



EX3DV4- SN:7346

February 28, 2018

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB μ V	C	D dB	VR mV	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	148.2	$\pm 3.0 \%$
		Y	0.00	0.00	1.00		139.8	
		Z	0.00	0.00	1.00		139.3	
10010- CAA	SAR Validation (Square, 100ms, 10ms)	X	1.45	62.36	7.50	10.00	20.0	$\pm 9.6 \%$
		Y	1.75	63.39	8.41		20.0	
		Z	4.78	74.29	13.78		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	0.97	67.45	15.08	0.00	150.0	$\pm 9.6 \%$
		Y	0.79	64.77	12.99		150.0	
		Z	1.01	67.14	15.06		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.11	63.62	15.02	0.41	150.0	$\pm 9.6 \%$
		Y	1.03	62.69	14.14		150.0	
		Z	1.15	63.81	15.26		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.64	66.70	16.95	1.46	150.0	$\pm 9.6 \%$
		Y	4.60	66.58	16.85		150.0	
		Z	4.88	66.71	17.15		150.0	
10021- DAC	GSM-FDD (TDMA, GMSK)	X	100.00	105.35	22.47	9.39	50.0	$\pm 9.6 \%$
		Y	100.00	109.25	24.62		50.0	
		Z	100.00	116.92	28.43		50.0	
10023- DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	100.00	104.76	22.25	9.57	50.0	$\pm 9.6 \%$
		Y	100.00	108.58	24.38		50.0	
		Z	100.00	116.29	28.20		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	105.70	21.57	6.56	60.0	$\pm 9.6 \%$
		Y	100.00	109.40	23.45		60.0	
		Z	100.00	119.07	28.36		60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	4.44	75.57	29.75	12.57	50.0	$\pm 9.6 \%$
		Y	3.69	67.94	25.02		50.0	
		Z	6.34	85.87	35.21		50.0	
10026- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	6.05	85.54	30.98	9.56	60.0	$\pm 9.6 \%$
		Y	5.87	83.75	30.00		60.0	
		Z	10.63	98.33	36.00		60.0	
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	108.03	21.85	4.80	80.0	$\pm 9.6 \%$
		Y	100.00	110.36	22.99		80.0	
		Z	100.00	122.50	29.06		80.0	
10028- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	112.09	22.91	3.55	100.0	$\pm 9.6 \%$
		Y	100.00	110.62	22.34		100.0	
		Z	100.00	127.03	30.23		100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	3.98	75.54	25.39	7.80	80.0	$\pm 9.6 \%$
		Y	3.95	74.85	24.97		80.0	
		Z	6.00	83.77	29.04		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	103.91	20.36	5.30	70.0	$\pm 9.6 \%$
		Y	100.00	106.89	21.82		70.0	
		Z	100.00	118.49	27.64		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	103.39	18.21	1.88	100.0	$\pm 9.6 \%$
		Y	0.23	60.59	4.86		100.0	
		Z	100.00	127.69	28.89		100.0	

Certificate No: EX3-7346_Feb18

Page 12 of 39



EX3DV4- SN:7346

February 28, 2018

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	108.99	19.60	1.17	100.0	± 9.6 %
		Y	17.88	185.55	8.98		100.0	
		Z	100.00	136.71	31.30		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	12.79	96.47	24.86	5.30	70.0	± 9.6 %
		Y	13.57	96.91	24.99		70.0	
		Z	100.00	134.23	36.96		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.37	74.93	16.07	1.88	100.0	± 9.6 %
		Y	1.68	70.39	13.82		100.0	
		Z	5.54	87.73	22.56		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	1.59	70.89	14.19	1.17	100.0	± 9.6 %
		Y	1.12	66.56	11.71		100.0	
		Z	2.66	77.84	18.73		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	24.14	105.98	27.55	5.30	70.0	± 9.6 %
		Y	26.94	107.15	27.86		70.0	
		Z	100.00	134.77	37.21		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.07	73.40	15.48	1.88	100.0	± 9.6 %
		Y	1.53	69.38	13.39		100.0	
		Z	4.94	86.18	22.03		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	1.60	71.24	14.48	1.17	100.0	± 9.6 %
		Y	1.13	66.80	11.96		100.0	
		Z	2.70	78.31	19.03		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	1.31	69.04	12.98	0.00	150.0	± 9.6 %
		Y	0.81	63.61	9.56		150.0	
		Z	1.78	71.59	15.48		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	100.00	102.07	20.31	7.78	50.0	± 9.6 %
		Y	100.00	104.84	21.79		50.0	
		Z	100.00	113.46	26.10		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	106.61	6.98	0.00	150.0	± 9.6 %
		Y	0.08	122.01	6.38		150.0	
		Z	0.00	105.01	6.87		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	7.44	74.51	14.94	13.80	25.0	± 9.6 %
		Y	19.01	85.89	19.55		25.0	
		Z	100.00	113.17	28.20		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	10.22	80.42	15.97	10.79	40.0	± 9.6 %
		Y	52.51	99.89	22.41		40.0	
		Z	100.00	114.06	27.50		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	100.00	119.57	30.50	9.03	50.0	± 9.6 %
		Y	70.07	114.86	29.74		50.0	
		Z	100.00	127.82	35.22		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	3.28	71.70	22.78	6.55	100.0	± 9.6 %
		Y	3.25	71.24	22.50		100.0	
		Z	4.54	77.63	25.56		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.11	64.39	15.49	0.61	110.0	± 9.6 %
		Y	1.03	63.44	14.62		110.0	
		Z	1.19	65.01	16.00		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	6.99	102.47	27.83	1.30	110.0	± 9.6 %
		Y	3.10	88.65	22.90		110.0	
		Z	100.00	143.08	37.80		110.0	

Certificate No: EX3-7346_Feb18

Page 13 of 39



EX3DV4- SN:7346

February 28, 2018

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	1.88	75.91	20.78	2.04	110.0	± 9.6 %
		Y	1.76	74.64	20.01		110.0	
		Z	3.51	85.66	24.89		110.0	
10062-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.46	66.72	16.40	0.49	100.0	± 9.6 %
		Y	4.38	66.48	16.20		100.0	
		Z	4.68	66.67	16.53		100.0	
10063-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.47	66.80	16.49	0.72	100.0	± 9.6 %
		Y	4.40	66.58	16.31		100.0	
		Z	4.70	66.78	16.65		100.0	
10064-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.71	67.00	16.69	0.86	100.0	± 9.6 %
		Y	4.64	66.80	16.53		100.0	
		Z	4.99	67.06	16.89		100.0	
10065-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.57	66.82	16.75	1.21	100.0	± 9.6 %
		Y	4.52	66.66	16.62		100.0	
		Z	4.86	66.97	17.01		100.0	
10066-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.57	66.80	16.89	1.46	100.0	± 9.6 %
		Y	4.53	66.67	16.79		100.0	
		Z	4.88	67.00	17.19		100.0	
10067-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	4.85	67.05	17.36	2.04	100.0	± 9.6 %
		Y	4.82	66.98	17.31		100.0	
		Z	5.17	67.15	17.65		100.0	
10068-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	4.87	66.93	17.51	2.55	100.0	± 9.6 %
		Y	4.85	66.90	17.48		100.0	
		Z	5.22	67.24	17.90		100.0	
10069-CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	4.94	66.95	17.69	2.67	100.0	± 9.6 %
		Y	4.92	66.93	17.68		100.0	
		Z	5.30	67.21	18.09		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.72	66.74	17.23	1.99	100.0	± 9.6 %
		Y	4.69	66.66	17.17		100.0	
		Z	4.97	66.80	17.48		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.67	66.95	17.40	2.30	100.0	± 9.6 %
		Y	4.64	66.90	17.36		100.0	
		Z	4.95	67.15	17.72		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.71	67.09	17.72	2.83	100.0	± 9.6 %
		Y	4.70	67.08	17.71		100.0	
		Z	5.01	67.31	18.07		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.71	67.00	17.86	3.30	100.0	± 9.6 %
		Y	4.71	67.03	17.88		100.0	
		Z	4.98	67.18	18.23		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	4.71	66.97	18.10	3.82	90.0	± 9.6 %
		Y	4.72	67.03	18.14		90.0	
		Z	5.02	67.31	18.57		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	4.74	66.82	18.25	4.15	90.0	± 9.6 %
		Y	4.76	66.90	18.31		90.0	
		Z	5.02	67.05	18.67		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	4.77	66.90	18.36	4.30	90.0	± 9.6 %
		Y	4.79	67.00	18.43		90.0	
		Z	5.04	67.10	18.76		90.0	

Certificate No: EX3-7346_Feb18

Page 14 of 39



EX3DV4- SN:7346

February 28, 2018

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.63	64.01	10.12	0.00	150.0	± 9.6 %
		Y	0.44	60.72	7.30		150.0	
		Z	0.81	65.60	12.31		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.59	60.00	3.05	4.77	80.0	± 9.6 %
		Y	0.59	60.00	3.19		80.0	
		Z	0.67	60.00	4.44		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	105.72	21.60	6.56	60.0	± 9.6 %
		Y	100.00	109.52	23.52		60.0	
		Z	100.00	119.12	28.40		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.79	68.41	15.60	0.00	150.0	± 9.6 %
		Y	1.57	66.45	14.19		150.0	
		Z	1.80	67.50	15.55		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.75	68.35	15.57	0.00	150.0	± 9.6 %
		Y	1.53	66.38	14.15		150.0	
		Z	1.77	67.46	15.52		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	6.10	85.72	31.04	9.56	60.0	± 9.6 %
		Y	5.91	83.90	30.06		60.0	
		Z	10.74	98.57	36.08		60.0	
10100-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	2.95	70.13	16.66	0.00	150.0	± 9.6 %
		Y	2.70	68.66	15.71		150.0	
		Z	3.11	70.25	16.60		150.0	
10101-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.08	67.39	15.84	0.00	150.0	± 9.6 %
		Y	2.93	66.61	15.25		150.0	
		Z	3.23	67.46	15.86		150.0	
10102-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.19	67.41	15.94	0.00	150.0	± 9.6 %
		Y	3.04	66.68	15.39		150.0	
		Z	3.33	67.43	15.95		150.0	
10103-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	5.10	74.07	19.98	3.98	65.0	± 9.6 %
		Y	5.15	74.22	20.08		65.0	
		Z	6.72	77.66	21.60		65.0	
10104-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	5.13	71.79	19.66	3.98	65.0	± 9.6 %
		Y	5.05	71.43	19.52		65.0	
		Z	6.22	74.23	20.95		65.0	
10105-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	4.81	70.26	19.25	3.98	65.0	± 9.6 %
		Y	4.89	70.53	19.40		65.0	
		Z	6.06	73.55	20.96		65.0	
10108-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.54	69.46	16.48	0.00	150.0	± 9.6 %
		Y	2.31	67.97	15.47		150.0	
		Z	2.72	69.46	16.42		150.0	
10109-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.72	67.37	15.70	0.00	150.0	± 9.6 %
		Y	2.57	66.45	15.00		150.0	
		Z	2.88	67.29	15.76		150.0	
10110-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.03	68.69	15.97	0.00	150.0	± 9.6 %
		Y	1.81	66.98	14.76		150.0	
		Z	2.20	68.54	16.02		150.0	
10111-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.47	68.63	15.96	0.00	150.0	± 9.6 %
		Y	2.26	67.23	14.95		150.0	
		Z	2.60	68.06	16.02		150.0	

Certificate No: EX3-7346_Feb18

Page 15 of 39

10112-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	2.85	67.44	15.78	0.00	150.0	± 9.6 %
		Y	2.70	66.58	15.12		150.0	
		Z	3.01	67.29	15.82		150.0	
10113-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.62	68.82	16.10	0.00	150.0	± 9.6 %
		Y	2.40	67.49	15.14		150.0	
		Z	2.75	68.20	16.16		150.0	
10114-CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	4.92	67.13	16.37	0.00	150.0	± 9.6 %
		Y	4.84	66.82	16.13		150.0	
		Z	5.11	67.15	16.38		150.0	
10115-CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.17	67.19	16.41	0.00	150.0	± 9.6 %
		Y	5.08	66.90	16.18		150.0	
		Z	5.41	67.30	16.47		150.0	
10116-CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.01	67.32	16.40	0.00	150.0	± 9.6 %
		Y	4.91	67.00	16.15		150.0	
		Z	5.21	67.35	16.41		150.0	
10117-CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	4.92	67.08	16.37	0.00	150.0	± 9.6 %
		Y	4.83	66.76	16.12		150.0	
		Z	5.08	67.02	16.34		150.0	
10118-CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.24	67.37	16.50	0.00	150.0	± 9.6 %
		Y	5.15	67.10	16.28		150.0	
		Z	5.49	67.50	16.58		150.0	
10119-CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.00	67.31	16.40	0.00	150.0	± 9.6 %
		Y	4.91	67.00	16.16		150.0	
		Z	5.18	67.29	16.39		150.0	
10140-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.20	67.43	15.85	0.00	150.0	± 9.6 %
		Y	3.06	66.69	15.30		150.0	
		Z	3.37	67.43	15.88		150.0	
10141-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.33	67.59	16.05	0.00	150.0	± 9.6 %
		Y	3.19	66.89	15.52		150.0	
		Z	3.49	67.53	16.04		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	1.79	68.65	15.30	0.00	150.0	± 9.6 %
		Y	1.53	66.43	13.74		150.0	
		Z	1.98	68.50	15.67		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.28	69.10	15.14	0.00	150.0	± 9.6 %
		Y	1.96	66.88	13.65		150.0	
		Z	2.46	68.77	15.73		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	1.94	65.97	13.06	0.00	150.0	± 9.6 %
		Y	1.73	64.50	11.90		150.0	
		Z	2.23	66.53	14.15		150.0	
10145-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	0.78	61.55	8.19	0.00	150.0	± 9.6 %
		Y	0.64	60.00	6.61		150.0	
		Z	1.21	65.05	11.79		150.0	
10146-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.07	61.11	7.04	0.00	150.0	± 9.6 %
		Y	0.91	60.04	6.31		150.0	
		Z	1.79	65.28	11.17		150.0	
10147-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	1.13	61.56	7.38	0.00	150.0	± 9.6 %
		Y	0.95	60.33	6.56		150.0	
		Z	2.04	66.88	12.09		150.0	



EX3DV4- SN:7346

February 28, 2018

10149-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.73	67.44	15.75	0.00	150.0	± 9.6 %
		Y	2.58	66.52	15.05		150.0	
		Z	2.89	67.35	15.80		150.0	
10150-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	2.86	67.50	15.83	0.00	150.0	± 9.6 %
		Y	2.71	66.64	15.17		150.0	
		Z	3.02	67.34	15.86		150.0	
10151-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	5.41	77.06	21.27	3.98	65.0	± 9.6 %
		Y	5.28	76.61	21.11		65.0	
		Z	7.06	80.28	22.78		65.0	
10152-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	4.66	71.71	19.22	3.98	65.0	± 9.6 %
		Y	4.58	71.35	19.06		65.0	
		Z	5.79	74.35	20.76		65.0	
10153-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	5.02	72.83	20.10	3.98	65.0	± 9.6 %
		Y	4.95	72.53	19.98		65.0	
		Z	6.14	75.24	21.50		65.0	
10154-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.08	69.08	16.21	0.00	150.0	± 9.6 %
		Y	1.84	67.31	14.97		150.0	
		Z	2.25	68.95	16.28		150.0	
10155-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.48	68.67	15.99	0.00	150.0	± 9.6 %
		Y	2.26	67.27	14.98		150.0	
		Z	2.60	68.07	16.04		150.0	
10156-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.61	68.38	14.72	0.00	150.0	± 9.6 %
		Y	1.33	65.75	12.89		150.0	
		Z	1.82	68.57	15.47		150.0	
10157-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	1.74	66.14	12.73	0.00	150.0	± 9.6 %
		Y	1.50	64.22	11.27		150.0	
		Z	2.07	67.07	14.18		150.0	
10158-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.63	68.91	16.16	0.00	150.0	± 9.6 %
		Y	2.41	67.57	15.20		150.0	
		Z	2.75	68.26	16.20		150.0	
10159-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	1.82	66.50	12.94	0.00	150.0	± 9.6 %
		Y	1.56	64.46	11.44		150.0	
		Z	2.18	67.54	14.47		150.0	
10160-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.58	68.77	16.27	0.00	150.0	± 9.6 %
		Y	2.38	67.56	15.39		150.0	
		Z	2.72	68.50	16.19		150.0	
10161-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.75	67.48	15.71	0.00	150.0	± 9.6 %
		Y	2.59	66.55	15.00		150.0	
		Z	2.91	67.27	15.79		150.0	
10162-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	2.86	67.71	15.86	0.00	150.0	± 9.6 %
		Y	2.70	66.80	15.16		150.0	
		Z	3.02	67.42	15.90		150.0	
10166-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.32	70.00	19.39	3.01	150.0	± 9.6 %
		Y	3.05	68.29	18.45		150.0	
		Z	3.49	69.03	18.74		150.0	
10167-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.24	74.22	20.32	3.01	150.0	± 9.6 %
		Y	3.51	70.51	18.61		150.0	
		Z	4.24	71.69	19.11		150.0	

Certificate No: EX3-7346_Feb18

Page 17 of 39



EX3DV4- SN:7346

February 28, 2018

10168-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.00	77.74	22.20	3.01	150.0	± 9.6 %
		Y	3.95	73.17	20.22		150.0	
		Z	4.68	73.81	20.39		150.0	
10169-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.77	69.24	19.08	3.01	150.0	± 9.6 %
		Y	2.47	66.53	17.61		150.0	
		Z	2.88	68.44	18.48		150.0	
10170-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.28	78.26	22.68	3.01	150.0	± 9.6 %
		Y	3.04	71.04	19.55		150.0	
		Z	3.85	73.86	20.62		150.0	
10171-AAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.23	72.31	19.08	3.01	150.0	± 9.6 %
		Y	2.55	67.43	16.82		150.0	
		Z	3.20	70.03	17.98		150.0	
10172-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.81	80.74	25.45	6.02	65.0	± 9.6 %
		Y	3.76	79.03	24.69		65.0	
		Z	9.82	96.03	30.71		65.0	
10173-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	14.86	103.42	30.72	6.02	65.0	± 9.6 %
		Y	6.40	87.10	25.86		65.0	
		Z	21.03	105.82	31.58		65.0	
10174-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	7.49	90.23	26.03	6.02	65.0	± 9.6 %
		Y	5.34	83.09	23.84		65.0	
		Z	16.77	100.11	29.26		65.0	
10175-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.73	68.91	18.81	3.01	150.0	± 9.6 %
		Y	2.44	66.27	17.37		150.0	
		Z	2.85	68.15	18.25		150.0	
10176-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.29	78.29	22.69	3.01	150.0	± 9.6 %
		Y	3.05	71.06	19.56		150.0	
		Z	3.86	73.88	20.63		150.0	
10177-CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.75	69.05	18.90	3.01	150.0	± 9.6 %
		Y	2.46	66.38	17.45		150.0	
		Z	2.87	68.29	18.34		150.0	
10178-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	4.25	78.06	22.58	3.01	150.0	± 9.6 %
		Y	3.03	70.92	19.48		150.0	
		Z	3.82	73.68	20.52		150.0	
10179-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.69	75.08	20.72	3.01	150.0	± 9.6 %
		Y	2.76	69.10	18.04		150.0	
		Z	3.49	71.83	19.16		150.0	
10180-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.22	72.25	19.04	3.01	150.0	± 9.6 %
		Y	2.55	67.39	16.79		150.0	
		Z	3.19	69.97	17.93		150.0	
10181-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.75	69.03	18.89	3.01	150.0	± 9.6 %
		Y	2.45	66.37	17.44		150.0	
		Z	2.87	68.28	18.33		150.0	
10182-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.24	78.03	22.56	3.01	150.0	± 9.6 %
		Y	3.02	70.90	19.47		150.0	
		Z	3.82	73.66	20.51		150.0	
10183-AAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.22	72.22	19.03	3.01	150.0	± 9.6 %
		Y	2.54	67.37	16.78		150.0	
		Z	3.19	69.94	17.92		150.0	

Certificate No: EX3-7346_Feb18

Page 18 of 39



EX3DV4- SN:7346

February 28, 2018

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.76	69.08	18.91	3.01	150.0	± 9.6 %
		Y	2.46	66.40	17.46		150.0	
		Z	2.88	68.32	18.35		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.27	78.13	22.61	3.01	150.0	± 9.6 %
		Y	3.04	70.96	19.50		150.0	
		Z	3.83	73.72	20.54		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.23	72.30	19.07	3.01	150.0	± 9.6 %
		Y	2.55	67.43	16.81		150.0	
		Z	3.20	70.01	17.95		150.0	
10187-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.77	69.16	19.00	3.01	150.0	± 9.6 %
		Y	2.47	66.48	17.54		150.0	
		Z	2.88	68.37	18.41		150.0	
10188-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.45	79.03	23.08	3.01	150.0	± 9.6 %
		Y	3.11	71.50	19.85		150.0	
		Z	3.95	74.33	20.90		150.0	
10189-AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.32	72.84	19.40	3.01	150.0	± 9.6 %
		Y	2.60	67.76	17.06		150.0	
		Z	3.27	70.40	18.22		150.0	
10193-CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.34	66.80	16.09	0.00	150.0	± 9.6 %
		Y	4.24	66.43	15.78		150.0	
		Z	4.51	66.56	16.09		150.0	
10194-CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.48	67.04	16.22	0.00	150.0	± 9.6 %
		Y	4.38	66.66	15.92		150.0	
		Z	4.68	66.88	16.22		150.0	
10195-CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.51	67.05	16.23	0.00	150.0	± 9.6 %
		Y	4.41	66.68	15.94		150.0	
		Z	4.73	66.91	16.23		150.0	
10196-CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.32	66.80	16.07	0.00	150.0	± 9.6 %
		Y	4.22	66.42	15.76		150.0	
		Z	4.52	66.63	16.11		150.0	
10197-CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.49	67.04	16.22	0.00	150.0	± 9.6 %
		Y	4.38	66.67	15.92		150.0	
		Z	4.70	66.90	16.23		150.0	
10198-CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.51	67.05	16.23	0.00	150.0	± 9.6 %
		Y	4.40	66.68	15.94		150.0	
		Z	4.73	66.93	16.25		150.0	
10219-CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.28	66.84	16.05	0.00	150.0	± 9.6 %
		Y	4.17	66.45	15.73		150.0	
		Z	4.47	66.64	16.07		150.0	
10220-CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.48	67.00	16.21	0.00	150.0	± 9.6 %
		Y	4.38	66.63	15.91		150.0	
		Z	4.69	66.87	16.22		150.0	
10221-CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.52	67.00	16.22	0.00	150.0	± 9.6 %
		Y	4.42	66.63	15.93		150.0	
		Z	4.74	66.86	16.23		150.0	
10222-CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	4.89	67.06	16.35	0.00	150.0	± 9.6 %
		Y	4.80	66.75	16.10		150.0	
		Z	5.06	67.03	16.34		150.0	

Certificate No: EX3-7346_Feb18

Page 19 of 39

10223-CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.15	67.25	16.45	0.00	150.0	± 9.6 %
		Y	5.06	66.95	16.22		150.0	
		Z	5.36	67.22	16.45		150.0	
10224-CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	4.93	67.18	16.34	0.00	150.0	± 9.6 %
		Y	4.84	66.86	16.08		150.0	
		Z	5.10	67.14	16.32		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.62	66.28	14.90	0.00	150.0	± 9.6 %
		Y	2.48	65.45	14.20		150.0	
		Z	2.79	66.05	15.26		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	17.02	106.09	31.60	6.02	65.0	± 9.6 %
		Y	6.83	88.41	26.41		65.0	
		Z	23.09	107.72	32.22		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	17.19	104.09	30.15	6.02	65.0	± 9.6 %
		Y	7.01	87.79	25.52		65.0	
		Z	21.47	104.45	30.57		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	5.07	86.64	27.72	6.02	65.0	± 9.6 %
		Y	4.22	81.74	25.87		65.0	
		Z	10.68	98.13	31.48		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	15.04	103.61	30.78	6.02	65.0	± 9.6 %
		Y	6.45	87.21	25.90		65.0	
		Z	21.21	105.95	31.62		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	14.90	101.50	29.32	6.02	65.0	± 9.6 %
		Y	6.53	86.49	25.00		65.0	
		Z	19.68	102.78	30.01		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	4.85	85.66	27.28	6.02	65.0	± 9.6 %
		Y	4.07	80.95	25.48		65.0	
		Z	10.14	96.98	31.03		65.0	
10232-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	15.00	103.58	30.77	6.02	65.0	± 9.6 %
		Y	6.43	87.19	25.89		65.0	
		Z	21.18	105.94	31.62		65.0	
10233-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	14.82	101.43	29.31	6.02	65.0	± 9.6 %
		Y	6.51	86.44	24.99		65.0	
		Z	19.62	102.75	30.00		65.0	
10234-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	4.69	84.90	26.87	6.02	65.0	± 9.6 %
		Y	3.96	80.34	25.11		65.0	
		Z	9.72	95.94	30.57		65.0	
10235-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	15.03	103.64	30.79	6.02	65.0	± 9.6 %
		Y	6.44	87.21	25.91		65.0	
		Z	21.22	105.99	31.64		65.0	
10236-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	15.16	101.76	29.39	6.02	65.0	± 9.6 %
		Y	6.58	86.61	25.04		65.0	
		Z	19.96	103.02	30.07		65.0	
10237-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.84	85.69	27.29	6.02	65.0	± 9.6 %
		Y	4.07	80.96	25.48		65.0	
		Z	10.17	97.07	31.07		65.0	
10238-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	14.95	103.54	30.76	6.02	65.0	± 9.6 %
		Y	6.42	87.16	25.88		65.0	
		Z	21.13	105.92	31.61		65.0	

EX3DV4- SN:7346

February 28, 2018

10239-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	14.73	101.35	29.28	6.02	65.0	± 9.6 %
		Y	6.48	86.39	24.97		65.0	
		Z	19.55	102.71	30.00		65.0	
10240-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.83	85.66	27.28	6.02	65.0	± 9.6 %
		Y	4.06	80.94	25.48		65.0	
		Z	10.14	97.02	31.05		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.96	81.77	25.84	6.98	65.0	± 9.6 %
		Y	6.28	78.87	24.66		65.0	
		Z	7.85	81.13	25.69		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.98	78.66	24.50	6.98	65.0	± 9.6 %
		Y	5.88	77.52	24.01		65.0	
		Z	7.56	80.32	25.29		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	4.77	74.09	23.42	6.98	65.0	± 9.6 %
		Y	4.87	74.03	23.36		65.0	
		Z	6.05	76.69	24.67		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	3.65	70.15	14.65	3.98	65.0	± 9.6 %
		Y	3.47	69.48	14.50		65.0	
		Z	6.32	77.76	19.63		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	3.52	69.40	14.24	3.98	65.0	± 9.6 %
		Y	3.36	68.78	14.11		65.0	
		Z	6.11	76.93	19.23		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	3.43	73.14	16.63	3.98	65.0	± 9.6 %
		Y	3.26	72.33	16.22		65.0	
		Z	7.46	84.64	22.66		65.0	
10247-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	3.61	70.52	16.22	3.98	65.0	± 9.6 %
		Y	3.52	70.09	15.97		65.0	
		Z	5.33	75.84	19.89		65.0	
10248-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	3.55	69.80	15.86	3.98	65.0	± 9.6 %
		Y	3.46	69.36	15.61		65.0	
		Z	5.25	75.02	19.51		65.0	
10249-CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	4.97	79.17	20.46	3.98	65.0	± 9.6 %
		Y	4.79	78.54	20.18		65.0	
		Z	8.54	87.26	24.53		65.0	
10250-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	4.65	74.18	20.11	3.98	65.0	± 9.6 %
		Y	4.59	73.95	20.01		65.0	
		Z	5.96	77.30	22.07		65.0	
10251-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	4.38	71.87	18.64	3.98	65.0	± 9.6 %
		Y	4.30	71.50	18.46		65.0	
		Z	5.65	74.97	20.70		65.0	
10252-CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	5.42	79.78	22.18	3.98	65.0	± 9.6 %
		Y	5.28	79.30	22.00		65.0	
		Z	7.67	84.37	24.40		65.0	
10253-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	4.60	71.36	18.95	3.98	65.0	± 9.6 %
		Y	4.53	71.02	18.79		65.0	
		Z	5.64	73.72	20.48		65.0	
10254-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	4.91	72.32	19.70	3.98	65.0	± 9.6 %
		Y	4.84	72.03	19.58		65.0	
		Z	5.97	74.57	21.15		65.0	

Certificate No: EX3-7346_Feb18

Page 21 of 39



EX3DV4- SN:7346

February 28, 2018

10255-CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	5.13	76.26	21.09	3.98	65.0	± 9.6 %
		Y	5.02	75.85	20.94		65.0	
		Z	6.58	79.20	22.59		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	2.39	64.77	10.70	3.98	65.0	± 9.6 %
		Y	2.35	64.52	10.73		65.0	
		Z	4.88	73.56	16.84		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.34	64.21	10.30	3.98	65.0	± 9.6 %
		Y	2.31	63.99	10.34		65.0	
		Z	4.66	72.51	16.28		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	2.18	66.52	12.36	3.98	65.0	± 9.6 %
		Y	2.09	65.91	11.97		65.0	
		Z	5.41	78.96	19.67		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	4.05	72.12	17.74	3.98	65.0	± 9.6 %
		Y	3.97	71.77	17.54		65.0	
		Z	5.59	76.39	20.68		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	4.06	71.80	17.58	3.98	65.0	± 9.6 %
		Y	3.99	71.45	17.38		65.0	
		Z	5.59	75.99	20.51		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	4.91	78.61	20.83	3.98	65.0	± 9.6 %
		Y	4.77	78.08	20.60		65.0	
		Z	7.47	84.56	23.98		65.0	
10262-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	4.64	74.10	20.05	3.98	65.0	± 9.6 %
		Y	4.58	73.87	19.95		65.0	
		Z	5.95	77.25	22.03		65.0	
10263-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	4.38	71.84	18.63	3.98	65.0	± 9.6 %
		Y	4.30	71.48	18.45		65.0	
		Z	5.64	74.94	20.69		65.0	
10264-CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	5.36	79.54	22.06	3.98	65.0	± 9.6 %
		Y	5.21	79.06	21.88		65.0	
		Z	7.59	84.14	24.29		65.0	
10265-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	4.66	71.72	19.22	3.98	65.0	± 9.6 %
		Y	4.58	71.35	19.06		65.0	
		Z	5.78	74.35	20.76		65.0	
10266-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	5.01	72.82	20.09	3.98	65.0	± 9.6 %
		Y	4.94	72.52	19.97		65.0	
		Z	6.13	75.23	21.49		65.0	
10267-CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	5.40	77.00	21.24	3.98	65.0	± 9.6 %
		Y	5.27	76.56	21.09		65.0	
		Z	7.04	80.22	22.75		65.0	
10268-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	5.30	71.80	19.74	3.98	65.0	± 9.6 %
		Y	5.23	71.47	19.62		65.0	
		Z	6.34	73.95	20.93		65.0	
10269-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	5.32	71.45	19.62	3.98	65.0	± 9.6 %
		Y	5.25	71.13	19.49		65.0	
		Z	6.30	73.46	20.76		65.0	
10270-CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	5.39	74.29	20.26	3.98	65.0	± 9.6 %
		Y	5.30	73.95	20.15		65.0	
		Z	6.60	76.59	21.38		65.0	

Certificate No: EX3-7346_Feb18

Page 22 of 39



EX3DV4- SN:7346

February 28, 2018

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.47	66.89	14.96	0.00	150.0	± 9.6 %
		Y	2.30	65.86	14.15		150.0	
		Z	2.57	66.40	15.16		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.52	68.12	15.36	0.00	150.0	± 9.6 %
		Y	1.30	65.95	13.79		150.0	
		Z	1.59	67.73	15.40		150.0	
10277-CAA	PHS (QPSK)	X	1.31	58.98	4.23	9.03	50.0	± 9.6 %
		Y	1.52	59.53	4.93		50.0	
		Z	2.02	61.76	7.29		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	2.56	65.28	10.47	9.03	50.0	± 9.6 %
		Y	2.85	65.93	11.06		50.0	
		Z	10.53	85.66	20.98		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	2.65	65.57	10.69	9.03	50.0	± 9.6 %
		Y	2.93	66.19	11.25		50.0	
		Z	10.77	85.93	21.14		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	0.98	65.56	11.05	0.00	150.0	± 9.6 %
		Y	0.70	62.12	8.48		150.0	
		Z	1.41	68.34	13.76		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.61	63.82	10.00	0.00	150.0	± 9.6 %
		Y	0.43	60.63	7.23		150.0	
		Z	0.80	65.38	12.18		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	0.89	68.79	12.78	0.00	150.0	± 9.6 %
		Y	0.48	62.16	8.40		150.0	
		Z	1.03	69.61	14.61		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	2.58	81.76	18.19	0.00	150.0	± 9.6 %
		Y	0.65	65.04	10.35		150.0	
		Z	1.64	76.25	17.89		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr	X	18.03	94.98	25.39	9.03	50.0	± 9.6 %
		Y	22.10	97.43	26.12		50.0	
		Z	12.57	93.15	27.41		50.0	
10297-AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.55	69.57	16.56	0.00	150.0	± 9.6 %
		Y	2.32	68.07	15.54		150.0	
		Z	2.73	69.56	16.49		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.16	65.30	11.68	0.00	150.0	± 9.6 %
		Y	0.92	62.73	9.68		150.0	
		Z	1.54	67.46	13.97		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	1.74	65.37	10.61	0.00	150.0	± 9.6 %
		Y	1.35	62.98	9.30		150.0	
		Z	2.38	68.29	13.60		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.31	62.00	8.16	0.00	150.0	± 9.6 %
		Y	1.13	60.87	7.43		150.0	
		Z	1.86	64.44	11.00		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.34	65.17	17.05	4.17	50.0	± 9.6 %
		Y	4.31	65.11	16.85		50.0	
		Z	4.82	65.71	17.56		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	4.77	65.60	17.67	4.96	50.0	± 9.6 %
		Y	4.81	65.67	17.50		50.0	
		Z	5.27	66.23	18.23		50.0	

Certificate No: EX3-7346_Feb18

Page 23 of 39



EX3DV4- SN:7346

February 28, 2018

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.52	65.19	17.43	4.96	50.0	± 9.6 %
		Y	4.57	65.31	17.28		50.0	
		Z	5.02	65.87	18.07		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.37	65.21	17.02	4.17	50.0	± 9.6 %
		Y	4.39	65.22	16.81		50.0	
		Z	4.82	65.71	17.53		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	3.77	65.78	18.01	6.02	35.0	± 9.6 %
		Y	4.03	67.11	18.37		35.0	
		Z	4.43	67.64	19.71		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.18	65.43	18.08	6.02	35.0	± 9.6 %
		Y	4.36	66.34	18.31		35.0	
		Z	4.75	66.67	19.28		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.05	65.37	17.93	6.02	35.0	± 9.6 %
		Y	4.24	66.33	18.18		35.0	
		Z	4.65	66.84	19.25		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.02	65.52	18.06	6.02	35.0	± 9.6 %
		Y	4.22	66.54	18.32		35.0	
		Z	4.63	67.04	19.39		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.20	65.51	18.17	6.02	35.0	± 9.6 %
		Y	4.38	66.41	18.40		35.0	
		Z	4.82	66.92	19.44		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.13	65.45	18.04	6.02	35.0	± 9.6 %
		Y	4.31	66.39	18.29		35.0	
		Z	4.70	66.73	19.25		35.0	
10311-AAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	2.92	68.81	16.22	0.00	150.0	± 9.6 %
		Y	2.67	67.41	15.31		150.0	
		Z	3.09	68.86	16.15		150.0	
10313-AAA	iDEN 1:3	X	2.64	72.44	15.90	6.99	70.0	± 9.6 %
		Y	2.47	71.20	15.36		70.0	
		Z	5.97	82.06	19.94		70.0	
10314-AAA	iDEN 1:6	X	5.14	84.42	23.42	10.00	30.0	± 9.6 %
		Y	5.61	84.61	23.25		30.0	
		Z	10.51	95.64	27.63		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.03	63.68	15.01	0.17	150.0	± 9.6 %
		Y	0.95	62.61	14.00		150.0	
		Z	1.06	63.65	15.10		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.36	66.72	16.17	0.17	150.0	± 9.6 %
		Y	4.27	66.42	15.93		150.0	
		Z	4.57	66.65	16.28		150.0	
10317-AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.36	66.72	16.17	0.17	150.0	± 9.6 %
		Y	4.27	66.42	15.93		150.0	
		Z	4.57	66.65	16.28		150.0	
10400-AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.44	67.03	16.19	0.00	150.0	± 9.6 %
		Y	4.33	66.65	15.88		150.0	
		Z	4.68	66.94	16.21		150.0	
10401-AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.10	66.83	16.20	0.00	150.0	± 9.6 %
		Y	5.00	66.52	15.96		150.0	
		Z	5.37	67.12	16.38		150.0	

Certificate No: EX3-7346_Feb18

Page 24 of 39



EX3DV4- SN:7346

February 28, 2018

10402-AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.44	67.40	16.38	0.00	150.0	± 9.6 %
		Y	5.36	67.10	16.15		150.0	
		Z	5.62	67.43	16.39		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	0.98	65.56	11.05	0.00	115.0	± 9.6 %
		Y	0.70	62.12	8.48		115.0	
		Z	1.41	68.34	13.76		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	0.98	65.56	11.05	0.00	115.0	± 9.6 %
		Y	0.70	62.12	8.48		115.0	
		Z	1.41	68.34	13.76		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	111.96	25.11	0.00	100.0	± 9.6 %
		Y	25.42	102.66	24.60		100.0	
		Z	19.30	99.68	24.97		100.0	
10410-AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	X	100.00	124.70	30.39	3.23	80.0	± 9.6 %
		Y	35.57	114.34	29.10		80.0	
		Z	100.00	125.51	31.78		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	0.99	63.16	14.59	0.00	150.0	± 9.6 %
		Y	0.90	62.05	13.50		150.0	
		Z	0.99	62.85	14.49		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.33	66.79	16.15	0.00	150.0	± 9.6 %
		Y	4.23	66.42	15.85		150.0	
		Z	4.51	66.60	16.16		150.0	
10417-AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.33	66.79	16.15	0.00	150.0	± 9.6 %
		Y	4.23	66.42	15.85		150.0	
		Z	4.51	66.60	16.16		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	X	4.33	66.99	16.21	0.00	150.0	± 9.6 %
		Y	4.22	66.61	15.90		150.0	
		Z	4.50	66.76	16.18		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	X	4.34	66.92	16.20	0.00	150.0	± 9.6 %
		Y	4.24	66.55	15.89		150.0	
		Z	4.52	66.71	16.18		150.0	
10422-AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.45	66.90	16.20	0.00	150.0	± 9.6 %
		Y	4.35	66.53	15.91		150.0	
		Z	4.64	66.71	16.19		150.0	
10423-AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.57	67.15	16.29	0.00	150.0	± 9.6 %
		Y	4.47	66.79	16.00		150.0	
		Z	4.81	67.03	16.31		150.0	
10424-AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.51	67.11	16.27	0.00	150.0	± 9.6 %
		Y	4.40	66.73	15.97		150.0	
		Z	4.73	66.98	16.28		150.0	
10425-AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.12	67.27	16.44	0.00	150.0	± 9.6 %
		Y	5.03	66.97	16.21		150.0	
		Z	5.32	67.27	16.45		150.0	
10426-AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.14	67.35	16.48	0.00	150.0	± 9.6 %
		Y	5.05	67.07	16.25		150.0	
		Z	5.33	67.29	16.46		150.0	

Certificate No: EX3-7346_Feb18

Page 25 of 39



EX3DV4- SN:7346

February 28, 2018

10427-AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.10	67.15	16.37	0.00	150.0	± 9.6 %
		Y	5.01	66.85	16.14		150.0	
		Z	5.34	67.28	16.45		150.0	
10430-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.22	72.32	18.33	0.00	150.0	± 9.6 %
		Y	4.00	71.43	17.69		150.0	
		Z	4.22	70.65	18.06		150.0	
10431-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	3.95	67.38	16.03	0.00	150.0	± 9.6 %
		Y	3.82	66.87	15.62		150.0	
		Z	4.20	67.15	16.15		150.0	
10432-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.27	67.21	16.20	0.00	150.0	± 9.6 %
		Y	4.16	66.79	15.86		150.0	
		Z	4.50	67.02	16.23		150.0	
10433-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.52	67.14	16.29	0.00	150.0	± 9.6 %
		Y	4.42	66.77	15.99		150.0	
		Z	4.74	67.01	16.30		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.34	73.22	18.13	0.00	150.0	± 9.6 %
		Y	4.01	71.90	17.27		150.0	
		Z	4.32	71.50	18.03		150.0	
10435-AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.35	30.23	3.23	80.0	± 9.6 %
		Y	30.49	112.00	28.47		80.0	
		Z	100.00	125.29	31.68		80.0	
10447-AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.19	67.18	14.89	0.00	150.0	± 9.6 %
		Y	3.01	66.34	14.22		150.0	
		Z	3.49	67.13	15.46		150.0	
10448-AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	3.82	67.18	15.91	0.00	150.0	± 9.6 %
		Y	3.69	66.66	15.49		150.0	
		Z	4.04	66.92	16.01		150.0	
10449-AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.11	67.04	16.10	0.00	150.0	± 9.6 %
		Y	4.00	66.61	15.75		150.0	
		Z	4.31	66.85	16.13		150.0	
10450-AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.32	66.93	16.15	0.00	150.0	± 9.6 %
		Y	4.22	66.54	15.84		150.0	
		Z	4.50	66.78	16.16		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	2.98	66.91	14.13	0.00	150.0	± 9.6 %
		Y	2.78	65.91	13.34		150.0	
		Z	3.37	67.29	15.07		150.0	
10456-AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.03	67.77	16.58	0.00	150.0	± 9.6 %
		Y	5.96	67.52	16.39		150.0	
		Z	6.18	67.82	16.61		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.69	65.54	15.88	0.00	150.0	± 9.6 %
		Y	3.60	65.19	15.57		150.0	
		Z	3.77	65.25	15.87		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.71	71.26	16.68	0.00	150.0	± 9.6 %
		Y	3.34	69.57	15.58		150.0	
		Z	3.96	70.76	17.42		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.84	69.16	17.85	0.00	150.0	± 9.6 %
		Y	4.71	68.81	17.54		150.0	
		Z	5.06	68.29	18.06		150.0	

Certificate No: EX3-7346_Feb18

Page 26 of 39