EPINTEKTEK Suzhou Ltd.

EN300220 RF Test Report

APPLICANT	:	**Shanghai PANCHIP Microelectronics Co., Ltd**
EQUIPMENT	:	**RF Module**
BRAND NAME	:	**NA**
MODEL NAME	:	**PAN3031**
STANDARD	:	**EN 300220-1, EN 300220-2**

Applicant : Shanghai PANCHIP Microelectronics Co., Ltd

Address : Add:3-F, Bldg D, No.666 summer, Shanghai Zhangjiang Hi-Tech Park Road

Date of Receipt	:	May. 18, 2022
Test Date	:	May. 18, 2022 to Jun. 8, 2022
Issued Date	:	Jun. 14, 2022
Report No.	:	MEE2022041207-530E
Report Version	:	V1.0

Tested by : Adonis.Li

Reviewed by : Heaven Yang

Performed Location : EPINTEK Suzhou Ltd., Suzhou Industrial Park Branch
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1. General Information

1.1 EUT Description

Product Name	RF Module
Model No.	PAN3031
EUT Voltage	DC 3.3V
Test Voltage	DC 3.3V
Chirp	
Frequency Range	433.05 ~ 434.79 MHz
TX Frequency Range	125KHz:433.15~434.7 MHz 250KHz:433.2~434.6 MHz 500KHz:433.3~434.5 MHz
Channel Number	NA
Type of Modulation	Chirp

1.2 Antenna List

Antenna manufacturer	胶棒天线	
Model No.	NA	
Brand Name	NA	
Antenna Delivery	1*TX+1*RX	
Antenna technology	SISO	
Antenna Type	External	Dipole
Antenna Gain #1	0dBi	

Note: Antenna gain is maximum average gain, the data is provided by customer. EPINTEK is not responsible for the authenticity of this data.

1.3 Test Channel

Band width	Center Frequency
125KHz	433.15~434.7 MHz
250KHz	433.2~434.6 MHz
500KHz	433.3~434.5 MHz

1.4 The test modes of the EUT can support:

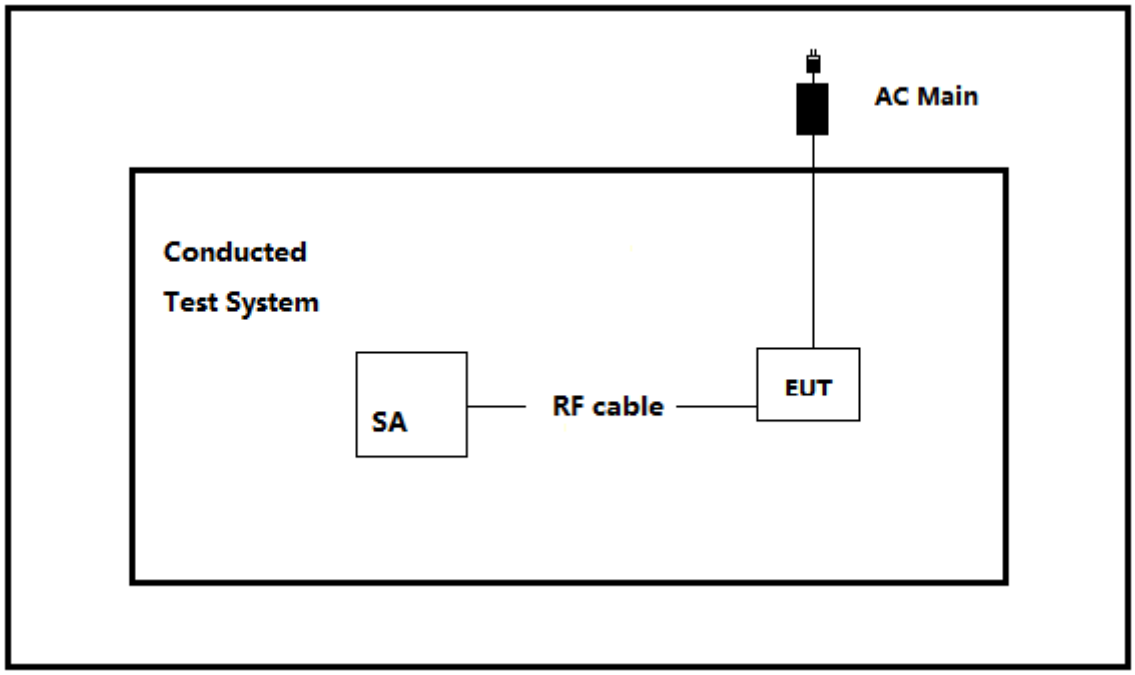
Test Mode	Band width	Ant 1
Chirp	125KHz, 250KHz ,500KHz	√

1.5 EUT Operational Condition

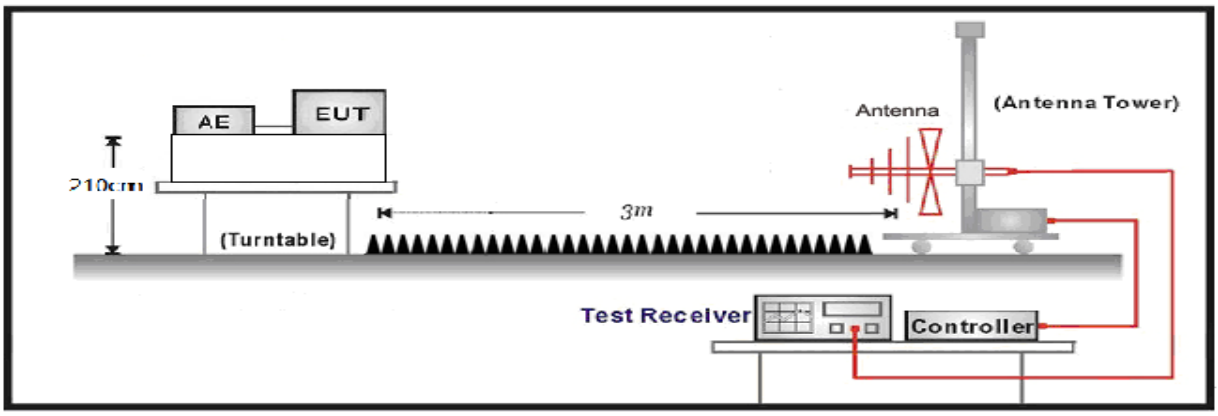
EUT Voltage	3.3V
Test Voltage	3.3V
Extreme Temperature	T_{nom} (25℃)

1.6 Configuration of Tested System

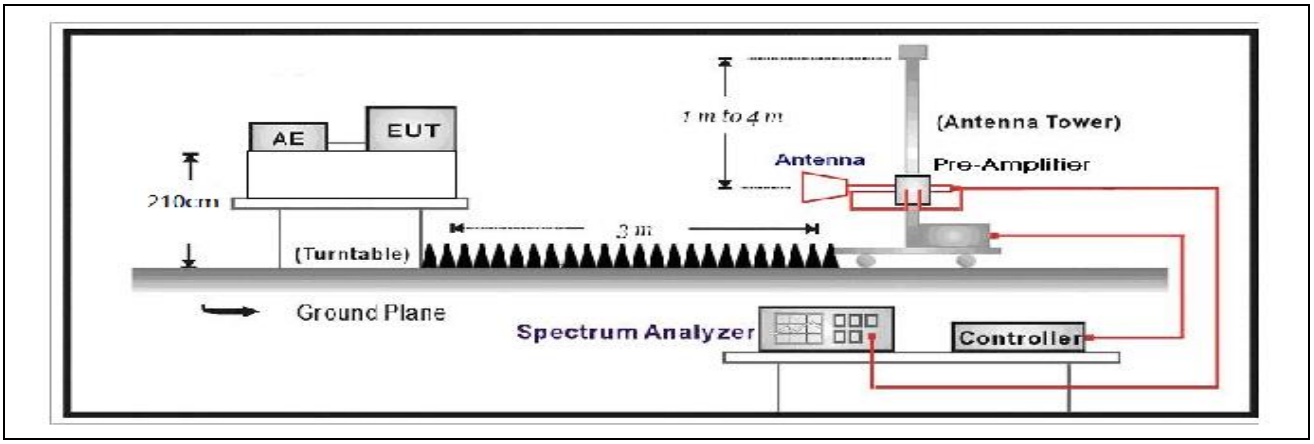
Conducted Test setup



☒ Transmitter Radited spurious emissions (Below 1G) Test setup



☒ Transmitter Radited spurious emissions (Above 1G) Test setup



1.7 Test Equipment

RF Test system				
Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
MXA Signal Analyzer	Agilent	N9020A	MY51110329	2021.09.29
EMI receiver	R&S	ESR3	102489	2022-12-24
Bilog Antenna	SCHWARZBECK	VULB 9168	01099	2023.03.13
Horn Antenna	Schwarzbeck	BBHA9120D	01938	2021.09.22
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.				

1.8 Test set parame for EUT

Band width	Center Frequency MHz	Power setting
125KHz	433.15	9dbm
	434.7	9dbm
250KHz	433.2	9dbm
	434.6	9dbm
500KHz	433.3	9dbm
	434.5	9dbm

1.9 The Applicability of test items

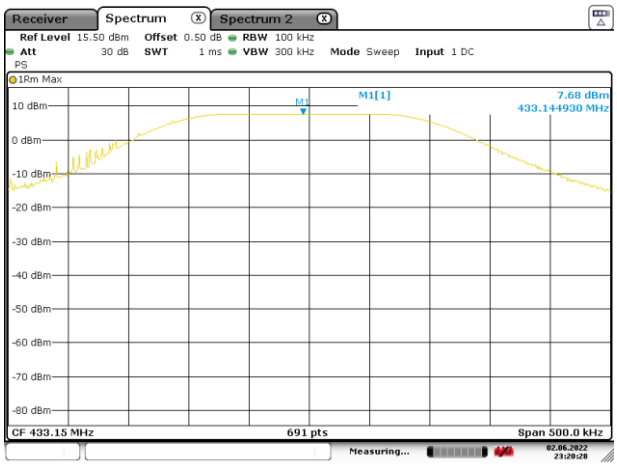
Performed Test Item	Test Procedure	Result	Note
Effective Radiated Power	5.2 Effective Radiated Power	NA	
Maximum Effective Radiated Power spectral density	5.3 Maximum Effective Radiated Power spectral density	Pass	
Occupied Bandwidth	5.6 Occupied Bandwidth	Pass	
Out Of Band Domain for Operating Channel	5.8 Tx Out Of Band Emissions	Pass	
Out Of Band Domain for Operational Frequency Band		Pass	
Unwanted emissions in the spurious domain For TX mode	5.9 Unwanted emissions in the spurious domain	Pass	
Unwanted emissions in the spurious domain For all other mode		Pass	

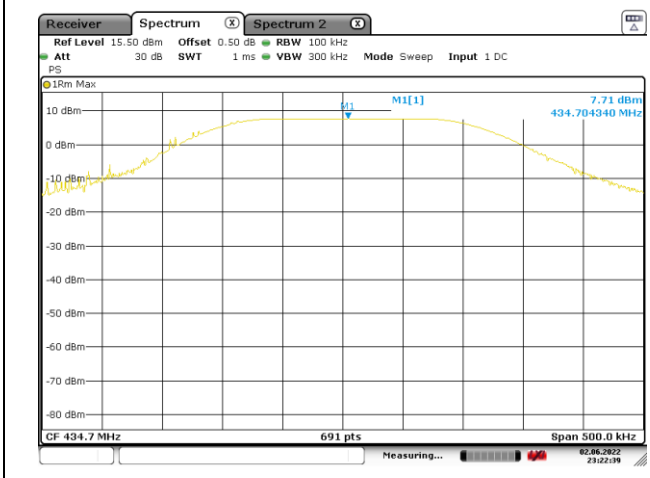
2. Test Ruslt

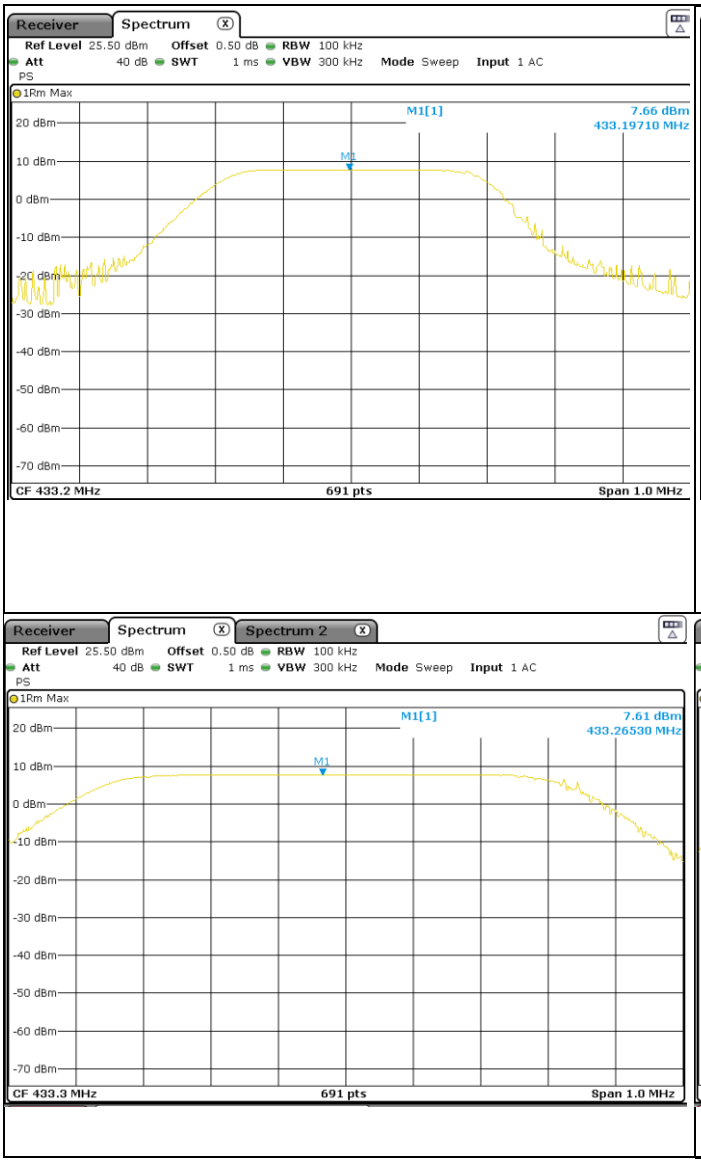
2.1 Effective Radiated Power

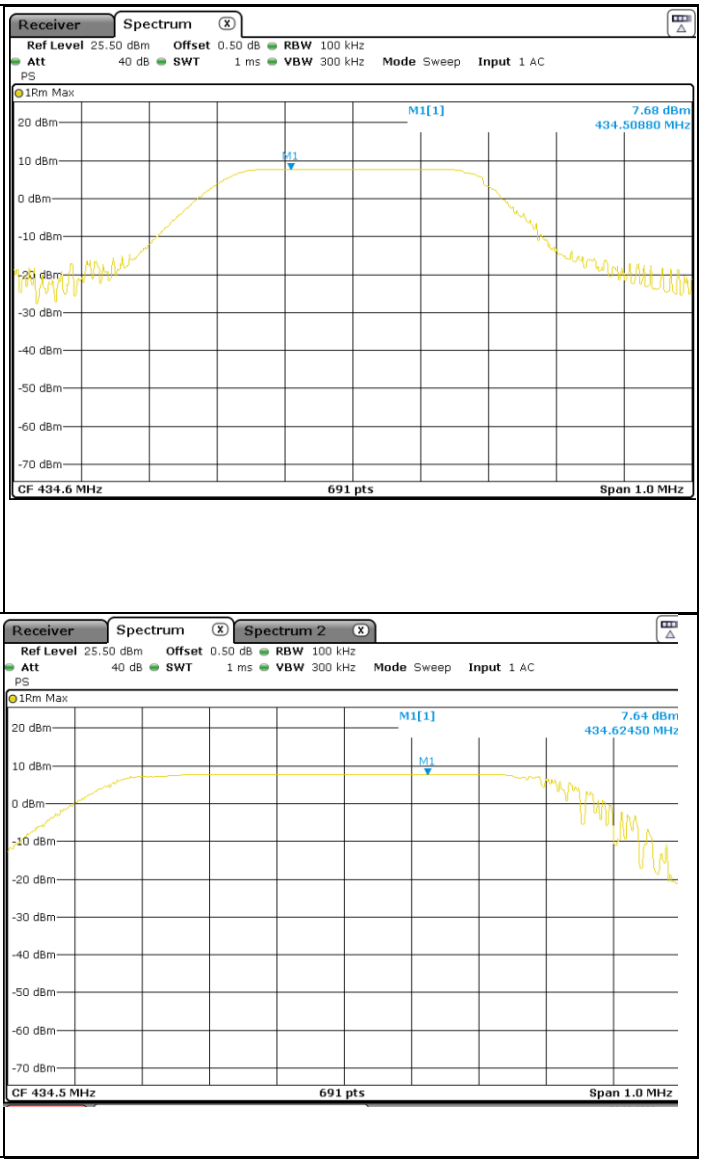
Test Item	:	Effective Radiated Power
Test Mode	:	Chirp
Ant Gain		0dBi

Test Conditions	BandWidth	Frequency (MHz)	Measured Power (dBm)	Limit (dBm)	Result
	125KHz	433.15	7.68	10	Pass
		434.7	7.71	10	Pass
	250KHz	433.2	7.66	10	Pass
		434.6	7.68	10	Pass
	500KHz	433.3	7.61	10	Pass
		434.5	7.61	10	Pass






Receiver
Spectrum
Ref Level 25.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep Input 1 AC
PS
1Rm Max
M1[1]
7.66 dBm
433.19710 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 433.2 MHz
691 pts
Span 1.0 MHz

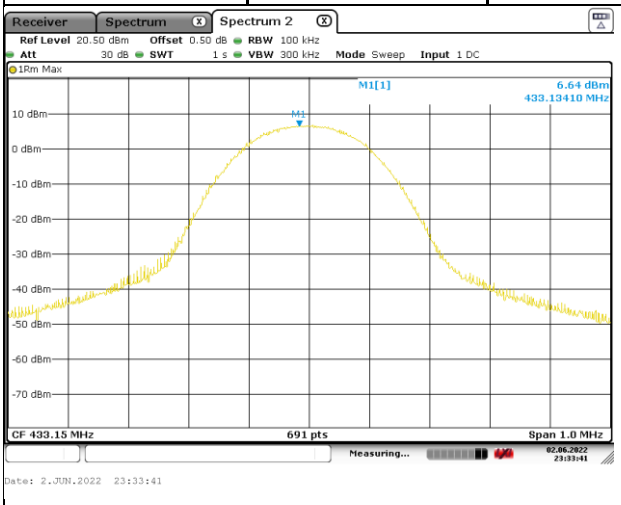

Receiver
Spectrum
Ref Level 25.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep Input 1 AC
PS
1Rm Max
M1[1]
7.68 dBm
434.50880 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 434.6 MHz
691 pts
Span 1.0 MHz

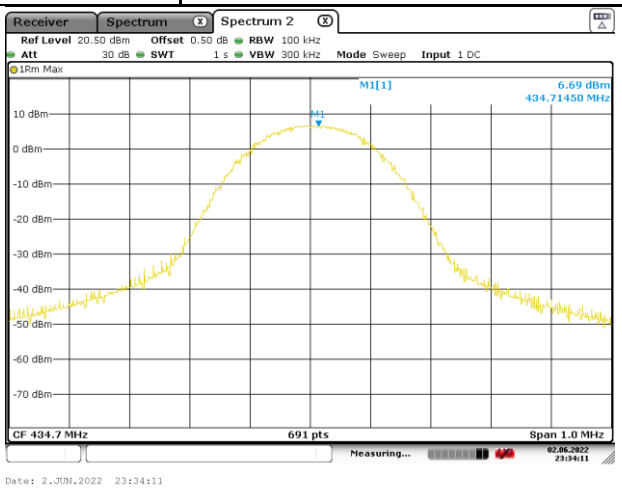
Receiver
Spectrum
Spectrum 2
Ref Level 25.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep Input 1 AC
PS
1Rm Max
M1[1]
7.61 dBm
433.26530 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 433.3 MHz
691 pts
Span 1.0 MHz

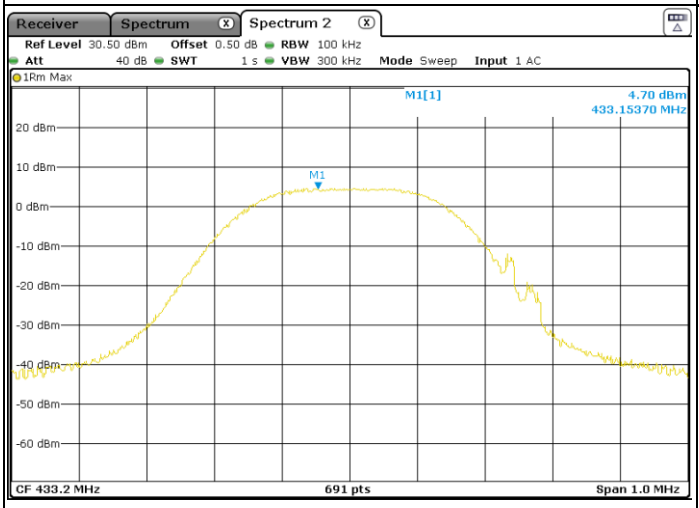
Receiver
Spectrum
Spectrum 2
Ref Level 25.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep Input 1 AC
PS
1Rm Max
M1[1]
7.64 dBm
434.62450 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 434.5 MHz
691 pts
Span 1.0 MHz

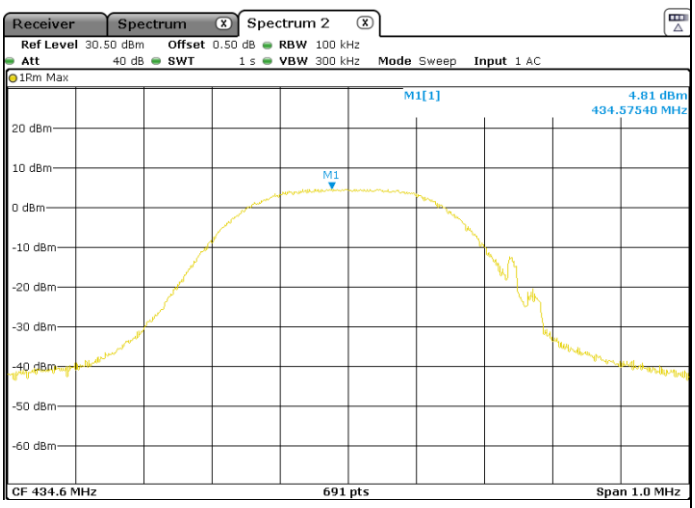
2.2 Maximum Effective Radiated Power spectral density

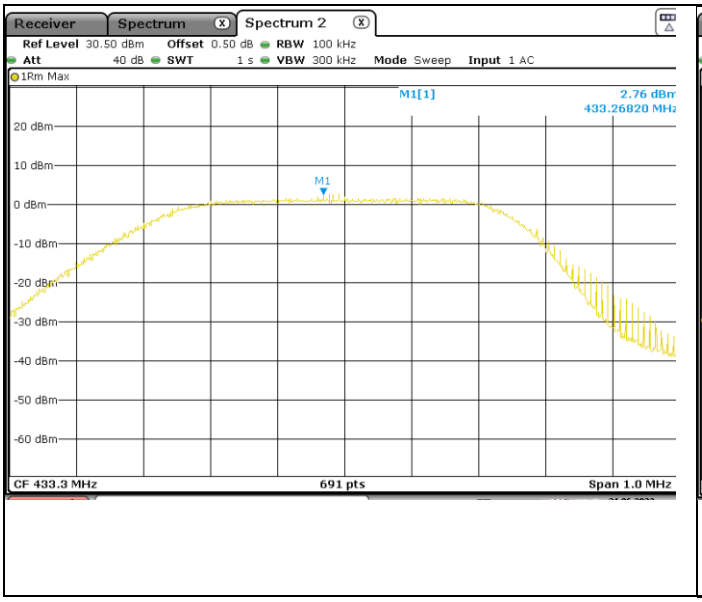
Test Conditions	BandWidth	Frequency (MHz)	Measured Power (dBm)
	125KHz	433.15	6.64
		434.7	6.69
	250KHz	433.2	4.70
		434.6	4.81
	500KHz	433.3	2.76
		434.5	2.96

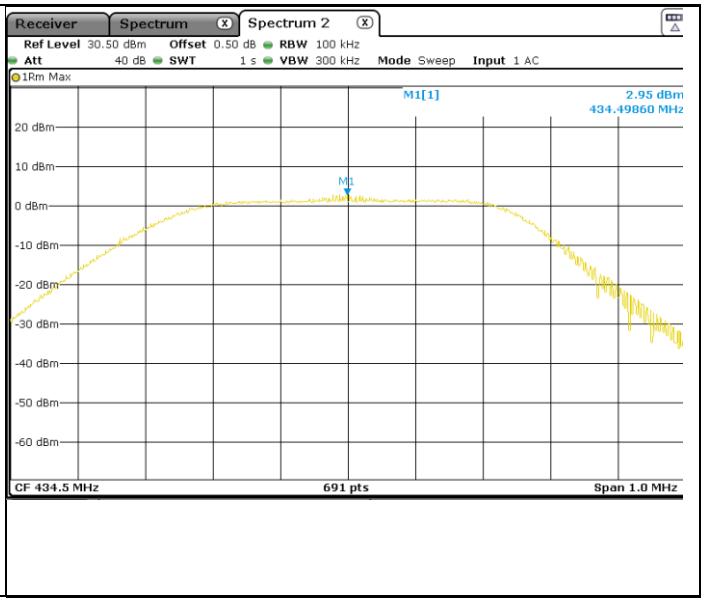






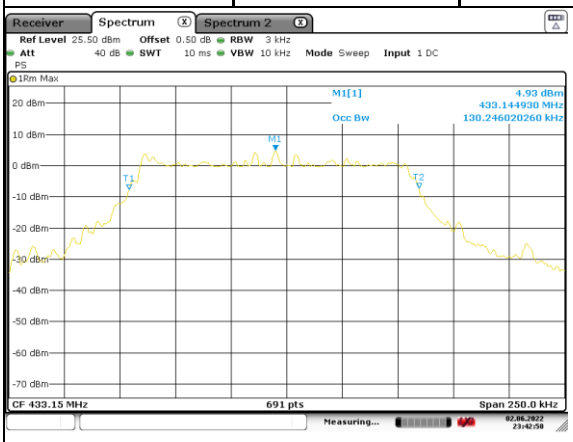


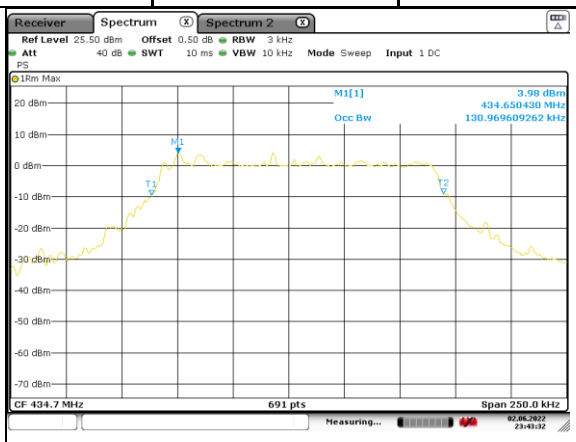

Receiver
Spectrum
Spectrum 2
Ref Level 30.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 s VBW 300 kHz Mode Sweep Input 1 AC
1Rm Max
M1[1]
2.76 dBm
433.26820 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 433.3 MHz
691 pts
Span 1.0 MHz

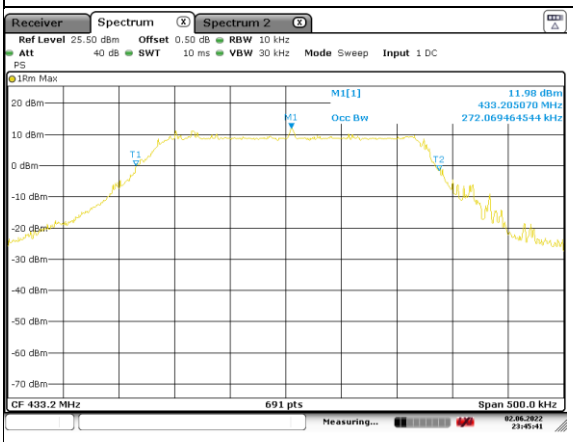

Receiver
Spectrum
Spectrum 2
Ref Level 30.50 dBm Offset 0.50 dB RBW 100 kHz
Att 40 dB SWT 1 s VBW 300 kHz Mode Sweep Input 1 AC
1Rm Max
M1[1]
2.95 dBm
434.49860 MHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 434.5 MHz
691 pts
Span 1.0 MHz

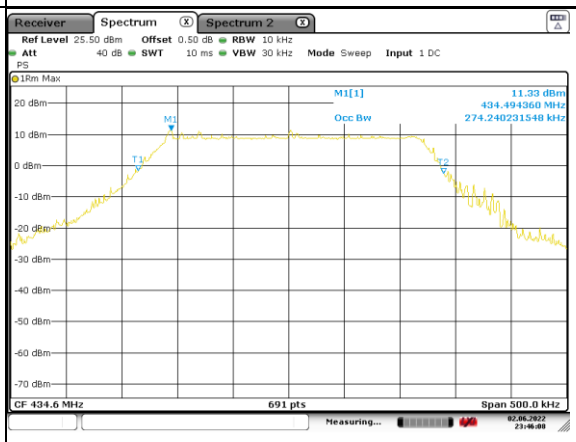
2.3 Occupied Bandwidth

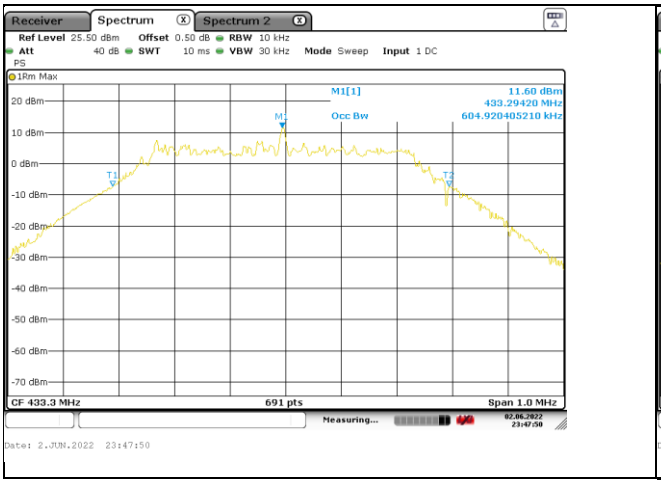
Test Conditions	BandWidth	Frequency (MHz)	Limit	Result
	125KHz	433.15		Pass
		434.7		Pass
	250KHz	433.2		Pass
		434.6		Pass
	500KHz	433.3		Pass
		434.5		Pass

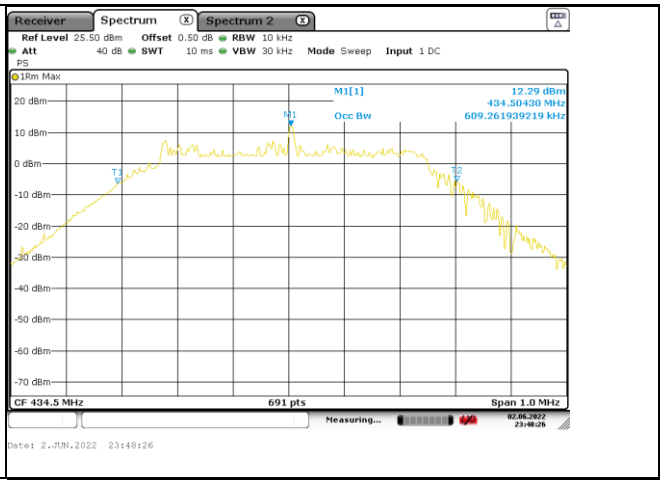









Receiver
Spectrum
Spectrum 2
Ref Level 25.50 dBm Offset 0.50 dB RBW 10 kHz
Att 40 dB SWT 10 ms VBW 30 kHz Mode Sweep Input 1 DC
PS
1Rm Max
M1[1] 11.60 dBm
433.29420 MHz
Occ Bw 604.920405210 kHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 433.3 MHz
691 pts
Span 1.0 MHz
Measuring...
Date: 2.JUN.2022 23:47:50


Receiver
Spectrum
Spectrum 2
Ref Level 25.50 dBm Offset 0.50 dB RBW 10 kHz
Att 40 dB SWT 10 ms VBW 30 kHz Mode Sweep Input 1 DC
PS
1Rm Max
M1[1] 12.29 dBm
434.50430 MHz
Occ Bw 609.261939219 kHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 434.5 MHz
691 pts
Span 1.0 MHz
Measuring...
Date: 2.JUN.2022 23:48:26

2.4 Unwanted emissions in the spurious domain For all other mode

Conducted test ruslt

Test Conditions	BandWidth	Frequency (MHz)	Result
	125KHz	433.15	Pass
		434.7	Pass
	250KHz	433.2	Pass
		434.6	Pass
	500KHz	433.3	Pass
		434.5	Pass
Unwanted emissions in the spurious domain For all other mode Limiti			

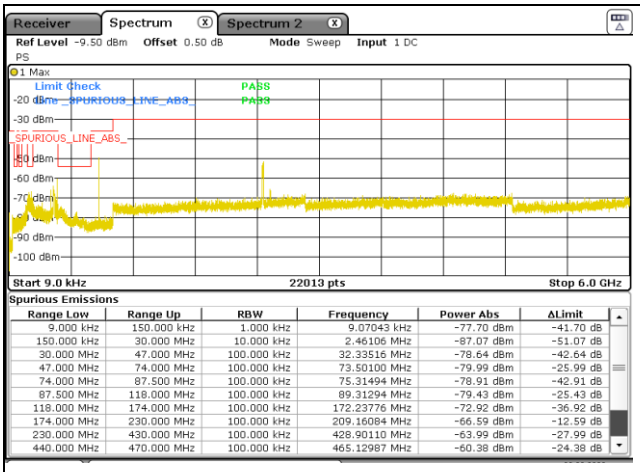
Table 20: Parameters for TX Spurious Radiations Measurement

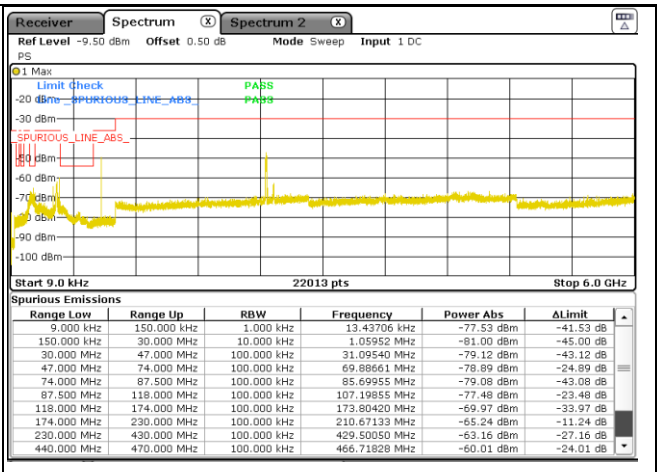
Operating Mode	Frequency Range	RBW_{REF} (see note 2)
Transmit mode	9 kHz ≤ f < 150 kHz	1 kHz
	150 kHz ≤ f < 30 MHz	10 kHz
	30 MHz ≤ f < f_c - m	100 kHz
	f_c - m ≤ f < f_c - n	10 kHz
	f_c - n ≤ f < f_c - p	1 kHz
	f_c + p < f ≤ f_c + n	1 kHz
	f_c + n < f ≤ f_c + m	10 kHz
	f_c + m < f ≤ 1 GHz	100 kHz
	1 GHz < f ≤ 6 GHz	1 MHz

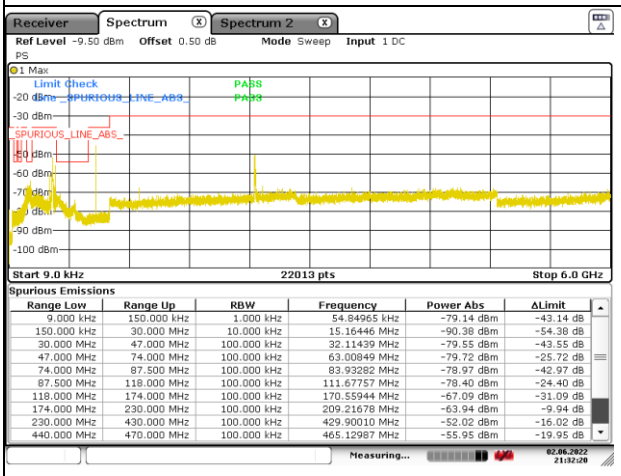
NOTE 1: f is the measurement frequency.
f_c is the Operating Frequency.
m is 10 x OCW or 500 kHz, whichever is the greater.
n is 4 x OCW or 100 kHz, whichever is the greater.
p is 2,5 x OCW.

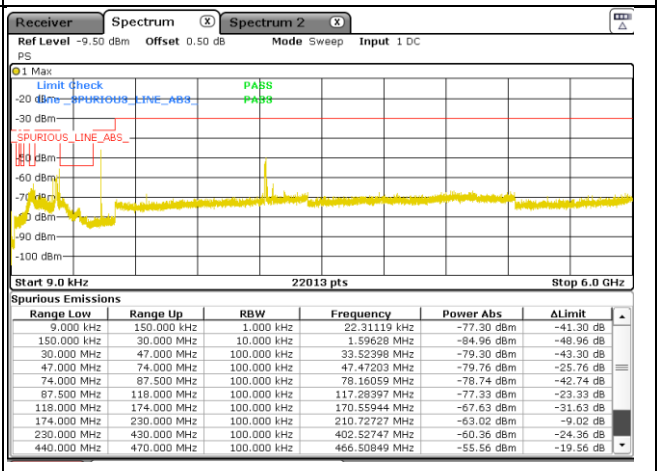
NOTE 2: If the value of RBW used for measurement is different from RBW_{REF}, use bandwidth correction from clause 4.3.10.1.

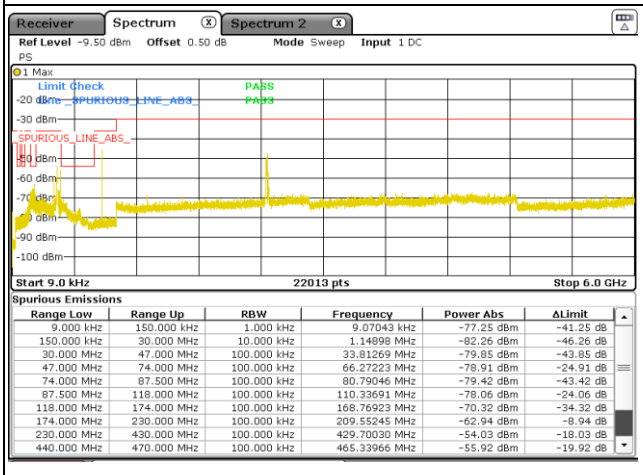
Frequency / State	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 790 MHz	Other frequencies below 1 000 MHz	Frequencies above 1 000 MHz
TX mode	-54 dBm	-36 dBm	-30 dBm
RX and all other modes	-57 dBm	-57 dBm	-47 dBm

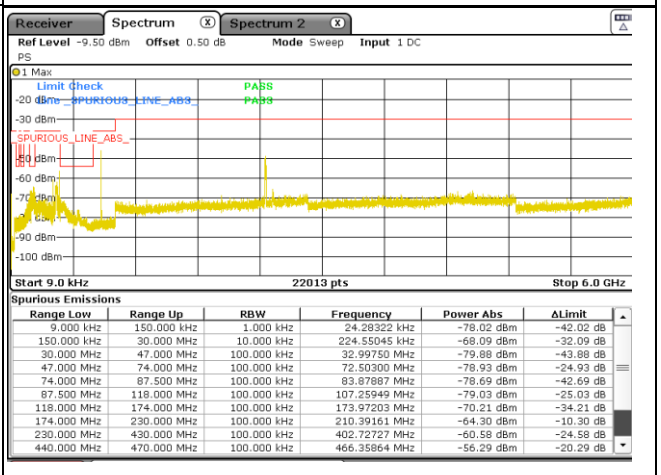






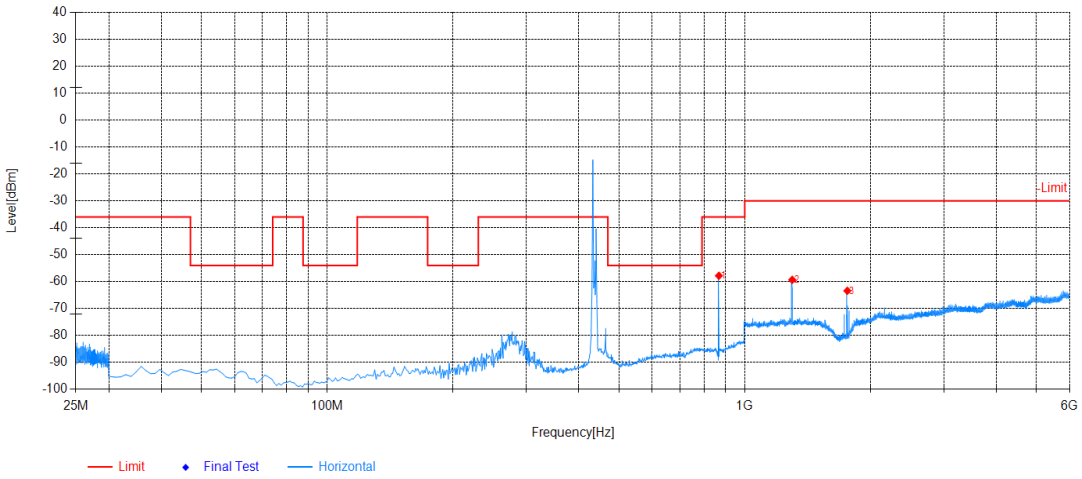






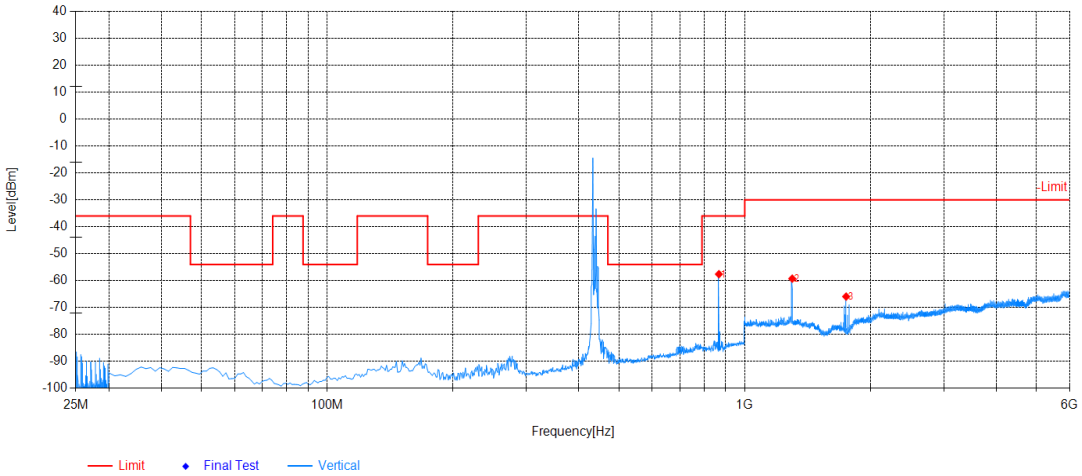
Radiated test result

125K 433.15



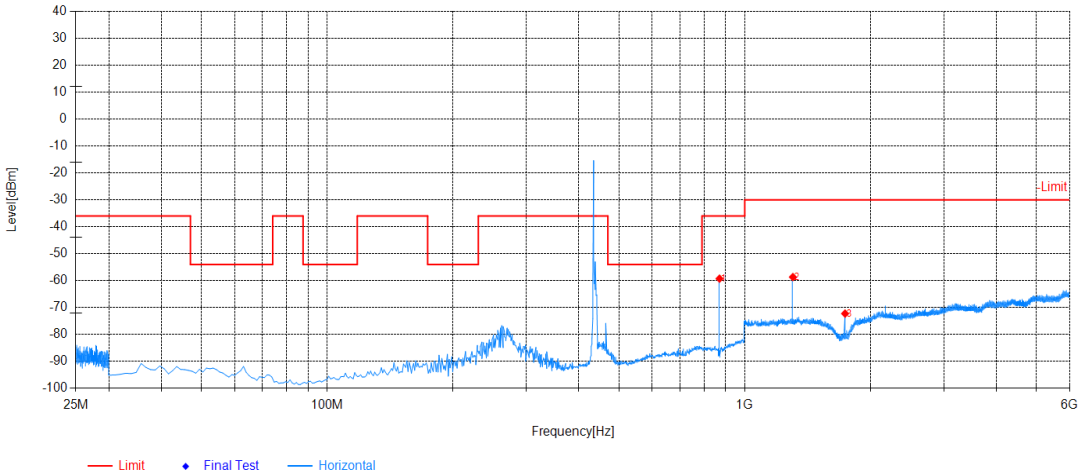
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	867.11	-49.60	-57.80	-36.00	21.80	-8.20	Horizontal
2	1299.5	-44.18	-59.32	-30.00	29.32	-15.14	Horizontal
3	1761	-50.52	-63.38	-30.00	33.38	-12.86	Horizontal

125K 433.15



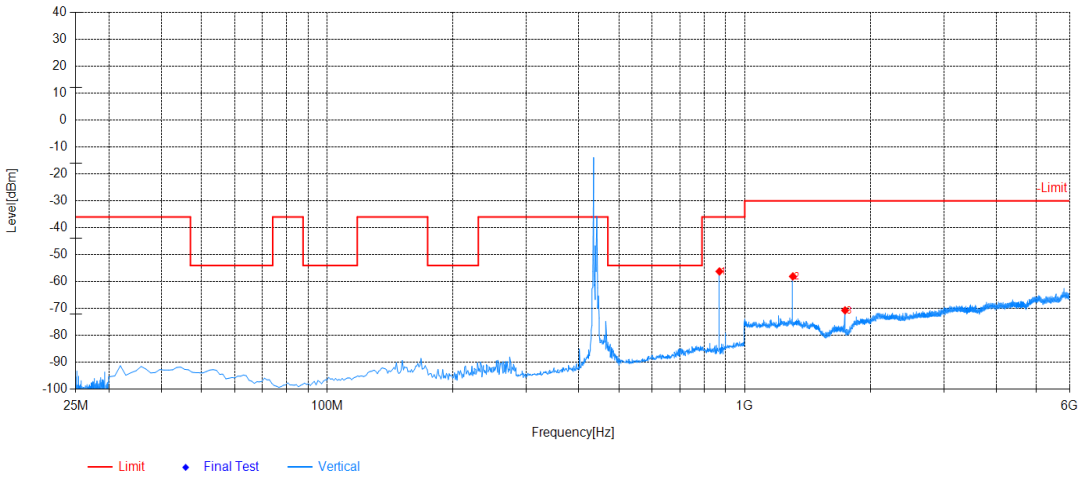
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	867.11	-49.48	-57.59	-36.00	21.59	-8.11	Vertical
2	1299.5	-44.27	-59.25	-30.00	29.25	-14.98	Vertical
3	1749.5	-52.65	-65.91	-30.00	35.91	-13.26	Vertical

125K 434.7



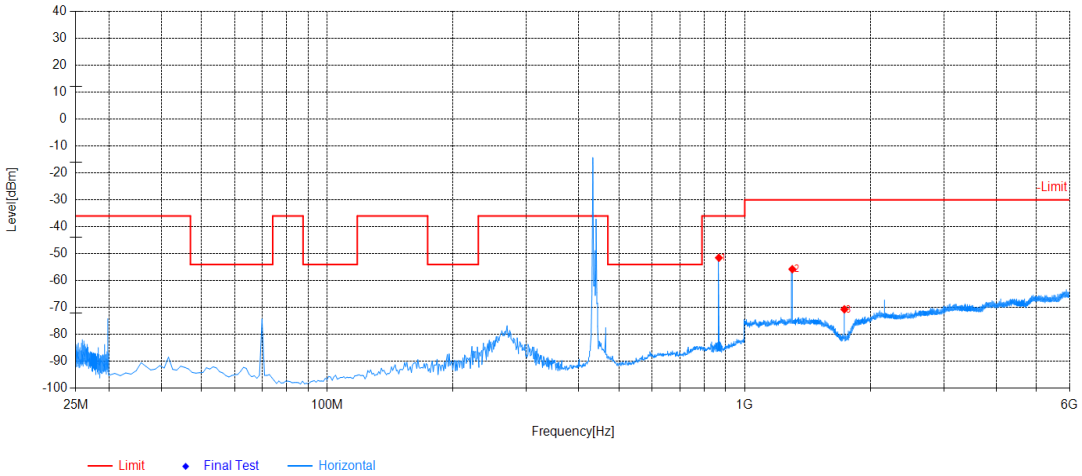
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	870.02	-51.09	-59.25	-36.00	23.25	-8.16	Horizontal
2	1304	-43.51	-58.65	-30.00	28.65	-15.14	Horizontal
3	1739	-58.87	-72.22	-30.00	42.22	-13.35	Horizontal

125K 434.7



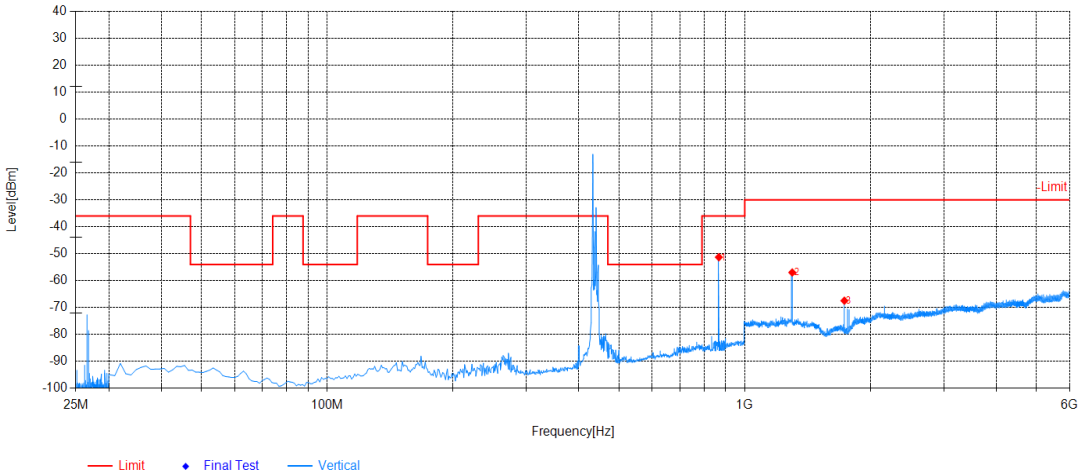
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	870.02	-48.10	-56.21	-36.00	20.21	-8.11	Vertical
2	1304	-43.03	-58.05	-30.00	28.05	-15.02	Vertical
3	1739	-57.18	-70.66	-30.00	40.66	-13.48	Vertical

250K 433.2



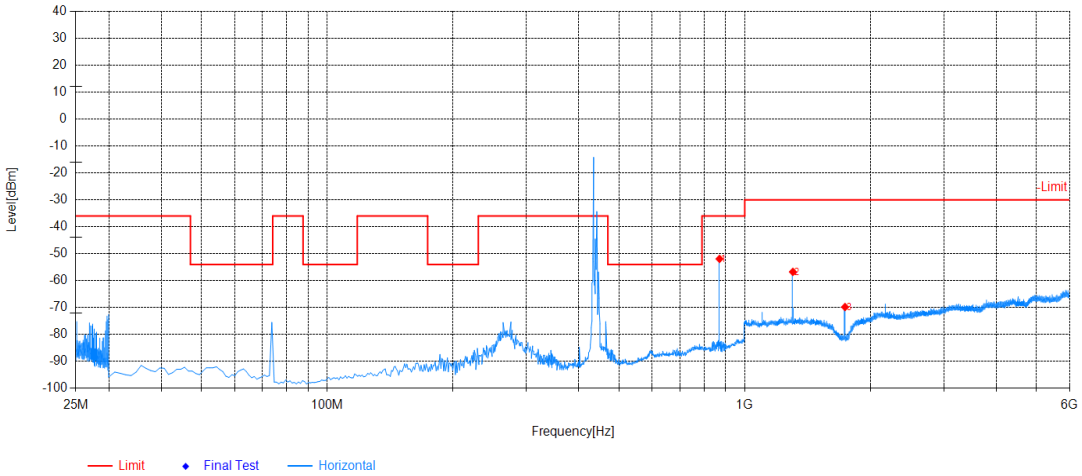
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	867.11	-43.31	-51.51	-36.00	15.51	-8.20	Horizontal
2	1300	-40.60	-55.74	-30.00	25.74	-15.14	Horizontal
3	1732.5	-57.15	-70.64	-30.00	40.64	-13.49	Horizontal

250K 433.2



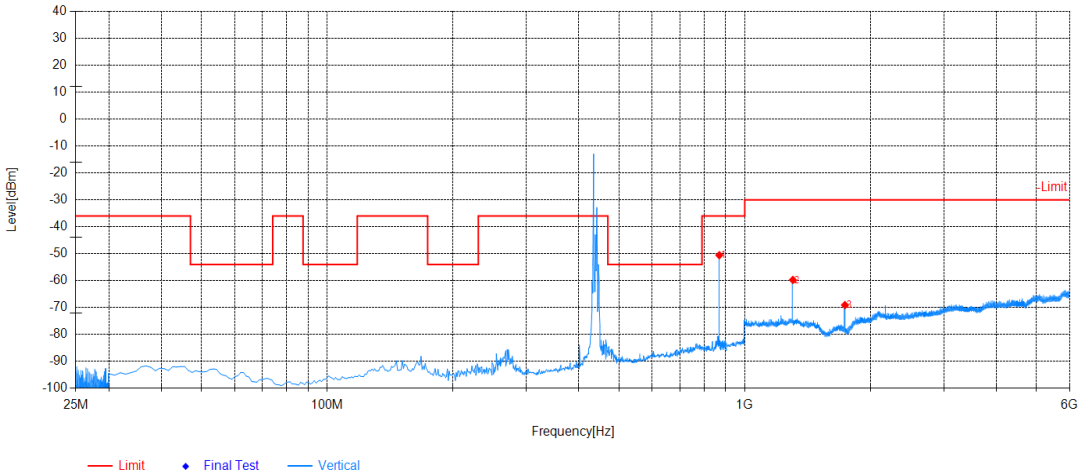
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	867.11	-43.18	-51.29	-36.00	15.29	-8.11	Vertical
2	1299.5	-41.98	-56.96	-30.00	26.96	-14.98	Vertical
3	1732.5	-53.83	-67.44	-30.00	37.44	-13.61	Vertical

250K 434.6



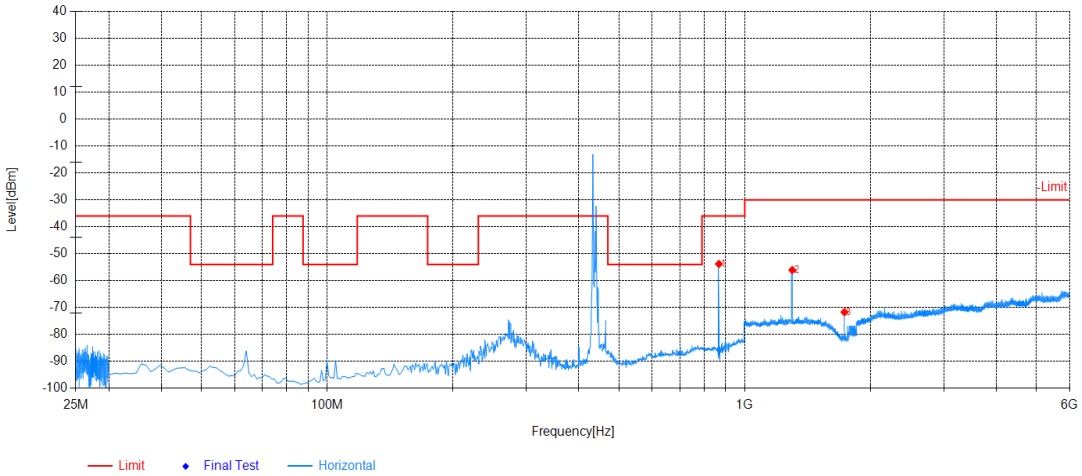
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	870.02	-43.76	-51.92	-36.00	15.92	-8.16	Horizontal
2	1304	-41.60	-56.74	-30.00	26.74	-15.14	Horizontal
3	1738.5	-56.43	-69.79	-30.00	39.79	-13.36	Horizontal

250K 434.6



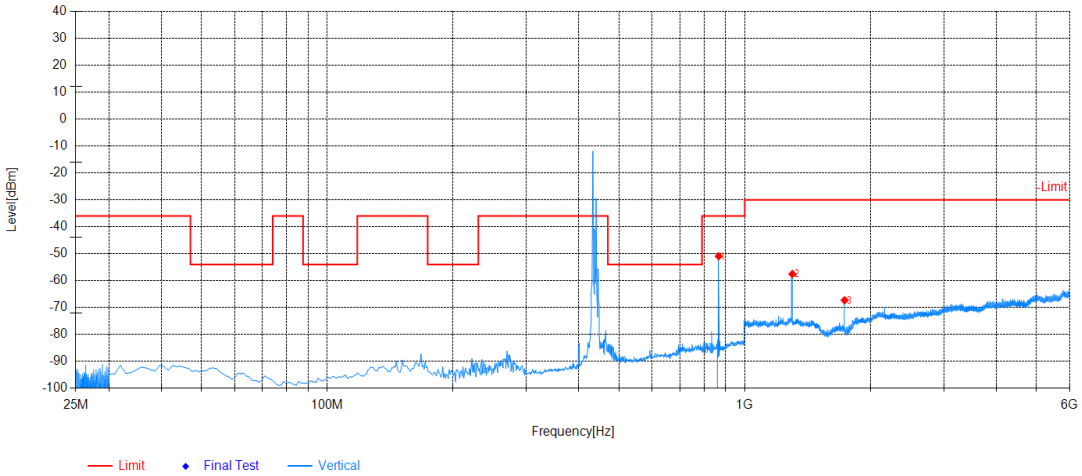
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	869.05	-42.45	-50.56	-36.00	14.56	-8.11	Vertical
2	1304	-44.72	-59.74	-30.00	29.74	-15.02	Vertical
3	1738	-55.56	-69.06	-30.00	39.06	-13.50	Vertical

500K 433.3



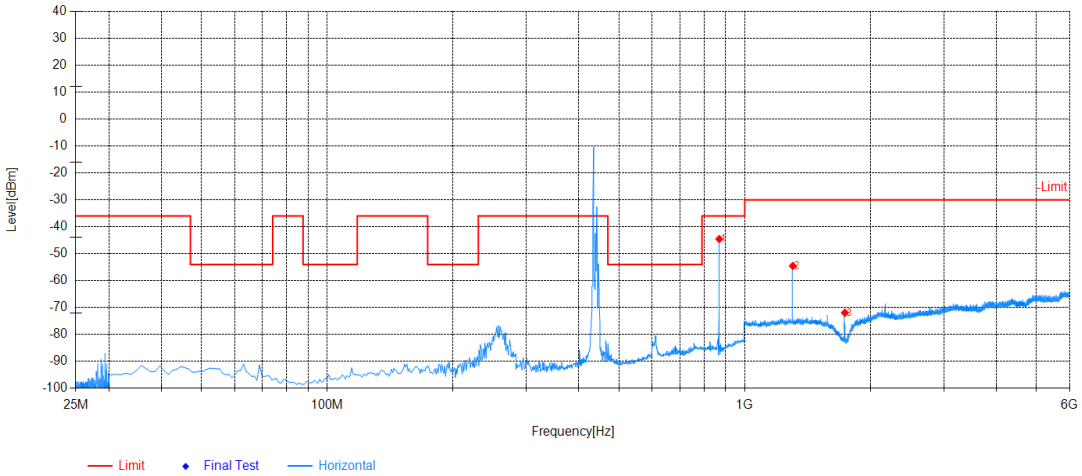
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	867.11	-45.62	-53.82	-36.00	17.82	-8.20	Horizontal
2	1299.5	-40.91	-56.05	-30.00	26.05	-15.14	Horizontal
3	1733	-58.19	-71.67	-30.00	41.67	-13.48	Horizontal

500K 433.3



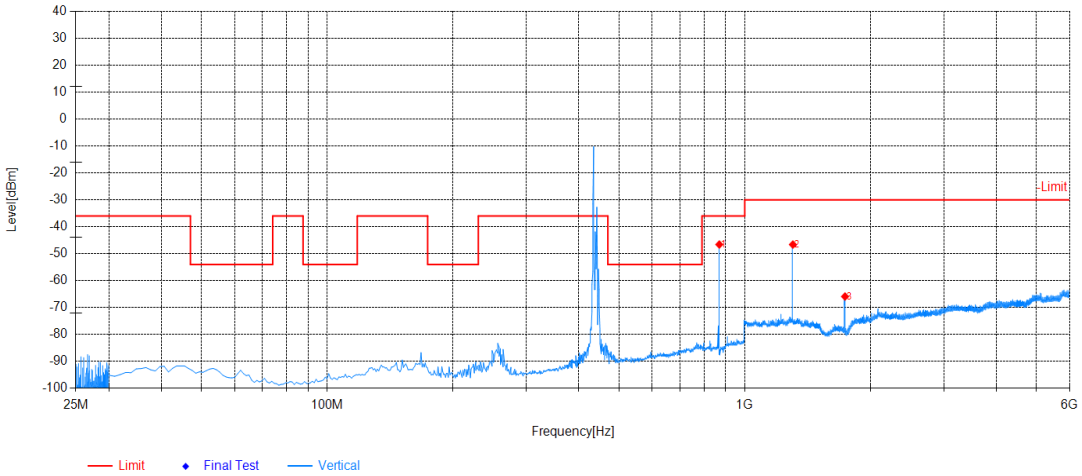
Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	866.14	-42.82	-50.93	-36.00	14.93	-8.11	Vertical
2	1300.5	-42.54	-57.52	-30.00	27.52	-14.98	Vertical
3	1734	-53.69	-67.27	-30.00	37.27	-13.58	Vertical

500K 434.5



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	869.05	-36.39	-44.56	-36.00	8.56	-8.17	Horizontal
2	1303.5	-39.40	-54.54	-30.00	24.54	-15.14	Horizontal
3	1737	-58.53	-71.92	-30.00	41.92	-13.39	Horizontal

500K 434.5



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	869.05	-38.48	-46.59	-36.00	10.59	-8.11	Vertical
2	1304	-31.59	-46.61	-30.00	16.61	-15.02	Vertical
3	1738.5	-52.40	-65.89	-30.00	35.89	-13.49	Vertical

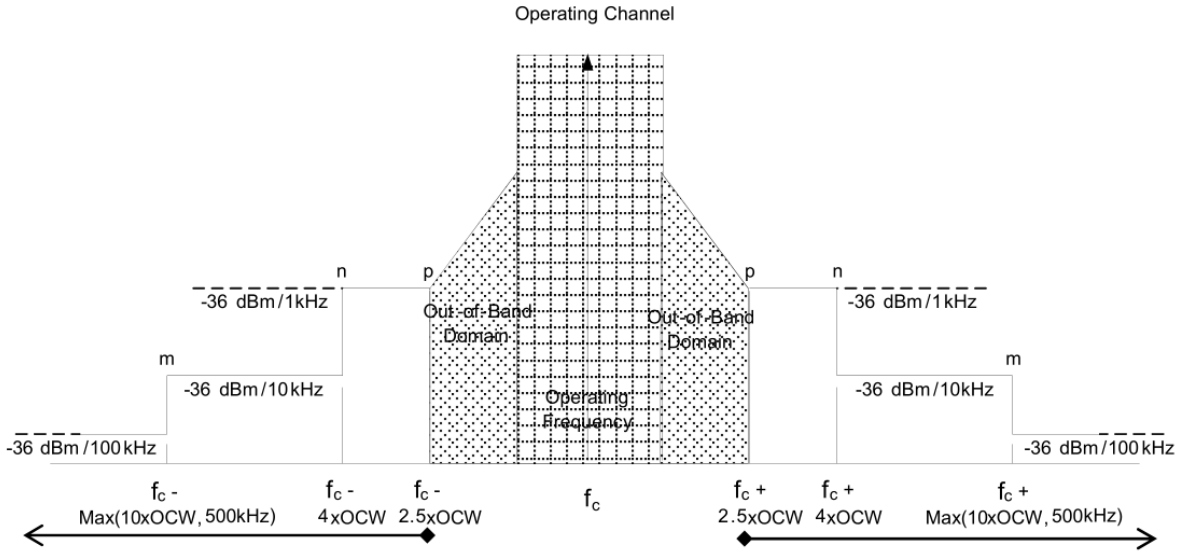
2.5 Unwanted emissions in the spurious domain For TX mode

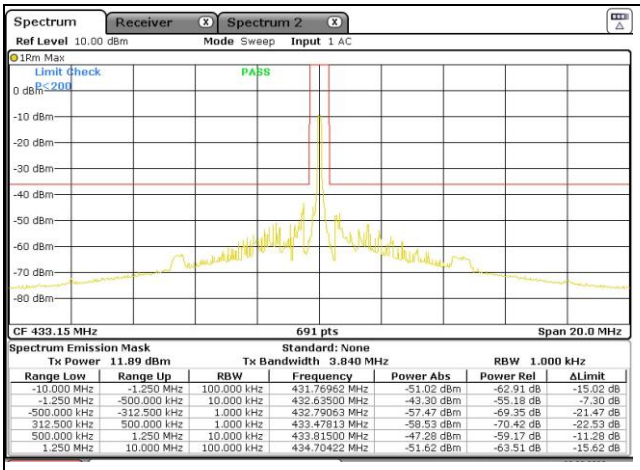
Conducted Test Result

Test Conditions	BandWidth	Frequency (MHz)	Result
	125KHz	433.15	Pass
		434.7	Pass
	250KHz	433.2	Pass
		434.6	Pass
	500KHz	433.3	Pass
		434.5	Pass

Unwanted emissions in the spurious domain For TX mode Limiti

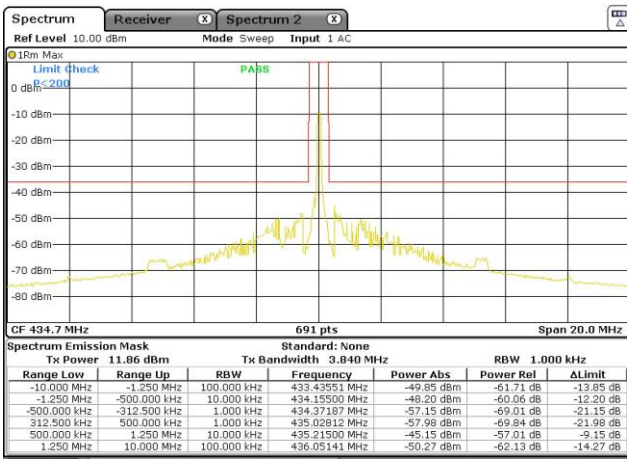
5.9.1.1 Unwanted emissions for a TX mode





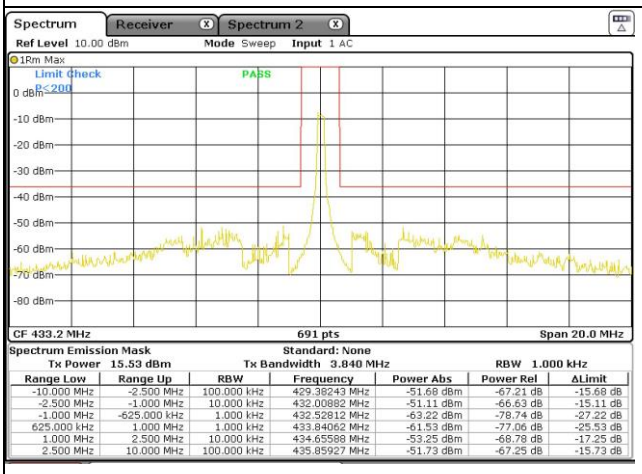
Spectrum Emission Mask — Standard: None
Tx Power 11.89 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-1.250 MHz	100.000 kHz	431.76962 MHz	-51.02 dBm	-62.91 dB	-15.02 dB
-1.250 MHz	-500.000 kHz	10.000 kHz	432.63500 MHz	-43.30 dBm	-55.18 dB	-7.30 dB
-500.000 kHz	-312.500 kHz	1.000 kHz	432.79063 MHz	-57.47 dBm	-69.35 dB	-21.47 dB
312.500 kHz	500.000 kHz	1.000 kHz	433.47813 MHz	-58.53 dBm	-70.42 dB	-22.53 dB
500.000 kHz	1.250 MHz	10.000 kHz	433.81500 MHz	-47.28 dBm	-59.17 dB	-11.28 dB
1.250 MHz	10.000 MHz	100.000 kHz	434.70422 MHz	-51.62 dBm	-63.51 dB	-15.62 dB



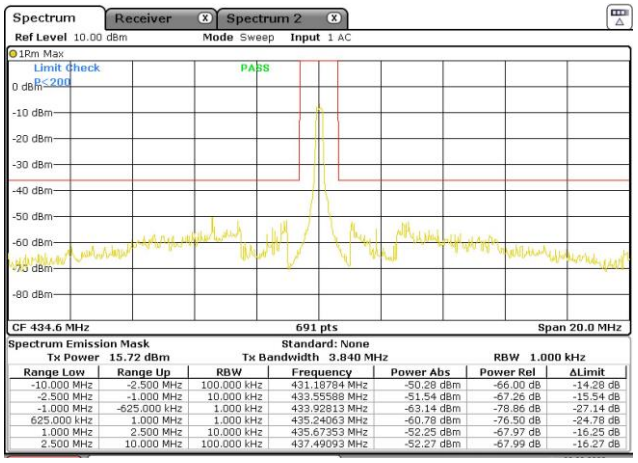
Spectrum Emission Mask — Standard: None
Tx Power 11.86 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-1.250 MHz	100.000 kHz	433.43551 MHz	-49.85 dBm	-61.71 dB	-13.85 dB
-1.250 MHz	-500.000 kHz	10.000 kHz	434.15500 MHz	-48.20 dBm	-60.06 dB	-12.20 dB
-500.000 kHz	-312.500 kHz	1.000 kHz	434.37187 MHz	-57.15 dBm	-69.01 dB	-21.15 dB
312.500 kHz	500.000 kHz	1.000 kHz	435.02812 MHz	-57.98 dBm	-69.84 dB	-21.98 dB
500.000 kHz	1.250 MHz	10.000 kHz	435.21500 MHz	-45.15 dBm	-57.01 dB	-9.15 dB
1.250 MHz	10.000 MHz	100.000 kHz	436.05141 MHz	-50.27 dBm	-62.13 dB	-14.27 dB



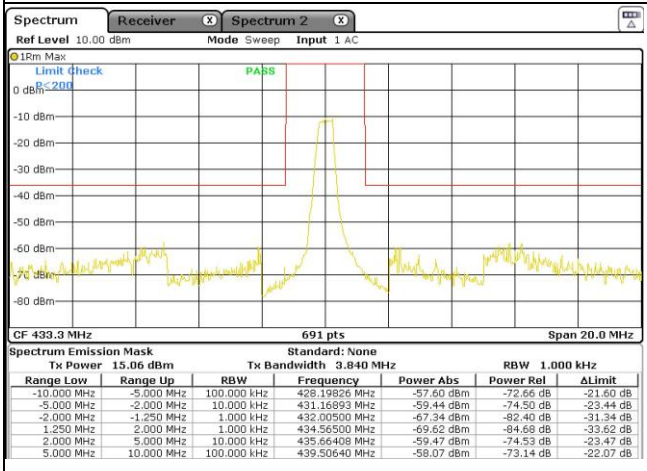
Spectrum Emission Mask — Standard: None
Tx Power 15.53 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-2.500 MHz	100.000 kHz	429.38243 MHz	-51.68 dBm	-67.21 dB	-15.68 dB
-2.500 MHz	-1.000 MHz	10.000 kHz	432.00882 MHz	-51.11 dBm	-66.63 dB	-15.11 dB
-1.000 MHz	-625.000 kHz	1.000 kHz	432.52812 MHz	-63.22 dBm	-78.74 dB	-27.22 dB
625.000 kHz	1.000 MHz	1.000 kHz	433.84062 MHz	-61.53 dBm	-77.06 dB	-25.53 dB
1.000 MHz	2.500 MHz	10.000 kHz	434.65588 MHz	-53.25 dBm	-68.78 dB	-17.25 dB
2.500 MHz	10.000 MHz	100.000 kHz	435.85927 MHz	-51.73 dBm	-67.25 dB	-15.73 dB



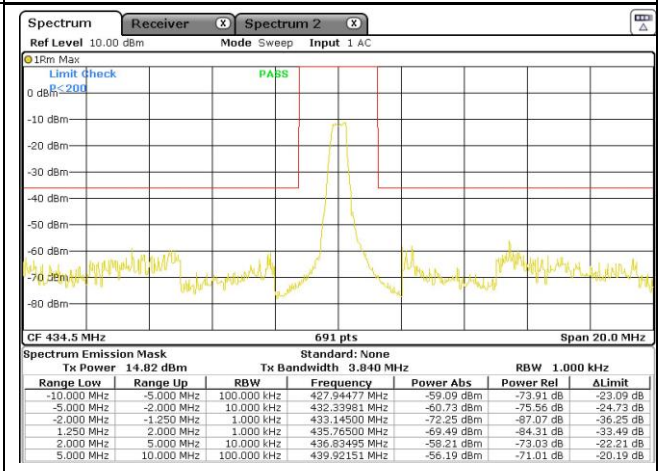
Spectrum Emission Mask — Standard: None
Tx Power 15.72 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-2.500 MHz	100.000 kHz	431.18784 MHz	-50.28 dBm	-66.00 dB	-14.28 dB
-2.500 MHz	-1.000 MHz	10.000 kHz	433.55588 MHz	-51.54 dBm	-67.26 dB	-15.54 dB
-1.000 MHz	-625.000 kHz	1.000 kHz	433.92813 MHz	-63.14 dBm	-78.86 dB	-27.14 dB
625.000 kHz	1.000 MHz	1.000 kHz	435.24063 MHz	-60.78 dBm	-76.50 dB	-24.78 dB
1.000 MHz	2.500 MHz	10.000 kHz	435.67353 MHz	-52.25 dBm	-67.97 dB	-16.25 dB
2.500 MHz	10.000 MHz	100.000 kHz	437.49093 MHz	-52.27 dBm	-67.99 dB	-16.27 dB



Spectrum Emission Mask — Standard: None
Tx Power 15.06 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.000 MHz	100.000 kHz	428.19826 MHz	-57.60 dBm	-72.66 dB	-21.60 dB
-5.000 MHz	-2.000 MHz	10.000 kHz	431.16893 MHz	-59.44 dBm	-74.50 dB	-23.44 dB
-2.000 MHz	-1.250 MHz	1.000 kHz	432.00500 MHz	-67.34 dBm	-82.40 dB	-31.34 dB
1.250 MHz	2.000 MHz	1.000 kHz	434.56500 MHz	-69.62 dBm	-84.68 dB	-33.62 dB
2.000 MHz	5.000 MHz	10.000 kHz	435.66408 MHz	-59.47 dBm	-74.53 dB	-23.47 dB
5.000 MHz	10.000 MHz	100.000 kHz	439.50640 MHz	-58.07 dBm	-73.14 dB	-22.07 dB



Spectrum Emission Mask — Standard: None
Tx Power 14.82 dBm — Tx Bandwidth 3.840 MHz — RBW 1.000 kHz

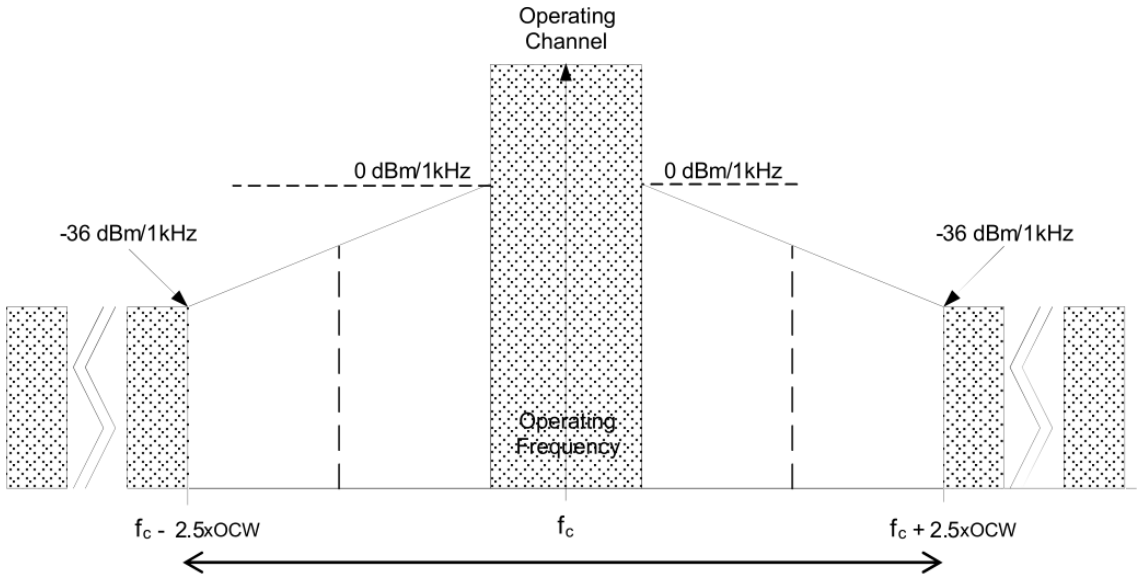
Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.000 MHz	100.000 kHz	427.94477 MHz	-59.09 dBm	-73.91 dB	-23.09 dB
-5.000 MHz	-2.000 MHz	10.000 kHz	432.33981 MHz	-60.73 dBm	-75.56 dB	-24.73 dB
-2.000 MHz	-1.250 MHz	1.000 kHz	433.14500 MHz	-72.25 dBm	-87.07 dB	-36.25 dB
1.250 MHz	2.000 MHz	1.000 kHz	435.76500 MHz	-69.49 dBm	-84.31 dB	-33.49 dB
2.000 MHz	5.000 MHz	10.000 kHz	436.83495 MHz	-58.21 dBm	-73.03 dB	-22.21 dB
5.000 MHz	10.000 MHz	100.000 kHz	439.92151 MHz	-56.19 dBm	-71.01 dB	-20.19 dB

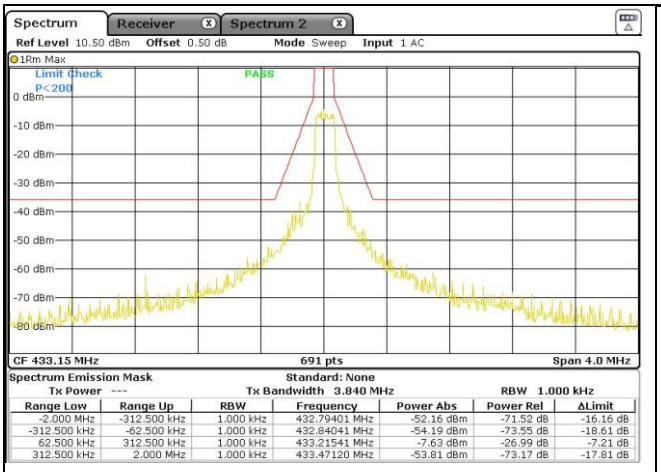
2.6 Out Of Band Domain for Operating Channel

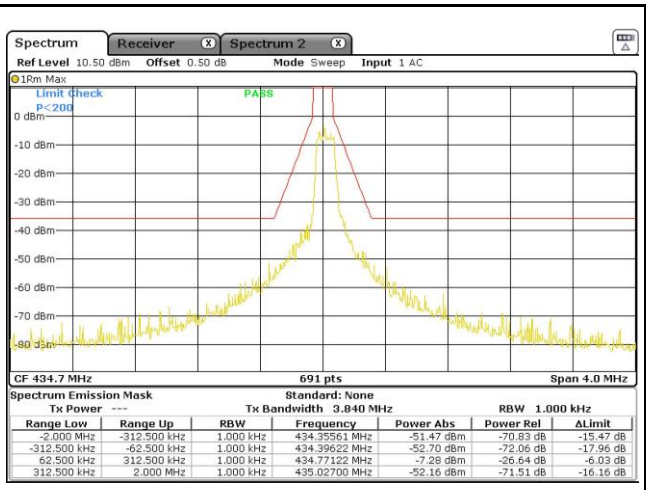
Conducted Test result

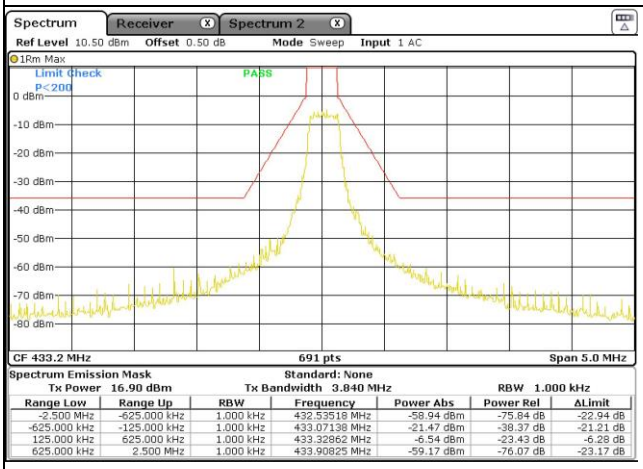
Test Conditions	BandWidth	Frequency (MHz)	Result
	125KHz	433.15	Pass
		434.7	Pass
	250KHz	433.2	Pass
		434.6	Pass
	500KHz	433.3	Pass
		434.5	Pass

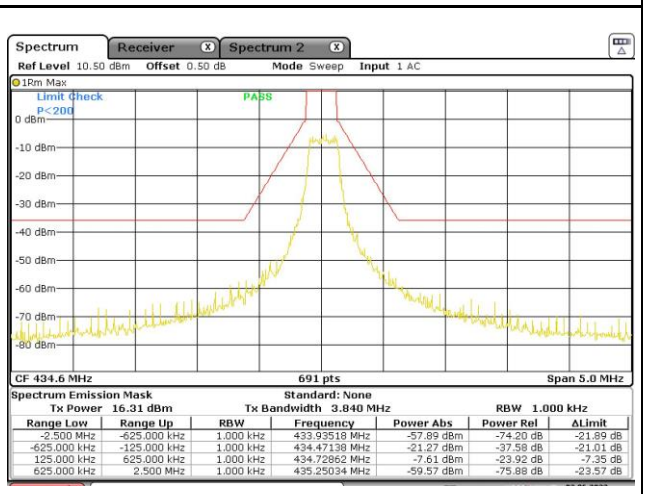
Out Of Band Domain for Operating Channel Limiti

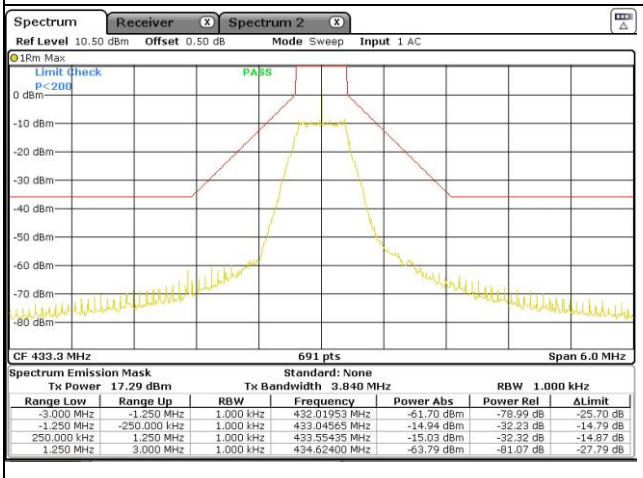


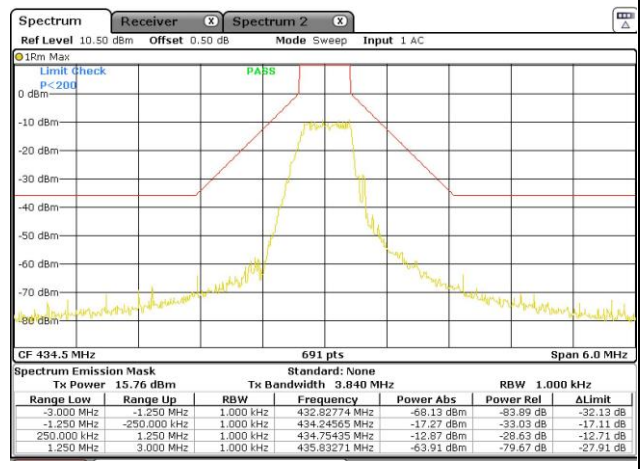






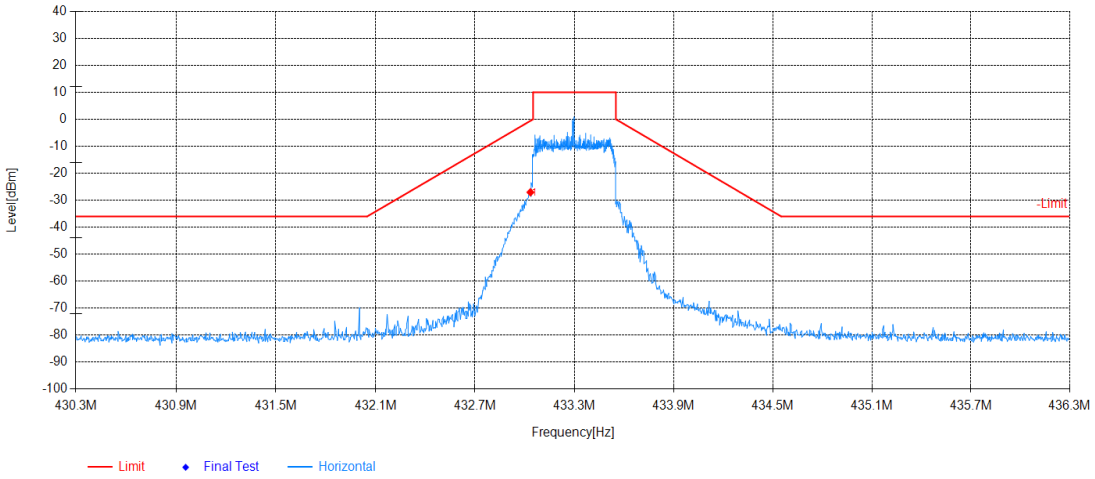






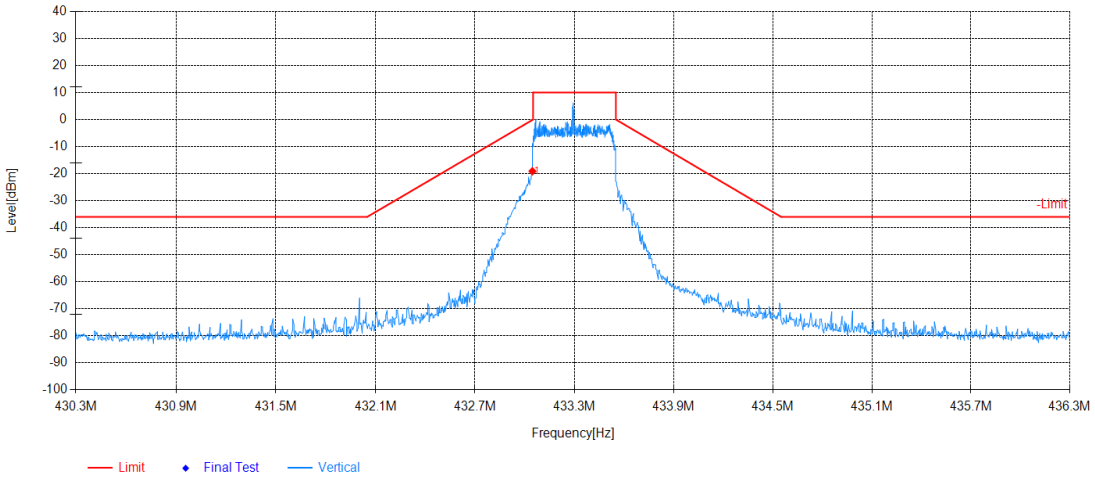
Radiated Test result

500K 433.3 OOB



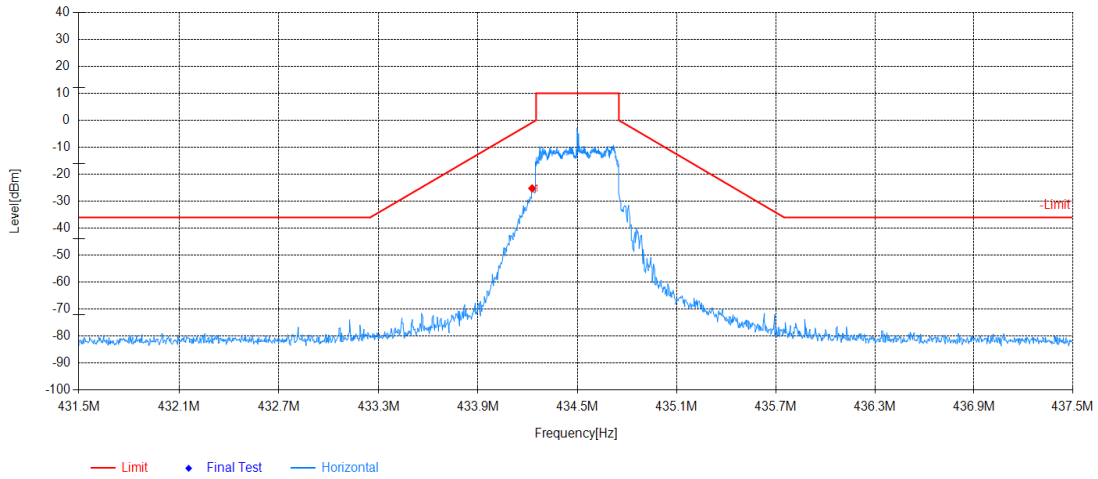
Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	433.0342	-54.72	-27.04	-0.57	26.47	27.68	Horizontal

500K 433.3 OOB



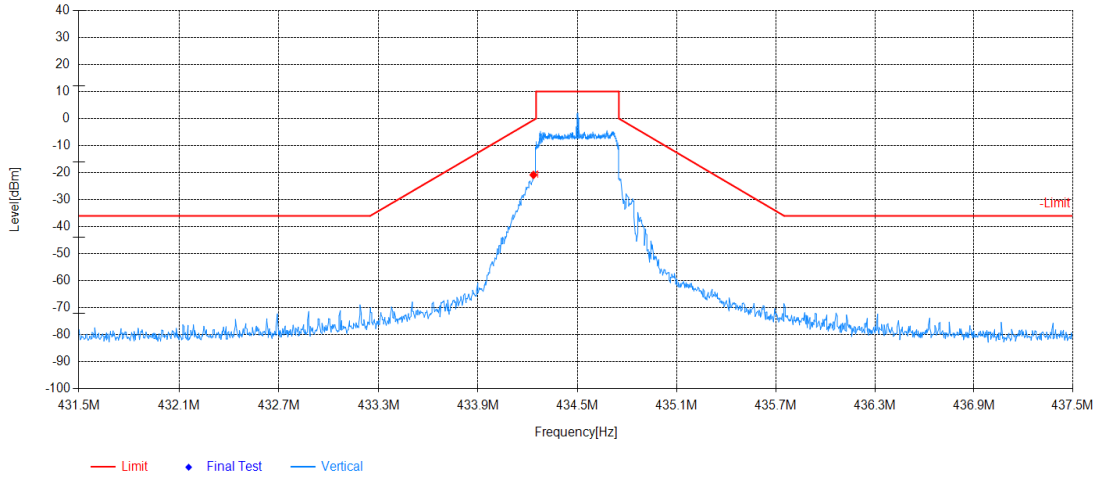
Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	433.0461	-46.83	-19.09	-0.14	18.95	27.74	Vertical

500K 434.5 OOB



Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	434.2263	-52.92	-25.23	-0.85	24.38	27.69	Horizontal

500K 434.5 OOB



Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	434.2342	-48.59	-20.85	-0.57	20.28	27.74	Vertical

2.7 Out Of Band Domain for Operational Frequency Band

Conducted Test Result

Test Conditions	BandWidth	Frequency (MHz)	Result
	125KHz	433.15	Pass
		434.7	Pass
	250KHz	433.2	Pass
		434.6	Pass
	500KHz	433.3	Pass
		434.5	Pass
Out Of Band Domain for Operational Frequency Band Limiti			

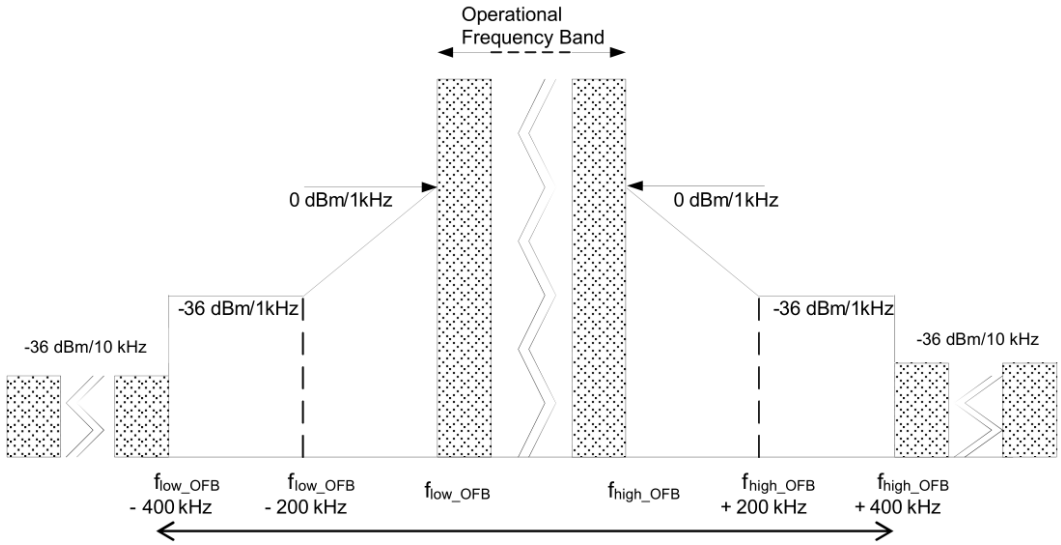
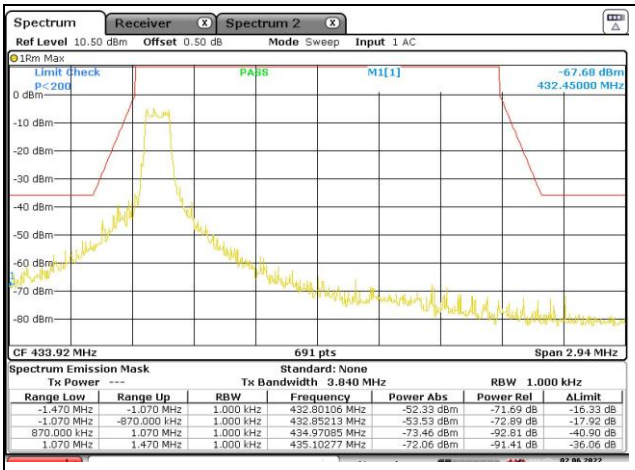
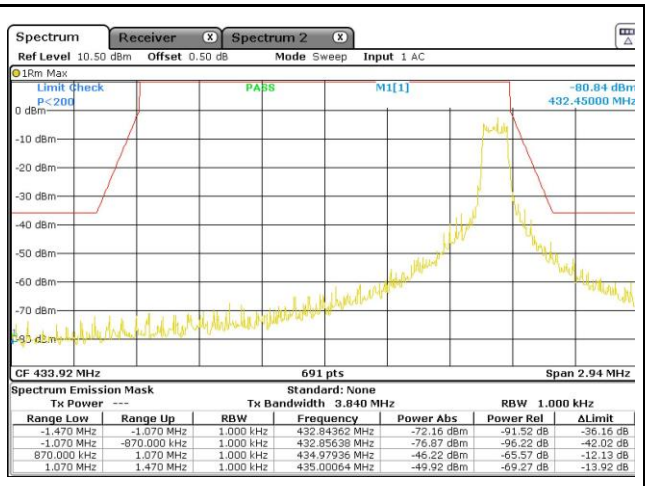
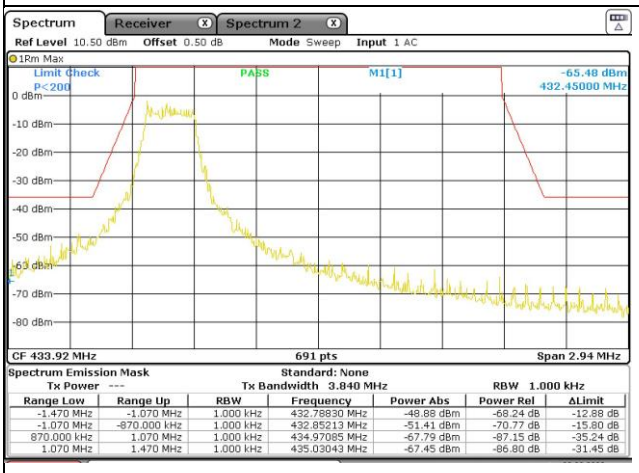
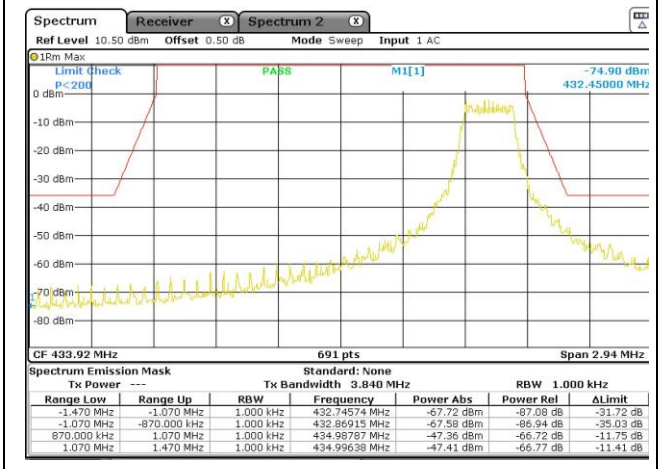


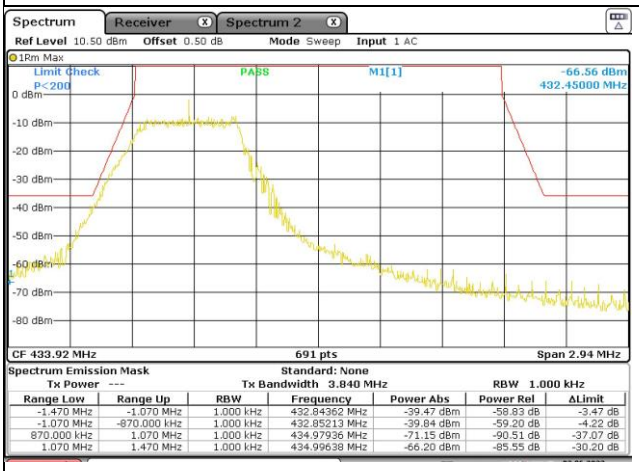
Figure 6: Out Of Band Domain for Operational Frequency Band with reference BW

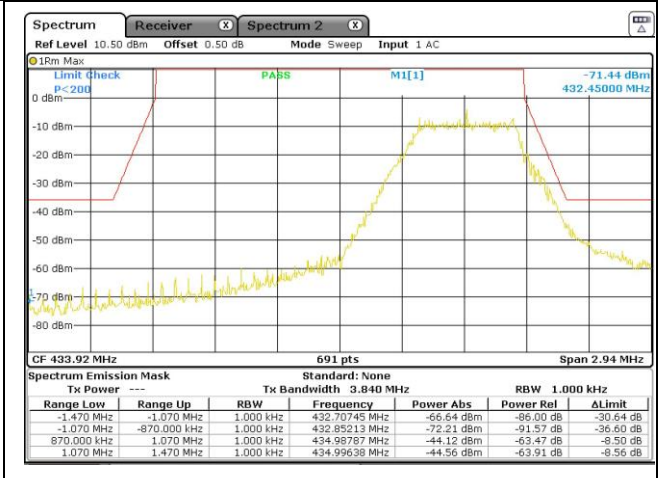






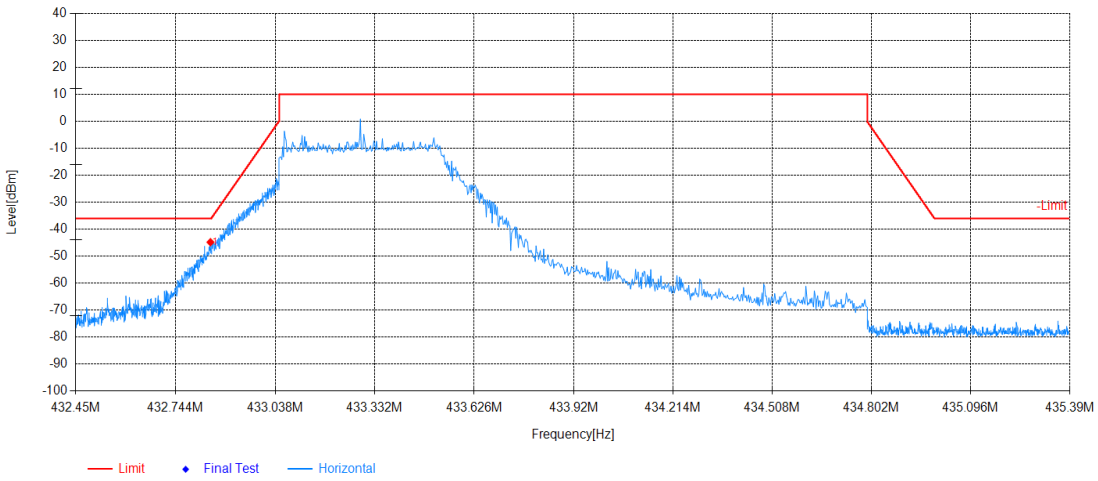






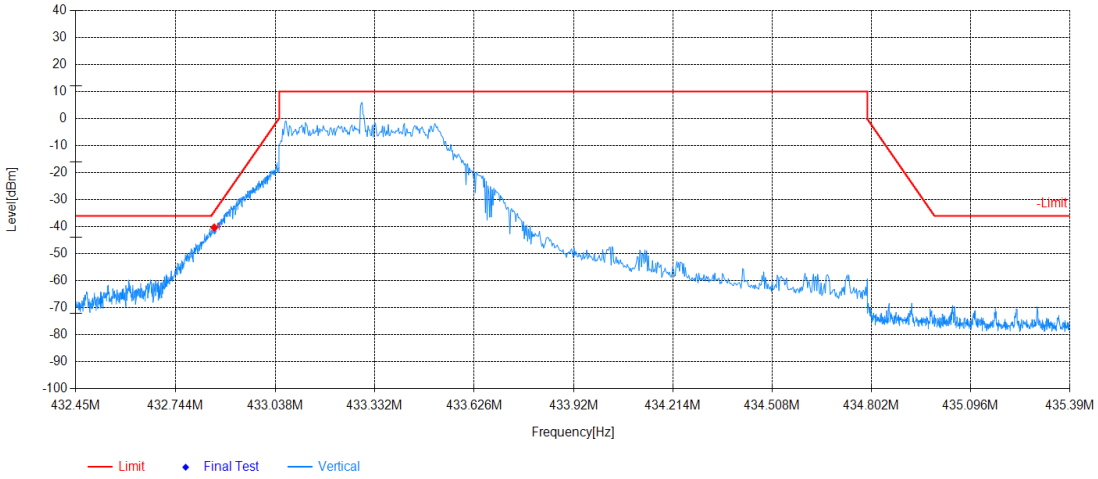
Radiated Test Result

500K 433.3 OFB



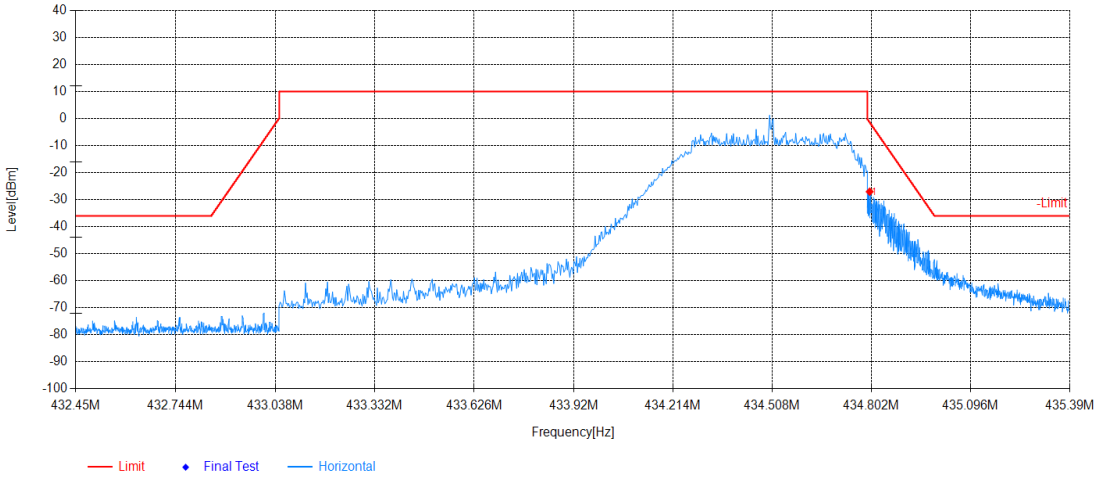
Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	432.8468	-72.47	-44.79	-36.00	8.79	27.68	Horizontal

500K 433.3 OFB



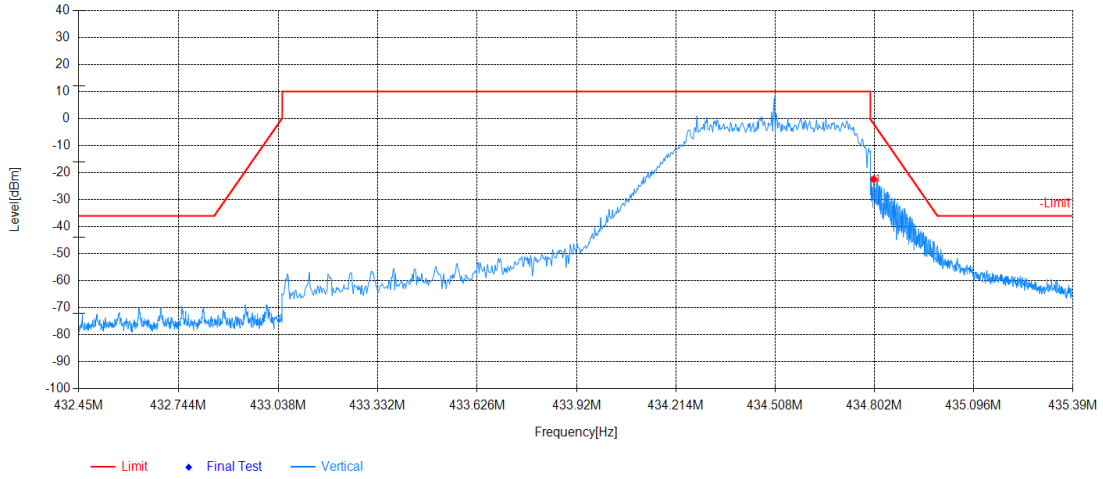
Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	432.858	-68.05	-40.31	-34.55	5.76	27.74	Vertical

500K 434.5 OFB



Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	434.7969	-54.73	-27.04	-1.24	25.80	27.69	Horizontal

500K 434.5 OFB



Suspected Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	434.8003	-50.18	-22.44	-1.86	20.58	27.74	Vertical

2.8 Attachment

EUT Photograph

(1) EUT Photo

----------End----------