

# Test report

## 319271-3TRFWL

Date of issue: February 14, 2017

Applicant:

**Redline Communications**

Product:

**Broad-band wireless infrastructure product**

Model:

**RDL-3100-RMA**

FCC ID:

**QC8-RDL3100RMA**

IC Registration number:

**4310A-RDL3100RMA**


Specifications:

- ◆ **FCC 47 CFR Part 15 Subpart E, §15.407**  
Unlicensed National Information Infrastructure Devices
- ◆ **RSS-247, Issue 1, Section 6, May 2015**  
Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs)  
and Licence-Exempt Local Area Network (LE-LAN) Devices

Test location

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Website	www.nemko.com
Site number	FCC: 176392; IC: 2040A-4 (3 m semi anechoic chamber)

Tested by	Andrey Adelberg, Senior Wireless/EMC Specialist
Reviewed by	Kevin Rose, Wireless/EMC Specialist
Review date	February 14, 2017
Reviewer signature	

Limits of responsibility

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Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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## Section 1. Report summary

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### 1.1 Applicant and manufacturer

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Company name	Redline Communications
Address	302 Town Center Blvd., Markham, ON, Canada, L3R 0E8

### 1.2 Test specifications

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FCC 47 CFR Part 15, Subpart E, Clause 15.407	Unlicensed National Information Infrastructure Devices
RSS-247, Issue 1, May 2015	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

### 1.3 Test methods

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789033 D02 General UNII Test Procedures New Rules v01r03 (August 22, 2016)	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
FCC 16-24 (March 2, 2016)	Memorandum opinion and order for U-NII-3 (5.725–5.85 GHz) band
662911 D01 Multiple Transmitter Output v02r01 (October 31, 2013)	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
662911 D02 MIMO with Cross Polarized Antenna v01 (October 25, 2011)	Emissions testing of transmitters with multiple outputs in the same band (MIMO) with Cross Polarized Antenna
ANSI C63.10 v2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

### 1.4 Statement of compliance

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In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

### 1.5 Exclusions

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None

### 1.6 Test report revision history

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Revision #	Details of changes made to test report
TRF	Original report issued

## Section 2. Summary of test results

### 2.1 FCC Part 15 Subpart C, general requirements test results

Part	Test description	Verdict
§15.31(e)	Variation of power source	Pass <sup>1</sup>
§15.203	Antenna requirement	Pass <sup>2</sup>

Notes: <sup>1</sup> Measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, was performed with the supply voltage varied between 85 % and 115 % of the nominal rated supply voltage. No noticeable output power variation was observed

<sup>2</sup> The EUT is a professionally installed equipment.

### 2.2 FCC Part 15 Subpart E, test results

Part	Test description	Verdict
§15.403(i)	Emission bandwidth	Pass
§15.407(a)(1)	Power and density limits within 5.15–5.25 GHz band	Not applicable
§15.407(a)(2)	Power and density limits within 5.25–5.35 GHz and 5.47–5.725 GHz bands	Not applicable
§15.407(a)(3)	Power and density limits within 5.725–5.85 GHz band	Pass
§15.407(b)(1)	Undesirable emission limits for 5.15–5.25 GHz band	Not applicable
§15.407(b)(2)	Undesirable emission limits for 5.25–5.35 GHz band	Not applicable
§15.407(b)(3)	Undesirable emission limits for 5.47–5.725 GHz bands	Not applicable
§15.407(b)(4)	Undesirable emission limits for 5.725–5.85 GHz band	Pass
§15.407(b)(6)	Conducted limits for U-NII devices using an AC power line	Pass
§15.407(e)	Minimum 6 dB bandwidth of U-NII devices within the 5.725-5.85 GHz band	Pass
§15.407(g)	Frequency stability	Pass
§15.407(h)(1) <sup>1</sup>	Transmit power control (TPC)	Not applicable
§15.407(h)(2) <sup>1</sup>	Dynamic Frequency Selection (DFS)	Not applicable

Notes: <sup>1</sup> DFS and TPC requirements are only applicable to 5.25–5.35 GHz and 5.47–5.725 GHz bands

### 2.3 RSS-Gen, Issue 4, test results

Part	Test description	Verdict
6.6	Occupied Bandwidth	Pass
7.1.2 <sup>1</sup>	Receiver radiated emission limits	Not applicable
7.1.3 <sup>1</sup>	Receiver conducted emission limits	Not applicable
8.8	Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus	Pass
8.11 <sup>2</sup>	Frequency stability	Pass

Notes: <sup>1</sup> According to sections 5.2 and 5.3 of RSS-Gen, Issue 4: if EUT does not have a stand-alone receiver neither scanner receiver, then it exempt from receiver requirements.

<sup>2</sup> According to section 8.11 of RSS-Gen, Issue 4: if the frequency stability of the licence-exempt radio apparatus is not specified in the applicable standard (RSS), measurement of the frequency stability is not required

## 2.4 IC RSS-247, Issue 1, test results

Section	Test description	Verdict
6.1 (1) <sup>1</sup>	Types of Modulation	Pass
6.2.1 (1)	Power limits for 5150–5250 MHz band	Not applicable
6.2.2 (1)	Power limits for 5250–5350 MHz band	Not applicable
6.2.3 (1)	Power limits for 5470–5600 MHz and 5650–5725 MHz bands	Not applicable
6.2.4 (1)	Power limits for 5725–5850 MHz band	Pass
6.2.4 (1)	Minimum 6 dB bandwidth	Pass
6.2.1 (2)	Unwanted emission limits for 5150–5250 MHz band	Not applicable
6.2.2 (2)	Unwanted emission limits for 5250–5350 MHz band	Not applicable
6.2.2 (2)	TPC requirements for devices with a maximum e.i.r.p. greater than 500 mW	Not applicable
6.2.2 (3)	E.i.r.p. at different elevations restrictions for 5250–5350 MHz band	Not applicable
6.2.3 (2)	Unwanted emission limits for 5470–5600 MHz and 5650–5725 MHz bands	Not applicable
6.2.4 (2)	Unwanted emission limits for 5725–5850 MHz band	Pass
6.3	Dynamic Frequency Selection (DFS) for devices operating in the bands 5250–5350 MHz, 5470–5600 MHz and 5650–5725 MHz	Not applicable

Notes: <sup>1</sup> The EUT employs digital modulations, such as: 802.11a, 802.11n HT20 and 802.11n HT40

## Section 3. Equipment under test (EUT) details

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### 3.1 Sample information

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Receipt date	November 1, 2016
Nemko sample ID number	133-002803

### 3.2 EUT information

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Product name	Broad-band wireless infrastructure product
Model	RDL-3100-RMA
Serial number	318SC16300082

### 3.3 Technical information

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Applicant IC company number	4310A
IC UPN number	RDL3100RMA
All used IC test site(s) Reg. number	2040A-4
RSS number and Issue number	RSS-247 Issue 1, Section 6, May 2015
Frequency band	5725–5850 MHz
Frequency Min (MHz)	5730 (10 MHz channel), 5735 (20 MHz channel), 5745 (40 MHz channel)
Frequency Max (MHz)	5845 (10 MHz channel), 5840 (20 MHz channel), 5830 (40 MHz channel)
RF power Max (W), Conducted	0.346 (25.40 dBm for 10 MHz channel), 0.360 (25.57 dBm for 20 MHz channel), 0.372 (25.70 dBm for 40 MHz channel)
Field strength, Units @ distance	N/A
Measured BW (kHz) (26 dB)	9550 (10 MHz channel), 19310 (20 MHz channel), 38940 (40 MHz channel)
Calculated BW (kHz), as per TRC-43	N/A
Type of modulation	OFDM using 256-QAM, 128-QAM, 64-QAM, 16-QAM, QPSK and BPSK modulation for sub-carriers
Emission classification (F1D, G1D, D1D)	W7D
Transmitter spurious, Units @ distance	52.78 dB $\mu$ V/m (average) at 11.690 GHz @ 3 m
Power requirements	48 V <sub>DC</sub> PoE via 120 V <sub>AC</sub> , 60 Hz
Antenna information	10 dBi Omni-directional Antenna Redline AOD-DB-0512-02 24 dBi Dual Polarization Antenna 4.9–6.1 GHz, Redline 30-00362-00 32 dBi Redline A3FT3204LTPD Parabolic Antenna, 4.9–5.8 GHz, 4 degree, dual polarity The EUT is professionally installed.

### 3.4 Product description and theory of operation

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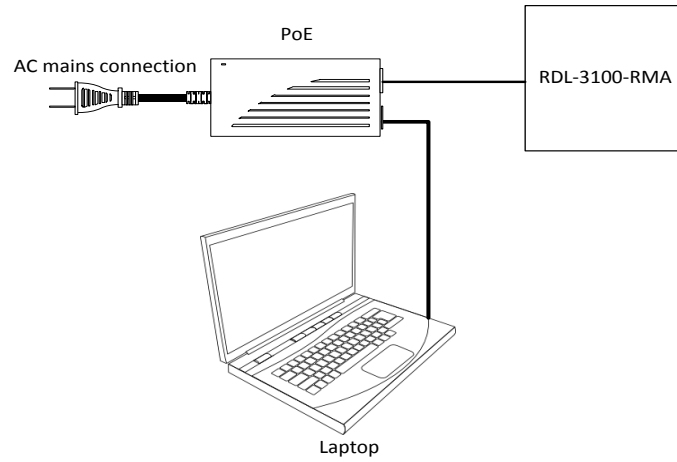
The EUT is a 2x2 MIMO point-to-multipoint (PMP) and point-to-point (PTP) carrier grade broadband wireless infrastructure product, designed to operate in the 5725–5850 MHz band.

### 3.5 EUT exercise details

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The EUT was controlled to transmit at desired frequency and modulation from laptop using web interface at IP address: 192.168.25.2

### 3.6 EUT setup diagram



**Figure 3.6-1:** Setup diagram

### 3.7 EUT sub assemblies

**Table 3.7-1:** EUT sub assemblies

Description	Brand name	Model/Part number	Serial number
PoE	Cincon Electronics Co.	TRG60A-POE-L	1127



## Section 4. Engineering considerations

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### 4.1 Modifications incorporated in the EUT

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There were no modifications performed to the EUT during this assessment.

### 4.2 Technical judgment

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None

### 4.3 Deviations from laboratory tests procedures

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No deviations were made from laboratory procedures.

## Section 5. Test conditions

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### 5.1 Atmospheric conditions

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Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

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When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

### 5.2 Power supply range

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The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages  $\pm 5\%$ , for which the equipment was designed.

## Section 6. Measurement uncertainty

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### 6.1 Uncertainty of measurement

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Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of  $K = 2$  with 95% certainty.

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55
Conducted spurious emissions	1.13
Radiated spurious emissions	3.78
AC power line conducted emissions	3.55

## Section 7. Test equipment

### 7.1 Test equipment list

*Table 7.1-1: Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Dec. 01/16
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
Antenna mast	Sunol	TLT2	FA002061	—	NCR
AC Power source	Chenwa	2700M-10k	FA002716	—	VOU
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	Jan. 07/17
Spectrum analyzer	Rohde & Schwarz	FSU	FA001877	1 year	Apr. 15/17
Bilog antenna (20–3000 MHz)	Sunol	JB3	FA002108	1 year	Apr. 28/17
Horn antenna (1–18 GHz)	EMCO	3115	FA000825	1 year	Apr. 26/17
Horn antenna 18–40 GHz	EMCO	3116	FA001847	1 year	Apr.15/17
Pre-amplifier (1–18 GHz)	JCA	JCA118-503	FA002091	1 year	April 26/17
Pre-amplifier (18–26 GHz)	Narda	BBS-1826N612	FA001550	—	VOU
Pre-amplifier (26–40 GHz)	Narda	DBL-2640N610	FA001556	—	VOU
LISN	Rohde & Schwarz	ENV216	FA002023	1 year	Mar. 08/17
Power meter	Agilent	N1911A	FA001946	1 year	Apr. 07/17
Power sensor	Agilent	N1922A	FA001947	1 year	Apr. 08/17
Temperature chamber	Espec	EPX-4H	FA002735	1 year	Jan 26/17

Note: NCR - no calibration required, VOU - verify on use

## Section 8. Testing data

### 8.1 FCC 15.207(a) and RSS-Gen 8.8 AC power line conducted emissions limits

#### 8.1.1 Definitions and limits

**FCC §15.407(6)(b):**

Any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

**FCC §15.207(a):**

Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50  $\Omega$  line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

**ISED:**

A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz, shall not exceed the limits in table below.

Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in table below. The more stringent limit applies at the frequency range boundaries.

*Table 8.1-1: Conducted emissions limit*

Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average**
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

Note: \* - The level decreases linearly with the logarithm of the frequency.

\*\* - A linear average detector is required.

#### 8.1.2 Test summary

Test date	November 16, 2016	Temperature	22 °C
Test engineer	Andrey Adelberg	Air pressure	1007 mbar
Verdict	Pass	Relative humidity	32 %

### 8.1.3 Observations, settings and special notes

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The EUT was set up as tabletop configuration.

The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

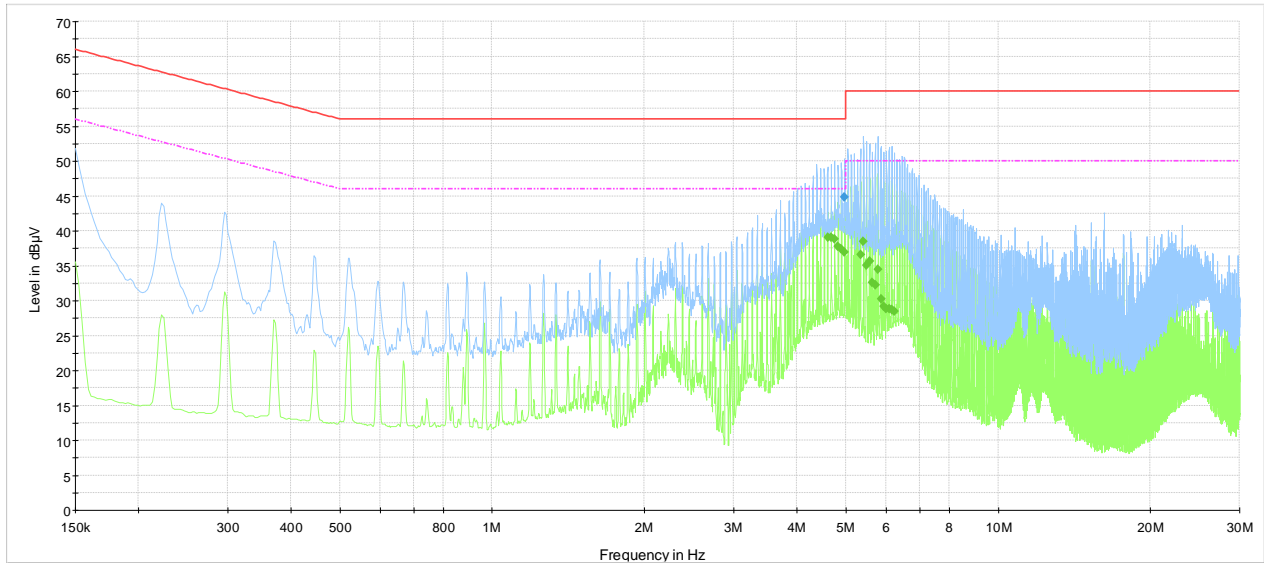
Receiver settings for preview measurements:

Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Detector mode	Peak and Average
Trace mode	Max Hold
Measurement time	100 ms

Receiver settings for final measurements:

Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Detector mode	Quasi-Peak and Average
Trace mode	Max Hold
Measurement time	100 ms

8.1.4 Test data



Conducted emissions on phase AC line

- Preview Result 2-AVG
- Preview Result 1-PK+
- CISPR 22 Mains Q-Peak Class B Limit
- CISPR 22 Mains Average Class B Limit
- Final\_Result QPK
- Final\_Result CAV

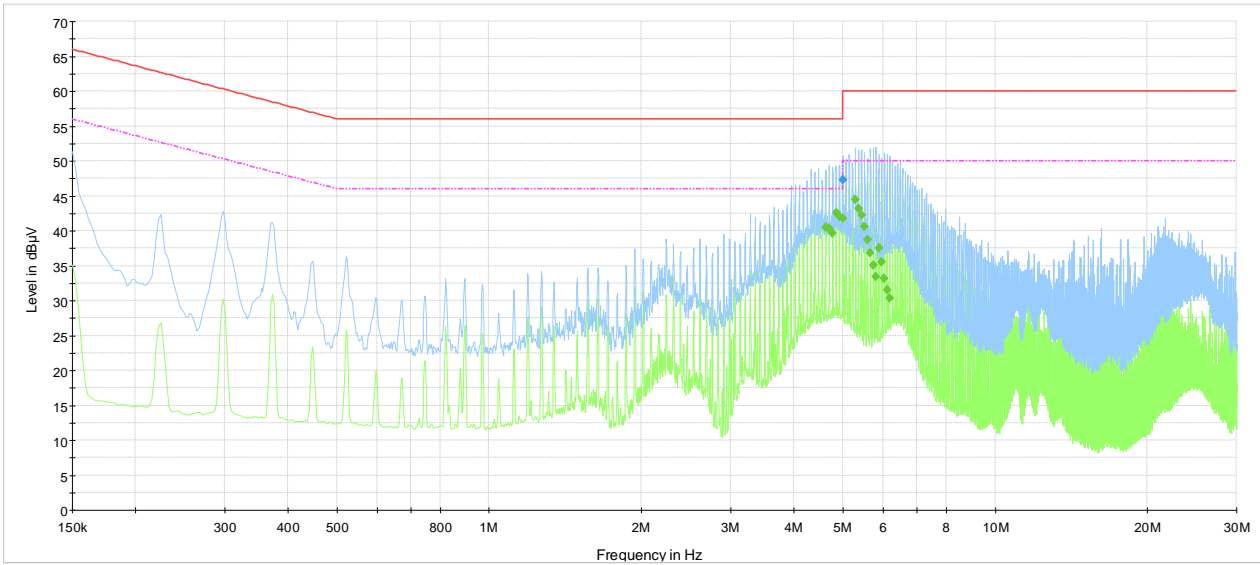
Plot 8.1-1: Conducted emissions on phase line

Table 8.1-2: Quasi-Peak conducted emissions results on phase line

Frequency, MHz	Q-Peak result, dBµV	Limit, dBµV	Margin, dB	Meas. Time, ms	Bandwidth, kHz	Correction, dB
4.974000	44.87	56.00	11.13	100	9	10.0

Table 8.1-3: Average conducted emissions results on phase line

Frequency, MHz	Average result, dBµV	Limit, dBµV	Margin, dB	Meas. Time, ms	Bandwidth, kHz	Correction, dB
4.602750	39.05	46.00	6.95	100	9	10.0
4.677000	39.10	46.00	6.90	100	9	10.0
4.751250	38.85	46.00	7.15	100	9	10.0
4.825500	37.80	46.00	8.20	100	9	10.0
4.899750	37.37	46.00	8.63	100	9	10.0
4.974000	36.92	46.00	9.08	100	9	10.0
5.345250	36.57	50.00	13.43	100	9	10.0
5.419500	38.44	50.00	11.56	100	9	10.0
5.493750	35.03	50.00	14.97	100	9	10.0
5.568000	35.65	50.00	14.35	100	9	10.0
5.642250	32.56	50.00	17.44	100	9	10.0
5.716500	32.21	50.00	17.79	100	9	10.0
5.790750	34.42	50.00	15.58	100	9	10.0



Conducted emissions on neutral AC line  
 Preview Result 2-AVG  
 Preview Result 1-PK+  
 CISPR 22 Mains Q-Peak Class B Limit  
 CISPR 22 Mains Average Class B Limit  
 Final\_Result QPK  
 Final\_Result CAV

**Plot 8.1-2:** Conducted emissions on neutral line

**Table 8.1-4:** Quasi-Peak conducted emissions results on neutral line

Frequency, MHz	Q-Peak result, dBµV	Limit, dBµV	Margin, dB	Meas. Time, ms	Bandwidth, kHz	Correction, dB
4.996500	47.27	56.00	8.73	100	9	10.0

**Table 8.1-5:** Average conducted emissions results on neutral line

Frequency, MHz	Average result, dBµV	Limit, dBµV	Margin, dB	Meas. Time, ms	Bandwidth, kHz	Correction, dB
4.623000	40.46	46.00	5.54	100	9	10.0
4.697250	40.30	46.00	5.70	100	9	10.0
4.771500	39.66	46.00	6.34	100	9	10.0
4.848000	42.55	46.00	3.45	100	9	10.0
4.922250	41.99	46.00	4.01	100	9	10.0
4.996500	41.74	46.00	4.26	100	9	10.0
5.295750	44.50	50.00	5.50	100	9	10.0
5.370000	43.13	50.00	6.87	100	9	10.0
5.444250	42.25	50.00	7.75	100	9	10.0
5.518500	40.62	50.00	9.38	100	9	10.0
5.592750	38.65	50.00	11.35	100	9	10.0
5.667000	36.81	50.00	13.19	100	9	10.0
5.741250	35.09	50.00	14.91	100	9	10.0



## 8.2 FCC 15.403(i) Emission bandwidth, 15.407(e) and RSS-247 6.2.4 (1) 6 dB bandwidth

### 8.2.1 Definitions and limits

**FCC:**

15.403(i) For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

15.407(e) Within the 5.725–5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

**ISED:**

RSS-247, 6.2.4 (1) For equipment operating in the band 5725–5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

### 8.2.2 Test summary

Test date	November 4, 2016	Temperature	22 °C
Test engineer	Andrey Adelberg	Air pressure	1008 mbar
Verdict	Pass	Relative humidity	32 %

### 8.2.3 Observations, settings and special notes

Spectrum analyser settings:

Resolution bandwidth	approximately 1% of the span (for 26 dB BW), 100 kHz (for 6 dB BW)
Video bandwidth	> RBW
Detector mode	Peak
Trace mode	Max Hold

### 8.2.4 Test data

**Table 8.2-1:** Channel names description

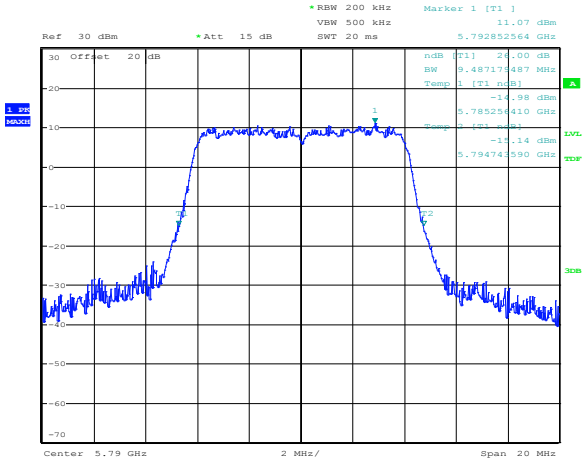
Channel name	10-MHz channel	20-MHz channel	40-MHz channel
Low	5730.0	5735.0	5745.0
Mid	5790.0	5790.0	5790.0
High	5845.0	5840.0	5830.0

**Table 8.2-2:** 26 dB bandwidth results (in MHz)

Modulation	Channel	10-MHz channel	20-MHz channel	40-MHz channel
BPSK	Low	9.49	19.23	38.62
	Mid	9.49	19.23	38.78
	High	9.52	19.23	38.62
256-QAM	Low	9.52	19.23	38.94
	Mid	9.49	19.31	38.62
	High	9.55	19.23	38.62

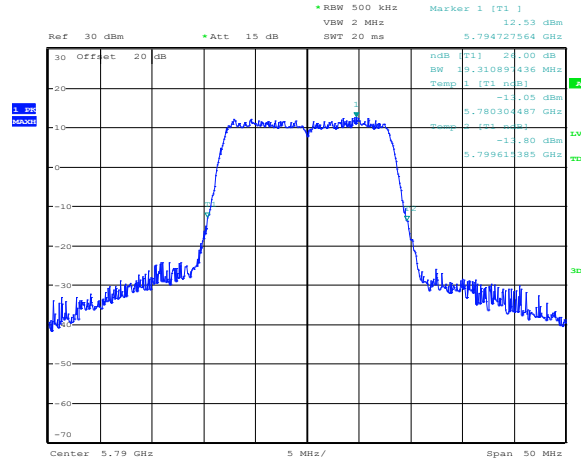
**Table 8.2-3: 6 dB bandwidth results (in MHz)**

Modulation	Channel	10-MHz channel	20-MHz channel	40-MHz channel	Minimum limit	Minimum margin
BPSK	Low	8.30	16.67	33.33	0.50	7.80
	Mid	8.33	16.75	33.33	0.50	7.83
	High	8.33	16.75	34.10	0.50	7.83
256-QAM	Low	8.27	16.67	33.59	0.50	7.77
	Mid	8.33	16.75	33.46	0.50	7.83
	High	8.33	16.75	33.72	0.50	7.83



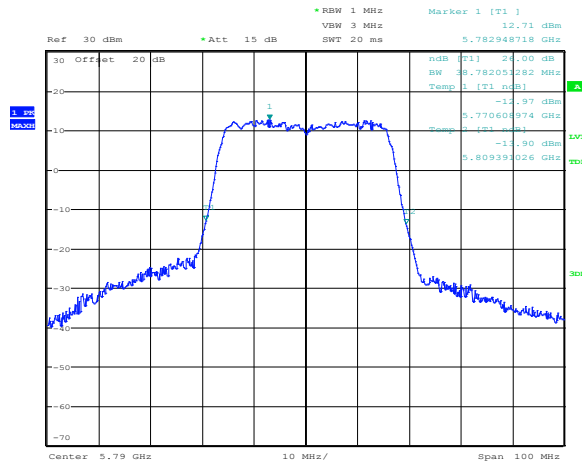
Date: 4.NOV.2016 10:28:57

**Figure 8.2-1: 26 dB bandwidth of the 10 MHz channel, sample plot**



Date: 4.NOV.2016 10:25:06

**Figure 8.2-2: 26 dB bandwidth of the 20 MHz channel, sample plot**



Date: 4.NOV.2016 10:21:34

**Figure 8.2-3: 26 dB bandwidth of the 40 MHz channel, sample plot**

## 8.3 FCC 15.407(a)(3) and RSS-247 6.2.4 (1) 5.725–5.85 GHz band output power and spectral density limits

### 8.3.1 Definitions and limits

**FCC:**

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

**ISED:**

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

### 8.3.2 Test summary

Test date:	June 28, 2016	Temperature:	21 °C
Test engineer:	Andrey Adelberg	Air pressure:	1010 mbar
Verdict:	Pass	Relative humidity:	31 %

### 8.3.3 Observations, settings and special notes

Output power was tested using RMS power meter.  
 Spectrum analyzer settings for PSD measurement:

Resolution bandwidth	500 kHz
Video bandwidth	5 MHz
Frequency span	20 MHz (for 10 MHz channel), 40 MHz (for 20 MHz channel), 50 MHz (for 40 MHz channel)
Detector mode	RMS with video triggering on full power pulses
Trace mode	Power Averaging over 100 sweeps

For Point-to-multipoint applications output power calculation for 10 dBi antenna: 30 dBm – (10 dBi – 0.7 dB – 6 dBi) = 26.7 dBm; for 24 dBi antenna: 30 dBm – (24 dBi – 0.7 dB – 6 dBi) = 12.7 dBm and for 32 dBi antenna: 30 dBm – (32 dBi – 0.7 dB – 6 dBi) = 4.7 dBm. Note: cable loss is 0.7 dB.

Combined average output power was calculated as follows:

$$P_{combined} = 10 \times \log_{10} \left( (10^{P_{cho}/10}) + (10^{P_{ch1}/10}) \right)$$

EIRP was calculated as follows:

$$EIRP = P_{combined} + antenna\ gain$$

For antennas with the directional gain greater than 6 dBi, the maximum power spectral density limit was calculated as follows:

For 10 dBi antenna: 30 dBm/500 kHz – (10 dBi – 0.7 dB – 6 dBi) = 26.7 dBm/500 kHz; for 24 dBi antenna: 30 dBm/500 kHz – (24 dBi – 0.7 dB – 6 dBi) = 12.7 dBm/500 kHz and for 32 dBi antenna: 30 dBm/500 kHz – (32 dBi – 0.7 dB – 6 dBi) = 4.7 dBm/500 kHz.



8.3.4 Test data

**Table 8.3-1:** FCC Output power measurements and EIRP calculation results for 10 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	22.38	22.27	25.34	26.70	1.36	9.30	34.64	36.00	1.36
	5790.0	22.30	22.44	25.38	26.70	1.32	9.30	34.68	36.00	1.32
	5845.0	21.97	22.21	25.10	26.70	1.60	9.30	34.40	36.00	1.60
256-QAM 93.3 Mbps	5730.0	22.27	22.24	25.27	26.70	1.43	9.30	34.57	36.00	1.43
	5790.0	22.37	22.40	25.40	26.70	1.30	9.30	34.70	36.00	1.30
	5845.0	22.07	22.26	25.18	26.70	1.52	9.30	34.48	36.00	1.52

**Table 8.3-2:** FCC Output power measurements and EIRP calculations results for 10 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	8.82	8.75	11.80	12.70	0.90	23.30	35.10	36.00	0.90
	5790.0	8.10	9.14	11.66	12.70	1.04	23.30	34.96	36.00	1.04
	5845.0	8.57	9.04	11.82	12.70	0.88	23.30	35.12	36.00	0.88
256-QAM 93.3 Mbps	5730.0	9.09	8.83	11.97	12.70	0.73	23.30	35.27	36.00	0.73
	5790.0	8.06	9.21	11.68	12.70	1.02	23.30	34.98	36.00	1.02
	5845.0	8.71	9.01	11.87	12.70	0.83	23.30	35.17	36.00	0.83

**Table 8.3-3:** FCC Output power measurements and EIRP calculations results for 10 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	0.67	0.72	3.71	4.70	0.99	31.30	35.01	36.00	0.99
	5790.0	1.13	1.03	4.09	4.70	0.61	31.30	35.39	36.00	0.61
	5845.0	0.31	1.00	3.68	4.70	1.02	31.30	34.98	36.00	1.02
256-QAM 93.3 Mbps	5730.0	0.82	0.61	3.73	4.70	0.97	31.30	35.03	36.00	0.97
	5790.0	1.08	1.00	4.05	4.70	0.65	31.30	35.35	36.00	0.65
	5845.0	0.25	1.04	3.67	4.70	1.03	31.30	34.97	36.00	1.03

**Table 8.3-4:** FCC Output power measurements and EIRP calculation results for 20 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	22.49	22.37	25.44	26.70	1.26	9.30	34.74	36.00	1.26
	5790.0	22.64	22.47	25.57	26.70	1.13	9.30	34.87	36.00	1.13
	5840.0	22.29	22.34	25.33	26.70	1.37	9.30	34.63	36.00	1.37
256-QAM 186.6 Mbps	5735.0	22.63	22.34	25.50	26.70	1.20	9.30	34.80	36.00	1.20
	5790.0	22.57	22.50	25.55	26.70	1.15	9.30	34.85	36.00	1.15
	5840.0	22.26	22.36	25.32	26.70	1.38	9.30	34.62	36.00	1.38



**Table 8.3-5:** FCC Output power measurements and EIRP calculations results for 20 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	8.27	9.02	11.67	12.70	1.03	23.30	34.97	36.00	1.03
	5790.0	9.36	8.40	11.92	12.70	0.78	23.30	35.22	36.00	0.78
	5840.0	9.02	8.23	11.65	12.70	1.05	23.30	34.95	36.00	1.05
256-QAM 186.6 Mbps	5735.0	8.10	9.03	11.60	12.70	1.10	23.30	34.90	36.00	1.10
	5790.0	9.25	8.41	11.86	12.70	0.84	23.30	35.16	36.00	0.84
	5840.0	8.91	9.06	12.00	12.70	0.70	23.30	35.30	36.00	0.70

**Table 8.3-6:** FCC Output power measurements and EIRP calculations results for 20 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	1.06	0.79	3.94	4.70	0.76	31.30	35.24	36.00	0.76
	5790.0	1.35	1.26	4.32	4.70	0.38	31.30	35.62	36.00	0.38
	5840.0	0.68	0.87	3.79	4.70	0.91	31.30	35.09	36.00	0.91
256-QAM 186.6 Mbps	5735.0	0.93	0.79	3.87	4.70	0.83	31.30	35.17	36.00	0.83
	5790.0	1.40	1.23	4.33	4.70	0.37	31.30	35.63	36.00	0.37
	5840.0	0.64	0.91	3.79	4.70	0.91	31.30	35.09	36.00	0.91

**Table 8.3-7:** FCC Output power measurements and EIRP calculation results for 40 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	22.61	22.49	25.56	26.70	1.14	9.30	34.86	36.00	1.14
	5790.0	22.63	22.70	25.68	26.70	1.02	9.30	34.98	36.00	1.02
	5830.0	22.47	22.45	25.47	26.70	1.23	9.30	34.77	36.00	1.23
256-QAM 373.3 Mbps	5745.0	22.70	22.50	25.61	26.70	1.09	9.30	34.91	36.00	1.09
	5790.0	22.64	22.74	25.70	26.70	1.00	9.30	35.00	36.00	1.00
	5830.0	22.44	22.49	25.48	26.70	1.22	9.30	34.78	36.00	1.22

**Table 8.3-8:** FCC Output power measurements and EIRP calculations results for 40 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	9.07	8.80	11.95	12.70	0.75	23.30	35.25	36.00	0.75
	5790.0	8.30	9.40	11.90	12.70	0.80	23.30	35.20	36.00	0.80
	5830.0	8.98	8.28	11.65	12.70	1.05	23.30	34.95	36.00	1.05
256-QAM 373.3 Mbps	5745.0	9.15	8.77	11.97	12.70	0.73	23.30	35.27	36.00	0.73
	5790.0	8.24	9.36	11.85	12.70	0.85	23.30	35.15	36.00	0.85
	5830.0	9.00	8.06	11.57	12.70	1.13	23.30	34.87	36.00	1.13

**Table 8.3-9:** FCC Output power measurements and EIRP calculations results for 40 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	0.78	0.60	3.70	4.70	1.00	31.30	35.00	36.00	1.00
	5790.0	1.07	1.17	4.13	4.70	0.57	31.30	35.43	36.00	0.57
	5830.0	0.78	0.90	3.85	4.70	0.85	31.30	35.15	36.00	0.85
256-QAM 373.3 Mbps	5745.0	0.83	0.57	3.71	4.70	0.99	31.30	35.01	36.00	0.99
	5790.0	1.11	1.20	4.17	4.70	0.53	31.30	35.47	36.00	0.53
	5830.0	0.75	0.91	3.84	4.70	0.86	31.30	35.14	36.00	0.86

**Table 8.3-10:** FCC PSD measurements results for 10 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	12.58	12.32	15.46	26.70	11.24
	5790.0	12.85	12.94	15.91	26.70	10.79
	5845.0	12.62	12.62	15.63	26.70	11.07
256-QAM 93.3 Mbps	5730.0	12.52	12.36	15.45	26.70	11.25
	5790.0	12.81	13.02	15.93	26.70	10.77
	5845.0	12.41	12.50	15.47	26.70	11.23

**Table 8.3-11:** FCC PSD measurements results for 10 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-1.18	-1.63	1.61	12.70	11.09
	5790.0	-1.57	-0.78	1.85	12.70	10.85
	5845.0	-1.09	-0.99	1.97	12.70	10.73
256-QAM 93.3 Mbps	5730.0	-1.17	-1.64	1.61	12.70	11.09
	5790.0	-1.68	-0.82	1.78	12.70	10.92
	5845.0	-1.22	-1.03	1.89	12.70	10.81

**Table 8.3-12:** FCC PSD measurements results for 10 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-9.41	-9.79	-6.59	4.70	11.29
	5790.0	-8.63	-9.08	-5.84	4.70	10.54
	5845.0	-9.23	-9.16	-6.18	4.70	10.88
256-QAM 93.3 Mbps	5730.0	-9.41	-9.79	-6.59	4.70	11.29
	5790.0	-8.65	-9.13	-5.87	4.70	10.57
	5845.0	-9.24	-9.10	-6.16	4.70	10.86

**Table 8.3-13:** FCC PSD measurements results for 20 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	9.93	9.89	12.92	26.70	13.78
	5790.0	10.11	10.78	13.47	26.70	13.23
	5840.0	9.97	10.01	13.00	26.70	13.70
256-QAM 186.6 Mbps	5735.0	9.88	9.83	12.87	26.70	13.83
	5790.0	10.09	10.56	13.34	26.70	13.36
	5840.0	9.75	10.12	12.95	26.70	13.75

**Table 8.3-14:** FCC PSD measurements results for 20 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-4.98	-4.15	-1.53	12.70	14.23
	5790.0	-3.58	-4.44	-0.98	12.70	13.68
	5840.0	-3.90	-4.64	-1.24	12.70	13.94
256-QAM 186.6 Mbps	5735.0	-5.03	-4.14	-1.55	12.70	14.25
	5790.0	-3.58	-4.39	-0.96	12.70	13.66
	5840.0	-3.87	-3.73	-0.79	12.70	13.49



**Table 8.3-15:** FCC PSD measurements results for 20 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-12.24	-12.42	-9.32	4.70	14.02
	5790.0	-11.67	-11.53	-8.59	4.70	13.29
	5840.0	-12.12	-11.85	-8.97	4.70	13.67
256-QAM 186.6 Mbps	5735.0	-12.23	-12.46	-9.33	4.70	14.03
	5790.0	-11.64	-11.53	-8.57	4.70	13.27
	5840.0	-12.04	-11.90	-8.96	4.70	13.66

**Table 8.3-16:** FCC PSD measurements results for 40 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	7.38	7.68	10.54	26.70	16.16
	5790.0	7.76	8.03	10.91	26.70	15.79
	5830.0	7.40	8.04	10.74	26.70	15.96
256-QAM 373.3 Mbps	5745.0	7.32	7.75	10.55	26.70	16.15
	5790.0	7.72	7.95	10.85	26.70	15.85
	5830.0	7.47	8.00	10.75	26.70	15.95

**Table 8.3-17:** FCC PSD measurements results for 40 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-6.48	-6.44	-3.45	12.70	16.15
	5790.0	-6.91	-5.87	-3.35	12.70	16.05
	5830.0	-6.25	-6.79	-3.50	12.70	16.20
256-QAM 373.3 Mbps	5745.0	-6.45	-6.46	-3.44	12.70	16.14
	5790.0	-6.86	-5.88	-3.33	12.70	16.03
	5830.0	-6.27	-6.79	-3.51	12.70	16.21

**Table 8.3-18:** FCC PSD measurements results for 40 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-14.69	-14.79	-11.73	4.70	16.43
	5790.0	-13.99	-14.17	-11.07	4.70	15.77
	5830.0	-14.35	-13.92	-11.12	4.70	15.82
256-QAM 373.3 Mbps	5745.0	-14.70	-14.73	-11.70	4.70	16.40
	5790.0	-13.99	-14.18	-11.07	4.70	15.77
	5830.0	-14.39	-13.87	-11.11	4.70	15.81



**Table 8.3-19:** ISED Output power measurements and EIRP calculation results for 10 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	16.72	15.30	19.08	26.70	7.62	9.30	28.38	36.00	7.62
	5790.0	22.30	22.44	25.38	26.70	1.32	9.30	34.68	36.00	1.32
	5845.0	16.19	15.80	19.01	26.70	7.69	9.30	28.31	36.00	7.69
256-QAM 93.3 Mbps	5730.0	16.73	15.29	19.08	26.70	7.62	9.30	28.38	36.00	7.62
	5790.0	22.37	22.40	25.40	26.70	1.30	9.30	34.70	36.00	1.30
	5845.0	16.14	15.81	18.99	26.70	7.71	9.30	28.29	36.00	7.71

**Table 8.3-20:** ISED Output power measurements and EIRP calculations results for 10 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	2.31	1.77	5.06	12.70	7.64	23.30	28.36	36.00	7.64
	5790.0	8.10	9.14	11.66	12.70	1.04	23.30	34.96	36.00	1.04
	5845.0	1.94	2.28	5.12	12.70	7.58	23.30	28.42	36.00	7.58
256-QAM 93.3 Mbps	5730.0	2.29	1.76	5.04	12.70	7.66	23.30	28.34	36.00	7.66
	5790.0	8.06	9.21	11.68	12.70	1.02	23.30	34.98	36.00	1.02
	5845.0	1.91	2.27	5.10	12.70	7.60	23.30	28.40	36.00	7.60

**Table 8.3-21:** ISED Output power measurements and EIRP calculations results for 10 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	-6.15	-6.66	-3.39	4.70	8.09	31.30	27.91	36.00	8.09
	5790.0	1.13	1.03	4.09	4.70	0.61	31.30	35.39	36.00	0.61
	5845.0	-6.59	-6.04	-3.30	4.70	8.00	31.30	28.00	36.00	8.00
256-QAM 93.3 Mbps	5730.0	-6.38	-6.63	-3.49	4.70	8.19	31.30	27.81	36.00	8.19
	5790.0	1.08	1.00	4.05	4.70	0.65	31.30	35.35	36.00	0.65
	5845.0	-6.57	-6.37	-3.46	4.70	8.16	31.30	27.84	36.00	8.16

**Table 8.3-22:** ISED Output power measurements and EIRP calculation results for 20 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	17.06	16.82	19.95	26.70	6.75	9.30	29.25	36.00	6.75
	5790.0	22.64	22.47	25.57	26.70	1.13	9.30	34.87	36.00	1.13
	5840.0	16.61	16.87	19.75	26.70	6.95	9.30	29.05	36.00	6.95
256-QAM 186.6 Mbps	5735.0	17.02	16.75	19.90	26.70	6.80	9.30	29.20	36.00	6.80
	5790.0	22.57	22.50	25.55	26.70	1.15	9.30	34.85	36.00	1.15
	5840.0	16.66	16.89	19.79	26.70	6.91	9.30	29.09	36.00	6.91





**Table 8.3-23:** ISED Output power measurements and EIRP calculations results for 20 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	3.80	3.22	6.53	12.70	6.17	23.30	29.83	36.00	6.17
	5790.0	9.36	8.40	11.92	12.70	0.78	23.30	35.22	36.00	0.78
	5840.0	3.14	3.31	6.24	12.70	6.46	23.30	29.54	36.00	6.46
256-QAM 186.6 Mbps	5735.0	3.78	3.18	6.50	12.70	6.20	23.30	29.80	36.00	6.20
	5790.0	9.25	8.41	11.86	12.70	0.84	23.30	35.16	36.00	0.84
	5840.0	3.11	3.30	6.22	12.70	6.48	23.30	29.52	36.00	6.48

**Table 8.3-24:** ISED Output power measurements and EIRP calculations results for 20 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	-5.01	-5.26	-2.12	4.70	6.82	31.30	29.18	36.00	6.82
	5790.0	1.35	1.26	4.32	4.70	0.38	31.30	35.62	36.00	0.38
	5840.0	-5.37	-4.80	-2.07	4.70	6.77	31.30	29.23	36.00	6.77
256-QAM 186.6 Mbps	5735.0	-5.01	-5.17	-2.08	4.70	6.78	31.30	29.22	36.00	6.78
	5790.0	1.40	1.23	4.33	4.70	0.37	31.30	35.63	36.00	0.37
	5840.0	-5.32	-4.75	-2.02	4.70	6.72	31.30	29.28	36.00	6.72

**Table 8.3-25:** ISED Output power measurements and EIRP calculation results for 40 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	17.14	16.96	20.06	26.70	6.64	9.30	29.36	36.00	6.64
	5790.0	22.63	22.70	25.68	26.70	1.02	9.30	34.98	36.00	1.02
	5830.0	16.75	17.04	19.91	26.70	6.79	9.30	29.21	36.00	6.79
256-QAM 373.3 Mbps	5745.0	17.13	16.97	20.06	26.70	6.64	9.30	29.36	36.00	6.64
	5790.0	22.64	22.74	25.70	26.70	1.00	9.30	35.00	36.00	1.00
	5830.0	16.80	17.07	19.95	26.70	6.75	9.30	29.25	36.00	6.75

**Table 8.3-26:** ISED Output power measurements and EIRP calculations results for 40 MHz channel, PMP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	4.54	3.41	7.02	12.70	5.68	23.30	30.32	36.00	5.68
	5790.0	8.30	9.40	11.90	12.70	0.80	23.30	35.20	36.00	0.80
	5830.0	4.23	3.46	6.87	12.70	5.83	23.30	30.17	36.00	5.83
256-QAM 373.3 Mbps	5745.0	4.48	3.41	6.99	12.70	5.71	23.30	30.29	36.00	5.71
	5790.0	8.24	9.36	11.85	12.70	0.85	23.30	35.15	36.00	0.85
	5830.0	4.24	3.44	6.87	12.70	5.83	23.30	30.17	36.00	5.83

**Table 8.3-27:** ISED Output power measurements and EIRP calculations results for 40 MHz channel, PMP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB	Tot. Gain, dBi	EIRP, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	-3.66	-3.86	-0.75	4.70	5.45	31.30	30.55	36.00	5.45
	5790.0	1.07	1.17	4.13	4.70	0.57	31.30	35.43	36.00	0.57
	5830.0	-3.78	-3.59	-0.67	4.70	5.37	31.30	30.63	36.00	5.37
256-QAM 373.3 Mbps	5745.0	-3.66	-3.77	-0.70	4.70	5.40	31.30	30.60	36.00	5.40
	5790.0	1.11	1.20	4.17	4.70	0.53	31.30	35.47	36.00	0.53
	5830.0	-3.76	-3.86	-0.80	4.70	5.50	31.30	30.50	36.00	5.50

**Table 8.3-28:** ISED PSD measurements results for 10 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	5.56	4.01	7.86	26.70	18.84
	5790.0	12.85	12.94	15.91	26.70	10.79
	5845.0	5.34	4.46	7.93	26.70	18.77
256-QAM 93.3 Mbps	5730.0	5.53	4.00	7.84	26.70	18.86
	5790.0	12.81	13.02	15.93	26.70	10.77
	5845.0	5.34	4.30	7.86	26.70	18.84

**Table 8.3-29:** ISED PSD measurements results for 10 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-8.59	-9.48	-6.00	12.70	18.70
	5790.0	-1.57	-0.78	1.85	12.70	10.85
	5845.0	-8.66	-9.00	-5.82	12.70	18.52
256-QAM 93.3 Mbps	5730.0	-8.63	-9.48	-6.02	12.70	18.72
	5790.0	-1.68	-0.82	1.78	12.70	10.92
	5845.0	-8.74	-9.05	-5.88	12.70	18.58

**Table 8.3-30:** ISED PSD measurements results for 10 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-16.75	-17.43	-14.07	4.70	18.77
	5790.0	-8.63	-9.08	-5.84	4.70	10.54
	5845.0	-16.85	-17.14	-13.98	4.70	18.68
256-QAM 93.3 Mbps	5730.0	-16.77	-17.39	-14.06	4.70	18.76
	5790.0	-8.65	-9.13	-5.87	4.70	10.57
	5845.0	-16.89	-17.14	-14.00	4.70	18.70

**Table 8.3-31:** ISED PSD measurements results for 20 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	2.95	2.35	5.67	26.70	21.03
	5790.0	10.11	10.78	13.47	26.70	13.23
	5840.0	2.43	2.69	5.57	26.70	21.13
256-QAM 186.6 Mbps	5735.0	3.00	2.54	5.79	26.70	20.91
	5790.0	10.09	10.56	13.34	26.70	13.36
	5840.0	2.37	2.69	5.54	26.70	21.16

**Table 8.3-32:** ISED PSD measurements results for 20 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-10.19	-10.79	-7.47	12.70	20.17
	5790.0	-3.58	-4.44	-0.98	12.70	13.68
	5840.0	-11.02	-10.76	-7.88	12.70	20.58
256-QAM 186.6 Mbps	5735.0	-10.24	-10.83	-7.51	12.70	20.21
	5790.0	-3.58	-4.39	-0.96	12.70	13.66
	5840.0	-11.02	-10.73	-7.86	12.70	20.56

**Table 8.3-33:** ISED PSD measurements results for 20 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-17.44	-18.99	-15.14	4.70	19.84
	5790.0	-11.67	-11.53	-8.59	4.70	13.29
	5840.0	-18.89	-18.73	-15.80	4.70	20.50
256-QAM 186.6 Mbps	5735.0	-17.61	-18.92	-15.21	4.70	19.91
	5790.0	-11.64	-11.53	-8.57	4.70	13.27
	5840.0	-18.89	-18.75	-15.81	4.70	20.51

**Table 8.3-34:** ISED PSD measurements results for 40 MHz channel, PMP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	7.76	8.03	10.91	26.70	15.79
	5790.0	-0.11	0.67	3.31	26.70	23.39
	5830.0	-0.05	0.23	3.10	26.70	23.60
256-QAM 373.3 Mbps	5745.0	7.72	7.95	10.85	26.70	15.85
	5790.0	-0.13	0.65	3.29	26.70	23.41
	5830.0	7.76	8.03	10.91	26.70	15.79

**Table 8.3-35:** ISED PSD measurements results for 40 MHz channel, PMP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-12.54	-13.26	-9.87	12.70	22.57
	5790.0	-6.91	-5.87	-3.35	12.70	16.05
	5830.0	-12.57	-12.83	-9.69	12.70	22.39
256-QAM 373.3 Mbps	5745.0	-12.57	-13.23	-9.88	12.70	22.58
	5790.0	-6.86	-5.88	-3.33	12.70	16.03
	5830.0	-12.62	-12.80	-9.70	12.70	22.40

**Table 8.3-36:** ISED PSD measurements results for 40 MHz channel, PMP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-20.36	-20.30	-17.32	4.70	22.02
	5790.0	-13.99	-14.17	-11.07	4.70	15.77
	5830.0	-20.66	-20.02	-17.32	4.70	22.02
256-QAM 373.3 Mbps	5745.0	-20.37	-20.32	-17.33	4.70	22.03
	5790.0	-13.99	-14.18	-11.07	4.70	15.77
	5830.0	-20.69	-20.01	-17.33	4.70	22.03

**Table 8.3-37:** FCC Output power measurements and EIRP calculation results for 10 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	22.38	22.27	25.34	30.00	4.66
	5790.0	22.30	22.44	25.38	30.00	4.62
	5845.0	21.97	22.21	25.10	30.00	4.90
256-QAM 93.3 Mbps	5730.0	22.27	22.24	25.27	30.00	4.73
	5790.0	22.37	22.40	25.40	30.00	4.60
	5845.0	22.07	22.26	25.18	30.00	4.82

**Table 8.3-38:** FCC Output power measurements and EIRP calculations results for 10 MHz channel, PTP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	19.53	19.44	22.50	30.00	7.50
	5790.0	21.60	21.57	24.60	30.00	5.40
	5845.0	18.34	18.48	21.42	30.00	8.58
256-QAM 93.3 Mbps	5730.0	19.67	19.52	22.61	30.00	7.39
	5790.0	21.65	21.53	24.60	30.00	5.40
	5845.0	18.26	18.47	21.38	30.00	8.62

**Table 8.3-39:** FCC Output power measurements and EIRP calculation results for 20 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	22.49	22.37	25.44	30.00	4.56
	5790.0	22.64	22.47	25.57	30.00	4.43
	5840.0	22.29	22.34	25.33	30.00	4.67
256-QAM 186.6 Mbps	5735.0	22.63	22.34	25.50	30.00	4.50
	5790.0	22.57	22.50	25.55	30.00	4.45
	5840.0	22.26	22.36	25.32	30.00	4.68

**Table 8.3-40:** FCC Output power measurements and EIRP calculations results for 20 MHz channel, PTP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	18.07	17.95	21.02	30.00	8.98
	5790.0	20.99	21.17	24.09	30.00	5.91
	5840.0	17.47	18.34	20.94	30.00	9.06
256-QAM 186.6 Mbps	5735.0	18.11	19.92	22.12	30.00	7.88
	5790.0	20.91	21.26	24.10	30.00	5.90
	5840.0	17.74	18.32	21.05	30.00	8.95

**Table 8.3-41:** FCC Output power measurements and EIRP calculation results for 40 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	22.61	22.49	25.56	30.00	4.44
	5790.0	22.63	22.70	25.68	30.00	4.32
	5830.0	22.47	22.45	25.47	30.00	4.53
256-QAM 373.3 Mbps	5745.0	22.70	22.50	25.61	30.00	4.39
	5790.0	22.64	22.74	25.70	30.00	4.30
	5830.0	22.44	22.49	25.48	30.00	4.52



**Table 8.3-42:** FCC Output power measurements and EIRP calculation results for 40 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch1, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	15.95	15.81	18.89	30.00	11.11
	5790.0	21.90	21.84	24.88	30.00	5.12
	5830.0	15.79	16.01	18.91	30.00	11.09
256-QAM 373.3 Mbps	5745.0	15.90	15.84	18.88	30.00	11.12
	5790.0	21.63	21.80	24.73	30.00	5.27
	5830.0	15.74	16.11	18.94	30.00	11.06

**Table 8.3-43:** FCC PSD measurements results for 10 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	12.58	12.32	15.46	30.00	14.54
	5790.0	12.85	12.94	15.91	30.00	14.09
	5845.0	12.62	12.62	15.63	30.00	14.37
256-QAM 93.3 Mbps	5730.0	12.52	12.36	15.45	30.00	14.55
	5790.0	12.81	13.02	15.93	30.00	14.07
	5845.0	12.41	12.50	15.47	30.00	14.53

**Table 8.3-44:** FCC PSD measurements results for 10 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	7.91	8.11	11.02	30.00	18.98
	5790.0	10.31	10.26	13.30	30.00	16.70
	5845.0	6.56	6.81	9.70	30.00	20.30
256-QAM 93.3 Mbps	5730.0	7.92	8.08	11.01	30.00	18.99
	5790.0	10.40	10.36	13.39	30.00	16.61
	5845.0	6.65	6.72	9.70	30.00	20.30

**Table 8.3-45:** FCC PSD measurements results for 20 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	9.93	9.89	12.92	30.00	17.08
	5790.0	10.11	10.78	13.47	30.00	16.53
	5840.0	9.97	10.01	13.00	30.00	17.00
256-QAM 186.6 Mbps	5735.0	9.88	9.83	12.87	30.00	17.13
	5790.0	10.09	10.56	13.34	30.00	16.66
	5840.0	9.75	10.12	12.95	30.00	17.05

**Table 8.3-46:** FCC PSD measurements results for 20 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	3.45	3.34	6.41	30.00	23.59
	5790.0	6.93	6.91	9.93	30.00	20.07
	5840.0	2.93	3.52	6.25	30.00	23.75
256-QAM 186.6 Mbps	5735.0	3.42	3.42	6.43	30.00	23.57
	5790.0	6.74	6.81	9.79	30.00	20.21
	5840.0	3.03	3.59	6.33	30.00	23.67

**Table 8.3-47:** FCC PSD measurements results for 40 MHz channel, PTP 10 dBi and 24 dBi antennas

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	7.38	7.68	10.54	30.00	19.46
	5790.0	7.76	8.03	10.91	30.00	19.09
	5830.0	7.40	8.04	10.74	30.00	19.26
256-QAM 373.3 Mbps	5745.0	7.32	7.75	10.55	30.00	19.45
	5790.0	7.72	7.95	10.85	30.00	19.15
	5830.0	7.47	8.00	10.75	30.00	19.25

**Table 8.3-48:** FCC PSD measurements results for 40 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-1.31	-1.34	1.69	30.00	28.31
	5790.0	5.31	5.26	8.30	30.00	21.70
	5830.0	-1.40	0.62	2.74	30.00	27.26
256-QAM 373.3 Mbps	5745.0	-1.57	-1.31	1.57	30.00	28.43
	5790.0	5.45	5.23	8.35	30.00	21.65
	5830.0	-1.37	-0.63	2.03	30.00	27.97

**Table 8.3-49:** ISED Output power measurements and EIRP calculation results for 10 MHz channel, PTP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	16.72	15.30	19.08	30.00	10.92
	5790.0	22.30	22.44	25.38	30.00	4.62
	5845.0	16.19	15.80	19.01	30.00	10.99
256-QAM 93.3 Mbps	5730.0	16.73	15.29	19.08	30.00	10.92
	5790.0	22.37	22.40	25.40	30.00	4.60
	5845.0	16.14	15.81	18.99	30.00	11.01

**Table 8.3-50:** ISED Output power measurements and EIRP calculations results for 10 MHz channel, PTP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	2.31	1.77	5.06	30.00	24.94
	5790.0	22.30	22.44	25.38	30.00	4.62
	5845.0	1.94	2.28	5.12	30.00	24.88
256-QAM 93.3 Mbps	5730.0	2.29	1.76	5.04	30.00	24.96
	5790.0	22.37	22.40	25.40	30.00	4.60
	5845.0	1.91	2.27	5.10	30.00	24.90

**Table 8.3-51:** ISED Output power measurements and EIRP calculations results for 10 MHz channel, PTP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 3.3 Mbps	5730.0	-6.15	-6.66	-3.39	30.00	33.39
	5790.0	21.60	21.57	24.60	30.00	5.40
	5845.0	-6.59	-6.04	-3.30	30.00	33.30
256-QAM 93.3 Mbps	5730.0	-6.38	-6.63	-3.49	30.00	33.49
	5790.0	21.65	21.53	24.60	30.00	5.40
	5845.0	-6.57	-6.37	-3.46	30.00	33.46



**Table 8.3-52:** ISED Output power measurements and EIRP calculation results for 20 MHz channel, PTP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	17.06	16.82	19.95	30.00	10.05
	5790.0	22.64	22.47	25.57	30.00	4.43
	5840.0	16.61	16.87	19.75	30.00	10.25
256-QAM 186.6 Mbps	5735.0	17.02	16.75	19.90	30.00	10.10
	5790.0	22.57	22.50	25.55	30.00	4.45
	5840.0	16.66	16.89	19.79	30.00	10.21

**Table 8.3-53:** ISED Output power measurements and EIRP calculations results for 20 MHz channel, PTP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	3.80	3.22	6.53	30.00	23.47
	5790.0	22.64	22.47	25.57	30.00	4.43
	5840.0	3.14	3.31	6.24	30.00	23.76
256-QAM 186.6 Mbps	5735.0	3.78	3.18	6.50	30.00	23.50
	5790.0	22.57	22.50	25.55	30.00	4.45
	5840.0	3.11	3.30	6.22	30.00	23.78

**Table 8.3-54:** ISED Output power measurements and EIRP calculations results for 20 MHz channel, PTP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 6.6 Mbps	5735.0	-5.01	-5.26	-2.12	30.00	32.12
	5790.0	20.99	21.17	24.09	30.00	5.91
	5840.0	-5.37	-4.80	-2.07	30.00	32.07
256-QAM 186.6 Mbps	5735.0	-5.01	-5.17	-2.08	30.00	32.08
	5790.0	20.91	21.26	24.10	30.00	5.90
	5840.0	-5.32	-4.75	-2.02	30.00	32.02

**Table 8.3-55:** ISED Output power measurements and EIRP calculation results for 40 MHz channel, PTP 10 dBi antenna

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	17.14	16.96	20.06	30.00	9.94
	5790.0	22.63	22.70	25.68	30.00	4.32
	5830.0	16.75	17.04	19.91	30.00	10.09
256-QAM 373.3 Mbps	5745.0	17.13	16.97	20.06	30.00	9.94
	5790.0	22.64	22.74	25.70	30.00	4.30
	5830.0	16.80	17.07	19.95	30.00	10.05

**Table 8.3-56:** ISED Output power measurements and EIRP calculations results for 40 MHz channel, PTP 24 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch0, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	4.54	3.41	7.02	30.00	22.98
	5790.0	22.63	22.70	25.68	30.00	4.32
	5830.0	4.23	3.46	6.87	30.00	23.13
256-QAM 373.3 Mbps	5745.0	4.48	3.41	6.99	30.00	23.01
	5790.0	22.64	22.74	25.70	30.00	4.30
	5830.0	4.24	3.44	6.87	30.00	23.13

**Table 8.3-57:** ISED Output power measurements and EIRP calculations results for 40 MHz channel, PTP 32 dBi antenna gain

Modulation and data rate	Frequency, MHz	Output power on ch0, dBm	Output power on ch1, dBm	Combined power, dBm	Limit, dBm	Margin, dB
BPSK, 13.3 Mbps	5745.0	-3.66	-3.86	-0.75	30.00	30.75
	5790.0	21.90	21.84	24.88	30.00	5.12
	5830.0	-3.78	-3.59	-0.67	30.00	30.67
256-QAM 373.3 Mbps	5745.0	-3.66	-3.77	-0.70	30.00	30.70
	5790.0	21.63	21.80	24.73	30.00	5.27
	5830.0	-3.76	-3.86	-0.80	30.00	30.80

**Table 8.3-58:** ISED PSD measurements results for 10 MHz channel, PTP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	5.56	4.01	7.86	30.00	22.14
	5790.0	12.85	12.94	15.91	30.00	14.09
	5845.0	5.34	4.46	7.93	30.00	22.07
256-QAM 93.3 Mbps	5730.0	5.53	4.00	7.84	30.00	22.16
	5790.0	12.81	13.02	15.93	30.00	14.07
	5845.0	5.34	4.30	7.86	30.00	22.14

**Table 8.3-59:** ISED PSD measurements results for 10 MHz channel, PTP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-8.59	-9.48	-6.00	30.00	36.00
	5790.0	12.85	12.94	15.91	30.00	14.09
	5845.0	-8.66	-9.00	-5.82	30.00	35.82
256-QAM 93.3 Mbps	5730.0	-8.63	-9.48	-6.02	30.00	36.02
	5790.0	12.81	13.02	15.93	30.00	14.07
	5845.0	-8.74	-9.05	-5.88	30.00	35.88

**Table 8.3-60:** ISED PSD measurements results for 10 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 3.3 Mbps	5730.0	-16.75	-17.43	-14.07	30.00	44.07
	5790.0	10.31	10.26	13.30	30.00	16.70
	5845.0	-16.85	-17.14	-13.98	30.00	43.98
256-QAM 93.3 Mbps	5730.0	-16.77	-17.39	-14.06	30.00	44.06
	5790.0	10.40	10.36	13.39	30.00	16.61
	5845.0	-16.89	-17.14	-14.00	30.00	44.00

**Table 8.3-61:** ISED PSD measurements results for 20 MHz channel, PTP 10 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	2.95	2.35	5.67	30.00	24.33
	5790.0	10.11	10.78	13.47	30.00	16.53
	5840.0	2.43	2.69	5.57	30.00	24.43
256-QAM 186.6 Mbps	5735.0	3.00	2.54	5.79	30.00	24.21
	5790.0	10.09	10.56	13.34	30.00	16.66
	5840.0	2.37	2.69	5.54	30.00	24.46



**Table 8.3-62:** ISED PSD measurements results for 20 MHz channel, PTP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-10.19	-10.79	-7.47	30.00	37.47
	5790.0	10.11	10.78	13.47	30.00	16.53
	5840.0	-11.02	-10.76	-7.88	30.00	37.88
256-QAM 186.6 Mbps	5735.0	-10.24	-10.83	-7.51	30.00	37.51
	5790.0	10.09	10.56	13.34	30.00	16.66
	5840.0	-11.02	-10.73	-7.86	30.00	37.86

**Table 8.3-63:** ISED PSD measurements results for 20 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 6.6 Mbps	5735.0	-17.44	-18.99	-15.14	30.00	45.14
	5790.0	6.93	6.91	9.93	30.00	20.07
	5840.0	-18.89	-18.73	-15.80	30.00	45.80
256-QAM 186.6 Mbps	5735.0	-17.61	-18.92	-15.21	30.00	45.21
	5790.0	6.74	6.81	9.79	30.00	20.21
	5840.0	-18.89	-18.75	-15.81	30.00	45.81

**Table 8.3-64:** ISED PSD measurements results for 40 MHz channel, PTP 10 dBi antenna

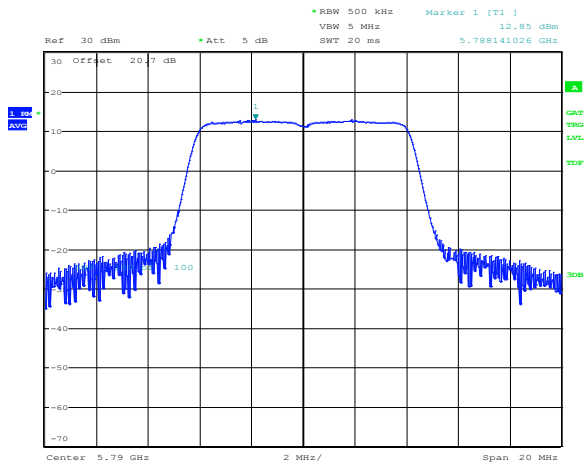
Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-0.01	0.21	3.11	30.00	26.89
	5790.0	7.76	8.03	10.91	30.00	19.09
	5830.0	-0.11	0.67	3.31	30.00	26.69
256-QAM 373.3 Mbps	5745.0	-0.05	0.23	3.10	30.00	26.90
	5790.0	7.72	7.95	10.85	30.00	19.15
	5830.0	-0.13	0.65	3.29	30.00	26.71

**Table 8.3-65:** ISED PSD measurements results for 40 MHz channel, PTP 24 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-12.54	-13.26	-9.87	30.00	39.87
	5790.0	7.76	8.03	10.91	30.00	19.09
	5830.0	-12.57	-12.83	-9.69	30.00	39.69
256-QAM 373.3 Mbps	5745.0	-12.57	-13.23	-9.88	30.00	39.88
	5790.0	7.72	7.95	10.85	30.00	19.15
	5830.0	-12.62	-12.80	-9.70	30.00	39.70

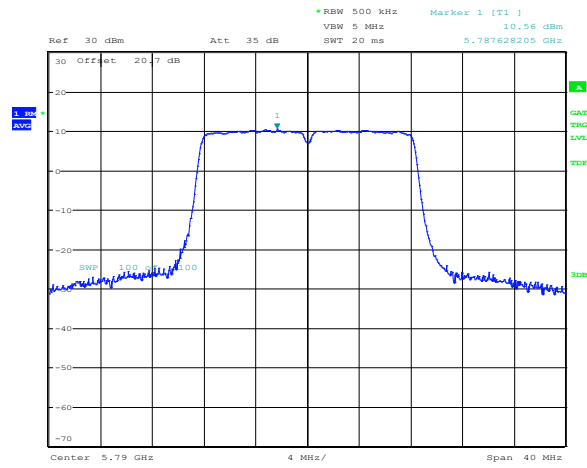
**Table 8.3-66:** ISED PSD measurements results for 40 MHz channel, PTP 32 dBi antenna

Modulation and data rate	Frequency, MHz	PSD on ch0, dBm/0.5 MHz	PSD on ch1, dBm/0.5 MHz	Combined PSD, dBm/0.5 MHz	Limit, dBm/0.5 MHz	Margin, dB
BPSK, 13.3 Mbps	5745.0	-20.36	-20.30	-17.32	30.00	47.32
	5790.0	5.31	5.26	8.30	30.00	21.70
	5830.0	-20.66	-20.02	-17.32	30.00	47.32
256-QAM 373.3 Mbps	5745.0	-20.37	-20.32	-17.33	30.00	47.33
	5790.0	5.45	5.23	8.35	30.00	21.65
	5830.0	-20.69	-20.01	-17.33	30.00	47.33



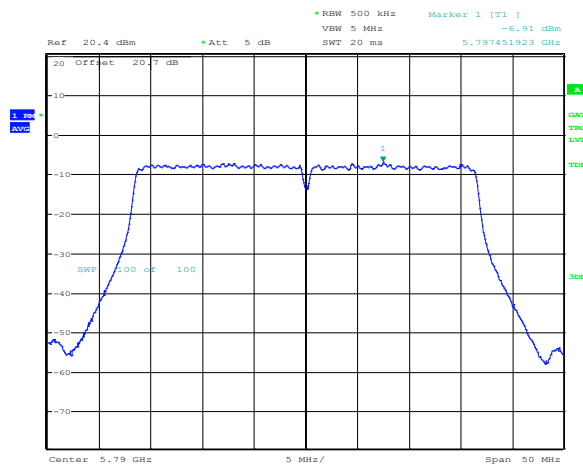
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**Figure 8.3-1:** Sample plot for PSD on 10 MHz channel



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**Figure 8.3-2:** Sample plot for PSD on 20 MHz channel



Date: 8.NOV.2016 13:40:50

**Figure 8.3-3:** Sample plot for PSD on 40 MHz channel

## 8.4 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions

### 8.4.1 Definitions and limits

#### FCC:

(4) For transmitters operating in the 5.725–5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of –27 dBm/MHz.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(7) The provisions of § 15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

#### ISED:

For the band 5725–5850 MHz, emissions at frequencies from the band edges to 10 MHz above or below the band edges shall not exceed –17 dBm/MHz e.i.r.p. For emissions at frequencies more than 10 MHz above or below the band edges, the emissions power shall not exceed –27 dBm/MHz.

#### RSS-Gen 8.10 Emissions falling within restricted frequency bands

Restricted bands, identified in Table 8.4-2, are designated primarily for safety-of-life services (distress calling and certain aeronautical bands), certain satellite downlinks, radio astronomy and some government uses. Except where otherwise indicated, the following restrictions apply:

- (a) fundamental components of modulation of licence-exempt radio apparatus shall not fall within the restricted bands of below;
- (b) unwanted emissions falling into restricted bands of below shall comply with the limits specified in RSS-Gen;
- (c) unwanted emissions not falling within restricted frequency bands shall either comply with the limits specified in the applicable RSS, or with those specified in RSS-Gen.

#### FCC 16-24, Memorandum opinion and order, March 2, 2016

(i) All emissions shall be limited to a level of –27 dBm/MHz EIRP at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz EIRP at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz EIRP at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz EIRP at the band edge.

**Table 8.4-1: FCC §15.209 and RSS-Gen – Radiated emission limits**

Frequency, MHz	Field strength of emissions		Measurement distance, m
	µV/m	dBµV/m	
0.009–0.490	$2400/F$ ( $F$ in kHz)	$67.6 - 20 \times \log_{10}(F)$ ( $F$ in kHz)	300
0.490–1.705	$24000/F$ ( $F$ in kHz)	$87.6 - 20 \times \log_{10}(F)$ ( $F$ in kHz)	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.

For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

**Table 8.4-2: ISED restricted frequency bands**

MHz	MHz	MHz	GHz
0.090–0.110	12.51975–12.52025	399.9–410	5.35–5.46
2.1735–2.1905	12.57675–12.57725	608–614	7.25–7.75
3.020–3.026	13.36–13.41	960–1427	8.025–8.5
4.125–4.128	16.42–16.423	1435–1626.5	9.0–9.2
4.17725–4.17775	16.69475–16.69525	1645.5–1646.5	9.3–9.5
4.20725–4.20775	16.80425–16.80475	1660–1710	10.6–12.7
5.677–5.683	25.5–25.67	1718.8–1722.2	13.25–13.4
6.215–6.218	37.5–38.25	2200–2300	14.47–14.5
6.26775–6.26825	73–74.6	2310–2390	15.35–16.2
6.31175–6.31225	74.8–75.2	2655–2900	17.7–21.4
8.291–8.294	108–138	3260–3267	22.01–23.12
8.362–8.366	156.52475–156.52525	3332–3339	23.6–24.0
8.37625–8.38675	156.7–156.9	3345.8–3358	31.2–31.8
8.41425–8.41475	240–285	3500–4400	36.43–36.5
12.29–12.293	322–335.4	4500–5150	Above 38.6

Note: Certain frequency bands listed in Table 8.4-2 and above 38.6 GHz are designated for low-power license-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard

**Table 8.4-3: FCC restricted frequency bands**

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

#### 8.4.2 Test summary

Test date:	November 29, 2016	Temperature:	22 °C
Test engineer:	Andrey Adelberg	Air pressure:	1010 mbar
Verdict:	Pass	Relative humidity:	31 %

### 8.4.3 Observations, settings and special notes

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The spectrum was searched from 30 MHz to 40 GHz while the EUT was transmitting on both MIMO chains simultaneously.  
Radiated measurements below 18 GHz were performed at a distance of 3 m.  
Radiated measurements above 18 GHz and in the vicinity of the allocated band edges (around 5 GHz) were performed at a distance of 1 m.  
Cabinet radiation for 10 dBi antenna were performed while both antenna connectors were terminated with 50  $\Omega$  load.  
Radiated emissions for 24 dBi and 32 dBi antennas were performed with actual antennas connected to the RF antenna ports with dedicated cables.  
All conducted plots below corrected with antenna gains, RF cable losses and multiple antenna correction factors.  
Where it is not specified in the figure comment, the power settings were set to a maximum between FCC and ISED.

Spectrum analyser for peak conducted measurements within restricted bands below 1 GHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser for peak conducted measurements within restricted bands above 1 GHz:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser for average conducted measurements within restricted bands above 1 GHz for frequencies where peak results were above the average limit:

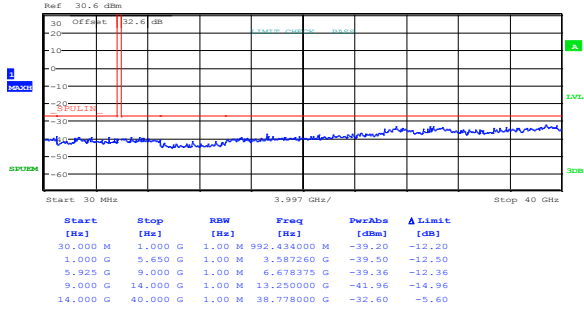
Resolution bandwidth:	1 MHz
Video bandwidth:	10 MHz
Detector mode:	RMS
Trace mode:	Power average
Number of averaging traces:	100

Spectrum analyser for peak conducted measurements outside restricted bands:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

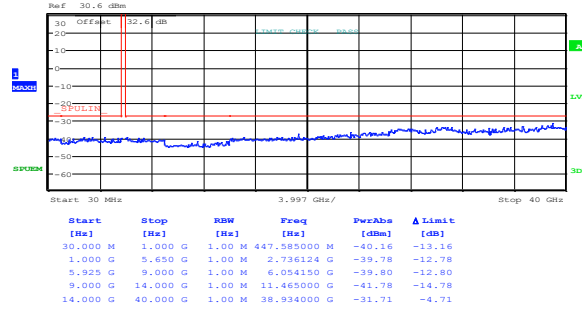
Conducted emissions measurements outside restricted bands were performed on each individual MIMO chain. The reference level offset was adjusted to include antenna directional gain and a compensation of two antenna ports (3 dB).

8.4.4 Test data



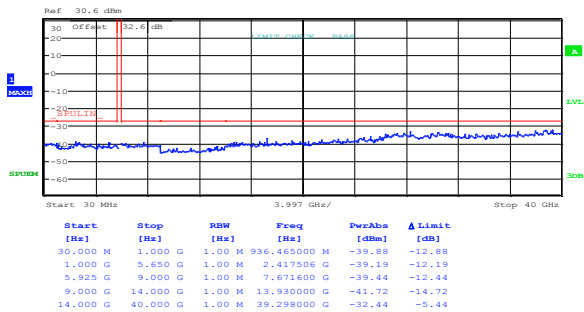
Date: 14.NOV.2016 16:24:38

Figure 8.4-1: Spurious emissions outside restricted bands, 10 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application



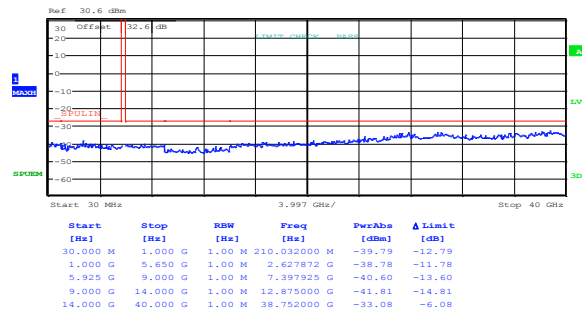
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Figure 8.4-2: Spurious emissions outside restricted bands, 10 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:24:06

Figure 8.4-3: Spurious emissions outside restricted bands, 10 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application

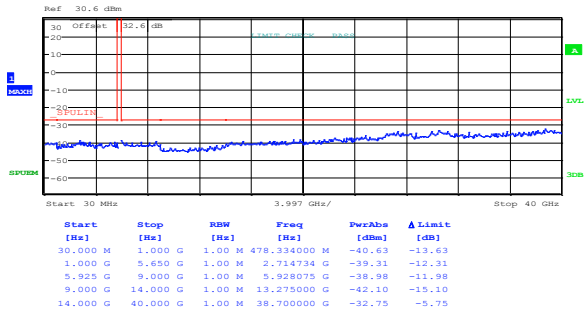


Date: 14.NOV.2016 16:18:07

Figure 8.4-4: Spurious emissions outside restricted bands, 10 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

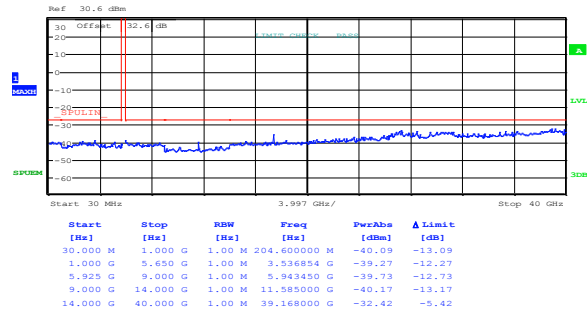
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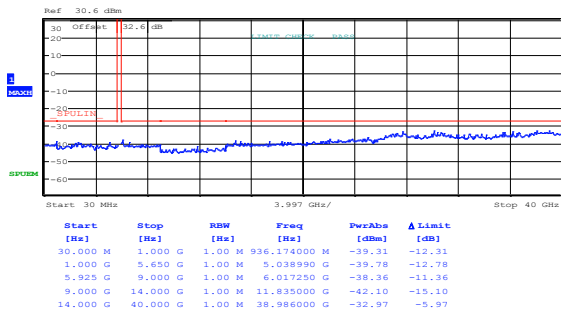
Date: 14.NOV.2016 16:22:48

**Figure 8.4-5:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application



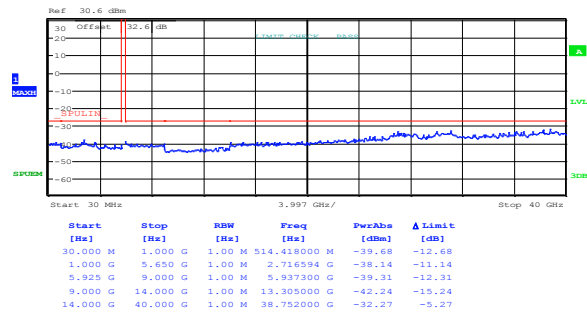
Date: 14.NOV.2016 16:19:36

**Figure 8.4-6:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:23:22

**Figure 8.4-7:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application

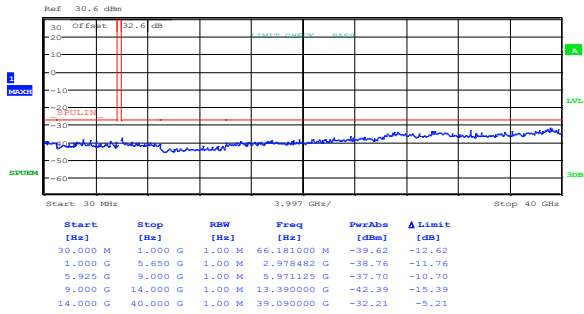


Date: 14.NOV.2016 16:19:01

**Figure 8.4-8:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application

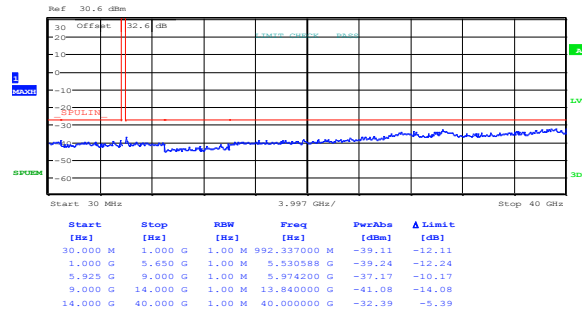
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**Specification**

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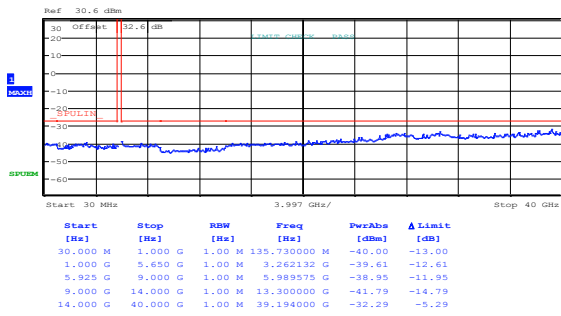
Date: 14.NOV.2016 16:22:13

**Figure 8.4-9:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



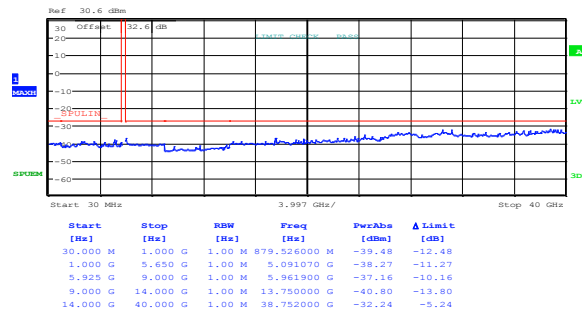
Date: 14.NOV.2016 16:20:24

**Figure 8.4-10:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:21:49

**Figure 8.4-11:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application



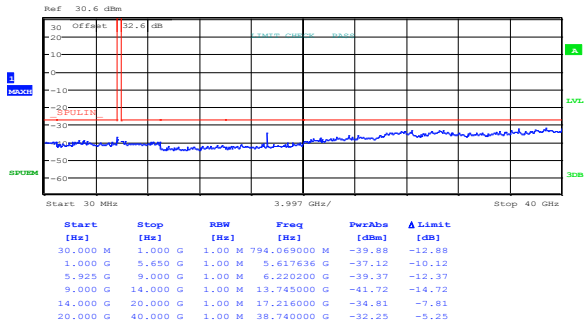
Date: 14.NOV.2016 16:21:17

**Figure 8.4-12:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application



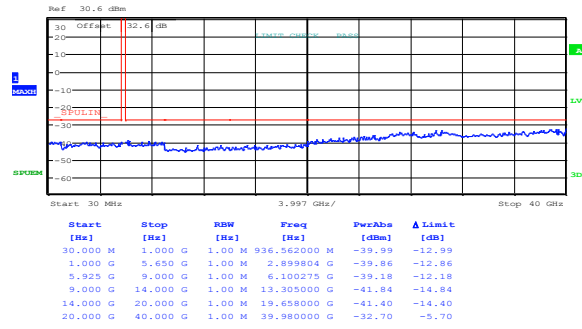
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 FCC Part 15 Subpart E and RSS-247 Issue 1



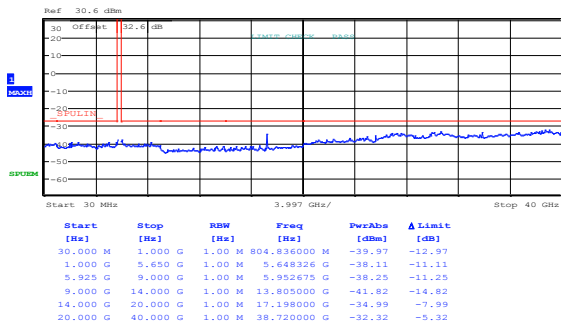
Date: 14.NOV.2016 16:29:44

**Figure 8.4-13:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application



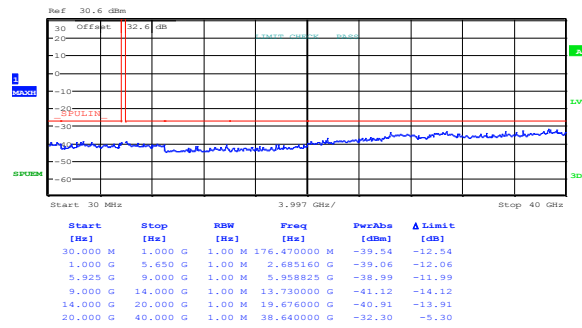
Date: 14.NOV.2016 16:47:52

**Figure 8.4-14:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:30:35

**Figure 8.4-15:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application

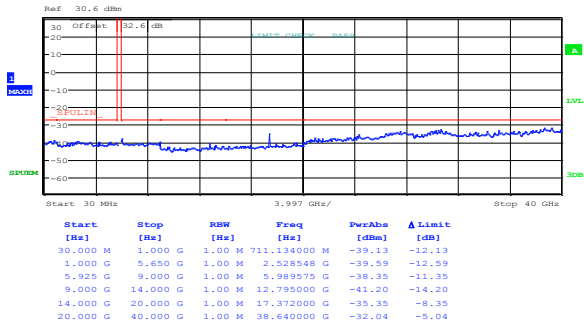


Date: 14.NOV.2016 16:47:22

**Figure 8.4-16:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

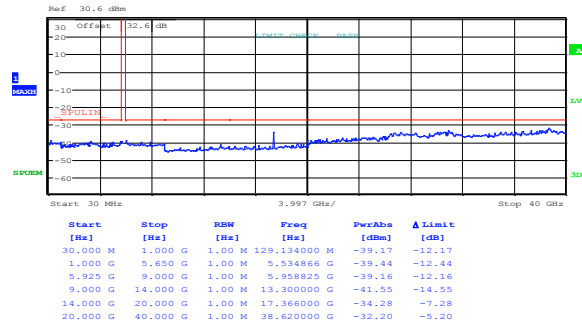
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**Specification**

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 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



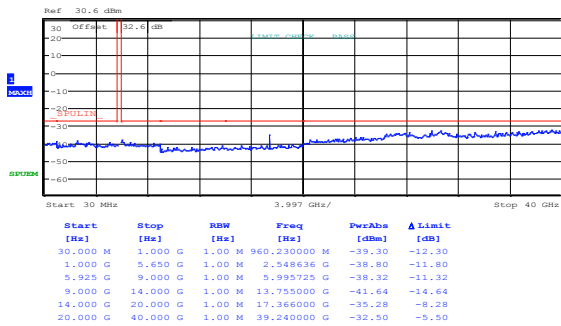
Date: 14.NOV.2016 16:32:10

**Figure 8.4-17:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application



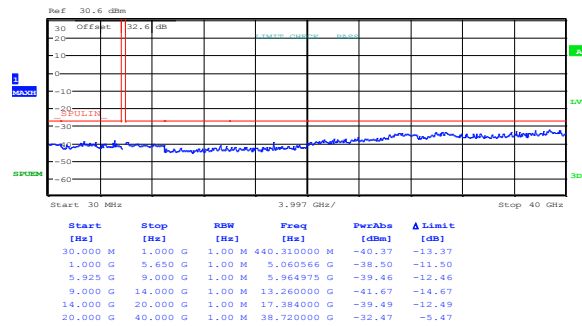
Date: 14.NOV.2016 16:45:57

**Figure 8.4-18:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:31:34

**Figure 8.4-19:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application

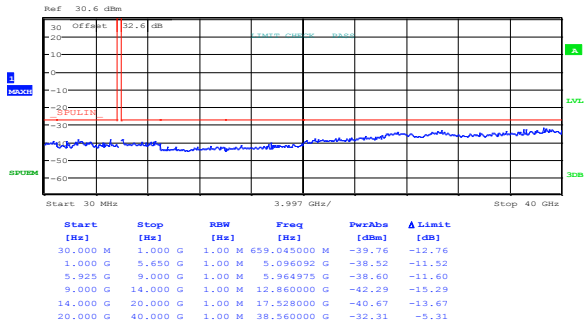


Date: 14.NOV.2016 16:46:31

**Figure 8.4-20:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application

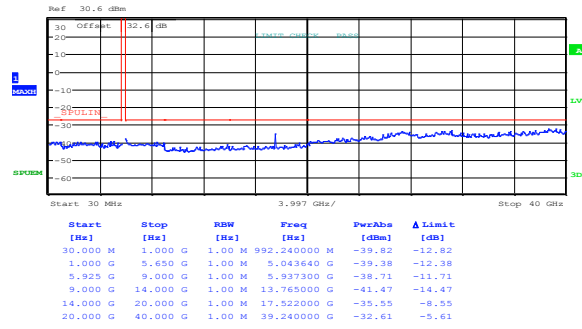
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**Test name**  
**Specification**

Testing data  
 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



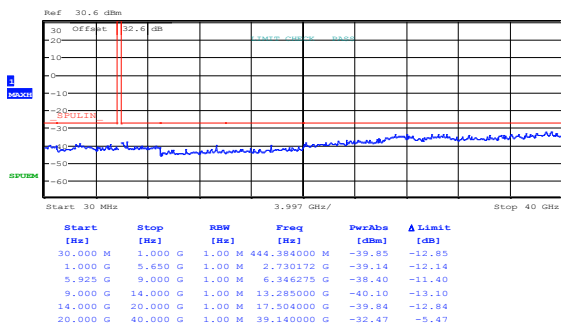
Date: 14.NOV.2016 16:43:39

**Figure 8.4-21:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



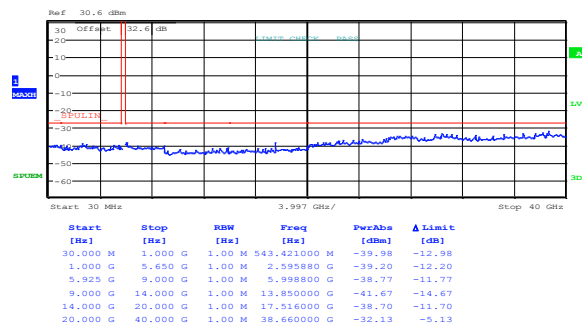
Date: 14.NOV.2016 16:45:19

**Figure 8.4-22:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:44:04

**Figure 8.4-23:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application

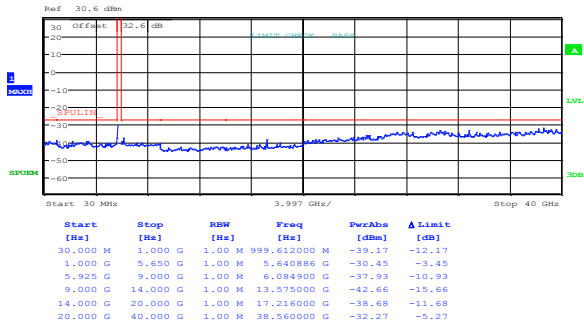


Date: 14.NOV.2016 16:44:53

**Figure 8.4-24:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application

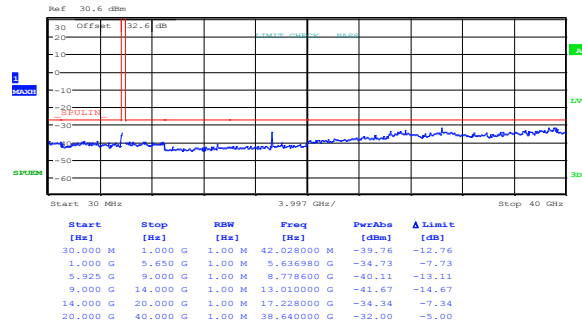
**Section 8**  
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**Specification**

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 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



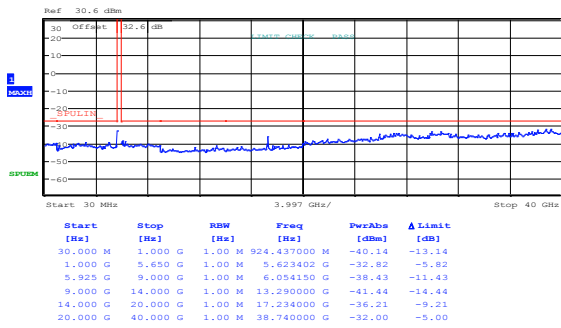
Date: 14.NOV.2016 16:55:44

**Figure 8.4-25:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application



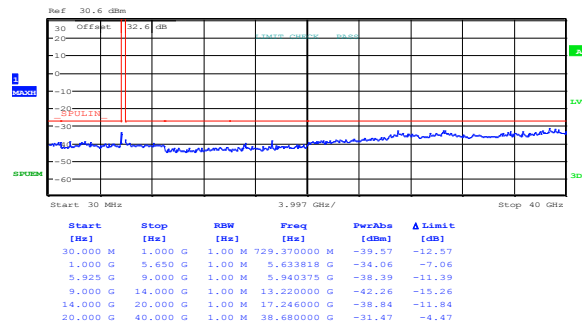
Date: 14.NOV.2016 16:48:55

**Figure 8.4-26:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:55:15

**Figure 8.4-27:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application

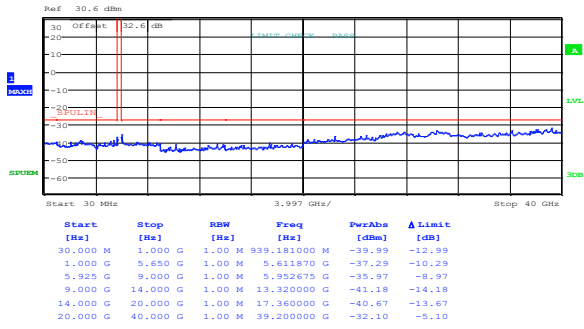


Date: 14.NOV.2016 16:49:33

**Figure 8.4-28:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

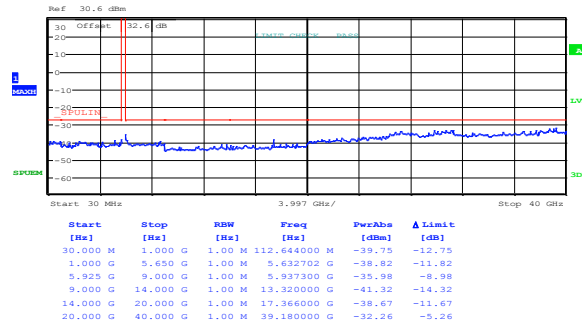
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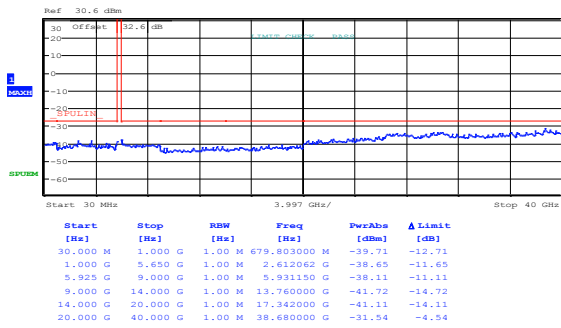
Date: 14.NOV.2016 16:54:06

**Figure 8.4-29:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application



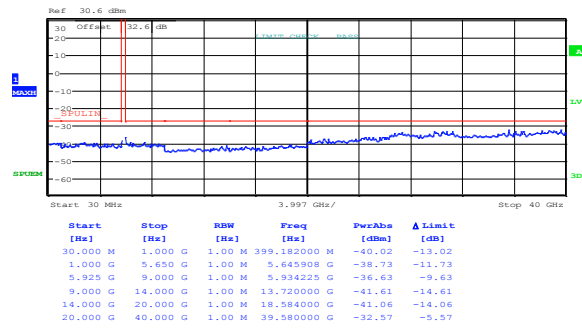
Date: 14.NOV.2016 16:50:54

**Figure 8.4-30:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:54:34

**Figure 8.4-31:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application

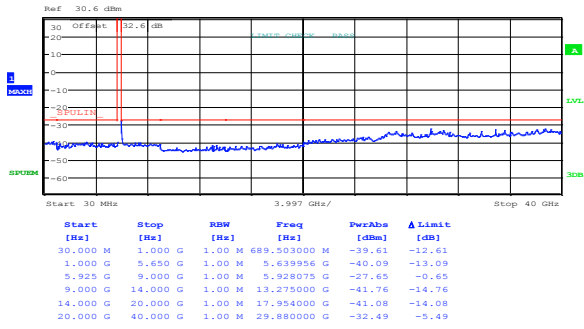


Date: 14.NOV.2016 16:50:18

**Figure 8.4-32:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application

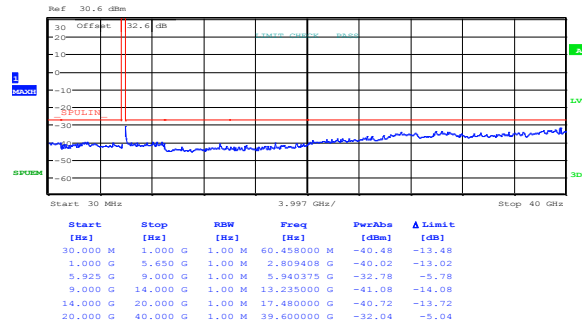
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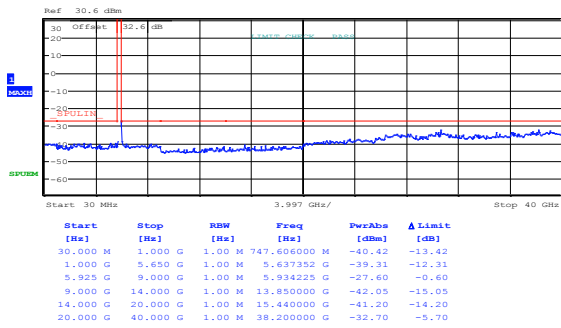
Date: 14.NOV.2016 16:53:23

**Figure 8.4-33:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



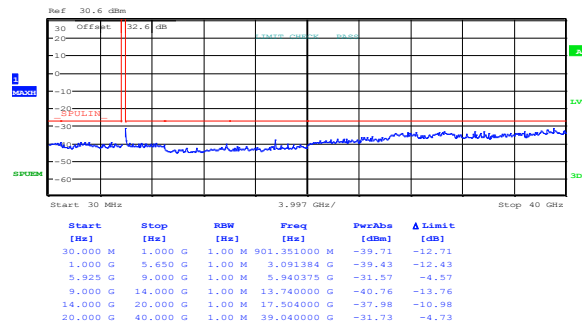
Date: 14.NOV.2016 16:51:48

**Figure 8.4-34:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 14.NOV.2016 16:52:55

**Figure 8.4-35:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 14.NOV.2016 16:52:17

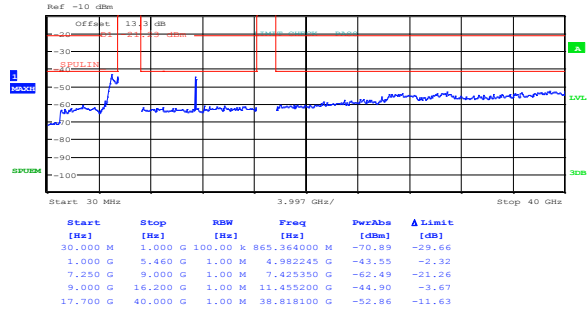
**Figure 8.4-36:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application

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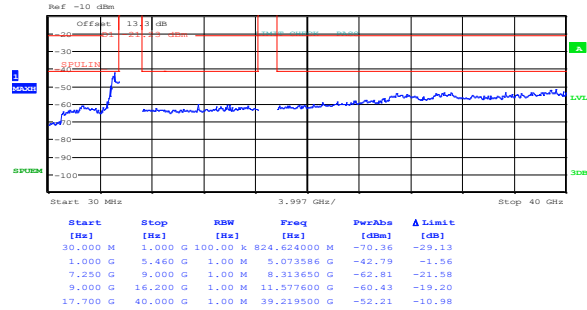


Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



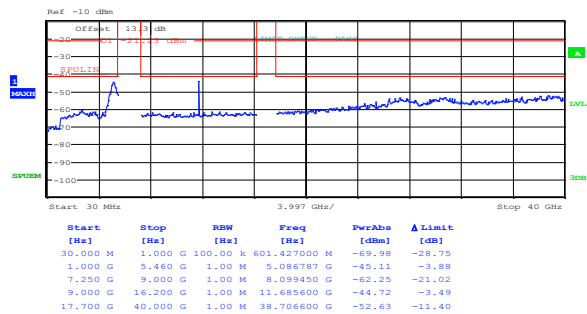
Date: 18.NOV.2016 22:34:28

**Figure 8.4-37:** Spurious emissions within restricted bands, 10 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application



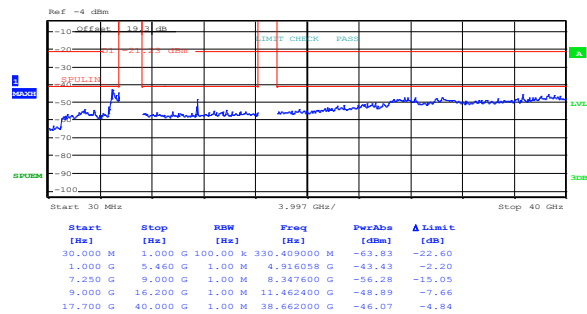
Date: 18.NOV.2016 22:37:37

**Figure 8.4-38:** Spurious emissions within restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 22:38:35

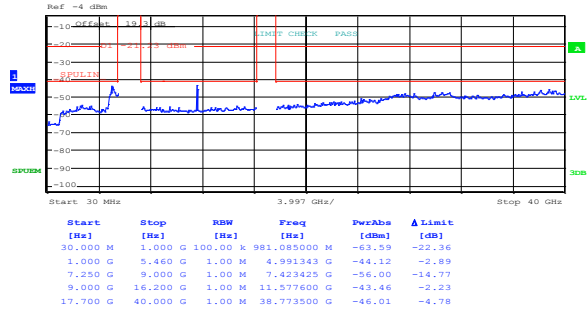
**Figure 8.4-39:** Spurious emissions within restricted bands, 10 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 22:48:58

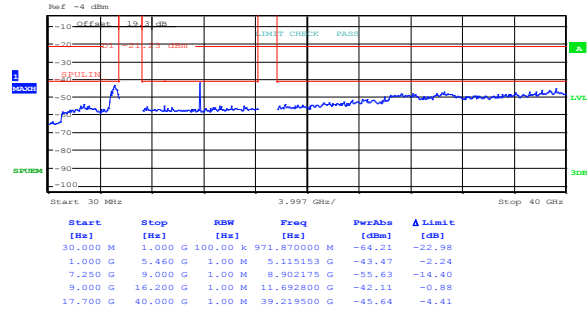
**Figure 8.4-40:** Spurious emissions within restricted bands, 10 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



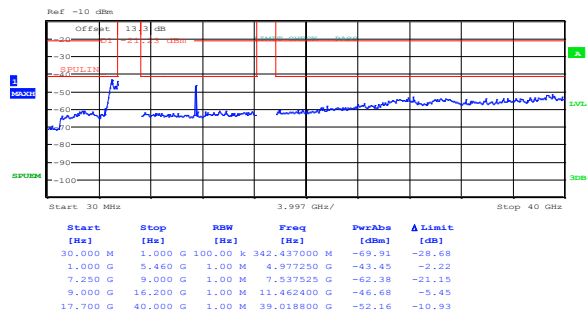
Date: 18.NOV.2016 22:44:45

**Figure 8.4-41:** Spurious emissions within restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application



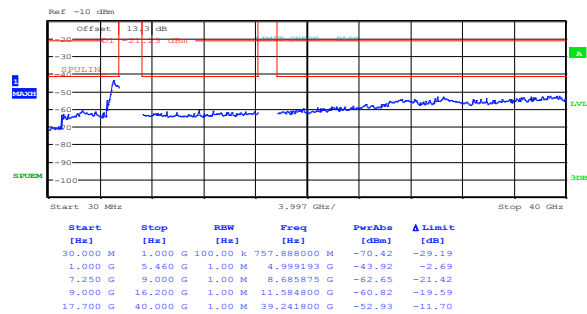
Date: 18.NOV.2016 22:44:00

**Figure 8.4-42:** Spurious emissions within restricted bands, 10 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application



Date: 18.NOV.2016 22:35:28

**Figure 8.4-43:** Spurious emissions within restricted bands, 10 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application

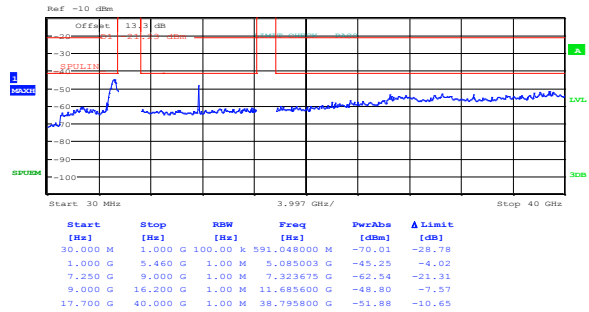


Date: 18.NOV.2016 22:37:09

**Figure 8.4-44:** Spurious emissions within restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application

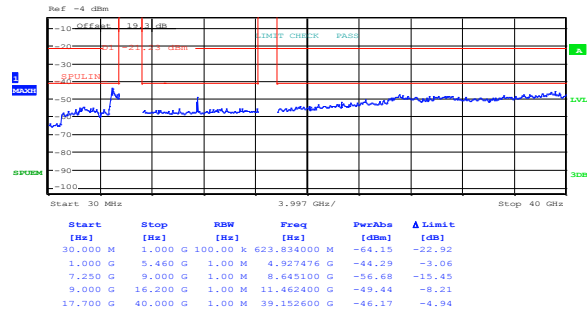


Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



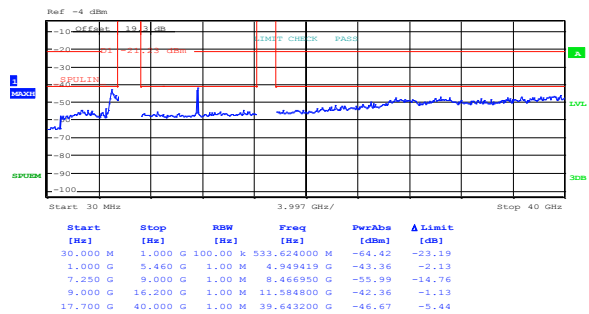
Date: 18.NOV.2016 22:39:18

**Figure 8.4-45:** Spurious emissions within restricted bands, 10 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



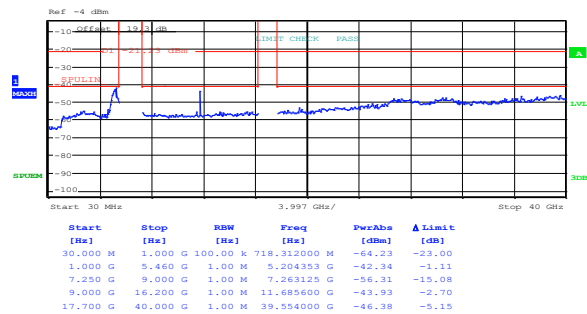
Date: 18.NOV.2016 22:48:19

**Figure 8.4-46:** Spurious emissions within restricted bands, 10 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 18.NOV.2016 22:47:37

**Figure 8.4-47:** Spurious emissions within restricted bands, 10 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 18.NOV.2016 22:43:14

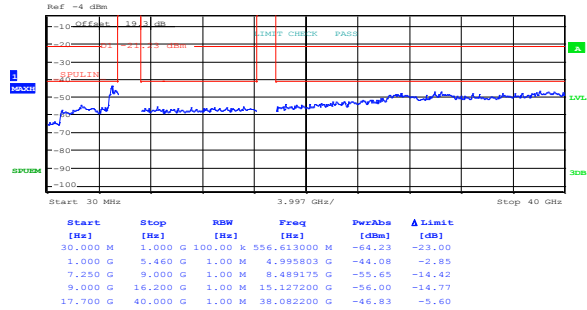
**Figure 8.4-48:** Spurious emissions within restricted bands, 10 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application

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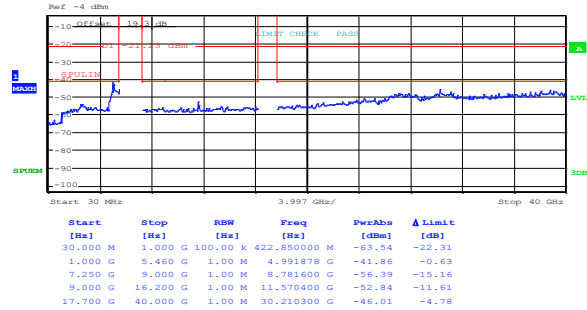


Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



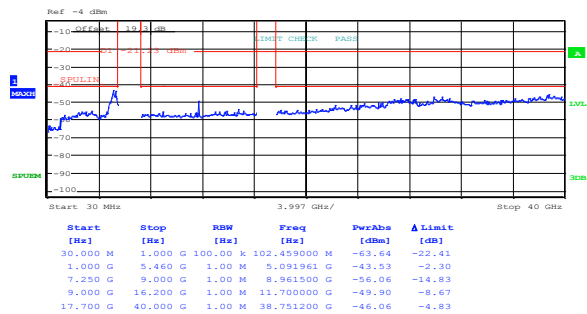
Date: 18.NOV.2016 22:59:34

**Figure 8.4-49:** Spurious emissions within restricted bands, 20 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application



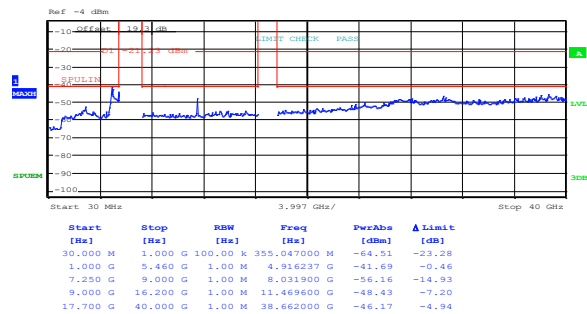
Date: 18.NOV.2016 22:57:48

**Figure 8.4-50:** Spurious emissions within restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 22:55:07

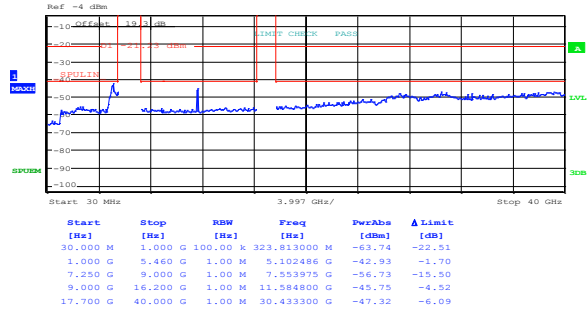
**Figure 8.4-51:** Spurious emissions within restricted bands, 20 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 22:50:05

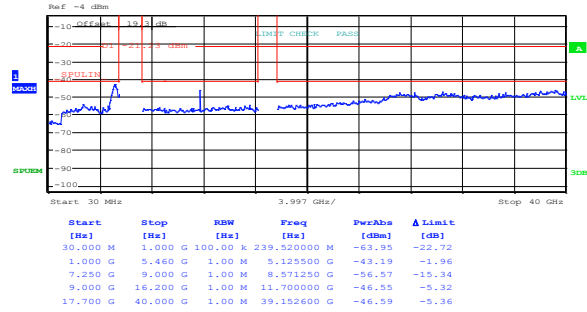
**Figure 8.4-52:** Spurious emissions within restricted bands, 20 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



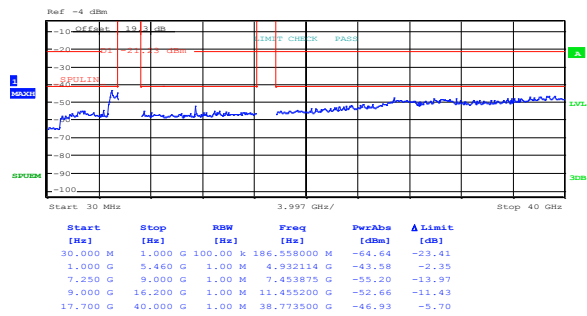
Date: 18.NOV.2016 22:52:41

**Figure 8.4-53:** Spurious emissions within restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application



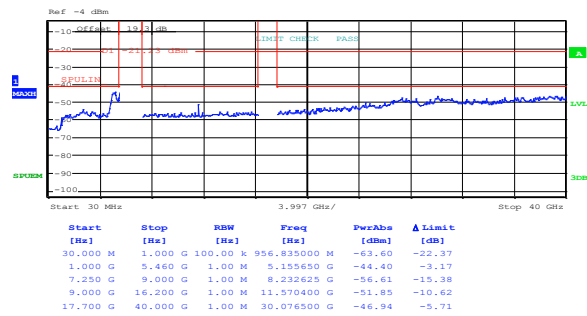
Date: 18.NOV.2016 22:53:27

**Figure 8.4-54:** Spurious emissions within restricted bands, 20 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application



Date: 18.NOV.2016 22:59:06

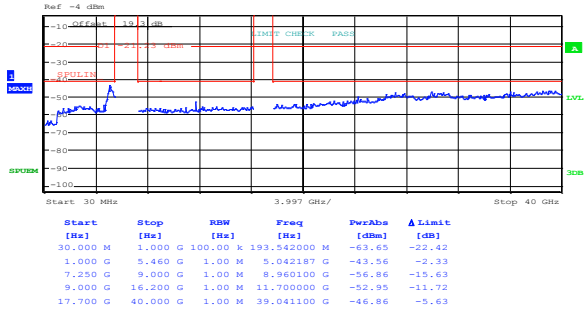
**Figure 8.4-55:** Spurious emissions within restricted bands, 20 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application



Date: 18.NOV.2016 22:58:18

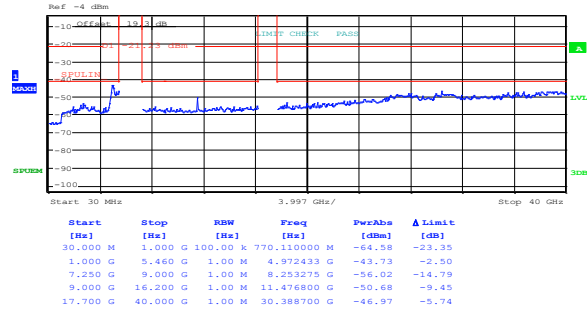
**Figure 8.4-56:** Spurious emissions within restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



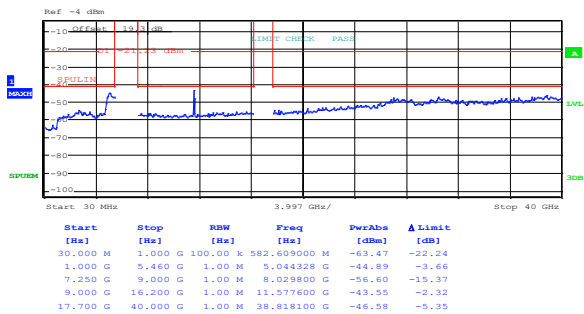
Date: 18.NOV.2016 22:54:37

**Figure 8.4-57:** Spurious emissions within restricted bands, 20 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



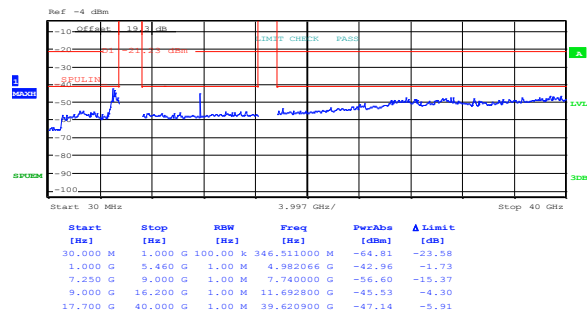
Date: 18.NOV.2016 22:50:39

**Figure 8.4-58:** Spurious emissions within restricted bands, 20 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 18.NOV.2016 22:51:45

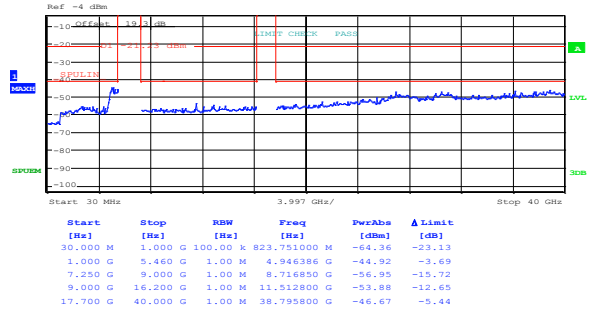
**Figure 8.4-59:** Spurious emissions within restricted bands, 20 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 18.NOV.2016 22:54:01

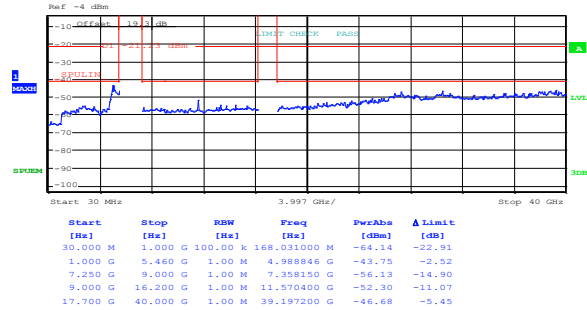
**Figure 8.4-60:** Spurious emissions within restricted bands, 20 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



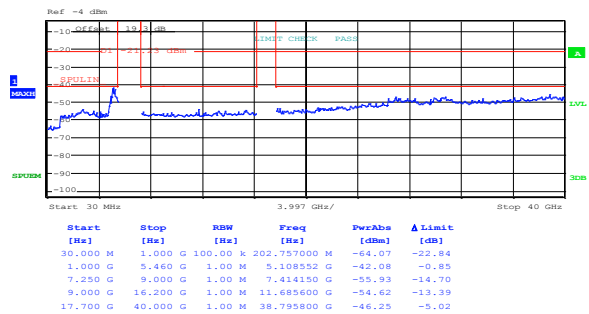
Date: 18.NOV.2016 23:00:35

**Figure 8.4-61:** Spurious emissions within restricted bands, 40 MHz channel, low channel, 10 dBi antenna, cho, BPSK, PMP application



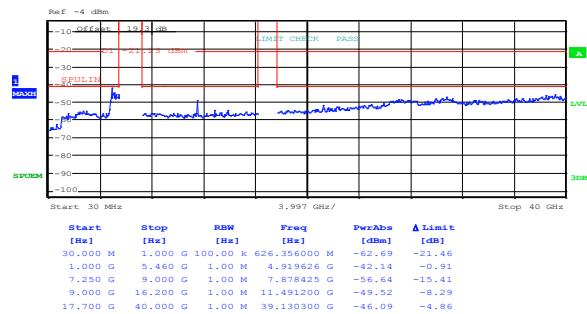
Date: 18.NOV.2016 23:02:20

**Figure 8.4-62:** Spurious emissions within restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 23:02:53

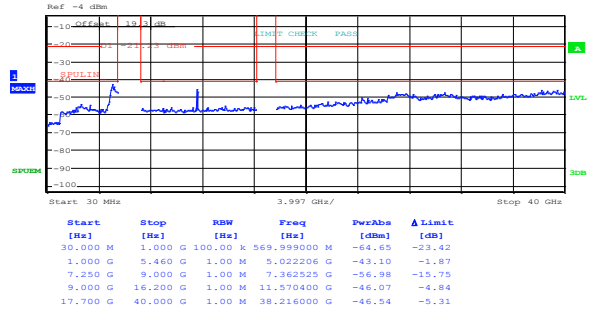
**Figure 8.4-63:** Spurious emissions within restricted bands, 40 MHz channel, high channel, 10 dBi antenna, cho, BPSK, PMP application



Date: 18.NOV.2016 23:07:16

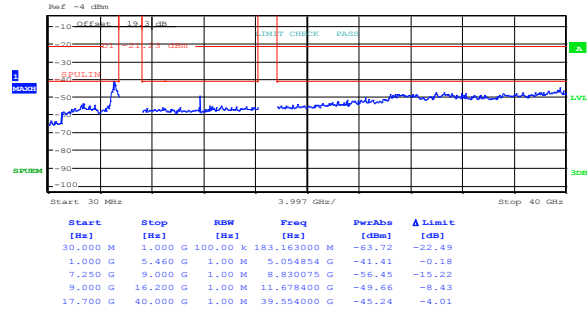
**Figure 8.4-64:** Spurious emissions within restricted bands, 40 MHz channel, low channel, 10 dBi antenna, ch1, BPSK, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



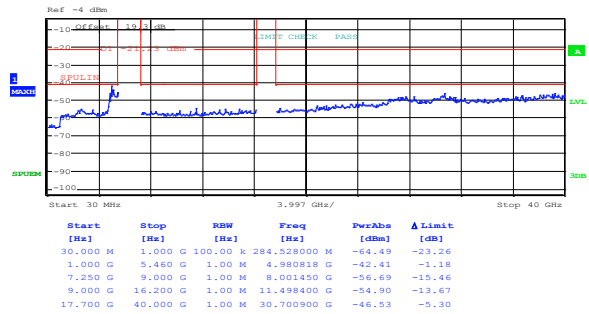
Date: 18.NOV.2016 23:05:46

**Figure 8.4-65:** Spurious emissions within restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, ch1, BPSK, PMP application



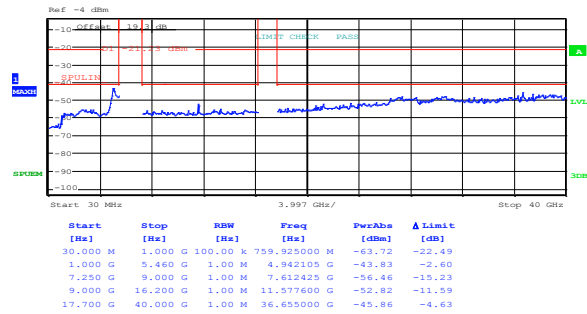
Date: 18.NOV.2016 23:04:56

**Figure 8.4-66:** Spurious emissions within restricted bands, 40 MHz channel, high channel, 10 dBi antenna, ch1, BPSK, PMP application



Date: 18.NOV.2016 23:01:13

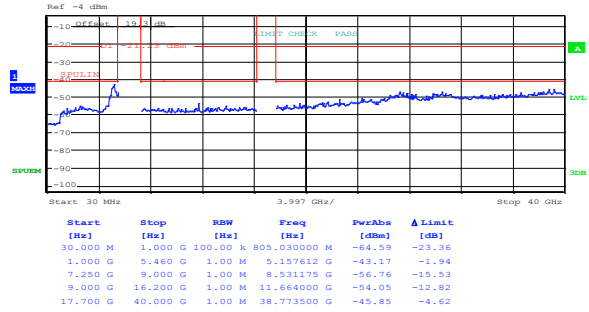
**Figure 8.4-67:** Spurious emissions within restricted bands, 40 MHz channel, low channel, 10 dBi antenna, cho, 256-QAM, PMP application



Date: 18.NOV.2016 23:01:54

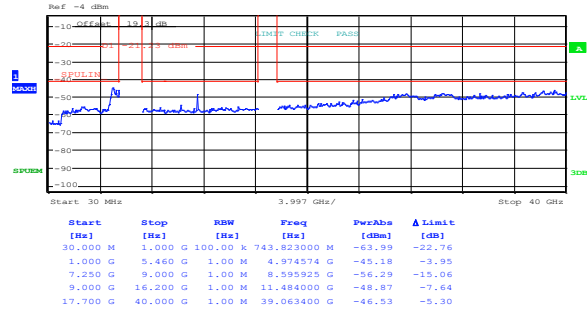
**Figure 8.4-68:** Spurious emissions within restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, cho, 256-QAM, PMP application

Peak limit EIRP equivalent: 74 dBμV/m – 95.23 dB = –21.23 dBm  
 Average limit EIRP equivalent: 54 dBμV/m – 95.23 dB = –41.23 dBm



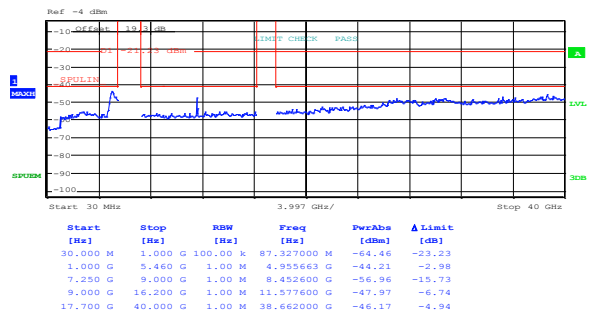
Date: 18.NOV.2016 23:03:22

**Figure 8.4-69:** Spurious emissions within restricted bands, 40 MHz channel, high channel, 10 dBi antenna, cho, 256-QAM, PMP application



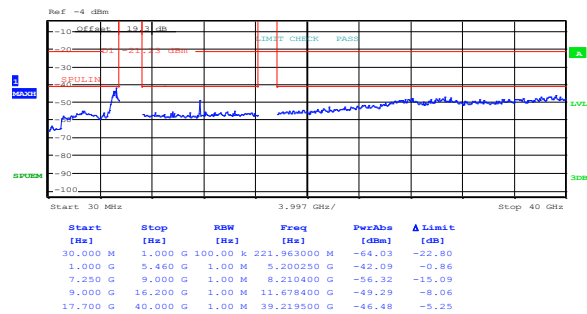
Date: 18.NOV.2016 23:06:53

**Figure 8.4-70:** Spurious emissions within restricted bands, 40 MHz channel, low channel, 10 dBi antenna, ch1, 256-QAM, PMP application



Date: 18.NOV.2016 23:06:14

**Figure 8.4-71:** Spurious emissions within restricted bands, 40 MHz channel, mid channel, 10 dBi antenna, ch1, 256-QAM, PMP application

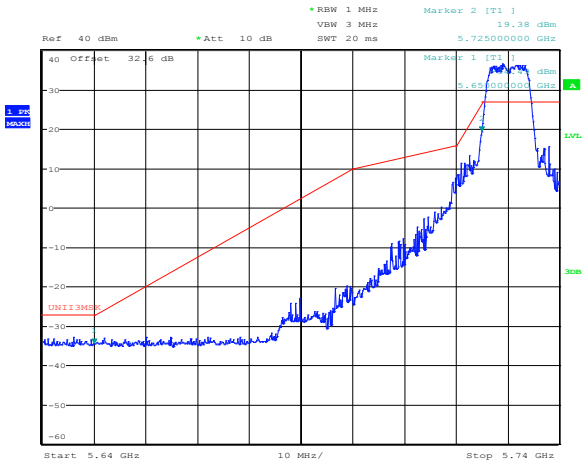


Date: 18.NOV.2016 23:04:21

**Figure 8.4-72:** Spurious emissions within restricted bands, 40 MHz channel, high channel, 10 dBi antenna, ch1, 256-QAM, PMP application

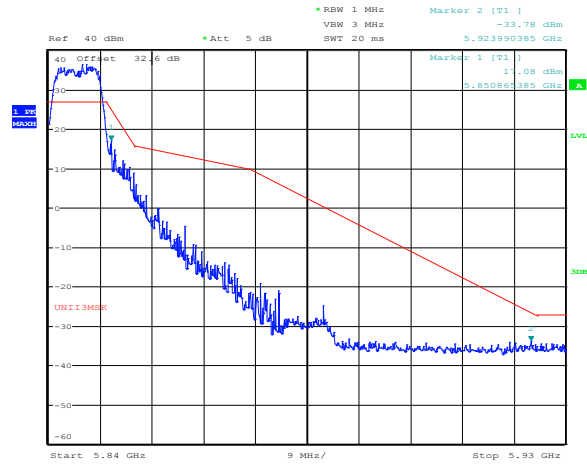
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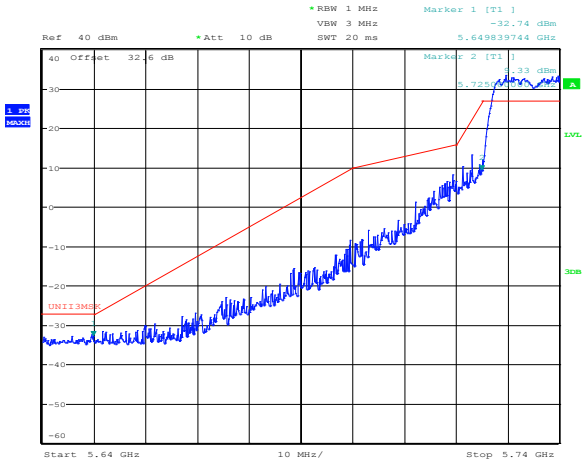
Date: 16.NOV.2016 15:51:18

**Figure 8.4-73:** Lower band edge mask, 10 MHz channel, 10 dBi antenna, PMP application



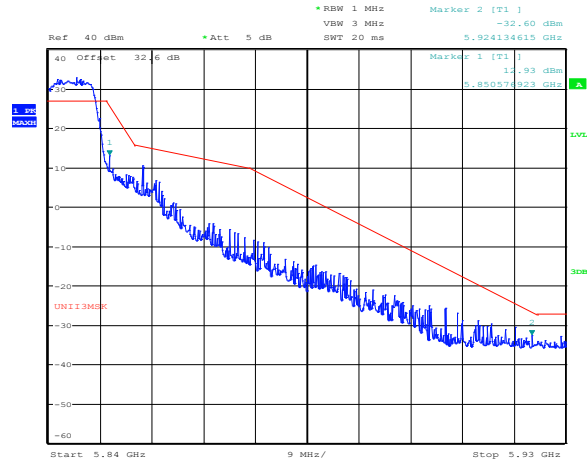
Date: 16.NOV.2016 16:00:43

**Figure 8.4-74:** Upper band edge mask, 10 MHz channel, 10 dBi antenna, PMP application



Date: 16.NOV.2016 15:52:40

**Figure 8.4-75:** Lower band edge mask, 20 MHz channel, 10 dBi antenna, PMP application



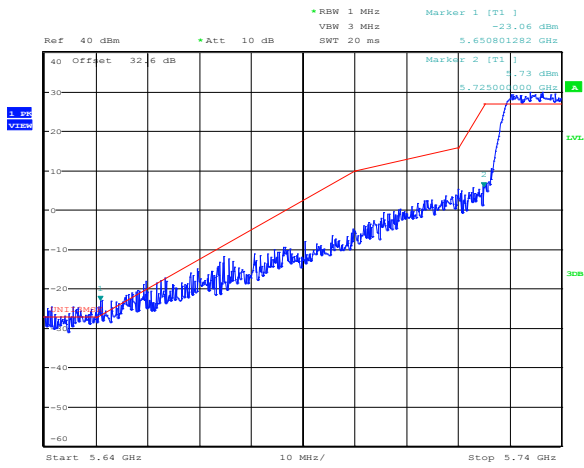
Date: 16.NOV.2016 15:59:49

**Figure 8.4-76:** Upper band edge mask, 20 MHz channel, 10 dBi antenna, PMP application



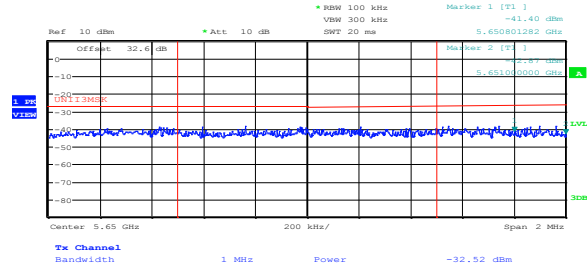
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 FCC Part 15 Subpart E and RSS-247 Issue 1



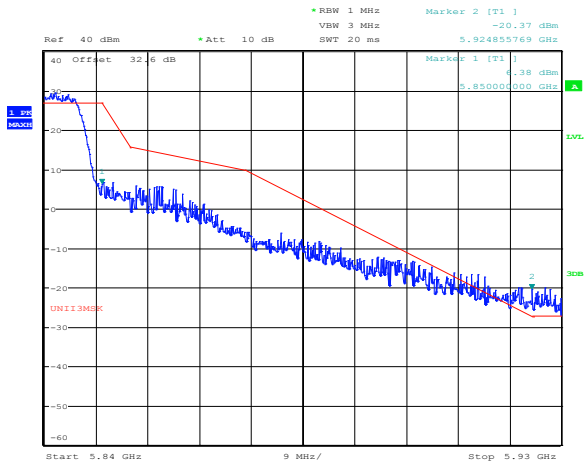
Date: 16.NOV.2016 15:54:00

**Figure 8.4-77:** Lower band edge mask, 40 MHz channel, 10 dBi antenna, PMP application



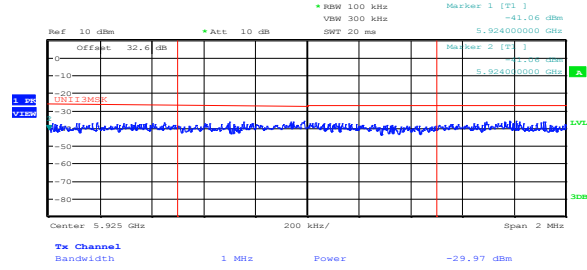
Date: 16.NOV.2016 15:55:08

**Figure 8.4-78:** Lower band edge at 5650, 40 MHz channel, 10 dBi antenna, PMP application



Date: 16.NOV.2016 15:58:10

**Figure 8.4-79:** Upper band edge mask, 40 MHz channel, 10 dBi antenna, PMP application

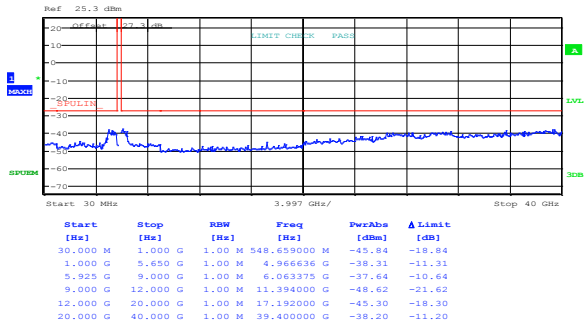


Date: 16.NOV.2016 15:56:21

**Figure 8.4-80:** Upper band edge at 5925 MHz, 40 MHz channel, 10 dBi antenna, PMP application

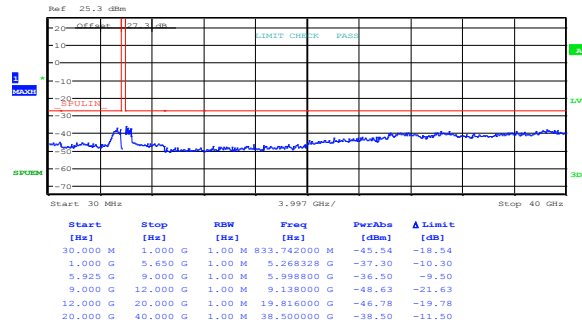
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**Specification**

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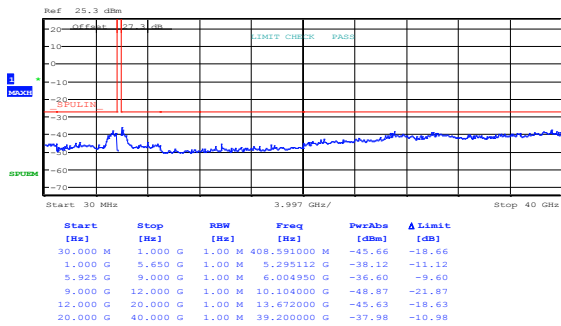
Date: 20.NOV.2016 18:19:05

**Figure 8.4-81:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 24 dBi antenna, cho, BPSK, PMP application



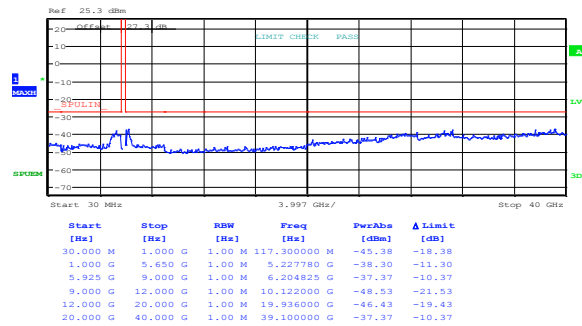
Date: 20.NOV.2016 18:17:36

**Figure 8.4-82:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 24 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:16:52

**Figure 8.4-83:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 24 dBi antenna, cho, BPSK, PMP application

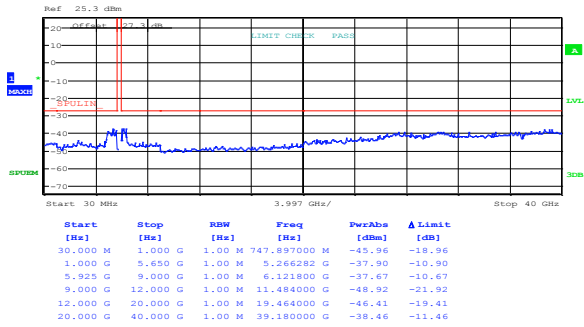


Date: 20.NOV.2016 18:12:26

**Figure 8.4-84:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 24 dBi antenna, ch1, BPSK, PMP application

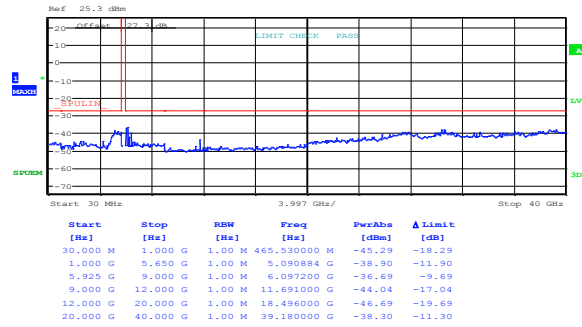
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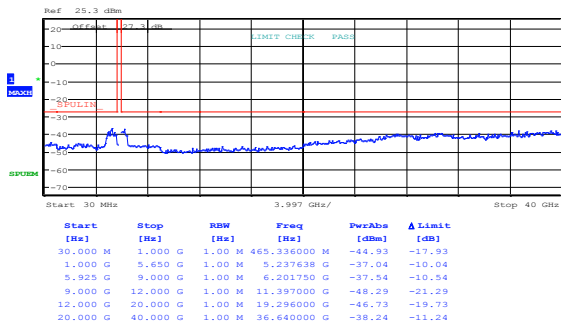
Date: 20.NOV.2016 18:14:18

**Figure 8.4-85:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 24 dBi antenna, ch1, BPSK, PMP application



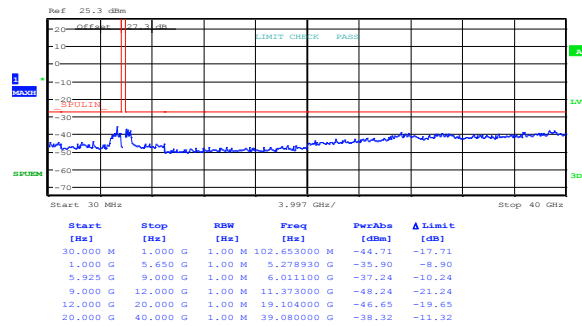
Date: 20.NOV.2016 18:15:25

**Figure 8.4-86:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 24 dBi antenna, ch1, BPSK, PMP application



Date: 20.NOV.2016 18:18:41

**Figure 8.4-87:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 24 dBi antenna, cho, 256-QAM, PMP application

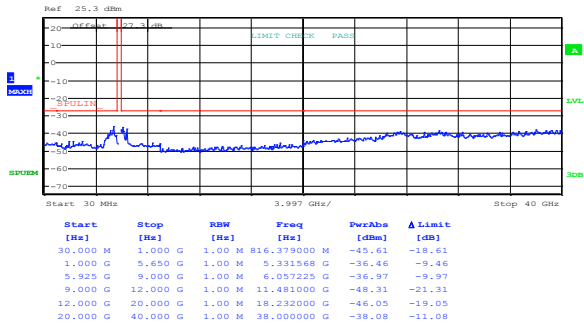


Date: 20.NOV.2016 18:18:04

**Figure 8.4-88:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 24 dBi antenna, cho, 256-QAM, PMP application

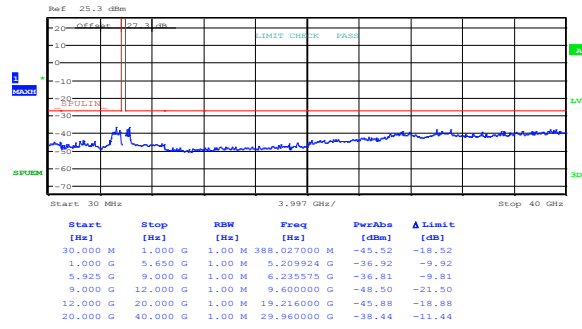
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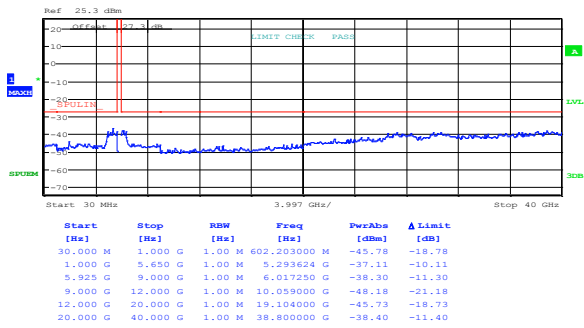
Date: 20.NOV.2016 18:16:26

**Figure 8.4-89:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 24 dBi antenna, cho, 256-QAM, PMP application



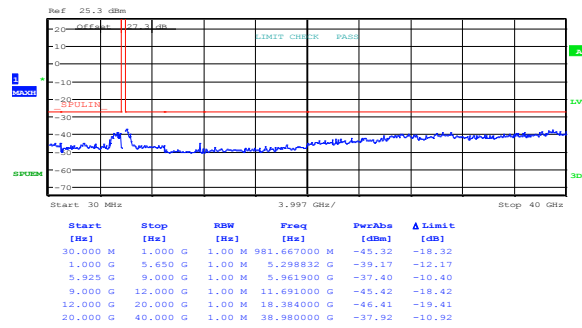
Date: 20.NOV.2016 18:13:12

**Figure 8.4-90:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 24 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 18:13:49

**Figure 8.4-91:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 24 dBi antenna, ch1, 256-QAM, PMP application

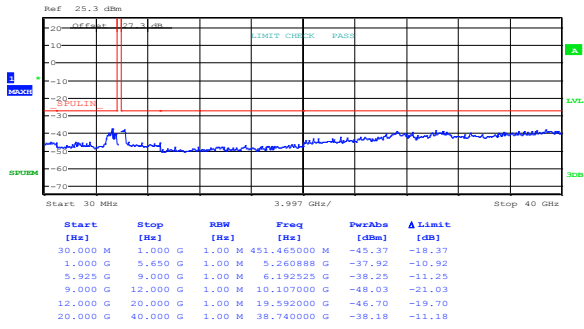


Date: 20.NOV.2016 18:15:53

**Figure 8.4-92:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 24 dBi antenna, ch1, 256-QAM, PMP application

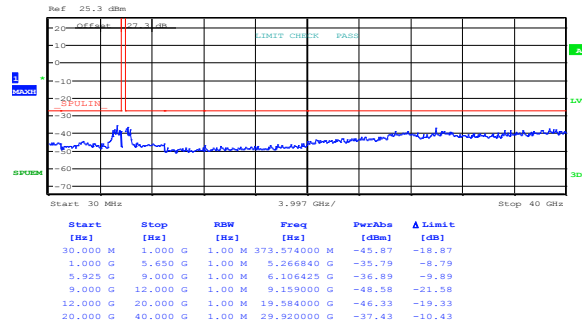
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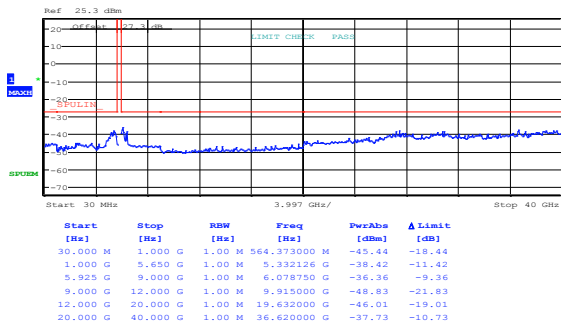
Date: 20.NOV.2016 18:20:18

**Figure 8.4-93:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 24 dBi antenna, cho, BPSK, PMP application



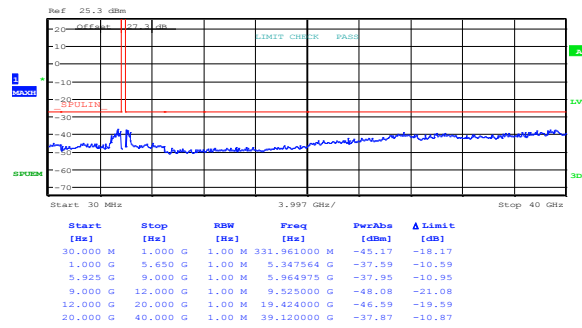
Date: 20.NOV.2016 18:21:40

**Figure 8.4-94:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 24 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:22:24

**Figure 8.4-95:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 24 dBi antenna, cho, BPSK, PMP application

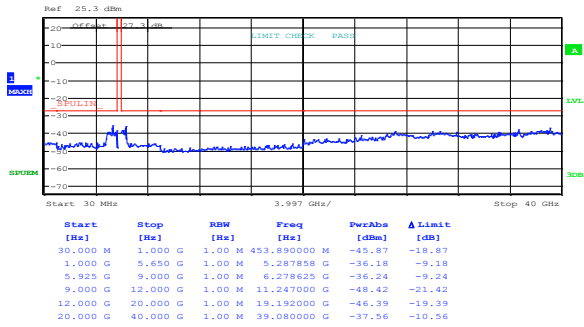


Date: 20.NOV.2016 18:26:03

**Figure 8.4-96:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 24 dBi antenna, ch1, BPSK, PMP application

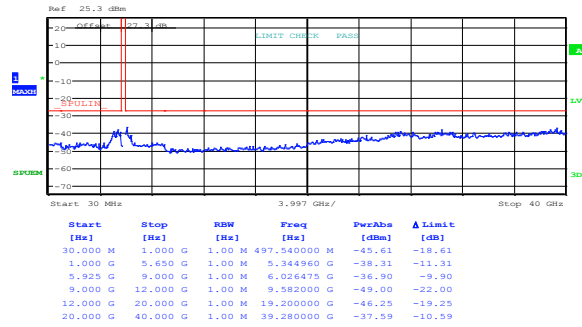
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 FCC Part 15 Subpart E and RSS-247 Issue 1



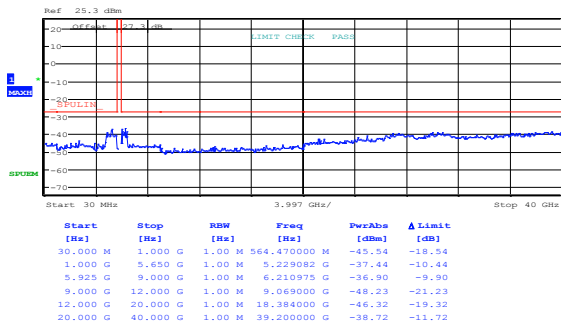
Date: 20.NOV.2016 18:24:19

**Figure 8.4-97:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 24 dBi antenna, ch1, BPSK, PMP application



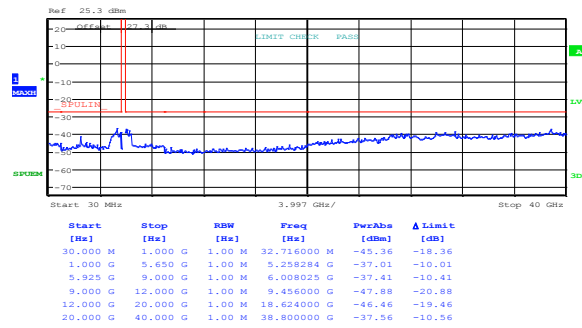
Date: 20.NOV.2016 18:23:48

**Figure 8.4-98:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 24 dBi antenna, ch1, BPSK, PMP application



Date: 20.NOV.2016 18:20:44

**Figure 8.4-99:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 24 dBi antenna, cho, 256-QAM, PMP application

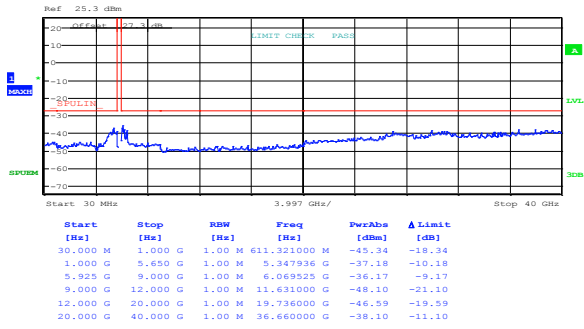


Date: 20.NOV.2016 18:21:16

**Figure 8.4-100:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 24 dBi antenna, cho, 256-QAM, PMP application

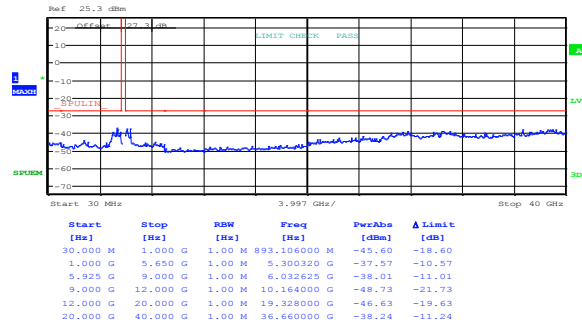
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 FCC Part 15 Subpart E and RSS-247 Issue 1



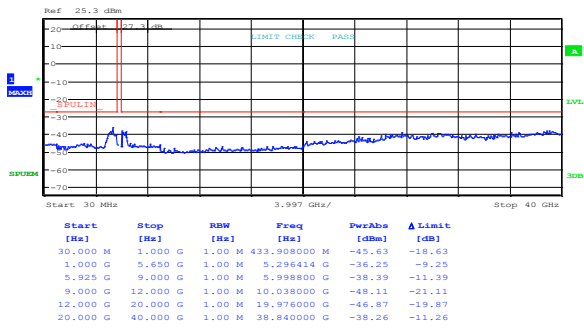
Date: 20.NOV.2016 18:22:52

**Figure 8.4-101:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 24 dBi antenna, cho, 256-QAM, PMP application



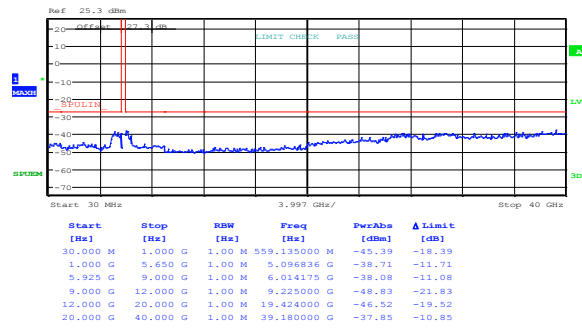
Date: 20.NOV.2016 18:25:33

**Figure 8.4-102:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 24 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 18:24:49

**Figure 8.4-103:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 24 dBi antenna, ch1, 256-QAM, PMP application

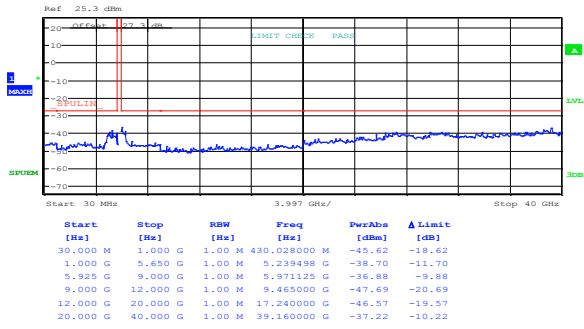


Date: 20.NOV.2016 18:23:23

**Figure 8.4-104:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 24 dBi antenna, ch1, 256-QAM, PMP application

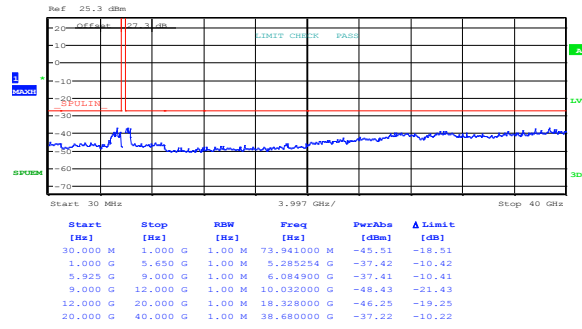
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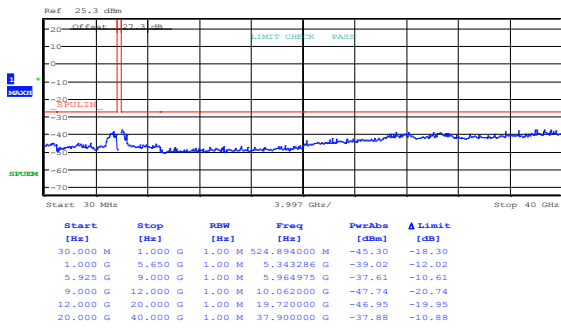
Date: 20.NOV.2016 18:32:54

**Figure 8.4-105:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 24 dBi antenna, cho, BPSK, PMP application



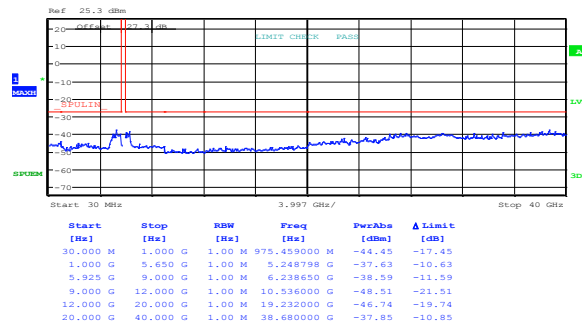
Date: 20.NOV.2016 18:31:34

**Figure 8.4-106:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 24 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:31:04

**Figure 8.4-107:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 24 dBi antenna, cho, BPSK, PMP application



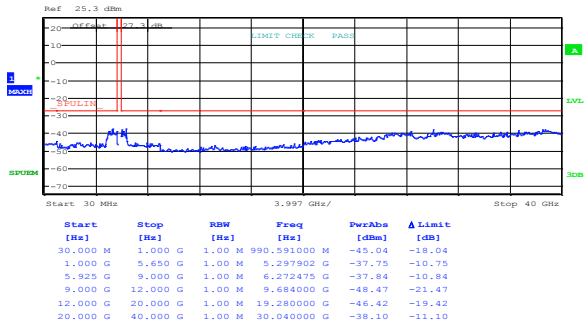
Date: 20.NOV.2016 18:27:20

**Figure 8.4-108:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 24 dBi antenna, ch1, BPSK, PMP application



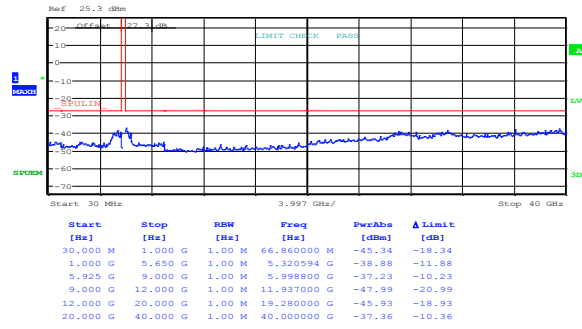
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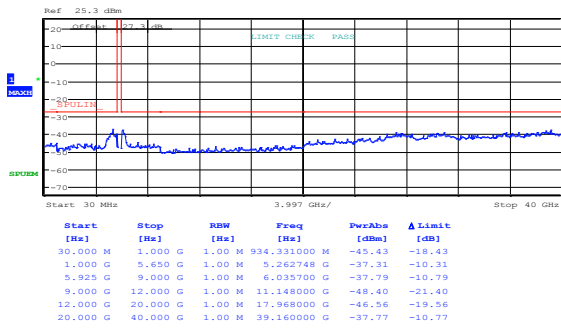
Date: 20.NOV.2016 18:28:56

**Figure 8.4-109:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 24 dBi antenna, ch1, BPSK, PMP application



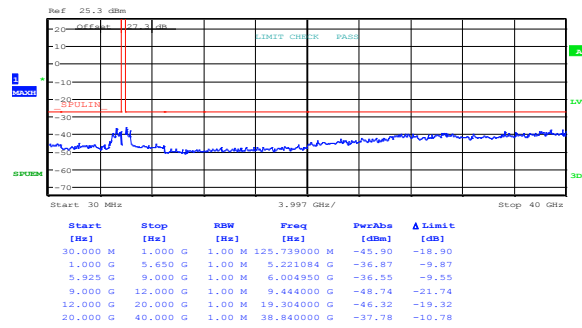
Date: 20.NOV.2016 18:29:31

**Figure 8.4-110:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 24 dBi antenna, ch1, BPSK, PMP application



Date: 20.NOV.2016 18:32:33

**Figure 8.4-111:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 24 dBi antenna, cho, 256-QAM, PMP application

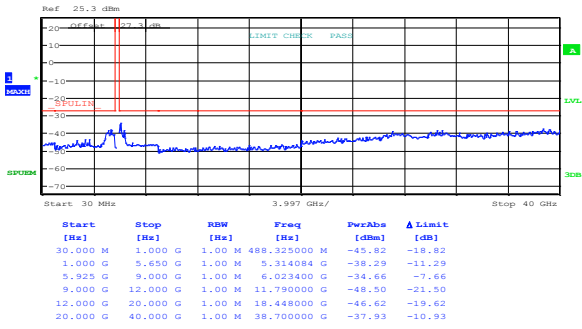


Date: 20.NOV.2016 18:32:02

**Figure 8.4-112:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 24 dBi antenna, cho, 256-QAM, PMP application

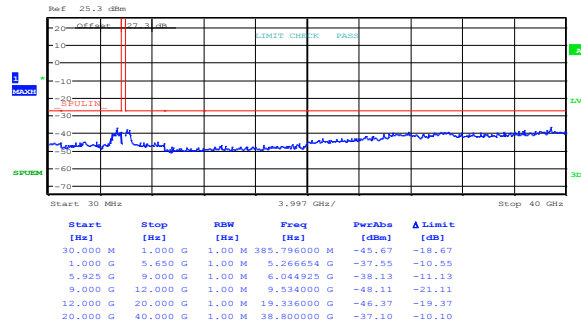
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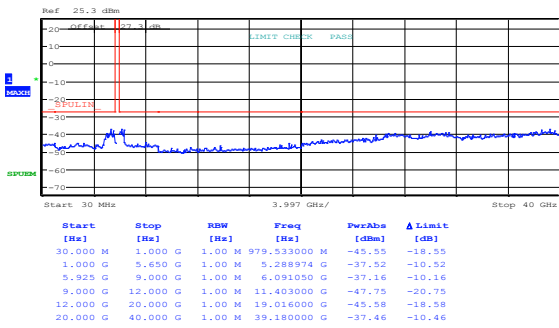
Date: 20.NOV.2016 18:30:39

**Figure 8.4-113:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 24 dBi antenna, cho, 256-QAM, PMP application



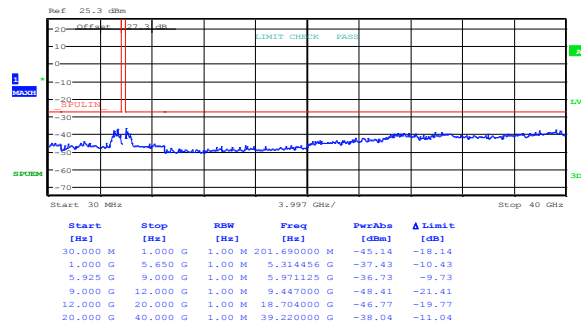
Date: 20.NOV.2016 18:27:48

**Figure 8.4-114:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 24 dBi antenna, ch1, 256-QAM, PMP application



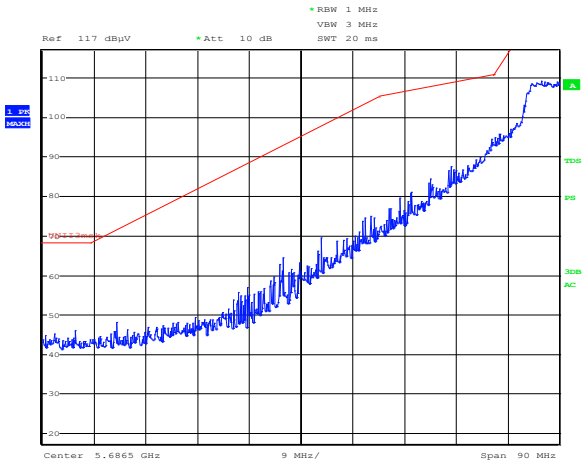
Date: 20.NOV.2016 18:28:34

**Figure 8.4-115:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 24 dBi antenna, ch1, 256-QAM, PMP application



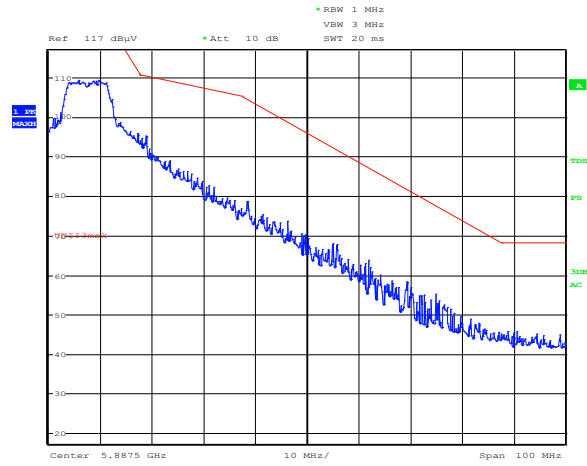
Date: 20.NOV.2016 18:30:02

**Figure 8.4-116:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 24 dBi antenna, ch1, 256-QAM, PMP application



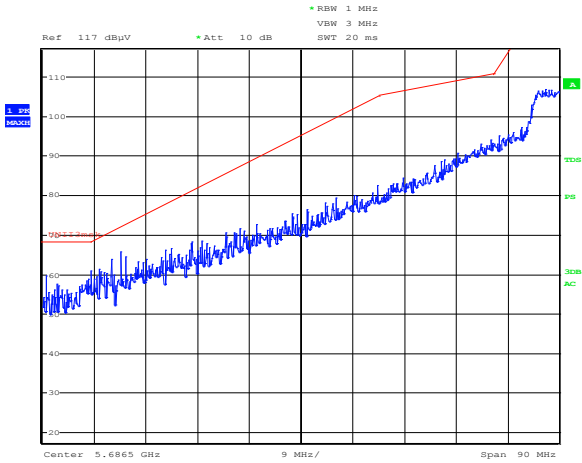
Date: 16.NOV.2016 14:21:53

**Figure 8.4-117:** Radiated lower band edge, 10 MHz channel, 24 dBi antenna, PMP application



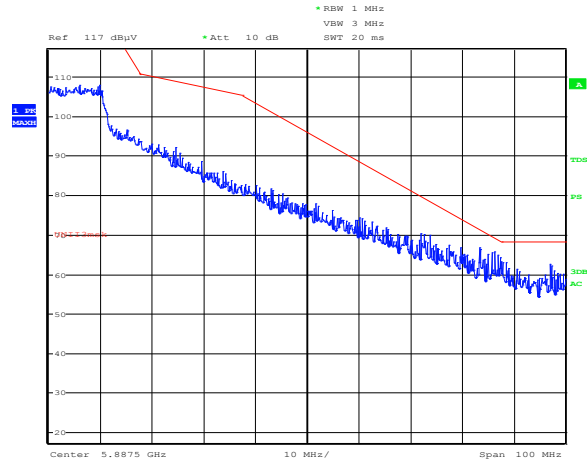
Date: 16.NOV.2016 13:59:38

**Figure 8.4-118:** Radiated upper band edge, 10 MHz channel, 24 dBi antenna, PMP application



Date: 16.NOV.2016 14:22:38

**Figure 8.4-119:** Radiated lower band edge, 20 MHz channel, 24 dBi antenna, PMP application

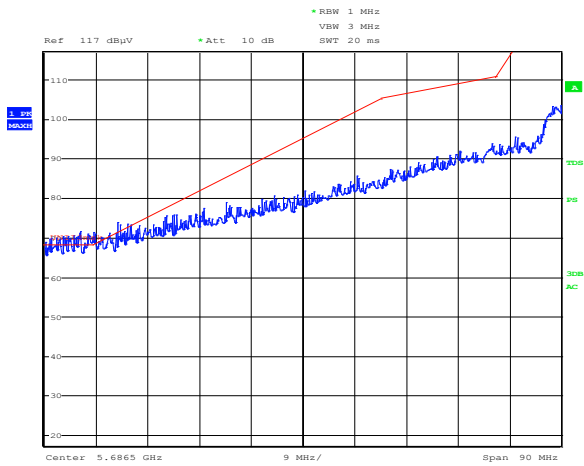


Date: 16.NOV.2016 13:58:27

**Figure 8.4-120:** Radiated upper band edge, 20 MHz channel, 24 dBi antenna, PMP application

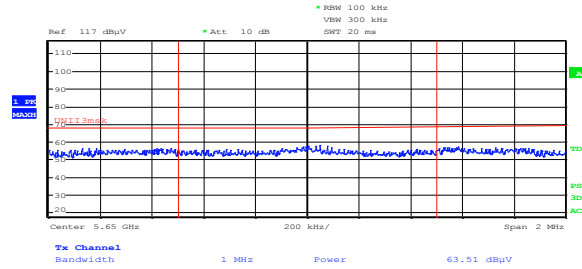
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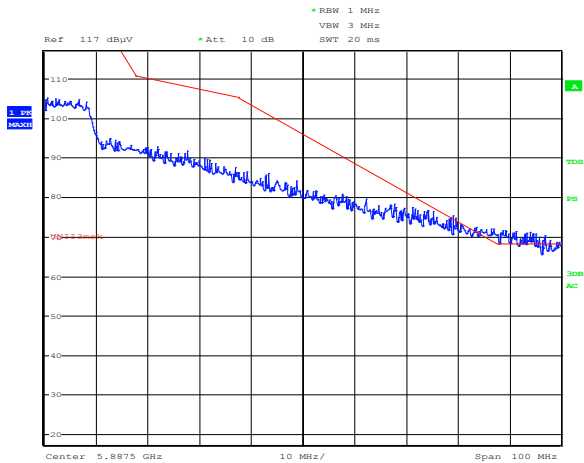
Date: 16.NOV.2016 14:23:19

**Figure 8.4-121:** Radiated lower band edge, 40 MHz channel, 24 dBi antenna, PMP application



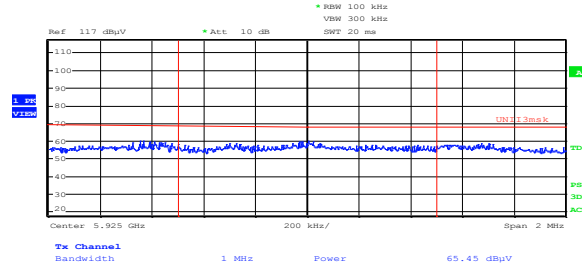
Date: 16.NOV.2016 14:23:45

**Figure 8.4-122:** Radiated lower band edge at 5650 MHz, 40 MHz channel, 24 dBi antenna, PMP application



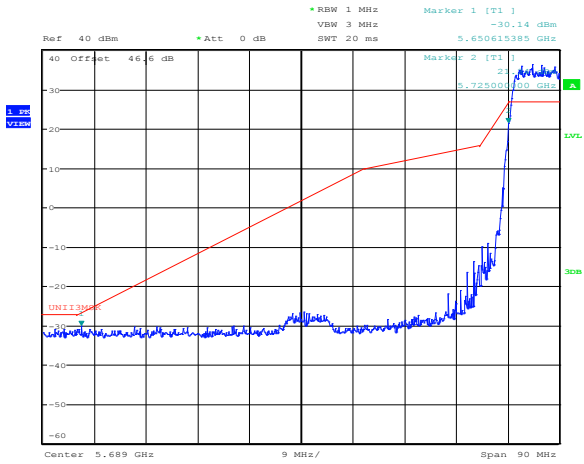
Date: 16.NOV.2016 13:57:06

**Figure 8.4-123:** Radiated upper band edge, 40 MHz channel, 24 dBi antenna, PMP application



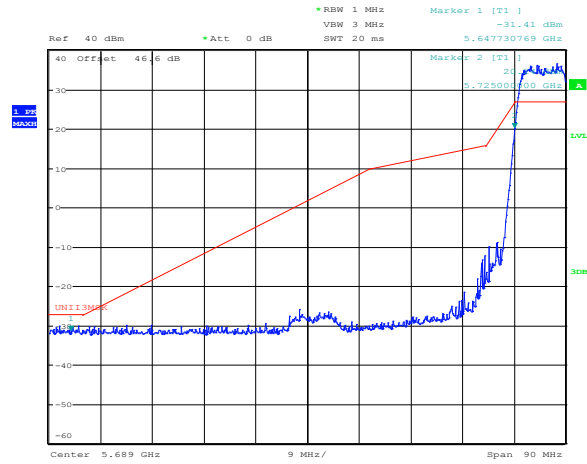
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**Figure 8.4-124:** Radiated upper band edge at 5925 MHz, 40 MHz channel, 24 dBi antenna, PMP application



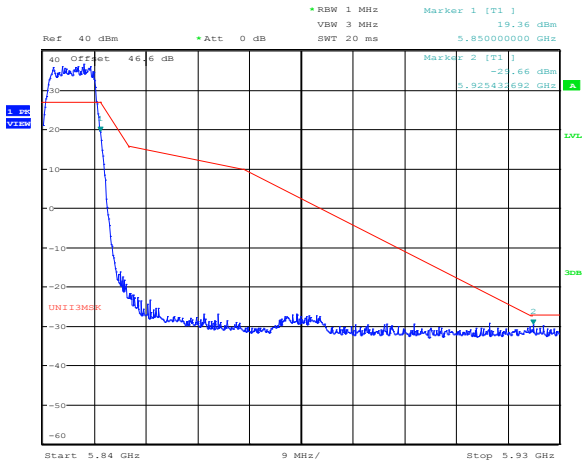
Date: 16.NOV.2016 16:12:13

Figure 8.4-125: Lower mask, 10 MHz channel, 24 dBi antenna, PMP application, cho



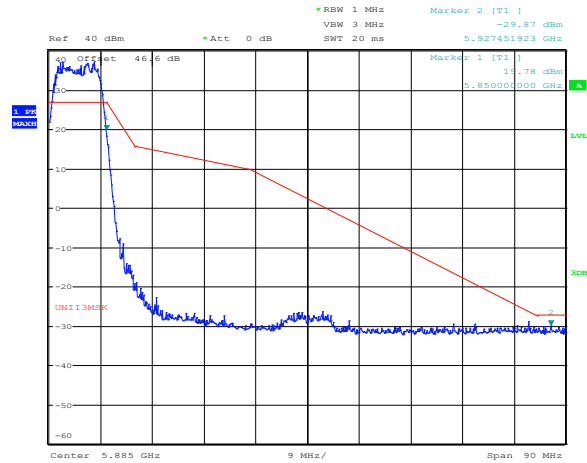
Date: 16.NOV.2016 16:11:39

Figure 8.4-126: Lower mask, 10 MHz channel, 24 dBi antenna, PMP application, ch1



Date: 16.NOV.2016 16:02:10

Figure 8.4-127: Upper mask, 10 MHz channel, 24 dBi antenna, PMP application, cho

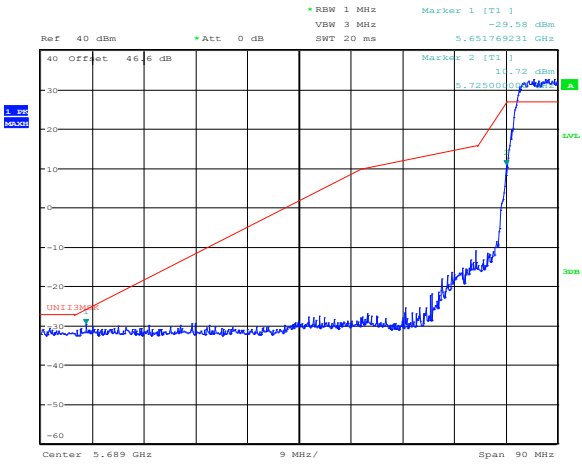


Date: 16.NOV.2016 16:21:20

Figure 8.4-128: Upper mask, 10 MHz channel, 24 dBi antenna, PMP application, ch1

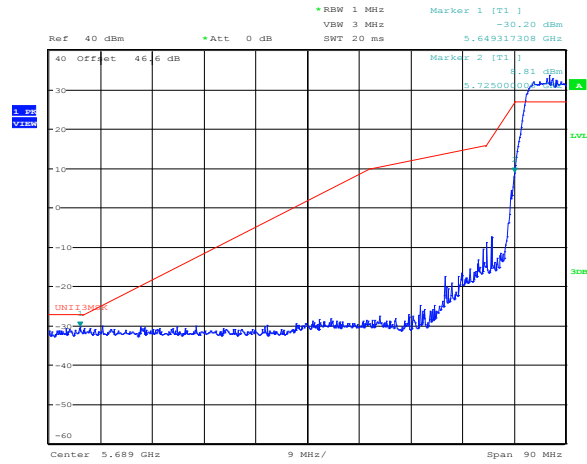
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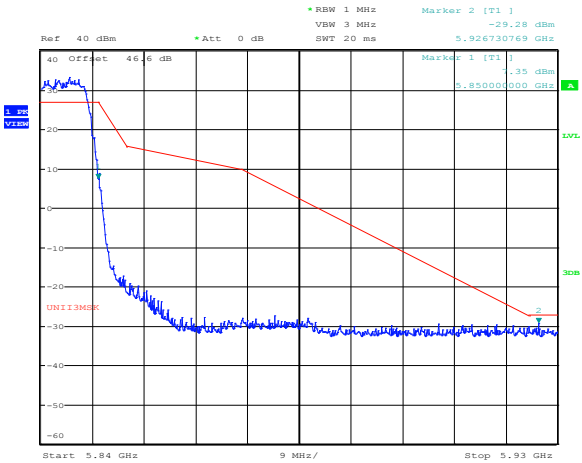
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**Figure 8.4-129:** Lower mask, 20 MHz channel, 24 dBi antenna, PMP application, cho



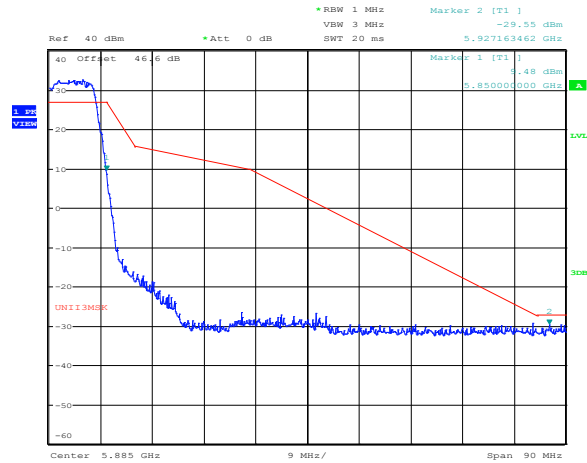
Date: 16.NOV.2016 16:13:25

**Figure 8.4-130:** Lower mask, 20 MHz channel, 24 dBi antenna, PMP application, ch1



Date: 16.NOV.2016 16:03:05

**Figure 8.4-131:** Upper mask, 20 MHz channel, 24 dBi antenna, PMP application, cho

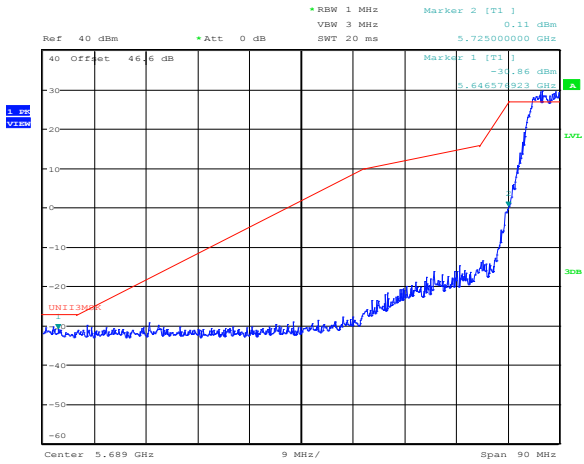


Date: 16.NOV.2016 16:18:16

**Figure 8.4-132:** Upper mask, 20 MHz channel, 24 dBi antenna, PMP application, ch1

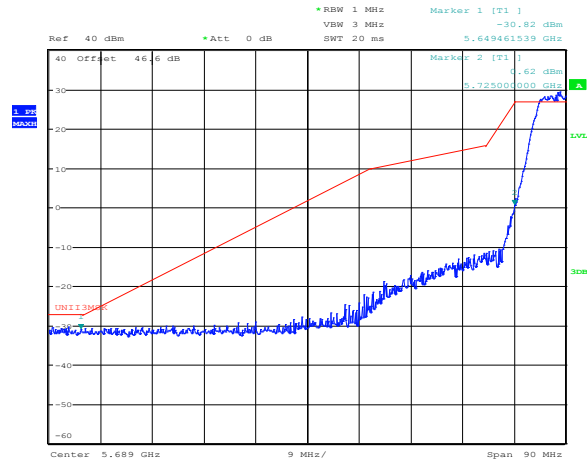
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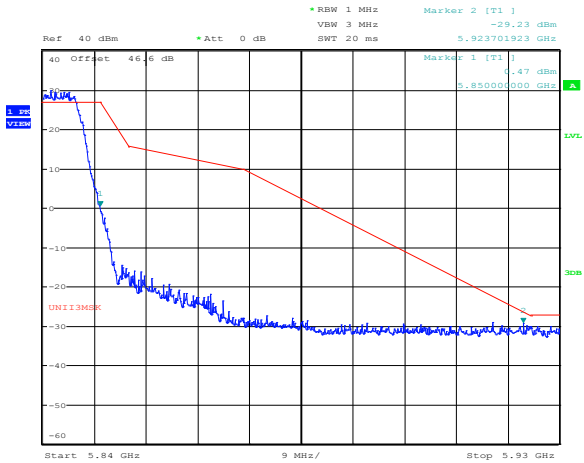
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**Figure 8.4-133:** Lower mask, 40 MHz channel, 24 dBi antenna, PMP application, cho



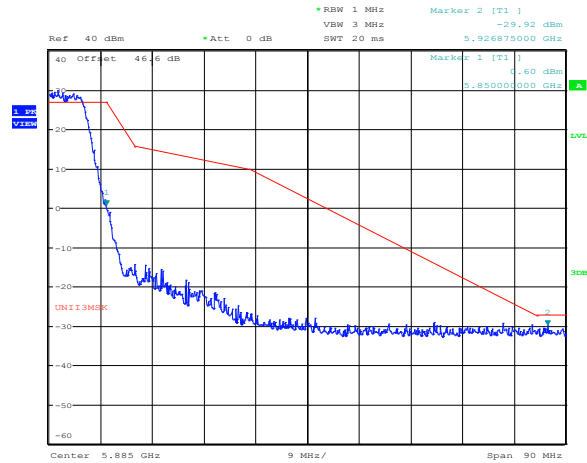
Date: 16.NOV.2016 16:15:23

**Figure 8.4-134:** Lower mask, 40 MHz channel, 24 dBi antenna, PMP application, ch1



Date: 16.NOV.2016 16:04:06

**Figure 8.4-135:** Upper mask, 40 MHz channel, 24 dBi antenna, PMP application, cho

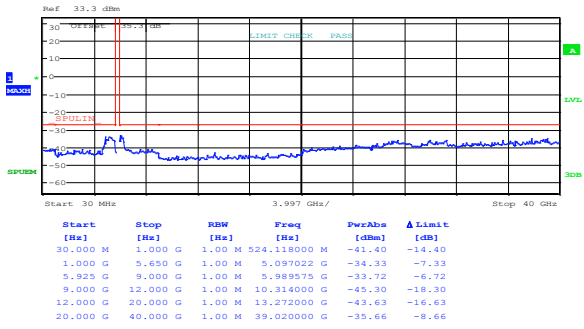


Date: 16.NOV.2016 16:17:01

**Figure 8.4-136:** Upper mask, 40 MHz channel, 24 dBi antenna, PMP application, ch1

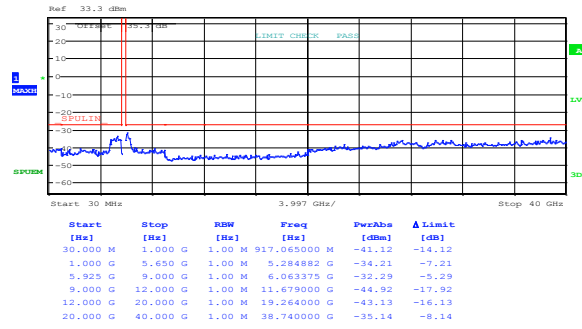
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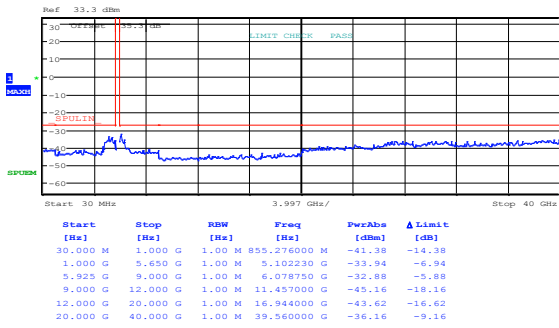
Date: 20.NOV.2016 18:53:21

**Figure 8.4-137:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 32 dBi antenna, cho, BPSK, PMP application



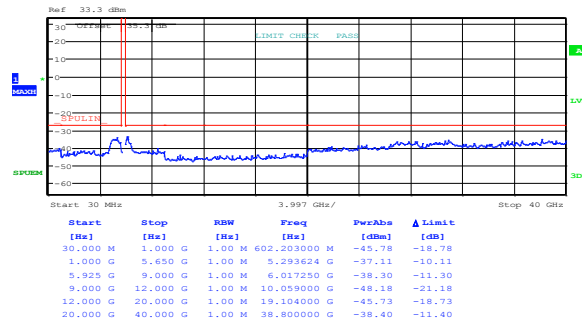
Date: 20.NOV.2016 18:55:12

**Figure 8.4-138:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 32 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:55:50

**Figure 8.4-139:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 32 dBi antenna, cho, BPSK, PMP application



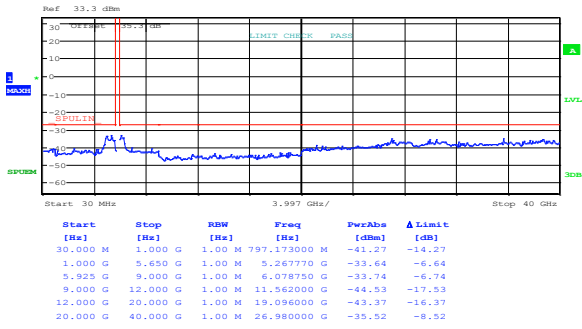
Date: 20.NOV.2016 18:32:02

**Figure 8.4-140:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 32 dBi antenna, ch1, BPSK, PMP application



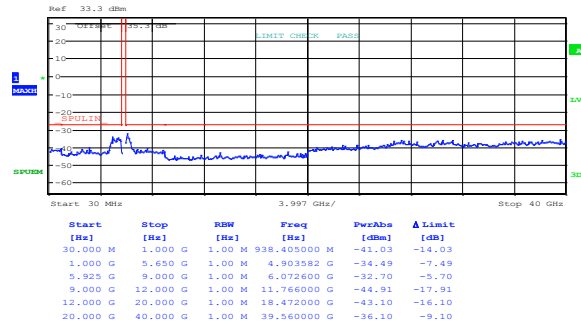
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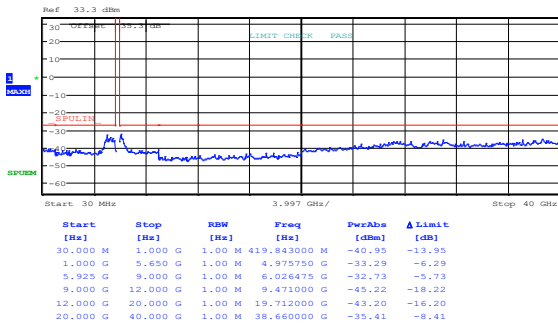
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**Figure 8.4-141:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 32 dBi antenna, ch1, BPSK, PMP application



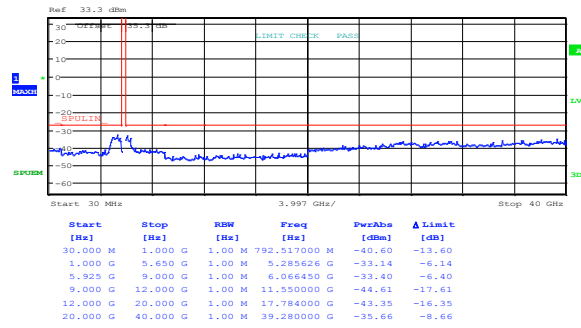
Date: 20.NOV.2016 19:09:49

**Figure 8.4-142:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 32 dBi antenna, ch1, BPSK, PMP application



Date: 20.NOV.2016 18:54:06

**Figure 8.4-143:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 32 dBi antenna, cho, 256-QAM, PMP application

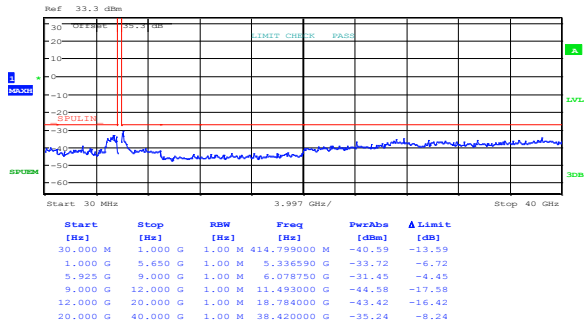


Date: 20.NOV.2016 18:54:47

**Figure 8.4-144:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 32 dBi antenna, cho, 256-QAM, PMP application

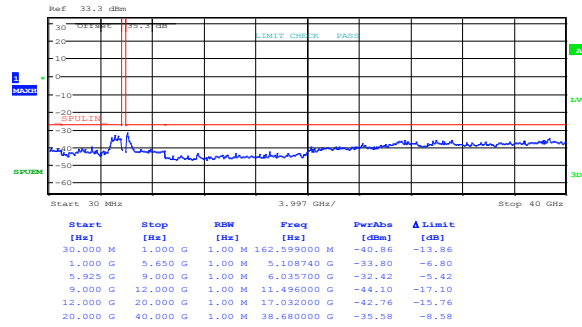
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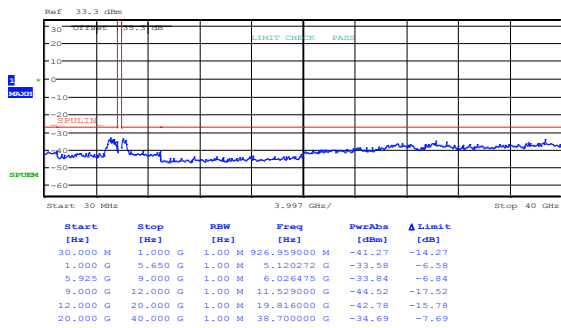
Date: 20.NOV.2016 19:00:26

**Figure 8.4-145:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 32 dBi antenna, cho, 256-QAM, PMP application



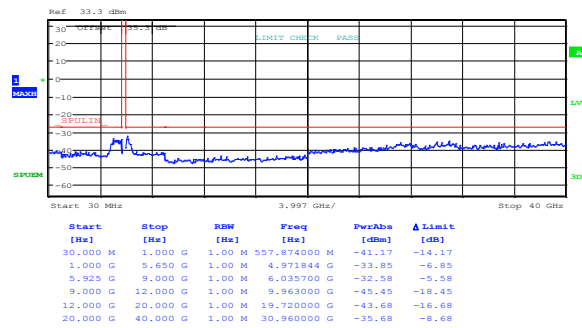
Date: 20.NOV.2016 19:12:23

**Figure 8.4-146:** Spurious emissions outside restricted bands, 10 MHz channel, low channel, 32 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 19:11:27

**Figure 8.4-147:** Spurious emissions outside restricted bands, 10 MHz channel, mid channel, 32 dBi antenna, ch1, 256-QAM, PMP application

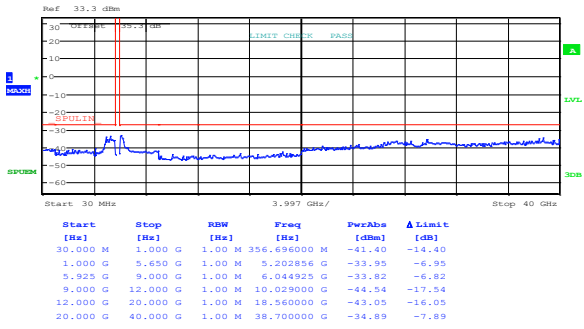


Date: 20.NOV.2016 19:02:52

**Figure 8.4-148:** Spurious emissions outside restricted bands, 10 MHz channel, high channel, 32 dBi antenna, ch1, 256-QAM, PMP application

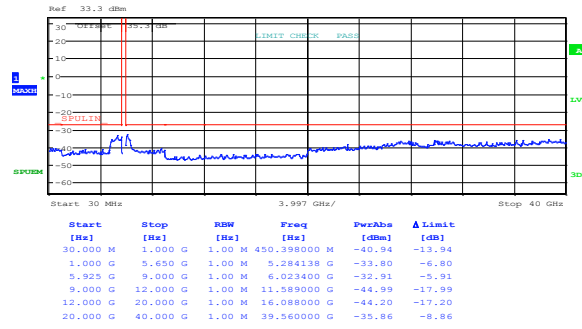
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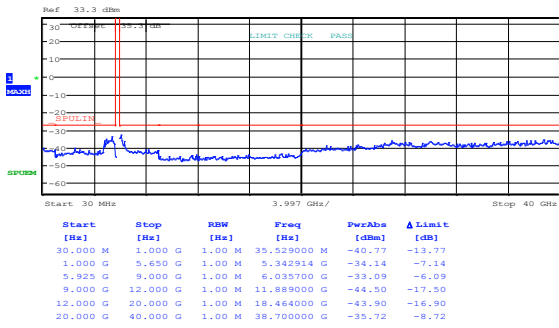
Date: 20.NOV.2016 18:52:28

**Figure 8.4-149:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 32 dBi antenna, cho, BPSK, PMP application



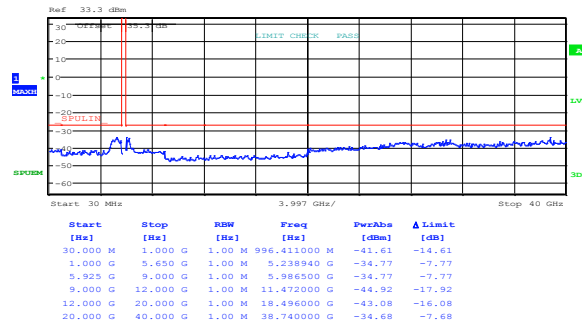
Date: 20.NOV.2016 18:50:55

**Figure 8.4-150:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 32 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:50:14

**Figure 8.4-151:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 32 dBi antenna, cho, BPSK, PMP application

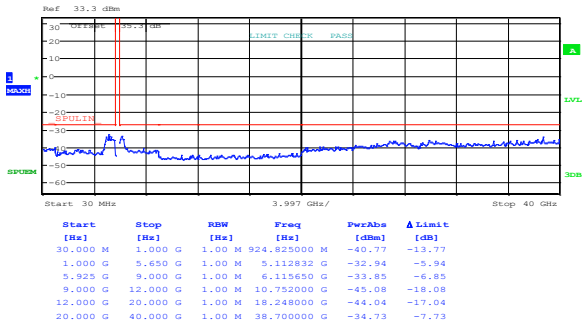


Date: 20.NOV.2016 18:43:29

**Figure 8.4-152:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 32 dBi antenna, ch1, BPSK, PMP application

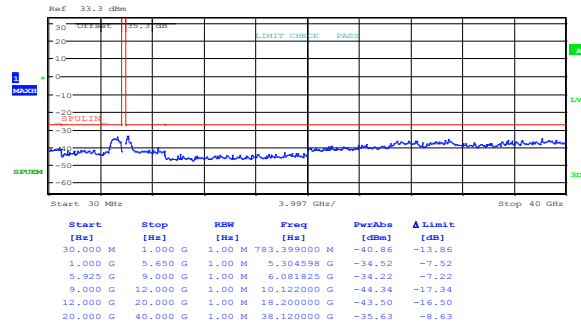
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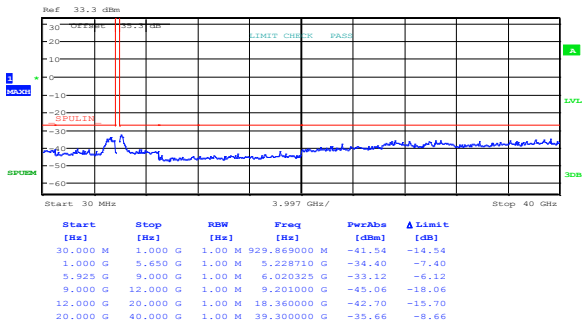
Date: 20.NOV.2016 18:44:55

**Figure 8.4-153:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 32 dBi antenna, ch1, BPSK, PMP application



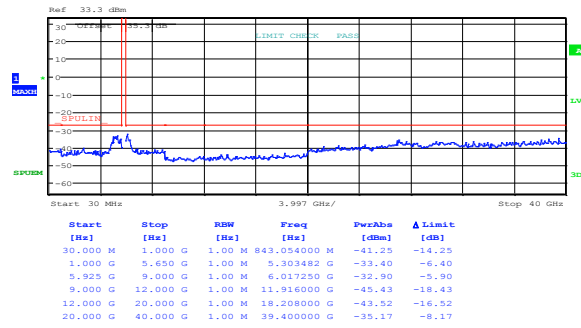
Date: 20.NOV.2016 18:48:55

**Figure 8.4-154:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 32 dBi antenna, ch1, BPSK, PMP application



Date: 20.NOV.2016 18:52:06

**Figure 8.4-155:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 32 dBi antenna, cho, 256-QAM, PMP application

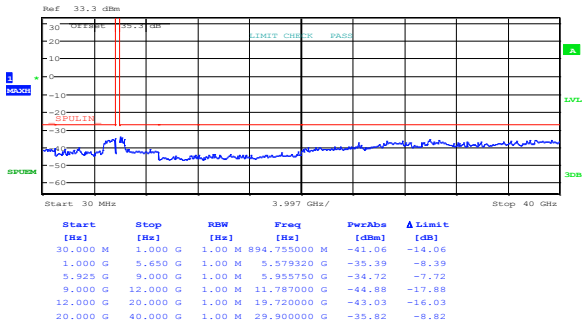


Date: 20.NOV.2016 18:51:27

**Figure 8.4-156:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 32 dBi antenna, cho, 256-QAM, PMP application

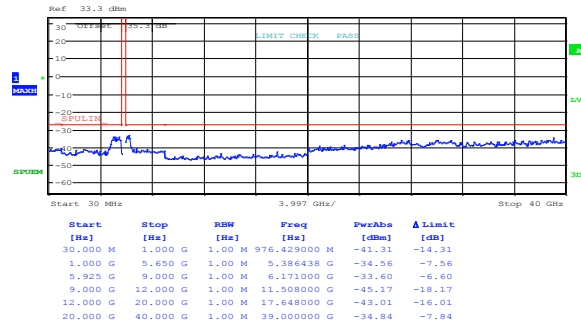
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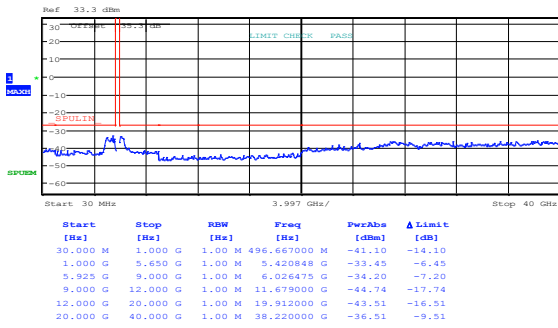
Date: 20.NOV.2016 18:49:51

**Figure 8.4-157:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 32 dBi antenna, cho, 256-QAM, PMP application



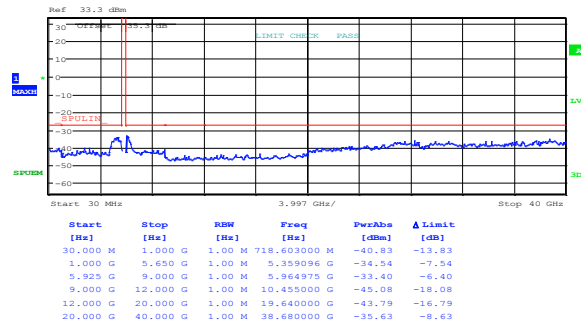
Date: 20.NOV.2016 18:43:55

**Figure 8.4-158:** Spurious emissions outside restricted bands, 20 MHz channel, low channel, 32 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 18:44:29

**Figure 8.4-159:** Spurious emissions outside restricted bands, 20 MHz channel, mid channel, 32 dBi antenna, ch1, 256-QAM, PMP application

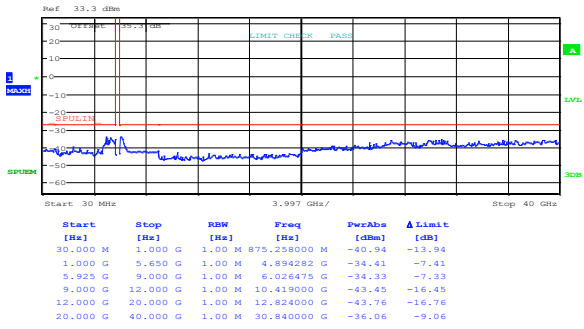


Date: 20.NOV.2016 18:49:21

**Figure 8.4-160:** Spurious emissions outside restricted bands, 20 MHz channel, high channel, 32 dBi antenna, ch1, 256-QAM, PMP application

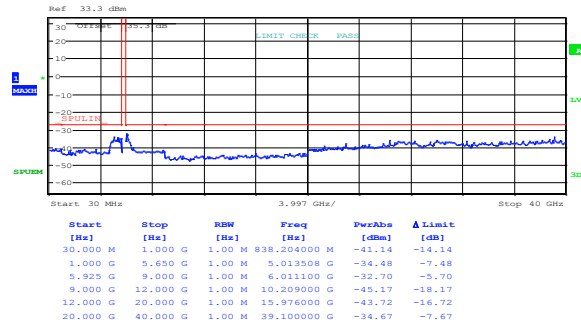
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 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



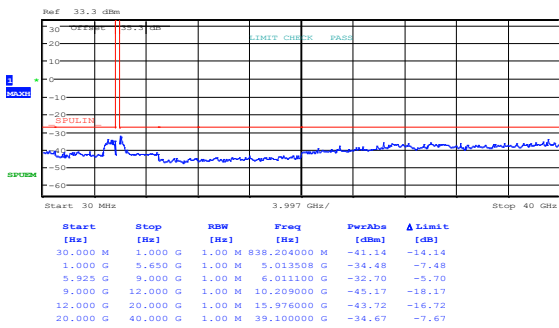
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**Figure 8.4-161:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 32 dBi antenna, cho, BPSK, PMP application



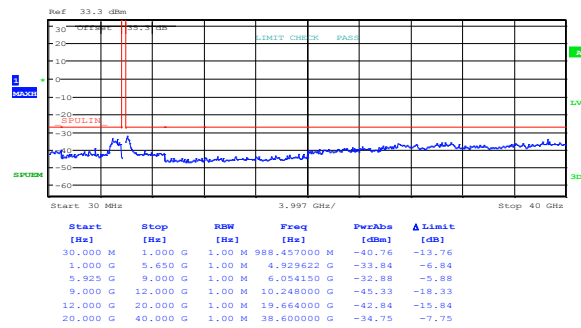
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**Figure 8.4-162:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 32 dBi antenna, cho, BPSK, PMP application



Date: 20.NOV.2016 18:38:30

**Figure 8.4-163:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 32 dBi antenna, cho, BPSK, PMP application

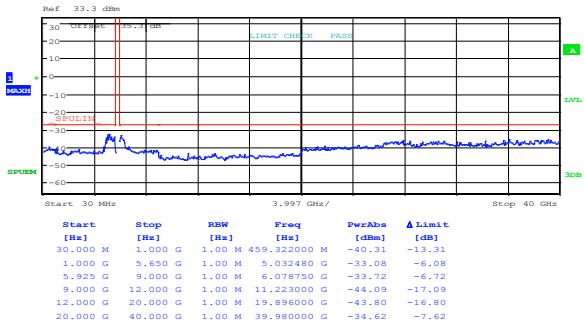


Date: 20.NOV.2016 18:42:25

**Figure 8.4-164:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 32 dBi antenna, ch1, BPSK, PMP application

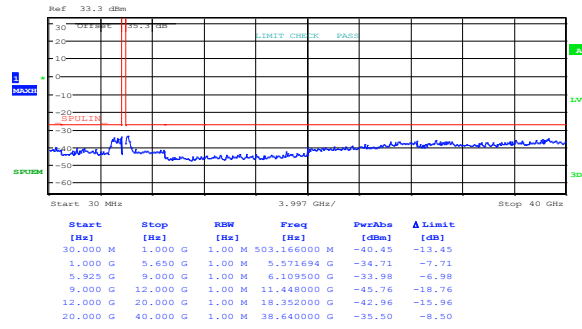
**Section 8**  
**Test name**  
**Specification**

Testing data  
 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



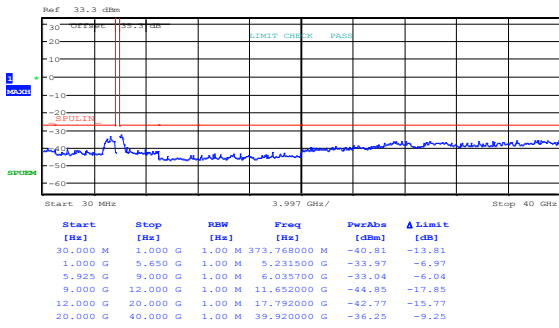
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**Figure 8.4-165:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 32 dBi antenna, ch1, BPSK, PMP application



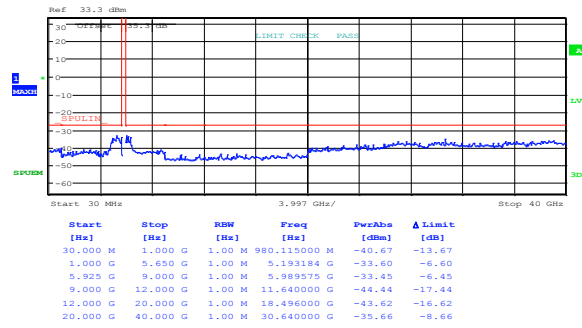
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**Figure 8.4-166:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 32 dBi antenna, ch1, BPSK, PMP application



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**Figure 8.4-167:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 32 dBi antenna, cho, 256-QAM, PMP application

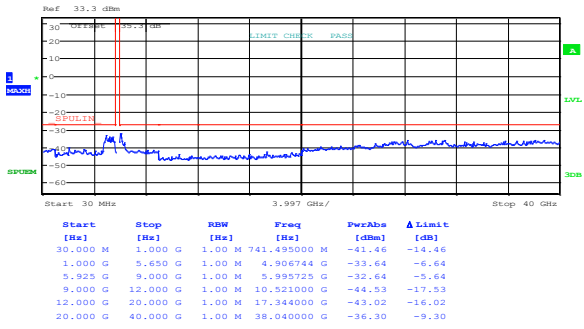


Date: 20.NOV.2016 18:37:15

**Figure 8.4-168:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 32 dBi antenna, cho, 256-QAM, PMP application

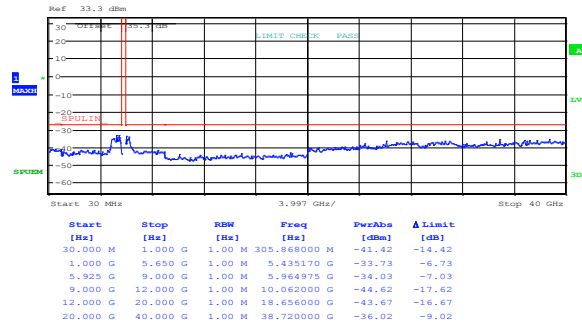
**Section 8**  
**Test name**  
**Specification**

Testing data  
 FCC 15.407(b) and RSS-247 6.2.4 (2) Spurious (out-of-band) emissions  
 FCC Part 15 Subpart E and RSS-247 Issue 1



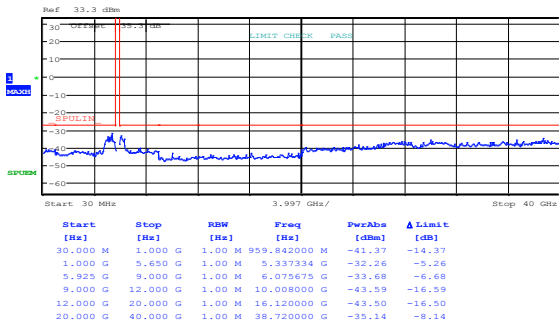
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**Figure 8.4-169:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 32 dBi antenna, cho, 256-QAM, PMP application



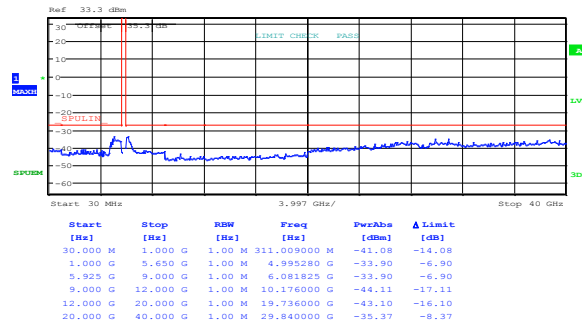
Date: 20.NOV.2016 18:42:00

**Figure 8.4-170:** Spurious emissions outside restricted bands, 40 MHz channel, low channel, 32 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 18:41:21

**Figure 8.4-171:** Spurious emissions outside restricted bands, 40 MHz channel, mid channel, 32 dBi antenna, ch1, 256-QAM, PMP application



Date: 20.NOV.2016 18:39:40

**Figure 8.4-172:** Spurious emissions outside restricted bands, 40 MHz channel, high channel, 32 dBi antenna, ch1, 256-QAM, PMP application