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Report On

FCC and IC Testing of the
Ericsson KRD 901 060/* (RBS6402) WCDMA (2100 MHz) Base Station
In accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 27, Industry
Canada RSS-GEN and Industry Canada RSS-139

COMMERCIAL-IN-CONFIDENCE

FCC ID: TA8AKRD901060
IC: 287AB-AS901060

PREPARED BY

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APPROVED BY

Nic Forsyth
Authorised Signatory

DATED

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Product Service

SECTION 1

REPORT INFORMATION

1.1 REPORT DETAILS

Manufacturer	Oy L M Ericsson AB
Address	Elektoniikkatie 10 Oulu 90590 FINLAND
Product Name	RBS6402
Product Number	KRD 901 060/* The * in Product number KRD 901 060/* denotes 1, 2 and 8 depending on different HW configurations.
IC Model NUMBER	AS9010601
Serial Number(s)	C829930752
Software Version	R1BE08
Hardware Version	R3A
Test Specification/Issue/Date	FCC CFR 47 Part 2: 2014 FCC CFR 47 Part 27: 2014 Industry Canada RSS-GEN: Issue 4: 2014 Industry Canada RSS-139: Issue 2: 2009
Start of Test	26 October 2015
Finish of Test	28 October 2015
Name of Engineer(s)	M Toubella
Related Document(s)	KDB 971168 D01

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 27, Industry Canada RSS-GEN and Industry Canada RSS-139 is shown below.

Section	Specification Clause				Test Description	Result
	FCC CFR 47 Part 2	FCC CFR 47 Part 27	RSS-GEN	RSS-139		
2.1	2.1046	27.50	-	6.4	Maximum Peak Output Power and Peak to Average Ratio - Conducted	Pass
2.2	2.1049	27.53	6.6	-	Occupied Bandwidth	Pass
2.3	2.1051	27.53 (h)	-	6.5	Band Edge	Pass
2.4	2.1051	27.53 (h)	-	6.5	Transmitter Spurious Emissions	Pass
2.5	2.1055	27.54	-	6.3	Frequency Stability	Pass

1.3 CONFIGURATION DESCRIPTION

RBS 6402 is a modular dual band product for 3GPP WCDMA with Wi-Fi module. The main characteristics of the product are:

- Full modularity
- Dual band, FDD
- IBW 20/40 MHz
- Ericsson DFE algorithms (CFR, DPD, X-talk) to enable FPGA replacement by eASIC
- Wi-Fi as a separate module
- WCDMA

RBS 6402 eNodeB product's maximum configurable output power is 20-250 mW (+13 – (+24) dBm) complying to 3GPP Local Area requirement specification 3GPP TS 37.104, release 11, maximum output power equal or less than +24 dBm [1]. RBS will include modules presented at Figure 1. Two triple band RF modules are included. RBS will support 2*three FDD bands (one band enabled at time/ RF module) and four antennas. Also Wi-Fi is supported.

DC Power Supply will be used as power supply for regulatory approval testing.

Only one RF path out of three at each side of the radio module is active at the time to support 2*2 MIMO operations. The radio bands are divided into different variants in so that one RF board design can support two high bands and one highest band (US or EU) and other RF board design supports three low bands (US or EU).

RBS 6402 is multimode (e)NodeB supporting following operational modes:

- WCDMA FDD

TX Test frequencies.

FDD Band 4				
Mode	Channel BW (MHz)	Frequency range (MHz)	B, M, T Frequencies	B, M, T Channels
WCDMA	5	2110 – 2155	2112.4, 2132.5, 2152.6	1537, 1987, 1738
FDD Band 2				
Mode	Channel BW (MHz)	Frequency range (MHz)	B, M, T Frequencies	B, M, T Channels
WCDMA	5	1930 – 1990	1932.4, 1960.0, 1987.6	9662, 9800, 9938

RX Test frequencies.

FDD Band 4				
Mode	Channel BW (MHz)	Frequency range (MHz)	B, M, T Frequencies	B, M, T Channels
WCDMA	5	1710.0-1755.0	1712.4, 1732.5, 1752.6	1312, 1762, 1513
FDD Band 2				
Mode	Channel BW (MHz)	Frequency range (MHz)	B, M, T Frequencies	B, M, T Channels
WCDMA	5	1850.0-1910.0	1852.4, 1880.0, 1907.6	9262, 9400, 9538

Three channels per profile are selected for testing purposes if not otherwise stated. The bottom (B), the middle (M) and the top (T) channels are used.

1.4 DECLARATION OF BUILD STATUS

Manufacturer	Ericsson AB		
Model number(s)	RBS 6402		
Identification/Type(s)	KRD 901 060/*		
Cabinet type(s)	Indoor		
Cabinet identification(s)	N/A		
Number of sectors	1		
Number of carriers	1		
Base station class	Local Area		
Maximum rated output power(s)	2 x 250mW		
Duplex Mode	FDD		
Frequency Band	2100 MHz Band 4		
Modulation type(s)	QPSK 16 QAM 64 QAM		
Channel Bandwidth(s)	WCDMA: 5MHz		
Transmit diversity	Yes ¹		
Receive diversity	Yes ²		
MIMO			
ITU designation or class of emission	4M18F9W		
Environment temperature range(s)	Minimum 0 C	Maximum +50 C (+40 C without fan)	
AC Power source	Yes		
	Voltage Range(s)		
	Minimum VAC 100	Nominal VAC 230	Maximum VAC 240
DC Power source	Yes (PoE)		
	Voltage Range(s)		
	Minimum VDC 37	Nominal VDC 48	Maximum VDC 58
Options	Type	Model	

(The * in the model number KRD 901 060/* denotes 1, 2, 8 depending on different HW and SW configurations)

¹ Each transmitter path is declared to be equivalent.

² Each receiver path is declared to be equivalent.

I hereby declare that I am entitled to sign on behalf of the manufacturer and that the information supplied is correct and complete.

Signature:



Name : Mika Savilakso

Position held : Senior Developer, Regulatory Approvals

Date :28.01.2016

1.5 PRODUCT INFORMATION

1.5.1 Technical Description

The Equipment Under Test (EUT) RBS6402 - KRD 901 060/* is an Ericsson AB Radio Unit working in the public mobile service (Band 4) band which provides communication connections to (Band 4) network. The RBS6402 - KRD 901 060/* operates from a -48V DC supply.

A full technical description can be found in the Manufacturer's documentation.

1.6 TEST SETUP

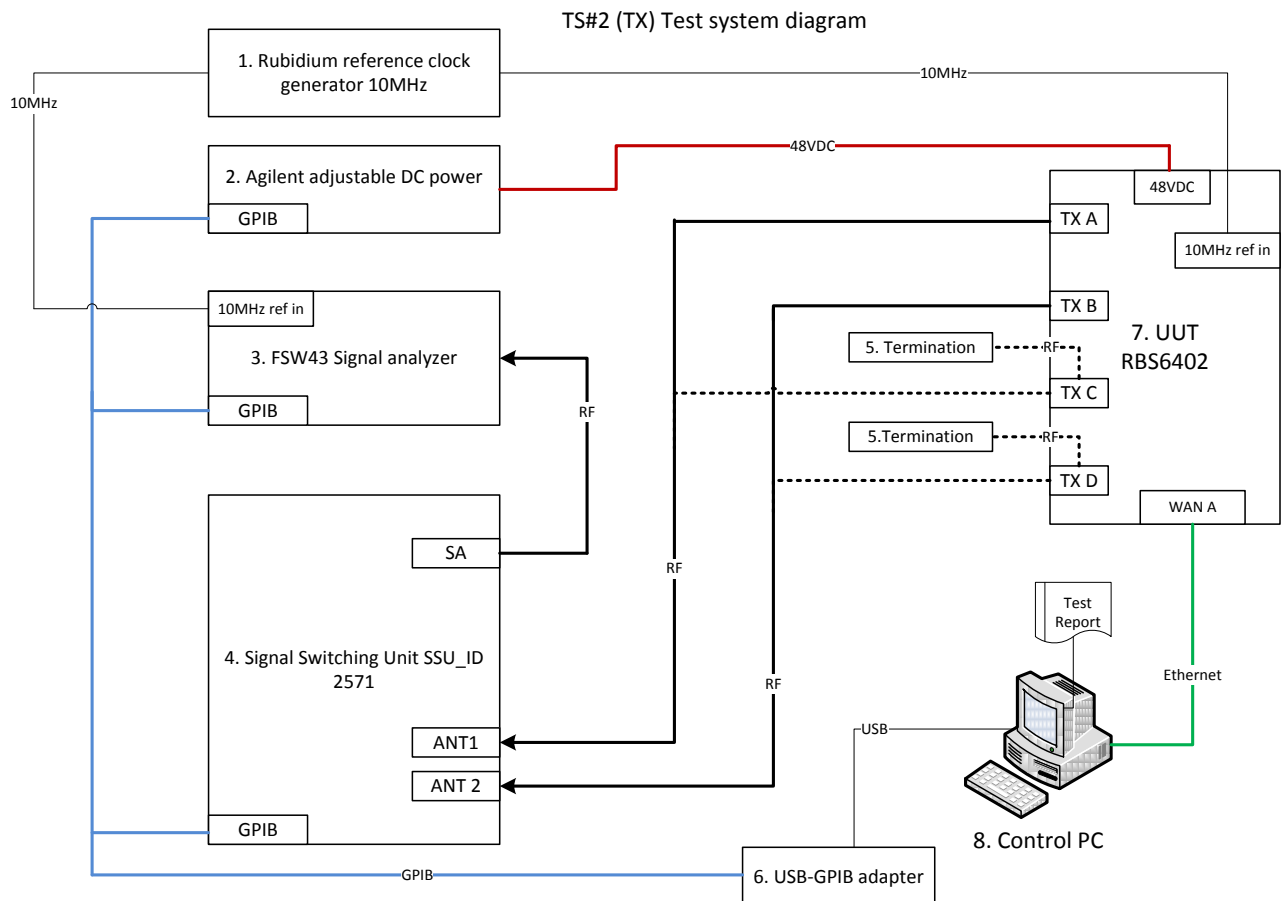


Figure 1. TX RF performance tester setup.

External reference clock (10 MHz) are needed to product, which produces precise time and frequency signals. Reference clock 10MHz from laboratory is buffered and distributed to the product and the test equipment via separate distribution amplifiers. Test environment is controlled via General Purpose Instrumentation Bus (GPIB) and Ethernet network by the control PC.

Cables in tester setup

Control cables:

There are two kinds of cables for controlling the test system: DUT is controlled by using common 1 Gbps Ethernet. Required cables are known as Ethernet 1000BaseT cables. For controlling the most of the RF measurement equipment, power supply and SSU's the standard GPIB cables shall be used.

1.7 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, test laboratories or a chamber as appropriate.

The EUT was powered from a -48V DC supply.

1.8 DEVIATION FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.9 MODIFICATION RECORD

No modifications were made to the EUT during testing.

1.10 ALTERNATIVE TEST SITE

Under our group UKAS Accreditation, TÜV SÜD Product Service conducted the following tests at Ericsson in Oulu, Finland.

1.11 ADDITIONAL INFORMATION

Testing performed in the presence of Jukka-Pekka Lepisto.



Product Service

SECTION 2

TEST DETAILS

2.1 MAXIMUM PEAK OUTPUT POWER AND PEAK TO AVERAGE RATIO - CONDUCTED

2.1.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1046
FCC CFR 47 Part 27, Clause 27.50
Industry Canada RSS-139, Clause 6.4

2.1.2 Date of Test and Modification State

27 October 2015 - Modification State 0

2.1.3 Test Equipment Used

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

2.1.4 Environmental Conditions

Ambient Temperature 24.3°C
Relative Humidity 42.2%

2.1.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01 and summed in accordance with FCC KDB 662911 D01.

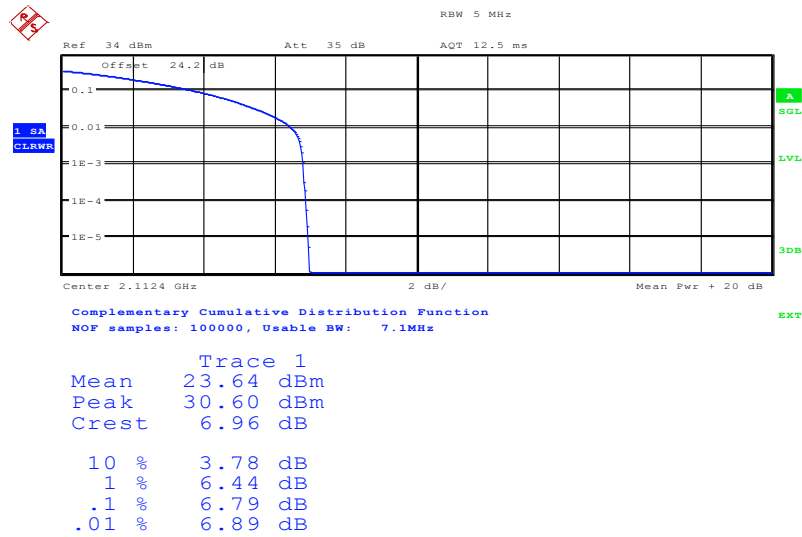
2.1.6 Test Results

Configuration A

Maximum Output Power 24 dBm

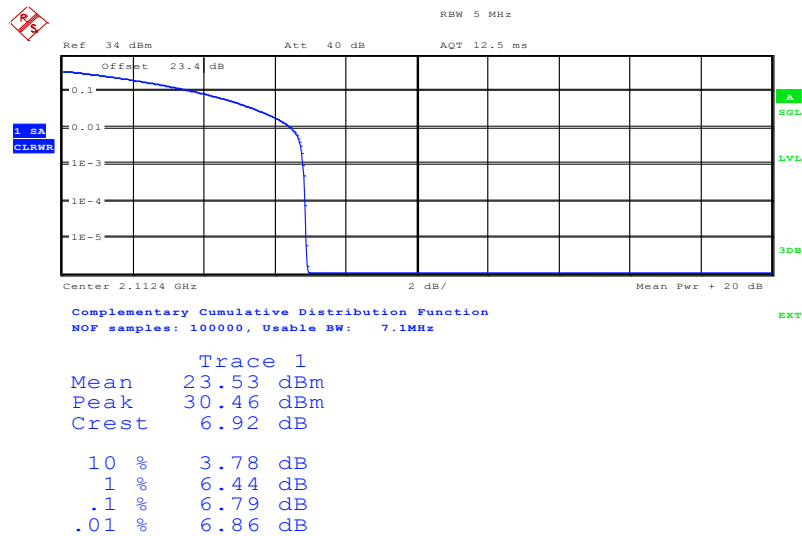
Modulation	Carrier Bandwidth (MHz)	Antenna	Output Power / Peak to Average Ratio (PAR)				
			Channel Position B				
			PAR (dB)	Average Power (dBm)	Average EIRP (dBm)	Average EIRP (dBm/MHz)	Average EIRP (W/MHz)
QPSK	5.0 MHz	A	6.96	24.04	29.04	22.05	0.16
		B	6.92	23.93	28.93	21.94	0.16
Total			-	27.00	32.00	25.01	3.17

Modulation QPSK - Bandwidth 5.0 MHz - Antenna A - Channel Position B



Date: 26.OCT.2015 14:46:02

Modulation QPSK - Bandwidth 5.0 MHz - Antenna B - Channel Position B



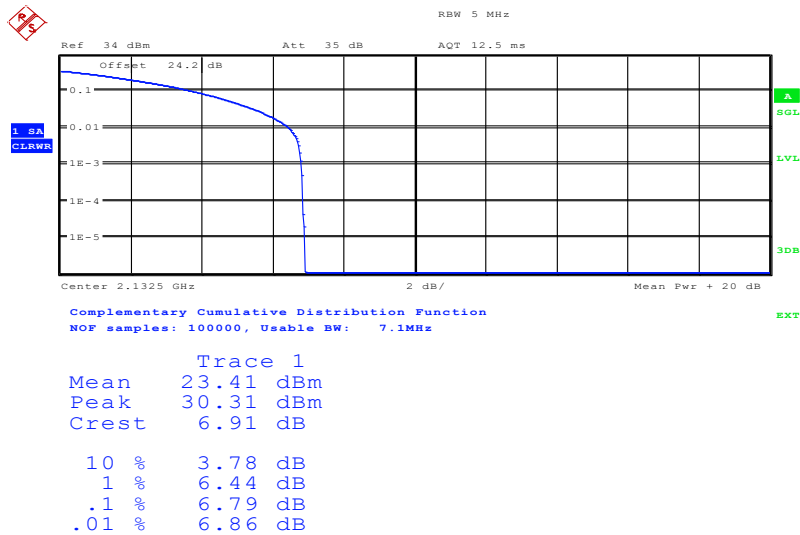
Date: 26.OCT.2015 14:49:41

Configuration A

Maximum Output Power 24 dBm

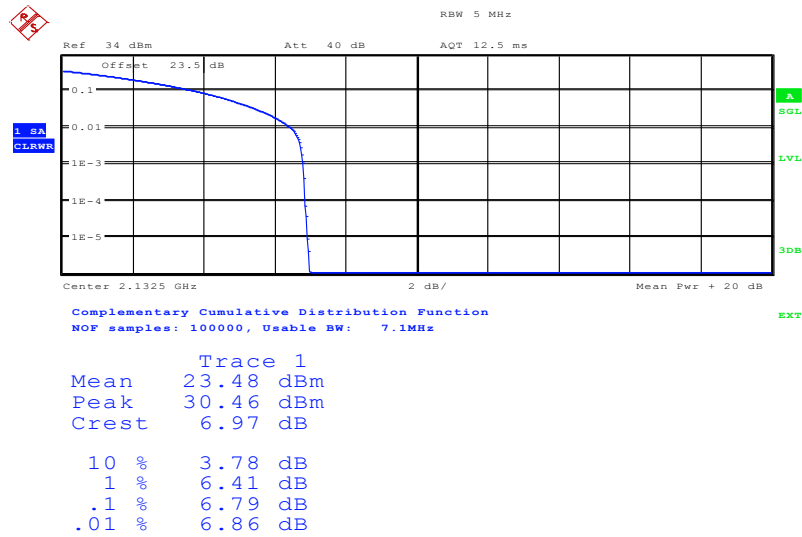
Modulation	Carrier Bandwidth (MHz)	Antenna	Output Power / Peak to Average Ratio (PAR)				
			Channel Position M				
			PAR (dB)	Average Power (dBm)	Average EIRP (dBm)	Average EIRP (dBm/MHz)	Average EIRP (W/MHz)
QPSK	5.0 MHz	A	6.91	23.91	28.91	21.92	0.16
		B	6.97	23.86	28.86	21.87	0.15
Total			-	26.90	31.90	24.91	3.17

Modulation QPSK - Bandwidth 5.0 MHz - Antenna A - Channel Position B



Date: 26.OCT.2015 14:46:39

Modulation QPSK - Bandwidth 5.0 MHz - Antenna B - Channel Position B



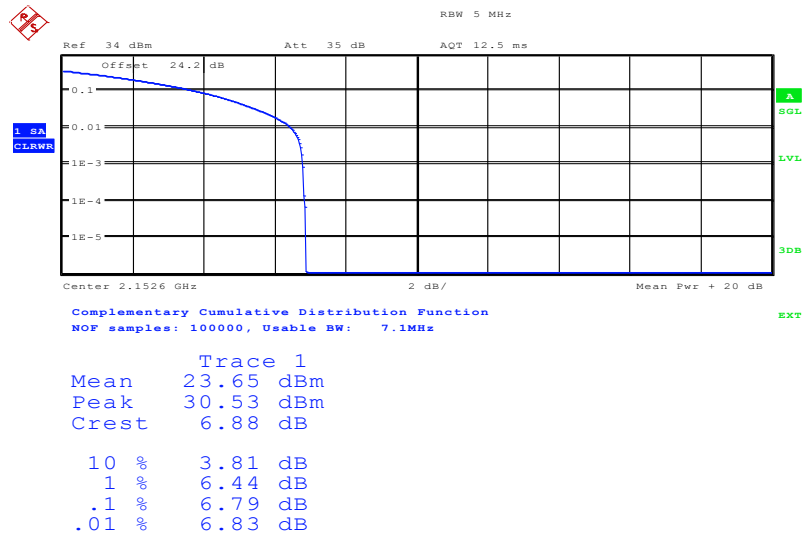
Date: 26.OCT.2015 14:50:17

Configuration A

Maximum Output Power 24 dBm

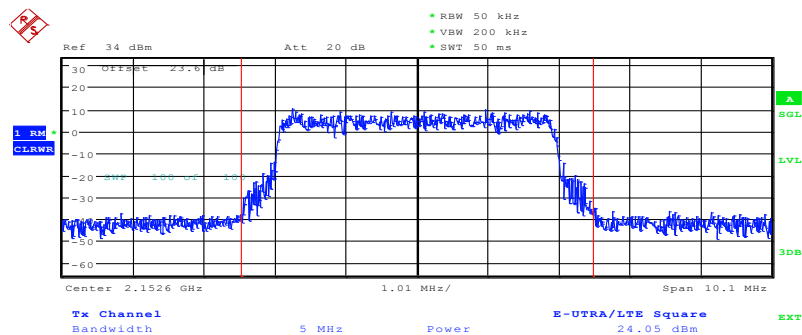
Modulation	Carrier Bandwidth (MHz)	Antenna	Output Power / Peak to Average Ratio (PAR)				
			Channel Position T				
			PAR (dB)	Average Power (dBm)	Average EIRP (dBm)	Average EIRP (dBm/MHz)	Average EIRP (W/MHz)
QPSK	5.0 MHz	A	6.88	24.04	29.04	22.05	0.16
		B	6.88	24.05	29.05	22.06	0.16
Total			-	27.06	32.06	25.07	3.17

Modulation QPSK - Bandwidth 5.0 MHz - Antenna A - Channel Position B



Date: 26.OCT.2015 14:47:15

Modulation QPSK - Bandwidth 5.0 MHz - Antenna B - Channel Position B



Date: 26.OCT.2015 14:17:22

Limit	
Peak Power	$\leq 500 \text{ W}$ or $\leq +57 \text{ dBm}$
Peak to Average Ratio	13 dB

2.2 OCCUPIED BANDWIDTH

2.2.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1049
FCC CFR 47 Part 27, Clause 27.53
Industry Canada RSS-GEN, Clause 6.6

2.2.2 Date of Test and Modification State

27 October 2015 - Modification State 0

2.2.3 Test Equipment Used

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

2.2.4 Environmental Conditions

Ambient Temperature 24.3°C
Relative Humidity 42.2%

2.2.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01.

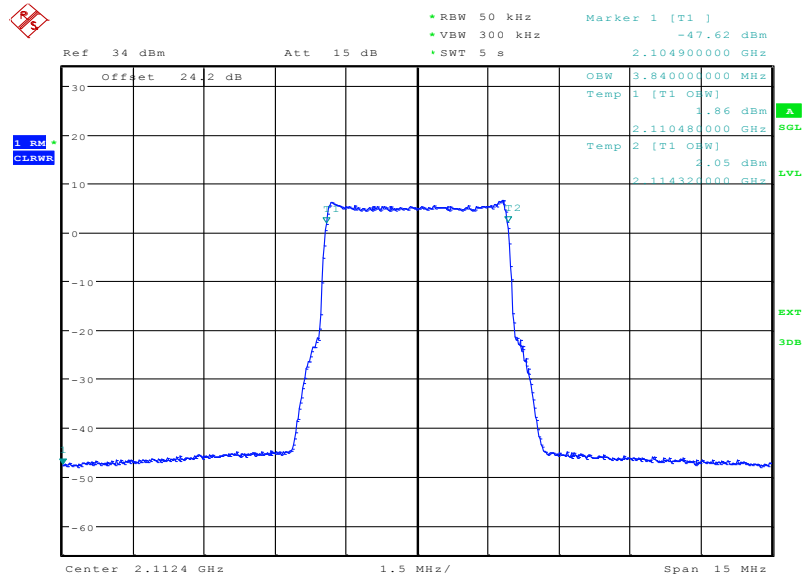
2.2.6 Test Results

Configuration A

Maximum Output Power 24 dBm

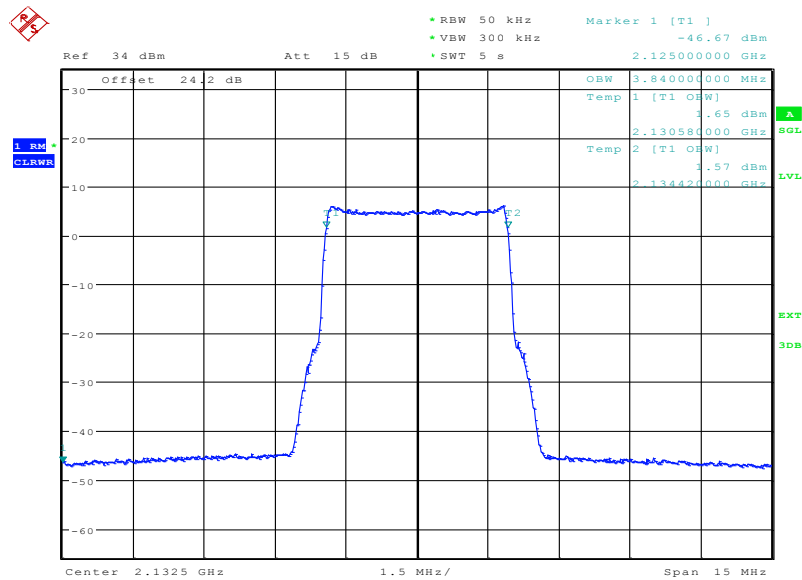
Modulation	Carrier Bandwidth	Result (MHz)					
		Channel Position B		Channel Position M		Channel Position T	
		Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth
QPSK	5.0 MHz	3.84	4.17	3.84	4.16	3.84	4.16

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B - Measurement 99 % BW



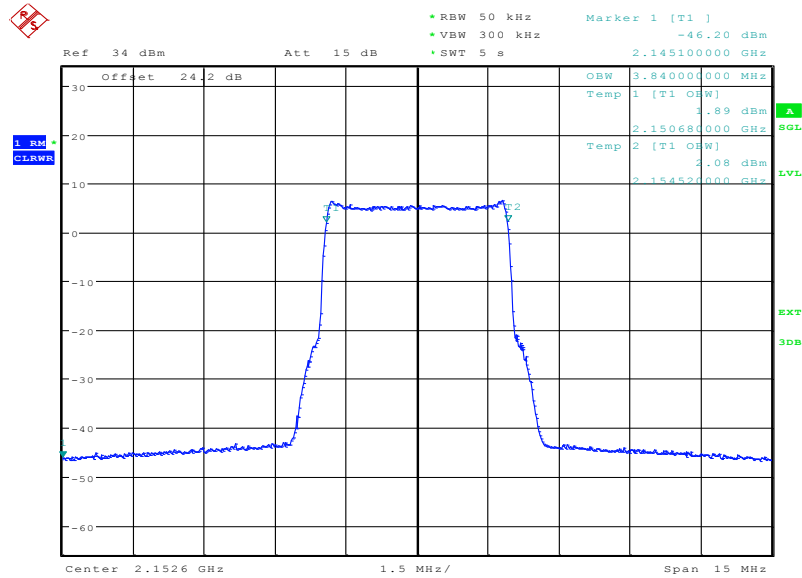
Date: 26.OCT.2015 13:27:35

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M -
Measurement 99 % BW



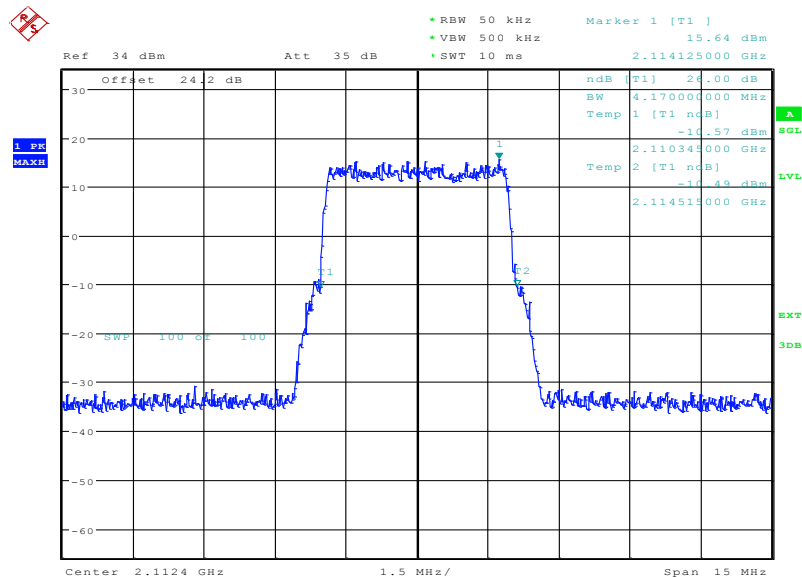
Date: 26.OCT.2015 13:28:34

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T -
Measurement 99 % BW



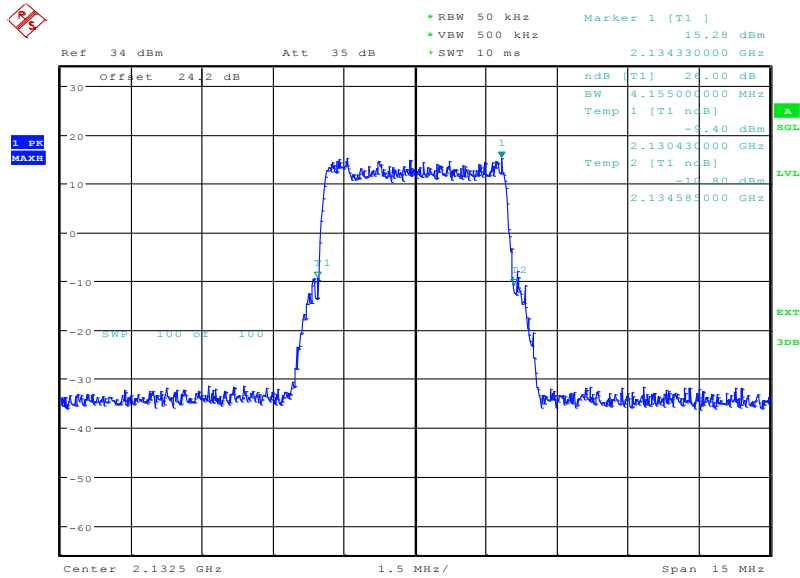
Date: 26.OCT.2015 13:29:36

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B -
Measurement -26 dB BW



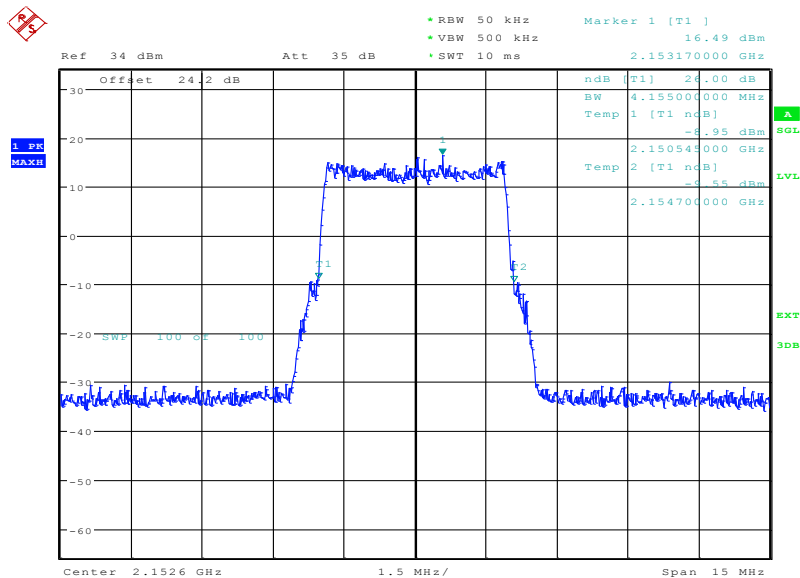
Date: 26.OCT.2015 13:27:51

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M - Measurement -26 dB BW



Date: 26.OCT.2015 13:28:52

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T - Measurement -26 dB BW



Date: 26.OCT.2015 13:29:54

2.3 BAND EDGE

2.3.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1051
FCC CFR 47 Part 27, Clause 27.53 (h)
Industry Canada RSS-139, Clause 6.5

2.3.2 Date of Test and Modification State

27 October 2015 - Modification State 0

2.3.3 Test Equipment Used

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

2.3.4 Environmental Conditions

Ambient Temperature 24.3°C
Relative Humidity 42.2%

2.3.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01.

Each antenna port has been declared as being equivalent, therefore measurements were made on one antenna port only. To account for this, the limit was tightened by $10 * \log(N)$, where N is equal to the number of MIMO antenna ports.

The limit was calculated as being $-13 \text{ dBm} - 10 * \log(2) = -16 \text{ dBm}$.

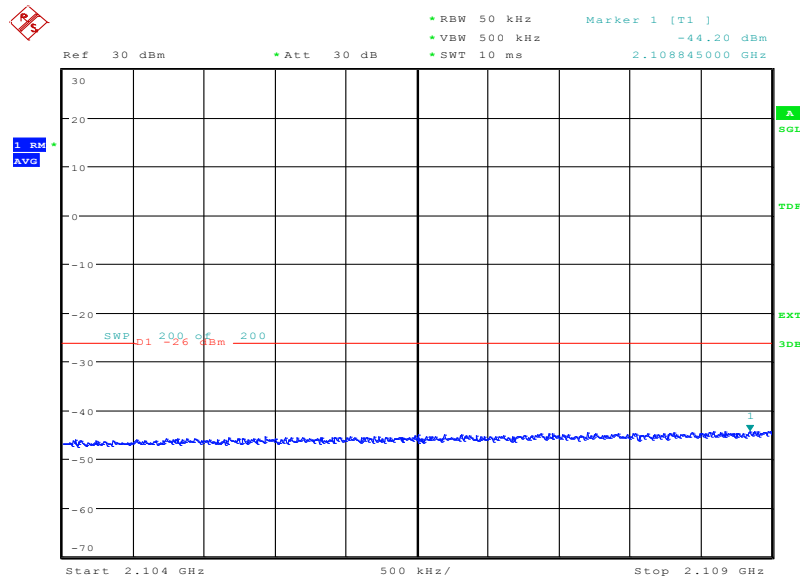
2.3.6 Test Results

Configuration A

Maximum Output Power 24 dBm

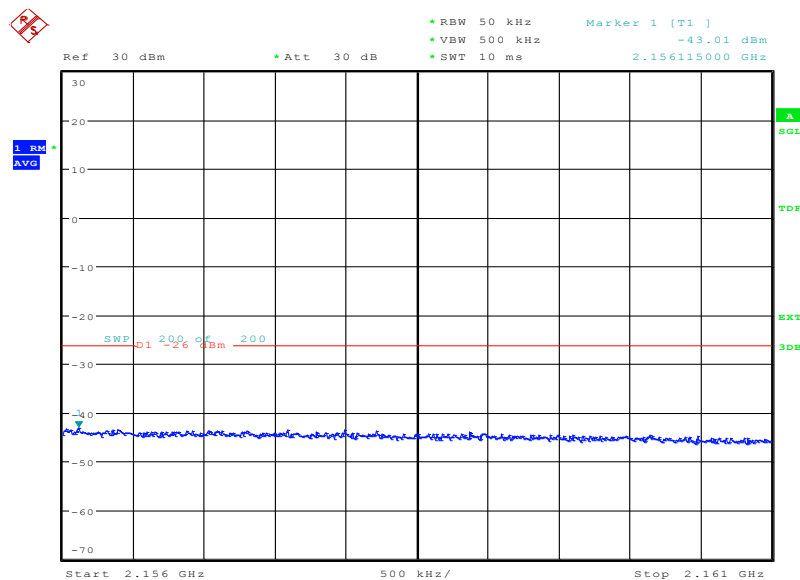
Modulation	Carrier Bandwidth	Band Edge (MHz)	
		Channel Position B	Channel Position T
QPSK	5.0 MHz	2,112.40	2,152.60

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B



Date: 26.OCT.2015 11:06:14

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T



Date: 26.OCT.2015 11:07:19

Limit	-13 dBm
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2.4 TRANSMITTER SPURIOUS EMISSIONS

2.4.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1051
FCC CFR 47 Part 27, Clause 27.53 (h)
Industry Canada RSS-139, Clause 6.5

2.4.2 Date of Test and Modification State

28 October 2015 - Modification State 0

2.4.3 Test Equipment Used

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

2.4.4 Environmental Conditions

Ambient Temperature	24.5°C
Relative Humidity	39.3%

2.4.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01.

Each antenna port has been declared as being equivalent, therefore measurements were made on one antenna port only. To account for this, the limit was tightened by $10 * \text{Log}(N)$, where N is equal to the number of MIMO antenna ports.

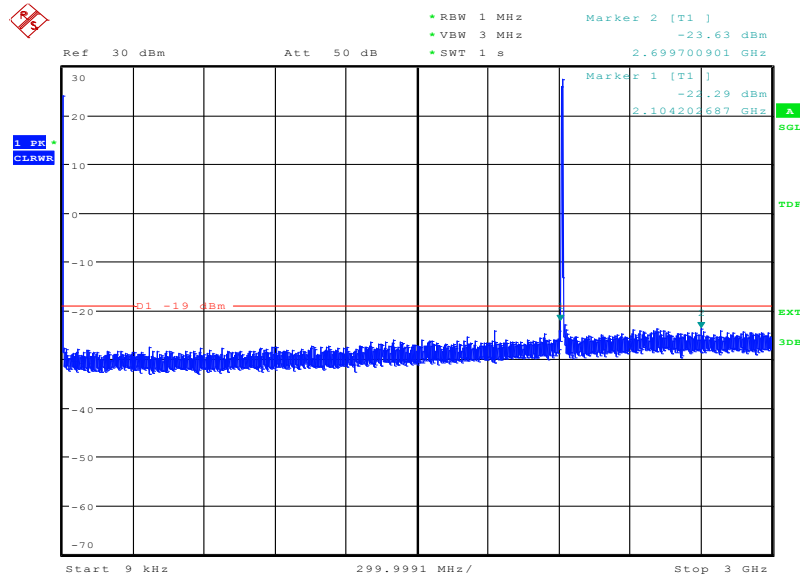
The limit was calculated as being $-13 \text{ dBm} - 10 * \text{Log}(2) = -16 \text{ dBm}$.

2.4.6 Test Results

Configuration A

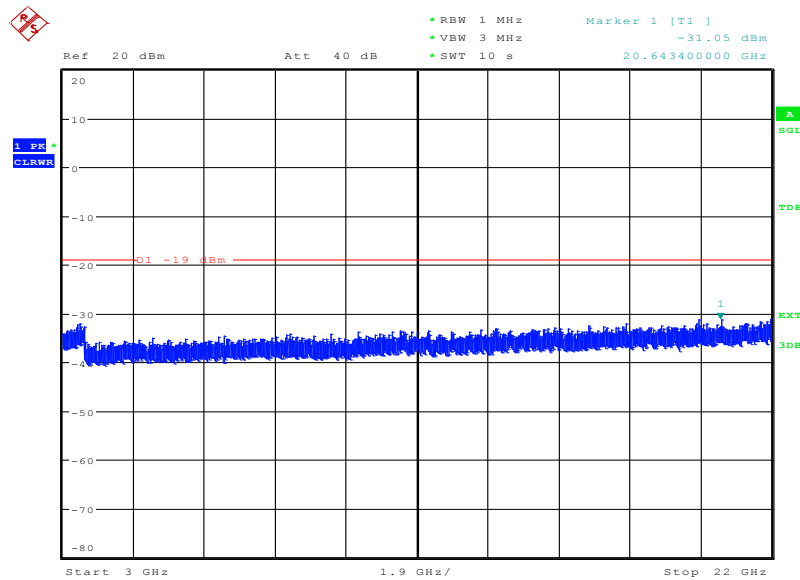
Maximum Output Power 24 dBm

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



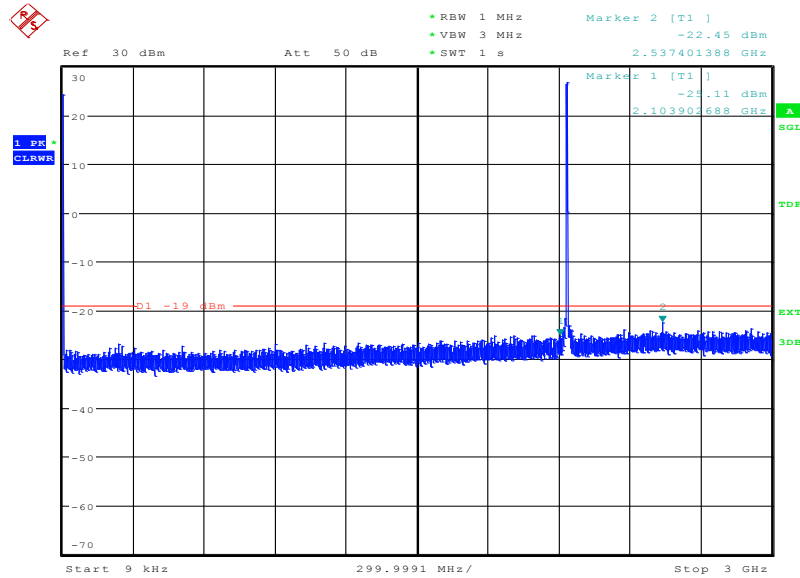
Date: 28.OCT.2015 10:22:21

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz



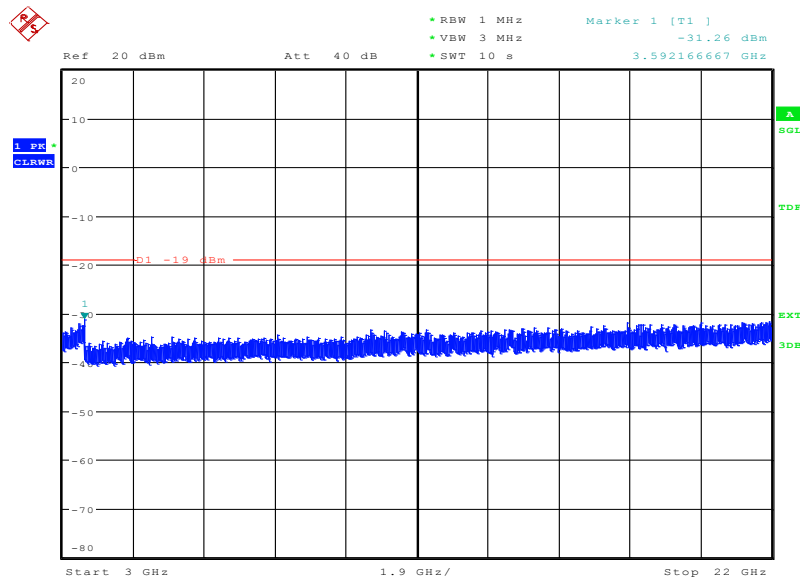
Date: 28.OCT.2015 10:23:29

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



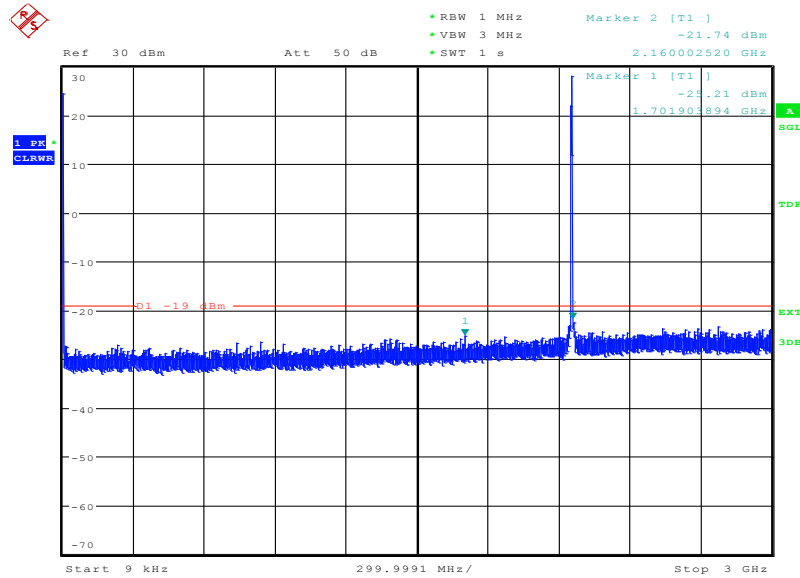
Date: 28.OCT.2015 10:25:16

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



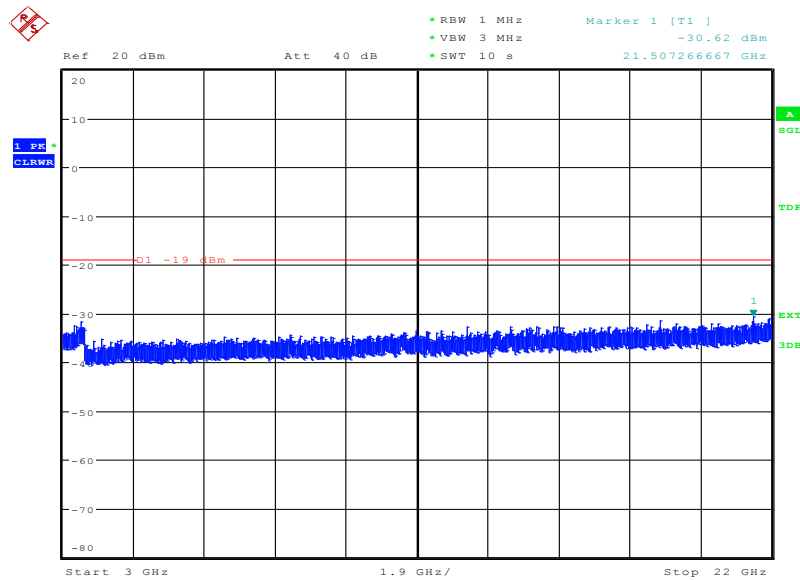
Date: 28.OCT.2015 10:26:23

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



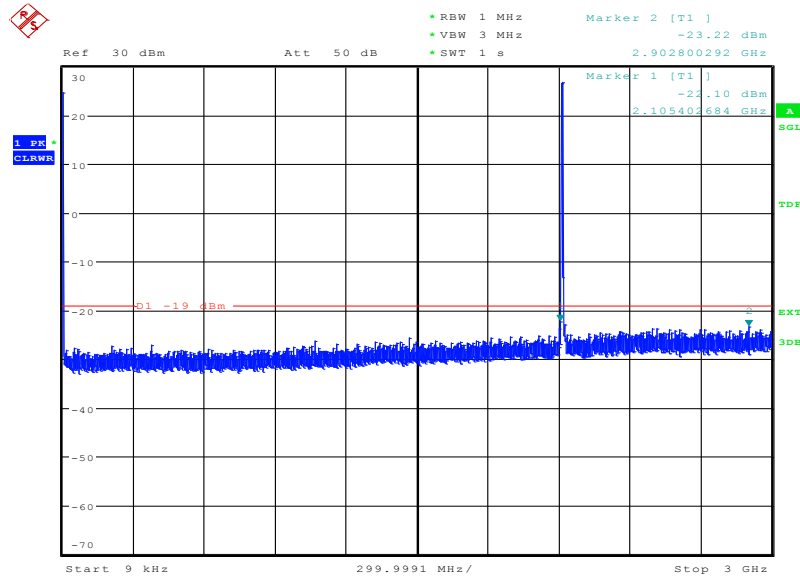
Date: 28.OCT.2015 10:28:10

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz



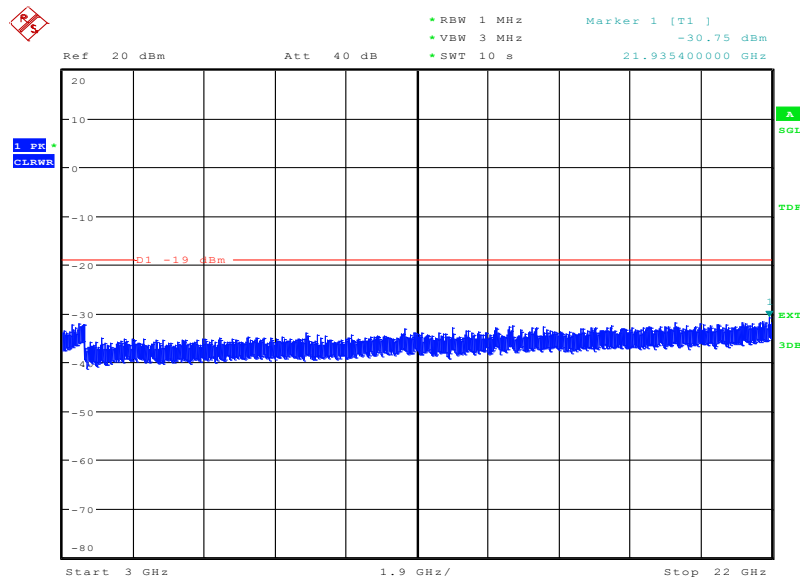
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Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



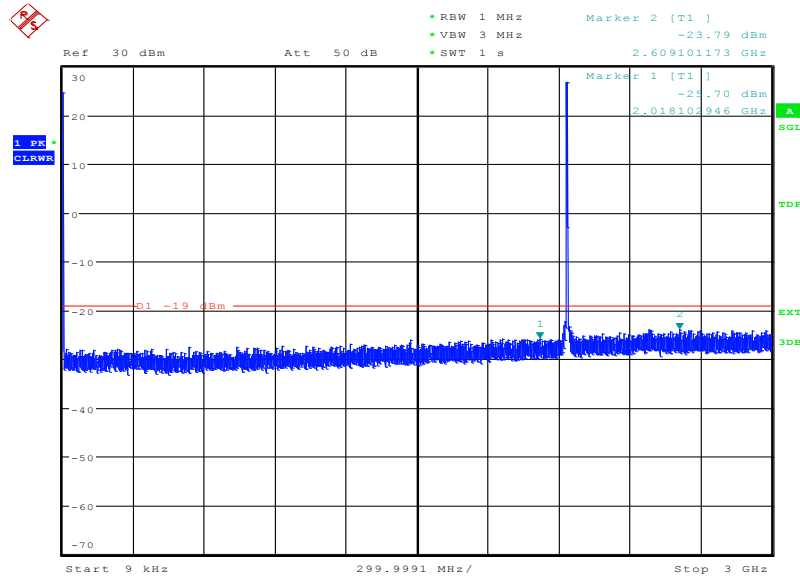
Date: 28.OCT.2015 10:42:20

Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz



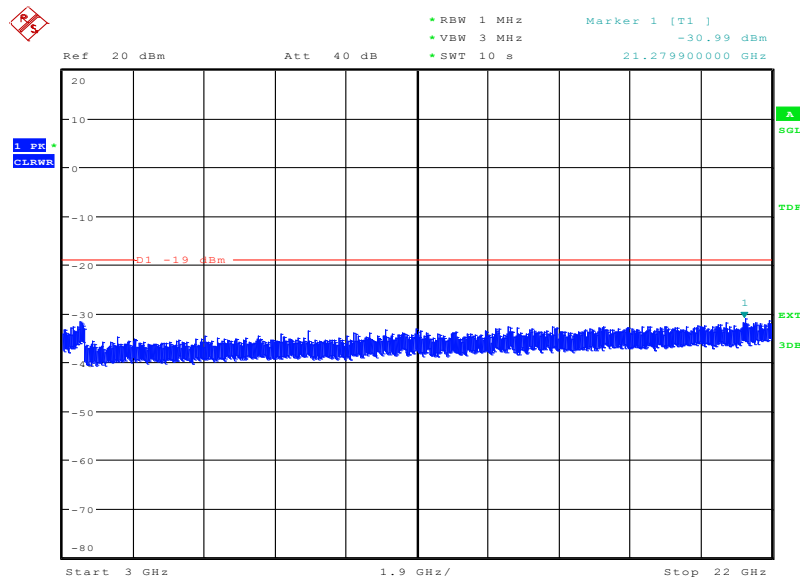
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Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



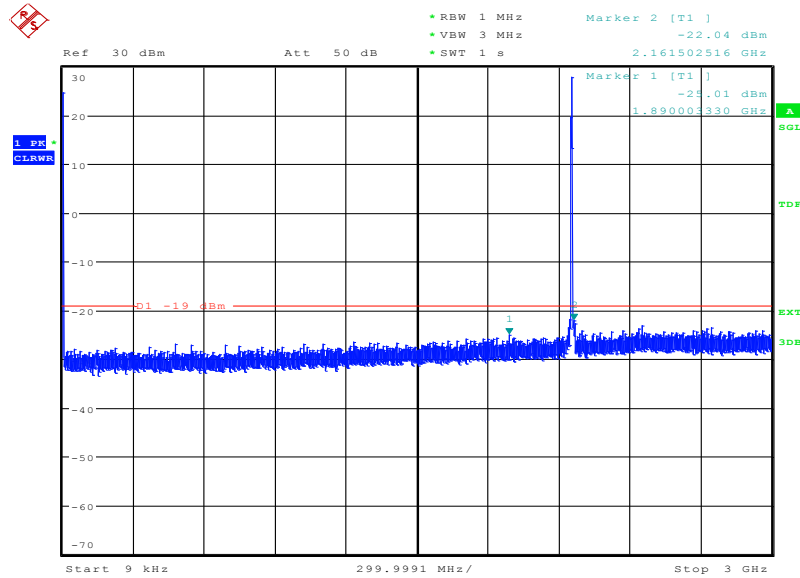
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Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



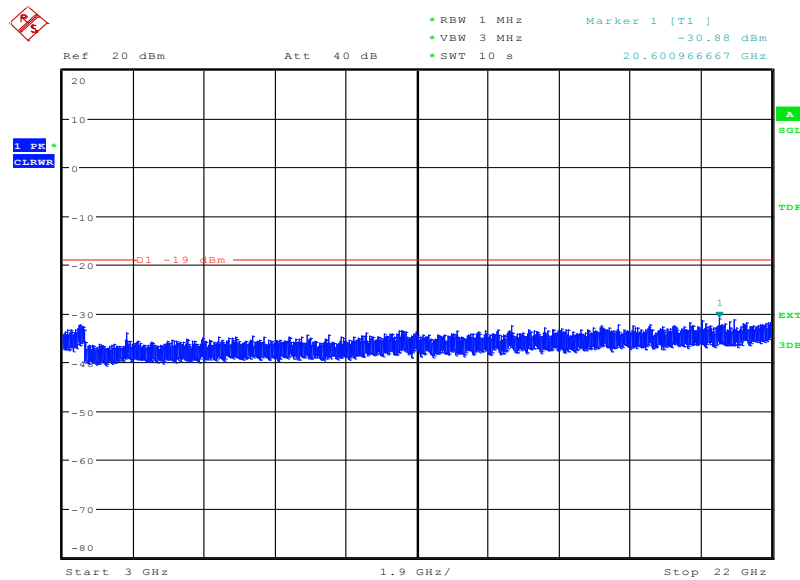
Date: 28.OCT.2015 10:46:22

Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



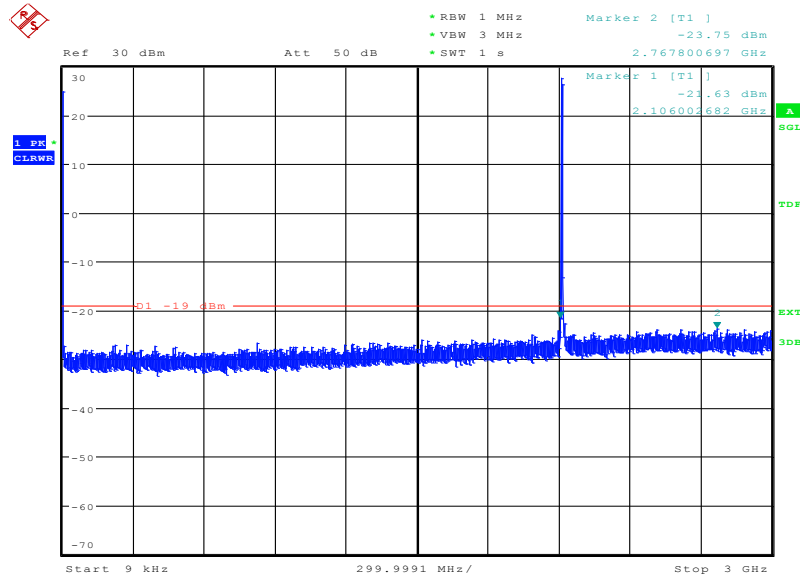
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Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz



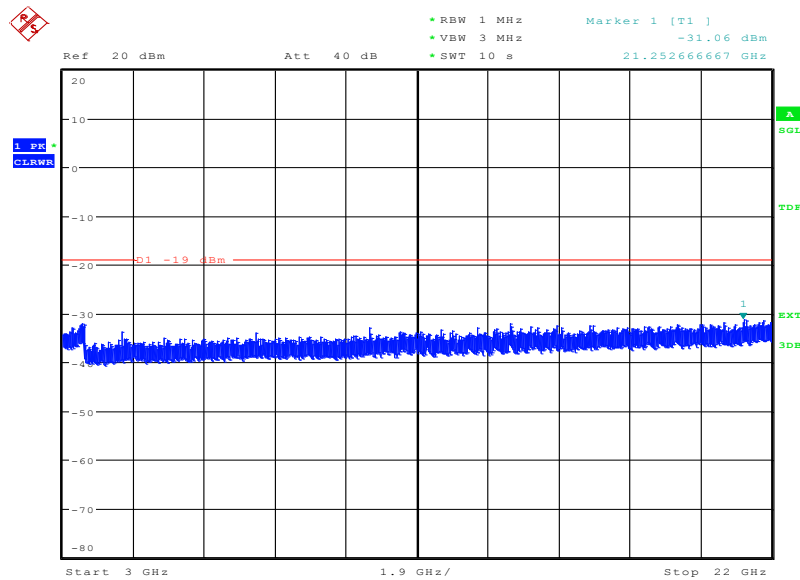
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Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



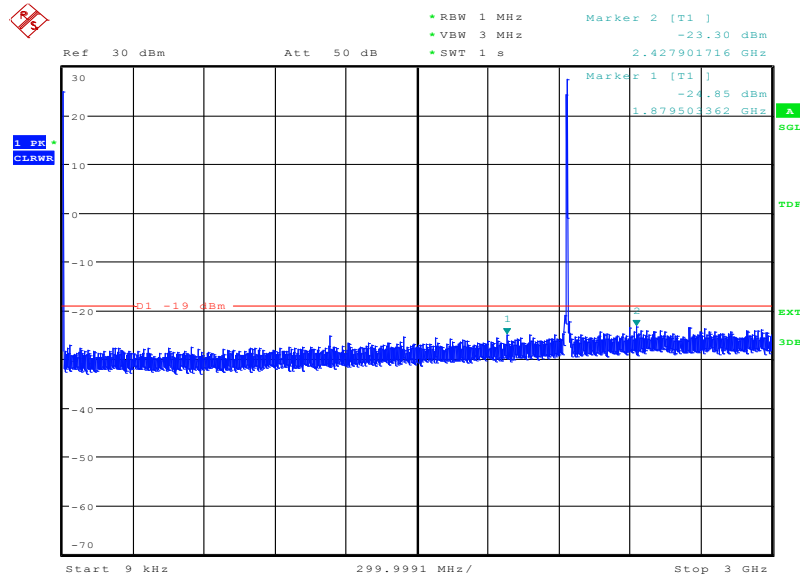
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Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz



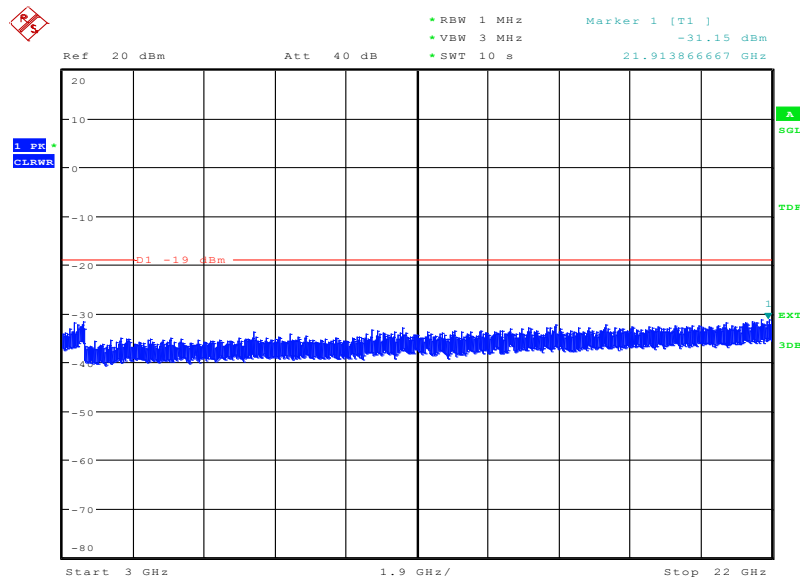
Date: 28.OCT.2015 11:03:40

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



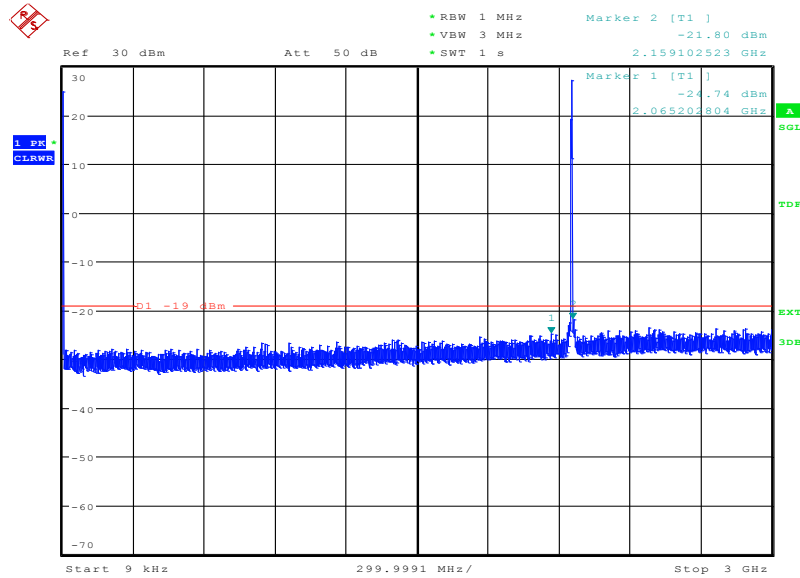
Date: 28.OCT.2015 11:05:27

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



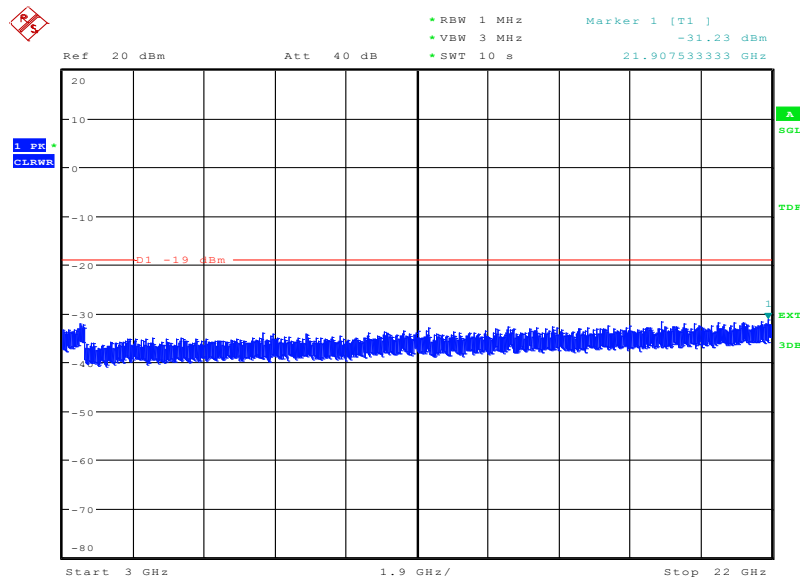
Date: 28.OCT.2015 11:06:34

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



Date: 28.OCT.2015 11:08:21

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz



Date: 28.OCT.2015 11:09:29

Limit	-13dBm
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2.5 FREQUENCY STABILITY

2.5.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1055
FCC CFR 47 Part 27, Clause 27.54
Industry Canada RSS-139, Clause 6.3

2.5.2 Date of Test and Modification State

26 and 28 October 2015 - Modification State 0

2.5.3 Test Equipment Used

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

2.5.4 Environmental Conditions

Ambient Temperature 24.2 - 24.5°C
Relative Humidity 39.3%

2.5.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01.

2.5.6 Test Results

Configuration A

Maximum Output Power 24 dBm

Temperature	Modulation	Frequency Stability (Hz)
		Channel Position M
-30°C	QPSK	-6.07
-20°C	QPSK	-3.37
-10°C	QPSK	7.06
0°C	QPSK	-8.22
+10°C	QPSK	-4.37
+20°C	QPSK	7.93
+30°C	QPSK	15.77
+40°C	QPSK	11.06
+50°C	QPSK	4.56

Configuration A

Maximum Output Power 24 dBm

Temperature	Modulation	Frequency Stability (Hz)
		Channel Position M
-30°C	16QAM	-15.15
-20°C	16QAM	6.01
-10°C	16QAM	-4.21
0°C	16QAM	-5.15
+10°C	16QAM	-4.76
+20°C	16QAM	-3.19
+30°C	16QAM	6.47
+40°C	16QAM	-3.96
+50°C	16QAM	-5.54

Configuration A

Maximum Output Power 24 dBm

Temperature	Modulation	Frequency Stability (Hz)
		Channel Position M
-30°C	64QAM	5.15
-20°C	64QAM	7.68
-10°C	64QAM	4.65
0°C	64QAM	-15.45
+10°C	64QAM	5.31
+20°C	64QAM	12.50
+30°C	64QAM	5.71
+40°C	64QAM	5.33
+50°C	64QAM	6.24

Configuration A

Maximum Output Power 24 dBm

Voltage	Modulation	Frequency Stability (Hz)
		Channel Position M
-40.8 V	QPSK	-3.70
-48.0 V	QPSK	-4.00
-55.2 V	QPSK	9.13

Configuration A

Maximum Output Power 24 dBm

Voltage	Modulation	Frequency Stability (Hz)
		Channel Position M
-40.8 V	16QAM	7.39
-48.0 V	16QAM	5.43
-55.2 V	16QAM	-3.86

Configuration A

Maximum Output Power 24 dBm

Voltage	Modulation	Frequency Stability (Hz)
		Channel Position M
-40.8 V	64QAM	-5.95
-48.0 V	64QAM	6.22
-55.2 V	64QAM	-5.65

Limit	± 1.5 ppm or ± 1.322 kHz
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Product Service

SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Maximum Peak Output Power and Peak to Average Ratio - Conducted					
Hygromer	Rotronic	A1	4410	12	15-Apr-2016
Digital Multimeter	Fluke	79 Series II	0466	12	11-Sep-2016
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSQ	101154	12	28-Oct-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-16
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	NA
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	16-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571		NA
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539		NA
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetrcom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	NA
3 dB attenuator	Wiltron	43KC-3	N/S	-	NA
RF cable	R&S	ZV-Z193	100062	-	NA
RF cable	R&S	ZV-Z194	100073	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	NA
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	NA
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		NA
N female to SMA male adapter	-	-	-		NA
Occupied Bandwidth					
Hygromer	Rotronic	A1	4410	12	15-Apr-2016
Digital Multimeter	Fluke	79 Series II	0466	12	11-Sep-2016
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSQ	101154	12	28-Oct-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-16
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	NA
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	16-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571		NA
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539		NA
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetrcom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	NA
3 dB attenuator	Wiltron	43KC-3	N/S	-	NA
RF cable	R&S	ZV-Z193	100062	-	NA
RF cable	R&S	ZV-Z194	100073	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	NA

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	NA
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	NA
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		NA
N female to SMA male adapter	-	-	-		NA
Band Edge					
Hygromer	Rotronic	A1	4410	12	15-Apr-2016
Digital Multimeter	Fluke	79 Series II	0466	12	11-Sep-2016
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSQ	101154	12	28-Oct-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-16
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	NA
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	16-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571		NA
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539		NA
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetrcom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	NA
3 dB attenuator	Wiltron	43KC-3	N/S	-	NA
RF cable	R&S	ZV-Z193	100062	-	NA
RF cable	R&S	ZV-Z194	100073	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	NA
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	NA
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		NA
N female to SMA male adapter	-	-	-		NA
Transmitter Spurious Emissions					
Hygromer	Rotronic	A1	4410	12	15-Apr-2016
Digital Multimeter	Fluke	79 Series II	0466	12	11-Sep-2016
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSQ	101154	12	28-Oct-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-16
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	NA
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	16-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571		NA
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539		NA
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetrcom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	NA
3 dB attenuator	Wiltron	43KC-3	N/S	-	NA

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
RF cable	R&S	ZV-Z193	100062	-	NA
RF cable	R&S	ZV-Z194	100073	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	NA
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	NA
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		NA
N female to SMA male adapter	-	-	-		NA
Frequency Stability					
Hygrometer	Rotronic	A1	4410	12	15-Apr-2016
Digital Multimeter	Fluke	79 Series II	0466	12	11-Sep-2016
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSQ	101154	12	28-Oct-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-16
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	NA
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	16-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571		NA
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539		NA
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricon	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	NA
3 dB attenuator	Wiltron	43KC-3	N/S	-	NA
RF cable	R&S	ZV-Z193	100062	-	NA
RF cable	R&S	ZV-Z194	100073	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	NA
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	NA
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	NA
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		NA
N female to SMA male adapter	-	-	-		NA

N/A – Not Applicable

OP MON – Output Monitored with Calibrated Equipment

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU
Conducted Maximum Peak Output Power	30 MHz to 20 GHz Amplitude	± 0.1 dB
Conducted Emissions	30 MHz to 20 GHz Amplitude	± 2.3 dB
Frequency Stability	30 MHz to 2 GHz	± 5.0 Hz
Occupied Bandwidth	Up to 20 MHz Bandwidth	± 1.1 Hz
Band Edge	30 MHz to 20 GHz Amplitude	± 2.3 dB



Product Service

SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).

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Product Service

ANNEX A

MODULE LIST



Product Service

Configuration A			
Product	Product No	R-State	Serial No
RBS 6402	KRD 901060/1X	R3A	C829930752
Software Version:	wcdma_daily_build_rnd R1BE08	Revision:	R1BE08