

Band5	5	20625	1	#0	QPSK	22.66
Band5	5	20625	1	#Mid	QPSK	22.63
Band5	5	20625	1	#Max	QPSK	22.67
Band5	5	20625	12	#0	QPSK	21.84
Band5	5	20625	12	#Mid	QPSK	21.83
Band5	5	20625	12	#Max	QPSK	21.84
Band5	5	20625	25	#0	QPSK	21.79
Band5	5	20625	1	#0	16QAM	22.43
Band5	5	20625	1	#Mid	16QAM	22.36
Band5	5	20625	1	#Max	16QAM	22.40
Band5	5	20625	12	#0	16QAM	20.87
Band5	5	20625	12	#Mid	16QAM	20.84
Band5	5	20625	12	#Max	16QAM	20.81
Band5	5	20625	25	#0	16QAM	21.05
Band5	10	20450	1	#0	QPSK	22.68
Band5	10	20450	1	#Mid	QPSK	22.65
Band5	10	20450	1	#Max	QPSK	22.80
Band5	10	20450	25	#0	QPSK	21.78
Band5	10	20450	25	#Mid	QPSK	21.77
Band5	10	20450	25	#Max	QPSK	21.75
Band5	10	20450	50	#0	QPSK	21.75
Band5	10	20450	1	#0	16QAM	22.85
Band5	10	20450	1	#Mid	16QAM	22.91
Band5	10	20450	1	#Max	16QAM	22.93
Band5	10	20450	25	#0	16QAM	20.81
Band5	10	20450	25	#Mid	16QAM	20.93
Band5	10	20450	25	#Max	16QAM	20.85
Band5	10	20450	50	#0	16QAM	20.98
Band5	10	20525	1	#0	QPSK	22.74
Band5	10	20525	1	#Mid	QPSK	22.86
Band5	10	20525	1	#Max	QPSK	22.92
Band5	10	20525	25	#0	QPSK	22.01
Band5	10	20525	25	#Mid	QPSK	21.99
Band5	10	20525	25	#Max	QPSK	21.87
Band5	10	20525	50	#0	QPSK	21.95
Band5	10	20525	1	#0	16QAM	22.50
Band5	10	20525	1	#Mid	16QAM	22.59
Band5	10	20525	1	#Max	16QAM	22.66
Band5	10	20525	25	#0	16QAM	21.01
Band5	10	20525	25	#Mid	16QAM	20.98
Band5	10	20525	25	#Max	16QAM	20.95
Band5	10	20525	50	#0	16QAM	20.97
Band5	10	20600	1	#0	QPSK	22.84
Band5	10	20600	1	#Mid	QPSK	22.84
Band5	10	20600	1	#Max	QPSK	22.84
Band5	10	20600	25	#0	QPSK	21.84
Band5	10	20600	25	#Mid	QPSK	21.86
Band5	10	20600	25	#Max	QPSK	21.74
Band5	10	20600	50	#0	QPSK	21.85
Band5	10	20600	1	#0	16QAM	22.21
Band5	10	20600	1	#Mid	16QAM	22.19
Band5	10	20600	1	#Max	16QAM	22.10
Band5	10	20600	25	#0	16QAM	21.05
Band5	10	20600	25	#Mid	16QAM	20.96
Band5	10	20600	25	#Max	16QAM	20.94
Band5	10	20600	50	#0	16QAM	20.86

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)
Band7	5	20775	1	#0	QPSK	23.38
Band7	5	20775	1	#Mid	QPSK	23.46
Band7	5	20775	1	#Max	QPSK	23.45
Band7	5	20775	12	#0	QPSK	22.41
Band7	5	20775	12	#Mid	QPSK	22.31
Band7	5	20775	12	#Max	QPSK	22.39
Band7	5	20775	25	#0	QPSK	22.31
Band7	5	20775	1	#0	16QAM	22.08
Band7	5	20775	1	#Mid	16QAM	22.12
Band7	5	20775	1	#Max	16QAM	22.15
Band7	5	20775	12	#0	16QAM	20.98
Band7	5	20775	12	#Mid	16QAM	21.25
Band7	5	20775	12	#Max	16QAM	21.25
Band7	5	20775	25	#0	16QAM	21.38
Band7	5	21100	1	#0	QPSK	23.12
Band7	5	21100	1	#Mid	QPSK	23.14
Band7	5	21100	1	#Max	QPSK	23.15
Band7	5	21100	12	#0	QPSK	22.36
Band7	5	21100	12	#Mid	QPSK	22.21
Band7	5	21100	12	#Max	QPSK	22.28
Band7	5	21100	25	#0	QPSK	22.33
Band7	5	21100	1	#0	16QAM	22.57
Band7	5	21100	1	#Mid	16QAM	22.53
Band7	5	21100	1	#Max	16QAM	22.56
Band7	5	21100	12	#0	16QAM	21.3
Band7	5	21100	12	#Mid	16QAM	21.43
Band7	5	21100	12	#Max	16QAM	21.35
Band7	5	21100	25	#0	16QAM	21.34
Band7	5	21425	1	#0	QPSK	23.28
Band7	5	21425	1	#Mid	QPSK	23.1
Band7	5	21425	1	#Max	QPSK	23.23
Band7	5	21425	12	#0	QPSK	22.29
Band7	5	21425	12	#Mid	QPSK	22.23
Band7	5	21425	12	#Max	QPSK	22.25
Band7	5	21425	25	#0	QPSK	22.22
Band7	5	21425	1	#0	16QAM	22.32
Band7	5	21425	1	#Mid	16QAM	22.28
Band7	5	21425	1	#Max	16QAM	22.27
Band7	5	21425	12	#0	16QAM	21.06
Band7	5	21425	12	#Mid	16QAM	21.21
Band7	5	21425	12	#Max	16QAM	21.13
Band7	5	21425	25	#0	16QAM	21.49
Band7	10	20800	1	#0	QPSK	23.26
Band7	10	20800	1	#Mid	QPSK	23.41
Band7	10	20800	1	#Max	QPSK	23.46
Band7	10	20800	25	#0	QPSK	22.44
Band7	10	20800	25	#Mid	QPSK	22.43
Band7	10	20800	25	#Max	QPSK	22.35
Band7	10	20800	50	#0	QPSK	22.47
Band7	10	20800	1	#0	16QAM	23.5
Band7	10	20800	1	#Mid	16QAM	23.59
Band7	10	20800	1	#Max	16QAM	23.65
Band7	10	20800	25	#0	16QAM	21.28
Band7	10	20800	25	#Mid	16QAM	21.24
Band7	10	20800	25	#Max	16QAM	21.3

Band7	10	20800	50	#0	16QAM	21.35
Band7	10	21100	1	#0	QPSK	23.21
Band7	10	21100	1	#Mid	QPSK	23.23
Band7	10	21100	1	#Max	QPSK	23.25
Band7	10	21100	25	#0	QPSK	22.27
Band7	10	21100	25	#Mid	QPSK	22.29
Band7	10	21100	25	#Max	QPSK	22.36
Band7	10	21100	50	#0	QPSK	22.31
Band7	10	21100	1	#0	16QAM	22.37
Band7	10	21100	1	#Mid	16QAM	22.46
Band7	10	21100	1	#Max	16QAM	22.50
Band7	10	21100	25	#0	16QAM	21.31
Band7	10	21100	25	#Mid	16QAM	21.34
Band7	10	21100	25	#Max	16QAM	21.42
Band7	10	21100	50	#0	16QAM	21.4
Band7	10	21400	1	#0	QPSK	23.52
Band7	10	21400	1	#Mid	QPSK	23.46
Band7	10	21400	1	#Max	QPSK	23.36
Band7	10	21400	25	#0	QPSK	22.25
Band7	10	21400	25	#Mid	QPSK	22.2
Band7	10	21400	25	#Max	QPSK	22.23
Band7	10	21400	50	#0	QPSK	22.23
Band7	10	21400	1	#0	16QAM	22.42
Band7	10	21400	1	#Mid	16QAM	22.32
Band7	10	21400	1	#Max	16QAM	22.26
Band7	10	21400	25	#0	16QAM	21.36
Band7	10	21400	25	#Mid	16QAM	21.35
Band7	10	21400	25	#Max	16QAM	21.47
Band7	10	21400	50	#0	16QAM	21.39
Band7	15	20825	1	#0	QPSK	23.29
Band7	15	20825	1	#Mid	QPSK	23.45
Band7	15	20825	1	#Max	QPSK	23.41
Band7	15	20825	36	#0	QPSK	22.3
Band7	15	20825	36	#Mid	QPSK	22.44
Band7	15	20825	36	#Max	QPSK	22.34
Band7	15	20825	75	#0	QPSK	22.33
Band7	15	20825	1	#0	16QAM	23.49
Band7	15	20825	1	#Mid	16QAM	23.68
Band7	15	20825	1	#Max	16QAM	23.7
Band7	15	20825	36	#0	16QAM	21.5
Band7	15	20825	36	#Mid	16QAM	21.56
Band7	15	20825	36	#Max	16QAM	21.51
Band7	15	20825	75	#0	16QAM	21.56
Band7	15	21100	1	#0	QPSK	23.26
Band7	15	21100	1	#Mid	QPSK	23.27
Band7	15	21100	1	#Max	QPSK	23.34
Band7	15	21100	36	#0	QPSK	22.19
Band7	15	21100	36	#Mid	QPSK	22.28
Band7	15	21100	36	#Max	QPSK	22.36
Band7	15	21100	75	#0	QPSK	22.28
Band7	15	21100	1	#0	16QAM	22.25
Band7	15	21100	1	#Mid	16QAM	22.39
Band7	15	21100	1	#Max	16QAM	22.45
Band7	15	21100	36	#0	16QAM	21.44
Band7	15	21100	36	#Mid	16QAM	21.44
Band7	15	21100	36	#Max	16QAM	21.52
Band7	15	21100	75	#0	16QAM	21.45

Band7	15	21375	1	#0	QPSK	23.52
Band7	15	21375	1	#Mid	QPSK	23.43
Band7	15	21375	1	#Max	QPSK	23.39
Band7	15	21375	36	#0	QPSK	22.23
Band7	15	21375	36	#Mid	QPSK	22.35
Band7	15	21375	36	#Max	QPSK	22.22
Band7	15	21375	75	#0	QPSK	22.23
Band7	15	21375	1	#0	16QAM	23.14
Band7	15	21375	1	#Mid	16QAM	23.01
Band7	15	21375	1	#Max	16QAM	23
Band7	15	21375	36	#0	16QAM	21.32
Band7	15	21375	36	#Mid	16QAM	21.26
Band7	15	21375	36	#Max	16QAM	21.33
Band7	15	21375	75	#0	16QAM	21.39
Band7	20	20850	1	#0	QPSK	23.46
Band7	20	20850	1	#Mid	QPSK	23.57
Band7	20	20850	1	#Max	QPSK	23.49
Band7	20	20850	50	#0	QPSK	22.33
Band7	20	20850	50	#Mid	QPSK	22.46
Band7	20	20850	50	#Max	QPSK	22.40
Band7	20	20850	100	#0	QPSK	22.37
Band7	20	20850	1	#0	16QAM	22.14
Band7	20	20850	1	#Mid	16QAM	22.21
Band7	20	20850	1	#Max	16QAM	22.11
Band7	20	20850	50	#0	16QAM	21.55
Band7	20	20850	50	#Mid	16QAM	21.58
Band7	20	20850	50	#Max	16QAM	21.53
Band7	20	20850	100	#0	16QAM	21.43
Band7	20	21100	1	#0	QPSK	23.39
Band7	20	21100	1	#Mid	QPSK	23.47
Band7	20	21100	1	#Max	QPSK	23.59
Band7	20	21100	50	#0	QPSK	22.27
Band7	20	21100	50	#Mid	QPSK	22.40
Band7	20	21100	50	#Max	QPSK	22.28
Band7	20	21100	100	#0	QPSK	22.33
Band7	20	21100	1	#0	16QAM	22.63
Band7	20	21100	1	#Mid	16QAM	22.69
Band7	20	21100	1	#Max	16QAM	22.68
Band7	20	21100	50	#0	16QAM	21.39
Band7	20	21100	50	#Mid	16QAM	21.32
Band7	20	21100	50	#Max	16QAM	21.48
Band7	20	21100	100	#0	16QAM	21.28
Band7	20	21350	1	#0	QPSK	23.64
Band7	20	21350	1	#Mid	QPSK	23.60
Band7	20	21350	1	#Max	QPSK	23.39
Band7	20	21350	50	#0	QPSK	22.38
Band7	20	21350	50	#Mid	QPSK	22.25
Band7	20	21350	50	#Max	QPSK	22.34
Band7	20	21350	100	#0	QPSK	22.35
Band7	20	21350	1	#0	16QAM	22.45
Band7	20	21350	1	#Mid	16QAM	22.29
Band7	20	21350	1	#Max	16QAM	22.32
Band7	20	21350	50	#0	16QAM	21.41
Band7	20	21350	50	#Mid	16QAM	21.36
Band7	20	21350	50	#Max	16QAM	21.38
Band7	20	21350	100	#0	16QAM	21.37

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)
Band12	1.4	23017	1	#0	QPSK	23.36
Band12	1.4	23017	1	#Mid	QPSK	23.28
Band12	1.4	23017	1	#Max	QPSK	23.26
Band12	1.4	23017	3	#0	QPSK	23.31
Band12	1.4	23017	3	#Mid	QPSK	23.27
Band12	1.4	23017	3	#Max	QPSK	23.28
Band12	1.4	23017	6	#0	QPSK	22.29
Band12	1.4	23017	1	#0	16QAM	23.60
Band12	1.4	23017	1	#Mid	16QAM	23.54
Band12	1.4	23017	1	#Max	16QAM	23.52
Band12	1.4	23017	3	#0	16QAM	22.53
Band12	1.4	23017	3	#Mid	16QAM	22.55
Band12	1.4	23017	3	#Max	16QAM	22.47
Band12	1.4	23017	6	#0	16QAM	21.91
Band12	1.4	23095	1	#0	QPSK	23.28
Band12	1.4	23095	1	#Mid	QPSK	23.30
Band12	1.4	23095	1	#Max	QPSK	23.32
Band12	1.4	23095	3	#0	QPSK	23.16
Band12	1.4	23095	3	#Mid	QPSK	23.19
Band12	1.4	23095	3	#Max	QPSK	23.11
Band12	1.4	23095	6	#0	QPSK	22.18
Band12	1.4	23095	1	#0	16QAM	22.27
Band12	1.4	23095	1	#Mid	16QAM	22.18
Band12	1.4	23095	1	#Max	16QAM	22.26
Band12	1.4	23095	3	#0	16QAM	22.22
Band12	1.4	23095	3	#Mid	16QAM	22.30
Band12	1.4	23095	3	#Max	16QAM	22.22
Band12	1.4	23095	6	#0	16QAM	21.40
Band12	1.4	23173	1	#0	QPSK	23.26
Band12	1.4	23173	1	#Mid	QPSK	23.30
Band12	1.4	23173	1	#Max	QPSK	23.20
Band12	1.4	23173	3	#0	QPSK	23.24
Band12	1.4	23173	3	#Mid	QPSK	23.21
Band12	1.4	23173	3	#Max	QPSK	23.10
Band12	1.4	23173	6	#0	QPSK	22.08
Band12	1.4	23173	1	#0	16QAM	22.18
Band12	1.4	23173	1	#Mid	16QAM	22.34
Band12	1.4	23173	1	#Max	16QAM	22.23
Band12	1.4	23173	3	#0	16QAM	22.03
Band12	1.4	23173	3	#Mid	16QAM	22.07
Band12	1.4	23173	3	#Max	16QAM	22.06
Band12	1.4	23173	6	#0	16QAM	21.63
Band12	3	23025	1	#0	QPSK	23.23
Band12	3	23025	1	#Mid	QPSK	23.19
Band12	3	23025	1	#Max	QPSK	23.21
Band12	3	23025	8	#0	QPSK	22.15
Band12	3	23025	8	#Mid	QPSK	22.18
Band12	3	23025	8	#Max	QPSK	22.17
Band12	3	23025	15	#0	QPSK	22.22
Band12	3	23025	1	#0	16QAM	23.35
Band12	3	23025	1	#Mid	16QAM	23.28
Band12	3	23025	1	#Max	16QAM	23.27
Band12	3	23025	8	#0	16QAM	21.57
Band12	3	23025	8	#Mid	16QAM	21.55
Band12	3	23025	8	#Max	16QAM	21.54

Band12	3	23025	15	#0	16QAM	21.71
Band12	3	23095	1	#0	QPSK	23.42
Band12	3	23095	1	#Mid	QPSK	23.36
Band12	3	23095	1	#Max	QPSK	23.36
Band12	3	23095	8	#0	QPSK	22.28
Band12	3	23095	8	#Mid	QPSK	22.27
Band12	3	23095	8	#Max	QPSK	22.23
Band12	3	23095	15	#0	QPSK	22.27
Band12	3	23095	1	#0	16QAM	22.21
Band12	3	23095	1	#Mid	16QAM	22.18
Band12	3	23095	1	#Max	16QAM	22.22
Band12	3	23095	8	#0	16QAM	21.22
Band12	3	23095	8	#Mid	16QAM	21.21
Band12	3	23095	8	#Max	16QAM	21.16
Band12	3	23095	15	#0	16QAM	21.16
Band12	3	23165	1	#0	QPSK	23.35
Band12	3	23165	1	#Mid	QPSK	23.32
Band12	3	23165	1	#Max	QPSK	23.21
Band12	3	23165	8	#0	QPSK	22.16
Band12	3	23165	8	#Mid	QPSK	22.12
Band12	3	23165	8	#Max	QPSK	22.14
Band12	3	23165	15	#0	QPSK	22.23
Band12	3	23165	1	#0	16QAM	22.28
Band12	3	23165	1	#Mid	16QAM	22.26
Band12	3	23165	1	#Max	16QAM	22.26
Band12	3	23165	8	#0	16QAM	21.18
Band12	3	23165	8	#Mid	16QAM	21.15
Band12	3	23165	8	#Max	16QAM	21.63
Band12	3	23165	15	#0	16QAM	21.19
Band12	5	23035	1	#0	QPSK	23.23
Band12	5	23035	1	#Mid	QPSK	23.21
Band12	5	23035	1	#Max	QPSK	23.25
Band12	5	23035	12	#0	QPSK	22.29
Band12	5	23035	12	#Mid	QPSK	22.17
Band12	5	23035	12	#Max	QPSK	22.23
Band12	5	23035	25	#0	QPSK	22.19
Band12	5	23035	1	#0	16QAM	22.37
Band12	5	23035	1	#Mid	16QAM	22.36
Band12	5	23035	1	#Max	16QAM	22.43
Band12	5	23035	12	#0	16QAM	21.60
Band12	5	23035	12	#Mid	16QAM	21.63
Band12	5	23035	12	#Max	16QAM	21.64
Band12	5	23035	25	#0	16QAM	21.90
Band12	5	23095	1	#0	QPSK	23.30
Band12	5	23095	1	#Mid	QPSK	23.25
Band12	5	23095	1	#Max	QPSK	23.23
Band12	5	23095	12	#0	QPSK	22.19
Band12	5	23095	12	#Mid	QPSK	22.23
Band12	5	23095	12	#Max	QPSK	22.12
Band12	5	23095	25	#0	QPSK	22.16
Band12	5	23095	1	#0	16QAM	22.34
Band12	5	23095	1	#Mid	16QAM	22.28
Band12	5	23095	1	#Max	16QAM	22.28
Band12	5	23095	12	#0	16QAM	21.07
Band12	5	23095	12	#Mid	16QAM	21.02
Band12	5	23095	12	#Max	16QAM	21.01
Band12	5	23095	25	#0	16QAM	21.28

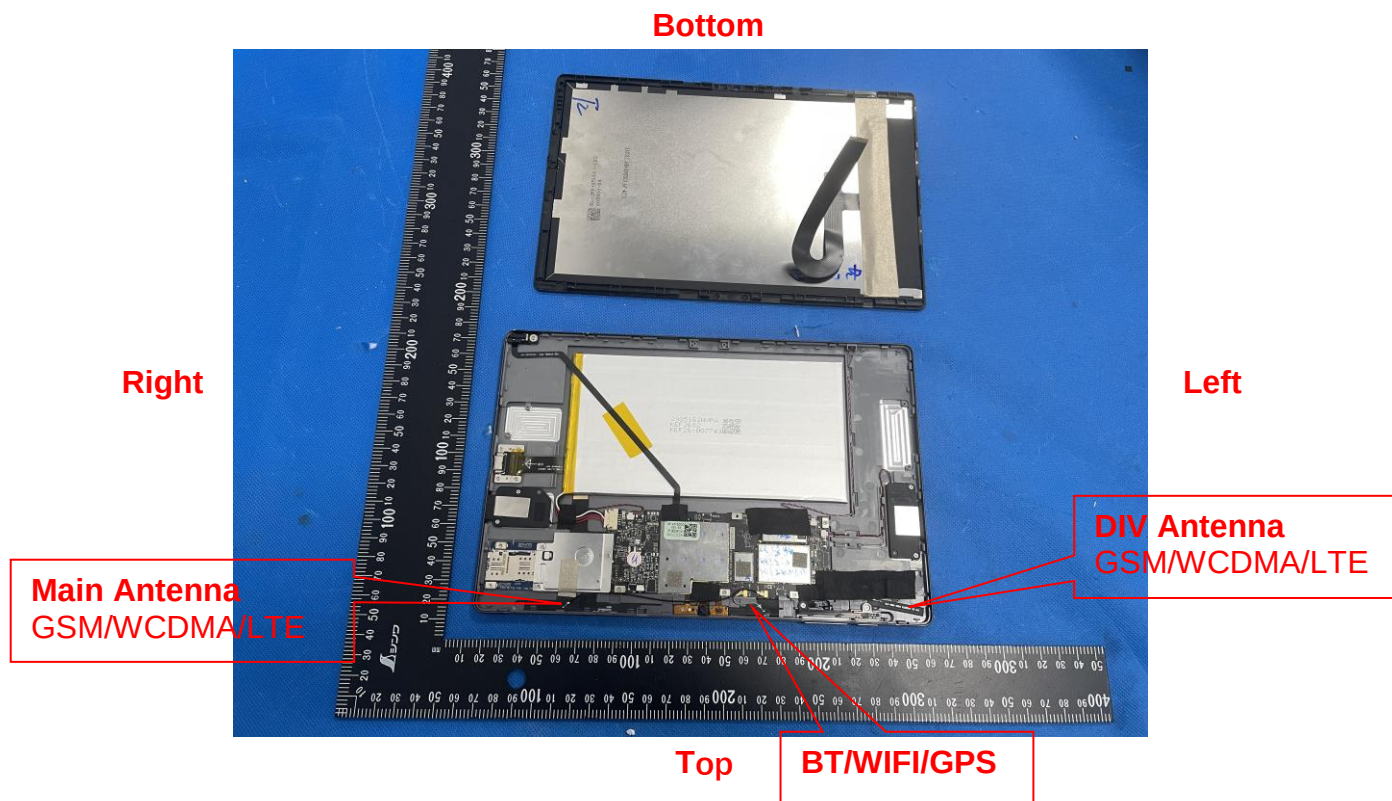
Band12	5	23155	1	#0	QPSK	22.97
Band12	5	23155	1	#Mid	QPSK	23.00
Band12	5	23155	1	#Max	QPSK	22.92
Band12	5	23155	12	#0	QPSK	22.17
Band12	5	23155	12	#Mid	QPSK	22.08
Band12	5	23155	12	#Max	QPSK	22.13
Band12	5	23155	25	#0	QPSK	22.20
Band12	5	23155	1	#0	16QAM	22.78
Band12	5	23155	1	#Mid	16QAM	22.79
Band12	5	23155	1	#Max	16QAM	22.72
Band12	5	23155	12	#0	16QAM	21.03
Band12	5	23155	12	#Mid	16QAM	21.11
Band12	5	23155	12	#Max	16QAM	21.12
Band12	5	23155	25	#0	16QAM	21.28
Band12	10	23060	1	#0	QPSK	23.25
Band12	10	23060	1	#Mid	QPSK	23.23
Band12	10	23060	1	#Max	QPSK	23.26
Band12	10	23060	25	#0	QPSK	22.23
Band12	10	23060	25	#Mid	QPSK	22.27
Band12	10	23060	25	#Max	QPSK	22.22
Band12	10	23060	50	#0	QPSK	22.37
Band12	10	23060	1	#0	16QAM	23.19
Band12	10	23060	1	#Mid	16QAM	23.29
Band12	10	23060	1	#Max	16QAM	23.09
Band12	10	23060	25	#0	16QAM	21.70
Band12	10	23060	25	#Mid	16QAM	21.72
Band12	10	23060	25	#Max	16QAM	21.32
Band12	10	23060	50	#0	16QAM	21.68
Band12	10	23095	1	#0	QPSK	23.25
Band12	10	23095	1	#Mid	QPSK	23.24
Band12	10	23095	1	#Max	QPSK	23.29
Band12	10	23095	25	#0	QPSK	22.24
Band12	10	23095	25	#Mid	QPSK	22.16
Band12	10	23095	25	#Max	QPSK	22.18
Band12	10	23095	50	#0	QPSK	22.17
Band12	10	23095	1	#0	16QAM	22.98
Band12	10	23095	1	#Mid	16QAM	22.93
Band12	10	23095	1	#Max	16QAM	22.94
Band12	10	23095	25	#0	16QAM	21.31
Band12	10	23095	25	#Mid	16QAM	21.26
Band12	10	23095	25	#Max	16QAM	21.32
Band12	10	23095	50	#0	16QAM	21.20
Band12	10	23130	1	#0	QPSK	23.18
Band12	10	23130	1	#Mid	QPSK	23.16
Band12	10	23130	1	#Max	QPSK	23.15
Band12	10	23130	25	#0	QPSK	22.21
Band12	10	23130	25	#Mid	QPSK	22.23
Band12	10	23130	25	#Max	QPSK	22.33
Band12	10	23130	50	#0	QPSK	22.19
Band12	10	23130	1	#0	16QAM	22.72
Band12	10	23130	1	#Mid	16QAM	22.60
Band12	10	23130	1	#Max	16QAM	22.70
Band12	10	23130	25	#0	16QAM	21.19
Band12	10	23130	25	#Mid	16QAM	21.21
Band12	10	23130	25	#Max	16QAM	21.26
Band12	10	23130	50	#0	16QAM	21.10

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)
Band17	5	23755	1	#0	QPSK	23.21
Band17	5	23755	1	#Mid	QPSK	23.16
Band17	5	23755	1	#Max	QPSK	23.21
Band17	5	23755	12	#0	QPSK	22.34
Band17	5	23755	12	#Mid	QPSK	22.21
Band17	5	23755	12	#Max	QPSK	22.24
Band17	5	23755	25	#0	QPSK	22.35
Band17	5	23755	1	#0	16QAM	21.98
Band17	5	23755	1	#Mid	16QAM	21.98
Band17	5	23755	1	#Max	16QAM	21.93
Band17	5	23755	12	#0	16QAM	21.20
Band17	5	23755	12	#Mid	16QAM	21.15
Band17	5	23755	12	#Max	16QAM	21.15
Band17	5	23755	25	#0	16QAM	21.35
Band17	5	23790	1	#0	QPSK	23.09
Band17	5	23790	1	#Mid	QPSK	23.09
Band17	5	23790	1	#Max	QPSK	23.04
Band17	5	23790	12	#0	QPSK	22.17
Band17	5	23790	12	#Mid	QPSK	22.30
Band17	5	23790	12	#Max	QPSK	22.32
Band17	5	23790	25	#0	QPSK	22.28
Band17	5	23790	1	#0	16QAM	22.89
Band17	5	23790	1	#Mid	16QAM	22.83
Band17	5	23790	1	#Max	16QAM	22.80
Band17	5	23790	12	#0	16QAM	21.17
Band17	5	23790	12	#Mid	16QAM	21.18
Band17	5	23790	12	#Max	16QAM	21.15
Band17	5	23790	25	#0	16QAM	21.31
Band17	5	23825	1	#0	QPSK	23.18
Band17	5	23825	1	#Mid	QPSK	23.13
Band17	5	23825	1	#Max	QPSK	23.19
Band17	5	23825	12	#0	QPSK	22.24
Band17	5	23825	12	#Mid	QPSK	22.37
Band17	5	23825	12	#Max	QPSK	22.32
Band17	5	23825	25	#0	QPSK	22.38
Band17	5	23825	1	#0	16QAM	22.40
Band17	5	23825	1	#Mid	16QAM	22.44
Band17	5	23825	1	#Max	16QAM	22.39
Band17	5	23825	12	#0	16QAM	21.21
Band17	5	23825	12	#Mid	16QAM	21.24
Band17	5	23825	12	#Max	16QAM	21.20
Band17	5	23825	25	#0	16QAM	21.38
Band17	10	23780	1	#0	QPSK	23.32
Band17	10	23780	1	#Mid	QPSK	23.27
Band17	10	23780	1	#Max	QPSK	23.32
Band17	10	23780	25	#0	QPSK	22.29
Band17	10	23780	25	#Mid	QPSK	22.22
Band17	10	23780	25	#Max	QPSK	22.30
Band17	10	23780	50	#0	QPSK	22.27
Band17	10	23780	1	#0	16QAM	23.23
Band17	10	23780	1	#Mid	16QAM	23.26
Band17	10	23780	1	#Max	16QAM	23.29
Band17	10	23780	25	#0	16QAM	21.30
Band17	10	23780	25	#Mid	16QAM	21.15
Band17	10	23780	25	#Max	16QAM	21.23

Band17	10	23780	50	#0	16QAM	21.26
Band17	10	23790	1	#0	QPSK	23.27
Band17	10	23790	1	#Mid	QPSK	23.31
Band17	10	23790	1	#Max	QPSK	23.32
Band17	10	23790	25	#0	QPSK	22.30
Band17	10	23790	25	#Mid	QPSK	22.25
Band17	10	23790	25	#Max	QPSK	22.32
Band17	10	23790	50	#0	QPSK	22.24
Band17	10	23790	1	#0	16QAM	23.09
Band17	10	23790	1	#Mid	16QAM	22.96
Band17	10	23790	1	#Max	16QAM	23.04
Band17	10	23790	25	#0	16QAM	21.25
Band17	10	23790	25	#Mid	16QAM	21.33
Band17	10	23790	25	#Max	16QAM	21.31
Band17	10	23790	50	#0	16QAM	21.31
Band17	10	23800	1	#0	QPSK	23.25
Band17	10	23800	1	#Mid	QPSK	23.30
Band17	10	23800	1	#Max	QPSK	23.33
Band17	10	23800	25	#0	QPSK	22.35
Band17	10	23800	25	#Mid	QPSK	22.23
Band17	10	23800	25	#Max	QPSK	22.46
Band17	10	23800	50	#0	QPSK	22.33
Band17	10	23800	1	#0	16QAM	22.75
Band17	10	23800	1	#Mid	16QAM	22.78
Band17	10	23800	1	#Max	16QAM	22.76
Band17	10	23800	25	#0	16QAM	21.31
Band17	10	23800	25	#Mid	16QAM	21.32
Band17	10	23800	25	#Max	16QAM	21.38
Band17	10	23800	50	#0	16QAM	21.31

14.2 Transmit Antennas and SAR Measurement Position

EUT Antenna Location:



Antennas	Support Band
Main	GSM 850/1900 + WCDMA Band 2/5 + LTE Band 2/4/5/7/12/17 TX
DIV	GSM 850/1900 + WCDMA Band 2/5 + LTE Band 2/4/5/7/12/17 RX
BT/WIFI/GPS	Bluetooth + WIFI 2.4G + WIFI 5G + GPS

Distance of The Antenna to the EUT surface and edge (mm)						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
Main	<25	<25	<25	180	158	27
BT/WIFI/GPS	<25	<25	<25	180	84	138

Body mode: Positions for SAR tests						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
Main	Yes	Yes	Yes	No	No	No
BT/WIFI/GPS	Yes	Yes	Yes	No	No	No

Note:

- Referring to KDB 616217 D04 v01r02, KDB 248227 D01 v02r02 and KDB 447498 D01 v06, this device is overall diagonal dimension (>20cm) tablet, tested in direct contact (no gap) with flat phantom.
- According to the KDB 616217 D04 SAR for laptop and tablets v01r02, When antennas are incorporated in the keyboard section of a laptop computer, SAR is required for the bottom surface of the keyboard. Provided tablet use conditions are not supported by the laptop computer, SAR tests for bystander exposure from the edges of the keyboard and display screen of laptop computers are generally not required.

14.3 Measured and Reported (Scaled) SAR Results

The calculated SAR is obtained by the following formula:

1. Reported SAR for WWAN=Measured SAR * Tune-up Scaling factor
2. Reported SAR for WLAN and Bluetooth=Measured SAR * Tune-up Scaling factor * Duty Cycle Scaling factor
3. Duty Cycle Scaling factor=1/ Duty Cycle (%)

KDB 447498 D01 General RF Exposure Guidance:

Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR v01r03:

1. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.
2. when the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, using the same wireless mode test configuration for voice and data, such as UMTS, LTE and Wi-Fi, and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface)
3. For Smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

KDB 941225 D01 3G SAR Procedures:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode (RMC12.2kbps) or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D05 SAR for LTE Devices:

1. Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is $\leq 1/2$ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

KDB 248227 D01 802.11 Wi-Fi SAR

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements.

For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions.

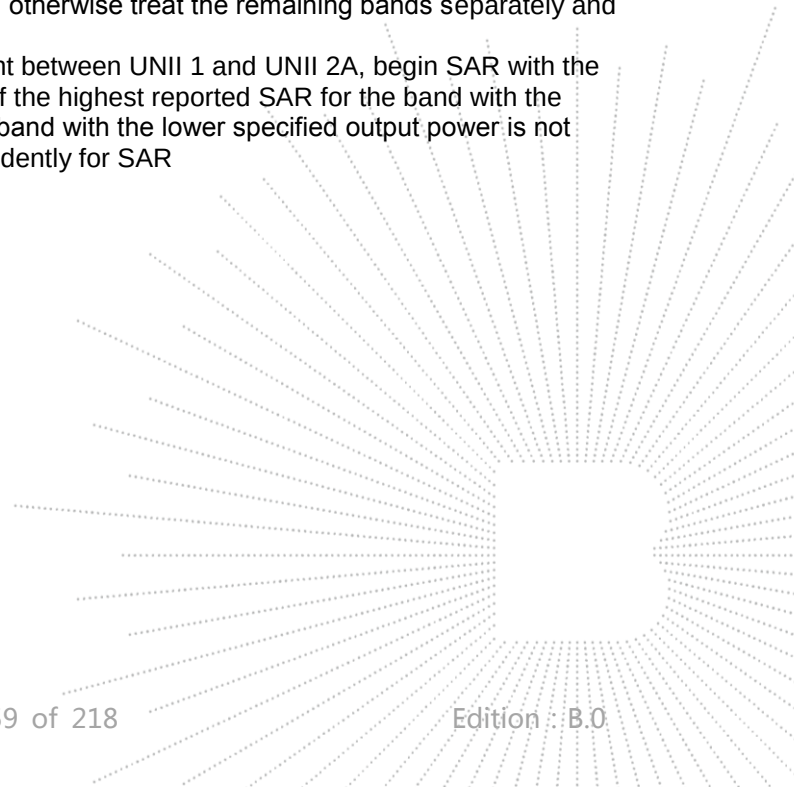
DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.¹⁶ The initial test position procedure is described in the following:

- a) When the *reported* SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
- b) When the *reported* SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
- c) For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR



WIFI 2.4G										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	b	Front	6	2437	14.66	15.0	1.081	0.117	0.127	
		Back	6	2437	14.66	15.0	1.081	0.105	0.114	
		Top	6	2437	14.66	15.0	1.081	0.163	0.176	
		Top	1	2412	10.64	15.0	2.729	0.121	0.330	1
		Top	11	2462	10.25	15.0	2.985	0.096	0.287	

WIFI 5.1G										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	a	Front	36	5180	12.15	12.5	1.084	0.195	0.211	
		Back	36	5180	12.15	12.5	1.084	0.234	0.254	
		Top	36	5180	12.15	12.5	1.084	0.317	0.344	2
		Top	40	5200	11.89	12.5	1.151	0.267	0.307	
		Top	48	5240	10.93	12.5	1.435	0.232	0.333	

WIFI 5.8G										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	a	Front	149	5745	13.59	14.0	1.099	0.249	0.274	
		Back	149	5745	13.59	14.0	1.099	0.315	0.346	
		Top	149	5745	13.59	14.0	1.099	0.375	0.412	3
		Top	157	5785	13.09	14.0	1.233	0.286	0.353	
		Top	165	5825	12.24	14.0	1.500	0.229	0.343	

GSM 850										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	GSM	Front	128	824.2	32.43	33.0	1.140	0.196	0.223	
		Back	128	824.2	32.43	33.0	1.140	0.292	0.333	
		Top	128	824.2	32.43	33.0	1.140	0.289	0.330	
		Back	190	836.6	32.17	33.0	1.211	0.241	0.292	
		Back	251	848.8	32.28	33.0	1.180	0.235	0.277	
	GPRS	Front	128	824.2	28.74	29.0	1.062	0.333	0.354	
		Back	128	824.2	28.74	29.0	1.062	0.517	0.549	
		Top	128	824.2	28.74	29.0	1.062	0.688	0.730	
		Top	190	836.6	28.51	29.0	1.119	0.613	0.686	
		Top	251	848.8	28.61	29.0	1.094	0.706	0.772	4

GSM1900										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	GSM	Front	661	1880.0	28.51	29.0	1.119	0.590	0.660	
		Back	661	1880.0	28.51	29.0	1.119	0.248	0.278	
		Top	661	1880.0	28.51	29.0	1.119	0.379	0.424	
		Front	512	1850.2	28.22	29.0	1.197	0.531	0.635	
		Front	810	1909.8	28.48	29.0	1.127	0.509	0.574	
	GPRS	Front	661	1880.0	24.82	25.5	1.169	0.612	0.716	5
		Back	661	1880.0	24.82	25.5	1.169	0.307	0.359	
		Top	661	1880.0	24.82	25.5	1.169	0.431	0.504	
		Front	512	1850.2	24.62	25.5	1.225	0.536	0.656	
		Front	810	1909.8	24.73	25.5	1.194	0.551	0.658	

WCDMA Band II										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	RMC	Front	9400	1880.0	21.30	22.0	1.175	0.942	1.107	
		Back	9400	1880.0	21.30	22.0	1.175	0.575	0.676	
		Top	9400	1880.0	21.30	22.0	1.175	0.904	1.062	
		Front	9262	1852.4	21.11	22.0	1.227	0.918	1.127	
		Front	9538	1907.6	20.93	22.0	1.279	0.927	1.186	6

WCDMA Band V										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	RMC	Front	4182	836.4	22.45	23.0	1.135	0.209	0.237	
		Back	4182	836.4	22.45	23.0	1.135	0.145	0.165	
		Top	4182	836.4	22.45	23.0	1.135	0.239	0.271	
		Top	4132	826.4	22.42	23.0	1.143	0.201	0.230	
		Top	4233	846.6	22.49	23.0	1.125	0.226	0.254	7

LTE Band 2 (20MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	18900	1880.0	22.68	23.0	1.076	0.683	0.735	8
		Back	18900	1880.0	22.68	23.0	1.076	0.421	0.453	
		Top	18900	1880.0	22.68	23.0	1.076	0.604	0.650	
		Front	18700	1860.0	22.54	23.0	1.112	0.633	0.704	
		Front	19100	1900.0	22.48	23.0	1.127	0.631	0.711	
	QPSK 50%RB	Front	18700	1860.0	21.44	22.0	1.138	0.635	0.722	
		Back	18700	1860.0	21.44	22.0	1.138	0.387	0.440	
		Top	18700	1860.0	21.44	22.0	1.138	0.510	0.580	
		Front	18900	1880.0	21.43	22.0	1.140	0.588	0.670	
		Front	19100	1900.0	21.31	22.0	1.172	0.616	0.722	

LTE Band 4 (20MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	20175	1732.5	23.11	23.5	1.094	0.827	0.905	
		Back	20175	1732.5	23.11	23.5	1.094	0.457	0.500	
		Top	20175	1732.5	23.11	23.5	1.094	0.408	0.446	
		Front	20050	1720.0	22.90	23.5	1.148	0.887	1.018	9
		Front	20300	1745.0	22.90	23.5	1.148	0.848	0.974	
	QPSK 50%RB	Front	20175	1732.5	21.93	22.5	1.140	0.736	0.839	
		Back	20175	1732.5	21.93	22.5	1.140	0.409	0.466	
		Top	20175	1732.5	21.93	22.5	1.140	0.353	0.403	
		Front	20050	1720.0	21.83	22.5	1.167	0.783	0.914	
		Front	20300	1745.0	21.89	22.5	1.151	0.744	0.856	

LTE Band 5 (10MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	20525	836.5	22.92	23.5	1.143	0.225	0.257	
		Back	20525	836.5	22.92	23.5	1.143	0.262	0.299	
		Top	20525	836.5	22.92	23.5	1.143	0.553	0.632	10
		Top	20450	829.0	22.80	23.5	1.175	0.510	0.599	
		Top	20600	844.0	22.84	23.5	1.164	0.537	0.625	
	QPSK 50%RB	Front	20525	836.5	21.99	22.5	1.125	0.237	0.267	
		Back	20525	836.5	21.99	22.5	1.125	0.259	0.291	
		Top	20525	836.5	21.99	22.5	1.125	0.534	0.601	
		Top	20450	829.0	21.78	22.5	1.180	0.486	0.574	
		Top	20600	844.0	21.86	22.5	1.159	0.509	0.590	

LTE Band 7 (20MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	21350	2560.0	23.64	24.0	1.086	0.823	0.894	
		Back	21350	2560.0	23.64	24.0	1.086	0.716	0.778	
		Top	21350	2560.0	23.64	24.0	1.086	0.921	1.001	
		Top	20850	2510.0	23.57	24.0	1.104	0.995	1.099	11
		Top	21100	2535.0	23.59	24.0	1.099	0.908	0.998	
	QPSK 50%RB	Front	20850	2510.0	22.46	23.0	1.132	0.781	0.884	
		Back	20850	2510.0	22.46	23.0	1.132	0.705	0.798	
		Top	20850	2510.0	22.46	23.0	1.132	0.970	1.098	
		Top	21100	2535.0	22.40	23.0	1.148	0.881	1.012	
		Top	21350	2560.0	22.38	23.0	1.153	0.851	0.982	
	QPSK 100%RB	Top	20850	2510.0	22.37	23.0	1.156	0.819	0.947	

LTE Band 12 (10MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	23095	707.5	23.29	24.0	1.178	0.189	0.223	
		Back	23095	707.5	23.29	24.0	1.178	0.302	0.356	
		Top	23095	707.5	23.29	24.0	1.178	0.470	0.553	12
		Top	23060	704.0	23.26	24.0	1.186	0.376	0.446	
		Top	23130	711.0	23.18	24.0	1.208	0.488	0.589	
	QPSK 50%RB	Front	23130	711.0	22.33	23.0	1.167	0.170	0.198	
		Back	23130	711.0	22.33	23.0	1.167	0.295	0.344	
		Top	23130	711.0	22.33	23.0	1.167	0.459	0.536	
		Top	23060	704.0	22.27	23.0	1.183	0.351	0.415	
		Top	23095	707.5	22.24	23.0	1.191	0.410	0.488	

LTE Band 17 (10MHz Bandwidth)										
RF Exposure Conditions	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)	Turn up (dBm)	Turn-up Scaling Factor	SAR1g (W/kg)		Plot No.
								Meas.	Scaled	
Body (0mm)	QPSK 1RB	Front	23800	711.0	23.33	24.0	1.167	0.277	0.323	
		Back	23800	711.0	23.33	24.0	1.167	0.311	0.363	
		Top	23800	711.0	23.33	24.0	1.167	0.720	0.840	
		Top	23780	709.0	23.32	24.0	1.169	0.758	0.886	13
		Top	23790	710.0	23.32	24.0	1.169	0.713	0.834	
	QPSK 50%RB	Front	23800	711.0	22.46	23.0	1.132	0.269	0.305	
		Back	23800	711.0	22.46	23.0	1.132	0.307	0.348	
		Top	23800	711.0	22.46	23.0	1.132	0.711	0.805	
		Top	23780	709.0	22.30	23.0	1.175	0.700	0.822	
		Top	23790	710.0	22.32	23.0	1.169	0.695	0.813	

14.4 SAR Measurement Variability

According to KDB865664, Repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg. If the measured SAR value of the initial repeated measurement is < 1.45 W/kg with $\leq 20\%$ variation, only one repeated measurement is required to reaffirm that the results are not expected to have substantial variations, which may introduce significant compliance concerns. A second repeated measurement is required only if the measured result for the initial repeated measurement is within 10% of the SAR limit and vary by more than 20%, which are often related to device and measurement setup difficulties. The following procedures are applied to determine if repeated measurements are required. The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.¹⁹ The repeated measurement results must be clearly identified in the SAR report. All measured SAR, including the repeated results, must be considered to determine compliance and for reporting according to KDB 690783. Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

- 1) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 2) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 3) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Test Mode	Frequency Band (MHz)	RF Exposure Configuration	Test Position	Repeated SAR (yes/no)	Highest Measured SAR1-g (W/Kg)	First Repeated	
						Measured SAR1-g (W/Kg)	Largest to Smallest SAR Ratio
WCDMA Band II	1907.6	Body	Front	yes	0.927	0.909	1.020
LTE Band 4	1720.0	Body	Front	yes	0.887	0.854	1.039
LTE Band 7	2510.0	Body	Top	yes	0.995	0.947	1.051

14.5 Simultaneous Transmission Evaluation

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

Application Simultaneous Transmission information:

No.	Configurations	Body SAR
1	WWAN + WIFI	Yes
2	WWAN + Bluetooth	Yes
3	WIFI 2.4G + WIFI 5G	No
4	WIFI + Bluetooth	No

Remark:

- Wi-Fi 2.4GHz and Wi-Fi 5GHz cannot transmit simultaneously.
- WIFI2.4G and Bluetooth are the same antenna and cannot be sent at the same time.
- According to the KDB 447498 D01 v06, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
 - (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm; where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
 - 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

Estimated stand alone SAR					
Communication system	Frequency (MHz)	Maximum Power (mW)	Separation Distance (mm)	X	Estimated SAR1-g (W/kg)
Bluetooth	2480	1.41	5	3.0	0.059
Bluetooth	2480	1.41	10	7.5	0.030

Note:

- Maximum average power including tune-up tolerance;
- When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4. Per FCC KD B447498 D01, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the transmitting antenna in a specific a physical test configuration is ≤1.6 W/Kg. When the sum is greater than the SAR limit, SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{(\text{peak location separation, mm})} < 0.04$$

5. Simultaneous transmission of maximum SAR sum calculation.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			Summed SAR (W/kg)	
		1	2	3	1+2	1+3
		WWAN	WIFI	Bluetooth		
Body	Front	1.186	0.274	0.059	1.460	1.245
	Back	0.798	0.346	0.059	1.144	0.857
	Top Side	1.099	0.412	0.059	1.511	1.158

15. Test Plots

15.1 System Performance Check

System check at 750 MHz

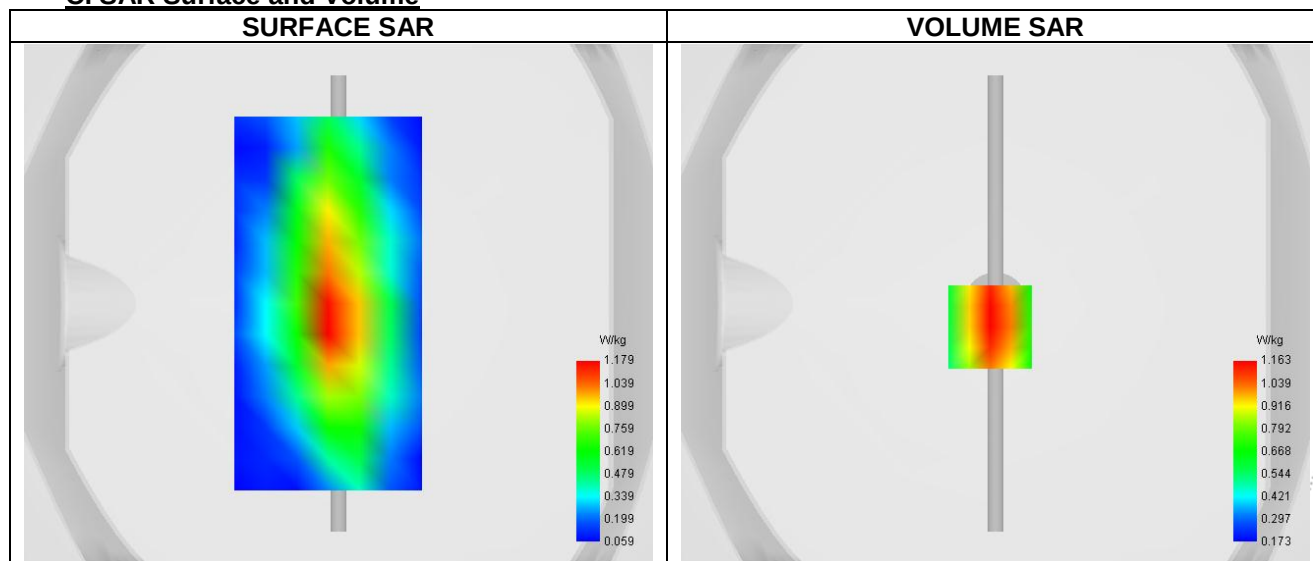
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	0.87
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	750.000
Relative permittivity (real part)	41.476
Relative permittivity (imaginary part)	24.595
Conductivity (S/m)	0.895

C. SAR Surface and Volume



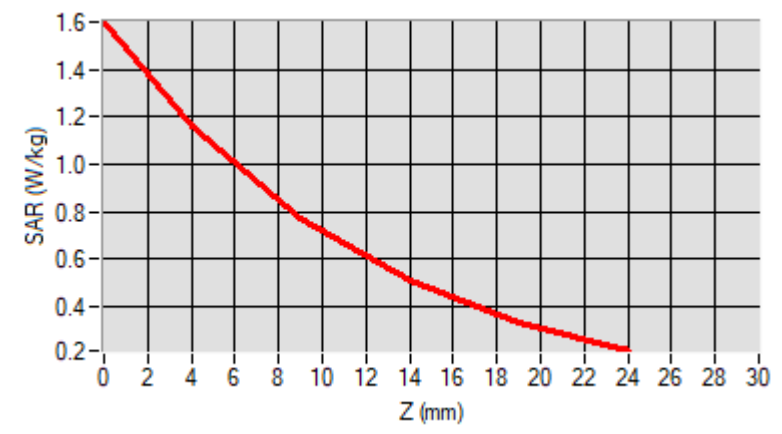
Maximum location: X=-2.00, Y=-9.00 ; SAR Peak: 1.61 W/kg

D. SAR 1g & 10g

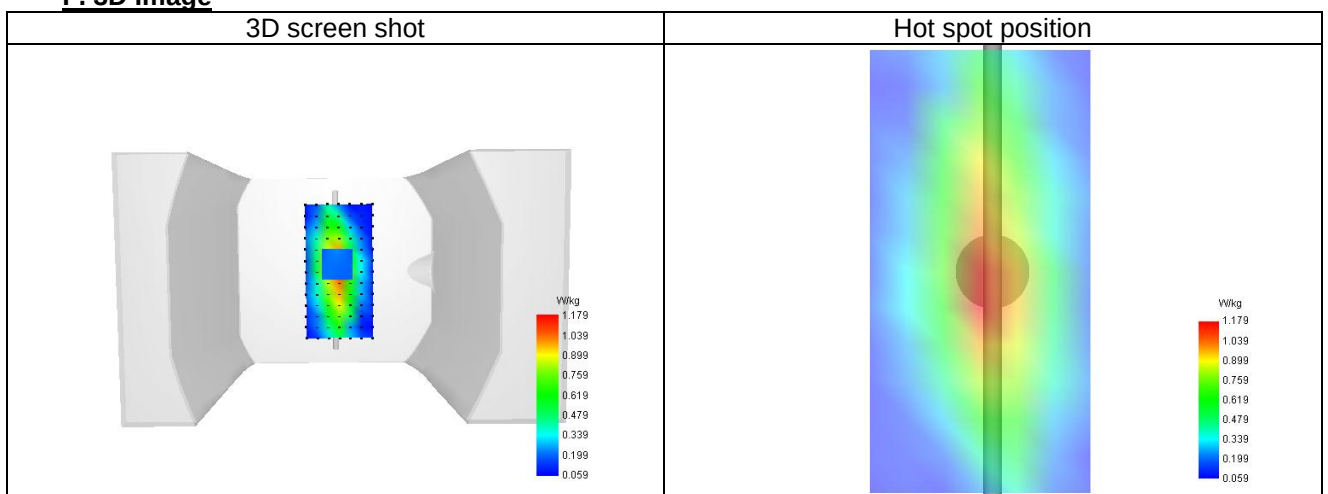
SAR 10g (W/Kg)	0.965
SAR 1g (W/Kg)	2.143
Variation (%)	0.847
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.603	1.163	0.769	0.506	0.333



F. 3D Image



System check at 835 MHz

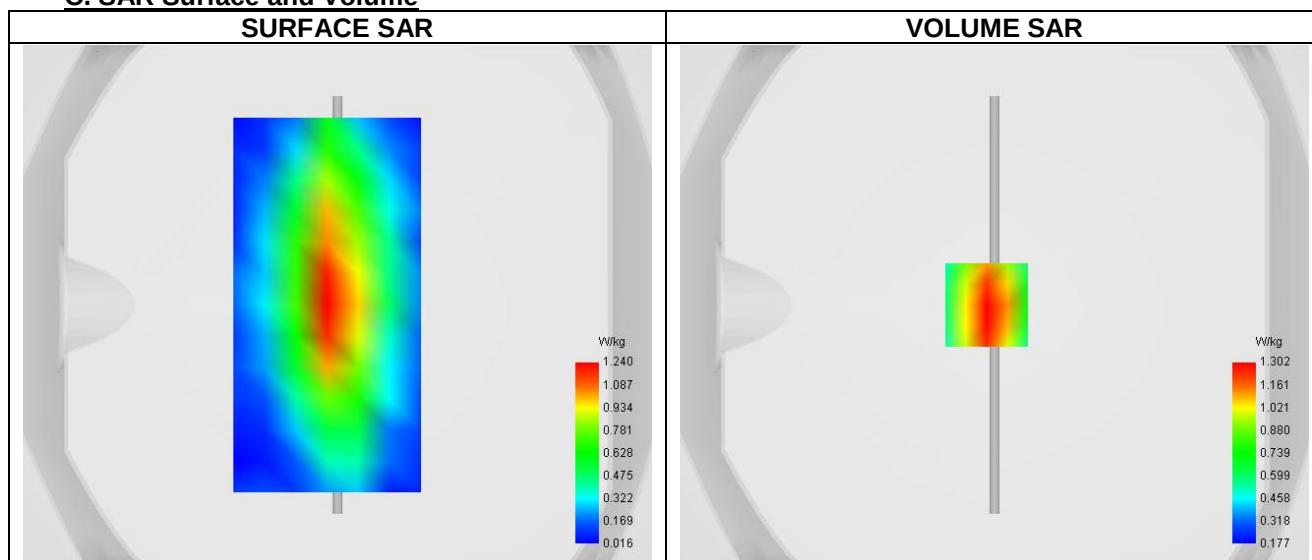
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	835.000
Relative permittivity (real part)	42.837
Relative permittivity (imaginary part)	20.910
Conductivity (S/m)	0.879

C. SAR Surface and Volume



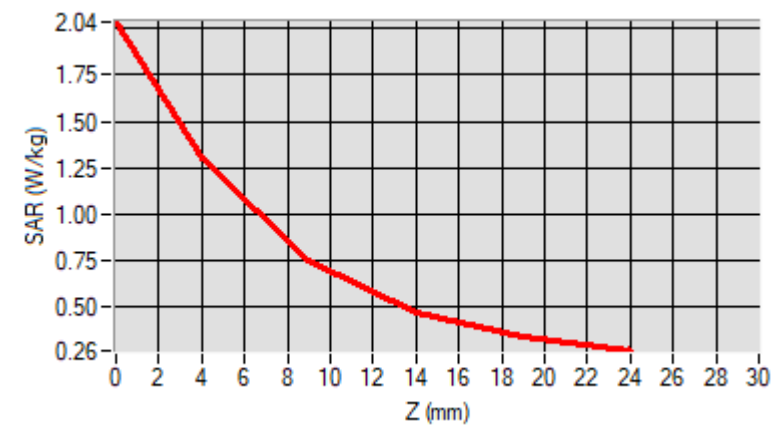
Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 2.06 W/kg

D. SAR 1g & 10g

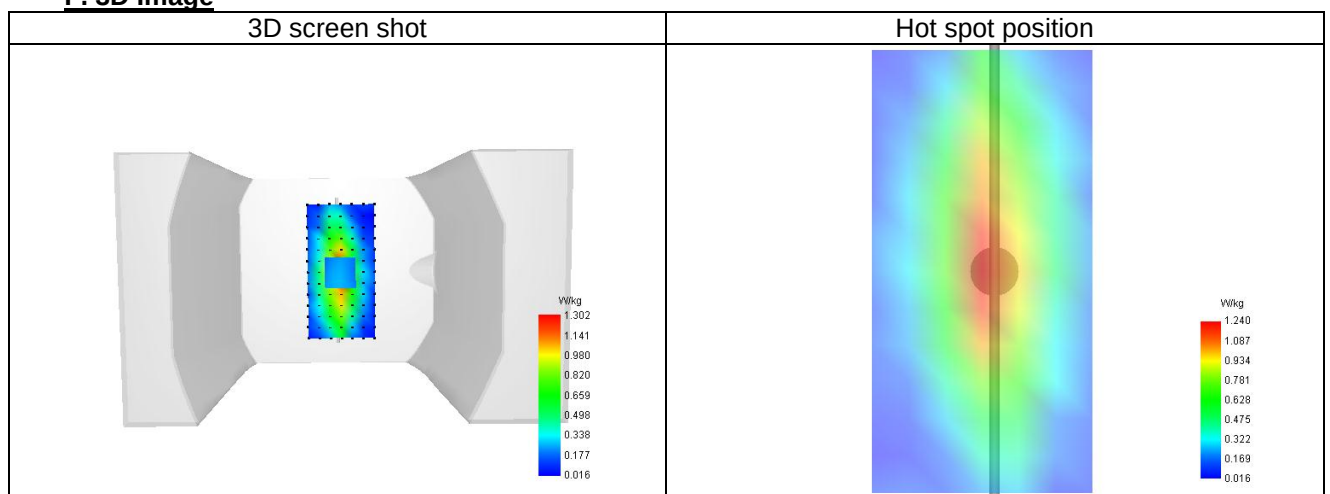
SAR 10g (W/Kg)	1.071
SAR 1g (W/Kg)	2.407
Variation (%)	-2.892
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.036	1.302	0.747	0.462	0.331



F. 3D Image



System check at 1800 MHz

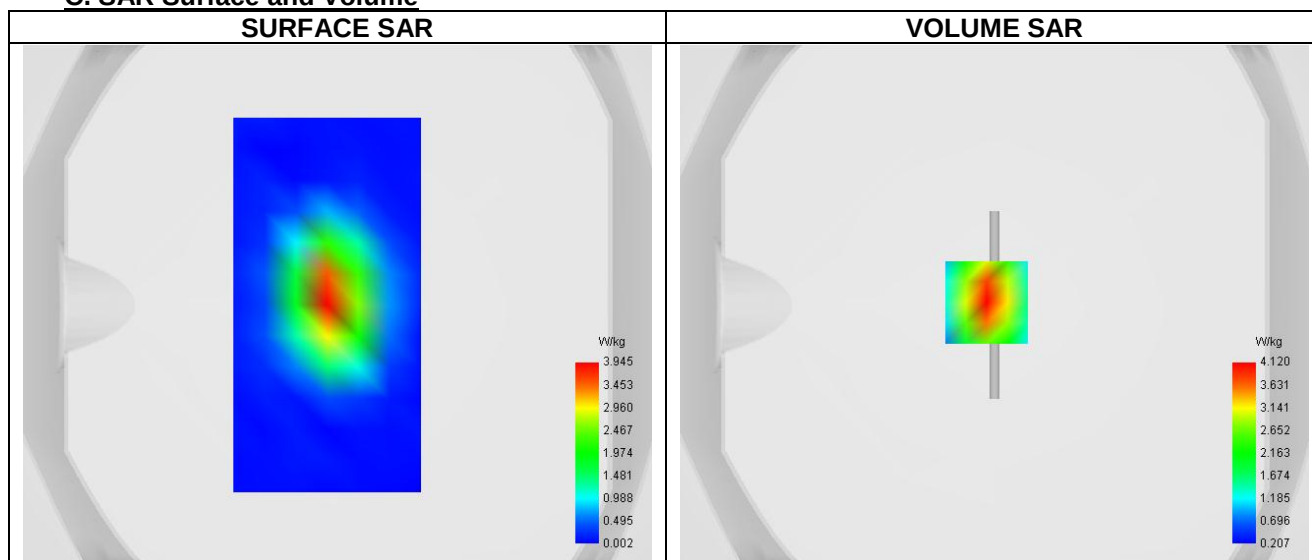
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.01
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	1800.000
Relative permittivity (real part)	41.238
Relative permittivity (imaginary part)	15.200
Conductivity (S/m)	1.374

C. SAR Surface and Volume



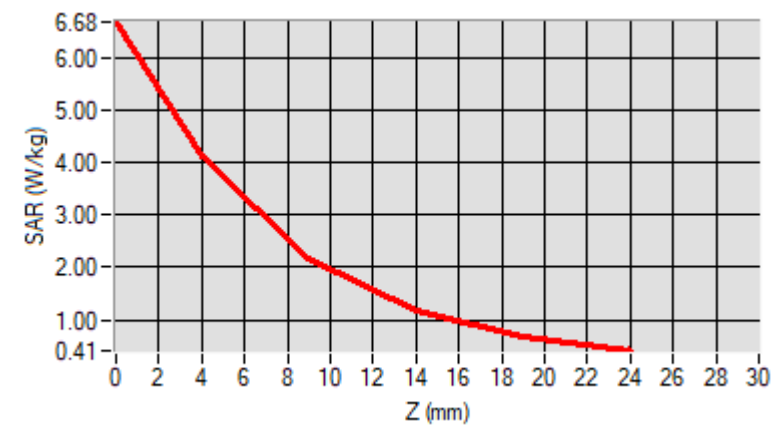
Maximum location: X=-3.00, Y=1.00 ; SAR Peak: 6.69 W/kg

D. SAR 1g & 10g

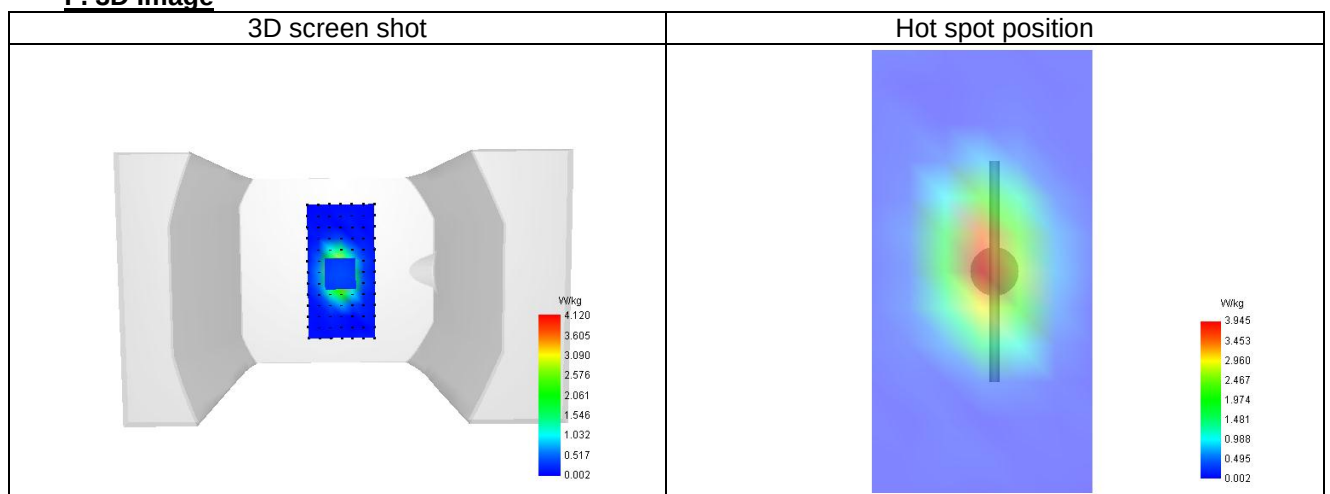
SAR 10g (W/Kg)	4.941
SAR 1g (W/Kg)	10.276
Variation (%)	1.529
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	6.684	4.120	2.184	1.177	0.685



F. 3D Image



System check at 1900 MHz

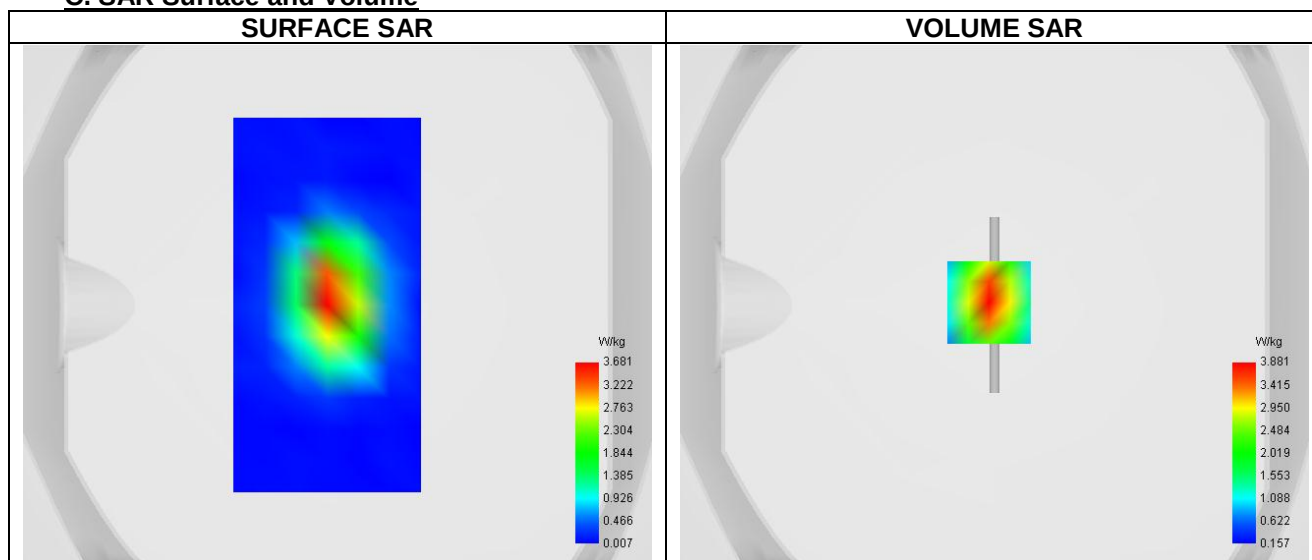
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	1900.000
Relative permittivity (real part)	38.869
Relative permittivity (imaginary part)	14.400
Conductivity (S/m)	1.400

C. SAR Surface and Volume



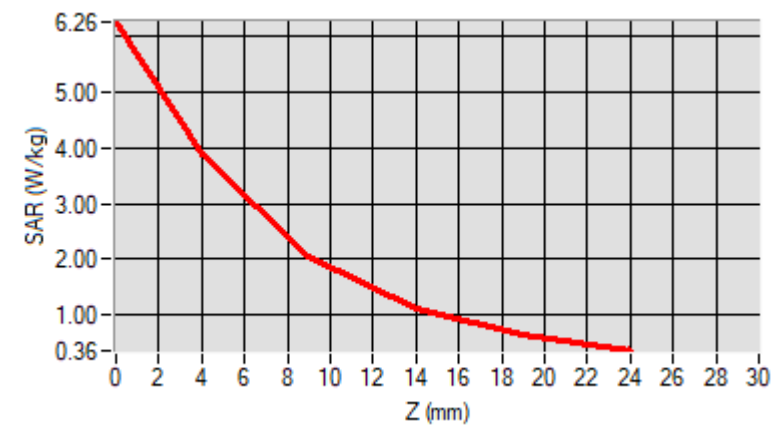
Maximum location: X=-2.00, Y=1.00 ; SAR Peak: 6.27 W/kg

D. SAR 1g & 10g

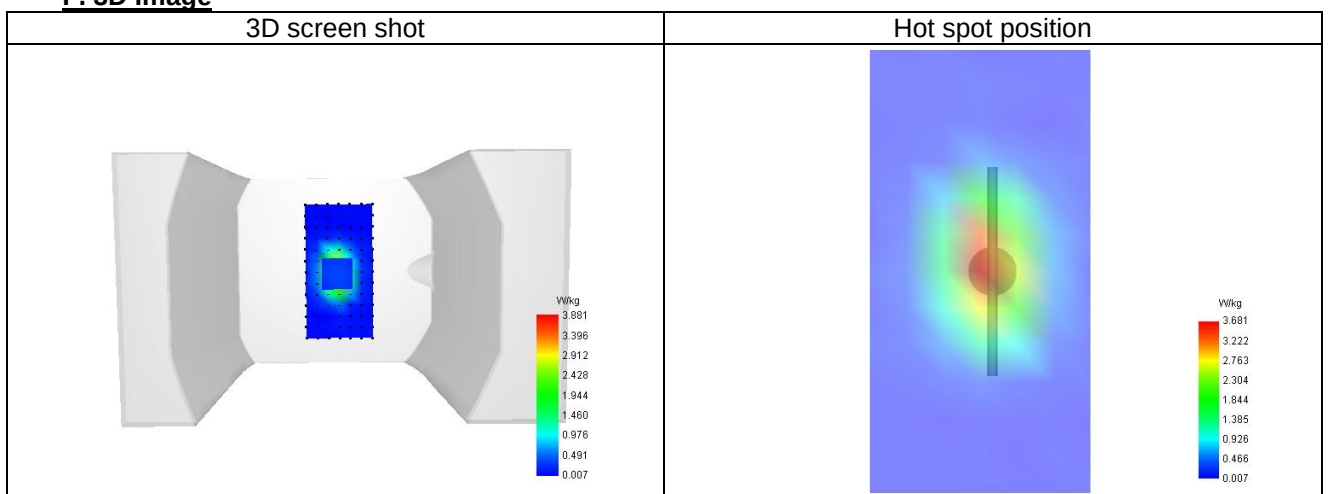
SAR 10g (W/Kg)	4.523
SAR 1g (W/Kg)	9.927
Variation (%)	3.333
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	6.259	3.881	2.069	1.111	0.634



F. 3D Image



System check at 2450 MHz

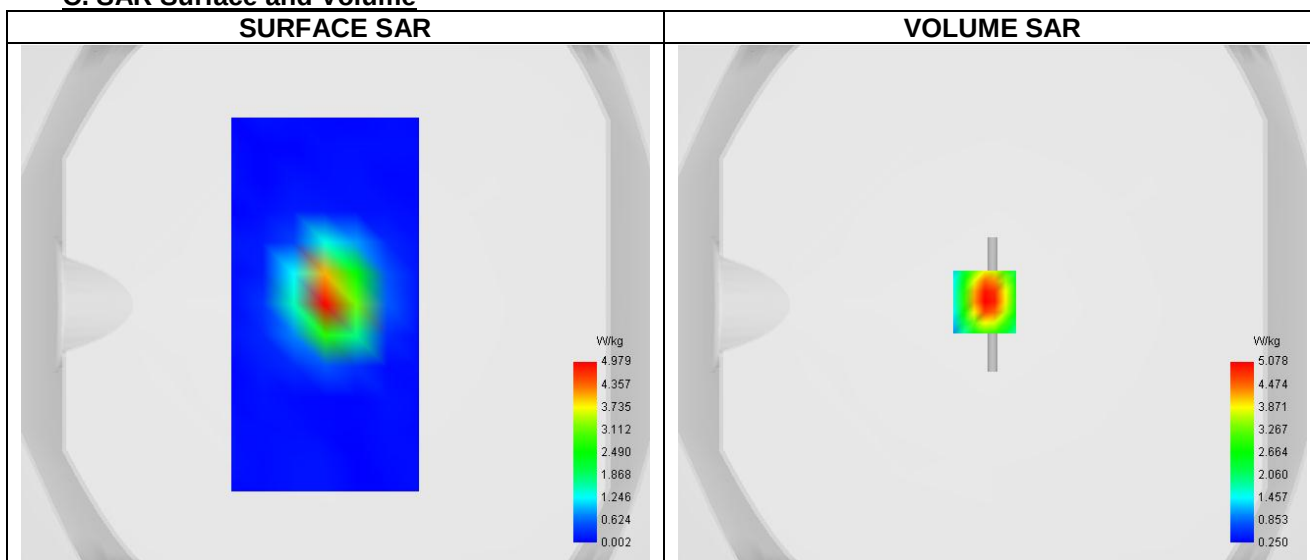
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.32
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	2450.000
Relative permittivity (real part)	40.692
Relative permittivity (imaginary part)	14.330
Conductivity (S/m)	1.852

C. SAR Surface and Volume



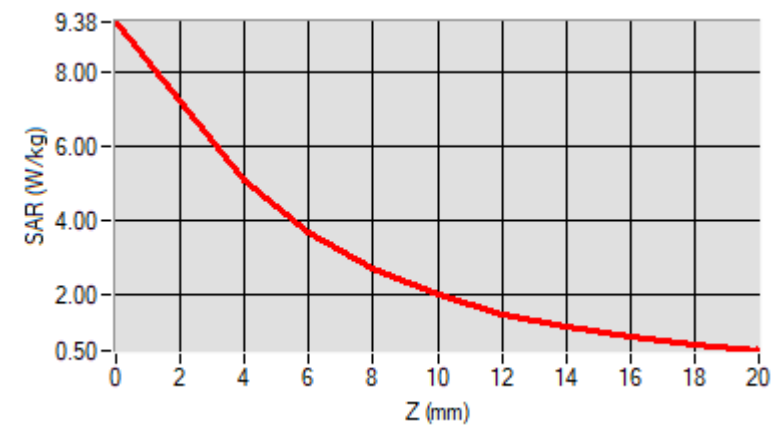
Maximum location: X=-3.00, Y=1.00 ; SAR Peak: 9.50 W/kg

D. SAR 1g & 10g

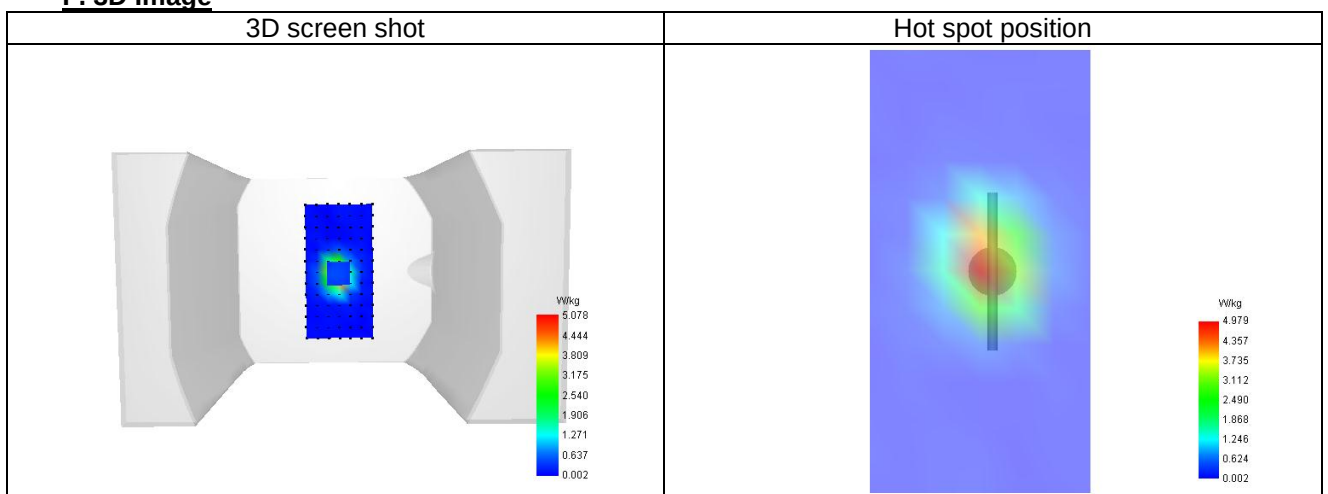
SAR 10g (W/Kg)	6.736
SAR 1g (W/Kg)	14.040
Variation (%)	-3.510
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	9.380	5.078	3.712	2.709	2.001	1.499	1.138	0.871	0.667



F. 3D Image



System check at 2600 MHz

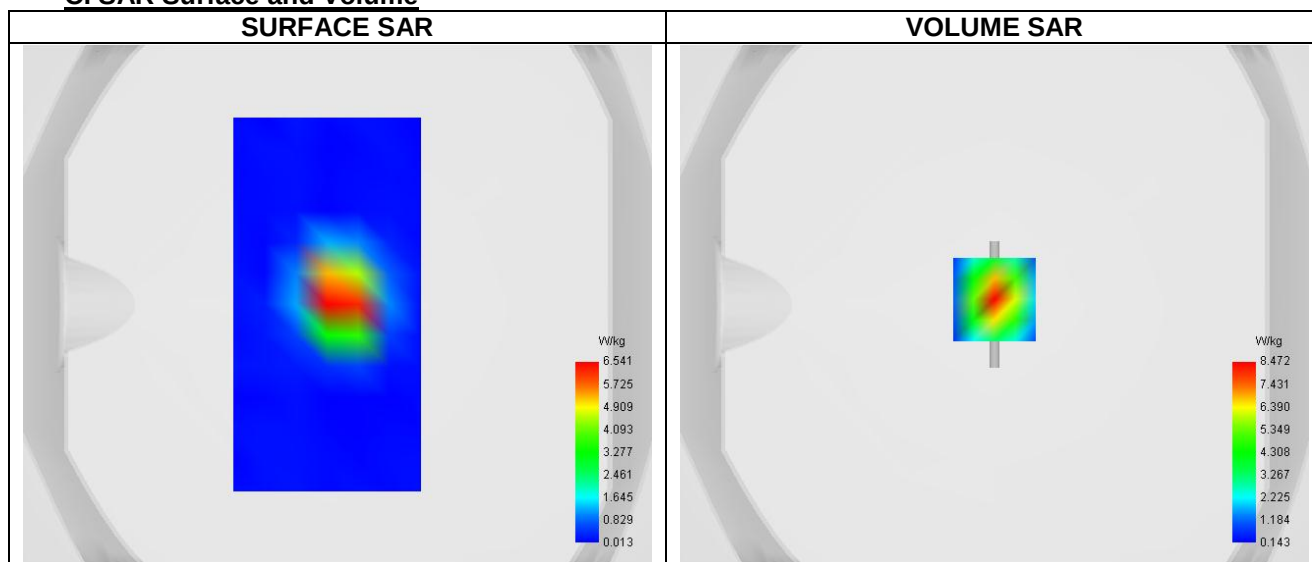
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.19
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	2600.000
Relative permittivity (real part)	37.591
Relative permittivity (imaginary part)	14.889
Conductivity (S/m)	2.032

C. SAR Surface and Volume



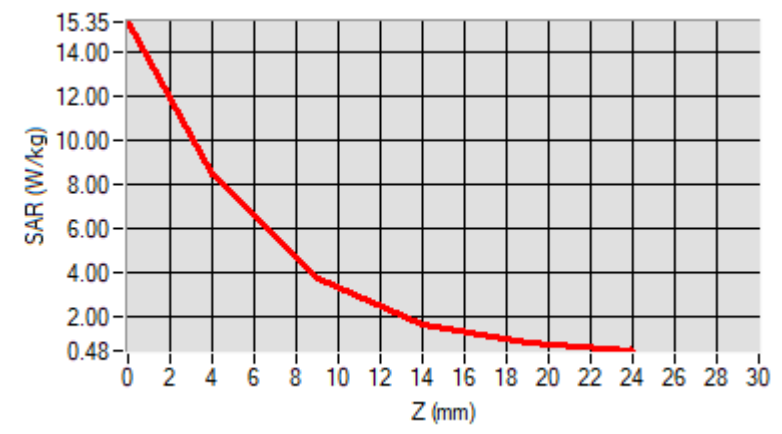
Maximum location: X=0.00, Y=2.00 ; SAR Peak: 15.35 W/kg

D. SAR 1g & 10g

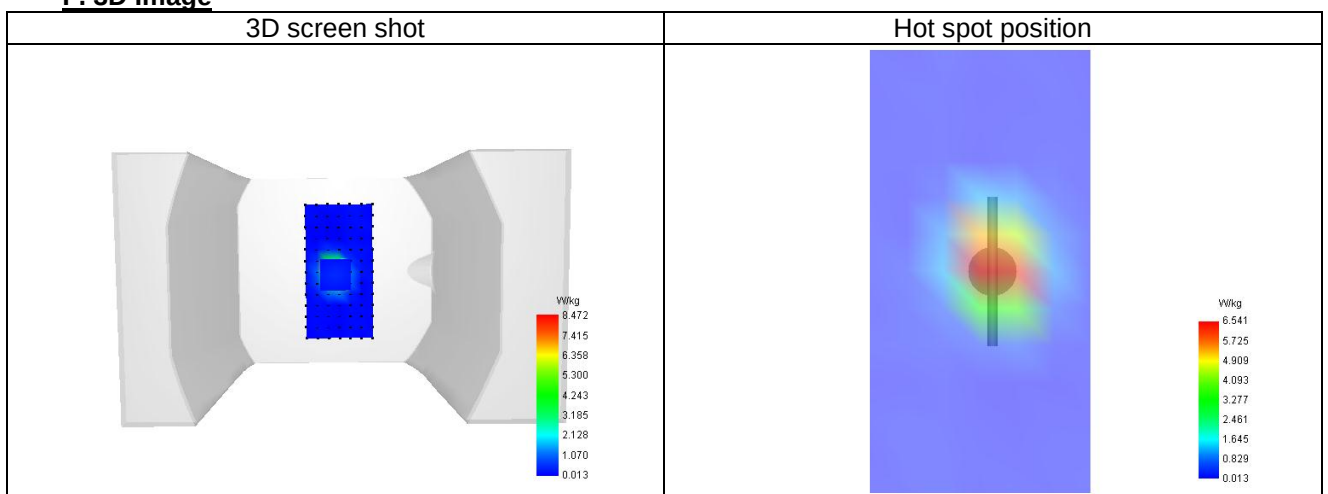
SAR 10g (W/Kg)	6.048
SAR 1g (W/Kg)	13.642
Variation (%)	-1.456
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	15.347	8.472	3.768	1.677	0.856



F. 3D Image



System check at 5200 MHz

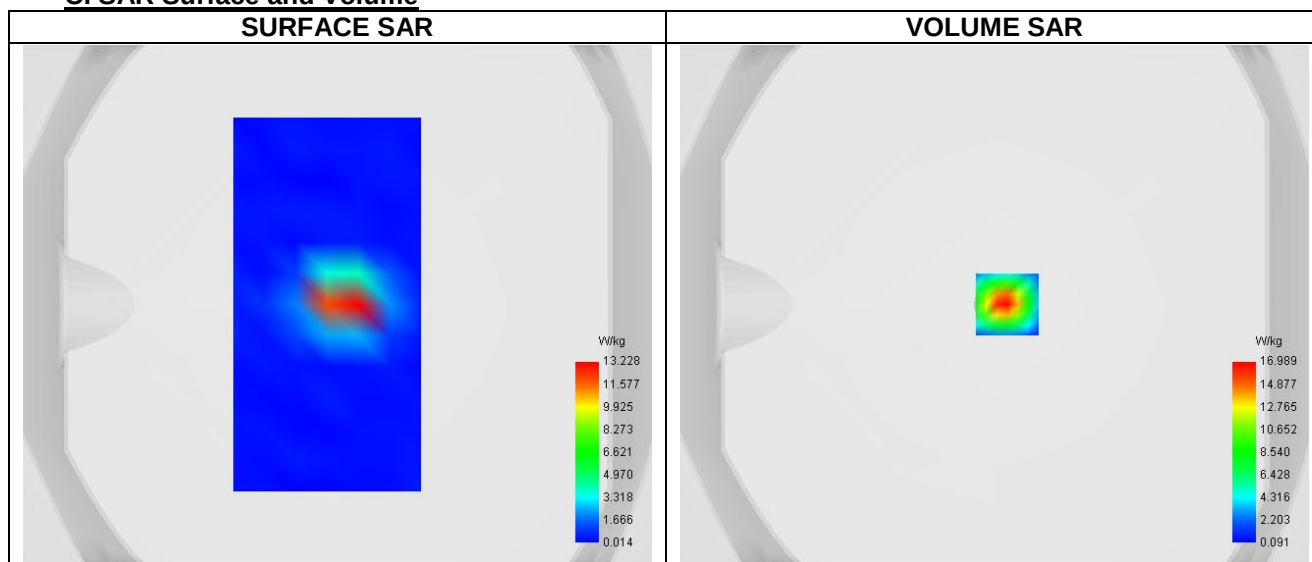
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	0.97
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5200.000
Relative permittivity (real part)	35.815
Relative permittivity (imaginary part)	18.140
Conductivity (S/m)	4.796

C. SAR Surface and Volume



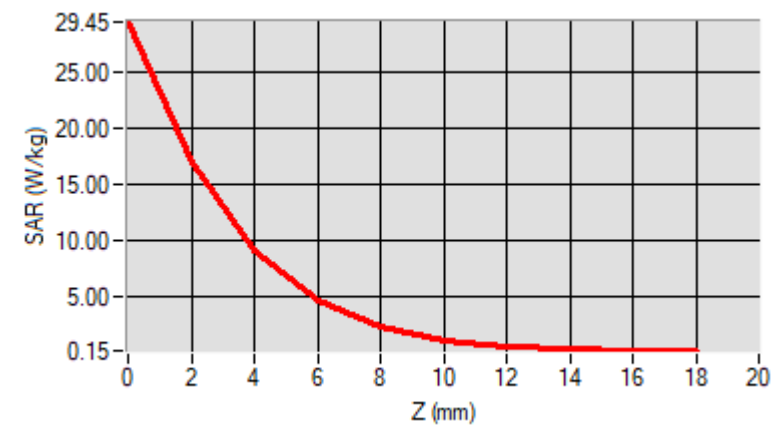
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 30.79 W/kg

D. SAR 1g & 10g

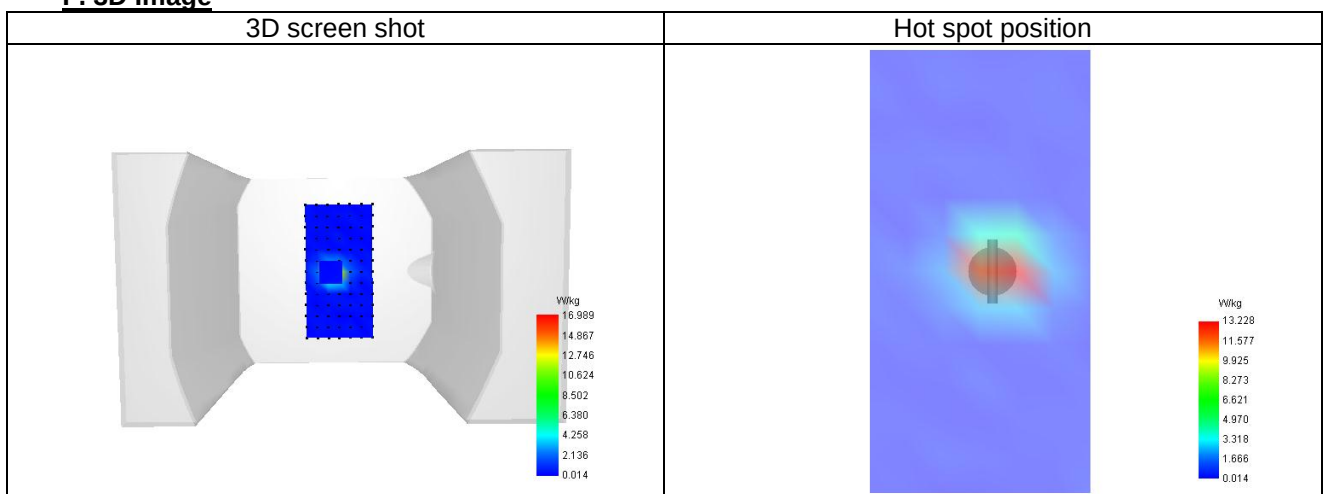
SAR 10g (W/Kg)	8.006
SAR 1g (W/Kg)	19.461
Variation (%)	-0.351
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	29.452	16.989	9.130	4.585	2.232	1.083	0.552	0.315	0.209



F. 3D Image



System check at 5800 MHz

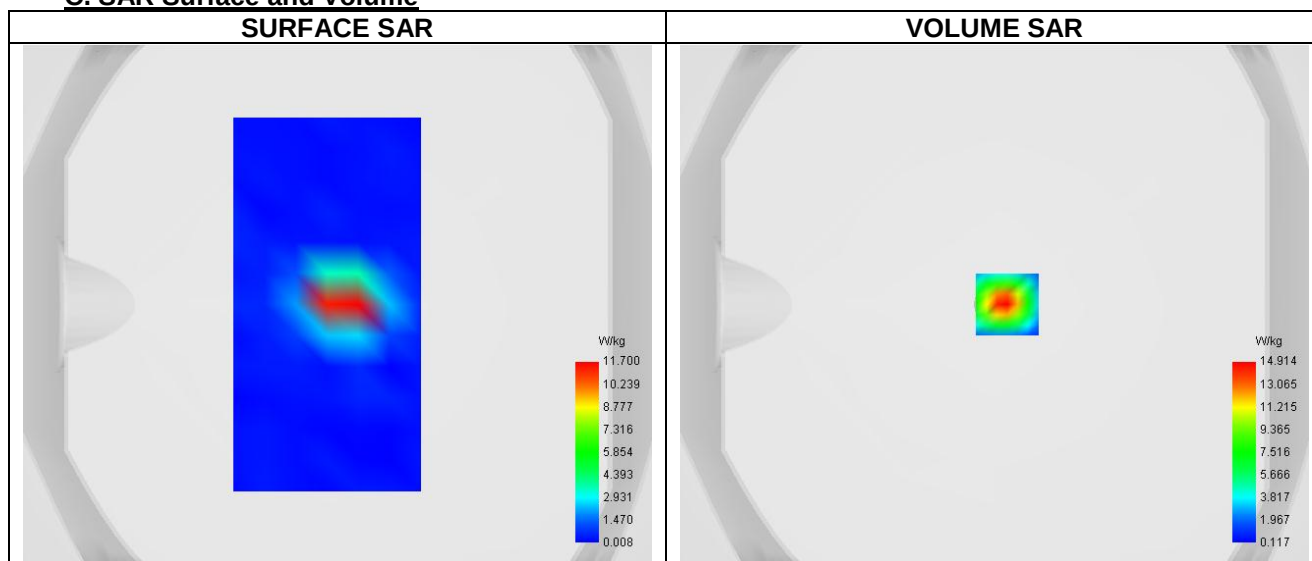
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.05
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5800.000
Relative permittivity (real part)	36.496
Relative permittivity (imaginary part)	18.620
Conductivity (S/m)	5.147

C. SAR Surface and Volume



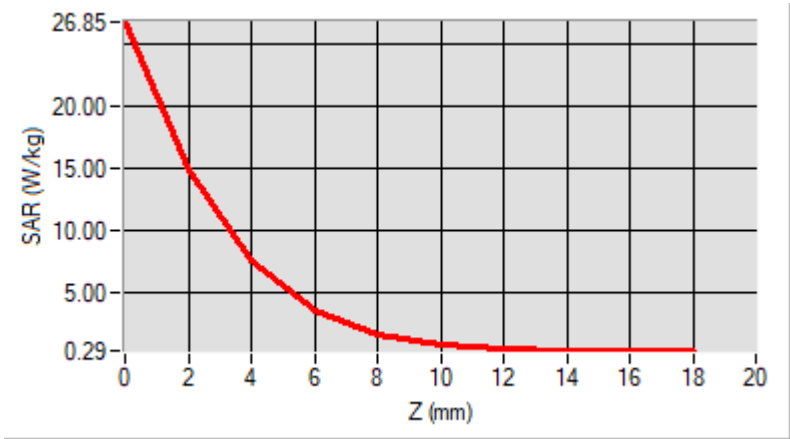
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 28.22 W/kg

D. SAR 1g & 10g

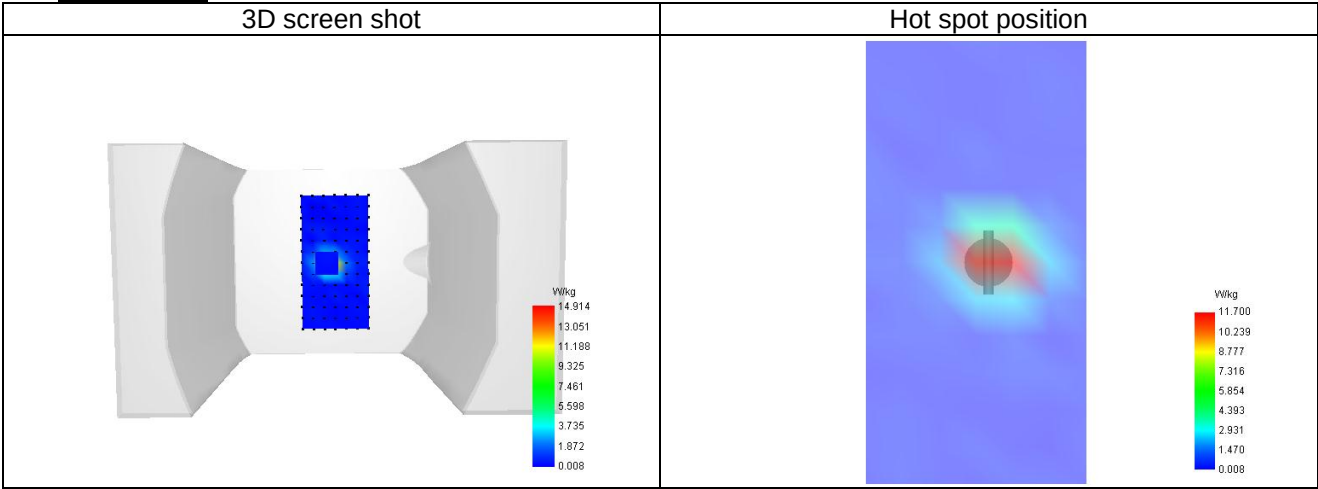
SAR 10g (W/Kg)	8.309
SAR 1g (W/Kg)	19.350
Variation (%)	0.548
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	26.852	14.914	7.581	3.559	1.627	0.770	0.423	0.303	0.288



F. 3D Image



15.2 SAR Test Graph Results

Plot 1

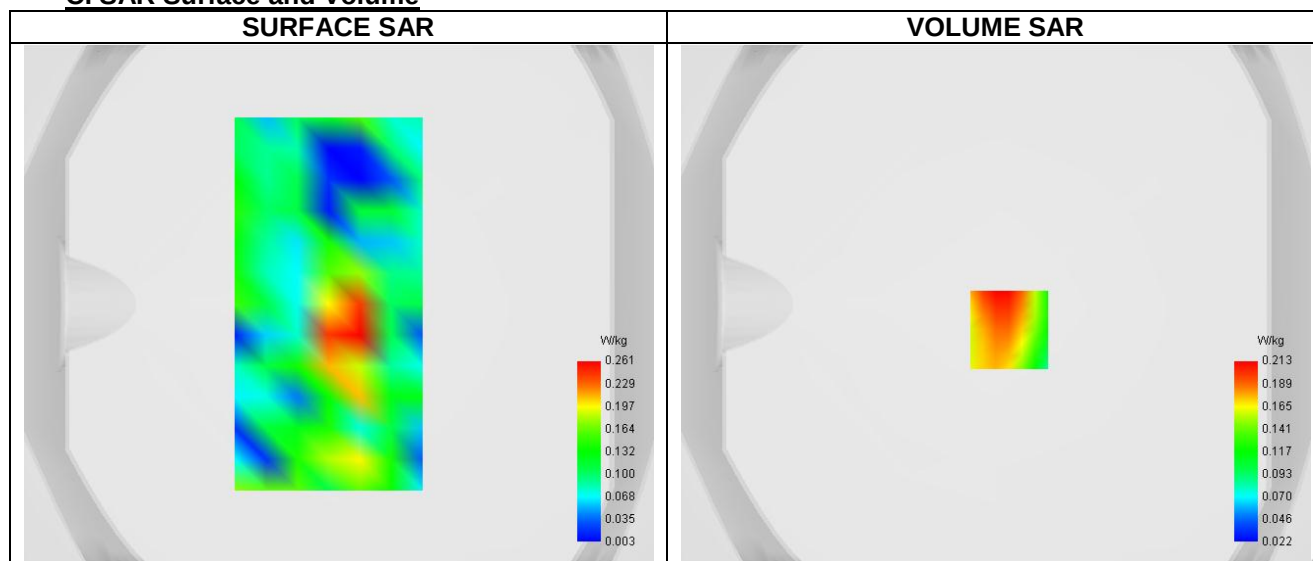
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Lower (1)
Signal	IEEE802.b (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	2412.000
Relative permittivity (real part)	40.692
Relative permittivity (imaginary part)	13.182
Conductivity (S/m)	1.852

C. SAR Surface and Volume



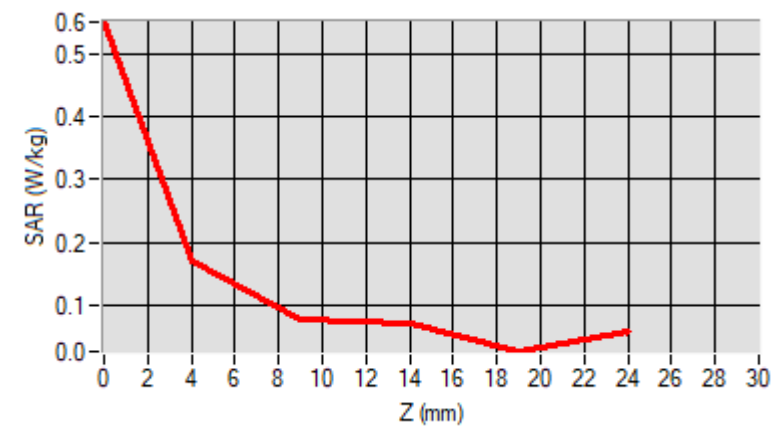
Maximum location: X=18.00, Y=9.00 ; SAR Peak: 0.26 W/kg

D. SAR 1g & 10g

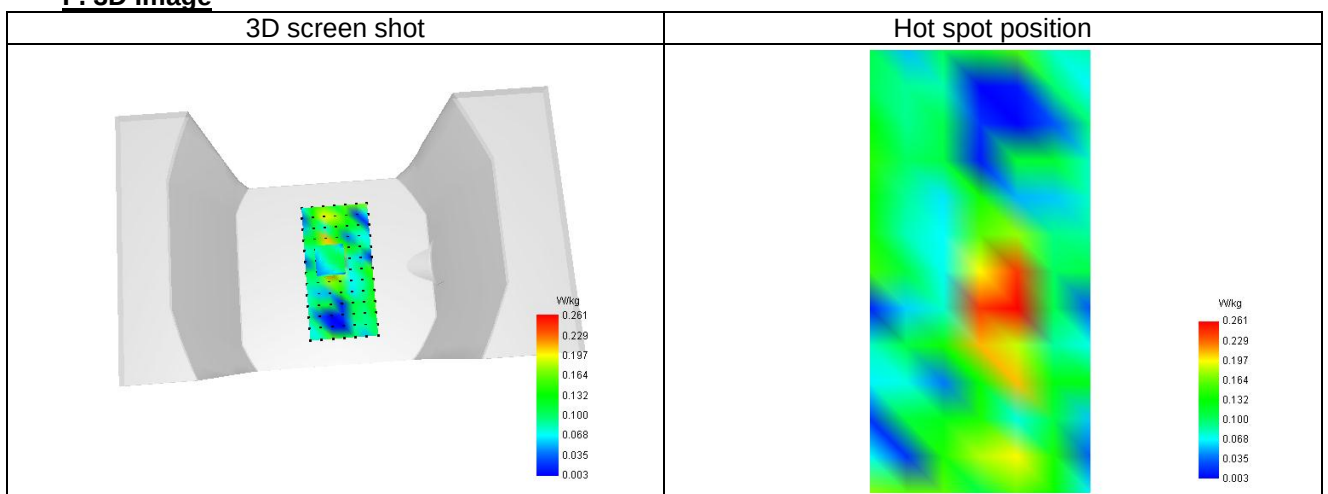
SAR 10g (W/Kg)	0.106
SAR 1g (W/Kg)	0.121
Variation (%)	1.900
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.552	0.171	0.078	0.072	0.026



F. 3D Image



Plot 2

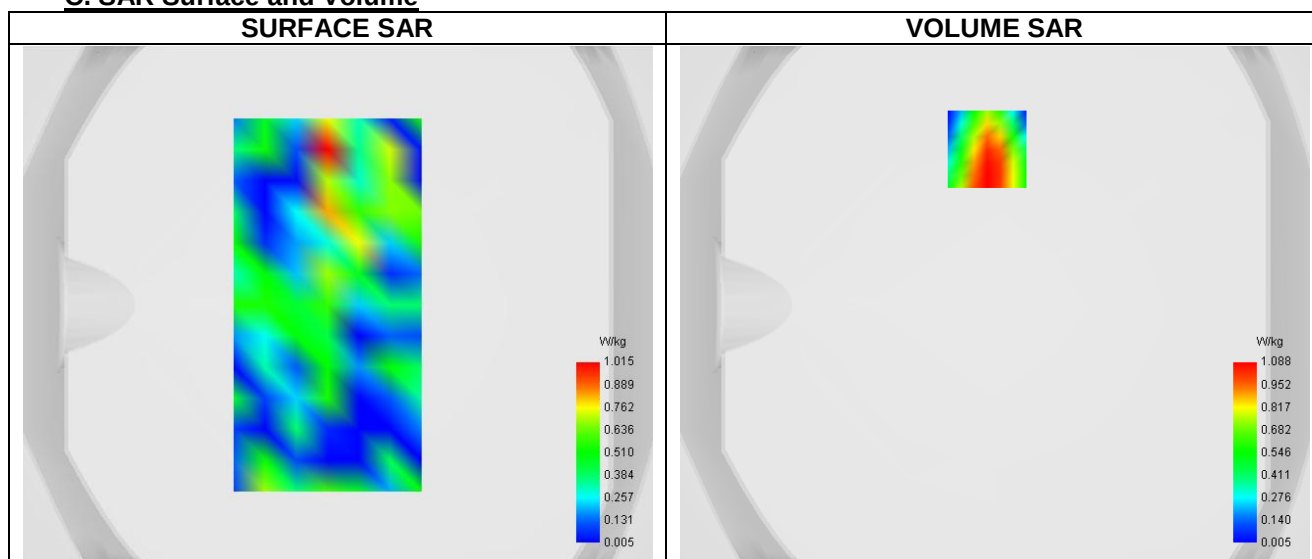
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.18
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	5200
Channels	Lower (0)
Signal	Custom (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	5180.000
Relative permittivity (real part)	35.815
Relative permittivity (imaginary part)	16.119
Conductivity (S/m)	4.796

C. SAR Surface and Volume



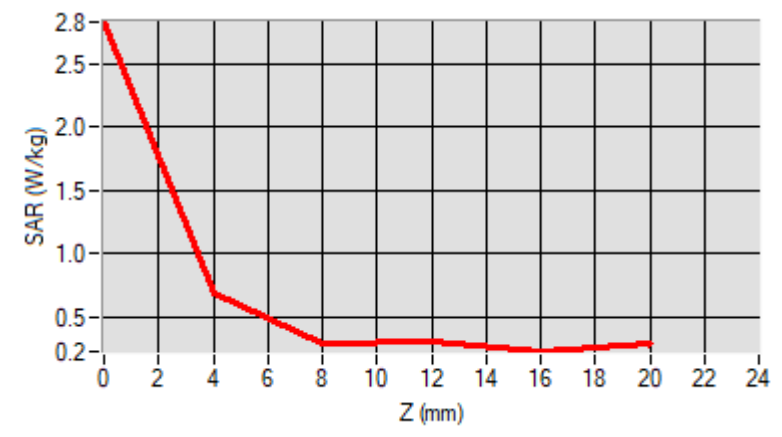
Maximum location: X=10.00, Y=45.00 ; SAR Peak: 0.89 W/kg

D. SAR 1g & 10g

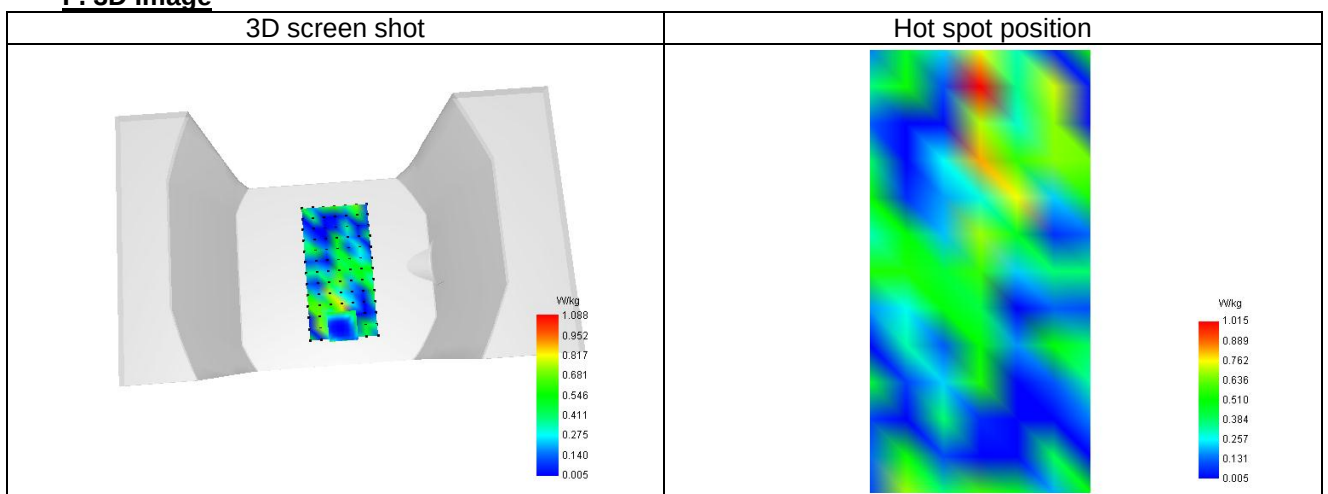
SAR 10g (W/Kg)	0.206
SAR 1g (W/Kg)	0.317
Variation (%)	-2.060
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	2.829	0.685	0.284	0.308	0.226



F. 3D Image



Plot 3

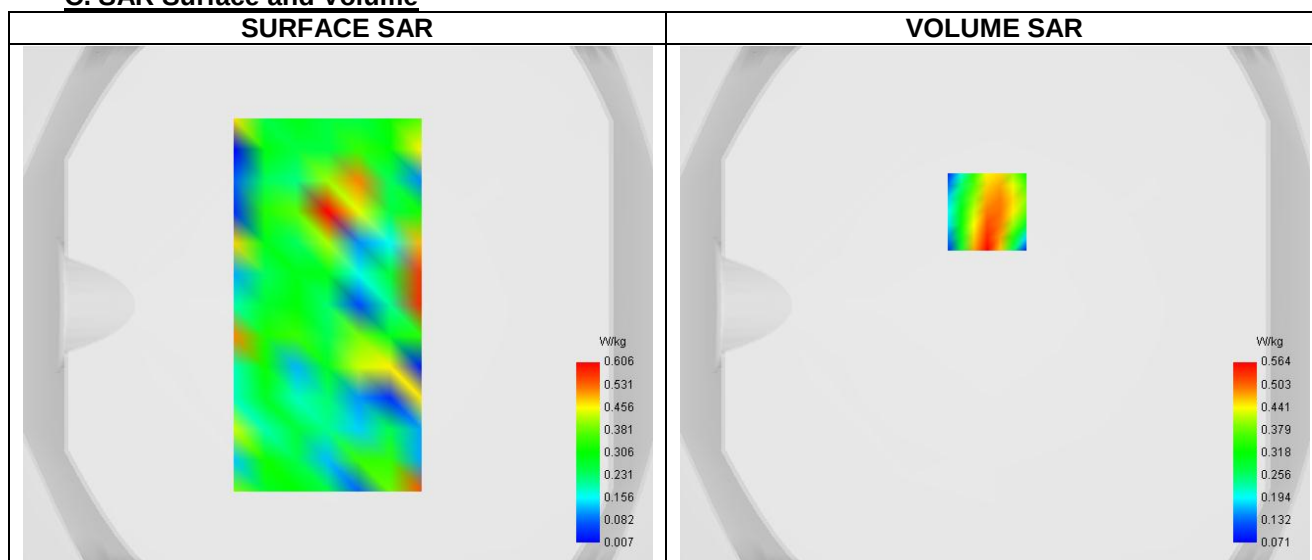
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.15
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	5800
Channels	Lower (0)
Signal	Custom (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	5745.000
Relative permittivity (real part)	34.956
Relative permittivity (imaginary part)	36.496
Conductivity (S/m)	5.147

C. SAR Surface and Volume

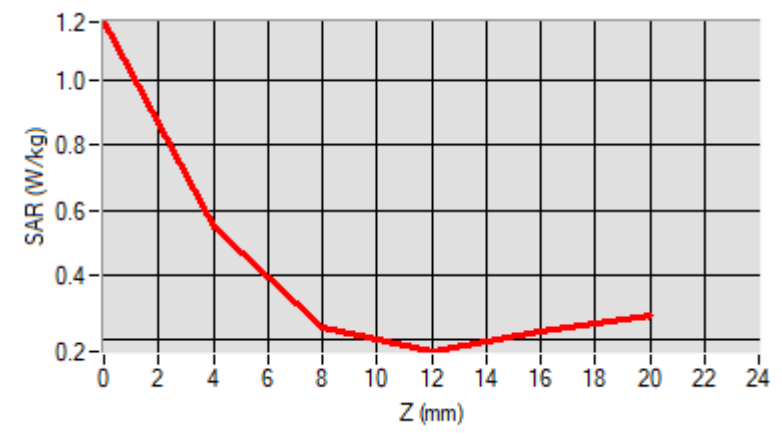


D. SAR 1g & 10g

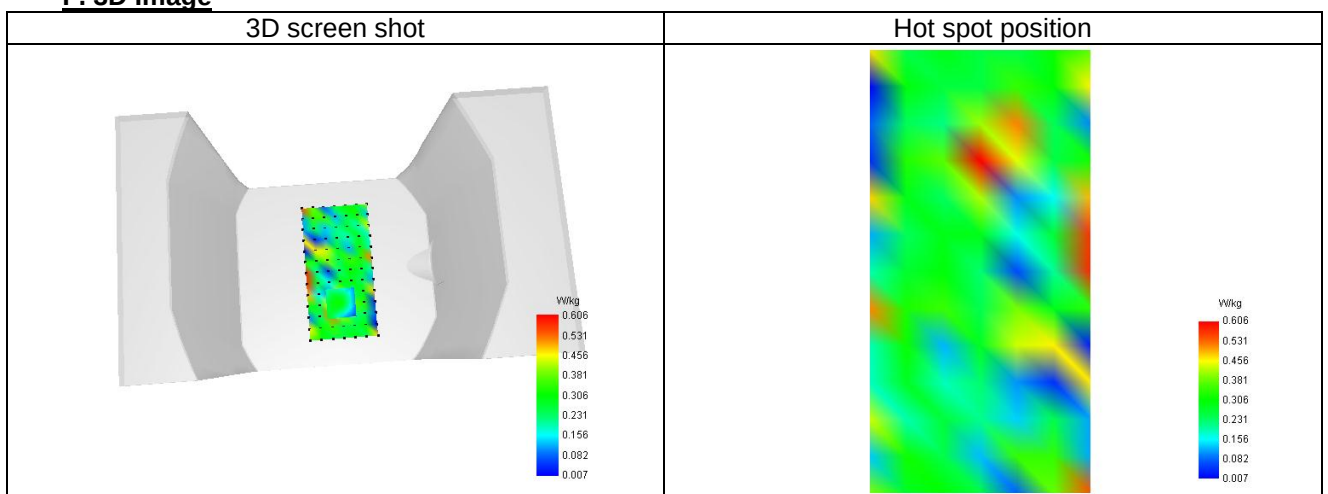
SAR 10g (W/Kg)	0.250
SAR 1g (W/Kg)	0.375
Variation (%)	3.590
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	0.320	0.592	0.240	0.038	0.203



F. 3D Image



Plot 4

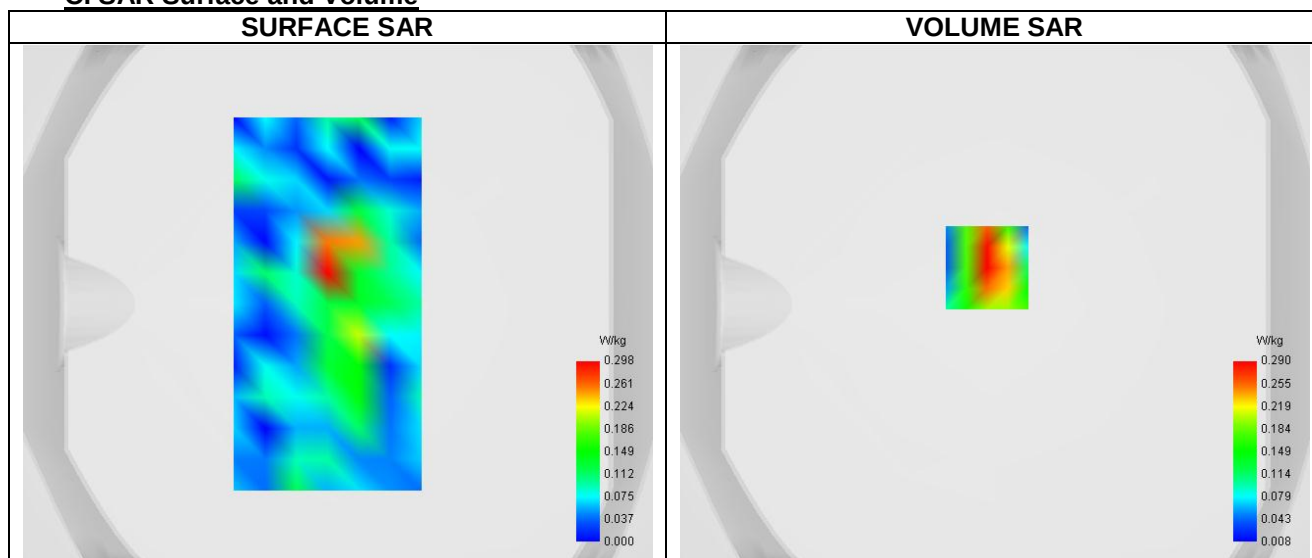
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	251
Signal	TDMA (GPRS)
Modulation	GMSK

B. Permittivity

Frequency (MHz)	848.800
Relative permittivity (real part)	42.837
Relative permittivity (imaginary part)	19.400
Conductivity (S/m)	0.879

C. SAR Surface and Volume

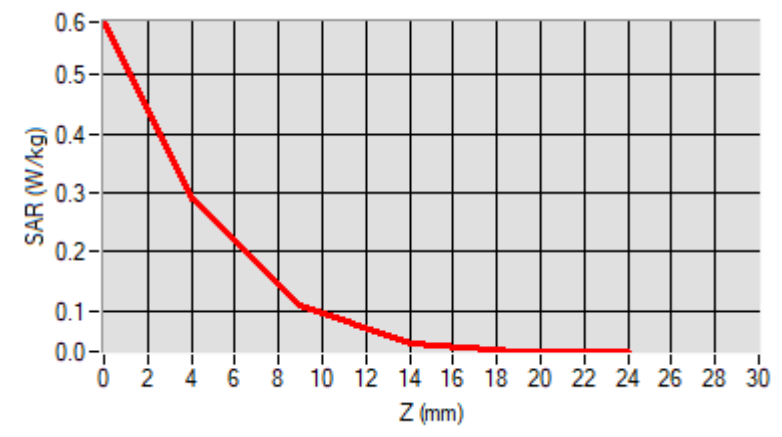


D. SAR 1g & 10g

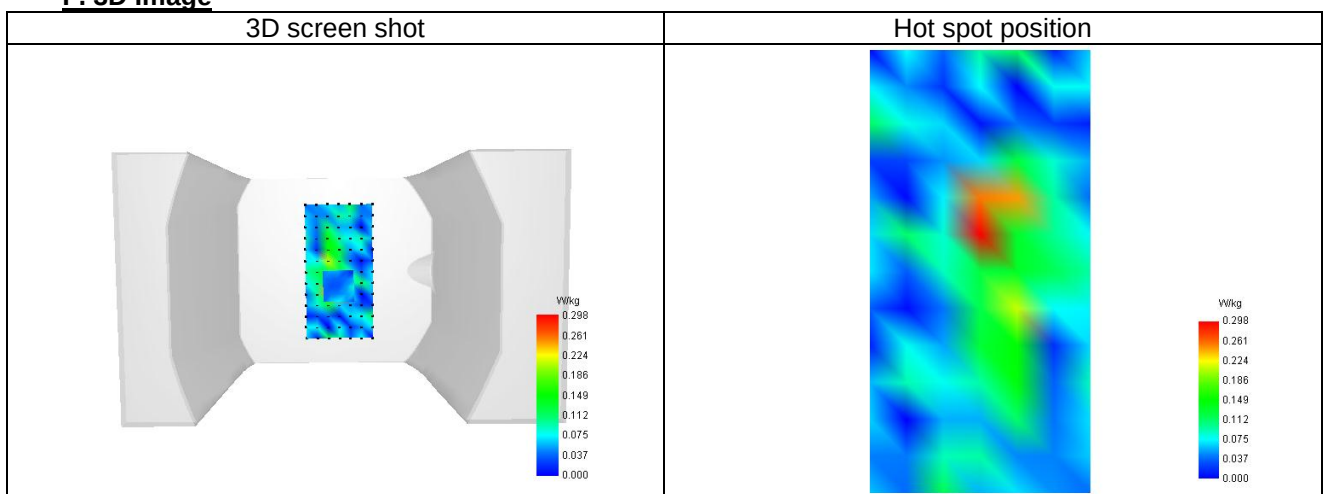
SAR 10g (W/Kg)	0.378
SAR 1g (W/Kg)	0.706
Variation (%)	-1.020
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.590	0.290	0.108	0.045	0.031



F. 3D Image



Plot 5

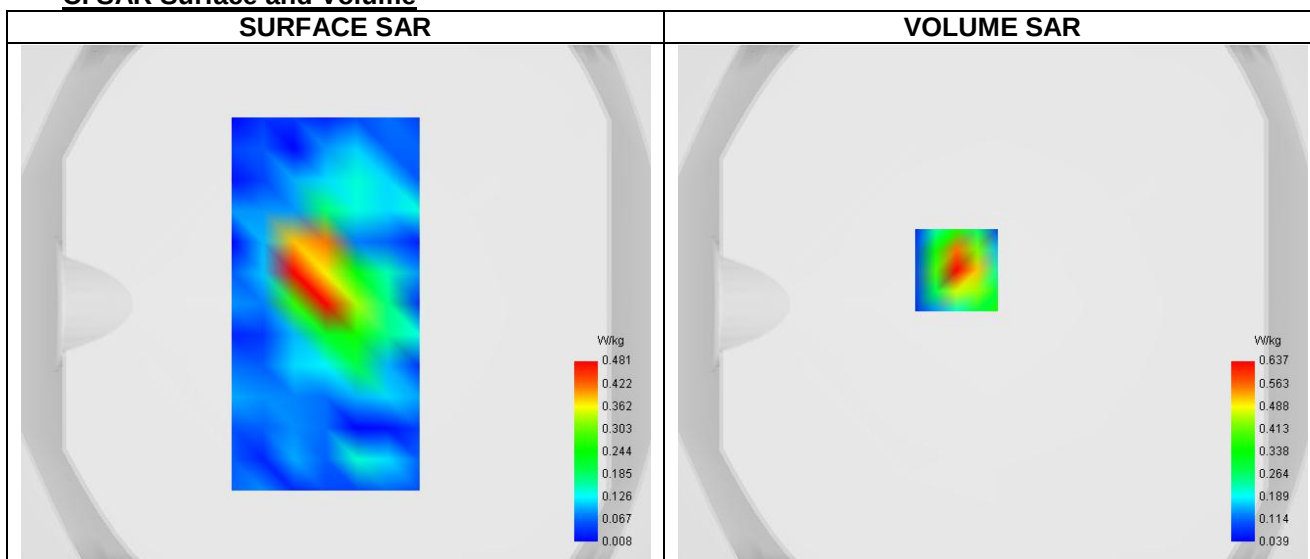
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	661
Signal	TDMA (GSM)
Modulation	GMSK

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	38.869
Relative permittivity (imaginary part)	14.560
Conductivity (S/m)	1.400

C. SAR Surface and Volume

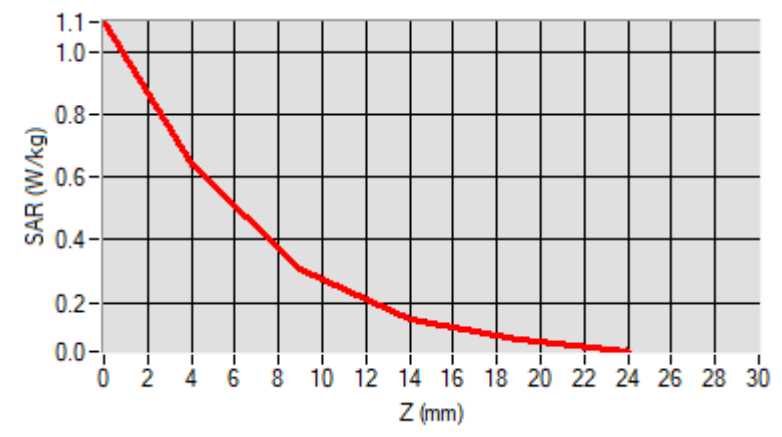


D. SAR 1g & 10g

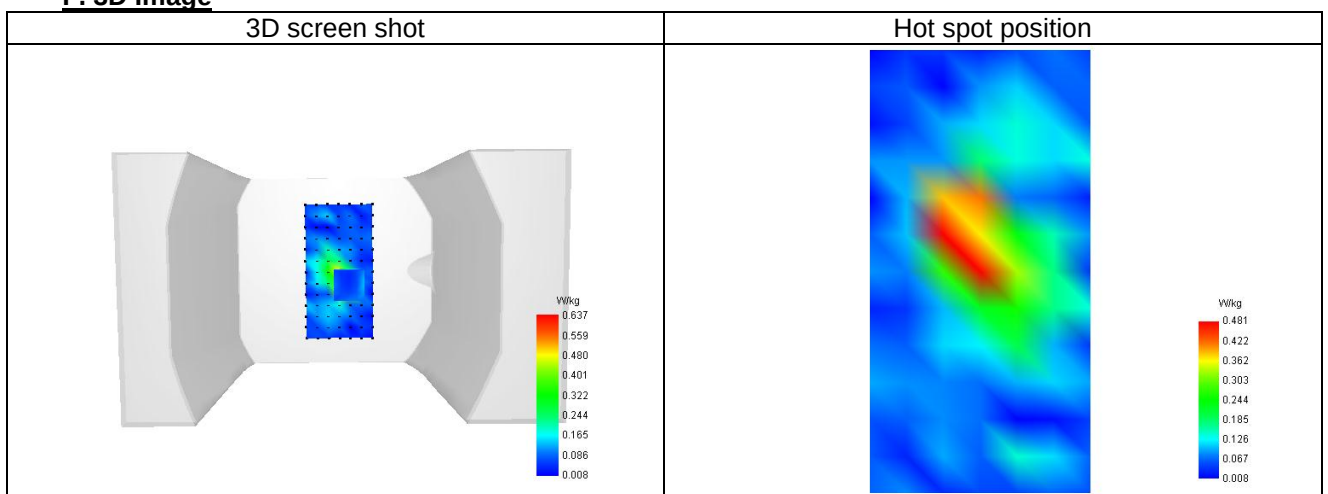
SAR 10g (W/Kg)	0.297
SAR 1g (W/Kg)	0.612
Variation (%)	3.140
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.096	0.637	0.308	0.149	0.079



F. 3D Image



Plot 6

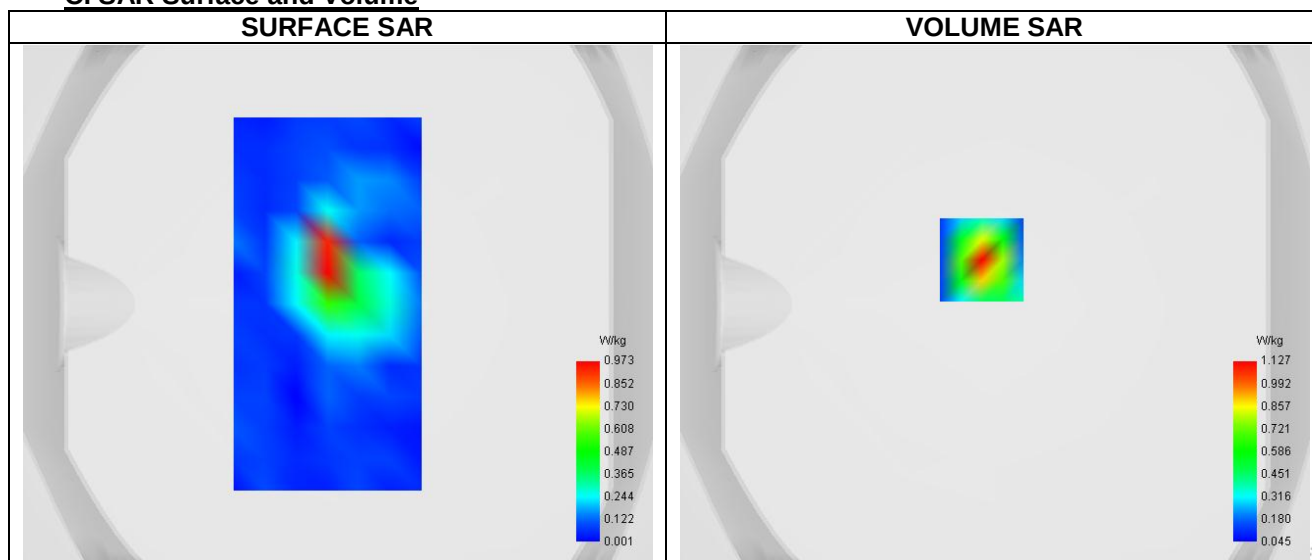
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Channels	Higher (9538)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1907.600
Relative permittivity (real part)	38.869
Relative permittivity (imaginary part)	13.210
Conductivity (S/m)	1.400

C. SAR Surface and Volume

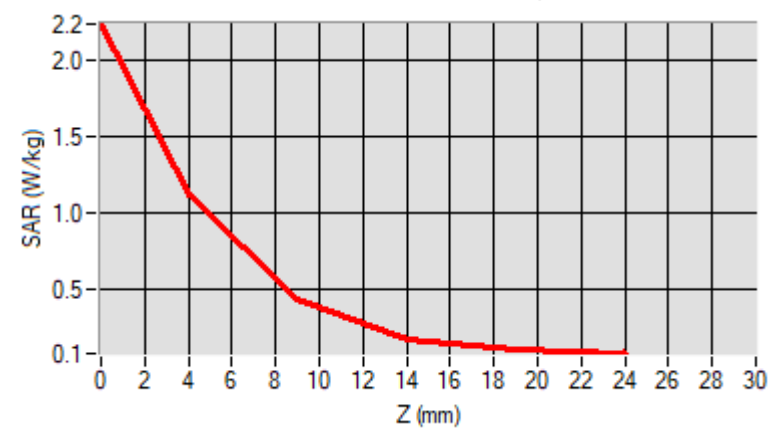


D. SAR 1g & 10g

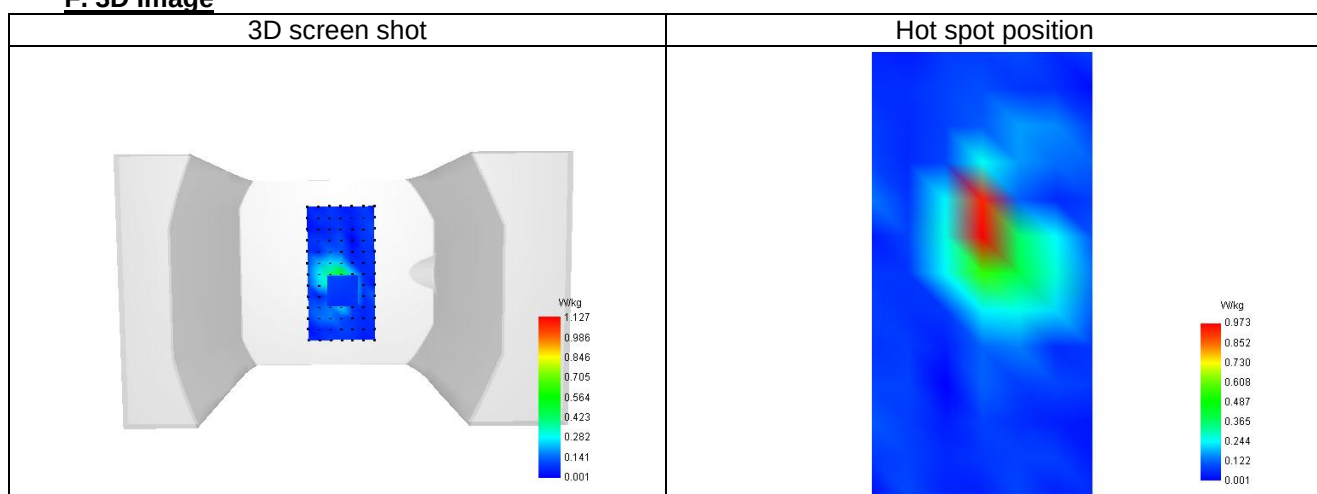
SAR 10g (W/Kg)	0.430
SAR 1g (W/Kg)	0.927
Variation (%)	-1.240
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.244	1.127	0.431	0.171	0.097



F. 3D Image



Plot 7

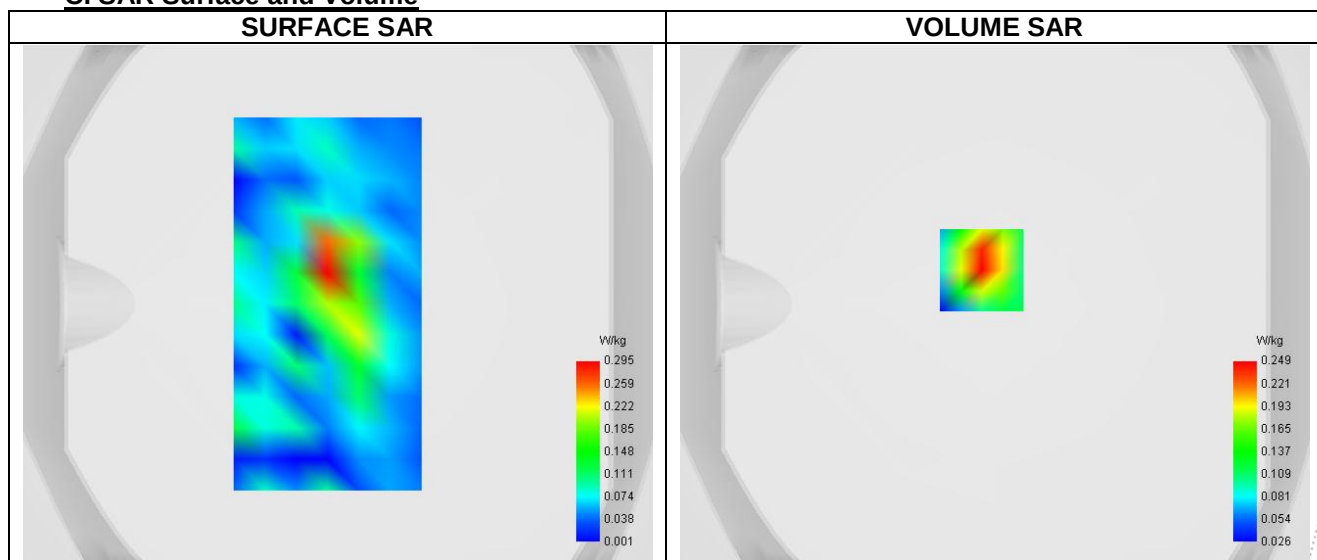
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Channels	Higher (4233)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	846.600
Relative permittivity (real part)	42.837
Relative permittivity (imaginary part)	19.400
Conductivity (S/m)	0.879

C. SAR Surface and Volume



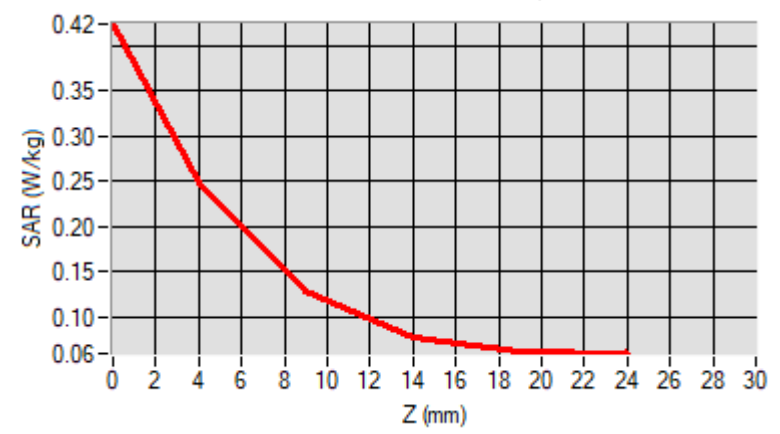
Maximum location: X=-5.00, Y=13.00 ; SAR Peak: 0.45 W/kg

D. SAR 1g & 10g

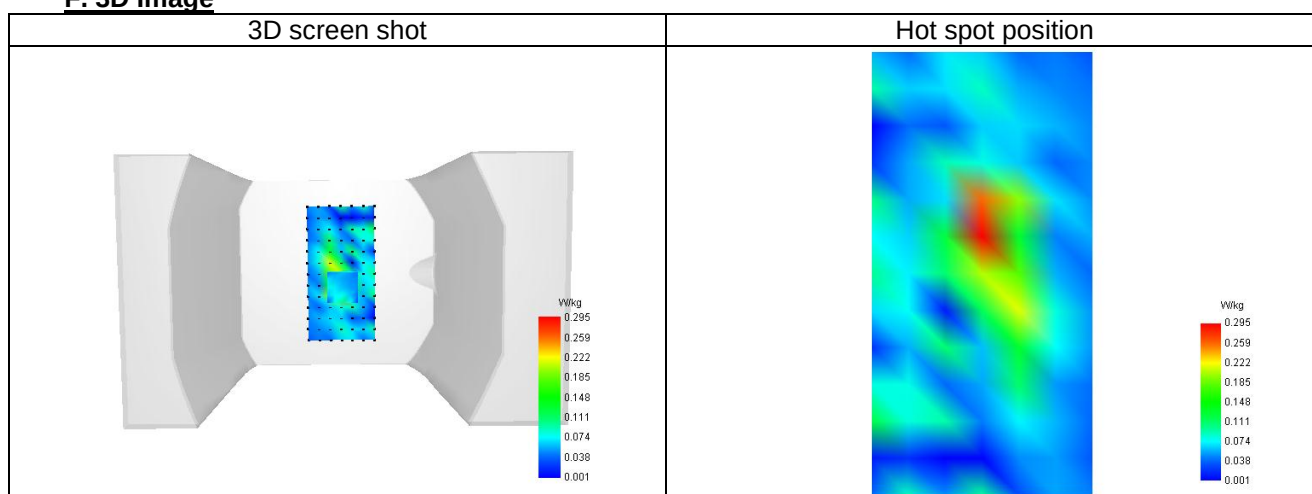
SAR 10g (W/Kg)	0.123
SAR 1g (W/Kg)	0.226
Variation (%)	-2.920
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.424	0.249	0.128	0.077	0.062



F. 3D Image



Plot 8

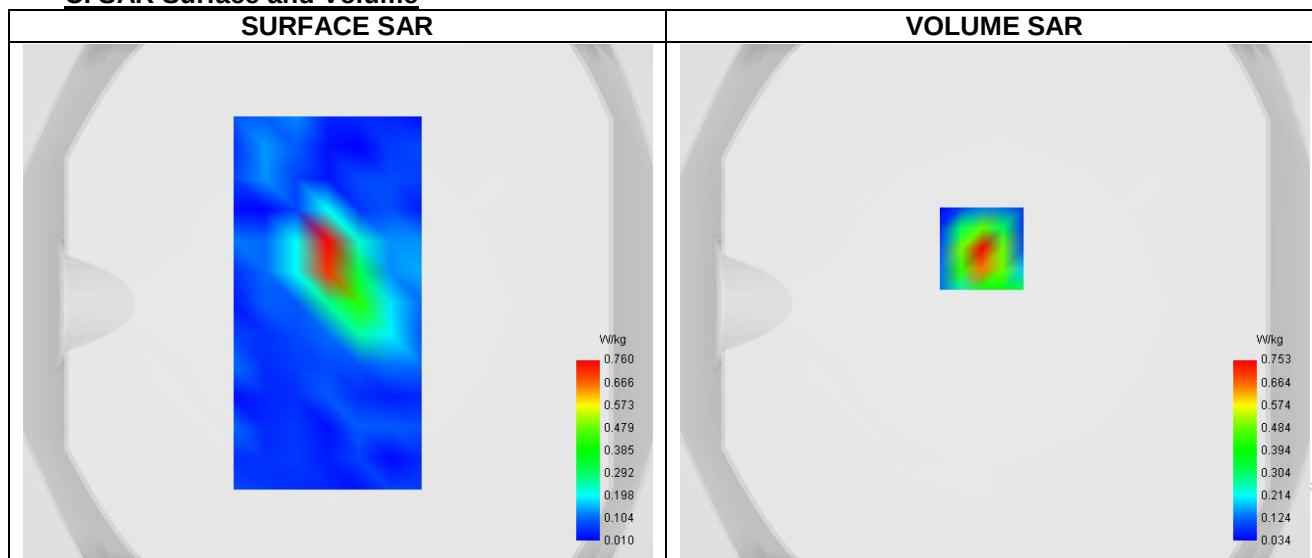
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	38.869
Relative permittivity (imaginary part)	14.610
Conductivity (S/m)	1.400

C. SAR Surface and Volume



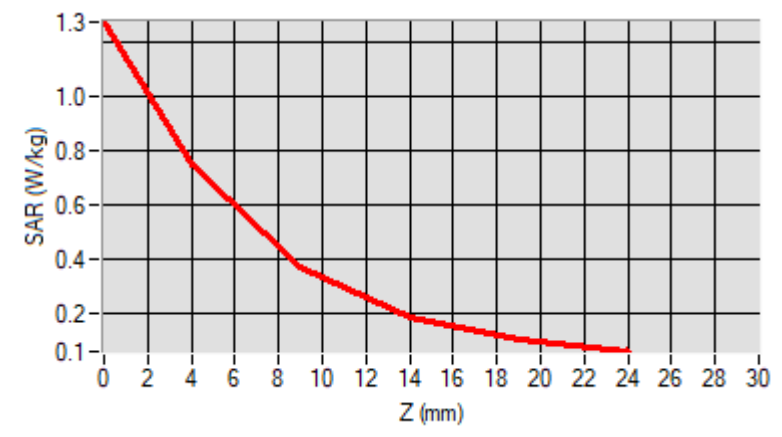
Maximum location: X=-5.00, Y=21.00 ; SAR Peak: 1.29 W/kg

D. SAR 1g & 10g

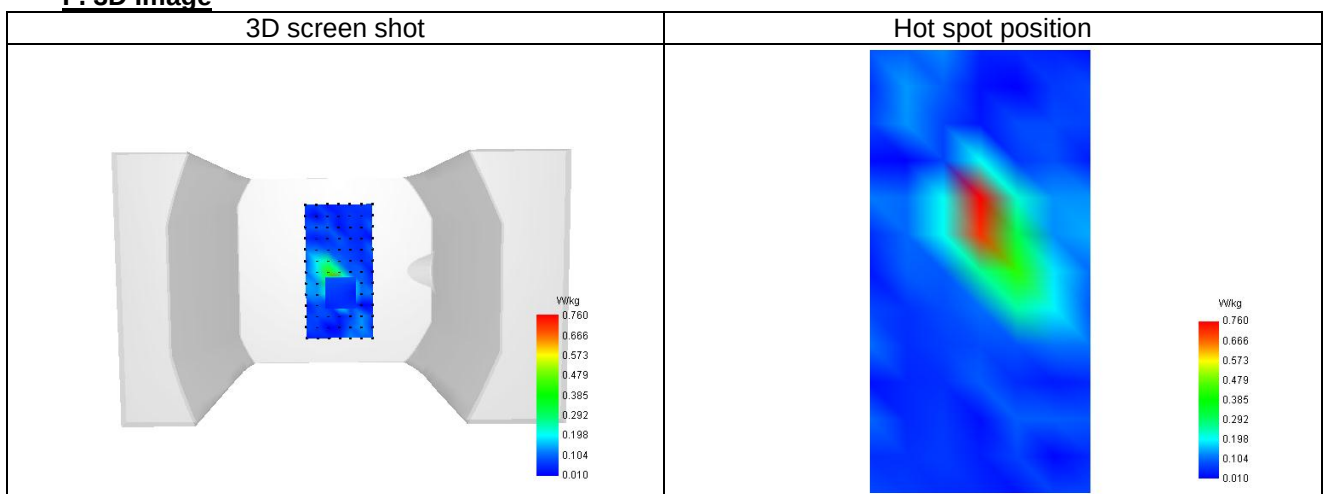
SAR 10g (W/Kg)	0.313
SAR 1g (W/Kg)	0.683
Variation (%)	-0.420
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.275	0.753	0.375	0.190	0.107



F. 3D Image



Plot 9

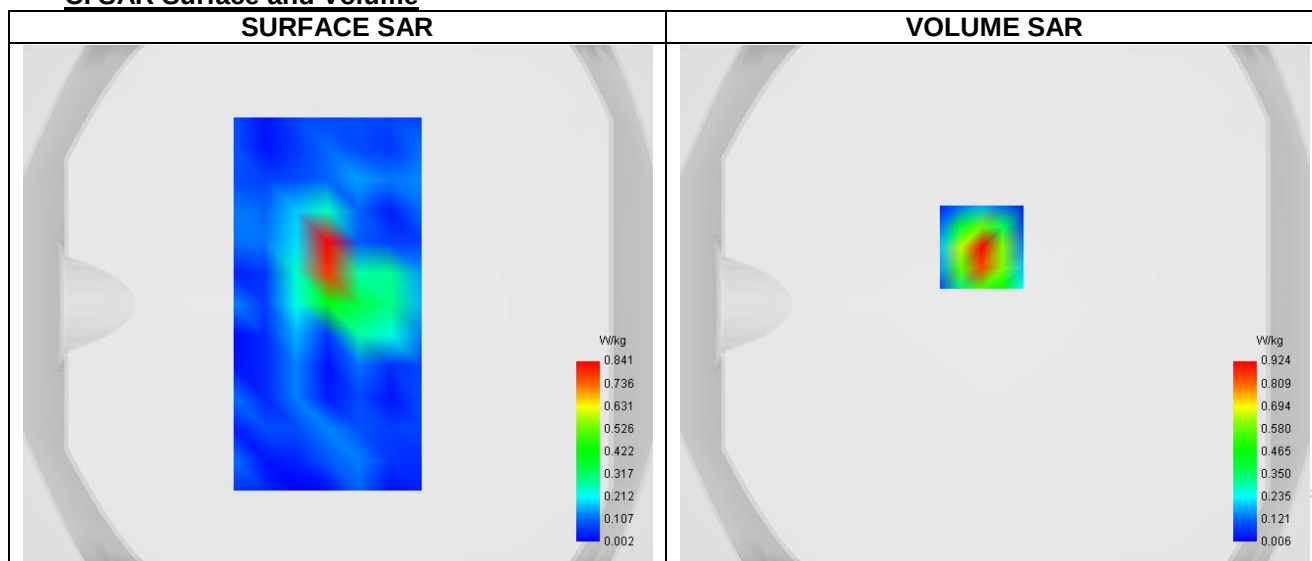
A. Experimental conditions.

Probe	SN 26/23 EPG0420
ConvF	1.01
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Lower (20050)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permittivity

Frequency (MHz)	1720.000
Relative permittivity (real part)	41.238
Relative permittivity (imaginary part)	15.404
Conductivity (S/m)	1.374

C. SAR Surface and Volume



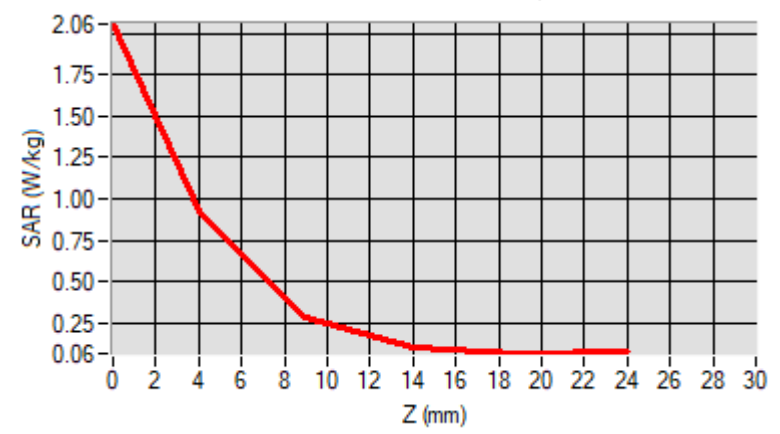
Maximum location: X=-5.00, Y=22.00 ; SAR Peak: 2.07 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.352
SAR 1g (W/Kg)	0.887
Variation (%)	3.170
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.057	0.924	0.287	0.095	0.063



F. 3D Image

