



Product Service

**Choose certainty.
Add value.**

Report On

FCC Testing of the Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V), Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS

In accordance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2 (LTE FDD 13, LTE FDD 17 and LTE TDD 38)

COMMERCIAL-IN-CONFIDENCE

FCC ID: APYHRO00234

Document 75933606 Report 20 Issue 1

May 2016



Product Service

TÜV SÜD Product Service, Octagon House, Concorde Way, Segensworth North,
Fareham, Hampshire, United Kingdom, PO15 5RL
Tel: +44 (0) 1489 558100. Website: www.tuv-sud.co.uk

COMMERCIAL-IN-CONFIDENCE

wREPORT ON

FCC Testing of the Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V), Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS
In accordance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2 (LTE FDD 13, LTE FDD 17 and LTE TDD 38)

Document 75933606 Report 20 Issue 1

May 2016

PREPARED FOR

Sharp Telecommunications of Europe Ltd
Inspired
Easthampstead Road
Bracknell
Berkshire
RG12 1NS

PREPARED BY

Natalie Bennett
Senior Administrator, Project Support

APPROVED BY

Stephen Milliken
Authorised Signatory

DATED

05 May 2016

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

M Russell

T Guy



S Bennett



CONTENTS

Section	Page No
1	REPORT SUMMARY 3
1.1	Introduction 4
1.2	Brief Summary of Results 5
1.3	Product Technical Description 7
1.4	Product Information 7
1.5	Test Conditions 7
1.6	Deviations from the Standard 7
1.7	Modification Record 7
2	TEST DETAILS 8
2.1	Maximum Conducted Output Power 9
2.2	Emission Limitations 17
2.3	Spurious Emissions at Antenna Terminals 146
2.4	Band Edge 205
2.5	26 dB Bandwidth 254
2.6	Frequency Stability 315
2.7	Modulation Characteristics 319
3	TEST EQUIPMENT USED 338
3.1	Test Equipment Used 339
3.2	Measurement Uncertainty 342
4	ACCREDITATION, DISCLAIMERS AND COPYRIGHT 343
4.1	Accreditation, Disclaimers and Copyright 344



Product Service

SECTION 1

REPORT SUMMARY

FCC Testing of the
Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V),
Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with
Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS
In accordance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2 (LTE FDD 13, LTE FDD 17
and LTE TDD 38)



Product Service

1.1 INTRODUCTION

The information contained in this report is intended to show the verification of FCC Testing of the Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V), Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS to the requirements of FCC 47 CFR Part 27 and FCC 47 CFR Part 2.

Objective	To perform FCC Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Sharp Corporation
Serial Number(s)	IMEI 004401115723252 IMEI 004401115723773
Number of Samples Tested	2
Test Specification/Issue/Date	FCC 47 CFR Part 2 (2015) FCC 47 CFR Part 27 (2015)
Disposal	Held Pending Disposal
Reference Number	Not Applicable
Date	Not Applicable
Order Number	10749
Date	15 February 2016
Start of Test	23 March 2016
Finish of Test	26 April 2016
Name of Engineer(s)	M Russell T Guy S Bennett
Related Document(s)	ANSI C63.4 (2014) ANSI TIA-603-C (2004)



1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2 is shown below.

Section	Specification Clause		Test Description	Result	Comments/Base Standard
	Part 27	Part 2			
LTE FDD13					
2.1	27.50	2.1046	Maximum Conducted Output Power	Pass	
2.2	27.53	2.1049	Emission Limitations	Pass	
2.3	27.53	2.1051	Spurious Emissions at Antenna Terminals	Pass	
2.4	27.53	2.1051	Band Edge	Pass	
2.5	27.53 (h)(3)	2.1051	26 dB Bandwidth	Pass	
2.6	27.54	2.1055	Frequency Stability	Pass	
2.7	-	2.1047 (d)	Modulation Characteristics	-	
LTE FDD17					
2.1	27.50	2.1046	Maximum Conducted Output Power	Pass	
2.2	27.53	2.1049	Emission Limitations	Pass	
2.3	27.53	2.1051	Spurious Emissions at Antenna Terminals	Pass	
2.4	27.53	2.1051	Band Edge	Pass	
2.5	27.53 (h)(3)	2.1051	26 dB Bandwidth	Pass	
2.6	27.54	2.1055	Frequency Stability	Pass	
2.7	-	2.1047 (d)	Modulation Characteristics	-	



Section	Specification Clause		Test Description	Result	Comments/Base Standard
	Part 27	Part 2			
LTE TDD38					
2.1	27.50	2.1046	Maximum Conducted Output Power	Pass	
2.2	27.53	2.1049	Emission Limitations	Pass	
2.3	27.53	2.1051	Spurious Emissions at Antenna Terminals	Pass	
2.4	27.53	2.1051	Band Edge	Pass	
2.5	27.53 (h)(3)	2.1051	26 dB Bandwidth	Pass	
2.6	27.54	2.1055	Frequency Stability	Pass	
2.7	-	2.1047 (d)	Modulation Characteristics	-	



1.3 PRODUCT TECHNICAL DESCRIPTION

Please refer to the Model Description Form, reference FCC ID: APYHRO00234

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V), Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS. A full technical description can be found in the manufacturer's documentation.

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was powered from a 4.0 V DC supply.

FCC Measurement Facility Registration Number
90987 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standard were made during testing.

1.7 MODIFICATION RECORD

Modification 0 - No modifications were made to the test sample during testing.



Product Service

SECTION 2

TEST DETAILS

FCC Testing of the
Sharp Hep-band LTE (B1 / B3 / B5 / B13 / B17 / B26 / B38), Dual-band WCDMA (FDD I / V),
Quad-band GSM (850 / 900 / 1800 / 1900) & WiMAX2+ (TDD41) multi mode Smart phone with
Bluetooth, WLAN, SRD(NFC, FeliCa) and GPS
In accordance with FCC 47 CFR Part 27 and FCC 47 CFR Part 2 (LTE FDD 13, LTE FDD 17
and LTE TDD 38)



Product Service

2.1 MAXIMUM CONDUCTED OUTPUT POWER

2.1.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1046
FCC 47 CFR Part 27, Clause 27.50

2.1.2 Equipment Under Test and Modification State

S/N: IMEI 004401115723252 - Modification State 0

2.1.3 Date of Test

23 March 2016, 24 March 2016 & 29 March 2016

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Procedure

Carrier power measurements were performed in accordance with KDB 971168 D01 v02r02, Clause 5.2.1

Peak to average ratio measurements were performed in accordance with KDB 971168 D01 v02r02, Clause 5.7.1

Remarks

The antenna gain was declared by the manufacturer as 2.0 dBi. As per KDB 412172 D01 v01r01 carrier power results are recorded in ERP therefore reported results are calculated as per the following calculation:

$$\text{ERP} = \text{Pout (dBm)} + \text{ANT Gain (dBi)} - 2.15 \text{ (dB)}.$$

2.1.6 Environmental Conditions

Ambient Temperature	23.3 - 24.2°C
Relative Humidity	25.6 - 28.7%



2.1.7 Test Results

4.0 V DC Supply

LTE FDD13, Maximum Average Conducted Output Power Results

5.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		779.5 MHz	782.0 MHz	784.5 MHz
1	Low	23.20	23.40	23.45
1	Mid	23.07	23.03	23.10
1	High	22.88	23.29	23.26
12	Low	21.76	21.76	21.71
12	Mid	21.93	21.88	21.76
12	High	21.92	21.85	21.92
25	-	21.82	21.80	21.79

5.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		779.5 MHz	782.0 MHz	784.5 MHz
1	Low	22.09	22.44	22.60
1	Mid	22.01	22.20	22.39
1	High	22.00	22.61	22.32
12	Low	20.82	20.73	20.75
12	Mid	21.03	20.85	20.73
12	High	21.00	20.88	20.87
25	-	20.91	20.80	20.75

10.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)
		782.0 MHz
1	Low	22.96
1	Mid	22.88
1	High	23.38
25	Low	21.87
25	Mid	21.96
25	High	21.91
50	-	22.01



Product Service

10.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)
		782.0 MHz
1	Low	22.50
1	Mid	22.05
1	High	22.28
25	Low	20.90
25	Mid	20.93
25	High	20.96
50	-	20.97

FCC 47 CFR Part 27, Limit Clause 27.50 (b)(10)

Fixed, Mobile and Portable Stations: <3 W ERP



4.0 V DC Supply

LTE FDD17, Maximum Average Conducted Output Power Results5.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		706.5 MHz	710.0 MHz	713.5 MHz
1	Low	23.29	23.54	23.31
1	Mid	23.33	23.29	22.84
1	High	23.28	23.25	22.19
12	Low	21.94	21.82	21.67
12	Mid	21.8	21.81	21.46
12	High	21.88	21.79	21.75
25	-	21.84	21.78	21.68

5.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		706.5 MHz	710.0 MHz	713.5 MHz
1	Low	22.62	22.35	22.42
1	Mid	22.75	22.17	22.08
1	High	22.32	22.22	21.49
12	Low	20.97	20.87	20.87
12	Mid	20.85	20.76	20.60
12	High	20.95	20.79	20.86
25	-	20.94	20.73	20.67

10.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		709.0 MHz	710.0 MHz	711.0 MHz
1	Low	23.19	23.32	23.24
1	Mid	22.97	22.78	22.86
1	High	22.41	22.49	22.04
25	Low	21.97	21.95	21.91
25	Mid	21.81	21.82	21.97
25	High	21.87	21.89	21.90
50	-	22.01	22.07	22.04



Product Service

10.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power - ERP (dBm)		
		709.0 MHz	710.0 MHz	711.0 MHz
1	Low	22.47	22.34	22.37
1	Mid	22.09	22.21	21.93
1	High	21.75	21.14	20.98
25	Low	20.94	21	20.98
25	Mid	20.89	20.92	21.05
25	High	20.81	20.79	20.9
50	-	21.01	21.03	20.93

FCC 47 CFR Part 27, Limit Clause 27.50 (c)(10)

Fixed, Mobile and Portable Stations: <3 W ERP



4.0 V DC Supply

LTE TDD38, Maximum Average Conducted Output Power Results5.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2572.5 MHz	2595.0 MHz	2617.5 MHz
1	Low	26.15	26.16	26.04
1	Mid	26.12	26.10	26.05
1	High	26.08	25.96	26.03
12	Low	25.06	25.10	24.95
12	Mid	25.04	24.98	24.90
12	High	25.05	25.04	24.92
25	-	24.96	25.14	24.89

5.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2572.5 MHz	2595.0 MHz	2617.5 MHz
1	Low	25.36	25.07	25.22
1	Mid	25.43	25.04	25.01
1	High	25.39	25.08	25.19
12	Low	23.99	24.05	23.92
12	Mid	23.98	24.00	23.84
12	High	23.95	23.97	23.85
25	-	24.04	23.96	23.94

10.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2575.0 MHz	2595.0 MHz	2615.0 MHz
1	Low	26.10	26.29	26.12
1	Mid	26.11	26.09	25.96
1	High	26.13	25.96	25.86
25	Low	25.08	25.07	24.91
25	Mid	25.04	24.95	24.95
25	High	24.93	24.95	24.90
50	-	25.08	25.15	24.96

10.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2575.0 MHz	2595.0 MHz	2615.0 MHz
1	Low	24.77	25.03	25.26
1	Mid	24.68	24.94	25.19
1	High	24.68	24.77	24.91
25	Low	24.02	24.11	23.85
25	Mid	24.01	23.94	23.84
25	High	23.88	23.93	23.78
50	-	24.06	24.08	23.95

15.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2577.5 MHz	2595.0 MHz	2612.5 MHz
1	Low	26.62	26.42	26.36
1	Mid	26.32	26.12	26.03
1	High	26.27	25.98	26.02
36	Low	25.11	25.16	25.13
36	Mid	25.01	25.13	25.01
36	High	24.94	25.01	24.97
75	-	25.07	25.04	25.03

15.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2577.5 MHz	2595.0 MHz	2612.5 MHz
1	Low	25.03	25.39	25.46
1	Mid	24.81	25.15	25.09
1	High	24.83	25.12	25.12
36	Low	24.04	24.03	24.06
36	Mid	24.02	24.05	23.98
36	High	23.87	23.91	23.89
75	-	24.01	23.99	23.98

20.0 MHz Bandwidth - QPSK

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2580.0 MHz	2595.0 MHz	2610.0 MHz
1	Low	26.48	26.64	26.34
1	Mid	26.11	26.17	25.94
1	High	26.02	26.05	25.92
50	Low	25.16	25.24	25.11
50	Mid	25.05	25.05	25.03
50	High	25.03	24.93	25.02
100	-	25.09	25.18	25.02

20.0 MHz Bandwidth - 16-QAM

Resource Block Allocation	Resource Block Offset	Carrier Power EIRP (dBm)		
		2580.0 MHz	2595.0 MHz	2610.0 MHz
1	Low	25.48	25.07	25.46
1	Mid	25.21	24.94	24.84
1	High	25.23	24.81	24.83
50	Low	24.23	24.11	24.14
50	Mid	24.06	23.95	23.97
50	High	24.03	23.87	24.01
100	-	24.02	24.15	24.01

FCC 47 CFR Part 27, Limit Clause 27.50 (h)(2)

Fixed, Mobile and Portable Stations: <2 W EIRP



Product Service

2.2 EMISSION LIMITATIONS

2.2.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1049
FCC 47 CFR Part 27, Clause 27.53

2.2.2 Equipment Under Test and Modification State

S/N: IMEI 004401115723773 - Modification State 0

2.2.3 Date of Test

4 April 2016, 7 April 2016 & 9 April 2016

2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.2.5 Test Procedure

Tested in accordance with FCC 47 CFR Part 27, clause 27.53 and ANSI 63.26, clause 5.5.

2.2.6 Environmental Conditions

Ambient Temperature	19.8 - 22.7°C
Relative Humidity	31.2 - 34.5%



Product Service

2.2.7 Test Results

4.0 V DC Supply

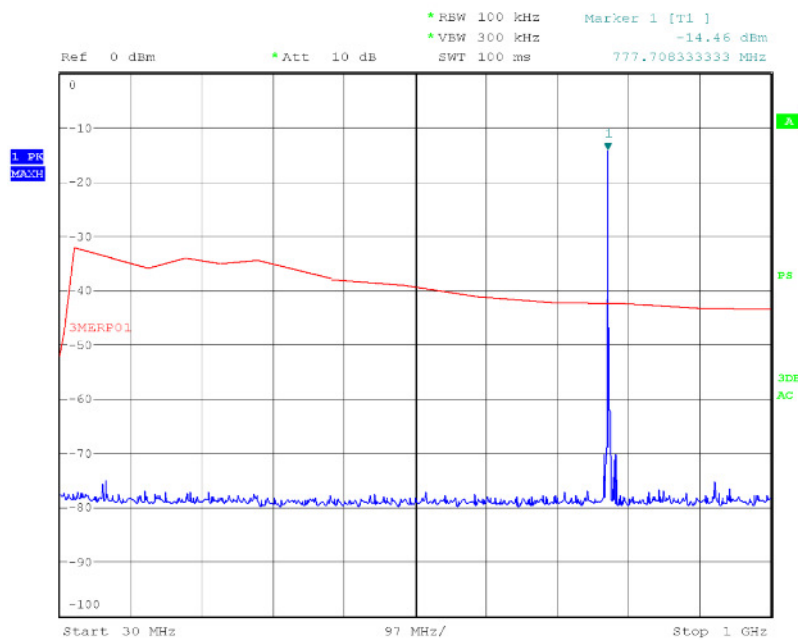
LTE FDD13, Radiated Spurious Emisissions Results

5.0 MHz Bandwidth – QPSK

779.5 MHz

1 Resource Block - Low

30 MHz to 1 GHz

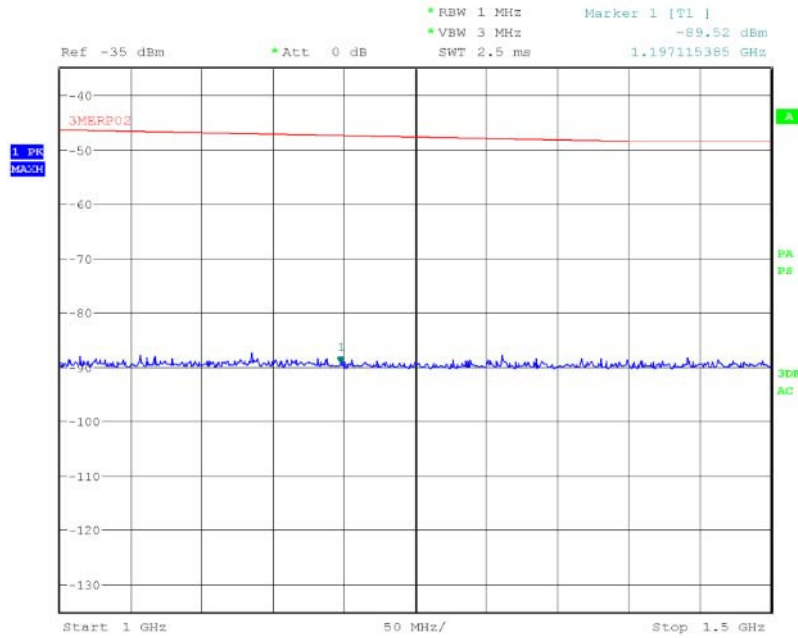


Date: 4.APR.2016 03:36:05



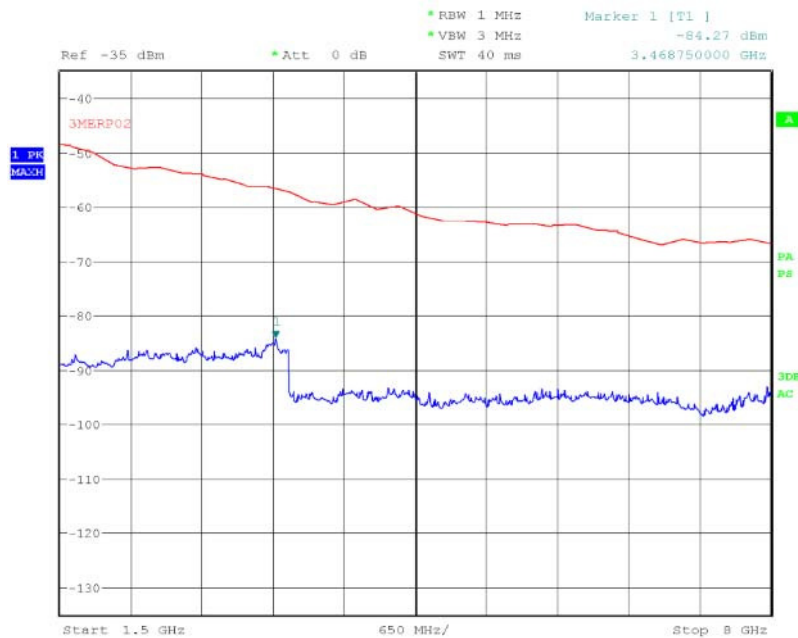
Product Service

1.0 GHz to 1.5 GHz



Date: 13.APR.2016 22:16:13

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:54:12



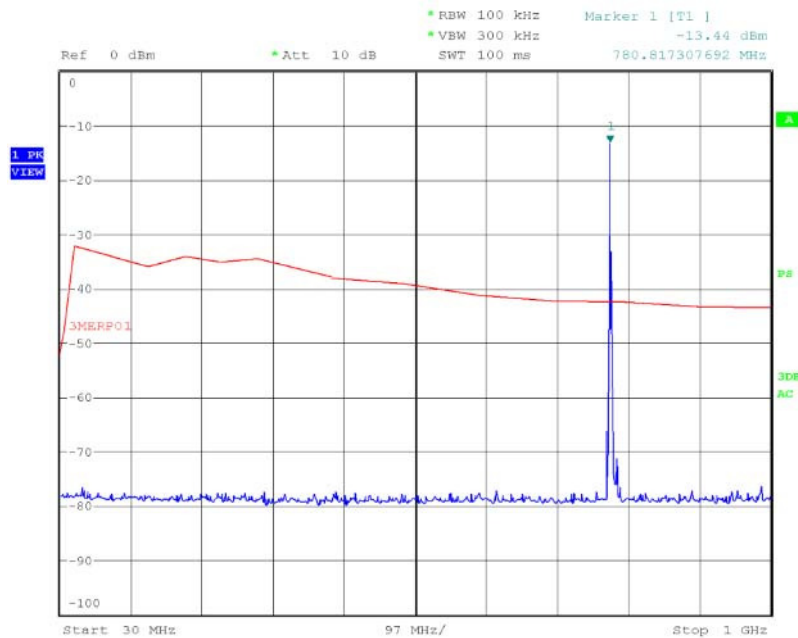
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

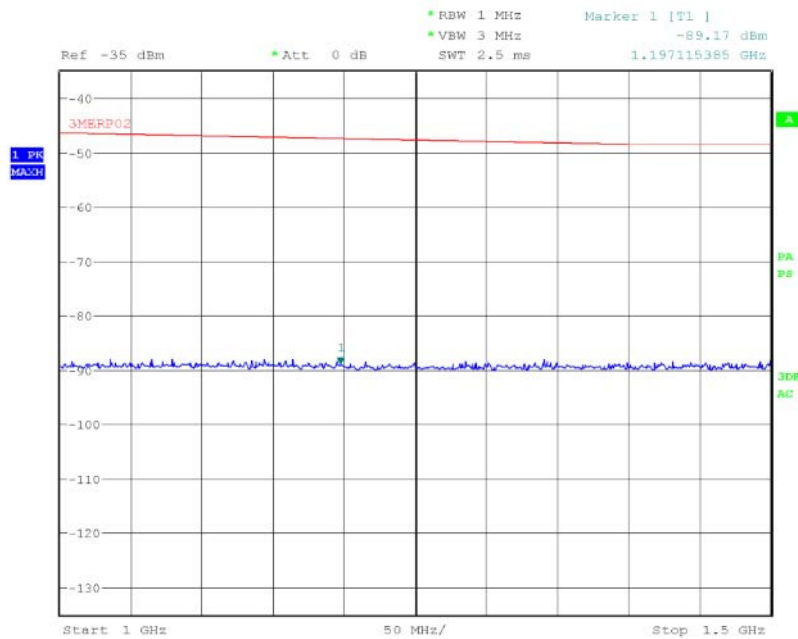
*No emissions were detected within 10 dB of the limit.



Product Service

782.0 MHz1 Resource Block - Low30 MHz to 1 GHz

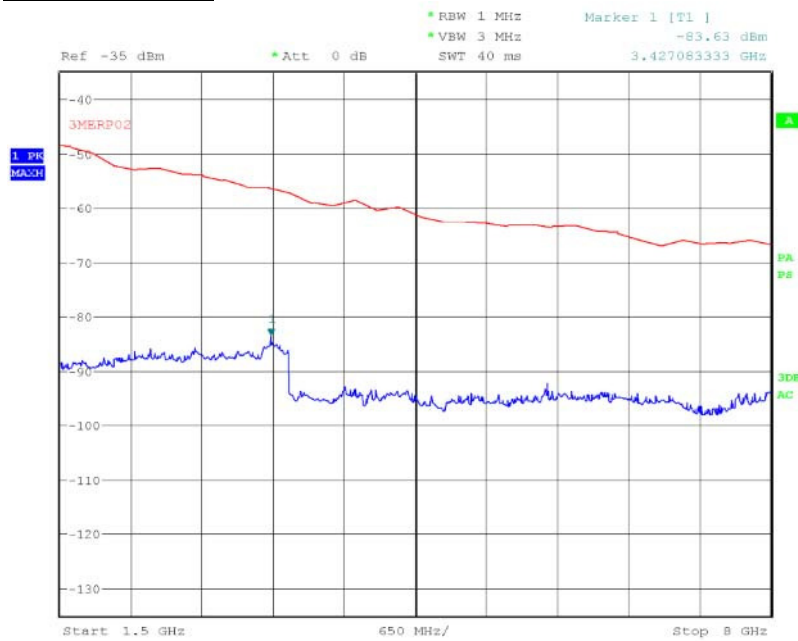
Date: 4.APR.2016 03:10:31

1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:20:32



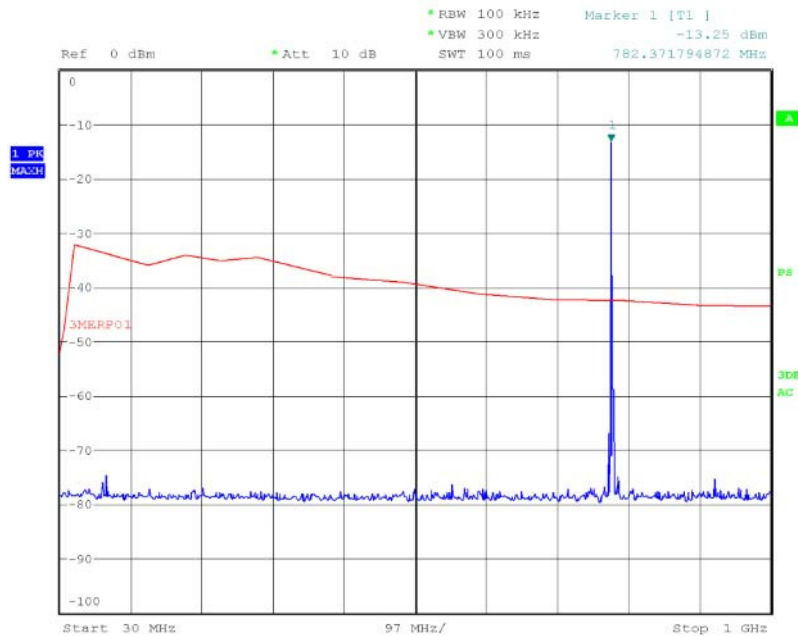
Product Service

1.5 GHz to 8 GHz

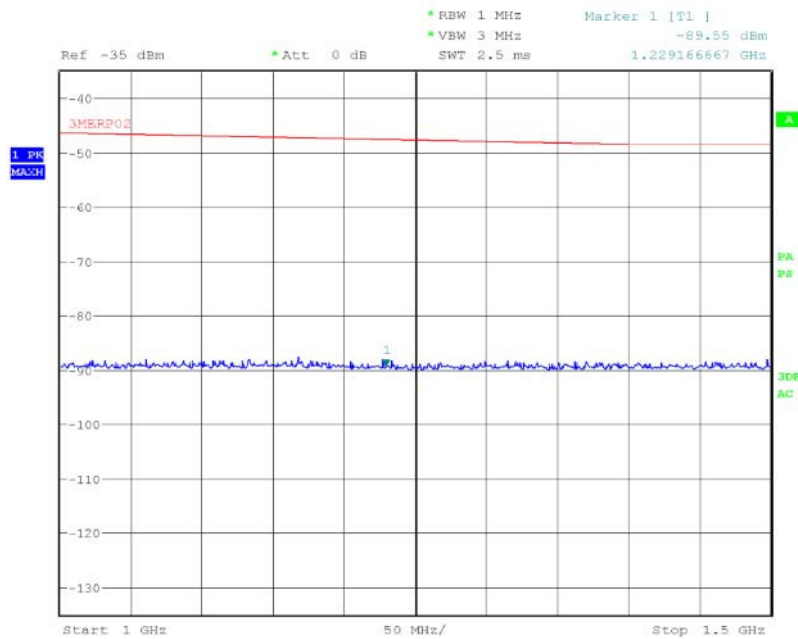
Date: 9.APR.2016 16:57:02



Product Service

784.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 4.APR.2016 03:40:09

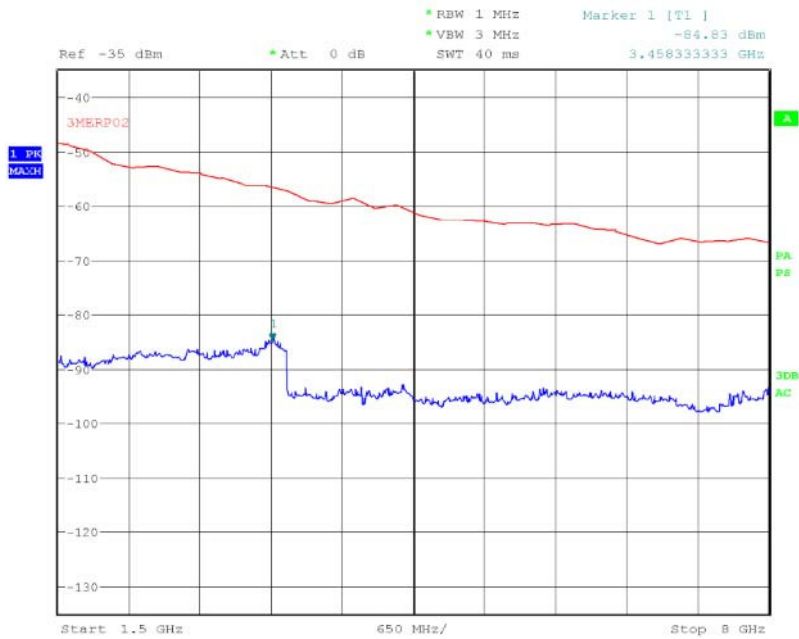
1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:25:52



Product Service

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:59:50

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



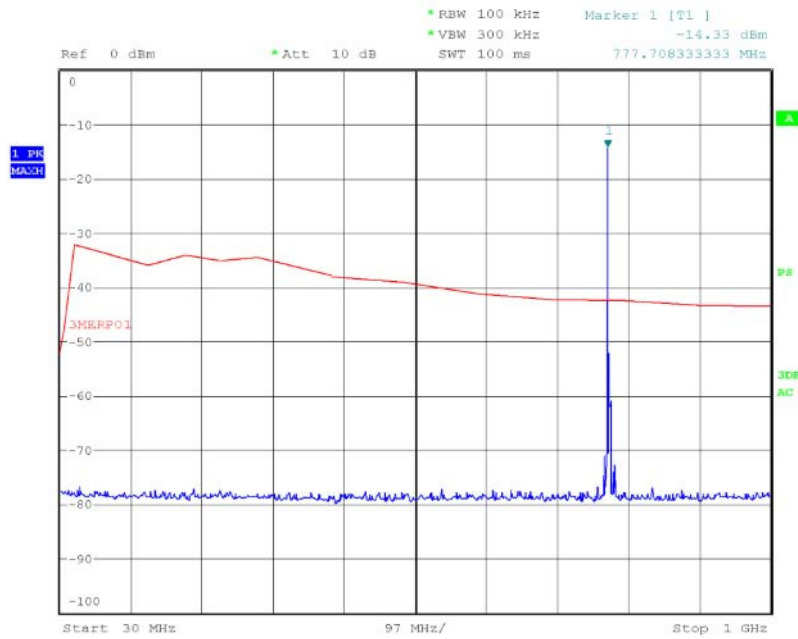
Product Service

5.0 MHz Bandwidth – 16-QAM

779.5 MHz

1 Resource Block - Low

30 MHz to 1 GHz

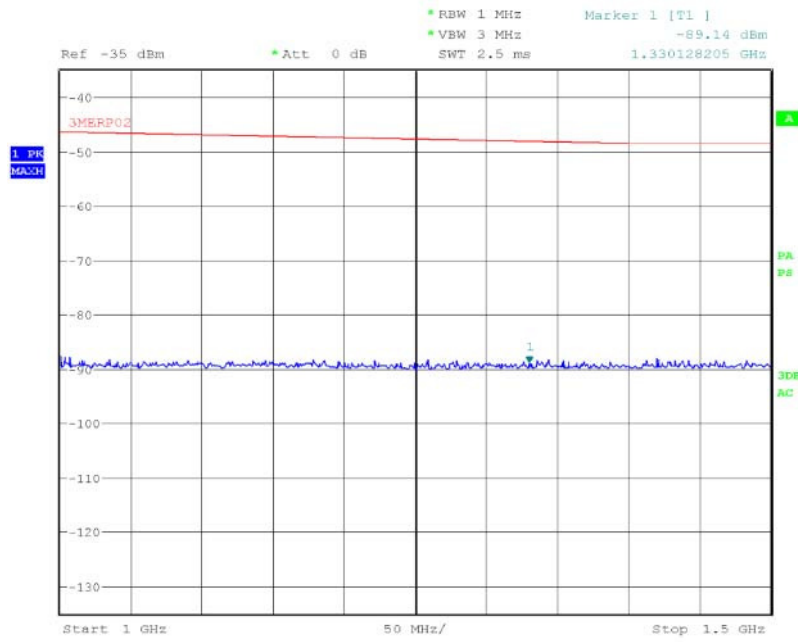


Date: 4.APR.2016 04:01:21



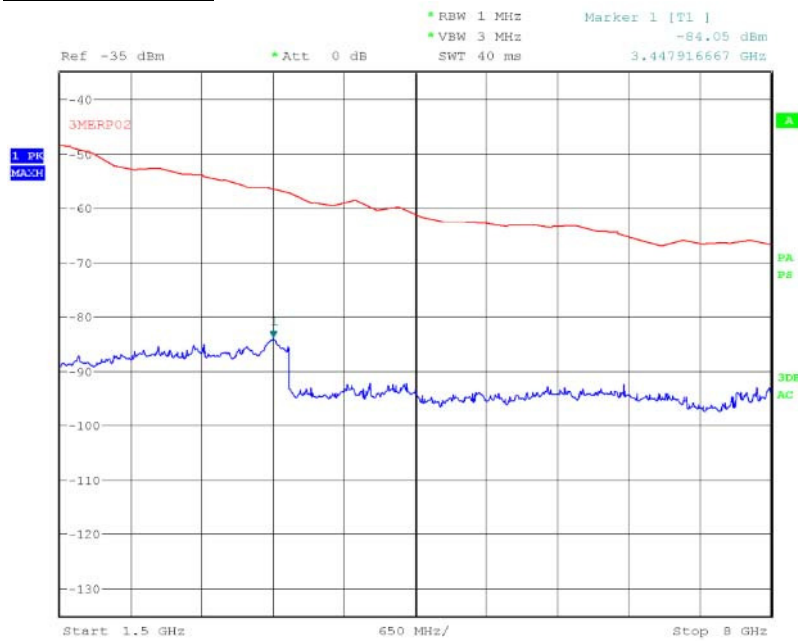
Product Service

1 GHz to 1.5 GHz



Date: 13.APR.2016 22:32:38

1.5 GHz to 8 GHz



Date: 9.APR.2016 17:21:10



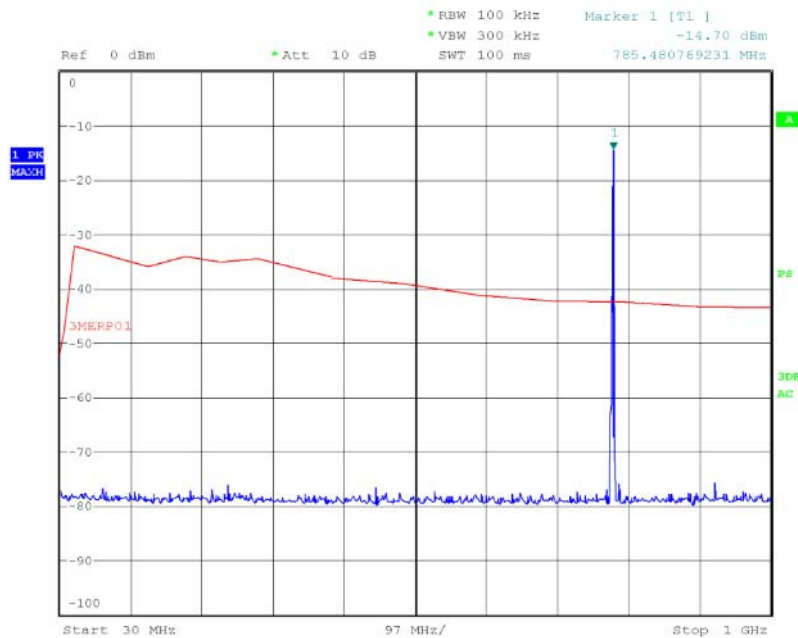
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

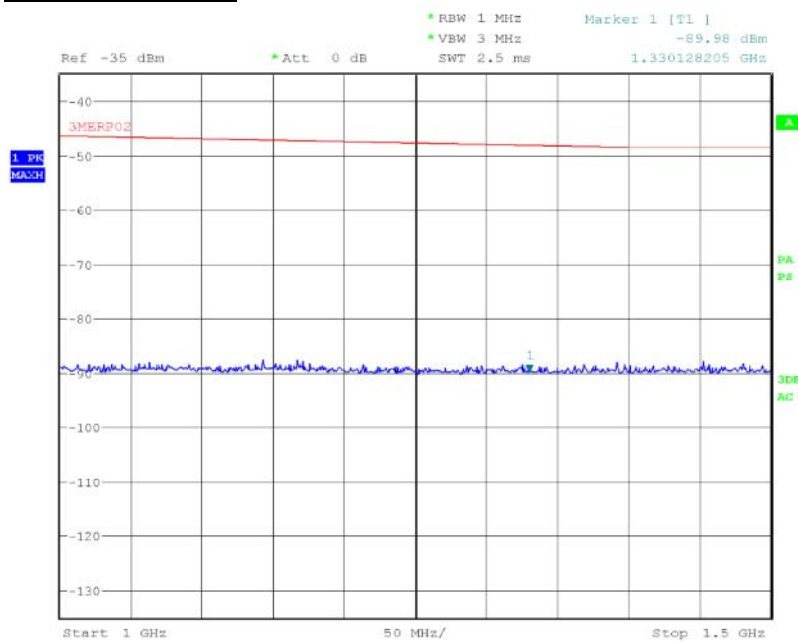
*No emissions were detected within 10 dB of the limit.



Product Service

782.0 MHz1 Resource Block - High30 MHz to 1 GHz

Date: 4.APR.2016 03:46:25

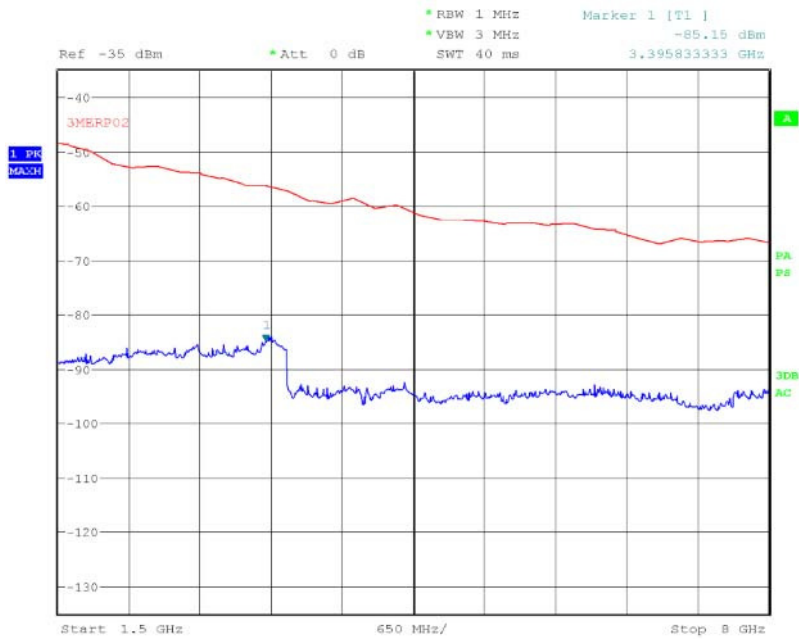
1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:36:05



Product Service

1.5 GHz to 8 GHz



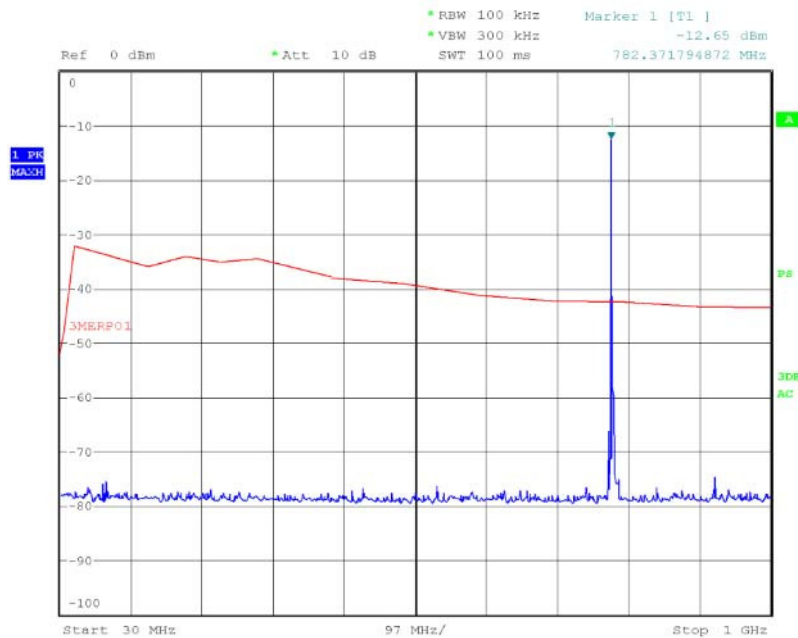
Date: 9.APR.2016 17:09:11

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

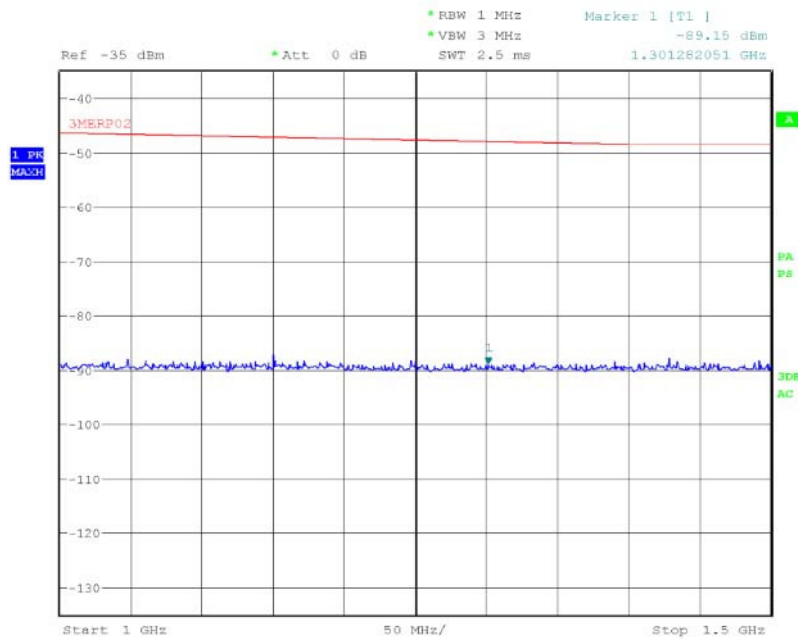
*No emissions were detected within 10 dB of the limit.



Product Service

784.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 4.APR.2016 03:43:49

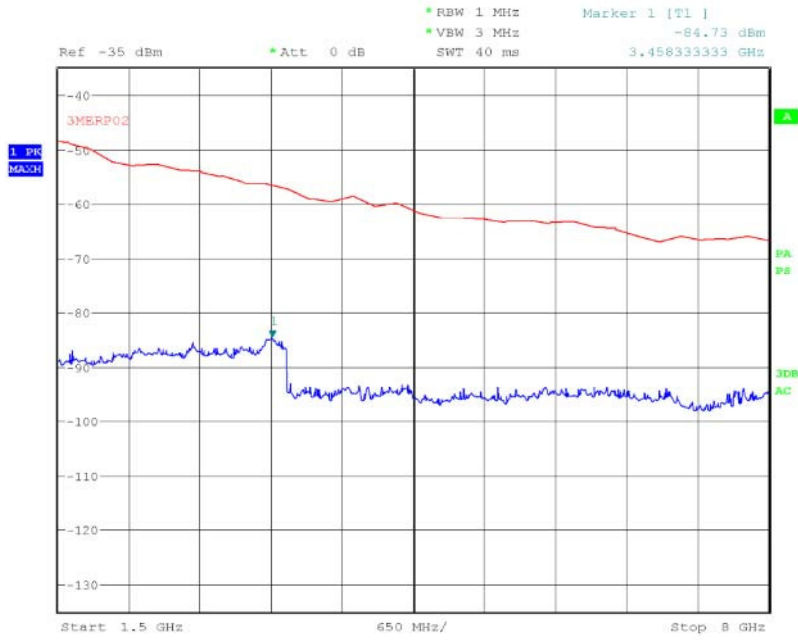
1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:28:25



Product Service

1.5 GHz to 8 GHz



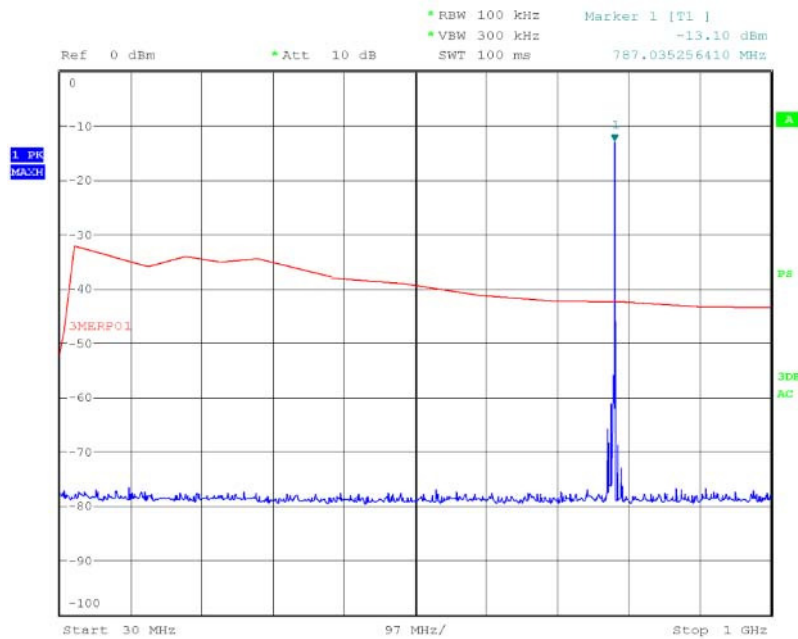
Date: 9.APR.2016 17:02:10

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



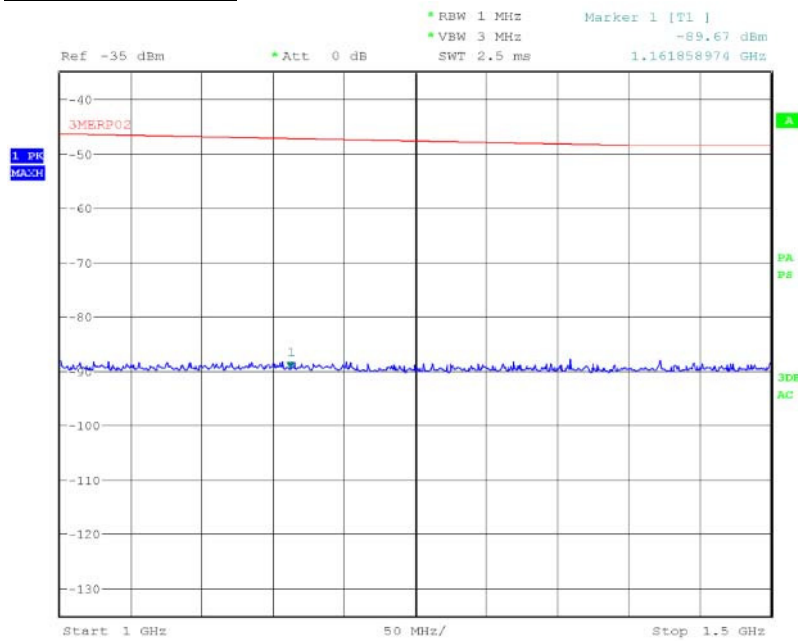
Product Service

10.0 MHz Bandwidth – QPSK782.0 MHz1 Resource Block - High30 MHz to 1 GHz

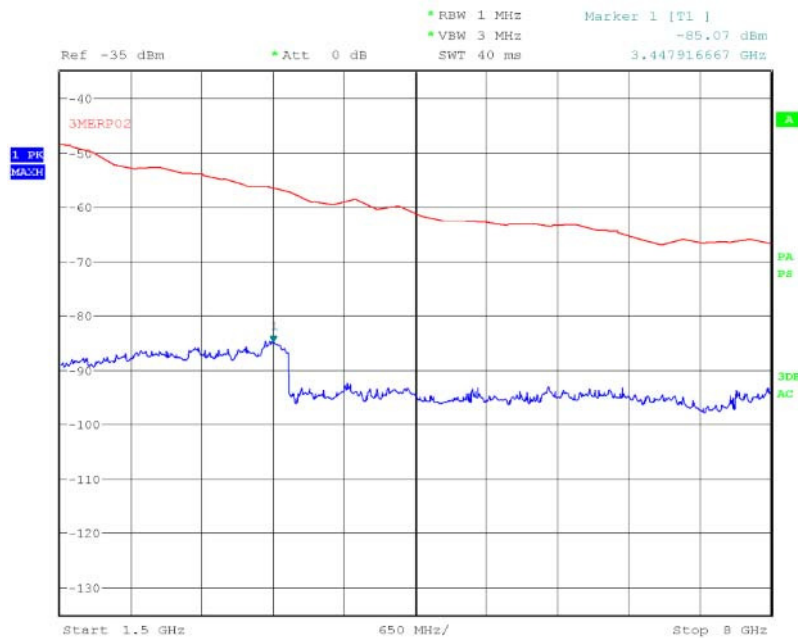
Date: 4.APR.2016 04:05:50



Product Service

1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:44:22

1.5 GHz to 8 GHz

Date: 9.APR.2016 16:45:18



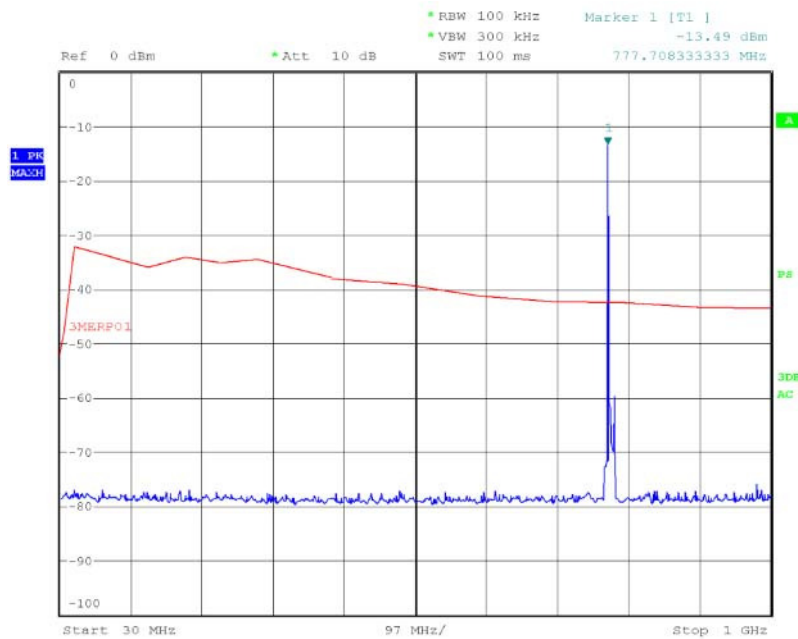
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



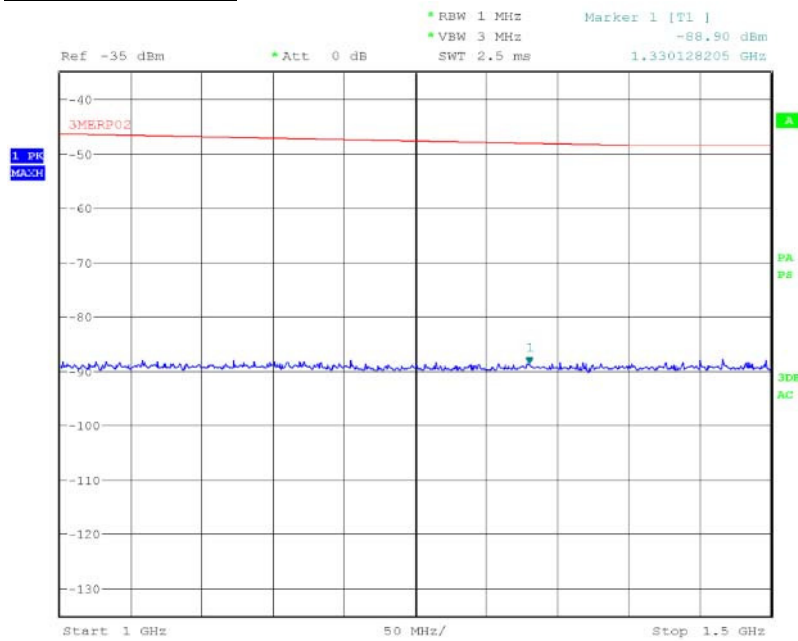
Product Service

10.0 MHz Bandwidth – 16-QAM782.0 MHz1 Resource Block - Low30 MHz to 1 GHz

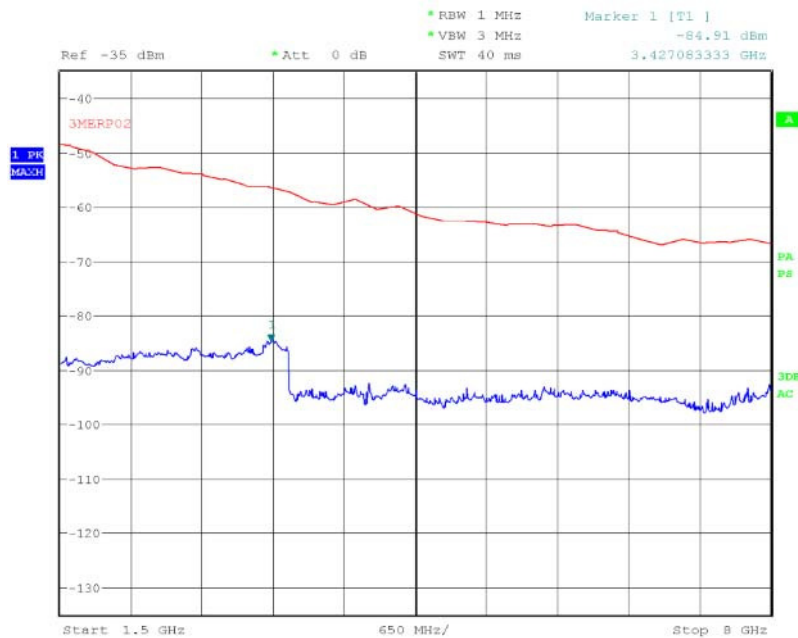
Date: 4.APR.2016 04:08:51



Product Service

1.0 GHz to 1.5 GHz

Date: 13.APR.2016 22:41:43

1.5 GHz to 8 GHz

Date: 9.APR.2016 16:50:44



Product Service

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

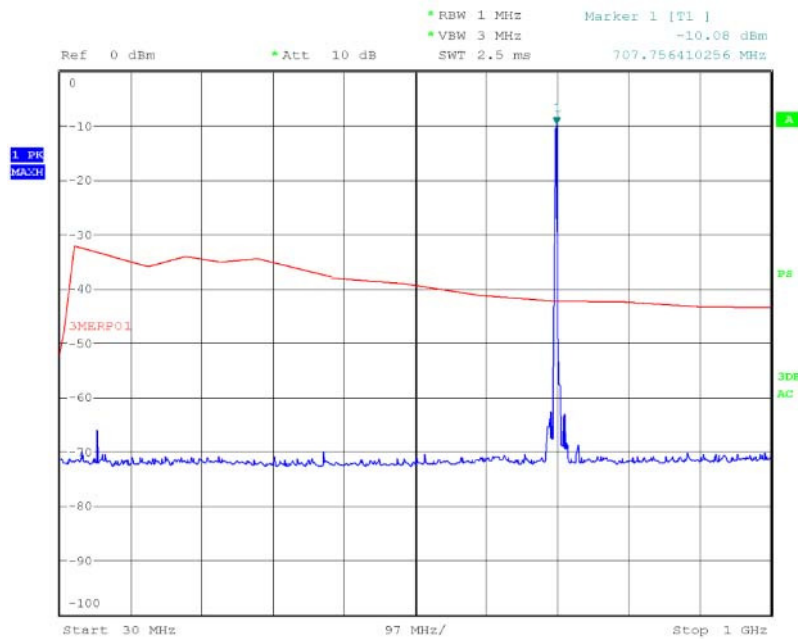
FCC 47 CFR Part 27, Limit Clause 27.53 (c)(2)

-13 dBm



Product Service

4.0 V DC Supply

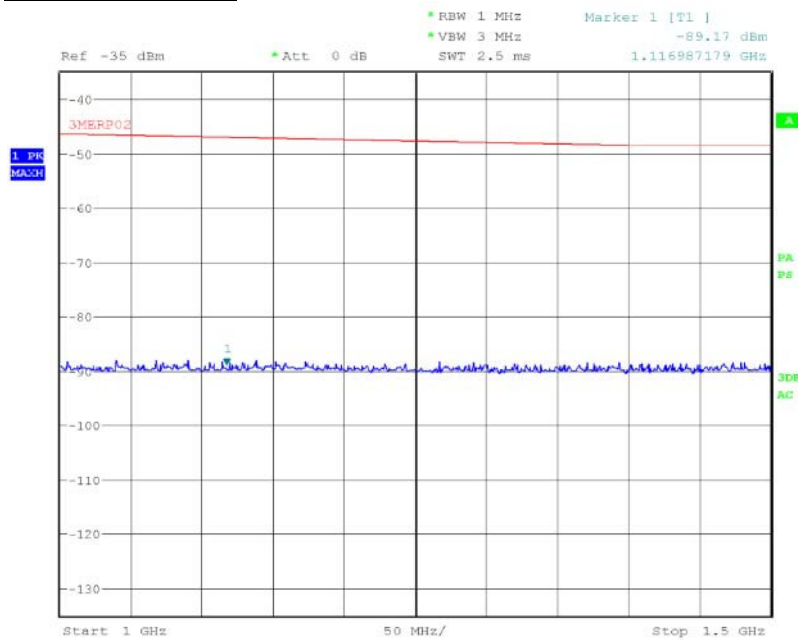
LTE FDD17, Radiated Spurious Emisions Results5.0 MHz Bandwidth – QPSK706.5 MHz1 Resource Block - Mid30 MHz to 1 GHz

Date: 7.APR.2016 17:02:32



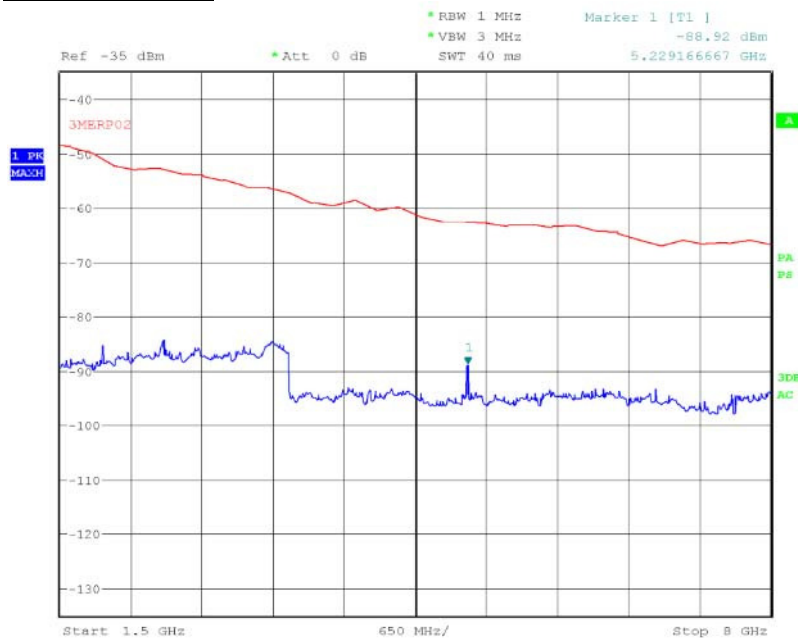
Product Service

1.0 GHz to 1.5 GHz



Date: 9.APR.2016 15:26:53

1.5 GHz to 8 GHz



Date: 9.APR.2016 15:51:13



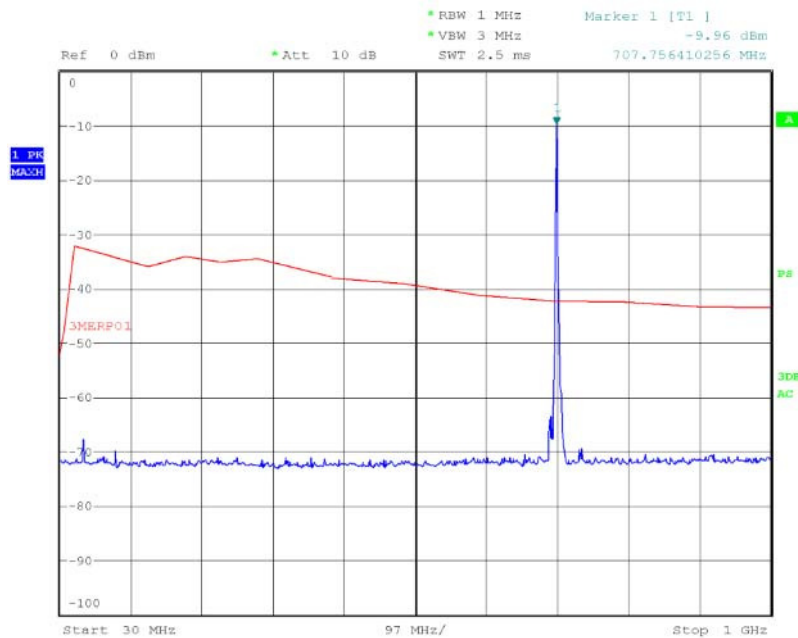
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

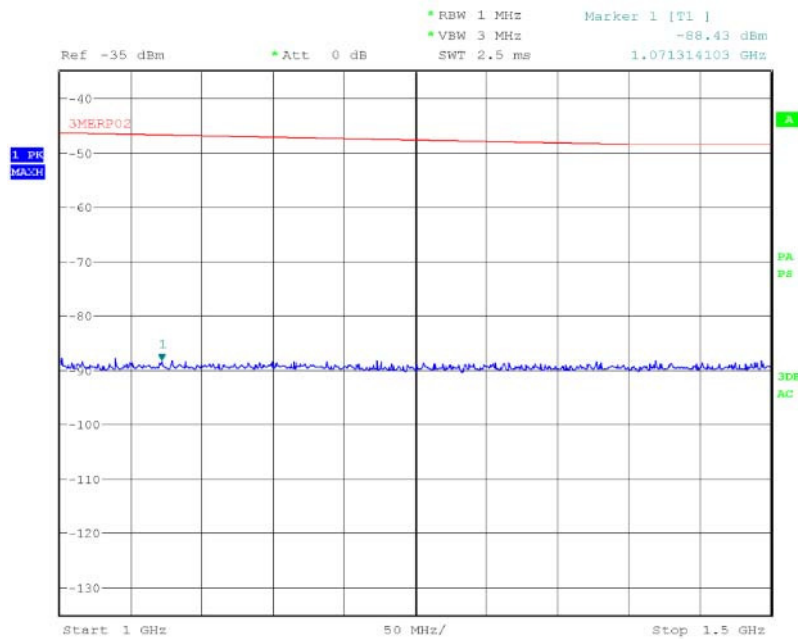
*No emissions were detected within 10 dB of the limit.



Product Service

710.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 17:05:35

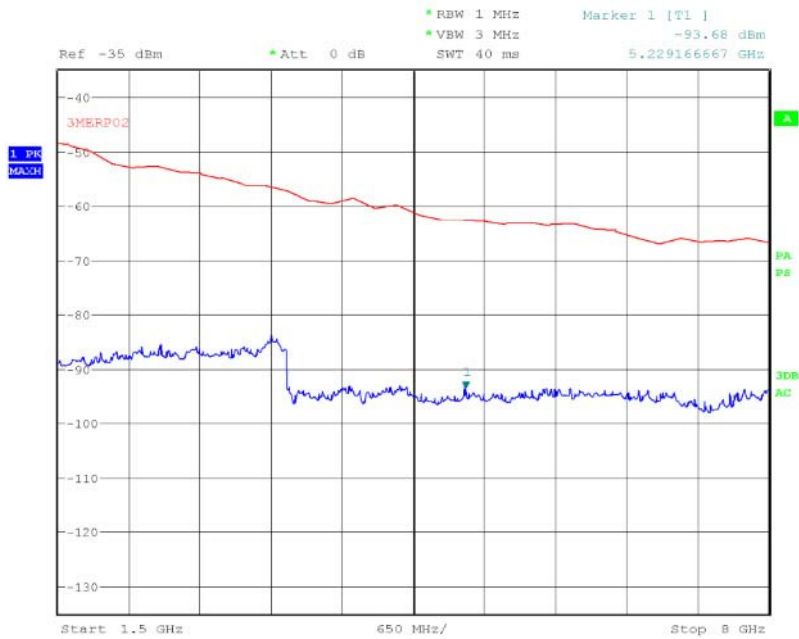
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:24:38



Product Service

1.5 GHz to 8 GHz



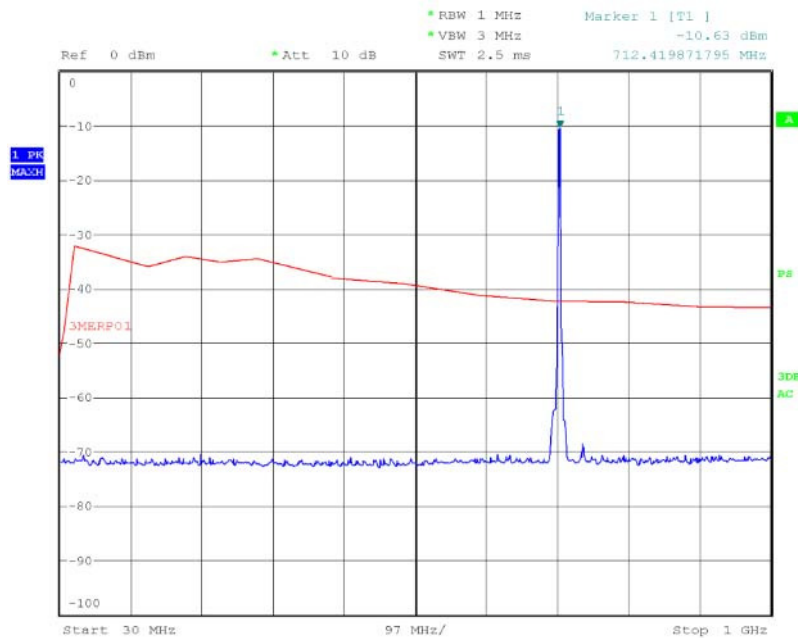
Date: 9.APR.2016 15:56:18

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

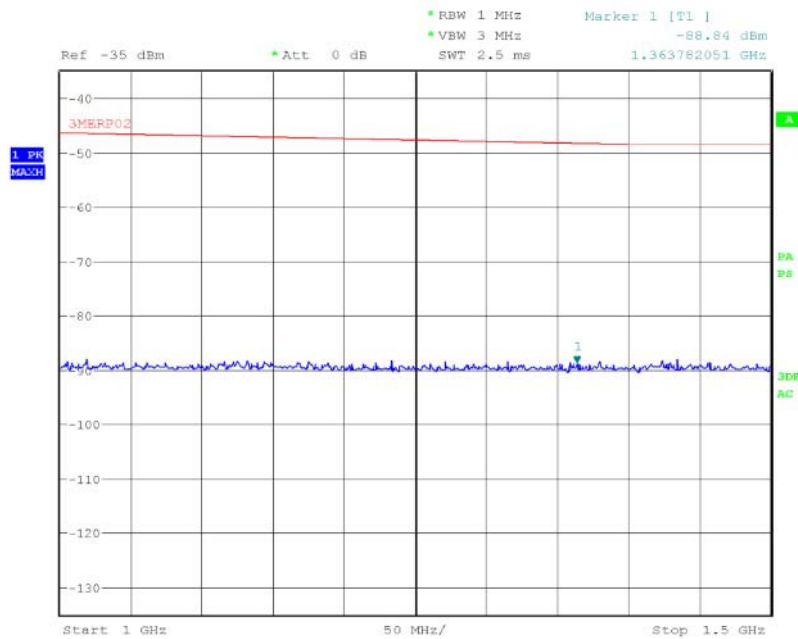
*No emissions were detected within 10 dB of the limit.



Product Service

713.5 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 17:09:12

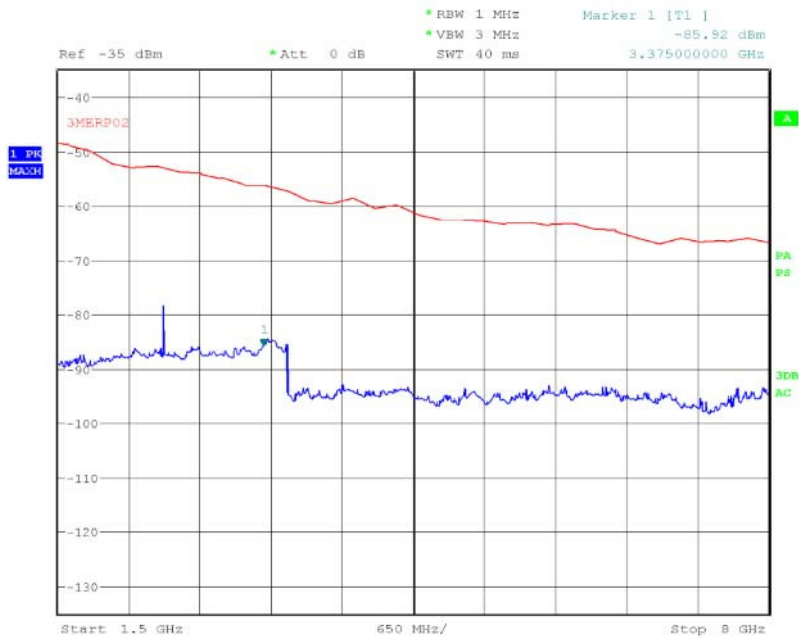
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:36:09



Product Service

1.5 GHz to 8 GHz



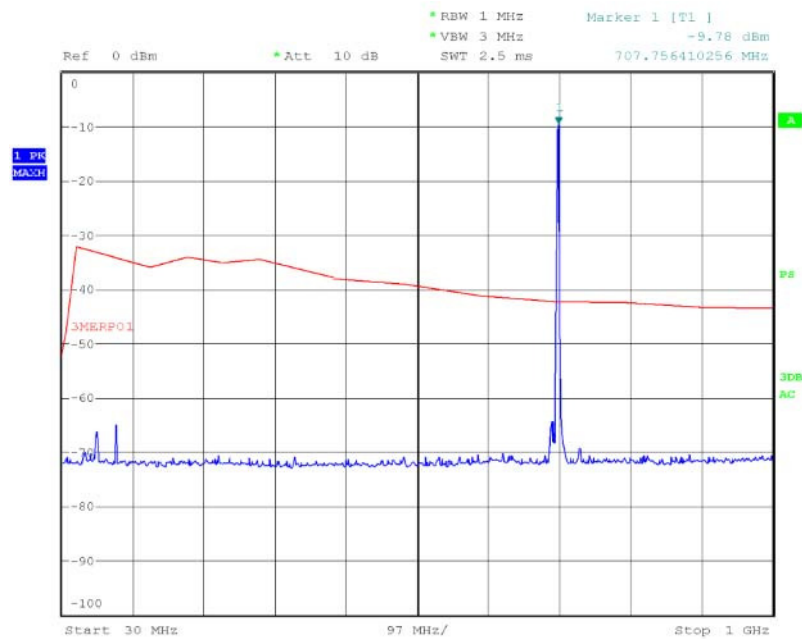
Date: 9.APR.2016 16:01:21

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



Product Service

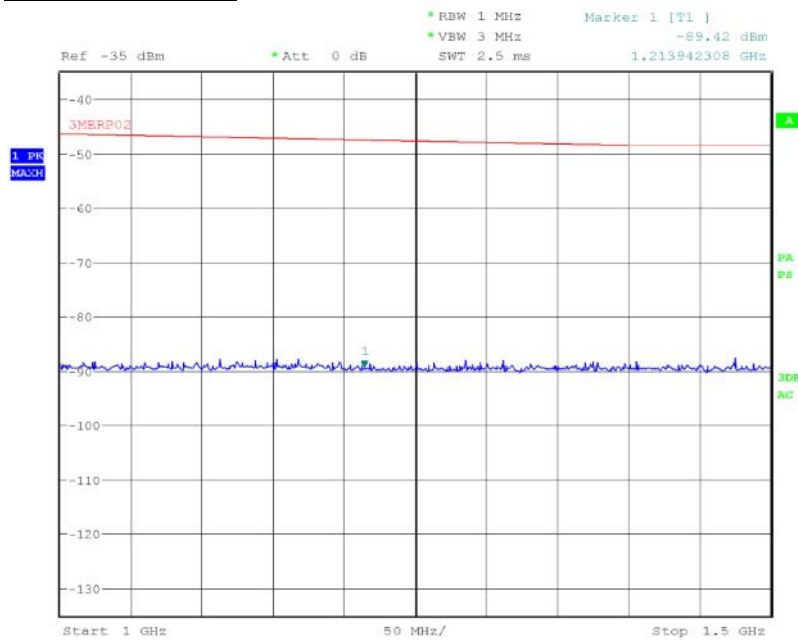
5.0 MHz Bandwidth – 16-QAM706.5 MHz1 Resource Block – Mid30 MHz to 1 GHz

Date: 7.APR.2016 17:17:16



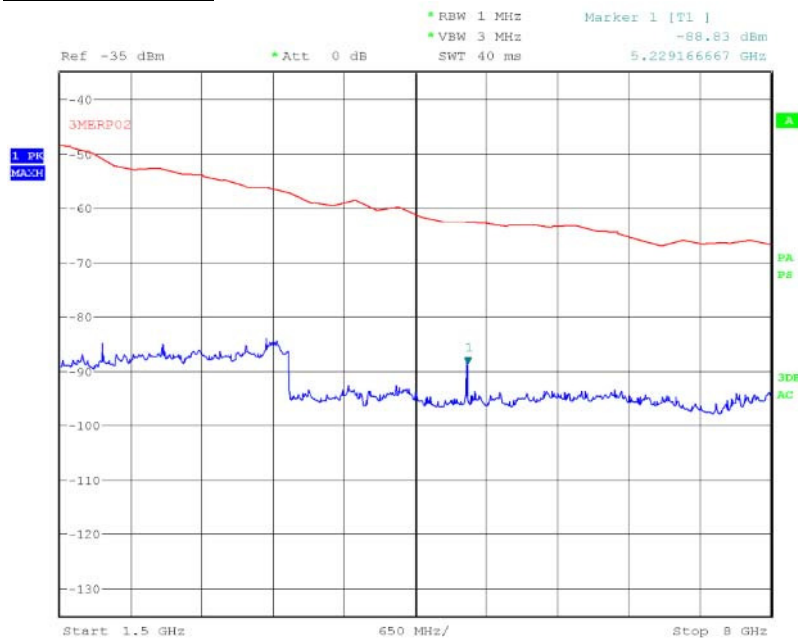
Product Service

1.0 GHz to 1.5 GHz



Date: 9.APR.2016 15:30:05

1.5 GHz to 8 GHz



Date: 9.APR.2016 15:46:50



Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

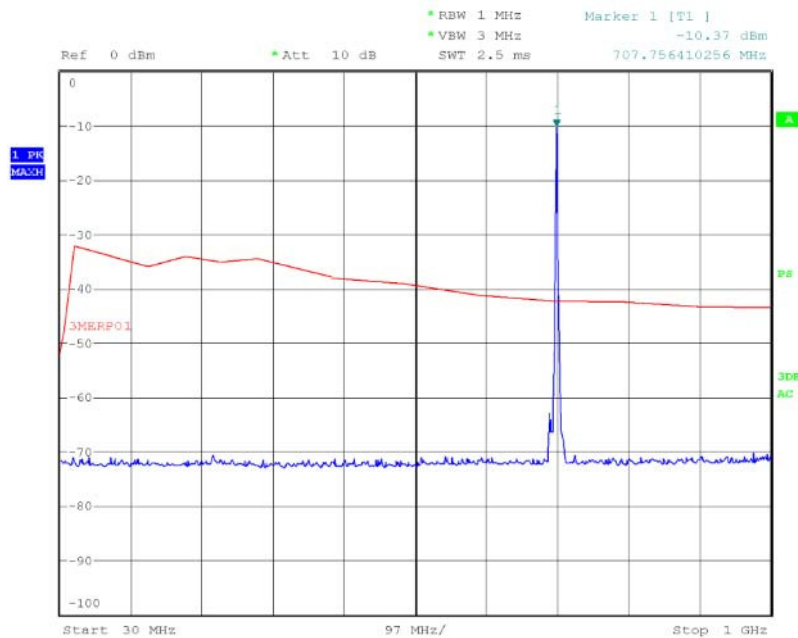


Product Service

710.0 MHz

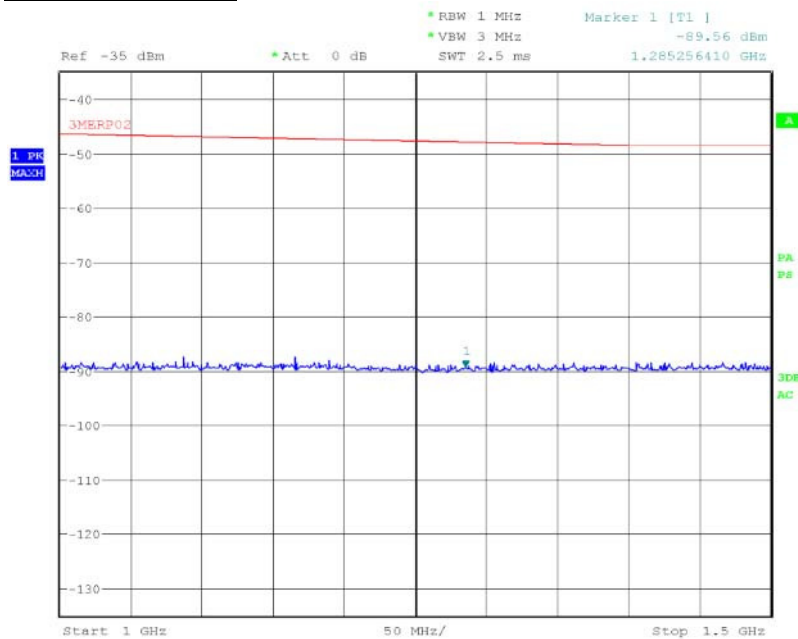
1 Resource Block – Low

30 MHz to 1 GHz



Date: 7.APR.2016 17:14:24

1.0 GHz to 1.5 GHz

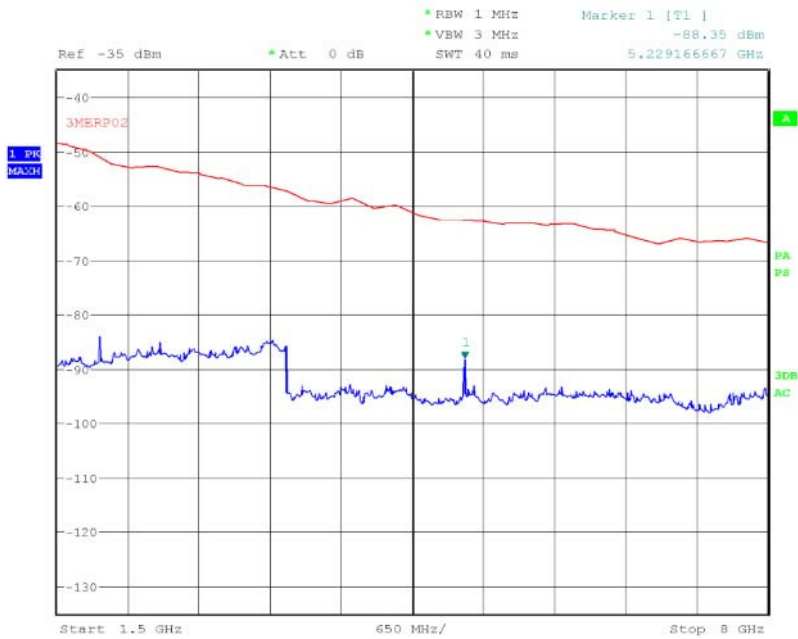


Date: 9.APR.2016 15:33:42



Product Service

1.5 GHz to 8 GHz



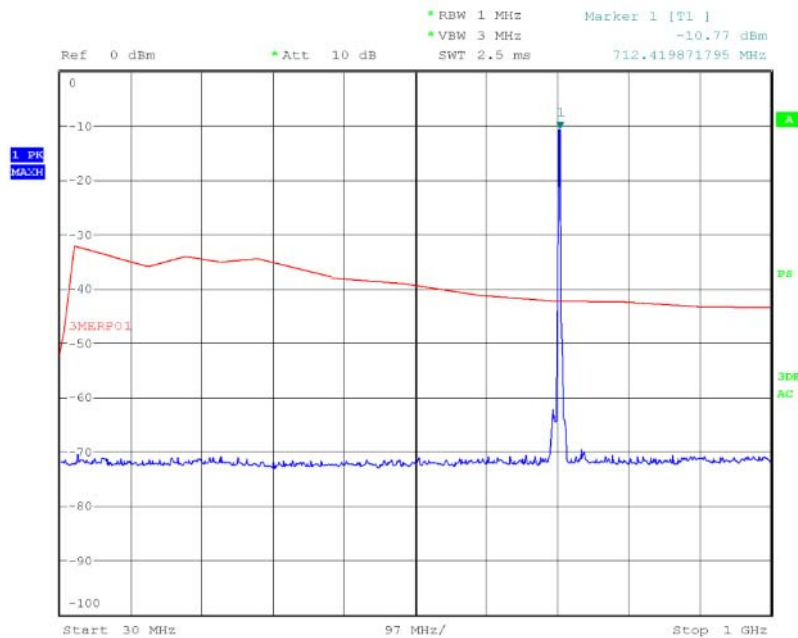
Date: 9.APR.2016 15:43:18

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

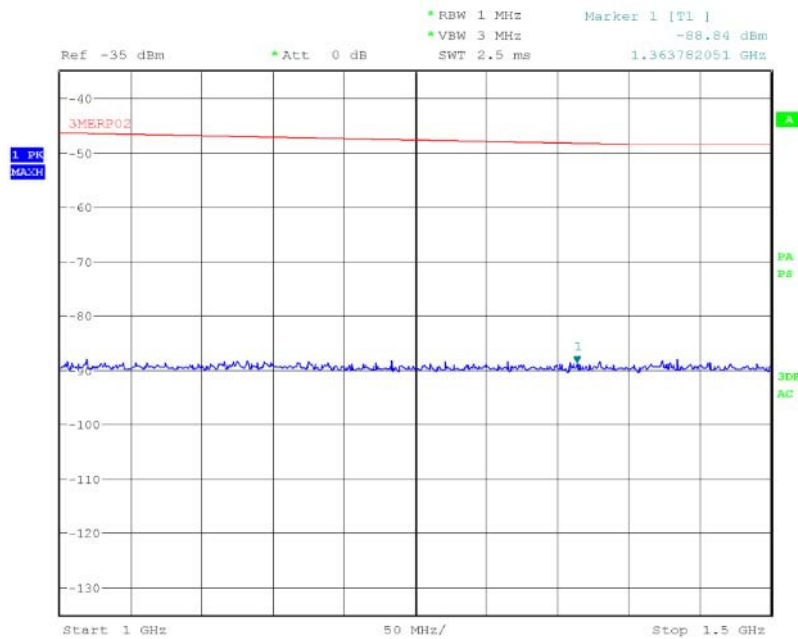
*No emissions were detected within 10 dB of the limit.



Product Service

713.5 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 17:12:11

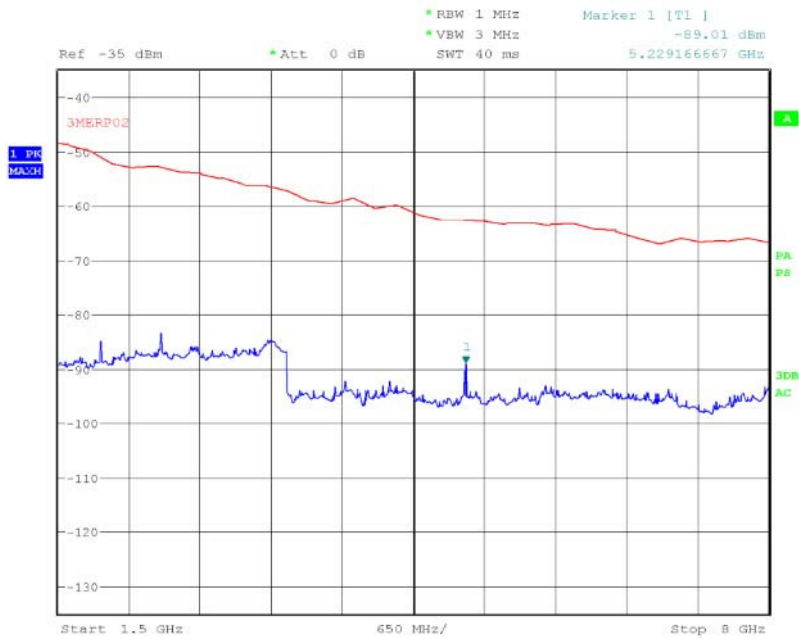
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:36:09



Product Service

1.5 GHz to 8 GHz



Date: 9.APR.2016 15:39:46

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



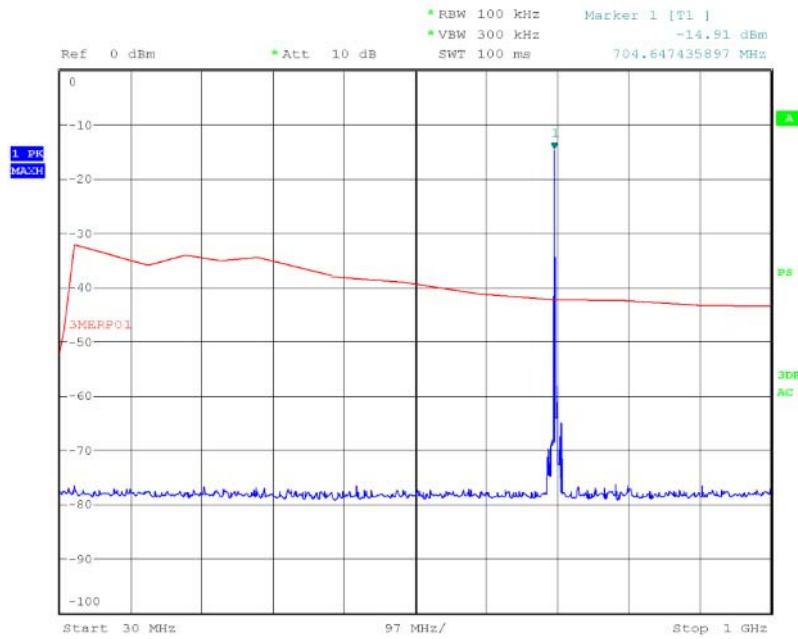
Product Service

10.0 MHz Bandwidth – QPSK

709.0 MHz

1 Resource Block – Low

30 MHz to 1 GHz

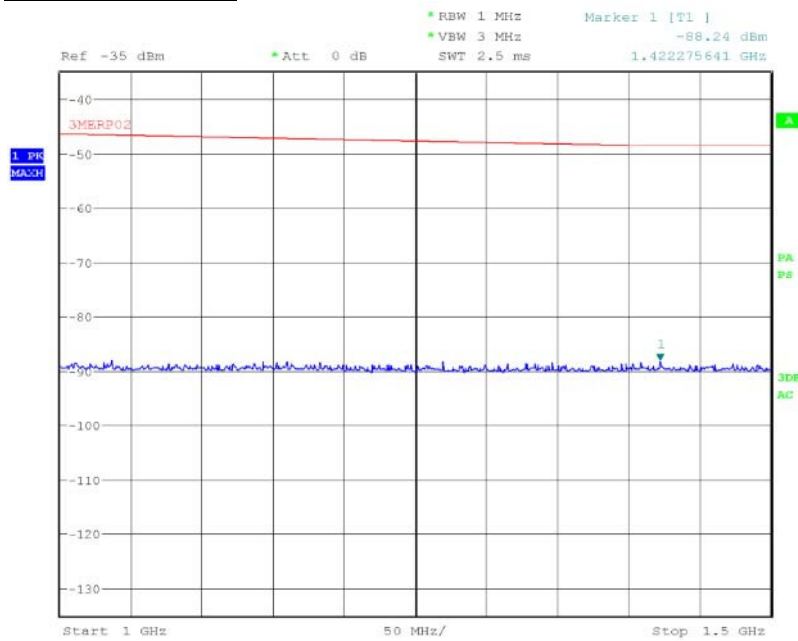


Date: 7.APR.2016 15:43:36



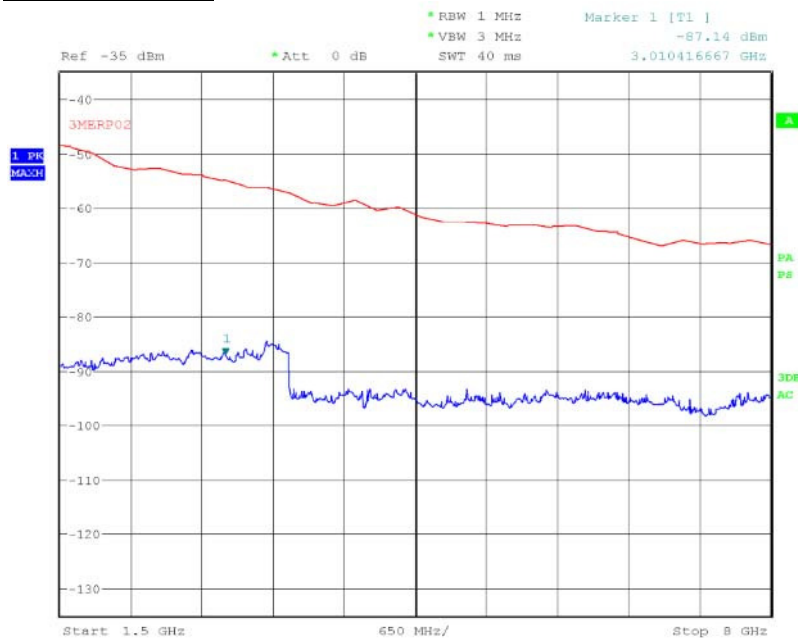
Product Service

1.0 GHz to 1.5 GHz



Date: 9.APR.2016 15:04:18

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:05:24



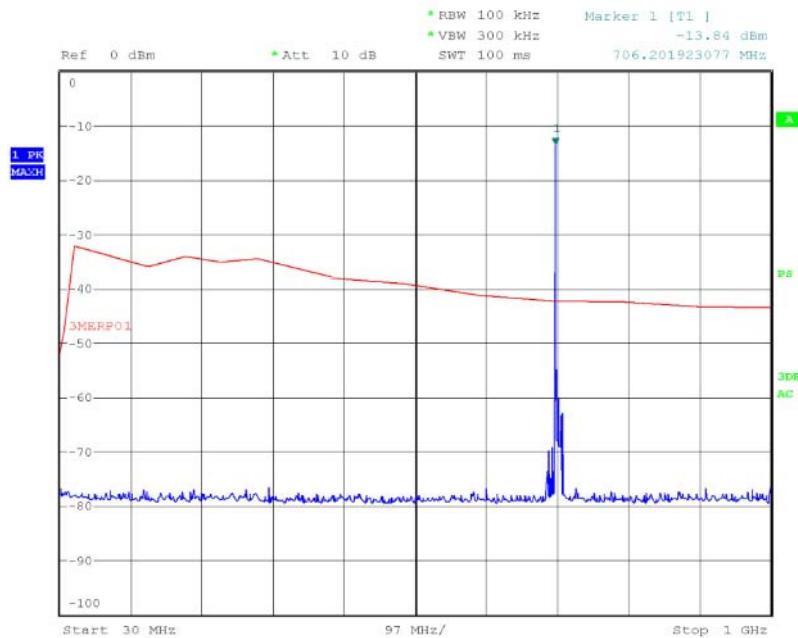
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

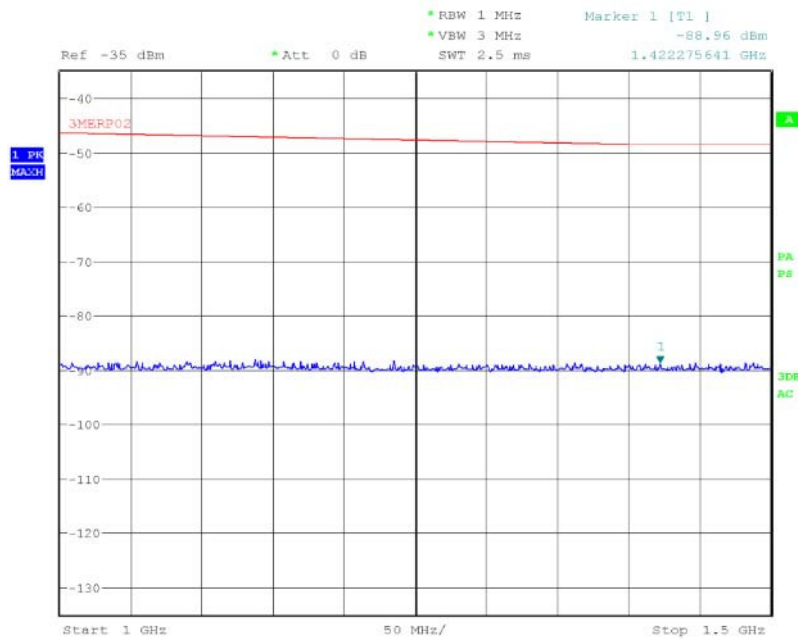
*No emissions were detected within 10 dB of the limit.



Product Service

710.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 15:34:25

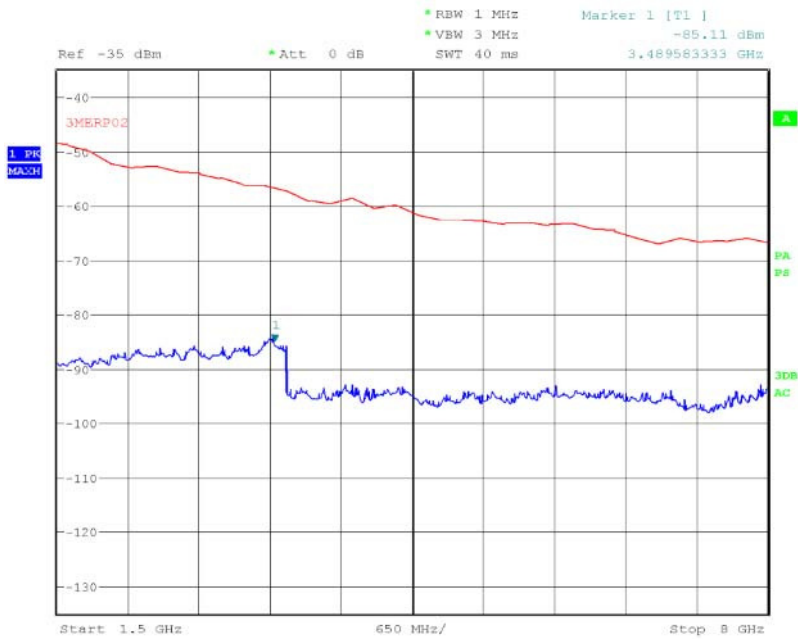
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:06:12



Product Service

1.5 GHz to 8 GHz



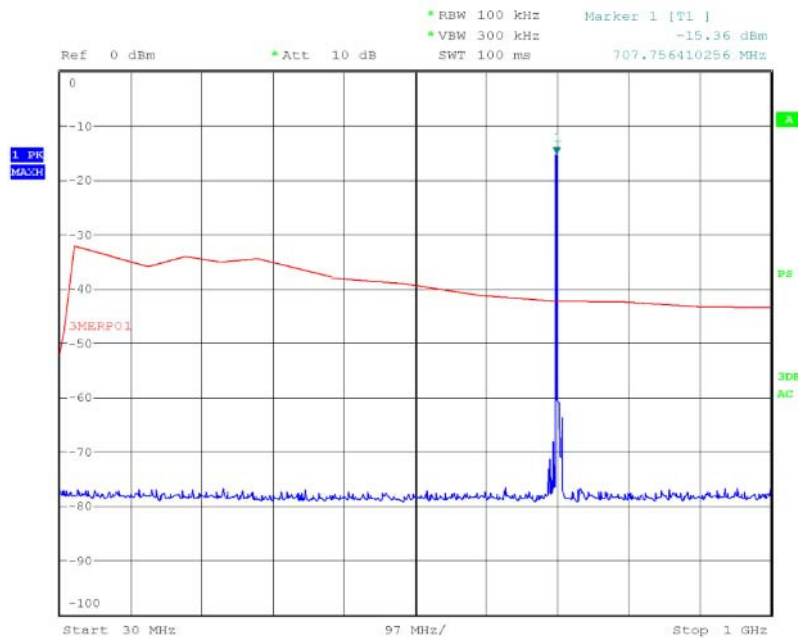
Date: 9.APR.2016 16:08:43

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

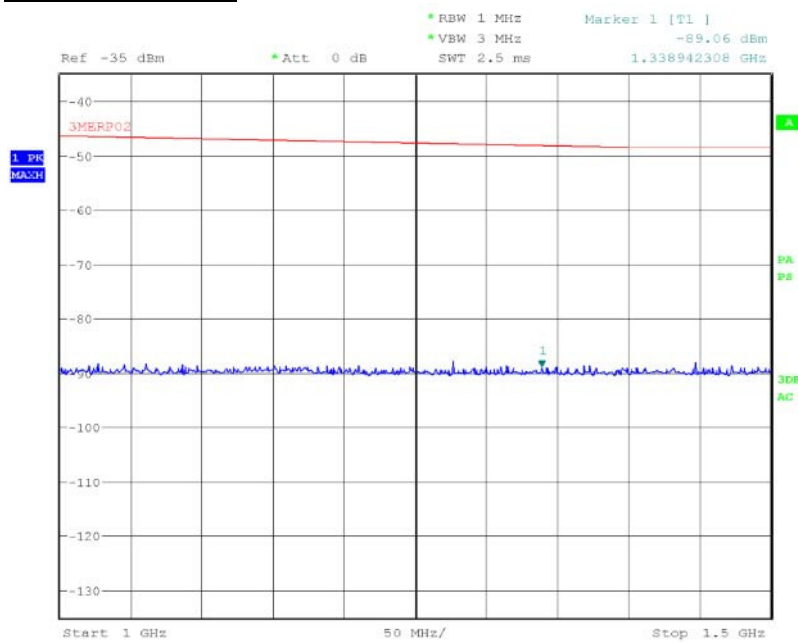
*No emissions were detected within 10 dB of the limit.



Product Service

711.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 15:50:56

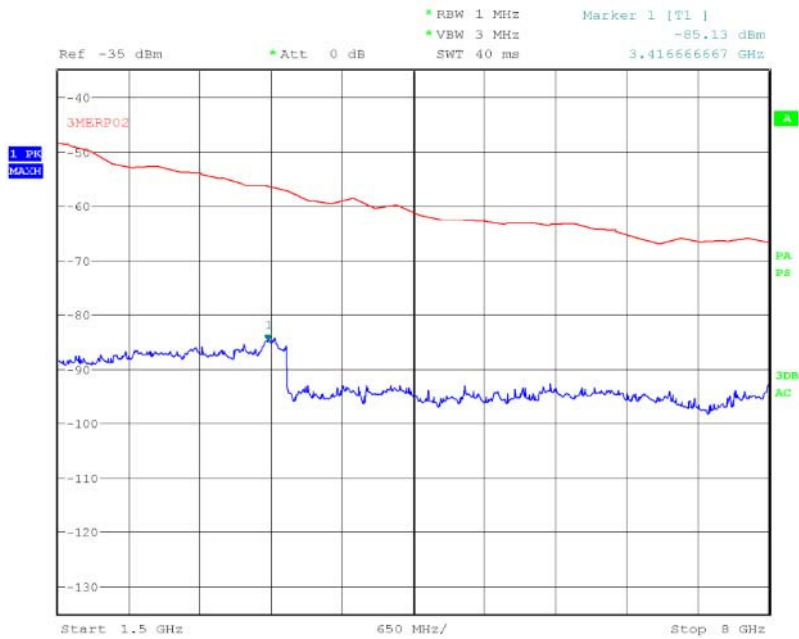
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:07:31



Product Service

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:13:29

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



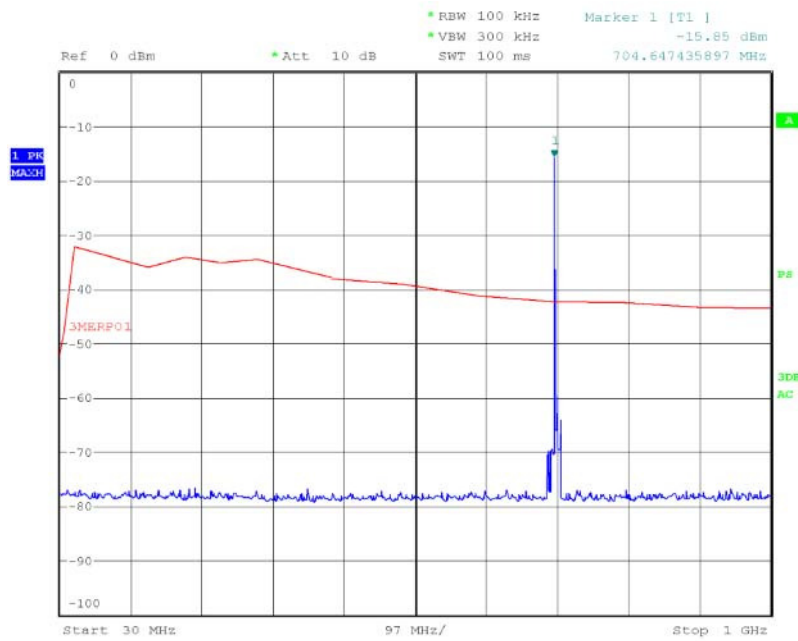
Product Service

10.0 MHz Bandwidth – 16-QAM

709.0 MHz

1 Resource Block – Low

30 MHz to 1 GHz

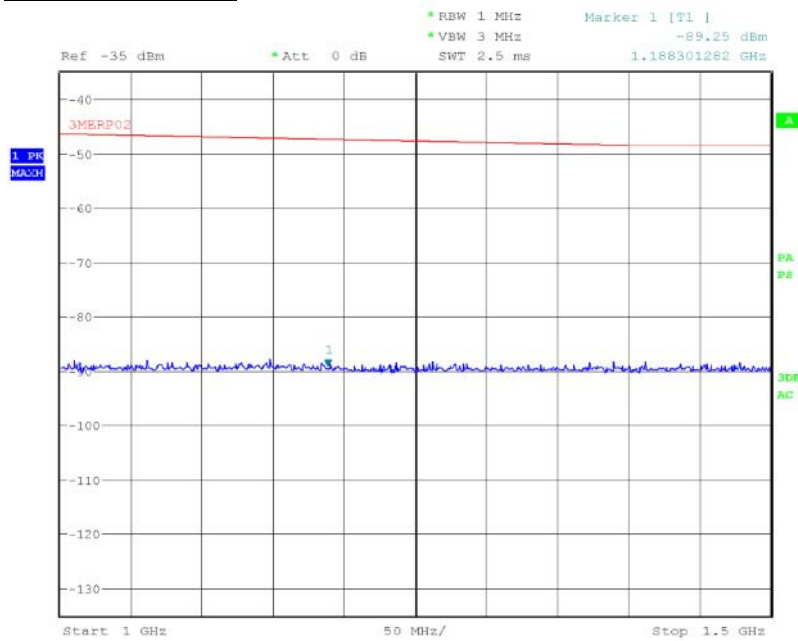


Date: 7.APR.2016 16:13:23



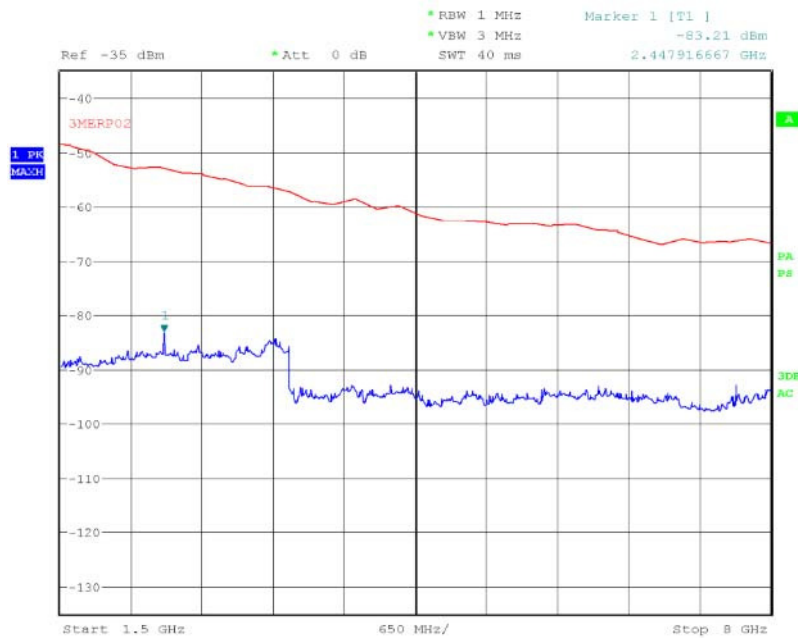
Product Service

1.0 GHz to 1.5 GHz



Date: 9.APR.2016 15:18:06

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:22:19



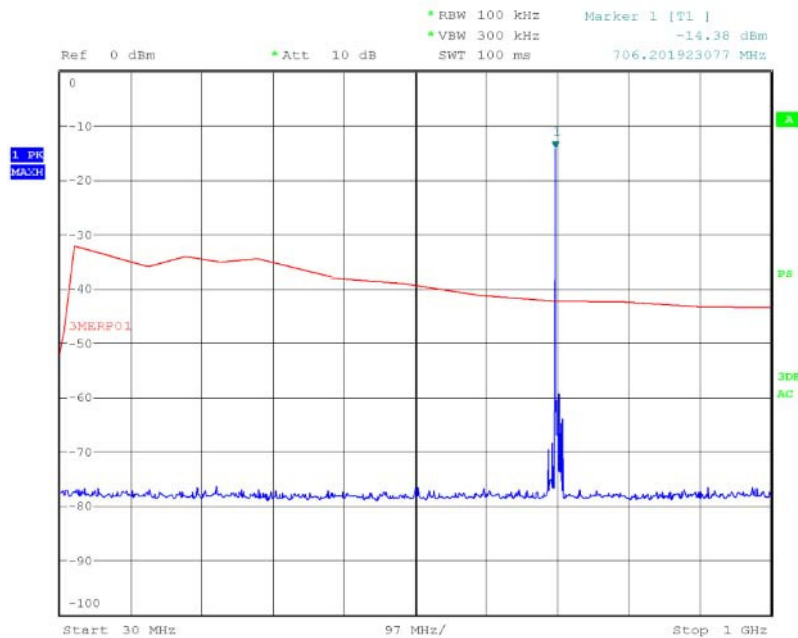
Product Service

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

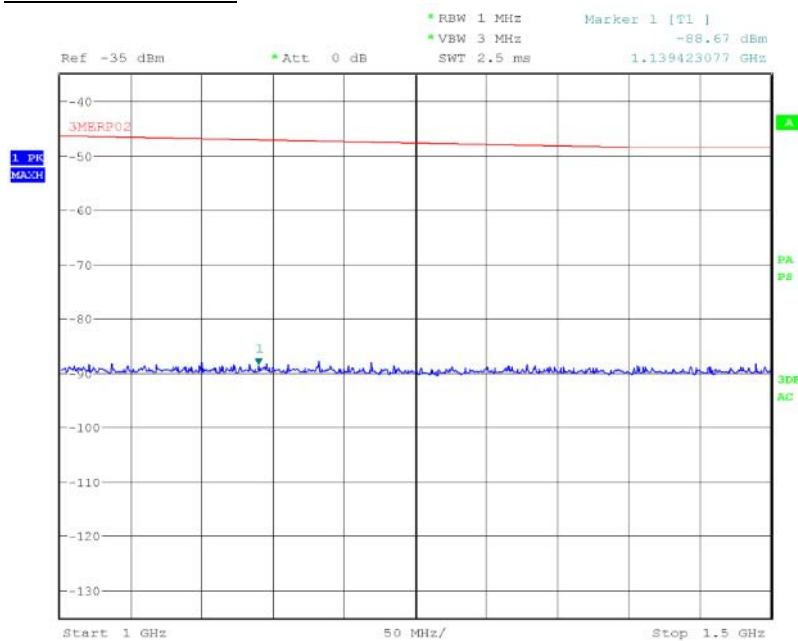
*No emissions were detected within 10 dB of the limit.



Product Service

710.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 16:05:53

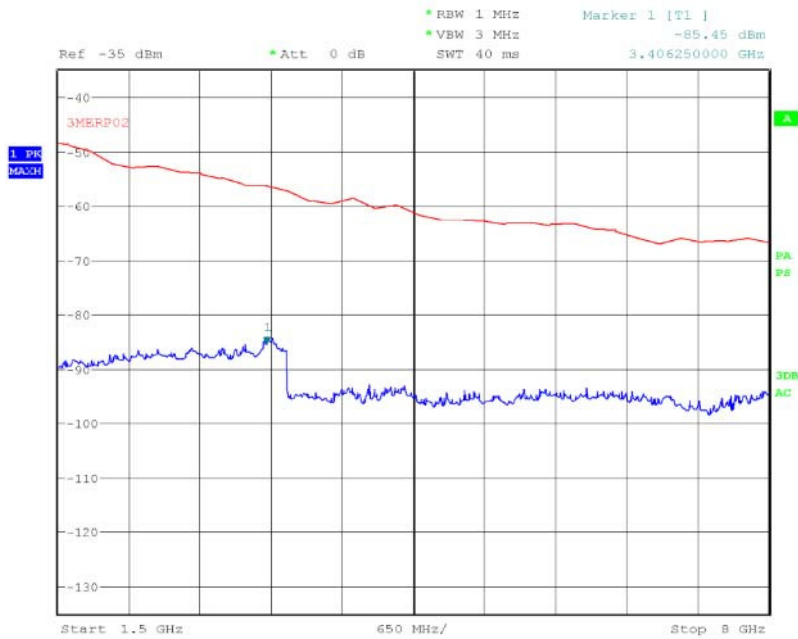
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:15:46



Product Service

1.5 GHz to 8 GHz



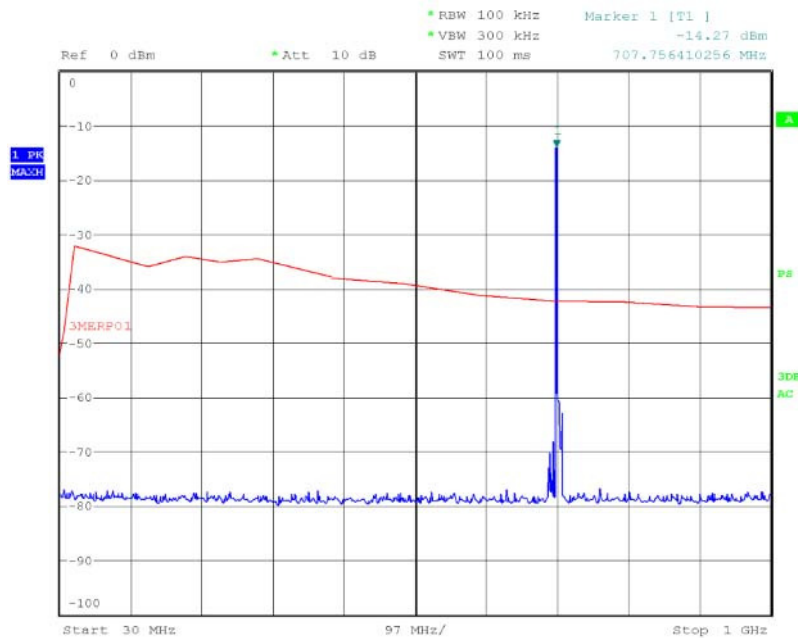
Date: 9.APR.2016 16:18:48

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

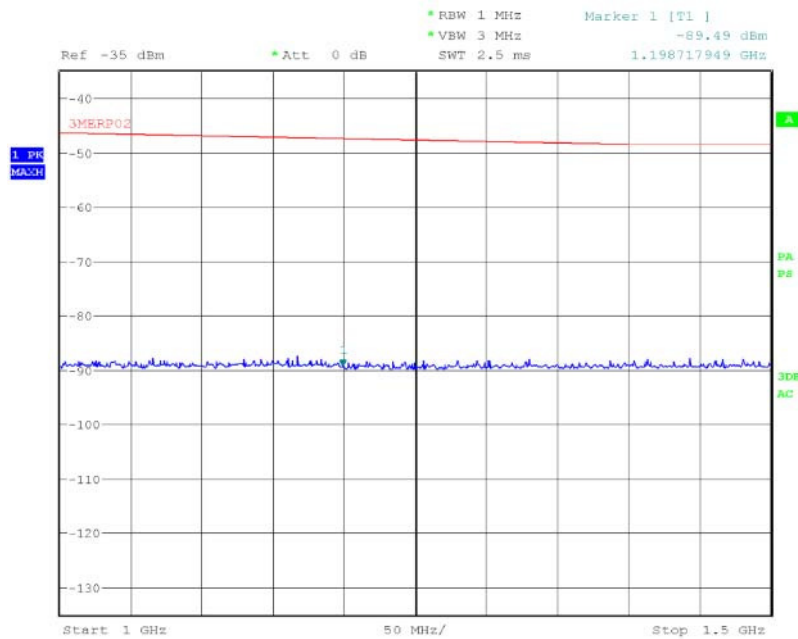
*No emissions were detected within 10 dB of the limit.



Product Service

711.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 15:53:34

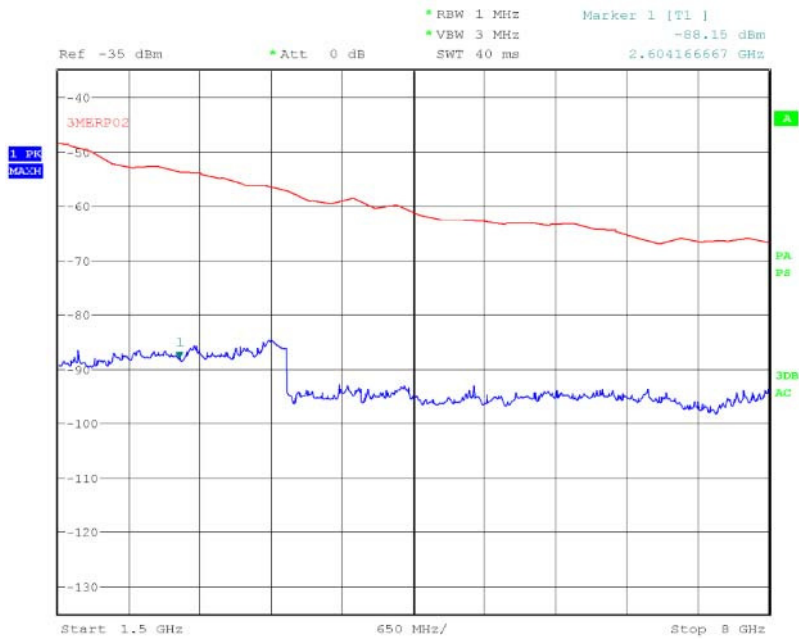
1.0 GHz to 1.5 GHz

Date: 9.APR.2016 15:13:51



Product Service

1.5 GHz to 8 GHz



Date: 9.APR.2016 16:16:27

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

FCC 47 CFR Part 27, Limit Clause 27.53 (g)

-13 dBm



Product Service

4.0 V DC Supply

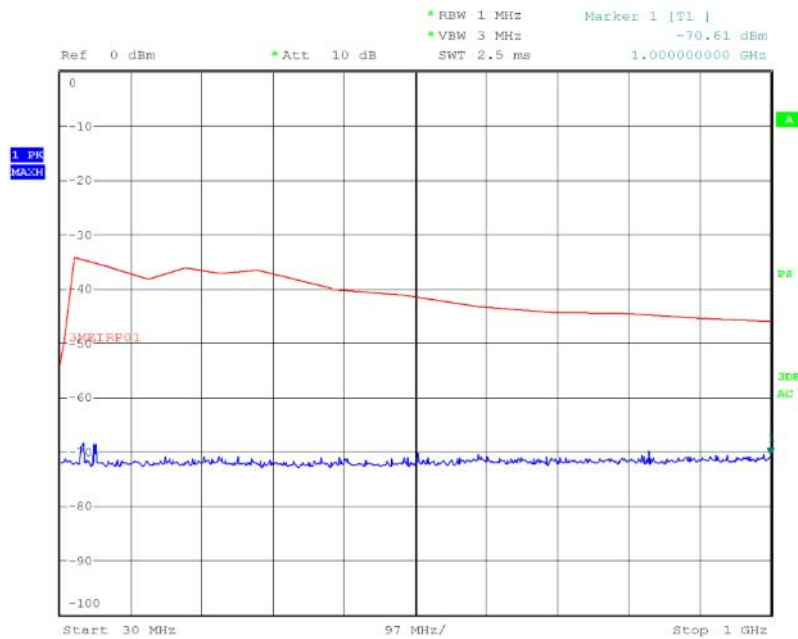
LTE TDD38, Radiated Spurious Emisions Results

5.0 MHz Bandwidth – QPSK

2572.5 MHz

1 Resource Block - Low

30 MHz to 1 GHz

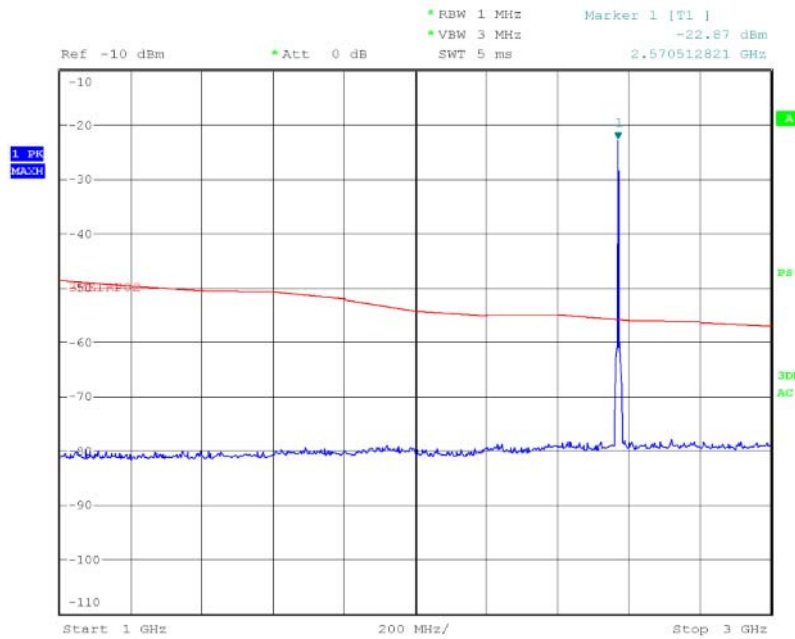


Date: 7.APR.2016 18:12:37



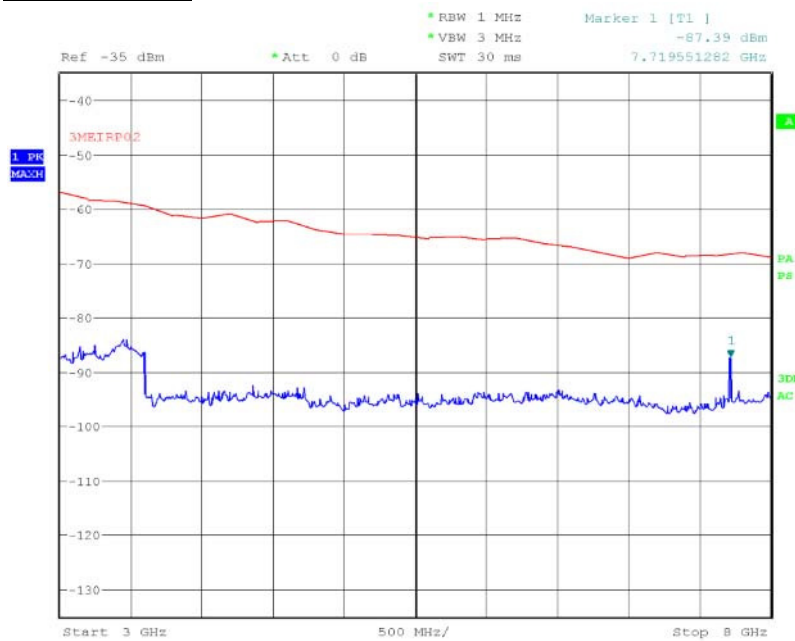
Product Service

1 GHz to 3 GHz



Date: 8.APR.2016 14:07:42

3 GHz to 8 GHz

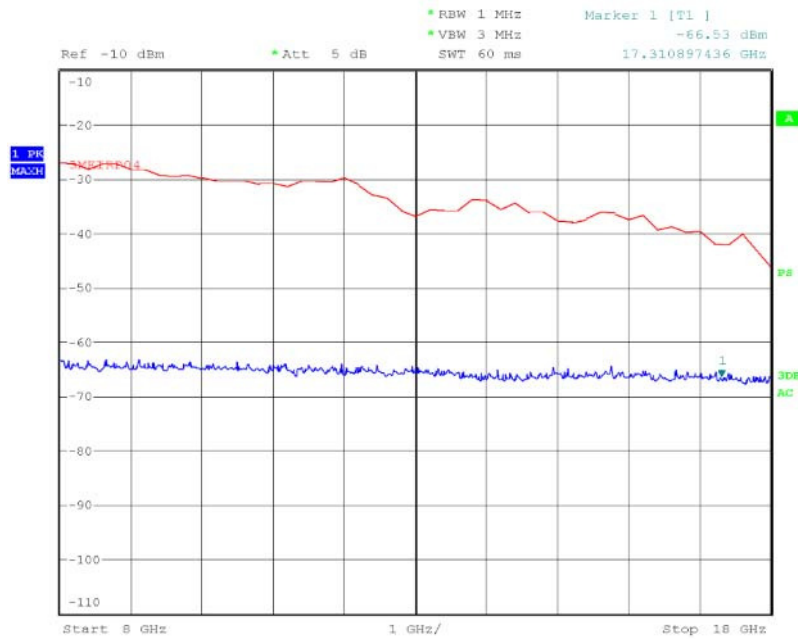


Date: 8.APR.2016 18:42:36



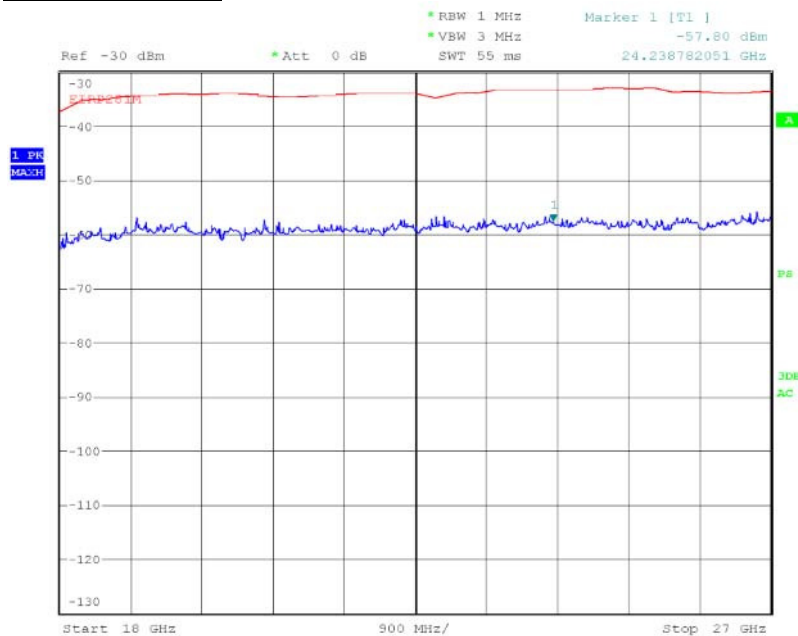
Product Service

8 GHz to 18 GHz



Date: 13.APR.2016 23:29:22

18 GHz to 27 GHz



Date: 16.APR.2016 21:45:40



Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

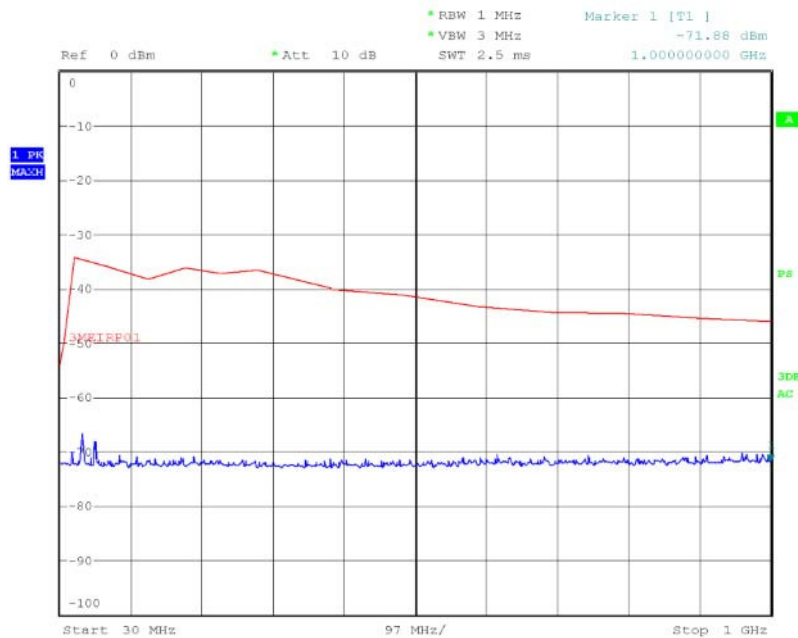


Product Service

2595.0 MHz

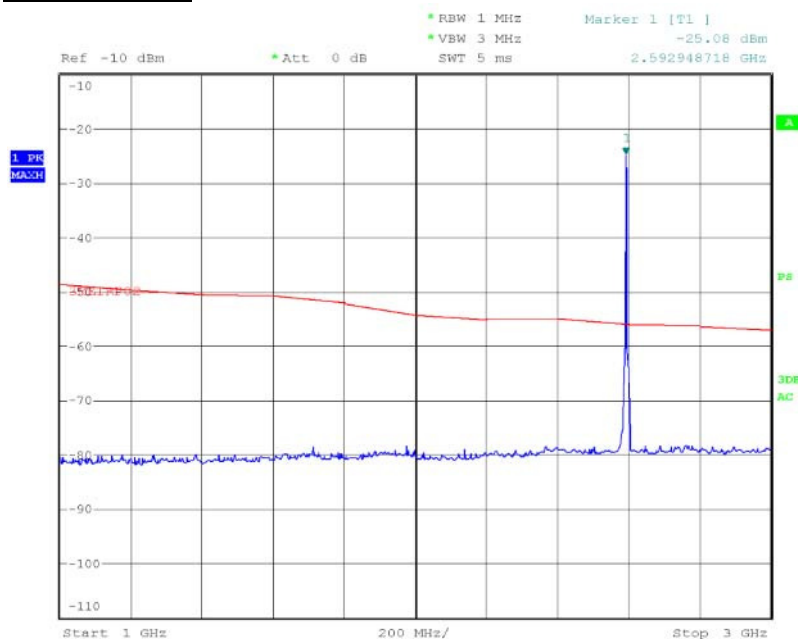
1 Resource Block - Low

30 MHz to 1 GHz



Date: 7.APR.2016 18:14:41

1 GHz to 3 GHz

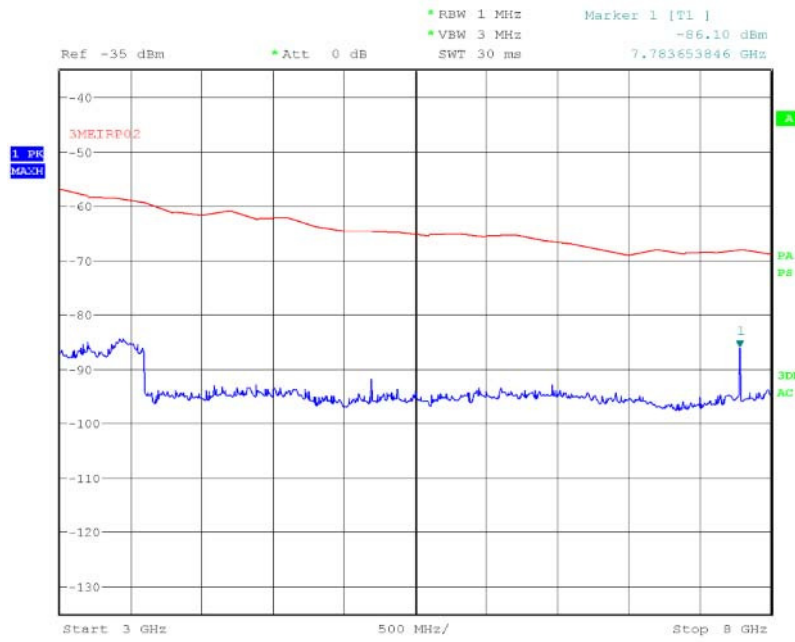


Date: 8.APR.2016 14:01:23



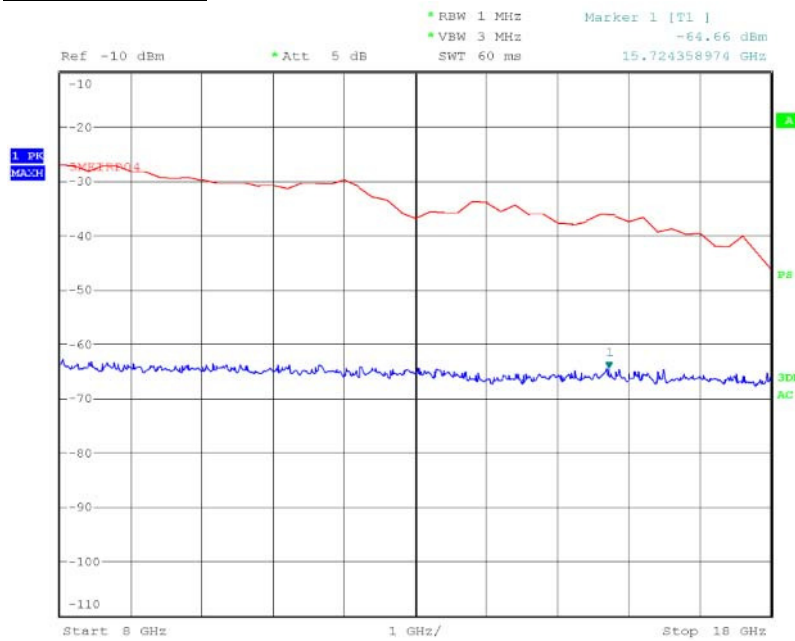
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:44:40

8 GHz to 18 GHz

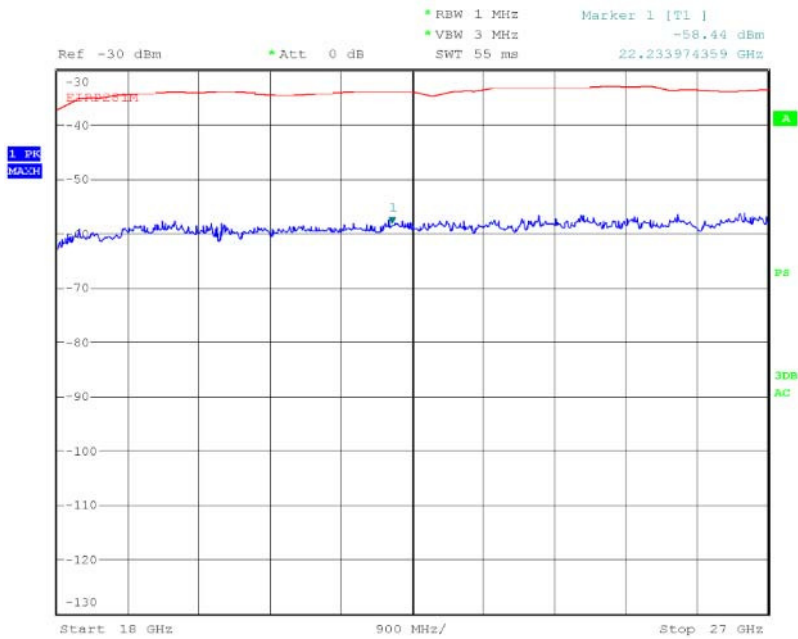


Date: 13.APR.2016 23:34:51



Product Service

18 GHz to 27 GHz



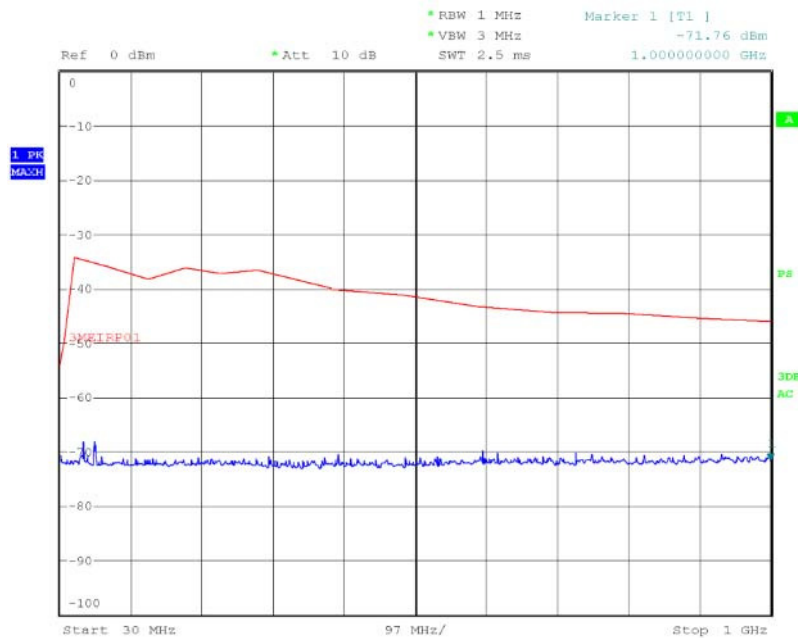
Date: 16.APR.2016 21:48:12

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

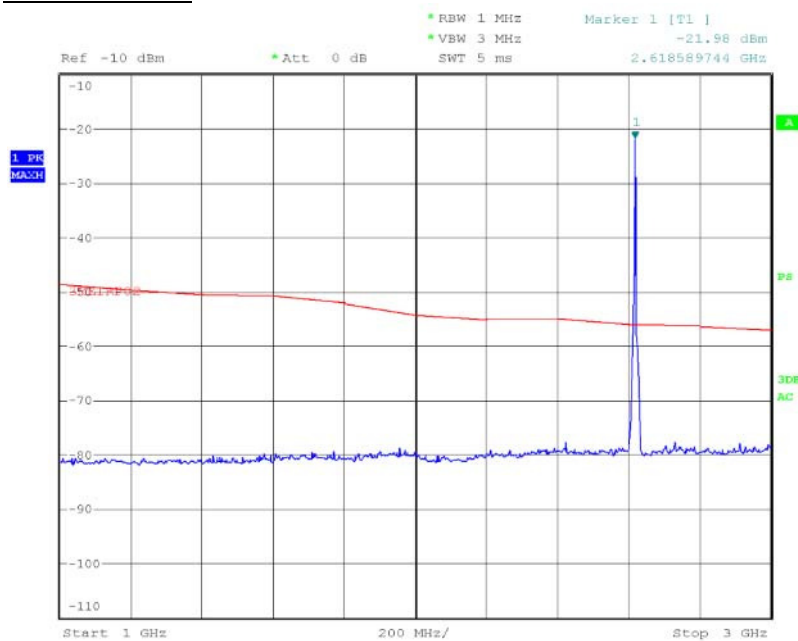
*No emissions were detected within 10 dB of the limit.



Product Service

2617.5 MHz1 Resource Block - Mid30 MHz to 1 GHz

Date: 7.APR.2016 18:17:21

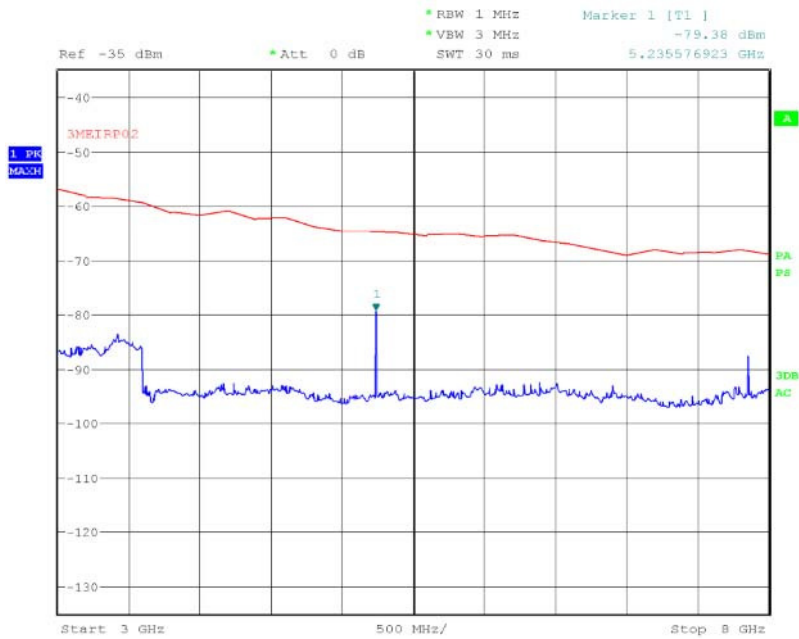
1 GHz to 3 GHz

Date: 8.APR.2016 13:56:11



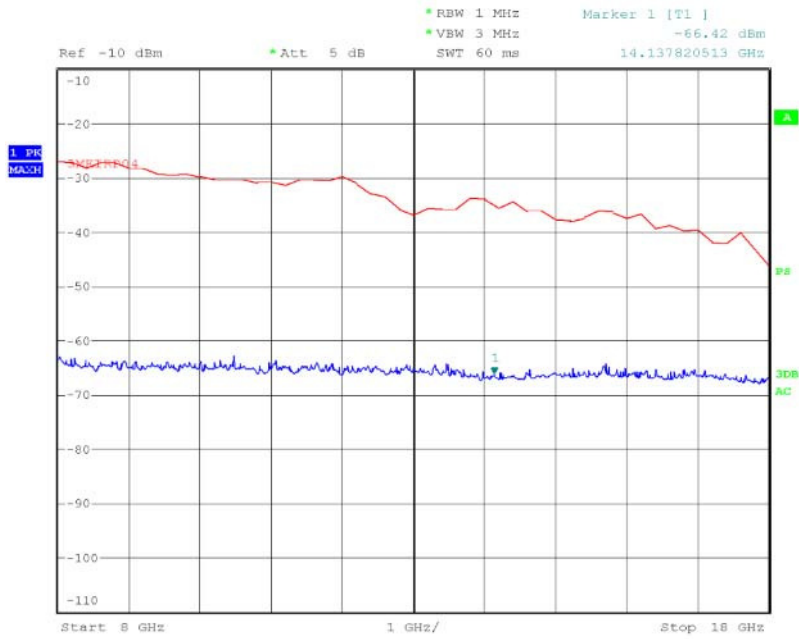
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:51:26

8 GHz to 18 GHz

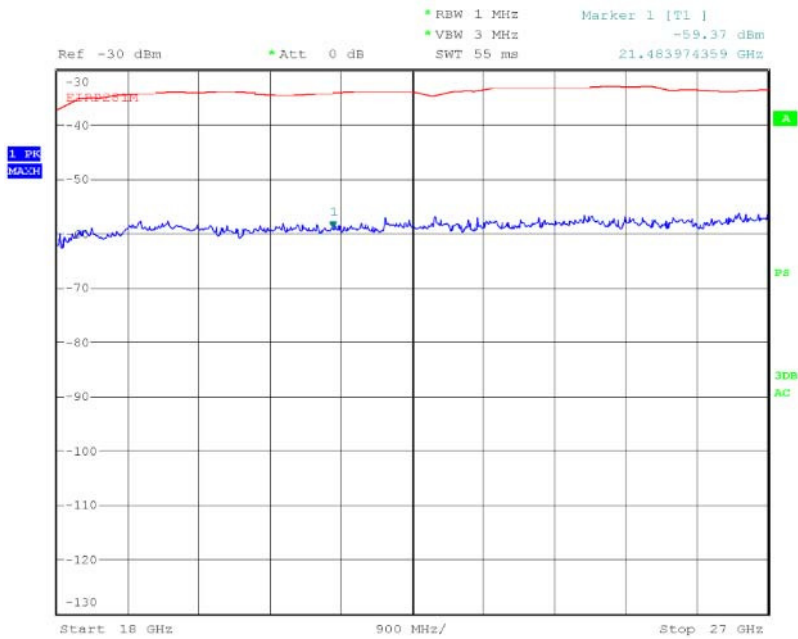


Date: 13.APR.2016 23:38:03



Product Service

18 GHz to 27 GHz



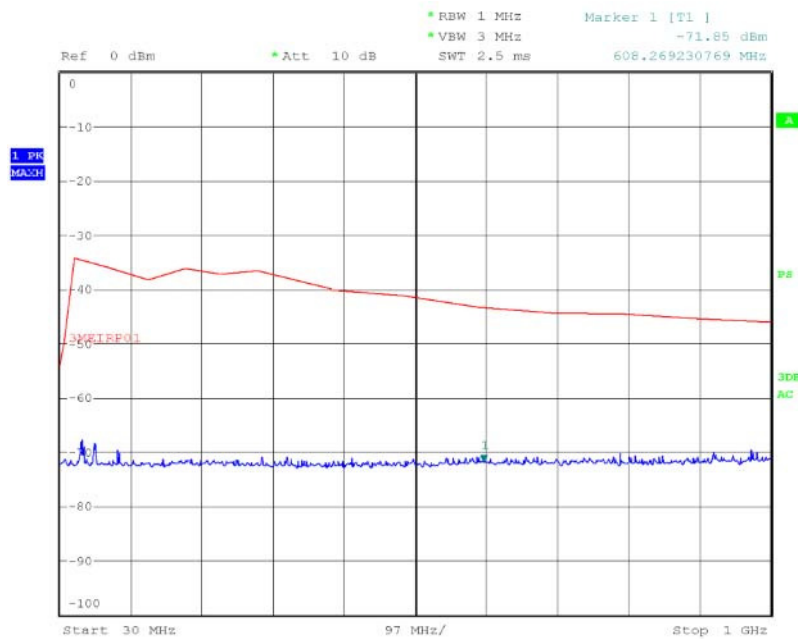
Date: 16.APR.2016 21:50:47

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



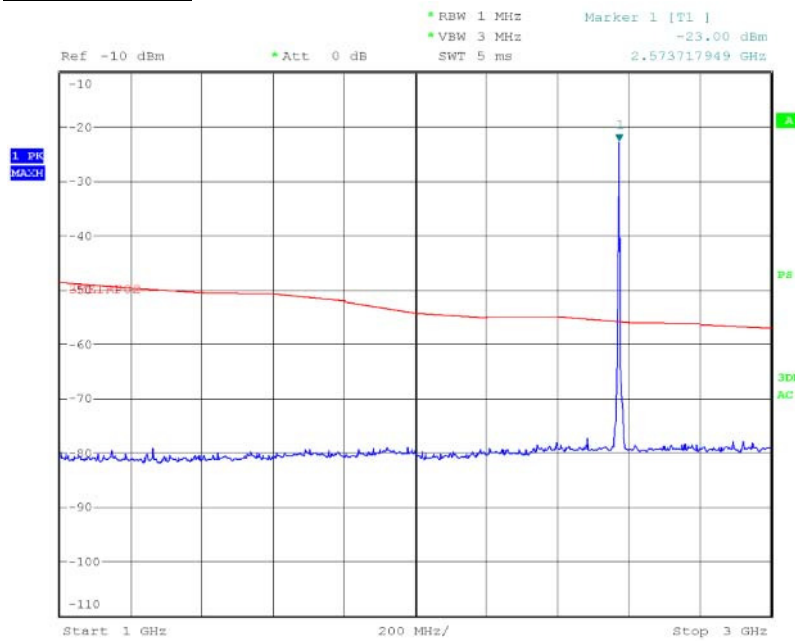
Product Service

5.0 MHz Bandwidth – 16-QAM2572.5 MHz1 Resource Block - Mid30 MHz to 1 GHz

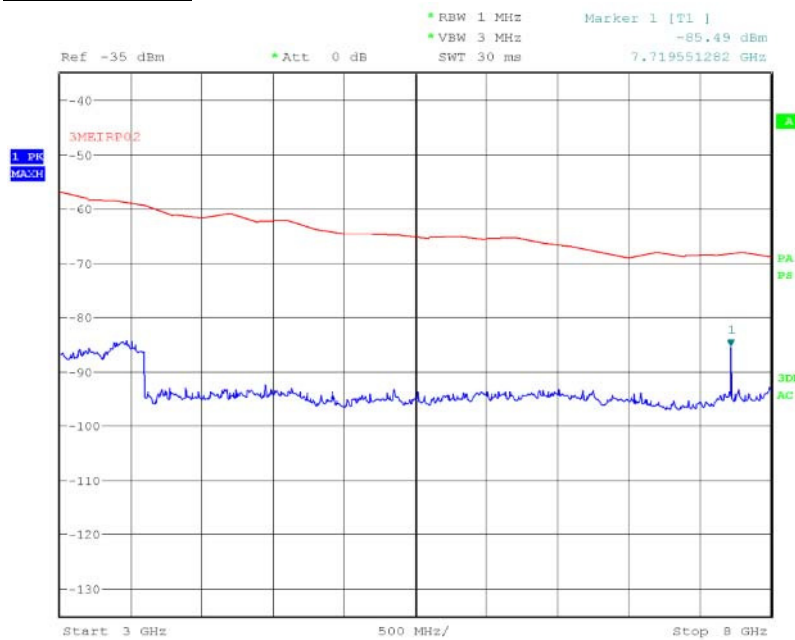
Date: 7.APR.2016 18:25:02



Product Service

1 GHz to 3 GHz

Date: 8.APR.2016 14:12:39

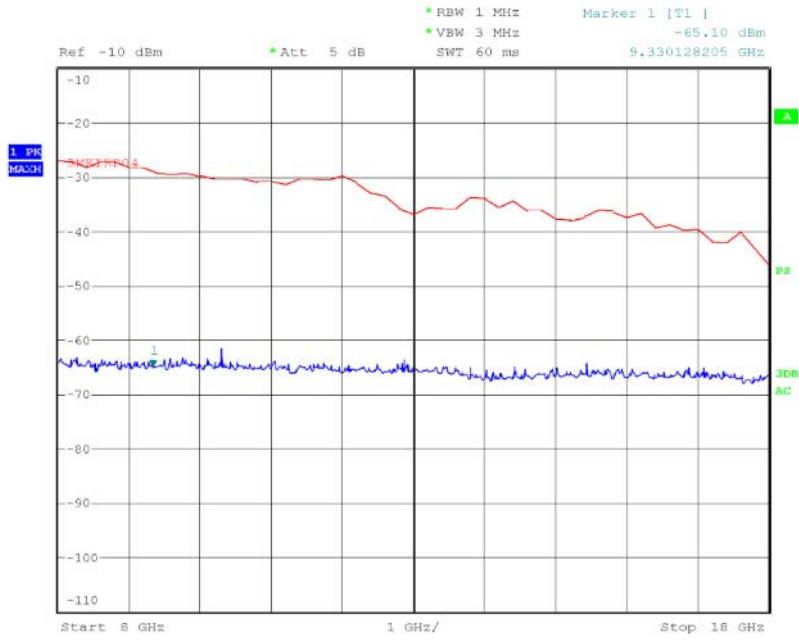
3 GHz to 8 GHz

Date: 8.APR.2016 19:07:44



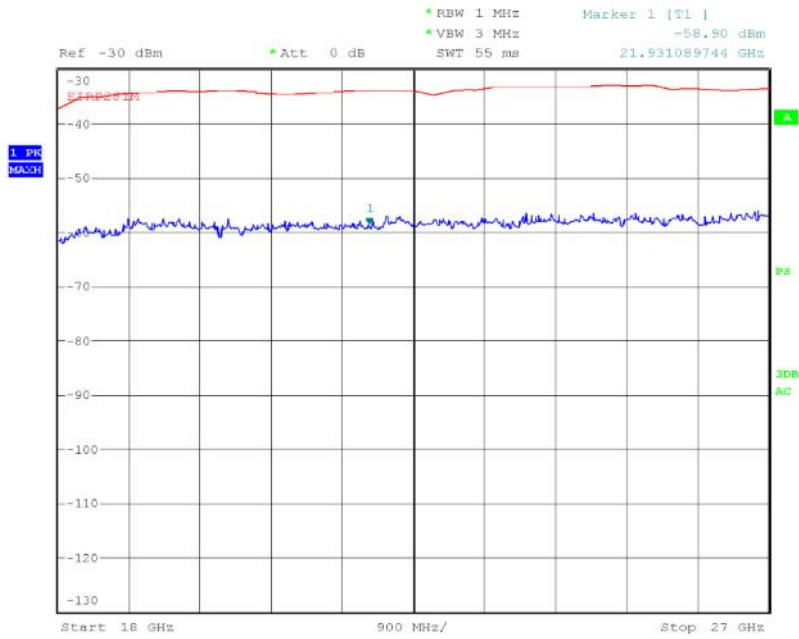
Product Service

8 GHz to 18 GHz



Date: 13.APR.2016 23:54:22

18 GHz to 27 GHz



Date: 16.APR.2016 22:03:51

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

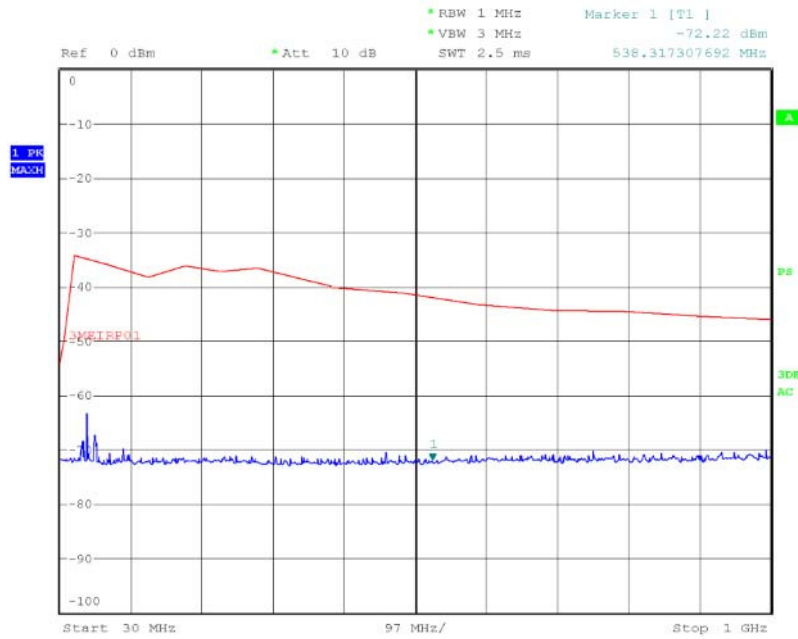


Product Service

2595.0 MHz

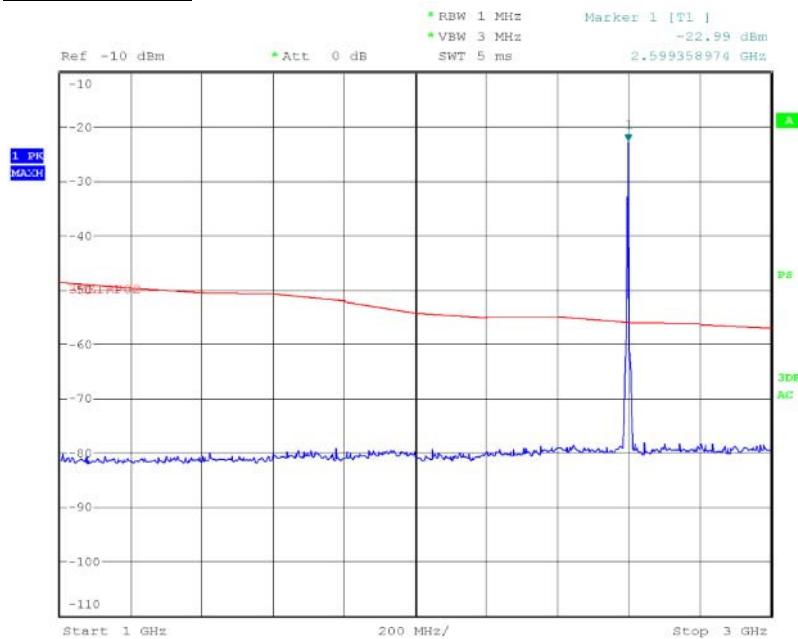
1 Resource Block - High

30 MHz to 1 GHz



Date: 7.APR.2016 18:22:21

1 GHz to 3 GHz

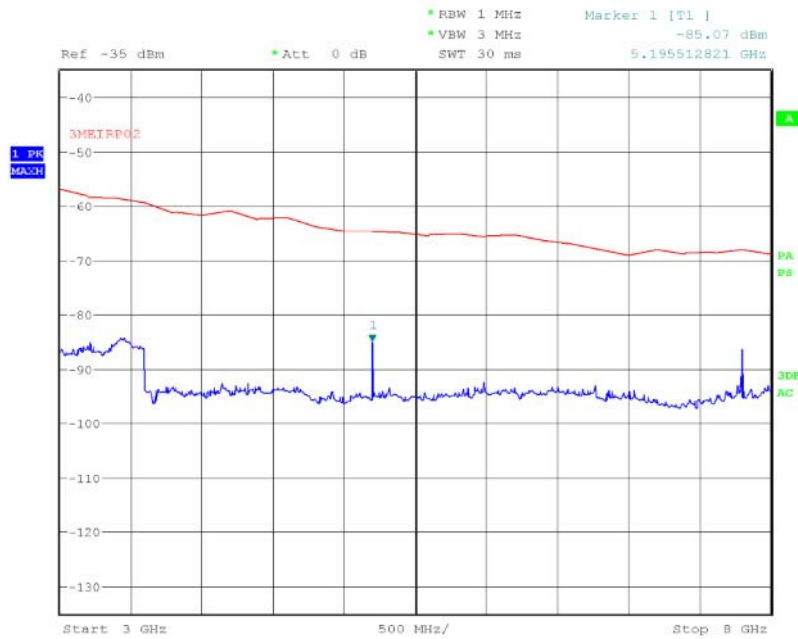


Date: 8.APR.2016 14:15:00



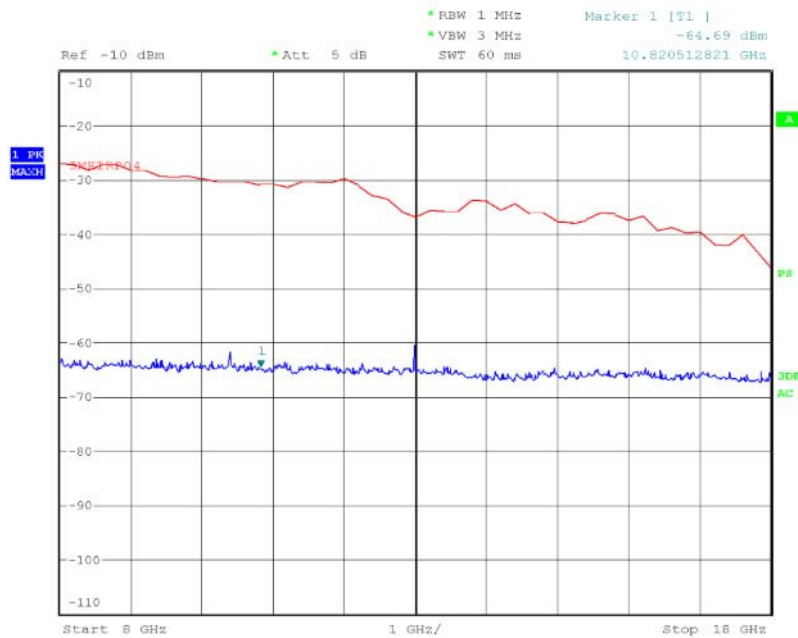
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 19:03:21

8 GHz to 18 GHz

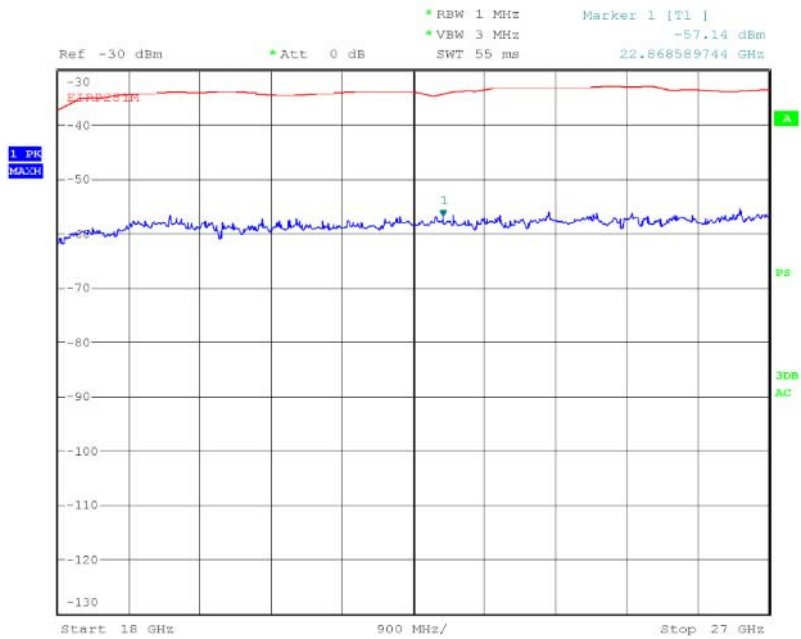


Date: 13.APR.2016 23:50:55



Product Service

18 GHz to 27 GHz



Date: 16.APR.2016 22:00:23

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

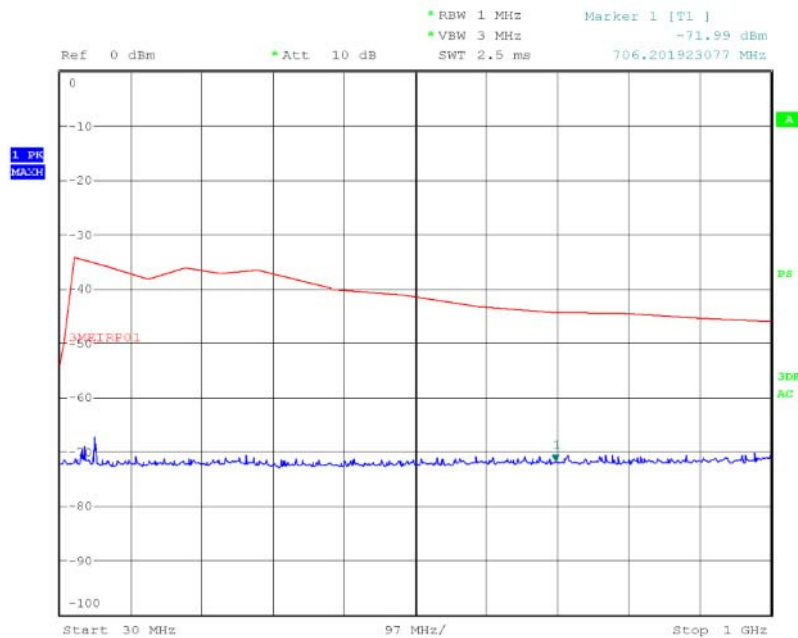


Product Service

2617.5 MHz

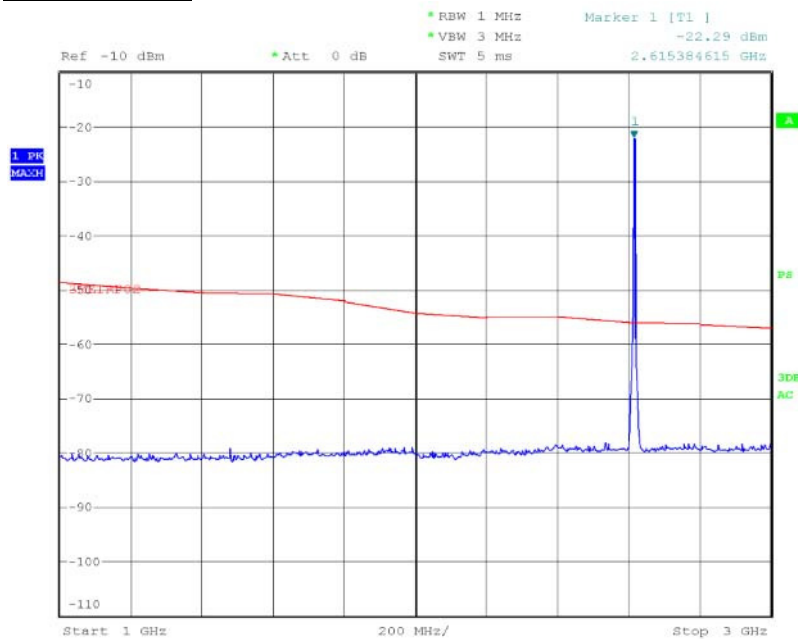
1 Resource Block - Low

30 MHz to 1 GHz



Date: 7.APR.2016 18:19:44

1 GHz to 3 GHz

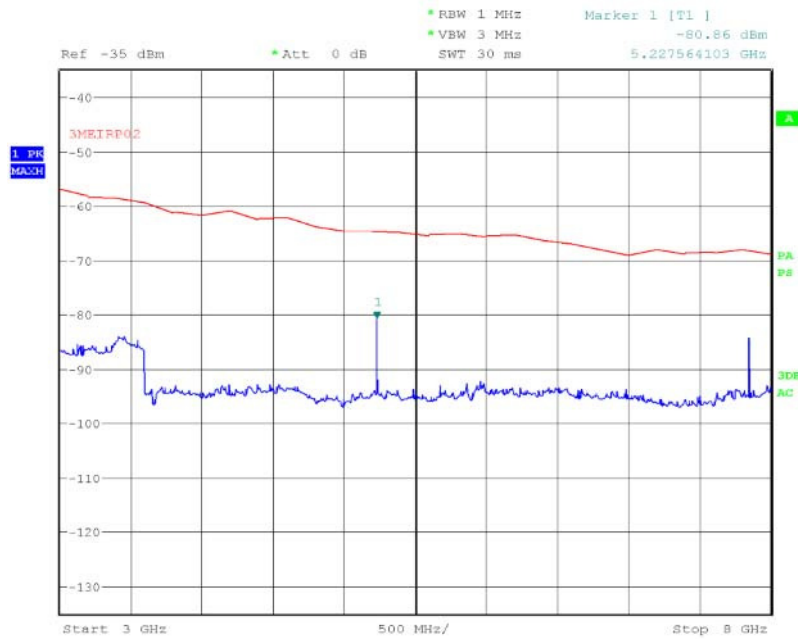


Date: 8.APR.2016 14:21:16



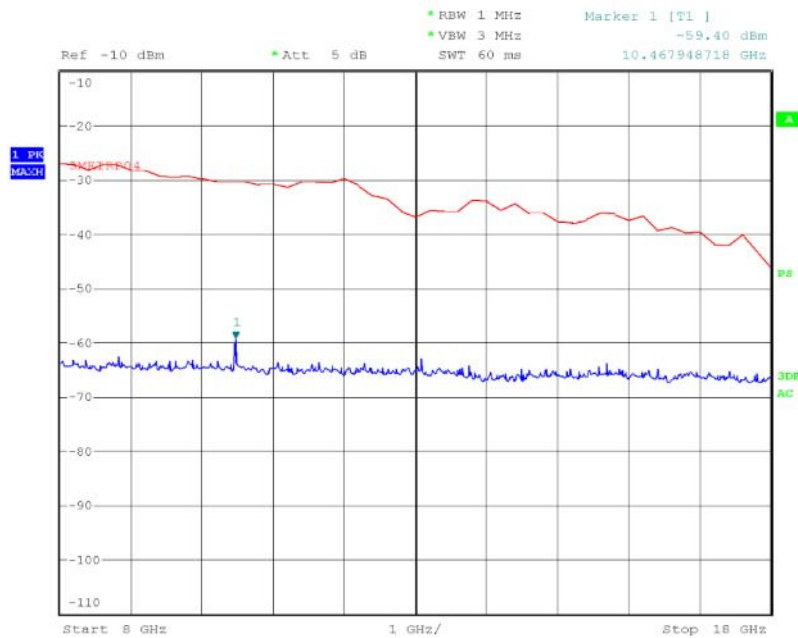
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:57:37

8 GHz to 18 GHz

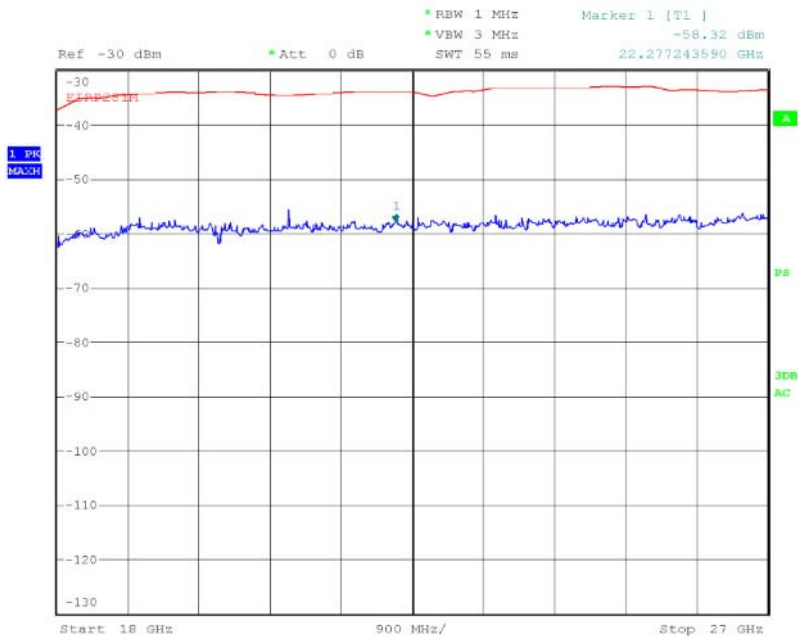


Date: 13.APR.2016 23:43:54



Product Service

18 GHz to 27 GHz



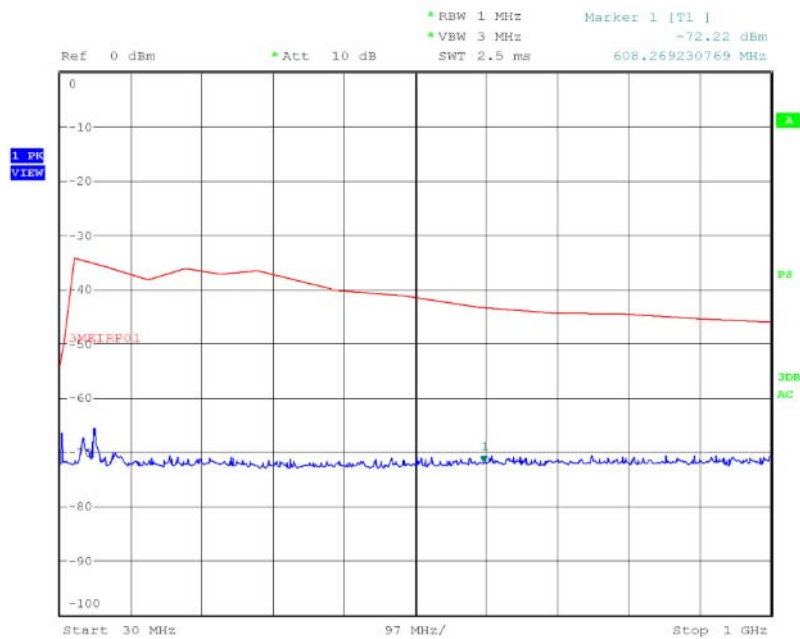
Date: 16.APR.2016 21:53:38

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



Product Service

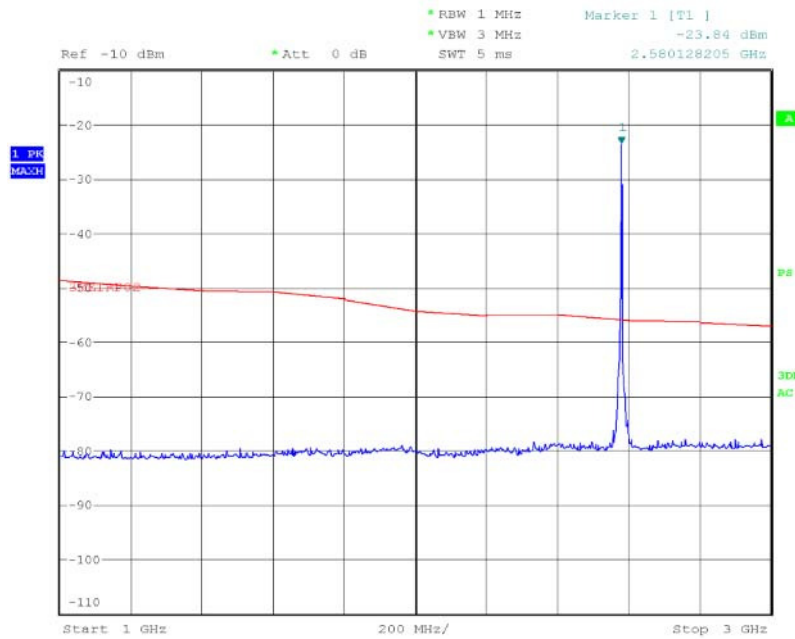
10.0MHz Bandwidth – QPSK2575.0 MHz1 Resource Block - High30 MHz to 1 GHz

Date: 7.APR.2016 18:32:25



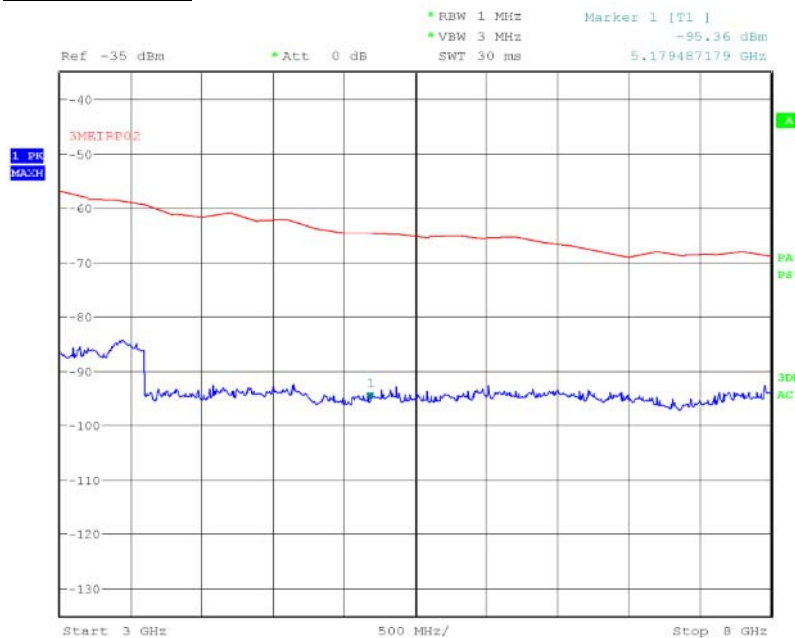
Product Service

1 GHz to 3 GHz



Date: 8.APR.2016 14:27:47

3 GHz to 8 GHz

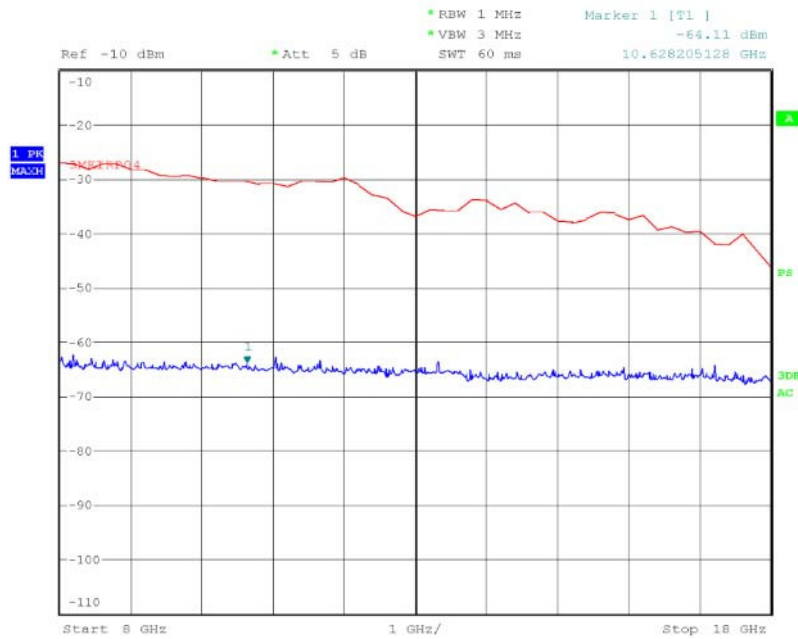


Date: 9.APR.2016 11:19:37



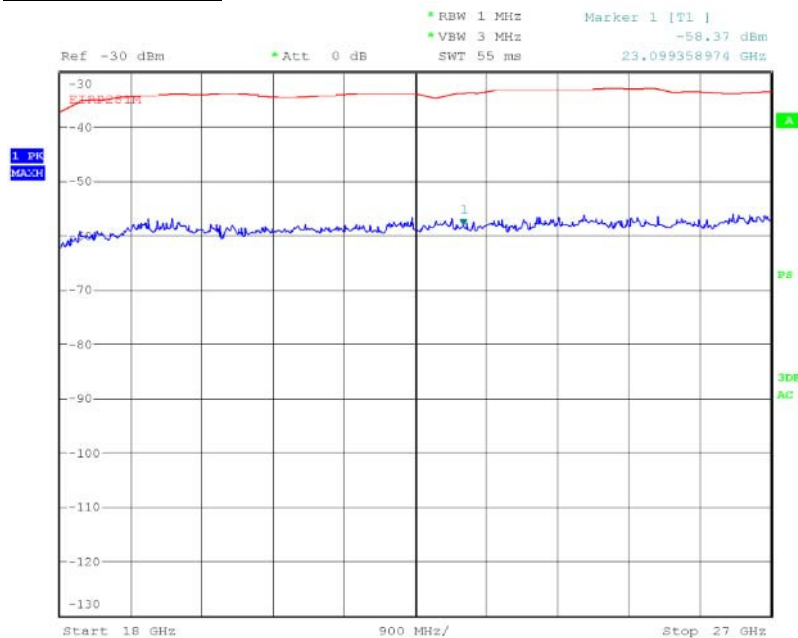
Product Service

8 GHz to 18 GHz



Date: 13.APR.2016 23:59:52

18 GHz to 27 GHz



Date: 16.APR.2016 22:07:19



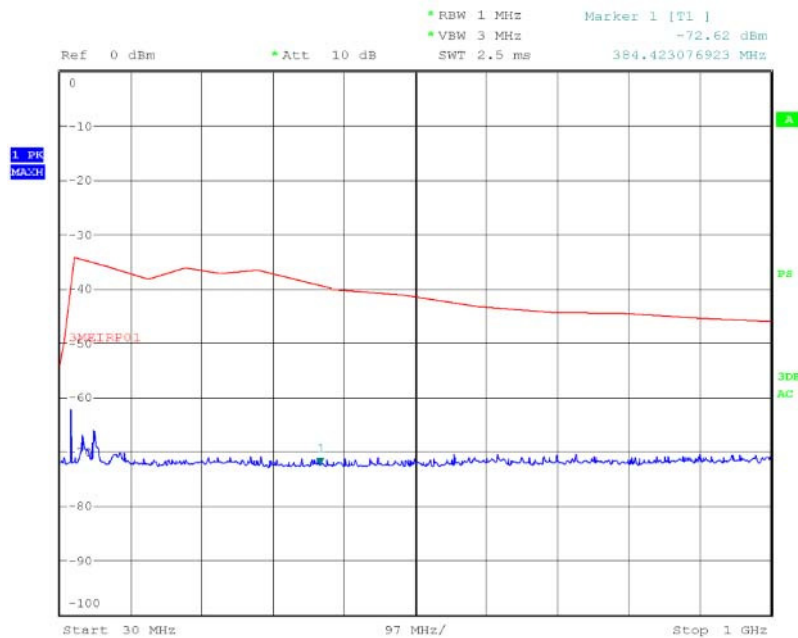
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

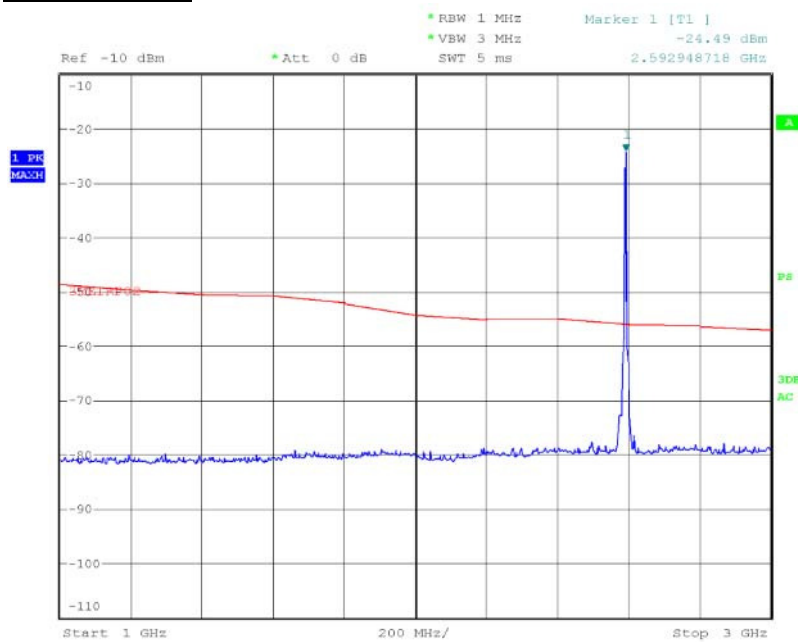
*No emissions were detected within 10 dB of the limit.



Product Service

2595.0 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 18:35:16

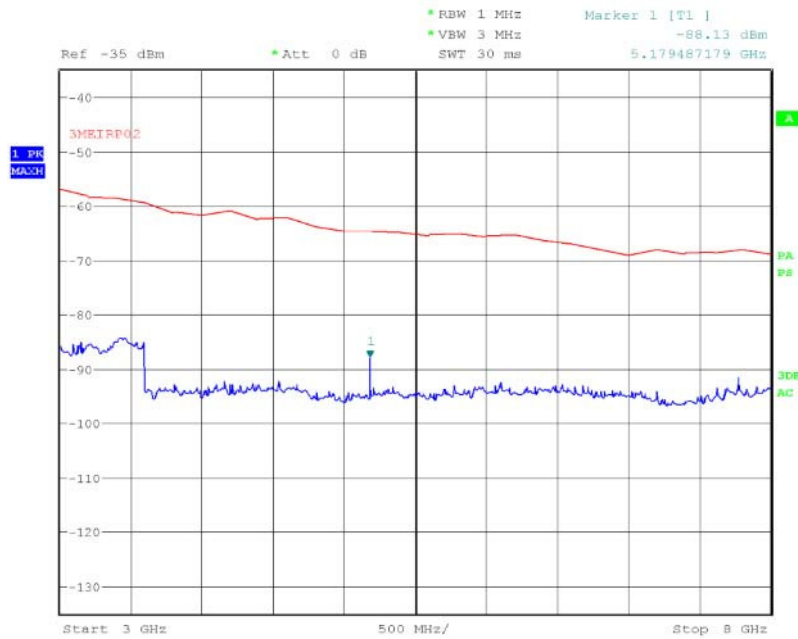
1 GHz to 3 GHz

Date: 8.APR.2016 14:33:33



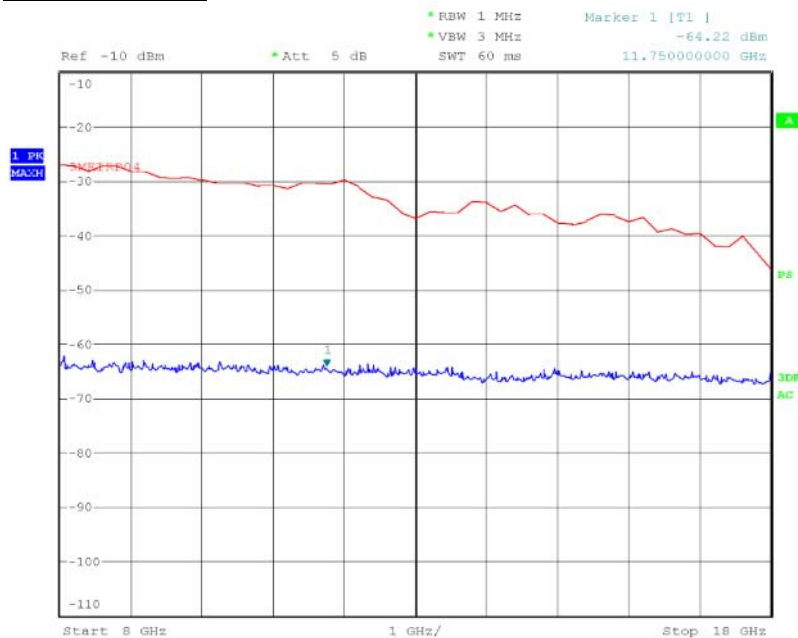
Product Service

3 GHz to 8 GHz



Date: 9.APR.2016 11:04:54

8 GHz to 18 GHz

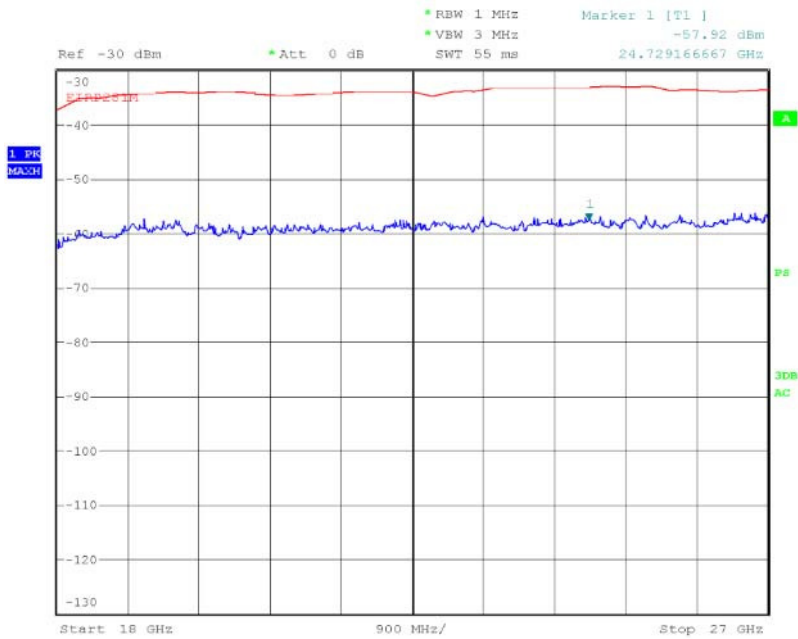


Date: 14.APR.2016 00:06:24



Product Service

18 GHz to 27 GHz



Date: 16.APR.2016 22:13:37

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

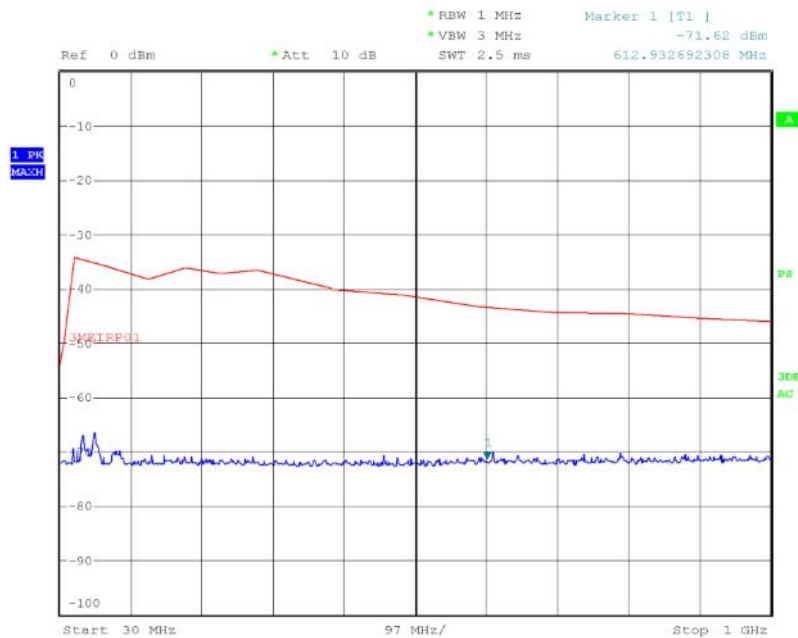


Product Service

2615.0 MHz

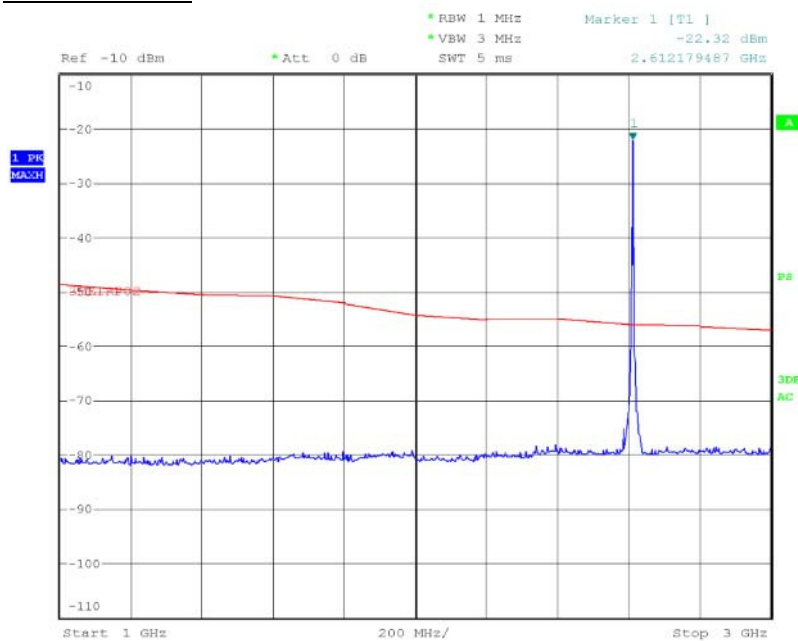
1 Resource Block - Low

30 MHz to 1 GHz



Date: 7.APR.2016 18:38:22

1 GHz to 3 GHz

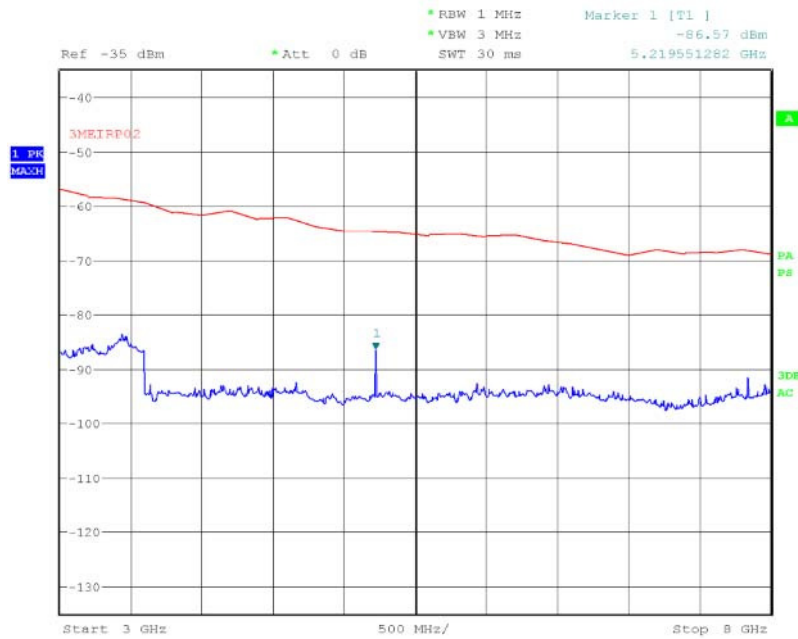


Date: 8.APR.2016 14:44:07



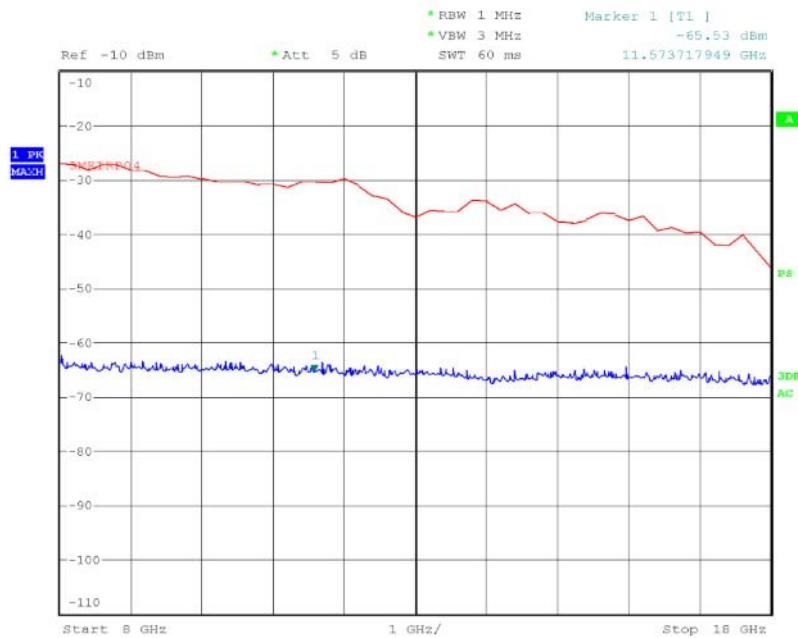
Product Service

3 GHz to 8 GHz



Date: 9.APR.2016 11:26:56

8 GHz to 18 GHz

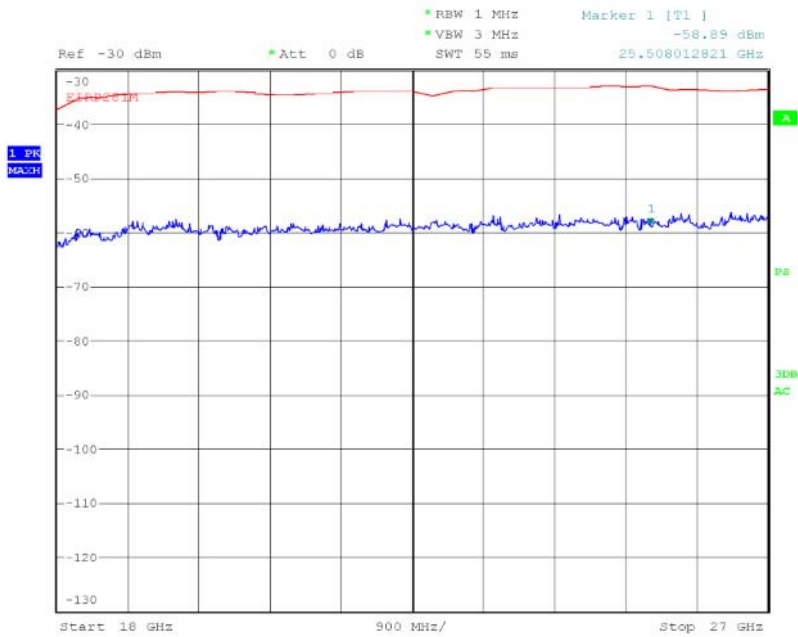


Date: 14.APR.2016 00:10:02



Product Service

18 GHz to 27 GHz



Date: 16.APR.2016 22:17:19

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



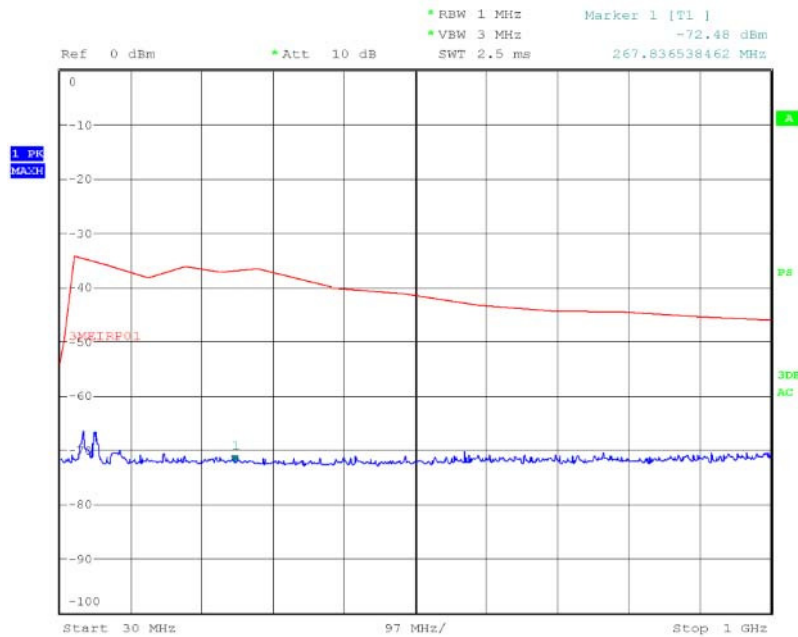
Product Service

10.0 MHz Bandwidth – 16-QAM

2575.0 MHz

1 Resource Block - Low

30 MHz to 1 GHz

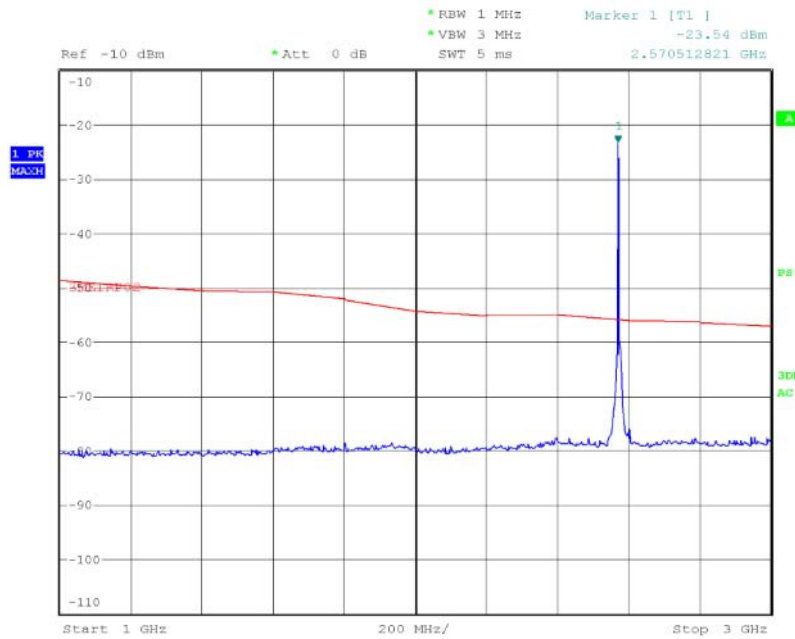


Date: 7.APR.2016 18:45:14



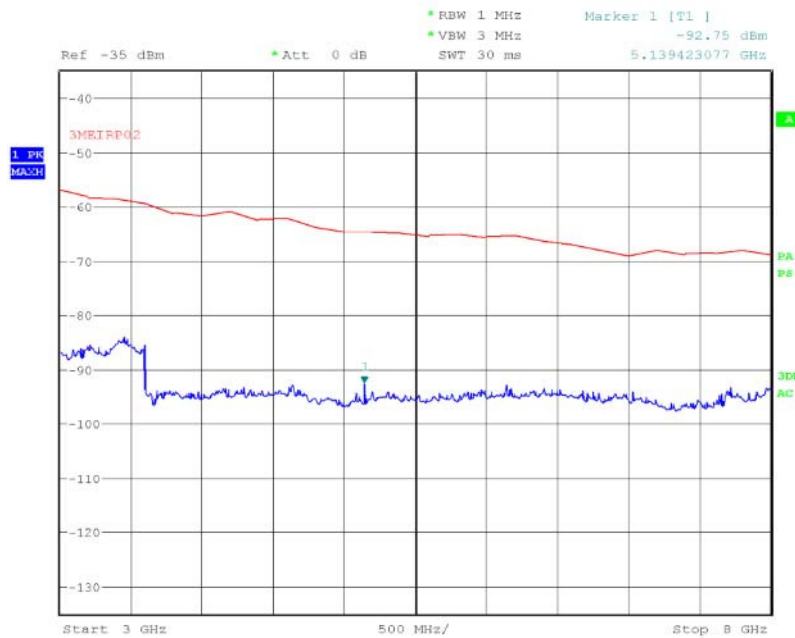
Product Service

1 GHz to 3 GHz



Date: 8.APR.2016 15:25:55

3 GHz to 8 GHz

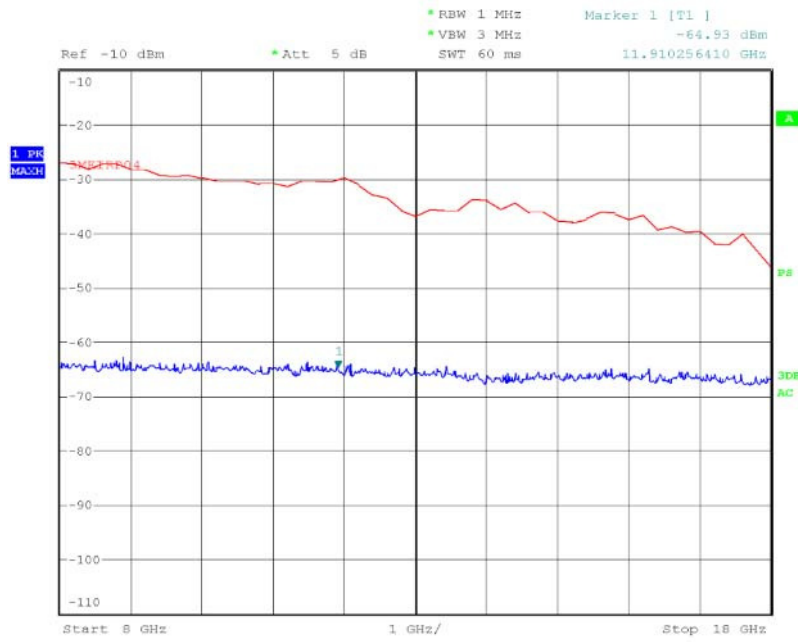


Date: 9.APR.2016 11:21:58



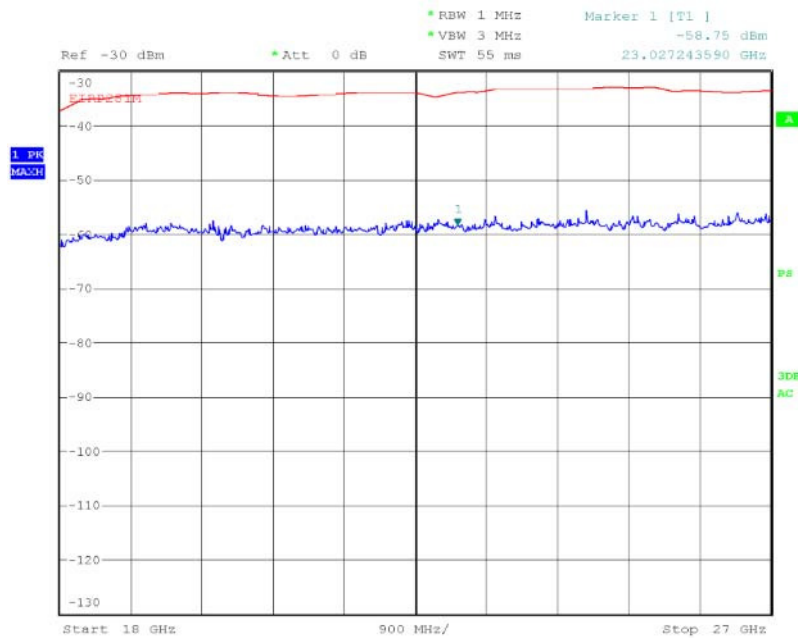
Product Service

8 GHz to 18 GHz



Date: 14.APR.2016 00:19:10

18 GHz to 27 GHz



Date: 16.APR.2016 22:25:54



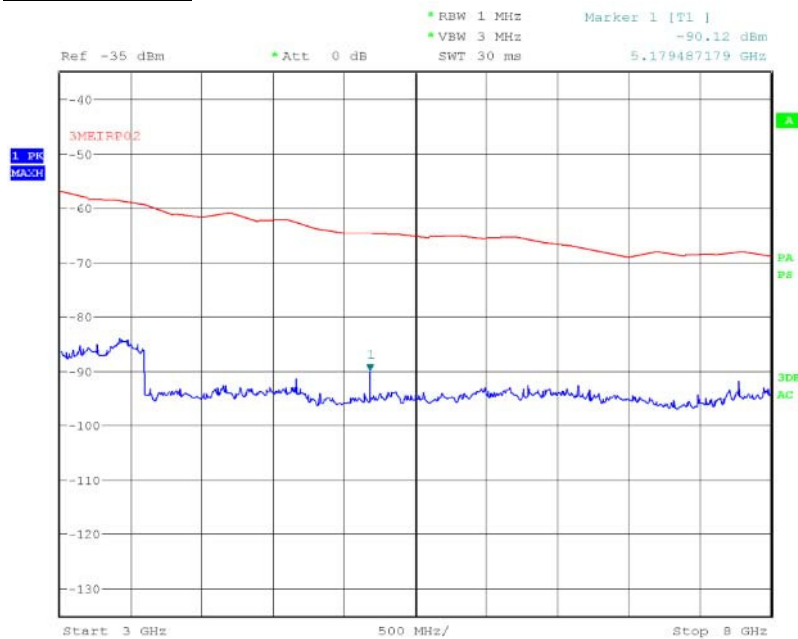
Product Service

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

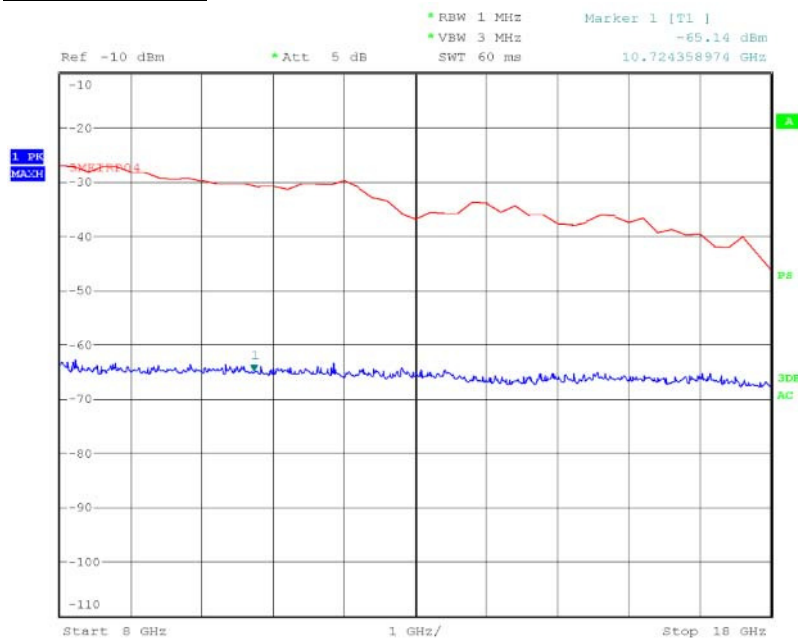
*No emissions were detected within 10 dB of the limit.



Product Service

3 GHz to 8 GHz

Date: 9.APR.2016 11:11:28

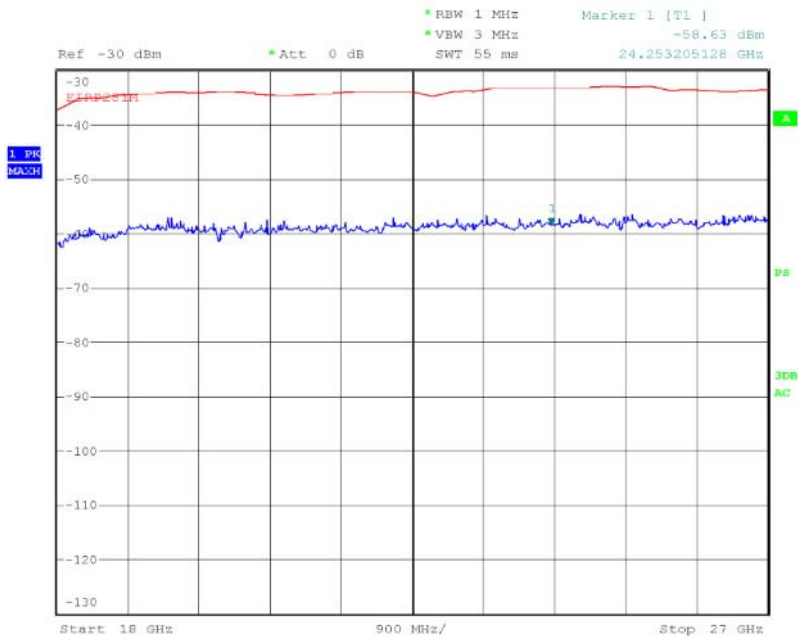
8 GHz to 18 GHz

Date: 14.APR.2016 00:16:52



Product Service

18 GHz to 27 GHz



Date: 16.APR.2016 22:23:12

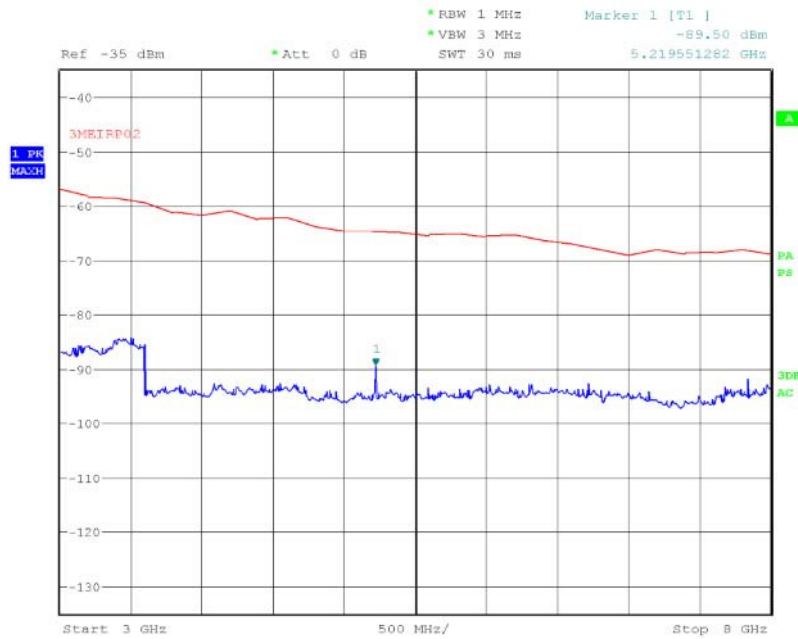
Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



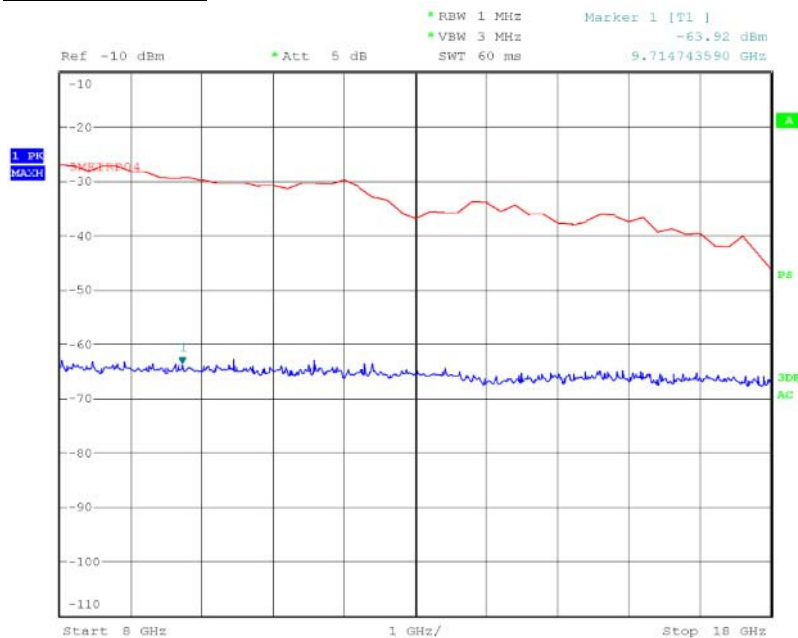
Product Service

3 GHz to 8 GHz



Date: 9.APR.2016 11:35:16

8 GHz to 18 GHz

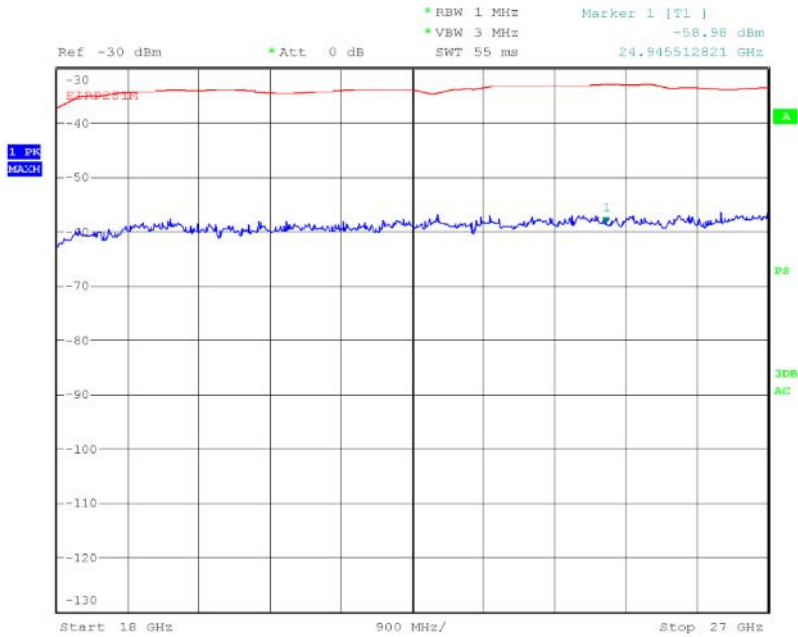


Date: 14.APR.2016 00:13:35



Product Service

18 GHz to 27 GHz



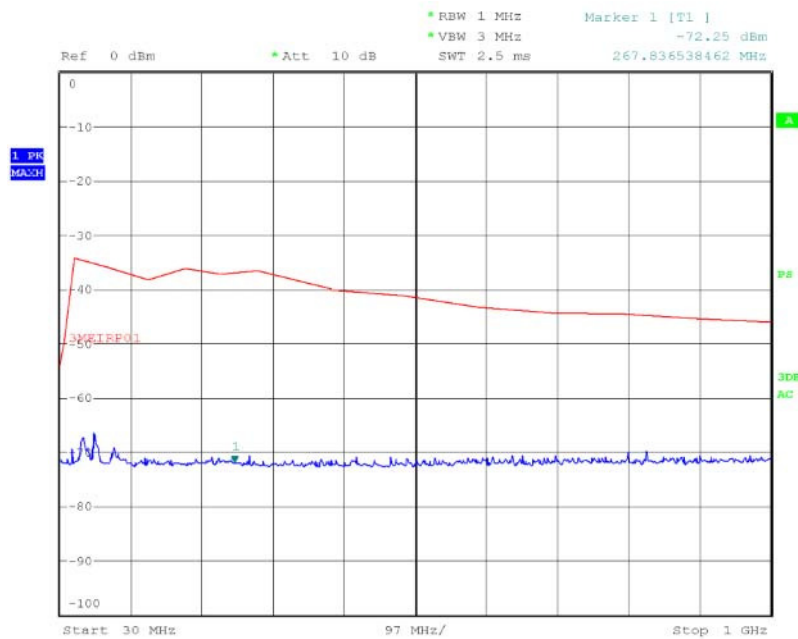
Date: 16.APR.2016 22:19:53

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



Product Service

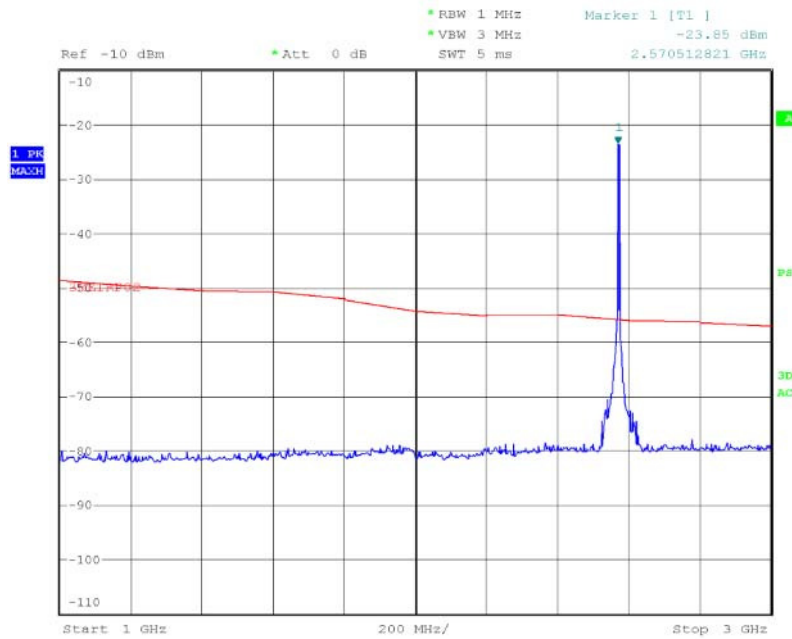
15.0 MHz Bandwidth – QPSK2577.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 18:49:15



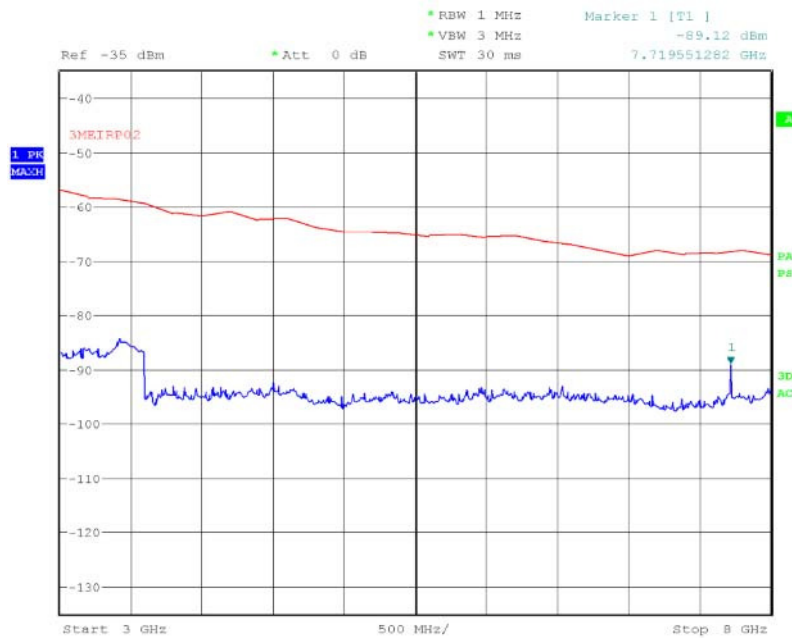
Product Service

1 GHz to 3 GHz



Date: 8.APR.2016 16:14:03

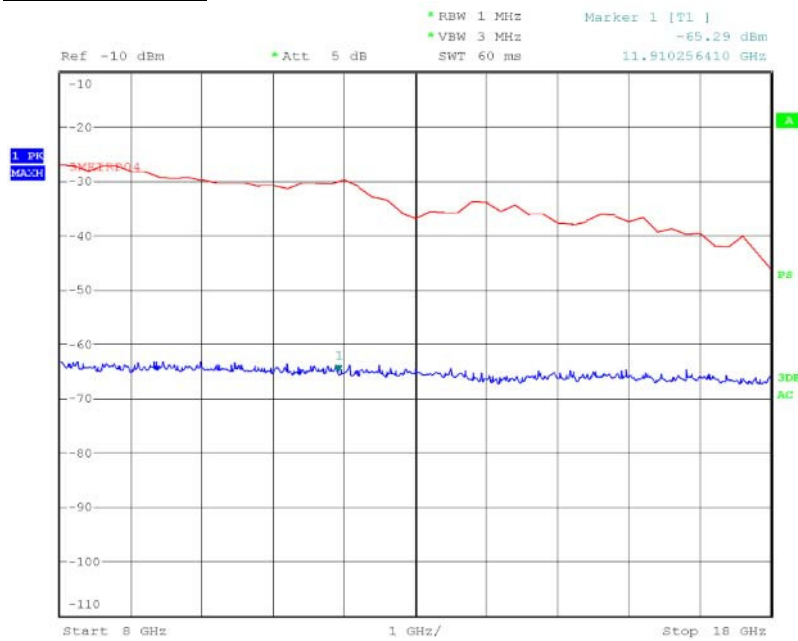
3 GHz to 8 GHz



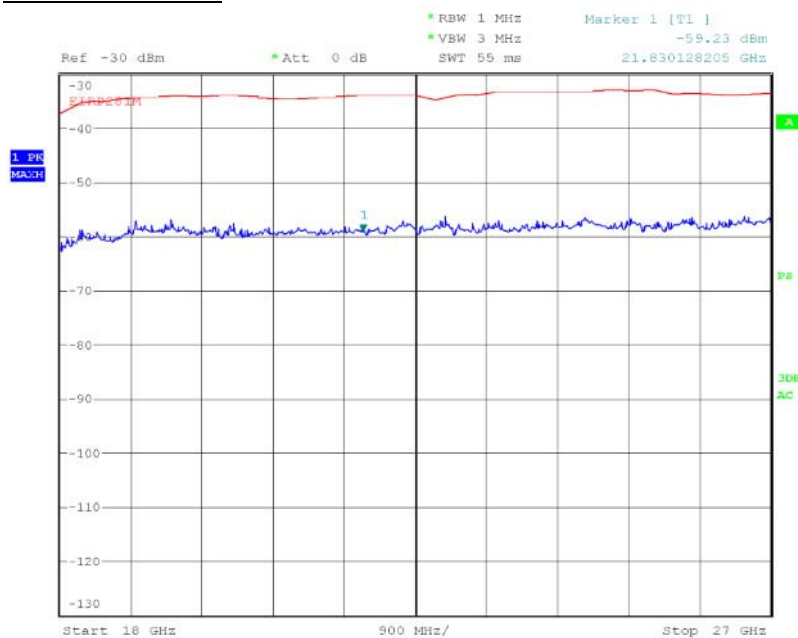
Date: 8.APR.2016 17:57:54



Product Service

8 GHz to 18 GHz

Date: 14.APR.2016 00:25:33

18 GHz to 27 GHz

Date: 16.APR.2016 22:29:10



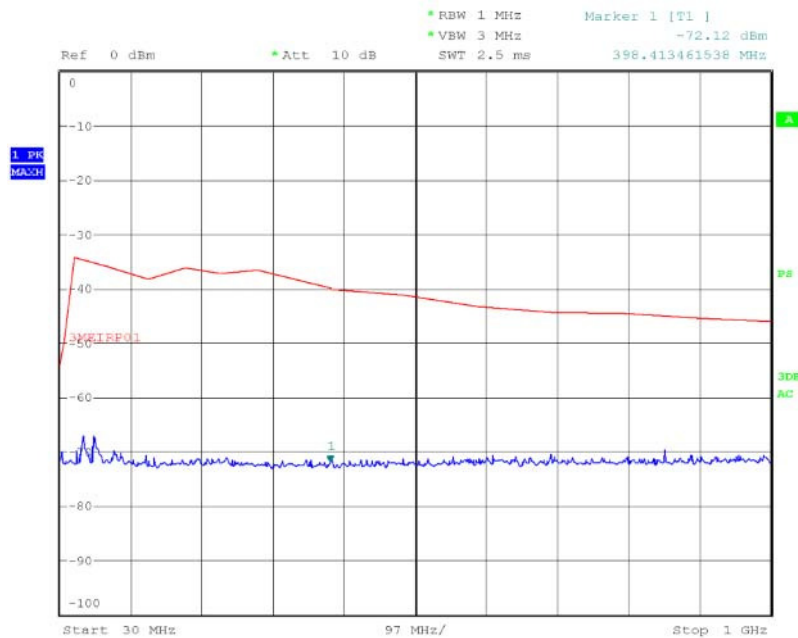
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

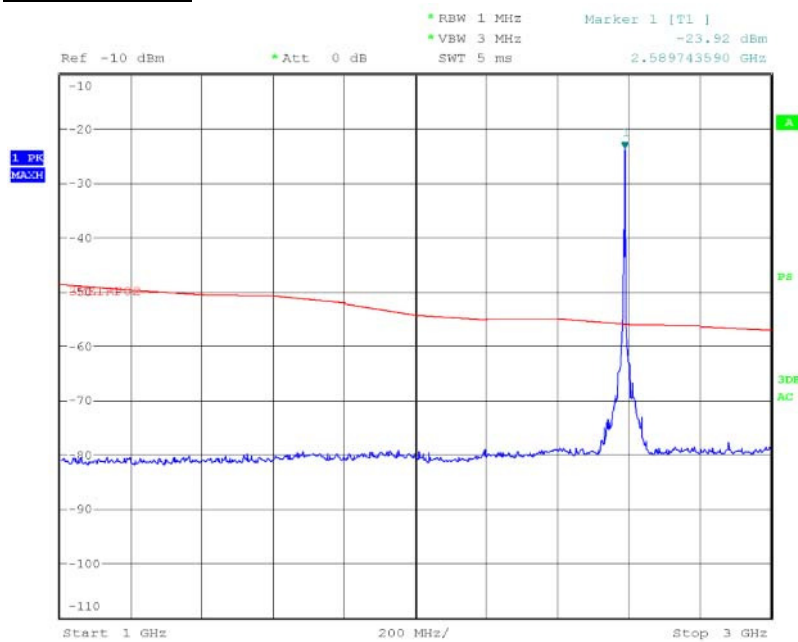
*No emissions were detected within 10 dB of the limit.



Product Service

2595.0 MHz1 Resource Block - Low30 MHz to 1 GHz

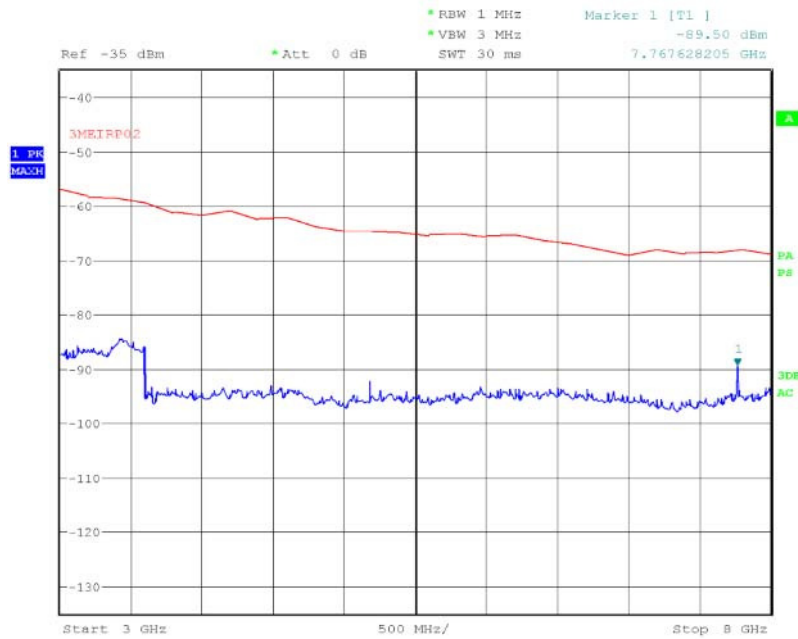
Date: 7.APR.2016 18:53:05

1 GHz to 3 GHz

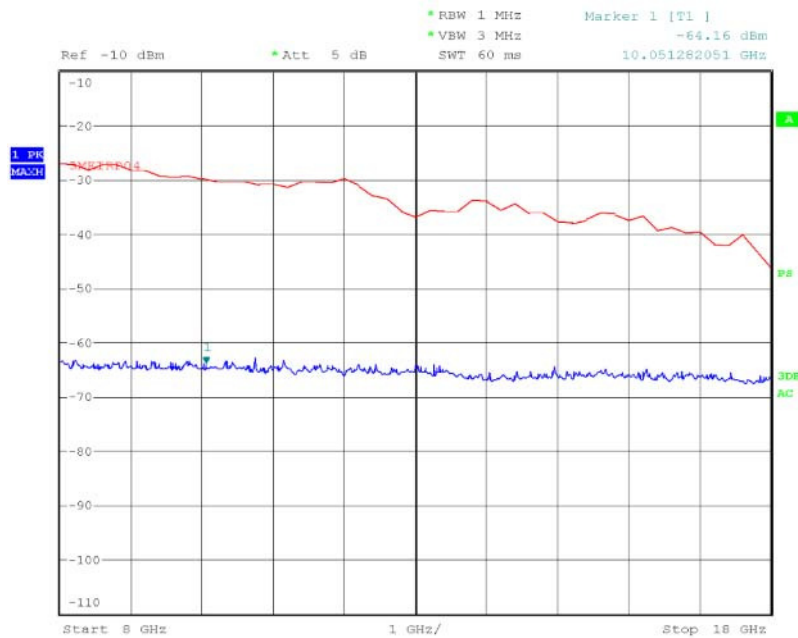
Date: 8.APR.2016 16:17:44



Product Service

3 GHz to 8 GHz

Date: 8.APR.2016 17:59:58

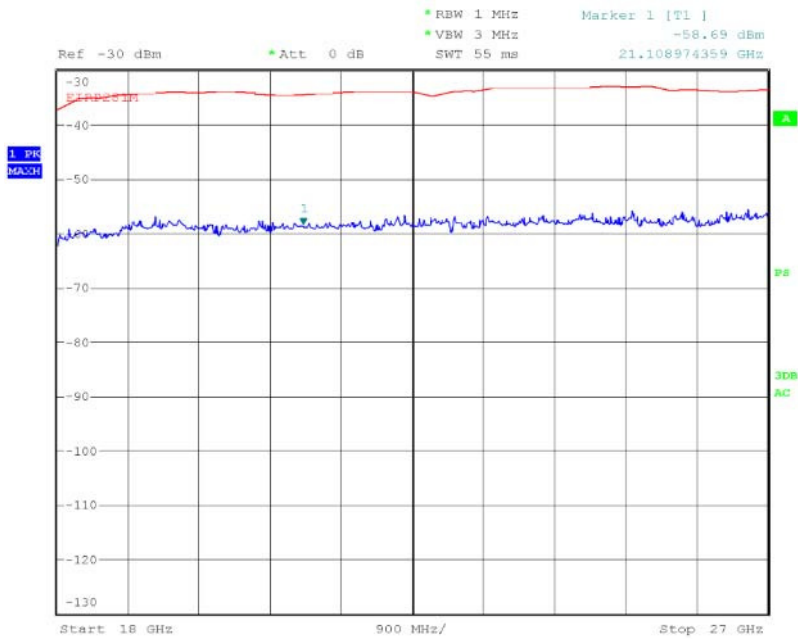
8 GHz to 18 GHz

Date: 14.APR.2016 00:30:42



Product Service

18 GHz to 27 GHz



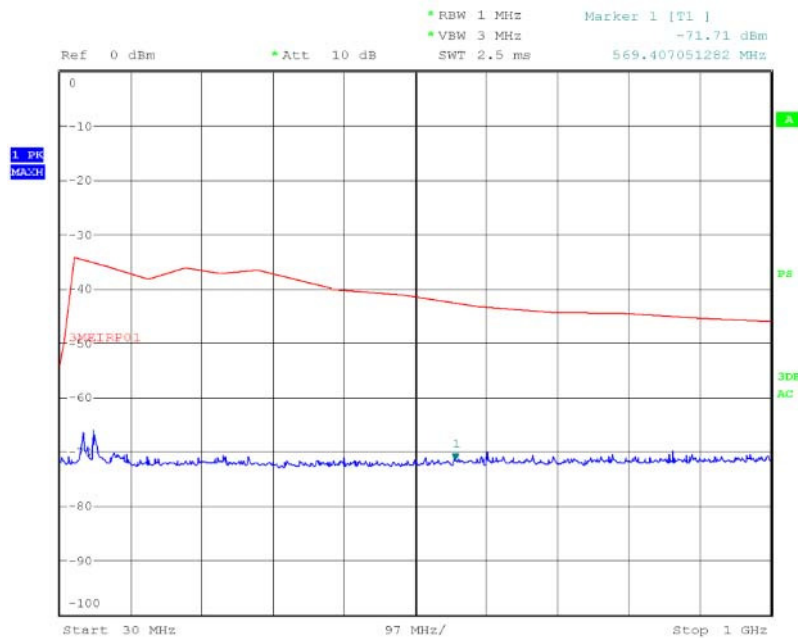
Date: 16.APR.2016 22:36:24

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

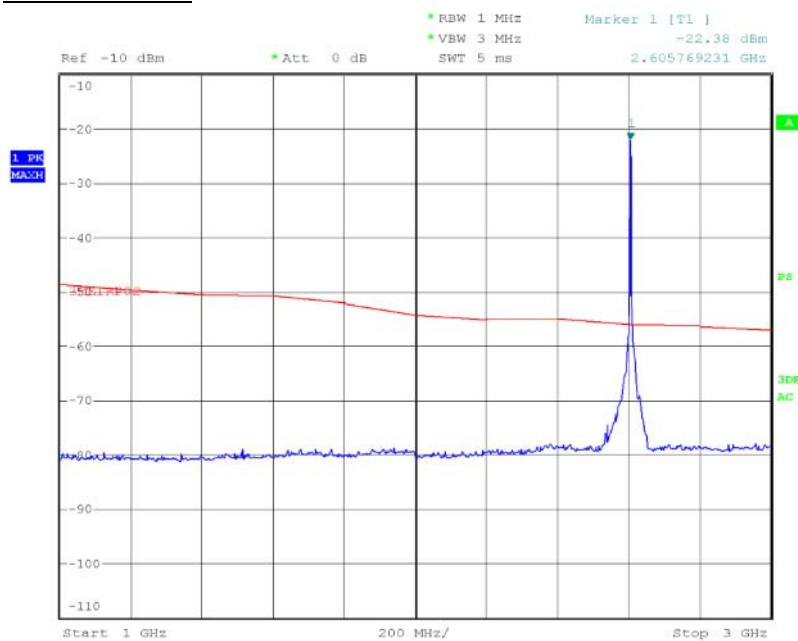
*No emissions were detected within 10 dB of the limit.



Product Service

2612.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 18:55:58

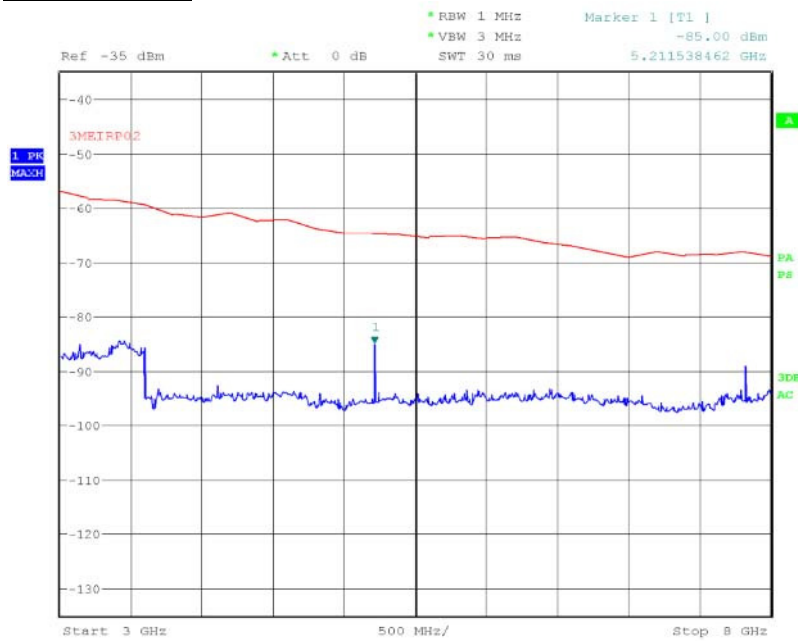
1 GHz to 3 GHz

Date: 8.APR.2016 16:41:00



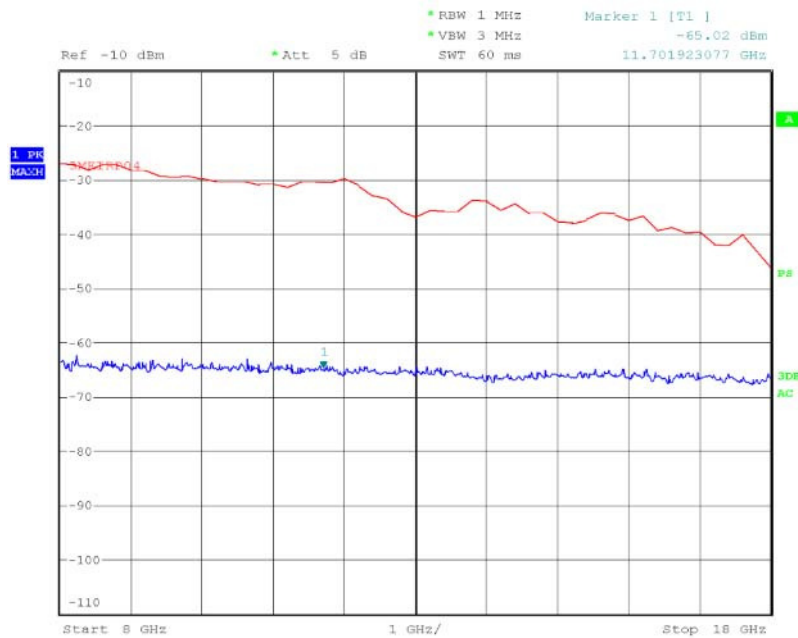
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:02:00

8 GHz to 18 GHz

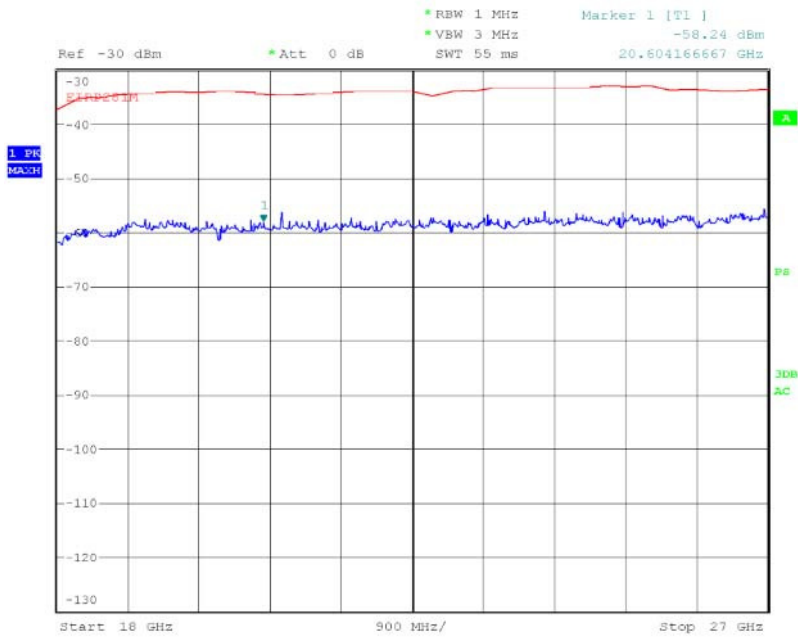


Date: 14.APR.2016 00:35:29



Product Service

18 GHz to 27 GHz



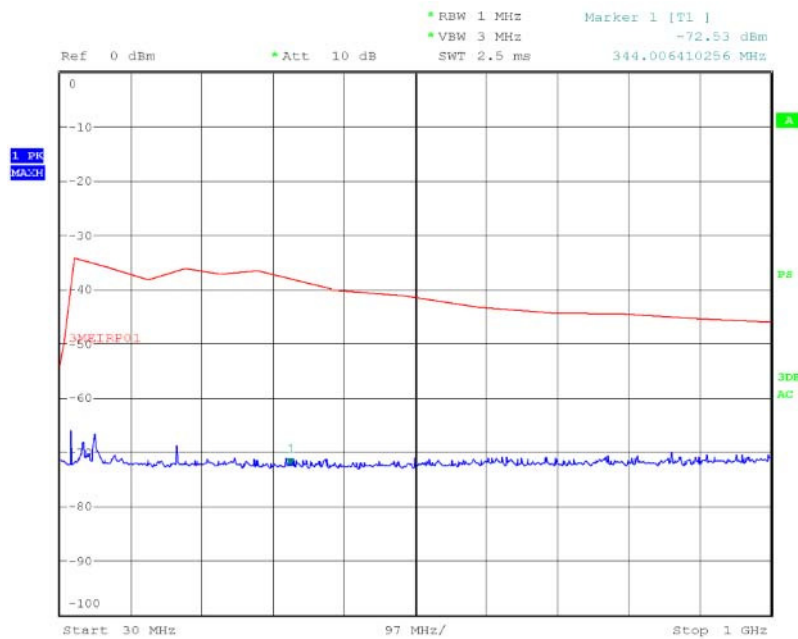
Date: 16.APR.2016 22:39:13

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



Product Service

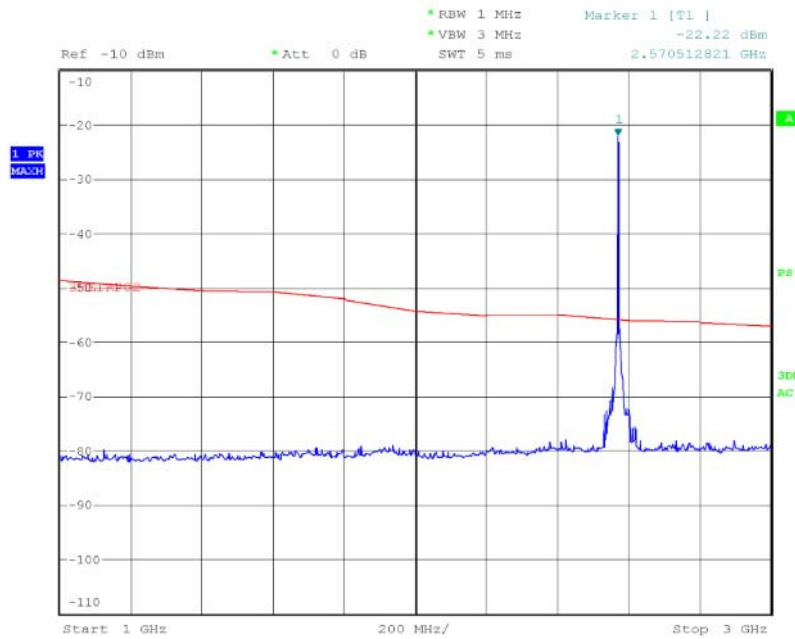
15.0 MHz Bandwidth – 16-QAM2577.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 19:02:12



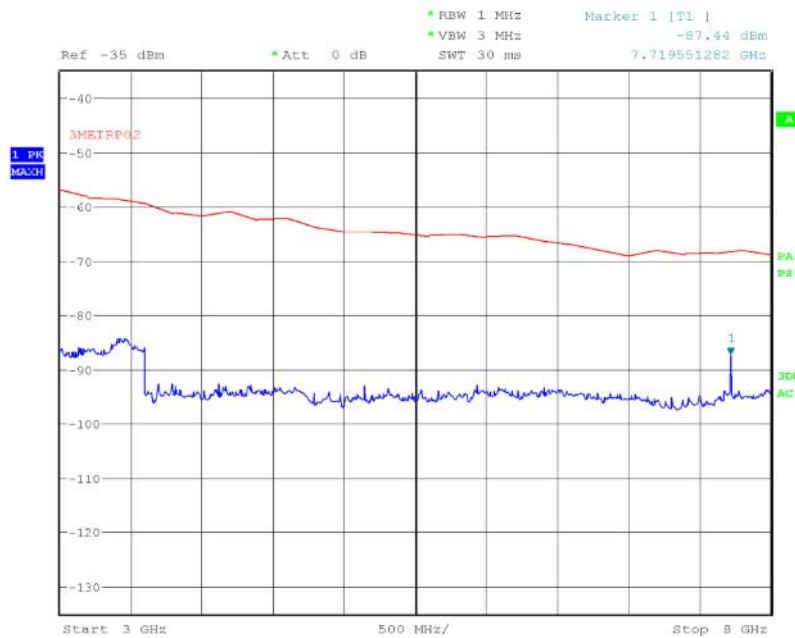
Product Service

1 GHz to 3 GHz



Date: 8.APR.2016 16:46:47

3 GHz to 8 GHz

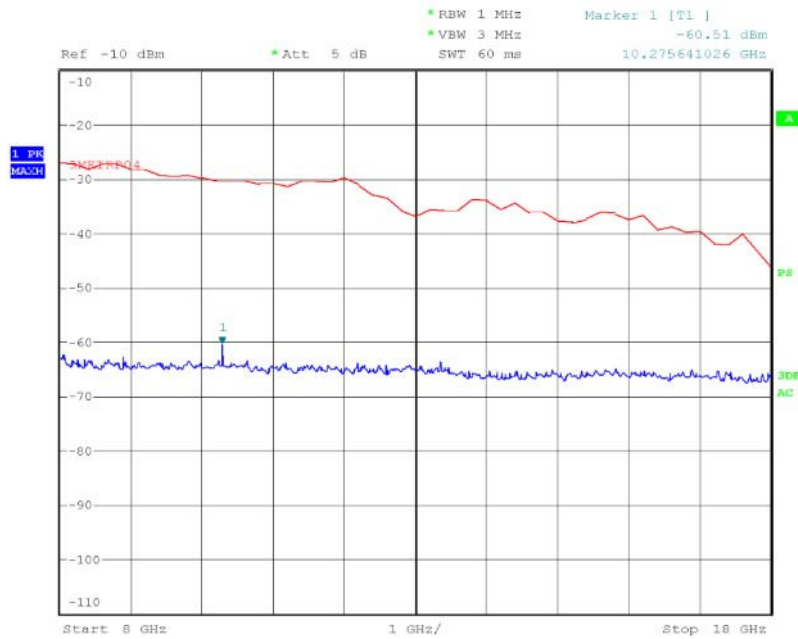


Date: 8.APR.2016 18:15:01



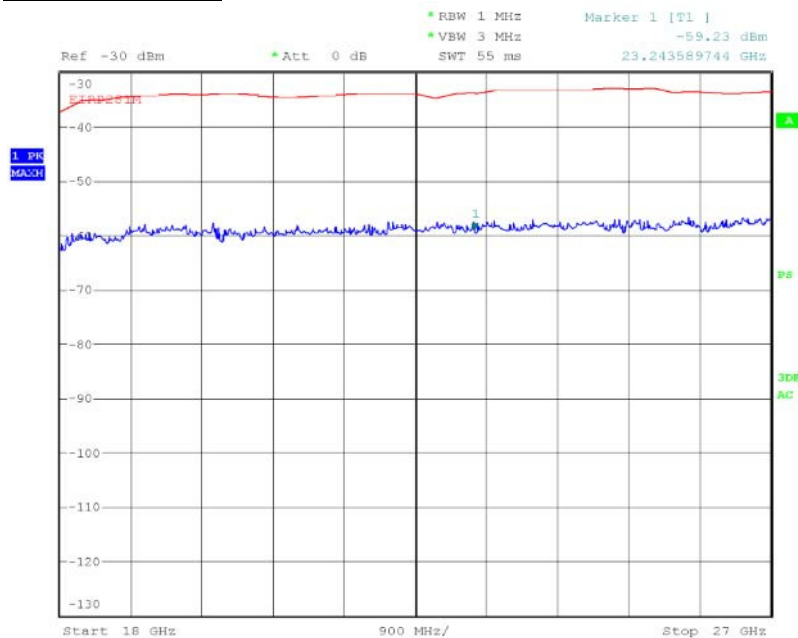
Product Service

8 GHz to 18 GHz



Date: 14.APR.2016 00:52:25

18 GHz to 27 GHz



Date: 16.APR.2016 22:48:20



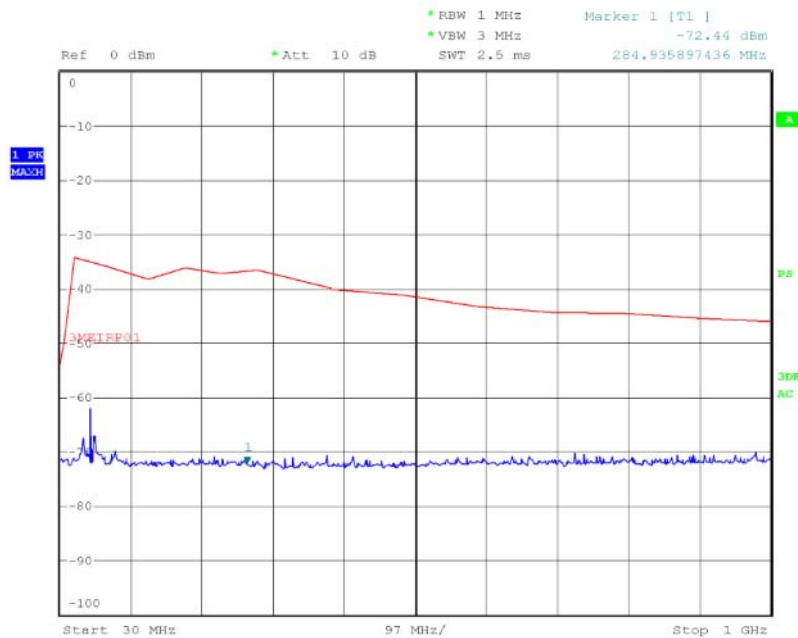
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

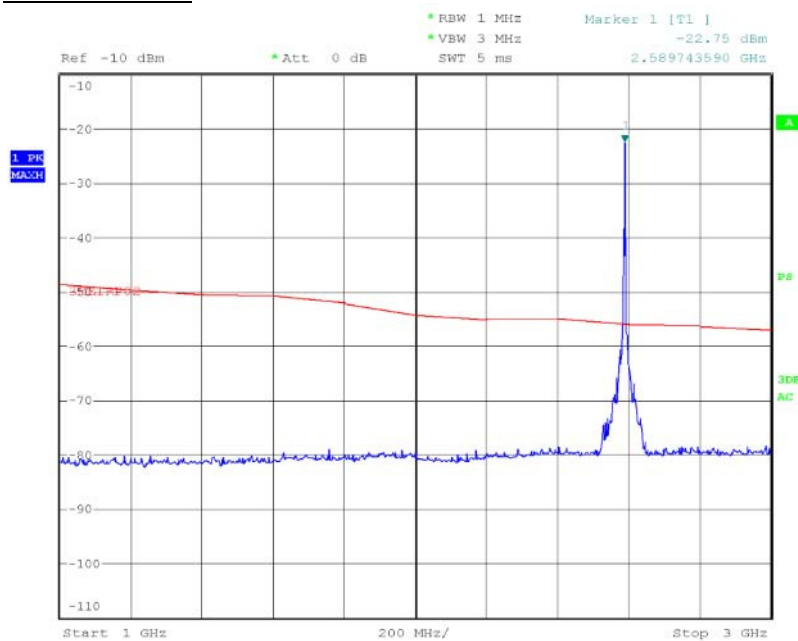
*No emissions were detected within 10 dB of the limit.



Product Service

2595.0 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 18:59:52

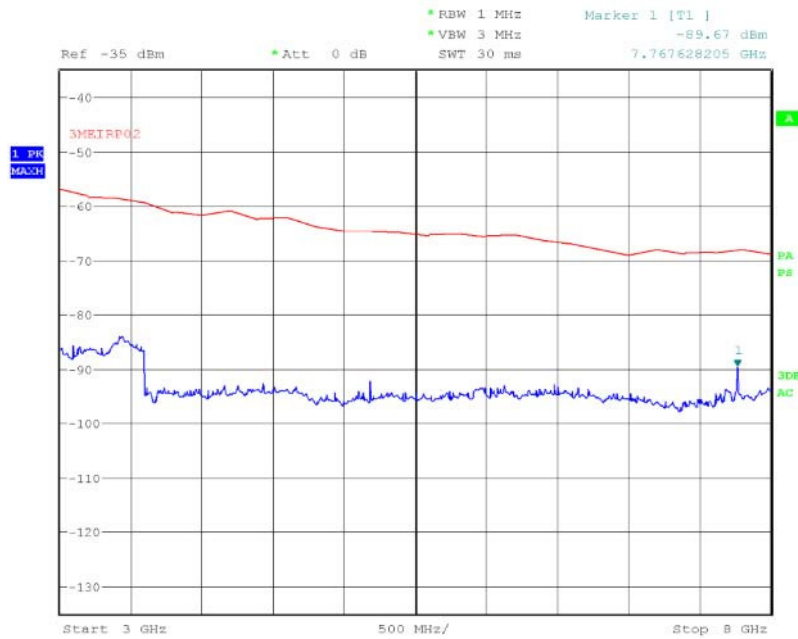
1 GHz to 3 GHz

Date: 8.APR.2016 16:49:07



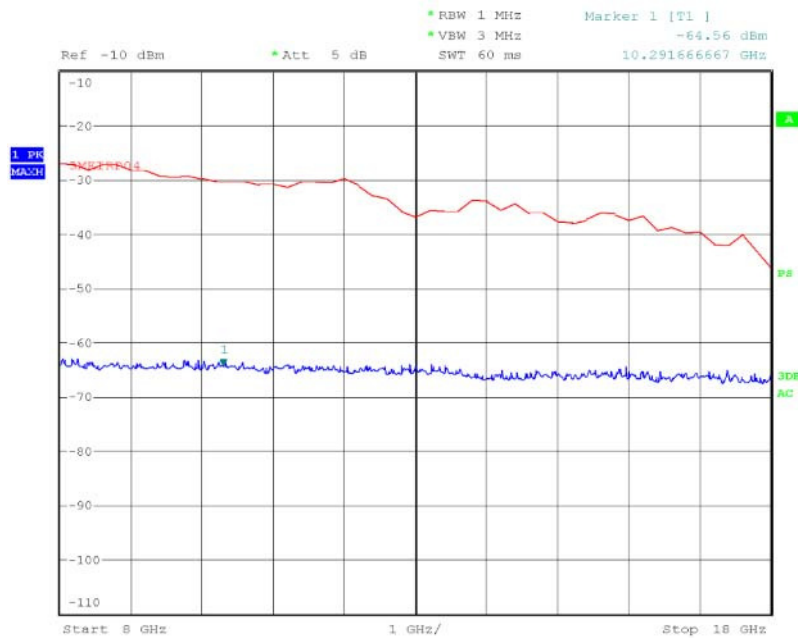
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:10:27

8 GHz to 18 GHz

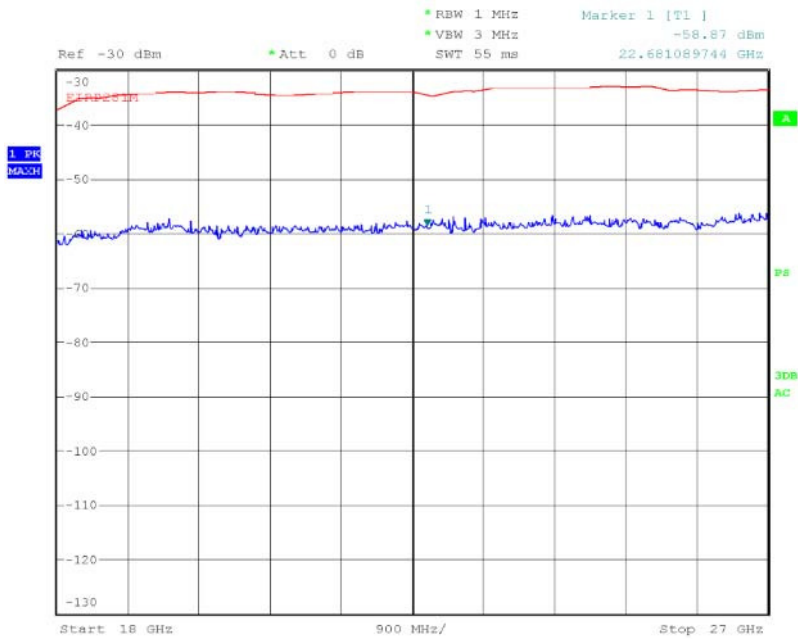


Date: 14.APR.2016 00:45:03



Product Service

18 GHz to 27 GHz



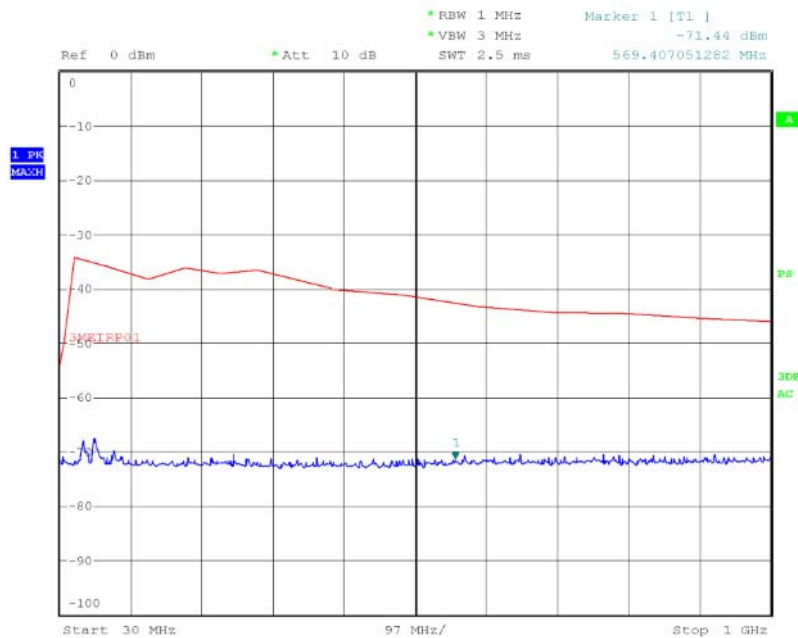
Date: 16.APR.2016 22:46:13

Frequency (MHz)	Final Peak (dBμV/m)	Final Average (dBμV/m)	Final Peak (μV/m)	Final Average (μV/m)	Angle (°)	Height (m)	Polarisation
*							

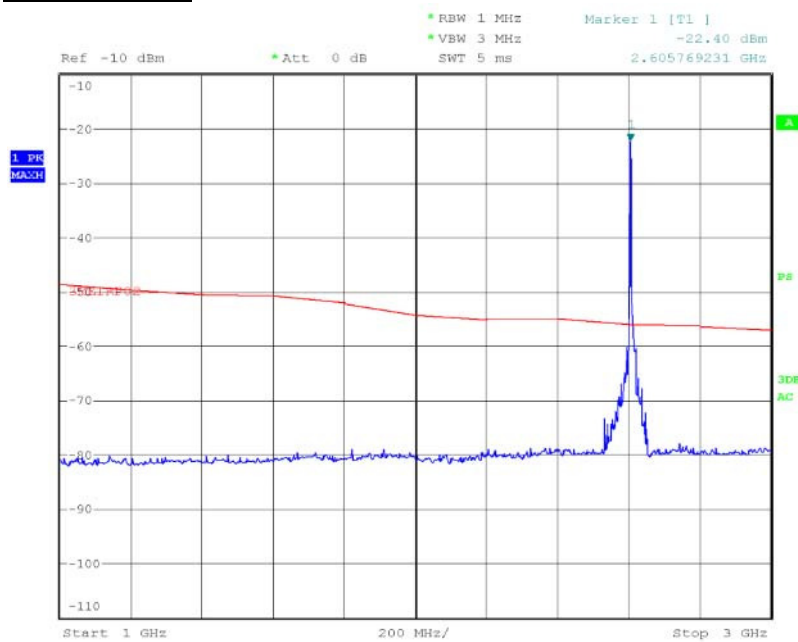
*No emissions were detected within 10 dB of the limit.



Product Service

2612.5 MHz1 Resource Block - Low30 MHz to 1 GHz

Date: 7.APR.2016 18:57:55

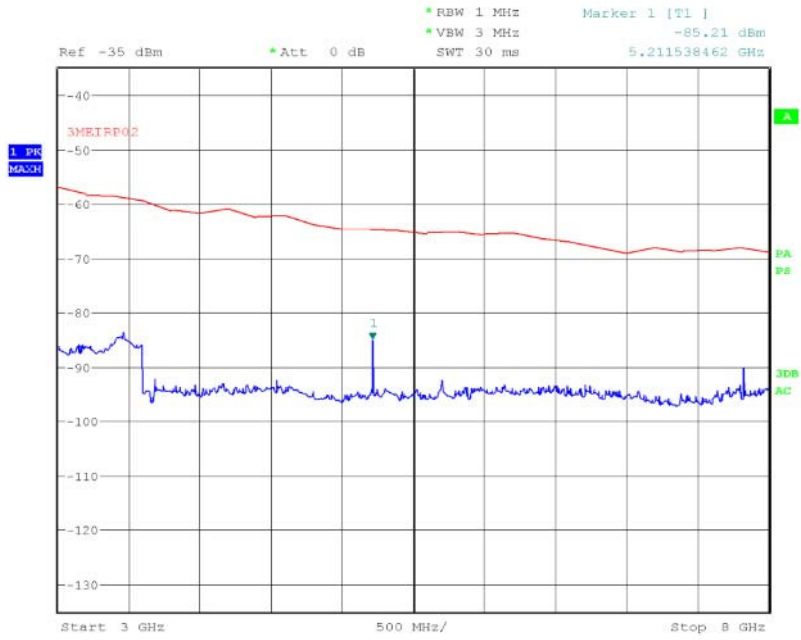
1 GHz to 3 GHz

Date: 8.APR.2016 16:51:36



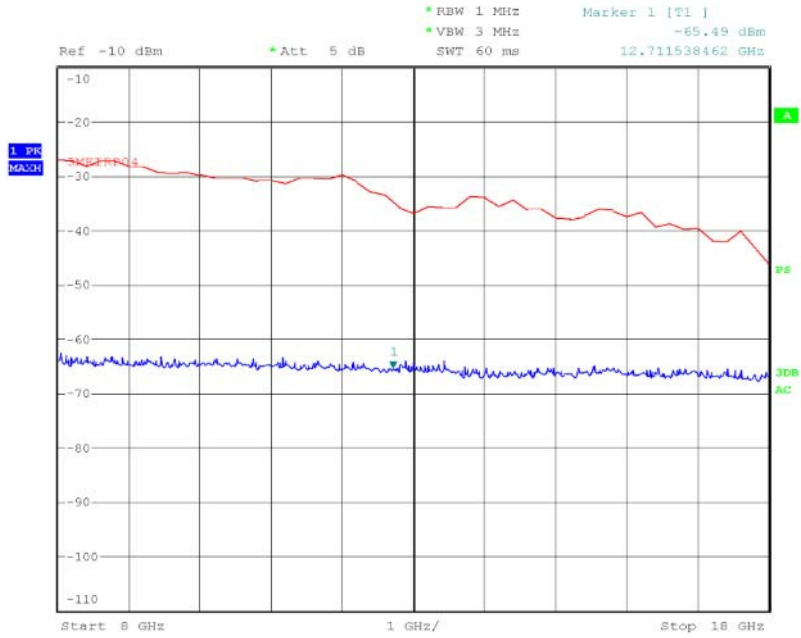
Product Service

3 GHz to 8 GHz



Date: 8.APR.2016 18:06:21

8 GHz to 18 GHz

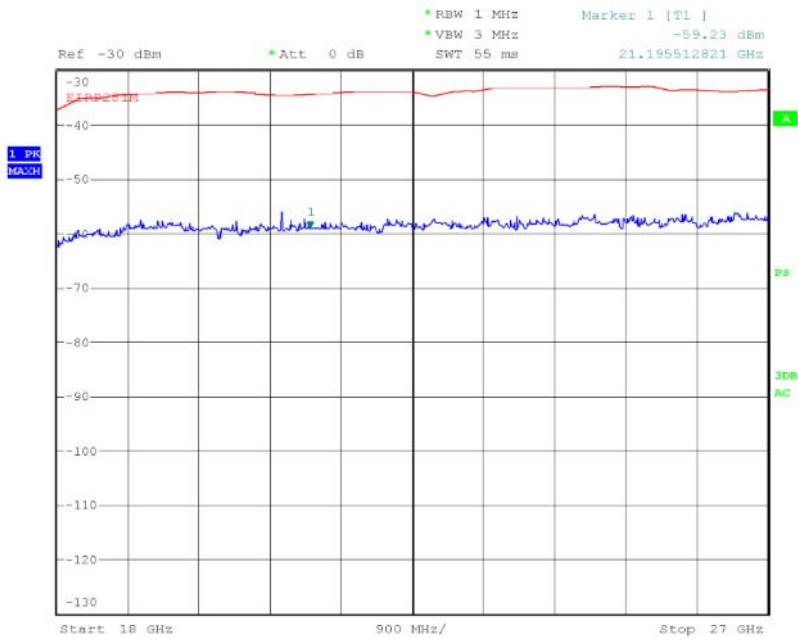


Date: 14.APR.2016 00:39:15



Product Service

18 GHz to 27 GHz



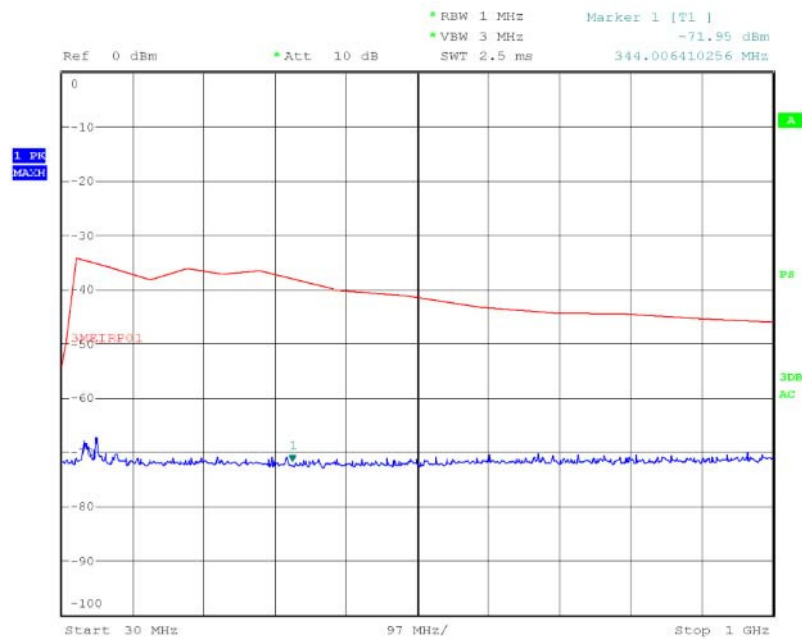
Date: 16.APR.2016 22:42:25

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.



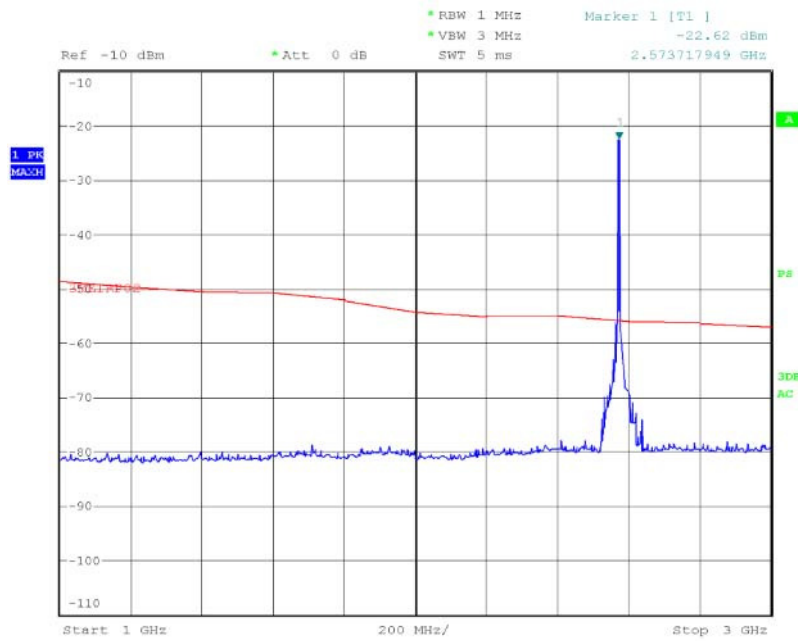
Product Service

20.0 MHz Bandwidth – QPSK2580.0 MHz1 Resource Block – Low30 MHz to 1 GHz

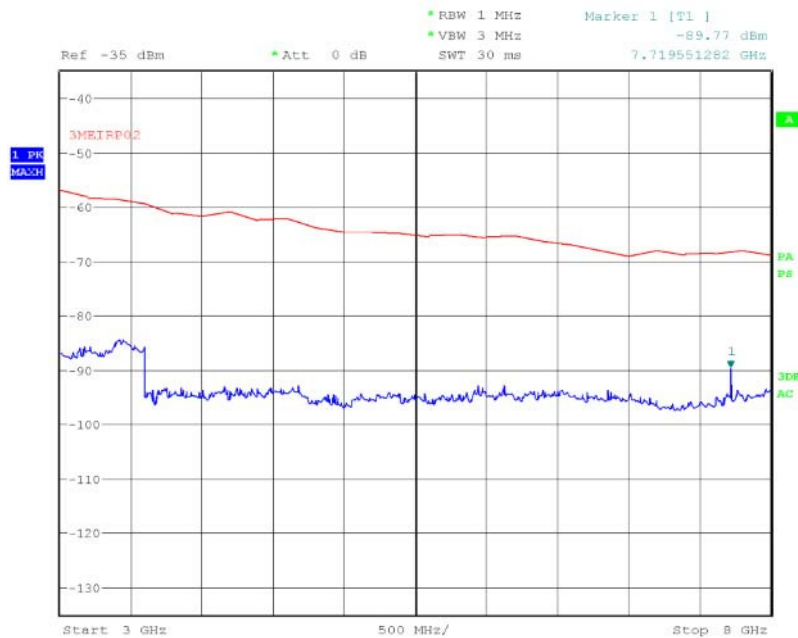
Date: 7.APR.2016 19:06:30



Product Service

1 GHz to 3 GHz

Date: 8.APR.2016 16:55:00

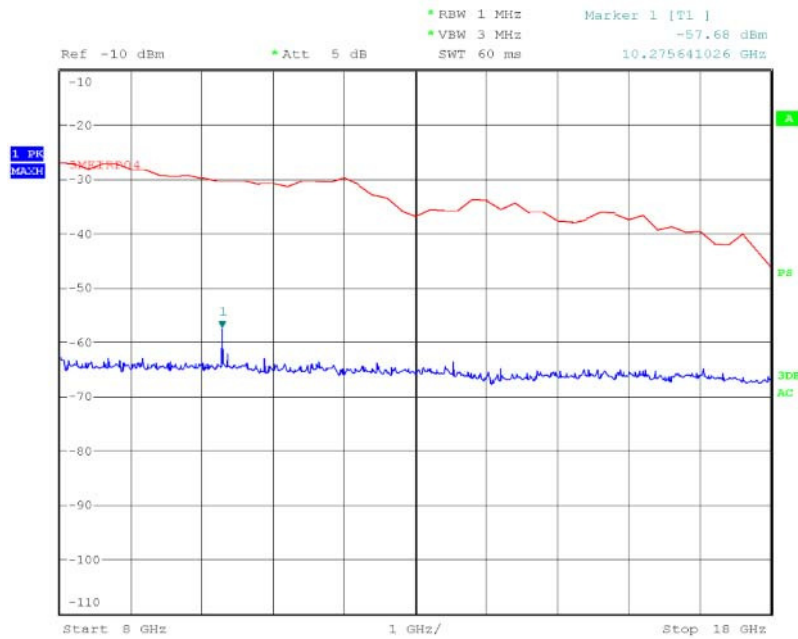
3 GHz to 8 GHz

Date: 8.APR.2016 17:39:30



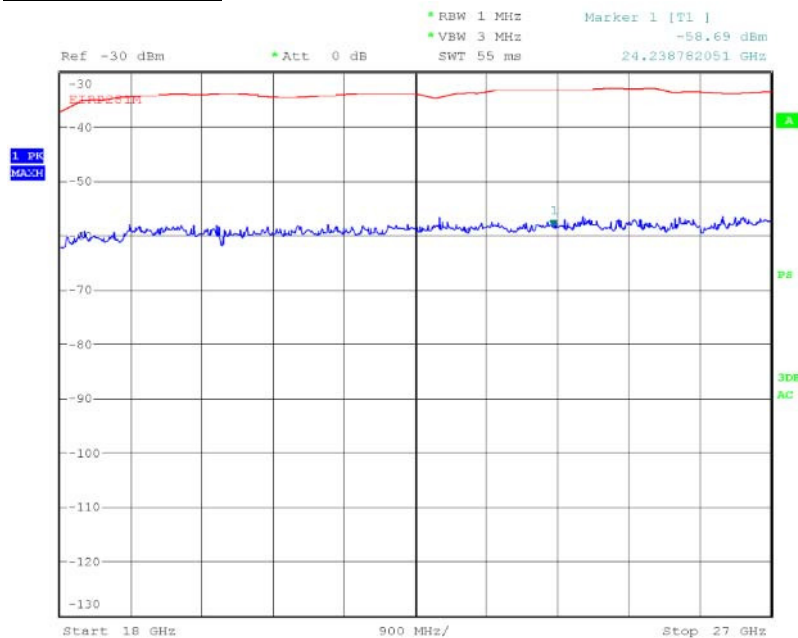
Product Service

8 GHz to 18 GHz



Date: 14.APR.2016 01:05:44

18 GHz to 27 GHz



Date: 16.APR.2016 22:58:07



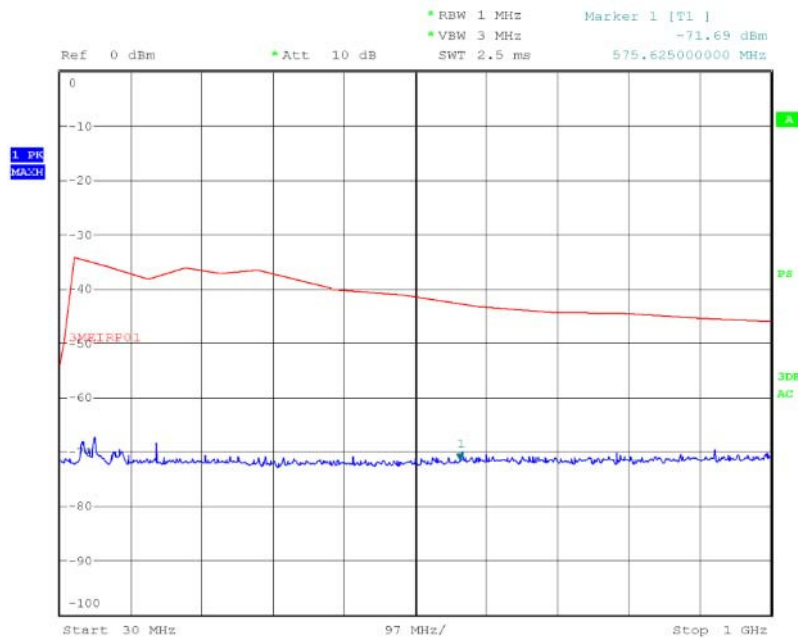
Product Service

Frequency (MHz)	Final Peak (dB μ V/m)	Final Average (dB μ V/m)	Final Peak (μ V/m)	Final Average (μ V/m)	Angle (°)	Height (m)	Polarisation
*							

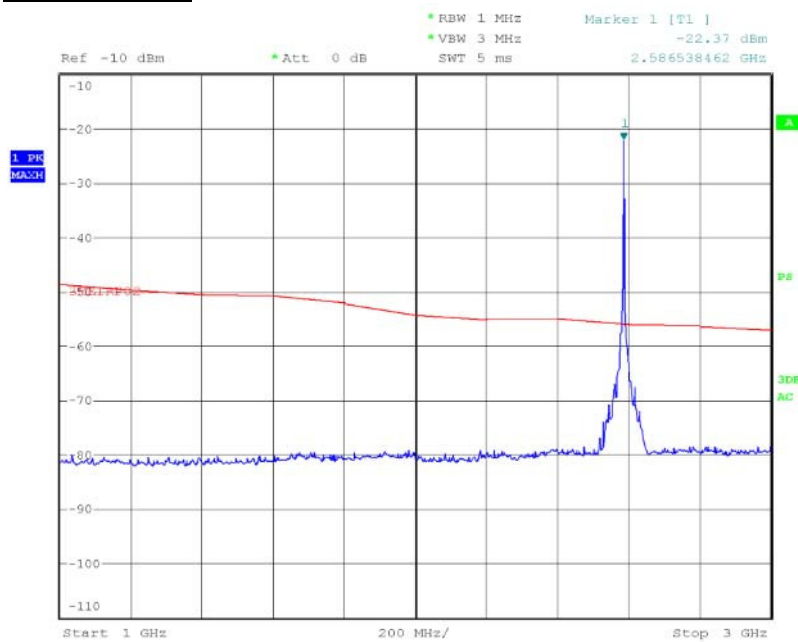
*No emissions were detected within 10 dB of the limit.



Product Service

2595.0 MHz1 Resource Block – Low30 MHz to 1 GHz

Date: 7.APR.2016 19:10:56

1 GHz to 3 GHz

Date: 8.APR.2016 16:57:19