

RESULT PLOTS

AC Line Conducted Emissions (Graph)

TM 3 & Middle

Results of Conducted Emission

DTNC

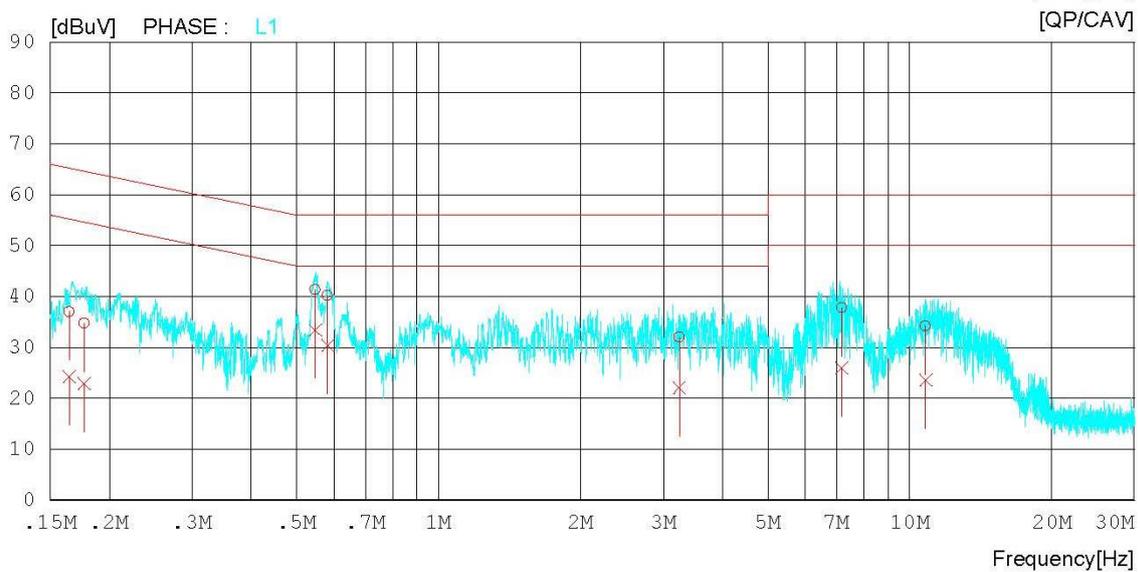
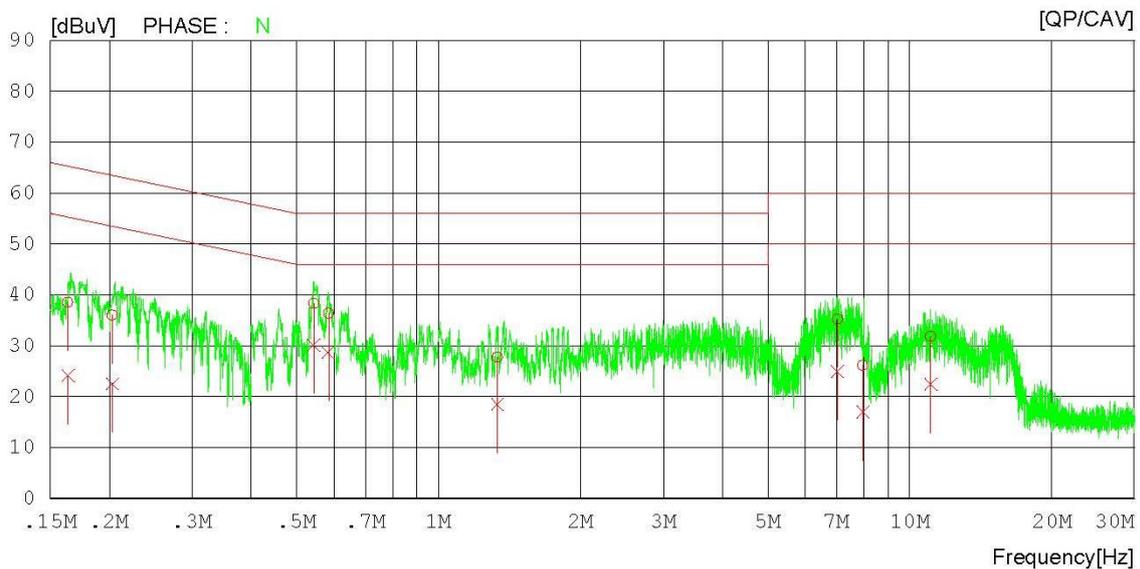
Date 2019-03-03

Order No.
Model No. LM-V500EM
Serial No.
Test Condition 2.4GHz

Reference No.
Power Supply 120 V, 60 Hz
Temp/Humi. 24 °C / 30 %
Operator SunGeun Lee

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV



AC Line Conducted Emissions (List)

TM 3 & Middle

Results of Conducted Emission

DTNC

Date 2019-03-03

Order No.		Reference No.	
Model No.	LM-V500EM	Power Supply	120 V, 60 Hz
Serial No.		Temp/Humi.	24 'C / 30 %
Test Condition	2.4GHz	Operator	SunGeun Lee

Memo

 LIMIT : FCC P15.207 QP
 FCC P15.207 AV

NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	CAV [dBuV]		QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]			
1	0.16355	28.55	14.13	9.99	38.54	24.12	65.28	55.28	26.74	31.16	N
2	0.20314	26.05	12.52	9.98	36.03	22.50	63.48	53.48	27.45	30.98	N
3	0.54376	28.27	20.15	9.99	38.26	30.14	56.00	46.00	17.74	15.86	N
4	0.58393	26.38	18.69	10.00	36.38	28.69	56.00	46.00	19.62	17.31	N
5	1.33400	17.71	8.49	10.02	27.73	18.51	56.00	46.00	28.27	27.49	N
6	7.02480	24.95	14.67	10.26	35.21	24.93	60.00	50.00	24.79	25.07	N
7	7.95420	15.85	6.69	10.29	26.14	16.98	60.00	50.00	33.86	33.02	N
8	11.07660	21.43	12.05	10.40	31.83	22.45	60.00	50.00	28.17	27.55	N
9	0.16450	27.09	14.26	9.96	37.05	24.22	65.23	55.23	28.18	31.01	L1
10	0.17697	24.75	12.84	9.96	34.71	22.80	64.63	54.63	29.92	31.83	L1
11	0.54707	31.34	23.41	9.96	41.30	33.37	56.00	46.00	14.70	12.63	L1
12	0.58105	30.26	20.35	9.97	40.23	30.32	56.00	46.00	15.77	15.68	L1
13	3.24280	21.93	11.97	10.07	32.00	22.04	56.00	46.00	24.00	23.96	L1
14	7.17120	27.53	15.66	10.22	37.75	25.88	60.00	50.00	22.25	24.12	L1
15	10.79520	23.80	13.19	10.33	34.13	23.52	60.00	50.00	25.87	26.48	L1

9. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	18/07/06	19/07/06	US47360812
Spectrum Analyzer	Agilent Technologies	N9020A	18/12/19	19/12/19	MY48011700
DC Power Supply	Agilent Technologies	66332A	18/07/02	19/07/02	US37473422
Multimeter	FLUKE	17B	18/12/18	19/12/18	26030065WS
Signal Generator	Rohde Schwarz	SMBV100A	18/12/19	19/12/19	255571
Signal Generator	ANRITSU	MG3695C	18/12/10	19/12/10	173501
Thermohygrometer	BODYCOM	BJ5478	18/12/27	19/12/27	120612-1
Thermohygrometer	BODYCOM	BJ5478	18/12/27	19/12/27	120612-2
Thermohygrometer	BODYCOM	BJ5478	18/07/09	19/07/09	N/A
HYGROMETER	TESTO	608-H1	19/01/31	20/01/31	34862883
Loop Antenna	Schwarzbeck	FMZB1513	18/01/30	20/01/30	1513-128
BILOG ANTENNA	Schwarzbeck	VULB 9160	18/07/13	20/07/13	3359
Horn Antenna	ETS-Lindgren	3115	19/01/11	21/01/11	9202-3820
Horn Antenna	Schwarzbeck	BBHA 9120C	17/12/04	19/12/04	9120C-561
Horn Antenna	A.H.Systems Inc.	SAS-574	17/07/31	19/07/31	155
PreAmplifier	tsj	MLA-0118-J01-45	18/12/19	19/12/19	17138
PreAmplifier	tsj	MLA-1840-J02-45	18/07/06	19/07/06	16966-10728
PreAmplifier	tsj	MLA-10K01-B01-27	18/10/31	19/10/31	2005354
Attenuator	SMAJK	SMAJK-2-3	18/07/02	19/07/02	3
Attenuator	Aeroflex/Weinschel	56-3	18/07/02	19/07/02	Y2370
Attenuator	SRTechnology	F01-B0606-01	18/07/02	19/07/02	13092403
Attenuator	Hefei Shunze	SS5T2.92-10-40	18/07/03	19/07/03	16012202
High Pass Filter	Wainwright Instruments	WHNX8.0/26.5-6SS	18/07/03	19/07/03	3
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	18/07/02	19/07/02	8
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300-18000-60SS	18/07/02	19/07/02	1
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2495A MA2490A	18/04/17	19/04/17	1306007 1249001
EMI Test Receiver	Rohde Schwarz	ESW44	18/08/06	20/08/06	101645
EMI Test Receiver	Rohde Schwarz	ESCi7	19/01/30	20/01/30	100910
PULSE LIMITER	Rohde Schwarz	ESH3-Z2	18/09/27	19/09/27	101333
LISN	SCHWARZBECK	NNLK 8121	18/03/20	19/03/20	06183
			19/03/19	20/03/19	
Cable	HUBER+SUHNER	SUCOFLEX 106	18/06/25	19/06/25	G-01
Cable	HUBER+SUHNER	SUCOFLEX 104	18/06/25	19/06/25	G-02
Cable	HUBER+SUHNER	SUCOFLEX 104	18/06/25	19/06/25	G-03
Cable	Junkosha	MWX241	18/06/25	19/06/25	G-04
Cable	Junkosha	MWX241	18/06/25	19/06/25	G-07
Cable	DT&C	Cable	18/07/06	19/07/06	G-13
Cable	DT&C	Cable	18/07/06	19/07/06	G-14
Cable	HUBER+SUHNER	SUCOFLEX 104	18/07/06	19/07/06	G-15

Note 1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017

Note 2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

APPENDIX I

Duty cycle plots

• Test Procedure

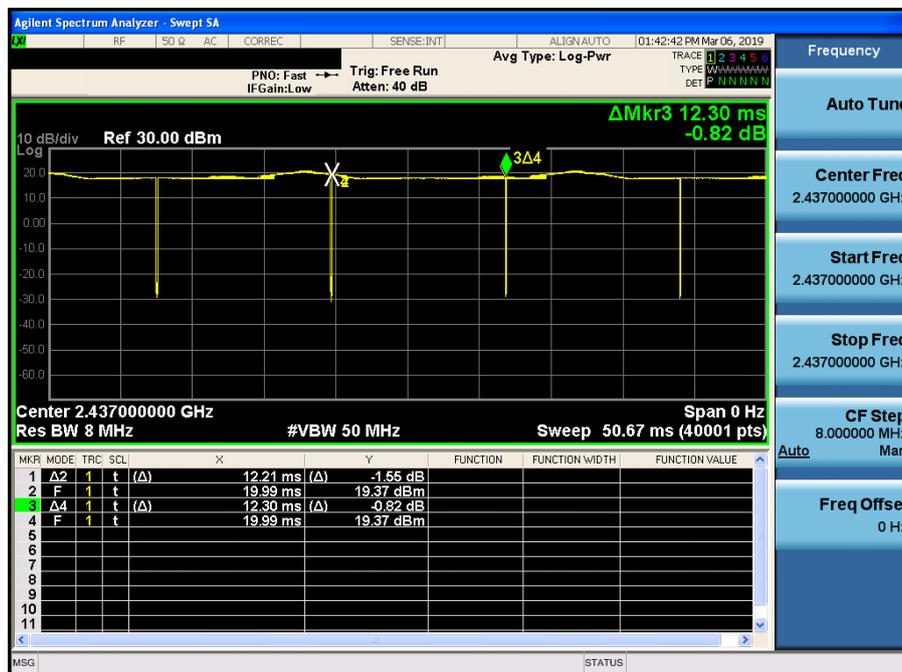
Duty Cycle was measured using **section 6.0 b) of KDB558074 D01v05r01** :

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

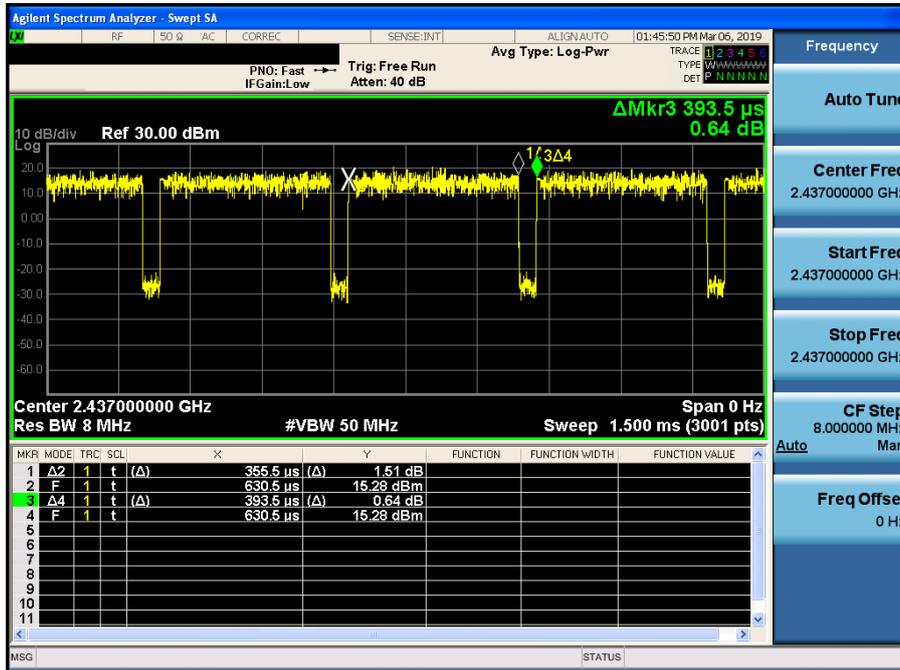
Duty Cycle

TM 1 & ANT 1 & 2437 MHz & 1 Mbps



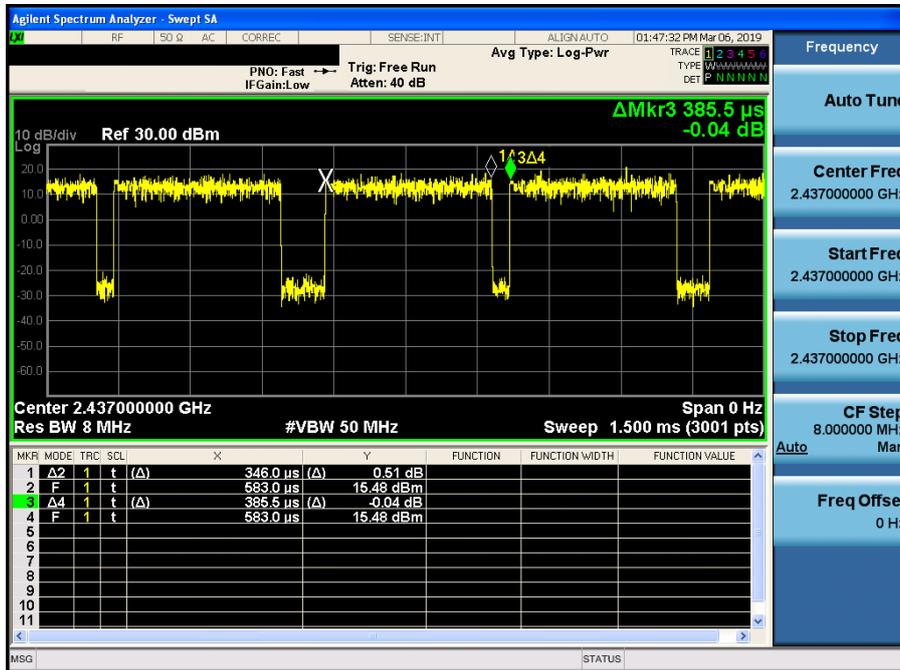
Duty Cycle

TM 5 & ANT 1 & 2437 MHz & 36 Mbps



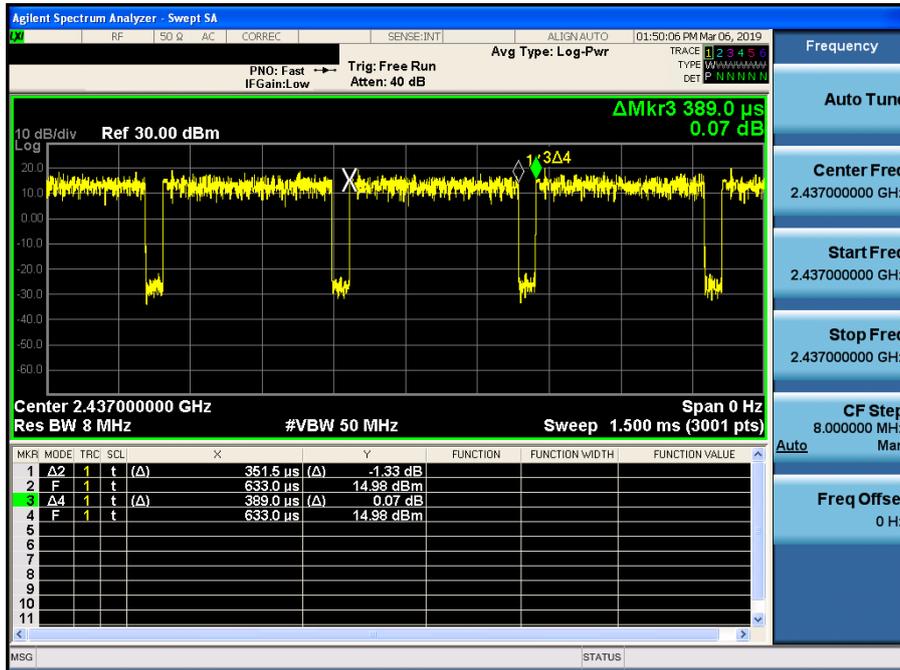
Duty Cycle

TM 6 & ANT 1 & 2437 MHz & MCS 4



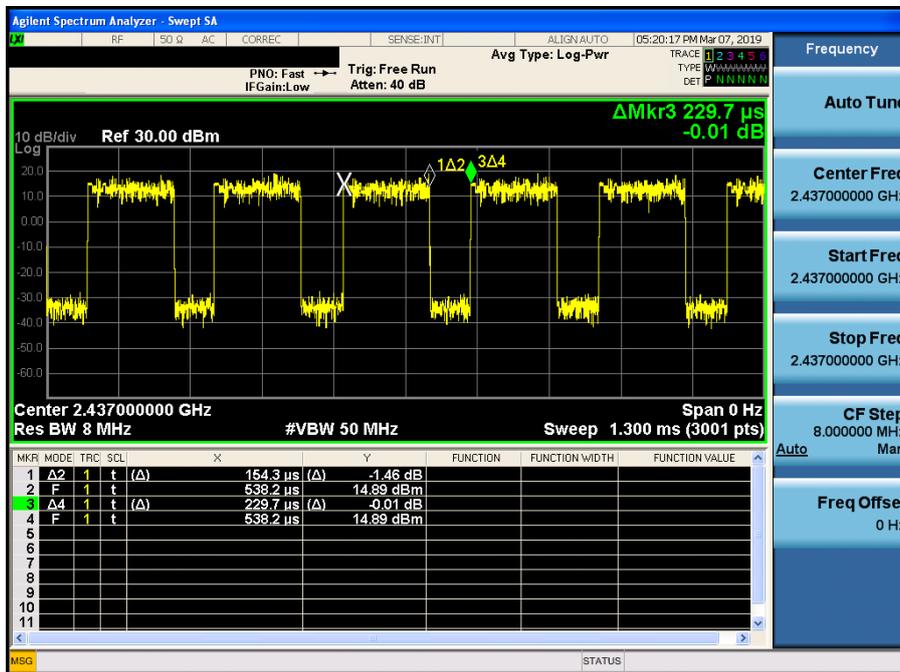
Duty Cycle

TM 7 & ANT 1 & 2437 MHz & MCS 4



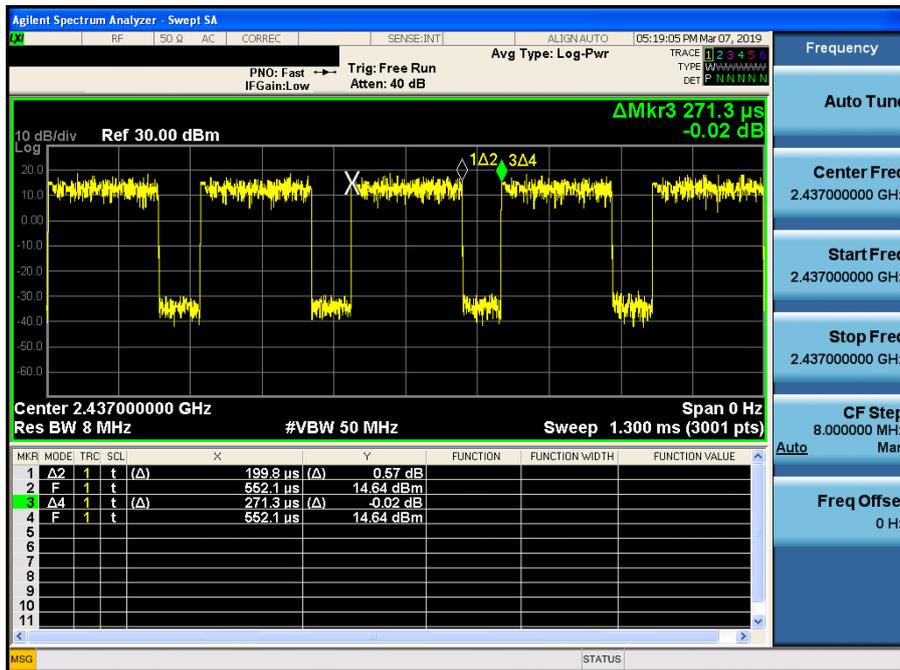
Duty Cycle

TM 8 & ANT 1 & 2437 MHz & MCS 13



Duty Cycle

TM 9 & ANT 1 & 2437 MHz & MCS 4

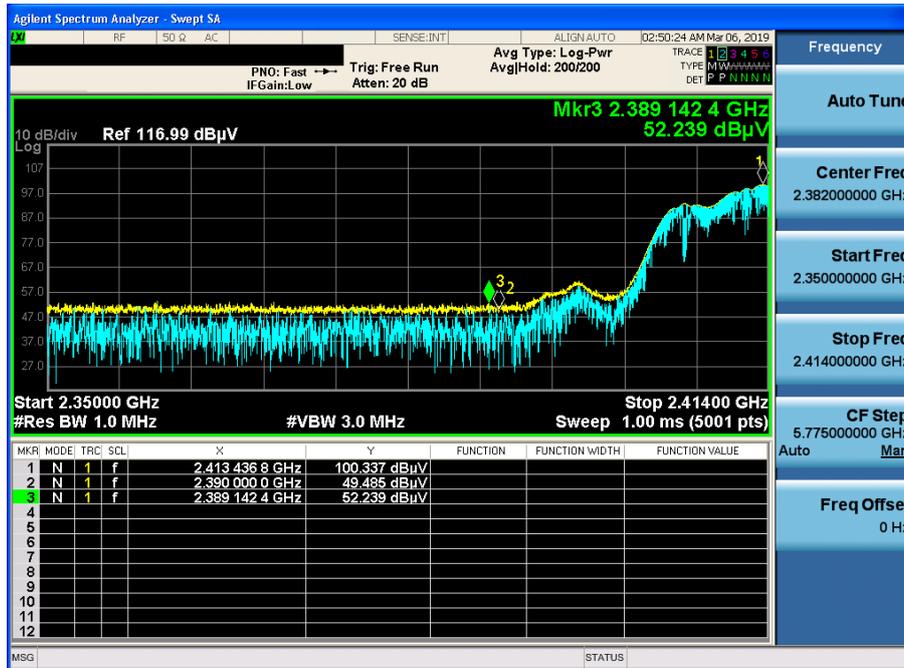


APPENDIX II

Unwanted Emissions (Radiated) Test Plot

TM 1 & 2412 & X axis & Hor

Detector Mode : PK



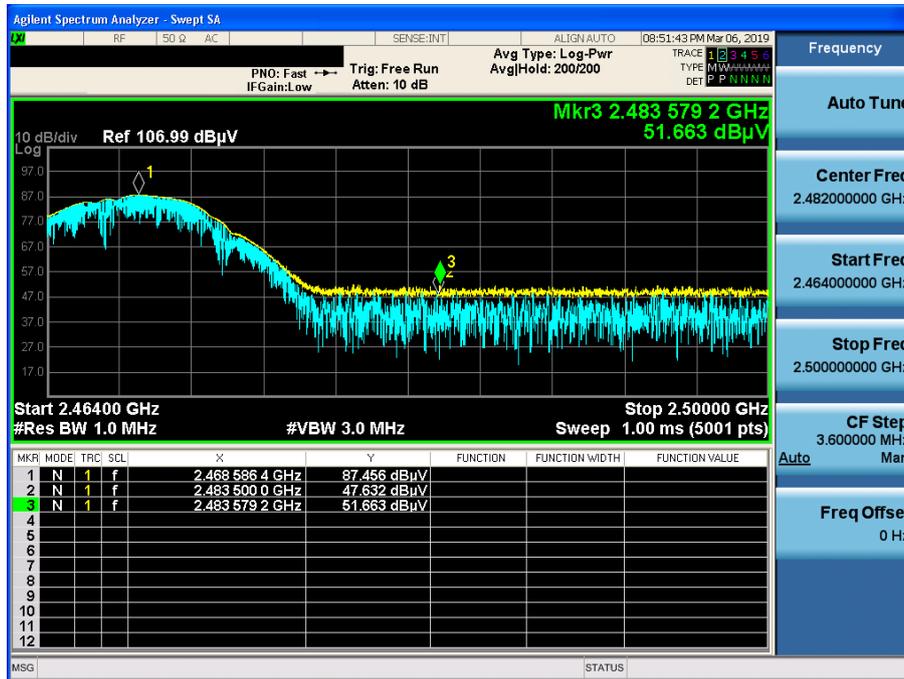
TM 1 & 2412 & X axis & Hor

Detector Mode : AV



TM 1 & 2467 & X axis & Hor

Detector Mode : PK



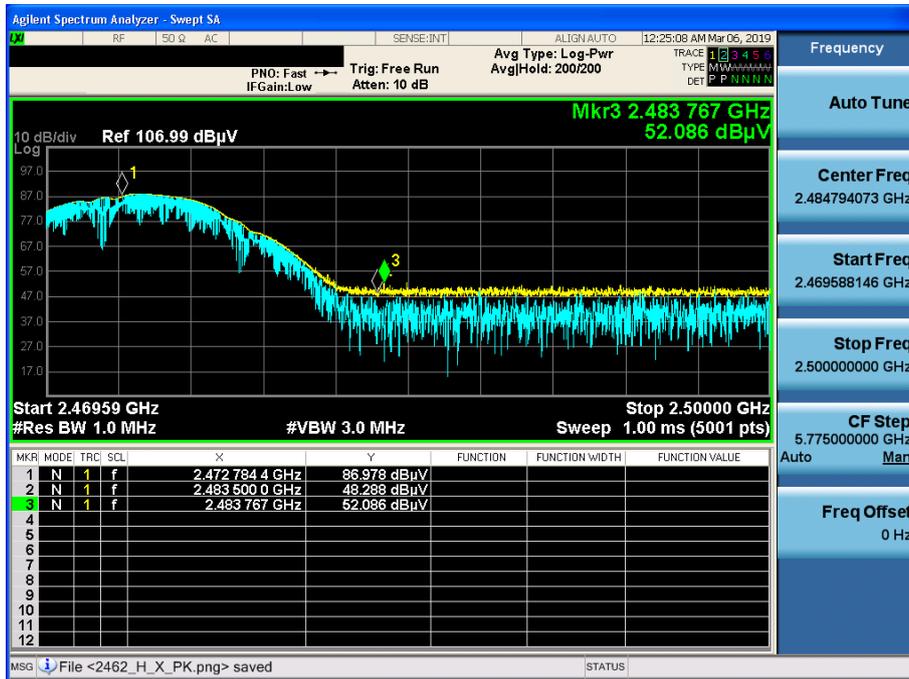
TM 1 & 2467 & X axis & Hor

Detector Mode : AV



TM 1 & 2472 & X axis & Hor

Detector Mode : PK



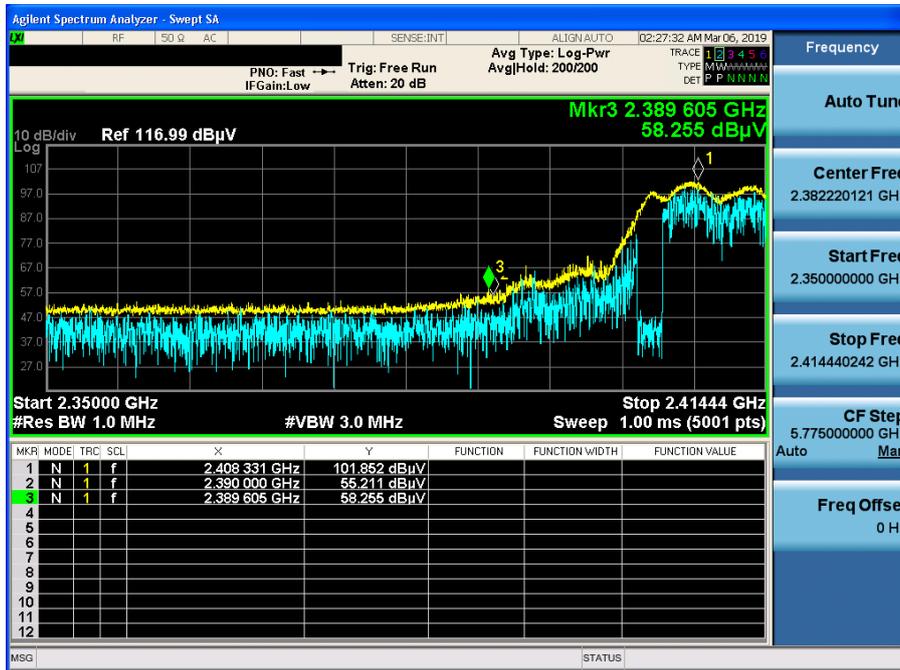
TM 1 & 2472 & X axis & Hor

Detector Mode : AV



TM 5 & 2412 & X axis & Hor

Detector Mode : PK



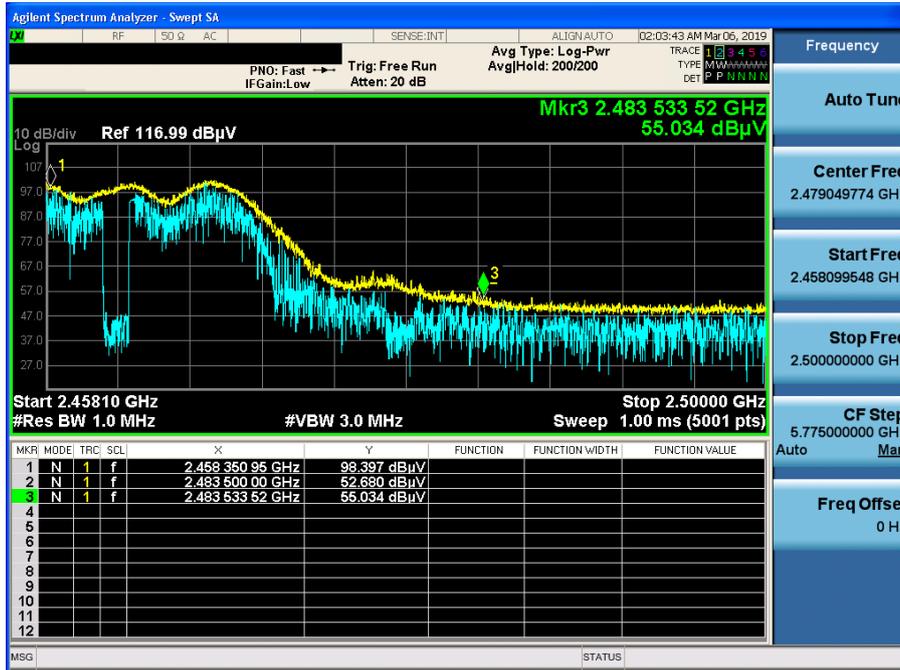
TM 5 & 2412 & X axis & Hor

Detector Mode : AV



TM 5 & 2462 & X axis & Hor

Detector Mode : PK



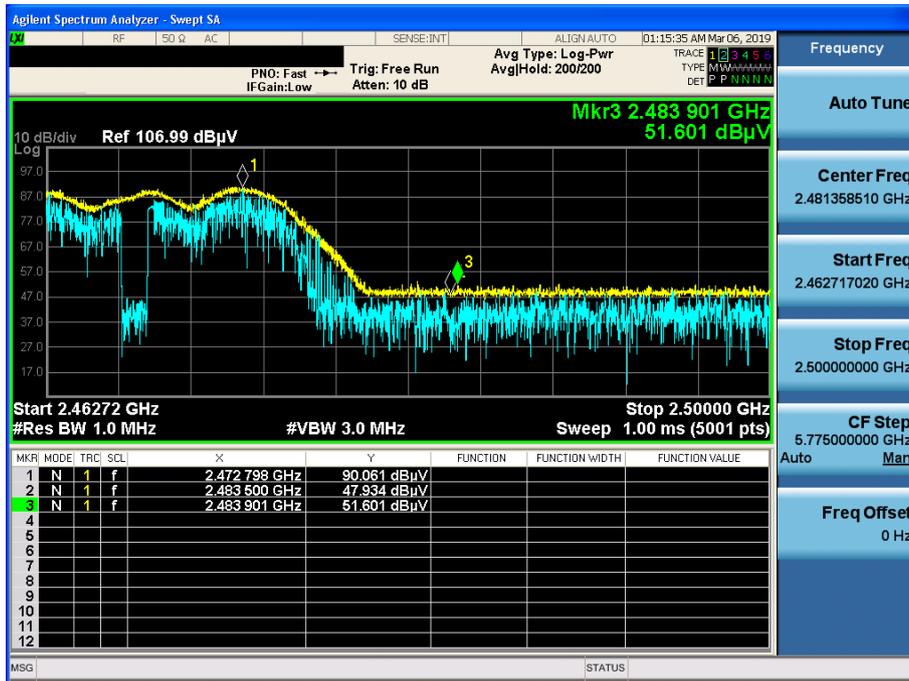
TM 5 & 2462 & X axis & Hor

Detector Mode : AV



TM 5 & 2467 & X axis & Hor

Detector Mode : PK



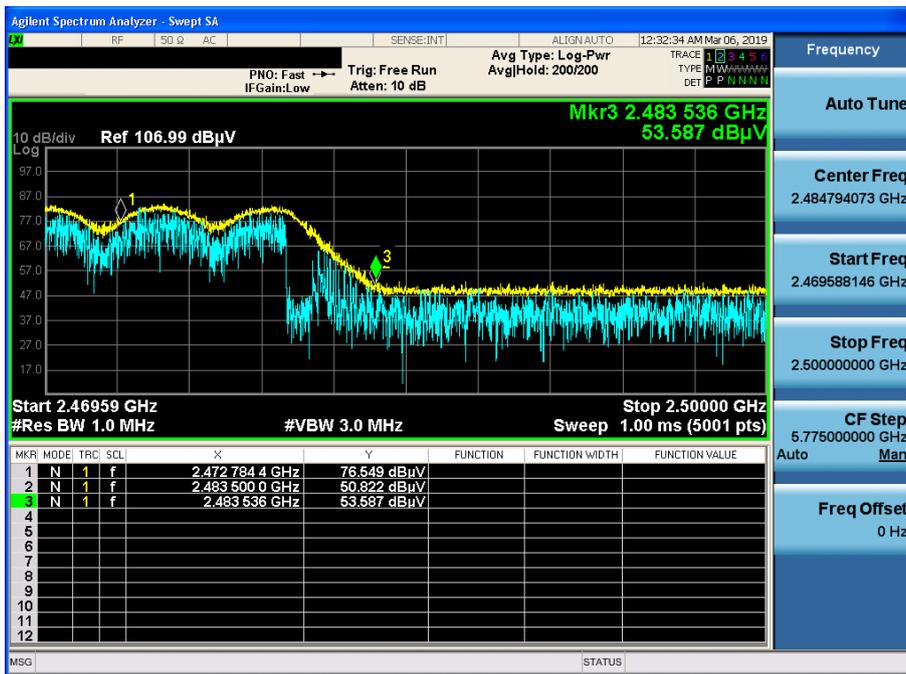
TM 5 & 2467 & X axis & Hor

Detector Mode : AV



TM 5 & 2472 & X axis & Hor

Detector Mode : PK



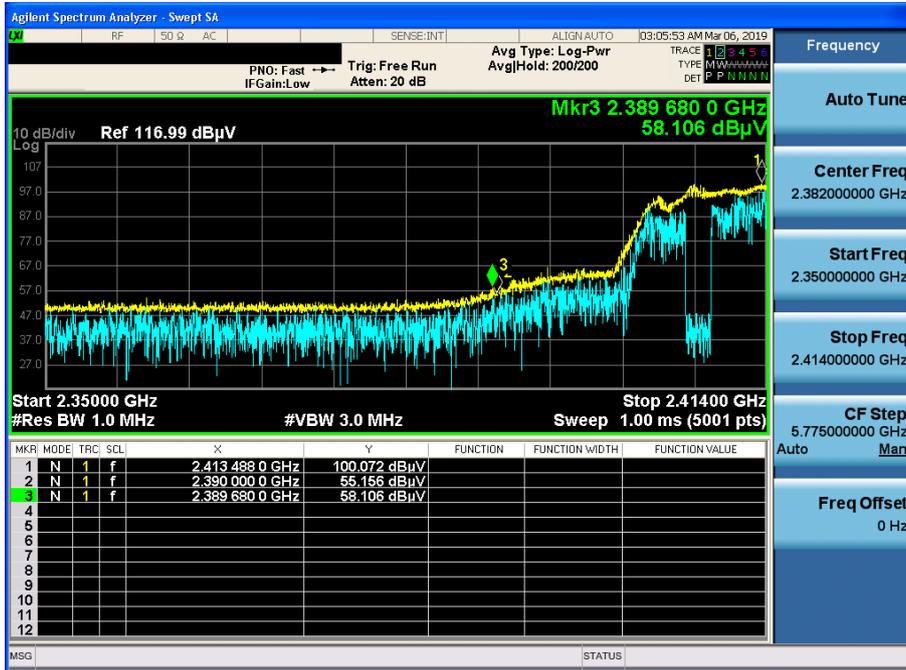
TM 5 & 2472 & X axis & Hor

Detector Mode : AV



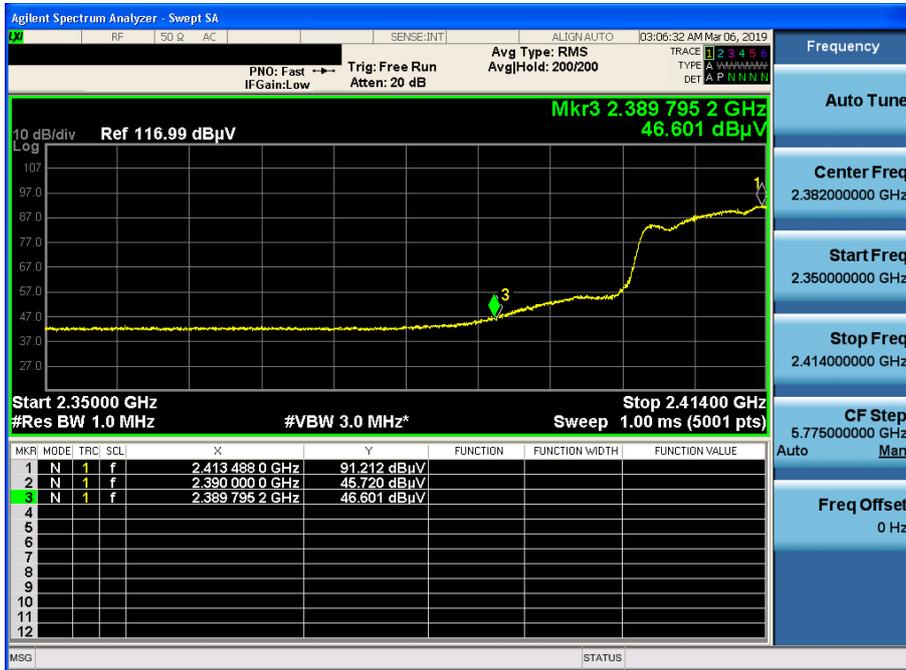
TM 6 & 2412 & X axis & Hor

Detector Mode : PK



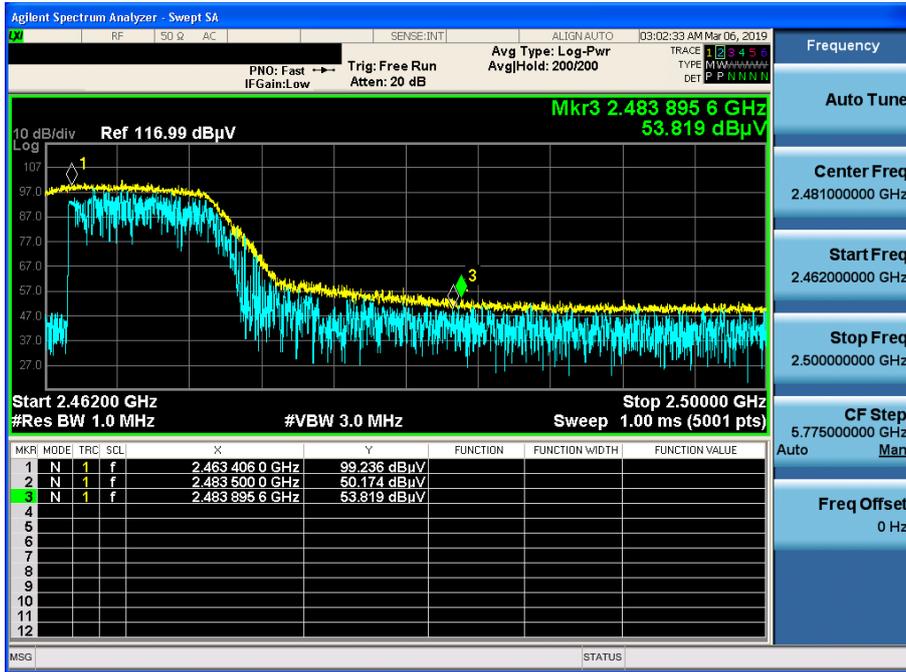
TM 6 & 2412 & X axis & Hor

Detector Mode : AV



TM 6 & 2462 & X axis & Hor

Detector Mode : PK



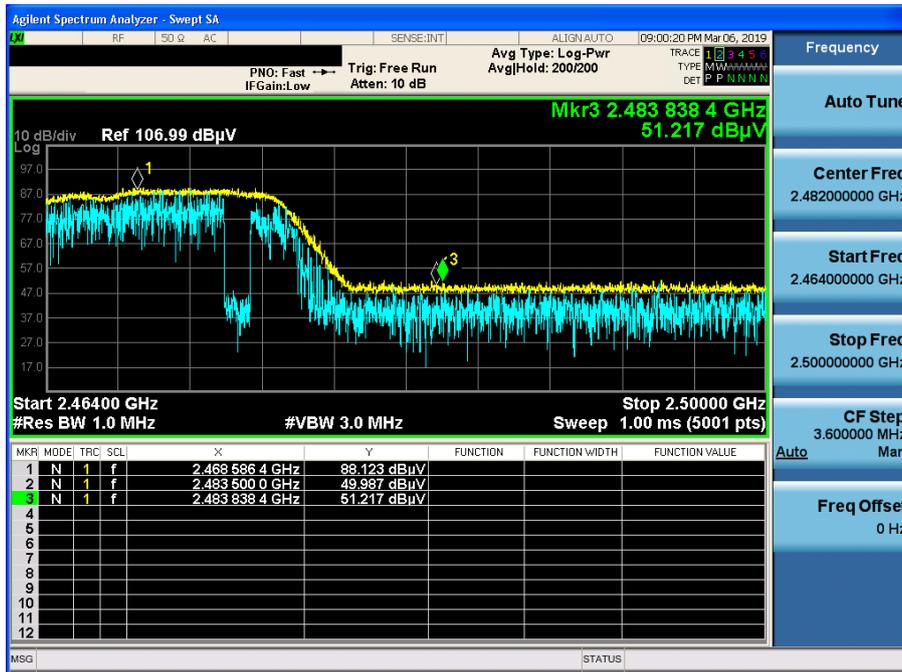
TM 6 & 2462 & X axis & Hor

Detector Mode : AV



TM 6 & 2467 & X axis & Hor

Detector Mode : PK



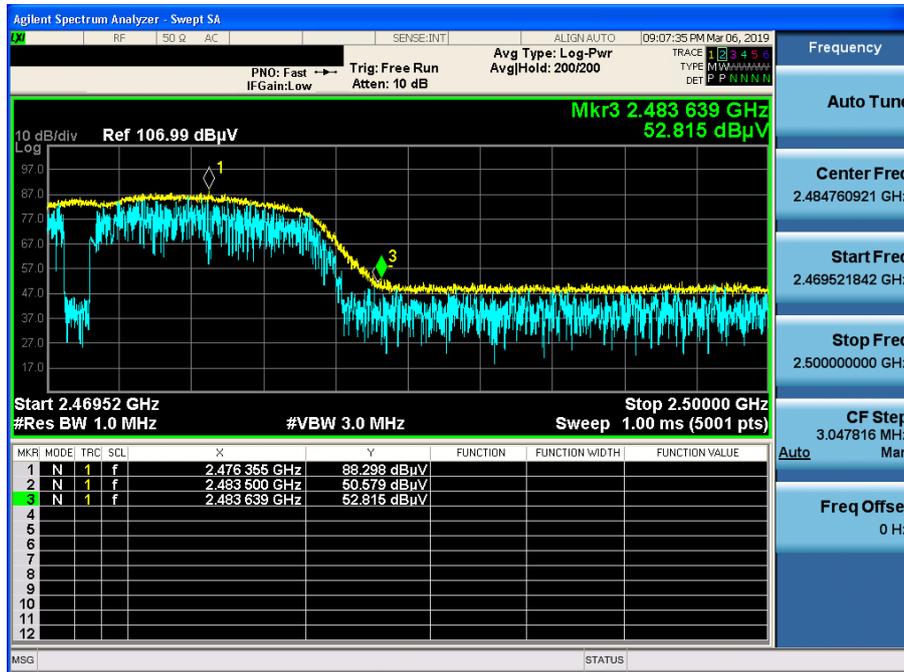
TM 6 & 2467 & X axis & Hor

Detector Mode : AV



TM 6 & 2472 & X axis & Hor

Detector Mode : PK



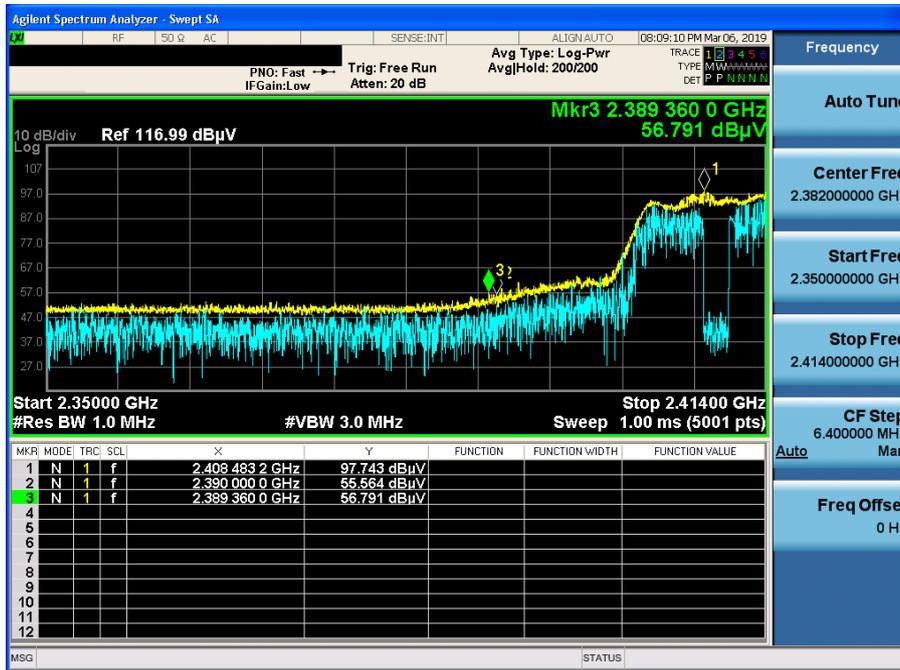
TM 6 & 2472 & X axis & Hor

Detector Mode : AV



TM 7 & 2412 & X axis & Hor

Detector Mode : PK



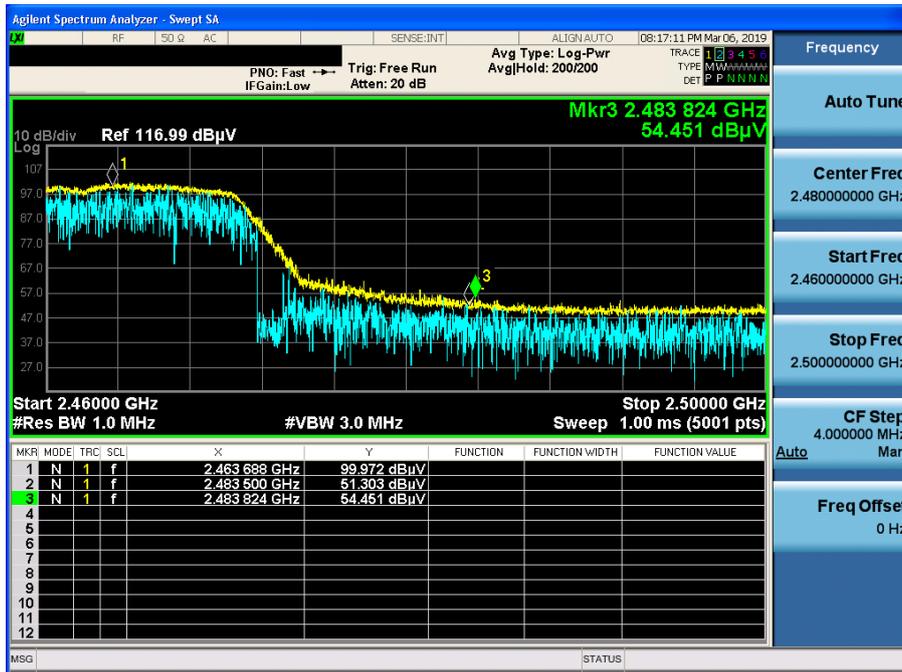
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Detector Mode : AV



TM 7 & 2462 & X axis & Hor

Detector Mode : PK



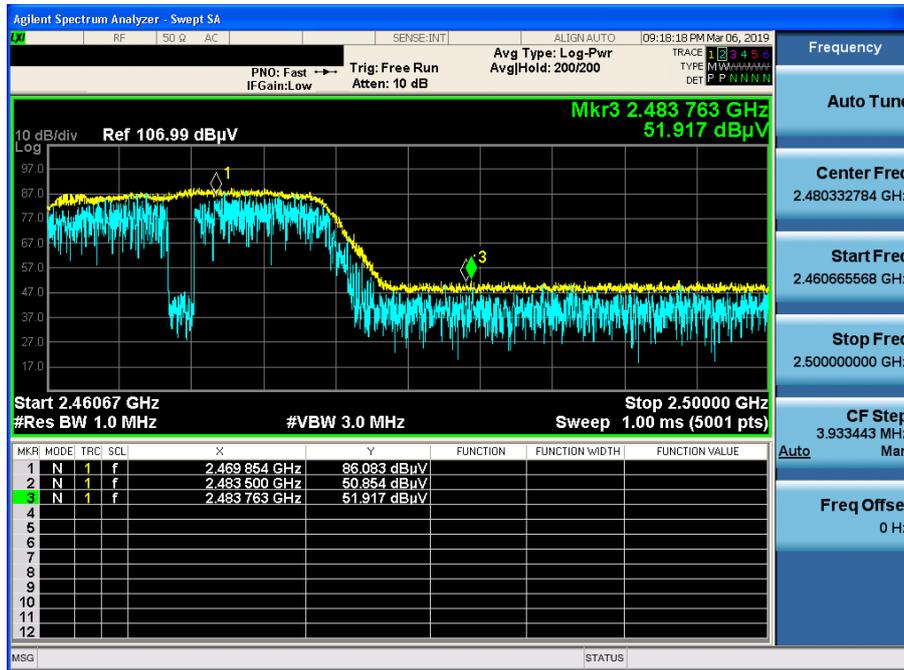
TM 7 & 2462 & X axis & Hor

Detector Mode : AV



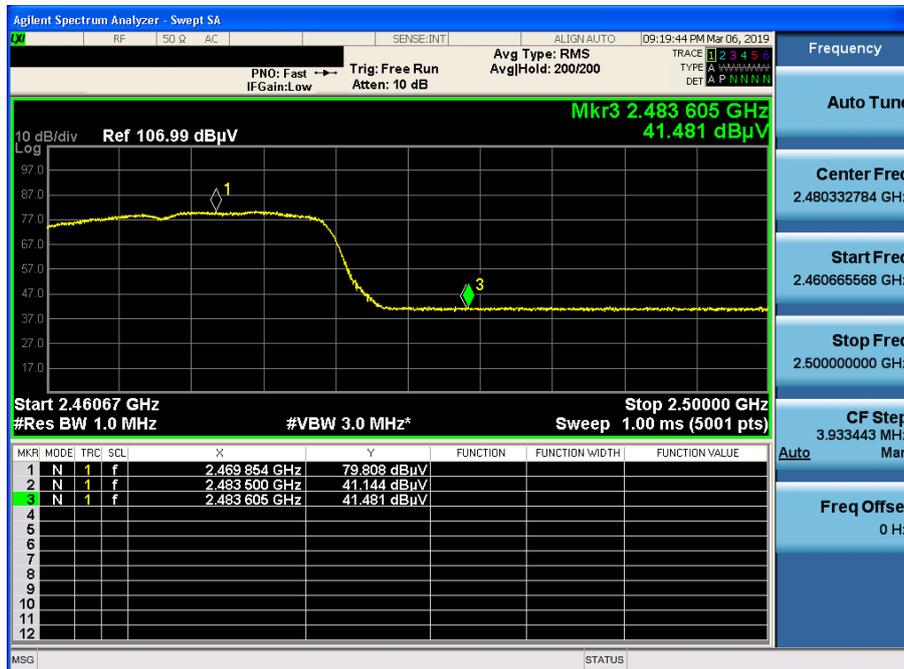
TM 7 & 2467 & X axis & Hor

Detector Mode : PK



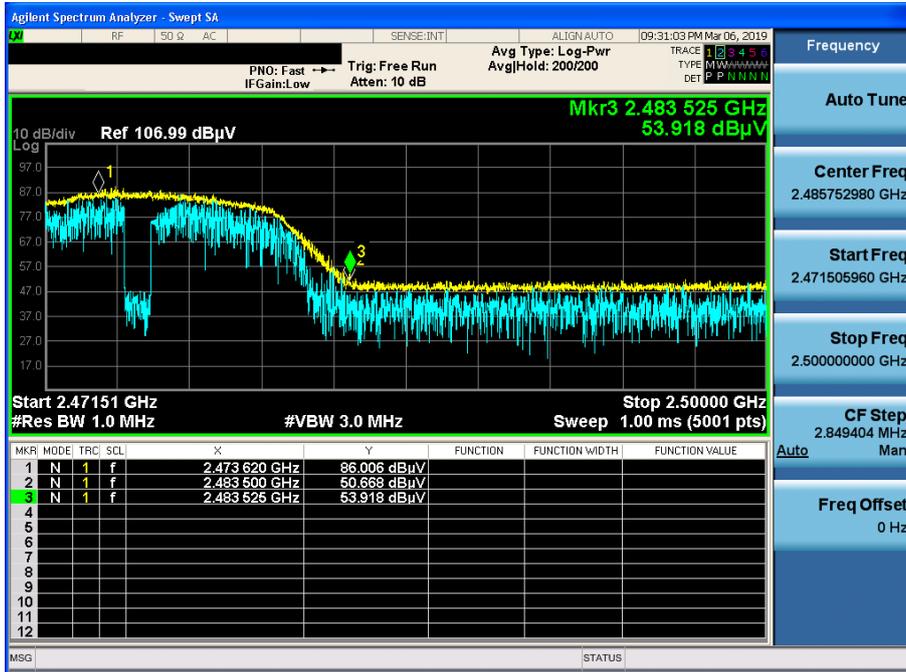
TM 7 & 2467 & X axis & Hor

Detector Mode : AV



TM 7 & 2472 & X axis & Hor

Detector Mode : PK



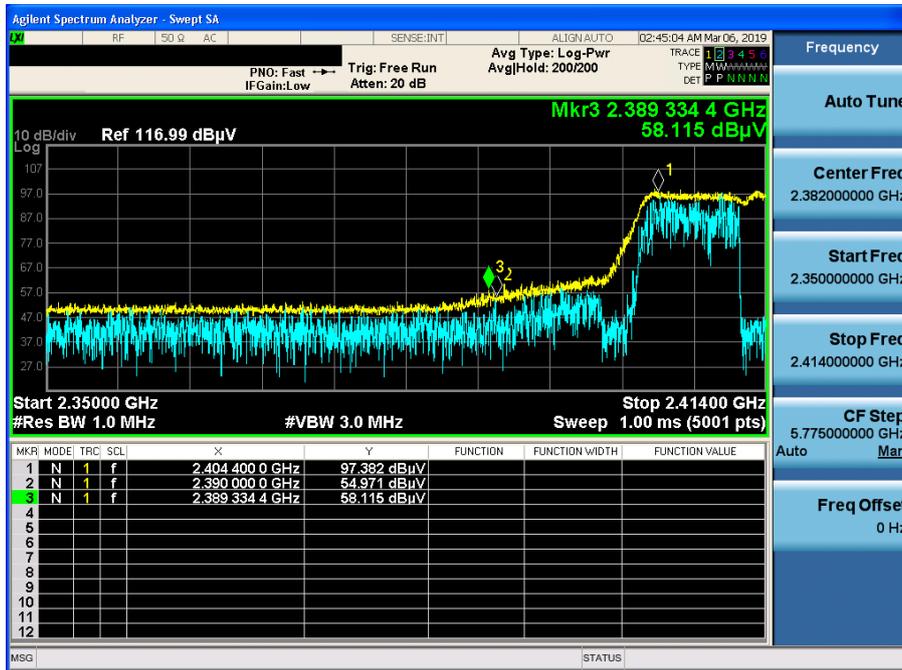
TM 7 & 2472 & X axis & Hor

Detector Mode : AV



TM 8 & 2412 & Y axis & Hor

Detector Mode : PK



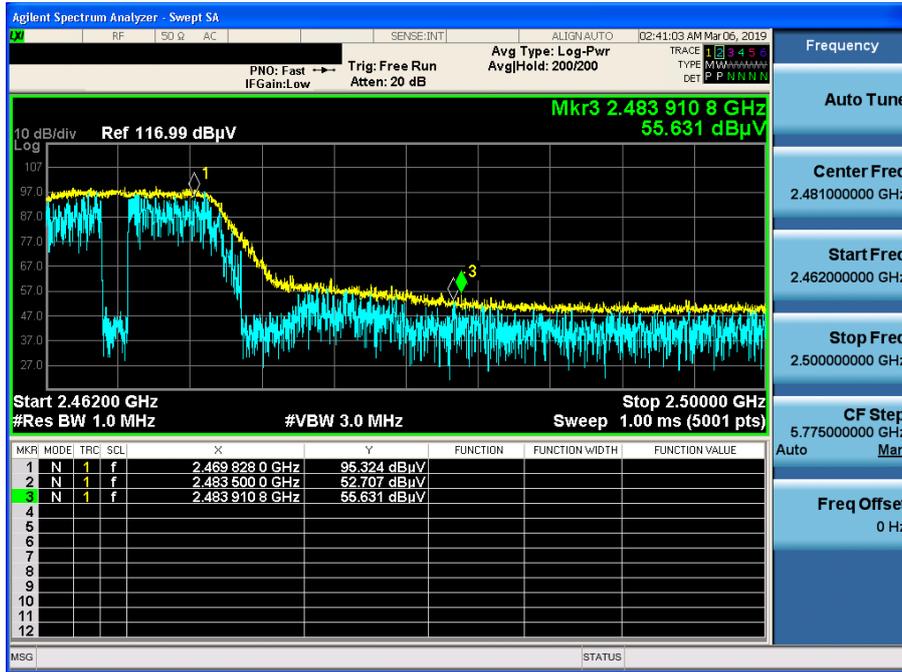
TM 8 & 2412 & Y axis & Hor

Detector Mode : AV



TM 8 & 2462 & Y axis & Hor

Detector Mode : PK



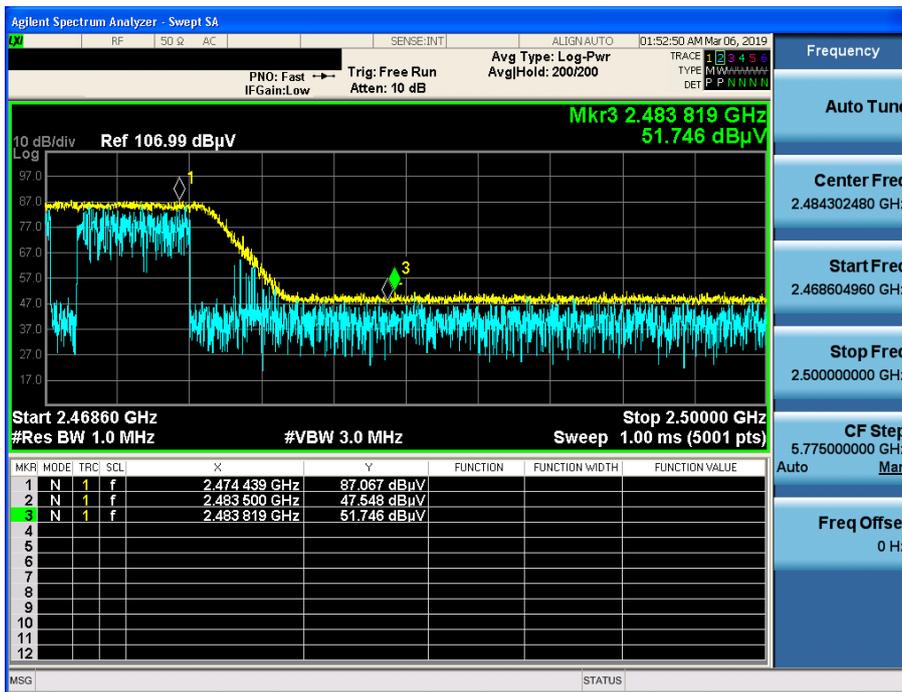
TM 8 & 2462 & Y axis & Hor

Detector Mode : AV



TM 8 & 2467 & Y axis & Hor

Detector Mode : PK



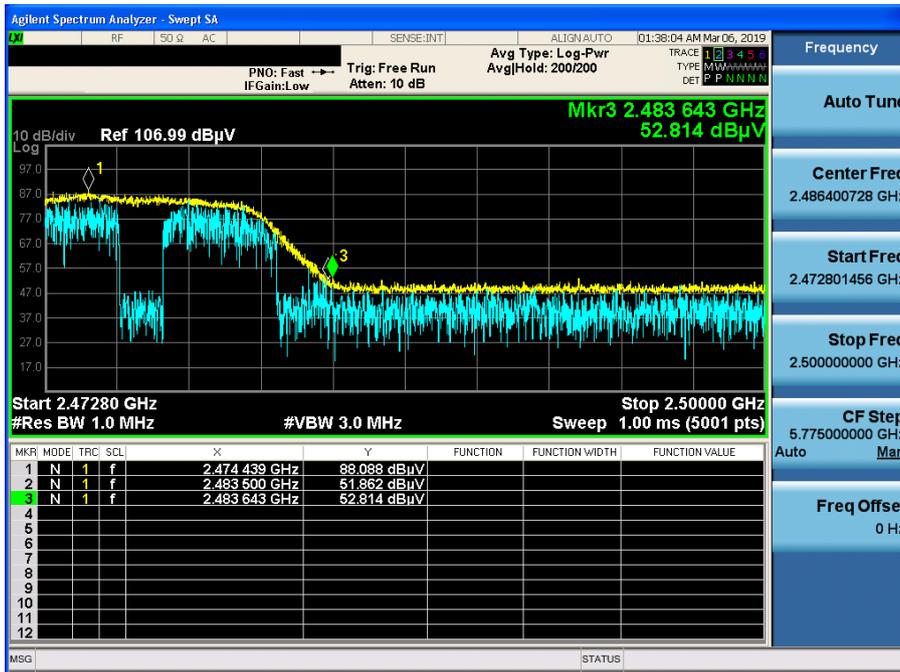
TM 8 & 2467 & Y axis & Hor

Detector Mode : AV



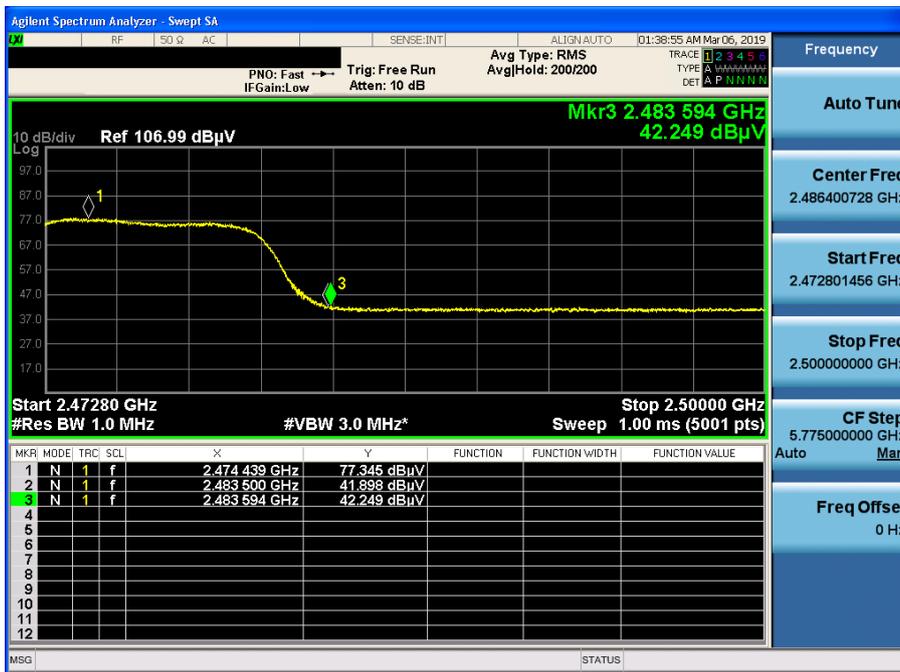
TM 8 & 2472 & Y axis & Hor

Detector Mode : PK



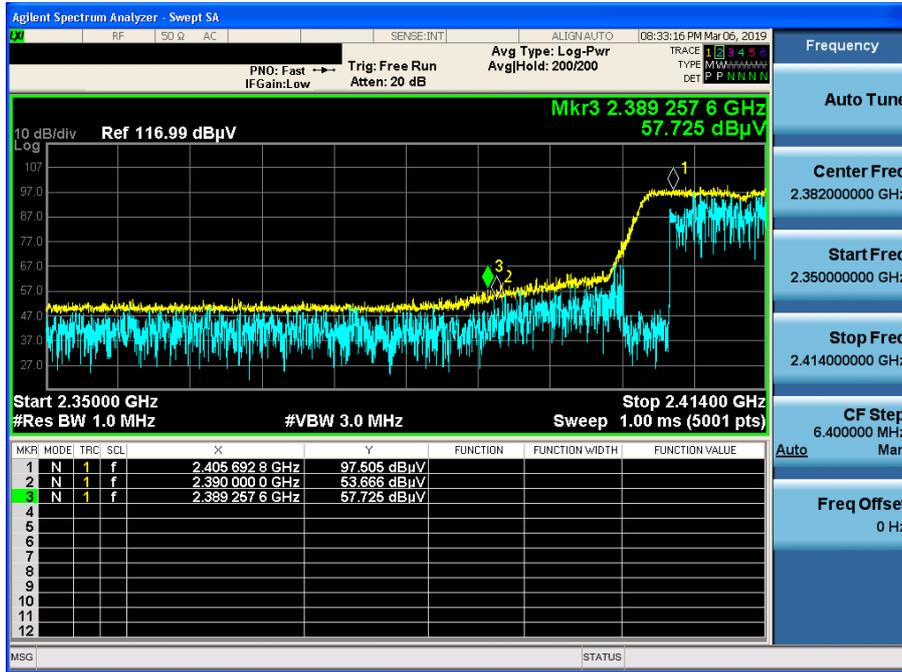
TM 8 & 2472 & Y axis & Hor

Detector Mode : AV



TM 9 & 2412 & Y axis & Hor

Detector Mode : PK



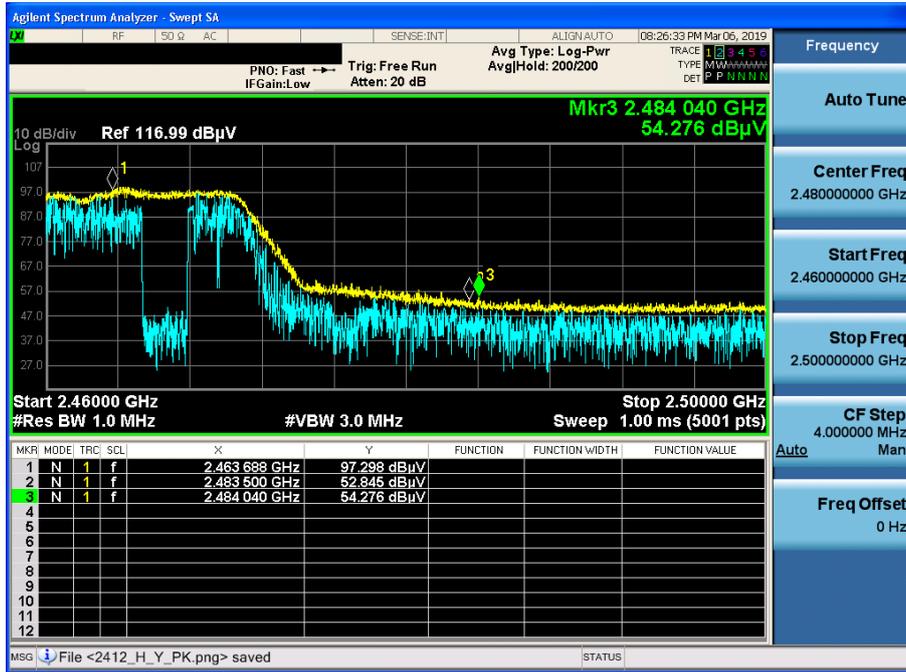
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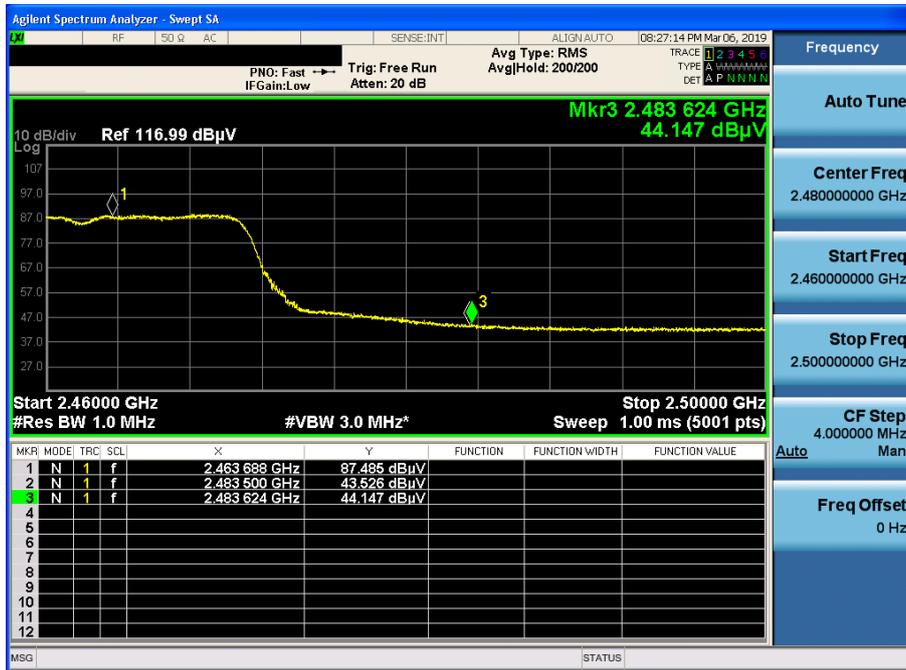
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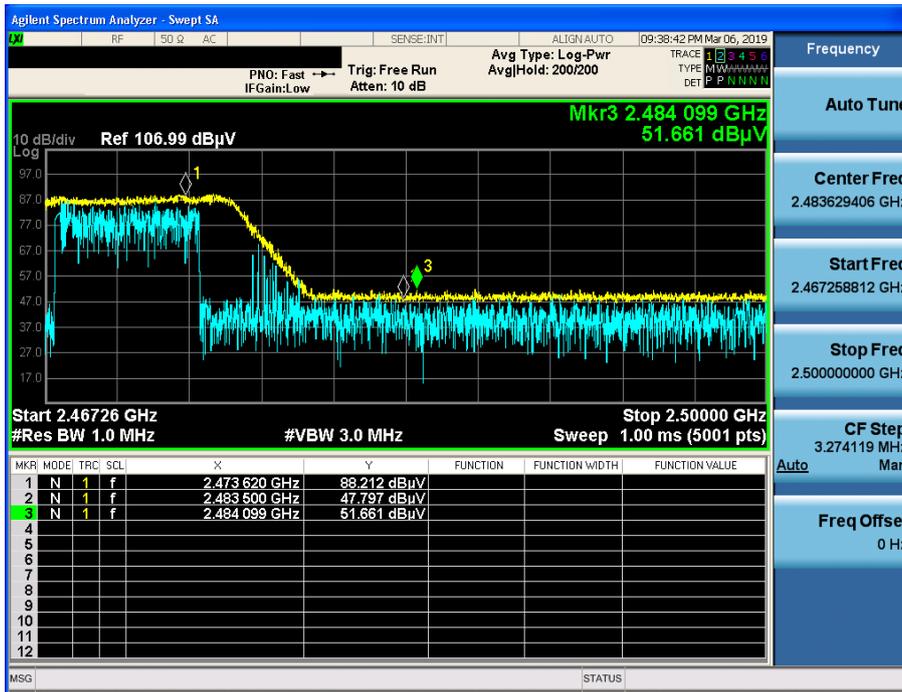
TM 9 & 2462 & Y axis & Hor

Detector Mode : AV



TM 9 & 2467 & X axis & Hor

Detector Mode : PK



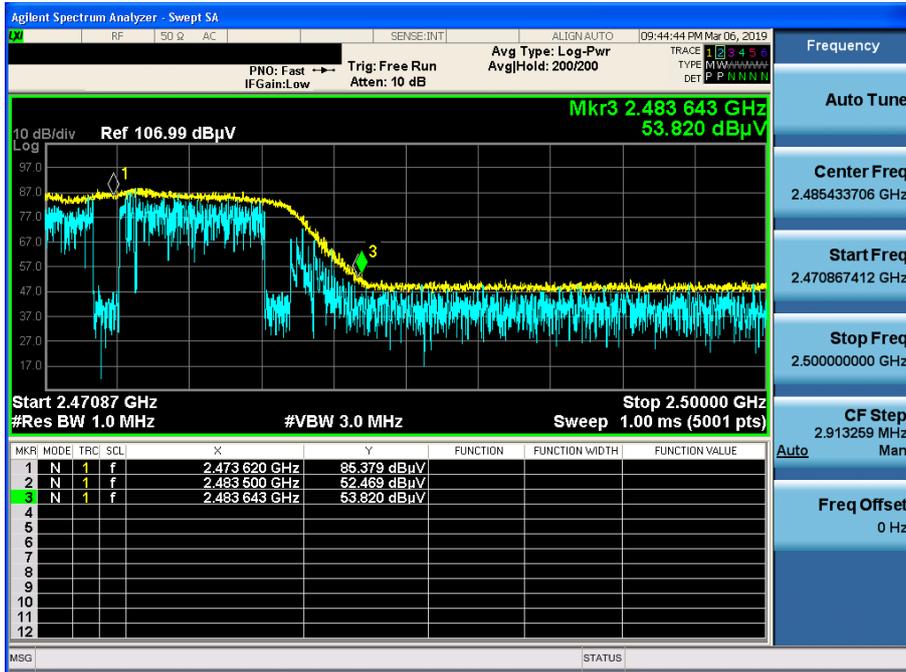
TM 9 & 2467 & X axis & Hor

Detector Mode : AV



TM 9 & 2472 & X axis & Hor

Detector Mode : PK



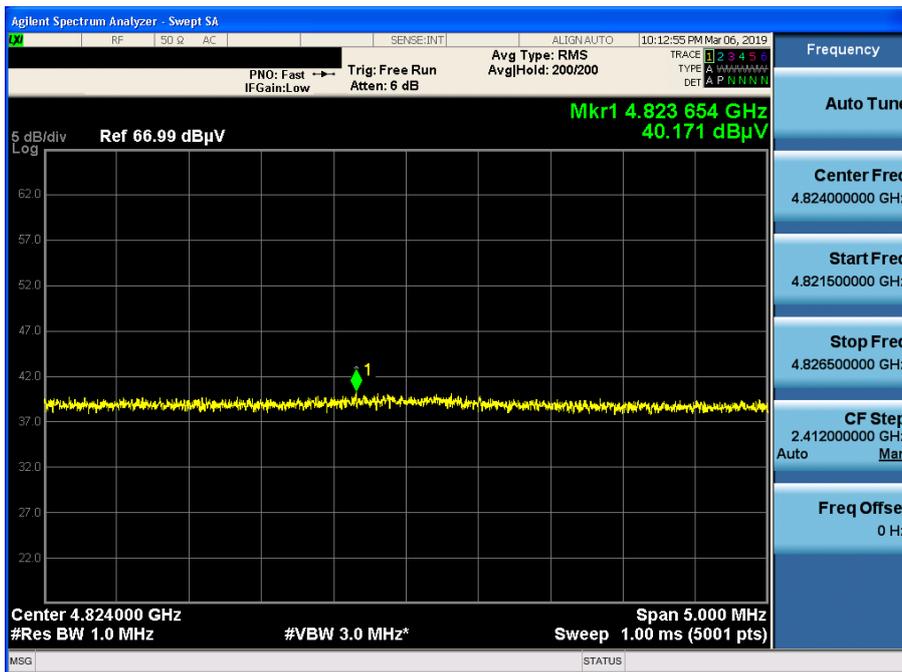
TM 9 & 2472 & X axis & Hor

Detector Mode : AV



TM 1 & 2412 & Y axis & Ver

Detector Mode : AV



TM 5 & 2437 & Y axis & Ver

Detector Mode : AV

