FCC Test Report

Equipment	:	**802.11ac 2x2 MIMO PCI Express Mini Card**
Brand Name	:	**LITE-ON**
Model No.	:	**WM862FEMD**
FCC ID	:	**PPQ-WM862FEMD**
Standard	:	**47 CFR FCC Part 15.407**
Operating Band	:	**5150 MHz – 5250 MHz** **5250 MHz – 5350 MHz** **5470 MHz – 5725 MHz** **5725 MHz – 5850 MHz**
Applicant	:	**LITE-ON Technology Corp.** **Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei City, 23585 Taiwan**
Manufacturer	:	**Lite-On Network Communication (Dongguan) Limited** **30#Keji Rd.,Yin Hu Industrial Area,Qingxi Town,DongGuan City,Guangdong,China**
TPC Function	:	**TPC**

This report was evaluated for permissive change. The product sample received on Nov. 14, 2017 and completely tested on Nov. 24, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Phoenix Chen / Assistant Manager

Testing Laboratory
1190

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Summary of Test Result

Conformance Test Specifications			
Report Clause	**Ref. Std. Clause**	**Description**	**Result**
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.407(b)	Unwanted Emissions	Complied

Revision History

Report No.	Version	Description	Issued Date
FR741722-06AN	Rev. 01	Initial issue of report	Nov. 29, 2017

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	2TX
5.25-5.35GHz	802.11a	20	2TX
5.47-5.725GHz	802.11a	20	2TX
5.725-5.85GHz	802.11a	20	2TX
5.15-5.25GHz	802.11n HT20	20	2TX
5.25-5.35GHz	802.11n HT20	20	2TX
5.47-5.725GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11n HT20	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.25-5.35GHz	802.11ac VHT20	20	2TX
5.47-5.725GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX

5.15-5.25GHz	802.11n HT40	40	2TX
5.25-5.35GHz	802.11n HT40	40	2TX
5.47-5.725GHz	802.11n HT40	40	2TX
5.725-5.85GHz	802.11n HT40	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.25-5.35GHz	802.11ac VHT40	40	2TX
5.47-5.725GHz	802.11ac VHT40	40	2TX
5.725-5.85GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.25-5.35GHz	802.11ac VHT80	80	2TX
5.47-5.725GHz	802.11ac VHT80	80	2TX
5.725-5.85GHz	802.11ac VHT80	80	2TX

Note:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector
1	1	Master Wave Technology Co., Ltd	98P7RPIPF000	PCB Antenna	I-PEX
2	2	Master Wave Technology Co., Ltd	98P7RPIPF001	PCB Antenna	I-PEX

Ant.	Gain (dBi)				
	2.4G	5G B1	5G B2	5G B3	5G B4
1	6.5	4.7	4.7	5.6	6.0
2	6.5	4.8	5.4	5.8	5.5

Note 1: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/ac mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11 a/n/ac mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz

Type of EUT		
☒	Stand-alone	
☐	Combined (EUT where the radio part is fully integrated within another device)	
	Combined Equipment - Brand Name / Model No.:	…
☐	Plug-in radio (EUT intended for a variety of host systems)	
	Host System - Brand Name / Model No.:	…
☐	Other:	

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR741722-01AB

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Single module approval from limited module approval.	The worst case of Emissions in Restricted Frequency Bands was evaluated.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- KDB 789033 D02 v01r04
- KDB 644545 D03 v01
- KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH02-HY	Jerry	25.5°C / 55%	24/Nov/2017

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software	Tool

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5200MHz	18
5745MHz	22
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5270MHz	22
5550MHz	24

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	PoE mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	**Z Plane**
	
Worst Planes of EUT	V

2.4 Support Equipment

Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	AP	LITEON	WP9333	-
4	PoE	Microsemi	PD-9001G	-

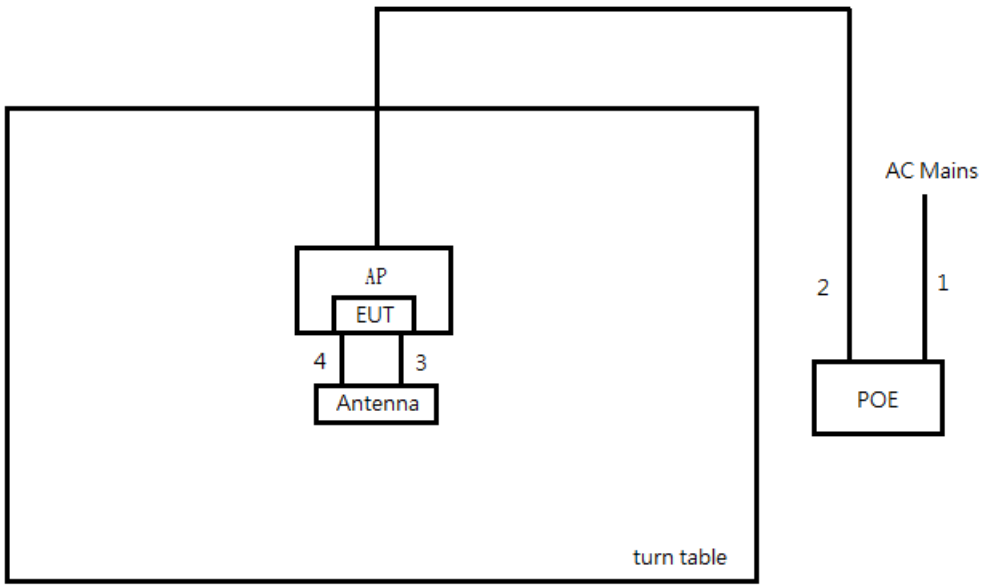
Note: Support equipment No.3 and 4 was provided by customer.

Support Equipment – Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	PoE	Microsemi	PD-9001G	-
2	AP	LITEON	WP9333	-

Note: Support equipment No.1 and 2 was provided by customer.

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC power line	No	1.2m	-
2	RJ-45 cable	No	10m	-
3	Antenna cable	No	0.12m	-
4	Antenna cable	No	0.12m	-

3 Transmitter Test Result

3.1 Unwanted Emissions

3.1.1 Transmitter Radiated Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	

3.1.2 Measuring Instruments

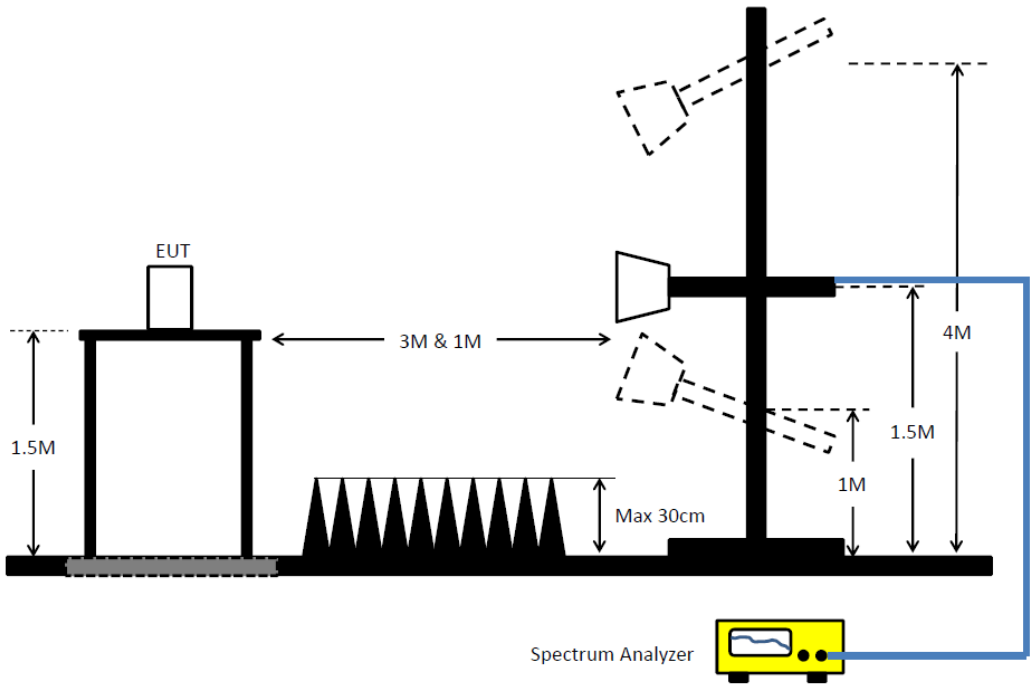
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method			
▪ Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).			
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].			
▪ For the transmitter unwanted emissions shall be measured using following options below:			
	▪ Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.		
	▪ Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands.		
		☒ Refer as KDB 789033, G)6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.	
		☒ Refer as KDB 789033, clause G)5) (ANSI C63.10, clause 4.1.4.2.2), measurement procedure peak limit.	
▪ For radiated measurement.			
	▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.		
	▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.		
	▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.		
▪ The any unwanted emissions level shall not exceed the fundamental emission level.			
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.			

3.1.4 Test Setup

Transmitter Radiated Unwanted Emissions
Above 1GHz



3.1.5 Transmitter Unwanted Emissions (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.1.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix A

4 Test Equipment and Calibration Data

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP40	100305	9kHz - 40GHz	30/Dec/2016	29/Dec/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz-1GHz	20/Oct/2017	19/Oct/2018
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz	12/Dec/2016	11/Dec/2017
Amplifier	Agilent	8447D	2944A11149	100KHz-1.3GHz	29/Jun/2017	28/Jun/2018
Amplifier	Ketsight	8449B	3008A02602	1GHz-26.5GHz	19/Sep/2017	18/Sep/2018
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D 01531	1GHz-18GHz	11/May/2017	10/May/2018
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz-40GHz	06/Feb/2017	05/Feb/2018
RF Cable-high	SUHNER	SUCOFLEX104	MY34918/4	1GHz ~ 40GHz	26/Jan/2017	25/Jan/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Receiver	R&S	ESU3	102052	9kHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.15-5.25GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	AV	10.39862G	53.63	54.00	-0.37	12.44	3	Vertical	201	2.43	-
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT40_Nss1,(MCS0)_2TX	Pass	AV	10.54042G	53.45	54.00	-0.55	12.81	3	Vertical	1.58	2.61	-
5.47-5.725GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT40_Nss1,(MCS0)_2TX	Pass	PK	5.4672G	67.38	68.20	-0.82	2.91	3	Vertical	140	2.80	-
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	PK	5.505G	61.19	68.20	-7.01	2.94	3	Vertical	143	2.45	-

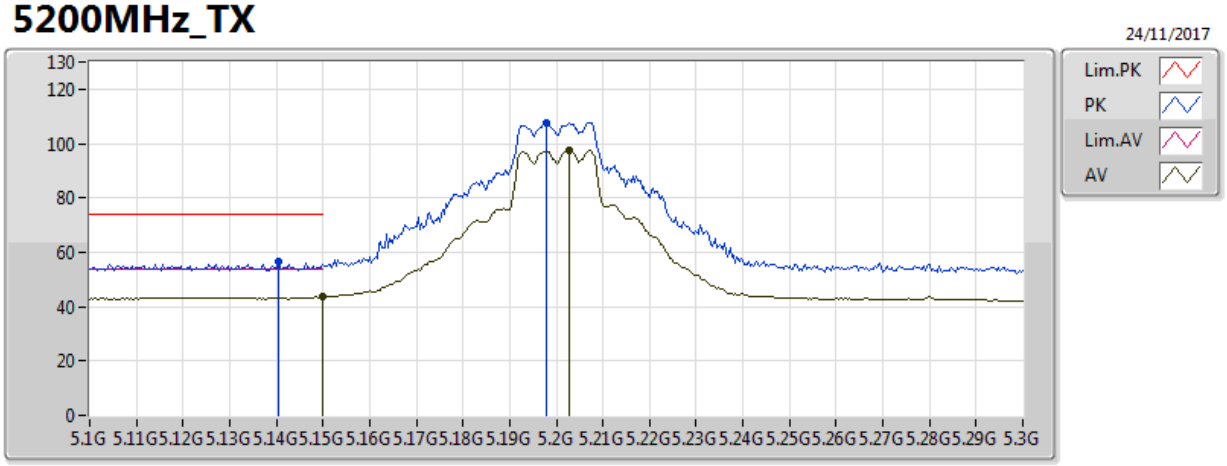
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
5200MHz	Pass	AV	5.1496G	44.08	54.00	-9.92	2.73	3	Horizontal	109	1.07	-
5200MHz	Pass	AV	5.1936G	99.05	Inf	-Inf	2.76	3	Horizontal	109	1.07	-
5200MHz	Pass	PK	5.1496G	56.76	74.00	-17.24	2.73	3	Horizontal	109	1.07	-
5200MHz	Pass	PK	5.1984G	109.09	Inf	-Inf	2.76	3	Horizontal	109	1.07	-
5200MHz	Pass	AV	5.149995G	43.64	54.00	-10.36	2.73	3	Vertical	92	2.30	-
5200MHz	Pass	AV	5.2028G	97.33	Inf	-Inf	2.76	3	Vertical	92	2.30	-
5200MHz	Pass	PK	5.1404G	56.32	74.00	-17.68	2.72	3	Vertical	92	2.30	-
5200MHz	Pass	PK	5.198G	107.83	Inf	-Inf	2.76	3	Vertical	92	2.30	-
5200MHz	Pass	AV	10.40012G	52.61	54.00	-1.39	12.44	3	Horizontal	181	2.17	-
5200MHz	Pass	PK	10.40078G	66.86	74.00	-7.14	12.44	3	Horizontal	181	2.17	-
5200MHz	Pass	AV	10.39862G	53.63	54.00	-0.37	12.44	3	Vertical	201	2.43	-
5200MHz	Pass	PK	10.4039G	70.81	74.00	-3.19	12.45	3	Vertical	201	2.43	-
5745MHz	Pass	AV	5.7426G	102.22	Inf	-Inf	3.42	3	Horizontal	170	1.23	-
5745MHz	Pass	PK	5.565G	58.62	68.20	-9.58	3.06	3	Horizontal	170	1.23	-
5745MHz	Pass	PK	5.7426G	111.87	Inf	-Inf	3.42	3	Horizontal	170	1.23	-
5745MHz	Pass	PK	5.9454G	57.11	68.20	-11.09	3.84	3	Horizontal	170	1.23	-
5745MHz	Pass	AV	5.7402G	102.56	Inf	-Inf	3.42	3	Vertical	143	2.45	-
5745MHz	Pass	PK	5.505G	61.19	68.20	-7.01	2.94	3	Vertical	143	2.45	-
5745MHz	Pass	PK	5.7402G	112.30	Inf	-Inf	3.42	3	Vertical	143	2.45	-
5745MHz	Pass	PK	5.9838G	57.25	68.20	-10.95	3.92	3	Vertical	143	2.45	-
5745MHz	Pass	AV	11.49018G	43.63	54.00	-10.37	13.36	3	Horizontal	134	2.44	-
5745MHz	Pass	PK	11.4843G	57.20	74.00	-16.80	13.37	3	Horizontal	134	2.44	-
5745MHz	Pass	AV	11.49G	46.73	54.00	-7.27	13.36	3	Vertical	12	3.33	-
5745MHz	Pass	PK	11.49G	60.29	74.00	-13.71	13.36	3	Vertical	12	3.33	-
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	AV	5.2652G	96.45	Inf	-Inf	2.80	3	Horizontal	0	1.26	-
5270MHz	Pass	AV	5.350005G	50.96	54.00	-3.04	2.85	3	Horizontal	0	1.26	-
5270MHz	Pass	PK	5.2656G	108.16	Inf	-Inf	2.80	3	Horizontal	0	1.26	-
5270MHz	Pass	PK	5.3508G	66.41	74.00	-7.59	2.85	3	Horizontal	0	1.26	-
5270MHz	Pass	AV	5.2588G	94.02	Inf	-Inf	2.80	3	Vertical	89	2.63	-
5270MHz	Pass	AV	5.3508G	47.58	54.00	-6.42	2.85	3	Vertical	89	2.63	-
5270MHz	Pass	PK	5.2576G	105.98	Inf	-Inf	2.79	3	Vertical	89	2.63	-
5270MHz	Pass	PK	5.3552G	60.80	74.00	-13.20	2.85	3	Vertical	89	2.63	-
5270MHz	Pass	AV	10.53694G	52.01	54.00	-1.99	12.80	3	Horizontal	181	2.32	-
5270MHz	Pass	PK	10.53676G	66.57	74.00	-7.43	12.80	3	Horizontal	181	2.32	-
5270MHz	Pass	AV	10.54042G	53.45	54.00	-0.55	12.81	3	Vertical	1.58	2.61	-
5270MHz	Pass	PK	10.54024G	68.69	74.00	-5.31	12.81	3	Vertical	158	2.61	-
5550MHz	Pass	AV	5.456G	47.67	54.00	-6.33	2.91	3	Horizontal	165	1.35	-
5550MHz	Pass	AV	5.554G	81.86	Inf	-Inf	3.04	3	Horizontal	165	1.35	-
5550MHz	Pass	PK	5.456G	65.31	74.00	-8.69	2.91	3	Horizontal	165	1.35	-
5550MHz	Pass	PK	5.4684G	66.93	68.20	-1.27	2.91	3	Horizontal	165	1.35	-
5550MHz	Pass	PK	5.5516G	107.79	Inf	-Inf	3.03	3	Horizontal	165	1.35	-
5550MHz	Pass	AV	5.4576G	48.51	54.00	-5.49	2.91	3	Vertical	140	2.80	-
5550MHz	Pass	AV	5.5376G	85.41	Inf	-Inf	3.01	3	Vertical	140	2.80	-
5550MHz	Pass	PK	5.4568G	66.20	74.00	-7.80	2.91	3	Vertical	140	2.80	-
5550MHz	Pass	PK	5.4672G	67.38	68.20	-0.82	2.91	3	Vertical	140	2.80	-
5550MHz	Pass	PK	5.5576G	111.70	Inf	-Inf	3.05	3	Vertical	140	2.80	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5550MHz	Pass	AV	11.0985G	44.28	54.00	-9.72	13.90	3	Horizontal	9	2.34	-
5550MHz	Pass	PK	11.09634G	58.49	74.00	-15.51	13.90	3	Horizontal	9	2.34	-
5550MHz	Pass	AV	11.0991G	46.66	54.00	-7.34	13.90	3	Vertical	2	3.24	-
5550MHz	Pass	PK	11.09688G	60.48	74.00	-13.52	13.90	3	Vertical	2	3.24	-

802.11a_Nss1,(6Mbps)_2TX

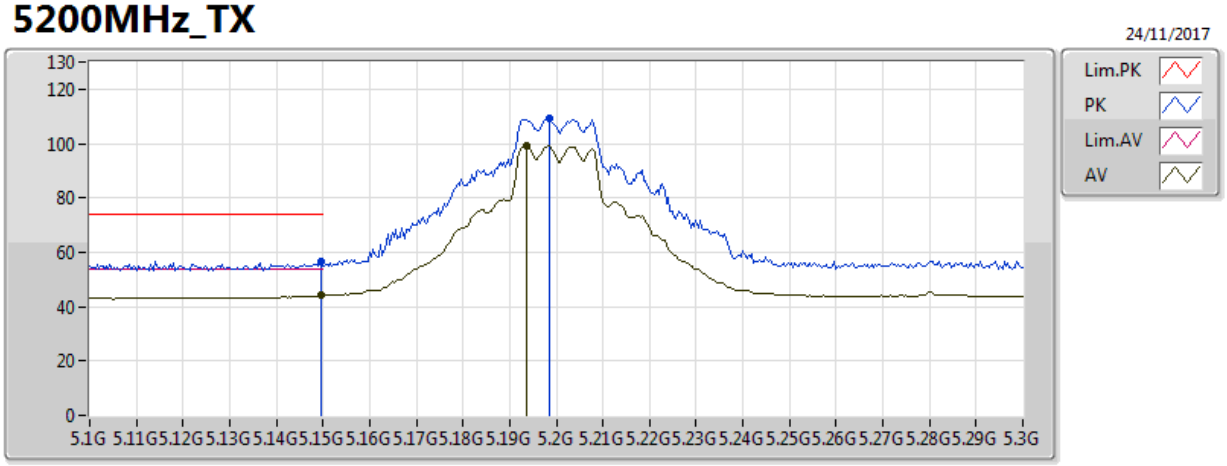
5200MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.149995G	43.64	54.00	-10.36	2.73	3	Vertical	92	2.30	-	40.91	31.66	5.62	34.55
AV	5.2028G	97.33	Inf	-Inf	2.76	3	Vertical	92	2.30	-	94.57	31.68	5.63	34.55
PK	5.1404G	56.32	74.00	-17.68	2.72	3	Vertical	92	2.30	-	53.59	31.66	5.62	34.55
PK	5.198G	107.83	Inf	-Inf	2.76	3	Vertical	92	2.30	-	105.07	31.68	5.63	34.55

802.11a_Nss1,(6Mbps)_2TX

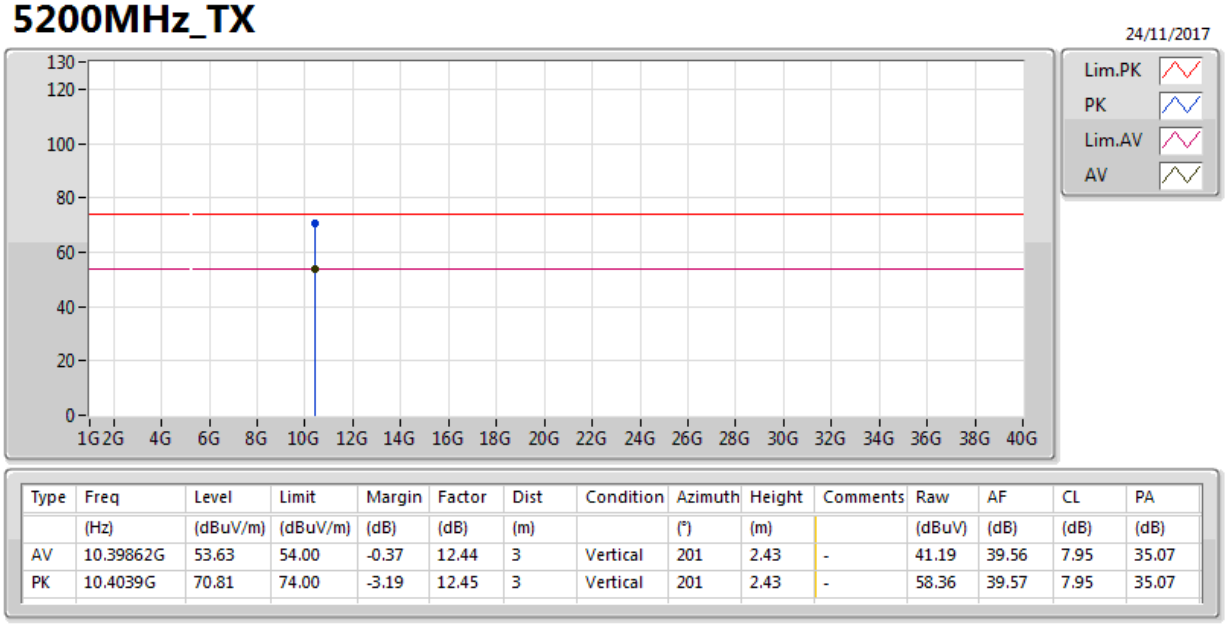
5200MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.1496G	44.08	54.00	-9.92	2.73	3	Horizontal	109	1.07	-	41.35	31.66	5.62	34.55
AV	5.1936G	99.05	Inf	-Inf	2.76	3	Horizontal	109	1.07	-	96.30	31.68	5.63	34.55
PK	5.1496G	56.76	74.00	-17.24	2.73	3	Horizontal	109	1.07	-	54.03	31.66	5.62	34.55
PK	5.1984G	109.09	Inf	-Inf	2.76	3	Horizontal	109	1.07	-	106.33	31.68	5.63	34.55

802.11a_Nss1,(6Mbps)_2TX

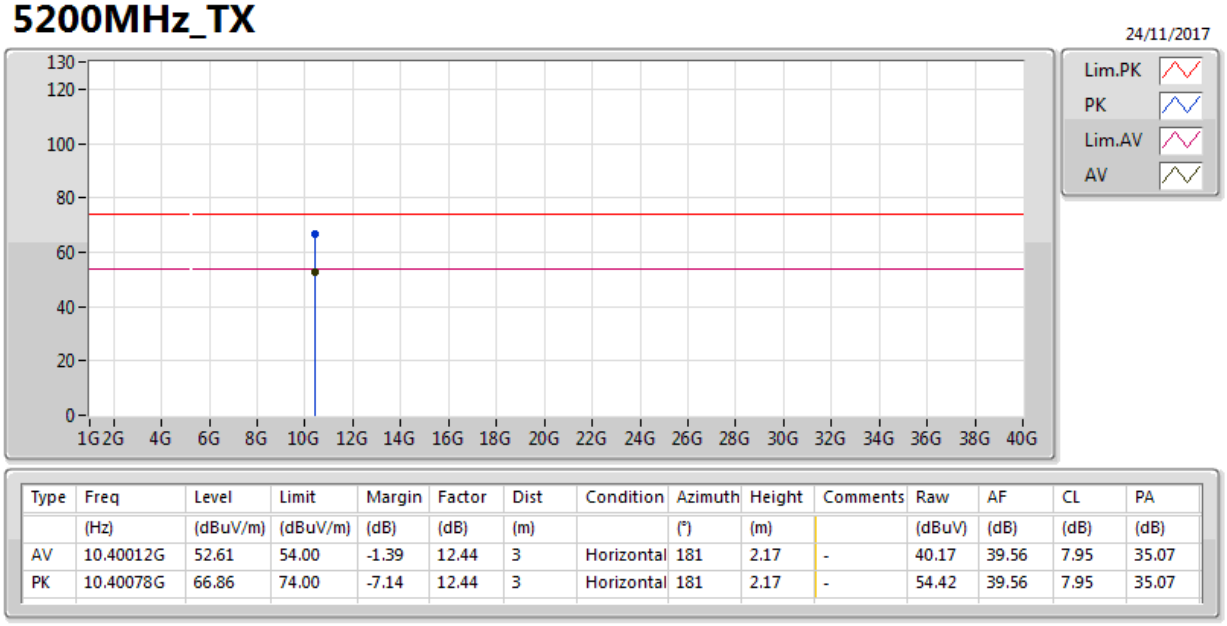
5200MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	10.39862G	53.63	54.00	-0.37	12.44	3	Vertical	201	2.43	-	41.19	39.56	7.95	35.07
PK	10.4039G	70.81	74.00	-3.19	12.45	3	Vertical	201	2.43	-	58.36	39.57	7.95	35.07

802.11a_Nss1,(6Mbps)_2TX

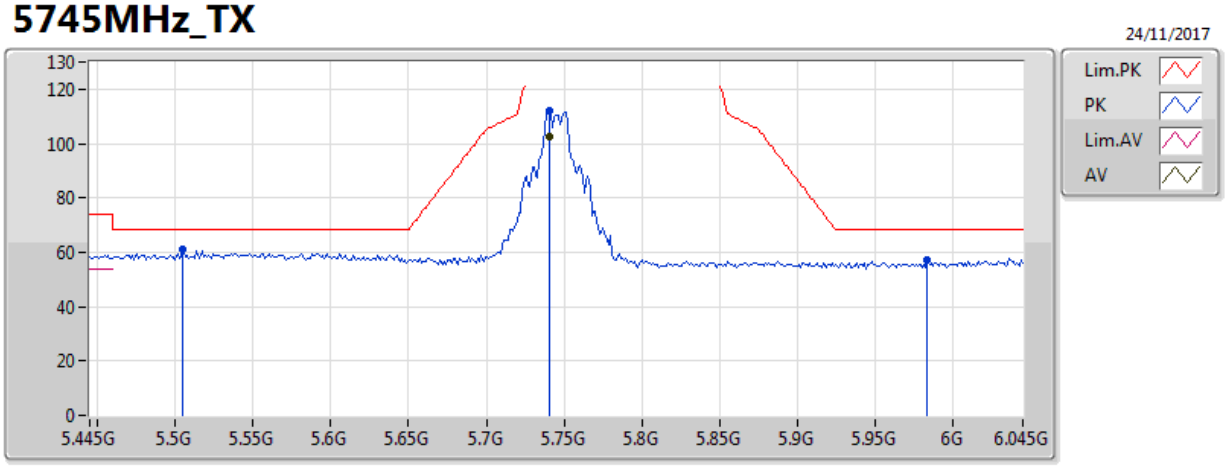
5200MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	10.40012G	52.61	54.00	-1.39	12.44	3	Horizontal	181	2.17	-	40.17	39.56	7.95	35.07
PK	10.40078G	66.86	74.00	-7.14	12.44	3	Horizontal	181	2.17	-	54.42	39.56	7.95	35.07

802.11a_Nss1,(6Mbps)_2TX

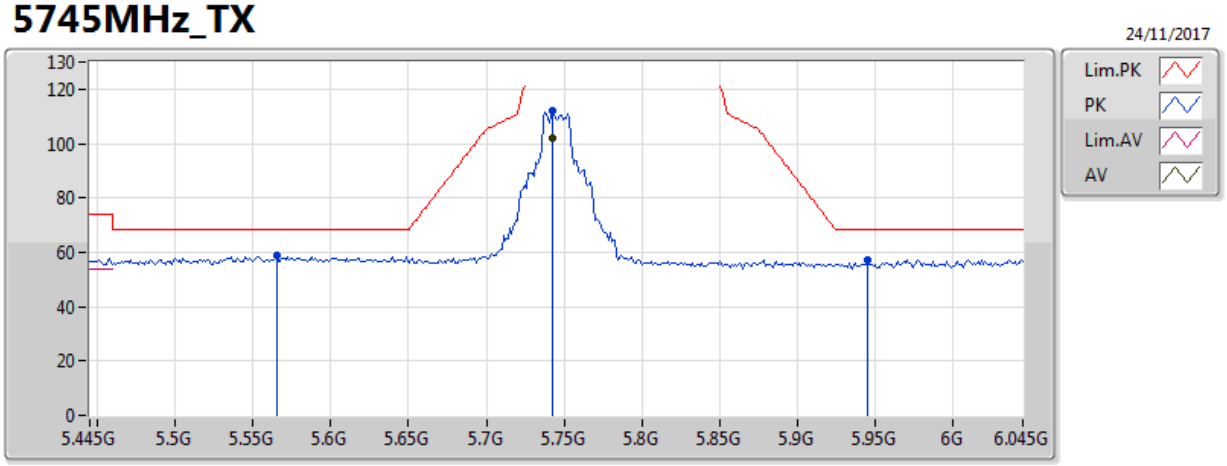
5745MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.7402G	102.56	Inf	-Inf	3.42	3	Vertical	143	2.45	-	99.14	32.18	5.84	34.61
PK	5.505G	61.19	68.20	-7.01	2.94	3	Vertical	143	2.45	-	58.25	31.81	5.67	34.54
PK	5.7402G	112.30	Inf	-Inf	3.42	3	Vertical	143	2.45	-	108.88	32.18	5.84	34.61
PK	5.9838G	57.25	68.20	-10.95	3.92	3	Vertical	143	2.45	-	53.33	32.57	6.02	34.68

802.11a_Nss1,(6Mbps)_2TX

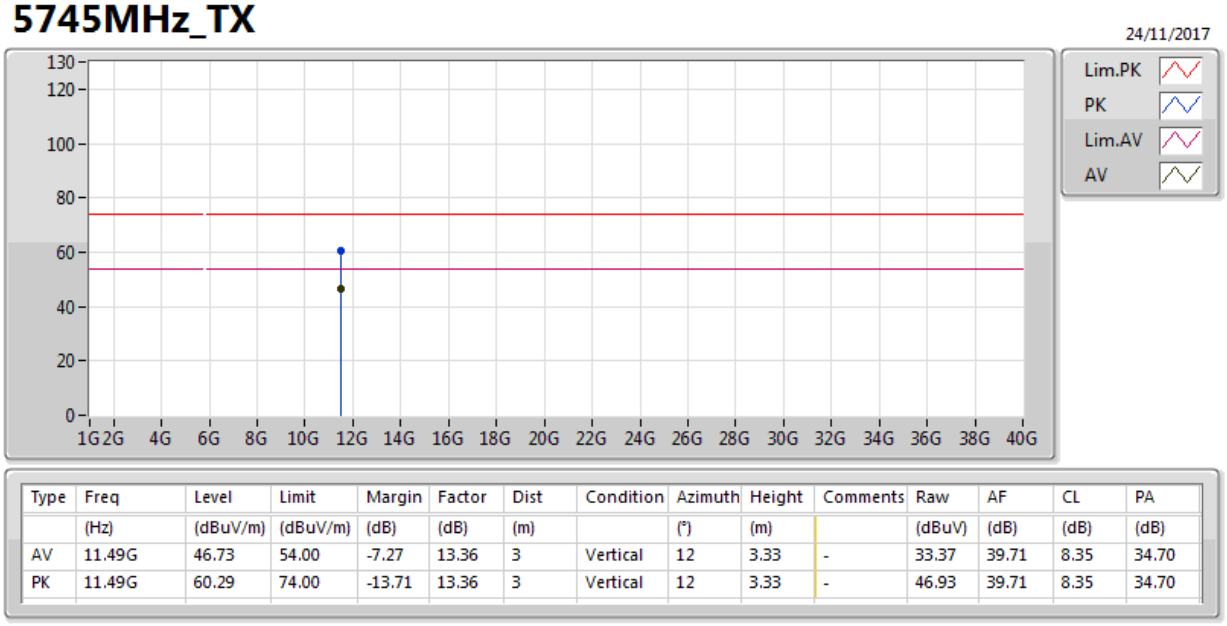
5745MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.7426G	102.22	Inf	-Inf	3.42	3	Horizontal	170	1.23	-	98.80	32.19	5.84	34.61
PK	5.565G	58.62	68.20	-9.58	3.06	3	Horizontal	170	1.23	-	55.56	31.90	5.72	34.56
PK	5.7426G	111.87	Inf	-Inf	3.42	3	Horizontal	170	1.23	-	108.45	32.19	5.84	34.61
PK	5.9454G	57.11	68.20	-11.09	3.84	3	Horizontal	170	1.23	-	53.27	32.51	5.99	34.66

802.11a_Nss1,(6Mbps)_2TX

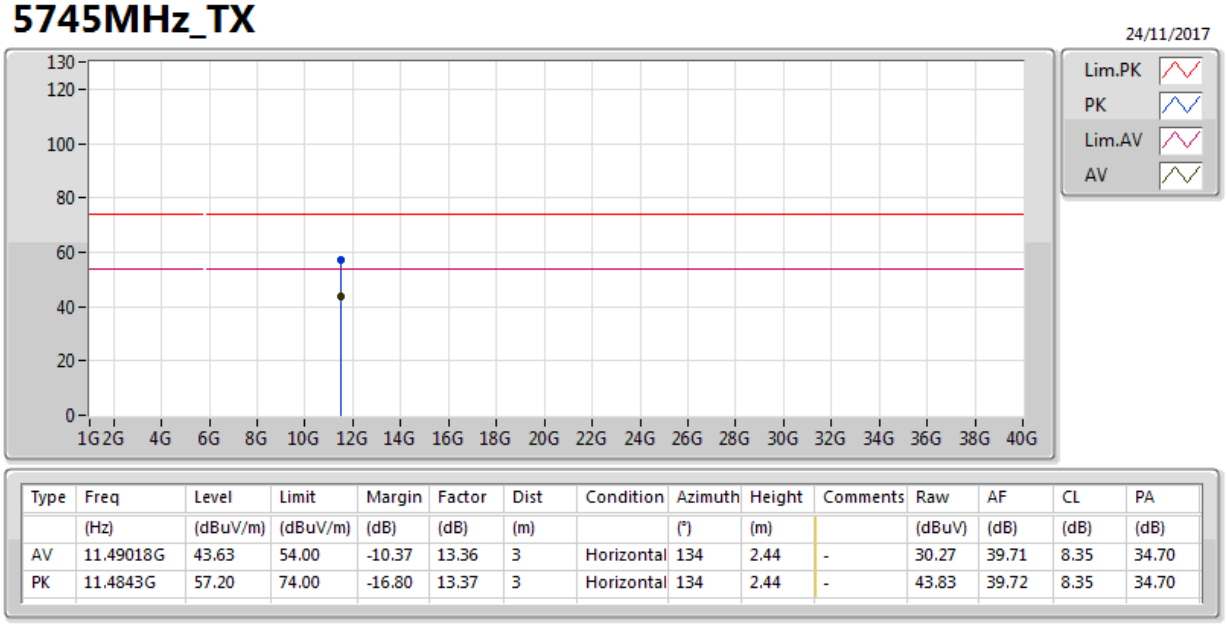
5745MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	11.49G	46.73	54.00	-7.27	13.36	3	Vertical	12	3.33	-	33.37	39.71	8.35	34.70
PK	11.49G	60.29	74.00	-13.71	13.36	3	Vertical	12	3.33	-	46.93	39.71	8.35	34.70

802.11a_Nss1,(6Mbps)_2TX

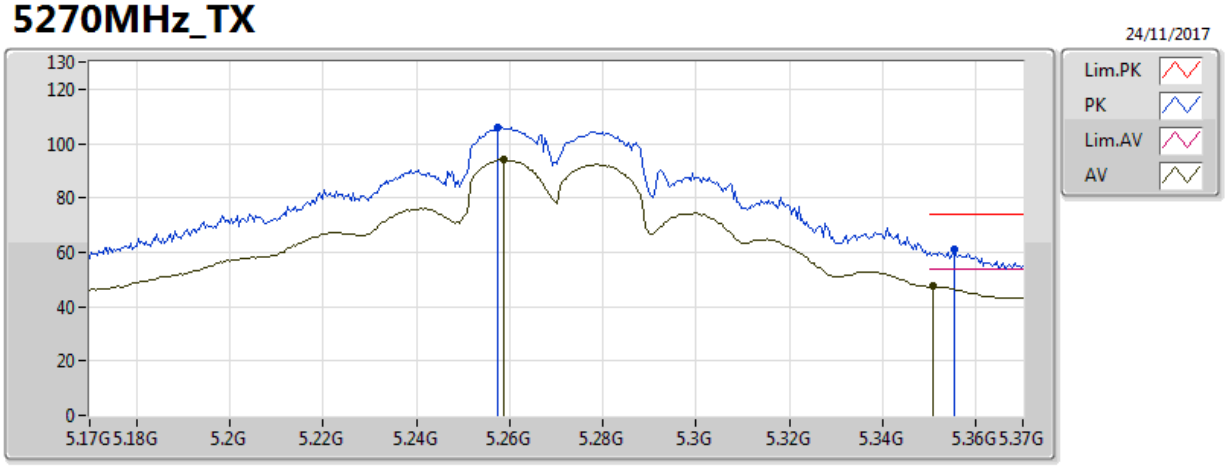
5745MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	11.49018G	43.63	54.00	-10.37	13.36	3	Horizontal	134	2.44	-	30.27	39.71	8.35	34.70
PK	11.4843G	57.20	74.00	-16.80	13.37	3	Horizontal	134	2.44	-	43.83	39.72	8.35	34.70

802.11ac VHT40_Nss1,(MCS0)_2TX

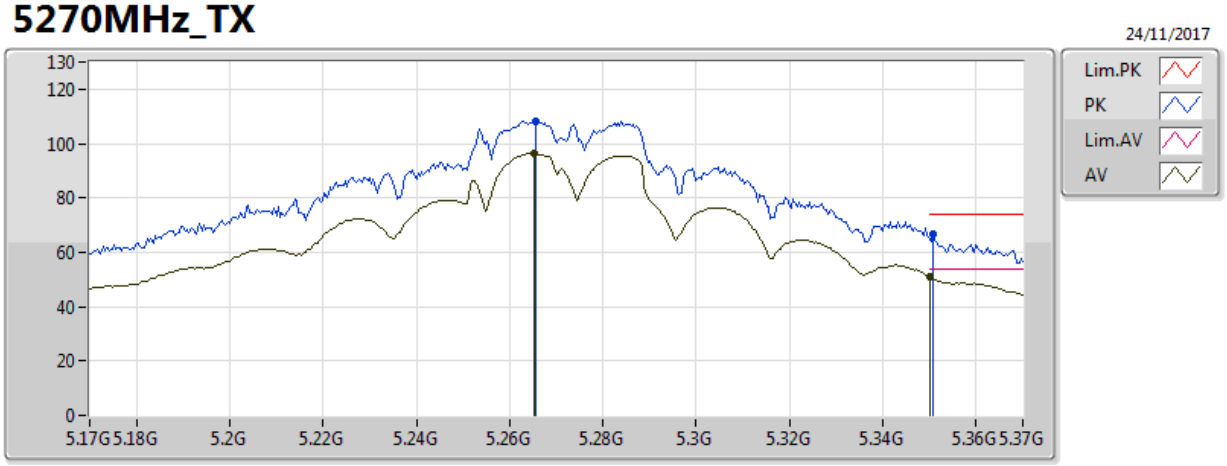
5270MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.2588G	94.02	Inf	-Inf	2.80	3	Vertical	89	2.63	-	91.22	31.70	5.64	34.54
AV	5.3508G	47.58	54.00	-6.42	2.85	3	Vertical	89	2.63	-	44.73	31.74	5.65	34.54
PK	5.2576G	105.98	Inf	-Inf	2.79	3	Vertical	89	2.63	-	103.19	31.70	5.64	34.54
PK	5.3552G	60.80	74.00	-13.20	2.85	3	Vertical	89	2.63	-	57.95	31.74	5.65	34.54

802.11ac VHT40_Nss1,(MCS0)_2TX

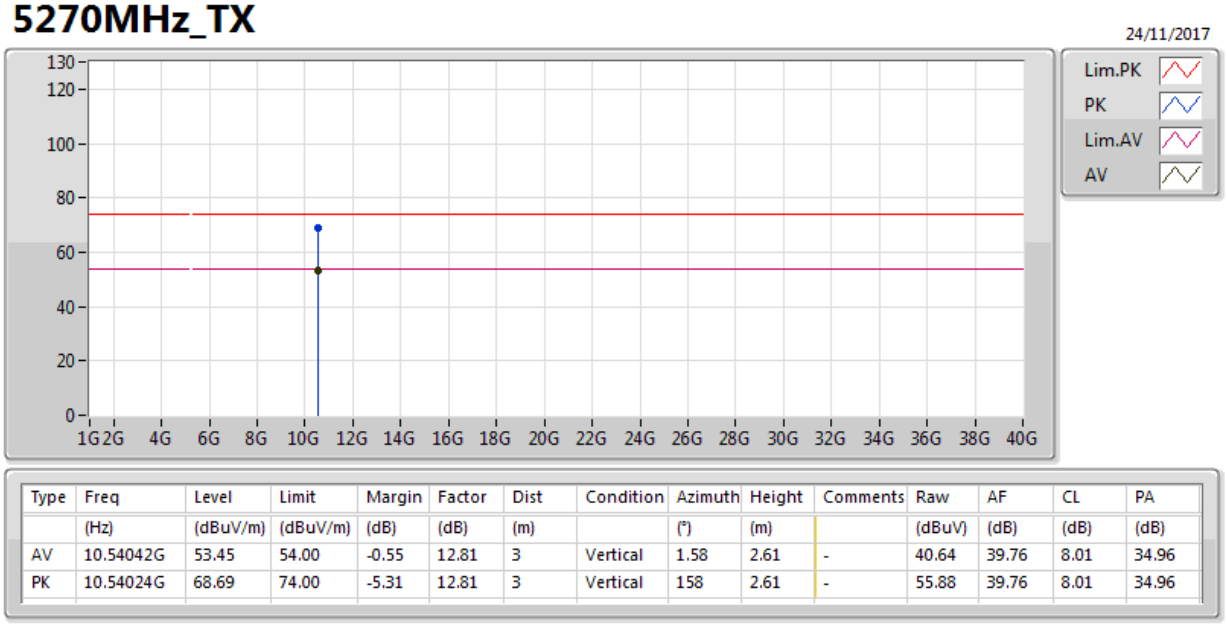
5270MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.2652G	96.45	Inf	-Inf	2.80	3	Horizontal	0	1.26	-	93.65	31.71	5.64	34.54
AV	5.350005G	50.96	54.00	-3.04	2.85	3	Horizontal	0	1.26	-	48.11	31.74	5.65	34.54
PK	5.2656G	108.16	Inf	-Inf	2.80	3	Horizontal	0	1.26	-	105.36	31.71	5.64	34.54
PK	5.3508G	66.41	74.00	-7.59	2.85	3	Horizontal	0	1.26	-	63.56	31.74	5.65	34.54

802.11ac VHT40_Nss1,(MCS0)_2TX

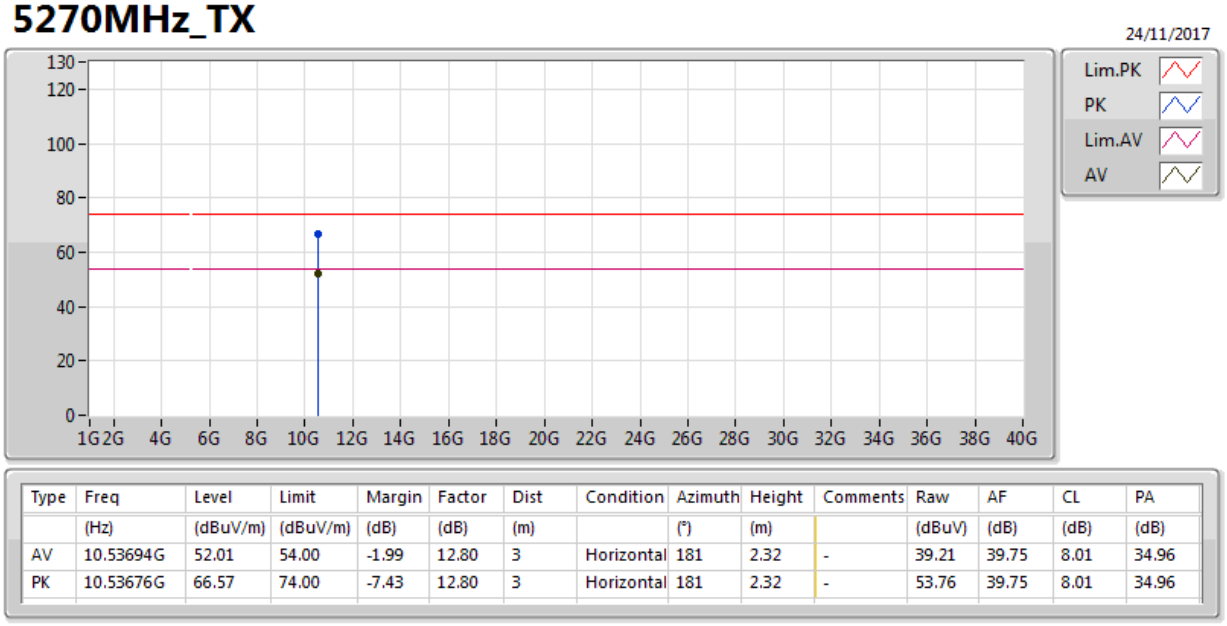
5270MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	10.54042G	53.45	54.00	-0.55	12.81	3	Vertical	1.58	2.61	-	40.64	39.76	8.01	34.96
PK	10.54024G	68.69	74.00	-5.31	12.81	3	Vertical	158	2.61	-	55.88	39.76	8.01	34.96

802.11ac VHT40_Nss1,(MCS0)_2TX

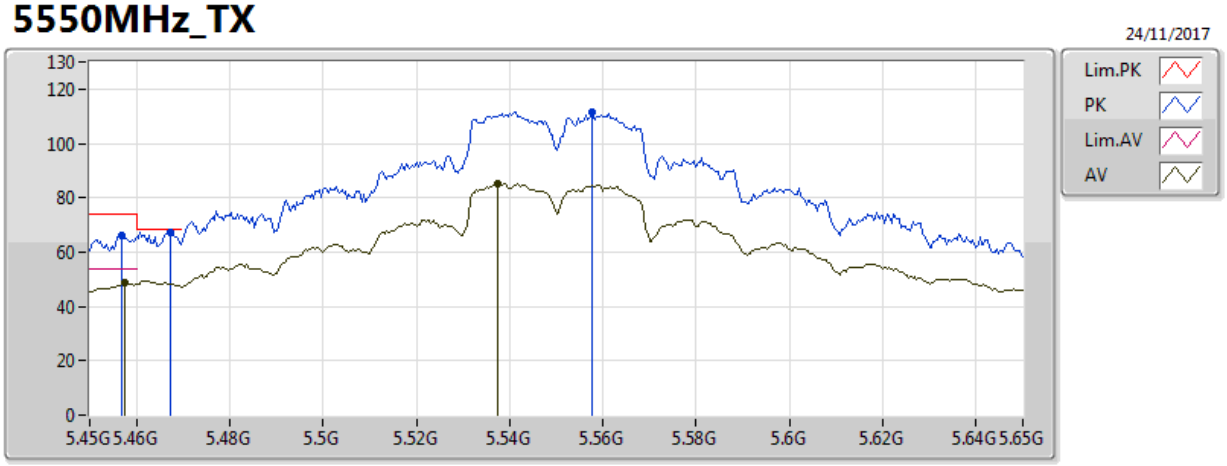
5270MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	10.53694G	52.01	54.00	-1.99	12.80	3	Horizontal	181	2.32	-	39.21	39.75	8.01	34.96
PK	10.53676G	66.57	74.00	-7.43	12.80	3	Horizontal	181	2.32	-	53.76	39.75	8.01	34.96

802.11ac VHT40_Nss1,(MCS0)_2TX

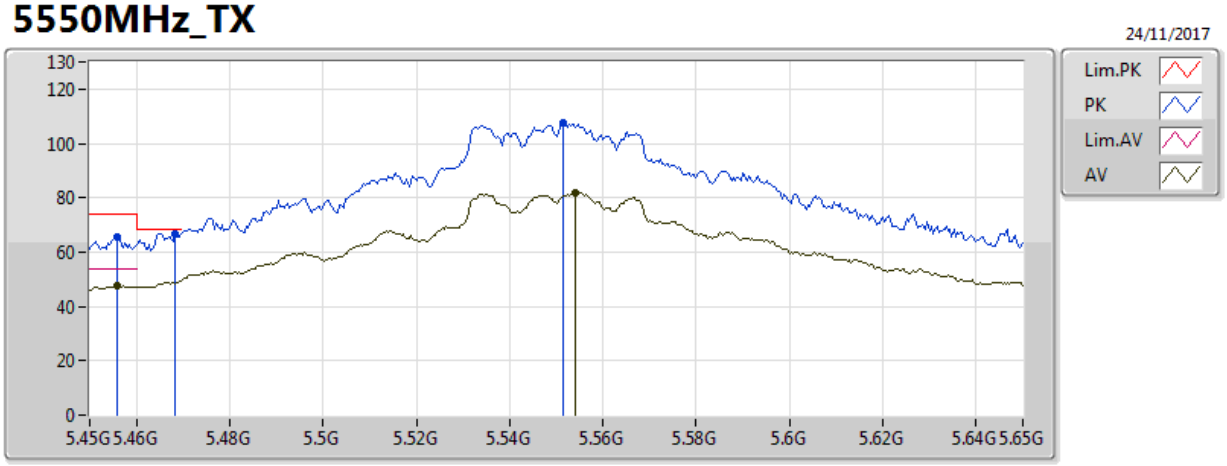
5550MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.4576G	48.51	54.00	-5.49	2.91	3	Vertical	140	2.80	-	45.60	31.78	5.67	34.54
AV	5.5376G	85.41	Inf	-Inf	3.01	3	Vertical	140	2.80	-	82.40	31.86	5.70	34.55
PK	5.4568G	66.20	74.00	-7.80	2.91	3	Vertical	140	2.80	-	63.29	31.78	5.67	34.54
PK	5.4672G	67.38	68.20	-0.82	2.91	3	Vertical	140	2.80	-	64.47	31.79	5.67	34.54
PK	5.5576G	111.70	Inf	-Inf	3.05	3	Vertical	140	2.80	-	108.65	31.89	5.71	34.56

802.11ac VHT40_Nss1,(MCS0)_2TX

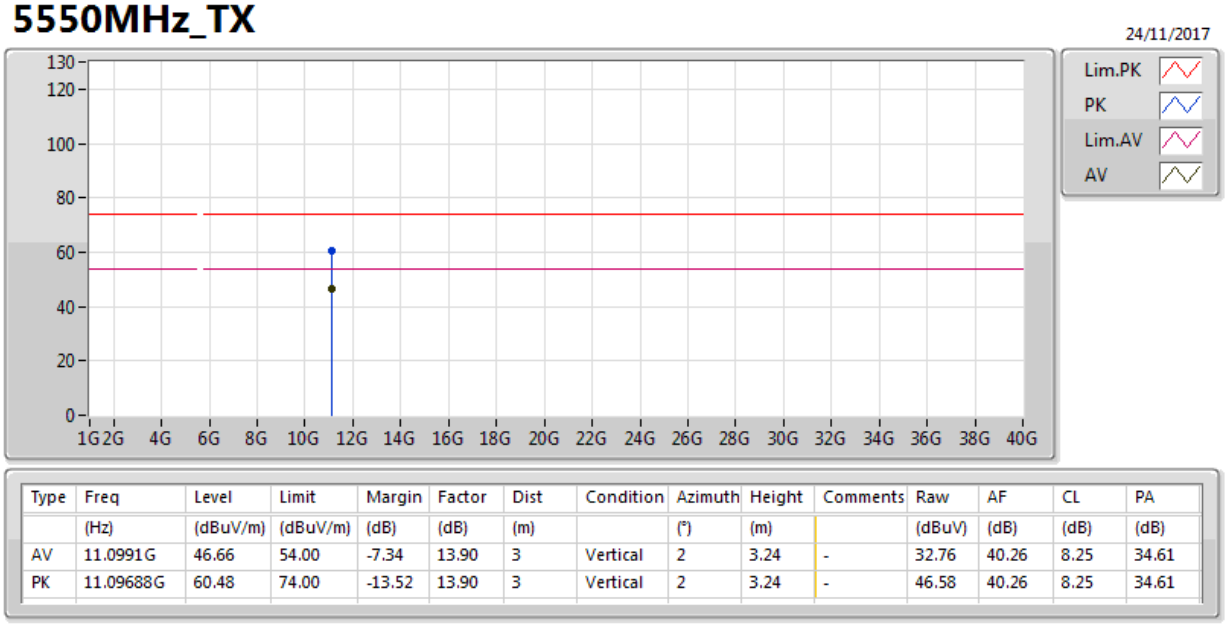
5550MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	5.456G	47.67	54.00	-6.33	2.91	3	Horizontal	165	1.35	-	44.76	31.78	5.67	34.54
AV	5.554G	81.86	Inf	-Inf	3.04	3	Horizontal	165	1.35	-	78.82	31.89	5.71	34.56
PK	5.456G	65.31	74.00	-8.69	2.91	3	Horizontal	165	1.35	-	62.40	31.78	5.67	34.54
PK	5.4684G	66.93	68.20	-1.27	2.91	3	Horizontal	165	1.35	-	64.01	31.79	5.67	34.54
PK	5.5516G	107.79	Inf	-Inf	3.03	3	Horizontal	165	1.35	-	104.76	31.88	5.71	34.56

802.11ac VHT40_Nss1,(MCS0)_2TX

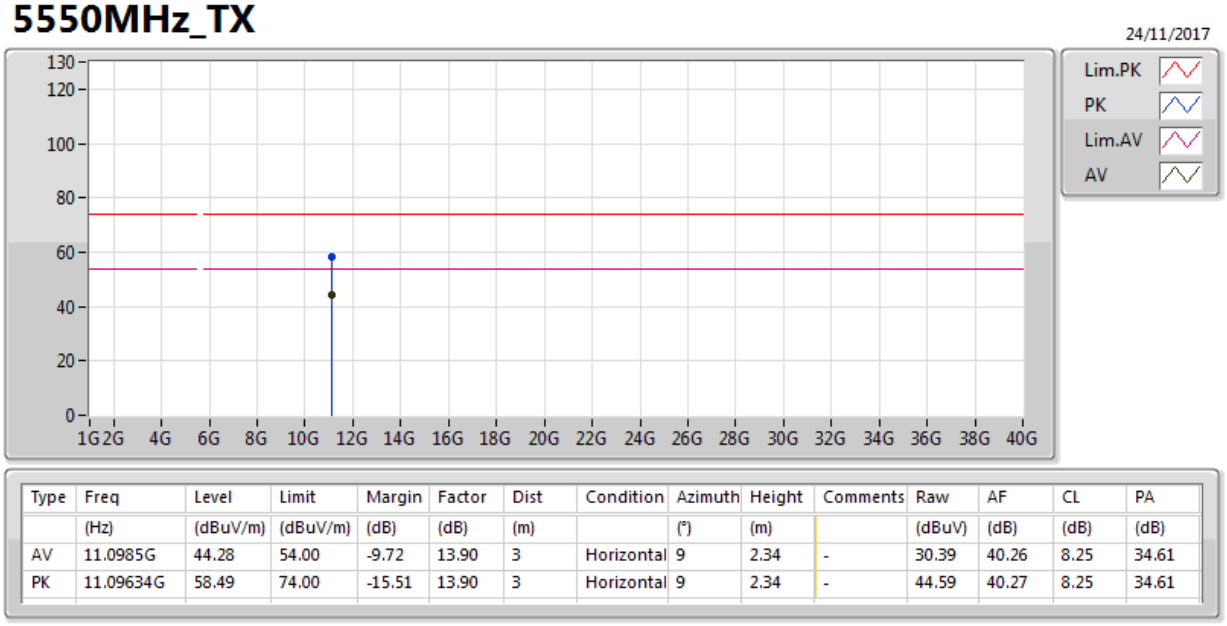
5550MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	11.0991G	46.66	54.00	-7.34	13.90	3	Vertical	2	3.24	-	32.76	40.26	8.25	34.61
PK	11.09688G	60.48	74.00	-13.52	13.90	3	Vertical	2	3.24	-	46.58	40.26	8.25	34.61

802.11ac VHT40_Nss1,(MCS0)_2TX

5550MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	11.0985G	44.28	54.00	-9.72	13.90	3	Horizontal	9	2.34	-	30.39	40.26	8.25	34.61
PK	11.09634G	58.49	74.00	-15.51	13.90	3	Horizontal	9	2.34	-	44.59	40.27	8.25	34.61