptest (dBm)	19.7	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.87	Back off	0	SAR design target (W/kg)	0.87	Back off	0
Measured MIMO Ptest (dBm)	15.20	Measured MIMO SAR at meas. Ptest (W/kg)	0.737	Measured MIMO Ptest (dBm)	19.70	Measured MIMO SAR at meas. Ptest (W/kg)	0.533
Reported SAR _{MIMO}	0.928	Calc.SAR	1.227	Reported SAR _{MIMO}	0.671	Calc.SAR	1.711

N77 UL-MIMO (Ant4+6) DSI4 Hotspot(RFID On)				N77 UL-MIMO (Ant4+6) DSI0 Body worn(RFID OFF)			
SISO Ant4 Plimit (dBm)	20.8	SISO Ant4 Pmax (dBm)	23.0	SISO Ant4 Plimit (dBm)	23.9	SISO Ant4 Pmax (dBm)	23.0
SISO Ant6 Plimit (dBm)	18.3	SISO Ant6 Pmax (dBm)	23.0	SISO Ant6 Plimit (dBm)	19.5	SISO Ant6 Pmax (dBm)	23.0
Ptest (dBm)	18.3	Total uncertainty (dB)	1.0	Ptest (dBm)	19.5	Total uncertainty (dB)	1.0
SAR design target (W/kg)	0.64	Back off	0	SAR design target (W/kg)	0.87	Back off	0
Measured MIMO Ptest (dBm)	18.30	Measured MIMO SAR at meas. Ptest (W/kg)	0.505	Measured MIMO Ptest (dBm)	19.50	Measured MIMO SAR at meas. Ptest (W/kg)	0.515
Reported SAR _{MIMO}	0.636	Calc.SAR	1.250	Reported SAR _{MIMO}	0.648	Calc.SAR	1.493

N77 UL-MIMO (Ant4+6) DSI0 Extremity(RFID OFF)				N77 UL-MIMO (Ant4+6) DSI5 Extremity(RFID On)			
SISO Ant4 Plimit (dBm)	23.9	SISO Ant4 Pmax (dBm)	23.0	SISO Ant4 Plimit (dBm)	21.9	SISO Ant4 Pmax (dBm)	23.0
SISO Ant6 Plimit (dBm)	19.5	SISO Ant6 Pmax (dBm)	23.0	SISO Ant6 Plimit (dBm)	17.5	SISO Ant6 Pmax (dBm)	23.0
Ptest (dBm)	19.5	Total uncertainty (dB)	1.0	Ptest (dBm)	17.5	Total uncertainty (dB)	1.0
SAR design target (W/kg)	2.46	Back off	0	SAR design target (W/kg)	1.59	Back off	0
Measured MIMO Ptest (dBm)	19.50	Measured MIMO SAR at meas. Ptest (W/kg)	2.050	Measured MIMO Ptest (dBm)	17.50	Measured MIMO SAR at meas. Ptest (W/kg)	1.230
Reported SAR _{MIMO}	2.581	Calc.SAR	4.225	Reported SAR _{MIMO}	1.548	Calc.SAR	2.726

MIMO SAR Test results

Head SAR Test																		
Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4+6(4)	DSI 2	656000	3840	15.20	16.20	1.259	-0.06	0.737	0.928
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4+6(6)	DSI 2	656000	3840	24.08	25.40	1.355	-0.06	0.737	0.999
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4+6(4)	DSI 2	633334	3500.01	15.22	16.20	1.253	-0.04	0.303	0.380
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4+6(6)	DSI 2	633334	3500.01	24.03	25.40	1.371	-0.04	0.303	0.415

Hotspot SAR Test																		
Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4+6(4)	DSI 1	656000	3840	22.10	23.20	1.288	-0.05	0.401	0.517
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4+6(6)	DSI 1	656000	3840	19.51	20.70	1.315	-0.05	0.401	0.527
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4+6(4)	DSI 4	656000	3840	21.15	21.80	1.161	-0.09	0.315	0.366
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4+6(6)	DSI 4	656000	3840	17.95	19.30	1.365	-0.09	0.315	0.430
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4+6(4)	DSI 1	633334	3500.01	21.79	23.20	1.384	0.01	0.533	0.737
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4+6(6)	DSI 1	633334	3500.01	19.36	20.70	1.361	0.01	0.533	0.726
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4+6(4)	DSI 4	633334	3500.01	20.79	21.80	1.262	-0.06	0.505	0.637
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4+6(6)	DSI 4	633334	3500.01	17.73	19.30	1.435	-0.06	0.505	0.725

Body SAR Test																		
Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4+6(4)	DSI 0	656000	3840	23.66	24.90	1.330	-0.1	0.177	0.589
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4+6(6)	DSI 0	656000	3840	19.51	20.50	1.256	-0.1	0.177	0.200
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4+6(4)	DSI 0	633334	3500.01	23.48	24.90	1.387	-0.05	0.515	0.714
ULMIMO	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4+6(6)	DSI 0	633334	3500.01	19.39	20.50	1.291	-0.15	0.121	0.156

Extremity SAR Test																		
Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(4)	DSI 0	656000	3840	23.66	24.90	1.330	-0.03	1.850	2.461
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(6)	DSI 0	656000	3840	19.51	20.50	1.256	-0.03	1.850	2.324
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(4)	DSI 5	656000	3840	22.10	22.90	1.202	0.01	1.030	1.238
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(6)	DSI 5	656000	3840	17.39	18.50	1.291	0.01	1.030	1.330
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(4)	DSI 0	633334	3500.01	23.48	24.90	1.387	0.03	2.050	2.843
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(6)	DSI 0	633334	3500.01	19.54	20.50	1.247	0.03	2.050	2.557
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(4)	DSI 5	633334	3500.01	21.97	22.90	1.239	-0.03	1.230	1.524
ULMIMO	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4+6(6)	DSI 5	633334	3500.01	17.29	18.50	1.321	-0.03	1.230	1.625