FCC Test Report

Product Name	:	M2M DATA MODULE
Trade Name	:	WNC
Model No.	:	IMQ5
FCC ID.	:	NKRIMQ5

Applicant	:	Wistron Neweb Corporation
Address	:	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C

Date of Receipt	:	Dec. 02, 2019
Issued Date	:	Mar. 12, 2020
Report No.	:	19C0019R-HPUSP44V00
Report Version	:	V2.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Mar. 12, 2020
Report No. : 19C0019R-HPUSP44V00

Product Name	:	M2M DATA MODULE
Applicant	:	Wistron Neweb Corporation
Address	:	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C
Manufacturer	:	Wistron Neweb Corporation
Address	:	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C
Trade name	:	WNC
Model No.	:	IMQ5
FCC ID.	:	NKRIMQ5
EUT Voltage	:	DC 3.8V
Testing Voltage	:	DC 3.8V
Applicable Standard	:	FCC CFR Title 47 Part 22 Subpart H FCC CFR Title 47 Part 24 Subpart E FCC CFR Title 47 Part 27 Subpart L, Subpart F FCC CFR Title 47 Part 90 Subpart S ANSI/TIA-603-E-2016
Test Lab	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By : Fonbo Fang

(Fonbo Fang / Engineering Adm. Specialist)

Tested By : Max Chang

(Max Chang / Engineer)

Approved By : Louis Hsu

(Louis Hsu / Deputy Manager)

Revision History

Report No.	Version	Description	Issued Date
19C0019R-HPUSP44V00	V1.0	Initial issue of report	Mar. 04, 2020
19C0019R-HPUSP44V00	V2.0	Increase EUT Internal Photograph at Attachment 3	Mar. 12, 2020

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1. General Information

1.1. EUT Description

Product Name	M2M DATA MODULE	
Trade Name	WNC	
Model No.	IMQ5	
Uplink Frequency Range (MHz)	LTE Band 2: 1850~1910 LTE Band 4: 1710~1755 LTE Band 12: 699~716 LTE Band 13: 777~787	LTE Band 25: 1850~1915 LTE Band 26: 814~849
Downlink Frequency Range (MHz)	LTE Band 2: 1930~1990 LTE Band 4: 2110~2115 LTE Band 12: 729~746 LTE Band 13: 746~756	LTE Band 25: 1930~1995 LTE Band 26: 859~894
Modulation	QPSK / 16QAM	
HW Version	1.0	
FW Version	IMQ5_MPSS_v02.01 APSS_v01.02	
IMEI No.	015617000010805	

Note:

1. This M2M DATA MODULE support LTE Cat M1 Band 2/4/12/13/25/26 & GPS function.
2. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
3. The EUT description is from the customer declaration.

1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: LTE Band 2
Mode 2: LTE Band 4
Mode 3: LTE Band 12
Mode 4: LTE Band 13
Mode 5: LTE Band 25
Mode 6: LTE Band 26

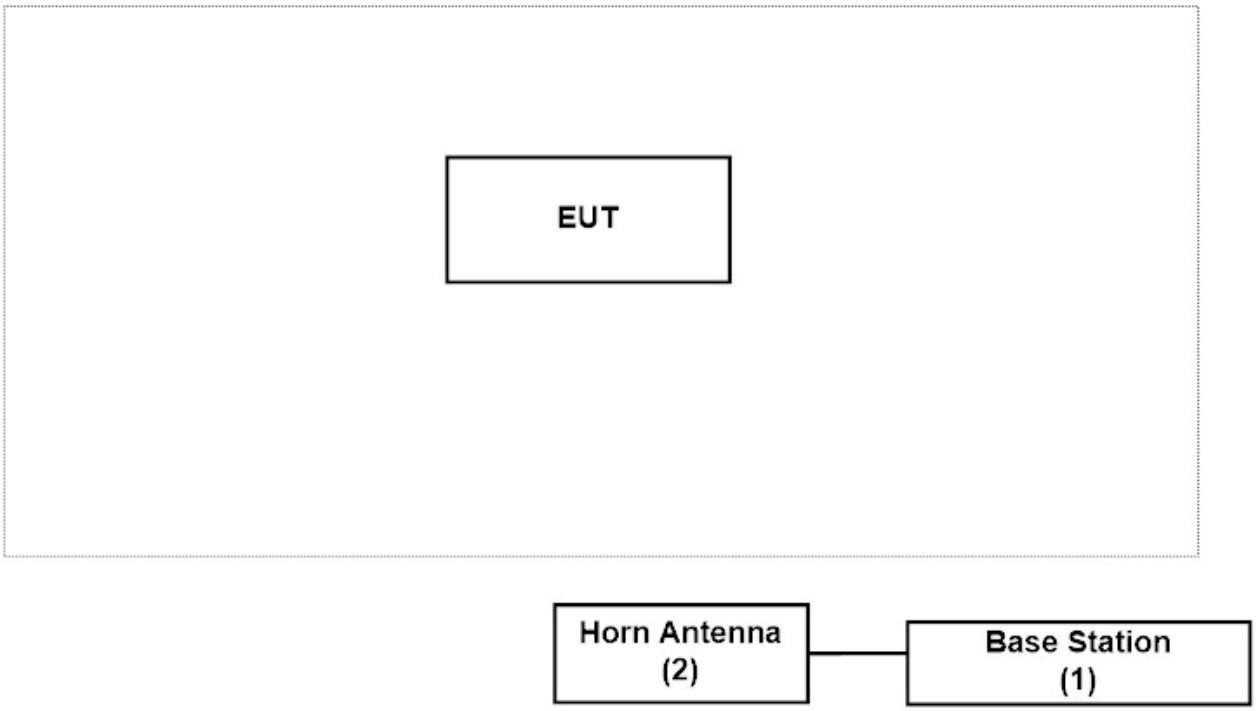
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Base Station	R&S	CMW500	157118	DoC	--
2	Horn Antenna	ELECTRO METRICS	EM-6967	103326	DoC	--

1.4. Configuration of Tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	RF Cable	Shielded, 6m.

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment. Horn link with base station.
3	The EUT link with base station and it will continue receive the signal.
4	Repeat the above procedure.

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

B2

Uplink: 1850-1910MHz

Downlink: 1930-1990MHz

LTE B2			
FCC Part 24 Subpart E			
Test item	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §24.232	< 2 Watts	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§24.232	< 13 dB	Pass
Spurious Emissions	§2.1053 §24.238	< -13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.238	< -13dBm	Pass
Frequency Stability	§2.1055 §24.235	< ±2.5 ppm	Pass

B4

Uplink: 1710-1755MHz

Downlink: 2100-2155MHz

LTE B4			
FCC Part 27 Subpart L			
Test item	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §27.50	< 1 Watt	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§27.50	< 13 dB	Pass
Spurious Emissions	§2.1053 §27.53	< -13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.53	< -13dBm	Pass
Frequency Stability	§2.1055 §27.54	< 2.5 ppm	Pass

B12

Uplink: 699-716MHz

Downlink: 729-746MHz

LTE B12			
FCC Part 27 Subpart F			
Test item	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §27.50	<3 Watts ERP	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§27.50	<13 dB	Pass
Spurious Emissions	§2.1053 §27.53	<-13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.53	<-13dBm	Pass
Frequency Stability	§2.1055 §27.54	<±2.5 ppm	Pass

B13

Uplink: 777-787MHz

Downlink: 746-756MHz

LTE B13			
FCC Part 27 Subpart F			
RF Output Power	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §27.50	< 3 Watts ERP	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§27.50	< 13 dB	Pass
Spurious Emissions	§2.1053 §27.53	< -13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.53	< -13dBm	Pass
Frequency Stability	§2.1055 §27.54	< ±2.5 ppm	Pass

B25

Uplink: 1850~1915MHz

Downlink: 1930~1995MHz

LTE B25			
FCC Part 24 Subpart E			
Test item	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §24.232	< 2 Watts	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§24.232	< 13 dB	Pass
Spurious Emissions	§2.1053 §24.238	< -13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.238	< -13dBm	Pass
Frequency Stability	§2.1055 §24.235	< ±2.5 ppm	Pass

B26

Uplink: 814~849MHz

Downlink: 859~894MHz

LTE B26			
FCC Part 22 Subpart H FCC Part 90 Subpart S			
Test item	FCC Reference section	FCC Limit	Result
RF Output Power	§2.1033 §2.1046 §90.635(b) §22.913	<100 Watts ERP (Part 90) <7 Watts ERP (Part 22)	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak-to-average power ratio	§22.913	<13 dB	Pass
Spurious Emissions	§2.1053 §90.691 §22.917	<-13dBm	Pass
Spurious Emissions at Antenna Terminals	§90.691 §22.917	<-13dBm	Pass
Frequency Stability	§2.1055 §90.213	<±2.5 ppm	Pass

2.2. Test Environment

Items	Required	Test Site
Temperature (°C)	15-35	2 & 3
Humidity (%RH)	25-75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	**:**	**FCC Registration Number: TW3024**
Canada	**:**	**IC Registration Number: 22397-1 / 22397-2 / 22397-3**

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C. 2. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 3. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-592-8858 2. +886-3-582-8001 3. +886-3-582-8001
Fax number	1. +886-3-592-8859 2. +886-3-582-8958 3. +886-3-582-8958
E mail address	info.tw@dekra.com
Website	http://www.dekra.com.tw

2.3. List of Test Equipment

RF Output Power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Occupied Bandwidth / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Peak To Average Ratio / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Conducted Spurious Emissions / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Radiated Spurious Emissions / CB4-H, CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2019/05/28	2020/05/27
Bilog Antenna	Teseq	CBL6112D	23191	2019/06/17	2020/06/16
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Signal Analyzer	R&S	FSVA40	101455	2019/10/21	2020/10/20
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2019/10/25	2020/10/24
Pre-Amplifier	DEKRA	AP-025C	12183122	2019/09/24	2020/09/23
Signal Analyzer	R&S	FSV40	101435	2019/07/08	2020/070/7
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Coaxial Cable(16m)	Huber+Suhner	SF104	CB2-H	2019/07/25	2020/07/24
EMI system	DEKRA	Version 1.0	CB2-H	NA	NA
Coaxial Cable(19m)	Suhner	SF102_SF104_SF106	CB4_2	2019/07/25	2020/07/24
EMI system	DEKRA	Version 1.0	CB4-H	NA	NA

Spurious Emissions at Antenna Terminals / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Frequency Stability / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2019/09/11	2020/09/10
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2019/06/18	2020/06/17
Spectrum Analyzer	Keysight	N9010B	MY57110159	2019/05/03	2020/05/02
Wireless Conn. Tseter	R&S	CMW500	157118	2019/08/08	2020/08/07
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

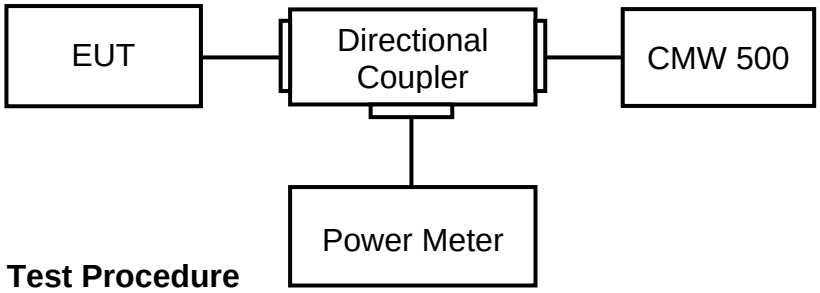
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.4. Uncertainty

Test Item	Uncertainty
RF Output Power	±1.27 dB
Occupied Bandwidth	± 10 Hz
Peak To Average Ratio	Not exceed 13 dB
Spurious Emissions	± 1.27 dB for Conducted Measurement ± 3.2 dB for Radiated Measurement
Spurious Emissions at Antenna Terminals	± 3.2 dB
Frequency Stability	± 10 Hz

3. RF Output Power

3.1. Test Setup



3.2. Test Procedure

a) The RF output of the transmitter was connected to base station simulator.
b) The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement..
c) Set EUT at maximum average power by base station simulator.
d) Measure lowest, middle, and highest channels for each bandwidth and different modulation.

Effective Isotropic Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi)
Effective Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi) - 2.15dB
The conversion of dBm to watts is given by the formula:

$$P_{(W)} = 1W \times \frac{10^{\left(\frac{P_{(dBm)}}{10}\right)}}{1000} = 10^{((P_{(dBm)}-30)/10)}$$

3.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.2.4
ANSI C63.26: 2015 Sub-clause 5.2.4.2

3.4. Test Result

Product	M2M DATA MODULE		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 2		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 1.4MHz	18607 1850.7	QPSK	1	0	Low	20.60	0.230	2
			6	0		18.60	0.145	2
		16-QAM	1	0		19.79	0.191	2
			5	0		18.51	0.142	2
	18900 1880	QPSK	1	0		20.60	0.230	2
			6	0		18.67	0.148	2
		16-QAM	1	0		19.84	0.193	2
			5	0		18.66	0.147	2
	19193 1909.3	QPSK	1	5	Low	21.03	0.254	2
			6	0		18.70	0.149	2
		16-QAM	1	5		19.25	0.169	2
			5	1		18.75	0.150	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 3MHz	18615 1851.5	QPSK	1	0	Low	20.57	0.229	2
			6	0		18.47	0.141	2
		16-QAM	1	0		19.64	0.185	2
			5	0		18.51	0.142	2
	18900 1880	QPSK	1	0		20.71	0.236	2
			6	0		18.56	0.144	2
		16-QAM	1	0		19.86	0.194	2
			5	0		18.63	0.146	2
	19185 1908.5	QPSK	1	5	High	20.86	0.244	2
			6	0		18.62	0.146	2
		16-QAM	1	5		19.24	0.168	2
			5	1		18.66	0.147	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 5MHz	18625 1852.5	QPSK	1	0	Low	20.45	0.222	2
			6	0		19.46	0.177	2
		16-QAM	1	0		20.36	0.218	2
			5	0		19.74	0.189	2
	18900 1880	QPSK	1	0		20.58	0.229	2
			6	0		19.61	0.183	2
		16-QAM	1	0		20.41	0.220	2
			5	0		19.87	0.195	2
	19175 1907.5	QPSK	1	5	High	20.71	0.236	2
			6	0		19.62	0.184	2
		16-QAM	1	5		20.39	0.219	2
			5	1		19.70	0.187	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 10MHz	18650 1855	QPSK	1	0	Low	20.36	0.218	2
			6	0		19.51	0.179	2
		16-QAM	1	0		20.37	0.218	2
			5	0		20.69	0.235	2
	18900 1880	QPSK	1	0		20.53	0.226	2
			6	0		19.59	0.182	2
		16-QAM	1	0		20.46	0.223	2
			5	0		20.82	0.242	2
	19150 1905	QPSK	1	5	High	20.65	0.233	2
			6	0		19.61	0.183	2
		16-QAM	1	5		20.61	0.231	2
			5	1		20.80	0.241	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 15MHz	18675 1857.5	QPSK	1	0	Low	20.43	0.221	2
			6	0		20.45	0.222	2
		16-QAM	1	0		20.61	0.231	2
			5	0		20.61	0.231	2
	18900 1880	QPSK	1	0		20.57	0.229	2
			6	0		20.41	0.220	2
		16-QAM	1	0		20.52	0.226	2
			5	0		20.81	0.242	2
	19125 1902.5	QPSK	1	5	High	20.60	0.230	2
			6	0		20.55	0.228	2
		16-QAM	1	5		20.32	0.216	2
			5	1		20.80	0.241	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 2 20MHz	18700 1860	QPSK	1	0	Low	20.49	0.224	2
			6	0		20.44	0.222	2
		16-QAM	1	0		20.34	0.217	2
			5	0		20.71	0.236	2
	18900 1880	QPSK	1	0		20.56	0.228	2
			6	0		20.55	0.228	2
		16-QAM	1	0		20.53	0.226	2
			5	0		20.83	0.243	2
	19100 1900	QPSK	1	5	High	21.07	0.256	2
			6	0		21.12	0.259	2
		16-QAM	1	5		20.55	0.228	2
			5	1		20.89	0.246	2

Product	M2M DATA MODULE		
Test Item	RF Output Power		
Test Mode	Mode 2: LTE Band 4		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 1.4MHz	19957 1710.7	QPSK	1	0	Low	21.46	0.281	1
			6	0		19.41	0.175	1
		16-QAM	1	0		20.54	0.227	1
			5	0		19.38	0.174	1
	20175 1732.5	QPSK	1	0		21.50	0.283	1
			6	0		19.26	0.169	1
		16-QAM	1	0		20.68	0.234	1
			5	0		19.33	0.172	1
	20393 1754.3	QPSK	1	5	Low	21.62	0.291	1
			6	0		19.19	0.166	1
		16-QAM	1	5		19.77	0.190	1
			5	1		19.29	0.170	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 3MHz	19965 1711.5	QPSK	1	0	Low	21.40	0.277	1
			6	0		19.20	0.167	1
		16-QAM	1	0		20.58	0.229	1
			5	0		19.30	0.171	1
	20175 1732.5	QPSK	1	0		21.39	0.276	1
			6	0		19.22	0.167	1
		16-QAM	1	0		20.49	0.224	1
			5	0		19.22	0.167	1
	20385 1753.5	QPSK	1	5	High	21.23	0.266	1
			6	0		19.02	0.160	1
		16-QAM	1	5		19.56	0.181	1
			5	1		19.03	0.160	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 5MHz	19975 1712.5	QPSK	1	0	Low	21.10	0.258	1
			6	0		20.11	0.206	1
		16-QAM	1	0		21.24	0.267	1
			5	0		20.01	0.201	1
	20175 1732.5	QPSK	1	0		21.09	0.258	1
			6	0		20.16	0.208	1
		16-QAM	1	0		20.95	0.249	1
			5	0		20.33	0.216	1
	20375 1752.5	QPSK	1	5	High	21.38	0.275	1
			6	0		20.08	0.204	1
		16-QAM	1	5		20.64	0.232	1
			5	1		20.19	0.209	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 10MHz	20000 1715	QPSK	1	0	Low	21.17	0.262	1
			6	0		20.14	0.207	1
		16-QAM	1	0		21.04	0.255	1
			5	0		21.28	0.269	1
	20175 1732.5	QPSK	1	0		21.08	0.257	1
			6	0		20.16	0.208	1
		16-QAM	1	0		21.00	0.252	1
			5	0		21.30	0.270	1
	20350 1750	QPSK	1	5	High	21.15	0.261	1
			6	0		20.08	0.204	1
		16-QAM	1	5		21.09	0.258	1
			5	1		21.09	0.258	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 15MHz	20025 1717.5	QPSK	1	0	Low	21.06	0.256	1
			6	0		21.10	0.258	1
		16-QAM	1	0		21.08	0.257	1
			5	0		21.30	0.270	1
	20175 1732.5	QPSK	1	0		21.29	0.270	1
			6	0		21.01	0.253	1
		16-QAM	1	0		20.86	0.244	1
			5	0		21.21	0.265	1
	20325 1747.5	QPSK	1	5	High	21.26	0.268	1
			6	0		21.10	0.258	1
		16-QAM	1	5		21.04	0.255	1
			5	1		20.95	0.249	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 20MHz	20050 1720	QPSK	1	0	Low	21.02	0.254	1
			6	0		21.07	0.256	1
		16-QAM	1	0		21.03	0.254	1
			5	0		21.24	0.267	1
	20175 1732.5	QPSK	1	0		21.03	0.254	1
			6	0		21.07	0.256	1
		16-QAM	1	0		20.92	0.248	1
			5	0		21.24	0.267	1
	20300 1745	QPSK	1	5	High	21.37	0.275	1
			6	0		21.11	0.259	1
		16-QAM	1	5		20.63	0.232	1
			5	1		21.11	0.259	1

Product	M2M DATA MODULE		
Test Item	RF Output Power		
Test Mode	Mode 3: LTE Band 12		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 12 1.4MHz	23017 699.7	QPSK	1	0	Low	20.96	0.159	3
			6	0		19.14	0.104	3
		16-QAM	1	0		20.34	0.138	3
			5	0		19.16	0.105	3
	23095 707.5	QPSK	1	0		21.09	0.164	3
			6	0		19.32	0.109	3
		16-QAM	1	0		20.46	0.142	3
			5	0		19.32	0.109	3
	23173 715.3	QPSK	1	5	Low	21.62	0.185	3
			6	0		19.59	0.116	3
		16-QAM	1	5		20.09	0.130	3
			5	1		19.61	0.116	3

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 12 3MHz	23025 700.5	QPSK	1	0	Low	21.34	0.173	3
			6	0		19.15	0.105	3
		16-QAM	1	0		20.74	0.151	3
			5	0		19.34	0.109	3
	23095 707.5	QPSK	1	0		21.51	0.180	3
			6	0		19.23	0.107	3
		16-QAM	1	0		20.43	0.141	3
			5	0		19.46	0.112	3
	23165 714.5	QPSK	1	5	High	21.75	0.191	3
			6	0		21.69	0.188	3
		16-QAM	1	5		20.35	0.138	3
			5	1		19.51	0.114	3

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 12 5MHz	23035 701.5	QPSK	1	0	Low	21.02	0.161	3
			6	0		20.13	0.131	3
		16-QAM	1	0		20.91	0.157	3
			5	0		20.42	0.140	3
	23095 707.5	QPSK	1	0		21.10	0.164	3
			6	0		20.28	0.136	3
		16-QAM	1	0		20.91	0.157	3
			5	0		20.56	0.145	3
	23155 713.5	QPSK	1	5	High	21.33	0.173	3
			6	0		20.55	0.145	3
		16-QAM	1	5		21.20	0.168	3
			5	1		20.71	0.150	3

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 12 10MHz	23060 704	QPSK	1	0	Low	20.99	0.160	3
			6	0		20.12	0.131	3
		16-QAM	1	0		20.92	0.157	3
			5	0		21.42	0.177	3
	23095 707.5	QPSK	1	0		20.99	0.160	3
			6	0		20.21	0.134	3
		16-QAM	1	0		21.01	0.161	3
			5	0		21.46	0.178	3
	23130 711	QPSK	1	5	High	21.29	0.171	3
			6	0		20.41	0.140	3
		16-QAM	1	5		21.18	0.167	3
			5	1		21.52	0.181	3

Product	M2M DATA MODULE		
Test Item	RF Output Power		
Test Mode	Mode 4: LTE Band 13		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 13 5MHz	23205 779.5	QPSK	1	0	Low	20.91	0.157	3
			6	0		20.02	0.128	3
		16-QAM	1	0		20.81	0.153	3
			5	0		20.14	0.132	3
	23230 782	QPSK	1	0		21.10	0.164	3
			6	0		20.15	0.132	3
		16-QAM	1	0		21.05	0.162	3
			5	0		20.40	0.140	3
	23255 784.5	QPSK	1	5	High	21.31	0.172	3
			6	0		20.25	0.135	3
		16-QAM	1	5		20.81	0.153	3
			5	1		19.97	0.126	3

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 13 10MHz	23230 782	QPSK	1	0	Low	20.90	0.157	3
			6	0		20.16	0.132	3
		16-QAM	1	0		20.85	0.155	3
			5	0		21.34	0.173	3
	23230 782	QPSK	1	5	High	21.06	0.163	3
			6	0		20.22	0.134	3
		16-QAM	1	5		20.89	0.156	3
			5	1		21.48	0.179	3

Product	M2M DATA MODULE		
Test Item	RF Output Power		
Test Mode	Mode 5: LTE Band 25		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 1.4MHz	26047 1850.7	QPSK	1	0	Low	21.09	0.258	2
			6	0		19.06	0.161	2
		16-QAM	1	0		20.41	0.220	2
			5	0		19.18	0.166	2
	26365 1882.5	QPSK	1	0		20.92	0.248	2
			6	0		19.16	0.165	2
		16-QAM	1	0		20.49	0.224	2
			5	0		19.14	0.164	2
	26683 1914.3	QPSK	1	5	Low	21.59	0.289	2
			6	0		19.23	0.168	2
		16-QAM	1	5		19.96	0.199	2
			5	1		19.36	0.173	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 3MHz	26055 1851.5	QPSK	1	0	Low	21.08	0.257	2
			6	0		19.04	0.161	2
		16-QAM	1	0		20.12	0.206	2
			5	0		18.98	0.158	2
	26365 1882.5	QPSK	1	0		21.15	0.261	2
			6	0		19.00	0.159	2
		16-QAM	1	0		20.44	0.222	2
			5	0		19.05	0.161	2
	26675 1913.5	QPSK	1	5	High	21.45	0.280	2
			6	0		19.15	0.165	2
		16-QAM	1	5		19.94	0.198	2
			5	1		19.17	0.166	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 5MHz	26065 1852.5	QPSK	1	0	Low	20.83	0.243	2
			6	0		19.82	0.192	2
		16-QAM	1	0		20.64	0.232	2
			5	0		20.09	0.205	2
	26365 1882.5	QPSK	1	0		20.87	0.245	2
			6	0		19.82	0.192	2
		16-QAM	1	0		20.81	0.242	2
			5	0		20.09	0.205	2
	26665 1912.5	QPSK	1	5	High	20.93	0.248	2
			6	0		20.00	0.200	2
		16-QAM	1	5		20.79	0.240	2
			5	1		20.17	0.208	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 10MHz	26090 1855	QPSK	1	0	Low	20.70	0.236	2
			6	0		19.77	0.190	2
		16-QAM	1	0		20.60	0.230	2
			5	0		20.96	0.250	2
	26365 1882.5	QPSK	1	0		20.76	0.239	2
			6	0		19.72	0.188	2
		16-QAM	1	0		20.89	0.246	2
			5	0		20.97	0.251	2
	26640 1910	QPSK	1	5	High	20.95	0.249	2
			6	0		20.02	0.201	2
		16-QAM	1	5		20.83	0.243	2
			5	1		21.20	0.264	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 15MHz	26115 1857.5	QPSK	1	0	Low	20.74	0.238	2
			6	0		20.69	0.235	2
		16-QAM	1	0		20.64	0.232	2
			5	0		20.98	0.251	2
	26365 1882.5	QPSK	1	0		20.83	0.243	2
			6	0		20.76	0.239	2
		16-QAM	1	0		20.75	0.238	2
			5	0		21.00	0.252	2
	26615 1907.5	QPSK	1	5	High	20.85	0.244	2
			6	0		21.03	0.254	2
		16-QAM	1	5		20.84	0.243	2
			5	1		20.97	0.251	2

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 25 20MHz	26140 1860	QPSK	1	0	Low	20.79	0.240	2
			6	0		20.73	0.237	2
		16-QAM	1	0		20.54	0.227	2
			5	0		20.96	0.250	2
	26365 1882.5	QPSK	1	0		20.83	0.243	2
			6	0		20.76	0.239	2
		16-QAM	1	0		20.69	0.235	2
			5	0		21.01	0.253	2
	26590 1905	QPSK	1	5	High	20.91	0.247	2
			6	0		21.03	0.254	2
		16-QAM	1	5		20.81	0.242	2
			5	1		21.19	0.264	2

Product	M2M DATA MODULE		
Test Item	RF Output Power (Part 22)		
Test Mode	Mode 6: LTE Band 26		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 1.4MHz	26797 824.7	QPSK	1	0	Low	20.99	0.160	7
			6	0		19.48	0.113	7
		16-QAM	1	0		20.01	0.128	7
			5	0		19.39	0.111	7
	26915 836.5	QPSK	1	0		21.66	0.187	7
			6	0		19.52	0.114	7
		16-QAM	1	0		19.96	0.126	7
			5	0		19.71	0.119	7
	27033 848.3	QPSK	1	5	Low	21.08	0.163	7
			6	0		19.38	0.110	7
		16-QAM	1	5		20.31	0.137	7
			5	1		19.40	0.111	7

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 3MHz	26805 825.5	QPSK	1	0	Low	21.32	0.173	7
			6	0		19.42	0.111	7
		16-QAM	1	0		20.67	0.149	7
			5	0		19.38	0.110	7
	26915 836.5	QPSK	1	0		21.49	0.179	7
			6	0		19.52	0.114	7
		16-QAM	1	0		20.80	0.153	7
			5	0		19.67	0.118	7
	27025 847.5	QPSK	1	5	High	21.14	0.166	7
			6	0		19.37	0.110	7
		16-QAM	1	5		19.84	0.123	7
			5	1		19.34	0.109	7

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 5MHz	26815 826.5	QPSK	1	0	Low	21.17	0.167	7
			6	0		20.41	0.140	7
		16-QAM	1	0		21.07	0.163	7
			5	0		20.61	0.147	7
	26915 836.5	QPSK	1	0		21.27	0.171	7
			6	0		20.55	0.145	7
		16-QAM	1	0		21.52	0.181	7
			5	0		20.76	0.152	7
	27015 846.5	QPSK	1	5	High	20.83	0.154	7
			6	0		20.30	0.136	7
		16-QAM	1	5		21.05	0.162	7
			5	1		20.46	0.142	7

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 10MHz	26840 829	QPSK	1	0	Low	21.15	0.166	7
			6	0		20.38	0.139	7
		16-QAM	1	0		21.10	0.164	7
			5	0		21.62	0.185	7
	26915 836.5	QPSK	1	0		21.18	0.167	7
			6	0		20.44	0.141	7
		16-QAM	1	0		21.18	0.167	7
			5	0		21.71	0.189	7
	26990 844	QPSK	1	5	High	20.90	0.157	7
			6	0		20.31	0.137	7
		16-QAM	1	5		21.08	0.163	7
			5	1		21.38	0.175	7

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 15MHz	26865 831.5	QPSK	1	0	Low	21.18	0.167	7
			6	0		21.30	0.172	7
		16-QAM	1	0		21.09	0.164	7
			5	0		21.63	0.185	7
	26915 836.5	QPSK	1	0		21.20	0.168	7
			6	0		21.38	0.175	7
		16-QAM	1	0		21.13	0.165	7
			5	0		21.65	0.186	7
	26965 841.5	QPSK	1	5	High	20.82	0.154	7
			6	0		21.26	0.170	7
		16-QAM	1	5		21.12	0.165	7
			5	1		21.37	0.175	7

Product	M2M DATA MODULE		
Test Item	RF Output Power (Part 90)		
Test Mode	Mode 6: LTE Band 26		
Date of Test	2019/12/16	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	60%RH

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 1.4MHz	26697 814.7	QPSK	1	0	Low	20.92	0.157	100
			6	0		19.34	0.109	100
		16-QAM	1	0		20.60	0.146	100
			5	0		19.24	0.107	100
	26740 819	QPSK	1	0		20.96	0.159	100
			6	0		19.40	0.111	100
		16-QAM	1	0		20.74	0.151	100
			5	0		19.35	0.110	100
	26783 823.3	QPSK	1	5	Low	21.45	0.178	100
			6	0		19.50	0.114	100
		16-QAM	1	5		19.56	0.115	100
			5	1		19.54	0.115	100

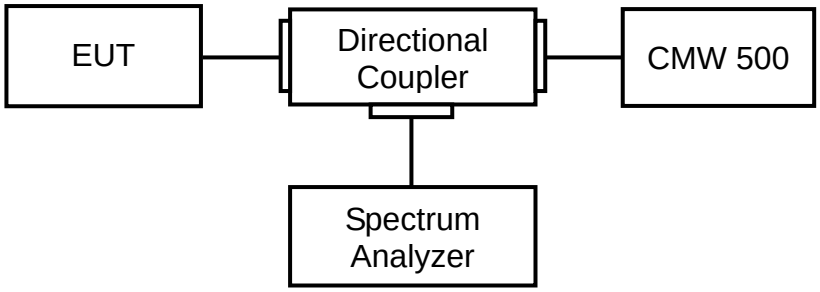
Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 3MHz	26705 815.5	QPSK	1	0	Low	21.16	0.166	100
			6	0		19.22	0.106	100
		16-QAM	1	0		20.46	0.142	100
			5	0		19.34	0.109	100
	26740 819	QPSK	1	0		21.26	0.170	100
			6	0		19.32	0.109	100
		16-QAM	1	0		19.84	0.123	100
			5	0		19.31	0.109	100
	26775 822.5	QPSK	1	5	High	21.23	0.169	100
			6	0		19.44	0.112	100
		16-QAM	1	5		20.58	0.146	100
			5	1		19.24	0.107	100

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 5MHz	26715 816.5	QPSK	1	0	Low	21.05	0.162	100
			6	0		20.23	0.134	100
		16-QAM	1	0		21.03	0.161	100
			5	0		20.08	0.130	100
	26740 819	QPSK	1	0		21.13	0.165	100
			6	0		20.28	0.136	100
		16-QAM	1	0		21.07	0.163	100
			5	0		20.37	0.139	100
	26765 821.5	QPSK	1	5	High	21.05	0.162	100
			6	0		20.37	0.139	100
		16-QAM	1	5		21.14	0.166	100
			5	1		20.50	0.143	100

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	NB Position	Conducted Output Power (dBm)	RF Output Power (W) ERP	Limit (W) ERP
Band 26 10MHz	26740 819	QPSK	1	0	Low	21.03	0.161	100
			6	0		20.20	0.133	100
		16-QAM	1	0		21.05	0.162	100
			5	0		21.35	0.174	100
		QPSK	1	5	High	21.11	0.164	100
			6	0		20.39	0.139	100
		16-QAM	1	5		20.99	0.160	100
			5	1		21.58	0.183	100

4. Occupied Bandwidth

4.1. Test Setup



4.2. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 26 dB bandwidth and 99% occupied bandwidth of the low & middle & high channel for the highest RF powers were measured.

4.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 4.2 & 4.3
ANSI C63.26: 2015 Sub-clause 5.4.3 & 5.4.4

4.4. Test Result

Product	M2M DATA MODULE		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 2		
Date of Test	2019/12/20	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	59%RH

LTE Band 2_1RB					
Bandwidth (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	1850.7	0.322	0.211	N/A
		1880.0	0.322	0.204	N/A
		1909.3	0.321	0.202	N/A
	16-QAM	1850.7	0.319	0.200	N/A
		1880.0	0.316	0.207	N/A
		1909.3	0.306	0.206	N/A
3M	QPSK	1851.5	0.322	0.206	N/A
		1880.0	0.335	0.205	N/A
		1908.5	0.321	0.207	N/A
	16-QAM	1851.5	0.308	0.207	N/A
		1880.0	0.319	0.208	N/A
		1908.5	0.321	0.205	N/A
5M	QPSK	1852.5	0.324	0.210	N/A
		1880.0	0.324	0.210	N/A
		1907.5	0.309	0.202	N/A
	16-QAM	1852.5	0.308	0.209	N/A
		1880.0	0.316	0.210	N/A
		1907.5	0.320	0.210	N/A
10M	QPSK	1855.0	0.325	0.207	N/A
		1880.0	0.325	0.207	N/A
		1905.0	0.321	0.206	N/A
	16-QAM	1855.0	0.308	0.209	N/A
		1880.0	0.308	0.209	N/A
		1905.0	0.320	0.207	N/A

LTE Band 2_1RB					
Bandwidth (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
15M	QPSK	1857.5	0.324	0.207	N/A
		1880.0	0.323	0.203	N/A
		1902.5	0.320	0.207	N/A
	16-QAM	1857.5	0.328	0.208	N/A
		1880.0	0.327	0.208	N/A
		1902.5	0.335	0.213	N/A
20M	QPSK	1860.0	0.310	0.208	N/A
		1880.0	0.321	0.208	N/A
		1900.0	0.304	0.206	N/A
	16-QAM	1860.0	0.318	0.217	N/A
		1880.0	0.317	0.214	N/A
		1900.0	0.310	0.213	N/A

LTE Band 2_Full RB					
Bandwidth (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	1850.7	1.228	1.076	N/A
		1880.0	1.232	1.077	N/A
		1909.3	1.254	1.083	N/A
	16-QAM	1850.7	1.140	0.903	N/A
		1880.0	1.059	0.902	N/A
		1909.3	1.065	0.905	N/A
3M	QPSK	1851.5	1.238	1.078	N/A
		1880.0	1.234	1.075	N/A
		1908.5	1.239	1.076	N/A
	16-QAM	1851.5	1.053	0.908	N/A
		1880.0	1.072	0.907	N/A
		1908.5	1.082	0.908	N/A
5M	QPSK	1852.5	1.243	1.081	N/A
		1880.0	1.240	1.080	N/A
		1907.5	1.232	1.081	N/A
	16-QAM	1852.5	1.081	0.907	N/A
		1880.0	1.078	0.907	N/A
		1907.5	1.090	0.907	N/A
10M	QPSK	1855.0	1.219	1.078	N/A
		1880.0	1.222	1.075	N/A
		1905.0	1.238	1.082	N/A
	16-QAM	1855.0	1.125	0.910	N/A
		1880.0	1.116	0.910	N/A
		1905.0	1.094	0.908	N/A

LTE Band 2_Full RB					
Bandwidth (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
15M	QPSK	1857.5	1.253	1.086	N/A
		1880.0	1.253	1.079	N/A
		1902.5	1.224	1.076	N/A
	16-QAM	1857.5	1.115	0.906	N/A
		1880.0	1.100	0.911	N/A
		1902.5	1.093	0.907	N/A
20M	QPSK	1860.0	1.263	1.082	N/A
		1880.0	1.238	1.080	N/A
		1900.0	1.282	1.075	N/A
	16-QAM	1860.0	1.117	0.909	N/A
		1880.0	1.120	0.910	N/A
		1900.0	1.104	0.909	N/A

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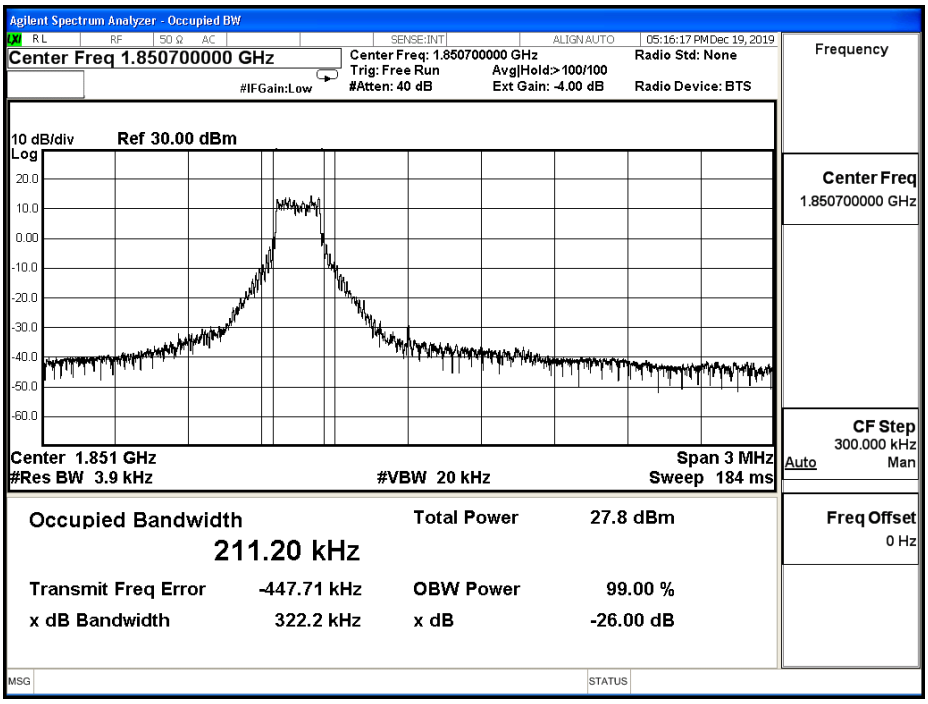

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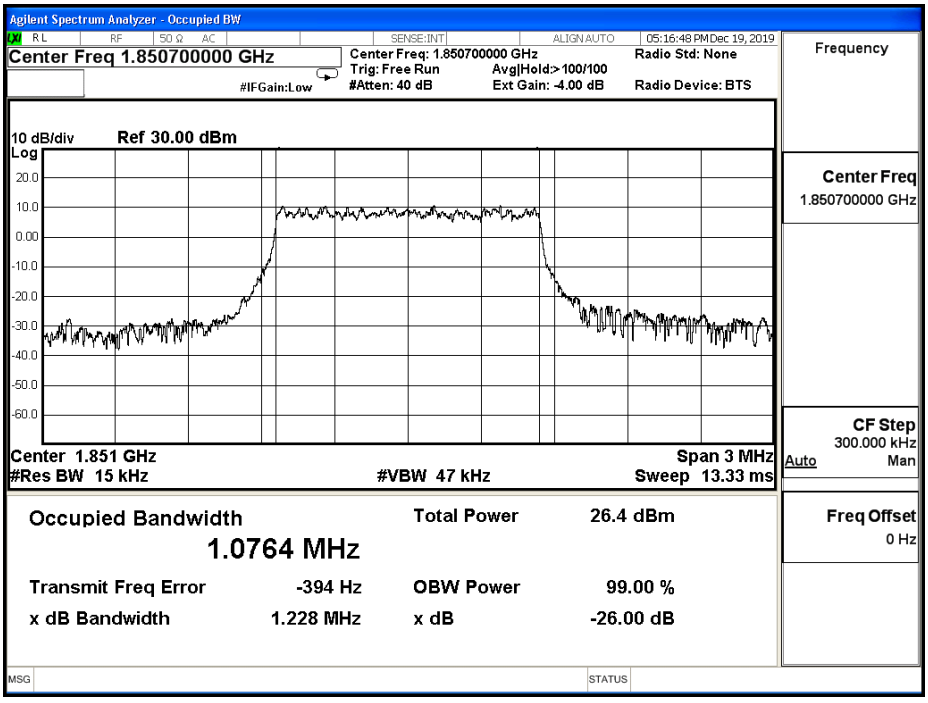

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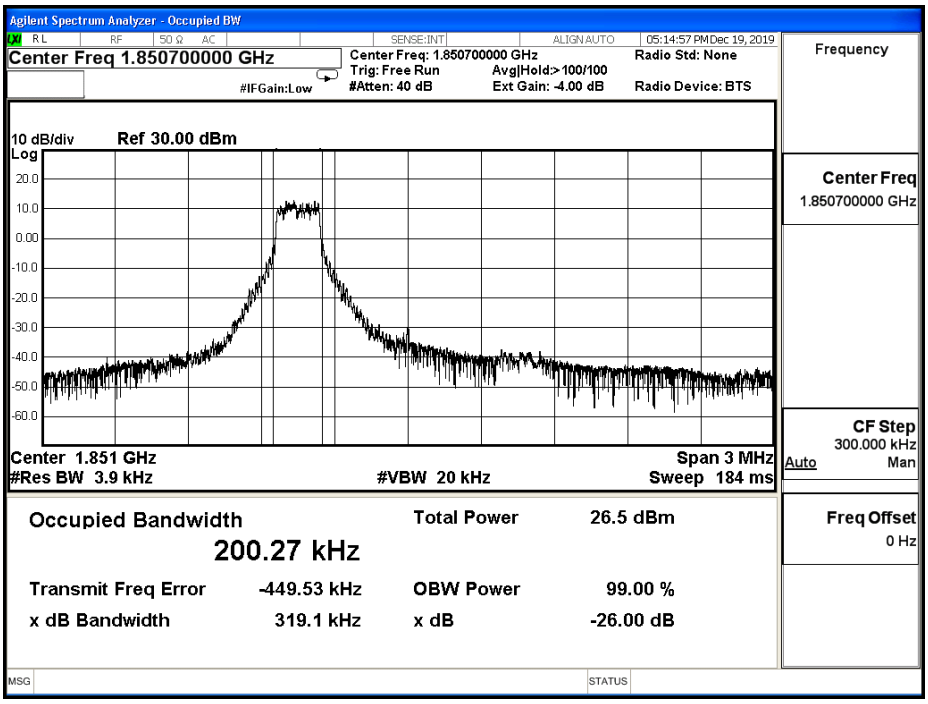

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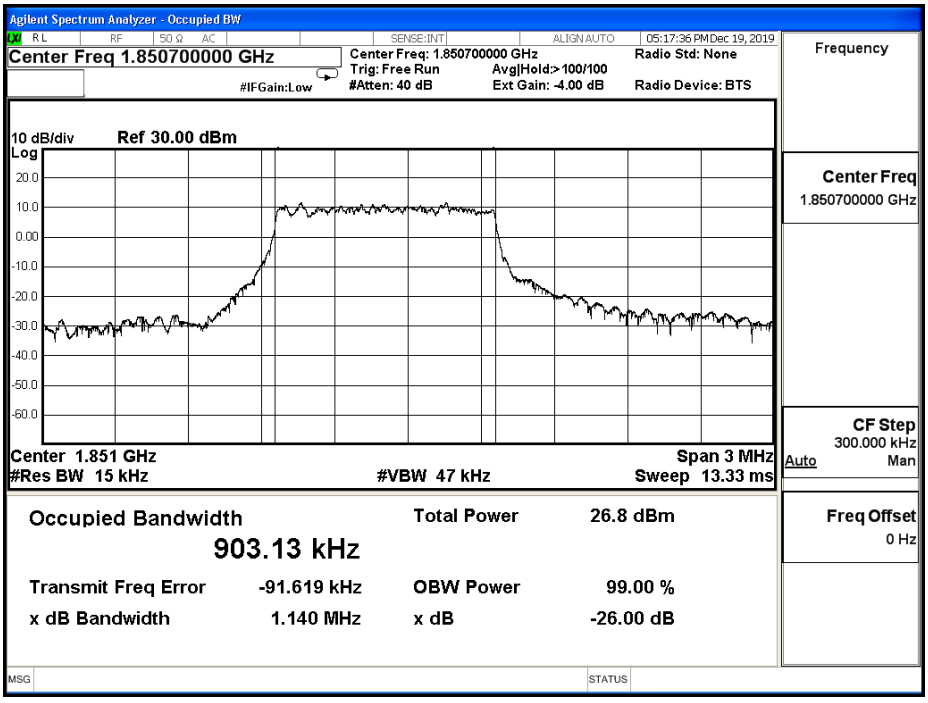

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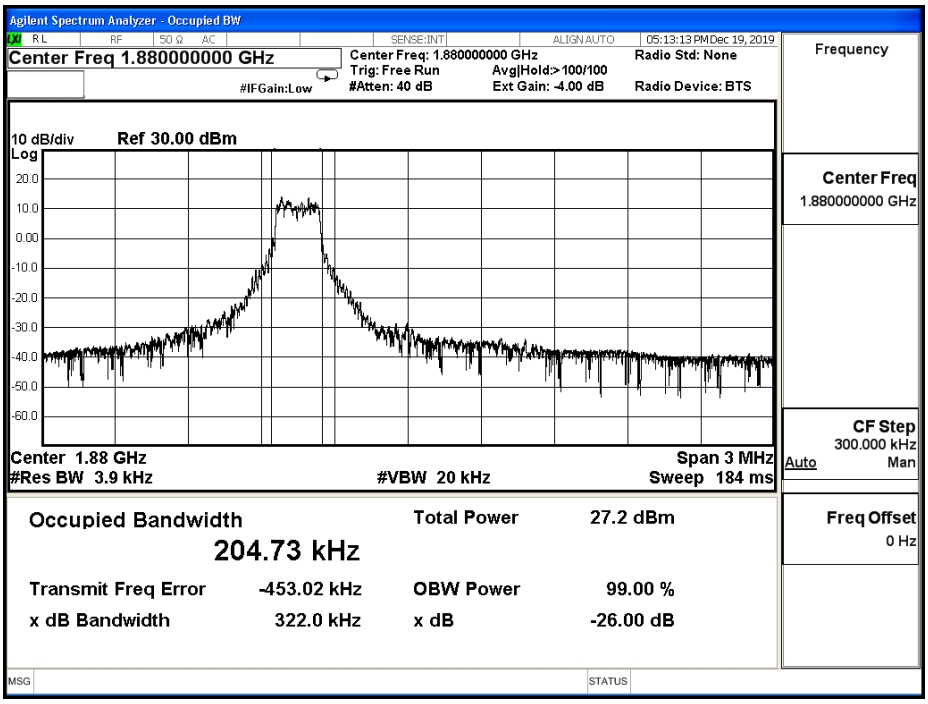

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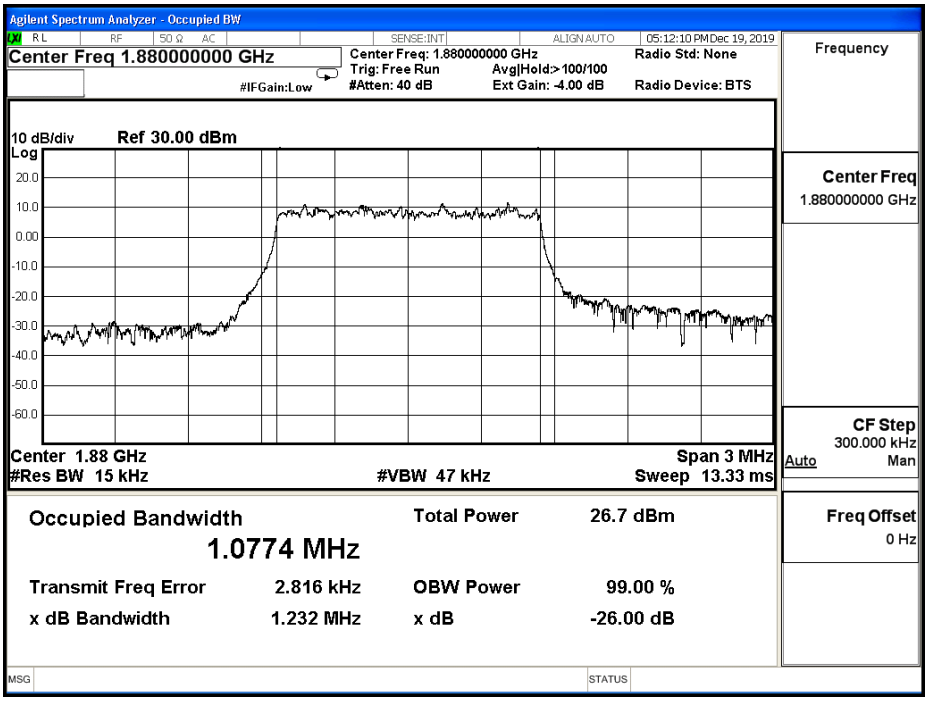

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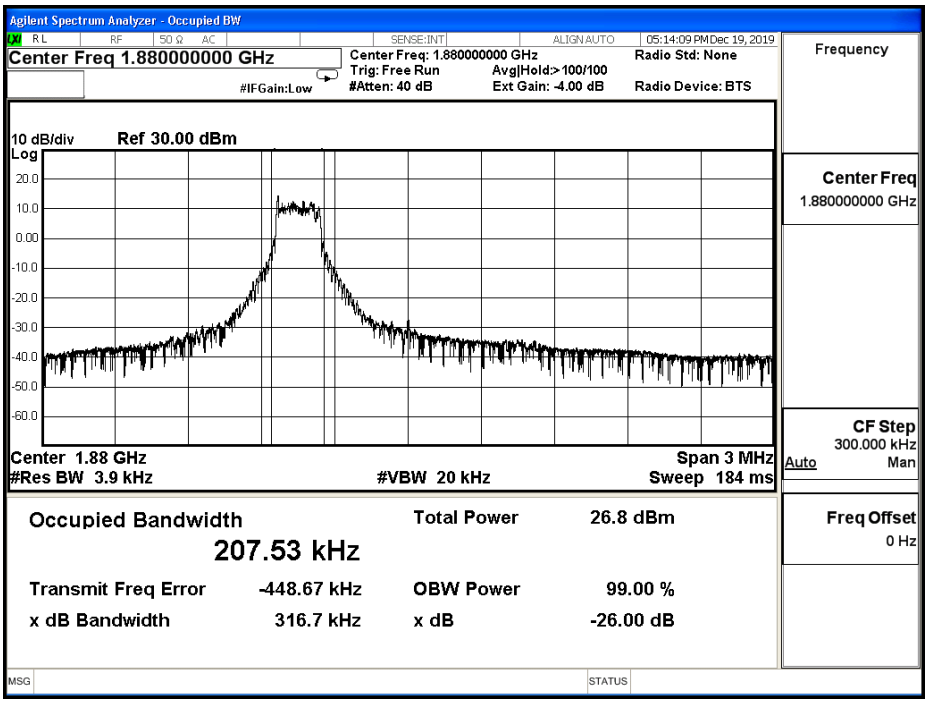

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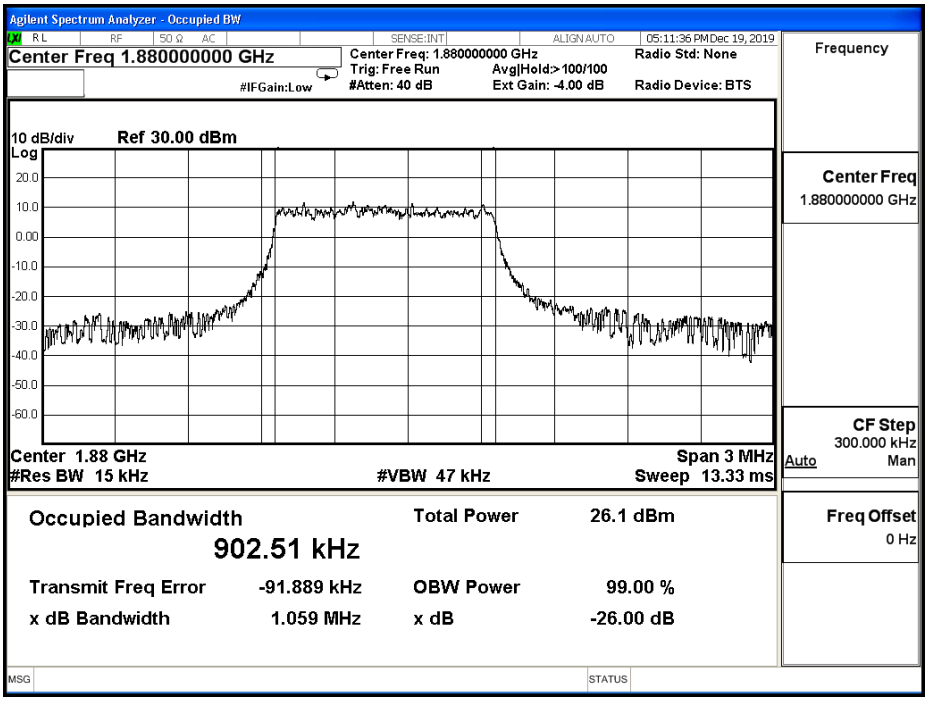

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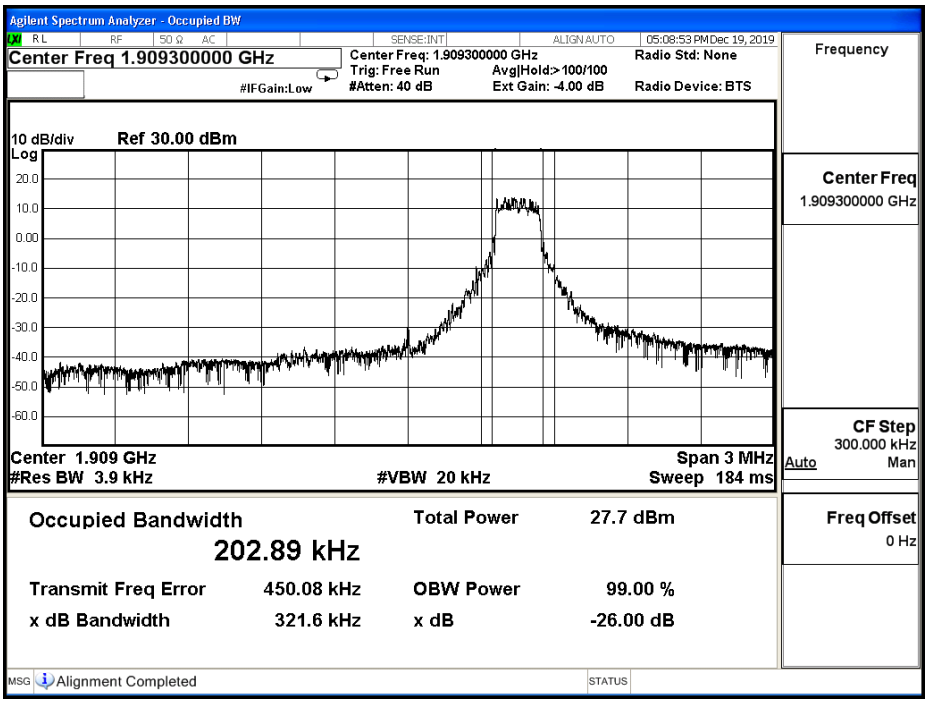

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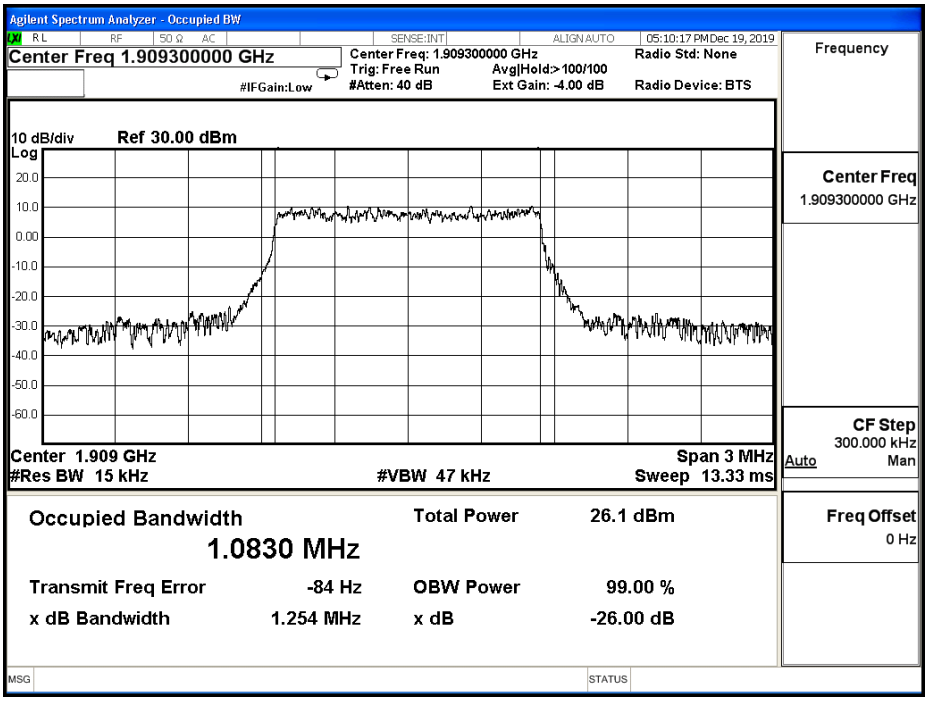

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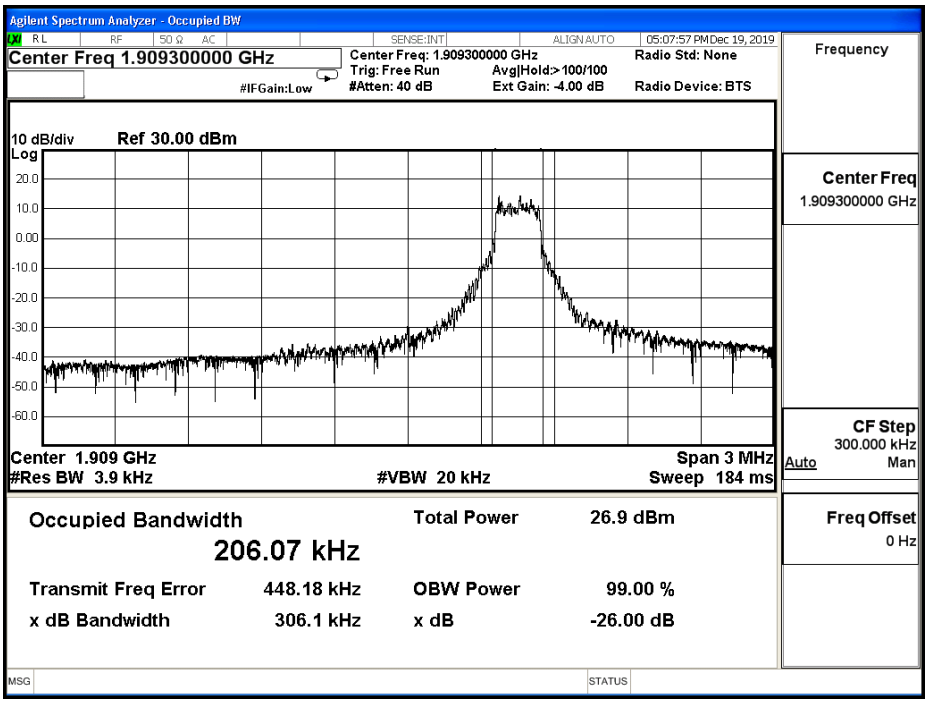

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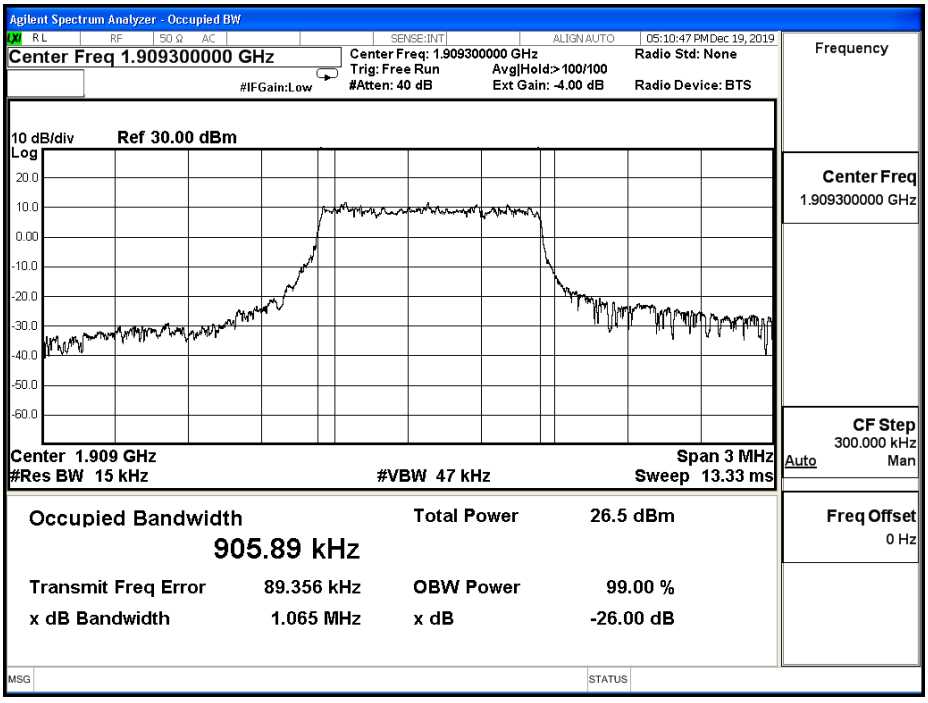

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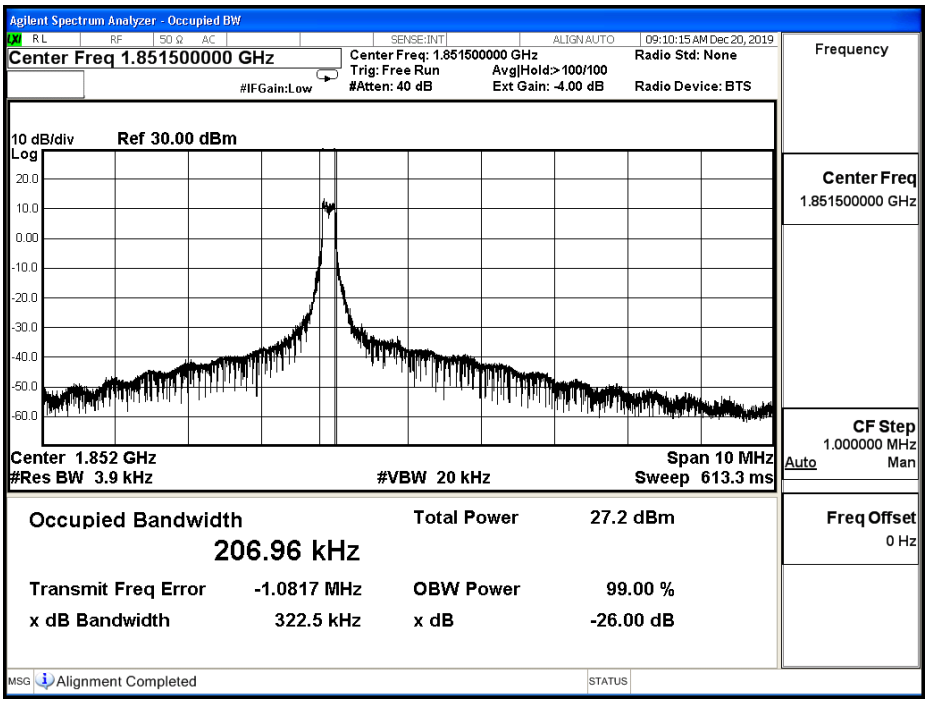

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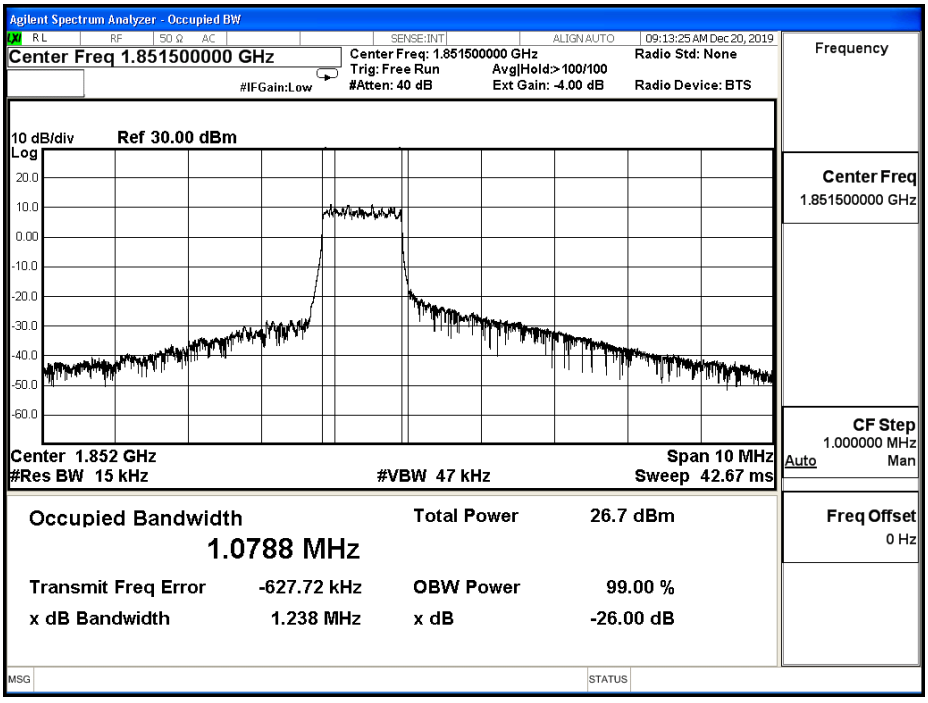

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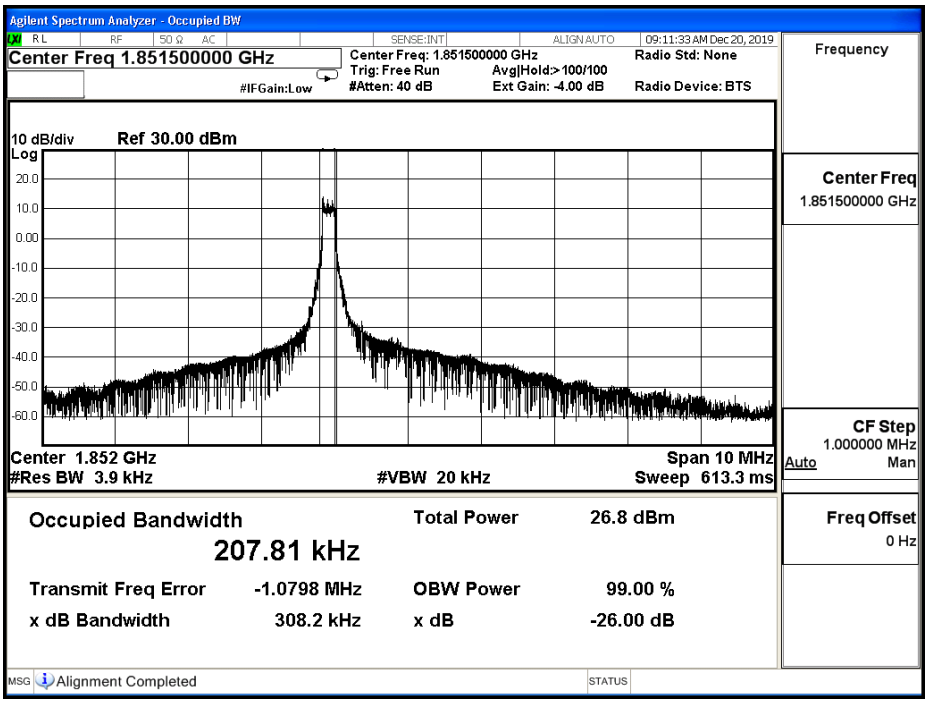

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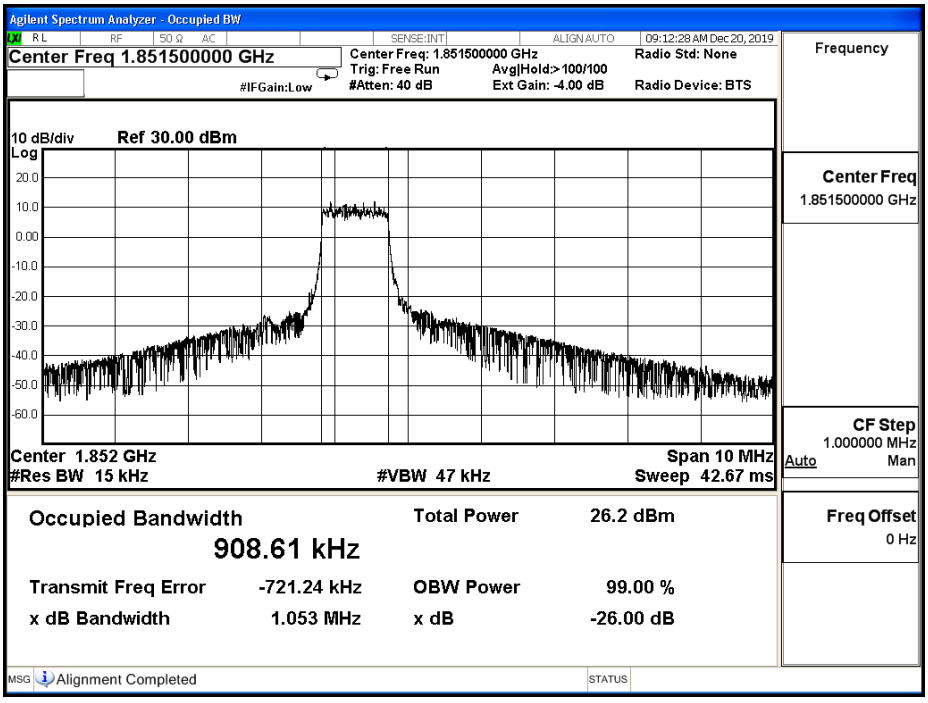

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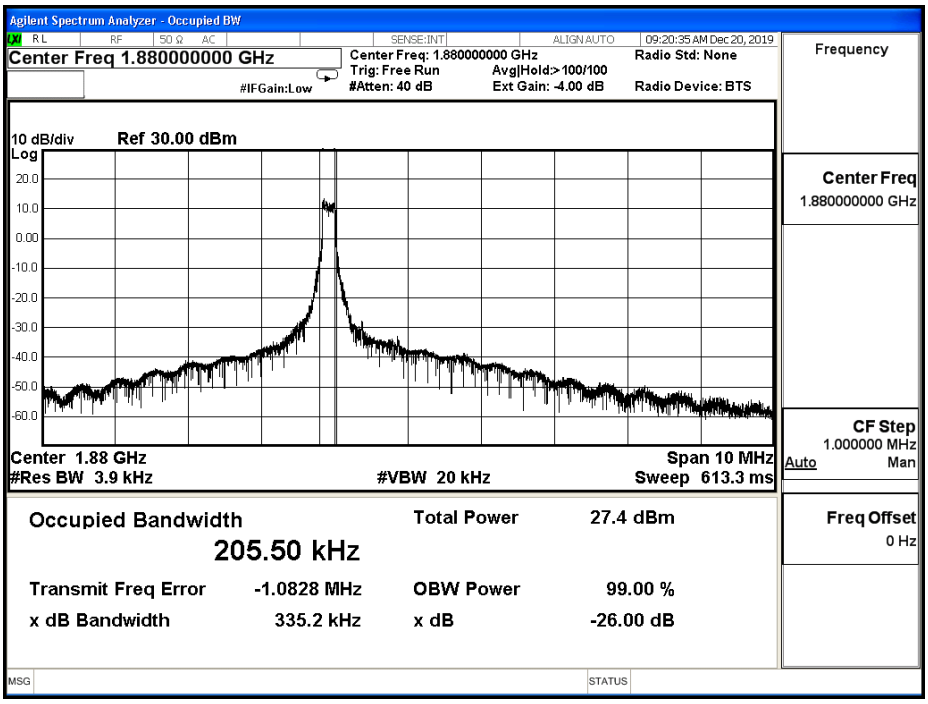

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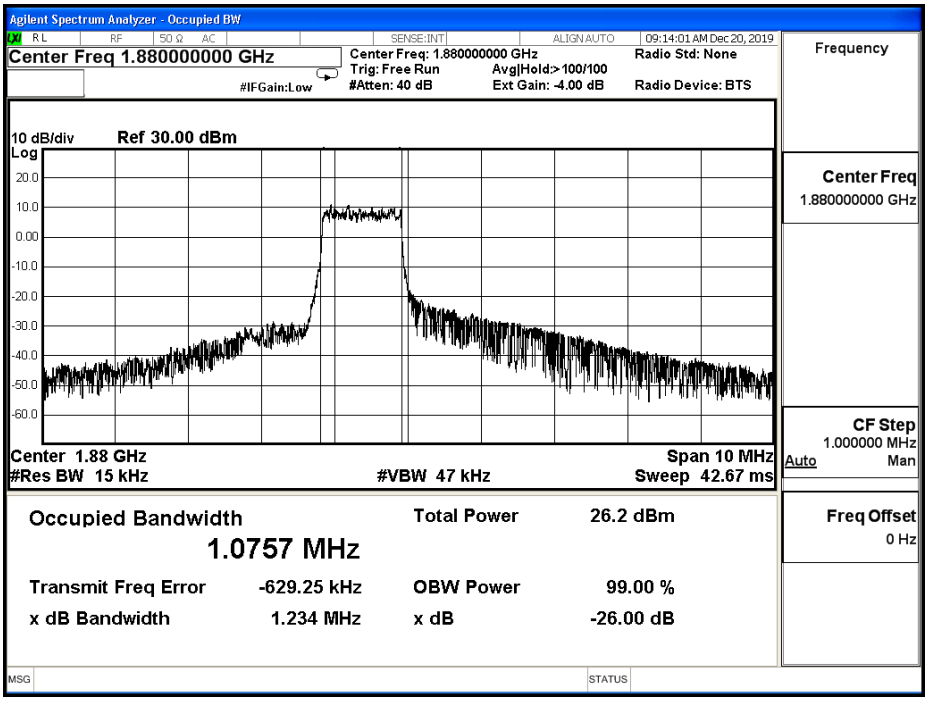

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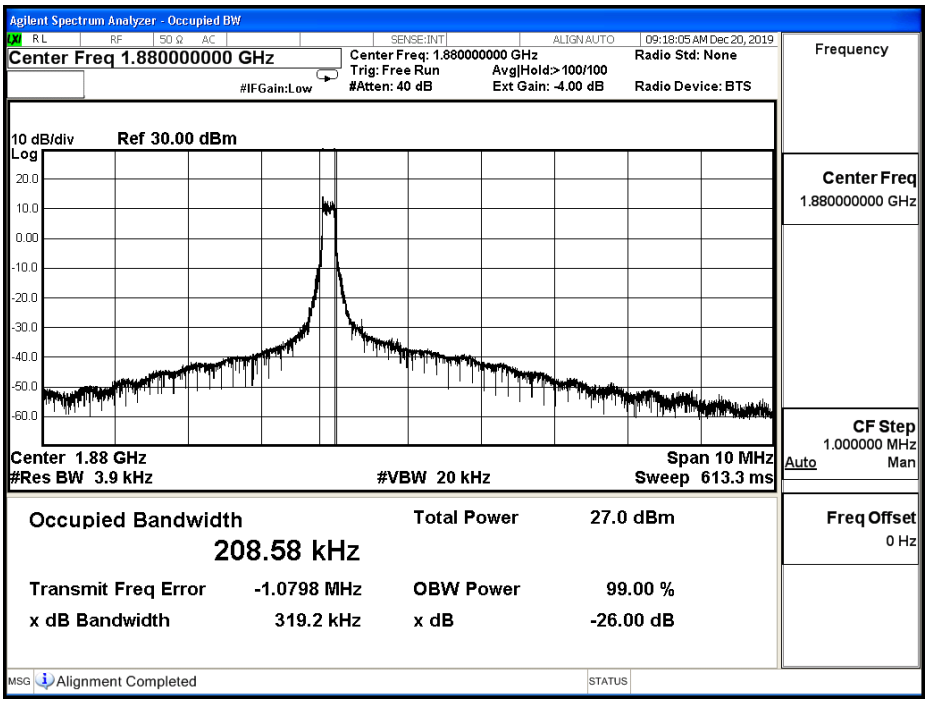

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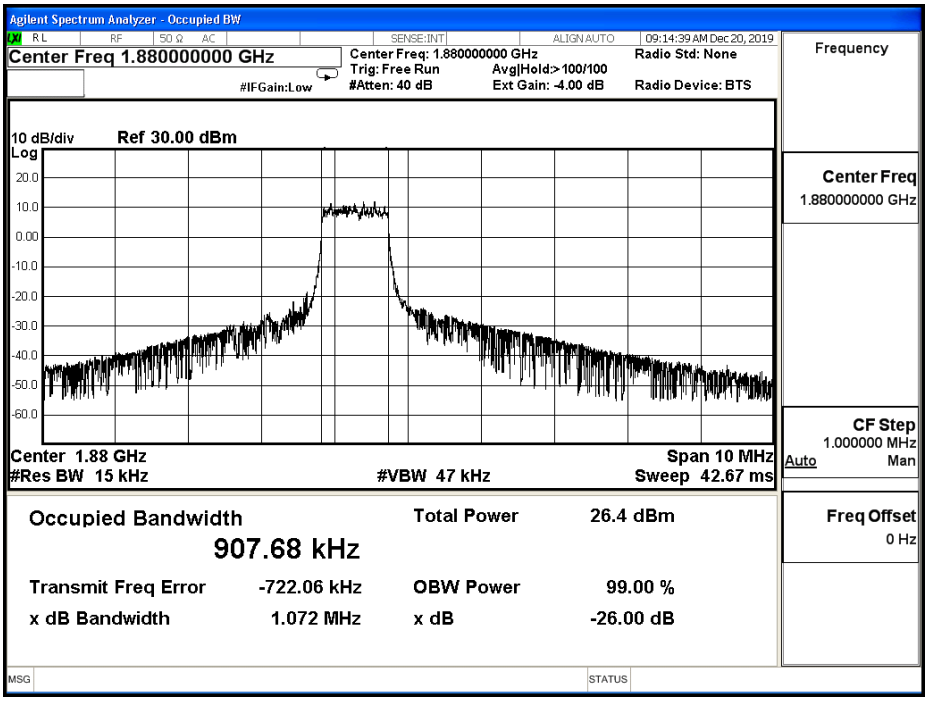

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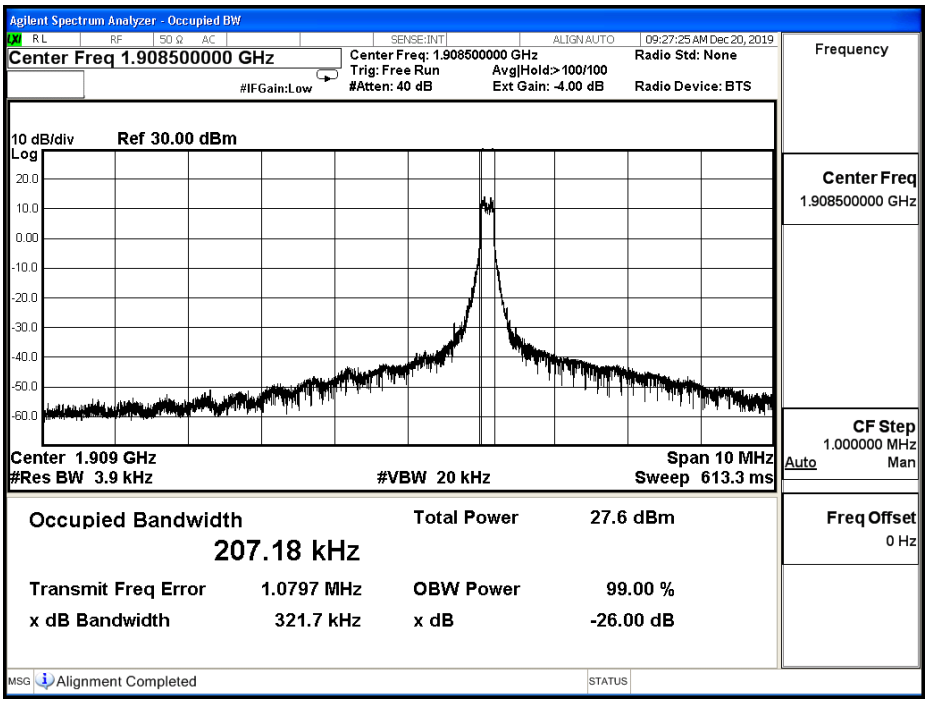

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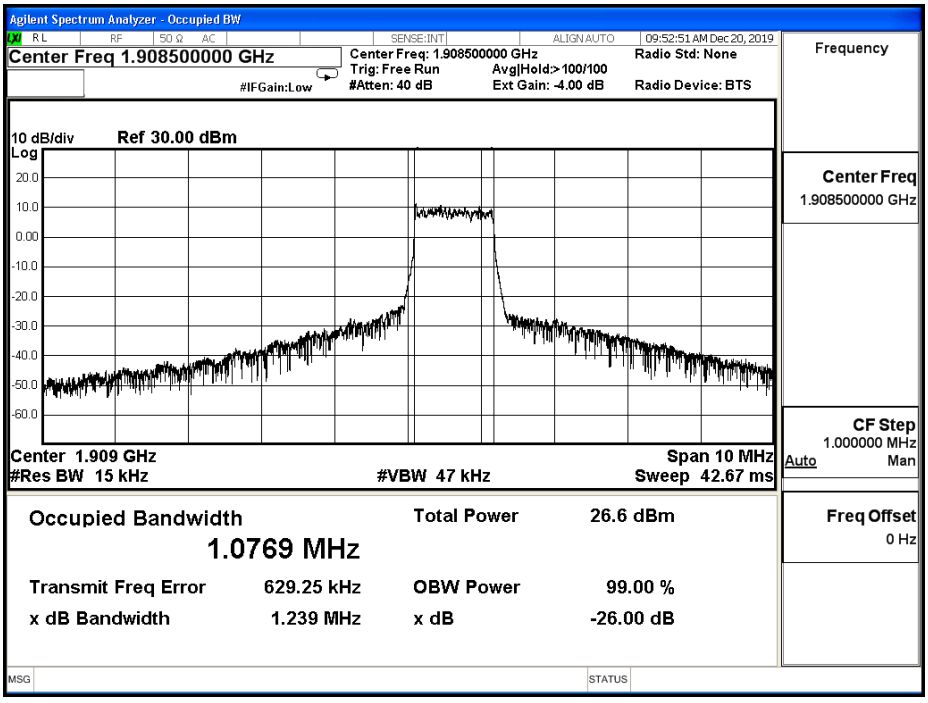

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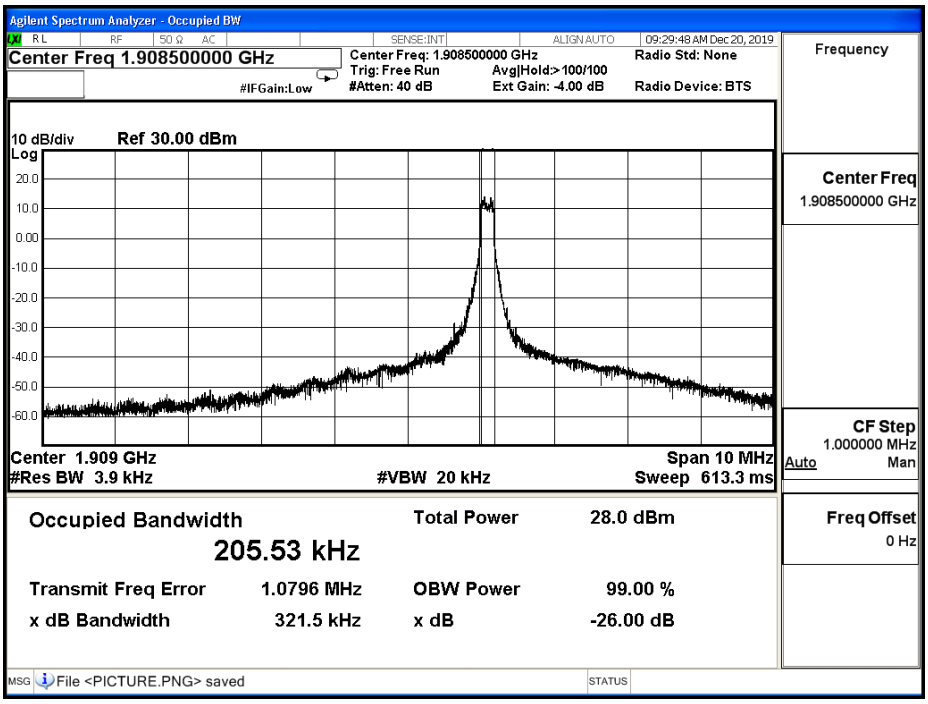

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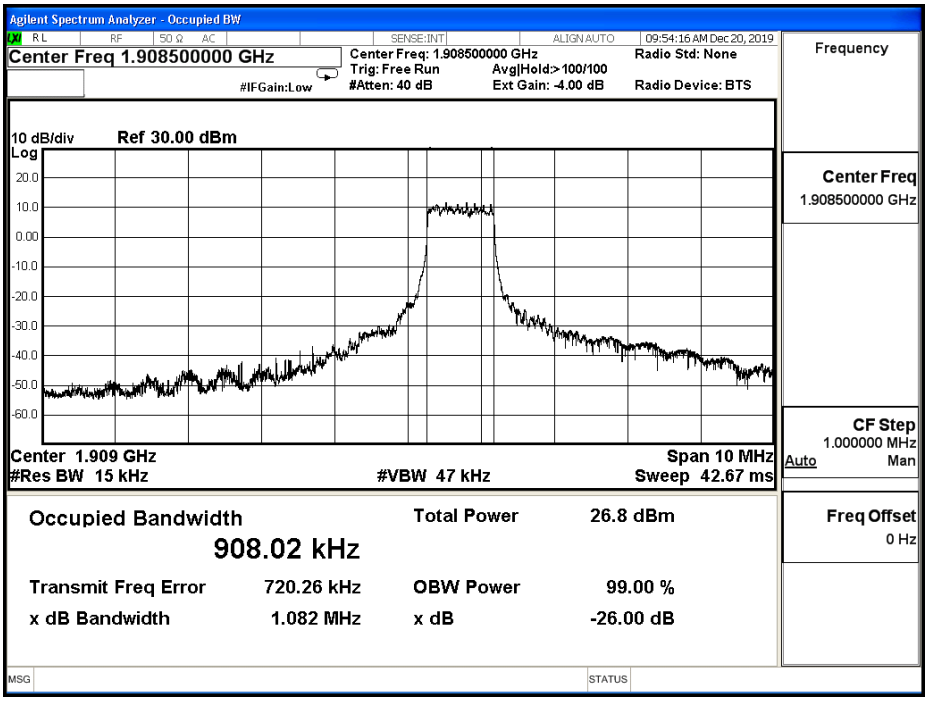

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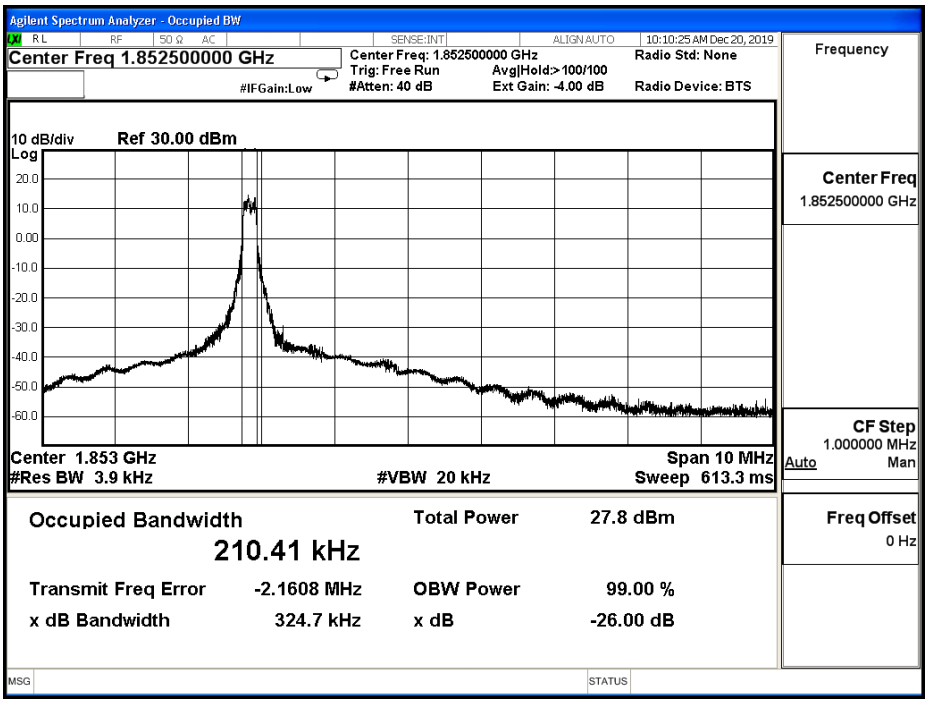

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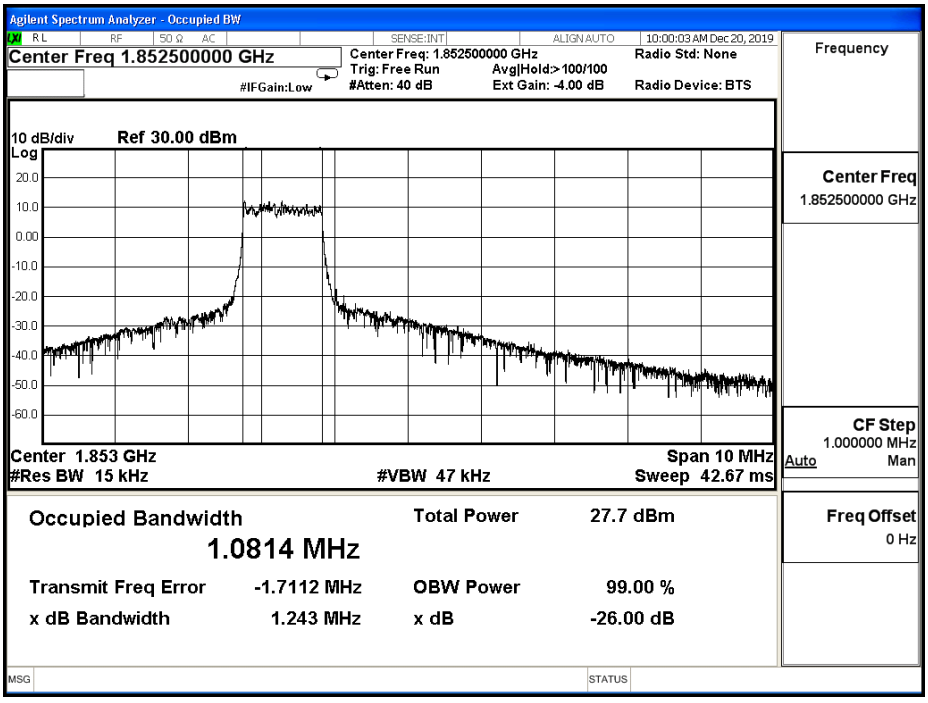

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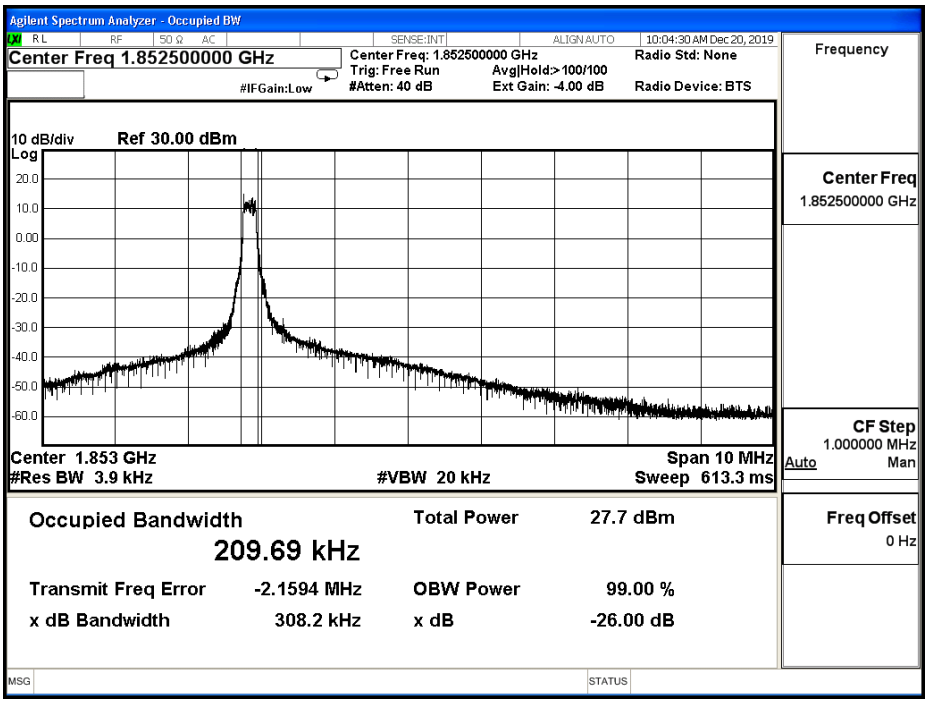

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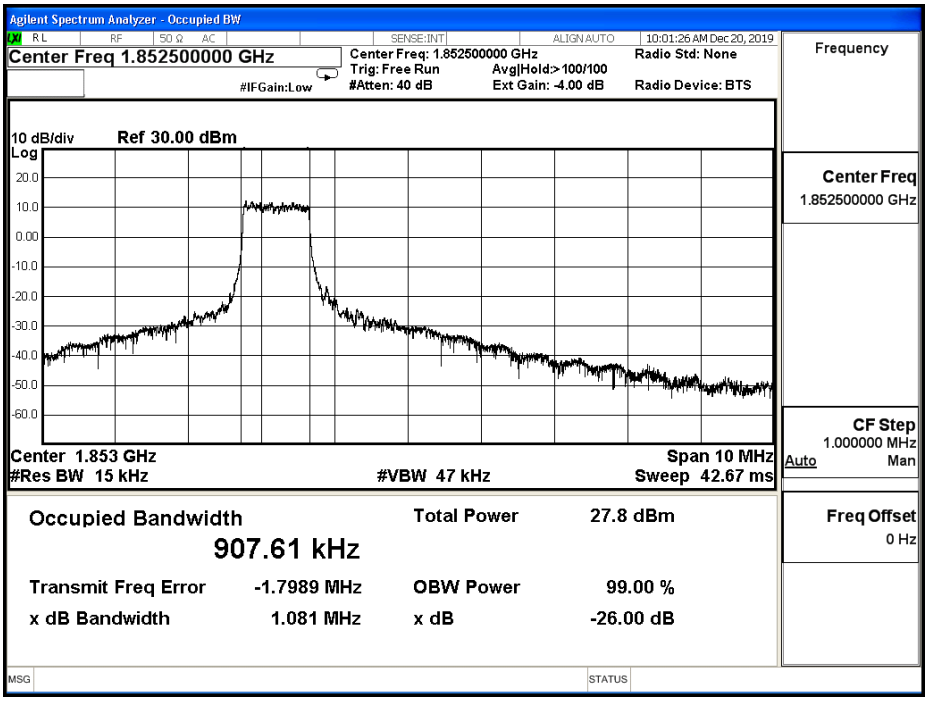

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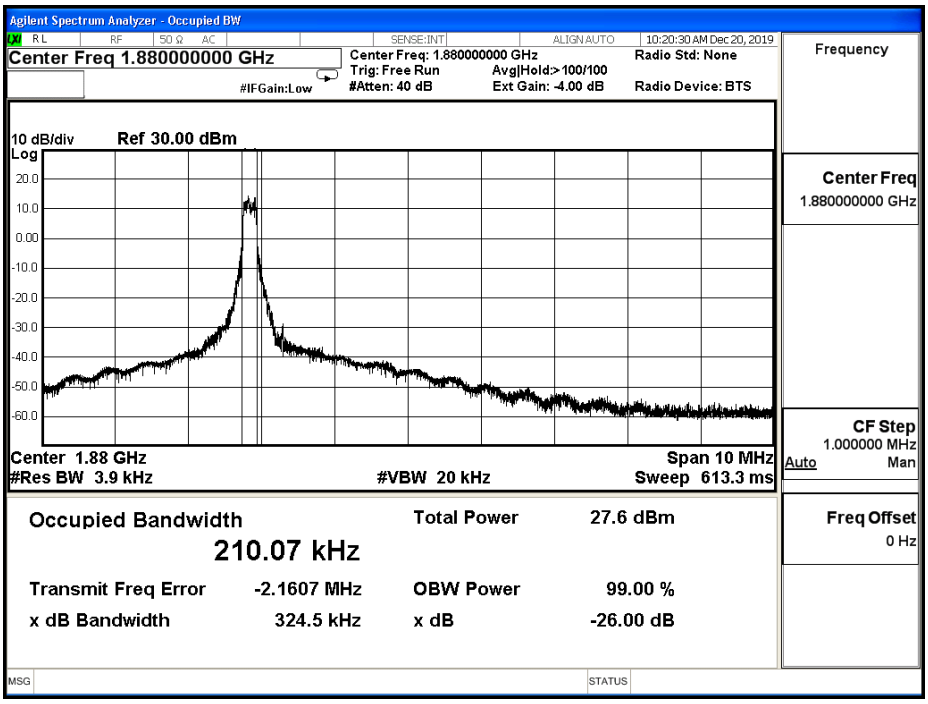

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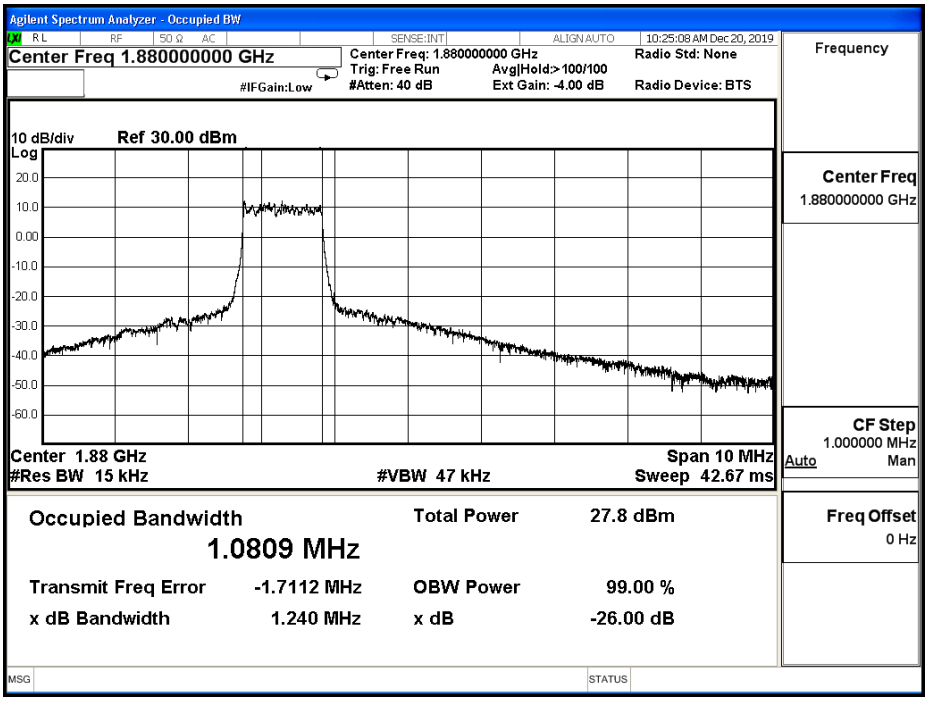

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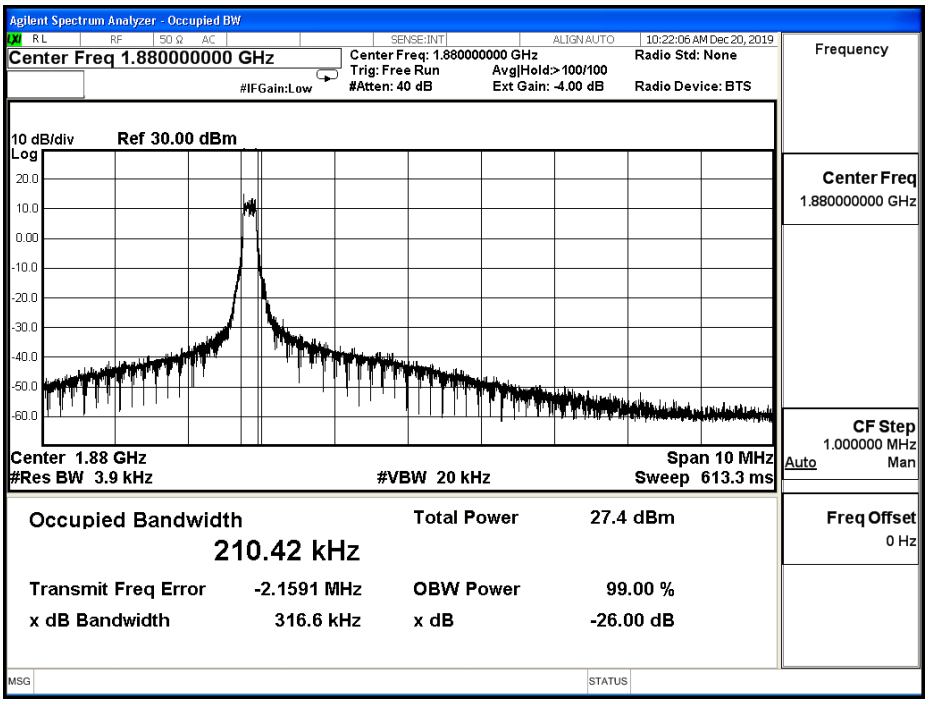

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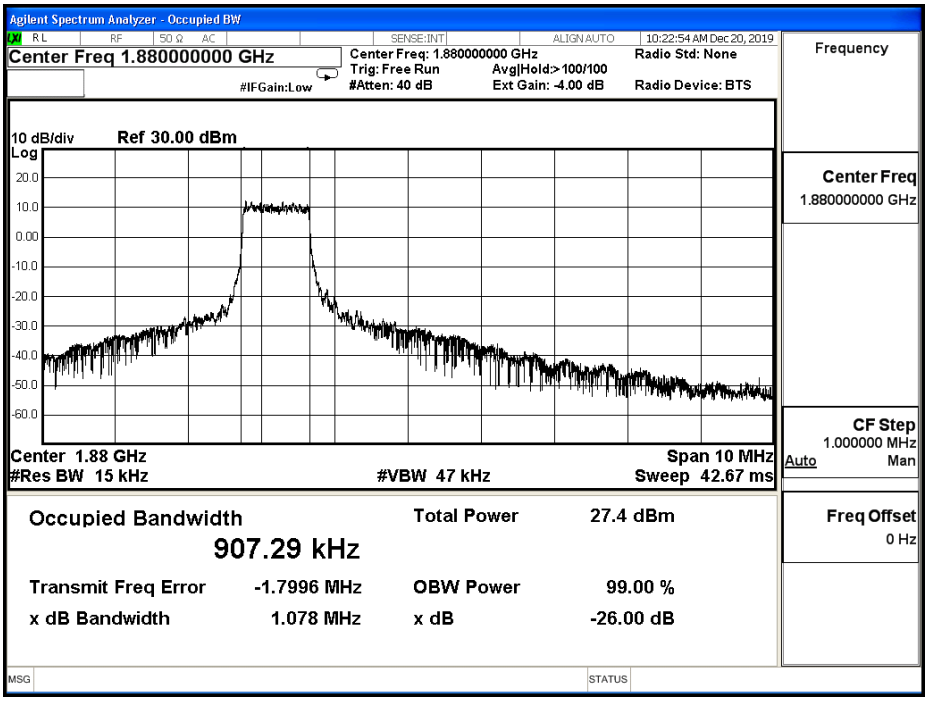

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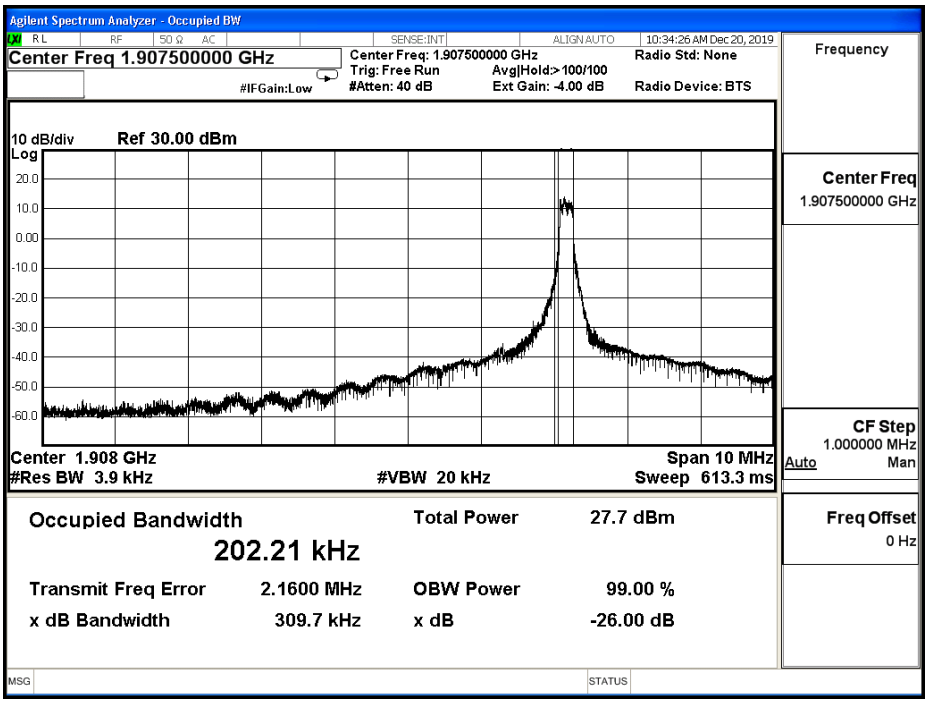

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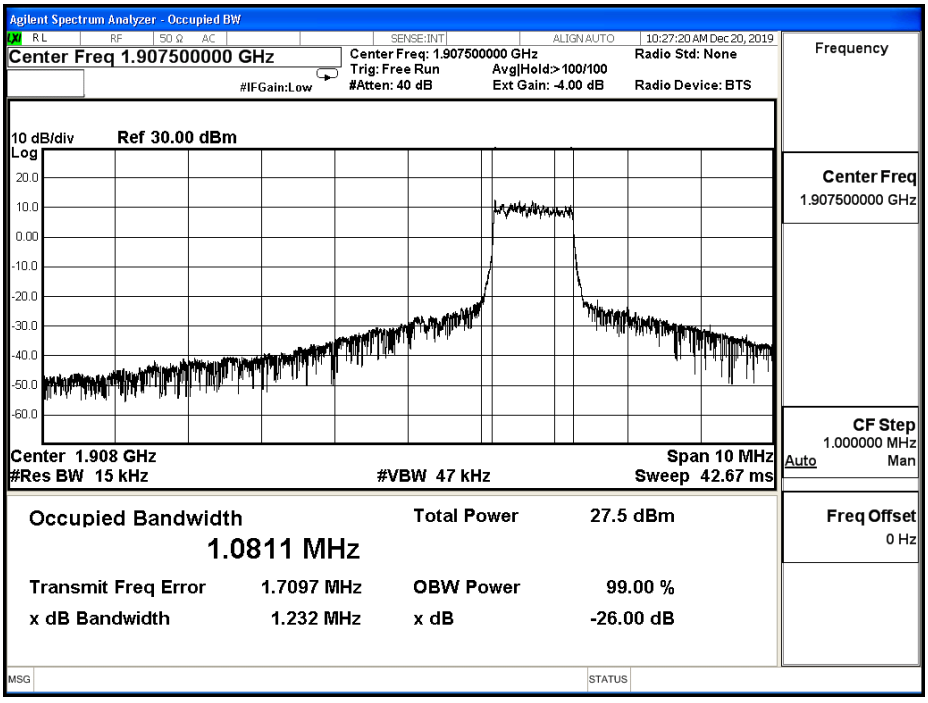

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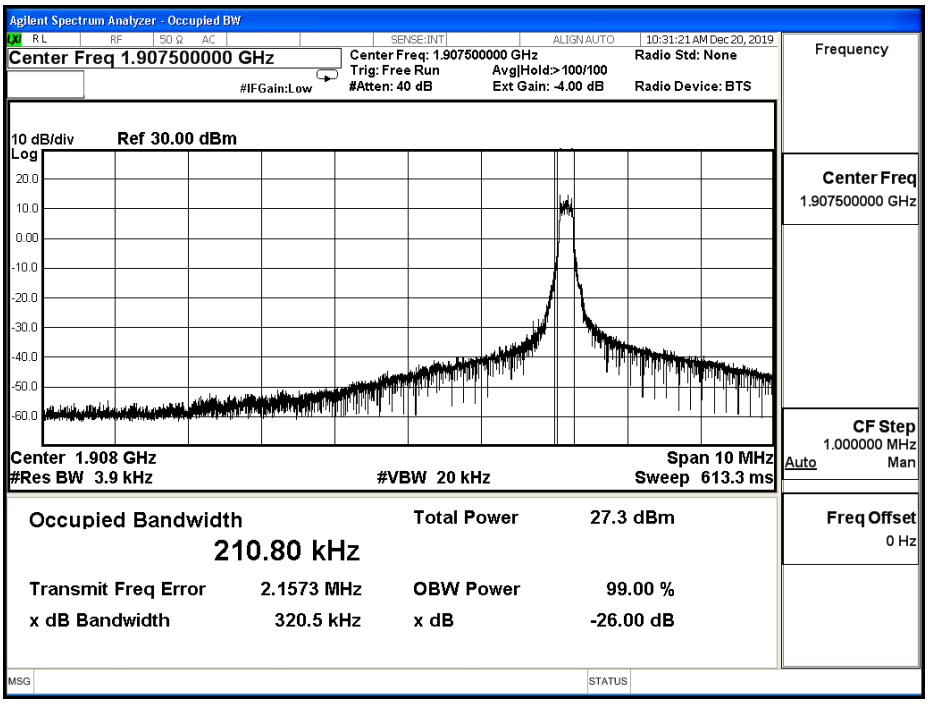

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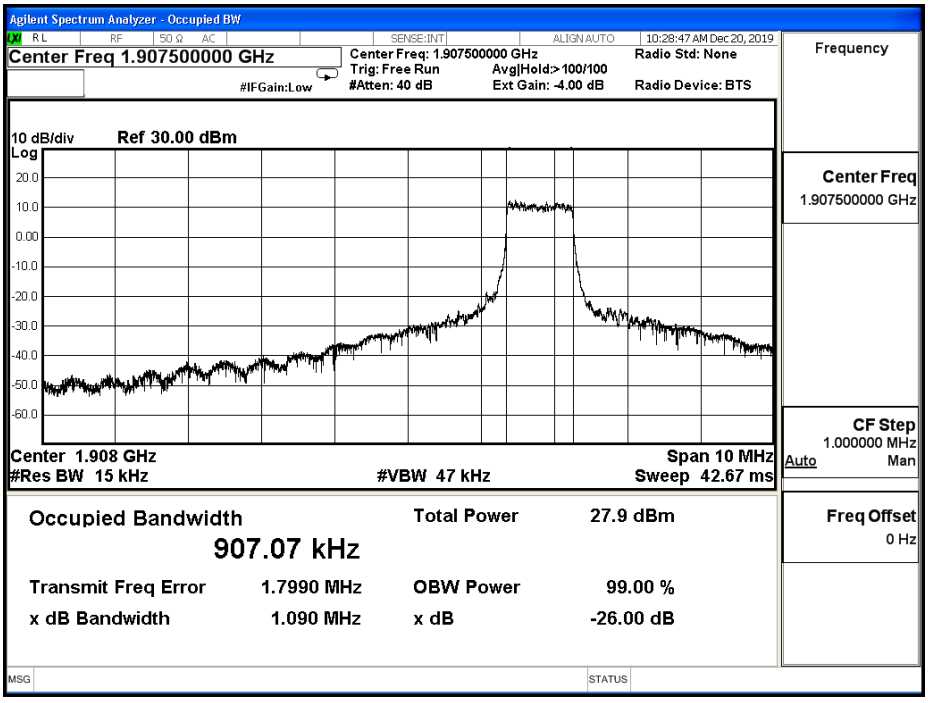

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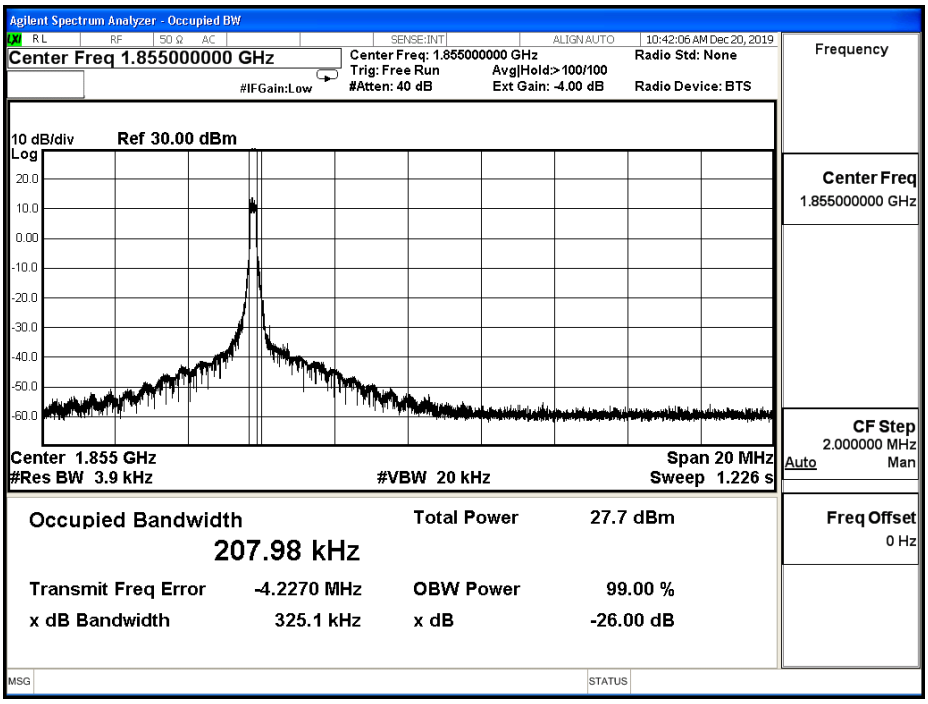

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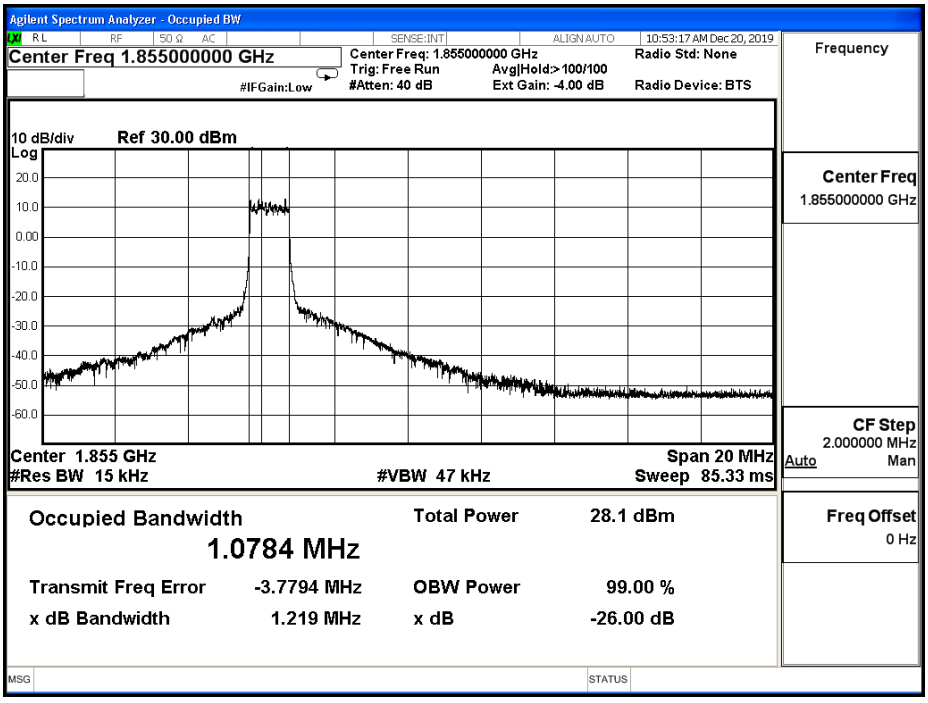

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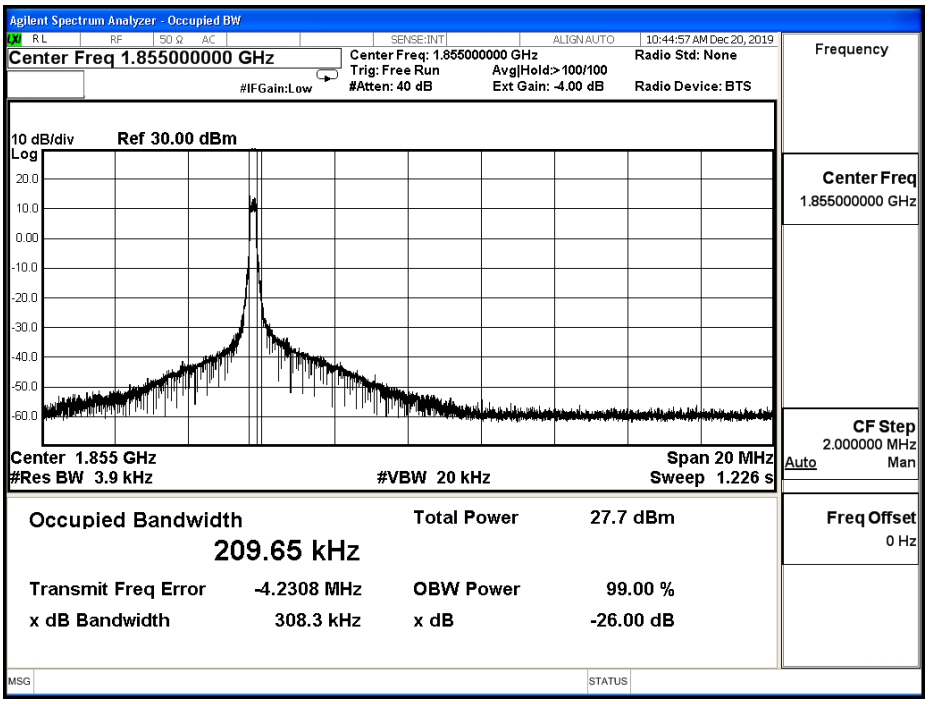
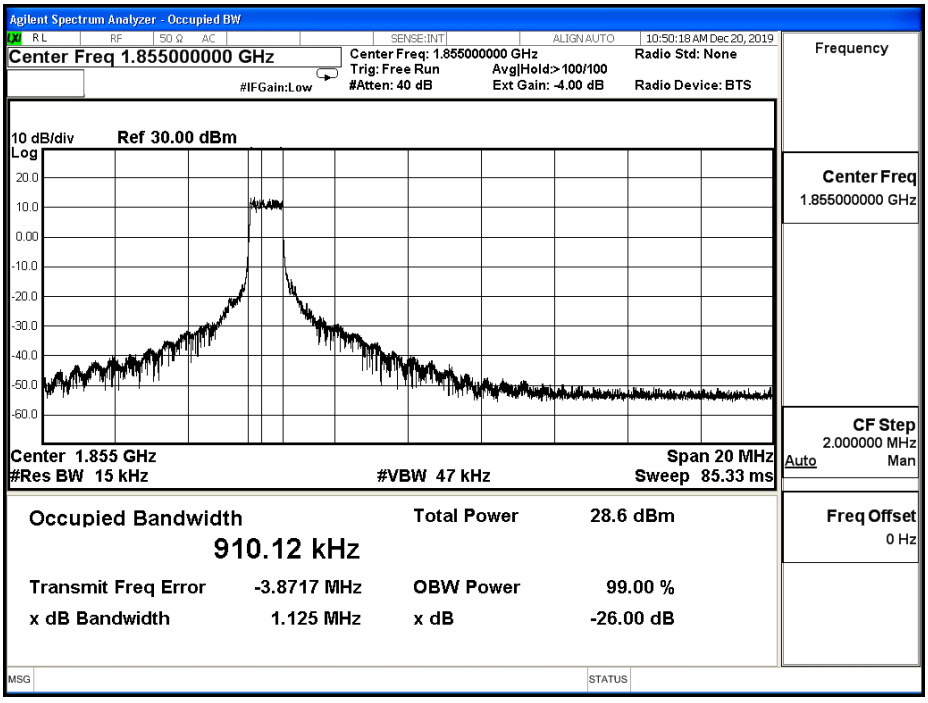


B2_CH18650_10M_16-QAM_5RB0



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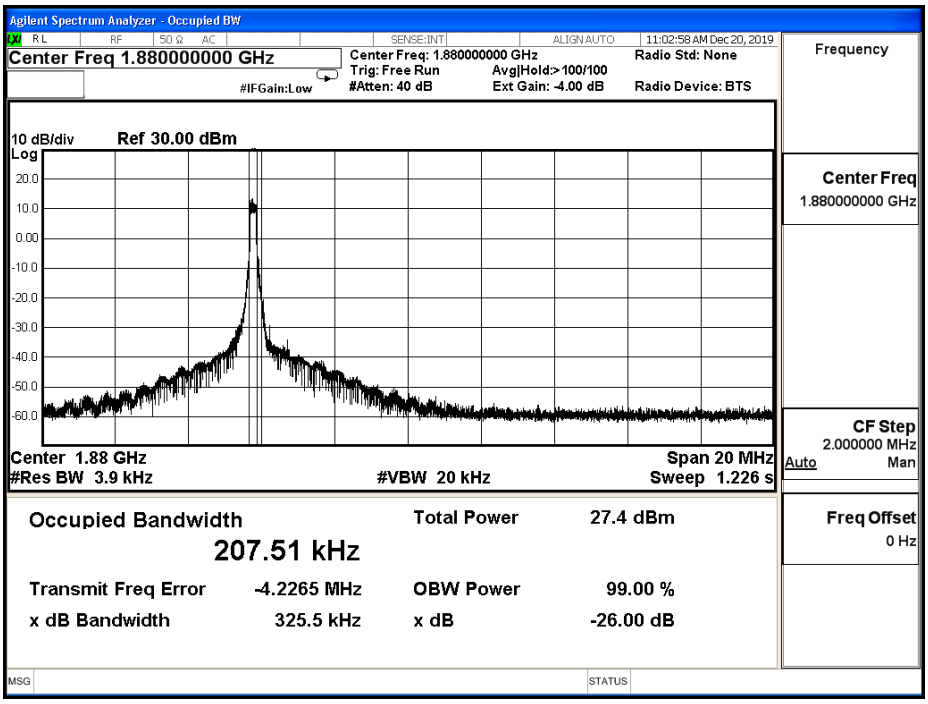

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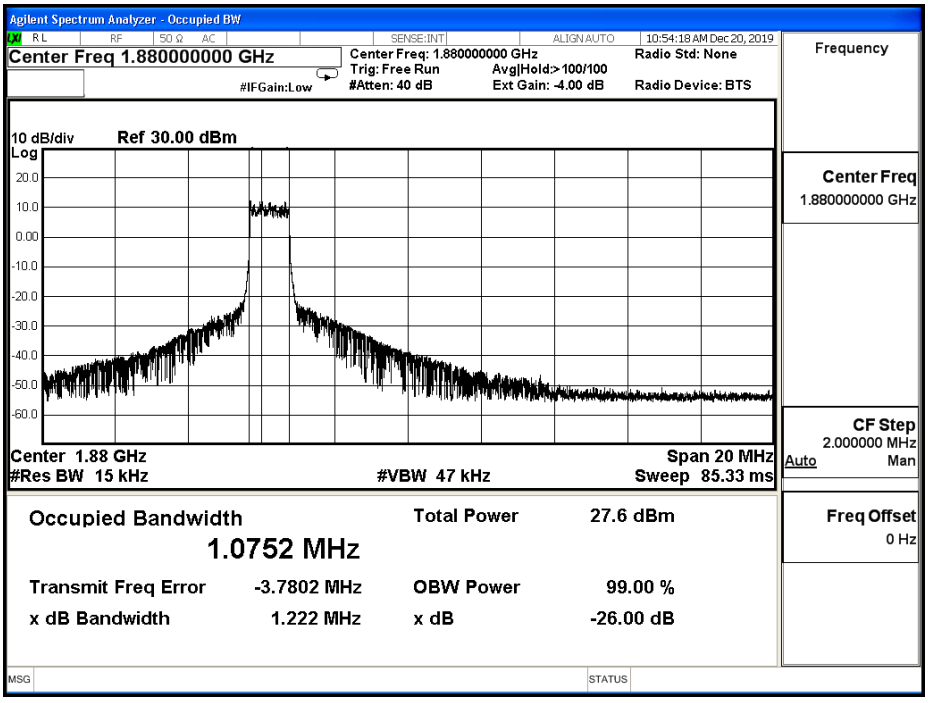

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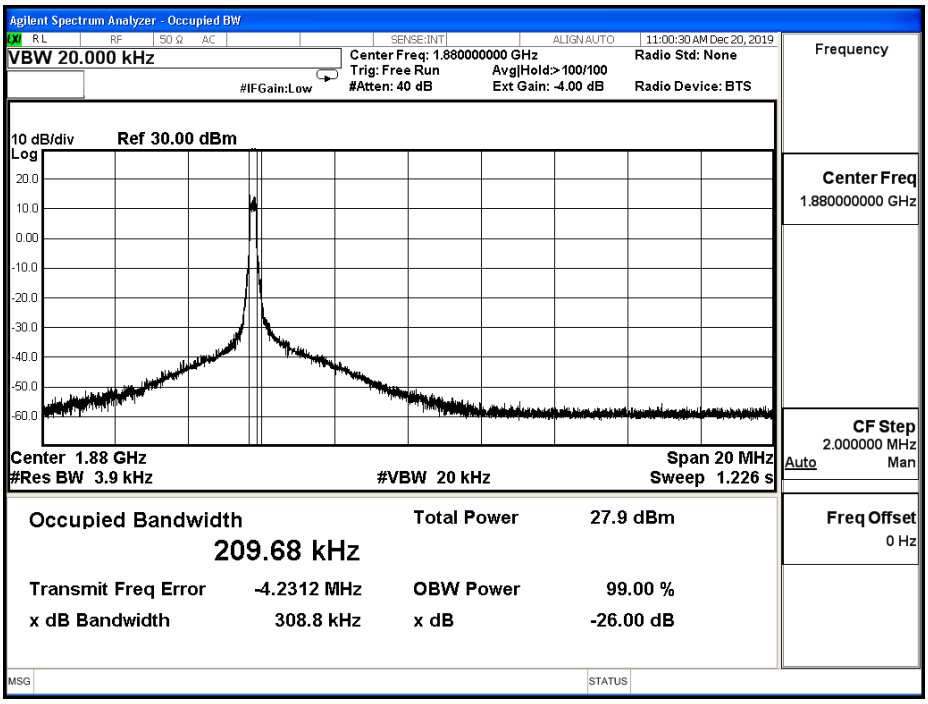

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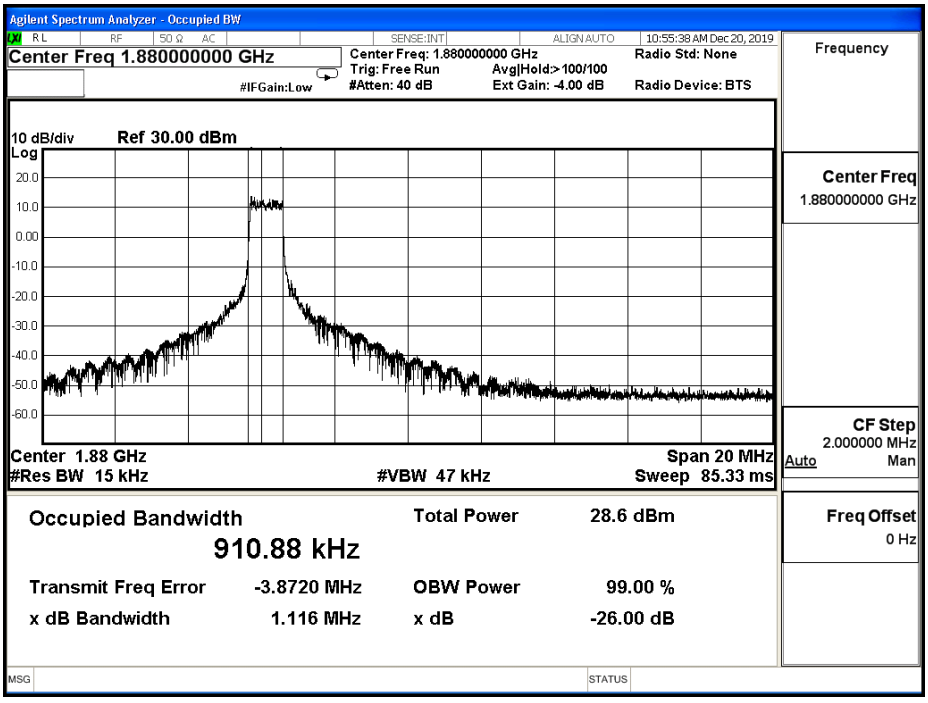

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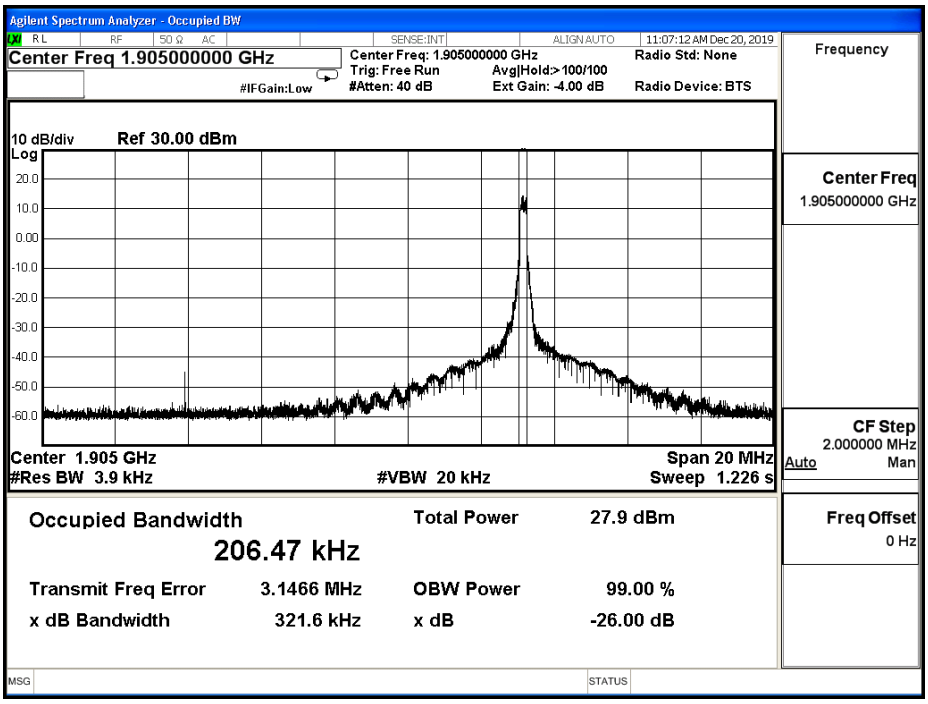

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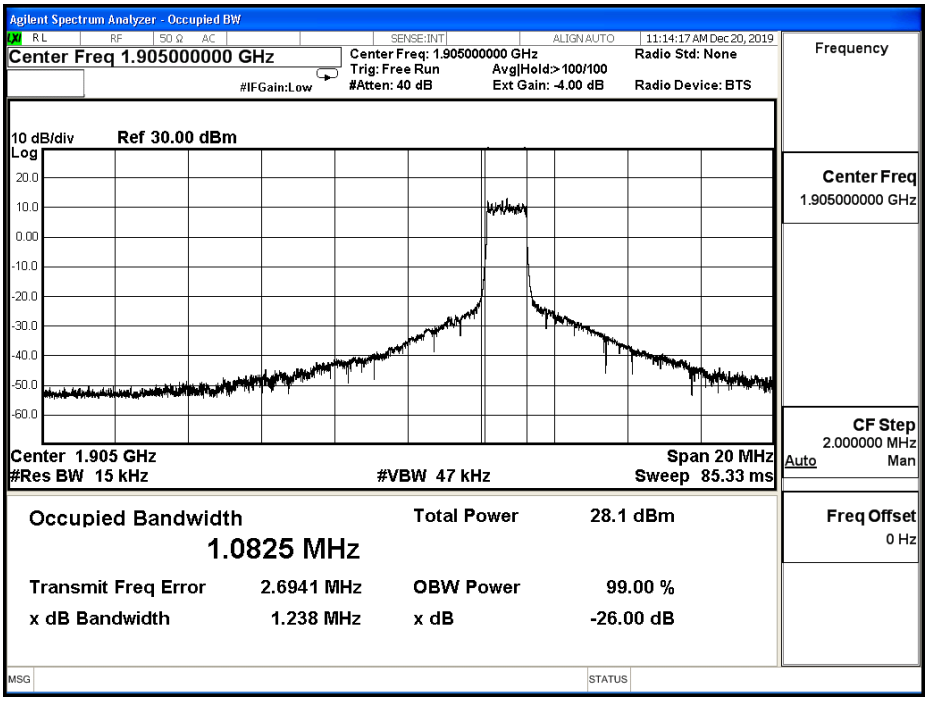

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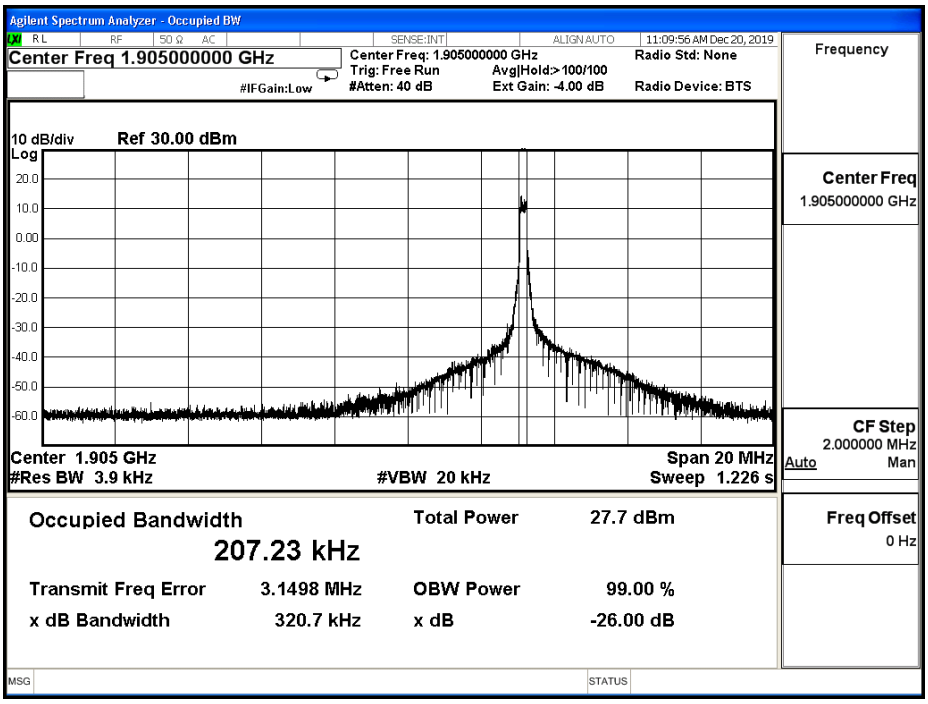

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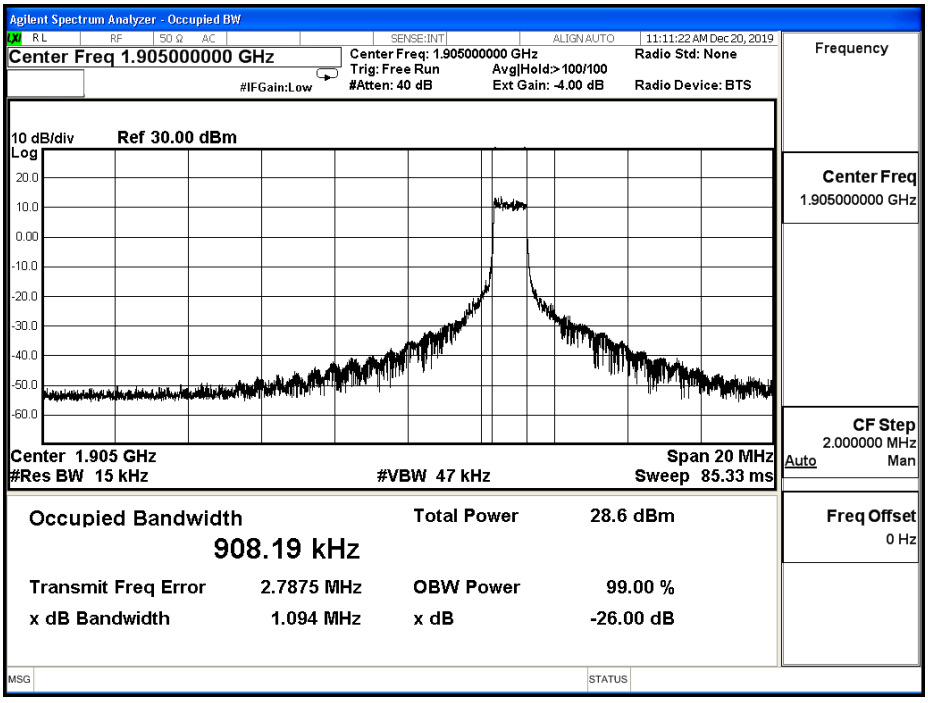

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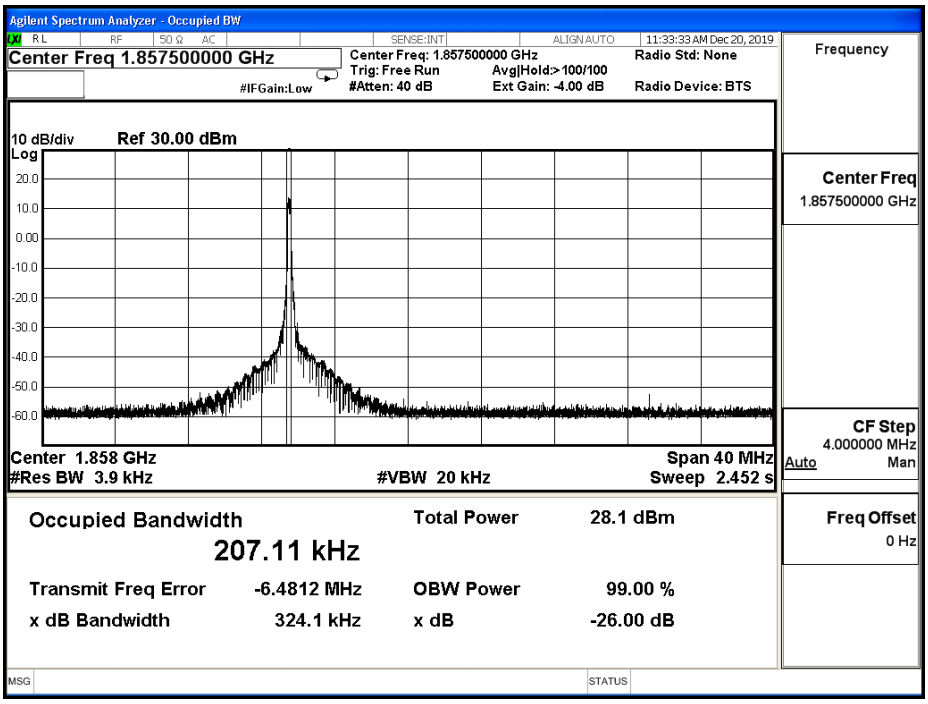

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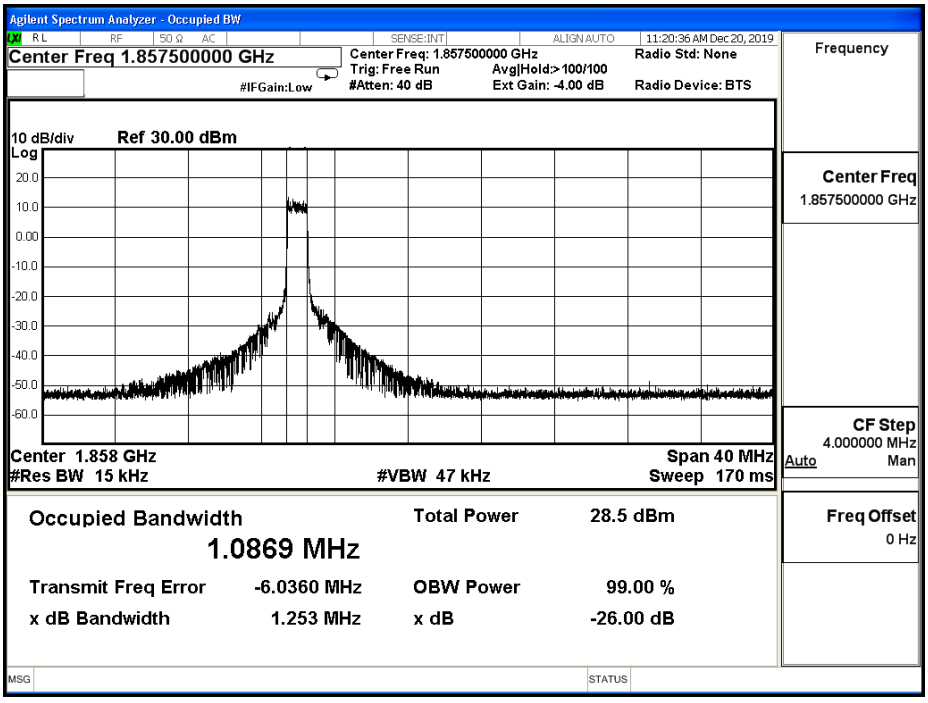

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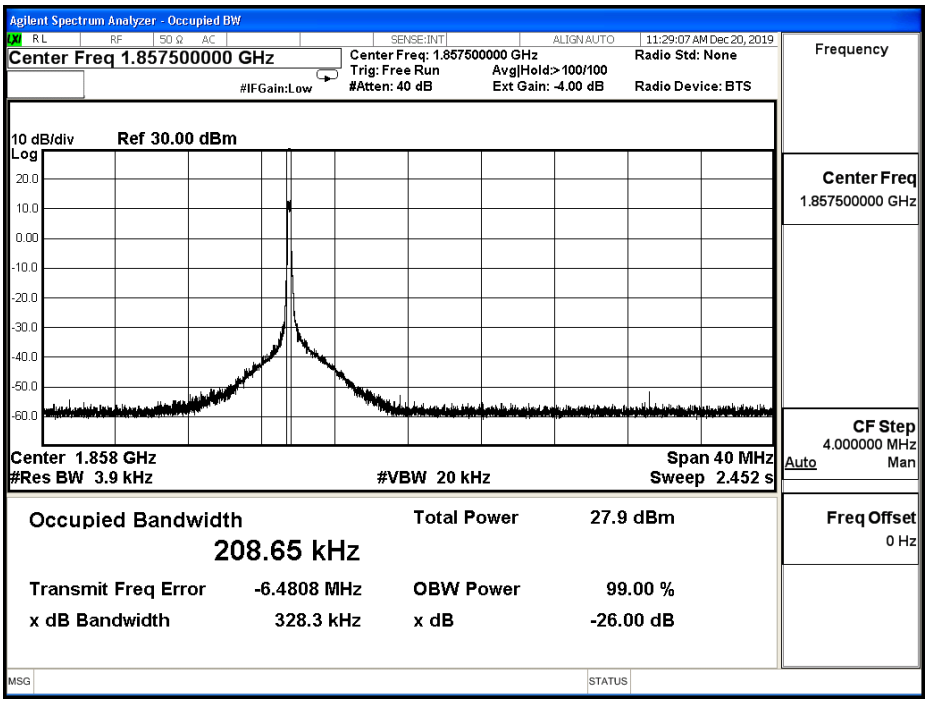

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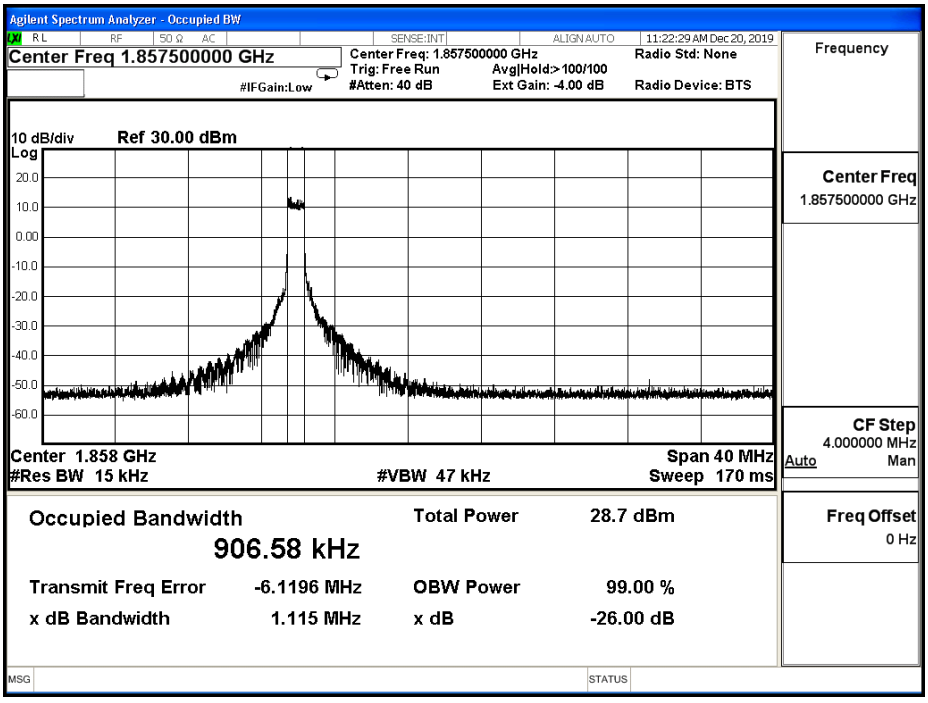

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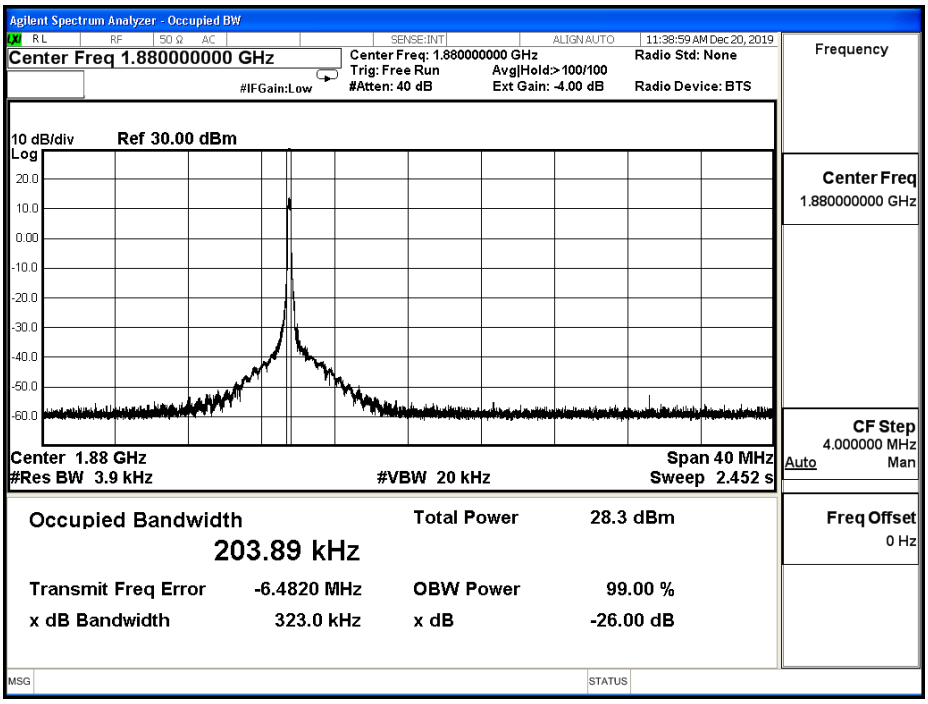

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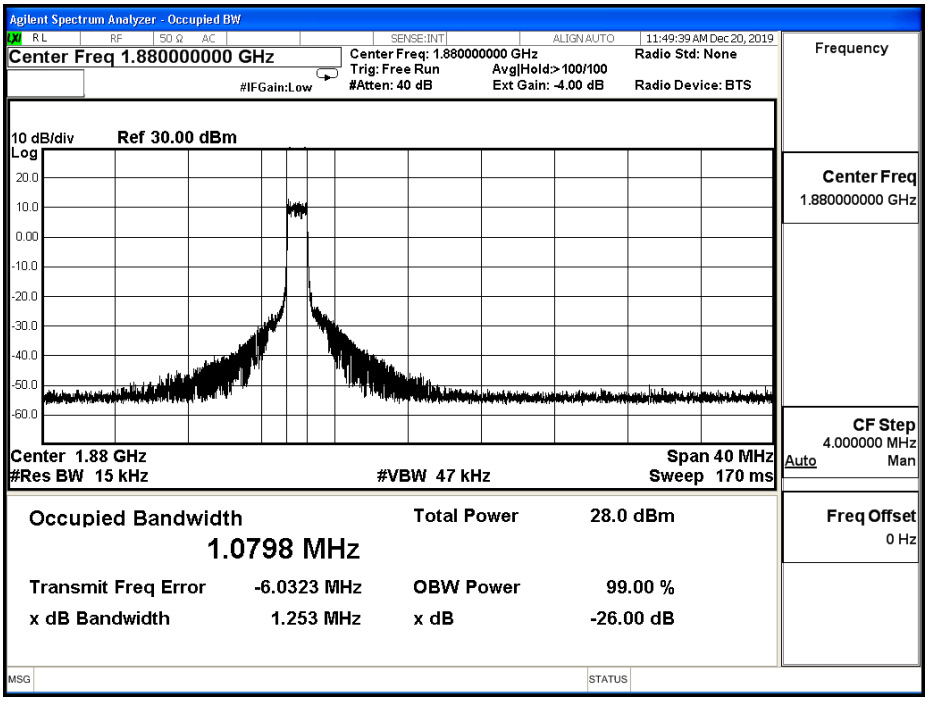

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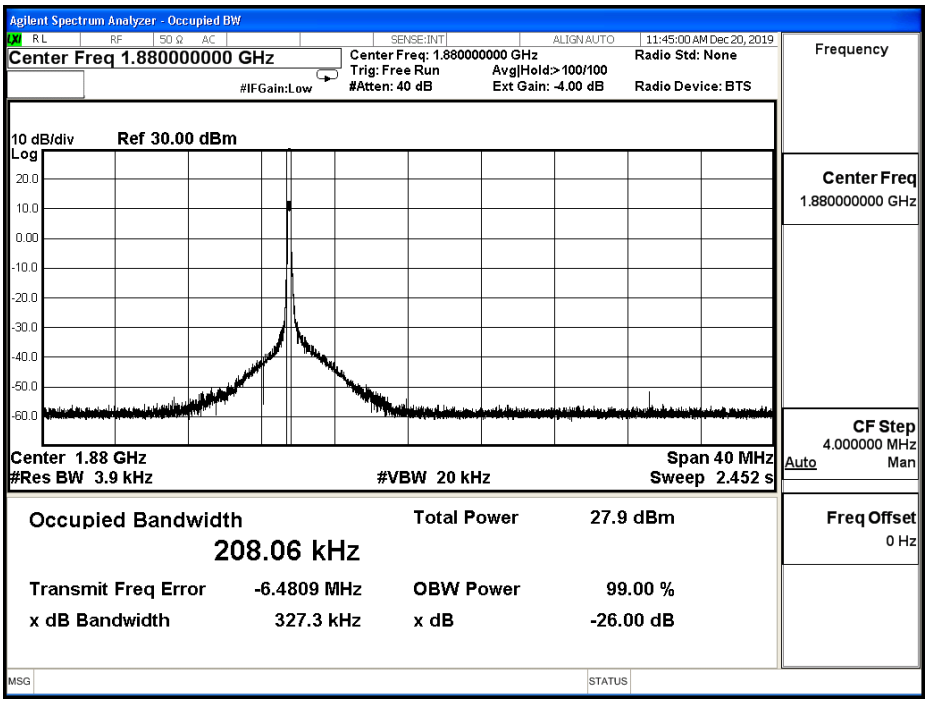

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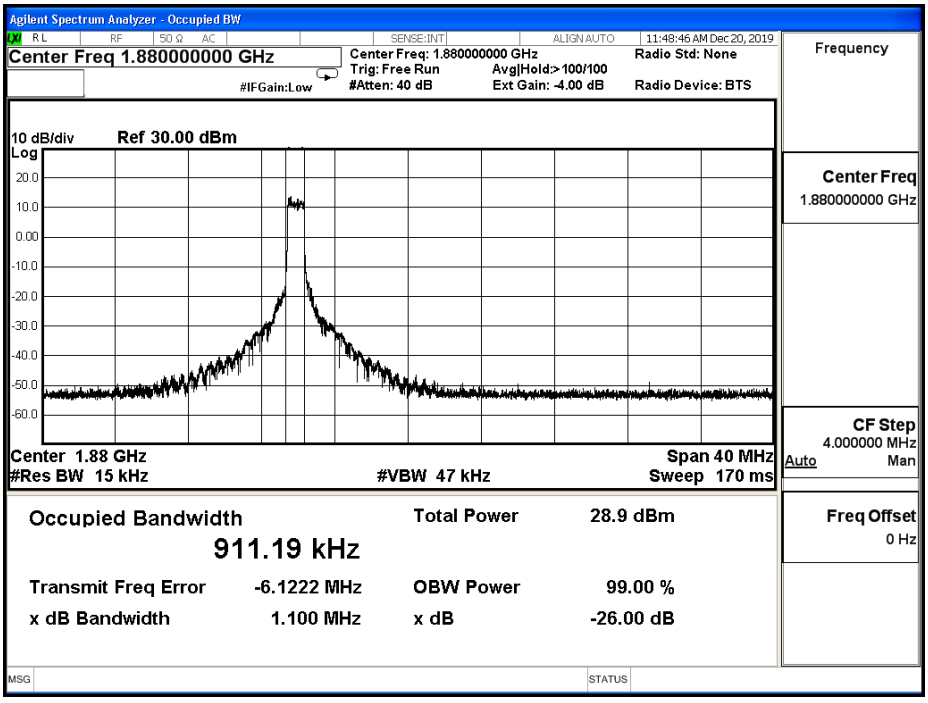

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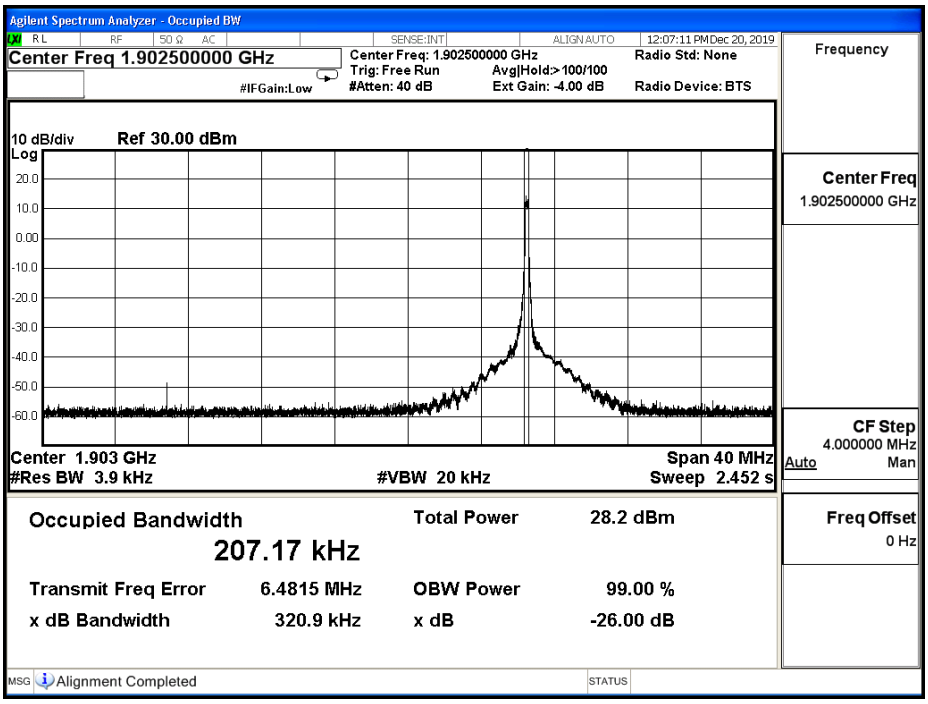

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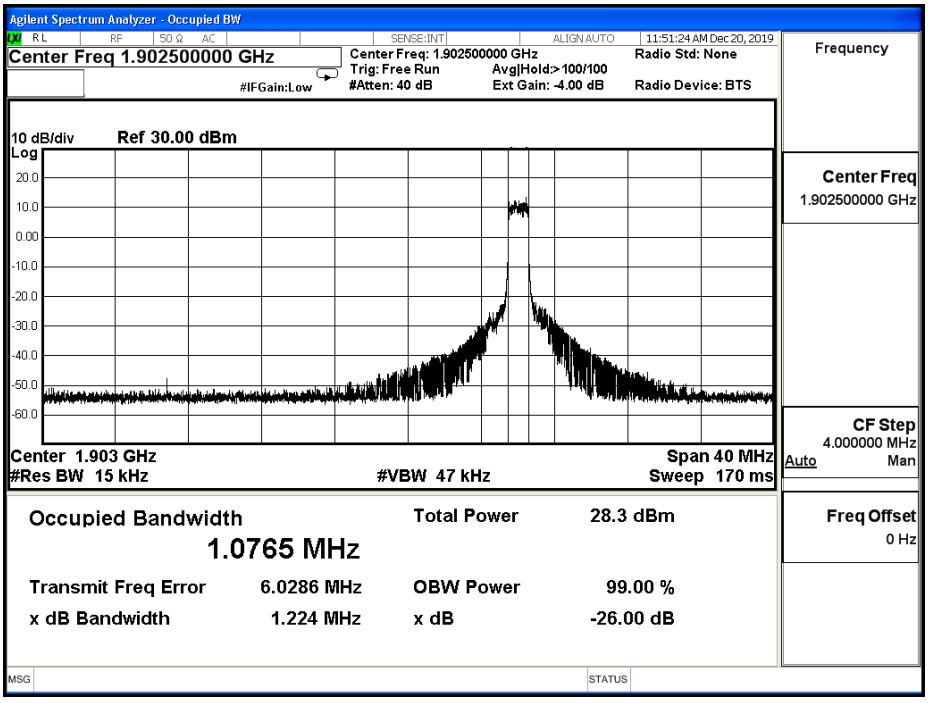

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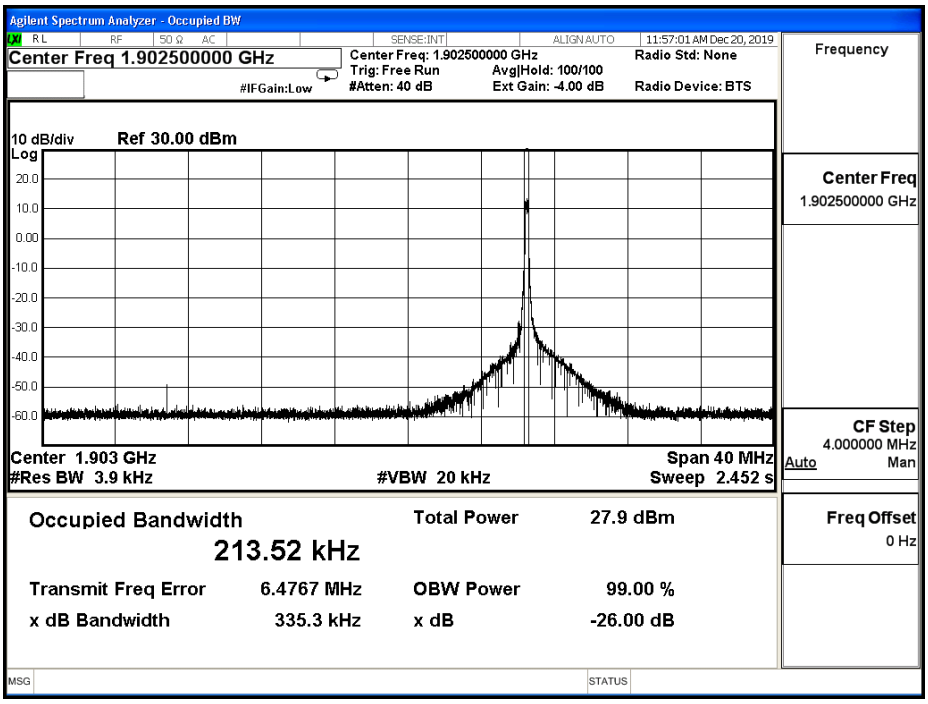

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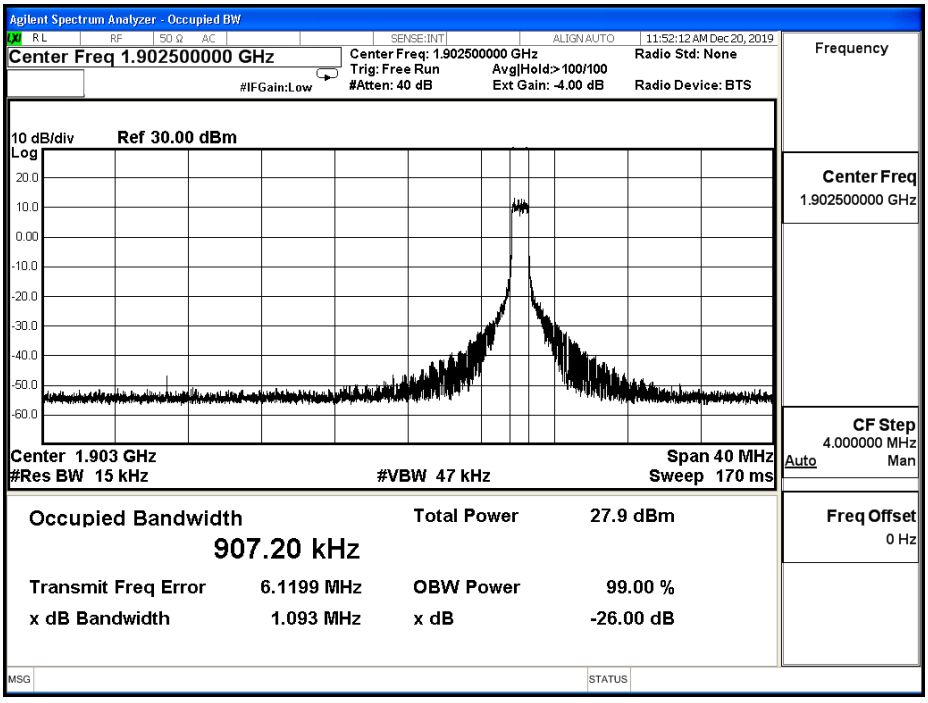

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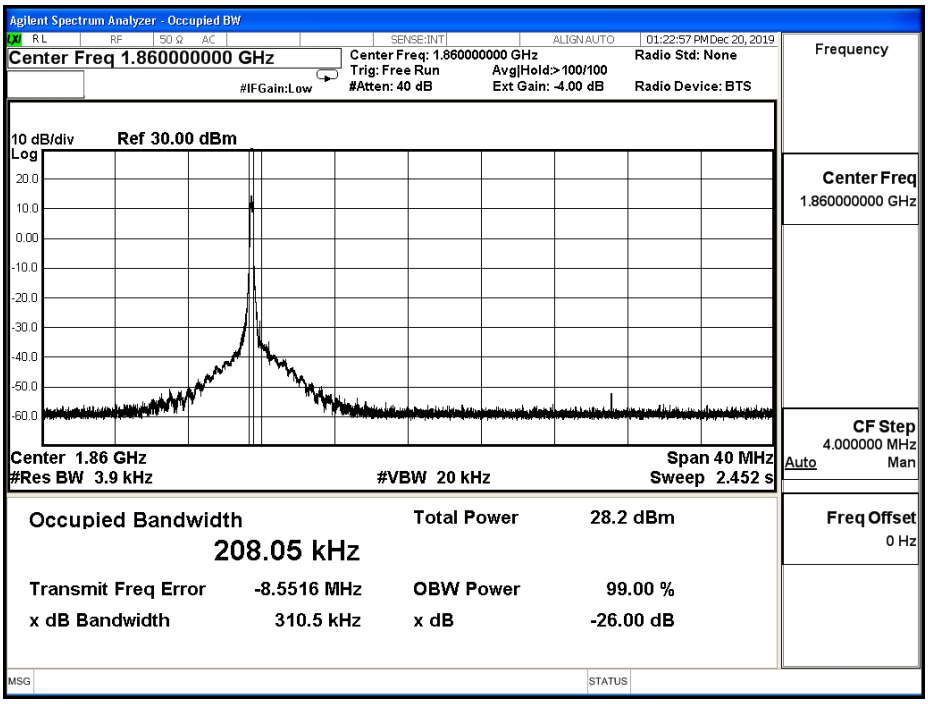

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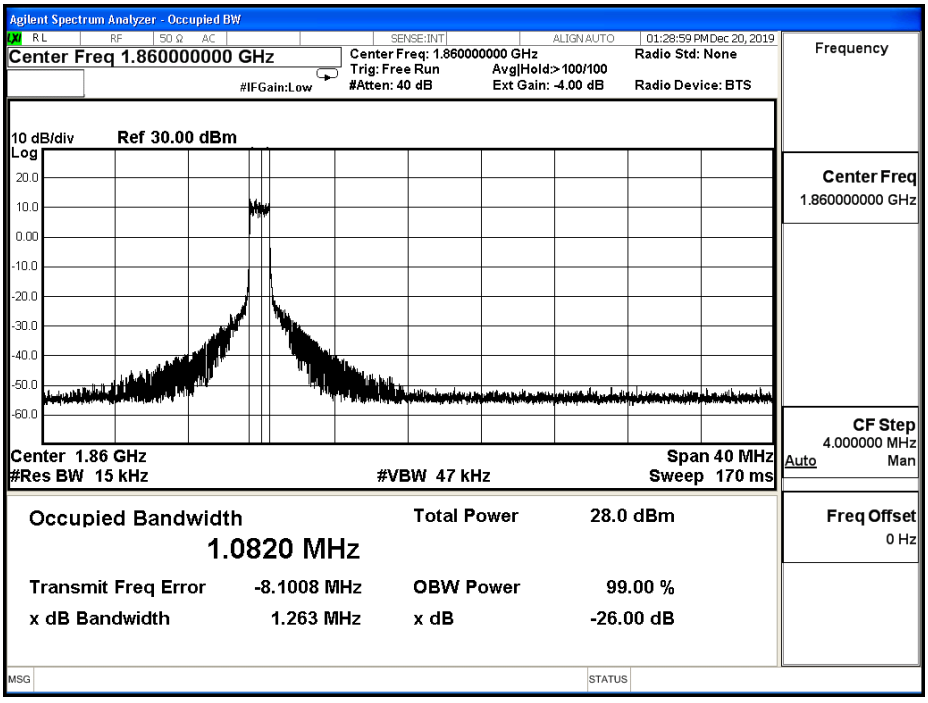

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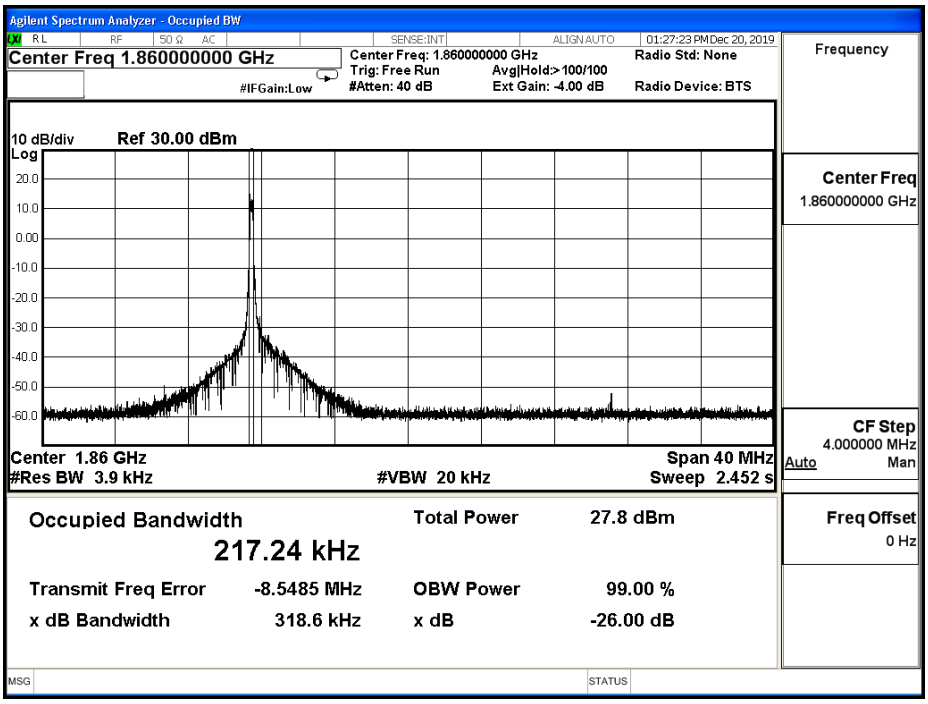

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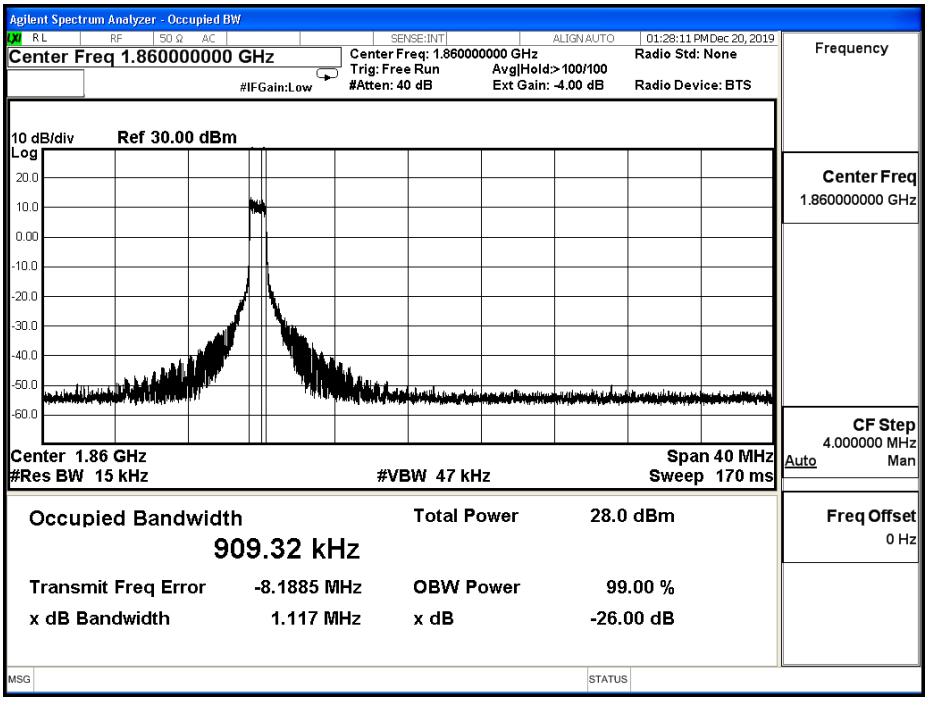

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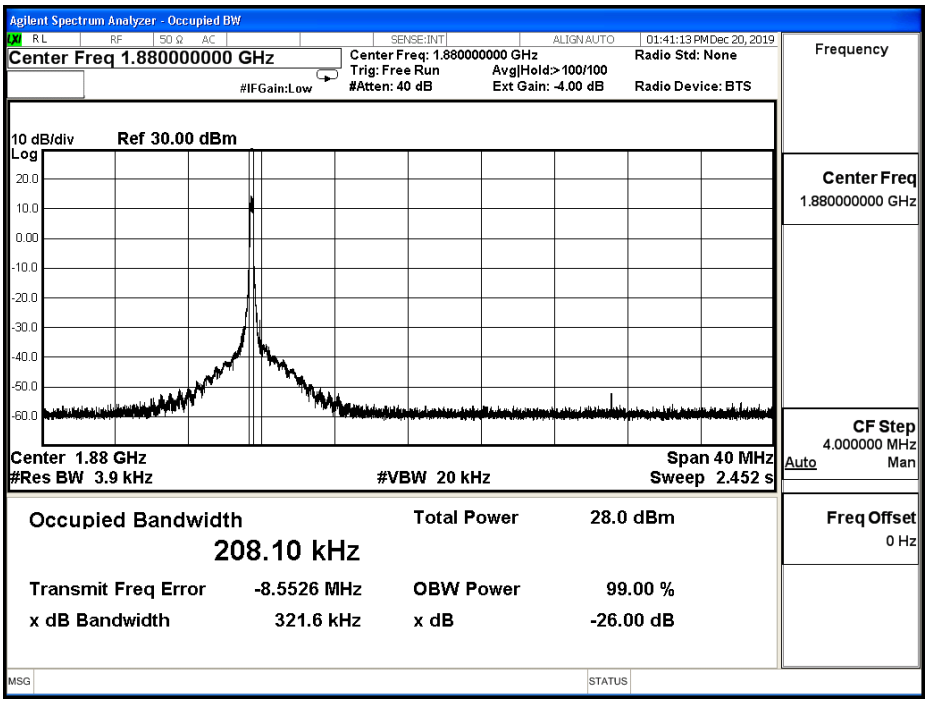

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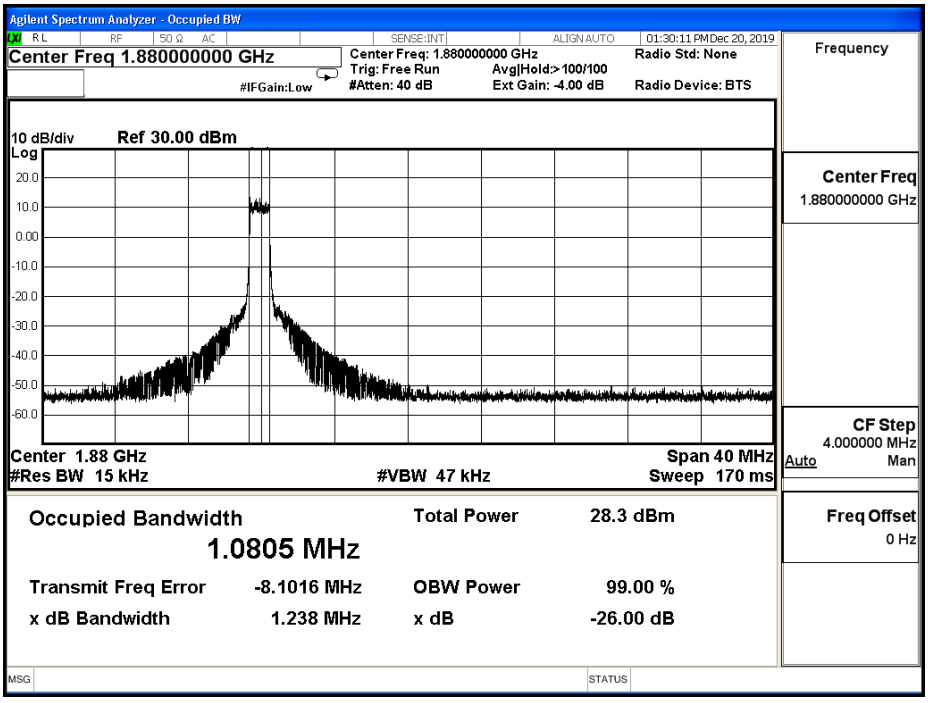

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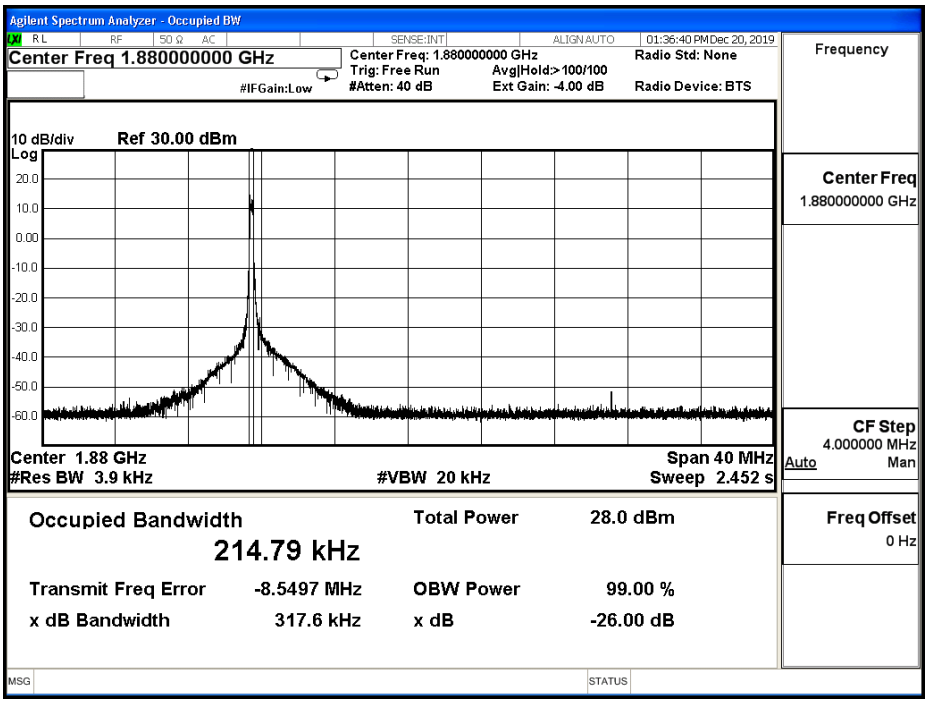

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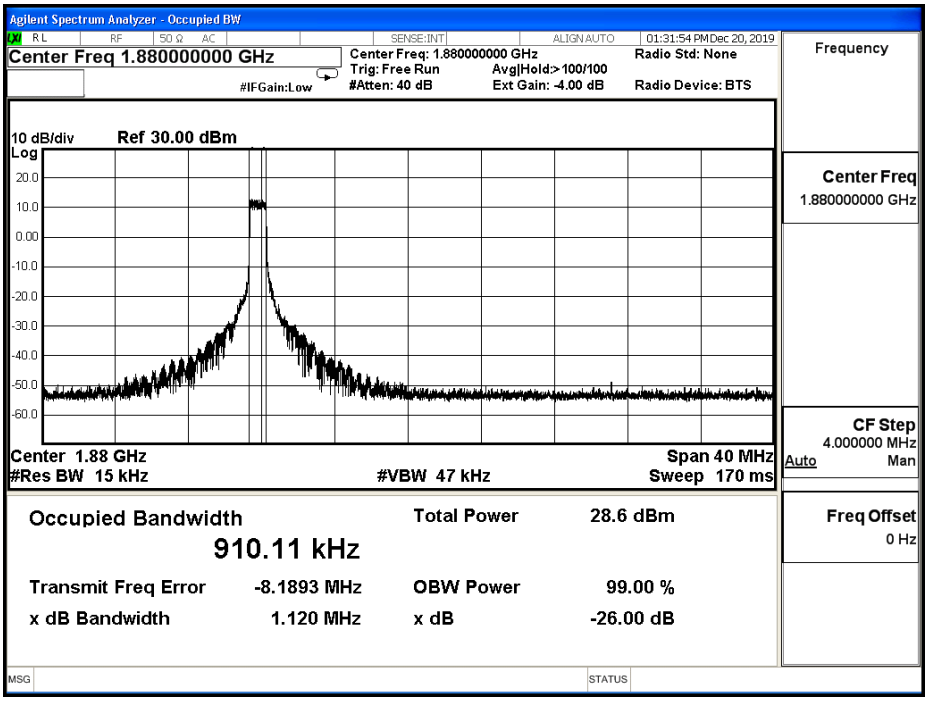

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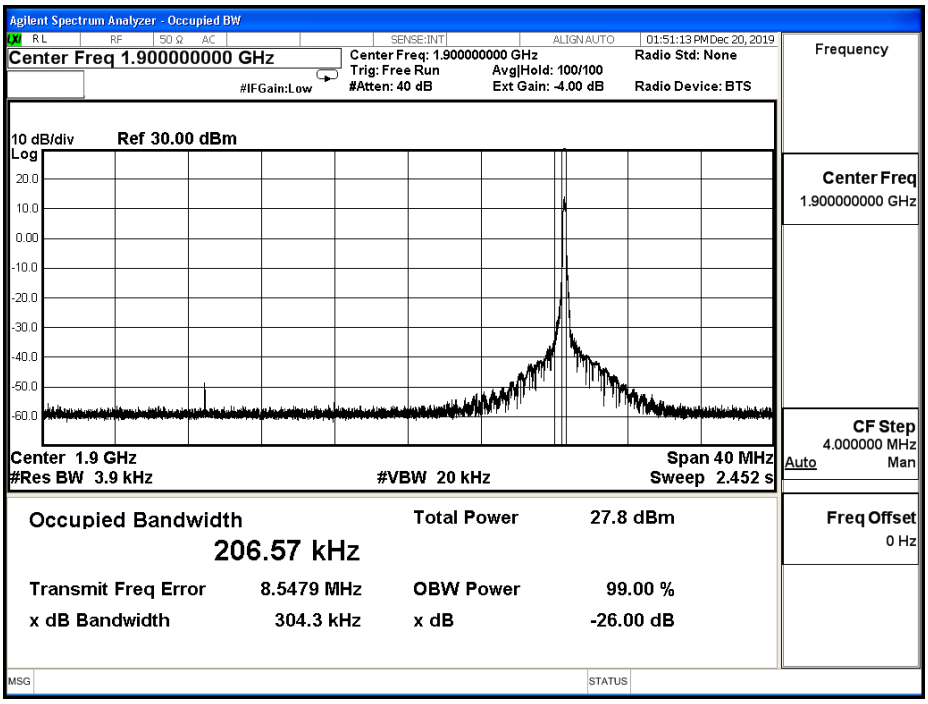

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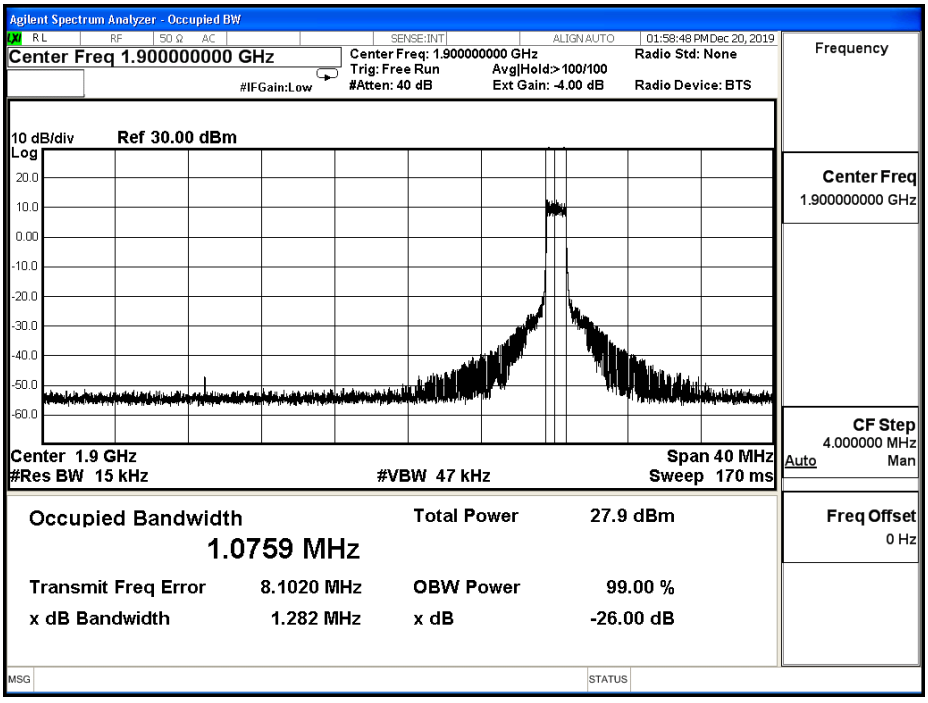

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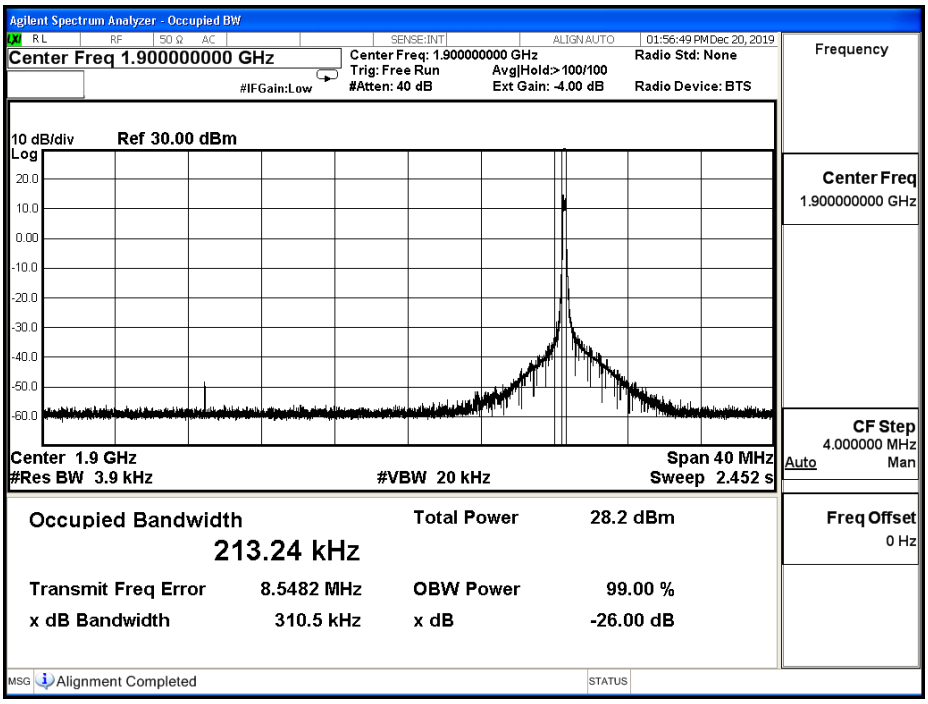

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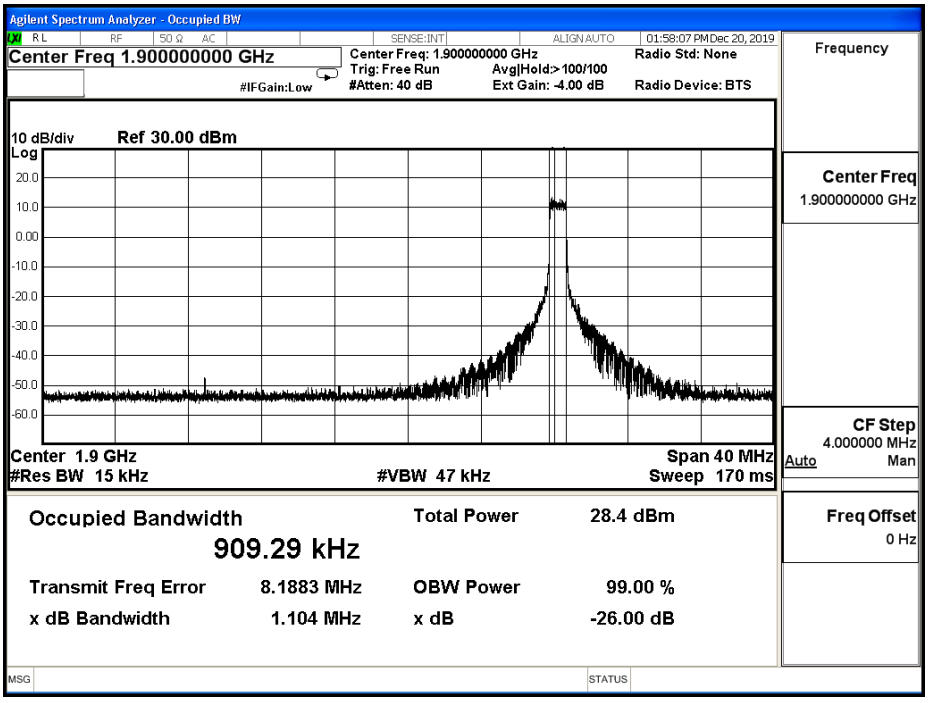


Product	M2M DATA MODULE		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: LTE Band 4		
Date of Test	2019/12/20	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	59%RH

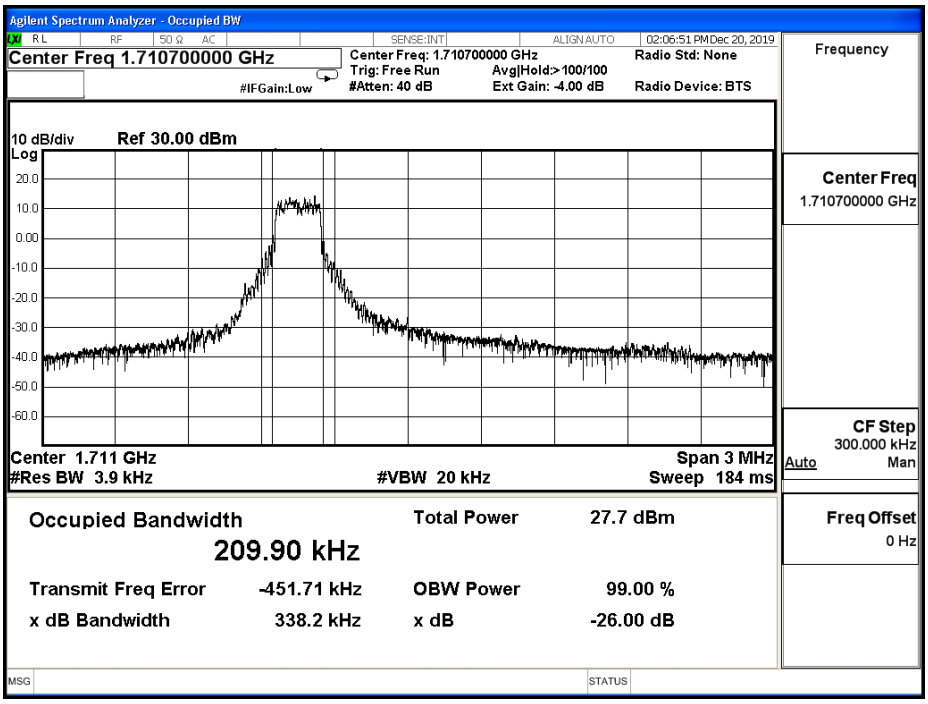
LTE Band 4_1RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	1710.7	0.338	0.209	N/A
		1732.5	0.348	0.209	N/A
		1754.3	0.334	0.202	N/A
	16-QAM	1710.7	0.305	0.206	N/A
		1732.5	0.305	0.206	N/A
		1754.3	0.316	0.208	N/A
3M	QPSK	1711.5	0.349	0.209	N/A
		1732.5	0.339	0.209	N/A
		1753.5	0.320	0.206	N/A
	16-QAM	1711.5	0.295	0.207	N/A
		1732.5	0.295	0.206	N/A
		1753.5	0.319	0.208	N/A
5M	QPSK	1712.5	0.323	0.210	N/A
		1732.5	0.323	0.208	N/A
		1753.5	0.310	0.202	N/A
	16-QAM	1712.5	0.306	0.209	N/A
		1732.5	0.306	0.210	N/A
		1753.5	0.321	0.211	N/A
10M	QPSK	1715.0	0.324	0.206	N/A
		1732.5	0.335	0.208	N/A
		1750.0	0.319	0.206	N/A
	16-QAM	1715.0	0.309	0.208	N/A
		1732.5	0.333	0.212	N/A
		1750.0	0.309	0.208	N/A

LTE Band 4_1RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
15M	QPSK	1717.5	0.324	0.205	N/A
		1732.5	0.322	0.206	N/A
		1747.5	0.334	0.207	N/A
	16-QAM	1717.5	0.328	0.207	N/A
		1732.5	0.326	0.207	N/A
		1747.5	0.325	0.212	N/A
20M	QPSK	1720.0	0.321	0.208	N/A
		1732.5	0.322	0.206	N/A
		1745.0	0.310	0.208	N/A
	16-QAM	1720.0	0.319	0.214	N/A
		1732.5	0.309	0.215	N/A
		1745.0	0.309	0.216	N/A

LTE Band 4_Full RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	1710.7	1.240	1.077	N/A
		1732.5	1.238	1.076	N/A
		1754.3	1.225	1.076	N/A
	16-QAM	1710.7	1.058	0.906	N/A
		1732.5	1.061	0.906	N/A
		1754.3	1.069	0.904	N/A
3M	QPSK	1711.5	1.235	1.077	N/A
		1732.5	1.230	1.076	N/A
		1753.5	1.237	1.074	N/A
	16-QAM	1711.5	1.062	0.907	N/A
		1732.5	1.064	0.907	N/A
		1753.5	1.065	0.909	N/A
5M	QPSK	1712.5	1.224	1.078	N/A
		1732.5	1.230	1.080	N/A
		1753.5	1.236	1.079	N/A
	16-QAM	1712.5	1.082	0.907	N/A
		1732.5	1.076	0.906	N/A
		1753.5	1.078	0.905	N/A
10M	QPSK	1715.0	1.241	1.075	N/A
		1732.5	1.221	1.074	N/A
		1750.0	1.238	1.081	N/A
	16-QAM	1715.0	1.105	0.909	N/A
		1732.5	1.114	0.910	N/A
		1750.0	1.079	0.904	N/A

LTE Band 4_Full RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
15M	QPSK	1717.5	1.258	1.086	N/A
		1732.5	1.252	1.085	N/A
		1747.5	1.228	1.078	N/A
	16-QAM	1717.5	1.101	0.909	N/A
		1732.5	1.080	0.909	N/A
		1747.5	1.105	0.909	N/A
20M	QPSK	1720.0	1.234	1.082	N/A
		1732.5	1.254	1.083	N/A
		1745.0	1.247	1.082	N/A
	16-QAM	1720.0	1.118	0.910	N/A
		1732.5	1.134	0.911	N/A
		1745.0	1.104	0.910	N/A

B4_CH19957_1.4M_QPSK_1RB0



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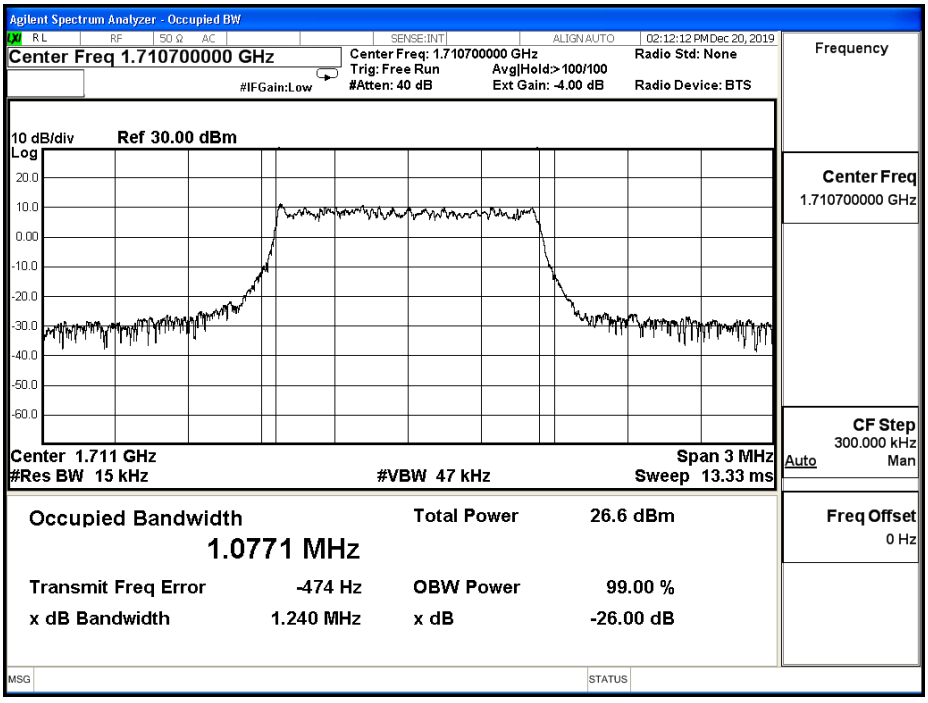

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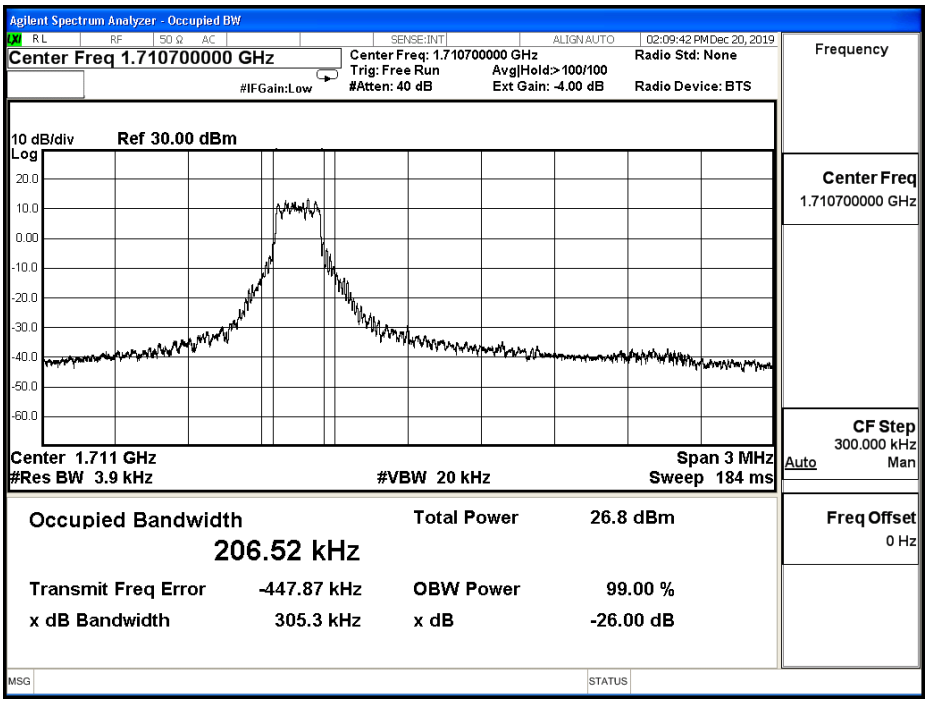

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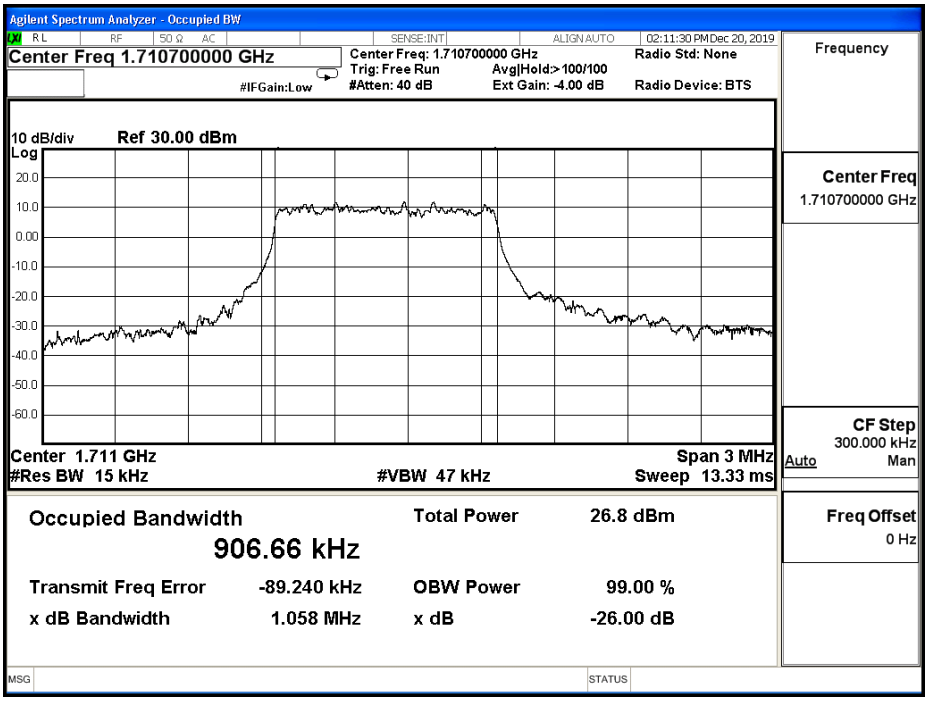

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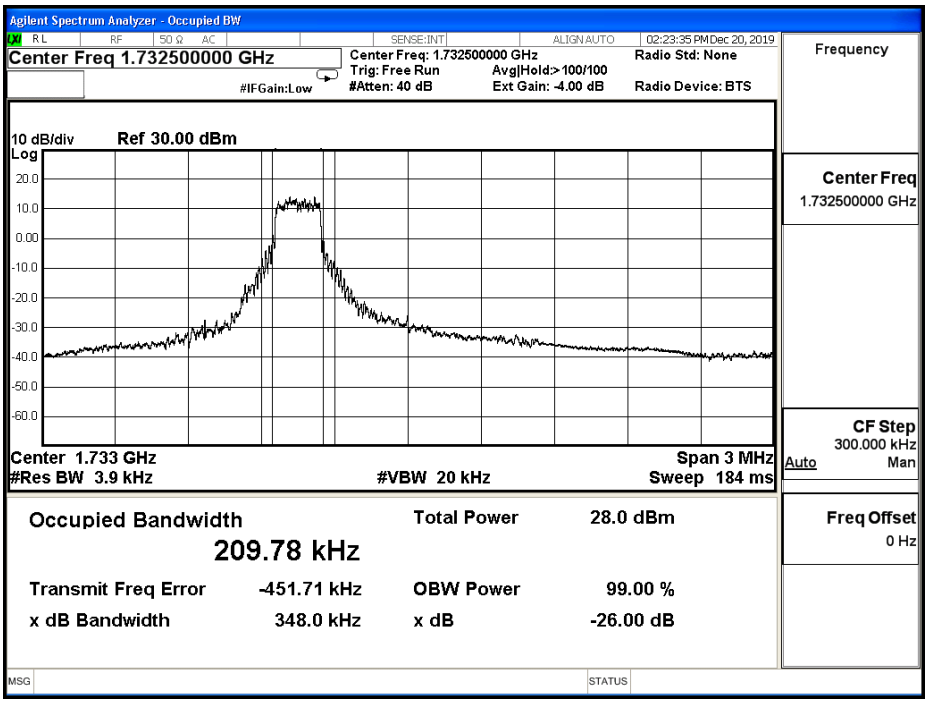

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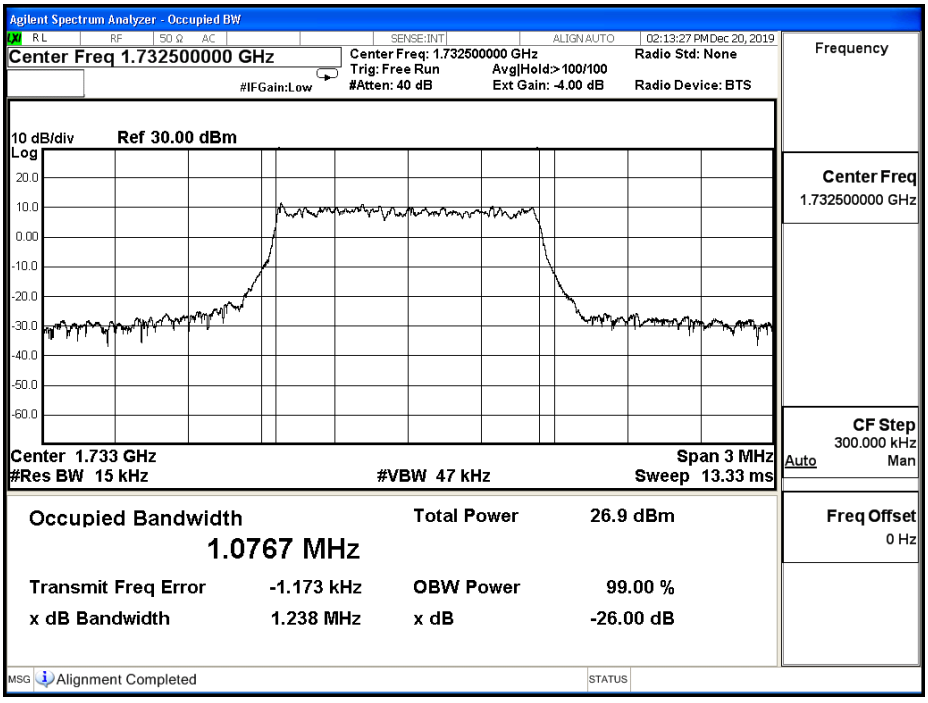

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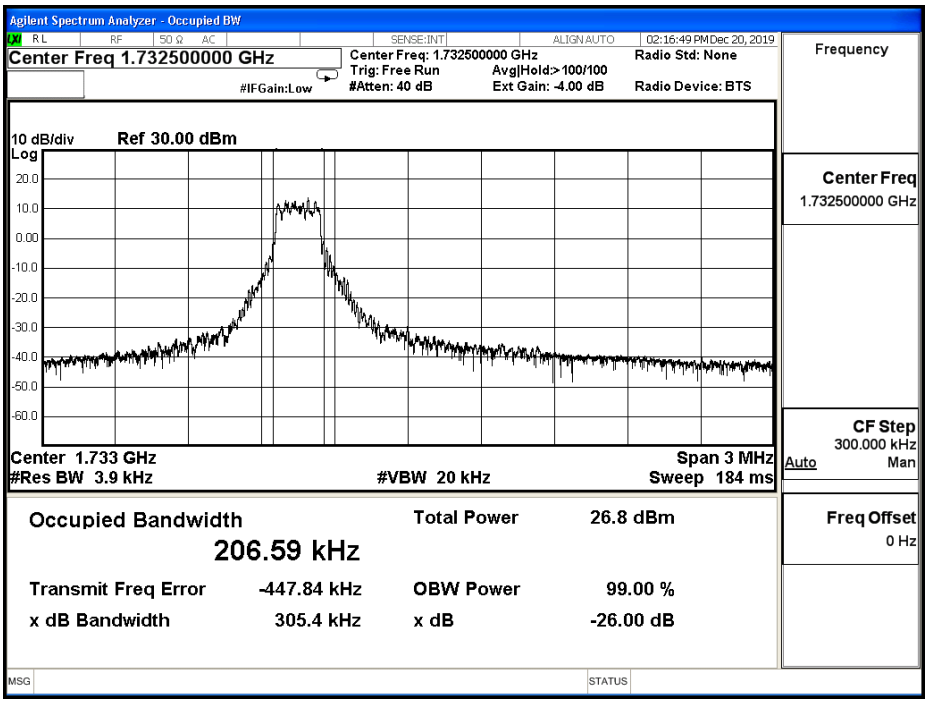

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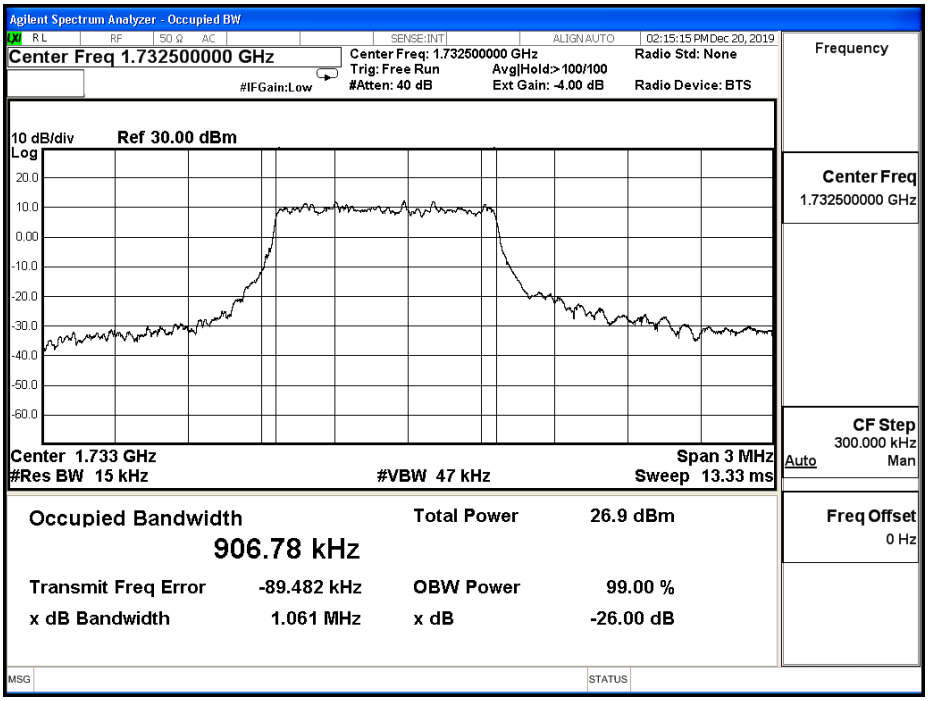
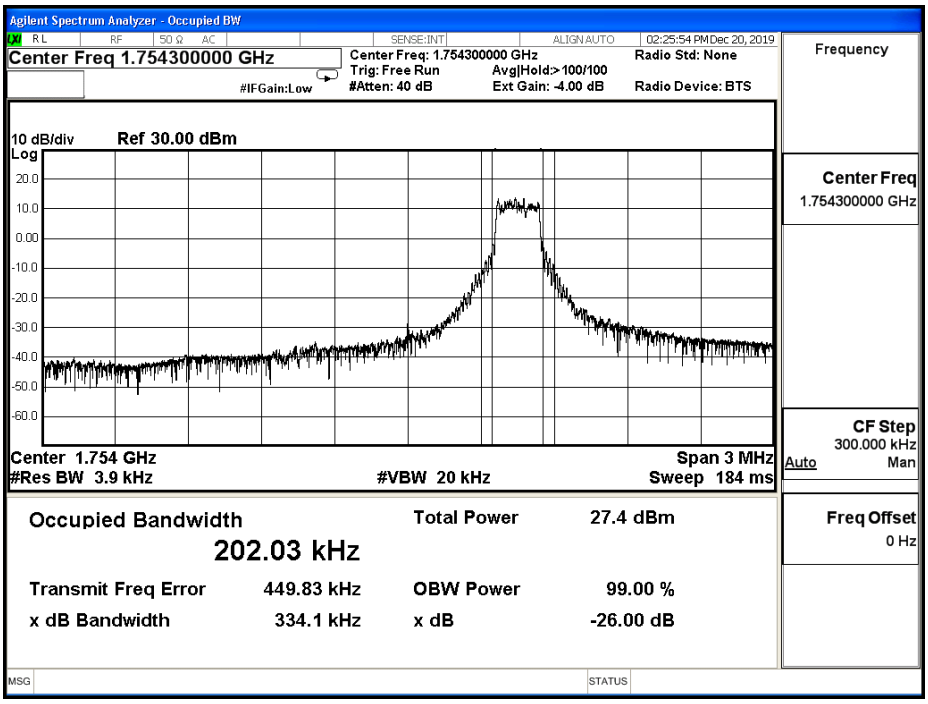


B4_CH20393_1.4M_QPSK_1RB5



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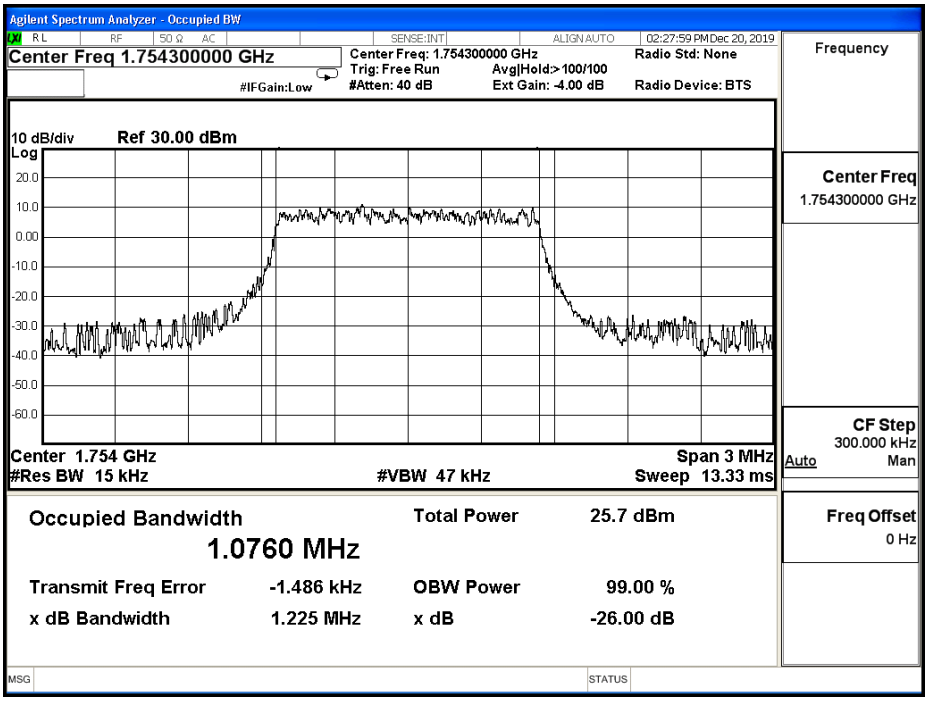

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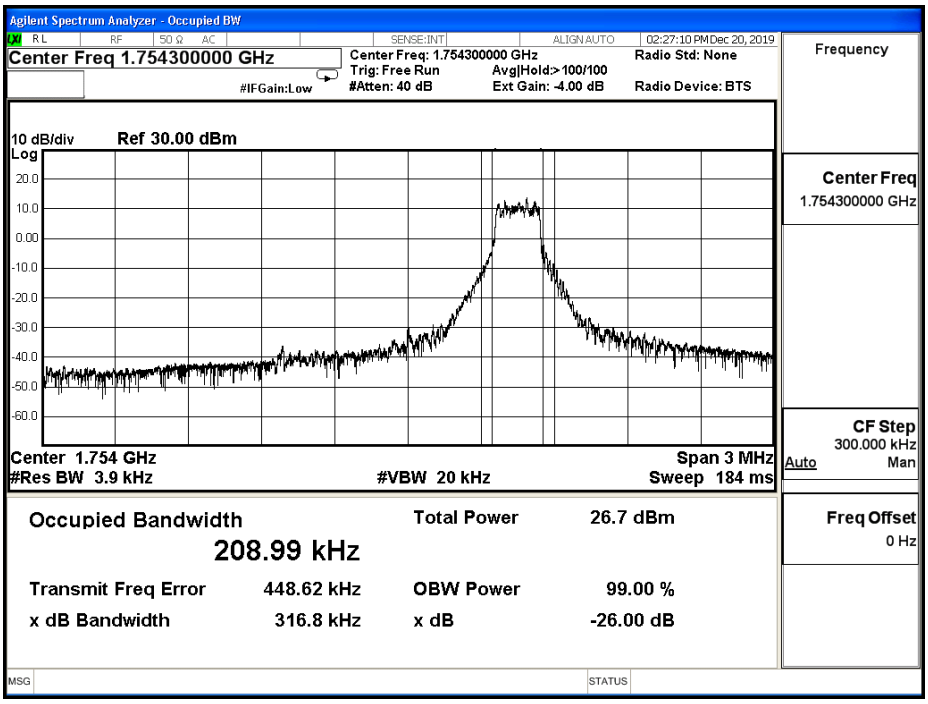

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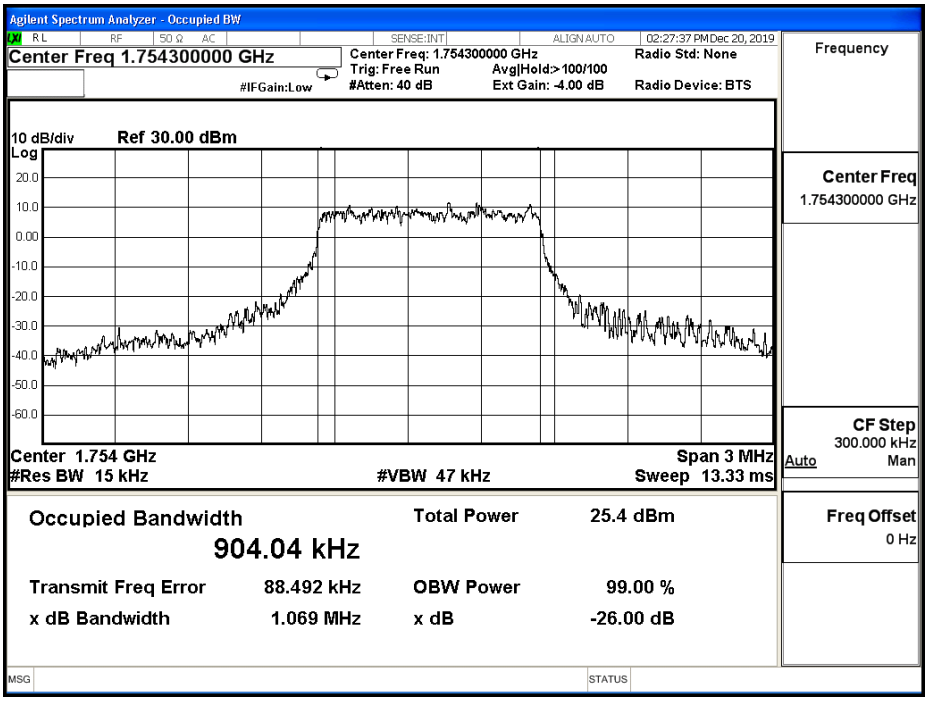

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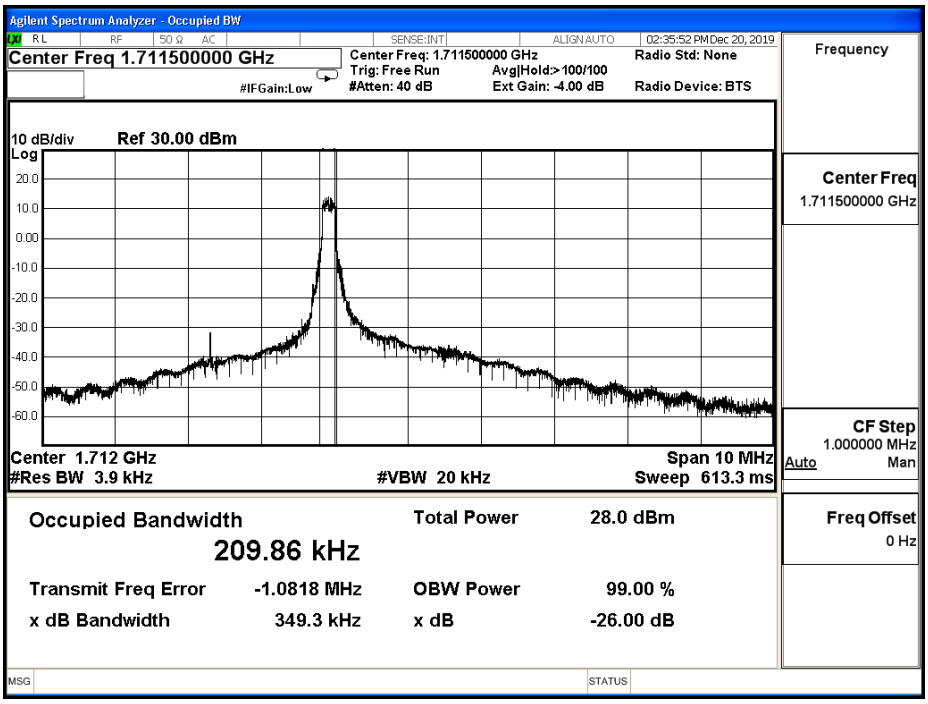

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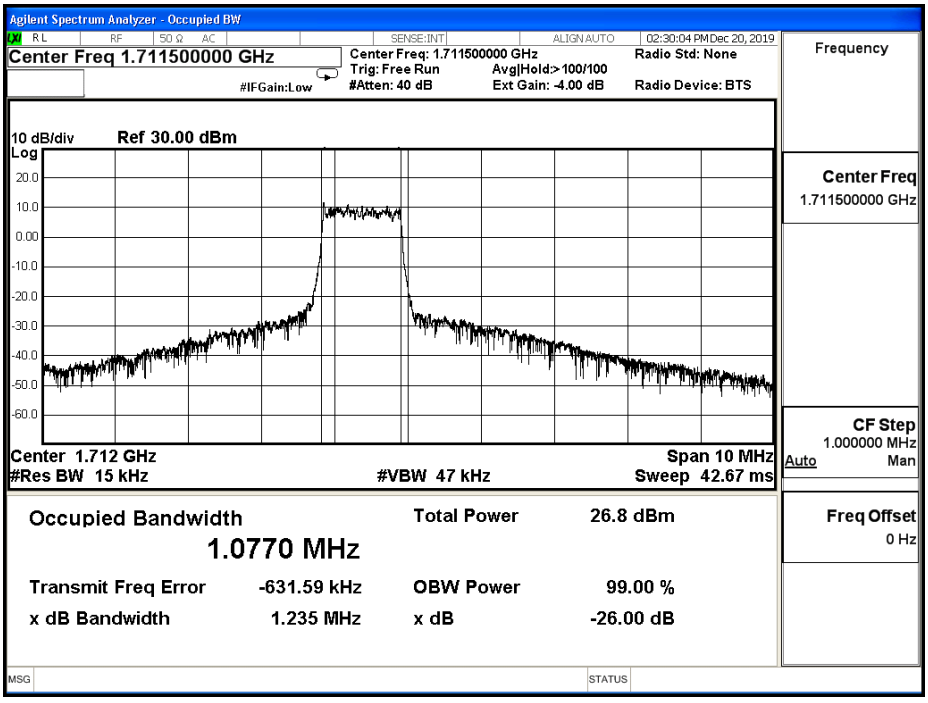

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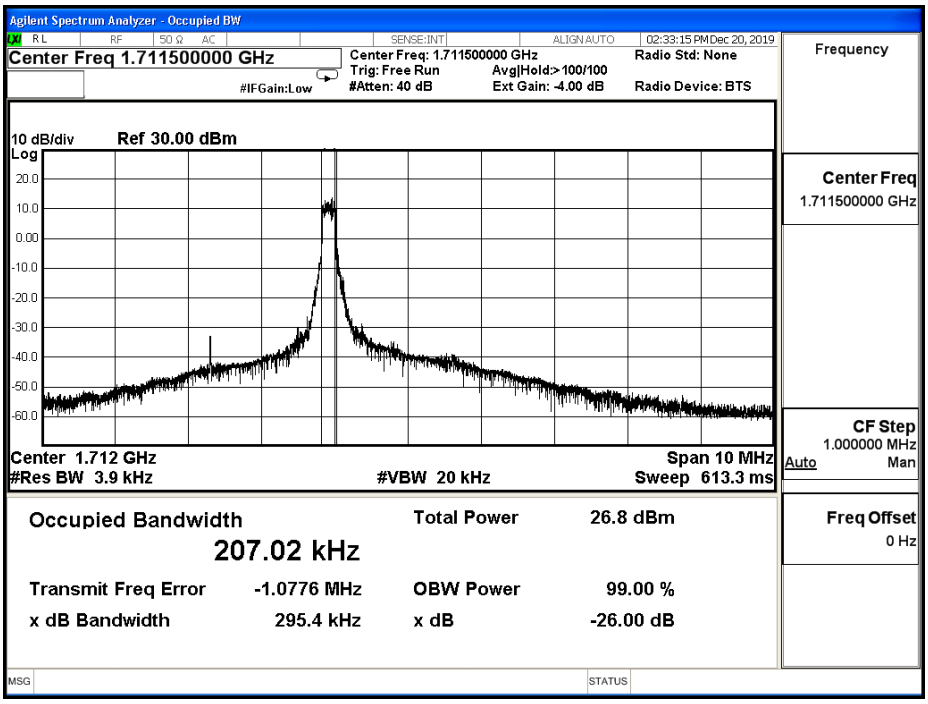

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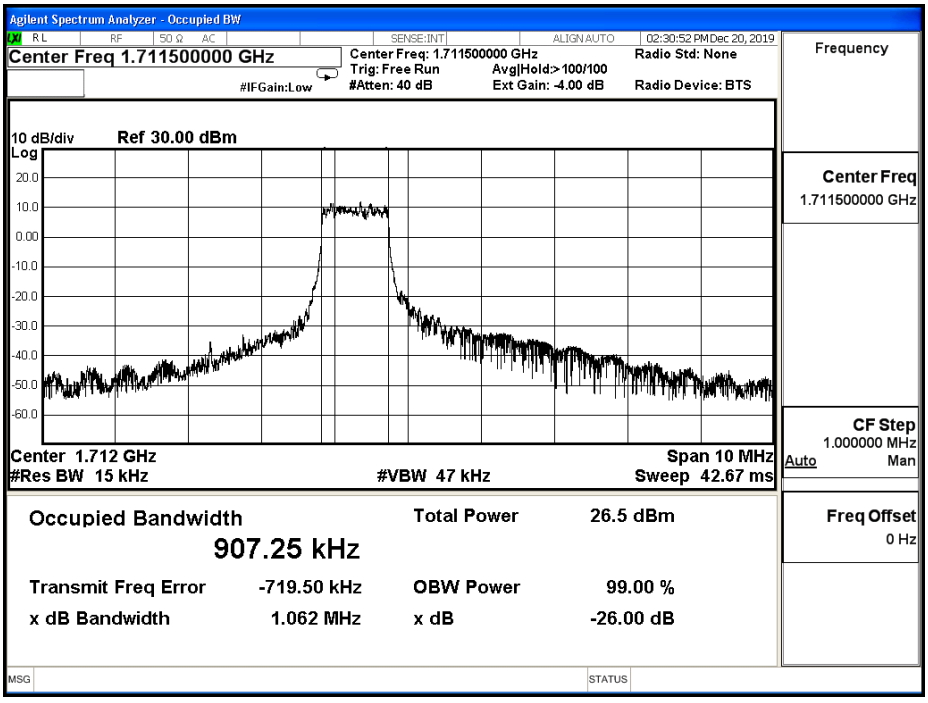

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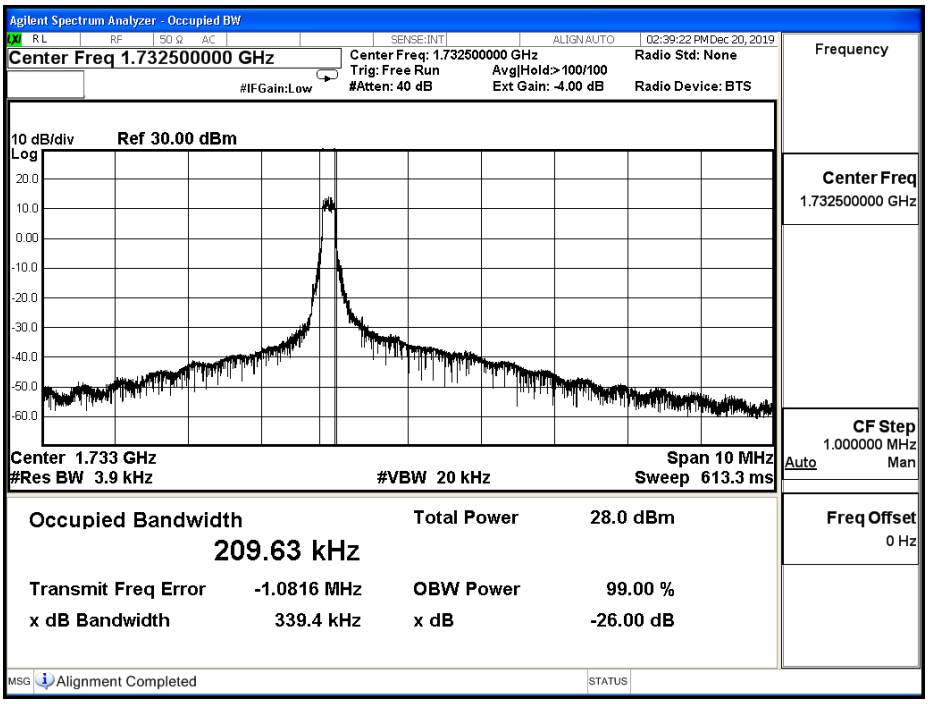

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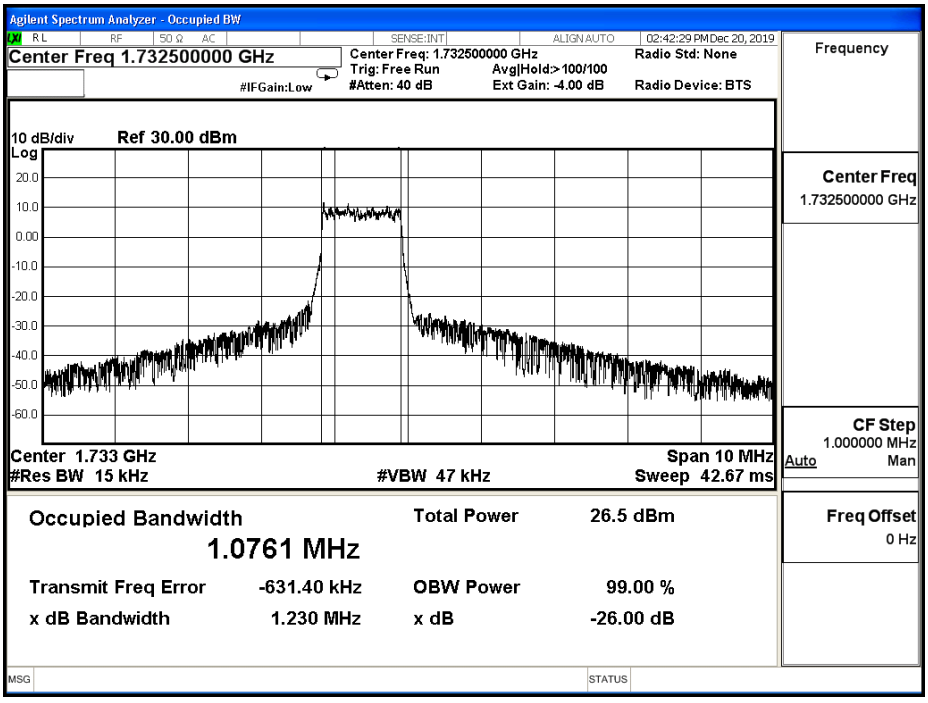

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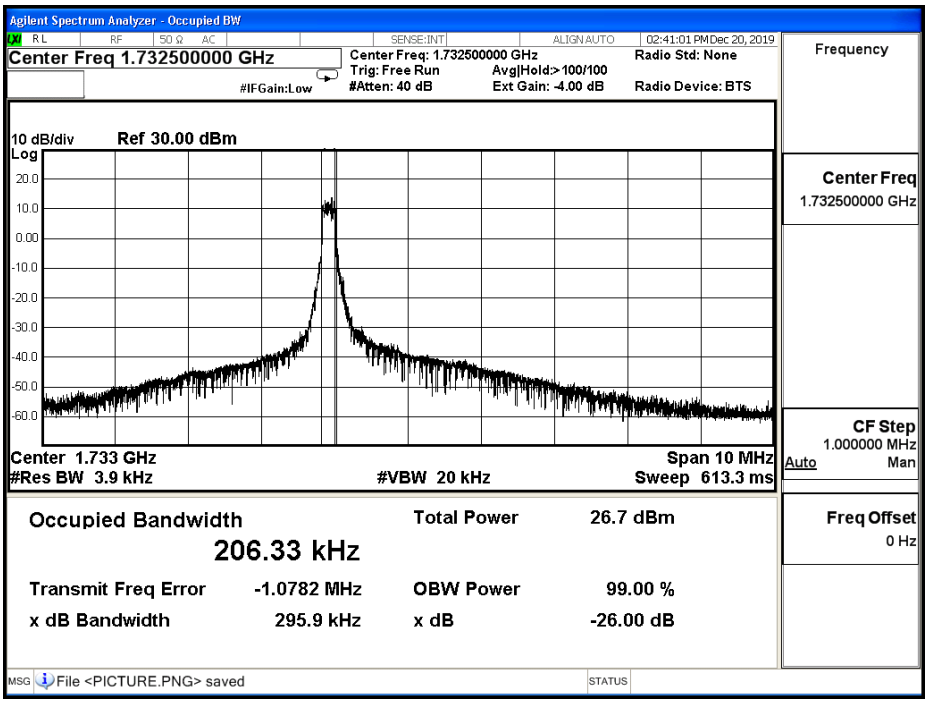

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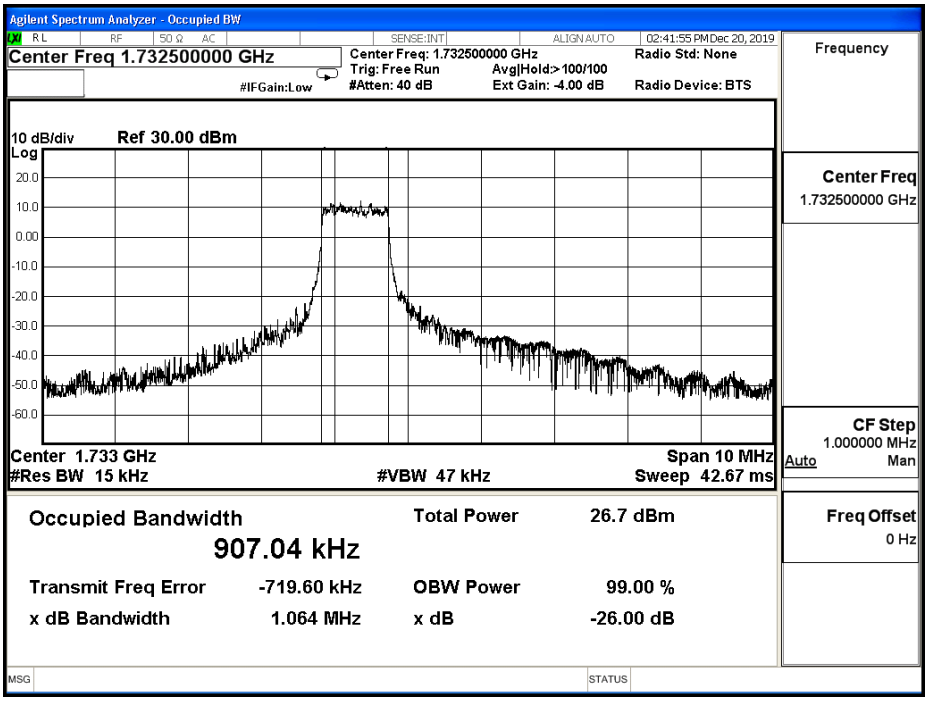

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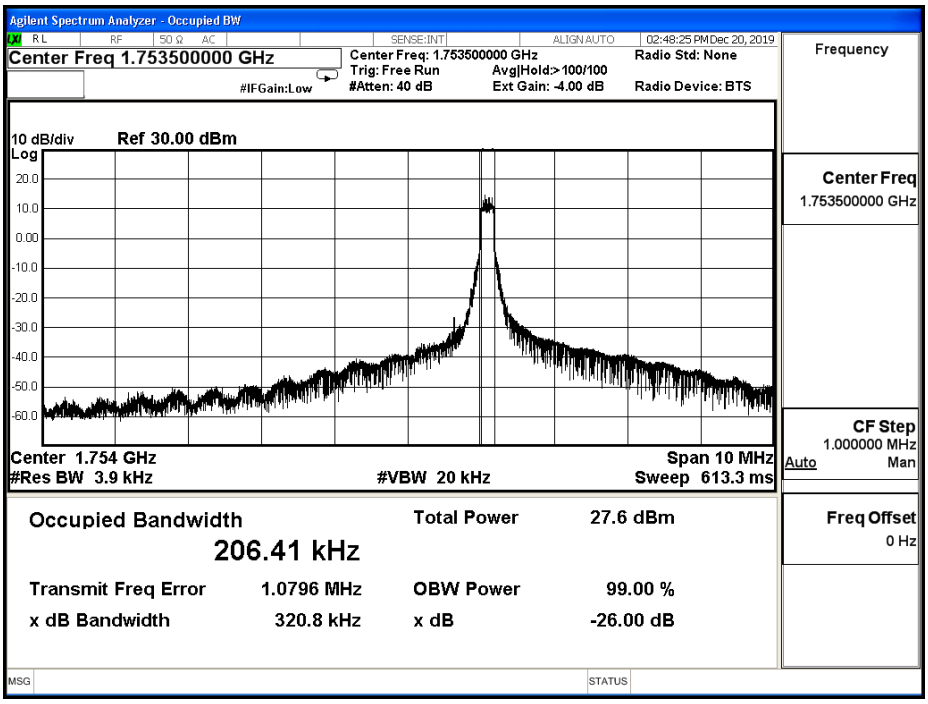

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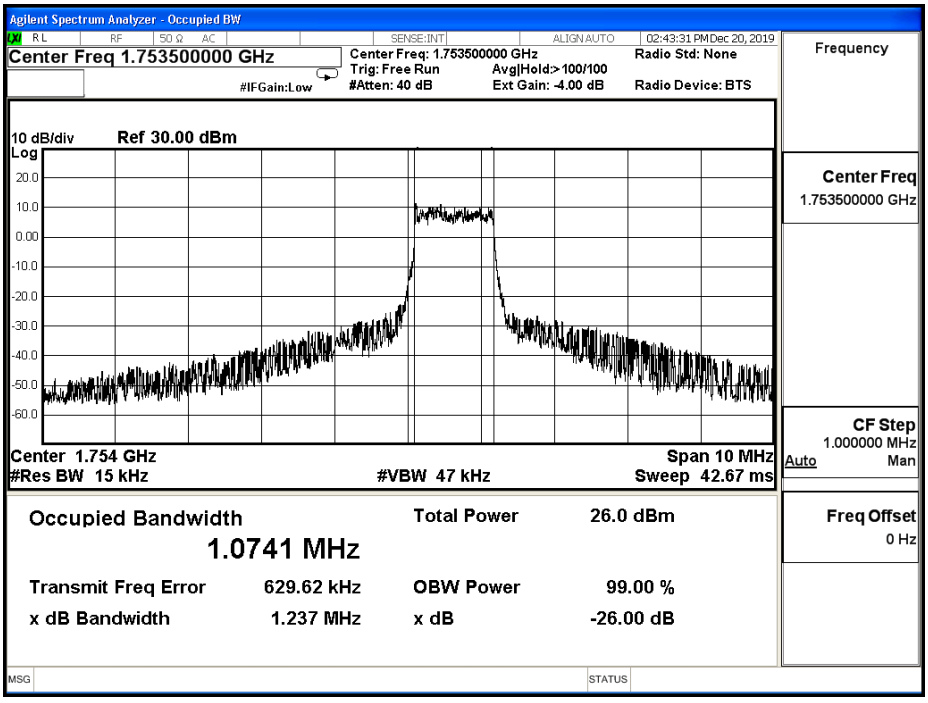

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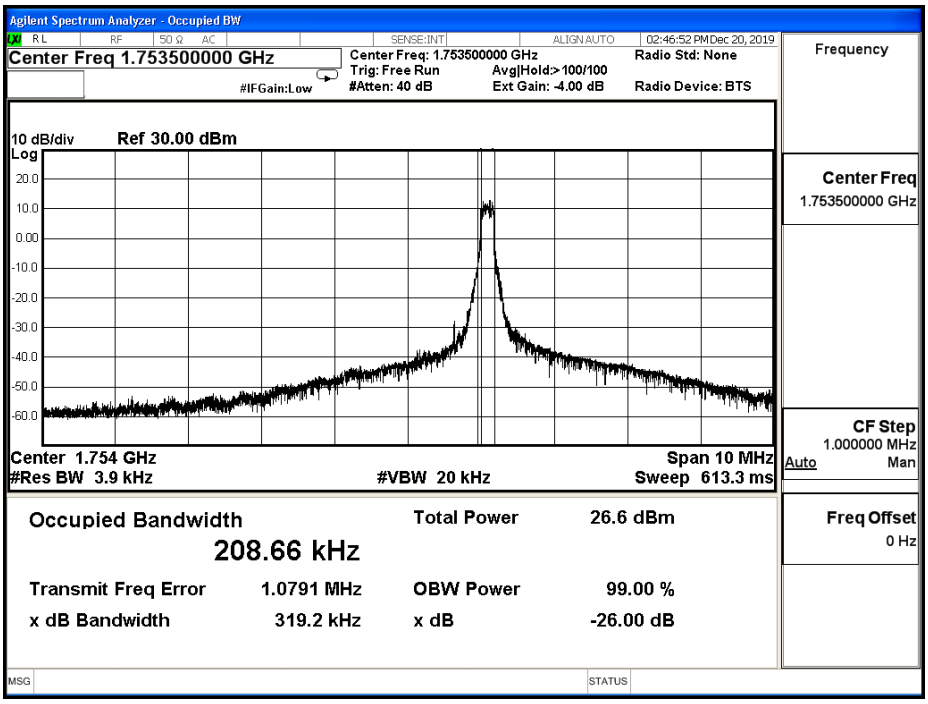

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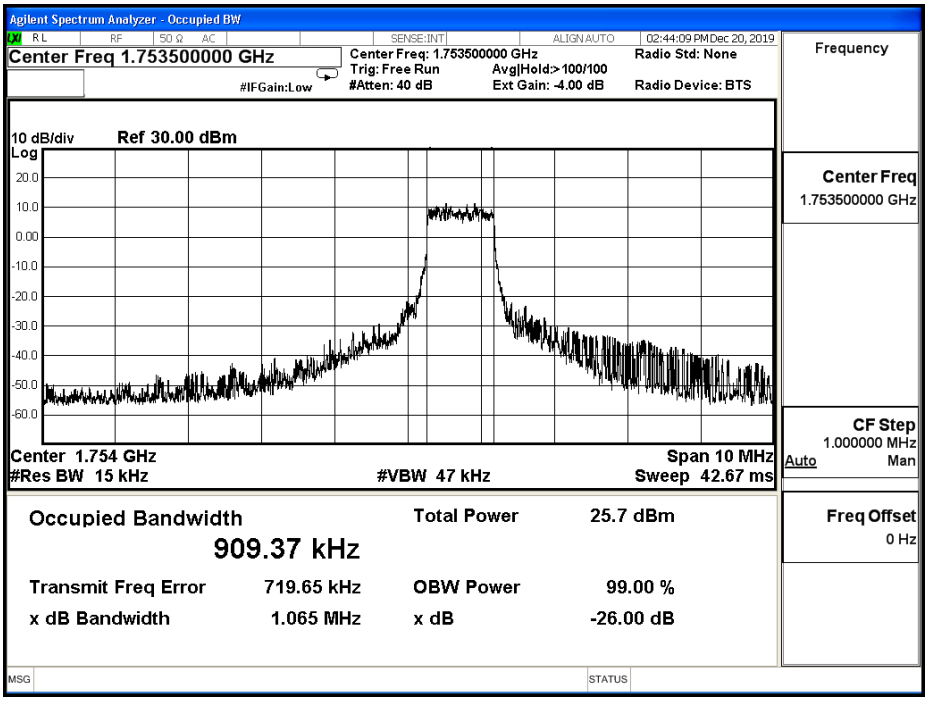

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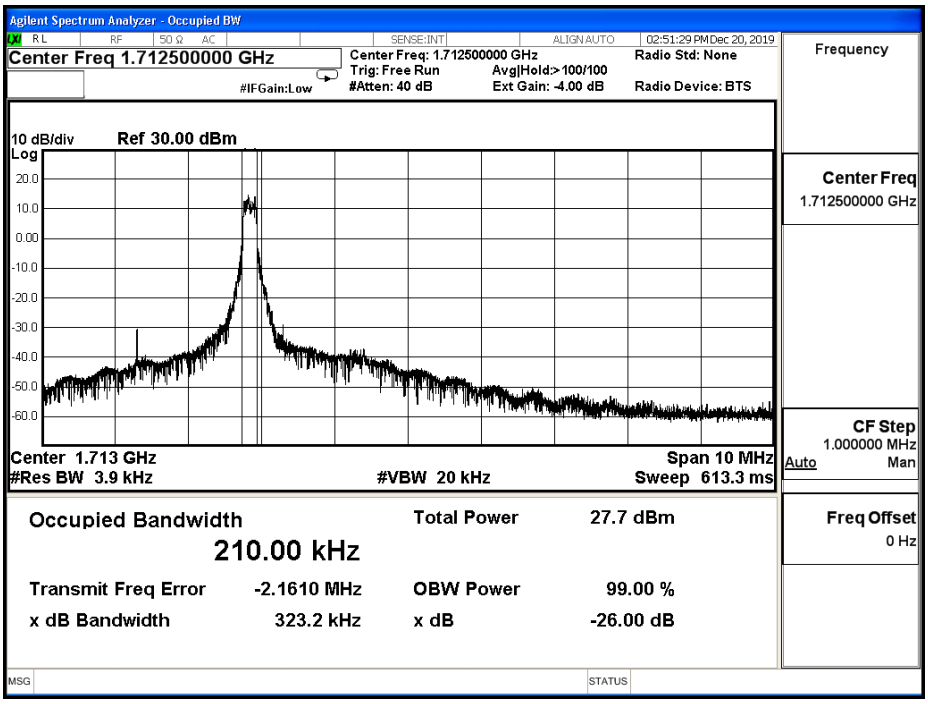

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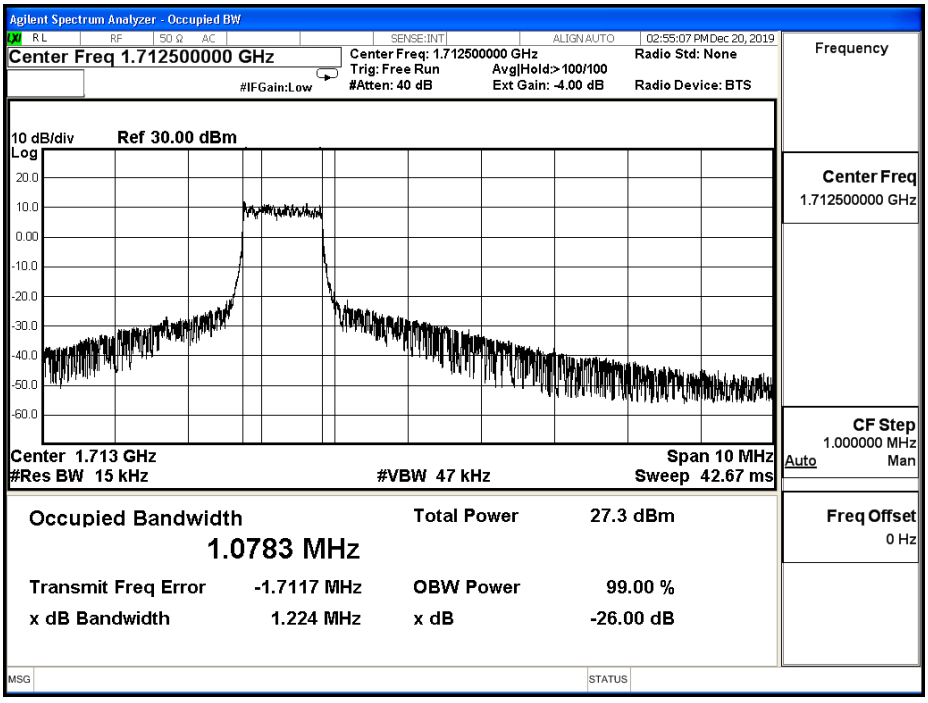

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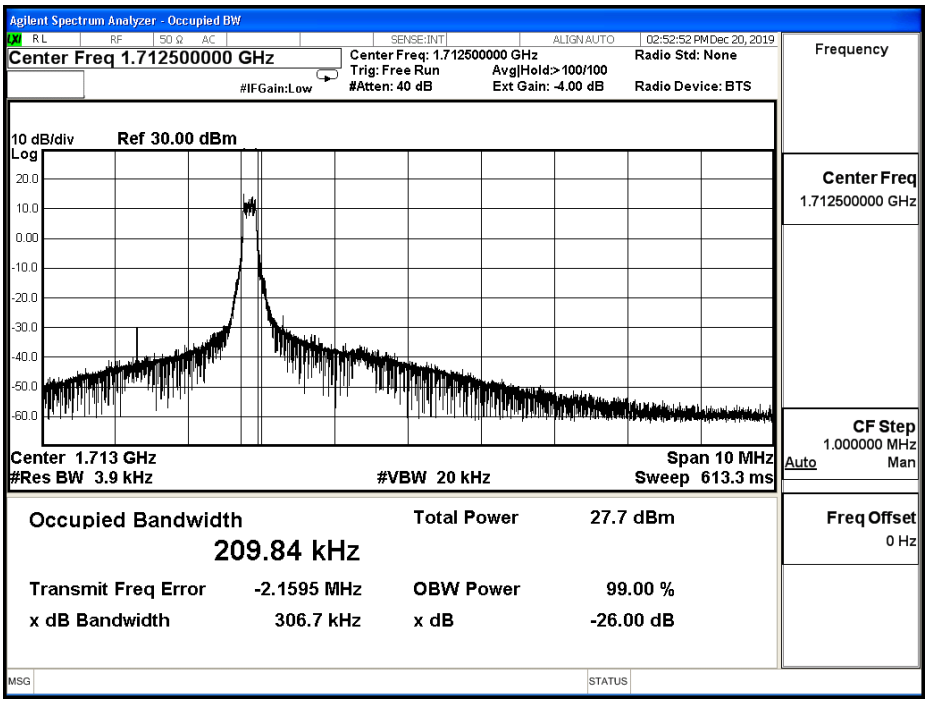

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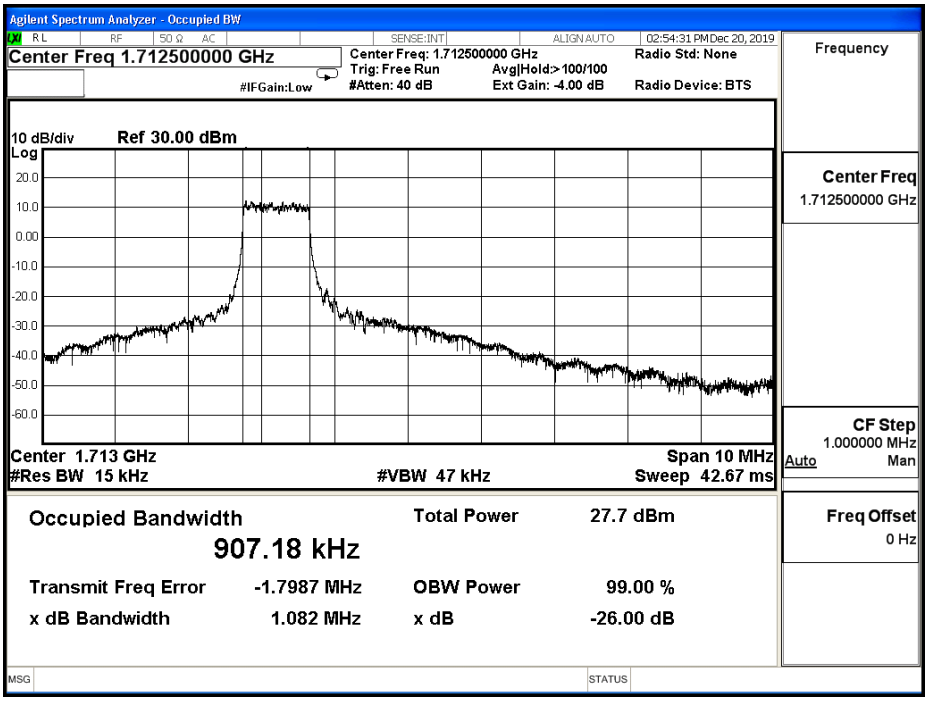

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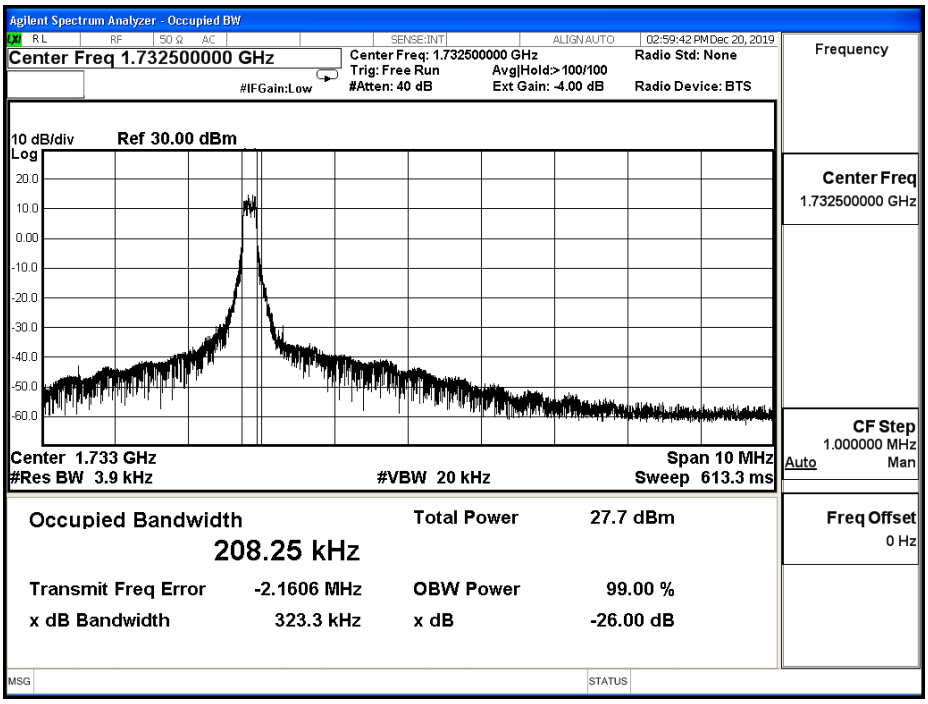

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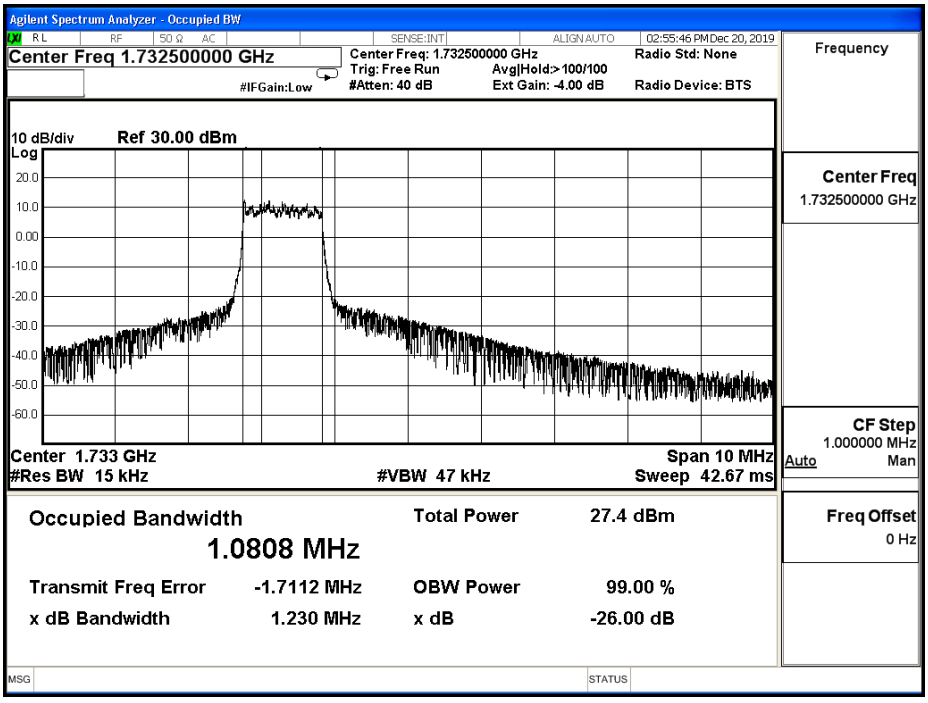

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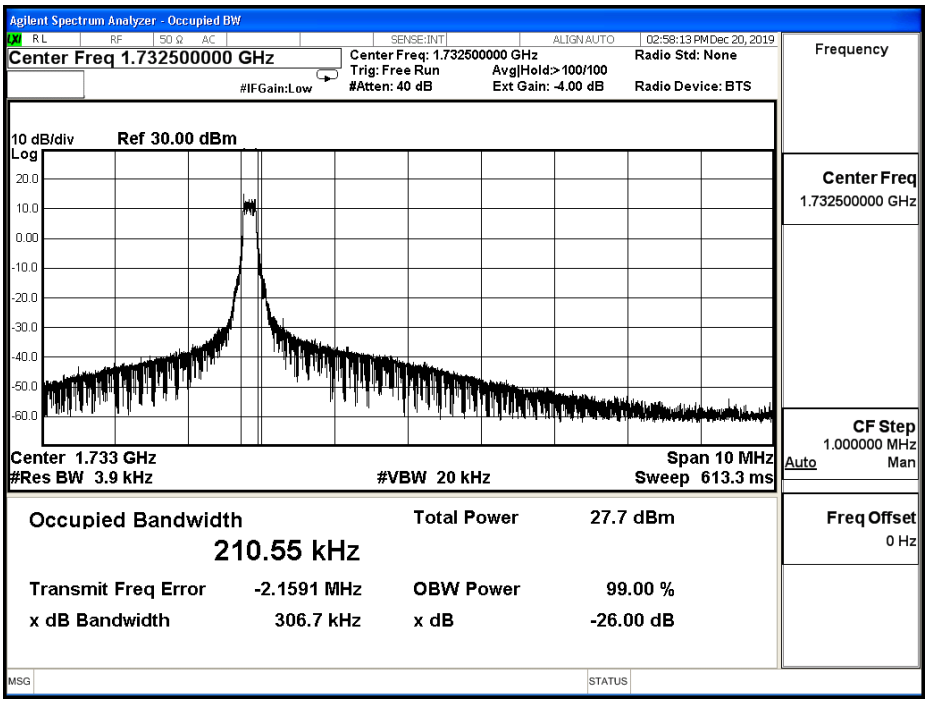

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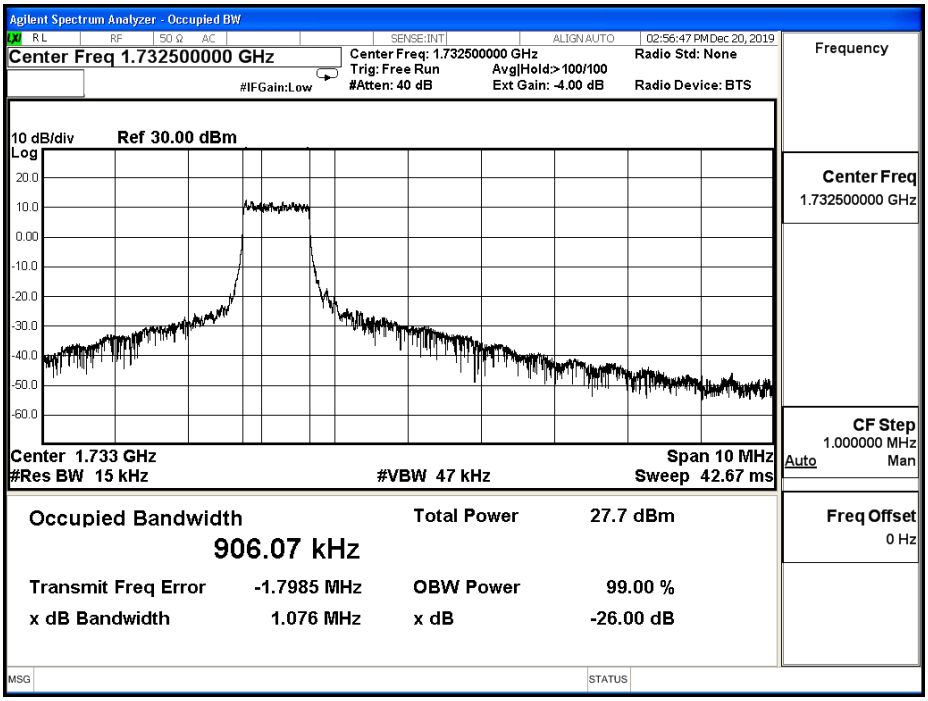

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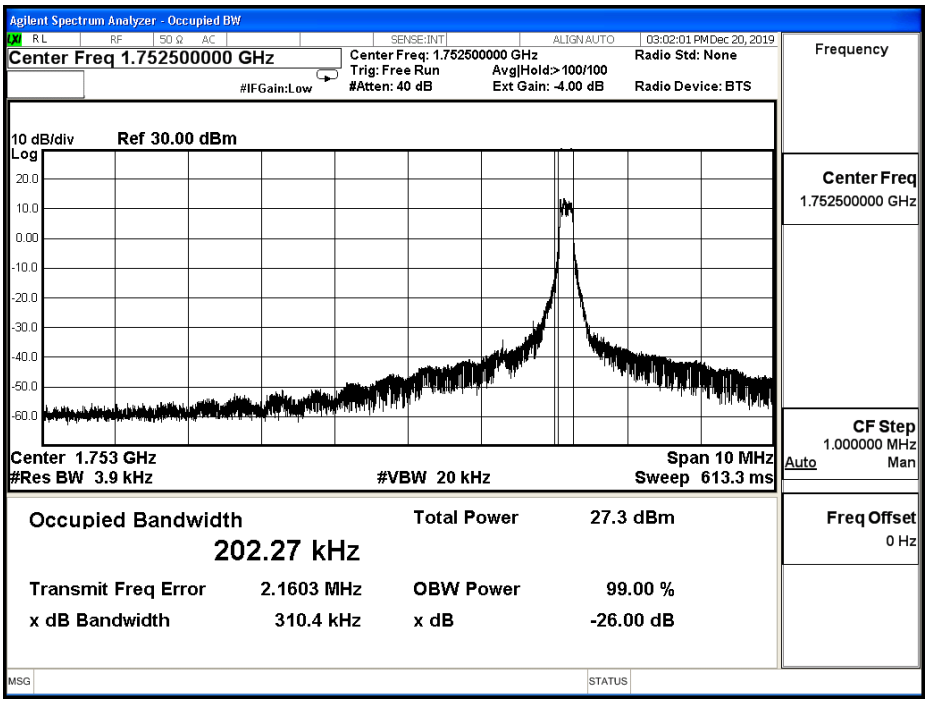

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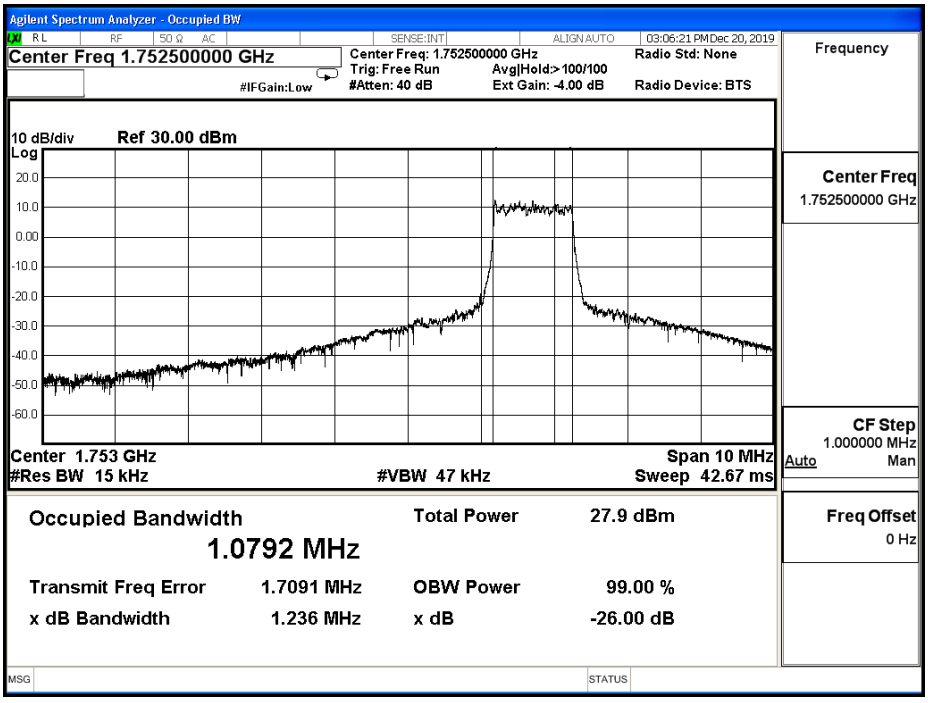

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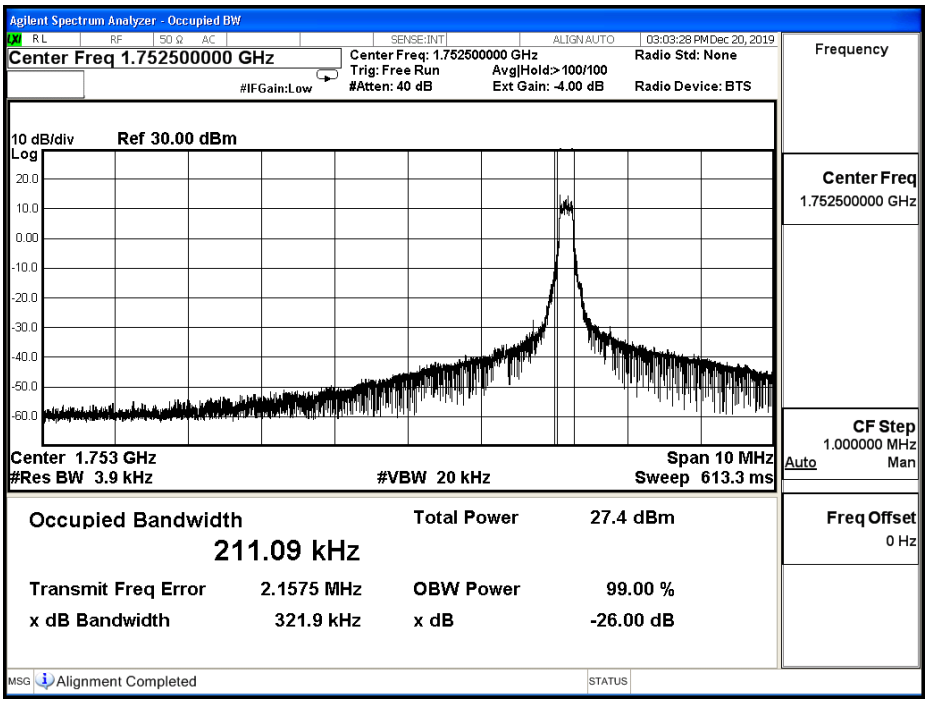

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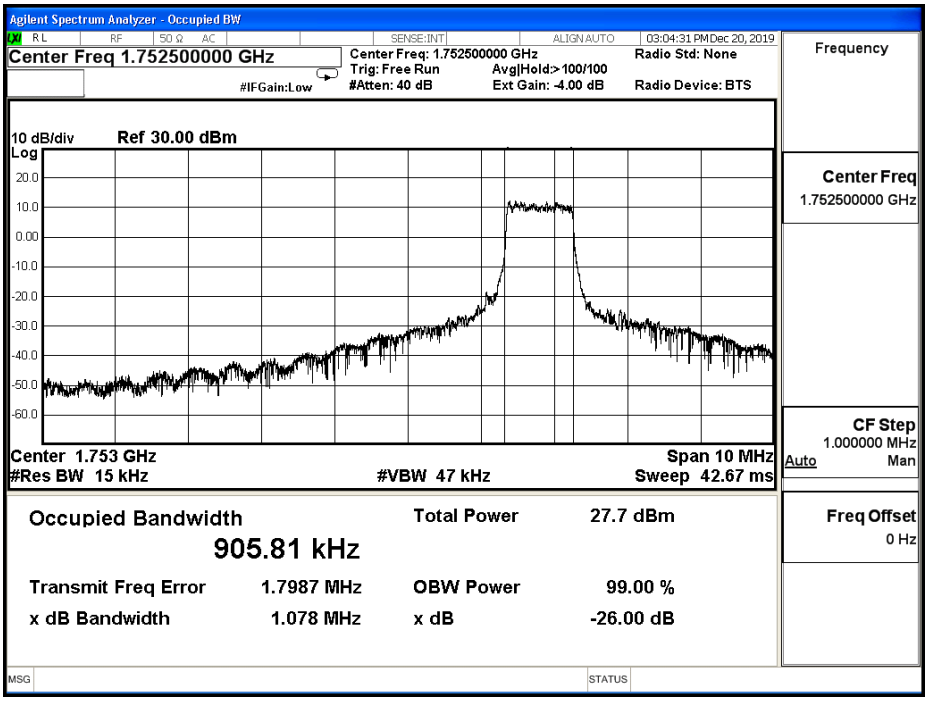

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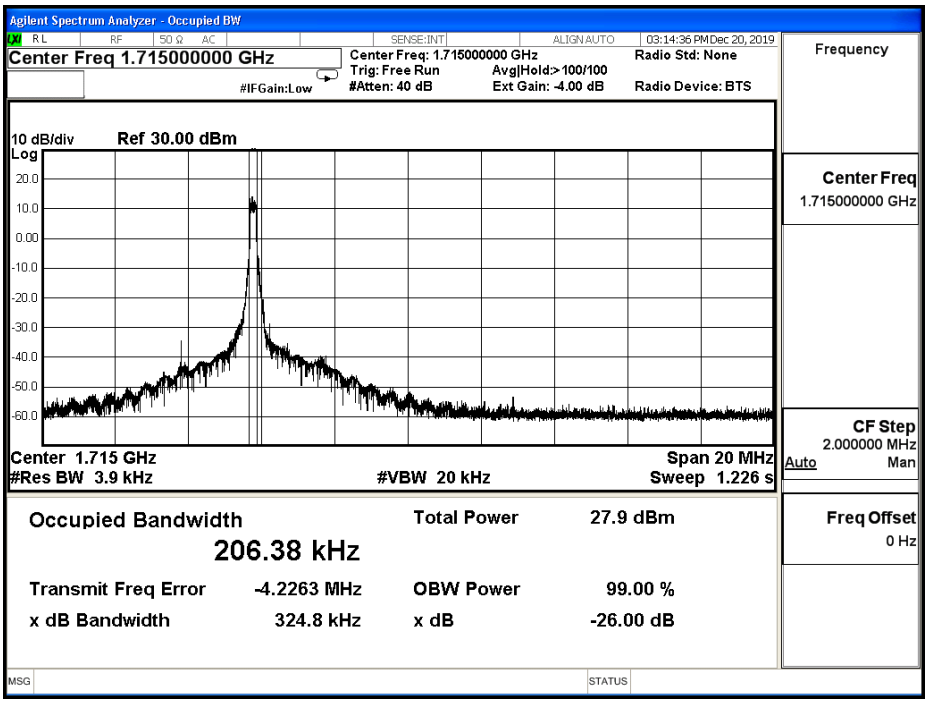

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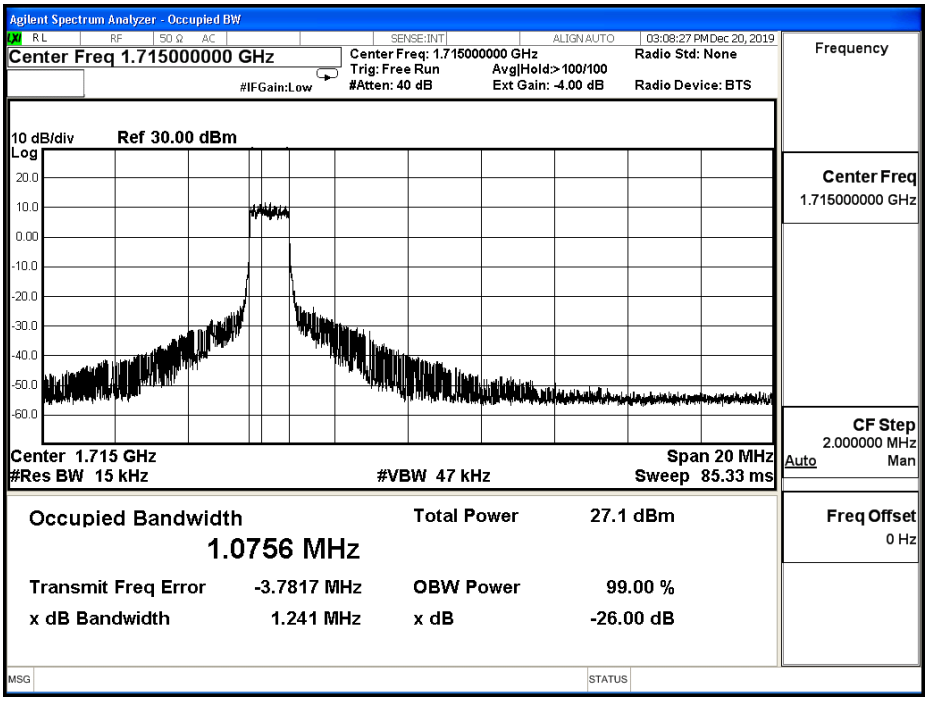

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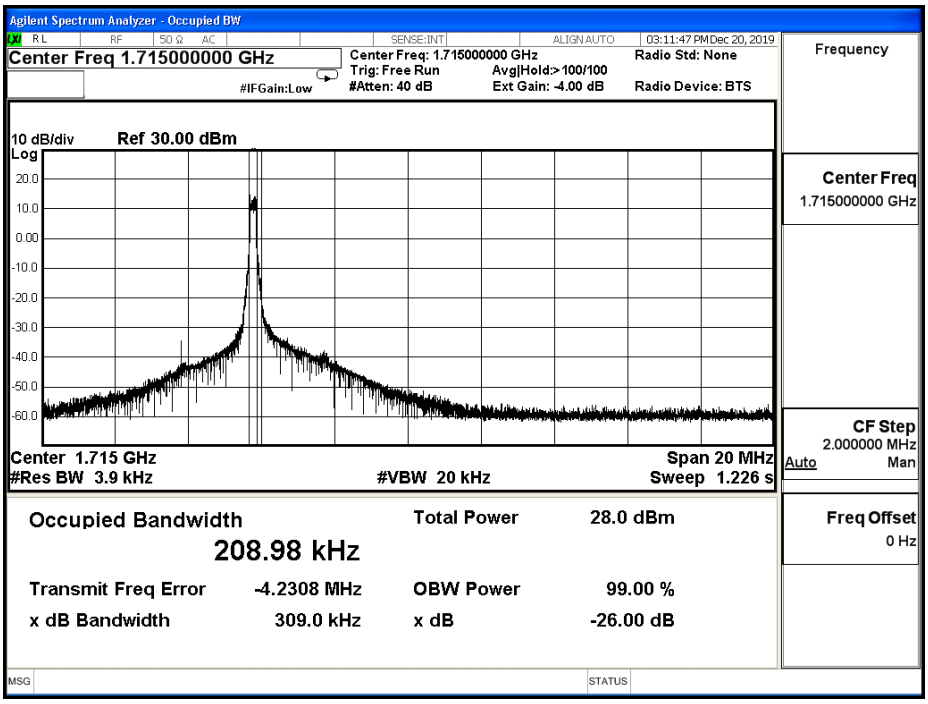

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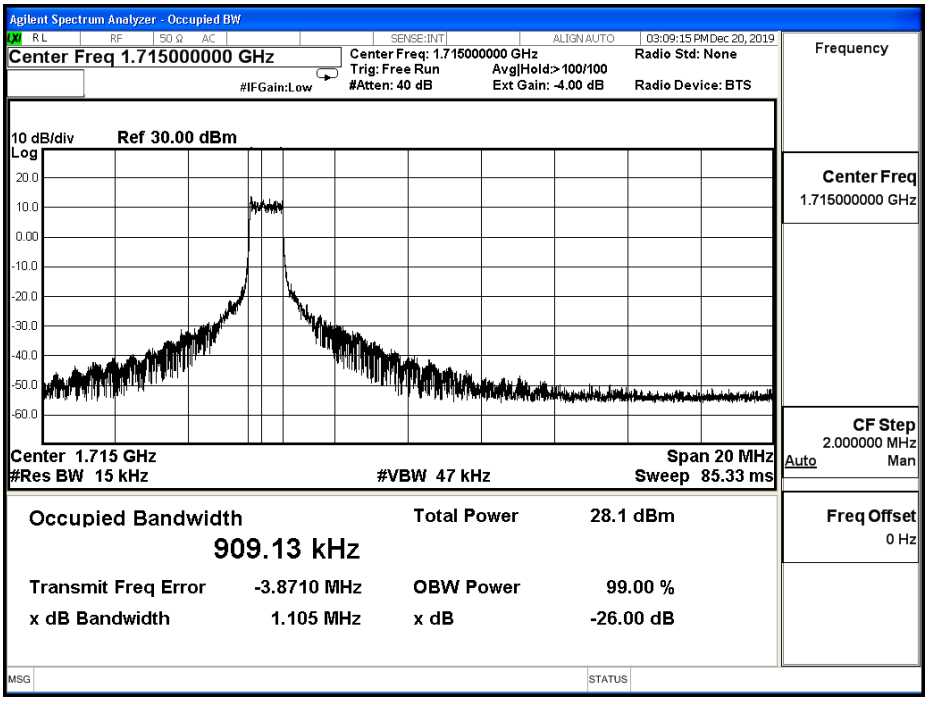

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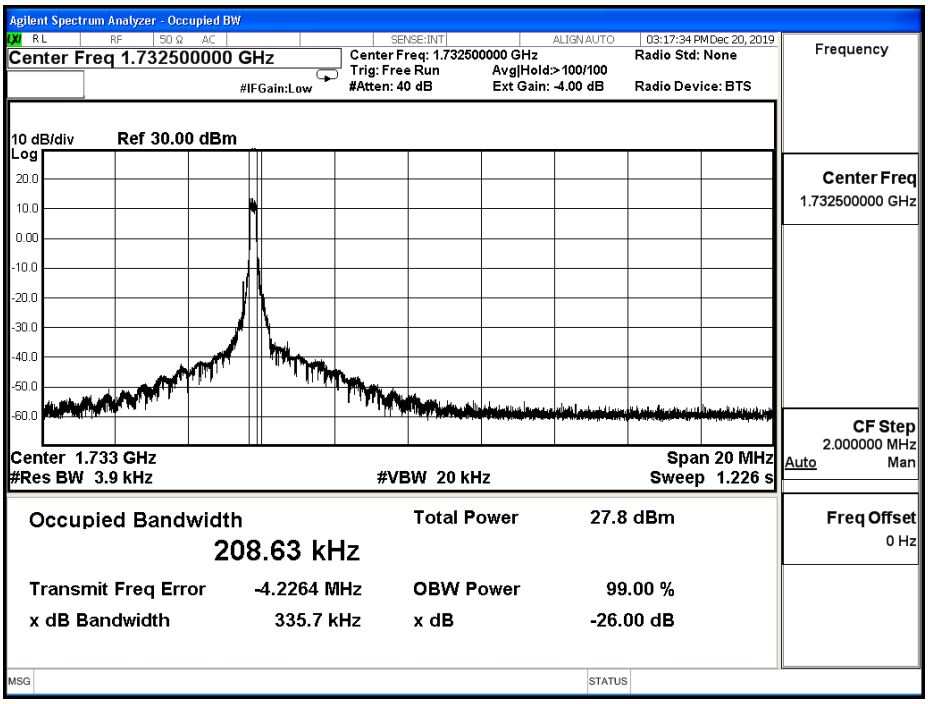

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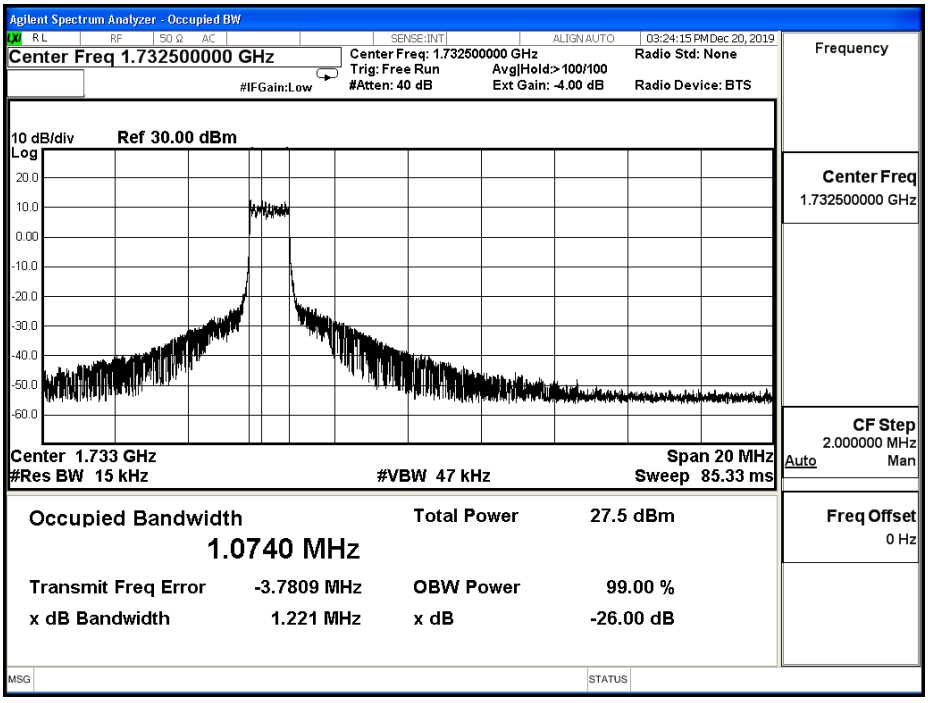

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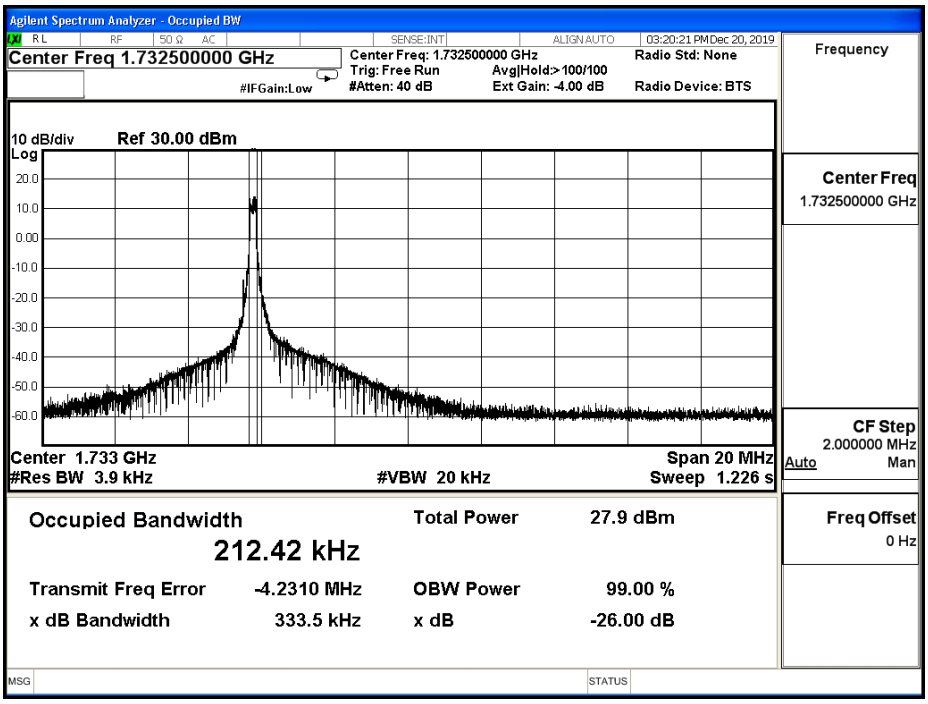

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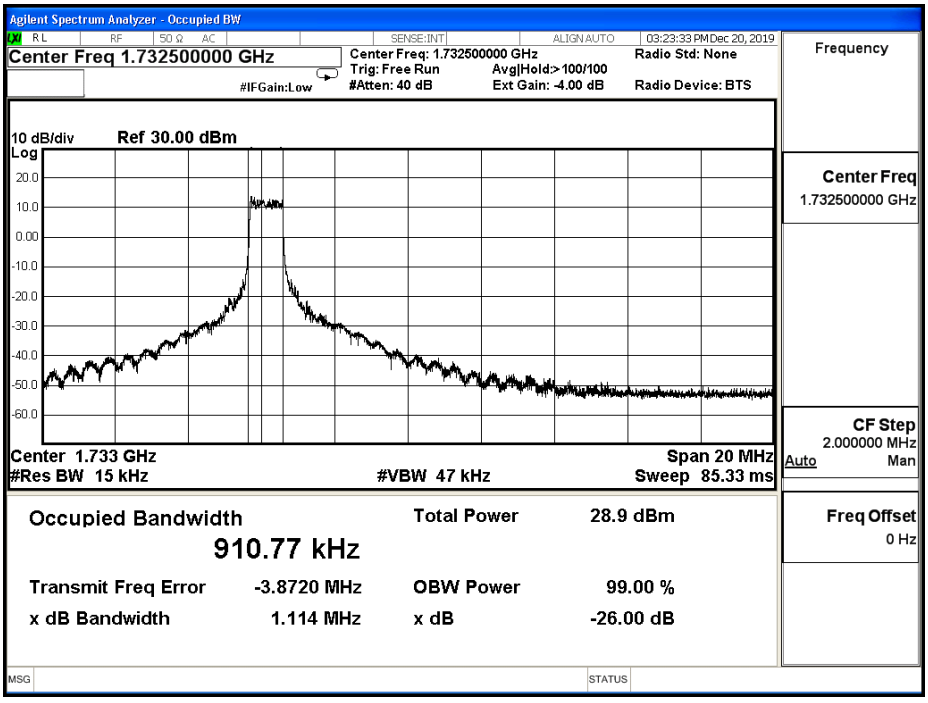

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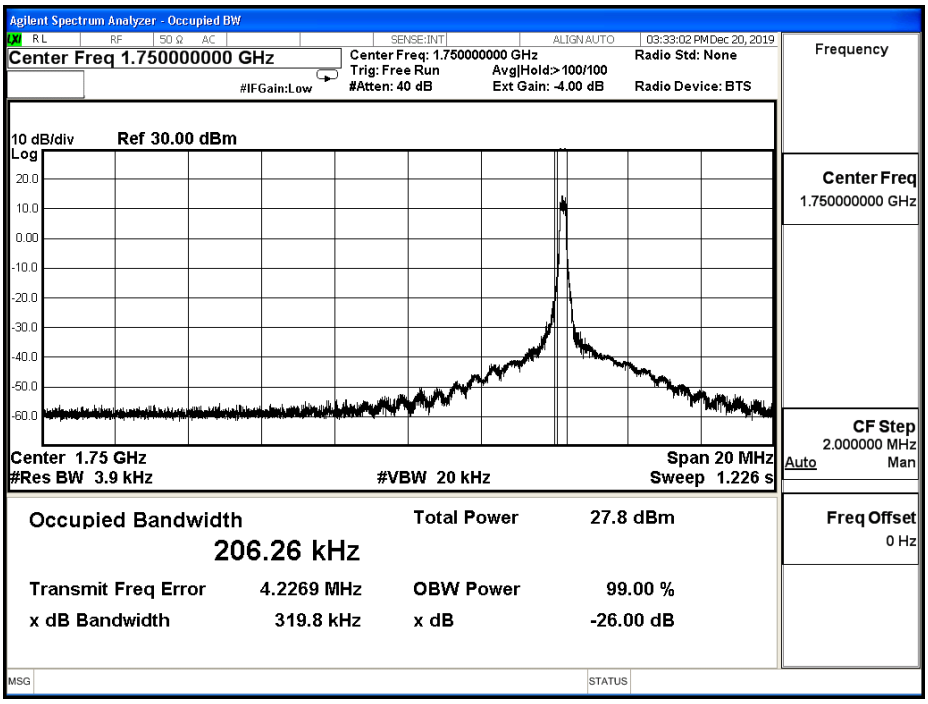

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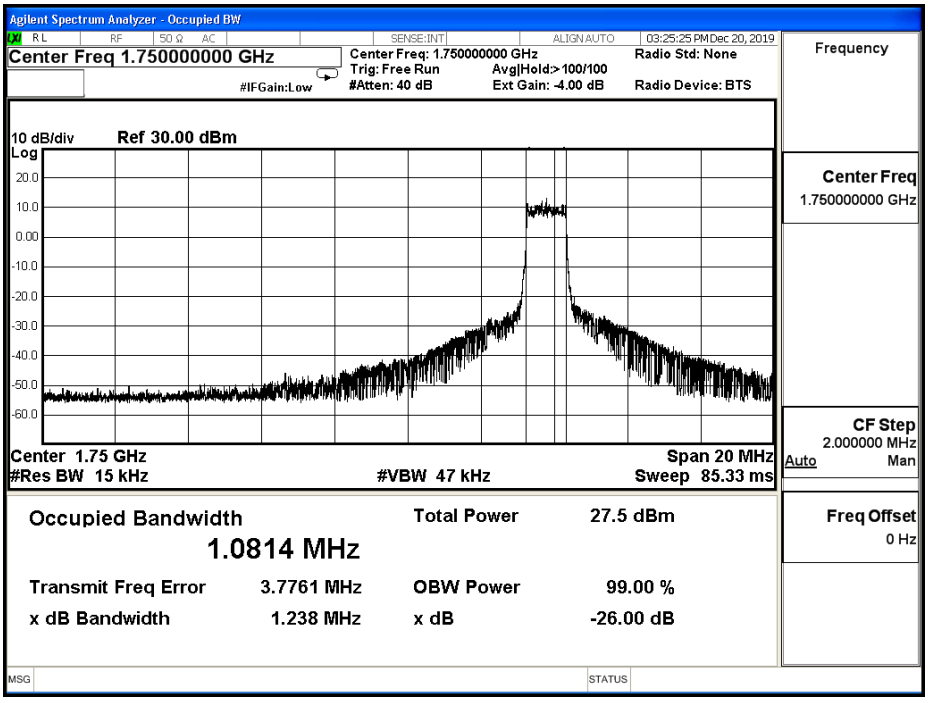

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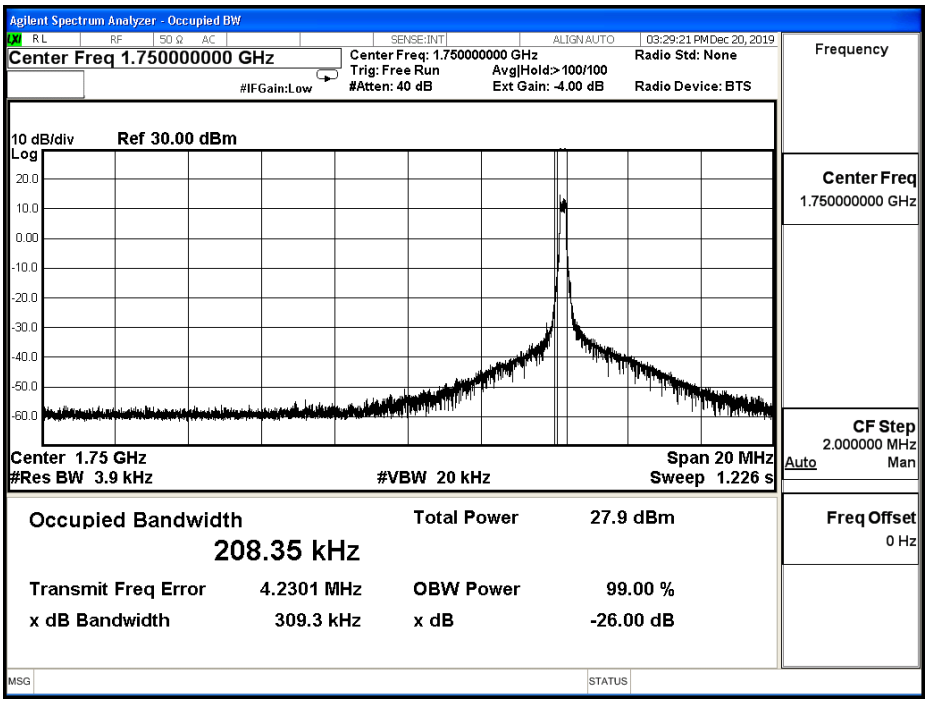

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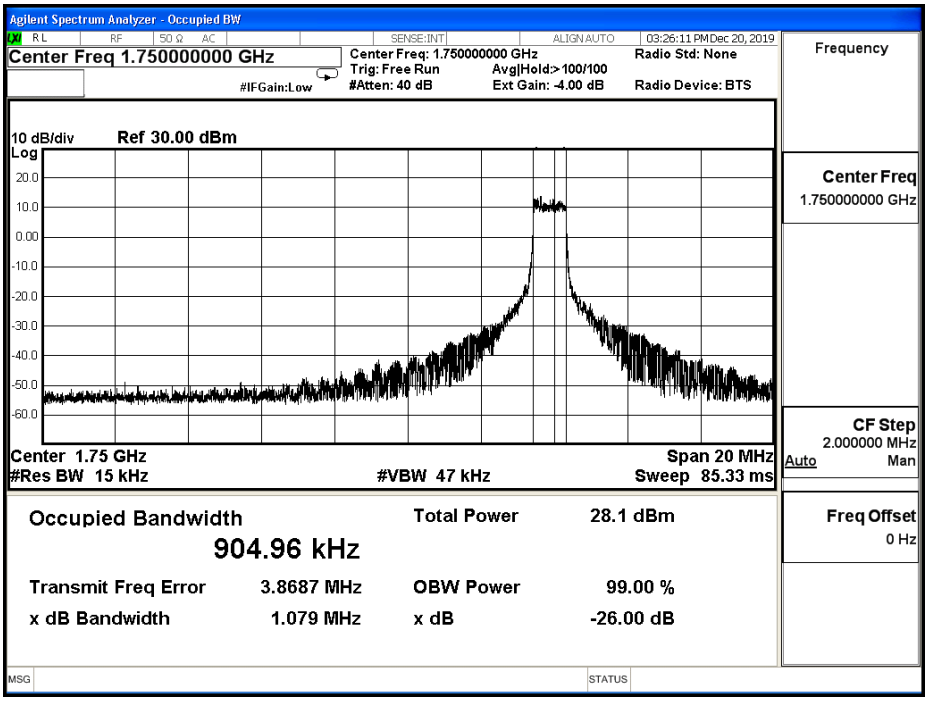

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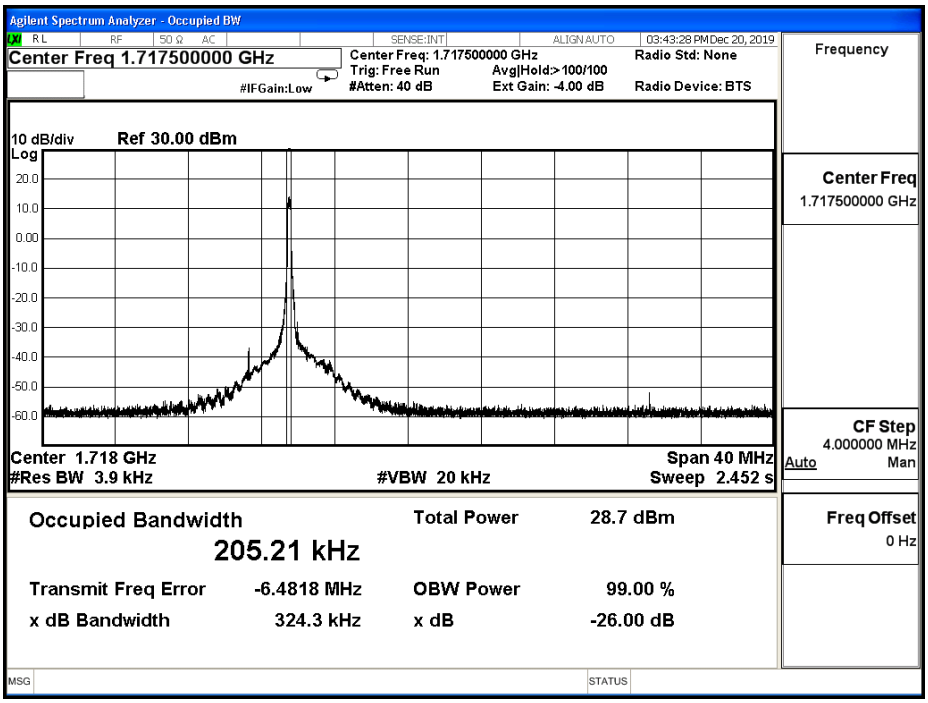

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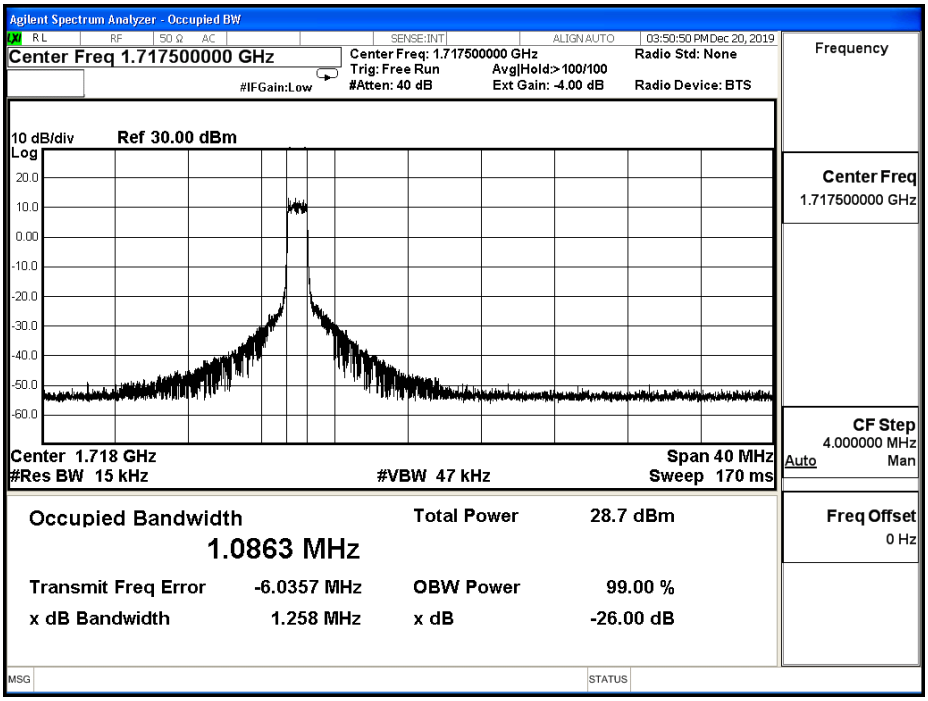

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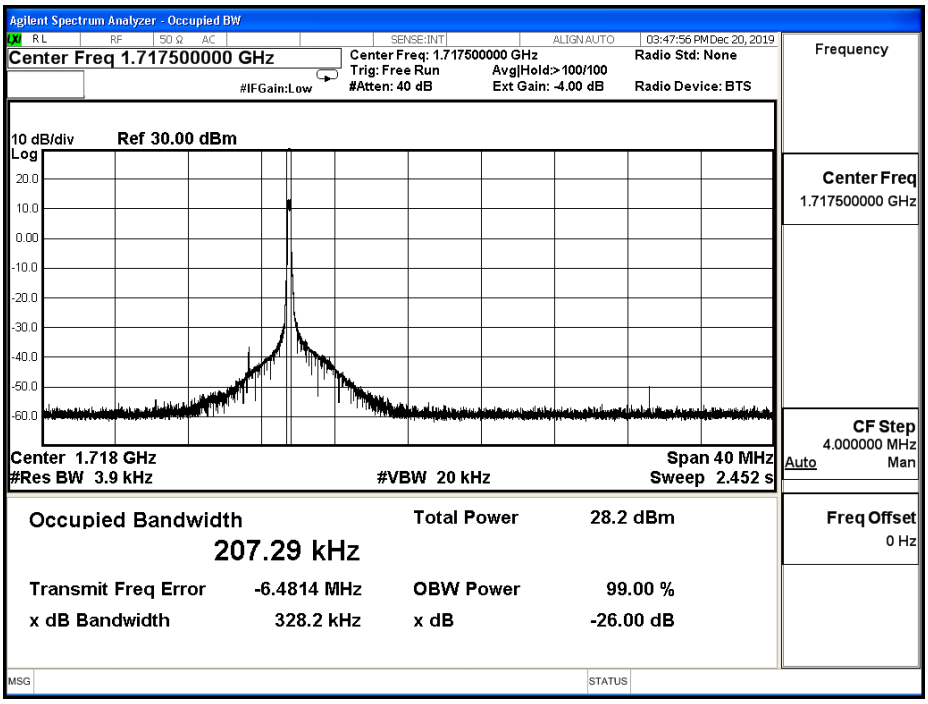

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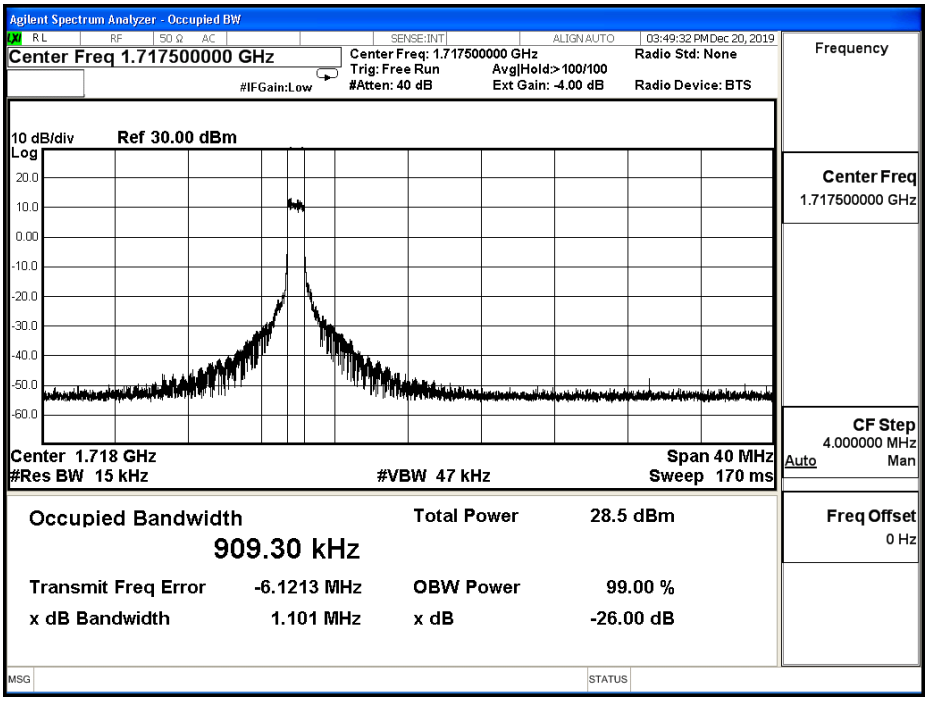

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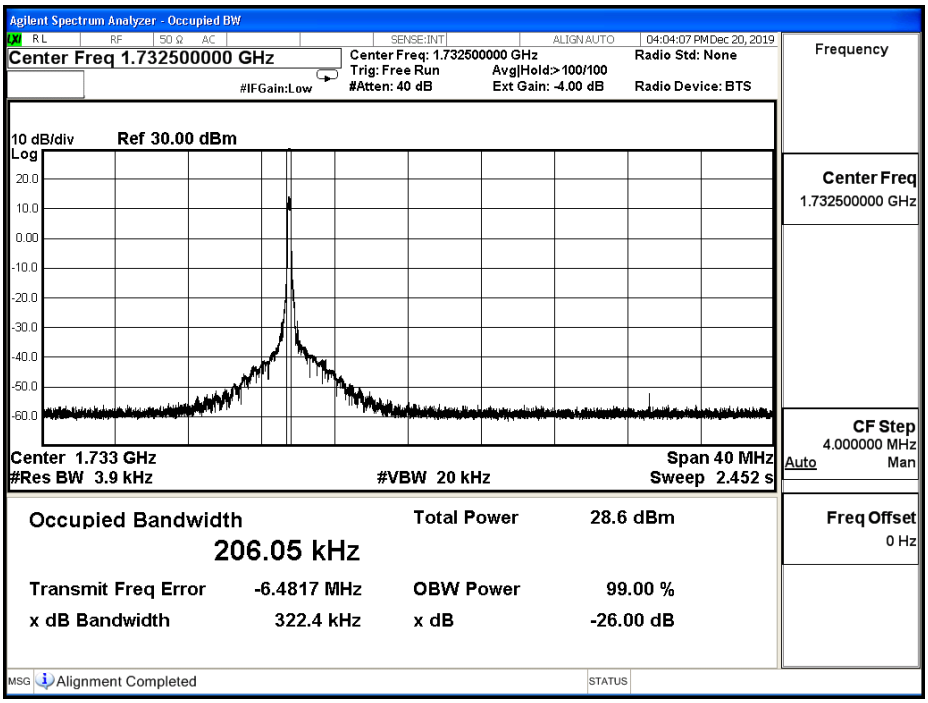

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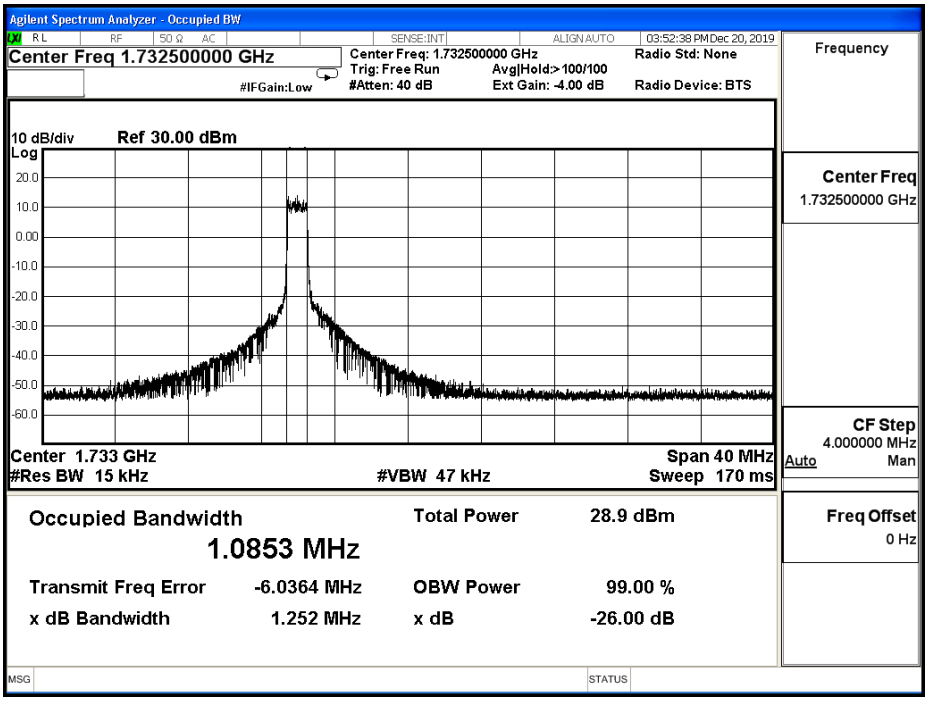

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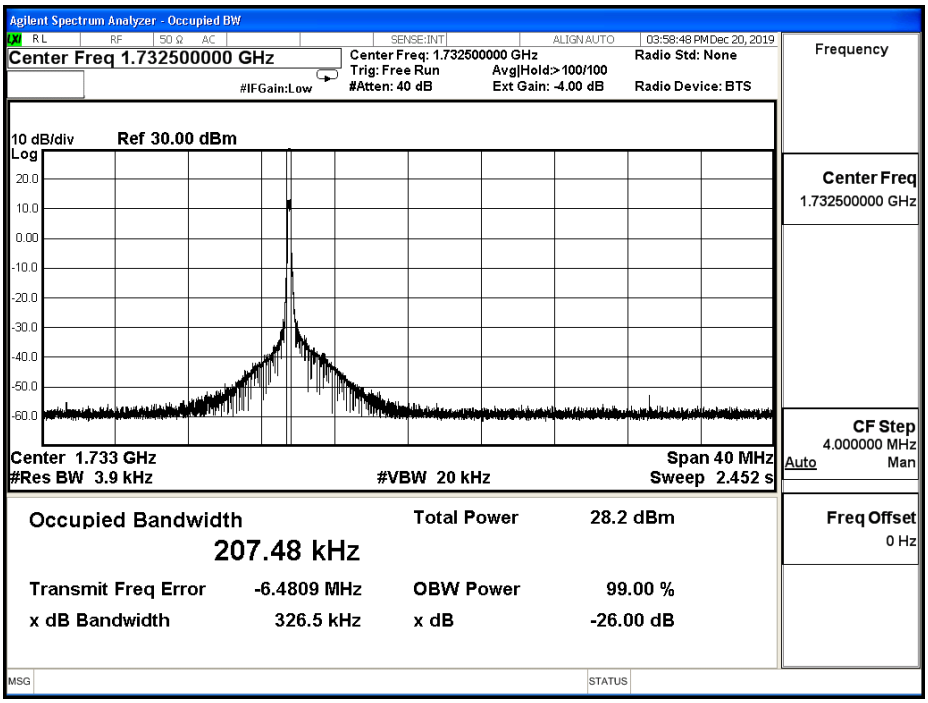

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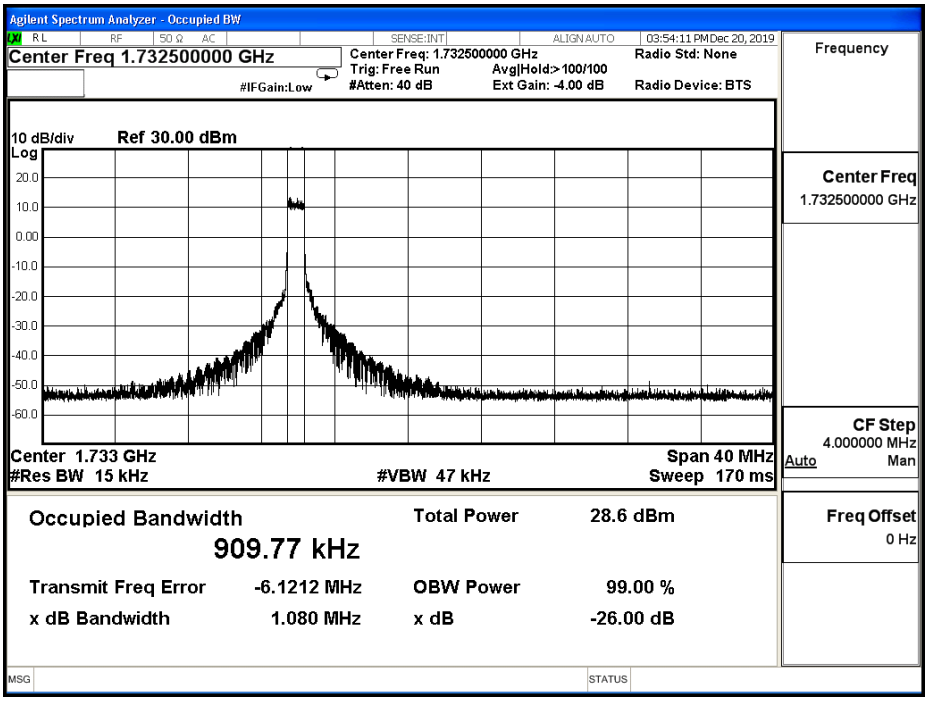

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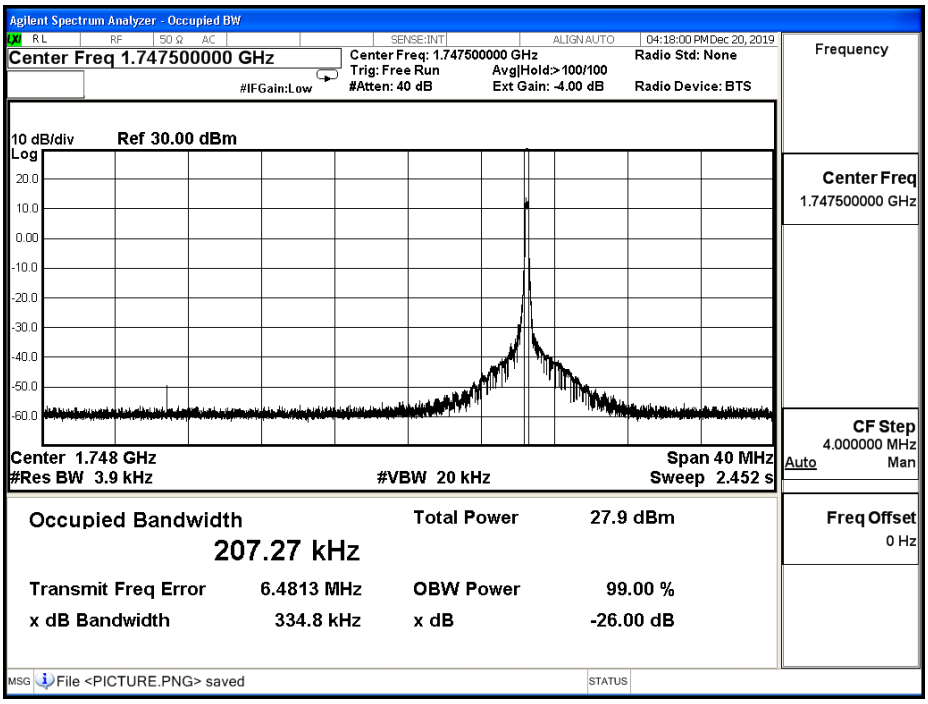

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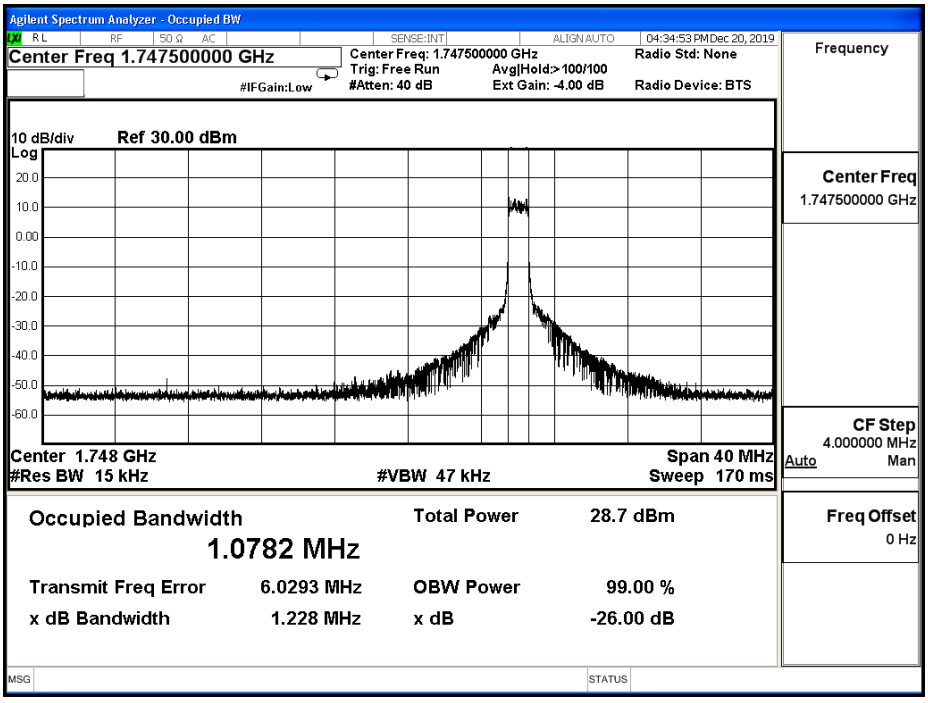

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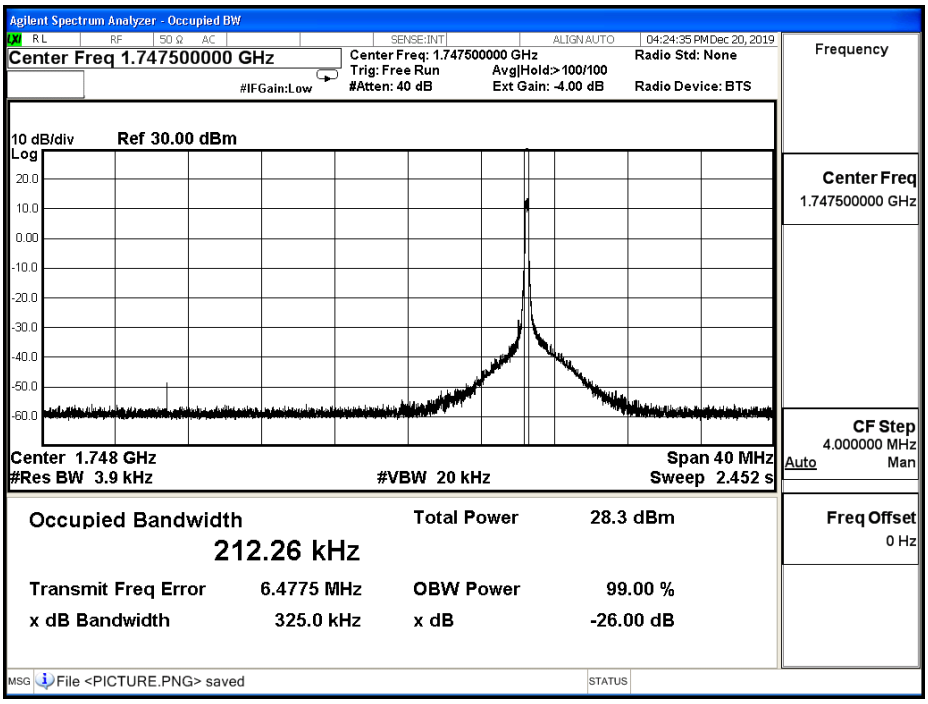

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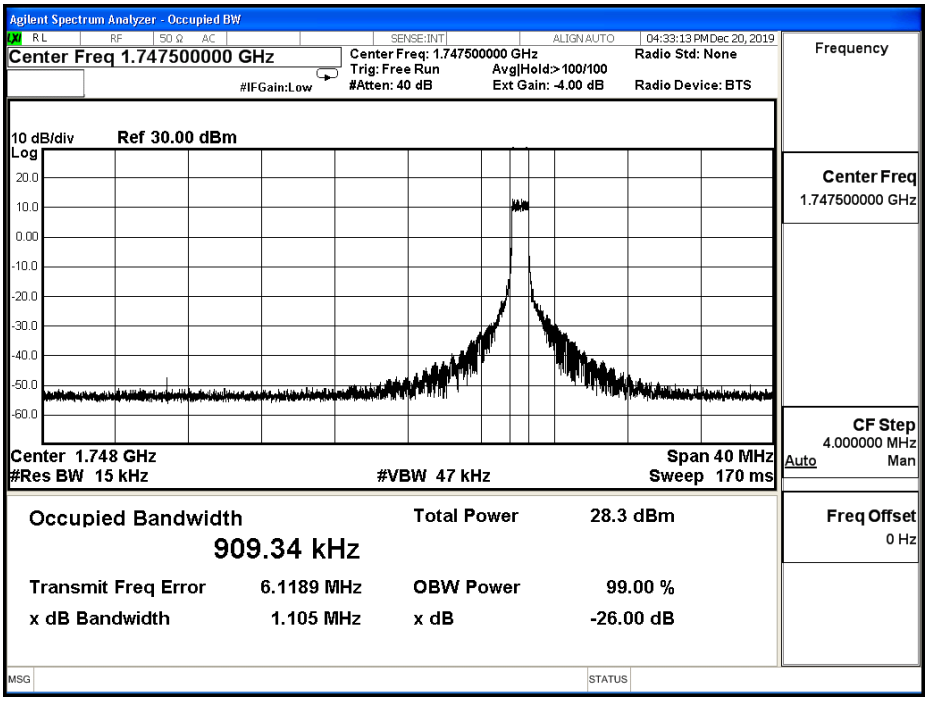

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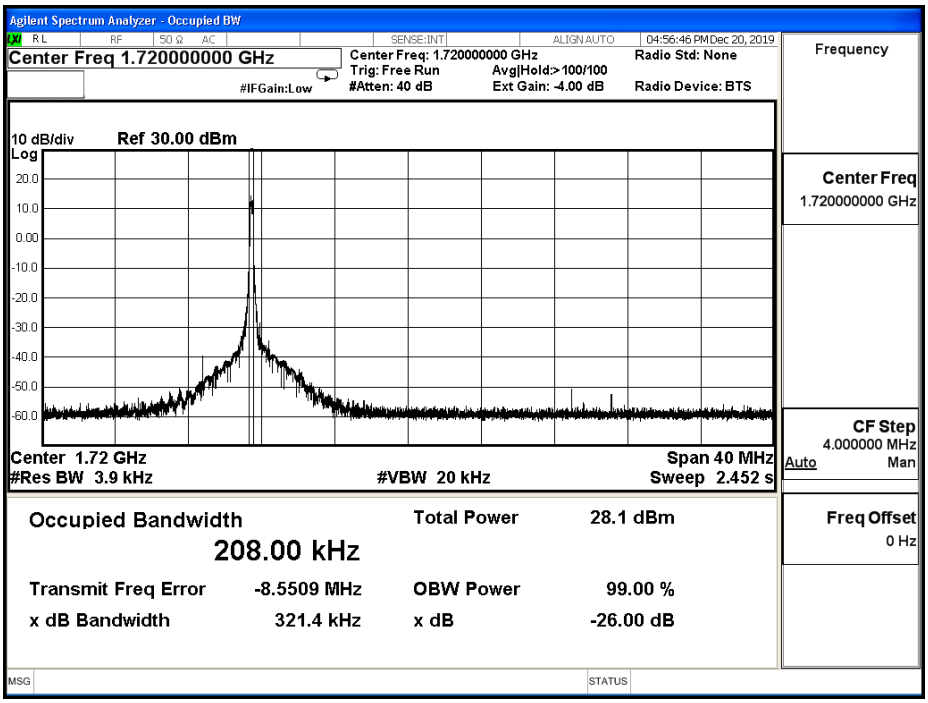

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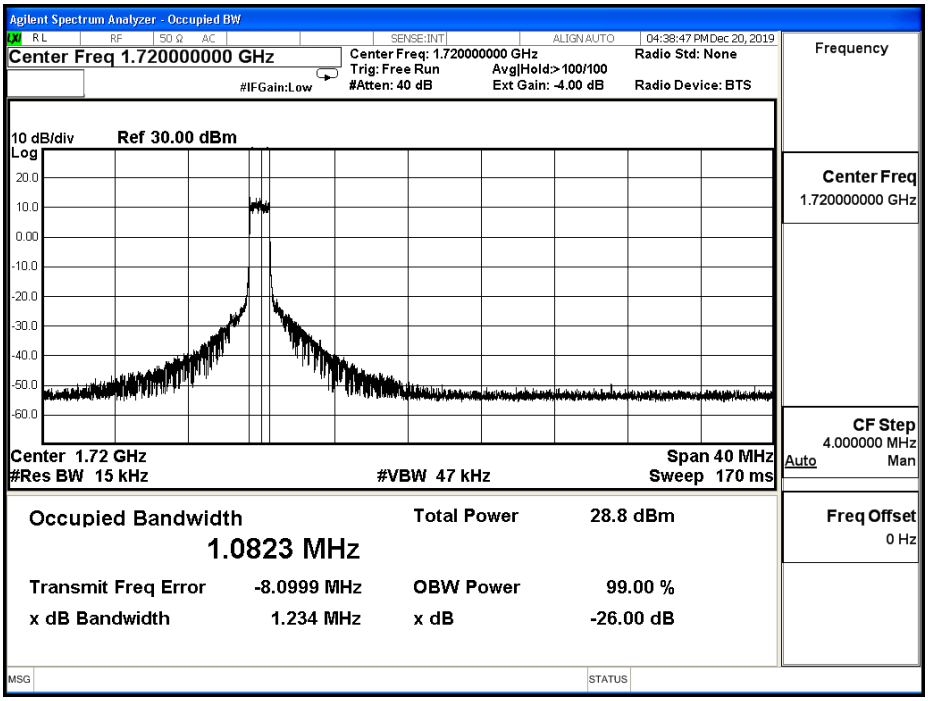

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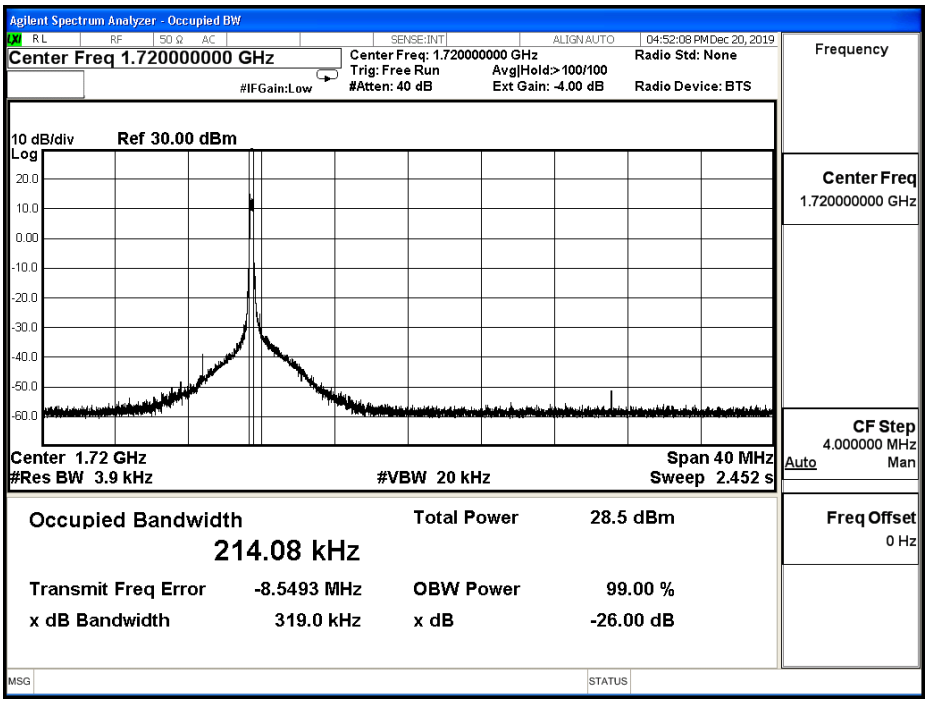
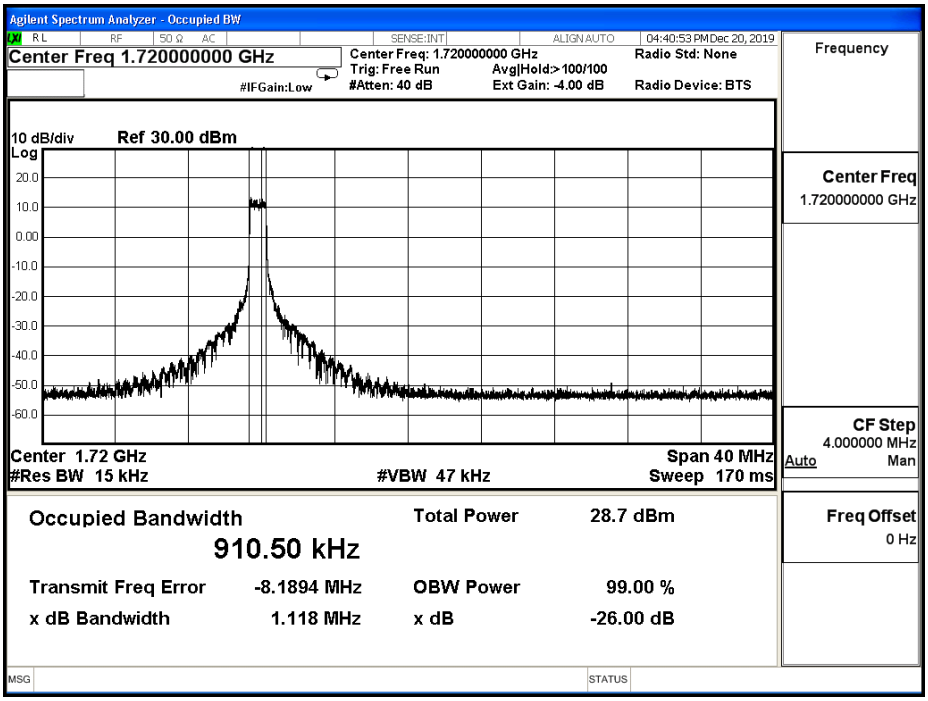


B4_CH20050_20M_16-QAM_5RB0



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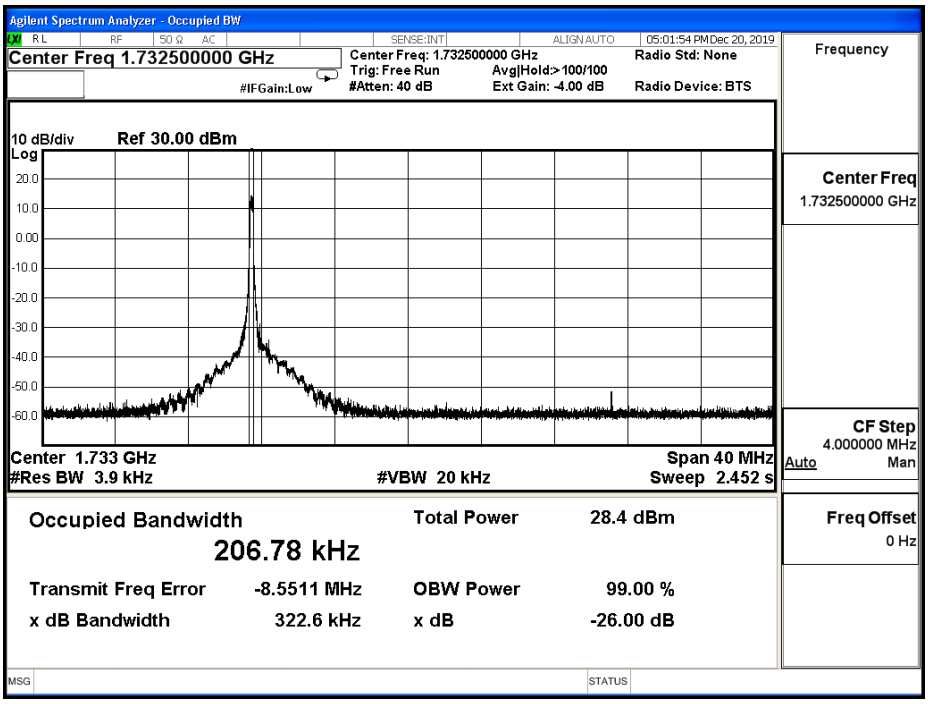

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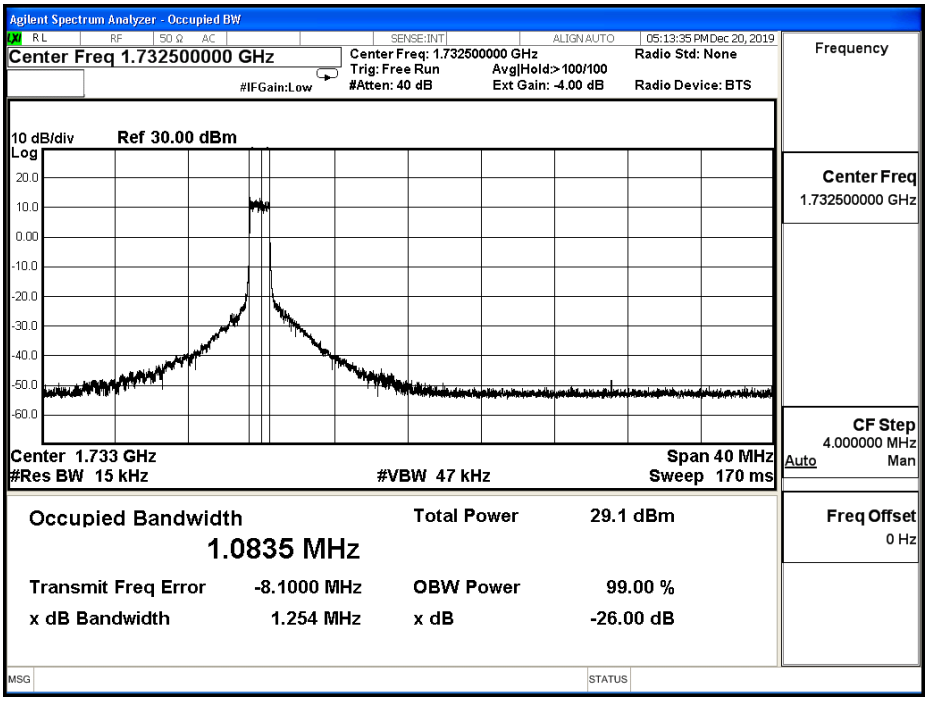

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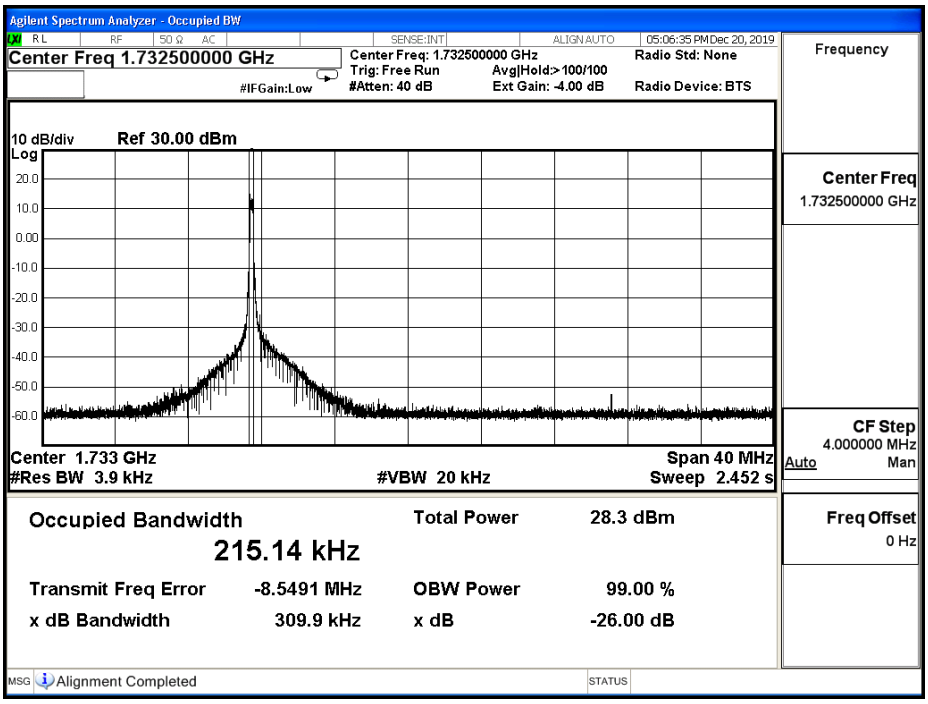

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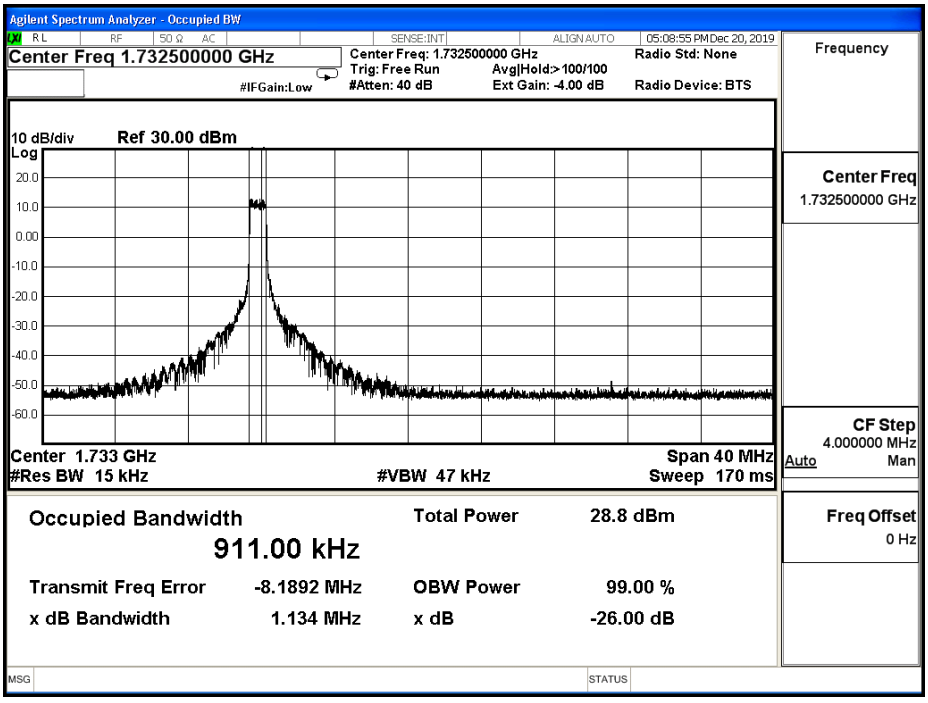

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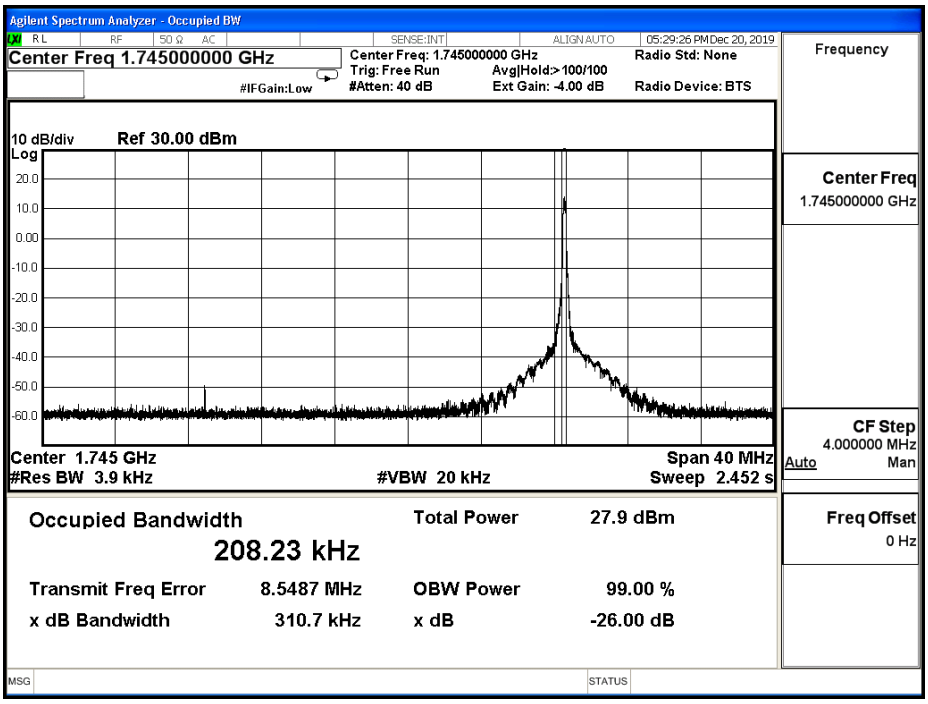

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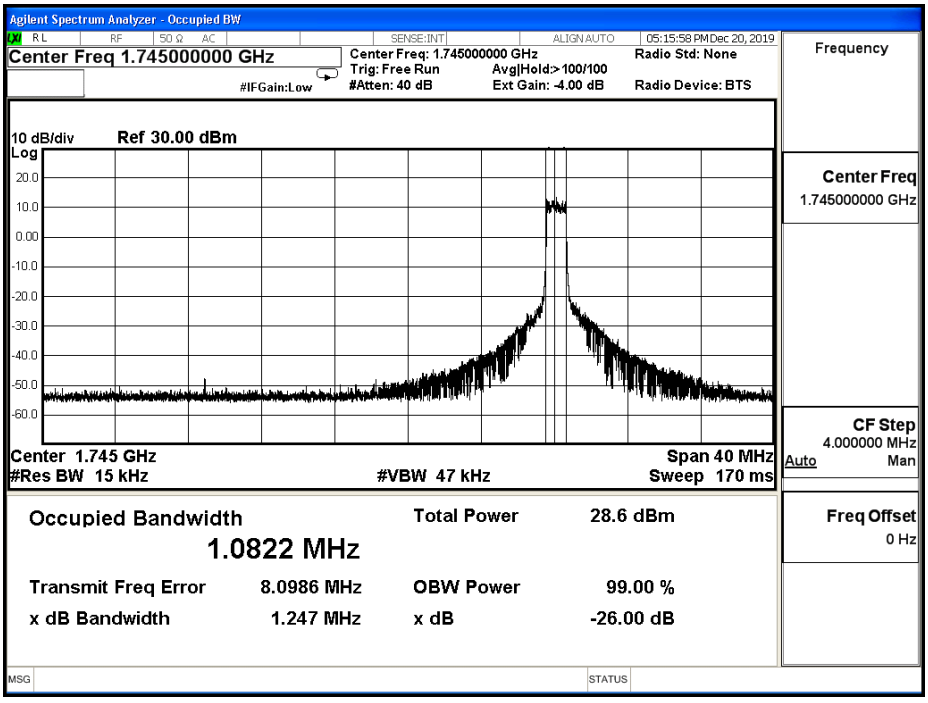

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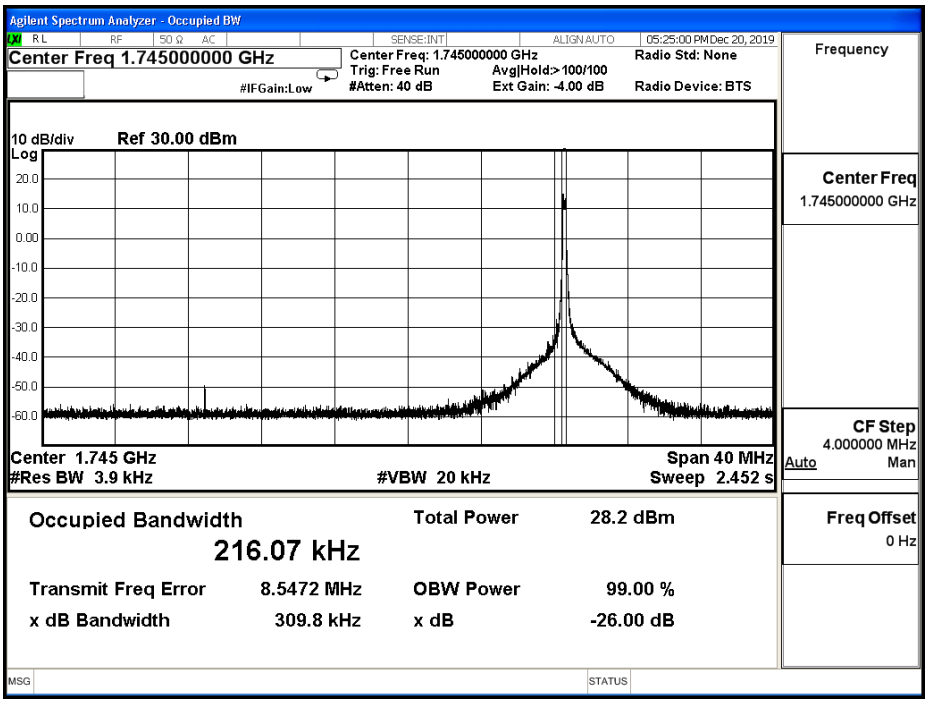
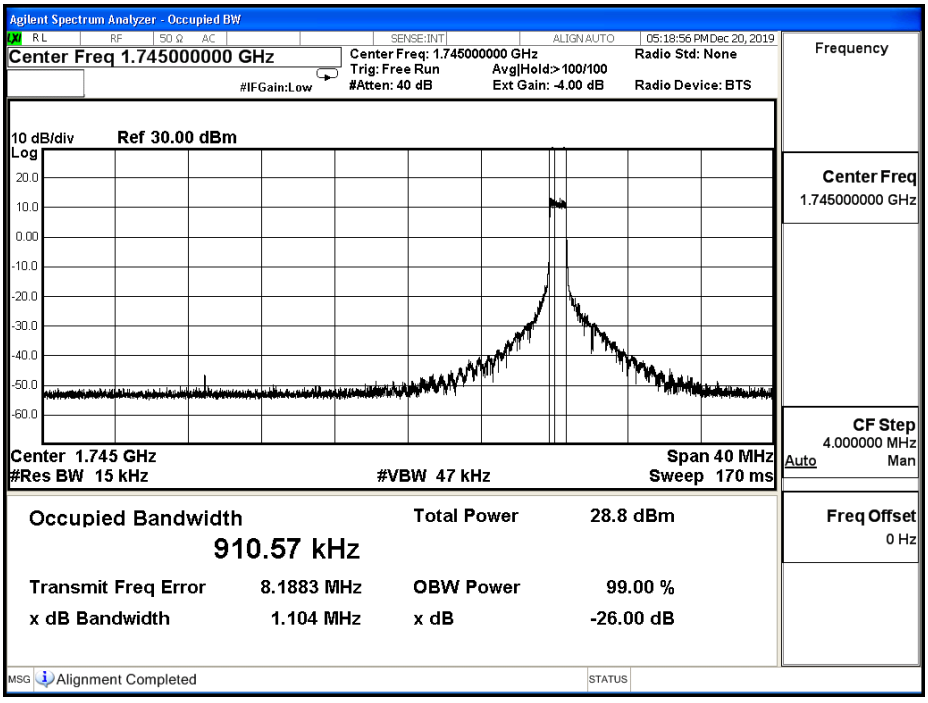


B4_CH20300_20M_16-QAM_5RB1

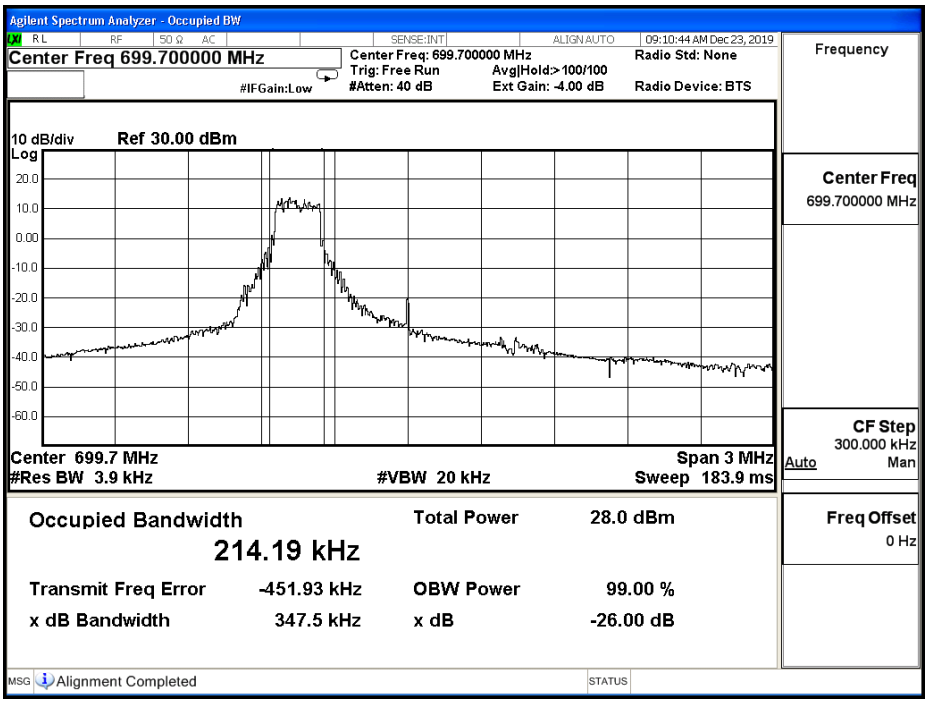


Product	M2M DATA MODULE		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: LTE Band 12		
Date of Test	2019/12/11	Test Site	SR12-H
Temperature (°C)	22.0°C	Humidity (%RH)	59%RH

LTE Band 12_1RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	699.7	0.347	0.214	N/A
		707.5	0.305	0.212	N/A
		715.3	0.335	0.204	N/A
	16-QAM	699.7	0.307	0.208	N/A
		707.5	0.306	0.209	N/A
		715.3	0.321	0.210	N/A
3M	QPSK	700.5	0.349	0.223	N/A
		707.5	0.347	0.223	N/A
		714.5	0.335	0.211	N/A
	16-QAM	700.5	0.318	0.220	N/A
		707.5	0.315	0.219	N/A
		714.5	0.334	0.215	N/A
5M	QPSK	710.5	0.332	0.225	N/A
		707.5	0.334	0.226	N/A
		713.5	0.326	0.208	N/A
	16-QAM	710.5	0.327	0.220	N/A
		707.5	0.320	0.216	N/A
		713.5	0.325	0.218	N/A
10M	QPSK	704.0	0.349	0.223	N/A
		707.5	0.342	0.220	N/A
		711.0	0.345	0.220	N/A
	16-QAM	704.0	0.339	0.225	N/A
		707.5	0.339	0.225	N/A
		711.0	0.330	0.220	N/A

LTE Band 12_Full RB					
Band width (MHz)	Modulation	Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
			26dB BW	99% BW	
1.4M	QPSK	699.7	1.247	1.078	N/A
		707.5	1.237	1.078	N/A
		715.3	1.236	1.077	N/A
	16-QAM	699.7	1.068	0.906	N/A
		707.5	1.063	0.904	N/A
		715.3	1.080	0.907	N/A
3M	QPSK	700.5	1.254	1.085	N/A
		707.5	1.238	1.081	N/A
		714.5	1.245	1.083	N/A
	16-QAM	700.5	1.077	0.911	N/A
		707.5	1.080	0.914	N/A
		714.5	1.091	0.917	N/A
5M	QPSK	710.5	1.251	1.086	N/A
		707.5	1.244	1.087	N/A
		713.5	1.245	1.087	N/A
	16-QAM	710.5	1.116	0.913	N/A
		707.5	1.095	0.912	N/A
		713.5	1.096	0.914	N/A
10M	QPSK	704.0	1.243	1.094	N/A
		707.5	1.240	1.092	N/A
		711.0	1.265	1.101	N/A
	16-QAM	704.0	1.119	0.917	N/A
		707.5	1.141	0.916	N/A
		711.0	1.087	0.916	N/A

B12_CH23017_1.4M_QPSK_1RB0



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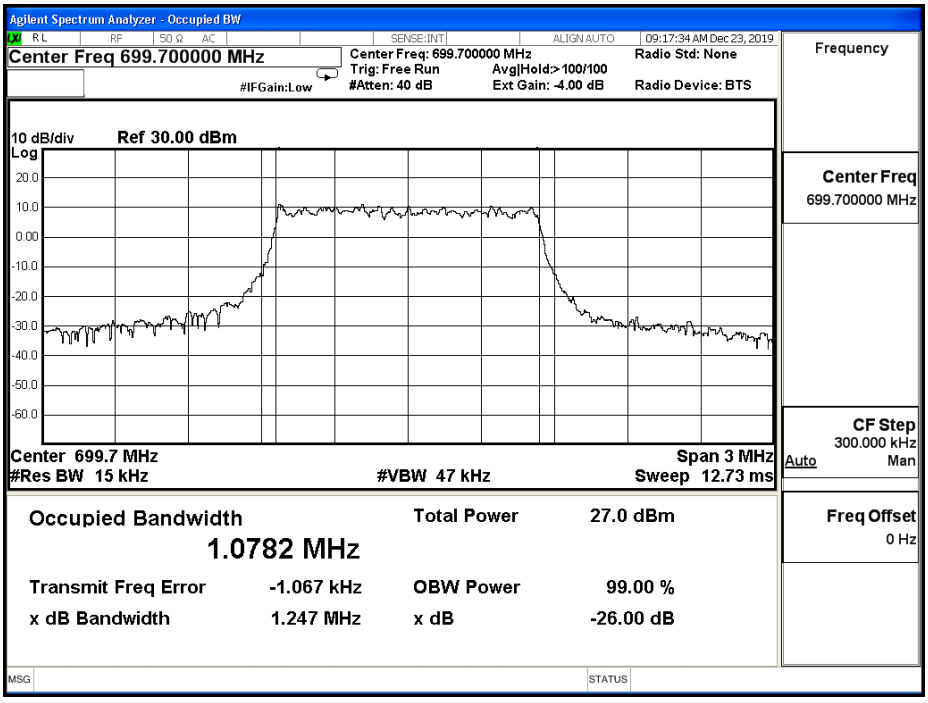

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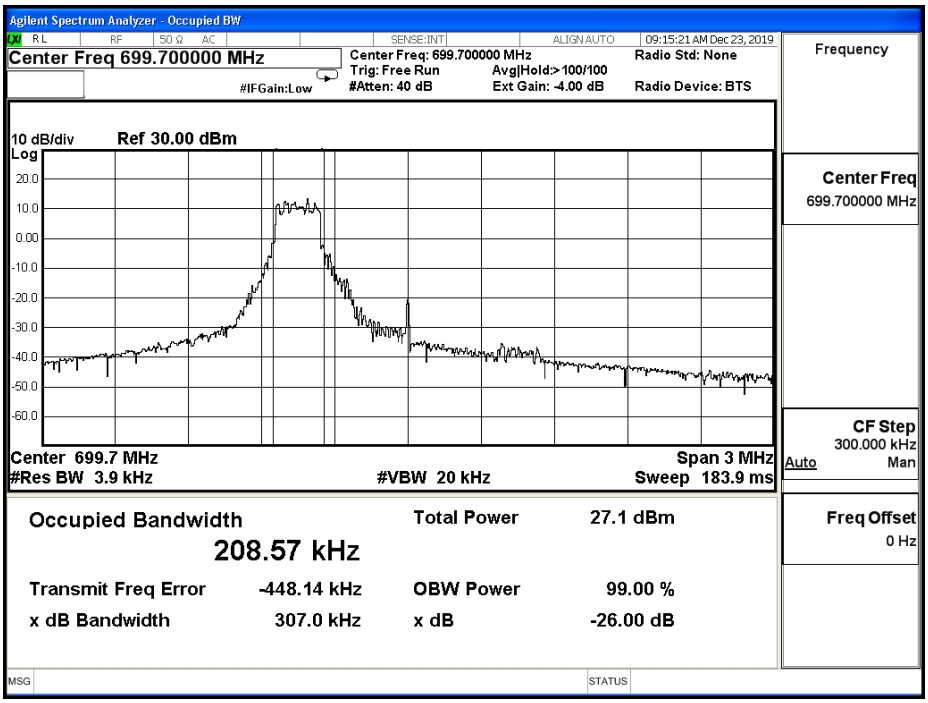

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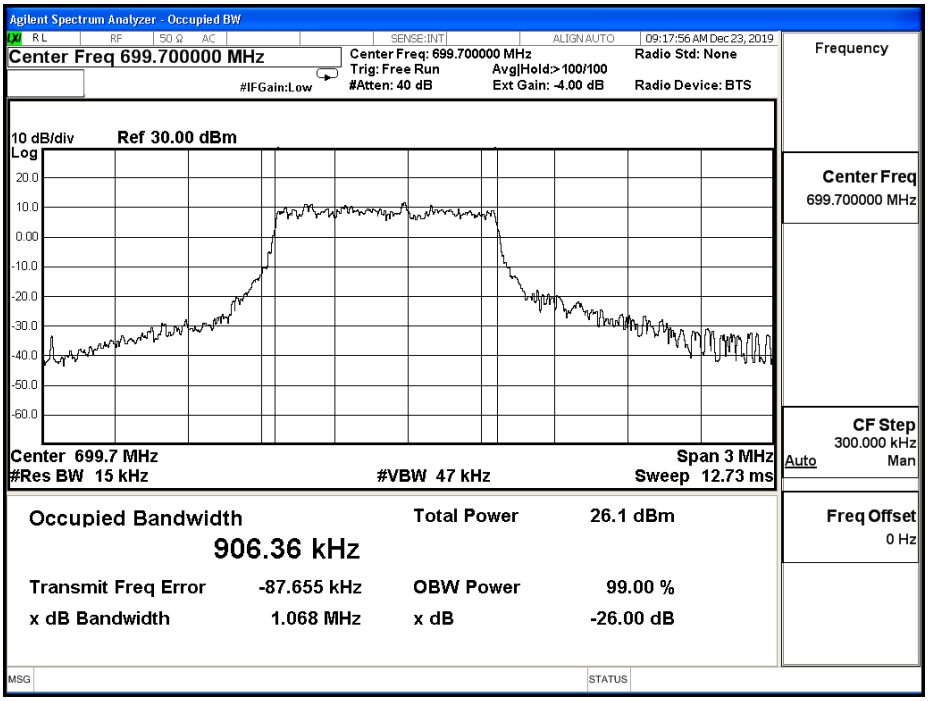
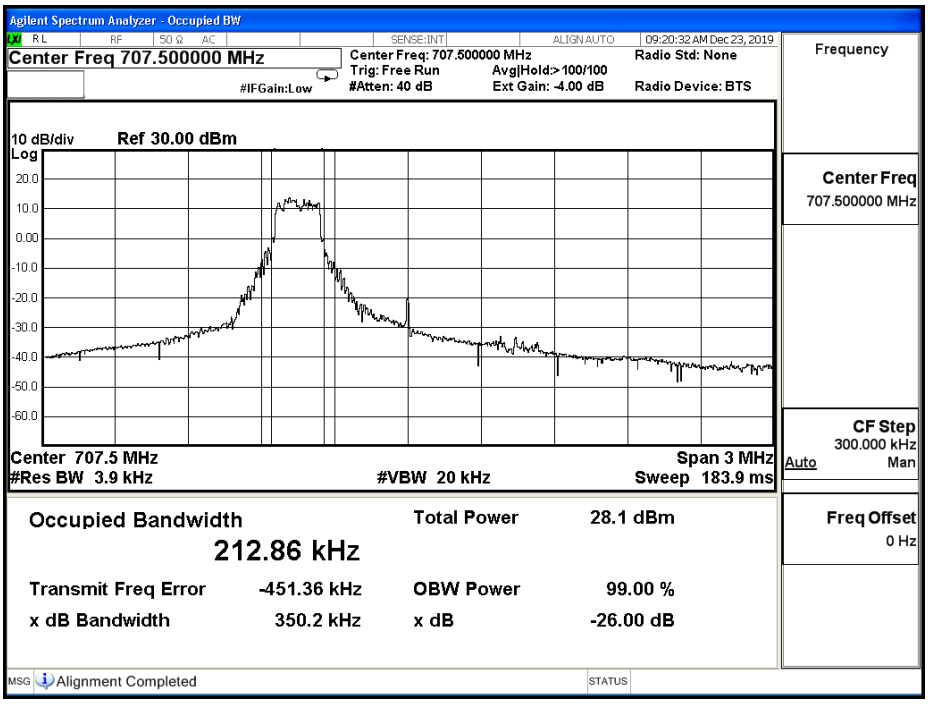


B12_CH23095_1.4M_QPSK_1RB0



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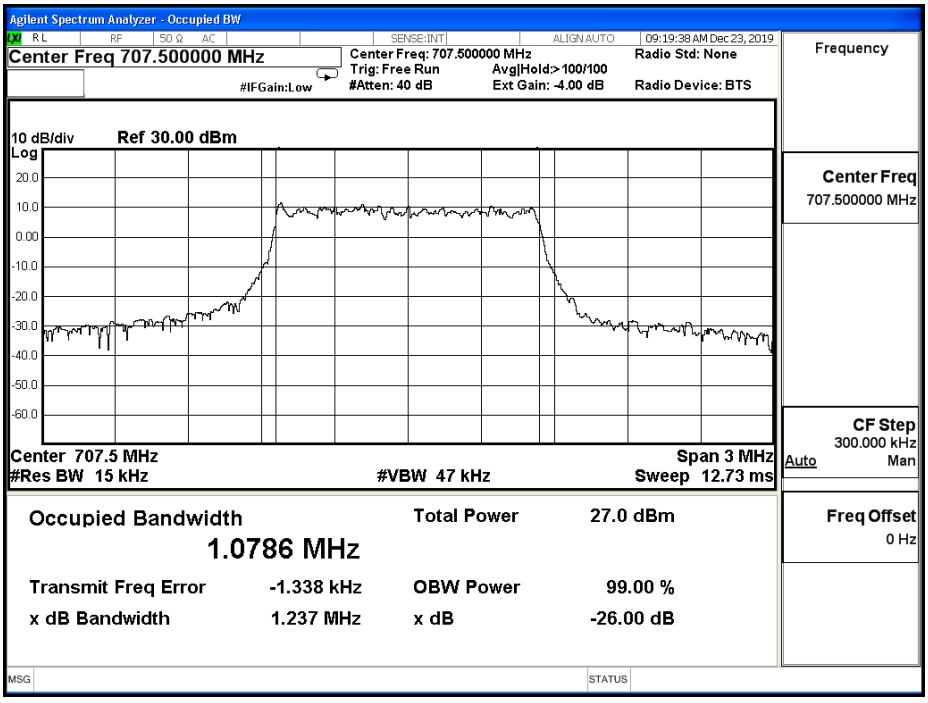

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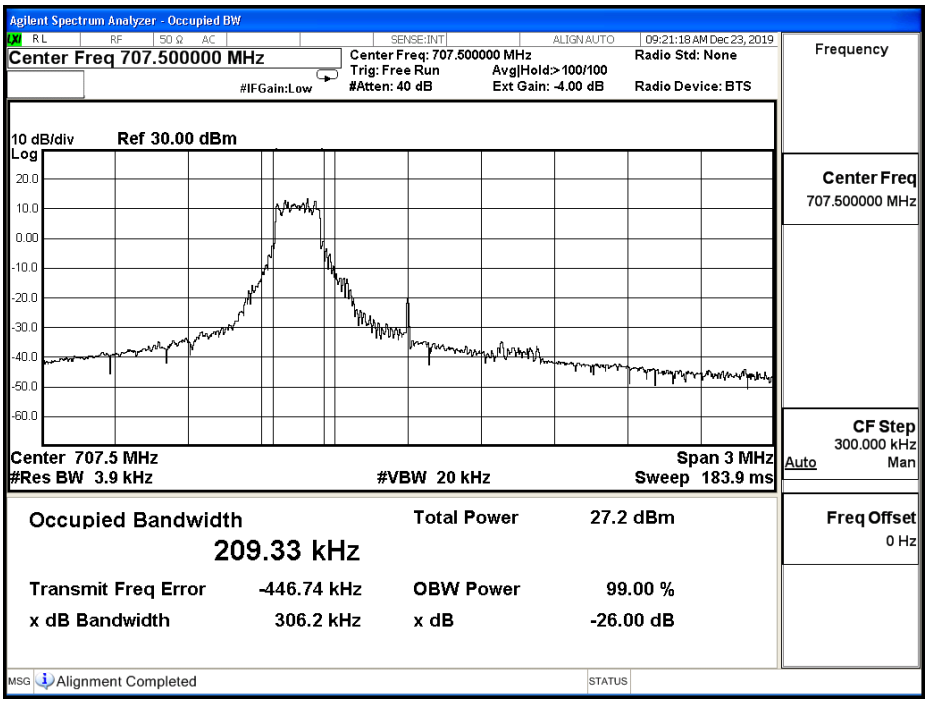

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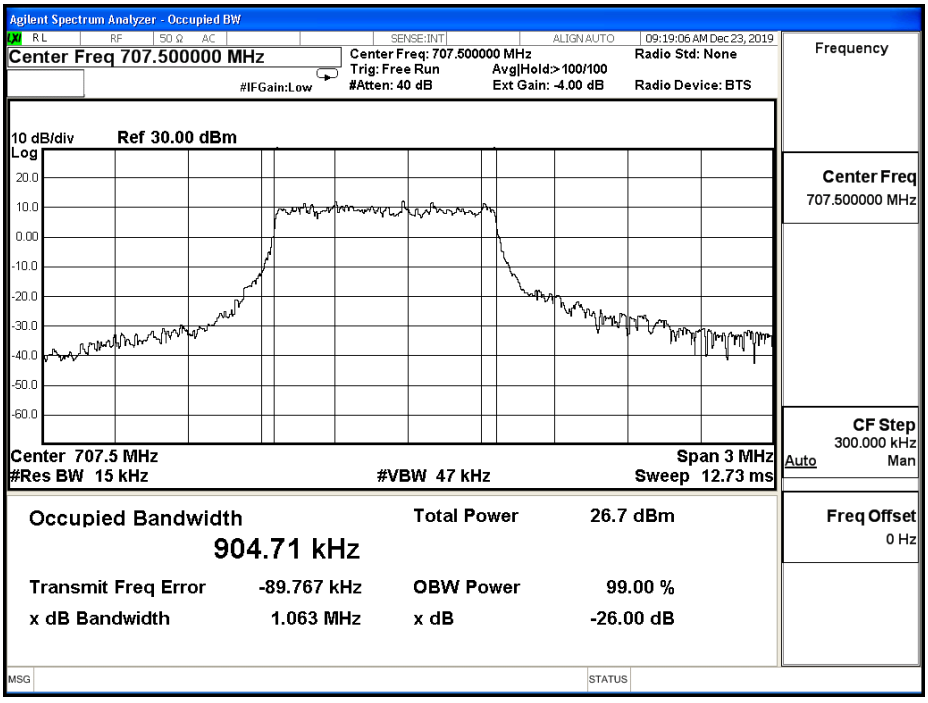
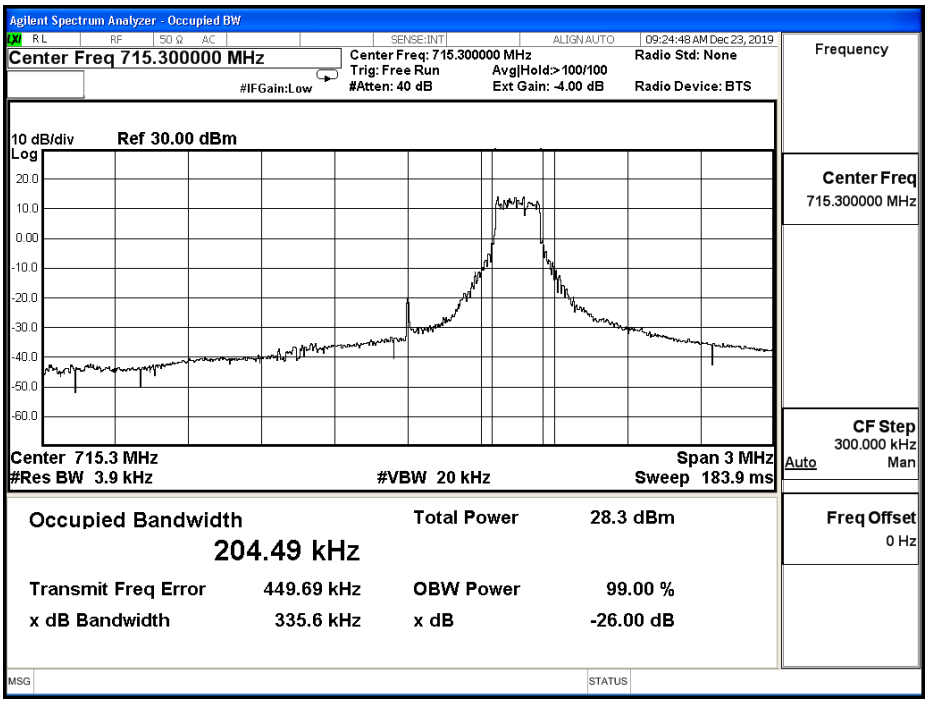


B12_CH23173_1.4M_QPSK_1RB5



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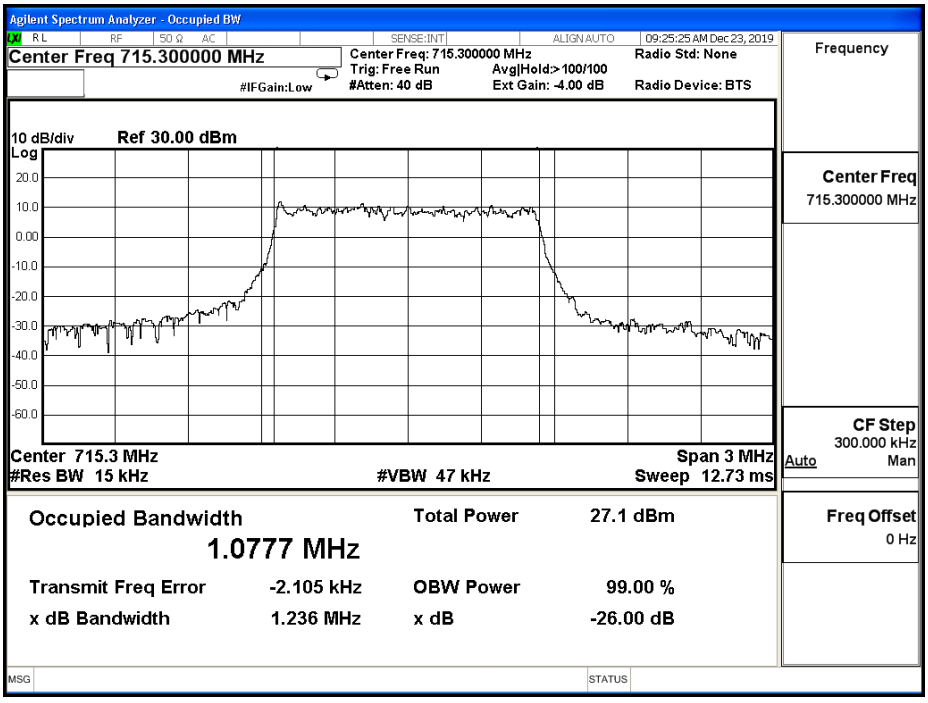

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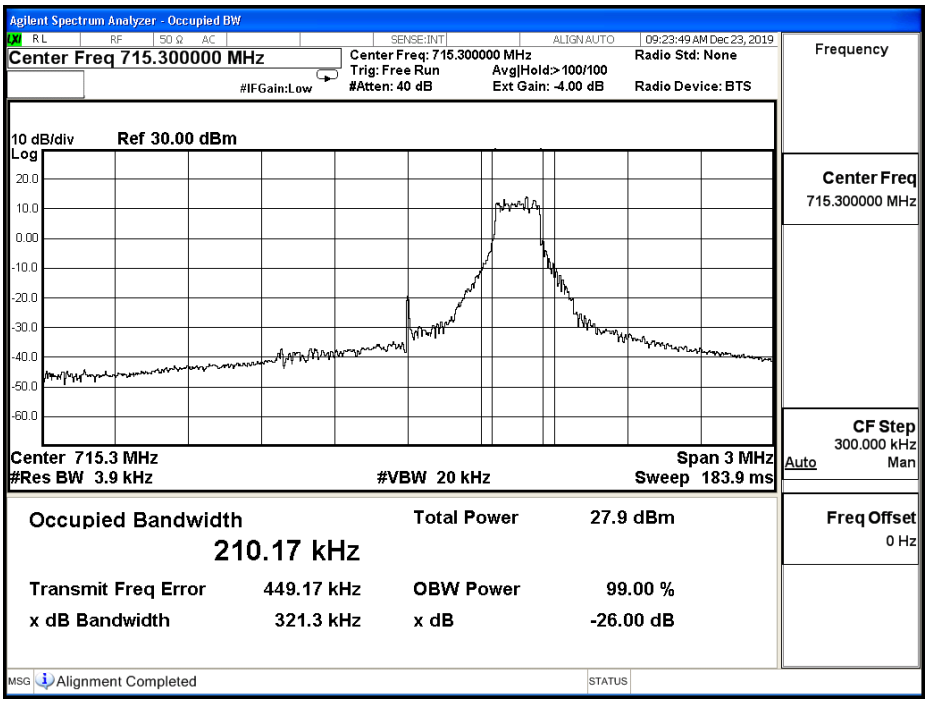

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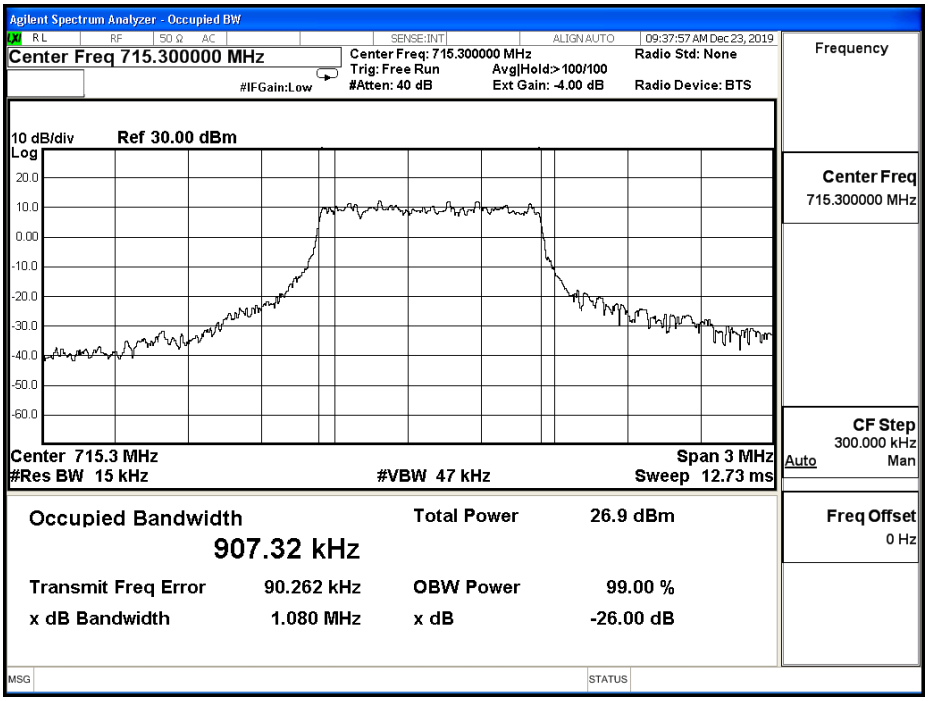

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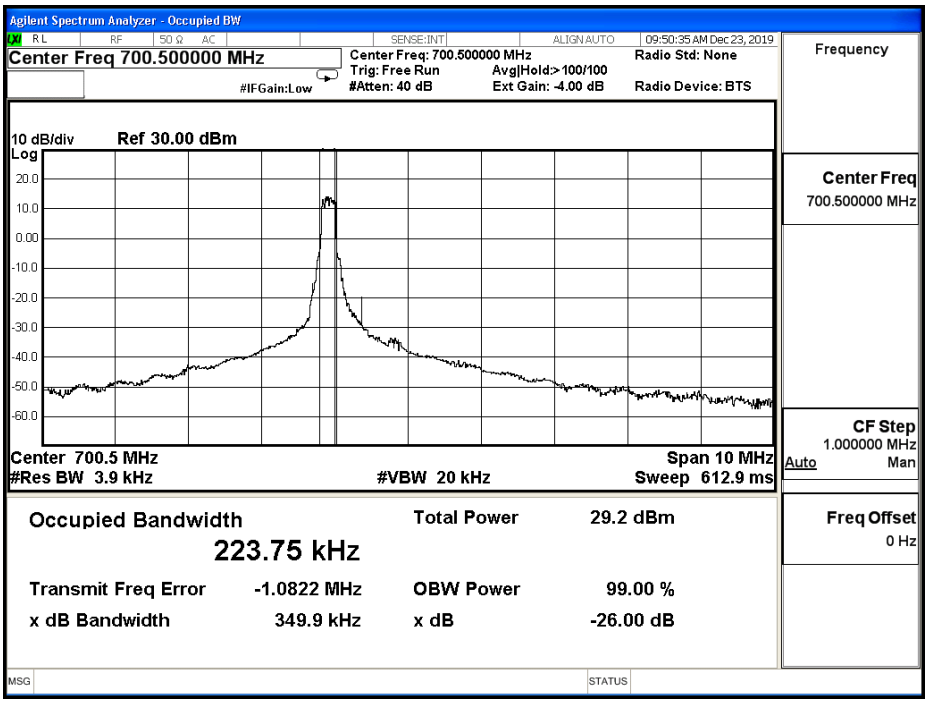

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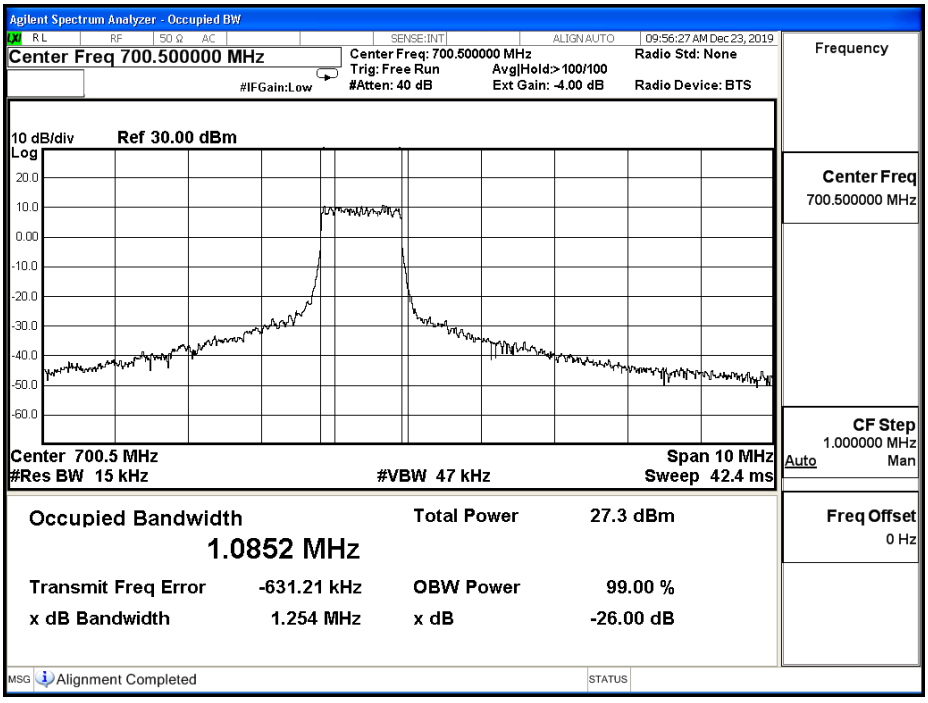

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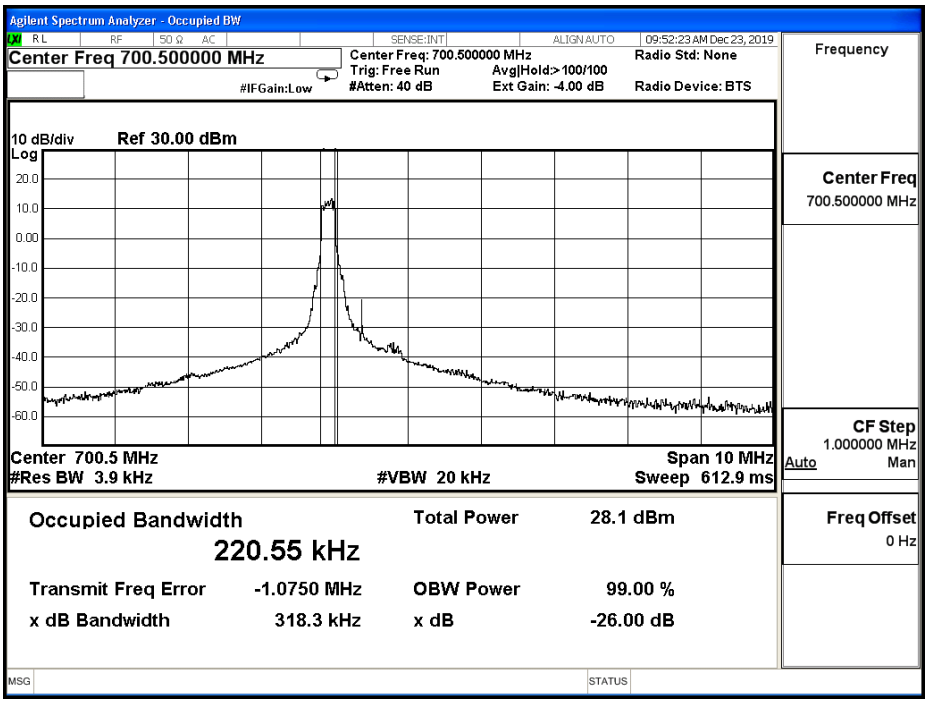

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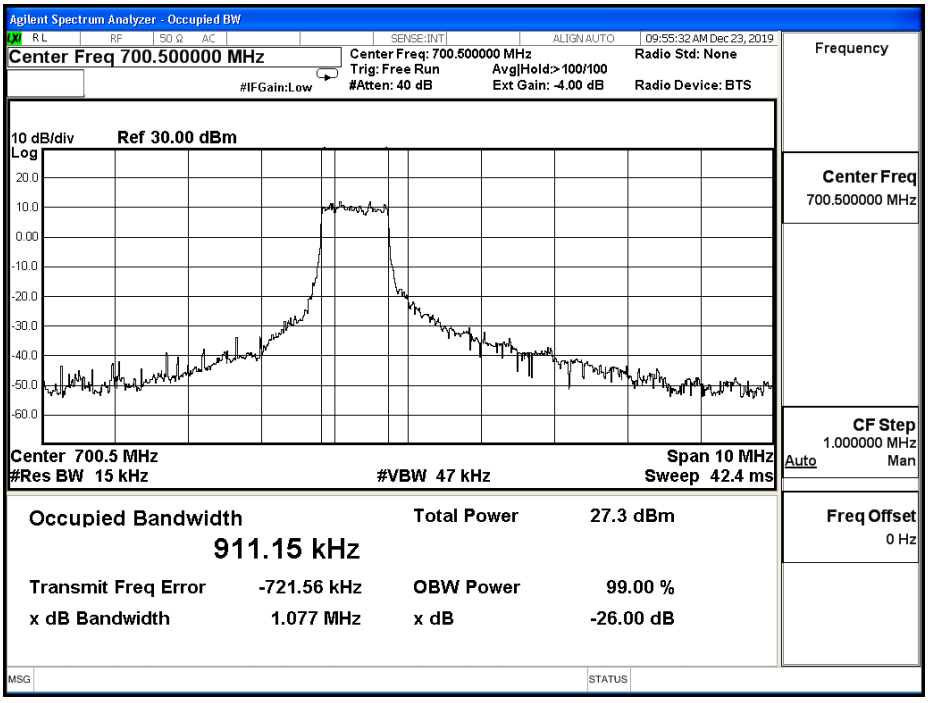

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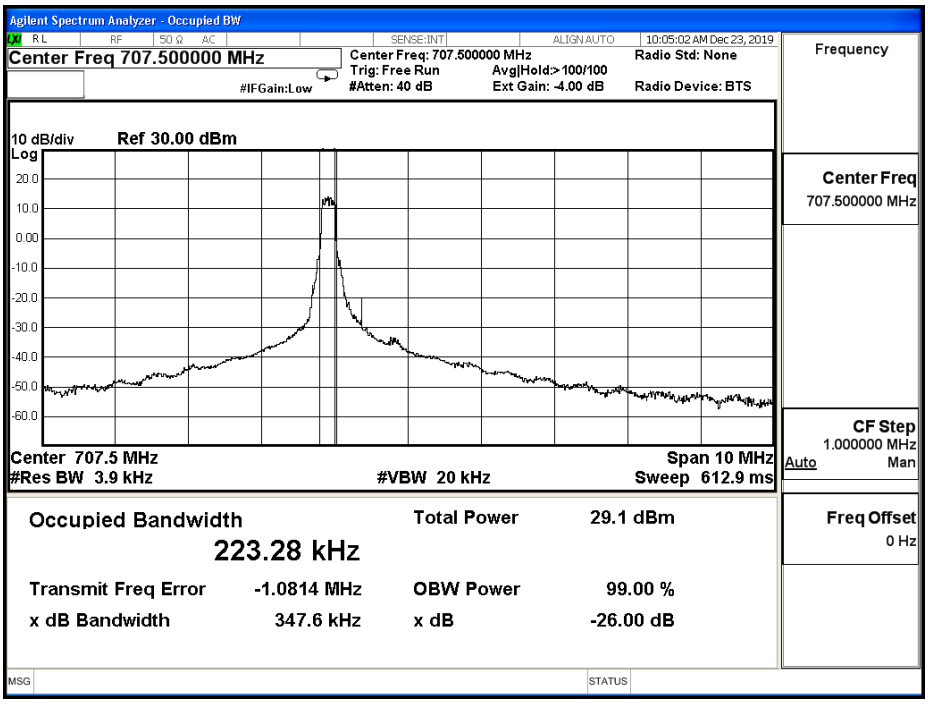

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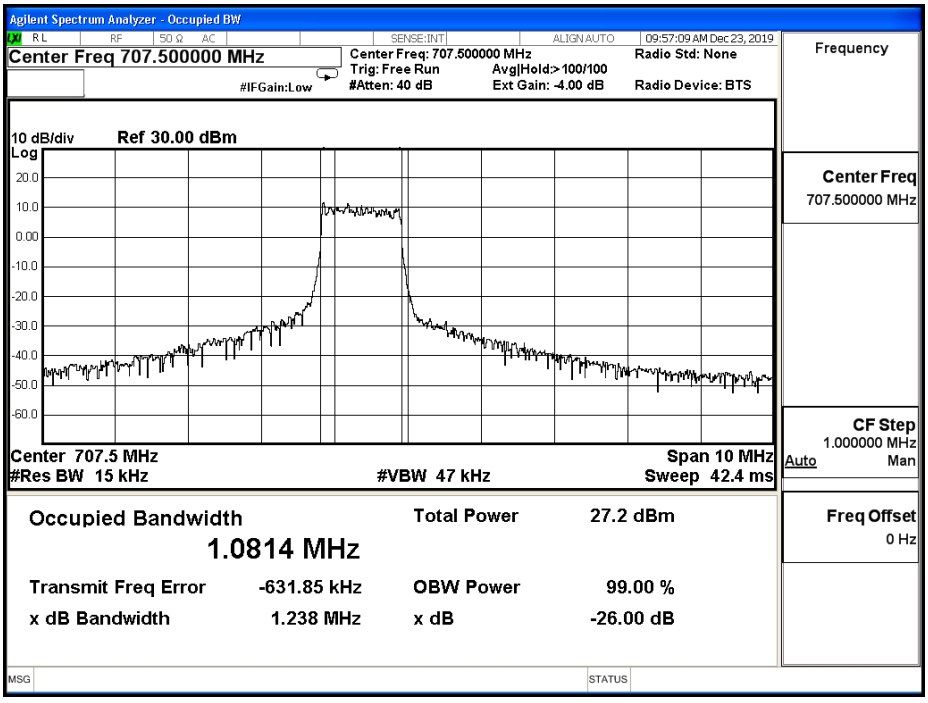

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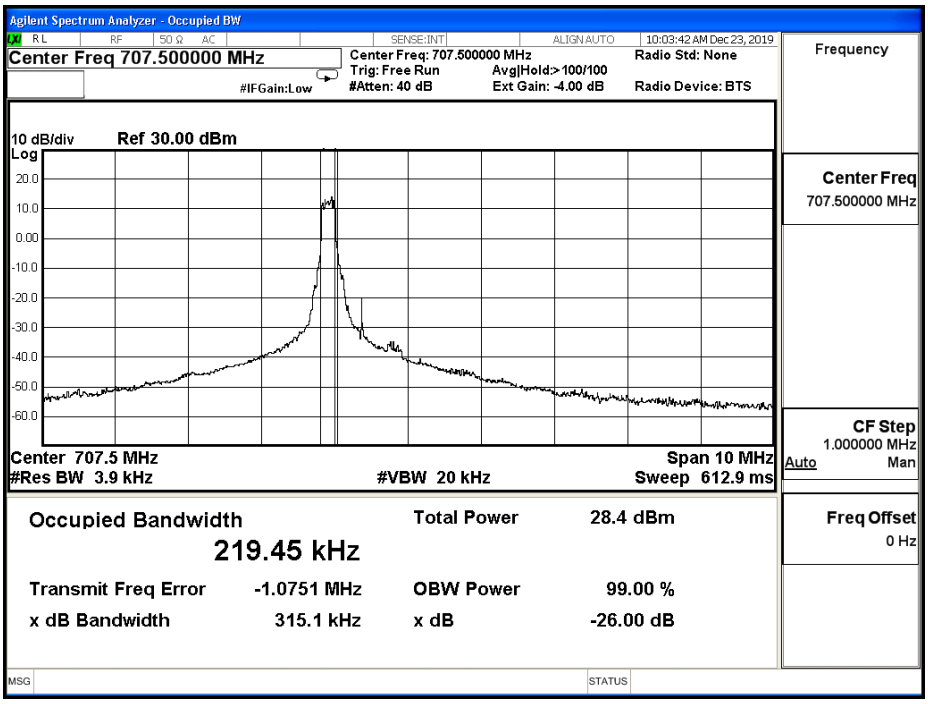

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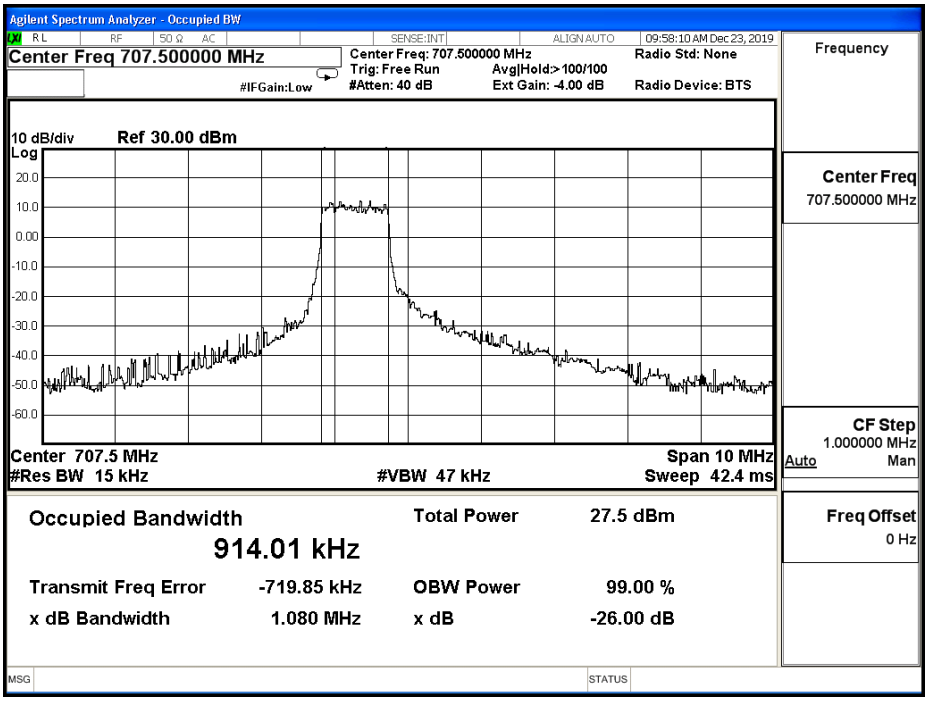

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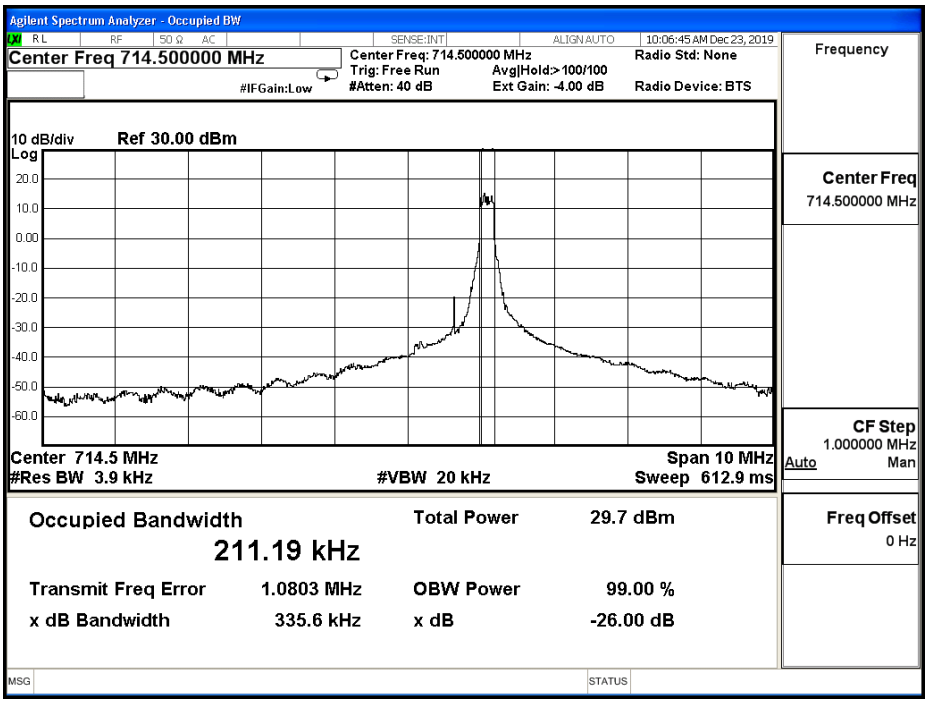

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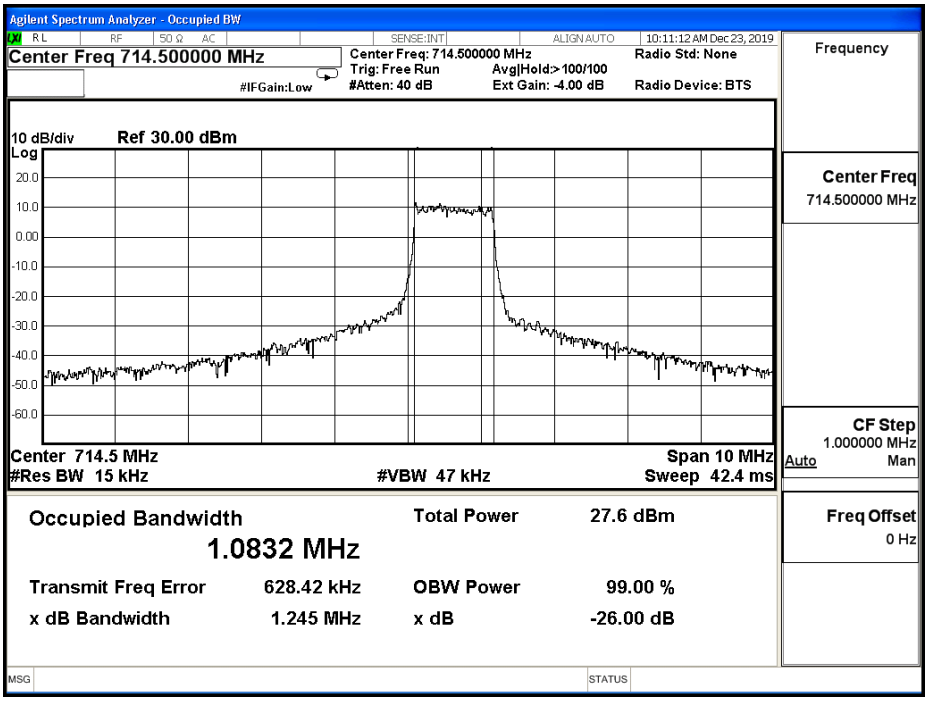

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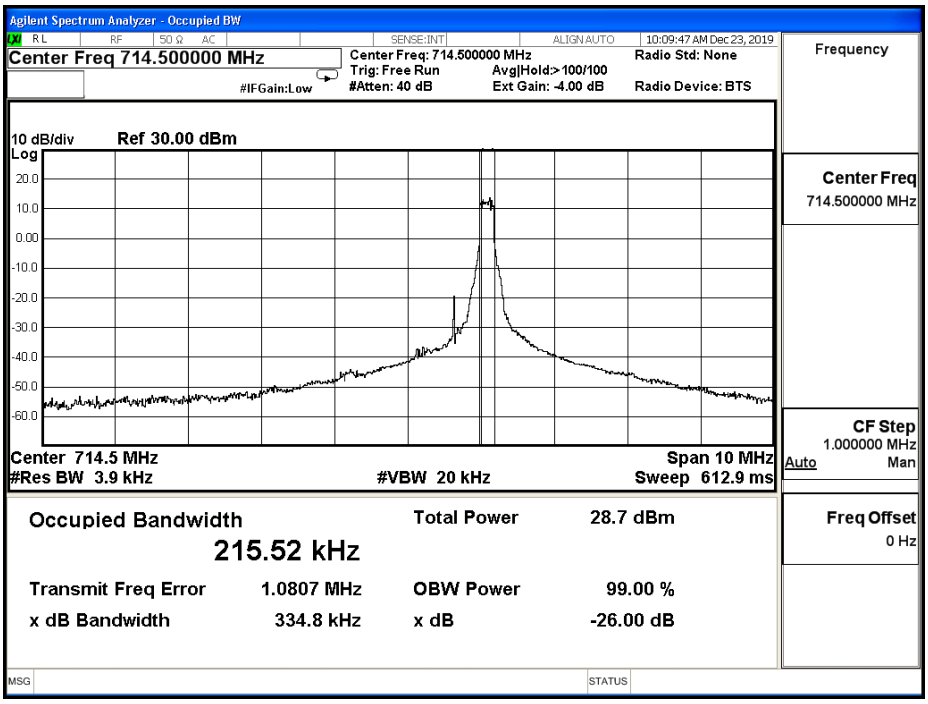

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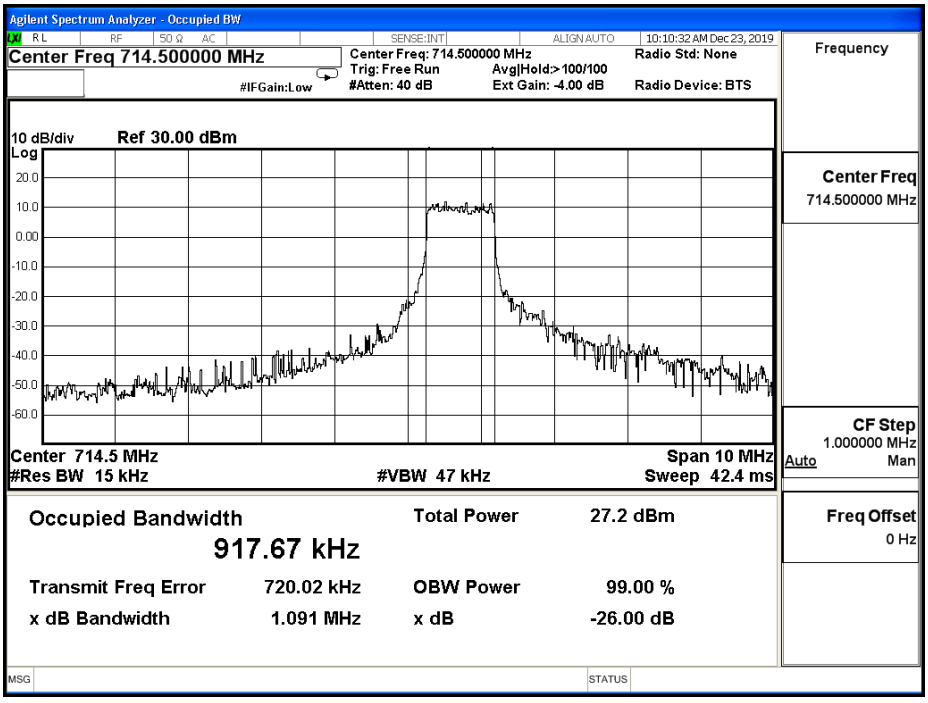

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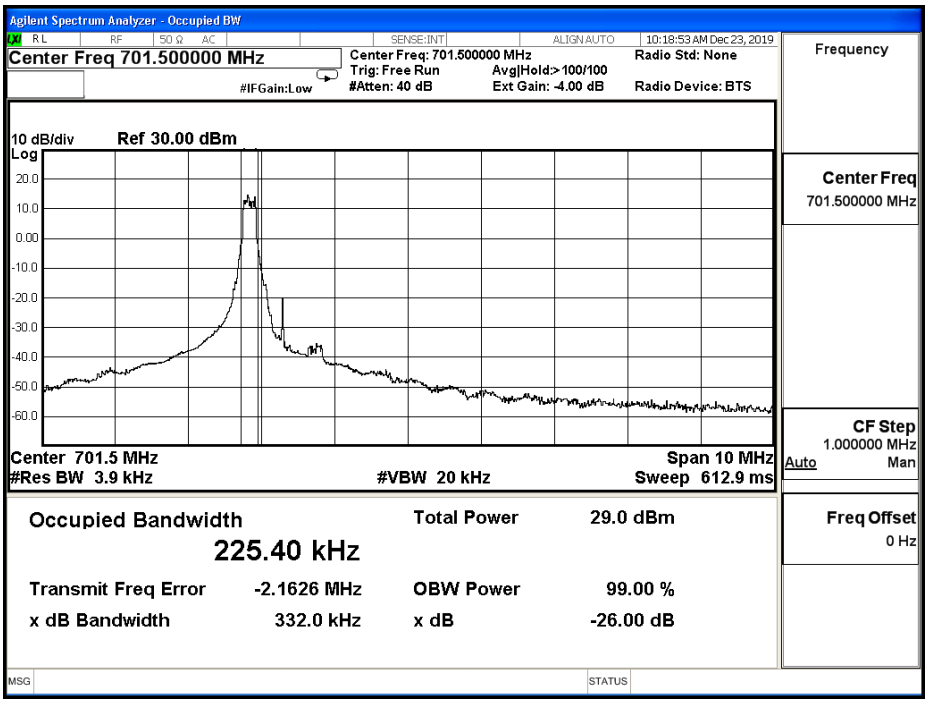

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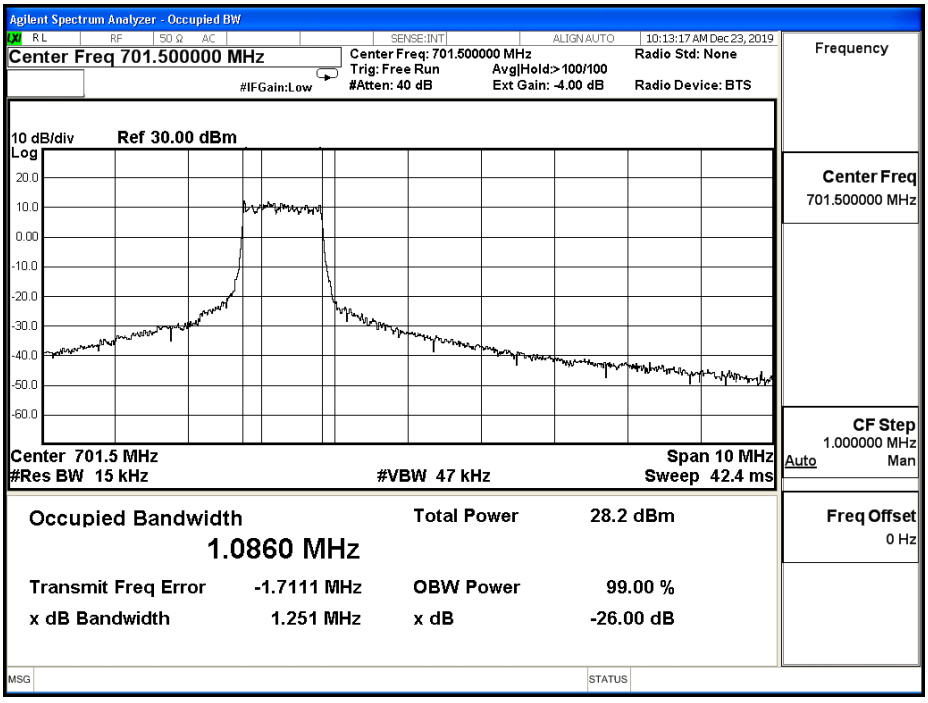

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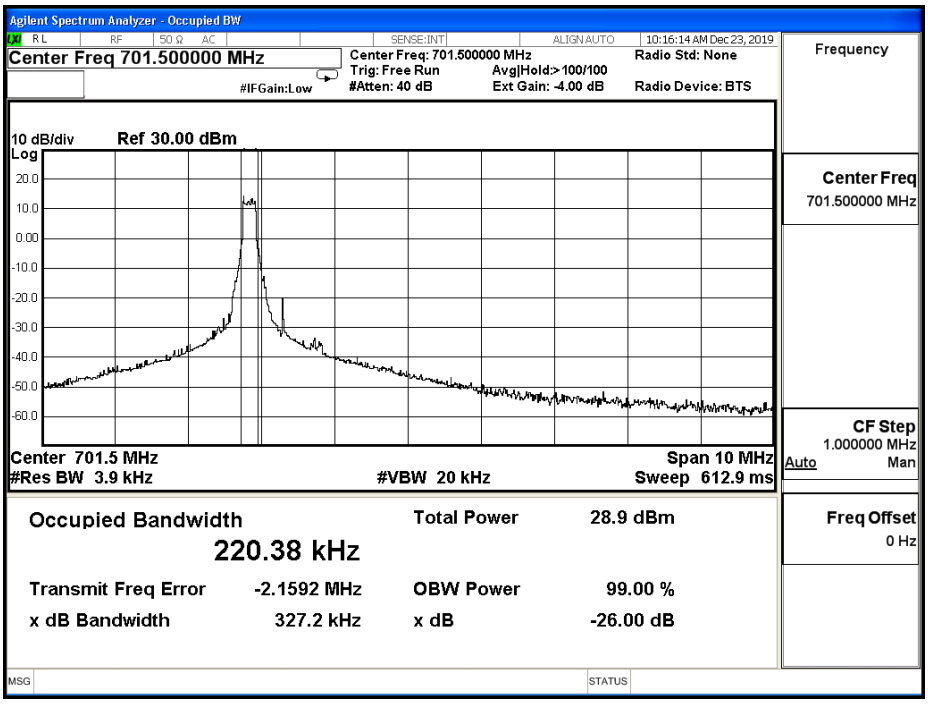

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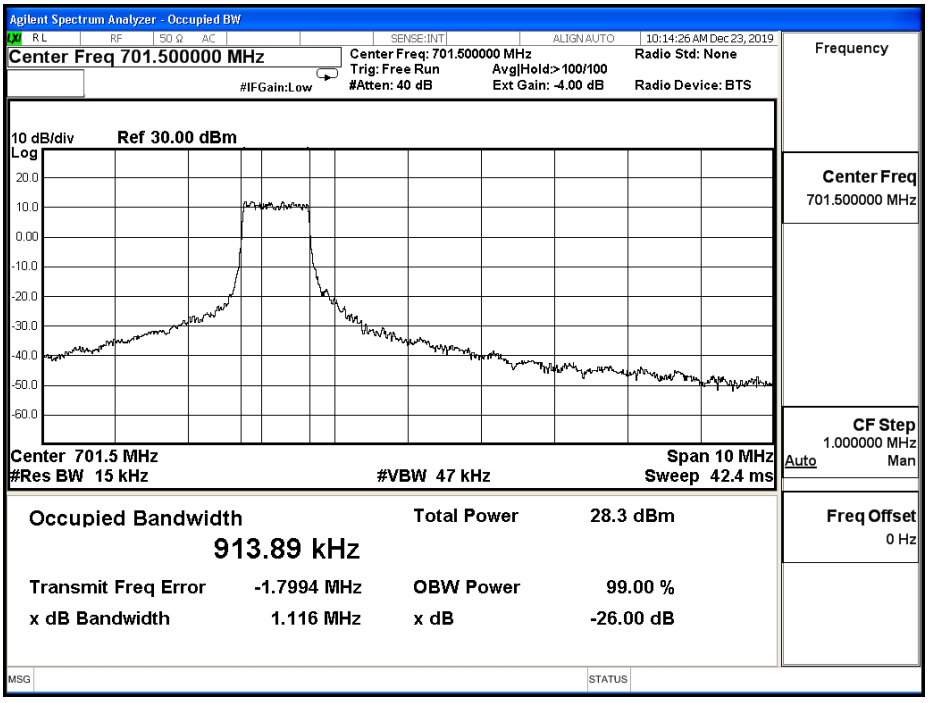

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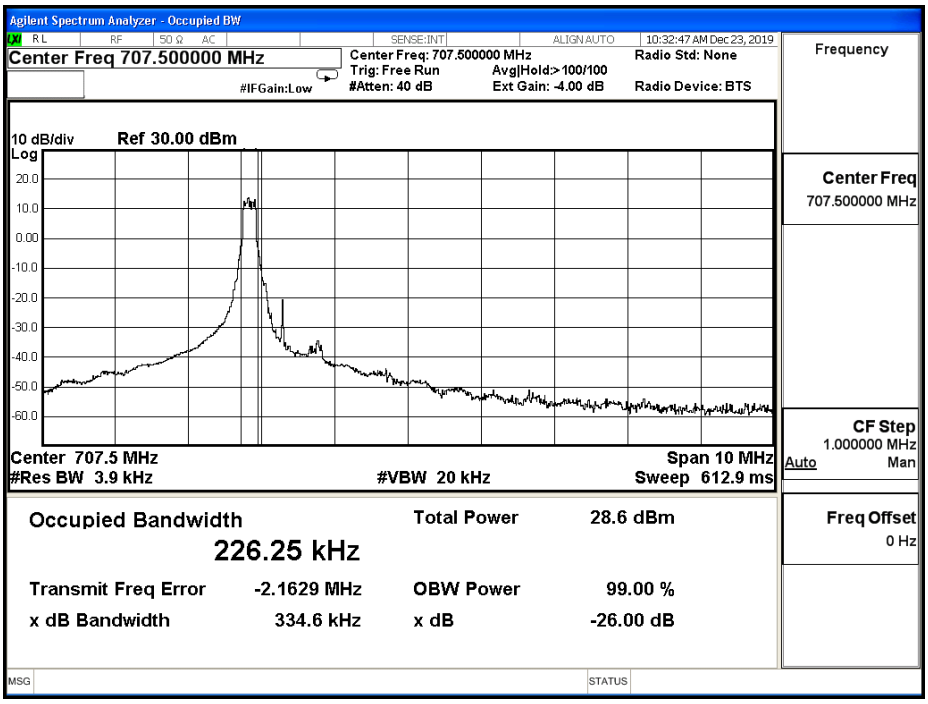

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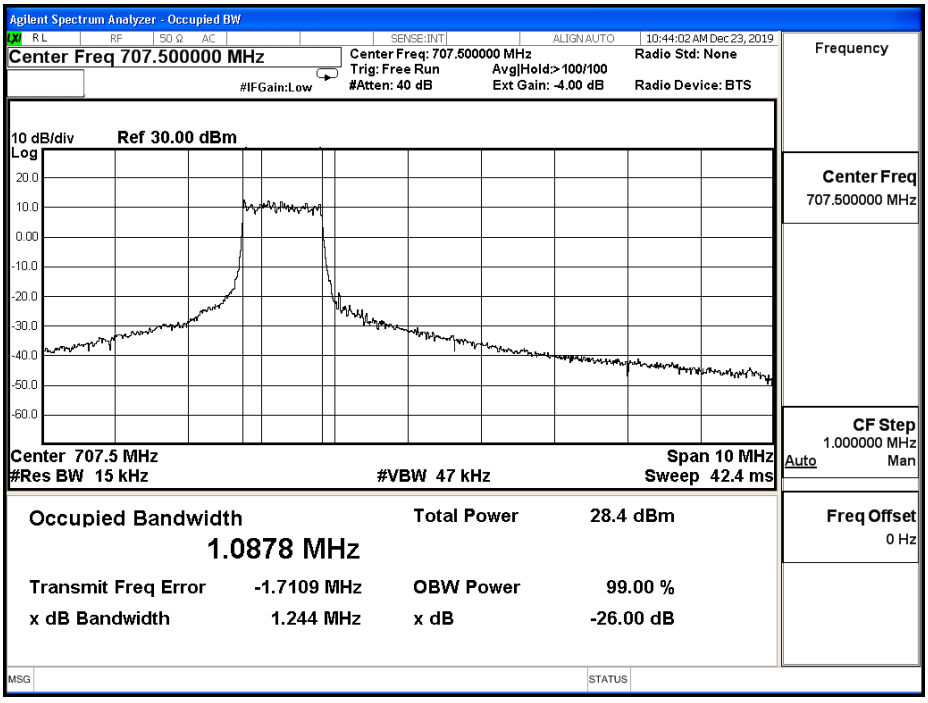

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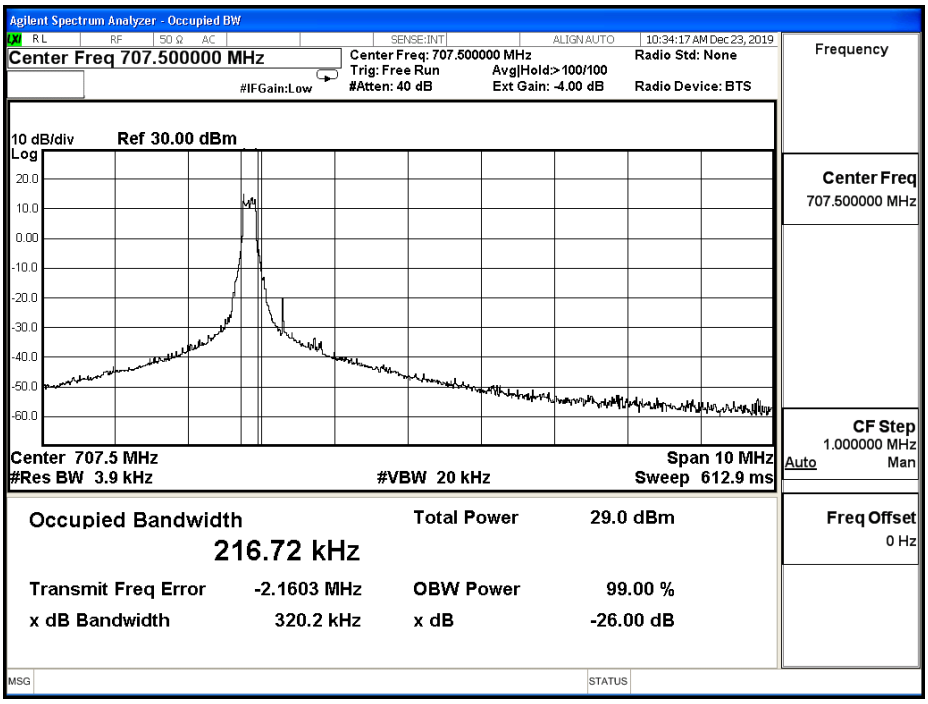

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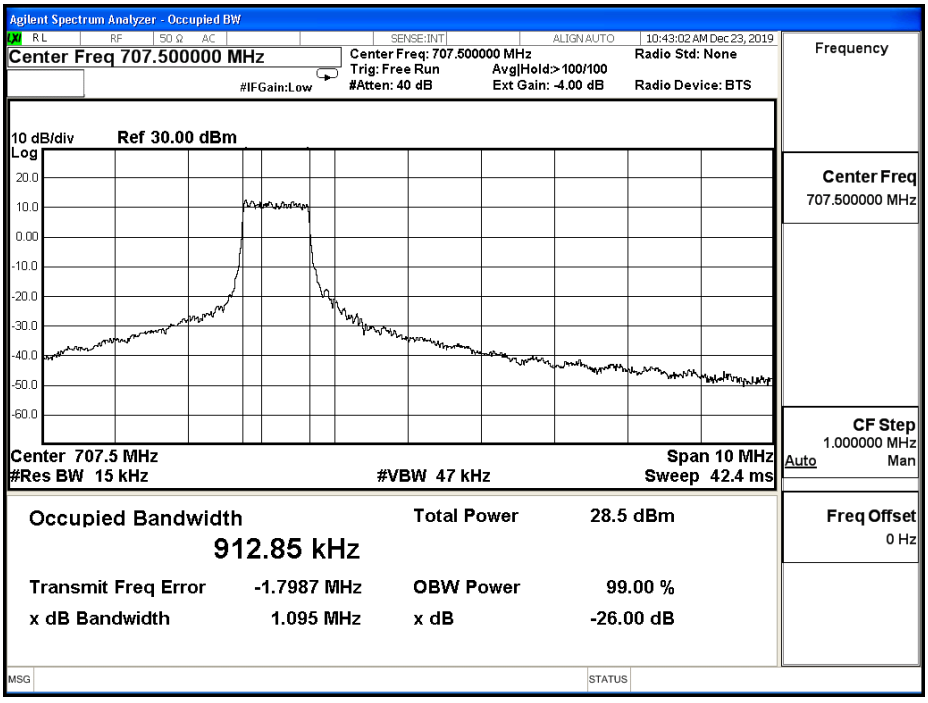

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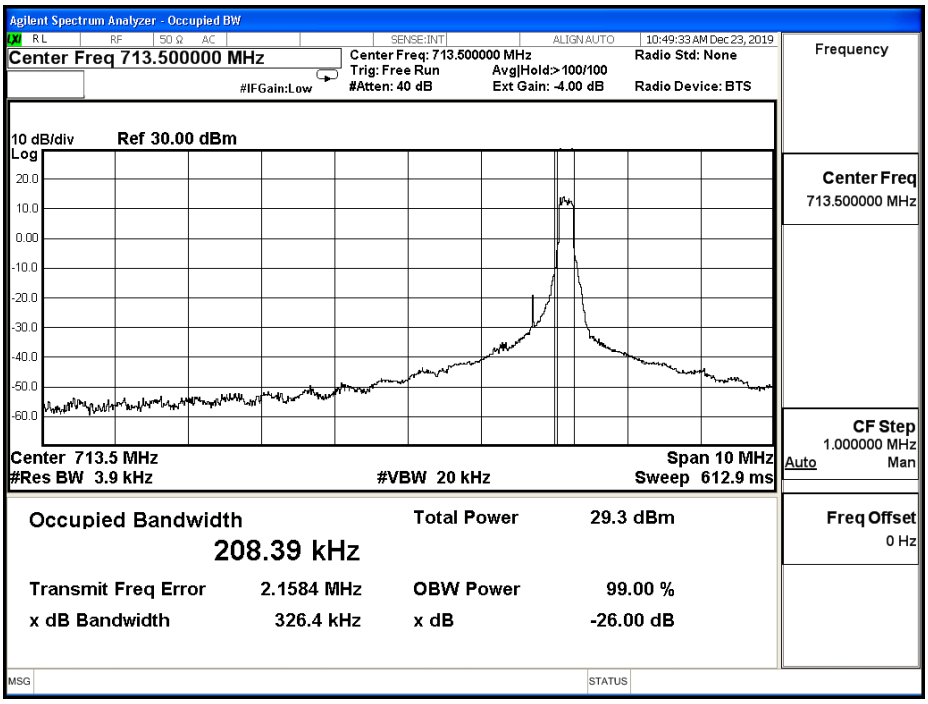

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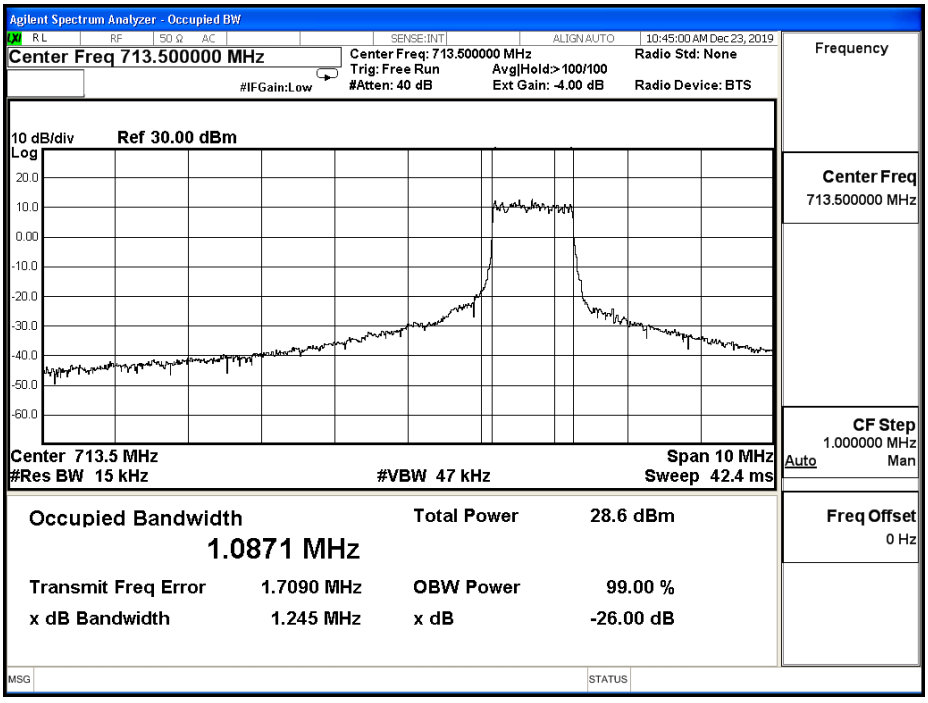

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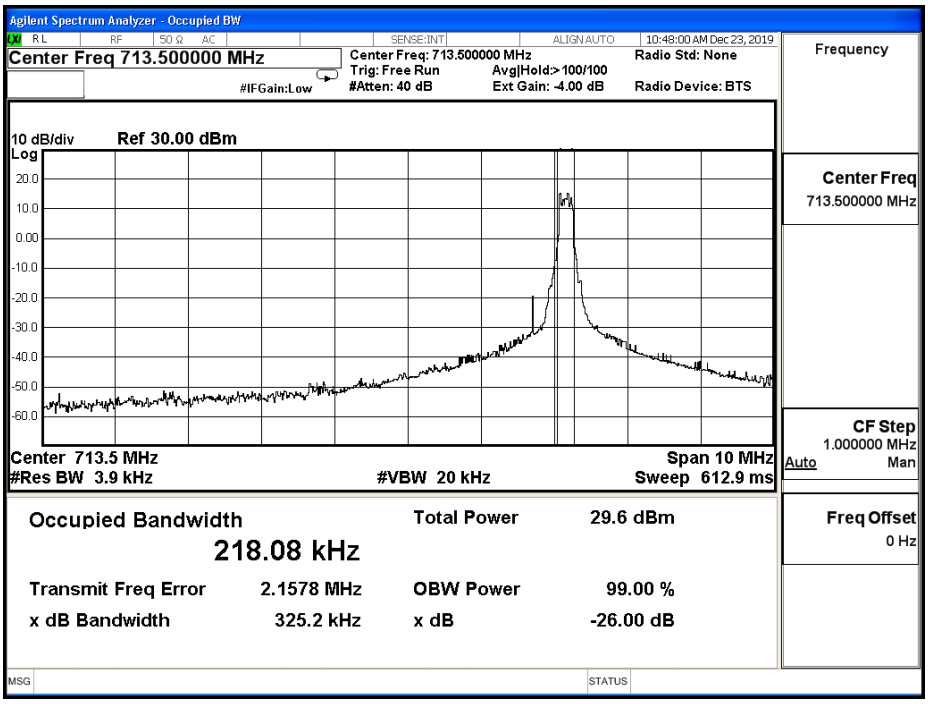

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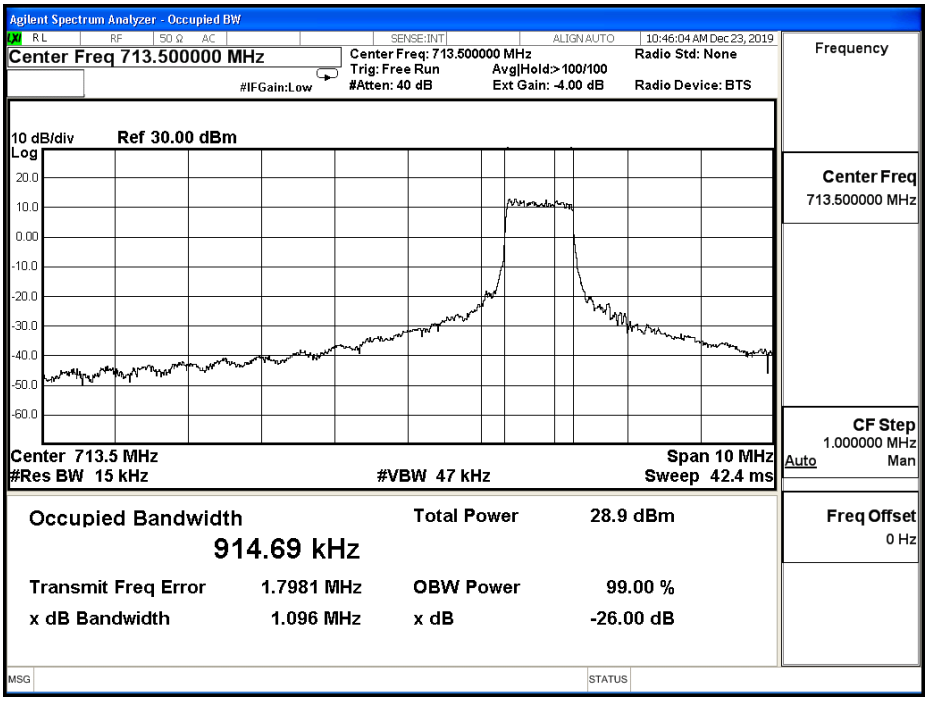

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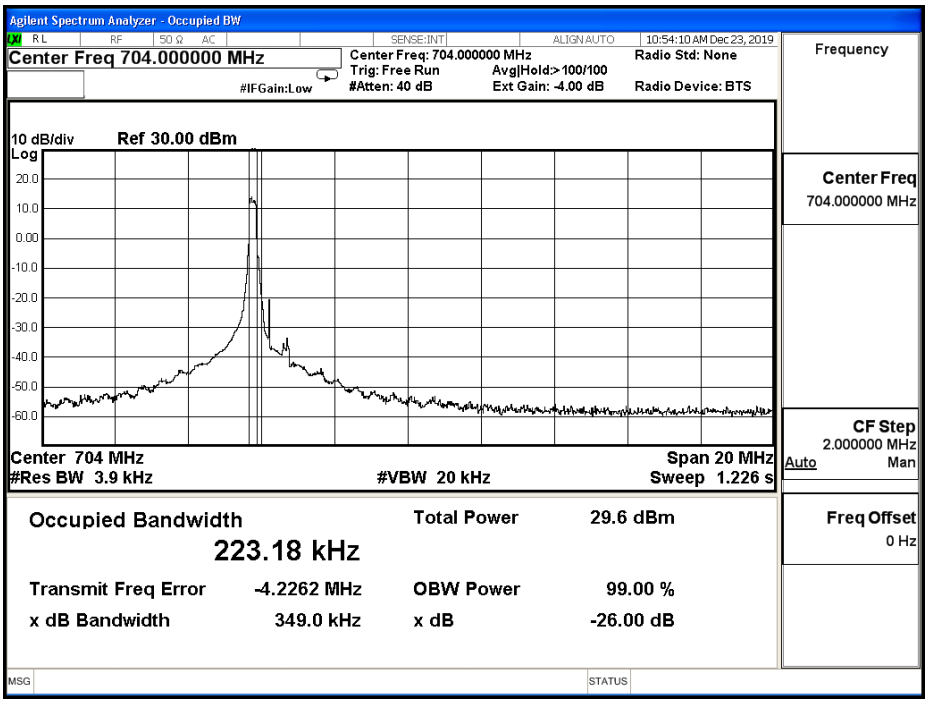

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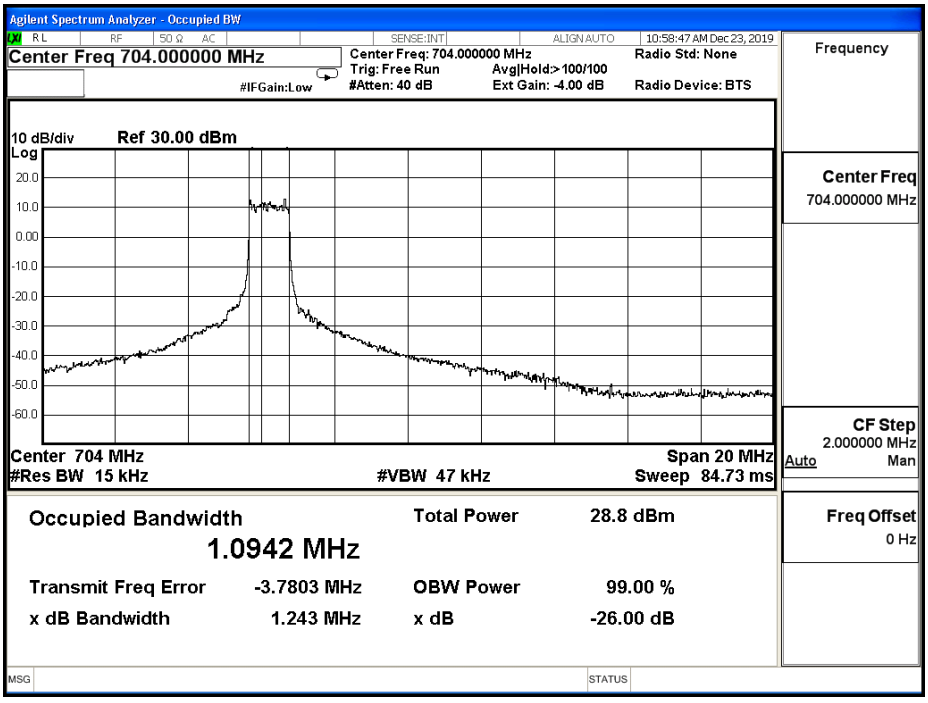

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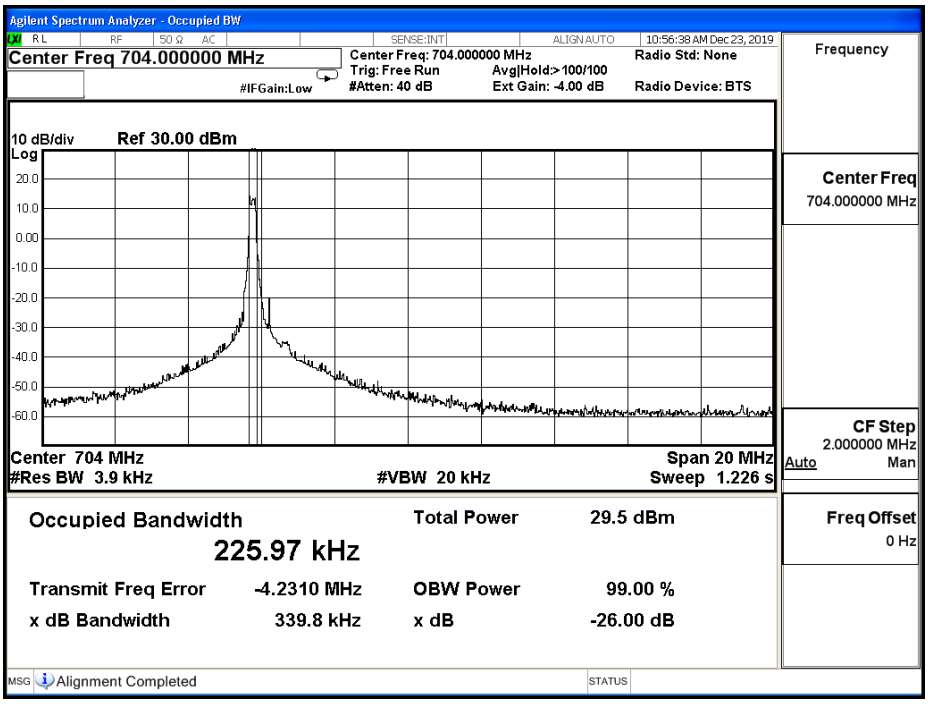

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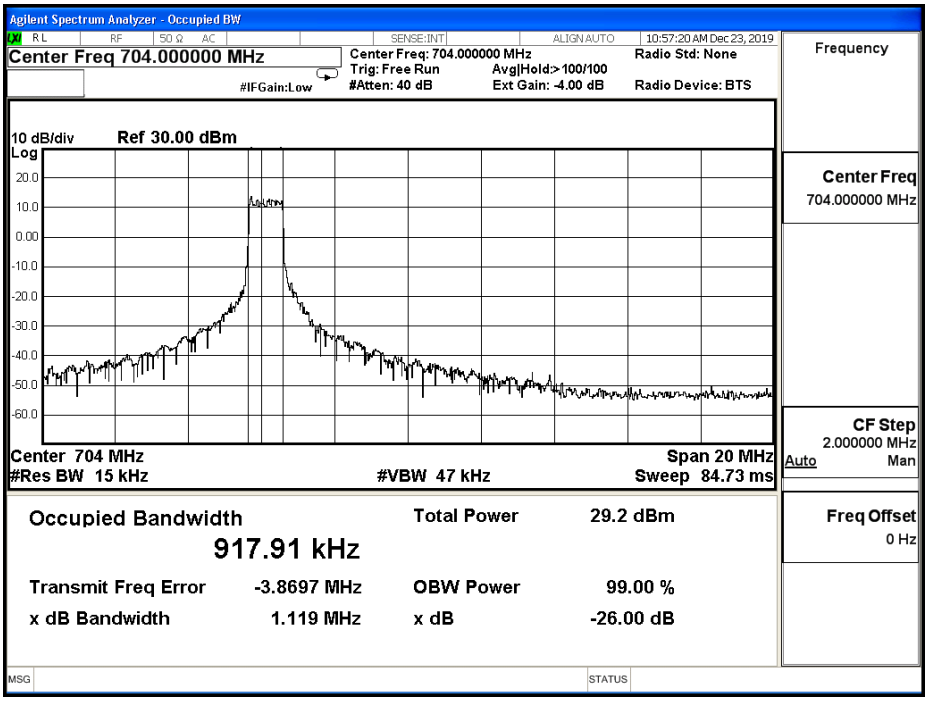

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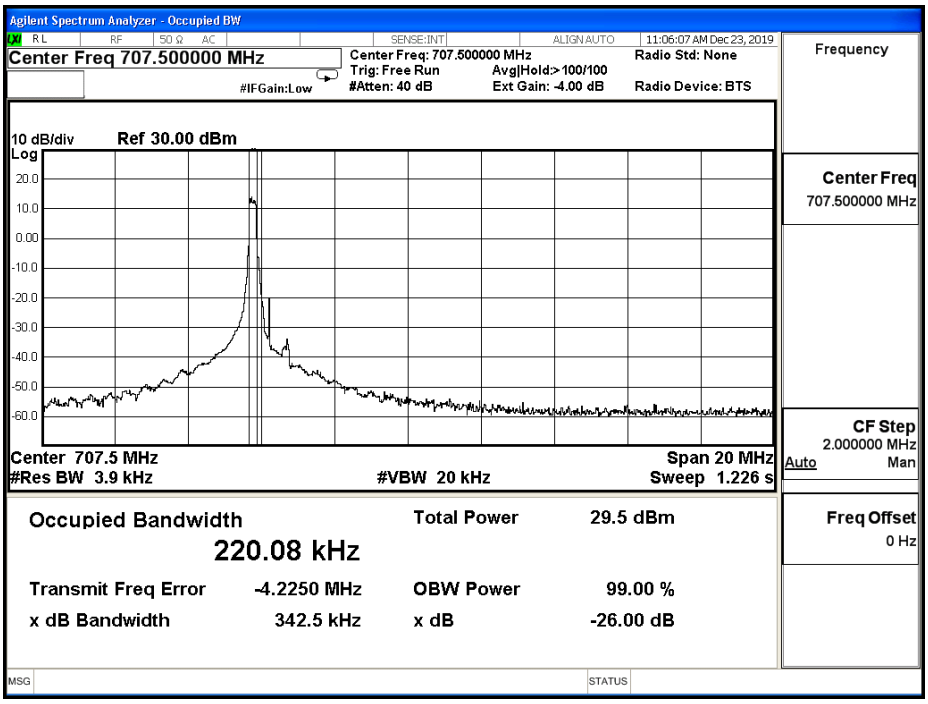

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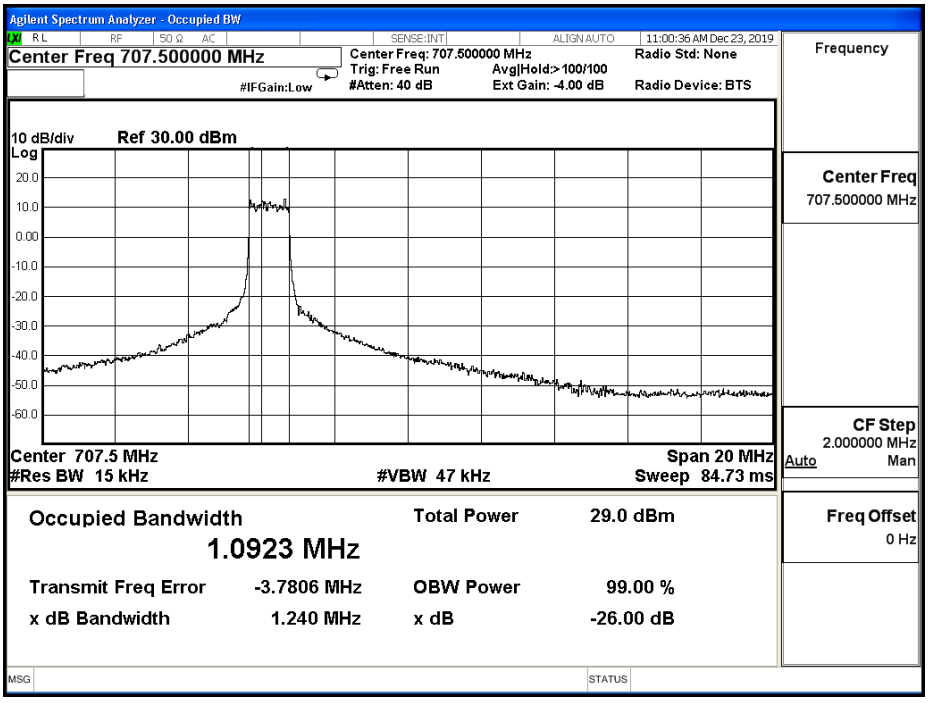

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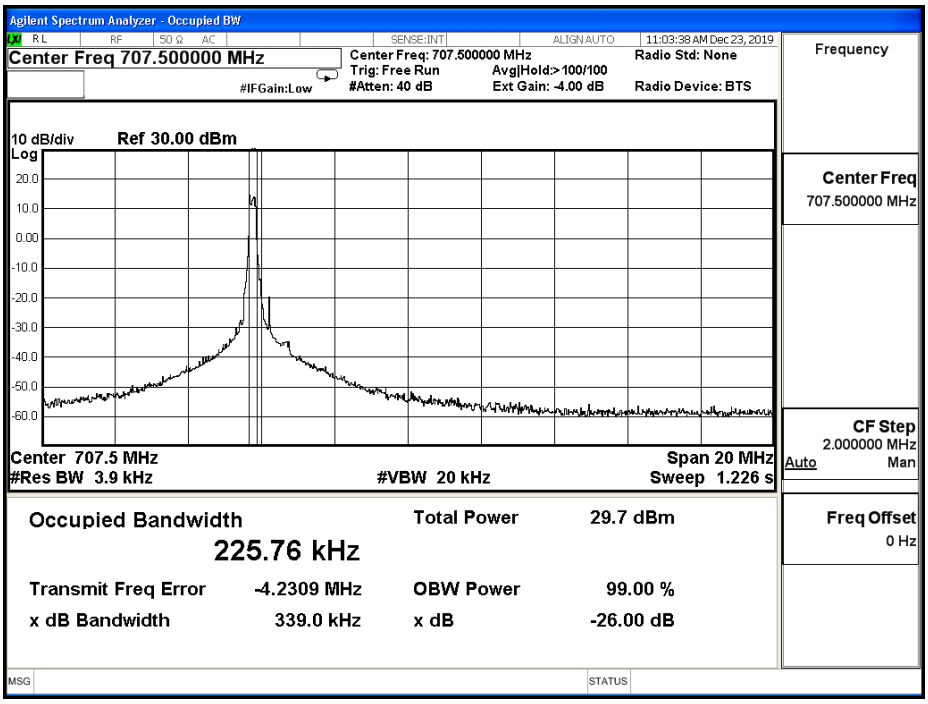

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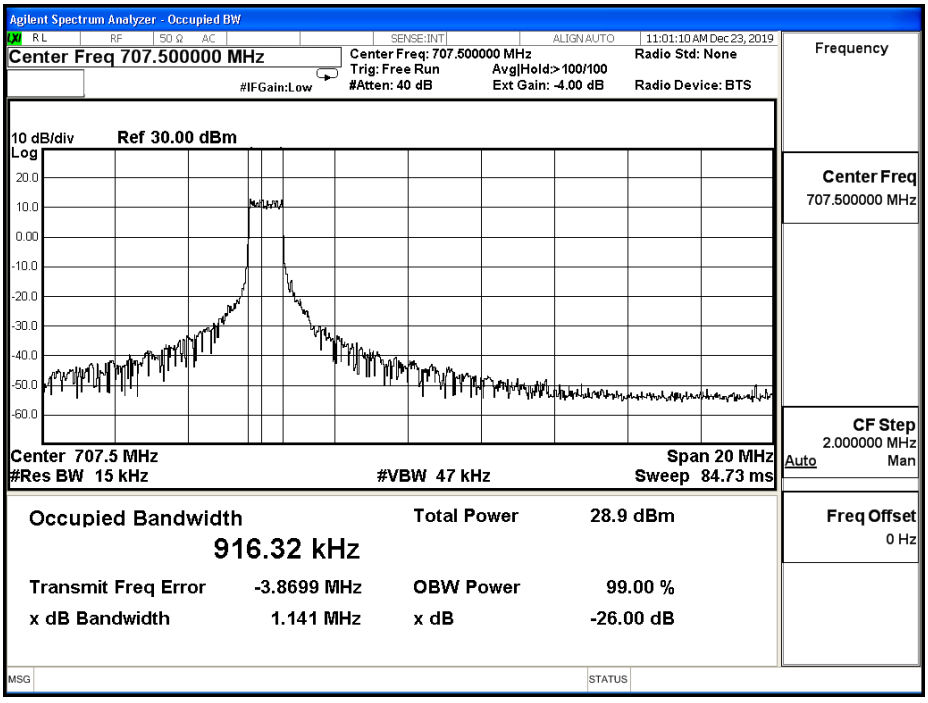

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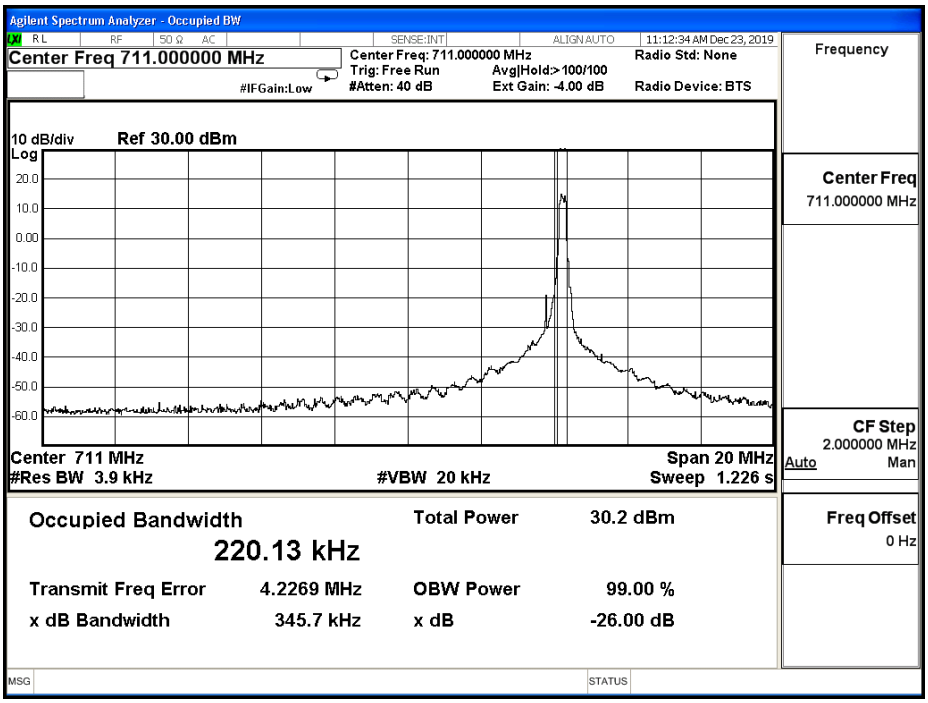

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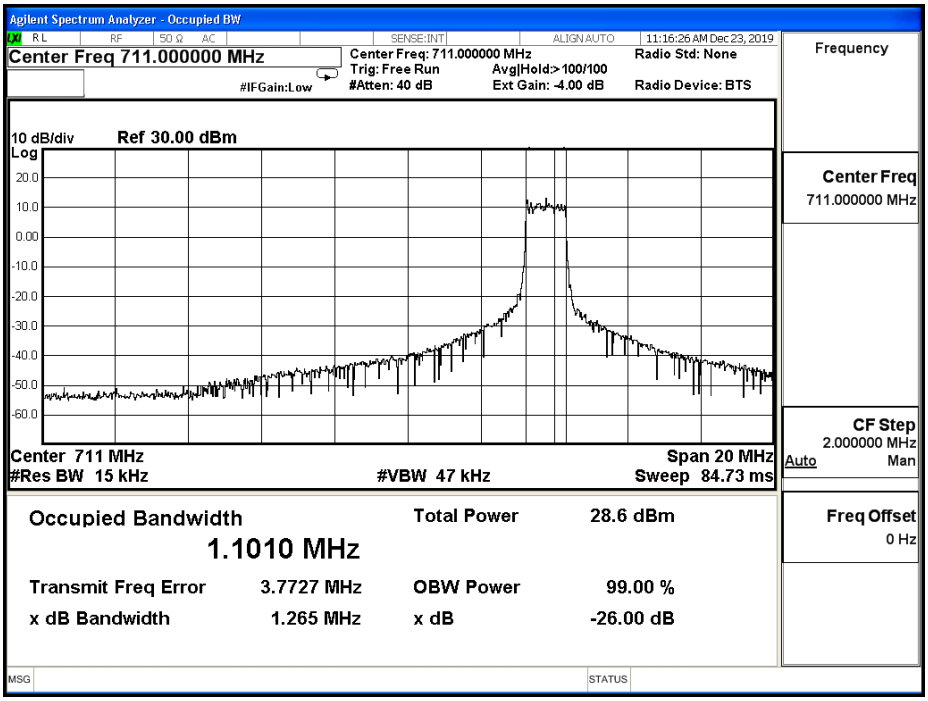

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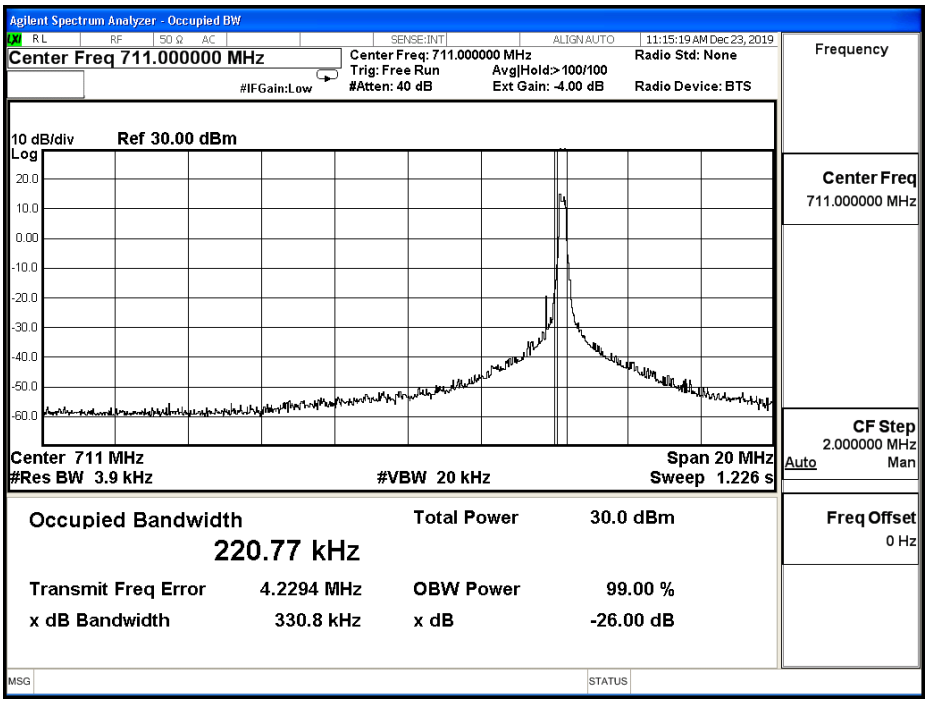

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