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SAR Test Report

Report Number: M151034 Evaluation of the SAR of Apple iPhones When Fitted with the Brainwave Patchd

Tested For: Brainwave Services Pty Ltd Patchd

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8.0 SAR EVALUATION RESULTS

The SAR values averaged over 10 g tissue masses were determined for the sample device for the Left and Right ear configurations of the phantom and the results are given in the tables below.

The plots with the corresponding SAR distributions are contained in Appendix B of this report.

8.1 SAR Measurement Results for GSM Bands

Table: SAR Measurement Results – DCS 1800 MHz iPhone 6

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.1 \pm 5% 38.1 to 42.1)	σ (target 1.37 \pm 5% 1.30 to 1.44)	Reduction of SAR (%)
Touch Left GPRS Class 10-with chip	1	GPRS Class 10	698	1747	0.0352	-0.07	39.1	1.33	-47
Touch Left GPRS Class 10-without chip	2	GPRS Class 10	698	1747	0.0668	-0.06	39.1	1.33	-
Touch Right GPRS Class 10-with chip	3	GPRS Class 10	698	1747	0.012	0.19	39.1	1.33	-93
Touch Right GPRS Class 10-without chip	4	GPRS Class 10	698	1747	0.173	-0.09	39.1	1.33	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – DCS 1800 MHz iPhone 6S

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.1 \pm 5% 38.1 to 42.1)	σ (target 1.37 \pm 5% 1.30 to 1.44)	Reduction of SAR (%)
Touch Left GPRS Class 10-with chip	5	GPRS Class 10	698	1747	0.0111	0.15	39.1	1.33	-85
Touch Left GPRS Class 10-without chip	6	GPRS Class 10	698	1747	0.0763	-0.17	39.1	1.33	-
Touch Right GPRS Class 10-with chip	7	GPRS Class 10	698	1747	0.0067	-0.21	39.1	1.33	-96
Touch Right GPRS Class 10-without chip	8	GPRS Class 10	698	1747	0.157	-0.07	39.1	1.33	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – DCS 1800 MHz iPhone 6 Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.1 \pm 5% 38.1 to 42.1)	σ (target 1.37 \pm 5% 1.30 to 1.44)	Reduction of SAR (%)
Touch Left GPRS Class 10-with chip	9	GPRS Class 10	698	1747	0.0186	-0.19	39.1	1.33	-97
Touch Left GPRS Class 10-without chip	10	GPRS Class 10	698	1747	0.069	-0.16	39.1	1.33	-
Touch Right GPRS Class 10-with chip	11	GPRS Class 10	698	1747	0.0081	-0.11	39.1	1.33	-96
Touch Right GPRS Class 10-without chip	12	GPRS Class 10	698	1747	0.184	0.01	39.1	1.33	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.



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Table: SAR Measurement Results – DCS 1800 MHz iPhone 6S Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.1 \pm 5% 38.1 to 42.1)	σ (target 1.37 \pm 5% 1.30 to 1.44)	Reduction of SAR (%)
Touch Left GPRS Class 10-with chip	13	GPRS Class 10	698	1747	0.0615	-0.1	39.1	1.33	-53
Touch Left GPRS Class 10-without chip	14	GPRS Class 10	698	1747	0.132	-0.19	39.1	1.33	-
Touch Right GPRS Class 10-with chip	15	GPRS Class 10	698	1747	0.131	-0.13	39.1	1.33	-26
Touch Right GPRS Class 10-without chip	16	GPRS Class 10	698	1747	0.176	-0.04	39.1	1.33	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

8.2 SAR Measurement Results for UMTS Bands

Table: SAR Measurement Results – UMTS Band 1 (1950 MHz) iPhone 6

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch Left-with chip	17	WCDMA - UMTS	9750	1950	0.0391	-0.19	38.49	1.47	-69
Touch Left-without chip	18	WCDMA - UMTS	9750	1950	0.127	0	38.49	1.47	-
Touch Right-with chip	19	WCDMA - UMTS	9750	1950	0.094	0.01	38.49	1.47	-64
Touch Right-without chip	20	WCDMA - UMTS	9750	1950	0.26	0	38.49	1.47	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – UMTS Band 1 (1950 MHz) iPhone 6S

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch Left-with chip	21	WCDMA - UMTS	9750	1950	0.0202	-0.07	38.49	1.47	-85
Touch Left-without chip	22	WCDMA - UMTS	9750	1950	0.133	-0.04	38.49	1.47	-
Touch Right-with chip	23	WCDMA - UMTS	9750	1950	0.043	-0.16	38.49	1.47	-82
Touch Right-without chip	24	WCDMA - UMTS	9750	1950	0.236	-0.04	38.49	1.47	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.



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Table: SAR Measurement Results – UMTS Band 1 (1950 MHz) iPhone 6 Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch Left-with chip	25	WCDMA - UMTS	9750	1950	0.0125	-0.13	38.49	1.47	-92
Touch Left-without chip	26	WCDMA - UMTS	9750	1950	0.157	-0.05	38.49	1.47	
Touch Right-with chip	27	WCDMA - UMTS	9750	1950	0.0272	0.07	38.49	1.47	-92
Touch Right-without chip	28	WCDMA - UMTS	9750	1950	0.337	-0.05	38.49	1.47	

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – UMTS Band 1 (1950 MHz) iPhone 6S Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch Left-with chip	29	WCDMA - UMTS	9750	1950	0.0079	0.19	38.49	1.47	-93
Touch Left-without chip	30	WCDMA - UMTS	9750	1950	0.107	-0.06	38.49	1.47	-
Touch Right-with chip	31	WCDMA - UMTS	9750	1950	0.0028	-0.2	38.49	1.47	-99
Touch Right-without chip	32	WCDMA - UMTS	9750	1950	0.247	-0.04	38.49	1.47	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – UMTS Band 2 (1880 MHz) iPhone 6

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch right-with chip	33	WCDMA - UMTS	9400	1880	0.0228	0.2	38.64	1.431	-82
Touch right-without chip	34	WCDMA - UMTS	9400	1880	0.127	-0.03	38.64	1.431	-
Touch left-with chip	35	WCDMA - UMTS	9400	1880	0.0105	0.08	38.64	1.431	-84
Touch left-without chip	36	WCDMA - UMTS	9400	1880	0.0641	-0.09	38.64	1.431	-
System Check	37	CW (0)	1	1950	5.17	0.19	38.49	1.473	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.



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Table: SAR Measurement Results – UMTS Band 2 (1880 MHz) iPhone 6S

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch right-with chip	38	WCDMA - UMTS	9400	1880	0.0248	0.01	38.64	1.431	-82
Touch right-without chip	39	WCDMA - UMTS	9400	1880	0.135	0.03	38.64	1.431	-
Touch left-with chip	40	WCDMA - UMTS	9400	1880	0.0098	-0.03	38.64	1.431	-86
Touch left-without chip	41	WCDMA - UMTS	9400	1880	0.0676	-0.03	38.64	1.431	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – UMTS Band 2 (1880 MHz) iPhone 6 Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch right-with chip	42	WCDMA - UMTS	9400	1880	0.0168	0.16	38.64	1.431	-90
Touch right-without chip	43	WCDMA - UMTS	9400	1880	0.161	-0.07	38.64	1.431	-
Touch left-with chip	44	WCDMA - UMTS	9400	1880	0.0127	-0.16	38.64	1.431	-84
Touch left-without chip	45	WCDMA - UMTS	9400	1880	0.0784	-0.07	38.64	1.431	-

Note: The uncertainty of the system ($\pm 23.11\%$) has not been added to the result.

Table: SAR Measurement Results – UMTS Band 2 (1880 MHz) iPhone 6S Plus

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (10g) mW/g	Drift (dB)	ϵ_r (target 40.0 \pm 5% 38.0 to 42.0)	σ (target 1.40 \pm 5% 1.33 to 1.47)	Reduction of SAR (%)
Touch right-with chip	46	WCDMA - UMTS	9400	1880	0.0102	-0.04	38.64	1.431	-93
Touch right-without chip	47	WCDMA - UMTS	9400	1880	0.145	0.06	38.64	1.431	-
Touch left-with chip	48	WCDMA - UMTS	9400	1880	0.0121	-0.12	38.64	1.431	-87
Touch left-without chip	49	WCDMA - UMTS	9400	1880	0.0906	-0.02	38.64	1.431	-

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