

Conducted emission (AC Mains)

During Preliminary Tests, the following operating mode were investigated

Channel / Frequency	Mode State (802.11b & 802.11g)	The worst operating condition
1 (2412MHz)	Transmitting	☐
6 (2437MHz)	Transmitting	☒
11 (2462MHz)	Transmitting	☐

1) 802.11b mode

Frequency (MHz)	Line	QP Level (dBuV)	Limit (dBuV)	Margin (dB)	AV Level (dBuV)	Limit (dBuV)	Margin (dB)
0.190	HOT	41.5	64.0	22.5	32.0	54.0	22.0
0.320	HOT	34.8	59.7	24.9	27.7	49.7	22.0
0.380	HOT	33.1	58.3	25.2	28.4	48.3	19.9
0.510	HOT	29.8	56.0	26.2	-	-	-
0.765	HOT	29.2	56.0	26.8	25.5	46.0	20.5
1.530	HOT	-	-	-	25.3	46.0	20.7
1.5950	HOT	-	-	-	24.9	46.0	21.1
2.295	HOT	25.8	56.0	30.2	-	-	-
17.665	HOT	35.1	60.0	24.9	33.3	50.0	16.7
17.730	HOT	35.4	60.0	24.6	33.6	50.0	16.4
17.790	HOT	34.3	60.0	25.7	-	-	-
17.920	HOT	-	-	-	33.6	50.0	16.4
0.190	NEUTRAL	39.1	64.0	24.9	-	-	-
0.320	NEUTRAL	-	-	-	26.8	49.7	22.9
0.380	NEUTRAL	32.9	58.3	25.4	28.1	48.3	20.2
0.445	NEUTRAL	30.1	57.0	26.9	27.1	47.0	19.9
0.510	NEUTRAL	32.3	56.0	23.7	30.7	46.0	15.3
0.575	NEUTRAL	29.9	56.0	26.1	-	-	-
1.020	NEUTRAL	-	-	-	27.8	46.0	18.2
1.085	NEUTRAL	29.2	56.0	26.8	27.6	46.0	18.4
17.030	NEUTRAL	-	-	-	35.5	50.0	14.5
17.730	NEUTRAL	38.2	60.0	21.8	-	-	-
17.795	NEUTRAL	38.2	60.0	21.8	36.5	50.0	13.5
17.920	NEUTRAL	-	-	-	35.6	50.0	14.4

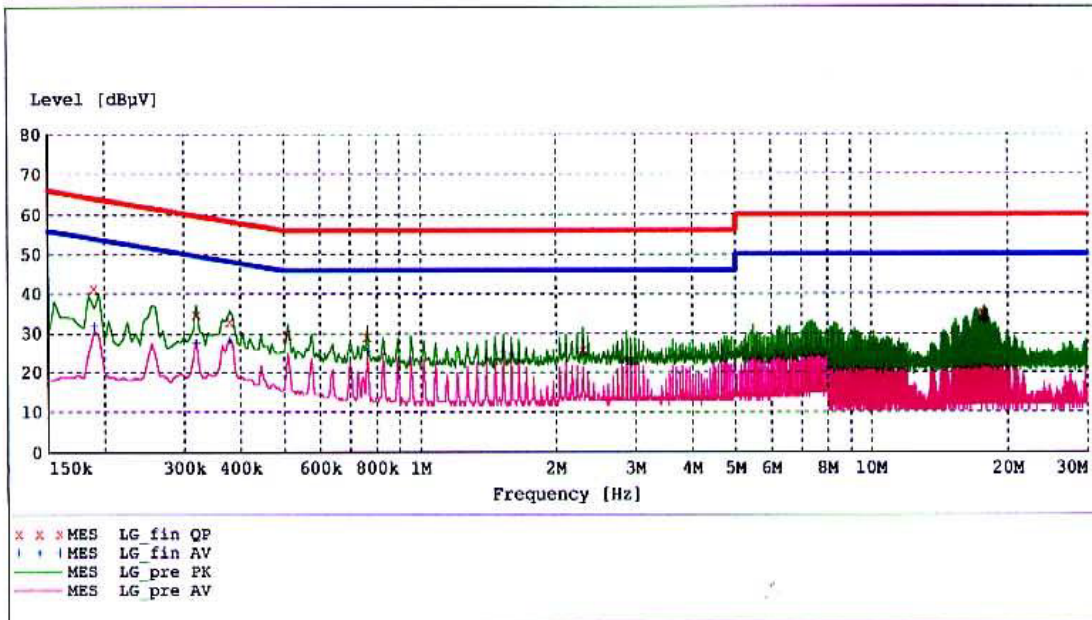
* Line Conducted Emissions Tabulated Data

HCT
EMC TESTING Laboratory

EUT: 15LW1T
 Manufacturer: LG ELECTRONICS INC.
 Operating Condition: TRANSMITTING, 11M, 2437MHz
 Test Site: SHIELD ROOM
 Operator: SANG-HUN, KANG
 Test Specification: CISPR 22 CLASS B
 Comment: H
 Start of Test: 11/30/04 / 9:05:46AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:			CISPR 22 Voltage			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	5.0 kHz	Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "LG_fin QP"

11/30/04 9:09AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.190000	41.50	10.1	64	22.5	1	---
0.320000	34.80	10.1	60	24.9	1	---
0.380000	33.10	10.1	58	25.2	1	---
0.510000	29.80	10.1	56	26.2	1	---
0.765000	29.20	10.2	56	26.8	1	---
2.295000	25.80	10.3	56	30.2	1	---
17.665000	35.10	10.5	60	24.9	1	---
17.730000	35.40	10.5	60	24.6	1	---
17.790000	34.30	10.5	60	25.7	1	---

MEASUREMENT RESULT: "LG_fin AV"

11/30/04 9:09AM

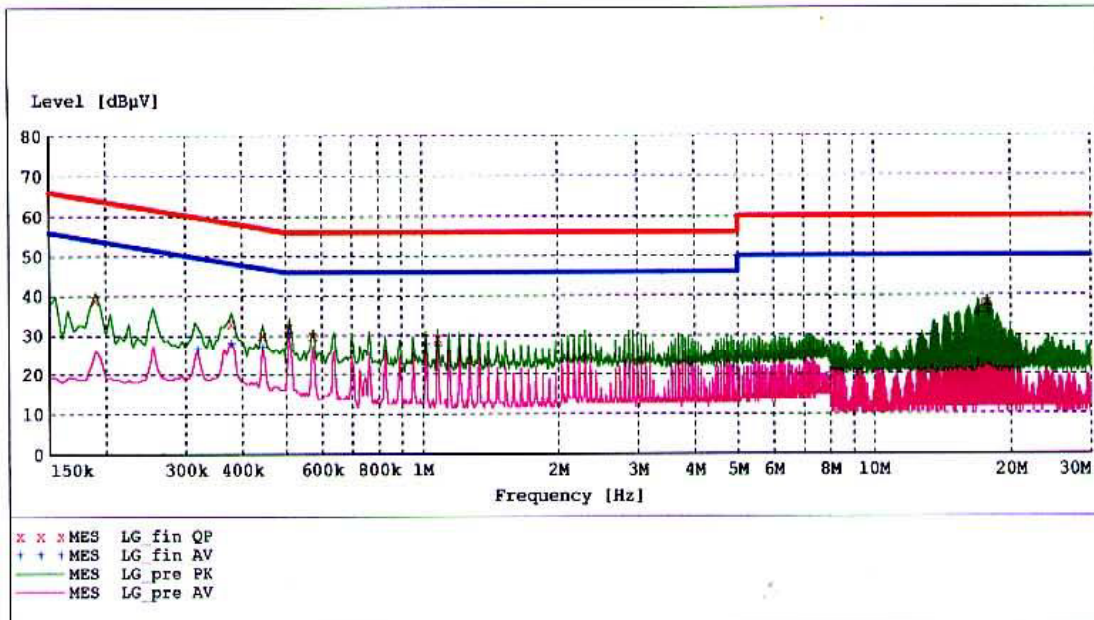
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.190000	32.00	10.1	54	22.0	1	---
0.320000	27.70	10.1	50	22.0	1	---
0.380000	28.40	10.1	48	19.9	1	---
0.765000	25.50	10.2	46	20.5	1	---
1.530000	25.30	10.2	46	20.7	1	---
1.595000	24.90	10.2	46	21.1	1	---
17.665000	33.30	10.5	50	16.7	1	---
17.730000	33.60	10.5	50	16.4	1	---
17.920000	33.60	10.5	50	16.4	1	---

HCT
EMC TESTING Laboratory

EUT: 15LW1T
 Manufacturer: LG ELECTRONICS INC.
 Operating Condition: TRANSMITTING, 11M, 2437MHz
 Test Site: SHIELD ROOM
 Operator: SANG-HUN, KANG
 Test Specification: CISPR 22 CLASS B
 Comment: N
 Start of Test: 11/30/04 / 9:12:55AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:				CISPR 22 Voltage			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "LG_fin QP"

11/30/04 9:16AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.190000	39.10	10.1	64	24.9	1	---
0.380000	32.90	10.1	58	25.4	1	---
0.445000	30.10	10.1	57	26.9	1	---
0.510000	32.30	10.1	56	23.7	1	---
0.575000	29.90	10.1	56	26.1	1	---
1.085000	29.20	10.1	56	26.8	1	---
17.730000	38.20	10.5	60	21.8	1	---
17.795000	38.20	10.5	60	21.8	1	---

MEASUREMENT RESULT: "LG_fin AV"

11/30/04 9:16AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.320000	26.80	10.1	50	22.9	1	---
0.380000	28.10	10.1	48	20.2	1	---
0.445000	27.10	10.1	47	19.9	1	---
0.510000	30.70	10.1	46	15.3	1	---
1.020000	27.80	10.1	46	18.2	1	---
1.085000	27.60	10.1	46	18.4	1	---
17.030000	35.50	10.5	50	14.5	1	---
17.795000	36.50	10.5	50	13.5	1	---
17.920000	35.60	10.5	50	14.4	1	---

2) 802.11g mode

Frequency (MHz)	Line	QP Level (dBuV)	Limit (dBuV)	Margin (dB)	AV Level (dBuV)	Limit (dBuV)	Margin (dB)
0.190	HOT	41.8	64.0	22.2	32.4	54.0	21.6
0.315	HOT	31.7	59.9	28.2	-	-	-
0.320	HOT	-	-	-	27.8	49.7	21.9
0.380	HOT	33.0	58.3	25.3	28.3	48.3	20.0
0.510	HOT	30.0	56.0	26.0	25.6	46.0	20.4
0.765	HOT	29.1	56.0	26.9	25.6	46.0	20.4
1.530	HOT	-	-	-	25.5	46.0	20.5
2.935	HOT	27.1	56.0	28.9	-	-	-
16.965	HOT	-	-	-	32.8	50.0	17.2
17.730	HOT	35.5	60.0	24.5	33.7	50.0	16.3
17.795	HOT	35.5	60.0	24.5	-	-	-
17.860	HOT	-	-	-	32.0	50.0	18.0
0.195	NEUTRAL	35.6	63.8	28.2	-	-	-
0.320	NEUTRAL	-	-	-	26.9	49.7	22.8
0.380	NEUTRAL	32.8	58.3	25.5	28.1	48.3	20.2
0.445	NEUTRAL	30.1	57.0	26.9	27.3	47.0	19.7
0.510	NEUTRAL	32.1	56.0	23.9	30.5	46.0	15.5
0.575	NEUTRAL	-	-	-	28.2	46.0	17.8
1.020	NEUTRAL	-	-	-	28.0	46.0	18.0
1.085	NEUTRAL	29.0	56.0	27.8	-	-	-
2.295	NEUTRAL	28.2	56.0	27.8	-	-	-
17.730	NEUTRAL	38.1	60.0	21.9	-	-	-
17.950	NEUTRAL	38.2	60.0	21.8	36.3	50.0	13.7

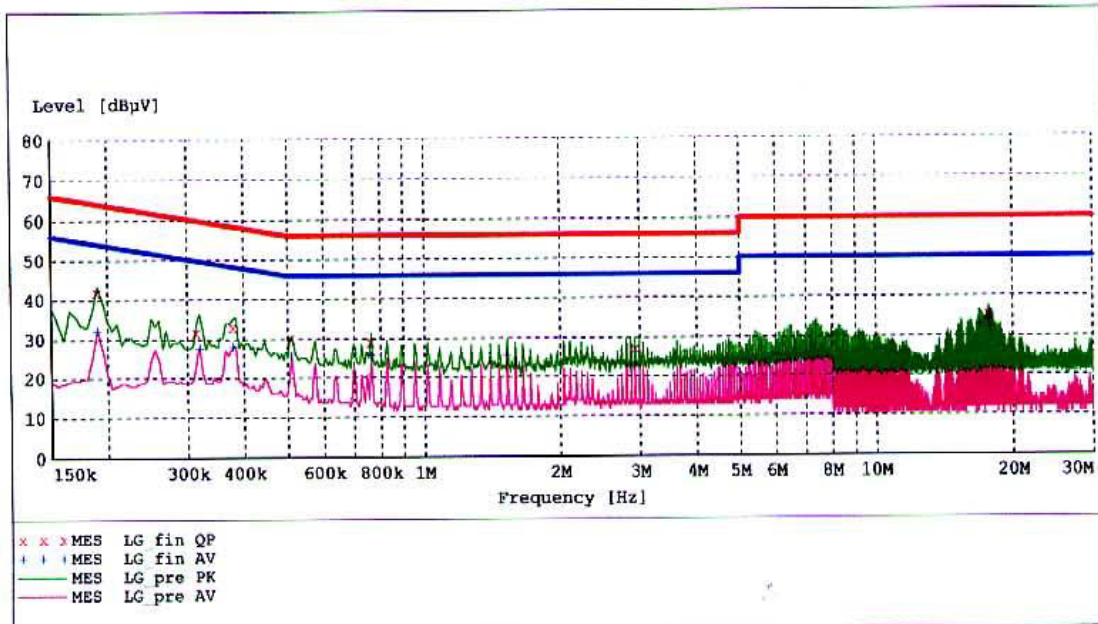
* Line Conducted Emissions Tabulated Data

HCT
EMC TESTING Laboratory

EUT: 15LW1T
 Manufacturer: LG ELECTRONICS INC.
 Operating Condition: TRANSMITTING, 54M, 2437MHz
 Test Site: SHIELD ROOM
 Operator: SANG-HUN, KANG
 Test Specification: CISPR 22 CLASS B
 Comment: H
 Start of Test: 11/30/04 / 8:54:57AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:			CISPR 22 Voltage			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "LG_fin QP"

11/30/04 8:58AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.190000	41.80	10.1	64	22.2	1	---
0.315000	31.70	10.1	60	28.2	1	---
0.380000	33.00	10.1	58	25.3	1	---
0.510000	30.00	10.1	56	26.0	1	---
0.765000	29.10	10.2	56	26.9	1	---
2.935000	27.10	10.2	56	28.9	1	---
17.730000	35.50	10.5	60	24.5	1	---
17.795000	35.50	10.5	60	24.5	1	---

MEASUREMENT RESULT: "LG_fin AV"

11/30/04 8:58AM

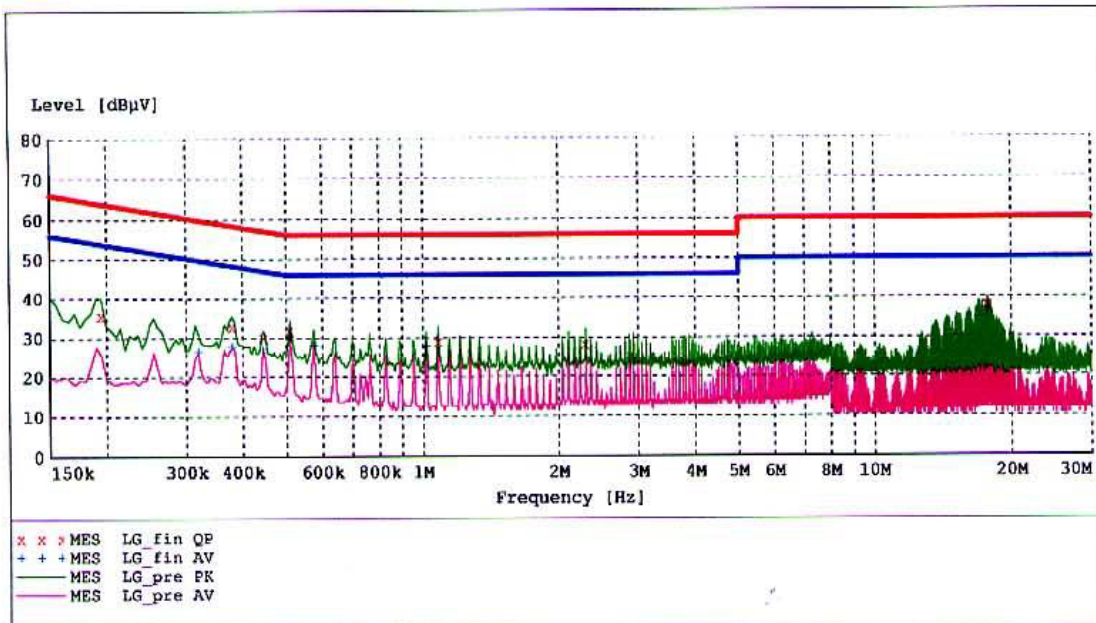
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.190000	32.40	10.1	54	21.6	1	---
0.320000	27.80	10.1	50	21.9	1	---
0.380000	28.30	10.1	48	20.0	1	---
0.510000	25.60	10.1	46	20.4	1	---
0.765000	25.60	10.2	46	20.4	1	---
1.530000	25.50	10.2	46	20.5	1	---
16.965000	32.80	10.5	50	17.2	1	---
17.730000	33.70	10.5	50	16.3	1	---
17.860000	32.00	10.5	50	18.0	1	---

HCT
EMC TESTING Laboratory

EUT: 15LW1T
 Manufacturer: LG ELECTRONICS INC.
 Operating Condition: TRANSMITTING, 54M, 2437MHz
 Test Site: SHIELD ROOM
 Operator: SANG-HUN, KANG
 Test Specification: CISPR 22 CLASS B
 Comment: N
 Start of Test: 11/30/04 / 9:00:22AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:		CISPR 22 Voltage					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "LG_fin QP"

11/30/04 9:03AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.195000	35.60	10.1	64	28.2	1	---
0.380000	32.80	10.1	58	25.5	1	---
0.445000	30.10	10.1	57	26.9	1	---
0.510000	32.10	10.1	56	23.9	1	---
1.085000	29.00	10.1	56	27.0	1	---
2.295000	28.20	10.3	56	27.8	1	---
17.730000	38.10	10.5	60	21.9	1	---
17.795000	38.20	10.5	60	21.8	1	---

MEASUREMENT RESULT: "LG_fin AV"

11/30/04 9:03AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.320000	26.90	10.1	50	22.8	1	---
0.380000	28.10	10.1	48	20.2	1	---
0.445000	27.30	10.1	47	19.7	1	---
0.510000	30.50	10.1	46	15.5	1	---
0.575000	28.20	10.1	46	17.8	1	---
1.020000	28.00	10.1	46	18.0	1	---
17.795000	36.30	10.5	50	13.7	1	---

Radiated emission (30MHz~25GHz)

During Preliminary Tests, the following operating mode were investigated

Channel / Frequency	Mode State (802.11b & 802.11g)	The worst operation condition (X,Y,Z)
1 (2412MHz)	Transmitting	X
6 (2437MHz)	Transmitting	X
11 (2462MHz)	Transmitting	X

1) 802.11b mode

Channel	Frequency MHz	ANT POL (H/V)	Quasi-Peak dBuV/m	Limit dBuV/m	Margin dB	Average dBuV/m	Limit dBuV/m	Margin dB
Ch 1	270.025	V	40.6	46.0	5.4	-	-	-
	270.025	H	43.4	46.0	2.6	-	-	-
	566.670	V	43.0	46.0	3.0	-	-	-
	566.670	H	35.0	46.0	11.0	-	-	-
	1350.00	V	45.7	74.0	28.3	36.8	54.0	17.2
	1350.00	H	43.4	74.0	30.6	32.1	54.0	21.9
	4824.00	V	48.3	74.0	25.7	42.1	54.0	11.9
	4824.00	H	55.2	74.0	18.8	46.3	54.0	7.7
Ch 6	270.025	V	40.4	46.0	5.6	-	-	-
	270.025	H	43.6	46.0	2.4	-	-	-
	566.670	V	42.4	46.0	3.6	-	-	-
	566.670	H	34.9	46.0	11.1	-	-	-
	1350.00	V	46.5	74.0	27.5	37.9	54.0	16.1
	1350.00	H	42.7	74.0	31.3	30.7	54.0	23.3
	4874.00	V	45.6	74.0	28.4	36.3	54.0	17.7
	4874.00	H	54.1	74.0	19.9	44.1	54.0	9.9
Ch 11	270.025	V	40.5	46.0	5.5	-	-	-
	270.025	H	43.5	46.0	2.5	-	-	-
	566.670	V	42.7	46.0	3.3	-	-	-
	566.670	H	34.7	46.0	11.3	-	-	-
	1350.00	V	46.1	74.0	27.9	37.7	54.0	16.3
	1350.00	H	42.5	74.0	31.5	30.9	54.0	23.1
	4924.00	V	45.2	74.0	28.8	34.2	54.0	19.8
	4924.00	H	53.6	74.0	20.4	41.2	54.0	12.8

2) 802.11g mode

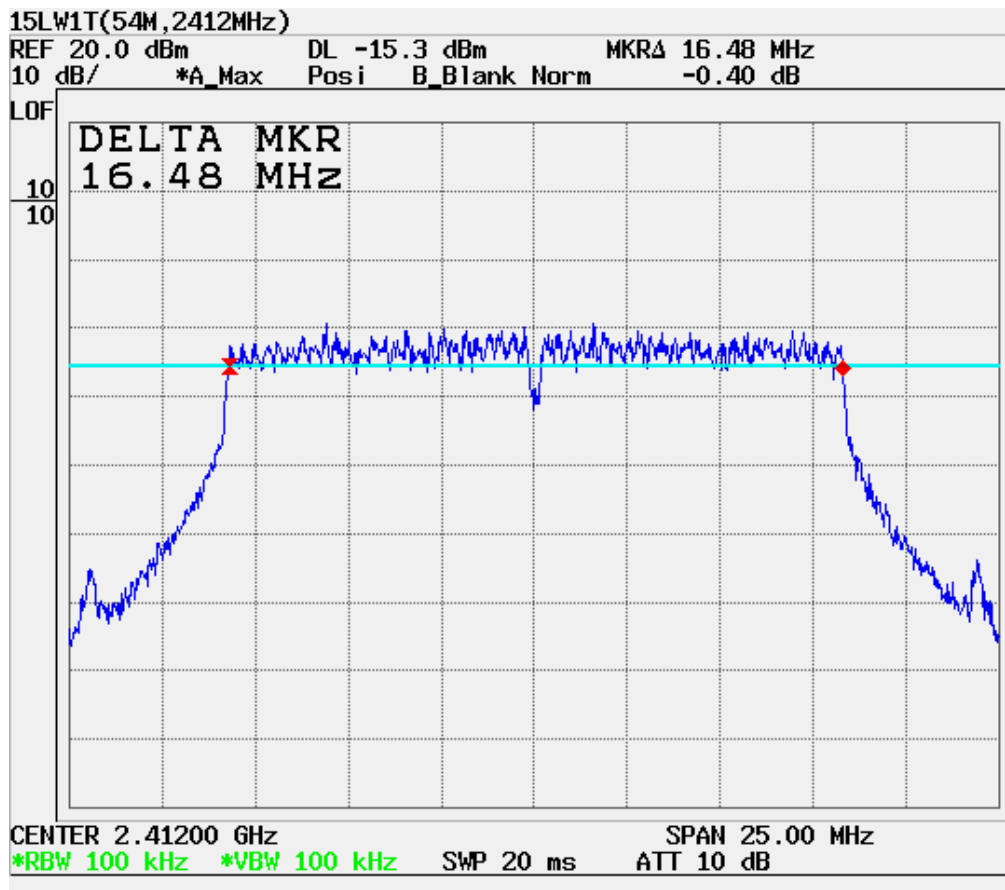
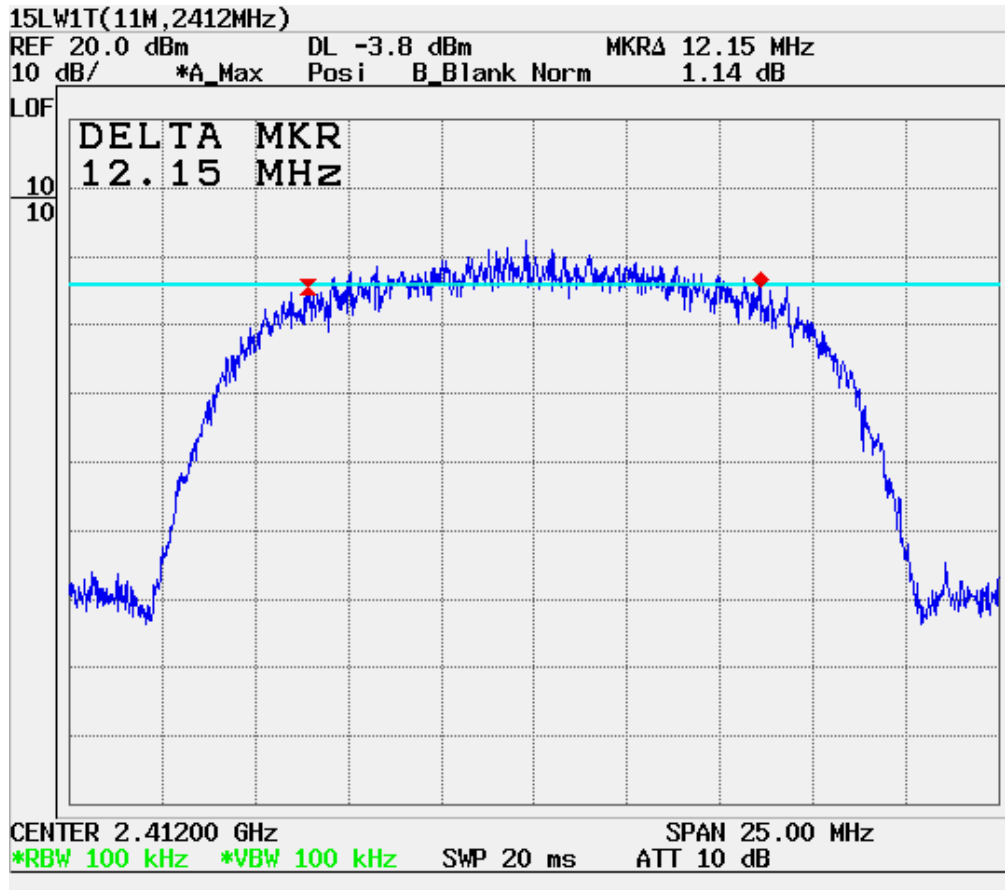
Channel	Frequency MHz	ANT POL (H/V)	Quasi-Peak dBuV/m	Limit dBuV/m	Margin dB	Average dBuV/m	Limit dBuV/m	Margin dB
Ch 1	270.025	V	40.3	46.0	5.7	-	-	-
	270.025	H	43.3	46.0	2.7	-	-	-
	566.670	V	42.3	46.0	3.7	-	-	-
	566.670	H	35.7	46.0	10.3	-	-	-
	1350.00	V	47.1	74.0	26.9	39.4	54.0	14.6
	1350.00	H	42.0	74.0	32.0	30.8	54.0	23.2
	4824.00	V	46.8	74.0	27.2	40.3	54.0	13.7
	4824.00	H	55.6	74.0	18.4	47.4	54.0	6.6
Ch 6	270.025	V	40.2	46.0	5.8	-	-	-
	270.025	H	43.3	46.0	2.7	-	-	-
	566.670	V	42.1	46.0	3.9	-	-	-
	566.670	H	35.9	46.0	10.1	-	-	-
	1350.00	V	47.0	74.0	30.0	38.9	54.0	15.1
	1350.00	H	42.7	74.0	31.3	30.2	54.0	23.8
	4874.00	V	45.2	74.0	28.8	35.8	54.0	18.2
	4874.00	H	54.4	74.0	19.6	44.2	54.0	9.8
Ch 11	270.025	V	40.2	46.0	5.8	-	-	-
	270.025	H	43.3	46.0	2.7	-	-	-
	566.670	V	42.4	46.0	3.6	-	-	-
	566.670	H	36.4	46.0	9.6	-	-	-
	1350.00	V	55.1	74.0	18.9	45.3	54.0	8.7
	1350.00	H	47.9	74.0	26.1	30.7	54.0	23.3
	4924.00	V	45.5	74.0	28.5	35.0	54.0	19.0
	4924.00	H	53.8	74.0	20.2	41.6	54.0	12.4

6dB Bandwidth (Conducted)

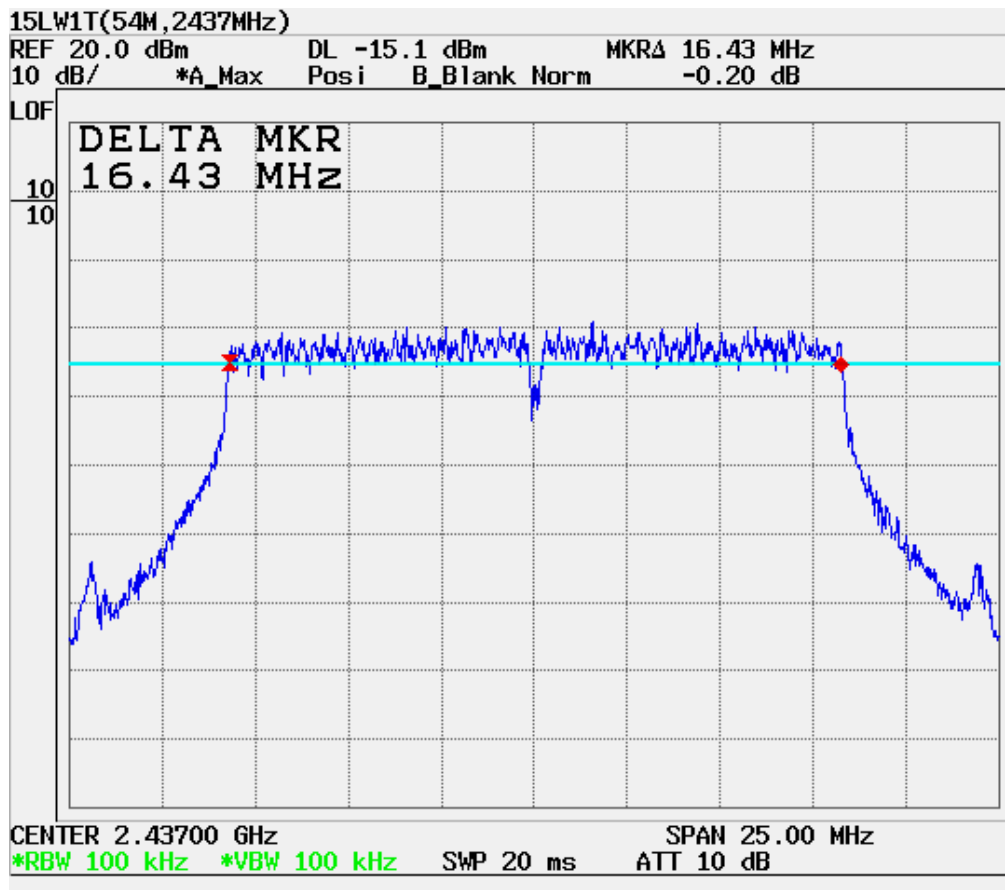
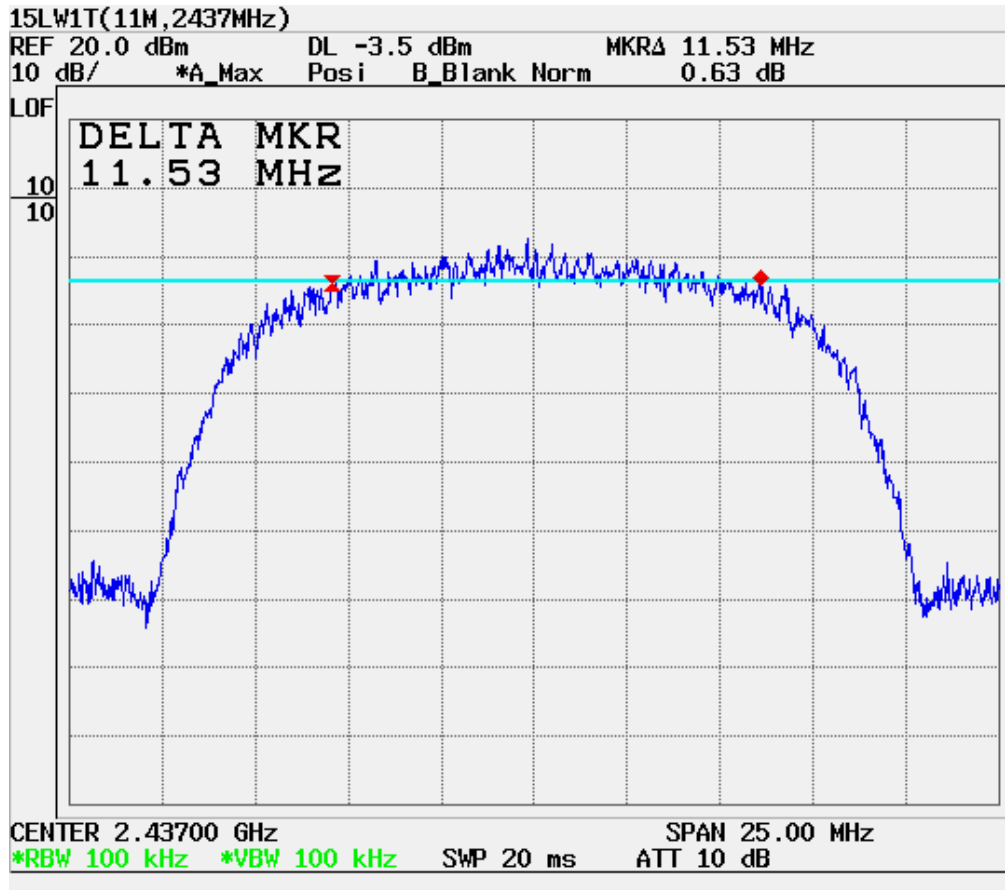
Frequency (MHz)	Mode	6dB Band width (MHz)	Limit (MHz)	Result
Ch1 2412	802.11b(11M bps)	12.15	>0.5	Pass
	802.11g(54M bps)	16.48	>0.5	Pass
Ch6 2437	802.11b(11M bps)	11.53	>0.5	Pass
	802.11g(54M bps)	16.43	>0.5	Pass
Ch11 2462	802.11b(11M bps)	11.53	>0.5	Pass
	802.11g(54M bps)	16.48	>0.5	Pass

Please refer to graph as below:

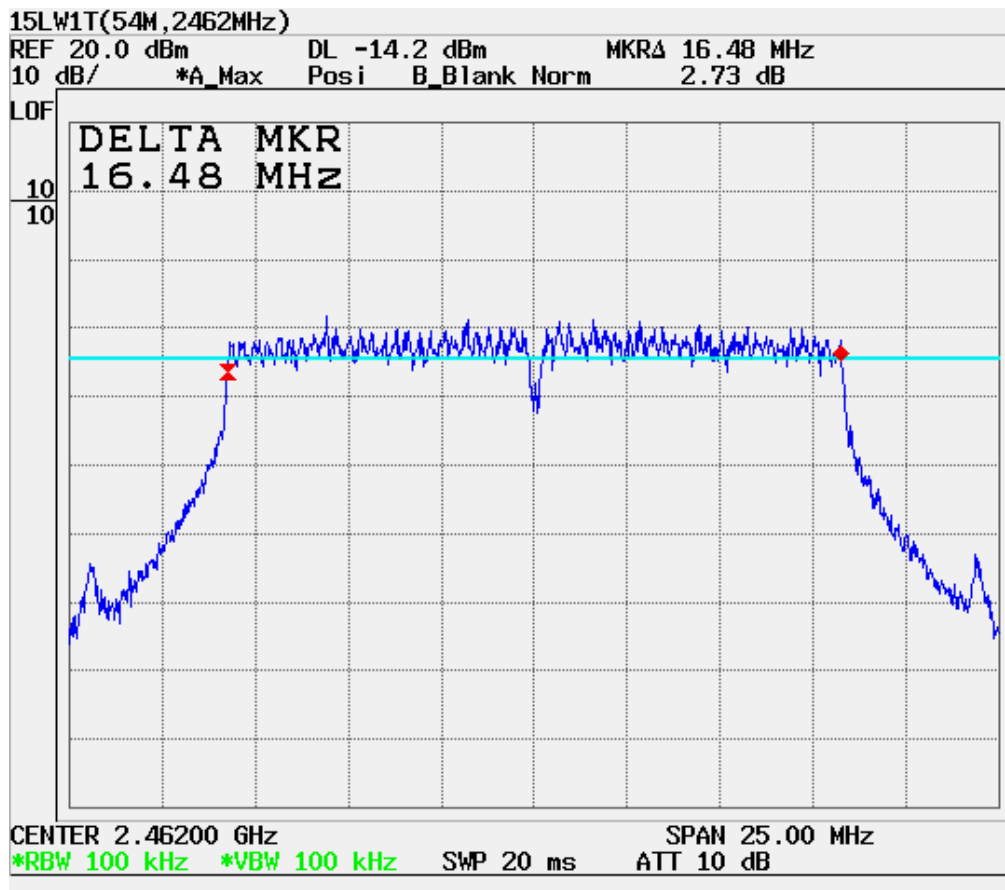
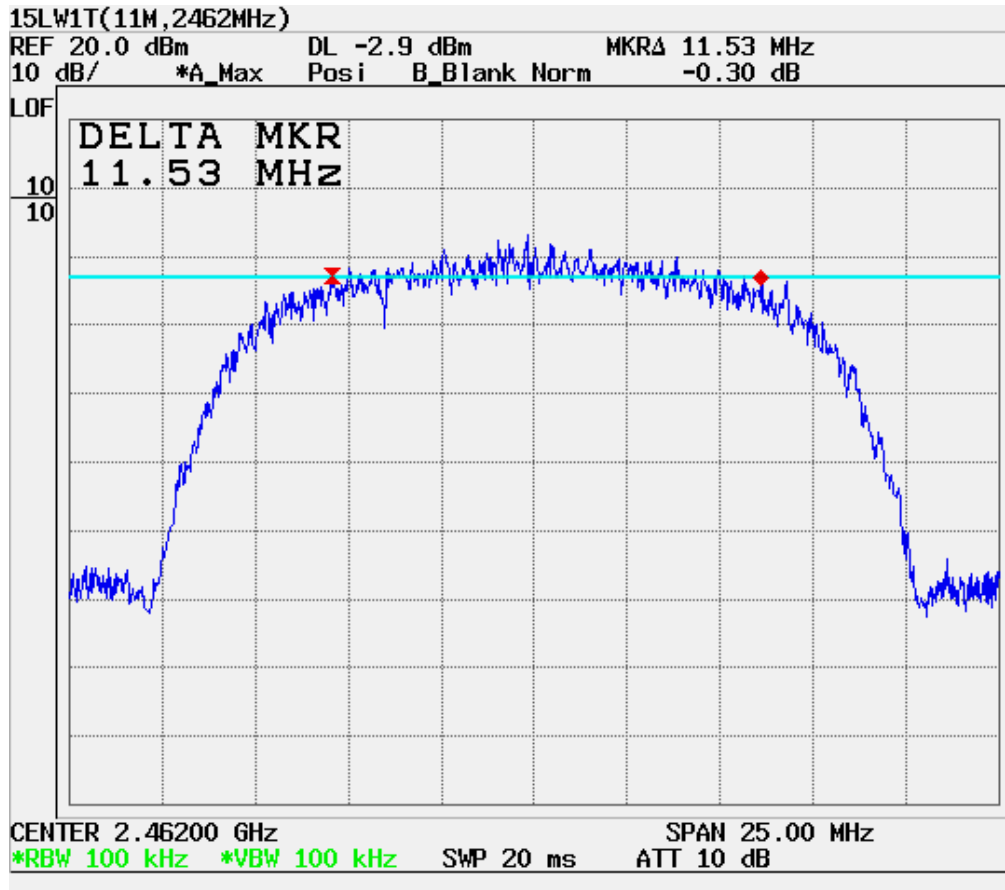
Ch. 1: 2412MHz (802.11b & 802.11g)



Ch. 2: 2437MHz (802.11b & 802.11g)



Ch. 3: 2462MHz (802.11b & 802.11g)



Maximum peak output power (Radiated/Conducted)

1) 802.11b mode

CH.	FREQ [MHz]	Radiated [EIRP]		*Conducted[dBm]		Antenna Gain(dBi)	Limit [dBm / W]
		Peak[dBm]	Peak[mW]	Peak	Average		
1	2412	17.12	51.5	18.13	14.16	-1.01	30.0dBm/ 1W
6	2437	17.53	56.6	18.05	14.09	-0.52	30.0dBm/ 1W
11	2462	17.42	55.2	18.13	14.04	-0.71	30.0dBm/ 1W

* Horizontal was Max Peak power measured.

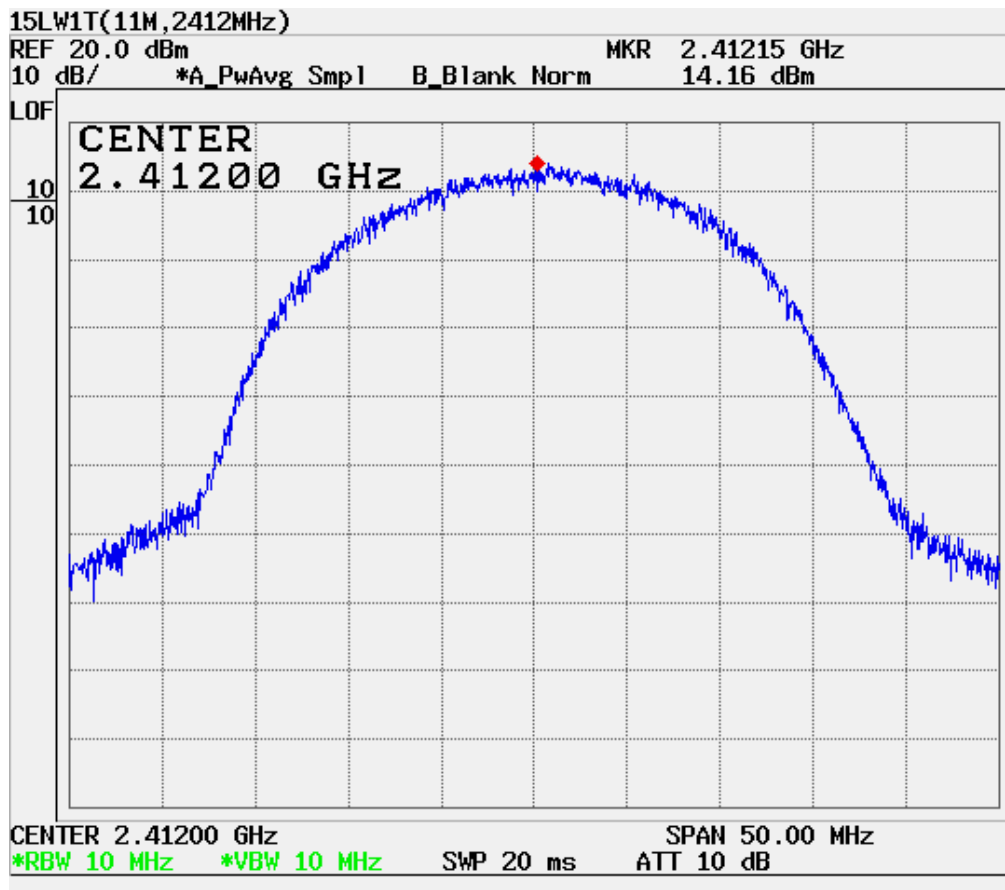
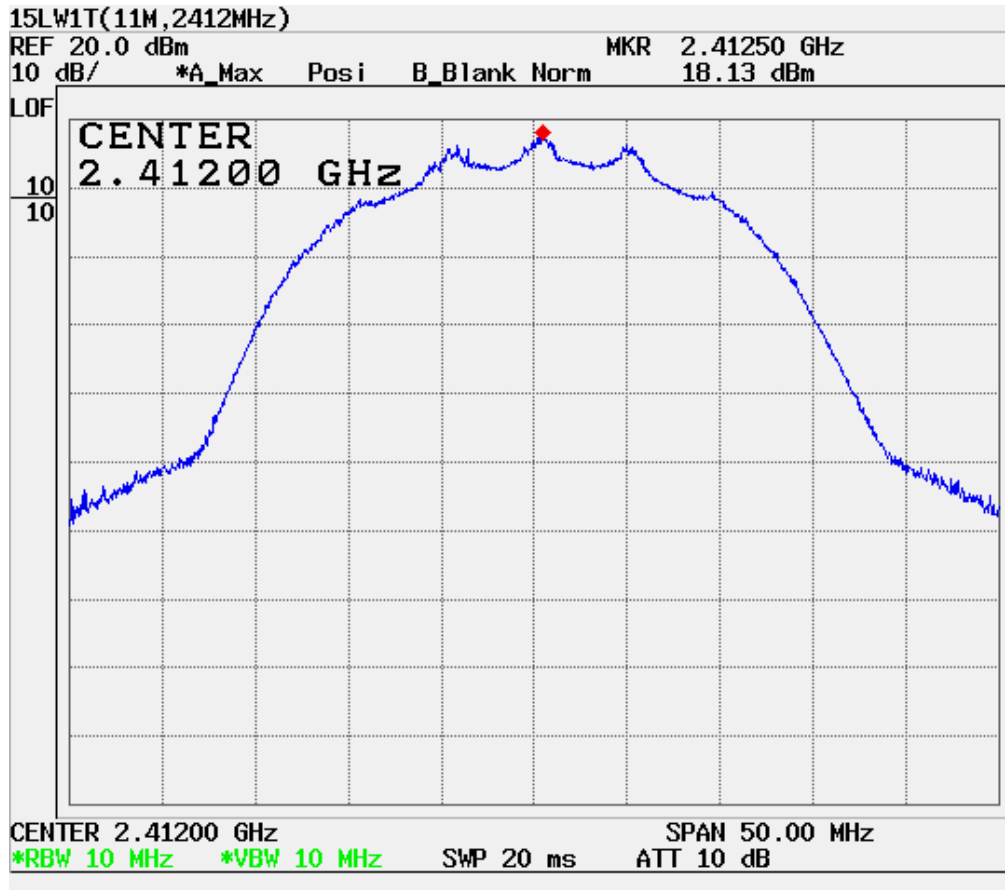
2) 802.11g mode

CH.	FREQ [MHz]	Radiated [EIRP]		*Conducted[dBm]		Antenna Gain(dBi)	Limit [dBm / W]
		Peak[dBm]	Peak[mW]	Peak	Average		
1	2412	11.04	12.7	12.05	4.89	-1.01	30.0dBm/ 1W
6	2437	11.64	14.6	12.16	5.84	-0.52	30.0dBm/ 1W
11	2462	11.42	13.9	12.13	5.69	-0.71	30.0dBm/ 1W

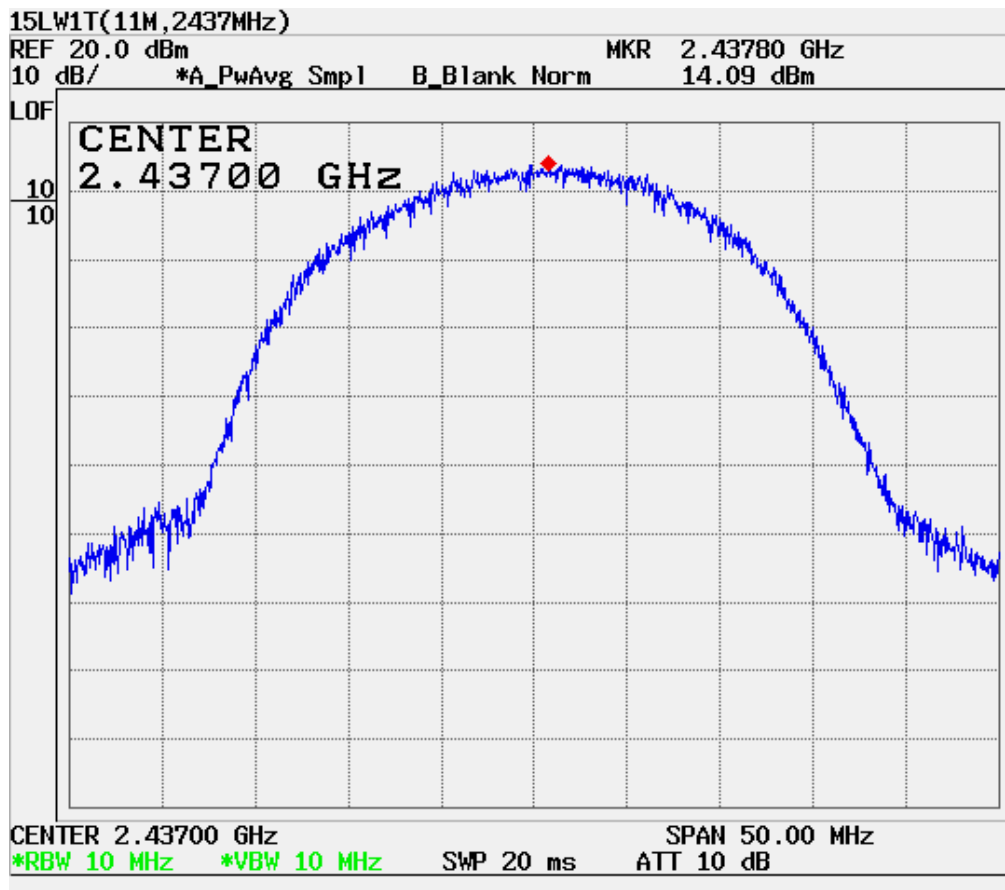
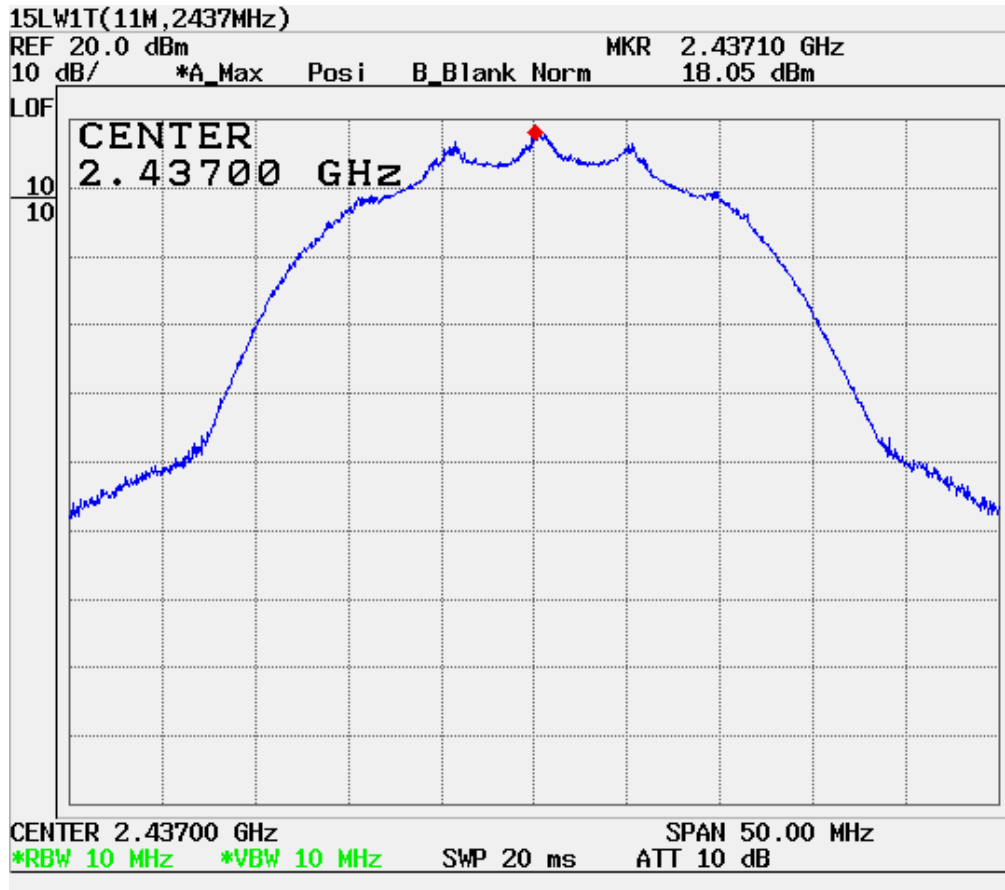
* Horizontal was Max Peak power measured.

*Please refer to graph as below:

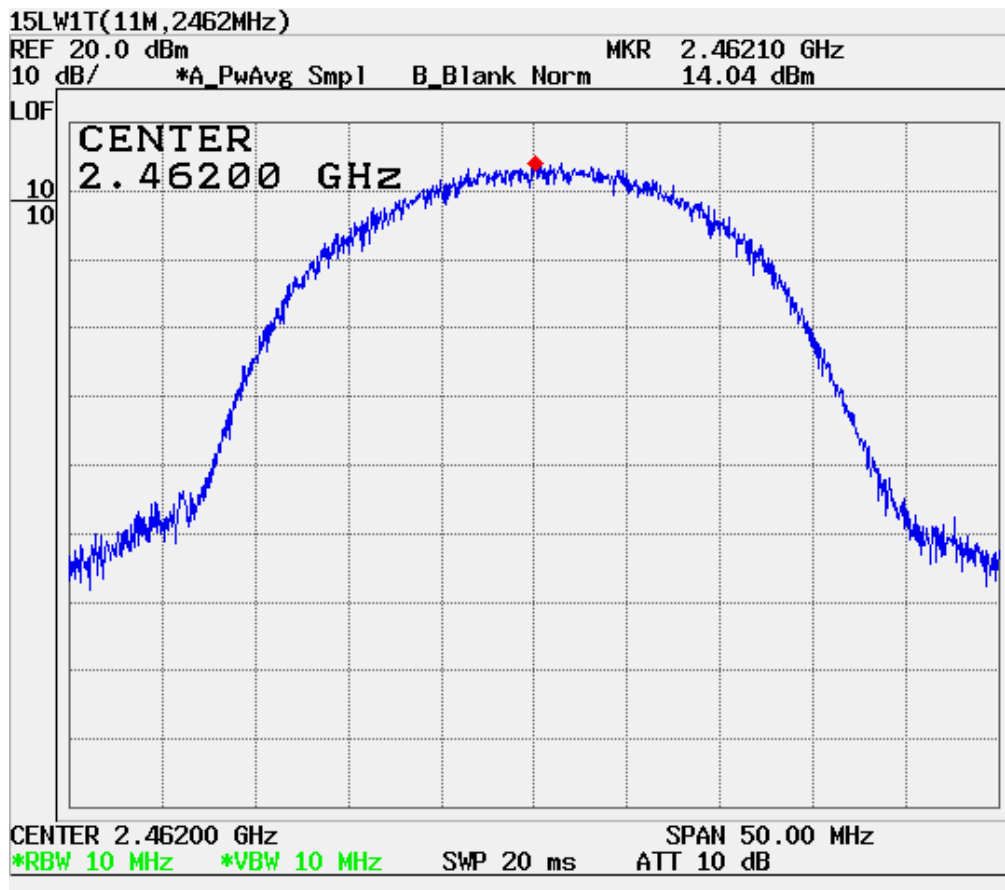
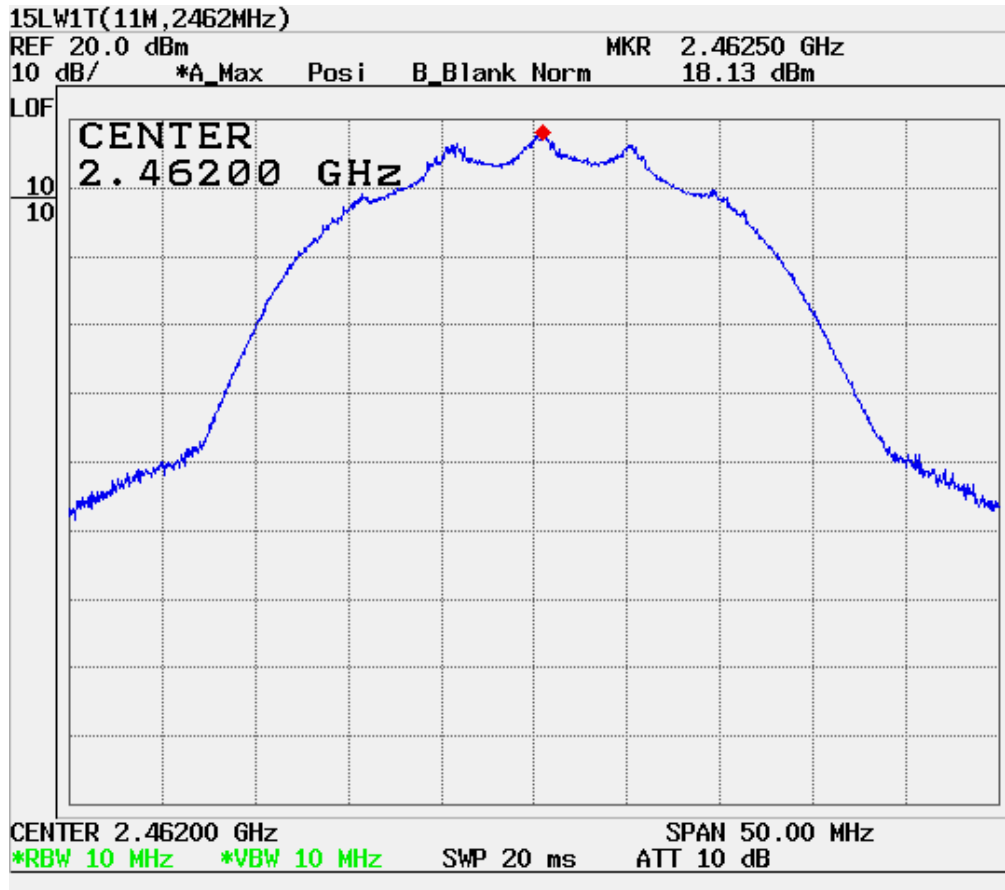
(1) CH1, 802.11b mode (Peak & Average)



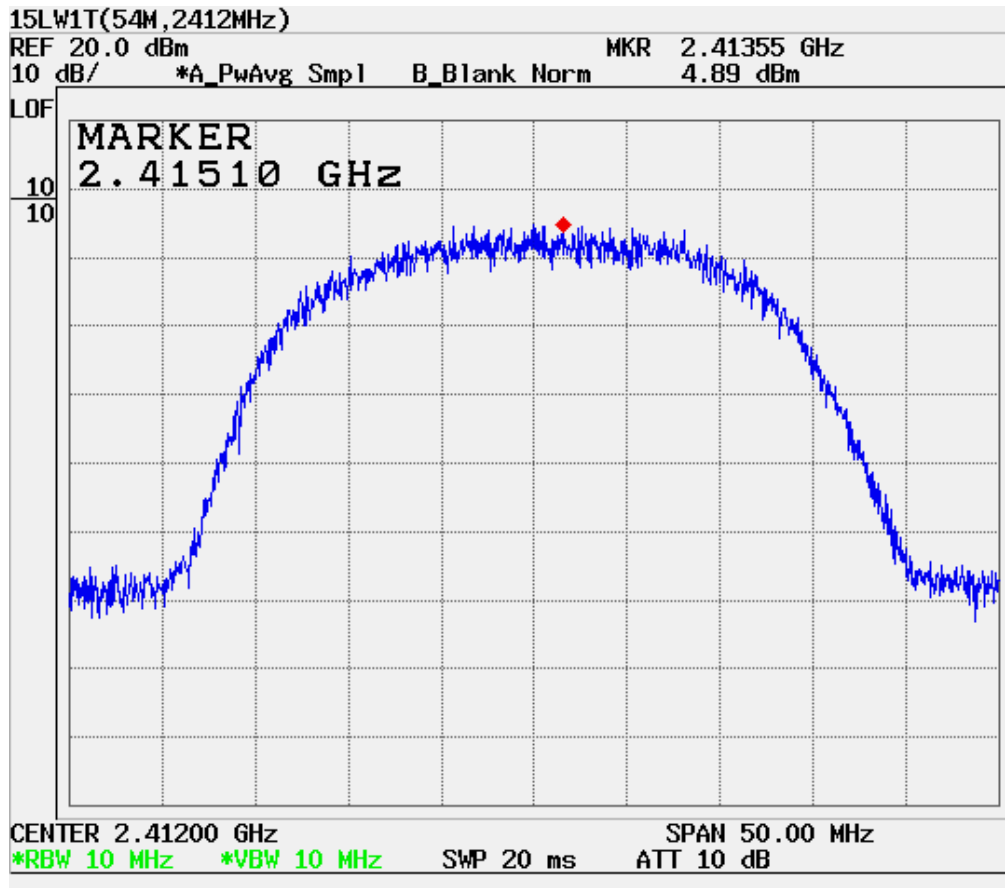
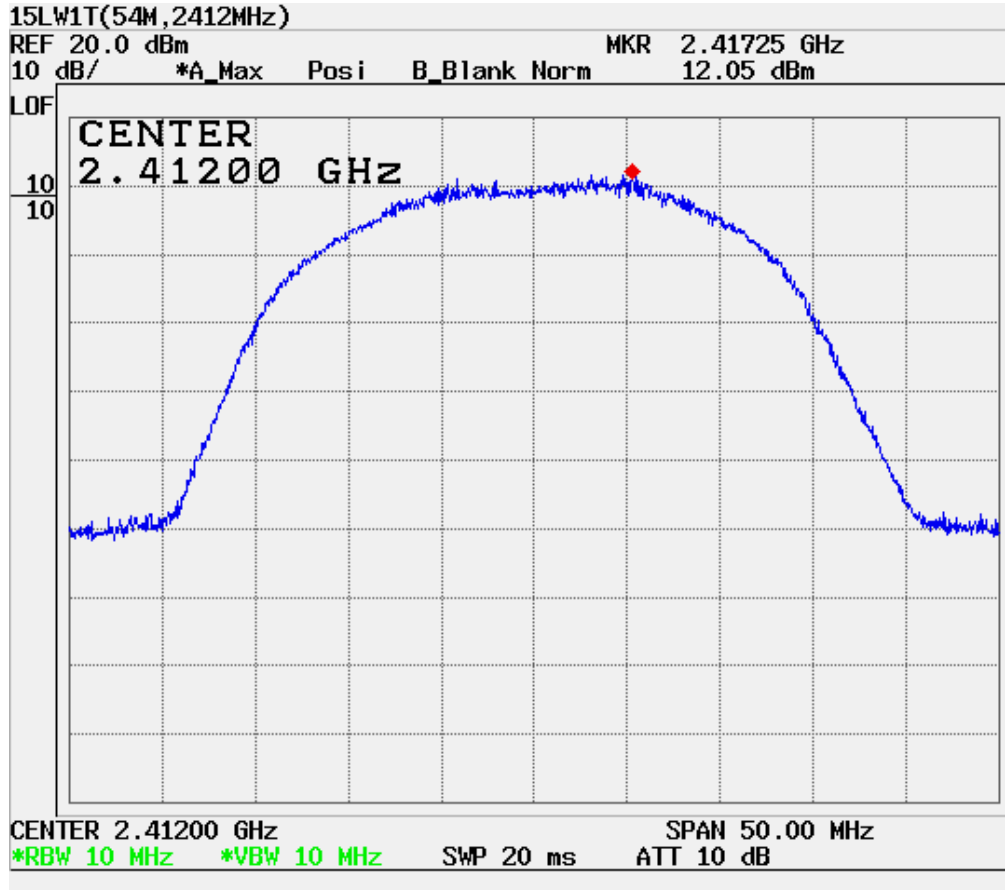
(2) CH2, 802.11b mode (Peak & Average)



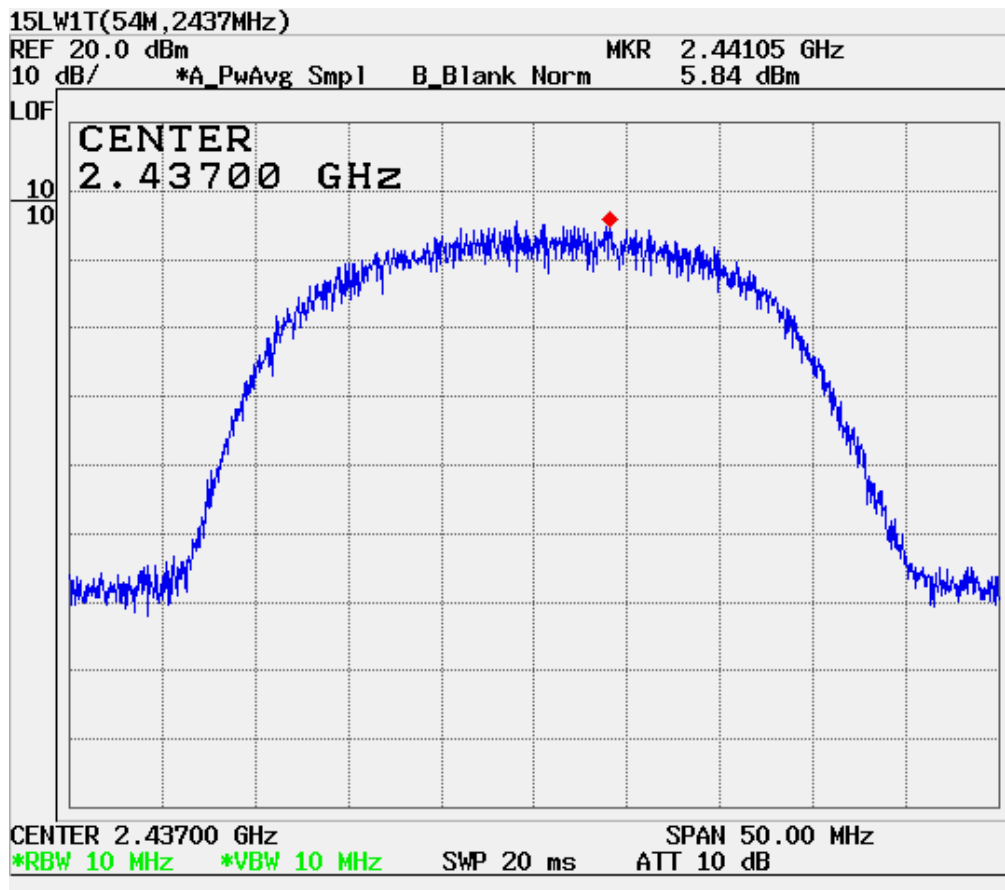
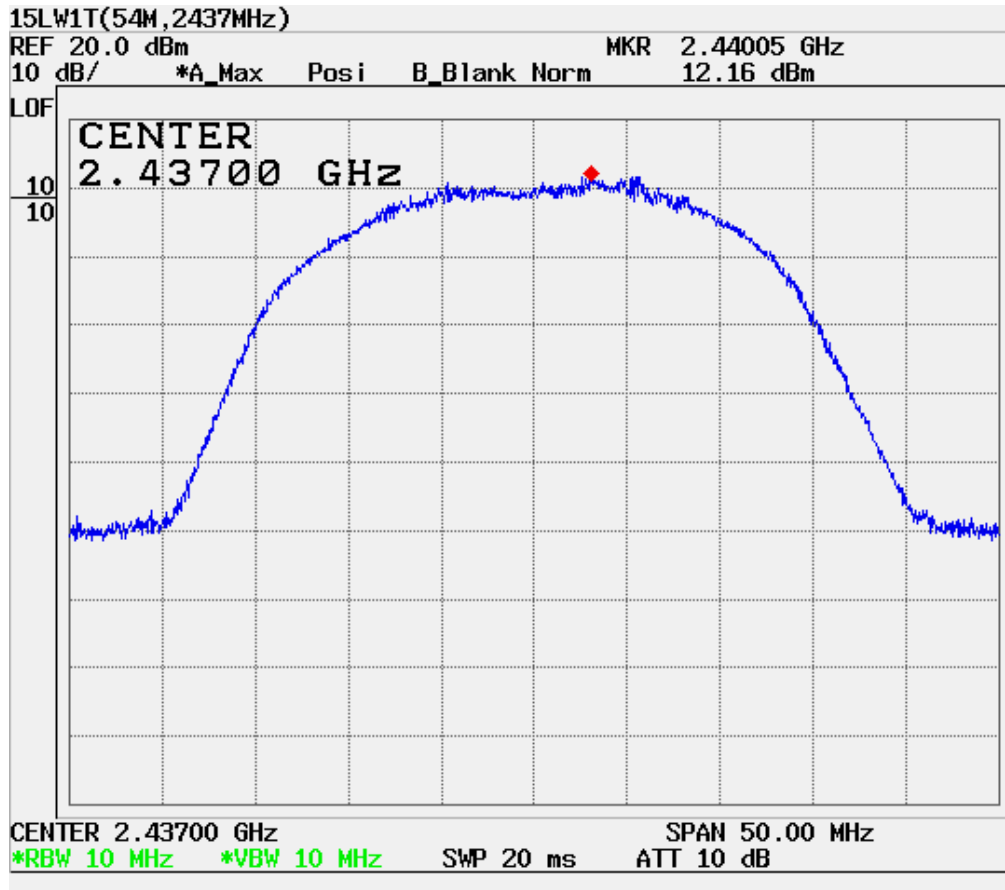
(3) CH3, 802.11b mode (Peak & Average)



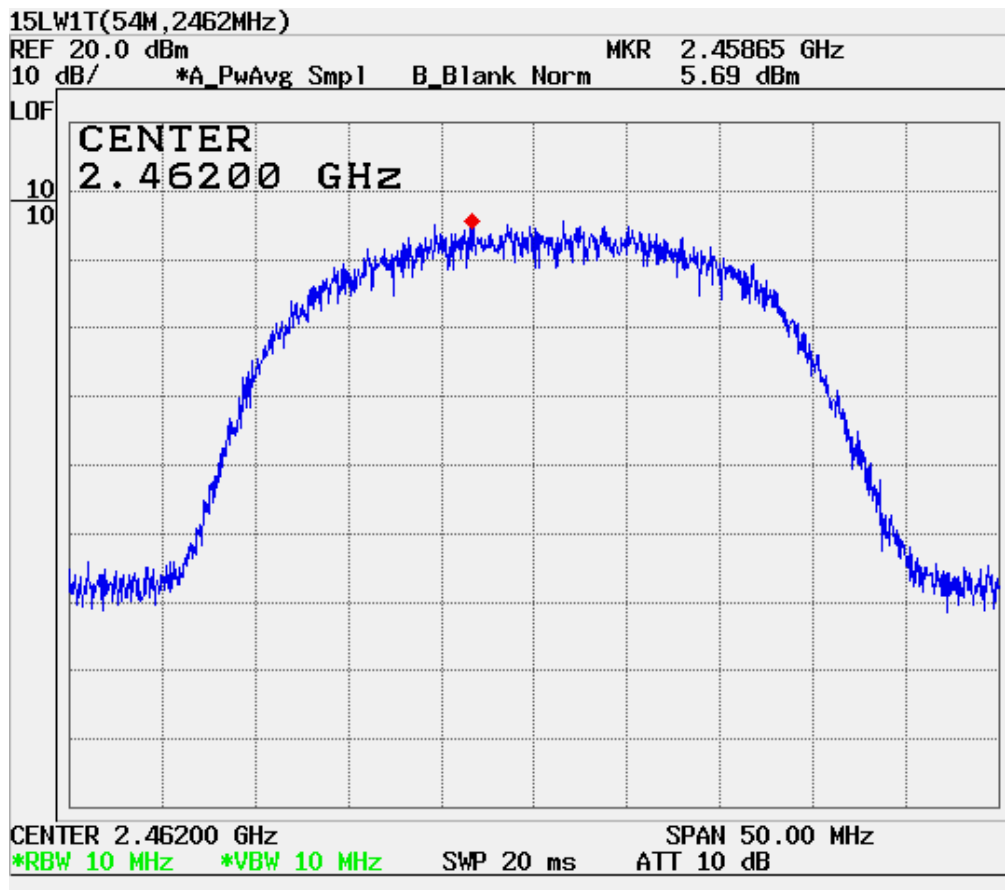
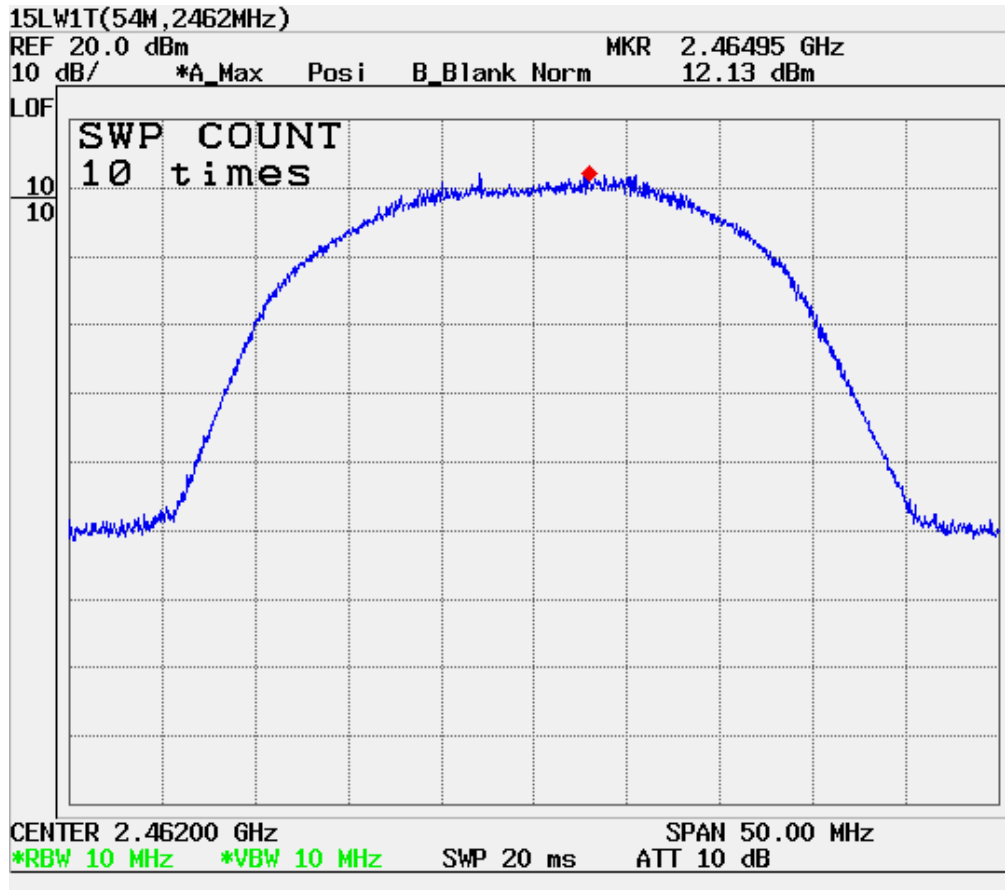
(4) CH1, 802.11g mode (Peak & Average)



(5) CH2, 802.11g mode (Peak & Average)



(6) CH3, 802.11g mode (Peak & Average)

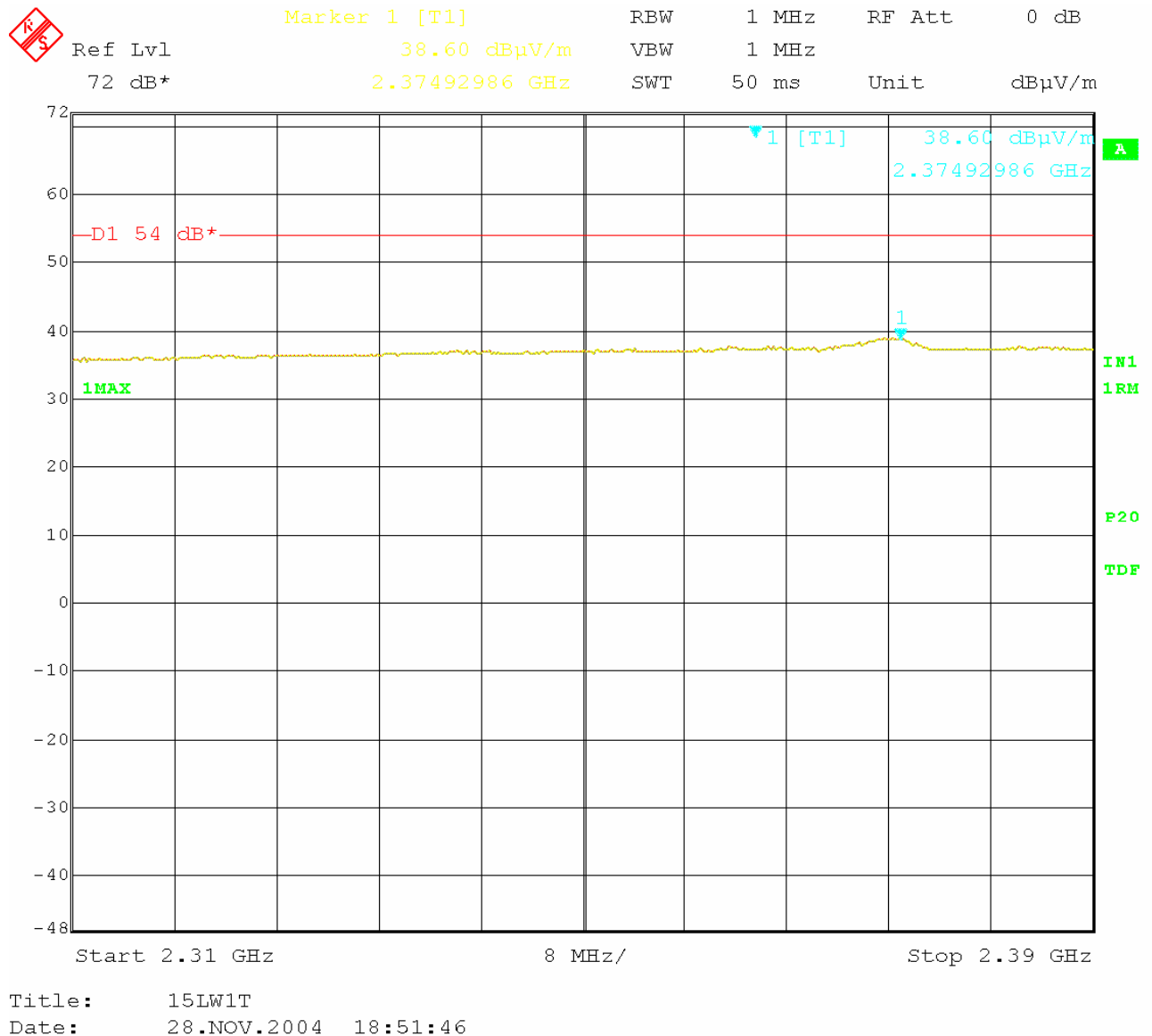


Out of band emissions (Radiated)

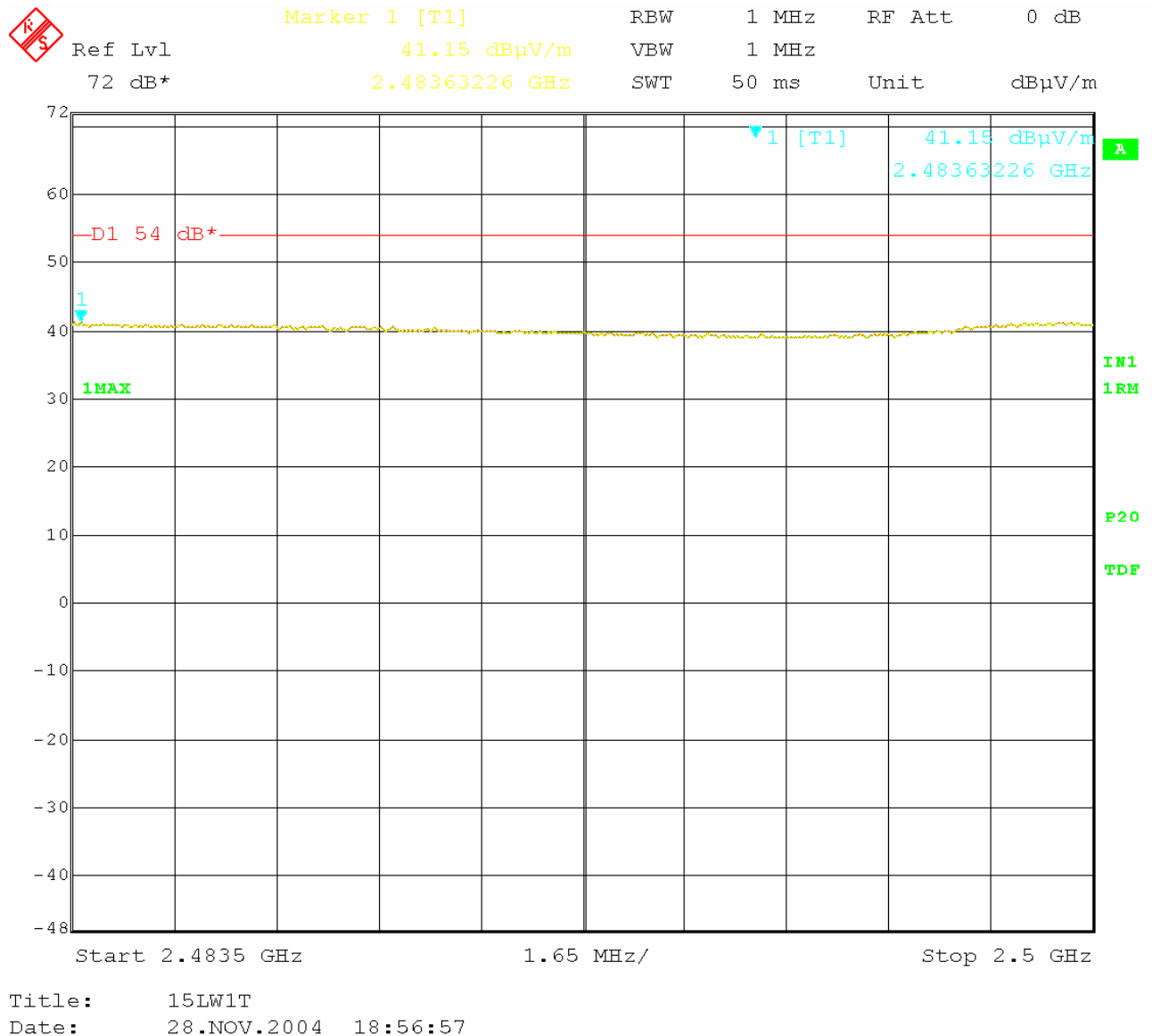
Mode	CH.	FREQ [MHz]	Ant. Pol. (V / H)	RESULT [dBuV/m]	Limit [dBuV/m]	Margin [dB]
802.11b (11M bps)	1	2412	V	38.6	54	15.4
			H	41.9	54	12.1
	11	2462	V	41.2	54	12.8
			H	42.3	54	11.7
802.11g (54M bps)	1	2412	V	38.6	54	15.4
			H	39.3	54	14.7
	11	2462	V	39.2	54	14.8
			H	39.9	54	14.1

*Please refer to graph as below:

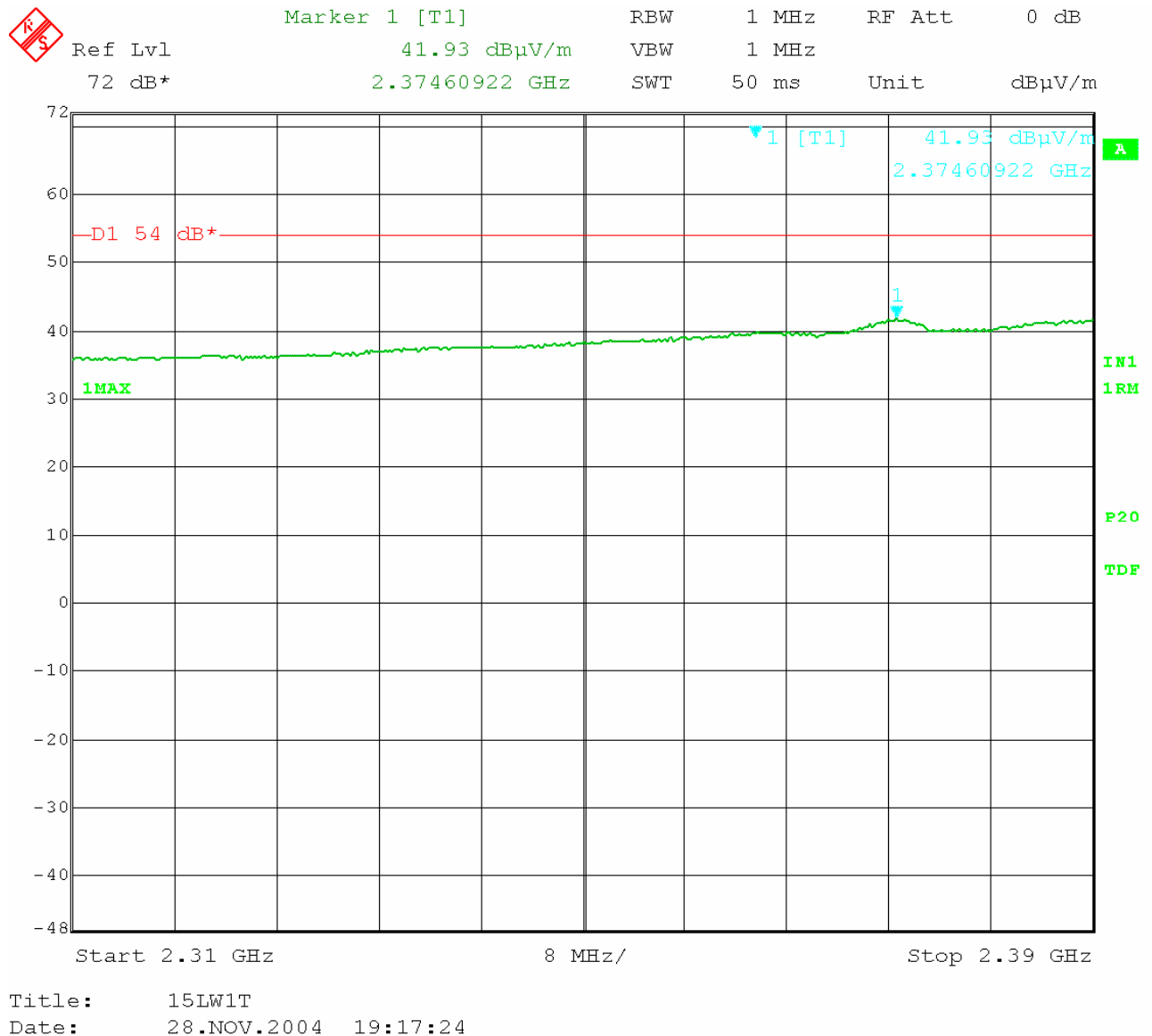
(1) Radiated , 802.11b, CH 1, Vertical



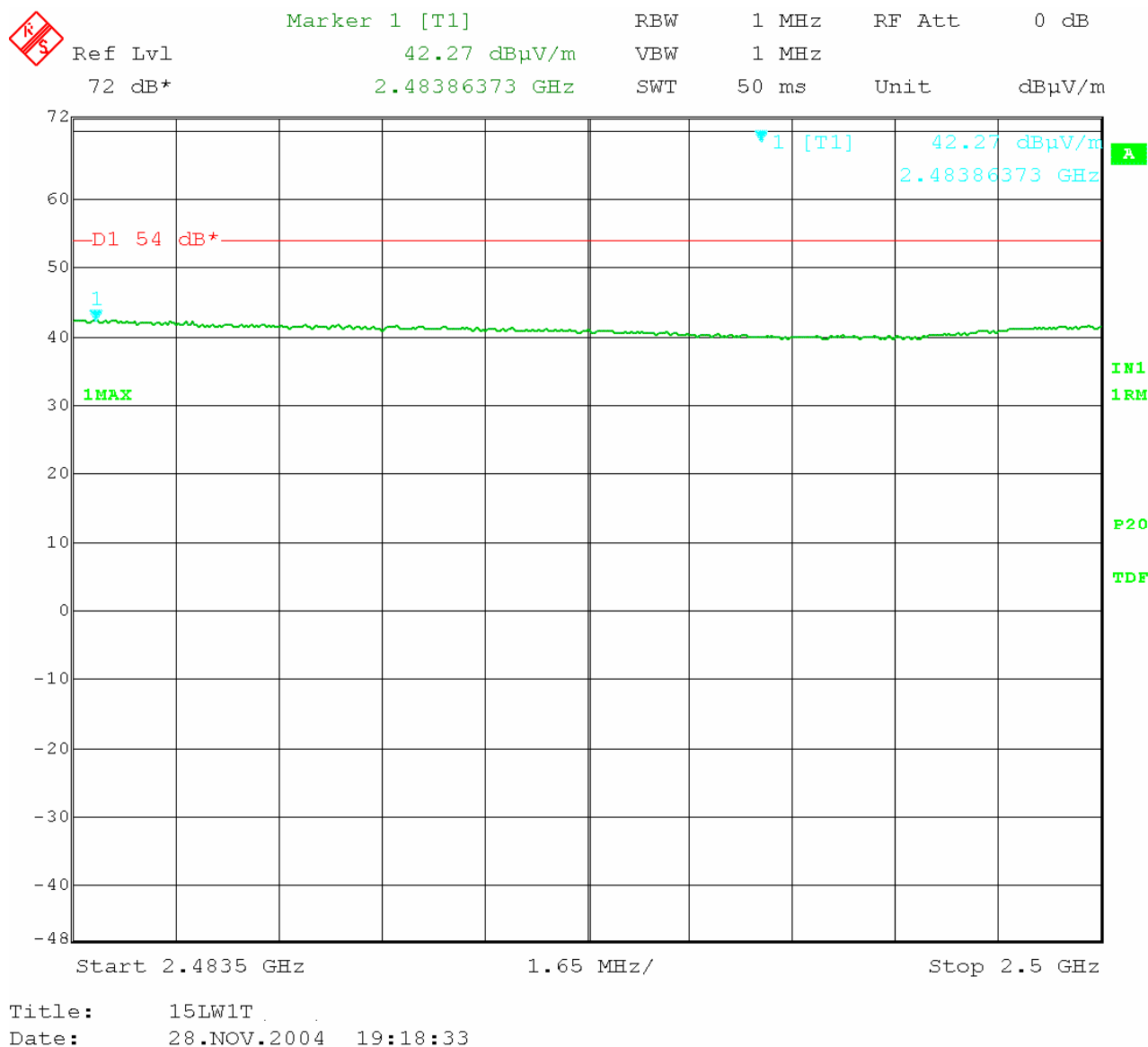
(2) Radiated , 802.11b, CH 11, Vertical



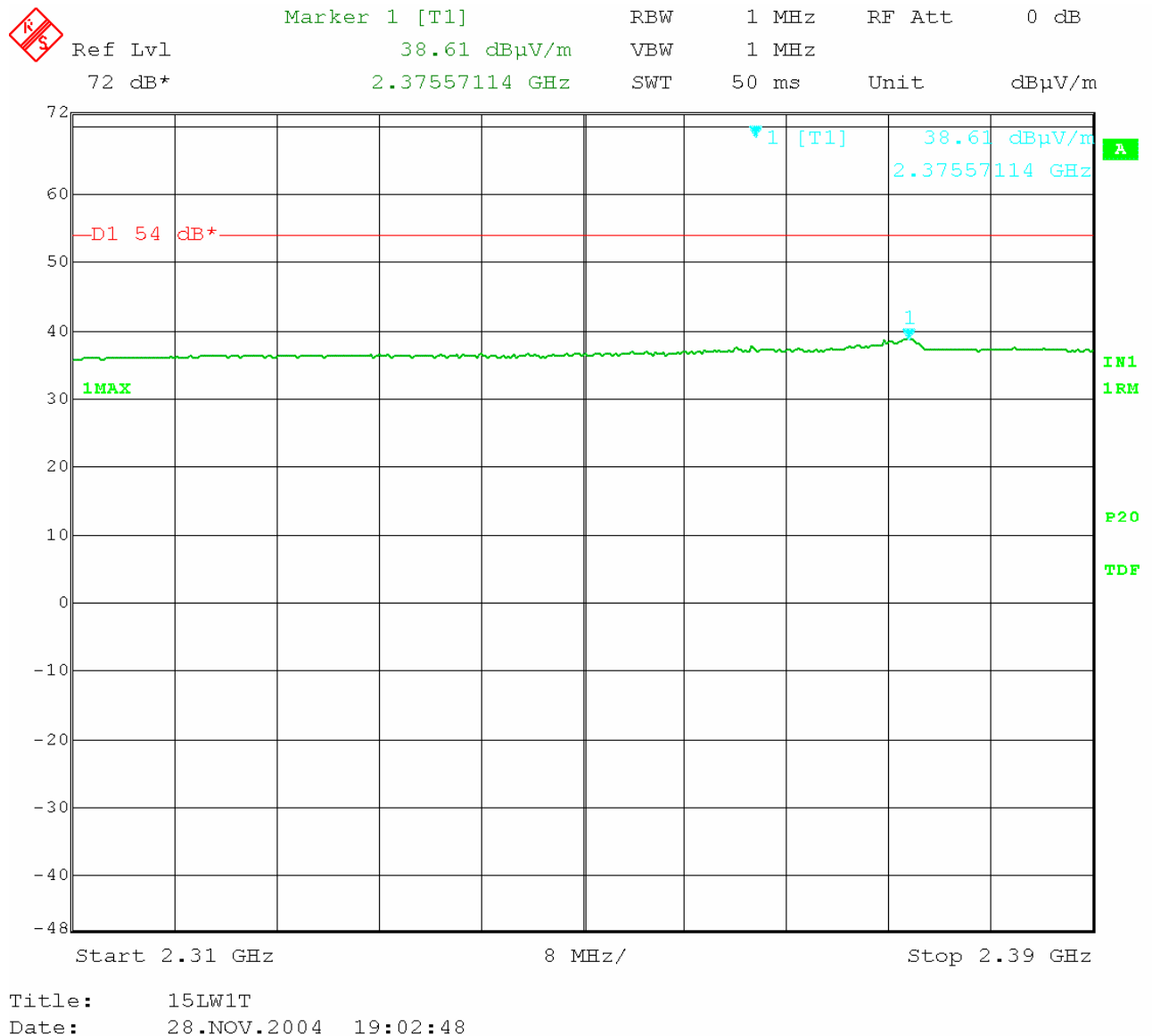
(3) Radiated , 802.11b, CH 1, Horizontal



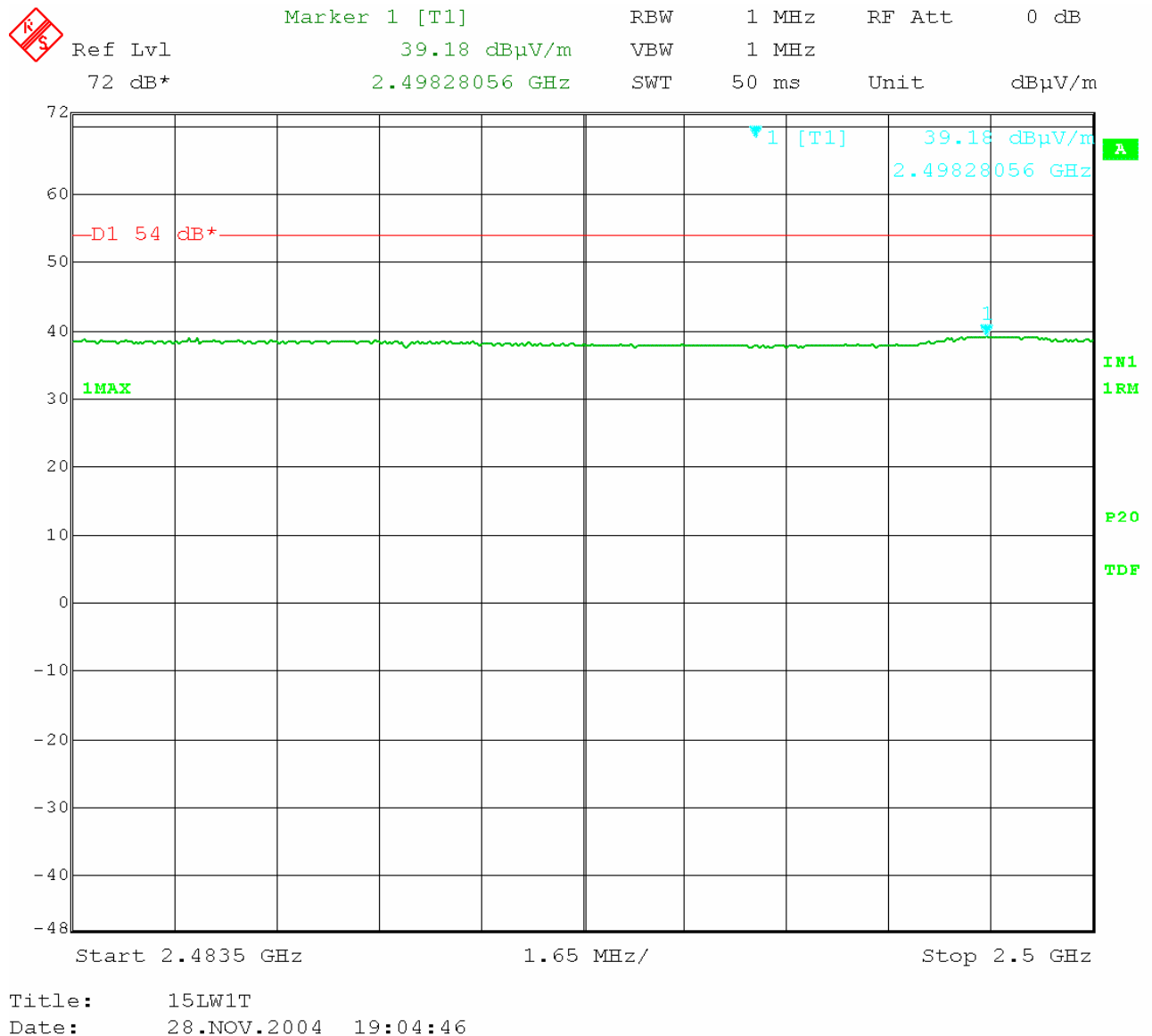
(4) Radiated , 802.11b, CH 11, Horizontal



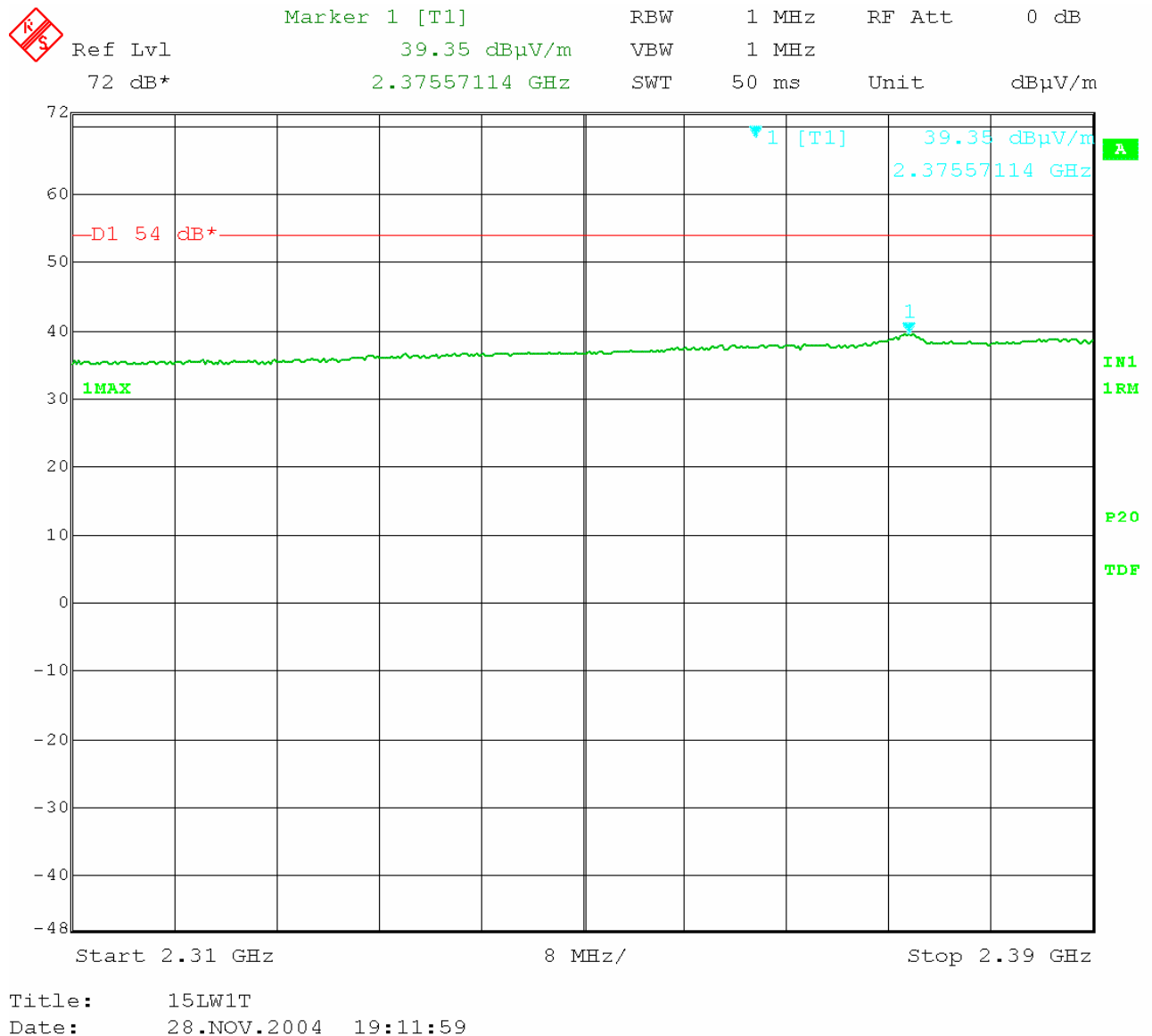
(5) Radiated , 802.11g, CH 1, Vertical



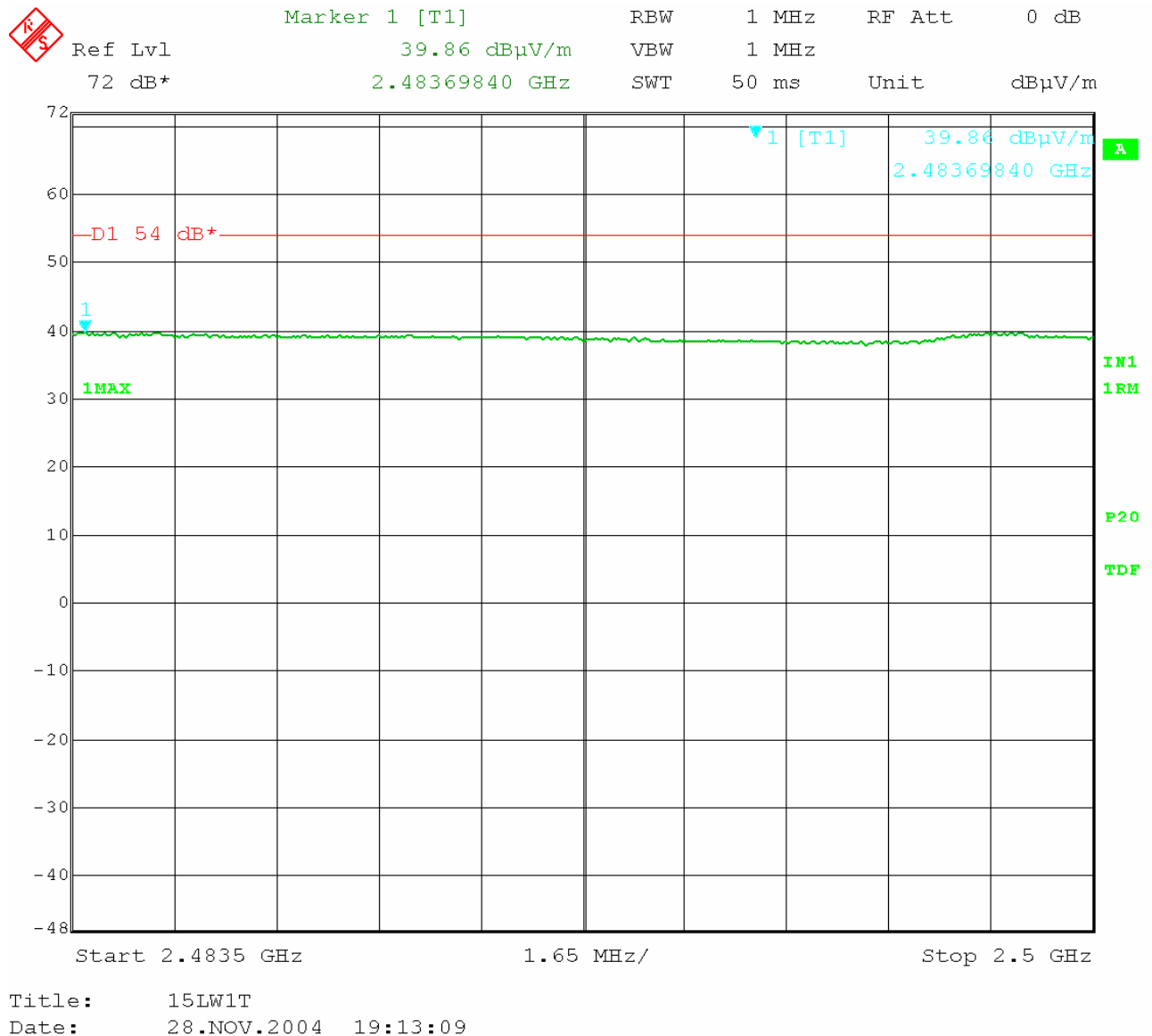
(6) Radiated , 802.11g, CH 11, Vertical



(7) Radiated , 802.11g, CH 1, Horizontal



(8) Radiated , 802.11g, CH 11, Horizontal

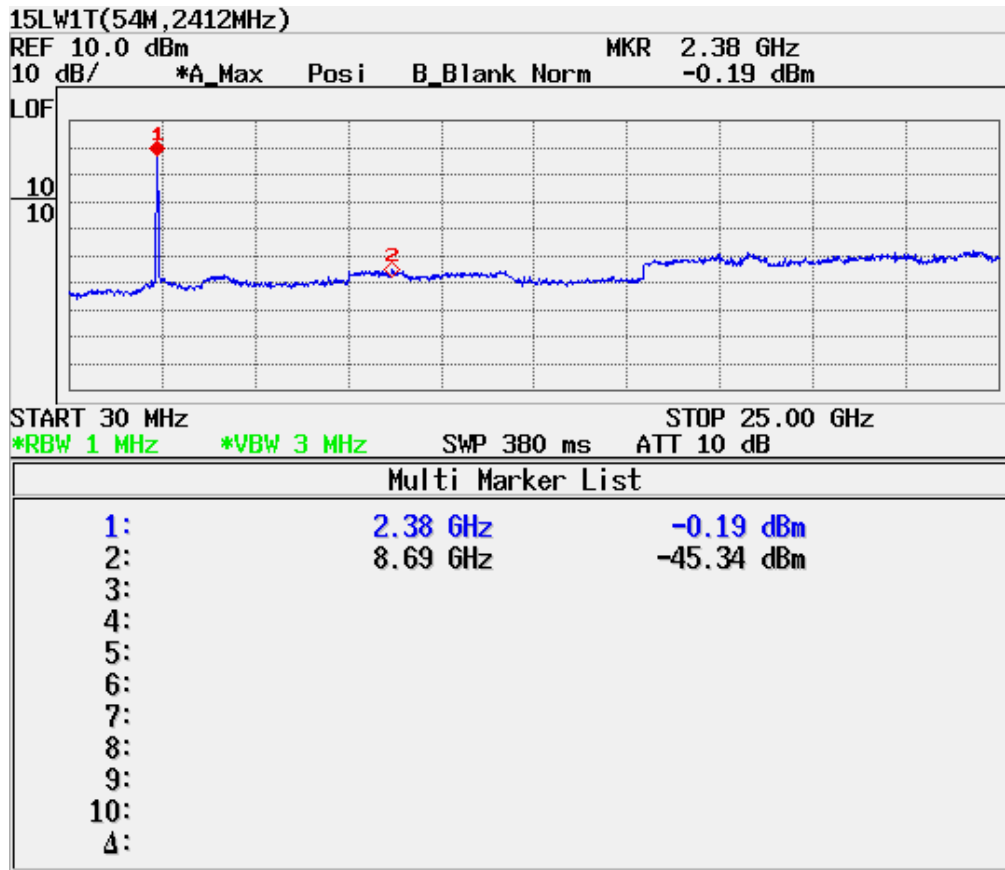
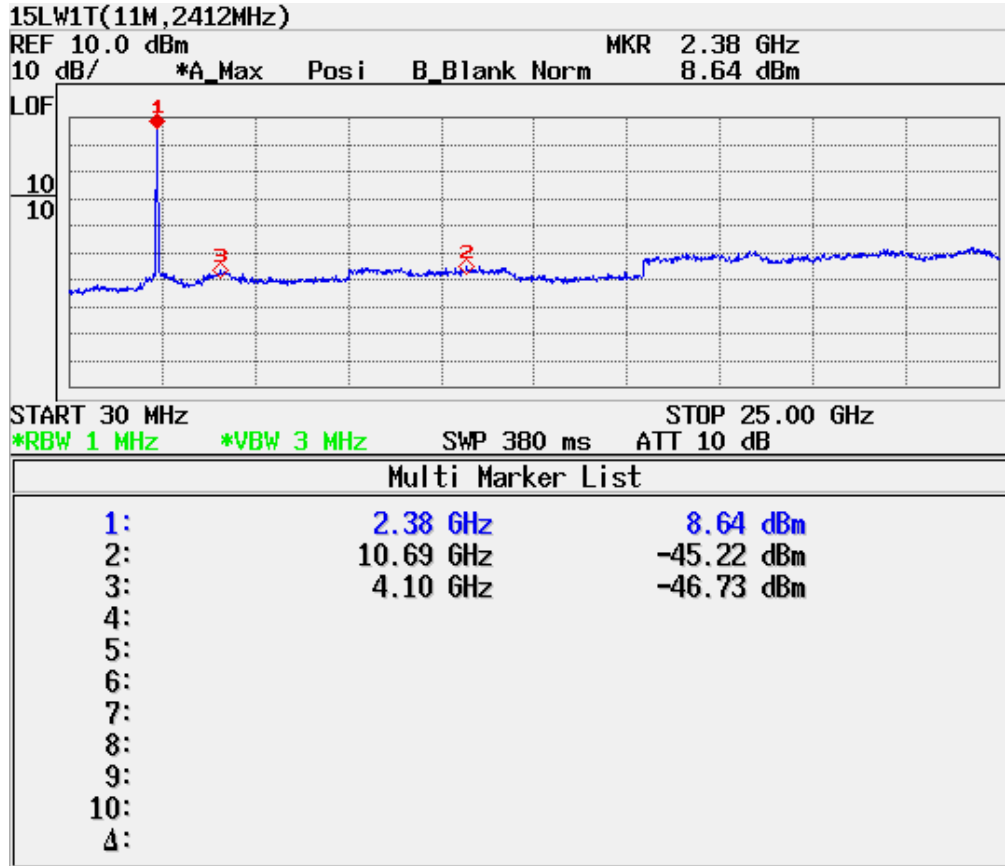


Out of band emissions (Conducted)

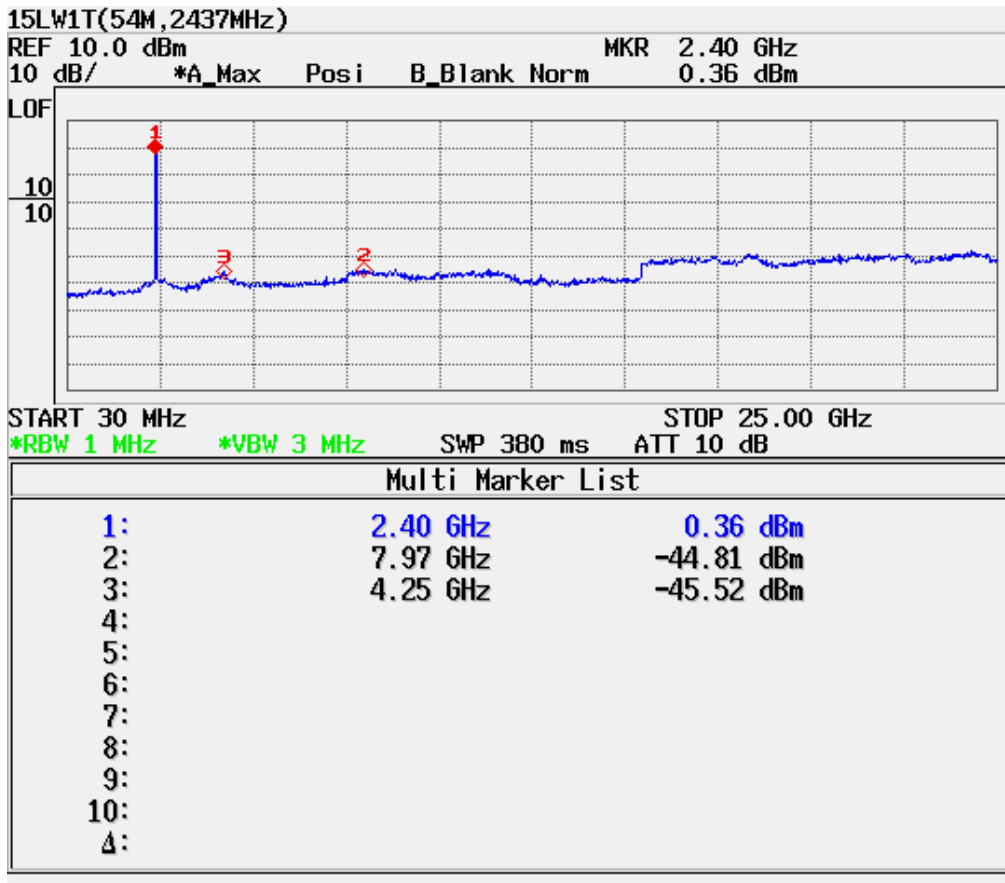
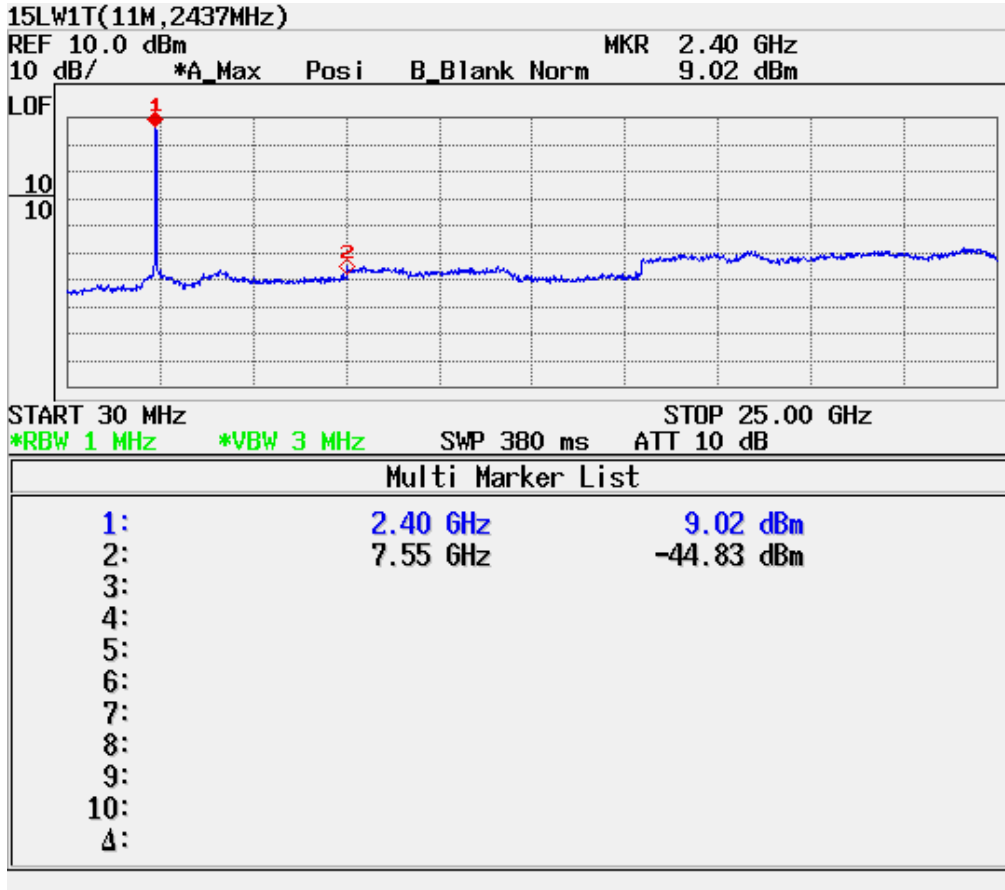
mode	CH.	FREQ [MHz]	RESULT [dBc]	Limit [dBc]	Margin [dB]
802.11b (11M bps)	1	2412	53.86	20	33.86
	6	2437	53.85	20	33.85
	11	2362	53.40	20	35.50
802.11g (54M bps)	1	2412	45.15	20	25.15
	6	2437	44.45	20	24.45
	11	2362	37.78	20	17.78

*Please refer to graph as below:

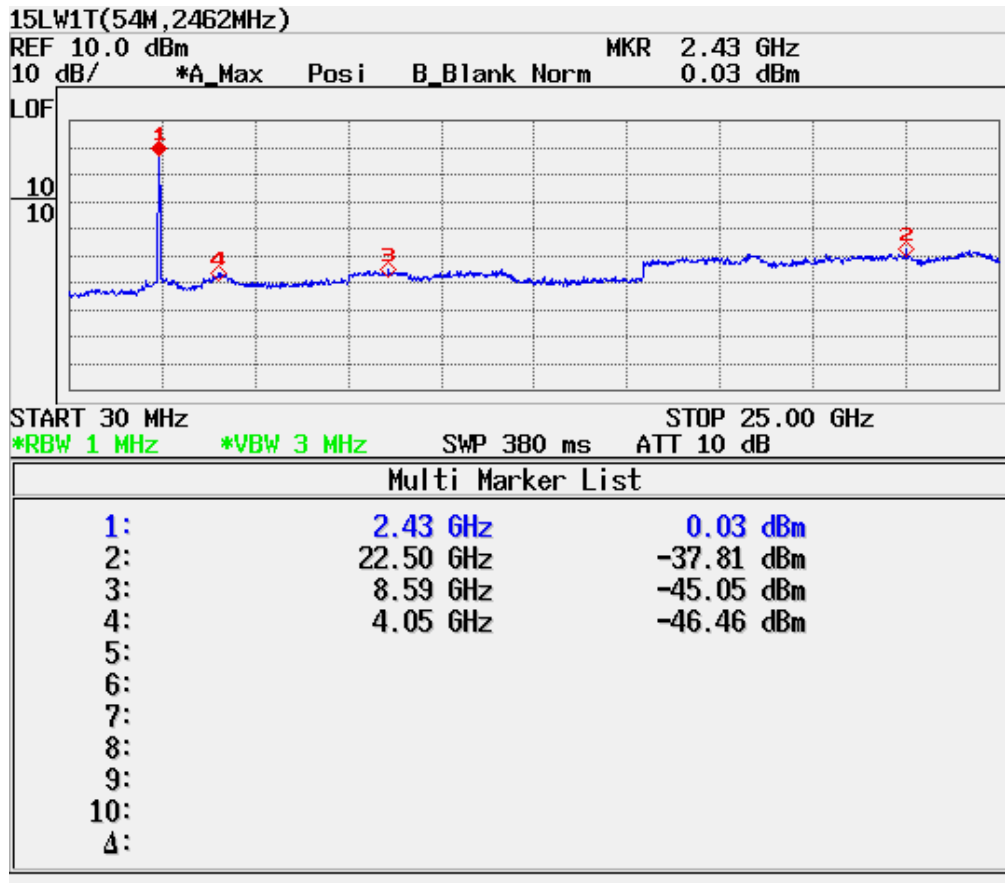
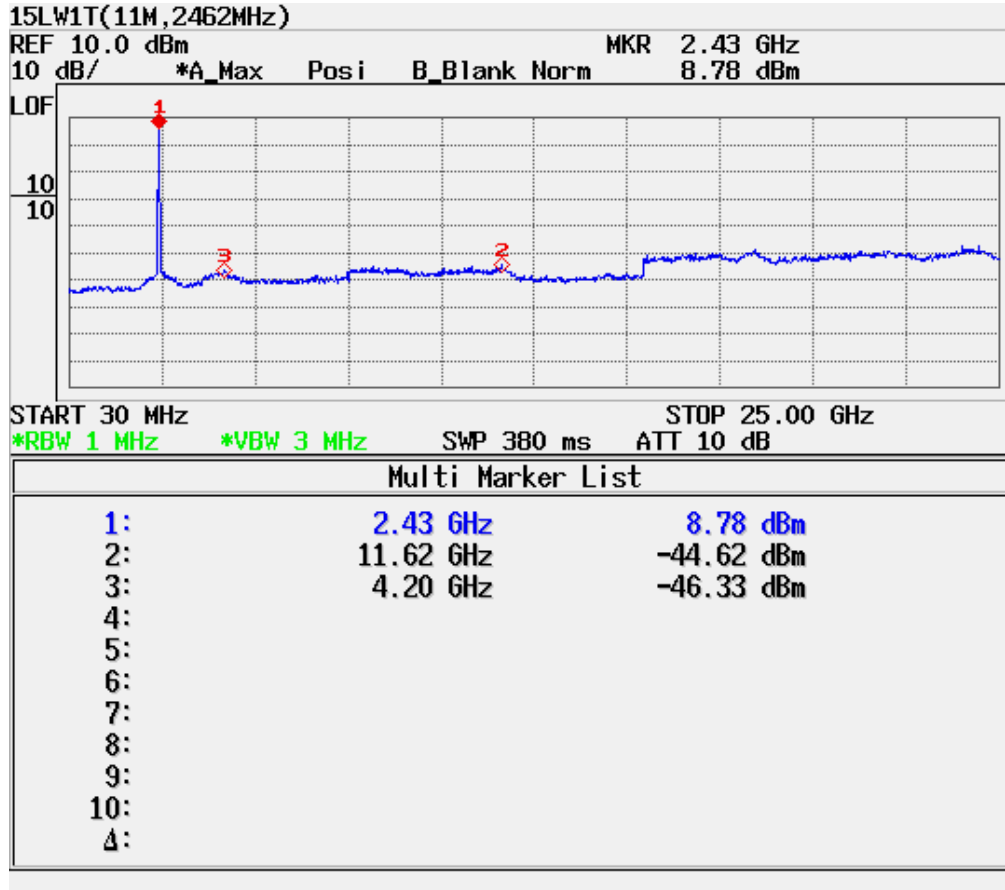
(1) Ch 1(802.11b & 802.11g)



(2) Ch 6(802.11b & 802.11g)



(3) Ch 11(802.11b & 802.11g)

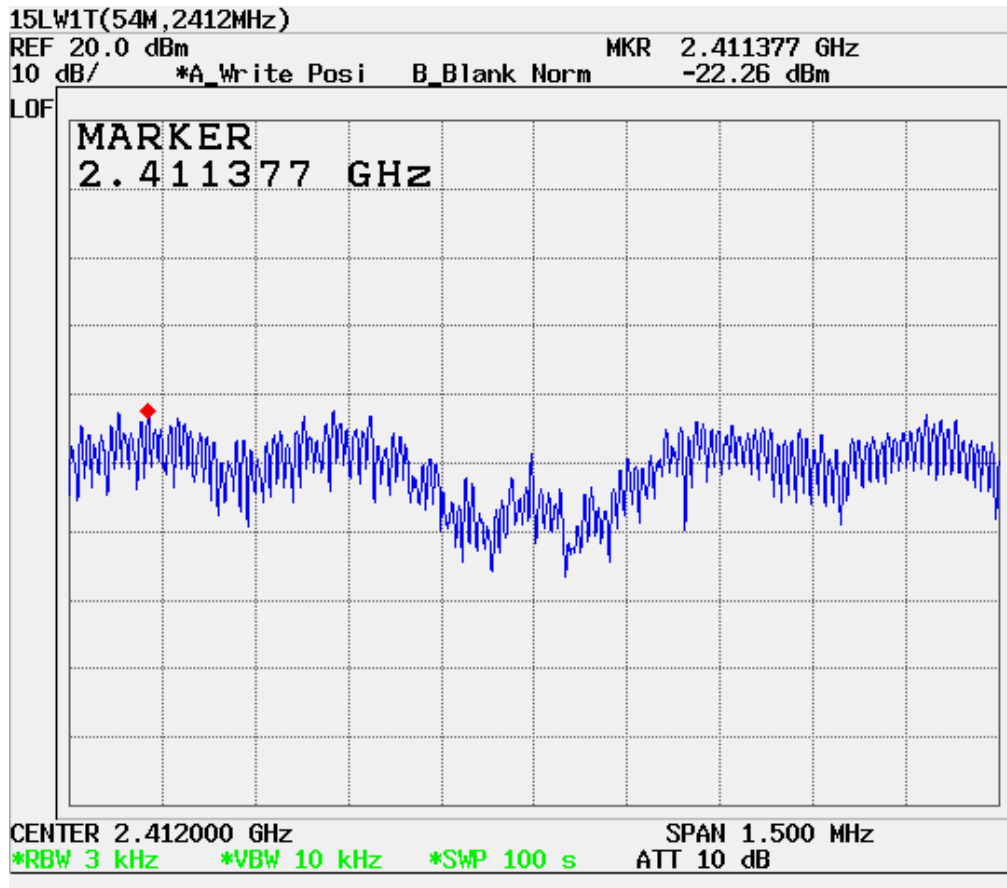
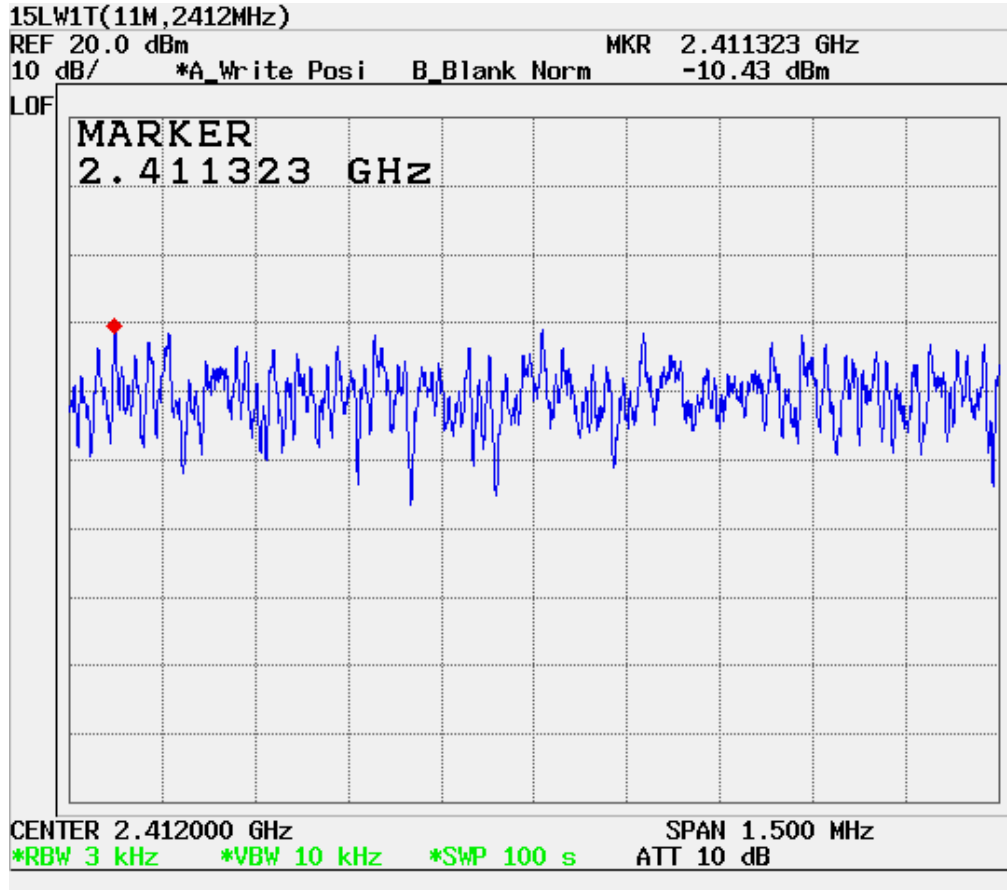


Power density (Conducted)

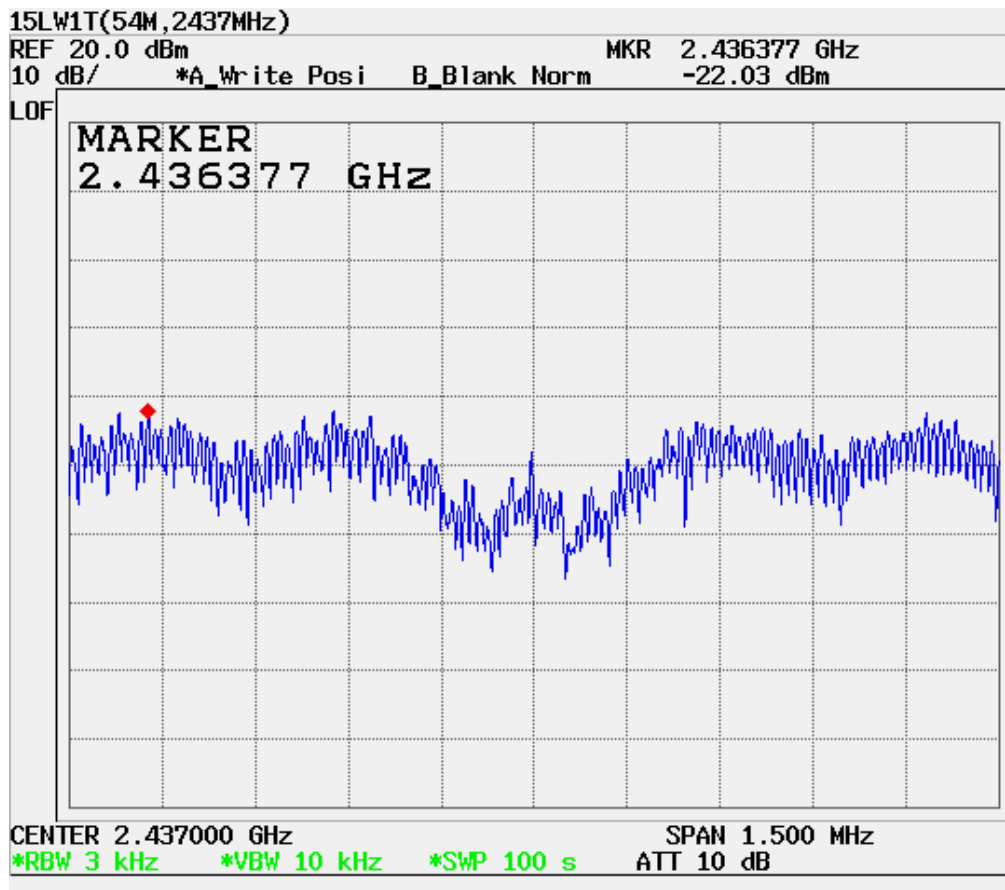
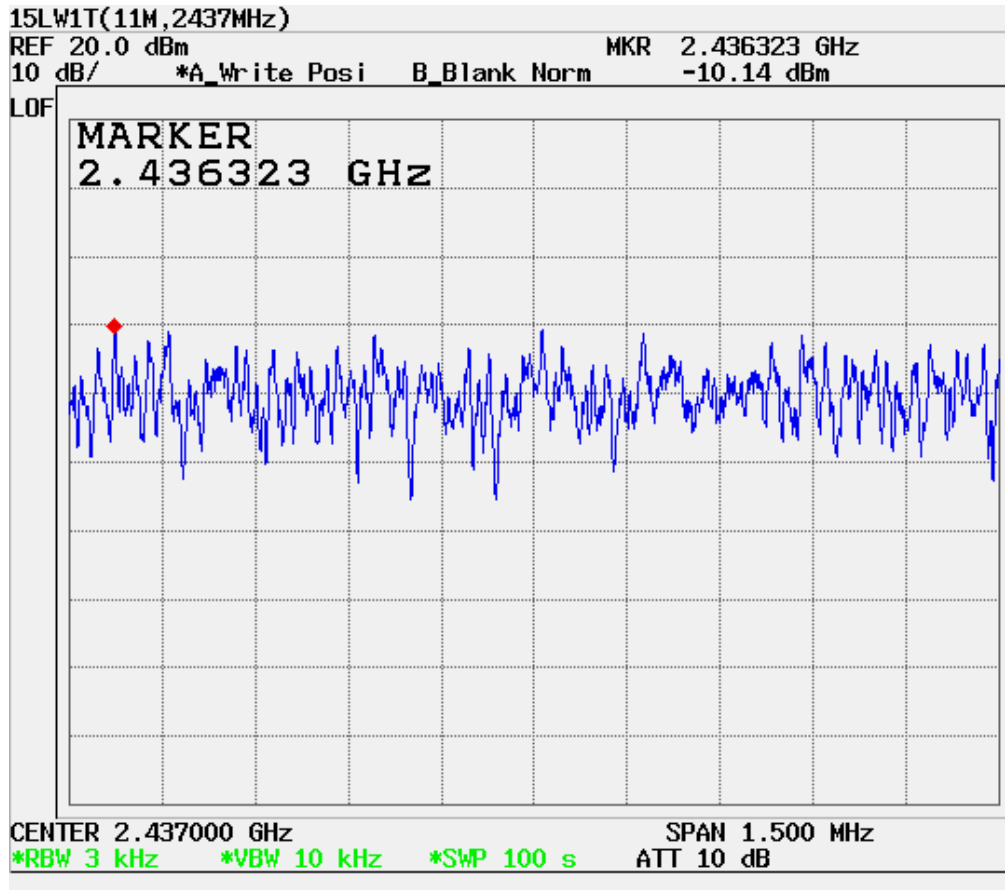
mode	CH.	FREQ [MHz]	RESULT [dBm]	Limit [dBm]	Margin [dB]
802.11b (11M bps)	1	2412	-10.43	8	18.43
	6	2437	-10.14	8	18.14
	11	2362	-9.73	8	17.73
802.11g (54M bps)	1	2412	-22.26	8	30.26
	6	2437	-22.03	8	30.03
	11	2362	-21.64	8	29.64

*Please refer to graph as below:

(1) Ch 1(802.11b & 802.11g)



(2) Ch 6(802.11b & 802.11g)



(3) Ch 11(802.11b & 802.11g)

