

Appendix A

RF Test Data for BT V4.2 (Conducted Measurement)

Product Name: Versa Dosing Pump

Trade Mark: EcoTech Marine

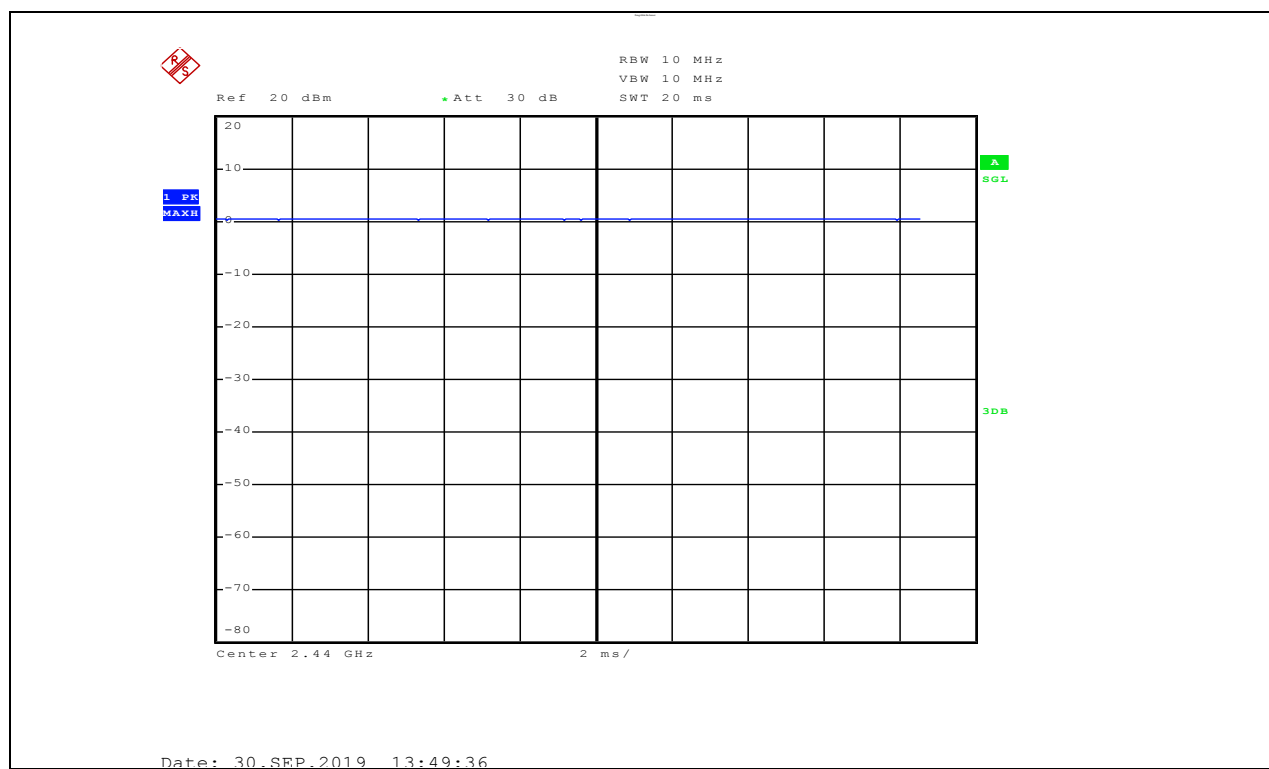
Test Model: VX-1

Environmental Conditions

Temperature:	24.5 ° C
Relative Humidity:	54.4%
ATM Pressure:	100.0 kPa
Test Engineer:	JK Zhou
Supervised by:	Wang Chuang

A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS

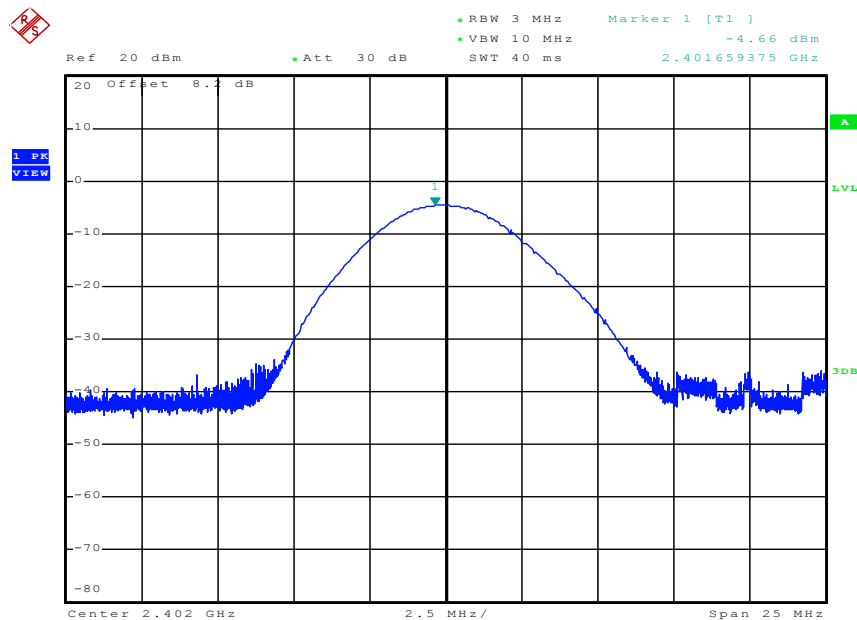


A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.66	30	PASS
BT LE	MCH	-4.45	30	PASS
BT LE	HCH	-4.02	30	PASS

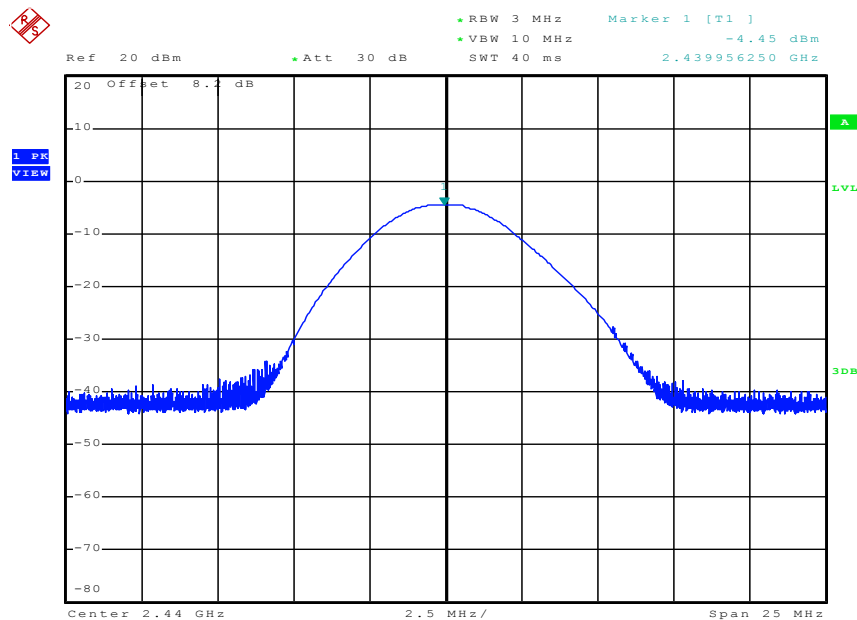
Test Graphs

LCH



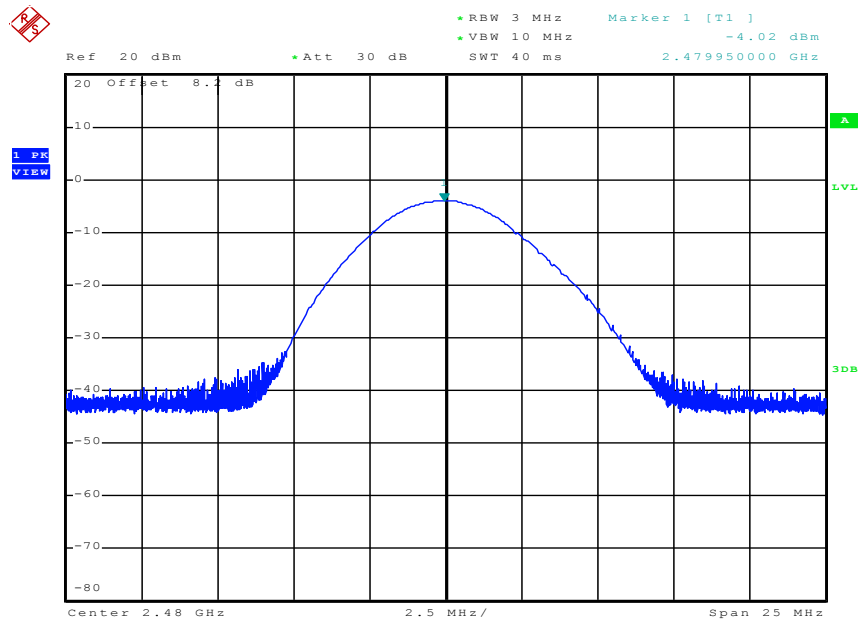
Date: 30 SEP 2019 13:52:13

MCH



Date: 30 SEP 2019 13:45:27

HCH



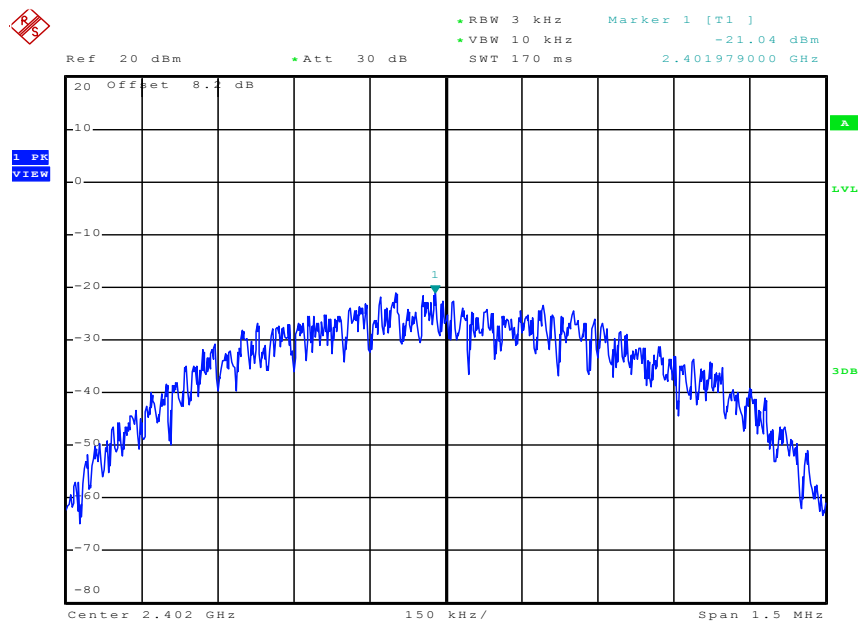
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A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-21.040	8	PASS
BT LE	MCH	-20.950	8	PASS
BT LE	HCH	-20.550	8	PASS

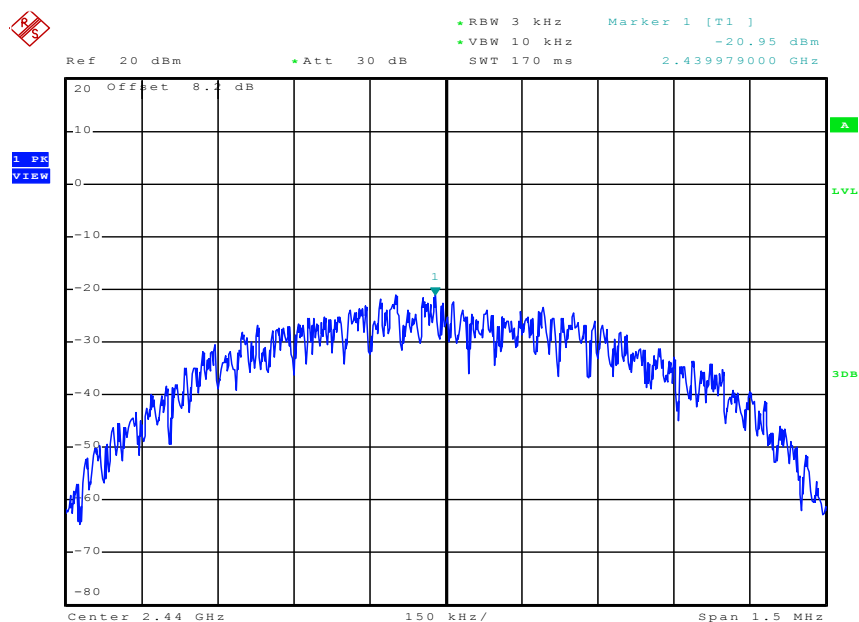
Test Graphs

LCH



Date: 30 SEP 2019 13:42:57

MCH

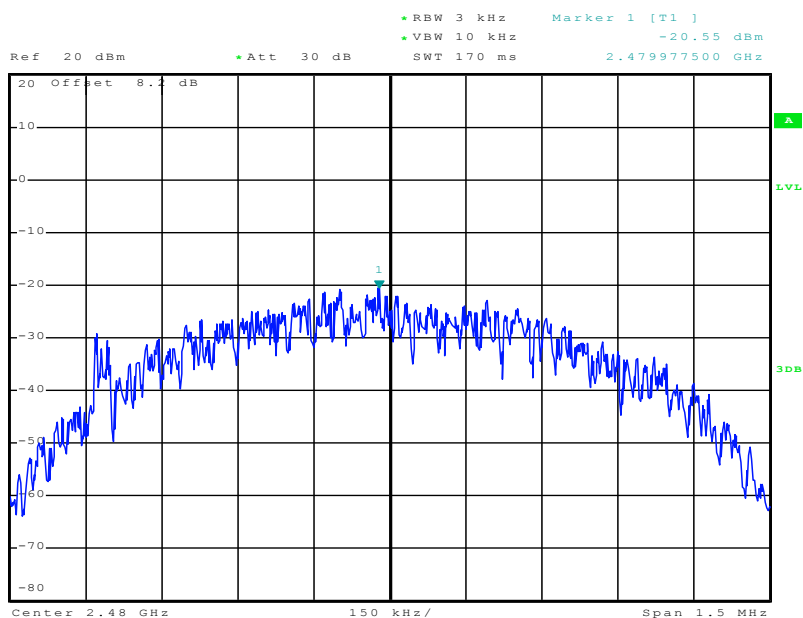


Date: 30 SEP 2019 13:45:42

HCH



1 PK
VIEW



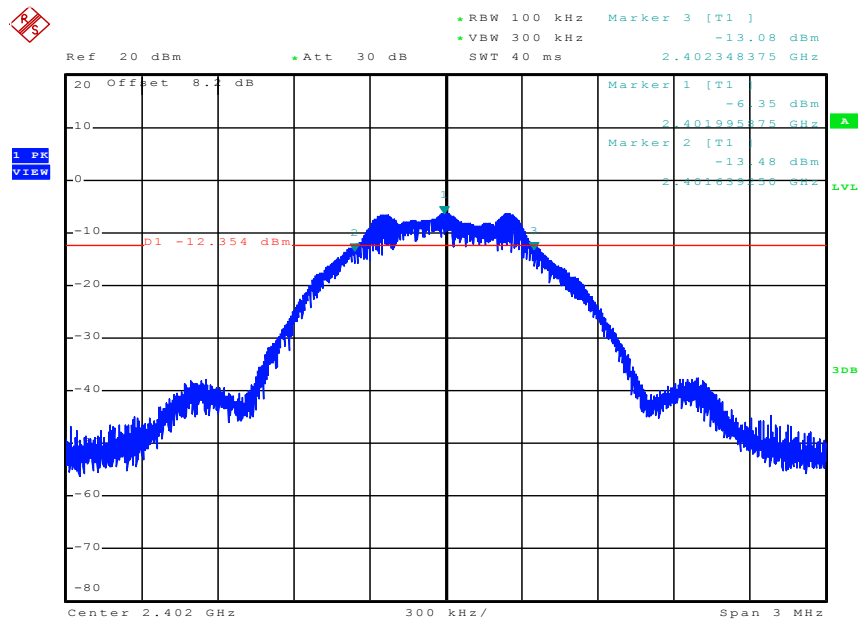
Date: 30.SEP.2019 13:47:31

A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.709	≥ 0.5	PASS
BT LE	MCH	0.706	≥ 0.5	PASS
BT LE	HCH	0.707	≥ 0.5	PASS

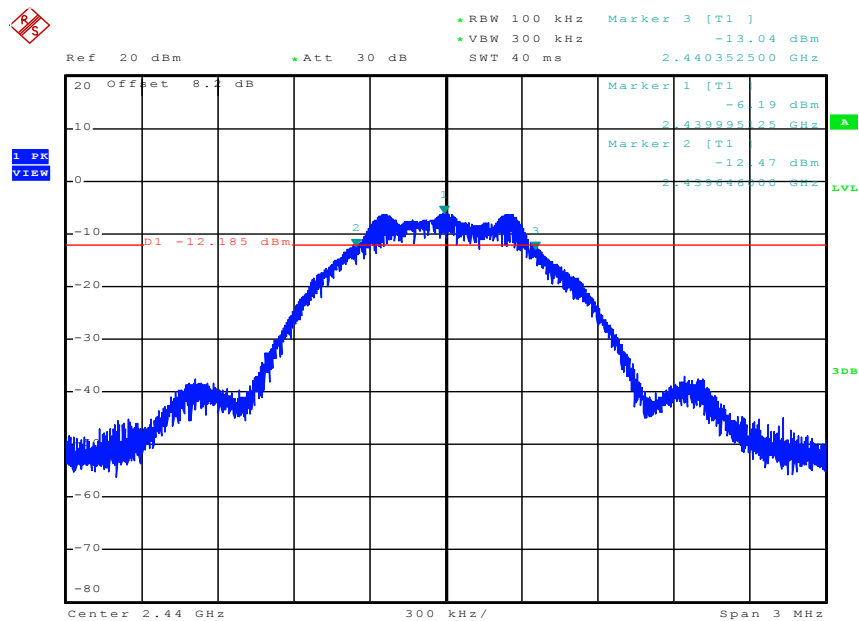
Test Graphs

LCH



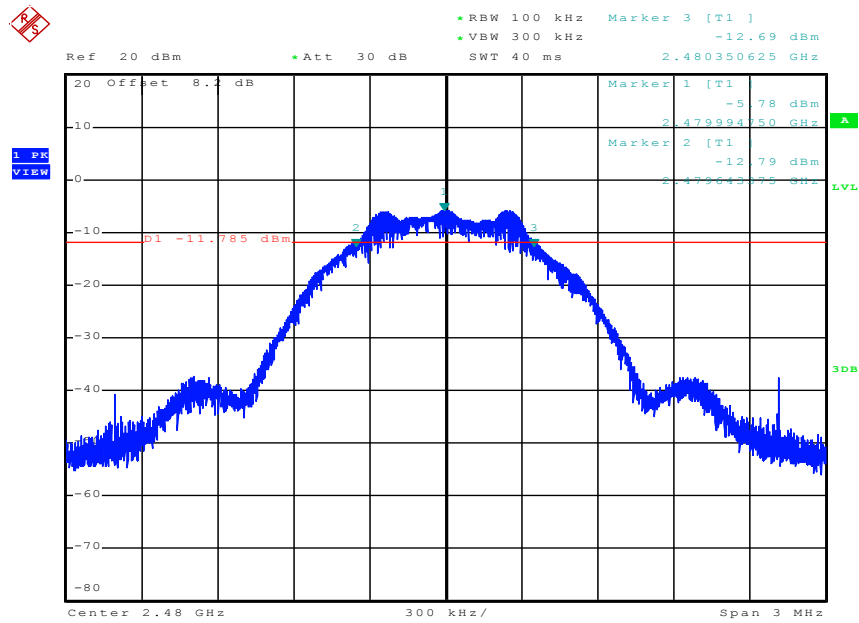
Date: 30 SEP 2019 13:34:45

MCH



Date: 30 SEP 2019 13:45:14

HCH



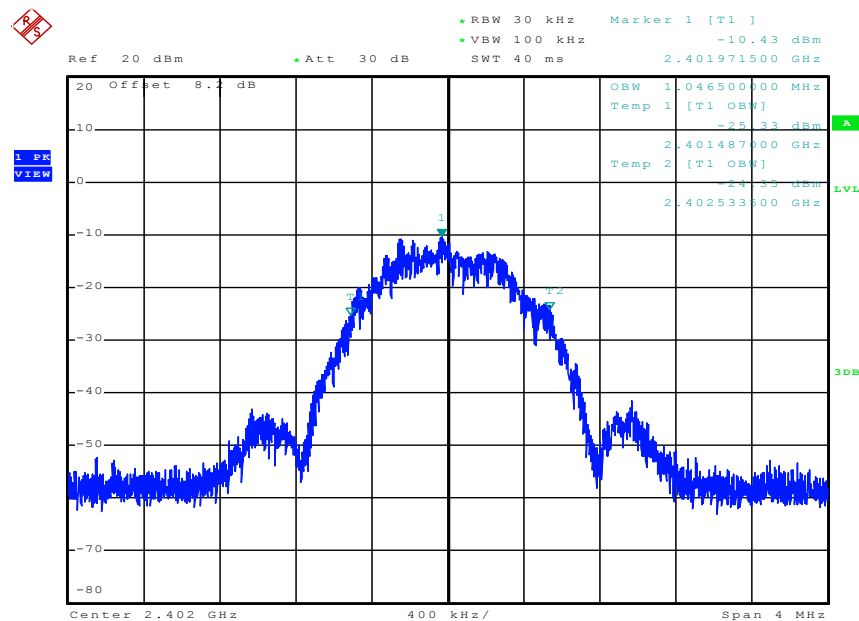
Date: 30.SEP.2019 13:47:03

A.5 Occupied Bandwidth

Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	1.047	≥ 0.5	PASS
BT LE	MCH	1.058	≥ 0.5	PASS
BT LE	HCH	1.049	≥ 0.5	PASS

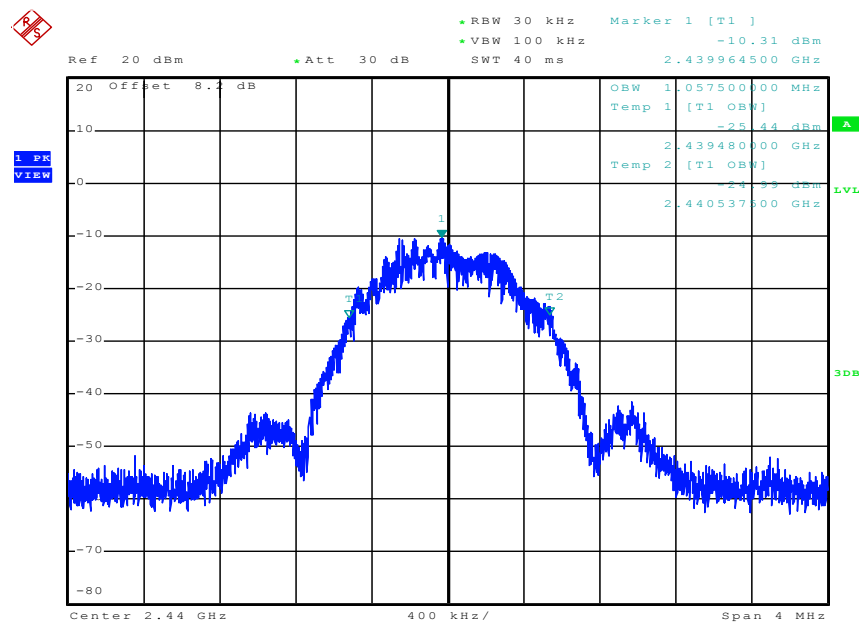
Test Graphs

LCH



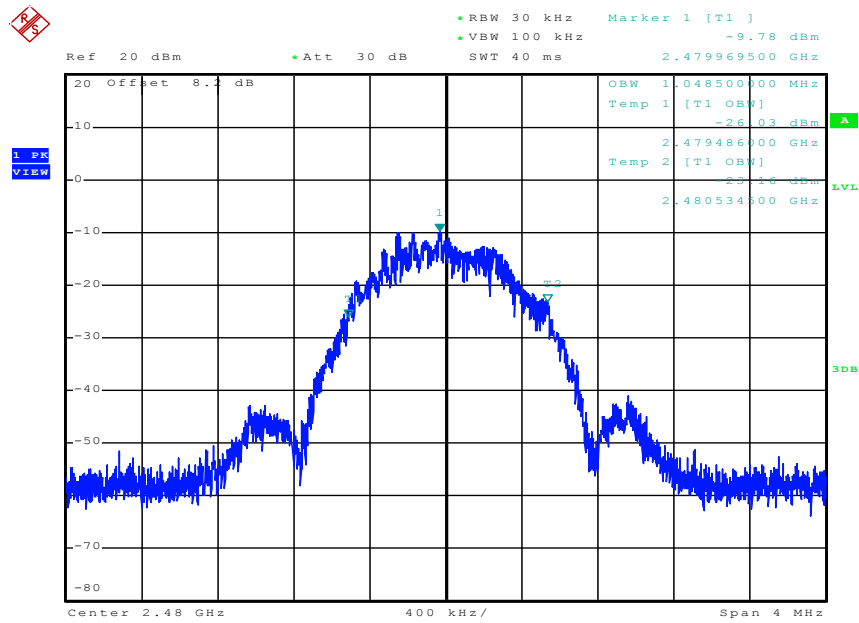
Date: 30 SEP 2019 11:53:50

MCH



Date: 30 SEP 2019 11:54:17

HCH



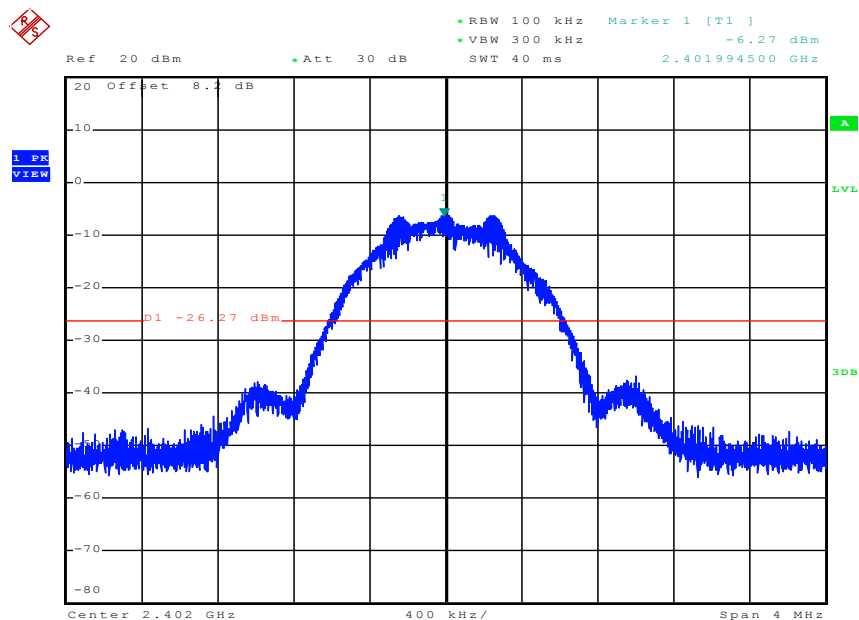
Date: 30 SEP 2019 11:54:43

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-6.27	-31.720	-26.270	PASS
BT LE	MCH	-6.21	-32.020	-26.210	PASS
BT LE	HCH	-5.8	-31.650	-25.800	PASS

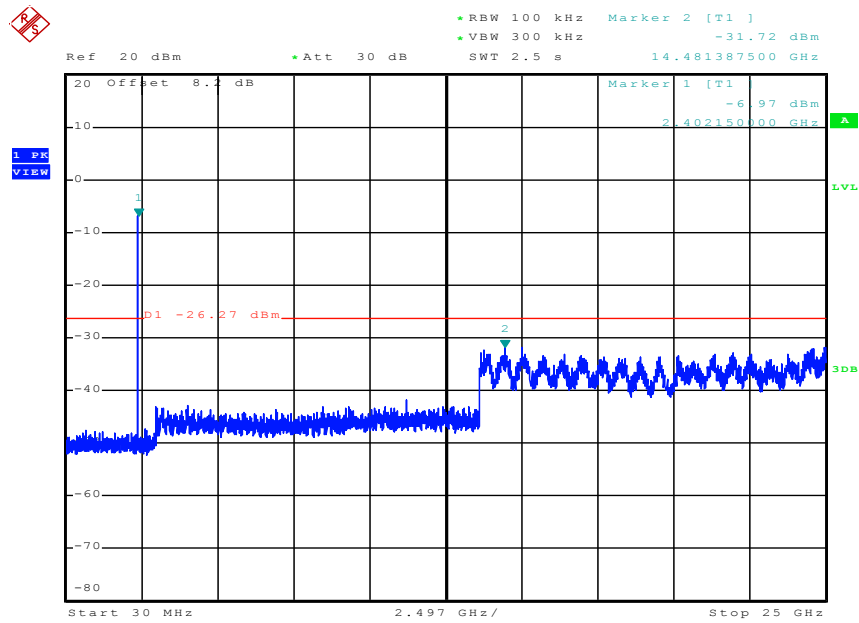
BT LE_LCH_Graphs

Pref/BT LE/LCH



Date: 30 SEP 2019 13:43:23

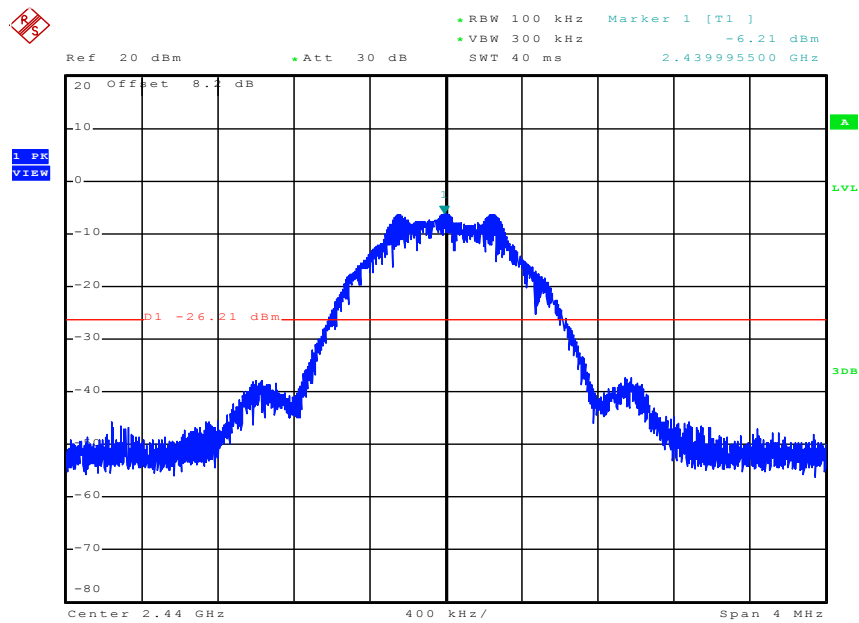
Puw/BT LE/LCH



Date: 30.SEP.2019 13:43:53

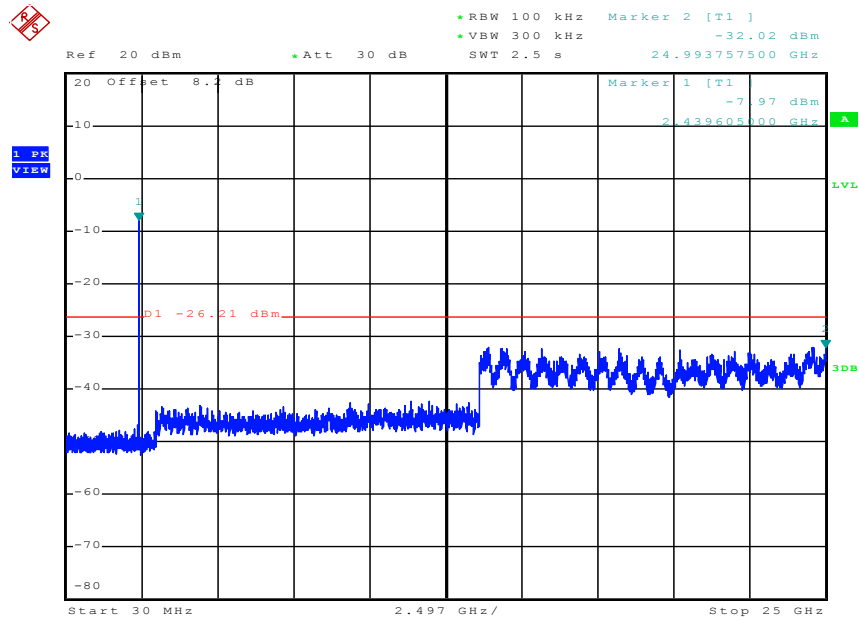
BT LE_MCH_Graphs

Pref/BT LE/MCH



Date: 30 SEP 2019 13:45:54

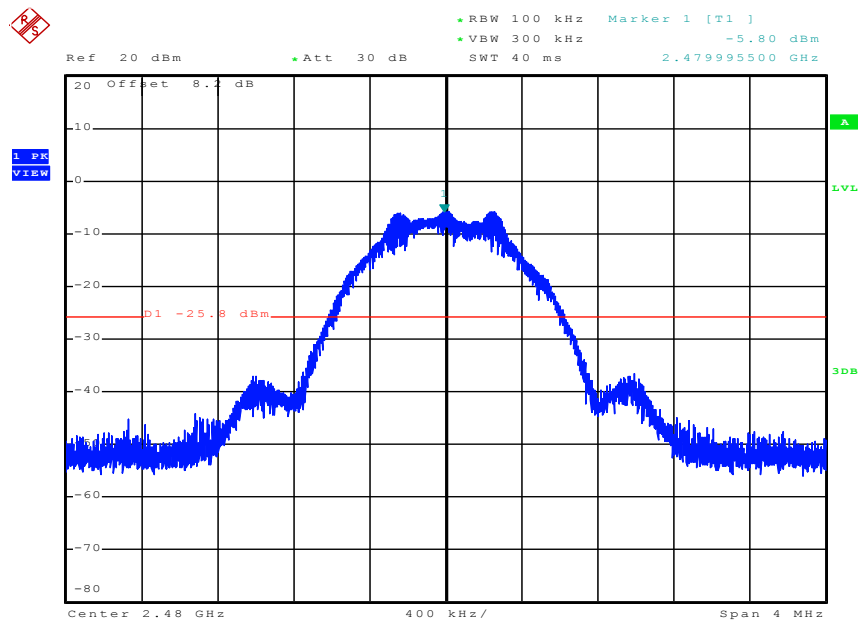
Puw/BT LE/MCH



Date: 30 SEP 2019 13:46:25

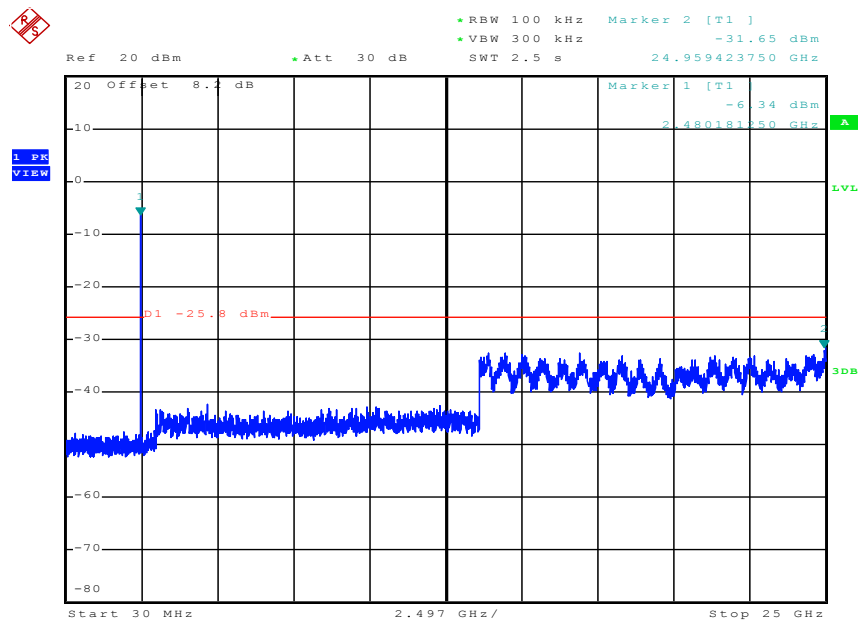
BT LE_HCH_Graphs

Pref/BT LE/HCH



Date: 30 SEP 2019 13:47:58

Puw/BT LE/HCH



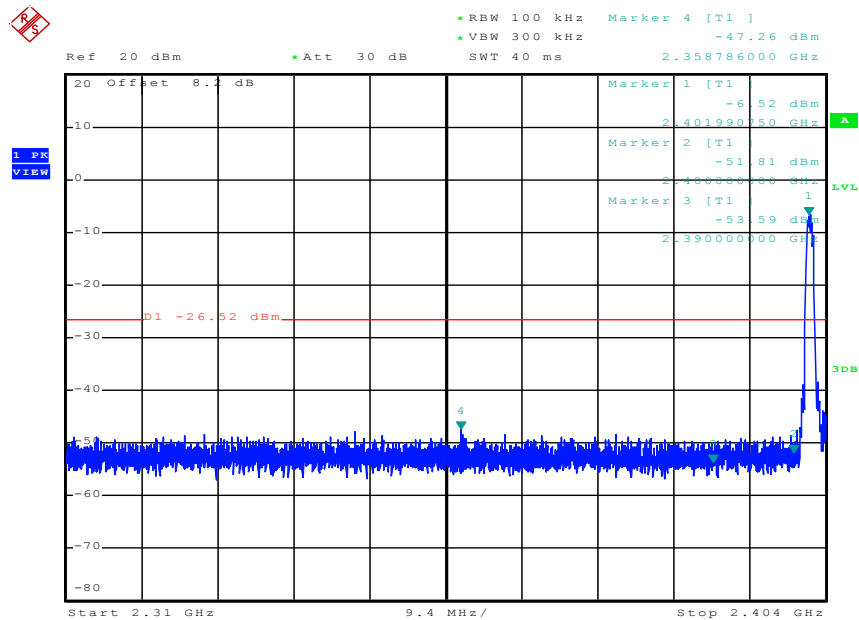
Date: 30 SEP 2019 13:48:28

A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-6.520	-47.263	-26.52	PASS
BT LE	HCH	-5.850	-47.819	-25.85	PASS

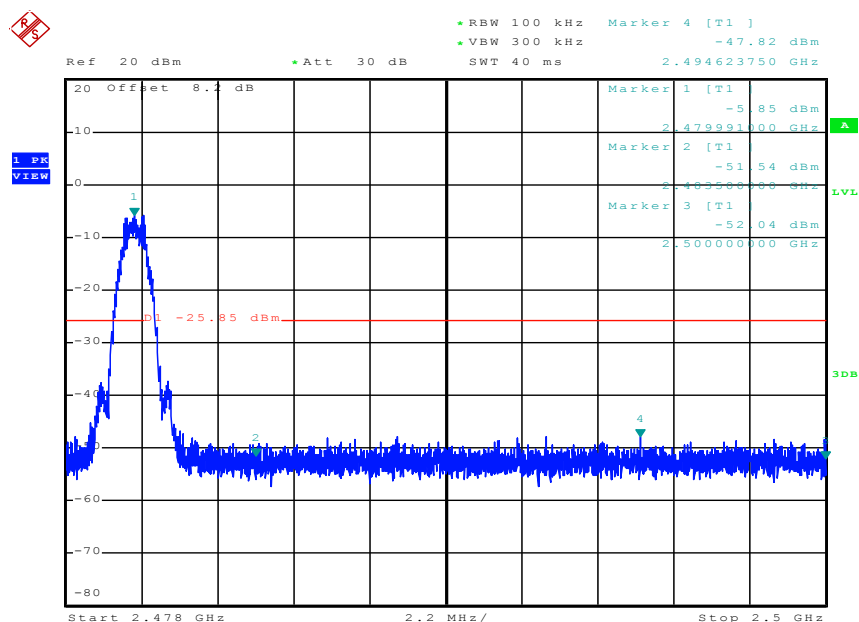
Test Graphs

LCH



Date: 30.SEP.2019 13:43:10

HCH

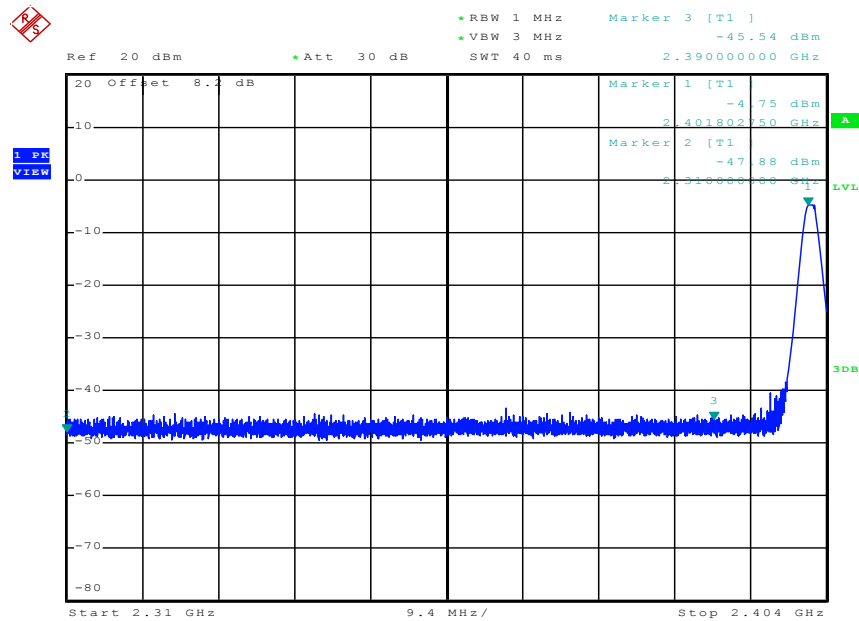


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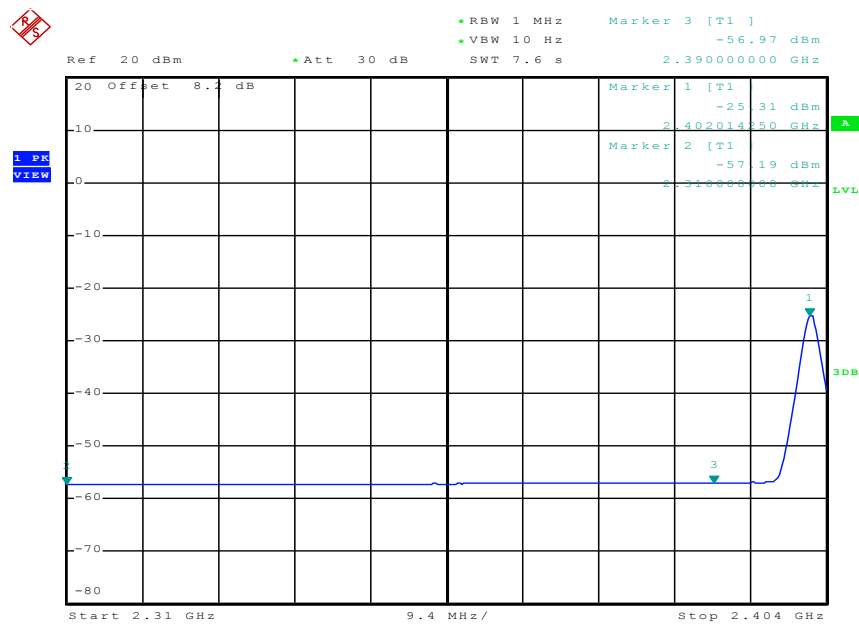
A.8 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-47.88	2.0	0	47.38	PEAK	74	PASS
		Ant1	2310.0	-57.19	2.0	0	38.07	AV	54	PASS
		Ant1	2390.0	-45.54	2.0	0	49.72	PEAK	74	PASS
		Ant1	2390.0	-56.97	2.0	0	38.29	AV	54	PASS
	2480	Ant1	2483.5	-40.96	2.0	0	54.30	PEAK	74	PASS
		Ant1	2483.5	-50.90	2.0	0	44.36	AV	54	PASS
		Ant1	2500.0	-47.66	2.0	0	47.60	PEAK	74	PASS
		Ant1	2500.0	-57.54	2.0	0	37.72	AV	54	PASS

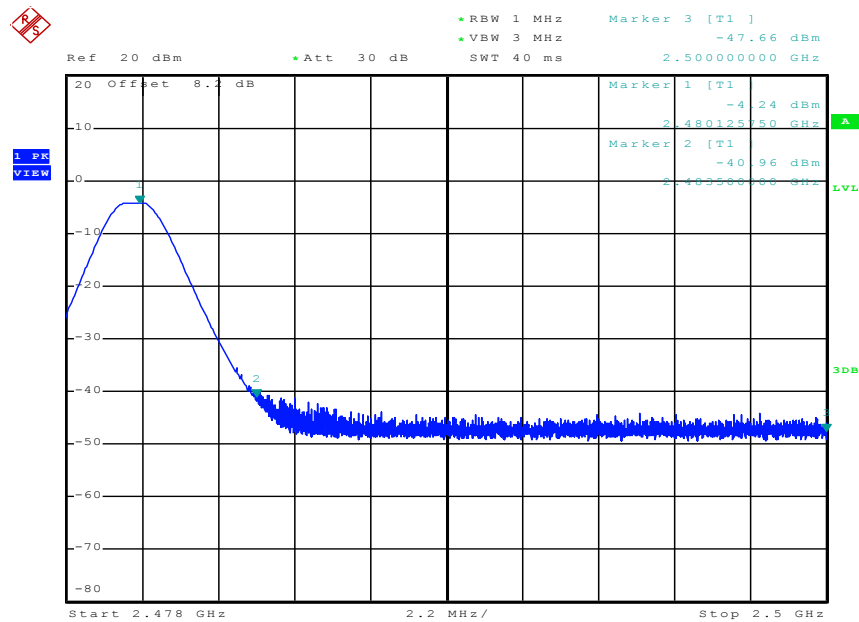
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2402_Ant1_AV

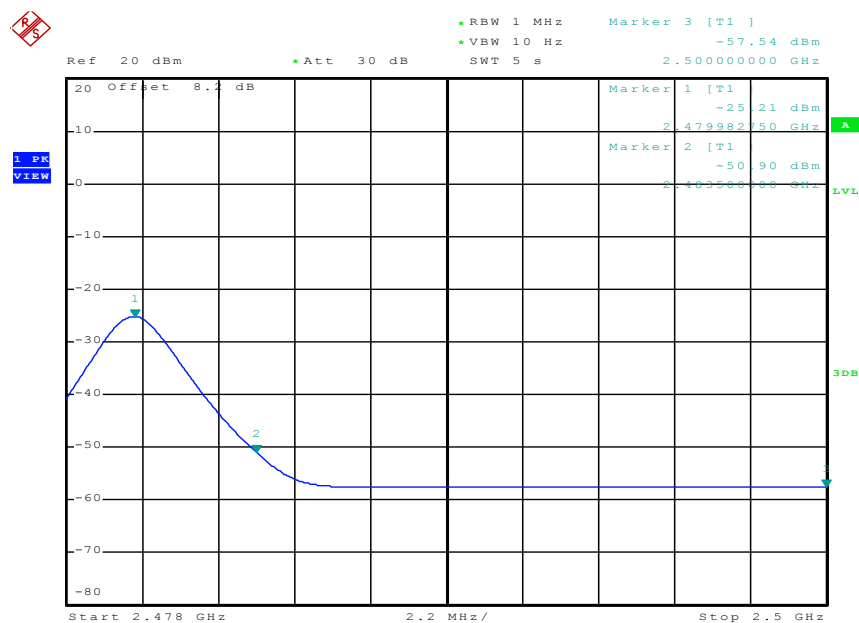


Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK



Date: 30.SEP.2019 13:48:47

Restrict-band band-edge measurements_BT LE_2480_Ant1_AV



Date: 30.SEP.2019 13:49:03