

10402- AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.58	67.25	16.22	0.00	150.0	± 9.6 %
1.000		Y	5.60	67.21	16.18		150.0	
Series in a	<ul> <li>Références de la Recetario de la companya de la company Na companya de la comp</li></ul>	Z	5.57	66.91	15.85	hour the	150.0	
10403- AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.14	65.37	11.96	0.00	115.0	± 9.6 %
		Y	1.16	65.27	12.04	in nation the	115.0	
jaga sa	CONTRACTOR CONTRACTOR CONTRACTOR	Z	1.04	63.04	10.62	Minister (	115.0	
10404- AAB	CDMA2000 (1xEV-DO, Rev. A)	x	1.14	65.37	11.96	0.00	115.0	± 9.6 %
		Y	1.16	65.27	12.04		115.0	
		Z	1.04	63.04	10.62		115.0	a de como de
10406- AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	x	1.01	68.43	14.20	0.00	150.0	± 9.6 %
		Y	0.98	67.59	13.94	z telepis en el	150.0	and a state
den se esta		Z	0.79	63.25	11.26	det pe an	150.0	1.0.000000
10410- AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	0.62	60.00	3,34	2.23	80.0	± 9.6 %
	. Introduction and the state of the second	Y	0.65	60.00	3.66	2 S	80.0	1.
		Z	0.66	60.00	3.76		80.0	
10415- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	×	1.04	62.12	13.69	0.00	150.0	± 9.6 %
	e Wellen en er brikktig om skiket i de	Y	1.04	61.86	13.49		150.0	
10112	1555 000 44 - HUELO - COL	Z	1.04	60.94	12.37	lonade a com	150.0	
10416- AAA	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 99pc duty cycle)	x	4.47	66.45	15.94	0.00	150.0	± 9.6 %
		Y	4.49	66.36	15.88		150.0	2.0.000000
10117	1000 000 11 5 1000 0 011 100001 0	Z	4.46	65.97	15.47		150.0	100.000
	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	×	4.47	66.45	15.94	0.00	150.0	± 9.6 %
		Y	4.49	66.36	15.88	to and the	150.0	
10418-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	Z	4.46	65.97	15.47		150.0	1.
AAA	OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	x	4.46	66.61	15.97	0.00	150.0	± 9.6 %
	1 Marketterne in provinsi terreserve i se	Y	4.48	66.52	15.90		150.0	
	BAR AND	Z	4.44	66.10	15.48		150.0	1.000
10419- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	x	4.47	66.56	15.96	0.00	150.0	± 9.6 %
9 8 A	where a complete set of the set	Y	4.50	66.47	15.90		150.0	
, and a star		Z	4.47	66.07	15.49		150.0	
10422- AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	x	4.59	66.57	15.99	0.00	150.0	± 9.6 %
e extensio		Y	4.61	66.48	15.93		150.0	
		Z	4.58	66.10	15.53	NR SHOW	150.0	
10423- AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	x	4.73	66.84	16.09	0.00	150.0	± 9.6 %
<u>d den esta</u>		Y	4.76	66.76	16.03	ger ang Alasi	150.0	
10424-	IEEE 000 110 /UT Course 111 20 0	Z	4.72	66.37	15.63	na nAscena	150.0	
10424- AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	×	4.65	66.79	16.06	0.00	150.0	± 9.6 %
a de davado		Y	4.68	66.71	16.00	an ar a s	150.0	
10425-	IEEE 802.11n (HT Greenfield, 15 Mbps,	Z	4.65	66.31	15.60		150.0	
10425- AAA	BPSK)	x	5.26	67.07	16.26	0.00	150.0	±9.6 %
en Charles da la companya da la comp		Y	5.29	67.01	16.21	perfectual.	150.0	in the second
10426-	IFFF 000 44- UIT Owner full contra	Z	5.25	66.68	15.86	all first out of	150.0	
10426- AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	x	5.27	67.12	16.28	0.00	150.0	±9.6 %
<u>(assessed as</u>		Y	5.30	67.07	16.24	A particular	150.0	- 2020-00
		Z	5.26	66.72	15.87	and the	150.0	

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10427- AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	x	5.27	67.05	16.24	0.00	150.0	± 9.6 %
and the second		Y	5.30	67.02	16.21	335.435.LAS	150.0	
ann an A		Z	5.27	66.69	15.85	- 124 (124)	150.0	1.40111001
10430- AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.06	70.16	17.49	0.00	150.0	± 9.6 %
en de la secte	Investor and a contract wave wave wave and	Y	4.13	70.30	17.63		150.0	
n a fan sa se		Z	3.86	68.53	16.46		150.0	
10431- AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	x	4.09	66.87	15.81	0.00	150.0	± 9.6 %
100000-003	ADDATED THE MET ADDATED AND ADDATE	Y	4.11	66.75	15.75	in a standard	150.0	1
www.ener#		Z	4.06	66.20	15.25	Radio de la	150.0	1.000
10432- AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	x	4.41	66.81	15.97	0.00	150.0	±9.6 %
ditter et		Y	4.44	66.71	15.91	10.000	150.0	2010/01/02
10010000	<ul> <li>Statistics and the system of the second data and the second second data and the second second data and the second s</li></ul>	Z	4.40	66.26	15.46	100000-0000	150.0	and the second
10433- AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	x	4.67	66.82	16.08	0.00	150.0	±9.6 %
0.000	<ul> <li>Analysis of the transformed statements of the second statements</li> </ul>	Y	4.70	66.74	16.02	en polision	150.0	
Webner (b	anne dha - a dhata al anna -	Z	4.66	66.34	15.61	Section.	150.0	1999
10434- AAA	W-CDMA (BS Test Model 1, 64 DPCH)	x	4.09	70.81	17.31	0.00	150.0	±9.6 %
a Verenet tre		Y	4.18	70.98	17.49	an an an	150.0	and share
1210121013	Children (Martin Branch, Children (Martin Branch, Children)	Z	3.83	68.88	16.19	Rudhaeth.	150.0	1.222
10435- AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	0.63	60.00	3.33	2.23	80.0	± 9.6 %
Energy and the		Y	0.66	60.00	3.64	deres et t.	80.0	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
na an a	and encountry and the constraints of the	Z	0.66	60.00	3.74	and a second second	80.0	1.11.11.11.11
10447- AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	x	3.33	66.60	14.85	0.00	150.0	± 9.6 %
		Y	3.36	66.47	14.82		150.0	
		Z	3.28	65.67	14.19	1	150.0	
10448- AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	x	3.95	66.66	15.67	0.00	150.0	± 9.6 %
	and the track of an an ender the second	Y	3.97	66.53	15.61		150.0	
		Z	3.92	65.97	15.10		150.0	
10449- AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.24	66.63	15.86	0.00	150.0	± 9.6 %
		Y	4.26	66.53	15.80	1	150.0	
	<ul> <li>Speaking of the Constant of the Const Of the Constant of the Cons</li></ul>	Z	4.22	66.06	15.34		150.0	
10450- AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.45	66.59	15.92	0.00	150.0	±9.6 %
	<ul> <li>A second contract of the second s</li></ul>	Y	4.47	66.50	15.87		150.0	and they
		Z	4,44	66.09	15.44	11111	150.0	10000
10451- AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	x	3.17	66.56	14.31	0.00	150.0	± 9.6 %
este da es		Y	3.20	66.46	14.32		150.0	
entre di		Z	3.11	65.57	13.66	in the states	150.0	
10456- AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	x	6.18	67.76	16.51	0.00	150.0	± 9.6 %
en en de serve	<ul> <li>Addition of the entropy of the entropy</li></ul>	Y	6.19	67.69	16.45		150.0	
	The second se	Z	6.16	67.41	16.15		150.0	
10457- AAA	UMTS-FDD (DC-HSDPA)	x	3.79	65.16	15.63	0.00	150.0	± 9.6 %
to a star a s	<ul> <li>Sector de la contra constituent de la transforme.</li> </ul>	Y	3.80	65.06	15.57	1.000	150.0	
5	a a second a second second second second	Z	3.79	64.70	15.14	÷	150.0	
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	x	2.97	65.81	13.58	0.00	150.0	± 9.6 %
Active and the		Y	3.01	65.76	13.63	19. J. J. S.	150.0	
2020 C		Z	2.95	65.01	13.06		150.0	
10459- AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	x	4.12	64.70	14.93	0.00	150.0	± 9.6 %
	C. Designed and the training of the second	Y	4.20	64.77	14.99		150.0	
		Z	4.18	64.43	14.64		150.0	

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10460- AAA	UMTS-FDD (WCDMA, AMR)	x	0.82	64.67	13.94	0.00	150.0	± 9.6 %
Aliantana a		Y	0.81	64.07	13.58		150.0	
lo pielaze o	States and the second states of the second	Z	0.77	61.95	11.76	an den e	150.0	2000/0055
10461- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.91	71.09	16.29	3.29	80.0	± 9.6 %
anitiotech	<ul> <li>BOD Intil commence WebBitterinkerstellinden, some</li> </ul>	Y	2.20	72.57	17.00	January N	80.0	
han di baran di	· Statement and Statement Statements	Z	1.30	64.50	13.04	a seconda a seconda	80.0	Acres 64
10462- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	0.90	60.38	8.38	3.23	80.0	± 9.6 %
elennin en		Y	1.07	61.55	9.07	Vitanesee	80.0	de company
Additation		Z	0.93	60.00	8.06	danis inte	80.0	dianana
10463- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.00	7.65	3.23	80.0	± 9.6 %
and strend		Y	0.92	60.00	7.77	and the second	80.0	distance -
<u>17.516.63</u>		Z	0.94	60.00	7.59	Versident	80.0	
10464- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.64	69.13	14.99	3.23	80.0	± 9.6 %
elen er en		Y	1.90	70.59	15.71		80.0	
and the set	water a contract and a second second second second	Z	1.18	63.52	12.14	Marked.	80.0	
10465- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	0.86	60.03	8.13	3.23	80.0	± 9.6 %
	en Witten geste de la Viel de la Constant de la Con	Y	1.02	61.09	8.78	oo condensarii	80.0	
and had had		Z	0.93	60.00	8.00	and a second	80.0	in Addition
10466- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.00	7.60	3.23	80.0	± 9.6 %
Many Sect		Y	0.92	60.00	7.73	and the states.	80.0	
and they would		Z	0.94	60.00	7.54	and the second	80.0	in a stores
10467- AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.68	69.49	15.17	3.23	80.0	± 9.6 %
eren sere		Y	1.95	71.00	15.91		80.0	1
and here a	. All the second states and the second states and the second	Z	1.18	63.65	12.24		80.0	
10468- AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.13	8.20	3.23	80.0	± 9.6 %
an e de cale	BREAK AND	Y	1.03	61.21	8.86		80.0	10.000
a fan earde	<ul> <li>Selfension and an appropriate state of the second se</li></ul>	Z	0.93	60.00	8.02	And and the	80.0	
10469- AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.00	7.60	3.23	80.0	± 9.6 %
e san she sa		Y	0.92	60.00	7.73		80.0	
	BARREN CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONT	Z	0.94	60.00	7.54		80.0	
10470- AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.67	69.48	15.16	3.23	80.0	± 9.6 %
an stàiseach	Representation of the second second second second	Y	1.94	70.98	15.90		80.0	
Survey of the	- Marine and the second states and the	Z	1.18	63.64	12.22		80.0	
10471- AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.10	8.18	3.23	80.0	± 9.6 %
na transia	OMCODED STREET AND A COMPANY AND A COMPANY AND A	Y.	1.03	61.18	8.83		80.0	in nation
anda addi	, References a construction of the second second	Z	0.93	60.00	8.01	and an side	80.0	distant at
10472- AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.00	7.58	3.23	80.0	± 9.6 %
antes erañ		Y	0.92	60.00	7.71		80.0	
Second and		Z	0.94	60.00	7.53		80.0	
10473- AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.67	69.46	15.15	3.23	80.0	±9.6 %
essentered	A MARINE STREET, STREE	Y	1.94	70.96	15.89	and and pro-	80.0	
etter som	and the second statements and the second	Z	1.18	63.63	12.22	and the second	80.0	
10474- AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	0.86	60.09	8.17	3.23	80.0	± 9.6 %
Sec. et		Y	1.02	61.16	8.82	constitues.	80.0	
	WWW. Wellinger and Wellinger and Wellinger.	Z	0.92	60.00	8.01		80.0	
	I HARD DESIGN THE COLUMN TWO IS NOT THE OWNER.	X	0.87	60.00	7.58	3.23	80.0	± 9.6 %
10475- AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	^	0.07	00.00		0.00	00.0	= 0.0 70
	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	Ŷ	0.92	60.00	7.71		80.0	2010 10

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10477- AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	0.86	60.00	8.10	3.23	80.0	± 9.6 %
1999 (MAR)		Y	1.01	61.06	8.75	10000000	80.0	the first second
2003-14-702		Z	0.92	60.00	7.99	aler er de la	80.0	and Share
10478- AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	x	0.87	60.00	7.57	3.23	80.0	± 9.6 %
10020-008		Y	0.92	60.00	7.70	111113-11-11	80.0	10746-00
8830 <u>0000</u> 00		Z	0.94	60.00	7.52	-0. m 2646	80.0	
10479- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	0.93	60.00	5.57	1.99	80.0	± 9.6 %
100 A A A A A		Y	0.93	60.00	5.97	1000111-003	80.0	
<u>1999</u> - 1997 -		Z	0.96	60.00	5.99	And the	80.0	All sectors and a
10480- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	×	1.38	60.00	4.60	1.99	80.0	± 9.6 %
400 Conner		Y.	1.32	60.00	4.95		80.0	10 March 10
0.804-0014		Z	1.33	60.00	4.96	and test	80.0	and the
10481- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	1.58	60.00	4.29	1.99	80.0	± 9.6 %
Yana ka sa		Y.	1.45	60.00	4.66	4-14-14-14	80.0	1.000
		Z	1.44	60.00	4.69		80.0	
10482- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	1.47	62.98	11.19	1.99	80.0	± 9.6 %
and the set	and the second second state of the second	Y.	1.44	62.58	11:11	.669.7898	80.0	11111000
eestia. 197	n annaichte an ceann an Abhraichte an Stàire an ch	Z	1.31	60.81	10.04	111111111	80.0	
10483- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	1.79	62.43	10.42	1.99	80.0	± 9.6 %
		Y	2.00	63.49	11.19	2-22-22-22-23	80.0	
	e i se en altere trier dy en anothel electron te pare	Z	1.74	61.48	10.00	3.3.3.3.3.3.2	80.0	10.000.000
10484- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	×	1.79	62.18	10.30	1.99	80.0	± 9.6 %
Roman di Li		Y	1.99	63.18	11.05	0.056660	80.0	1.060000
916000 - P		Z	1.75	61.34	9.95	Anna an	80.0	Sec. System
10485- AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	2.00	66.30	13.96	1.99	80.0	± 9.6 %
er (192-4	, and other and the state of the state of the	Y	1.86	65.13	13.47	医口腔中心	80.0	1000000
hadheidd		. Z	1.63	62.63	11.97	6-17-16-25	80.0	Alleho
10486- AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	2.11	64.05	12.42	1.99	80.0	± 9.6 %
References (13		Y.	2.06	63.57	12.27	en an and	80.0	Leefect.
	and the second of the second	Z	1.91	61.99	11.29	Sec.48233	80.0	Lot Market
10487- AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	2.14	63.89	12.34	1.99	80.0	± 9.6 %
$\phi \in \mathbb{R}^{n} \setminus \{v_i\}$		Y	2.10	63.45	12.21	21,439,263	80.0	53980
da para d		Z	1.95	61.96	11.27	10030125	80.0	1.1110030
10488- AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	2.62	68.05	15.82	1.99	80.0	± 9.6 %
dela del com	<ul> <li>Maintée anna é chaithe chomhaite anna</li> </ul>	· Y	2.43	66.67	15.17	a Na Branzi	80.0	
		Z	2.17	64.32	13.73	101-1000	80.0	. · · · · · · · · · · · · · · · · · · ·
10489- AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	2.81	66.22	15.08	1.99	80.0	± 9.6 %
		Y	2.70	65.38	14.68	1003061.00	80.0	<ul> <li>284665</li> </ul>
49-24-53		Z	2.53	63.81	13.63	Handwide R	80.0	
10490- AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	2.91	66.22	15.11	1.99	80.0	± 9.6 %
ahan in	<ul> <li>Constitution and solution of the second s Second second s Second second sec second second sec</li></ul>	Y	2.80	65.42	14.73	440.00	80.0	L. Hitters
	e and static and a strain strain and a static strain and the strain strain and the strain strain strain strain a	Z	2.63	63.92	13.73	281.9503	80.0	discouties.
10491- AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	3.03	67.82	16.03	1.99	80.0	± 9.6 %
sensitive en	Contraction and the providence of the second	Y	2.86	66.69	15.47	8	80.0	
	a setter a sector a sector approximate	Z.	2.63	64.82	14.28	45 (-1633)/43	80.0	1.1.1.111174
10492-	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.27	66.32	15.62	1.99	80.0	± 9.6 %
AAA								
AAA	10 arm, 02 obbitante 2,0,1,1,0,0,	Y	3.17	65.59	15.25	- 199 A.A.	80.0	

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2000		Z	3.14	64.56	14.58	den se tra	80.0	
	64-QAM, UL Subframe=2,3,4,7,8,9)		3.28 3.14	65.77 64.56	15.43 14.58		80.0 80.0	
10497- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.07	60.00 60.00	8.48	1.99	80.0	± 9.6 %
		z	1.14	60.00	8.60		80.0	
10498- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	1.26	60.00	7.53	1.99	80.0	± 9.6 %
<u>n serve</u> s		Y.	1.27	60.00	7.73		80.0	di ti ti ta di si ta
10100		Z	1.32	60.00	7.76	Cristian d	80.0	1.08/070
10499- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	×	1.28	60.00	7.40	1.99	80.0	±9.6 %
2011-000-00-00-00-00-00-00-00-00-00-00-00		Y	1.29	60.00	7.61	1.032000	80.0	- 296-996-1
10500-	LTE-TDD (SC-FDMA, 100% RB, 3 MHz,	ZX	1.34	60.00 67.04	7.65	1.99	80.0	10.00
AAA	QPSK, UL Subframe=2,3,4,7,8,9)	Ŷ	2.25	65.75	14.75	1.99	80.0	± 9.6 %
		Z	1.85	63.31	14.17		80.0	
10501- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.43	65.13	13.55	1.99	80.0	± 9.6 %
(eganter		Y	2.34	64.45	13.28	24/24/2012/8	80.0	
ditter and	n bereitet de la service d	Z	2.16	62.80	12.24	10.00	80.0	1
10502- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.47	65.05	13.46	1.99	80.0	± 9.6 %
Reference (	. Martina and an and a state of the state of	Y	2.39	64.41	13.21	harren er	80.0	
10503-	LTE-TDD (SC-FDMA, 100% RB, 5 MHz.	Z	2.22	62.82	12.21	30	80.0	
AAA	QPSK, UL Subframe=2,3,4,7,8,9)	X	2.59	67.90	15.74	1.99	80.0	± 9.6 %
		Y Z	2.40	66.53 64.23	15.09		80.0 80.0	
10504- AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.80	66.14	15.02	1.99	80.0	±9.6 %
3335		Y	2.69	65.30	14.62		80.0	
10507		Z	2.52	63.75	13.59	-246-2523	80.0	ast. other
10505- AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	2.90	66.14	15.06	1.99	80.0	± 9.6 %
Constant and a second	and the second state of the second	Y	2.79	65.34	14.67	a sana da	80.0	1.150 (1941)
10506-	I TE TOD /SC EDMA 4000/ DD 40	Z	2.62	63.86	13.68	in the deal	80.0	entersteller.
10506- AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	3.15	68.59	16.20	1.99	80.0	± 9.6 %
no anna anna		Y	2.94	67.34	15.60	1714-00-07	0.08	
10507-	LTE-TDD (SC-FDMA, 100% RB, 10	ZX	2.66	65.22	14.31	0.000.00	80.0	
AAA	MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	<b>^</b>	3.28	66.52	15.75	1.99	80.0	± 9.6 %
								I. I. M.
	00010116-2.5,4,7,0,57	Y	3.16	65.77	15.36	10.5	80.0	12.00

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10508- AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.38	66.42	15.76	1.99	80.0	±9.6 %
· · · · · · · · · · · · · · · · · · ·		Y	3.27	65.71	15.39		80.0	
		z	3.13	64.52	14.54	ANG 5128-144	80.0	
10509- AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	3.63	68.28	16.20	1.99	80.0	± 9.6 %
1949 P		Y	3.45	67.32	15.71	2000-00	80.0	111111111
endolere ()	- Martin and Antonio and An	Z	3.19	65.62	14.65	an a	80.0	Independent
10510- AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	3.80	66.68	16.05	1.99	80.0	± 9.6 %
9 man eta	<ul> <li>Stratyte department with home enclosed and e</li></ul>	Y	3.70	66.05	15.70	jan er vere	80.0	
ang kanak		Z	3.56	65.01	14.95	Web-Actives.	80.0	Jane Ma
10511- AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	3.88	66.56	16.05	1.99	80.0	± 9.6 %
		Y	3.78	65.96	15.72	t seconda da	80.0	
	nations and when a realities operation to be set the	Z	3.65	64.98	15.00		80.0	1.11.11.11.11.11.11.11.11.11.11.11.11.1
10512- AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	x	3.63	69.08	16.35	1.99	80.0	± 9.6 %
244-044		Y	3.41	67.94	15.80	a de partes	80.0	· · · · · · · · · · · · · · · · · · ·
mandal a	and the second	Z	3.09	65.92	14.59	ann de e	80.0	and the second
10513- AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	3.67	66.77	16.06	1.99	80.0	±9.6 %
ar aite i aite	A MARKAR CONTRACTOR AND A MARKAR	Y	3.56	66.09	15.70	Alternation	80.0	1965 (Che)
Ross Proc		Z	3.42	64.97	14.89	Section:	80.0	second second
10514- AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	3.73	66.53	16.03	1.99	80.0	± 9.6 %
erne tre	<ul> <li>SSSW-strategiese strategiese strategies Strategiese strategiese strat Strategiese strategiese strateg</li></ul>	Y	3.63	65.90	15.68	ale constant	80.0	
	and the second second second second second	Z	3.50	64.87	14.93	10.01.02.03	80.0	1. S. 281.
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	x	1.00	62.20	13.68	0.00	150.0	± 9.6 %
	<ul> <li>State to control the test of a state to complete the state of a state of the state</li></ul>	Y.	1.00	61.93	13.47	100	150.0	C
		Z	1.00	60.95	12.30	1030.005	150.0	
10516- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	x	0.51	64.20	13.70	0.00	150.0	± 9.6 %
arte con ess		Y	0.50	63.42	13.21	1011112	150.0	
strandition of	e Renado admentifica / minte ou este demensione est	Z	0.49	61.05	10.99	an (heistar	150.0	-63815-81
10517- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	x	0.82	63.08	13.75	0.00	150.0	± 9.6 %
1999 - 1999 - 19		Y	0.82	62.66	13.45	NYS STO	150.0	1.1.1.1.1.1.1.1.1
Sector Marcola		Z	0.81	61.20	11.94	012000	150.0	1.35.765
10518- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	x	4.45	66.53	15.92	0.00	150.0	± 9.6 %
<u></u>		Y	4.48	66.43	15.86	1111111111	150.0	
10519-	IEEE 000 11ab WEEE OUL (OF DAL 10	Z	4.45	66.03	15.44	0.00	150.0	+0.04
10519- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.62	66.72 66.64	16.02	0.00	150.0	± 9.6 %
		Z	4.64	66.24	15.97		150.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
10520-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18	X	4.01	66.65	15.93	0.00	150.0	± 9.6 %
AAA	Mbps, 99pc duty cycle)	Ŷ	4.49	66.57	15.88	0.00	150.0	1 2.0 %
n ann an an Anna. Talaictean		Z	4.49	66.15	15.66		150.0	
10521- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.40	66.63	15.91	0.00	150.0	± 9.6 %
		Y	4.43	66.54	15.85		150.0	
trading to a second		Z	4.39	66.11	15.42	400/862	150.0	
10522- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.46	66.75	16.01	0.00	150.0	± 9.6 %
2002000	a teachean an a	Y	4.49	66.66	15.95		150.0	1
		Z	4.45	66.23	15.52		150.0	
				the second se	and the second se			

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an an



10523- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.36	66.66	15.88	0.00	150.0	± 9.6 %
Sanancoa	a and the second second second second	Y	4.38	66.56	15.82	BREAM	150.0	0.00000
an a		Z	4.34	66.11	15.37	con-exclusion	150.0	1.1.1.1.1.1.1.1
10524- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.40	66.67	15.98	0.00	150.0	± 9.6 %
an a		Y	4.43	66.58	15.91	253-2028	150.0	100003340
o NO Se Granita	<ul> <li>Determine the transferration of the termine of termine of</li></ul>	Z	4.39	66.14	15.48	handered	150.0	
10525- AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.41	65.76	15.59	0.00	150.0	± 9.6 %
Letter 1996	<ol> <li>Department of the strength of the second data and the</li></ol>	. Y.	4.43	65.66	15.52	0.0000000	150.0	
alvenge al	<ol> <li>Should tradition of the high spin of the hig</li></ol>	Z	4.39	65.22	15.08	Stray payle	150.0	Assertatory
10526- AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.55	66.07	15.71	0.00	150.0	± 9.6 %
9899	<ul> <li>Markovski produkce Markovski slovenstvo se s</li> </ul>	Y	4.57	65.97	15.65	10000000	150.0	
antinaat	<ul> <li>Managersen and State and Sta State and State and Stat</li></ul>	Z	4.53	65.52	15.21	10.5375133	150.0	L. Alfredt
10527- AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.48	66.02	15.65	0.00	150.0	± 9.6 %
th's test second	<ul> <li>Billing and a particular solution sector of the line of the sector of the line of the lin</li></ul>	Y	4.50	65.92	15.58	and the fact	150.0	
n waxaa a	with a straight of the second straight of the	Z	4.45	65.46	15.13	in the second	150.0	
10528- AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.49	66.04	15.68	0.00	150.0	±9.6 %
area alisan a	. Elleration accession and the data begin to see	Y	4.51	65.94	15.61	S 1102/08	150.0	and a parent
(1995) 1995) 1995)	. The second	Z	4.46	65.48	15.17	Alter to the	150.0	
10529- AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	x	4.49	66.04	15.68	0.00	150.0	±9.6 %
والدا بمطلوبين	. All the constant of the second state of the second state of the second state of the second state of the second	Y	4.51	65.94	15.61	area area	150.0	1000000
a da	<ul> <li>Transition of the control of the contr</li></ul>	Z	4.46	65.48	15.17	ede se esserá	150.0	and the states
10531- AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	x	4.46	66.08	15.67	0.00	150.0	± 9.6 %
		Y	4.49	65.99	15.60	and a second	150.0	
	. Constances and the second second second	Z	4.44	65.52	15.15		150.0	
10532- AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	x	4.34	65.94	15.59	0.00	150.0	± 9.6 %
	a successive set an end a set the state of the	Y	4.36	65.84	15.53	Source Beer	150.0	
Andrew ord	s sustaine and an and a subsection of the second states.	Z	4.31	65.36	15.07	A	150.0	
10533- AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	x	4.50	66.10	15.68	0.00	150.0	± 9.6 %
ahten en	<ul> <li>Machine Mathematical Characterization and a second strategy of the second stra</li></ul>	Y	4.52	66.00	15.61	Sections.	150.0	
and the first second	. When a second of the second second second	Z	4.47	65.53	15.16		150.0	
10534- AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.05	66.17	15.79	0.00	150.0	± 9.6 %
	. Mandallar and Marganet measured and a	Y	5.07	66.11	15.74	1000000	150.0	
		z	5.03	65.74	15.36		150.0	
10535- AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.10	66.32	15.86	0.00	150.0	± 9.6 %
stantin de	- and the second se	Y	5.12	66.26	15.81		150.0	
a		Ż	5.08	65.88	15.42	and a second	150.0	
10536- AAA	IEEE 802.11ac WIFI (40MHz, MCS2, 99pc duty cycle)	X	4.98	66.28	15.82	0.00	150.0	± 9.6 %
	<ul> <li>Milling the contract for the contract of the contract on the contract of the contract on the cont</li></ul>	Y	5.00	66.21	15.76	100700-000	150.0	
<u>dia mata 50</u>	sendore services and the service services	Z	4.95	65.81	15.36	10000	150.0	
	e alana melantanan ang disebuah kanan kalang di s		5.03	66.25	15.81	0.00	150.0	± 9.6 %
	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	x	213832 P	110354349	10.000			
		X Y	5.06	66.18	15.76		150.0	
AAA	99pc duty cycle)		213832 P	66.18 65.80	15.76 15.37			
AAA 10538-		Y Z X	5.06			0.00	150.0 150.0 150.0	± 9.6 %
AAA 10538-	99pc duty cycle) IEEE 802.11ac WiFi (40MHz, MCS4,	Y Z	5.06 5.01	65.80	15.37	0.00	150.0	± 9.6 %
10537- AAA 10538- AAA	99pc duty cycle) IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	Y Z X	5.06 5.01 5.11	65.80 66.26	15.37 15.85	0.00	150.0 150.0 150.0	± 9.6 %
AAA 10538-	99pc duty cycle) IEEE 802.11ac WiFi (40MHz, MCS4,	Y Z X Y	5.06 5.01 5.11 5.14	65.80 66.26 66.20	15.37 15.85 15.80	0.00	150.0 150.0	
AAA 10538- AAA 10540-	99pc duty cycle) IEEE 802,11ac WiFi (40MHz, MCS4, 99pc duty cycle) IEEE 802,11ac WiFi (40MHz, MCS6,	Y Z X Y Z	5.06 5.01 5.11 5.14 5.10	65.80 66.26 66.20 65.83	15.37 15.85 15.80 15.42		150.0 150.0 150.0 150.0	± 9.6 % ± 9.6 %

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10541- AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.03	66.15	15.80	0.00	150.0	± 9.6 %
		Y	5.05	66.09	15.75		150.0	
020305-250		Z	5.01	65.72	15.37	ale tosta i	150.0	·
10542- AAA	IEEE 802.11ac WIFI (40MHz, MCS8, 99pc duty cycle)	x	5.18	66.25	15.87	0.00	150.0	± 9.6 %
1911 - E. S.		Y	5.21	66.19	15.82		150.0	
		Z	5.17	65.84	15.45		150.0	S
10543- AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	x	5.25	66.27	15.90	0.00	150.0	± 9.6 %
		Y	5.27	66.21	15.86	10000	150.0	
aliter un de		Z	5.24	65.87	15.49	eletro tra-	150.0	Wite other
10544- AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	x	5.38	66.31	15.81	0.00	150.0	± 9.6 %
<u>1999 - 1997 - 1997</u>		Y	5.40	66.26	15.77	- end to the e	150.0	di la second
nava da B	Demokratika en Calendaria et delaste da se	Z	5.36	65.93	15.42	-11	150.0	1.
10545- AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	x	5.54	66.68	15.96	0.00	150.0	± 9.6 %
51-51-1-1-51 1-51-1-1-51	and the second second second second second	Y	5.57	66.62	15.91		150.0	
10010		Z	5.51	66.26	15.54		150.0	
10546- AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	x	5.42	66.45	15.85	0.00	150.0	± 9.6 %
		Y	5.44	66.40	15.81		150.0	1
10513	1555 000 44- 1005 (0010) 11000	Z	5.40	66.07	15.45		150.0	
10547- AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.49	66.51	15.88	0.00	150.0	± 9.6 %
		Y	5.51	66.46	15.83		150.0	
10548-	IEEE 802.11ac WiFi (80MHz, MCS4,	Z X	5.47 5.64	66.13 67.15	15.48 16.17	0.00	150.0 150.0	± 9.6 %
AA .	99pc duty cycle)	Y	5.67	67.11	16.13	100304.300	150.0	
		Z	5.60	66.69	15.74		150.0	
10550-	IEEE 802.11ac WiFi (80MHz, MCS6,	X	5.45	66.53	15.74	0.00	150.0	± 9.6 %
AAA	99pc duty cycle)	Ŷ	5.45	66.46	15.85	0.00	150.0	1 9.0 %
		Z	5.43	66.12	15.65		150.0	
10551- AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.44	66.48	15.84	0.00	150.0	± 9.6 %
	cope and along	Y	5.47	66.45	15.81		150.0	
2000-0-0		Z	5.42	66.11	15.45		150.0	
10552- AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	x	5.39	66.40	15.80	0.00	150.0	± 9.6 %
		Y	5.41	66.34	15.76	10000000	150.0	
nation of the	and the second state of the second	Z	5.37	66.01	15.40		150.0	·
10553- AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.46	66.40	15.83	0.00	150.0	± 9.6 %
esta de la cal	With the the state of the second second	Y	5.48	66.35	15.79	see en ar	150.0	
service inte		Z	5.44	66.03	15.45		150.0	
10554- AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	x	5.79	66.67	15.91	0.00	150.0	± 9.6 %
and a second second		Y	5.81	66.63	15.87		150.0	
		Z	5.77	66.33	15.54		150.0	
10555- AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	x	5.89	66.92	16.02	0.00	150.0	± 9.6 %
		Y	5.92	66.87	15.98	1	150.0	
10556-	IEEE 1602.11ac WiFi (160MHz, MCS2,	ZX	5.87 5.92	66.56 66.98	15.64 16.04	0.00	150.0 150.0	± 9.6 %
AAA	99pc duty cycle)	-		00.00	40.00	0.000.080	460.0	100010-005
		Y	5.94	66.93	16.00		150.0	
1	IEEE 1602.11ac WiFi (160MHz, MCS3,	ZX	5.89 5.88	66.61 66.88	15.66	0.00	150.0	+0.0 %
10557	TIEEE 1002, TIAC WITH HOUMPLE MCS3.	- A -	0.00	00.00	10.01	0.00	150.0	± 9.6 %
10557- AAA	99pc duty cycle)	Y	5.91	66.84	15.97	- 68966.0	150.0	1.101.000

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10558- AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	5.92	67.01	16.09	0.00	150.0	± 9.6 %
TRACE AND	1	Y	5.94	66.97	16.05		150.0	
data a const		Ż	5.89	66.65	15.72	and an an and a	150.0	in the second second
10560- AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	5.92	66.90	16.07	0.00	150.0	± 9.6 %
10.000		Y	5.95	66.85	16.03		150.0	
Service -	- How West Charles and the West States and the States of t	Z	5.90	66.56	15.71		150.0	
10561- AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.85	66.86	16.09	0.00	150.0	± 9.6 %
Ablin and G	<ul> <li>Balling and the constraint the constraint of the cons</li></ul>	Y	5.87	66.81	16.04	deed states	150.0	
eren er en er		Z	5.83	66.50	15.71	sourcest (es	150.0	Name and
10562- AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	5.93	67.11	16.21	0.00	150.0	± 9.6 %
	and the second statistic descent and the	Y	5.95	67.07	16.17	and a state of	150.0	
interneted	e sakon a sa ka sa ana ada wa sa ka ka ka ka sa sa sa	Z	5.90	66.75	15.84		150.0	
10563- AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.00	66.99	16.12	0.00	150.0	± 9.6 %
strain Consta		Y	6.04	66.98	16.09	and a second	150.0	a seconda
baran da s		Z	5.99	66.67	15.77		150.0	201100-001
10564- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	x	4.78	66.62	16.09	0.46	150.0	± 9.6 %
Alexand		Y	4.80	66.52	16.02	atterned a	150.0	outroal Kata
		Z	4.78	66.19	15.67	and he are	150.0	p
10565- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	x	4.98	67.02	16.40	0.46	150.0	± 9.6 %
ans. A		Y	5.01	66.95	16.35	Same and	150.0	and the first
		Z	4.98	66.60	15.98	Succession in	150.0	and the state
10566- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 99pc duty cycle)	x	4.82	66.84	16.20	0.46	150.0	± 9.6 %
a destruction of	· CHERRY CONTRACTOR CONTRACTOR CONTRACTOR	Y	4.84	66.76	16.14	·	150.0	
· · · · · · · · · ·	COMPANY STATES AND A	Z	4.82	66.41	15.77		150.0	
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	X	4.84	67.20	16.54	0.46	150.0	±9.6 %
	ANNO DE LE COMPANIE DE LA COMPANIE	Y	4.87	67.14	16.50	A.S	150.0	
a. gorien i	Contraction and the second	Z	4.84	66.72	16.08		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.73	66.62	15.97	0.46	150.0	±9.6 %
	<ul> <li>INVALUESCONTRACTOR AND AND AND AND AND AND AND AND AND AND</li></ul>	Y	4.75	66.50	15.88	1.1.1.1.1.1.1.1	150.0	
and the set	ACCOUNT AND	Z	4.73	66.19	15.54		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	4.81	67.32	16.61	0.46	150.0	±9.6 %
de Alger I. M	a dalah manang kanang dalah pertakan dalam perakan dalam perakan dalam perakan dalam perakan dalam perakan dala	Y	4.84	67.26	16.57		150.0	
and the second	- Alzana A	Z	4.79	66.80	16.12	distant.	150.0	allonana.
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	x	4.84	67.19	16.56	0.46	150.0	±9.6 %
1964 - Alexandria	Marketter en en anter et en alter en	Y	4.87	67.11	16.51		150.0	and the set
	Selected and a second	Z	4.83	66.70	16.09	and in the set	150.0	
10571- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	x	1.16	62.99	14.24	0.46	130.0	±9.6 %
		Y	1.15	62.55	13.93	Alter and	130.0	A
eleter en s		Z	1.15	61.55	12.82		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	x	1.16	63.35	14.48	0.46	130.0	±9.6 %
		Y	1.15	62.88	14.15		130.0	Sector of the
trees and a	and a second state of the second second	Z	1.14	61.77	12.96	i	130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	x	0.85	68.68	15.95	0.46	130.0	±9.6 %
	NERVER PERSON AND A PROPERTY OF PROPERTY OF	Y	0.77	66.76	14.97	dana marka	130.0	
diset s	Distance	Z	0.68	63.07	12.31		130.0	and the second s
10574-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11	X	1.12	66.29	16.04	0.46	130.0	±9.6 %
AAA	Mbps, 90pc duty cycle)	0.001		100 A 100 A 100			1.12.633.1.1	
	Mbps, 90pc duty cycle)	Y	1.09	65.47	15.55		130.0	

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10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 90pc duty cycle)	x	4.55	66.33	16.05	0.46	130.0	± 9.6 %
	on one, o mops, sope duty cycle)	Y	4.57	66.21	15.97	14533345345	130.0	1.11.11.11.11.11.1
		z	4.57	65.88	15.60		130.0	1101010101
10576-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	X	4.58	66.49	16.12	0.46	130.0	± 9.6 %
AAA	OFDM, 9 Mbps, 90pc duty cycle)				1.1332.545	0.40		19.0 %
		Y	4.59	66.38	16.04	Second gas	130.0	1111111111
10577-		Z	4.57	66.02	15.66	10160-0116	130.0	200100.000
AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	x	4.75	66.75	16.28	0.46	130.0	± 9.6 %
		Y	4.78	66.65	16.21	set the set.	130.0	
10570		Z	4.75	66.29	15.83	teach car	130.0	. distances
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	x	4.65	66.86	16.36	0.46	130.0	± 9.6 %
		Y	4.67	66.77	16.30	NUMBER	130.0	territorio (
1000		Z	4.64	66.37	15.88	Spherae	130.0	2010-00-01
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	x	4.42	66.14	15.67	0.46	130.0	± 9.6 %
99 (* 1)	and the second state of th	Y	4.43	66.01	15.57		130.0	and the second
eestatud test	Contraction of the second s	Z	4.42	65.70	15.22	attention and	130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	x	4.46	66.20	15.70	0.46	130.0	±9.6 %
Marchael &		Y	4.48	66.06	15.60	day setter	130.0	
XR. ON Y U	NUMBER OF CONTRACTOR OF CONTRACTOR OF CONTRACTOR	Z	4.46	65.76	15.26	10000	130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	x	4.55	66.89	16.30	0.46	130.0	± 9.6 %
(Second )		Y	4.57	66.78	16.22	A.C. LAND	130.0	
-distants		Z	4.53	66.35	15.79	1	130.0	1
10582- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	x	4.35	65.92	15.46	0.46	130.0	± 9.6 %
		Y	4.37	65.77	15.35		130.0	
The second second	Den Weiter and a strategie and and an and	z	4.36	65.49	15.03		130.0	
10583- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	x	4.55	66.33	16.05	0.46	130.0	± 9.6 %
12112		Y	4.57	66.21	15.97	· · · · · · · · · · · · · · · · · · ·	130.0	
	and the second second second databases	z	4.55	65.88	15.60		130.0	
10584- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.58	66.49	16.12	0.46	130.0	± 9.6 %
		Y	4.59	66.38	16.04		130.0	
den en de		Z	4.57	66.02	15.66		130.0	
10585- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.75	66.75	16.28	0.46	130.0	± 9.6 %
	maket ealle and elocal	Y	4.78	66.65	16.21		130.0	
		z	4.75	66.29	15.83		130.0	
10586- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.65	66.86	16.36	0.46	130.0	±9.6 %
	meret coho and oland	Y	4.67	66.77	16.30		130.0	
		z	4.64	66.37	15.88		130.0	
10587- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.42	66.14	15.67	0.46	130.0	± 9.6 %
		Y	4,43	66.01	15.57		130.0	
		Z	4.42	65.70	15.22		130.0	
10588- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.46	66.20	15.70	0.46	130.0	± 9.6 %
		Y	4.48	66.06	15.60		130.0	
11	a www.www.inc	Z	4.46	65.76	15.26		130.0	
10589- AAA	IEEE 802.11a/h WiFI 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.55	66.89	16.30	0.46	130.0	± 9.6 %
		Y	4.57	66.78	16.22	11111	130.0	
		z	4.53	66.35	15.79		130.0	
10590- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.35	65.92	15.46	0.46	130.0	± 9.6 %
10590- AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)		4.35	65.92 65.77	15.46	0.46	130.0 130.0	±9.6 %

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10591- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.71	66.42	16.17	0.46	130.0	± 9.6 %
1139-00-03		Y	4.73	66.32	16.10	110010788	130.0	resource AD
e ether A		Z	4.71	66.00	15.74	1000000000	130.0	nerrinkis.
10592- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	x	4.84	66.72	16.30	0.46	130.0	± 9.6 %
e do filma de		Y	4.86	66.62	16.23		130.0	and the second
600	a balliki di sana ang wang sa	Z	4.84	66.29	15.86		130.0	
10593- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.76	66.60	16.16	0.46	130.0	± 9.6 %
Section 1999		Y	4.78	66.50	16.09		130.0	5
sources.		Z	4.76	66.17	15.73	1.002000	130.0	10.020.0
10594- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	x	4.81	66.77	16.32	0.46	130.0	± 9.6 %
a strage specific		Y	4.83	66.67	16.25	1.11.1.1.1.1.1.	130.0	Denistation:
a en en tarde de	: SNEEDER AND A STREETER AND REAL	Z	4.81	66.32	15.87	Chier section.	130.0	100200-01
10595- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	x	4.77	66.73	16.22	0.46	130.0	± 9.6 %
an taini (	s midiger to construct builds stockwarter c	Y	4.80	66.62	16.15	and the second	130.0	
d persona at	<ul> <li>Invalidation of the Annual Control (Section 1996)</li> </ul>	Z	4.77	66.28	15.77		130.0	
10596- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	x	4.71	66.70	16.21	0.46	130.0	± 9.6 %
		Y	4.73	66.59	16.13	Courses.	130.0	
sections.	· Sound the second statistics to say a second	Z	4.71	66.24	15.75		130.0	
10597- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	x	4.66	66.59	16.08	0.46	130.0	± 9.6 %
a contra constitución de la constitu	<ul> <li>Marganetic constant deservation of the second s second second s second second se</li></ul>	- Y	4.68	66.47	16.00	·	130.0	
en der einen die	<ul> <li>ACOMMON CONTRACT AND AND AND AND AND AND AND AND AND AND</li></ul>	Z	4.66	66.13	15.63		130.0	
10598- AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	×	4.64	66.78	16.32	0.46	130.0	± 9.6 %
	a addition of the state of the	Y	4.66	66.69	16.26		130.0	
	<ul> <li>www.second.com/page/accession/second</li> </ul>	Z	4.64	66.30	15.85		130.0	
10599- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.37	66.91	16.41	0.46	130.0	± 9.6 %
1299 A.L. 11	. And the second s	Y	5.39	66.83	16.35	1000	130.0	
111111111111	· www.enume.com.com.com.com.com.com.com.com	Z	5.36	66.54	16.02		130.0	
10600- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	x	5.46	67.23	16.55	0.46	130.0	± 9.6 %
-1949 - H		Y	5.49	67.15	16.47		130.0	
Sec	and the second	z	5.45	66.83	16.13		130.0	
10601- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	x	5.37	67.05	16.47	0.46	130.0	± 9.6 %
Quine sea	and the second second second second second	Y	5.40	66.97	16.40		130.0	
sectore de	added and a strategy and the second	Z	5.37	66.67	16.07		130.0	
10602- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	x	5.50	67.21	16.47	0.46	130.0	± 9.6 %
	Alternative constant and the second	Y	5.52	67.12	16.40	1.1.1.1.1.1.1	130.0	
nada da	. Barren and an and a straight a straight and a straight a st	Z	5.49	66.81	16.07		130.0	and shows
10603- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	x	5.57	67.47	16.74	0.46	130.0	± 9.6 %
344-0-03	. A state of the second st	Y	5.58	67.36	16.65	and the	130.0	Section 199
39 - er a - 2	International contract to contract the	Z	5.55	67.04	16.31		130.0	
10604- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	x	5.44	67.13	16.55	0.46	130.0	±9.6 %
11	Contractor and a second strategical and and a second second	Y	5.46	67.02	16.47		130.0	
land a d	Martine Constraints (Martines), and Martine	Z	5.43	66.72	16.13		130.0	
10605- AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	x	5.47	67.19	16.58	0.46	130.0	±9.6 %
le la serie	- within the beau of a distance of a distance of	Y	5.49	67.10	16.50		130.0	
1992/1993	- BARRISSING AND	Z	5.47	66.80	16.17		130.0	
10606-	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.23	66.56	16.12	0.46	130.0	±9.6 %
AAA					and the second	and a strategy of the	Constraints St.	A REAL MARK
AAA	And the second second second second	Y	5.25	66.46	16.03		130.0	Contraction of the

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#### IEEE 802.11ac WiFi (20MHz, MCS0, 10607-4.54 65.70 15.78 0.46 130.0 ± 9.6 % х 90pc duty cycle) AAA v 4.55 65.58 15.70 130.0 4.52 15.29 Z 65.20 130.0 IEEE 802.11ac WiFi (20MHz, MCS1, ±9.6 % 10608 0.46 Х 4.69 66.05 15.93 130.0 AAA 90pc duty cycle) Y 4.71 65.93 15.85 130.0 4.68 65.54 15.44 130.0 ZX ±9.6 % 10609-IEEE 802.11ac WiFi (20MHz, MCS2, 0.46 4.58 65.88 15.76 130.0 AAA 90pc duty cycle) 4.60 130.0 65.76 15.67 ZX 4.57 65.37 15.27 130.0 10610-IEEE 802.11ac WiFi (20MHz, MCS3, 4.63 66.03 15.91 0.46 130.0 ±9.6 % AAA 90pc duty cycle) 15.83 15.42 Y 4.65 65.92 65.51 130.0 130.0 4.61 IEEE 802.11ac WiFi (20MHz, MCS4, 10611-Х 4.55 65.84 15.76 0.46 130.0 ±9.6% AAA 90pc duty cycle) 130.0 4.57 65.72 15.68 Ż 4.53 65.33 15.27 130.0 IEEE 802.11ac WiFi (20MHz, MCS5, 10612-4.54 65.96 15.79 0.46 130.0 ±9.6 % AAA 90pc duty cycle) YZ 130.0 130.0 15.70 4.56 65.83 65.42 4.52 10613-IEEE 802.11ac WiFi (20MHz, MCS6, Х 4.54 65.83 15.67 0.46 130.0 ±9.6 % AAA 90pc duty cycle) 65.70 130.0 Y 4.56 15.58 ZX 4.53 65.32 15.18 130.0 IEEE 802.11ac WiFi (20MHz, MCS7, 10614-4.50 66.00 15.89 0.46 130.0 ± 9.6 % AAA 90pc duty cycle) Y 4.52 65.89 15.81 130.0 Z 4.48 130.0 65.46 15.38 10615-IEEE 802.11ac WiFi (20MHz, MCS8, 4.55 65.70 15.55 0.46 130.0 ±9.6 % AAA 90pc duty cycle) 130.0 Ÿ 4.56 65.55 15.45 Z 4.53 65.20 15.08 130.0 130.0 10616-IEEE 802.11ac WiFi (40MHz, MCSO, 5.18 66.14 16.00 0.46 ±9.6 % AAA 90pc duty cycle) Y 5.20 66.06 15.94 130.0 ZX 5.17 15.59 65.74 130.0 IEEE 802.11ac WiFi (40MHz, MCS1, 5.24 0.46 ±9.6 % 10617-16.06 130.0 66.30 AAA 90pc duty cycle) Y 5.26 66.22 15.99 130.0 Z 5.22 15.64 65.88 130.0 10618-IEEE 802.11ac WiFi (40MHz, MCS2, 5.13 66.32 16.08 0.46 130.0 ±9.6 % AAA 90pc duty cycle) v 5.15 66.23 16.01 130.0 5.11 5.14 15.64 15.92 130.0 130.0 65.87 ZX IEEE 802.11ac WiFi (40MHz, MCS3, 10619 66.12 0.46 ±9.6 % AAA 90pc duty cycle) Y 5.16 66.02 15.85 130.0 65.70 ZX 5.13 15.50 15.99 130.0 IEEE 802.11ac WiFi (40MHz, MCS4, 10620-0.46 ± 9.6 % 66.16 130.0 AAA 90pc duty cycle) Y 5.25 66.07 15.92 130.0 5.21 65.76 15.57 130.0 IEEE 802.11ac WiFi (40MHz, MCS5, 10621-0.46 ±9.6 % X 66.29 16.17 130.0 AAA 90pc duty cycle) 5.26 66.23 16.12 130.0 v 5.23 65.89 15.75 130.0 IEEE 802,11ac WiFi (40MHz, MCS6, X 10622-0.46 ±9.6 % 5.23 66.39 16.21 130.0 AAA 90pc duty cycle) V 5.26 66.34 16.17 130.0 Z 5.22 65.98 15.79 130.0

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10623- AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	x	5.12	65.97	15.88	0.46	130.0	± 9.6 %
		Y	5.14	65.89	15.81	a	130.0	· · · · · · · · · · · · · · · · · · ·
anti izanti		Z	5.12	65.59	15.47	and the second	130.0	
10624- AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	×	5.32	66.20	16.06	0.46	130.0	± 9.6 %
ora Materia		Y	5.34	66.12	15.99		130.0	
	<ul> <li>Millionation and an and an an</li></ul>	Z	5.31	65.82	15.65	difference liest	130.0	1.
10625- AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	x	5.51	66.68	16.35	0.46	130.0	± 9.6 %
	<ul> <li>NORTHERNOLD CONTRACTOR CONTRACTOR</li> </ul>	Y	5.57	66.69	16.34	Deff Kotter	130.0	
under de	<ul> <li>ASSOCIATION CONTRACTOR CONTRACTOR</li> </ul>	Z	5.53	66.36	15.99		130.0	
10626- AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	x	5.50	66.24	16.00	0.46	130.0	± 9.6 %
Jannaka	<ul> <li>Malescent and a second sec second second sec</li></ul>	Y	5.52	66.17	15.94		130.0	
e na ine e		Z	5.49	65.89	15.62		130.0	
10627- AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	x	5.71	66.75	16.22	0.46	130.0	±9.6 %
electron the	<ul> <li>and the device of the Matter and addresses</li> </ul>	Y	5.73	66.67	16.16		130.0	
·	. When the second s	Z	5.68	66.35	15.82		130.0	
10628- AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	x	5.50	66.25	15.90	0.46	130.0	± 9.6 %
a deretta a d	<ul> <li>References and analysis and an analysis of the second s</li></ul>	Y	5.52	66.18	15.84	discussion.	130.0	
det set sus e		Z	5.49	65.91	15.53		130.0	
10629- AAA	IEEE 802.11ac WiFi (80MHz, MCS3,	x	5.58	66.34	15.94	0.46	130.0	± 9.6 %
~~~	90pc duty cycle)	Y	5.60	66.26	15.88	10.000.0A	400.0	1
							130.0	
10020		Z	5.57	65.98	15.56	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	130.0	
10630- AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	x	5.85	67.32	16.45	0.46	130.0	± 9.6 %
		Y	5.88	67.28	16.39		130.0	
		Z	5.81	66.88	16.02		130.0	
10631- AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	x	5.82	67.35	16.64	0.46	130.0	± 9.6 %
and the second second	en altresse sitter trents en espatae - i	Y	5.86	67.33	16.62		130.0	1.1.1.1.1.1
e dan ser	n belluktionen er en wordtene sonwette v	Z	5.80	66.93	16.23		130.0	
10632- AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	x	5.69	66.84	16.40	0.46	130.0	± 9.6 %
arts, arts	BERTS-CONTRACTOR AND CONTRACTOR	Y	5.71	66.78	16.35		130.0	
Second 1	<ul> <li>ANNO DE LOS DE LO</li></ul>	Z	5.66	66.42	15.98		130.0	
10633- AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	x	5.57	66.45	16.04	0.46	130.0	± 9.6 %
al terre and	e all'Alexànic anno e degli anno a mari h	Y	5.59	66.39	15.98		130.0	
de la composition de la compos	<ul> <li>EXTERNATION CONTRACTOR CONTRACTOR</li> </ul>	Z	5.56	66.10	15.65		130.0	
10634- AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	x	5.56	66.48	16.11	0.46	130.0	± 9.6 %
travitor or and	. Zamili na sanga sa sa sanga sa sanga sa	Y	5.58	66.42	16.06		130.0	
. stilled	Excess And the resolution to excellence of the con-	Z	5.55	66.12	15.72	10.101.0	130.0	
10635- AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	x	5.44	65.82	15.52	0.46	130.0	± 9.6 %
	and the second	Y	5.45	65.73	15.43		130.0	
a	· ARABIN ······	Z	5.44	65.52	15.17		130.0	
10636- AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	5.92	66.62	16.10	0.46	130.0	±9.6 %
	population and contract water and	Y	5.94	66.56	16.05		130.0	
	will be a second and the first second states of the	Z	5.90	66.29	15.75		130.0	
10637- AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.05	66.93	16.25	0.46	130.0	± 9.6 %
	and the second	Y	6.07	66.88	16.20		130.0	
	Toute	Z	6.03	66.59	15.88		130.0	Anness and the
10638- AAA	IEEE 1602.11ac WiFi (160MHz, MCS2,	X	6.06	66.94	16.23	0.46	130.0	±9.6 %
~~~~	90pc duty cycle)	Y	6.08	00.00	40.47	10800055	100.0	
		Z	6.08	66.88 66.60	16.17 15.87	Sec. 1995.	130.0	

December 15, 2015

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December 15, 2015

10639- AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.03	66.87	16.23	0.46	130.0	±9.6 %
	Alternation Address and a second second	Y	6.05	66.81	16.18		130.0	1
	la de la companya de	Z	6.01	66.54	15.88	a da terre da la composición de la comp	130.0	
10640- AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.02	66.85	16.17	0.46	130.0	± 9.6 %
		Y	6.04	66.79	16.11	Set pares	130.0	den de Art
	· · · · · · · · · · · · · · · · · · ·	Z	6.00	66.53	15.82	and the second	130.0	and the second
10641- AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.08	66.82	16.18	0.46	130.0	± 9.6 %
1.0.1		Y	6.10	66.75	16.11		130.0	
and the second		Z	6.06	66.49	15.82		130.0	
10642- AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	x	6.12	67.04	16.45	0.46	130.0	± 9.6 %
ante estatut	such a second and a second	Y	6.14	67.00	16.41		130.0	
	<ul> <li>A second s</li></ul>	Z	6.10	66.71	16.09	1	130.0	1.000
10643- AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X.	5.96	66.74	16.20	0.46	130.0	± 9.6 %
	a construction of the second	Y	5.98	66.67	16.13		130.0	
		Z	5.94	66.40	15.83		130.0	1
10644- AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.06	67.04	16.37	0.46	130.0	± 9.6 %
2000		Y	6.08	66.99	16.31	1.1.1.1.1.1	130.0	
5356 - L - F	and the second	Z	6.04	66.72	16.01	10.000	130.0	
10645- AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	x	6.16	67.02	16.32	0.46	130.0	± 9.6 %
		Y	6.20	67.00	16.28		130.0	
		Z	6.16	66.73	15.98		130.0	1

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

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ANNEX B

# DIPOLE CALIBRATION REPORTS

# COMMERCIAL-IN-CONFIDENCE



Engineering AG (eughausstrasse 43, 8004 Zuric	r <b>y of</b>		Consign guilene d'étalennes
Accredited by the Swiss Accredit The Swiss Accreditation Servic Multilateral Agreement for the r	e is one of the signatorie	es to the EA	Accreditation No.: SCS 0108
Client TüV SÜD UK		and the second se	No: D1900V2-546_Nov15
CALIBRATION (	CERTIFICATE		
Object	D1900V2 - SN: 5	i46	
Calibration procedure(s)	QA CAL-05.v9 Calibration proce	dure for dipole validation kits ab	ove 700 MHz
Calibration date:	November 17, 20	015	
The measurements and the unce	rtainties with confidence p	ional standards, which realize the physical u robability are given on the following pages a ry facility: environment temperature (22 ± 3)	ind are part of the certificate.
The measurements and the unce	rtainties with confidence p	robability are given on the following pages a	nd are part of the certificate. °C and humidity < 70%.
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A	rtainties with confidence p cted in the closed laborato TE critical for calibration)	robability are given on the following pages a ry facility: environment temperature ( $22 \pm 3$ )	ind are part of the certificate.
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A	ID # GB37480704 US37292783	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222)	nd are part of the certificate. °C and humidity < 70%. Scheduled Calibration
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A	ID # GB37480704 US37292783 MY41092317	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223)	nd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k)	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131)	nd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Oct-16 Mar-16
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&' Primary Standards Power setsor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5047.2 / 06327	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02134)	Ind are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Oct-16 Mar-16 Mar-16
The measurements and the unce All calibrations have been conduct Calibration Equipment used (M&' Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k)	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131)	nd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Oct-16 Mar-16
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131) 01-Apr-15 (No. 217-02134) 30-Dec-14 (No. EX3-7349_Dec14)	rd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Oct-16 Oct-16 Mar-16 Mar-16 Dec-15
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards RF generator R&S SMT-06	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349 SN: 601	robability are given on the following pages a ry facility: environment temperature (22 ± 3) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131) 01-Apr-15 (No. 217-02131) 30-Dec-14 (No. EX3-7349_Dec14) 17-Aug-15 (No. DAE4-601_Aug15)	nd are part of the certificate. "C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Mar-16 Mar-16 Dec-15 Aug-16
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&' Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards RF generator R&S SMT-06 Network Analyzer HP 8753E	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5058 (20k) SN: 5047.2 / 06327 SN: 5061 ID # 100972	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131) 01-Apr-15 (No. 217-02134) 30-Dec-14 (No. EX3-7349_Dec14) 17-Aug-15 (No. DAE4-601_Aug15) Check Date (in house) 15-Jun-15 (in house check Jun-15)	nd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Mar-16 Mar-16 Dec-15 Aug-16 Scheduled Check In house check: Jun-18
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&' Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards RF generator R&S SMT-06 Network Analyzer HP 8753E	ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # 100972 US37390585 S4206	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-0223) 01-Apr-15 (No. 217-02134) 30-Dec-14 (No. EX3-7349_Dec14) 17-Aug-15 (No. DAE4-601_Aug15) Check Date (in house) 15-Jun-15 (in house check Jun-15) 18-Oct-01 (in house check Oct-15)	nd are part of the certificate. "C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Mar-16 Dec-15 Aug-16 Scheduled Check In house check: Jun-18 In house check: Oct-16
The measurements and the unce All calibrations have been condu Calibration Equipment used (M& Primary Standards	ID # ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 5047.2 / 06327 SN: 7349 SN: 601 ID # 100972 US37390585 S4206 Name	robability are given on the following pages a ry facility: environment temperature (22 ± 3) Cal Date (Certificate No.) 07-Oct-15 (No. 217-02222) 07-Oct-15 (No. 217-02223) 01-Apr-15 (No. 217-02131) 01-Apr-15 (No. 217-02134) 30-Dec-14 (No. EX3-7349_Dec14) 17-Aug-15 (No. DAE4-601_Aug15) Check Date (in house) 15-Jun-15 (in house check Jun-15) 18-Oct-01 (in house check Oct-15) Function	nd are part of the certificate. "C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Mar-16 Dec-15 Aug-16 Scheduled Check In house check: Jun-18 In house check: Oct-16

### COMMERCIAL-IN-CONFIDENCE



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





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Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura

Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

### Glossary:

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

# Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

e) DASY4/5 System Handbook

# Methods Applied and Interpretation of Parameters:

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

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

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# **Measurement Conditions**

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.4 ± 6 %	1.39 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

# SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.93 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	39.8 W/kg ± 17.0 % (k=2)
		its for the first of the second
CAR averaged avera to an <sup>2</sup> (to a) of Hand TO	acaditian	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL SAR measured	condition 250 mW input power	5.19 W/kg
		5.19 W/kg 20.8 W/kg ± 16.5 % (k=2)

Body TSL parameters The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.2 ± 6 %	1.52 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	40.2 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.31 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.2 W/kg ± 16.5 % (k=2)

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

# Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.7 Ω + 3.2 jΩ
Return Loss	- 29.9 dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.4 Ω + 4.4 jΩ
Return Loss	- 24.6 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.204 ns
----------------------------------	----------

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

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

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

### **Additional EUT Data**

Manufactured by	SPEAG
Manufactured on	November 15, 2001

Certificate No: D1900V2-546\_Nov15

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# DASY5 Validation Report for Head TSL

Date: 10.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

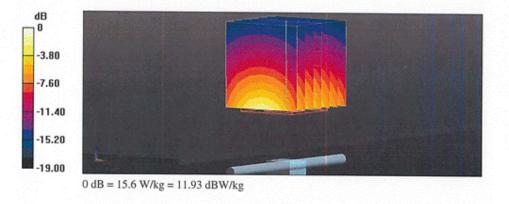
# DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 546

Communication System: UID 0 - CW; Frequency: 1900 MHz Medium parameters used: f = 1900 MHz;  $\sigma$  = 1.39 S/m;  $\epsilon_r$  = 39.4;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.14, 8.14, 8.14); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

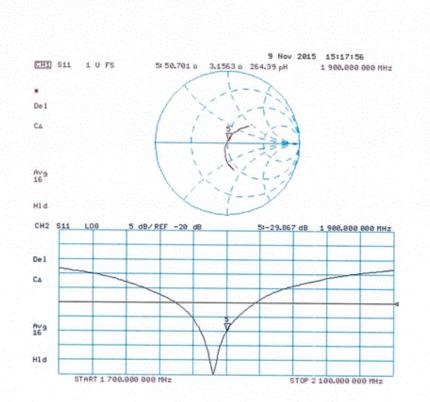
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 108.9 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 18.7 W/kg SAR(1 g) = 9.93 W/kg; SAR(10 g) = 5.19 W/kg Maximum value of SAR (measured) = 15.6 W/kg



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# Impedance Measurement Plot for Head TSL

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# DASY5 Validation Report for Body TSL

Date: 17.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

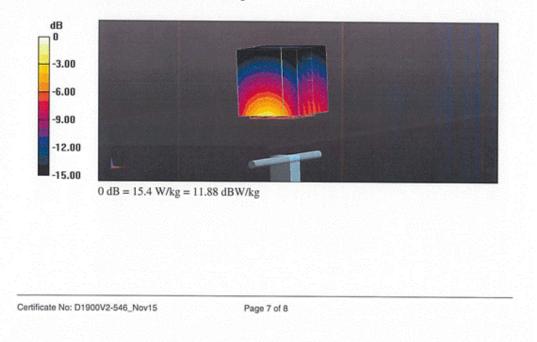
# DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 546

Communication System: UID 0 - CW; Frequency: 1900 MHz Medium parameters used: f = 1900 MHz;  $\sigma$  = 1.52 S/m;  $\epsilon_r$  = 52.2;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

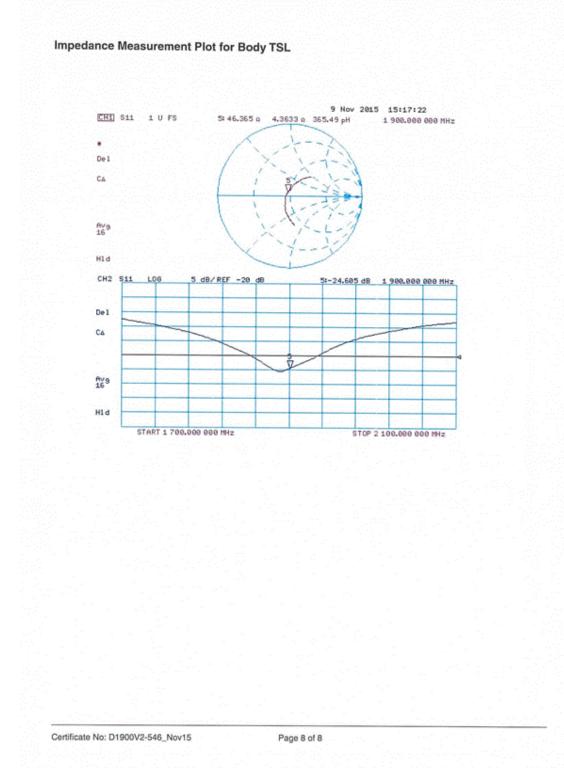
DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.9, 7.9, 7.9); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 104.5 V/m; Power Drift = 0.00 dB Peak SAR (extrapolated) = 18.1 W/kg SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.31 W/kg Maximum value of SAR (measured) = 15.4 W/kg







Document 75935599 Report 20 Issue 1

# COMMERCIAL-IN-CONFIDENCE



ccredited by the Swiss Accredita he Swiss Accreditation Service fultilateral Agreement for the re	e is one of the signatorie		Accreditation No.: SCS 0108
lient TÜV SÜD UK		Certificate	No: D2450V2-715_Nov15
CALIBRATION C	ERTIFICATE		
Object	D2450V2 - SN: 7	15	
Calibration procedure(s)	QA CAL-05.v9		
	Calibration proce	dure for dipole validation kits a	bove 700 MHz
Calibration date:	November 10, 20	15	
		onal standards, which realize the physical	
The measurements and the unce All calibrations have been conduc	rtainties with confidence p	onal standards, which realize the physical robability are given on the following pages y facility: environment temperature (22 ± )	and are part of the certificate.
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&1	rtainties with confidence p cted in the closed laborator TE critical for calibration)	robability are given on the following pages ry facility: environment temperature (22 $\pm$	and are part of the certificate. 3)°C and humidity < 70%.
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The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Calibration Equipment used (M&T Primary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe EX3DV4 DAE4 Secondary Standards RF generator R&S SMT-05	rtainties with confidence p cted in the closed laborator TE critical for calibration) ID # GB37480704 US37292783 MY41092317 SN: 5058 (20k) SN: 601 ID # 100972 US37390585 S4206	Cal Date (Certificate No.)           07-Oct-15 (No. 217-02222)           07-Oct-15 (No. 217-02222)           07-Oct-15 (No. 217-02222)           07-Oct-15 (No. 217-02223)           01-Apr-15 (No. 217-02131)           01-Apr-15 (No. 217-02134)           30-Dec-14 (No. EX3-7349_Dec14)           17-Aug-15 (No. DAE4-601_Aug15)           Check Date (in house)           15-Jun-15 (in house check Jun-15)           18-Oct-01 (in house check Oct-15)	s and are part of the certificate. 3)°C and humidity < 70%. Scheduled Calibration Oct-16 Oct-16 Oct-16 Mar-16 Mar-16 Dec-15 Aug-16 Scheduled Check In house check: Jun-18 In house check: Oct-16

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





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Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura

Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

#### Glossary:

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

### Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

e) DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

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

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

Certificate No: D2450V2-715\_Nov15

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### Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	han da dha an
Phantom	Modular Flat Phantom	Che - Lasara - Later la Catella d
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	Section Constant and the

# Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.2 ± 6 %	1.87 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

# SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.7 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	53.5 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL SAR measured	condition 250 mW input power	6.34 W/kg

# **Body TSL parameters**

The following parameters and calculations were applied.

e de la companya de l	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	2.02 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	·····
SAR measured	250 mW input power	13.6 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	53.5 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL SAR measured	condition 250 mW input power	6.38 W/kg

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

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.7 Ω + 2.7 jΩ
Return Loss	- 27.1 dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.1 Ω + 5.5 jΩ
Return Loss	- 25.2 dB

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

Electrical Delay (one direction)	1.156 ns

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

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

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

## Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 05, 2002

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### **DASY5 Validation Report for Head TSL**

Date: 10.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

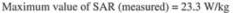
### DUT: Dipole 2450 MHz ; Type: D2450V2; Serial: D2450V2 - SN: 715

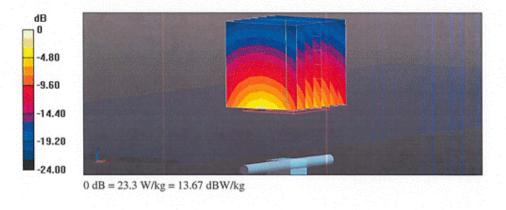
Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma$  = 1.87 S/m;  $\epsilon$ <sub>r</sub> = 38.2;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.67, 7.67, 7.67); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 116.3 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 28.7 W/kg SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.34 W/kg



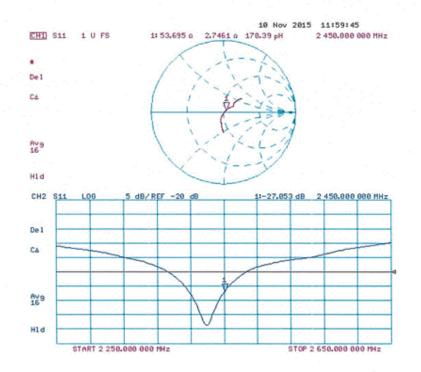


Certificate No: D2450V2-715\_Nov15

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# Impedance Measurement Plot for Head TSL



Certificate No: D2450V2-715\_Nov15

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### **DASY5 Validation Report for Body TSL**

Date: 10.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

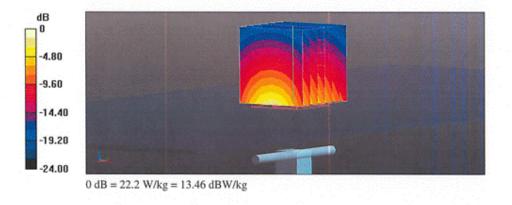
### DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 715

Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma$  = 2.02 S/m;  $\epsilon_r$  = 52.7;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.53, 7.53, 7.53); Calibrated: 30.12.2014;
- · Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 109.5 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 27.2 W/kg SAR(1 g) = 13.6 W/kg; SAR(10 g) = 6.38 W/kg Maximum value of SAR (measured) = 22.2 W/kg



Certificate No: D2450V2-715\_Nov15

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# 10 Nov 2015 11:59:17 1: 50.129 a 5.5117 a 358.05 pH CHI S11 1 U FS 2 458.000 000 MHz ٠ De 1 CA Av9 16 HId 11-25.188 d8 2 450.000 000 MHz CH2 \$11 LOG 5 dB/REF -20 dB De 1 CA Av9 Hld START 2 258.000 000 MHz STOP 2 658.000 800 MHz

# Impedance Measurement Plot for Body TSL

Certificate No: D2450V2-715\_Nov15

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# COMMERCIAL-IN-CONFIDENCE



Engineering AG eughausstrasse 43, 8004 Zurici	y of h, Switzerland		Service suisse d'étalonnage Servizio svizzero di taratura
Accredited by the Swiss Accredita The Swiss Accreditation Service Aultilateral Agreement for the re	e is one of the signatorie	s to the EA	Accreditation No.: SCS 0108
Client TüV SüD UK		Certificate N	lo: D750V3-1152_Dec15
CALIBRATION C	CERTIFICATE	1	
Object	D750V3 - SN: 11	52	
Calibration procedure(s)	QA CAL-05.v9 Calibration proce	dure for dipole validation kits ab	ove 700 MHz
Calibration date:	December 11, 20	115	
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Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland



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Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

### Glossarv:

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

### Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

e) DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

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

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

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### Measurement Conditions

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	Kalan Marina (M
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	har in die die ander
Frequency	750 MHz ± 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.8 ± 6 %	0.90 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	ministras reconstructions de la construction de la construcción de la construcción de la construcción de la construcción
SAR measured	250 mW input power	2.08 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.29 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.42 W/kg ± 16.5 % (k=2)

# **Body TSL parameters**

The following parameters and calculations were applied.

ar e a air da chuidh air an	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.9 ± 6 %	0.97 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.23 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.86 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	en e
SAR measured	250 mW input power	1.48 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.89 W/kg ± 16.5 % (k=2)

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

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.2 Ω + 1.2 jΩ
Return Loss	- 27.5 dB

# Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.2 Ω - 2.2 jΩ
Return Loss	- 32.7 dB

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

Electrical Delay (one direction)	1.029 ns

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

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

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

### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 12, 2015

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### **DASY5 Validation Report for Head TSL**

Date: 11.12.2015

Test Laboratory: SPEAG, Zurich, Switzerland

### DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1152

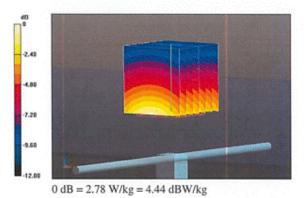
Communication System: UID 0 - CW; Frequency: 750 MHz Medium parameters used: f = 750 MHz;  $\sigma$  = 0.9 S/m;  $\epsilon_r$  = 42.8;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(10.1, 10.1, 10.1); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 58.48 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 3.13 W/kg SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.36 W/kg Maximum value of SAR (measured) = 2.78 W/kg



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# 11 Dec 2015 12:17:49 CHI S11 1 U FS 11 54.199 o 1.2090 n 256.55 pH 758.088 868 MHz De 1 CA Av9 HId CH2 511 5 dB/REF -20 dB 758.000 000 MHz LOG 1:-27.545 dB C۵ Av9 Hld START 558.000 000 MHz STOP 950.000 000 MHz

# Impedance Measurement Plot for Head TSL

Certificate No: D750V3-1152\_Dec15

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### **DASY5 Validation Report for Body TSL**

Date: 11.12.2015

Test Laboratory: SPEAG, Zurich, Switzerland

### DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1152

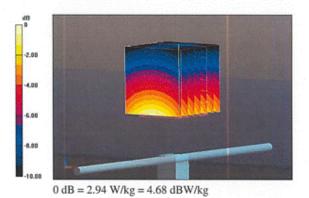
Communication System: UID 0 - CW; Frequency: 750 MHz Medium parameters used: f = 750 MHz;  $\sigma = 0.97 \text{ S/m}$ ;  $\epsilon_r = 55.9$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(9.61, 9.61, 9.61); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 58.06 V/m; Power Drift = -0.02 dB Peak SAR (extrapolated) = 3.29 W/kg SAR(1 g) = 2.23 W/kg; SAR(10 g) = 1.48 W/kg Maximum value of SAR (measured) = 2.94 W/kg

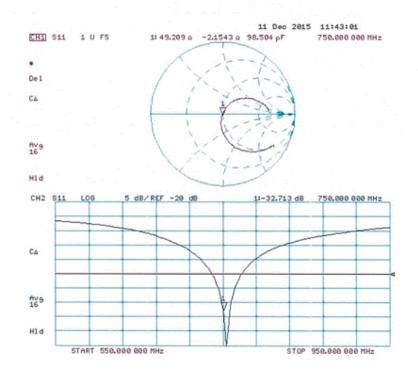


Certificate No: D750V3-1152\_Dec15

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# Impedance Measurement Plot for Body TSL



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Dbject	D835V2 - SN: 44	7	
Calibration procedure(s)	QA CAL-05.v9		
annanon procedure(s)		dure for dipole validation kits ab	ove 700 MHz
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Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland





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Schweizerischer Kalibrierdienst Service suisse d'étalonnage

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S Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

### Glossary:

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

### Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

e) DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

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

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

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### **Measurement Conditions**

DASY s	stem	configurat	tion, as	far as	not	given	on	page	1.
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DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	na orana di
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

# Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.6 ± 6 %	0.92 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition		
SAR measured	250 mW input power	2.34 W/kg	
SAR for nominal Head TSL parameters	normalized to 1W	9.26 W/kg ± 17.0 % (k=2)	

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL condition		
SAR measured	250 mW input power	1.52 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.02 W/kg ± 16.5 % (k=2)

Body TSL parameters The following parameters and calculations were applied.

Rept William and a second second second second	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.6 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.40 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.47 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL SAR measured	condition 250 mW input power	1.57 W/kg

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

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.9 Ω - 7.0 jΩ
Return Loss	- 23.1 dB

# Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.0 Ω - 8.7 jΩ
Return Loss	- 20.0 dB

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

Electrical Delay (one direction)	1.386 ns

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

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

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

### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	October 24, 2001

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### **DASY5 Validation Report for Head TSL**

Date: 12.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

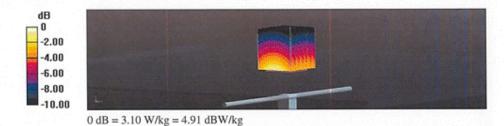
### DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 447

Communication System: UID 0 - CW; Frequency: 835 MHz Medium parameters used: f = 835 MHz;  $\sigma$  = 0.92 S/m;  $\varepsilon_r$  = 42.6;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(9.77, 9.77, 9.77); Calibrated: 30.12.2014;
- · Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 61.13 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 3.47 W/kg SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.52 W/kg Maximum value of SAR (measured) = 3.10 W/kg

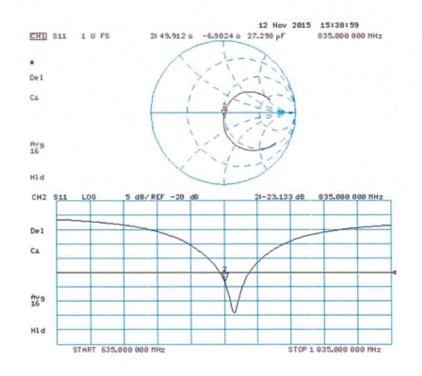


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# Impedance Measurement Plot for Head TSL







### DASY5 Validation Report for Body TSL

Date: 12.11.2015

Test Laboratory: SPEAG, Zurich, Switzerland

# DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 447

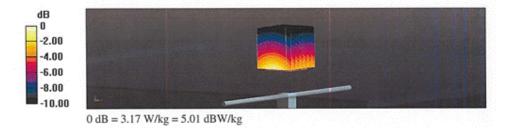
Communication System: UID 0 - CW; Frequency: 835 MHz Medium parameters used: f = 835 MHz;  $\sigma$  = 0.99 S/m;  $\varepsilon_r$  = 55.6;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(9.72, 9.72, 9.72); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 17.08.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

# Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

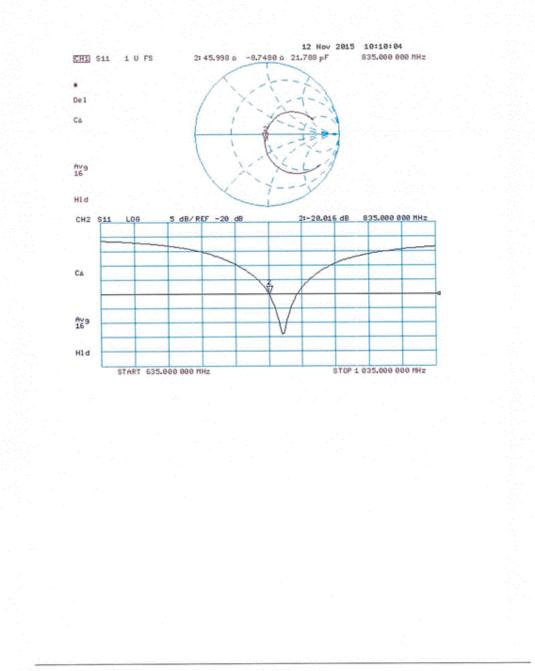
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 59.65 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 3.57 W/kg SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.57 W/kg Maximum value of SAR (measured) = 3.17 W/kg



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Impedance Measurement Plot for Body TSL

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