FCC C2PC Test Report

FCC ID	:	**SWX-GBELR**
Equipment	:	**GigaBeam LR**
Model No.	:	**GBE-LR**
Brand Name	:	**UBIQUITI**
Applicant	:	**Ubiquiti Inc.**
Address	:	**685 Third Avenue, New York, New York 10017 USA**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Aug. 19, 2019**
Tested Date	:	**Sep. 05 ~ Oct. 22, 2019**

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Along Chen / Assistant Manager

Approved by:

Gary Chang / Manager

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FR983001-01AN	Rev. 01	Initial issue	Dec. 20, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.177MHz 50.78 (Margin -13.84dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 74.07MHz 39.62 (Margin -0.38dB) - QP	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5250~5350MHz: 18.98 5470~5725MHz: 18.88	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

This report is issued as a FCC Class II Permissive Change. The modification is only concerned with adding 5250~5350MHz and 5470~5725 MHz band by software setting.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**Proprietary protocol (BW: MHz)**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5250-5350 5470-5725	20	5260-5335 5485-5710	52-67 [16] 97-142 [46]	2	MCS 0-9
5250-5350 5470-5725	40	5270-5325 5495-5700	54-65 [12] 99-140 [42]	2	MCS 0-9
5250-5350 5470-5725	80	5290-5305 5515-5680	58-61 [4] 103-136 [34]	2	MCS 0-9
Note 1: RF output power specifies that . Note 2: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)	
			5250~5350	5470~5725
1	internal antenna	N/A	11	11

Note: The antenna is Cross Polarized Antenna

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	24Vdc from POE

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	POE	Brand: UBIQUITI Model: GP-A240-050G Power Rating: I/P: 100-240Vac, 50/60Hz, 0.3A O/P: 24Vdc, 0.5A Power Line: 0.6m non-shielded without core

1.1.5 Channel List

For Frequency band 5250-5350 MHz			
Proprietary protocol (BW: 20 MHz)		**Proprietary protocol (BW: 40 MHz)**	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
52	5260	54	5270
53	5265	55	5275
54	5270	56	5280
55	5275	57	5285
56	5280	58	5290
57	5285	59	5295
58	5290	60	5300
59	5295	61	5305
60	5300	62	5310
61	5305	63	5315
62	5310	64	5320
63	5315	65	5325
64	5320	**Proprietary protocol (BW: 80 MHz)**	
65	5325	58	5290
66	5330	59	5295
67	5335	60	5300
---	---	61	5305

For Frequency band 5470-5725 MHz							
Proprietary protocol (BW: 20 MHz)				Proprietary protocol (BW: 40 MHz)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
97	5485	120	5600	99	5495	122	5610
98	5490	121	5605	100	5500	123	5615
99	5495	122	5610	101	5505	124	5620
100	5500	123	5615	102	5510	125	5625
101	5505	124	5620	103	5515	126	5630
102	5510	125	5625	104	5520	127	5635
103	5515	126	5630	105	5525	128	5640
104	5520	127	5635	106	5530	129	5645
105	5525	128	5640	107	5535	130	5650
106	5530	129	5645	108	5540	131	5655
107	5535	130	5650	109	5545	132	5660
108	5540	131	5655	110	5550	133	5665
109	5545	132	5660	111	5555	134	5670
110	5550	133	5665	112	5560	135	5675
111	5555	134	5670	113	5565	136	5680
112	5560	135	5675	114	5570	137	5685
113	5565	136	5680	115	5575	138	5690
114	5570	137	5685	116	5580	139	5695
115	5575	138	5690	117	5585	140	5700
116	5580	139	5695	118	5590	---	---
117	5585	140	5700	119	5595	---	---
118	5590	141	5705	120	5600	---	---
119	5595	142	5710	121	5605	---	---

Proprietary protocol (BW: 80 MHz)							
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
103	5515	112	5560	121	5605	130	5650
104	5520	113	5565	122	5610	131	5655
105	5525	114	5570	123	5615	132	5660
106	5530	115	5575	124	5620	133	5665
107	5535	116	5580	125	5625	134	5670
108	5540	117	5585	126	5630	135	5675
109	5545	118	5590	127	5635	136	5680
110	5550	119	5595	128	5640	---	---
111	5555	120	5600	129	5645	---	---

1.1.6 Test Tool and Duty Cycle

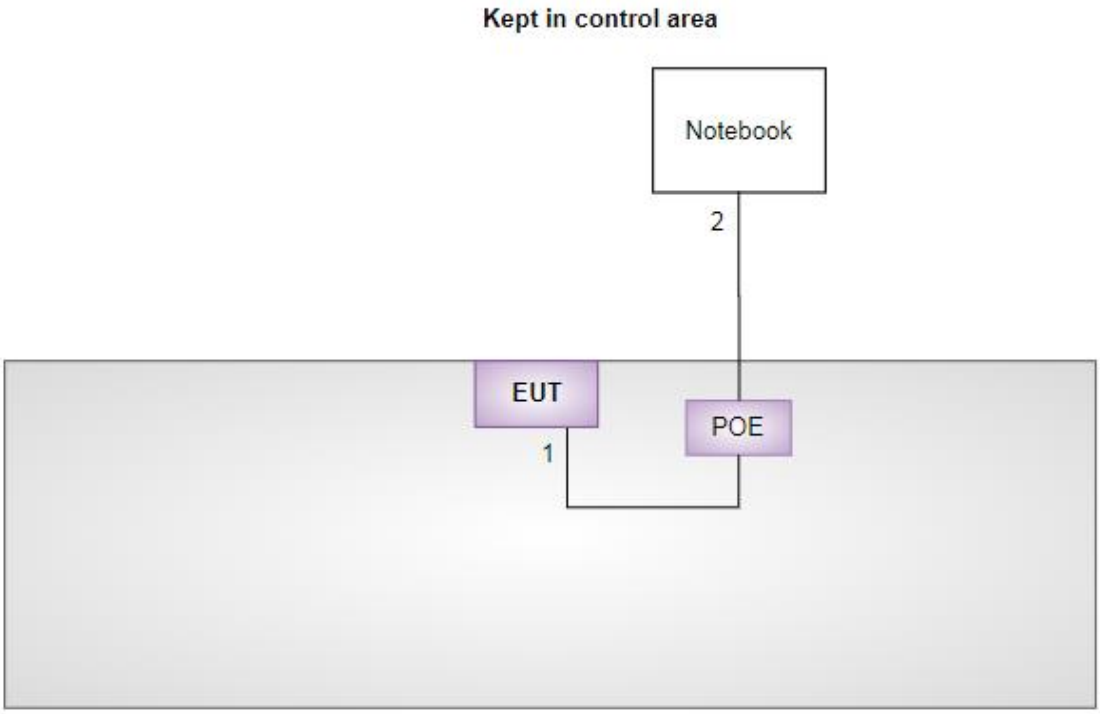
Test Tool	Putty, 0.60.0.0		
Duty Cycle and Duty Factor	**Proprietary protocol (BW: MHz)**	**Duty cycle (%)**	**Duty factor (dB)**
	20	89.34%	0.49
	40	80.93%	0.92
	80	85.09%	0.70

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E6440	DoC	---

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 1m non-shielded.
2	RJ45, 10m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Sep. 05, 2019				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Jan. 08, 2019	Jan. 07, 2020
LISN	R&S	ENV216	101579	Mar. 08, 2019	Mar. 07, 2020
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 23, 2018	Oct. 22, 2019
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Tested Date	Oct. 22, 2019				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 17, 2019	Apr. 16, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 07, 2019	Jan. 06, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 07, 2019	Oct. 06, 2020
Preamplifier	EMC	EMC02325	980194	Sep. 18, 2019	Sep. 17, 2020
Preamplifier	Agilent	83017A	MY53270013	Dec. 27, 2018	Dec. 26, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 01, 2019	Jul. 31, 2020
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/**4**	Sep. 27, 2019	Sep. 26, 2020
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 27, 2019	Sep. 26, 2020
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Sep. 27, 2019	Sep. 26, 2020
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 27, 2019	Sep. 26, 2020
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 27, 2019	Sep. 26, 2020
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 27, 2019	Sep. 26, 2020
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Oct. 28, 2019				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020
Power Meter	Anritsu	ML2495A	1241002	Oct. 23, 2019	Oct. 22, 2020
Power Sensor	Anritsu	MA2411B	1207366	Oct. 23, 2019	Oct. 22, 2020
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019
Measurement Software	Sporton	SENSE-15407_NII	V5.10	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 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)).

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.96 dB
Radiated emission > 1GHz	±4.51 dB
Time	±0.1%
Temperature	±0.4 ^{o}C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	24°C / 63%	Alex Tsai
Radiated Emissions	03CH03-WS	25°C / 61%	Roger lu
RF Conducted	TH01-WS	23°C / 64%	Brad Wu

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

For Frequency band 5250-5350 MHz, 5470-5725 MHz				
Test item	**Proprietary protocol (BW: MHz)**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	40	5320	MCS 0	---
Radiated Emissions ≤1GHz	40	5320	MCS 0	---
RF Output Power	20	5260 / 5300 / 5330 5335 / 5485 / 5490 5600 / 5705 / 5710	MCS 0	---
	40	5270 / 5300 / 5320 5325 / 5495 / 5500 5600 / 5695 / 5700	MCS 0	
	80	5290 / 5295 / 5300 5305 / 5515 / 5520 5600 / 5675 / 5680	MCS 0	
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	20	5260 / 5300 / 5330 5335 / 5485 / 5490 5600 / 5705 / 5710	MCS 0	
	40	5270 / 5300 / 5320 5325 / 5495 / 5500 5600 / 5695 / 5700	MCS 0	
	80	5290 / 5295 / 5300 5305 / 5515 / 5520 5600 / 5675 / 5680	MCS 0	
Frequency Stability	Un-modulation	5335	---	---

3 Transmitter Test Results

3.1 Conducted Emissions

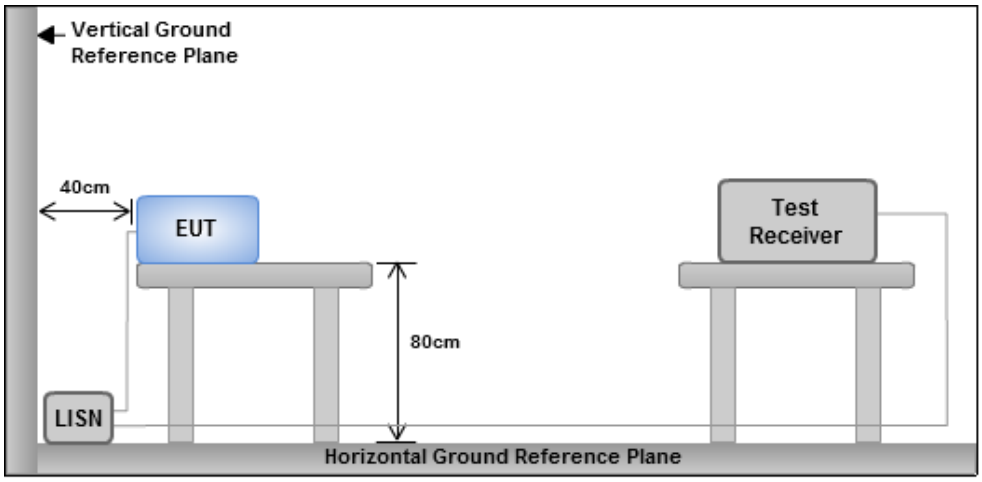
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

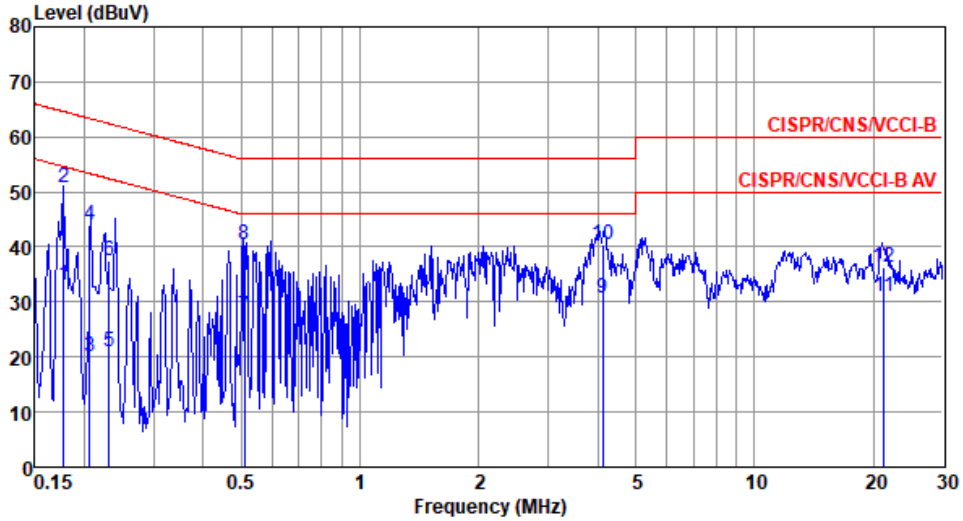
3.1.3 Test Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

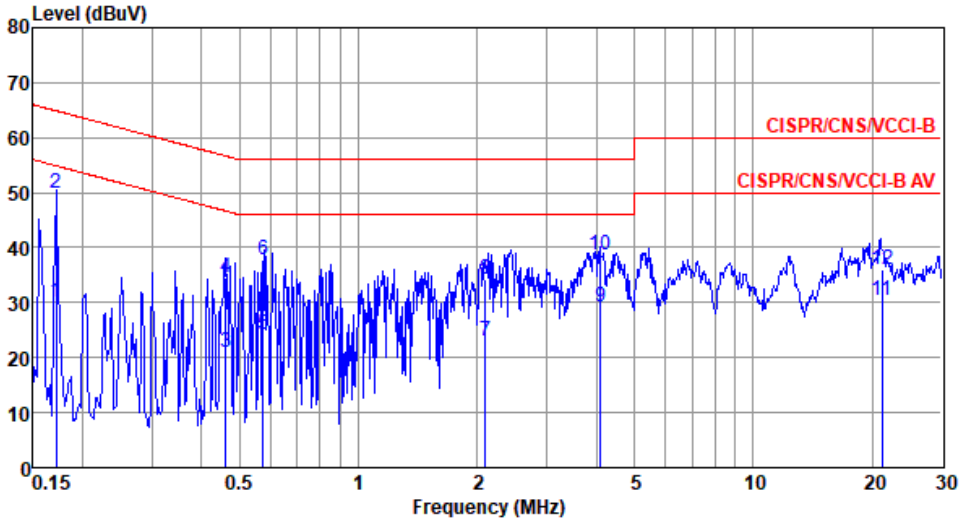
Modulation	40	Test Freq. (MHz)	5320
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.177	33.00	54.62	-21.62	23.24	9.54	0.06	Average
2*	0.177	50.78	64.62	-13.84	41.02	9.54	0.06	QP
3	0.207	20.05	53.33	-33.28	10.25	9.54	0.07	Average
4	0.207	44.05	63.33	-19.28	34.25	9.54	0.07	QP
5	0.231	21.08	52.41	-31.33	11.26	9.55	0.07	Average
6	0.231	37.38	62.41	-25.03	27.56	9.55	0.07	QP
7	0.509	27.51	46.00	-18.49	17.57	9.58	0.09	Average
8	0.509	40.35	56.00	-15.65	30.41	9.58	0.09	QP
9	4.125	30.73	46.00	-15.27	20.46	9.61	0.28	Average
10	4.125	40.42	56.00	-15.58	30.15	9.61	0.28	QP
11	21.320	31.12	50.00	-18.88	20.21	9.65	0.62	Average
12	21.320	36.32	60.00	-23.68	25.41	9.65	0.62	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	40	Test Freq. (MHz)	5320
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.172	30.18	54.89	-24.71	20.43	9.57	0.06	Average
2*	0.172	49.92	64.89	-14.97	40.17	9.57	0.06	QP
3	0.461	21.05	46.67	-25.62	11.22	9.61	0.08	Average
4	0.461	34.39	56.67	-22.28	24.56	9.61	0.08	QP
5	0.572	24.29	46.00	-21.71	14.42	9.62	0.09	Average
6	0.572	37.76	56.00	-18.24	27.89	9.62	0.09	QP
7	2.100	22.91	46.00	-23.09	12.84	9.65	0.17	Average
8	2.100	34.32	56.00	-21.68	24.25	9.65	0.17	QP
9	4.102	29.35	46.00	-16.65	19.15	9.66	0.28	Average
10	4.102	38.63	56.00	-17.37	28.43	9.66	0.28	QP
11	21.150	30.45	50.00	-19.55	19.52	9.81	0.62	Average
12	21.150	36.07	60.00	-23.93	25.14	9.81	0.62	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Emission Bandwidth

3.2.1 Test Procedures

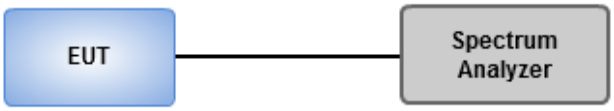
26dB Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW, Detector = Peak.
3. Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

1. Set RBW = 1 % to 5 % of the OBW
2. Set VBW ≥ 3 RBW
3. Sample detection and single sweep mode shall be used
4. Use the 99 % power bandwidth function of the instrument

3.2.2 Test Setup



3.2.3 Test Result of Emission Bandwidth

Summary

Proprietary protocol (BW: MHz)	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
20_Nss1,(MCS0)_2TX	20M	17.583M	17M6D1D	19.71M	17.583M
40_Nss1,(MCS0)_2TX	39.565M	35.89M	35M9D1D	38.841M	35.89M
80_Nss1,(MCS0)_2TX	84.928M	76.122M	76M1D1D	83.188M	75.543M
5.47-5.725GHz	-	-	-	-	-
20_Nss1,(MCS0)_2TX	19.855M	17.583M	17M6D1D	19.565M	17.529M
40_Nss1,(MCS0)_2TX	39.71M	36.035M	36M0D1D	39.13M	35.836M
80_Nss1,(MCS0)_2TX	84.928M	75.977M	76M0D1D	83.188M	75.832M

Max-N dB = Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth;

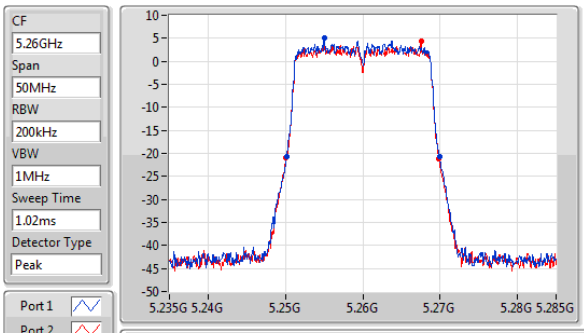
Result

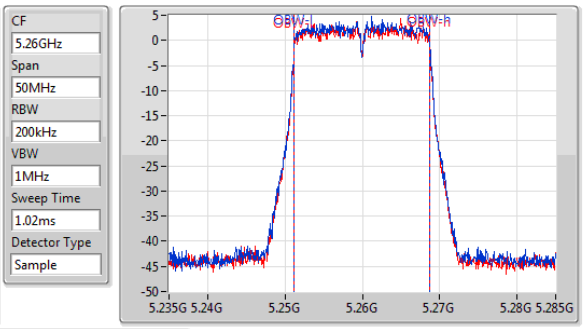
Proprietary protocol (BW: MHz)	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5260MHz	Pass	Inf	19.783M	17.583M	19.783M	17.583M
5300MHz	Pass	Inf	19.71M	17.583M	20M	17.583M
5330MHz	Pass	Inf	19.71M	17.583M	19.855M	17.583M
5335MHz	Pass	Inf	19.71M	17.583M	19.783M	17.583M
5485MHz	Pass	Inf	19.855M	17.583M	19.71M	17.583M
5490MHz	Pass	Inf	19.71M	17.583M	19.638M	17.583M
5600MHz	Pass	Inf	19.783M	17.583M	19.565M	17.583M
5705MHz	Pass	Inf	19.674M	17.529M	19.674M	17.529M
5710MHz	Pass	Inf	19.71M	17.583M	19.638M	17.583M
40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5270MHz	Pass	Inf	39.275M	35.89M	39.275M	35.89M
5300MHz	Pass	Inf	39.565M	35.89M	39.13M	35.89M
5320MHz	Pass	Inf	39.565M	35.89M	39.275M	35.89M
5325MHz	Pass	Inf	39.275M	35.89M	38.841M	35.89M
5495MHz	Pass	Inf	39.13M	35.89M	39.71M	35.89M
5500MHz	Pass	Inf	39.42M	35.89M	39.42M	35.89M
5600MHz	Pass	Inf	39.42M	35.89M	39.275M	35.89M
5695MHz	Pass	Inf	39.312M	35.836M	39.312M	35.836M
5700MHz	Pass	Inf	39.42M	35.89M	39.275M	36.035M
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5290MHz	Pass	Inf	84.058M	75.832M	83.768M	75.543M
5295MHz	Pass	Inf	84.058M	75.832M	84.638M	75.543M
5300MHz	Pass	Inf	83.188M	75.832M	84.058M	75.832M
5305MHz	Pass	Inf	84.348M	76.122M	84.928M	75.832M
5515MHz	Pass	Inf	84.348M	75.832M	84.928M	75.832M
5520MHz	Pass	Inf	83.188M	75.832M	84.058M	75.832M
5600MHz	Pass	Inf	83.768M	75.832M	84.348M	75.832M
5675MHz	Pass	Inf	83.768M	75.832M	84.348M	75.832M
5680MHz	Pass	Inf	84.783M	75.977M	84.239M	75.977M

Port X-N dB = Port **X** 26dB down bandwidth
Port X-OBW = Port **X** 99% occupied bandwidth;

EBW

5260MHz

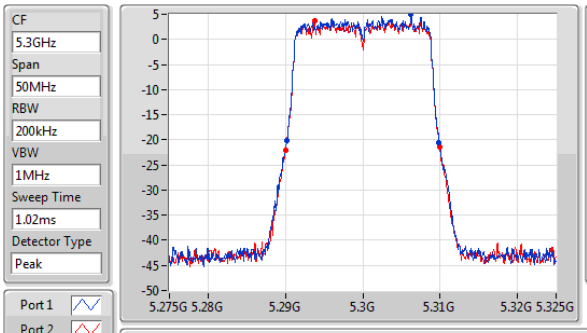


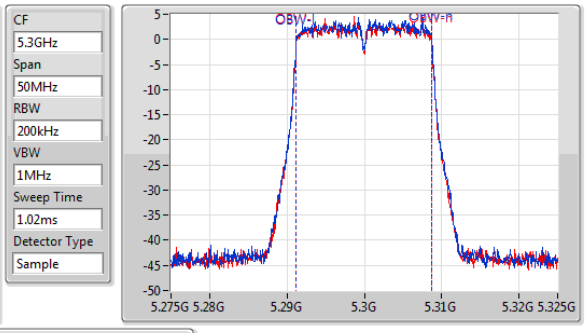


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.783M	5.250145G	5.269928G	17.583M	5.251172G	5.268755G	Inf	1
19.783M	5.250072G	5.269855G	17.583M	5.251172G	5.268755G	Inf	2

EBW

5300MHz

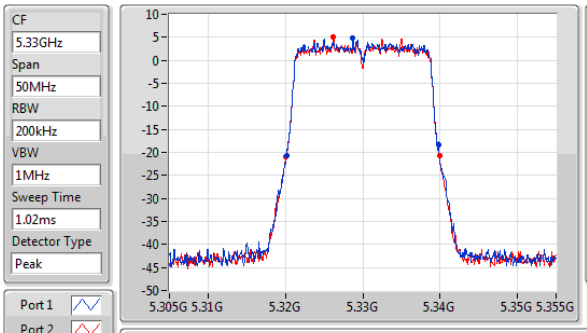


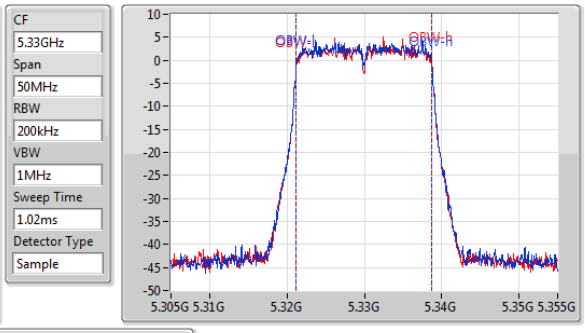


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.290145G	5.309855G	17.583M	5.291172G	5.308755G	Inf	1
20M	5.29G	5.31G	17.583M	5.291172G	5.308755G	Inf	2

EBW

5330MHz

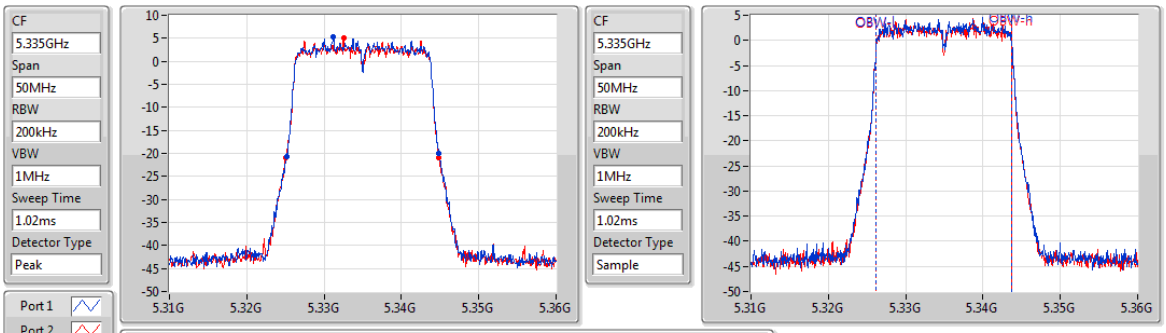




26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.320145G	5.339855G	17.583M	5.321172G	5.338755G	Inf	1
19.855M	5.320072G	5.339928G	17.583M	5.321172G	5.338755G	Inf	2

EBW

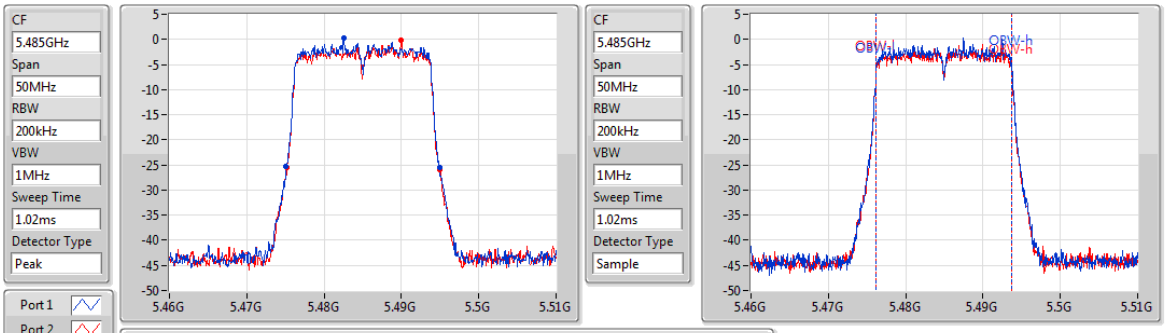
5335MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.325145G	5.344855G	17.583M	5.326172G	5.343755G	Inf	1
19.783M	5.325072G	5.344855G	17.583M	5.326172G	5.343755G	Inf	2

EBW

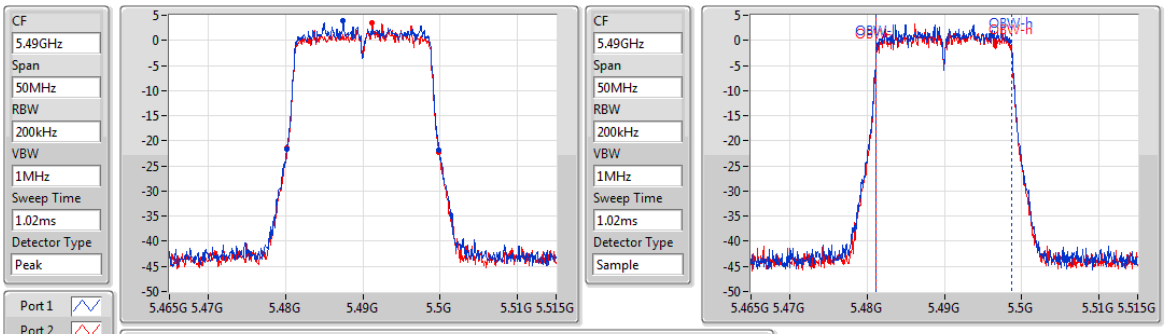
5485MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.855M	5.475072G	5.494928G	17.583M	5.476172G	5.493755G	Inf	1
19.71M	5.475217G	5.494928G	17.583M	5.476172G	5.493755G	Inf	2

EBW

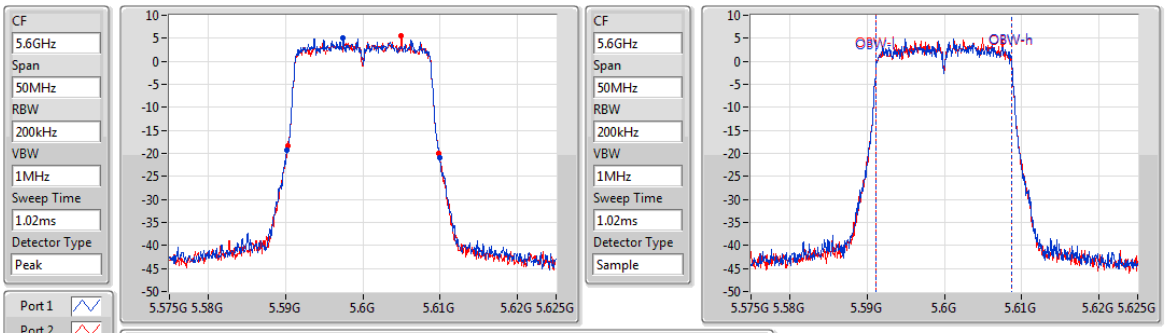
5490MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.480145G	5.499855G	17.583M	5.481172G	5.498755G	Inf	1
19.638M	5.480217G	5.499855G	17.583M	5.481172G	5.498755G	Inf	2

EBW

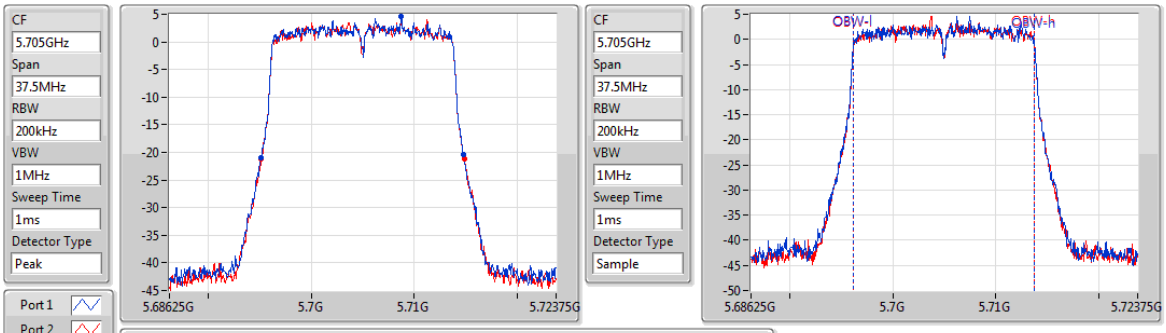
5600MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.783M	5.590145G	5.609928G	17.583M	5.591172G	5.608755G	Inf	1
19.565M	5.59029G	5.609855G	17.583M	5.591172G	5.608755G	Inf	2

EBW

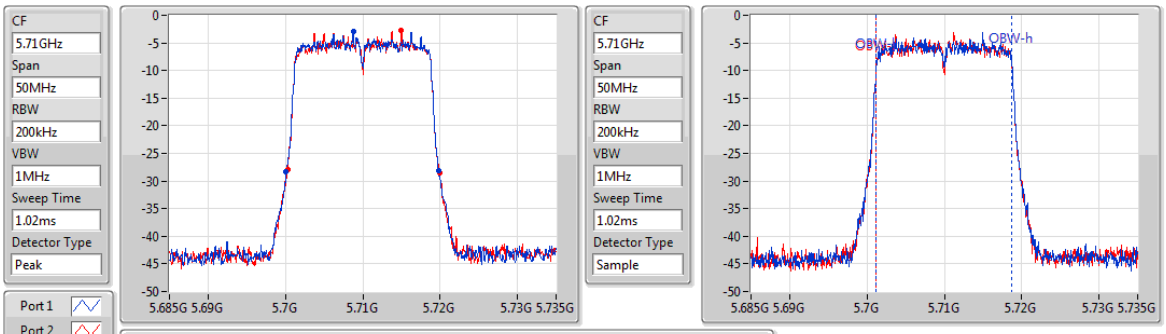
5705MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.674M	5.695109G	5.714783G	17.529M	5.696208G	5.713737G	Inf	1
19.674M	5.695163G	5.714837G	17.529M	5.696208G	5.713737G	Inf	2

EBW

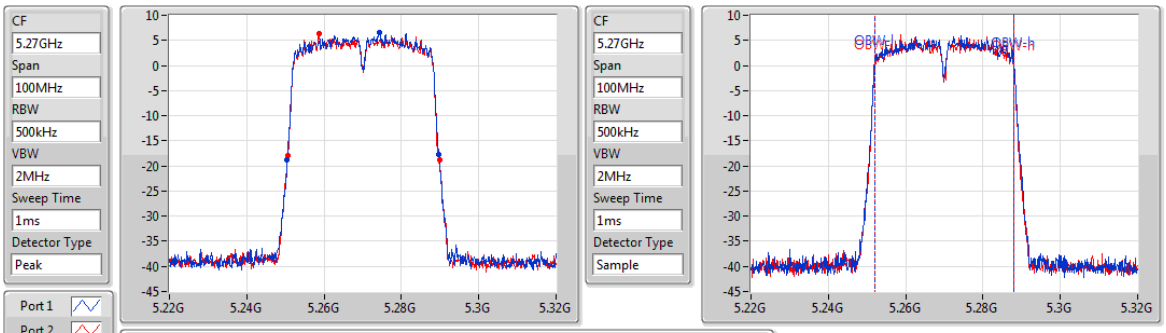
5710MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.700072G	5.719783G	17.583M	5.701172G	5.718755G	Inf	1
19.638M	5.70029G	5.719928G	17.583M	5.701172G	5.718755G	Inf	2

EBW

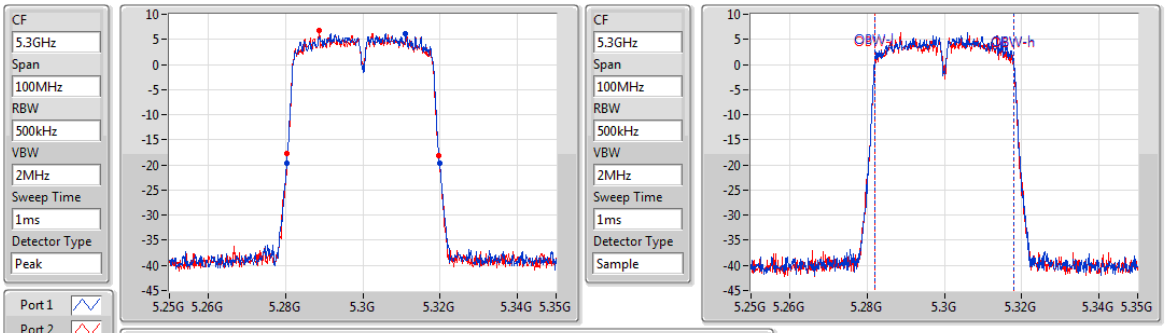
5270MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.275M	5.250435G	5.28971G	35.89M	5.252055G	5.287945G	Inf	1
39.275M	5.25058G	5.289855G	35.89M	5.252055G	5.287945G	Inf	2

EBW

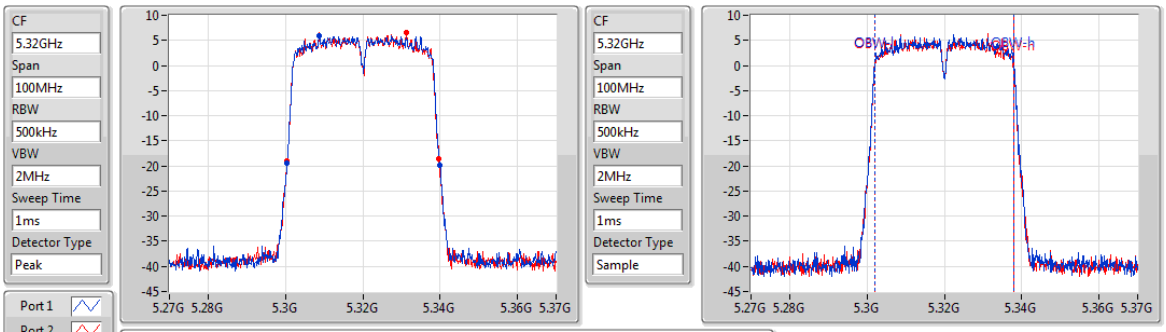
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.565M	5.280435G	5.32G	35.89M	5.282055G	5.317945G	Inf	1
39.13M	5.280435G	5.319565G	35.89M	5.282055G	5.317945G	Inf	2

EBW

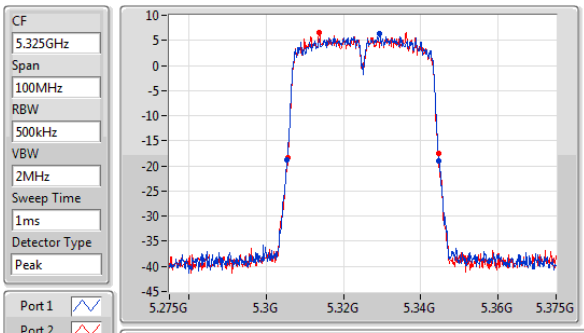
5320MHz

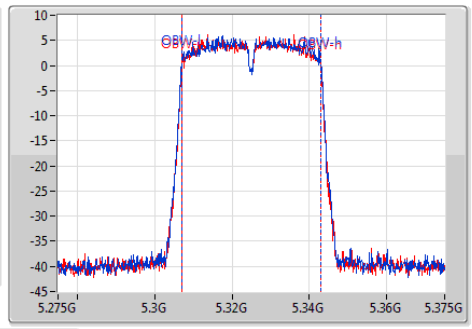


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.565M	5.300435G	5.34G	35.89M	5.302055G	5.337945G	Inf	1
39.275M	5.300435G	5.33971G	35.89M	5.302055G	5.337945G	Inf	2

EBW

5325MHz

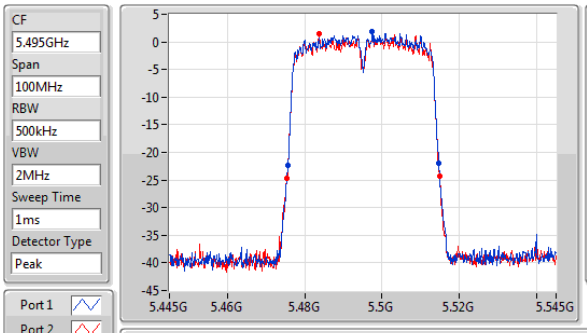


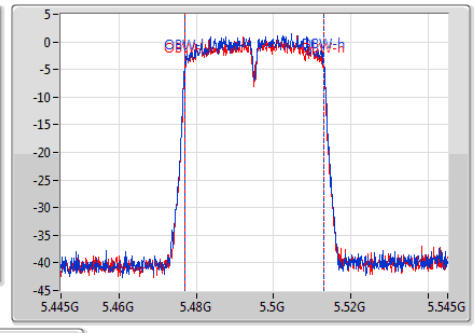


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.275M	5.305435G	5.34471G	35.89M	5.307055G	5.342945G	Inf	1
38.841M	5.305725G	5.344565G	35.89M	5.307055G	5.342945G	Inf	2

EBW

5495MHz

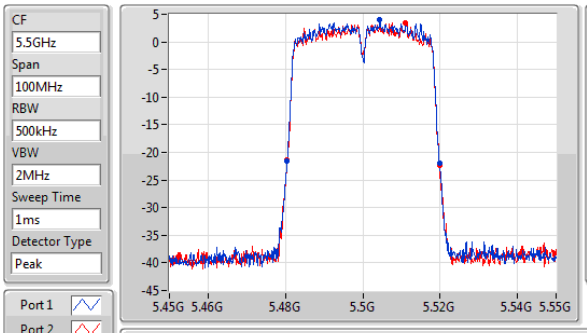


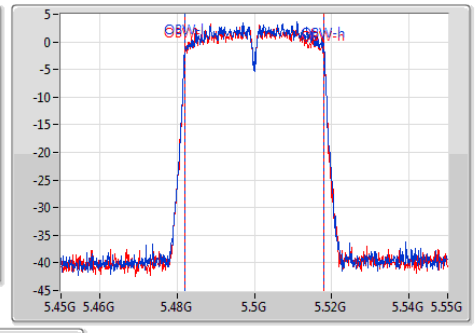


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.13M	5.47558G	5.51471G	35.89M	5.477055G	5.512945G	Inf	1
39.71M	5.47529G	5.515G	35.89M	5.477055G	5.512945G	Inf	2

EBW

5500MHz

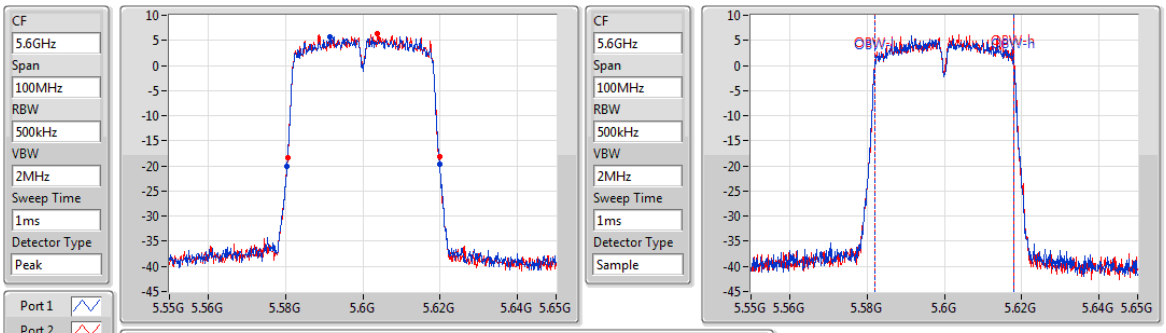




26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.42M	5.480435G	5.519855G	35.89M	5.482055G	5.517945G	Inf	1
39.42M	5.480435G	5.519855G	35.89M	5.482055G	5.517945G	Inf	2

EBW

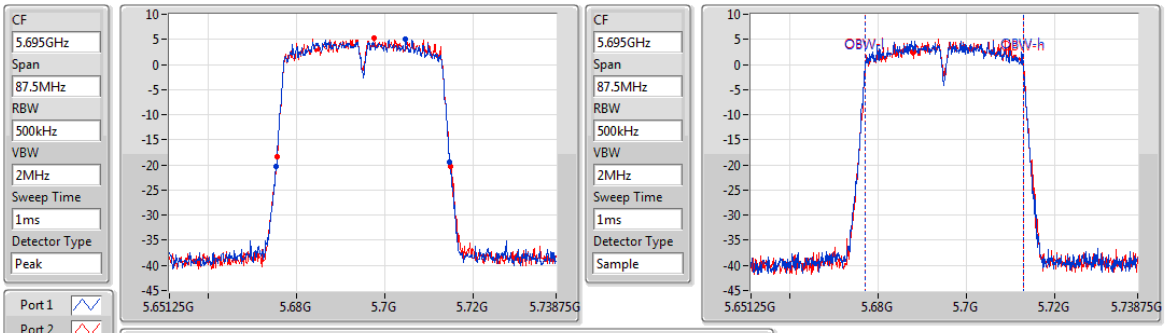
5600MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.42M	5.580435G	5.619855G	35.89M	5.582055G	5.617945G	Inf	1
39.275M	5.58058G	5.619855G	35.89M	5.582055G	5.617945G	Inf	2

EBW

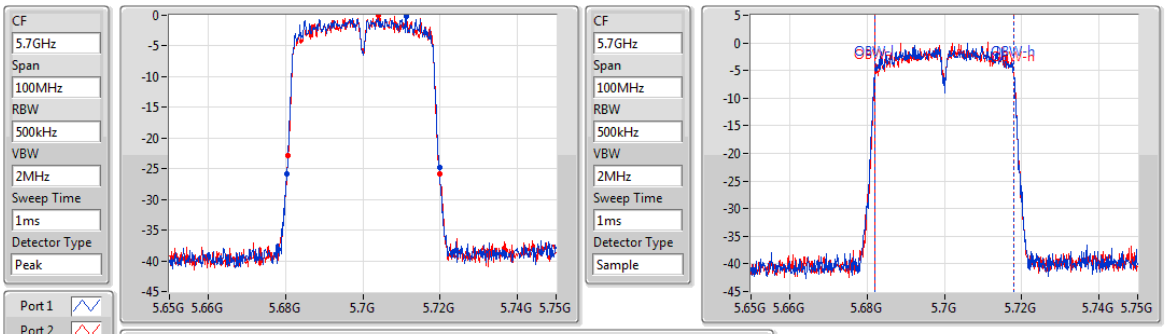
5695MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.312M	5.675344G	5.714656G	35.836M	5.677019G	5.712855G	Inf	1
39.312M	5.675598G	5.714909G	35.836M	5.677145G	5.712981G	Inf	2

EBW

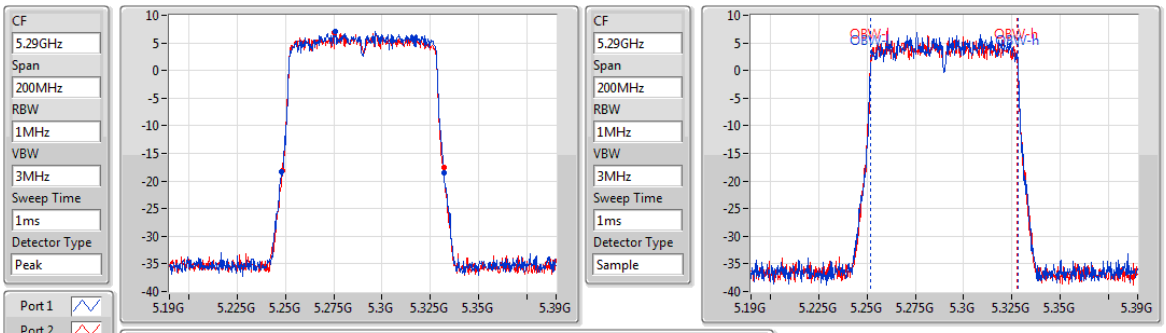
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.42M	5.680435G	5.719855G	35.89M	5.682055G	5.717945G	Inf	1
39.275M	5.68058G	5.719855G	36.035M	5.682055G	5.71809G	Inf	2

EBW

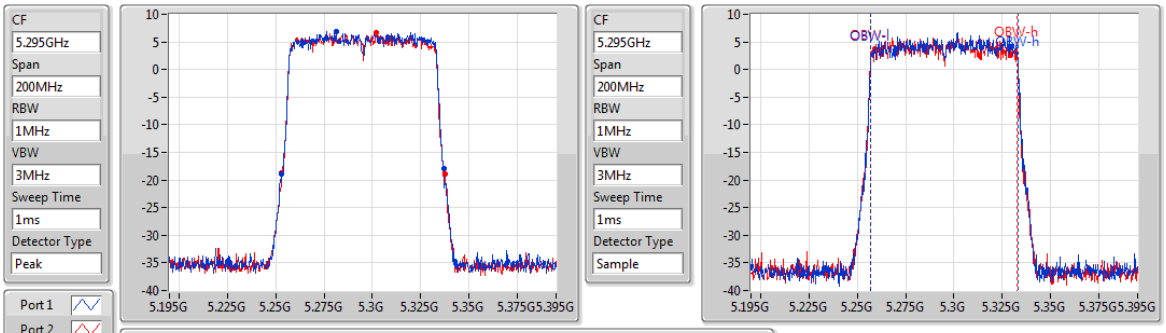
5290MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.058M	5.247971G	5.332029G	75.832M	5.252084G	5.327916G	Inf	1
83.768M	5.248261G	5.332029G	75.543M	5.252084G	5.327627G	Inf	2

EBW

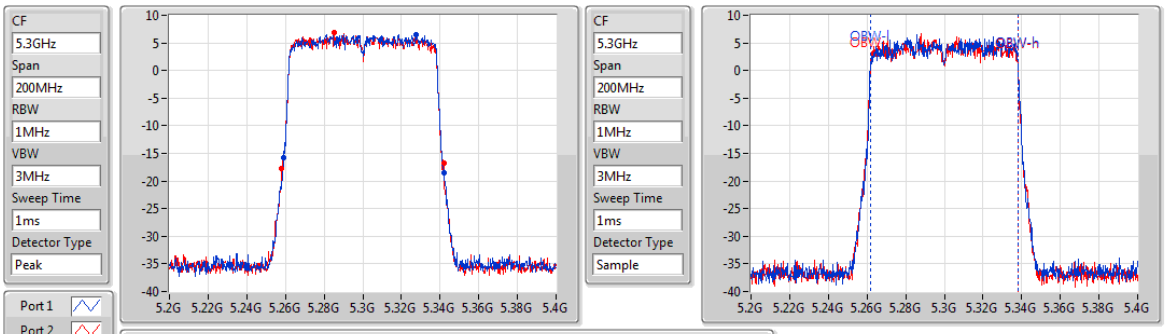
5295MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.058M	5.252971G	5.337029G	75.832M	5.257084G	5.332916G	Inf	1
84.638M	5.252971G	5.337609G	75.543M	5.257084G	5.332627G	Inf	2

EBW

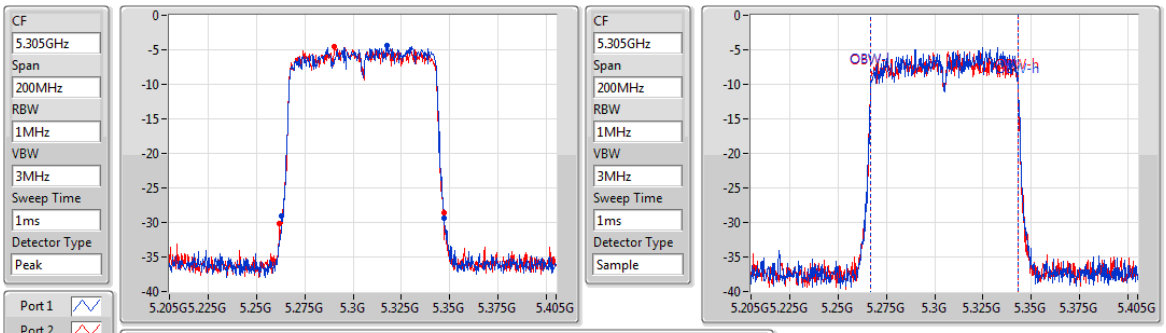
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.188M	5.258841G	5.342029G	75.832M	5.262084G	5.337916G	Inf	1
84.058M	5.257971G	5.342029G	75.832M	5.262084G	5.337916G	Inf	2

EBW

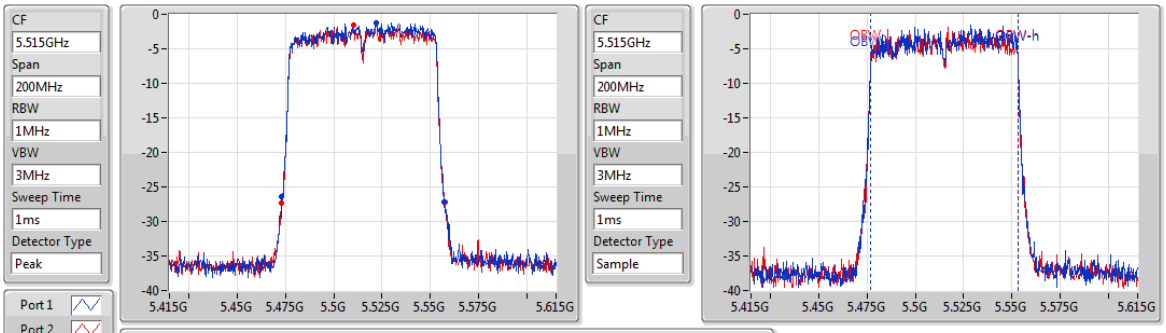
5305MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.348M	5.262971G	5.347319G	76.122M	5.267084G	5.343205G	Inf	1
84.928M	5.262101G	5.347029G	75.832M	5.267084G	5.342916G	Inf	2

EBW

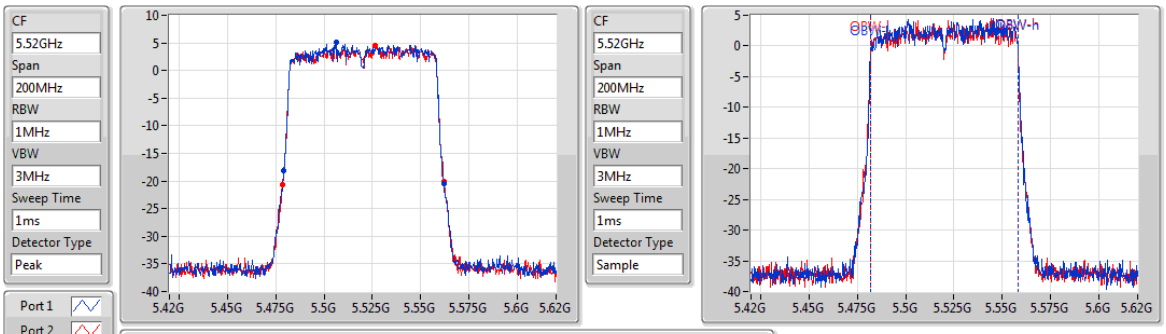
5515MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.348M	5.472971G	5.557319G	75.832M	5.477084G	5.552916G	Inf	1
84.928M	5.472681G	5.557609G	75.832M	5.477084G	5.552916G	Inf	2

EBW

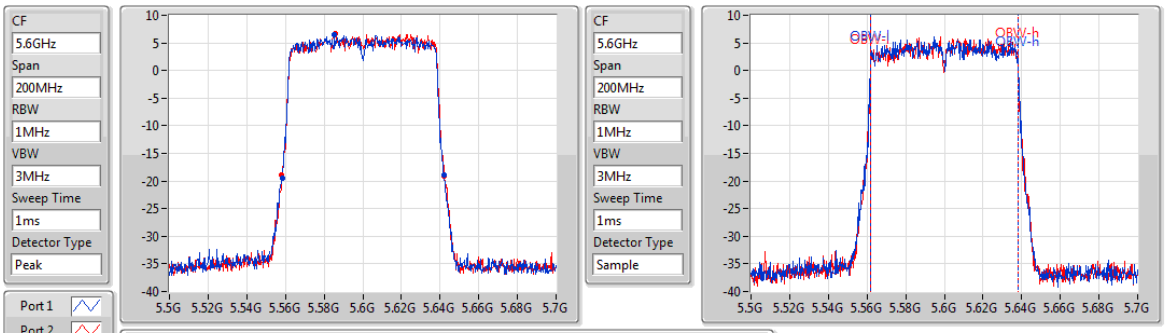
5520MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.188M	5.478841G	5.562029G	75.832M	5.482084G	5.557916G	Inf	1
84.058M	5.478261G	5.562319G	75.832M	5.482084G	5.557916G	Inf	2

EBW

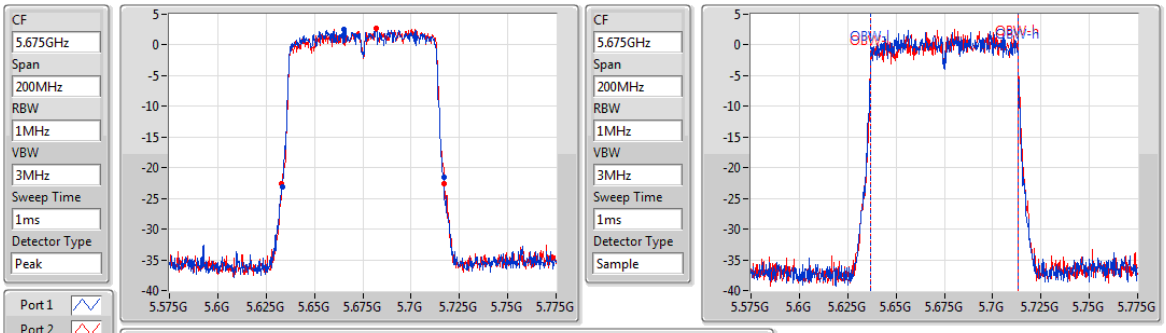
5600MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.768M	5.558261G	5.642029G	75.832M	5.562084G	5.637916G	Inf	1
84.348M	5.557971G	5.642319G	75.832M	5.562084G	5.637916G	Inf	2

EBW

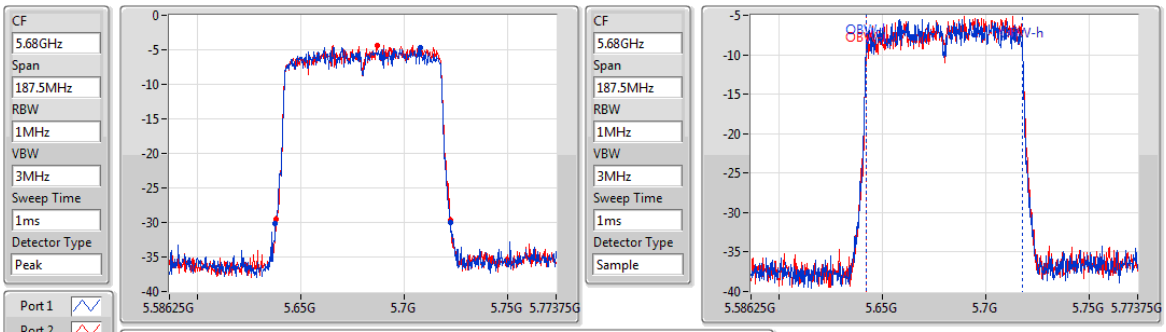
5675MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.768M	5.633261G	5.717029G	75.832M	5.637084G	5.712916G	Inf	1
84.348M	5.632971G	5.717319G	75.832M	5.637084G	5.712916G	Inf	2

EBW

5680MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.783M	5.637609G	5.722391G	75.977M	5.642012G	5.717988G	Inf	1
84.239M	5.638152G	5.722391G	75.977M	5.642012G	5.717988G	Inf	2

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	Conducted Power: 250mW or 11dBm+10 log B
☒	5470 ~ 5725	Conducted Power: 250mW or 11dBm+10 log B
Note: “B” is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

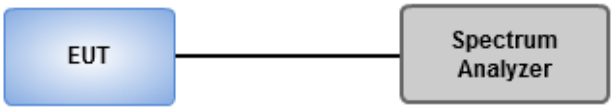
Method PM-G (Measurement using a gated RF average power meter)

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Spectrum analyzer (For channel that extends across the 5.725 GHz boundary)

1. Set RBW = 1MHz, VBW = 3MHz, Sweep time = Auto, Detector = RMS.
2. Trace average at least 100 traces in power averaging mode.
3. Compute power by integrating the spectrum across the 26 dB EBW.
4. Add 10 log(1/X, X:duty cycle) if duty cycle is <98%).

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

Summary

Proprietary protocol (BW: MHz)	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.25-5.35GHz	-	-	-	-
20_Nss1,(MCS0)_2TX	18.66	0.07345	29.66	0.92470
40_Nss1,(MCS0)_2TX	18.98	0.07907	29.98	0.99541
80_Nss1,(MCS0)_2TX	18.44	0.06982	29.44	0.87902
5.47-5.725GHz	-	-	-	-
20_Nss1,(MCS0)_2TX	18.88	0.07727	29.88	0.97275
40_Nss1,(MCS0)_2TX	18.58	0.07211	29.58	0.90782
80_Nss1,(MCS0)_2TX	18.53	0.07129	29.53	0.89743

Result

Proprietary protocol (BW: MHz)	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	11.00	15.86	15.39	18.64	18.96	29.64	29.96
5300MHz	Pass	11.00	15.83	15.34	18.60	18.95	29.60	29.95
5330MHz	Pass	11.00	15.81	15.48	18.66	18.95	29.66	29.95
5335MHz	Pass	11.00	15.83	15.45	18.65	18.95	29.65	29.95
5485MHz	Pass	11.00	10.86	10.26	13.58	18.95	24.58	29.95
5490MHz	Pass	11.00	14.31	13.69	17.02	18.93	28.02	29.93
5600MHz	Pass	11.00	15.91	15.83	18.88	18.91	29.88	29.91
5705MHz	Pass	11.00	15.25	15.08	18.18	18.94	29.18	29.94
5710MHz	Pass	11.00	7.52	7.36	10.45	18.93	21.45	29.93
40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	11.00	16.02	15.61	18.83	19.00	29.83	30.00
5300MHz	Pass	11.00	16.11	15.64	18.89	19.00	29.89	30.00
5320MHz	Pass	11.00	16.15	15.79	18.98	19.00	29.98	30.00
5325MHz	Pass	11.00	16.16	15.78	18.98	19.00	29.98	30.00
5495MHz	Pass	11.00	11.89	11.02	14.49	19.00	25.49	30.00
5500MHz	Pass	11.00	13.14	12.58	15.88	19.00	26.88	30.00
5600MHz	Pass	11.00	15.51	15.62	18.58	19.00	29.58	30.00
5695MHz	Pass	11.00	15.04	14.89	17.98	19.00	28.98	30.00
5700MHz	Pass	11.00	9.78	9.39	12.60	19.00	23.60	30.00
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	11.00	15.64	15.21	18.44	19.00	29.44	30.00
5295MHz	Pass	11.00	15.52	15.22	18.38	19.00	29.38	30.00
5300MHz	Pass	11.00	15.41	15.06	18.25	19.00	29.25	30.00
5305MHz	Pass	11.00	4.96	4.58	7.78	19.00	18.78	30.00
5515MHz	Pass	11.00	7.86	7.45	10.67	19.00	21.67	30.00
5520MHz	Pass	11.00	13.91	13.38	16.66	19.00	27.66	30.00
5600MHz	Pass	11.00	15.53	15.51	18.53	19.00	29.53	30.00
5675MHz	Pass	11.00	11.88	11.69	14.80	19.00	25.80	30.00
5680MHz	Pass	11.00	4.89	4.52	7.72	19.00	18.72	30.00

DG = Directional Gain= 11dBi > 6dBi; Power limit shall be reduced 5 dB
Port X = Port X output power

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	11 dBm / MHz
☒	5470 ~ 5725	11 dBm / MHz

3.4.2 Test Procedures

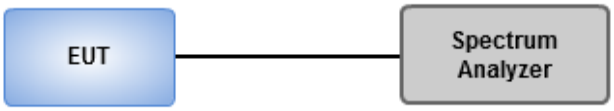
Duty cycle ≥ 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

Duty cycle < 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add 10 log(1/x), where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Summary

Proprietary protocol (BW: MHz)	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.25-5.35GHz	-	-
20_Nss1,(MCS0)_2TX	5.37	16.37
40_Nss1,(MCS0)_2TX	2.88	13.88
80_Nss1,(MCS0)_2TX	-0.44	10.56
5.47-5.725GHz	-	-
20_Nss1,(MCS0)_2TX	5.80	16.80
40_Nss1,(MCS0)_2TX	2.78	13.78
80_Nss1,(MCS0)_2TX	-0.81	10.19

RBW = 1MHz

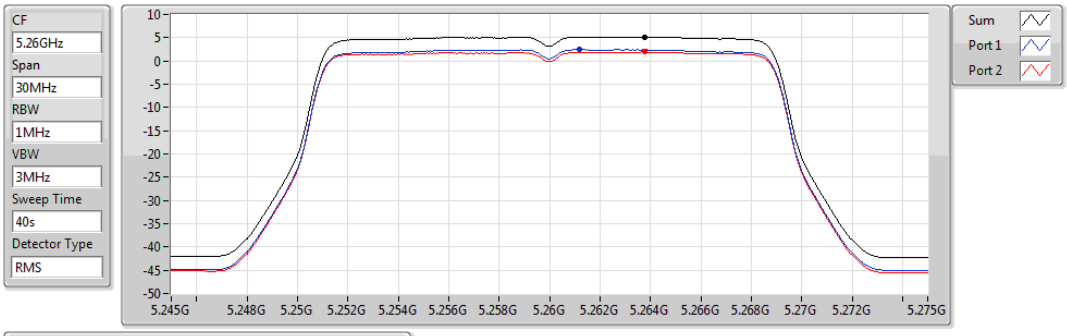
Result

Proprietary protocol (BW: MHz)	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	11.00	2.43	1.94	5.18	6.00	16.18	17.00
5300MHz	Pass	11.00	2.62	2.13	5.37	6.00	16.37	17.00
5330MHz	Pass	11.00	2.55	2.22	5.36	6.00	16.36	17.00
5335MHz	Pass	11.00	2.47	2.22	5.33	6.00	16.33	17.00
5485MHz	Pass	11.00	-2.55	-2.97	0.24	6.00	11.24	17.00
5490MHz	Pass	11.00	1.00	0.63	3.79	6.00	14.79	17.00
5600MHz	Pass	11.00	2.56	3.03	5.80	6.00	16.80	17.00
5705MHz	Pass	11.00	1.94	2.05	5.00	6.00	16.00	17.00
5710MHz	Pass	11.00	-5.73	-5.60	-2.67	6.00	8.33	17.00
40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	11.00	0.03	-0.36	2.81	6.00	13.81	17.00
5300MHz	Pass	11.00	0.06	-0.29	2.86	6.00	13.86	17.00
5320MHz	Pass	11.00	0.04	-0.26	2.88	6.00	13.88	17.00
5325MHz	Pass	11.00	-0.03	-0.26	2.85	6.00	13.85	17.00
5495MHz	Pass	11.00	-4.50	-5.05	-1.79	6.00	9.21	17.00
5500MHz	Pass	11.00	-2.44	-2.78	0.39	6.00	11.39	17.00
5600MHz	Pass	11.00	-0.34	-0.05	2.78	6.00	13.78	17.00
5695MHz	Pass	11.00	-1.07	-0.90	2.01	6.00	13.01	17.00
5700MHz	Pass	11.00	-6.28	-6.28	-3.28	6.00	7.72	17.00
80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	11.00	-3.32	-3.59	-0.44	6.00	10.56	17.00
5295MHz	Pass	11.00	-3.36	-3.61	-0.48	6.00	10.52	17.00
5300MHz	Pass	11.00	-3.36	-3.63	-0.50	6.00	10.50	17.00
5305MHz	Pass	11.00	-14.53	-14.78	-11.70	6.00	-0.70	17.00
5515MHz	Pass	11.00	-11.38	-11.90	-8.62	6.00	2.38	17.00
5520MHz	Pass	11.00	-5.29	-5.80	-2.53	6.00	8.47	17.00
5600MHz	Pass	11.00	-3.90	-3.62	-0.81	6.00	10.19	17.00
5675MHz	Pass	11.00	-7.58	-7.51	-4.60	6.00	6.40	17.00
5680MHz	Pass	11.00	-14.81	-14.62	-11.74	6.00	-0.74	17.00

DG = Directional Gain= 11dBi > 6dBi; PD limit shall be reduced to 11dBm – (11 dBi – 6 dBi) = 6 dBm
RBW=1MHz
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

PSD

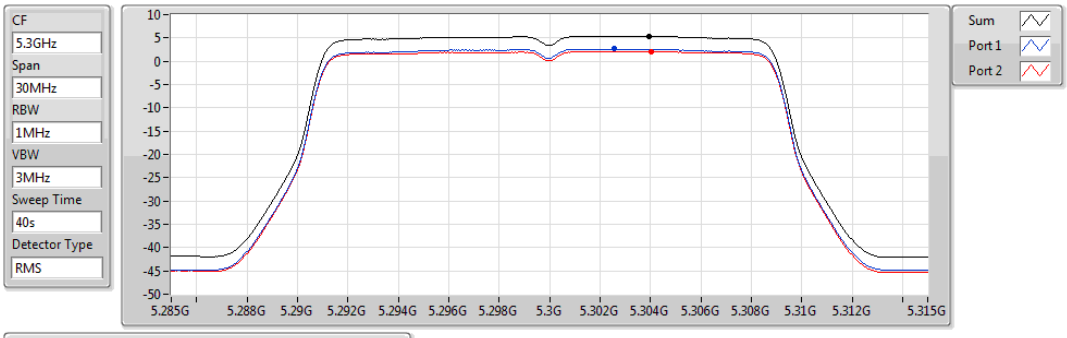
5260MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.18	5.18	2.43	1.94

PSD

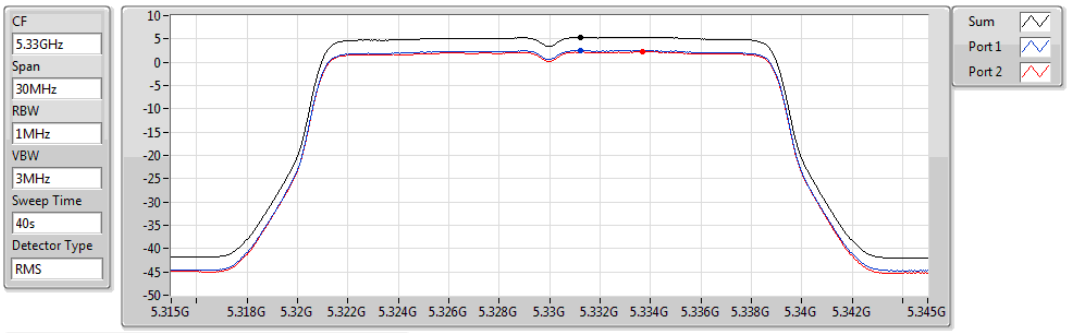
5300MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.37	5.37	2.62	2.13

PSD

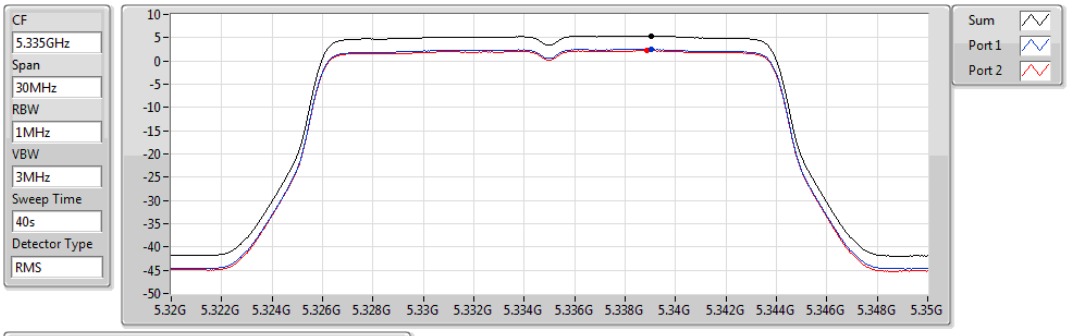
5330MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.36	5.36	2.55	2.22

PSD

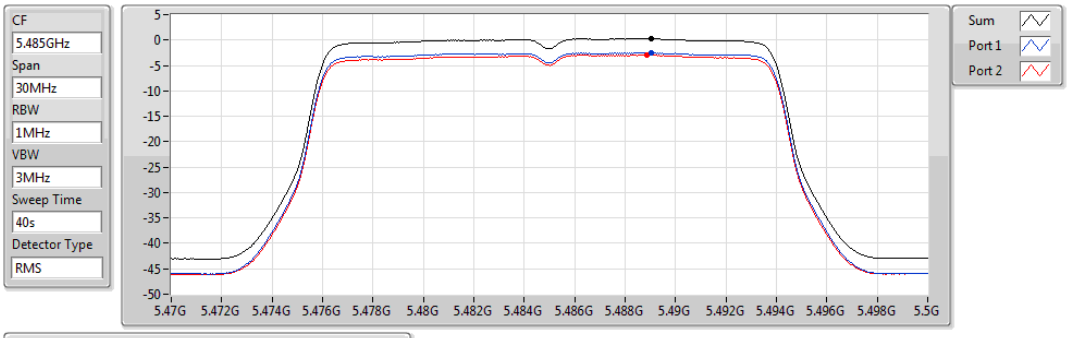
5335MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.33	5.33	2.47	2.22

PSD

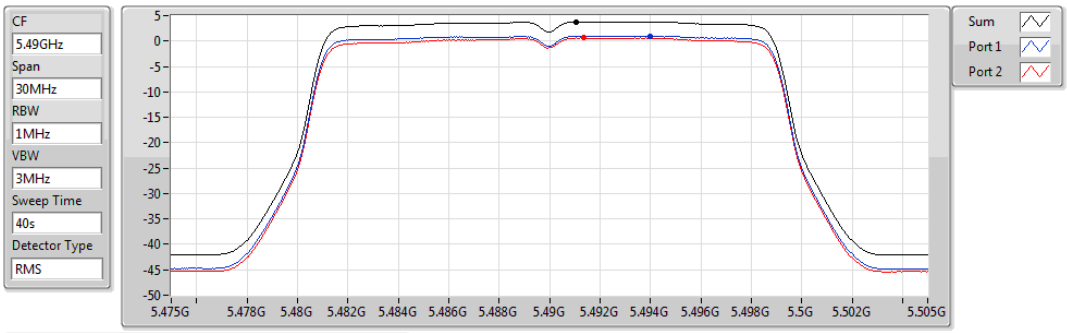
5485MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.24	0.24	-2.55	-2.97

PSD

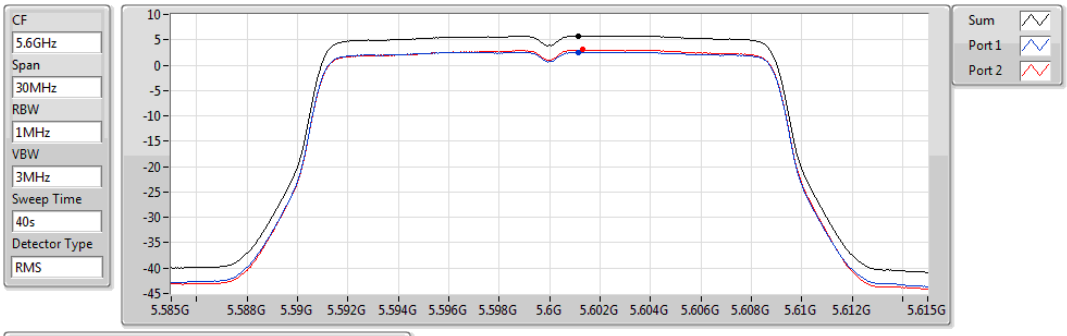
5490MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.79	3.79	1.00	0.63

PSD

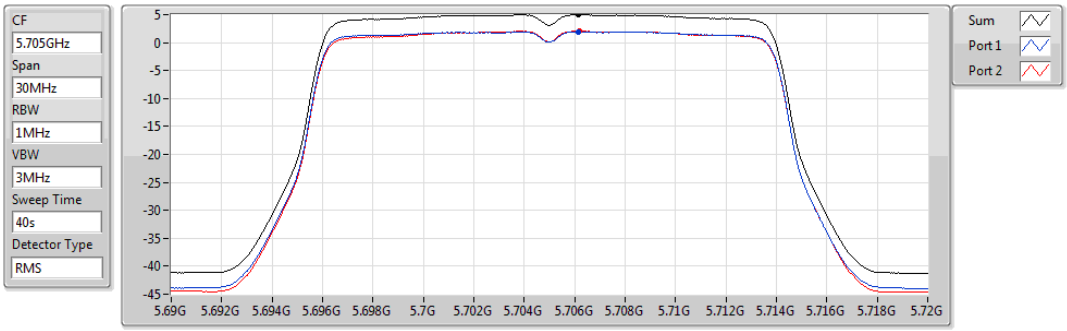
5600MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.80	5.80	2.56	3.03

PSD

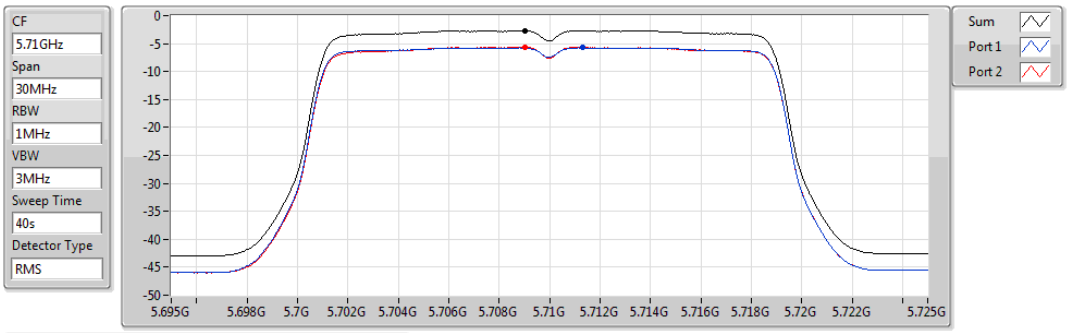
5705MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.00	5.00	1.94	2.05

PSD

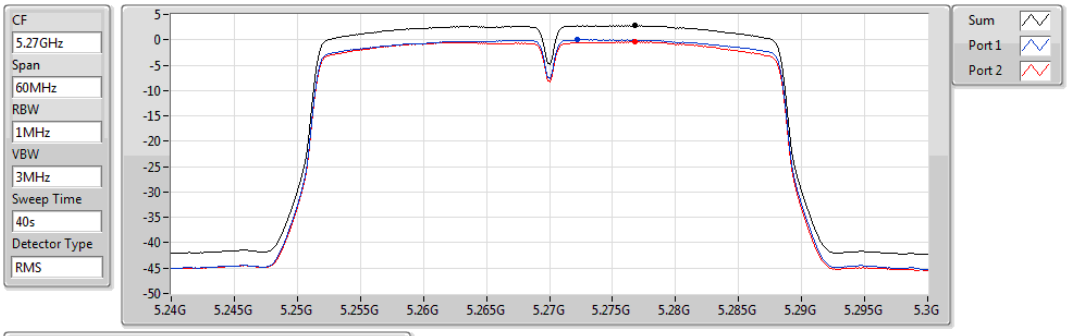
5710MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.67	-2.67	-5.73	-5.60

PSD

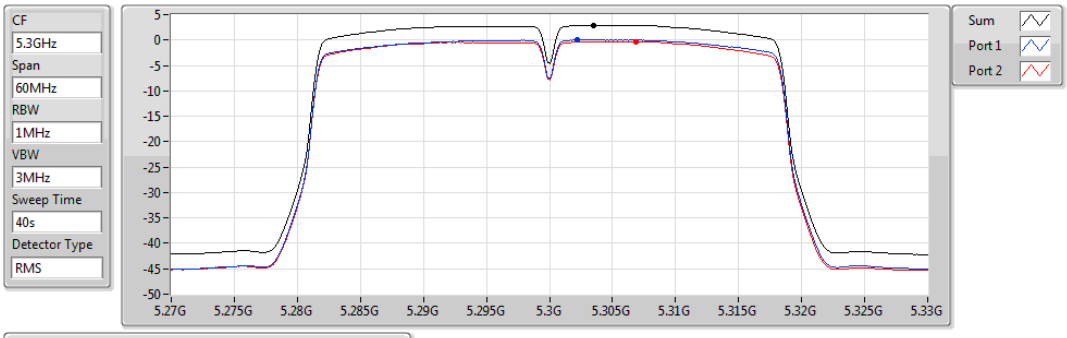
5270MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.81	2.81	0.03	-0.36

PSD

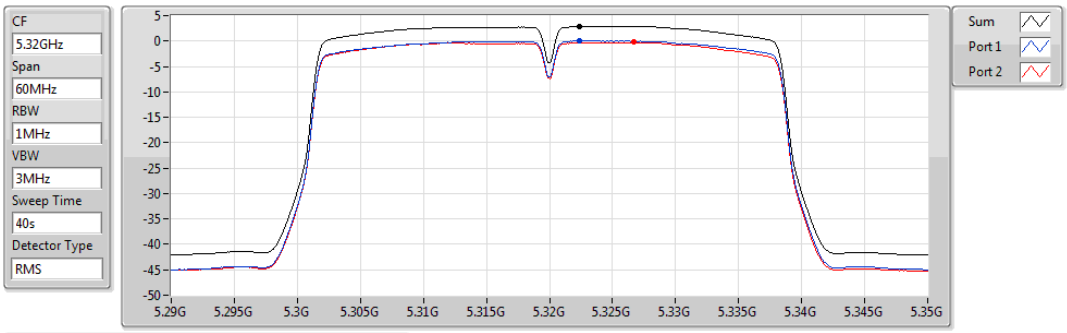
5300MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.86	2.86	0.06	-0.29

PSD

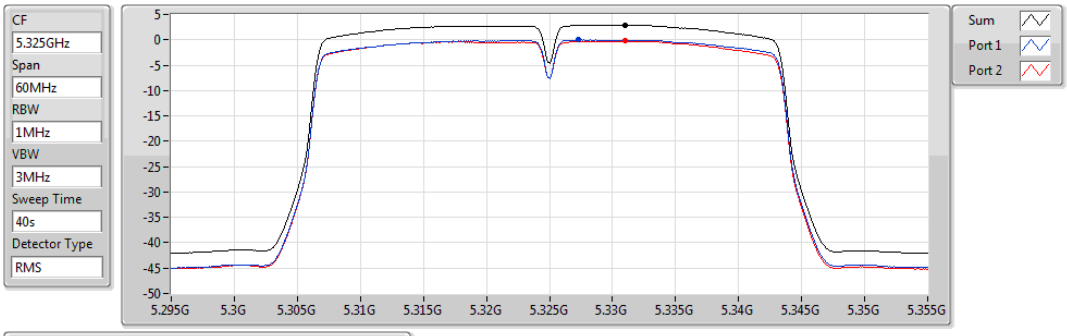
5320MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.88	2.88	0.04	-0.26

PSD

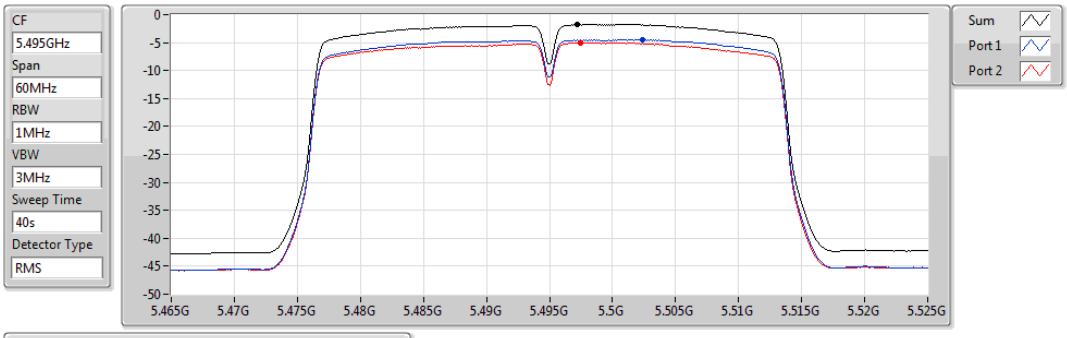
5325MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.85	2.85	-0.03	-0.26

PSD

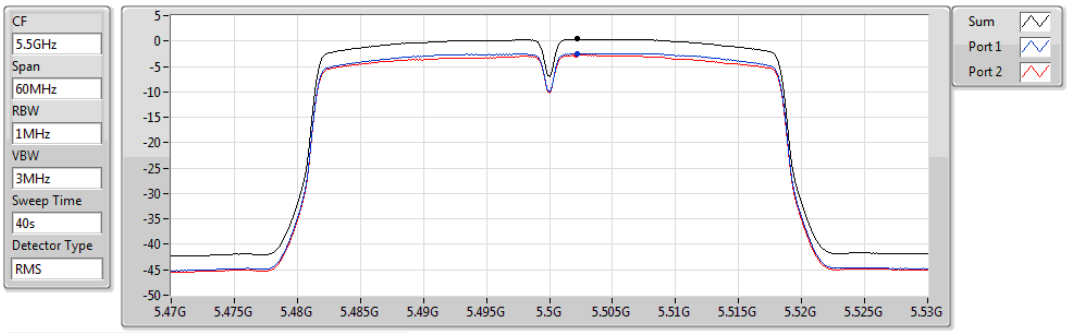
5495MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.79	-1.79	-4.50	-5.05

PSD

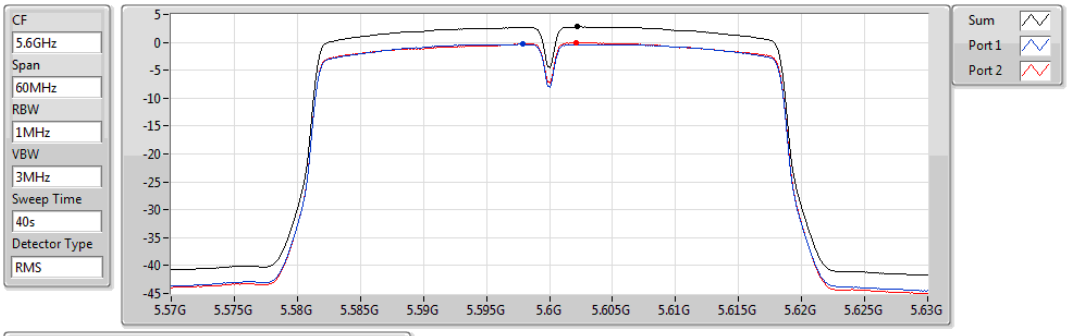
5500MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.39	0.39	-2.44	-2.78

PSD

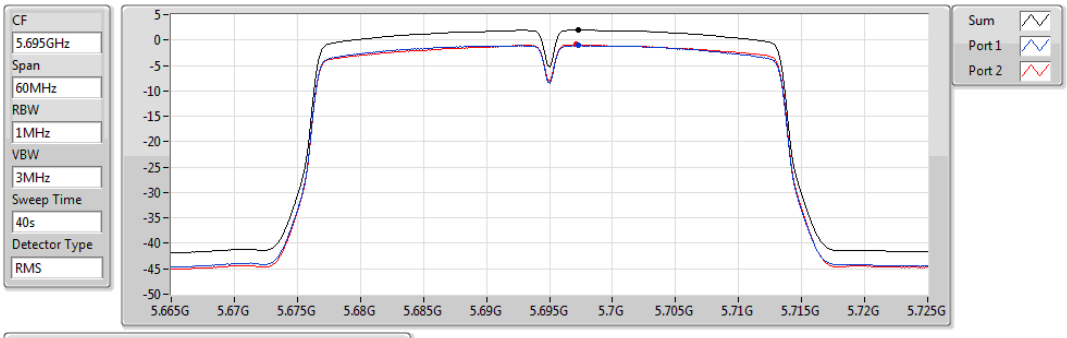
5600MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.78	2.78	-0.34	-0.05

PSD

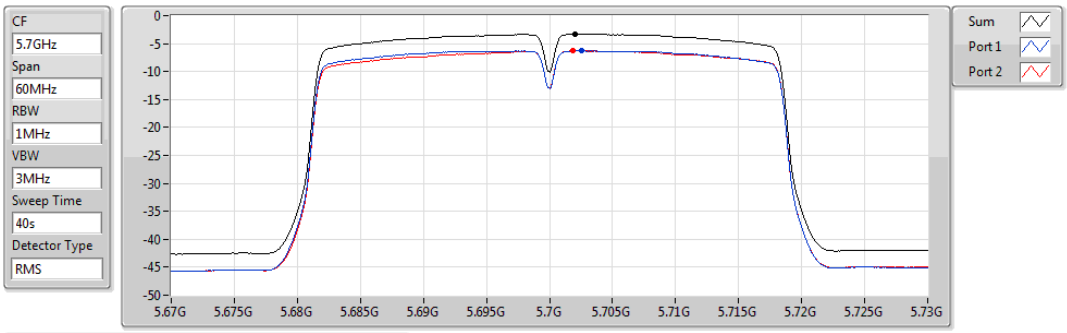
5695MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.01	2.01	-1.07	-0.90

PSD

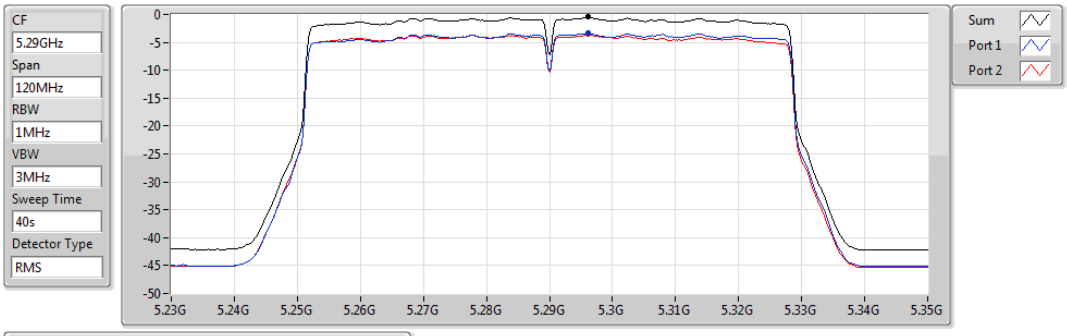
5700MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.28	-3.28	-6.28	-6.28

PSD

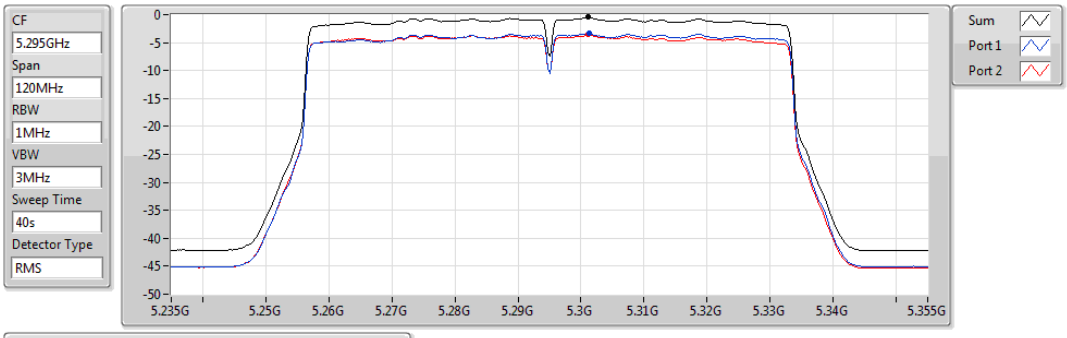
5290MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.44	-0.44	-3.32	-3.59

PSD

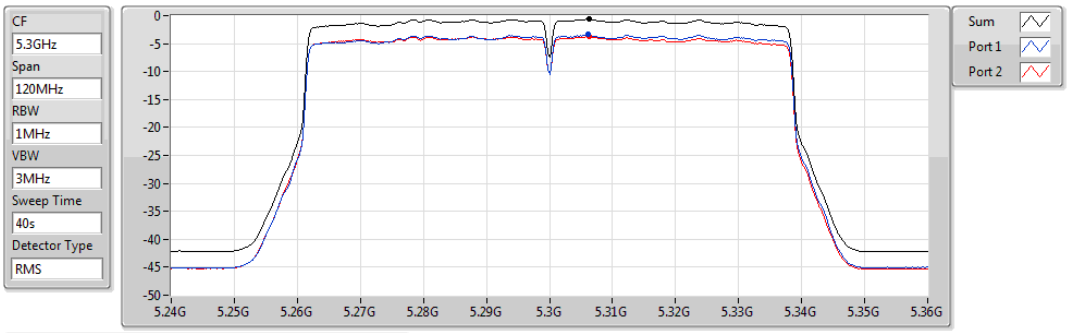
5295MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.48	-0.48	-3.36	-3.61

PSD

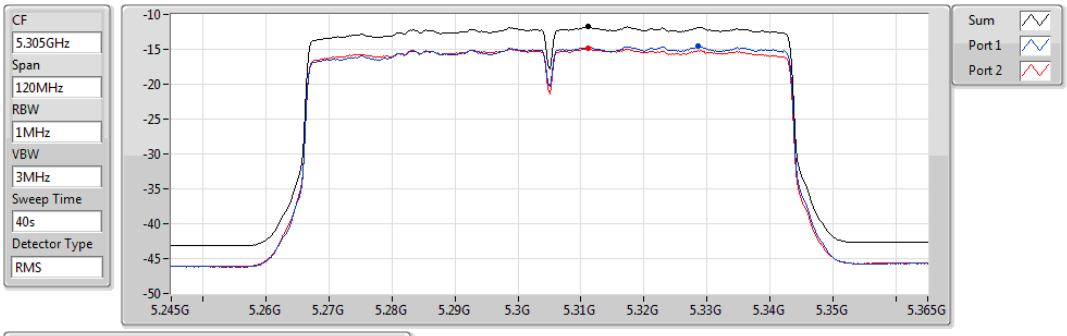
5300MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.50	-0.50	-3.36	-3.63

PSD

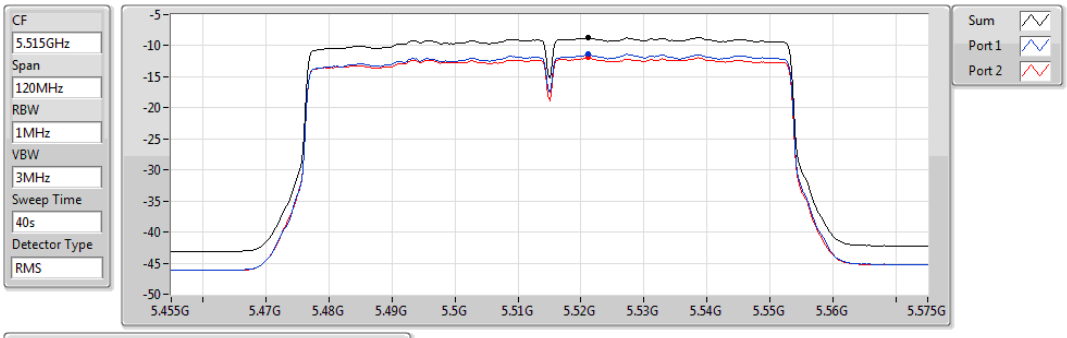
5305MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.70	-11.70	-14.53	-14.78

PSD

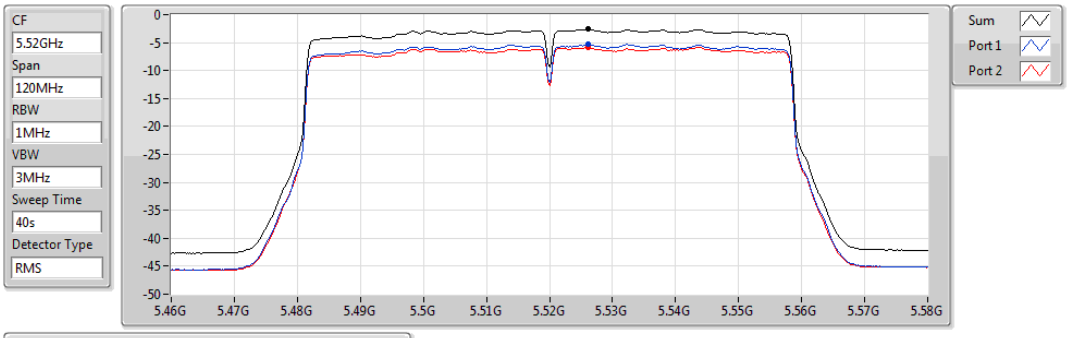
5515MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.62	-8.62	-11.38	-11.90

PSD

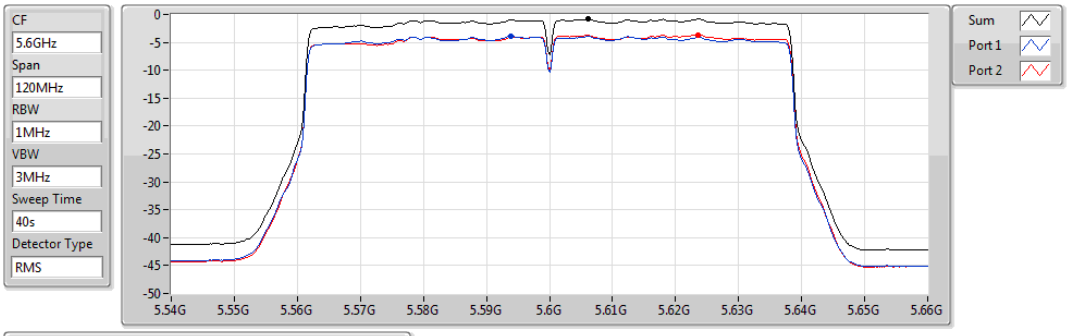
5520MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.53	-2.53	-5.29	-5.80

PSD

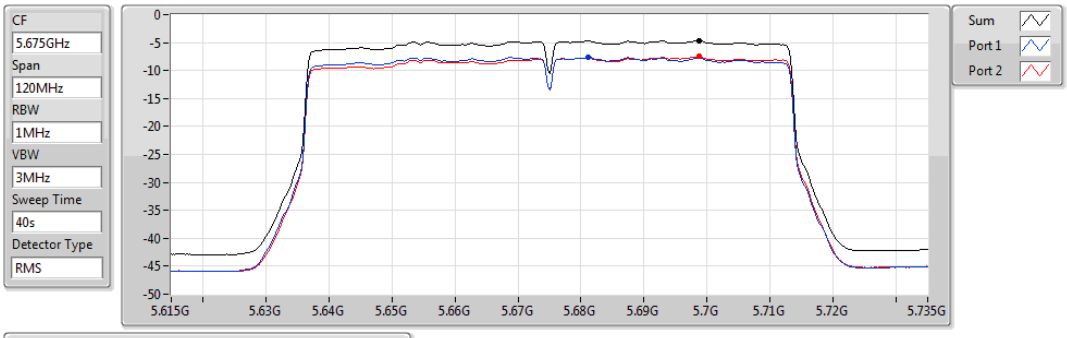
5600MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.81	-0.81	-3.90	-3.62

PSD

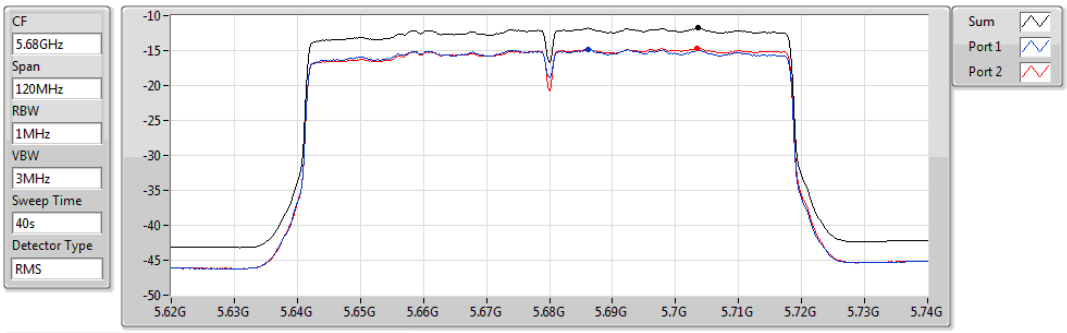
5675MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.60	-4.60	-7.58	-7.51

PSD

5680MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.74	-11.74	-14.81	-14.62

3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions 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:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
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]

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).

3.5.2 Test Procedures

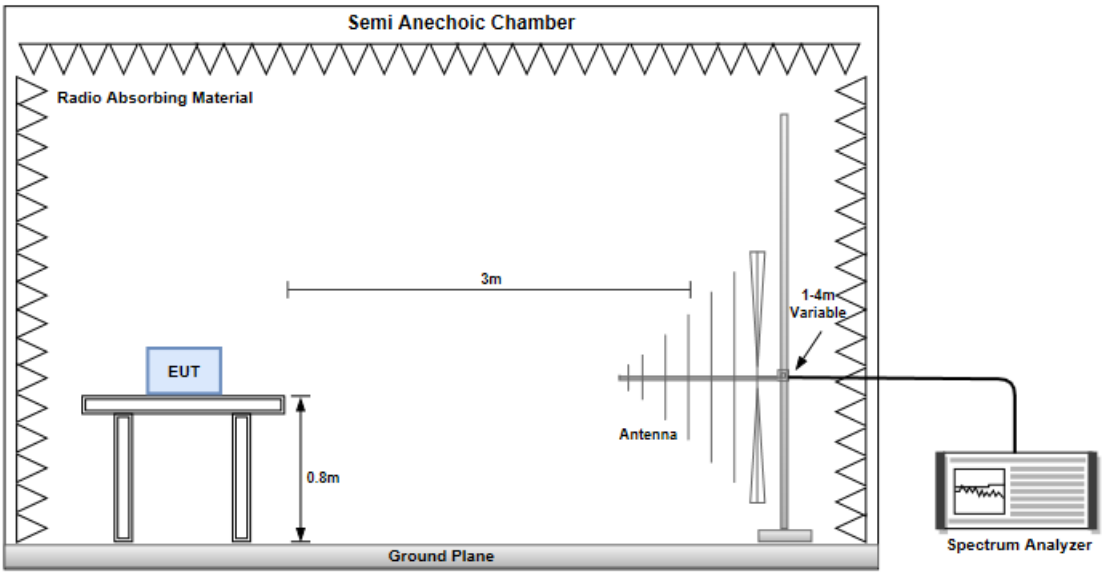
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

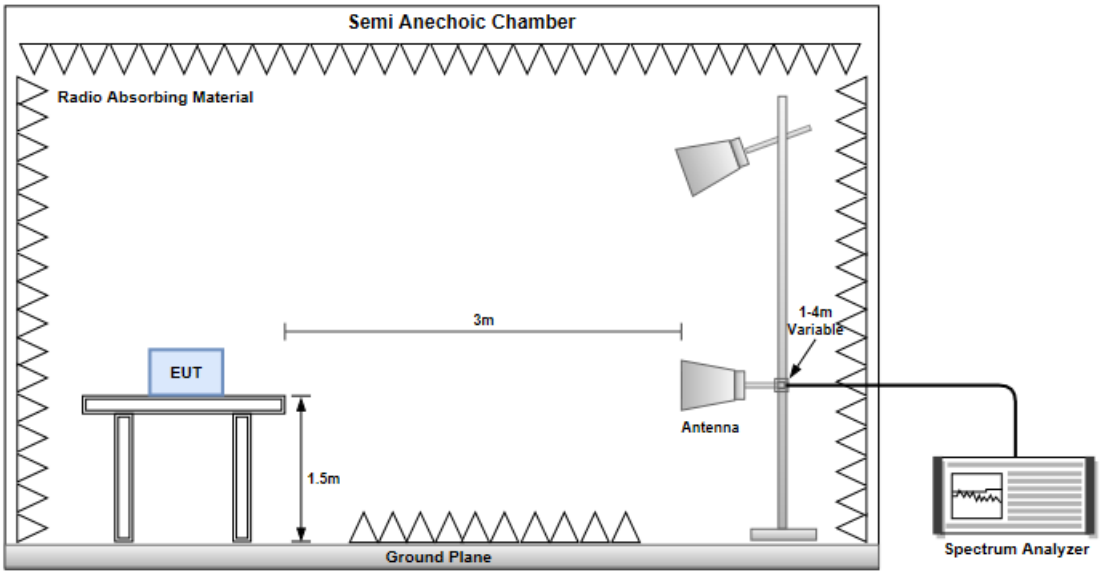
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz

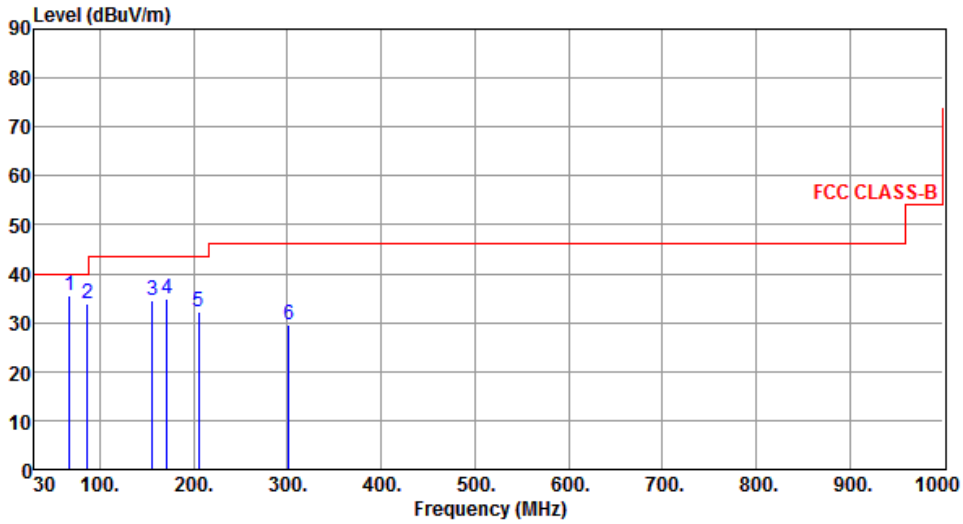


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

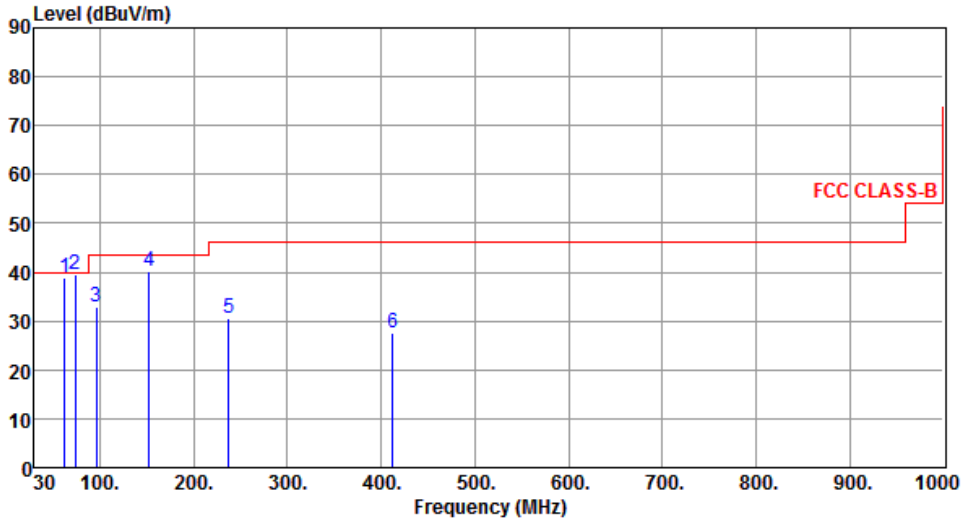
Proprietary protocol (BW)	40	Test Freq. (MHz)	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	67.79	35.61	40.00	-4.39	45.90	-10.29	Peak	---	---
2	86.30	33.74	40.00	-6.26	48.29	-14.55	Peak	---	---
3	156.10	34.66	43.50	-8.84	43.20	-8.54	Peak	---	---
4	171.59	34.74	43.50	-8.76	43.95	-9.21	Peak	---	---
5	205.61	32.28	43.50	-11.22	44.34	-12.06	Peak	---	---
6	301.56	29.57	46.00	-16.43	37.87	-8.30	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Proprietary protocol (BW)	40	Test Freq. (MHz)	5320
Polarization	Vertical		

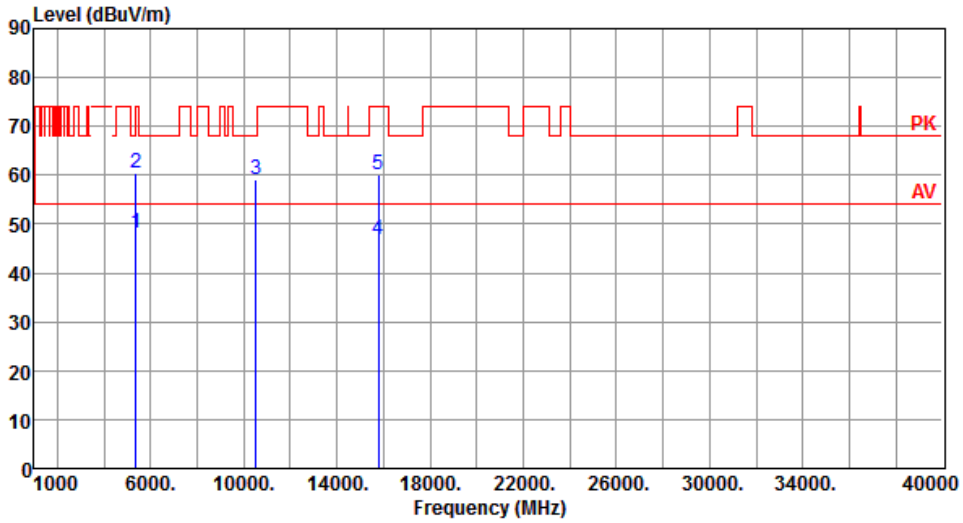


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	62.51	38.75	40.00	-1.25	48.41	-9.66	QP	141	1
2	74.07	39.62	40.00	-0.38	51.51	-11.89	QP	100	175
3	95.88	32.84	43.50	-10.66	47.10	-14.26	Peak	---	---
4	152.22	40.26	43.50	-3.24	48.90	-8.64	Peak	---	---
5	237.61	30.58	46.00	-15.42	41.08	-10.50	Peak	---	---
6	412.22	27.57	46.00	-18.43	32.90	-5.33	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 20 MHz

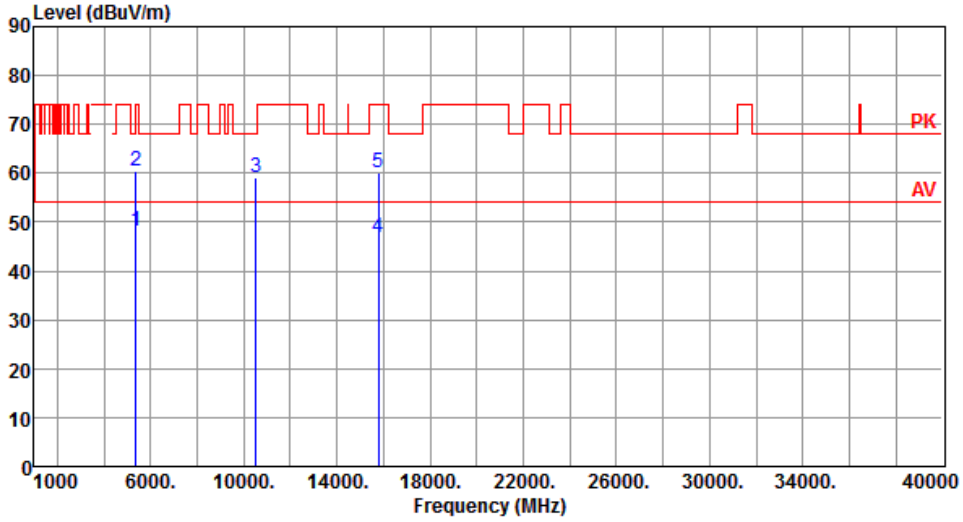
Proprietary protocol (BW)	20	Test Freq. (MHz)	5260
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.06	54.00	-5.94	41.21	6.85	Average	154	179
2	5350.00	60.54	74.00	-13.46	53.69	6.85	Peak	154	179
3	10520.00	59.13	68.20	-9.07	42.57	16.56	Peak	100	20
4	15780.00	46.89	54.00	-7.11	30.15	16.74	Average	100	35
5	15780.00	60.10	74.00	-13.90	43.36	16.74	Peak	100	35

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

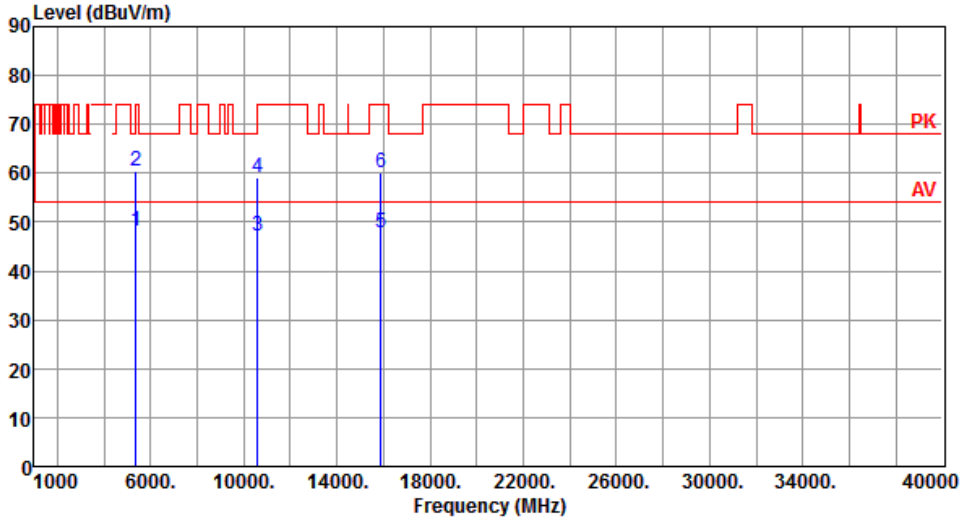
Proprietary protocol (BW)	20	Test Freq. (MHz)	5260
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.03	54.00	-5.97	41.18	6.85	Average	161	172
2	5350.00	60.41	74.00	-13.59	53.56	6.85	Peak	161	172
3	10520.00	59.17	68.20	-9.03	42.61	16.56	Peak	100	40
4	15780.00	46.90	54.00	-7.10	30.16	16.74	Average	100	60
5	15780.00	60.25	74.00	-13.75	43.51	16.74	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

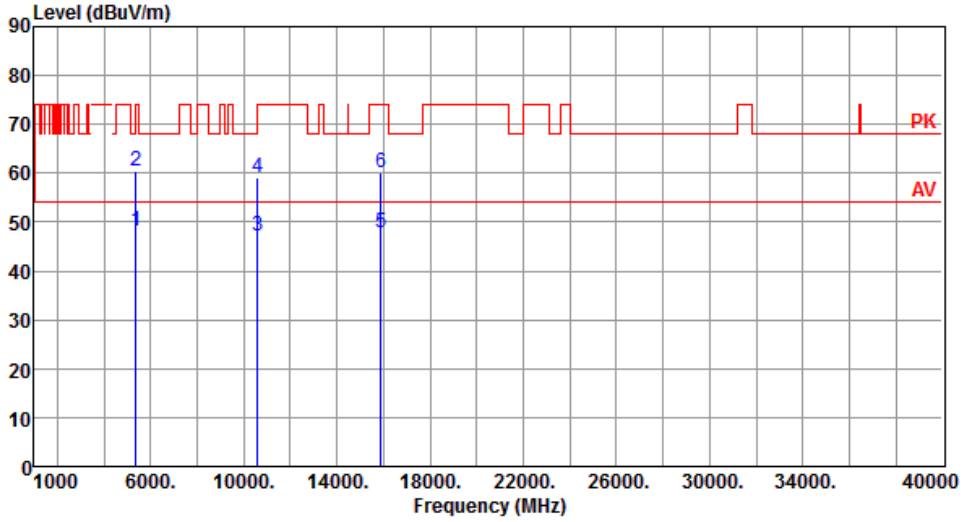
Proprietary protocol (BW)	20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.21	54.00	-5.79	41.36	6.85	Average	154	177
2	5350.00	60.43	74.00	-13.57	53.58	6.85	Peak	154	177
3	10600.00	47.22	54.00	-6.78	30.56	16.66	Average	100	30
4	10600.00	59.17	74.00	-14.83	42.51	16.66	Peak	100	30
5	15900.00	47.81	54.00	-6.19	31.12	16.69	Average	100	25
6	15900.00	60.24	74.00	-13.76	43.55	16.69	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

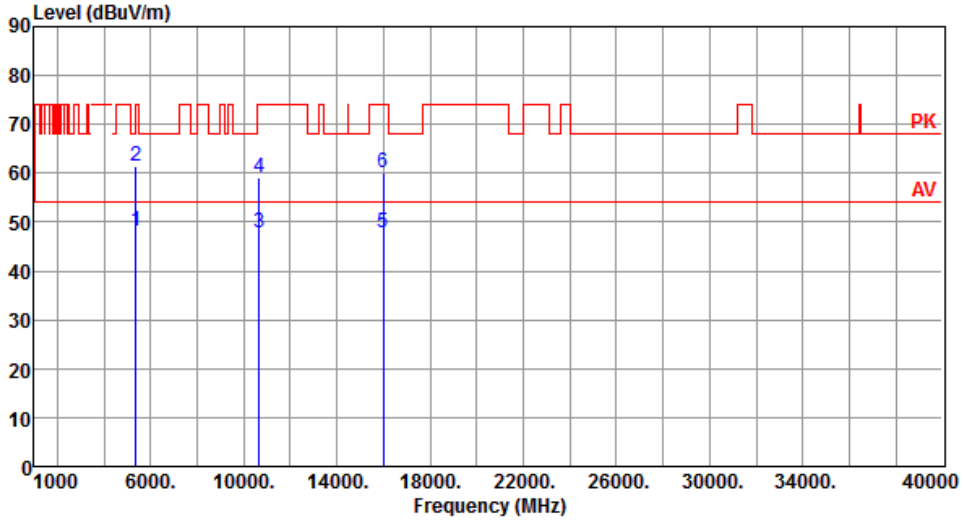
Proprietary protocol (BW)	20	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.06	54.00	-5.94	41.21	6.85	Average	161	182
2	5350.00	60.33	74.00	-13.67	53.48	6.85	Peak	161	182
3	10600.00	47.14	54.00	-6.86	30.48	16.66	Average	100	20
4	10600.00	59.19	74.00	-14.81	42.53	16.66	Peak	100	20
5	15900.00	47.75	54.00	-6.25	31.06	16.69	Average	100	45
6	15900.00	60.13	74.00	-13.87	43.44	16.69	Peak	100	45

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

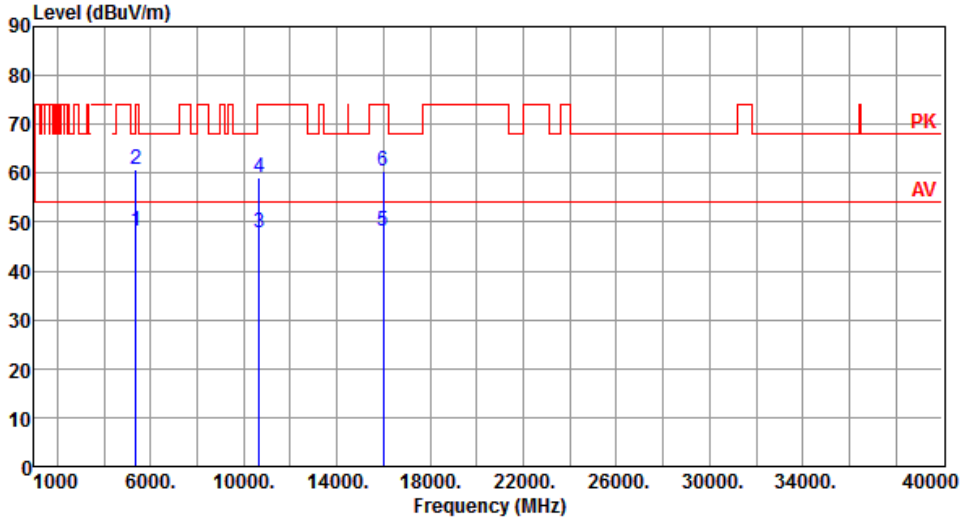
Proprietary protocol (BW)	20	Test Freq. (MHz)	5330
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.20	54.00	-5.80	41.35	6.85	Average	150	179
2	5350.00	61.41	74.00	-12.59	54.56	6.85	Peak	150	179
3	10660.00	47.86	54.00	-6.14	31.25	16.61	Average	100	40
4	10660.00	59.14	74.00	-14.86	42.53	16.61	Peak	100	40
5	15990.00	47.99	54.00	-6.01	31.27	16.72	Average	100	60
6	15990.00	60.25	74.00	-13.75	43.53	16.72	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

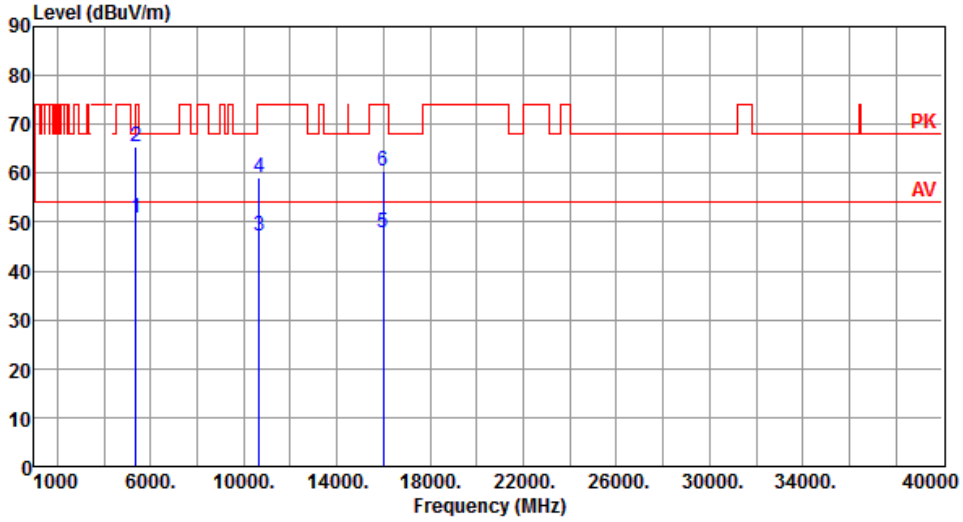
Proprietary protocol (BW)	20	Test Freq. (MHz)	5330
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	48.13	54.00	-5.87	41.28	6.85	Average	148	176
2	5350.00	60.66	74.00	-13.34	53.81	6.85	Peak	148	176
3	10660.00	47.92	54.00	-6.08	31.31	16.61	Average	100	20
4	10660.00	59.22	74.00	-14.78	42.61	16.61	Peak	100	20
5	15990.00	48.11	54.00	-5.89	31.39	16.72	Average	100	30
6	15990.00	60.41	74.00	-13.59	43.69	16.72	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

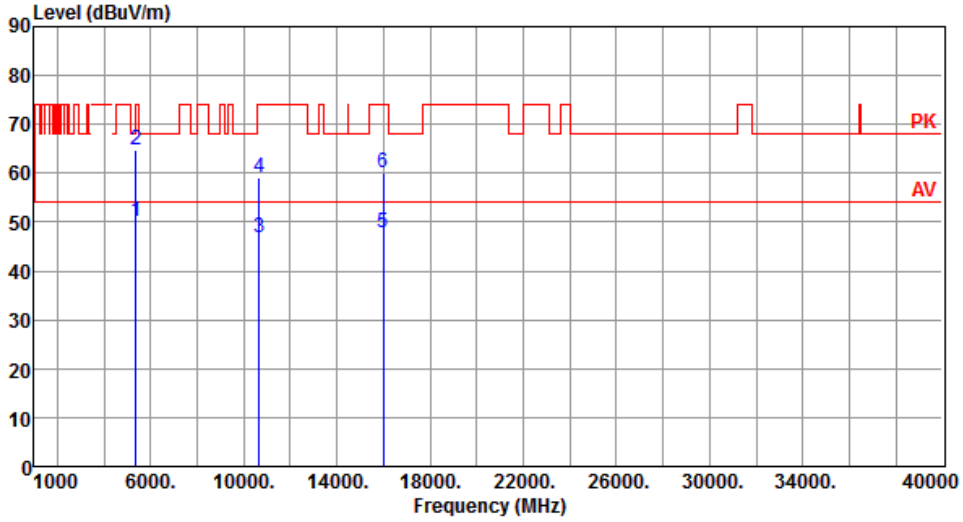
Proprietary protocol (BW)	20	Test Freq. (MHz)	5335
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	50.90	54.00	-3.10	44.05	6.85	Average	148	180
2	5350.00	65.59	74.00	-8.41	58.74	6.85	Peak	148	180
3	10670.00	47.06	54.00	-6.94	30.45	16.61	Average	100	50
4	10670.00	59.06	74.00	-14.94	42.45	16.61	Peak	100	50
5	16005.00	47.84	54.00	-6.16	31.11	16.73	Average	100	60
6	16005.00	60.33	74.00	-13.67	43.60	16.73	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

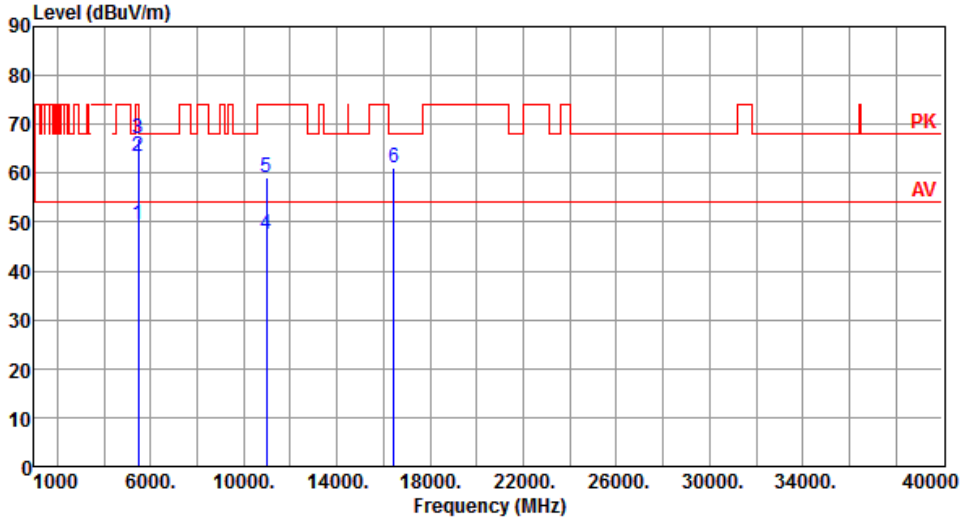
Proprietary protocol (BW)	20	Test Freq. (MHz)	5335
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	50.06	54.00	-3.94	43.21	6.85	Average	161	178
2	5350.00	64.71	74.00	-9.29	57.86	6.85	Peak	161	178
3	10670.00	46.94	54.00	-7.06	30.33	16.61	Average	100	40
4	10670.00	59.11	74.00	-14.89	42.50	16.61	Peak	100	40
5	16005.00	47.77	54.00	-6.23	31.04	16.73	Average	100	25
6	16005.00	60.22	74.00	-13.78	43.49	16.73	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

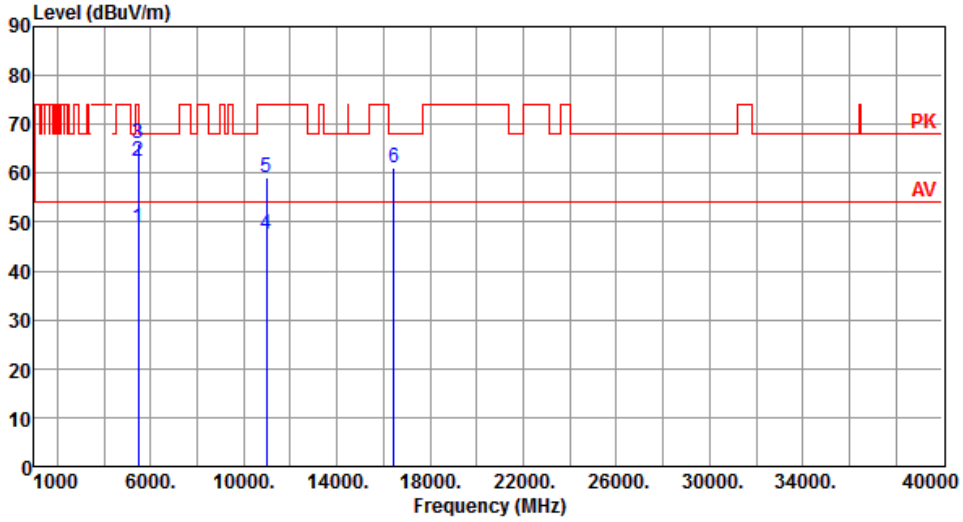
Proprietary protocol (BW)	20	Test Freq. (MHz)	5485
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	49.58	54.00	-4.42	42.21	7.37	Average	140	185
2	5460.00	63.49	74.00	-10.51	56.12	7.37	Peak	140	185
3	5470.00	67.10	68.20	-1.10	59.68	7.42	Peak	140	185
4	10970.00	47.46	54.00	-6.54	30.56	16.90	Average	100	20
5	10970.00	59.17	74.00	-14.83	42.27	16.90	Peak	100	20
6	16455.00	61.16	68.20	-7.04	43.52	17.64	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

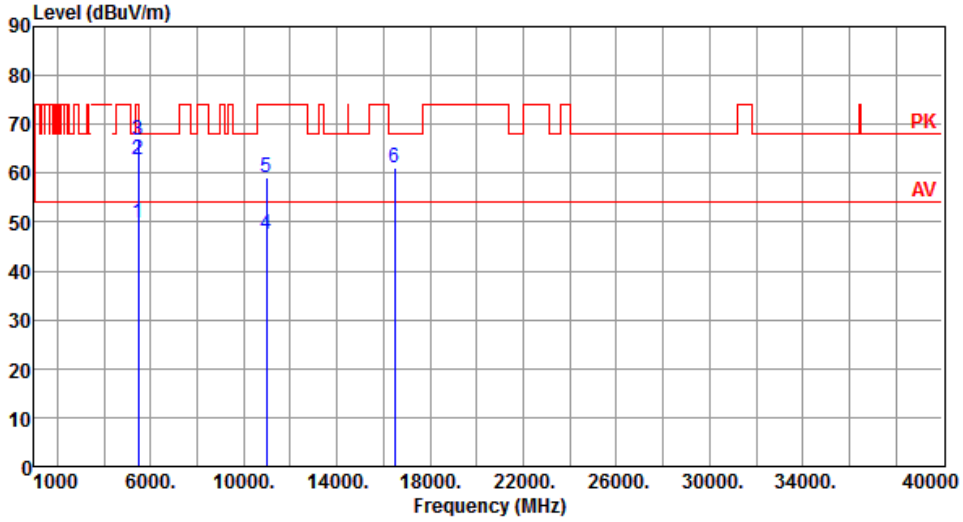
Proprietary protocol (BW)	20	Test Freq. (MHz)	5485
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.91	54.00	-5.09	41.54	7.37	Average	156	178
2	5460.00	62.50	74.00	-11.50	55.13	7.37	Peak	156	178
3	5470.00	66.14	68.20	-2.06	58.72	7.42	Peak	156	178
4	10970.00	47.35	54.00	-6.65	30.45	16.90	Average	100	80
5	10970.00	59.25	74.00	-14.75	42.35	16.90	Peak	100	80
6	16455.00	61.23	68.20	-6.97	43.59	17.64	Peak	100	5

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

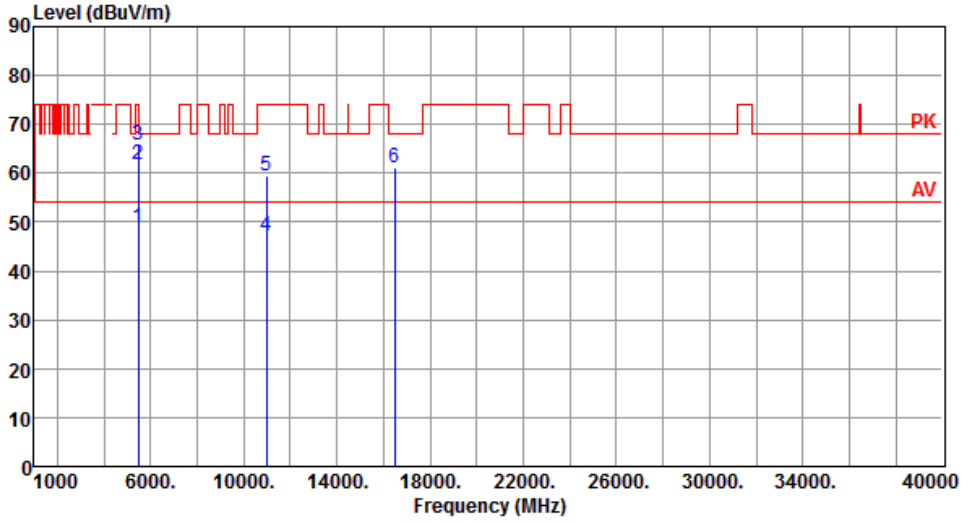
Proprietary protocol (BW)	20	Test Freq. (MHz)	5490
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	49.91	54.00	-4.09	42.54	7.37	Average	140	190
2	5460.00	62.63	74.00	-11.37	55.26	7.37	Peak	140	190
3	5470.00	66.88	68.20	-1.32	59.46	7.42	Peak	140	190
4	10980.00	47.34	54.00	-6.66	30.42	16.92	Average	100	20
5	10980.00	59.27	74.00	-14.73	42.35	16.92	Peak	100	20
6	16470.00	61.24	68.20	-6.96	43.59	17.65	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

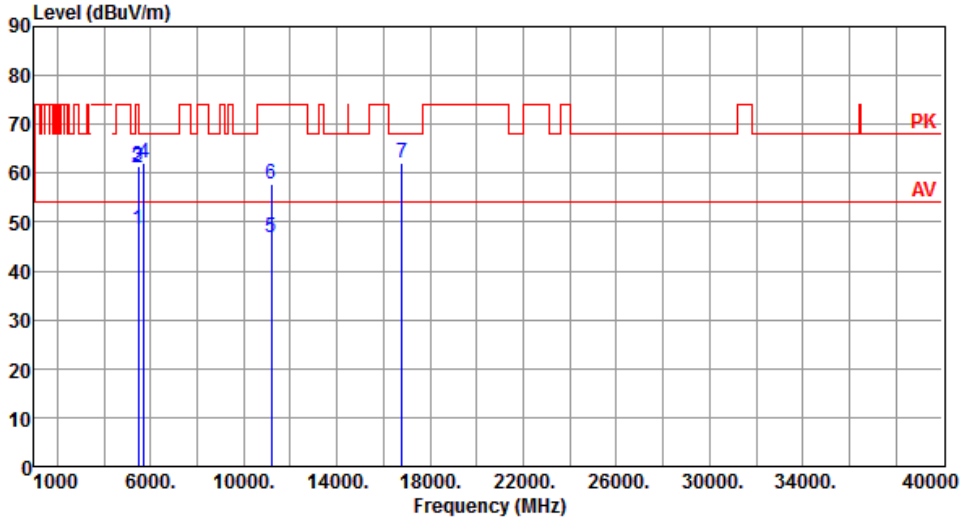
Proprietary protocol (BW)	20	Test Freq. (MHz)	5490
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.93	54.00	-5.07	41.56	7.37	Average	156	184
2	5460.00	61.63	74.00	-12.37	54.26	7.37	Peak	156	184
3	5470.00	65.63	68.20	-2.57	58.21	7.42	Peak	156	184
4	10980.00	47.27	54.00	-6.73	30.35	16.92	Average	100	40
5	10980.00	59.38	74.00	-14.62	42.46	16.92	Peak	100	40
6	16470.00	61.23	68.20	-6.97	43.58	17.65	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

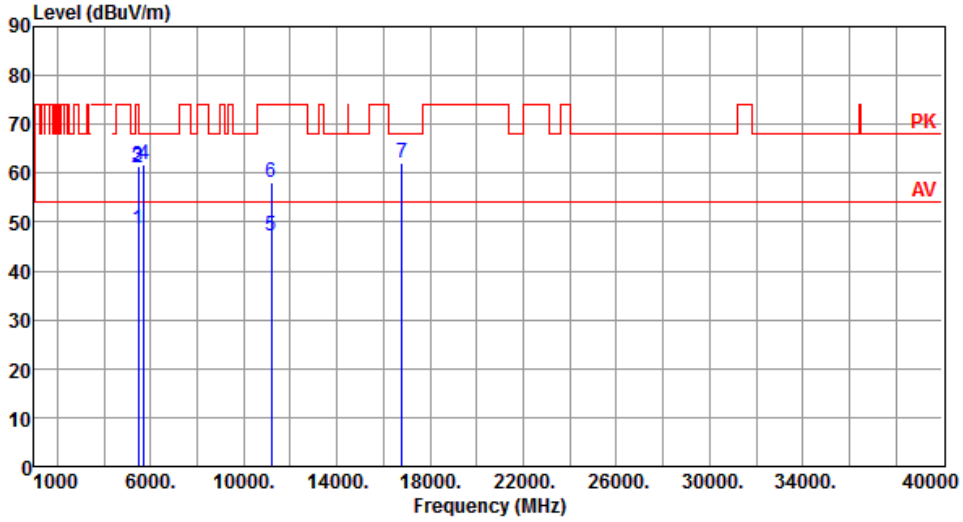
Proprietary protocol (BW)	20	Test Freq. (MHz)	5600
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.57	54.00	-5.43	41.20	7.37	Average	148	182
2	5460.00	61.21	74.00	-12.79	53.84	7.37	Peak	148	182
3	5470.00	61.58	68.20	-6.62	54.16	7.42	Peak	148	182
4	5725.00	62.00	68.20	-6.20	54.24	7.76	Peak	148	182
5	11200.00	46.88	54.00	-7.12	30.35	16.53	Average	100	30
6	11200.00	57.88	74.00	-16.12	41.35	16.53	Peak	100	30
7	16800.00	62.06	68.20	-6.14	43.52	18.54	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

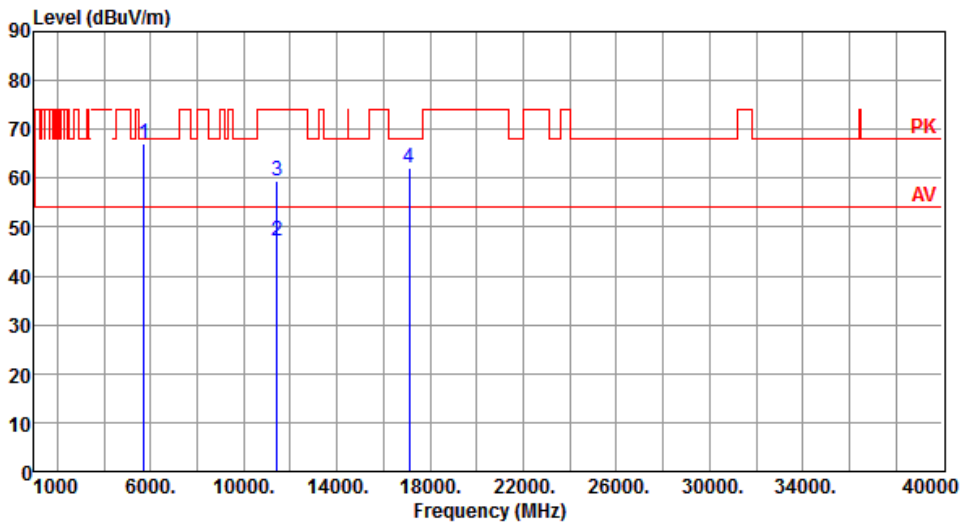
Proprietary protocol (BW)	20	Test Freq. (MHz)	5600
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.52	54.00	-5.48	41.15	7.37	Average	162	177
2	5460.00	61.03	74.00	-12.97	53.66	7.37	Peak	162	177
3	5470.00	61.47	68.20	-6.73	54.05	7.42	Peak	162	177
4	5725.00	61.88	68.20	-6.32	54.12	7.76	Peak	162	177
5	11200.00	47.06	54.00	-6.94	30.53	16.53	Average	100	20
6	11200.00	58.09	74.00	-15.91	41.56	16.53	Peak	100	20
7	16800.00	62.10	68.20	-6.10	43.56	18.54	Peak	100	35

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

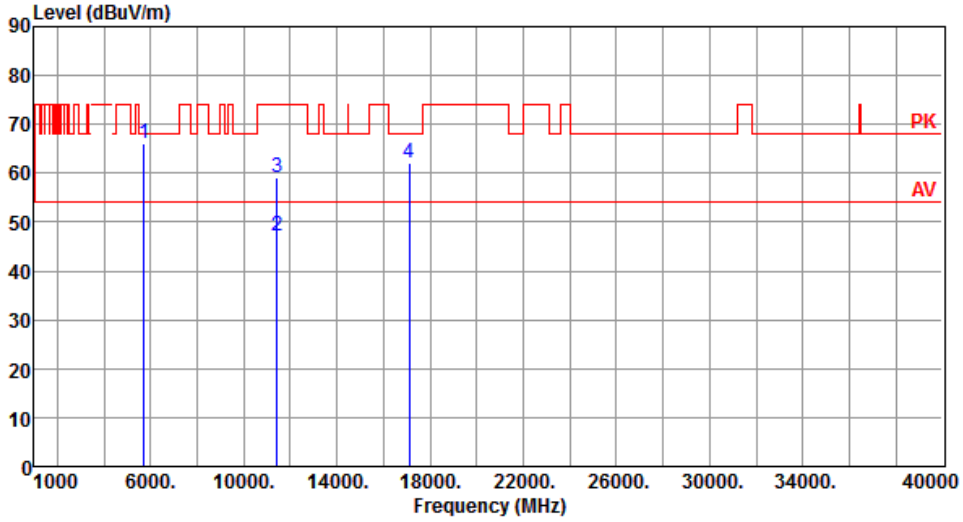
Proprietary protocol (BW)	20	Test Freq. (MHz)	5705
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.97	68.20	-1.23	59.21	7.76	Peak	177	183
2	11410.00	47.10	54.00	-6.90	30.36	16.74	Average	100	20
3	11410.00	59.30	74.00	-14.70	42.56	16.74	Peak	100	20
4	17115.00	62.07	68.20	-6.13	43.55	18.52	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

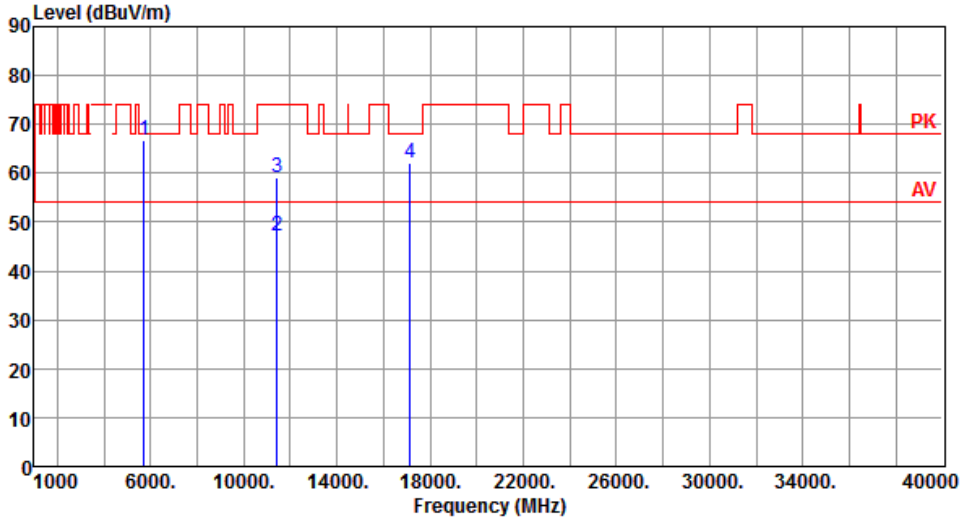
Proprietary protocol (BW)	20	Test Freq. (MHz)	5705
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.20	68.20	-2.00	58.44	7.76	Peak	165	177
2	11410.00	47.09	54.00	-6.91	30.35	16.74	Average	100	90
3	11410.00	59.09	74.00	-14.91	42.35	16.74	Peak	100	90
4	17115.00	62.21	68.20	-5.99	43.69	18.52	Peak	100	80

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

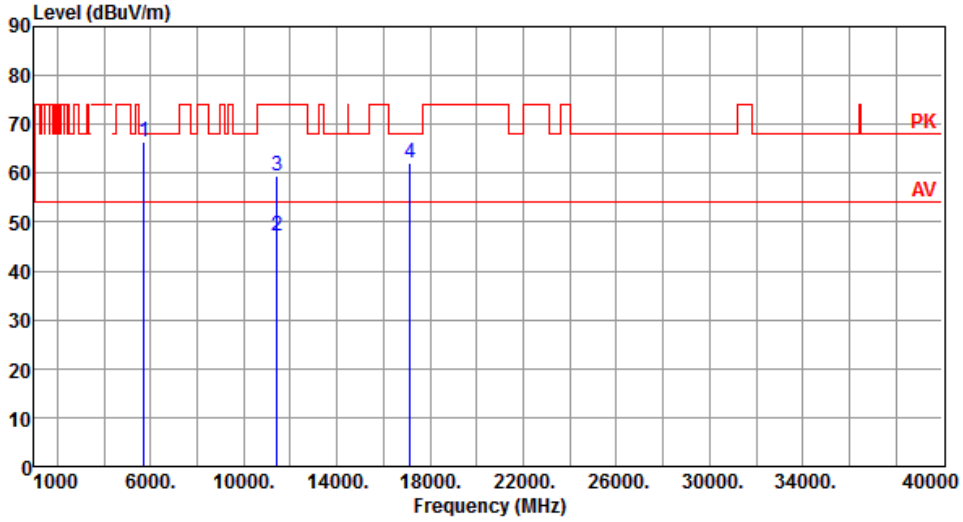
Proprietary protocol (BW)	20	Test Freq. (MHz)	5710
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.87	68.20	-1.33	59.11	7.76	Peak	175	182
2	11420.00	47.12	54.00	-6.88	30.37	16.75	Average	100	50
3	11420.00	59.12	74.00	-14.88	42.37	16.75	Peak	100	50
4	17130.00	62.05	68.20	-6.15	43.54	18.51	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Proprietary protocol (BW)	20	Test Freq. (MHz)	5710
Polarization	Vertical		

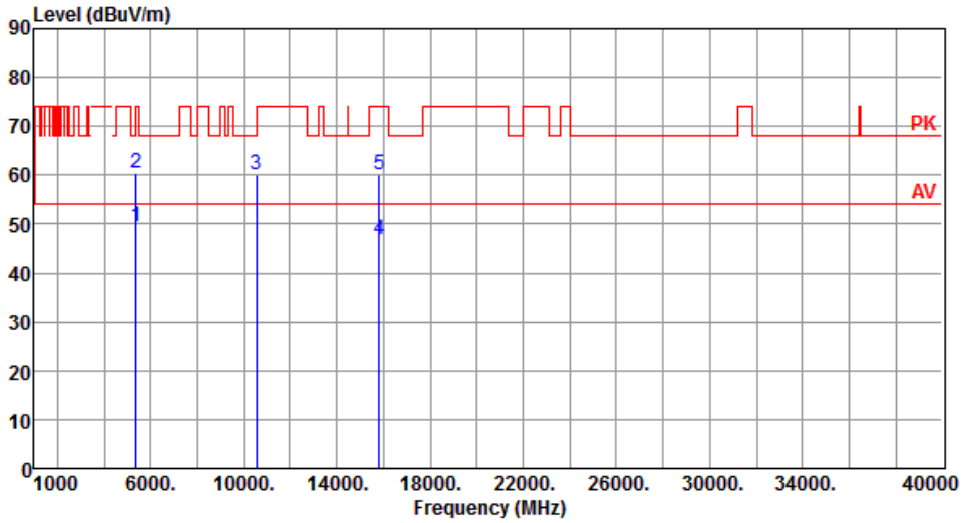


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.40	68.20	-1.80	58.64	7.76	Peak	169	188
2	11420.00	47.09	54.00	-6.91	30.34	16.75	Average	100	20
3	11420.00	59.34	74.00	-14.66	42.59	16.75	Peak	100	20
4	17130.00	62.19	68.20	-6.01	43.68	18.51	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 40 MHz

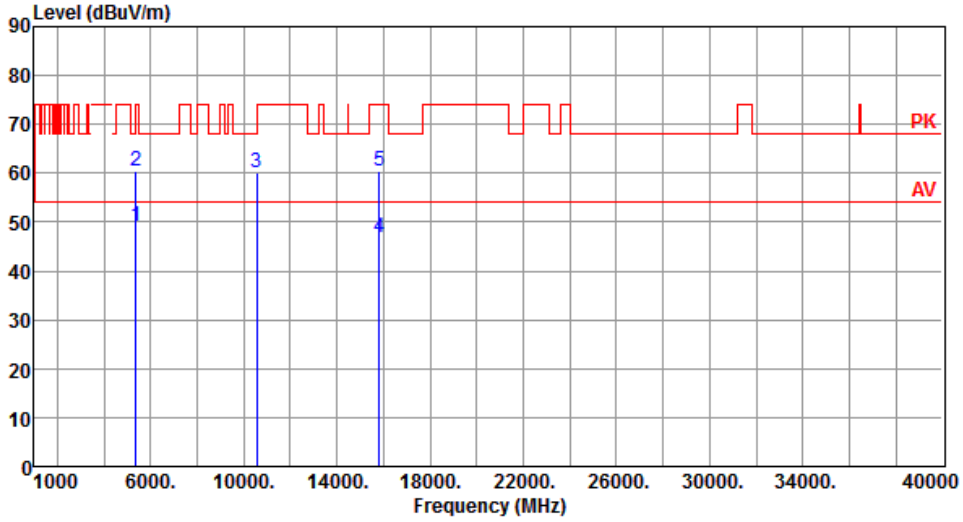
Proprietary protocol (BW)	40	Test Freq. (MHz)	5270
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.40	54.00	-4.60	42.55	6.85	Average	146	178
2	5350.00	60.54	74.00	-13.46	53.69	6.85	Peak	146	178
3	10540.00	60.12	68.20	-8.08	43.53	16.59	Peak	100	20
4	15810.00	46.89	54.00	-7.11	30.24	16.65	Average	100	30
5	15810.00	60.22	74.00	-13.78	43.57	16.65	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

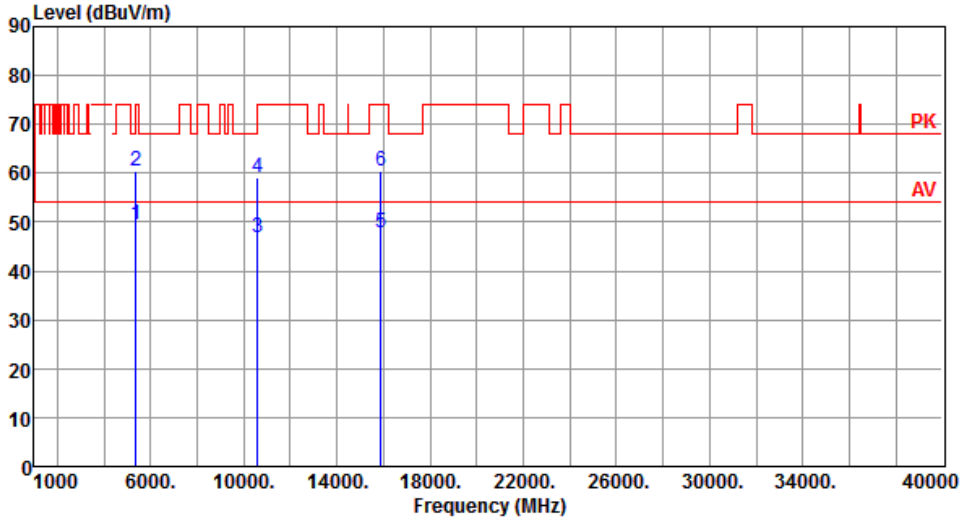
Proprietary protocol (BW)	40	Test Freq. (MHz)	5270
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.06	54.00	-4.94	42.21	6.85	Average	155	179
2	5350.00	60.40	74.00	-13.60	53.55	6.85	Peak	155	179
3	10540.00	60.20	68.20	-8.00	43.61	16.59	Peak	100	50
4	15810.00	46.96	54.00	-7.04	30.31	16.65	Average	100	40
5	15810.00	60.33	74.00	-13.67	43.68	16.65	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

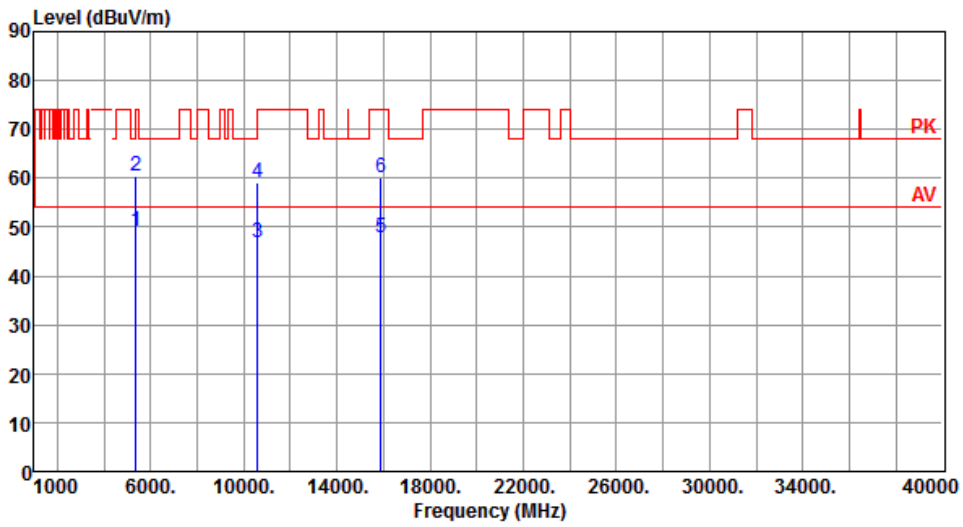
Proprietary protocol (BW)	40	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.39	54.00	-4.61	42.54	6.85	Average	155	177
2	5350.00	60.51	74.00	-13.49	53.66	6.85	Peak	155	177
3	10600.00	46.94	54.00	-7.06	30.28	16.66	Average	100	20
4	10600.00	59.24	74.00	-14.76	42.58	16.66	Peak	100	20
5	15900.00	47.94	54.00	-6.06	31.25	16.69	Average	100	40
6	15900.00	60.28	74.00	-13.72	43.59	16.69	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

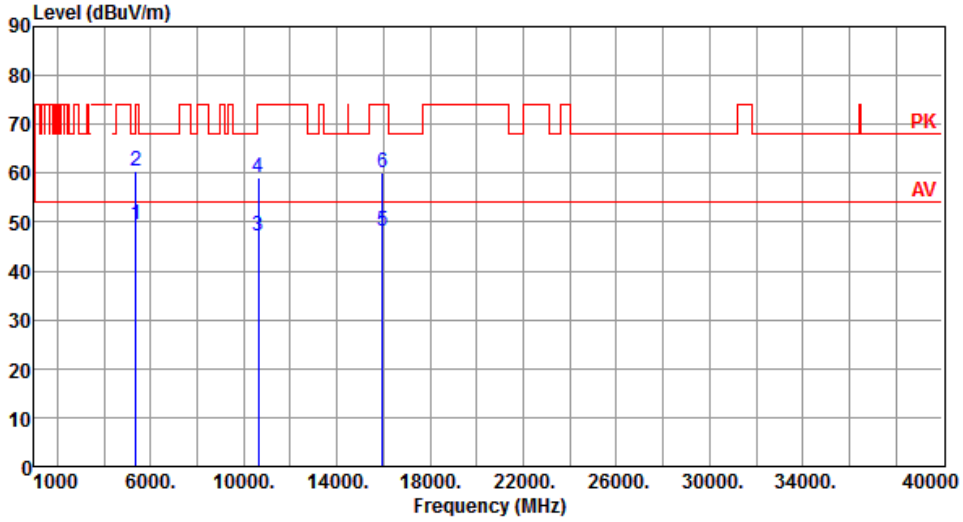
Proprietary protocol (BW)	40	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.20	54.00	-4.80	42.35	6.85	Average	146	188
2	5350.00	60.41	74.00	-13.59	53.56	6.85	Peak	146	188
3	10600.00	46.97	54.00	-7.03	30.31	16.66	Average	100	70
4	10600.00	58.97	74.00	-15.03	42.31	16.66	Peak	100	70
5	15900.00	47.82	54.00	-6.18	31.13	16.69	Average	100	50
6	15900.00	60.14	74.00	-13.86	43.45	16.69	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

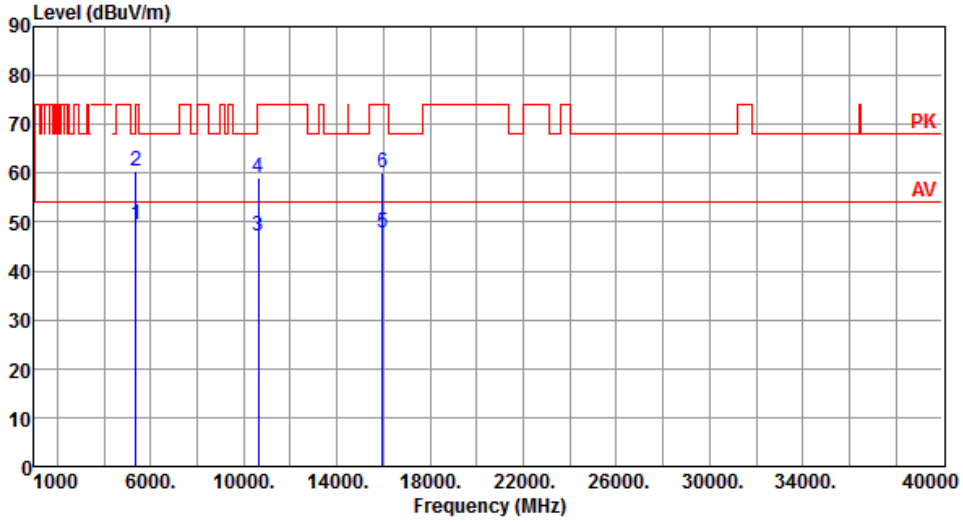
Proprietary protocol (BW)	40	Test Freq. (MHz)	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.61	54.00	-4.39	42.76	6.85	Average	145	175
2	5350.00	60.59	74.00	-13.41	53.74	6.85	Peak	145	175
3	10640.00	47.09	54.00	-6.91	30.46	16.63	Average	100	10
4	10640.00	59.16	74.00	-14.84	42.53	16.63	Peak	100	10
5	15960.00	48.02	54.00	-5.98	31.31	16.71	Average	100	25
6	15960.00	60.24	74.00	-13.76	43.53	16.71	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

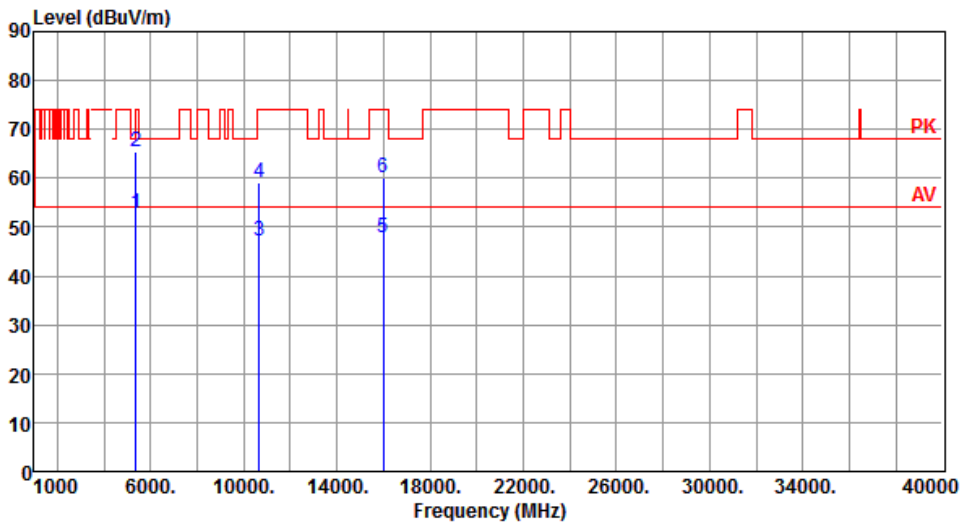
Proprietary protocol (BW)	40	Test Freq. (MHz)	5320
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.50	54.00	-4.50	42.65	6.85	Average	143	182
2	5350.00	60.53	74.00	-13.47	53.68	6.85	Peak	143	182
3	10640.00	47.04	54.00	-6.96	30.41	16.63	Average	100	20
4	10640.00	59.24	74.00	-14.76	42.61	16.63	Peak	100	20
5	15960.00	47.93	54.00	-6.07	31.22	16.71	Average	100	40
6	15960.00	59.95	74.00	-14.05	43.24	16.71	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

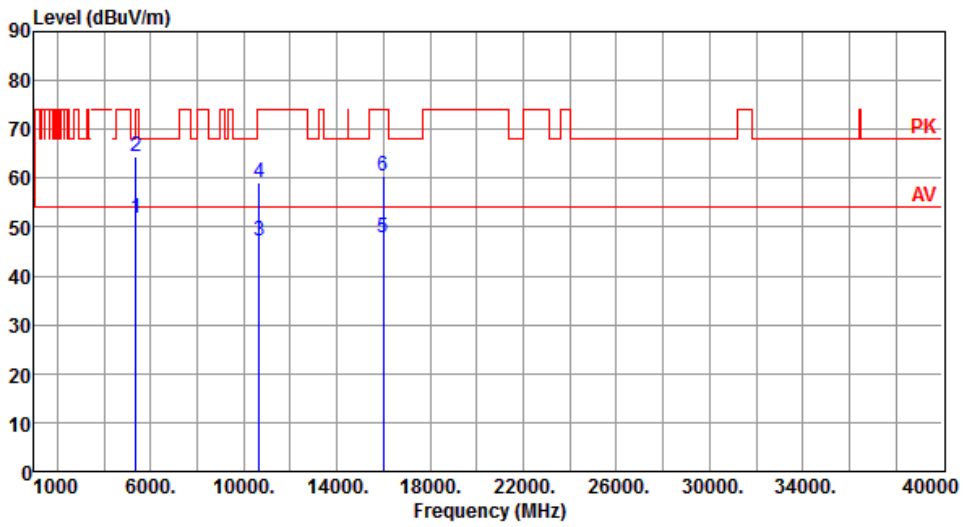
Proprietary protocol (BW)	40	Test Freq. (MHz)	5325
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.96	54.00	-1.04	46.11	6.85	Average	148	172
2	5350.00	65.58	74.00	-8.42	58.73	6.85	Peak	148	172
3	10650.00	47.08	54.00	-6.92	30.46	16.62	Average	100	20
4	10650.00	59.16	74.00	-14.84	42.54	16.62	Peak	100	20
5	15975.00	47.86	54.00	-6.14	31.14	16.72	Average	100	60
6	15975.00	60.27	74.00	-13.73	43.55	16.72	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

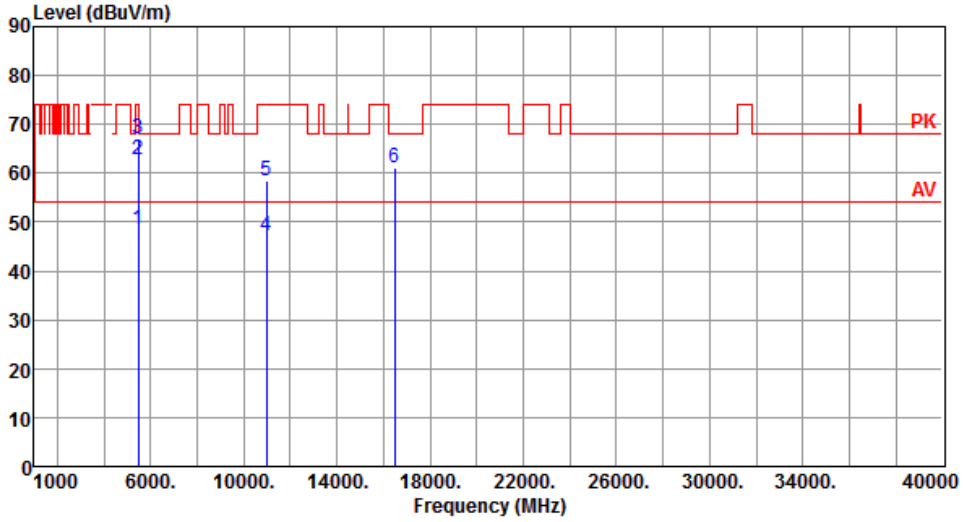
Proprietary protocol (BW)	40	Test Freq. (MHz)	5325
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	51.91	54.00	-2.09	45.06	6.85	Average	152	181
2	5350.00	64.54	74.00	-9.46	57.69	6.85	Peak	152	181
3	10650.00	47.07	54.00	-6.93	30.45	16.62	Average	100	90
4	10650.00	59.09	74.00	-14.91	42.47	16.62	Peak	100	90
5	15975.00	47.88	54.00	-6.12	31.16	16.72	Average	100	40
6	15975.00	60.29	74.00	-13.71	43.57	16.72	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

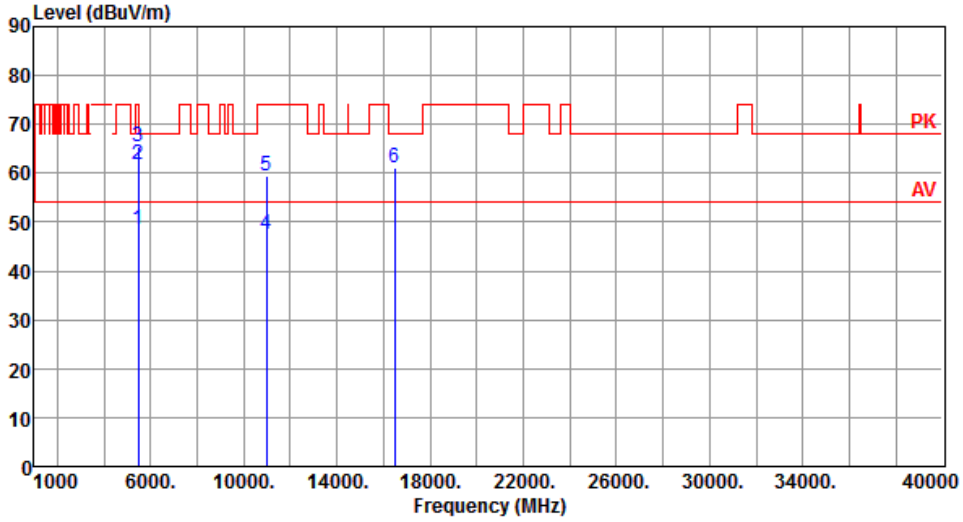
Proprietary protocol (BW)	40	Test Freq. (MHz)	5495
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.62	54.00	-5.38	41.25	7.37	Average	123	171
2	5460.00	62.63	74.00	-11.37	55.26	7.37	Peak	123	171
3	5470.00	67.12	68.20	-1.08	59.70	7.42	Peak	123	171
4	10990.00	47.28	54.00	-6.72	30.36	16.92	Average	100	25
5	10990.00	58.52	74.00	-15.48	41.60	16.92	Peak	100	25
6	16485.00	61.15	68.20	-7.05	43.51	17.64	Peak	100	90

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

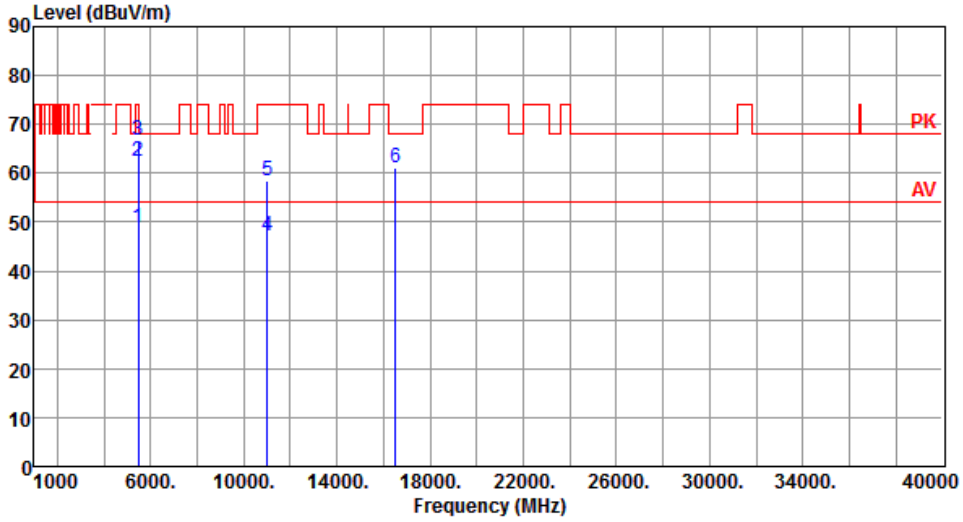
Proprietary protocol (BW)	40	Test Freq. (MHz)	5495
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.39	54.00	-5.61	41.02	7.37	Average	145	175
2	5460.00	61.93	74.00	-12.07	54.56	7.37	Peak	145	175
3	5470.00	65.38	68.20	-2.82	57.96	7.42	Peak	145	175
4	10990.00	47.47	54.00	-6.53	30.55	16.92	Average	100	60
5	10990.00	59.46	74.00	-14.54	42.54	16.92	Peak	100	60
6	16485.00	61.10	68.20	-7.10	43.46	17.64	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

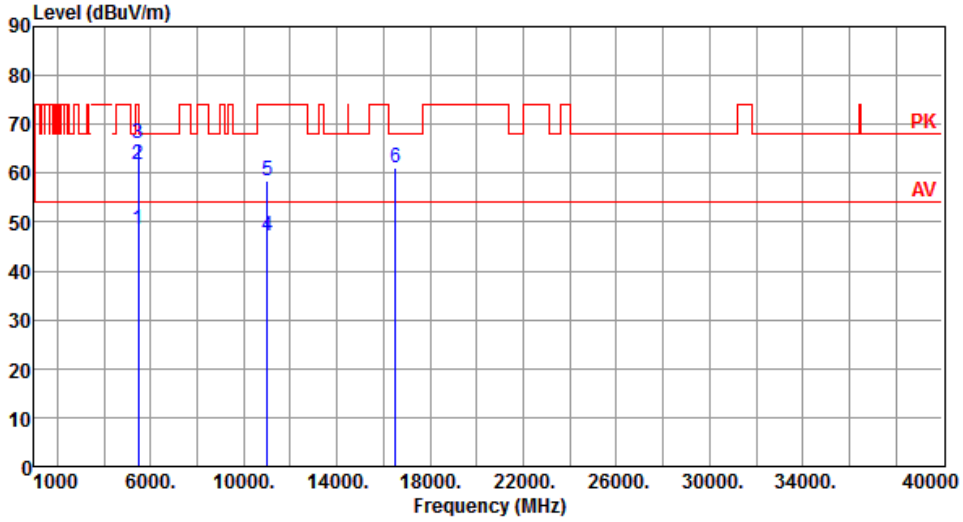
Proprietary protocol (BW)	40	Test Freq. (MHz)	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.66	54.00	-5.34	41.29	7.37	Average	125	172
2	5460.00	62.39	74.00	-11.61	55.02	7.37	Peak	125	172
3	5470.00	66.87	68.20	-1.33	59.45	7.42	Peak	125	172
4	11000.00	47.15	54.00	-6.85	30.21	16.94	Average	100	20
5	11000.00	58.47	74.00	-15.53	41.53	16.94	Peak	100	20
6	16500.00	61.13	68.20	-7.07	43.49	17.64	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

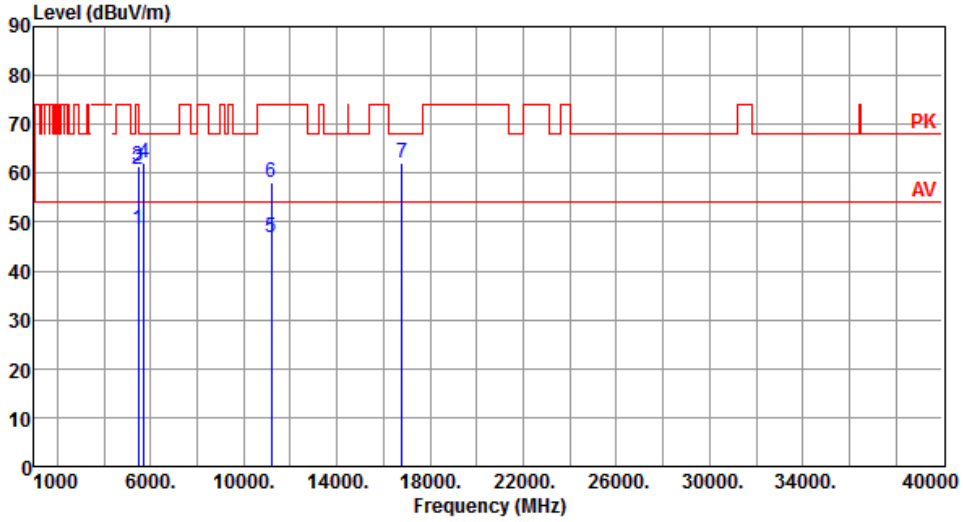
Proprietary protocol (BW)	40	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.52	54.00	-5.48	41.15	7.37	Average	131	185
2	5460.00	61.66	74.00	-12.34	54.29	7.37	Peak	131	185
3	5470.00	66.08	68.20	-2.12	58.66	7.42	Peak	131	185
4	11000.00	47.30	54.00	-6.70	30.36	16.94	Average	100	50
5	11000.00	58.46	74.00	-15.54	41.52	16.94	Peak	100	50
6	16500.00	61.11	68.20	-7.09	43.47	17.64	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

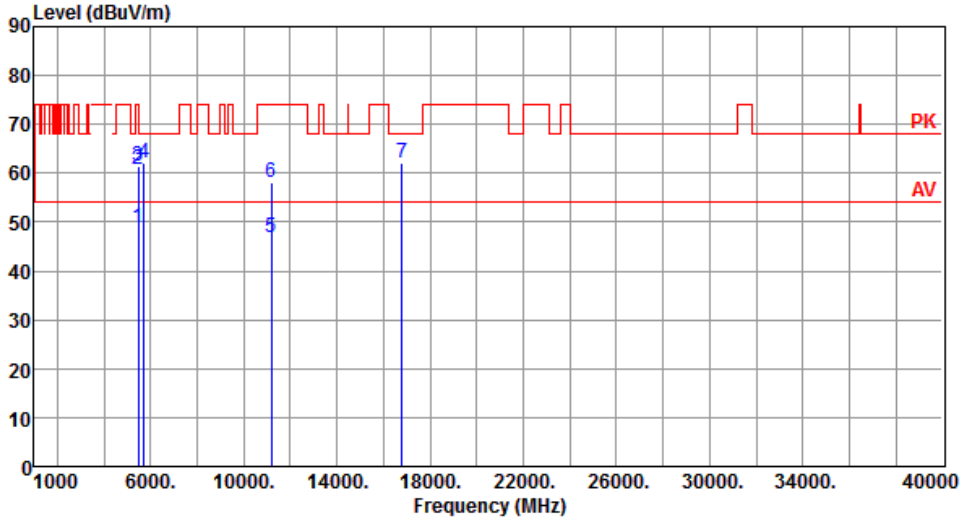
Proprietary protocol (BW)	40	Test Freq. (MHz)	5600
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.65	54.00	-5.35	41.28	7.37	Average	134	183
2	5460.00	60.82	74.00	-13.18	53.45	7.37	Peak	134	183
3	5470.00	61.54	68.20	-6.66	54.12	7.42	Peak	134	183
4	5725.00	62.01	68.20	-6.19	54.25	7.76	Peak	134	183
5	11200.00	46.99	54.00	-7.01	30.46	16.53	Average	100	90
6	11200.00	58.12	74.00	-15.88	41.59	16.53	Peak	100	90
7	16800.00	62.08	68.20	-6.12	43.54	18.54	Peak	100	100

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

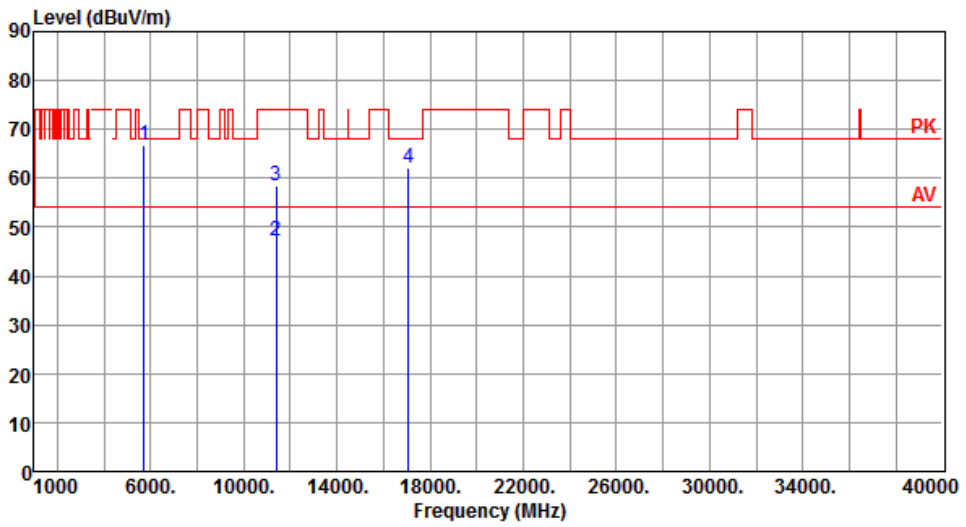
Proprietary protocol (BW)	40	Test Freq. (MHz)	5600
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.68	54.00	-5.32	41.31	7.37	Average	151	177
2	5460.00	60.72	74.00	-13.28	53.35	7.37	Peak	151	177
3	5470.00	61.47	68.20	-6.73	54.05	7.42	Peak	151	177
4	5725.00	62.03	68.20	-6.17	54.27	7.76	Peak	151	177
5	11200.00	46.87	54.00	-7.13	30.34	16.53	Average	100	20
6	11200.00	58.21	74.00	-15.79	41.68	16.53	Peak	100	20
7	16800.00	62.15	68.20	-6.05	43.61	18.54	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

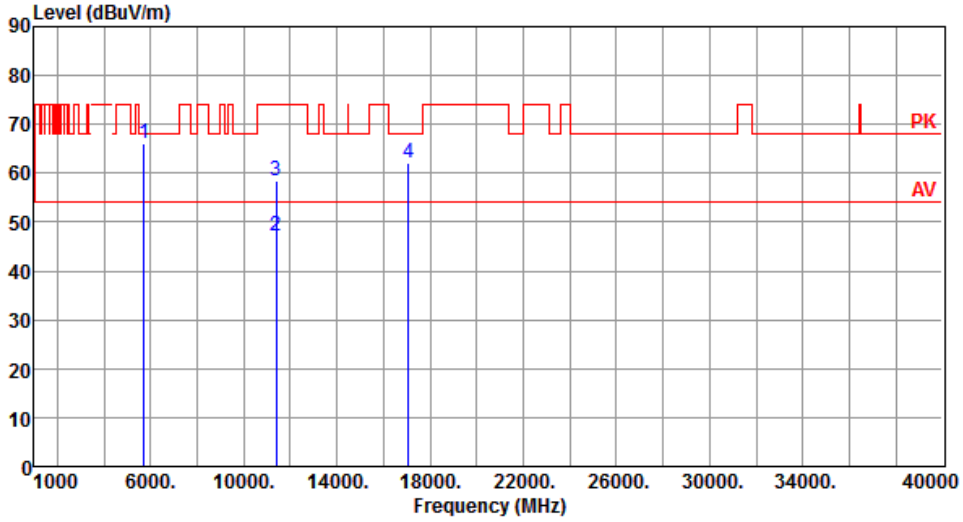
Proprietary protocol (BW)	40	Test Freq. (MHz)	5695
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.90	68.20	-1.30	59.14	7.76	Peak	177	182
2	11390.00	47.07	54.00	-6.93	30.35	16.72	Average	100	20
3	11390.00	58.29	74.00	-15.71	41.57	16.72	Peak	100	20
4	17085.00	62.03	68.20	-6.17	43.45	18.58	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

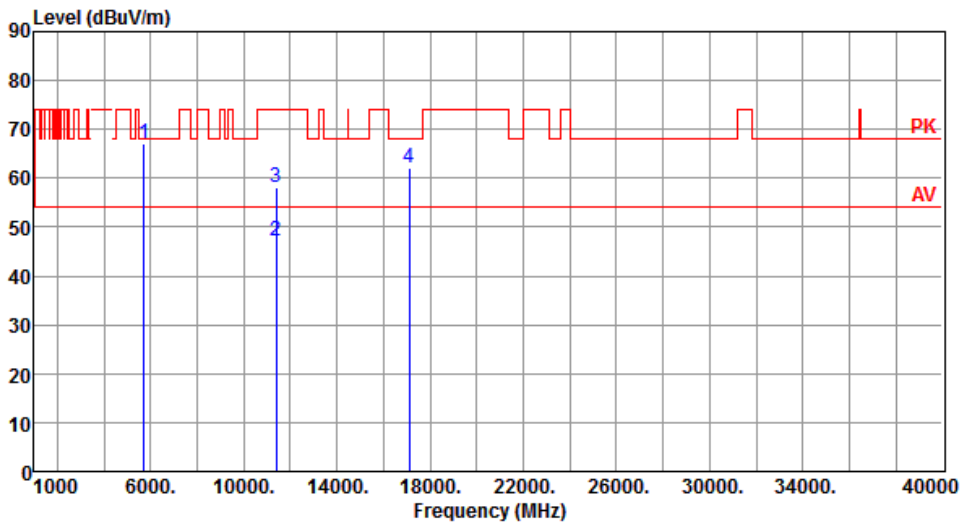
Proprietary protocol (BW)	40	Test Freq. (MHz)	5695
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.10	68.20	-2.10	58.34	7.76	Peak	155	175
2	11390.00	47.26	54.00	-6.74	30.54	16.72	Average	100	30
3	11390.00	58.30	74.00	-15.70	41.58	16.72	Peak	100	30
4	17085.00	62.17	68.20	-6.03	43.59	18.58	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

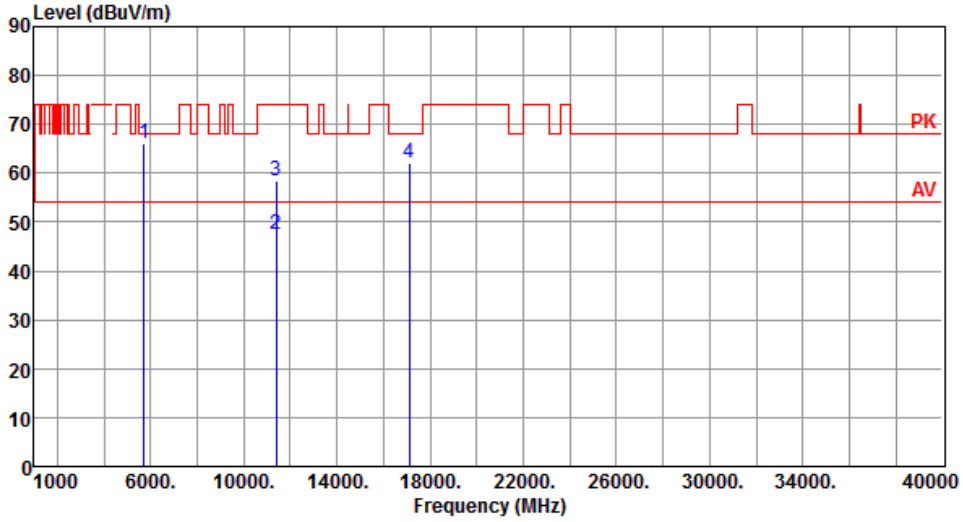
Proprietary protocol (BW)	40	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.00	68.20	-1.20	59.24	7.76	Peak	175	181
2	11400.00	47.18	54.00	-6.82	30.45	16.73	Average	100	80
3	11400.00	58.26	74.00	-15.74	41.53	16.73	Peak	100	80
4	17100.00	61.99	68.20	-6.21	43.45	18.54	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Proprietary protocol (BW)	40	Test Freq. (MHz)	5700
Polarization	Vertical		

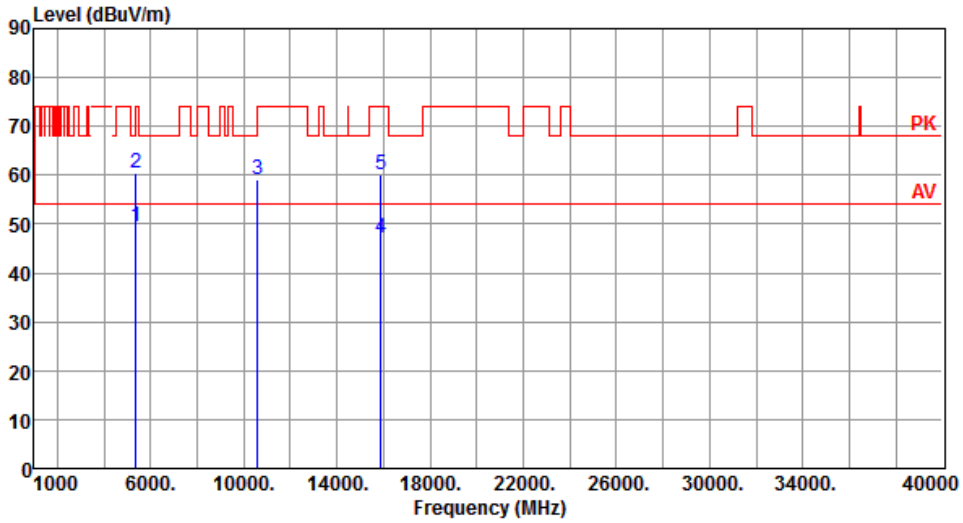


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.08	68.20	-2.12	58.32	7.76	Peak	169	175
2	11400.00	47.40	54.00	-6.60	30.67	16.73	Average	100	70
3	11400.00	58.40	74.00	-15.60	41.67	16.73	Peak	100	70
4	17100.00	62.10	68.20	-6.10	43.56	18.54	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 80 MHz

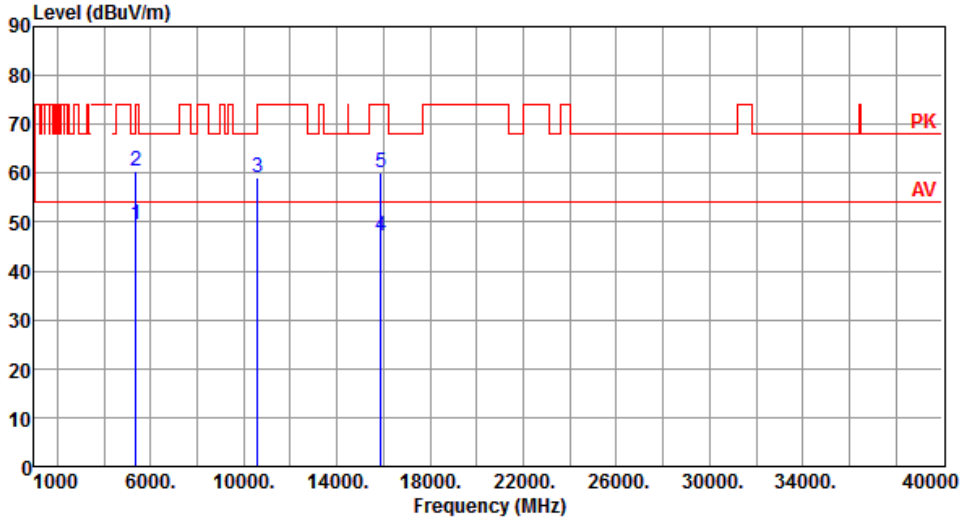
Proprietary protocol (BW)	80	Test Freq. (MHz)	5290
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.61	54.00	-4.39	42.76	6.85	Average	147	176
2	5350.00	60.42	74.00	-13.58	53.57	6.85	Peak	147	176
3	10580.00	59.22	68.20	-8.98	42.59	16.63	Peak	100	20
4	15870.00	47.13	54.00	-6.87	30.46	16.67	Average	100	40
5	15870.00	60.13	74.00	-13.87	43.46	16.67	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

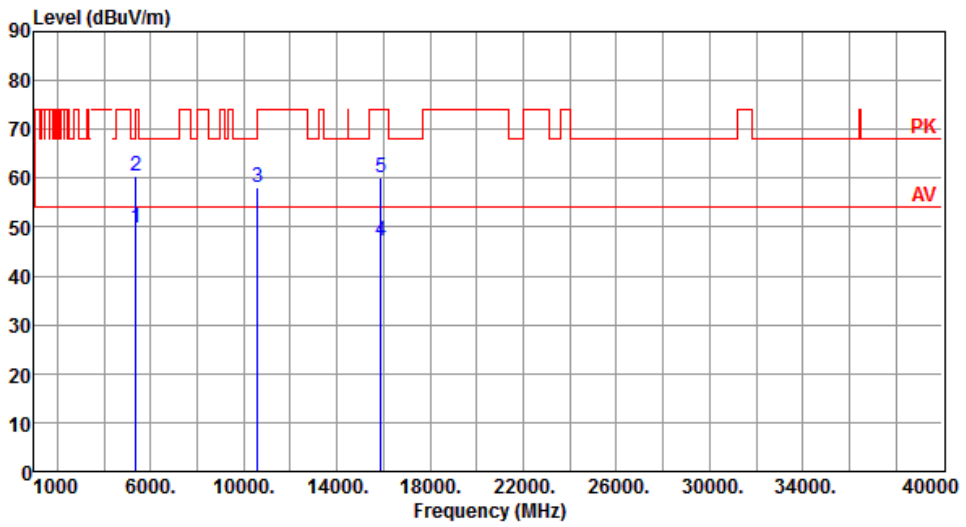
Proprietary protocol (BW)	80	Test Freq. (MHz)	5290
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.49	54.00	-4.51	42.64	6.85	Average	151	178
2	5350.00	60.52	74.00	-13.48	53.67	6.85	Peak	151	178
3	10580.00	59.25	68.20	-8.95	42.62	16.63	Peak	100	50
4	15870.00	47.19	54.00	-6.81	30.52	16.67	Average	100	35
5	15870.00	60.18	74.00	-13.82	43.51	16.67	Peak	100	35

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

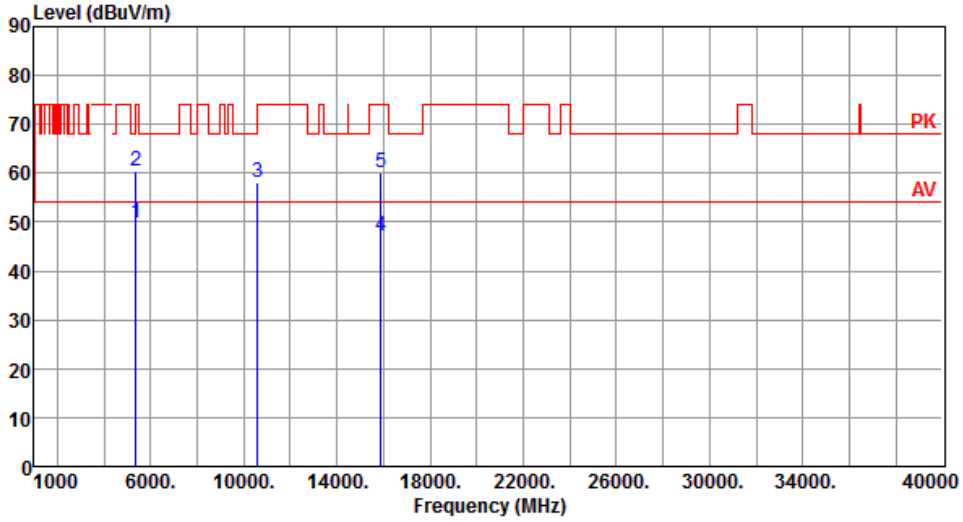
Proprietary protocol (BW)	80	Test Freq. (MHz)	5295
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.79	54.00	-4.21	42.94	6.85	Average	135	176
2	5350.00	60.53	74.00	-13.47	53.68	6.85	Peak	135	176
3	10590.00	58.23	68.20	-9.97	41.58	16.65	Peak	100	20
4	15885.00	47.04	54.00	-6.96	30.36	16.68	Average	100	30
5	15885.00	60.10	74.00	-13.90	43.42	16.68	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

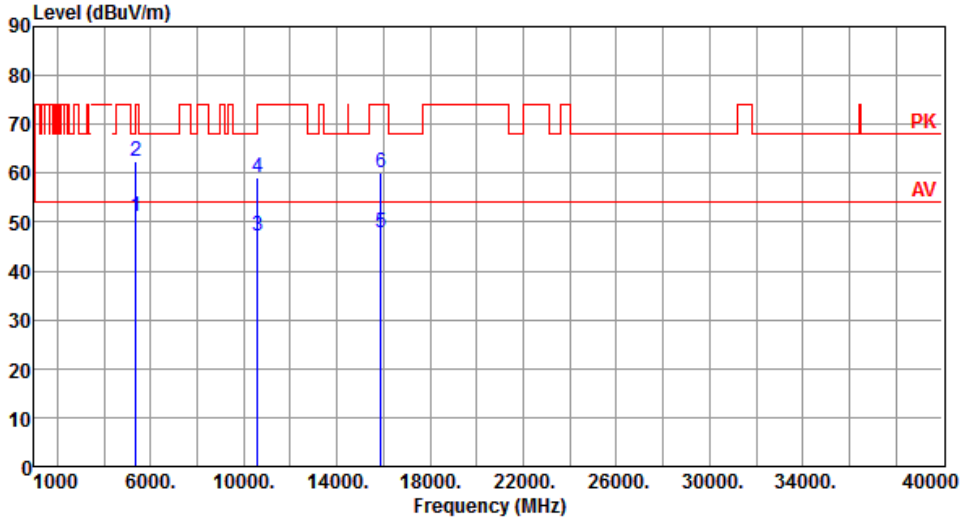
Proprietary protocol (BW)	80	Test Freq. (MHz)	5295
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.71	54.00	-4.29	42.86	6.85	Average	161	185
2	5350.00	60.40	74.00	-13.60	53.55	6.85	Peak	161	185
3	10590.00	58.25	68.20	-9.95	41.60	16.65	Peak	100	30
4	15885.00	47.13	54.00	-6.87	30.45	16.68	Average	100	50
5	15885.00	60.19	74.00	-13.81	43.51	16.68	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

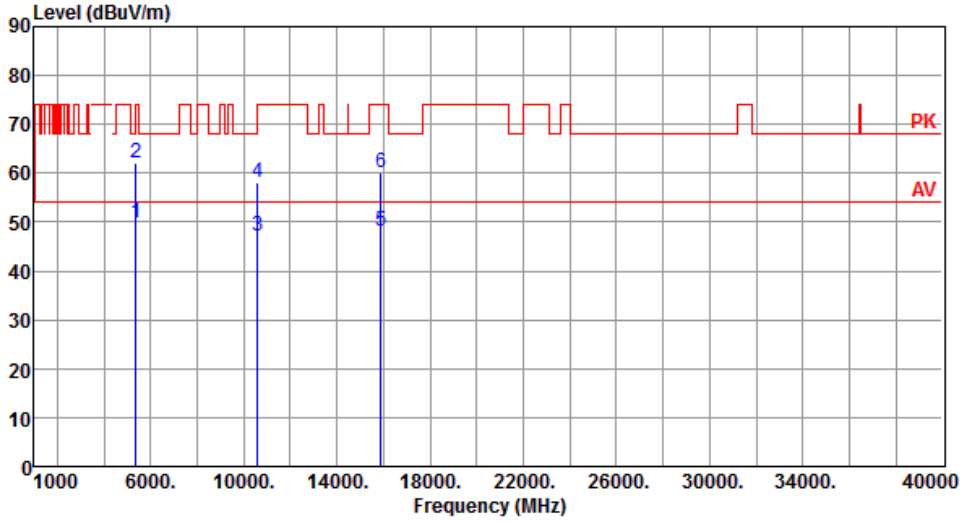
Proprietary protocol (BW)	80	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	51.09	54.00	-2.91	44.24	6.85	Average	134	174
2	5350.00	62.28	74.00	-11.72	55.43	6.85	Peak	134	174
3	10600.00	47.31	54.00	-6.69	30.65	16.66	Average	100	70
4	10600.00	59.19	74.00	-14.81	42.53	16.66	Peak	100	70
5	15900.00	47.93	54.00	-6.07	31.24	16.69	Average	100	25
6	15900.00	60.20	74.00	-13.80	43.51	16.69	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

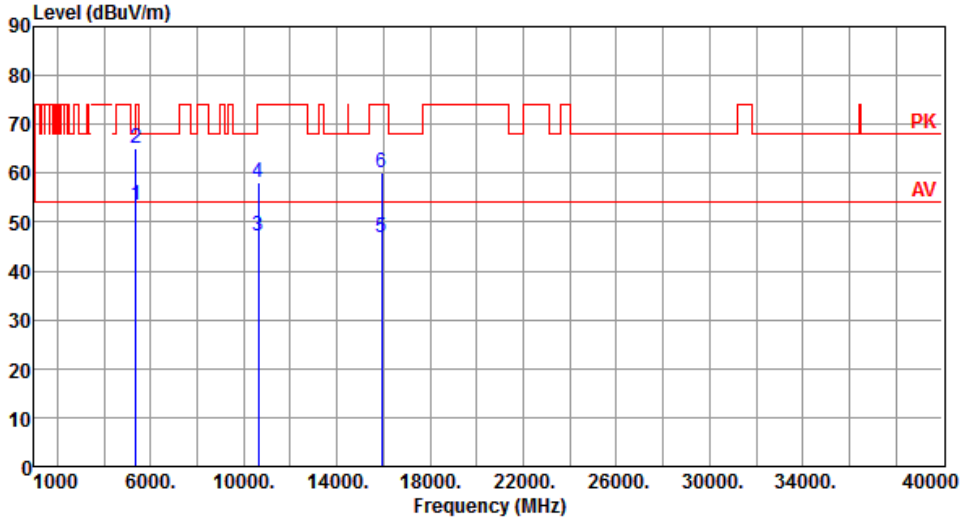
Proprietary protocol (BW)	80	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.98	54.00	-4.02	43.13	6.85	Average	151	179
2	5350.00	61.97	74.00	-12.03	55.12	6.85	Peak	151	179
3	10600.00	47.14	54.00	-6.86	30.48	16.66	Average	100	70
4	10600.00	58.20	74.00	-15.80	41.54	16.66	Peak	100	70
5	15900.00	48.00	54.00	-6.00	31.31	16.69	Average	100	80
6	15900.00	60.11	74.00	-13.89	43.42	16.69	Peak	100	80

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

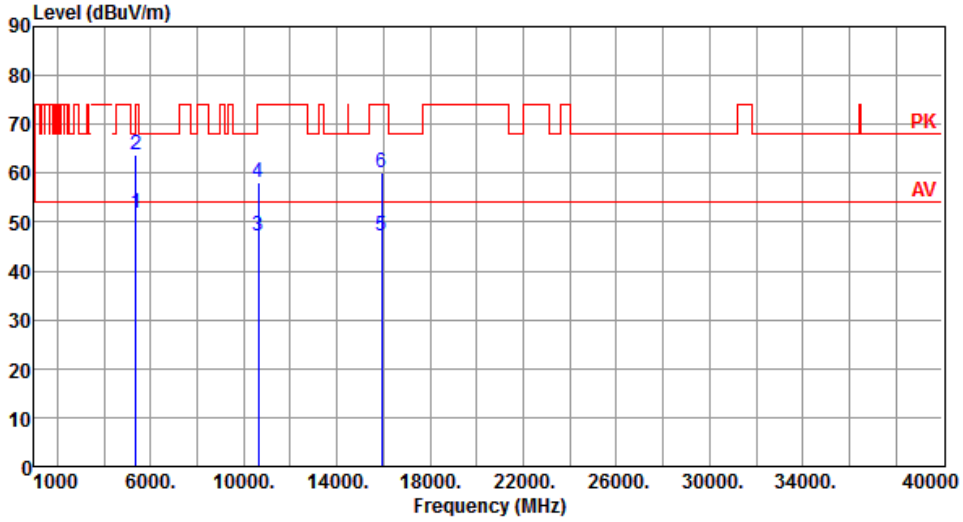
Proprietary protocol (BW)	80	Test Freq. (MHz)	5305
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	53.37	54.00	-0.63	46.52	6.85	Average	148	176
2	5350.00	65.11	74.00	-8.89	58.26	6.85	Peak	148	176
3	10610.00	47.21	54.00	-6.79	30.56	16.65	Average	100	10
4	10610.00	58.25	74.00	-15.75	41.60	16.65	Peak	100	10
5	15915.00	46.95	54.00	-7.05	30.26	16.69	Average	100	20
6	15915.00	60.15	74.00	-13.85	43.46	16.69	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

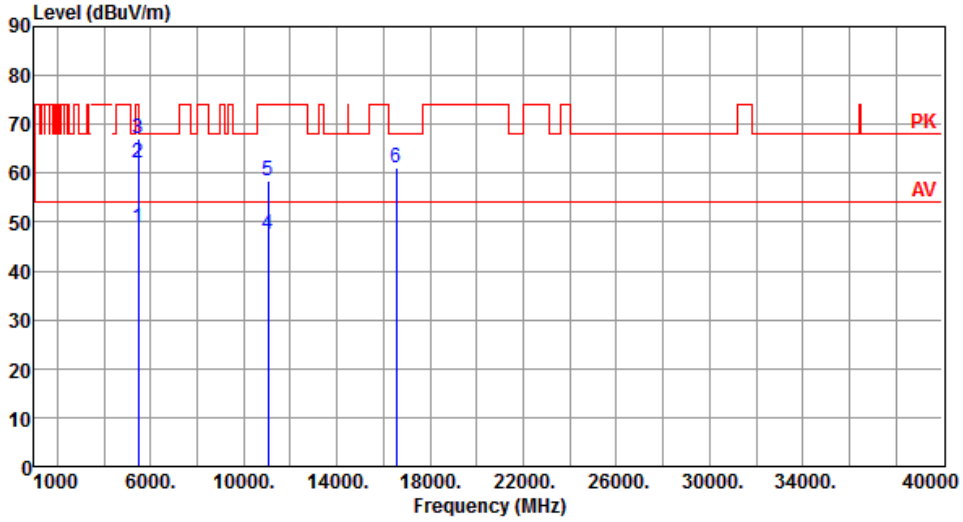
Proprietary protocol (BW)	80	Test Freq. (MHz)	5305
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	51.83	54.00	-2.17	44.98	6.85	Average	145	186
2	5350.00	63.86	74.00	-10.14	57.01	6.85	Peak	145	186
3	10610.00	47.10	54.00	-6.90	30.45	16.65	Average	100	20
4	10610.00	58.23	74.00	-15.77	41.58	16.65	Peak	100	20
5	15915.00	47.17	54.00	-6.83	30.48	16.69	Average	100	80
6	15915.00	60.22	74.00	-13.78	43.53	16.69	Peak	100	80

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

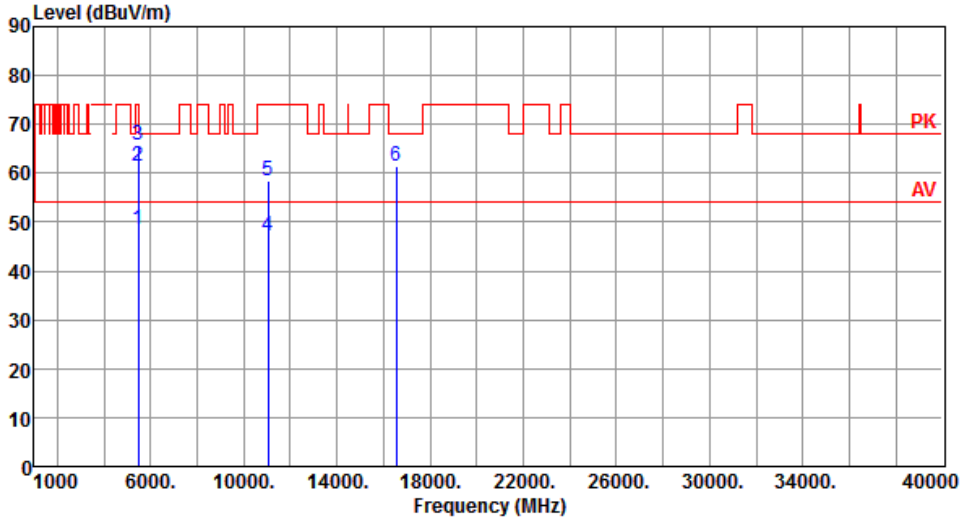
Proprietary protocol (BW)	80	Test Freq. (MHz)	5515
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.70	54.00	-5.30	41.33	7.37	Average	138	173
2	5460.00	61.97	74.00	-12.03	54.60	7.37	Peak	138	173
3	5470.00	67.13	68.20	-1.07	59.71	7.42	Peak	138	173
4	11030.00	47.37	54.00	-6.63	30.47	16.90	Average	100	50
5	11030.00	58.45	74.00	-15.55	41.55	16.90	Peak	100	50
6	16545.00	61.25	68.20	-6.95	43.50	17.75	Peak	100	90

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

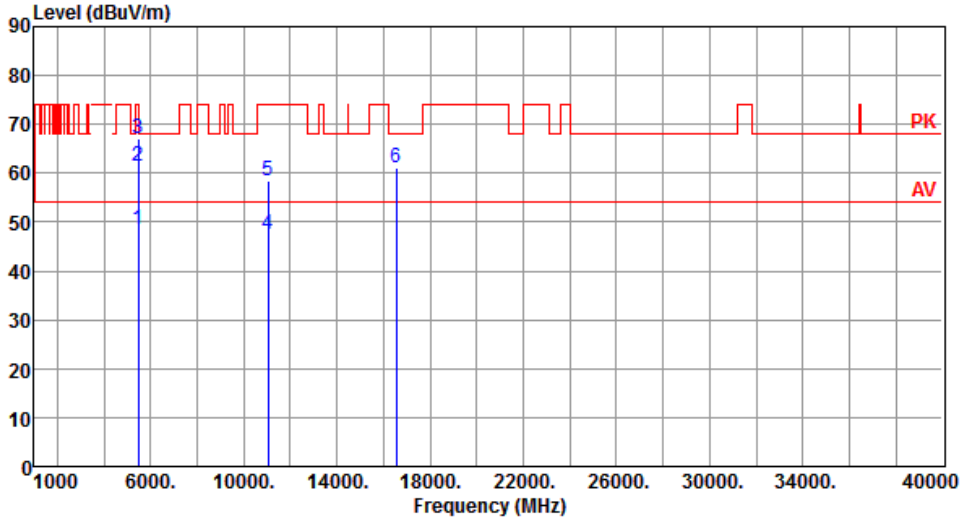
Proprietary protocol (BW)	80	Test Freq. (MHz)	5515
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.62	54.00	-5.38	41.25	7.37	Average	145	188
2	5460.00	61.52	74.00	-12.48	54.15	7.37	Peak	145	188
3	5470.00	65.77	68.20	-2.43	58.35	7.42	Peak	145	188
4	11030.00	47.32	54.00	-6.68	30.42	16.90	Average	100	20
5	11030.00	58.42	74.00	-15.58	41.52	16.90	Peak	100	20
6	16545.00	61.33	68.20	-6.87	43.58	17.75	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

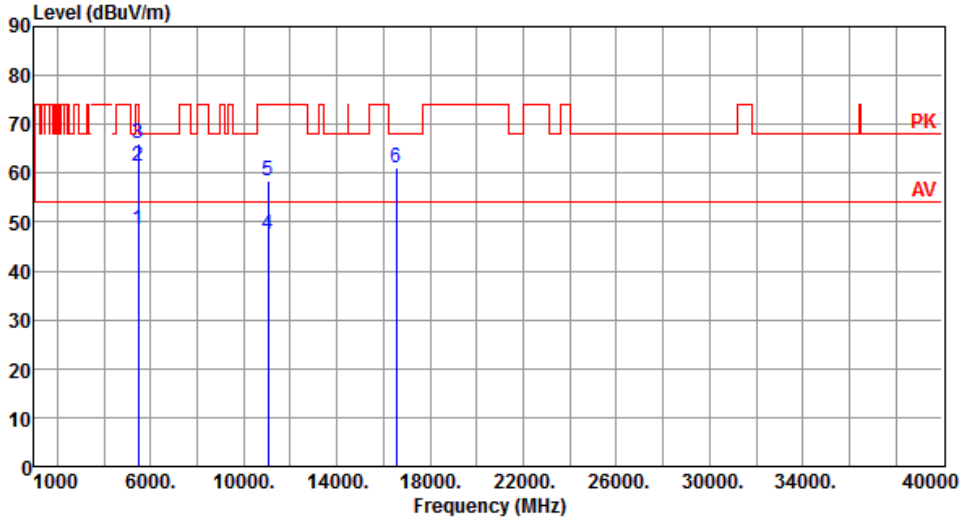
Proprietary protocol (BW)	80	Test Freq. (MHz)	5520
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.58	54.00	-5.42	41.21	7.37	Average	147	187
2	5460.00	61.49	74.00	-12.51	54.12	7.37	Peak	147	187
3	5470.00	67.07	68.20	-1.13	59.65	7.42	Peak	147	187
4	11040.00	47.44	54.00	-6.56	30.56	16.88	Average	100	20
5	11040.00	58.46	74.00	-15.54	41.58	16.88	Peak	100	20
6	16560.00	61.26	68.20	-6.94	43.48	17.78	Peak	100	90

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

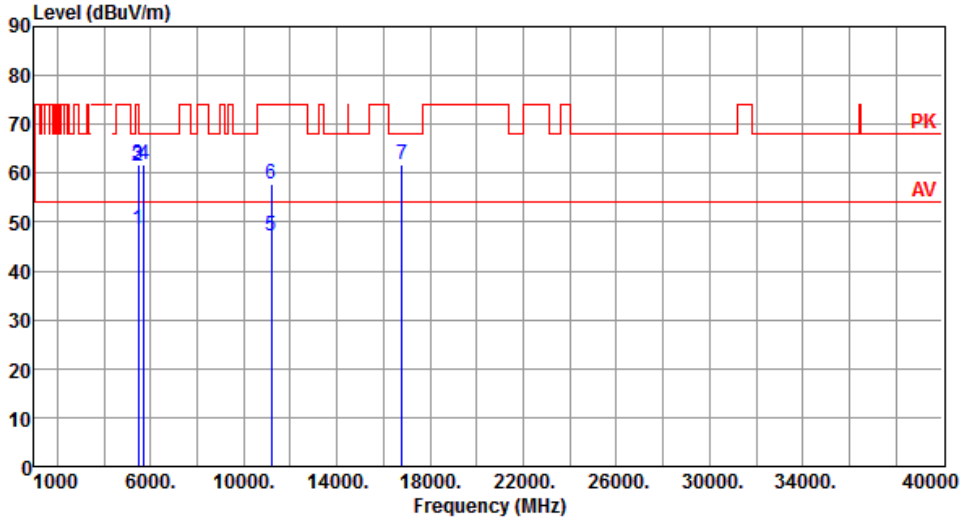
Proprietary protocol (BW)	80	Test Freq. (MHz)	5520
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.52	54.00	-5.48	41.15	7.37	Average	156	181
2	5460.00	61.39	74.00	-12.61	54.02	7.37	Peak	156	181
3	5470.00	65.97	68.20	-2.23	58.55	7.42	Peak	156	181
4	11040.00	47.35	54.00	-6.65	30.47	16.88	Average	100	30
5	11040.00	58.56	74.00	-15.44	41.68	16.88	Peak	100	30
6	16560.00	61.19	68.20	-7.01	43.41	17.78	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

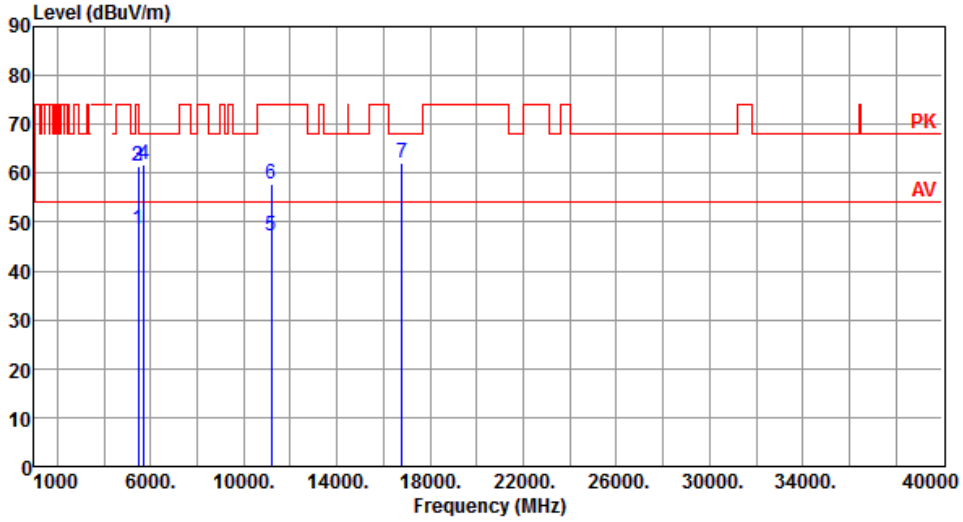
Proprietary protocol (BW)	80	Test Freq. (MHz)	5600
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.58	54.00	-5.42	41.21	7.37	Average	155	184
2	5460.00	61.49	74.00	-12.51	54.12	7.37	Peak	155	184
3	5470.00	61.68	68.20	-6.52	54.26	7.42	Peak	155	184
4	5725.00	61.91	68.20	-6.29	54.15	7.76	Peak	155	184
5	11200.00	47.09	54.00	-6.91	30.56	16.53	Average	100	80
6	11200.00	57.88	74.00	-16.12	41.35	16.53	Peak	100	80
7	16800.00	61.89	68.20	-6.31	43.35	18.54	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

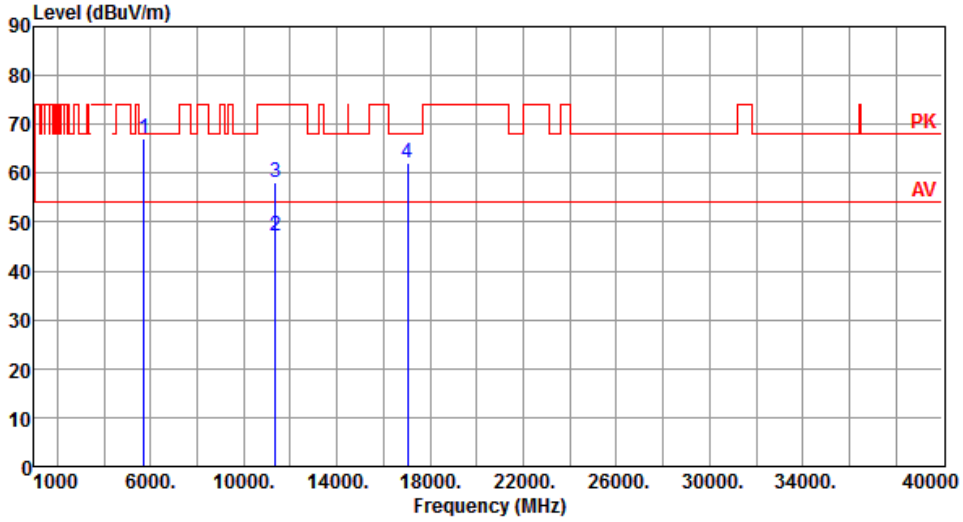
Proprietary protocol (BW)	80	Test Freq. (MHz)	5600
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.55	54.00	-5.45	41.18	7.37	Average	146	177
2	5460.00	61.39	74.00	-12.61	54.02	7.37	Peak	146	177
3	5470.00	61.55	68.20	-6.65	54.13	7.42	Peak	146	177
4	5725.00	61.77	68.20	-6.43	54.01	7.76	Peak	146	177
5	11200.00	47.01	54.00	-6.99	30.48	16.53	Average	100	30
6	11200.00	57.78	74.00	-16.22	41.25	16.53	Peak	100	30
7	16800.00	61.99	68.20	-6.21	43.45	18.54	Peak	100	70

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

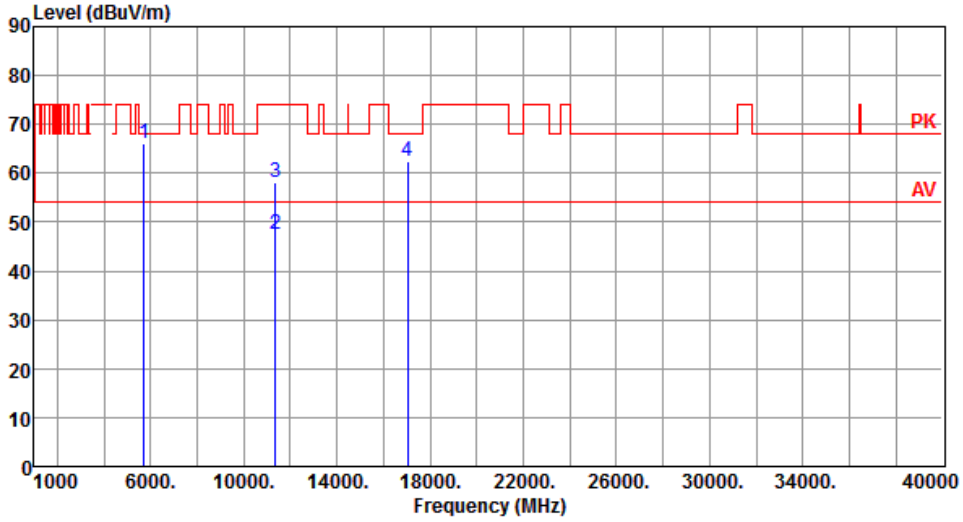
Proprietary protocol (BW)	80	Test Freq. (MHz)	5675
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.01	68.20	-1.19	59.25	7.76	Peak	149	182
2	11350.00	47.18	54.00	-6.82	30.48	16.70	Average	100	70
3	11350.00	58.25	74.00	-15.75	41.55	16.70	Peak	100	70
4	17025.00	62.21	68.20	-5.99	43.47	18.74	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

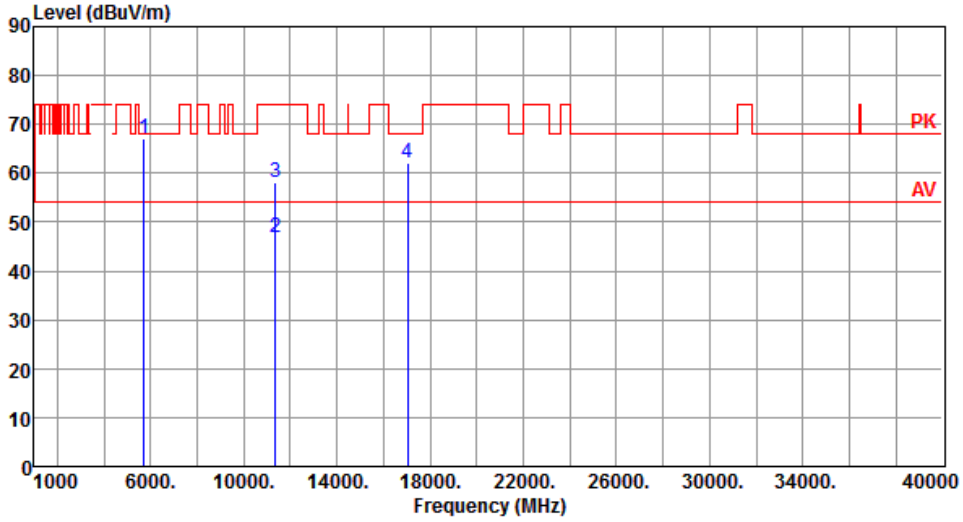
Proprietary protocol (BW)	80	Test Freq. (MHz)	5675
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.13	68.20	-2.07	58.37	7.76	Peak	152	178
2	11350.00	47.35	54.00	-6.65	30.65	16.70	Average	100	25
3	11350.00	58.26	74.00	-15.74	41.56	16.70	Peak	100	25
4	17025.00	62.32	68.20	-5.88	43.58	18.74	Peak	100	40

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

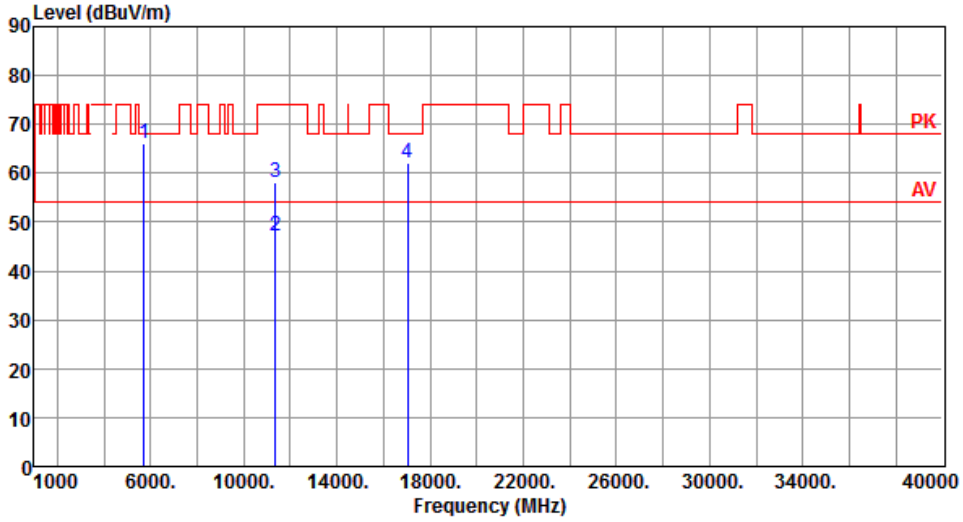
Proprietary protocol (BW)	80	Test Freq. (MHz)	5680
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.00	68.20	-1.20	59.24	7.76	Peak	149	180
2	11360.00	46.95	54.00	-7.05	30.24	16.71	Average	100	20
3	11360.00	58.16	74.00	-15.84	41.45	16.71	Peak	100	20
4	17040.00	62.13	68.20	-6.07	43.43	18.70	Peak	100	35

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Proprietary protocol (BW)	80	Test Freq. (MHz)	5680
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	66.11	68.20	-2.09	58.35	7.76	Peak	152	185
2	11360.00	47.30	54.00	-6.70	30.59	16.71	Average	100	80
3	11360.00	58.24	74.00	-15.76	41.53	16.71	Peak	100	80
4	17040.00	62.19	68.20	-6.01	43.49	18.70	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.6 Frequency Stability

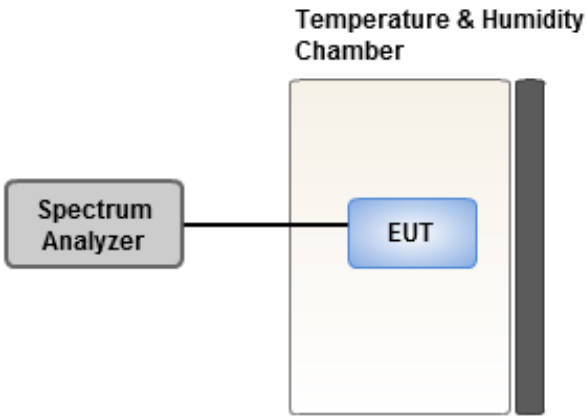
3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 20 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under normal and extreme condition for temperature and voltage.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5335 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	-0.09	0.00	0.19	-0.55
T20°CVmin	-0.29	-0.25	-0.22	-0.67
T70°CVnom	-4.73	-4.71	-4.07	-4.95
T60°CVnom	-5.58	-5.65	-5.18	-4.88
T50°CVnom	-1.79	-1.79	-1.75	-1.51
T40°CVnom	-3.03	-2.91	-2.70	-3.02
T30°CVnom	-3.76	-3.99	-3.70	-4.05
T20°CVnom	-0.55	-0.42	-0.78	-0.26
T10°CVnom	-0.72	-0.07	-0.27	-0.52
T0°CVnom	1.16	1.16	1.76	1.43
T-10°CVnom	4.17	4.25	4.35	4.41
T-20°CVnom	6.35	6.65	6.70	6.50
T-30°CVnom	7.93	7.63	7.88	8.11
T-40°CVnom	8.07	7.69	7.84	8.36
Vnom [Vac]: 120	Vmax [Vac]: 138		Vmin [Vac]: 102	
Tnom [°C]: 20	Tmax [°C]: 70		Tmin [°C]: -40	

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

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