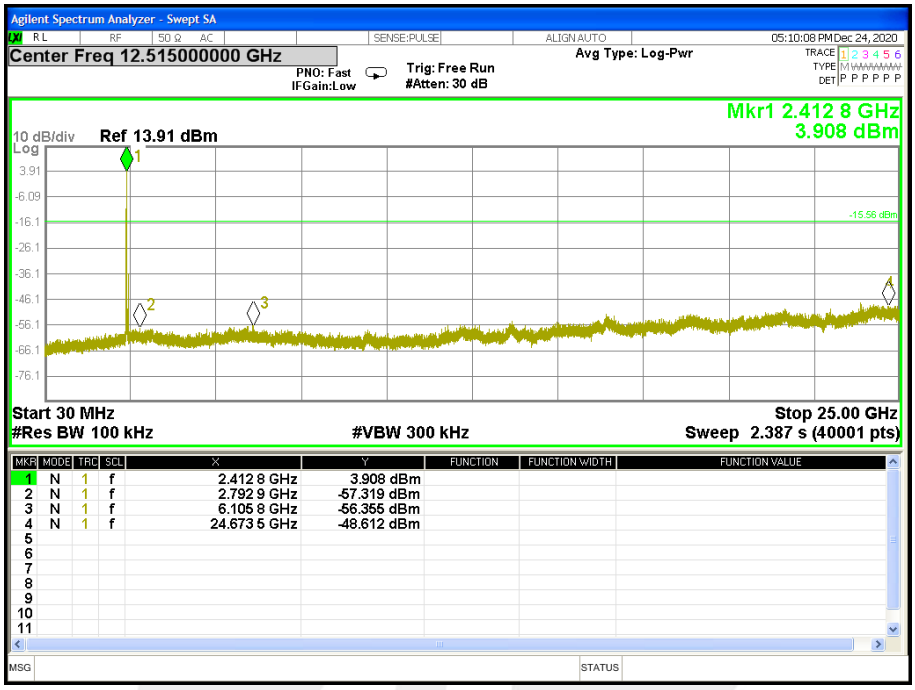
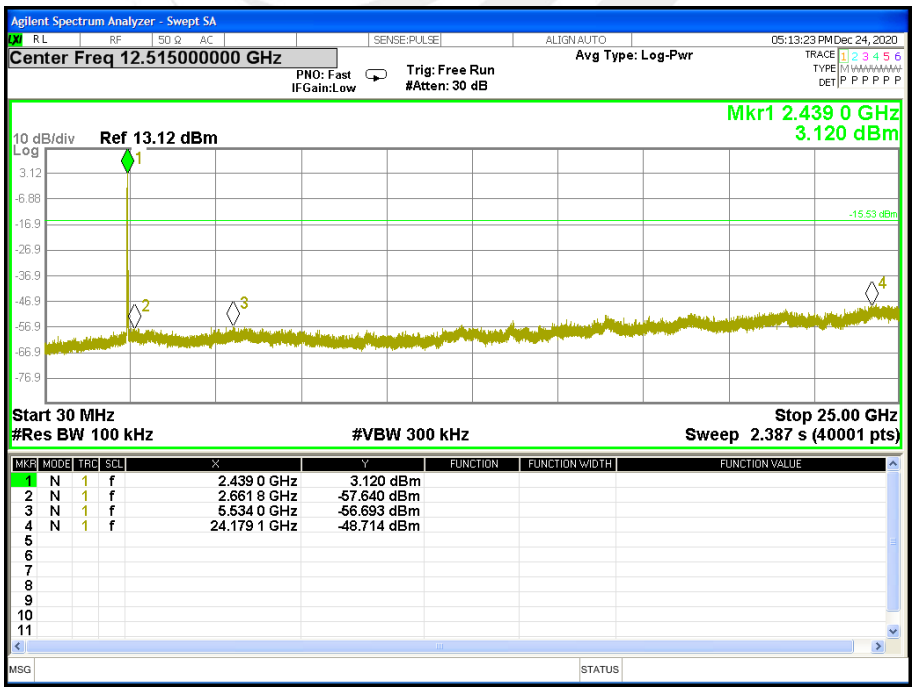
4.6 TEST RESULTS

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX b Mode /CH01, CH06, CH11

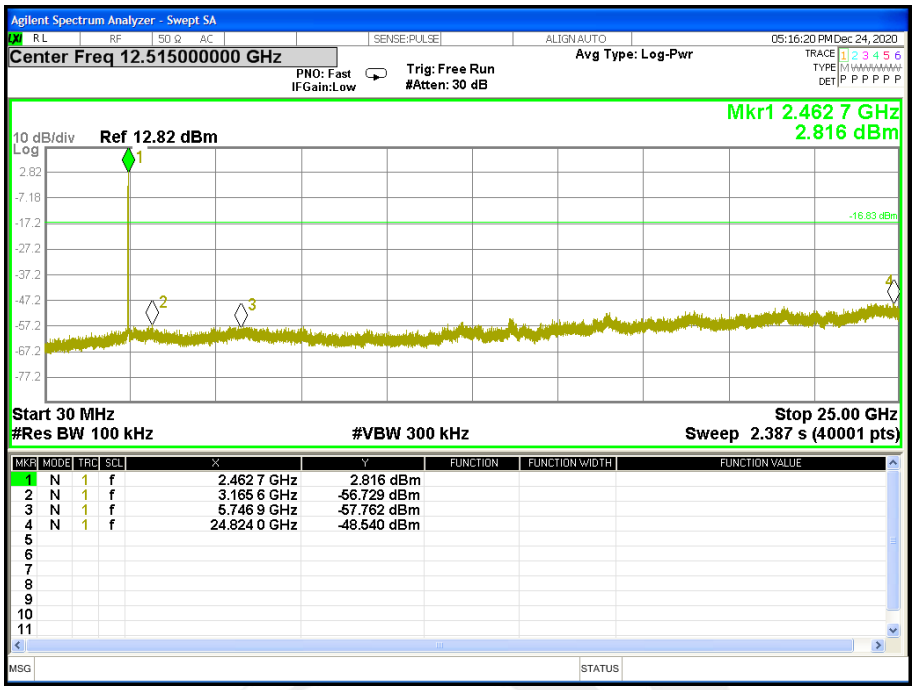
CH 01



CH 06

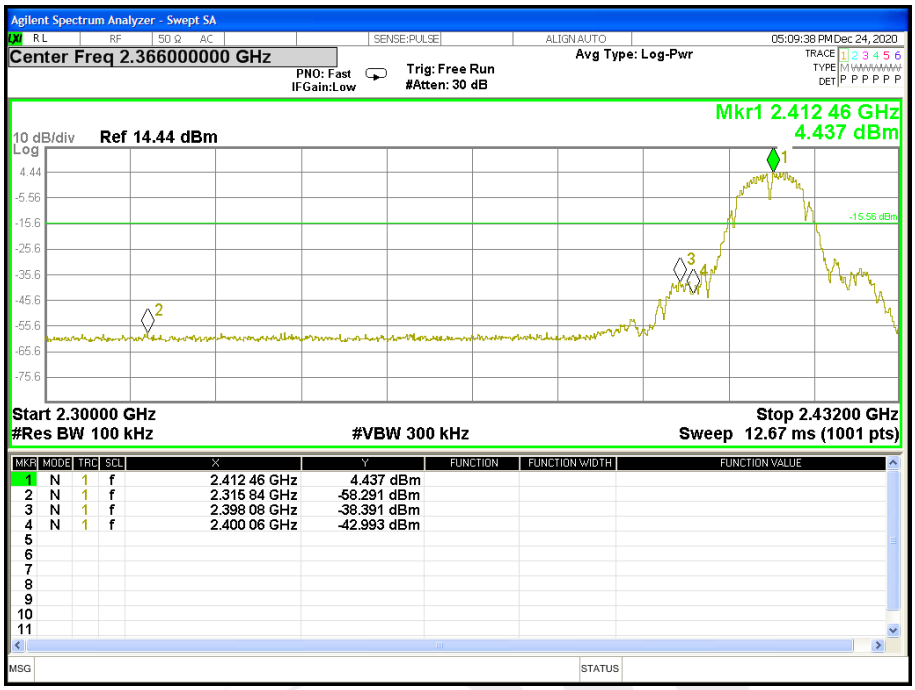


CH 11

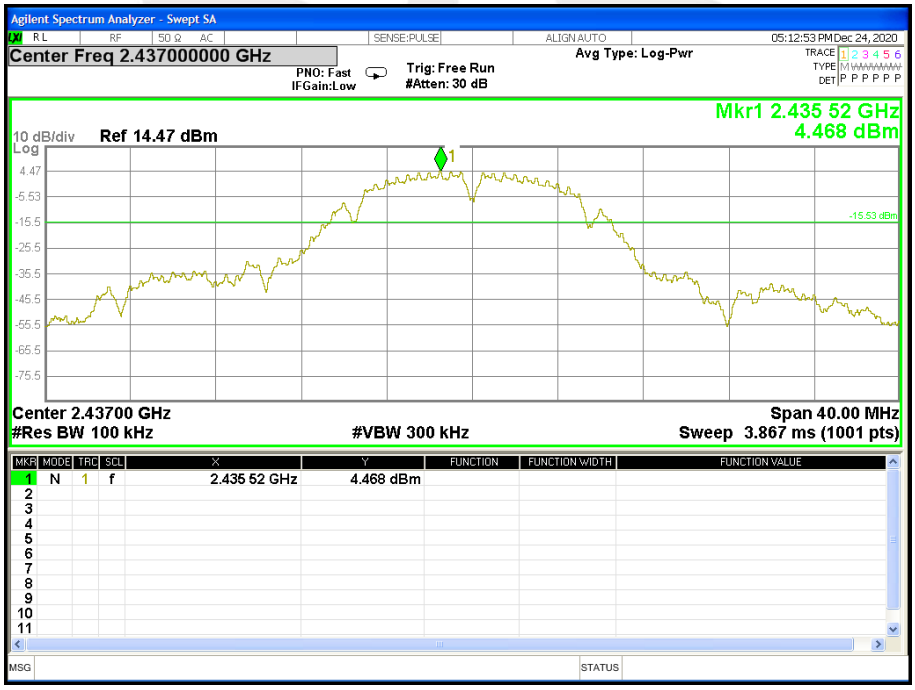

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
05:16:20 PM Dec 24, 2020
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P P P P P
Mkr1 2.462 7 GHz
2.816 dBm
10 dB/div
Log
Ref 12.82 dBm
2.82
-7.18
-17.2
-27.2
-37.2
-47.2
-57.2
-67.2
-77.2
-16.83 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (40001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.462 7 GHz 2.816 dBm
2 N 1 f 3.165 6 GHz -56.729 dBm
3 N 1 f 5.746 9 GHz -57.762 dBm
4 N 1 f 24.824 0 GHz -48.540 dBm
5
6
7
8
9
10
11
MSG
STATUS

Band edge(it's also the reference level for conducted spurious emission)

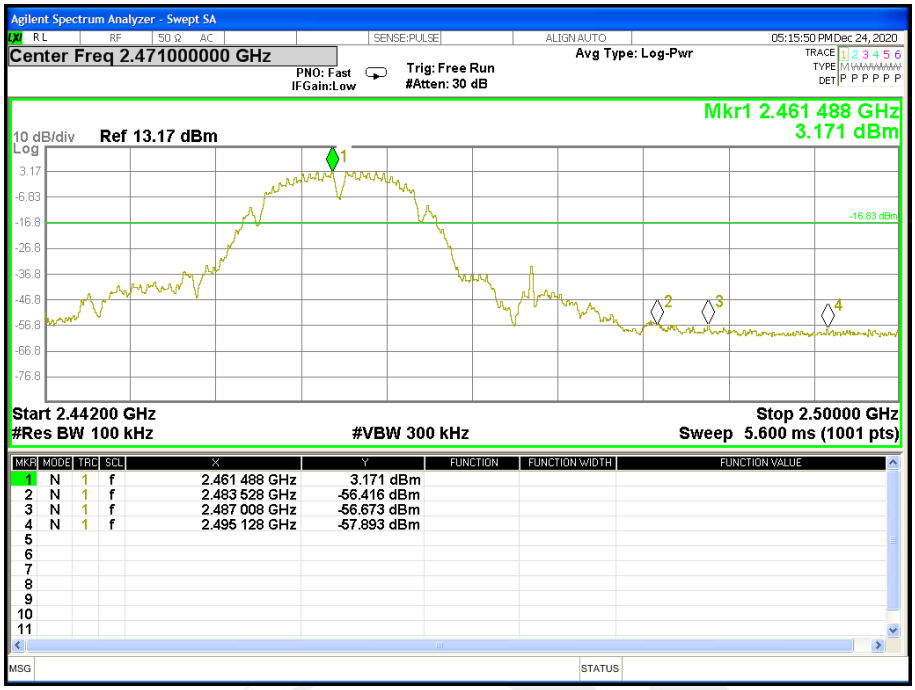
CH 01



CH 06

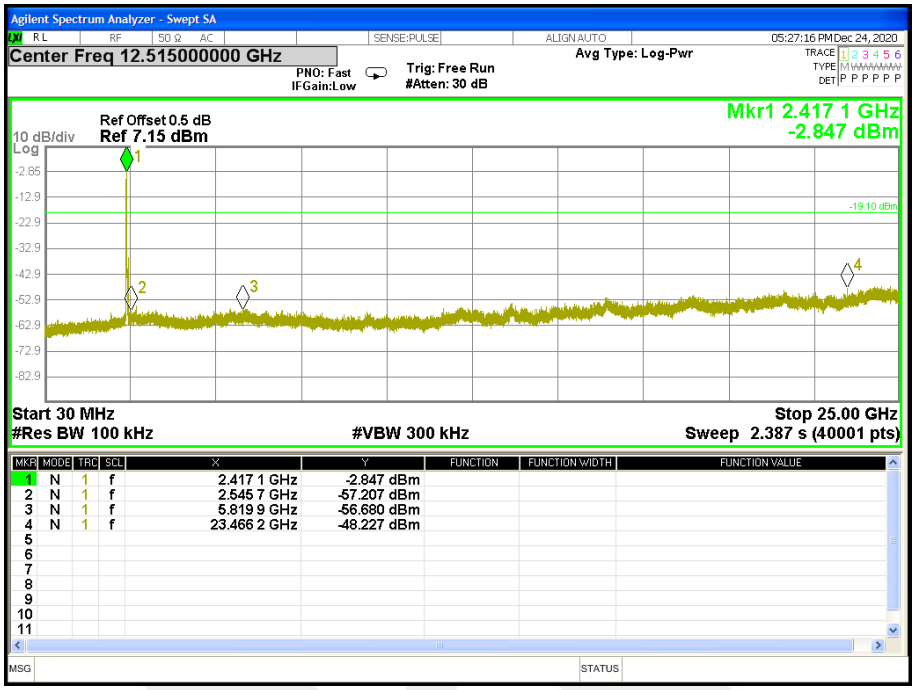


CH 11

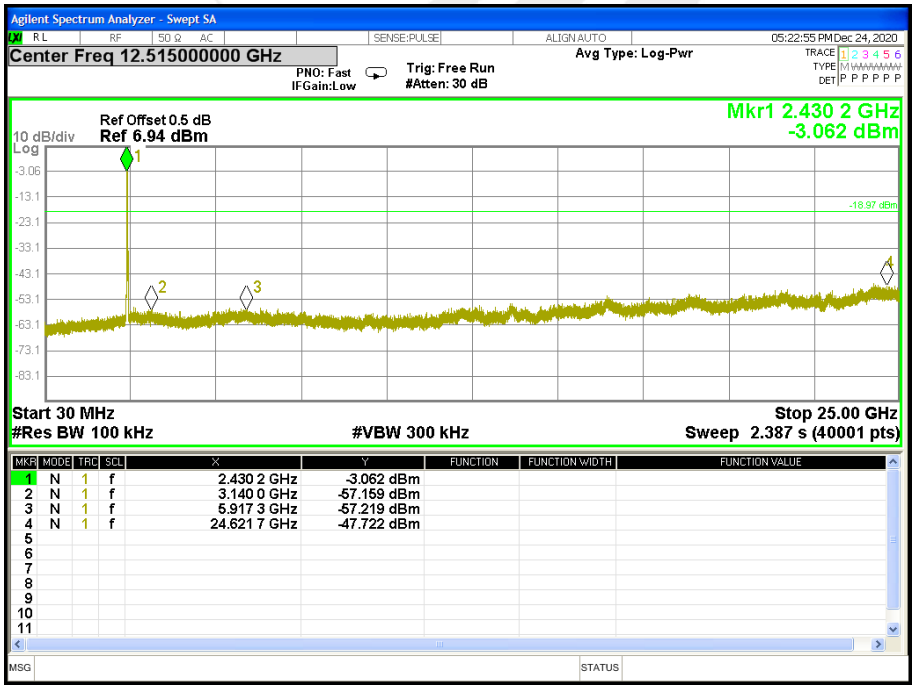

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.471000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
05:15:50 PM Dec 24, 2020
Mkr1 2.461 488 GHz
3.171 dBm
10 dB/div
Log
Ref 13.17 dBm
-16.83 dBm
Start 2.44200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.600 ms (1001 pts)
1 N 1 f 2.461 488 GHz 3.171 dBm
2 N 1 f 2.483 528 GHz -56.416 dBm
3 N 1 f 2.487 008 GHz -56.673 dBm
4 N 1 f 2.495 128 GHz -57.893 dBm

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX g Mode /CH01, CH06, CH11

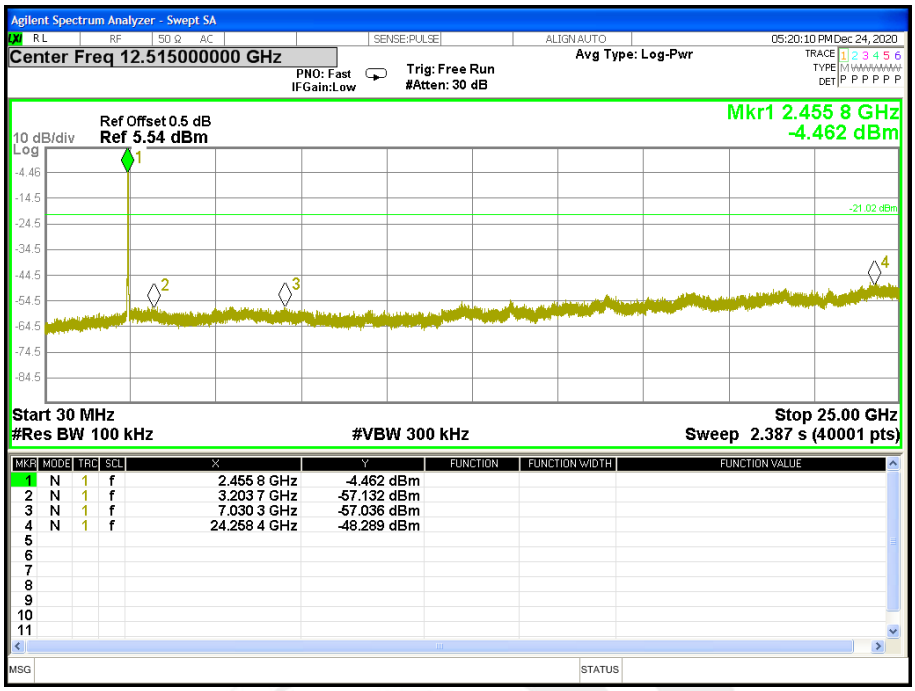
CH 01



CH06

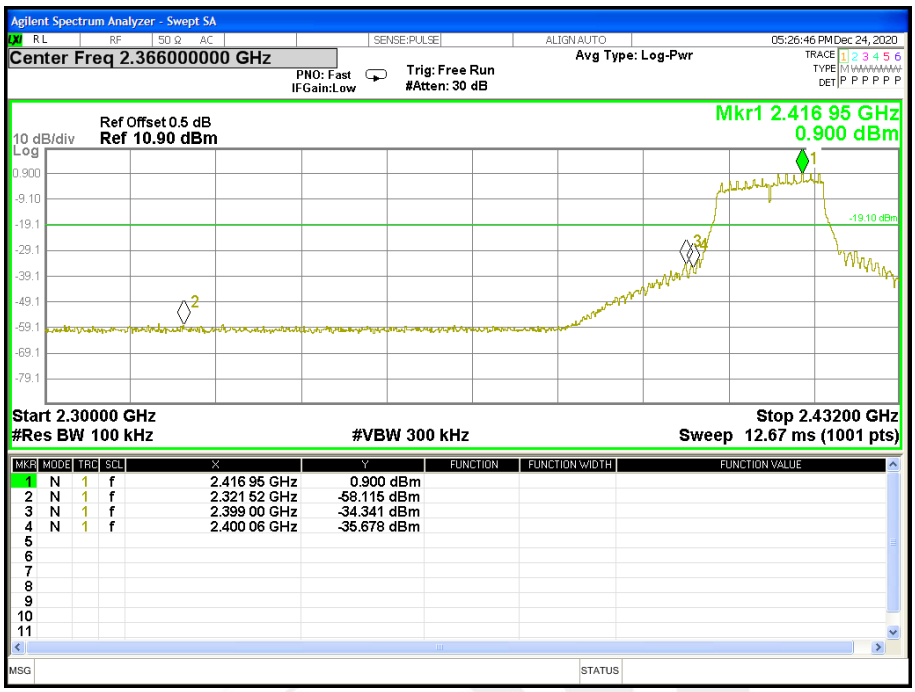


CH 11

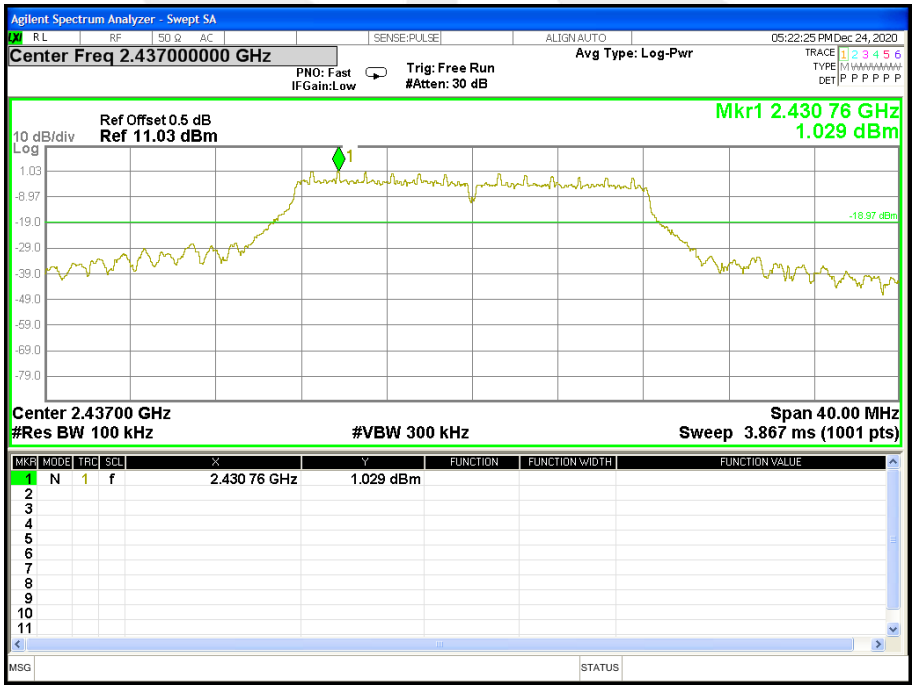

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
05:20:10 PM Dec 24, 2020
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P P P P P P
Mkr1 2.455 8 GHz
-4.462 dBm
Ref Offset 0.5 dB
10 dB/div
Log
Ref 5.54 dBm
-4.46
-14.5
-24.5
-34.5
-44.5
-54.5
-64.5
-74.5
-84.5
-21.02 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (40001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.455 8 GHz -4.462 dBm
2 N 1 f 3.203 7 GHz -57.132 dBm
3 N 1 f 7.030 3 GHz -57.036 dBm
4 N 1 f 24.258 4 GHz -48.289 dBm
5
6
7
8
9
10
11
MSG
STATUS

Band edge(it's also the reference level for conducted spurious emission)

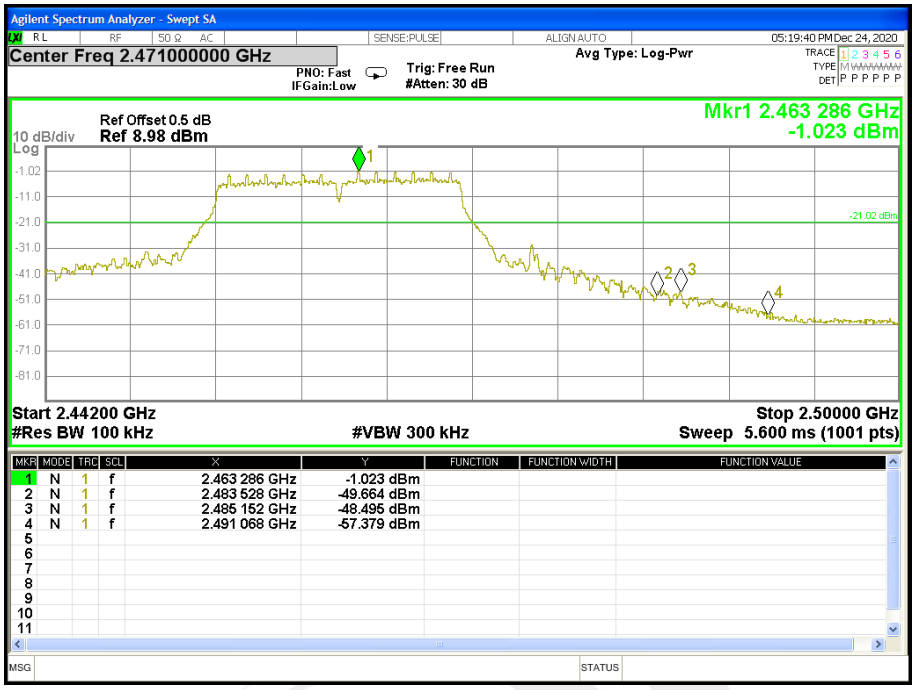
CH 01



CH06

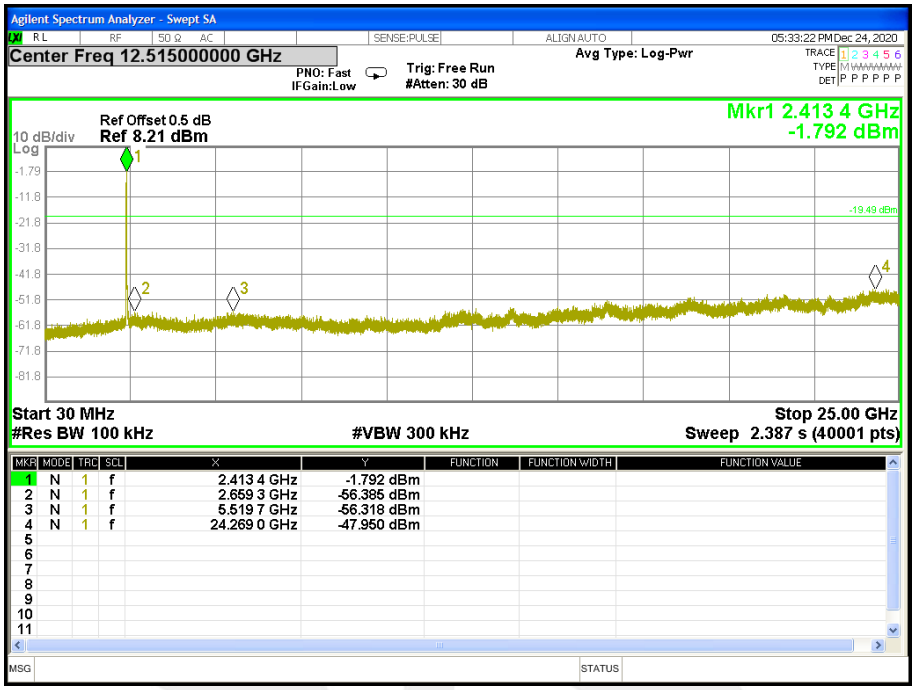


CH11

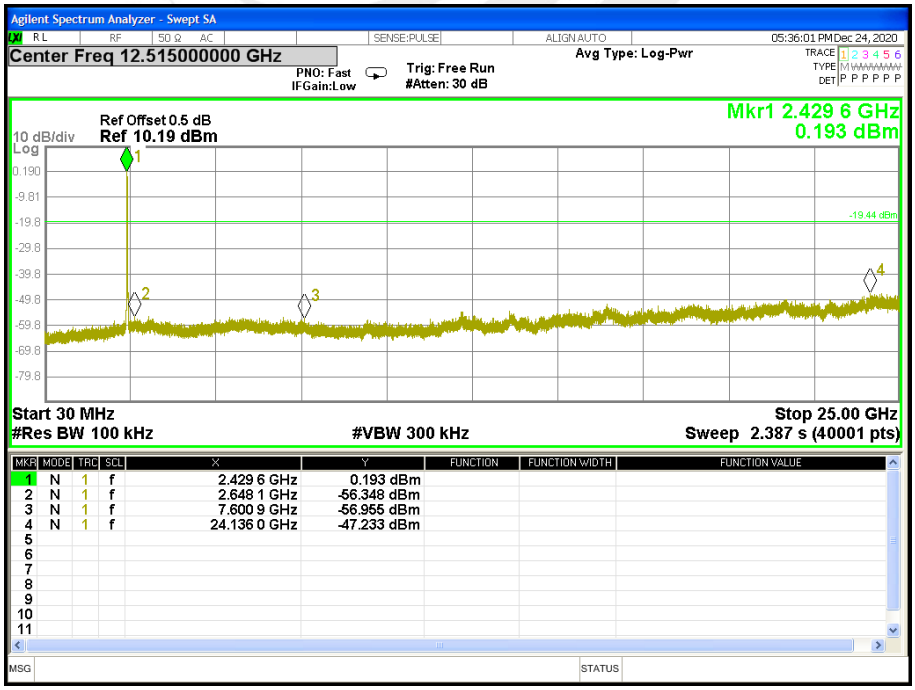

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
05:19:40 PM Dec 24, 2020
Center Freq 2.471000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P P P P P
Ref Offset 0.5 dB
10 dB/div
Ref 8.98 dBm
Log
Mkr1 2.463 286 GHz
-1.023 dBm
-1.02
-11.0
-21.0
-31.0
-41.0
-51.0
-61.0
-71.0
-81.0
-21.02 dBm
Start 2.44200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.600 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.463 286 GHz -1.023 dBm
2 N 1 f 2.483 528 GHz -49.664 dBm
3 N 1 f 2.485 152 GHz -48.495 dBm
4 N 1 f 2.491 068 GHz -57.379 dBm
5
6
7
8
9
10
11
MSG
STATUS

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX n Mode(20M) /CH01, CH06, CH11

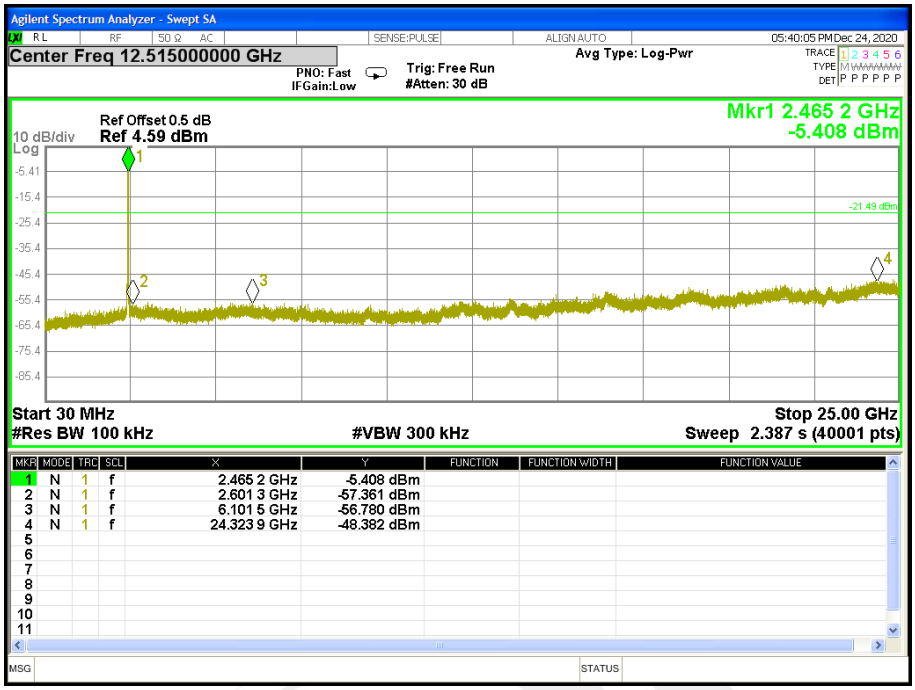
CH 01



CH 06

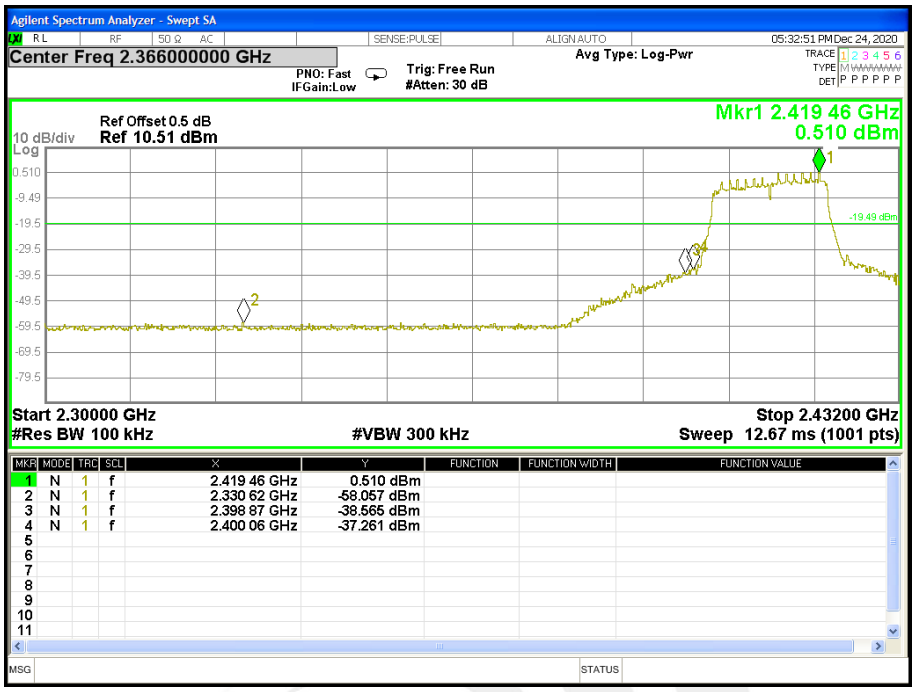


CH 11

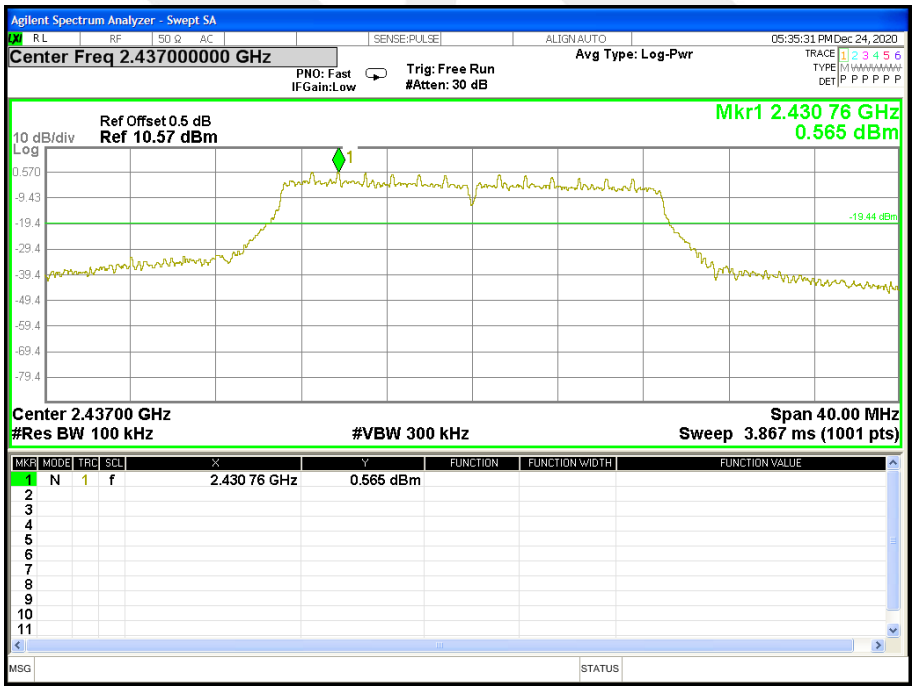

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
05:40:05 PM Dec 24, 2020
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P P P P P
Ref Offset 0.5 dB
10 dB/div
Ref 4.59 dBm
Log
Mkr1 2.465 2 GHz
-5.408 dBm
-21.49 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (40001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.465 2 GHz -5.408 dBm
2 N 1 f 2.601 3 GHz -57.361 dBm
3 N 1 f 6.101 5 GHz -56.780 dBm
4 N 1 f 24.323 9 GHz -48.382 dBm
MSG
STATUS

Band edge(it's also the reference level for conducted spurious emission)

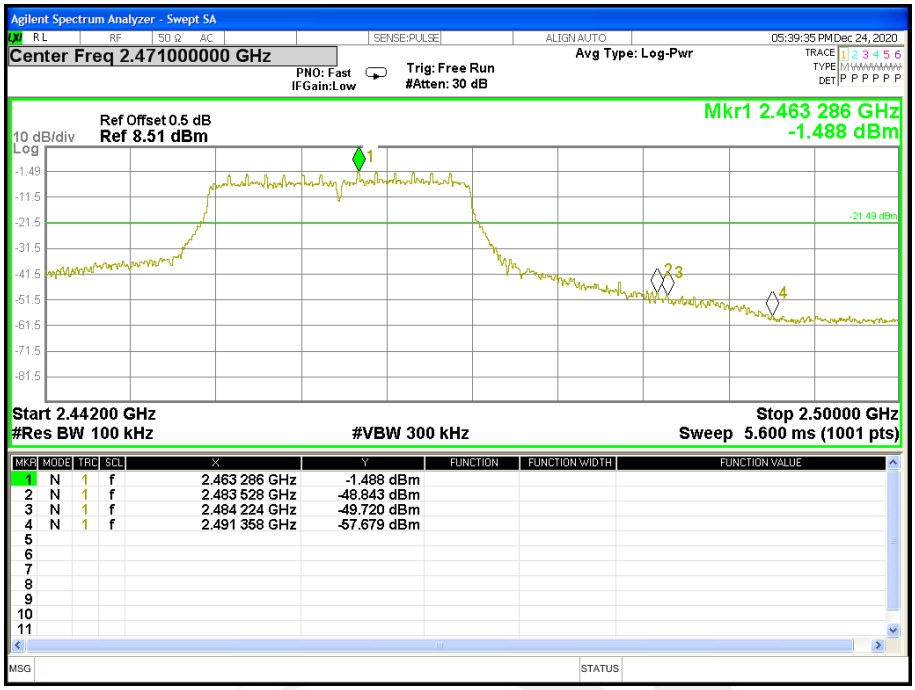
CH 01



CH 06



CH 11


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.471000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
05:39:35 PM Dec 24, 2020
Ref Offset 0.5 dB
10 dB/div
Ref 8.51 dBm
Mkr1 2.463 286 GHz
-1.488 dBm
-21.49 dBm
Start 2.44200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.600 ms (1001 pts)
1 N 1 f 2.463 286 GHz -1.488 dBm
2 N 1 f 2.483 528 GHz -48.843 dBm
3 N 1 f 2.484 224 GHz -49.720 dBm
4 N 1 f 2.491 358 GHz -57.679 dBm

5. POWER SPECTRAL DENSITY TEST

5.1 LIMIT

FCC Part15.247 , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	≤8 dBm (RBW ≥3KHz)	2400-2483.5	PASS

5.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the 100 kHz ≥ RBW ≥3 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP

5.5 EUT OPERATION CONDITIONS

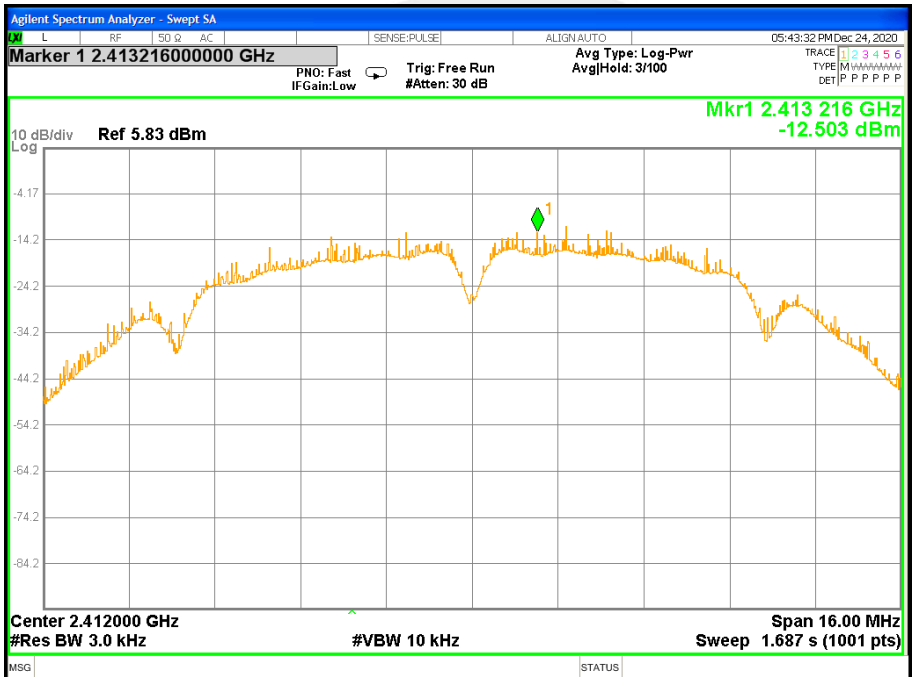
Please refer to section 3.1.4 of this report.

5.6 TEST RESULTS

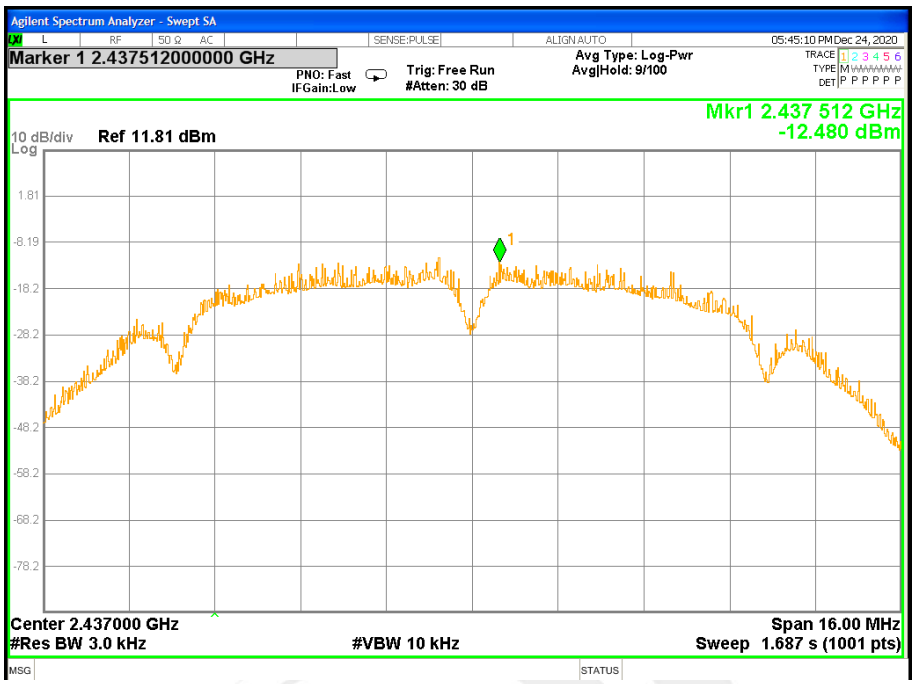
Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX b Mode /CH01, CH06, CH11

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3KHz)	Result
2412 MHz	-12.503	≤8	PASS
2437 MHz	-12.480	≤8	PASS
2462 MHz	-12.351	≤8	PASS

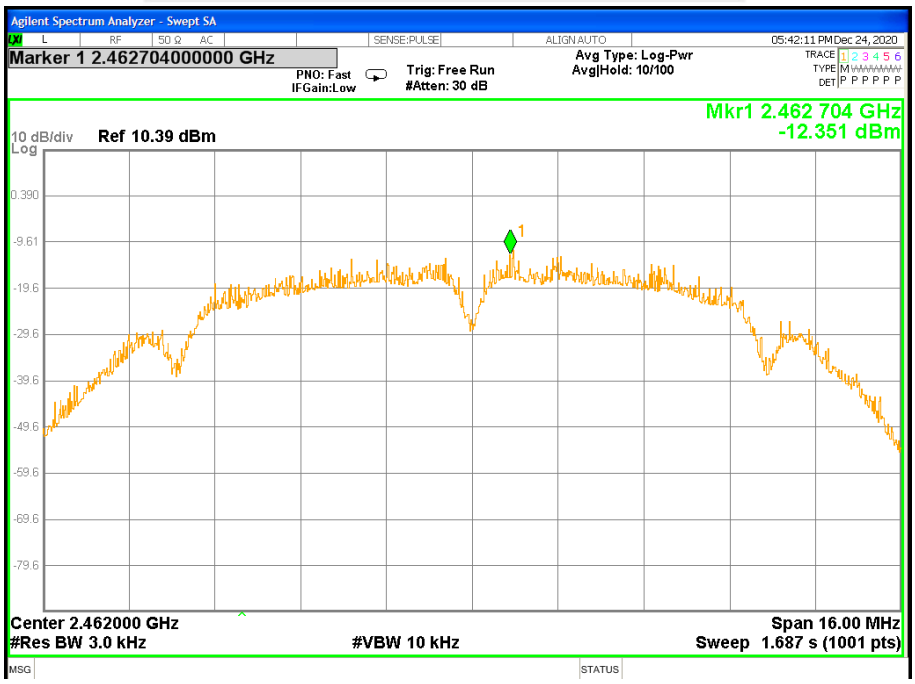
TX CH01



TX CH06



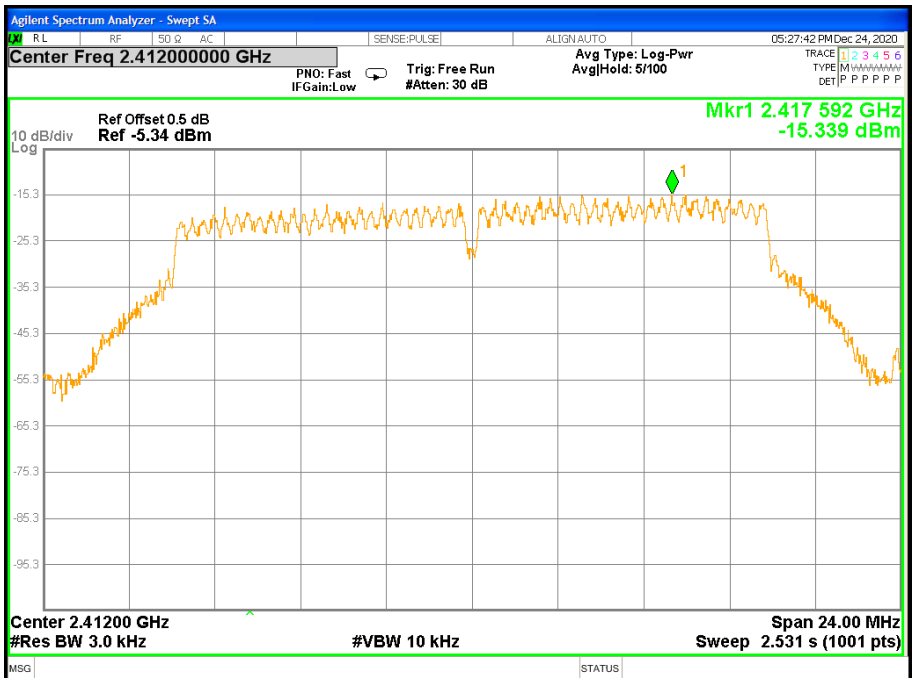
TX CH11



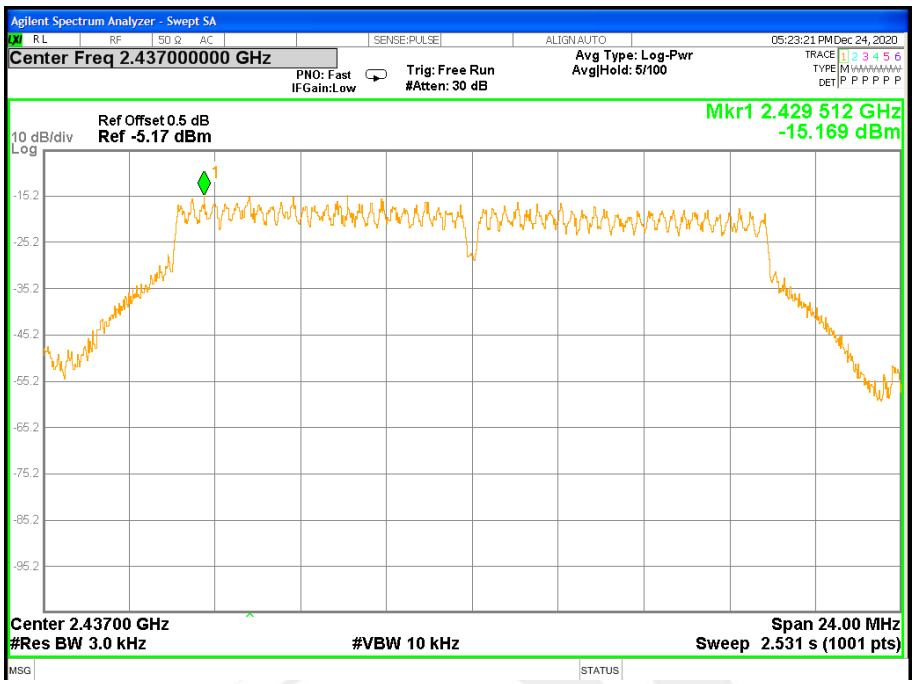
Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX g Mode /CH01, CH06, CH11

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3KHz)	Result
2412 MHz	-15.3390	≤8	PASS
2437 MHz	-15.1690	≤8	PASS
2462 MHz	-17.4240	≤8	PASS

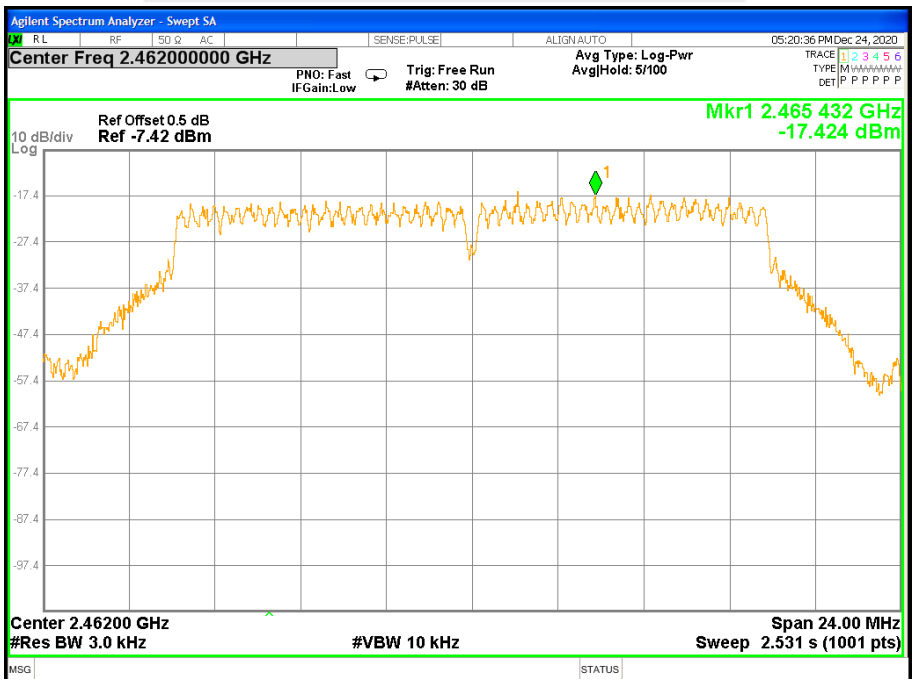
TX CH01



TX CH06



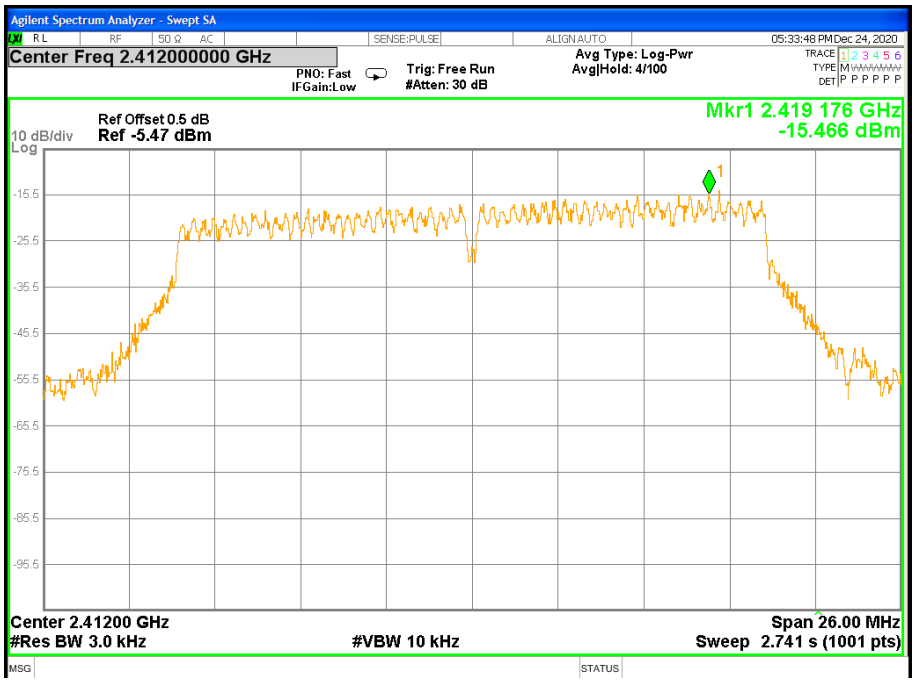
TX CH11



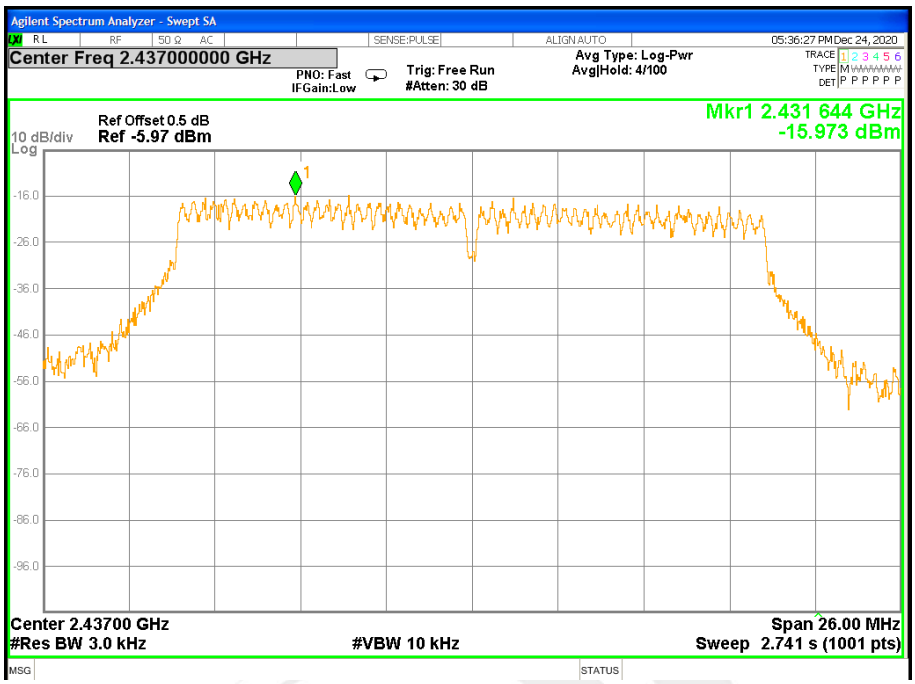
Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX n Mode(20M) /CH01, CH06, CH11

Frequency	Power Density (dBm/3kHz)	Limit (dBm/3KHz)	Result
2412 MHz	-15.4660	≤8	PASS
2437 MHz	-15.9730	≤8	PASS
2462 MHz	-17.2730	≤8	PASS

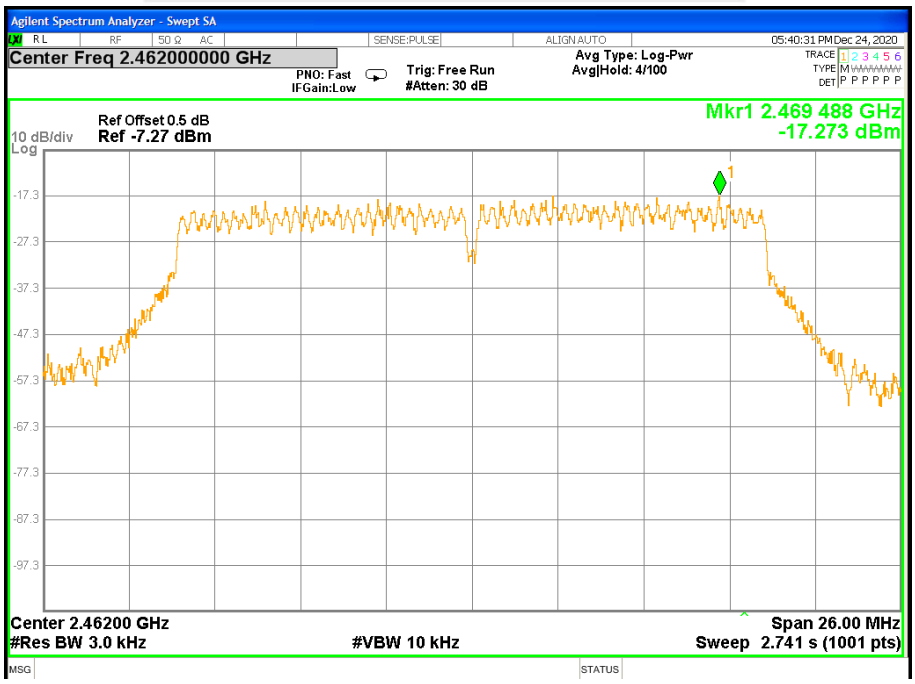
TX CH01



TX CH06



TX CH11



6. BANDWIDTH TEST

6.1 LIMIT

FCC Part15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	≥500KHz (6dB bandwidth)	2400-2483.5	PASS

6.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW≥3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be≥6 dB.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP

6.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

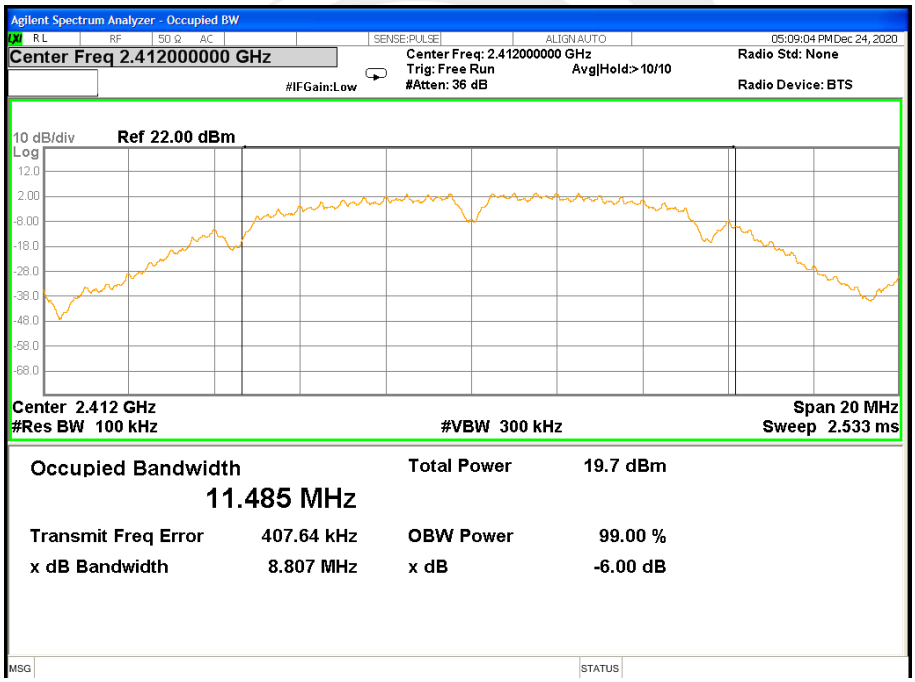
6.6 TEST RESULTS

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX b Mode /CH01, CH06, CH11

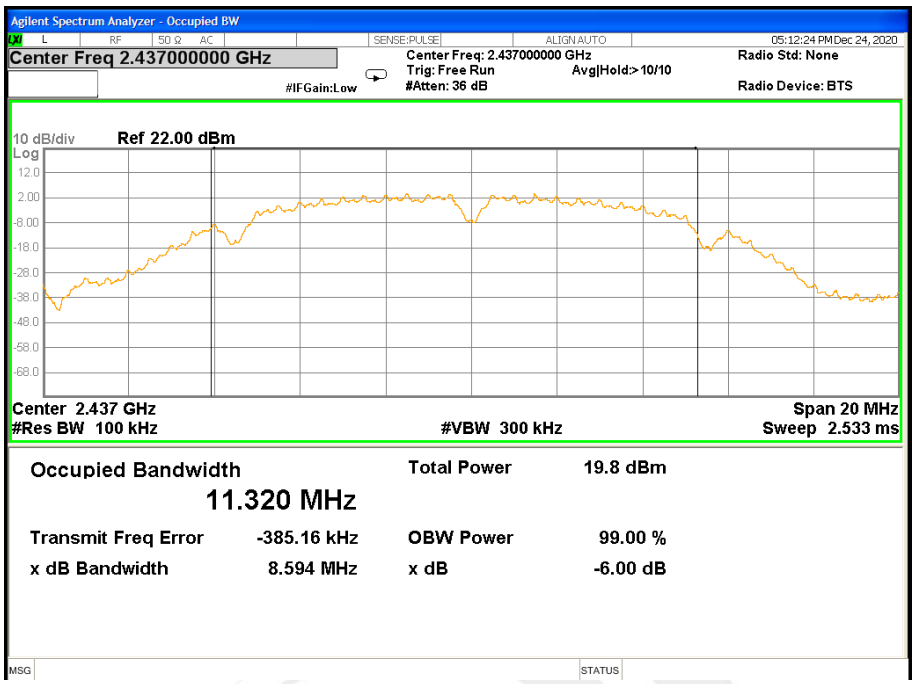
Remark: PEAK DETECTOR IS USED

Frequency	6dB Bandwidth	Limit	Result
	(MHz)	(KHz)	
2412 MHz	8.807	≥500KHz	PASS
2437 MHz	8.594	≥500KHz	PASS
2462 MHz	8.605	≥500KHz	PASS

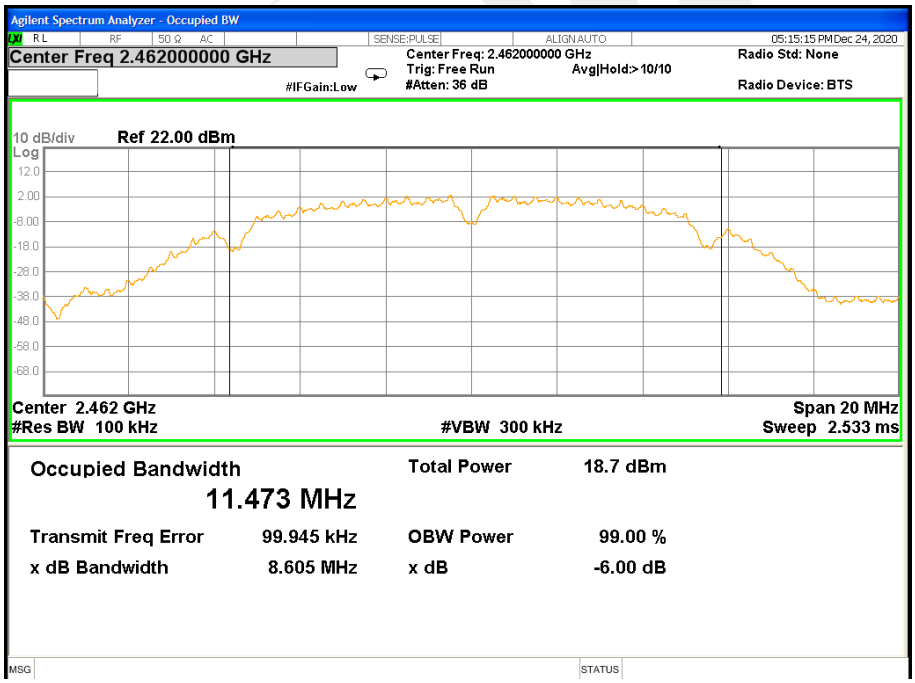
TX CH 01



TX CH 06



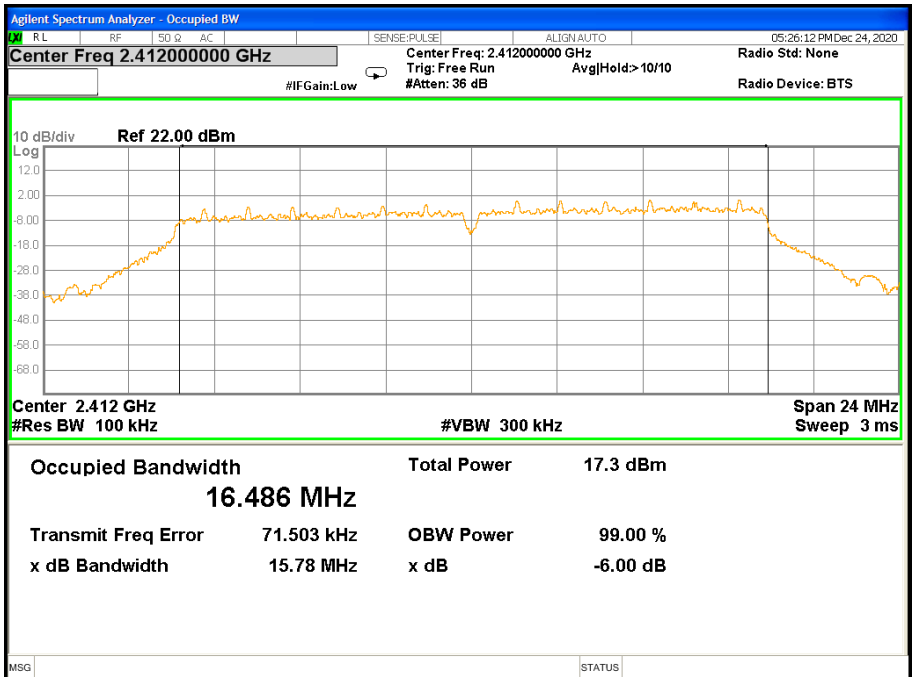
TX CH 11



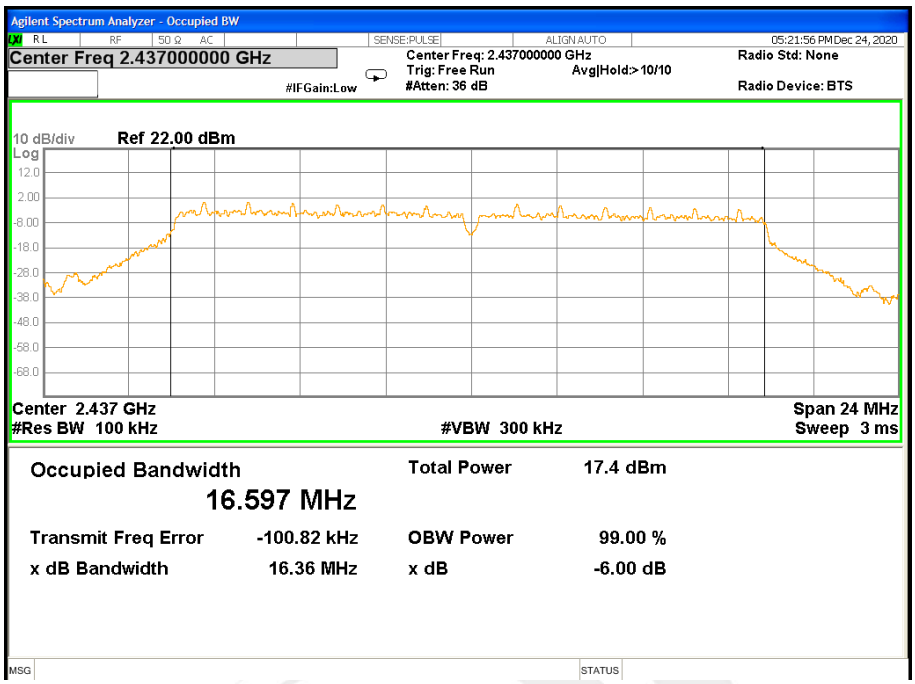
Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX g Mode /CH01, CH06, CH11

Frequency	6dB Bandwidth	Limit	Result
	(MHz)	(KHz)	
2412 MHz	15.78	≥500KHz	PASS
2437 MHz	16.36	≥500KHz	PASS
2462 MHz	16.36	≥500KHz	PASS

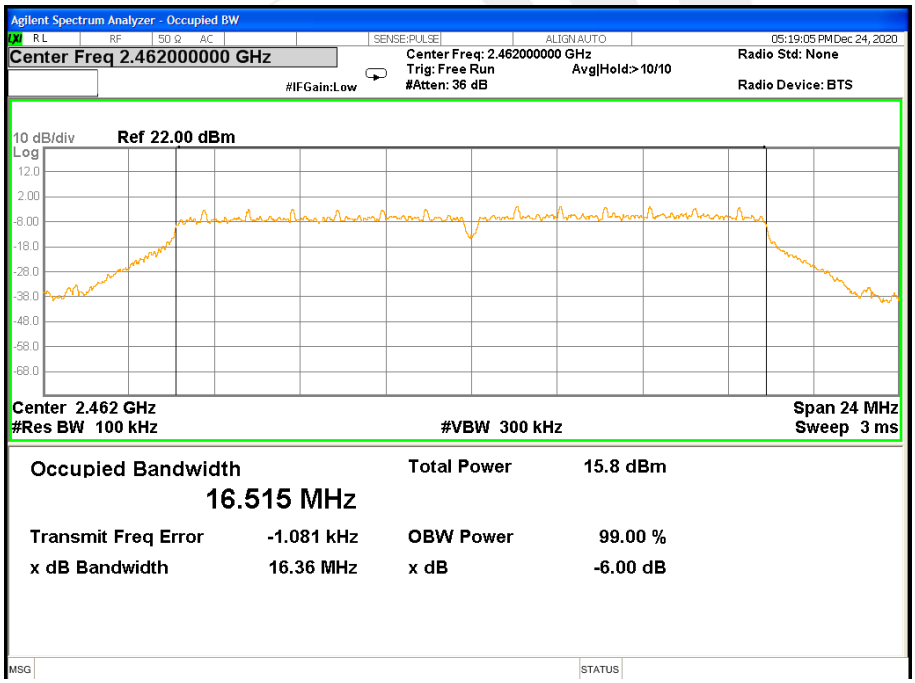
TX CH 01



TX CH 06



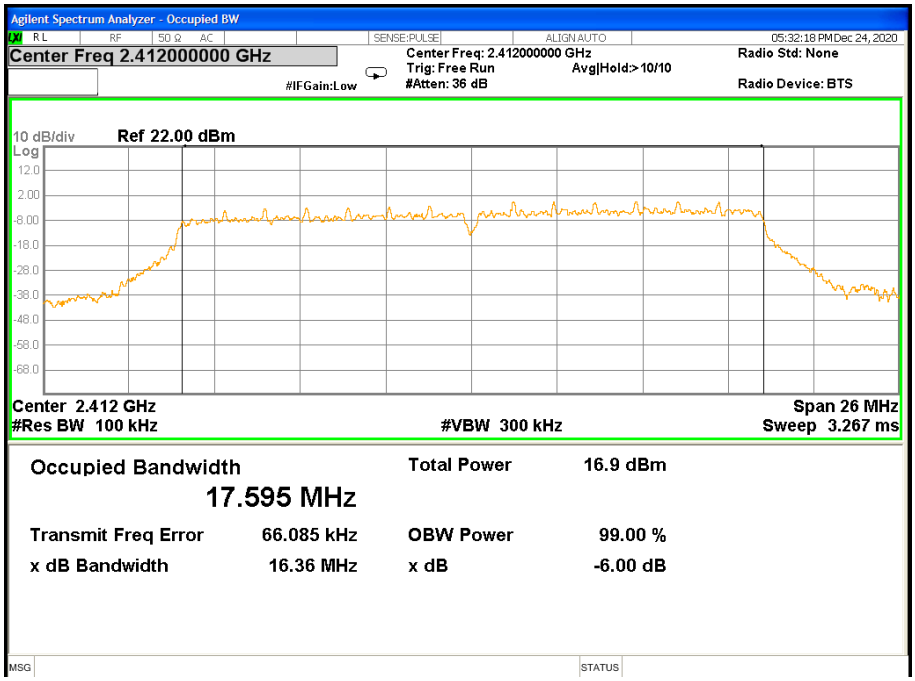
TX CH 11



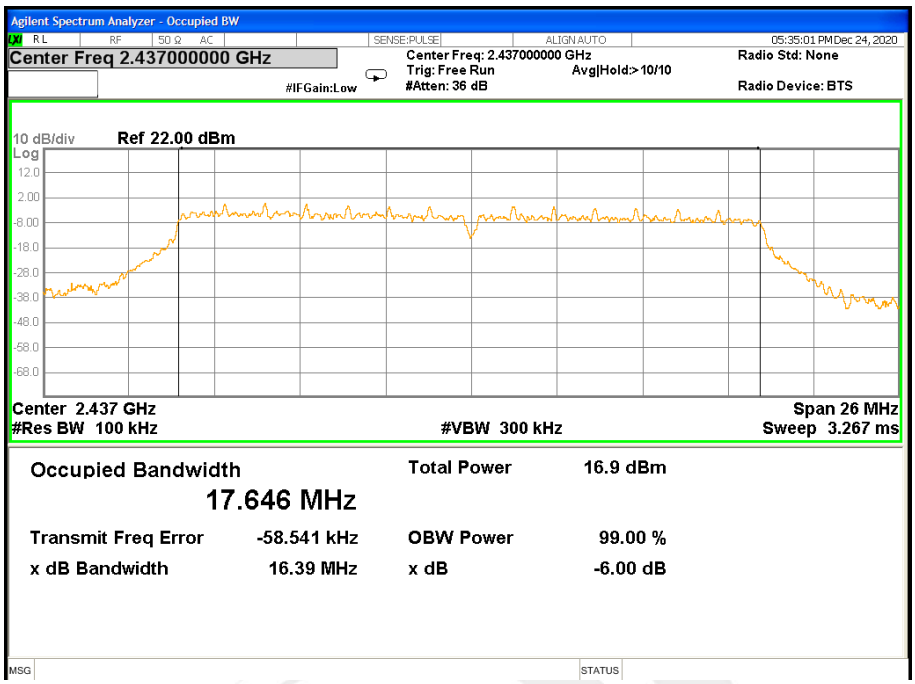
Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V	Test Mode:	TX n Mode(20M) /CH01, CH06, CH11

Frequency	6dB Bandwidth	Limit	Result
	(MHz)	(KHz)	
2412 MHz	16.36	≥500KHz	PASS
2437 MHz	16.39	≥500KHz	PASS
2462 MHz	17.55	≥500KHz	PASS

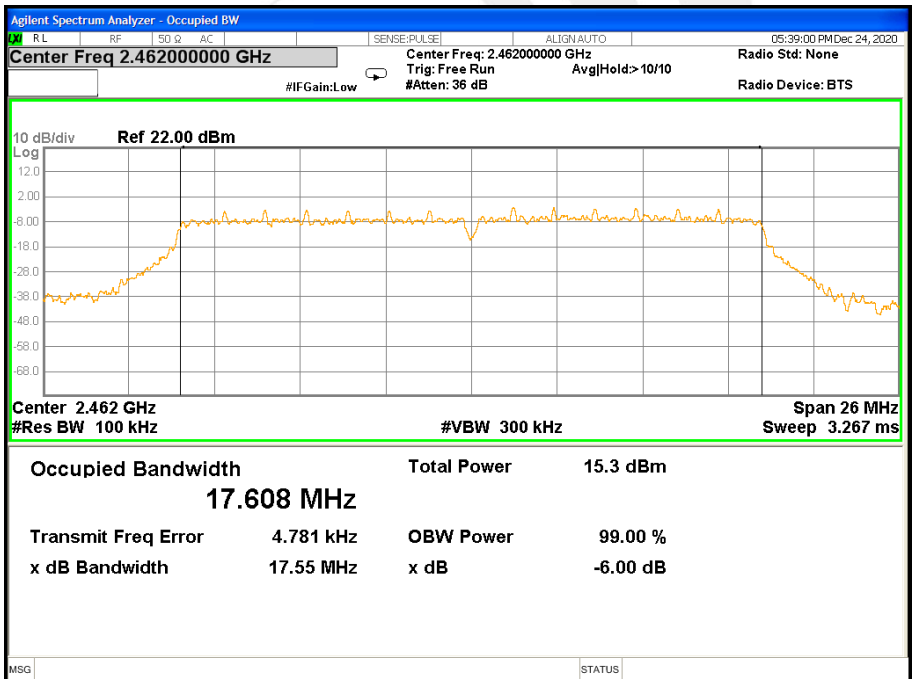
TX CH 01



TX CH 06



TX CH 11



7. PEAK OUTPUT POWER TEST

7.1 LIMIT

FCC Part15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

7.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

RBW ≥ DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the
DTS bandwidth:

a) Set the RBW = 1 MHz.
b) Set the VBW ≥ [3 × RBW].
c) Set the span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

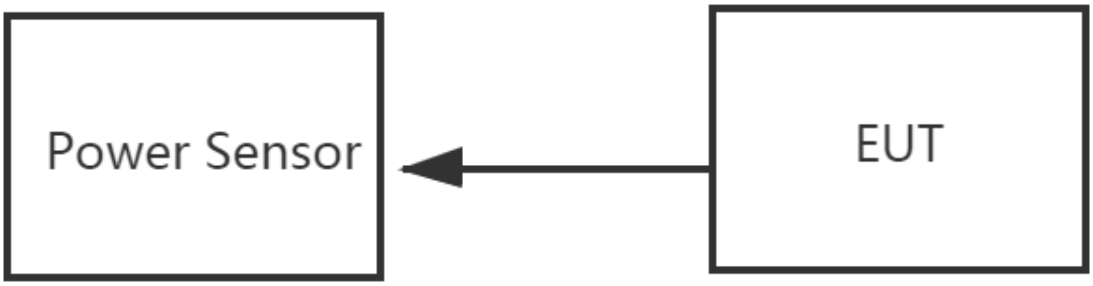
PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS
Please refer to section 3.1.4 of this report.

7.6 TEST RESULTS

Temperature:	25℃	Relative Humidity:	60%
Test Voltage:	DC 3.7V		

Mode	Test Channel	Frequency	Peak Conducted Output Power	Average Conducted Output Power	LIMIT
		(MHz)	(dBm)	(dBm)	dBm
TX 802.11b	CH01	2412	19.89	10.46	30
	CH06	2437	20.62	11.33	30
	CH11	2462	18.62	8.98	30
TX 802.11g	CH01	2412	19.80	10.45	30
	CH06	2437	20.58	11.29	30
	CH11	2462	18.57	8.96	30
TX 802.11n20	CH01	2412	19.77	10.42	30
	CH06	2437	20.34	11.26	30
	CH11	2462	18.36	8.99	30

8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible partyshall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is PIFA Antenna. It comply with the standard requirement.

APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※