APPENDIX A – TEST DATA OF CONDUCTED EMISSION

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Data rate below means worst-case rate of each test item.
Worst-case data rates are shown as following table.

Test Mode	Data Rate
802.11b	1Mbps
802.11g	6Mbps
802.11n HT20	MCS0(6.5Mbps)
802.11n HT40	MCS0(13.5Mbps)
802.11ax HT20	MCS0(8.6Mbps)
802.11ax HT40	MCS0(17.2Mbps)

Directional gain

Band	Ant7 Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/3kHz)
2.4GHz	-3.1	30.0	8.0

Duty cycle

Test Mode	Duty Cycle (%)	Correction Factor(dB)
802.11b	99.27	0.03
802.11g	98.54	0.06
802.11n HT20	98.44	0.07
802.11n HT40	94.90	0.23

Conducted power

Mode	Tones/ RU Index	Freq(MHz)	Ant	Peak power output (dBm)
802.11b	NA	2412MHz	Ant7	20.92
	NA	2437MHz	Ant7	20.93
	NA	2462MHz	Ant7	20.65
802.11g	NA	2412MHz	Ant7	25.13
	NA	2437MHz	Ant7	24.85
	NA	2462MHz	Ant7	25.08
802.11n20M	NA	2412MHz	Ant7	25.04
	NA	2437MHz	Ant7	24.66
	NA	2462MHz	Ant7	24.87
802.11n40M	NA	2422MHz	Ant7	24.53
	NA	2437MHz	Ant7	24.33
	NA	2452MHz	Ant7	24.27

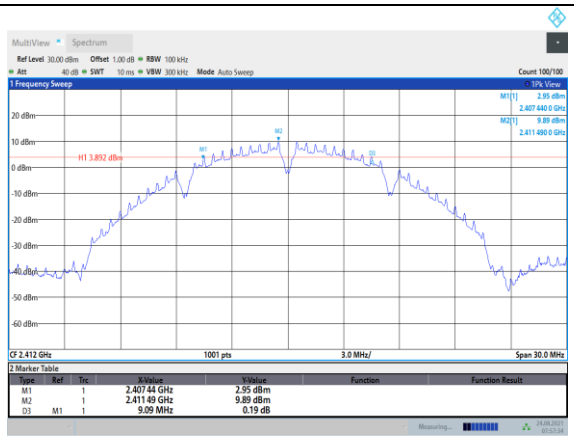
6dB Bandwidth

Offset 11.2dB =Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1dB

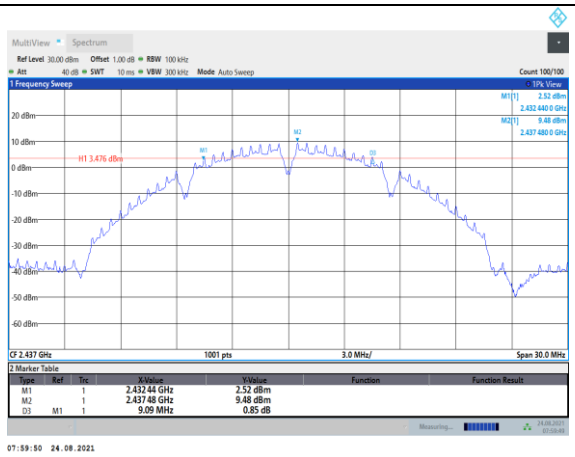
Test Mode:802.11b

Carrier frequency (MHz)	Channel No.	Ant	6 dB bandwidth (MHz)
2412MHz	1	Ant7	9.090
2437MHz	6	Ant7	9.090
2462MHz	11	Ant7	8.580

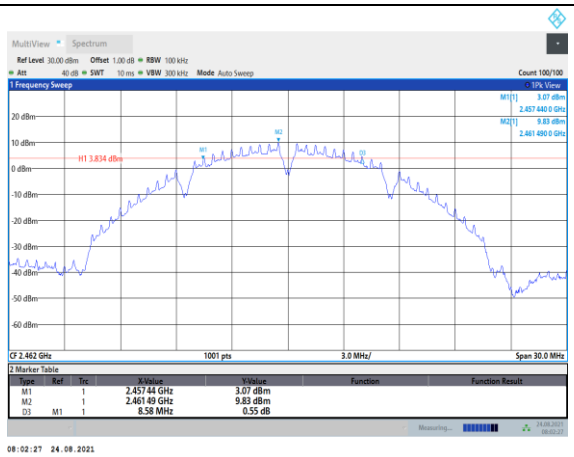
Test Mode:802.11b Ant7



Test Mode:802.11b Ant7



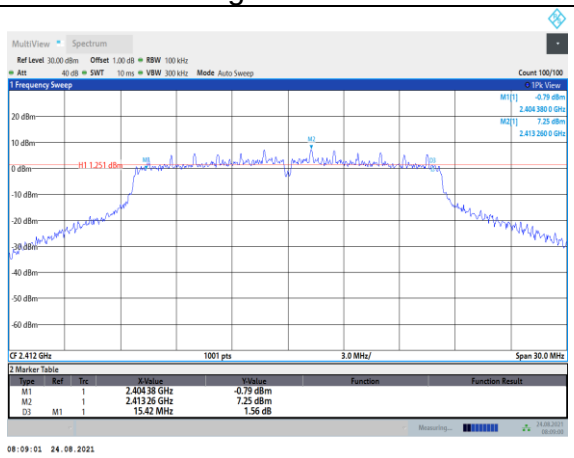
Test Mode:802.11b Ant7



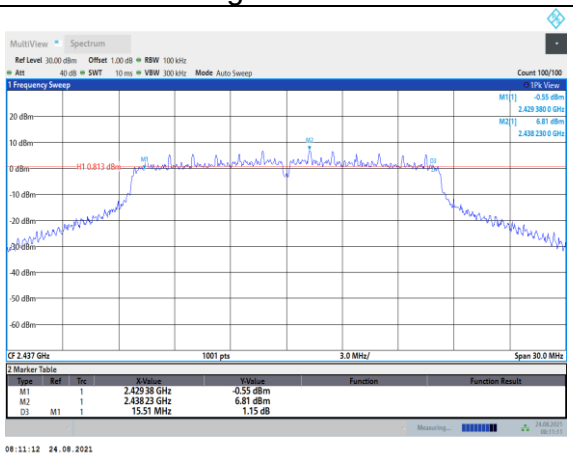
Test Mode:802.11g

Carrier frequency (MHz)	Channel No.	Ant	6 dB bandwidth (MHz)
2412MHz	1	Ant7	15.420
2437MHz	6	Ant7	15.510
2462MHz	11	Ant7	15.690

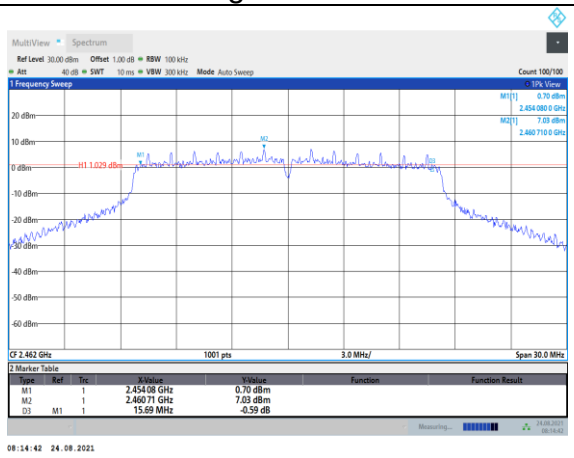
Test Mode:802.11g Ant7



Test Mode:802.11g Ant7



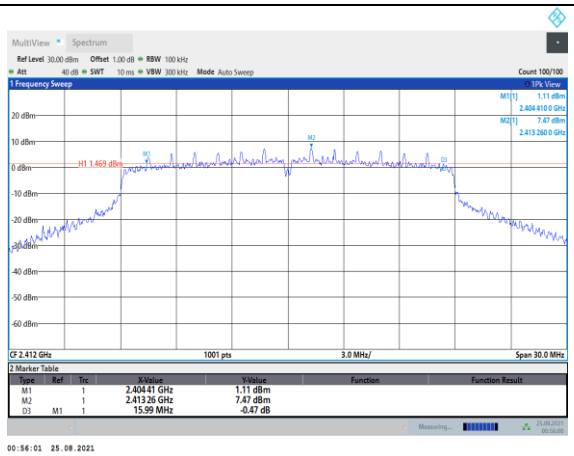
Test Mode:802.11g Ant7



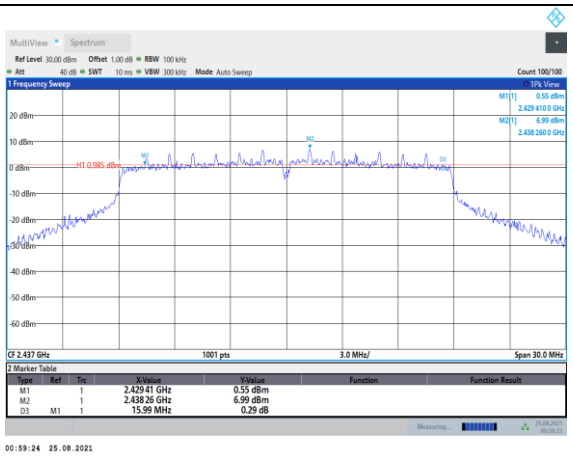
Test Mode:802. 11n HT20

Carrier frequency (MHz)	Channel No.	Ant	6 dB bandwidth (MHz)
2412MHz	1	Ant7	15.990
2437MHz	6	Ant7	15.990
2462MHz	11	Ant7	15.780

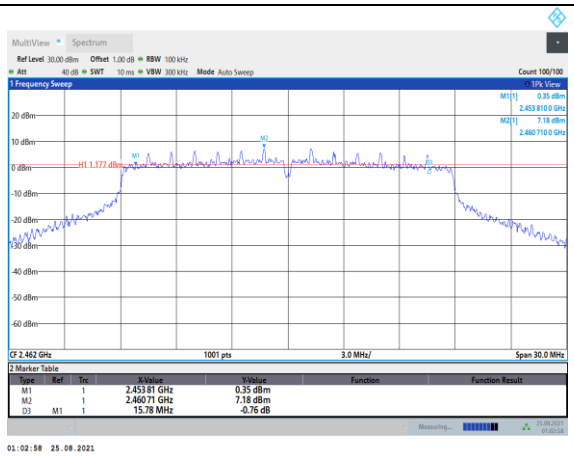
Test Mode:802. 11n HT20 Ant7



Test Mode:802. 11n HT20 Ant7



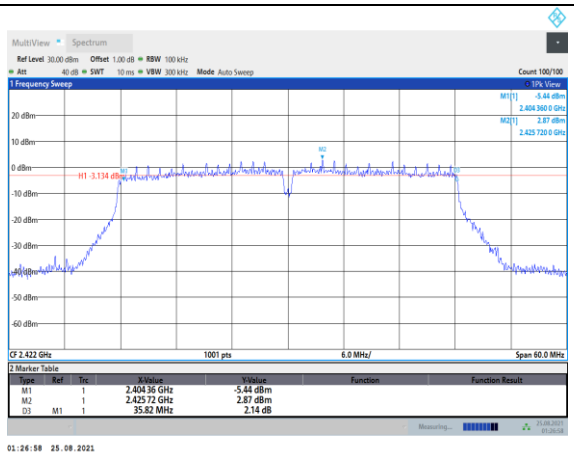
Test Mode:802. 11n HT20 Ant7



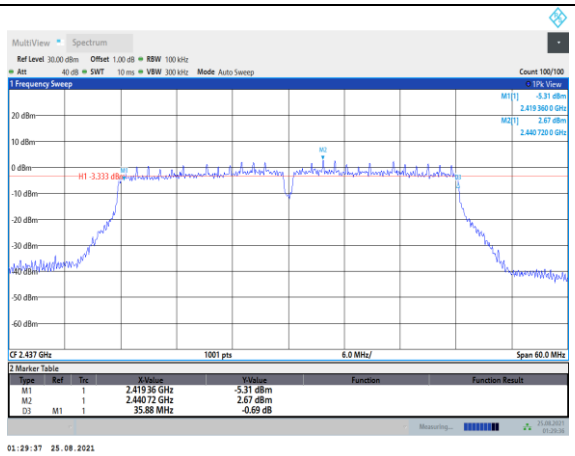
Test Mode:802. 11n HT40

Carrier frequency (MHz)	Channel No.	Ant	6 dB bandwidth (MHz)
2422MHz	3	Ant7	35.820
2437MHz	6	Ant7	35.880
2452MHz	9	Ant7	35.280

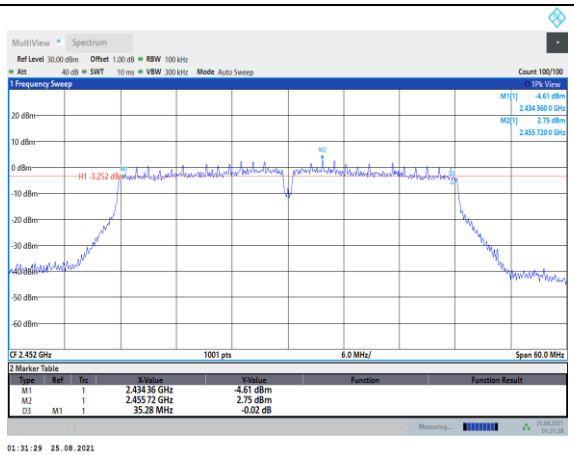
Test Mode:802. 11n HT40 Ant7



Test Mode:802. 11n HT40 Ant7



Test Mode:802. 11n HT40 Ant7



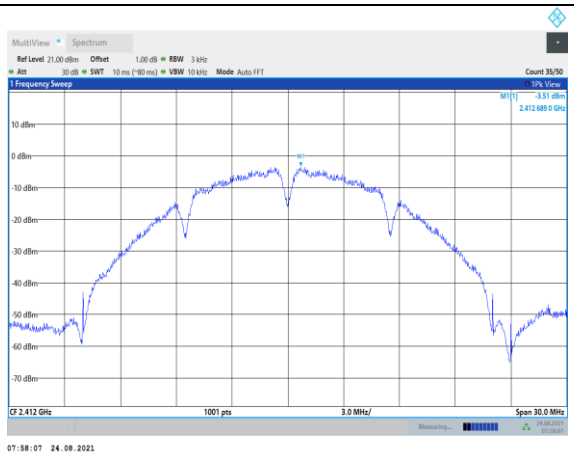
Transmitter Power Spectral Density

Offset 11.2dB =Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1dB

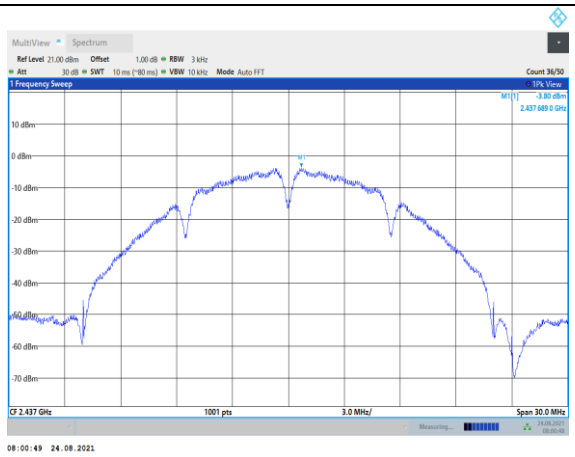
Test Mode:802.11b

Carrier frequency (MHz)	Channel No.	Ant	Power Density (dBm)
2412MHz	1	Ant7	-3.51
2437MHz	6	Ant7	-3.8
2462MHz	11	Ant7	-3.37

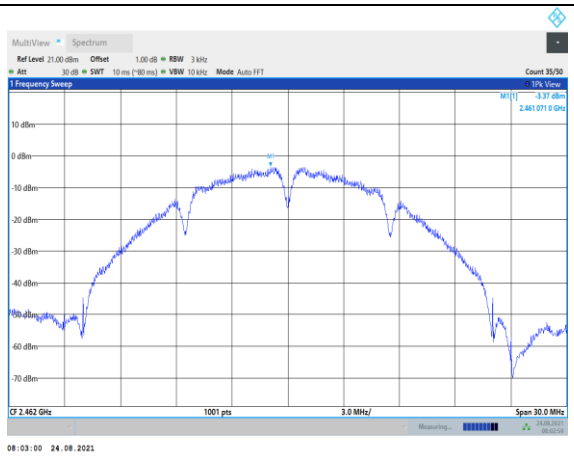
Test Mode:802.11b Ant7



Test Mode:802.11b Ant7



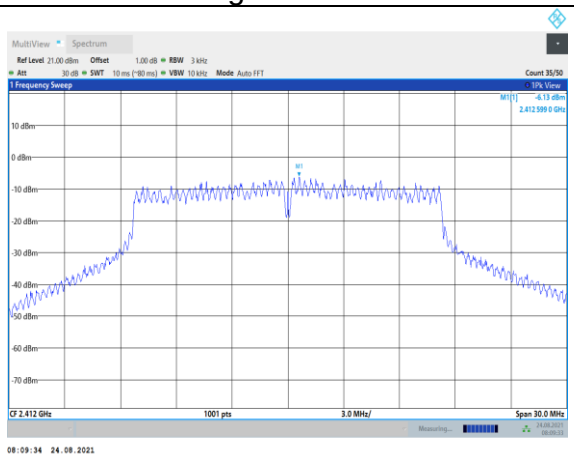
Test Mode:802.11b Ant7



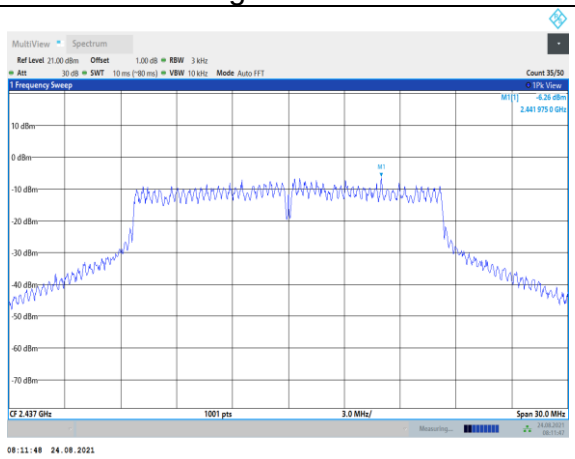
Test Mode:802.11g

Carrier frequency (MHz)	Channel No.	Ant	Power Density (dBm)
2412MHz	1	Ant7	-6.13
2437MHz	6	Ant7	-6.26
2462MHz	11	Ant7	-6.35

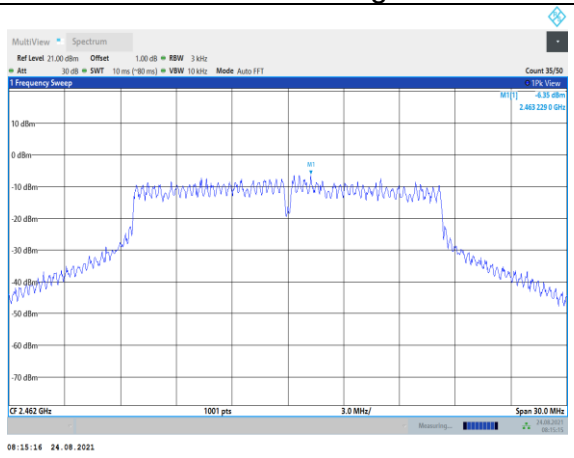
Test Mode:802.11g Ant7



Test Mode:802.11g Ant7



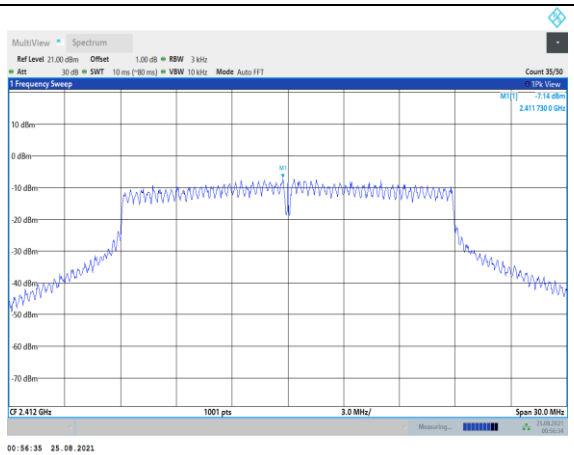
Test Mode:802.11g Ant7



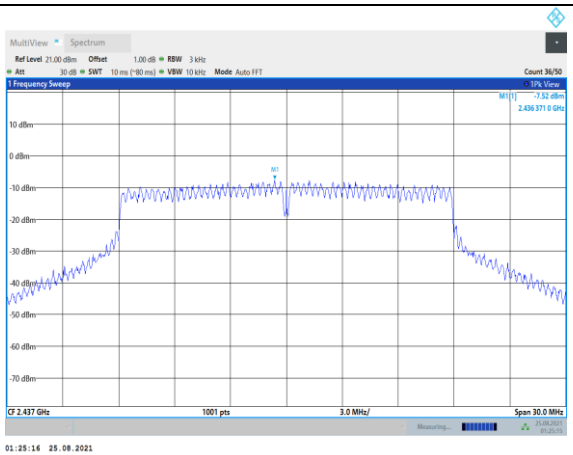
Test Mode:802. 11n HT20

Carrier frequency (MHz)	Channel No.	Ant	Power Density (dBm)
2412MHz	1	Ant7	-7.14
2437MHz	6	Ant7	-7.52
2462MHz	11	Ant7	-6.93

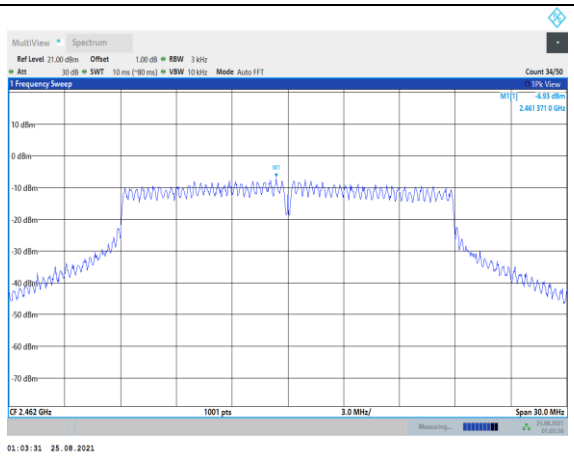
Test Mode:802. 11n HT20 Ant7



Test Mode:802. 11n HT20 Ant7



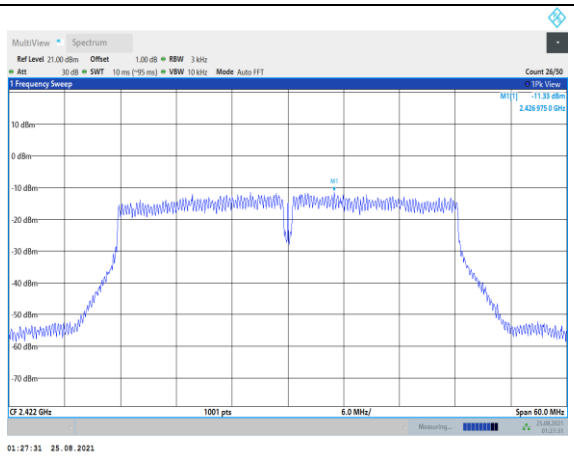
Test Mode:802. 11n HT20 Ant7



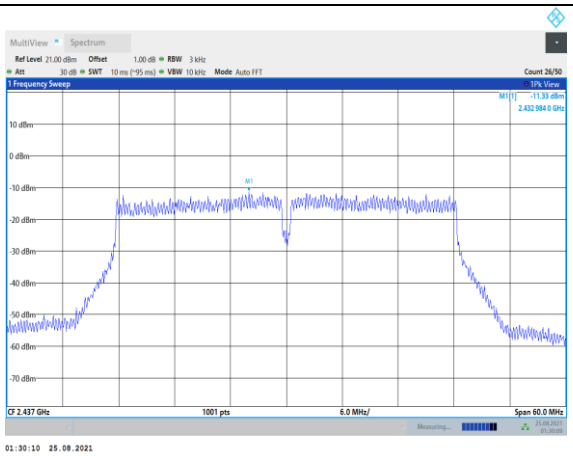
Test Mode:802. 11n HT40

Carrier frequency (MHz)	Channel No.	Ant	Power Density (dBm)
2422MHz	3	Ant7	-11.33
2437MHz	6	Ant7	-11.33
2452MHz	9	Ant7	-11.12

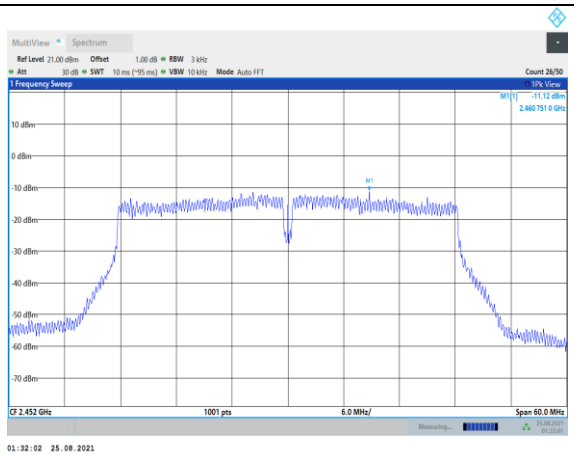
Test Mode:802. 11n HT40 Ant7



Test Mode:802. 11n HT40 Ant7



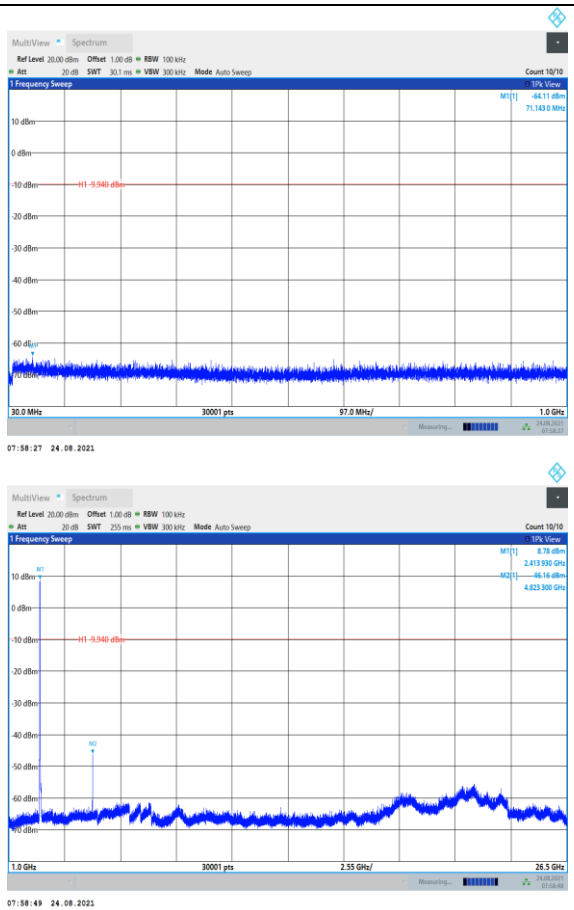
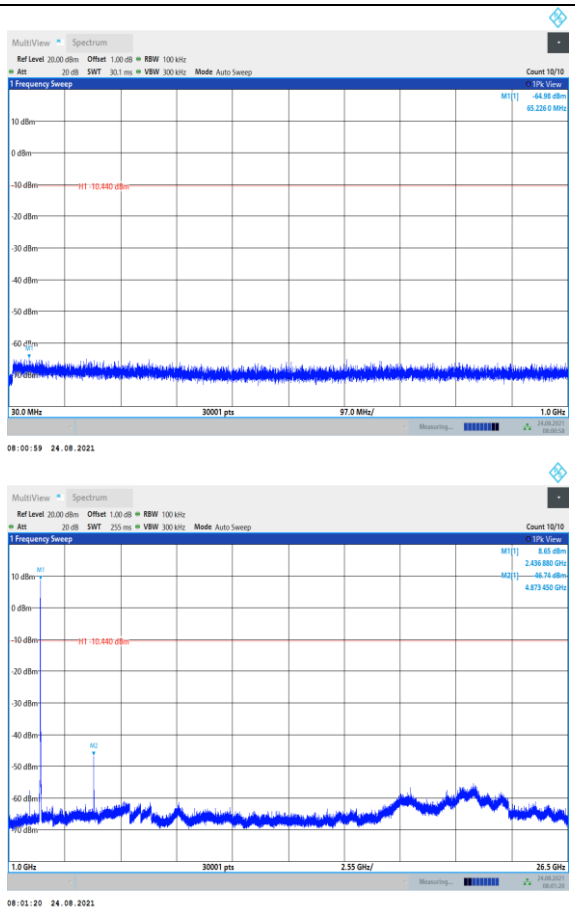
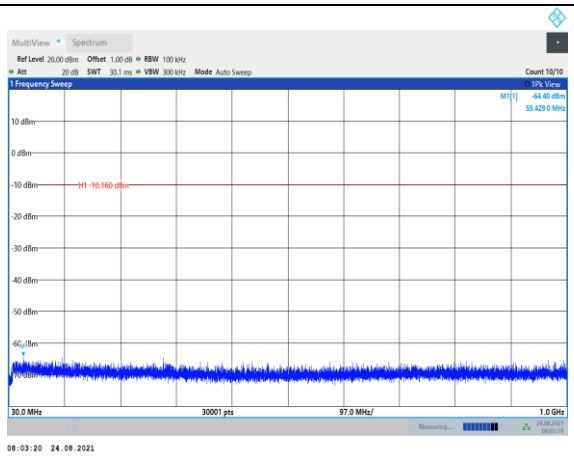
Test Mode:802. 11n HT40 Ant7

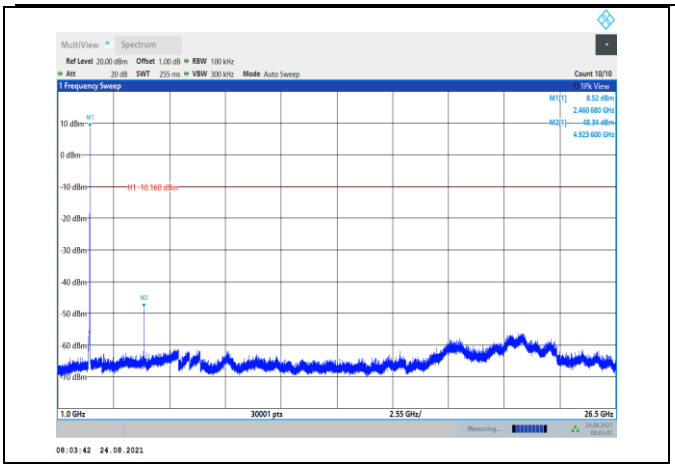


Conducted Out of band emission measurement

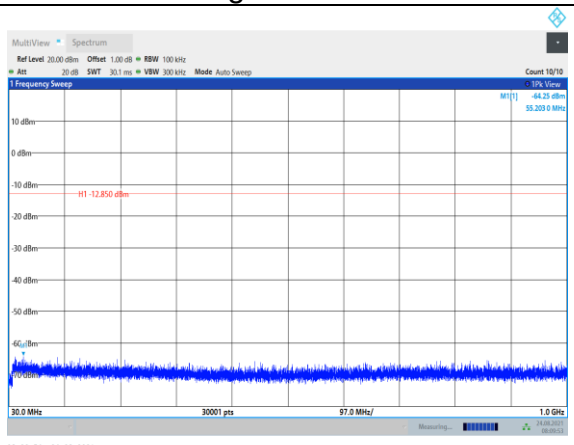
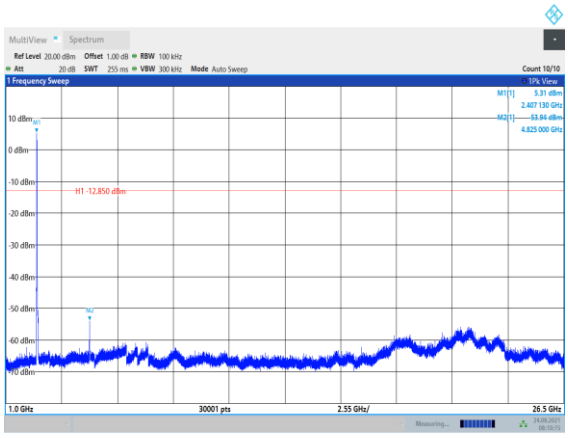
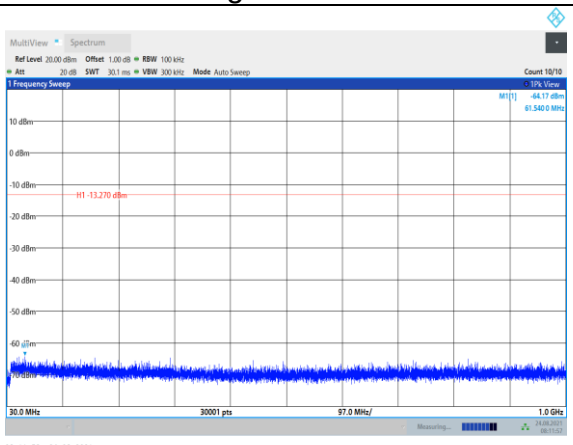
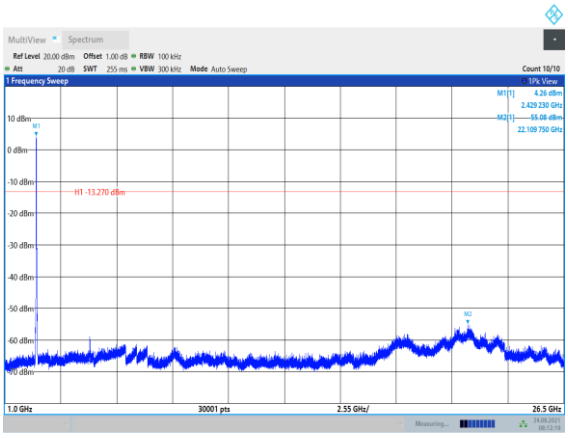
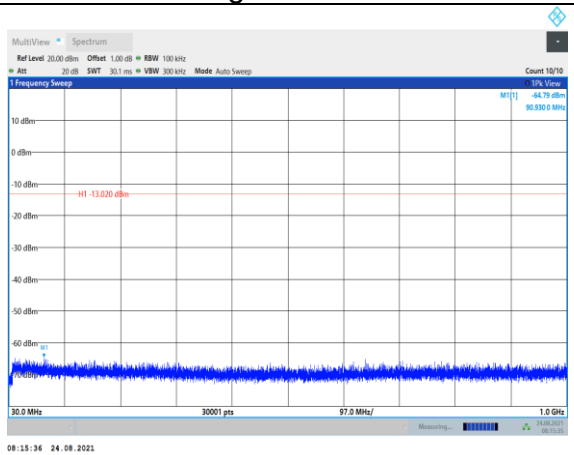
Offset 11.2dB =Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1.0dB

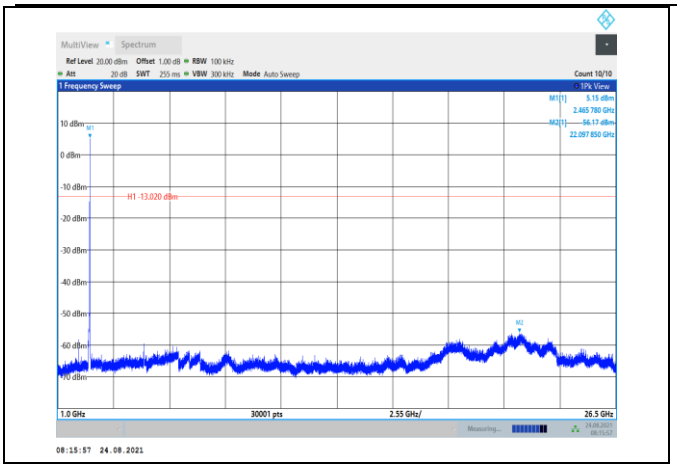
Test Mode:802.11b

Test Mode:802.11b Ant7 CH1	Test Mode:802.11b Ant7 CH6
	
Test Mode:802.11b Ant7 CH11	
	

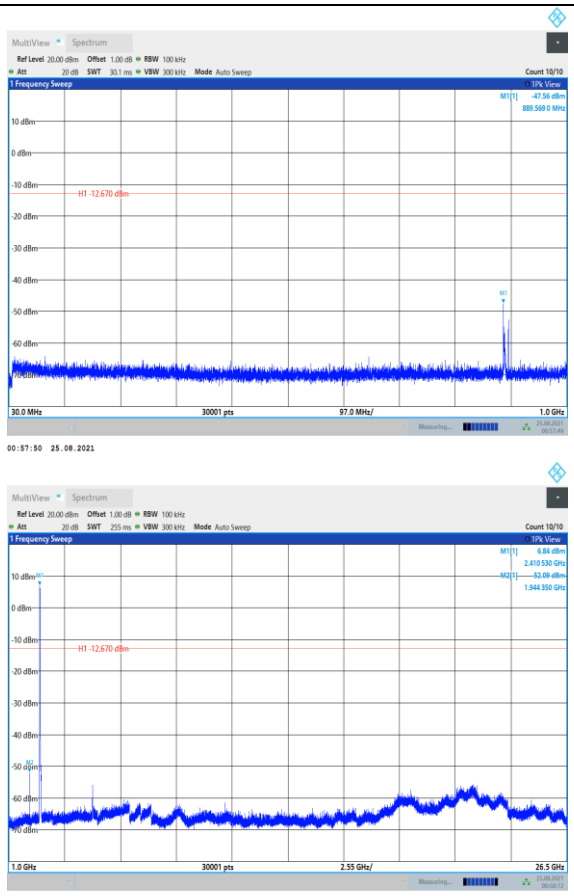
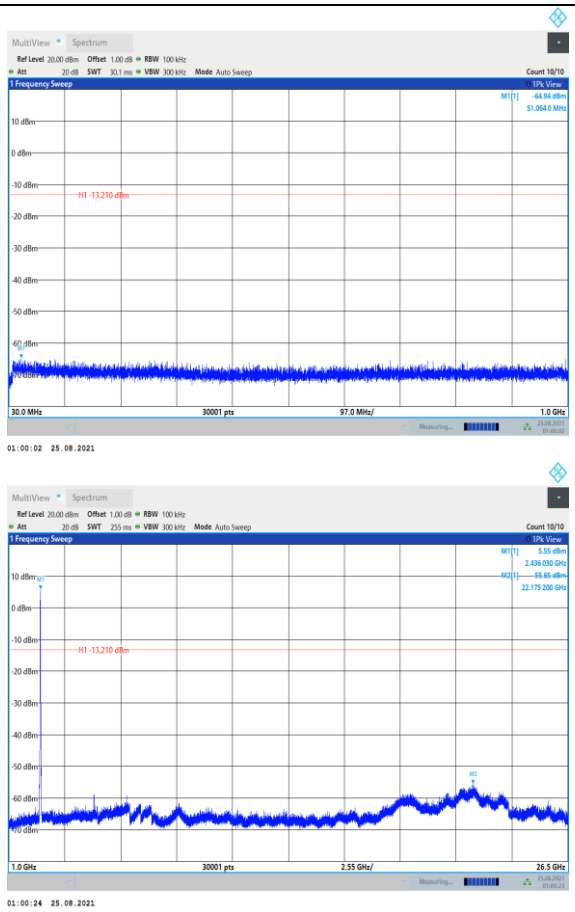
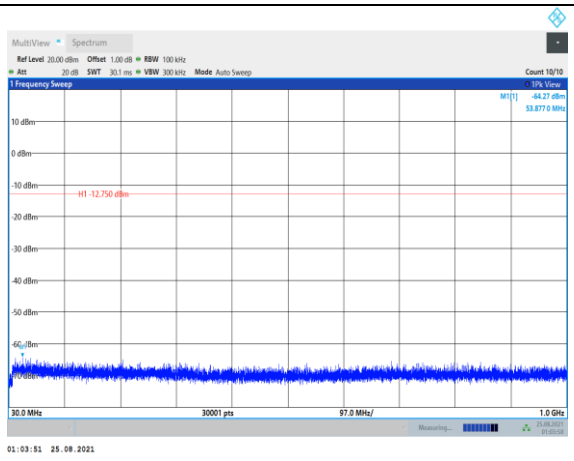

MultiView
Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep Count 10/10
1 Frequency Sweep 1Pk View
M1[1] 8.52 dBm
2.460 680 GHz
M2[1] -48.34 dBm
4.923 600 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
H1 -10.160 dBm
1.0 GHz
30001 pts
2.55 GHz/
26.5 GHz
Measuring...
08:03:42 24.08.2021

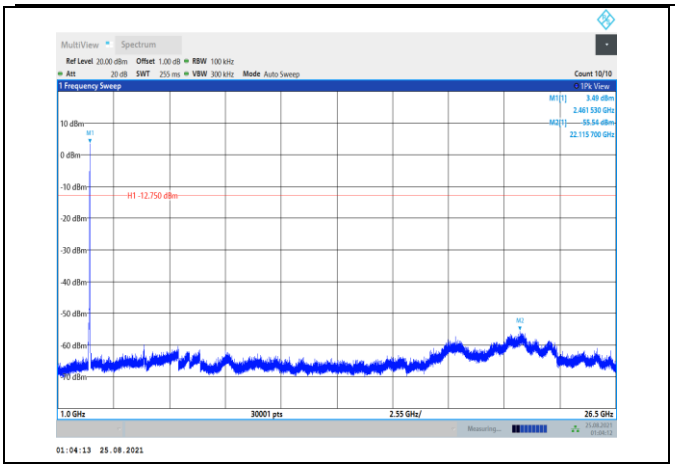
Test Mode:802.11g

Test Mode:802.11g Ant7 CH1	Test Mode:802.11g Ant7 CH6
 	 
Test Mode:802.11g Ant7 CH11	
	

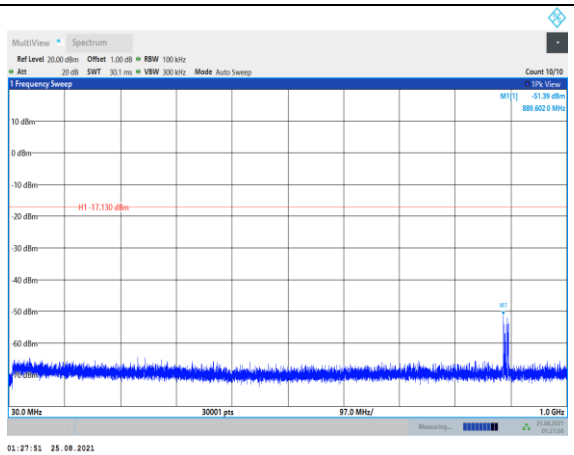
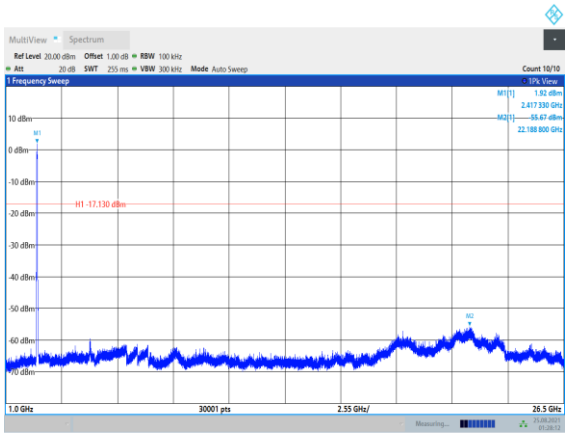
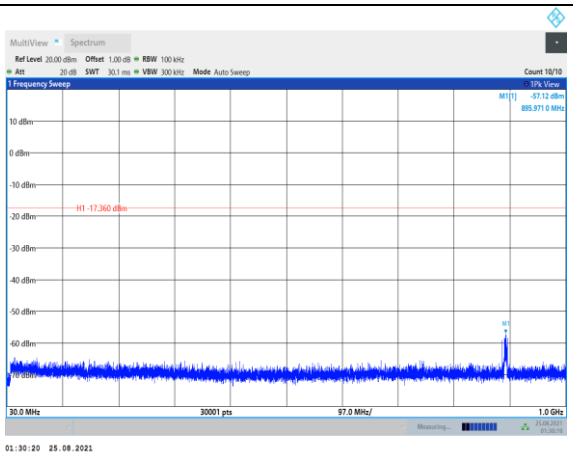
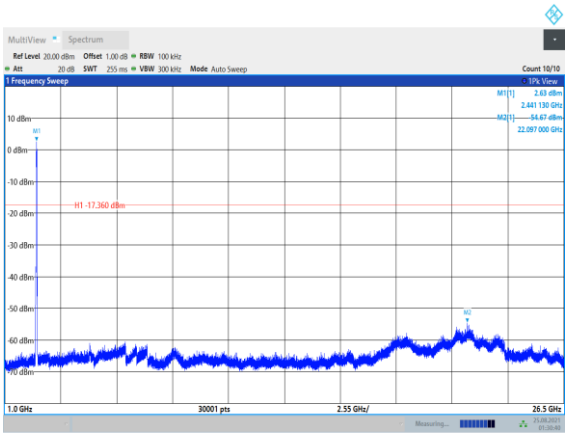
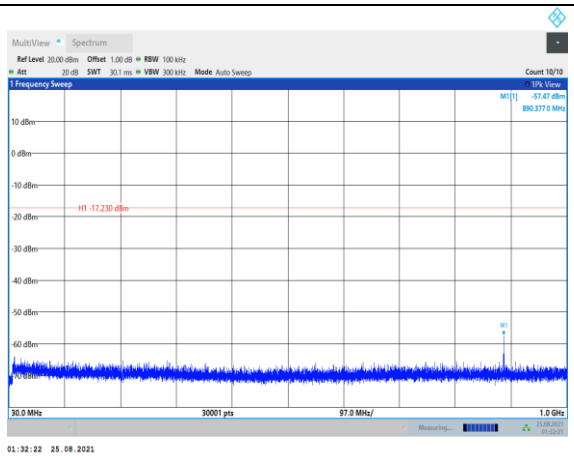

MultiView
Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep Count 10/10
1 Frequency Sweep 1Pk View
M1[1] 5.19 dBm
2.465 780 GHz
M2[1] -56.17 dBm
22.097 850 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
H1 -13.020 dBm
1.0 GHz
30001 pts
2.55 GHz/
26.5 GHz
Measuring...
08:15:57 24.08.2021

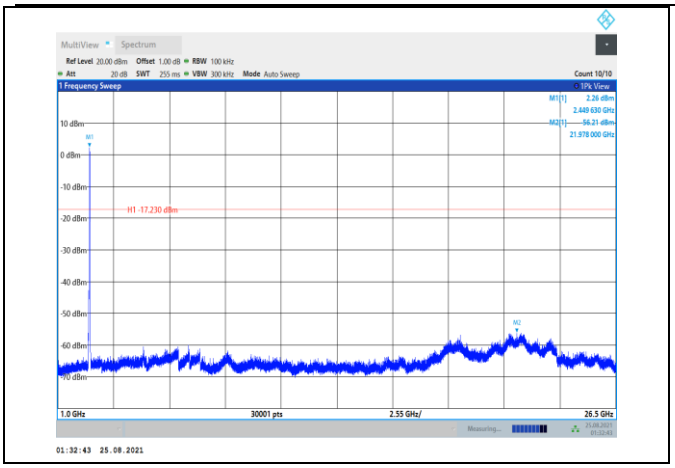
Test Mode:802. 11n HT20

Test Mode:802. 11n HT20 Ant7 CH1	Test Mode:802. 11n HT20 Ant7 CH6
	
Test Mode:802. 11n HT20 Ant7 CH11	
	


MultiView
Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep Count 10/10
1 Frequency Sweep 1Pk View
M1[1] 1.49 dBm
2.461 530 GHz
M2[1] -55.54 dBm
22.115 700 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
H1 -12.750 dBm
M1
M2
1.0 GHz
30001 pts
2.55 GHz/
26.5 GHz
Measuring...
01:04:13 25.08.2021

Test Mode:802. 11n HT40

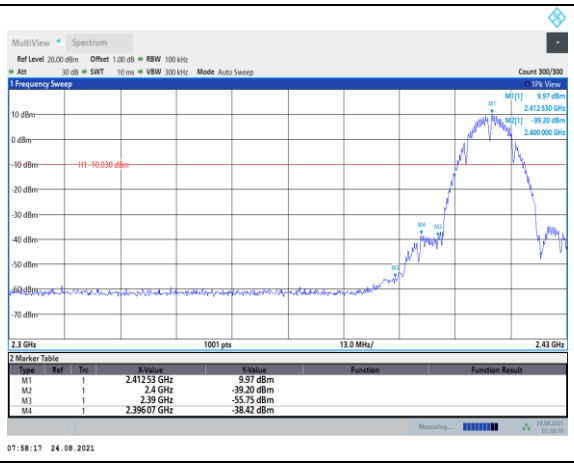
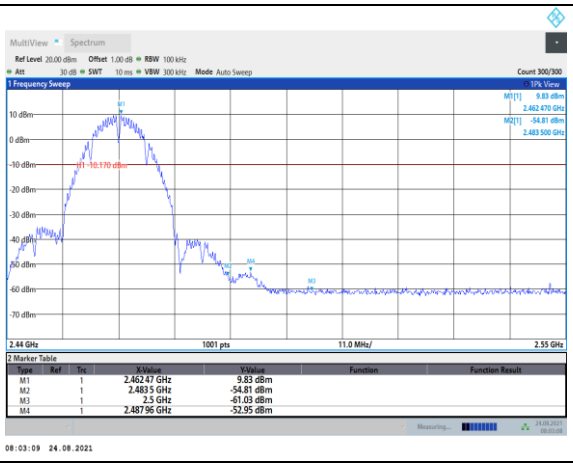
Test Mode:802. 11n HT40 Ant7 CH3	Test Mode:802. 11n HT40 Ant7 CH6
 	 
Test Mode:802. 11n HT40 Ant7 CH9	
	


MultiView
Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep Count 10/10
1 Frequency Sweep 1Pk View
M1[1] 2.29 dBm
2.449 630 GHz
M2[1] -56.21 dBm
21.978 000 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
H1 -17.230 dBm
M1
M2
1.0 GHz
30001 pts
2.55 GHz/
26.5 GHz
Measuring...
01:32:43 25.08.2021

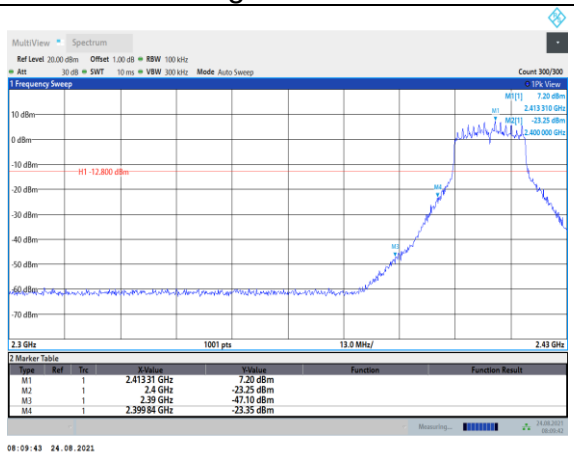
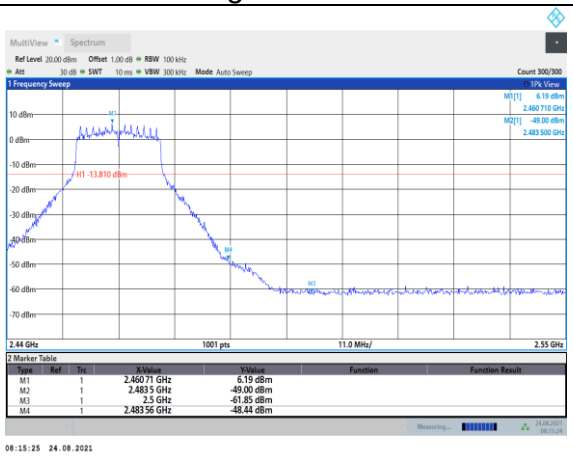
Band edge measurement (RF Conducted measurement)

Offset 11.2dB = Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1.0dB

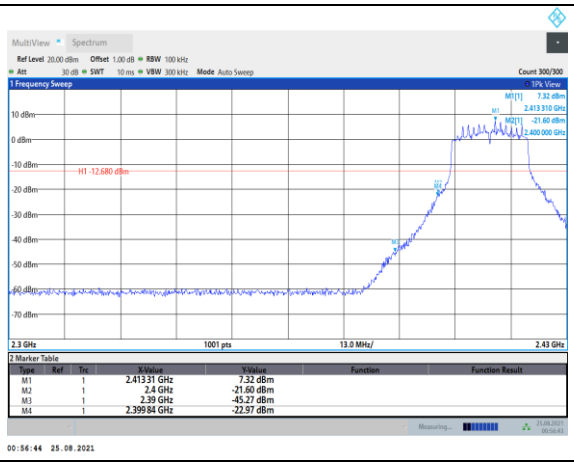
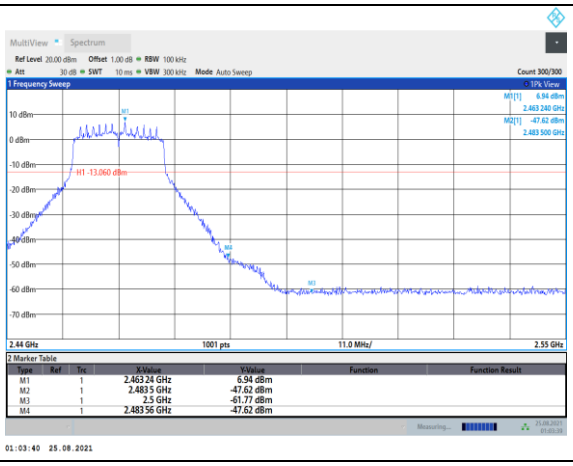
Test Mode:802.11b

Test Mode:802.11b Ant7 CH1	Test Mode:802.11b Ant7 CH11
	

Test Mode:802.11g

Test Mode:802.11g Ant7 CH1	Test Mode:802.11g Ant7 CH11
	

Test Mode:802. 11n HT20

Test Mode:802. 11n HT20 Ant7 CH1	Test Mode:802. 11n HT20 Ant7 CH11
	

Test Mode:802. 11n HT40

Test Mode:802. 11n HT40 Ant7 CH3	Test Mode:802. 11n HT40 Ant7 CH9