



#### January 30, 2020

10587	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %
10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
0592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
0599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
0600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
0601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
0602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
0603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
0604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
0606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
0607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
0608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
0609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
0610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
0611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
0612	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.77	± 9.6 %
0613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
0614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
0615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 9
0616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 9
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 9
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 9
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 9
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 9
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 °
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 9
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 9
10625	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.83	
10627	AAB				± 9.6 °
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 °
		IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 9
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 °
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 9
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6
0635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6
0638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6
0640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6
0641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9.6
10646	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6
10652	AAE	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6
10653	AAE	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6

Certificate No: EX3-3617\_Jan20/2

Page 18 of 23





#### January 30, 2020

10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
0658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
0659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
0660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
0661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 9
0662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 9
0670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 9
0671	AAA	IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)	WLAN	9.09	± 9.6 9
0672	AAA	IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	± 9.6 9
0673	AAA	IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	± 9.6 9
0674	AAA	IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 °
0675	AAA	IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)	WLAN	8.90	± 9.6 °
0676	AAA	IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 °
0677	AAA	IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 9.6 °
0678	AAA	IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)	WLAN	8.78	± 9.6 °
0679	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.89	± 9.6 °
0680	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 °
0681	AAA	IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)	WLAN	8.62	± 9.6 9
0682	AAA	IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)	WLAN	8.83	± 9.6 °
0683	AAA	IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)			
0684	AAA		WLAN	8.42	± 9.6 °
		IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)	WLAN	8.26	± 9.6 °
0685	AAA	IEEE 802.11ax (20MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 °
0686	AAA	IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)	WLAN	8.28	± 9.6 °
0687	AAA	IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)	WLAN	8.45	± 9.6
0688	AAA	IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)	WLAN	8.29	± 9.6
0689	AAA	IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)	WLAN	8.55	± 9.6
0690	AAA	IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6
0691	AAA	IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)	WLAN	8.25	± 9.6
0692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)	WLAN	8.29	± 9.6
0693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)	WLAN	8.25	± 9.6
0694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)	WLAN	8.57	± 9.6
0695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle)	WLAN	8.78	± 9.6
10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN	8.91	± 9.6
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc duty cycle)	WLAN	8.61	± 9.6
0698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.89	± 9.6
0699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc duty cycle)	WLAN	8.82	± 9.6
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)	WLAN	8.73	± 9.6
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)	WLAN	8.86	± 9.6
0702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)	WLAN	8.70	± 9.6
0703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6
0704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)	WLAN	8.56	± 9.6
0705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc duty cycle)	WLAN	8.69	± 9.6
0706	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)	WLAN	8.66	± 9.6
10707	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.32	± 9.6
10708	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.55	± 9.6
10709	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)	WLAN	8.33	± 9.6
10709	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)	WLAN	8.29	± 9.6
10710	AAA			8.29	± 9.6
0712	AAA	IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)	WLAN WLAN	8.39	± 9.6
		IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)			
0713	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)	WLAN	8.33	± 9.6
0714	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)	WLAN	8.26	± 9.6
0715	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)	WLAN	8.45	± 9.6
0716	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)	WLAN	8.30	± 9.6
0717	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)	WLAN	8.48	± 9.6
10718	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)	WLAN	8.24	± 9.6
10719	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6
10720	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)	WLAN	8.87	± 9.6
10721	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)	WLAN	8.76	± 9.6
10722	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)	WLAN	8.55	± 9.6
10723	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6
10724	AAA	IEEE 802.11ax (80MHz, MCS5, 90pc duty cycle)	WLAN	8.90	± 9.6
10725	AAA	IEEE 802.11ax (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6
10726	AAA	IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle)	WLAN	8.72	± 9.6

Certificate No: EX3-3617\_Jan20/2

Page 19 of 23





#### January 30, 2020

10727	AAA	IEEE 802.11ax (80MHz, MCS8, 90pc duty cycle)	WLAN	8.66	± 9.6 %
10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)	WLAN	8.65	± 9.6 %
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)	WLAN	8.25	± 9.6 %
0735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)	WLAN	8.33	± 9.6 %
0736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10738	AAA		WLAN	8.42	± 9.6 %
		IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)			
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)	WLAN	8.29	± 9.6 9
0740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)	WLAN	8.48	± 9.6 9
0741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)	WLAN	8.40	± 9.6 9
0742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)	WLAN	8.43	± 9.6 9
0743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)	WLAN	8.94	± 9.6
0744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)	WLAN	9.16	± 9.6 °
0745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)	WLAN	8.93	± 9.6 °
0746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)	WLAN	9.11	± 9.6
0747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)	WLAN	9.04	± 9.6
0748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)	WLAN	8.93	± 9.6
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)	WLAN	8.90	± 9.6
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)	WLAN	8.79	± 9.6
			WLAN	8.82	
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)			± 9.6
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	9.00	± 9.6
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	± 9.6
10755	AAA	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	± 9.6
10756	AAA	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	± 9.6
10757	AAA	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	± 9.6
10758	AAA	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	± 9.6
10759	AAA	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	± 9.6
10760	AAA	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	± 9.6
10761	AAA	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	± 9.6
10762	AAA	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	± 9.6
10763	AAA	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	± 9.6
10764	AAA	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	± 9.6
10765	AAA	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	± 9.6
10766	AAA	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	± 9.6
10767	AAB	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	± 9.6
10768	AAB	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6
10769	AAB	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6
10770	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6
10771	AAB	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6
10772	AAB	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	± 9.6
10773	AAB	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	± 9.6
10774	AAB	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6
10776	AAB	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6
10778	AAB	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	± 9.6
10780	AAB	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6
10781	AAB	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6

Certificate No: EX3-3617\_Jan20/2

Page 20 of 23





January 30, 2020

10782	AAB	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10783	AAB	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10784	AAB	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	± 9.6 %
10785	AAB	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)~	5G NR FR1	8.40	± 9.6 %
10786	AAB	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	TDD 5G NR FR1 TDD	8.35	± 9.6 %
10787	AAB	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	± 9.6 %
10788	AAB	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10789	AAB	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10790	AAB	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10791	AAB	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	± 9.6 %
10792	AAB	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	± 9.6 %
10793	AAB	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	± 9.6 %
10794	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10795	AAB	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	± 9.6 %
10796	AAB	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10797	AAB	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10798	AAB	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10799	AAB	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10801	AAB	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10802	AAB	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	± 9.6 %
10803	AAB	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10805	AAB	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10806	AAB	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10809	AAB	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10810	AAB	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10812	AAB	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10817	AAB	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10818	AAB	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10819	AAB	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	± 9.6 %
10820	AAB	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10821	AAB	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10822	AAB	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10823	AAB	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	± 9.6 %

Certificate No: EX3-3617\_Jan20/2

Page 21 of 23





#### January 30, 2020

AAB	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1		
		TDD	8.39	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1	8.43	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1	8.40	±9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1	7.63	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1	7.73	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1	7.74	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1	7.70	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1	7.75	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1	7.70	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1	7.66	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1	7.68	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1	7.70	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1	7.67	± 9.6 %
AAB	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1	7.71	± 9.6 %
AAB	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1	8.49	± 9.6 %
AAB	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1	8.34	± 9.6 %
AAB	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1	8.41	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1	8.34	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1	8.36	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1	8.37	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1	8.35	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1	8.36	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1	8.34	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1	8.41	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1	8.40	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1	8.41	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1	8.37	± 9.6 %
AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1	8.41	± 9.6 %
AAB	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1	5.68	± 9.6 %
AAB	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1	5.89	± 9.6 %
AAC	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2	5.75	± 9.6 %
	AAB       AAB </td <td>AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)</td> <td>AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)         TDD           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 100%</td> <td>TDD         TDD           AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 KHz)         5G NR FR1         8.43           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)         5G NR FR1         7.63           TDD         TDD         TDD         5G NR FR1         7.63           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)         5G NR FR1         7.73           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1         7.74           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.76           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.76           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           TDD         TDD         TDD         7.68         7.67         7.00           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1         7.71           TDD         AAB<!--</td--></td>	AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)           AAB         5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)         TDD           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1 TDD           AAB         5G NR (CP-OFDM, 100%	TDD         TDD           AAB         5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 KHz)         5G NR FR1         8.43           AAB         5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)         5G NR FR1         7.63           TDD         TDD         TDD         5G NR FR1         7.63           AAB         5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)         5G NR FR1         7.73           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1         7.74           AAB         5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.76           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.76           AAB         5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1         7.70           TDD         TDD         TDD         7.68         7.67         7.00           AAB         5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)         5G NR FR1         7.71           TDD         AAB </td

Certificate No: EX3-3617\_Jan20/2

Page 22 of 23





EX3DV4-SN:3617
----------------

January 30, 2020

10870	AAC	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	± 9.6 %
10871	AAC	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10872	AAC	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	± 9.6 %
10873	AAC	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10874	AAC	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10875	AAC	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10876	AAC	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	± 9.6 %
10877	AAC	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	± 9.6 %
10878	AAC	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10879	AAC	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	± 9.6 %
10880	AAC	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	± 9.6 %
10881	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10882	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	± 9.6 %
10883	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	± 9.6 %
10884	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	± 9.6 %
10885	AAC	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10886	AAC	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10887	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10888	AAC	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	± 9.6 %
10889	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	± 9.6 %
10890	AAC	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	± 9.6 %
10891	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	± 9.6 %
10892	AAC	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Certificate No: EX3-3617\_Jan20/2

Page 23 of 23





# ANNEX H Dipole Calibration Certificate

# 750 MHz Dipole Calibration Certificate

Engineering AG aughausstrasse 43, 8004 Zurich, 4	of Switzerland	S C S	Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura Swiss Calibration Service
ccredited by the Swiss Accreditatio he Swiss Accreditation Service is	s one of the signatories	s to the EA	creditation No.: SCS 0108
Iultilateral Agreement for the reco		Certificate No	: D750V3-1017_Jul19
CALIBRATION CE	D750V3 - SN:101		
Object	D750V3 - SN. 101	17	
Calibration procedure(s)	QA CAL-05.v11 Calibration Proce	dure for SAR Validation Sources	between 0.7-3 GHz
Calibration date:	July 18, 2019		
The measurements and the uncerta	ainties with confidence p ed in the closed laborato	ional standards, which realize the physical un robability are given on the following pages an ry facility: environment temperature $(22 \pm 3)^{\circ}$	d are part of the certificate.
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE	ainties with confidence p ad in the closed laborato E critical for calibration)	robability are given on the following pages an ry facility: environment temperature $(22 \pm 3)^{\circ}$	d are part of the certificate. C and humidity < 70%.
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards	ainties with confidence p ed in the closed laborato	robability are given on the following pages an	d are part of the certificate.
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP	ainties with confidence p ad in the closed laborato E critical for calibration)	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91	ainties with confidence p ed in the closed laborato E critical for calibration) ID # SN: 104778	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°( Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91	ainties with confidence p ed in the closed laborato E critical for calibration) ID # SN: 104778 SN: 103244	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°( <u>Cal Date (Certificate No.)</u> 03-Apr-19 (No. 217-02892)02893) 03-Apr-19 (No. 217-02892)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Apr-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895) 29-May-19 (No. EX3-7349_May19)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 May-20 May-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Apr-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°( 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895) 29-May-19 (No. 2X3-7349_May19) 30-Apr-19 (No. DAE4-601_Apr19) Check Date (in house)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E4419B	ainties with confidence p and in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 601 ID # SN: GB39512475	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895) 29-May-19 (No. EX3-7349_May19) 30-Apr-19 (No. DAE4-601_Apr19) Check Date (in house) 30-Oct-14 (in house check Feb-19)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check In house check: Oct-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E4419B Power sensor HP 8481A	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783	Cal Date (Certificate No.)           03-Apr-19 (No. 217-02892/02893)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02893)           04-Apr-19 (No. 217-02894)           04-Apr-19 (No. 217-02895)           29-May-19 (No. EX3-7349_May19)           30-Apr-19 (No. DAE4-601_Apr19)           Check Date (in house)           30-Oct-14 (in house check Feb-19)           07-Oct-15 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check In house check: Oct-20 In house check: Oct-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E44198 Power sensor HP 8481A Power sensor HP 8481A	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 50547.2 / 06327 SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: WY41092317	Cal Date (Certificate No.)           03-Apr-19 (No. 217-02892/02893)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02893)           04-Apr-19 (No. 217-02894)           04-Apr-19 (No. 217-02895)           29-May-19 (No. EX3-7349_May19)           30-Apr-19 (No. DAE4-601_Apr19)           Check Date (in house)           30-Oct-14 (in house check Feb-19)           07-Oct-15 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check In house check: Oct-20 In house check: Oct-20 In house check: Oct-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E4419B Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06	ainties with confidence p and in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: MY41092317 SN: 100972	Cal Date (Certificate No.)           03-Apr-19 (No. 217-02892/02893)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02893)           04-Apr-19 (No. 217-02894)           04-Apr-19 (No. 217-02895)           29-May-19 (No. EX3-7349_May19)           30-Apr-19 (No. DAE4-601_Apr19)           Check Date (in house)           30-Oct-14 (in house check Feb-19)           07-Oct-15 (in house check Oct-18)           07-Oct-15 (in house check Oct-18)           15-Jun-15 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check In house check: Oct-20 In house check: Oct-20 In house check: Oct-20 In house check: Oct-20 In house check: Oct-20
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E44198 Power sensor HP 8481A Power sensor HP 8481A	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 50547.2 / 06327 SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: WY41092317	Cal Date (Certificate No.)           03-Apr-19 (No. 217-02892/02893)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02893)           04-Apr-19 (No. 217-02894)           04-Apr-19 (No. 217-02895)           29-May-19 (No. EX3-7349_May19)           30-Apr-19 (No. DAE4-601_Apr19)           Check Date (in house)           30-Oct-14 (in house check Feb-19)           07-Oct-15 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Scheduled Check In house check: Oct-20 In house check:
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E4419B Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06	ainties with confidence p and in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: MY41092317 SN: 100972	Cal Date (Certificate No.)           03-Apr-19 (No. 217-02892/02893)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02892)           03-Apr-19 (No. 217-02893)           04-Apr-19 (No. 217-02894)           04-Apr-19 (No. 217-02895)           29-May-19 (No. EX3-7349_May19)           30-Apr-19 (No. DAE4-601_Apr19)           Check Date (in house)           30-Oct-14 (in house check Feb-19)           07-Oct-15 (in house check Oct-18)           07-Oct-15 (in house check Oct-18)           15-Jun-15 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 May-20 Apr-20 Scheduled Check In house check: Oct-20 In hous
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power sensor NRP-Z91 Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E4419B Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06	ainties with confidence p ad in the closed laboratoo critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: MY41092317 SN: US37292783 SN: MY41092317 SN: US41080477	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°( <u>Cal Date (Certificate No.)</u> 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895) 29-May-19 (No. EX3-7349_May19) 30-Apr-19 (No. DAE4-601_Apr19) <u>Check Date (in house)</u> 30-Oct-14 (in house check Feb-19) 07-Oct-15 (in house check Oct-18) 15-Jun-15 (in house check Oct-18) 31-Mar-14 (in house check Oct-18)	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Scheduled Check In house check: Oct-20 In house check:
The measurements and the uncerta All calibrations have been conducte Calibration Equipment used (M&TE Primary Standards Power meter NRP Power sensor NRP-Z91 Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards Power meter E44198 Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer Agilent E8358A	ainties with confidence p ad in the closed laborato critical for calibration) ID # SN: 104778 SN: 103244 SN: 103245 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 601 ID # SN: GB39512475 SN: US37292783 SN: MY41092317 SN: US341080477 Name	robability are given on the following pages an ry facility: environment temperature (22 ± 3)°C Cal Date (Certificate No.) 03-Apr-19 (No. 217-02892/02893) 03-Apr-19 (No. 217-02892) 03-Apr-19 (No. 217-02893) 04-Apr-19 (No. 217-02894) 04-Apr-19 (No. 217-02895) 29-May-19 (No. 217-02895) 29-May-19 (No. EX3-7349_May19) 30-Apr-19 (No. DAE4-601_Apr19) Check Date (in house) 30-Oct-14 (in house check Feb-19) 07-Oct-15 (in house check Oct-18) 15-Jun-15 (in house check Oct-18) 31-Mar-14 (in house check Oct-18) Function	d are part of the certificate. C and humidity < 70%. Scheduled Calibration Apr-20 Apr-20 Apr-20 Apr-20 Apr-20 Scheduled Check In house check: Oct-20 In house check:

Certificate No: D750V3-1017\_Jul19

Page 1 of 8





#### Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland



- S Schweize C Service st S Swiss Cal
  - Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

#### Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

# Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

#### Additional Documentation:

e) DASY4/5 System Handbook

# Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end
  of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
  point exactly below the center marking of the flat phantom section, with the arms oriented
  parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole
  positioned under the liquid filled phantom. The impedance stated is transformed from the
  measurement at the SMA connector to the feed point. The Return Loss ensures low
  reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Certificate No: D750V3-1017\_Jul19

Page 2 of 8





# **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.2 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

#### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.14 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.57 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL SAR measured	condition 250 mW input power	1.39 W/kg

Body TSL parameters The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.1 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

#### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.55 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.41 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.63 W/kg ± 16.5 % (k=2)

Certificate No: D750V3-1017\_Jul19

Page 3 of 8





# Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.1 Ω - 1.3 jΩ	
Return Loss	- 29.6 dB	

#### Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.9 Ω - 4.3 jΩ	
Return Loss	- 27.0 dB	

#### **General Antenna Parameters and Design**

Electrical Delay (one direction)	1.041 ns
Eloothour Doldy (one an equally	

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### **Additional EUT Data**

Manufactured by	SPEAG
,	

Certificate No: D750V3-1017\_Jul19

Page 4 of 8