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Report No.: SZEM171001110306
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FCC REPORT

Application No: SZEM1710011103RG
Applicant: Saygus
Manufacturer: Saygus
Factory: Smart Gadgets (Shenzhen) , LTD
Product Name: Saygus smartphone V-Squared
Model No.(EUT): SG02
Trade Mark:: Saygus
FCC ID: 2ANBZ-F10104216
Standards: 47 CFR Part 15, Subpart E (2017)
Test Method KDB 789033 D02 v01r04
Date of Receipt: 2017-12-08
Date of Test: 2017-12-09 to 2017-12-29
Date of Issue: 2018-01-04

Test Result:	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Derek Yang
Wireless Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-01-04		Original

Authorized for issue by:			
Tested By		 (David Chen) /Project Engineer	2017-12-29
Checked By		 (Jim Huang) /Reviewer	2018-01-04
			Date
			Date



3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Section 15.203	ANSI C63.10: 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS
Conducted Output Power	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
26 dB Emission Bandwidth & 99% Occupied Bandwidth	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
Power Spectral Density	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
Radiated Spurious Emissions	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS

Original model No. in report SZEM170400351904

According to the declaration from the applicant. Now add LTE band 5,7,13,17,25,38,41, WCDMA band 5 and 2.4Gwifi and NFC by software. New function is full tested. Worse case mode of transmitter Emission above 1GHz and all mode of retested Radiated Spurious Emission on new sample are tested.



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5 General Information

5.1 Client Information

Applicant:	Saygus
Address of Applicant:	10421 South Jordan Gateway, Suite 500, South Jordan, UT 84095
Manufacturer:	Saygus
Address of Manufacturer:	10421 South Jordan Gateway, Suite 500, South Jordan, UT 84095
Factory:	Smart Gadgets (Shenzhen) , LTD
Address of Factory:	912 Building 1 A, Hezheng-Huiyi Cheng, Xinhua Road, Xixiang Baoan District, Shenzhen, China

5.2 General Description of EUT

Product Name:	Saygus smartphone V-Squared
Model No.:	SG02
Trade Mark:	Saygus
Operation Frequency:	IEEE 802.11a/ n(HT20): 5150MHz to 5250MHz IEEE 802.11a/ n(HT20): 5250MHz to 5350MHz IEEE 802.11a/ n(HT20): 5470MHz to 5725MHz * The 5600-5650MHz can not be used.
Type of Modulation:	IEEE 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n: OFDM(BPSK/QPSK/16QAM/64QAM)
Sample Type:	Portable Device
Antenna Type:	Integral
Antenna Gain:	Antenna :-1.0dBi,
EUT Power Supply:	DC3.85V (1 x 3.85V Rechargeable battery)3100mAh Battery: Charge by DC 5V
AC adaptor:	Adaptor: Model:C0043 Input: AC100-240V 50/60Hz 0.5A Output:DC5.0V 2.4A



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Note:

In FCC 15.31, for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table, and the selected channel to perform the test as below:

Frequency Range of Operation Operating Frequency Range (in each Band)	Number of Measurement Frequencies Required	Location of Measurement Frequency in Band of Operation
1 MHz or less	1	centre
1 MHz to 10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near centre

For UNII Band I:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5180
	The Middle channel	5220
	The Highest channel	5240

For UNII Band II-A:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5260
	The Middle channel	5300
	The Highest channel	5320

For UNII Band II-C:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5500
	The Middle channel	5600
	The Highest channel	5700



5.3 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	55 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

5.4 Description of Support Units

The EUT has been tested independent unit.

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch,
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None



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

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



5.11 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	2017-05-10	2018-05-10
2	LISN	Rohde & Schwarz	ENV216	SEM007-01	2017-10-09	2018-10-09
3	LISN	ETS-LINDGREN	3816/2	SEM007-02	2017-04-14	2018-04-14
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	2017-04-14	2018-04-14
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017-10-09	2018-10-09

RF connected 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	2017-10-09	2018-10-09
2	Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2017-03-06	2018-03-06
3	Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2017-04-14	2018-04-14
4	Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-10-09	2018-10-09
5	Power Sensor	Agilent Technologies	U2021XA	SEM009-01	2017-10-09	2018-10-09



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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	2017-05-10	2018-05-10
2	EMI Test Receiver	Rohde & Schwarz	FSU43	SEM004-08	2017-04-14	2018-04-14
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	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)	A.H.Systems, inc.	SAS-573	SEM003-13	2015-02-12	2018-02-12
7	Band filter	Agilent Technologies	8447D	SEM005-01	2017-04-14	2018-04-14
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017-10-09	2018-10-09
9	Loop Antenna	Beijing Daze	ZN30401	SEM003-09	2015-05-13	2018-05-13

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	2017-05-10	2018-05-10
2	EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2017-04-14	2018-04-14
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	2017-07-06	2018-07-06
5	.Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2018-08-14

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Shenzhen Branch



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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	2017-05-10	2018-05-10
2	EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-09	2017-07-19	2018-07-19
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	2017-10-09	2018-10-09
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
6	Horn Antenna (18-26GHz)	ETS-Lindgren	3160	SEM003-12	2017-11-24	2020-11-24
7	Horn Antenna(26GHz-40GHz)	A.H.Systems, inc.	SAS-573	SEM003-13	2015-02-12	2018-02-12
8	Low Noise Amplifier	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2017-10-09	2018-10-09
9	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A



6 Test results and Measurement Data

6.1 Antenna Requirement

Test Requirement:	47 CFR Part 15 Section 15.203
The antenna is integrated antenna and no consideration of replacement. The best case gain of the antenna is -1.0dBi.	

6.2 Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)		Limit (dBuV)
			Quasi-peak Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
5-30		60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	<ol style="list-style-type: none"> 1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement. 		
Test Setup:			



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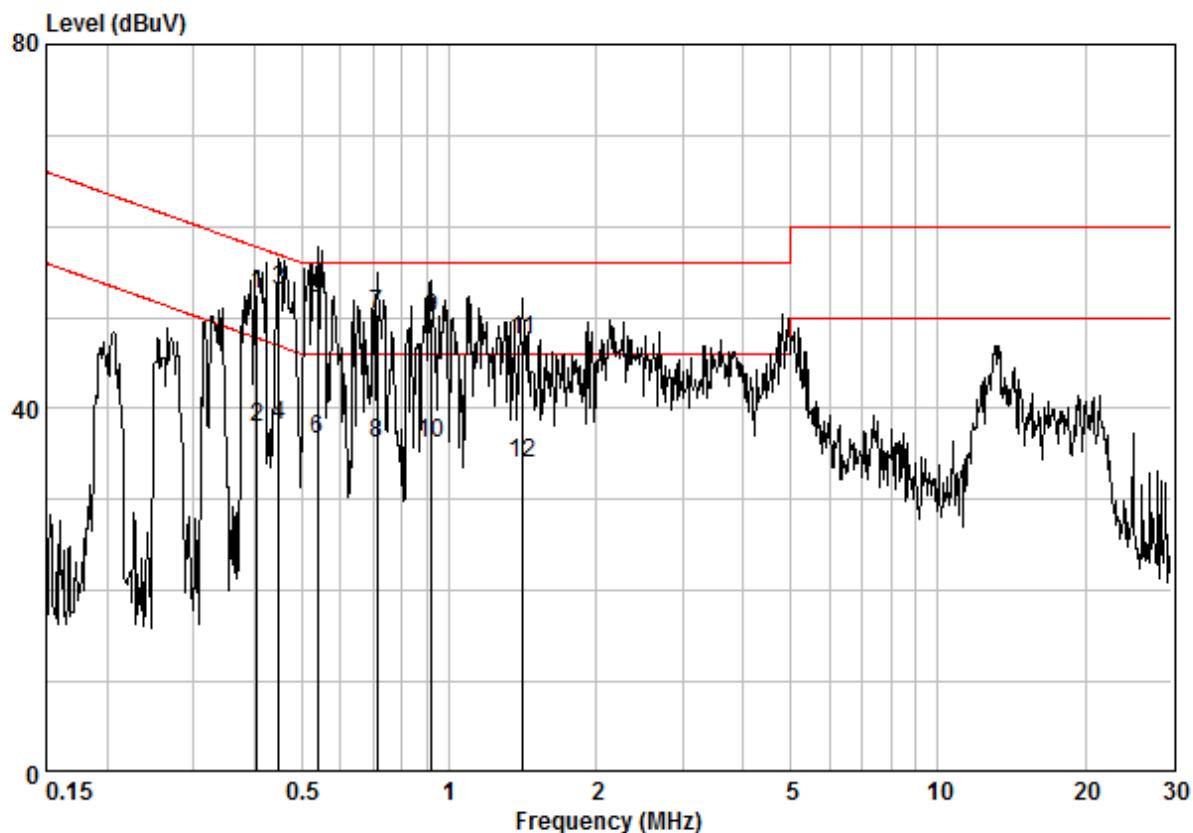
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

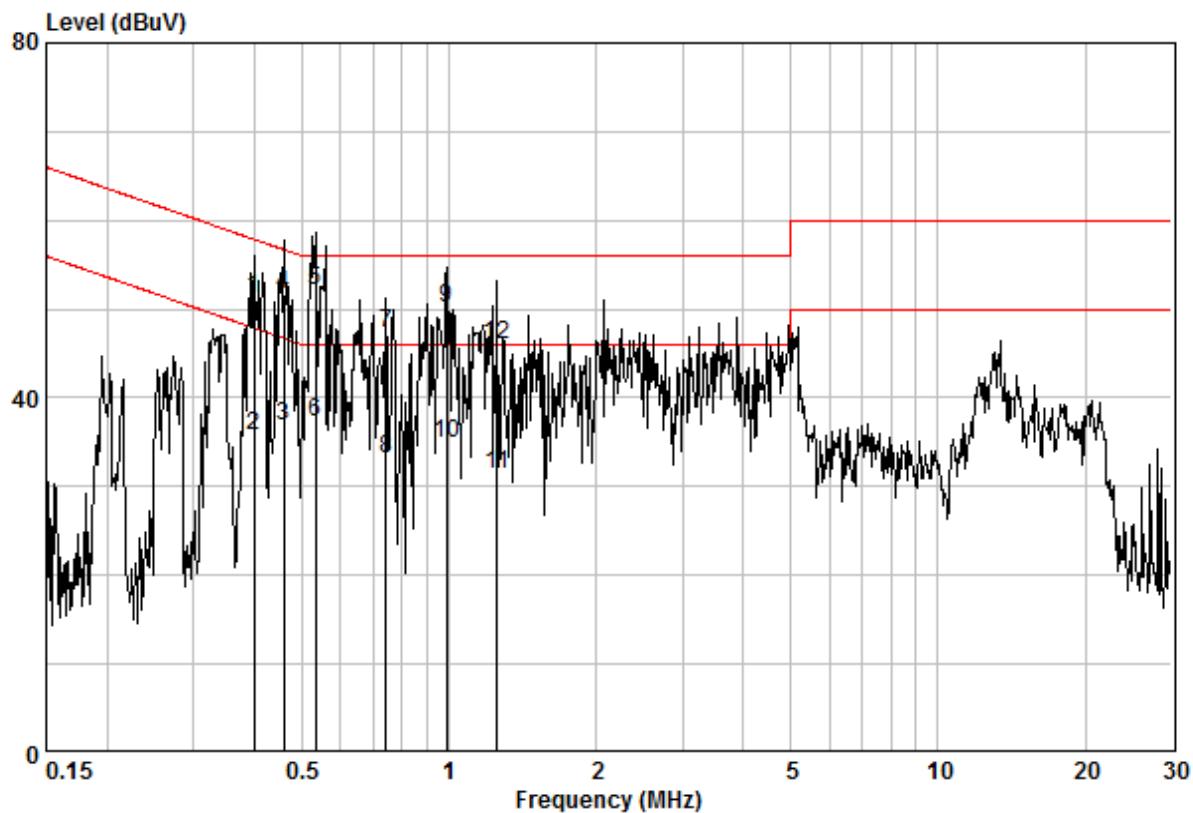
Live Line:



Site : Shielding Room
Condition : CE LINE
Job No. : 03519RG
Test Mode : h

	Freq	Cable	LISN	Read	Limit		Over	Remark
		Loss	Factor	Level	Level	Line	Limit	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.40400	0.02	9.64	42.90	52.56	57.77	-5.21	QP
2	0.40400	0.02	9.64	28.25	37.91	47.77	-9.86	AVERAGE
3	0.44916	0.02	9.64	43.28	52.94	56.89	-3.95	QP
4	0.44916	0.02	9.64	28.52	38.18	46.89	-8.71	AVERAGE
5	0.53782	0.02	9.64	42.43	52.09	56.00	-3.91	QP
6	0.53782	0.02	9.64	26.96	36.62	46.00	-9.38	AVERAGE
7	0.71219	0.03	9.65	40.59	50.26	56.00	-5.74	QP
8	0.71219	0.03	9.65	26.53	36.20	46.00	-9.80	AVERAGE
9	0.92330	0.03	9.65	40.19	49.87	56.00	-6.13	QP
10	0.92330	0.03	9.65	26.44	36.12	46.00	-9.88	AVERAGE
11	1.418	0.03	9.66	37.78	47.47	56.00	-8.53	QP
12	1.418	0.03	9.66	24.36	34.05	46.00	-11.95	AVERAGE

Neutral Line:



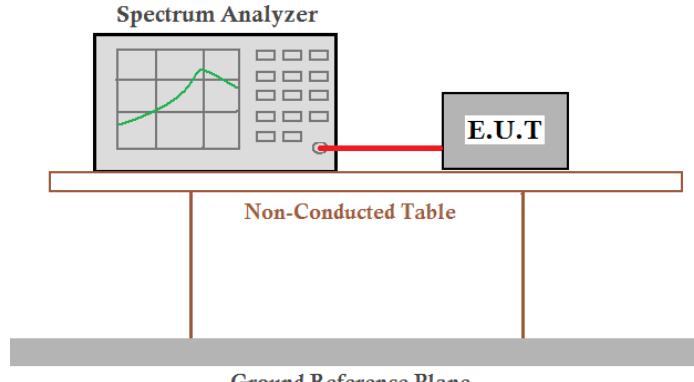
Site : Shielding Room
Condition : CE NEUTRAL
Job No. : 03519RG
Test Mode : h

	Freq	Cable	LISN	Read	Limit		Over	Remark
		Loss	Factor	Level	Level	Line	Limit	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.39974	0.02	9.63	41.55	51.20	57.86	-6.65	QP
2	0.39974	0.02	9.63	26.11	35.76	47.86	-12.10	AVERAGE
3	0.45878	0.02	9.63	27.13	36.78	46.71	-9.94	AVERAGE
4	0.45878	0.02	9.63	41.96	51.61	56.71	-5.10	QP
5	0.53215	0.02	9.63	42.39	52.04	56.00	-3.96	QP
6	0.53215	0.02	9.63	27.60	37.25	46.00	-8.75	AVERAGE
7	0.74302	0.03	9.64	37.57	47.24	56.00	-8.76	QP
8	0.74302	0.03	9.64	23.49	33.15	46.00	-12.85	AVERAGE
9	0.98914	0.03	9.64	40.41	50.08	56.00	-5.92	QP
10	0.98914	0.03	9.64	25.30	34.97	46.00	-11.03	AVERAGE
11	1.255	0.03	9.64	21.63	31.31	46.00	-14.69	AVERAGE
12	1.255	0.03	9.64	36.32	45.99	56.00	-10.01	QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

6.3 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5150-5250MHz	Not exceed 250mW(24dBm)
	5250-5350MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
	5470-5725MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
*Where B is the 26dB emission bandwidth in MHz		
Test Results:	Pass	



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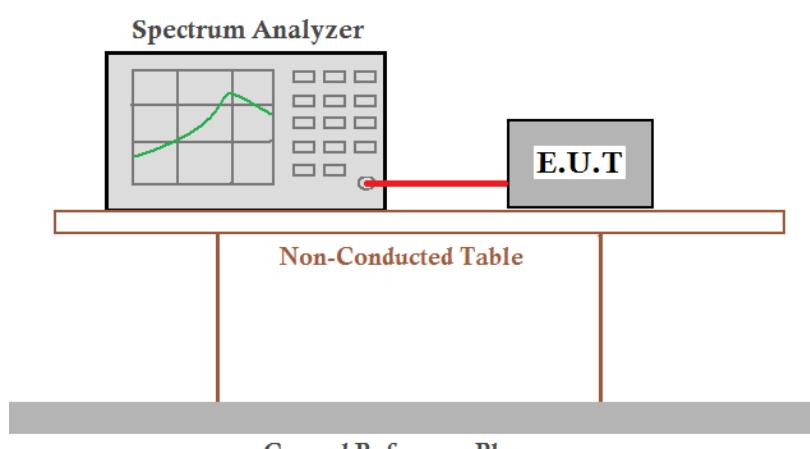
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Measurement Data:

802.11a mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	13. 52	24.00	Pass
5220	13. 21	24.00	Pass
5240	13. 25	24.00	Pass
5260	13. 34	24.00	Pass
5300	13. 43	24.00	Pass
5320	13. 38	24.00	Pass
5500	12. 53	24.00	Pass
5600	11. 79	24.00	Pass
5700	12. 10	24.00	Pass

802.11n(HT20) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	12. 07	24.00	Pass
5220	11. 76	24.00	Pass
5240	11. 81	24.00	Pass
5260	11. 83	24.00	Pass
5300	11. 96	24.00	Pass
5320	11. 97	24.00	Pass
5500	10. 77	24.00	Pass
5600	10. 03	24.00	Pass
5700	10. 24	24.00	Pass

6.4 26dB Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(a)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); Only the worst case is recorded in the report.
Limit:	No restriction limits
Test Results:	Pass



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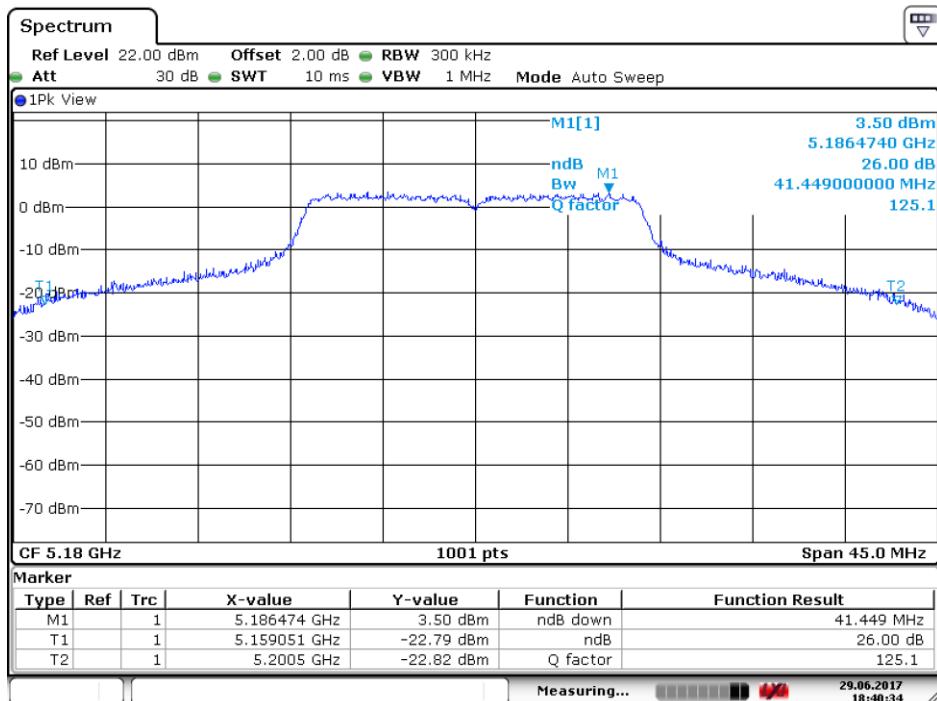
Measurement Data:

802.11a mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	41.45	19.15
5220	42.21	19.51
5240	40.77	19.96
5260	41.49	20.32
5300	42.08	19.78
5320	41.36	19.20
5500	38.08	17.80
5600	38.98	17.80
5700	36.46	17.58

802.11n(HT20) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	36.55	18.12
5220	37.94	18.25
5240	38.08	18.30
5260	39.02	18.25
5300	37.45	18.16
5320	36.28	18.16
5500	32.68	17.94
5600	31.83	17.94
5700	34.84	17.89

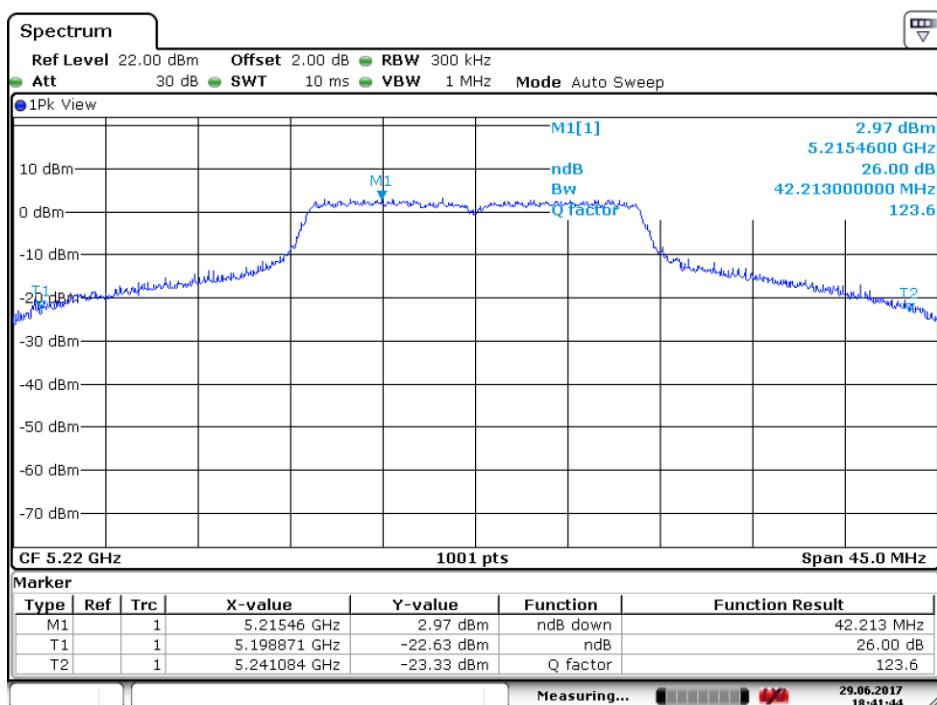
26dB Emission Bandwidth
Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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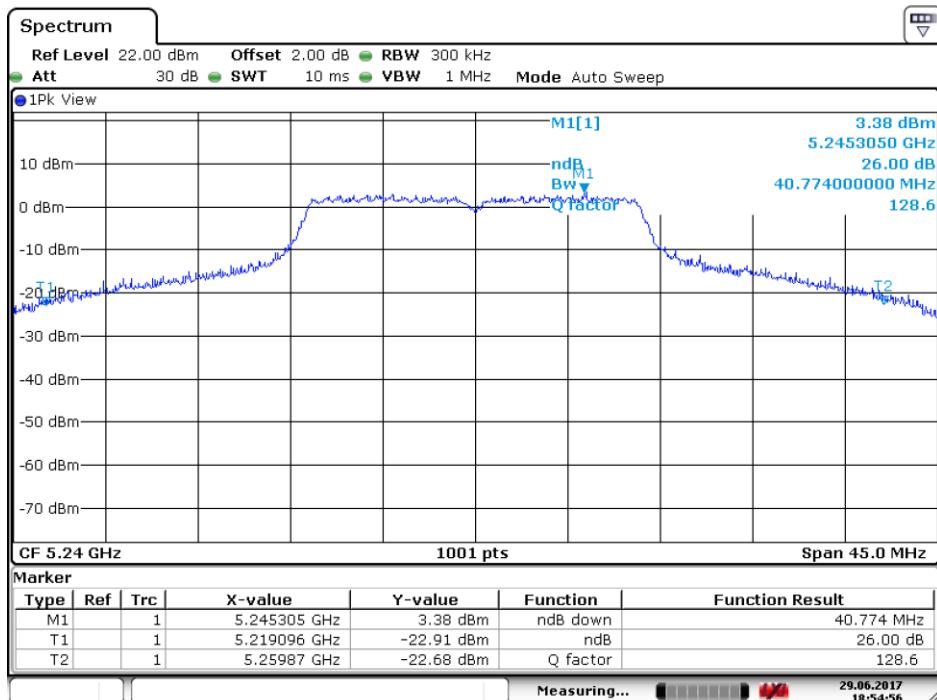
Date: 29.JUN.2017 18:40:34

Test mode:	802.11a	Frequency(MHz):	5220
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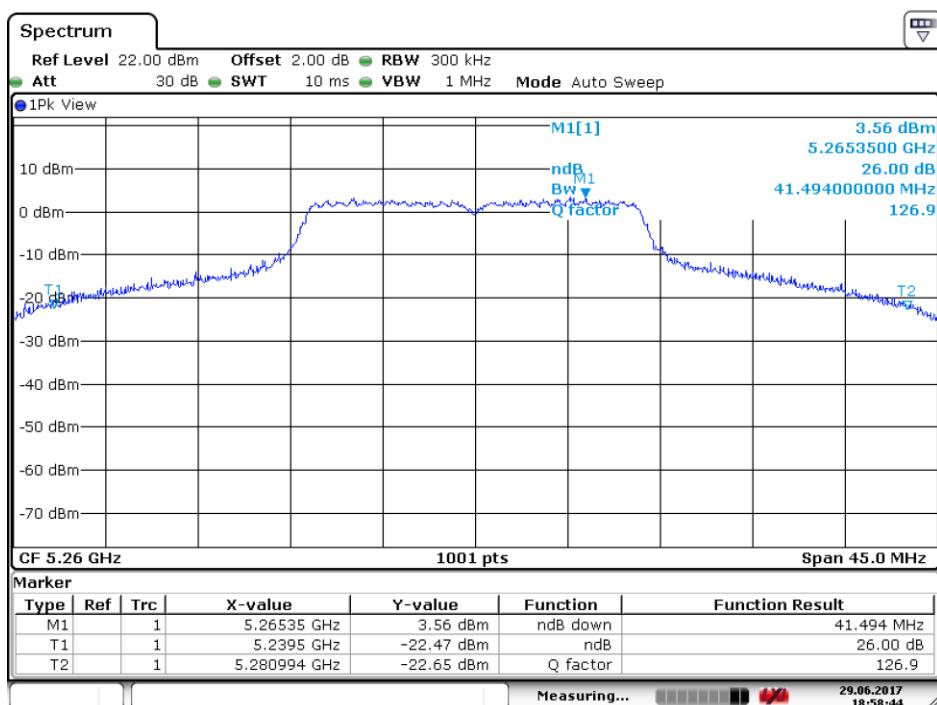
Date: 29.JUN.2017 18:41:44

Test mode:	802.11a	Frequency(MHz):	5240
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Date: 29.JUN.2017 18:54:56

Test mode:	802.11a	Frequency(MHz):	5260
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Date: 29.JUN.2017 18:58:45

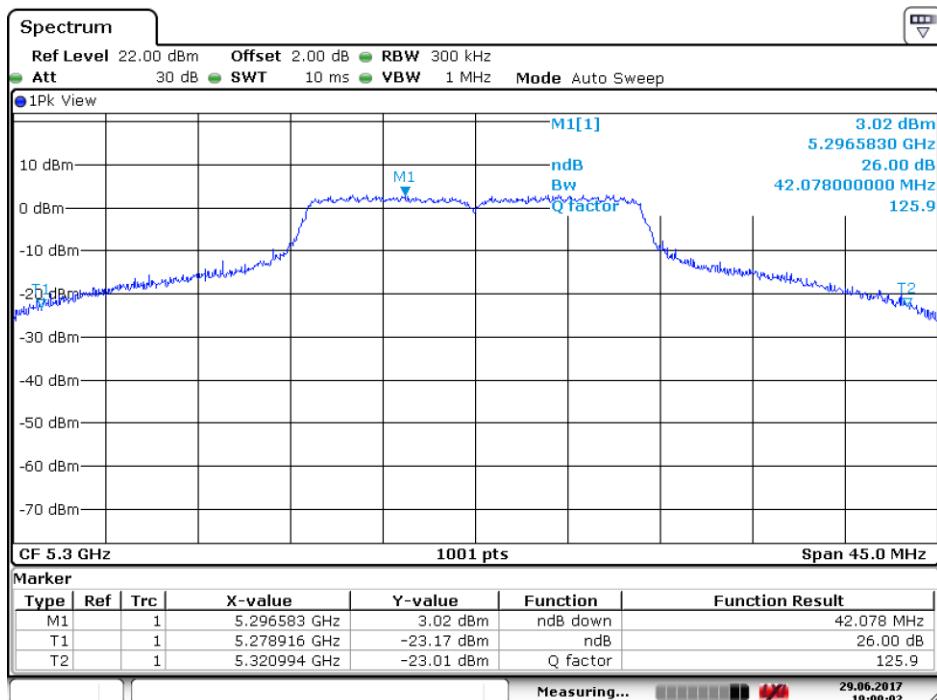


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM171001110306

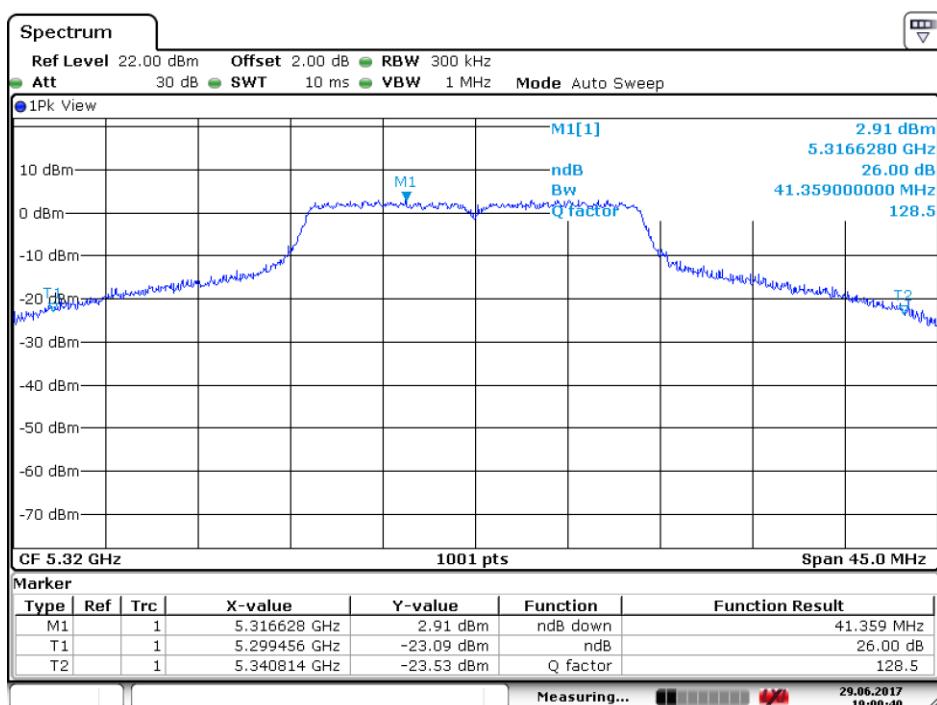
Page: 24 of 72

Test mode:	802.11a	Frequency(MHz):	5300
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Date: 29.JUN.2017 19:00:02

Test mode:	802.11a	Frequency(MHz):	5320
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Date: 29.JUN.2017 19:00:40

SGS-CSTC Standards Technical Services Co., Ltd.

Shenzhen Branch



Report No.: SZEM171001110306

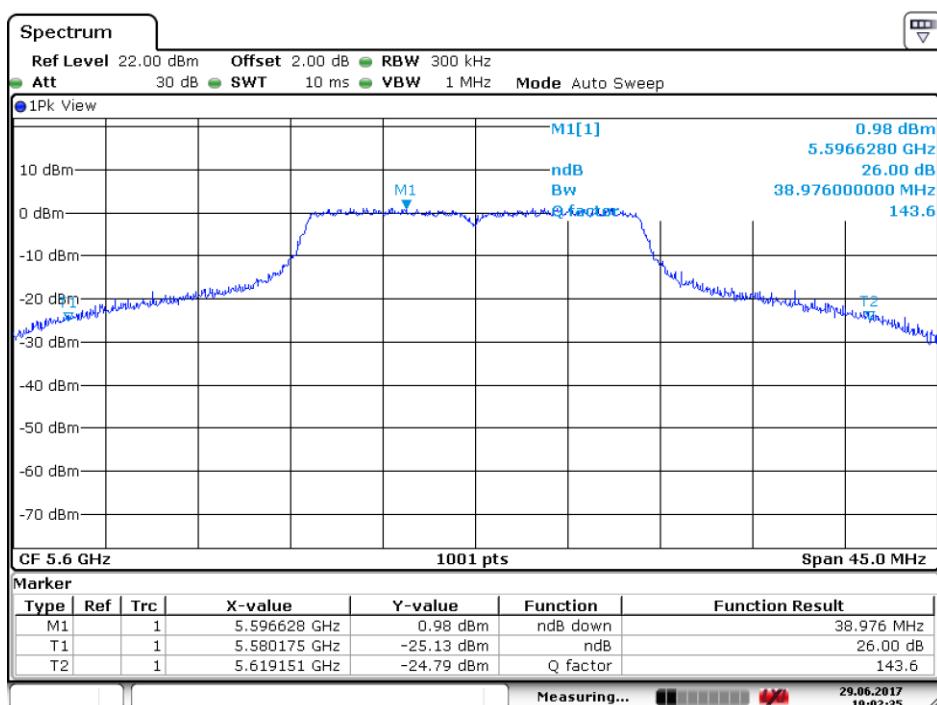
Page: 25 of 72

Test mode:	802.11a	Frequency(MHz):	5500
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Date: 29.JUN.2017 19:01:52

Test mode:	802.11a	Frequency(MHz):	5600
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Date: 29.JUN.2017 19:02:36

SGS-CSTC Standards Technical Services Co., Ltd.

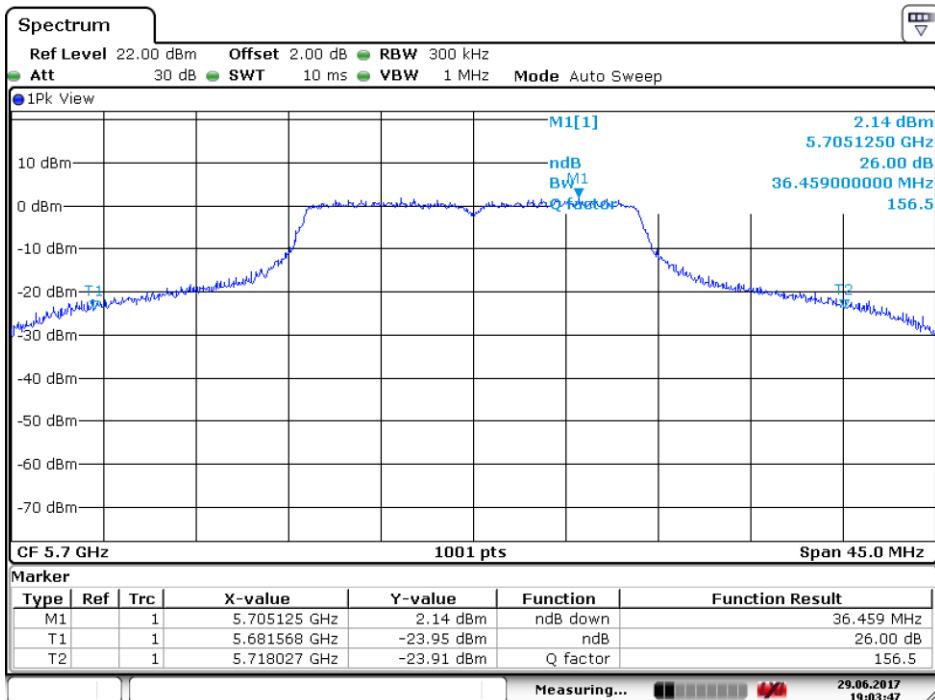
Shenzhen Branch



Report No.: SZEM171001110306

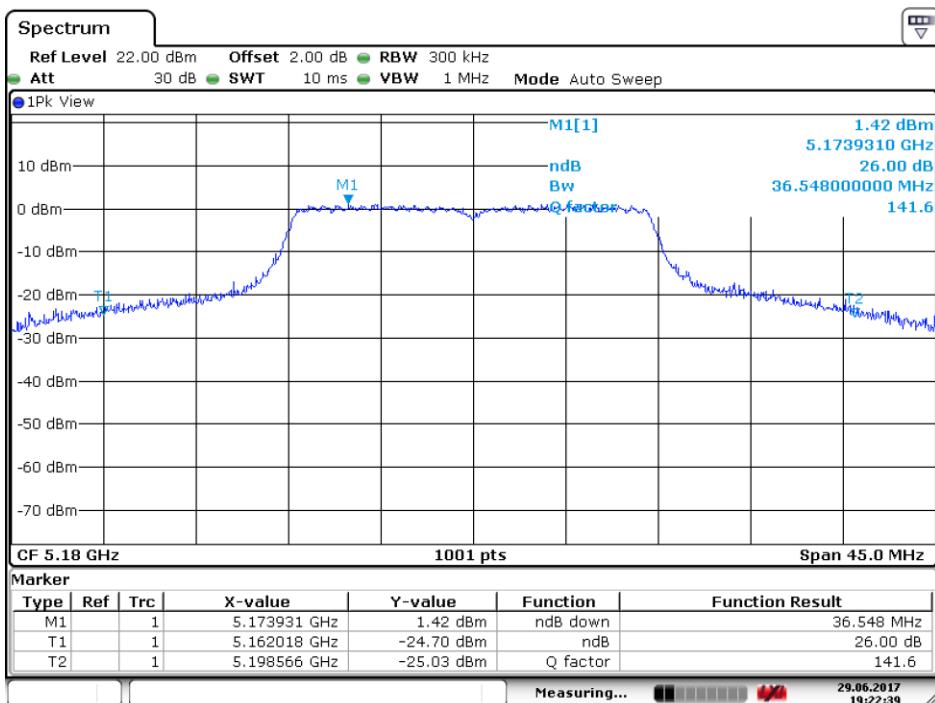
Page: 26 of 72

Test mode:	802.11a	Frequency(MHz):	5700
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Date: 29.JUN.2017 19:03:47

Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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Date: 29.JUN.2017 19:22:39

SGS-CSTC Standards Technical Services Co., Ltd.

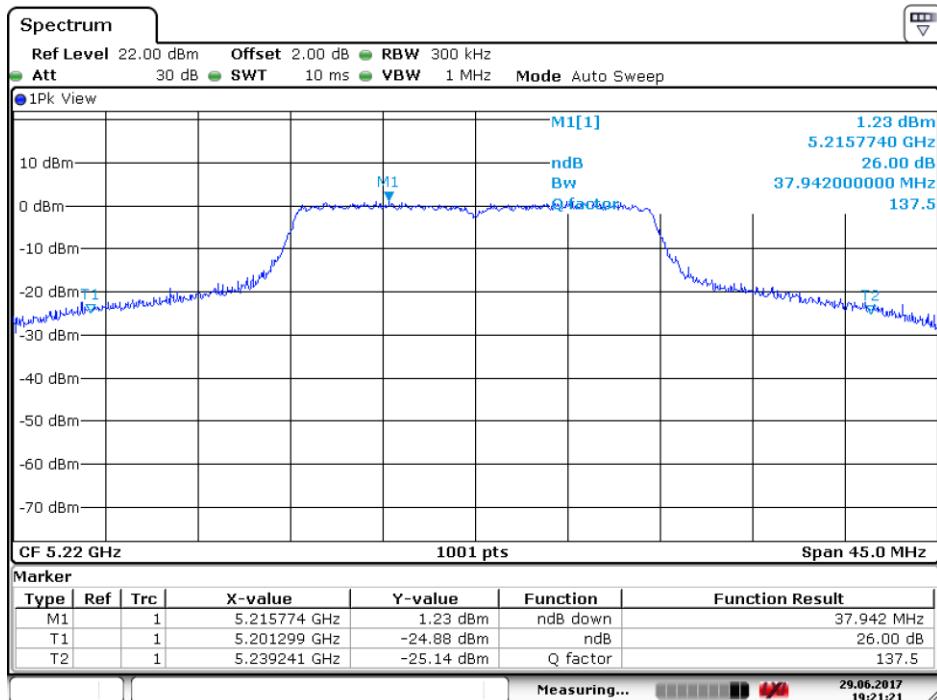
Shenzhen Branch



Report No.: SZEM171001110306

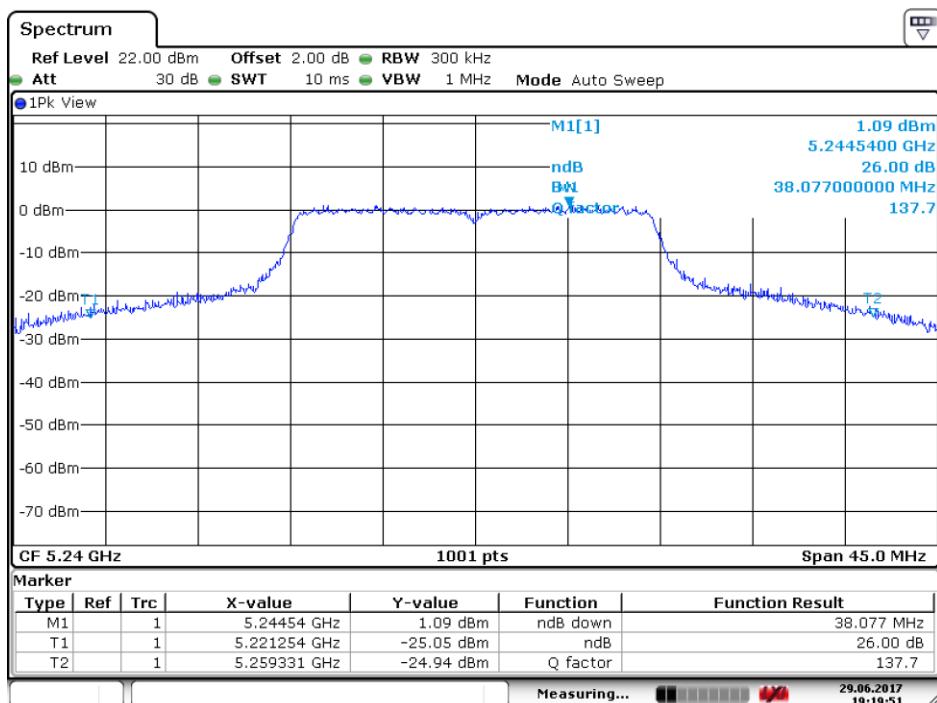
Page: 27 of 72

Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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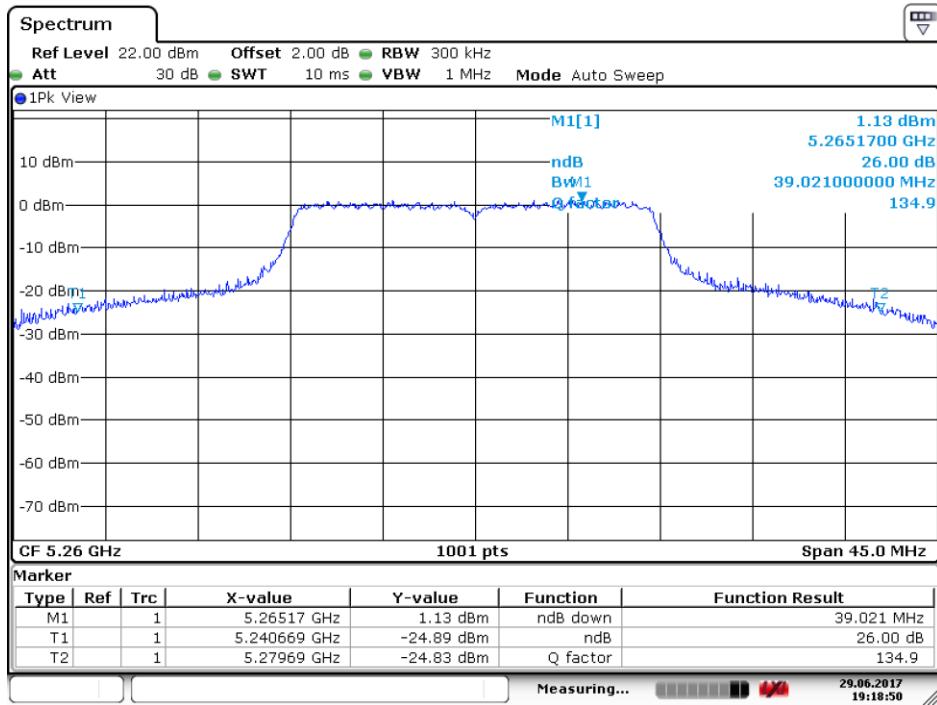
Date: 29.JUN.2017 19:21:22

Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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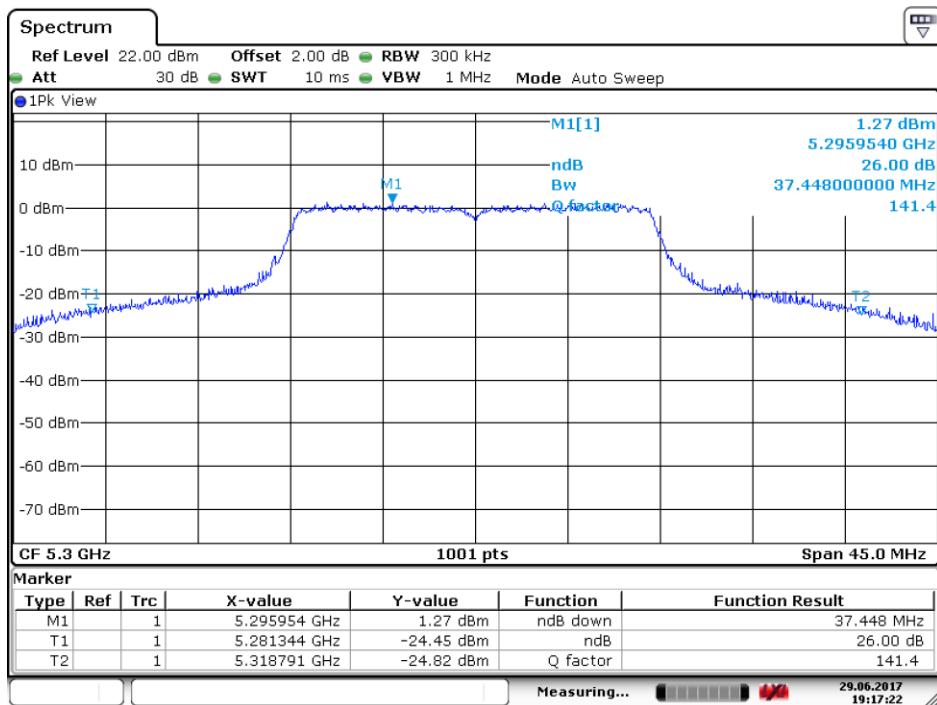
Date: 29.JUN.2017 19:19:51

Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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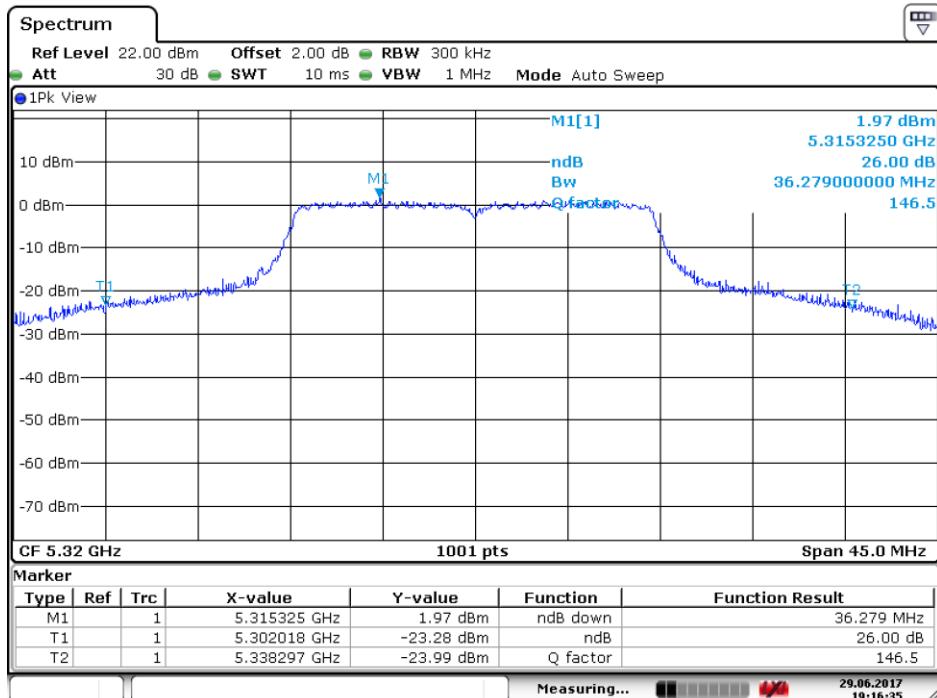
Date: 29.JUN.2017 19:18:50

Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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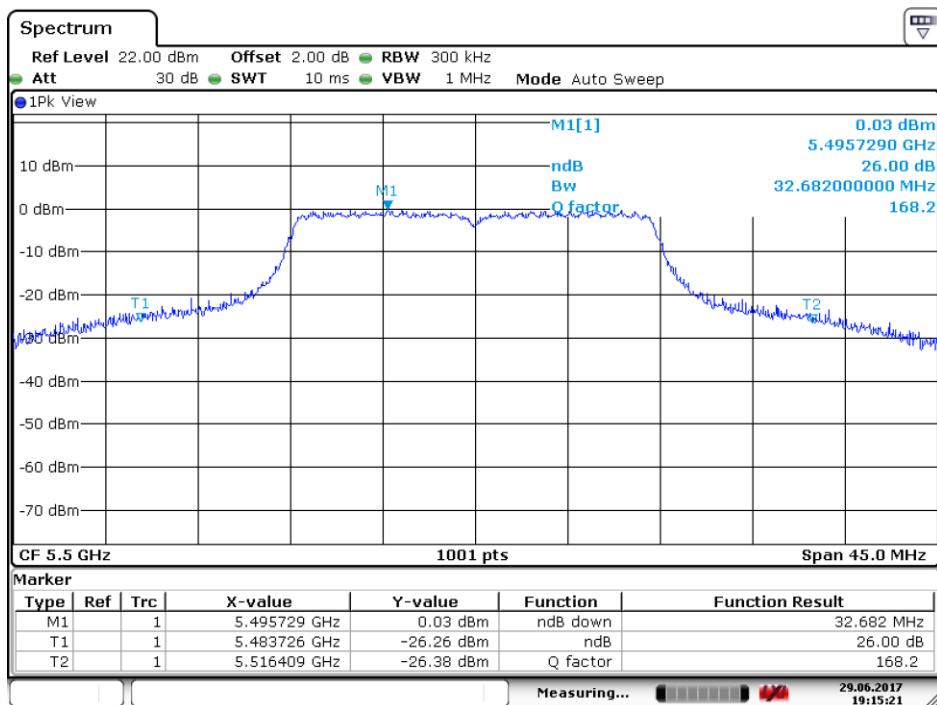
Date: 29.JUN.2017 19:17:23

Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Date: 29.JUN.2017 19:16:36

Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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Date: 29.JUN.2017 19:15:21

SGS-CSTC Standards Technical Services Co., Ltd.

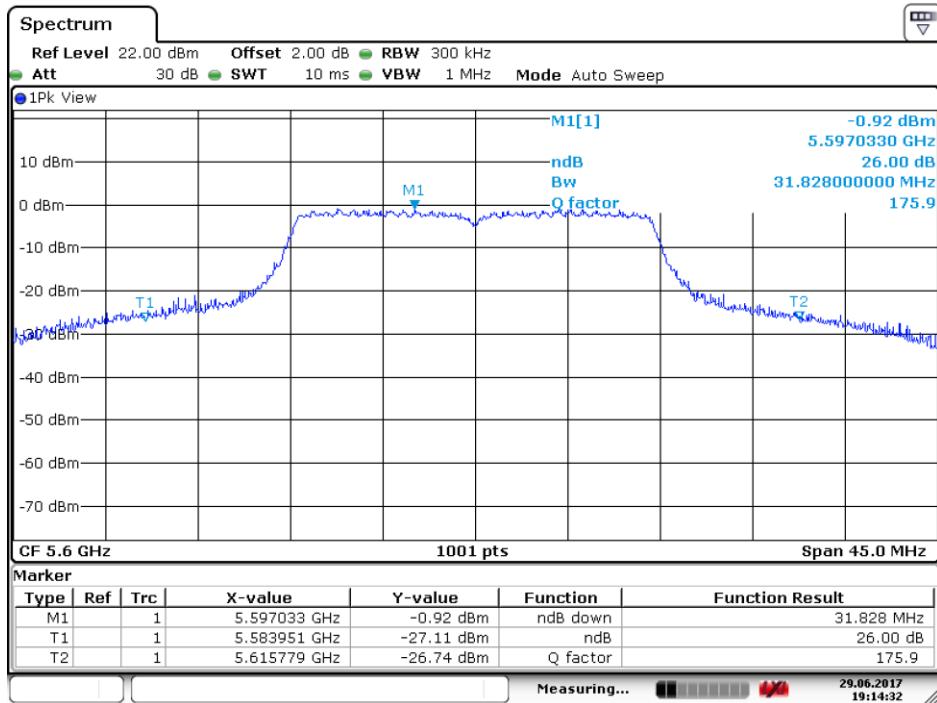
Shenzhen Branch



Report No.: SZEM171001110306

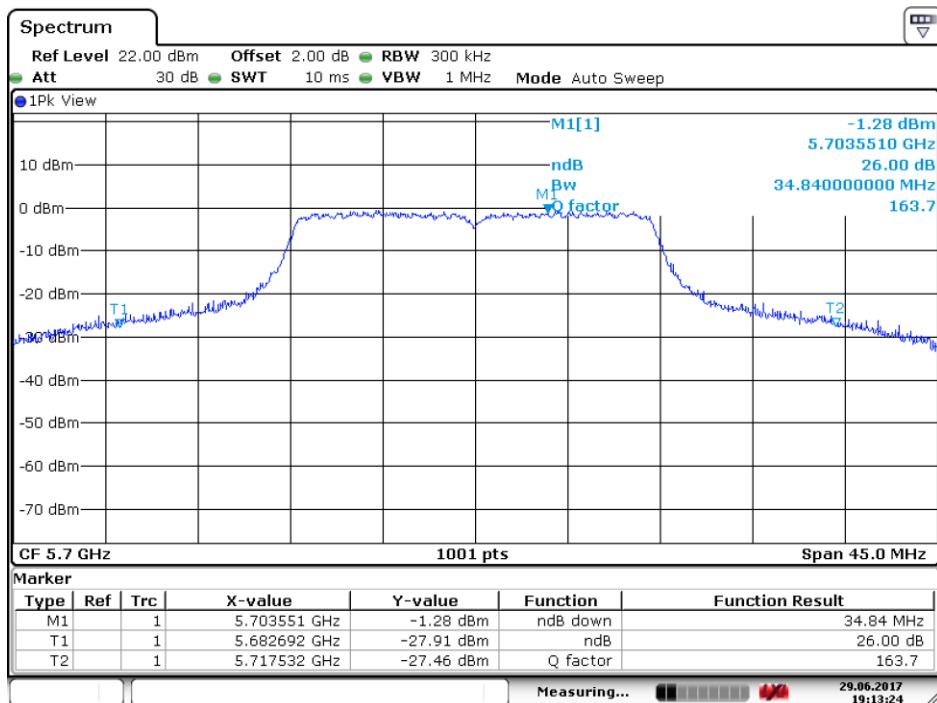
Page: 30 of 72

Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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Date: 29.JUN.2017 19:14:33

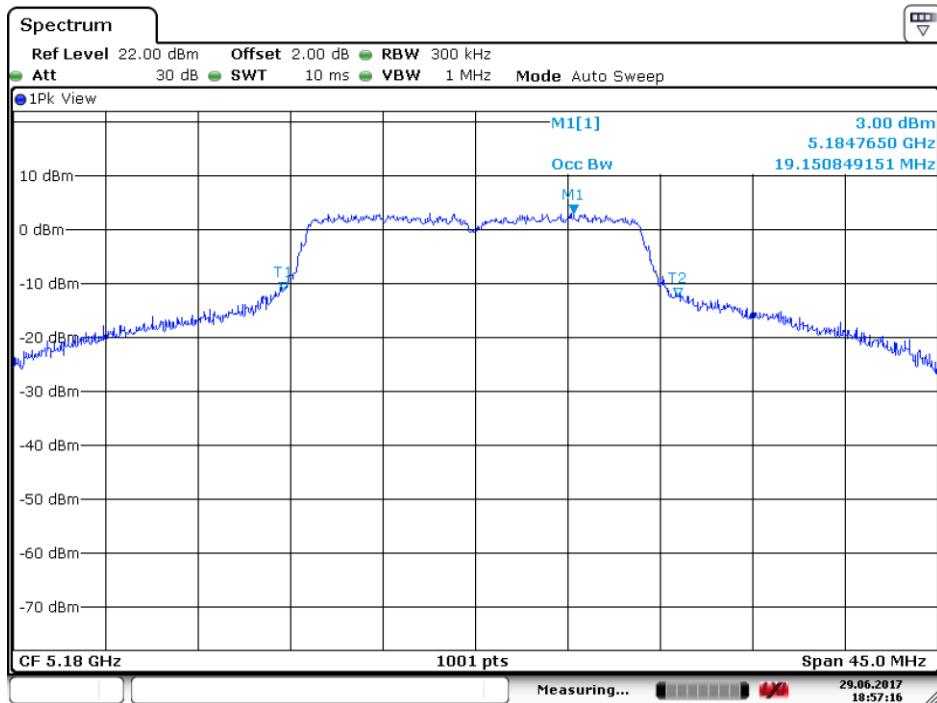
Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Date: 29.JUN.2017 19:13:24

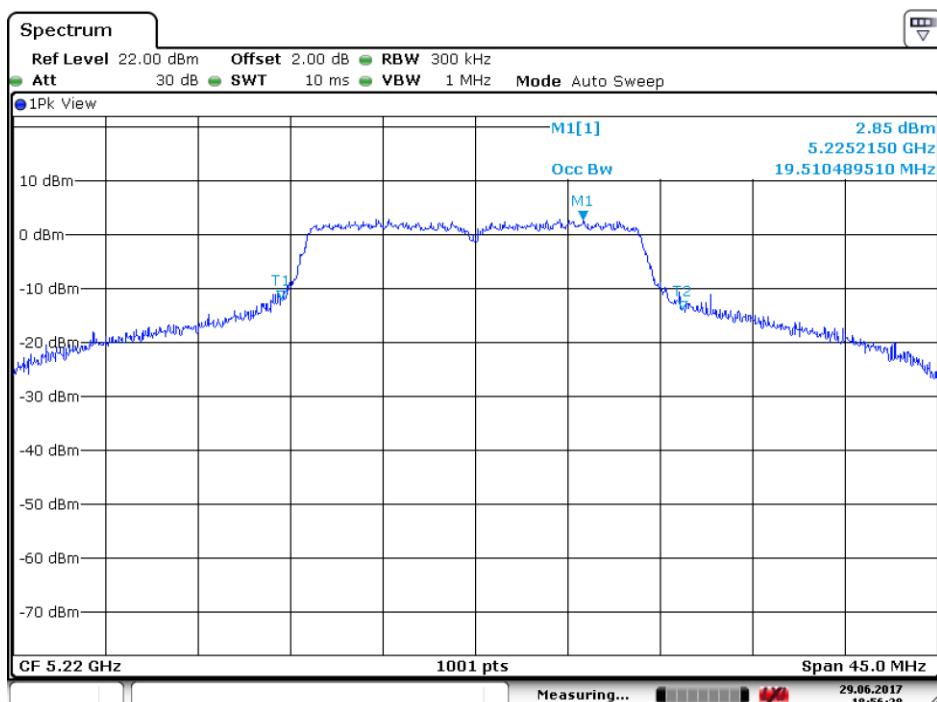
99% occupied bandwidth
Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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Date: 29.JUN.2017 18:57:17

Test mode:	802.11a	Frequency(MHz):	5220
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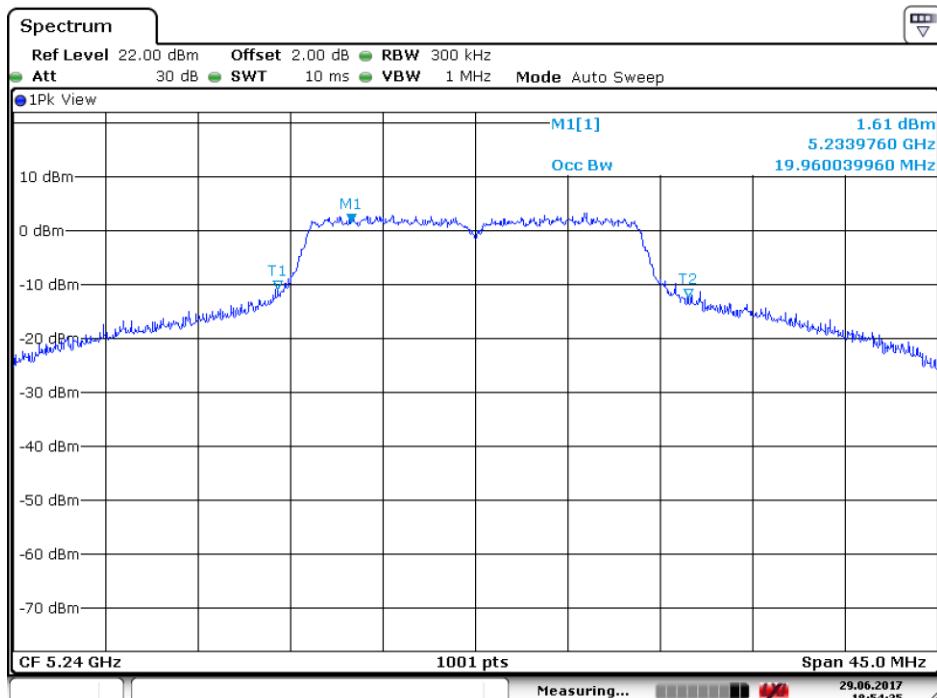
Date: 29.JUN.2017 18:56:28

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



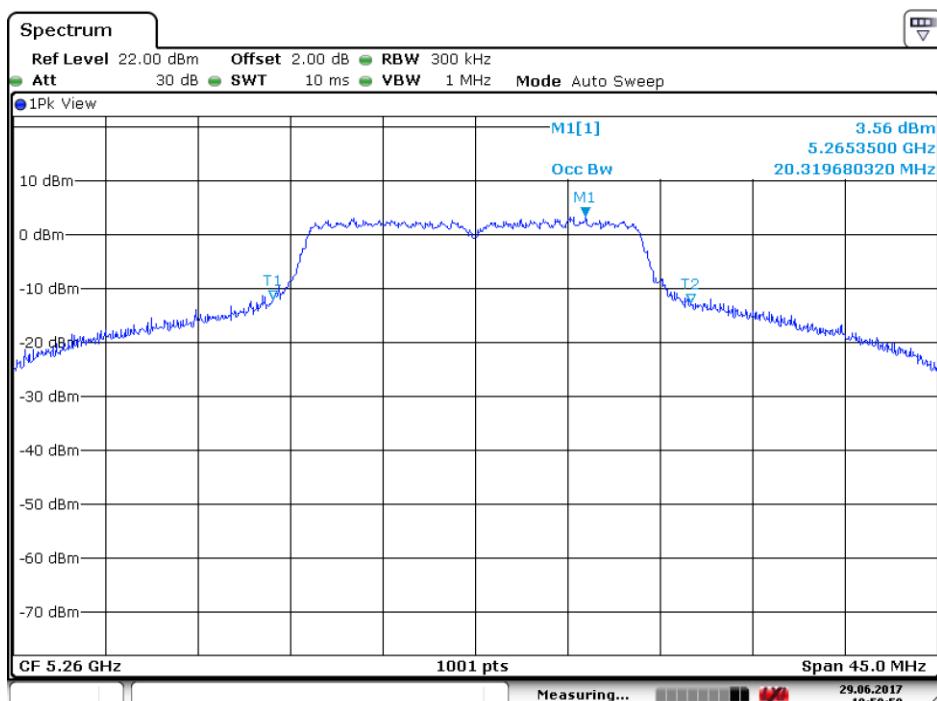
Report No.: SZEM171001110306
Page: 32 of 72

Test mode:	802.11a	Frequency(MHz):	5240
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Date: 29.JUN.2017 18:54:35

Test mode:	802.11a	Frequency(MHz):	5260
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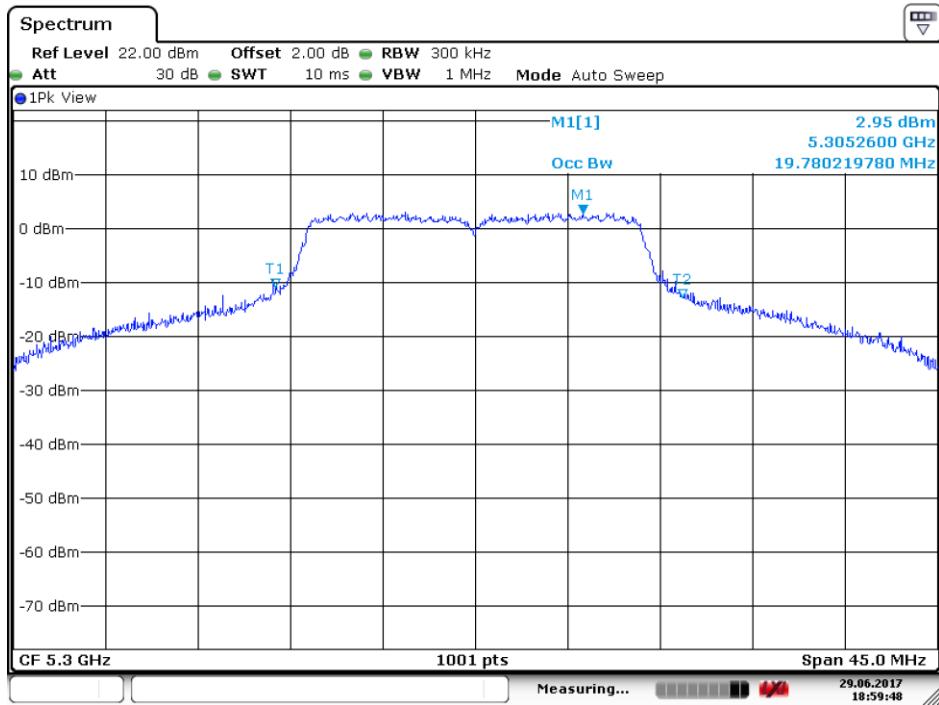
Date: 29.JUN.2017 18:58:58

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



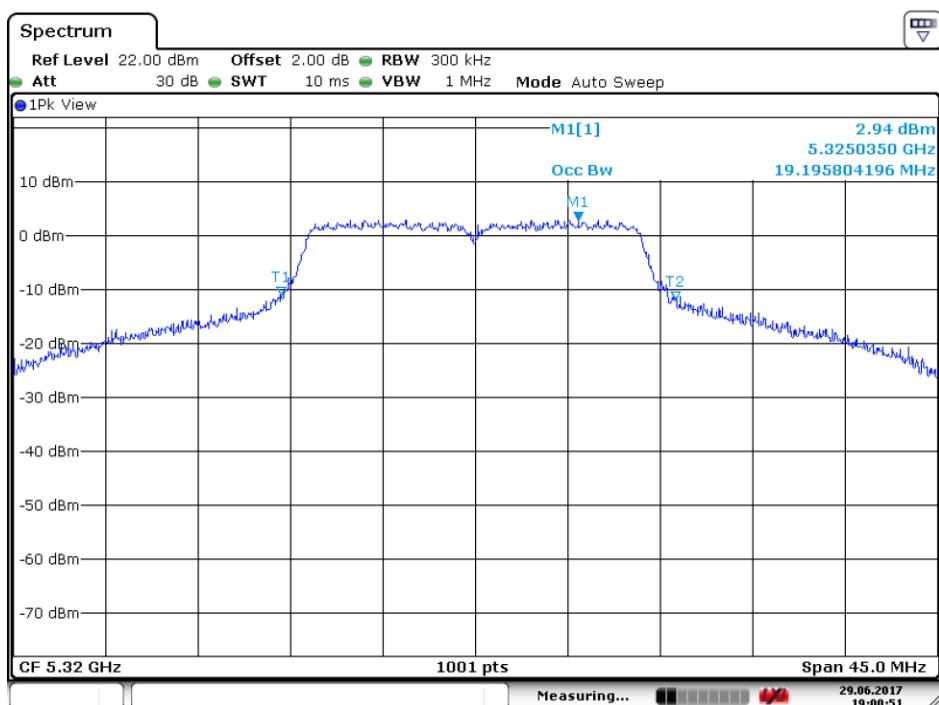
Report No.: SZEM171001110306
Page: 33 of 72

Test mode:	802.11a	Frequency(MHz):	5300
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Date: 29.JUN.2017 18:59:48

Test mode:	802.11a	Frequency(MHz):	5320
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Date: 29.JUN.2017 19:00:51

SGS-CSTC Standards Technical Services Co., Ltd.

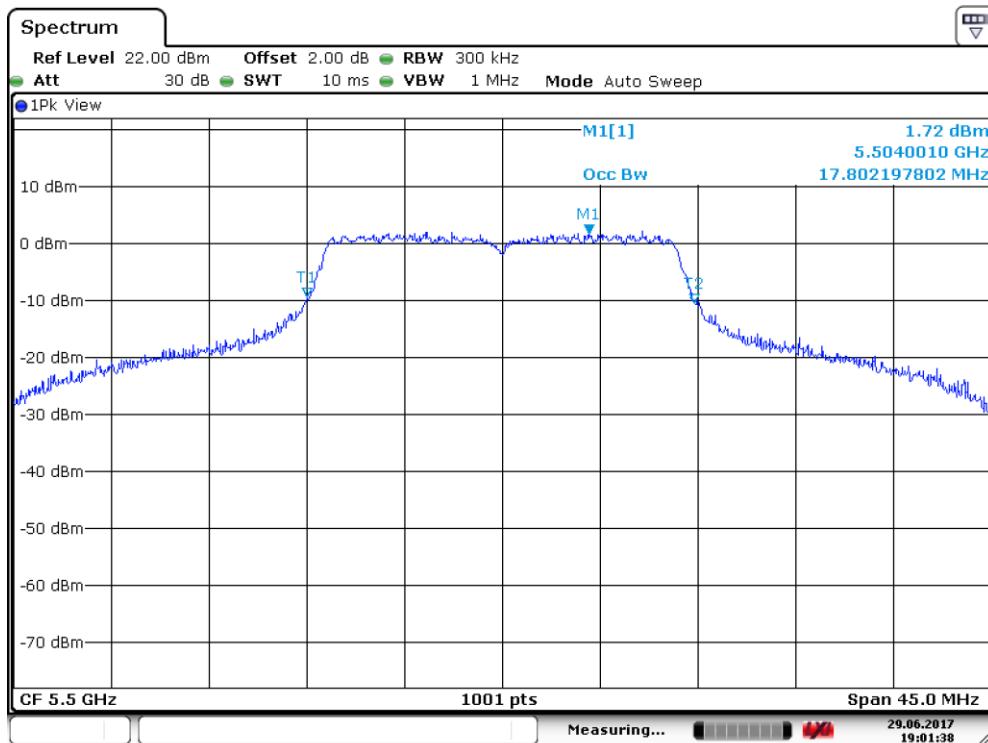
Shenzhen Branch



Report No.: SZEM171001110306

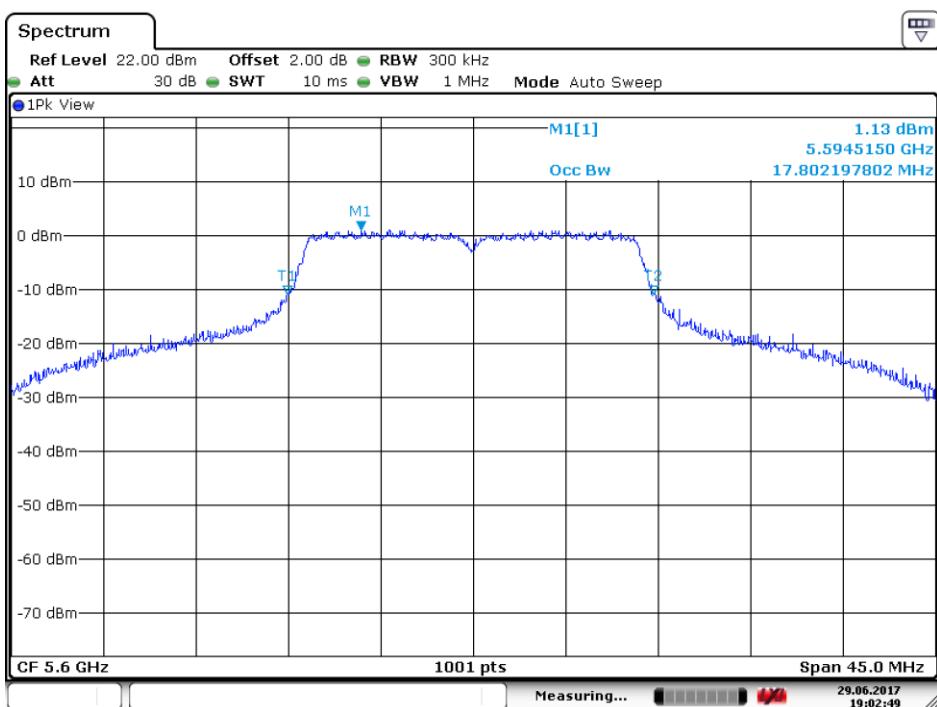
Page: 34 of 72

Test mode:	802.11a	Frequency(MHz):	5500
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Date: 29.JUN.2017 19:01:39

Test mode:	802.11a	Frequency(MHz):	5600
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Date: 29.JUN.2017 19:02:49

SGS-CSTC Standards Technical Services Co., Ltd.

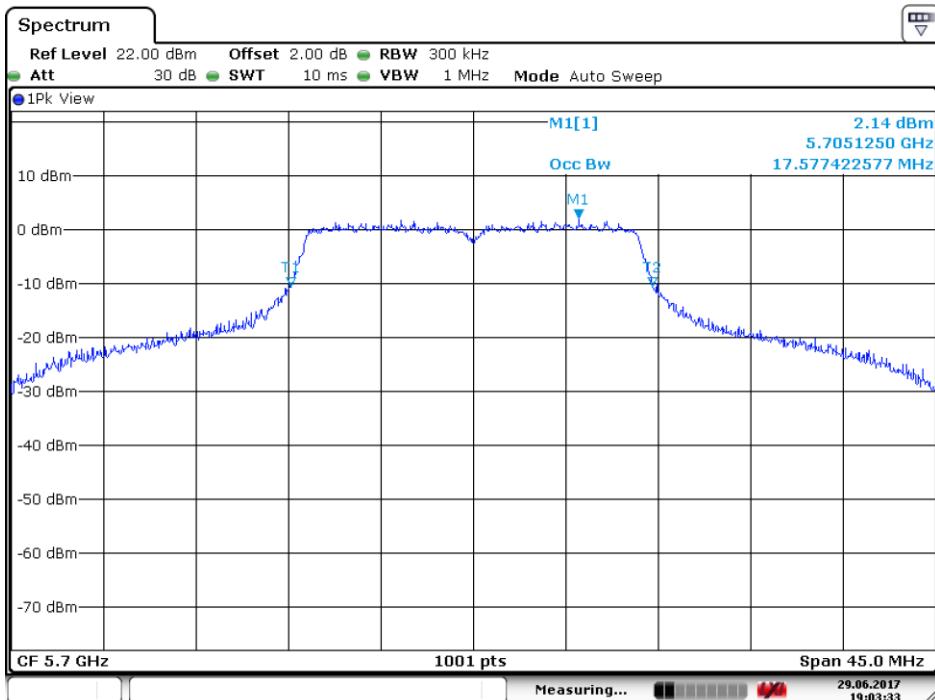
Shenzhen Branch



Report No.: SZEM171001110306

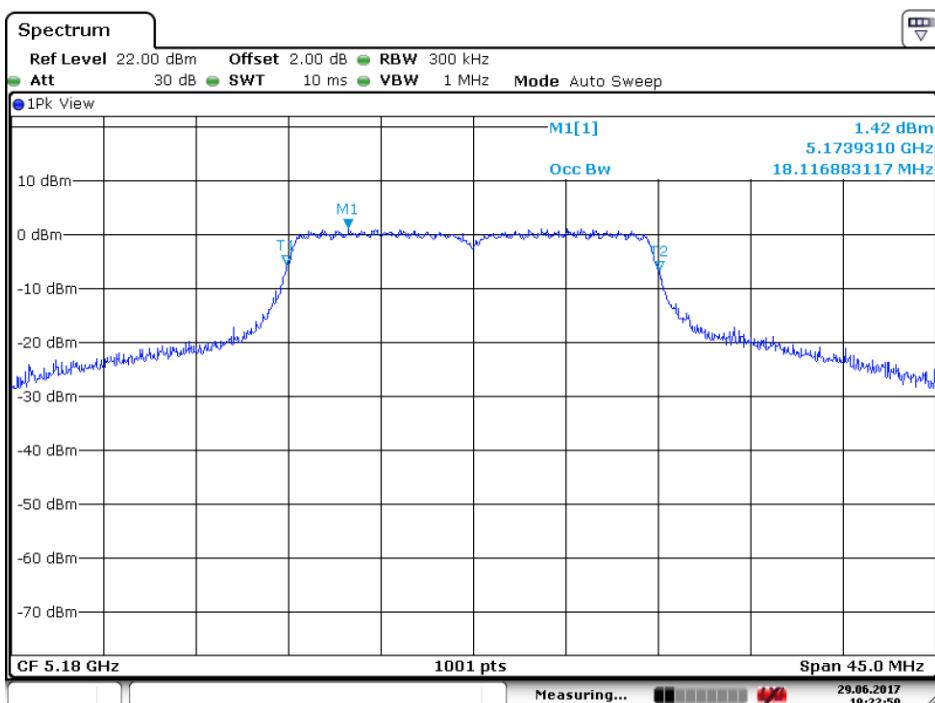
Page: 35 of 72

Test mode:	802.11a	Frequency(MHz):	5700
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Date: 29.JUN.2017 19:03:33

Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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Date: 29.JUN.2017 19:22:50

SGS-CSTC Standards Technical Services Co., Ltd.

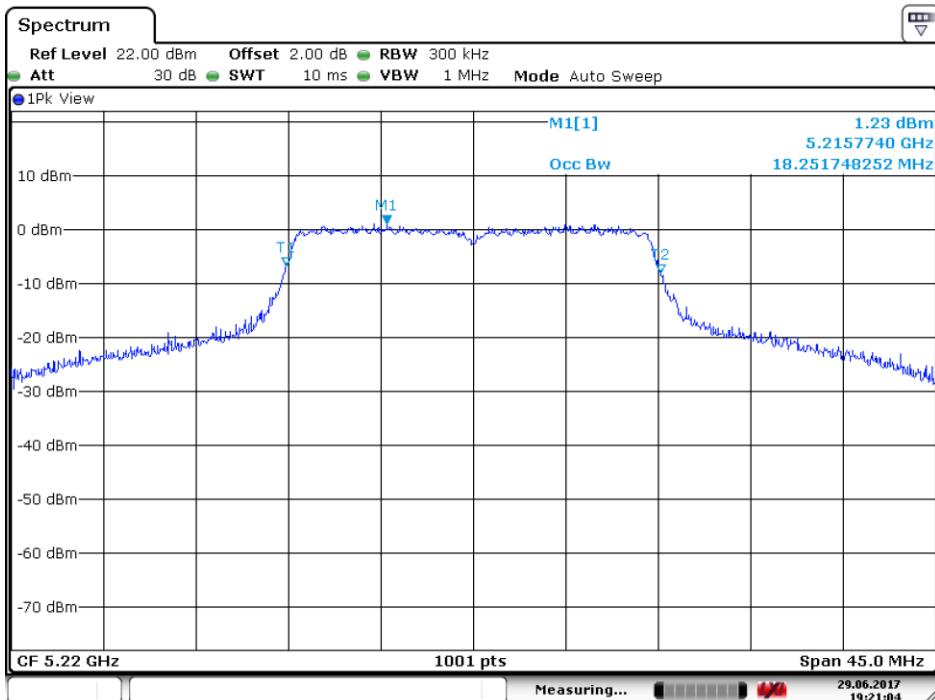
Shenzhen Branch



Report No.: SZEM171001110306

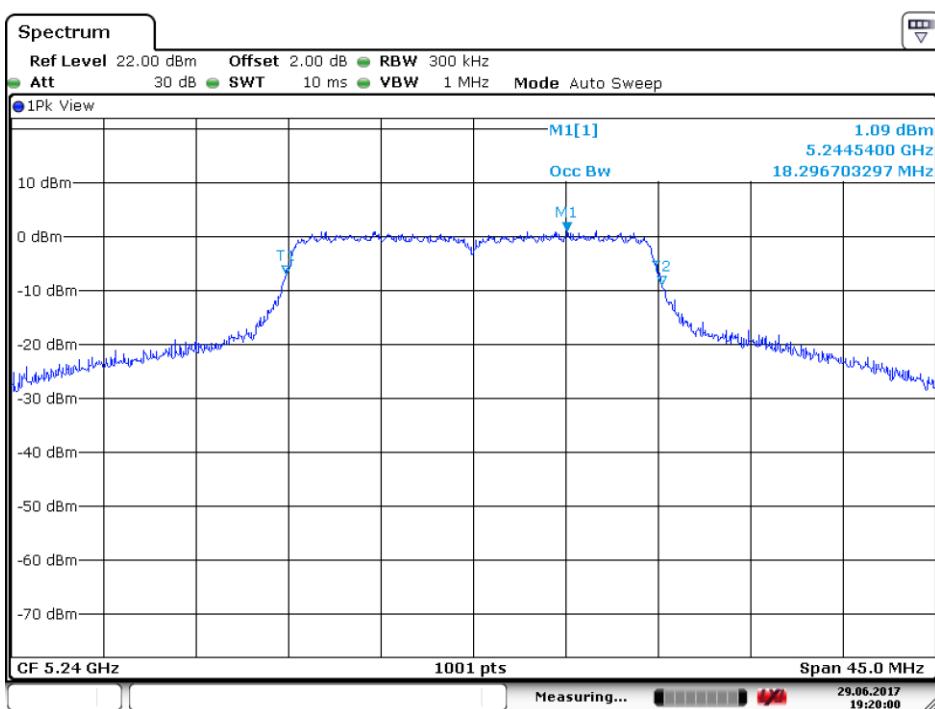
Page: 36 of 72

Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Date: 29.JUN.2017 19:21:04

Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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Date: 29.JUN.2017 19:20:01

SGS-CSTC Standards Technical Services Co., Ltd.

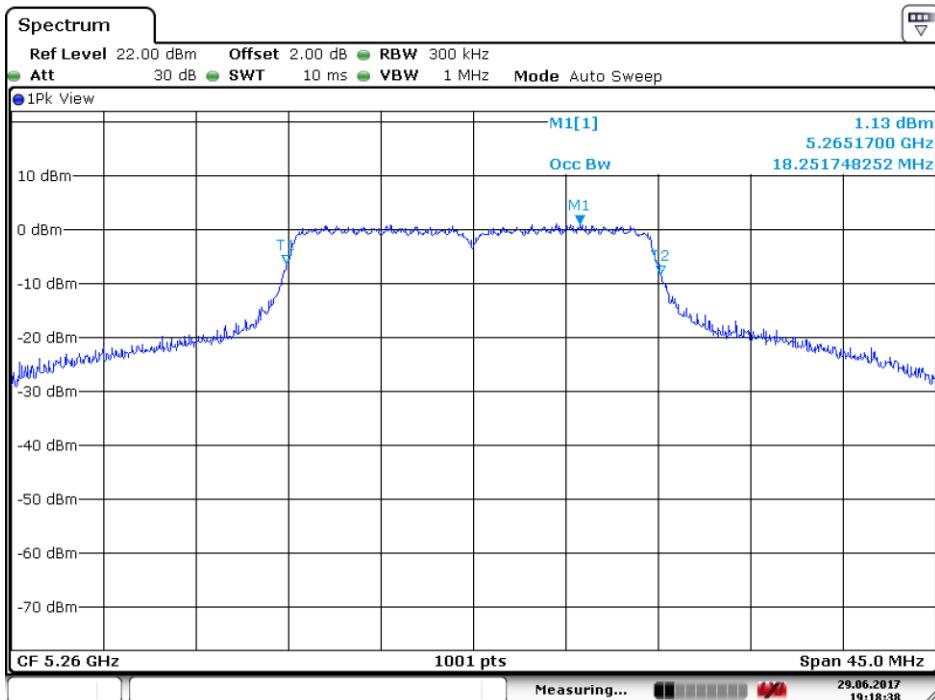
Shenzhen Branch



Report No.: SZEM171001110306

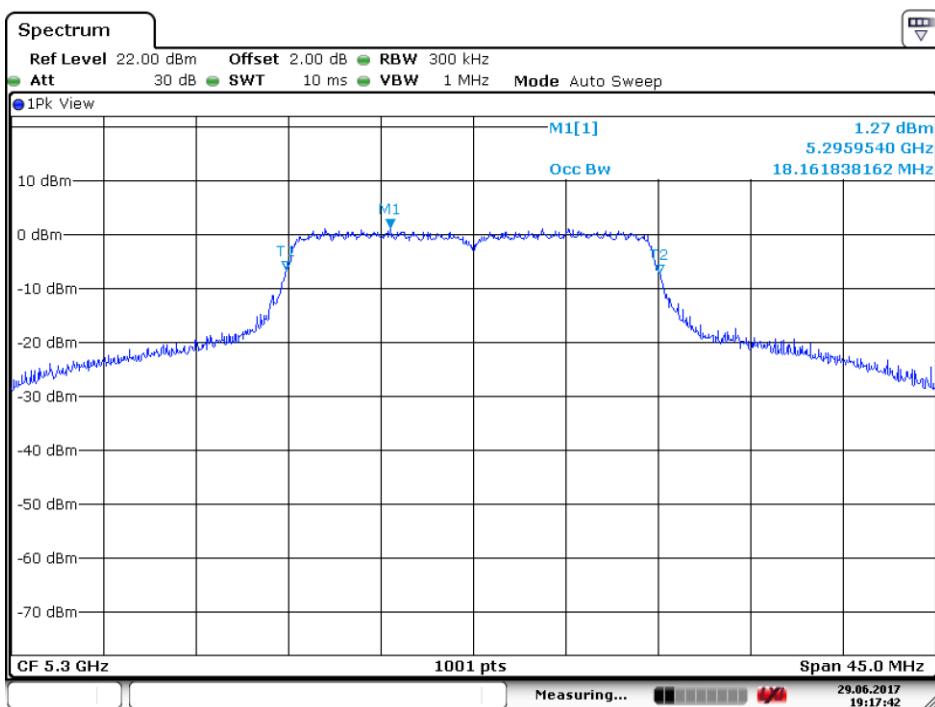
Page: 37 of 72

Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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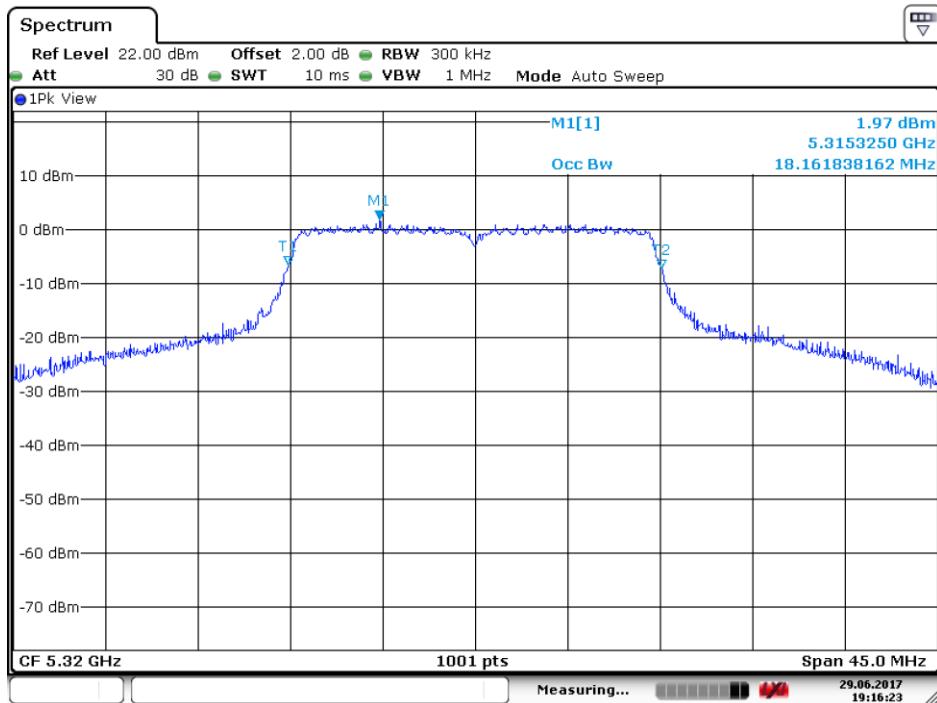
Date: 29.JUN.2017 19:18:38

Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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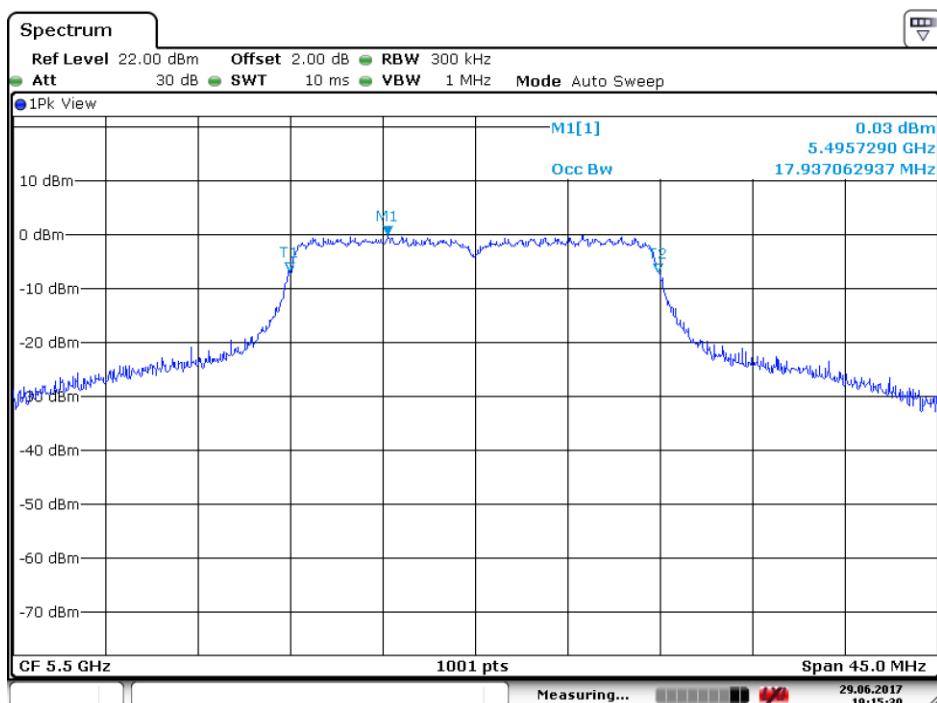
Date: 29.JUN.2017 19:17:42

Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Date: 29.JUN.2017 19:16:23

Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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Date: 29.JUN.2017 19:15:31

SGS-CSTC Standards Technical Services Co., Ltd.

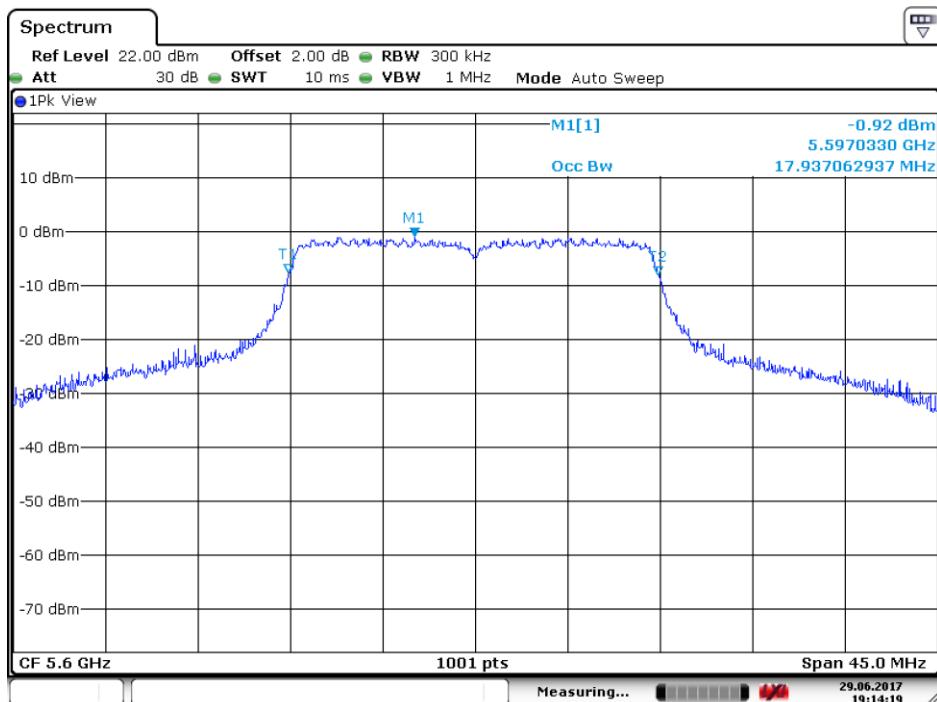
Shenzhen Branch



Report No.: SZEM171001110306

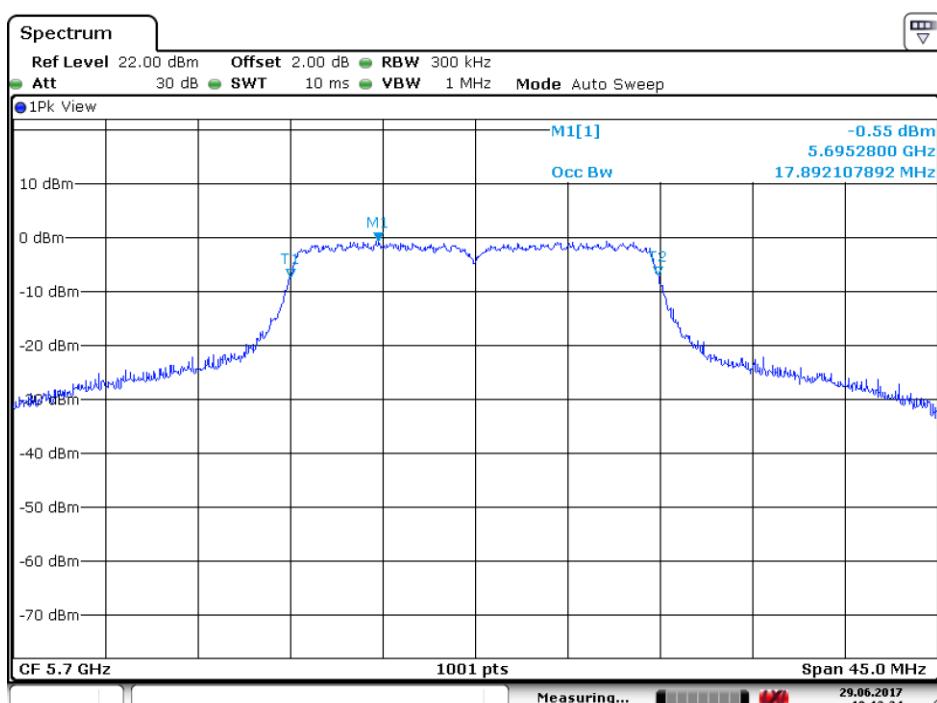
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Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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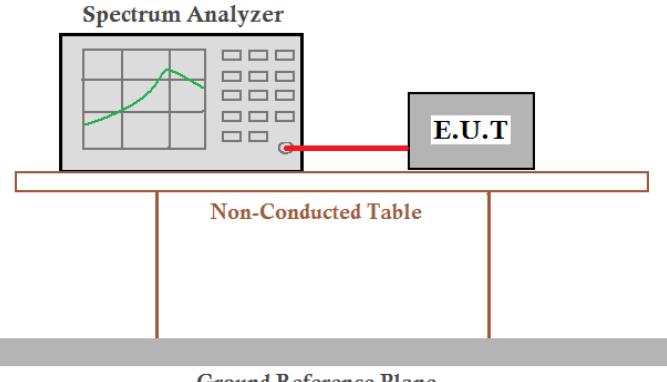
Date: 29.JUN.2017 19:14:19

Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Date: 29.JUN.2017 19:13:35

6.5 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
	<p><i>Remark:</i> <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>	
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 11dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
Test Results:	Pass	

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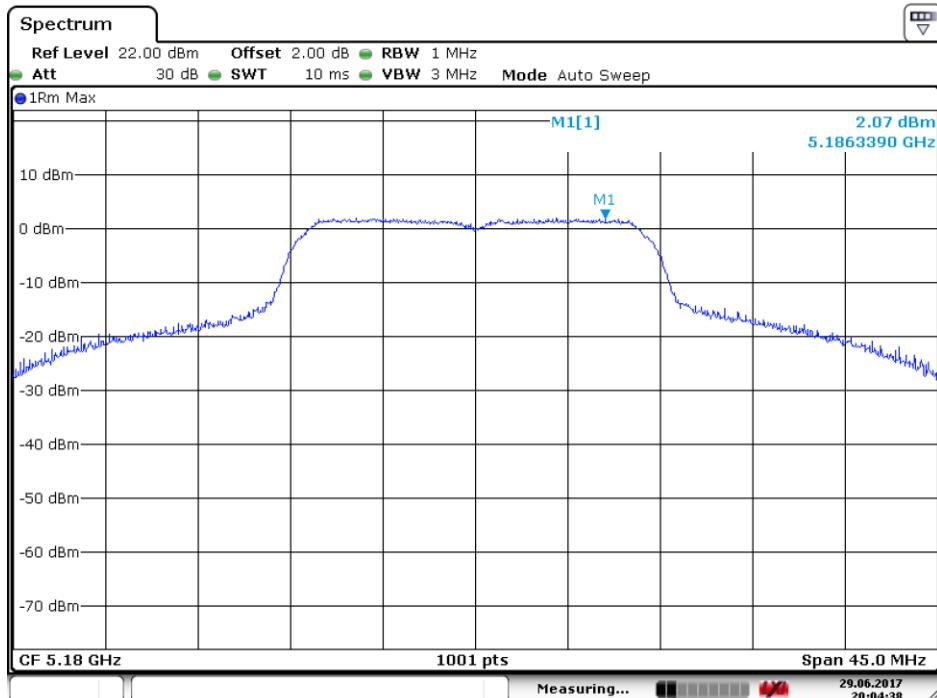
Measurement Data:

802.11a mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	2.07	≤11dBm/1MHz	Pass
5220	1.54	≤11dBm/1MHz	Pass
5240	1.72	≤11dBm/1MHz	Pass
5260	1.64	≤11dBm/1MHz	Pass
5300	1.80	≤11dBm/1MHz	Pass
5320	1.72	≤11dBm/1MHz	Pass
5500	0.84	≤11dBm/1MHz	Pass
5600	-0.07	≤11dBm/1MHz	Pass
5700	1.28	≤11dBm/1MHz	Pass

802.11n(HT20) mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	-0.21	≤11dBm/1MHz	Pass
5220	-0.26	≤11dBm/1MHz	Pass
5240	-0.39	≤11dBm/1MHz	Pass
5260	-0.06	≤11dBm/1MHz	Pass
5300	-0.13	≤11dBm/1MHz	Pass
5320	-0.40	≤11dBm/1MHz	Pass
5500	-1.41	≤11dBm/1MHz	Pass
5600	-2.10	≤11dBm/1MHz	Pass
5700	-1.88	≤11dBm/1MHz	Pass

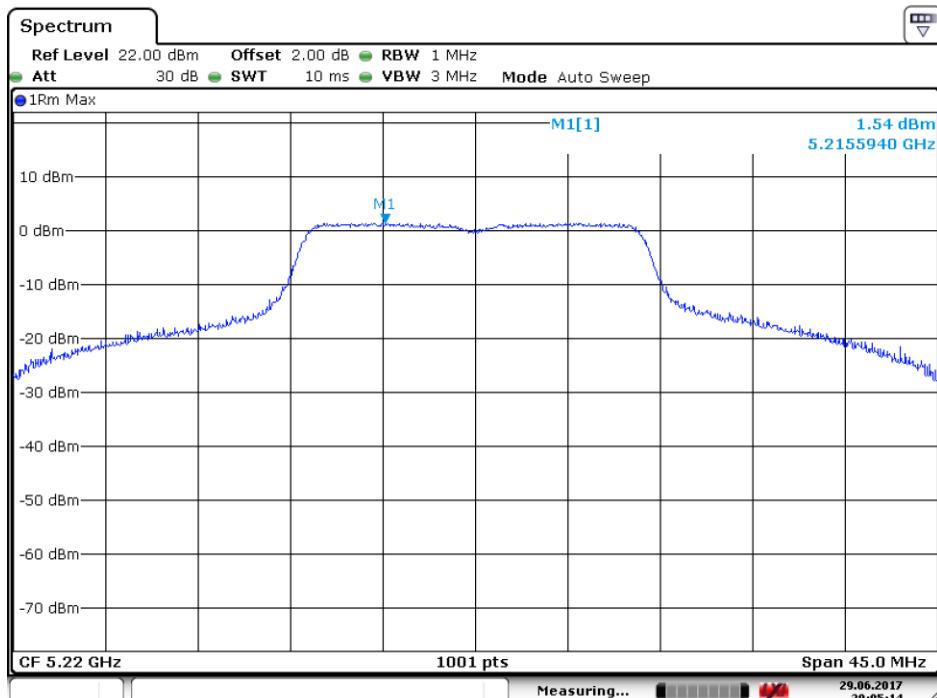
Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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Date: 29.JUN.2017 20:04:38

Test mode:	802.11a	Frequency(MHz):	5220
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Date: 29.JUN.2017 20:05:15

SGS-CSTC Standards Technical Services Co., Ltd.

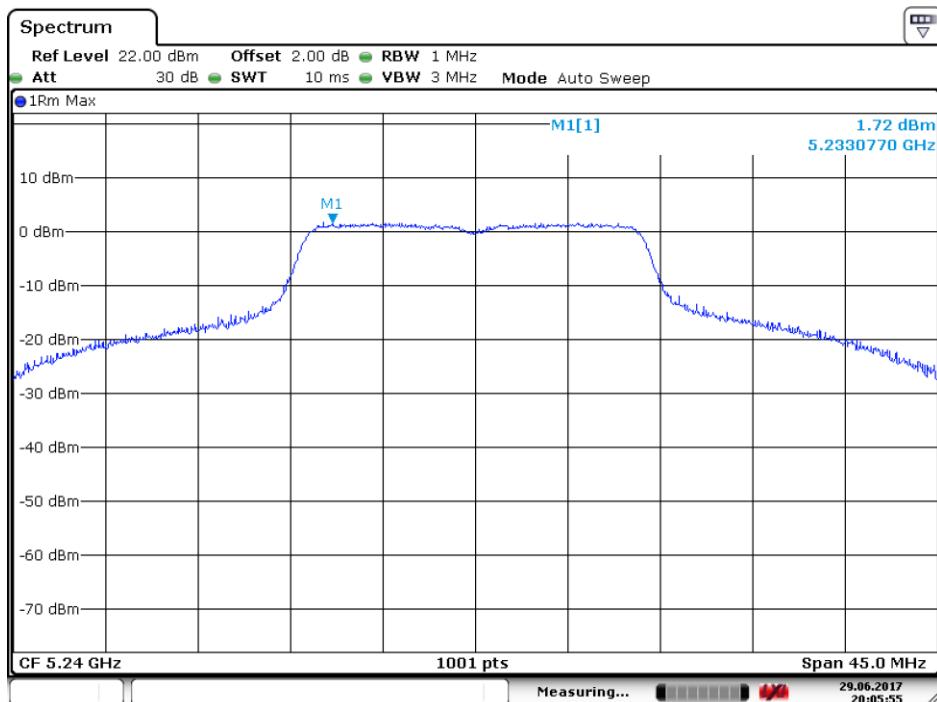
Shenzhen Branch



Report No.: SZEM171001110306

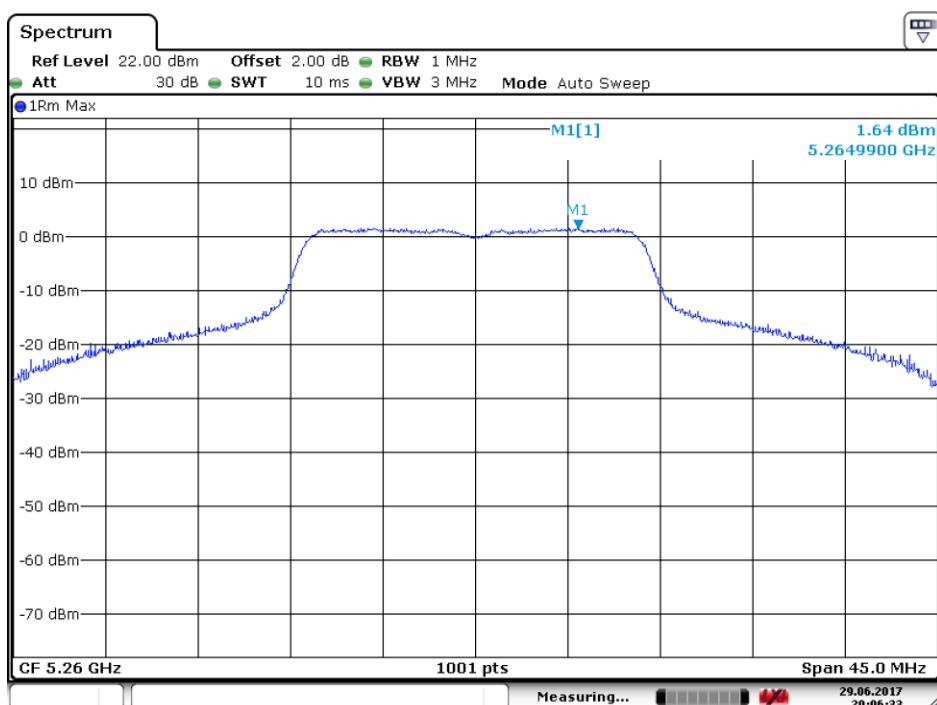
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Test mode:	802.11a	Frequency(MHz):	5240
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Date: 29.JUN.2017 20:05:55

Test mode:	802.11a	Frequency(MHz):	5260
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Date: 29.JUN.2017 20:06:33

SGS-CSTC Standards Technical Services Co., Ltd.

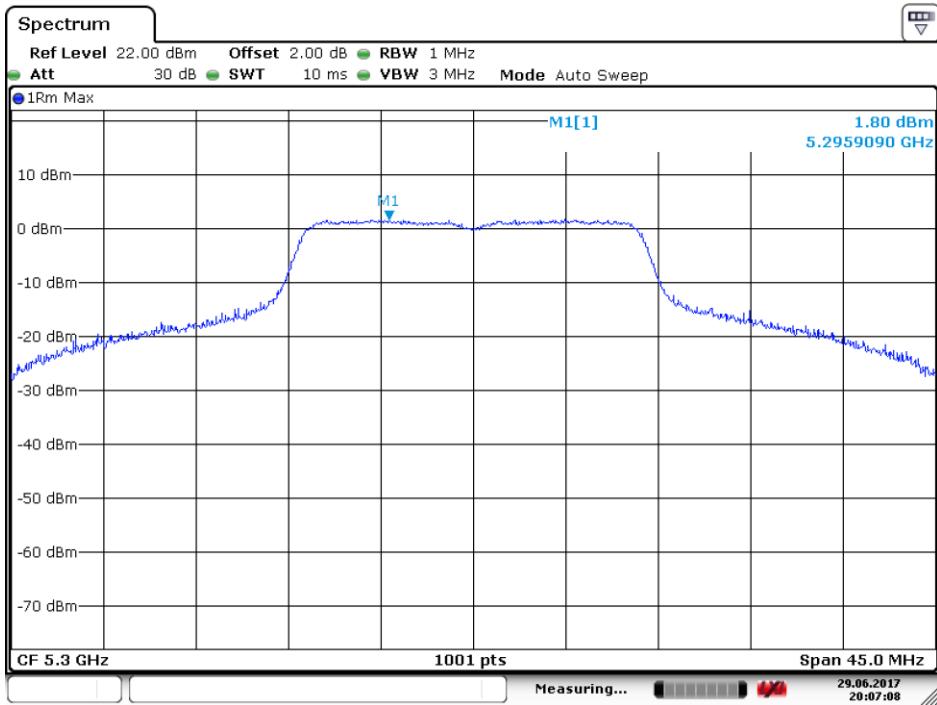
Shenzhen Branch



Report No.: SZEM171001110306

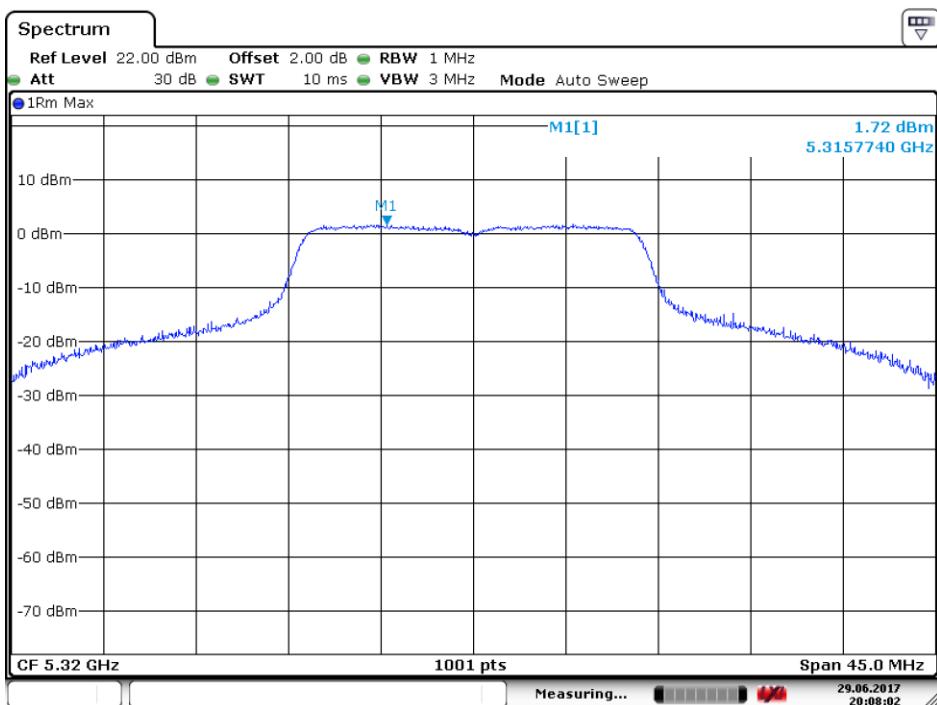
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Test mode:	802.11a	Frequency(MHz):	5300
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Date: 29.JUN.2017 20:07:08

Test mode:	802.11a	Frequency(MHz):	5320
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Date: 29.JUN.2017 20:08:02

SGS-CSTC Standards Technical Services Co., Ltd.

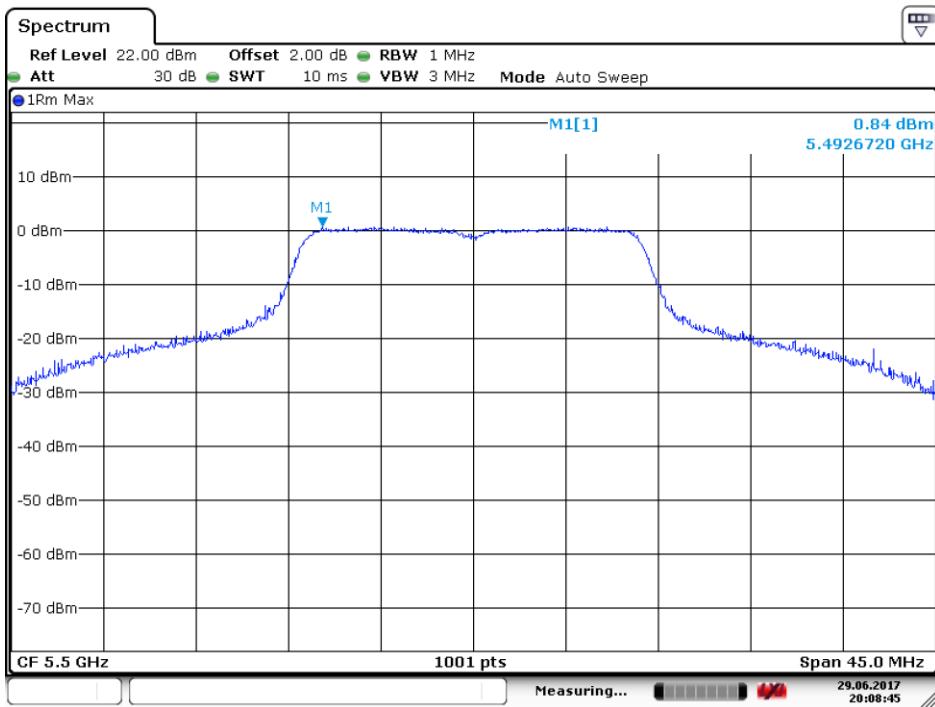
Shenzhen Branch



Report No.: SZEM171001110306

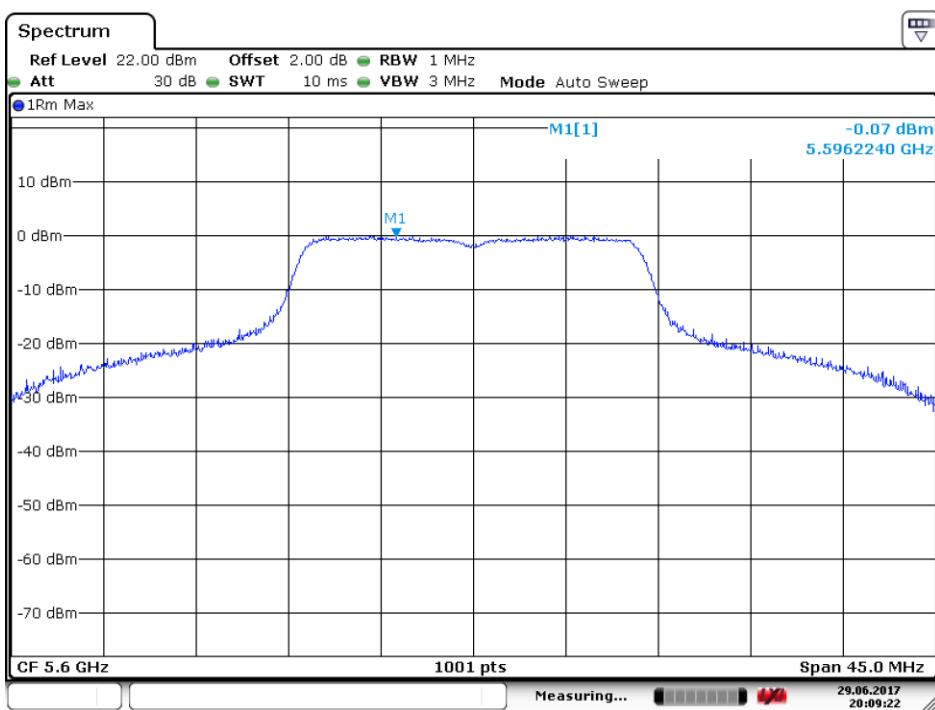
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Test mode:	802.11a	Frequency(MHz):	5500
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Date: 29.JUN.2017 20:08:45

Test mode:	802.11a	Frequency(MHz):	5600
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Date: 29.JUN.2017 20:09:22

SGS-CSTC Standards Technical Services Co., Ltd.

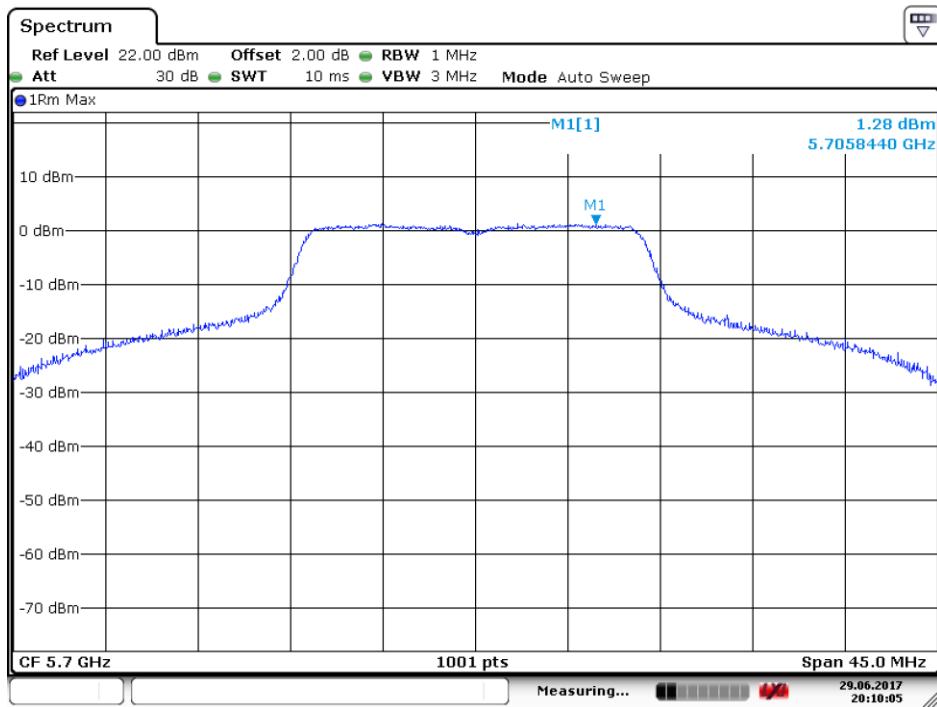
Shenzhen Branch



Report No.: SZEM171001110306

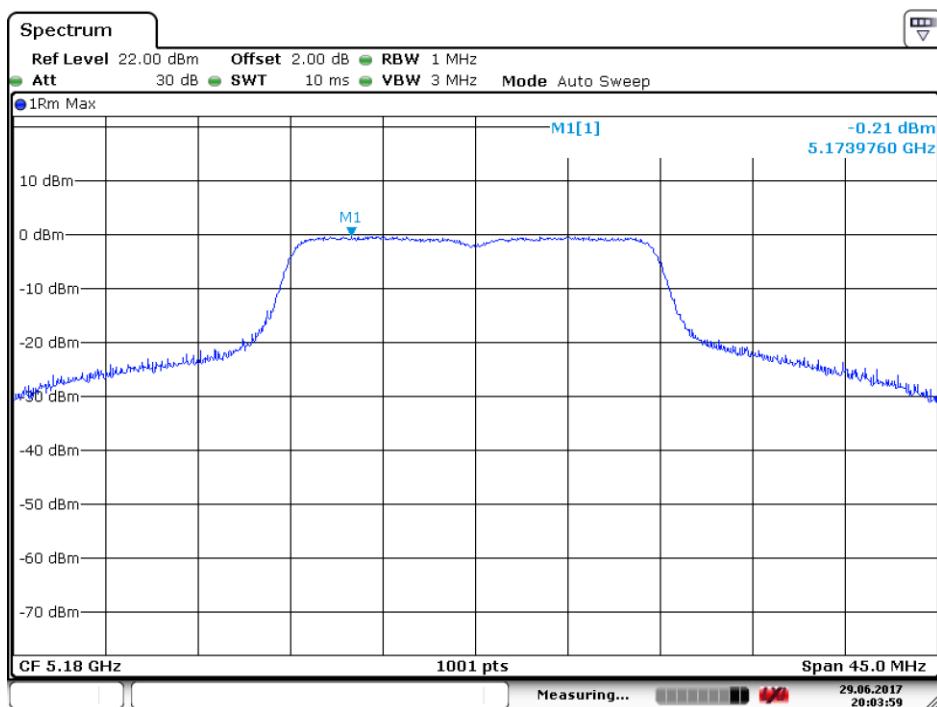
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Test mode:	802.11a	Frequency(MHz):	5700
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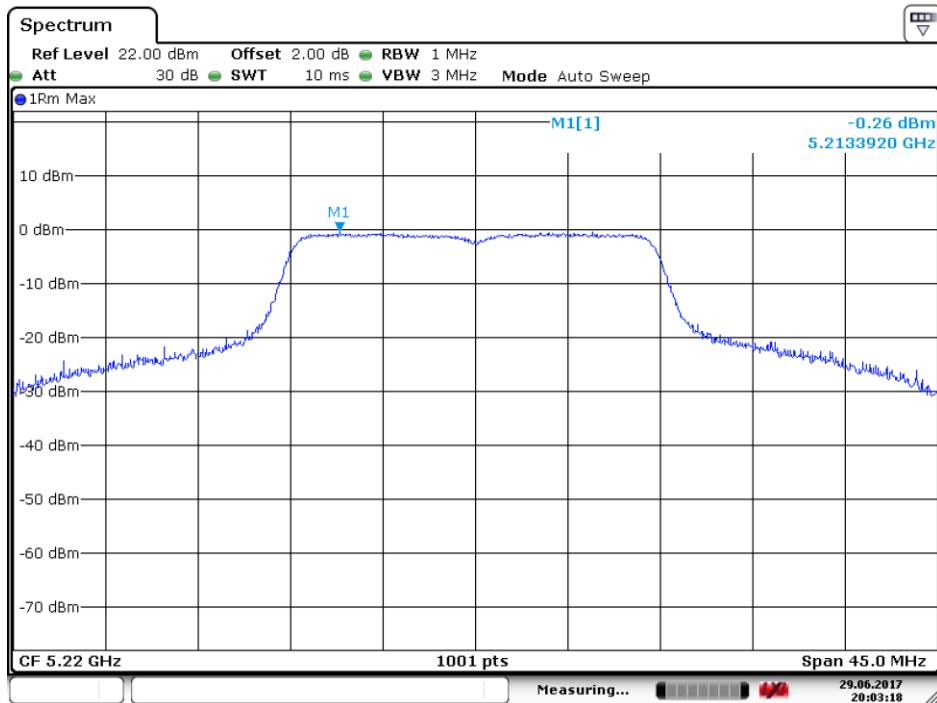
Date: 29.JUN.2017 20:10:06

Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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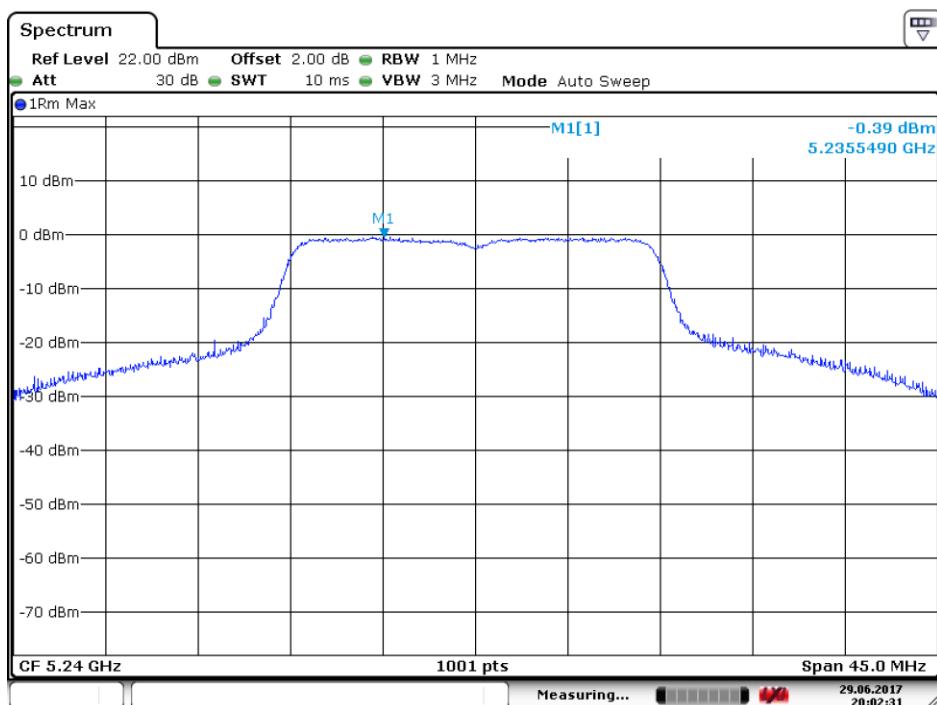
Date: 29.JUN.2017 20:04:00

Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Date: 29.JUN.2017 20:03:17

Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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Date: 29.JUN.2017 20:02:32

SGS-CSTC Standards Technical Services Co., Ltd.

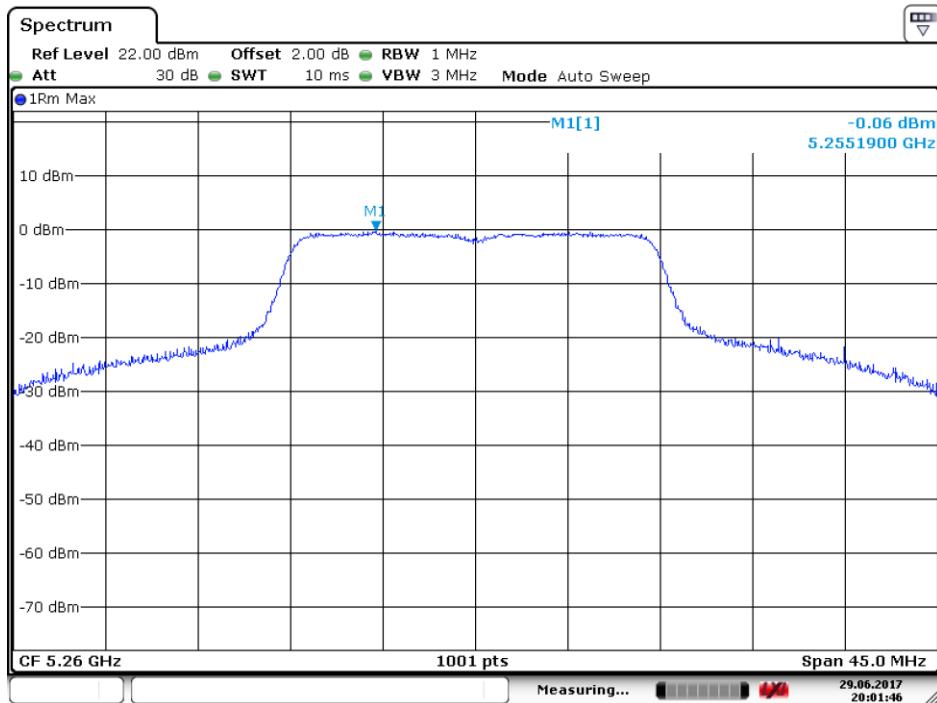
Shenzhen Branch



Report No.: SZEM171001110306

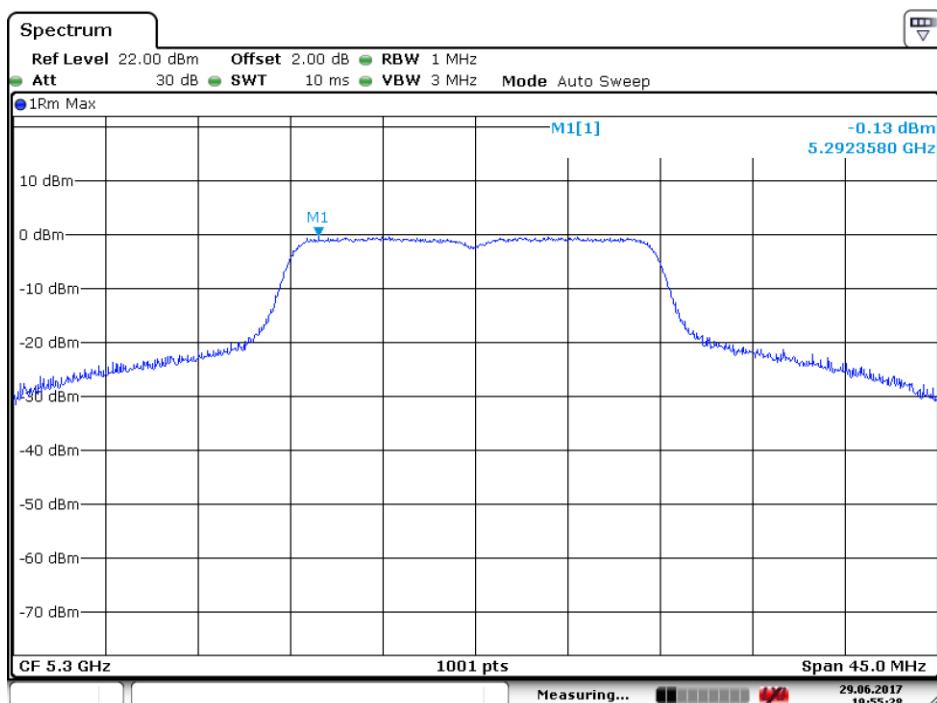
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Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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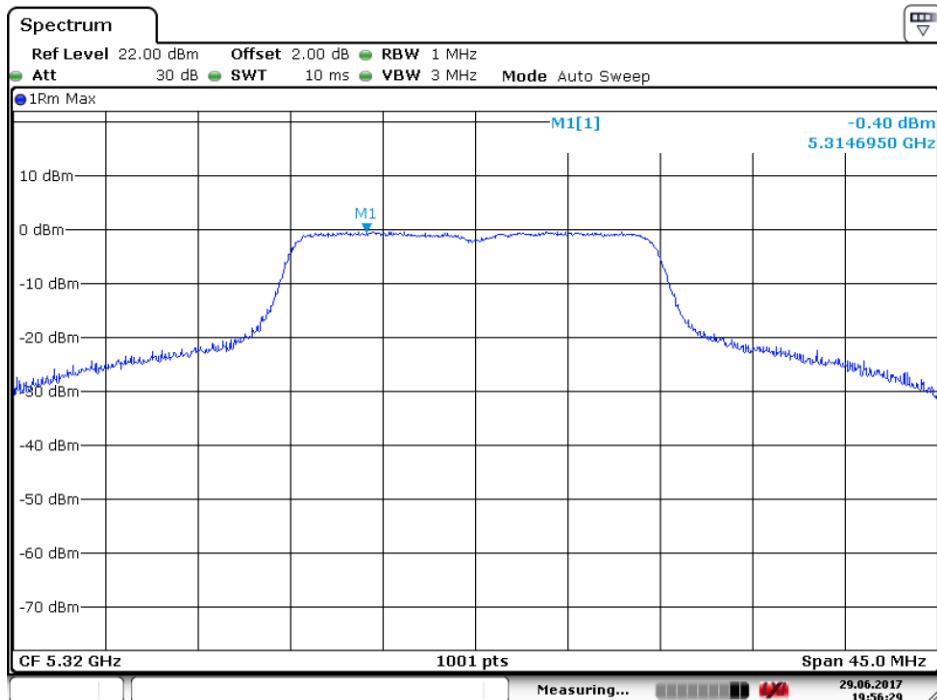
Date: 29.JUN.2017 20:01:47

Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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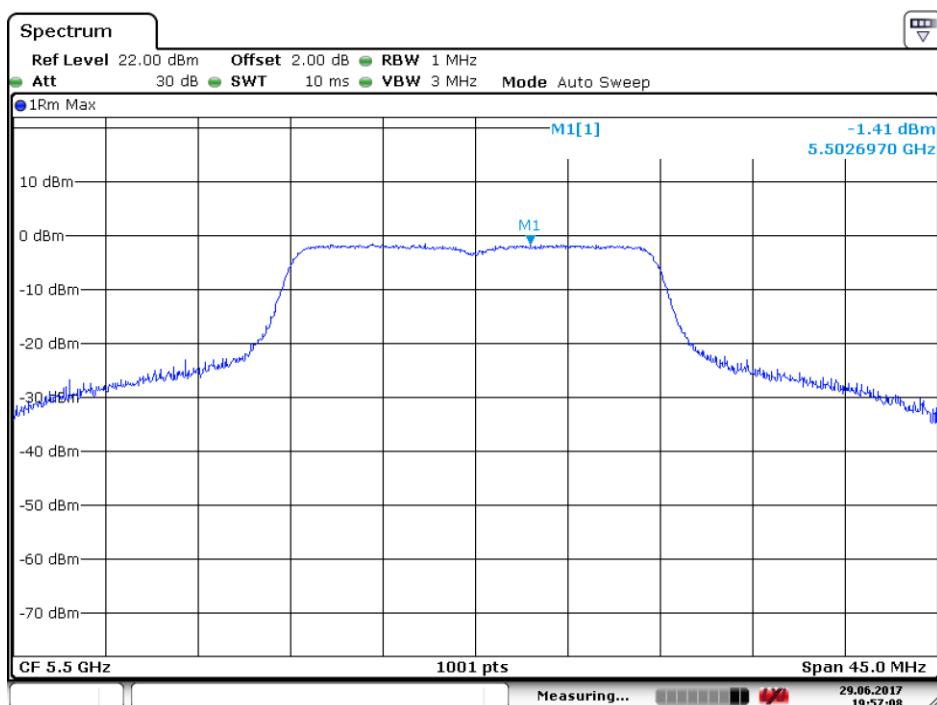
Date: 29.JUN.2017 19:55:28

Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Date: 29.JUN.2017 19:56:29

Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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Date: 29.JUN.2017 19:57:09

SGS-CSTC Standards Technical Services Co., Ltd.

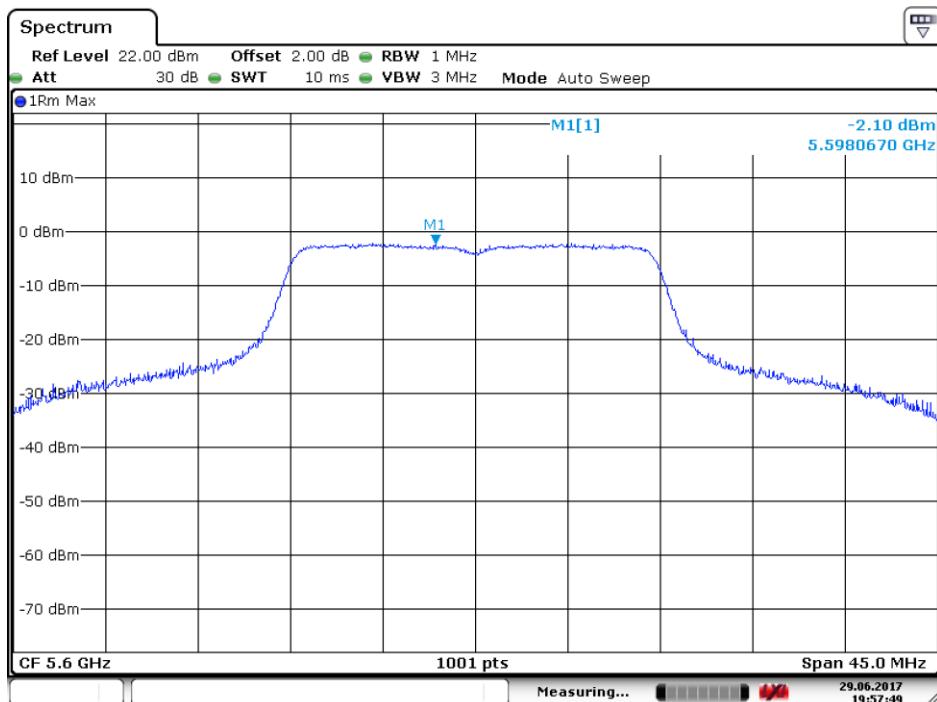
Shenzhen Branch



Report No.: SZEM171001110306

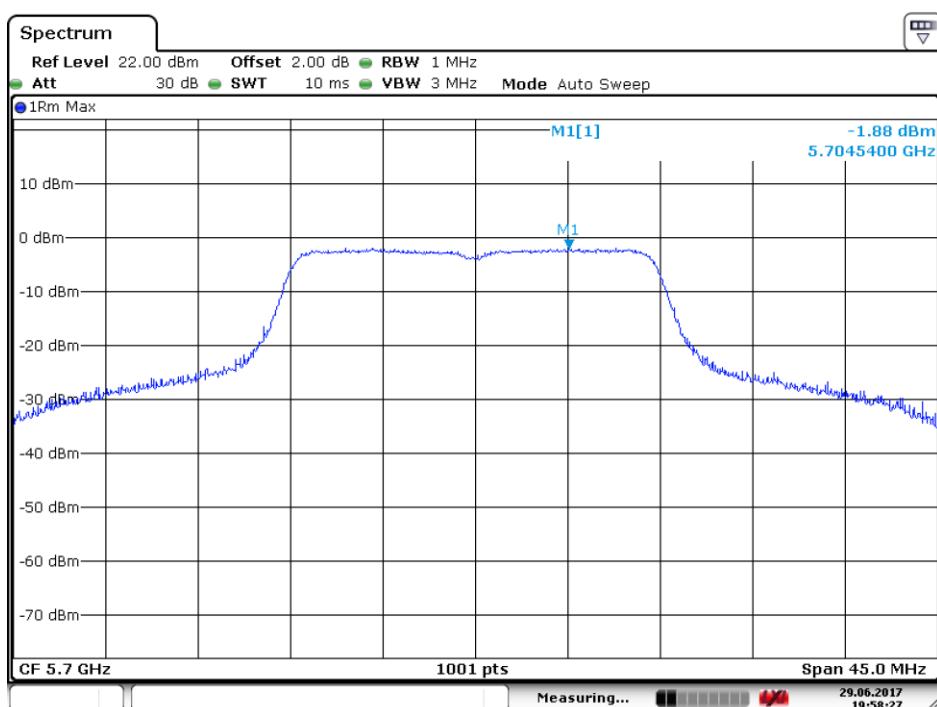
Page: 50 of 72

Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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Date: 29.JUN.2017 19:57:49

Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Date: 29.JUN.2017 19:58:26

6.6 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Test Setup:	

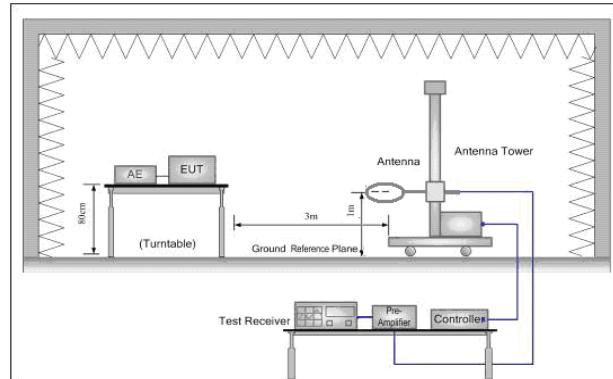


Figure 1. 30MHz to 1GHz

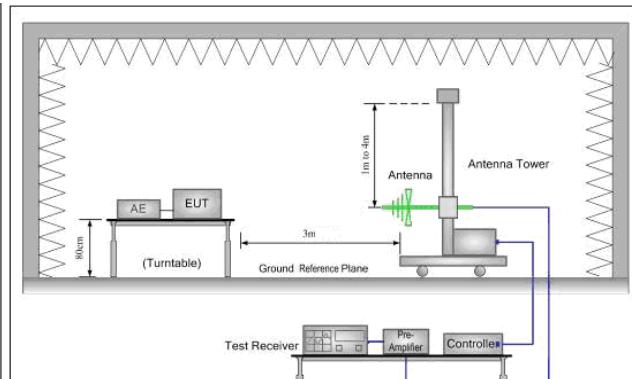


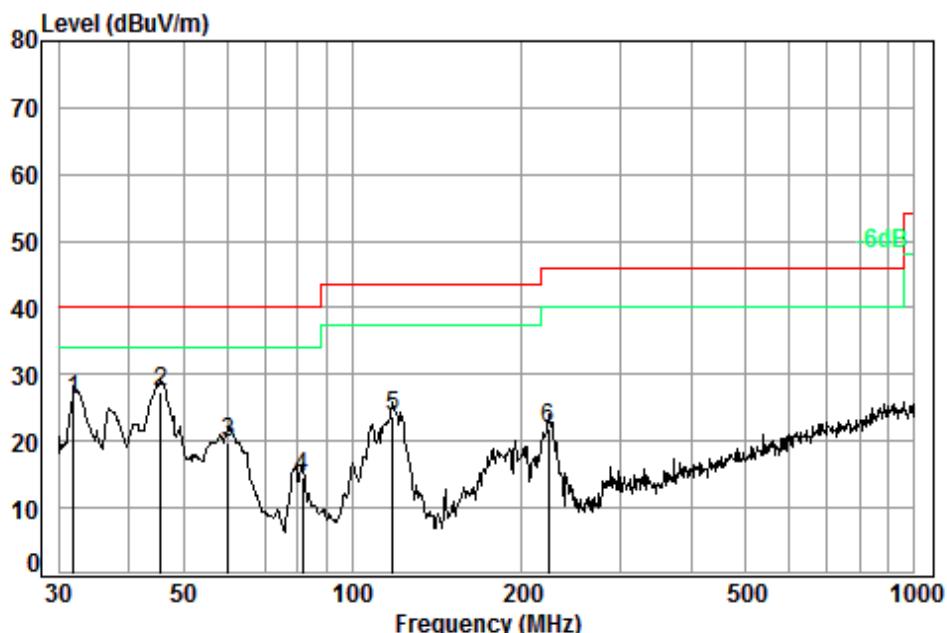
Figure 2. Above 1 GHz

Test Procedure:	<ol style="list-style-type: none"> For below 1GHz test, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. For above 1GHz test, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. Test the EUT in the outermost channels. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 of rate is the worst case of 802.11ac(HT80)

	For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

6.6.1 Radiated emission below 1GHz

30MHz~1GHz (QP)		
Test mode:	Transmitting	Vertical



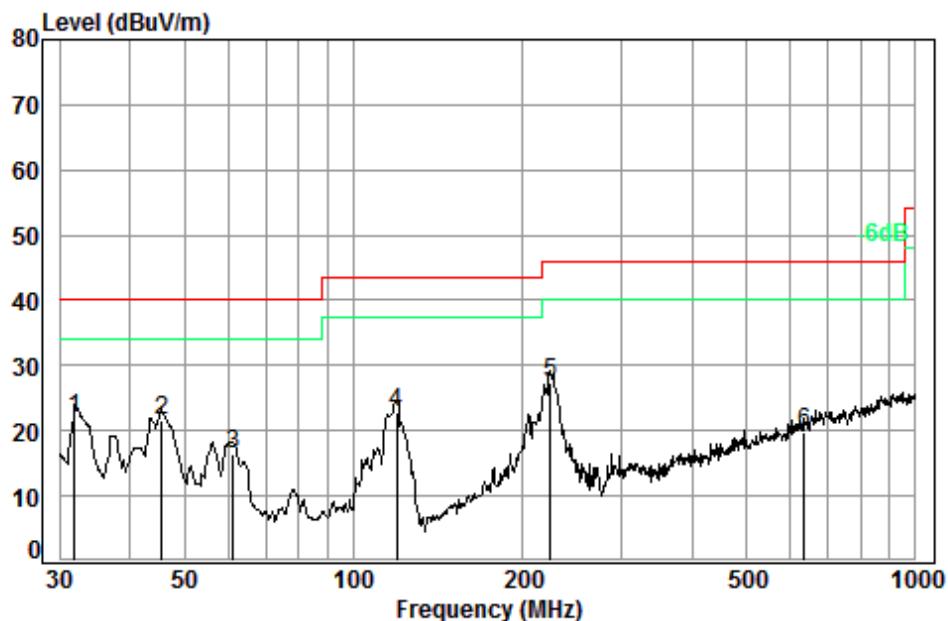
Condition: 3m VERTICAL

Job No. : 03519RG

Test mode: j

Freq	Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	31.95	0.60	17.61	27.35	35.33	26.19	40.00	-13.81
2 pp	45.53	0.72	10.66	27.30	43.20	27.28	40.00	-12.72
3	60.07	0.80	7.20	27.27	39.14	19.87	40.00	-20.13
4	81.50	1.10	7.85	27.23	33.02	14.74	40.00	-25.26
5	118.19	1.25	8.03	27.08	41.55	23.75	43.50	-19.75
6	222.95	1.53	11.39	26.62	35.73	22.03	46.00	-23.97

Test mode:	Transmitting	Horizontal
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Condition: 3m HORIZONTAL

Job No. : 03519RG

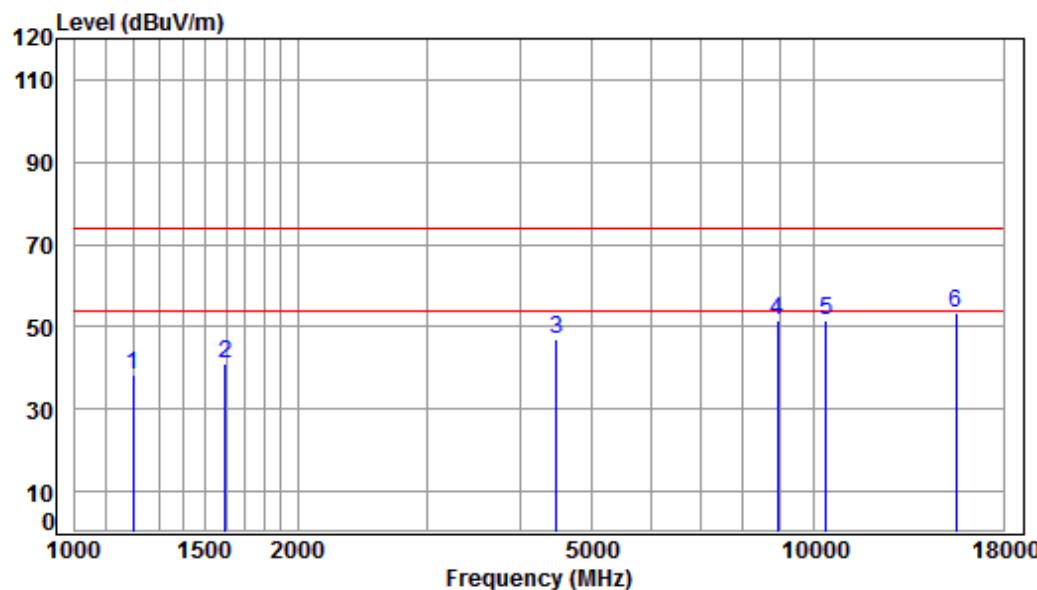
Test mode: j

	Freq	Cable	Ant	Preamp	Read	Limit	Over	
		Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	31.95	0.60	17.61	27.35	31.16	22.02	40.00	-17.98
2	45.53	0.72	10.66	27.30	37.45	21.53	40.00	-18.47
3	61.13	0.80	7.17	27.26	35.68	16.39	40.00	-23.61
4	119.44	1.25	7.94	27.07	40.55	22.67	43.50	-20.83
5	223.73	1.54	11.43	26.62	41.00	27.35	46.00	-18.65
6	633.91	2.77	20.54	27.49	23.95	19.77	46.00	-26.23

6.6.2 Transmitter emission above 1GHz

Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180	Peak	Horizontal
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Condition : 3m HORIZONTAL

Job No : 11103RG

Mode : 5180 TX SE

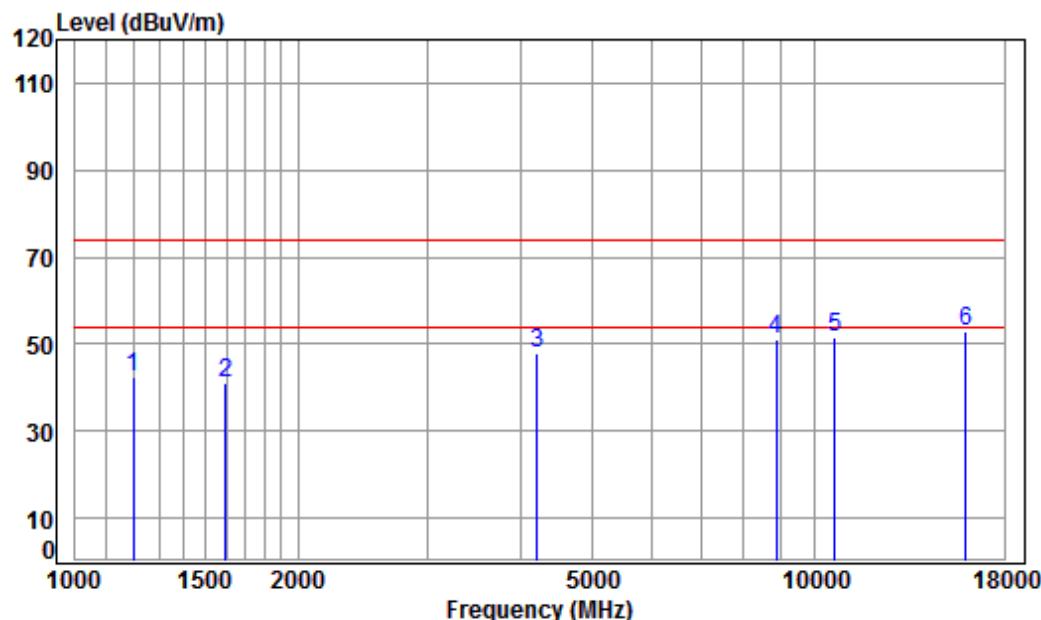
Note : 5G WiFi 11a 20

Power Setting: 13

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	1199.726	4.42	24.48	37.77	47.26	38.39	74.00 -35.61 peak
2	1597.181	5.35	26.24	37.73	47.02	40.88	74.00 -33.12 peak
3	4482.150	7.54	33.60	37.20	43.24	47.18	74.00 -26.82 peak
4	8917.462	10.38	36.50	36.39	40.85	51.34	74.00 -22.66 peak
5	10360.000	11.19	37.24	35.65	38.73	51.51	74.00 -22.49 peak
6	pp15540.000	14.30	41.38	38.06	35.74	53.36	74.00 -20.64 peak



Test mode:	802.11a	Frequency(MHz):	5320	Peak	Vertical
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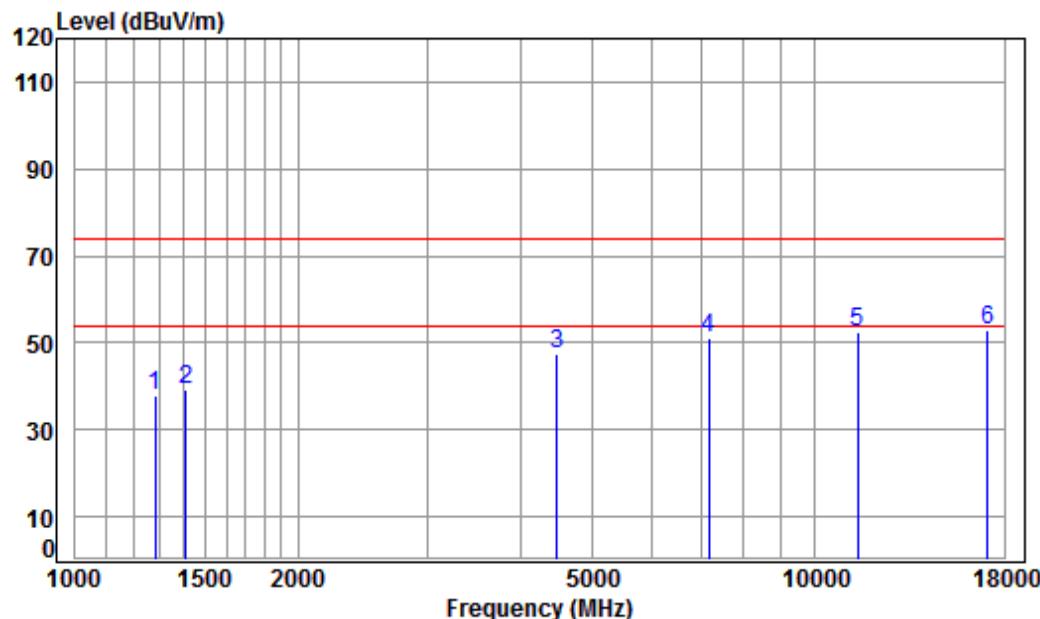


Condition : 3m Vertical
 Job No : 11103RG
 Mode : 5320 TX SE
 Note : 5G WiFi 11a 20
 Power Setting: 12

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1199.726	4.42	24.48	37.77	51.36	42.49	74.00	-31.51 peak
2	1597.181	5.35	26.24	37.73	47.03	40.89	74.00	-33.11 peak
3	4206.011	7.23	33.60	37.15	44.19	47.87	74.00	-26.13 peak
4	8866.062	10.37	36.44	36.44	40.76	51.13	74.00	-22.87 peak
5	10640.000	11.39	37.27	35.76	38.64	51.54	74.00	-22.46 peak
6	pp15960.000	14.93	41.22	37.27	34.21	53.09	74.00	-20.91 peak



Test mode:	802.11n	Frequency(MHz):	5700	Peak	Horizontal
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Condition : 3m Horizontal

Job No : 11103RG

Mode : 5700 TX SE

Note : 5G WiFi 11n 20

Power Setting: 11

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	
1	1282.193	4.73	24.87	37.76	46.04	37.88	74.00 -36.12 peak
2	1410.514	5.19	25.44	37.75	46.57	39.45	74.00 -34.55 peak
3	4482.150	7.54	33.60	37.20	43.43	47.37	74.00 -26.63 peak
4	7179.527	10.08	36.43	37.56	42.27	51.22	74.00 -22.78 peak
5	11400.000	12.04	38.02	36.19	38.82	52.69	74.00 -21.31 peak
6	pp17100.000	16.49	42.92	37.13	30.86	53.14	74.00 -20.86 peak

SGS-CSTC Standards Technical Services Co., Ltd.

Shenzhen Branch



Report No.: SZEM171001110306

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Remark:

1) 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

2) Scan from 9kHz to 25GHz, The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .

3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

6.7 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

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Shenzhen Branch



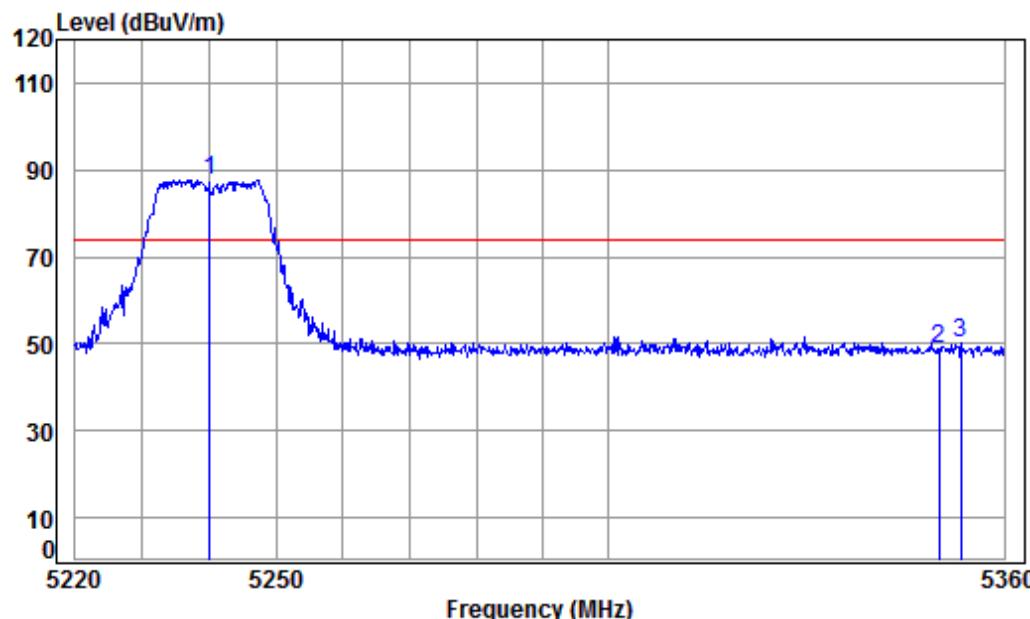
Report No.: SZEM171001110306

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Test Procedure:	<ol style="list-style-type: none"> a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel g. Test the EUT in the outermost channels. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 of rate is the worst case of 802.11ac(HT80) Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

Test plot as follows:

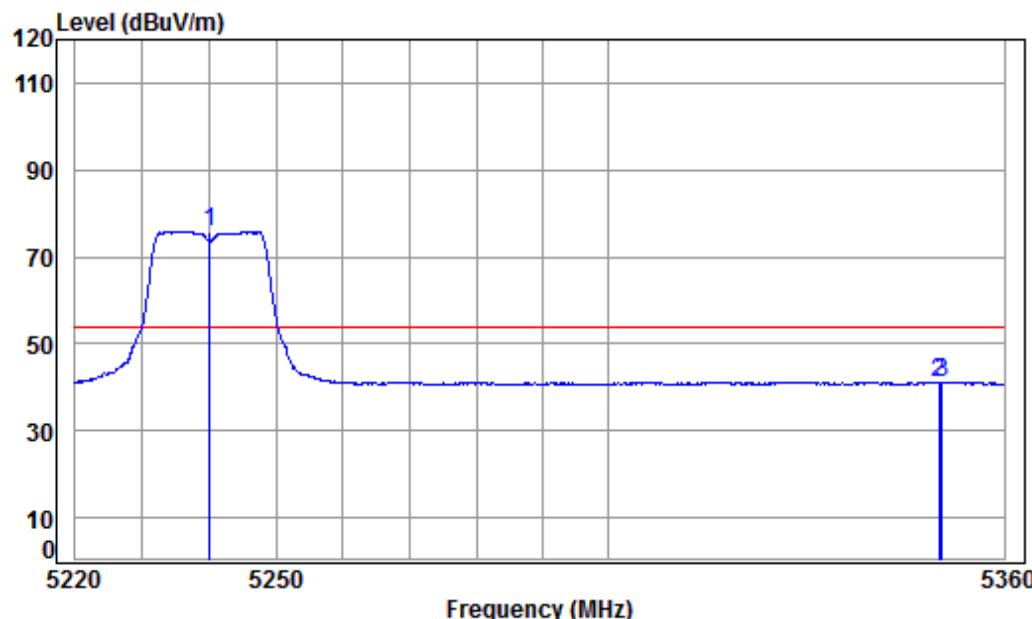
Test mode:	802.11a	Frequency(MHz):	5240	Peak	Vertical
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Job No : 11103RG
Mode : 5240 Band edge
Note : 5G WiFi 11a 20
Power Setting: 13

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5240.000	8.46	34.45	37.45	82.16	87.62	74.00	13.62 peak
2	5350.000	8.63	34.43	37.52	43.29	48.83	74.00	-25.17 peak
3	5353.337	8.63	34.43	37.52	44.85	50.39	74.00	-23.61 peak

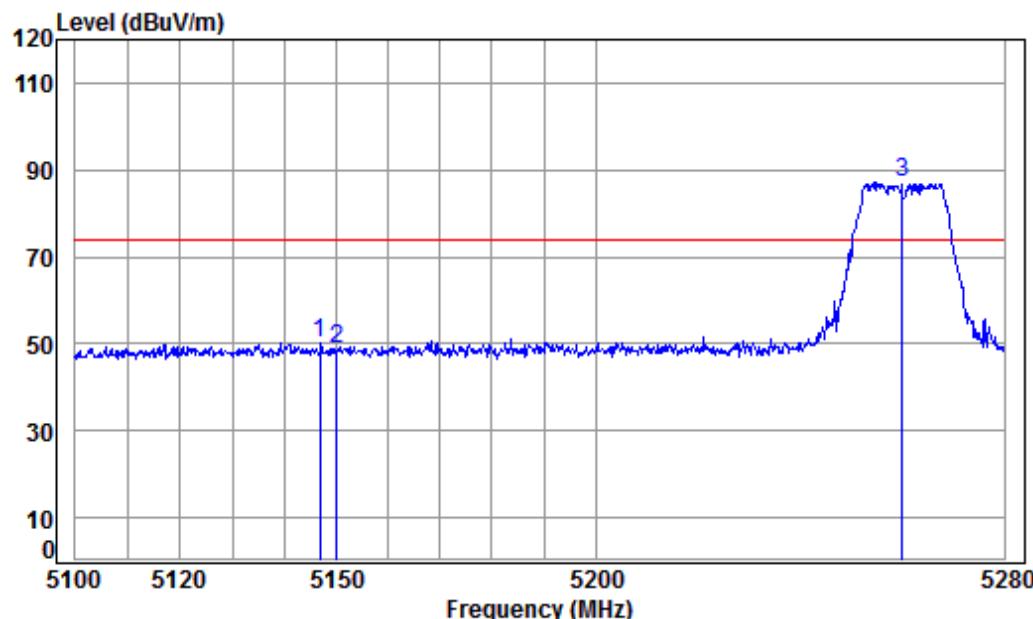
Test mode:	802.11a	Frequency(MHz):	5240	Average	Vertical
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Condition : 3m VERTICAL
Job No : 11103RG
Mode : 5240 Band edge
Note : 5G WiFi 11a 20
Power Setting: 13

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5240.000	8.46	34.45	37.45	70.42	75.88	54.00	21.88 Average
2	5350.000	8.63	34.43	37.52	35.46	41.00	54.00	-13.00 Average
3	5350.504	8.63	34.43	37.52	35.50	41.04	54.00	-12.96 Average

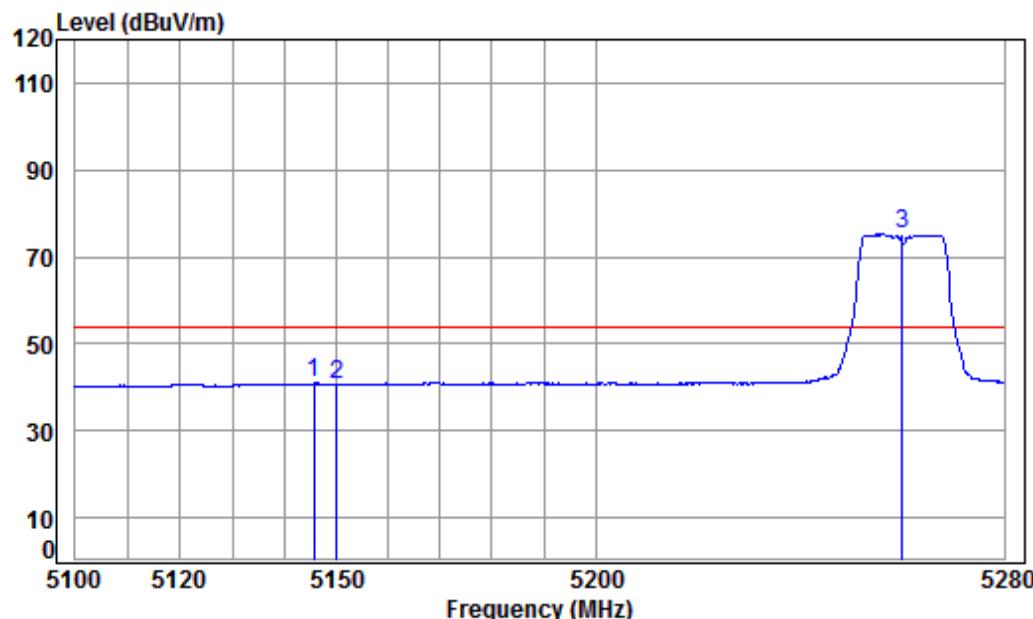
Test mode:	802.11a	Frequency(MHz):	5260	Peak	Vertical
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Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5260 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 12

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5146.915	8.32	34.47	37.40	44.82	50.21	74.00	-23.79 peak
2	5150.000	8.33	34.47	37.40	43.40	48.80	74.00	-25.20 peak
3 pp	5260.000	8.49	34.45	37.47	81.87	87.34	74.00	13.34 peak

Test mode:	802.11a	Frequency(MHz):	5260	Average	Vertical
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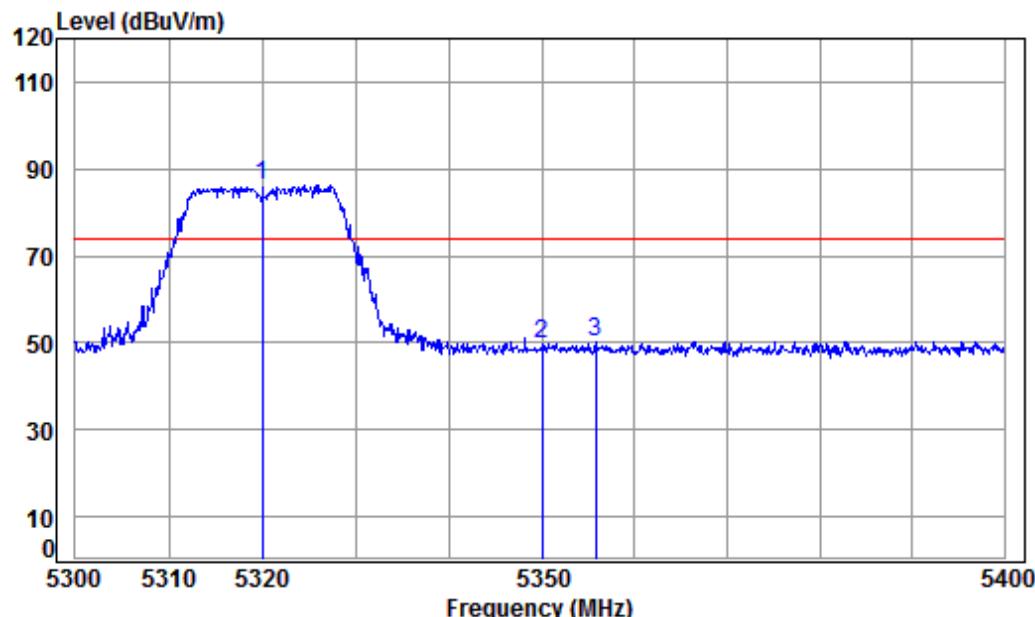


Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5260 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 12

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5145.666	8.32	34.47	37.39	35.49	40.89	54.00	-13.11 Average
2	5150.000	8.33	34.47	37.40	35.18	40.58	54.00	-13.42 Average
3 pp	5260.000	8.49	34.45	37.47	69.74	75.21	54.00	21.21 Average



Test mode:	802.11a	Frequency(MHz):	5320	Peak	Vertical
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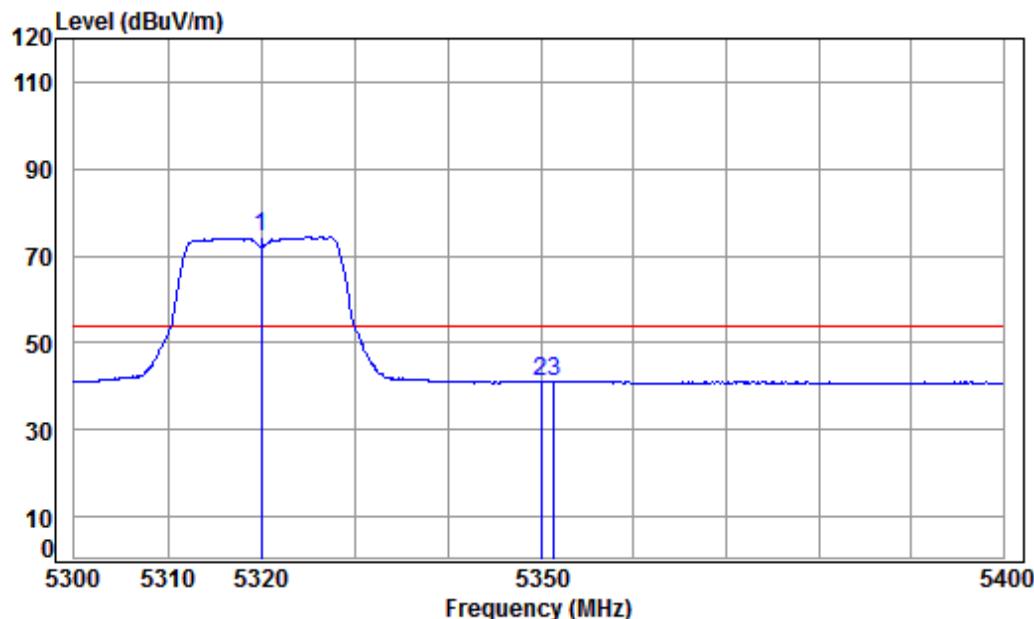


Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5320 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 12

	Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
		Loss	Factor	Factor	Level	Level	Line	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5320.000	8.58	34.43	37.50	80.63	86.14	74.00	12.14 peak
2	5350.000	8.63	34.43	37.52	44.38	49.92	74.00	-24.08 peak
3	5355.770	8.64	34.43	37.53	44.84	50.38	74.00	-23.62 peak



Test mode:	802.11a	Frequency(MHz):	5320	Average	Vertical
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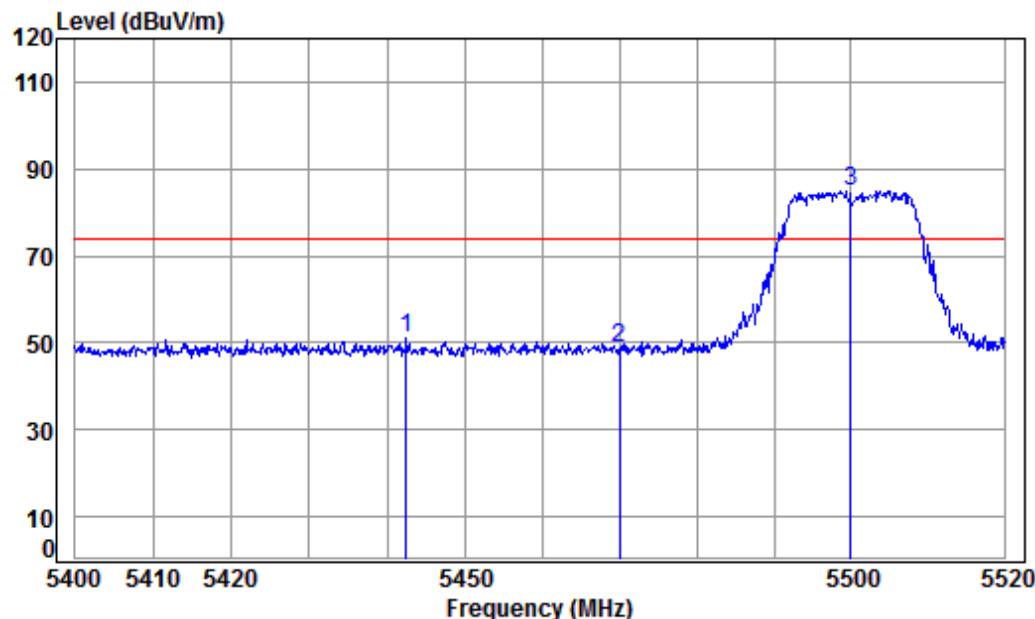


Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5320 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 12

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level	Level	Line	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 5320.000	8.58	34.43	37.50	68.75	74.26	54.00	20.26 Average
2 5350.000	8.63	34.43	37.52	35.51	41.05	54.00	-12.95 Average
3 5351.467	8.63	34.43	37.52	35.59	41.13	54.00	-12.87 Average



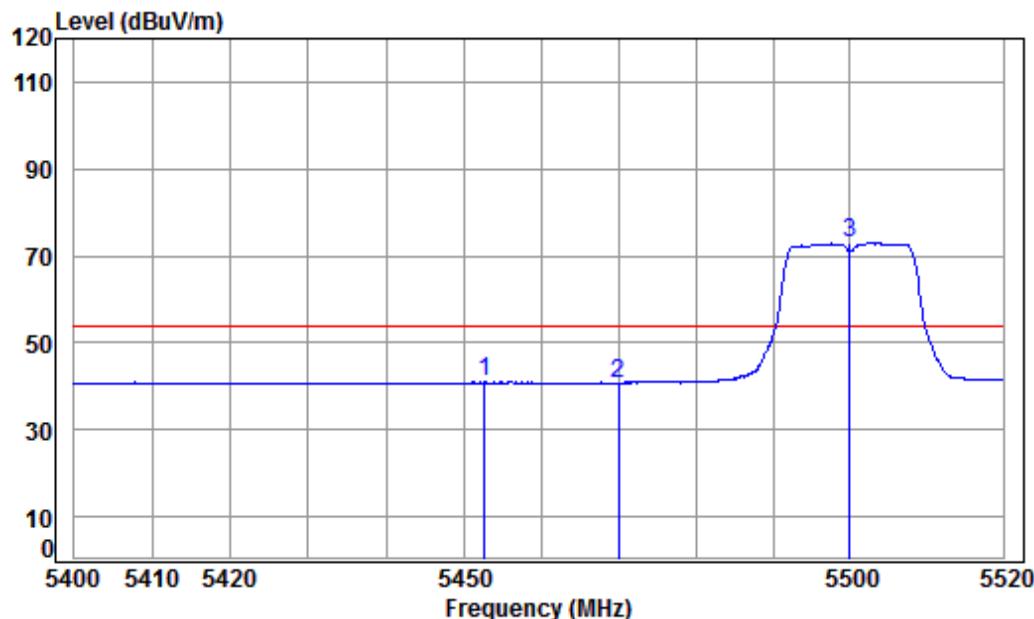
Test mode:	802.11a	Frequency(MHz):	5500	Peak	Vertical
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Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5500 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 11

Freq	Cable	Ant	Preamp	Read	Limit	Over	Line	Limit	Remark
	Loss	Factor	Factor	Level					
MHz	dB	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 5442.418	8.77	34.41	37.58	45.52	51.12	74.00	-22.88	peak	
2 5470.000	8.81	34.41	37.60	43.36	48.98	74.00	-25.02	peak	
3 pp 5500.000	8.85	34.40	37.61	79.25	84.89	74.00	10.89	peak	

Test mode:	802.11a	Frequency(MHz):	5500	Average	Vertical
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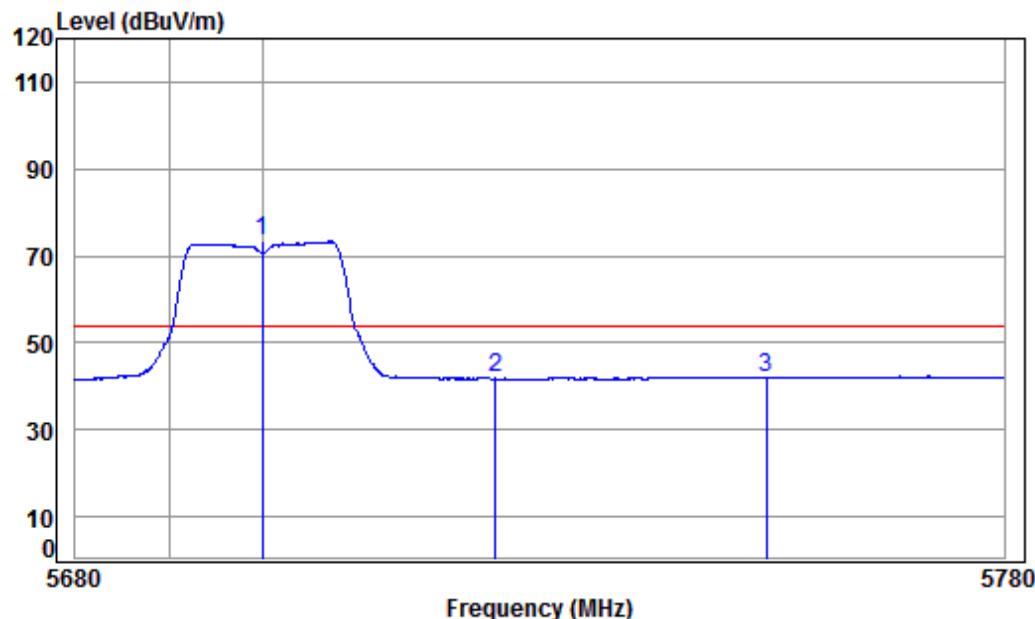


Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5500 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 11

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level	Level	Line	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5452.715	8.78	34.41	37.59	35.40	41.00	54.00	-13.00 Average
2 5470.000	8.81	34.41	37.60	35.19	40.81	54.00	-13.19 Average
3 pp 5500.000	8.85	34.40	37.61	67.30	72.94	54.00	18.94 Average



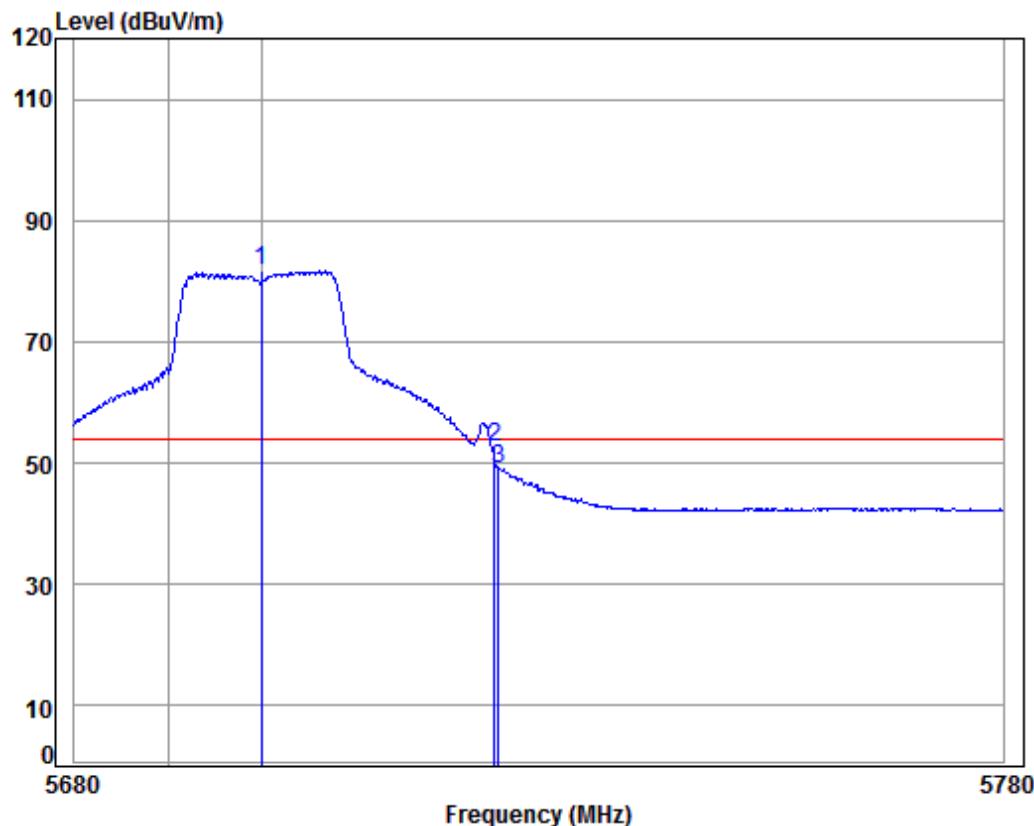
Test mode:	802.11a	Frequency(MHz):	5700	Peak	Vertical
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Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5700 Band edge
 Note : 5G WiFi 11a 20
 Power Setting: 11

	Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
		Loss	Factor	Factor	Level	Level	Line	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5700.000	9.56	34.52	37.73	66.92	73.27	54.00	19.27 Average
2	5725.000	9.64	34.54	37.75	35.42	41.85	54.00	-12.15 Average
3	5754.233	9.74	34.56	37.76	35.60	42.14	54.00	-11.86 Average

Test mode:	802.11a	Frequency(MHz):	5700	Average	Horizontal
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Condition: 3m HORIZONTAL

Job No : 03519RG

Mode : 5700 Band edge

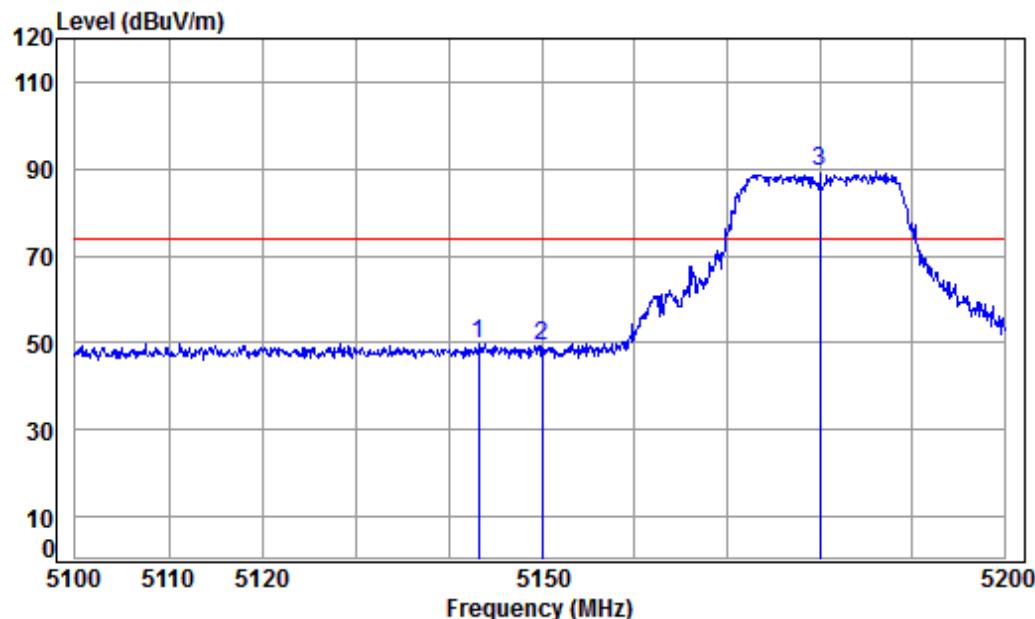
Note : 5G WIFI 11A

Power :

Freq	MHz	Cable	Ant	Preamp	Read	Limit	Over	Limit	Remark
		Loss	Factor	Factor	Level				
1 pp	5700.000	9.56	34.52	38.36	76.03	81.75	54.00	27.75	Average
2	5725.000	9.64	34.54	38.35	46.83	52.66	54.00	-1.34	Average
3	5725.483	9.64	34.54	38.35	43.35	49.18	54.00	-4.82	Average



Test mode:	802.11n20	Frequency(MHz):	5180	Peak	Vertical
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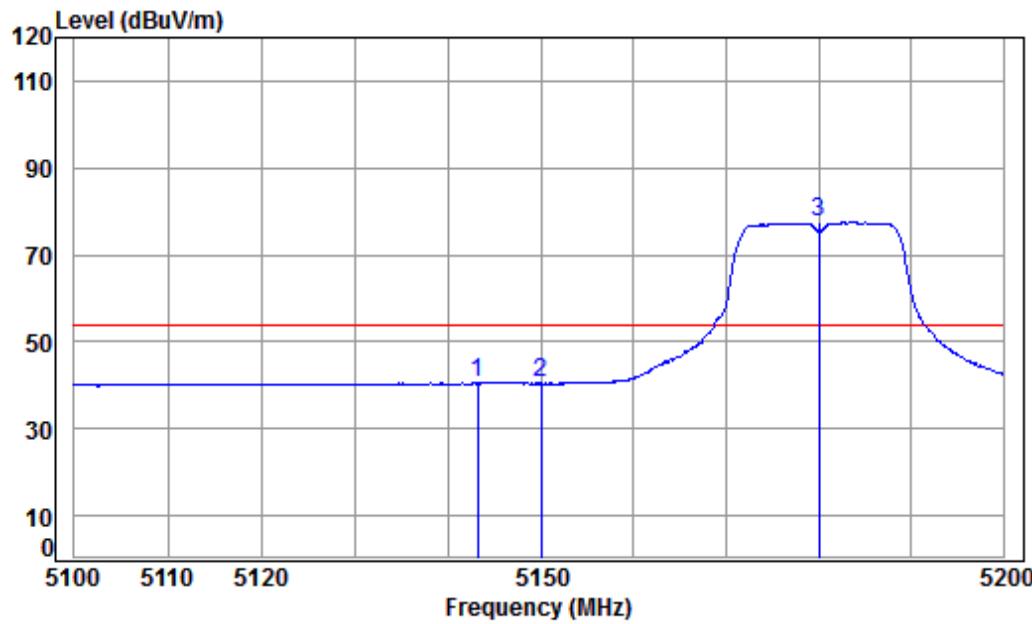


Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5180 Band edge
 Note : 5G WiFi 11n 20
 Power Setting: 13

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level	Level	Line	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5143.162	8.32	34.47	37.39	44.56	49.96	74.00	-24.04 peak
2 5150.000	8.33	34.47	37.40	44.05	49.45	74.00	-24.55 peak
3 pp 5180.000	8.37	34.46	37.42	84.08	89.49	74.00	15.49 peak



Test mode:	802.11n20	Frequency(MHz):	5180	Average	Vertical
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Condition : 3m VERTICAL
 Job No : 11103RG
 Mode : 5180 Band edge
 Note : 5G WiFi 11n 20
 Power Setting: 13

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level	Level	Line		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5143.162	8.32	34.47	37.39	35.16	40.56	54.00	-13.44 Average
2	5150.000	8.33	34.47	37.40	35.01	40.41	54.00	-13.59 Average
3 pp	5180.000	8.37	34.46	37.42	72.06	77.47	54.00	23.47 Average



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

7 Photographs - EUT Test Setup Details

Refer to Appendix A - Photographs of EUT Test Setup Details for SZEM1710011103RG.