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TEST REPORT

Application No.:	SZEM1707007782CR
Applicant:	Creative Labs Inc.
Address of Applicant:	1901 McCarthy Blvd., Milpitas, California United States
Manufacturer:	Creative Labs Pte. Ltd.
Address of Manufacturer:	31 International Business Park #03-01 CREATIVE RESOURCE SINGAPORE 609921
Equipment Under Test (EUT):
EUT Name:	Creative X-Fi Sonic Carrier
Model No.:	MF8235
Trade mark:	CREATIVE
FCC ID:	IBAMF8235
Standards:	47 CFR Part 15, Subpart E (2016)
Date of Receipt:	2017-07-31
Date of Test:	2017-08-09 to 2017-08-28
Date of Issue:	2017-08-29
Test Result :	Pass*

* In the configuration tested, the EUT complied with the standards specified above.



Jack Zhang EMC 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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	Revision Record							
Version	Chapter	Date	Modifier	Remark				
01		2017-08-29		Original				

Authorized for issue by:		
	Vincent Chen	
	Vincent Chen /Project Engineer	
	Eric Fu	
	Eric Fu /Reviewer	

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2 Test Summary

Radio Spectrum Technical Requirement						
Item	Standard	Method	Requirement	Result		
Antenna Requirement	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart E 15.203	Pass		

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass		
Maximum Conducted output power	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II E	47 CFR Part 15, Subpart E 15.407 (a)	Pass		
Radiated Spurious Emissions	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart E 15.209 & 15.407(b)	Pass		

Remark:

Model No: MF8235

This test report (Ref. No.: SZEM170700778205) is only valid with the original test report (Ref. No.: SZEM170200069905).

Compared with the original report, this report changed the board except the Bluetooth, WiFi, Wireless Audio module board. Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest. Therefore in this report Conducted Emissions at AC Power Line (150kHz-30MHz), Conducted Peak Output Power and Radiated Spurious Emissions were fully retested on model MF8235 and shown the data in this report, other tests please refer to original report SZEM170200069905.



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4 General Information

4.1 Details of E.U.T.

Power supply:	AC 120V/6	0Hz		
Cable:		or MF8235: 162cm unshielded 21A-00 & LS9-AC11DBT-AC		core
	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII	IEEE 802.11a	5180-5240	4
	Band I	IEEE 802.11n/ac 20MHz	5180-5240	4
Operation Frequency:		IEEE 802.11n/ac 40MHz	5190-5230	2
		IEEE 802.11ac 80MHz	5210	1
	UNII	IEEE 802.11a	5745-5825	5
	Band III	IEEE 802.11n/ac 20MHz	5745-5825	5
		IEEE 802.11n/ac 40MHz	5755-5795	2
		IEEE 802.11ac 80MHz	5775	1
Type of Modulation:	IEEE 802.1	1a: OFDM(BPSK/QPSK/16Q/	AM/64QAM)	
	IEEE 802.1	1n: OFDM(BPSK/QPSK/16Q/	AM/64QAM)	
	IEEE 802.1	1ac: OFDM (BPSK/QPSK/160	QAM/64QAM/256	SQAM)
Antenna type:	PIFA			
Antenna gain:	4dBi			

4.2 Description of Support Units

The EUT has been tested as an independent unit.



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No.	Item	Measurement Uncertainty
1	Radio Frequency	7.25 x 10 ⁻⁸
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	RF conducted power	0.75dB
5	RF power density	2.84dB
6	Conducted Spurious emissions	0.75dB
7		4.5dB (below 1GHz)
1	RF Radiated power	4.8dB (above 1GHz)
0	Dedicted Sourious opication test	4.5dB (30MHz-1GHz)
8	Radiated Spurious emission test	4.8dB (1GHz-18GHz)
9	Temperature test	1℃
10	Humidity test	3%
11	Supply voltages	1.5%
12	Time	3%

4.3 Measurement Uncertainty

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4.4 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.

4.5 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.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2017-05-10	2018-05-10	
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A	
LISN	Rohde & Schwarz	ENV216	SEM007-01	2016-10-09	2017-10-09	
LISN	ETS-LINDGREN	3816/2	SEM007-02	2017-04-14	2018-04-13	
8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T8-02	EMC0120	2016-09-28	2017-09-28	
4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T4-02	EMC0121	2016-09-28	2017-09-28	
2 Line ISN	Fischer Custom	FCC-TLISN- T2-02	EMC0122	2016-09-28	2017-09-28	

RF Conducted Test					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2016-10-09	2017-10-09
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2016-10-09	2017-10-09
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2017-04-14	2018-04-13
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2016-10-09	2017-10-09

RE in chamber					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2017-05-02	2020-05-01
Measurement Software	AUDIX	e3 V8.2014- 6-27	N/A	N/A	N/A
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2017-04-14	2018-04-13
BiConiLog Antenna (26- 3000MHz)	ETS-Lindgren	3142C	SEM003-02	2017-03-05	2020-03-05
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
Horn Antenna(15GHz- 40GHz)	Schwarzbeck	BBHA 9170	SEM003-14	2017-06-16	2020-06-15

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Pre-amplifier (0.1- 1300MHz)	HP	8447D	SEM005-02	2016-10-09	2017-10-09
Low Noise Amplifier(100MHz- 18GHz)	Black Diamond Series	BDLNA- 0118-352810	SEM005-05	2016-10-09	2017-10-09
Pre-amplifier(0.1- 26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-10	2016-10-17	2017-10-17
Pre-amplifier(26GHz- 40GHz) Compliance Directions Systems Inc.		PAP-2640-50	SEM005-08	2017-04-14	2018-04-13
DC Power Supply	DC Power Supply Zhao Xin		SEM011-02	2016-10-09	2017-10-09
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2018-08-14
Band filter	N/A	N/A	SEM023-01	N/A	N/A

RE in chamber							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2017-05-10	2018-05-10		
Measurement Software	AUDIX	e3 V8.2014- 6-27	N/A	N/A	N/A		
EMI Test Receiver (9kHz-3GHz)	Rohde & Schwarz	ESCI	SEM004-01	2017-04-14	2018-04-13		
Trilog-Broadband Antenna(30MHz-1GHz)	Schwarzbeck	VULB9168	SEM003-17	2016-01-26	2019-01-26		
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-03	2017-06-05	2018-06-04		
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21		

General used equipment							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2016-10-12	2017-10-12		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2016-10-12	2017-10-12		
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2016-10-12	2017-10-12		
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-18		

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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

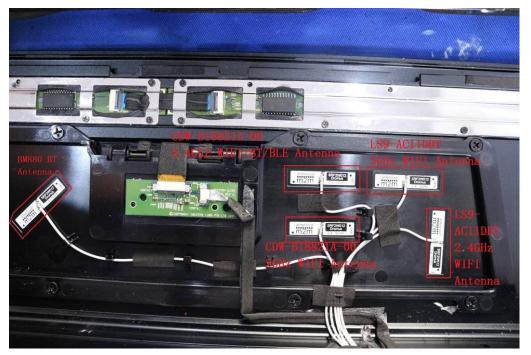
47 CFR Part 15C Section 15.203

6.1.2 Conclusion

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna: (LS9-AC11DBT,CDW-B18821A-00)



The antenna uses a unique coupling to the intentional radiator and no consideration of replacement. The best case gain of the antenna is 4dBi.



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7 Radio Spectrum Matter Test Results

7.1 Conducted Disturbance at AC Power Line(150kHz-30MHz)

Test Requirement	47 CFR Part 15, Subpart C 15.207
Test Method:	ANSI C63.10 (2013) Section 6.2
Limit:	

Frequency of emission(MHz)	Conducted limit(dBµV)				
Frequency of emission(whz)	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.



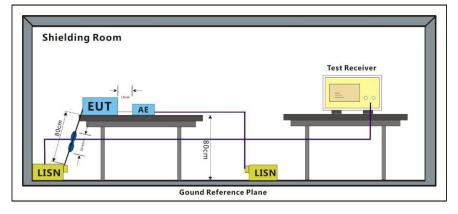
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7.1.1 E.U.T. Operation

Operating Enviror	nment:						
Temperature:	25.0 °C	Humidity:	55 % RH	Atmospheric Pressure:	1020 mba	l,	
	d: WIFI 5G TX	band I (LS9	-AC11DBT): ł	Keep the EUT transmitting.			
Pretest these	g: WIFI 5G TX	band III (LS	9-AC11DBT):	Keep the EUT transmitting.			
mode to find the worst case:	f: WIFI 5G TX band I (CDW-B18821A-00): Keep the EUT transmitting.						
	e: WIFI 5G TX	band III (CE	DW-B18821A-	00): Keep the EUT transmitting	J.		
The worst case	d: WIFI 5G TX	band I (LS9	-AC11DBT): ł	Keep the EUT transmitting.			
for final test:	g: WIFI 5G TX	band III (LS	9-AC11DBT):	Keep the EUT transmitting.			
	f: WIFI 5G TX	band I (CDV	V-B18821A-00): Keep the EUT transmitting.			
	e: WIFI 5G TX	band III (CD	W-B18821A-(00): Keep the EUT transmitting			
	Through Pre-so	can, find the	6Mbps of rate	e is the worst case of 802.11a;			
	802.11n(HT40)	; MCS0 of r se of 802	ate is the wor	In(HT20); MCS0 of rate is the st case of 802.11ac(HT20); M MCS0 of rate is the wo	CS0 of rate is	5	
	Only the worst	anna in rann	rdad in the re	oort			

Only the worst case is recorded in the report.

7.1.2 Test Setup Diagram



7.1.3 Measurement Data



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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 50ohm/50 μ H + 50hm 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,

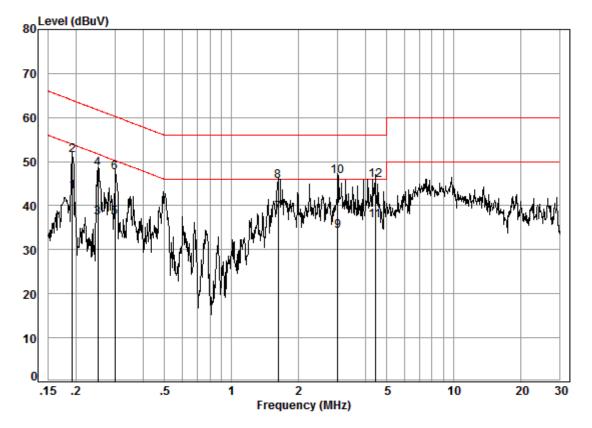
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test 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 on conducted measurement.



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Mode:d; Line:Live Line

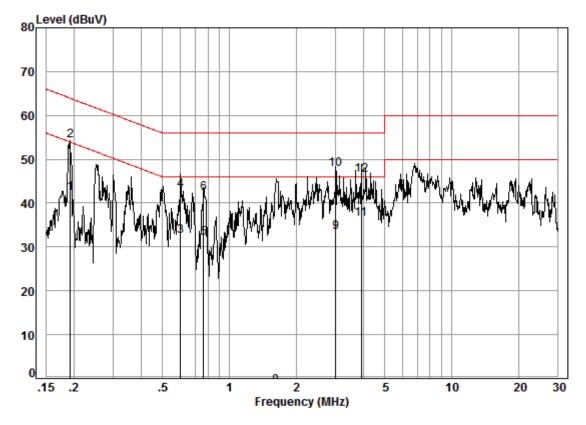


Site :	Shielding F	Room
Condition:	Line	
Job No. :	07782CR	
Test mode:	d	

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.19	0.02	9.63	33.62	43.27	53.93	-10.66	Average
2	0.19	0.02	9.63	41.84	51.49	63.93	-12.44	QP
3	0.25	0.01	9.63	27.68	37.32	51.73	-14.41	Average
4	0.25	0.01	9.63	38.70	48.34	61.73	-13.39	QP
5	0.30	0.01	9.63	27.60	37.24	50.28	-13.04	Average
6	0.30	0.01	9.63	37.91	47.55	60.28	-12.73	QP
7	1.63	0.02	9.65	28.60	38.27	46.00	-7.73	Average
8	1.63	0.02	9.65	35.90	45.57	56.00	-10.43	QP
9	3.01	0.02	9.67	24.47	34.16	46.00	-11.84	Average
10	3.01	0.02	9.67	36.93	46.62	56.00	-9.38	QP
11	4.45	0.01	9.70	26.93	36.64	46.00	-9.36	Average
12	4.45	0.01	9.70	36.17	45.88	56.00	-10.12	QP



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Mode:d; Line:Neutral Line

Site : Shielding Room Condition: Neutral Job No. : 07782CR Test mode: d

		Cable	LISN	Read		Limit	0ver	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.19	0.02	9.63	32.59	42.24	53.93	-11.69	Average
2	0.19	0.02	9.63	44.74	54.39	63.93	-9.54	QP
3	0.60	0.02	9.63	22.91	32.56	46.00	-13.44	Average
4	0.60	0.02	9.63	33.28	42.93	56.00	-13.07	QP
5	0.77	0.02	9.64	22.38	32.04	46.00	-13.96	Average
6	0.77	0.02	9.64	32.73	42.39	56.00	-13.61	QP
7	1.63	0.02	9.65	-15.41	-5.74	46.00	-51.74	Average
8	1.63	0.02	9.65	-11.33	-1.66	56.00	-57.66	QP
9	3.01	0.02	9.67	23.63	33.32	46.00	-12.68	Average
10	3.01	0.02	9.67	38.00	47.69	56.00	-8.31	QP
11	3.92	0.02	9.69	26.74	36.45	46.00	-9.55	Average
12	3.92	0.02	9.69	36.79	46.50	56.00	-9.50	QP



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7.2 Maximum Conducted output power

Test Requirement	47 CFR Part 15, Subpart E 15.407 (a)
Test Method:	KDB 789033 D02 II E
Limit:	

Frequency band(MHz)	MHz) Limit					
E1E0 E2E0	≤1W(30dBm) for master device					
5150-5250	≤250mW(24dBm) for client device					
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*					
5470-5725	≤250mW(24dBm) for client device or 11dBm+10logB*					
5725-5850	≤1W(30dBm)					
Remark: *Where B is the 26dB er	nission bandwidth in MHz.					
The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.						

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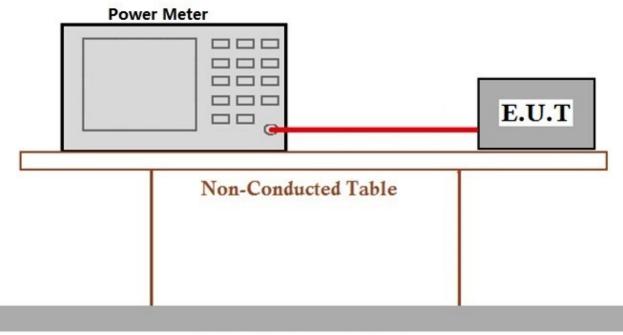
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7.2.1 E.U.T. Operation

Operating Enviror	nment:						
Temperature:	23.0 °C	Humidity:	56 % RH	Atmospheric Pressure:	1020	mbar	
	d: WIFI 5G TX	band I (LS9	-AC11DBT): K	eep the EUT transmitting.			
Pretest these	g: WIFI 5G TX	band III (LS	9-AC11DBT):	Keep the EUT transmitting.			
mode to find the worst case:	f: WIFI 5G TX	oand I (CDV	V-B18821A-00): Keep the EUT transmitting.			
worst case.	e: WIFI 5G TX	band III (CE	W-B18821A-0	00): Keep the EUT transmitting	J.		
The worst case	d: WIFI 5G TX	band I (LS9	-AC11DBT): K	eep the EUT transmitting.			
for final test:	g: WIFI 5G TX band III (LS9-AC11DBT): Keep the EUT transmitting.						
	f: WIFI 5G TX band I (CDW-B18821A-00): Keep the EUT transmitting.						
	e: WIFI 5G TX band III (CDW-B18821A-00): Keep the EUT transmitting.						
	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a;						
	802.11n(HT40)	; MCS0 of rase of 802	ate is the wors	n(HT20); MCS0 of rate is the t case of 802.11ac(HT20); M MCS0 of rate is the wo	CS0 of r	rate is	
	Only the worst	case is reco	rded in the ren	ort			

Only the worst case is recorded in the report.

7.2.2 Test Setup Diagram



Ground Reference Plane

7.2.3 Measurement Data

The detailed test data see: Appendix 15.407



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7.3 Radiated Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart E 15.209 & 15.407(b)
Test Method:	KDB 789033 D02 II G
Measurement Distance:	10m

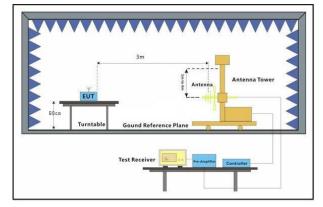
7.3.1 E.U.T. Operation

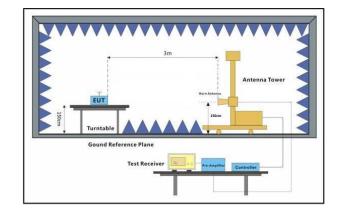
Temperature:	24.0 °C	Humidity:	54 % RH	Atmospheric Pressure:	1020	mbar		
	d: WIFI 5G TX	band I (LS9	-AC11DBT): Keep	the EUT transmitting.				
Pretest these mode to find the worst case:	g: WIFI 5G TX	band III (LS	9-AC11DBT): Kee	p the EUT transmitting.				
	f: WIFI 5G TX	band I (CDW	/-B18821A-00): K	eep the EUT transmitting.				
	e: WIFI 5G TX	band III (CD	W-B18821A-00):	Keep the EUT transmitting				
The worst case	d: WIFI 5G TX	band I (LS9	-AC11DBT): Keep	the EUT transmitting.				
for final test:	g: WIFI 5G TX	g: WIFI 5G TX band III (LS9-AC11DBT): Keep the EUT transmitting.						
	f: WIFI 5G TX band I (CDW-B18821A-00): Keep the EUT transmitting.							
	e: WIFI 5G TX	band III (CD	W-B18821A-00):	Keep the EUT transmitting				
	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a;							
	802.11n(HT40)	; 1SS0 of rat	te is the worst cas	Γ20); MCS0 of rate is the w e of 802.11ac(HT20); 1SS0 ate is the worst case of 802	0 of rate	is		
	is the worst c worst case for worst case For proprietry. so	ase for 5G V 2.4G WIFI, or BT, find t the final test	WIFI, 1Mbps of ra find the DH1 of he lowest channe was carried out a	bps of rate of 802.11a at lo ate of 802.11b at lowest c data type and GFSK mod el is the worst case for B at simultaneous transmissio ietry and 2.4G & 5G WIFI.	hannel Iulation LE and	is the is the 2.4G		

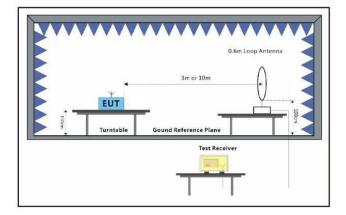


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7.3.2 Test Setup Diagram







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7.3.3 Measurement Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.



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Radiated Emission below 1GHz

The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

 $L_3 / L_{10} = D_{10} / D_3$

Note:

L₃: Level @ 3m distance. Unit: uV/m;

L10: Level @ 10m distance. Unit: uV/m;

D3: 3m distance. Unit: m

D₁₀: 10m distance. Unit: m

The level at 3m test distance is below:

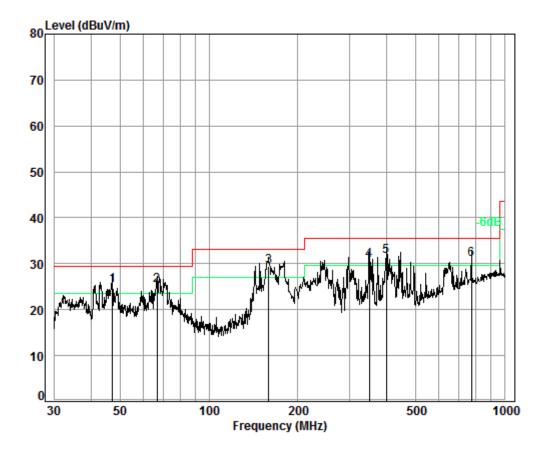
Mode a:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
47.16	25.38	18.58	61.93	35.84	40.00	-4.16	Н
66.73	25.30	18.41	61.36	35.76	40.00	-4.24	Н
159.23	29.39	29.48	98.26	39.85	43.50	-3.65	Н
348.03	30.80	34.67	115.58	41.26	46.00	-4.74	Н
397.63	31.64	38.19	127.31	42.10	46.00	-3.90	Н
771.45	30.95	35.28	117.59	41.41	46.00	-4.59	Н
31.73	25.63	19.12	63.74	36.09	40.00	-3.91	V
82.94	25.70	19.28	64.25	36.16	40.00	-3.84	V
99.18	29.99	31.59	105.29	40.45	43.50	-3.05	V
239.15	29.32	29.24	97.47	39.78	46.00	-6.22	V
285.98	30.40	33.11	110.38	40.86	46.00	-5.14	V
945.44	31.35	36.94	123.13	41.81	46.00	-4.19	V



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30MHz~1GHz (QP)		
Test mode:	d	Horizontal





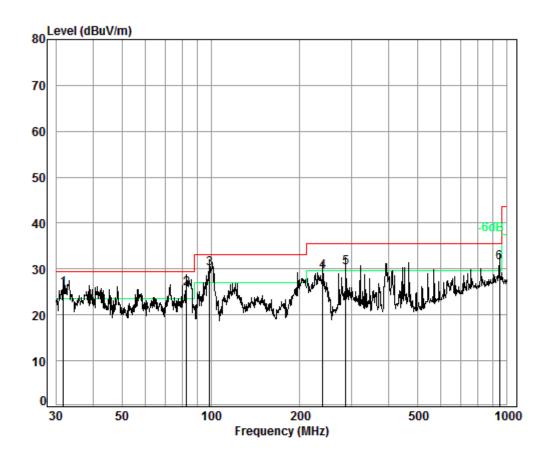
Loct	Mode:	а.
1030 1	noue.	u

	Freq			Preamp Factor			Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 2 3 pp 4 5 6	47.16 66.73 159.23 348.03 397.63 771.45	6.96 7.50 8.24 8.30	10.67 13.39 13.80 14.82	33.00 32.92 32.73 32.60 32.60 32.60	40.59 41.23 41.36 41.12	25.30 29.39 30.80 31.64	29.50 33.10 35.60 35.60	-4.12 -4.20 -3.71 -4.80 -3.96 -4.65



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Test mode:	d	Vertical
------------	---	----------



Condition: 10m VERTICAL Job No. : 07782CR Test Mode: d

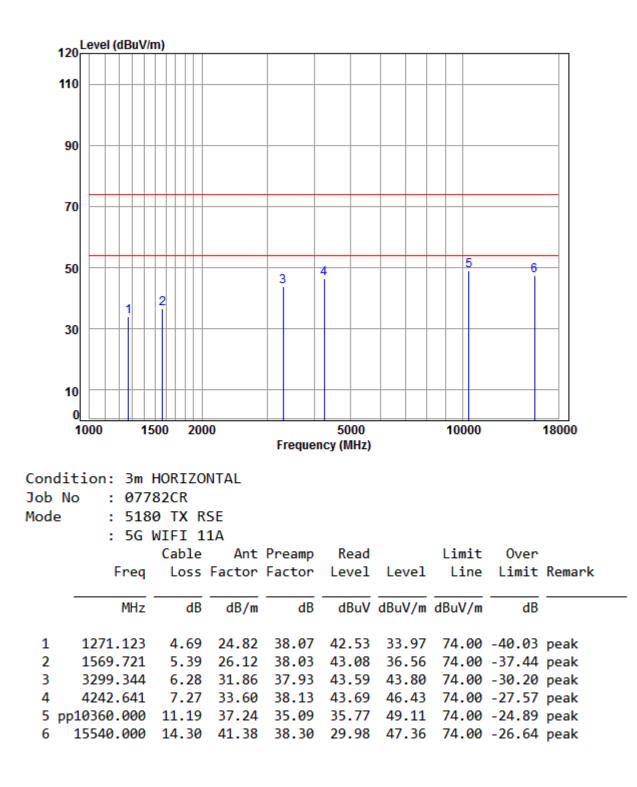
	Freq			Preamp Factor				Over Limit
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 2 3 pp 4 5 6	31.73 82.94 99.18 239.15 285.98 945.44	7.20 7.80 8.02	8.59 9.34 11.05 12.31	32.97 32.85 32.80 32.66 32.61 32.50	42.83 46.25 43.13 42.68	25.70 29.99 29.32 30.40	29.50 33.10 35.60 35.60	-3.87 -3.80 -3.11 -6.28 -5.20 -4.25



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CDW-B18821A-00

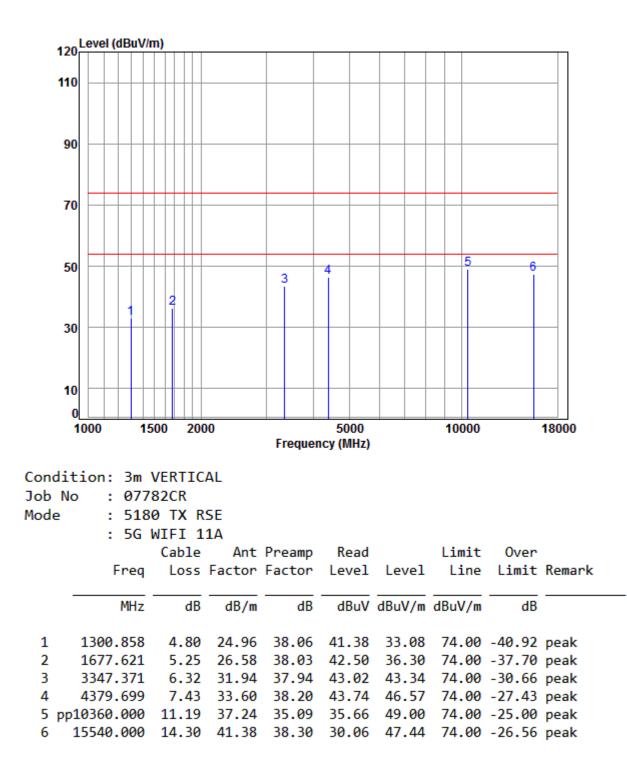
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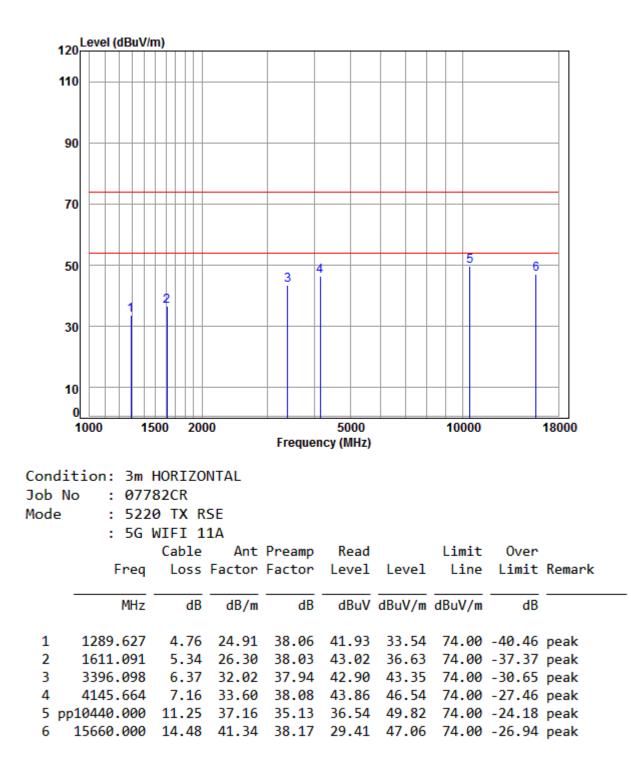
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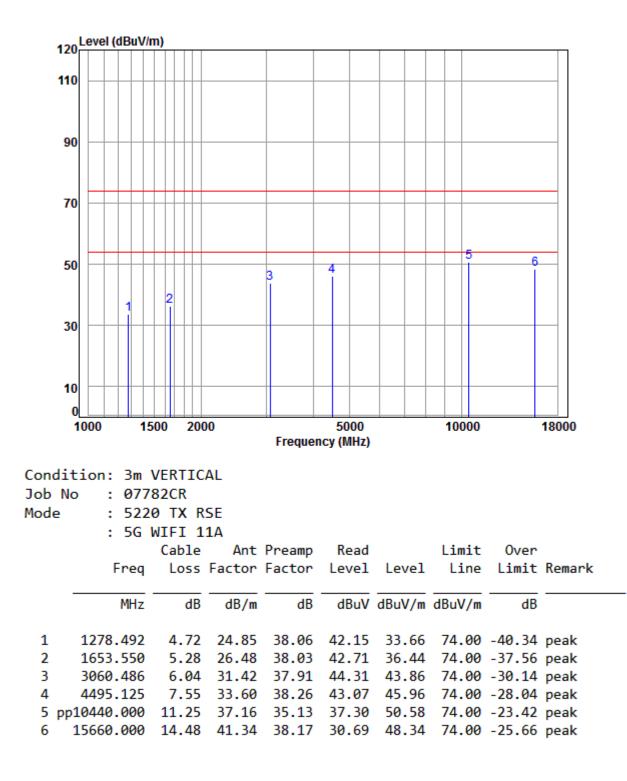
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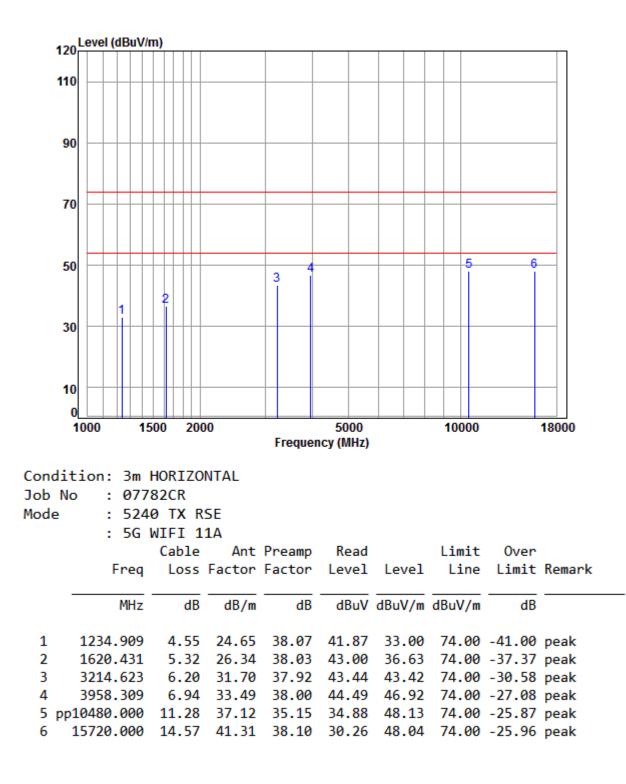
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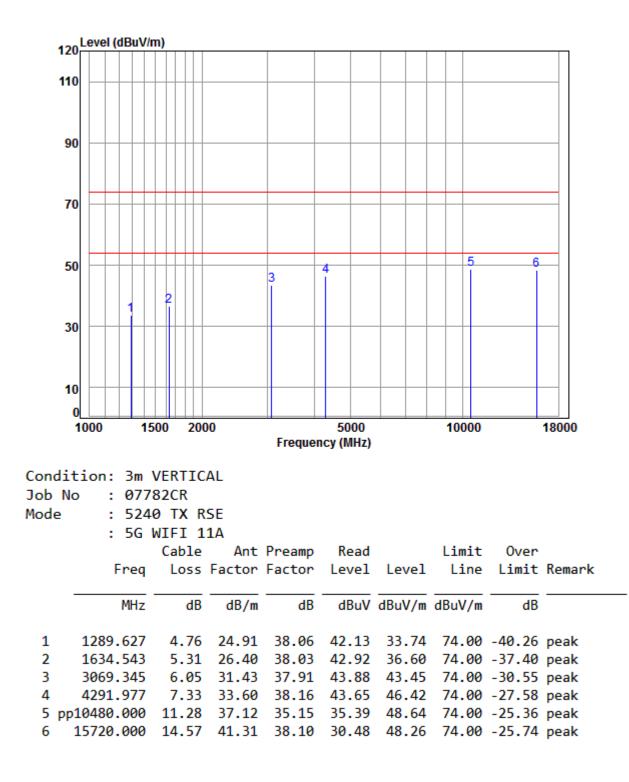
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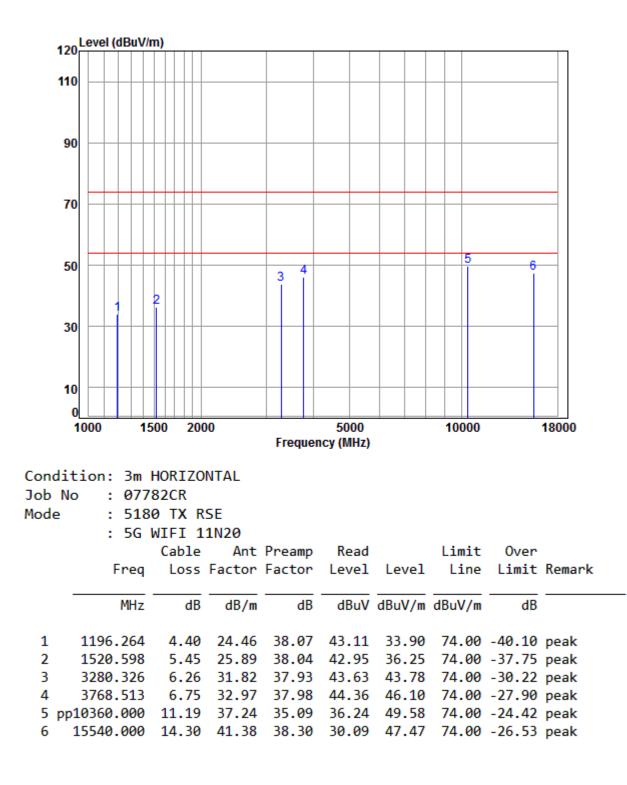
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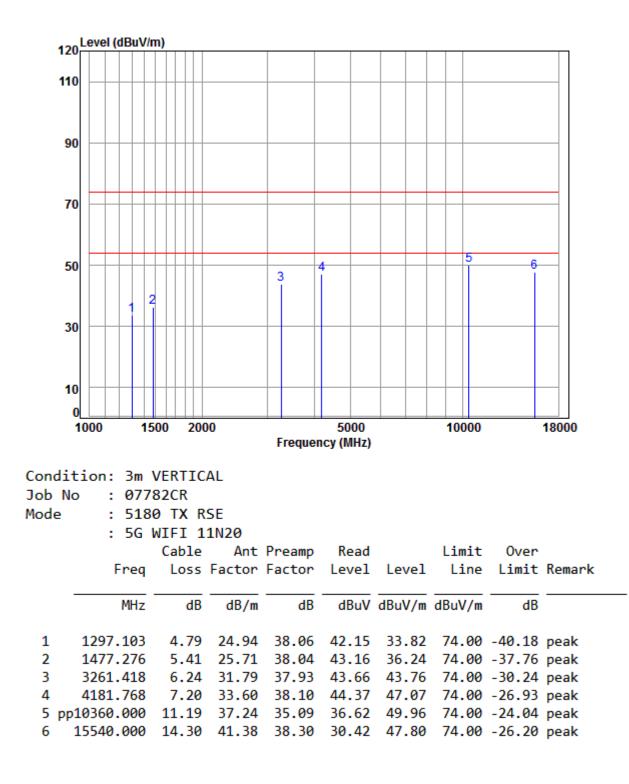
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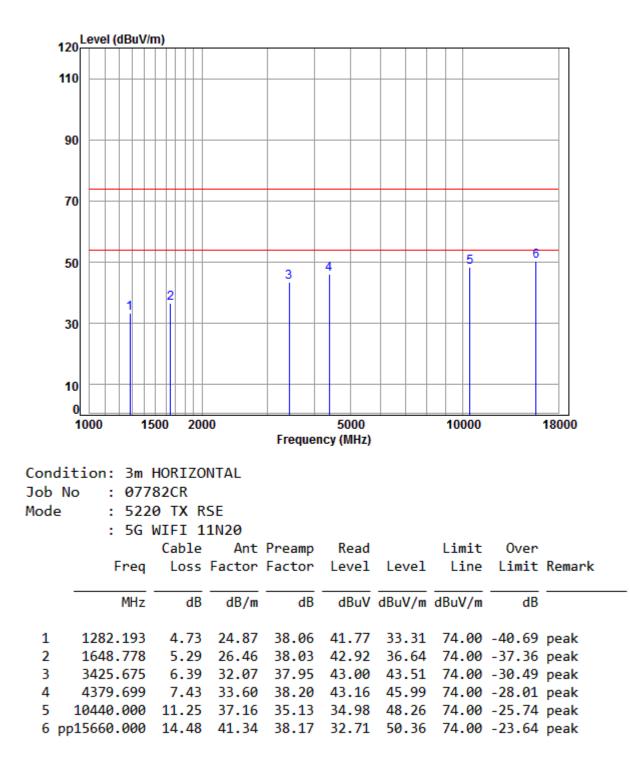
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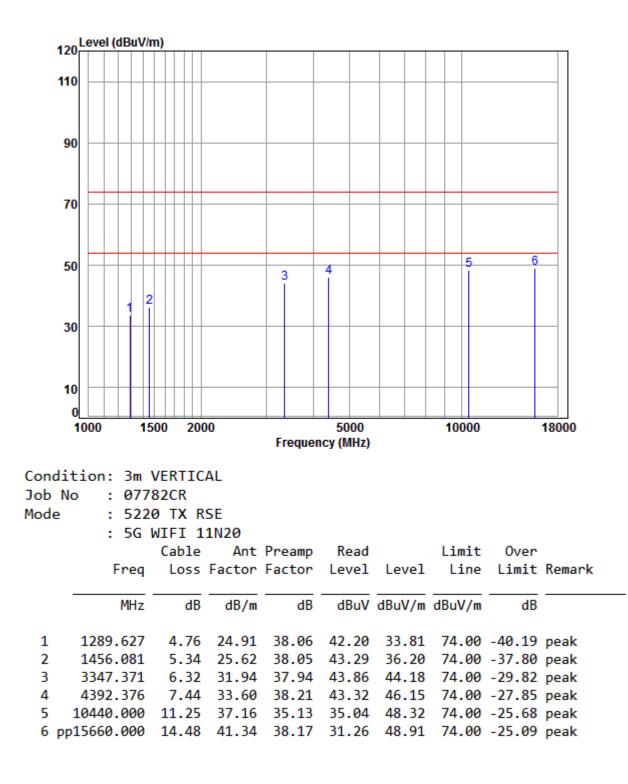
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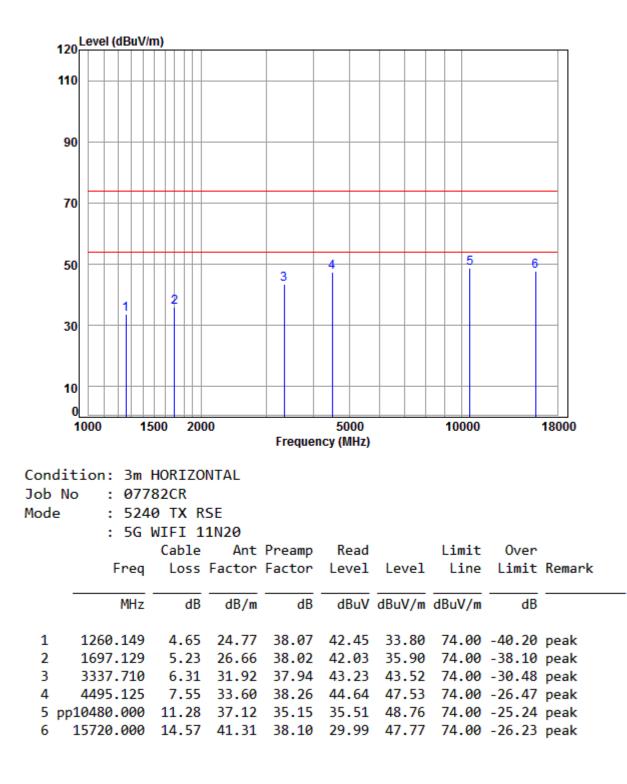
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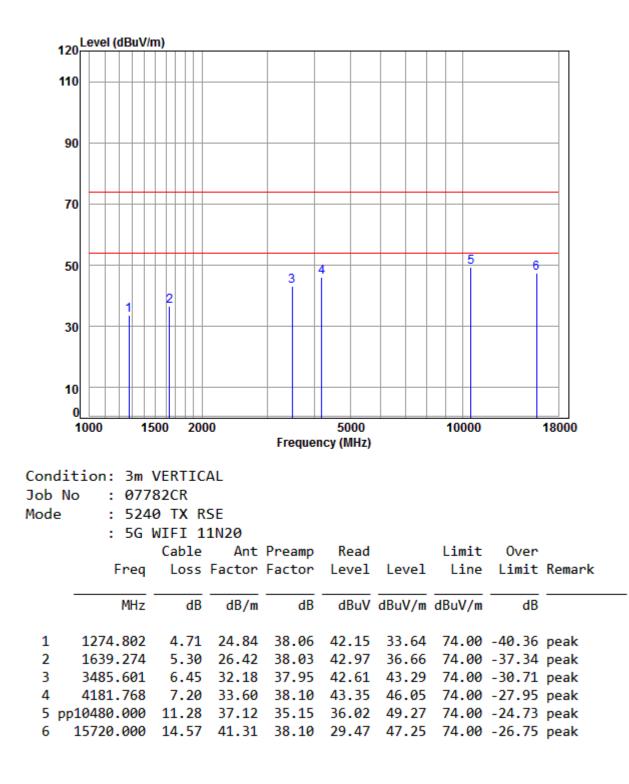
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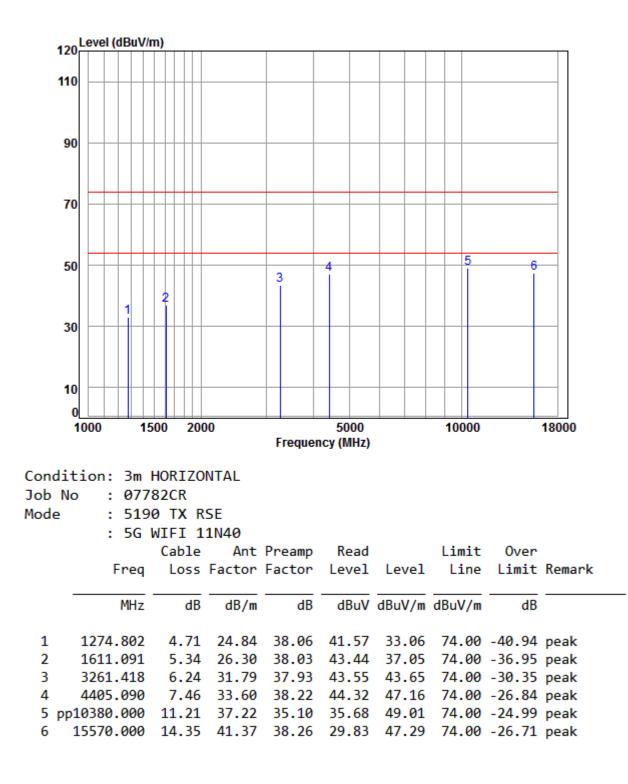
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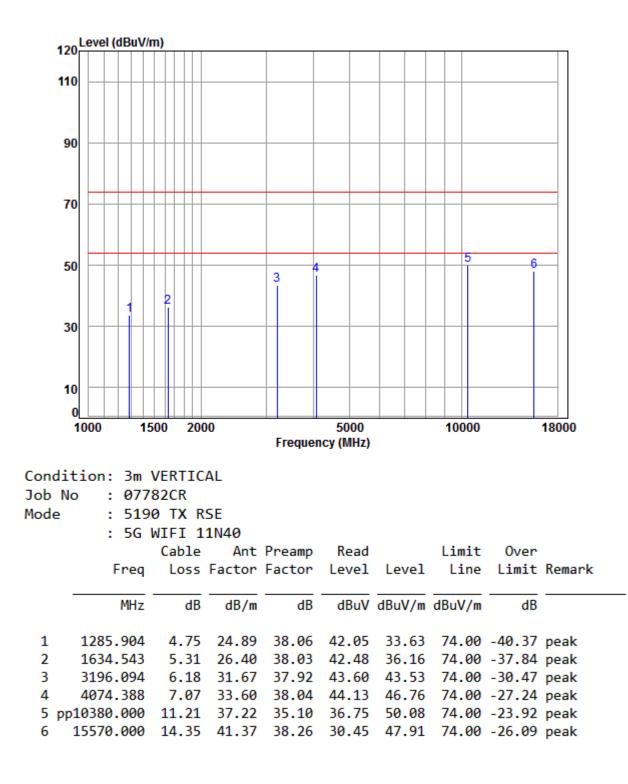
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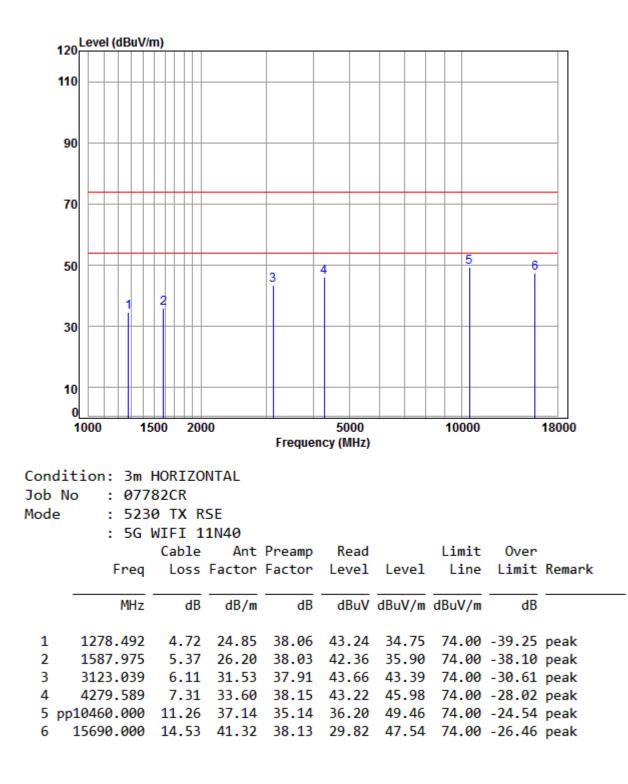
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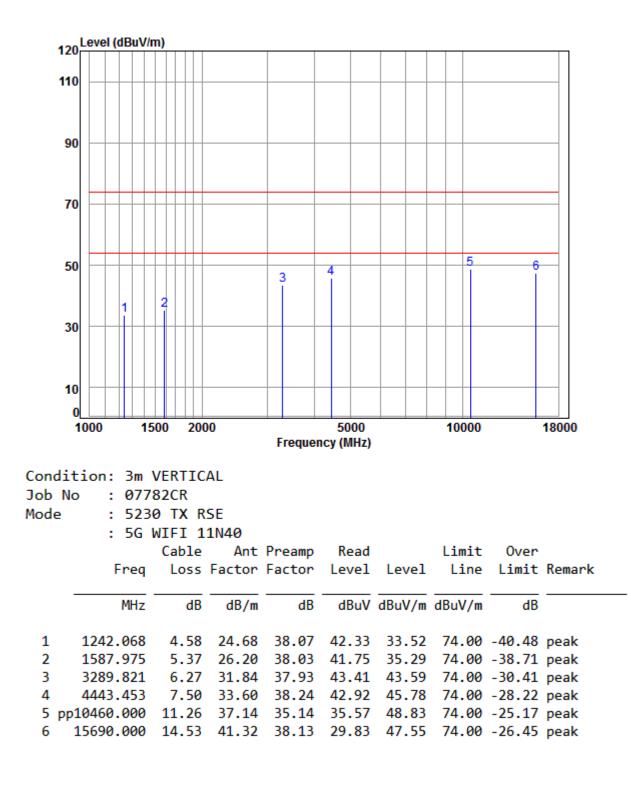
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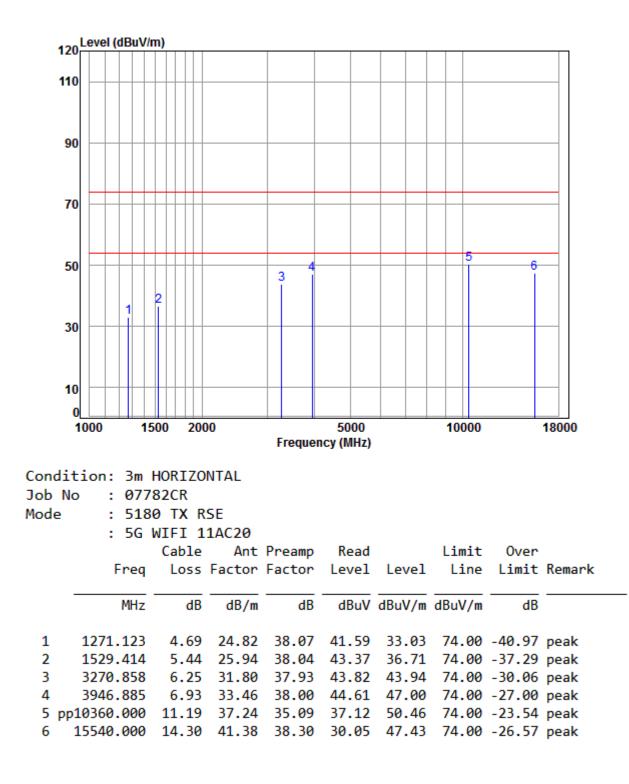
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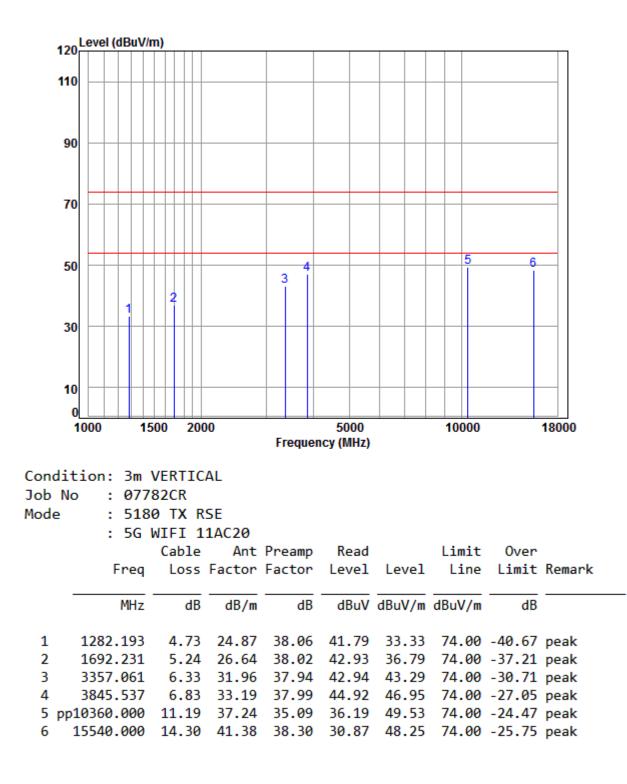
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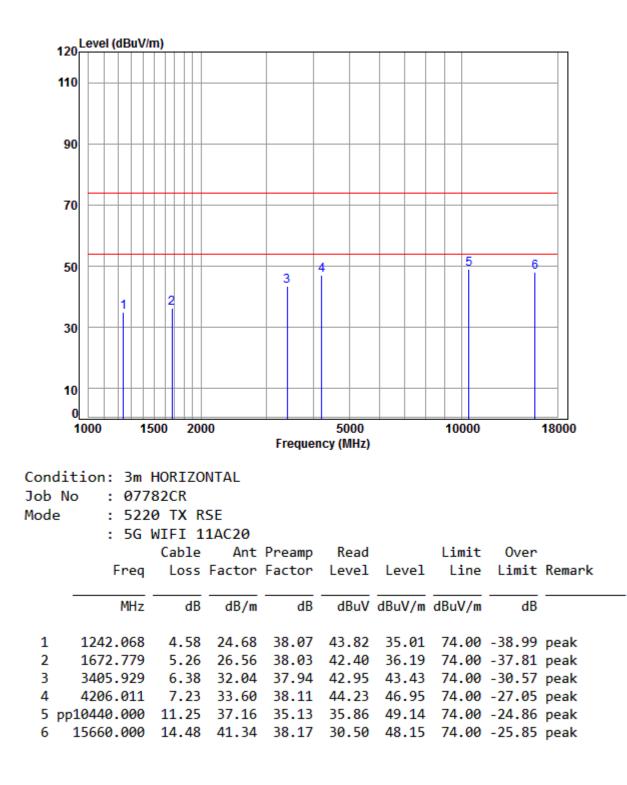
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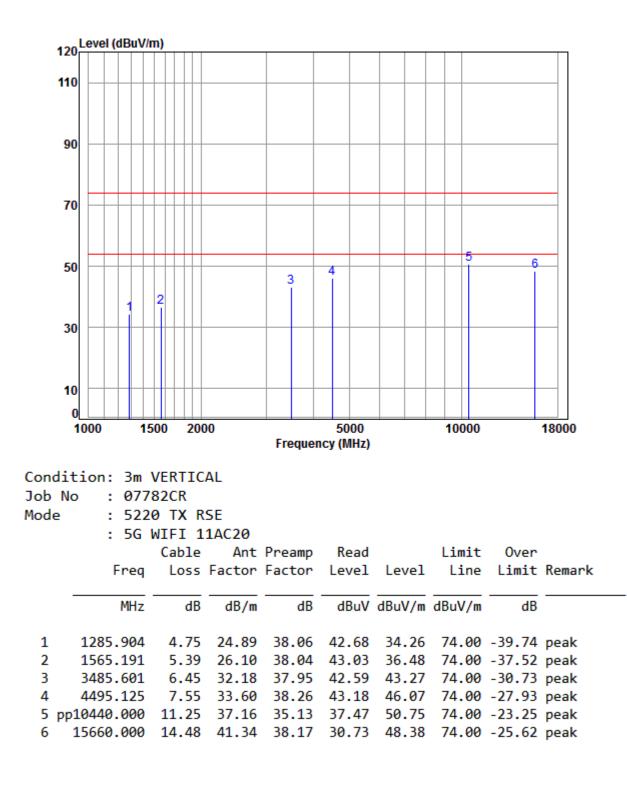
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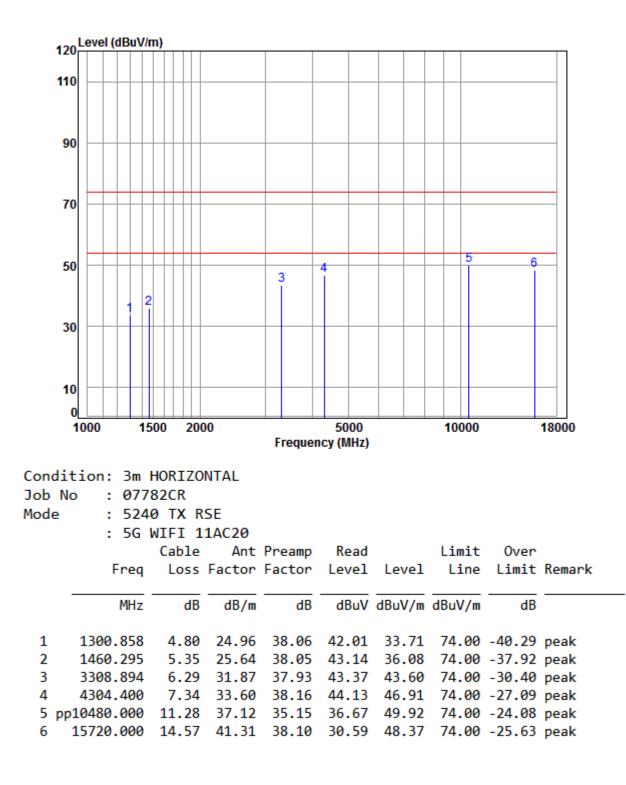
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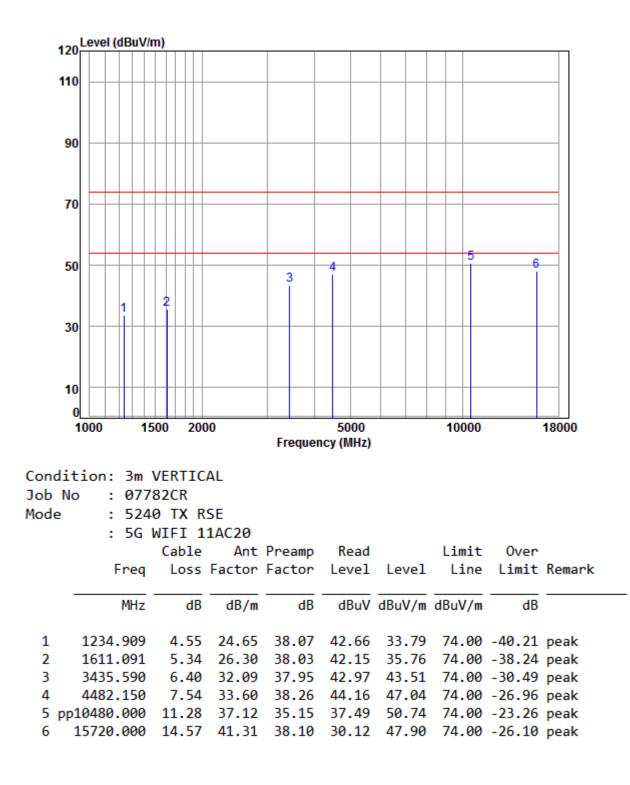
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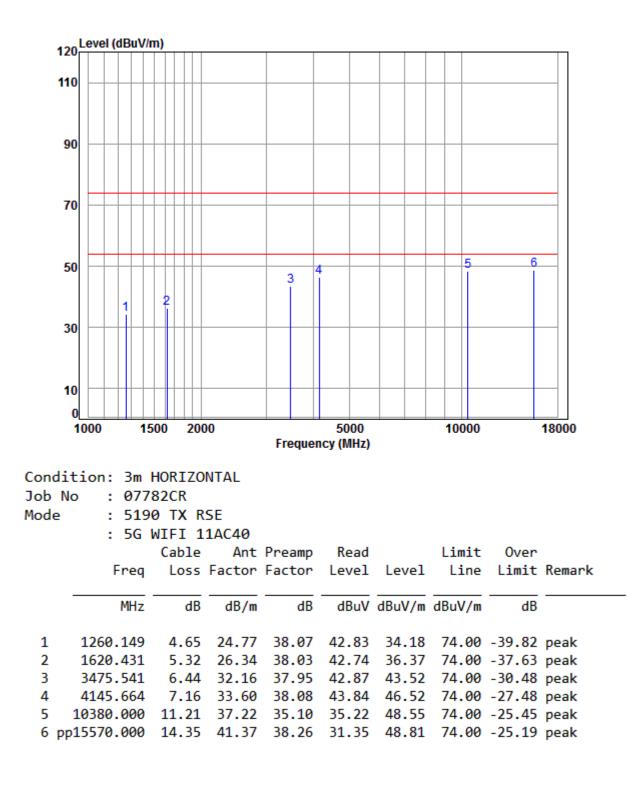
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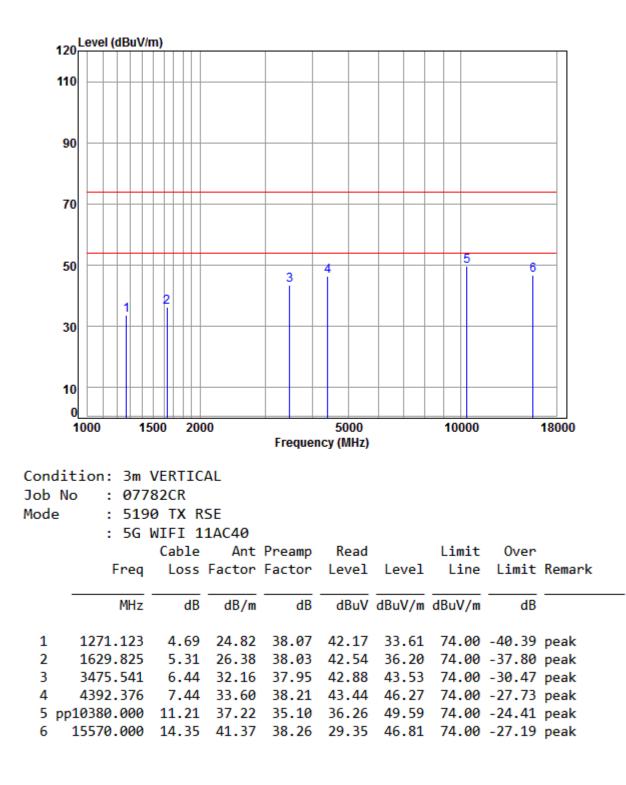
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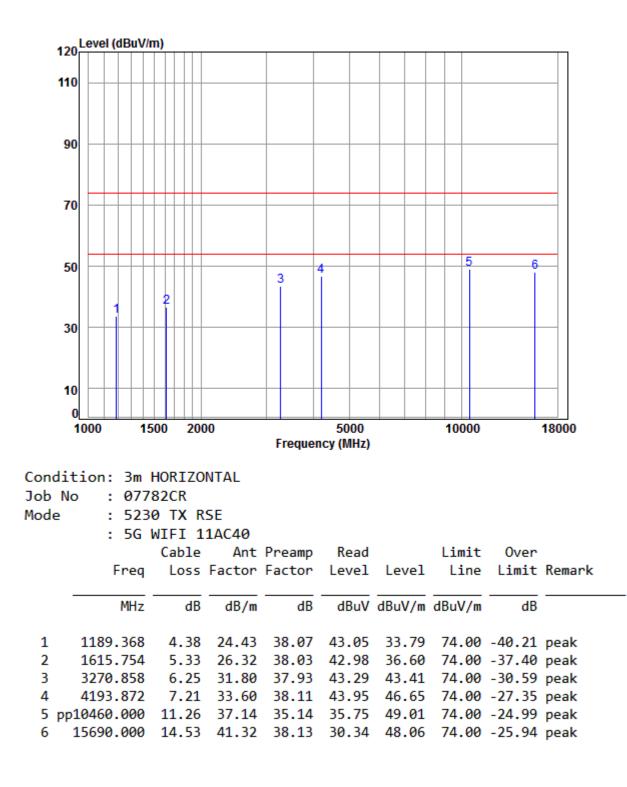
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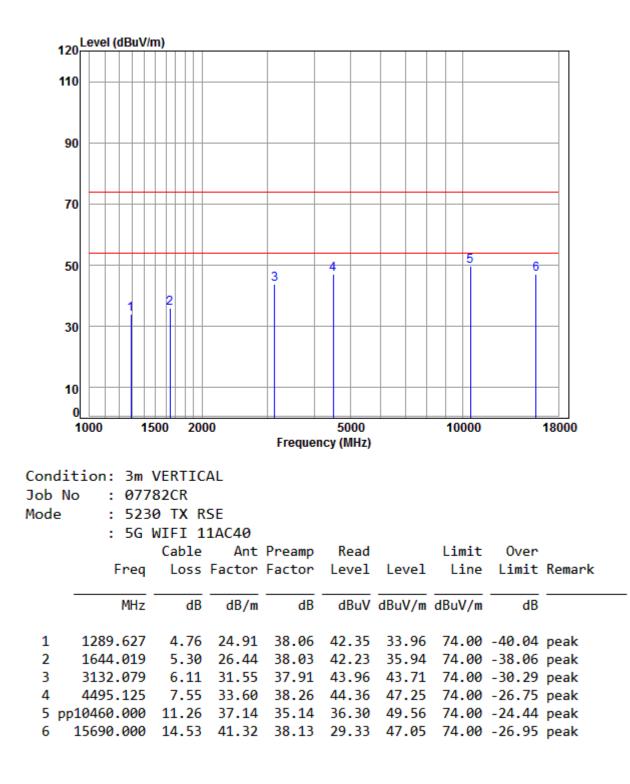
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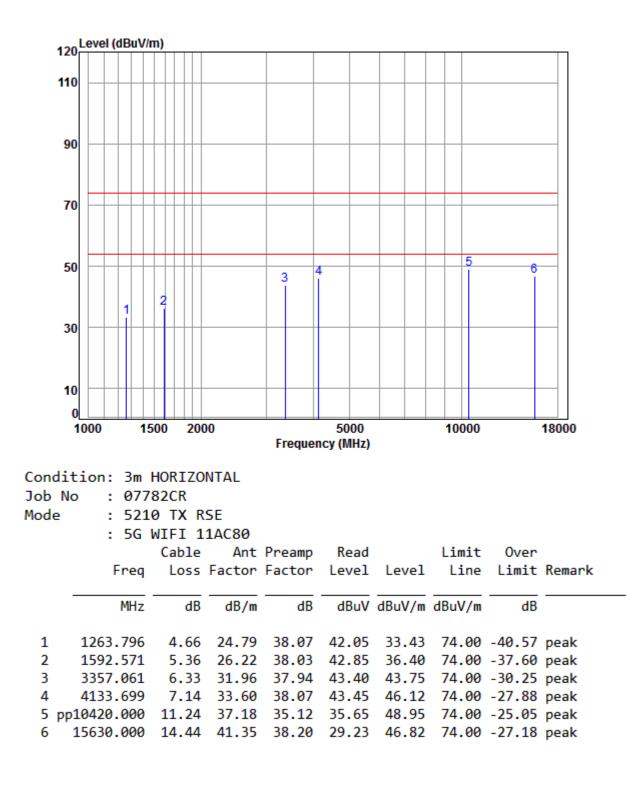
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:80MHz; Channel:middle

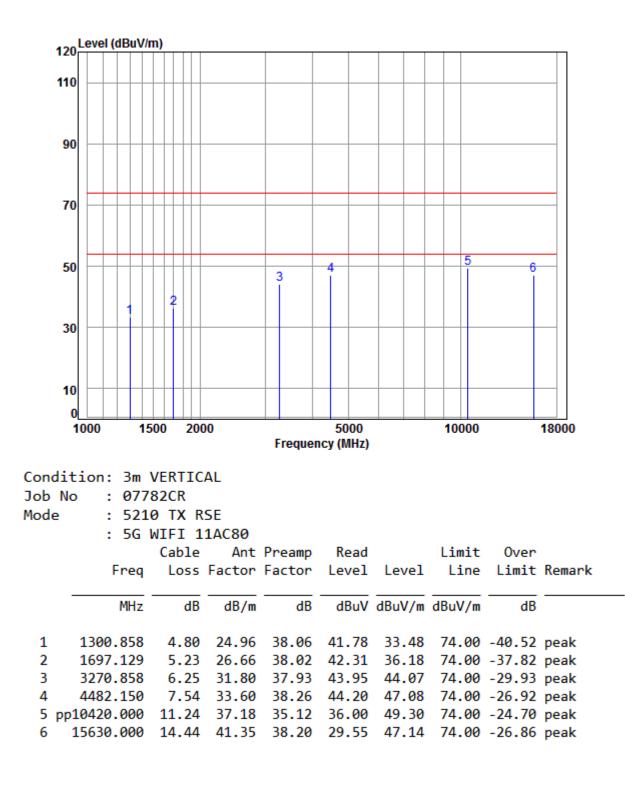


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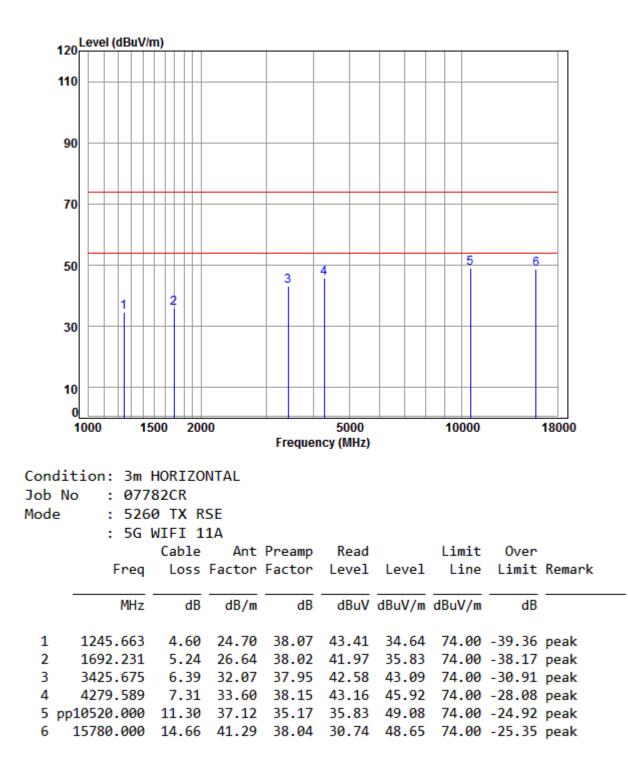
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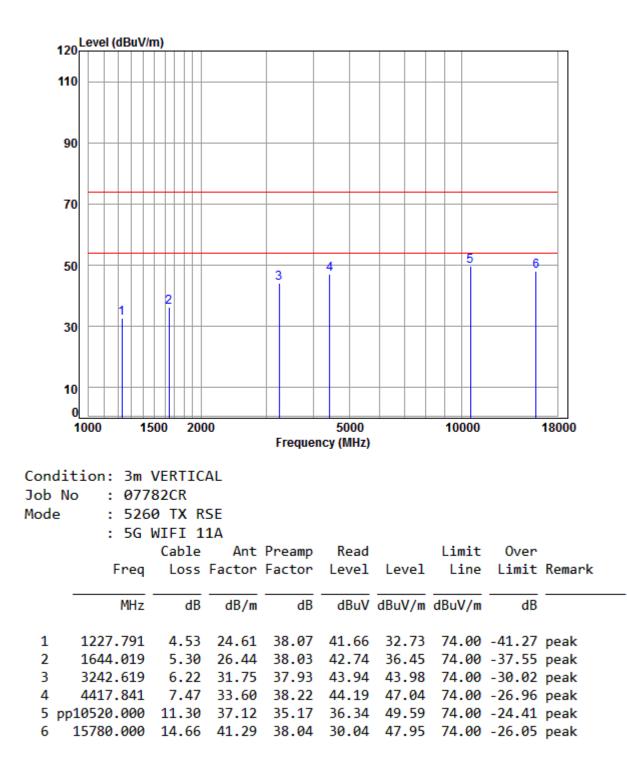
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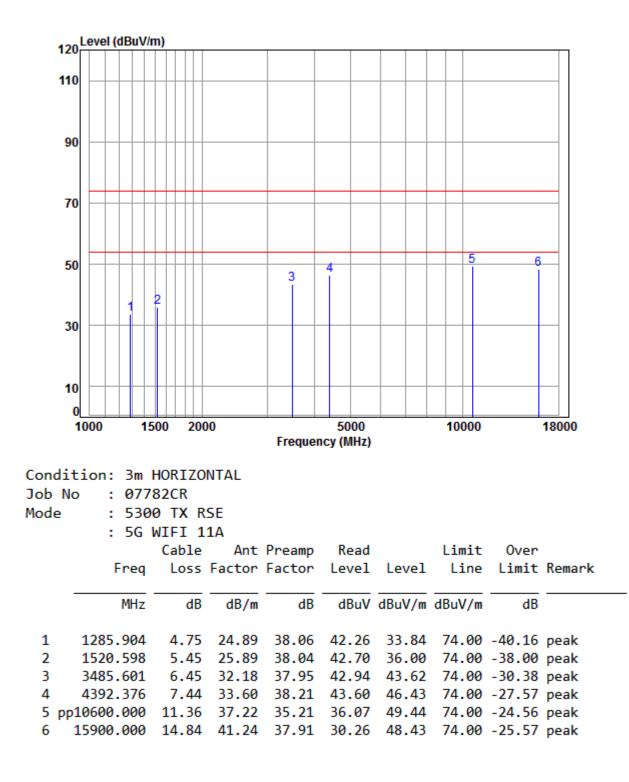
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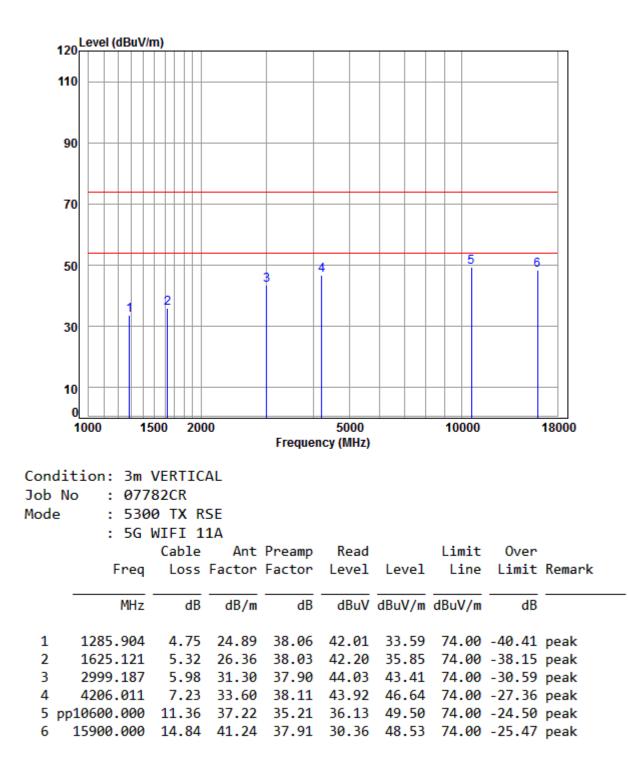
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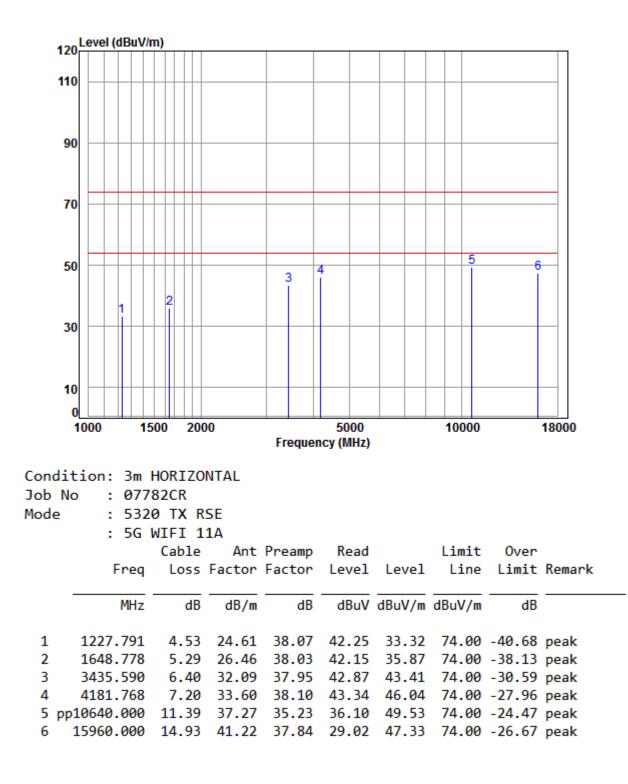
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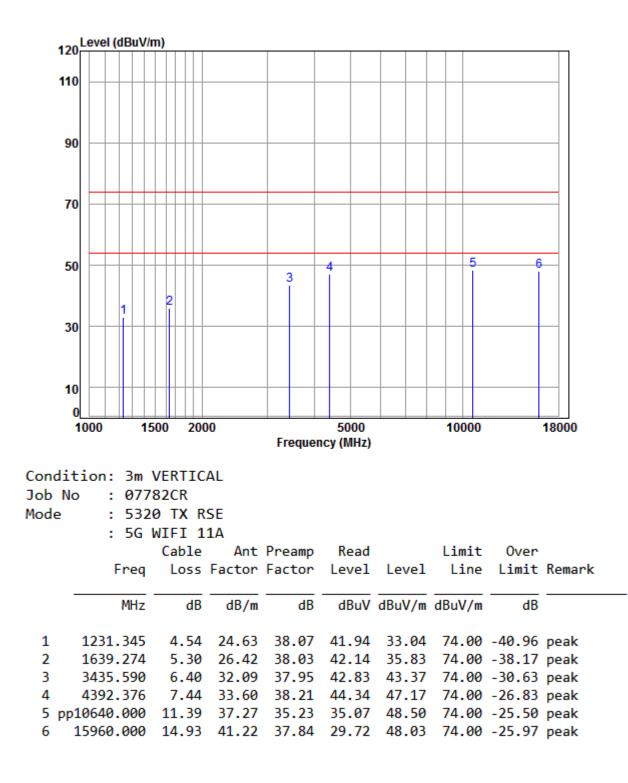
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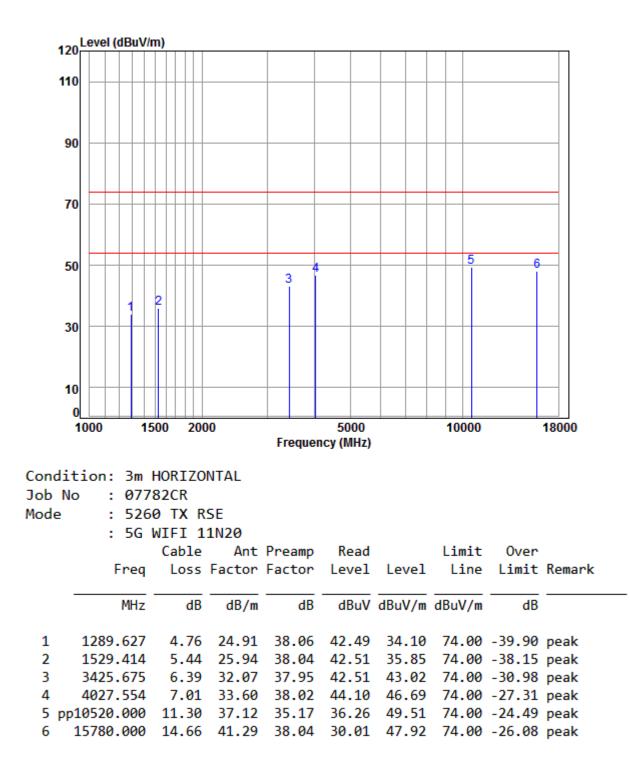
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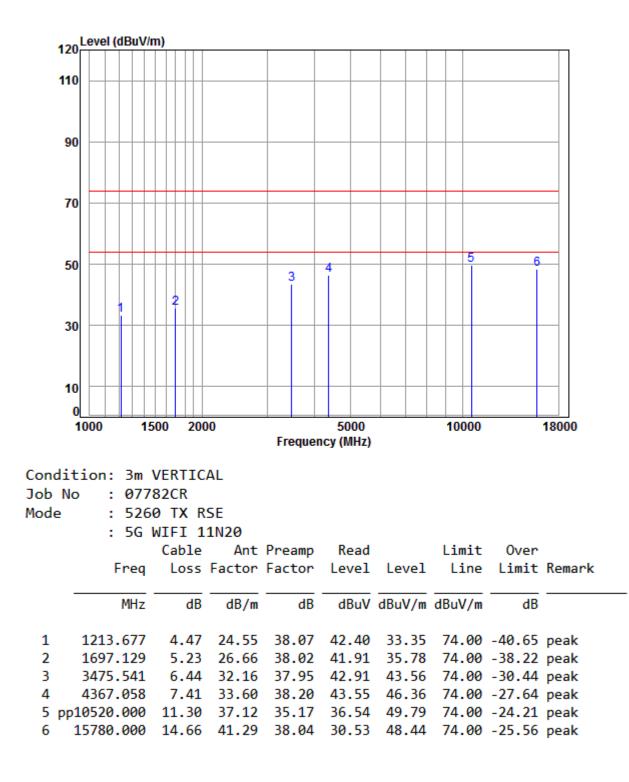
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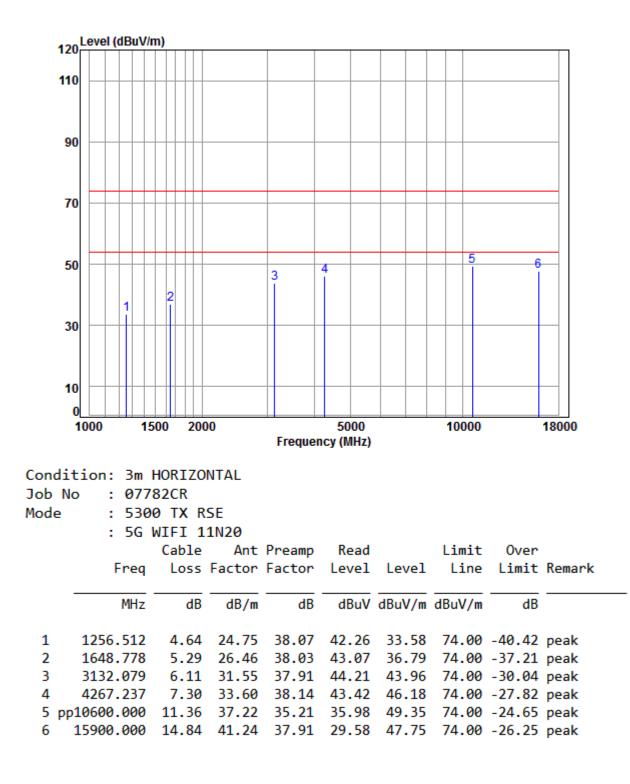
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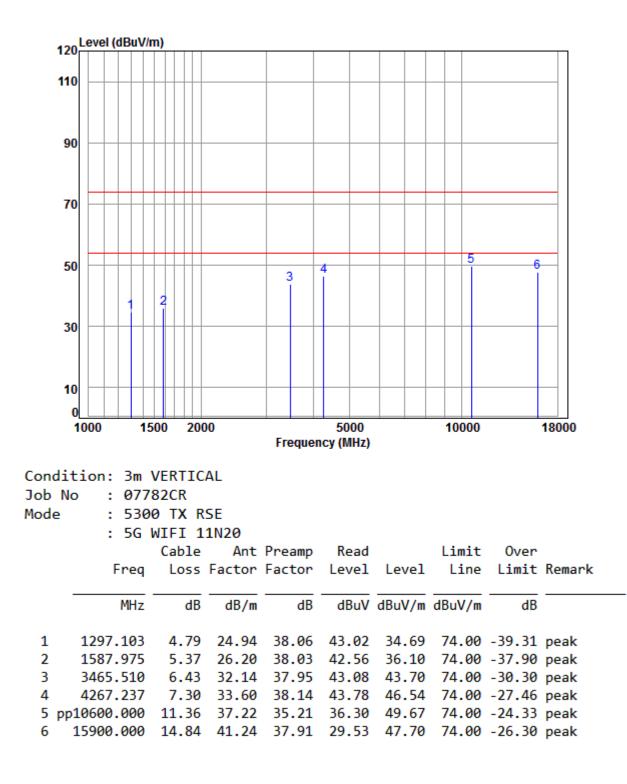
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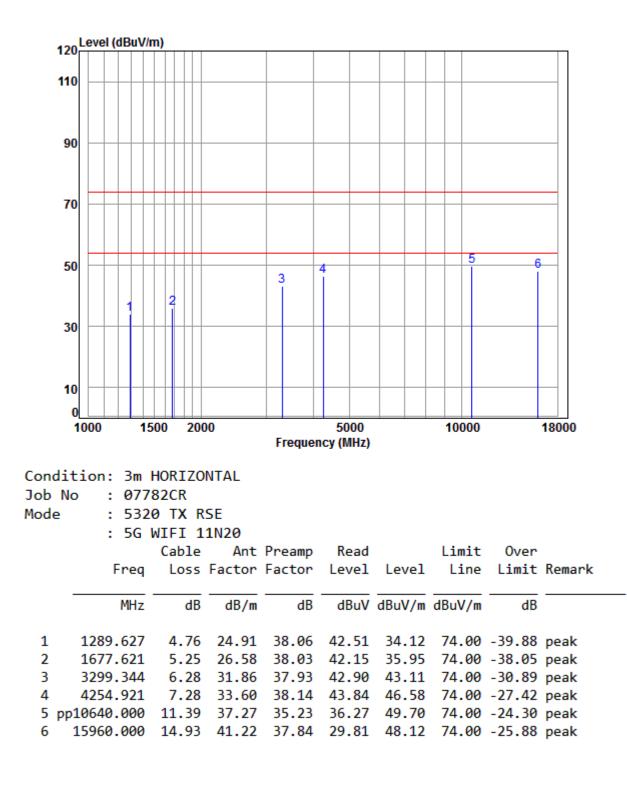
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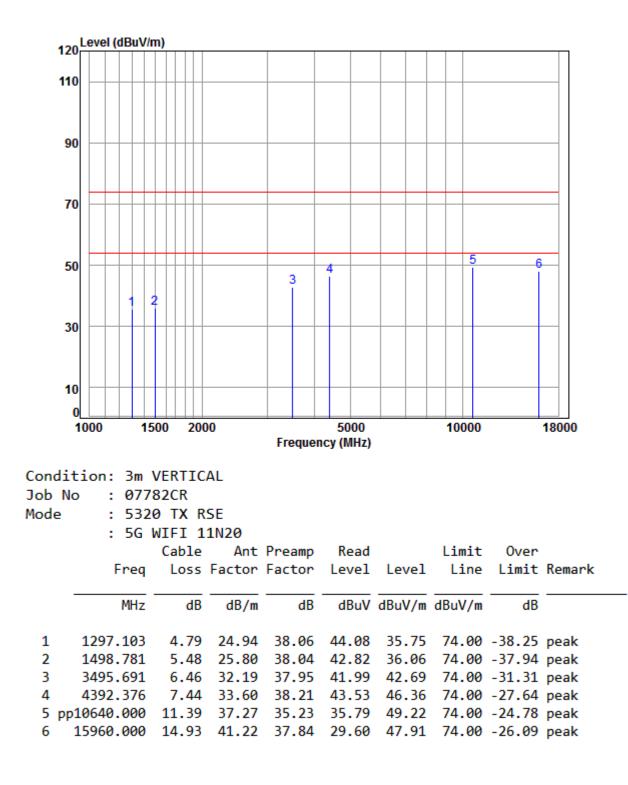
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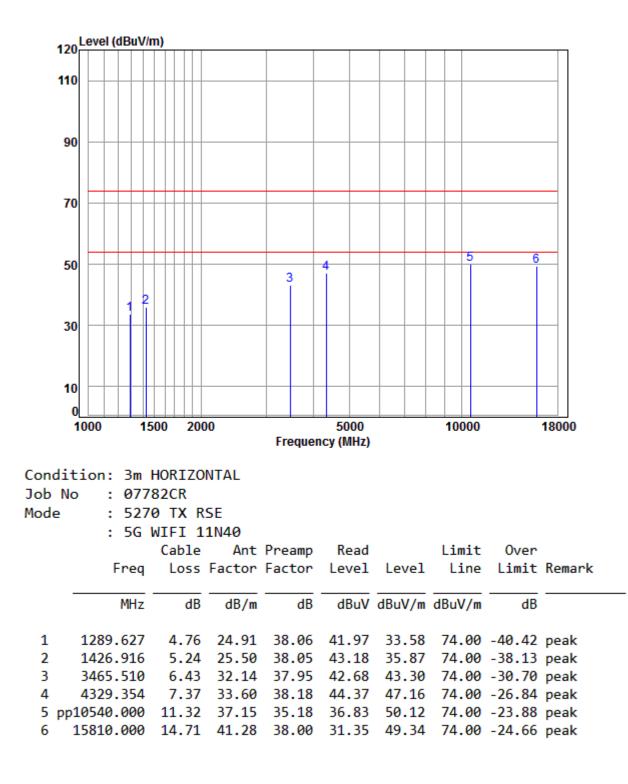
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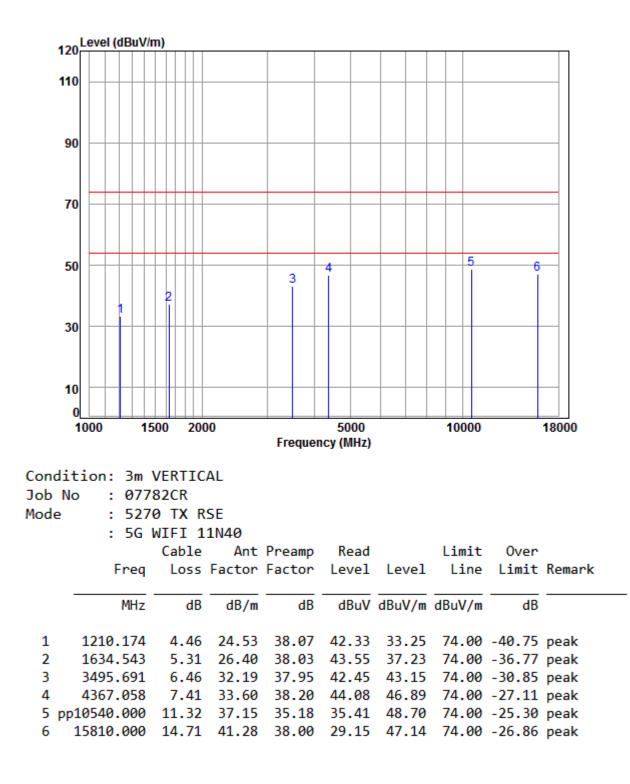
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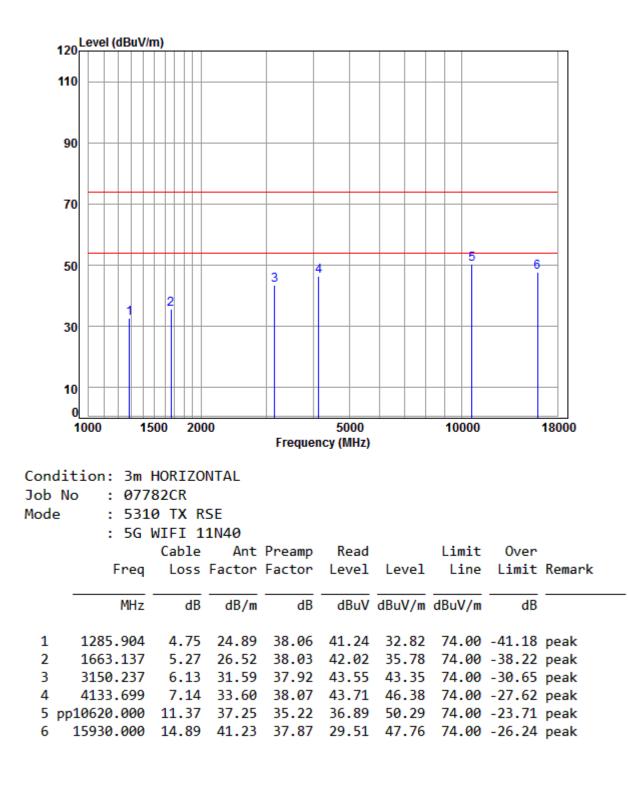
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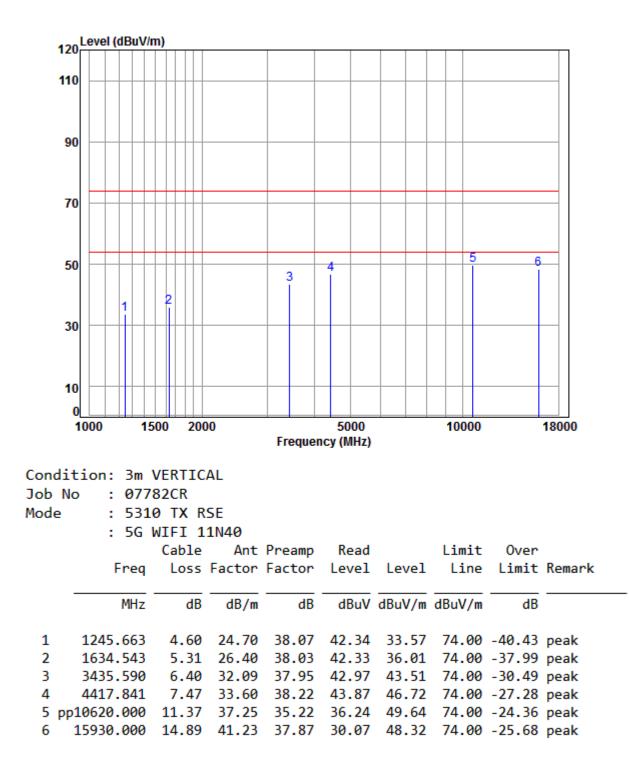
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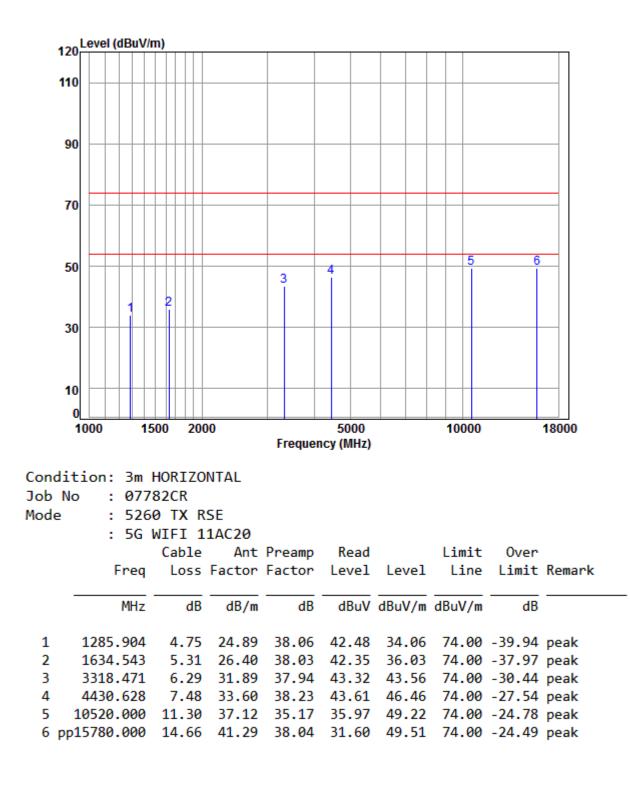
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Mode:e; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:Low

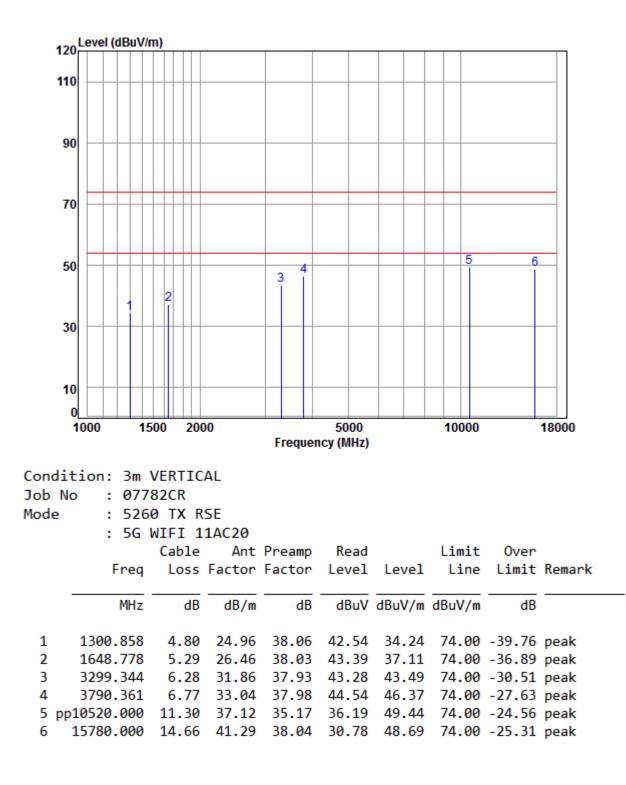


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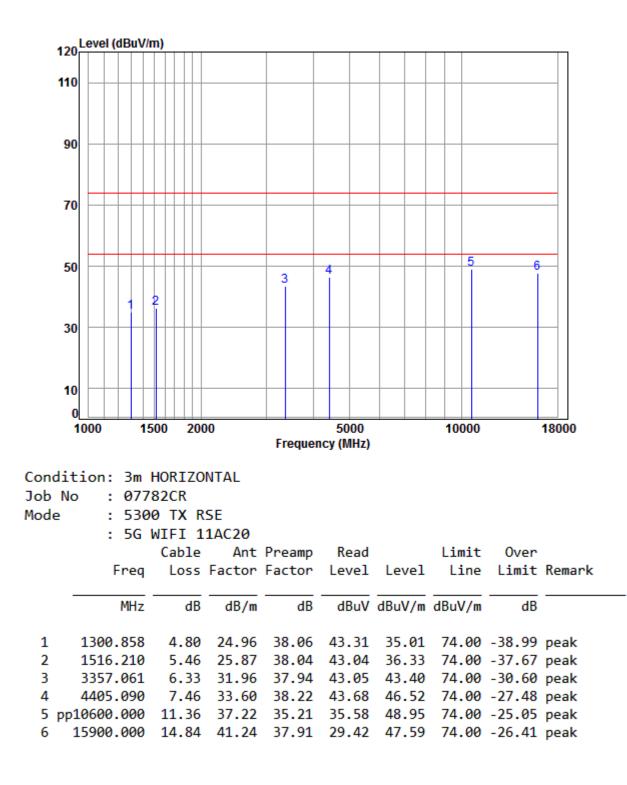
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Mode:e; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:middle

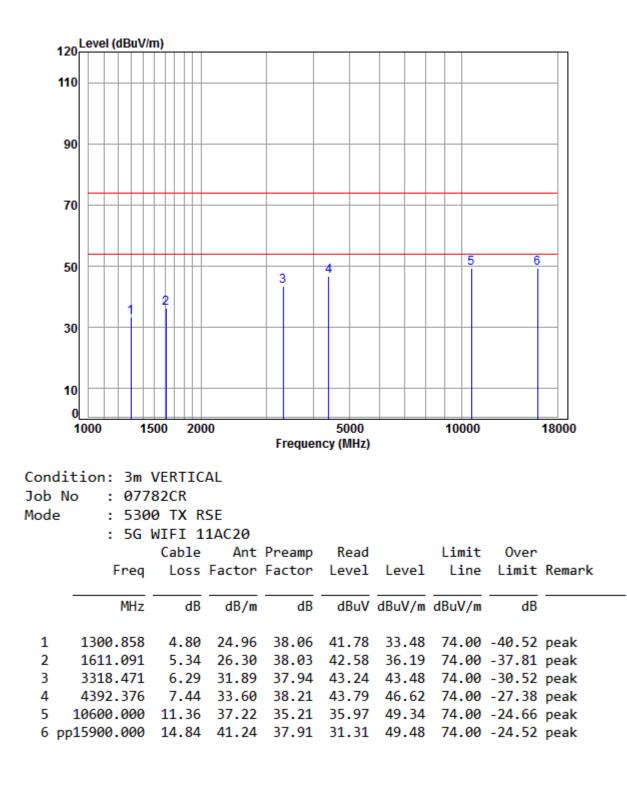


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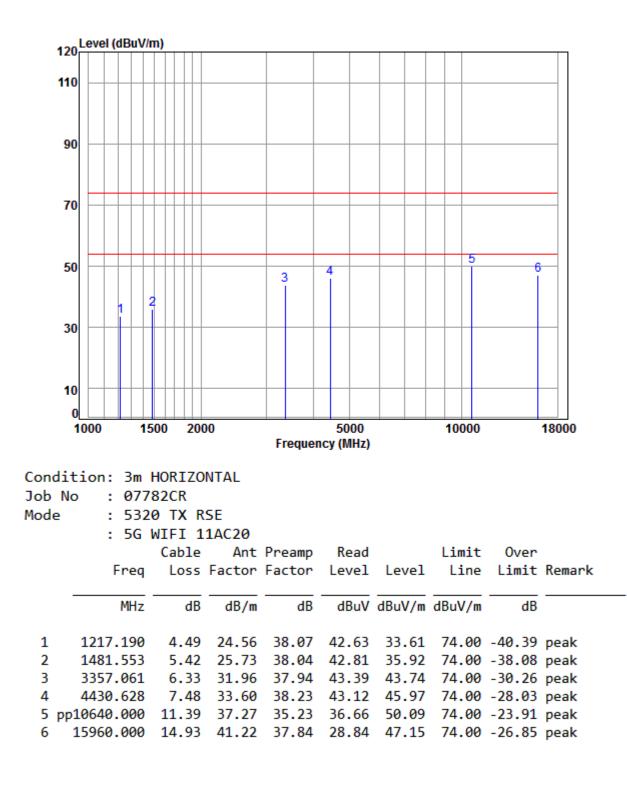
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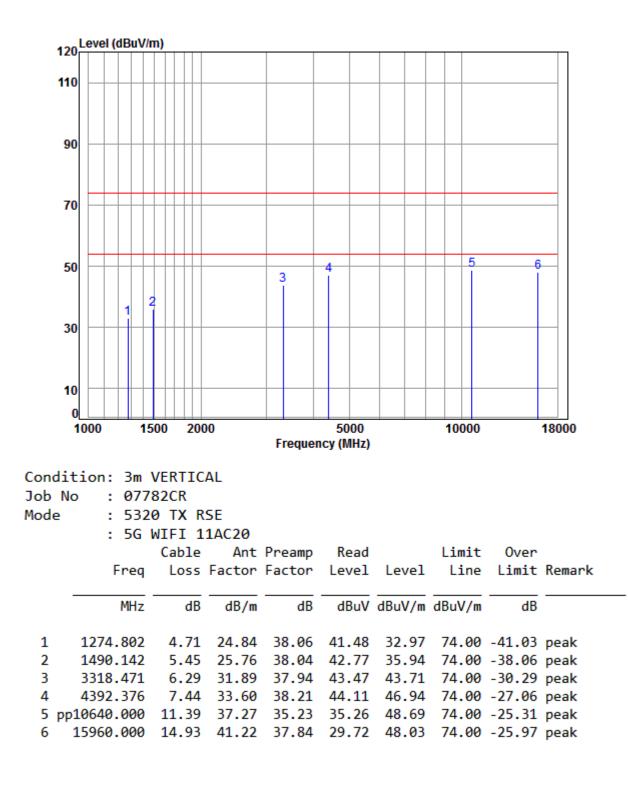


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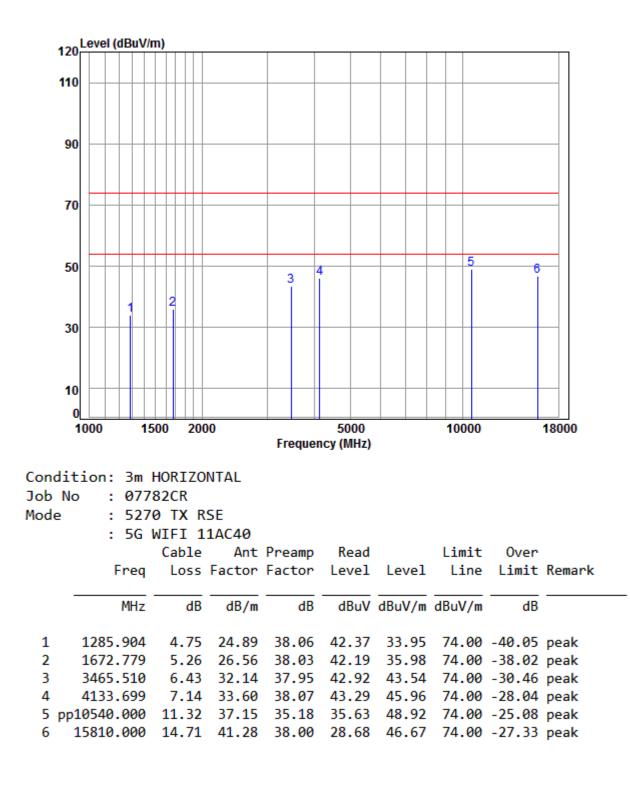
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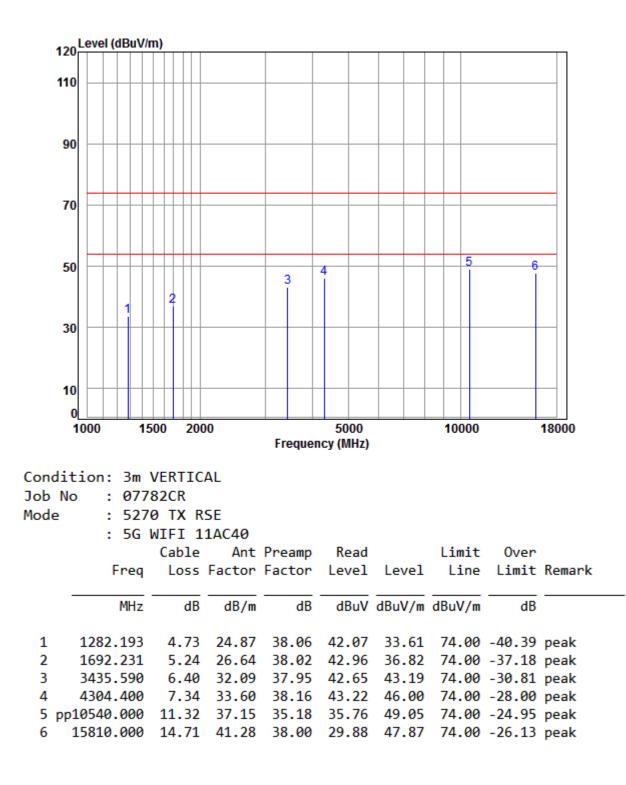
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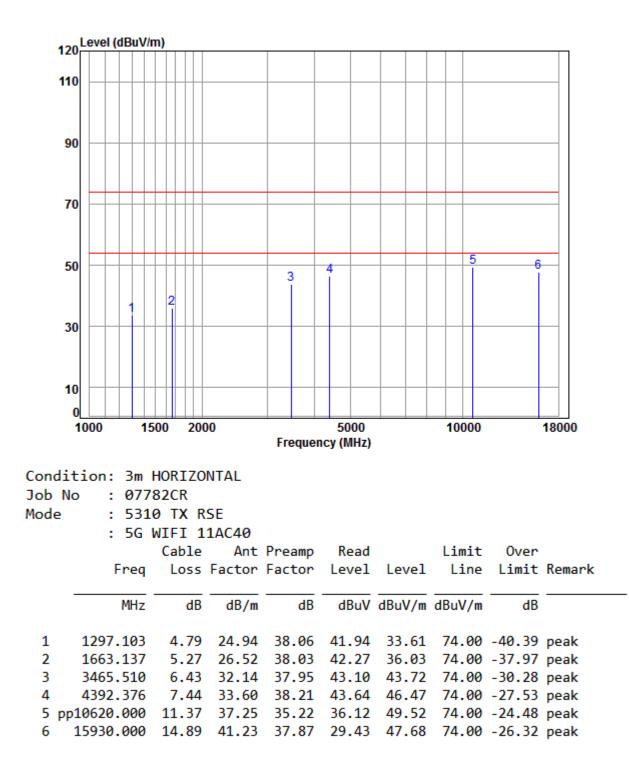
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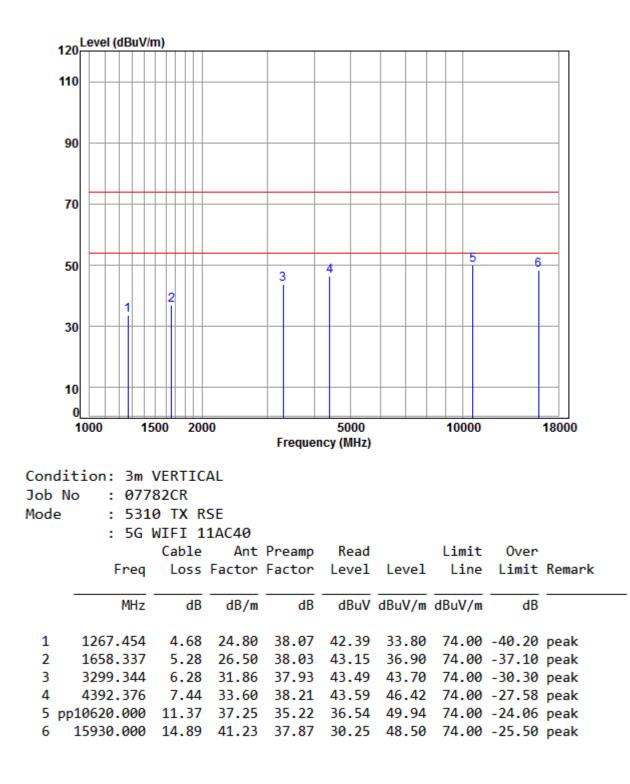
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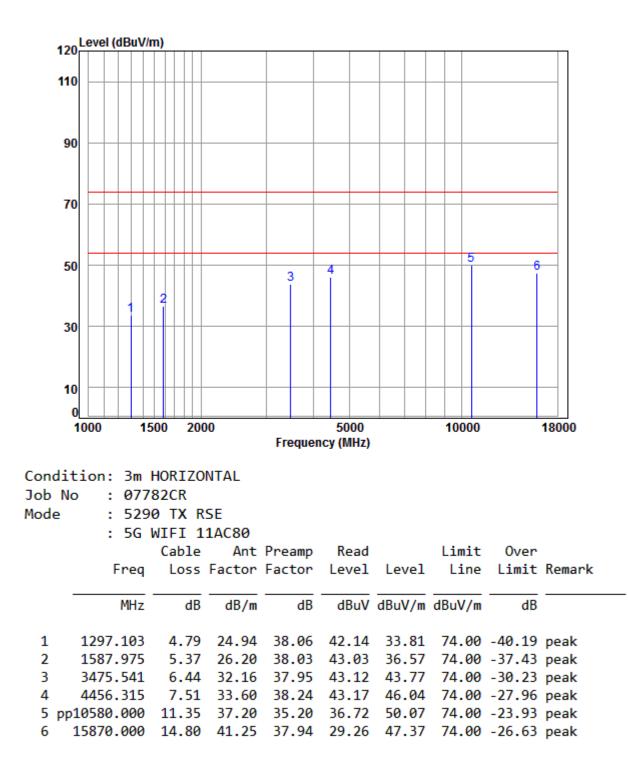
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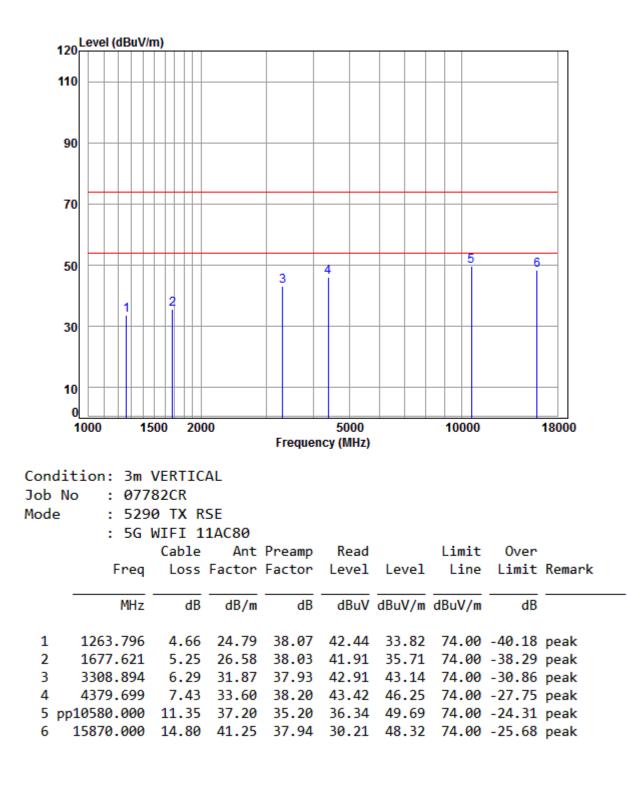
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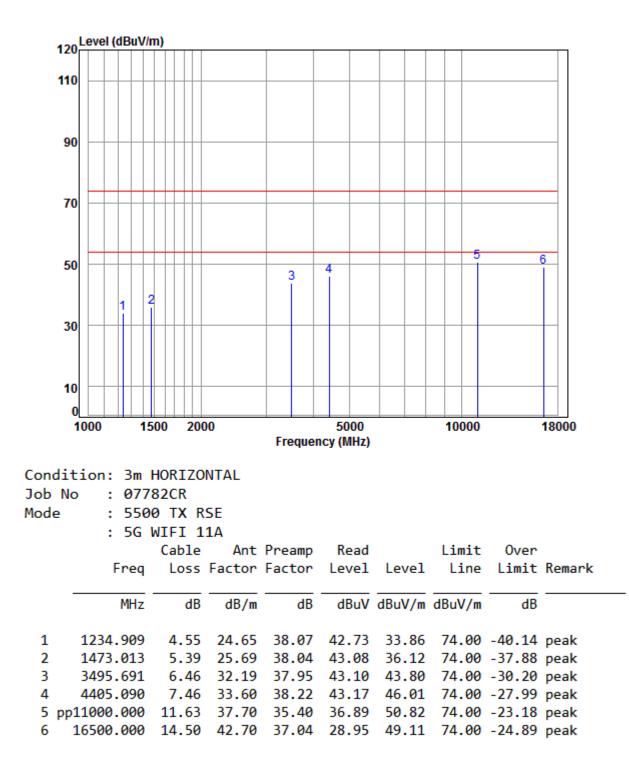
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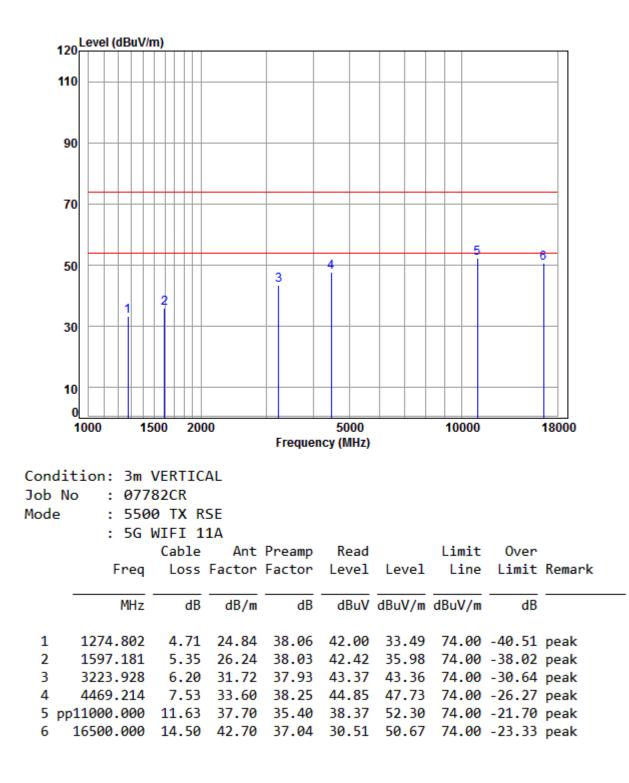
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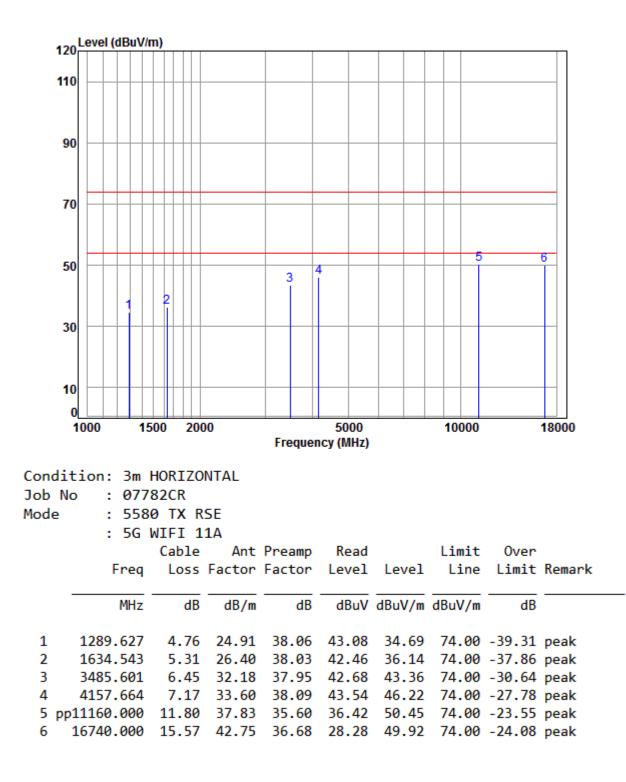
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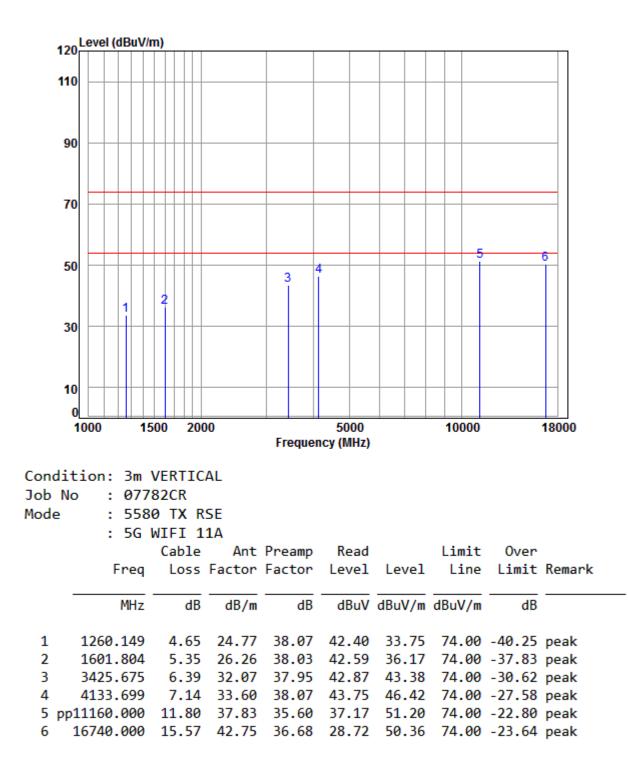
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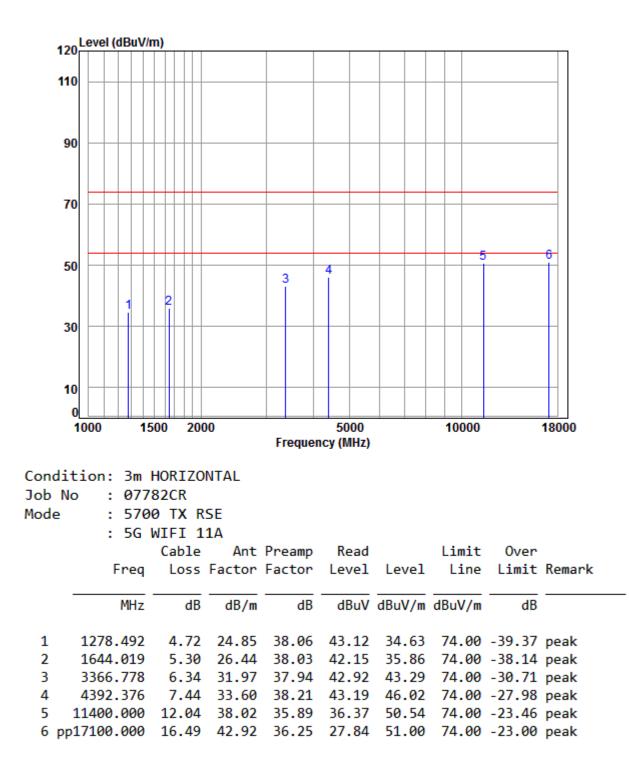
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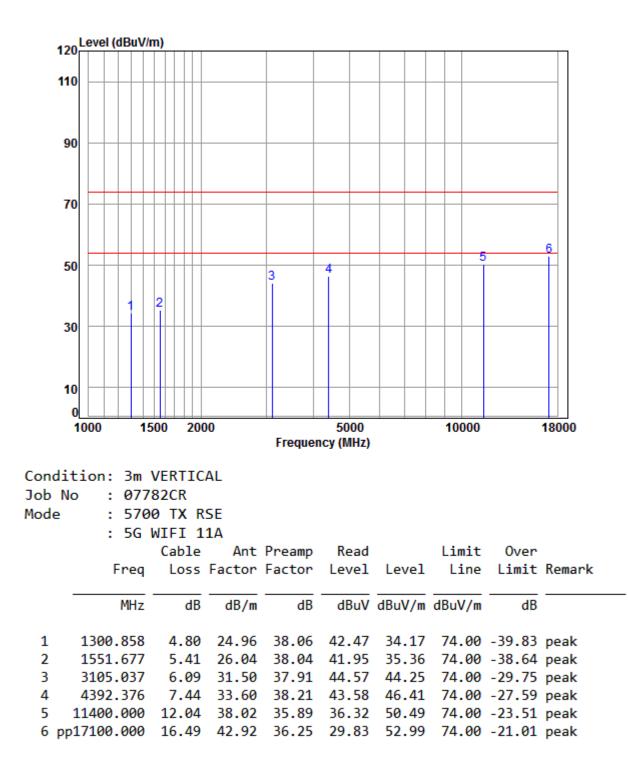
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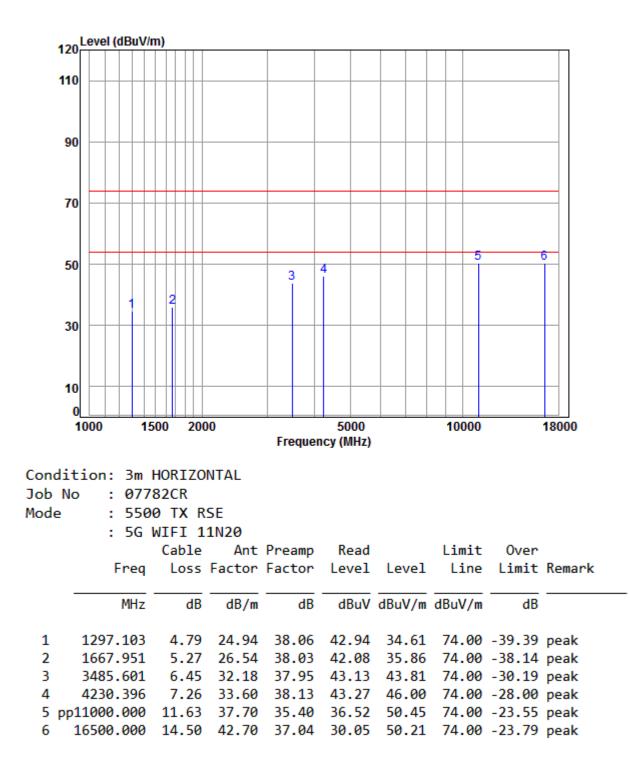
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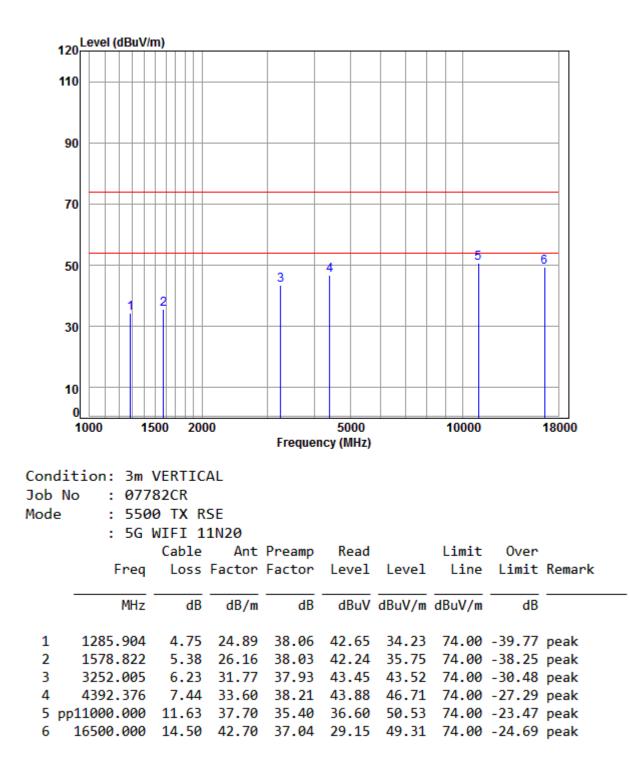
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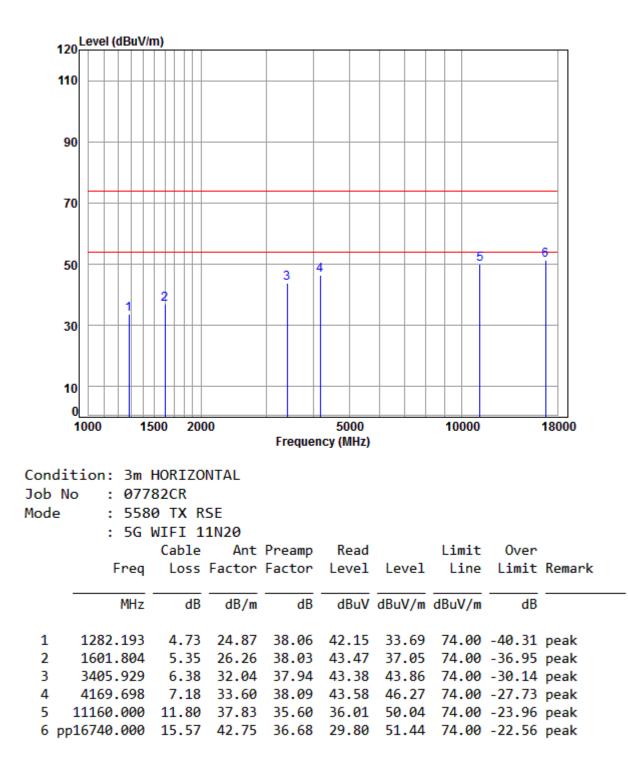
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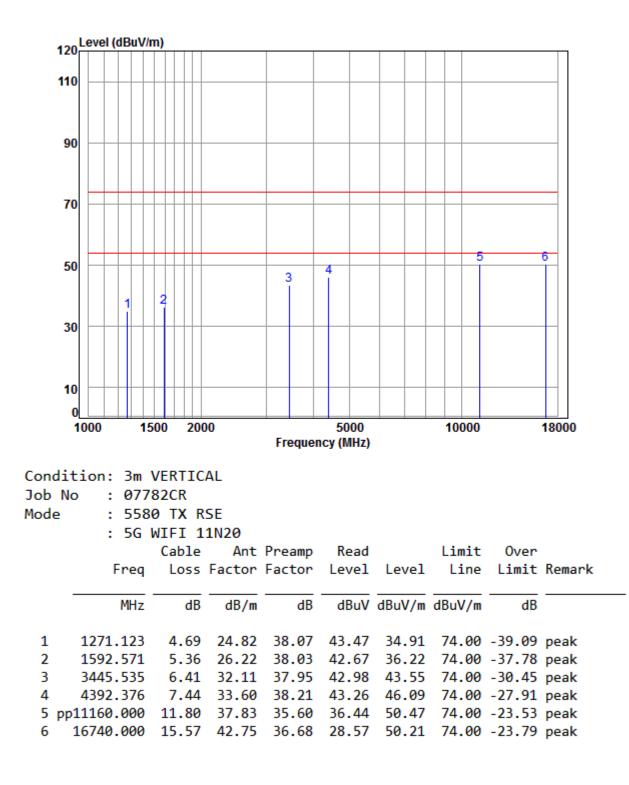
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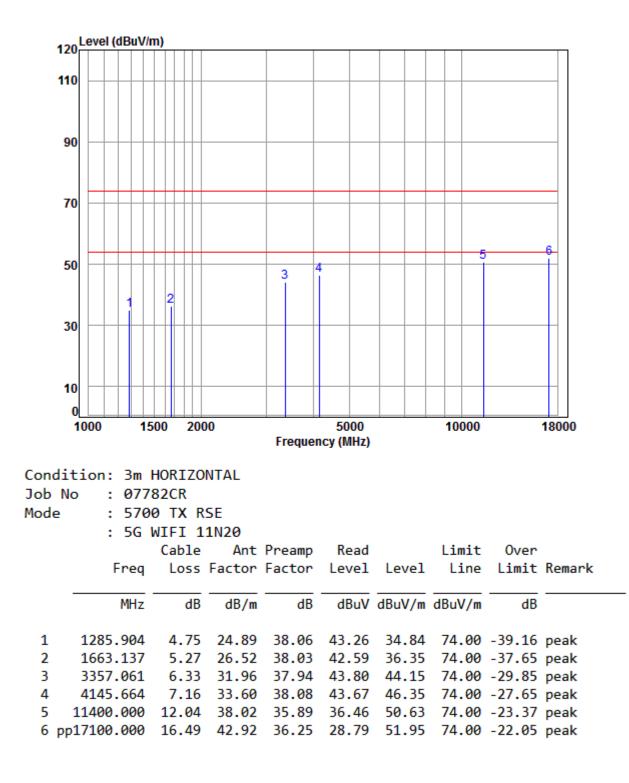
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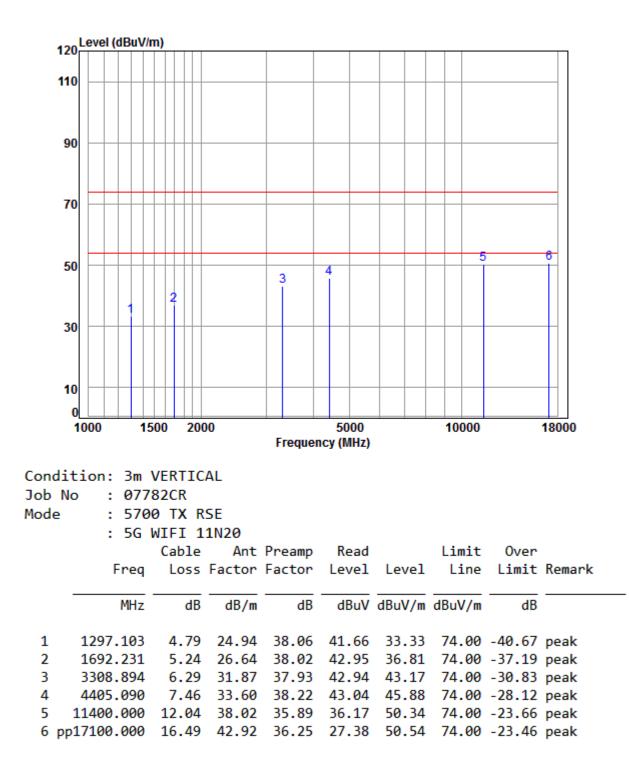
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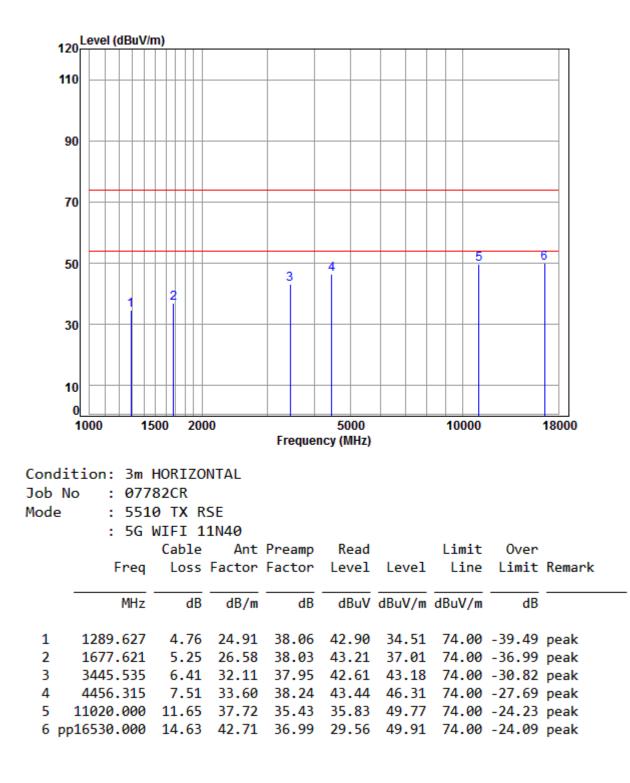
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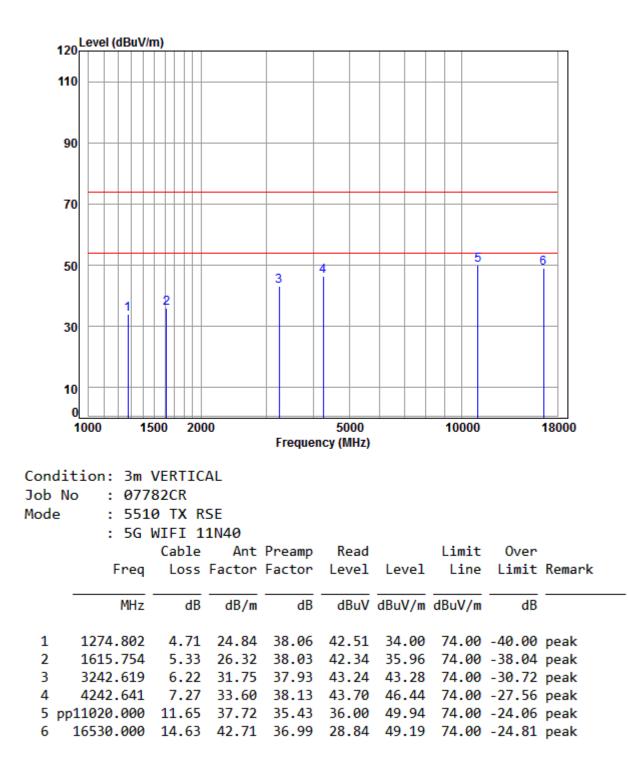
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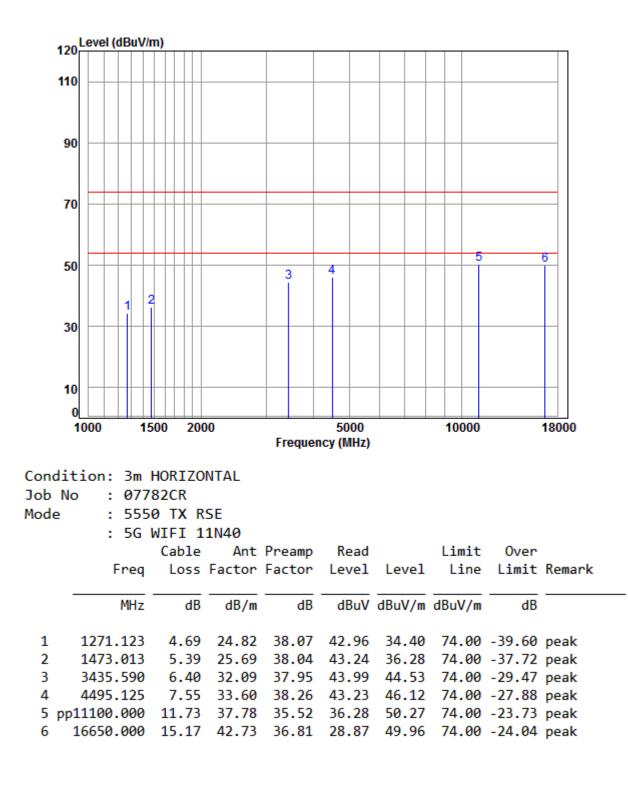
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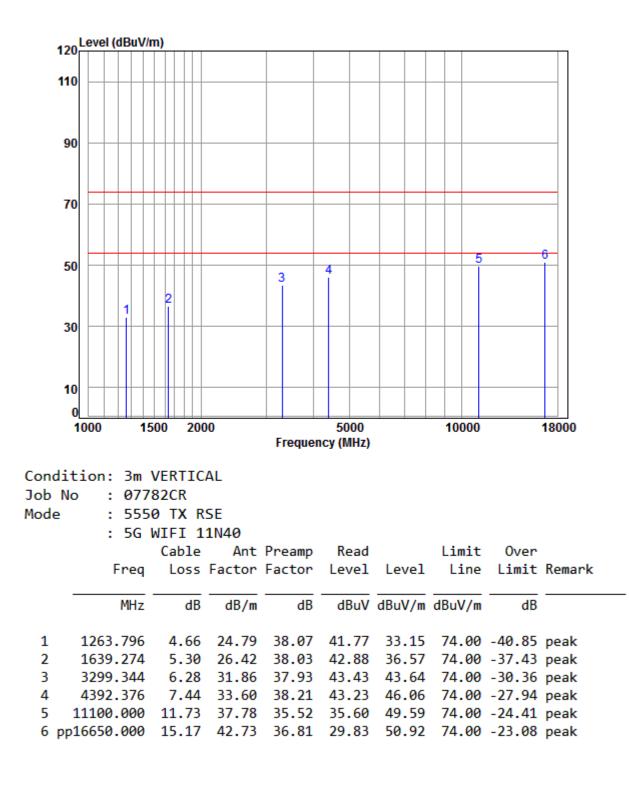
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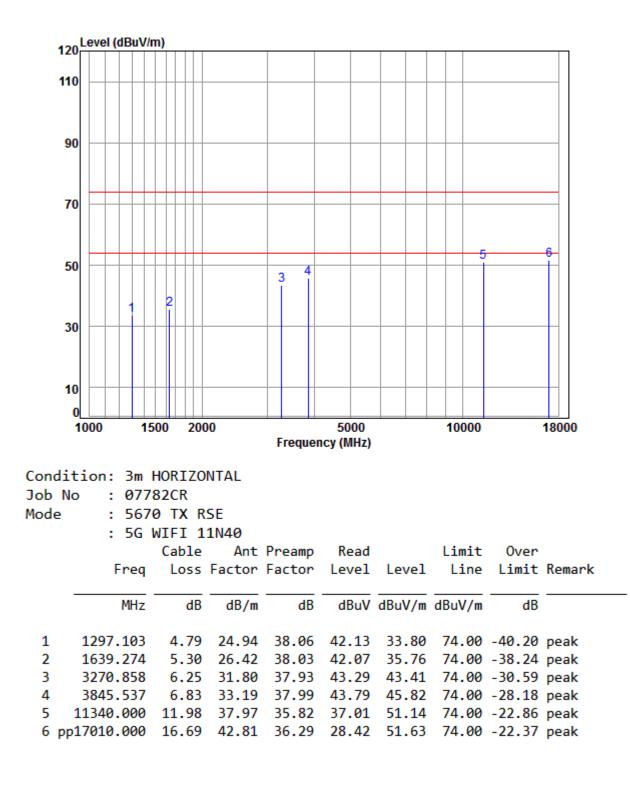
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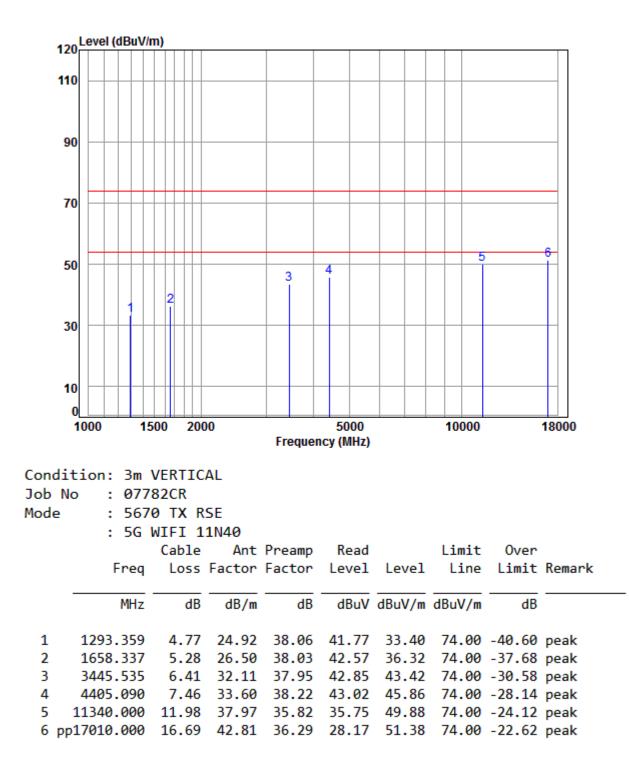
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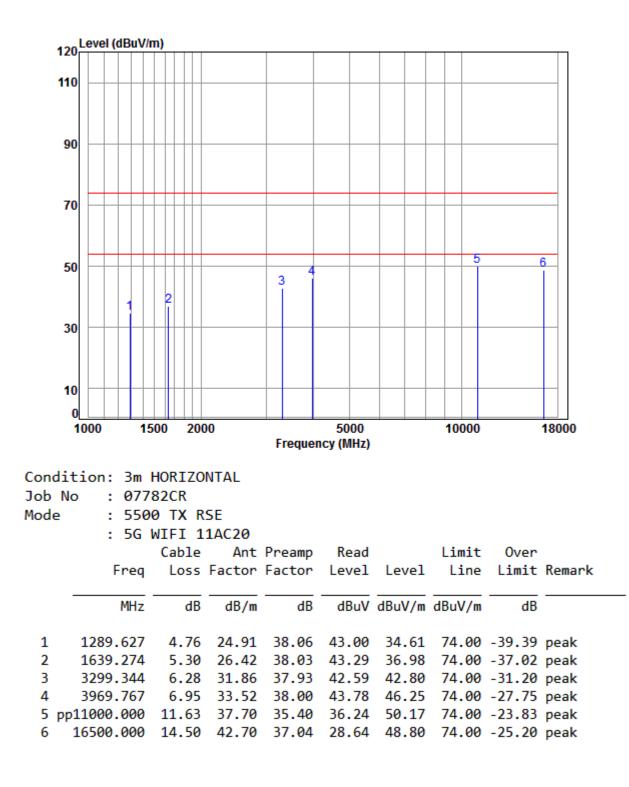
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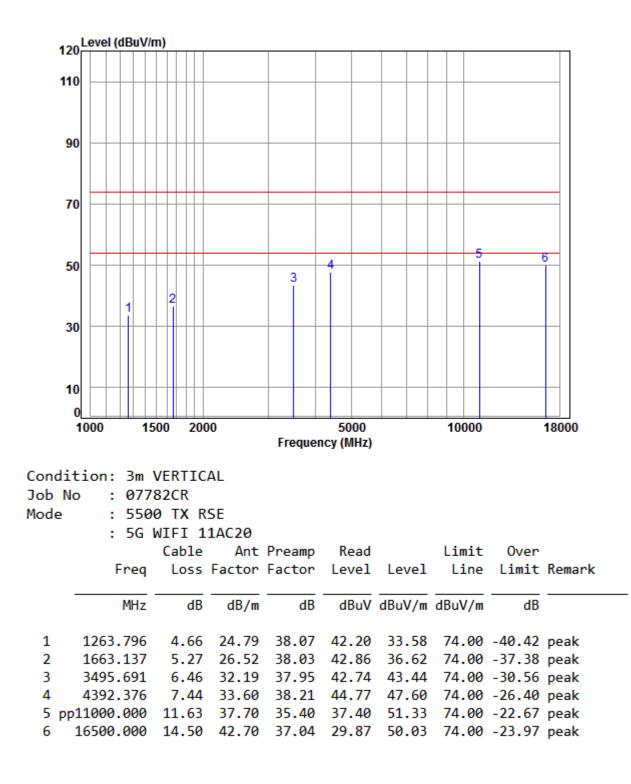
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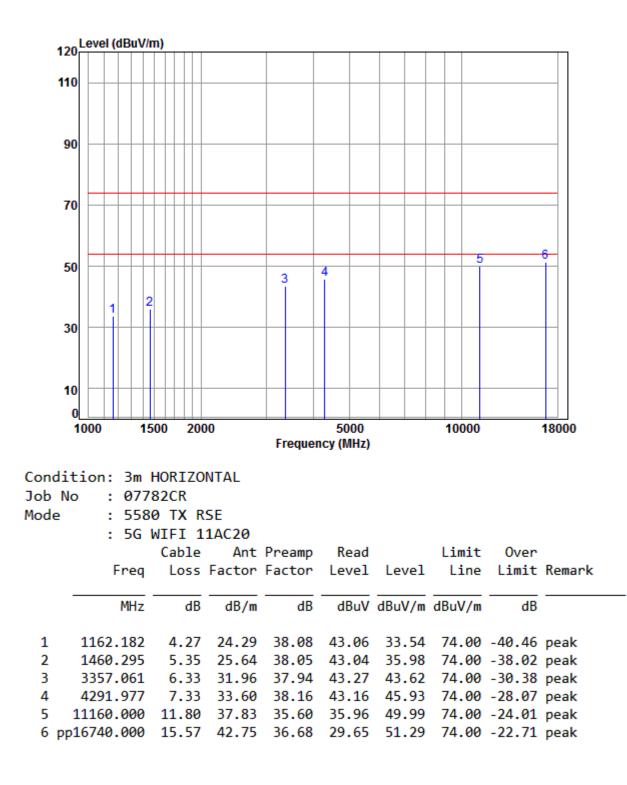
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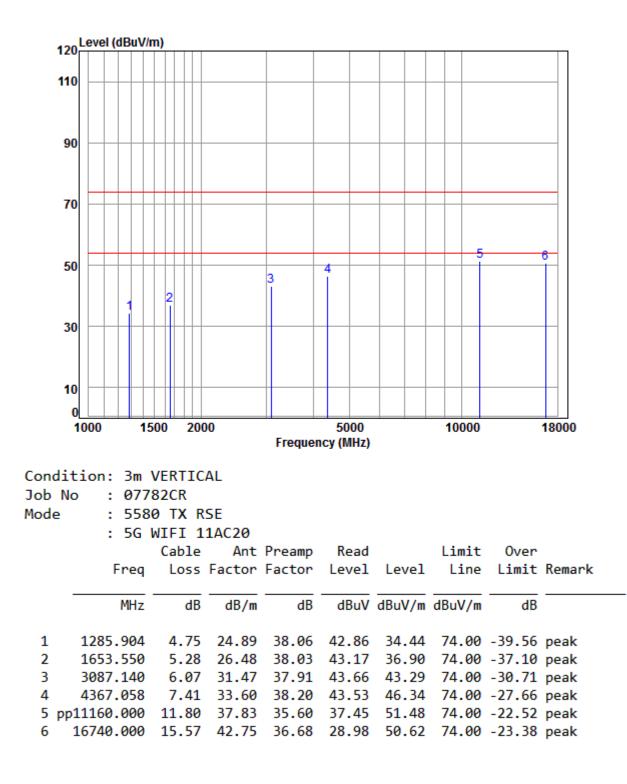
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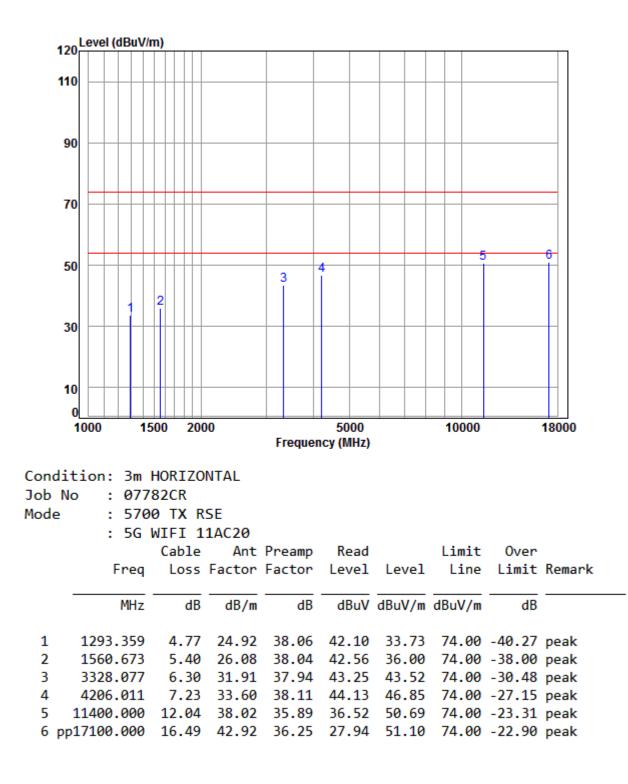
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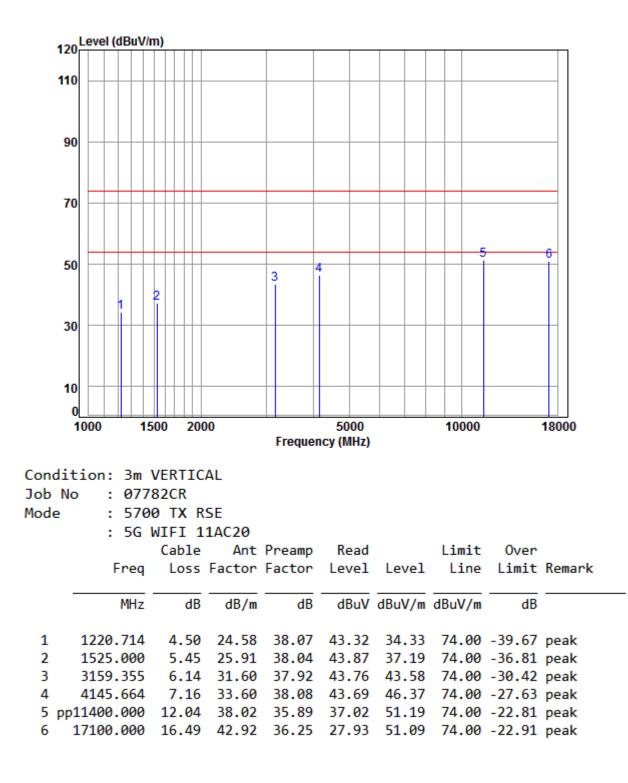
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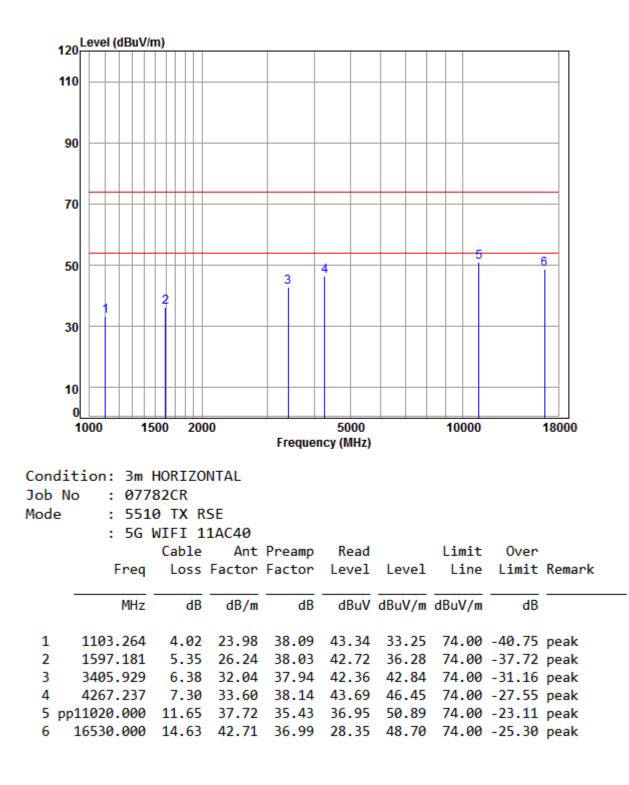
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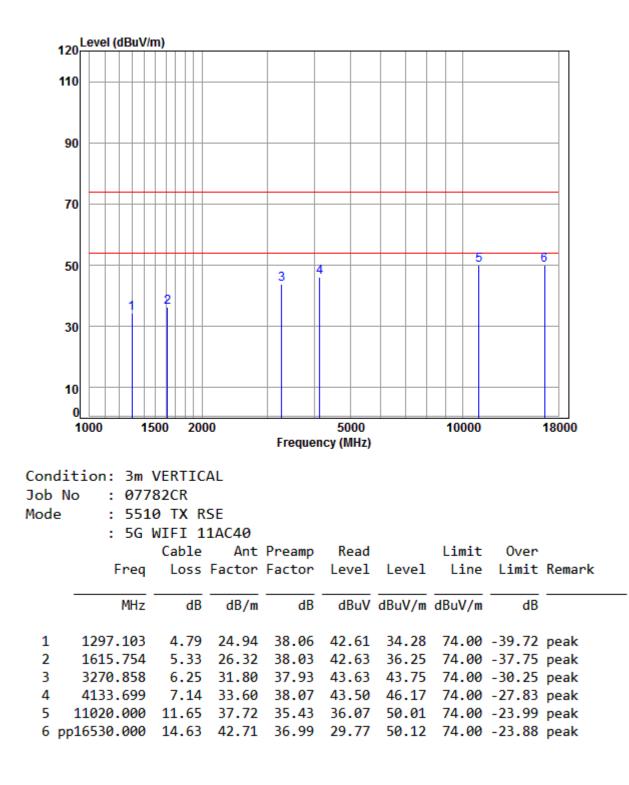
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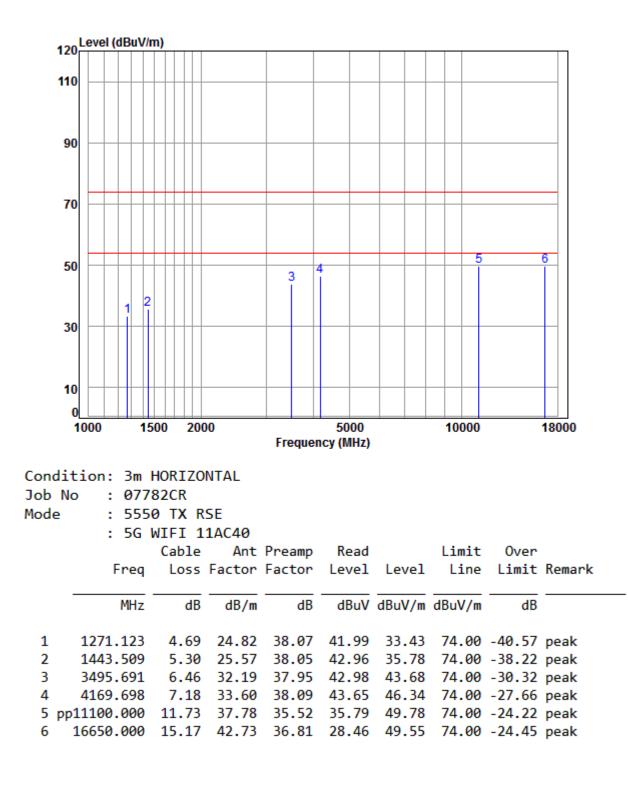
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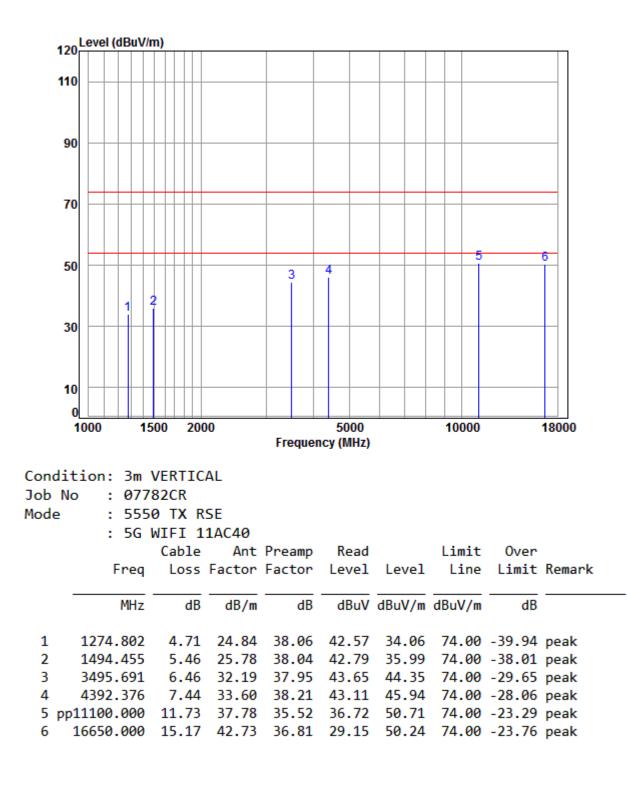
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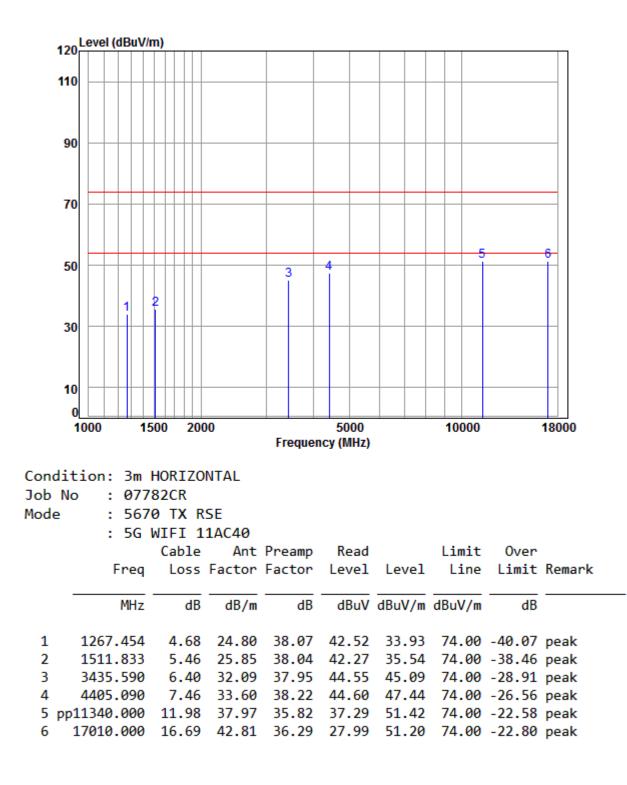
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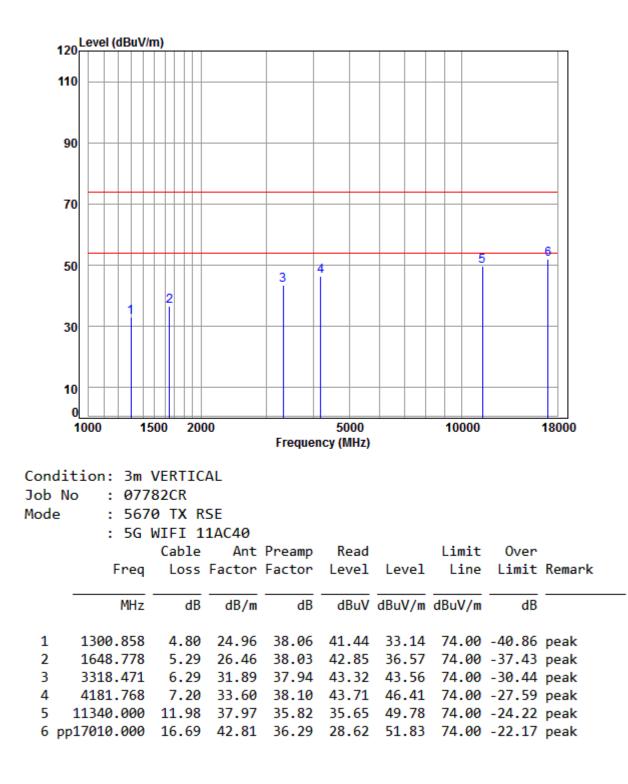
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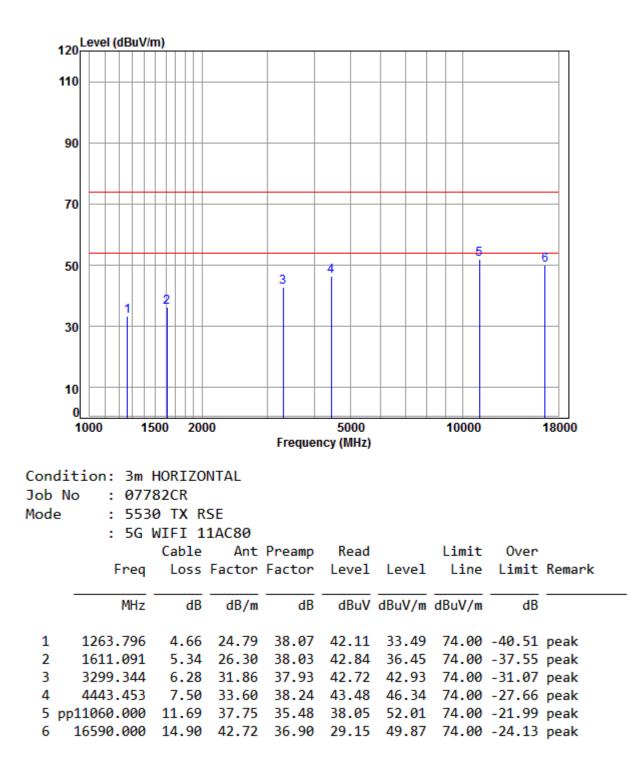
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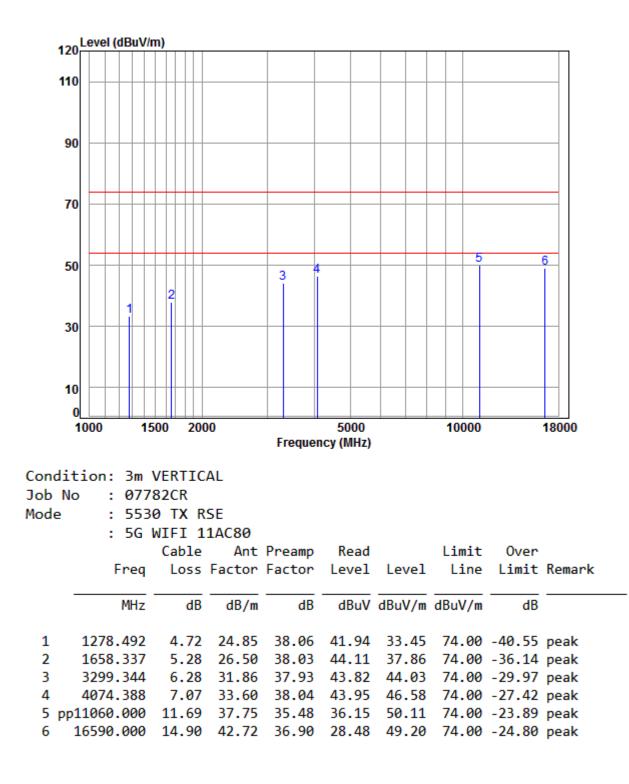
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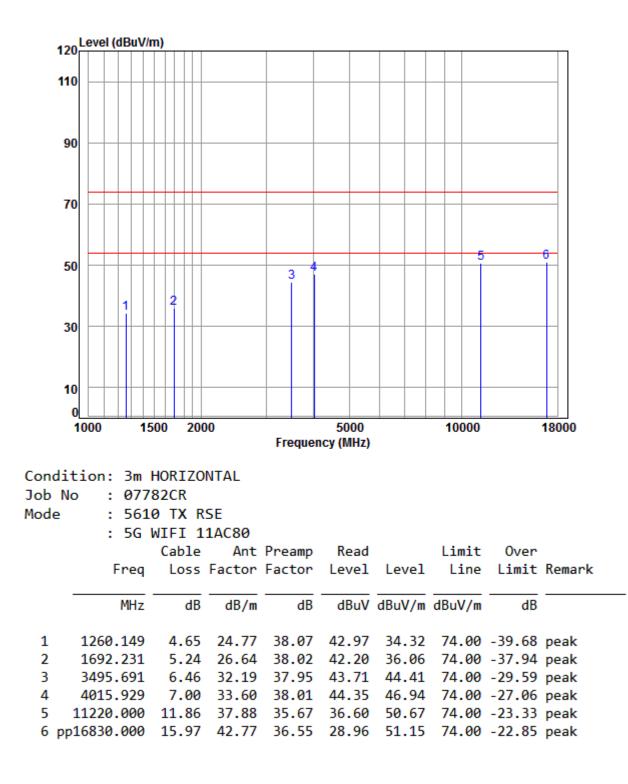
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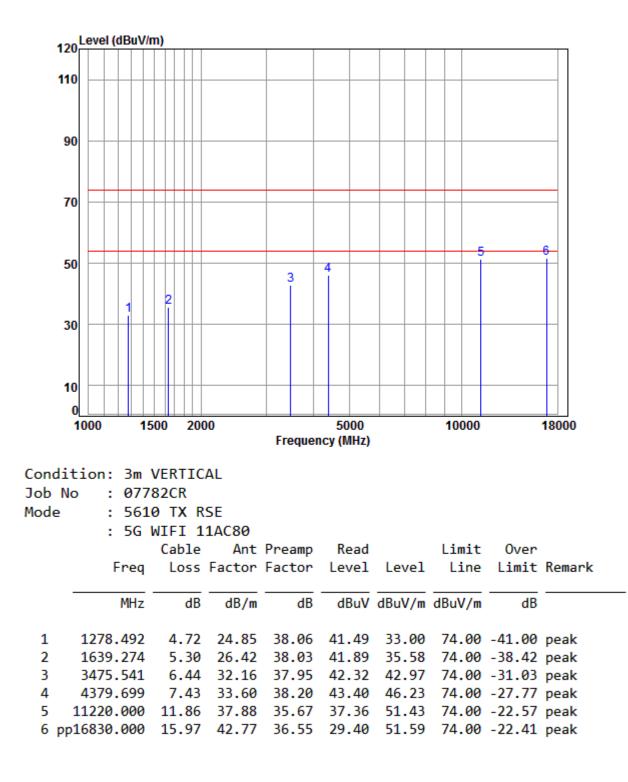
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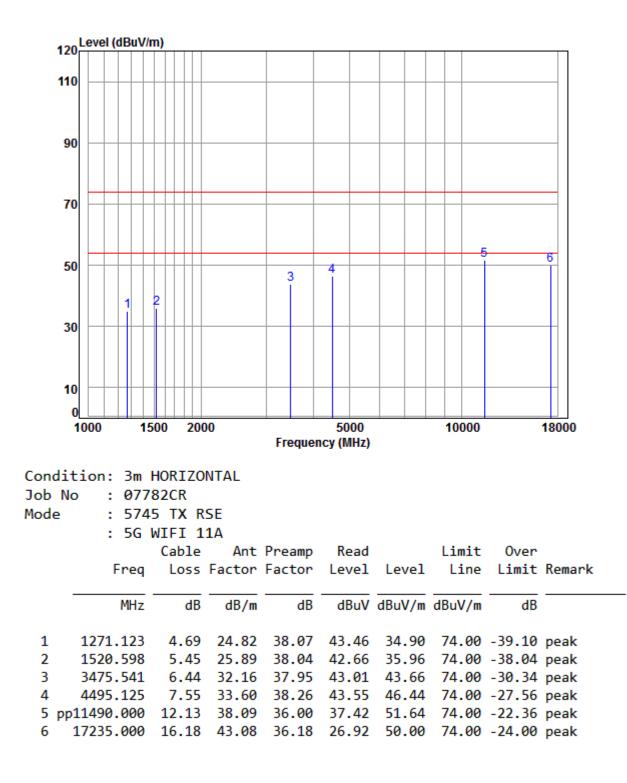
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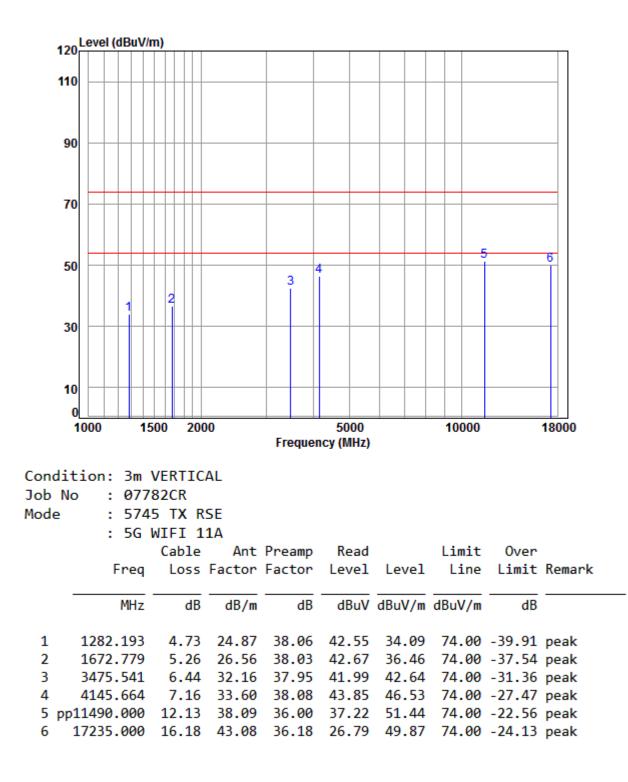
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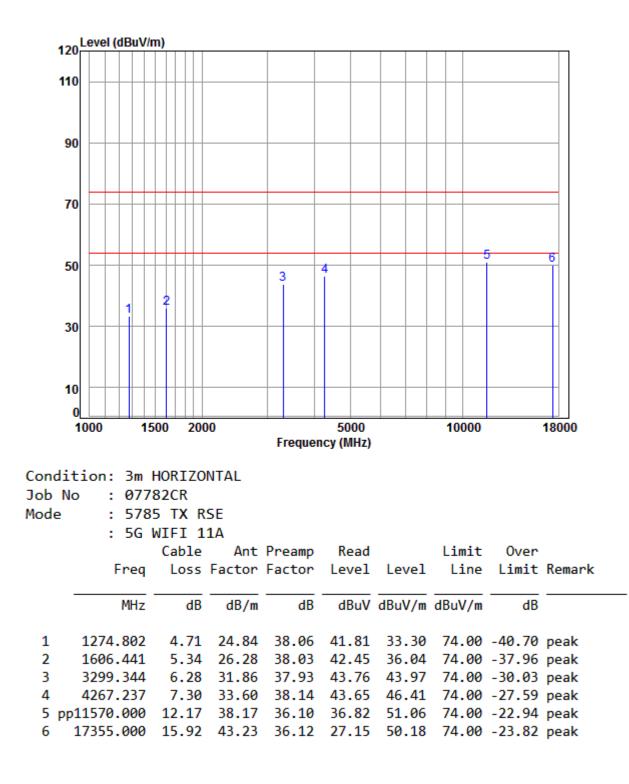
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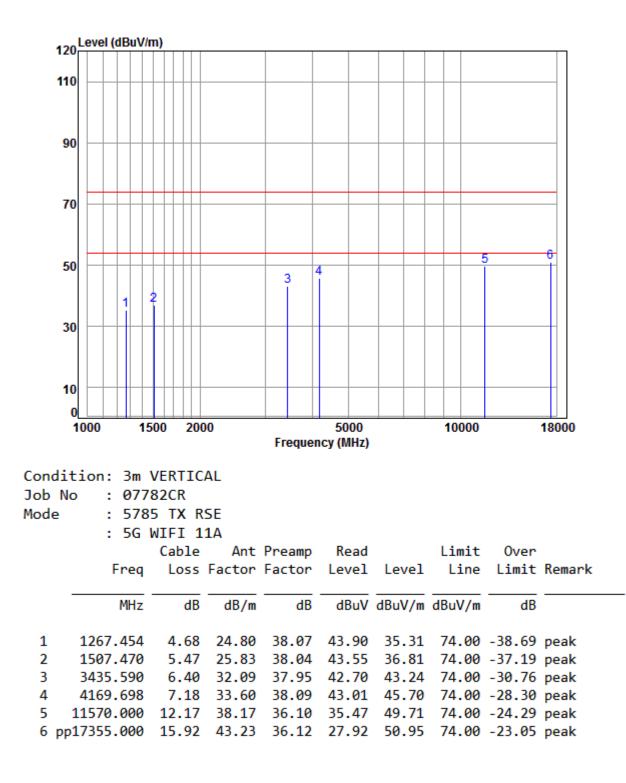
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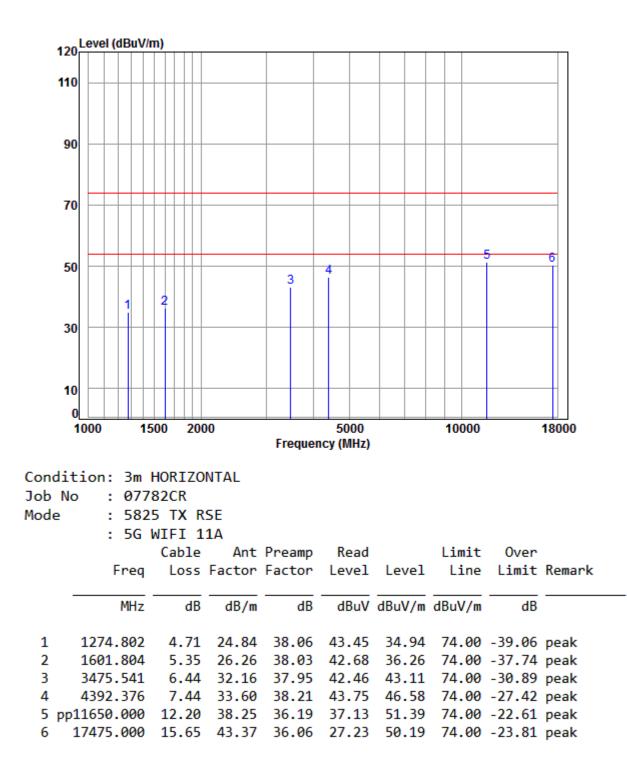
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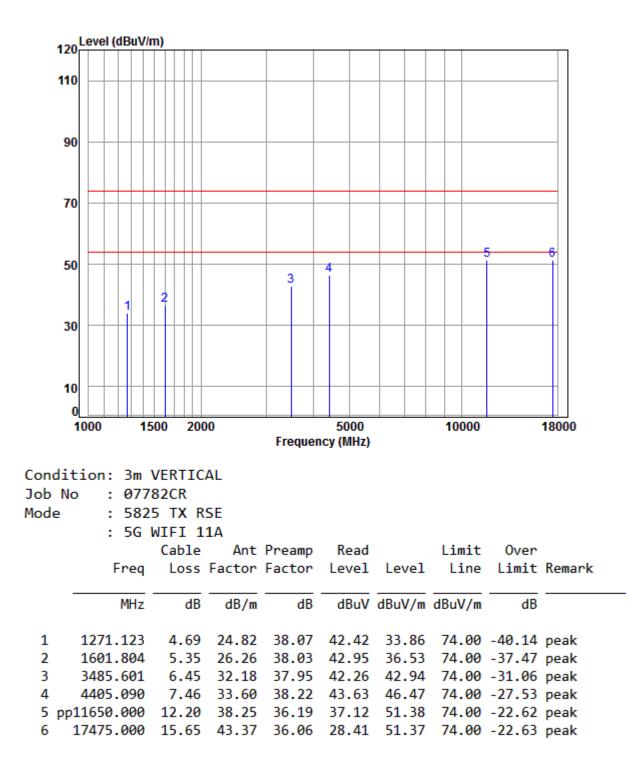
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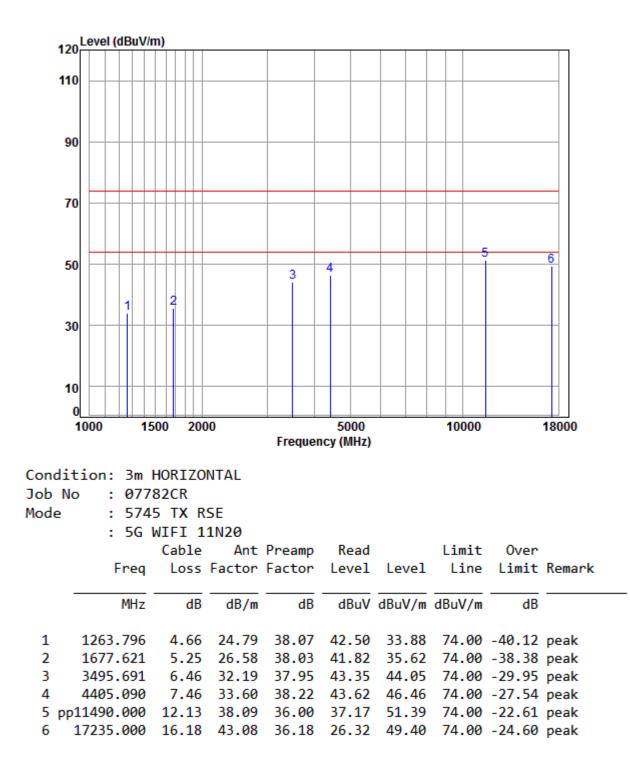
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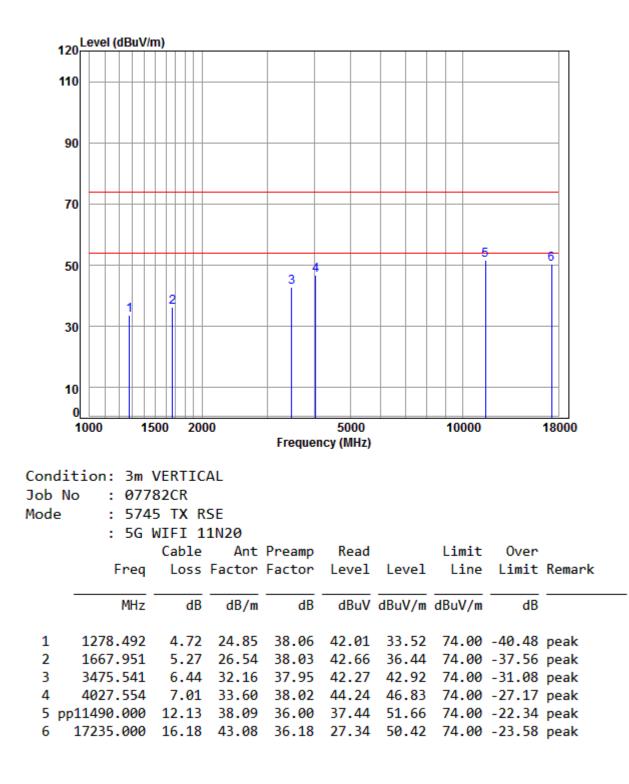
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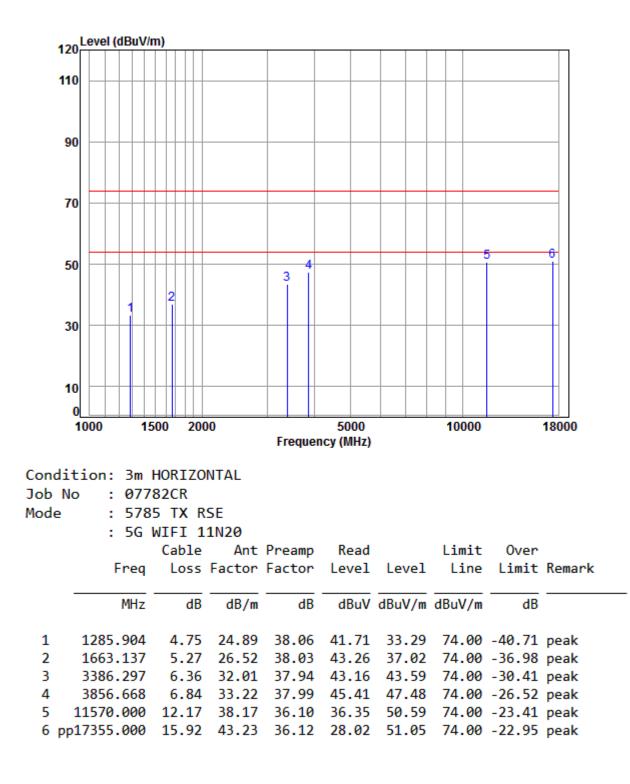
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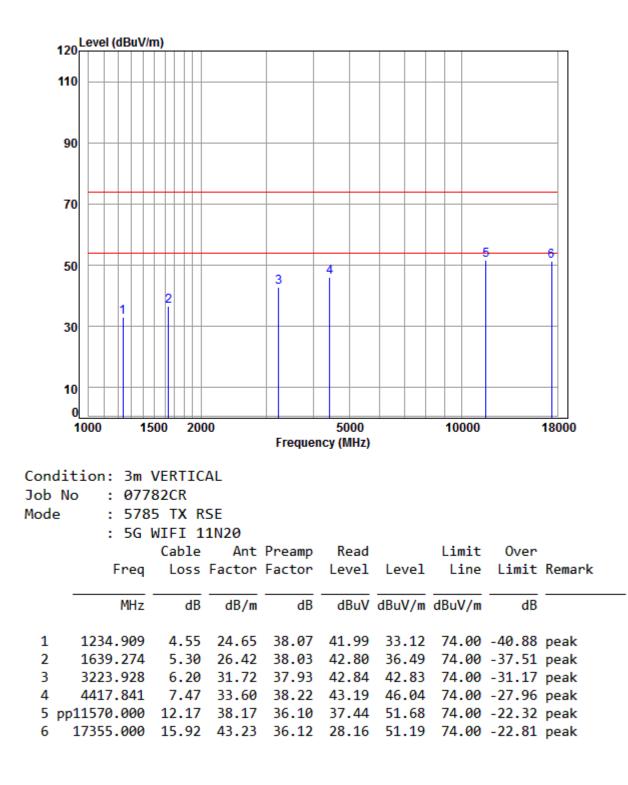
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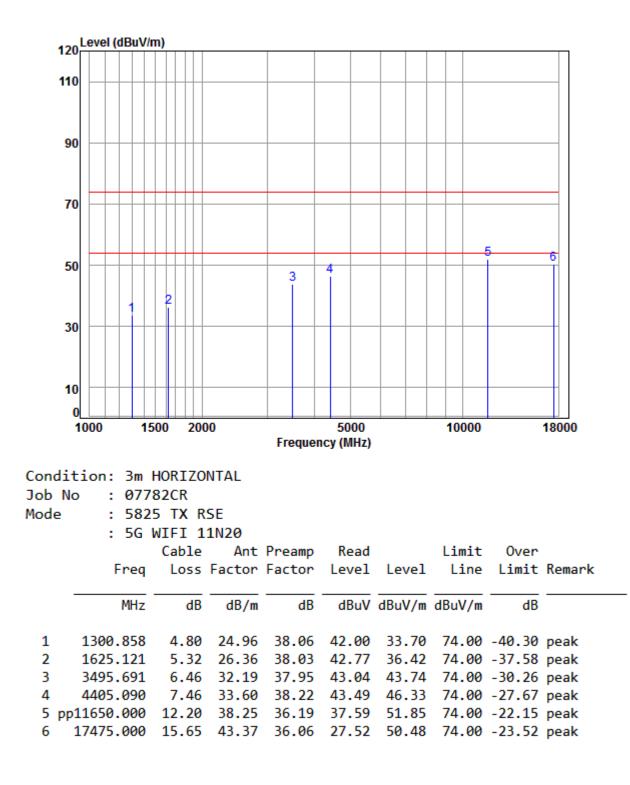
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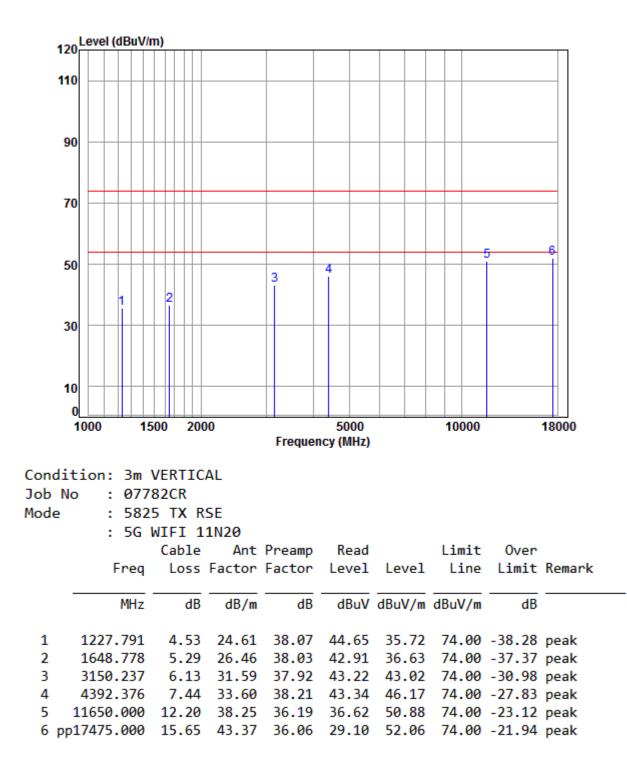
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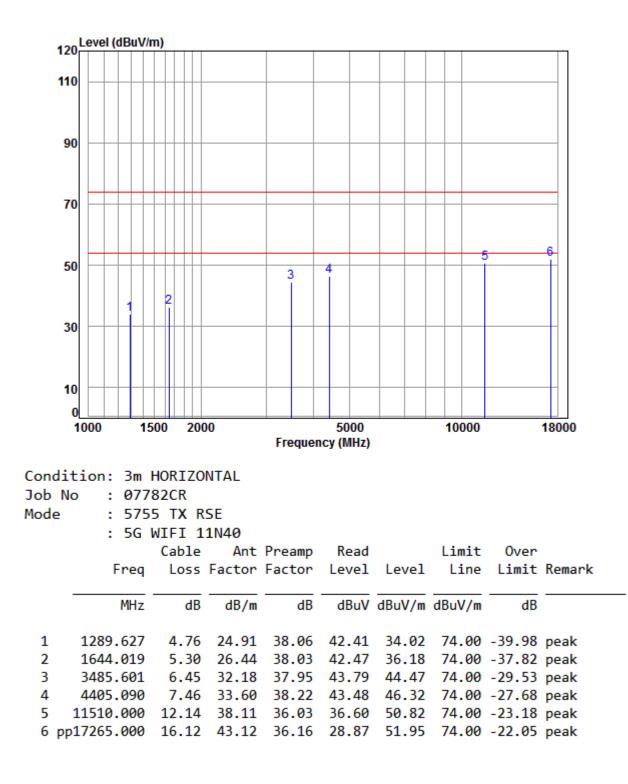
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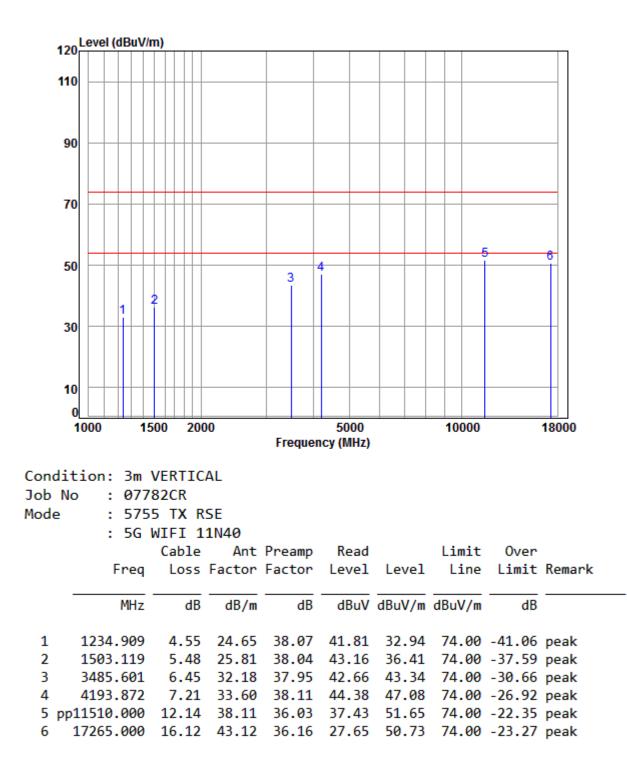
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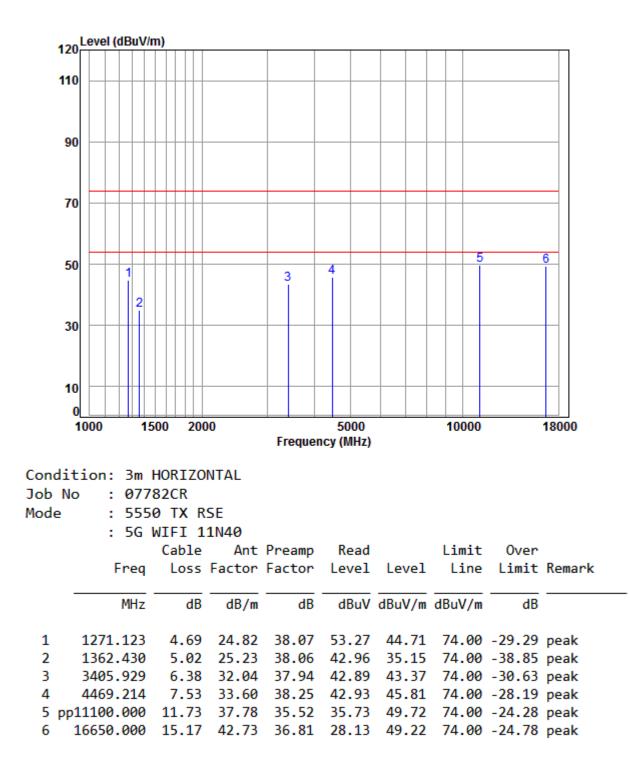
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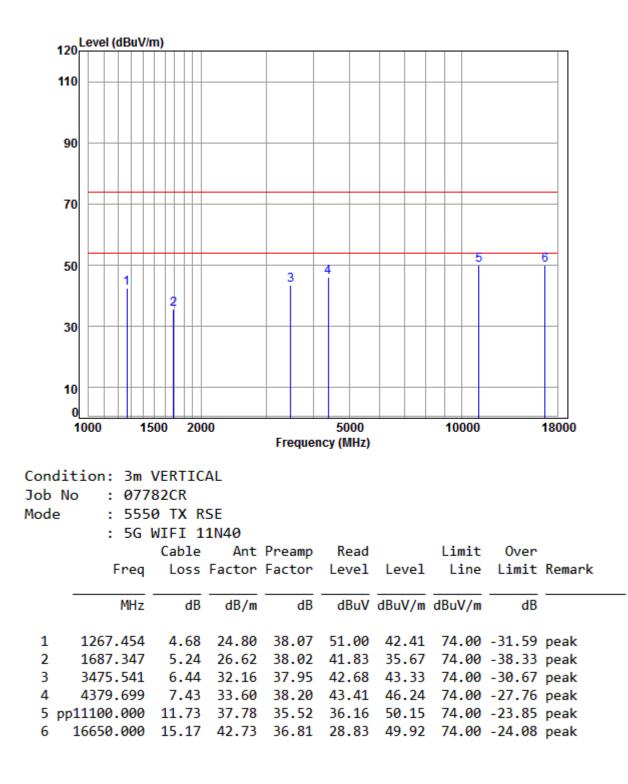
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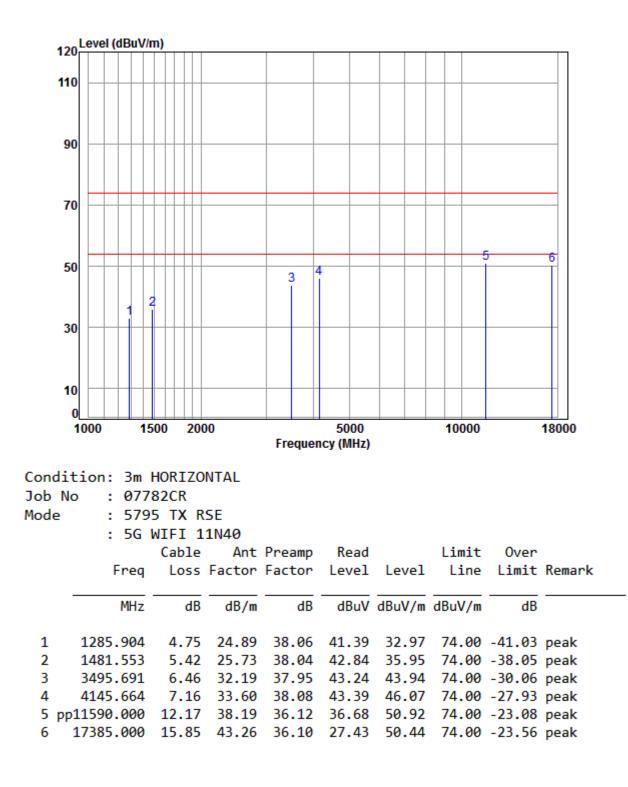
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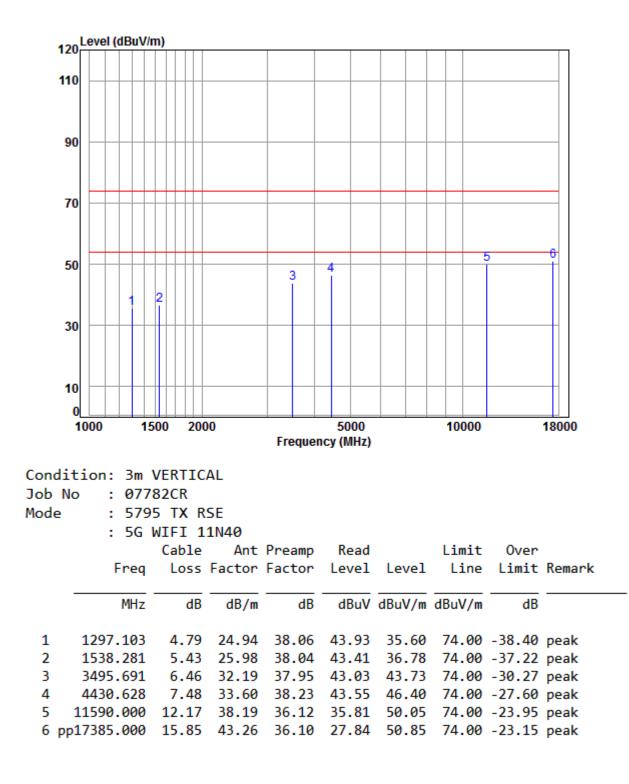


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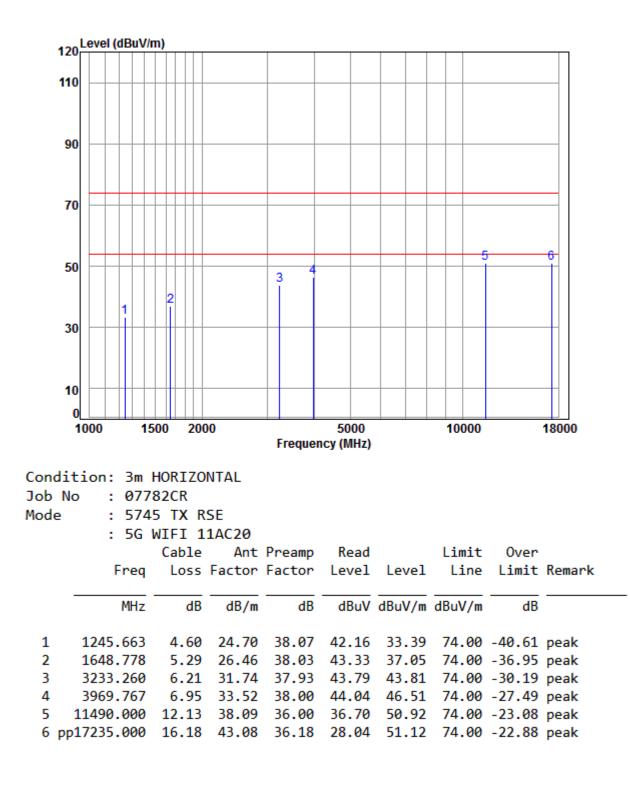
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Mode:g; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:Low

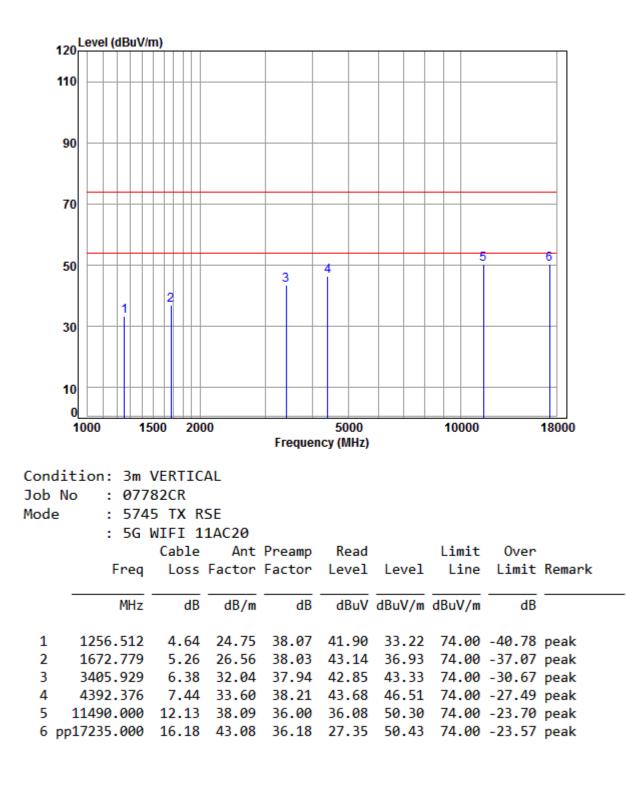


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Report No.: SZEM170700778205 Page: 133 of 271

Mode:g; Polarization:Vertical; Modulation Type:802.11ac; bandwidth:20MHz; Channel:Low

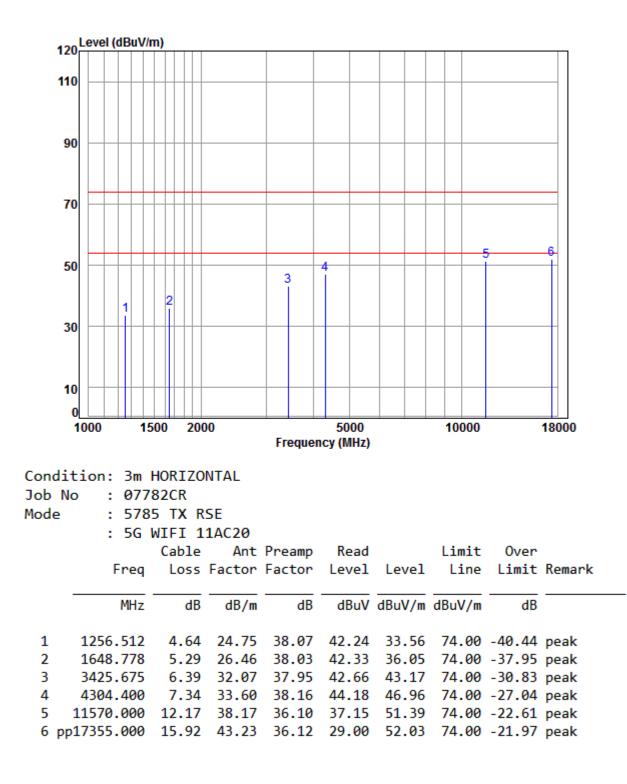


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Mode:g; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:middle

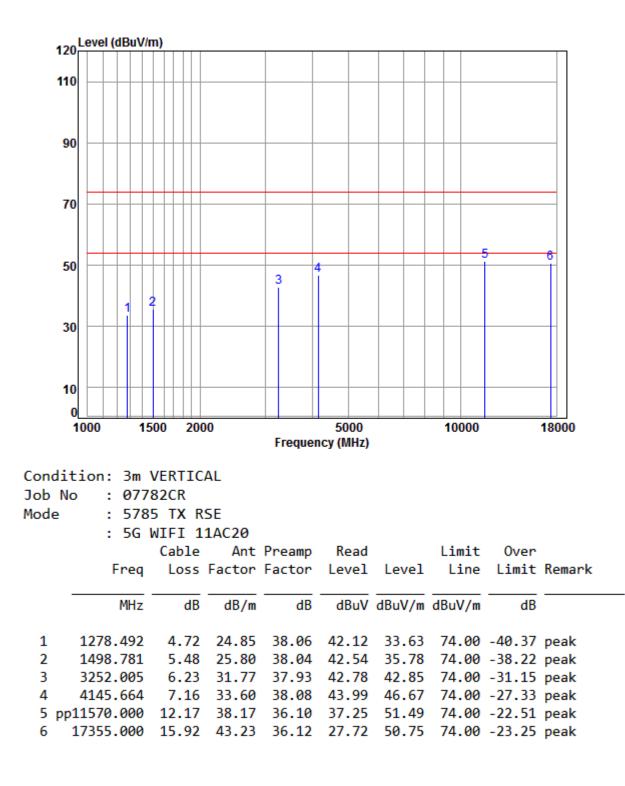


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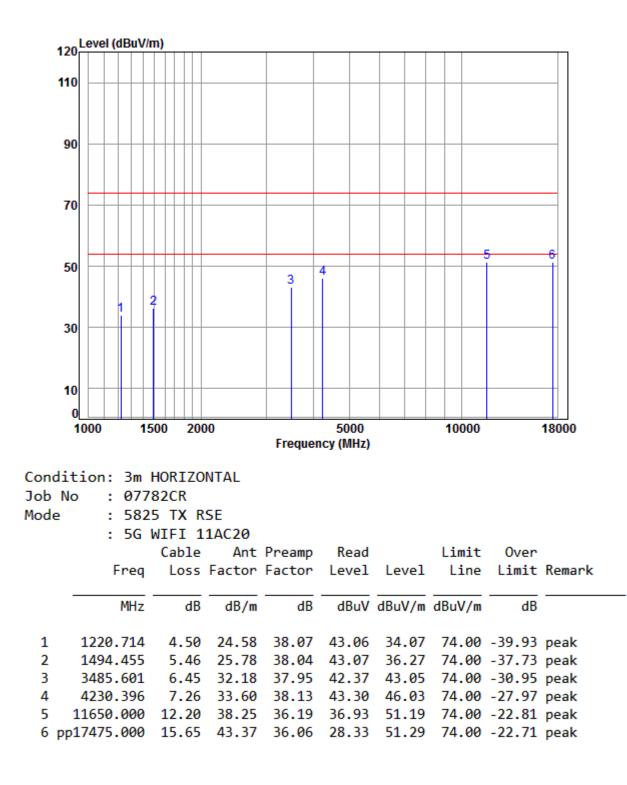
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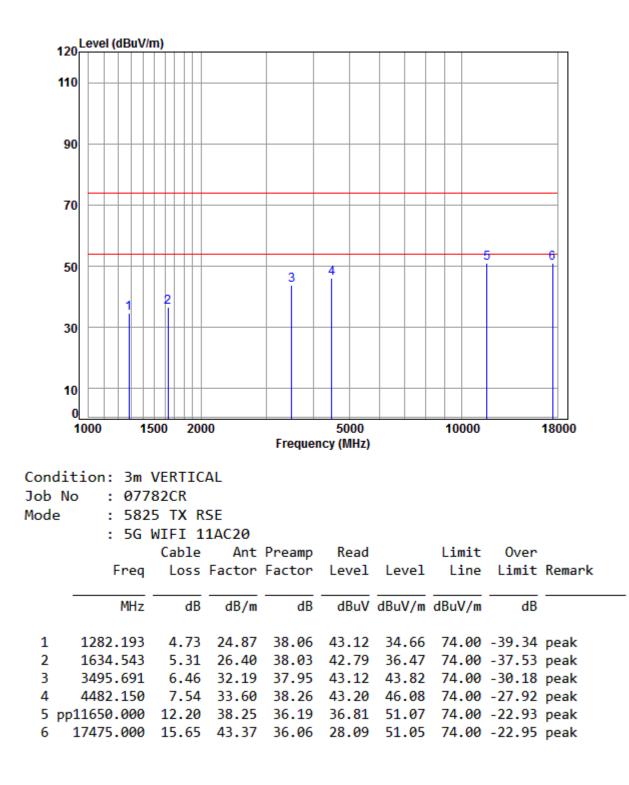
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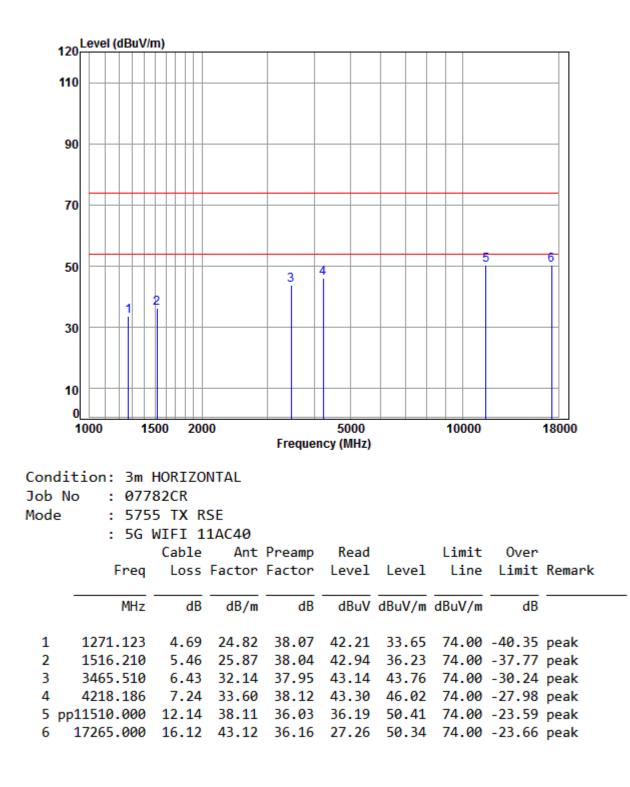
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Mode:g; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:40MHz; Channel:Low

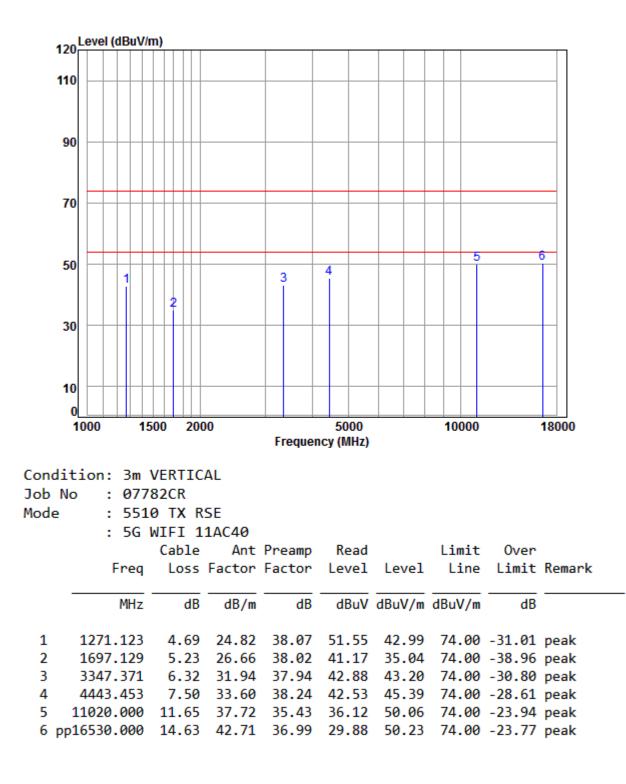


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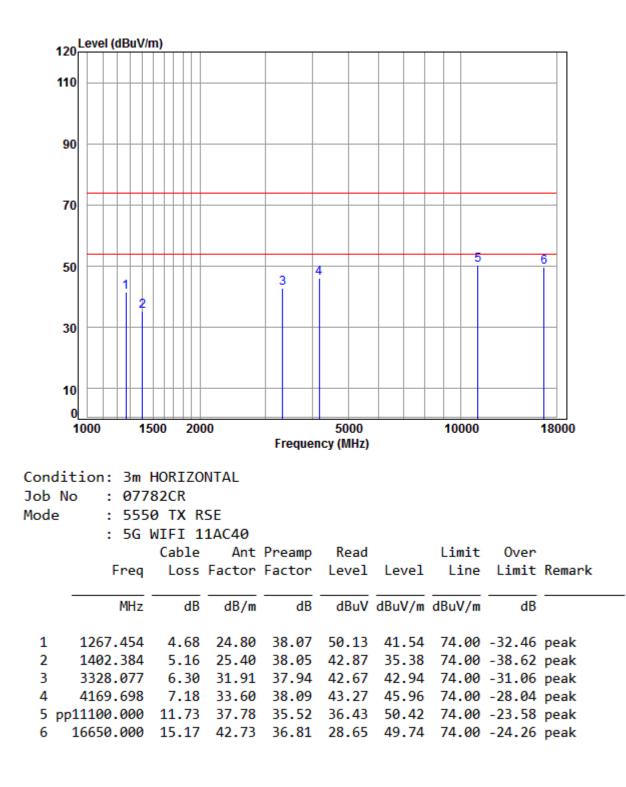
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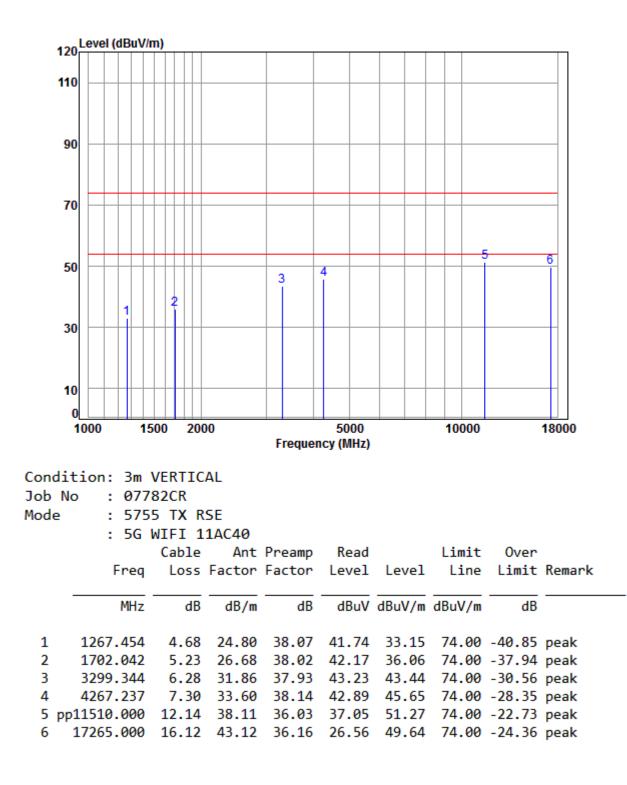
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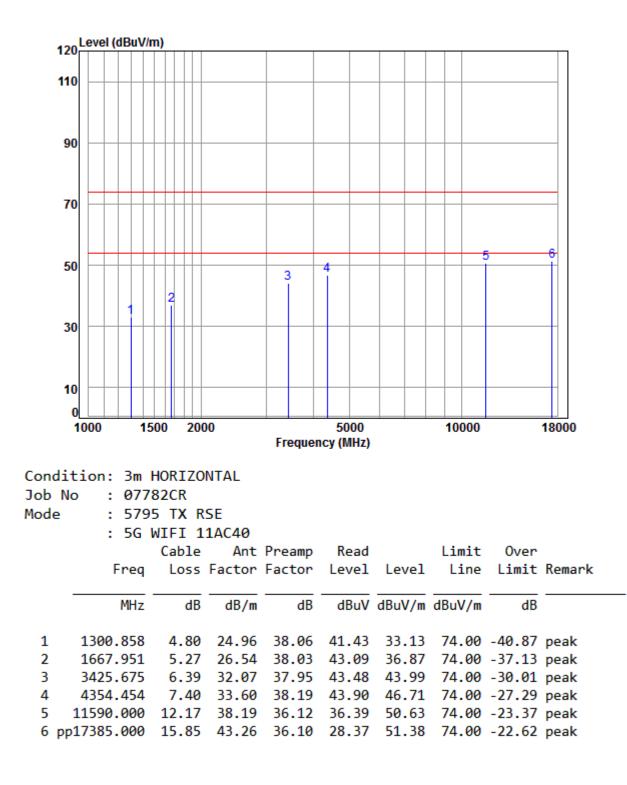
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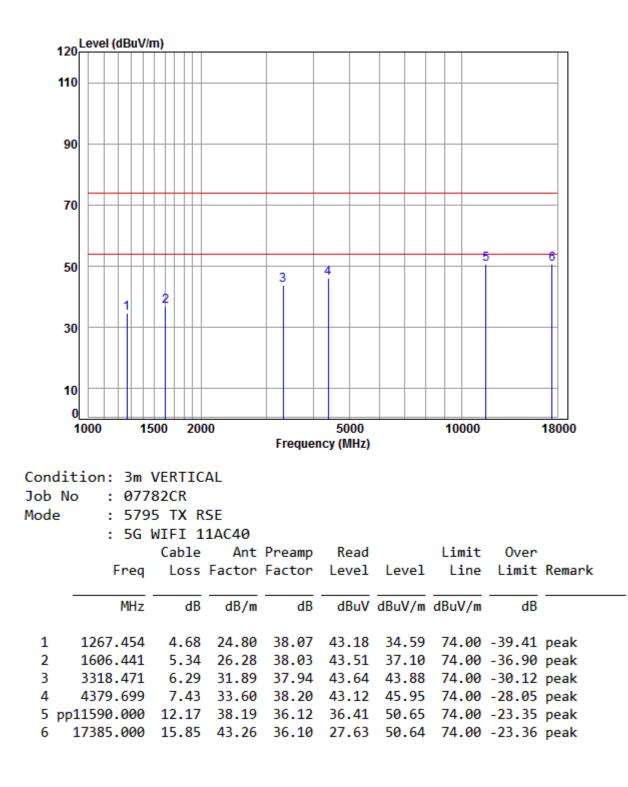
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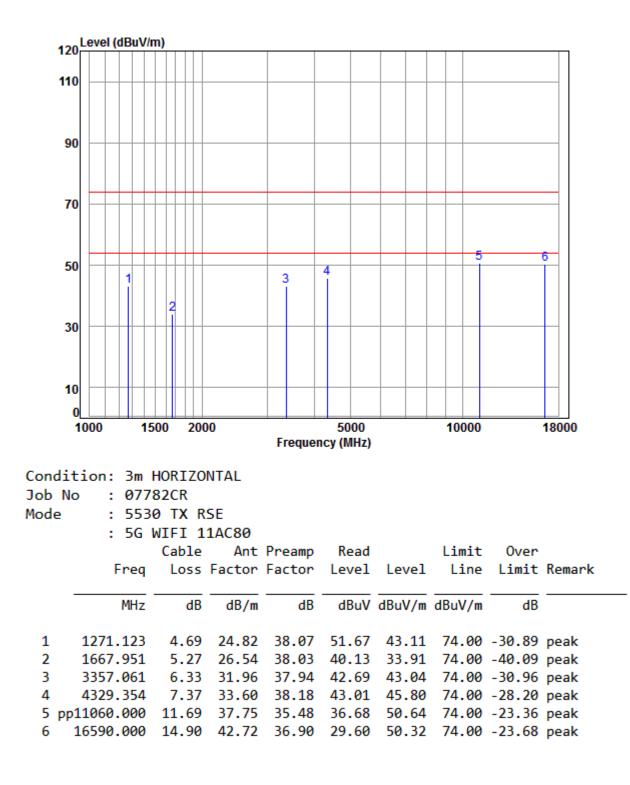
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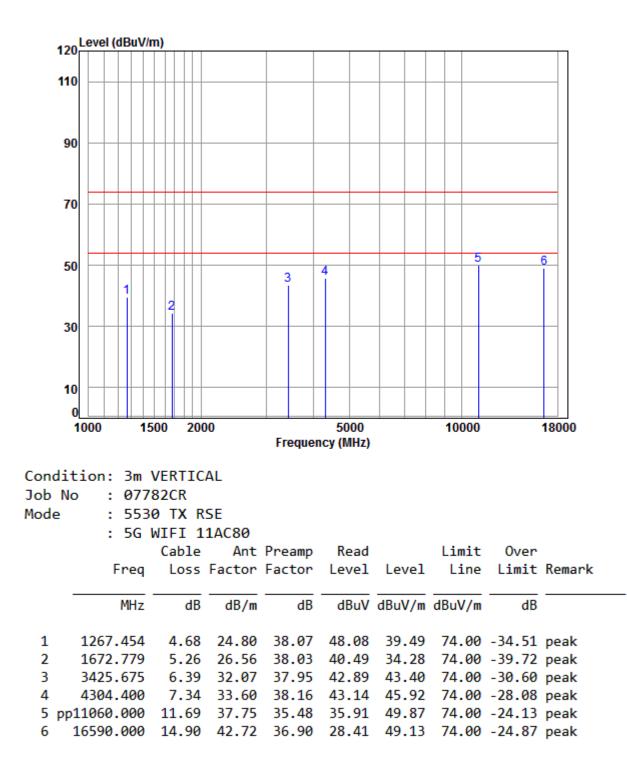


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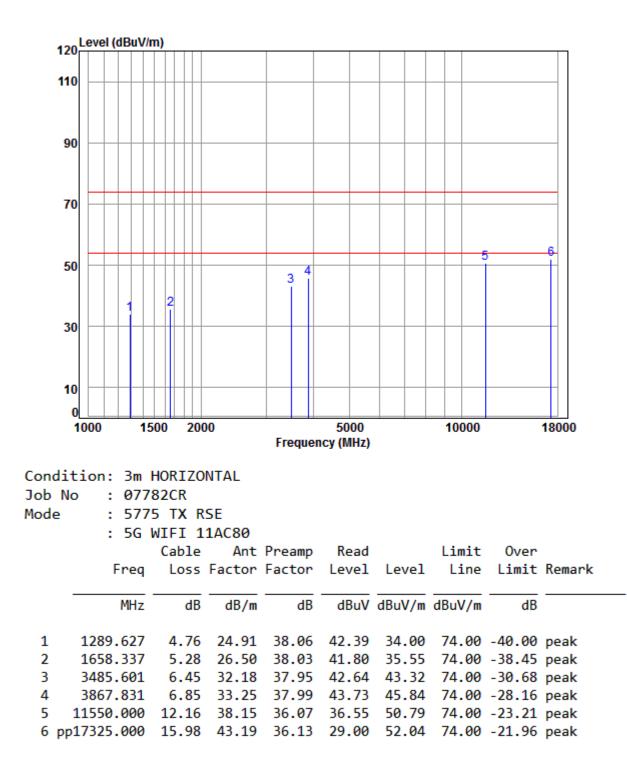
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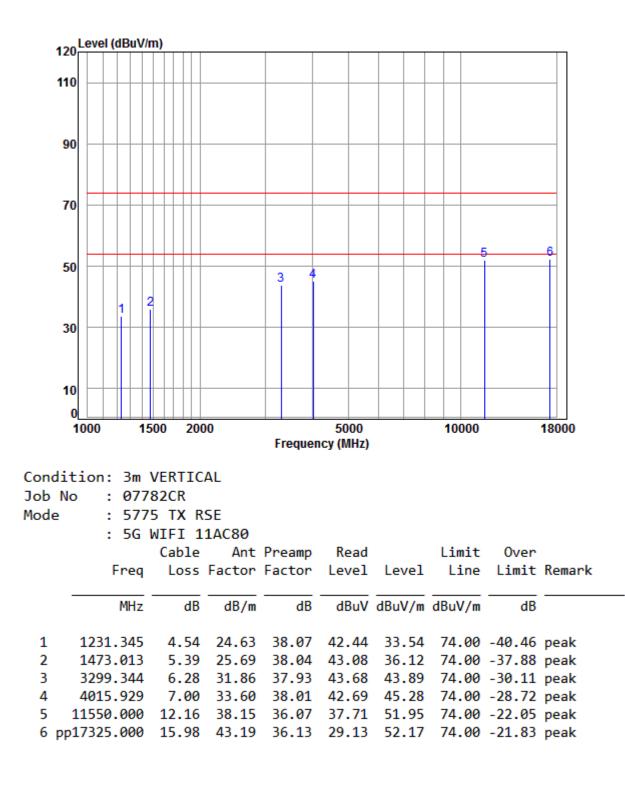
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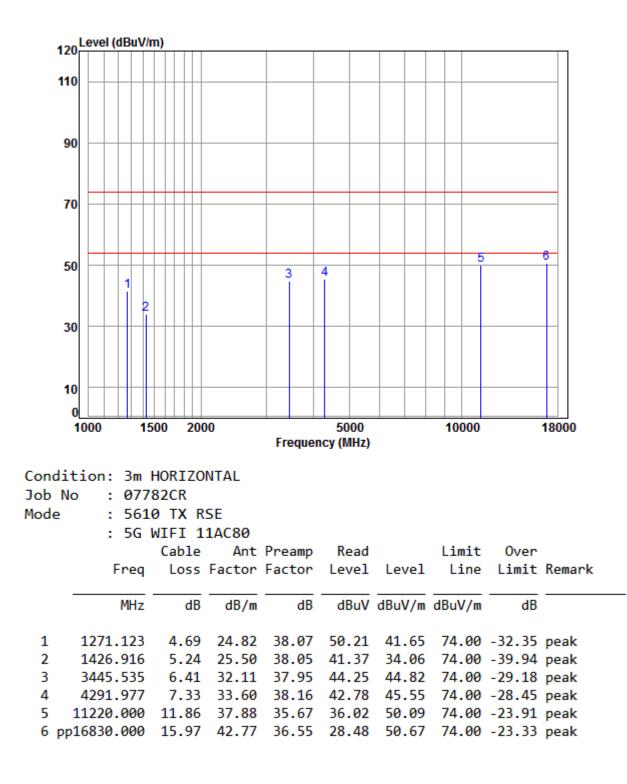
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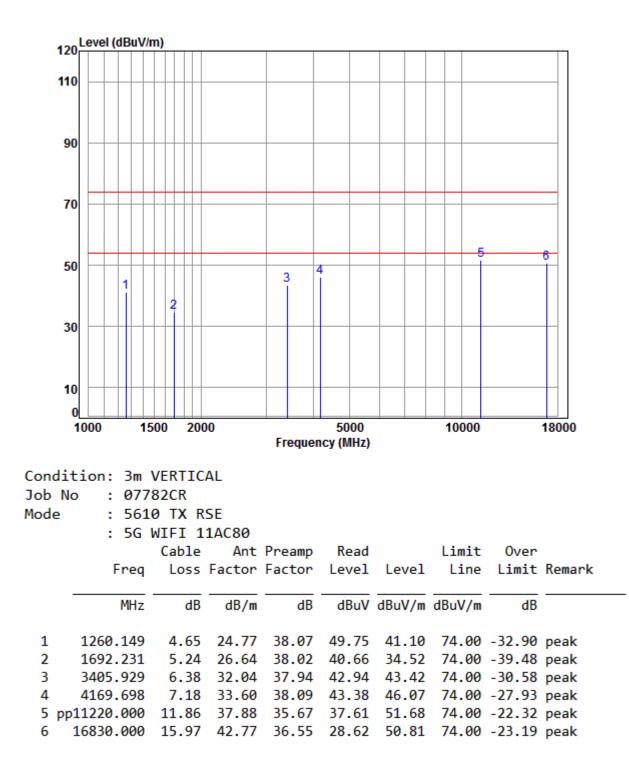
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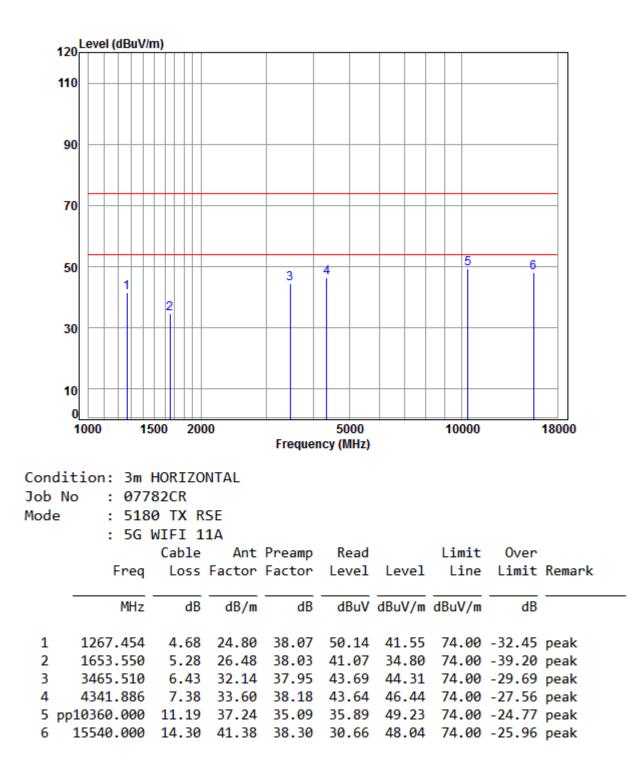




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LS9-AC11DBT

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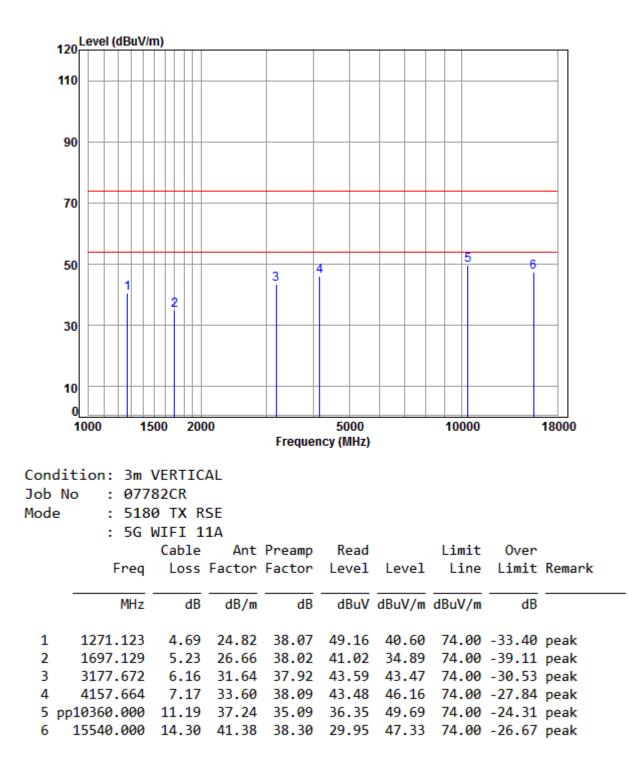


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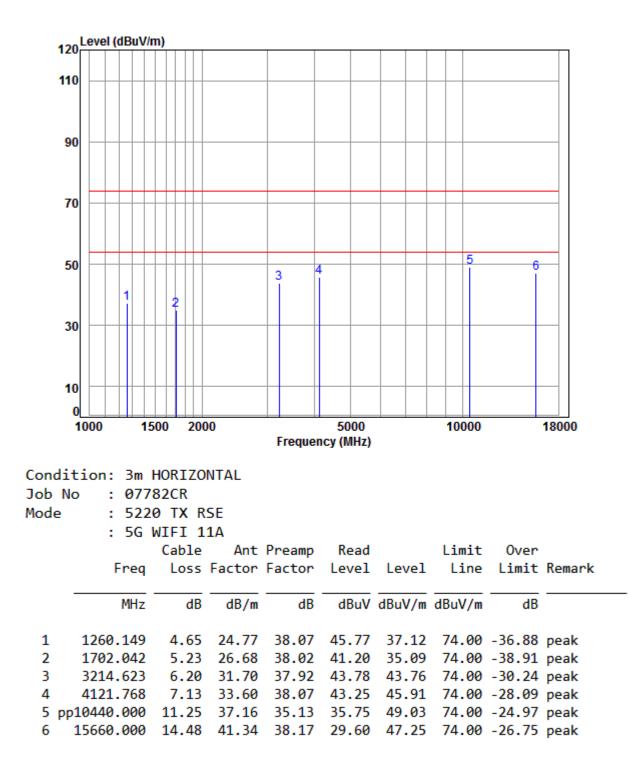
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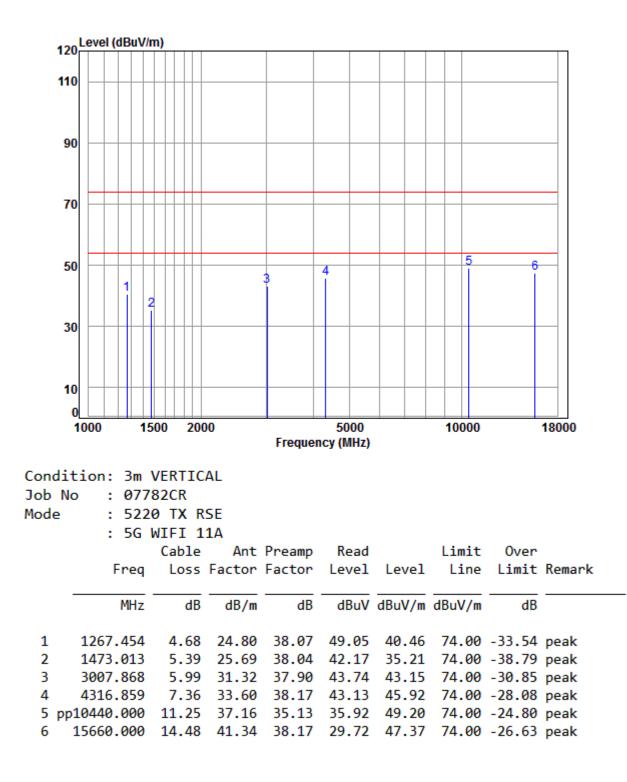
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Report No.: SZEM170700778205 Page: 153 of 271

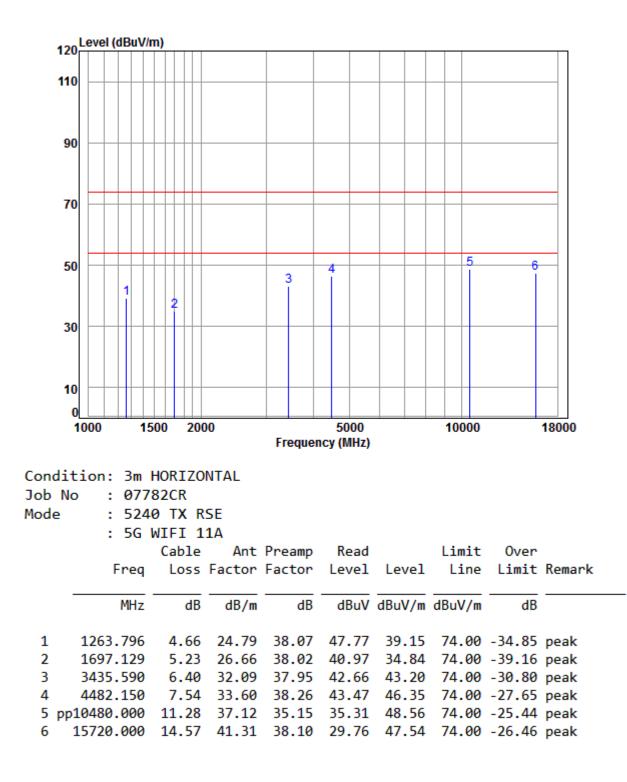
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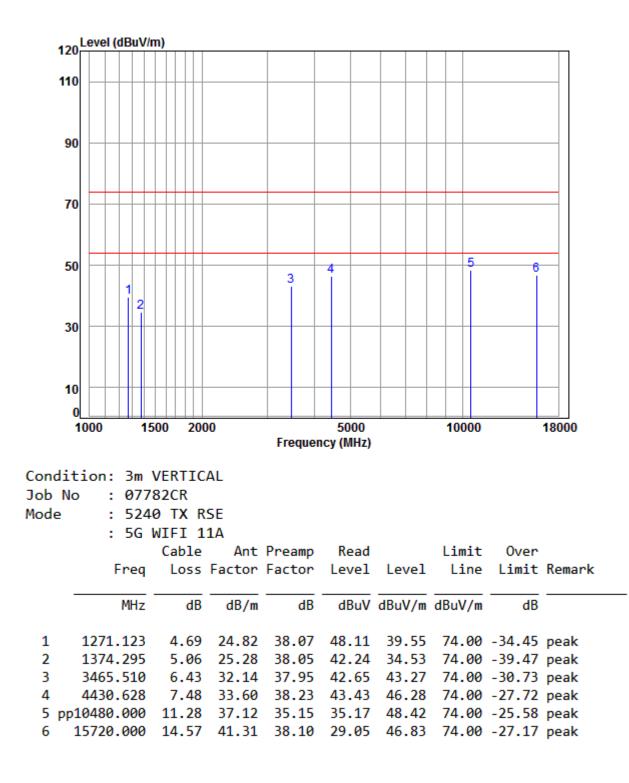
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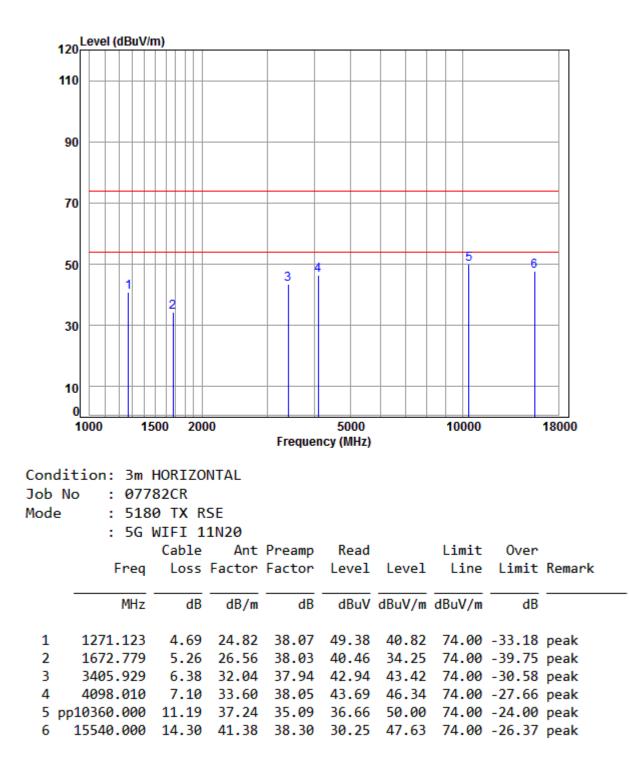
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Mode:d; Polarization:Horizontal; Modulation Type:802.11n; bandwidth:20MHz; Channel:Low

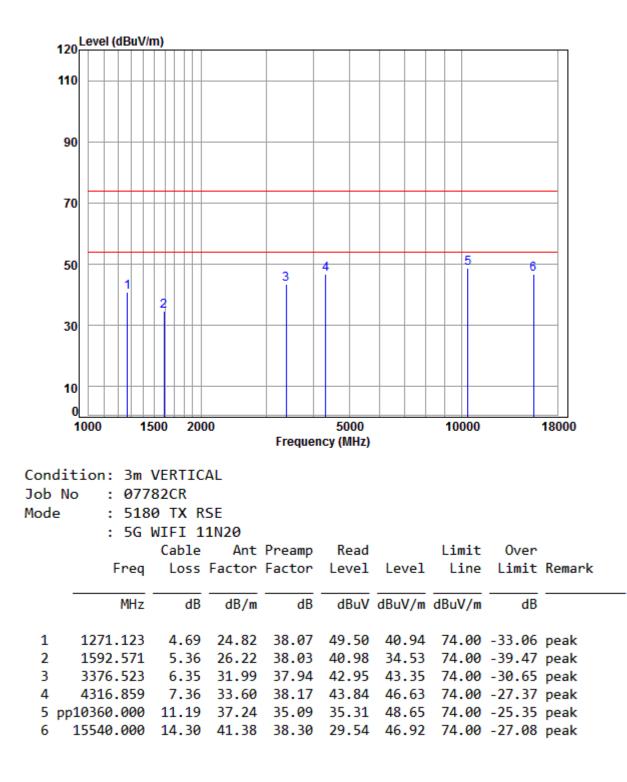


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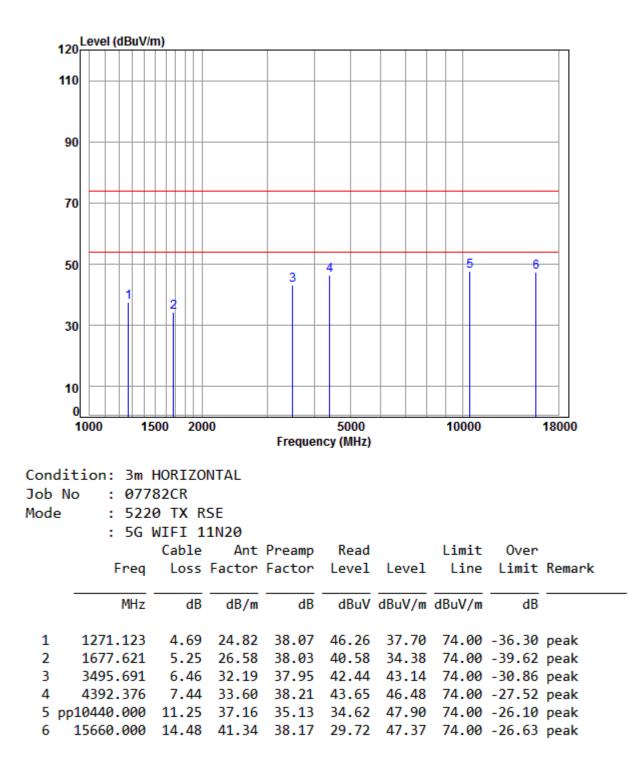
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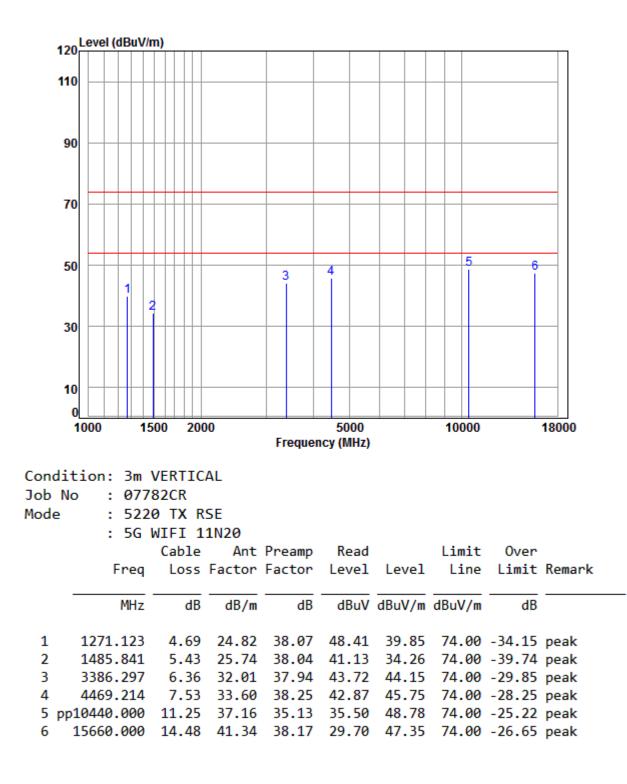
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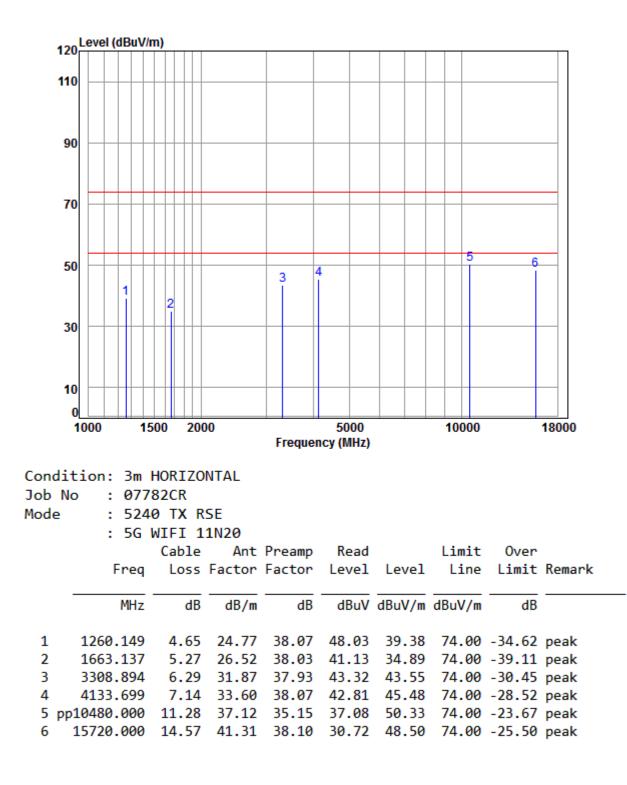
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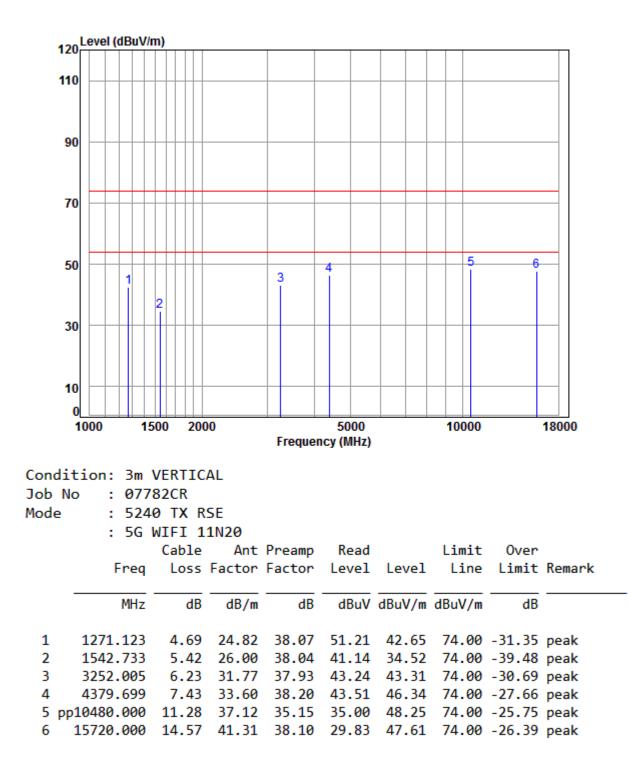
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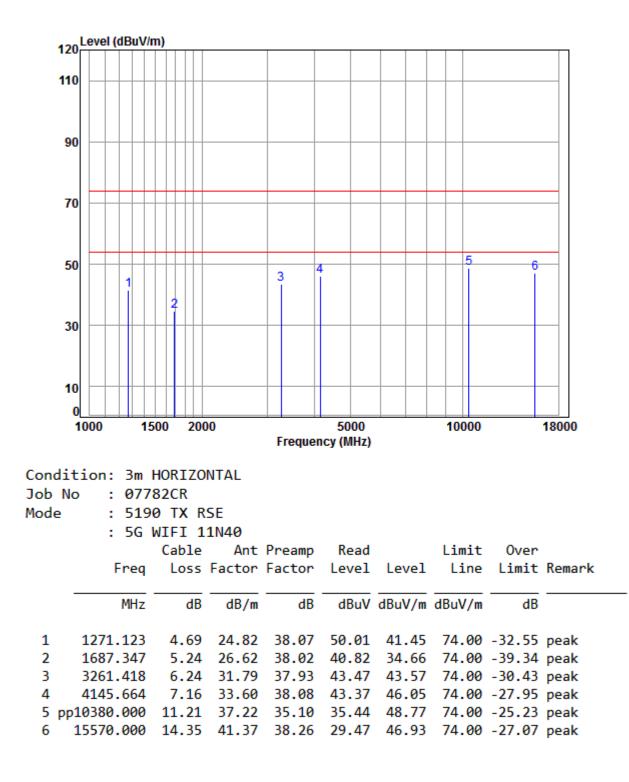
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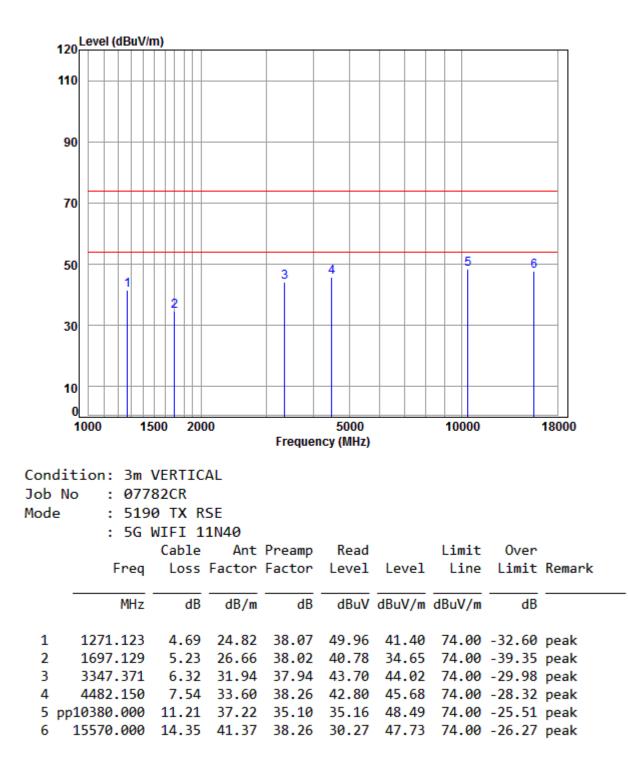
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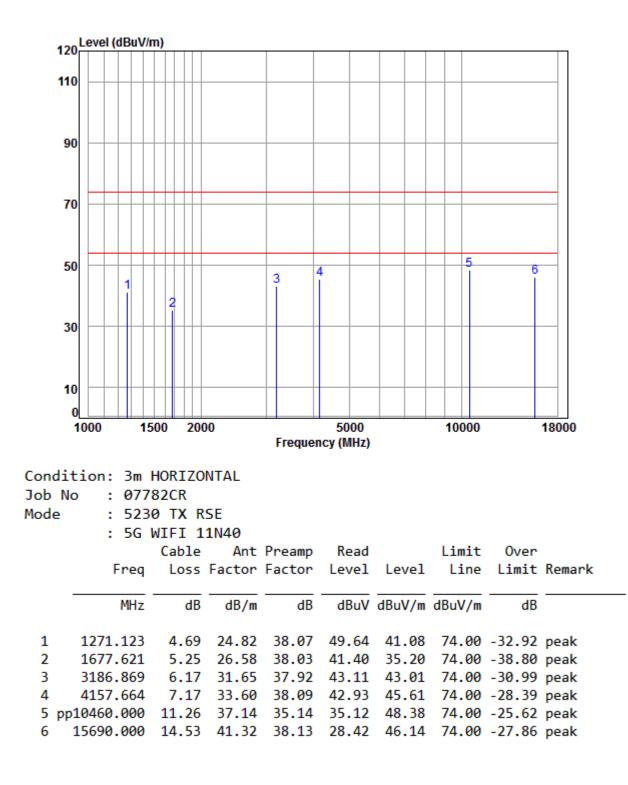
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Report No.: SZEM170700778205 Page: 164 of 271

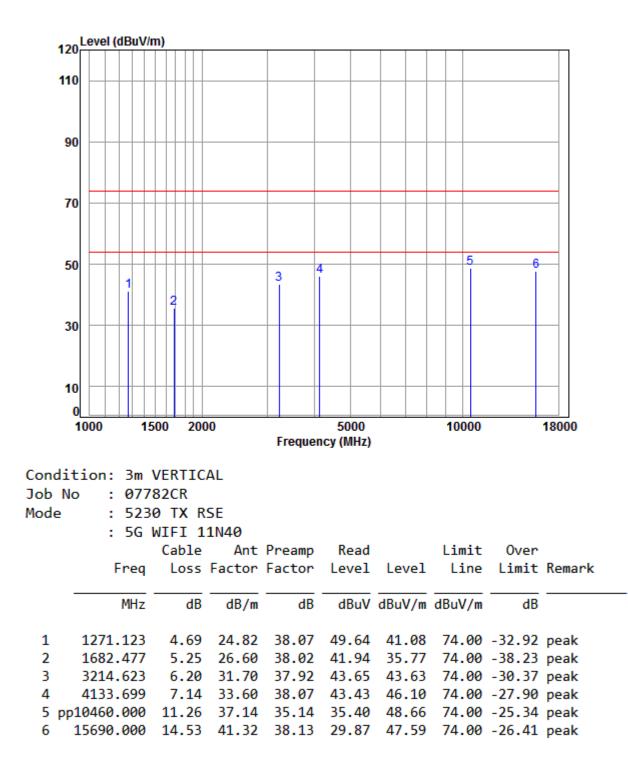
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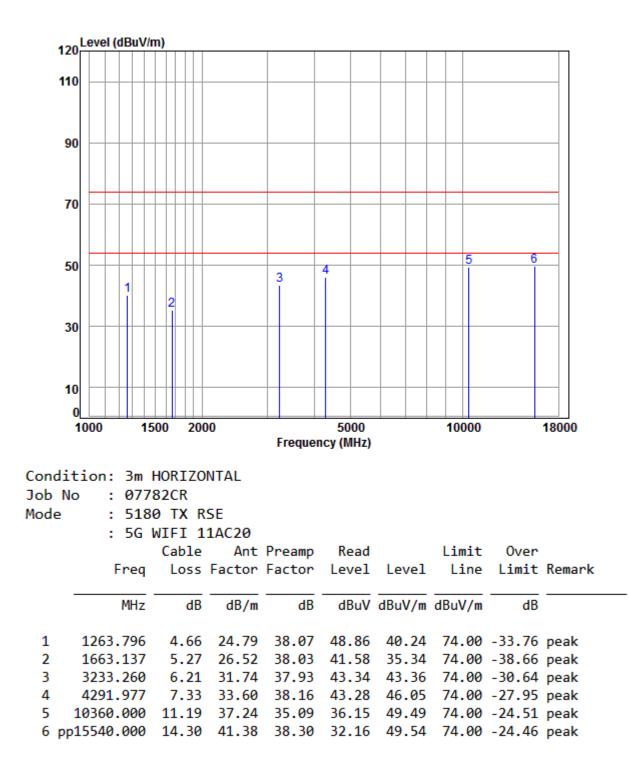
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:Low

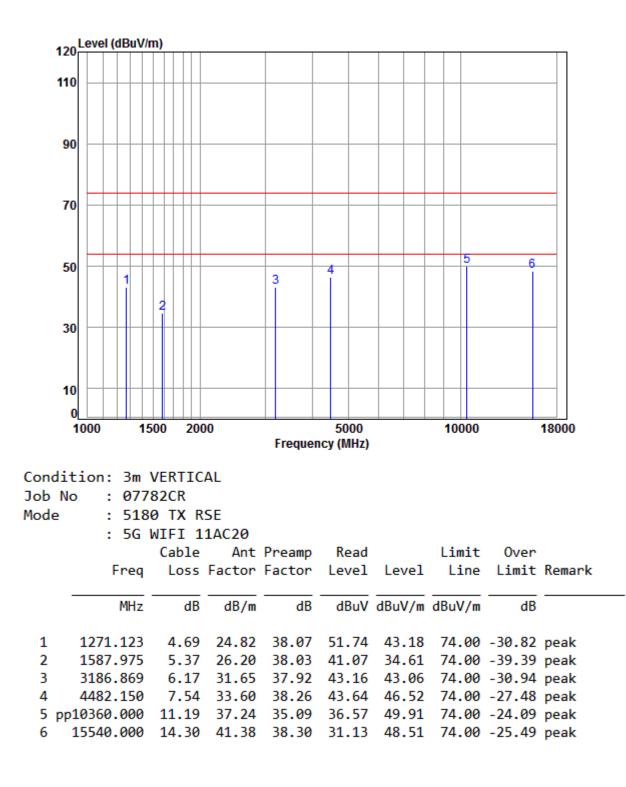


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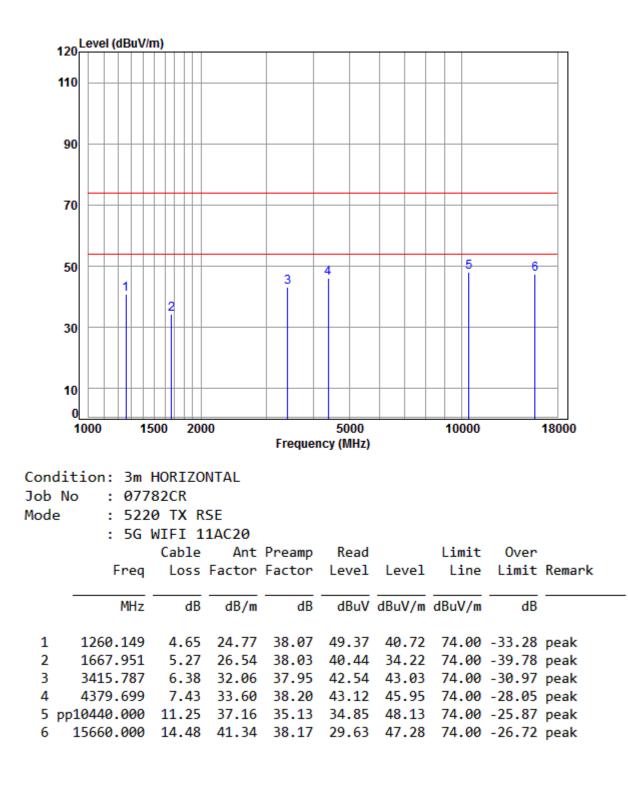
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:middle

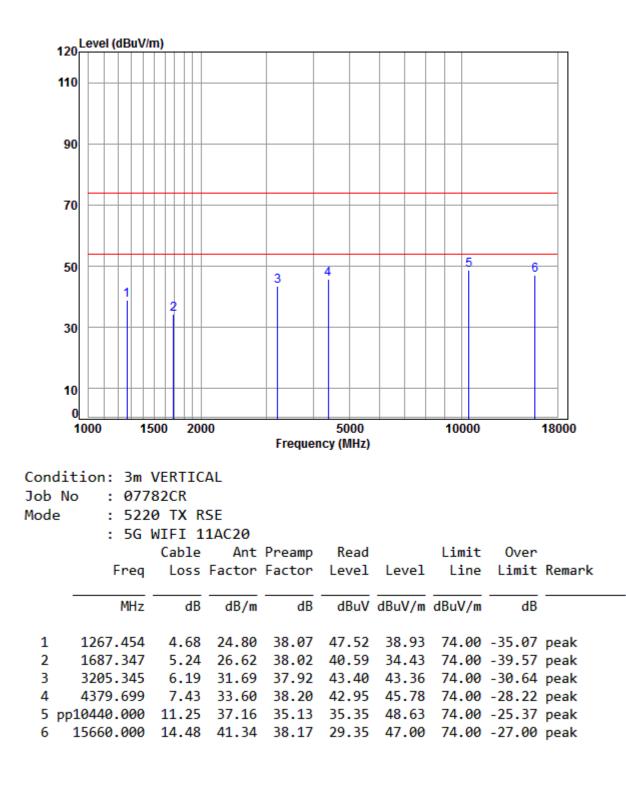


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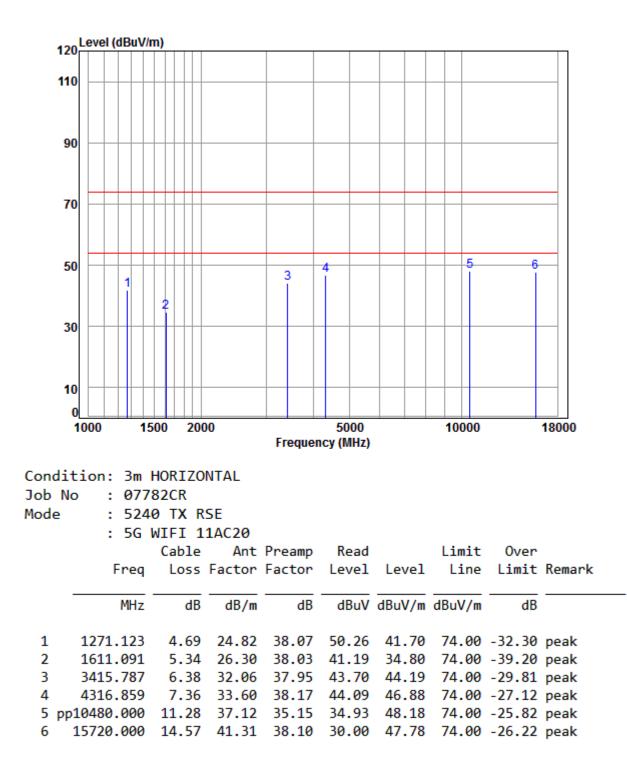
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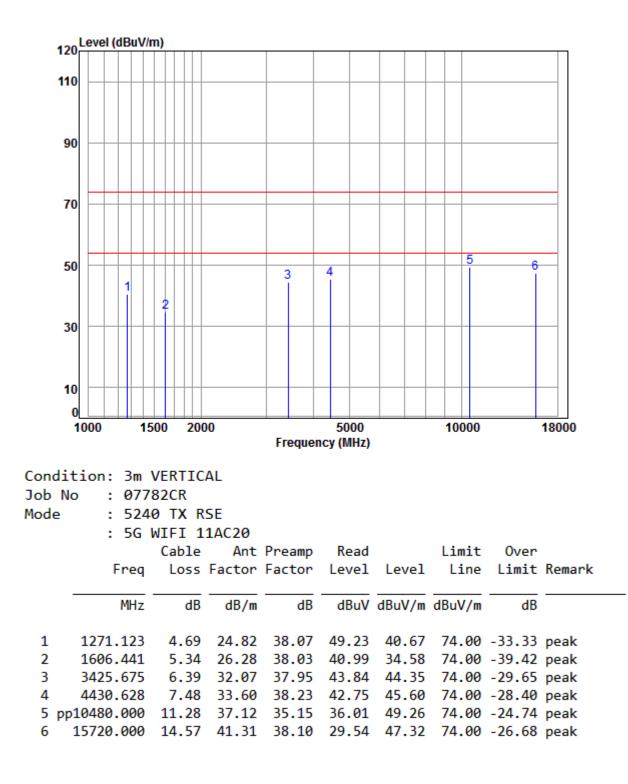
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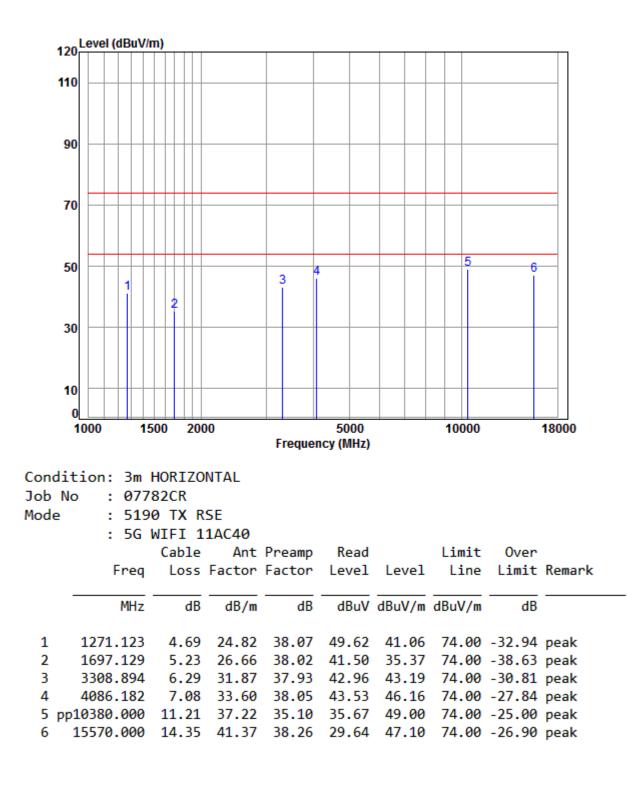
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:40MHz; Channel:Low

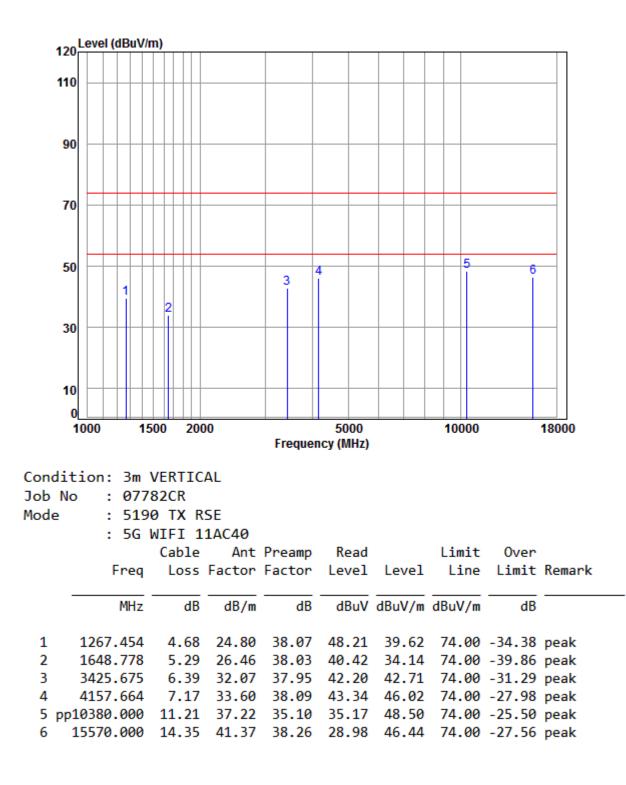


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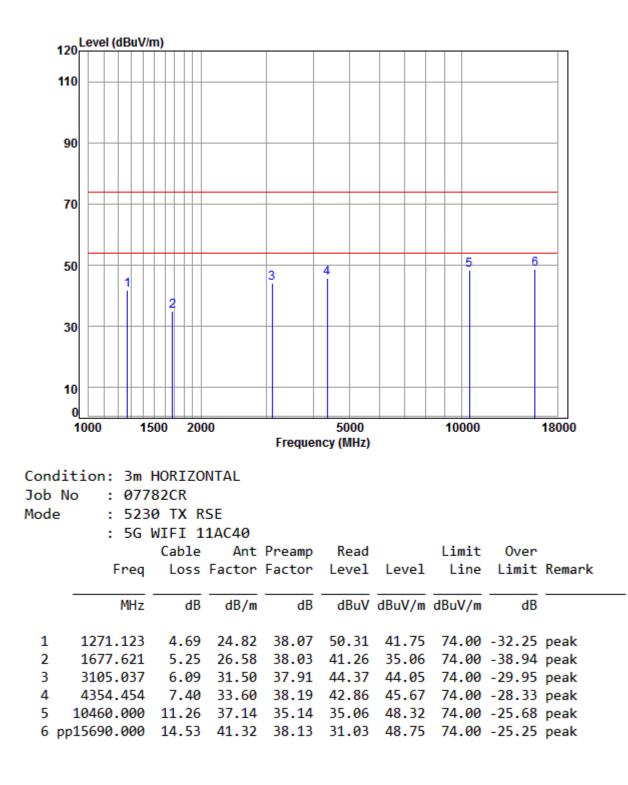
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:40MHz; Channel:High

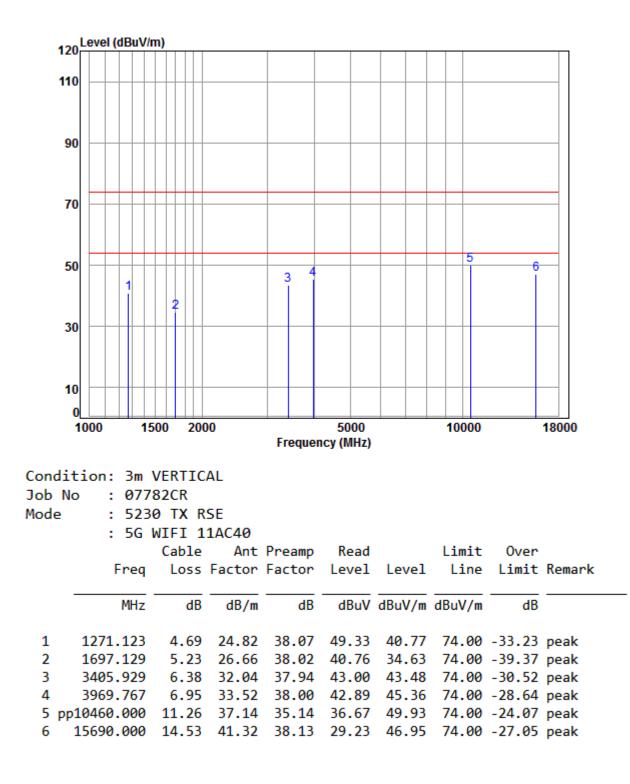


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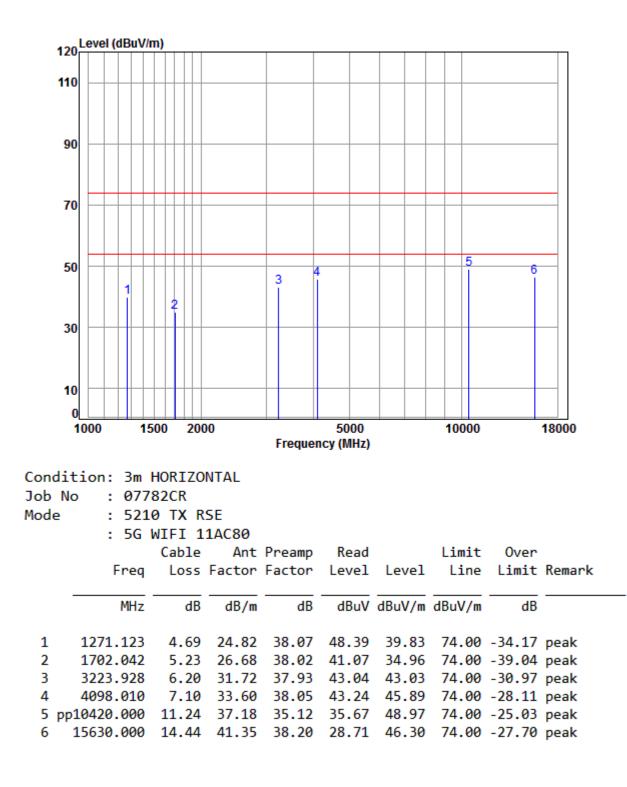
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Mode:d; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:80MHz; Channel:middle

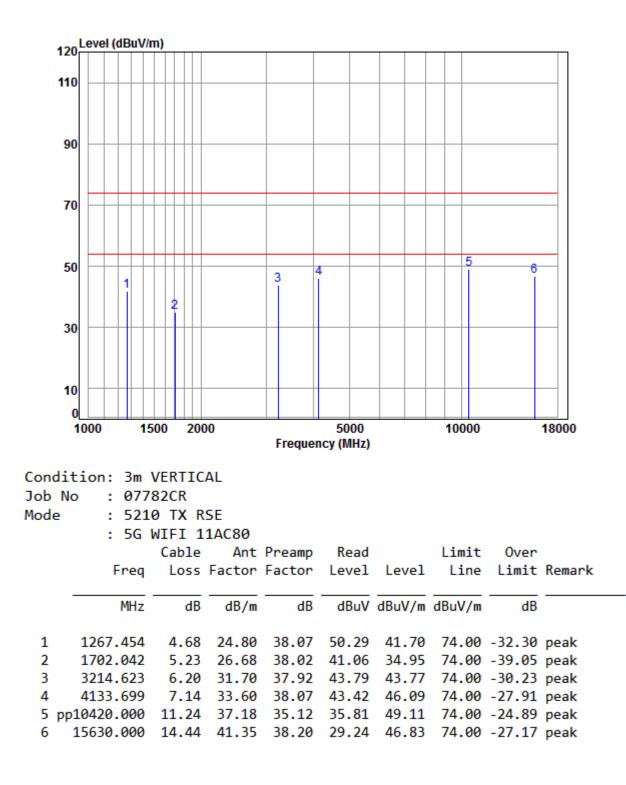


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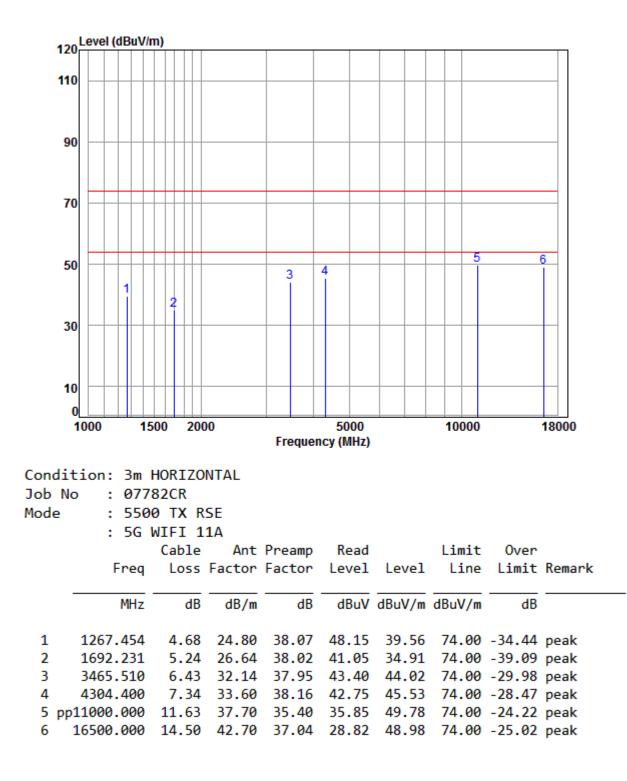
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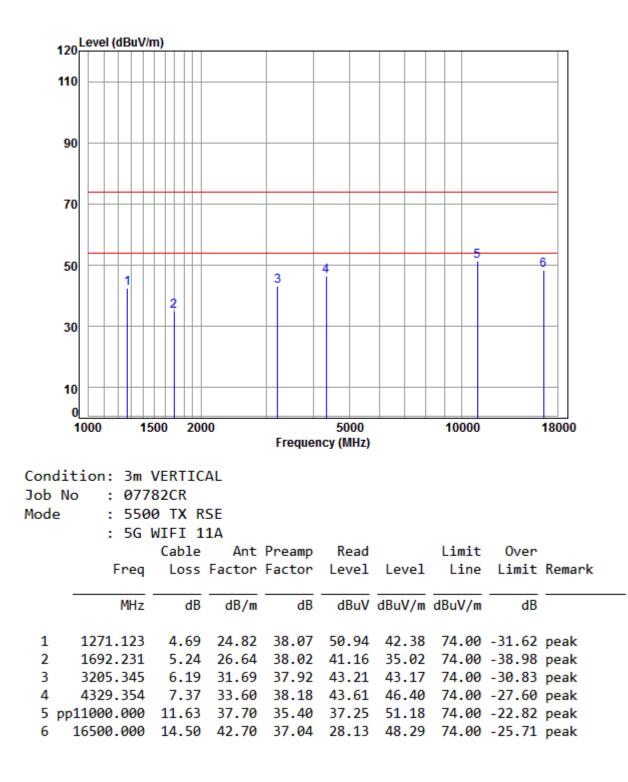
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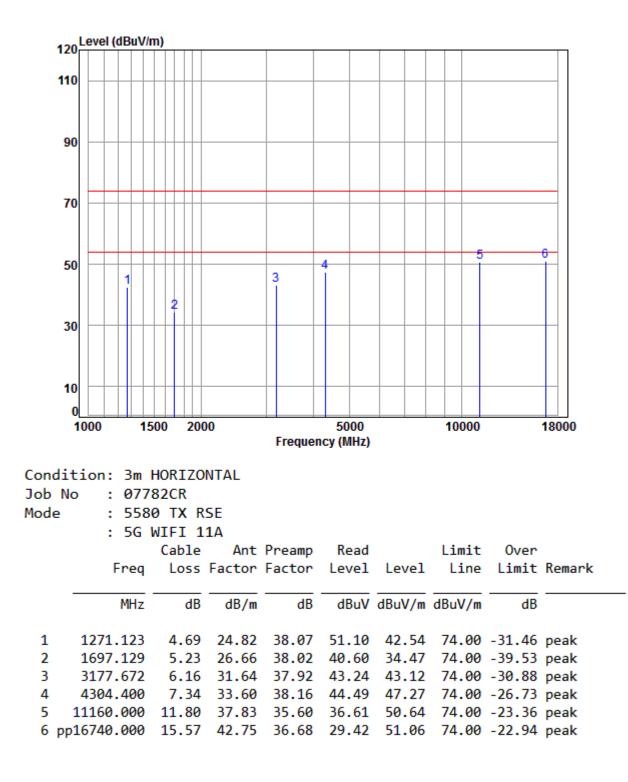
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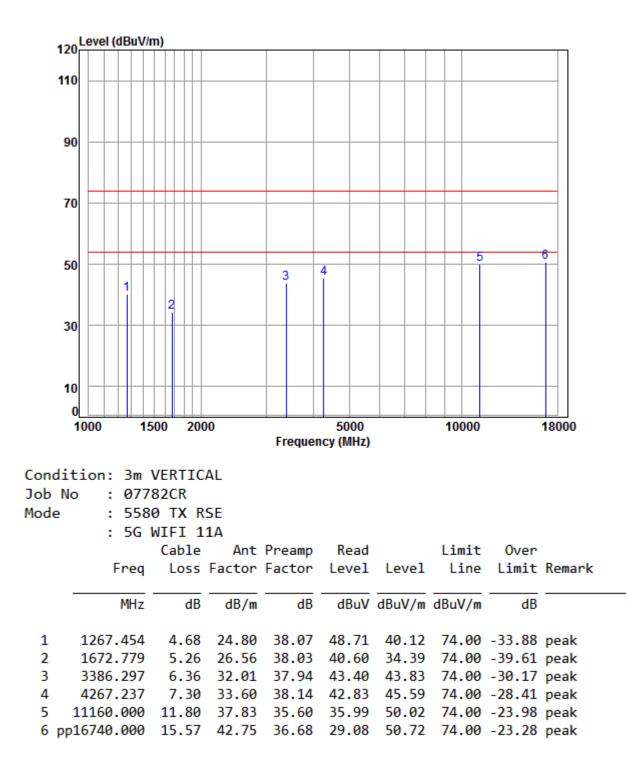


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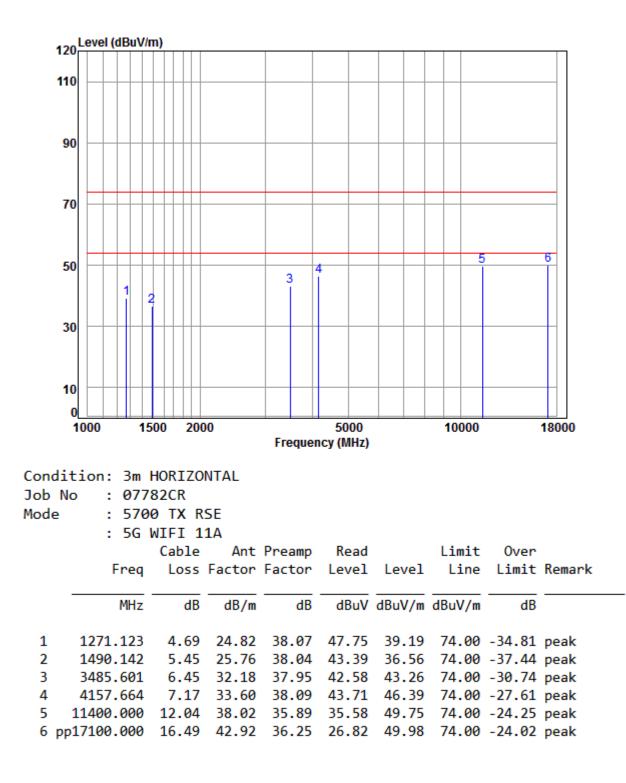
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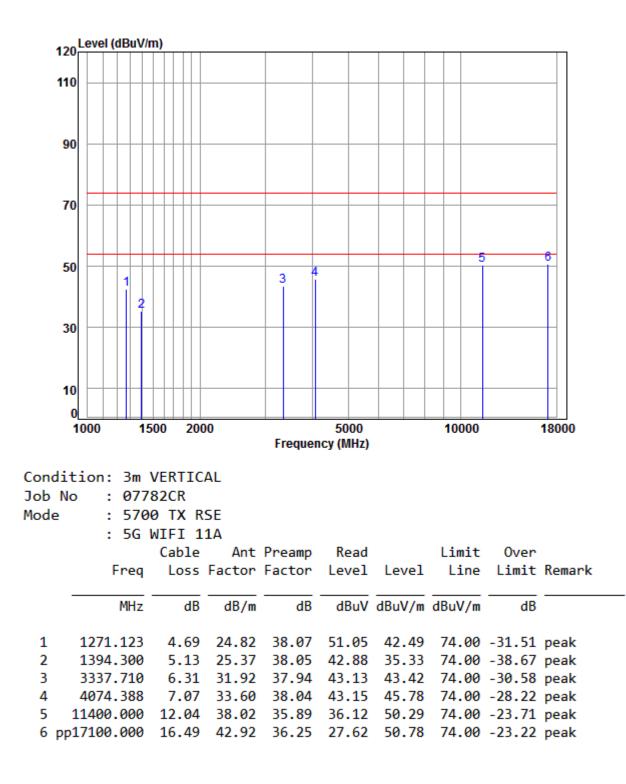
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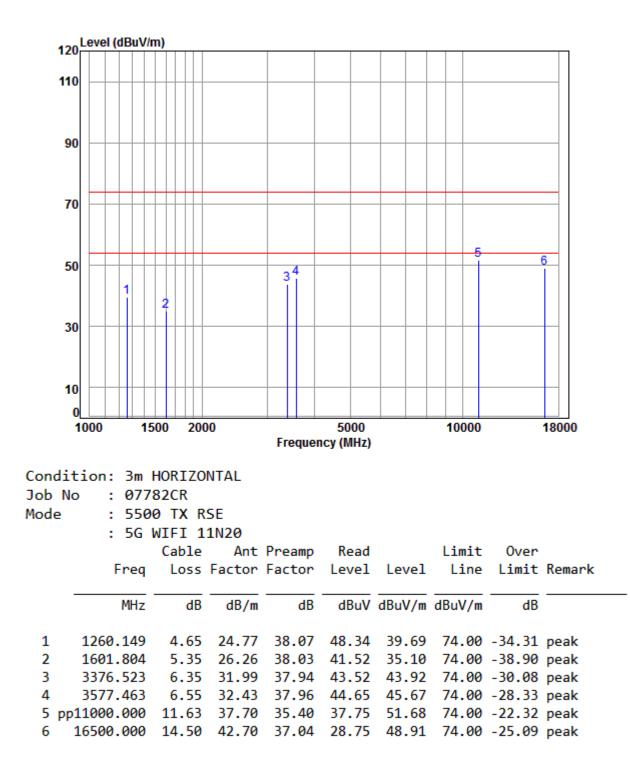
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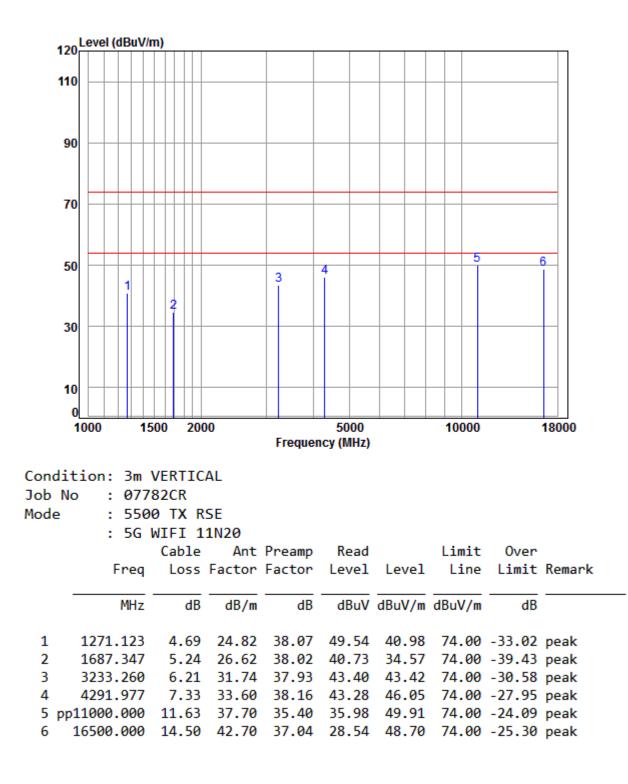
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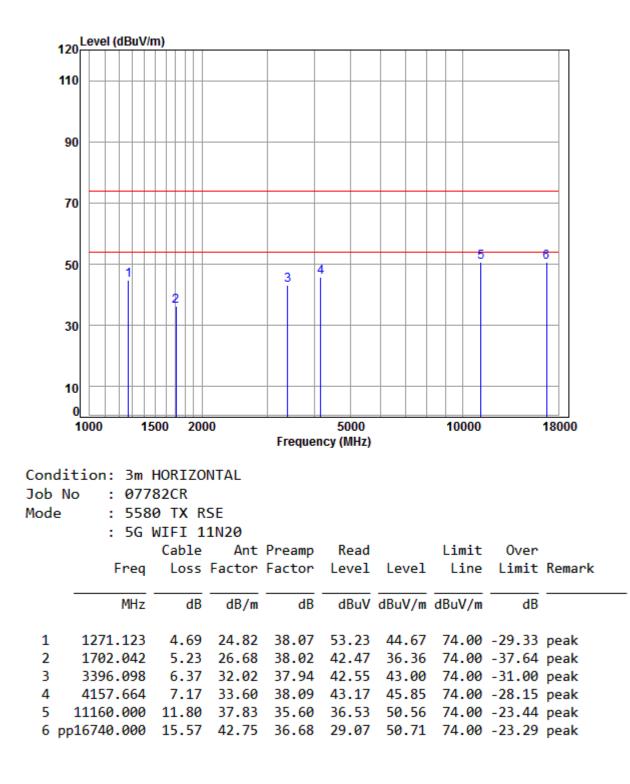
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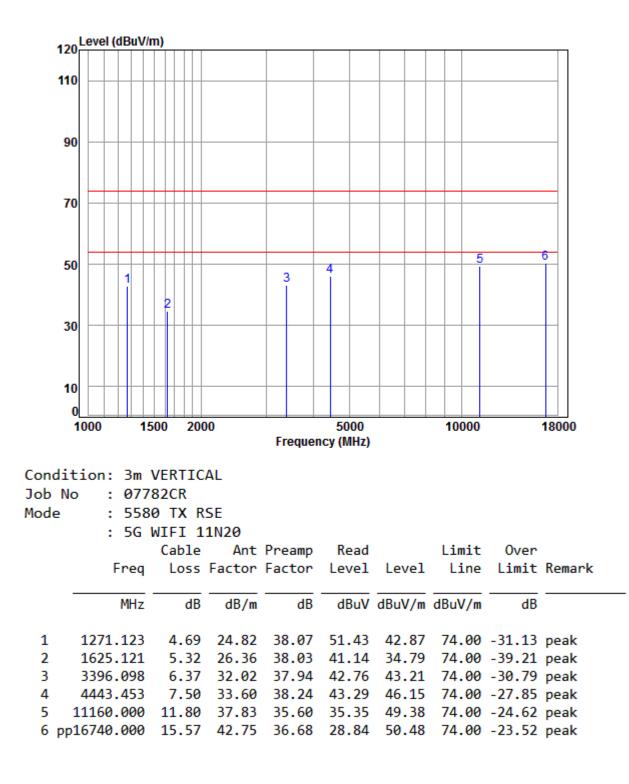


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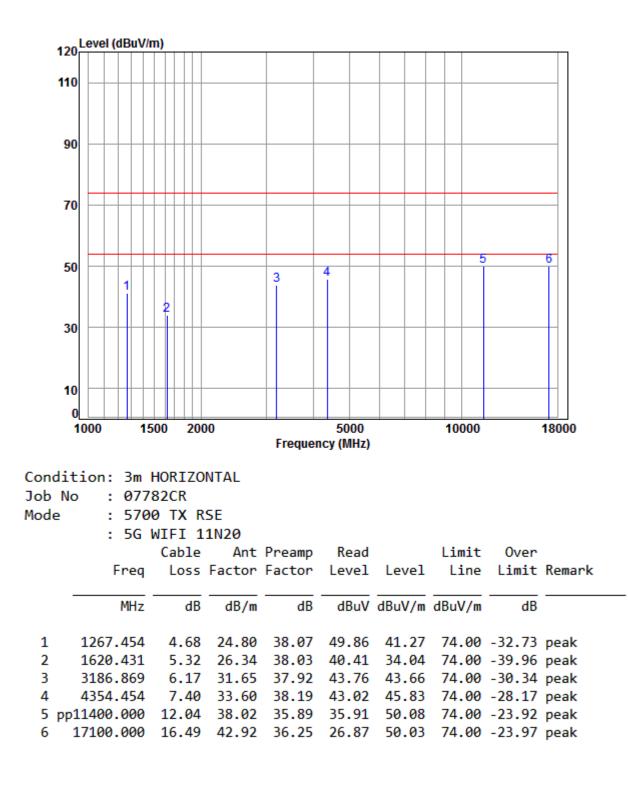
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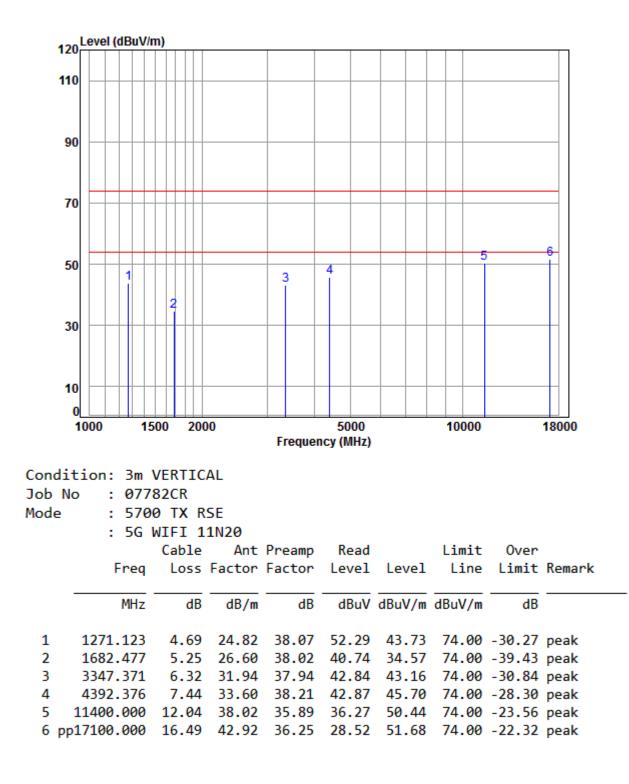


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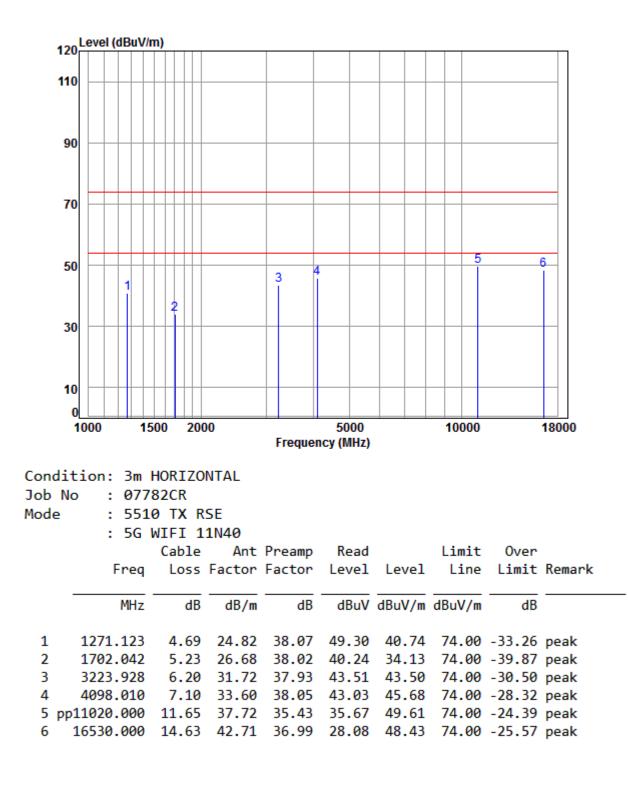
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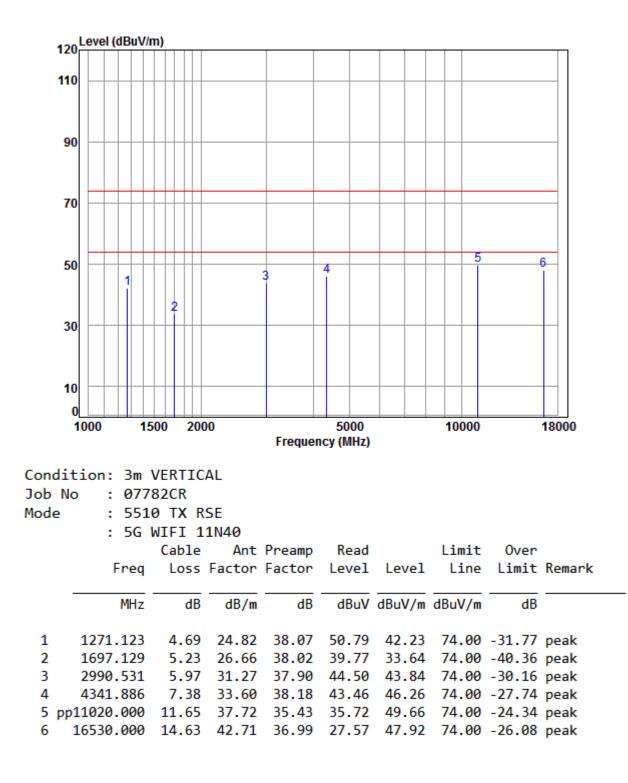
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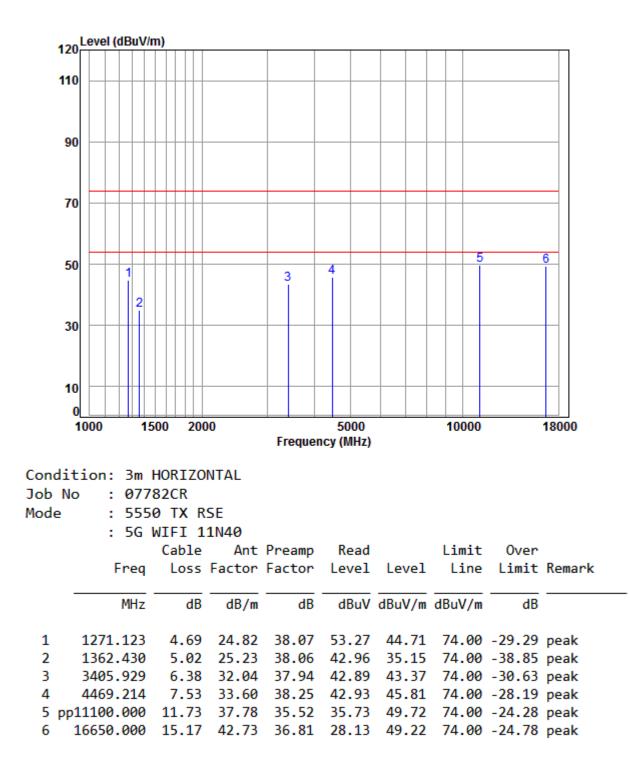
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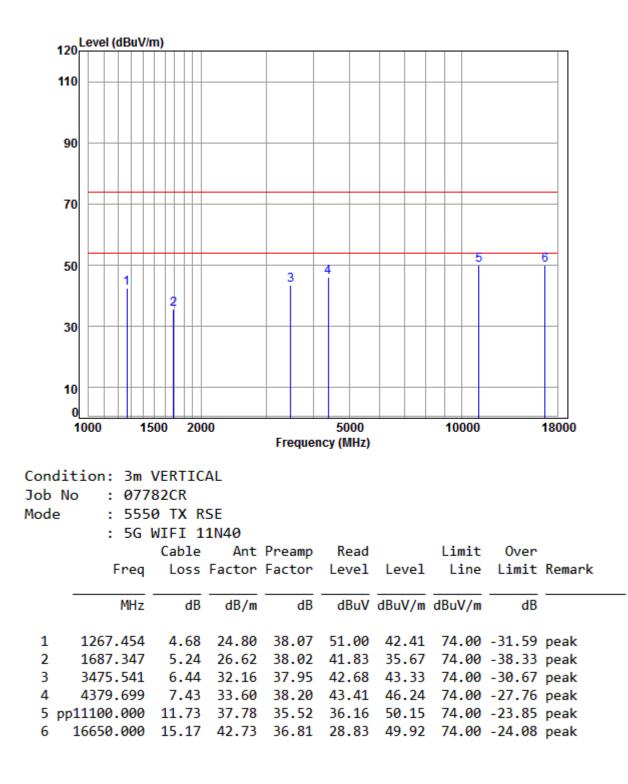
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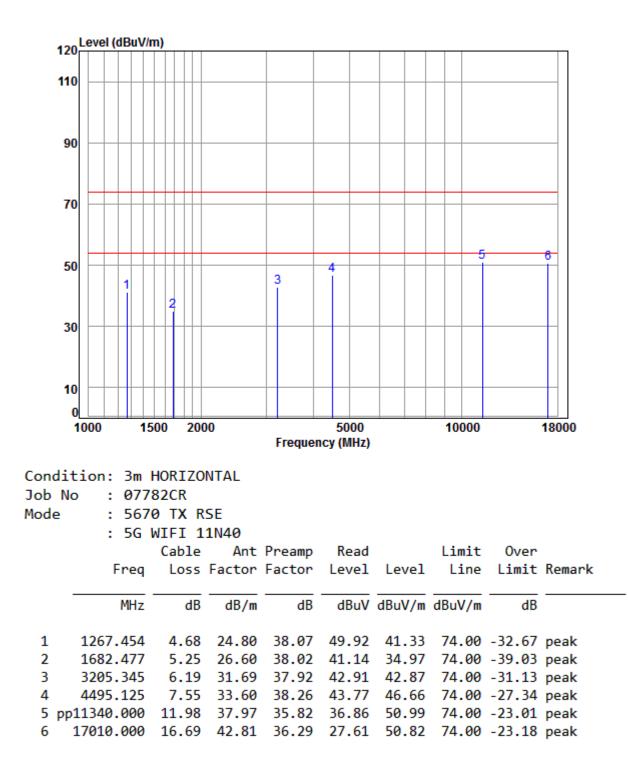
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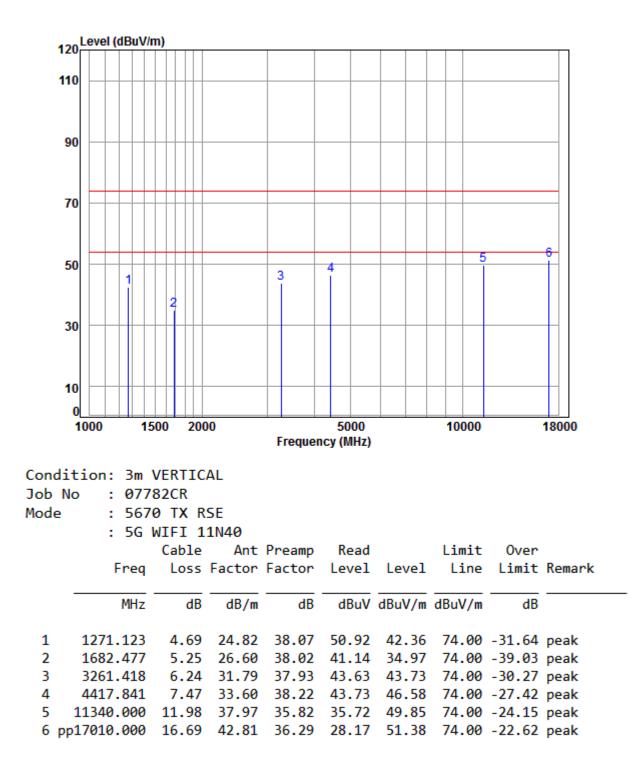
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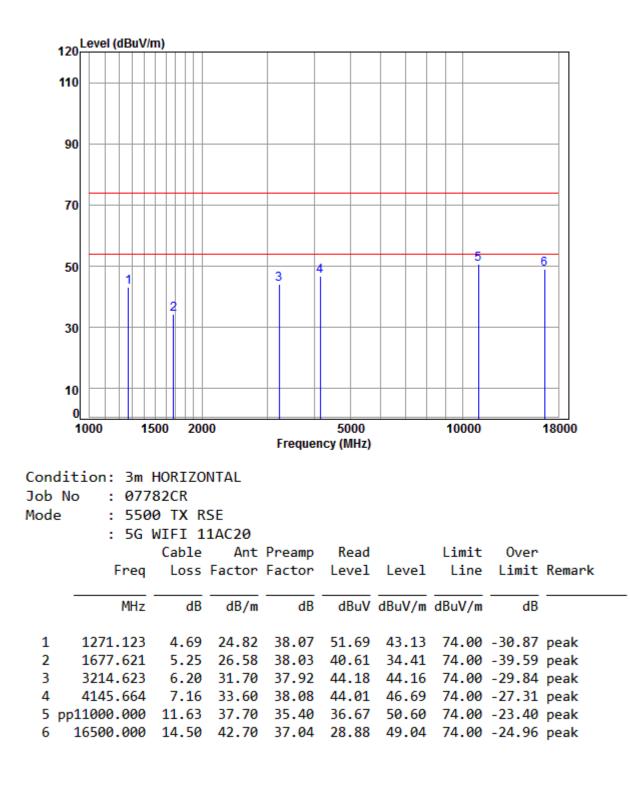
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Mode:g; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:20MHz; Channel:Low

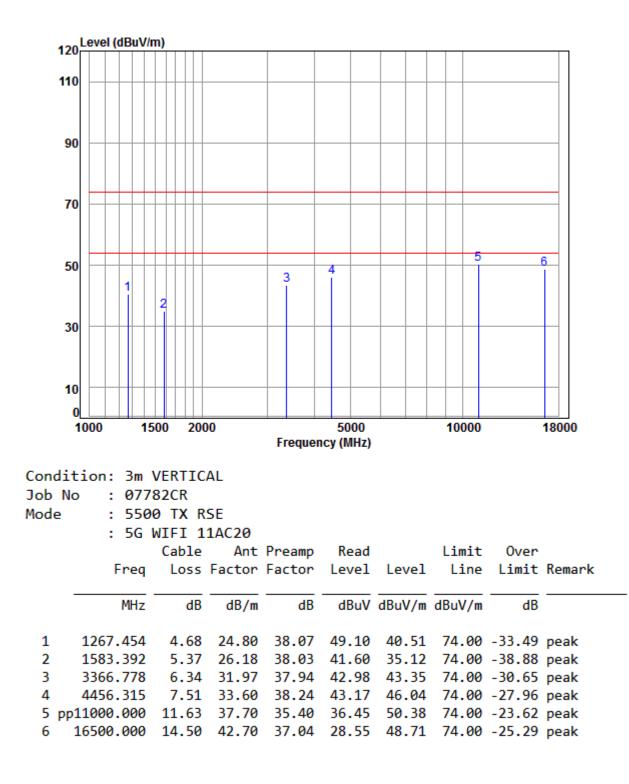


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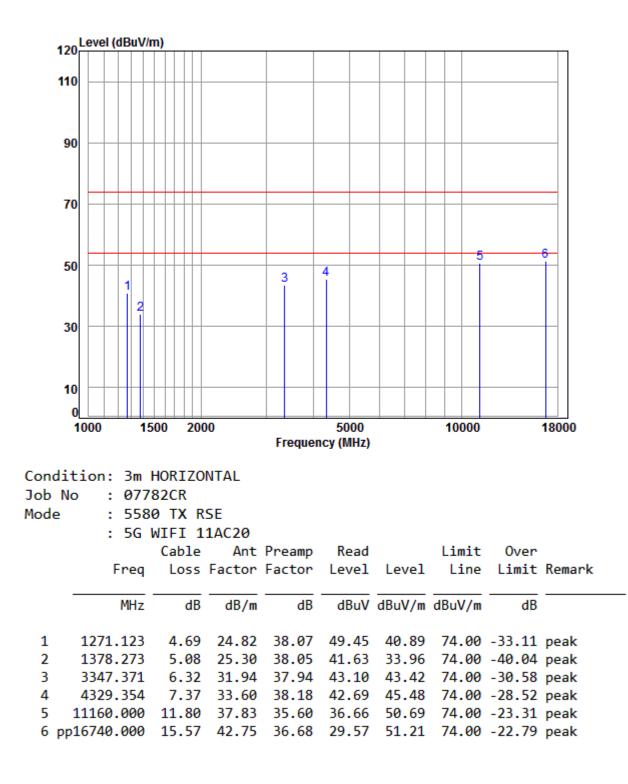
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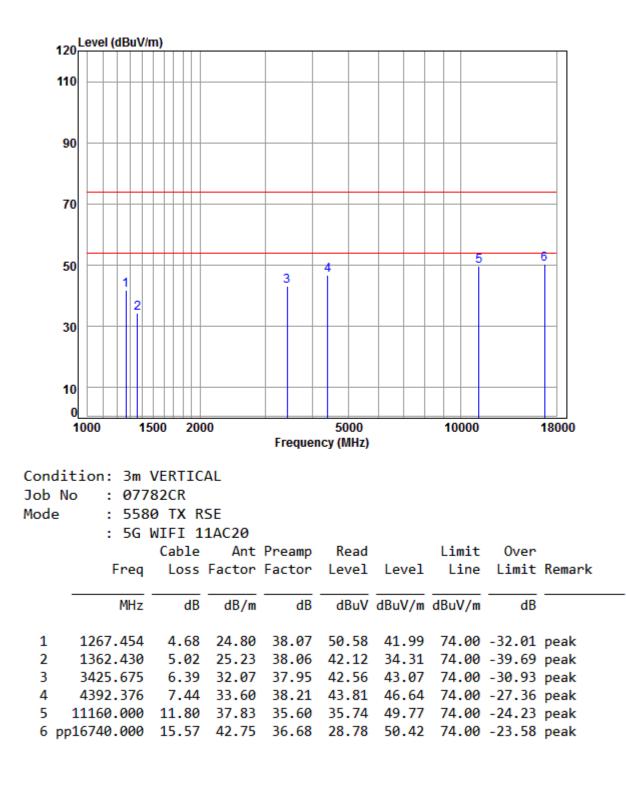


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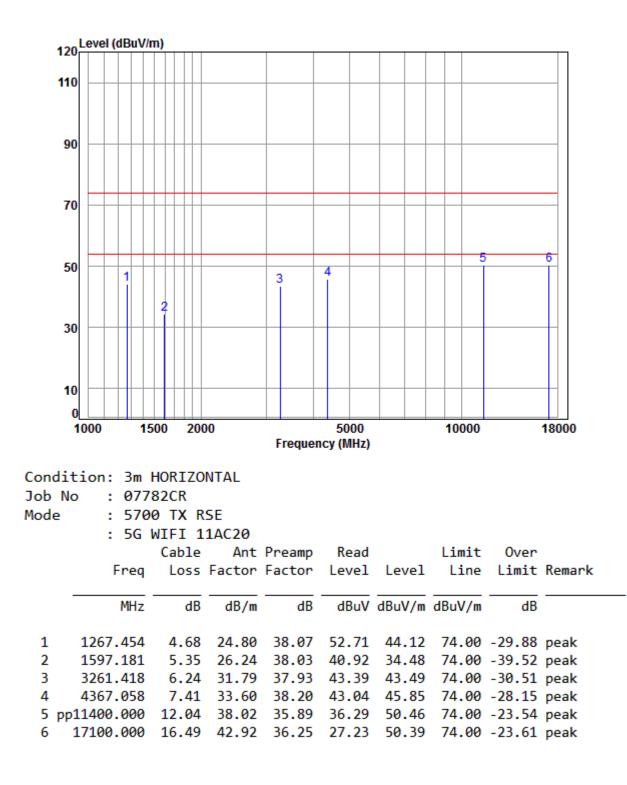
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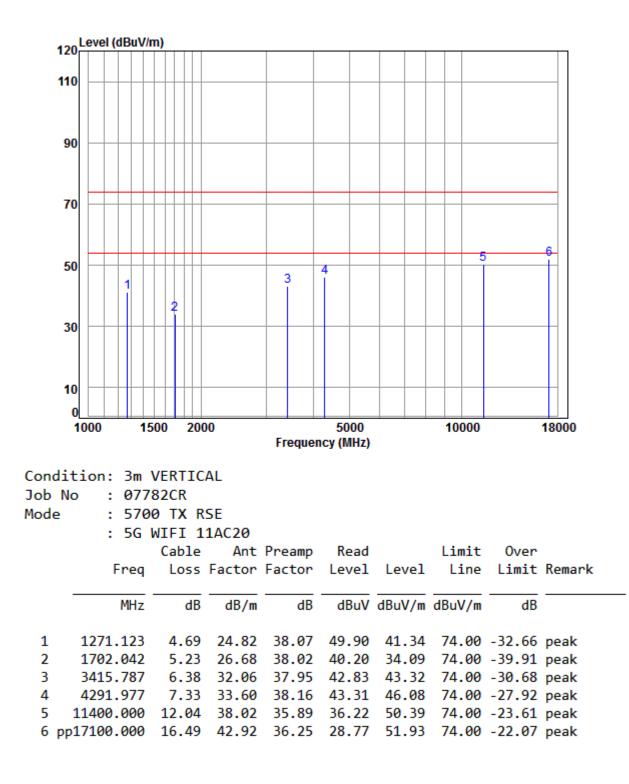


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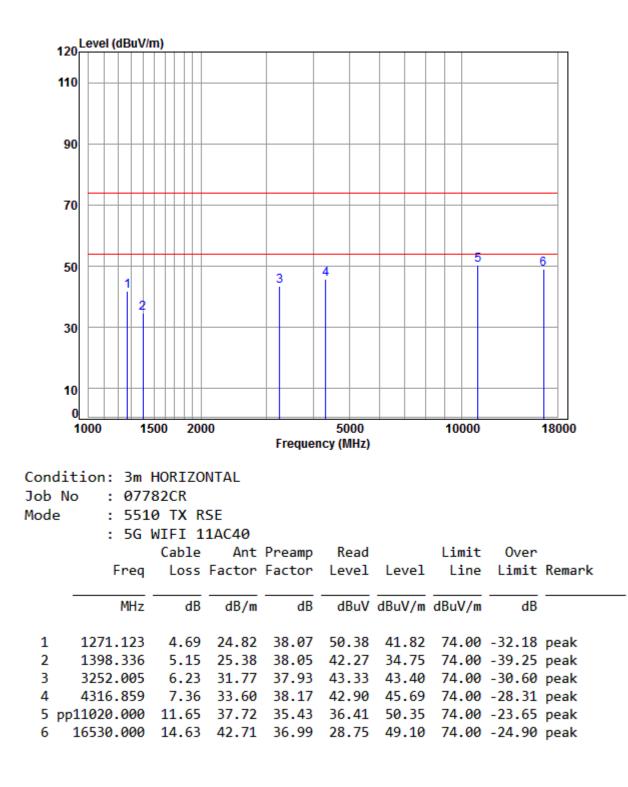
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Mode:g; Polarization:Horizontal; Modulation Type:802.11ac; bandwidth:40MHz; Channel:Low

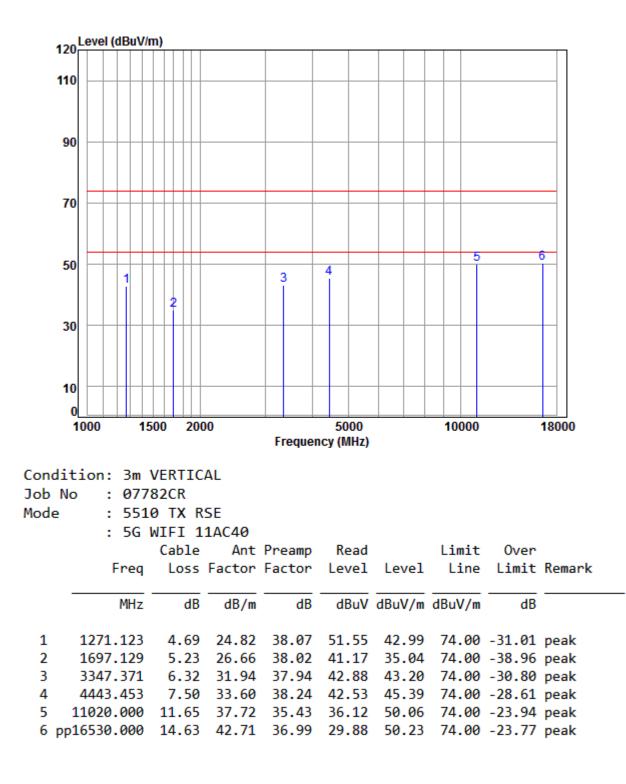


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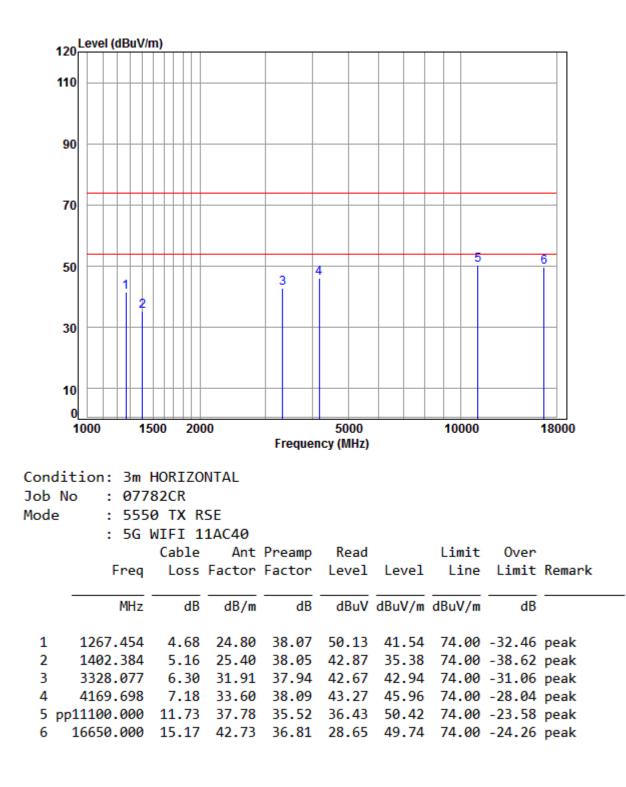
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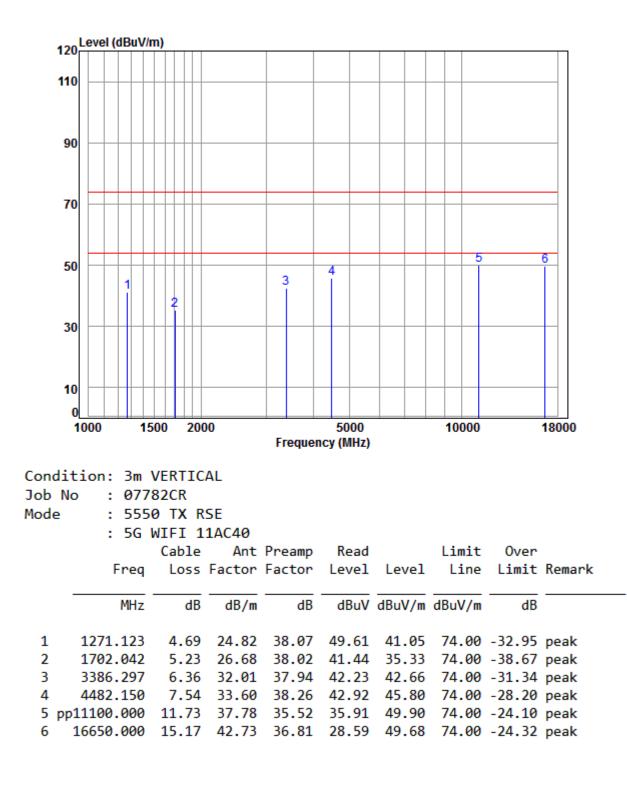
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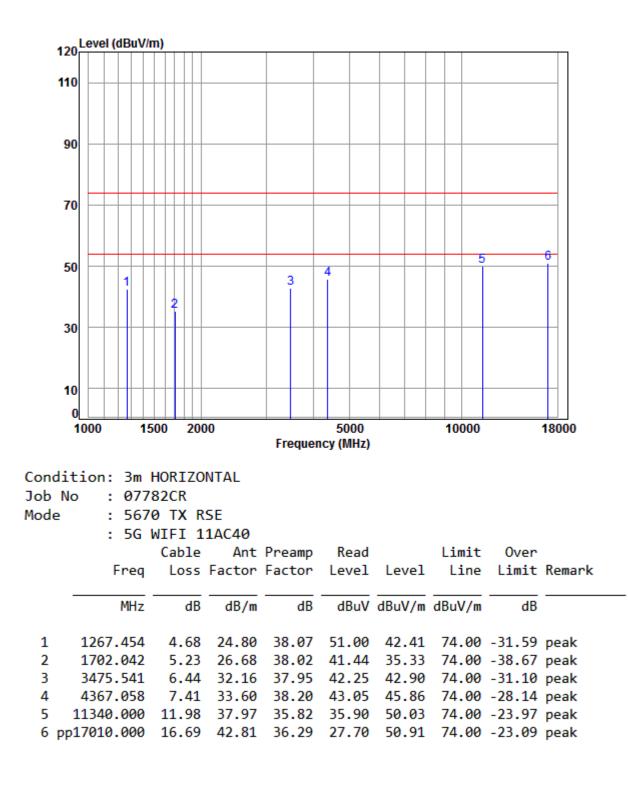
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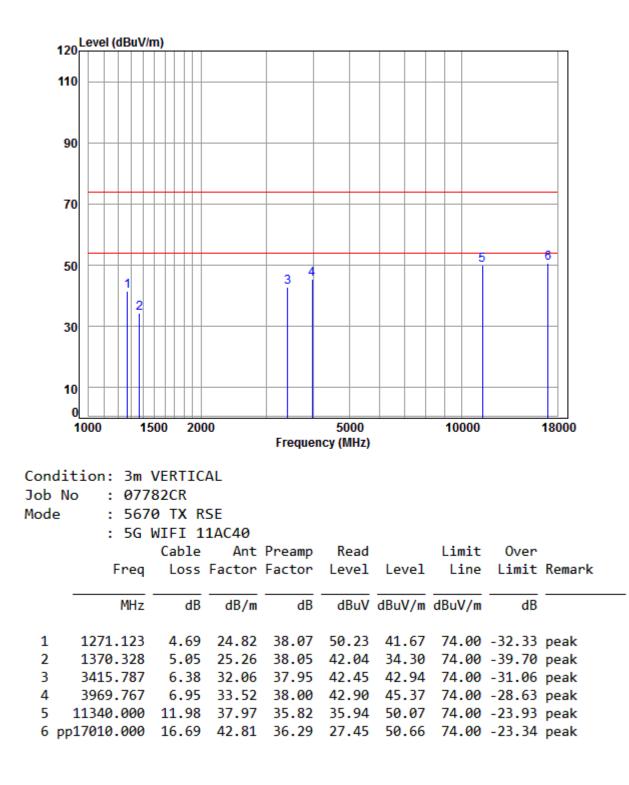


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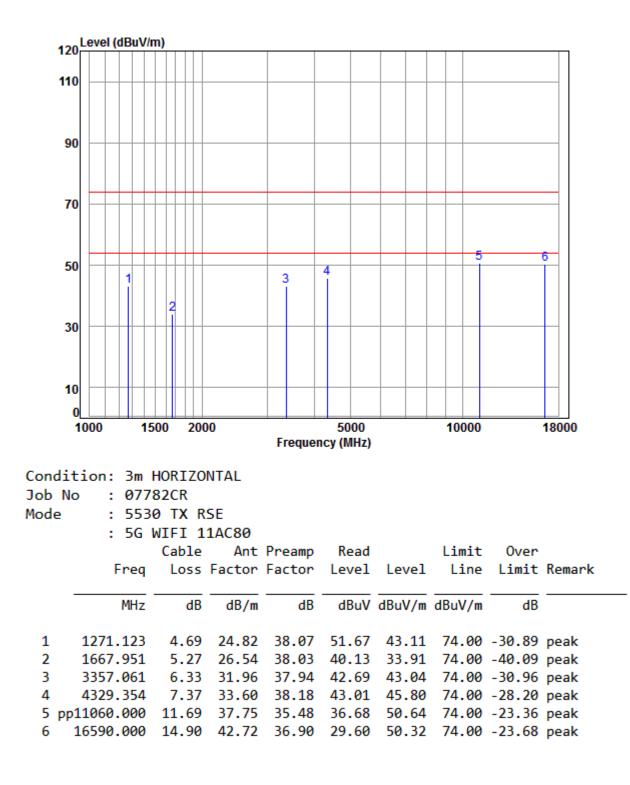
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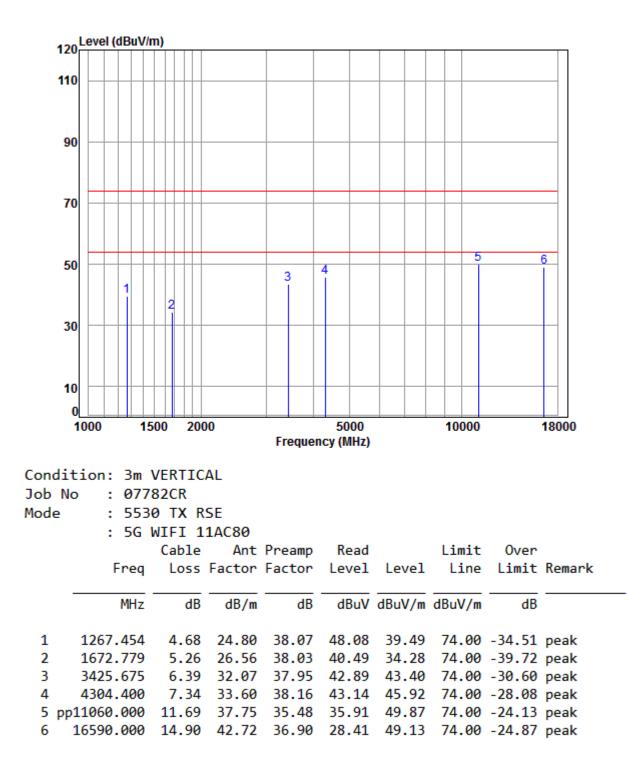


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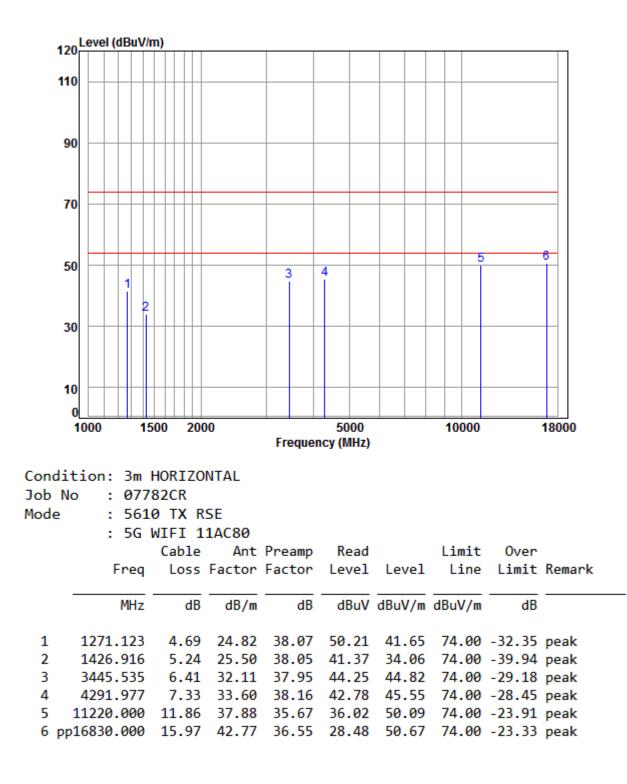
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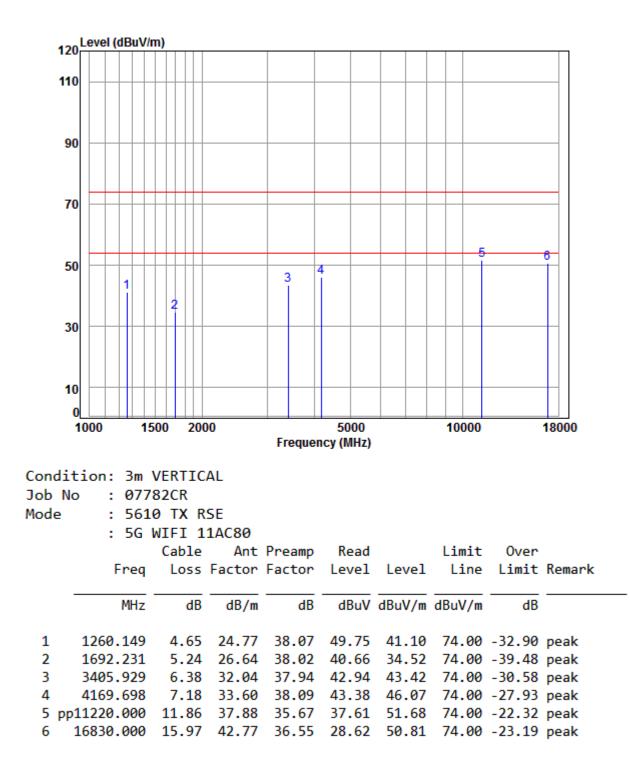
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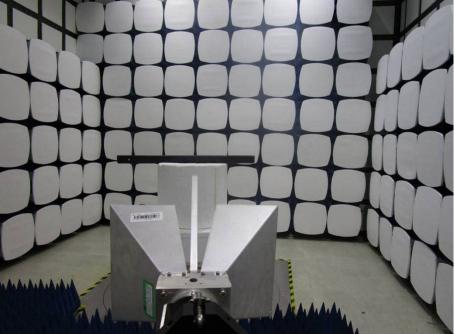


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8 Photographs



8.1 Radiated Spurious Emissions Test Setup



8.2 EUT Constructional Details Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1707007782CR.

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9 Appendix

9.1 Appendix 15.247

9.1.1 LS9-AC11DBT

3.Maximum Conduct Output Power

Test Mode	Test Channel	Ant	Level [dBm]	10log(1/x) Factor [dB]	Power [dBm]	Limit [dBm]	Verdict
11A	5180	Ant1	11.25	0.44	11.69	<23.98	PASS
11A	5200	Ant1	11.33	0.61	11.94	<23.98	PASS
11A	5240	Ant1	11.89	0.32	12.21	<23.98	PASS
11A	5745	Ant1	9.34	0.67	10.01	<30.00	PASS
11A	5785	Ant1	11.11	0.5	11.61	<30.00	PASS
11A	5825	Ant1	11.18	0.26	11.44	<30.00	PASS
11AC20	5180	Ant1	11.02	0.34	11.36	<23.98	PASS
11AC20	5200	Ant1	11.01	0.46	11.47	<23.98	PASS
11AC20	5240	Ant1	11.53	0.65	12.18	<23.98	PASS
11AC20	5745	Ant1	9.02	0.4	9.42	<30.00	PASS
11AC20	5785	Ant1	10.10	0.71	10.81	<30.00	PASS
11AC20	5825	Ant1	11.11	0.59	11.7	<30.00	PASS
11AC40	5190	Ant1	10.12	0.79	10.91	<23.98	PASS
11AC40	5230	Ant1	10.72	0.54	11.26	<23.98	PASS
11AC40	5755	Ant1	8.35	0.79	9.14	<30.00	PASS
11AC40	5795	Ant1	9.39	1.17	10.56	<30.00	PASS
11AC80	5210	Ant1	10.44	1.96	12.4	<23.98	PASS
11AC80	5775	Ant1	9.57	1.87	11.44	<30.00	PASS
11N20	5180	Ant1	11.71	0.53	12.24	<23.98	PASS
11N20	5200	Ant1	11.86	0.41	12.27	<23.98	PASS
11N20	5240	Ant1	12.36	0.6	12.96	<23.98	PASS
11N20	5745	Ant1	8.11	0.4	8.51	<30.00	PASS
11N20	5785	Ant1	10.53	0.65	11.18	<30.00	PASS
11N20	5825	Ant1	11.17	0.34	11.51	<30.00	PASS
11N40	5190	Ant1	11.26	0.67	11.93	<23.98	PASS

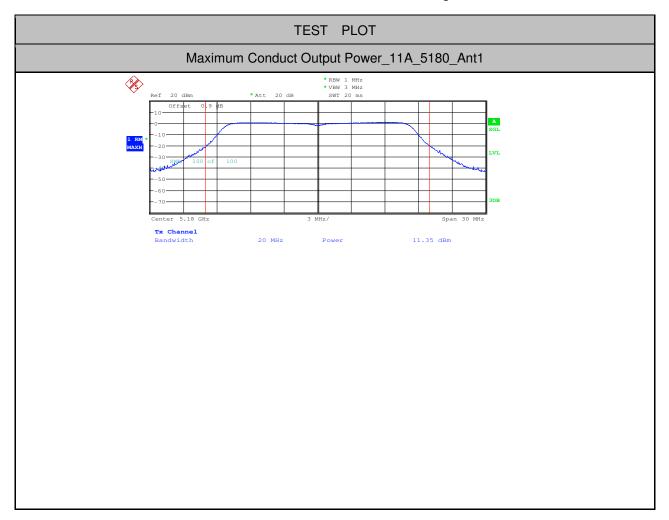


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11N40	5230	Ant1	12.30	1.25	13.55	<23.98	PASS
11N40	5755	Ant1	9.31	1.17	10.48	<30.00	PASS
11N40	5795	Ant1	10.38	0.79	11.17	<30.00	PASS

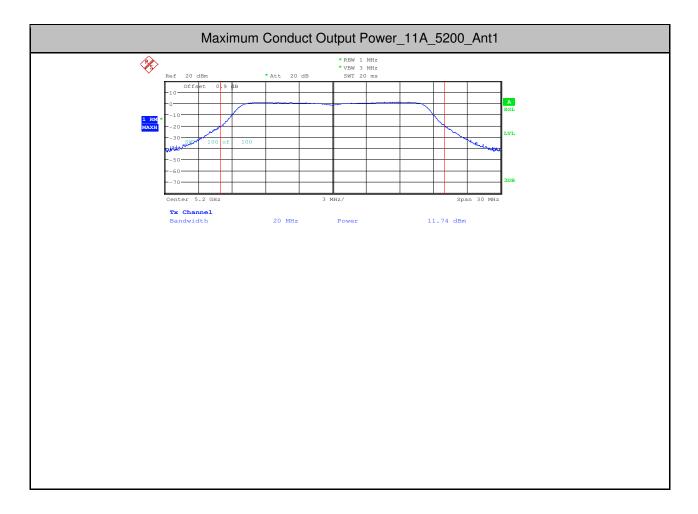


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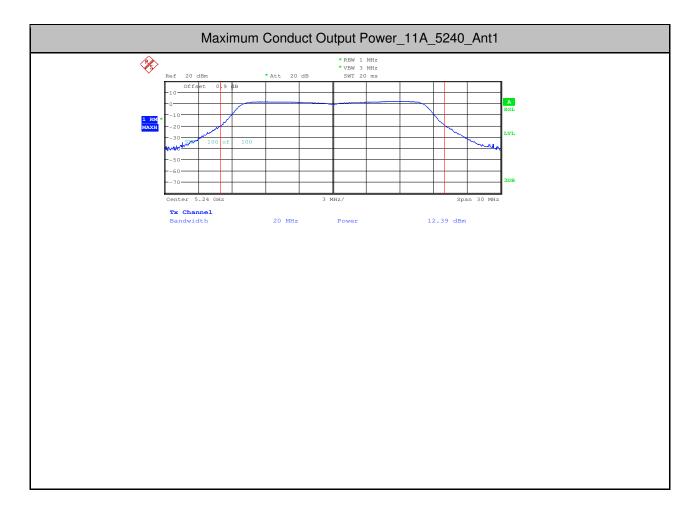


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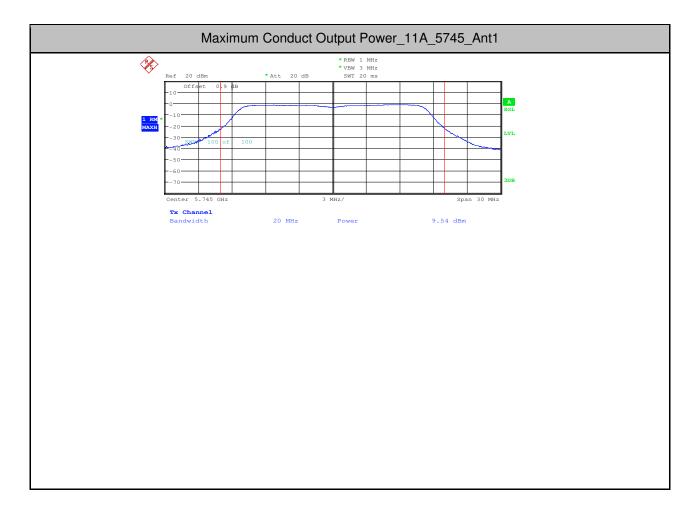


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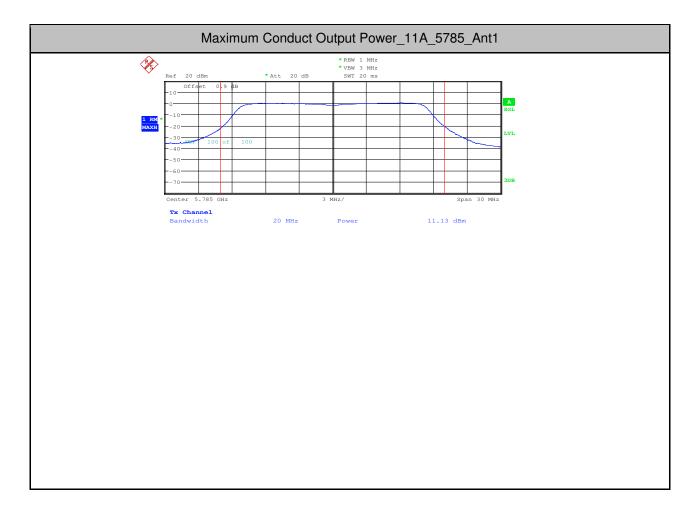


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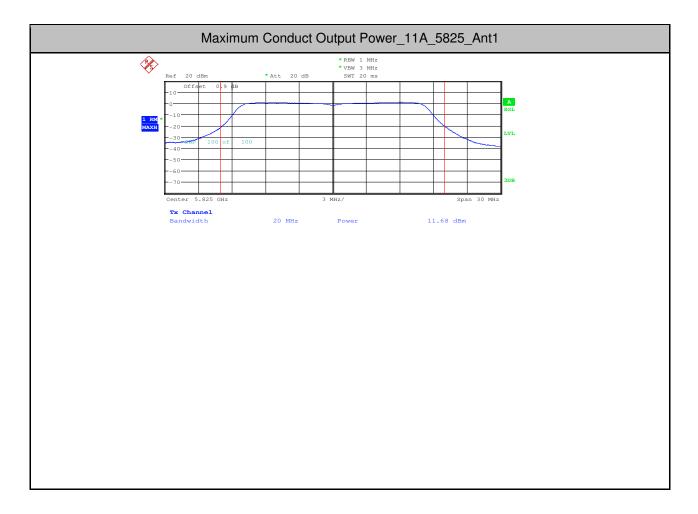


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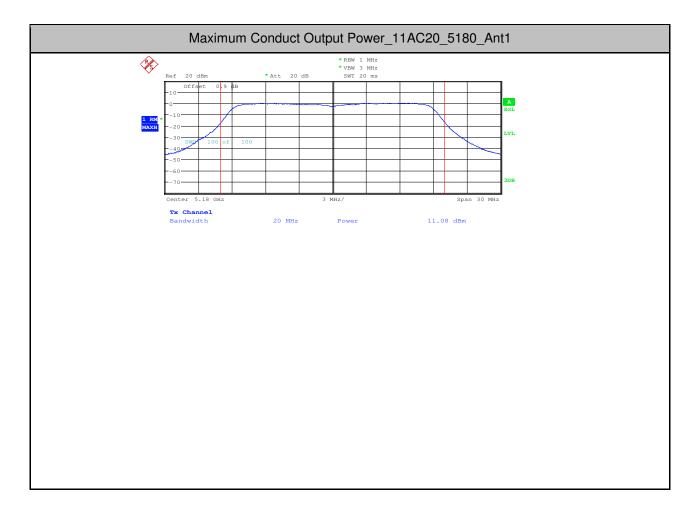


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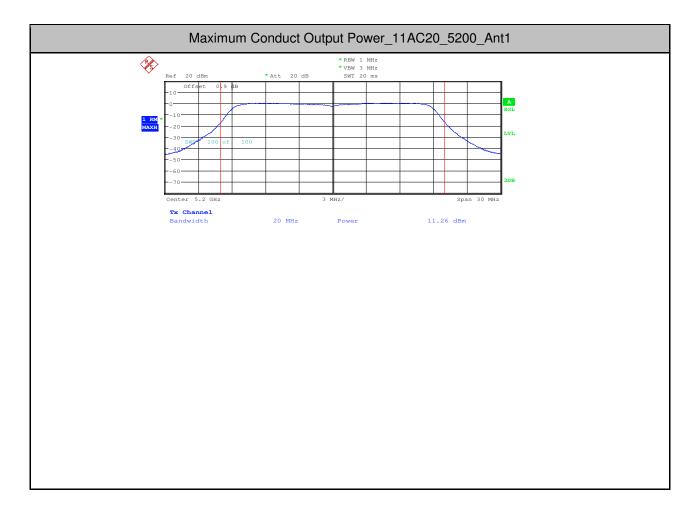


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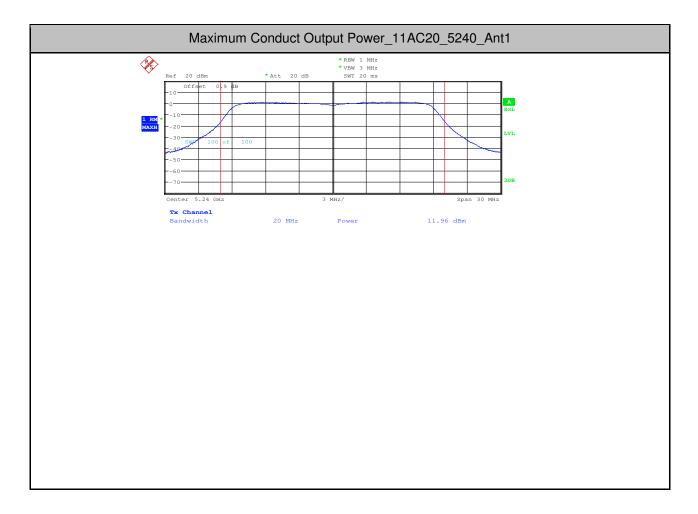


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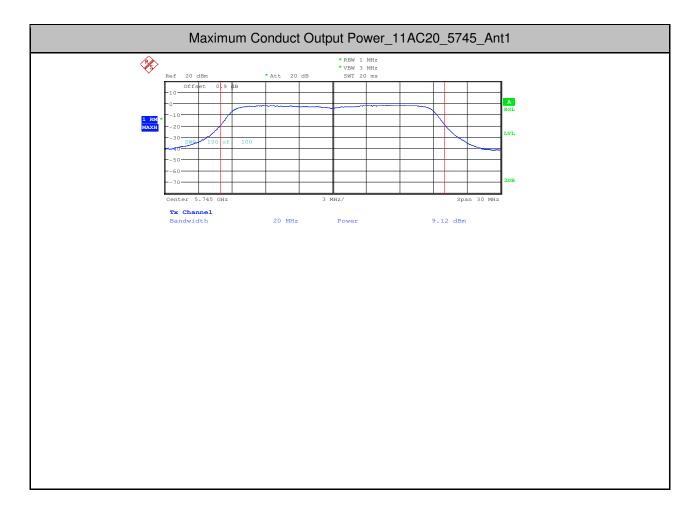


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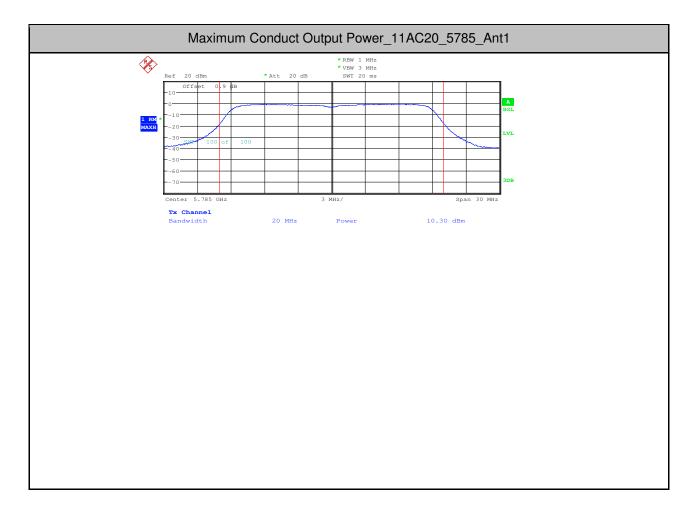


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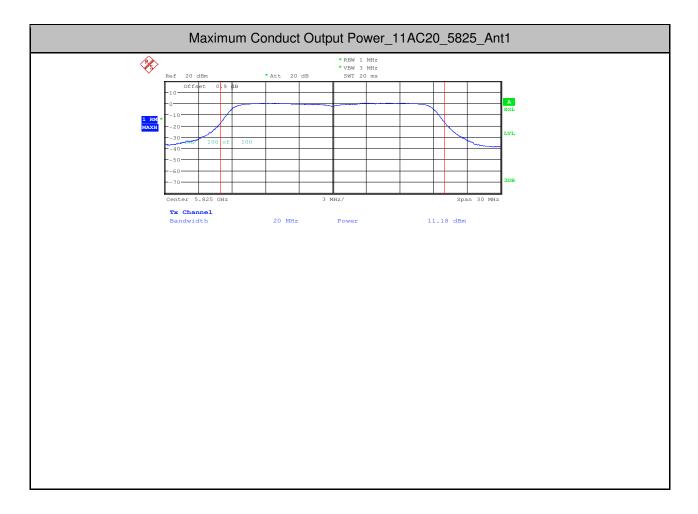


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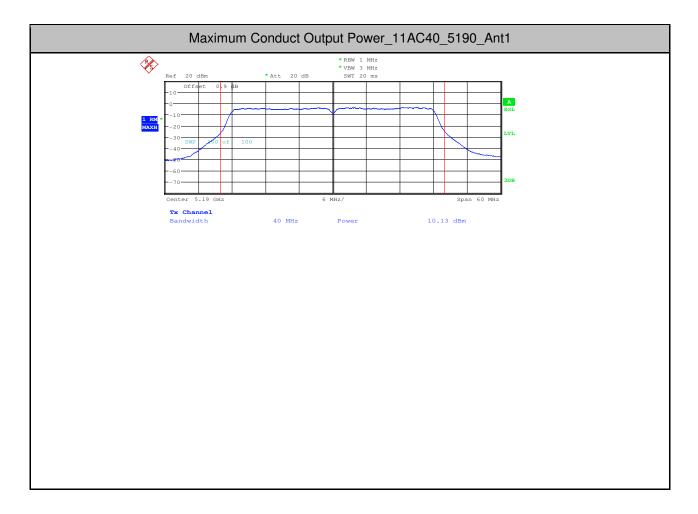


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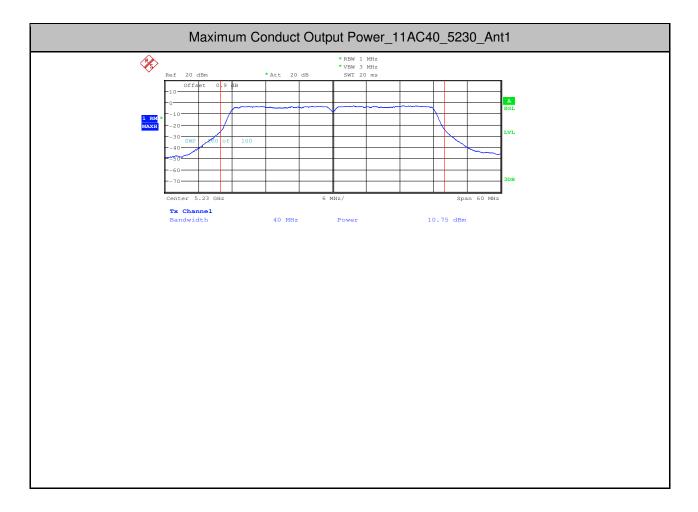


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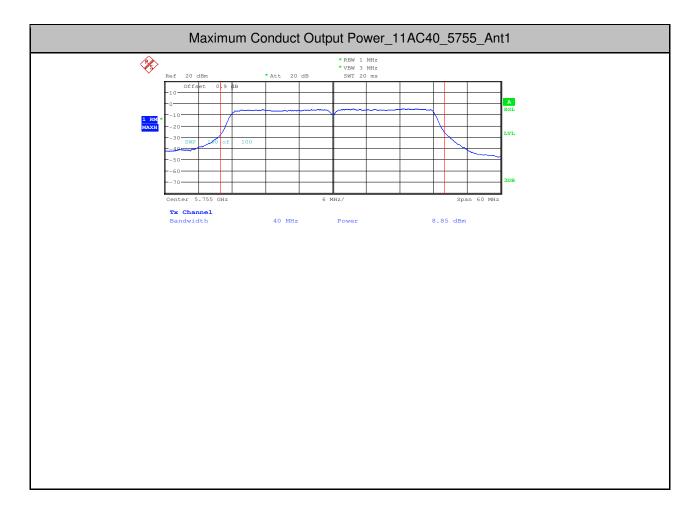


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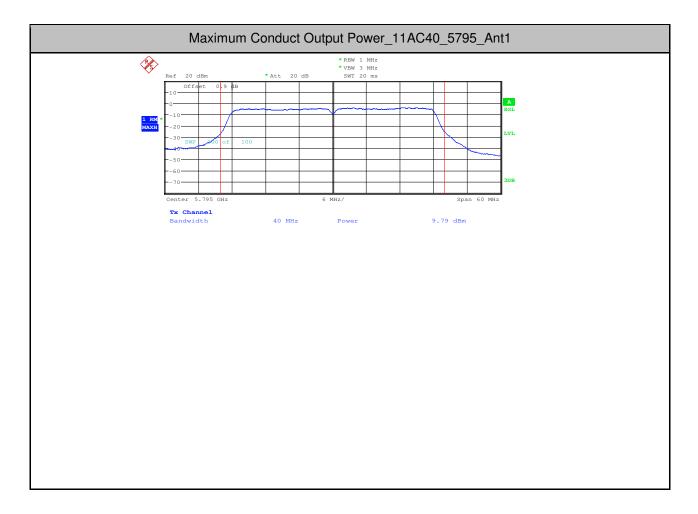


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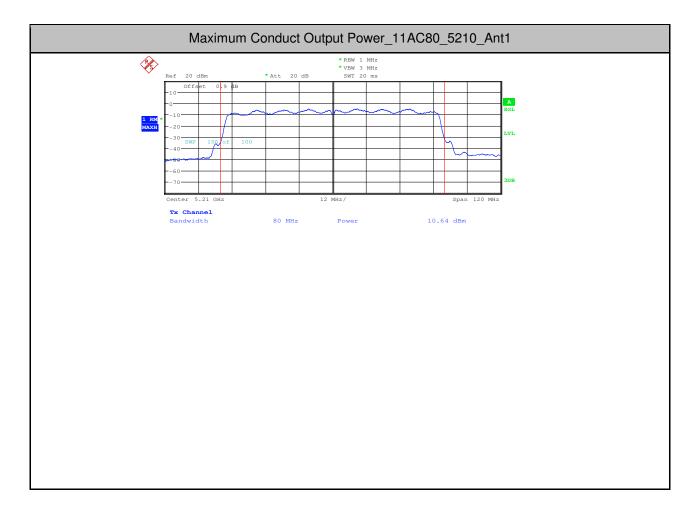


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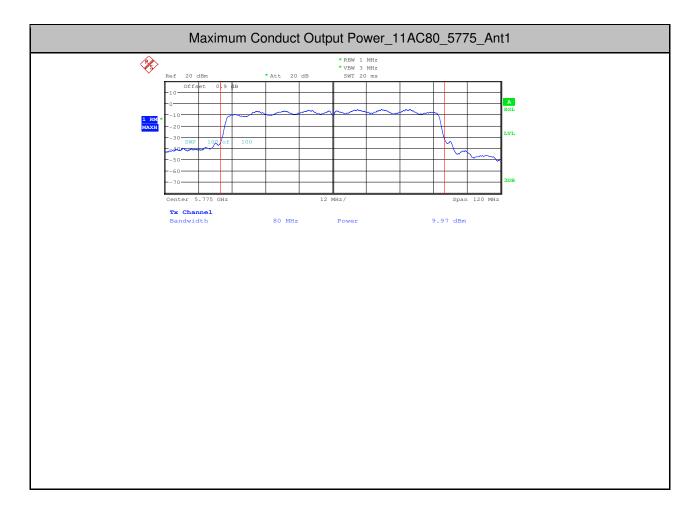


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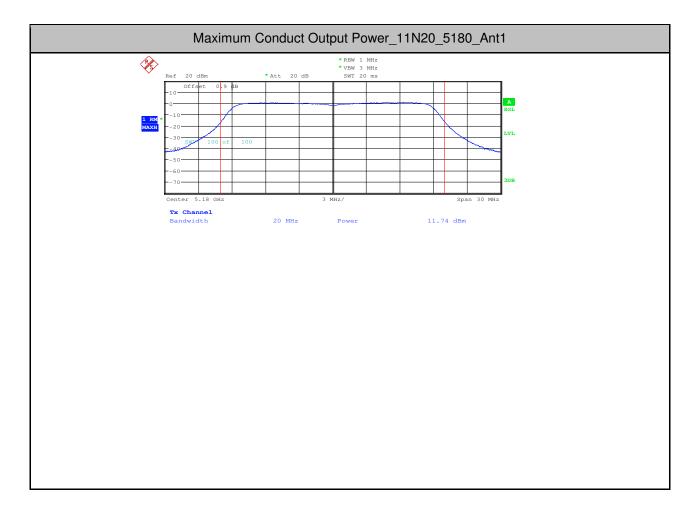


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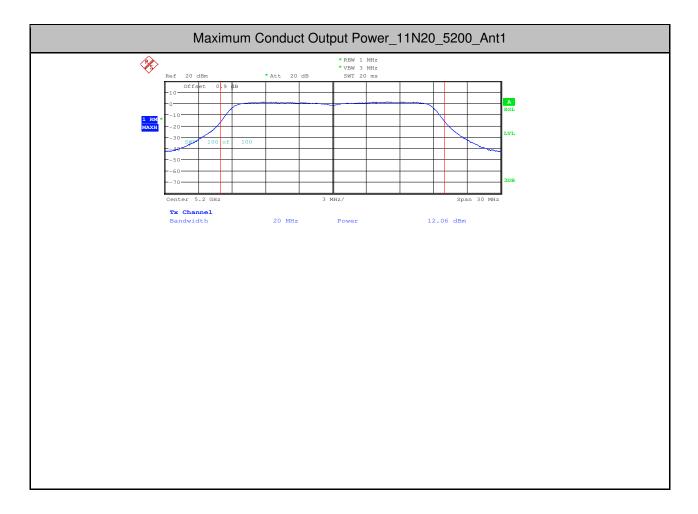


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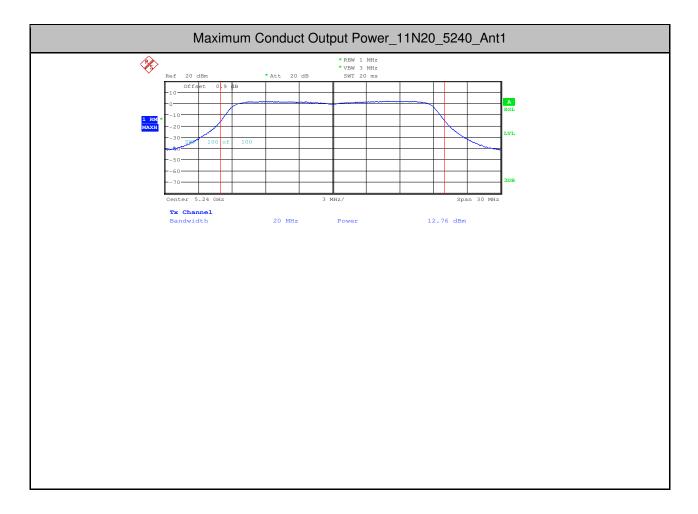


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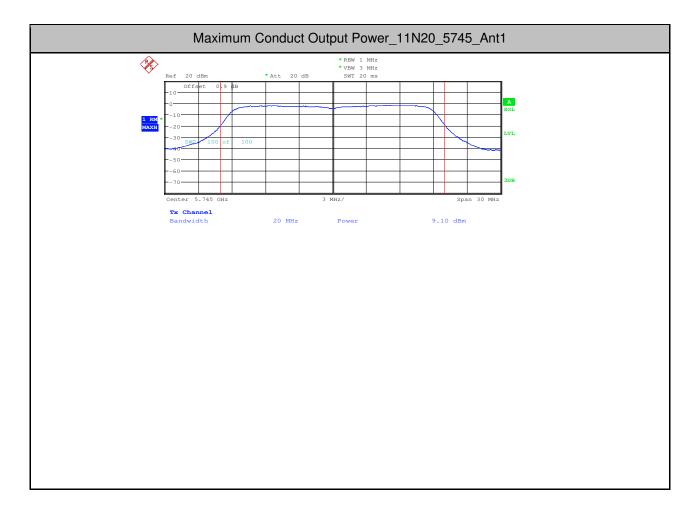


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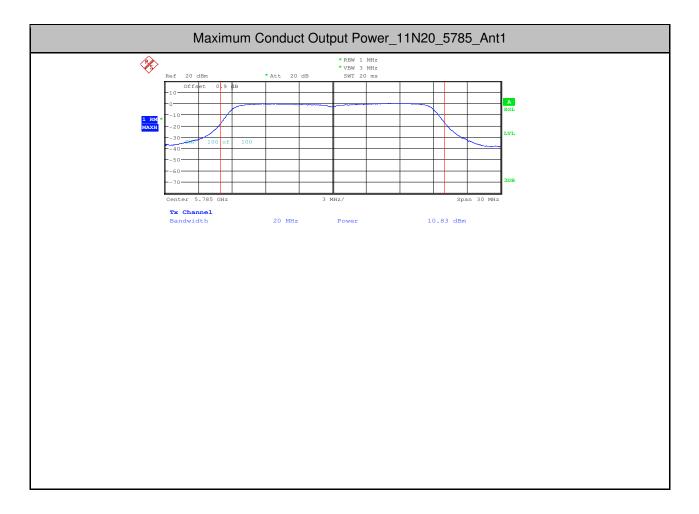


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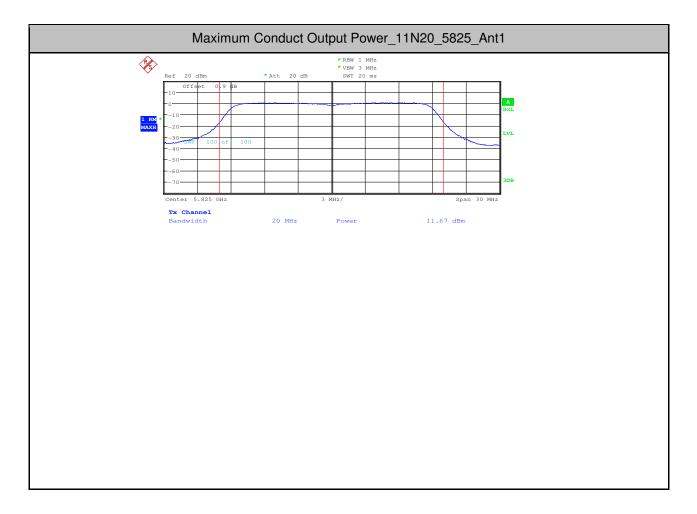


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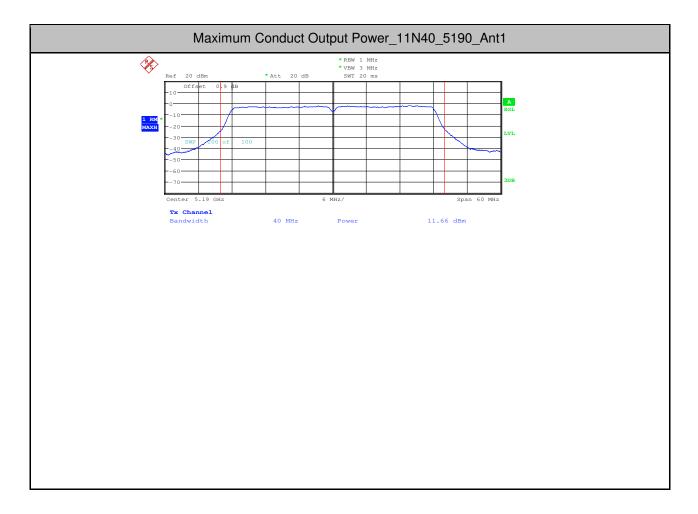


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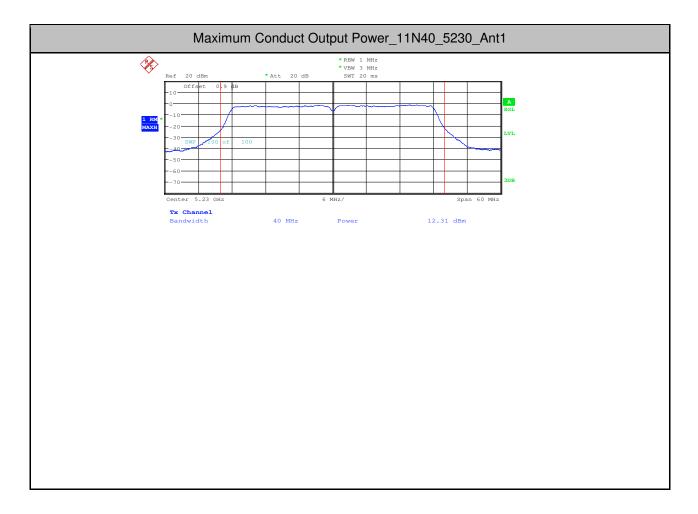


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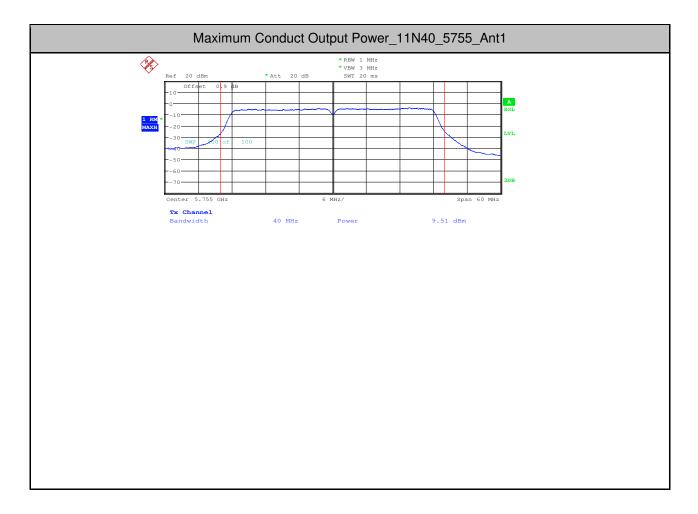


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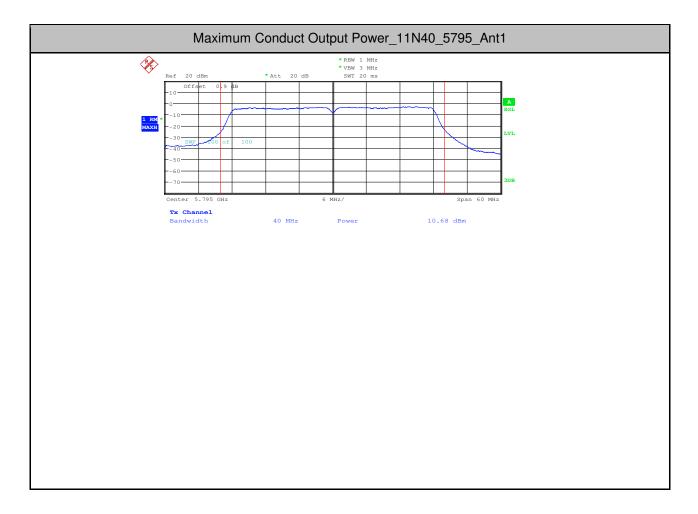


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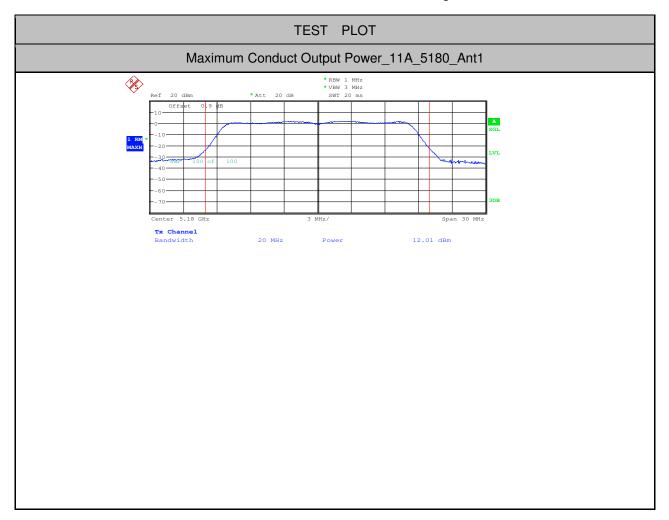
9.1.2 CDW-B18821A-00

3.Maximum Conduct Output Power

Test Mode	Test Channel	Ant	Level [dBm]	10log(1/x) Factor [dB]	Power [dBm]	Limit [dBm]	Verdict
11A	5180	Ant1	11.04	2.34	13.38	<23.98	PASS
11A	5200	Ant1	12.13	2.34	14.47	<23.98	PASS
11A	5240	Ant1	12.57	2.34	14.91	<23.98	PASS
11A	5745	Ant1	11.52	2.34	13.86	<30.00	PASS
11A	5785	Ant1	11.11	2.34	13.45	<30.00	PASS
11A	5825	Ant1	11.72	2.34	14.06	<30.00	PASS
11N20	5180	Ant1	10.71	2.63	13.34	<23.98	PASS
11N20	5200	Ant1	11.03	2.34	13.37	<23.98	PASS
11N20	5240	Ant1	11.34	2.34	13.68	<23.98	PASS
11N20	5745	Ant1	11.23	2.34	13.57	<30.00	PASS
11N20	5785	Ant1	11.15	2.63	13.78	<30.00	PASS
11N20	5825	Ant1	10.63	2.63	13.26	<30.00	PASS
11N40	5190	Ant1	12.01	4.26	16.27	<23.98	PASS
11N40	5230	Ant1	12.47	4.26	16.73	<23.98	PASS
11N40	5755	Ant1	11.52	6.02	17.54	<30.00	PASS
11N40	5795	Ant1	10.92	6.02	16.94	<30.00	PASS
11AC20	5180	Ant1	14.24	0.32	14.56	<23.98	PASS
11AC20	5200	Ant1	14.23	0.32	14.55	<23.98	PASS
11AC20	5240	Ant1	14.42	0.32	14.74	<23.98	PASS
11AC20	5745	Ant1	14.32	0.32	14.64	<30.00	PASS
11AC20	5785	Ant1	11.25	0.38	11.63	<30.00	PASS
11AC20	5825	Ant1	11.45	0.32	11.77	<30.00	PASS
11AC40	5190	Ant1	11.23	0.65	11.88	<23.98	PASS
11AC40	5230	Ant1	12.54	0.65	13.19	<23.98	PASS
11AC40	5755	Ant1	12.14	0.65	12.79	<30.00	PASS
11AC40	5795	Ant1	11.95	0.77	12.72	<30.00	PASS
11AC80	5210	Ant1	9.56	1.33	10.89	<23.98	PASS
11AC80	5775	Ant1	8.41	1.33	9.74	<30.00	PASS

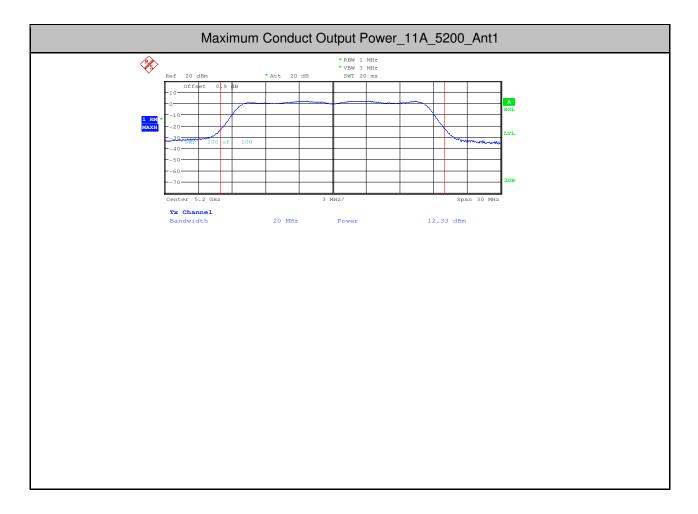


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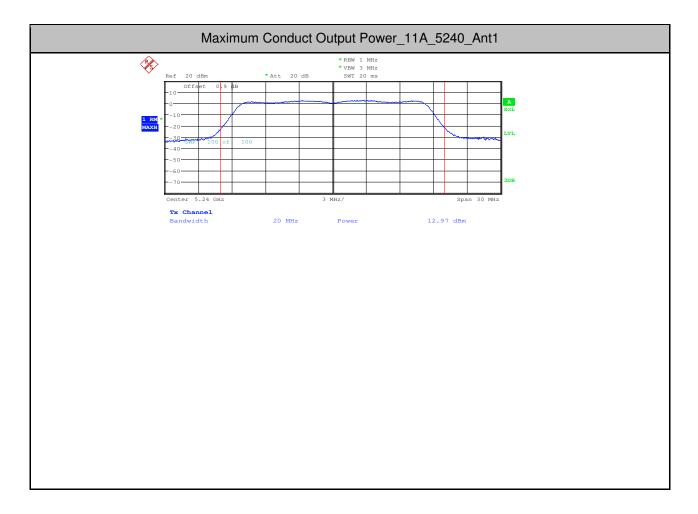


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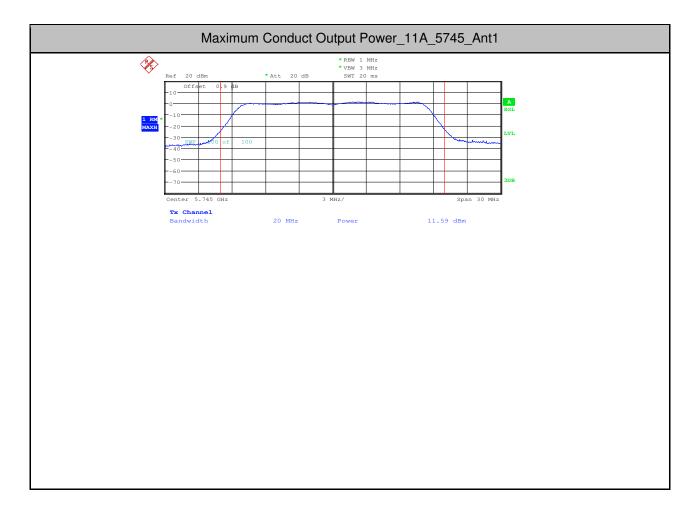


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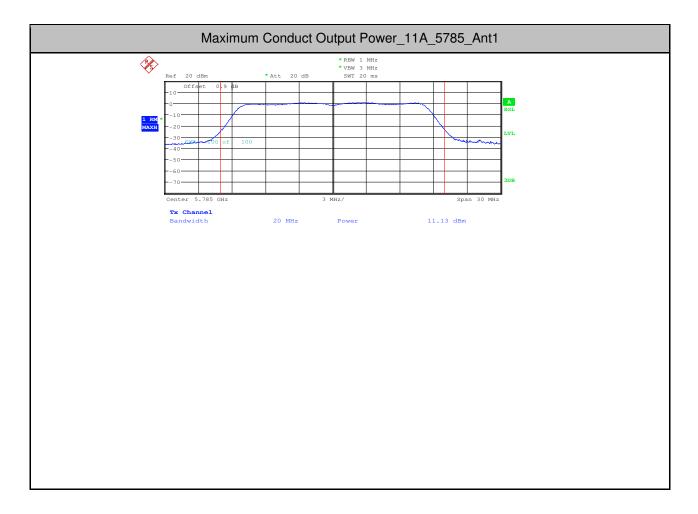


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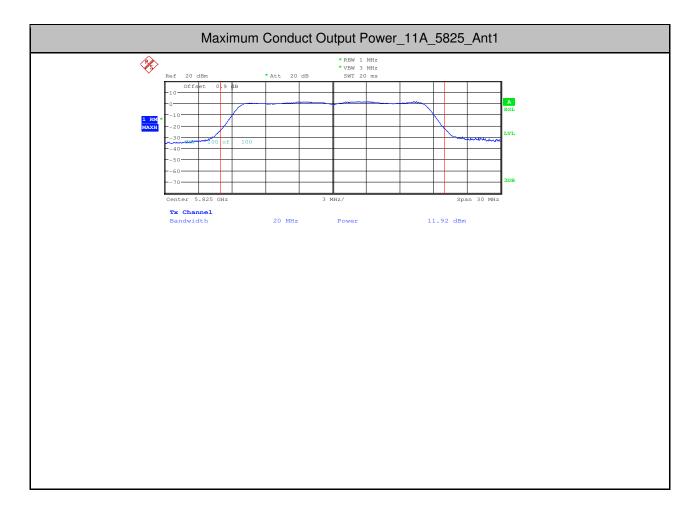


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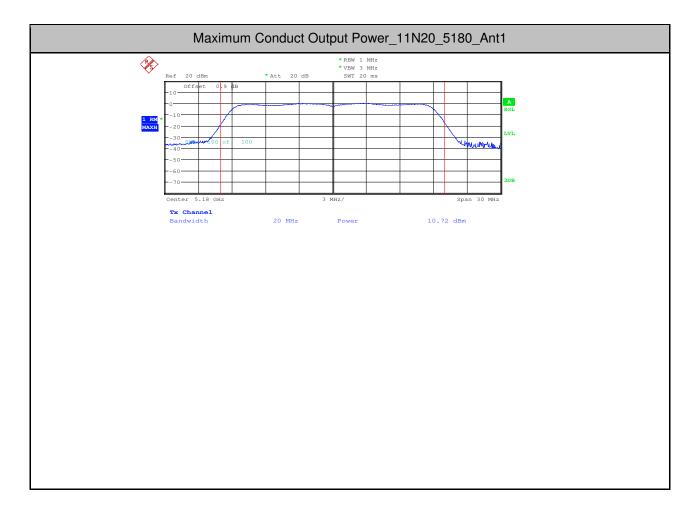


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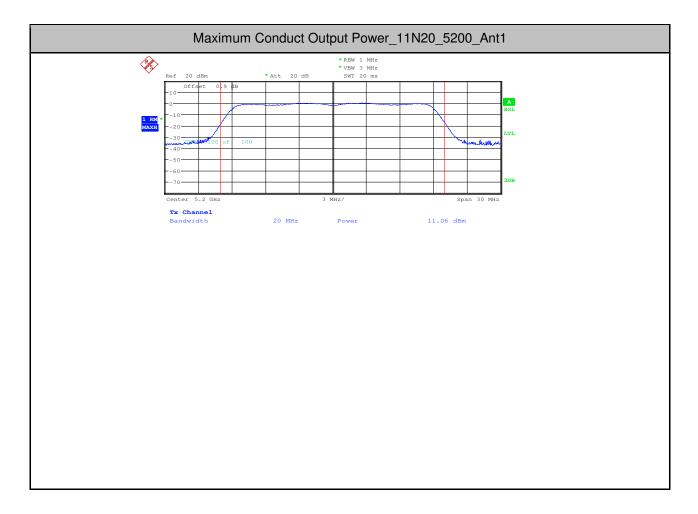


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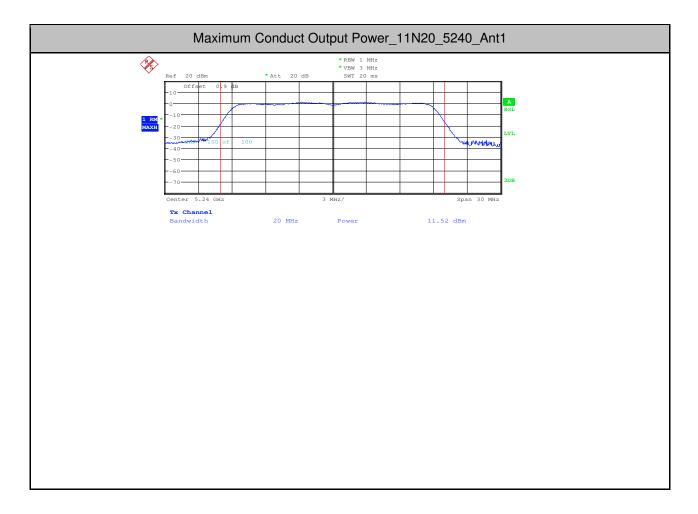


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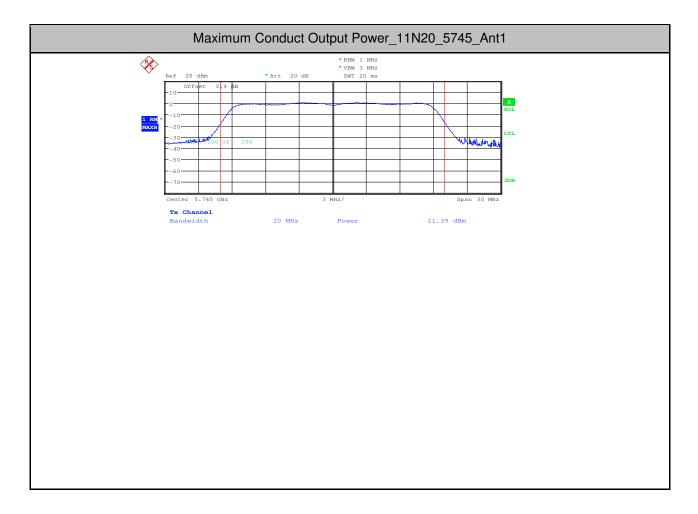


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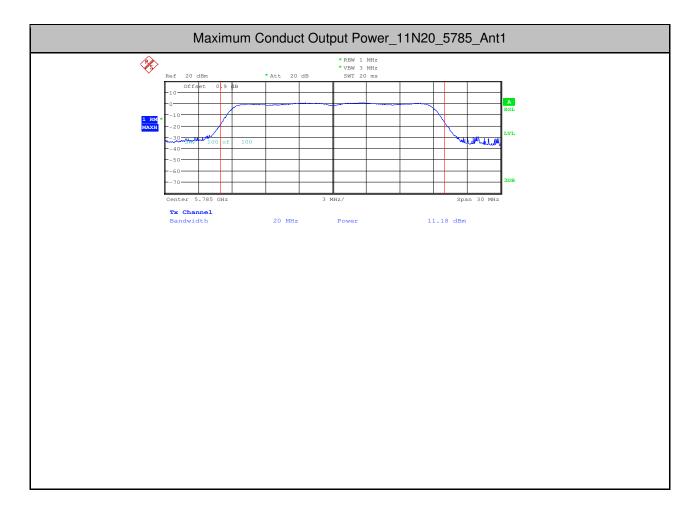


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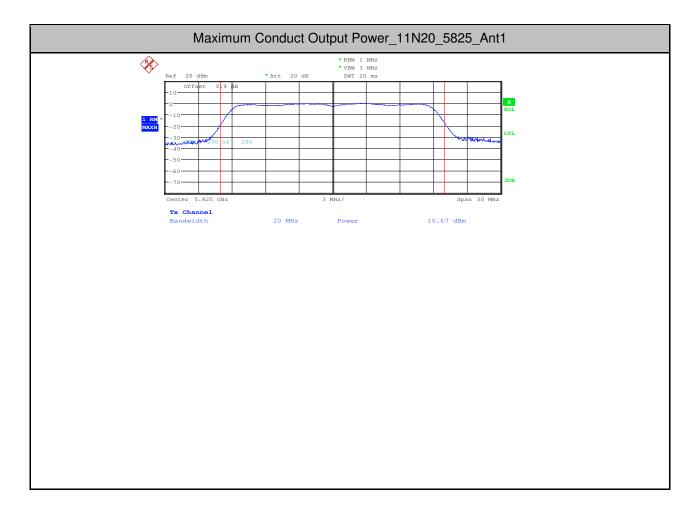


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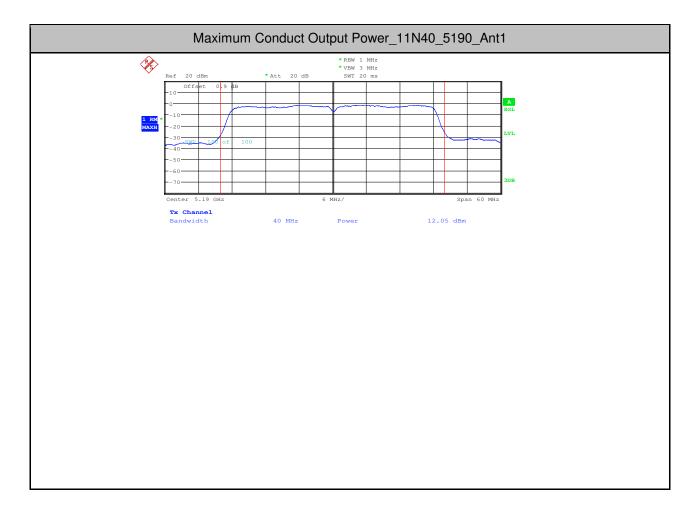


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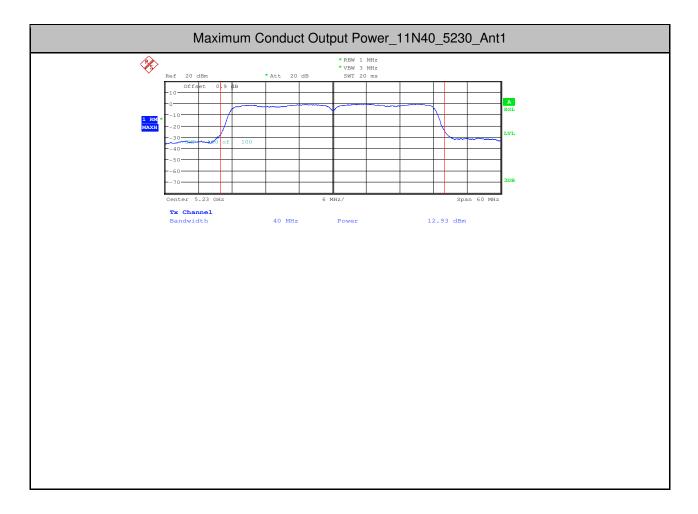


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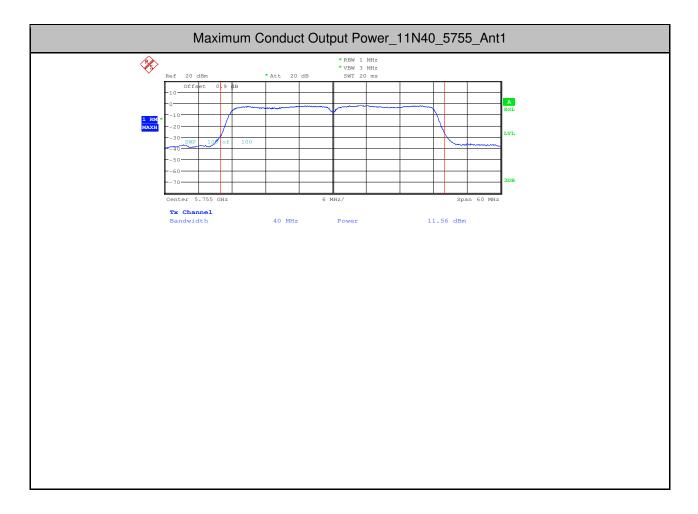


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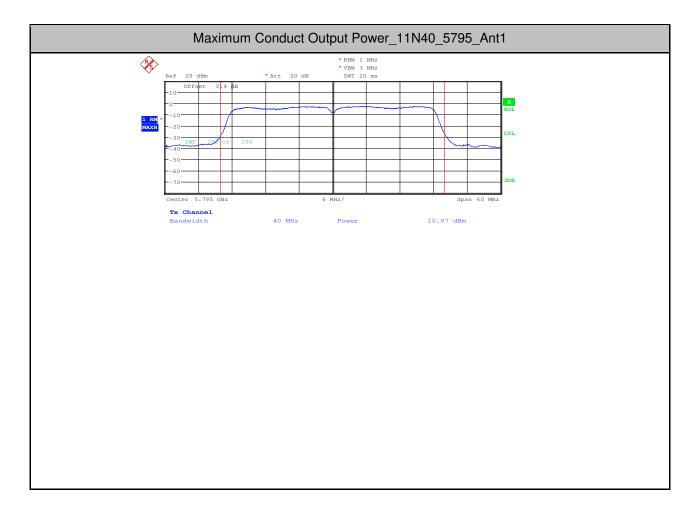


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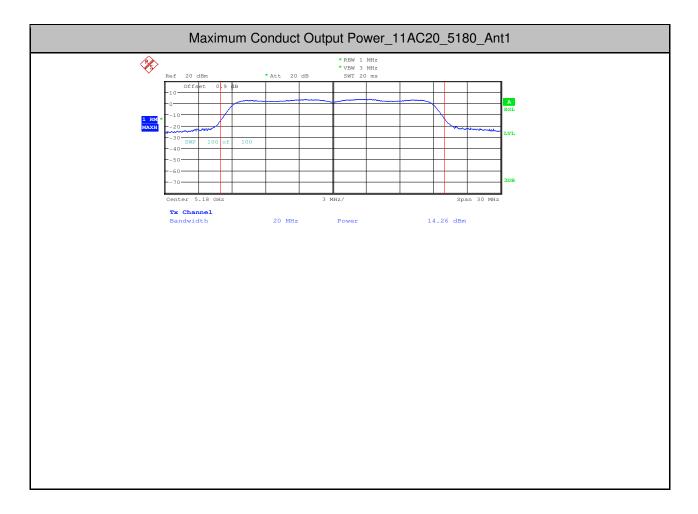


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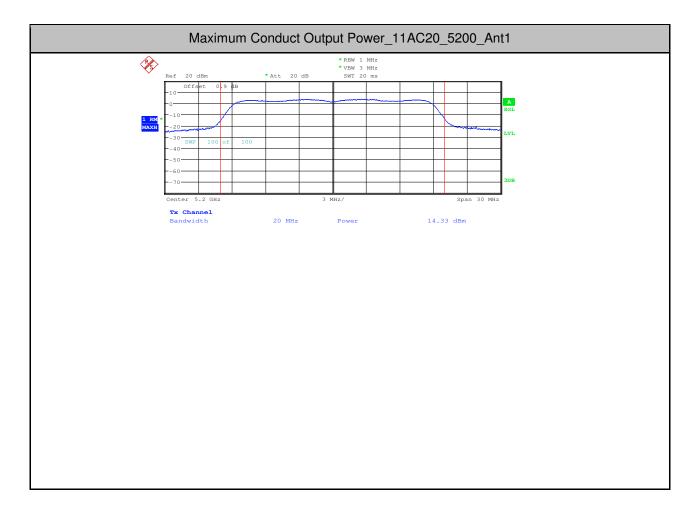


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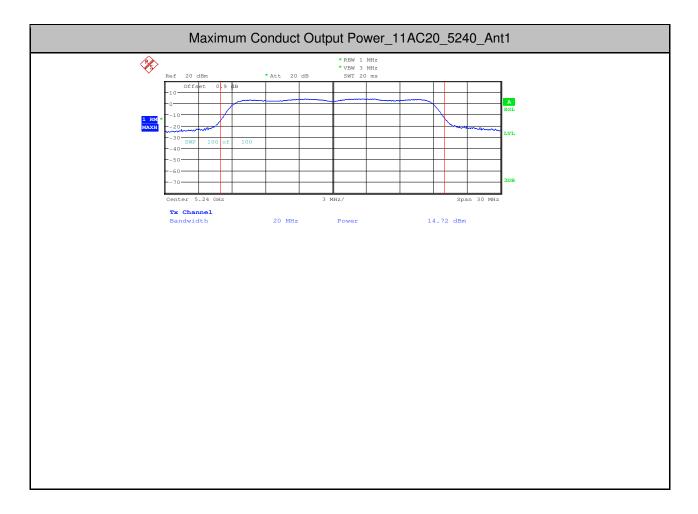


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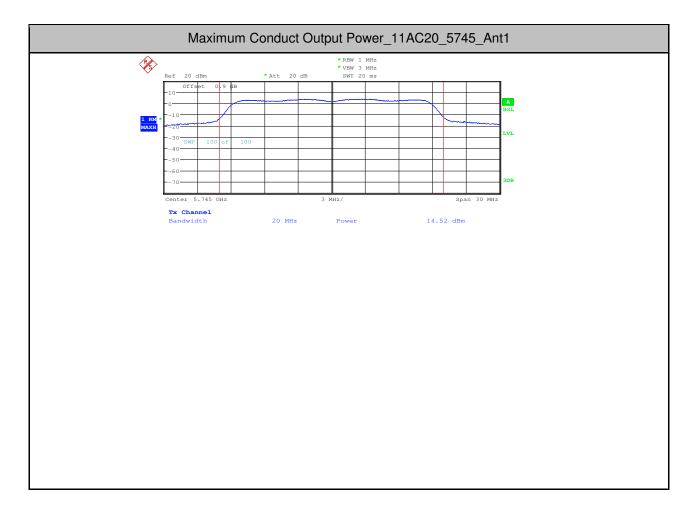


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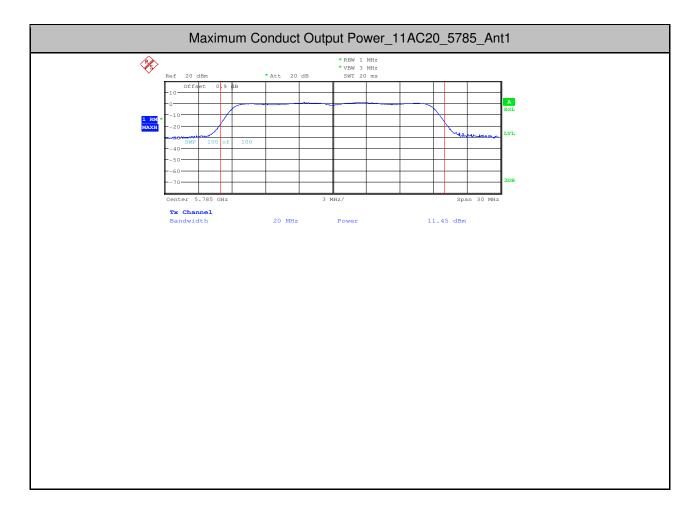


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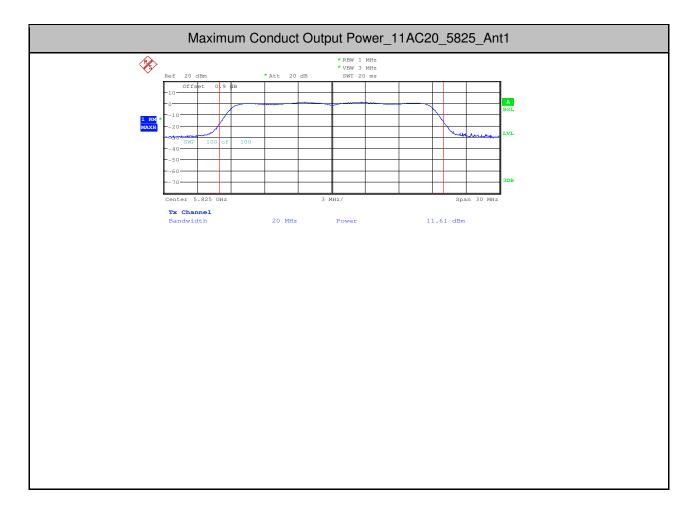


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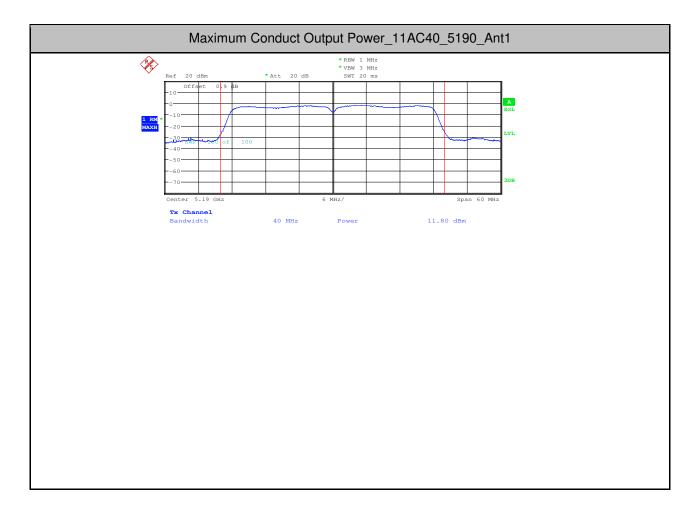


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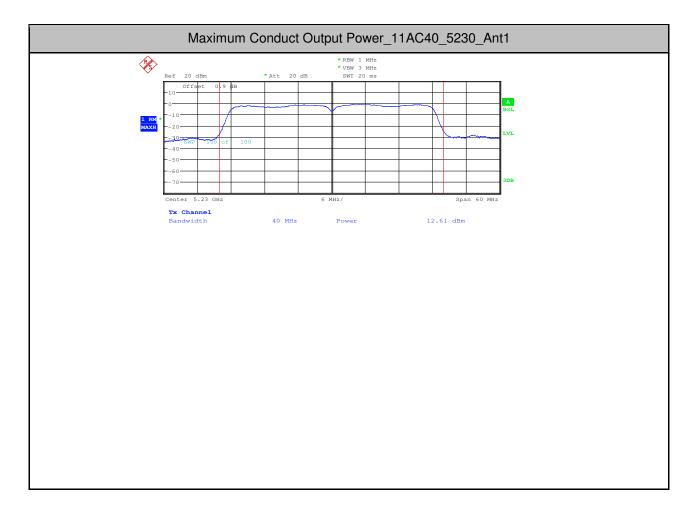


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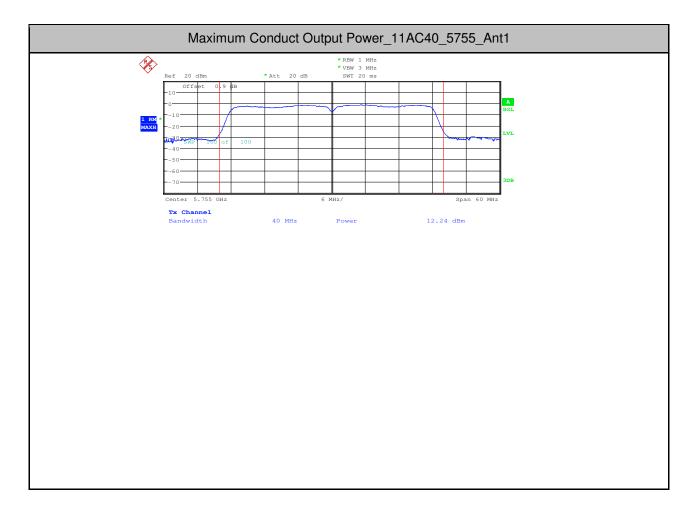


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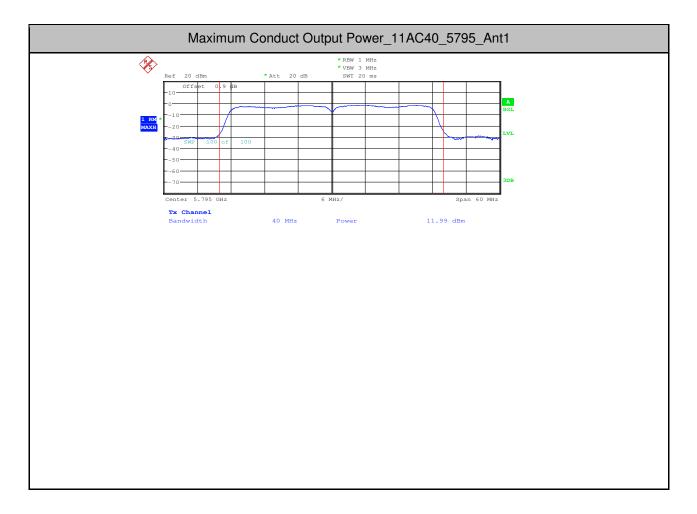


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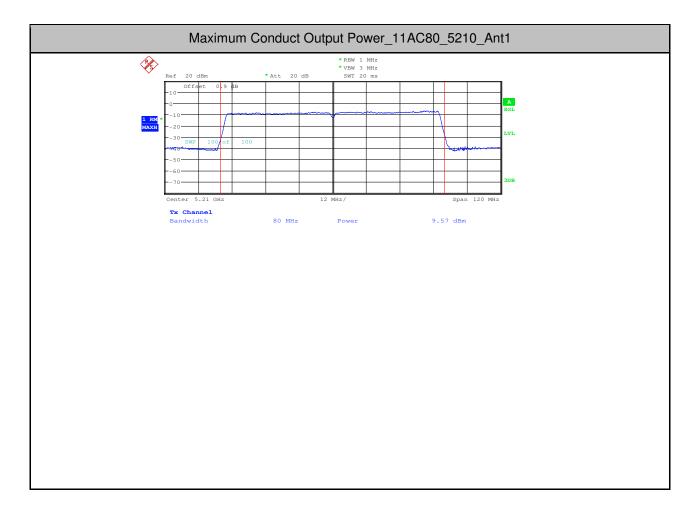


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