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10541- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.28	66.90	16.36	0.00	150.0	± 9.6 %
		Y	5.16	66.53	16.05		150.0	
		Z	5.27	66.74	16.17		150.0	
10542- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.43	66.95	16.40	0.00	150.0	±9.6 %
	·····	Y	5.32	66.61	16.11		150.0	
		Z	5.42	66.77	16.20		150.0	
10543- 	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.51	66.95	16.41	0.00	150.0	± 9.6 %
	·····	Y	5.40	66.65	16.14		150.0	
40544		Z	5.51	66.78	16.22		150.0	
10544- AAB	IEEE 802.11ac WIFI (80MHz, MCS0, 99pc duty cycle)	X	5.56	66.97	16.30	0.00	150.0	± 9.6 %
		Y	5.46	66.64	16.02		150.0	
40545		Z	5.54	66.80	16.11		150.0	
AAB	99pc duty cycle)	X	5.78	67.41	16.46	0.00	150.0	±9.6 %
		Y	5.68	67.09	16.19		150.0	
10540		Z	5.76	67.21	16.25		150.0	
AAB	99pc duty cycle)	X	5.66	67.27	16.41	0.00	150.0	± 9.6 %
		<u>Y</u>	5.55	66.90	16.11		150.0	
40547			5.65	67.10	16.22		150.0	
AAB	99pc duty cycle)	X	5.75	67.34	16.43	0.00	150.0	±9.6 %
		Y	5.64	66.99	16.14		150.0	
40540		Z	5.73	67.16	16.24		150.0	
10548- AAB	IEEE 802.11ac WIFI (80MHz, MCS4, 99pc duty cycle)	X	6.10	68.57	17.02	0.00	150.0	±9.6 %
		Y	5.97	68.15	16.70		150.0	
10550		Z	6.06	68.30	16.78		150.0	
10550- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.68	67.21	16.39	0.00	150.0	± 9.6 %
		Y	5.57	66.88	16.11	+	150.0	
40554			5.66	67.04	16.20		150.0	
AAB	99pc duty cycle)	X	5.70	67.30	16.39	0.00	150.0	±9.6 %
		<u> </u>	5.58	66.93	16.09		150.0	
10552			5.68	67.15	16.21		150.0	
AAB	99pc duty cycle)		5.59	67.05	16.28	0.00	150.0	±9.6 %
		- Y	5.48	66.70	15.99		150.0	
10553-	IEEE 802.11ac WiFi (80MHz, MCS9,	X	<u>5.58</u> 5.69	66.90	16.10 16.33	0.00	150.0	± 9.6 %
-v-u		+	5 57	66.76	16.05		160.0	
		+ + +	5.67	66.95	16.00		150.0	
10554- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.97	67.34	16.39	0.00	150.0	± 9.6 %
			5.87	67.02	16.12		150.0	
		Ż	5.94	67.19	16.21		150.0	
10555-	IEEE 802.11ac WiFi (160MHz, MCS1.	X	6.12	67.69	16.53	0.00	150.0	± 9,6 %
AAC	99pc duty cycle)		6.01	67.35	16.26		150.0	
			6.10	67.53	16.20		150.0	
10556- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	x	6.13	67.71	16.53	0.00	150.0	± 9.6 %
		+ + +	6.03	67.38	16 27		150.0	
		z	6.11	67.54	16.35		150.0	
10557- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	×	6.12	67.66	16.53	0.00	150.0	± 9.6 %
		$+$ \vee	6.00	67.31	16 25		150.0	
	-	Z	6.10	67.52	16.36		150.0	
		1		,				

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10558-	IEEE 802.11ac WiFi (160MHz, MCS4,	X	6.18	67.86	16.65	0.00	150.0	± 9.6 %
AAC	99pc auty cycle)		6.06	67.40	16.26		150.0	
	•	7	6.00	67.49	10.30		150.0	
10560		- 	0.10	67.67	10.47	0.00	150.0	+069/
AAC	99pc duty cycle)	^	0.10	07.07	10.59	0.00	150.0	I9.0 %
		Y	6,05	67.32	16.31		150.0	
		Z	6,15	67.54	16.42		150.0	
10561-	IEEE 802.11ac WiFi (160MHz, MCS7,	X	6.08	67.64	16.61	0.00	150.0	± 9.6 %
AAC	99pc duty cycle)							
		Y	5.97	67.29	16.33		150.0	
		Z	6.06	67.49	16.44		150.0	
10562- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.25	68.16	16.88	0.00	150.0	± 9.6 %
		Y	6.13	67.77	16.57		150.0	
		Z	6.23	68.01	16.70		150.0	
10563- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.60	68.73	17.10	0,00	150.0	± 9,6 %
		Y	6.50	68.45	16.86		150.0	
		Z	6.53	68.43	16.86		150.0	
10564- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	X	5.01	67.24	16.68	0.46	150.0	± 9.6 %
		Y	4.90	66.90	16.36		150.0	
		Z	5.01	67.05	16.49		150.0	
10565- AAA	IEEE 802.11g WIFI 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	X	5.27	67.70	16.99	0.46	150.0	±9.6 %
		Y	5.15	67.37	16.68		150.0	
···		Z	5.27	67.52	16.80		150.0	
10566- 	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 99pc duty cycle)	X	5.11	67.60	16.84	0.46	150.0	± 9.6 %
		Y	4.98	67.23	16.50		150.0	
		Z	5.11	67.41	16.64		150.0	
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	X	5.13	67.96	17.16	0.46	150.0	± 9.6 %
		Y	5.01	67.61	16.84		150.0	
		Z	5.13	67.75	16.95		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	5.02	67.36	16.62	0.46	150.0	± 9.6 %
		Y	4.90	67.01	16.28		150.0	
		Z	5.02	67.16	16.41		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	5.07	67.97	17.18	0.46	150.0	± 9.6 %
		Y	4.96	67.67	16.89		150.0	
		Z	5.06	67.76	16.96		150.0	
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	X	5.11	67.83	17.12	0.46	150.0	± 9.6 %
ļ	· · · · · · · · · · · · · · · · · · ·	<u> </u>	5.00	67.52	16.83		150.0	ļ
40000		<u>Z</u>	5.11	67.61	16.91		150.0	
10571- 	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.43	67.78	17.55	0.46	130.0	± 9.6 %
		Y	1.29	65.83	16.01		130.0	
		<u> Z</u>	1.37	66.57	16.56		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.47	68.62	18.01	0.46	130.0	± 9.6 %
ļ		<u> </u>	1.32	66.50	16.39		130.0	
40-76			1.40	67.26	16.95		130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)		100.00	147.77	39.50	0.46	130.0	± 9.6 %
L		<u> Y</u>	5.11	95.86	25.26		130.0	
			11.46	108.94	29.46		130.0	
10574- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	2.11	79.07	22.64	0.46	130.0	± 9.6 %
		Y	1.59	73.49	19.59	ļ	130.0	
		<u>Z</u>	1.75	74.78	20.34		130.0	L

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10575-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	X	4.84	67.12	16.79	0.46	130.0	±9.6 %
AAA	OFDIM, 6 Mbps, 90pc duty cycle)							
			4.72	66.80	16.47		130.0	
10576-	IEEE 802 11g WiEi 2 4 GHz (DSSS-		4.83	67.93	16.59	0.40	130.0	1000
AAA	OFDM, 9 Mbps, 90pc duty cycle)		4.00	07.20	6.60	0.46	130.0	±9.6%
		Υ	4.75	66.95	16.53		130.0	
10577		Z	4.86	67.08	16.65		130.0	
AAA	OFDM, 12 Mbps, 90pc duty cycle)		5.09	67.60	17.02	0.46	130.0	±9.6 %
		Y	4.97	67.26	16.71		130.0	
		Z	5.10	67.41	16.83		130.0	
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.77	17.12	0.46	130.0	± 9.6 %
		Y	4.86	67.43	16.80		130.0	
		Z	4.99	67.57	16.91		130.0	····
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	67.19	16.53	0.46	130.0	± 9.6 %
		Y	4.64	66.77	16.15		130.0	
		Z	4.78	67.01	16.33		130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.81	67.17	16.53	0.46	130.0	±9.6 %
		Y	4.68	66.78	16.16		130.0	
		Z	4.82	66.97	16.32		130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	X	4.90	67.87	17.09	0.46	130.0	± 9.6 %
		Y	4.77	67.49	16.75		130.0	
40500		Z	4.90	67.66	16.87		130.0	
10582- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.96	16.34	0.46	130.0	±9.6 %
		Y	4.59	66.53	15.94		130.0	
40500		Z	4.73	66.78	16.14		130.0	
10583- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.84	67.12	16.79	0.46	130.0	±9.6 %
		Y	4.72	66.80	16.47		130.0	
40804		Z	4.83	66.93	16.59		130.0	
10584- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.86	67.28	16.85	0.46	130.0	± 9.6 %
	······································	Y	4.75	66.95	16.53		130.0	
10505		Z	4.86	67.08	16.65		130.0	
10585- AAB	IEEE 802.11a/h WIFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	5.09	67.60	17.02	0.46	130.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	4.97	67.26	16.71		130.0	
		Z	5.10	67.41	16.83		130.0	
10586- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.77	17.12	0.46	130.0	± 9.6 %
		Y	4.86	67.43	16.80		130.0	
		Z	4.99	67.57	16.91		130.0	
10587- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	67.19	16.53	0.46	130.0	±9.6 %
		Y	4.64	66.77	16.15		130.0	
		Z	4.78	67.01	16.33		130.0	
10588- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.81	67.17	16.53	0.46	130.0	± 9.6 %
		Y	4.68	66.78	16.16		130.0	
40500		Z	4.82	66.97	16.32		130.0	
10589- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.90	67.87	17.09	0.46	130.0	± 9.6 %
		Y	4.77	67.49	16.75		130.0	
40800		Z	4.90	67.66	16.87		130.0	
10590- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.96	16.34	0.46	130.0	± 9.6 %
		Y	4.59	66.53	15.94		130.0	
		Z	4.73	66.78	16,14		130.0	

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10591-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.98	67.15	16.87	0.46	130.0	±9.6 %
AAD		Y	4.87	66.85	16.57		130.0	
		Z	4,98	66.97	16.68		130.0	
10592- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	Х	5.15	67.50	16.99	0.46	130.0	± 9.6 %
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Y	5.04	67.19	16.69		130.0	
		Z	5.16	67.32	16.80		130.0	
10593- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)		5.09	67.46	16.91	0.46	130.0	±9.6 %
******		Y	4.96	67.12	16.59		130.0	
		Z	5.09	67.29	16.72		130.0	
10594- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.14	67.60	17.04	0.46	130.0	± 9.6 %
		Y	5.02	67.28	16.73		130.0	
		Z	5.14	67.42	16.84		130.0	
10595- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	5.11	67.58	16.95	0.46	130.0	± 9.6 %
		Y	4.99	67.24	16.64		130.0	
		Z	5.12	67.40	16.76		130.0	
10596- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	5.05	67.59	16.96	0.46	130.0	± 9.6 %
		Y	4.93	67.24	16.64		130.0	
		Z	5.06	67.40	16.76		130.0	
10597- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	5.00	67.53	16.87	0.46	130.0	± 9.6 %
		Y	4.88	67.16	16.53		130.0	
		Z	5.01	67.35	16.68		130.0	
10598- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7. 90pc duty cycle)	X	4.98	67.77	17.12	0.46	130.0	± 9.6 %
		Y	4.86	67.40	16.79		130,0	
		Z	4.99	67.58	16.92		130.0	
10599- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.65	67.74	17.05	0.46	130.0	± 9.6 %
		Y	5.54	67.42	16.77		130.0	
		Z	5.65	67.58	16.87		130.0	
10600- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.86	68.37	17.35	0.46	130.0	± 9.6 %
		Y	5.74	68.03	17.05		130.0	
		Z	5.87	68.25	17.19		130.0	
10601- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2_90nc duty cycle)	X	5.71	67.99	17.17	0.46	130.0	± 9.6 %
		Y	5.59	67.67	16.88		130.0	
		Z	5.71	67.84	16,99		130.0	1
10602- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3_90pc duty cycle)	X	5.80	67.99	17.09	0.46	130.0	± 9.6 %
		Y	5.68	67.66	16.80	Ì	130.0	
		Z	5.80	67.87	16.93		130.0	
10603- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.88	68.27	17.35	0.46	130.0	± 9.6 %
		Y	5.76	67.95	17.07		130.0	
·····		Z	5.91	68.22	17.22		130.0	
10604- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.65	67.69	17.05	0.46	130.0	± 9.6 %
		Y	5,55	67.38	16.78		130.0	1
		Z	5.65	67.55	16.88		130.0	
10605- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.77	68.03	17.23	0.46	130.0	± 9.6 %
······		Y	5.67	67.75	16.97	1	130.0	
		Z	5.76	67.86	17.04	1	130.0	
10606- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.54	67.48	16.82	0.46	130.0	± 9.6 %
		Υ	5.42	67.14	16.52	1	130.0	
	-	Ż	5.54	67.37	16.67		130.0	

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10607- AAB	IEEE 802.11ac WiFi (20MHz, MCS0,	Х	4.81	66.46	16.48	0.46	130.0	± 9.6 %
760			4 70	66 13	16 17		120.0	
		z	4.81	66.25	16.17	· · · · · ·	130.0	
10608- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	5.03	66.90	16.65	0.46	130.0	±9.6 %
		Y	4.90	66.55	16.34		130.0	
10600			5.02	66.68	16.44		130.0	
AAB	90pc duty cycle)	X	4.92	66.79	16.52	0.46	130.0	± 9.6 %
	1	$-\frac{Y}{7}$	4.79	66.41	16.18		130.0	
10610-	IEEE 802 11ac WiEi (20MHz MCS3		4.92	66.57	16.31	0.40	130.0	
AAB	90pc duty cycle)		4.97	00.94	10.07	0.40	130.0	± 9.6 %
			4.84	66.72	16.34		130.0	
10611- AAB	IEEE 802.11ac WiFI (20MHz, MCS4, 90pc duty cycle)	X	4.89	66,78	16.54	0.46	130.0	± 9.6 %
		Y	4.76	66.39	16.20	····	130.0	
		Z	4.89	66.57	16.33	******	130.0	
10612- AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.92	66.95	16.59	0.46	130.0	±9.6 %
		Y	4.78	66.55	16.24		130.0	
10612		Z	4.91	66.73	16.37		130.0	
AAB	90pc duty cycle)	X	4.93	66.87	16.50	0.46	130.0	± 9.6 %
·····		Y 7	4.79	66.46	16.14		130.0	
10614-	IEEE 802.11ac WIEI (20MHz_MCS7	- <u>Z</u> X	4.93	67.03	16.28	0.46	130.0	+06%
AAB	90pc duty cycle)		4.00	07.03	10.71	0.40	130.0	I 9.0 %
		7	4.72	66.82	16.30		130.0	· · · · · · · · · · · · · · · · · · ·
10615- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.90	66.61	16.33	0.46	130.0	± 9.6 %
		Y	4.76	66.22	15.98		130.0	
		Z	4.90	66.40	16.12		130.0	
10616- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.47	66.98	16.66	0.46	130.0	±9.6 %
~~~		Y	5.36	66.66	16.38		130.0	
40047		Z	5.46	66.82	16.47		130.0	
10617- 	IEEE 802.11ac WiFI (40MHz, MCS1, 90pc duty cycle)	X	5.52	67.09	16.68	0.46	130.0	± 9.6 %
		Y	5.42	66.80	16.41		130.0	
10618- AAB	IEEE 802.11ac WiFi (40MHz, MCS2,	X	<u>5.52</u> 5.42	67.18	<u>16.49</u> 16.74	0.46	130.0	± 9.6 %
		+ $+$ $+$	5.31	66.84	16,45		130.0	
		Z	5.41	67.00	16.54		130.0	
10619- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.45	67.00	16.59	0.46	130.0	± 9.6 %
		Y	5.34	66.68	16.31		130.0	
		Z	5.44	66.82	16.40		130.0	
10620- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.56	67.11	16.69	0.46	130.0	±9.6 %
			5.44	66.75	16.39	ļ	130.0	
10621			5,56	66.95	16.51	0.40	130.0	
AAB	90pc duty cycle)		5.53	07.13	10.81	0.46	130.0	±9.6 %
······	6		5.42	66.00	16.54		130.0	
10622-	IEEE 802.11ac WiFi (40MHz, MCS6,	X	5.53	67.27	16.87	0.46	130.0	± 9.6 %
			5/2	66.07	16.61		120.0	
		Z	5.52	67.09	16.67		130.0	

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10623-	IEEE 802.11ac WiFi (40MHz, MCS7,	X	5.42	66.86	16.56	0.46	130.0	±9.6 %
AAB	90pc duty cycle)	Y	5.30	66.51	16.26		130.0	
		Z	5.42	66.73	16.39		130.0	
10624- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.61	67.03	16.70	0.46	130.0	±9.6 %
,,,,,,		Y	5.50	66.72	16.43		130.0	
			5.60	66.86	16.51		130.0	
10625- AAB	IEEE 802.11ac WIFI (40MHz, MCS9, 90pc duty cycle)	X	6.05	68.19	17.33	0,46	130.0	±9.6%
		Y	5.94	67.90	17.07		130.0	
		Z	6.01	67.90	17.08		130.0	
10626- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.72	66.99	16.57	0.46	130.0	± 9.6 %
		Y	5.63	66.69	16.31		130.0	
		Z	5.71	66.84	16.40		130.0	
10627- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.99	67.59	16.82	0.46	130.0	± 9.6 %
		Y	5.90	67.32	16.58		130.0	
		Z	5.97	67.39	16.62		130.0	
10628- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.80	67.20	16.57	0.46	130.0	± 9.6 %
		Y	5.69	66.85	16.29		130.0	
		Z	5.79	67.05	16.40		130.0	
10629- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.88	67.25	16.59	0.46	130.0	± 9.6 %
		Y	5.77	66.92	16.31		130.0	
		Z	5.87	67.12 /	16.43		130.0	
10630- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.51	69.31	17.62	0.46	130.0	± 9.6 %
		Y	6.37	68.86	17.28		130.0	
		Z	6.46	69.04	17.39		130.0	
10631- AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.31	68.81	17.54	0.46	130.0	± 9.6 %
		Y	6.17	68.39	17.24		130.0	
~~~~~		Z	6.30	68.62	17.35		130.0	
10632- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.95	67.61	16.96	0.46	130.0	± 9.6 %
		Y	5.85	67.34	16.73		130.0	
	· · · · · · · · · · · · · · · · · · ·	Z	5.94	67.45	16.78		130.0	
10633- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.89	67.42	16.71	0.46	130.0	± 9.6 %
		Y	5.75	67.01	16.39		130.0	
		Z	5.89	67.32	16.56		130.0	
10634- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.85	67.37	16.74	0.46	130.0	± 9.6 %
		Y	5.73	67.02	16.46	[130.0	
		Z	5.86	67.27	16.59		130.0	
10635- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5,75	66.78	16.20	0.46	130.0	± 9.6 %
		Y	5.62	66.39	15.89		130.0	1
		Z	5.75	66.67	16.05		130.0	
10636- AAC	IEEE 802.11ac WiFl (160MHz, MCS0, 90pc duty cycle)	X	6.13	67.38	16.66	0.46	130.0	± 9.6 %
	ter and the second s	Y	6.05	67.09	16.42		130.0	
		Z	6.12	67.24	16.50		130.0	
10637- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.31	67.79	16.85	0.46	130.0	± 9.6 %
		Y	6.21	67.50	16.60		130.0	
		Z	6.29	67.65	16.68		130.0	
10638- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.31	67.76	16.81	0.46	130.0	± 9.6 %
		1 Y	6.21	67.47	16.56	1	130.0	1
		Ż	6.29	67.60	16.64		130.0	1
2	•							

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10639-	IEEE 802.11ac WiFi (160MHz, MCS3,	Х	6.30	67.76	16.86	0.46	130.0	± 9.6 %
740			6.20	67.40	40.50			
		7	6.20	67.63	16.59	······		
10640- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.34	67.87	16.86	0.46	130.0	± 9.6 %
		Y	6.22	67.50	16.57		130.0	
10044		Z	6.33	67.75	16.70		130.0	
AAC	90pc duty cycle)	X	6.33	67.58	16.73	0.46	130.0	± 9.6 %
		<u> </u>	6.23	67.29	16.48	Į	130.0	
10642-	IEEE 802 11ac W/IEI (160MHz MCS6		6.31	67.45	16.57		130.0	
AAC	90pc duty cycle)		0.39	67.88	17.04	0.46	130.0	± 9.6 %
		+ ' -	6.28	67.58	16.79		130.0	
10643- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.22	67.60	16.88	0.46	130.0	± 9.6 %
		Y	6.12	67.28	16.54		130.0	
		Z	6.21	67.48	16.65		130.0	
10644- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.47	68.34	17.21	0.46	130.0	± 9.6 %
····		Y	6.34	67.93	16.89		130.0	·····
10645		Z	6.46	68.22	17.05		130.0	
AAC	90pc duty cycle)	X	6.86	69.01	17.48	0.46	130.0	± 9.6 %
<u> </u>		- <u>Y</u>	6.84	68.95	17.35		130.0	
10646-	LTE-TDD (SC-EDMA_1 RB_5 MHz		0.77	68.66	17.21	0.00	130.0	
AAD	QPSK, UL Subframe=2,7)		39.97	118.78	39.16	9.30	60.0	± 9.6 %
			36.64	117.33	38.51		60.0	
10647- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, OPSK (III, Subframe=2.7)	X	43.22	109.42	40.07	9.30	60.0 60.0	± 9.6 %
		Y	37.61	118 78	30.06		60.0	
		Ż	29.77	111.44	36.87		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0,92	67.44	13.60	0.00	150.0	± 9.6 %
		Y	0.67	63.31	10.51		150.0	
40050		Z	0.80	64.88	12.09		150.0	*
10652- AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	4.65	69.66	17.99	2.23	80.0	± 9.6 %
		<u> </u>	4.35	68.72	17.32		80.0	
10653- AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	<u>4.56</u> 5.05	68.93 68.61	17.55 17.89	2.23	80.0 80.0	± 9.6 %
		Y	4.81	67.90	17 37		80.0	
		Z	5.01	68.17	17.57		80.0	
10654- AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.97	68.24	17.87	2.23	80.0	±9.6 %
		Y	4.75	67.55	17.37		80.0	
10055		Z	4.94	67.85	17.56		80.0	
AAB	Clipping 44%)	X	5.03	68.27	17.91	2.23	80.0	± 9.6 %
		<u> Y</u>	4.81	67.56	17.41		80.0	
10658-	Pulse Waveform (200Hz, 10%)	X	4.99	67.90 86.83	17.61 23.62	10.00	80.0 50.0	±9.6 %
<u></u>		Y	14.38	88.09	23.44		50.0	
		Z	11.47	83.98	22.82		50.0	
10659- AAA	Pulse Waveform (200Hz, 20%)	X	55.89	109.63	28.77	6.99	60.0	± 9.6 %
		Y	73.21	111.71	28.47		60.0	
		Z	23.49	96.54	25.38		60.0	

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10660- AAA	Pulse Waveform (200Hz, 40%)	X	100.00	116.44	28.38	3.98	80.0	± 9.6 %
		Y	100.00	113.18	26.58		80.0	
		Z	100.00	116.19	28.39		80.0	
10661- AAA	Pulse Waveform (200Hz, 60%)	X	100.00	118,35	27.71	2.22	100.0	± 9.6 %
• = = •		Y	100.00	112.59	24.89		100.0	
		Z	100.00	116.83	27.13		100.0	
10662- AAA	Pulse Waveform (200Hz, 80%)	X	100.00	126.67	29.16	0.97	120.0	± 9.6 %
		Y	100.00	111.31	22.51		120.0	
		Z	100.00	120.40	26.63		120.0	l

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

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





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Swiss Calibration Service

Accreditation No.: SCS 0108

Certificate No: EX3-7308_Aug17

Dec-17

Dec-17

Issued: August 16, 2017

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

Client PC Test

CALIBRATION	CERTIFICATE			
Object	EX3DV4 - SN:73	08		
Calibration procedure(s)	QA CAL-01.v9, C Calibration proce	A CAL-14.v4, QA CAL-23.v5, QA dure for dosimetric E-field probes	.CAL-25.v6 우어	1
Calibration date:	August 16, 2017		8/27	+/17
This calibration certificate docur The measurements and the uno	ments the traceability to natio	onal standards, which realize the physical units robability are given on the following pages and	s of measurements (SI). are part of the certificate.	
All calibrations have been cond	lucted in the closed laborator	y facility: environment temperature (22 ± 3)°C	and humidity < 70%.	1
Calibration Equipment used (M	&TE critical for calibration)			
Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration]
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18]
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18]
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18	
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18	

31-Dec-16 (No. ES3-3013_Dec16)

7-Dec-16 (No. DAE4-660_Dec16)

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17
- -			
	Name	Function	Signature
Calibreted by:	Leif Klysner	Laboratory Technician	Los 111.
			og ny
			المحمي المحمو المحموم المحيجين المحمو المحمولين ا
Approved by:	Valla Distanta Seconda		1101 101
http://wed.py.	Raija Pokovic	recinical Manager	A. C.

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

SN: 3013

SN: 660

ID

Reference Probe ES3DV2

DAE4

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



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- Swiss Calibration Service

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Glossary:	
TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	φ rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center),
	i.e., 9 = 0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

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 handheld 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"

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 9 = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx, y, z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

Probe EX3DV4

SN:7308

Manufactured: Calibrated:

March 11, 2014 August 16, 2017

Calibrated for DASY/EASY Systems (Note: non-compatible with DASY2 system!)

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.49	0.60	0.44	± 10.1 %
DCP (mV) ^B	97.0	91.7	98.5	

Modulation Calibration Parameters

UID	Communication System Name		Α	В	С	D	VR	Unc ^E
			dB	dBõV		dB	mV	(k=2)
0	CW	X	0.0	0.0	1.0	0.00	134.5	±3.3 %
		Y	0.0	0.0	1.0		130.8	
		Z	0.0	0.0	1.0		149.9	

Note: For details on UID parameters see Appendix.

Sensor Model Parameters

	C1 fF	C2 fF	α V ⁻¹	T1 ms.V⁻²	T2 ms.V⁻¹	T3 ms	T4 V⁻²	T5 V⁻¹	Т6
X	46.65	351.1	36.16	14.68	0.000	5.088	0.834	0.399	1.005
Y	52.88	402.1	36.74	19.55	0.309	5.100	0.477	0.605	1.007
Z	36.70	273.3	35.48	9.322	0.000	5.034	0.373	0.314	1.002

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%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6). ^B Numerical linearization parameter: uncertainty not required. ^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

f (MHz) ^c	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
5250	35.9	4.71	5.25	5.25	5.25	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.83	4.83	4.83	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.11	5.11	5.11	0.40	1.80	± 13.1 %

Calibration Parameter Determined in Head Tissue Simulating Media

^c Frequency validity above 300 MHz of \pm 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to \pm 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is \pm 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to \pm 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

The ConvF uncertainty for indicated target tissue parameters. ⁶ Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than \pm 1% for frequencies below 3 GHz and below \pm 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	10.39	10.39	10.39	0.54	0.85	± 12.0 %
835	55.2	0.97	10.21	10.21	10.21	0.47	0.84	± 12.0 %
1750	53.4	1.49	8.24	8.24	8.24	0.41	0.84	± 12.0 %
1900	53.3	1.52	7.96	7.96	7.96	0.37	0.80	± 12.0 %
2300	52.9	1.81	7.77	7.77	7.77	0.39	0.86	± 12.0 %
2450	52.7	1.95	7.66	7.66	7.66	0.35	0.85	± 12.0 %
2600	52.5	2.16	7.46	7.46	7.46	0.31	0.95	± 12.0 %
5250	48.9	5.36	4.84	4.84	4.84	0.35	1.90	± 13.1 %
5600	48.5	5.77	4.23	4.23	4.23	0.40	1.90	± 13.1 %
5750	48.3	5.94	4.50	4.50	4.50	0.40	1.90	± 13.1 %

Calibration Parameter Determined in Body Tissue Simulating Media

^c Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters. ^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.



Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)



Receiving Pattern (ϕ), $\vartheta = 0^{\circ}$

Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)



Dynamic Range f(SAR_{head}) (TEM cell , f_{eval}= 1900 MHz)

Uncertainty of Linearity Assessment: ± 0.6% (k=2)



Conversion Factor Assessment

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	108.4
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 m m
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

Appendix: Modulation Calibration Parameters

ŬIĎ	Communication System Name		A dB	B dBõV	C	D dB	VR mV	Max Unc ^E (k=2)
0	CW	Х	0.00	0.00	1.00	0.00	134.5	± 3.3 %
		Y	0.00	0.00	1.00		130.8	
		Z	0.00	0.00	1.00		149.9	
10010- CAA	SAR Validation (Square, 100ms, 10ms)	Х	2.82	69.38	11.47	10.00	20.0	±9.6 %
		Y	8.85	81.60	16.75		20.0	
		Ζ	1.57	63.55	8.34		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	1.10	68.34	15.94	0.00	150.0	±9.6 %
		Y	1.03	66.61	14.91		150.0	
		Z	1.05	68.21	15.74		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.19	64.20	15.65	0.41	150.0	± 9.6 %
		Y	1.20	63.83	15.29		150.0	
		Z	1.16	63.91	15.33		150.0	
10013- CAB	IEEE 802.11g WIFi 2.4 GHz (DSSS- OFDM, 6 Mbps)	X	4.89	66.77	17.26	1.46	150.0	± 9.6 %
		Y -	4.97	66.66	17.21		150.0	
10021-	GSM-FDD (TDMA, GMSK)	X	4.71 100.00	115.21	27.27	9.39	150.0 50.0	± 9.6 %
DAC	· · · · · · · · · · · · · · · · · · ·		100.00	118.00	20.62		50.0	
····	· · · · · · · · · · · · · · · · · · ·	7	100.00	108.16	23.75		50.0	
10023- DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	100.00	114.49	26.98	9.57	50.0	± 9.6 %
		Y	100.00	118.59	29.46		50.0	
		Ż	100.00	107.44	23.48		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	117.36	27.41	6.56	60.0	±9.6 %
		Y	100.00	118.20	28.43		60.0	
		Z	100.00	109.72	23.49		60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	9.43	102.43	43.37	12.57	50.0	± 9.6 %
		Y	5.76	81.81	33.21		50.0	
		Z	6.64	89.92	37.39		50.0	
10026- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	12.23	103.58	38.33	9.56	60.0	±9.6 %
		Y	13.89	103.56	37.54		60.0	ļ
			6.87	89.09	32.73	4.00	60.0	10.0%
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	121.12	28.38	4.80	80.0	±9.6 %
		Y 7	100.00	119.35	28.20			
10028-	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	126.40	29.97	3.55	100.0	± 9.6 %
		Y	100.00	121.68	28.61	İ	100.0	
	·····	Ż	100.00	119.83	26.46	1	100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	6.36	85.88	30.18	7.80	80.0	± 9.6 %
		Y	7.77	88.44	30.64		80.0	
		Z	4.37	77.58	26.51		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	116.71	26.74	5.30	70.0	± 9.6 %
		Y	100.00	116.86	27.45		70.0	Ļ
		Z	100.00	108.46	22.53		70.0	<u> </u>
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	130.68	30.26	1.88	100.0	± 9.6 %
		Y	100.00	122.76	27.68	ļ	100.0	
			100.00	121.33	25.72	1	100.0	l

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10032- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	146.47	35.43	1.17	100.0	± 9.6 %
		Y	100.00	130.05	29.64		100.0	+
-		Z	100.00	142.38	32.95		100.0	· · · · · ·
10033- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	100.00	133.81	36.67	5.30	70.0	± 9.6 %
		Y	100.00	132.56	36.57		70.0	
10004		<u>Z</u>	18.79	102.95	27.19		70.0	1
10034- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	7.76	92.37	23.91	1.88	100.0	± 9.6 %
ļ		Y	6.00	87.65	22.68		100.0	
40005		Z	3.22	78.87	18.00		100.0	
10035- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	3.37	81.04	19.87	1.17	100.0	± 9.6 %
		Y	2.89	77.85	18.94		100.0	
		Z	2.06	74.00	15.93		100.0	<u> </u>
10036- _CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	100.00	134.35	36.91	5.30	70.0	± 9.6 %
		Y	100.00	133.01	36.79		70.0	
40007		Z	38.41	113.99	30.14		70.0	
10037- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	6.72	90.40	23.29	1.88	100.0	±9.6 %
		Y	5.52	86.51	22.28		100.0	
40000		<u>Z</u>	2.77	77.09	17.35		100.0	
CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	3.40	81.53	20.18	1.17	100.0	± 9.6 %
····		Y	2.93	78.34	19.24	<u> </u>	100.0	
40000		Z	2.07	74.35	16.21		100.0	
CAB	CDMA2000 (1xRTT, RC1)	X	2.05	73.74	16.48	0.00	150.0	± 9.6 %
		Y	1.78	70.97	15.59	<u> </u>	150.0	
		Z	1.68	71.87	14.68		150.0	_·_·
10042- _CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Halfrate)	X	100.00	111.92	25.18	7.78	50.0	± 9.6 %
		Y	100.00	114.62	26.97		50.0	
		Z	100.00	105.38	21.87		50.0	
10044- CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	97.13	0.41	0.00	150.0	±9.6 %
<u> </u>		Y	0.00	93.19	1.28		150.0	
		Z	0.01	94,96	0.54		150.0	
10048- CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	100.00	111.98	26.96	13.80	25.0	±9.6 %
		Y	100.00	121.05	31.60		25.0	
		Z	34.07	91.91	20.28		25.0	
10049- CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	1284.72	142.21	32.21	10.79	40.0	± 9.6 %
		Y	100.00	117.51	29.18		40.0	
		Z	145.96	109.32	23.74		40.0	
10056- CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	100.00	128.20	35.15	9.03	50.0	± 9.6 %
		Y	100.00	128.83	35.96		50.0	
40055		Z	100.00	122.10	31.77		50.0	
10058- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.71	78.88	26.31	6.55	100.0	± 9.6 %
		Y	5.67	81.33	26.92		100.0	
10050		Z	3.54	73.15	23.60		100.0	
CAB	IEEE 802.11b WIFi 2.4 GHz (DSSS, 2 Mbps)	Х	1.24	65.47	16.42	0.61	110.0	±9.6 %
		Y	1.27	65.23	16.10		110.0	
10000		Ζ	1.17	64.77	15.84		110.0	
CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	Х	100.00	144.38	38.50	1.30	110.0	±9.6 %
		Υ	100.00	138.88	36.40		110.0	
<u> </u>		Z	13.09	112.30	30.84		110.0	
		1	·				110.0	

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10061-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11	X	4.05	88.33	25.97	2.04	110.0	± 9.6 %
UAB			4.75	88.86	25.68		110.0	
		Z	2.16	77.73	21.68		110.0	
10062- CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.69	66.76	16.65	0.49	100.0	±9.6 %
		Y	4.76	66.60	16.58		100.0	
40000		Z	4.53	66.78	16.51		100.0	
CAB	Mbps)	X	4./1	66.86	16.76	0.72	100.0	±9.6%
····			4.78	66.72	16.70		100.0	
10064- CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.99	67.12	16.99	0.86	100.0	± 9.6 %
		Y	5.09	67.02	16.95		100.0	
		Z	4.78	67.06	16.80		100.0	
10065- CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.86	67.02	17.11	1.21	100.0	±9.6 %
		Y 7	4.96	66.95	17.08		100.0	
10066-	JEEE 802 11a/b WIEL5 GHz (OEDM 24		4.65	67.05	16.87	1/6	100.0	+96%
CAB	Mbps)		4.00	66.00	47.07	1.40	100.0	1 5.0 78
		7	4.99	66.88	17.27		100.0	
10067- CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.16	67.22	17.75	2.04	100.0	± 9.6 %
		Y	5.27	67.12	17.71		100.0	
		Z	4.93	67.13	17.49		100.0	
10068- CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.20	67.26	17.98	2.55	100.0	± 9.6 %
		Y	5.34	67.28	18.00		100.0	
10060-	IEEE 802 11a/b WIEL5 CHz (OEDM 54	<u> </u>	4.95	67.02	17.64	2.67	100.0	+96%
CAB	Mbps)	Ŷ	5.20	67.23	18.17	2.01	100.0	1 0.0 70
		Z	5.02	67.05	17.83		100.0	
10071- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.98	66.86	17.58	1.99	100.0	± 9.6 %
		Y	5.07	66.77	17.55		100.0	
		Z	4.79	66.80	17.35		100.0	
10072- CAB	(DSSS/OFDM, 12 Mbps)	X	4.95	67.19	17.81	2.30	100.0	± 9.6 %
			5.06	67.03	17.80		100.0	
10073- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OEDM_18 Mbps)	X	5.00	67.34	18.16	2.83	100.0	± 9.6 %
0/10		Y	5.12	67.33	18.16		100.0	
		Z	4.79	67.17	17.85		100.0	
10074- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.97	67.20	18.31	3.30	100.0	± 9.6 %
ļ		<u> </u>	5.10	67.22	18.33			
10075-	LEFE 802 11a W/IEi 2.4 GHz	- <u> </u>	4.78	67.07	18.63	3.82	90.0	+96%
CAB	(DSSS/OFDM, 36 Mbps)		5.00	67.40	18.70		90.0	20.070
			4,78	67.05	18.23	1	90.0	+
10076- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OEDM, 48 Mbps)	X	5.00	67.05	18.74	4.15	90.0	± 9.6 %
0,10		Y	5.14	67.12	18.78		90.0	
		Z	4.81	66.90	18.39		90.0	
10077- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.02	67.11	18.84	4.30	90.0	± 9.6 %
		Y	5.16	67.16	18.87		90.0	ļ
1	1	ΙZ	4.84	66.97	18.50	1	90.0	1

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10081-	CDMA2000 (1xRTT, RC3)	X	0.91	67.10	13.23	0.00	150.0	±9.6 %
<u> </u>		- <u>ř</u>	0.87	65.55	12.69		150.0	
10082-	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-		0.76	60.00	11.60	4 77	150.0	
CAB	DQPSK, Fullrate)	_	0.01	00.00	4.04	4.77	00.0	± 9.6 %
		Y	0.83	60.00	4.98		80.0	
10000	CPBS FDD (TDMA CMOK THE I	<u>Z</u>	1.32	62.68	4.53		80.0	1
DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	117.37	27.43	6.56	60.0	± 9.6 %
		- _	100.00	118 23	29.46	<u> </u>		
		<u>z</u>	100.00	109.70	23.50	<u> </u>	60.0	
10097-	UMTS-FDD (HSDPA)	X	1.89	68.18	16.03	0.00	150.0	+96%
								20.0 %
		<u> </u>	1.82	67.06	15.47		150.0	
10098-	LIMTS-EDD (HSLIDA Subtect 2)		1.87	68.73	15.97		150.0	
CAB	Cimiteri DD (IISOFA, Sublest 2)		1.85	68.15	16.01	0.00	150.0	± 9.6 %
		Y	1.78	67.01	15.43		150.0	<u> </u>
40000		Z	1.83	68.68	15.95		150.0	
DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	12.41	103.93	38.44	9.56	60.0	± 9.6 %
		+ v	14.05	103.91	27.60	<u> </u>	00.0	
		Ż	6.94	89.30	32.81		60.0	<u> </u>
10100-	LTE-FDD (SC-FDMA, 100% RB, 20	X	3.20	70.68	16.98	0.00	150.0	+96%
	MHz, QPSK)	<u> </u>					100.0	10.0 /0
·		+ <u>Y</u>	3.15	69.96	16.53		150.0	
10101-	LTE-EDD (SC-EDMA 100% PR 20	<u> </u>	3.05	70.44	16.91		150.0	
CAD	<u>MHz, 16-QAM</u>		3.27	67.67	16.10	0.00	150.0	± 9.6 %
		Y	3.29	67.34	15.87		150.0	<u> </u>
40400		Z	3.15	67.56	16.02		150.0	
10102- 	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.37	67.61	16.17	0.00	150.0	± 9.6 %
		Y	3.39	67.30	15.96	·	150.0	
40400		Z	3.26	67.54	16.10	·	150.0	┝── <u>──</u>
10103- CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.70	77.76	21.71	3.98	65.0	±9.6 %
		Ϋ́	7.25	78.01	21.66		65.0	
10101		Z	5.31	74.49	20.24		65.0	
CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.39	74.88	21.30	3.98	65.0	± 9.6 %
		Y	7.01	75.63	21.49		65.0	
10105		Z	5.41	72.53	20.08		65.0	
CAD	ETE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	5.93	73.22	20.87	3.98	65.0	± 9.6 %
. <u> </u>		Ι Y Ι	6.37	73.62	20.93		65.0	
10108-	TE EDD (SC EDMA 4000) DD 40		4.98	70.66	19.52		65.0	
CAE	MHz, QPSK)	X	2.79	69.92	16.81	0.00	150.0	± 9.6 %
		Y	2.76	69.17	16.35		150.0	
10109-	THE EDD (SC EDMA 4000) DD 40		2.63	69.76	16.75		150.0	
CAE	MHz, 16-QAM)	X	2.93	67.55	16.01	0.00	150.0	± 9.6 %
		<u> </u>	2.94	67.14	15.76		150.0	
10110-	TE-EDD (SC-EDMA 100% DD 5 MUL		2.80	67.54	15.90		150.0	
CAE	QPSK)		2.27	69.10	16.46	0.00	150.0	± 9.6 %
		<u> Y</u>	2.25	68.23	15.96		150.0	
10111-	TE-EDD (SC-EDMA 100% DD CARL	<u> </u> ∠	2.13	69.06	16.32		150.0	
CAE	16-QAM)		2.65	68.45	16.32	0.00	150.0	±9.6 %
		Y	2.64	67.76	16.00		150.0	— — —
·		Z	2.55	68.78	16.20		150.0	

10112-	LTE-FDD (SC-FDMA, 100% RB, 10	X	3.05	67.53	16.06	0.00	150.0	± 9.6 %
		Y	3.07	67.13	15.82		150.0	
		Ζ	2.92	67.58	15.97		150.0	
10113- CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.80	68.56	16.43	0.00	150.0	± 9.6 %
		Y	2.80	67.90	16.13		150.0	
10114	IEEE 802 11p /HT Croopfold 12 5	Z	2.69	68.93	16.32	0.00	150.0	+06%
CAB	Mbps, BPSK)		5.10	07.20	10.04	0.00	150.0	19.0%
			0.19 1 00	67.08	16.42		150.0	
10115- CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.43	67.37	16.60	0.00	150.0	± 9.6 %
		Y	5.52	67.34	16.56		150.0	
		Z	5.24	67.27	16.51		150.0	
10116- CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)		5.24	67.44	16.56	0.00	150.0	± 9.6 %
		<u>Y</u>	5.30	67.32	16.46	ļ	150.0	
10117-	LEFE 802 11n (HT Mixed 13.5 Mbns		5.08 5.11	67.39	16.50	0.00	150.0	+96%
CAB	BPSK)		5.11 E 40	66.00	10.40	0.00	150.0	
	+		0.10 4.90	67 15	16.39	 	150.0	
10118-	IEEE 802.11n (HT Mixed, 81 Mbps, 16-	$\frac{1}{x}$	5.51	67.58	16.71	0.00	150.0	± 9.6 %
CAB	QAM)		EAL	07 - 1	10.0-	-	4000	
			5.61	67.54	16.67	 	150.0	
10119- CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-	X	5.22	67.40	16.54	0.00	150.0	± 9.6 %
CAD		<u></u> ⊥v †	5.27	67.25	<u>16</u> .44		150.0	
		Z	5.07	67.38	16.51		150.0	
10140- CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.41	67.63	16.10	0.00	150.0	± 9.6 %
		Y	3.43	67.31	15.88		150.0	
10141-	LTE-FDD (SC-FDMA, 100% RB, 15	X	3.28	67.71	16.02	0.00	150.0	± 9.6 %
ÇAU	NITZ, 04-QAM)	┼┯┤	3.55	67.40	16.05	<u> </u>	150.0	
		z	3.40	67.71	16.20	1	150.0	t
10142- CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.05	69.21	16.15	0.00	150.0	± 9.6 %
		Y	2.02	68.14	15.65	ļ	150.0	
40445		Z	1.90	69.18	15.79		150.0	+0.0%
10143- CAD	LIE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)		2.53	69.32	16.06	0.00	150.0	±9.6%
ļ		Y 7	2.50	60.50	15.76	<u> </u>	150.0	
10144-	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-0AM)	X	2.39	66.94	14.41	0.00	150.0	± 9.6 %
		Y	2.31	66.41	14.31		150.0	
		Z	2.06	66.49	13.57	1	150.0	
10145- CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.26	65.57	12.06	0.00	150.0	± 9.6 %
		<u> </u>		65.51	12.47	<u> </u>	150.0	
10146-	LTE-FDD (SC-FDMA, 100% RB, 1.4	<u> </u>	0.90	65.72	9.31	0.00	150.0	± 9.6 %
	MHZ, 16-QAM)	+ +	2.34	67.84	13.03	+	150.0	<u> </u>
		Ż	1.05	60.97	7.27		150.0	
10147- CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.17	67.47	12.23	0.00	150.0	± 9.6 %
		Y	2.79	70.16	14.23		150.0	
		Z	1.11	61.38	7.60		150.0	

10149- CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.93	67.61	16.06	0.00	150.0	±9.6 %
		Y	2.95	67.20	15.81	· · · · · · · · · · · · · · · · · · ·	150.0	
10150		Z	2.81	67.60	15.95		150.0	1
10150- CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.06	67.58	16.10	0.00	150.0	±9.6 %
		Ŷ	3.08	67.18	15.86		150.0	<u> </u>
10154			2.93	67.64	16.01		150.0	
CAD	QPSK)	X	7.47	81.50	23.31	3.98	65.0	± 9.6 %
		Y	8.13	81.64	23.19		65.0	· · · · · · · · · · · · · · · · · · ·
10150		Z	5.82	78.02	21.74		65.0	· · · · · · · · · · · · · · · · · · ·
10152- CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.96	75.09	21.13	3.98	65.0	±9.6 %
		Y	6.59	75.82	21.34		65.0	
		Z	4.95	72.53	19.69		65.0	
10153- CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	6.33	76.00	21.87	3.98	65.0	±9.6 %
		Y	6.98	76.72	22.08	<u> </u>	65.0	· · · · · ·
		Z	5.31	73.57	20.52		65.0	· · ·
10154- CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.32	69.50	16.70	0.00	150.0	± 9.6 %
· · · ·		Y	2.30	68.63	16.21	<u> </u>	150.0	<u> </u>
		Z	2.17	69.43	16.55	<u> </u>	150.0	
10155- CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.65	68.47	16.34	0.00	150.0	± 9.6 %
		Y	2.64	67.77	16.01		150.0	
		Z	2.55	68.82	16.23		150.0	<u> </u>
10156- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.90	69.38	15.98	0.00	150.0	± 9.6 %
		Y	1.87	68.22	15.49		150.0	
		Z	1.73	69.10	15.35		150.0	
10157- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.13	67.61	14.49	0.00	150.0	± 9.6 %
_		Ý	2.14	66.94	14 37	<u> </u>	150.0	
······		Z	1.88	66.88	13.39		150.0	
10158- <u>CAE</u>	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.80	68.62	16.48	0.00	150.0	±9.6 %
		Y	2.80	67.95	16.18	<u> </u>	150.0	
		Z	2.70	69.02	16.37		150.0	
10159- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.24	68.05	14.76	0.00	150.0	± 9.6 %
		Y	2.25	67.38	14.65		150.0	
		Z	1.97	67.26	13.62		150.0	
10160- CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.79	68.96	16.56	0.00	150.0	± 9.6 %
		Y	2.78	68.29	16.16		150.0	
		Z	2.67	69.03	16.52		150.0	———
10161- _CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.95	67.54	16.03	0.00	150.0	±9.6 %
		Y	2.97	67.10	15.79		150.0	
		Z	2.82	67.63	15.91		150.0	
10162- <u>CAD</u>	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.06	67.69	16.14	0.00	150.0	± 9.6 %
		Y	3.08	67.22	15.89		150.0	
10400		Z	2.94	67.84	16.05		150.0	
CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.60	69.71	19.22	3.01	150.0	± 9.6 %
		Y	3.76	69.53	19.10	· ·	150.0	
40407		Z	3.14	68.43	18.52		150.0	
CAE	L1E-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.49	72.92	19.79	3.01	150.0	± 9.6 %
		Y	4.71	72.48	19.58		150.0	
		Z	3.64	70.88	18.81		150.0	
							100.0	

10168- CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.99	75.19	21.10	3.01	150.0	±9.6 %
		Y	5.19	74.57	20.82		150.0	
	3	Ζ	4.03	73.14	20.19		150.0	
10169- CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.02	69.31	19.06	3.01	150.0	±9.6 %
		Y	3.27	69.70	19.15		150.0	
		Z	2.51	66.78	17.76		150.0	
10170- CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.24	75.66	21.52	3.01	150.0	± 9.6 %
			4.60	75.59	21.37		150.0	
10171-	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-OAM)	X	3.48	71.52	18.79	3.01	150.0	±9.6 %
7010		Y	3.80	71.54	18.73		150.0	
		Z	2.62	68.04	17.18		150.0	
10172- CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	9.86	97.03	31.31	6.02	65.0	± 9.6 %
		Y	11.94	97.60	31.03		65.0	· ··-
10173-		Z	3.49	77.54	23.86	0.00	65.0	
10173- CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	35.90	116.24	34.55	6.02	65.0	± 9.6 %
		Y	33.36	111.72	33.12		65.0	
10174			0.50	07.15 105.16	20.45	6.02	0.00	+96%
10174- CAD	64-QAM)		21.40	105.10	30.00	0.02	05.0	1 9.0 %
			20.65	101.59	29.68		65.0	
10175-	LTE-FDD (SC-FDMA, 1 RB, 10 MHz,	X	2.98	69.02	18.83	3.01	150.0	± 9.6 %
UAE		Y	3 23	69.39	18.90		150.0	
		z	2.49	66.55	17.55		150.0	
10176- CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.24	75.68	21.53	3.01	150.0	± 9.6 %
		Y	4.61	75.61	21.38		150.0	
		Z	3.09	71.30	19.67		150.0	
10177- CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.01	69.16	18.92	3.01	150.0	± 9.6 %
		Y	3.26	69.54			150.0	
40470			2.50	75.49	21.42	3.01	150.0	+96%
10178- CAE	QAM)		4.21	75.40	21.42	5.01	150.0	
		7	4.00	75.30	19.60		150.0	
10179-	LTE-FDD (SC-FDMA, 1 RB, 10 MHz,	X	3.83	73.49	20.03	3.01	150.0	± 9.6 %
	04 60 ((1))	Y	4.16	73.42	19.91		150.0	
		Z	2.83	69.59	18.31		150.0	
10180- CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	3.47	71.46	18.75	3.01	150.0	± 9.6 %
		Y	3.79	71.47	18.68		150.0	<u> </u>
		Z	2.62	68.01	17.15	0.04	150.0	+0.00
10181- CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)		3.00	69.14	18.91	3.01	150.0	I 9.0 %
		<u> </u>	3.26	69.52	18.99		150.0	
40400		+	2.50	75.46	21 /1	3.01	150.0	+96%
10182- CAD	LTE-FDD (SU-FDMA, T KB, T5 MHZ, 16-QAM)		4.20	75.96	21.41	5.01	150.0	1 0.0 %
			4.00	71 17	19 50		150.0	+
10183-	LTE-FDD (SC-FDMA, 1 RB, 15 MHz,	X	3.46	71.44	18.74	3.01	150.0	± 9.6 %
AAC	04-QAIVI)	+ Y	3.78	71.45	18.67	1	150.0	
<u> </u>		Ż	2.62	68.00	17.14	1	150.0	1

10184- CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.01	69.18	18.93	3.01	150.0	± 9.6 %
		Y	3.27	69.56	19.01	<u> </u>	150.0	
L		Z	2.51	66.67	17.63		150.0	
10185- CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM)	X	4.22	75.53	21.45	3.01	150.0	± 9.6 %
		Y	4.57	75.42	21.28		150.0	
10100		Z	3.08	71.23	19.63		150.0	
AAD	QAM)	X	3.48	71.51	18.77	3.01	150.0	± 9.6 %
		Y	3.80	71.51	18.70		150.0	
40407		Z	2.63	68.05	17.17		150.0	
CAE	QPSK)	X	3.02	69.24	19.00	3.01	150.0	± 9.6 %
<u> </u>		Y	3.28	69.61	19.07		150.0	
10100		Z	2.52	66.73	17.71		150.0	
CAE	16-QAM)	X	4.35	76.17	21.80	3.01	150.0	± 9.6 %
·		Y	4.72	76.08	21.65		150.0	
10100		<u>Z</u>	<u>3.</u> 15	71.69	19.93		150.0	
AAE	64-QAM)	X	3.56	71.93	19.04	3.01	150.0	± 9.6 %
		Y	3.88	71.93	18.97	· · · · · · · · ·	150.0	·
10103		<u>Z</u>	2.67	68.37	17.41		150.0	
CAB	BPSK)	X	4.54	66.68	16.24	0.00	150.0	± 9.6 %
·		<u> </u>	4.59	66.47	16.13	· · · · · · · · · · · · · · · · · · ·	150.0	
10104		Z	4.40	66.85	16.19		150.0	
CAB	16-QAM)	X	4.70	66.99	16.36	0.00	150.0	± 9.6 %
		Y	4.77	66.80	16.26		150.0	<u> </u>
10105		Z	4.55	67.09	16.33		150.0	·
CAB	64-QAM)	X	4.74	67.02	16.38	0.00	150.0	± 9.6 %
		Y	4.81	66.83	16.27		150.0	
10100		Z	4.58	67.11	16.34		150.0	
CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.54	66.74	16.25	0.00	150.0	± 9.6 %
		Y	4.60	66.55	16.16		150.0	
10107		Z	4.39	66.85	16.19		150.0	
10197- CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16- QAM)	X	4.72	67.01	16.37	0.00	150.0	± 9.6 %
		Y	4.78	66.83	16.27		150.0	
40400		Z	4.56	67.10	16.33		150.0	
CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64- QAM)	X	4.75	67.04	16.39	0.00	150.0	±9.6 %
		Y	4.81	66.85	16.28		150.0	
40040		Z	4.58	67.11	16.34		150.0	
CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	Х	4.49	66.76	16.22	0.00	150.0	± 9.6 %
		Y	4.55	66.56	16.12		150.0	{
10000		Z	4.34	66.89	16.16		150.0	
CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16- QAM)	Х	4.71	66.98	16.36	0.00	150.0	± 9.6 %
<u> </u>		Y	4.78	66.81	16.26		150.0	
10224		Z	4.55	67.06	16.32		150.0	
CAB	QAM)	X	4.75	66.96	16.37	0.00	150.0	±9.6 %
		Y	4.82	66.78	16.27		150.0	
40000		Z	4.59	67.05	16.33		150.0	
10222- CAB	BPSK)	X	5.08	67.12	16.48	0.00	150.0	±9.6 %
		Y	5.14	67.00	16.39		150.0	————
		Z	4.96	67.13	16.45		150.0	
			1		`			

10223-	IEEE 802.11n (HT Mixed, 90 Mbps, 16-	X	5.38	67.33	16.60	0.00	150.0	± 9.6 %
UND		+ Y +	5.45	67.20	16.51		150.0	
		ż	5.23	67.33	16.56		150.0	
10224- CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64- QAM)	X	5.13	67.23	16.46	0.00	150.0	± 9.6 %
		Y	5.19	<u>67.1</u> 1	16.37		150.0	
		Z	4.99	67.25	16.44		150.0	
10225- CAB	UMTS-FDD (HSPA+)	X	2.82	66.29	15.44	0.00	150.0	± 9.6 %
		Y	2.85	65.89	15.31		150.0	
40000			2.69	66.42	15.13	600	150.0	+069/
CAA	16-QAM)		40.58	118.73	30.31	0.02	0.00	т9.0 %
			36.88	113.76	33.77	ļ	65.0 65.0	
10227-	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz	X	36.33	114.29	33.35	6.02	65.0	± 9,6 %
CAA	64-QAM)							
			31.30	108.87	31.78		65.0	
10000		Z	6.95	87.06	24.80	600	65.0	+000/
CAA	QPSK)		13.05	104.05	33.59	0.02	0.00	1 9.0 %
		<u> </u> Υ]	18.81	107.23	34.08		65.0	
10220			4.50	02.80	20.97	6.02	65.0	+96%
CAB		Ĺ	00.10	444.55	00.170	0.02	00.0	÷ 0.0 /0
		¥	33.58	111.82	33.15	 	65.0	
10220			32.38	07.20	20.49 32.60	6.02	65.0	±96%
CAB	QAM)				52.00			
		Y	28.70	107.19	31.24		65.0	
4000			6.54	85.97	24.36		65.0	+0.00
10231- CAB	LTE-TOD (SC-FDMA, 1 RB, 3 MHz, QPSK)	×	12.84	102,68	33.09	6.02	0.00	± 9.6 %
			17.62	105.78	33.56		65.0	<u> </u>
10222			4.35	82.09	20.62	6.02	65 0	+96%
CAD			00.10	444.00	00.47	0.02		_ 0.0 /0
 		+ Y	33.55	111.82	33.15		65.0	+
10233-	LTE-TDD (SC-FDMA_1 RB_5 MHz_64-	1 ×	32.28	112.07	32.68	6.02	65.0	± 9.6 %
CAD	QAM)	\perp			1	ļ		
		<u> Y</u>	28.65	107.18	31.24		65.0	<u> </u>
10004		$\frac{1}{2}$	0.52	<u>85.93</u>	24.35	6.02	65.0	+96%
CAD	QPSK)		12,22	101.47	02.00	0.02	00.0	
		Y	16.65	104.42	33.04	1	65.0	
10225	LTE-TOD (SC-EDMA 1 RR 10 MHz	<u> </u>	4.24	116.46	34.62	6.02	65.0	± 9.6 %
CAD	16-QAM)	L^						
		Y	33.66	111.90	33.18		65.0	
1000-			6.60	87.26	25.49	6.00	65.0	+060/
10236- CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	33.06	112.44	32.11	0.02	0.00	± 9.0 %
		<u> Y</u>	29.12	107.43	31.30	+	65.0	
40007		$+\frac{z}{\sqrt{z}}$	12.00	86.11	24.40	6.02	0.00	+96%
10237- CAD	QPSK)		12.90	102.82	33.13	0.02	00.0	± 3.0 %
		<u> Y</u>	17.72	105.93	33.61		65.0	+
10238-	LTE-TDD (SC-FDMA, 1 RB, 15 MHz,	$\frac{z}{x}$	4.35	82.12	<u>25.64</u> 34.59	6.02	65.0	± 9.6 %
CAD	16-QAM)	+	33 20	111 80	33.15		65.0	
			6.58	87.20	25.47	-	65.0	
1	1							

10239-	LTE-TDD (SC-FDMA, 1 RB, 15 MHz,	X	32.17	112.03	32.67	6.02	65.0	± 9.6 %
		Y	28.59	107.16	21.00		- 05.0	
		- -	649	85.80	31.23		65.0	
10240- CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	12.85	102.75	33.11	6.02	65.0	± 9.6 %
		Y	17.65	105.86	33.59		65.0	
10244		<u>Z</u>	4.34	82.09	25.63		65.0	
CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	8.52	83.40	26.72	6.98	65.0	± 9.6 %
		Y	9.34	83.46	26.63		65.0	
40040		Z	6.49	79.39	24.77		65.0	
10242- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	7.72	81.29	25.79	6.98	65.0	± 9.6 %
		Y	8.22	80.66	25.42	-	65.0	
10010		Z	5.72	76.85	23.63		65.0	
10243- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.95	76.72	24.82	6.98	65.0	± 9.6 %
		Y	6.41	76.67	24.65	<u> </u>	65.0	
40044		Z	4.75	73.34	22.98	<u> </u>	65.0	
10244- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	6.67	78.45	19.67	3.98	65.0	± 9.6 %
		Y	8.20	80.91	21.14	<u> </u>	65.0	+
		Z	3.50	69.23	14.35	<u> </u>	65.0	+
10245- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	6.39	77.48	19.23	3.98	65.0	± 9.6 %
		Y	7.92	80.07	20.76	<u> </u>	65.0	+
10010		Z	3.42	68.65	14.03		65.0	<u>+-</u>
10246- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.15	85.97	22.95	3.98	65.0	± 9.6 %
·		Τ _Υ -	9.24	86.80	23 49		65.0	<u> </u>
		Z	4.03	75.23	17 77	†	65.0	
10247- 	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	5.50	76.42	20.00	3.98	65.0	± 9.6 %
_		Y	6.26	7749	20.66	<u> </u>	65.0	<u> </u>
		Z	3.95	71.61	16.94	<u> </u>	65.0	+
10248- CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	5.40	75.54	19.60	3.98	65.0	± 9.6 %
		İΥ	6.16	76.66	20.28		65.0	┢┈──┤
		Z	3.89	70.88	16.59		65.0	<u> </u>
10249- CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.66	89.43	25.19	3.98	65.0	±9.6 %
		Y	10.35	89 11	25.13		65.0	<u> </u>
		Z	5.64	80.91	21.33		65.0	<u>+ </u>
10250- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	6.21	78.20	22.44	3.98	65.0	± 9.6 %
		Y	6.93	79.00	22.73		65.0	
10071		Z	4.95	74.96	20.57		65.0	<u> </u>
10251- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.85	75.76	21.03	3.98	65.0	± 9.6 %
		Y	6.49	76.44	21 31		65.0	
<u> </u>		Z	4.69	72.73	19 17		65.0	
10252- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	8.41	86.24	25.10	3.98	65.0	± 9.6 %
		Y	9.13	86.11	24.91		65.0	├── ── ──
10050		Ζ	5.95	81.04	22.79		65.0	
10253- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.81	74.45	20.83	3.98	65.0	± 9.6 %
		Y	6.39	75.11	21.05		65.0	
<u></u>		Z	4.88	72,13	19.42	<u> </u>	65.0	
10254- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	6.16	75.32	21.51	3.98	65.0	± 9.6 %
		- Y	6.77	75.90	21 72			
		z	5.19	73.05	20.14		00.0	
				10.00	20.14		0.00	

10255- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, OPSK)	X	6.96	80.42	23.12	3.98	65.0	± 9.6 %
		Y	7.59	80.64	23.06		65.0	
		Ż	5.51	77.21	21.58		65.0	
10256- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	4.89	73.41	16.49	3.98	65.0	± 9.6 %
		Y	6.68	77.30	18.76		65.0	
		Z	2.46	64.75	10.88		65.0	
10257- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	4.63	72.26	15.89	3.98	65.0	± 9.6 %
			6.35	76.13	18.19		65.0	
10050	1 TE TOD (SC EDMA 100% PB 1.4		2.42	04.27 70.01	10.52	3.09	65.0	+06%
CAA	MHz OPSK)		0.00	13.01	10.40	0.80	00.0	1 3.0 70
		Y	7.01	81.77	20.90		65.0	
		Z	2.56	68.30	13.54		65.0	
10259- CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	5.80	77.14	20.90	3.98	65.0	± 9.6 %
		Y	6.53	78.01	21.38		65.0	
10000		Z	4.38	73.08	18.36	2.09	65.0	+06%
10260- CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.78	/6.6/	20.70	3.98	65.0	± 9.0 %
	· · ·	Y 7	6.51	77.60	21.22		65.0	
10061			4.39	86.47	24.62	3.98	65.0	+96%
CAB	QPSK)		0,21	00.47	24.02	0.00	00.0	
		Y	9.00	86.40	24.57		65.0	
10262-	LTE-TDD (SC-FDMA, 100% RB, 5 MHz,	X	6.19	78.15	22.39	3.98	65.0	± 9.6 %
CAD	16-QAM)	Y	6.92	78.95	22.69		65.0	
		Ż	4.94	74.88	20.51		65.0	
10263- CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.84	75.72	21.02	3.98	65.0	± 9.6 %
		Y	6.48	76.42	21.31		65.0	
		Z	4.68	72.71	19.16	0.00	65.0	100%
10264- CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	8.30	85.98	24.99	3.98	65.0	±9.6 %
		Y	9.03	85.88	24.80		65.0	
40005	LTE TOD (00 FDMA 400% BR 10		5.88	75.00	22.07	3.08	65.0	+96%
10265- CAD	MHz, 16-QAM)		0.00	75.00	21.10	0.00	65.0	
		7	4 95	72.53	19.70		65.0	<u> </u>
10266-	LTE-TDD (SC-FDMA, 100% RB, 10	X	6.33	75.99	21.86	3.98	65.0	± 9.6 %
		Y	6.97	76.70	22.07		65.0	
<u> </u>		Z	5.31	73.56	20.51		65.0	
10267- CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	7.45	81.44	23.28	3.98	65.0	± 9.6 %
		Y	8.11	81.58	23.17		65.0	
			5.81	77.97	21.72	2.00	65.0	+06%
10268- CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)		6.50	/4.59	21.27	0.90	00.0	1 3.0 %
		- Y 	1.11	70.29	21.4/		65.0	
10269-	LTE-TDD (SC-FDMA, 100% RB, 15	X	6.45	74.07	21.10	3.98	65.0	±9.6 %
LCAD		Y	7.04	74.76	21.30	-	65.0	1
		Ż	5.59	72.11	20.01		65.0	
10270-	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, OPSK)	X	6.83	77.38	21.77	3.98	65.0	± 9.6 %
		Y	7.44	77.78	21.79		65.0	
		Z	5.71	75.01	20.64		65.0	

10274- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.62	66.75	15.42	0.00	150.0	± 9.6 %
		Y	2.61	66.15	15.17		150.0	
40075		Z	2.54	67.07	15.23		150.0	
CAB	UMIS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.67	68.55	15.99	0.00	150.0	± 9.6 %
		<u> </u>	1.61	67.31	15.31		150.0	
10077		<u></u>	1.61	68.63	15.84		150.0	
CAA		X	1.74	60.91	6.37	9.03	50.0	± 9.6 %
<u> </u>		\downarrow Y	2.31	62.75	8.24		50.0	
10278-	PHS (OPSIC PM) 994MUL - D-IL ((9.7)	<u> </u>	1.34	59.32	4.61		50.0	
CAA			9.23	83.71	19.86	9.03	50.0	± 9.6 %
		<u> </u>	16.13	92.59	23.80		50.0	
10279-	PHS (ODSK DW/ 004041 - D-II-KO 00)	<u> </u>	2.80	66.68	11.50		50.0	
CAA			9.55	84.14	20.09	9.03	50.0	± 9.6 %
		<u> </u>	16.22	92.62	23.87		50.0	· · · · · · · · · · · · · · · · · · ·
10290	CDMA2000 PC4 SOFE FUED	$+$ $\frac{z}{z}$	2.90	67.01	11.74		50.0	
AAB			1.55	69.78	14.51	0.00	150.0	± 9.6 %
		<u> </u>	1.48	68.23	14.09		150.0	
10201-	CDMA2000 BC2 COFF Full D		1.19	67.52	12.47		150.0	
AAB	COMA2000, RC3, SO55, Full Rate		0.89	66.83	13.08	0.00	150.0	± 9.6 %
· · · ·		<u>Y</u>	0.85	65.35	12.57		150.0	
10202	CDM42000 BC2 0000 5 # 5 /	Z	0.74	65.55	11.46		150.0	
AAB	CDMA2000, RC3, SO32, Full Rate	X	1.27	72.61	16.13	0.00	150.0	± 9.6 %
		Y	1.03	68.80	14.67		150.0	f — —
10000		Z	1.20	72.32	14.93		150.0	<u> </u>
AAB	CDMA2000, RC3, SO3, Full Rate	X	2.34	81.60	20.09	0.00	150.0	± 9.6 %
		Y	1.43	73.64	17.27		150.0	
10005		Z	3.93	87.90	20.92		150.0	
AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	16.32	98.49	29.02	9.03	50.0	± 9.6 %
		Y	11.98	92.39	27.58		50.0	
40007		Z	18.77	96.90	26.52		50.0	<u> </u>
10297- AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.80	70.02	16.88	0.00	150.0	± 9.6 %
		Y	2.77	69.27	16.41		150.0	
10000		Z	2.65	69.87	16.82		150.0	
AAC	QPSK)	X	1.62	68.28	14.44	0.00	150.0	± 9.6 %
		Y	1.62	67.40	14.26		150.0	
40200		Z	1.32	66.56	12.71		150.0	
AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.59	69.34	14.00	0.00	150.0	±9.6 %
		L Y	2.92	70.30	15.01		150.0	
10300		Z	1.54	64.05	10.22		150.0	
AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.92	64.86	11.14	0.00	150.0	±9.6 %
		Ι Υ	2.24	65.95	12.27		150.0	
10304		Z	1.26	61.60	8.20		150.0	
AAA	10MHz, QPSK, PUSC)	X	4.85	66.06	17.86	4.17	50.0	± 9.6 %
		Y	4.97	65.84	17.76		50.0	···
10200		Z	4.42	65.27	17.23		50.0	
10302- 4AA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.22	66.19	18.31	4.96	50.0	± 9.6 %
		Y	5.38	66.17	18 31		50.0	
						1		

40000				<u> </u>				
10303-		X	4.96	65.79	18.13	4.96	50.0	± 9.6 %
AAA	TUMHZ, 64QAM, PUSC)							
		Y	5.14	65.84	18.17		50.0	
		Z	4.61	65.34	17.65		50.0	
10304- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.78	65.69	17.62	4.17	50.0	±9.6 %
		Y	4.94	65.66	17.62		50.0	
		Z	4.45	65.35	17.22		50.0	
10305-	IEEE 802.16e WIMAX (31:15, 10ms,	X	4.24	66.91	19.40	6.02	35.0	± 9.6 %
AAA	10MHz, 64QAM, PUSC, 15 symbols)							
		Y	4.54	67.57	19.86		35.0	
		Z	3.84	65.89	18.29		35.0	
10306- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.62	66.22	19.11	6.02	35.0	±9.6 %
		Y	4.86	66.59	19.39		35.0	
		Ż	4.26	65.53	18.31		35.0	
10307-	IEEE 802,16e WiMAX (29:18, 10ms,		4.50	66.31	19.05	6.02	35.0	+9.6%
AAA	10MHz, QPSK, PUSC, 18 symbols)			00.01	10.00	0.01	00.0	10.0 %
		T Y	4 77	66.81	19.39		35.0	
		7	4 12	65.47	18.00		35.0	
10308-	IEEE 802 16e WIMAX (29:18, 10ms	X	4 47	66.49	19.17	6.02	35.0	+96%
AAA	10MHz, 16QAM, PUSC)	Û	4.70	00.40	10.10	0.02	33.0	1 0.0 78
		I Y	4.73	66.98	19.51		35.0	
			4.09	65.63	18.30		35.0	
10309- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.68	66.45	19.27	6.02	35.0	± 9.6 %
		Υ	4.93	66.86	19.56		35.0	
		Z	4.28	65.63	18.41		35.0	
10310- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.56	66.25	19.08	6.02	35.0	± 9.6 %
		Y	4.81	66.65	19.36		35.0	
		Ż	4.20	65.54	18.28	-	35.0	
10311-	LTE-FDD (SC-FDMA, 100% RB, 15	X	3.16	69.26	16.50	0.00	150.0	± 9.6 %
AAC			0.40	69.60	16.00		150.0	
			3.13	60.00	10.00		150.0	
10040			3.01	69.09	10.40	6.00	70.0	+06%
AAA	IDEN 1:3	^	0.00	00.23	21.04	0.99	70.0	1 9.0 %
		Y	8.53	85.21	20.95		70.0	
		Z	3.31	75.28	17.31		70.0	
10314- AAA	IDEN 1:6	X	12.68	100.31	29.33	10.00	30.0	±9.6 %
		Y	13.31	98.73	28.67		30.0	
		Z	5.19	85.23	24.17		30.0	
10315- AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	Х	1.10	64.07	15.53	0.17	150.0	± 9.6 %
		Y	1.10	63.56	15.08	1	150.0	
		Z	1.08	63.95	15.31		150.0	
10316-	IEEE 802.11g WiFi 2.4 GHz (ERP-	X	4.59	66.75	16.41	0.17	150.0	± 9.6 %
	Cr Divis o mopo, sope duty cycle/		4 66	66.58	16.32	1	150.0	t
		7	4 42	66 78	16.02	+	150.0	
10247			4.40	66 75	16.41	0.17	150.0	+96%
AAB	Mbps, 96pc duty cycle)		4.09	00.75	10,41	0.17	100.0	1 3.0 %
		Y	4.66	66.58	16.32		150.0	ļ
<u></u>		Z	4.43	66.78	16.29		150.0	
10400- AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.69	67.06	16.37	0.00	150.0	± 9.6 %
		Y	4.77	66.86	16.25		150.0	
		Z	4.51	67.11	16.31		150.0	
10401-	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.41	67.26	16.54	0.00	150.0	± 9.6 %
		Y	5,45	67.06	16.42		150.0	1
<u> </u>		1 7	5 18	66.94	16.33		150.0	1

10402-	IEEE 802.11ac WiFi (80MHz, 64-QAM,	X	5.65	67.49	16.51	0.00	150.0	± 9.6 %
AAC	99pc duty cycle)	- <u> </u>			·	ļ		
			5.72	67.43	16.45	ļ	150.0	ļ
10403-	CDMA2000 (1xEV-DO_Rev_0)	$\frac{2}{7}$	1 55	60.79	16.48	0.00	150.0	
AAB			1.00	09.70	14.01	0.00	115.0	± 9.6 %
		Y	1.48	68.23	14.09		115.0	
		Z	1.19	67.52	12.47	1	115.0	
10404-	CDMA2000 (1xEV-DO, Rev. A)	X	1.55	69.78	14.51	0.00	115.0	± 9.6 %
AAD			4.10					
		+ <u>r</u> -	1.48	68.23	14.09	L	115.0	L
10406-	CDMA2000, RC3, SO32, SCH0, Full	$\frac{2}{x}$	100.00	120 41	20.76	0.00	115.0	100%
AAB	Rate		100.00	120,41	20.70	0.00	100.0	± 9.0 %
		Y	19.72	99.25	25.38		100.0	
		Z	22.86	100.95	24.14		100.0	
10410-	LTE-TDD (SC-FDMA, 1 RB, 10 MHz,	X	100.00	125.71	31.88	3.23	80.0	± 9.6 %
AAU	QPSK, UL Subtrame=2,3,4,7,8,9)		100.00	- 101.10				
		7	100.00	124.16	31.78		80.0	
10415-	IEEE 802.11b WiFi 2.4 GHz (DSSS_1		1.03	91.70	22.40	0.00	80.0	
AAA	Mbps, 99pc duty cycle)		1.00	00.20	14.52	0.00	150.0	±9.6%
		Y	1.02	62.63	14.41	·	150.0	
		Z	1.03	63.39	14.88		150.0	
10416-	IEEE 802.11g WiFi 2.4 GHz (ERP-	X	4.54	66.72	16.31	0.00	150.0	±9.6 %
	OFDM, 6 Mbps, 99pc duty cycle)							
			4.59	66.51	16.19		150.0	
10417-	IFEE 802 11a/b WIEL5 GHz (OEDM 6		4.40	66.84	16.26	0.00	150.0	
AAA	Mbps, 99pc duty cycle)		4.04	00.72	16.31	0.00	150.0	± 9.6 %
		ΤΥ	4.59	66.51	16 19	<u> </u>	150.0	·
		Z	4.40	66.84	16.26		150.0	
10418- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.53	66.89	16.33	0.00	150.0	± 9.6 %
		Y	4.58	66.66	16.20		150.0	
40440		Z	4.40	67.05	16.32		150.0	— —
10419- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.55	66.83	16.33	0.00	150.0	±9.6 %
		Y	4.60	66.61	16.21		150.0	
10/22		Z	4.41	66.98	16.30		150.0	
AAA	BPSK)	X	4.66	66.83	16.34	0.00	150.0	± 9.6 %
			4.72	66.62	16.23		150.0	
10423-	IEEE 802 11p /HT Greenfield 43.2		4.52	66.95	16.31		150.0	
<u>AAA</u>	Mbps, 16-QAM)		4.82	67.13	16.45	0.00	150.0	±9.6%
		Y Z	4,90	66.96	16.35		150.0	
10424-	JEEE 802.11n (HT Greenfield 72.2		4.00	67.00	16.40	0.00	150.0	
AAA	Mbps, 64-QAM)		4.70	07.09	10.43	0.00	150.0	±9.6 %
			4.82	65.90	16.32		150.0	
10425- AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.35	67.37	16.60	0.00	150.0 150.0	± 9.6 %
		+ + +	5 42	67.07	16.50		450.0	[
			5.19	67.35	16.52		150.0	
10426- AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.36	67.42	16.62	0.00	150.0	± 9.6 %
		Y	5.42	67.27	16.52		150.0	— —
· · · ·		Z	5.21	67.42	16.58		150.0	

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10427- AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-0AM)	Х	5.37	67.38	16.60	0.00	150.0	±9.6 %
<u>/////</u>		Y	5.43	67.25	16.50		150.0	
		Ζ	5.18	67.23	16.48		150.0	
10430- AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4,24	70.83	18.17	0.00	150.0	± 9.6 %
		Y	4.26	70.25	18.02		150.0	
		Z	4.20	71.89	18.27	0.00	150.0	1000
10431- AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.21	67.30	16.30	0.00	150.0	±9.6 %
		Y	4.28	67.03	16.19		150.0	
40400			4.03	67.45 67.15	16.18	0.00	150.0	+96%
AAB			4.51	07.15	10.00	0.00	150.0	1 3.0 %
			4.58	66.93	16.27		150.0	
40400			4.34	67.12	16.02	0.00	150.0	+96%
AAB	LTE-FDD (OFDMA, 20 MHZ, E-1M 3.1)		4.70	66.04	16.24	0.00	150.0	T 3.0 %
		- <u>Y</u>	4.83	67.20	16.04		150.0	<u> </u>
10434-	W_CDMA (BS Test Model 1 64 DPCH)	X	4.39	71.72	18.14	0.00	150.0	± 9.6 %
AAA			4.05	74.00	47.00	0.00	150.0	L 0.00 /0
		7	4.30	71.03	18.12		150.0	
10435-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz,	X	100.00	125.48	31.77	3.23	80.0	± 9.6 %
AAC	QPSK, UL Subframe=2,3,4,7,8,9)	Y	100.00	123.97	31.69		80.0	
		Z	7.63	90.76	22.11		80.0	
10447-	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.51	67.35	15.60	0.00	150.0	± 9.6 %
		Y	3.58	66.99	15.55	· · · · ·	150.0	
		Z	3.28	67.36	15.16		150.0	
10448- AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.06	67.09	16.17	0.00	150.0	±9.6 %
		Y	4.12	66.80	16.05		150.0	
		Z	3.89	67.25	16.05	0.00	150.0	1 +06%
10449- AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	×	4.33	66.98	16.28	0.00	150.0	± 9.0 %
L		Y	4.39	66.75	16.16		150.0	
40450			4.18	66.89	16.22	0.00	150.0	+96%
10450- AAB	Clipping 44%)		4.00	00.03	10.00	0.00	100.0	
		<u> </u>	4.58	66.69	16.19		150.0	
10451-	W-CDMA (BS Test Model 1, 64 DPCH,	X	<u>4.39</u> 3.39	67.51	15.20	0.00	150.0	± 9.6 %
	Clipping 44%)	+	3.48	67 19	15.21		150.0	
		Ż	3.10	67.22	14.48		150.0	
10456-	IEEE 802.11ac WiFi (160MHz, 64-QAM,	X	6.22	67.91	16.74	0.00	150.0	± 9.6 %
		Y	6.28	67.83	16.68		150.0	
		Z	6.11	67.90	16.72		150.0	
10457- AAA	UMTS-FDD (DC-HSDPA)	X	3.80	65.37	16.02	0.00	150.0	± 9.6 %
		Y	3.83	65.15	15.90	I	150.0	
			3.74	65.57	15.99	0.00	150.0	+06%
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.21	66.83	14.57	0.00	150.0	19.0 %
		<u> Y</u>	3.31	66.55			150.0	
10459-	CDMA2000 (1xEV-DO, Rev. B. 3	$\frac{z}{x}$	4.29	65.14	13.39	0.00	150.0	± 9.6 %
AAA	carriers)							<u> </u>
		Y	4.36	64.71	15.51		150.0	
		Z	4.04	65.27	15.07	1	1 150.0	

Certificate No: EX3-7308_Aug17

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Y 0.88 67.02 15.63 160.0 10461 LTE-TDD (SC-FDMA, 1 H8, 14 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 131.26 34.47 3.29 80.0 ± 9.6 % 10462 LTE-TDD (SC-FDMA, 1 R8, 14 MHz, AAA Y 100.00 132.69 33.89 90.0 90.0 10462 LTE-TDD (SC-FDMA, 1 R8, 14 MHz, AAA 16.16 90.54 19.55 32.3 90.0 ± 9.6 % AAA 16-QAM, UL Subframe=2.34,7,8,9) Y 100.00 172 60.0 1772 60.0 10463 LTE-TDD (SC-FDMA, 1 R8, 14 MHz, AAA Z 0.272 60.0 7.07 60.0 14.64 80.0 10.66 80.0 14.64 80.0 14.64 80.0 14.64 80.0 14.64 80.0 10.66 80.0 14.64 80.0 10.66 80.0 14.64 80.0 14.64 80.0 16.66 80.0 16.65 80.0 16.66 80.0 16.66 80.0 16.66 80.0 16.66 80.0<	10460- AAA	UMTS-FDD (WCDMA, AMR)	X	0.96	69.26	16.86	0.00	150.0	± 9.6 %
10461 LTE-TDD (SC-FDMA, 1 HB, 1 4 MHz, OPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 131.25 34.47 3.29 80.0 ± 9.6 % 10462 LTE-TDD (SC-FDMA, 1 RB, 14 MHz, GPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.5 33.89 80.0 ± 2.8.6 % 10462 LTE-TDD (SC-FDMA, 1 RB, 14 MHz, GPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 170.65 32.33 80.0 ± 9.6 % 10463 LTE-TDD (SC-FDMA, 1 RB, 14 MHz, B4-QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 170.60 7.72 80.0 ± 9.6 % 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 178.65 33.32 30.0 ± 9.6 % 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 178.65 33.32 30.0 ± 9.6 % 10465 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16 X 7.48 81.44 16.98 32.23 80.0 ± 9.6 % 10466 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16 X 7.48 60.44 16.86 80.0 16.66			Y	0.88	67.02	15.53		150.0	
10441. LTE-TDD (SC-FDMA, 1 RB, 14 MHz, PSK, UL Subframe-2,3,4,7,8,9) Y 100.00 128,59 34.47 3.29 80.0 2.9,6% 10462. LTE-TDD (SC-FDMA, 1 RB, 14 MHz, 19 GAM, UL Subframe-2,3,4,7,8,9) Y 100.00 128,59 38.49 80.0 80.0 10462. LTE-TDD (SC-FDMA, 1 RB, 14 MHz, 42 X 18.15 90.54 19.55 3.23 80.0 2.9,6% 10463. LTE-TDD (SC-FDMA, 1 RB, 14 MHz, 44 X 18.15 90.54 19.55 33.02 3.23 80.0 2.9,6% 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, AA Z 0.71 60.00 7.72 60.00 7.66 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0 1.44.6 80.0			Z	0.94	69.35	16.76		150.0	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	10461- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	131.25	34.47	3.29	80.0	± 9.6 %
10462 LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) X 18.15 90.54 19.55 3.23 80.0 ± 9.6 % 10463 LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 44-QAM, UL Subframe=2,3,4,7,8,9) X 2.32 68.50 18.46 90.0 ± 9.6 % 10463 LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 44-QAM, UL Subframe=2,3,4,7,8,9) X 2.32 68.50 18.46 90.0 ± 9.6 % 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.50 33.02 3.23 80.0 ± 9.6 % 10465 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16 X 7.48 81.44 16.98 3.23 80.0 ± 9.6 % 10465 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64 X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % 10466 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64 X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % 10467 LTE-TDD (SC-FDMA, 1 RB, 6 MHz, 76 X 0.72 60.00 7.65 80.0 10.00			Y	100.00	128.59	33.89		80.0	
U1402 L1E-TDD (SC-FDMA, 1 RB, 1.4 MHz, 4C, AMA X 18.15 90.54 19.55 3.23 80.0 ± 9.6 % 10463 LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 4AA X 2.32 68.02 12.27 3.23 80.0 ± 9.6 % 10463 LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 4AA X 2.32 68.02 12.27 3.23 80.0 ± 9.6 % 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 4AA X 2.32 68.02 12.27 3.23 80.0 ± 9.6 % AAA GPSK, UL Subframe=2,3.4,7.8,9) Y 100.00 178.50 3.3.02 3.23 80.0 ± 9.6 % AAA QPSK, UL Subframe=2,3.4,7.8,9) Y 100.00 178.51 33.02 3.23 80.0 ± 9.6 % AAA GAM, UL Subframe=2,3.4,7.8,9) Y 53.06 102.63 2.3.42 80.0 ± 9.6 % 10466 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64 X 1.08 67.57 11.37 3.23 80.0 ± 9.6 % 10467 LTE-TDD (SC-FDMA, 1 R	40.400		Z	3.16	81.29	20.28		80.0	
Y 100.00 110.06 26.23 80.0 2 0.71 60.00 7.72 80.0 AAA 64-QAM, UL Subframe-2.3,4,7,8,9) Y 12.78 85.60 18,46 80.0 AAA 64-QAM, UL Subframe-2.3,4,7,8,9) Y 12.76 85.60 18,46 80.0 10464- LTE-TDD (SC-FDMA, 1 RB, 3 MHz, X 100.00 128.50 33.02 3.23 80.0 ± 9.6 % AAA QPSK, UL Subframe-2.3,4,7,8,9) Y 100.00 128.51 32.265 80.0 ± 9.6 % AAA QAM, UL Subframe-2.3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % AAA QAM, UL Subframe-2.3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % AAA QAM, UL Subframe-2.3,4,7,8,9) Y 7.10 79.26 16.66 80.0 ± 9.6 % AAA QAM, UL Subframe-2.3,4,7,8,9) Y 7.10 79.26 16.66 80.0 ± 9.6 % 1	10462- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	18.15	90.54	19.55	3.23	80.0	± 9.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	100.00	110.06	25.23	<u> </u>	80.0	
D403 L1E-1DJ (SC-FDMA, 1 RB, 1.4 MHz, AVA X 2.32 68.92 12.27 3.23 80.0 ± 9.6 % AVA 6-QAM, UL Subframe=2,3,4,7,8,9) Y 12.78 355.0 18.46 80.0 10464 LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.50 33.02 3.23 80.0 ± 9.6 % AVA QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.51 32.66 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.31 32.46 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 7.10 79.26 16.66 90.0 2 0.71 80.0 ± 9.6 % AAA QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.57 32.78 80.0 ± 9.6 % AAA CFEDD (SC-FDMA, 1 RB, 5 MHz, 64 X 1.86 6	40400		Z	0.71	60.00	7.72		80.0	······································
Y 12.78 65.50 18.46 80.0 10464- AAA QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.50 33.02 3.23 80.0 ± 9.6 % 10465- AAA QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.31 22.66 80.0 10465- AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % 10466- LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- X X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % 4AA QAM, UL Subframe=2,3,4,7,8,9) Y 7.10 79.26 16.56 80.0 ± 9.6 % 10467- CAC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- X X 100.00 128.57 32.78 80.0 ± 9.6 % 10468- LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- X X 100.00 128.67 32.78 80.0 ± 9.6 % 10468- QAM, UL Subframe=2,3,4,7,8,9) Y	AAA	64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.32	68.92	12.27	3.23	80.0	± 9.6 %
10464- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) X 100.00 128,50 33.02 3.23 80.0 ± 9,6 % 10465- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- CAM, UL Subframe=2,3,4,7,8,9) Y 100.00 128,31 32.66 80.0 - 60.0 - 10465- AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102,63 23,42 80.0 - 60.0 - - 60.0 - - 60.0<			<u>Y</u>	12.78	85.50	18.46	1	80.0	1
Data Life-TDU (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.50 33.02 3.23 80.0 ± 9.6 % AAA QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.51 32.66 80.0 AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % 10466- LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % AAA QAM, UL Subframe=2,3,4,7,8,9) Y 7,10 79.26 16.66 80.0 2.0.6 10467- LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- Z 0.07 128.82 33.16 3.23 80.0 ± 9.6 % AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 76.07 106.06 90.0 2.070 60.00 7.67 80.0 2.0.0 AAC QAM, UL Subframe=2,3,4,7,8,9) Y <td< td=""><td>10464</td><td></td><td></td><td>0.72</td><td>60.00</td><td>7.06</td><td></td><td>80.0</td><td></td></td<>	10464			0.72	60.00	7.06		80.0	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	AAA	QPSK, UL Subframe=2,3,4,7,8,9)		100.00	128.50	33.02	3.23	80.0	± 9.6 %
10465- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- OAM, UL Subframe=2,3,4,7,8,9) Y 7.48 81.44 16.98 3.23 80.0 ± 9.8 % 0466- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- AAA X 7.48 81.44 16.98 3.23 80.0 ± 9.8 % 0466- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- AAA X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % 0467- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.10 79.26 16.66 80.0 10467- QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.82 33.16 3.23 80.0 ± 9.6 % 10468- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.78 80.0 ± 9.6 % 10468- AAC CAT N.21 83.60 17.62 3.23 80.0 ± 9.6 % 10468- AAC CAT N.21 79.45 166.82 80.0 ± 9.6 % 10470- CAAC QASK, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 166.2 8			Y	100.00	126.31	32.66		80.0	<u>† </u>
DAAA Chen Disc - FDMA, 1 RB, 3 MHz, 16- AAA X 7.48 81.44 16.98 3.23 60.0 ± 9.6 % AAA CAM, UL Subframe=2,34,7,8,9) Y 53.06 102.63 23.42 80.0 ± 9.6 % I0466- AAA LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM, UL Subframe=2,34,7,8,9) X 1.86 66.75 11.37 3.23 80.0 ± 9.6 % 10467- AAC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 78,9) Y 7.10 79.26 16.56 80.0 10467- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.82 33.16 3.23 80.0 ± 9.6 % 10468- AC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- VAR, UL Subframe=2,3,4,7,8,9) Y 100.00 128.82 33.16 3.23 80.0 ± 9.6 % 10468- AAC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- VAR X 1.87 16.62 80.0 ± 9.6 % 10469- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 76.07 106.68 24.37 80.0 ± 9.6 % 10470- CAAC QAM, UL Subframe=2,3,4,7,8,9)	10465		<u> </u>	2.43	77.27	18.20		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAA	QAM, UL Subframe=2,3,4,7,8,9)	_ X	7.48	81.44	16.98	3.23	80.0	± 9.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	53.06	102.63	23.42		80.0	
DAAA CAPLID (SC-FDMA, 1 RB, 3 MHz, 64- CAM, UL Subframe=2,3,4,7,8,9) Y 7.10 79.26 16.56 80.0 ± 9.6 % 10467- AAC CTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 7.10 79.26 16.56 80.0 ± 9.6 % 10467- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.82 33.16 3.23 80.0 ± 9.6 % 10468- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.78 80.0 ± 9.6 % 10468- AAC CAM, UL Subframe=2,3,4,7,8,9) Y 76.07 106.68 24.37 80.0 ± 9.6 % 10469- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 16.62 80.0 ± 9.6 % 10470- QAM, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 16.62 80.0 ± 9.6 % 10471- QAAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 16.62 80.0 ± 9.6 % 10472- QAAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.02 70.60 <td>10466</td> <td></td> <td></td> <td>0.71</td> <td>60.00</td> <td>7.65</td> <td></td> <td>80.0</td> <td></td>	10466			0.71	60.00	7.65		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAA	QAM, UL Subframe=2,3,4,7,8,9)	X	1.86	66.75	11.37	3.23	80.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			<u> </u>	7.10	79.26	16.56		80.0	· · · · · · · · · · · · · · · · · · ·
AAC QPSK, UL Subframe=2,3,4,7,8,9) X 100.00 128.82 33.16 3.23 80.0 ± 9.6 % AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.78 80.0 ± 9.6 % 10468- AAC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) Y 76.07 108.68 24.37 80.0 ± 9.6 % 10469- AAC LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 76.07 106.68 24.37 80.0 ± 9.6 % 10470- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 16.62 80.0 ± 9.6 % 10470- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10471- CAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10471- CAC QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10472- CAAM, UL Subframe=2,3,4,7,8,9) Y 75.72 106.57 24.32 80.0 ± 9.6	10467-		<u>Z</u>	0.72	60.00	7.01		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAC	QPSK, UL Subframe=2,3,4,7,8,9)		100.00	128.82	33.16	3.23	80.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	100.00		32.78		80.0	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	10460			2.60	78.29	18.60		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAC	QAM, UL Subframe=2,3,4,7,8,9)	X	9.21	83.60	17.62	3.23	80.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	76.07	106.68	24.37	[80.0	
10403- AAC L1E-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 7.22 79.45 16.62 80.0 ± 9.6 % 10470- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10470- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10471- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.61 32.79 80.0 ± 9.6 % 10471- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.61 32.79 80.0 ± 9.6 % 10472- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 75.72 106.57 24.32 80.0 ± 9.6 % 10472- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 ± 9.6 % 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 1.00.00 128.83 33.15 3.23 80.0 ± 9.6 % 10474- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.83 33.15<	10460		<u>Z</u>	0.70	60.00	7.67		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAC	QAM, UL Subframe=2,3,4,7,8,9)	X	1.87	66.82	11.40	3.23	80.0	± 9.6 %
10470- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9) X 100.00 128.87 33.17 3.23 80.0 ± 9.6 % 10471- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.61 32.79 80.0 ± 9.6 % 10471- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) Y 75.72 106.57 24.32 80.0 ± 9.6 % 10472- AAC Z 0.70 60.00 7.66 80.0 ± 9.6 % 10472- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 75.72 106.57 24.32 80.0 ± 9.6 % 10473- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 ± 9.6 % 10473- AAC LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.83 33.15 3.23 80.0 ± 9.6 % 10474- AAC LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subf			LΥ	7.22	79.45	16.62		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	10470		<u></u>	0.72	60.00	7.01		80.0	
Y 100.00 126.61 32.79 80.0 10471- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) X 9.03 83.37 17.54 3.23 80.0 ± 9.6 % 10472- AAC V 75.72 106.57 24.32 80.0 ± 9.6 % Z 0.70 60.00 7.66 80.0 10.472 LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- AAC X 1.85 66.72 11.34 3.23 80.0 ± 9.6 % 10473- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.83 33.15 3.23 80.0 ± 9.6 % 10474- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.77 80.0 ± 9.6 % V 100.00 126.57 32.77 80.0 ± 9.6 %	AAC	QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.87	33.17	3.23	80.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	100.00	126.61	32.79		80.0	
Instruct LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) X 9.03 83.37 17.54 3.23 80.0 $\pm 9.6\%$ 10472- AAC Z 0.70 60.00 7.66 80.0 $\pm 9.6\%$ 10472- AAC LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) X 1.85 66.72 11.34 3.23 80.0 $\pm 9.6\%$ 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 $\pm 9.6\%$ 10473- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 7.17 79.36 16.58 80.0 $\pm 9.6\%$ 10474- AAC QPSK, UL Subframe=2,3,4,7,8,9) Y 100.00 128.83 33.15 3.23 80.0 $\pm 9.6\%$ 10474- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.77 80.0 $\pm 9.6\%$ 10474- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 73.20 106.22 24.25 80.0 $\pm 9.6\%$ 10475- AAC QAM, UL Subframe=2,3,4,7,8,9) Y 73.20 106.22 24.25	10471	TTE TOD (CO FDMA 4 DD 40 MM	Z	2.61	78.33	18.61		80.0	
Y75.72106.5724.3280.010472- AACLTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)X1.85 66.72 11.34 3.23 80.0 ± 9.6 %Y7.1779.3616.5880.010473- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)X100.00128.83 33.15 3.23 80.0 ± 9.6 %10474- AACQPSK, UL Subframe=2,3,4,7,8,9)Y100.00126.57 32.77 80.0 10474- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)Y100.00126.57 32.77 80.0 10474- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)Y100.00126.67 32.77 80.0 10475- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)Y 73.20 106.22 24.25 80.0 10475- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)Y 7.07 79.22 16.54 80.0 10475- AACLTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)Y 7.07 79.22 16.54 80.0	AAC	QAM, UL Subframe=2,3,4,7,8,9)	X	9.03	83.37	17.54	3.23	80.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	<u>75.72</u>	106.57	24.32		80.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	10472-	TE TOD (SC EDMA & DD 40 MUL OF	Z	0.70	60.00	7.66		80.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	AAC	QAM, UL Subframe=2,3,4,7,8,9)	X	1.85	66.72	11.34	3.23	80.0	±9.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			<u>Y</u>	7.17	79.36	16.58		80.0	
AAC QPSK, UL Subframe=2,3,4,7,8,9) X 100.00 128.83 33.15 3.23 80.0 $\pm 9.6\%$ 10474- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) Y 100.00 126.57 32.77 80.0 10474- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9) X 8.86 83.19 17.49 3.23 80.0 $\pm 9.6\%$ 10475- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 73.20 106.22 24.25 80.0 10475- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 73.20 106.22 24.25 80.0 10475- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 7.07 79.22 16.54 80.0 10475- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Y 7.07 79.22 16.54 80.0	10473-	TE-TOD (SC EDMA 4 DD 40111	<u>Z</u>	0.72	60.00	6.99		80.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	AAC	QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	128.83	33.15	3.23	80.0	± 9.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		·····	<u>Y</u>	100.00	126.57	32.77		80.0	
AAC QAM, UL Subframe=2,3,4,7,8,9) X 8.86 83.19 17.49 3.23 80.0 ± 9.6 % V 73.20 106.22 24.25 80.0 10475 LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Z 0.70 60.00 7.66 80.0 10475- VAC QAM, UL Subframe=2,3,4,7,8,9) Y 7.07 79.22 16.54 80.0 V 7.07 79.22 16.54 80.0 20.0 0.0 0.0	10474-	TETDD (SC EDMA 4 DD 45 MUL	Z	2.60	78.28	18.59		80.0	
Y 73.20 106.22 24.25 80.0 10475- LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9) Z 0.70 60.00 7.66 80.0 Y 7.07 79.22 16.54 80.0 ± 9.6 % Z 0.72 60.00 6.99 80.0	AAC	QAM, UL Subframe=2,3,4,7,8,9)	X	8.86	83.19	17.49	3.23	80.0	± 9.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	73.20	106.22	24.25		80.0	
AAC QAM, UL Subframe=2,3,4,7,8,9) Y 1.84 66.67 11.33 3.23 80.0 ± 9.6 % Z 0.72 60.00 6.99 80.0 10.00	10475		Z	0.70	60.00	7.66		80.0	
Y 7.07 79.22 16.54 80.0 Z 0.72 60.00 6.99 80.0	10475- \AC	QAM, UL Subframe=2,3,4,7,8,9)	X	1.84	66.67	11.33	3.23	80.0	±9.6 %
Z 0.72 60.00 6.99 80.0			_ Y _	7.07	79.22	16.54		80.0	
			Z	0.72	60.00	6.99		80.0	

10477- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-	Х	7.55	81.52	16.98	3.23	80.0	±9.6 %
		Y	56.45	103.26	23.54		80.0	
		Ζ	0.70	60.00	7.63		80.0	
10478- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	1.82	66.56	11.27	3.23	80.0	± 9.6 %
		<u>Y</u>	6.95	79.03	16.47		80.0	
10470-		<u> </u>	10.00	60.00	25.61	3.23	80.0	+96%
AAA	QPSK, UL Subframe=2,3,4,7,8,9)		0.70	93.23	20.01	5.25	00.0	1 3.0 %
···· · · ······		Y . 7	9.79	90.18	24.96		80.0	
10480- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-OAM, UL Subframe=2.3.4.7.8.9)	X	12.16	88.23	21.88	3.23	80.0	±9.6 %
		Y	11.98	87.55	22.28		80.0	
		Z	2.88	70.37	14.48		80.0	
10481- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.71	82.91	19.80	3.23	80.0	±9.6 %
		Y	9.82	84.02	20.80		80.0	
10482-	LTE-TDD (SC-FDMA, 50% RB, 3 MHz,	X	4.05	77.33	19.19	2.23	80.0	± 9.6 %
AAA	QPSR, UL Subirame=2,3,4,7,6,9)	Y	4.17	76.68	19,19		80.0	
		Ż	2.07	68.66	14.58		80.0	
10483- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	4.93	75.57	17.70	2.23	80.0	± 9.6 %
		Y	6.34	78.50	19.36		80.0	
10101		Z	1.80	63.38	11.04	0.00	80.0	+06%
10484- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.47	74.01	17.11	2.23	80.0	19.0%
		Y 7	5.79	76.98	18.82		80.0	
10485-	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, OPSK UI, Subframe=2 3.4.7.8.9)	X	4.05	77.49	20.34	2.23	80.0	± 9.6 %
<u></u>		Y	4.20	76.76	20.09		80.0	
		Z	2.71	72.24	17.50		80.0	
10486- AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	71.63	17.34	2.23	80.0	± 9.6 %
		<u> Y</u>	3.76	71.58	17.54		80.0	
10487-	LITE-TOD (SC-EDMA 50% BB 5 MHz		2.51	71.03	14.60	2.23	80.0	± 9.6 %
AAC	64-QAM, UL Subframe=2,3,4,7,8,9)		3.74	71.08	17.31		80.0	
	-	Z	2.49	67.04	14.35		80.0	- ··
10488-	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, OPSK, UL Subframe=2.3.4,7,8,9)	X	3.92	74.84	20.03	2.23	80.0	±9.6 %
		Y	4.21	74.77	19.87		80.0	· · · · · · · · · · · · · · · · · · ·
		Z	2.99	71.49	18.31	0.00	80.0	10.6.9/
10489- AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	×	3.58	70.14	18.01	2.23	80.0	±9.0 %
ļ	· · · · · · · · · · · · · · · · · · ·	<u> </u>	3.82	70.22	18.04		80.0	
10400	LTE-TOD (SC-EDMA 50% RB 10 MHz		3.03	69.89	17.90	2.23	80.0	± 9.6 %
AAC	64-QAM, UL Subframe=2,3,4,7,8,9)		2.00	60.00	17 05		80.0	
		7	3.10	68.21	16.67	1	80.0	
10491- AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2.3 4 7 8.9)	X	4.00	72.50	19.16	2.23	80.0	± 9.6 %
		Y	4.28	72.62	19.08		80.0	
		Z	3.25	70.05	17.90		80.0	1.00%
10492- AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.86	68.99	17.79	2.23	80.0	± 9.6 %
		Y	4.11	69.18	17.85		80.0	<u> </u>
1	1	1 Z	1 3.37	1 67.61	10.80	1	į 00.0	1

10493- AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2 3 4 7 8 9)	X	3.92	68.82	17.72	2.23	80.0	± 9.6 %
		Y	4.17	69.02	17 78		80.0	
		Z	3.43	67.50	16.80	<u> </u>	80.0	
10494- AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.43	74.41	19.78	2.23	80.0	± 9.6 %
<u> </u>		Y	4.75	74.52	19.68		80.0	+
10405		Z	3.49	71.39	18.37		80.0	
AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.90	69.39	18.01	2.23	80.0	± 9.6 %
		Y	4.16	69.65	18.06		80.0	· · · · · · · · · · · · · · · · · · ·
10496	LTE TOD (CO FOMA FOR DD CO HIL	Z	3.39	67.86	17.06		80.0	
AAC	64-QAM, UL Subframe=2,3,4,7,8,9)		3.97	69.05	17.88	2.23	80.0	± 9.6 %
		<u> </u>	4.22	69.30	17.94		80.0	
10497-	LTE-TOD (SC-EDMA 100% PP 14		3.47	67.65	16.99	L	80.0	
AAA	MHz, QPSK, UL Subframe=2,3,4,7,8,9)		2.87	72.14	16.05	2.23	80.0	± 9.6 %
		+ <u>Y</u>	3.23	72.92	16.83	·	80.0	
10498-	TE-TOD (SC-EDMA 100% PR 14		1.19	62.14	10.12		80.0	
AAA	MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)		1.73	63.11	10.85	2.23	80.0	± 9.6 %
		Y	2.27	65.45	12.56	<u> </u>	80.0	†
10100		Z	1.15	60.00	7.68	·	80.0	<u> -</u>
AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.65	62.30	10.28	2.23	80.0	± 9.6 %
		Ý	2.18	64.69	12.05	<u> </u>	80.0	<u> </u>
1000		Z	1.17	60.00	7.51	·	80.0	<u> </u>
10500- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.87	75.87	20.03	2.23	80.0	± 9.6 %
		Y	4.07	75.40	19.81		80.0	
10501-	LTE TOD (SC CDMA 4000) DD CMU	<u>Z</u>	2.80	71.83	17.80		80.0	
AAA	16-QAM, UL Subframe=2,3,4,7,8,9)		3.57	71.05	17.60	2.23	80.0	± 9.6 %
			3.78	70.97	17.70		80.0	
10502-	LTE-TOD (SC-EDMA 100% PR 2 MU-	4	2.79	68.23	15.59		80.0	
AAA	64-QAM, UL Subframe=2,3,4,7,8,9)		3.61	70.84	17.44	2.23	80.0	±9.6 %
			3.84	70.79	17.56		80.0	
10503-	LTE-TOD (SC-EDMA 100% RB 5 MHz		2.82	68.03	15.41		80.0	
AAC	QPSK, UL Subframe=2,3,4,7,8,9)		3.87	74.62	19.92	2.23	80.0	±9.6 %
		7	4.15	74.55	19.77		80.0	
10504-	LTE-TDD (SC-FDMA 100% BB 5 MHz		2.90	71.29	18.21		80.0	
AAC	16-QAM, UL Subframe=2,3,4,7,8,9)		3.57	70.04	17.95	2.23	80.0	±9.6 %
		7	3.00	/0.13	17.99		80.0	
10505-	LTE-TDD (SC-FDMA, 100% BB, 5 MHz		3.01	68.26	16.69		80.0	
AAC	64-QAM, UL Subframe=2,3,4,7,8,9)		2.04	09.79	17.85	2.23	80.0	±9.6 %
		+ + +	3,00	69.40	17.89		80.0	
10506- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2.3,4,7,8,9)	X	4.39	74.26	16.62	2.23	80.0 80.0	±9.6 %
		Y	4,71	74.37	19.61		80.0	
		z	3.46	71.26	18 30	— —	00.0	
10507- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	3.89	69.33	17.97	2.23	80.0	± 9.6 %
		Y	4 14	60.50	18.00			
		-z+	3.38	67.80	17.00		0.08	
			0.00	01.00	17.02		80.0	

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10508- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL	X	3.95	68.98	17.84	2.23	80.0	± 9.6 %
	Subframe=2.3.4.7.8.9)				1			
		Y	4,21	69.23	17.90		80.0	
	· · · · · · · · · · · · · · · · · · ·	Z	3.46	67.59	16.95	·····	80.0	
10509- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.62	72.40	18.91	2.23	80.0	± 9.6 %
		Y	4.92	72.59	18.86		80.0	
		Z	3.86	70.20	17.85		80.0	
10510- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subforme=2.2.4.7.8 9)	X	4.34	68.87	17.84	2.23	80.0	±9.6 %
	Subirame=2,0,4,7,0,0)		4.61	60.18	17 01		80.0	
			3.95	67.53	17.06	i	80.0	
10511- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2.3.4.7.8.9)	X	4.39	68.57	17.74	2.23	80.0	±9.6 %
		TY	4.65	68.86	17.81		80.0	
		z	3.92	67.35	17.00		80.0	
10512- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.95	74.43	19.59	2.23	80.0	± 9.6 %
		Y	5.29	74.60	19.52		80.0	
		Z	3.97	71.52	18.28		80.0	
10513- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.24	69.19	17.98	2.23	80.0	± 9.6 %
		Y	4.52	69.55	18.06		80.0	
		Z	3.73	67.67	17.13		80.0	
10514- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2.3.4.7.8.9)	X	4.25	68.69	17.82	2.23	80.0	± 9.6 %
		Y	4.51	69.03	17.90		80.0	
		Z	3.78	67.33	17.02		80.0	
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.99	63.46	15.00	0.00	150.0	± 9.6 %
		Y	0.98	62.78	14.45		150.0	
		Z	0.99	63.59	14.96		150.0	
10516- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.69	72.54	18.63	0.00	150.0	± 9.6 %
		Y	0.56	68.11	16.08		150.0	
			0.67	72.15	18.45		150.0	100%
10517- AAA	IEEE 802.11b WIFI 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)		0.85	65.62	15.80	0.00	150.0	±9.0 %
		<u> </u>	0.82	64.42	14.91	<u>↓</u>	150.0	
10518-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9	X	<u>0.84</u> 4.53	66.80	16.29	0.00	150.0	± 9.6 %
		Y	4.59	66.58	16.17		150.0	
	-	Ż	4.39	66.94	16.26		150.0	
10519-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.71	67.02	16.40	0.00	150.0	± 9.6 %
		Y	4.78	66.84	16.30		150.0	
}		Z	4.54	67.11	16.34		150.0	
10520- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.56	66.98	16.32	0.00	150.0	± 9.6 %
		Y	4.63	66.80	16.22	<u> </u>	150.0	<u> </u>
		Z	4.40	67.05	16.26		150.0	
10521- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.49	66.97	16.31	0.00	150.0	± 9.6 %
		<u> </u>	4.56	66.79	16.20	· · · ·	150.0	
10522-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36		4.33	67.02 67.08	16.25	0.00	150.0	±9.6 %
AAA	Mbps, 99pc duty cycle)		_	<u> </u>			450.0	
		<u> </u>	4.62	66.86	16.28	<u> </u>	150.0	
			4.38	67.14	16.34		150.0	<u> </u>

10523-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48	X	4.44	66.96	16.26	0.00	150.0	± 9.6 %
		+	4 50	66.72	16.12	<u> </u>	450.0	
		7	4.31	67.14	16.00	<u> </u>	150.0	
10524- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.50	67.00	16.37	0.00	150.0	± 9.6 %
		Y	4.57	66.78	16.25	<u> </u>	150.0	<u> </u>
10505		<u>Z</u>	4.33	67.10	16.33		150.0	+
AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.49	66.06	15.96	0.00	150.0	± 9.6 %
L		Y	4.54	65.82	15.83	<u> </u>	150.0	
40700		Z	4.36	66.21	15.95		150.0	
10526- AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.65	66.41	16.10	0.00	150.0	± 9.6 %
		Y	4.72	66.20	15.98		150.0	+
1000		Z	4.49	66.49	16.07	<u>-</u> -	150.0	<u> </u>
10527- AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.58	66.37	16.05	0.00	150.0	± 9.6 %
		Y	4.64	66.16	15.92	<u>+</u>	150.0	<u>+</u>
		Z	4.42	66.47	16.01		150.0	╆┈──┤
10528- AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		ΤY	4.65	66.18	15.96		150.0	╉─────┤
10500		Z	4.43	66.48	16.04		150.0	╂────┤
10529- 	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.59	66.39	16.08	0.00	150.0	± 9.6 %
		Y	4.65	66.18	15.96	·	150.0	ł
40504		Z	4.43	66.48	16.04		150.0	<u> </u>
10531- AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.58	66.48	16.09	0.00	150.0	±9.6 %
		Y	4.65	66.29	15.97		150.0	
40500		Z	4.40	66.51	16.02		150.0	╞╼╴──┥
10532- AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.44	66.34	16.02	0.00	150.0	± 9.6 %
		Y	4.51	66.14	15.90	··················	150.0	
40500		Z	4.28	66.37	15.96		150.0	┝╴───┤
AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.60	66.44	16.07	0.00	150.0	± 9.6 %
		Y	4.66	66.22	15.94		150.0	
1000		Z	4.44	66.56	16.05		150.0	├────┤
10534- AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.13	66.46	16.12	0.00	150.0	±9.6%
		Y	5.19	66.32	16.03		150.0	
40505		Z	4.99	66.46	16.09		150.0	·
10535- AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.20	66.64	16.21	0.00	150.0	±9.6 %
		Y	5.25	66.49	16.10		150.0	
40500		Z	5.03	66.59	16.15		150.0	
AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.07	66.60	16.17	0.00	150.0	±9.6 %
		Y	5.12	66.44	16.06		150.0	
10627		Z	4.92	66.60	16.13		150.0	
AAA	99pc duty cycle)	Х	5.12	66.56	16.15	0.00	150.0	± 9.6 %
		_ Y [5.18	66.41	16.05		150.0	
10538		Z	4.98	66.58	16.13		150.0	
AAA	99pc duty cycle)	X	5.21	66.56	16.19	0.00	150.0	± 9.6 %
		Y	5.28	66.45	16.11		150.0	
10540		_Z]	5.05	66.54	16.15		150.0	
AAA	99pc duty cycle)	X	5.14	66.58	16.22	0.00	150.0	± 9.6 %
		Y	5.20	66.45	16.12		150.0	
		Z	4.98	66.51	16.15		150.0	
			·				1000	

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10541-	IEEE 802.11ac WiFi (40MHz, MCS7,	X	5.12	66.46	16.14	0.00	150.0	± 9.6 %
AAA	auty cycle)	+ +	5 18	66.32	16.05		150.0	
	1	Z	4.96	66.43	16.09		150.0	
10542- AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)		5.27	66.53	16.19	0.00	150.0	±9.6 %
·		Y	5.33	66.40	16.10		150.0	
40540		Z [5.12	66.52	16.15		150.0	1000
10543- AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)		5.34	66.55	16.23	0.00	150.0	±9.6 %
			5.41 5.10	66 58	16.14	ļ	150.0	
10544- AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.45	66.57	16.12	0.00	150.0	± 9.6 %
<u> </u>		Y	5.49	66.44	16.03		150.0	
407/-		<u> z</u>]	5.33	66.54	16.08		150.0	+0.0.01
10545- AAA	IEEE 802.11ac WIFI (80MHz, MCS1, 99pc duty cycle)		5.64	60.98	16.28	0.00	150.0	±9.6 %
			5.69	00.00 AP AA	16.18	 	150.0	
10546- AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.50	66.75	16.18	0.00	150.0	± 9.6 %
		Y	5.56	66.68	16.11		150.0	
		Z	5.36	66.66	16.11		150.0	
10547- AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)		5.57	66.80	16.19	0.00	150.0	±9.6 %
		<u> </u>	5.64	66.72	16.12	<u> </u>	150.0	
10548-	IEEE 802.11ac WiFi (80MHz, MCS4, 99nc duty cycle)		5.80	67.67	16.61	0.00	150.0	± 9.6 %
~~~~		┼┰┤	5.91	67.72	16.59	<u>†                                    </u>	150.0	
		Ż	5.58	67.38	16.44		150.0	
10550- AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.54	66.80	16.21	0.00	150.0	± 9.6 %
		<u> </u>	5.59	66.67	16.11	<b> </b>	150.0	<u> </u>
10554			5.42	66.82	16.21	0.00	150.0	±9.6%
AAA	99pc duty cycle)		5.54	66 72	16 10		150.0	
		Z	5.36	66.63	16.07	<u>t                                    </u>	150.0	
10552- AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	x	5.46	66.64	16.10	0.00	150.0	± 9.6 %
		Y	5.51	66.51	16.00	<u> </u>	150.0	
		Z	5.34	66.66	16.08	0.00	150.0	+0.00
10553- AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)		5.54	66.66	16.14	0.00	150.0	± 9.0 %
<u> </u>		Y 7	5 30	00.00	16.00		150.0	<del> </del>
10554-	IEEE 802.11ac WiFi (160MHz, MCS0,	X	5.86	66.92	16.20	0.00	150.0	± 9.6 %
U.V.		<u> </u>	5.89	66.81	16.12		150.0	
		Z	5.75	66.87	16.15		150.0	1.0.0.0
10555- AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.98	67.22	16.33	0.00	150.0	± 9.6 %
	_	Y Y	6.03	67.12	16.25	+	150.0	<u> </u>
10556-	IEEE 802.11ac WiFi (160MHz, MCS2,	$\frac{2}{x}$	6.00	67.27	16.35	0.00	150.0	± 9.6 %
AAD		Y	6.05	67.16	16.27	<u> </u>	150.0	
		Z	5.88	67.20	16.30		150.0	
10557- AAB	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.96	67.16	16.31	0.00	150.0	± 9.6 %
		Y	6.02	67.08	16.25		150.0	
1		ΙZ	5.84	67.08	16.25	1	150.0	1

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10558- AAB	IEEE 802.11ac WiFi (160MHz, MCS4,	X	6.01	67.32	16.41	0.00	150.0	± 9.6 %
				07.05			_	
			5.07	67.25	<u> </u>		150.0	
10560-	IEEE 802.11ac WiFi (160MHz_MCS6	$+\frac{2}{Y}$	6.01	67.15	16.31		150.0	
AAB	99pc duty cycle)	$-\frac{2}{\sqrt{2}}$	0.01	07.17	16.37	0.00	150.0	± 9.6 %
			0.00	67.10	16.31		150.0	
10561-	IEEE 802 11ac WIEI (160MHz MC87	$-\frac{2}{\sqrt{2}}$	5.87	67.07	16.30		150.0	
AAB	99pc duty cycle)		5.93	67.15	16.40	0.00	150.0	± 9.6 %
		$+\frac{Y}{2}$	5.98	67.06	16.32		150.0	
10562- AAB	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	<u> </u>	<u>5.80</u> 6.04	67.05	<u>16.32</u> 16.57	0.00	150.0 150.0	± 9.6 %
			640					
		-+	<u> </u>	67.48	16.53	<u> </u>	150.0	
10563-	IEEE 802,11ac WiFi (160MHz_MCS0		0.00	67.23	16.41	+	150.0	
AAB	99pc duty cycle)		0.18	67.55	16.56	0.00	150.0	± 9.6 %
			6.43	68.00	16.75		150.0	
10564-	IEEE 802 110 WIEL2 4 CH- (DSSS		5.95	<u> </u>	16.35	1	150.0	
AAA	OFDM, 9 Mbps, 99pc duty cycle)		4.86	66.88	16.45	0.46	150.0	± 9.6 %
		<u> </u>	4.92	66.69	16.36		150.0	
10565-	IEEE 802 11a W/IEI 2 4 CU - (D000	<u><u> </u></u>	4.71	66.96	16.39		150.0	
AAA	OFDM, 12 Mbps, 99pc duty cycle)		5.08	67.30	16.76	0.46	150.0	± 9.6 %
		<u> </u>	5.16	67.15	16.67		150.0	· · · · · · · · · · · · · · · · · · ·
10566-			4.90	67.36	16.69		150.0	
<u>AAA</u>	OFDM, 18 Mbps, 99pc duty cycle)		4.91	67.15	16.58	0.46	150.0	± 9.6 %
		<u> </u>	4.99	67.00	16.50		150.0	<u> </u>
10567		<u> </u>	4.74	67.18	16.50		150.0	
AAA	OFDM, 24 Mbps, 99pc duty cycle)	X	4.94	67.52	16.92	0.46	150.0	±9.6 %
		Y	5.01	67.38	16.84	— — —	150.0	
40500		Z	4.77	67.57	16.87		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.83	66.96	16.38	0.46	150.0	± 9.6 %
· ·		Y	4.90	66.77	16.27		150 0	
		Z	4.63	66.92	16.25	<u> </u>	150.0	<u> </u>
10569- <u>AAA</u>	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	4.90	67.63	17.00	0.46	150.0	± 9.6 %
		Ŷ	4.96	67.44	16.88	- <u></u>	150.0	
		Z	4.75	67.78	17.00		150.0	
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	X	4.93	67.48	16.92	0.46	150.0	±9.6 %
		Ý	5.00	67.29	16.82		150.0	
10574		Z	4.76	67.58	16.89		150.0	
10571- AAA	HEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.18	64.69	15.93	0.46	130.0	±9.6 %
		Y	1.20	64.37	15.58		130.0	
10570		Z	1.13	64.22	15.49		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.19	65.27	16.29	0.46	130.0	±9.6 %
		TY 1	1.21	64.91	15.92		130.0	
		Z	1.14	64,74	15.83		130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	2.77	92.16	26.12	0.46	130.0	± 9.6 %
		Y	1.86	83.27	22 47		120.0	
		z	1.57	83.20	23.00		100.0	
		+ - +			20.00		130.0	
10574- VAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	×	1.31	71.26	19.39	0.46	130.0	±9.6 %
10574- VAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)		1.31	71.26	19.39	0.46	130.0	± 9.6 %

10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OEDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		Z	4.47	66.69	16.39		130.0	
10576- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 90pc duty cycle)	Х	4.66	66.83	16.58	0.46	130.0	±9.6 %
		Y	4.73	66.66	16.49		130.0	
44533		Z	4.50	66.89	16.47		130.0	
10577- AAA	IEEE 802.11g WIFI 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	67.11	16.74	0.46	130.0	± 9.6 %
		Y V	4.94	66.97	16.66		130.0	
10578-	IEEE 802.11g WiFi 2.4 GHz (DSSS- OEDM 18 Mbps, 90nc duty cycle)	X	4.76	67.25	16.83	0.46	130.0	± 9.6 %
////		Y	4,84	67.12	16.76		130.0	
		Z	4.57	67.26	16.72		130.0	
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	
		Z	4.33	66.48	15.99	0.40	130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.57	66.63	16.21	0.46	130.0	± 9.6 %
		Y	4.66	66.47	16.12		130.0	
10591			4.30	67.30	16.78	0.46	130.0	+96%
AAA	OFDM, 48 Mbps, 90pc duty cycle)		4.00	07.50	10.70	0.40	100.0	1 3.0 78
			4.73	67.15	16.70		130.0	
10582-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	X	4.48	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89		130.0	
		Ż	4.26	66.25	15.78		130.0	
10583- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.67	16.51	0.46	130.0	± 9.6 %
		Y	4.71	66.50	16.43		130.0	
		<u>Z</u>	4.47	66.69	16.39		130.0	
10584- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.83	16.58	0.46	130.0	± 9.6 %
		Υ	4.73	66.66	16.49		130.0	
10595	IEEE 802 110/b W/Ei 5 GHz (OEDM 12		4.50	67.11	16.47	0.46	130.0	+96%
AAA	Mbps, 90pc duty cycle)		4.00	66.07	16.66	0.40	130.0	1 3.0 %
		7	4.94	67 12	16.61		130.0	
10586-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18	X	4.76	67.12	16.83	0.46	130.0	±9.6 %
,		Y	4.84	67.12	16.76	<u> </u>	130.0	
		Z	4.57	67.26	16.72		130.0	
10587- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	Х	4.52	66.57	16.17	0.46	130.0	± 9.6 %
		Y	4.61	66.44	16.10		130.0	l
		Z	4.33	66.48	15.99	0.40	130.0	1000
10588- AAA	HEEE 802.11a/n WIF1 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)		4.5/	00.03	10.21	0.40	130.0	I 9.0 %
		Y   7	4.66	66.52	16.12		130.0	
10589-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48	X	4.65	67.30	16.78	0.46	130.0	± 9.6 %
	mops, sope auty cycle)	Y	4.73	67.15	16.70		130.0	<u> </u>
		Z	4.48	67.34	16.69	0.10	130.0	1000
10590- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	×	4.47	66.35	15.97	0.46	130.0	± 9.6 %
		Y	4.56	66.21	15.89			
1		1 Z	1 4.26	00.25	01.01	1	1 130.0	1

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10607-	IEEE 802.11ac WiFi (20MHz, MCS0,	IXI	4.63	66.06	16.24	0.46	130.0	+96%
AAA	90pc duty cýcle)					0.10		- 0.0 /0
		Y	4.69	65.87	16.14		130.0	
		Z	4.48	66.14	16.16		130.0	
10608- AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.81	66.46	16.41	0.46	130.0	± 9.6 %
		Y	4.89	66.28	16.31		130.0	
		Z	4.62	66.47	16.30		130.0	
10609- AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.70	66.31	16.25	0.46	130.0	±9.6 %
		Y	4.78	66.14	16.15		130.0	
10610-			4.52	66.46	16.13	0.46	130.0	+06%
AAA	90pc duty cycle)		4.75	00.40	10.40	0.40	130.0	I 9.0 %
			4.83	66.29	16.31		130.0	
10611-	IEEE 802 11ac WiEi (20MHz MCS4		4.57	66.27	16.29	0.46	130.0	+96%
AAA	90pc duty cycle)		4.74	00.27	40.47	0.40	100.0	1 3.0 %
		Ť 7	4.74	66.07	16.1/		130.0	
10612-	IEEE 802 11ac WiEi (20MHz MCS5	X	4.40	66.43	16.14	0.46	130.0	+96%
AAA	90pc duty cycle)		4.00	00.40	10.01	0,70	100.0	2 0.0 %
		Y	4.76	66.20	10.21		130.0	
10613-	IEEE 802 11ac WIEi (20MHz MCS6		4.47	66.30	16.10	0.46	130.0	+96%
AAA	90pc duty cycle)		4.00	00.00	10.10	0.40	100.0	2 0.0 //
		Y	4.76	66.16	16.10		130.0	
10614			4.47	66.22	16.03	0.46	130.0	+06%
AAA	90pc duty cycle)	^	4.02	00.47	10.40	0.40	130.0	I 9.0 %
		Y	4.70	66.33	16.32		130.0	
40045			4.44	66.44	16.27	0.46	130.0	+069/
AAA	90pc duty cycle)		4.07	00.12	16.05	0.40	130.0	19.0%
		Υ Υ	4.75	65.95	15.95		130.0	
10616			4.48	66.50	15.92	0.46	130.0	+06%
AAA	90pc duty cycle)		J.20	00.50	10.42	0.40	130.0	£ 9.0 %
		Y 7	5.35	66.40	16.35		130.0	
10617			5.12	66 70	16.50	0.46	130.0	+96%
AAA	90pc duty cycle)		0.00	00.70	10.00	0.40	130.0	1 3.0 /8
		Y 7	5.42	66.55	16.40		130.0	
10618-	IEEE 802.11ac WiFi (40MHz, MCS2,	X	5.16	66.70	16.37	0.46	130.0	± 9.6 %
7004		- V	5.30	66.57	16.42		130_0	
}		Ż	5.08	66.64	16.42	1	130.0	
10619- AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.25	66.50	16.35	0.46	130.0	± 9.6 %
		Y	5.33	66.41	16.28		130.0	
		Z	5.09	66.45	16.26		130.0	
10620- AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.34	66.53	16.41	0.46	130.0	± 9.6 %
		Y	5.42	66.46	16.35		130.0	
		Z	5.16	66.45	16.31		130.0	
10621- AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.34	66.65	16.59	0.46	130.0	± 9.6 %
		<u> </u>	5.41	66.55	16.51		130.0	· · · ·
10000		<u>Z</u>	5.17	66.56	16.48	0.40		1.0.0.00
10622- AAA	IEEE 802.11ac WIFI (40MHz, MCS6, 90pc duty cycle)	X	5.35	66.81	16.66	0.46	130.0	± 9.6 %
		Y	5.42	66.71	16.59		130.0	<b> </b>
1		1 Z	1 5.16	66.65	1 16.52	1	1 130.0	1

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10623-	IEEE 802.11ac WiFi (40MHz, MCS7,	X	5.23	66.36	16.32	0.46	130.0	+96%
	90pc duty cycle)							20.0 %
		Y	5.30	66.25	16.24	1	130.0	
		Z	5.05	66.22	16.17		130.0	· · · · · · · · · · · · · · · · · · ·
10624- AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.42	66.55	16.47	0.46	130.0	± 9.6 %
ļ		Y	5.50	66.45	16.40		130.0	1
(000		Z	5.25	66.47	16.36		130.0	· · · · · · · · · · · · · · · · · · ·
10625- AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	×	5.75	67.41	16.95	0.46	130.0	± 9.6 %
		Y	5.89	67.51	16.98		130.0	1
		Z	5.34	66.63	16.50		130.0	1
10626- 	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.59	66.56	16.38	0.46	130.0	± 9.6 %
		Y	5.64	66.46	16.31		130.0	+··
·		Z	5.45	66.47	16.28	· · · ·	130.0	
10627- AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.82	67.13	16.63	0.46	130.0	±9.6 %
		Y	5.88	67.03	16.55	·	130.0	i
		Z	5.67	67.05	16.54	· · · · ·	130.0	
10628- AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.61	66.64	16.32	0.46	130.0	± 9.6 %
		Y	5.68	66.59	16.27		130.0	
		Z	5.44	66.46	16.18	· · · · ·	130.0	<u> </u>
10629- AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.69	66.69	16.34	0.46	130.0	±9.6 %
		Ϋ́	5.78	66.69	16.31		130.0	<u> </u>
		Z	5.54	66.62	16.26	·	130.0	<u>                                      </u>
10630- AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.09	68.10	17.05	0.46	130.0	± 9.6 %
		Y	6.25	68 29	17 11		130.0	
		Ż	5.78	67.54	16.72		130.0	
10631- AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.99	67.90	17.13	0.46	130.0	± 9.6 %
		Y Y	6.12	67.99	17 15	<u> </u>	120.0	
		1 ż	5.75	67.56	16.92		130.0	· · · · · · · · · · · · · · · · · · ·
10632- AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.79	67.18	16.78	0.46	130.0	± 9.6 %
		- Y	5.85	67.07	16 70		130.0	
		Z	5.67	67.21	16.76		130.0	<u> </u>
10633- AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.68	66.80	16.43	0.46	130.0	± 9.6 %
		Y	5.74	66.74	16.37		130.0	
		Z	5.48	66 57	16.07		130.0	
10634- AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.66	66.82	16.49	0.46	130.0	± 9.6 %
		Y	5.73	66.76	16.44		130.0	<u> </u>
		Z	5.50	66.72	16.40		130.0	├────┤
10635- AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.54	66.19	15.93	0.46	130.0	±9.6 %
		Y	5.62	66.14	15.87		130.0	
		Z	5.36	66.00	15.77		130.0	
10636- AAB	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.92	16.46	0.46	130.0	±9.6 %
		Y	6.05	66.85	16,41		130.0	
		Z	5.88	66.82	16.36		130.0	
10637- AAB	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duly cycle)	X	6.16	67.31	16.64	0.46	130.0	± 9.6 %
		Y	6.21	67.23	16.58		130.0	
		Z	6.00	67.12	16.50		130.0	
10638- AAB	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.16	67.28	16.60	0.46	130.0	± 9.6 %
		Y	6.21	67.20	16.54		130.0	<u> </u>
		Z	6.02	67.18	16.51		130.0	·
					10.01	-	100.0	

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10639-	IEEE 802.11ac WiFi (160MHz, MCS3,	X	6.13	67.21	16.61	0.46	130.0	± 9.6 %
AND	supe duty cycle)			07.17	40.57		100.0	
			6.20	67.17	16.57		130.0	
40640			5.98	67.06	16.49	0.40	130.0	
AAB	90pc duty cycle)		6.13	67.23	16.57	0.46	130.0	±9.6%
		Y	6.21	67.21	16.53		130.0	
		Z	5.95	66.98	16.40		130.0	
10641- AAB	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.19	67.17	16.55	0.46	130.0	± 9.6 %
		Y	6.24	67.06	16.48		130.0	
•		Z	6.04	67.04	16.44		130.0	
10642- AAB	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.22	67.37	16.82	0.46	130.0	±9.6 %
		Y	6.28	67.33	16.77		130.0	
		Z	6.06	67.23	16.70	l	130.0	
10643- AAB	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	67.09	16.58	0.46	130.0	± 9.6 %
		Y	6.12	67.02	16.52		130.0	
		Z	5.91	66.93	16.45	1	130.0	
10644- AAB	IEEE 802.11ac WIFI (160MHz, MCS8, 90pc duty cycle)	X	6.20	67.52	16.82	0.46	130.0	±9.6 %
		Y	6.31	67.59	16.83		130.0	
		Z	5.97	67.13	16.57		130.0	
10645- AAB	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.41	67.77	16.91	0.46	130.0	±9.6 %
		Y	6.76	68.49	17.23		130.0	
		Z	6.10	67.18	16.56		130.0	
10646- AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	32.54	128.38	44.23	9.30	60.0	±9.6 %
		Y	33.21	124.21	42.28		60.0	
		Z	8.58	97.27	34.21		60.0	
10647- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	24.86	122.50	42.74	9.30	60.0	± 9.6 %
		Y	27.83	120.75	41.46		60.0	
		Z	7.33	94.04	33.20		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0.71	63.99	11.07	0.00	150.0	± 9.6 %
		Y	0.72	63.38	11.01		150.0	
		Z	0.57	62.72	9.40		150.0	
10652- AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.64	67.29	16.91	2.23	80.0	± 9.6 %
		Y	3.79	67.25	16.93		80.0	
		Z	3.31	66.63	16.20		80.0	
10653- AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.13	66.44	16.95	2.23	80.0	± 9.6 %
· · · · · · · · · · · · · · · · · · ·		ΙY	4.30	66.53	16.99		80.0	
		Z	3.84	65.89	16.44		80.0	
10654- AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.11	66.04	16.93	2.23	80.0	± 9.6 %
		Y	4.26	66.17	16.97		80.0	1
		Z	3.86	65.50	16.46		80.0	
10655- AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.17	66.02	16.96	2.23	80.0	± 9.6 %
		Y	4.32	66.18	17.01		80.0	
		Z	3.93	65.42	16.50		80.0	

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

## APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container.
- Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle. 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity ε' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_{r}\varepsilon_{0}}{\left[\ln(b/a)\right]^{2}} \int_{a}^{b} \int_{a}^{b} \int_{0}^{\pi} \cos\phi' \frac{\exp\left[-j\omega r(\mu_{0}\varepsilon_{r}^{'}\varepsilon_{0})^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + {\rho'}^2 - 2\rho\rho' \cos \phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

		Con	ipositio	n or the	enssue	e Equiva	alent ivia	atter				
Frequency (MHz)	750	750	835	835	1750	1750	1900	1900	2450	2450	5200- 5800	5200- 5800
Tissue	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)												
Bactericide			0.1	0.1								
DGBE					47	31	44.92	29.44		26.7		
HEC	Saa 2000	Saa 80.00	1	1							Saa maga	
NaCl	2-3	See page	1.45	0.94	0.4	0.2	0.18	0.39	See page 4	0.1	See page	
Sucrose	23	-	57	44.9							5	
Polysorbate (Tween) 80												20
Water			40.45	53.06	52.6	68.8	54.9	70.17		73.2		80

Table D-I Composition of the Tissue Equivalent Matter

	FCC ID ZNFQ710CS		SAR EVALUATION REPORT	🕒 LG	Approved by: Quality Manager
	Test Dates:	DUT Type:			APPENDIX D:
	04/05/18 - 04/23/18	Portable Handset			Page 1 of 5
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#### 2 Composition / Information on ingredients

The Item is composed of	the following ingredients:
H₂O	Water, 35 – 58%
Sucrose	Sugar, white, refined, 40 – 60%
NaCl	Sodium Chloride, 0 – 6%
Hydroxyethyl-cellulose	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing
	5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone
	0.1 – 0.7%
	Relevant for safety; Refer to the respective Safety Data Sheet*.

#### Figure D-1 Composition of 750 MHz Head and Body Tissue Equivalent Matter

**Note:** 750MHz liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Zeughau Phone + info@sp	usstras: 41 44 : eag.com	se 43, 8 245 97 m, http	3004 Z 00, Fax ://www	urich, s x +41 4 w.spea	Switzer 14 245 g.com	rland 9779											
Meas	urem	ent C	ertif	icate	/ Ma	terial	Test										
Item Na	ame		Body	Tissu	e Sim	ulating	Liquid (	MSL75	0V2)								
Produc	t No.		SL AA SPEA	M 075	5 AA (t	Batch:	170608-1	)									
INICI IUTO	loturor			<u>a</u>													
Measu	remen	t Meth	nod														
TSL di	electric	; paran	neters	meas	ured u	using ca	alibrated [	OAK pro	be.								_
Satur	Valida	tion															
Validat	ion res	sults w	ere wi	thin ±	2.5% t	towards	s the targe	et value	s of Me	thanol.							
Target	Parar	neters					00 and 15	0.0000	0.000	lioner	atonda	rde					
Target	param	eters a	as det	ined ir	the lt	EE 15	28 and IE	C 6220	9 comp	llance	stanua	arus.					_
Test C	onditi	on															
Amhio	nt		Enviro	onmen	it temp	eratur	(22 ± 3)°C	and h	umidity	< 70%							
IL ALLINIG																	
TSL Te	empera	ature	22°C														
TSL Te Test D	empera ate	ature	22°C 20-Ju	n-17													
TSL Test D Operat	empera ate tor	ature	22°C 20-Ju CL	n-17													
TSL Te Test D Operat	empera ate tor	ature	22°C 20-Ju CL	n-17													
TSL Te Test D Operat	empera ate tor onal In	ature nforma	22°C 20-Ju CL tion	n-17	1												
Additional Additional	empera ate tor onal Ir ensity eat-cap	ature nforma	22°C 20-Ju CL tion 1.212 3.006	n-17 g/cm ³ kJ/(kg	3 3*K)												
Additional Additional TSL Do TSL Do TSL H	empera ate tor onal Ir ensity eat-cap	nforma	22°C 20-Ju CL 1.212 3.006	n-17 g/cm ³ kJ/(kg	3 3*K)												
Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional Additional	empera ate tor onal Ir ensity eat-ca Measu	ature nforma pacity rred	22°C 20-Ju CL 1.212 3.006	n-17 g/cm ³ kJ/(kg	g*K)	Diff.to T	Farget [%]		10.0 -								
Additi TSL Test D Operat TSL D TSL H	empera ate or onal Ir ensity eat-ca Measu e'	nforma pacity red e"	22°C 20-Ju CL 1.212 3.006 sigma	g/cm ³ kJ/(kg Target	g*K)	Diff.to T Δ-eps	Target [%] Δ-sigma	- %	10.0								
Additi TSL Te Test D Operat TSL D TSL D TSL H	empera ate or onal Ir ensity eat-ca Measu e' 57.3 57.1	nforma pacity red 25.02 24.67	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86	n-17 g/cm ³ kJ/(kg Target eps 56.1 56.0	g*K) sigma 0.95 0.95	Diff.to 1 Δ-eps 2.2 1.9	Γarget [%] Δ-sigma -12.2 -10.1	thrity %	10.0								
Additi TSL Te Test D Operat TSL D TSL H	onal Ir ensity eat-ca Measu e' 57.3 57.1 56.8	ature	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88	n-17 g/cm ³ kJ/(kg 56.1 56.0 55.9	sigma 0.95 0.95 0.96	Diff.to Т <u>А-ерs</u> 2.2 1.9 1.6	Target [%] Δ-sigma -12.2 -10.1 -8.0	rmittivity %	10.0 7.5 5.0 2.5 0.0	•							
Additi TSL Test D Operati Additi TSL D TSL H	onal Ir onal Ir ensity eat-car 57.3 57.1 56.8 56.6	ature	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88 0.90	n-17 g/cm ³ kJ/(kg eps 56.1 56.0 55.9 55.8	sigma 0.95 0.95 0.96 0.96	Diff.to T Δ-eps 2.2 1.9 1.6 1.3	[arget [%] <b>∆-sigma</b> -12.2 -10.1 -8.0 -5.8	. Permittivity %	10.0 7.5 5.0 2.5 0.0 -2.5	•				• • • •			
Additi TSL D Operat Additi TSL D TSL H (MHz) 600 625 650 675 700	empera ate lor onal Ir ensity eat-cap Measu e' 57.3 57.1 56.8 56.6 56.3	ature	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88 0.90 0.92	n-17 g/cm ³ kJ/(kg 56.1 56.0 55.9 55.8 55.7	sigma 0.95 0.96 0.96 0.96	Diff.to T <u>A-eps</u> 2.2 1.9 1.6 1.3 1.1	Target [%] ▲-sigma -12.2 -10.1 -8.0 -5.8 -3.8	Dev. Permittivity %	10.0 7.5 5.0 2.5 0.0 -2.5 -5.0	*							
Addition TSL Test D Operat Addition TSL D TSL H 1[MHz] 600 625 650 675 700 725	empera ate lor onal Ir ensity eat-ca 57.3 57.1 56.8 56.6 56.3 56.1	ature pacity red 25.02 24.67 24.32 24.02 23.71 23.48	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88 0.90 0.92 0.95	n-17 g/cm ³ kJ/(kg eps 56.1 56.0 55.9 55.8 55.7 55.8	sigma 0.95 0.96 0.96 0.96 0.96	Diff.to T <u>A-eps</u> 2.2 1.9 1.6 1.3 1.1 0.8 0.0	[arget [%] <b>∆-sigma</b> -12.2 -10.1 -8.0 -5.8 -3.8 -1.5.8 -3.8 -1.5.8	Dev. Permittivity %	10.0 7.5 5.0 2.5 0.0 -2.5 -5.0 -7.5 -10.0					•••••			
Addition TSL Test D Operat TSL D TSL D TSL H 1[MHz] 600 625 650 675 700 725 750	empera ate for ensity eat-case 67.3 57.1 56.8 56.6 56.3 56.1 55.9	ature pacity red 25.02 24.67 24.32 24.02 23.71 23.48 23.29 23.20	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88 0.90 0.92 0.95 0.95	n-17 g/cm ³ kJ/(kg eps 56.1 56.0 55.9 55.8 55.7 55.6 <b>55.</b> 5	sigma 0.95 0.96 0.96 0.96 0.96 0.96	Diff.to T ▲-eps 2.2 1.9 1.6 1.3 1.1 0.8 0.2	Target [%] ▲-sigma -12.2 -10.1 -5.8 -3.8 -1.5 0.7 2.0	Dev. Permittivity %	10.0 7.5 5.0 2.5 -2.5 -5.0 -7.5 -10.0 600	650	700	750	800	850	900	950	10
Additi TSL Test D Operat TSL D TSL H 1[MHz] 600 625 650 675 700 725 750 775 800	emperate           ate           tor           onal Ir           ensity           eat-cast           e'           57.3           57.1           56.8           56.6           56.3           56.1           55.6	ature pacity red 25.02 24.67 24.32 24.67 24.32 23.71 23.48 23.24 23.25 23.25	22°C 20-Ju CL 212 1.212 3.006 9.88 0.84 0.88 0.90 0.92 0.95 0.97 0.99 1.02	n-17 g/cm ⁵ kJ/(kg eps 56.1 56.0 55.9 55.8 55.7 55.6 <b>55.5</b> 55.6 <b>55.5</b>	sigma 0.95 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.97	Diff.to T <u>A-eps</u> 2.2 1.9 1.6 1.3 1.1 0.8 0.6 0.3 0.1	Target [%] <b>A-sigma</b> -12.2           -10.1           -8.0           -5.8           -3.8           -1.5 <b>0.7</b> 2.9           5.0	Dev. Permittivity %	10.0 7.5 5.0 2.5 0.0 -2.5 -5.0 -7.5 -10.0 600	650	700	750 Freq	800 uency M	850 HHz	900	950	10
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Initial           TSL T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T           T	empera ate lor onal Ir ensity eat-ca 57.3 57.1 56.8 56.6 55.4 55.9 55.6 55.4 55.9 55.2 55.1 54.9 54.7 54.5	Aforma pacity red 25.02 24.67 24.32 24.62 23.71 23.48 23.48 23.48 23.48 23.48 23.48 23.48 23.48 23.48 22.56 22.56 22.54 22.24	22°C 20-Ju CL 1.212 3.006 sigma 0.84 0.86 0.88 0.90 0.92 0.95 0.97 0.99 1.02 1.04 1.05 1.06 1.09 1.11	n-17 g/cm ³ kJ/(kg 56.1 56.6 55.9 55.8 55.7 55.6 55.6 55.4 55.2 55.2 55.2 55.2 55.2 55.2 55.2	sigma 0.95 0.95 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.99 0.99	Diff.to 1 <u>A-eps</u> 2.2 1.9 1.6 1.3 1.1 0.8 0.6 0.3 0.1 -0.1 -0.3 -0.4 -0.7 -0.9	Farget [%] <b>A-sigma</b> -12.2           -10.1           -8.0           -5.8           -1.5 <b>0.7</b> 5.0           6.3           6.9           7.5           6.7           5.9	tority % Dev. Permittivity %	10.0 7.5 5.0 2.5 5.0 2.5 5.0 600 10.0 600	650	700	750 Freq	800 uency M	850 HHz	900	950	1(
Institution           Additii           TSL T           TSL T           TSL D           Operat           ITSL D           TSL D           TSL T           TSL D           TSL D           TSL D           ITSL	empera ate toor onal Ir ensity eat-ca 57.3 57.1 56.8 56.6 56.6 55.4 55.2 55.4 55.2 55.1 54.7 54.5 54.7 54.5 54.7	nforma pacity red 24.67 24.32 24.02 23.71 23.48 23.04 22.82 22.85 22.65 22.46 22.47 22.82 22.82 22.82 22.82 22.82 22.84 22.82 22.82 22.84 22.84 22.82 22.84 22.82 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 22.84 23.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84 24.84	22°C 20-Ju CL ttion 1.212 3.006	n-17 g/cm ³ kJ/(kg 56.0 55.9 55.8 55.7 55.6 55.6 55.4 55.2 55.2 55.2 55.2 55.2 55.2 55.2	sigma 0.95 0.95 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.99 0.99	Diff.to T A-eps 2.2 1.9 1.6 1.3 1.1 0.8 0.6 0.3 0.1 -0.3 -0.4 -0.7 -0.9 -1.3 -0.4	Target [%]           ▲-sigma           -12.2           -10.1           -8.0           -5.8           -15.5           0.7           2.9           5.0           6.3           6.9           7.5           6.9	rductivity % Dev. Permittivity %	10.0 7.5 5.0 2.5 0.0 -7.5 5.0 -7.5 5.0 600	650	700	750 Freq	800 uency M	850 HHz	900	950	1(
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Permittivity %	10.0 7.5 5.0 2.5 0.0 -2.5 -5.0 -2.5 -5.0 -6.0 -7.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -2.5 -0.0 -0.0 -2.5 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0	650	700	750 Freq	800 800	850 HHz	900	950	10

Figure D-2 750MHz Body Tissue Equivalent Matter

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Schmid & Partner Engineering AG	S	p	е	а	g	
Zeughausstrasse 43, 8004 Zurich, Switzerland						

Phone +41 44 245 9700, Fax +41 44 245 9779 info@speag.com, http://www.speag.com

#### Measurement Certificate / Material Test

Item Name	Head Tissue Simulating Liquid (HSL750V2)	
Product No.	SL AAH 075 AA (Batch: 170612-4)	
Manufacturer	SPEAG	
manaradarer		

Measurement Method TSL dielectric parameters measured using calibrated DAK probe.

Setup Validation Validation results were within  $\pm 2.5\%$  towards the target values of Methanol.

Target Parameters Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

#### **Test Condition**

Ambient	Environment temperatur $(22 \pm 3)^{\circ}$ C and humidity < 70%.
TSL Temperature	22°C
Test Date	20-Jun-17
Operator	CL

#### Additional Information

TSL Density 1.284 g/cm³ TSL Heat-capacity 2.701 kJ/(kg*K)

	Measu	ured		Targe	t	Diff.to T	arget [%]
f [MHz]	e'	e"	sigma	eps	sigma	∆-eps	∆-sigma
600	45.6	22.97	0.77	42.7	0.88	6.7	-13.1
625	45.2	22.73	0.79	42.6	0.88	6.2	-10.6
650	44.9	22.49	0.81	42.5	0.89	5.6	-8.2
675	44.5	22.27	0.84	42.3	0.89	5.1	-5.8
700	44.2	22.05	0.86	42.2	0.89	4.6	-3.5
725	43.8	21.88	0.88	42.1	0.89	4.2	-1.0
750	43.5	21.72	0.91	41.9	0.89	3.8	1.4
775	43.2	21.55	0.93	41.8	0.90	3.4	3.7
800	42.9	21.38	0.95	41.7	0.90	2.9	6.0
825	42.6	21.24	0.97	41.6	0.91	2.4	7.5
838	42.5	21.17	0.99	41.5	0.91	2.2	8.2
850	42.3	21.09	1.00	41.5	0.92	2.0	8.9
875	42.0	20.98	1.02	41.5	0.94	1.2	8.3
900	41.7	20.87	1.05	41.5	0.97	0.5	7.7
925	41.5	20.76	1.07	41.5	0.98	0.0	8.7
950	41.2	20.64	1.09	41.4	0.99	-0.6	9.7
975	40.9	20.55	1.11	41.4	1.00	-1.1	10.9
1000	40.6	20.46	1.14	41.3	1.01	-1.7	12.1



Figure D-3 750MHz Head Tissue Equivalent Matter

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3 Composition / Info	rmation on ir	ngredients
The Item is composed of the	ne following ingre	dients:
Water	50 - 73 %	
Non-ionic detergents	25 - 50 %	polyoxyethylenesorbitan monolaurate
NaCl	0-2%	.,,,
Preservative	0.05 - 0.1%	6 Preventol-D7
Safety relevant ingredients	:	
CAS-No. 55965-84-9	< 0.1 %	aqueous preparation, containing 5-chloro-2-methyl-3(2H)- isothiazolone and 2-methyyl-3(2H)-isothiazolone
CAS-No. 9005-64-5 According to international g marked by symbols.	<50 % guidelines, the pr	polyoxyethylenesorbitan monolaurate oduct is not a dangerous mixture and therefore not required to be

#### Figure D-4 Composition of 2.4 GHz Head Tissue Equivalent Matter

**Note:** 2.4 GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

	o Part	ther Er	gineer	ing AG						S	р	_	2	a	_	g		_
Zeugha Phone nfo@s	usstras +41 44 peag.co	se 43, 245 9 om, htt	8004 700, Fa p://ww	Zurich, ax +41 w.spe	Switz 44 24 ag.com	erland 5 9779 1												
Meas	urem	nent	Certi	ficat	e / Ma	aterial	Test											
ltern N Produ Manuf	ame ct No. acturer	r	Head SL A SPE	AH 19 G	ue Sin 6 AB (	Batch:	Liquid (1 170619-1	HBBL1 )	900-:	3800	/3)							
Measu	iremer	nt Met	hod															
TSL d	electric	c para	meter	s mea	sured	using ca	alibrated E	DAK pro	obe.						_			_
Setup Valida	Valida	ation	vere w	ithin +	2.5%	towards	the tarne	it value	e of I	Meths	nol		_					
v anua		suito v	ICIC W	10 10 1 2	2.070	towards	s trie targe	n value	5 01 1	VICUIE	a 101.							
Targe Target	paran	meters neters	s as de	fined i	n the I	EEE 15	28 and IE	C 6220	19 coi	mplia	nce sta	ndaro	ls.			-		_
Test (	onditi	ion																
Ambie	nt		Envir	onme	nt tem	peratur	(22 ± 3)°C	and h	umidi	ity < 7	70%.		-		_		_	_
TSL T Test D	empera late	ature	22°C 20-Ji	in-17														
Opera	tor	_	CL															
Additi	onal Ir	nform	ation															
TSL D	ensity	nacity	1.054	g/cm	3													
I OL H	Measu	ired	3.308	Targe	( N	Diff.to T	arget [%]		_	_		_	_		-			_
1900	e'	e"	sigma	eps 40.0	sigma	∆-eps	∆-sigma		10.0					1.5	-	1932		
1950	41.6	12.3	1.3	40.0	1.4	4.0	-4.6	Å.	5.0	_		-		1				
2000	41.4	12.4	1.4	40.0	1.4	3.6	-1.3	1 E	2.5	-								
2100	41.1	12.0	1.5	39.8	1.5	3.1	-0.6	s. Pe	-2.5				-	-	-			
2150	40.9	12.8	1.5	39.7	1.5	2.9	-0.2	å	-5.0						-			_
2200	40.7	12.9	1.6	39.6	1.6	2.5	0.2		-7.5									
2300	40.4	13.2	1.7	39.5	1.7	2.3	1.1		1	900 21	00 2300	2500	2700 2	900 310	00 33	100 350	0 3700 3	3900
2350 2400	40.2	13.3	1.7	39.4 39.3	1.7	2.1	1.5					Freq	uency	MHz				
2450	39.8	13.5	1.8	39.2	1.8	1.6	2.6					_	_		-			_
2500 2550	39.7 39.5	13.7	1.9	39.1 39.1	1.9	1.3	2.6								-			-
2600	39.3	13.9	2.0	39.0	2.0	0.8	2.5	1	10.0							235		
2650	39.1	14.0	2.1	38.9	2.0	0.5	2.6	84	5.0	_								
2750	38.7	14.3	22	38.8	2.1	-0.2	2.6	uctivi)	2.5		1	~	****			*****		
2800	38.6	14.4	22	38.8	2.2	-0.4	2.5	Cond	-2.5	r	-							
2900	38.2	14.6	2.3	38.6	2.3	-1.0	2.6	Dev.	-5.0	+		-	1		-			-
2950	38.1	14.7	2.4	38.6	2.3	-1.3	2.6		-7.5	1								
3050	37.7	14.8	2.5	38.4	2.5	-2.0	2.8		1	900 21	00 2300	2500	2700 2	900 310	00 33	100 350	0 3700 :	3900
3100	37.5	14.9	2.6	38.4	2.5	-2.3	2.8					Fr	quen	cy MHz				
3200	37.1	15.1	2.7	38.3	2.6	-3.0	2.9											
3250	37.0	15.1	2.7	38.2	2.7	-3.3	3.0											
3350	36.6	15.2	2.8	38.1	2.8	-3.9	3.2											
3400	36.4	15.3	2.9	38.0	2.8	-4.2	3.3											
3450	36.1	15.4	3.0	38.0	2.9	-4.8	3.4	1										
3550	36.0	15.5	3.1	37.9	3.0	-5.0	3.6	1										
3600 3650	35.8	15.6	3.1	37.8	3.0	-5.3	3.8 3.7											
3700	35.5	15.7	3.2	37.7	3.1	-5.8	3.9	1										
	35.4	15.8	3.3	1 37.6	3.2	-6.1	3.9	1										
3750	35.2	15.9	3.4	37.6	3.2	-6.3	4.1											

Figure D-5 2.4 GHz Head Tissue Equivalent Matter

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#### 2 Composition / Information on ingredients

#### Figure D-6

#### Composition of 5 GHz Head Tissue Equivalent Matter

**Note:** 5GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Schmic	d & Par	rtner Er	nginee	ring A(	à					s	p	e		а	a	
Zeugha Phone info@s	+41 44 peag.co	sse 43, 4 245 9 om, htt	, 8004 700, F tp://wv	Zurich ax +41 vw.spe	Switz 44 24 ag.com	terland 5 9779 n									3	
Meas	suren	nent	Certi	ficat	e/M	ateria	l Test									
Item N	lame		Head	Tiss	ue Sir	nulatin	g Liquid (	(HBB	3L3500-	-5800	V5)					
Manuf	acture	r	SL A	AH 50 AG	2 AG	(Batch:	170613-	1)								
Measu	ireme	nt Met	thod													
TSL di	ielectri	c para	meter	s mea	sured	using c	alibrated	DAK	probe.							
Setup	Valid	ation														
Valida	tion re	sults v	vere w	ithin ±	2.5%	toward	s the targ	et va	lues of	Metha	anol.					
Target	t Para	meters	s as de	fined i	n the	IFFF 14	28 and I	C 62	2209 ~~	molia	nca etco	danda				
Tect	an de	len	20.06	.andu I	and lo		alu it		209 00	прпа	i ive stah	uaras				
Ambie	nt	ion	Envir	onme	nt tem	peratur	(22 ± 3)°	C and	d humid	lity < 7	70%.					
TSL To Test D	emper late	ature	22°C	in-17												
Operat	tor		CL													
Additi	onal li	nform	ation													
TSL D	ensity	nacity	0.985	5 g/cm	3 a*K)											
-oc n	oarca	μαυιιγ	3.363	s KJ/(K	y N)				_	_						
f [MHz]	Measu e'	e"	sigma	Targe	sigma	Diff.to	A-sigma	łſ	10.0		_					
3400	38.6	15.03	2.84	38.0	2.81	1.5	1.1		₽ 7.5 ₩ 5.0							
3500	38.5	15.00 14.98	3.00	37.9 37.8	2.91 3.02	1.5	0.3 -0.5		AT 2.5							
3700 3800	38.2	14.96 14.96	3.08	37.7	3.12	1.3	-1.2		2 0.0							*****
3900	38.0	14.95	3.24	37.5	3.32	1.4	-2.5		۵ -5.0	-		_		-		
4000	37.9 37.8	14.95 14.96	3.33	37.4	3.43 3.53	1.5	-2.8 -3.3		-7.5 -10.0							
4200	37.6	15.00	3.50	37.1	3.63	1.3	-3.6		3	400	3900	44	00	4900	5400	5900
4400	37.4	15.11	3.70	36.9	3.84	1.4	-3.5	L -					ednenc;	1 10112		
4500 4600	37.2 37.1	15.18 15.24	3.80 3.90	36.8 36.7	3.94 4.04	1.1	-3.5	Г					_			
4700	37.0	15.29	4.00	36.6	4.14	1.2	-3.4		10.0							
4800	36.8	15.35	4.10	36.4	4.25 4.30	1.0	-3.4		₹ 5.0 ≥	-	-	-		-		_
4900	36.7	15.38	4.19	36.3	4.35	1.0	-3.6		2.5 0.0	~						
5000	36.5	15.42	4.29	36.2	4.45	0.8	-3.6		Puo -2.5			*****				
5050 5100	36.5	15.43	4.34	36.2	4.50	0.9	-3.6									
5150	36.3	15.48	4.43	36.0	4.60	0.7	-3.8		-10.0 3	400	3900	44	00	4900	5400	5900
5250	36.2	15.50	4.48	35.9	4.66	0.6	-3.8					Fn	equency	MHz		
5300 5350	36.1	15.55	4.58	35.9	4.76	0.6	-3.7									
5400	35.9	15.57	4.68	35.8	4.86	0.4	-3.7									
5450 5500	35.9	15.59	4.73	35.7	4.91	0.6	-3.7									
5550	35.7	15.65	4.83	35.6	5.01	0.3	-3.7									
5600 5650	35.6 35.6	15.66 15.70	4.88	35.5 35.5	5.07 5.12	0.2	-3.7 -3.6									
5700	35.5	15.72	4.98	35.4	5.17	0.2	-3.6									
5800	35.4 35.4	15.76	5.04	35.4	5.22	0.1	-3.4									
5850	35.3	15.81	5.14	35.3	5.34	0.0	-3.7									
2900	30.3	10.82	5.19	35,3	0.40	0.0	-3.9									

Figure D-7 5GHz Head Tissue Equivalent Matter

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## APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

SAP							COND	DEDM	6			N.		
SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE C	PROBE CAL. POINT		(εr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
E	750	3/11/2018	3213	ES3DV3	750	Head	0.890	40.788	PASS	PASS	PASS	N/A	N/A	N/A
G	835	10/16/2017	3332	ES3DV3	835	Head	0.898	40.860	PASS	PASS	PASS	GMSK	PASS	N/A
E	1750	3/2/2018	3213	ES3DV3	1750	Head	1.397	38.415	PASS	PASS	PASS	N/A	N/A	N/A
Н	1900	9/5/2017	7410	EX3DV4	1900	Head	1.446	40.104	PASS	PASS	PASS	GMSK	PASS	N/A
G	2300	10/16/2017	3332	ES3DV3	2300	Head	1.715	39.101	PASS	PASS	PASS	N/A	N/A	N/A
G	2450	10/16/2017	3332	ES3DV3	2450	Head	1.880	38.615	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
Н	5250	1/31/2018	3589	EX3DV4	5250	Head	4.516	36.066	PASS	PASS	PASS	OFDM	N/A	PASS
Н	5600	1/31/2018	3589	EX3DV4	5600	Head	4.869	35.597	PASS	PASS	PASS	OFDM	N/A	PASS
Н	5750	1/31/2018	3589	EX3DV4	5750	Head	5.112	35.351	PASS	PASS	PASS	OFDM	N/A	PASS
E	750	4/14/2018	3213	ES3DV3	750	Body	0.977	53.125	PASS	PASS	PASS	N/A	N/A	N/A
E	835	3/16/2018	3213	ES3DV3	835	Body	0.968	53.713	PASS	PASS	PASS	GMSK	PASS	N/A
1	1750	3/12/2018	3287	ES3DV3	1750	Body	1.462	52.350	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/9/2018	3914	EX3DV4	1900	Body	1.533	53.731	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	4/3/2018	3319	ES3DV3	2300	Body	1.871	51.575	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	4/3/2018	3319	ES3DV3	2450	Body	2.043	51.130	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-1 SAR System Validation Summary – 1g

Table E-2 SAR System Validation Summary – 10g

SAR	SAR				COND.	PERM.	PERM. CW VALIDATION			MOD. VALIDATION				
SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE C	AL. POINT	(σ)	(ɛr)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	1750	3/12/2018	3287	ES3DV3	1750	Body	1.462	52.350	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/9/2018	3914	EX3DV4	1900	Body	1.533	53.731	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	4/3/2018	3319	ES3DV3	2300	Body	1.871	51.575	PASS	PASS	PASS	N/A	N/A	N/A
D	5250	10/24/2017	7308	EX3DV4	5250	Body	5.405	48.529	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	10/24/2017	7308	EX3DV4	5600	Body	5.910	47.818	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	10/24/2017	7308	EX3DV4	5750	Body	6.135	47.546	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.



## APPENDIX G: POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

#### **1.1** Power Verification Procedure

The power verification was performed according to the following procedure:

- 1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered.
- 2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.
- 3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the combination cases, one mechanism was switched to a 'triggered' state at a time; powers were confirmed to be within tolerances after each additional mechanism was activated.

#### 1.2 Distance Verification Procedure

The distance verification procedure was performed according to the following procedure:

- 1. A base station simulator was used to establish an RF connection and to monitor the power levels. The device being tested was placed below the relevant section of the phantom with the relevant side or edge of the device facing toward the phantom.
- 2. The device was moved toward and away from the phantom to determine the distance at which the mechanism triggers and the output power is reduced, per KDB Publication 616217 D04v01r02 and FCC Guidance. Each applicable test position was evaluated. The distances were confirmed to be the same or larger (more conservative) than the minimum distances provided by the manufacturer.
- 3. Steps 1 and 2 were repeated for all relevant frequency bands.
- 4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

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#### **Main Antenna Verification Summary** 1.3

Machanism(s)	Mada (Dand	Conducted Power (dBm)						
iviecnanism(s)	wode/Band	Un-triggered (Max)	Mechanism #1 (Reduced)					
Proximity Sensor	UMTS B2	24.26	23.46					
Proximity Sensor	UMTS B4	24.31	23.47					
Proximity Sensor	LTE B2	24.45	23.49					
Proximity Sensor	LTE B4	24.22	23.32					
Proximity Sensor	LTE B30	24.13	23.08					

Table G-1 **Power Measurement Verification for Main Antenna** 

#### Table G-2 **Distance Measurement Verification for Main Antenna**

Machanicm(c)	Tast Condition	Band	Distance Meas	urements (mm)	Minimum Distance per
Mechanism(s)	Test condition		Moving Toward	Moving Away	Manufacturer (mm)
Proximity	Body - Back Side	Mid	4	5	4
Proximity	Body - Back Side	High	5	6	4
Proximity	Body - Front Side	Mid	5	5	2
Proximity	Body - Front Side	High	5	5	5

*Note: Mid band refers to: UMTS B2/4, LTE B2/4, High band refers to: LTE B30

#### **WIFI Verification Summary** 1.4

Table G-3	
<b>Power Measurement Verification WIF</b>	I

	Mada (David	Conducted Power (dBm)			
wechanism(s)	wode/Band	Un-triggered (Max)	Mechanism #1 (Reduced)		
Held-to-Ear	802.11b	21.55	17.21		
Held-to-Ear	802.11g	20.15	17.35		
Held-to-Ear	802.11n (2.4GHz)	19.33	17.38		
Held-to-Ear	802.11a	18.12	16.62		
Held-to-Ear	802.11n (5GHz, 20MHz BW)	17.43	16.51		

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