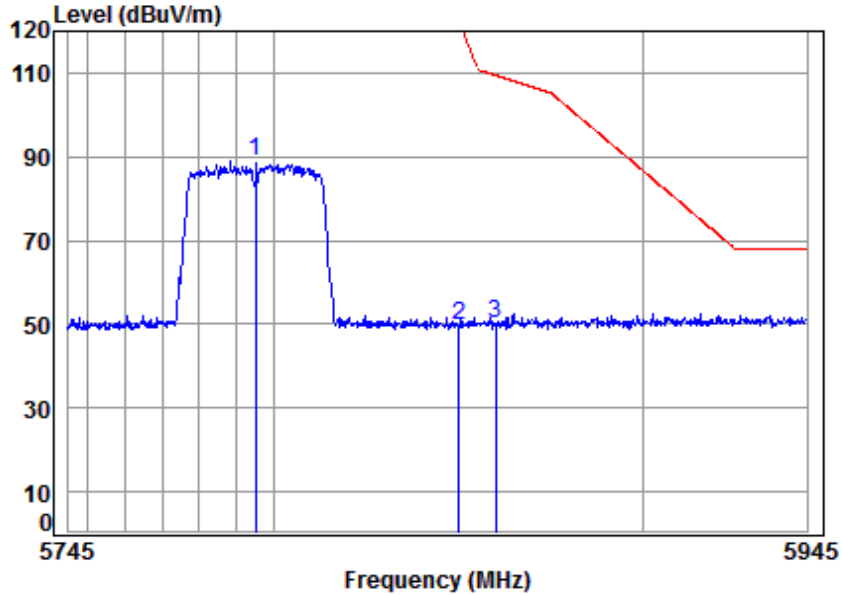




**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 342 of 404

Test mode:	802.11n(HT40)	Frequency(MHz):	5795	Peak	Vertical
------------	---------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11N40 CH159
: Z

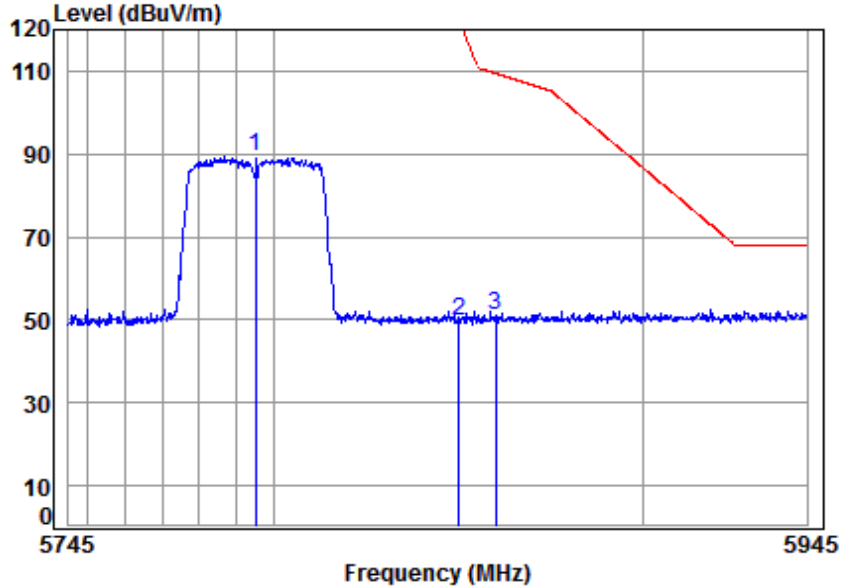
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5795.000	9.88	34.90	41.78	85.79	88.79	125.20	-36.41	peak
2	5850.000	10.07	34.95	41.73	46.45	49.74	122.20	-72.46	peak
3	5860.000	10.10	34.96	41.72	46.90	50.24	109.40	-59.16	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 343 of 404

Test mode:	802.11n(HT40)	Frequency(MHz):	5795	Peak	Horizontal
------------	---------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11N40 CH159
: Z

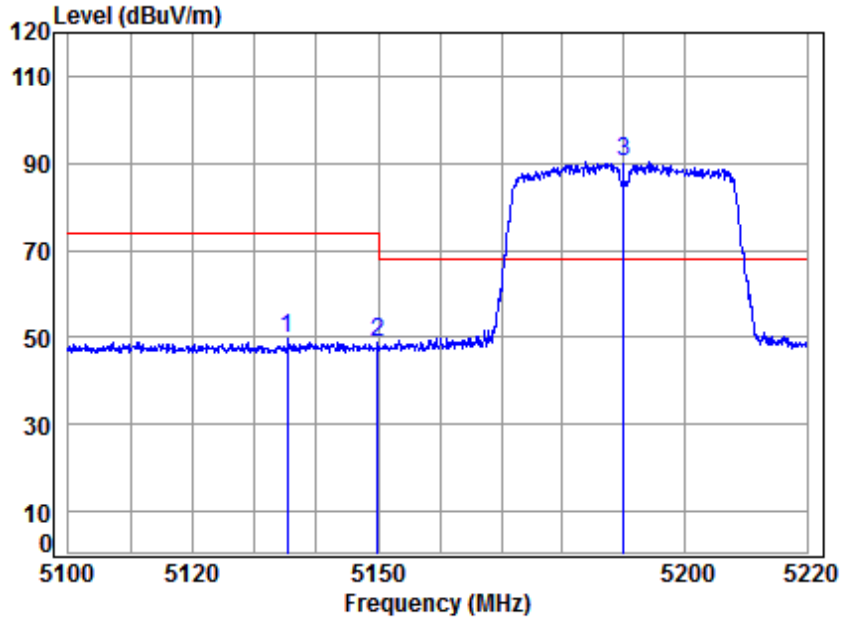
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5795.000	9.88	34.90	41.78	86.44	89.44	125.20	-35.76	peak
2	5850.000	10.07	34.95	41.73	46.65	49.94	122.20	-72.26	peak
3	5860.000	10.10	34.96	41.72	47.74	51.08	109.40	-58.32	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 344 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5190	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5135.349	8.30	34.31	42.37	49.51	49.75	74.00	-24.25	Peak
2	5149.980	8.33	34.32	42.36	48.32	48.61	74.00	-25.39	Peak
3	pp 5190.000	8.39	34.36	42.32	89.95	90.38	68.20	22.18	Peak

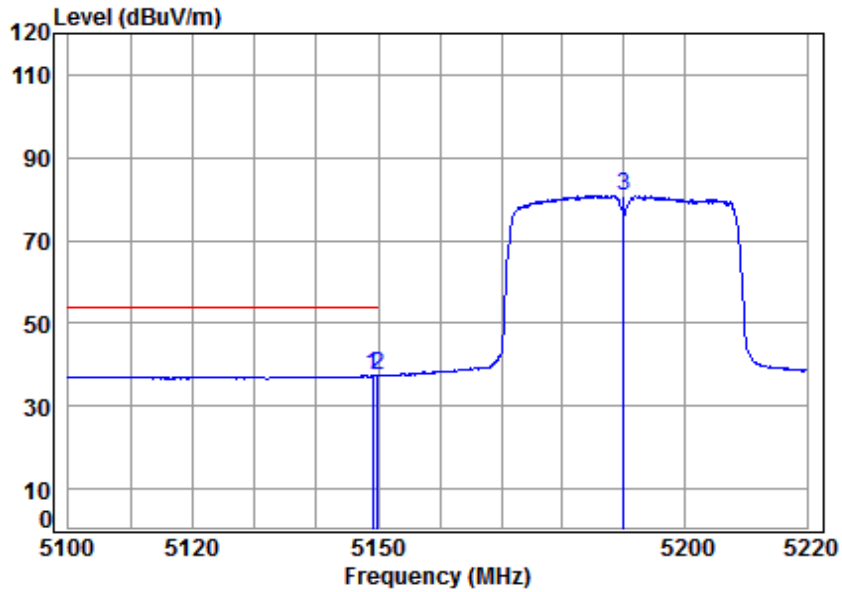


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 345 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5190	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5190 Band edge
 Note : 5G11AC40 CH38
 : Z

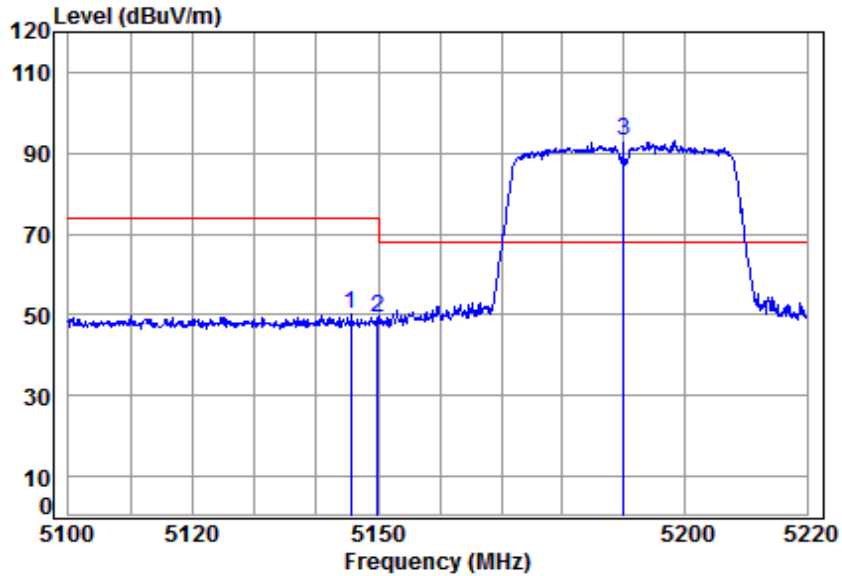
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5149.102	8.32	34.32	42.36	37.13	37.41	54.00	-16.59	Average
2	5149.980	8.33	34.32	42.36	37.06	37.35	54.00	-16.65	Average
3	5190.000	8.39	34.36	42.32	80.42	80.85	-----	-----	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 346 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5190	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

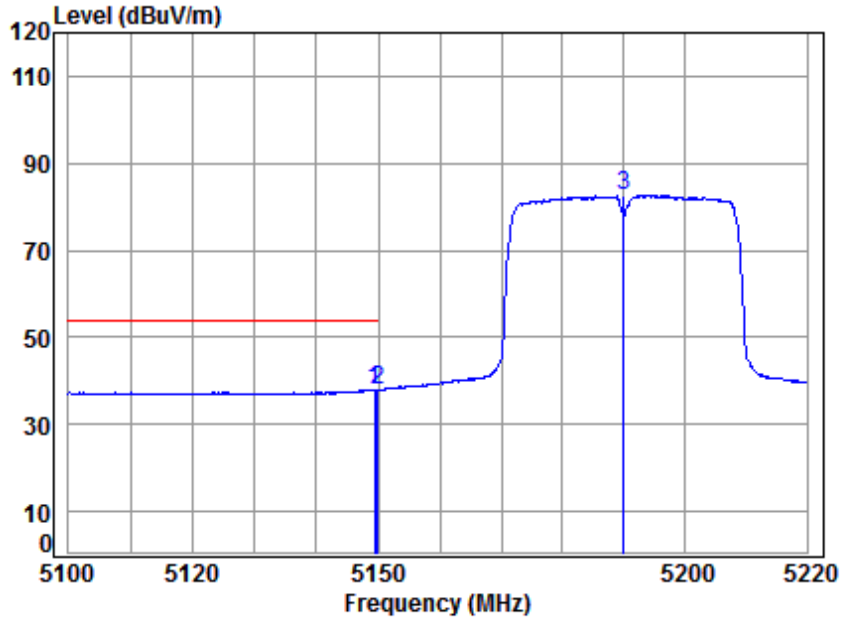
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5145.630	8.32	34.32	42.36	49.73	50.01	74.00	-23.99 peak
2	5149.980	8.33	34.32	42.36	48.92	49.21	74.00	-24.79 peak
3 pp	5190.000	8.39	34.36	42.32	92.59	93.02	68.20	24.82 peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 347 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5190	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

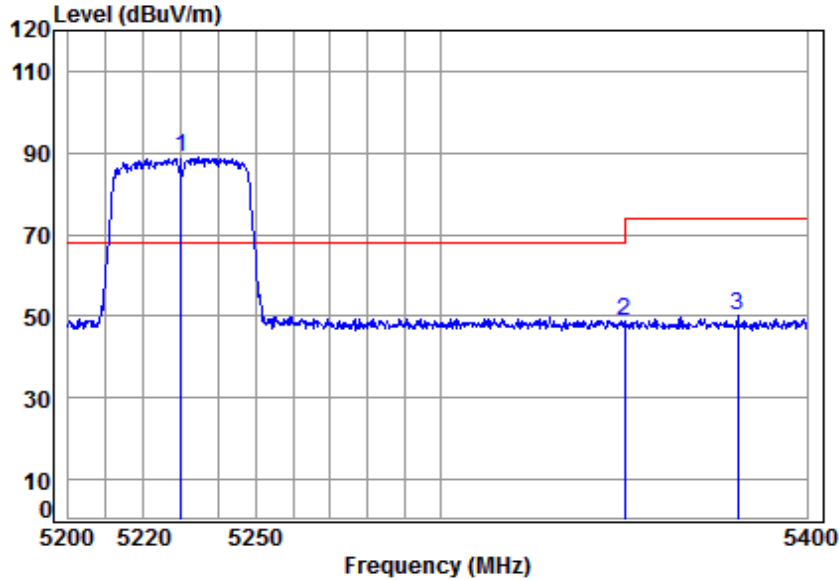
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.461	8.32	34.32	42.36	37.76	38.04	54.00	-15.96	Average
2	pp 5149.980	8.33	34.32	42.36	37.79	38.08	54.00	-15.92	Average
3	5190.000	8.39	34.36	42.32	82.25	82.68	-----	-----	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 348 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5230	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5230 Band edge
Note : 5G11AC40 CH46
: Z

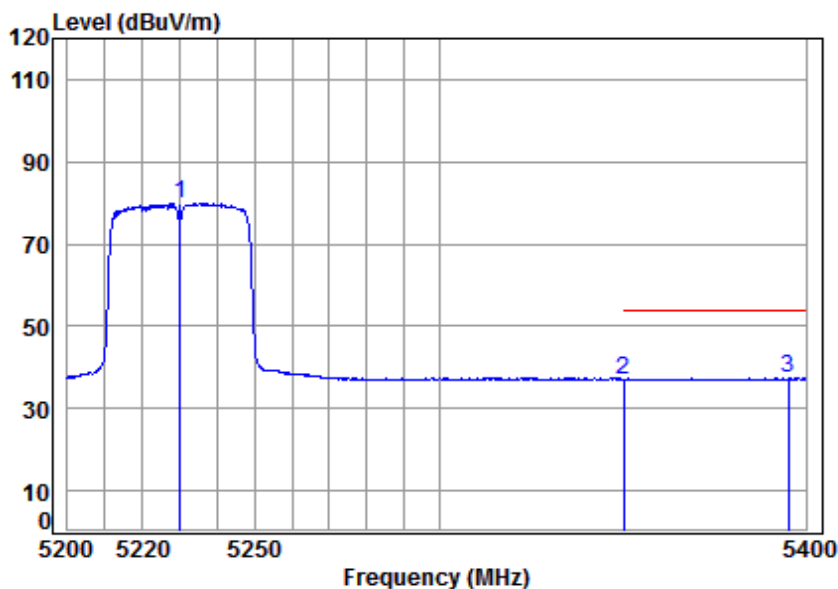
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	pp 5230.000	8.45	34.39	42.28	88.25	88.81	68.20	20.61 Peak
2	5350.020	8.63	34.48	42.17	48.06	49.00	74.00	-25.00 Peak
3	5380.877	8.68	34.51	42.14	49.23	50.28	74.00	-23.72 Peak



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 349 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5230	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5230 Band edge
 Note : 5G11AC40 CH46
 : Z

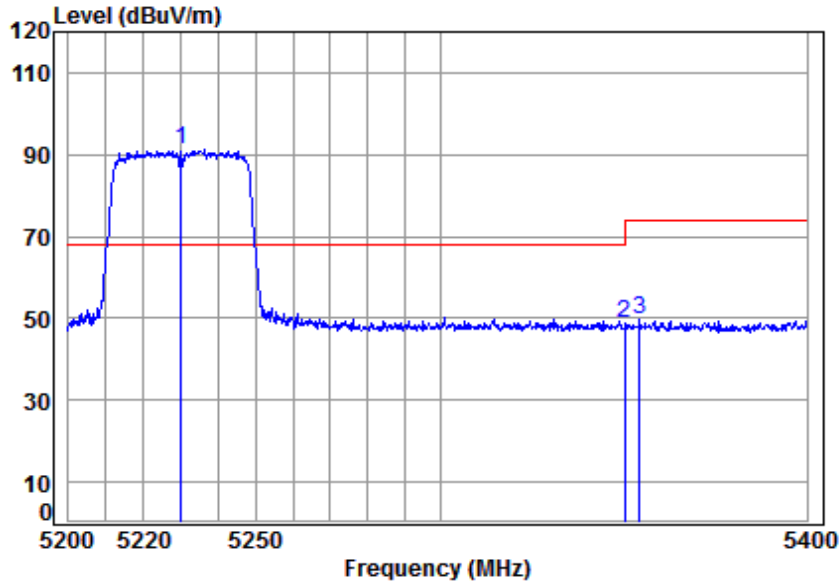
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	8.45	34.39	42.28	79.26	79.82	54.00	-----	Average
2	5350.020	8.63	34.48	42.17	36.20	37.14	54.00	-16.86	Average
3	pp 5395.111	8.70	34.52	42.13	36.15	37.24	54.00	-16.76	Average



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 350 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5230	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5230 Band edge
 Note : 5G11AC40 CH46
 : Z

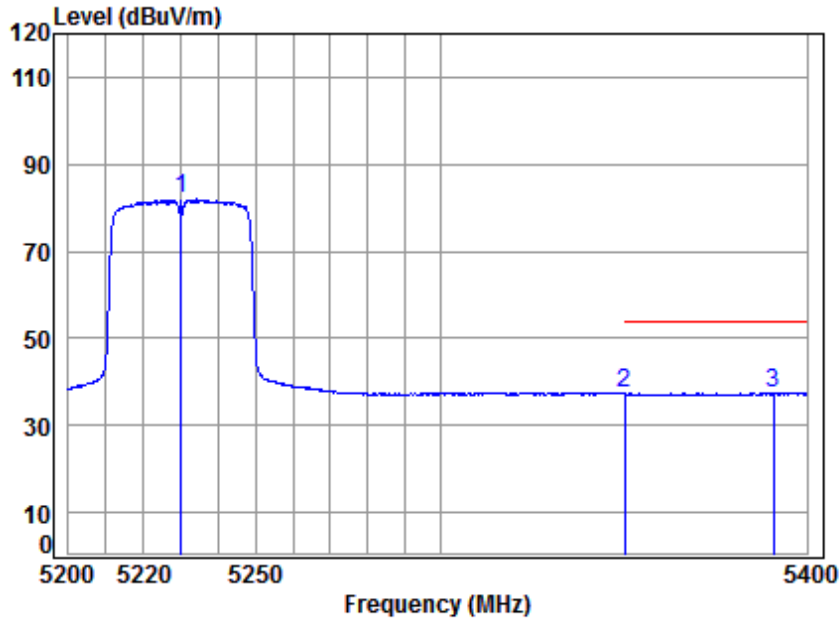
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5230.000	8.45	34.39	42.28	90.53	91.09	68.20	22.89	peak
2	5350.020	8.63	34.48	42.17	47.73	48.67	74.00	-25.33	peak
3	5354.138	8.64	34.49	42.17	48.88	49.84	74.00	-24.16	peak



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180700624404
 Page: 351 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5230	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5230 Band edge
 Note : 5G11AC40 CH46
 : Z

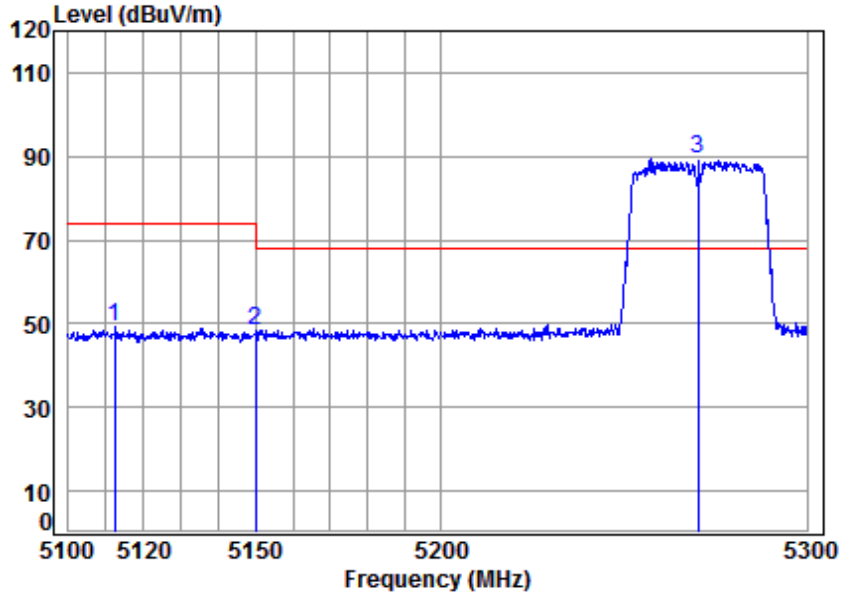
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5230.000	8.45	34.39	42.28	81.37	81.93	-----	-----	Average
2	5350.020	8.63	34.48	42.17	36.37	37.31	54.00	-16.69	Average
3 pp	5390.837	8.69	34.52	42.13	36.25	37.33	54.00	-16.67	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 352 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5270	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

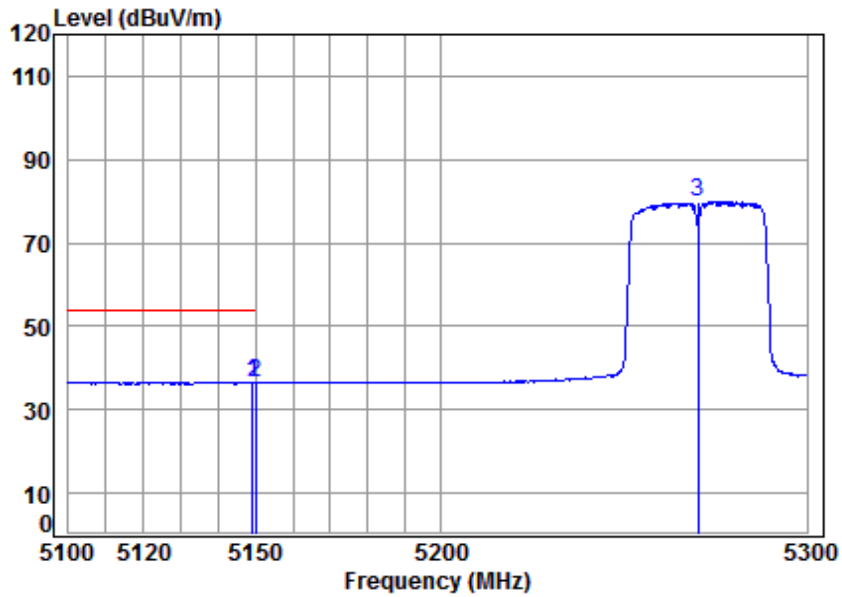
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5112.374	8.27	34.29	42.39	49.23	49.40	74.00	-24.60	Peak
2	5149.980	8.33	34.32	42.36	47.94	48.23	74.00	-25.77	Peak
3 pp	5270.000	8.51	34.42	42.24	88.95	89.64	68.20	21.44	Peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 353 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5270	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

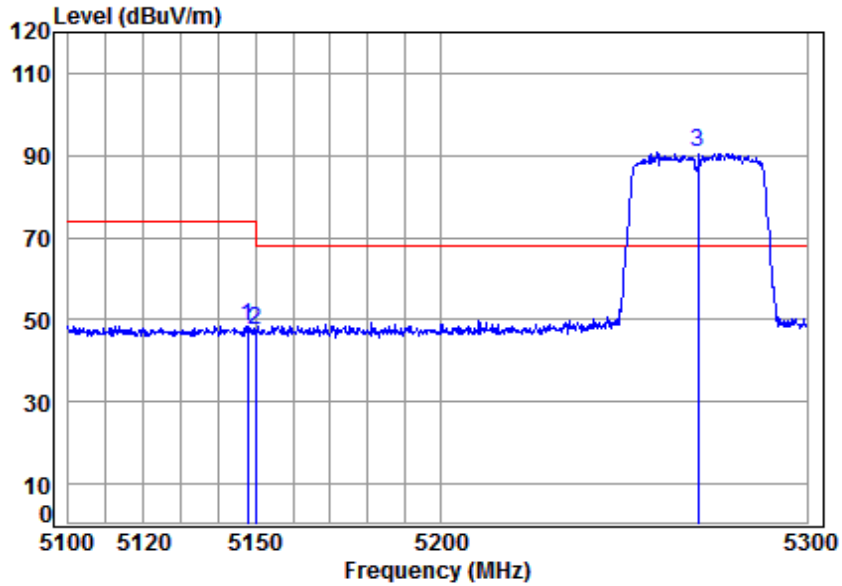
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5149.281	8.32	34.32	42.36	36.21	36.49	54.00	-17.51	Average
2	5149.980	8.33	34.32	42.36	36.20	36.49	54.00	-17.51	Average
3	5270.000	8.51	34.42	42.24	79.31	80.00	-----	-----	Average



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180700624404
 Page: 354 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5270	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5270 Band edge
 Note : 5G11AC40 CH54
 : Z

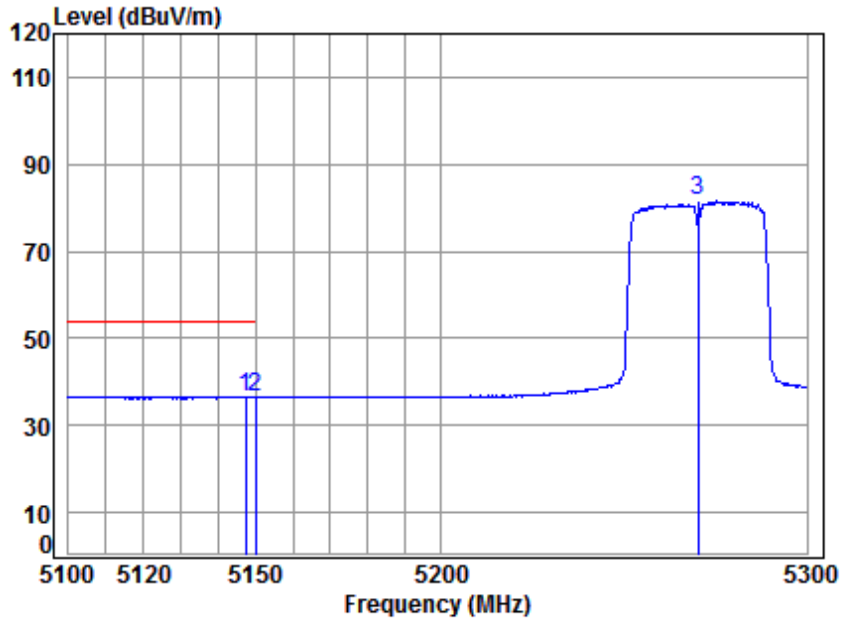
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.895	8.32	34.32	42.36	48.31	48.59	74.00	-25.41	peak
2	5149.980	8.33	34.32	42.36	47.09	47.38	74.00	-26.62	peak
3	pp 5270.000	8.51	34.42	42.24	90.19	90.88	68.20	22.68	peak



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 355 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5270	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5270 Band edge
 Note : 5G11AC40 CH54
 : Z

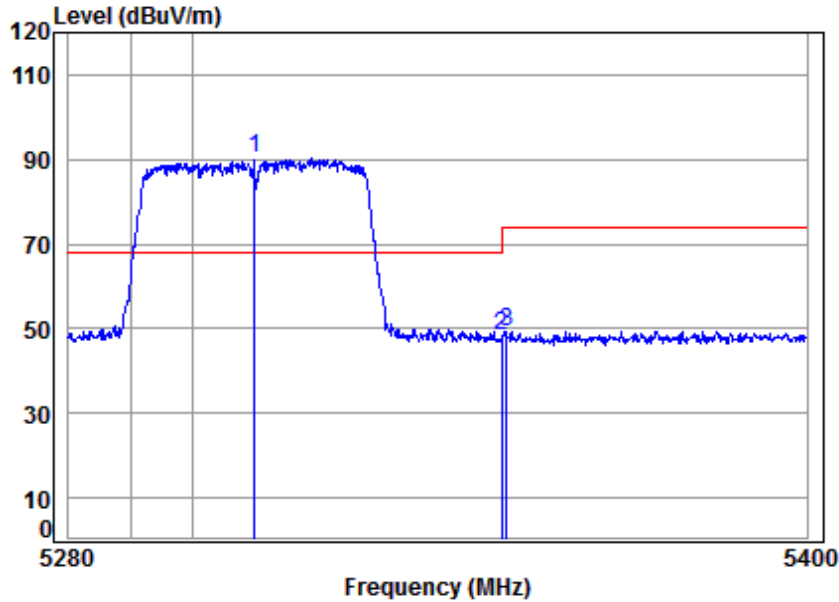
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5147.301	8.32	34.32	42.36	36.31	36.59	54.00	-17.41	Average
2	5149.980	8.33	34.32	42.36	36.22	36.51	54.00	-17.49	Average
3	5270.000	8.51	34.42	42.24	80.76	81.45	-----	-----	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 356 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5310	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

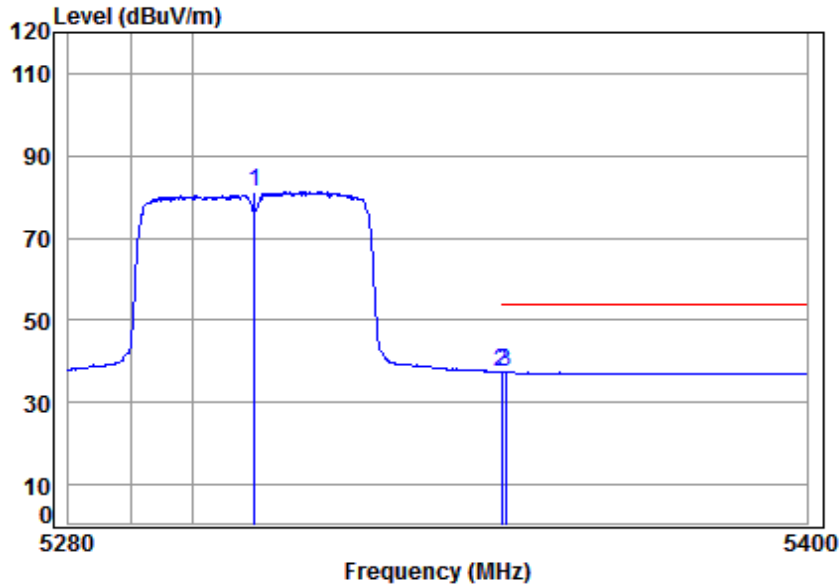
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5310.000	8.57	34.45	42.21	89.34	90.15	68.20	21.95	Peak
2 5350.020	8.63	34.48	42.17	47.28	48.22	74.00	-25.78	Peak
3 5350.834	8.63	34.48	42.17	48.49	49.43	74.00	-24.57	Peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 357 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5310	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

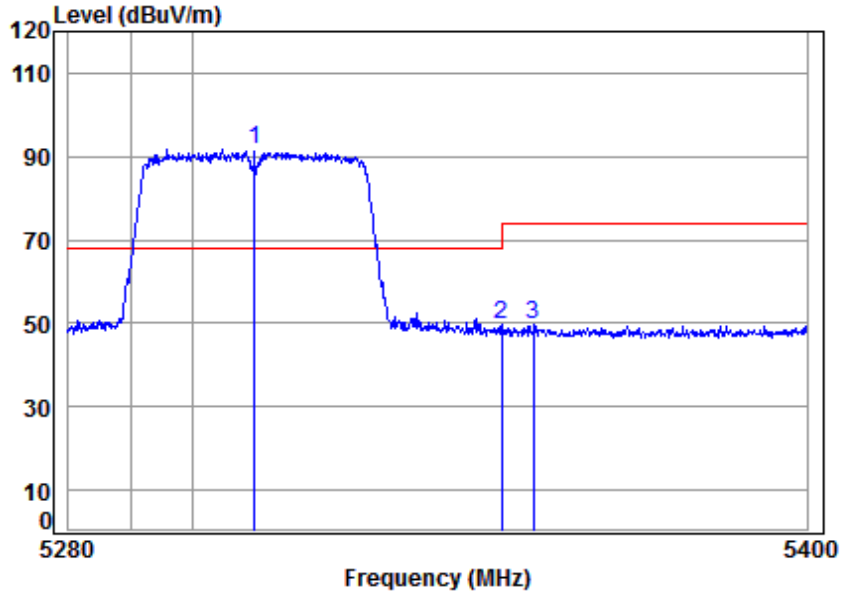
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5310.000	8.57	34.45	42.21	80.27	81.08	-----	-----	Average
2	pp 5350.020	8.63	34.48	42.17	36.59	37.53	54.00	-16.47	Average
3	5350.714	8.63	34.48	42.17	36.47	37.41	54.00	-16.59	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 358 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5310	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

		Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5310.000	8.57	34.45	42.21	90.93	91.74	68.20	23.54	peak
2	5350.020	8.63	34.48	42.17	48.74	49.68	74.00	-24.32	peak
3	5355.285	8.64	34.49	42.16	48.76	49.73	74.00	-24.27	peak

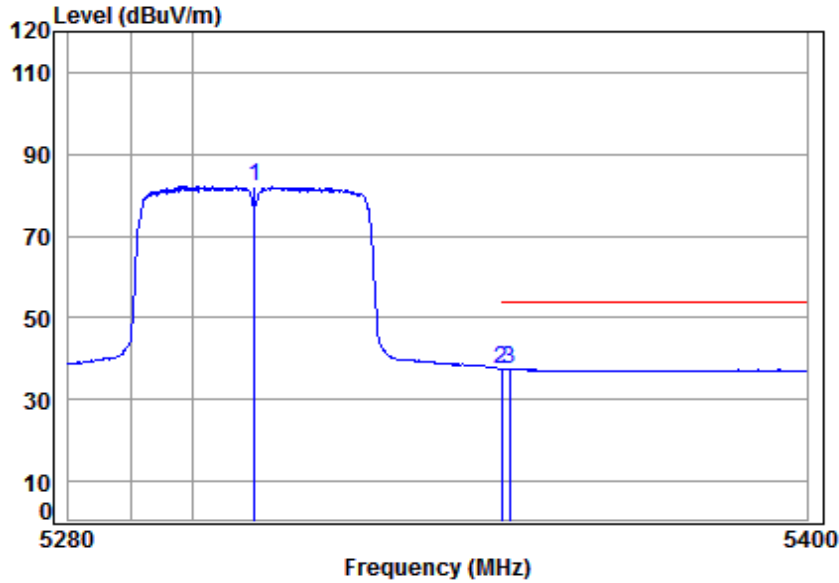


SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180700624404

Page: 359 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5310	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5310 Band edge
 Note : 5G11AC40 CH62
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5310.000	8.57	34.45	42.21	81.28	82.09	-----	-----	Average
2	pp 5350.020	8.63	34.48	42.17	36.69	37.63	54.00	-16.37	Average
3	5351.436	8.63	34.49	42.17	36.67	37.62	54.00	-16.38	Average

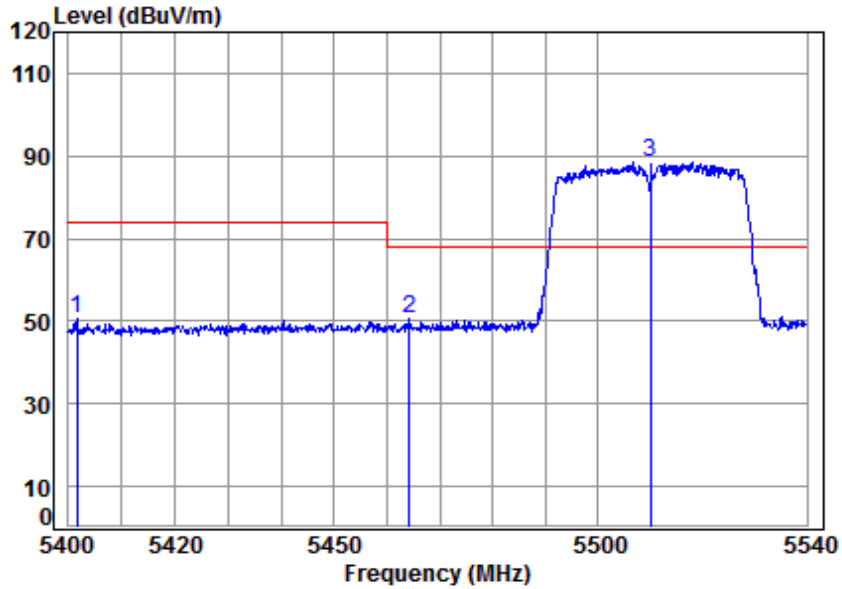


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 360 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5510	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5510 Band edge
 Note : 5G11AC40 CH102
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5401.659	8.71	34.52	42.12	49.44	50.55	74.00	-23.45	Peak
2	5464.235	8.80	34.57	42.07	49.20	50.50	68.20	-17.70	peak
3 pp	5510.000	8.89	34.61	42.02	87.19	88.67	68.20	20.47	Peak

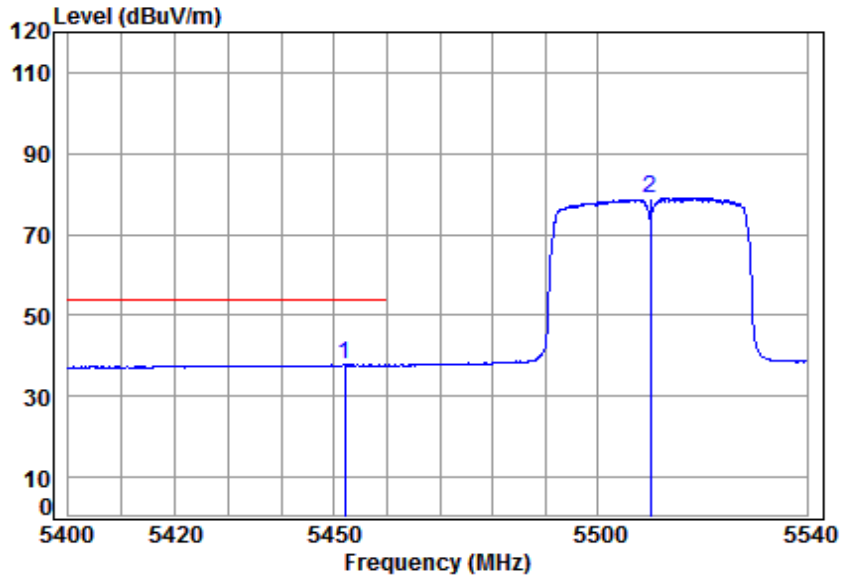


SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180700624404

Page: 361 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5510	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5510 Band edge
 Note : 5G11AC40 CH102
 : Z

		Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5452.081	8.78	34.56	42.08	36.49	37.75	54.00	-16.25	Average
2	5510.000	8.89	34.61	42.02	77.65	79.13	-----	-----	Average

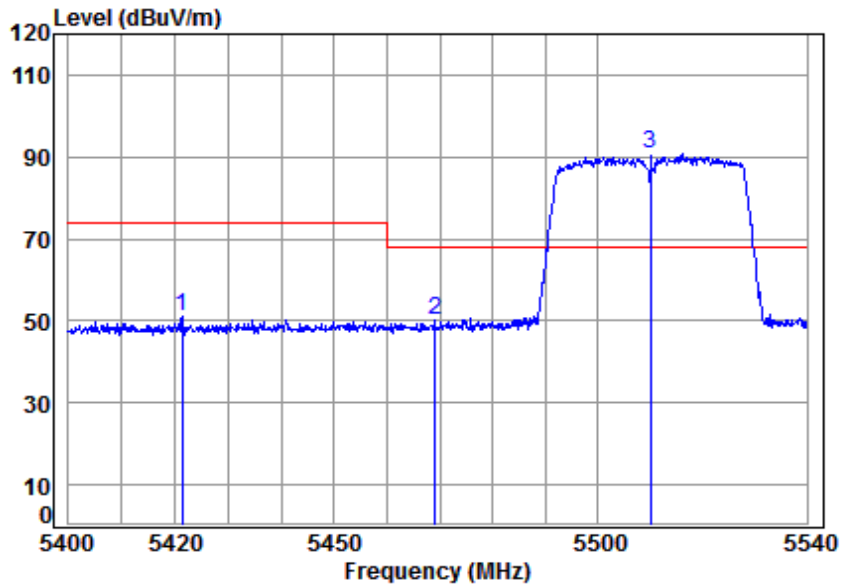


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 362 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5510	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5510 Band edge
 Note : 5G11AC40 CH102
 : Z

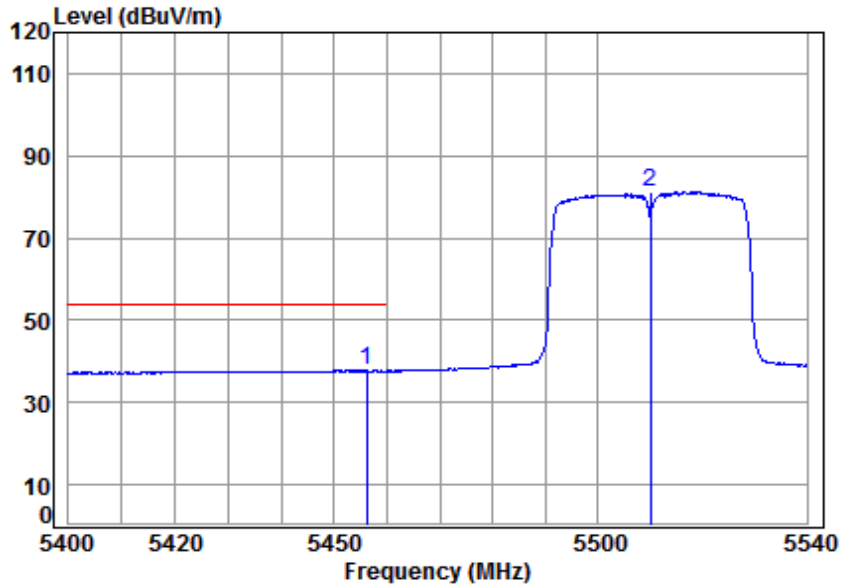
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5421.327	8.74	34.54	42.10	49.86	51.04	74.00	-22.96 peak
2	5468.992	8.80	34.58	42.06	48.77	50.09	68.20	-18.11 peak
3	5510.000	8.89	34.61	42.02	89.53	91.01	68.20	22.81 peak



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 363 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5510	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5510 Band edge
 Note : 5G11AC40 CH102
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5456.129	8.79	34.57	42.07	36.53	37.82	54.00	-16.18	Average
2	5510.000	8.89	34.61	42.02	79.81	81.29	-----	-----	Average

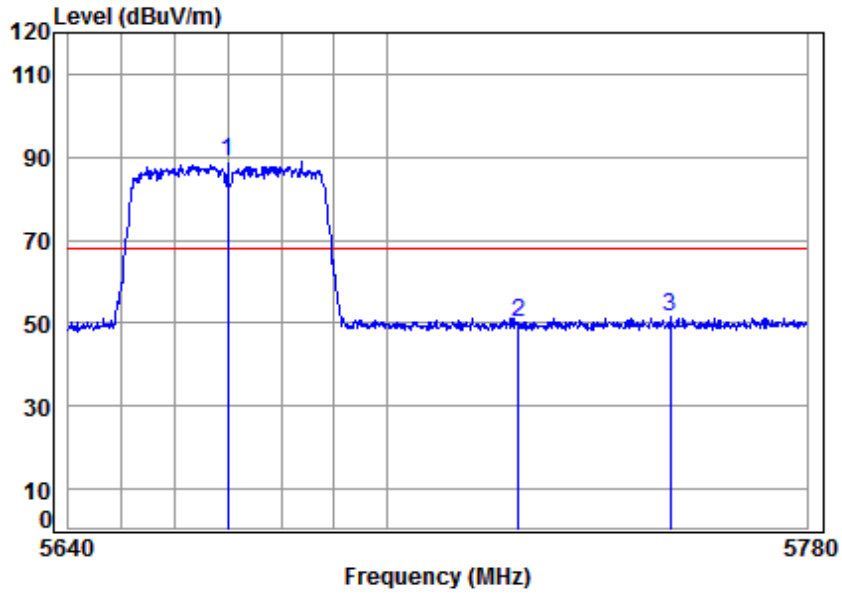


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 364 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5670	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5670 Band edge
 Note : 5G11AC40 CH134
 : Z

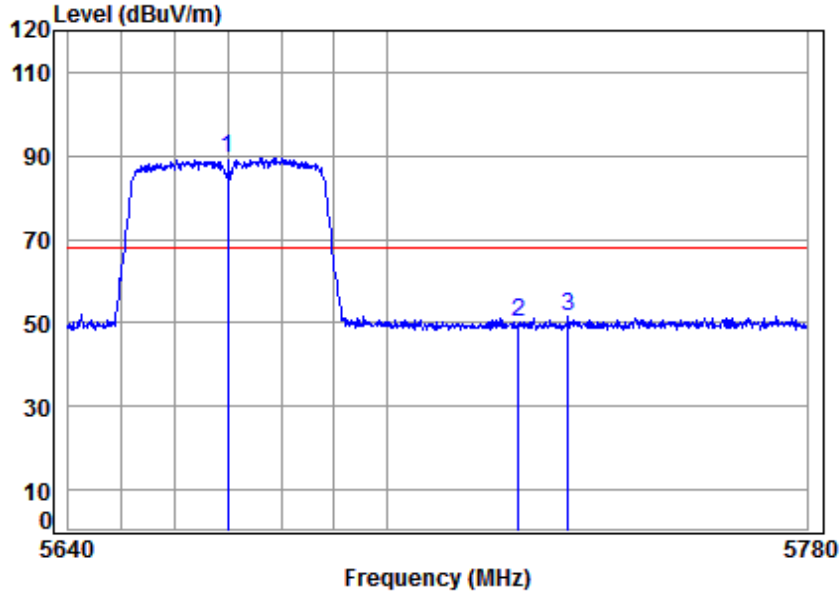
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5670.000	9.45	34.77	41.88	86.58	88.92	68.20	20.72 Peak
2	5725.000	9.64	34.83	41.84	47.40	50.03	68.20	-18.17 Peak
3	5753.840	9.74	34.86	41.81	48.65	51.44	68.20	-16.76 Peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 365 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5670	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5670 Band edge
Note : 5G11AC40 CH134
: Z

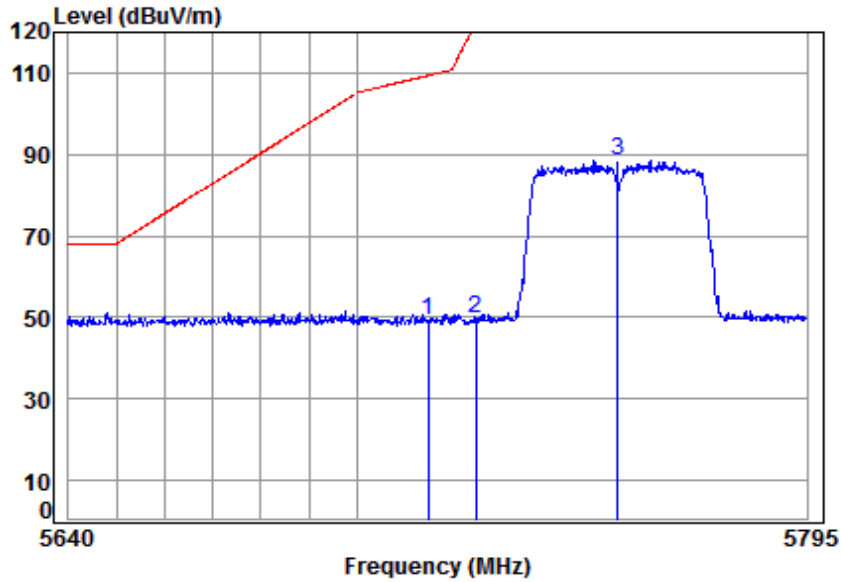
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5670.000	9.45	34.77	41.88	87.31	89.65	68.20	21.45	peak
2	5725.000	9.64	34.83	41.84	47.72	50.35	68.20	-17.85	peak
3	5734.404	9.68	34.84	41.83	48.71	51.40	68.20	-16.80	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 366 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5755	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5755 Band edge
Note : 5G11AC40 CH151
: Z

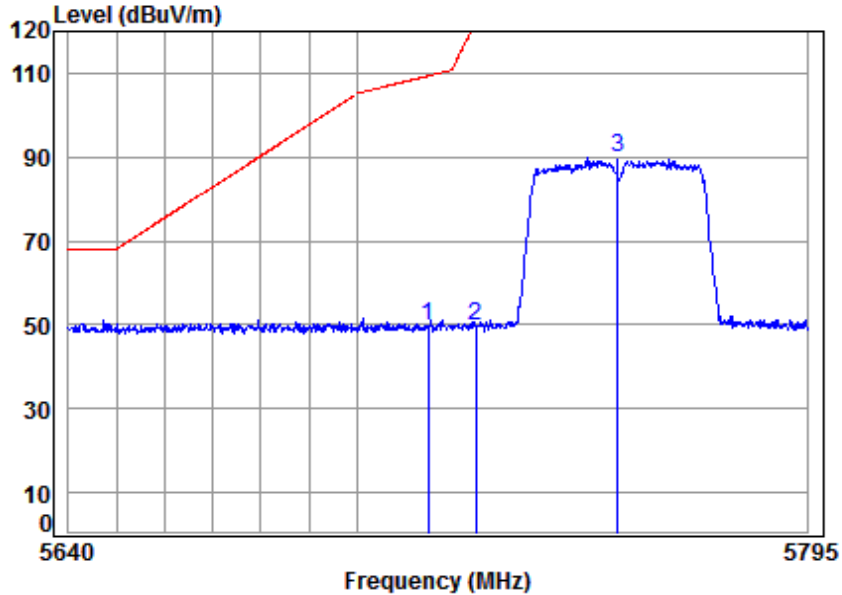
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	9.61	34.82	41.85	46.81	49.39	109.40	-60.01	peak
2	5725.000	9.64	34.83	41.84	47.16	49.79	122.20	-72.41	peak
3 pp	5755.000	9.75	34.86	41.81	85.63	88.43	125.20	-36.77	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 367 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5755	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5755 Band edge
Note : 5G11AC40 CH151
: Z

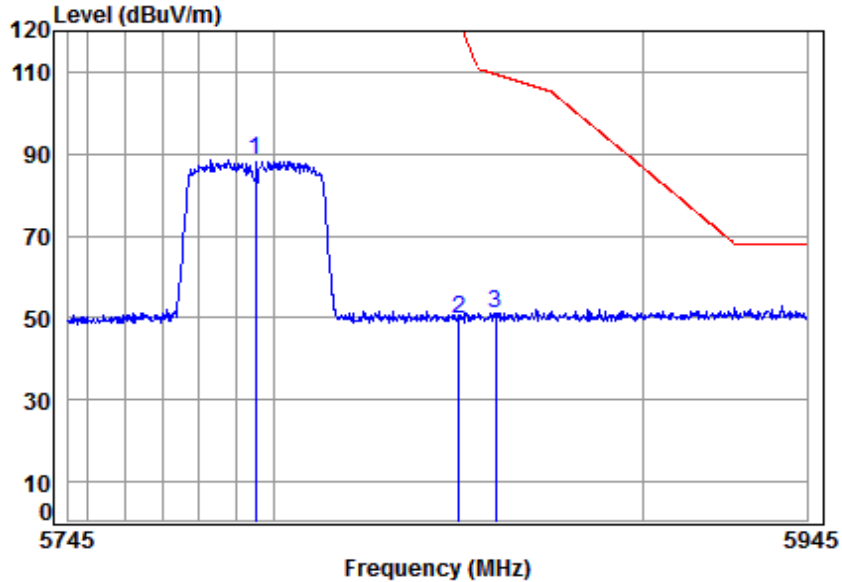
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	9.61	34.82	41.85	47.08	49.66	109.40	-59.74	peak
2	5725.000	9.64	34.83	41.84	47.07	49.70	122.20	-72.50	peak
3 pp	5755.000	9.75	34.86	41.81	87.26	90.06	125.20	-35.14	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 368 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5795	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11AC40 CH159
: Z

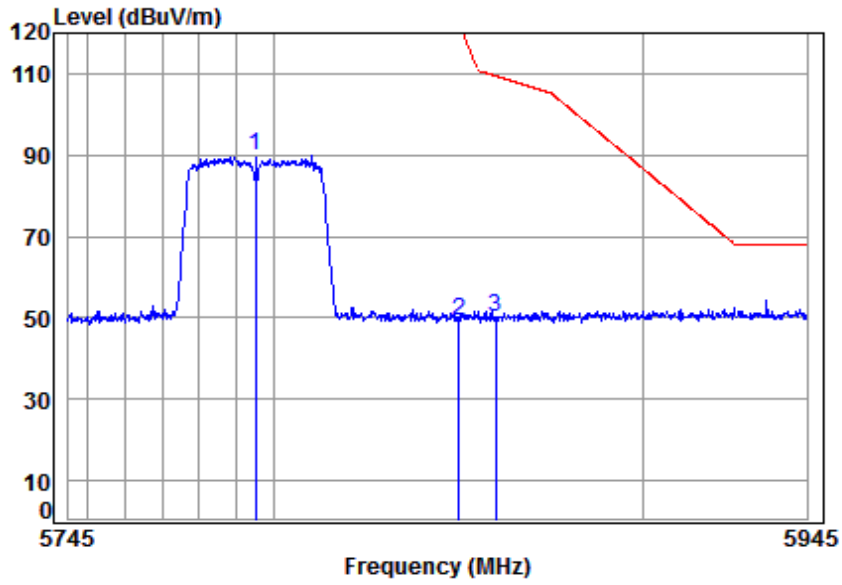
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5795.000	9.88	34.90	41.78	85.40	88.40	125.20	-36.80	peak
2	5850.000	10.07	34.95	41.73	46.62	49.91	122.20	-72.29	peak
3	5860.000	10.10	34.96	41.72	47.86	51.20	109.40	-58.20	peak



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Report No.: SZEM180700624404
 Page: 369 of 404

Test mode:	802.11ac(HT40)	Frequency(MHz):	5795	Peak	Horizontal
------------	----------------	-----------------	------	------	------------

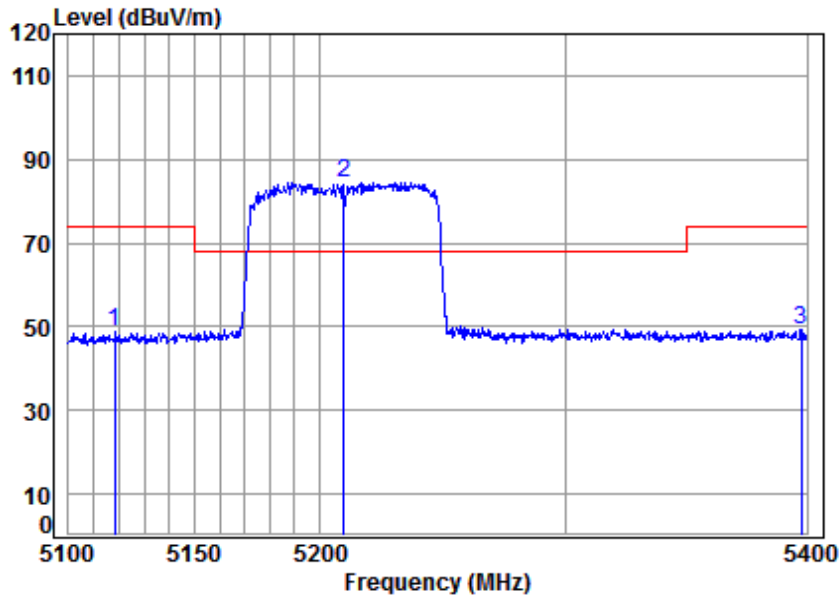


Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5795 Band edge
 Note : 5G11AC40 CH159
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5795.000	9.88	34.90	41.78	86.82	89.82	125.20	-35.38	peak
2	5850.000	10.07	34.95	41.73	45.98	49.27	122.20	-72.93	peak
3	5860.000	10.10	34.96	41.72	46.91	50.25	109.40	-59.15	peak



Test mode:	802.11ac(HT80)	Frequency(MHz):	5210	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5210 Band edge
Note : 5G11AC80 CH42
: Z

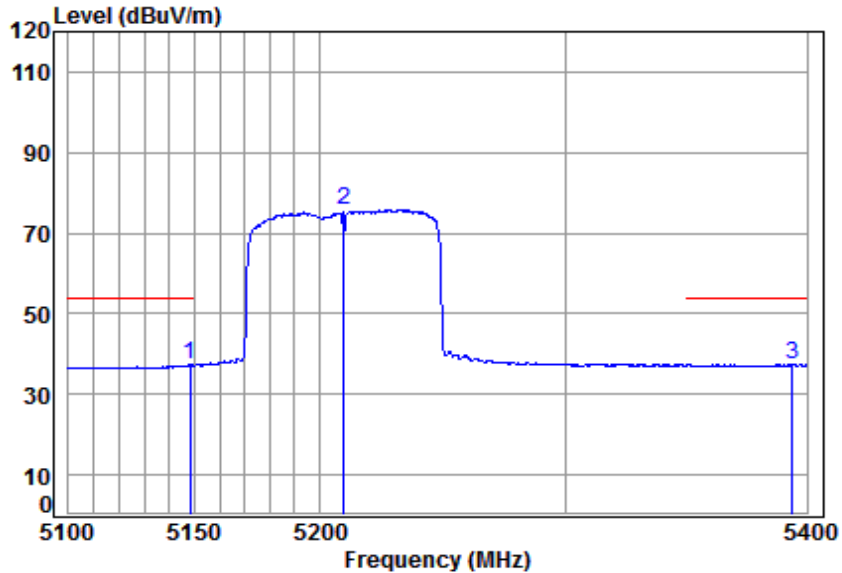
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5118.398	8.28	34.30	42.39	48.52	48.71	74.00	-25.29	Peak
2	5210.000	8.42	34.37	42.30	84.10	84.59	68.20	16.39	Peak
3	5397.531	8.70	34.52	42.13	48.16	49.25	74.00	-24.75	Peak



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 371 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5210	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5210 Band edge
 Note : 5G11AC80 CH42
 : Z

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.326	8.32	34.32	42.36	36.96	37.24	54.00	-16.76 Average
2	5210.000	8.42	34.37	42.30	75.40	75.89	-----	----- Average
3	pp 5393.831	8.69	34.52	42.13	36.24	37.32	54.00	-16.68 Average

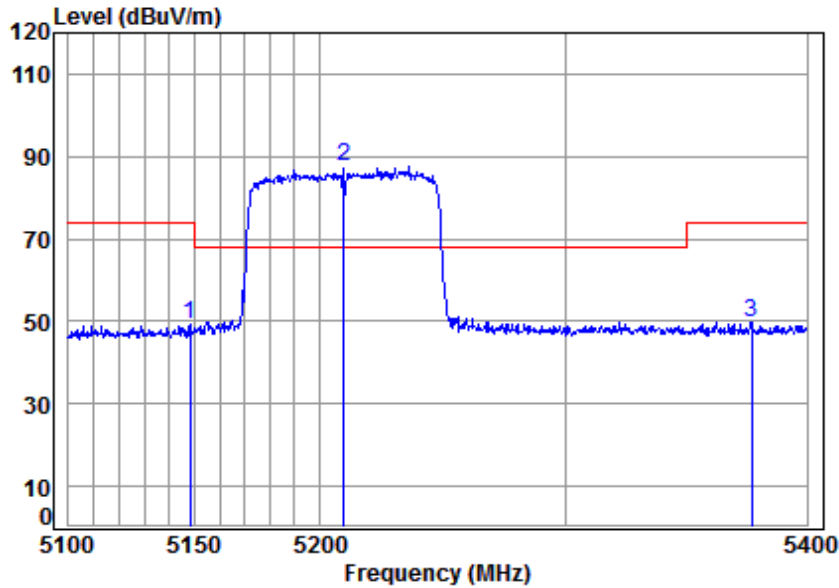


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 372 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5210	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5210 Band edge
 Note : 5G11AC80 CH42
 : Z

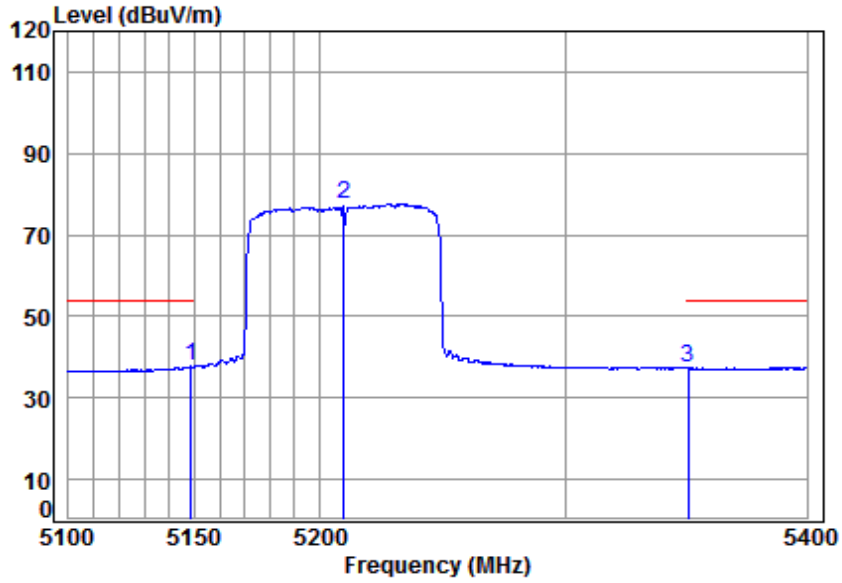
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.326	8.32	34.32	42.36	48.95	49.23	74.00	-24.77	peak
2	5210.000	8.42	34.37	42.30	86.91	87.40	68.20	19.20	peak
3	5376.900	8.67	34.51	42.14	48.76	49.80	74.00	-24.20	peak



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 373 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5210	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5210 Band edge
 Note : 5G11AC80 CH42
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5148.621	8.32	34.32	42.36	37.39	37.67	54.00	-16.33	Average
2	5210.000	8.42	34.37	42.30	77.21	77.70	-----	-----	Average
3	5350.535	8.63	34.48	42.17	36.36	37.30	54.00	-16.70	Average

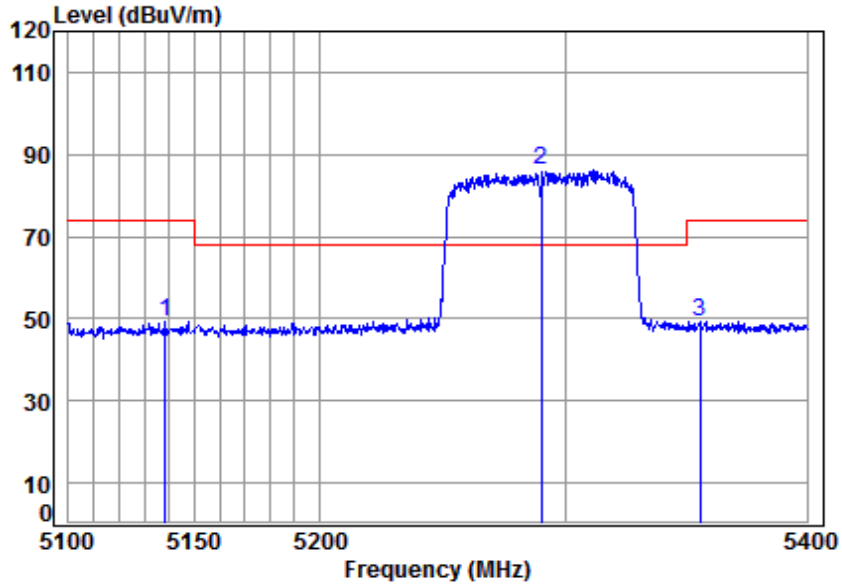


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 374 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5290	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5290 Band edge
 Note : 5G11AC80 CH58
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5138.331	8.31	34.31	42.37	48.85	49.10	74.00	-24.90	Peak
2 pp	5290.000	8.54	34.44	42.22	85.68	86.44	68.20	18.24	Peak
3	5355.430	8.64	34.49	42.16	48.31	49.28	74.00	-24.72	Peak

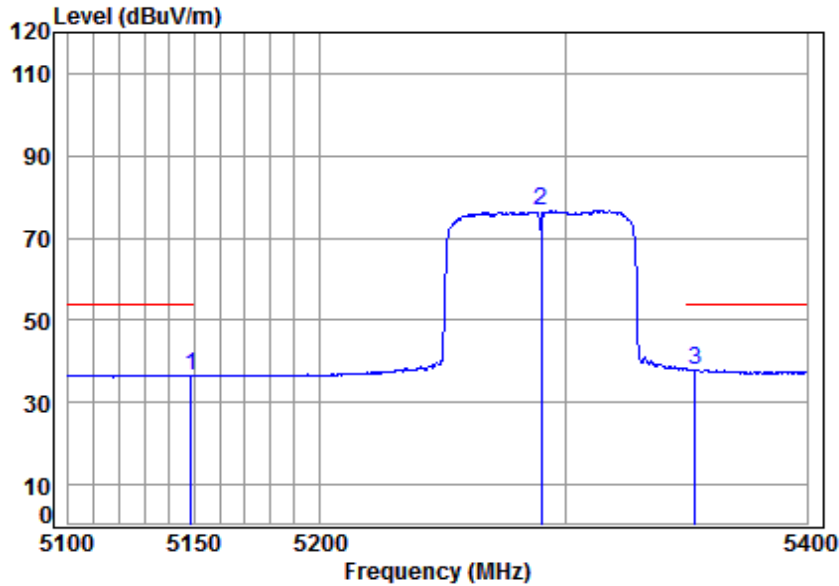


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 375 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5290	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5290 Band edge
 Note : 5G11AC80 CH58
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.621	8.32	34.32	42.36	36.29	36.57	54.00	-17.43	Average
2	5290.000	8.54	34.44	42.22	75.94	76.70	-----	-----	Average
3 pp	5353.594	8.63	34.49	42.17	37.05	38.00	54.00	-16.00	Average

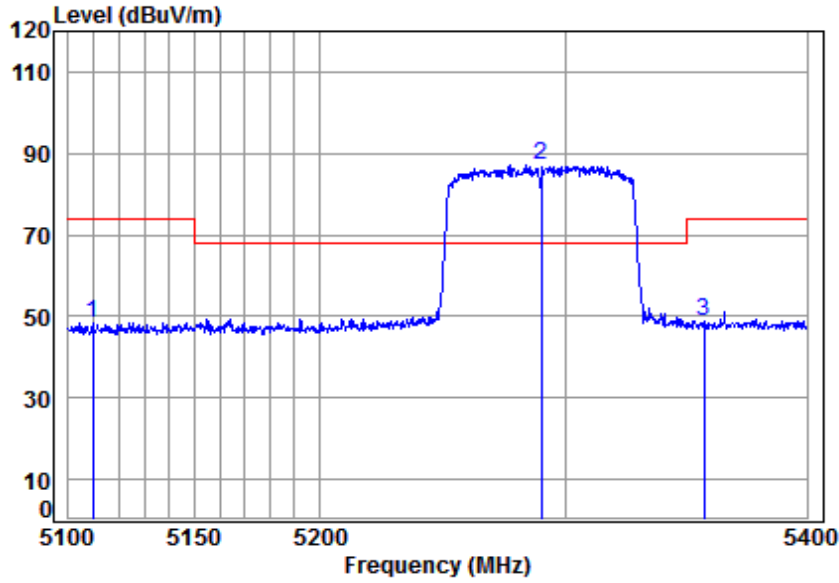


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 376 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5290	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5290 Band edge
 Note : 5G11AC80 CH58
 : Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5109.629	8.26	34.29	42.39	48.33	48.49	74.00	-25.51	peak
2	5290.000	8.54	34.44	42.22	86.26	87.02	68.20	18.82	peak
3	5357.267	8.64	34.49	42.16	48.02	48.99	74.00	-25.01	peak

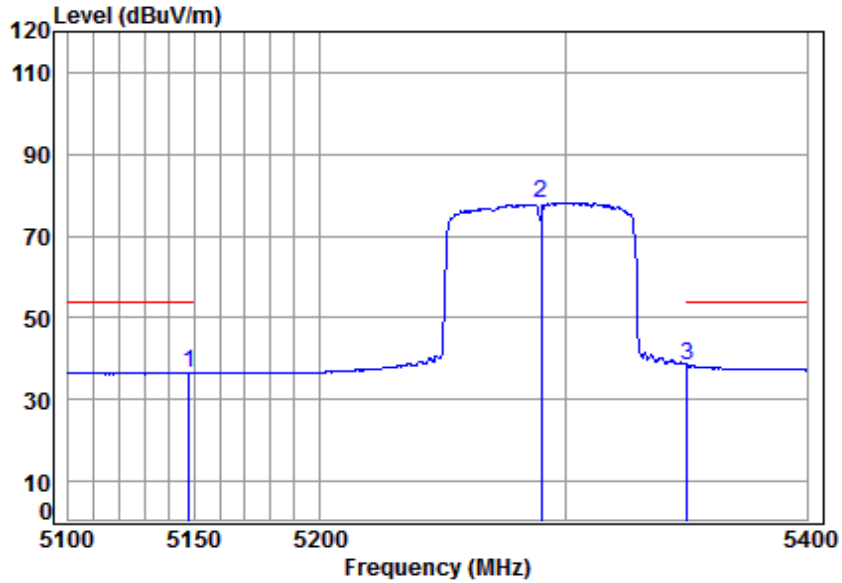


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404

Page: 377 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5290	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5290 Band edge
 Note : 5G11AC80 CH58
 : Z

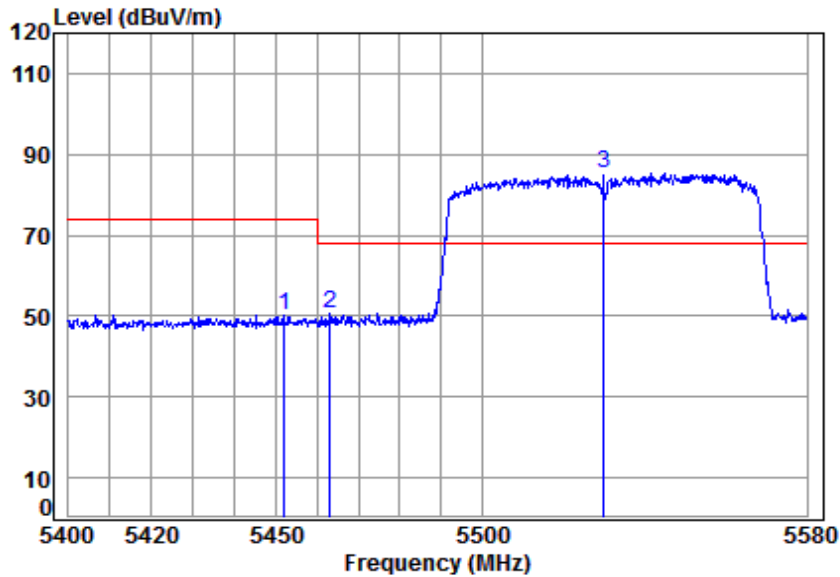
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5147.738	8.32	34.32	42.36	36.28	36.56	54.00	-17.44	Average
2	5290.000	8.54	34.44	42.22	77.45	78.21	-----	-----	Average
3 pp	5350.229	8.63	34.48	42.17	37.40	38.34	54.00	-15.66	Average



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 378 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5530	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

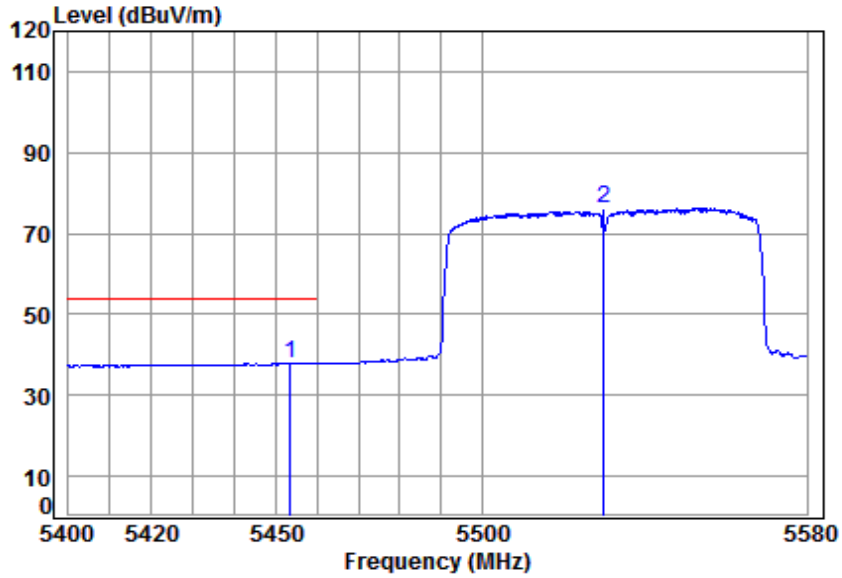
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5451.951	8.78	34.56	42.08	49.01	50.27	74.00	-23.73	Peak
2	5463.046	8.80	34.57	42.07	49.26	50.56	68.20	-17.64	peak
3 pp	5530.000	8.96	34.63	42.01	83.86	85.44	68.20	17.24	Peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 379 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5530	Average	Vertical
------------	----------------	-----------------	------	---------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1 pp	5453.382	8.78	34.56	42.08	36.74	38.00	-16.00	Average
2	5530.000	8.96	34.63	42.01	74.80	76.38	-----	Average

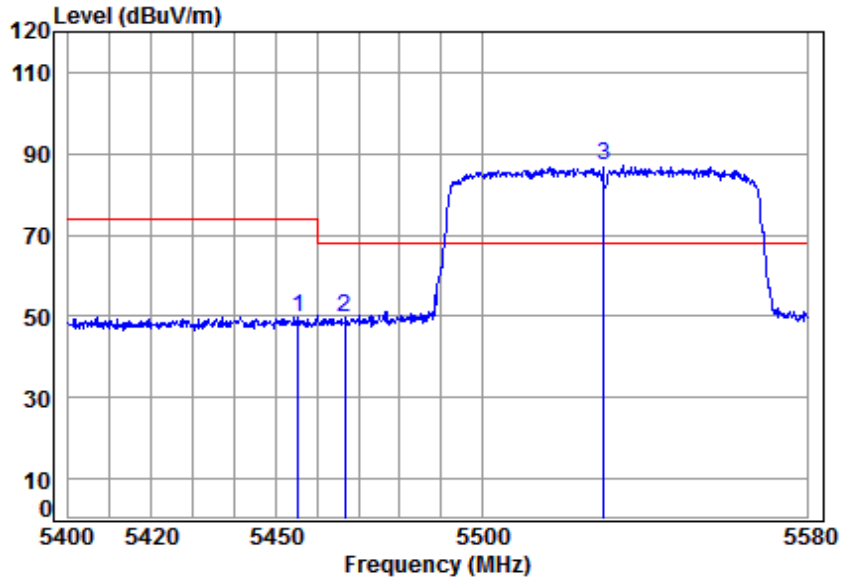


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 380 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5530	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
 Job No : 6244RG
 Mode : 5530 Band edge
 Note : 5G11AC80 CH106
 : Z

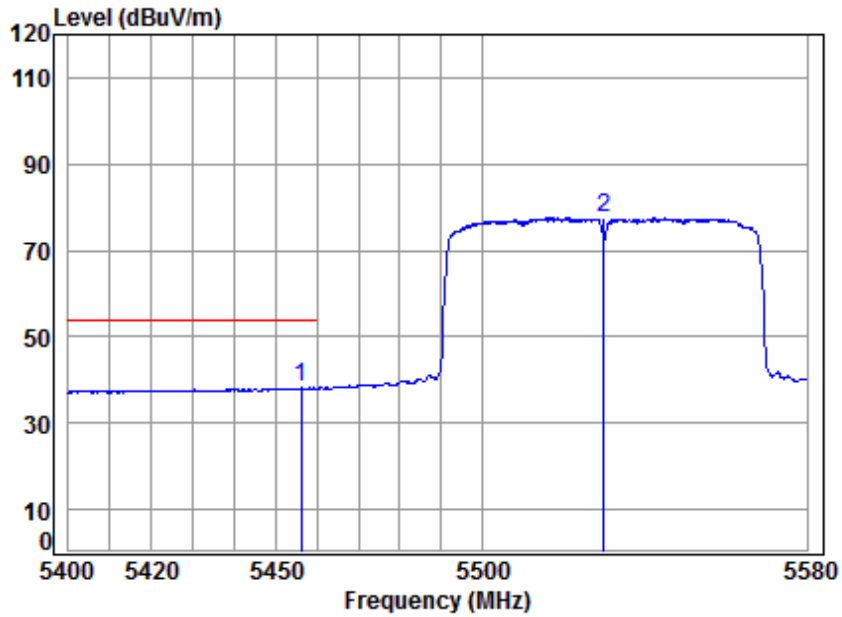
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5455.349	8.79	34.57	42.07	48.54	49.83	74.00	-24.17	peak
2	5466.809	8.80	34.57	42.06	48.35	49.66	68.20	-18.54	peak
3 pp	5530.000	8.96	34.63	42.01	85.48	87.06	68.20	18.86	peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 381 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5530	Average	Horizontal
------------	----------------	-----------------	------	---------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5456.064	8.79	34.57	42.07	36.96	38.25	54.00	-15.75	Average
2	5530.000	8.96	34.63	42.01	75.98	77.56	-----	-----	Average

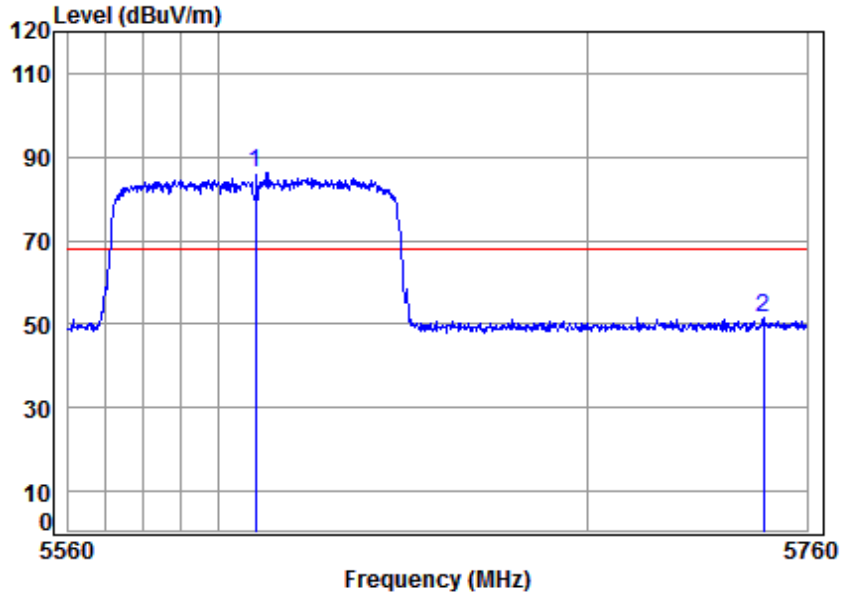


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 382 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5610	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
 Job No : 6244RG
 Mode : 5610 Band edge
 Note : 5G11AC80 CH122
 : Z

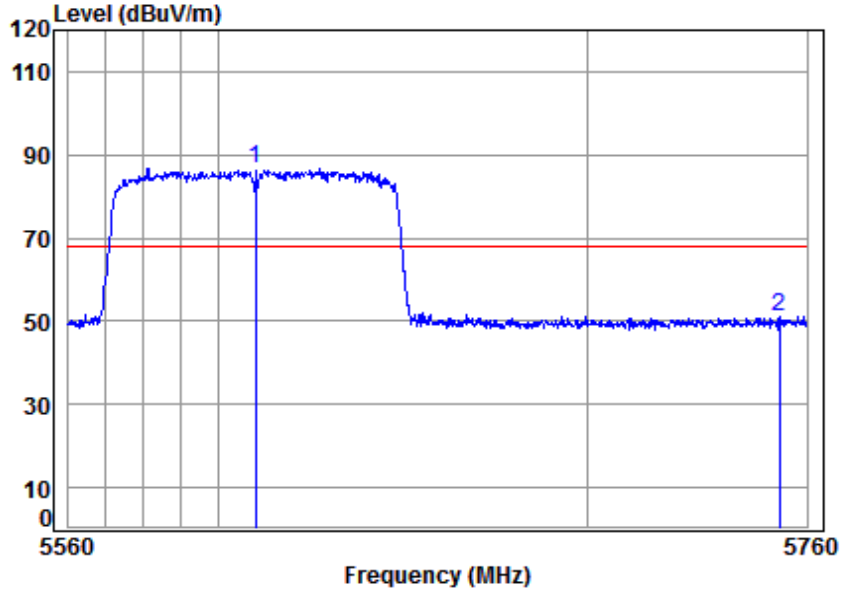
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5610.000	9.24	34.71	41.94	84.37	86.38	68.20	18.18	Peak
2 5748.003	9.72	34.85	41.82	48.66	51.41	68.20	-16.79	Peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 383 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5610	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5610 Band edge
Note : 5G11AC80 CH122
: Z

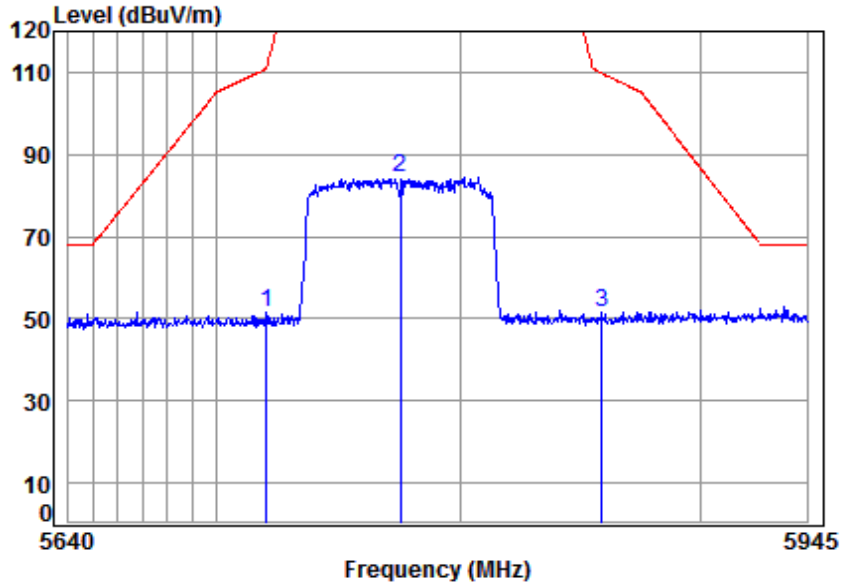
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5610.000	9.24	34.71	41.94	84.77	86.78	68.20	18.58 peak
2	5752.474	9.74	34.86	41.81	48.43	51.22	68.20	-16.98 peak



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404
Page: 384 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5775	Peak	Vertical
------------	----------------	-----------------	------	------	----------



Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5775 Band edge
Note : 5G11AC80 CH155
: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5720.171	9.63	34.83	41.84	48.79	51.41	111.19	-59.78	peak
2	5775.000	9.81	34.88	41.79	81.58	84.48	125.20	-40.72	peak
3	5858.900	10.10	34.96	41.72	48.01	51.35	109.71	-58.36	peak

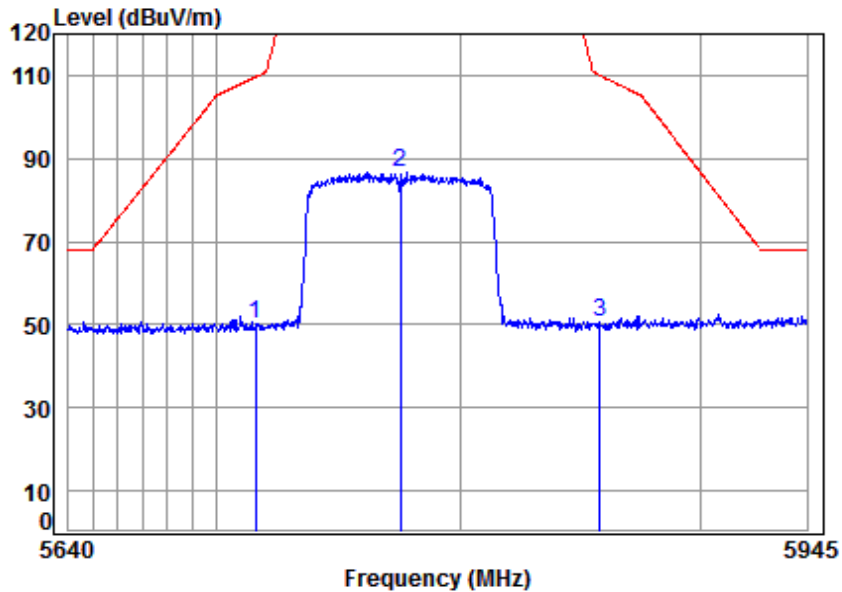


**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 385 of 404

Test mode:	802.11ac(HT80)	Frequency(MHz):	5775	Peak	Horizontal
------------	----------------	-----------------	------	------	------------



Condition: 3m HORIZONTAL

Job No : 6244RG

Mode : 5775 Band edge

Note : 5G11AC80 CH155

: Z

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.955	9.61	34.82	41.85	47.84	50.42	109.67	-59.25	peak
2 pp	5775.000	9.81	34.88	41.79	83.71	86.61	125.20	-38.59	peak
3	5857.975	10.10	34.96	41.73	47.27	50.60	109.97	-59.37	peak



Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

5.9 Frequencies Stability

Frequency Error vs. Voltage:

Test Conditions	Measured Frequency (MHz)
	5180
V nom(V)	5180.004218
V max(V)	5180.000872
V min(V)	5180.009972
Max. Deviation Frequency	0.009972189
Max. Frequency Error (ppm)	1.93

Frequency Error vs. Temperature:

Test Conditions (°C)	Measured Frequency (MHz)
	5180
-5	5180.002252
5	5180.009892
15	5180.007232
25	5180.004815
35	5180.001967
45	5180.005735
50	5180.003898
Max. Deviation Frequency	0.009892368
Max. Frequency Error (ppm)	1.91



Frequency Error vs. Voltage:

Test Conditions	Measured Frequency (MHz)
	5825
V nom(V)	5825.000413
V max(V)	5825.008802
V min(V)	5825.007445
Max. Deviation Frequency	0.00880204
Max. Frequency Error (ppm)	1.51

Frequency Error vs. Temperature:

Test Conditions (°C)	Measured Frequency (MHz)
	5825
-5	5825.00249
5	5825.004816
15	5825.000413
25	5825.000713
35	5825.009834
45	5825.001707
50	5825.004302
Max. Deviation Frequency	0.004816226
Max. Frequency Error (ppm)	0.83



5.10 (DFS: Channel Move Time; DFS: Channel Closing Transmission Time)

5.10.1 DFS: Non-occupancy period

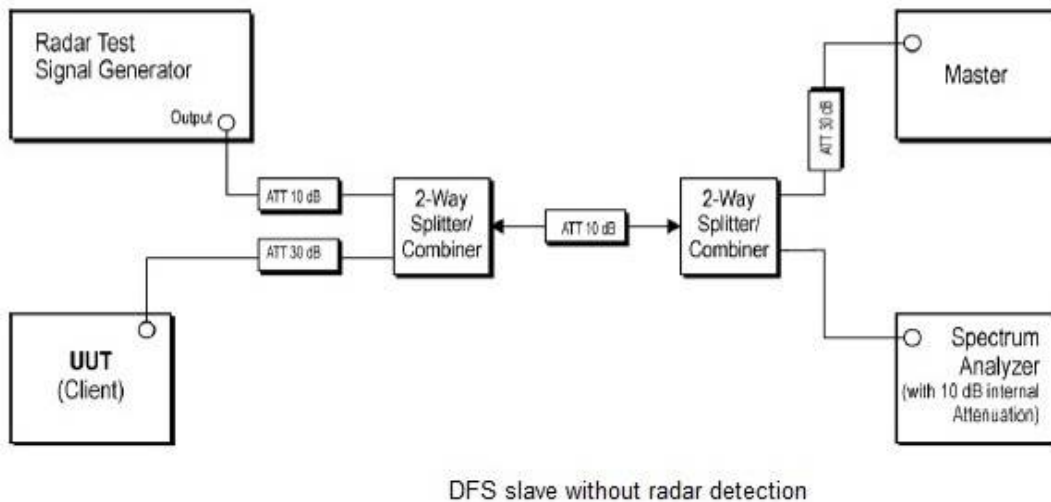
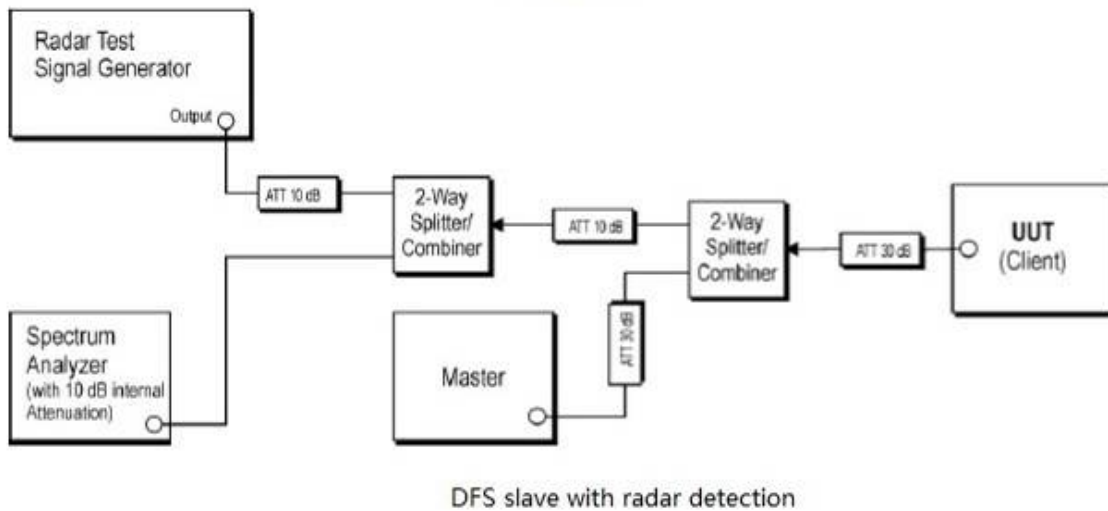
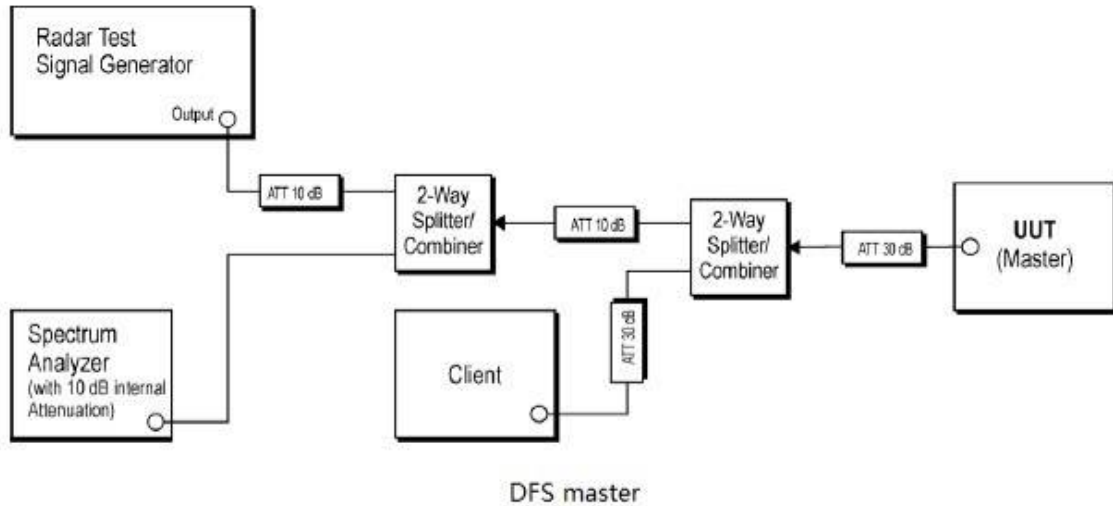
Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3
Limit: Minimum 30 minutes

5.10.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa
Test mode g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

5.10.1.2 Test Setup Diagram





5.10.1.3 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

The detailed test data see: Appendix 15.407



5.10.2 DFS: Channel Move Time

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3
Limit: 10 seconds(should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst)

5.10.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa

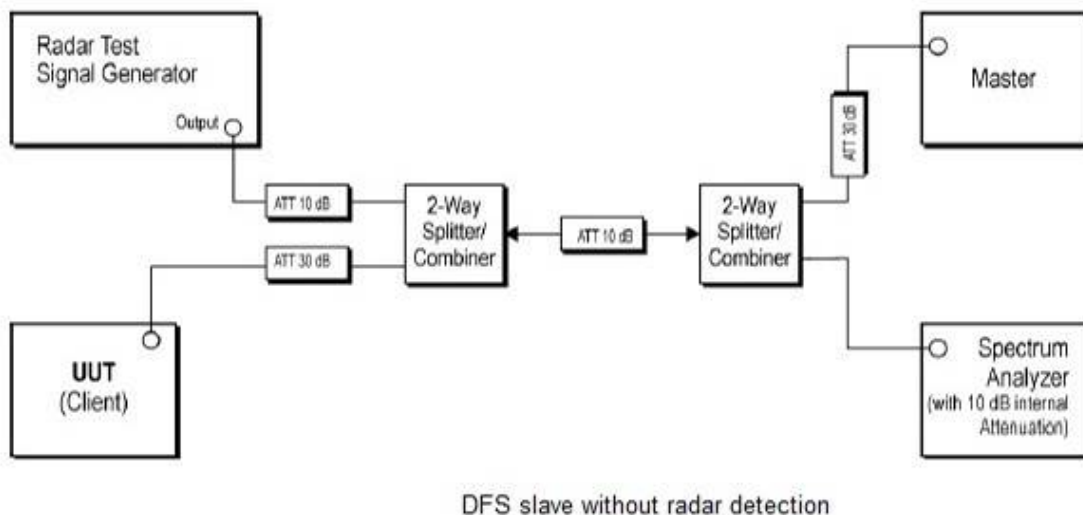
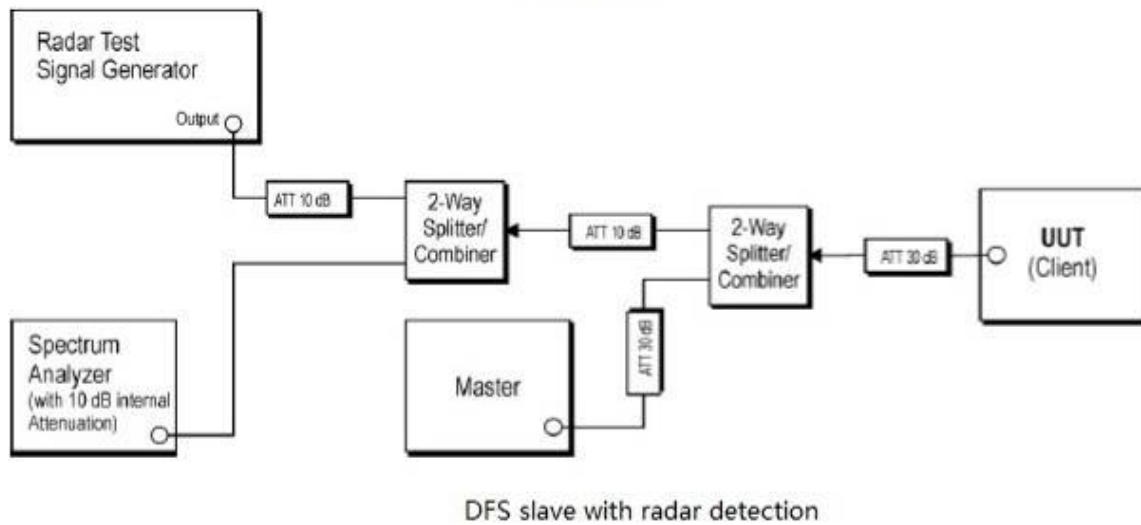
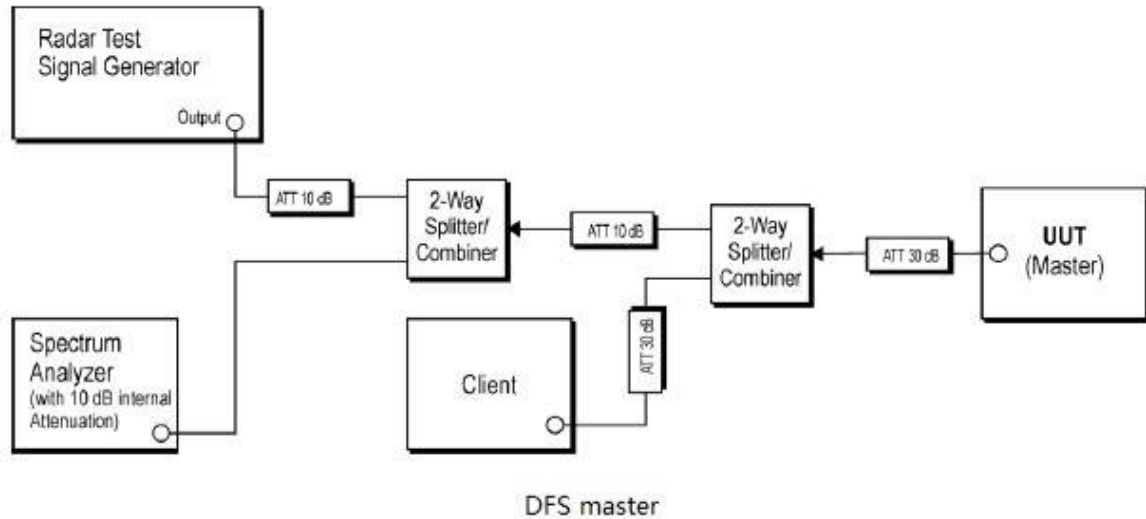
Pretest these modes to find the worst case: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

The worst case for final test: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

5.10.2.2 Test Setup Diagram





5.10.2.3 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

The detailed test data see: Appendix 15.407



5.10.3 DFS: Channel Closing Transmission Time

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3
Limit: 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period(should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. It is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions)

5.10.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa

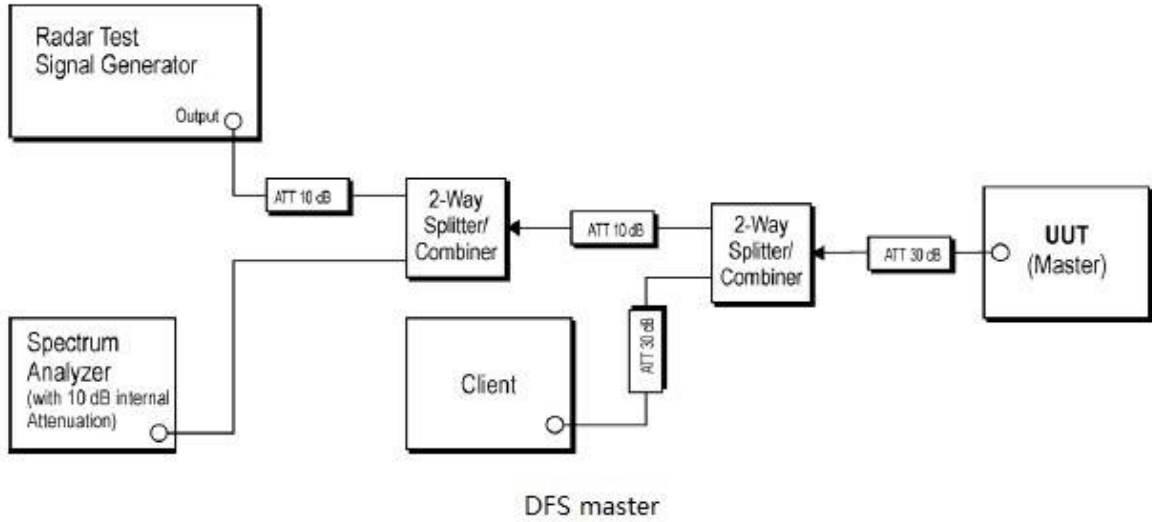
Pretest these modes to find the worst case: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

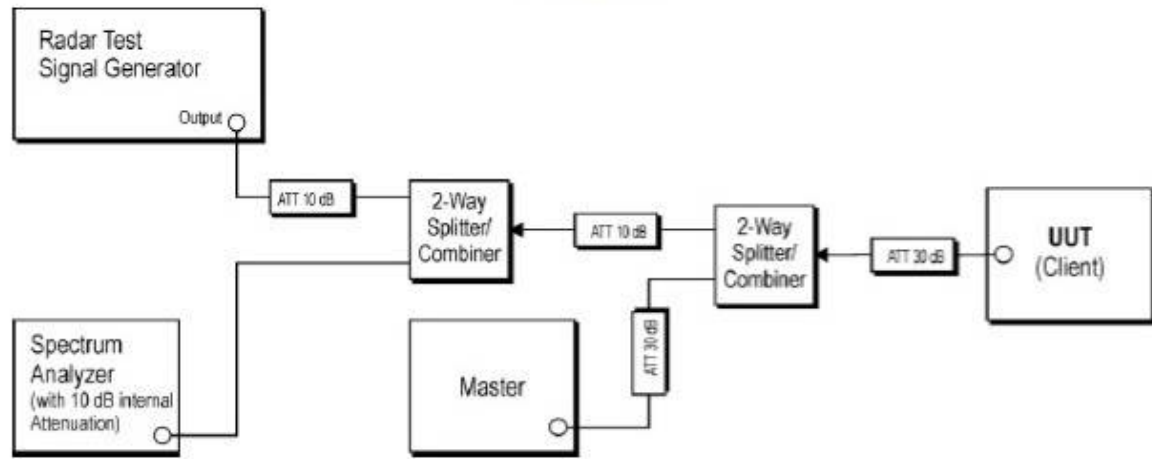
The worst case for final test: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

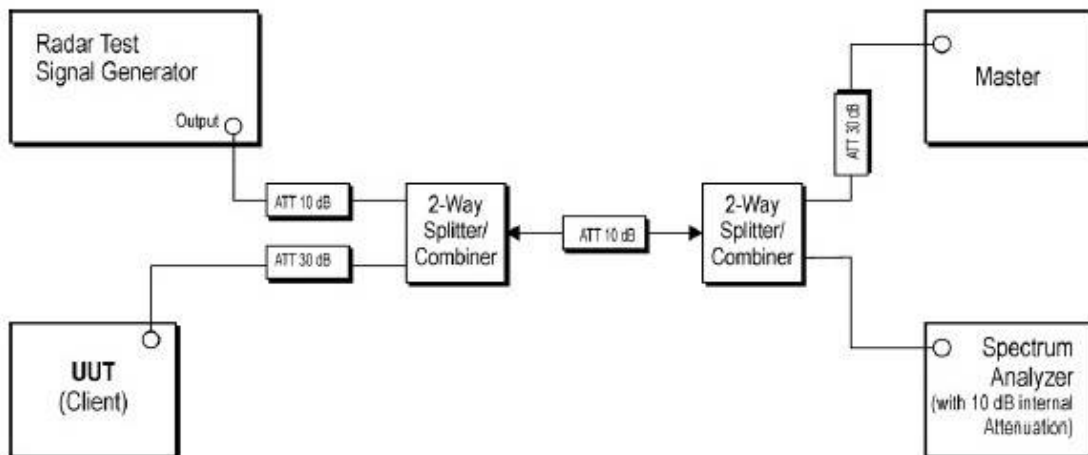
5.10.3.2 Test Setup Diagram



DFS master



DFS slave with radar detection



DFS slave without radar detection



5.10.3.3 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

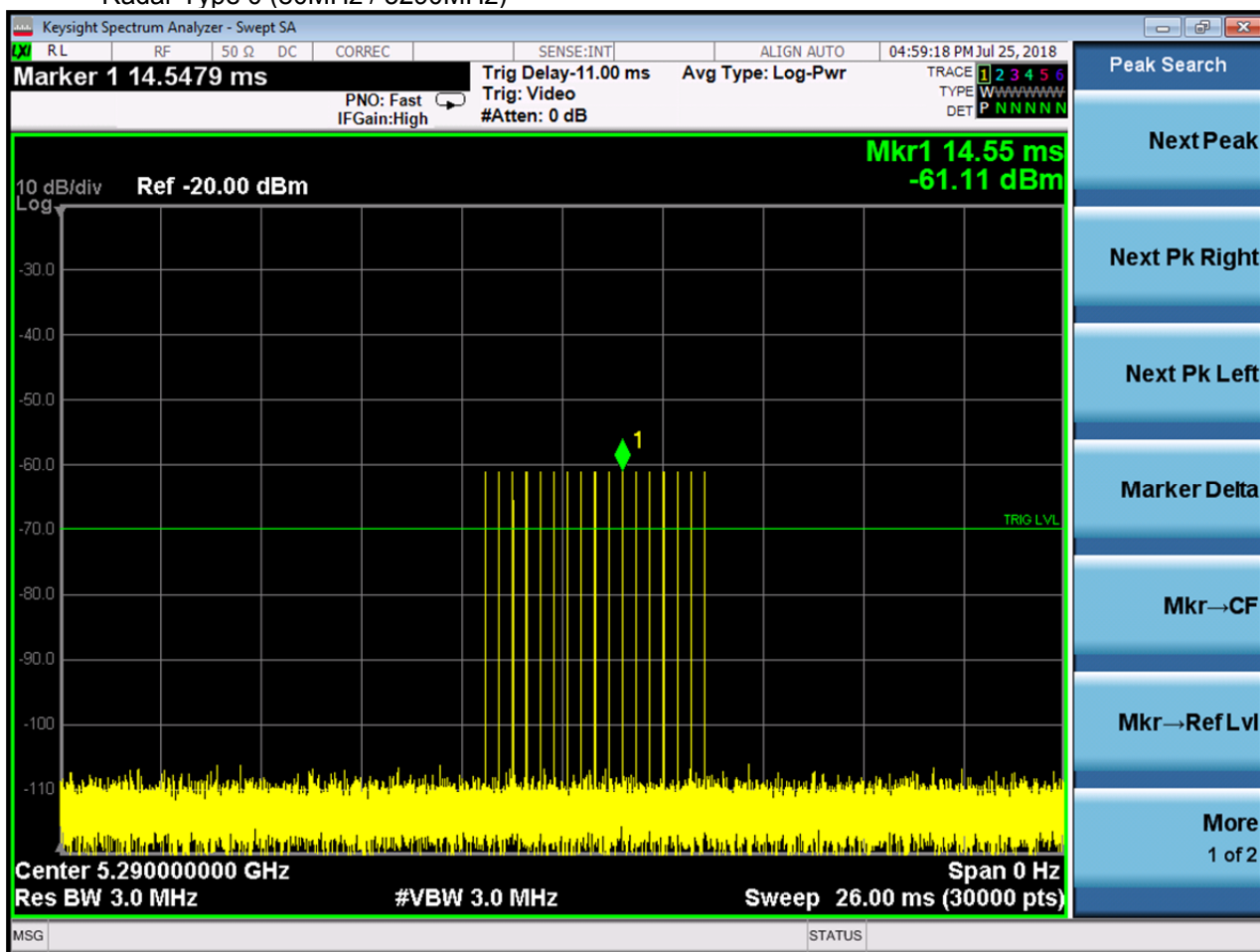
The detailed test data see: Appendix 15.407



5.10.4 Test plots as follows:

Radar Waveform Calibration Result

Radar Type 0 (80MHz / 5290MHz)



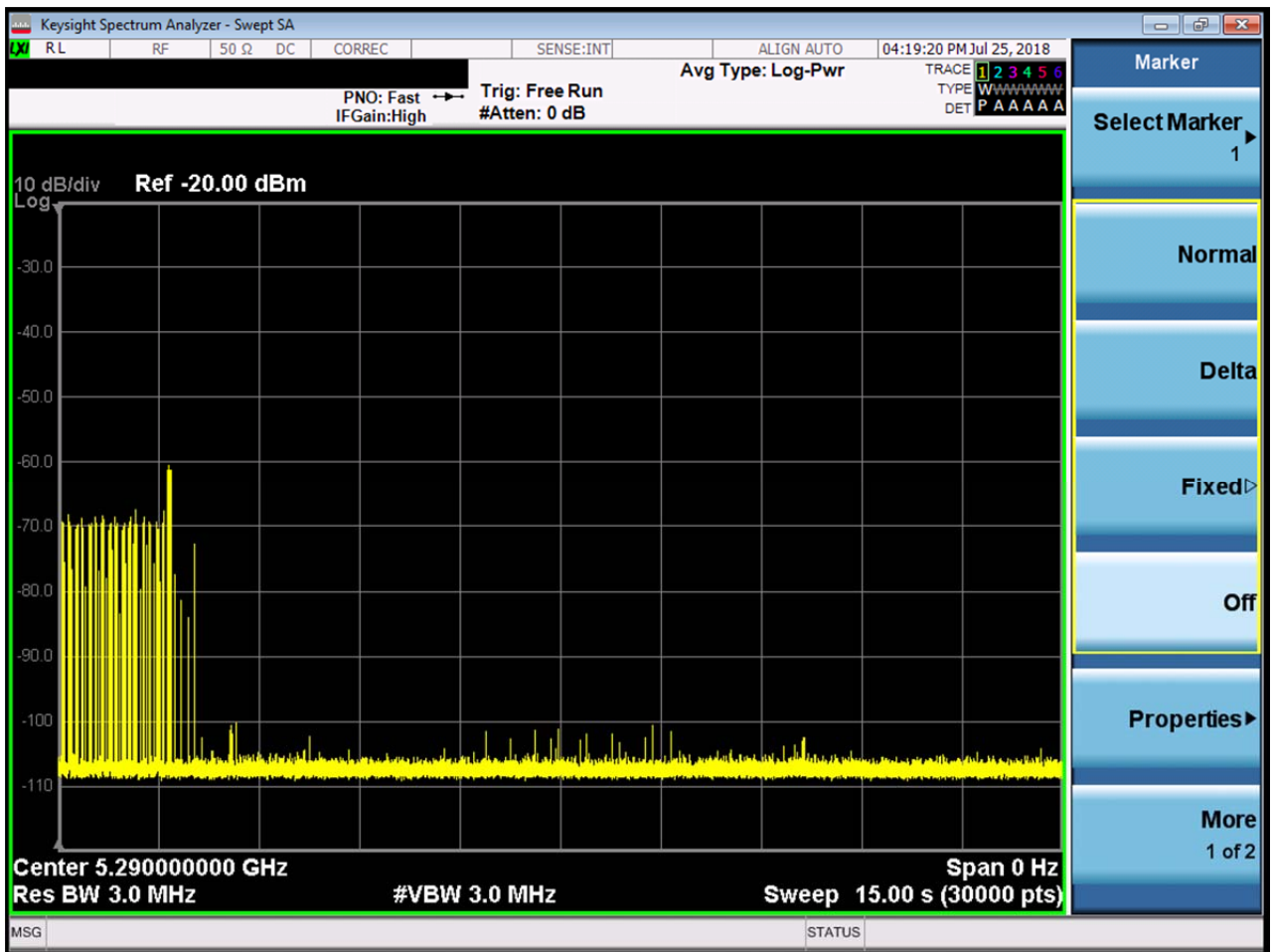


Test Data:

BW/Channel	Test Item	Test Result	Limit	Results
80MHz / 5290MHz	Channel Move Time	0.35s	< 10s	Pass
	Channel Closing Transmission Time	1ms	< 60ms	Pass

Test plots as follows:

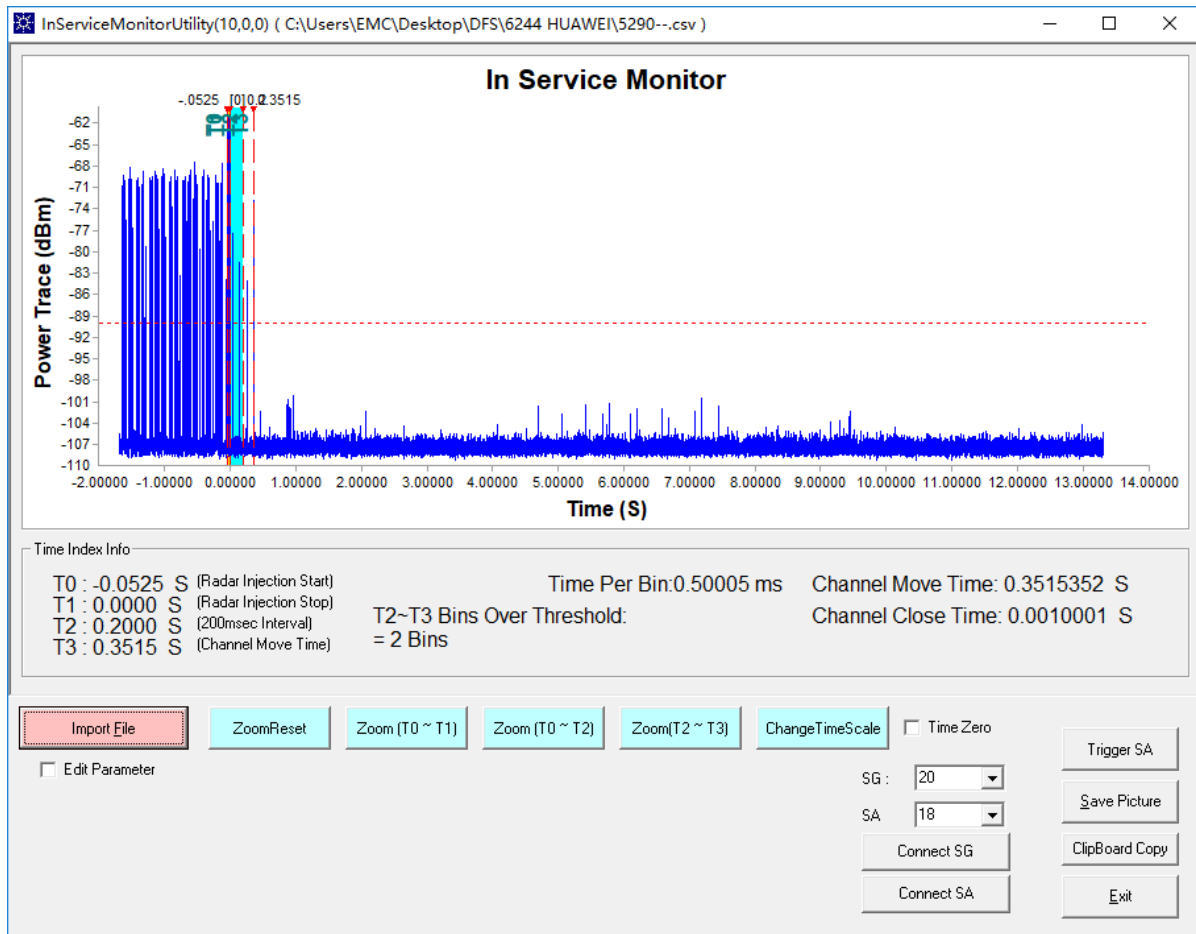
80MHz / 5290MHz





SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM180700624404
Page: 399 of 404





5.11 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	$\pm 0.75\text{dB}$
2	RF power density, conducted	$\pm 2.84\text{dB}$
3	Spurious emissions, conducted	$\pm 0.75\text{dB}$
4	Radiated Spurious emission test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-25GHz)
5	Conduct emission test	$\pm 3.12\text{ dB}$ (9KHz- 30MHz)
6	Temperature test	$\pm 1^\circ\text{C}$
7	Humidity test	$\pm 3\%$
8	DC and low frequency voltages	$\pm 0.5\%$



5.12 Equipment List

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2018/3/10	2019/3/9
2	LISN	Rohde & Schwarz	ENV216	SEM007-01	2017/10/09	2018/10/09
3	LISN	ETS-LINDGREN	3816/2	SEM007-02	2018/2/14	2019/2/13
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	EMC0120	2017/09/28	2018/09/28
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	EMC0121	2017/09/28	2018/09/28
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2017/09/28	2018/09/28
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2018/2/14	2019/2/13
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017/10/09	2018/10/09

RF conducted test						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
2	Signal Analyzer	Rohde &Schwarz	FSV	W005-02	2018/03/13	2019/03/13
3	Signal Generator	Rohde &Schwarz	SML03	SEM006-02	2018/2/14	2019/2/13
4	Power Meter	Rohde &Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26
5	Power Sensor	Agilent Technologies	U2021XA	SEM009-01	2017/10/09	2018/10/09
6	Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2017-04-14	2018-04-13
7	Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
8	Coaxial Cable	SGS	N/A	SEM031-01	2018-05-13	2019-05-12
9	Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
10	Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26



**SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch**

Report No.: SZEM180700624404

Page: 403 of 404

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2018/3/10	2019/3/9
2	EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2017/10/09	2018/10/09
3	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017/11/01	2020/11/01
4	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEM003-11	2015/10/17	2018/10/17
5	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEM003-12	2017/11/24	2020/11/24
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2018/2/14	2019/2/13
7	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017/10/09	2018/10/09
9	Loop Antenna	Beijing Daze	ZN30401	SEM003-09	2018/3/10	2019/3/9

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018/3/10	2019/3/9
2	EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2018/2/14	2019/2/13
3	Trilog-Broadband Antenna(30M-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2016/06/29	2019/06/29
4	Pre-amplifier	Sonoma Instrument Co	310N	SEM005-03	2018/6/18	2019/6/17
5	.Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015/08/14	2018/08/14



RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/10	2019/3/9
2	EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-09	2018/6/18	2019/6/17
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2017/11/15	2020/11/15
4	Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2017/10/9	2018/10/9
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/5/14	2020/5/13
6	Horn Antenna (18-26GHz)	ETS-Lindgren	3160	SEM003-12	2017/11/24	2020/11/24
7	HornAntenna (26GHz-40GHz)	A.H.Systems, inc.	SAS-573	SEM003-13	2017/10/17	2020/10/16
8	Low Noise Amplifier	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2017/10/9	2018/10/9
9	Band filter	Amindeon	Asi 3314	SEM023-01	2018/2/14	2019/2/13

6 Photographs - EUT Test Setup Details

Refer to Appendix A - Photographs of EUT Test Setup Details for SZEM1807006244RG.

The End