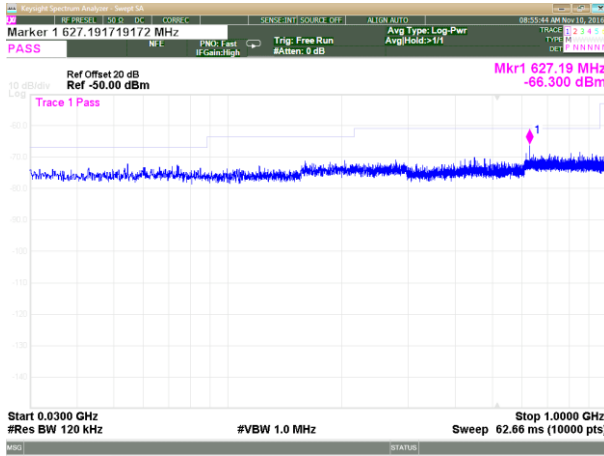
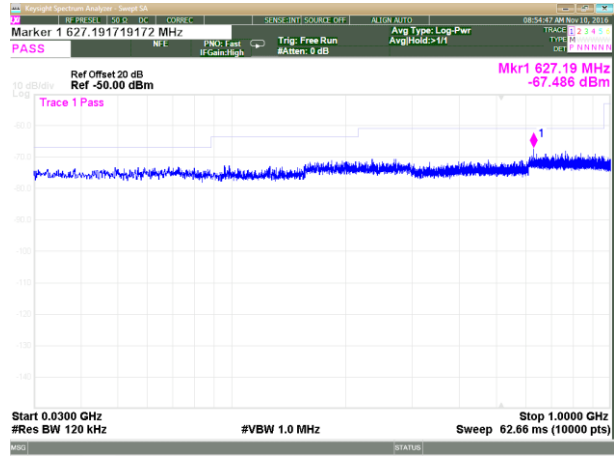


**Plot 3.5.61 Emissions in restricted frequency bands test results, Conducted measurements, 30 MHz – 1000 MHz, Fc = 2405 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

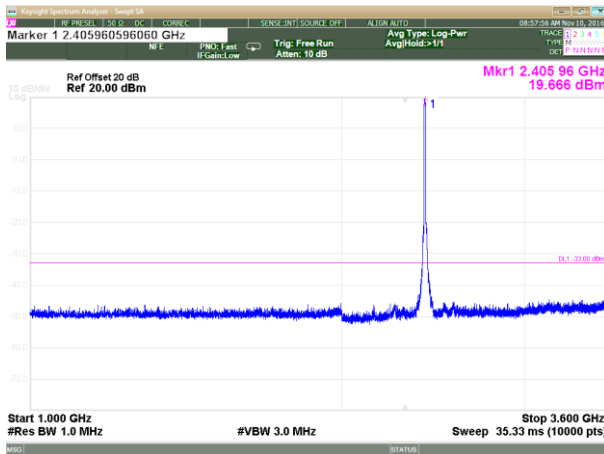


RF1

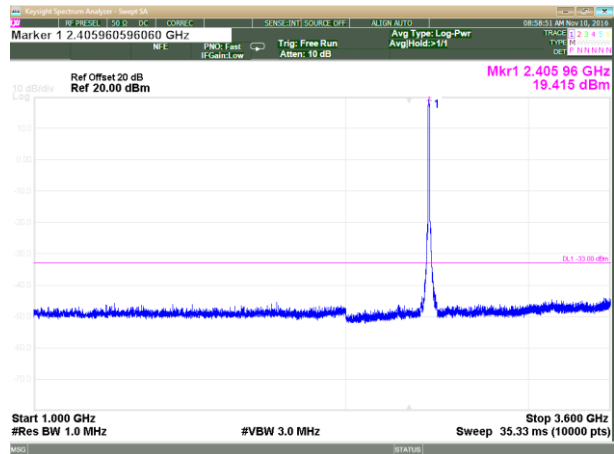


RF2

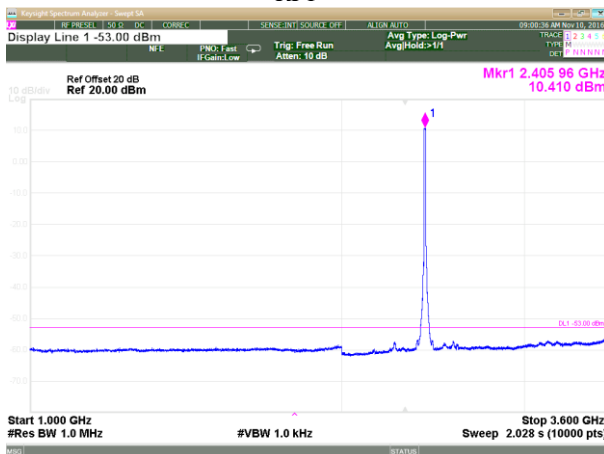
**Plot 3.5.62 Emissions in restricted frequency bands test results, Conducted measurements, 1 GHz – 3.6 GHz, Fc = 2405 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



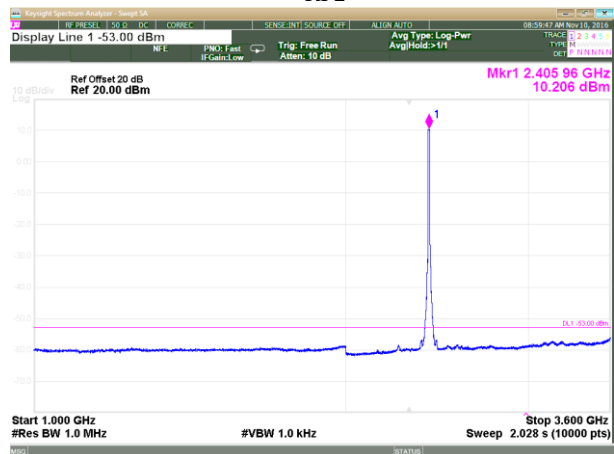
RF1



RF2

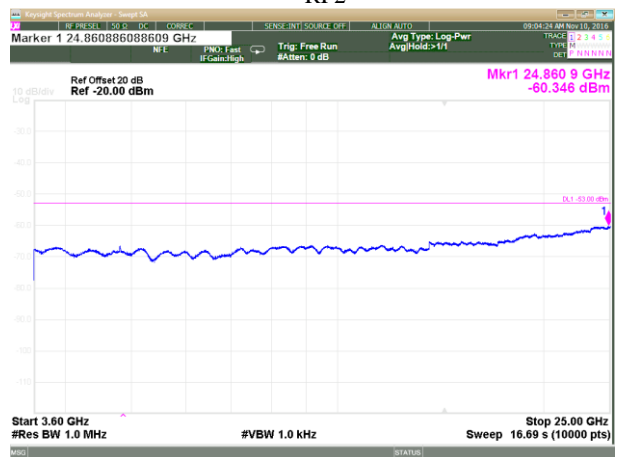
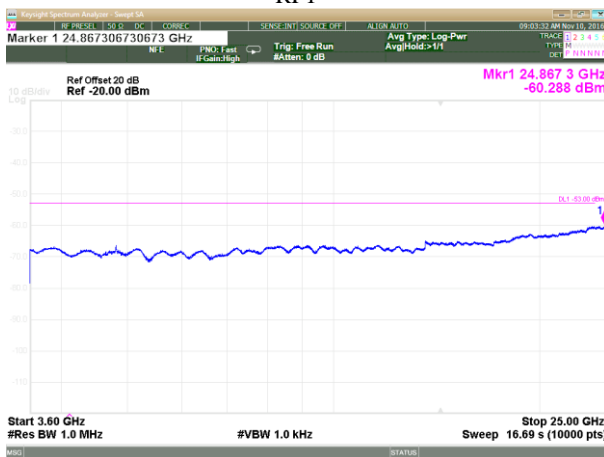
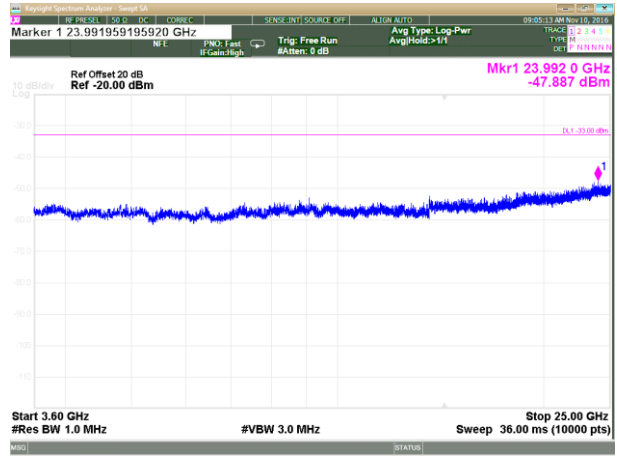
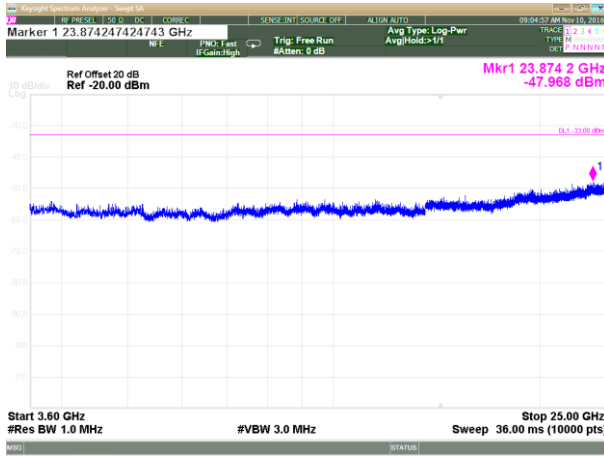


RF1

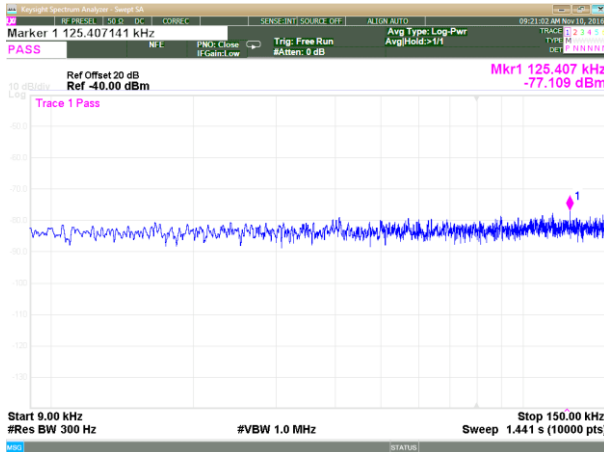


RF2

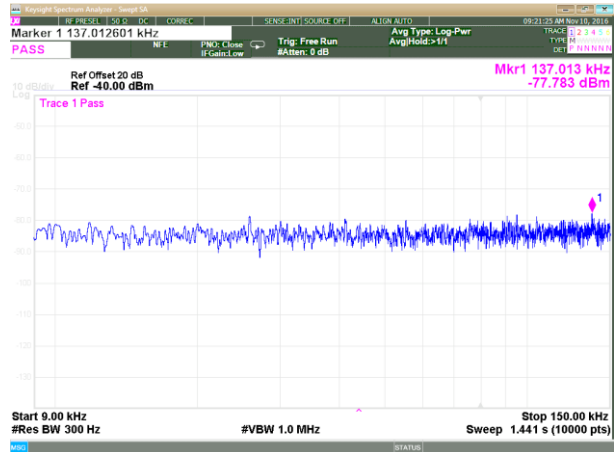
**Plot 3.5.62 Emissions in restricted frequency bands test results, Conducted measurements, 3.6 GHz – 25 GHz, Fc = 2405 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



**Plot 3.5.63 Emissions in restricted frequency bands test results, Conducted measurements, 9 kHz – 150 kHz, Fc = 2440 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

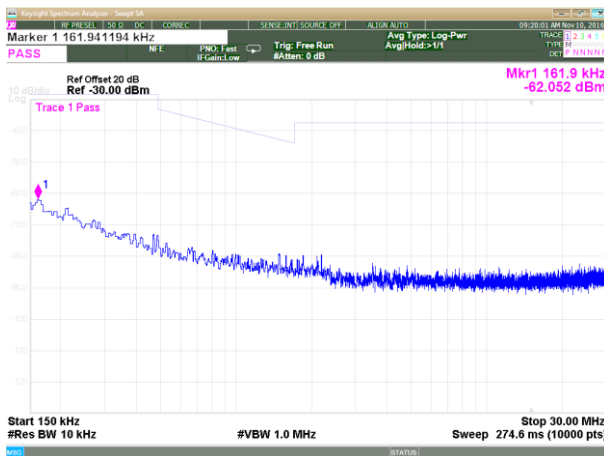


RF1

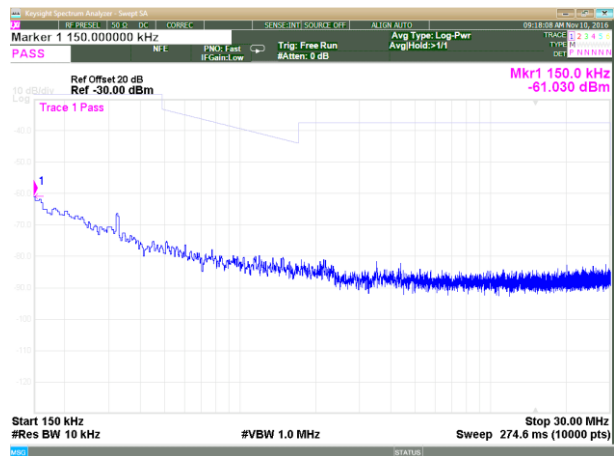


RF2

**Plot 3.5.64 Emissions in restricted frequency bands test results, Conducted measurements, 150 kHz – 30 MHz, Fc = 2440 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

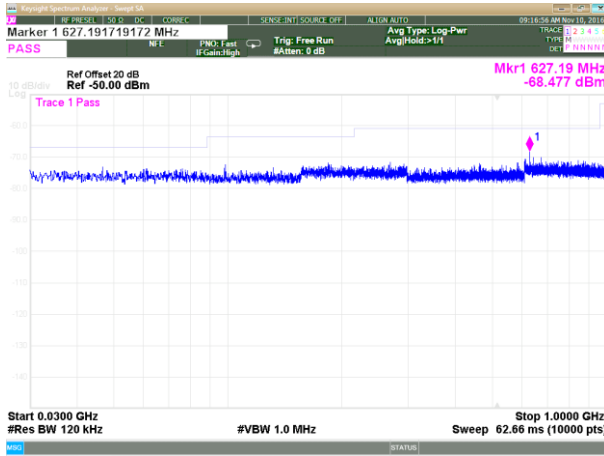


RF1

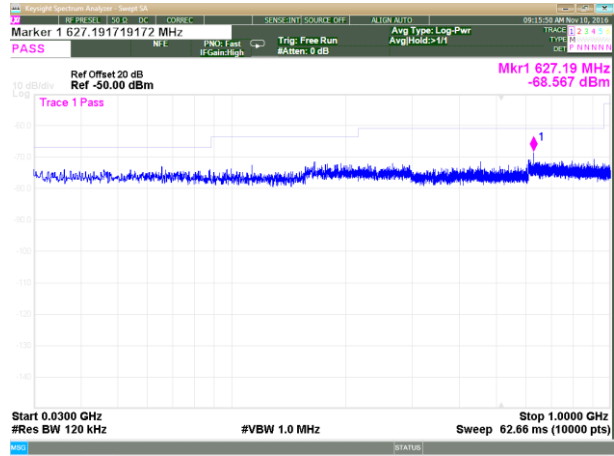


RF2

**Plot 3.5.65 Emissions in restricted frequency bands test results, Conducted measurements, 30 MHz – 1000 MHz, Fc = 2440 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

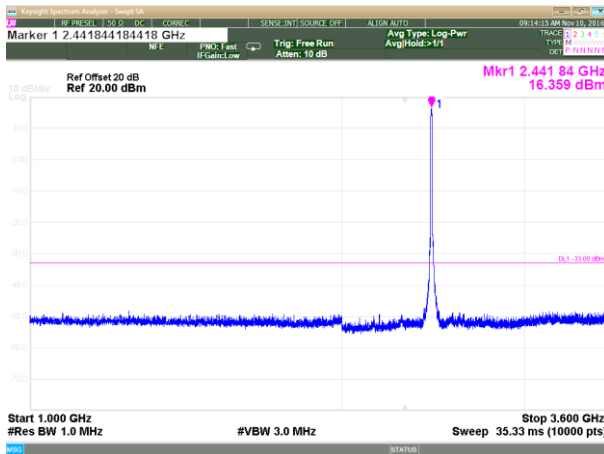


RF1

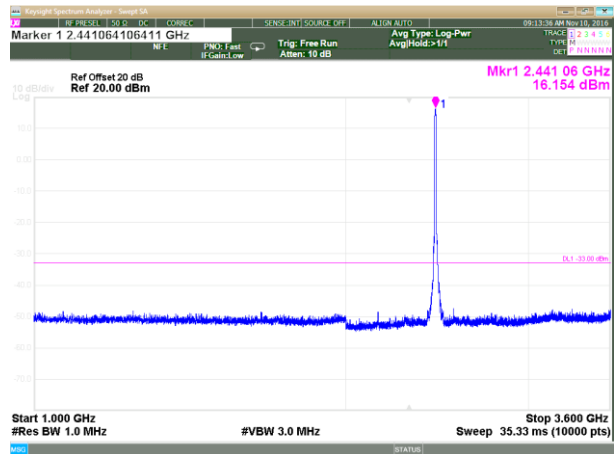


RF2

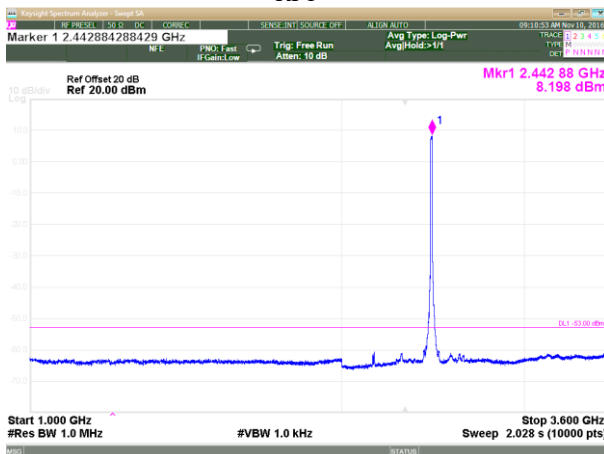
**Plot 3.5.66 Emissions in restricted frequency bands test results, Conducted measurements, 1 GHz – 3.6 GHz, Fc = 2440 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



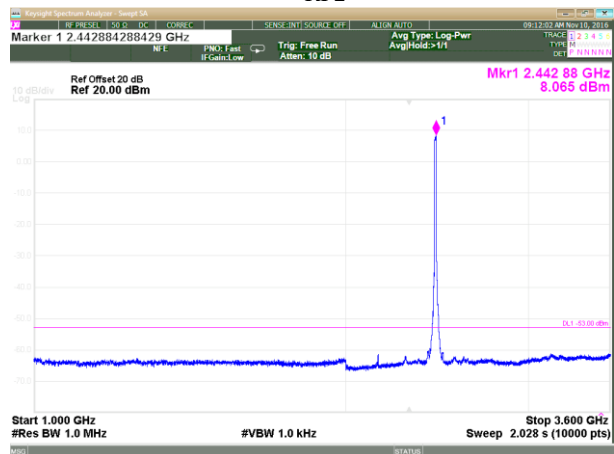
RF1



RF2

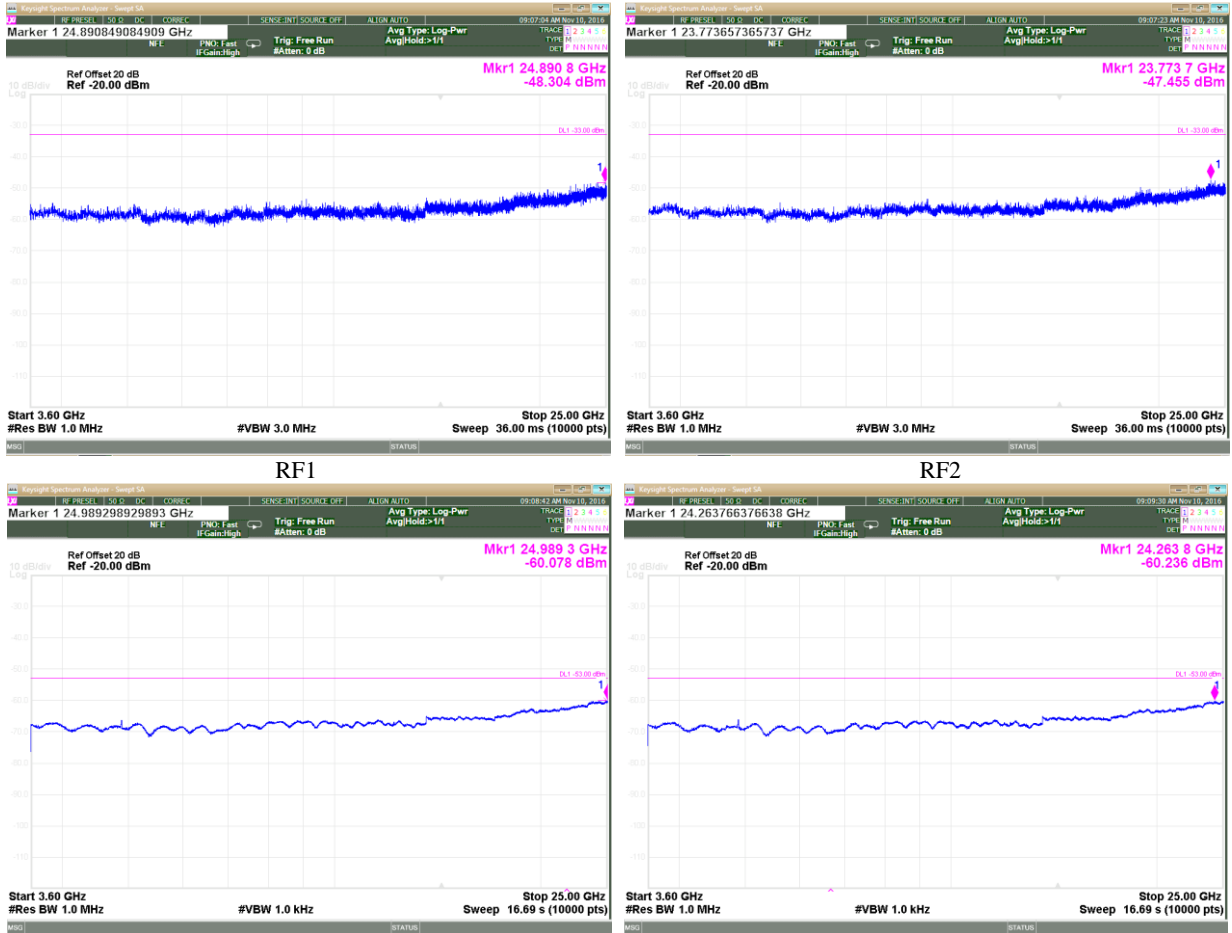


RF1

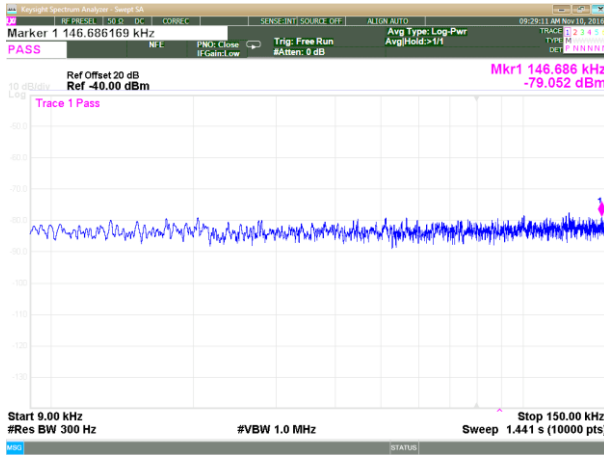


RF2

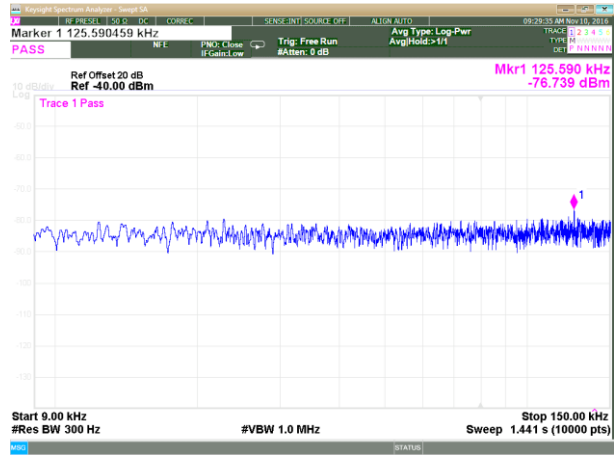
**Plot 3.5.66 Emissions in restricted frequency bands test results, Conducted measurements, 3.6 GHz – 25 GHz, Fc = 2440 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



**Plot 3.5.67 Emissions in restricted frequency bands test results, Conducted measurements, 9 kHz – 150 kHz, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

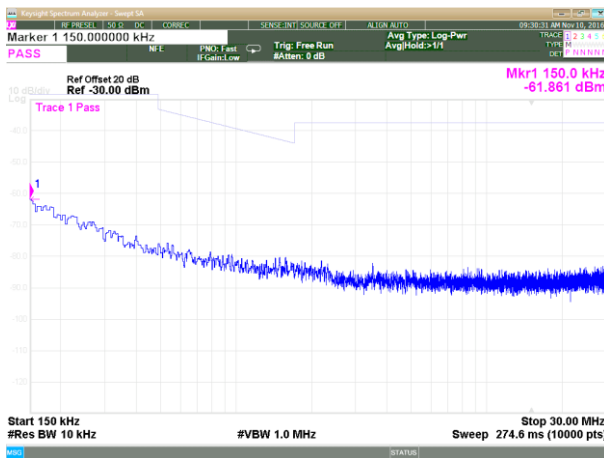


RF1

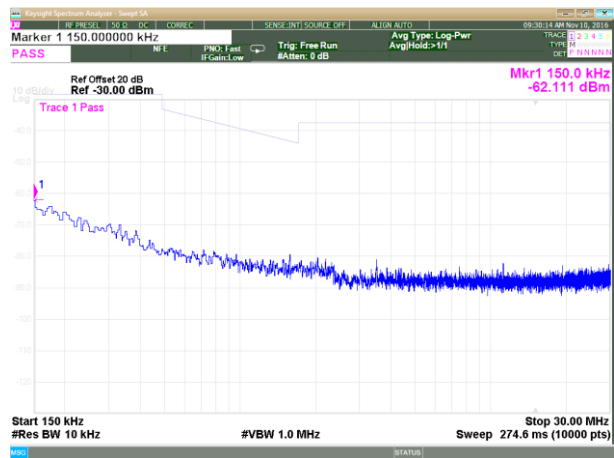


RF2

**Plot 3.5.68 Emissions in restricted frequency bands test results, Conducted measurements, 150 kHz – 30 MHz, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

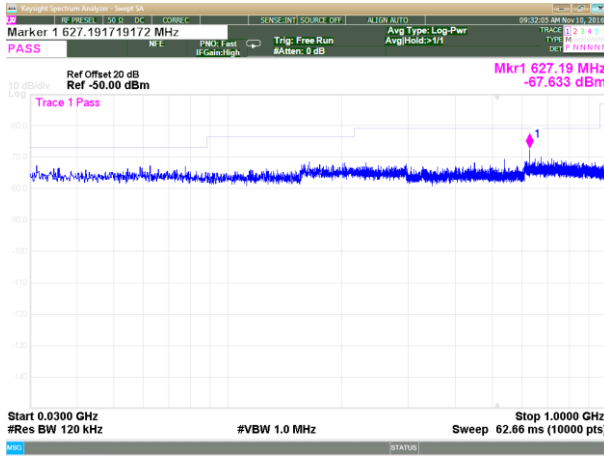


RF1

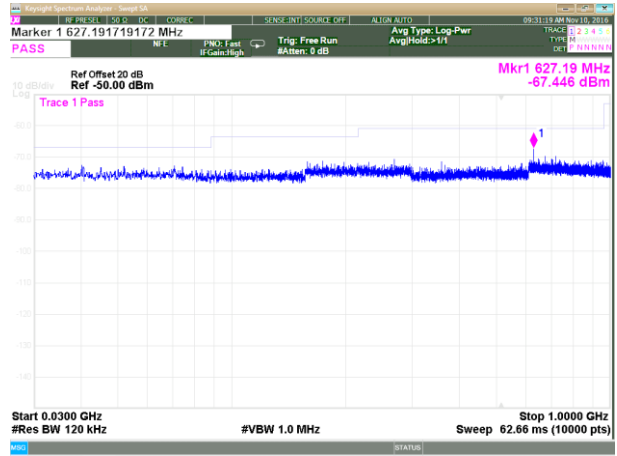


RF2

**Plot 3.5.69 Emissions in restricted frequency bands test results, Conducted measurements, 30 MHz – 1000 MHz, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**

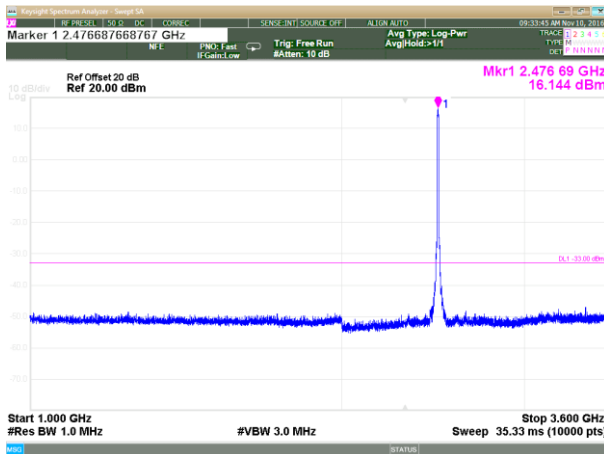


RF1

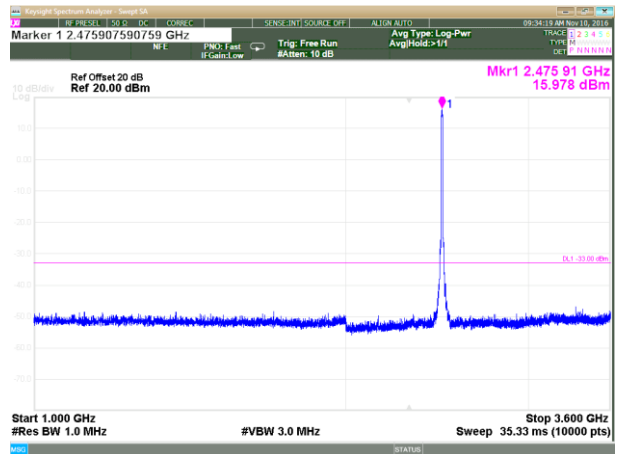


RF2

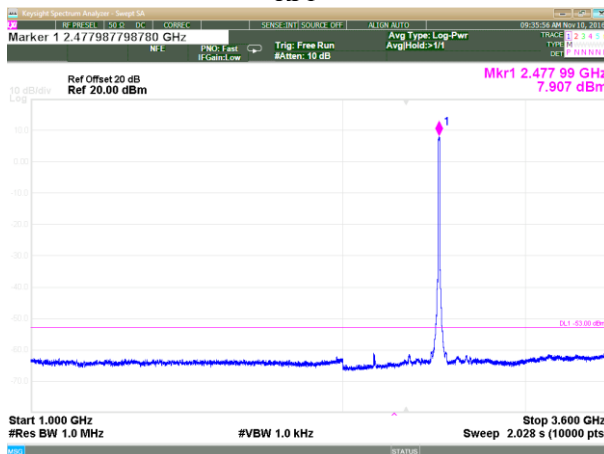
**Plot 3.5.70 Emissions in restricted frequency bands test results, Conducted measurements, 1 GHz – 3.6 GHz, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



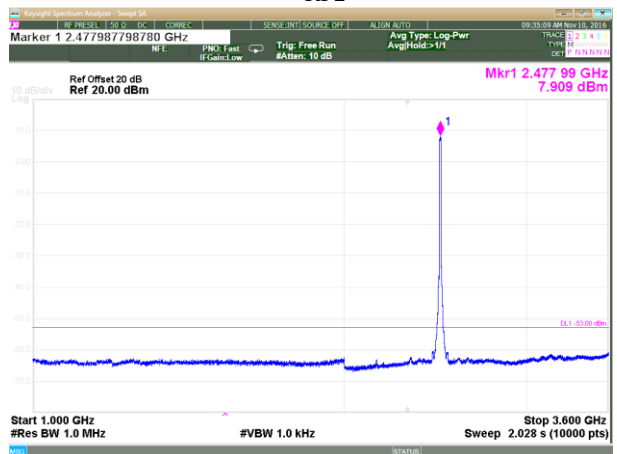
RF1



RF2

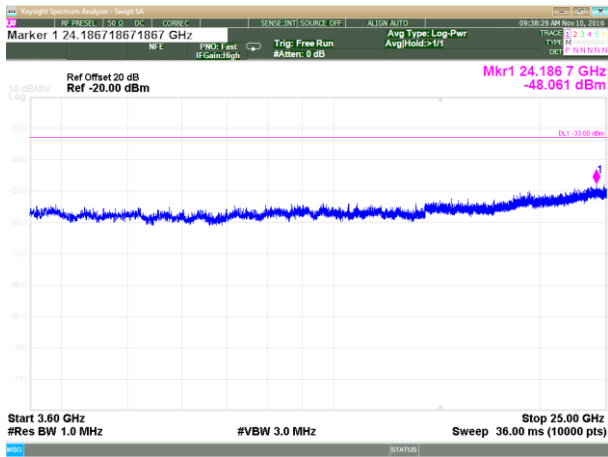


RF1

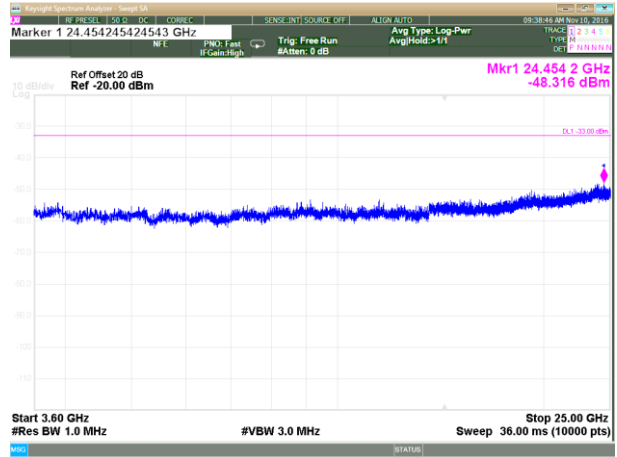


RF2

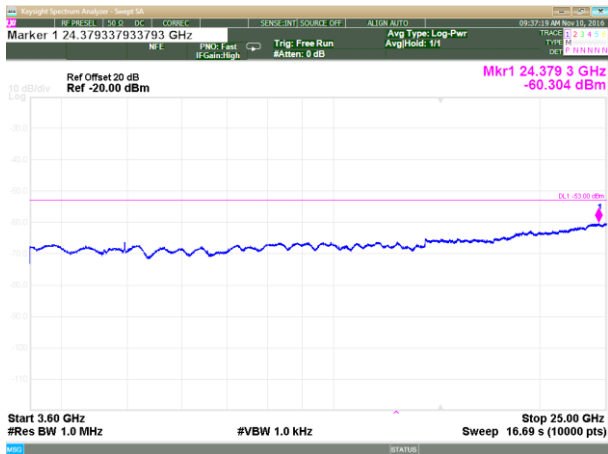
**Plot 3.5.70 Emissions in restricted frequency bands test results, Conducted measurements, 3.6 GHz – 25 GHz, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps**



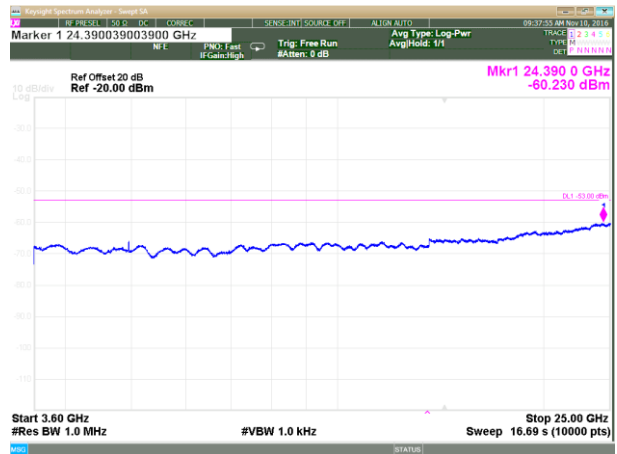
RF1



RF2



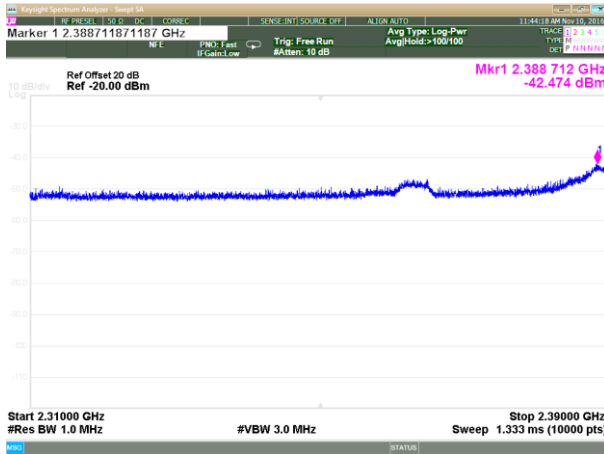
RF1



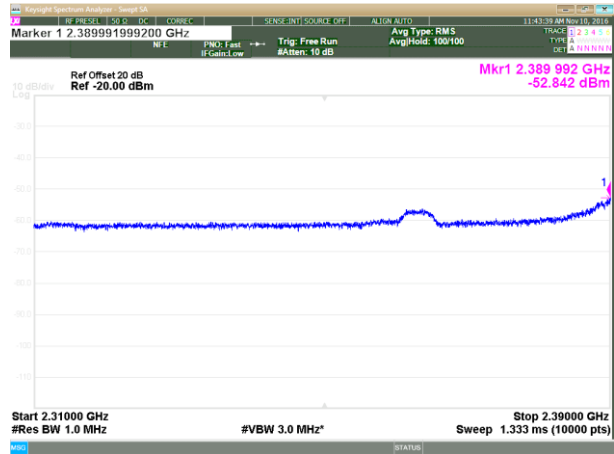
RF2



**Plot 3.5.71 Emissions in restricted frequency bands test results, 2310 – 2390 MHz band, Conducted measurements, Fc = 2403 MHz, BW = 4.2 MHz, Bit Rate = 1.6 Mbps, output RF 1**

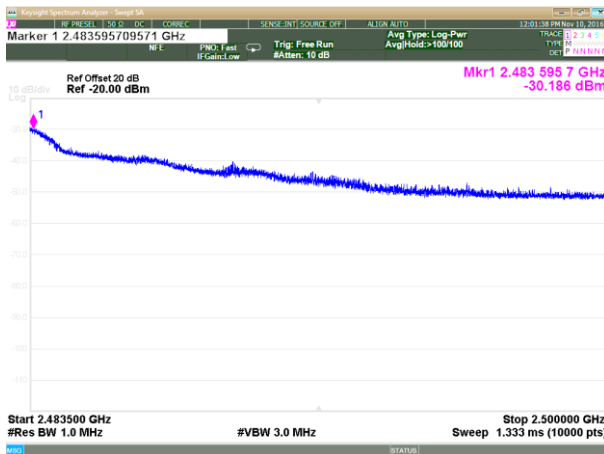


Peak

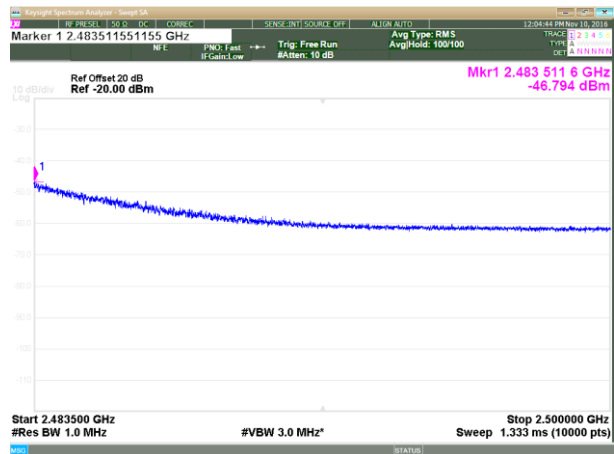


Average

**Plot 3.5.72 Emissions in restricted frequency bands test results, 2483.5 – 2500 MHz band, Conducted measurements, Fc = 2478 MHz, BW = 4.2 MHz, Bit Rate = 1.6 Mbps, output RF 1**

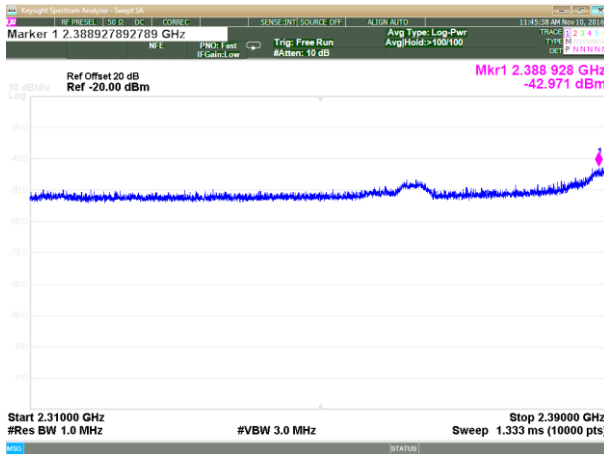


Peak

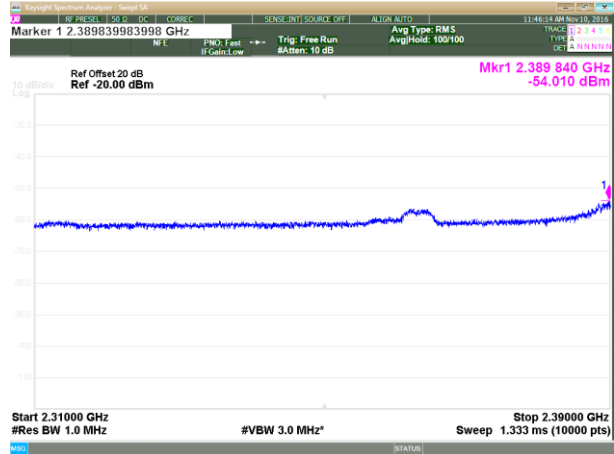


Average

**Plot 3.5.73 Emissions in restricted frequency bands test results, 2310 – 2390 MHz band, Conducted measurements, Fc = 2403 MHz, BW = 4.2 MHz, Bit Rate = 1.6 Mbps, output RF 2**

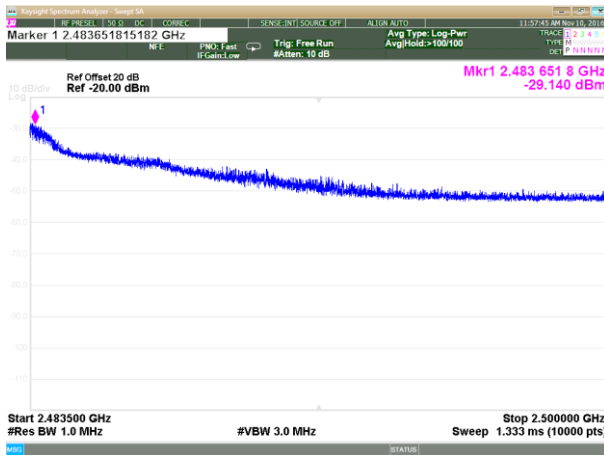


Peak

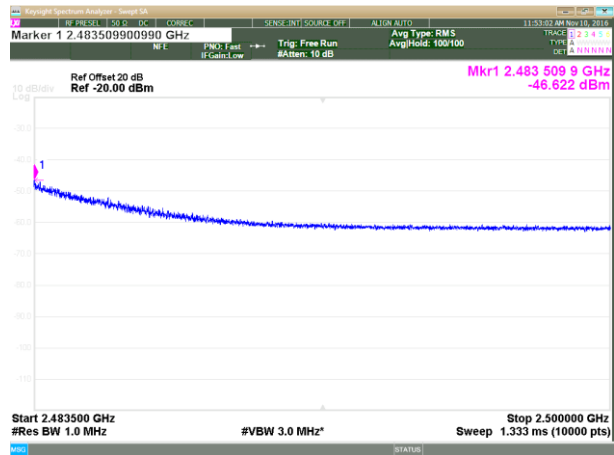


Average

**Plot 3.5.74 Emissions in restricted frequency bands test results, 2483.5 – 2500 MHz band, Conducted measurements, Fc = 2478 MHz, BW = 4.2 MHz, Bit Rate = 1.6 Mbps, output RF 2**

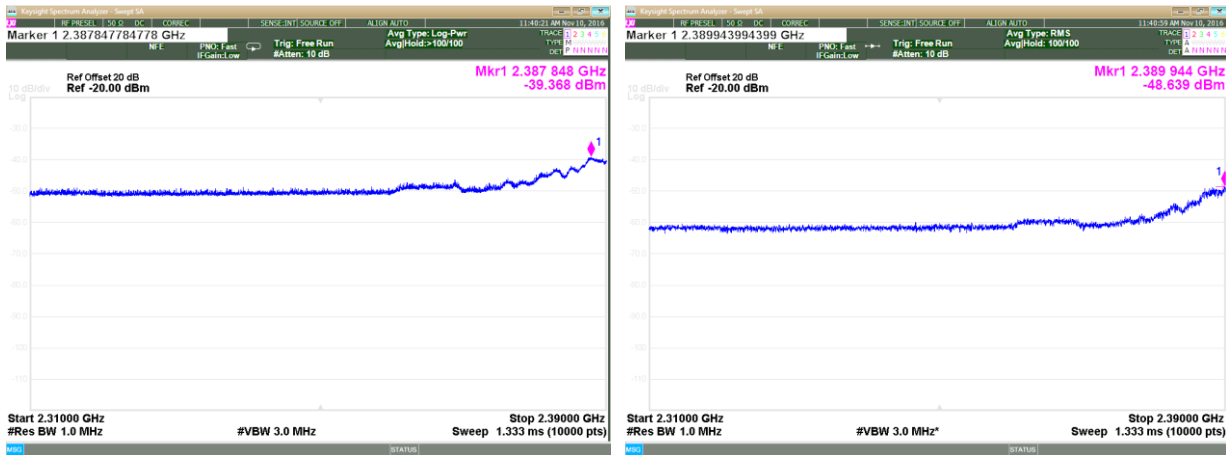


Peak

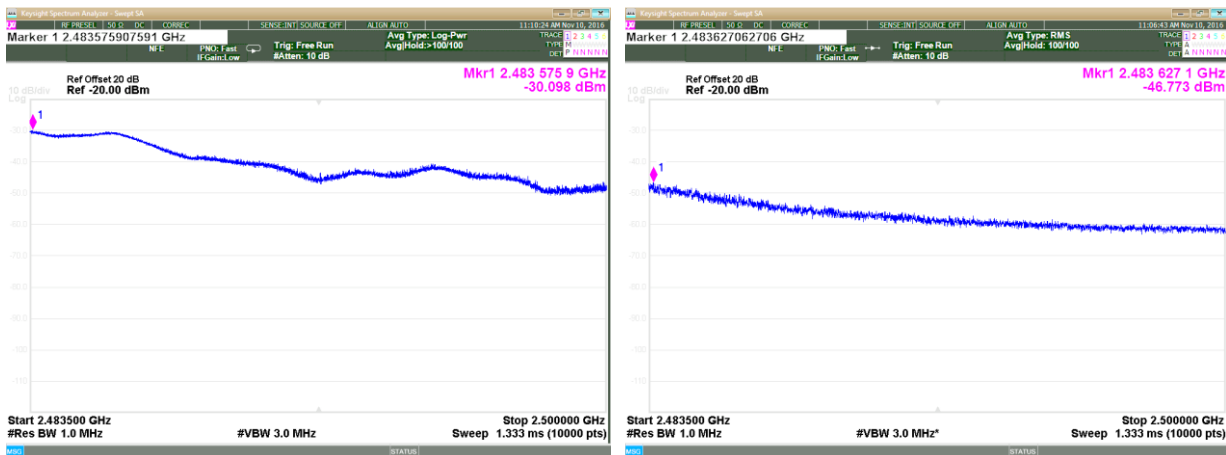


Average

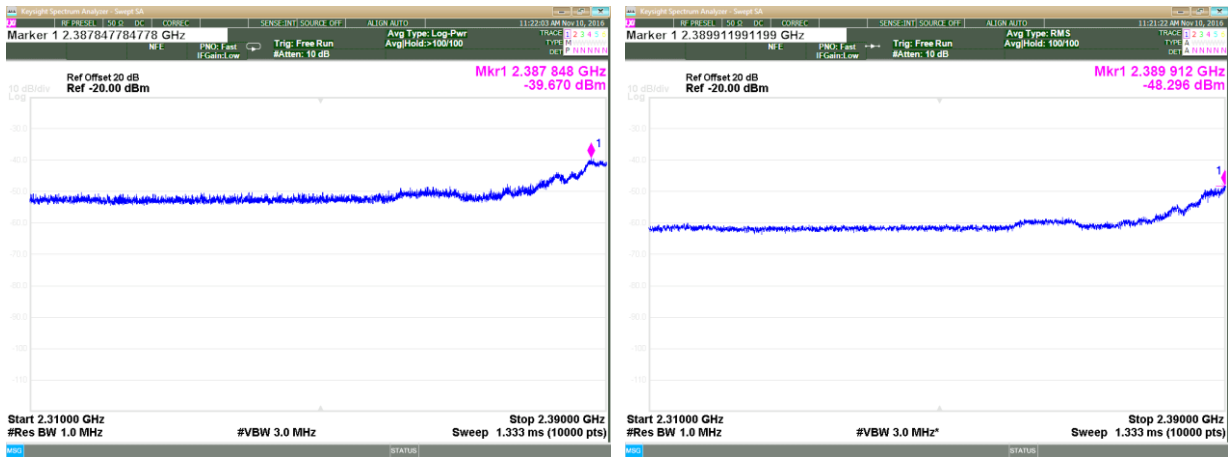
**Plot 3.5.75 Emissions in restricted frequency bands test results, 2310 – 2390 MHz band, Conducted measurements, Fc = 2405 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps, output RF 1**



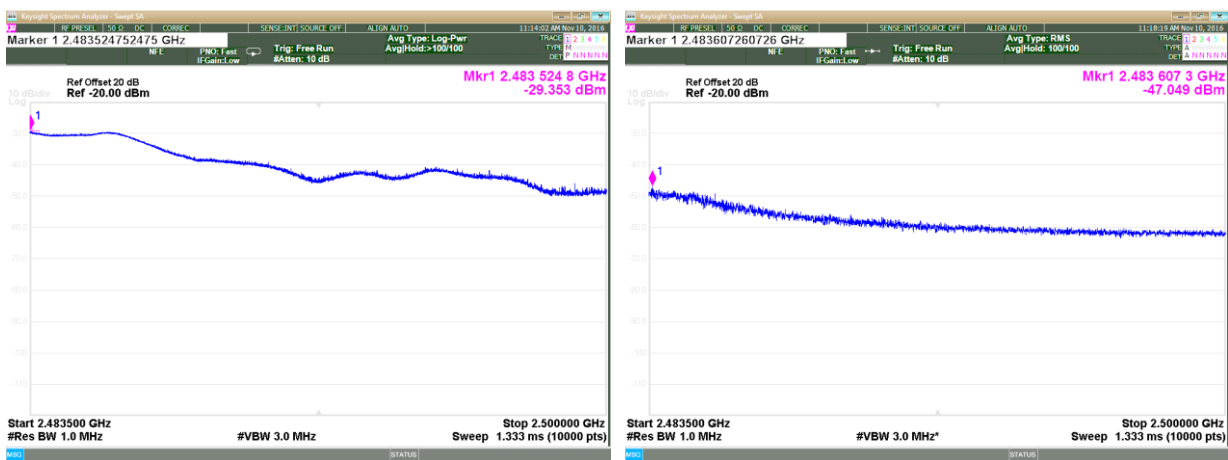
**Plot 3.5.76 Emissions in restricted frequency bands test results, 2483.5 – 2500 MHz band, Conducted measurements, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps, output RF 1**



**Plot 3.5.77 Emissions in restricted frequency bands test results, 2310 – 2390 MHz band, Conducted measurements, Fc = 2405 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps, output RF 2**



**Plot 3.5.78 Emissions in restricted frequency bands test results, 2483.5 – 2500 MHz band, Conducted measurements, Fc = 2475 MHz, BW = 8.4 MHz, Bit Rate = 8 Mbps, output RF 2**



### 3.6. Band edge measurements

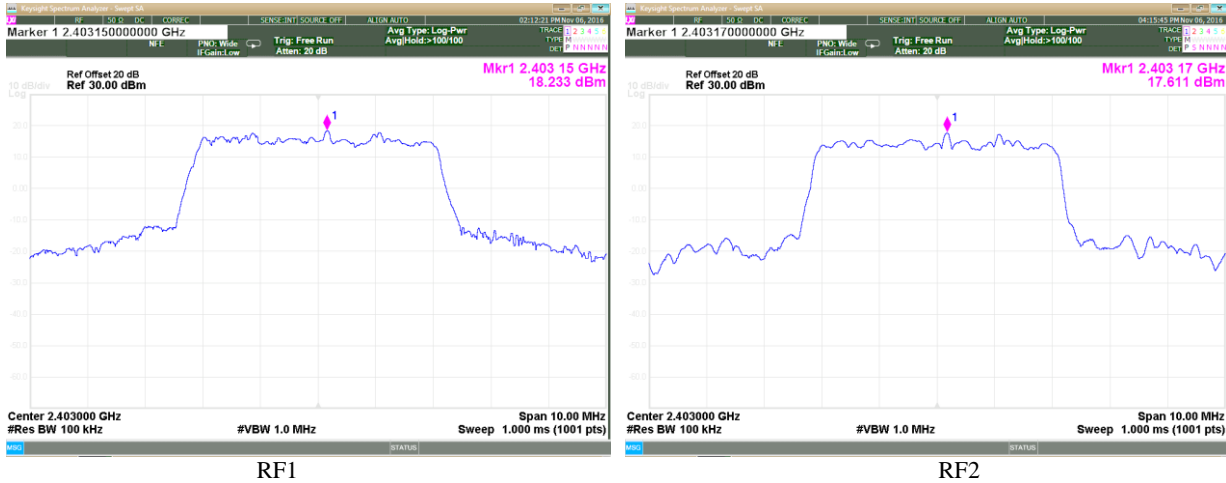
Reference document:	47 CFR §15.247 (d)		
Test Requirements:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (See §15.205(c)).		
Test setup:	See sec 2.2	06-11-2016	
Method of testing:	KDB 558074 D01 v03r05, Sec.13.3.1 Conducted		
Operating conditions:	Under normal test conditions		
S.A. Settings:	RBW: 100 kHz, VBW: ≥3×RBW		
Environment conditions:	Ambient Temperature: 48°C	Relative Humidity: 21%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	See Plot 3.6.1 - Plot 3.6.9	

### Test results:

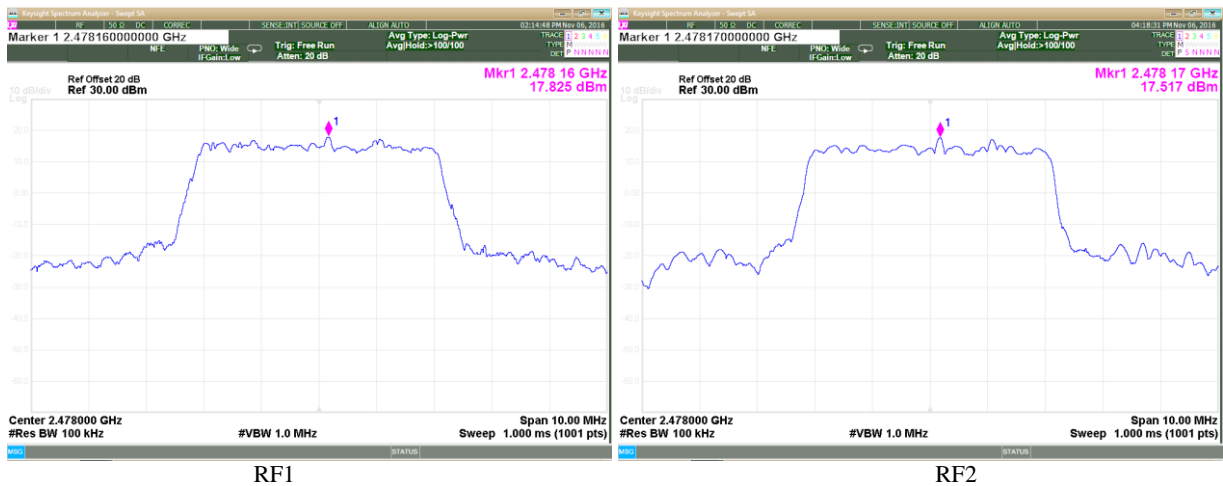
Fundamental Frequency, [MHz]	Fundamental Emission Reference Level, [dBm]	Measured Average Power, [dBm]	Duty Cycle Correction Factor	Calculated Average Power, [dBm]	Attenuation Below Fundamental, [dB]	Minimum Attenuation Below Fundamental, [dB]	Margin, [dB]	Pass/Fail
RF1 output, BW = 4.2 MHz, Data rate = 4 Mbps, continuous transmission								
2403	18.23	-13.86	NA*	-13.86	32.09	20	12.09	Pass
2478	17.82	-25.58	NA*	-25.58	43.40	20	23.4	Pass
RF2 output, BW = 4.2 MHz, Data rate = 4 Mbps, continuous transmission								
2403	17.82	-13.09	NA*	-13.09	30.91	20	10.91	Pass
2478	17.51	-25.30	NA*	-25.30	42.81	20	22.81	Pass
RF1 output, BW = 8.4 MHz, Data rate = 8 Mbps, continuous transmission								
2405	14.64	-16.16	NA*	-16.16	30.80	20	10.8	Pass
2475	15.17	-20.78	NA*	-20.78	35.95	20	15.95	Pass
RF2 output, BW = 8.4 MHz, Data rate = 8 Mbps, continuous transmission								
2405	13.71	-16.01	NA*	-16.01	29.72	20	9.72	Pass
2475	13.29	-20.16	NA*	-20.16	33.45	20	13.45	Pass

\*Duty Cycle Correction Factor =  $10\log(1/X) = 10\log(1/1) = 0$ , X is transmit Duty Cycle [1/100%]  
Duty Cycle = 100%

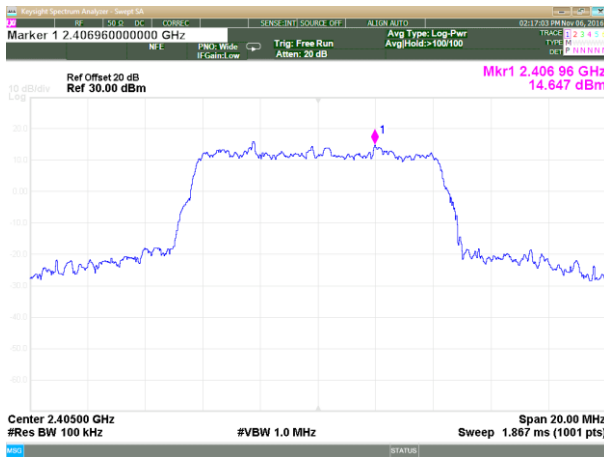
**Plot 3.6.1 Band-Edge test results, Fundamental Emission Reference Level, BW = 4.2 MHz, Data rate = 4 Mbps, Fc = 2403 MHz**



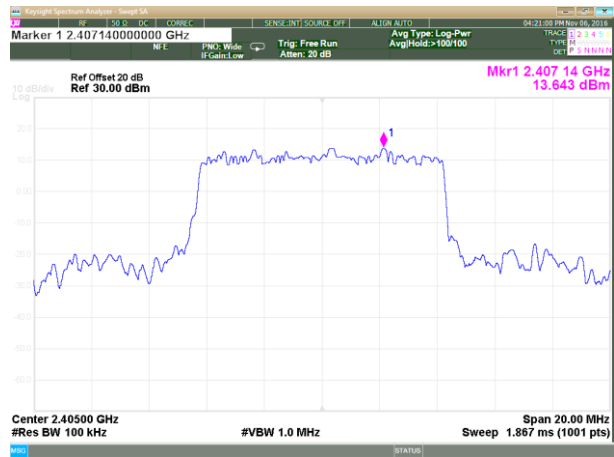
**Plot 3.6.2 Band-Edge test results, Fundamental Emission Reference Level, BW = 4.2 MHz, Data rate = 4 Mbps, Fc = 2478 MHz**



**Plot 3.6.3 Band-Edge test results, Fundamental Emission Reference Level, BW = 8.4 MHz, Data rate = 8 Mbps, Fc = 2405 MHz**

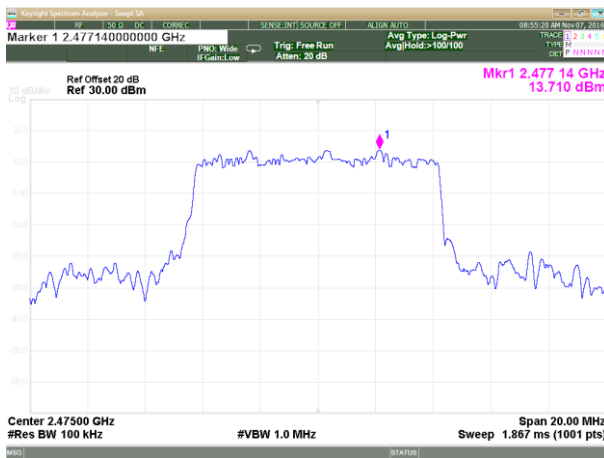


RF1

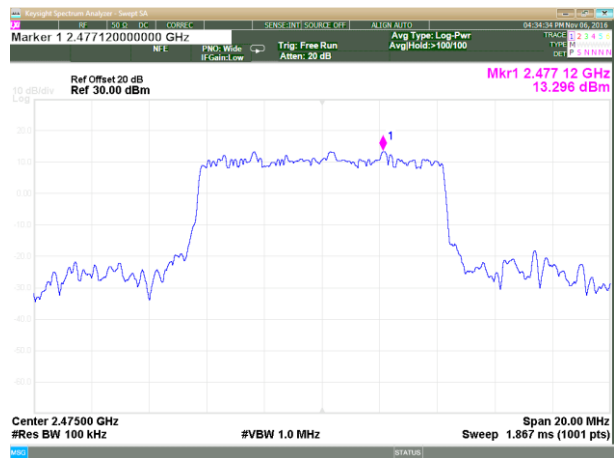


RF2

**Plot 3.6.4 Band-Edge test results, Fundamental Emission Reference Level, BW = 8.4 MHz, Data rate = 8 Mbps, Fc = 2475 MHz**

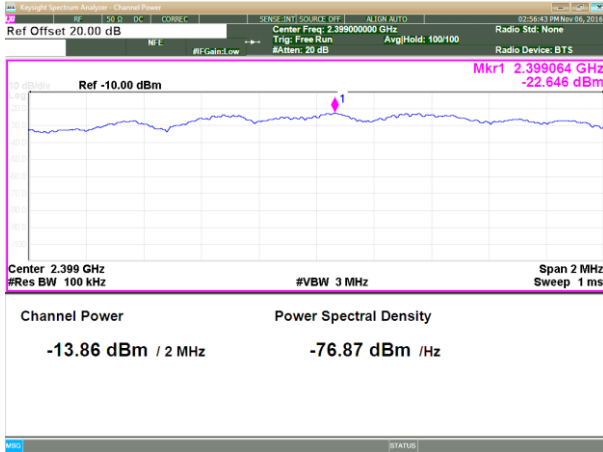


RF1

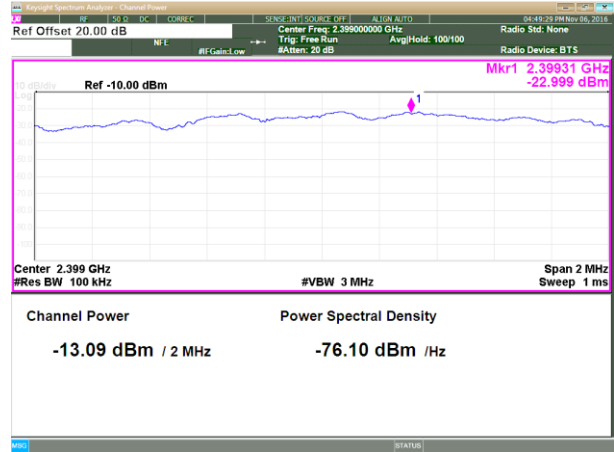


RF2

**Plot 3.6.5 Band-Edge test results, BW = 4.2 MHz, Data rate = 4 Mbps, Fc = 2403 MHz**

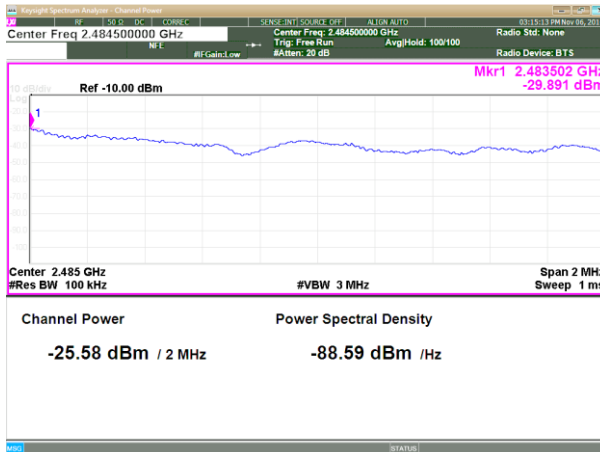


RF1

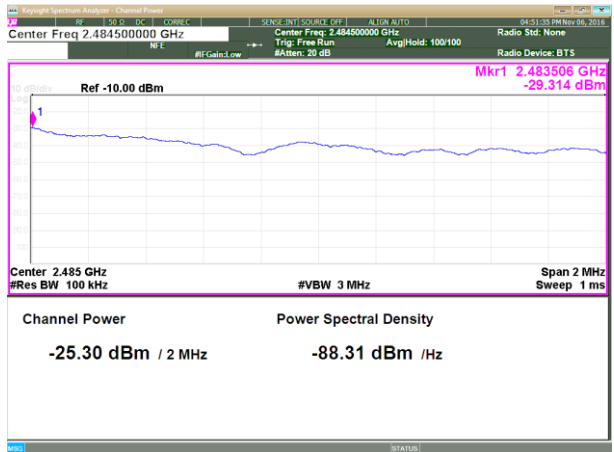


RF2

**Plot 3.6.6 Band-Edge test results, BW = 4.2 MHz, Data rate = 4 Mbps, Fc = 2478 MHz**



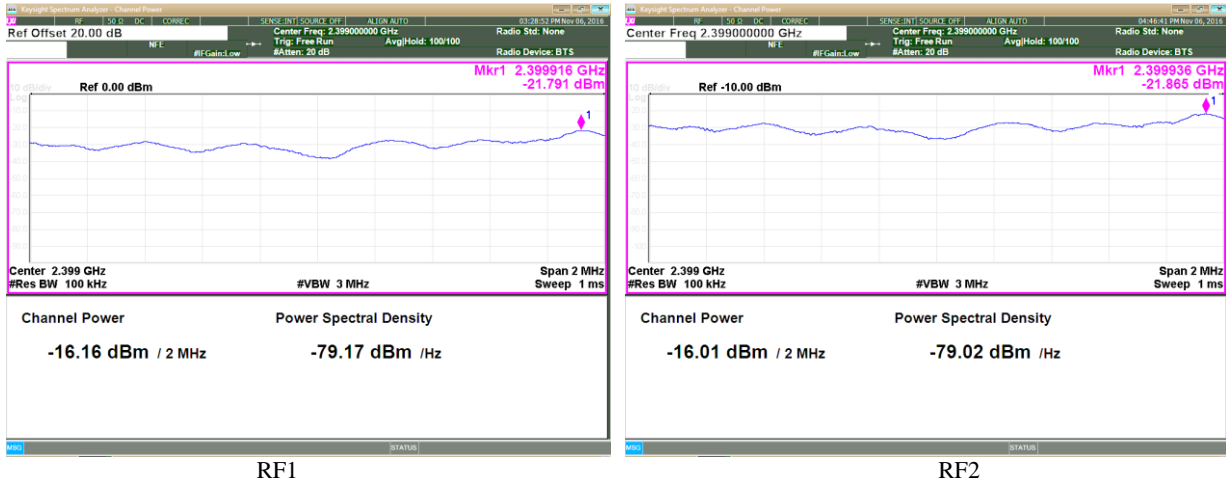
RF1



RF2



**Plot 3.6.7 Band-Edge test results, BW = 8.4 MHz, Data rate = 8 Mbps, Fc = 2405 MHz**



**Plot 3.6.8 Band-Edge test results, BW = 8.4 MHz, Data rate = 8 Mbps, Fc = 2475 MHz**



### 3.7. Antenna Connector Requirements

Reference document:	<b>47 CFR §15.203</b>	
Test Requirements:	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with provisions of this section.	
Test Result:	The EUT must be install as a professional installation equipment, see user manual.	

#### 4. Appendix

##### Appendix A: Duty cycle 100%

100% duty cycle used throughout the tests, RF1 output, BW = 4.2 MHz, Data rate = 4Mbps



100% duty cycle used throughout the tests, RF1 output, BW = 8.4 MHz, Data rate = 8 Mbps



**Appendix B: List of test equipment**

Description	Manufacturer	Model	Serial No.	Last Cal	Cal Due
RF Filter Section (6.5GHz)	HP	85460A	3704A00366	09/02/2016	09/02/2017
EMI Receiver (6.5GHz)	HP	8546A	3710A00392	09/02/2016	09/02/2017
Signal Generator	Marconi	2024	1122681029	17/01/2017	17/01/2018
EMC Analyzer	Agilent	E7405A	US41160436	18/09/2016	18/09/2017
RF Filter Section (2.9GHz)	HP	85460A	3448A00282	23/05/2016	23/05/2017
EMI Receiver (2.9GHz)	HP	8546A	3617A00318	23/05/2016	23/05/2017
Bilog Antenna	Teseq	CBL 6141B	34119	03/07/2016	03/07/2017
LISN	Schwarzbeck	NNBL 8226-2	8226120	03/02/2016	03/02/2017
RF Transient Limiter	Agilent	11947A	3107A04119	03/02/2016	03/02/2017
Isotropic Probe (10MHz-40GHz)	ETS-Lindgren	HI-6153	168752	26/12/2016	26/12/2017
Horn Antenna (for IMM) 1-18GHz	EMCO	3115	9602-4677	06/07/2016	06/07/2019
Horn Antenna (EMM) 1-18GHz	A.R.A	DRG-118/A	17188	18/05/2016	18/05/2017
Line impedance stabilization network, 9 kHz to 30 MHz, 3-Phase	Schwarzbeck	NNLK 8121	8121-526	06/04/2016	06/04/2017
Horn Antenna 15-40 GHz	Schwarzbeck	BBHA 9170	BBHA9170214	06/03/2015	06/03/2018
Spectrum Analyzer 3Hz-44GHz	Agilent	E4446A	MY46180602	16/12/2016	16/12/2018
Absorbing Clamp	FCC	F201	248	31/01/2017	31/01/2020
Spectrum Analyzer 9KHz-22GHz	HP	8593EM	3536A00131	24/08/2015	24/08/2017
LNA Amplifier 1 GHz to 18 GHz	AMP	7D-010180-30-10P-GW	618653	23/02/2016	23/02/2017
Low-Noise Amplifier 18 - 26.5 GHz	Miteq	AMF-5F-18002650-30-10P	945372	23/02/2016	23/02/2017
Anechoic old (small) chamber	-----	-----	-----	10/03/2016	10/03/2018
Anechoic new (large) chamber	-----	-----	-----	10/03/2016	10/03/2018

**Appendix C: Accreditation Certificate**

**Accredited Laboratory**

A2LA has accredited

**QUALITECH**  
Petah-Tikva, Israel

for technical competence in the field of

**Electrical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 28<sup>th</sup> day of June 2016.



Senior Director of Quality and Communications  
For the Accreditation Council  
Certificate Number 1633.01  
Valid to June 30, 2018

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

*End of the Test Report*