



FCC ID: M82-AIM75L
Report No.: T201102D09-RP17

IC: 9404A-AIM75L

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**FCC 47 CFR PART 27 SUBPART L
&
INDUSTRY CANADA RSS-139**

TEST REPORT

For

Tablet PC

Model No.:

**FCC: AIM-75S-6; AIM-75H-6; AIM-75S-6XXXXXXXXXXXXXXXXXX;
AIM-75H-6XXXXXXXXXXXXXXXXXX; AIM75S-6XXXXXXXXXXXXXXXXXX;
AIM75H-6XXXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric
character, "-" or blank)**

IC: AIM-75S-6; AIM-75H-6

Trade Name: ADVANTECH

Issued to

Advantech Co., Ltd.

**No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan,
R.O.C.**

Issued by

Compliance Certification Services Inc.

Wugu Laboratory

**No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)**

Issued Date: September 7, 2021

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 7, 2021	Initial Issue	ALL	Doris Chu



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1. TEST RESULT CERTIFICATION

Applicant: Advantech Co., Ltd.
No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District,
Taipei 114, Taiwan, R.O.C.

Manufacturer: Advantech Co., Ltd.
No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District,
Taipei 114, Taiwan, R.O.C.

Equipment Under Test: Tablet PC

Trade Name: ADVANTECH

Model No.: FCC: AIM-75S-6; AIM-75H-6;
AIM-75S-6XXXXXXXXXXXXXXXXXX;
AIM-75H-6XXXXXXXXXXXXXXXXXX;
AIM75S-6XXXXXXXXXXXXXXXXXX;
AIM75H-6XXXXXXXXXXXXXXXXXX (where "X" may be any
alphanumeric character, "-" or blank)
IC: AIM-75S-6; AIM-75H-6

Date of Test: December 14, 2020 ~ August 27, 2021



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APPLICABLE STANDARDS	
Standard	TEST RESULT
FCC 47 CFR PART 27 SUBPART L & RSS-139 Issue 3 July 2015	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.



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2. EUT DESCRIPTION

Product	Tablet PC	
Model No.	FCC: AIM-75S-6; AIM-75H-6; AIM-75S-6XXXXXXXXXXXXXXXXXX; AIM-75H-6XXXXXXXXXXXXXXXXXX; AIM75S-6XXXXXXXXXXXXXXXXXX; AIM75H-6XXXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-" or blank) IC: AIM-75S-6; AIM-75H-6	
Model Discrepancy	Please see remark as below.	
Trade	ADVANTECH	
Received Date	November 2, 2020	
Power Supply	1. EUT Power by Adapter. (1) FSP / FSP045-A1BR I/P: 100-240Vac, 50-60Hz, 1.2A O/P: 5Vdc, 3.0A, 15.0W; 9.0Vdc, 3.0A, 27.0W; 12.0Vdc, 3.0A, 36.0W; 15.0Vdc, 3.0A, 45.0W; 20.0Vdc, 2.25A, 45.0W (2) GlobTek, Inc / GTM96605-GEN2-A1-T2 I/P: 100-240Vac, 50-60Hz, 1.5A O/P: 5Vdc, 4.6A; 5.8Vdc, 4.6A; 9Vdc, 4.4A; 12Vdc, 4A; 15Vdc, 3.6A; 20Vdc, 3A (3) DELTA / MEA-045AA2C I/P: 100-240V~1.0A Max. 50-60Hz O/P: 5VDC, 3A; 9VDC, 3A; 10VDC, 3A; 12VDC, 3A; 15VDC, 3A; 20VDC, 2.25A 2. EUT Power by Rechargeable Li-ion Battery. ADVANTECH / AIM-BAT-8 Rating: 3.8Vdc, 4900mAh, 18.62Wh	
Modulation Technology	LTE Band 66	QPSK, 16QAM, 64QAM
	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~1777.5MHz
	LTE Band 66 Channel Bandwidth: 10MHz	1715.0MHz ~1775.0MHz
	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720.0MHz ~1770.0MHz



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Transmit Power (EIRP Power)	LTE Band 66 Channel Bandwidth: 1.4MHz	QPSK: 25.62 dBm 16QAM: 24.64 dBm 64QAM: 23.93 dBm
	LTE Band 66 Channel Bandwidth: 3MHz	QPSK: 25.64 dBm 16QAM: 24.66 dBm 64QAM: 23.91 dBm
	LTE Band 66 Channel Bandwidth: 5MHz	QPSK: 25.69 dBm 16QAM: 24.71 dBm 64QAM: 23.99 dBm
	LTE Band 66 Channel Bandwidth: 10MHz	QPSK: 25.72 dBm 16QAM: 24.74 dBm 64QAM: 23.85 dBm
	LTE Band 66 Channel Bandwidth: 15MHz	QPSK: 25.73 dBm 16QAM: 24.75 dBm 64QAM: 23.95 dBm
	LTE Band 66 Channel Bandwidth: 20MHz	QPSK: 25.80 dBm 16QAM: 24.82 dBm 64QAM: 24.00 dBm
Antenna Specification	Antenna type: PIFA 1. YAGEO / 6036B0281601 / Main (TX) Band 25: 2.14 dBi 2. YAGEO / 6036B0281701 / Aux Band 25: 0.76 dBi	
HW Version	AX2	
SW Version	0.3.6.9_20201021.021551	
EUT Serial #	200CT32E00162	
Module	Quectel / EM06-A	



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Remark:

1. For more details, refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. Disclaimer: Variant information between/among model numbers / trademarks are provided by the applicant, test results of this report are applicable to the sample EUT received of main test model name.
4. Model Discrepancy:

Model	Adapter	Tablet color
AIM-75H-6	1. GlobTek, Inc / GTM96605-GEN2-A1-T2 I/P: 100-240VAC, 50-60Hz, 1.5A O/P: 5VDC, 4.6A; 5.8VDC, 4.6A; 9VDC, 4.4A; 12VDC, 4A; 15VDC, 3.6A; 20VDC, 3A 2. DELTA / MEA-045AA2C IP: 100-240V~1.0A Max. 50-60Hz O/P: 5VDC, 3A; 9VDC, 3A; 10VDC, 3A; 12VDC, 3A; 15VDC, 3A; 20VDC, 2.25A	White
AIM-75S-6	1. FSP / FSP045-A1BR I/P: 100-240VAC, 50-60Hz, 1.2A O/P: 5.0VDC, 3.0A 15.0W; 9.0VDC, 3.0A 27.0W; 12.0VDC, 3.0A 36.0W; 15.0VDC, 3.0A 45.0W; 20.0VDC, 2.25A 45.0W	Black
AIM-75S-6XXXXXXXXXXXXXXXXXX; AIM-75H-6XXXXXXXXXXXXXXXXXX; AIM75S-6XXXXXXXXXXXXXXXXXX; AIM75H-6XXXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-" or blank)	All the above models are identical except for the designation of model numbers. The suffix of (where "X" may be any alphanumeric character, "-" or blank) on model number is just for marketing purpose only.	

3. TEST METHODOLOGY

3.1 DESCRIPTION OF TEST TYPE

The EUT (model: AIM-75S-6) had been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

LTE Band 66: 1710.7MHz ~ 1779.3MHz

Three channels had been tested for each channel bandwidth.

Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	131979	1710.7	131987	1711.5	131997	1712.5
Middle CH	132322	1745	132322	1745	132322	1745
High CH	132665	1779.3	132657	1778.5	132647	1777.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	132022	1715	132047	1717.5	132072	1720
Middle CH	132322	1745	132322	1745	132322	1745
High CH	132622	1775	132597	1772.5	132572	1770

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Adapter. (GlobTek) Mode 2: EUT power by Adapter. (FSP) Mode 3: EUT power by Adapter. (DELTA) Mode 4: EUT power by Battery
Worst Mode	☐ Mode 1 ☒ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☒ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☐ Placed in fixed position at Z-Plane (H-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter. (GlobTek) Mode 2: EUT power by Adapter. (FSP) Mode 3: EUT power by Adapter. (DELTA) Mode 4: EUT power by Battery
Worst Mode	☐ Mode 1 ☒ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report



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4. TEST SUMMARY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
-	-	2	Antenna Requirement	Pass
27.50(d)	RSS-139, section 6.5	8.1	EIRP Measurement	Pass
2.1055, 27.54	RSS-139 section 6.4	8.2	Frequency Stability v.s. temperature measurement	Pass
2.1049	RSS-GEN 6.7	8.3	Occupied Bandwidth Measurement	Pass
27.50(d)	RSS-133, section 6.4	8.4	Peak to Average Ratio	Pass
27.53(h)	RSS-139 section 6.5	8.5	Out of Band Emission at Antenna Terminals	Pass
27.53(h)	RSS-139 section 6.5	8.6	Spurious Radiation Measurement	Pass

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: Each piece of equipment is scheduled for calibration once a year.

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Coaxial Cable	Woken	WC12	CC003	06/29/2020	06/28/2021
Power Divider	Solvang Technology	STI08-0015	008	08/05/2020	08/04/2021
Radio Communication Analyzer	Anritsu	MT-8820C	6201240043	07/17/2020	07/16/2021
Thermostatic/Humidity Chamber	TAICHY	MHG-150LF	930619	09/24/2020	09/23/2021
EXA Signal Analyzer	KEYSIGHT	N9010B	MY55460167	09/07/2020	09/06/2021
Software	N/A				

Test date for August 27, 2021

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Coaxial Cable	Woken	WC12	CC003	06/28/2021	06/27/2022
Coaxial Cable	Woken	WC12	CC001	06/28/2021	06/27/2022
Power Divider	Solvang Technology	STI08-0015	008	07/26/2021	07/25/2022
Thermostatic/Humidity Chamber	TAICHY	MHG-150LF	930619	09/24/2020	09/23/2021
EXA Signal Analyzer	KEYSIGHT	N9010B	MY55460167	09/07/2020	09/06/2021
Wideband Radio Communication Tester	R&S	CMW 500	116875	07/06/2021	07/05/2022
Software	E3 6.11-20180413 & Radio Test Software Ver.21 & LTE Measurement_Power-Ver. 21				

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/25/2020	02/24/2021
Bilog Antenna	Sunol Sciences	JB3	A030105	07/24/2020	07/23/2021
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/25/2020	02/24/2021
Coaxial Cable	EMCI	EMC105	190914+327109/4	09/19/2020	09/18/2021
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/15/2020	01/14/2021
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	09/30/2020	09/29/2021
Loop Ant	COM-POWER	AL-130	121051	03/27/2020	03/26/2021
Pre-Amplifier	EMEC	EM330	060609	02/25/2020	02/24/2021
Pre-Amplifier	EMEC	EM01G26G	060570	06/29/2020	06/28/2021
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	07/24/2020	07/23/2021
S.G.	Agilent	E8257C	US42340383	07/21/2020	07/20/2021
Bilog Antenna	Sunol Sciences	JB1	A052609	07/24/2020	07/23/2021
Horn Antenna	ETS LINDGREN	3117	00055165	07/22/2020	07/21/2021
Horn Antenna	EMCO	3116	2487	05/11/2020	05/10/2021
Horn Antenna	ETS LINDGREN	3116	00026370	12/11/2020	12/10/2021
K Type Cable	Huber+Suhner	SUCOFLEX 102	29406/2	12/09/2020	12/08/2021
K Type Cable	Huber+Suhner	SUCOFLEX 102	22470/2	12/09/2020	12/08/2021
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

Remark: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



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6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

Canada Registration number: 2324G

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC public Access Link (PAL) database, FCC Registration No.: 444940, the FCC Designation No.: TW1309

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10: 2013 and CISPR Publication 22.

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."



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7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

7.2 SUPPORT EQUIPMENT

No	Equipment	Brand	Model	Series No.	FCC ID	IC
1	NB(J)	TOSHIBA	PT345T-00L002	N/A	PD97260H	1000M-7260H

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



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8. TEST PROCEDURE AND RESULT

8.1 EIRP MEASUREMENT

LIMIT

FCC 27.50 (d) (4): Fixed, mobile, and portable (handheld) stations operating in the 1710-1755MHz band and mobile and portable stations operating in the 1695-1710MHz and 1755-1780MHz bands are limited to 1 watt EIRP.

RSS-139 § 6.5,

The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt. The e.i.r.p. for fixed and base stations in the band 1710-1780 MHz shall not exceed one watt.

TEST PROCEDURES

CONDUCTED POWER MEASUREMENT:

1. The transmitter output power was connected to the call box.
2. Set EUT at maximum output power via call box.
3. Set Call box at lowest, middle and highest channels for each band and modulation.

TEST RESULTS

No non-compliance noted.

TEST RESULTS

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Temperature: 25°C

Humidity: 57% RH

Tested by: Jerry Chang

Test Date: May 25, 2021

LTE Band 66

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131979	132322	132665	131979	132322	132665	131979	132322	132665
1.4	1	0	1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz
	1	5	23.41	23.31	23.48	22.5	22.37	22.5	21.59	21.71	21.56
	3	2	23.1	22.97	23.17	22.33	22.08	22.18	21.58	21.76	21.67
	6	0	22.21	22.18	22.27	22.29	22.15	22.32	21.77	21.79	21.47
			22.43	22.34	22.58	21.36	21.35	21.47	20.69	20.9	20.93

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131979	132322	132665	131979	132322	132665	131979	132322	132665
1.4	1	0	1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz
	1	5	25.55	25.45	25.62	24.64	24.51	24.64	23.73	23.85	23.7
	3	2	25.24	25.11	25.31	24.47	24.22	24.32	23.72	23.9	23.81
	6	0	24.35	24.32	24.41	24.43	24.29	24.46	23.91	23.93	23.61
			24.57	24.48	24.72	23.5	23.49	23.61	22.83	23.04	23.07

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131987	132322	132657	131987	132322	132657	131987	132322	132657
			1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz
3	1	0	23.42	23.32	23.5	22.51	22.38	22.52	21.51	21.76	21.77
	1	14	23.11	22.98	23.19	22.34	22.09	22.2	21.34	21.67	21.76
	8	4	22.1	22.01	22.45	21.14	20.98	21.39	20.57	20.76	20.86
	15	0	22.44	22.35	22.6	21.37	21.36	21.49	20.55	20.76	20.84

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131987	132322	132657	131987	132322	132657	131987	132322	132657
			1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz
3	1	0	25.56	25.46	25.64	24.65	24.52	24.66	23.65	23.9	23.91
	1	14	25.25	25.12	25.33	24.48	24.23	24.34	23.48	23.81	23.9
	8	4	24.24	24.15	24.59	23.28	23.12	23.53	22.71	22.9	23
	15	0	24.58	24.49	24.74	23.51	23.5	23.63	22.69	22.9	22.98

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131997	132322	132647	131997	132322	132647	131997	132322	132647
			1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz
5	1	0	23.47	23.36	23.55	22.56	22.42	22.57	21.28	21.85	21.45
	1	24	23.16	23.02	23.24	22.39	22.13	22.25	21.12	21.57	21.28
	12	6	22.15	22.05	22.5	21.19	21.02	21.44	20.46	20.68	20.68
	25	0	22.49	22.39	22.65	21.42	21.4	21.54	20.4	20.57	20.67

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High	CH-Low	CH-Mid	CH-High
			131997	132322	132647	131997	132322	132647	131997	132322	132647
			1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz
5	1	0	25.61	25.5	25.69	24.7	24.56	24.71	23.42	23.99	23.59
	1	24	25.3	25.16	25.38	24.53	24.27	24.39	23.26	23.71	23.42
	12	6	24.29	24.19	24.64	23.33	23.16	23.58	22.6	22.82	22.82
	25	0	24.63	24.53	24.79	23.56	23.54	23.68	22.54	22.71	22.81

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132022	CH-Mid 132322	CH-High 132622	CH-Low 132022	CH-Mid 132322	CH-High 132622	CH-Low 132022	CH-Mid 132322	CH-High 132622
			1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz
10	1	0	23.49	23.38	23.58	22.58	22.44	22.6	21.71	21.65	21.64
	1	49	23.18	23.04	23.27	22.41	22.15	22.28	21.38	21.38	21.28
	25	12	22.17	22.07	22.53	21.21	21.04	21.47	20.66	20.74	20.72
	50	0	22.51	22.41	22.68	21.44	21.42	21.57	20.66	19.7	20.78

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132022	CH-Mid 132322	CH-High 132622	CH-Low 132022	CH-Mid 132322	CH-High 132622	CH-Low 132022	CH-Mid 132322	CH-High 132622
			1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz
10	1	0	25.63	25.52	25.72	24.72	24.58	24.74	23.85	23.79	23.78
	1	49	25.32	25.18	25.41	24.55	24.29	24.42	23.52	23.52	23.42
	25	12	24.31	24.21	24.67	23.35	23.18	23.61	22.8	22.88	22.86
	50	0	24.65	24.55	24.82	23.58	23.56	23.71	22.8	21.84	22.92

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132047	CH-Mid 132322	CH-High 132597	CH-Low 132047	CH-Mid 132322	CH-High 132597	CH-Low 132047	CH-Mid 132322	CH-High 132597
			1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz
15	1	0	23.5	23.39	23.59	22.59	22.45	22.61	21.52	21.81	21.54
	1	74	23.19	23.05	23.28	22.42	22.16	22.29	21.14	21.2	21.21
	36	18	22.18	22.08	22.54	21.22	21.05	21.48	20.41	20.54	20.48
	75	0	22.52	22.42	22.69	21.45	21.43	21.58	20.41	20.6	20.58

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132047	CH-Mid 132322	CH-High 132597	CH-Low 132047	CH-Mid 132322	CH-High 132597	CH-Low 132047	CH-Mid 132322	CH-High 132597
			1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz
15	1	0	25.64	25.53	25.73	24.73	24.59	24.75	23.66	23.95	23.68
	1	74	25.33	25.19	25.42	24.56	24.3	24.43	23.28	23.34	23.35
	36	18	24.32	24.22	24.68	23.36	23.19	23.62	22.55	22.68	22.62
	75	0	24.66	24.56	24.83	23.59	23.57	23.72	22.55	22.74	22.72

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	Conducted power (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132072	CH-Mid 132322	CH-High 132572	CH-Low 132072	CH-Mid 132322	CH-High 132572	CH-Low 132072	CH-Mid 132322	CH-High 132572
			1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz
20	1	0	23.53	23.45	23.66	22.62	22.51	22.68	21.86	21.57	21.72
	1	99	23.22	23.11	23.35	22.45	22.22	22.36	21.75	21.55	21.76
	50	24	22.21	22.14	22.61	21.25	21.11	21.55	20.42	20.57	20.51
	100	0	22.55	22.48	22.76	21.48	21.49	21.65	20.47	20.44	20.51

LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
BW (MHz)	RB Size	RB Offset	EIRP (dBm)								
			QPSK			16QAM			64QAM		
			CH-Low 132072	CH-Mid 132322	CH-High 132572	CH-Low 132072	CH-Mid 132322	CH-High 132572	CH-Low 132072	CH-Mid 132322	CH-High 132572
			1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz
20	1	0	25.67	25.59	25.8	24.76	24.65	24.82	24	23.71	23.86
	1	99	25.36	25.25	25.49	24.59	24.36	24.5	23.89	23.69	23.9
	50	24	24.35	24.28	24.75	23.39	23.25	23.69	22.56	22.71	22.65
	100	0	24.69	24.62	24.9	23.62	23.63	23.79	22.61	22.58	22.65



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8.2 FREQUENCY STABILITY MEASUREMENT

LIMIT

According to the FCC part 27.54 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation."

According to RSS -139 section 6.4.

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

TEST PROCEDURE

Use Anritsu 8820 with frequency Error measurement capability.

Temp = -30 to +50°C

Voltage= 85% to 115% of the nominal value for AC powered equipment.

NOTE: The frequency error was recorded frequency error from the communication simulator.

TEST RESULTS



Report No.: T201102D09-RP17

Temperature: 25°C

Humidity: 57% RH

Tested by: Jerry Chang

Test Date: May 25, 2021

FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT:**LTE Band 66**

Reference Freq.:		LTE B66 Mid Channel		1745 MHz	10M QPSK CH 132322
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)	
Freq. ERROR vs. VOLTAGE					
5.5	25	1744.999982	-18	4363	
5	25	1744.999995	-5	4363	
4.75	25	1745.000013	13	4363	
3.7 (End Point)	25	1745.000052	52	4363	
Freq. ERROR vs. Temp.					
5	-30	1745.000065	65	4363	
5	-20	1744.999982	-18	4363	
5	-10	1744.999966	-34	4363	
5	0	1745.000082	82	4363	
5	10	1745.000026	26	4363	
5	20	1745.000051	51	4363	
5	30	1744.999958	-42	4363	
5	40	1745.000041	41	4363	
5	50	1744.999990	-10	4363	

8.3 OCCUPIED BANDWIDTH MEASUREMENT

LIMITS

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

TEST PROCEDURES

KDB 971168 D01 Power Meas License Digital Systems – Section 4.2

1. The occupied bandwidth was measured with the spectrum analyzer at the lowest, middle and highest channels in each band and different modulation. The 99% and -26dB bandwidth was measured and recorded.
2. RBW = 1-5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max. hold

TEST RESULTS**Temperature:** 25.3°C**Humidity:** 57.6% RH**Tested by:** Jerry Chang**Test Date:** March 5, 2021**Temperature:** 24.5°C**Humidity:** 53.7% RH**Tested by:** Jerry Chang**Test Date:** March 8, 2021**LTE Band 66**

LTE BAND 66 Channel bandwidth: 1.4MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1710.7	131979	1.0851	1.0856	1.0850	1.228	1.223	1.225
1745.0	132322	1.0863	1.0849	1.0845	1.232	1.225	1.222
1779.3	132665	1.0875	1.0882	1.0859	1.248	1.221	1.231

LTE BAND 66 Channel bandwidth: 3MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1711.5	131987	2.6848	2.6909	2.6954	2.954	2.989	3.002
1745.0	132322	2.6856	2.6885	2.6952	2.970	2.976	2.983
1778.5	132657	2.6883	2.6909	2.6965	2.983	2.992	3.027

LTE BAND 66 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1712.5	131997	4.4843	4.4890	4.4846	4.962	4.940	4.927
1745.0	132322	4.4855	4.4886	4.4849	4.949	4.962	4.931
1777.5	132647	4.4873	4.4890	4.4831	4.943	4.980	4.950

LTE BAND 66 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1715.0	132022	8.9795	8.9451	8.9626	9.789	9.723	9.727
1745.0	132322	8.9788	8.9439	8.9564	9.769	9.722	9.772
1775.0	132622	8.9734	8.9342	8.9662	9.778	9.717	9.749



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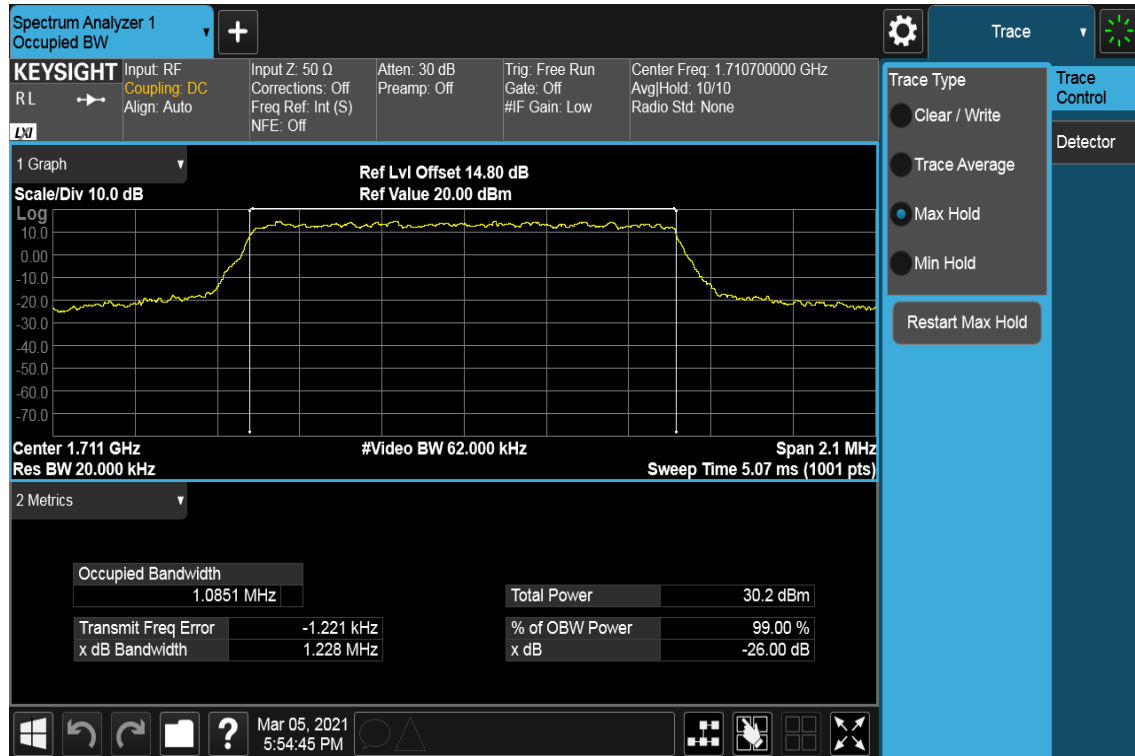
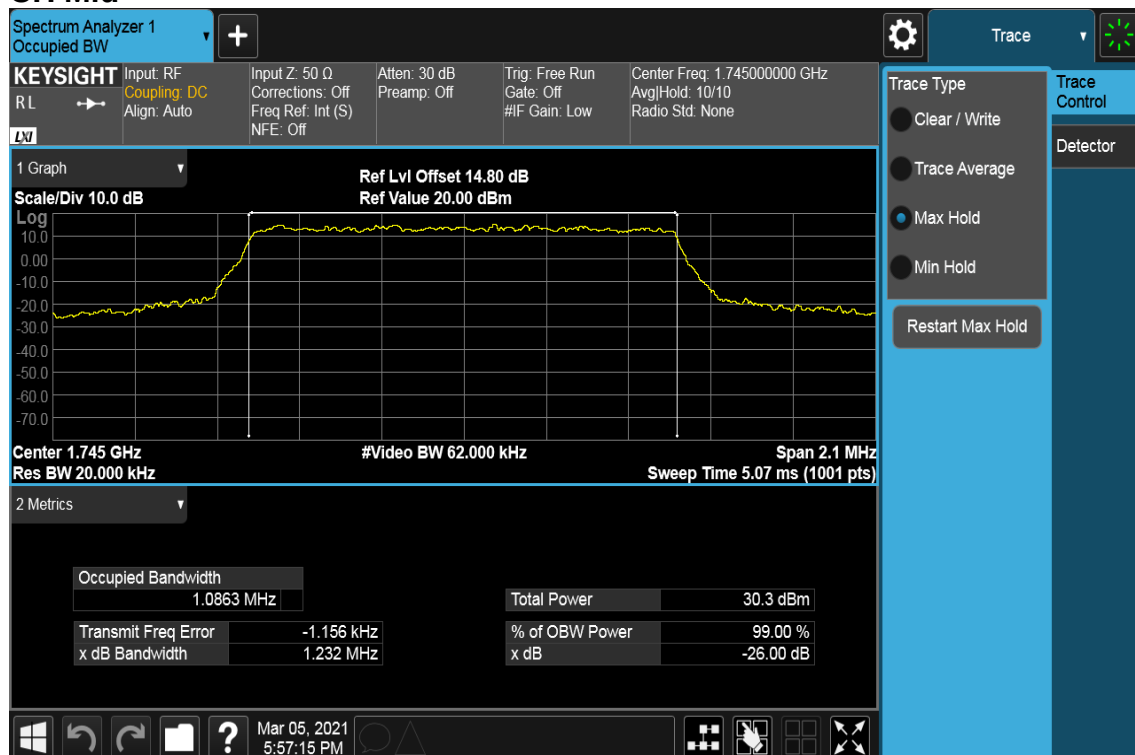
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LTE BAND 66 Channel bandwidth: 15MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1717.5	132047	13.459	13.454	13.453	14.66	14.70	14.60
1745.0	132322	13.462	13.447	13.463	14.60	14.63	14.51
1772.5	132597	13.465	13.434	13.453	14.60	14.59	14.63

LTE BAND 66 Channel bandwidth: 20MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1720.0	132072	17.892	17.902	17.906	19.30	19.36	19.28
1745.0	132322	17.943	17.939	17.920	19.45	19.47	19.41
1770.0	132572	17.875	17.885	17.866	19.31	19.37	19.27

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LTE Band 66**CHANNEL BANDWIDTH: 1.4MHz / QPSK / RB =6, RB Offset = 0****CH Low****CH Mid**

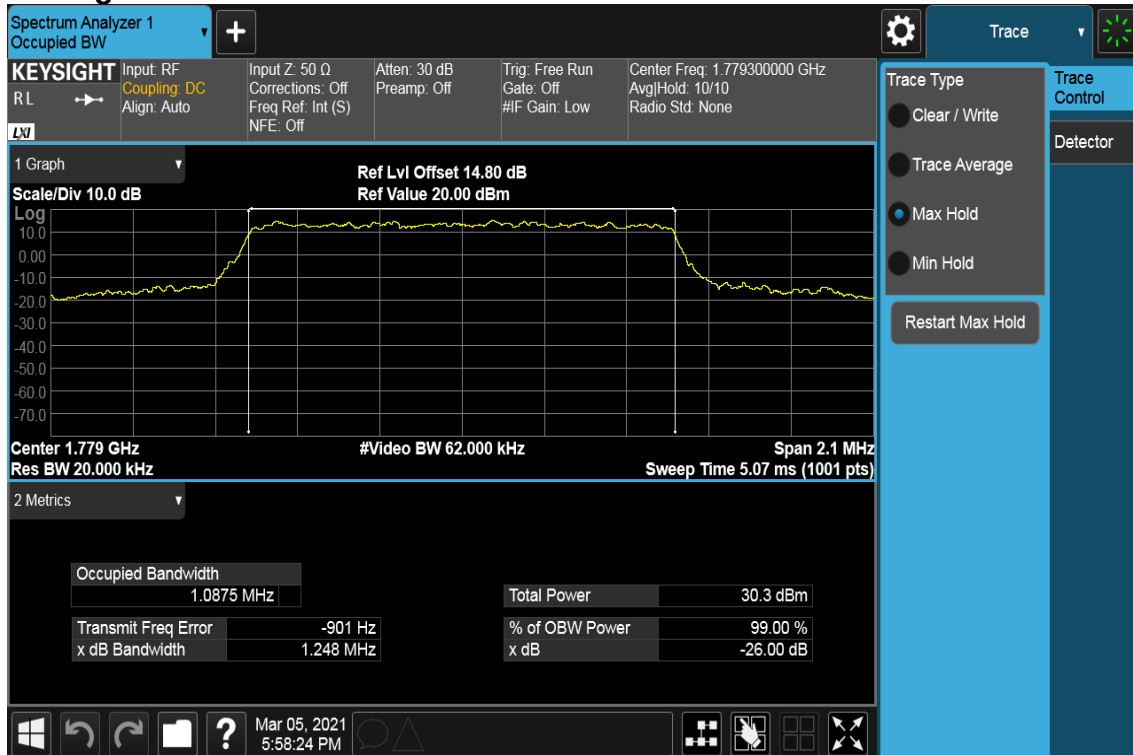


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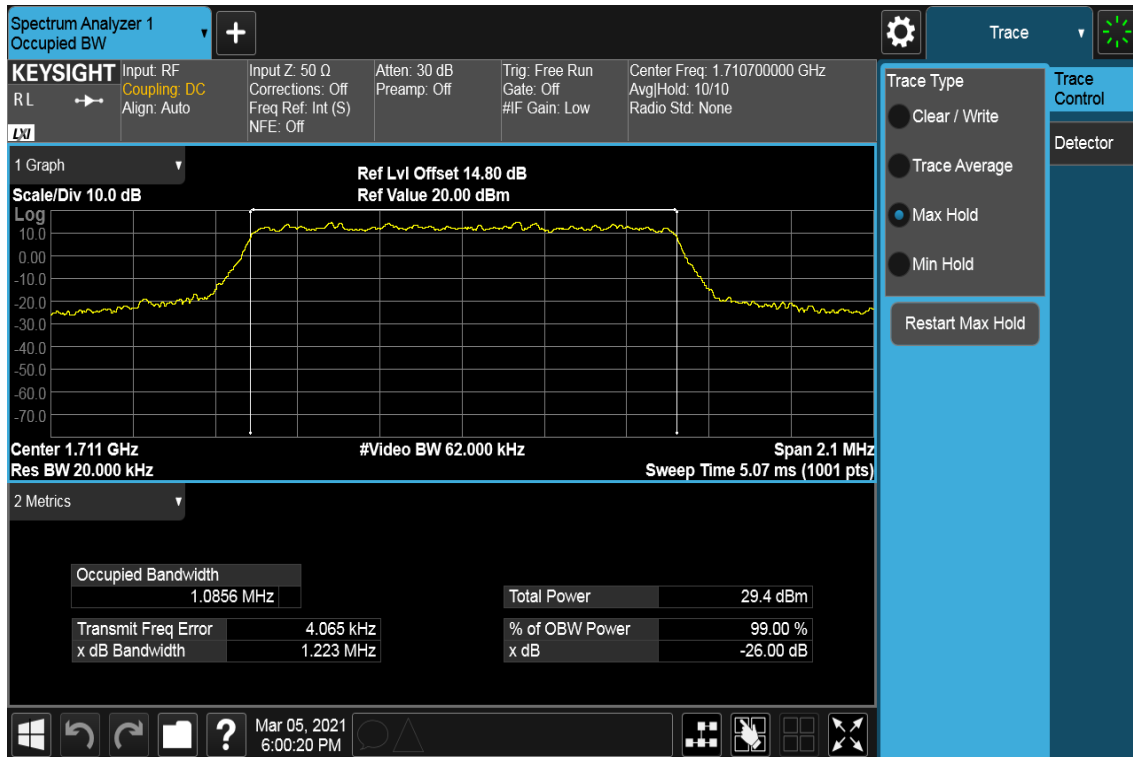
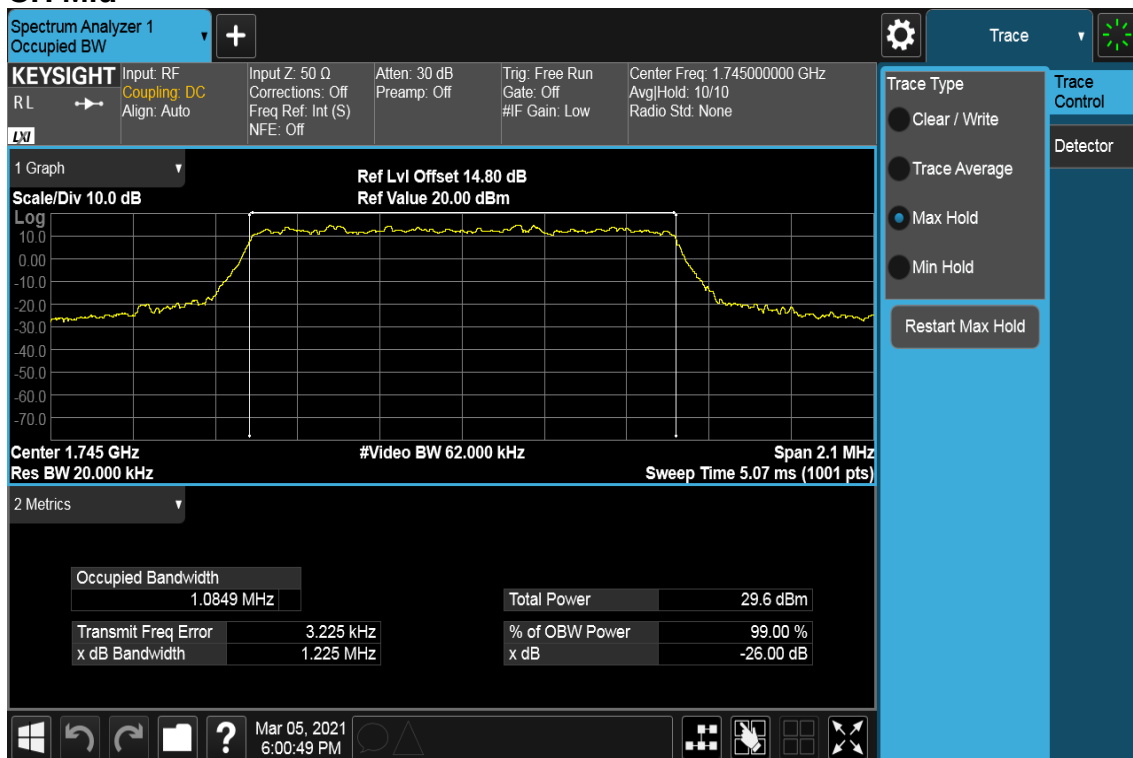
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CH High



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CHANNEL BANDWIDTH: 1.4MHz / 16QAM / RB =6, RB Offset = 0
CH Low**CH Mid**

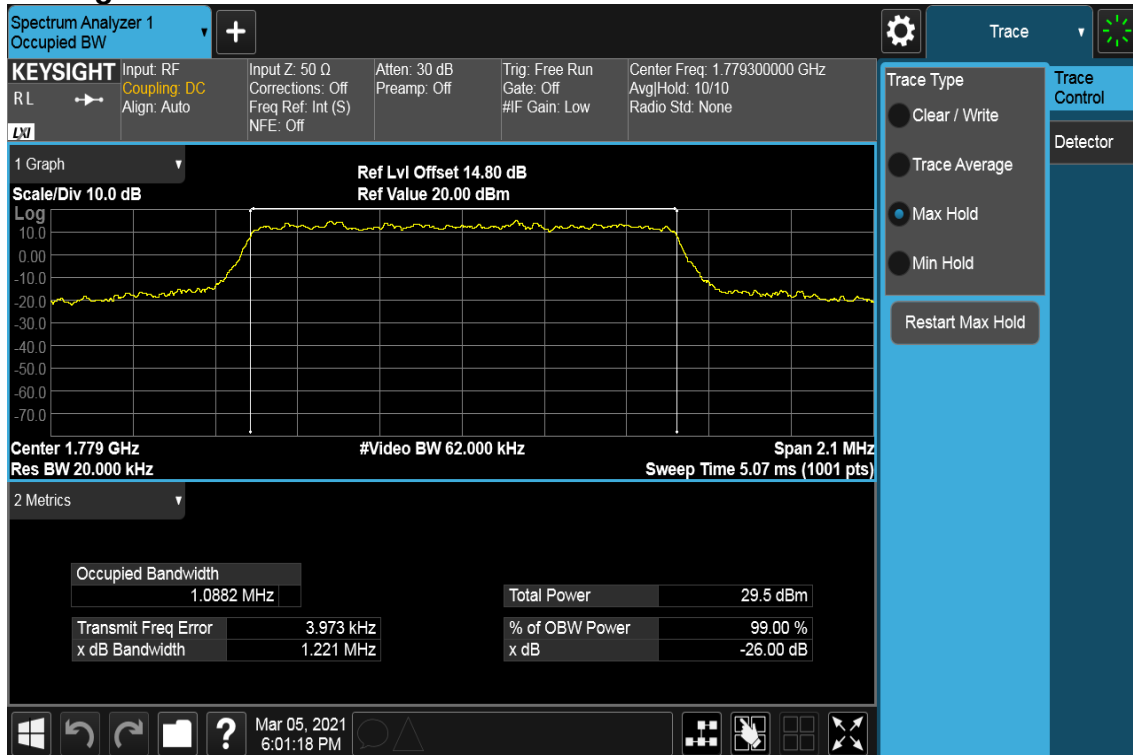


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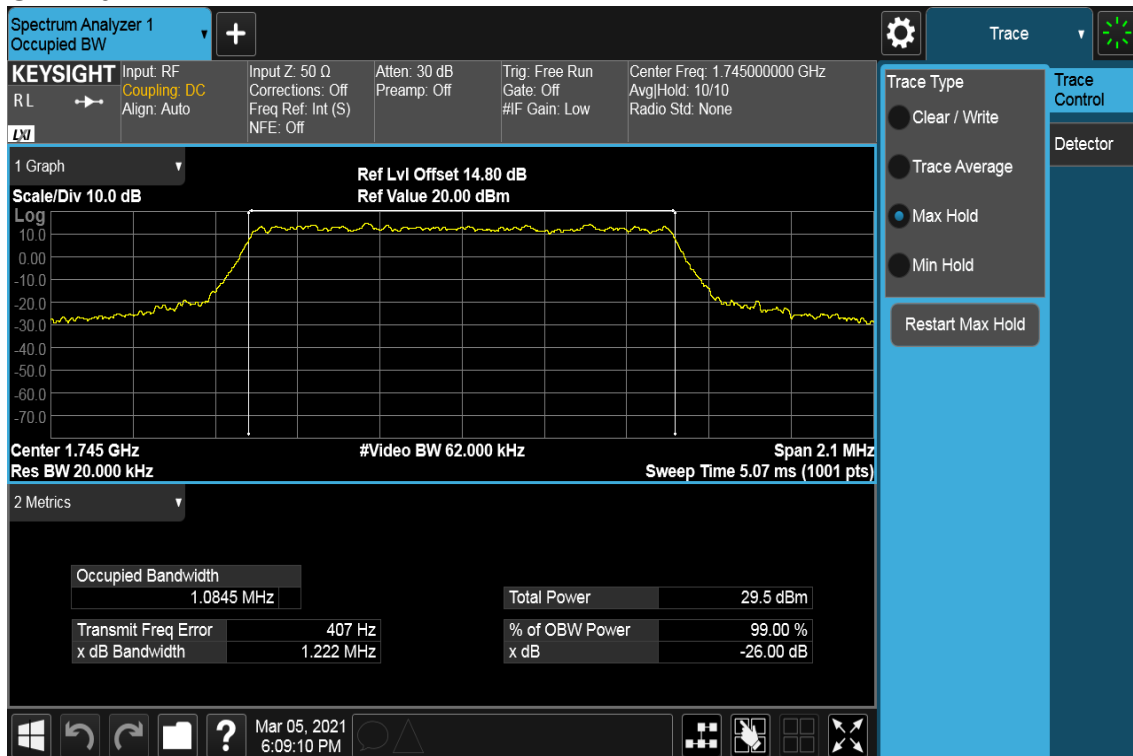
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CH High



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CHANNEL BANDWIDTH: 1.4MHz / 64QAM / RB =6, RB Offset = 0
CH Low**CH Mid**

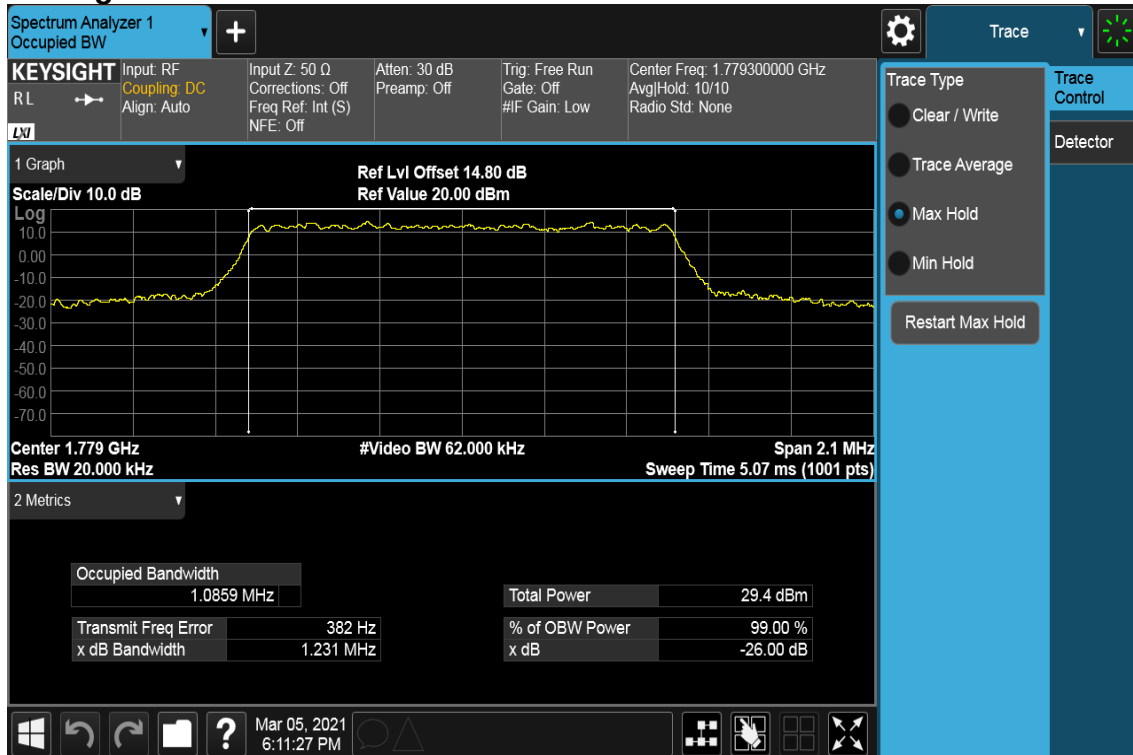


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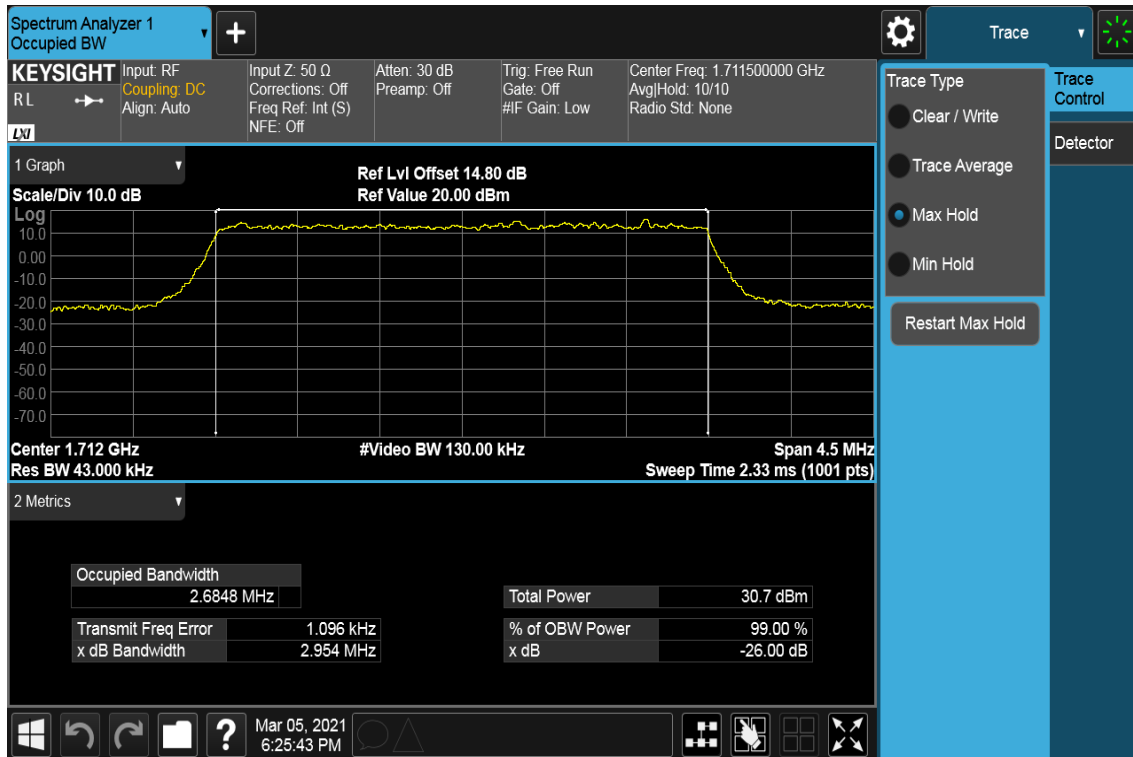
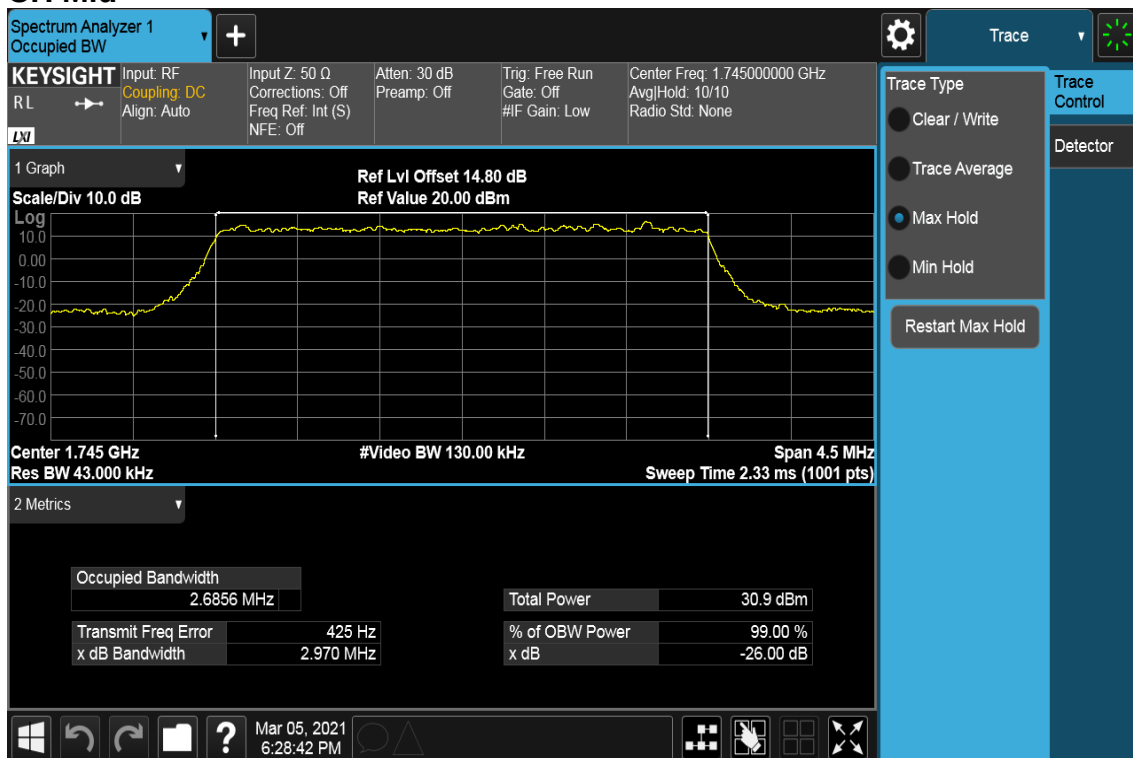
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CHANNEL BANDWIDTH: 3MHz / QPSK / RB =15, RB Offset = 0
CH Low**CH Mid**

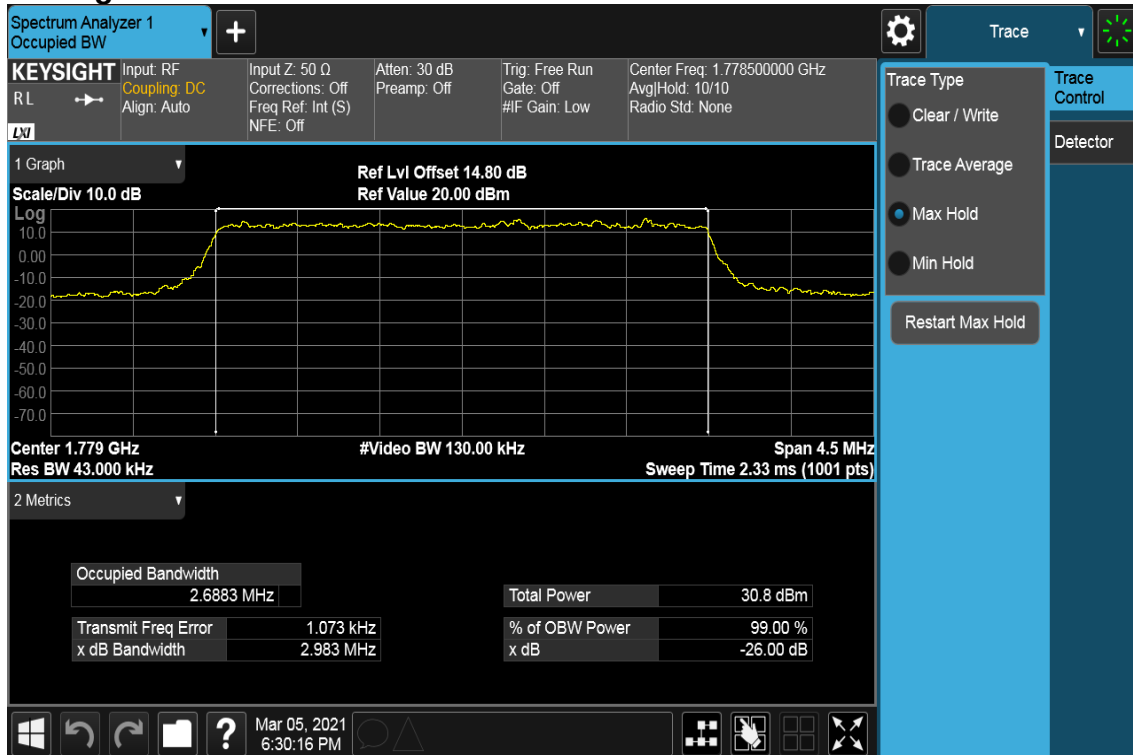


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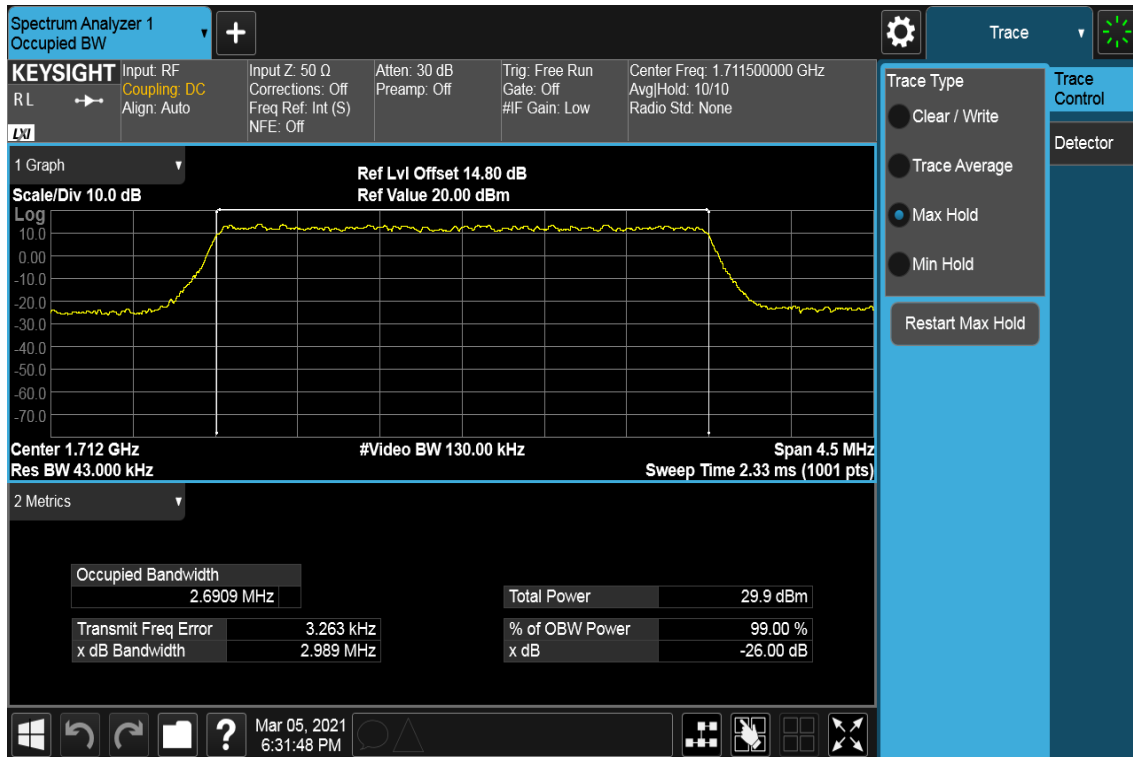
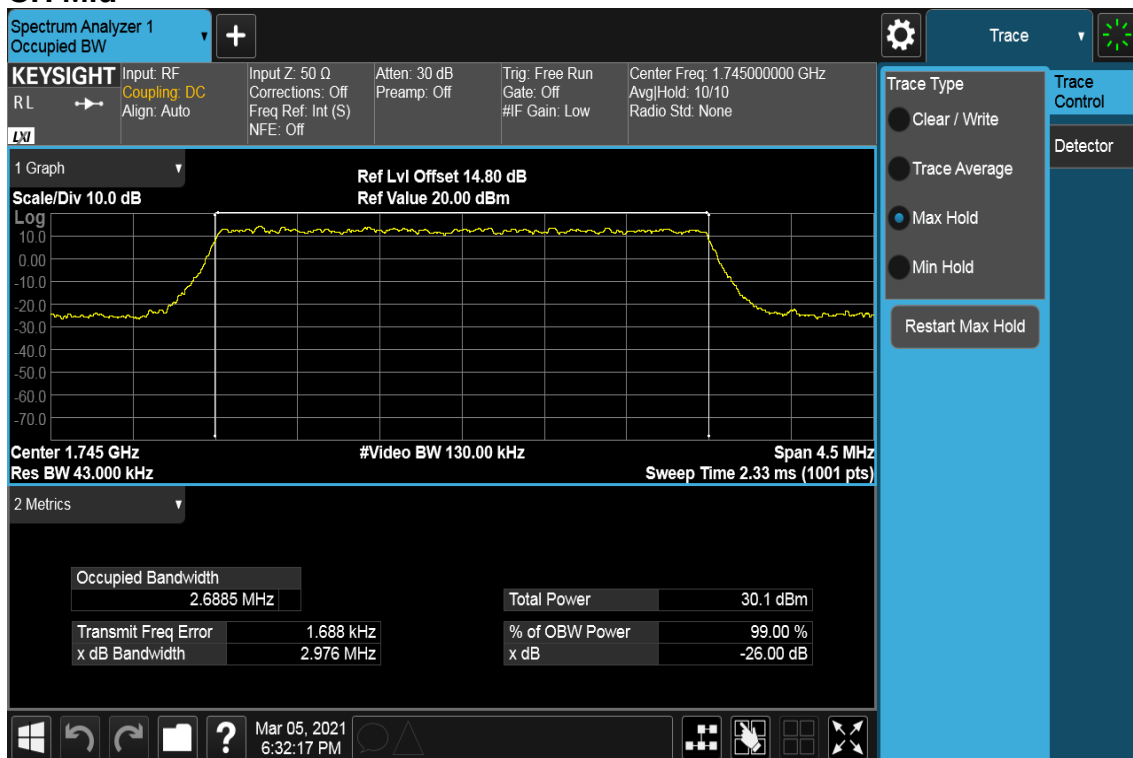
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CHANNEL BANDWIDTH: 3MHz / 16QAM / RB =15, RB Offset = 0
CH Low**CH Mid**

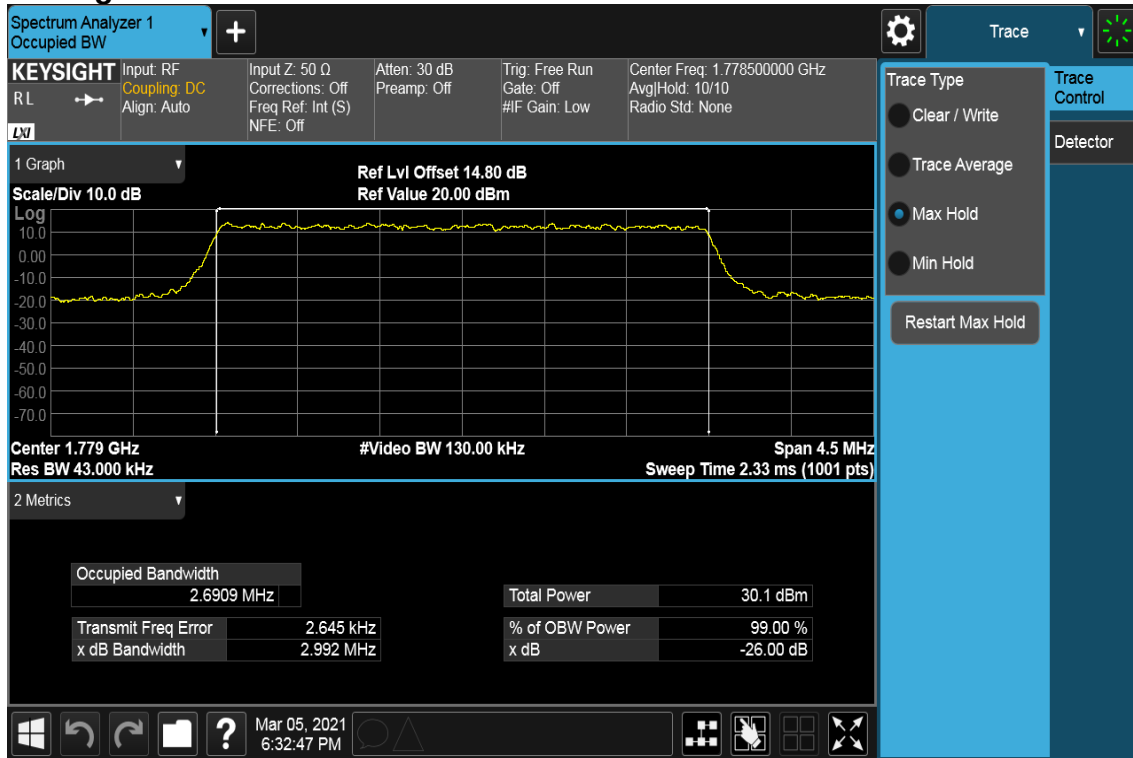


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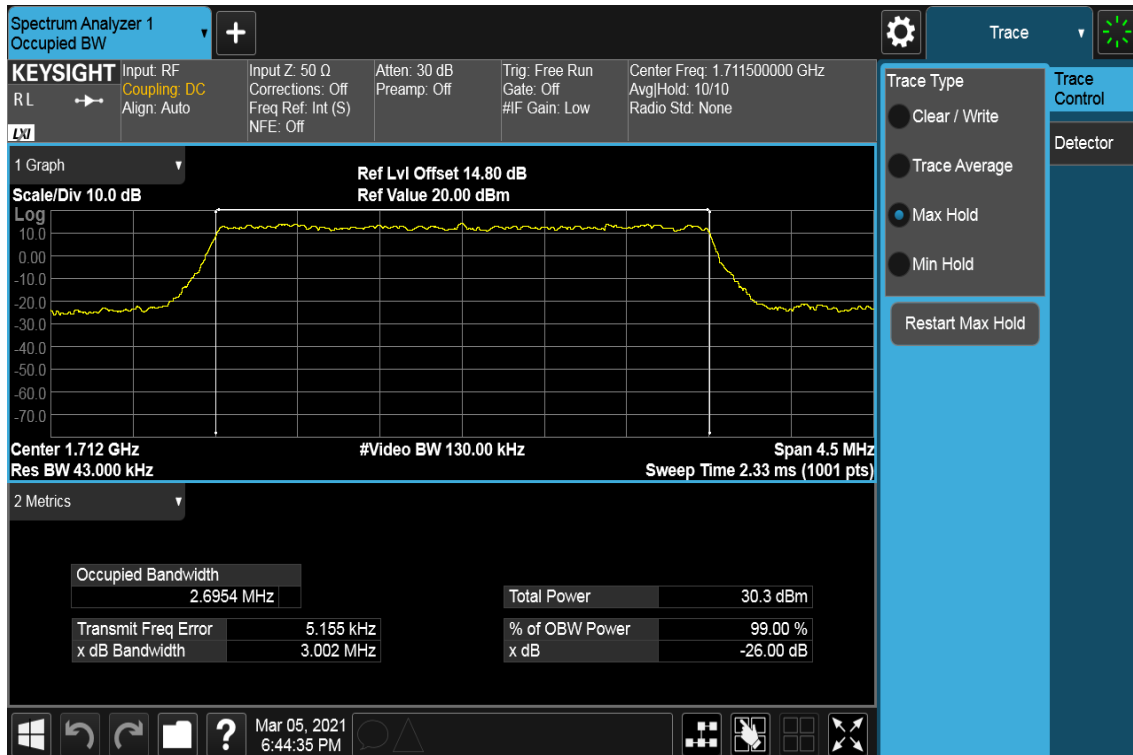
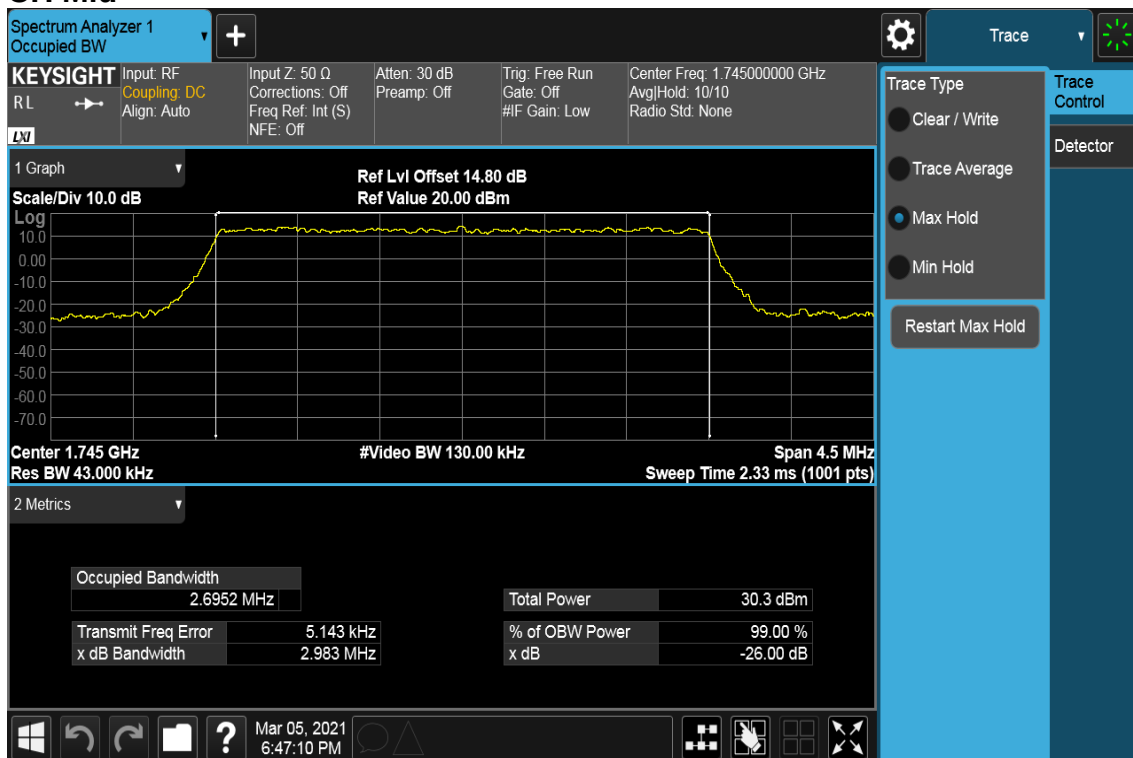
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CHANNEL BANDWIDTH: 3MHz / 64QAM / RB =15, RB Offset = 0
CH Low**CH Mid**

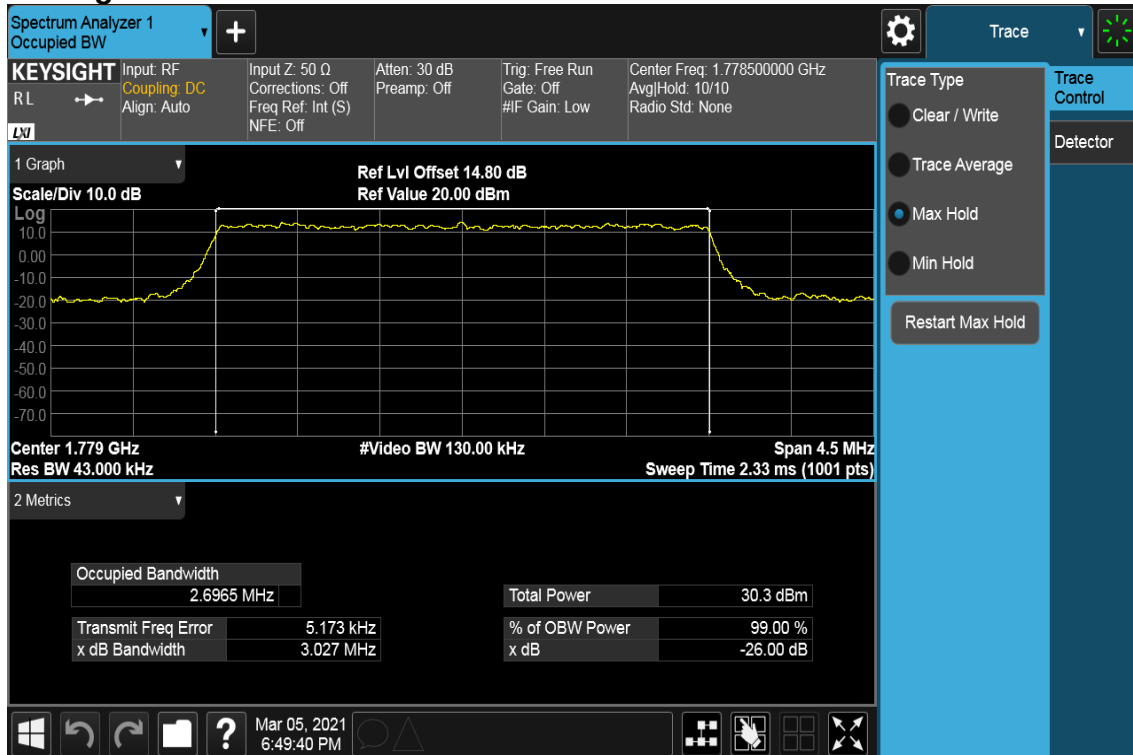


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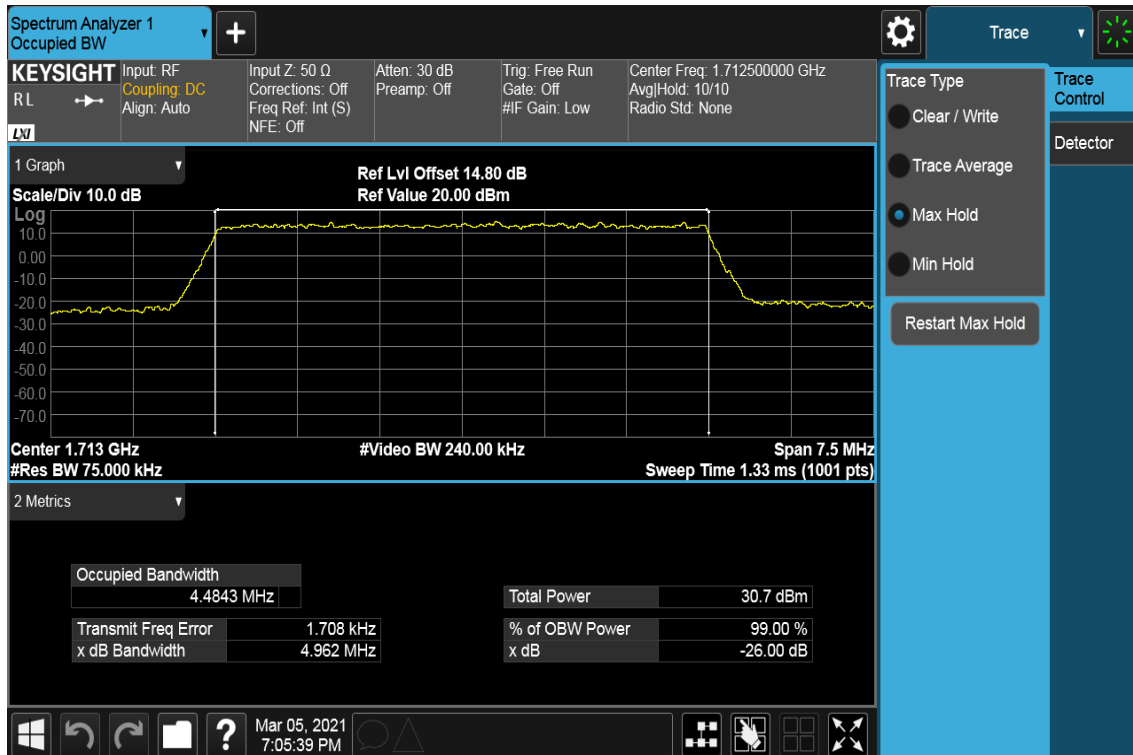
CH High



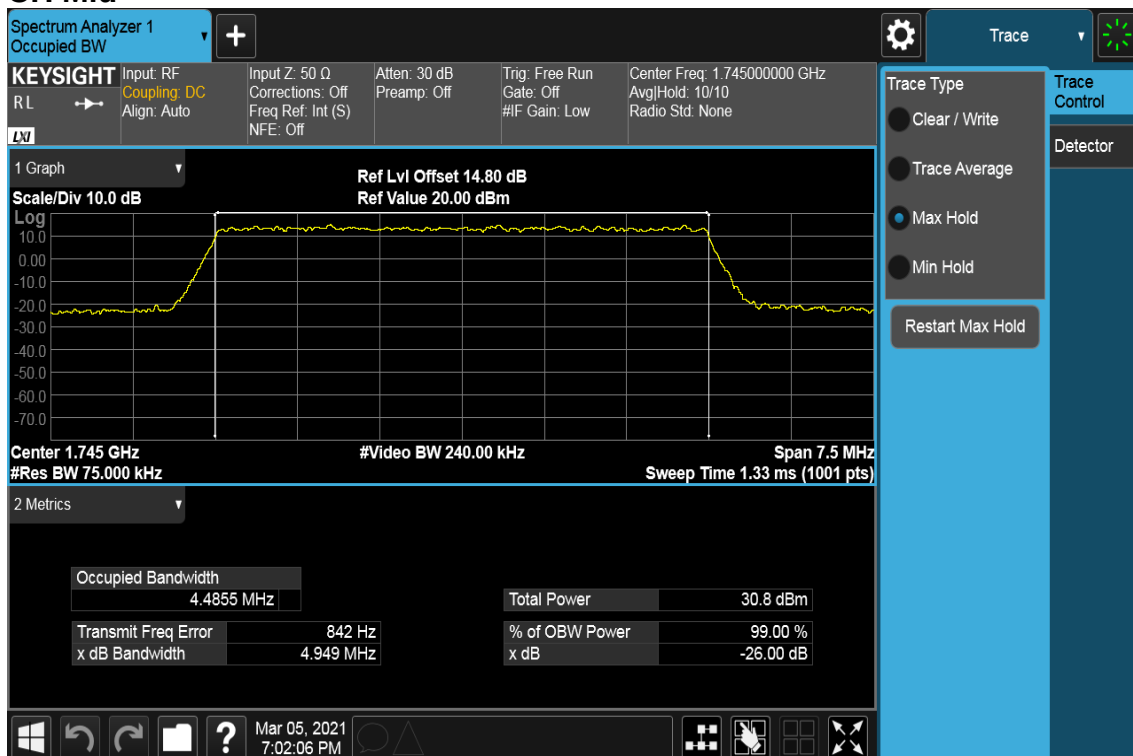
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CHANNEL BANDWIDTH: 5MHz / QPSK / RB =25, RB Offset = 0

CH Low



CH Mid



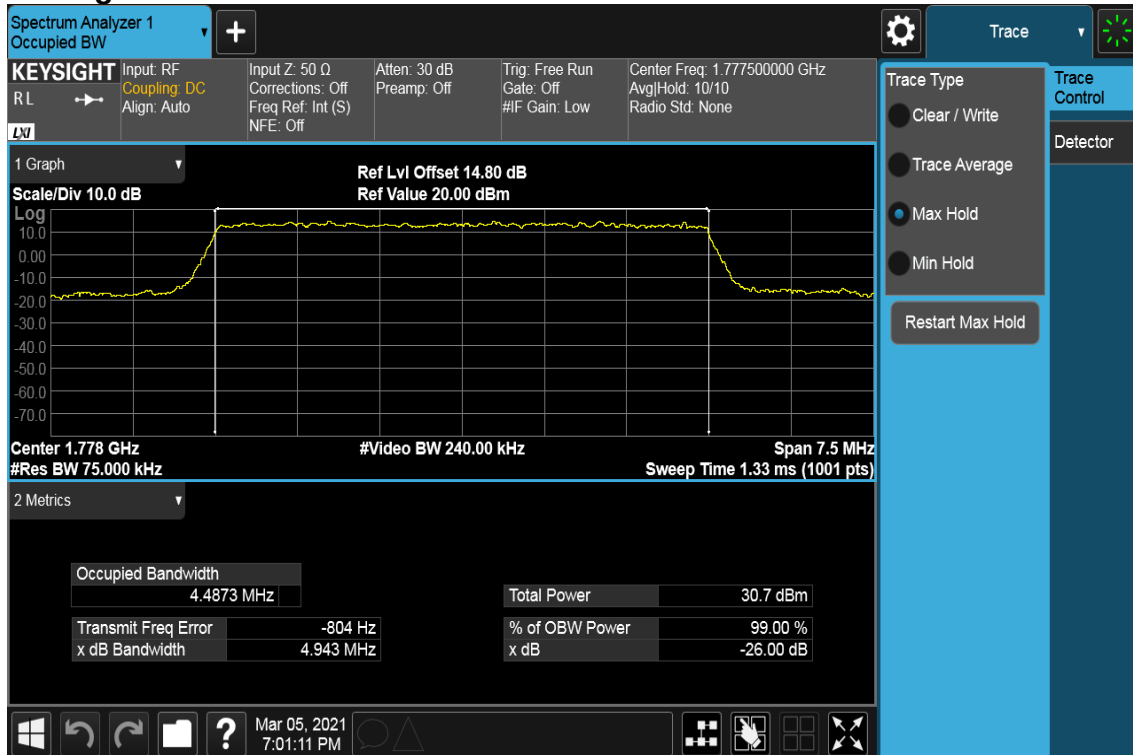


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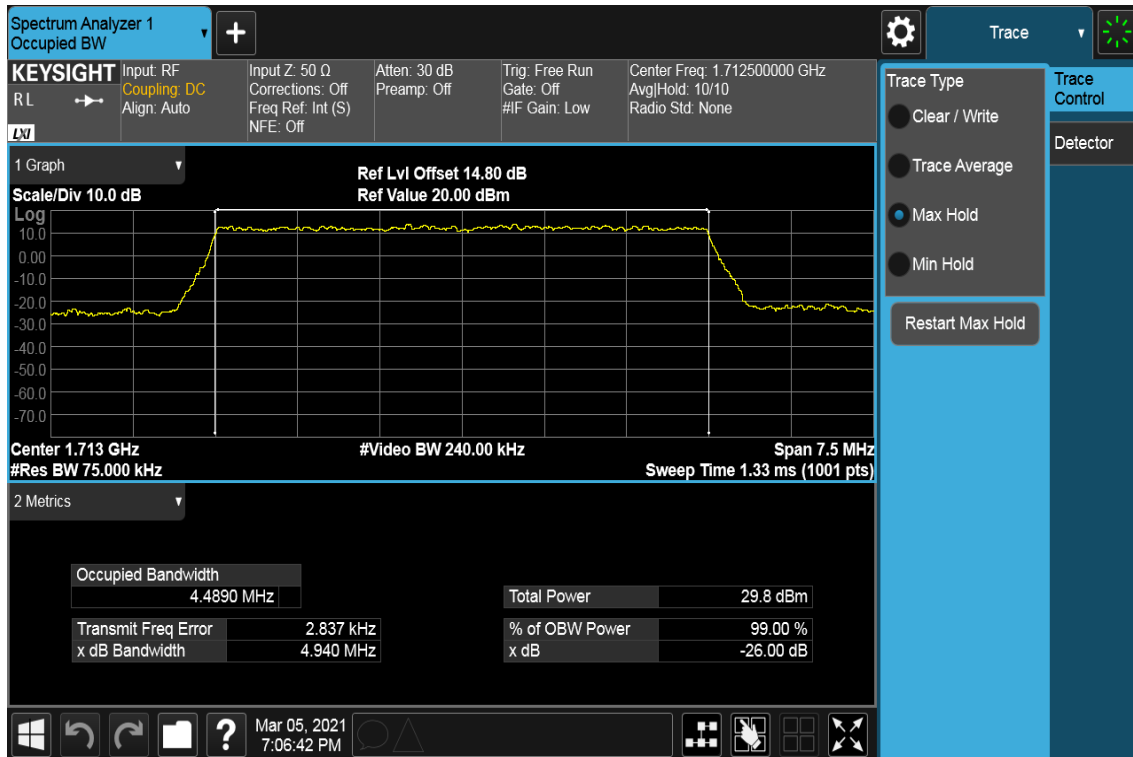
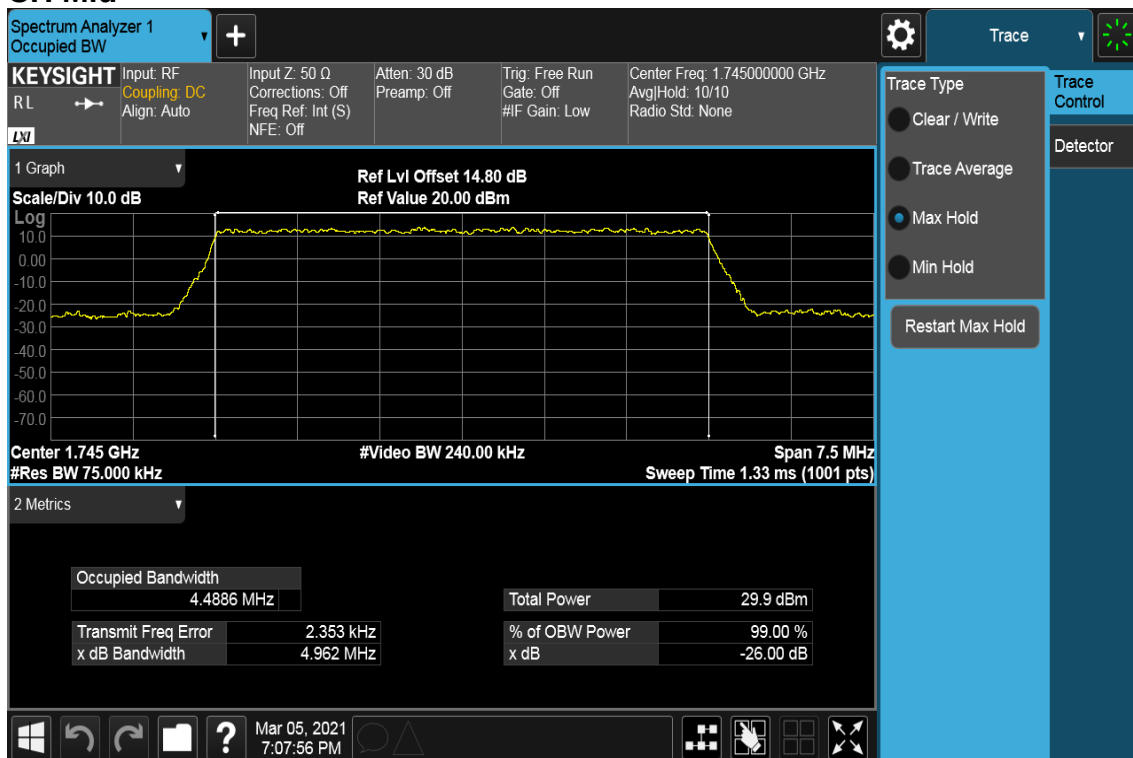
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CHANNEL BANDWIDTH: 5MHz / 16QAM / RB =25, RB Offset = 0
CH Low**CH Mid**

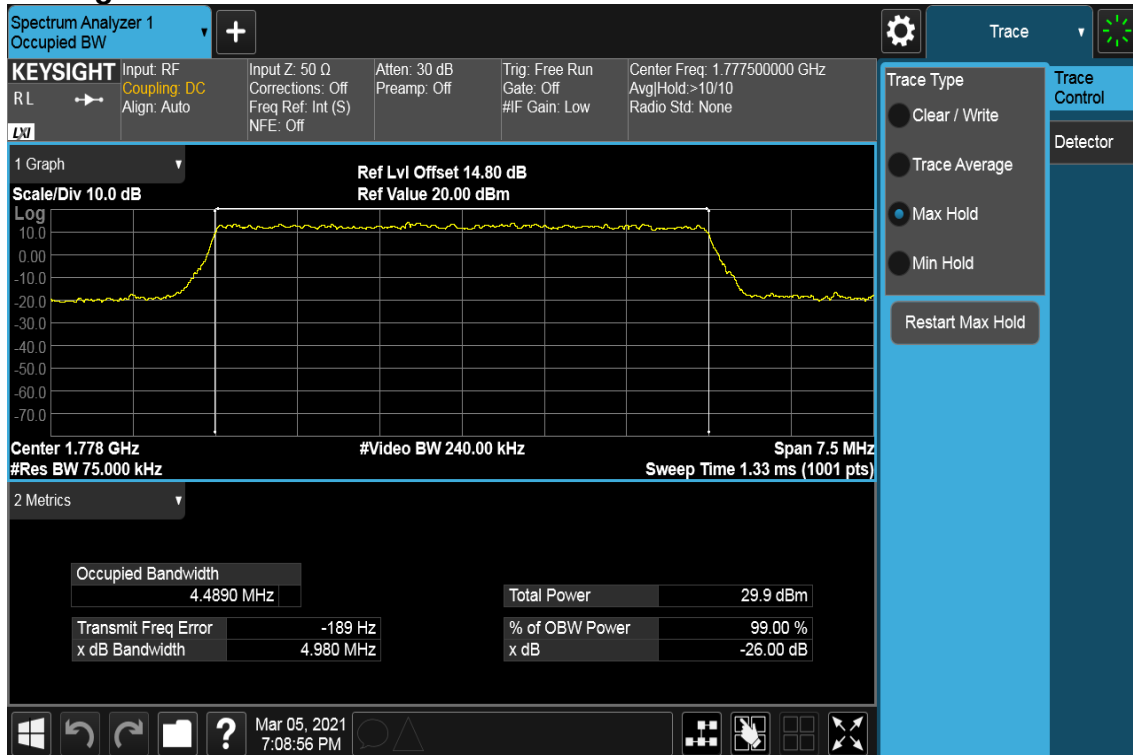


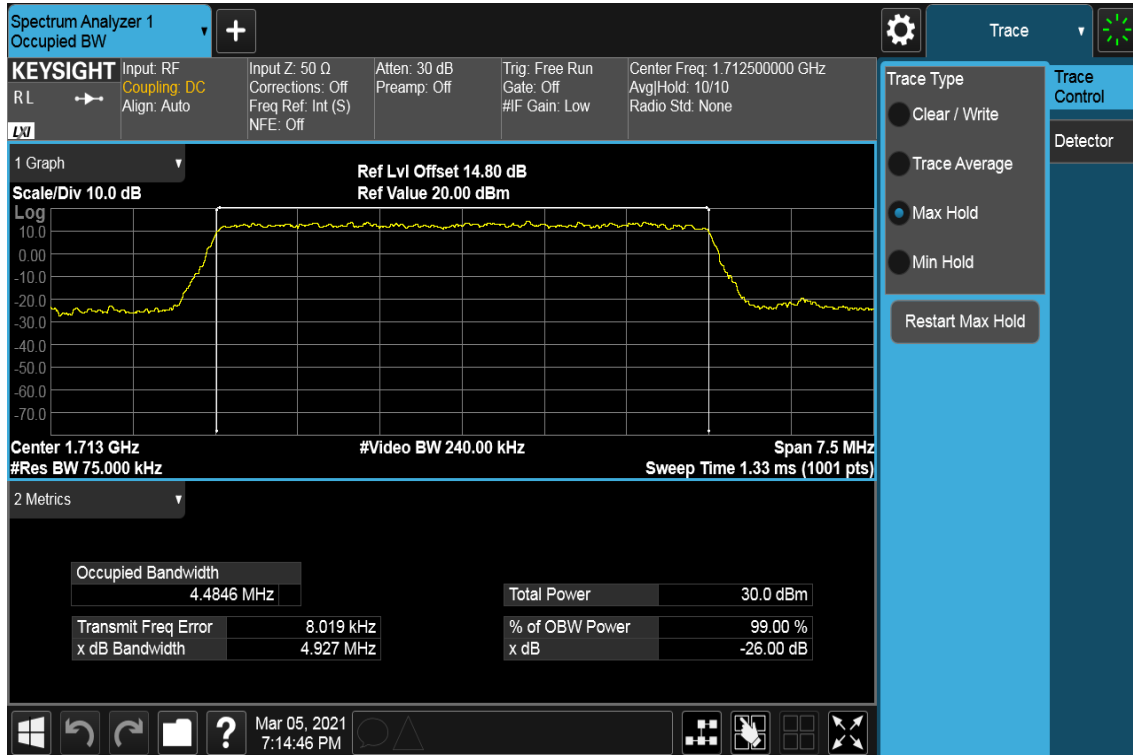
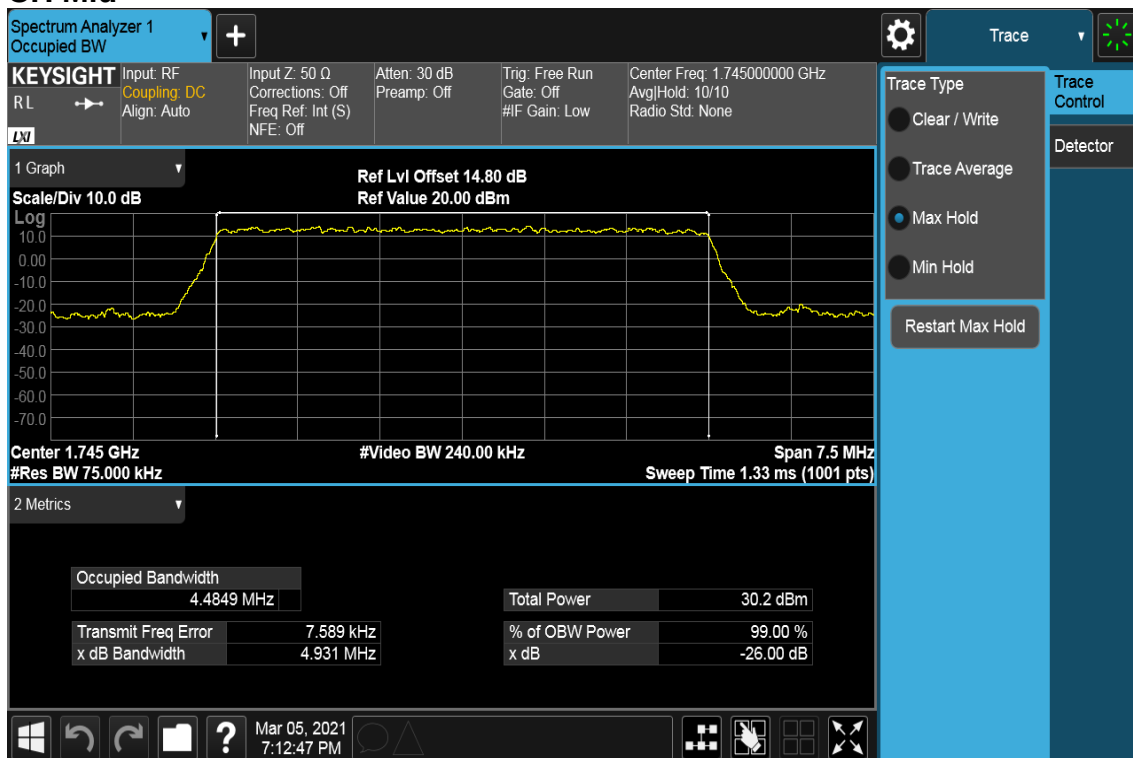
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CH High



CHANNEL BANDWIDTH: 5MHz / 64QAM / RB =25, RB Offset = 0
CH Low**CH Mid**

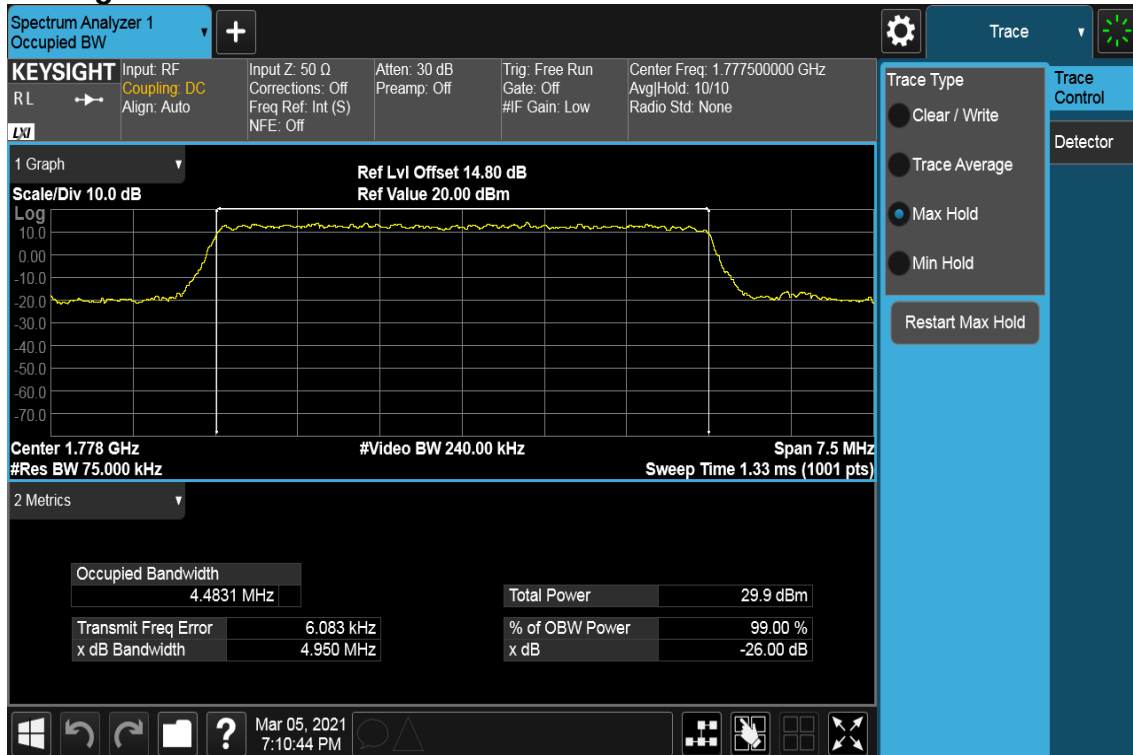


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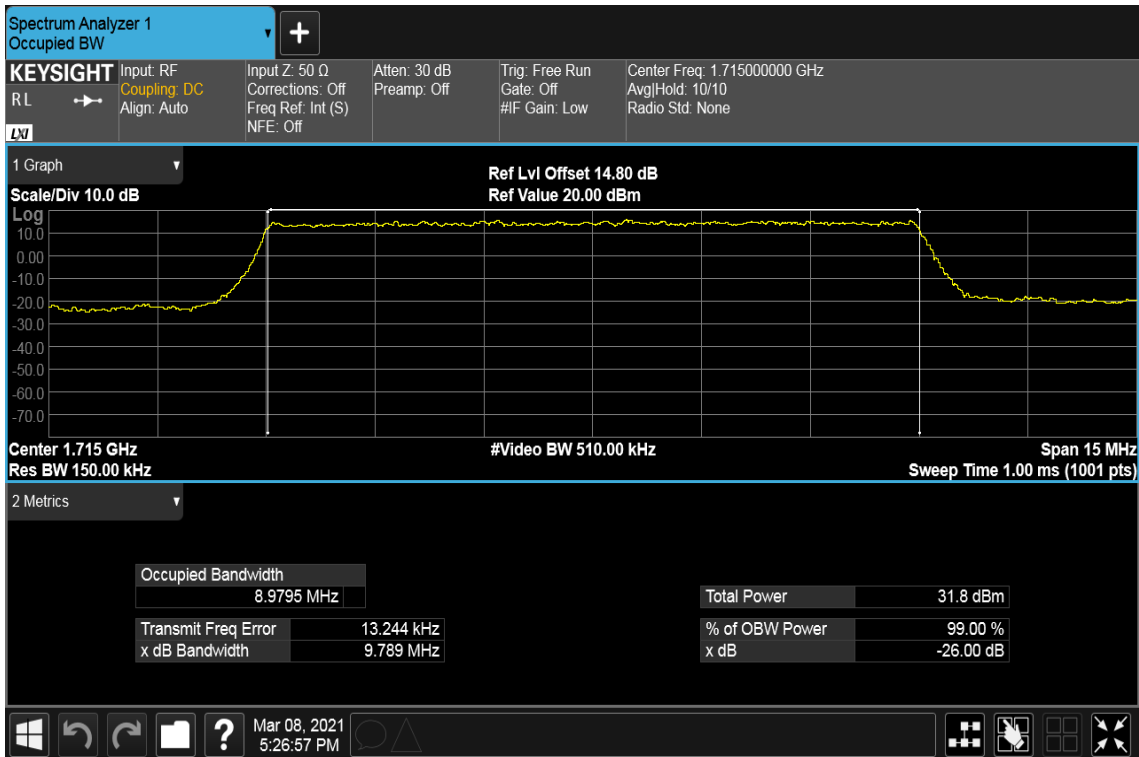
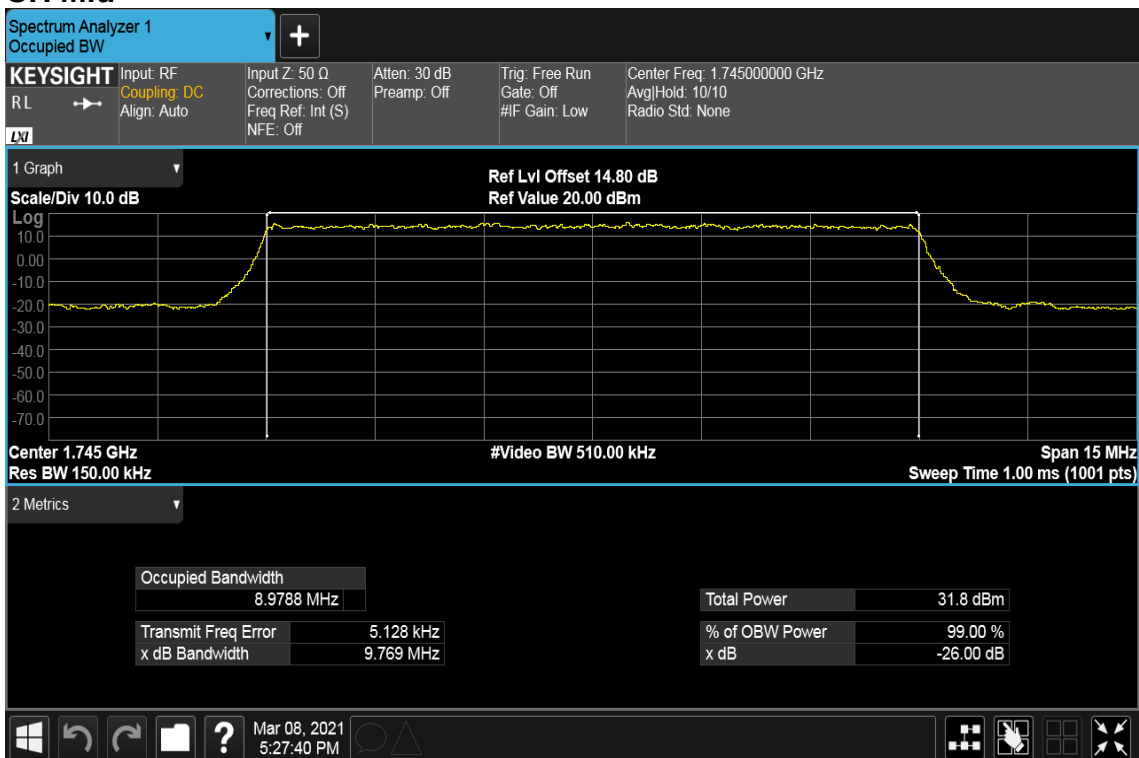
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CH High



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CHANNEL BANDWIDTH: 10MHz / QPSK / RB =50, RB Offset = 0
CH Low**CH Mid**

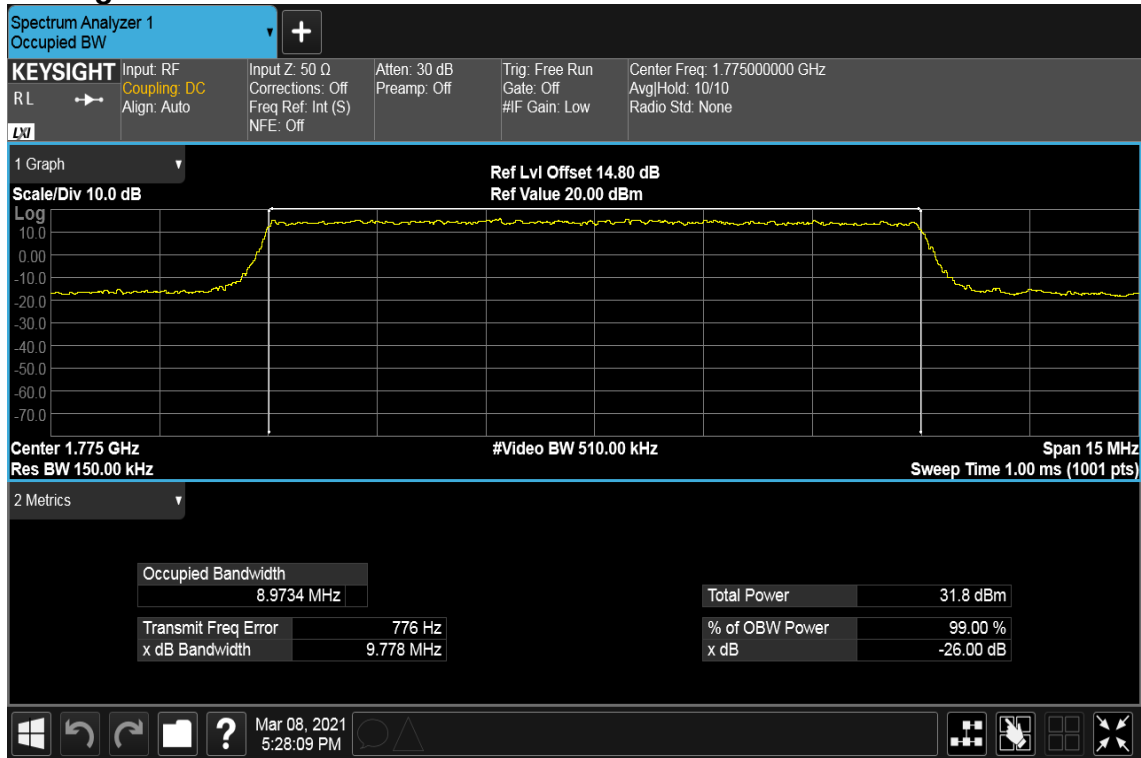


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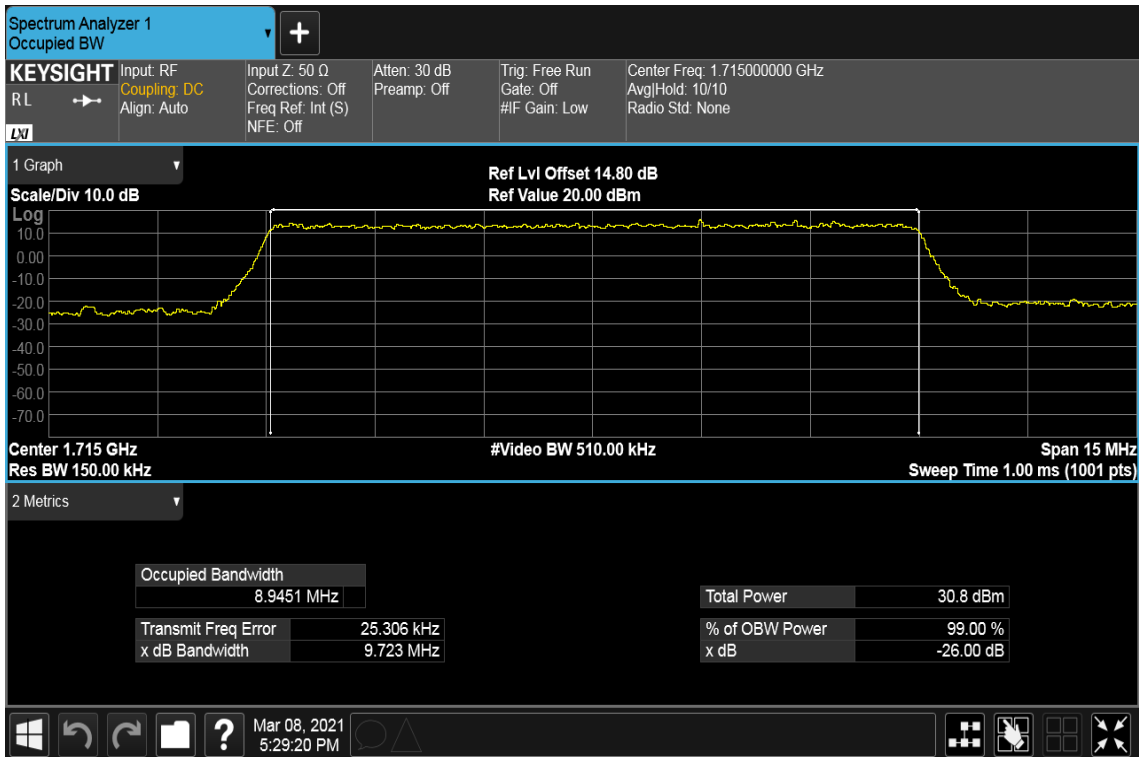
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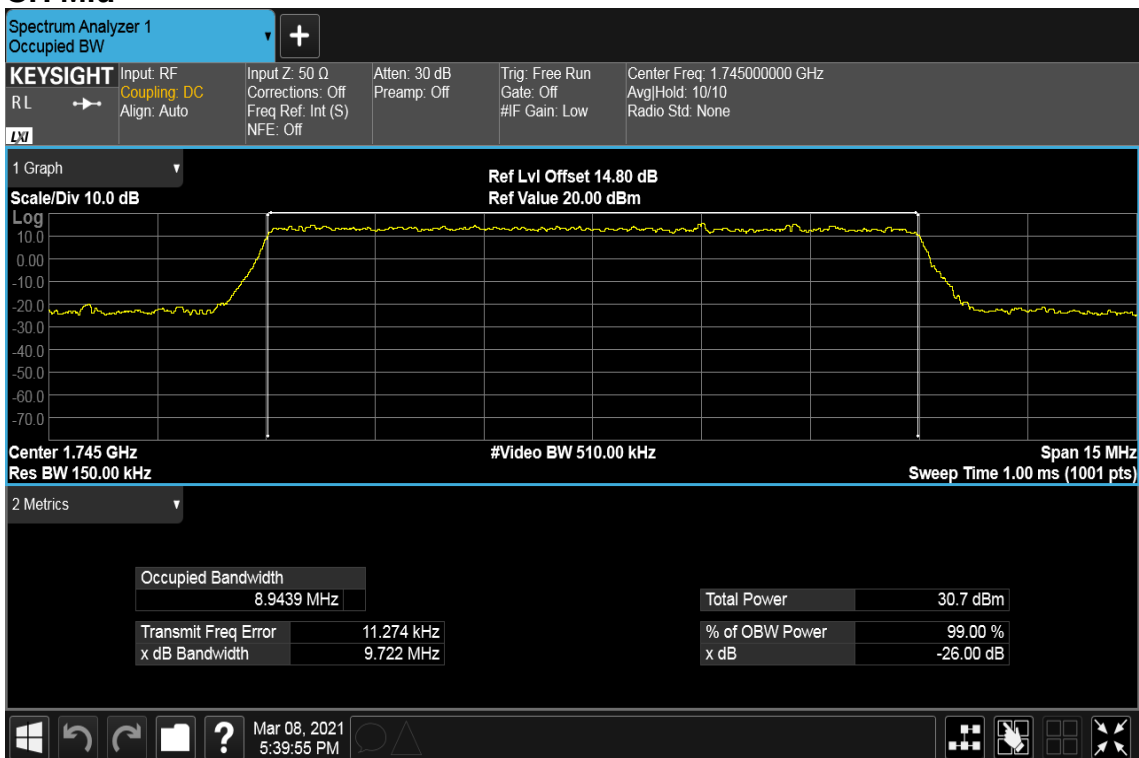
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CHANNEL BANDWIDTH: 10MHz / 16QAM / RB =50, RB Offset = 0

CH Low



CH Mid



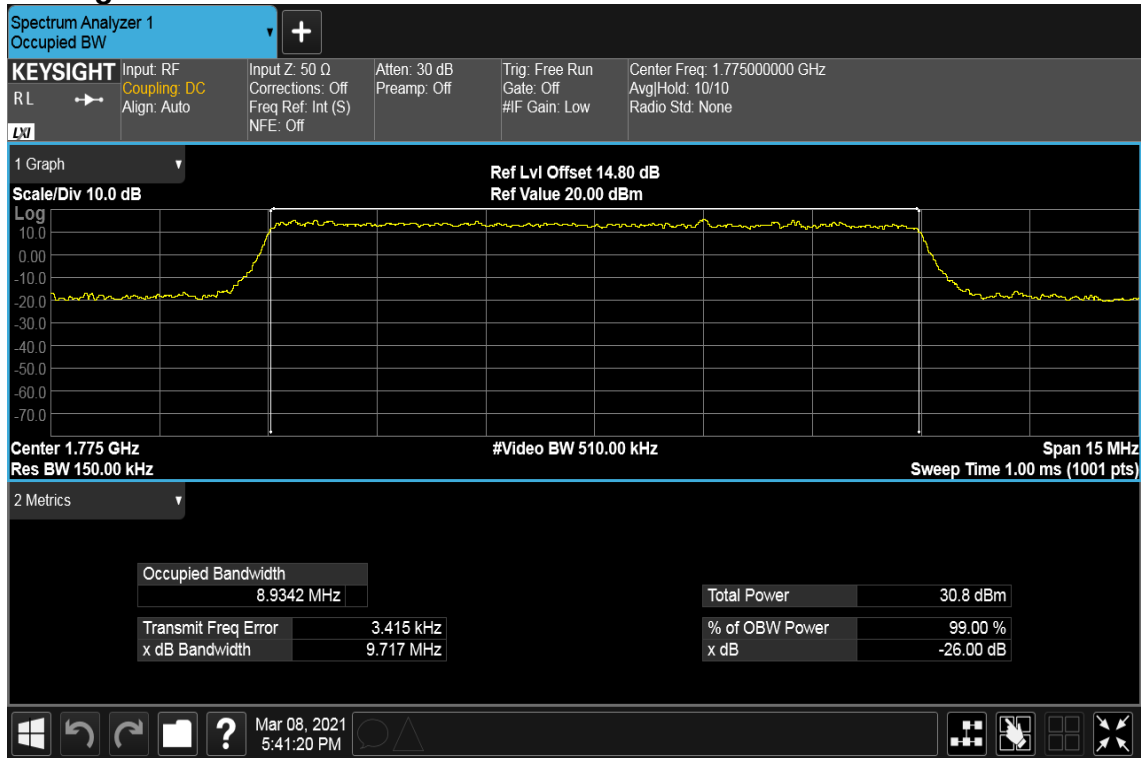


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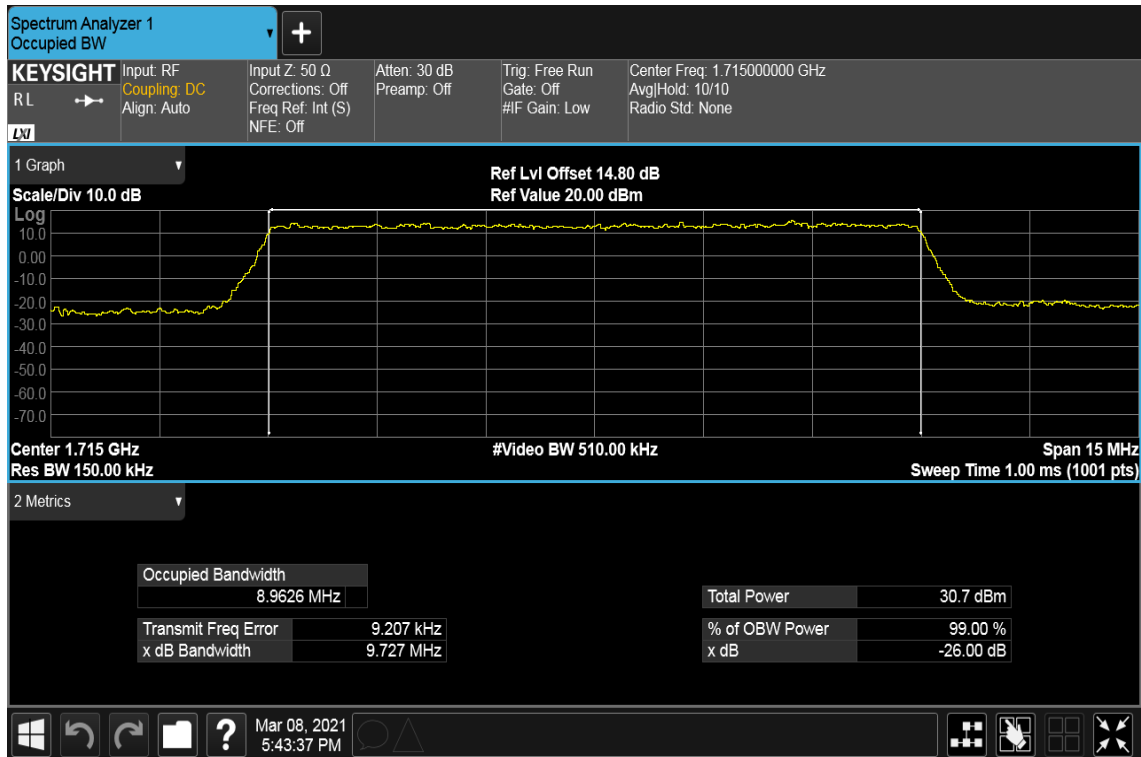
CH High



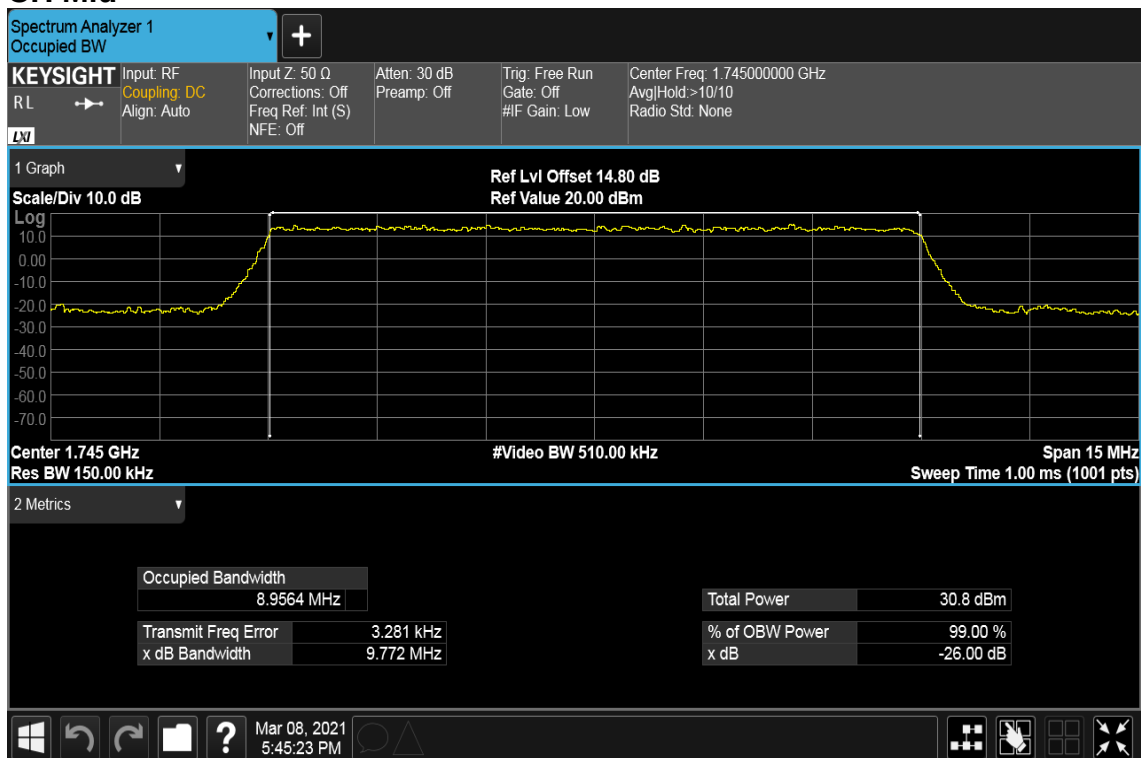
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 10MHz / 64QAM / RB =50, RB Offset = 0

CH Low



CH Mid



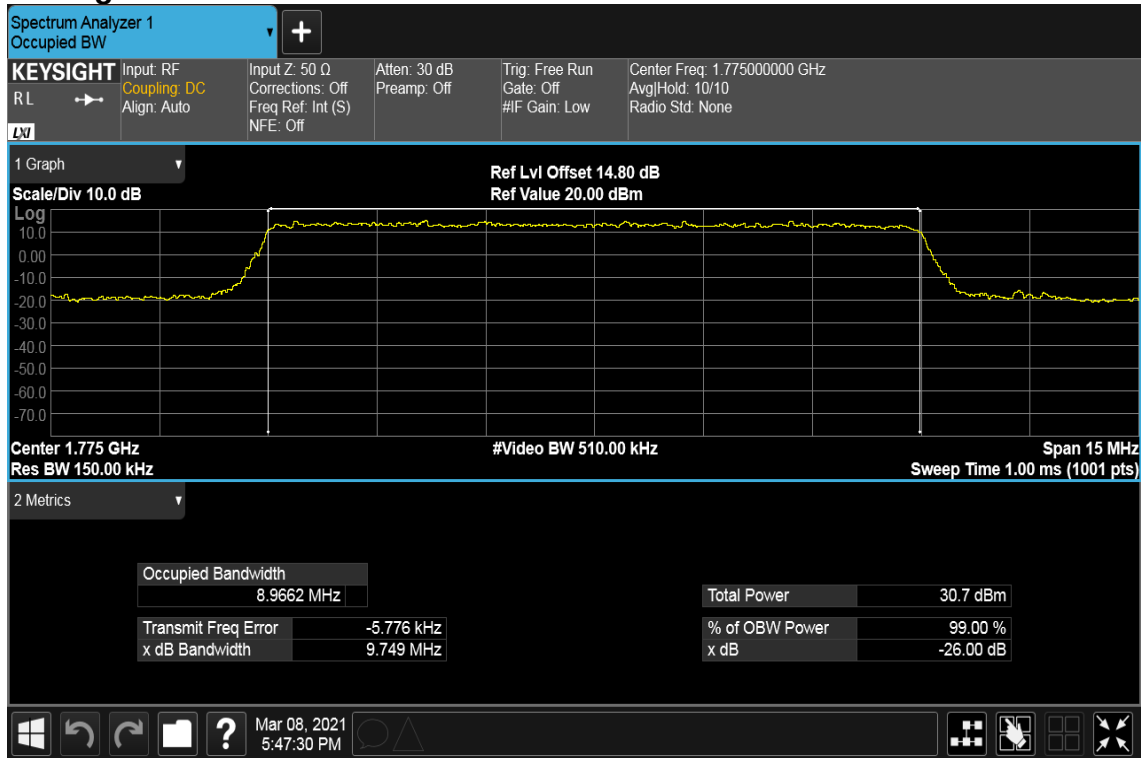


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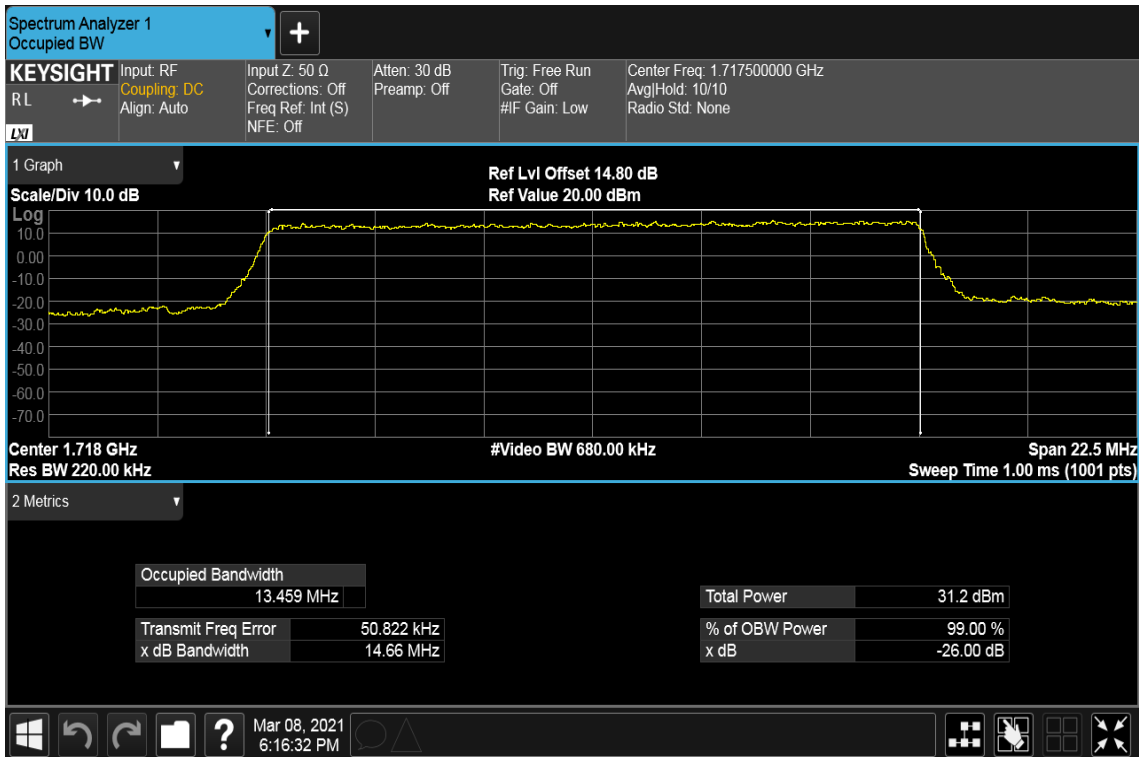
CH High



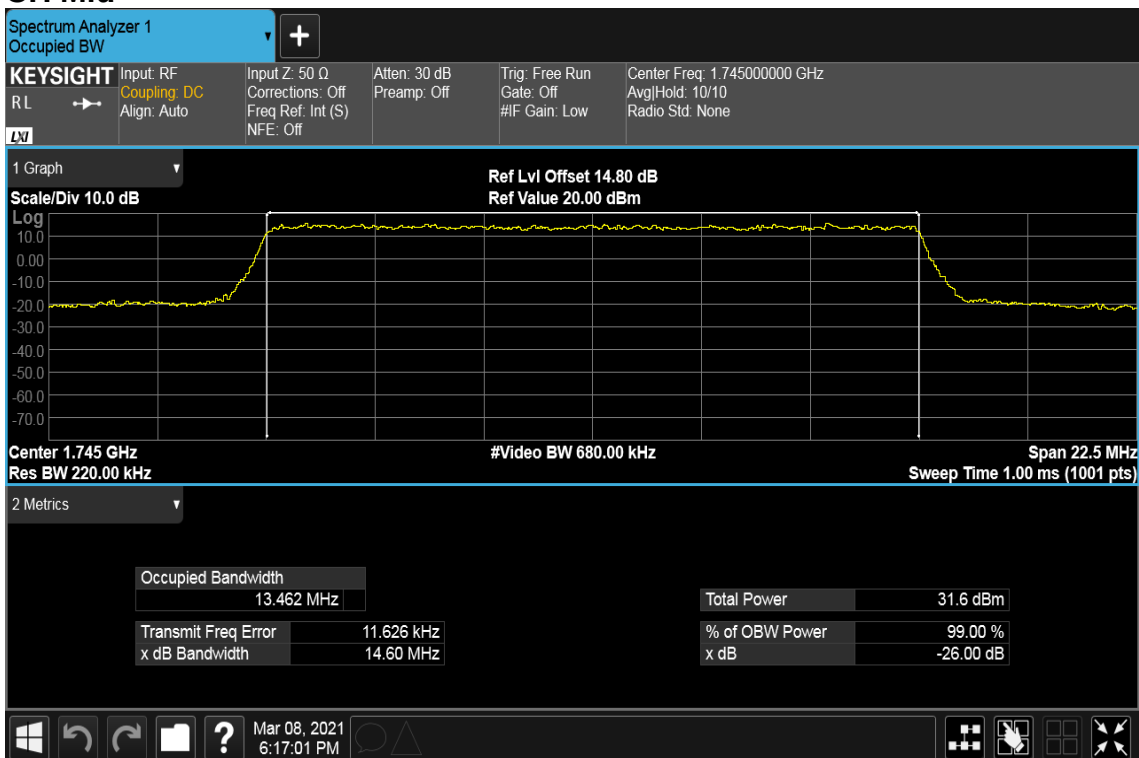
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 15MHz / QPSK / RB =75, RB Offset = 0

CH Low



CH Mid



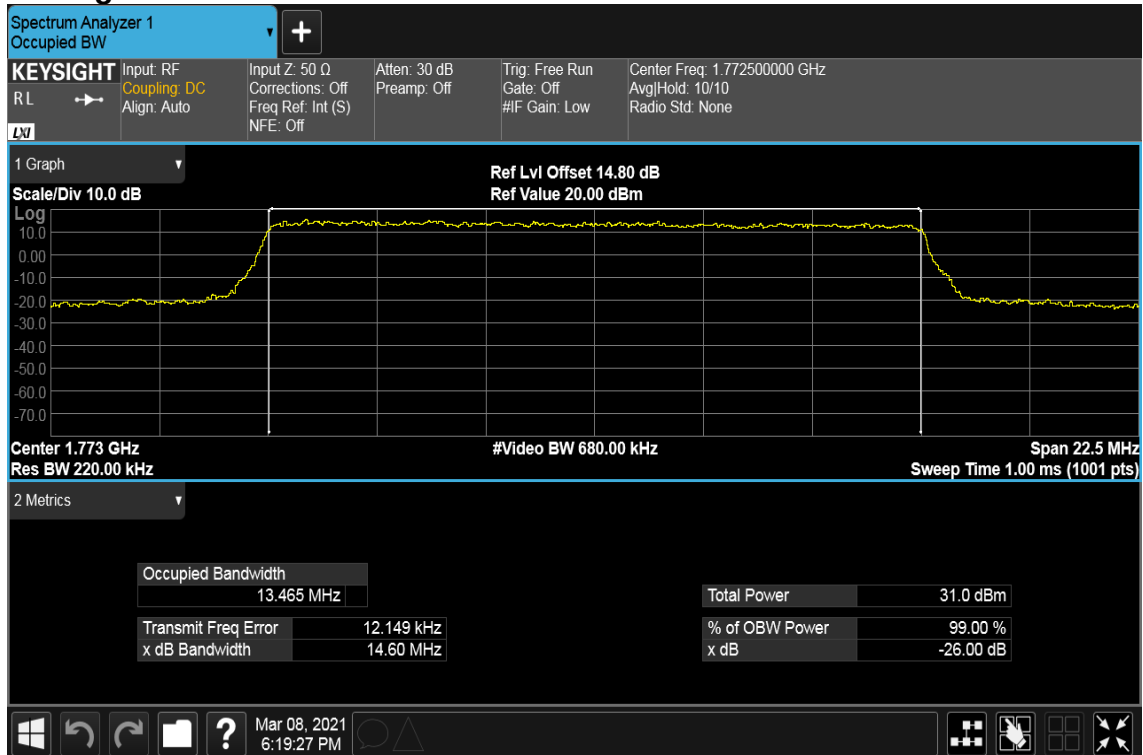


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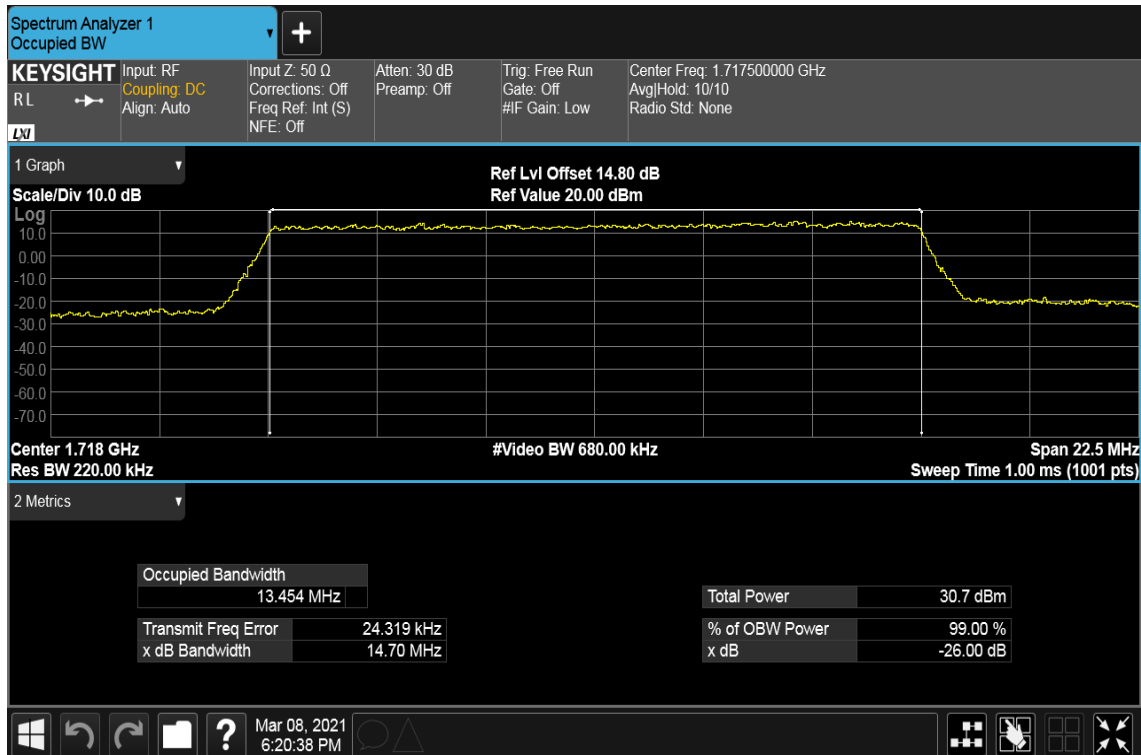
CH High



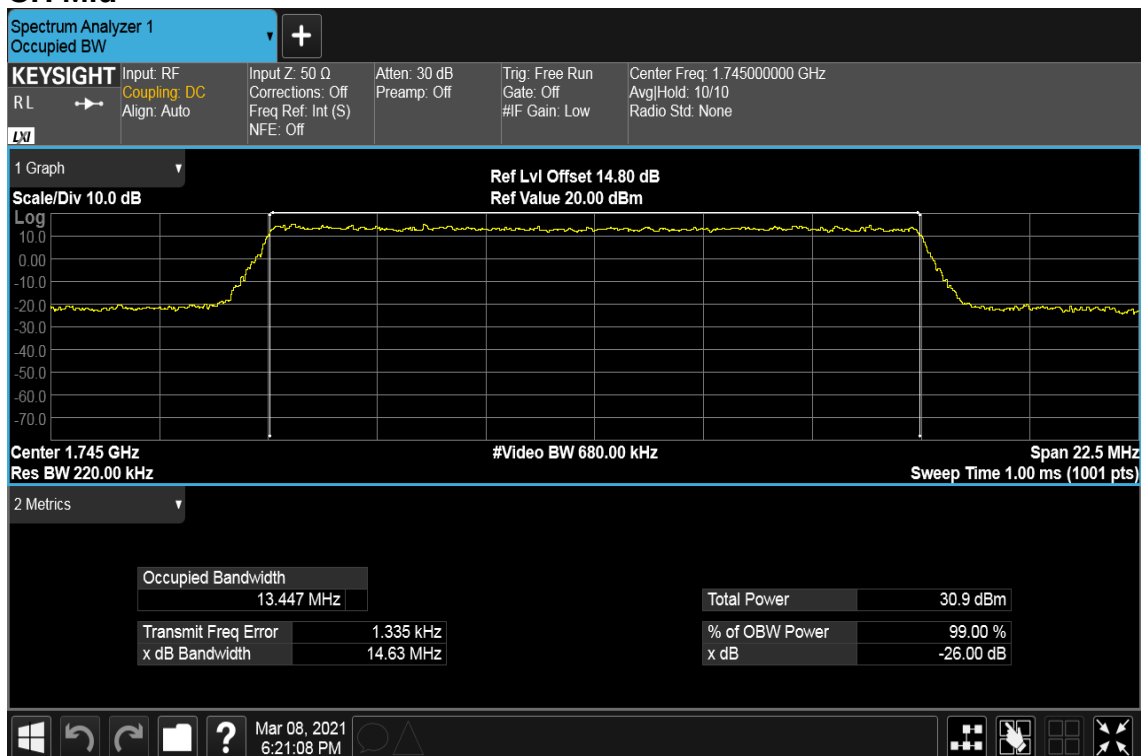
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 15MHz / 16QAM / RB =75, RB Offset = 0

CH Low



CH Mid



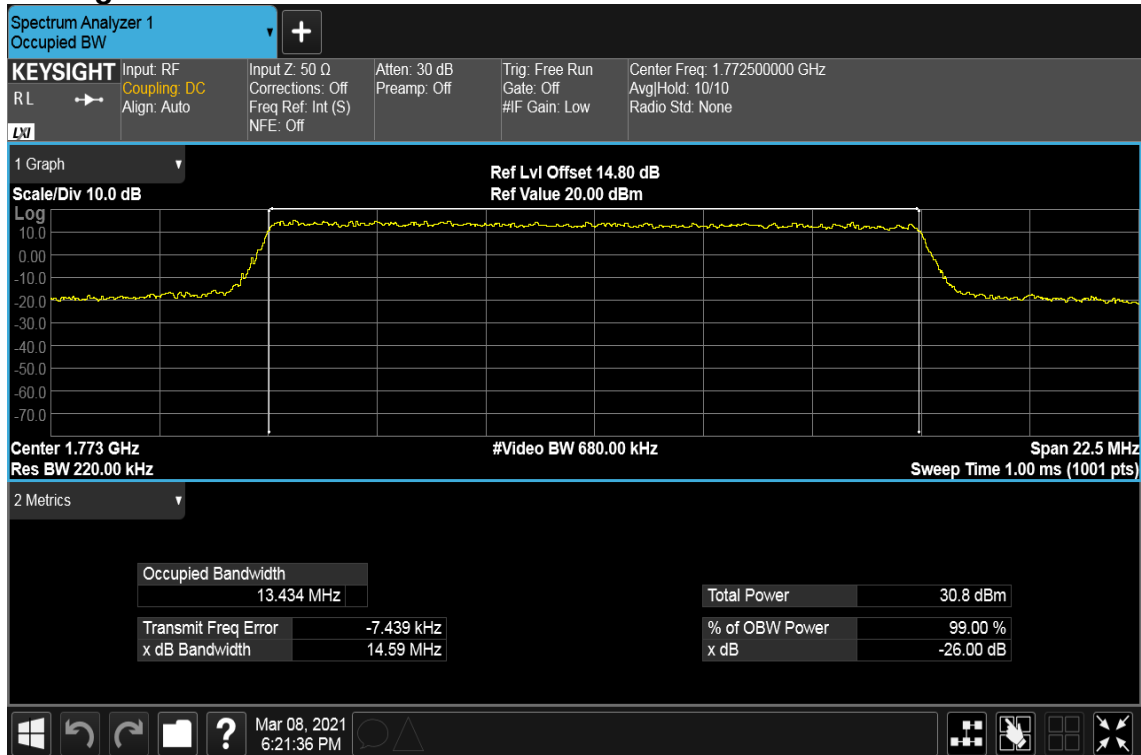


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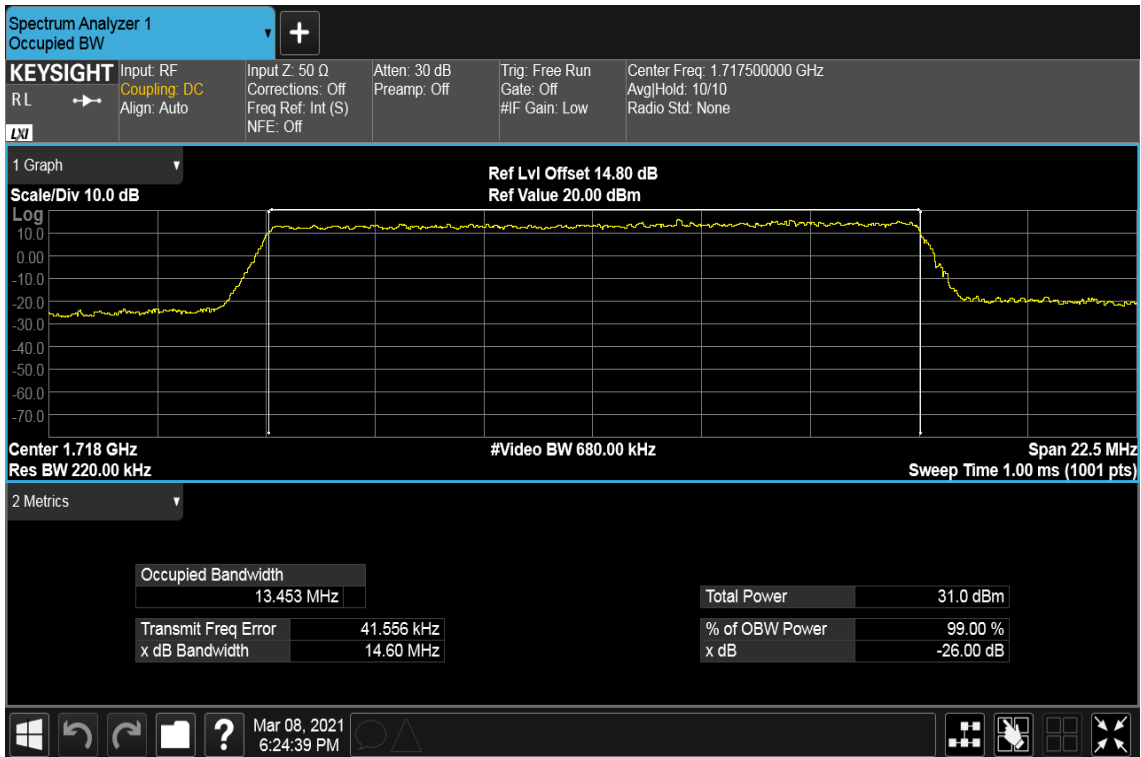
CH High



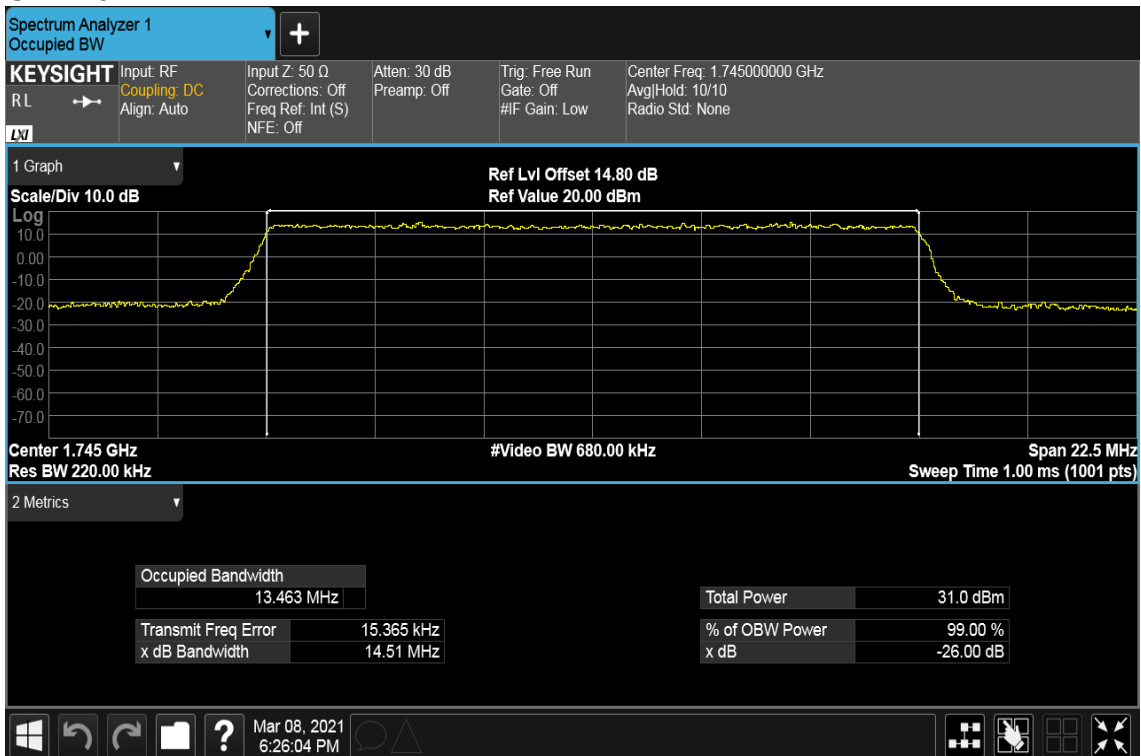
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 15MHz / 64QAM / RB =75, RB Offset = 0

CH Low



CH Mid



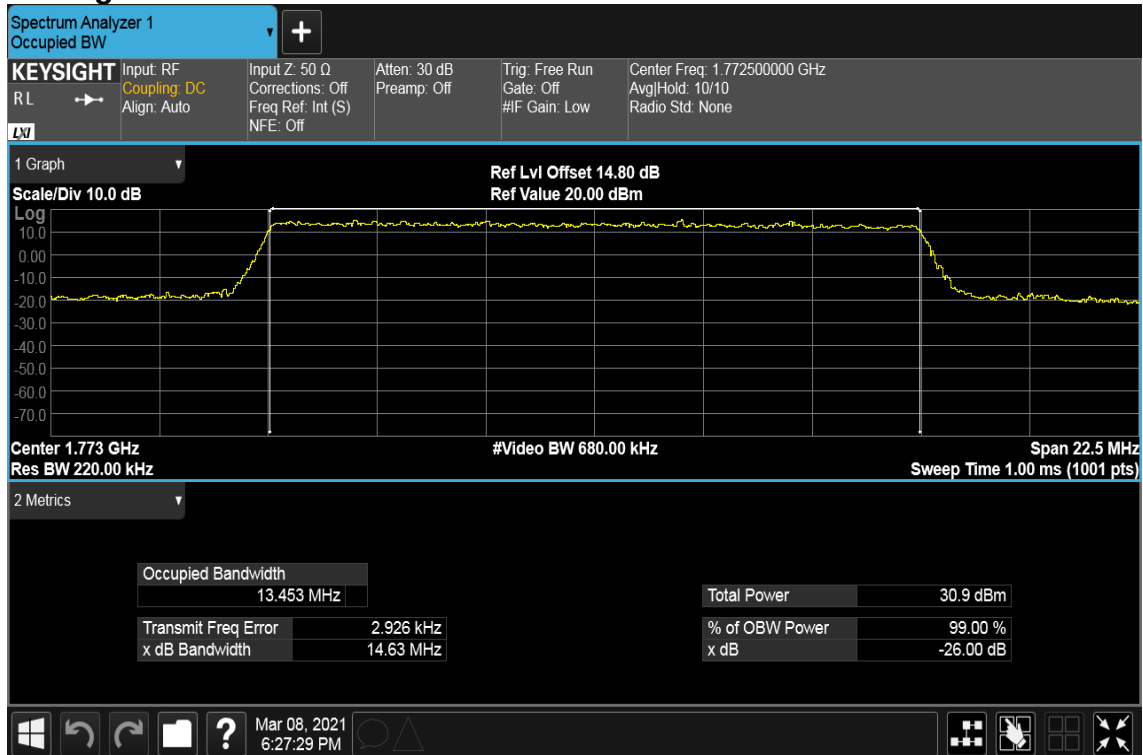


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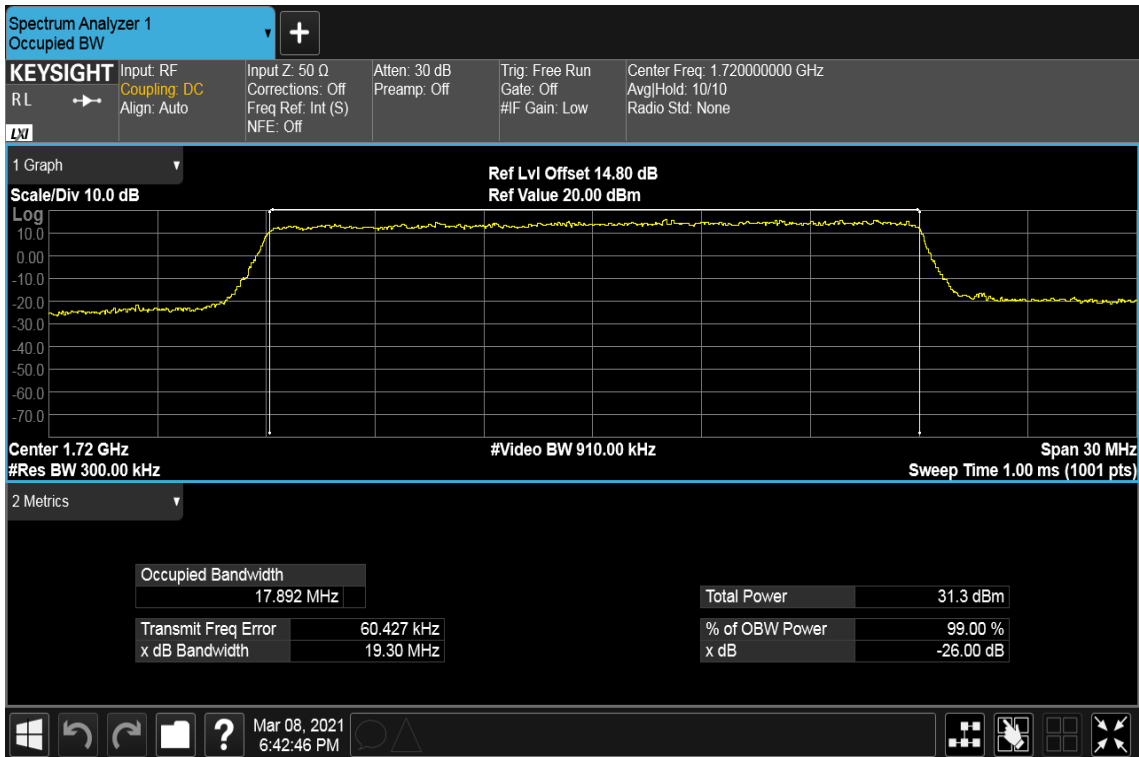
CH High



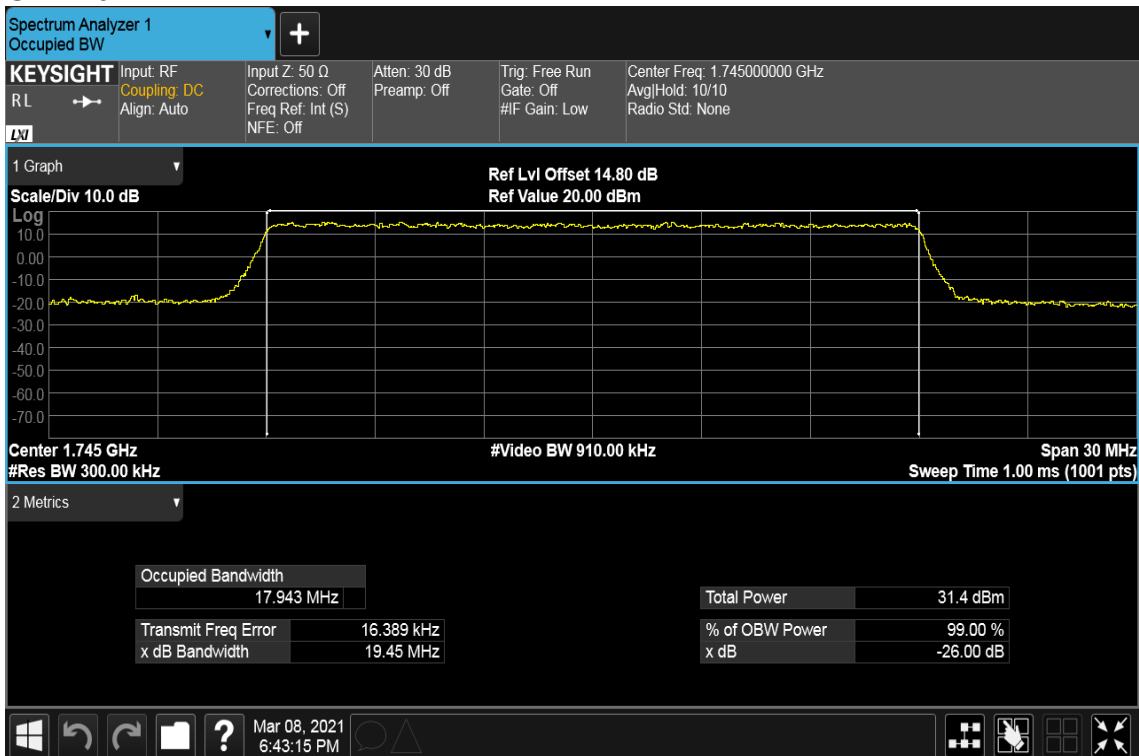
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 20MHz / QPSK / RB =100, RB Offset = 0

CH Low



CH Mid



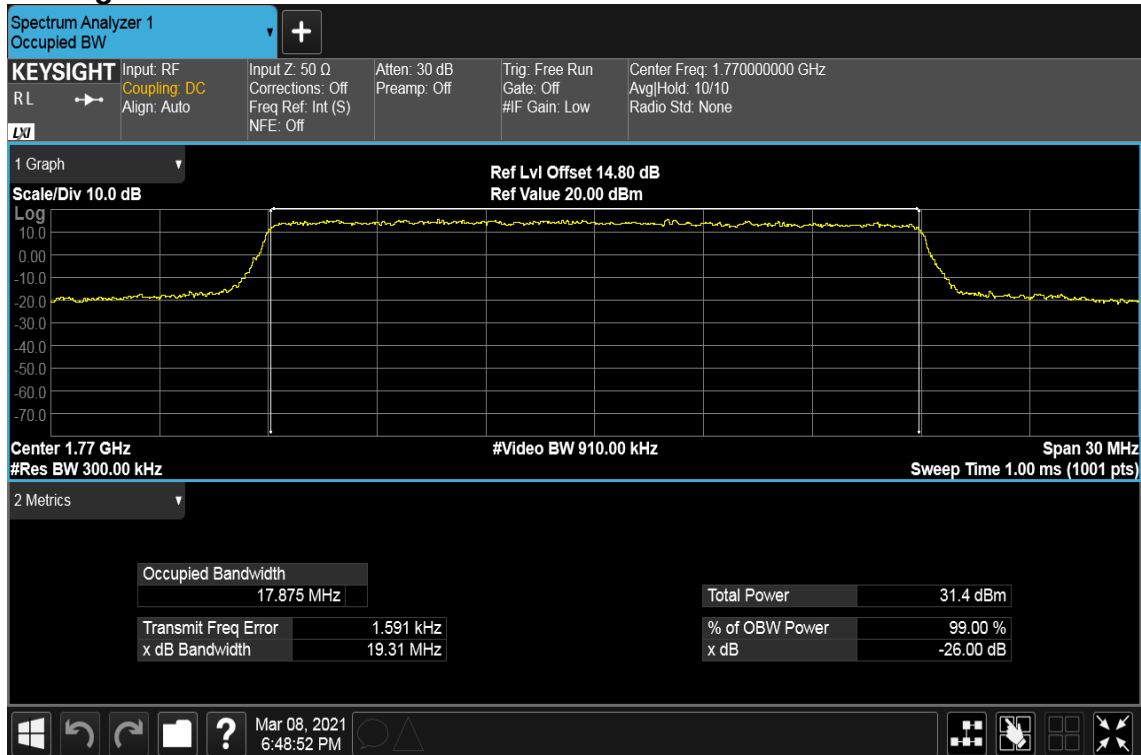


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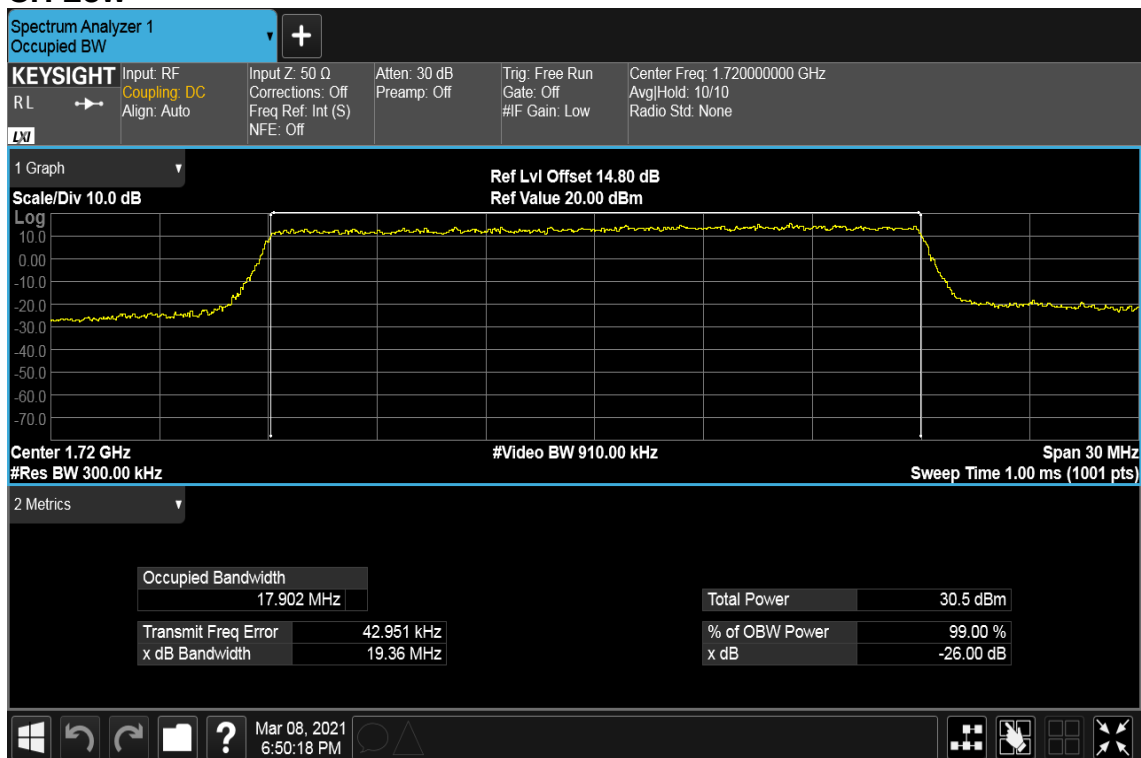
CH High



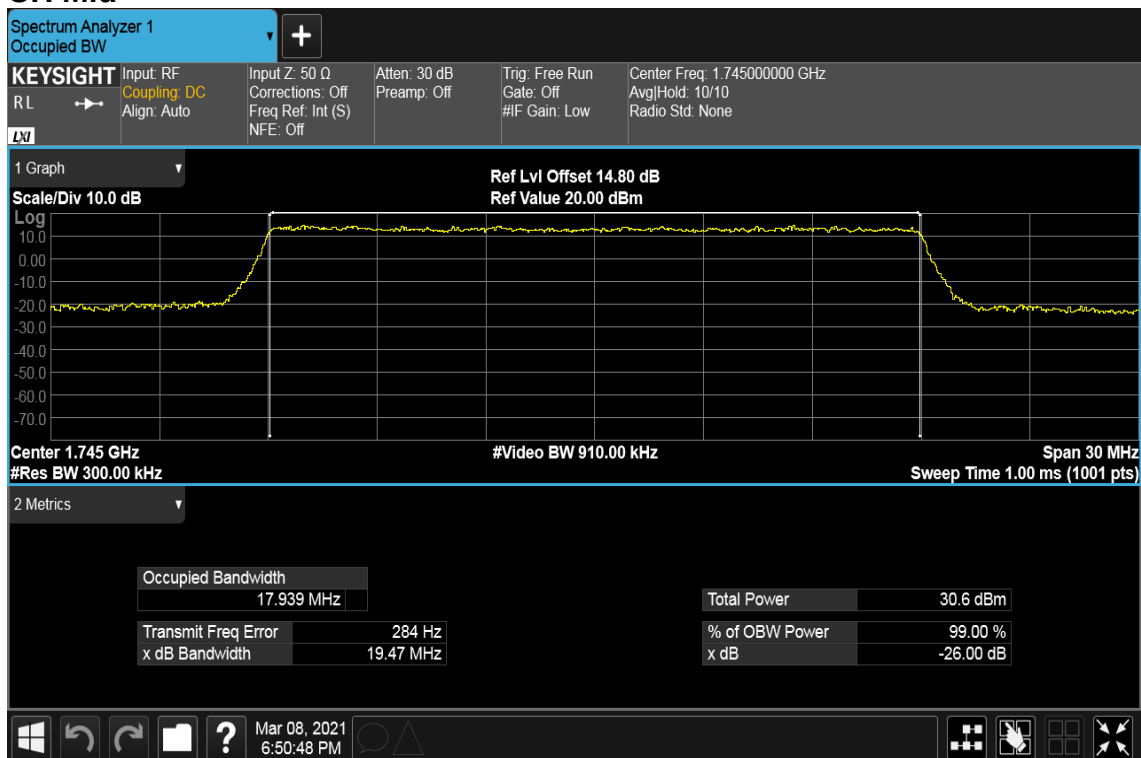
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 20MHz / 16QAM / RB =100, RB Offset = 0

CH Low



CH Mid



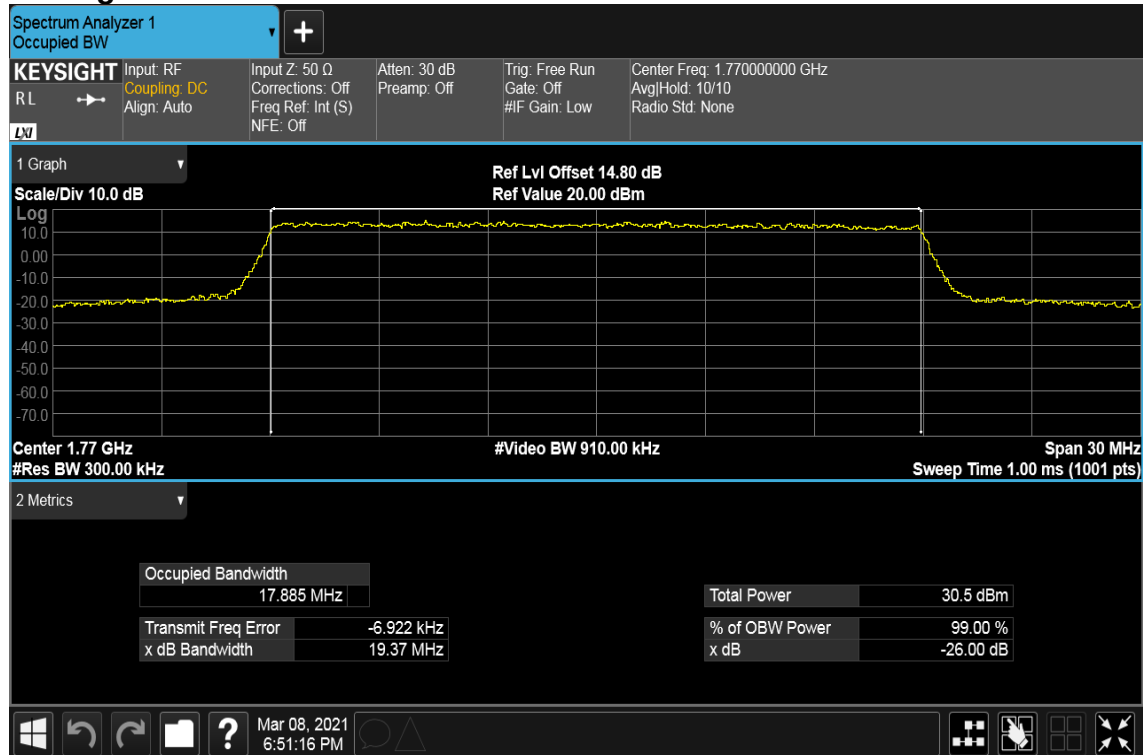


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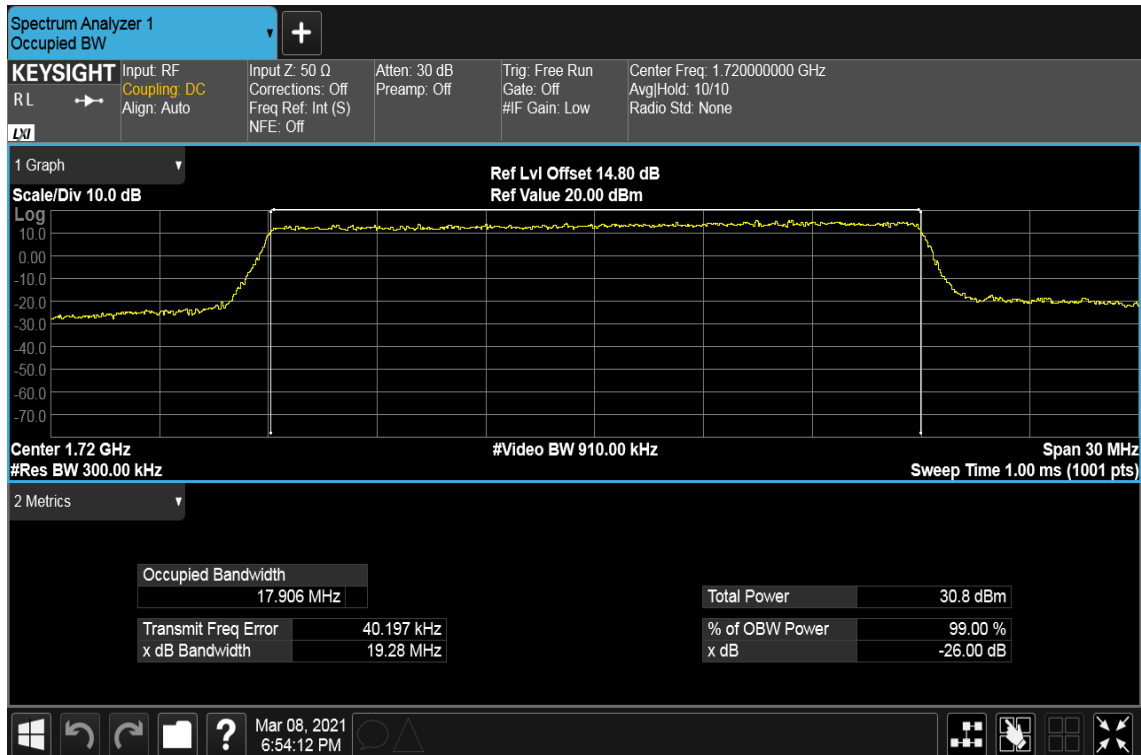
CH High



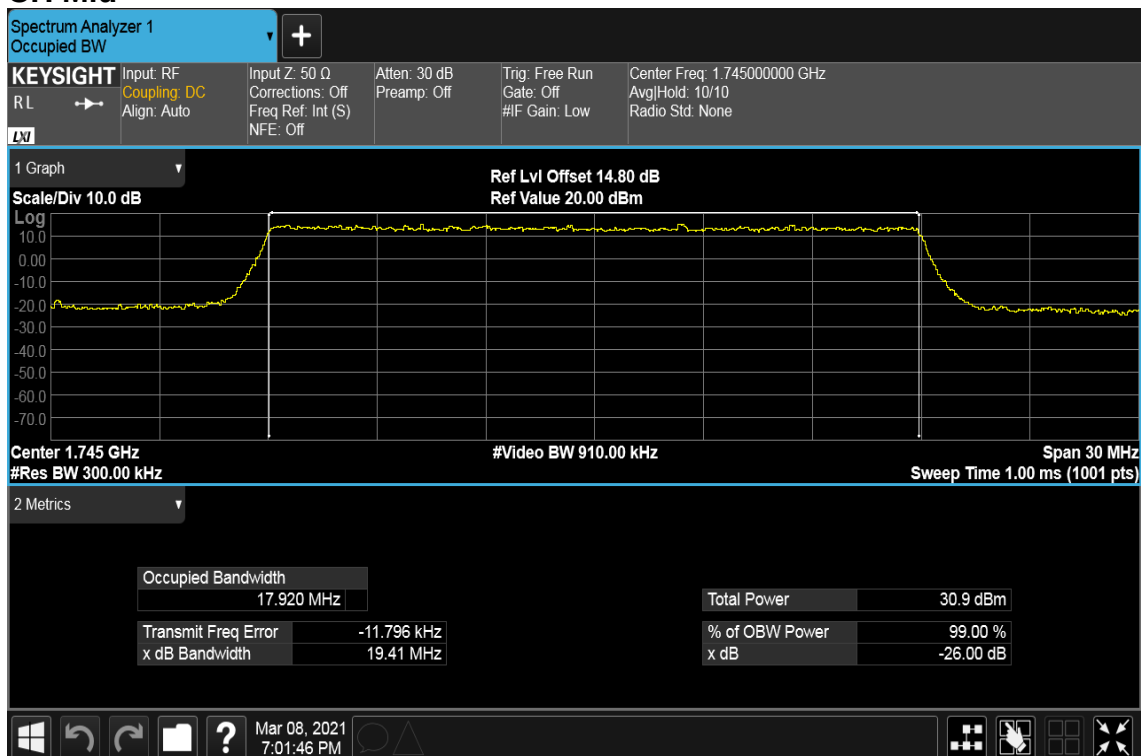
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 20MHz / 64QAM / RB =100, RB Offset = 0

CH Low



CH Mid



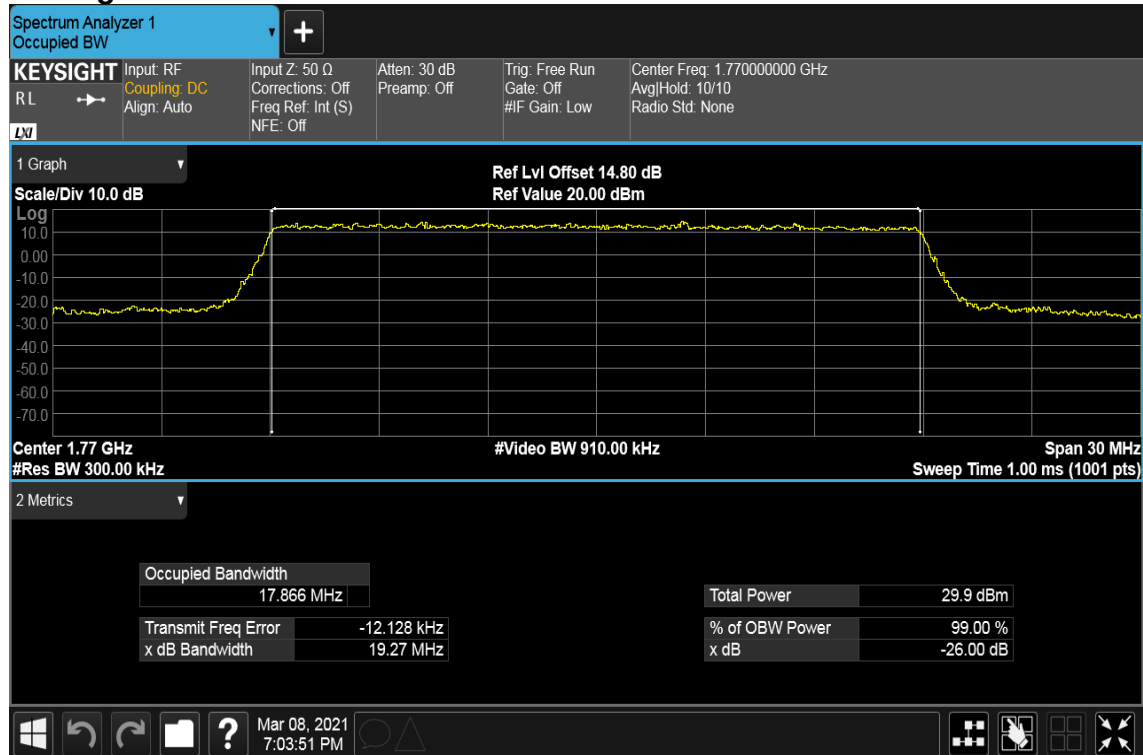


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CH High



8.4 PEAK TO AVERAGE POWER RATIO

LIMIT

In measuring transmissions in this band using an average power technique, peak-to-average power ratio (PAPR) of the transmission may not exceed 13 dB.

TEST PROCEDURES

1. According to KDB 971168D01.
2. The EUT was connect to spectrum analyzer and call box.
3. Set the CCDF function in spectrum analyzer.
4. The highest RF output power were measured and recorded the maximum PAPR level associated with a probability of 0.1%.
5. Record the Peak to Average Power Ratio.

TEST RESULTS**Temperature:** 25.3°C**Humidity:** 57.6% RH**Tested by:** Jerry Chang**Test Date:** March 5, 2021**Temperature:** 24.5°C**Humidity:** 53.7% RH**Tested by:** Jerry Chang**Test Date:** March 8, 2021**Temperature:** 24.3°C**Humidity:** 58.9% RH**Tested by:** Jerry Chang**Test Date:** August 27, 2021**LTE Band 66**

LTE BAND 66							
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		64QAM	Limit			64QAM	Limit
1710.7	131979	5.70	13	1711.5	131987	5.77	13
1745.0	132322	5.73	13	1745.0	132322	5.81	13
1779.3	132665	5.25	13	1778.5	132657	5.49	13

LTE BAND 66							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		64QAM	Limit			64QAM	Limit
1712.5	131997	5.73	13	1715.0	132022	5.72	13
1745.0	132322	5.52	13	1745.0	132322	5.36	13
1777.5	132647	5.30	13	1775.0	132622	5.56	13

LTE BAND 66							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		64QAM	Limit			64QAM	Limit
1717.5	132047	5.64	13	1720.0	132072	6.01	13
1745.0	132322	5.45	13	1745.0	132322	5.41	13
1772.5	132597	5.48	13	1770.0	132572	5.63	13

Note: We selected worst case to performed test in middle channel, the results can be meet other channel.

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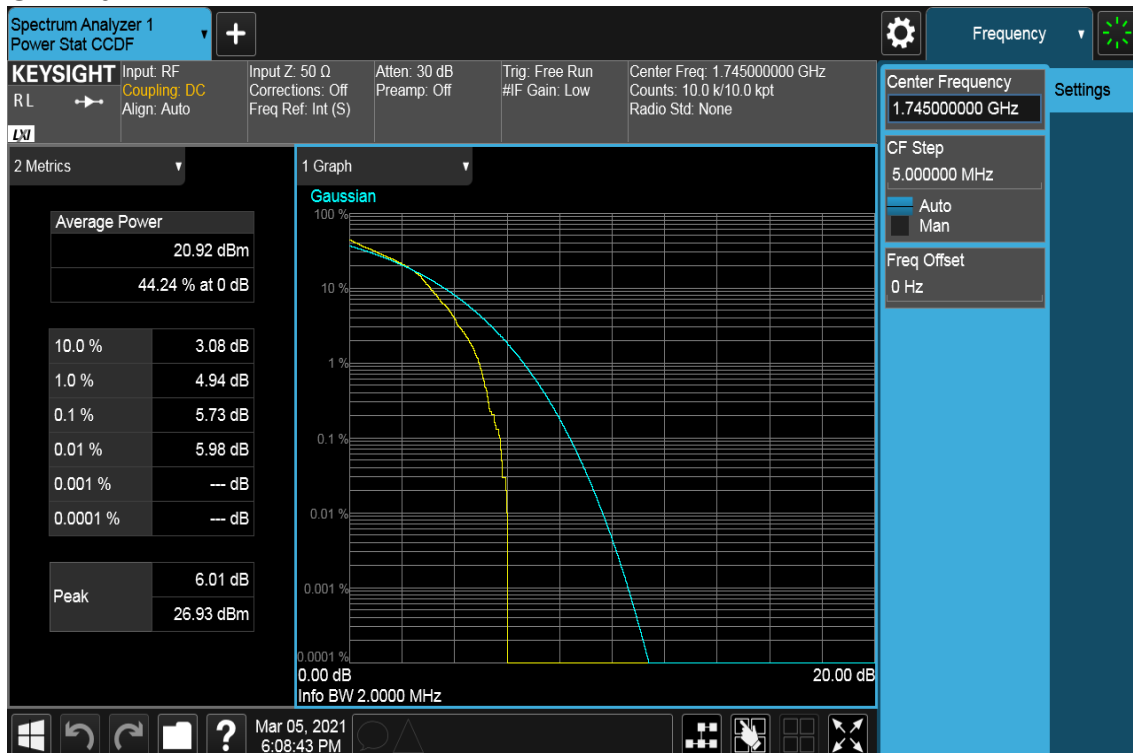
LTE Band 66

CHANNEL BANDWIDTH: 1.4MHz / 64QAM / RB =6, RB Offset = 0

CH Low



CH Mid



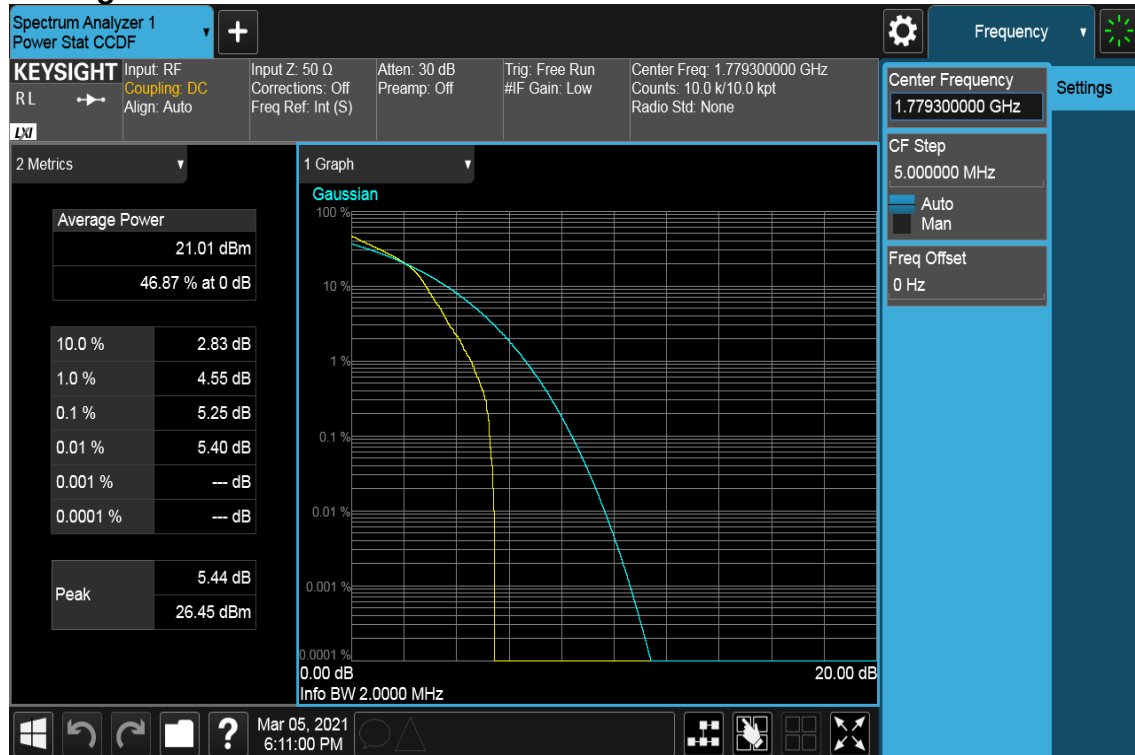


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CH High



Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 3MHz / 64QAM / RB =15, RB Offset = 0

CH Low



CH Mid



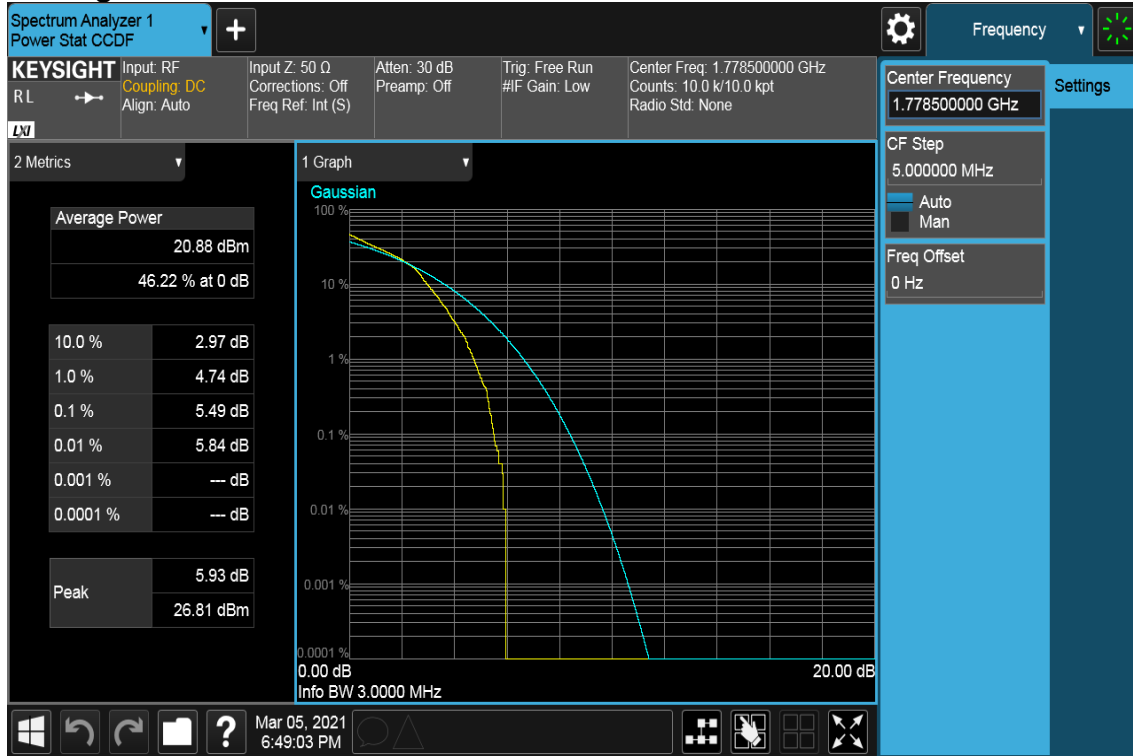


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CH High



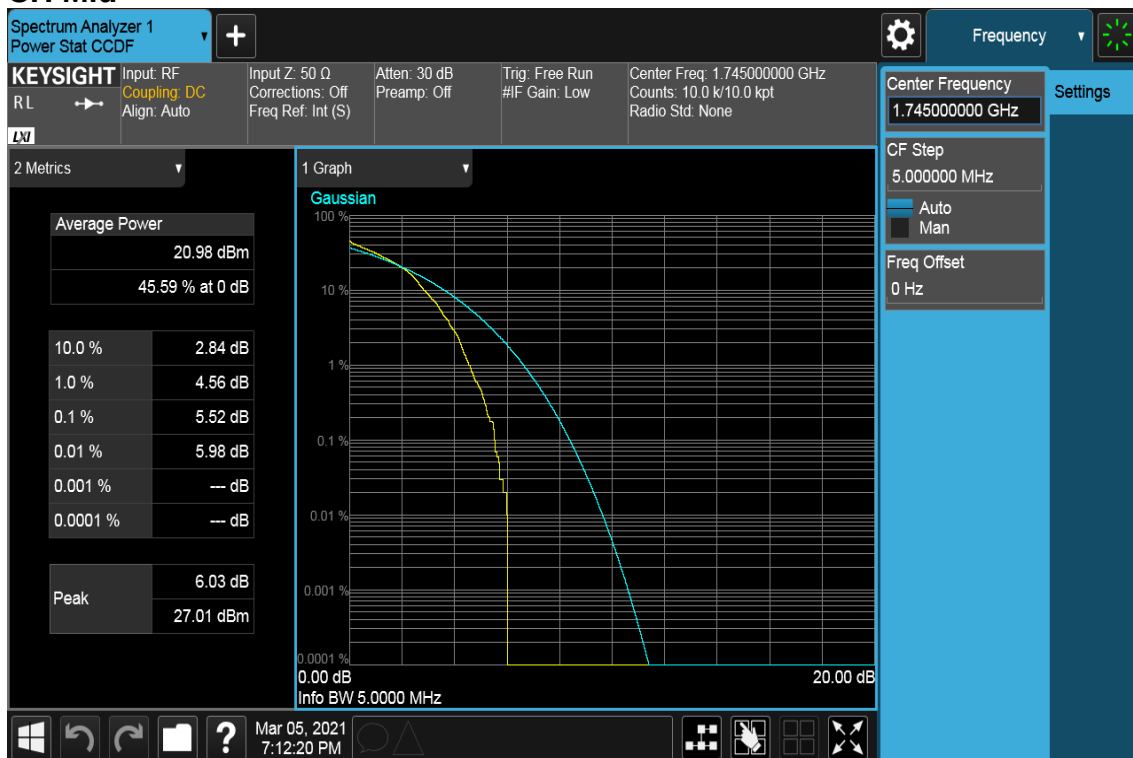
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 5MHz / 64QAM / RB =25, RB Offset = 0

CH Low



CH Mid



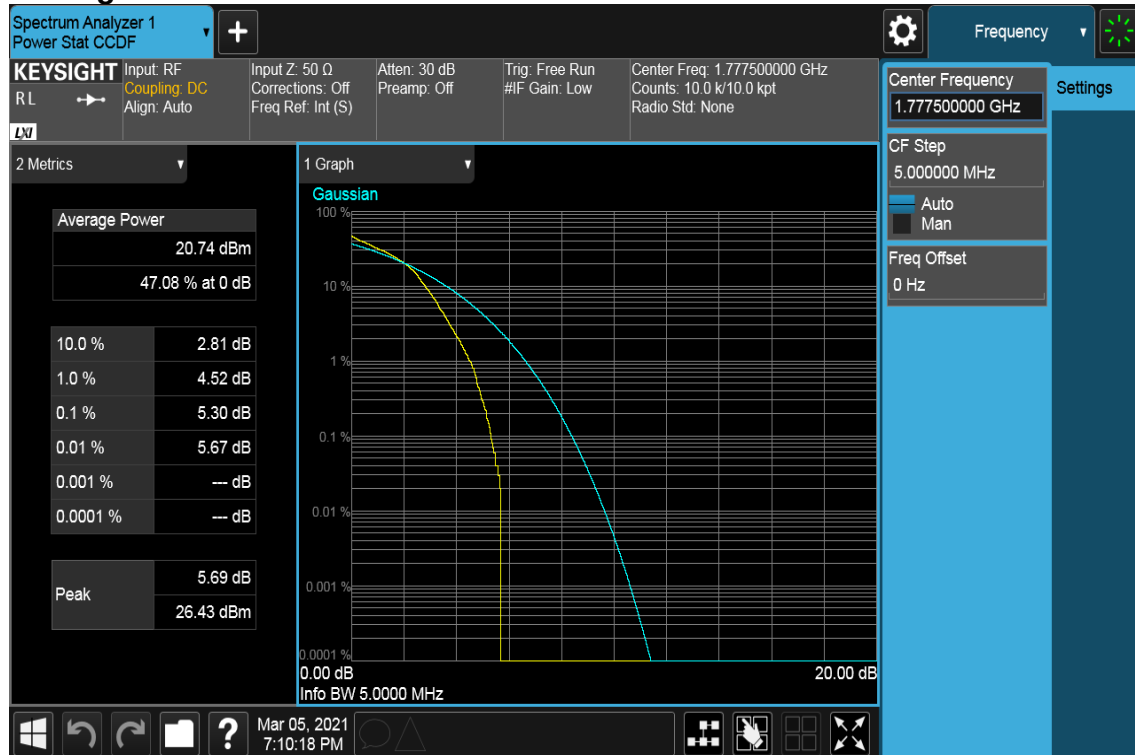


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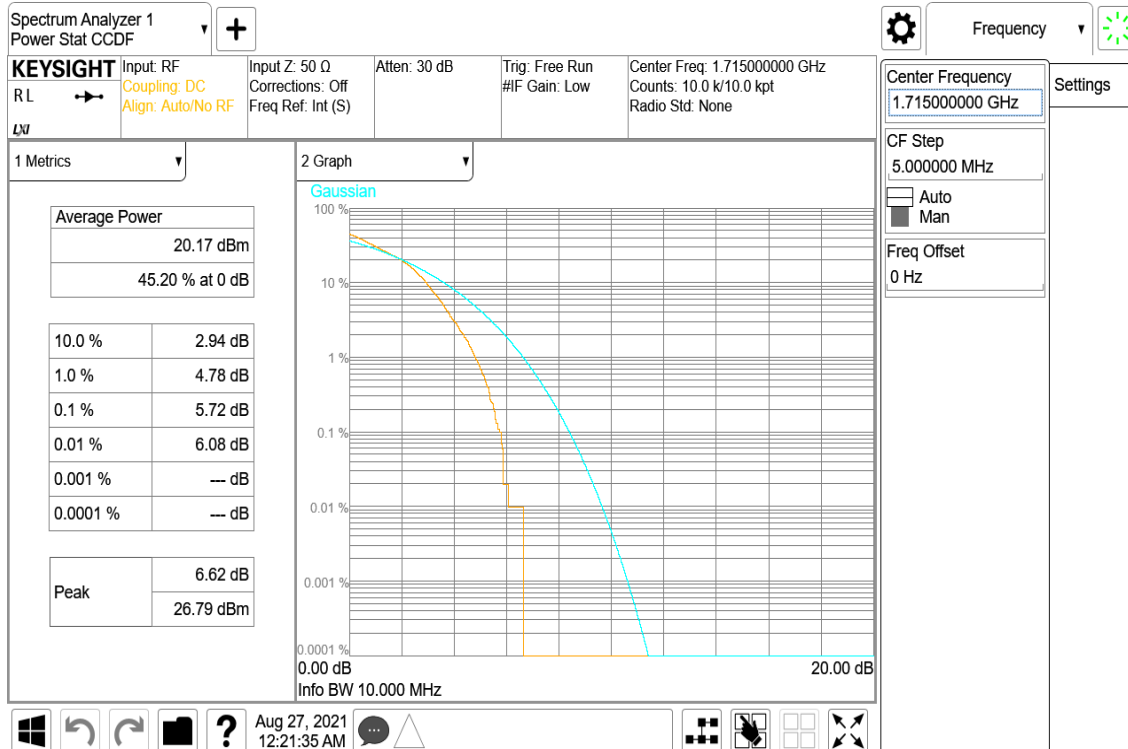
CH High



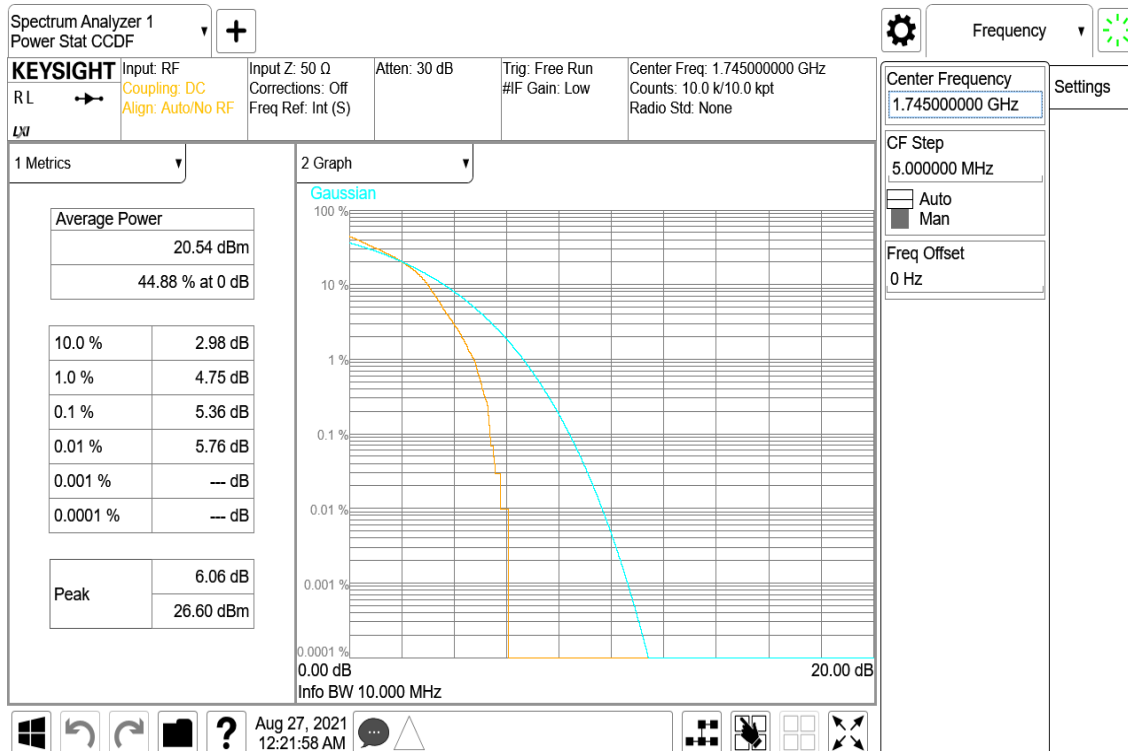
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 10MHz / 64QAM / RB =50, RB Offset = 0

CH Low



CH Mid



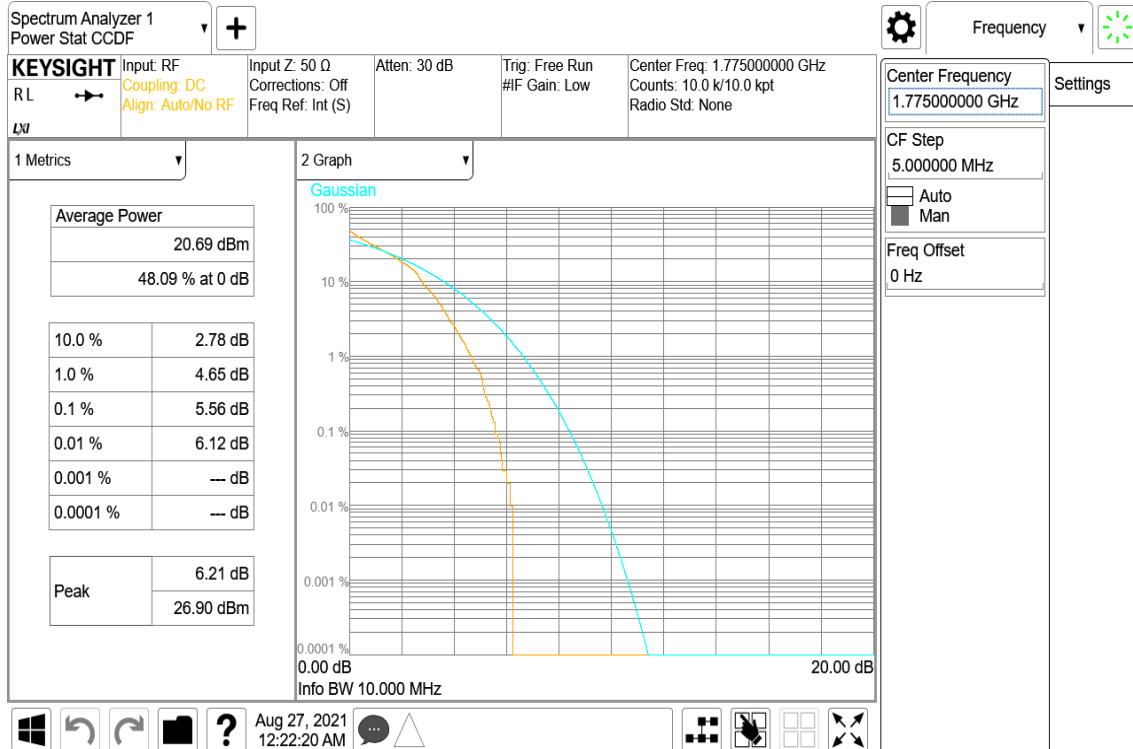


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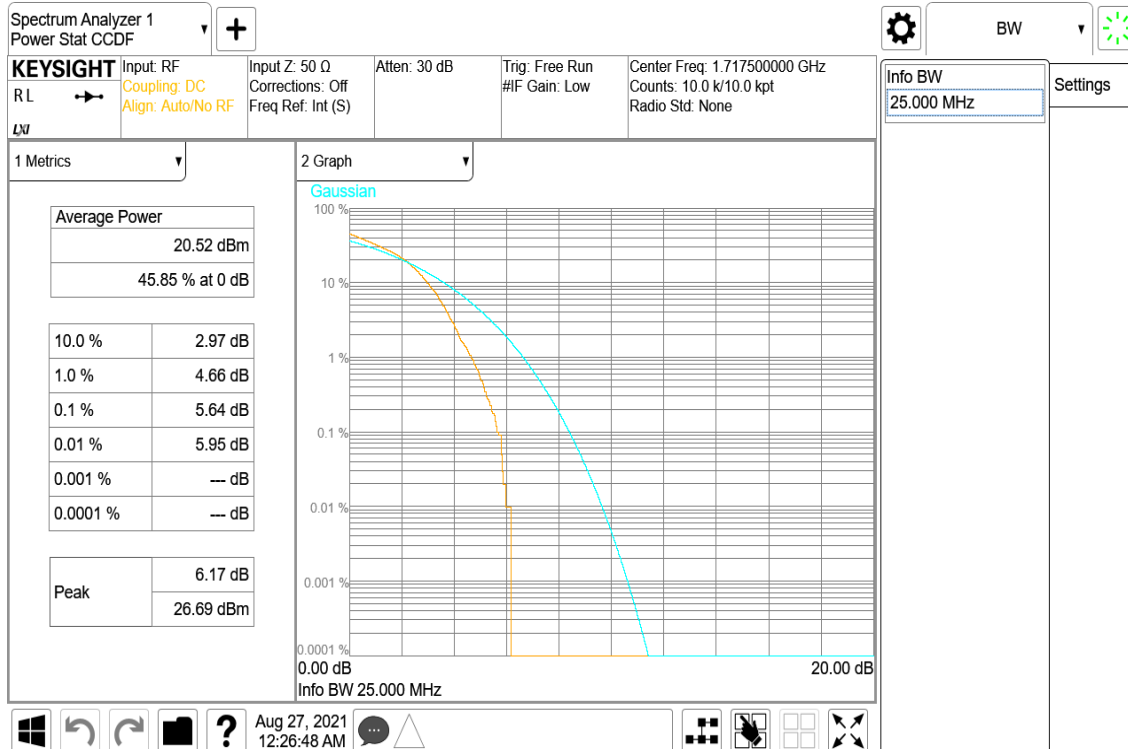
CH High



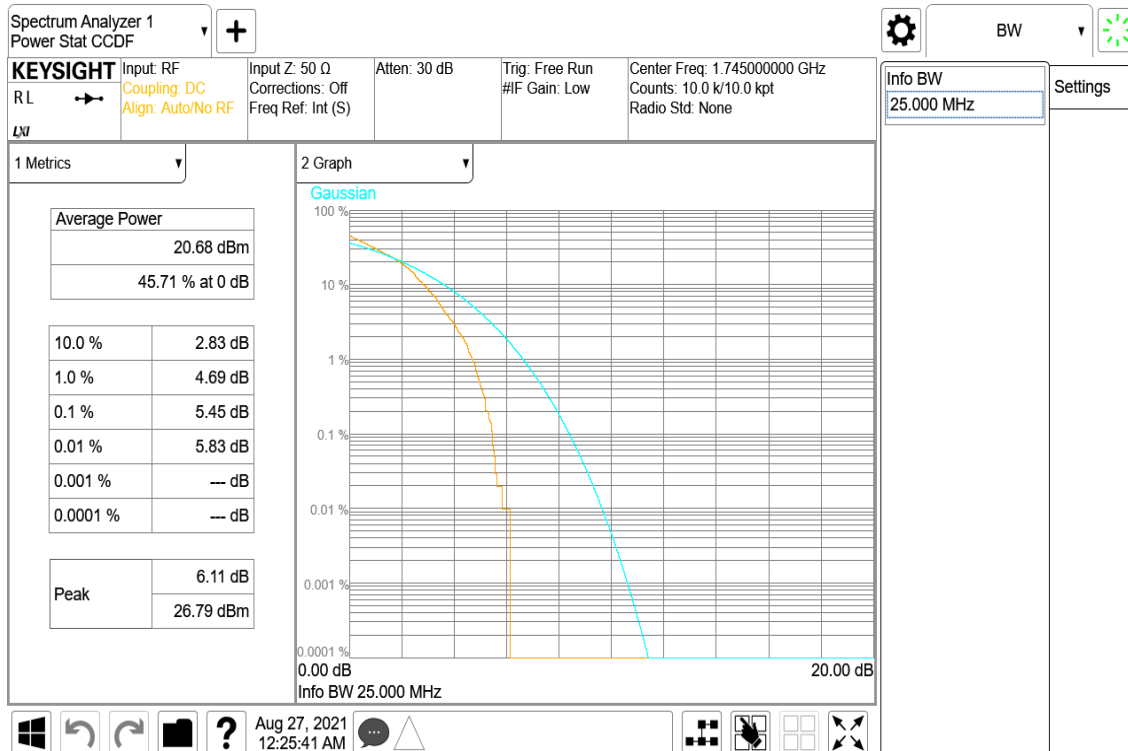
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 15MHz / 64QAM / RB =75, RB Offset = 0

CH Low



CH Mid



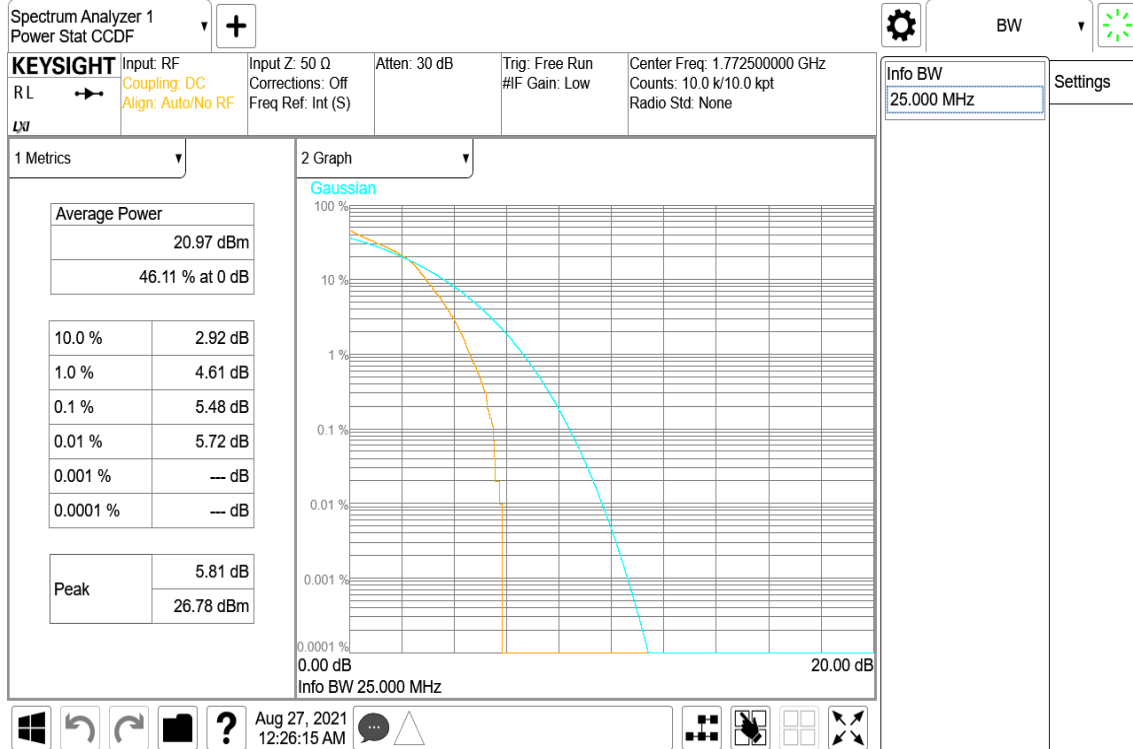


Report No.: T201102D09-RP17

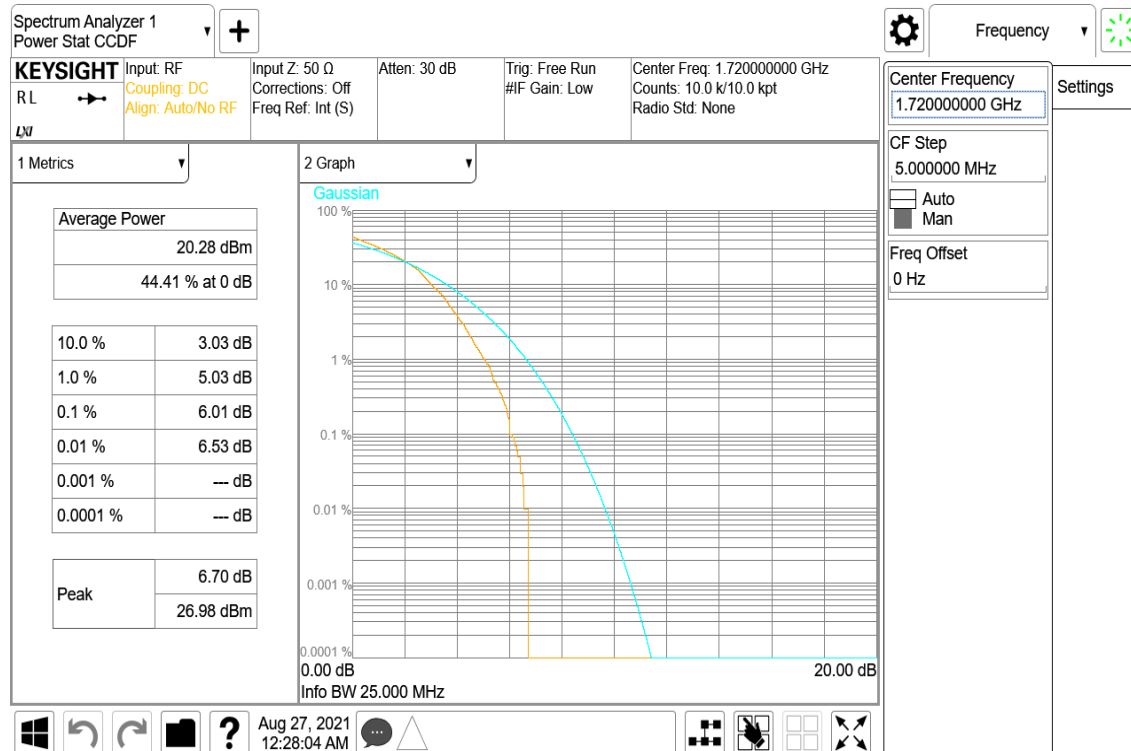
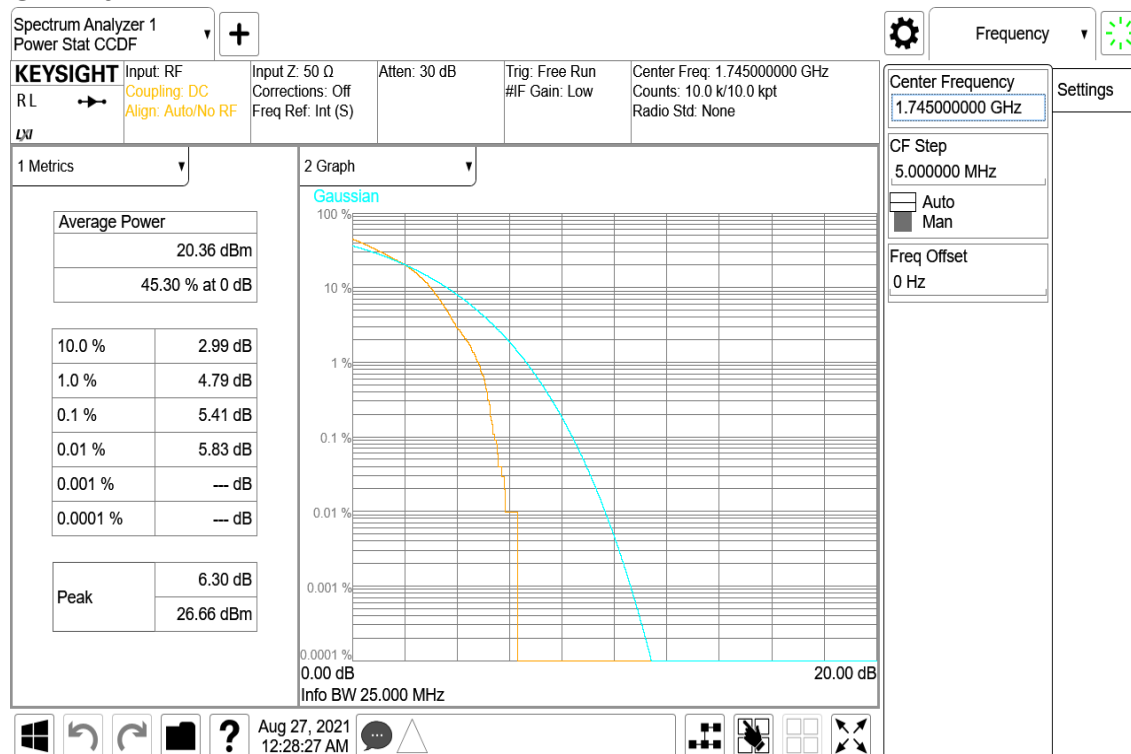
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CH High



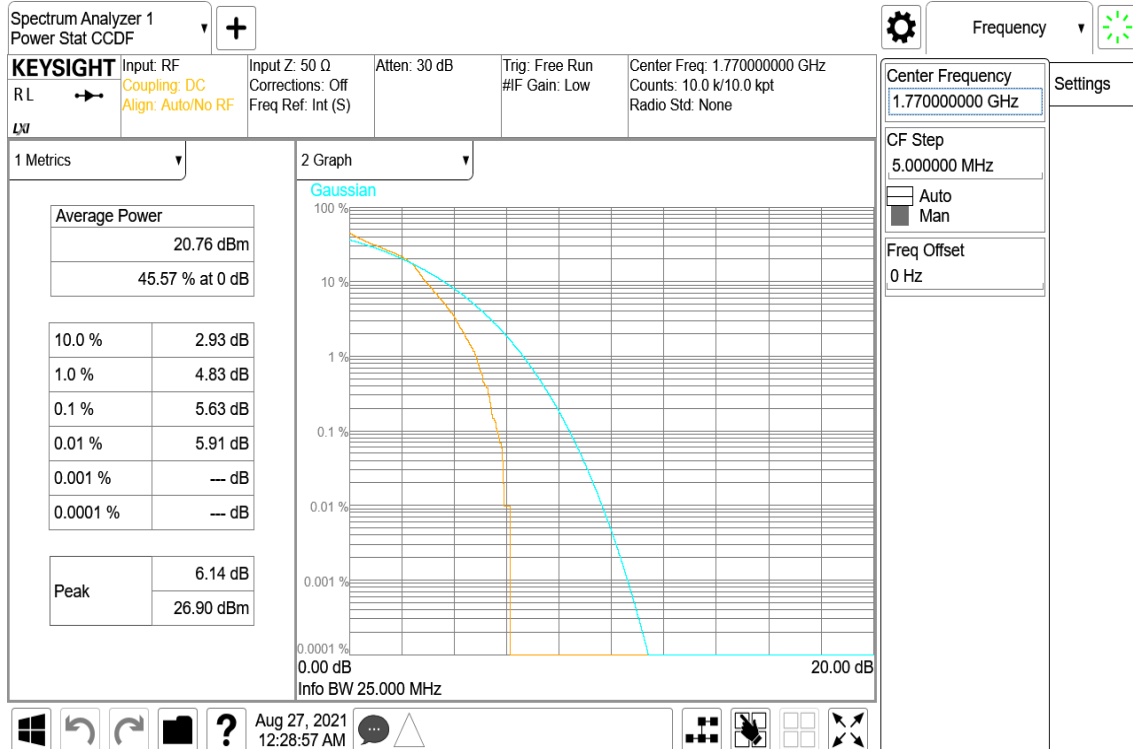
Report No.: T201102D09-RP17

CHANNEL BANDWIDTH: 20MHz / 64QAM / RB =100, RB Offset = 0
CH Low

CH Mid




Report No.: T201102D09-RP17

CH High



8.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

Part 27.53(m) (4), Band 66

Specifies that “for BRS and EBS stations. For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

According to RSS-139, Band 66

For mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

- (i) $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away
- (ii) $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- (iii) $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or below 2490.5 MHz.

p is the transmitter power measured in watts and **X** is 6 MHz or the equipment occupied bandwidth, whichever is greater.

TEST PROCEDURES

KDB 971168 D01 Power Meas License Digital Systems – Section 6.0

1. RBW $\geq 1\%$ of the emission bandwidth
2. VBW $\geq 3 \times$ RBW
3. Span was set large enough so as to capture all out of emissions near the band edge.



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TEST RESULTS:

Temperature: 25.3°C

Tested by: Jerry Chang

Humidity: 57.6% RH

Test Date: March 5, 2021

Temperature: 24.5°C

Tested by: Jerry Chang

Humidity: 53.7% RH

Test Date: March 8, 2021

Temperature: 25.3°C

Tested by: Jerry Chang

Humidity: 55.1% RH

Test Date: June 21, 2021

Temperature: 24.3°C

Tested by: Jerry Chang

Humidity: 58.9% RH

Test Date: August 27, 2021