

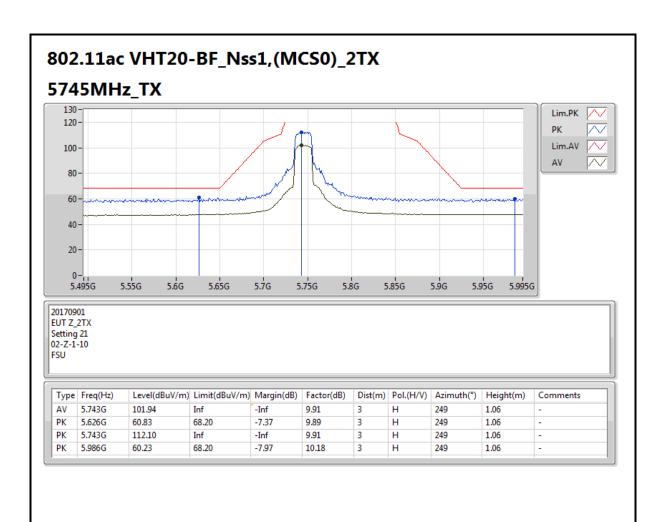
SPORTON INTERNATIONAL INC.

FAX: 886-3-3270973 FCC ID: UDX-60067010

TEL: 886-3-3273456

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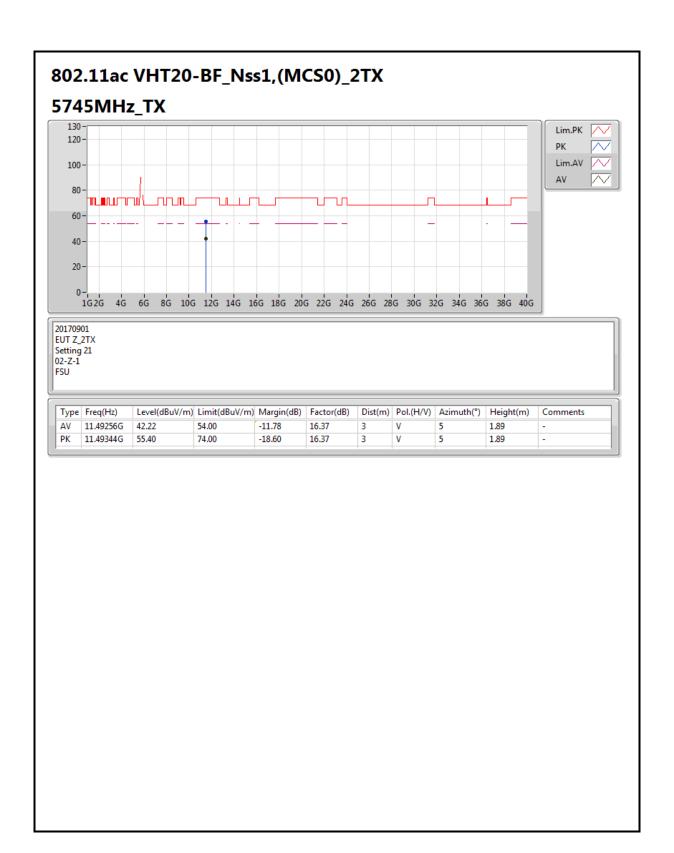




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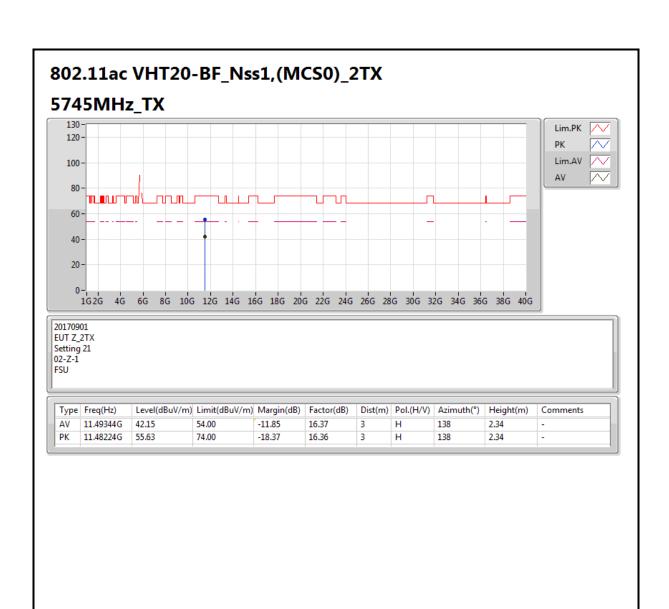


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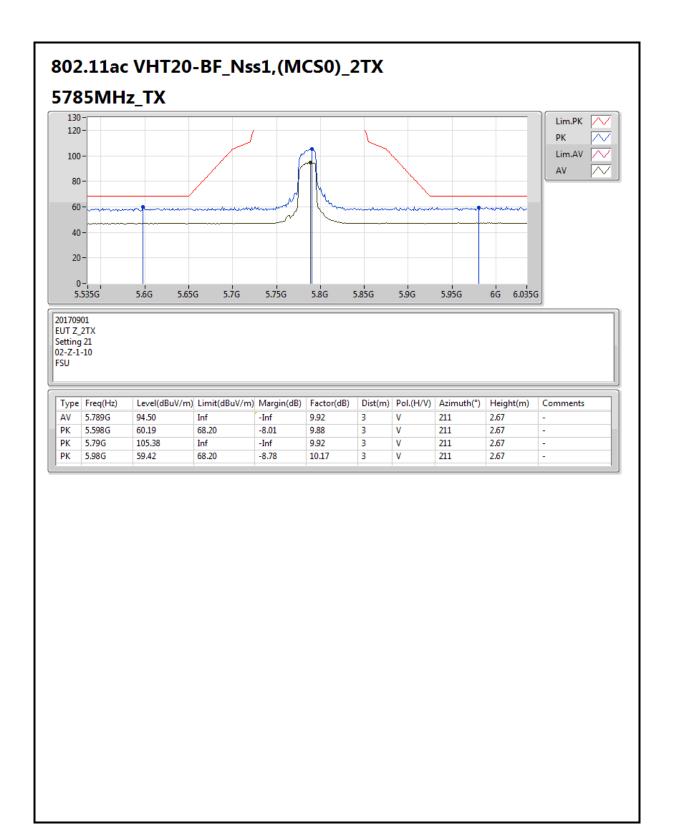


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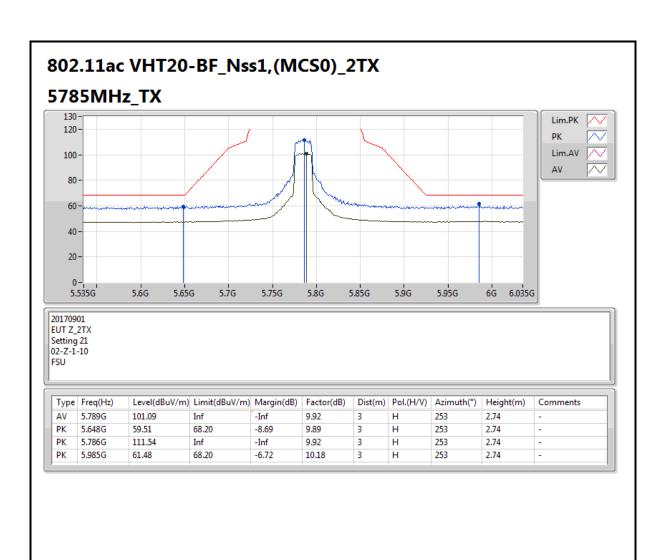




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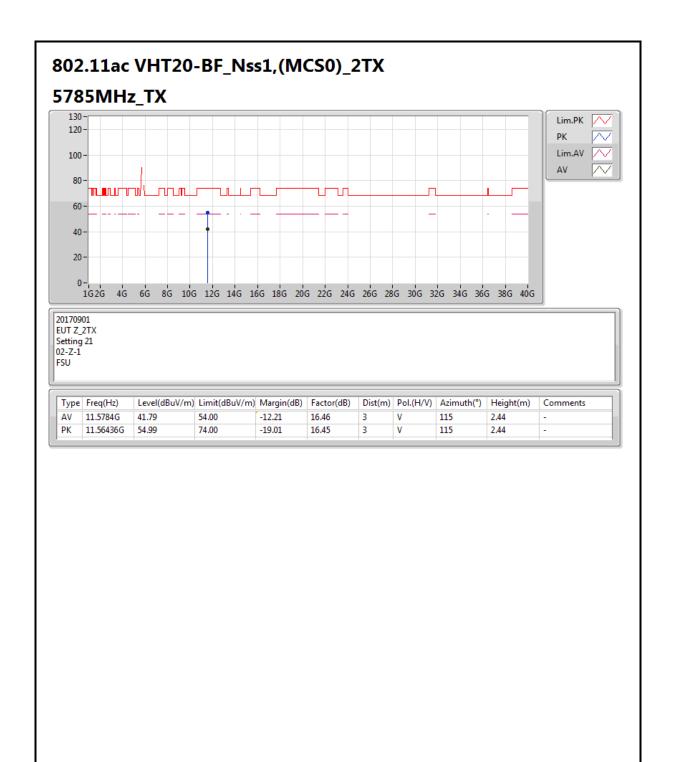
SPORTON INTERNATIONAL INC.

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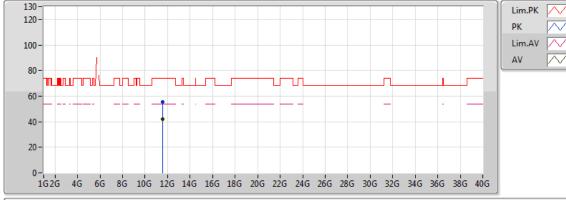


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802.11ac VHT20-BF_Nss1,(MCS0)_2TX
5785MHz_TX



20170901 EUT Z_2TX Setting 21 02-Z-1 FSU

Туре	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	11.5774G	41.75	54.00	-12.25	16.46	3	Н	54	2.07	-
PK	11.57608G	55.55	74.00	-18.45	16.46	3	Н	54	2.07	-

SPORTON INTERNATIONAL INC.

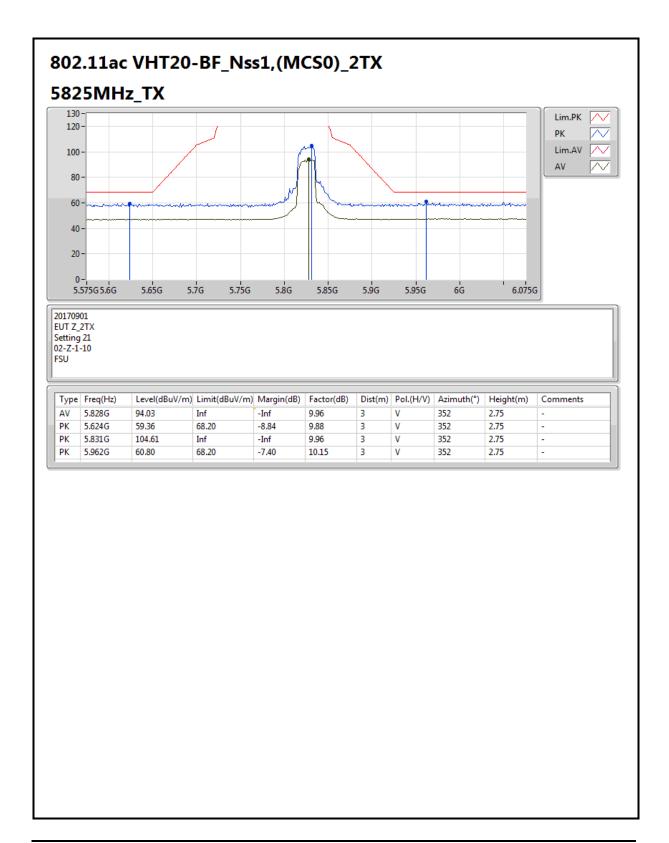
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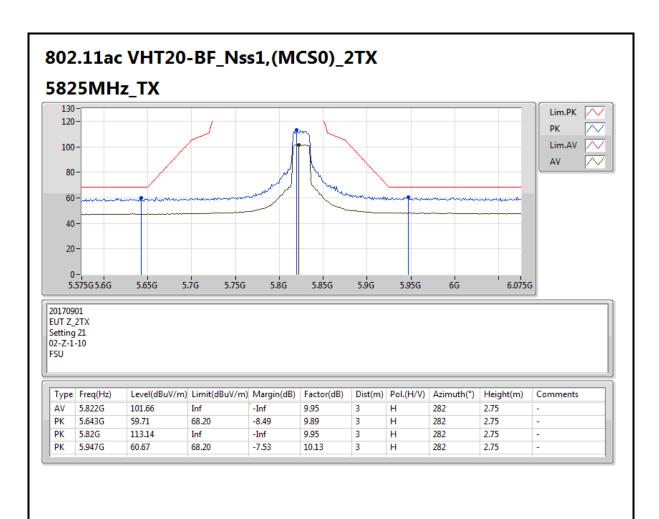
SPORTON INTERNATIONAL INC.

FAX: 886-3-3270973 FCC ID: UDX-60067010

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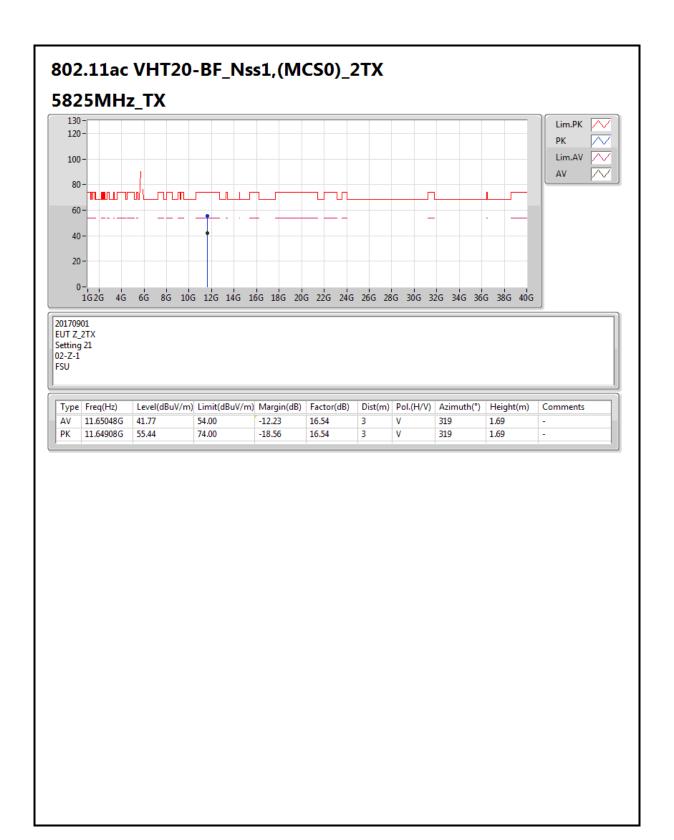




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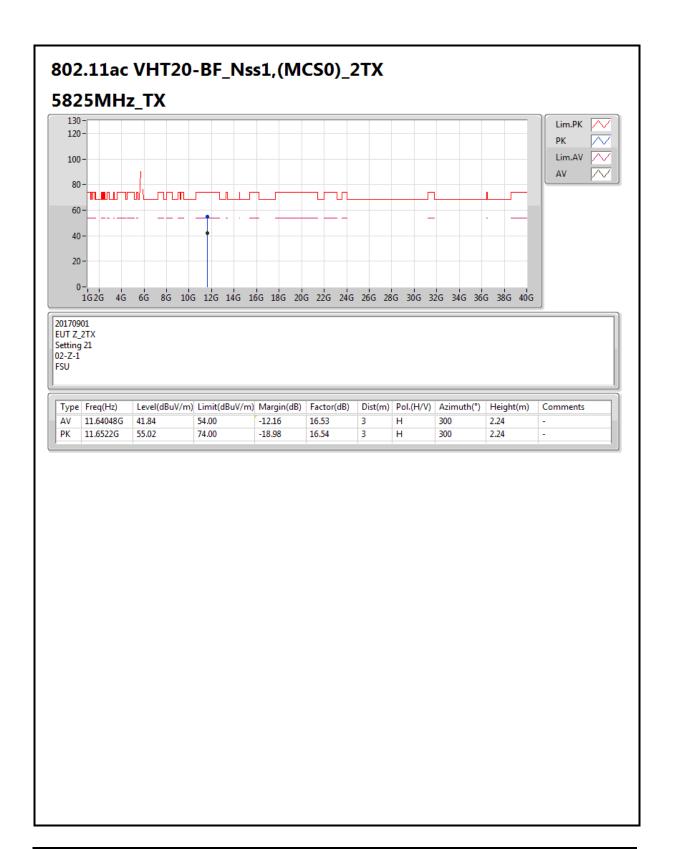




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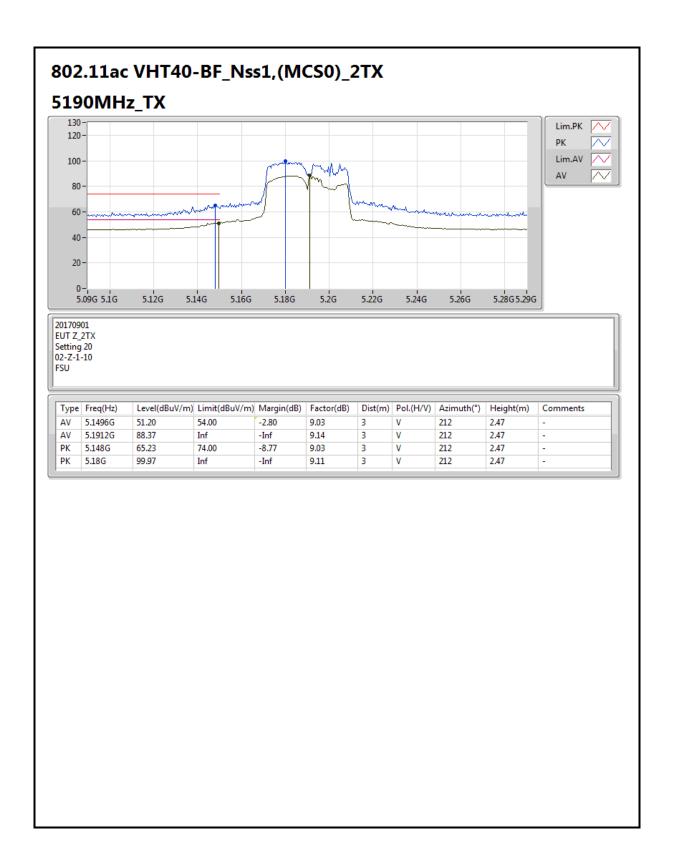




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802.11ac VHT40-BF_Nss1,(MCS0)_2TX 5190MHz_TX Lim.PK 120-PK Lim.AV $| \wedge \rangle$ 100-A۷ 80-60 -40 -20 -5.14G 5.24G 5.09G 5.1G 5.12G 5.16G 5.18G 5.22G 5.26G 5.28G 5.29G 5.2G 20170901 EUT Z_2TX Setting 20 02-Z-1-10 FSU Level(dBuV/m) Limit(dBuV/m) Margin(dB) Factor(dB) Dist(m) Pol.(H/V) Azimuth(°) Height(m) Type Freq(Hz) Comments 5.149995G A۷ 53.96 54.00 -0.04 9.03 242 1.49 A۷ 5.1968G 94.07 -Inf 9.15 242 1.49 PK 74.00 242 5.1492G 68.02 -5.98 9.03 3 Н 1.49 PK 5.1872G 105.41 Inf -Inf 9.13 3 Н 242 1.49

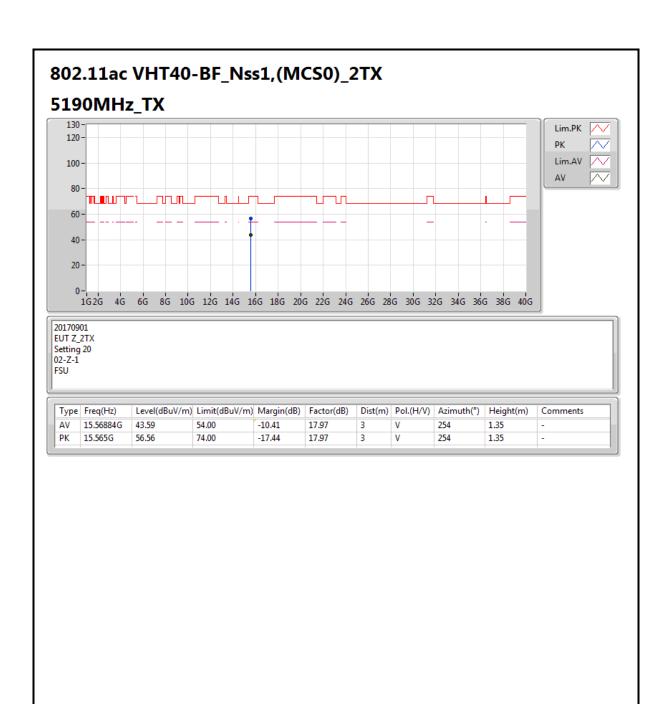
SPORTON INTERNATIONAL INC.

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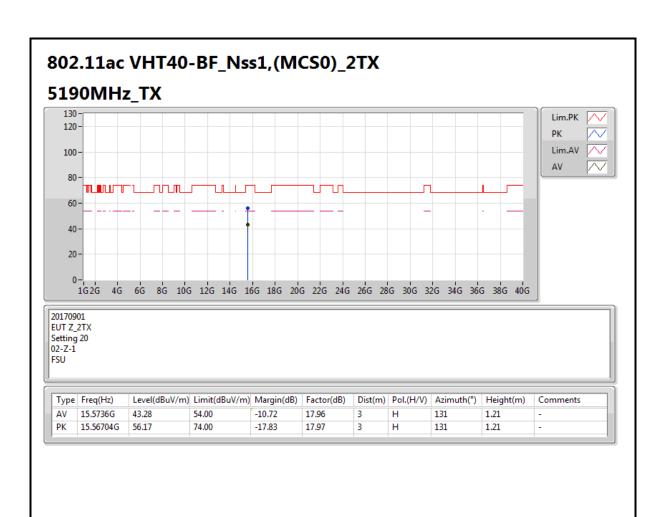
SPORTON INTERNATIONAL INC.

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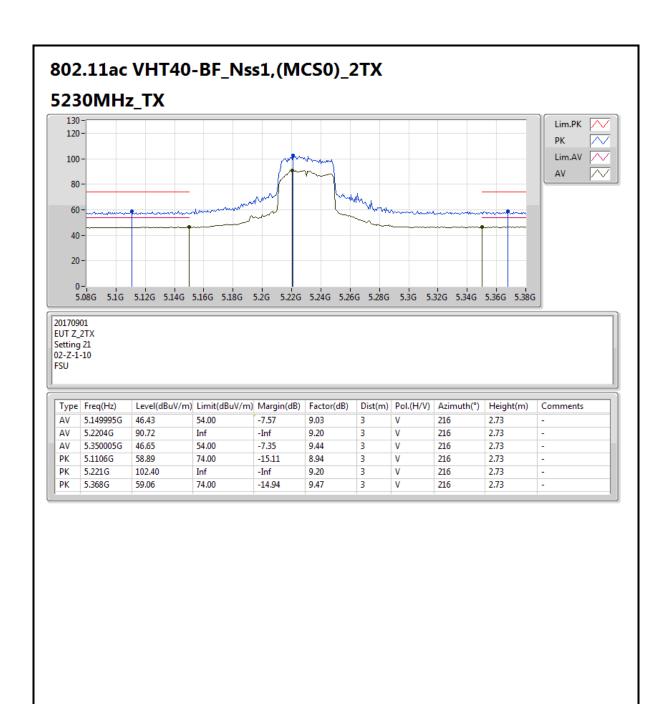




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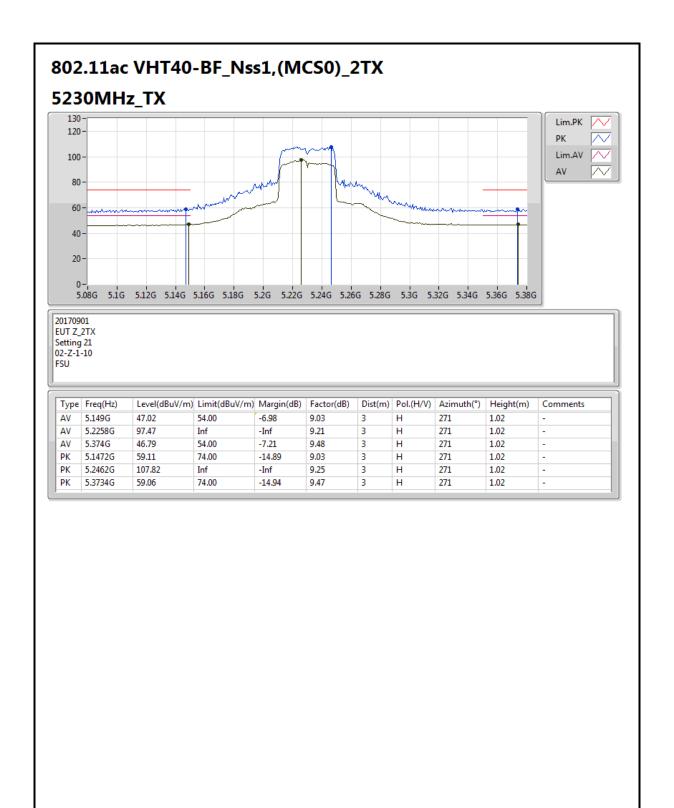


SPORTON INTERNATIONAL INC.

TEL: 886-3-3273456 FAX: 886-3-3270973 FCC ID: UDX-60067010

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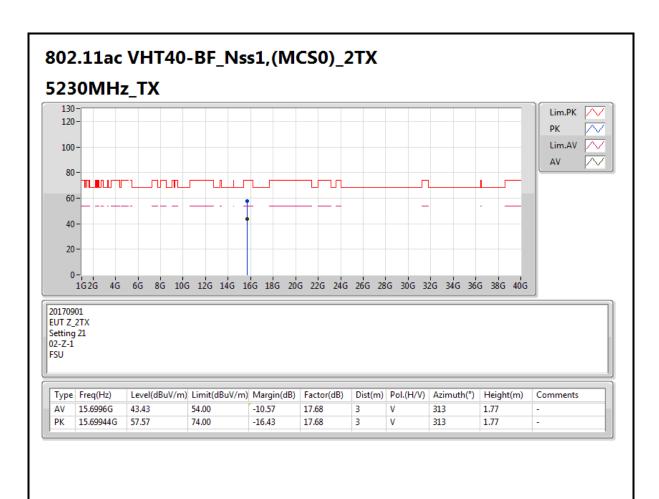
SPORTON INTERNATIONAL INC.

FAX: 886-3-3270973 FCC ID: UDX-60067010

TEL: 886-3-3273456

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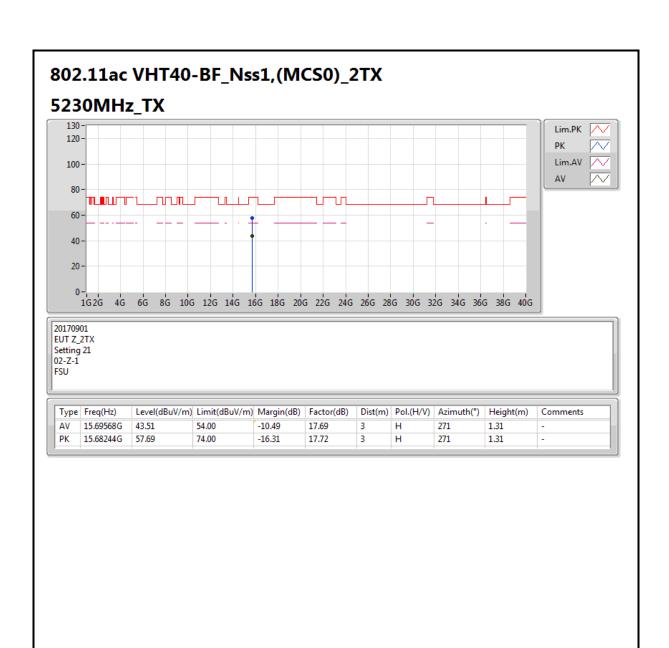




SPORTON INTERNATIONAL INC. TEL: 886-3-3273456

FAX: 886-3-3270973 FCC ID: UDX-60067010 Page No. : 183 of 209 Report Version : Rev. 03 Issued Date : Jan. 12, 2018





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802.11ac VHT40-BF_Nss1,(MCS0)_2TX 5755MHz_TX Lim.PK 120 -PK Lim.AV / 100 -80 -60 -40 -20-6.005G 5.55G 5.6G 5.65G 5.7G 5.8G 5.85G 5.9G 5.95G 5.505G 5.75G 20170901 EUT Z_2TX Setting 21 02-Z-1-10 FSU

Туре	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	5.745G	88.91	Inf	-Inf	9.91	3	V	249	1.01	-
PK	5.609G	60.48	68.20	-7.72	9.88	3	V	249	1.01	-
PK	5.748G	100.36	Inf	-Inf	9.91	3	V	249	1.01	-
PK	5.968G	59.70	68.20	-8.50	10.16	3	V	249	1.01	-

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FSU

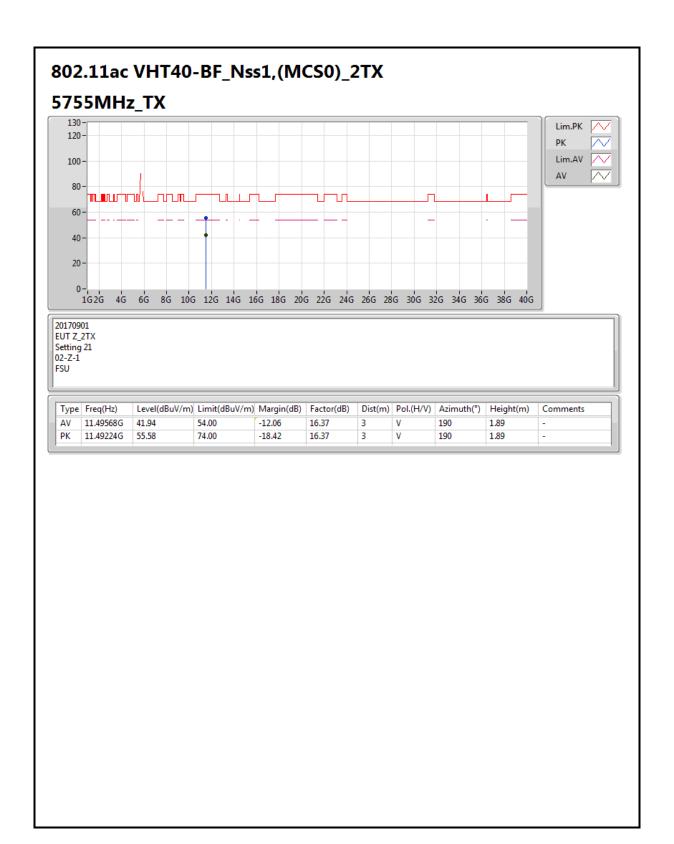
802.11ac VHT40-BF_Nss1,(MCS0)_2TX 5755MHz_TX Lim.PK 120 -PK Lim.AV / 100 -80 -60 -40 -20-6.005G 5.55G 5.6G 5.65G 5.7G 5.8G 5.85G 5.9G 5.95G 5.505G 5.75G 20170901 EUT Z_2TX Setting 21 02-Z-1-10

					1					
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	5.747G	98.53	Inf	-Inf	9.91	3	Н	278	1.00	-
PK	5.602G	60.69	68.20	-7.51	9.88	3	Н	278	1.00	-
PK	5.765G	109.03	Inf	-Inf	9.91	3	Н	278	1.00	-
PK	5.981G	60.53	68.20	-7.67	10.17	3	Н	278	1.00	-

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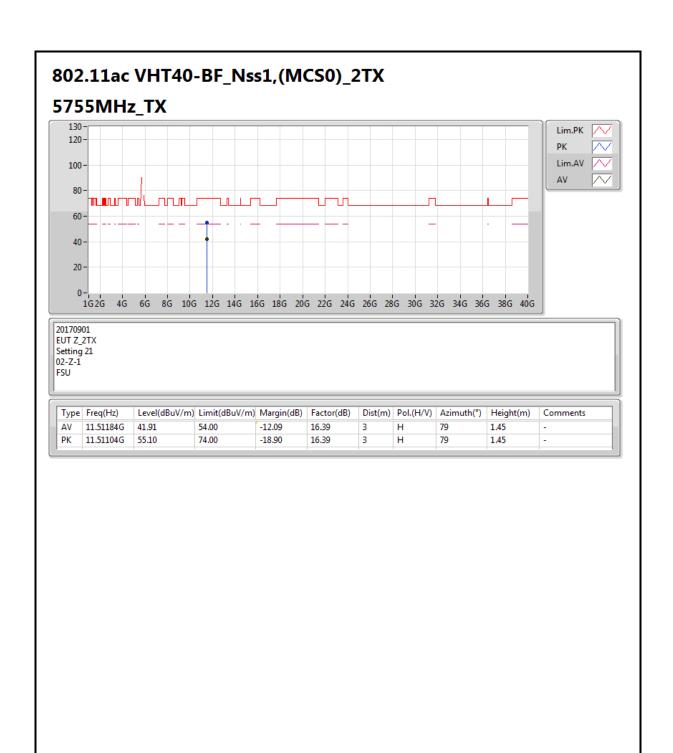




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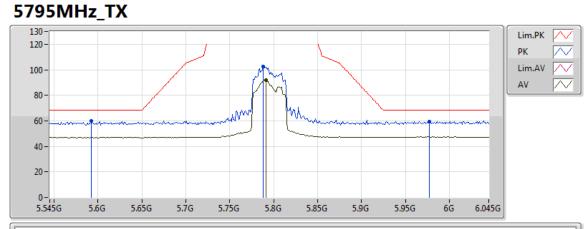


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802.11ac VHT40-BF_Nss1,(MCS0)_2TX



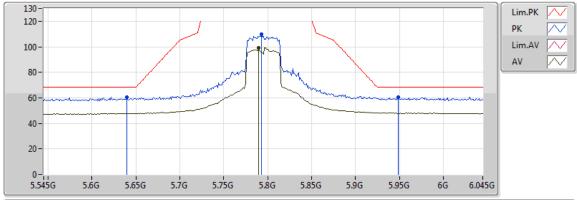
20170901 EUT Z_2TX Setting 21 02-Z-1-10 FSU

Туре	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	5.791G	92.08	Inf	-Inf	9.92	3	V	245	1.02	-
PK	5.592G	59.70	68.20	-8.50	9.87	3	V	245	1.02	-
PK	5.788G	102.47	Inf	-Inf	9.92	3	V	245	1.02	-
PK	5.977G	59.51	68.20	-8.69	10.17	3	V	245	1.02	-

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20170901 EUT Z_2TX Setting 21 02-Z-1-10 FSU

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	5.79G	99.39	Inf	-Inf	9.92	3	Н	276	1.00	-
PK	5.64G	60.46	68.20	-7.74	9.89	3	Н	276	1.00	-
PK	5.793G	109.74	Inf	-Inf	9.92	3	Н	276	1.00	-
PK	5.949G	60.35	68.20	-7.85	10.13	3	Н	276	1.00	-

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FSU

802.11ac VHT40-BF_Nss1,(MCS0)_2TX 5795MHz TX Lim.PK 120-PK Lim.AV $| \Delta \rangle$ 100 -A۷ 80 -60 -40 -20 -0- | 1G2G 4G 6G 8G 10G 12G 14G 16G 18G 20G 22G 24G 26G 28G 30G 32G 34G 36G 38G 40G 20170901 EUT Z_2TX Setting 21 02-Z-1

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
ΑV	11.57824G	41.79	54.00	-12.21	16.46	3	V	241	1.36	-
PK	11.59512G	54.91	74.00	-19.09	16.48	3	V	241	1.36	-

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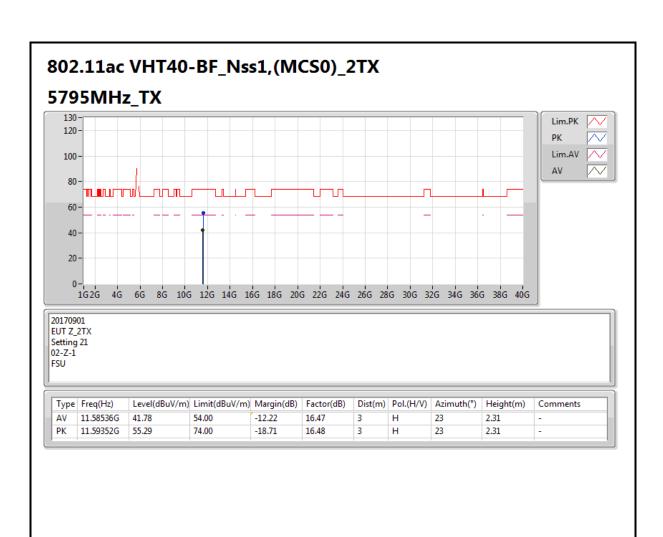
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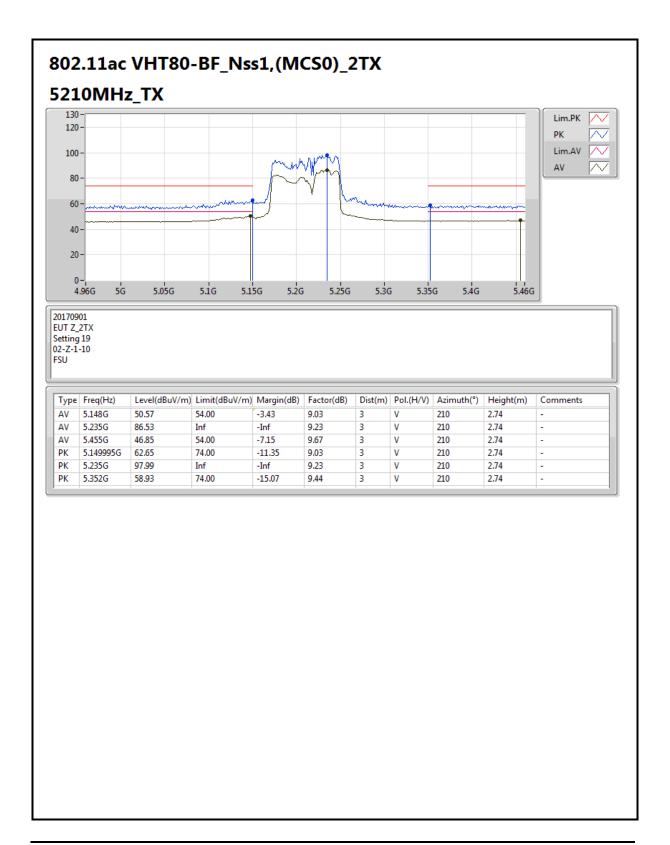


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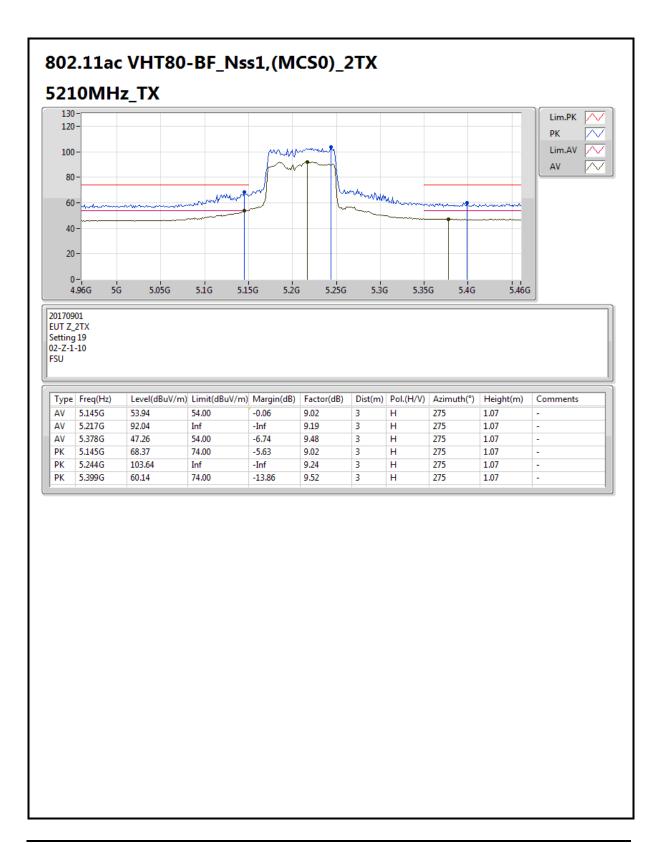


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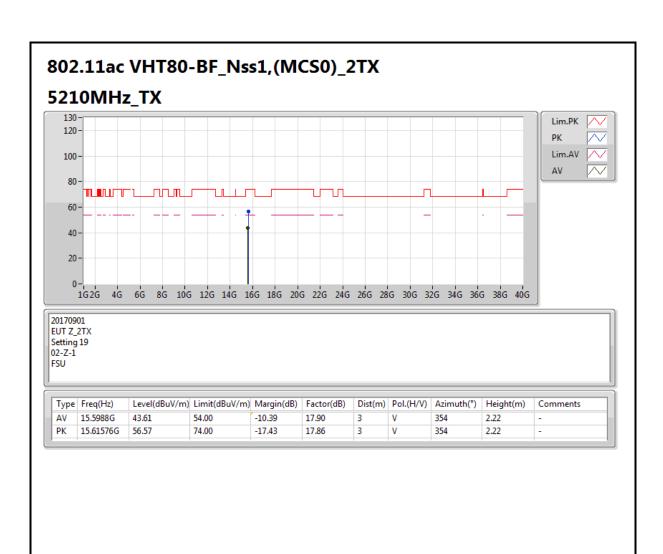
SPORTON INTERNATIONAL INC.

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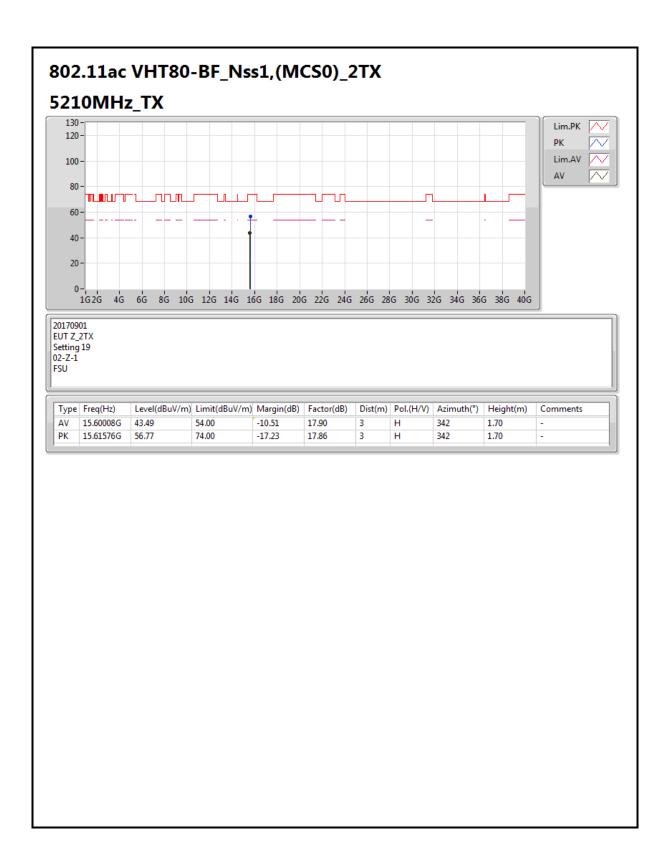




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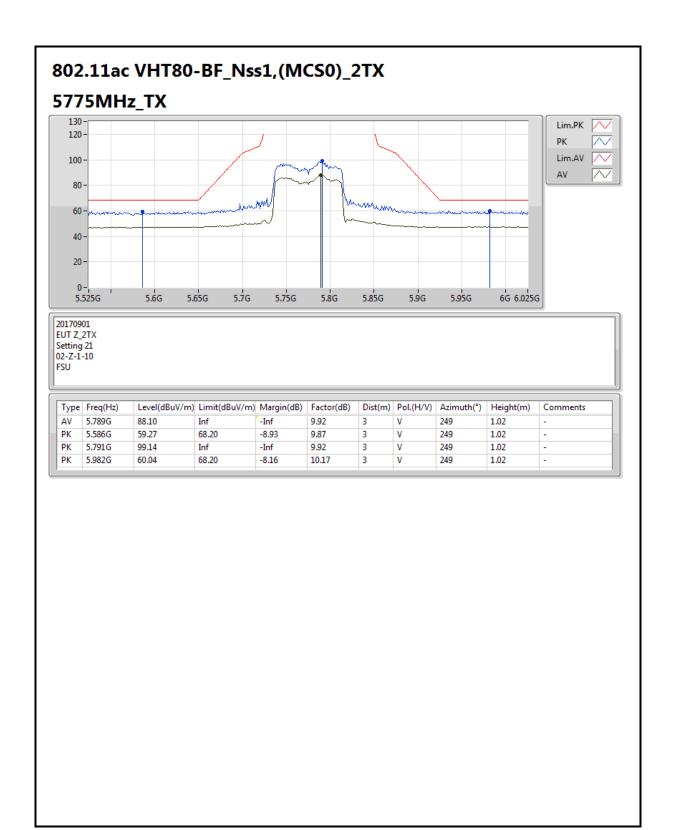
SPORTON INTERNATIONAL INC.

FAX: 886-3-3270973 FCC ID: UDX-60067010

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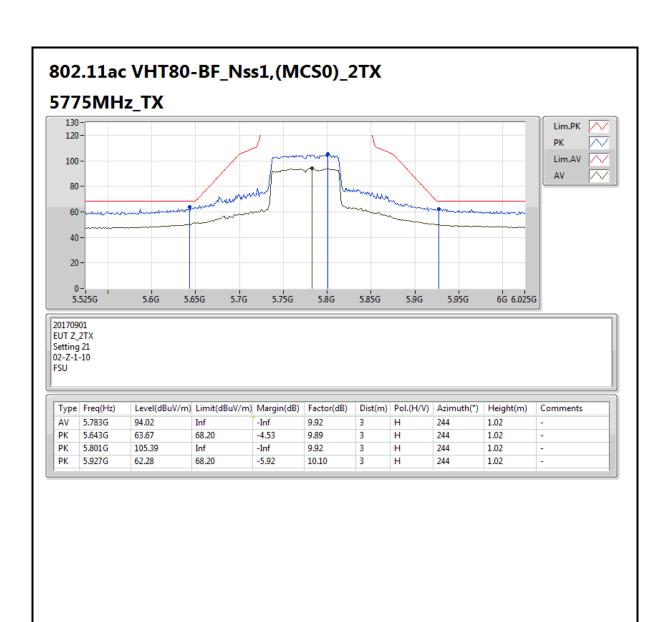




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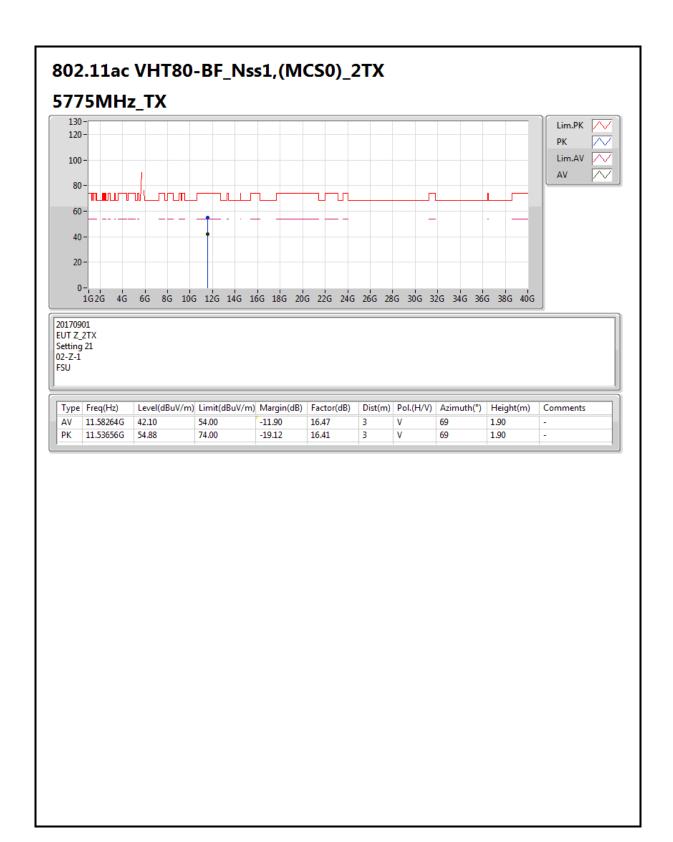
SPORTON INTERNATIONAL INC.

FAX: 886-3-3270973 FCC ID: UDX-60067010

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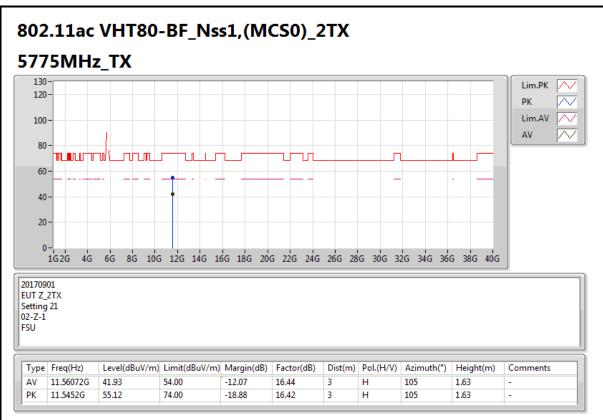




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3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit

Report No.: FR782229AB

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UNII Devices

 In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

LE-LAN Devices

N/A

IEEE Std. 802.11

■ The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band.

3.6.2 Measuring Instruments

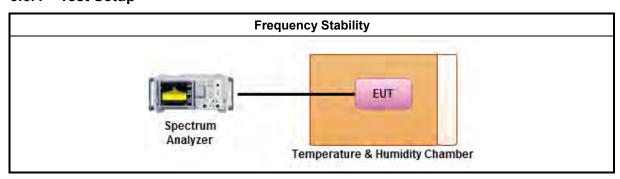
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method

- Refer as ANSI C63.10, clause 6.8 for frequency stability tests
 - Frequency stability with respect to ambient temperature
 - Frequency stability when varying supply voltage
 - Extreme temperature is -20°C~50°C.

3.6.4 Test Setup



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FCC Test Report Report No.: FR782229AB

3.6.5 Test Result of Frequency Stability

Mode: 20 MHz / Ant. 2 Voltage vs. Frequency Stability

Voltage		Measurement F	requency (MHz)						
()()		5200 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5199.9665	5199.9656	5199.9650	5199.9641					
110.00	5199.9655	5199.9648	5199.9638	5199.9635					
93.50	5199.9654	5199.9647	5199.9637	5199.9627					
Max. Deviation (MHz)	0.0346	0.0353	0.0363	0.0373					
Max. Deviation (ppm)	6.65	6.79	6.98	7.17					
Result		Pa	iss						

Temperature vs. Frequency Stability

Temperature		Measurement F	requency (MHz)	
(°C)		5200	MHz	
(℃)	0 Minute	2 Minute	5 Minute	10 Minute
-20	5199.9613	5199.9612	5199.9609	5199.9603
-10	5199.9614	5199.9610	5199.9600	5199.9598
0	5199.9623	5199.9619	5199.9613	5199.9610
10	5199.9635	5199.9625	5199.9623	5199.9616
20	5199.9655	5199.9645	5199.9638	5199.9629
30	5199.9958	5199.9952	5199.9942	5199.9938
40	5199.9973	5199.9967	5199.9966	5199.9957
50	5199.9990	5199.9987	5199.9983	5199.9975
Max. Deviation (MHz)	0.0387	0.0390	0.0400	0.0402
Max. Deviation (ppm)	7.44	7.50	7.69	7.73
Result		Pa	iss	

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FCC ID: UDX-60067010



FCC Test Report

Voltage vs. Frequency Stability

Voltage		Measurement Frequency (MHz)							
0.0		5785 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5784.9662	5784.9658	5784.9652	5784.9651					
110.00	5784.9655	5784.9647	5784.9638	5784.9634					
93.50	5784.9645	5784.9639	5784.9633	5784.9625					
Max. Deviation (MHz)	0.0355	0.0361	0.0367	0.0375					
Max. Deviation (ppm)	6.14	6.24	6.34	6.48					
Result		Pa	iss						

Temperature vs. Frequency Stability

Temperature		Measurement F	requency (MHz)	
(°C)		5785	MHz	
(0)	0 Minute	2 Minute	5 Minute	10 Minute
-20	5784.9627	5784.9617	5784.9607	5784.9599
-10	5784.9630	5784.9627	5784.9618	5784.9617
0	5784.9639	5784.9638	5784.9633	5784.9630
10	5784.9653	5784.9648	5784.9644	5784.9642
20	5784.9655	5784.9648	5784.9641	5784.9635
30	5784.9958	5784.9950	5784.9949	5784.9940
40	5784.9973	5784.9967	5784.9958	5784.9954
50	5784.9976	5784.9975	5784.9967	5784.9965
Max. Deviation (MHz)	0.0373	0.0383	0.0393	0.0401
Max. Deviation (ppm)	6.45	6.62	6.79	6.93
Result		Pa	ISS	

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FCC Test Report No.: FR782229AB

Mode: 40 MHz / Ant. 2

Voltage vs. Frequency Stability

Voltage		Measurement Frequency (MHz)							
0.0		5190 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5189.9659	5189.9655	5189.9649	5189.9639					
110.00	5189.9655	5189.9647	5189.9643	5189.9633					
93.50	5189.9653	5189.9643	5189.9633	5189.9632					
Max. Deviation (MHz)	0.0347	0.0357	0.0367	0.0368					
Max. Deviation (ppm)	6.69	6.88	7.07	7.09					
Result		Pa	iss						

Temperature vs. Frequency Stability

Temperature		Measurement F	requency (MHz)	
(°C)		5190	MHz	
(C)	0 Minute	2 Minute	5 Minute	10 Minute
-20	5189.9622	5189.9614	5189.9610	5189.9600
-10	5189.9627	5189.9625	5189.9616	5189.9613
0	5189.9630	5189.9628	5189.9619	5189.9611
10	5189.9648	5189.9645	5189.9637	5189.9632
20	5189.9655	5189.9651	5189.9641	5189.9640
30	5189.9958	5189.9956	5189.9946	5189.9936
40	5189.9978	5189.9971	5189.9964	5189.9962
50	5189.9671	5189.9661	5189.9651	5189.9642
Max. Deviation (MHz)	0.0378	0.0386	0.0390	0.0400
Max. Deviation (ppm)	7.28	7.44	7.51	7.71
Result		Pa	iss	

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Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)								
0.0		5755 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5754.9656	5754.9650	5754.9641	5754.9636					
110.00	5754.9655	5754.9647	5754.9639	5754.9632 5754.9632					
93.50	5754.9646	5754.9644	5754.9640						
Max. Deviation (MHz)	0.0354	0.0356	0.0361	0.0368					
Max. Deviation (ppm)	6.15 6.19 6.27								
Result	Pass								

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)							
(°C)	5755 MHz							
(0)	0 Minute	2 Minute	5 Minute	10 Minute				
-20	5754.9620	5754.9611	5754.9601	5754.9598				
-10	5754.9632	5754.9623	5754.9615	5754.9613				
0	5754.9638	5754.9636	5754.9630	5754.9627 5754.9635				
10	5754.9651	5754.9646	5754.9644					
20	5754.9655	5754.9651	5754.9647	5754.9638 5754.9939				
30	5754.9958	5754.9951	5754.9941					
40	5754.9977	5754.9973	5754.9968	5754.9958				
50	5754.9675	5754.9671	5754.9666	5754.9659				
Max. Deviation (MHz)	0.0380	0.0389	0.0399	0.0402				
Max. Deviation (ppm)	6.60	6.76	6.93	6.99				
Result	Pass							

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Mode: 80 MHz / Ant. 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)								
0.0		5210 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5209.9665	5209.9660	5209.9657	5209.9654					
110.00	5209.9655	5209.9646	5209.9637	5209.9636 5209.9636					
93.50	5209.9653	5209.9645	5209.9641						
Max. Deviation (MHz)	0.0347	0.0355	0.0363	0.0364					
Max. Deviation (ppm)	6.66	6.99							
Result	Pass								

Temperature vs. Frequency Stability

Temperature		Measurement F	requency (MHz)					
(°C)	5210 MHz							
(0)	0 Minute	2 Minute	5 Minute	10 Minute				
-20	5209.9597	5209.9588	5209.9581	5209.9580				
-10	5209.9605	5209.9604	5209.9597	5209.9595				
0	5209.9622	5209.9614	5209.9606	5209.9601				
10	5209.9637	5209.9631	5209.9628	5209.9627				
20	5209.9655	5209.9646	5209.9640	5209.9631				
30	5209.9958	5209.9950	5209.9940	5209.9930				
40	5209.9965	5209.9959	5209.9952	5209.9950				
50	5209.9663	5209.9654	5209.9645	5209.9638				
Max. Deviation (MHz)	0.0403	0.0412	0.0419	0.0420				
Max. Deviation (ppm)	7.74	7.91	8.04	8.06				
Result	Pass							

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Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)								
00		5775 MHz							
(V)	0 Minute	2 Minute	5 Minute	10 Minute					
126.50	5774.9658	5774.9651	5774.9645	5774.9643					
110.00	5774.9655	5774.9645	5774.9637	5774.9632 5774.9636					
93.50	5774.9654	5774.9651	5774.9644						
Max. Deviation (MHz)	0.0346	0.0355	0.0363	0.0368					
Max. Deviation (ppm)	5.99 6.15 6.29 6.								
Result	Pass								

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)							
(°C)	5775 MHz							
(0)	0 Minute	2 Minute	5 Minute	10 Minute				
-20	5774.9632	5774.9624	5774.9622	5774.9618				
-10	5774.9640	5774.9635	5774.9625	5774.9619				
0	5774.9641	5774.9638	5774.9631	5774.9624 5774.9637				
10	5774.9650	5774.9645	5774.9638					
20	5774.9655	5774.9650	5774.9642	5774.9641				
30	5774.9958	5774.9957	5774.9952	5774.9942				
40	5774.9972	5774.9971	5774.9966	5774.9956				
50	5774.9672	5774.9663	5774.9654	5774.9644				
Max. Deviation (MHz)	0.0368	0.0376	0.0378	0.0382				
Max. Deviation (ppm)	6.37	6.51	6.55	6.61				
Result	Pass							

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4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 23, 2017	Jan. 22, 2018	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-1 6-2	04083	150kHz~100MHz	Dec. 14, 2016	Dec. 13, 2017	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 21, 2016	Dec. 20, 2017	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017	May 22, 2018	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Mar. 15, 2018*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 10, 2016	Nov. 09, 2017	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Jan. 15, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Nov. 21, 2017	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	May 05, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	Audix	E3	6.2009-10-7	N/A	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Dec. 25, 2017	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2017	Jun. 01, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Nov. 21, 2017	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410002	50MHz~18GHz	Nov. 22, 2016	Nov. 21, 2017	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

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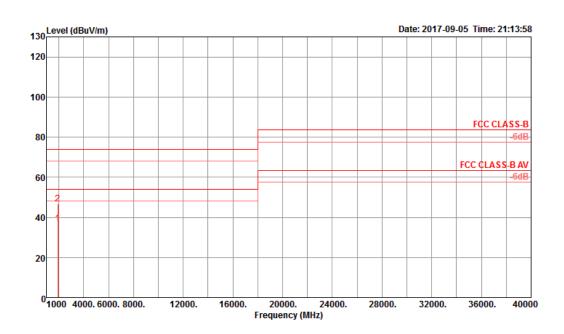
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^{*}Calibration Interval of instruments listed above is two year.

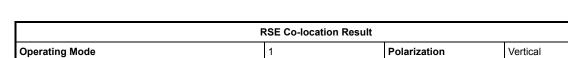
N.C.R. means Non-Calibration required.

RSE Co-location Result							
Operating Mode	1	Polarization	Horizontal				
Operating Function	Normal Link						

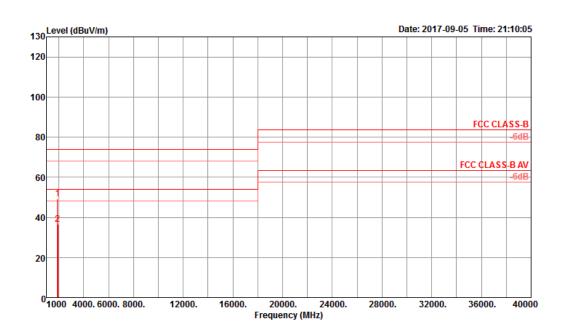


	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1910.48	37.11	54.00	-16.89	40.86	3.71	27.13	34.59	179	248	Average	HORIZONTAL
2	1917.58	46.58	74.00	-27.42	50.29	3.72	27.16	34.59	179	248	Peak	HORIZONTAL

Operating Function



Normal Link



	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1904.48	49.18	74.00	-24.82	52.95	3.71	27.11	34.59	100	287	Peak	VERTICAL
2	1918.18	36.70	54.00	-17.30	40.41	3.72	27.16	34.59	100	287	Average	VERTICAL