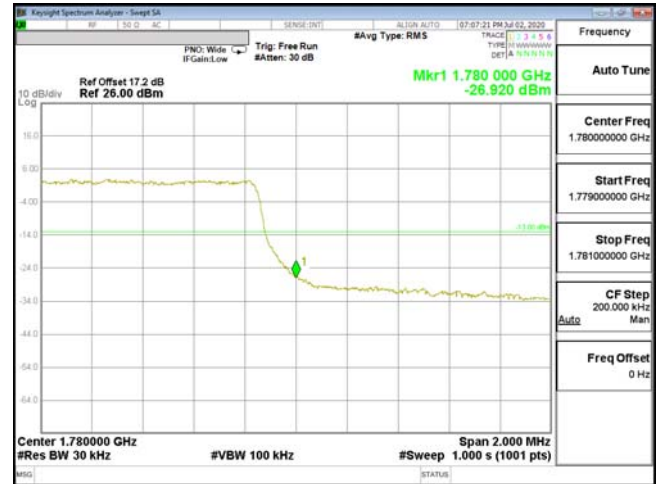
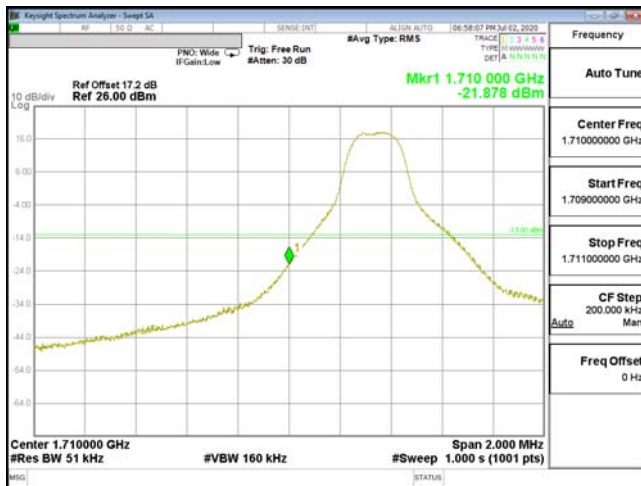




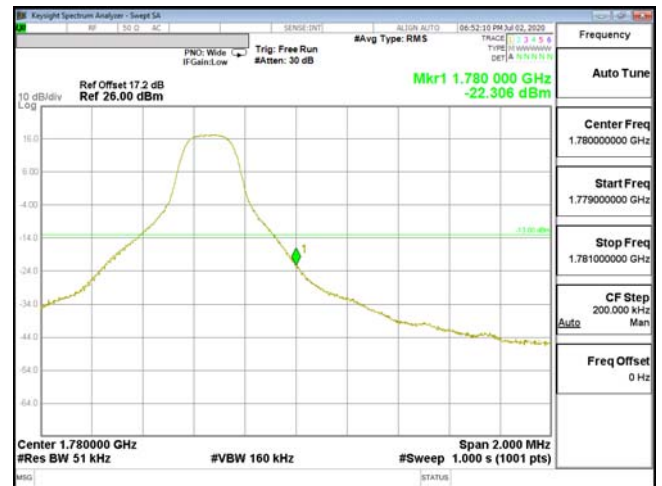
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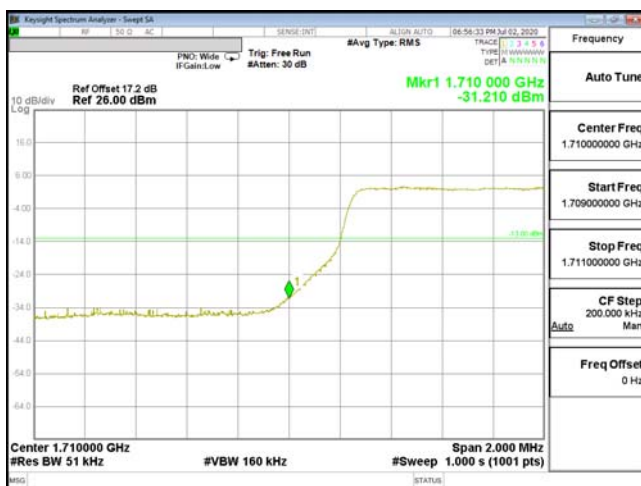
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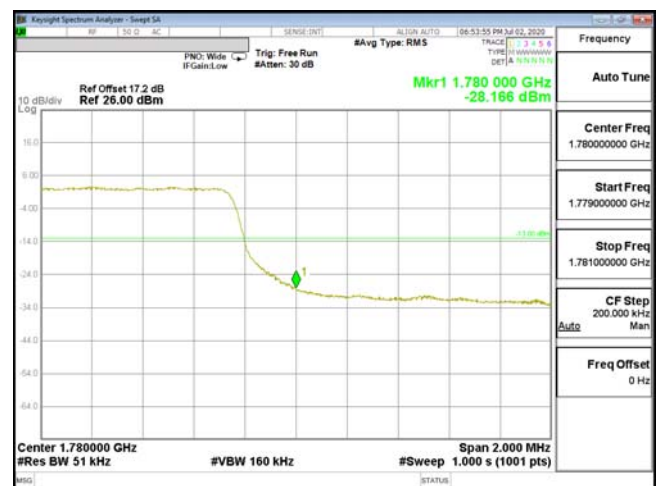
EDGE-ENDC\_66A\_n5-16QAM\_5M(1,0)\_CH131997\_1712.5



EDGE-ENDC\_66A\_n5-16QAM\_5M(1,24)\_CH132647\_1777.5



EDGE-ENDC\_66A\_n5-16QAM\_5M(25,0)\_CH131997\_1712.5



EDGE-ENDC\_66A\_n5-16QAM\_5M(25,0)\_CH132647\_1777.5



EDGE-ENDC\_66A\_n5-16QAM\_10M(1,0)\_CH132022\_1715



EDGE-ENDC\_66A\_n5-16QAM\_10M(1,49)\_CH132622\_1775



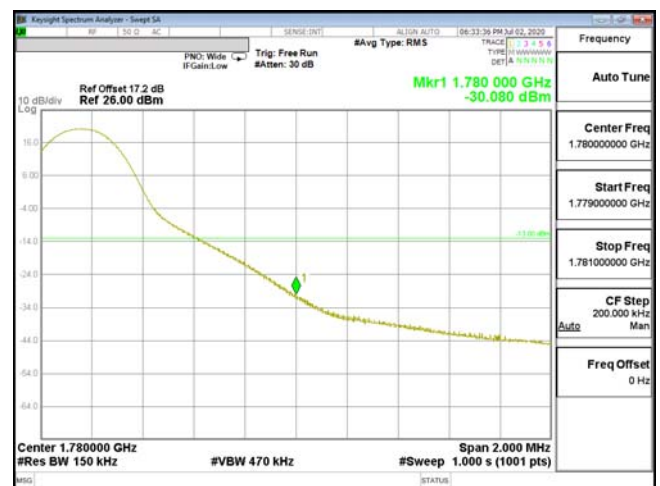
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EDGE-ENDC\_66A\_n5-16QAM\_10M(50,0)\_CH132622\_1775



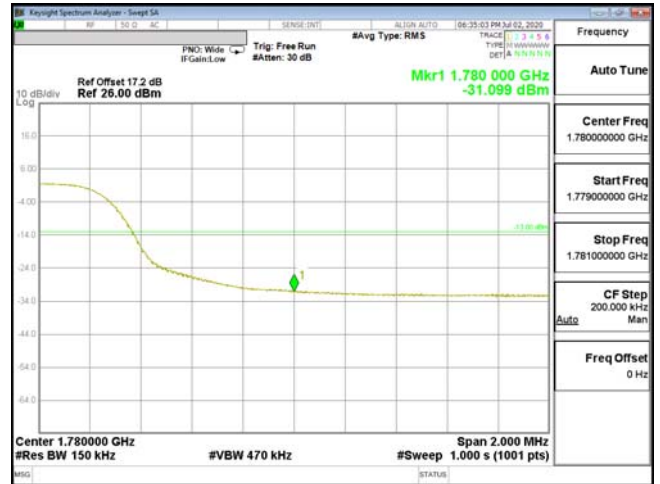
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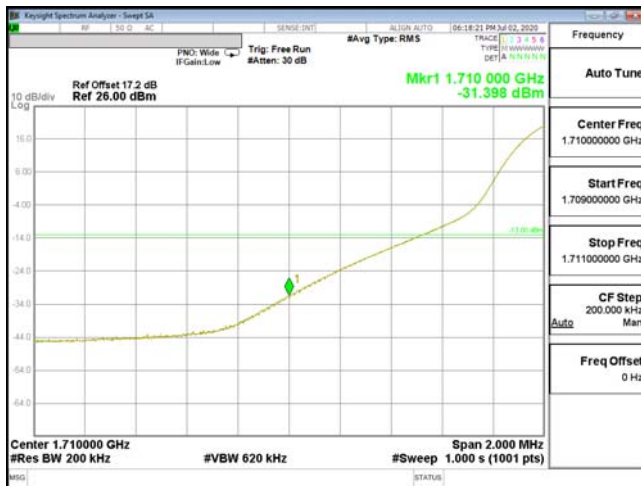
EDGE-ENDC\_66A\_n5-16QAM\_15M(1,74)\_CH132597\_1772.5



EDGE-ENDC\_66A\_n5-16QAM\_15M(75,0)\_CH132047\_1717.5



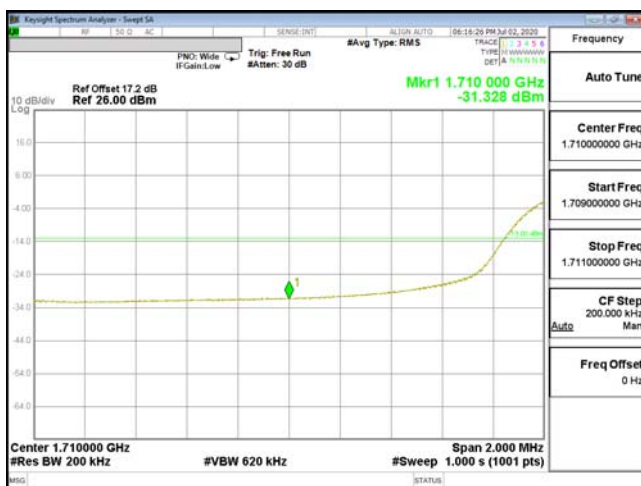
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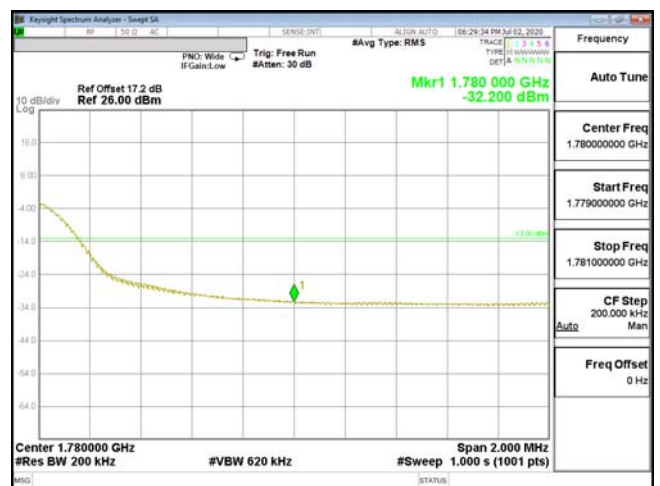
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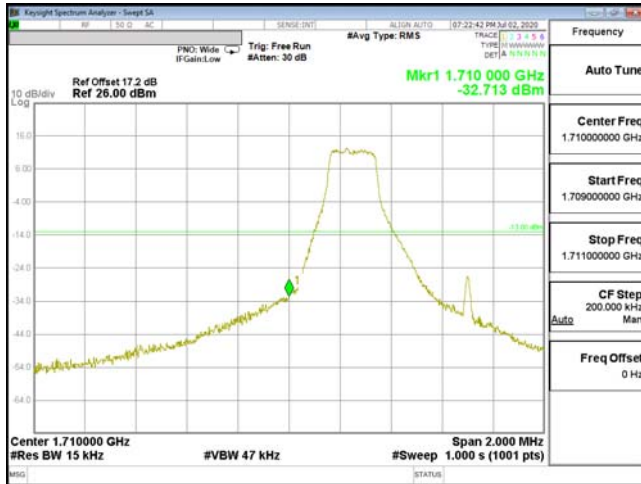
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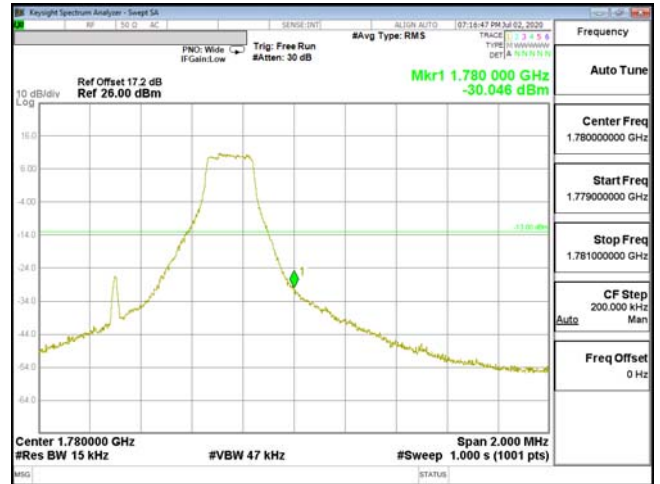
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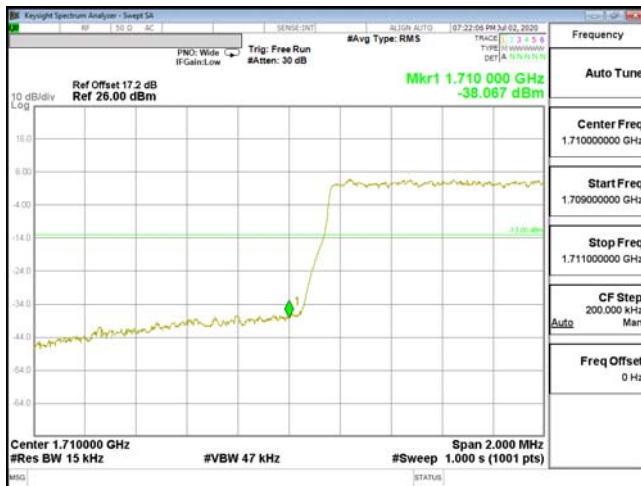
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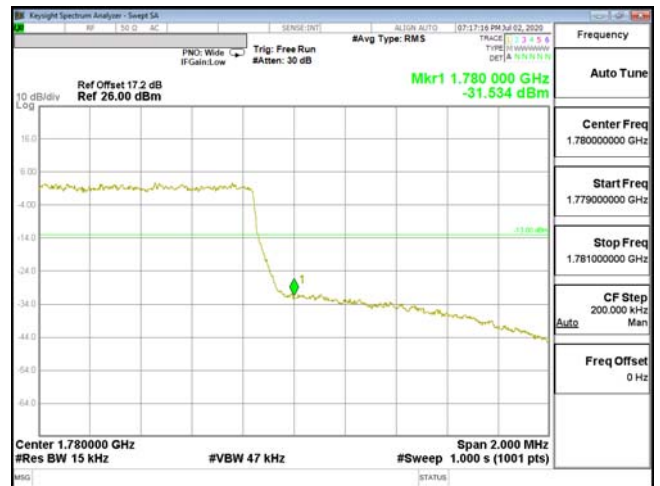
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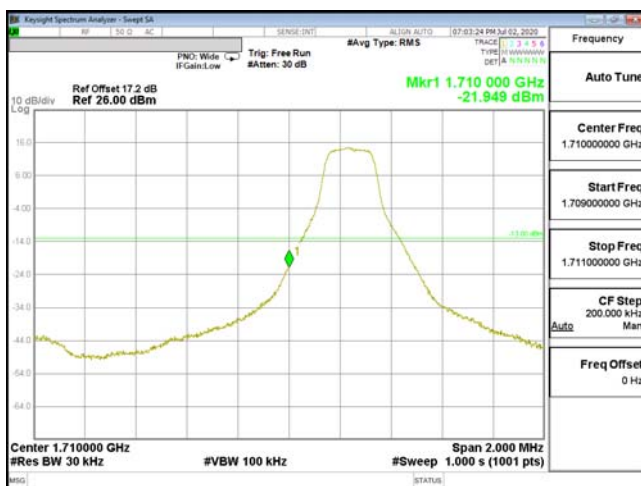
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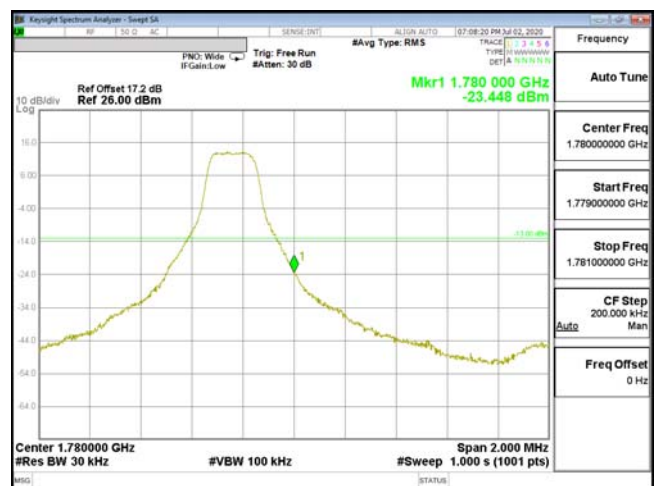
EDGE-ENDC\_66A\_n5-64QAM\_1.4M(6,0)\_CH131979\_1710.7



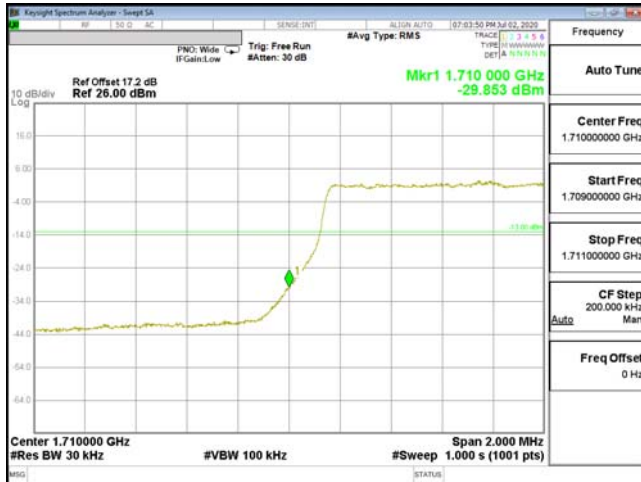
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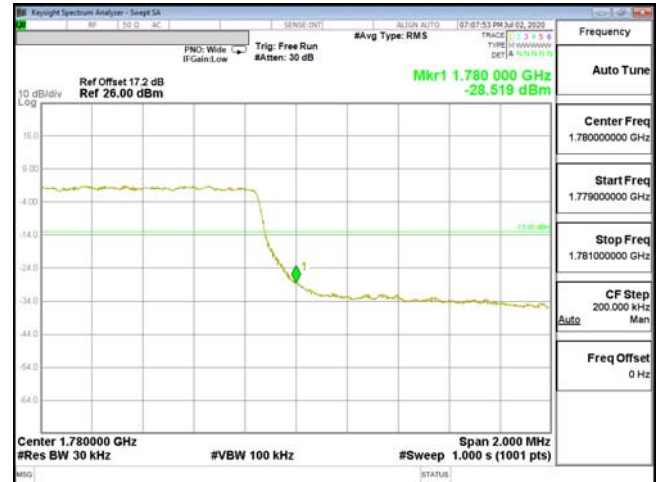
EDGE-ENDC\_66A\_n5-64QAM\_3M(1,0)\_CH131987\_1711.5



EDGE-ENDC\_66A\_n5-64QAM\_3M(1,14)\_CH132657\_1778.5



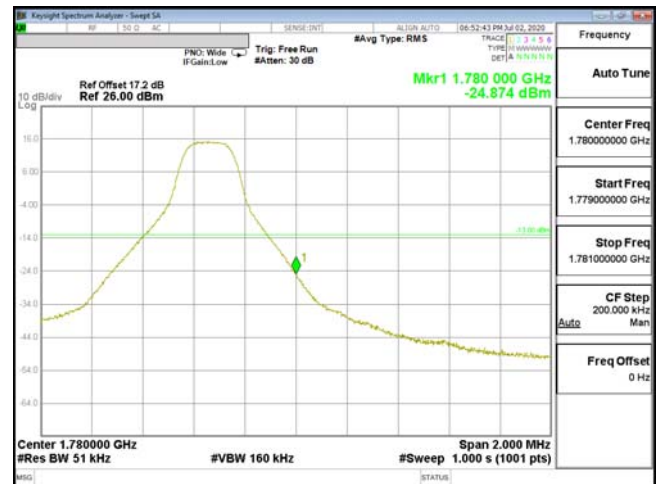
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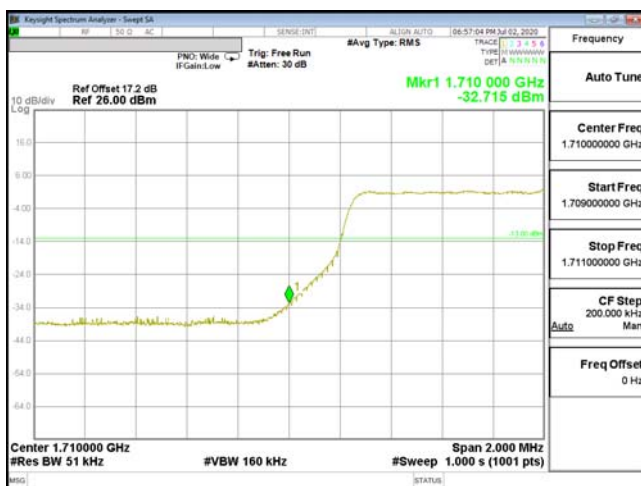
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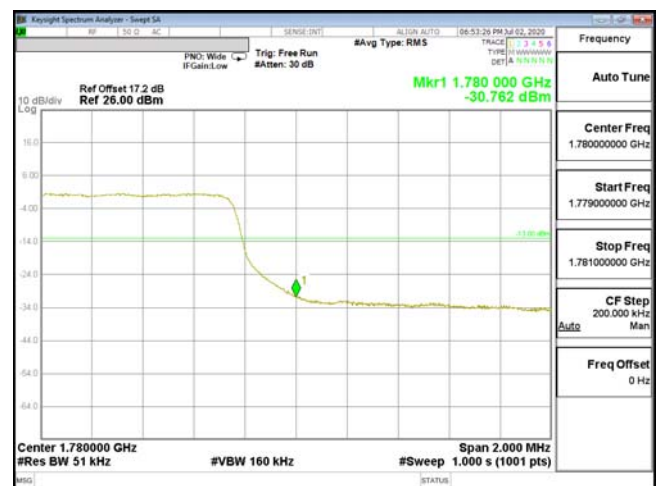
EDGE-ENDC\_66A\_n5-64QAM\_5M(1,0)\_CH131997\_1712.5



EDGE-ENDC\_66A\_n5-64QAM\_5M(1,24)\_CH132647\_1777.5



EDGE-ENDC\_66A\_n5-64QAM\_5M(25,0)\_CH131997\_1712.5



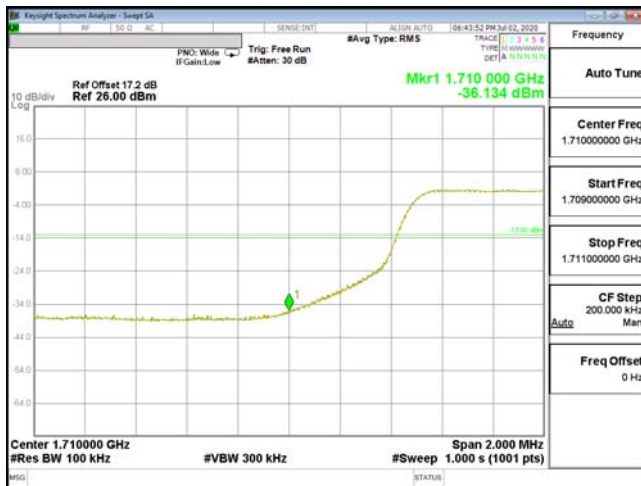
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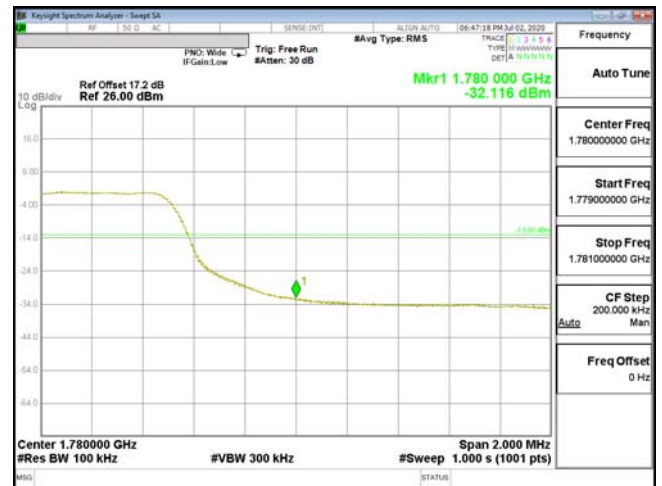
EDGE-ENDC\_66A\_n5-64QAM\_10M(1,0)\_CH132022\_1715



EDGE-ENDC\_66A\_n5-64QAM\_10M(1,49)\_CH132622\_1775



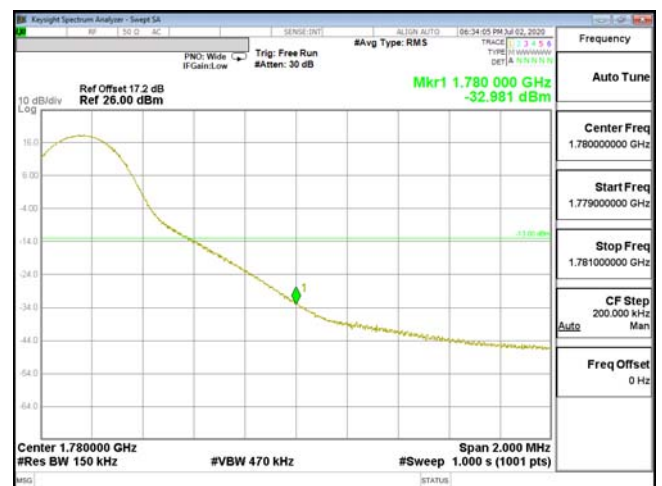
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EDGE-ENDC\_66A\_n5-64QAM\_10M(50,0)\_CH132622\_1775



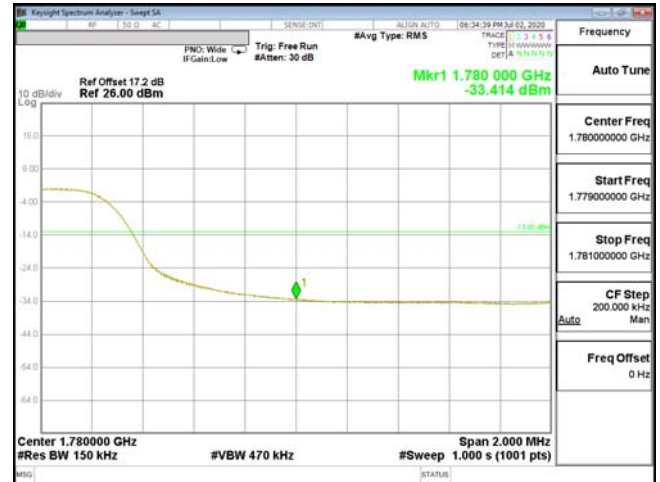
EDGE-ENDC\_66A\_n5-64QAM\_15M(1,0)\_CH132047\_1717.5



EDGE-ENDC\_66A\_n5-64QAM\_15M(1,74)\_CH132597\_1772.5



EDGE-ENDC\_66A\_n5-64QAM\_15M(75,0)\_CH132047\_1717.5



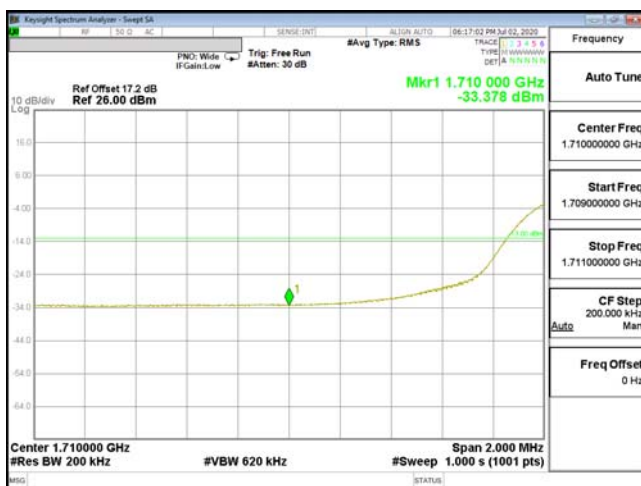
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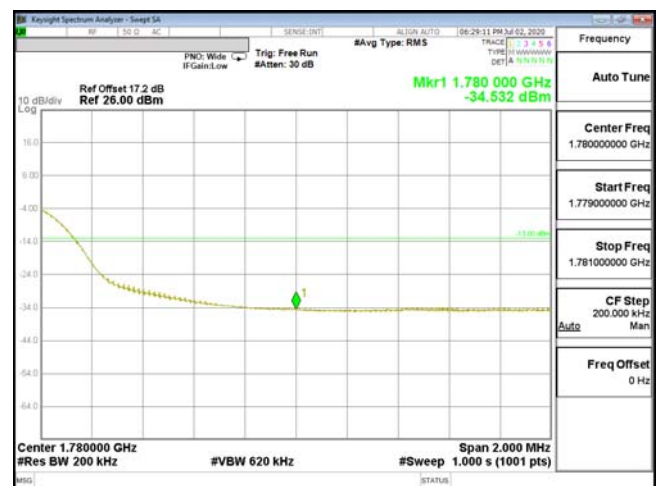
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EDGE-ENDC\_66A\_n5-64QAM\_20M(1,99)\_CH132572\_1770



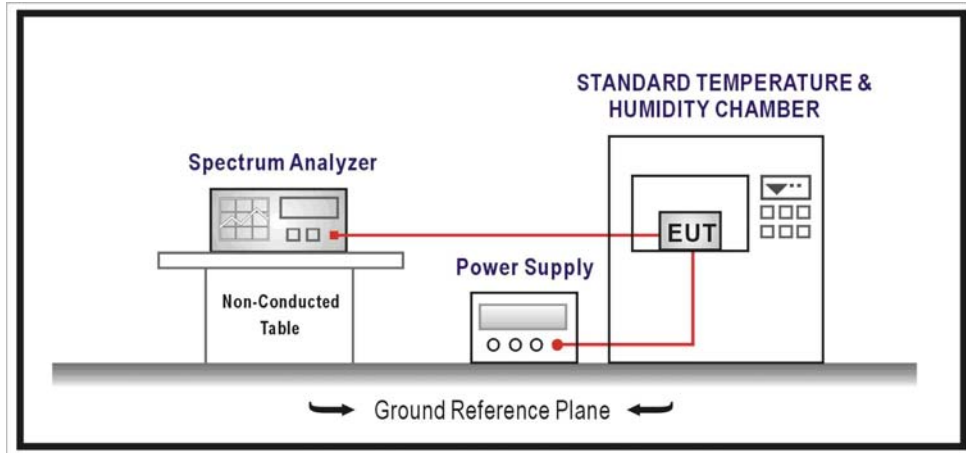
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EDGE-ENDC\_66A\_n5-64QAM\_20M(100,0)\_CH132572\_1770

## 8. Frequency Stability

### 8.1. Test Setup





## 8.2. Test Procedure

### Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

### Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

## 8.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 9  
ANSI C63.26-2015 Sub-clause 5.6

### 8.4. Test Result

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC n2 CH376000(1880MHz)-QPSK	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
-30	Mid	0.0221	0.0164	0.0139	0.0163	±4.70
-20	Mid	0.0176	0.0116	0.0176	0.0171	±4.70
-10	Mid	0.0242	0.0152	0.0238	0.0100	±4.70
0	Mid	0.0155	0.0153	0.0205	0.0197	±4.70
10	Mid	-0.0111	0.0190	0.0245	0.0180	±4.70
20	Mid	0.0185	0.0118	0.0242	0.0187	±4.70
30	Mid	0.0181	0.0160	-0.0136	-0.0114	±4.70
40	Mid	-0.0187	0.0120	0.0179	0.0256	±4.70
50	Mid	0.0228	0.0220	0.0115	-0.0101	±4.70
55	Mid	0.0199	0.0193	0.0147	-0.0094	±4.70

#### Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
138	Mid	-0.0109	0.0118	0.0118	0.0176	±4.70
120	Mid	0.0185	0.0118	0.0242	0.0187	±4.70
102	Mid	0.0093	0.0121	0.0186	0.0105	±4.70

#### AC Current

AC Current (A)	5M	10M	15M	20M
LINK:	0.1000	0.0990	0.1000	0.1010
IDLE:	0.0770	0.0770	0.0770	0.0770

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC n5 CH167300(836.5MHz)-QPSK	Test Range	-30°C~+50°C

#### Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
-30	Mid	-0.0059	0.0075	-0.0059	-0.0058	±2.09
-20	Mid	0.0092	-0.0080	-0.0071	-0.0067	±2.09
-10	Mid	-0.0065	0.0071	-0.0067	0.0163	±2.09
0	Mid	-0.0059	-0.0060	-0.0068	0.0057	±2.09
10	Mid	-0.0096	0.0107	0.0097	0.0088	±2.09
20	Mid	-0.0084	-0.0075	0.0096	-0.0115	±2.09
30	Mid	0.0110	-0.0096	-0.0101	-0.0090	±2.09
40	Mid	-0.0067	-0.0069	0.0070	0.0080	±2.09
50	Mid	-0.0083	0.0088	0.0092	-0.0084	±2.09
55	Mid	-0.0122	0.0106	0.0134	-0.0101	±2.09

#### Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
138	Mid	-0.0080	-0.0102	0.0120	-0.0072	±2.09
120	Mid	-0.0084	-0.0075	0.0096	-0.0115	±2.09
102	Mid	-0.0088	-0.0053	0.0209	-0.0096	±2.09

#### AC Current

AC Current (A)	5M	10M	15M	20M
LINK:	0.1010	0.1010	0.1030	0.1040
IDLE:	0.0730	0.0730	0.0730	0.0730

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC n66 CH349000(1745MHz)-QPSK	Test Range	-30°C~+50°C

Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
-30	Mid	0.0235	0.0177	0.0159	0.0191	±4.36
-20	Mid	0.0266	0.0143	0.0193	0.0195	±4.36
-10	Mid	0.0131	0.0202	0.0121	0.0107	±4.36
0	Mid	0.0201	0.0176	0.0222	0.0217	±4.36
10	Mid	0.0141	-0.0082	-0.0123	-0.0102	±4.36
20	Mid	0.0180	-0.0145	0.0104	-0.0119	±4.36
30	Mid	-0.0129	-0.0108	-0.0124	-0.0122	±4.36
40	Mid	-0.0176	0.0127	-0.0098	0.0192	±4.36
50	Mid	-0.0131	0.0094	-0.0114	0.0120	±4.36
55	Mid	-0.0156	0.0151	-0.0141	0.0178	±4.36

Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)				Limit (kHz)
		5M	10M	15M	20M	
138	Mid	-0.0125	-0.0120	0.0120	-0.0159	±4.36
120	Mid	0.0180	-0.0145	0.0104	-0.0119	±4.36
102	Mid	0.0135	0.0077	0.0180	0.0126	±4.36

AC Current

AC Current (A)	5M	10M	15M	20M
LINK:	0.1040	0.1040	0.1040	0.1040
IDLE:	0.0720	0.0720	0.0720	0.0720

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC LTE Band 2 CH18900(1880MHz)-QPSK	Test Range	-30°C~+50°C

## Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
-30	Mid	-0.0103	0.0151	0.0090	0.0108	0.0115	0.0107	±4.70
-20	Mid	-0.0169	-0.0169	0.0087	0.0116	-0.0135	0.0120	±4.70
-10	Mid	0.0135	0.0179	-0.0090	0.0127	0.0149	0.0136	±4.70
0	Mid	-0.0178	0.0105	0.0114	-0.0127	0.0129	0.0125	±4.70
10	Mid	-0.0154	0.0138	0.0122	0.0079	0.0133	-0.0108	±4.70
20	Mid	0.0149	-0.0073	-0.0151	-0.0138	0.0105	-0.0097	±4.70
30	Mid	-0.0114	-0.0146	-0.0201	-0.0112	-0.0127	-0.0172	±4.70
40	Mid	-0.0102	0.0096	-0.0112	0.0141	-0.0183	-0.0168	±4.70
50	Mid	-0.0198	-0.0104	-0.0177	-0.0180	-0.0104	-0.0151	±4.70
55	Mid	-0.0154	-0.0124	-0.0168	-0.0131	-0.0152	-0.0111	±4.70

## Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
138	Mid	-0.0119	-0.0121	-0.0171	0.0138	-0.0117	-0.0111	±4.70
120	Mid	0.0149	-0.0073	-0.0151	-0.0138	0.0105	-0.0097	±4.70
102	Mid	-0.0112	-0.0090	0.0125	-0.0096	0.0072	-0.0151	±4.70

## AC Current

AC Current (A)	1.4M	3M	5M	10M	15M	20M
LINK:	0.1020	0.1020	0.1040	0.1050	0.1040	0.1040
IDLE:	0.0720	0.0720	0.0720	0.0720	0.0720	0.0720

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC LTE Band 5 CH20525(836.5MHz)-QPSK	Test Range	-30°C~+50°C

## Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
-30	Mid	-0.0136	0.0169	0.0139	0.0193	--	--	±2.09
-20	Mid	-0.0182	0.0137	0.0125	0.0159	--	--	±2.09
-10	Mid	0.0174	0.0153	0.0109	0.0138	--	--	±2.09
0	Mid	0.0171	0.0147	0.0169	0.0114	--	--	±2.09
10	Mid	-0.0053	-0.0041	0.0059	-0.0049	--	--	±2.09
20	Mid	-0.0075	0.0062	-0.0080	-0.0068	--	--	±2.09
30	Mid	0.0065	-0.0072	-0.0083	-0.0056	--	--	±2.09
40	Mid	-0.0063	-0.0064	-0.0054	-0.0063	--	--	±2.09
50	Mid	-0.0092	-0.0044	-0.0072	0.0062	--	--	±2.09
55	Mid	-0.0114	-0.0098	-0.0078	0.0115	--	--	±2.09

## Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
138	Mid	0.0048	0.0079	-0.0042	-0.0048	--	--	±2.09
120	Mid	-0.0075	0.0062	-0.0080	-0.0068	--	--	±2.09
102	Mid	0.0052	-0.0074	0.0038	0.0065	--	--	±2.09

## AC Current

AC Current (A)	1.4M	3M	5M	10M	15M	20M
LINK:	0.1000	0.0990	0.1000	0.1010	--	--
IDLE:	0.0770	0.0770	0.0770	0.0770	--	--

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC LTE Band 13 CH23230(782MHz)-QPSK	Test Range	-30°C~+50°C

## Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
-30	Mid	--	--	0.0131	0.0151	--	--	±1.96
-20	Mid	--	--	0.0129	0.0154	--	--	±1.96
-10	Mid	--	--	0.0127	0.0172	--	--	±1.96
0	Mid	--	--	0.0148	0.0144	--	--	±1.96
10	Mid	--	--	0.0036	0.0057	--	--	±1.96
20	Mid	--	--	-0.0067	-0.0038	--	--	±1.96
30	Mid	--	--	0.0057	0.0043	--	--	±1.96
40	Mid	--	--	-0.0054	-0.0061	--	--	±1.96
50	Mid	--	--	0.0051	-0.0035	--	--	±1.96
55	Mid	--	--	0.0089	-0.0081	--	--	±1.96

## Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
138	Mid	--	--	-0.0028	-0.0056	--	--	±1.96
120	Mid	--	--	-0.0067	-0.0038	--	--	±1.96
102	Mid	--	--	-0.0047	-0.0039	--	--	±1.96

## AC Current

AC Current (A)	1.4M	3M	5M	10M	15M	20M
LINK:	--	--	0.1040	0.1040	--	--
IDLE:	--	--	0.0720	0.0720	--	--

Product	LV55		
Test Mode	Frequency Stability Under Temperature Variations & Voltage Variations		
Date of Test	2020/07/04	Test Site	SR12-H
Test Condition	ENDC LTE Band 66 CH132322(1745MHz)-QPSK	Test Range	-30°C~+50°C

## Frequency Stability Under Temperature Variations

Temperature Interval(°C)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
-30	Mid	-0.0274	0.0090	0.0130	0.0135	0.0082	0.0084	±4.36
-20	Mid	-0.0251	-0.0130	-0.0087	0.0105	-0.0099	-0.0146	±4.36
-10	Mid	-0.0224	0.0138	0.0147	-0.0111	0.0077	0.0165	±4.36
0	Mid	0.0236	0.0105	0.0154	0.0118	0.0111	0.0128	±4.36
10	Mid	-0.0152	-0.0170	-0.0198	-0.0102	-0.0222	-0.0160	±4.36
20	Mid	0.0122	0.0095	-0.0117	-0.0117	-0.0113	-0.0124	±4.36
30	Mid	0.0106	0.0086	-0.0056	0.0090	-0.0072	-0.0121	±4.36
40	Mid	-0.0149	-0.0142	-0.0126	-0.0142	0.0101	0.0089	±4.36
50	Mid	0.0121	0.0264	-0.0198	-0.0117	-0.0112	-0.0113	±4.36
55	Mid	0.0105	0.0223	-0.0156	-0.0138	-0.0123	-0.0129	±4.36

## Voltage Variations

AC Voltage (V)	Test Channel	Deviation (kHz)						Limit (kHz)
		1.4M	3M	5M	10M	15M	20M	
138	Mid	0.0113	-0.0106	0.0096	-0.0075	0.0137	0.0086	±4.36
120	Mid	0.0122	0.0095	-0.0117	-0.0117	-0.0113	-0.0124	±4.36
102	Mid	-0.0092	-0.0095	-0.0096	0.0121	-0.0087	0.0088	±4.36

## AC Current

AC Current (A)	1.4M	3M	5M	10M	15M	20M
LINK:	0.1010	0.1010	0.1010	0.1010	0.1010	0.1010
IDLE:	0.0730	0.0730	0.0730	0.0730	0.0730	0.0730