



EX3DV4- SN:3801

June 26, 2018

10427-AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.21	66.94	16.22	0.00	150.0	± 9.6 %
		Y	5.33	67.26	16.44		150.0	
		Z	5.22	66.94	16.22		150.0	
10430-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.02	70.30	17.56	0.00	150.0	± 9.6 %
		Y	4.18	70.49	17.96		150.0	
		Z	4.02	70.25	17.56		150.0	
10431-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.00	66.69	15.72	0.00	150.0	± 9.6 %
		Y	4.18	67.12	16.13		150.0	
		Z	4.01	66.67	15.72		150.0	
10432-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.33	66.63	15.89	0.00	150.0	± 9.6 %
		Y	4.48	67.00	16.21		150.0	
		Z	4.33	66.61	15.89		150.0	
10433-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.58	66.64	16.01	0.00	150.0	± 9.6 %
		Y	4.73	66.99	16.29		150.0	
		Z	4.59	66.63	16.01		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.06	70.92	17.34	0.00	150.0	± 9.6 %
		Y	4.27	71.30	17.90		150.0	
		Z	4.06	70.88	17.35		150.0	
10435-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.67	31.60	3.23	80.0	± 9.6 %
		Y	100.00	121.12	30.31		80.0	
		Z	100.00	125.37	31.82		80.0	
10447-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.24	66.36	14.69	0.00	150.0	± 9.6 %
		Y	3.47	67.09	15.42		150.0	
		Z	3.25	66.35	14.70		150.0	
10448-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	3.86	66.46	15.57	0.00	150.0	± 9.6 %
		Y	4.02	66.90	15.99		150.0	
		Z	3.86	66.45	15.58		150.0	
10449-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.15	66.44	15.77	0.00	150.0	± 9.6 %
		Y	4.29	66.82	16.11		150.0	
		Z	4.16	66.43	15.77		150.0	
10450-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.36	66.40	15.85	0.00	150.0	± 9.6 %
		Y	4.49	66.75	16.14		150.0	
		Z	4.37	66.38	15.84		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.07	66.27	14.09	0.00	150.0	± 9.6 %
		Y	3.35	67.23	15.01		150.0	
		Z	3.09	66.28	14.12		150.0	
10456-AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.10	67.60	16.46	0.00	150.0	± 9.6 %
		Y	6.17	67.80	16.60		150.0	
		Z	6.11	67.59	16.46		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.68	64.94	15.56	0.00	150.0	± 9.6 %
		Y	3.76	65.22	15.86		150.0	
		Z	3.68	64.92	15.56		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.64	69.83	16.43	0.00	150.0	± 9.6 %
		Y	3.92	70.59	17.30		150.0	
		Z	3.65	69.81	16.46		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.90	68.31	17.78	0.00	150.0	± 9.6 %
		Y	4.99	68.05	17.92		150.0	
		Z	4.90	68.27	17.79		150.0	

Certificate No: EX3-3801_Jun18

Page 26 of 39



EX3DV4-- SN:3801

June 26, 2018

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.70	64.51	13.31	0.00	150.0	± 9.6 %
		Y	0.86	67.82	15.75		150.0	
		Z	0.70	64.47	13.28		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.99	33.67	3.29	80.0	± 9.6 %
		Y	100.00	126.52	32.84		80.0	
		Z	100.00	129.61	33.85		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	11.24	85.71	18.56	3.23	80.0	± 9.6 %
		Y	100.00	107.01	23.71		80.0	
		Z	7.60	81.91	17.44		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.22	68.12	12.22	3.23	80.0	± 9.6 %
		Y	8.52	79.99	16.22		80.0	
		Z	1.89	66.79	11.65		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.35	32.27	3.23	80.0	± 9.6 %
		Y	100.00	124.09	31.55		80.0	
		Z	100.00	126.89	32.42		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.43	78.04	16.22	3.23	80.0	± 9.6 %
		Y	61.58	101.53	22.35		80.0	
		Z	4.13	75.48	15.36		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.84	66.23	11.40	3.23	80.0	± 9.6 %
		Y	5.22	75.15	14.66		80.0	
		Z	1.61	65.19	10.92		80.0	
10467-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.67	32.42	3.23	80.0	± 9.6 %
		Y	100.00	124.36	31.67		80.0	
		Z	100.00	127.22	32.57		80.0	
10468-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	6.42	79.84	16.80	3.23	80.0	± 9.6 %
		Y	95.13	106.08	23.39		80.0	
		Z	4.76	76.99	15.88		80.0	
10469-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.85	66.30	11.43	3.23	80.0	± 9.6 %
		Y	5.30	75.30	14.71		80.0	
		Z	1.62	65.24	10.95		80.0	
10470-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.70	32.42	3.23	80.0	± 9.6 %
		Y	100.00	124.39	31.67		80.0	
		Z	100.00	127.26	32.58		80.0	
10471-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	6.33	79.66	16.73	3.23	80.0	± 9.6 %
		Y	93.01	105.78	23.31		80.0	
		Z	4.69	76.83	15.81		80.0	
10472-AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.84	66.22	11.39	3.23	80.0	± 9.6 %
		Y	5.23	75.17	14.65		80.0	
		Z	1.60	65.17	10.90		80.0	
10473-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.67	32.40	3.23	80.0	± 9.6 %
		Y	100.00	124.35	31.66		80.0	
		Z	100.00	127.22	32.56		80.0	
10474-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	6.23	79.51	16.69	3.23	80.0	± 9.6 %
		Y	89.77	105.43	23.23		80.0	
		Z	4.63	76.70	15.77		80.0	
10475-AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.83	66.18	11.37	3.23	80.0	± 9.6 %
		Y	5.17	75.07	14.62		80.0	
		Z	1.59	65.13	10.89		80.0	

Certificate No: EX3-3801_Jun18

Page 27 of 39



EX3DV4- SN:3801

June 26, 2018

10477-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.49	78.15	16.23	3.23	80.0	± 9.6 %
		Y	65.26	102.05	22.44		80.0	
		Z	4.15	75.54	15.36		80.0	
10478-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.81	66.09	11.33	3.23	80.0	± 9.6 %
		Y	5.09	74.88	14.55		80.0	
		Z	1.58	65.06	10.85		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	18.48	99.99	27.17	3.23	80.0	± 9.6 %
		Y	22.20	101.96	27.87		80.0	
		Z	14.17	96.33	26.21		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	14.09	89.36	21.95	3.23	80.0	± 9.6 %
		Y	20.63	93.88	23.53		80.0	
		Z	11.71	87.23	21.36		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	9.14	82.86	19.53	3.23	80.0	± 9.6 %
		Y	14.27	88.02	21.43		80.0	
		Z	7.91	81.27	19.06		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.52	69.21	14.96	2.23	80.0	± 9.6 %
		Y	5.13	78.71	19.34		80.0	
		Z	2.46	69.28	15.12		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.99	74.88	17.01	2.23	80.0	± 9.6 %
		Y	7.65	80.31	19.44		80.0	
		Z	4.60	74.09	16.78		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.44	73.15	16.36	2.23	80.0	± 9.6 %
		Y	6.72	78.36	18.77		80.0	
		Z	4.14	72.49	16.16		80.0	
10485-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.13	72.16	17.32	2.23	80.0	± 9.6 %
		Y	5.32	79.69	20.70		80.0	
		Z	3.02	71.96	17.37		80.0	
10486-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.95	68.06	15.01	2.23	80.0	± 9.6 %
		Y	4.18	72.74	17.56		80.0	
		Z	2.88	68.00	15.09		80.0	
10487-AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.94	67.68	14.83	2.23	80.0	± 9.6 %
		Y	4.10	72.11	17.30		80.0	
		Z	2.88	67.63	14.91		80.0	
10488-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.50	71.98	18.18	2.23	80.0	± 9.6 %
		Y	4.95	77.05	20.46		80.0	
		Z	3.37	71.66	18.14		80.0	
10489-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.43	68.78	16.82	2.23	80.0	± 9.6 %
		Y	4.19	71.55	18.33		80.0	
		Z	3.34	68.53	16.79		80.0	
10490-AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.52	68.64	16.78	2.23	80.0	± 9.6 %
		Y	4.25	71.23	18.22		80.0	
		Z	3.43	68.39	16.75		80.0	
10491-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.74	70.64	17.84	2.23	80.0	± 9.6 %
		Y	4.79	74.22	19.51		80.0	
		Z	3.63	70.36	17.79		80.0	
10492-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.79	68.16	16.96	2.23	80.0	± 9.6 %
		Y	4.41	70.27	18.11		80.0	
		Z	3.70	67.92	16.91		80.0	



EX3DV4- SN:3801

June 26, 2018

10493-AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.85	68.05	16.92	2.23	80.0	± 9.6 %
		Y	4.46	70.06	18.03		80.0	
		Z	3.76	67.81	16.88		80.0	
10494-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.02	71.95	18.24	2.23	80.0	± 9.6 %
		Y	5.39	76.25	20.12		80.0	
		Z	3.90	71.68	18.20		80.0	
10495-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.82	68.49	17.15	2.23	80.0	± 9.6 %
		Y	4.47	70.75	18.33		80.0	
		Z	3.72	68.24	17.10		80.0	
10496-AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.90	68.26	17.09	2.23	80.0	± 9.6 %
		Y	4.51	70.34	18.20		80.0	
		Z	3.81	68.02	17.05		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.64	63.93	11.45	2.23	80.0	± 9.6 %
		Y	3.48	72.94	16.17		80.0	
		Z	1.62	64.10	11.64		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.36	60.00	8.37	2.23	80.0	± 9.6 %
		Y	2.11	64.18	11.38		80.0	
		Z	1.34	60.00	8.46		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.38	60.00	8.24	2.23	80.0	± 9.6 %
		Y	2.00	63.38	10.85		80.0	
		Z	1.36	60.00	8.32		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.25	71.93	17.62	2.23	80.0	± 9.6 %
		Y	4.97	78.02	20.41		80.0	
		Z	3.13	71.66	17.62		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.19	68.55	15.79	2.23	80.0	± 9.6 %
		Y	4.19	72.26	17.86		80.0	
		Z	3.11	68.40	15.83		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.23	68.38	15.66	2.23	80.0	± 9.6 %
		Y	4.22	71.98	17.69		80.0	
		Z	3.16	68.25	15.70		80.0	
10503-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.45	71.77	18.08	2.23	80.0	± 9.6 %
		Y	4.88	76.80	20.35		80.0	
		Z	3.33	71.45	18.04		80.0	
10504-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.41	68.67	16.76	2.23	80.0	± 9.6 %
		Y	4.17	71.45	18.27		80.0	
		Z	3.32	68.43	16.73		80.0	
10505-AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.50	68.54	16.72	2.23	80.0	± 9.6 %
		Y	4.23	71.13	18.16		80.0	
		Z	3.41	68.30	16.69		80.0	
10506-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.99	71.81	18.17	2.23	80.0	± 9.6 %
		Y	5.34	76.07	20.04		80.0	
		Z	3.87	71.54	18.13		80.0	
10507-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.80	68.43	17.11	2.23	80.0	± 9.6 %
		Y	4.45	70.68	18.30		80.0	
		Z	3.71	68.18	17.07		80.0	

Certificate No: EX3-3801_Jun18

Page 29 of 39



EX3DV4- SN:3801

June 26, 2018

10508-AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.89	68.19	17.05	2.23	80.0	± 9.6 %
		Y	4.50	70.26	18.15		80.0	
		Z	3.79	67.95	17.00		80.0	
10509-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.34	70.70	17.76	2.23	80.0	± 9.6 %
		Y	5.36	73.79	19.16		80.0	
		Z	4.23	70.47	17.73		80.0	
10510-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.29	68.19	17.17	2.23	80.0	± 9.6 %
		Y	4.88	70.06	18.13		80.0	
		Z	4.20	67.96	17.12		80.0	
10511-AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.35	67.98	17.12	2.23	80.0	± 9.6 %
		Y	4.91	69.72	18.03		80.0	
		Z	4.26	67.75	17.07		80.0	
10512-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.50	72.02	18.14	2.23	80.0	± 9.6 %
		Y	5.87	75.98	19.85		80.0	
		Z	4.38	71.80	18.12		80.0	
10513-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.18	68.39	17.24	2.23	80.0	± 9.6 %
		Y	4.80	70.47	18.29		80.0	
		Z	4.08	68.16	17.19		80.0	
10514-AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.21	68.03	17.15	2.23	80.0	± 9.6 %
		Y	4.78	69.92	18.12		80.0	
		Z	4.11	67.80	17.09		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.88	61.83	13.34	0.00	150.0	± 9.6 %
		Y	0.94	62.98	14.49		150.0	
		Z	0.88	61.80	13.32		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.41	64.58	12.89	0.00	150.0	± 9.6 %
		Y	0.57	70.03	16.74		150.0	
		Z	0.41	64.53	12.84		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.70	62.81	13.29	0.00	150.0	± 9.6 %
		Y	0.79	64.81	15.03		150.0	
		Z	0.70	62.78	13.27		150.0	
10518-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.36	66.33	15.84	0.00	150.0	± 9.6 %
		Y	4.49	66.65	16.13		150.0	
		Z	4.37	66.32	15.84		150.0	
10519-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.53	66.54	15.95	0.00	150.0	± 9.6 %
		Y	4.68	66.89	16.24		150.0	
		Z	4.54	66.53	15.95		150.0	
10520-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.38	66.47	15.86	0.00	150.0	± 9.6 %
		Y	4.53	66.84	16.16		150.0	
		Z	4.39	66.46	15.86		150.0	
10521-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.31	66.44	15.83	0.00	150.0	± 9.6 %
		Y	4.46	66.84	16.15		150.0	
		Z	4.32	66.44	15.83		150.0	
10522-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.37	66.58	15.94	0.00	150.0	± 9.6 %
		Y	4.52	66.93	16.24		150.0	
		Z	4.38	66.57	15.94		150.0	

Certificate No: EX3-3801_Jun18

Page 30 of 39



EX3DV4— SN:3801

June 26, 2018

10523-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.27	66.46	15.79	0.00	150.0	± 9.6 %
		Y	4.40	66.80	16.08		150.0	
		Z	4.28	66.44	15.79		150.0	
10524-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.32	66.49	15.90	0.00	150.0	± 9.6 %
		Y	4.47	66.85	16.20		150.0	
		Z	4.32	66.48	15.90		150.0	
10525-AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.32	65.56	15.51	0.00	150.0	± 9.6 %
		Y	4.45	65.90	15.80		150.0	
		Z	4.33	65.54	15.51		150.0	
10526-AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.47	65.88	15.64	0.00	150.0	± 9.6 %
		Y	4.62	66.26	15.94		150.0	
		Z	4.47	65.87	15.64		150.0	
10527-AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.39	65.83	15.57	0.00	150.0	± 9.6 %
		Y	4.54	66.22	15.88		150.0	
		Z	4.40	65.82	15.57		150.0	
10528-AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.40	65.85	15.60	0.00	150.0	± 9.6 %
		Y	4.56	66.24	15.91		150.0	
		Z	4.41	65.83	15.60		150.0	
10529-AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.40	65.85	15.60	0.00	150.0	± 9.6 %
		Y	4.56	66.24	15.91		150.0	
		Z	4.41	65.83	15.60		150.0	
10531-AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.38	65.90	15.59	0.00	150.0	± 9.6 %
		Y	4.55	66.34	15.92		150.0	
		Z	4.39	65.89	15.59		150.0	
10532-AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.25	65.75	15.52	0.00	150.0	± 9.6 %
		Y	4.41	66.19	15.85		150.0	
		Z	4.26	65.74	15.52		150.0	
10533-AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.41	65.91	15.60	0.00	150.0	± 9.6 %
		Y	4.57	66.29	15.90		150.0	
		Z	4.42	65.89	15.60		150.0	
10534-AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	4.96	66.00	15.73	0.00	150.0	± 9.6 %
		Y	5.09	66.34	15.97		150.0	
		Z	4.97	65.99	15.73		150.0	
10535-AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.03	66.17	15.81	0.00	150.0	± 9.6 %
		Y	5.16	66.52	16.05		150.0	
		Z	5.03	66.17	15.81		150.0	
10536-AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	4.90	66.11	15.76	0.00	150.0	± 9.6 %
		Y	5.03	66.47	16.01		150.0	
		Z	4.91	66.11	15.76		150.0	
10537-AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	4.95	66.08	15.75	0.00	150.0	± 9.6 %
		Y	5.08	66.43	16.00		150.0	
		Z	4.96	66.07	15.75		150.0	
10538-AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.04	66.10	15.80	0.00	150.0	± 9.6 %
		Y	5.17	66.45	16.05		150.0	
		Z	5.04	66.09	15.80		150.0	
10540-AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	4.97	66.08	15.81	0.00	150.0	± 9.6 %
		Y	5.11	66.47	16.07		150.0	
		Z	4.97	66.08	15.81		150.0	

Certificate No: EX3-3801_Jun18

Page 31 of 39



EX3DV4- SN:3801

June 26, 2018

10541-AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	4.95	65.97	15.74	0.00	150.0	± 9.6 %
		Y	5.08	66.34	16.00		150.0	
		Z	4.95	65.97	15.74		150.0	
10542-AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.10	66.08	15.81	0.00	150.0	± 9.6 %
		Y	5.23	66.41	16.05		150.0	
		Z	5.11	66.07	15.81		150.0	
10543-AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.17	66.10	15.85	0.00	150.0	± 9.6 %
		Y	5.31	66.44	16.09		150.0	
		Z	5.18	66.09	15.85		150.0	
10544-AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.30	66.13	15.75	0.00	150.0	± 9.6 %
		Y	5.40	66.46	15.97		150.0	
		Z	5.30	66.12	15.75		150.0	
10545-AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.48	66.56	15.92	0.00	150.0	± 9.6 %
		Y	5.59	66.86	16.12		150.0	
		Z	5.49	66.55	15.92		150.0	
10546-AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.34	66.28	15.79	0.00	150.0	± 9.6 %
		Y	5.46	66.66	16.04		150.0	
		Z	5.35	66.28	15.79		150.0	
10547-AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.41	66.35	15.82	0.00	150.0	± 9.6 %
		Y	5.53	66.70	16.05		150.0	
		Z	5.42	66.35	15.82		150.0	
10548-AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.62	67.15	16.20	0.00	150.0	± 9.6 %
		Y	5.76	67.56	16.45		150.0	
		Z	5.63	67.16	16.20		150.0	
10550-AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.38	66.38	15.86	0.00	150.0	± 9.6 %
		Y	5.49	66.68	16.06		150.0	
		Z	5.39	66.37	15.85		150.0	
10551-AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.37	66.33	15.80	0.00	150.0	± 9.6 %
		Y	5.50	66.72	16.04		150.0	
		Z	5.38	66.34	15.80		150.0	
10552-AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.30	66.20	15.73	0.00	150.0	± 9.6 %
		Y	5.41	66.53	15.95		150.0	
		Z	5.31	66.19	15.73		150.0	
10553-AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.37	66.20	15.77	0.00	150.0	± 9.6 %
		Y	5.50	66.56	16.00		150.0	
		Z	5.38	66.20	15.77		150.0	
10554-AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.71	66.50	15.85	0.00	150.0	± 9.6 %
		Y	5.81	66.82	16.06		150.0	
		Z	5.72	66.50	15.85		150.0	
10555-AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.83	66.78	15.97	0.00	150.0	± 9.6 %
		Y	5.93	67.11	16.18		150.0	
		Z	5.83	66.78	15.98		150.0	
10556-AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	5.85	66.84	16.00	0.00	150.0	± 9.6 %
		Y	5.95	67.16	16.20		150.0	
		Z	5.86	66.84	16.00		150.0	
10557-AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.81	66.72	15.96	0.00	150.0	± 9.6 %
		Y	5.92	67.07	16.18		150.0	
		Z	5.82	66.71	15.96		150.0	

Certificate No: EX3-3801_Jun18

Page 32 of 39



EX3DV4- SN:3801

June 26, 2018

10558-AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	5.85	66.86	16.05	0.00	150.0	± 9.6 %
		Y	5.96	67.22	16.27		150.0	
		Z	5.86	66.86	16.05		150.0	
10560-AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	5.85	66.73	16.02	0.00	150.0	± 9.6 %
		Y	5.96	67.08	16.24		150.0	
		Z	5.85	66.73	16.02		150.0	
10561-AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.78	66.71	16.04	0.00	150.0	± 9.6 %
		Y	5.88	67.05	16.26		150.0	
		Z	5.79	66.71	16.04		150.0	
10562-AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	5.86	66.98	16.18	0.00	150.0	± 9.6 %
		Y	6.00	67.41	16.44		150.0	
		Z	5.87	66.99	16.18		150.0	
10563-AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	5.96	66.91	16.11	0.00	150.0	± 9.6 %
		Y	6.20	67.62	16.50		150.0	
		Z	5.97	66.93	16.12		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.70	66.44	16.03	0.46	150.0	± 9.6 %
		Y	4.82	66.76	16.31		150.0	
		Z	4.70	66.43	16.03		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	4.91	66.87	16.35	0.46	150.0	± 9.6 %
		Y	5.05	67.19	16.62		150.0	
		Z	4.91	66.86	16.35		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.74	66.69	16.15	0.46	150.0	± 9.6 %
		Y	4.89	67.04	16.44		150.0	
		Z	4.75	66.68	16.15		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.77	67.08	16.52	0.46	150.0	± 9.6 %
		Y	4.91	67.41	16.78		150.0	
		Z	4.78	67.07	16.52		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.65	66.47	15.92	0.46	150.0	± 9.6 %
		Y	4.80	66.85	16.23		150.0	
		Z	4.66	66.47	15.92		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.74	67.23	16.61	0.46	150.0	± 9.6 %
		Y	4.87	67.51	16.84		150.0	
		Z	4.75	67.21	16.60		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.76	67.06	16.53	0.46	150.0	± 9.6 %
		Y	4.90	67.36	16.78		150.0	
		Z	4.77	67.05	16.53		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.10	63.42	14.47	0.46	130.0	± 9.6 %
		Y	1.22	65.16	15.85		130.0	
		Z	1.08	63.24	14.41		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.11	63.89	14.77	0.46	130.0	± 9.6 %
		Y	1.24	65.79	16.22		130.0	
		Z	1.09	63.70	14.70		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	1.08	73.84	17.41	0.46	130.0	± 9.6 %
		Y	4.49	96.37	26.07		130.0	
		Z	1.00	73.13	17.22		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.13	68.08	16.84	0.46	130.0	± 9.6 %
		Y	1.43	72.28	19.34		130.0	
		Z	1.10	67.75	16.73		130.0	

Certificate No: EX3-3801_Jun18

Page 33 of 39



EX3DV4- SN:3801

June 26, 2018

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.50	66.27	16.10	0.46	130.0	± 9.6 %
		Y	4.63	66.61	16.40		130.0	
		Z	4.50	66.26	16.10		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.52	66.45	16.17	0.46	130.0	± 9.6 %
		Y	4.65	66.77	16.46		130.0	
		Z	4.52	66.43	16.17		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.70	66.71	16.33	0.46	130.0	± 9.6 %
		Y	4.85	67.04	16.62		130.0	
		Z	4.71	66.70	16.33		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.60	66.85	16.43	0.46	130.0	± 9.6 %
		Y	4.75	67.20	16.72		130.0	
		Z	4.61	66.83	16.43		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.36	66.09	15.70	0.46	130.0	± 9.6 %
		Y	4.52	66.52	16.06		130.0	
		Z	4.37	66.07	15.70		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.41	66.16	15.74	0.46	130.0	± 9.6 %
		Y	4.57	66.57	16.09		130.0	
		Z	4.42	66.15	15.74		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.50	66.88	16.37	0.46	130.0	± 9.6 %
		Y	4.65	67.26	16.67		130.0	
		Z	4.51	66.86	16.37		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.30	65.86	15.49	0.46	130.0	± 9.6 %
		Y	4.47	66.30	15.86		130.0	
		Z	4.31	65.85	15.49		130.0	
10583-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.50	66.27	16.10	0.46	130.0	± 9.6 %
		Y	4.63	66.61	16.40		130.0	
		Z	4.50	66.26	16.10		130.0	
10584-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.52	66.45	16.17	0.46	130.0	± 9.6 %
		Y	4.65	66.77	16.46		130.0	
		Z	4.52	66.43	16.17		130.0	
10585-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.70	66.71	16.33	0.46	130.0	± 9.6 %
		Y	4.85	67.04	16.62		130.0	
		Z	4.71	66.70	16.33		130.0	
10586-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.60	66.85	16.43	0.46	130.0	± 9.6 %
		Y	4.75	67.20	16.72		130.0	
		Z	4.61	66.83	16.43		130.0	
10587-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.36	66.09	15.70	0.46	130.0	± 9.6 %
		Y	4.52	66.52	16.06		130.0	
		Z	4.37	66.07	15.70		130.0	
10588-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.41	66.16	15.74	0.46	130.0	± 9.6 %
		Y	4.57	66.57	16.09		130.0	
		Z	4.42	66.15	15.74		130.0	
10589-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.50	66.88	16.37	0.46	130.0	± 9.6 %
		Y	4.65	67.26	16.67		130.0	
		Z	4.51	66.86	16.37		130.0	
10590-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.30	65.86	15.49	0.46	130.0	± 9.6 %
		Y	4.47	66.30	15.86		130.0	
		Z	4.31	65.85	15.49		130.0	

Certificate No: EX3-3801_Jun18

Page 34 of 39



EX3DV4- SN:3801

June 26, 2018

10591-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.65	66.36	16.22	0.46	130.0	± 9.6 %
		Y	4.78	66.66	16.49		130.0	
		Z	4.65	66.34	16.22		130.0	
10592-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.79	66.67	16.35	0.46	130.0	± 9.6 %
		Y	4.93	66.99	16.62		130.0	
		Z	4.79	66.66	16.35		130.0	
10593-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.70	66.55	16.21	0.46	130.0	± 9.6 %
		Y	4.85	66.90	16.51		130.0	
		Z	4.71	66.54	16.21		130.0	
10594-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.76	66.73	16.38	0.46	130.0	± 9.6 %
		Y	4.91	67.07	16.66		130.0	
		Z	4.76	66.72	16.38		130.0	
10595-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.72	66.69	16.28	0.46	130.0	± 9.6 %
		Y	4.87	67.03	16.56		130.0	
		Z	4.73	66.67	16.28		130.0	
10596-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.66	66.67	16.27	0.46	130.0	± 9.6 %
		Y	4.81	67.03	16.56		130.0	
		Z	4.66	66.65	16.27		130.0	
10597-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.61	66.55	16.13	0.46	130.0	± 9.6 %
		Y	4.76	66.93	16.45		130.0	
		Z	4.61	66.53	16.13		130.0	
10598-AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.59	66.77	16.39	0.46	130.0	± 9.6 %
		Y	4.74	67.15	16.70		130.0	
		Z	4.60	66.76	16.39		130.0	
10599-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.32	66.88	16.47	0.46	130.0	± 9.6 %
		Y	5.44	67.19	16.70		130.0	
		Z	5.33	66.88	16.48		130.0	
10600-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.45	67.29	16.65	0.46	130.0	± 9.6 %
		Y	5.56	67.56	16.85		130.0	
		Z	5.45	67.29	16.66		130.0	
10601-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.34	67.05	16.54	0.46	130.0	± 9.6 %
		Y	5.46	67.33	16.76		130.0	
		Z	5.35	67.04	16.55		130.0	
10602-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.46	67.19	16.54	0.46	130.0	± 9.6 %
		Y	5.55	67.37	16.70		130.0	
		Z	5.47	67.18	16.53		130.0	
10603-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.52	67.44	16.80	0.46	130.0	± 9.6 %
		Y	5.63	67.66	16.97		130.0	
		Z	5.53	67.43	16.80		130.0	
10604-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.40	67.11	16.62	0.46	130.0	± 9.6 %
		Y	5.45	67.17	16.71		130.0	
		Z	5.40	67.08	16.61		130.0	
10605-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.45	67.23	16.67	0.46	130.0	± 9.6 %
		Y	5.55	67.47	16.87		130.0	
		Z	5.46	67.22	16.67		130.0	
10606-AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.18	66.51	16.16	0.46	130.0	± 9.6 %
		Y	5.31	66.84	16.41		130.0	
		Z	5.19	66.49	16.16		130.0	

Certificate No: EX3-3801_Jun18

Page 35 of 39



EX3DV4-- SN:3801

June 26, 2018

10607-AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.48	65.64	15.83	0.46	130.0	± 9.6 %
		Y	4.61	65.97	16.11		130.0	
		Z	4.49	65.63	15.83		130.0	
10608-AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.64	66.01	15.99	0.46	130.0	± 9.6 %
		Y	4.80	66.37	16.28		130.0	
		Z	4.65	66.00	15.99		130.0	
10609-AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.54	65.84	15.81	0.46	130.0	± 9.6 %
		Y	4.69	66.23	16.12		130.0	
		Z	4.54	65.83	15.81		130.0	
10610-AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.59	66.00	15.98	0.46	130.0	± 9.6 %
		Y	4.74	66.38	16.28		130.0	
		Z	4.59	65.99	15.98		130.0	
10611-AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.50	65.80	15.82	0.46	130.0	± 9.6 %
		Y	4.66	66.19	16.13		130.0	
		Z	4.51	65.79	15.82		130.0	
10612-AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.50	65.94	15.85	0.46	130.0	± 9.6 %
		Y	4.67	66.35	16.18		130.0	
		Z	4.51	65.93	15.86		130.0	
10613-AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.50	65.79	15.72	0.46	130.0	± 9.6 %
		Y	4.67	66.23	16.06		130.0	
		Z	4.51	65.78	15.72		130.0	
10614-AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.45	65.99	15.96	0.46	130.0	± 9.6 %
		Y	4.61	66.40	16.28		130.0	
		Z	4.46	65.98	15.96		130.0	
10615-AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.50	65.64	15.59	0.46	130.0	± 9.6 %
		Y	4.66	66.04	15.92		130.0	
		Z	4.50	65.63	15.59		130.0	
10616-AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.13	66.09	16.06	0.46	130.0	± 9.6 %
		Y	5.26	66.43	16.30		130.0	
		Z	5.14	66.09	16.06		130.0	
10617-AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.20	66.29	16.13	0.46	130.0	± 9.6 %
		Y	5.32	66.60	16.36		130.0	
		Z	5.21	66.29	16.14		130.0	
10618-AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.09	66.30	16.15	0.46	130.0	± 9.6 %
		Y	5.21	66.61	16.38		130.0	
		Z	5.10	66.29	16.15		130.0	
10619-AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.10	66.08	15.98	0.46	130.0	± 9.6 %
		Y	5.23	66.42	16.22		130.0	
		Z	5.11	66.08	15.98		130.0	
10620-AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.18	66.12	16.05	0.46	130.0	± 9.6 %
		Y	5.32	66.47	16.30		130.0	
		Z	5.19	66.12	16.05		130.0	
10621-AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.20	66.27	16.24	0.46	130.0	± 9.6 %
		Y	5.32	66.58	16.46		130.0	
		Z	5.20	66.27	16.25		130.0	
10622-AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.21	66.44	16.32	0.46	130.0	± 9.6 %
		Y	5.33	66.73	16.53		130.0	
		Z	5.22	66.44	16.33		130.0	

Certificate No: EX3-3801_Jun18

Page 36 of 39



EX3DV4- SN:3801

June 26, 2018

10623-AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.08	65.93	15.93	0.46	130.0	± 9.6 %
		Y	5.21	66.29	16.19		130.0	
		Z	5.09	65.93	15.94		130.0	
10624-AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.27	66.16	16.11	0.46	130.0	± 9.6 %
		Y	5.40	66.47	16.35		130.0	
		Z	5.28	66.15	16.12		130.0	
10625-AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.52	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.74	67.39	16.86		130.0	
		Z	5.54	66.83	16.51		130.0	
10626-AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.45	66.17	16.04	0.46	130.0	± 9.6 %
		Y	5.55	66.49	16.26		130.0	
		Z	5.46	66.17	16.04		130.0	
10627-AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.69	66.77	16.30	0.46	130.0	± 9.6 %
		Y	5.78	67.03	16.49		130.0	
		Z	5.69	66.76	16.31		130.0	
10628-AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.46	66.20	15.95	0.46	130.0	± 9.6 %
		Y	5.58	66.58	16.20		130.0	
		Z	5.47	66.20	15.96		130.0	
10629-AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.54	66.30	15.99	0.46	130.0	± 9.6 %
		Y	5.66	66.63	16.22		130.0	
		Z	5.55	66.30	16.00		130.0	
10630-AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	5.89	67.55	16.62	0.46	130.0	± 9.6 %
		Y	6.06	68.03	16.92		130.0	
		Z	5.91	67.58	16.64		130.0	
10631-AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.82	67.43	16.76	0.46	130.0	± 9.6 %
		Y	5.97	67.86	17.02		130.0	
		Z	5.83	67.44	16.77		130.0	
10632-AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.66	66.86	16.49	0.46	130.0	± 9.6 %
		Y	5.75	67.08	16.64		130.0	
		Z	5.67	66.85	16.49		130.0	
10633-AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.53	66.40	16.08	0.46	130.0	± 9.6 %
		Y	5.65	66.74	16.31		130.0	
		Z	5.53	66.39	16.09		130.0	
10634-AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.51	66.41	16.15	0.46	130.0	± 9.6 %
		Y	5.63	66.76	16.38		130.0	
		Z	5.51	66.41	16.15		130.0	
10635-AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.38	65.73	15.53	0.46	130.0	± 9.6 %
		Y	5.52	66.14	15.81		130.0	
		Z	5.39	65.73	15.54		130.0	
10636-AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	5.88	66.55	16.14	0.46	130.0	± 9.6 %
		Y	5.96	66.85	16.34		130.0	
		Z	5.88	66.55	16.15		130.0	
10637-AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.02	66.92	16.31	0.46	130.0	± 9.6 %
		Y	6.11	67.22	16.51		130.0	
		Z	6.03	66.93	16.32		130.0	
10638-AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.02	66.89	16.27	0.46	130.0	± 9.6 %
		Y	6.12	67.20	16.48		130.0	
		Z	6.02	66.89	16.28		130.0	

Certificate No: EX3-3801_Jun18

Page 37 of 39



EX3DV4- SN:3801

June 26, 2018

10639-AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	5.99	66.82	16.28	0.46	130.0	± 9.6 %
		Y	6.09	67.15	16.50		130.0	
		Z	6.00	66.82	16.29		130.0	
10640-AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	5.99	66.81	16.22	0.46	130.0	± 9.6 %
		Y	6.10	67.17	16.45		130.0	
		Z	5.99	66.82	16.23		130.0	
10641-AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.05	66.80	16.24	0.46	130.0	± 9.6 %
		Y	6.14	67.07	16.42		130.0	
		Z	6.06	66.80	16.24		130.0	
10642-AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.08	67.00	16.51	0.46	130.0	± 9.6 %
		Y	6.18	67.31	16.70		130.0	
		Z	6.09	67.00	16.51		130.0	
10643-AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	5.93	66.71	16.25	0.46	130.0	± 9.6 %
		Y	6.02	67.01	16.46		130.0	
		Z	5.93	66.71	16.25		130.0	
10644-AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.03	67.03	16.43	0.46	130.0	± 9.6 %
		Y	6.18	67.49	16.72		130.0	
		Z	6.04	67.04	16.44		130.0	
10645-AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.17	67.10	16.43	0.46	130.0	± 9.6 %
		Y	6.47	67.97	16.92		130.0	
		Z	6.18	67.13	16.45		130.0	
10646-AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	19.17	110.50	37.83	9.30	60.0	± 9.6 %
		Y	100.00	147.85	47.85		60.0	
		Z	16.64	107.87	37.15		60.0	
10647-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	16.90	108.32	37.31	9.30	60.0	± 9.6 %
		Y	88.18	146.06	47.63		60.0	
		Z	14.61	105.54	36.57		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.50	60.79	7.93	0.00	150.0	± 9.6 %
		Y	0.64	62.89	10.17		150.0	
		Z	0.50	60.83	7.99		150.0	
10652-AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.55	66.61	16.13	2.23	80.0	± 9.6 %
		Y	3.97	68.09	17.10		80.0	
		Z	3.49	66.41	16.10		80.0	
10653-AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.10	66.10	16.44	2.23	80.0	± 9.6 %
		Y	4.44	67.21	17.15		80.0	
		Z	4.04	65.91	16.40		80.0	
10654-AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.10	65.77	16.48	2.23	80.0	± 9.6 %
		Y	4.40	66.84	17.14		80.0	
		Z	4.04	65.58	16.43		80.0	
10655-AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.17	65.74	16.53	2.23	80.0	± 9.6 %
		Y	4.46	66.82	17.18		80.0	
		Z	4.11	65.55	16.47		80.0	
10658-AAA	Pulse Waveform (200Hz, 10%)	X	75.07	110.20	27.10	10.00	50.0	± 9.6 %
		Y	100.00	114.77	28.62		50.0	
		Z	100.00	113.64	27.73		50.0	
10659-AAA	Pulse Waveform (200Hz, 20%)	X	100.00	110.55	25.39	6.99	60.0	± 9.6 %
		Y	100.00	111.82	26.31		60.0	
		Z	100.00	110.88	25.38		60.0	

Certificate No: EX3-3801_Jun18

Page 38 of 39



EX3DV4- SN:3801

June 26, 2018

10660-AAA	Pulse Waveform (200Hz, 40%)	X	100.00	107.54	22.75	3.98	80.0	± 9.6 %
		Y	100.00	110.49	24.46		80.0	
		Z	100.00	108.31	22.90		80.0	
10661-AAA	Pulse Waveform (200Hz, 60%)	X	100.00	104.54	20.30	2.22	100.0	± 9.6 %
		Y	100.00	111.15	23.54		100.0	
		Z	100.00	104.99	20.30		100.0	
10662-AAA	Pulse Waveform (200Hz, 80%)	X	5.09	77.36	11.00	0.97	120.0	± 9.6 %
		Y	100.00	111.11	21.88		120.0	
		Z	1.05	68.52	8.18		120.0	

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



ANNEX E: D835V2 Dipole Calibration Certificate



In Collaboration with
s p e a g
CALIBRATION LABORATORY



中国认可
国际互认
校准
CALIBRATION
CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

Client

TA(Shanghai)

Certificate No: Z17-97114

CALIBRATION CERTIFICATE

Object D835V2 - SN: 4d020

Calibration Procedure(s) FF-Z11-003-01
Calibration Procedures for dipole validation kits

Calibration date: August 28, 2017

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRVD	102083	22-Sep-16 (CTTL, No.J16X06809)	Sep-17
Power sensor NRV-Z5	100595	22-Sep-16 (CTTL, No.J16X06809)	Sep-17
Reference Probe EX3DV4	SN 3617	23-Jan-17(SPEAG,No.EX3-3617_Jan17)	Jan-18
DAE4	SN 1331	19-Jan-17(CTTL-SPEAG,No.Z17-97015)	Jan-18
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	13-Jan-17 (CTTL, No.J17X00286)	Jan-18
Network Analyzer E5071C	MY46110673	13-Jan-17 (CTTL, No.J17X00285)	Jan-18

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	
Issued: August 31, 2017			
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Certificate No: Z17-97114

Page 1 of 8



In Collaboration with
s p e e a g
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

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:

- 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
- IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

- 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%.