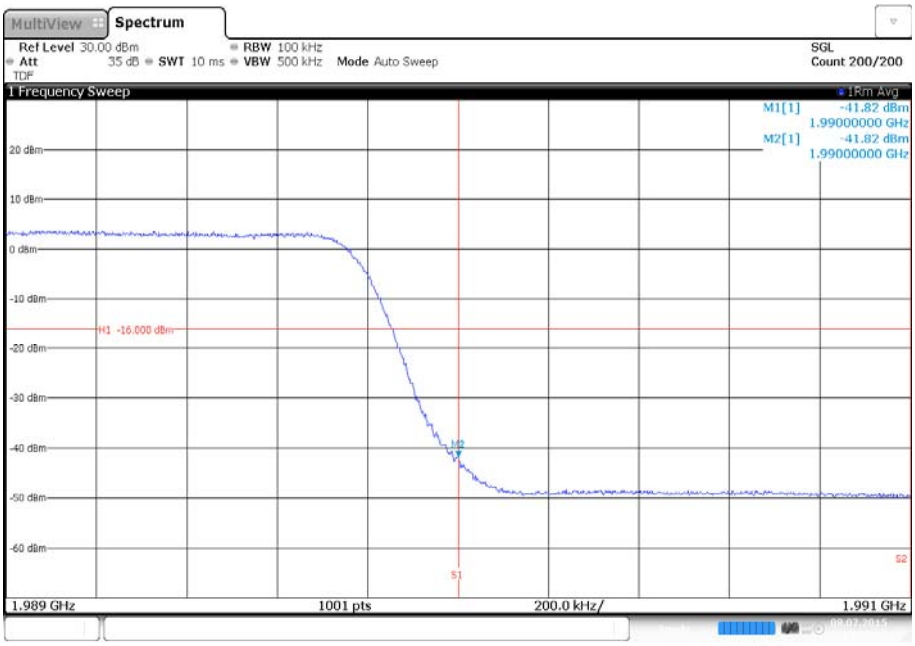
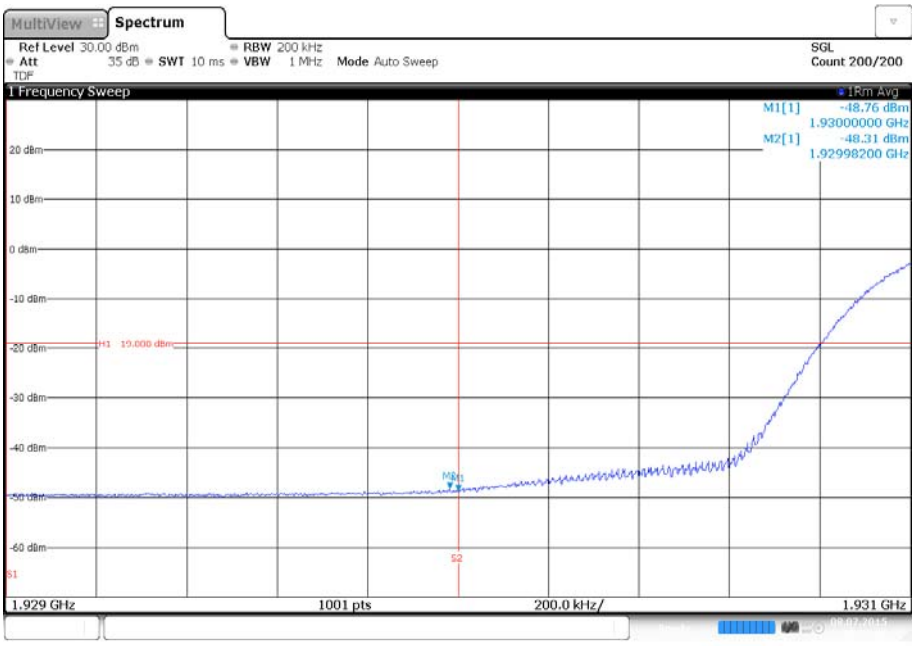
Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position T



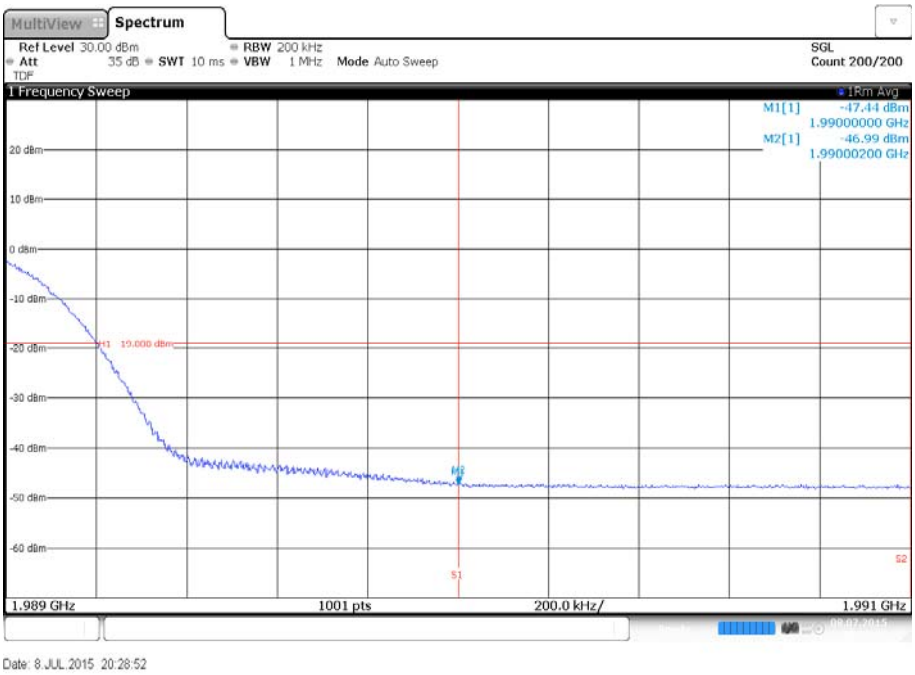
Date: 8.JUL.2015 15:50:03

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position B



Date: 8.JUL.2015 20:27:44

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position T



2.4 TRANSMITTER SPURIOUS EMISSIONS

2.4.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1051
FCC CFR 47 Part 24, Clause 24.238(a)
Industry Canada RSS-133, Clause 6.5

2.4.2 Date of Test and Modification State

26 June and 09 July 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	22.6 - 24°C
Relative Humidity	42.3 - 44.9%

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 * Log(N), where N is equal to the number of MIMO antenna ports.

For single carrier, the limit was calculated as being -13 dBm - 10 * Log (4) = -19 dBm.

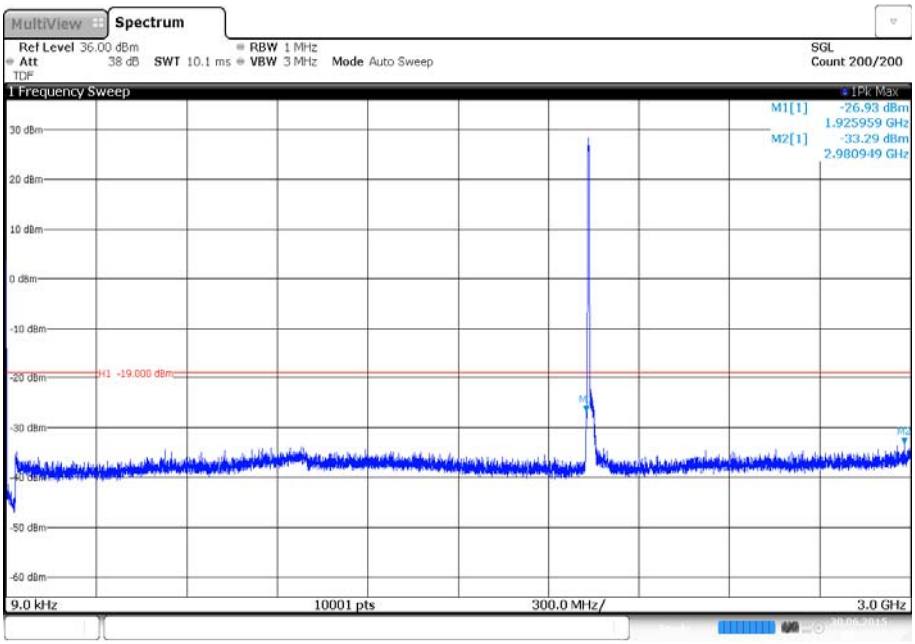
For dual carrier, the limit was calculated as being -13 dBm - 10 * Log (2) = -16 dBm.

2.4.6 Test Results

Configuration A

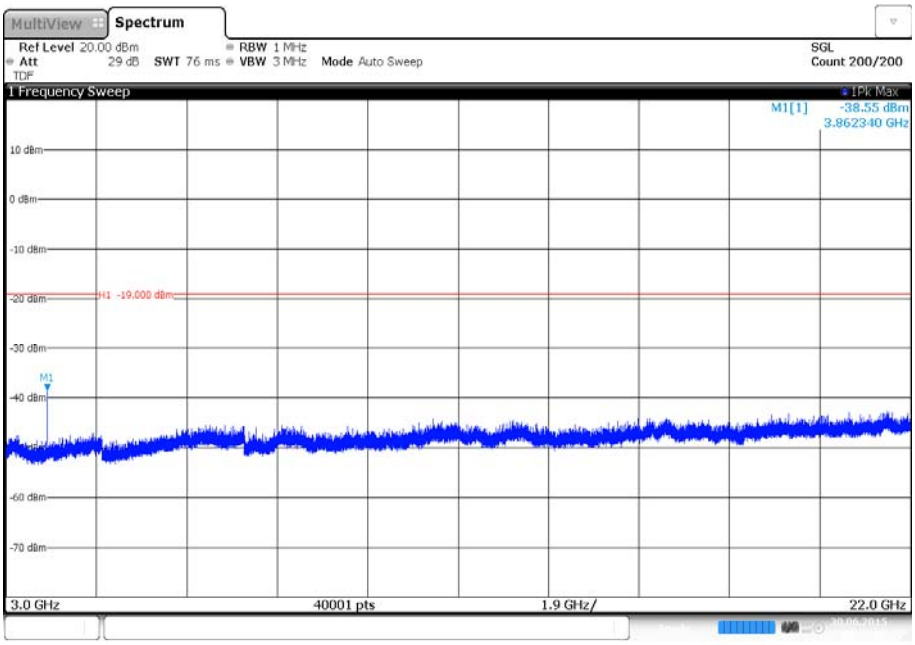
Maximum Output Power 24 dBm

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



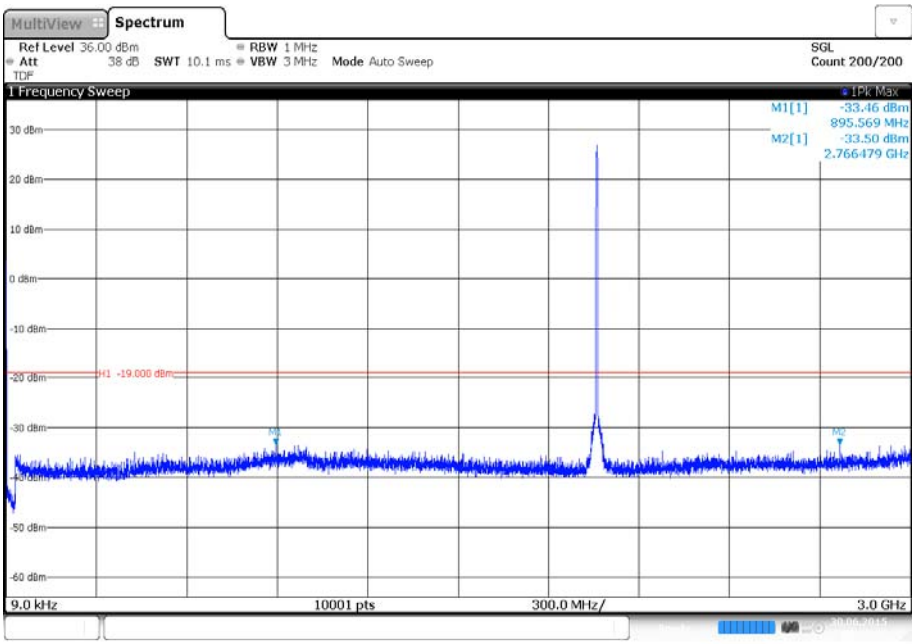
Date: 30.JUN.2015 08:15:35

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

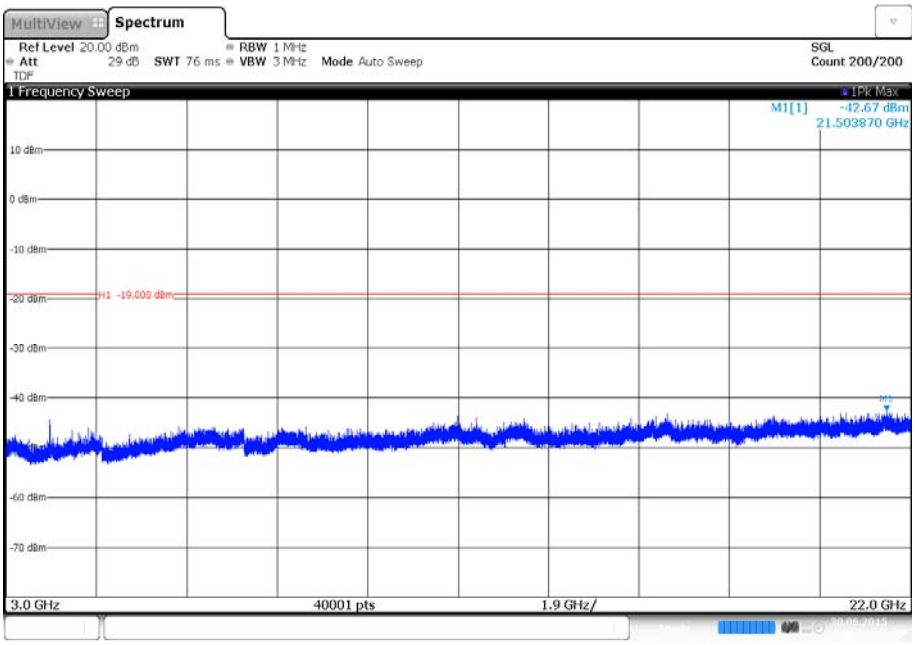


Date: 30.JUN.2015 08:17:00

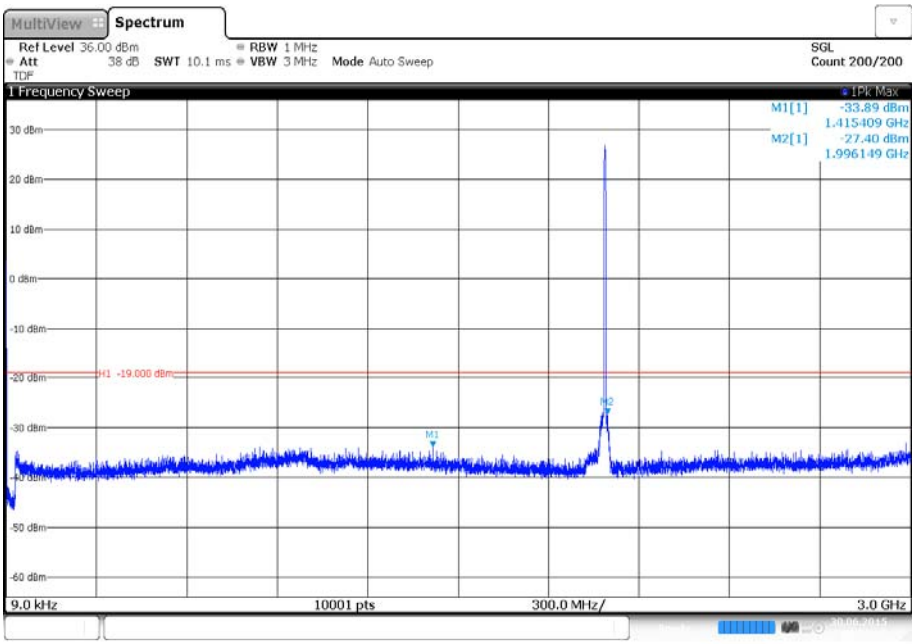
Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



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

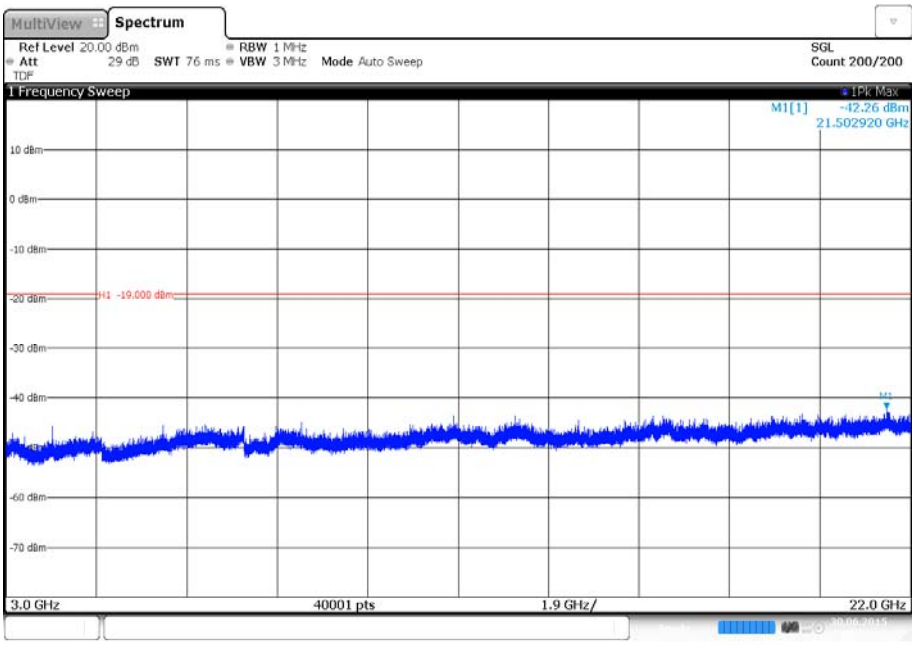


Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



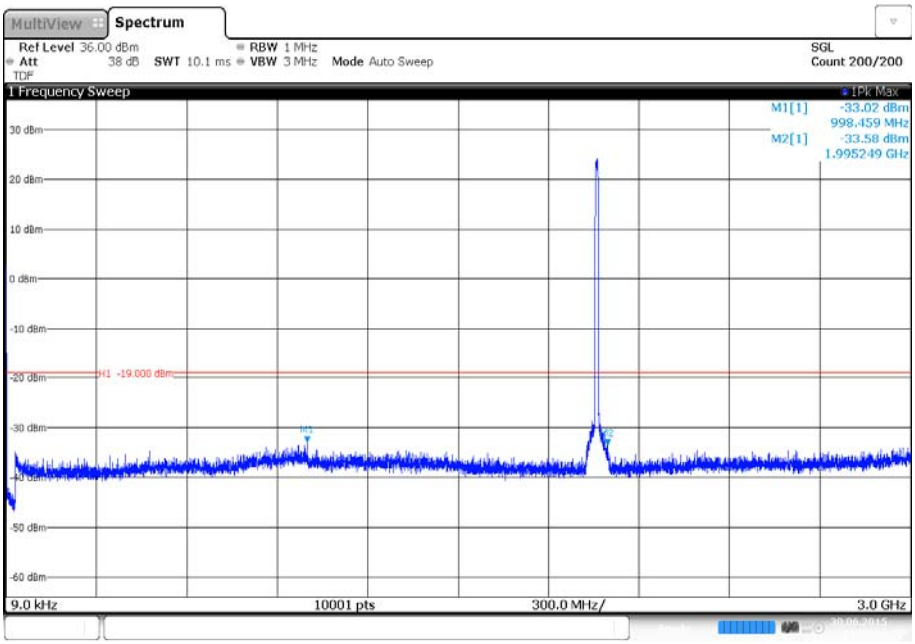
Date: 30.JUN.2015 08:22:11

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



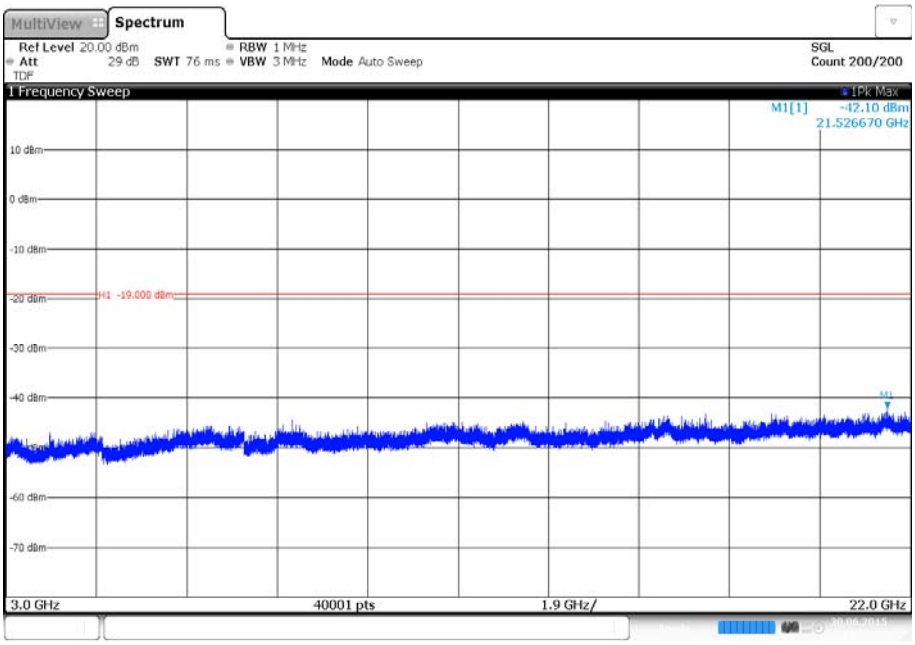
Date: 30.JUN.2015 08:23:36

Antenna A - Modulation QPSK - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



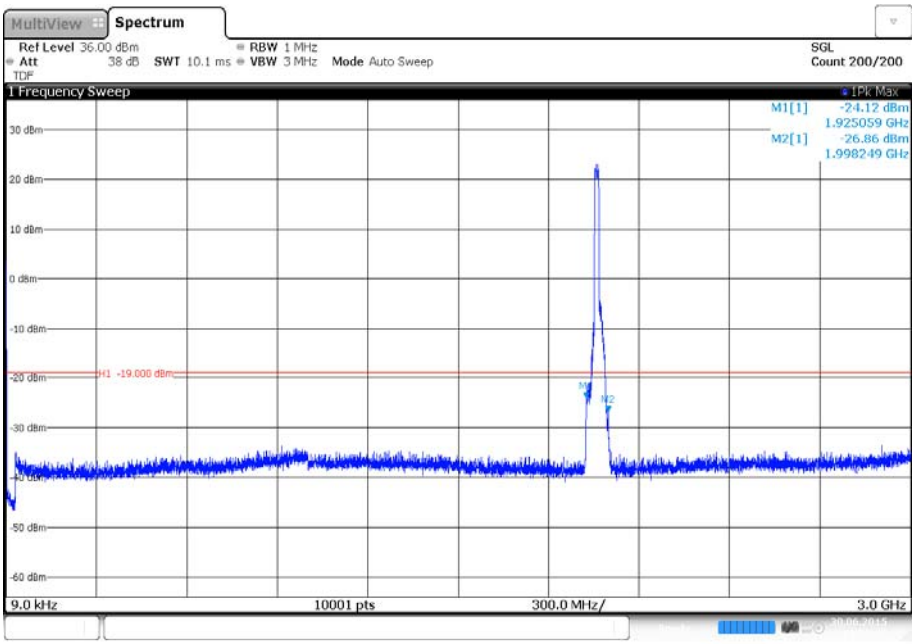
Date: 30.JUN.2015 10:30:34

Antenna A - Modulation QPSK - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



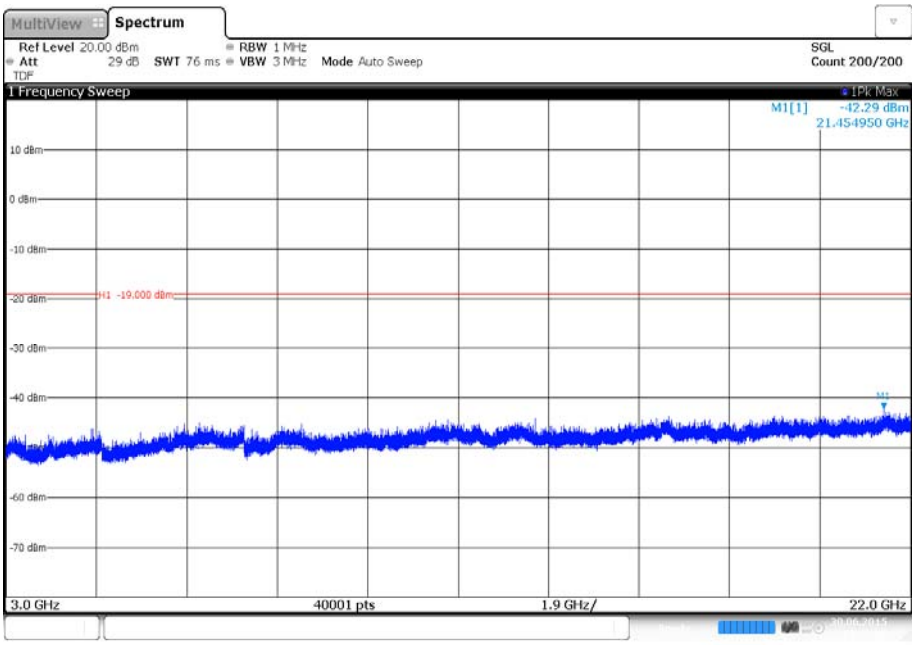
Date: 30.JUN.2015 10:31:59

Antenna A - Modulation QPSK - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



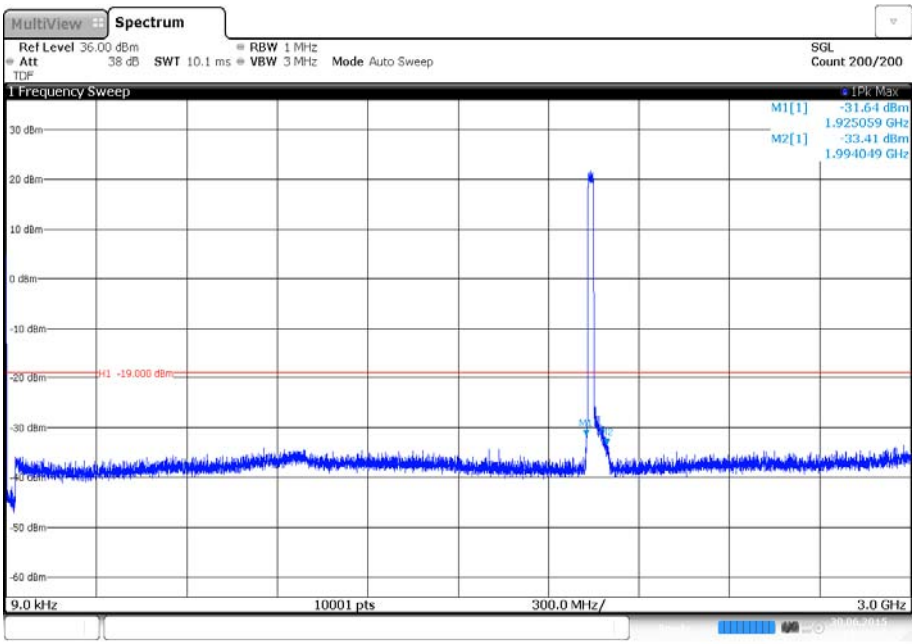
Date: 30.JUN.2015 12:39:43

Antenna A - Modulation QPSK - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



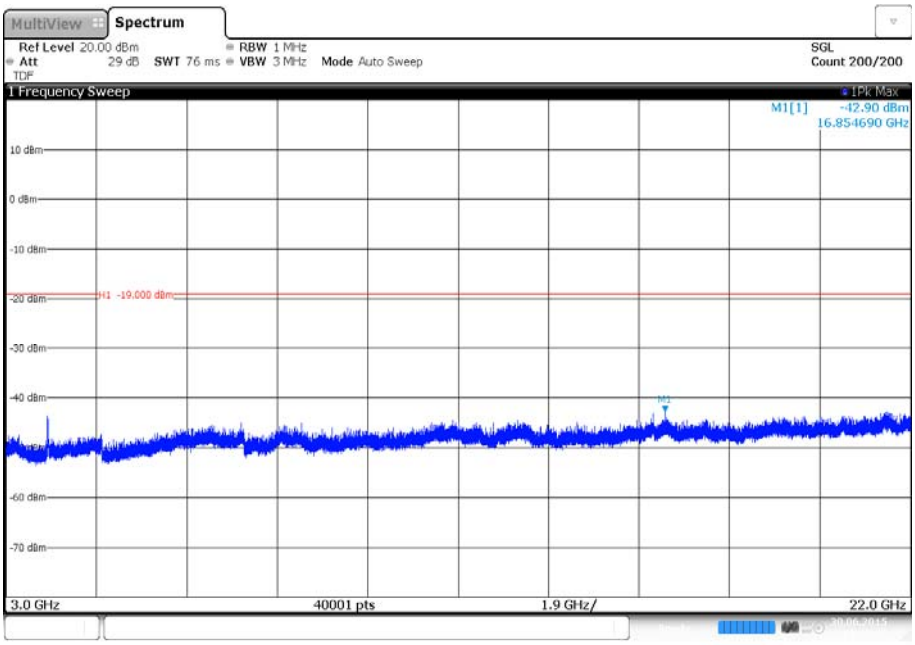
Date: 30.JUN.2015 12:41:08

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



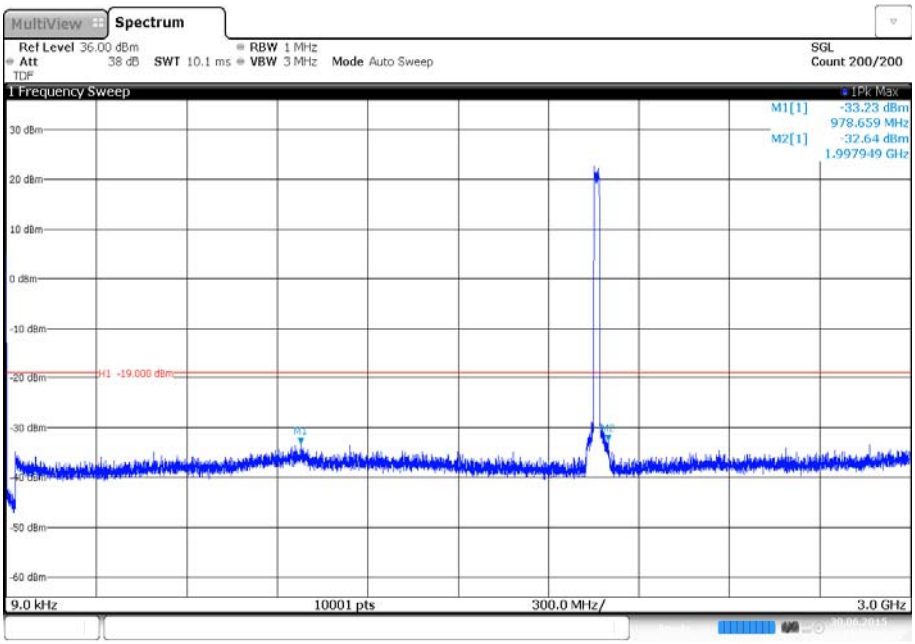
Date: 30.JUN.2015 14:48:14

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz

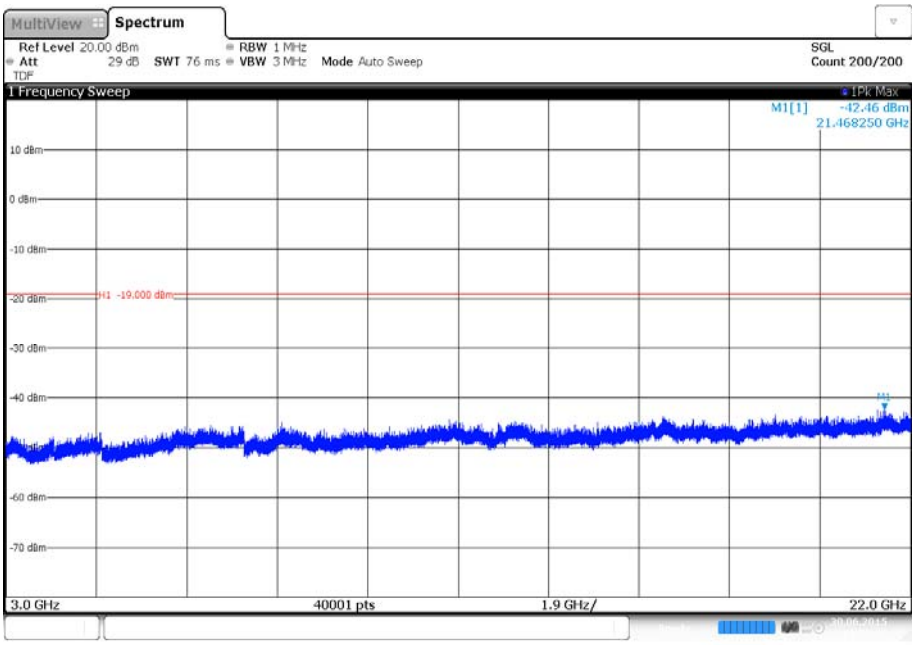


Date: 30.JUN.2015 14:49:40

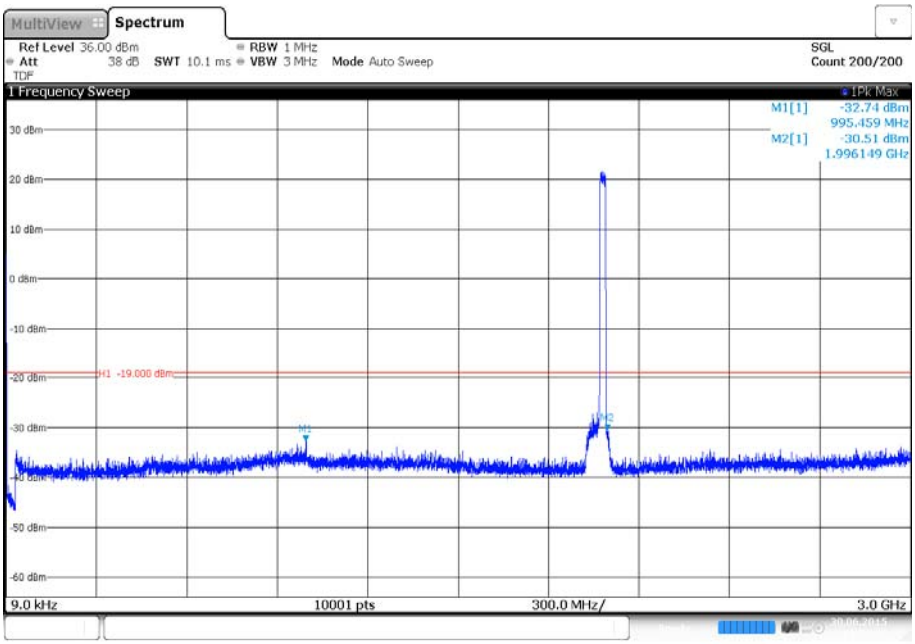
Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



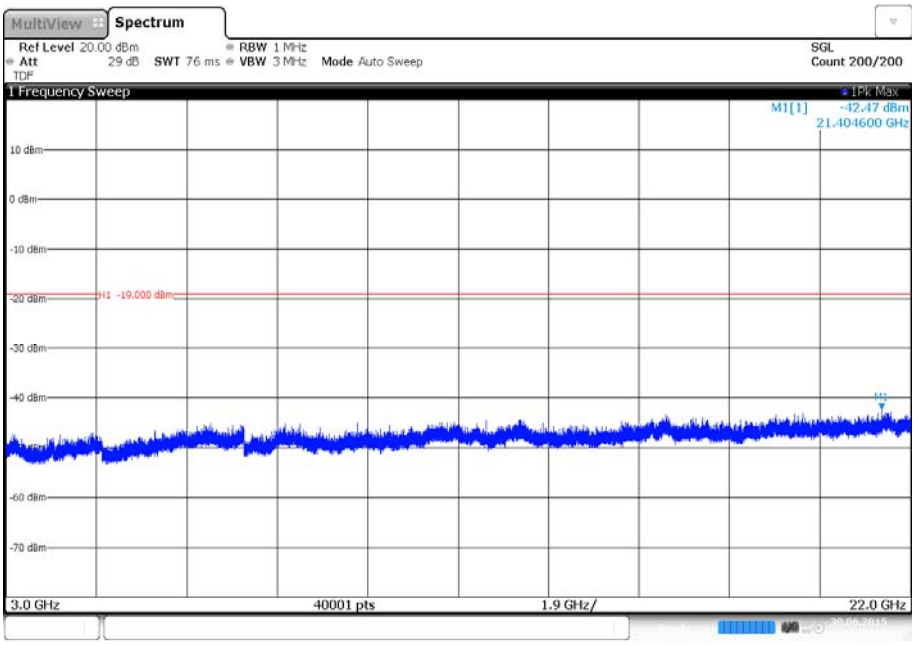
Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



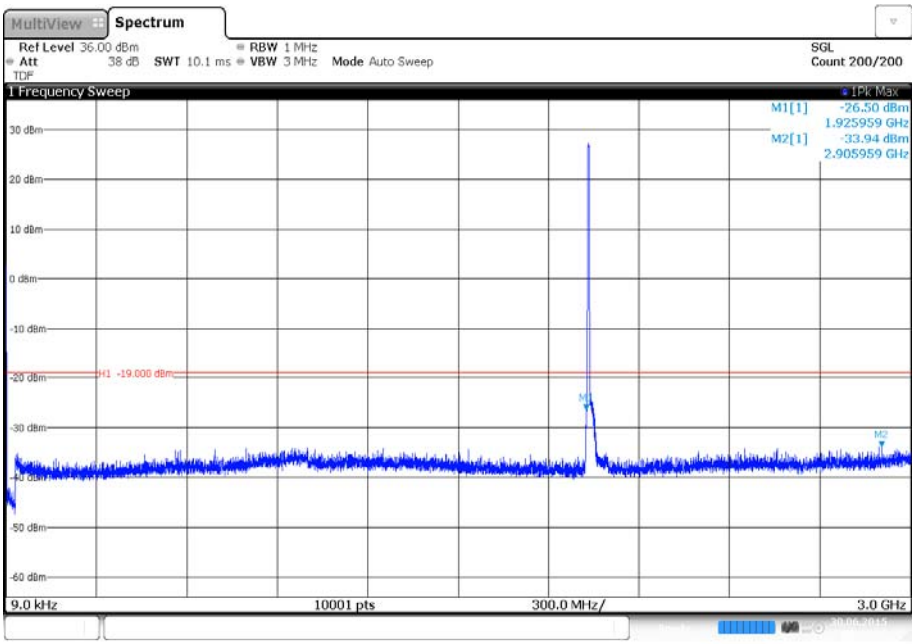
Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz

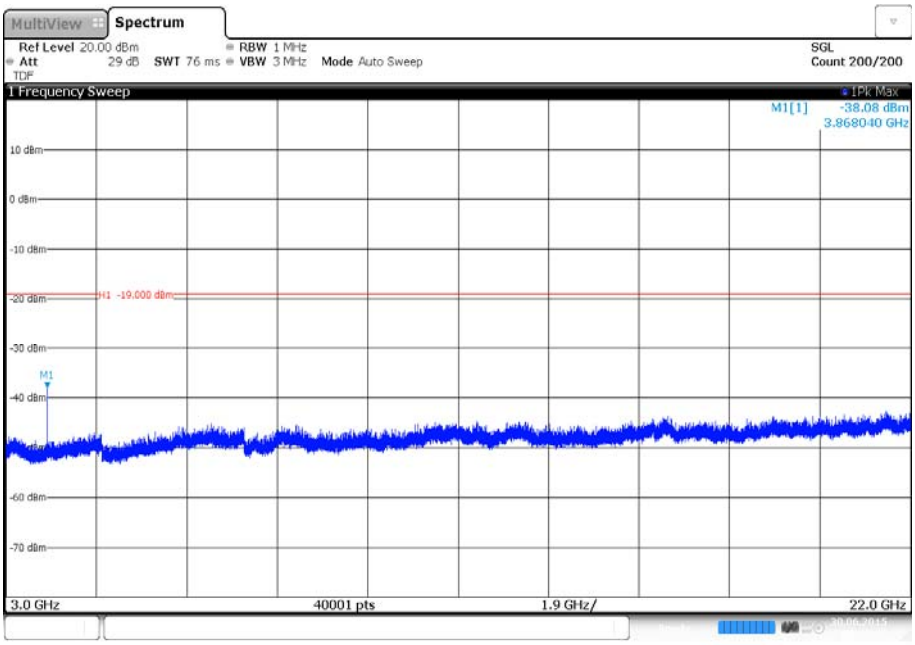


Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



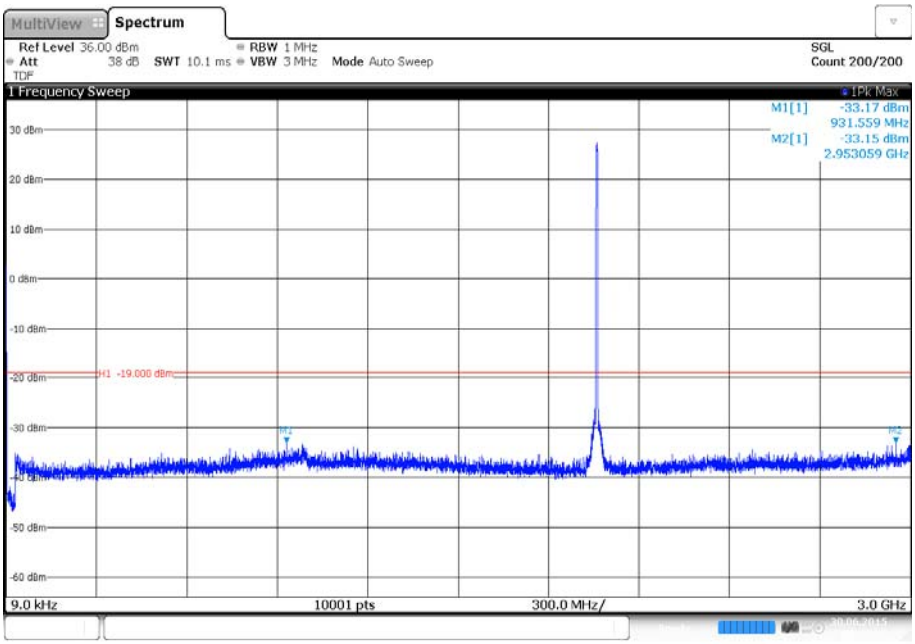
Date: 30.JUN.2015 09:44:16

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



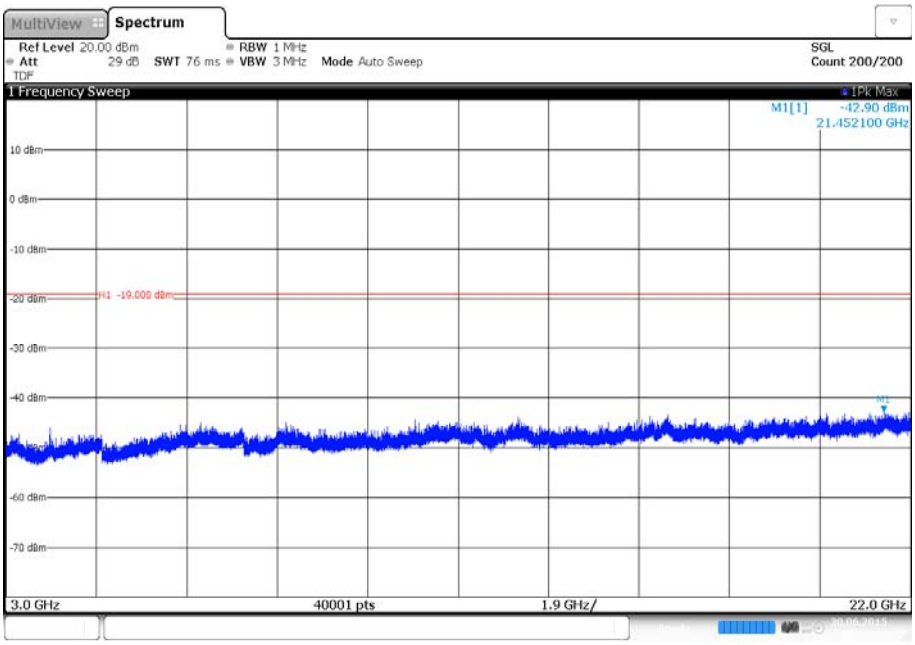
Date: 30.JUN.2015 09:45:41

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



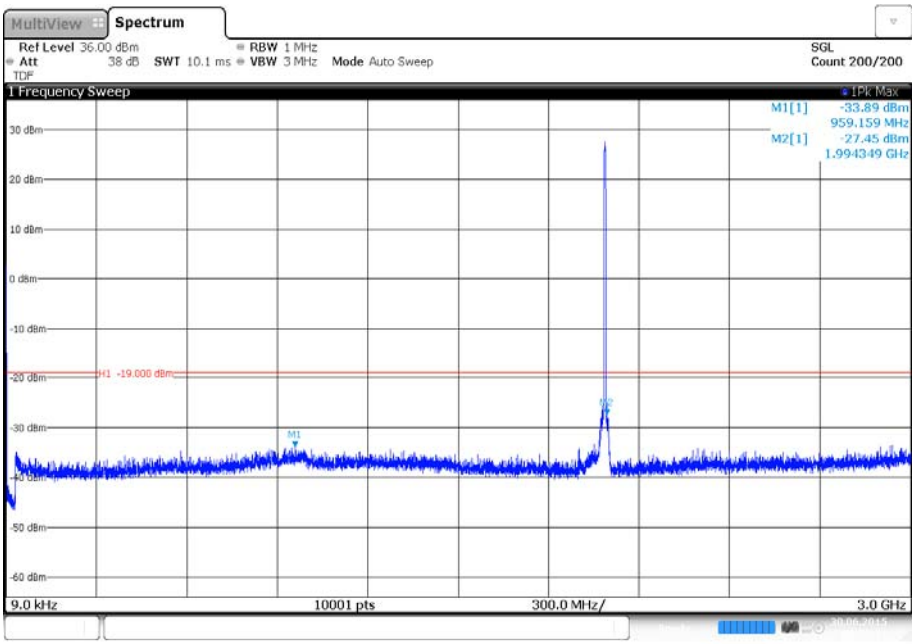
Date: 30.JUN.2015 09:47:34

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

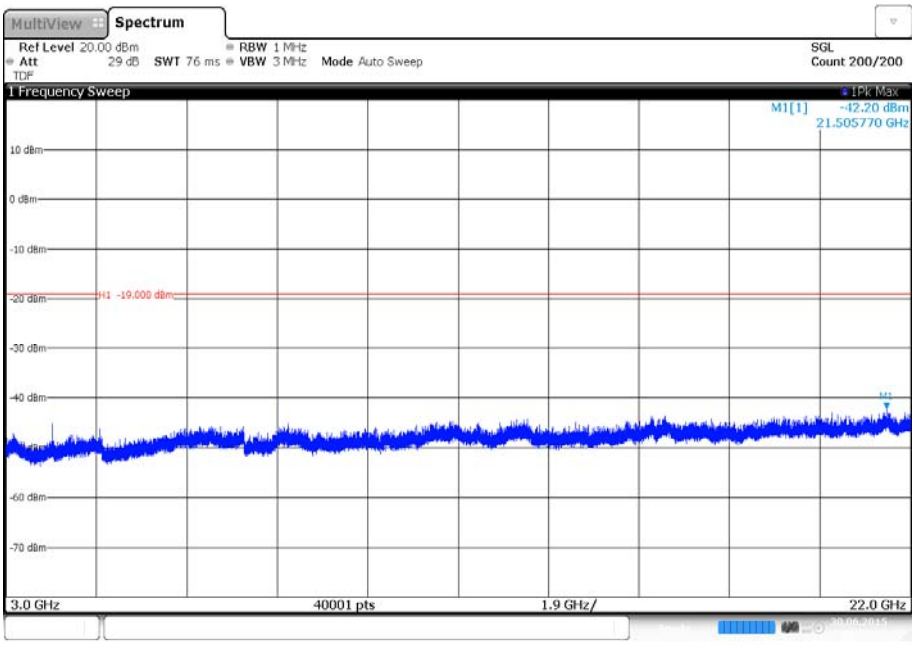


Date: 30.JUN.2015 09:48:59

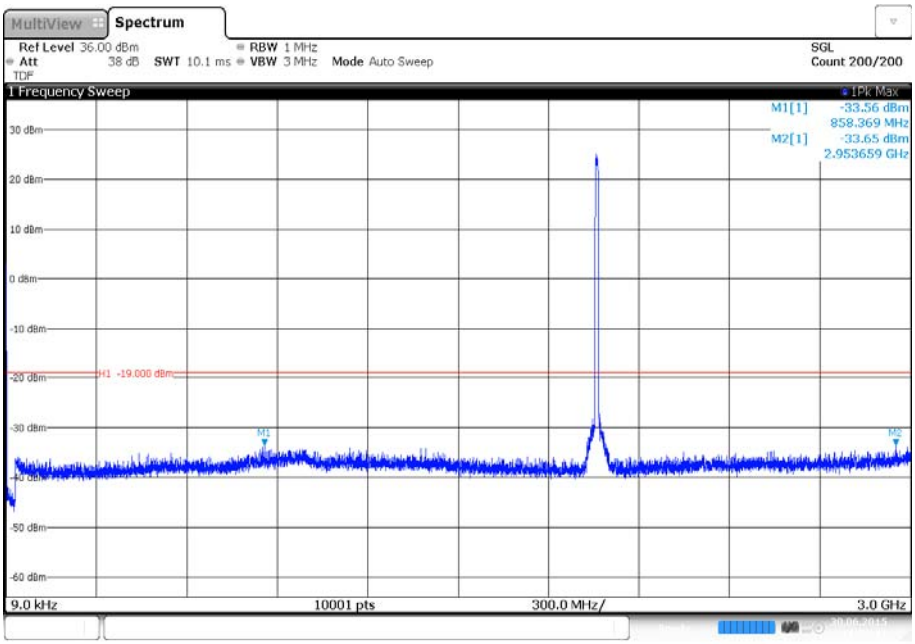
Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



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

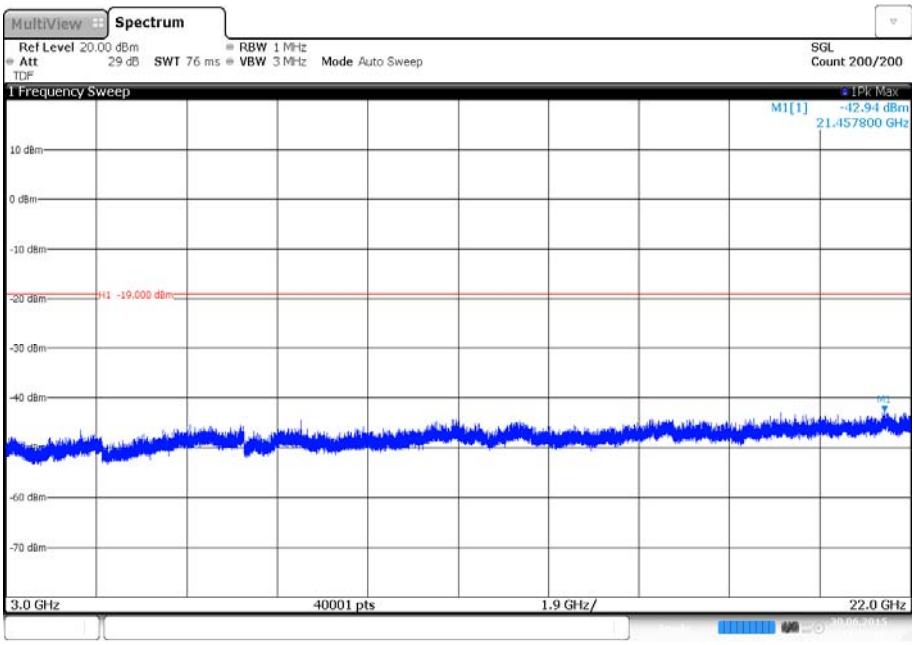


Antenna A - Modulation 16QAM - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



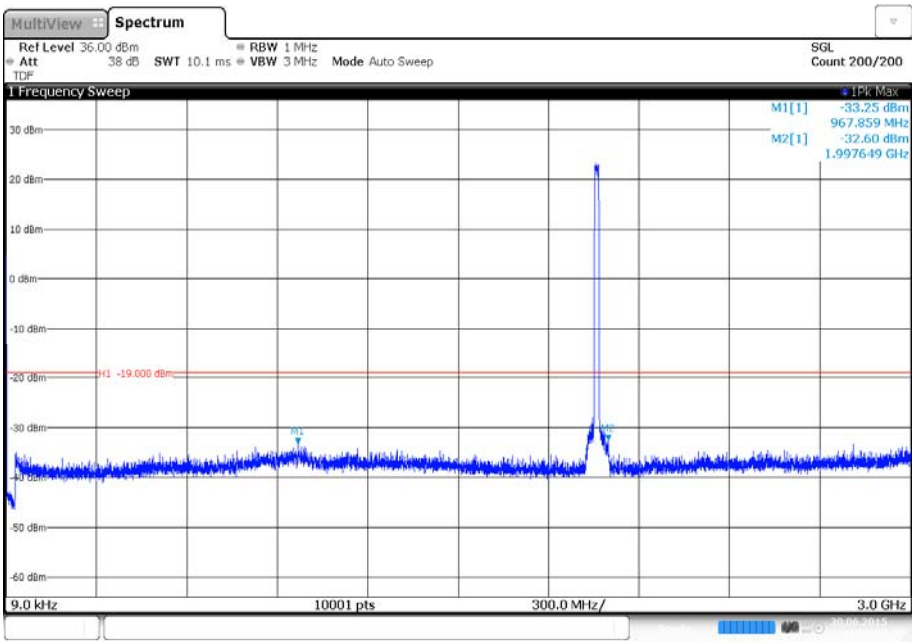
Date: 30.JUN.2015 11:56:41

Antenna A - Modulation 16QAM - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



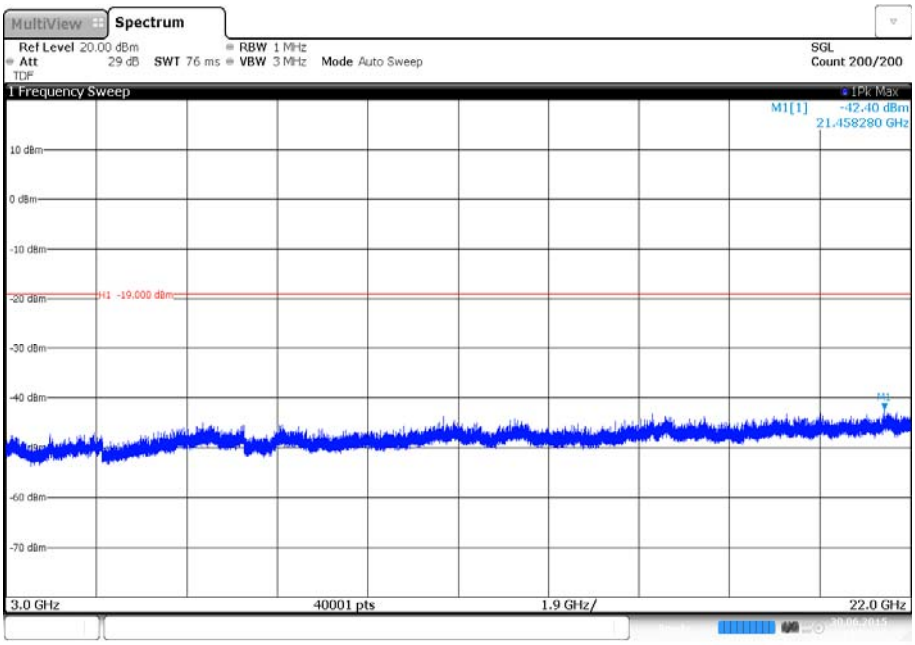
Date: 30.JUN.2015 11:58:06

Antenna A - Modulation 16QAM - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



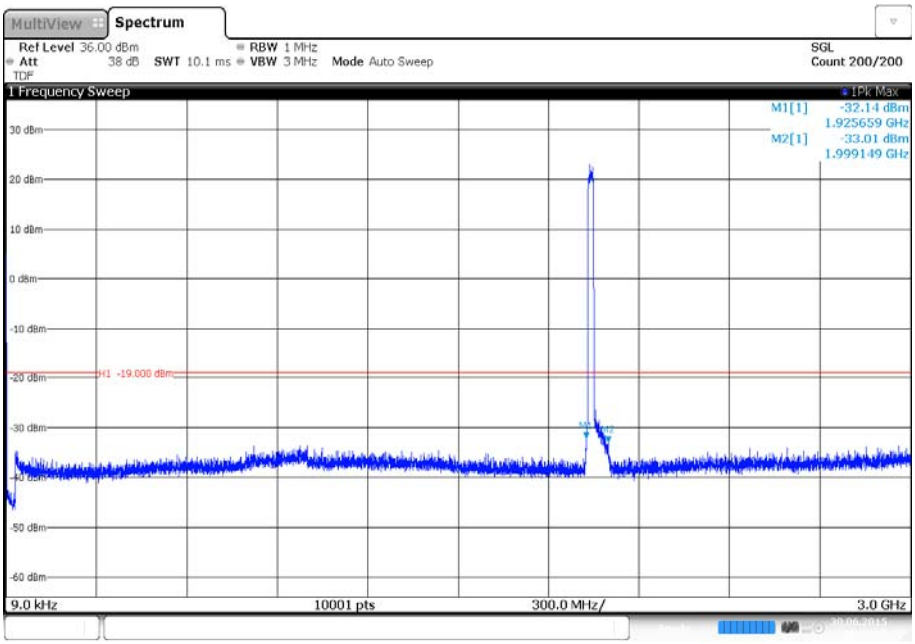
Date: 30.JUN.2015 14:05:55

Antenna A - Modulation 16QAM - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



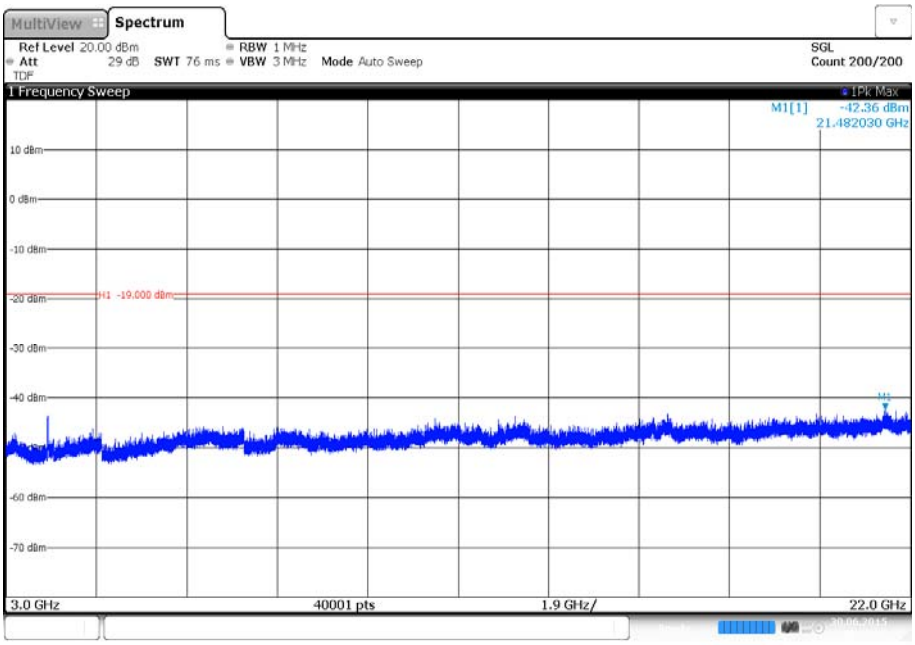
Date: 30.JUN.2015 14:07:20

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



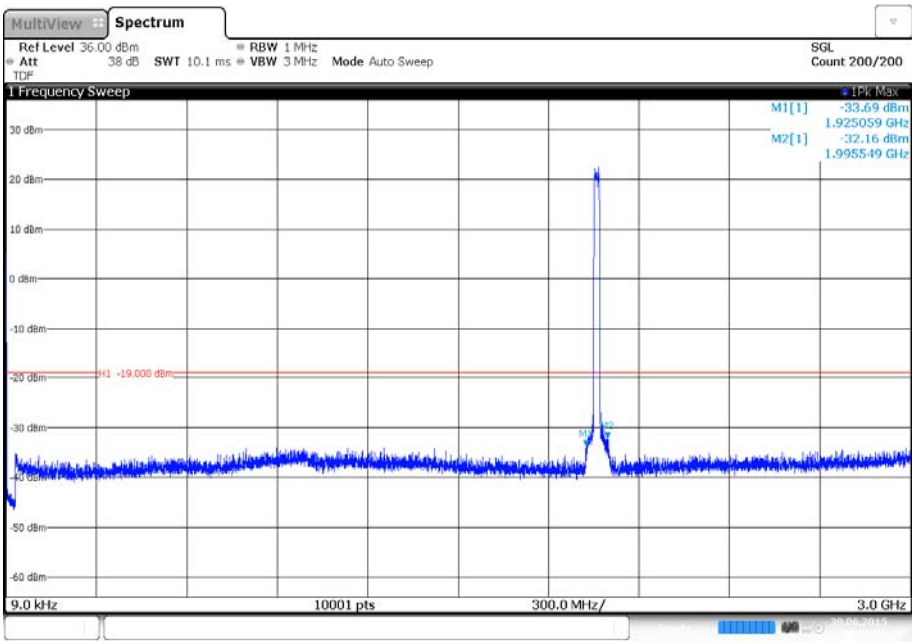
Date: 30.JUN.2015 16:14:12

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz



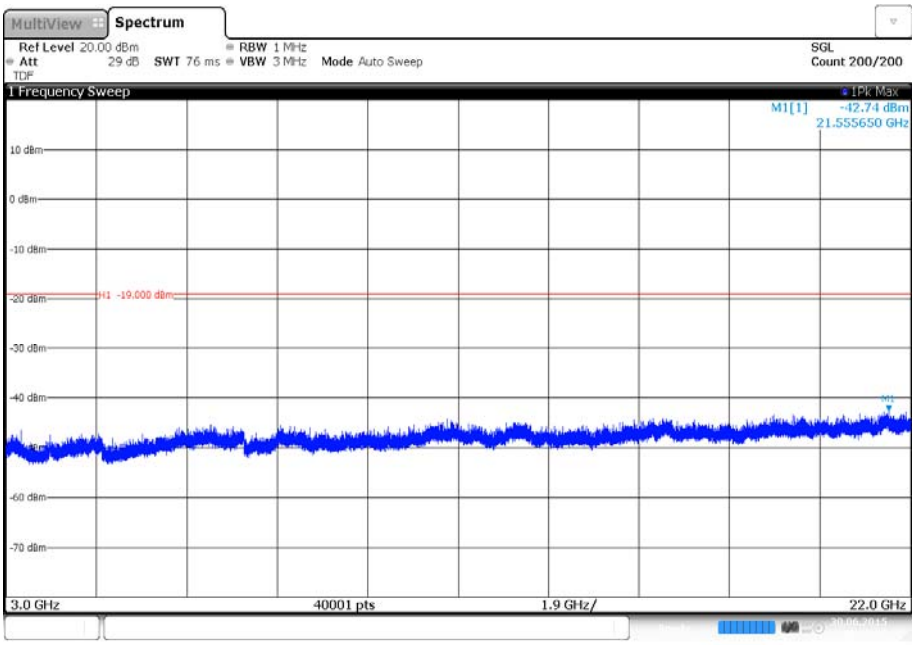
Date: 30.JUN.2015 16:15:37

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



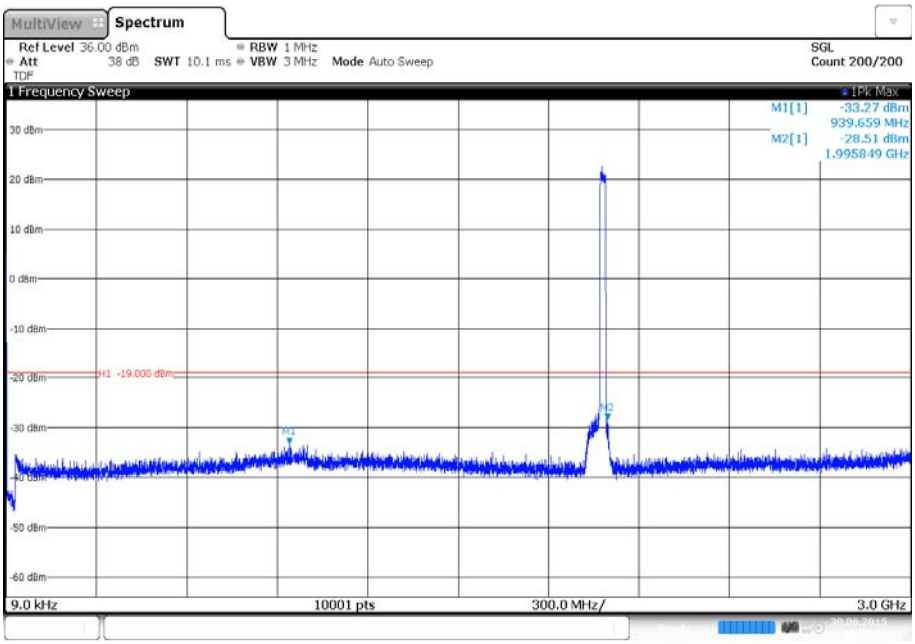
Date: 30.JUN.2015 16:17:30

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



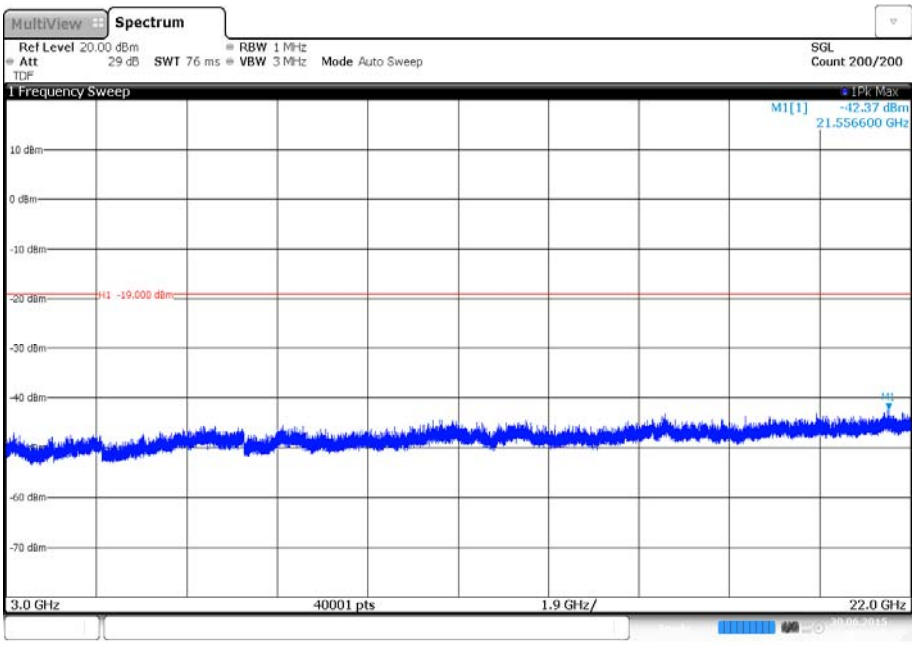
Date: 30.JUN.2015 16:18:55

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



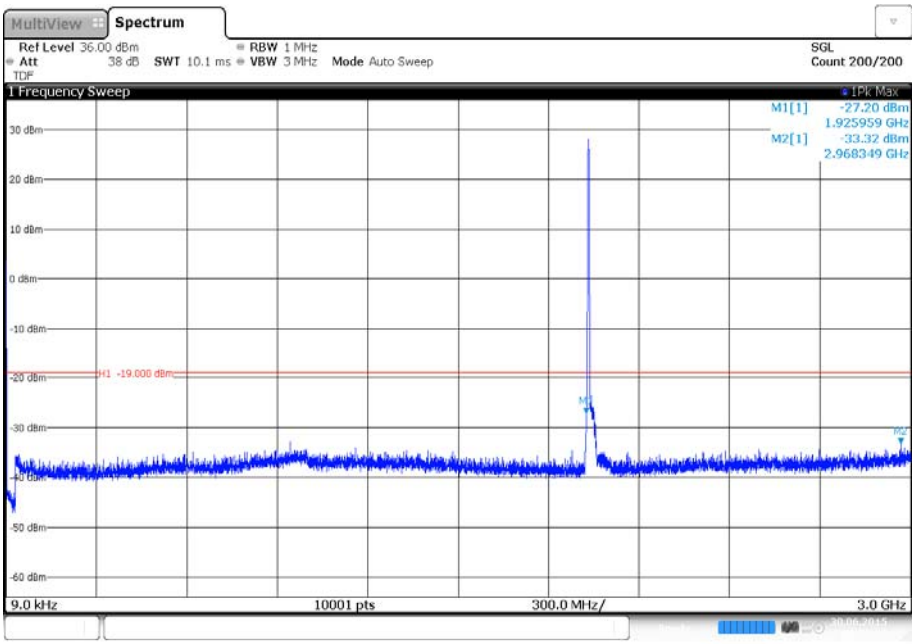
Date: 30.JUN.2015 16:20:47

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz



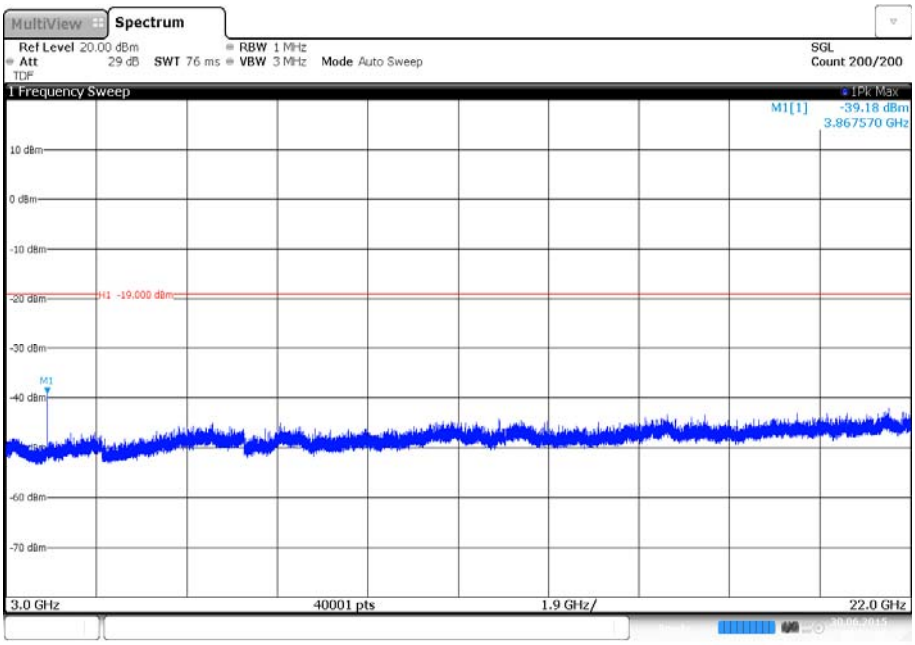
Date: 30.JUN.2015 16:22:13

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



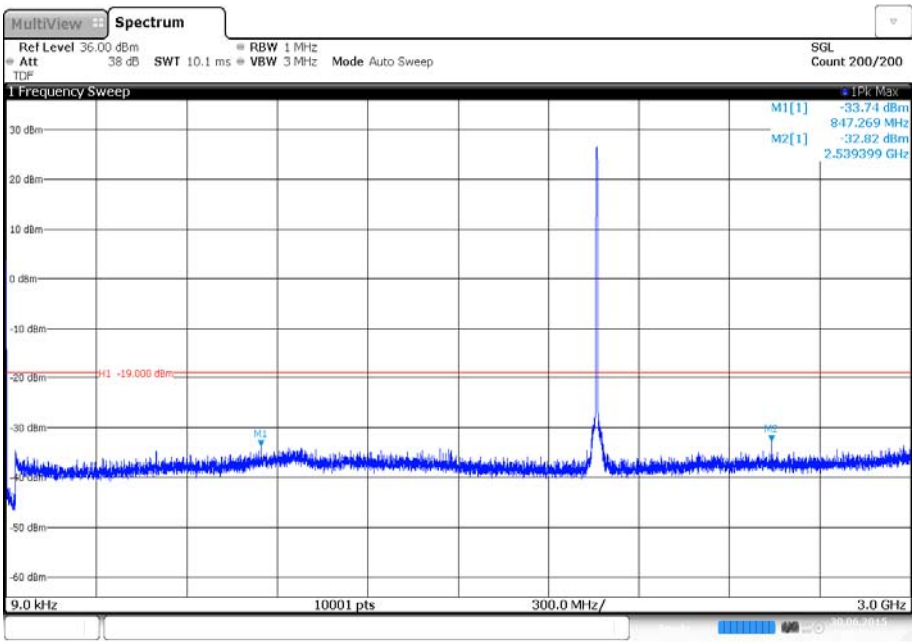
Date: 30.JUN.2015 08:58:39

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



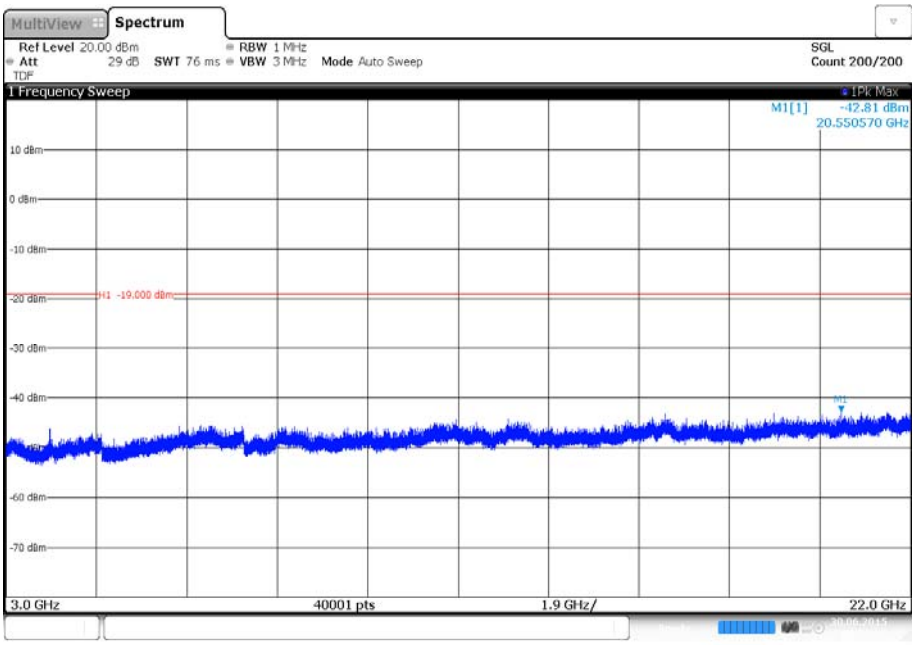
Date: 30.JUN.2015 09:00:04

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



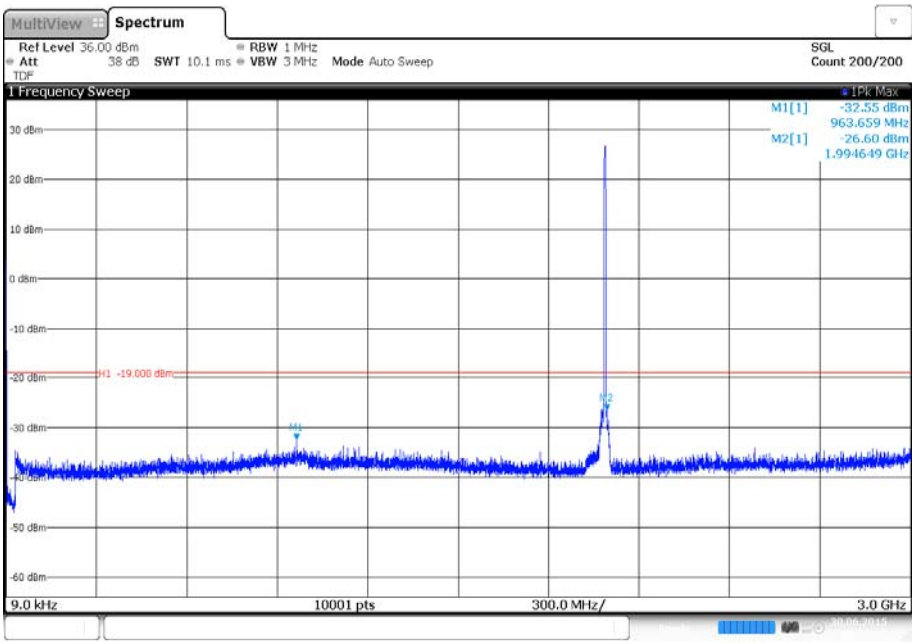
Date: 30.JUN.2015 09:01:57

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



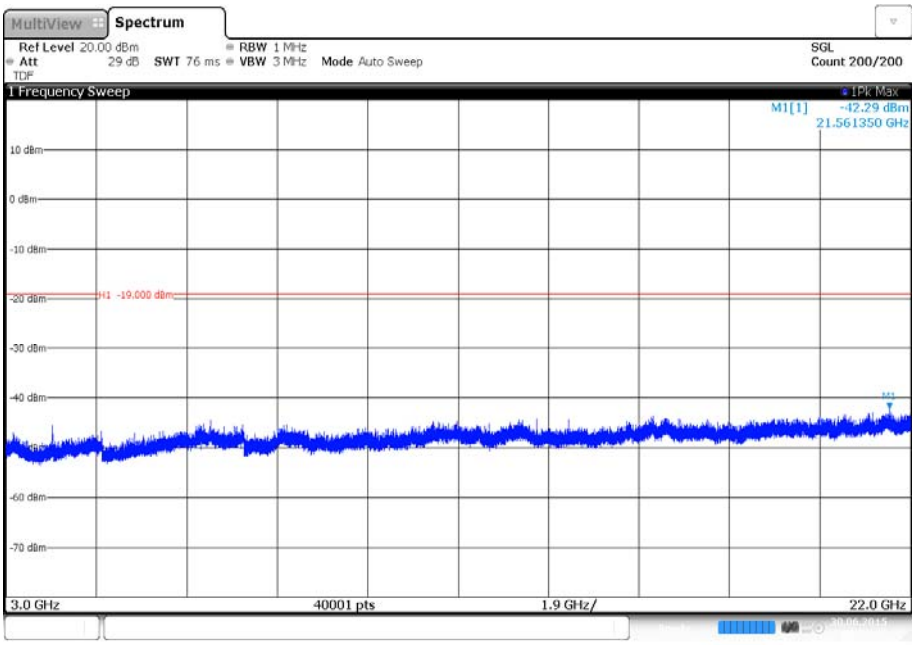
Date: 30.JUN.2015 09:03:22

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



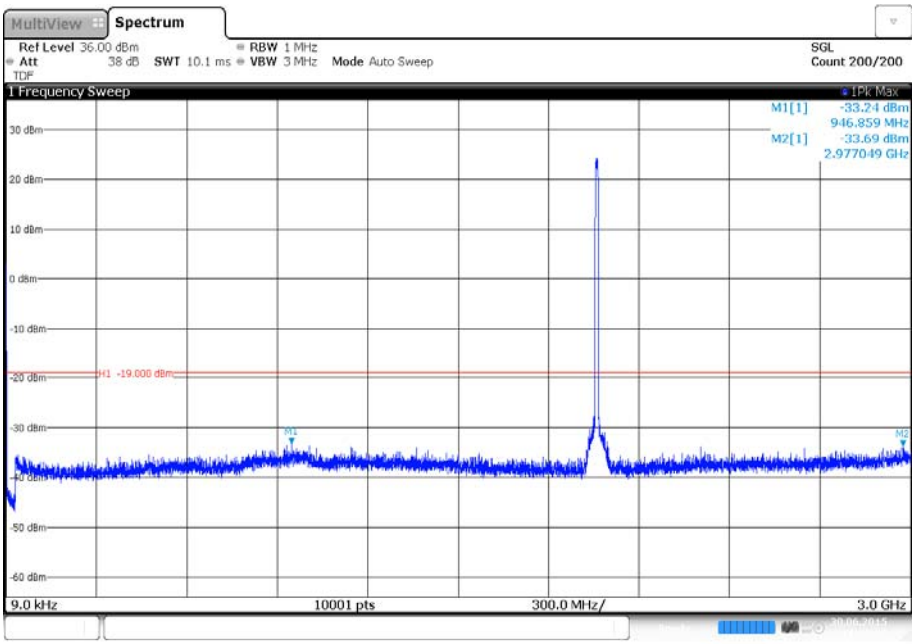
Date: 30.JUN.2015 09:05:15

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



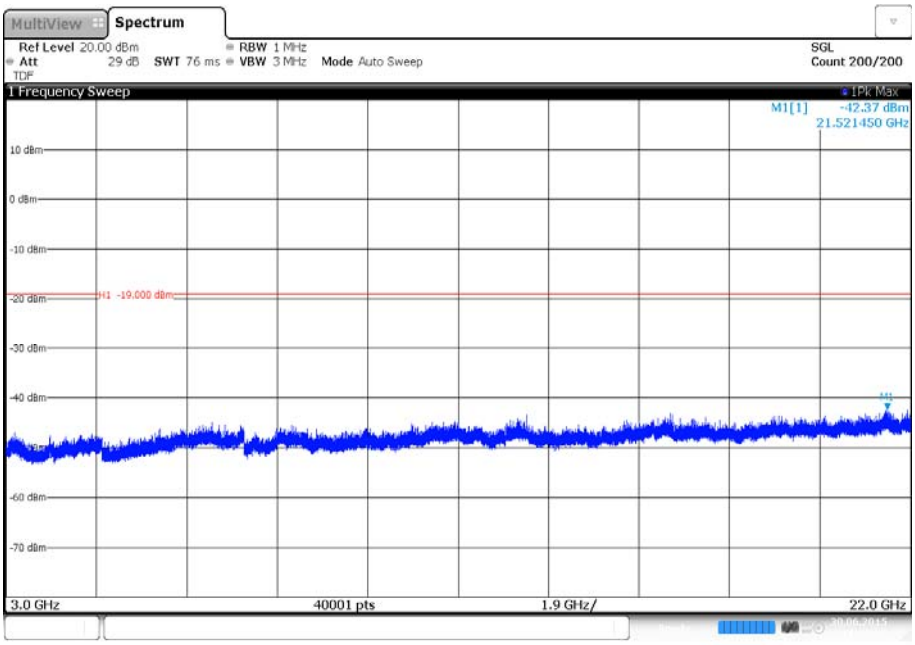
Date: 30.JUN.2015 09:06:40

Antenna A - Modulation 64QAM - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



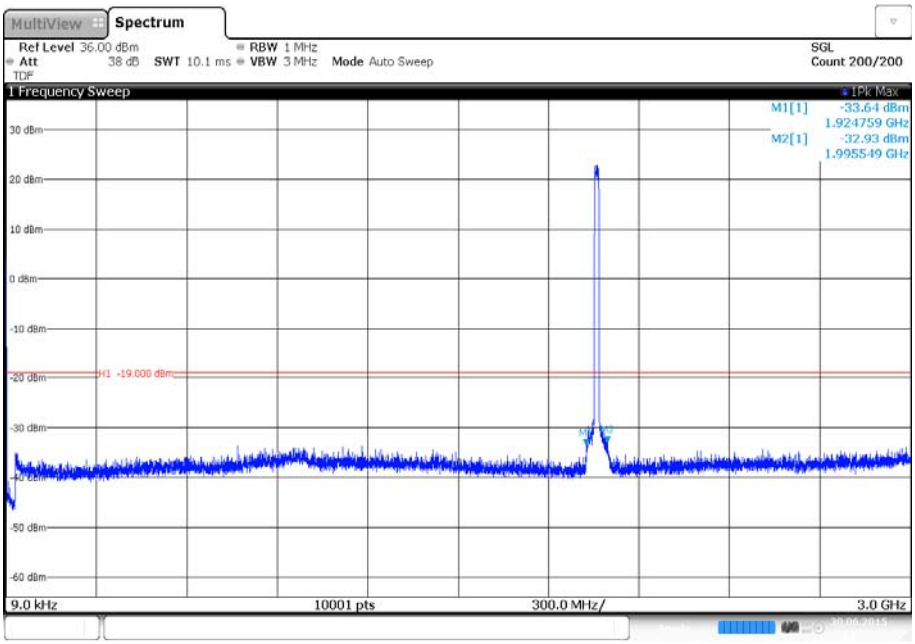
Date: 30.JUN.2015 11:13:37

Antenna A - Modulation 64QAM - Carrier Bandwidth 10.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



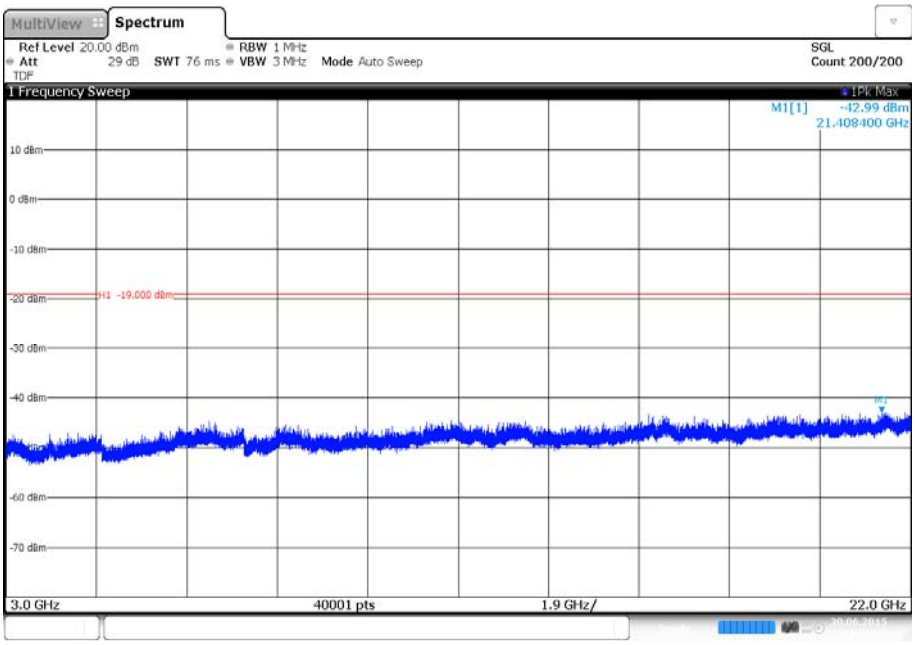
Date: 30.JUN.2015 11:15:03

Antenna A - Modulation 64QAM - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



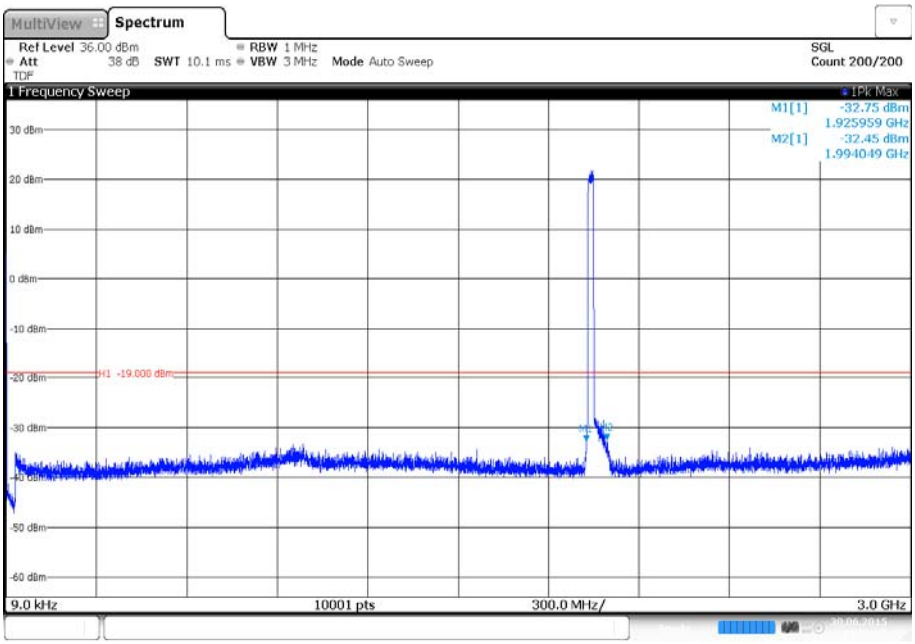
Date: 30.JUN.2015 13:22:48

Antenna A - Modulation 64QAM - Carrier Bandwidth 15.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz

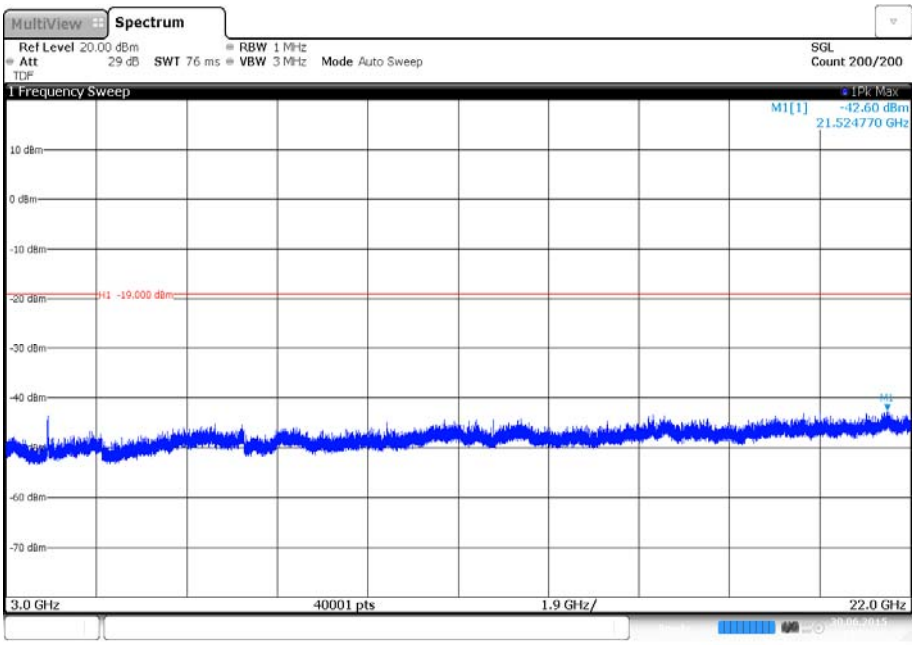


Date: 30.JUN.2015 13:24:13

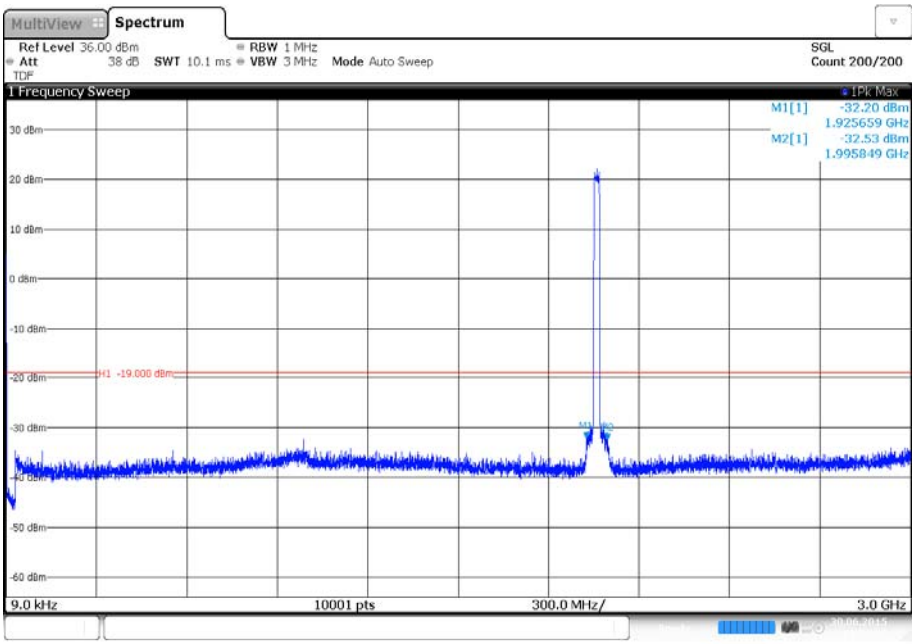
Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 22000 MHz

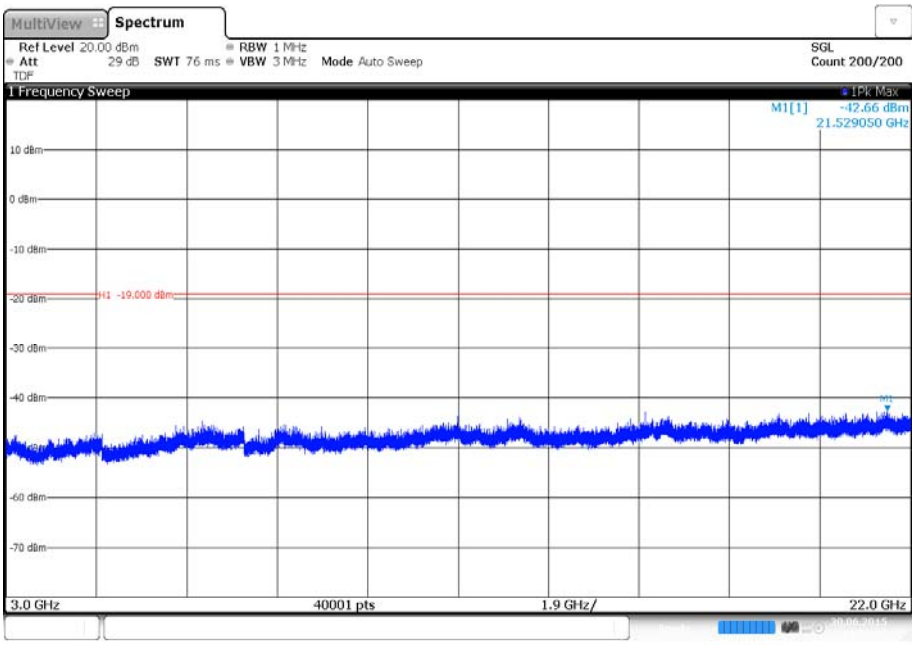


Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



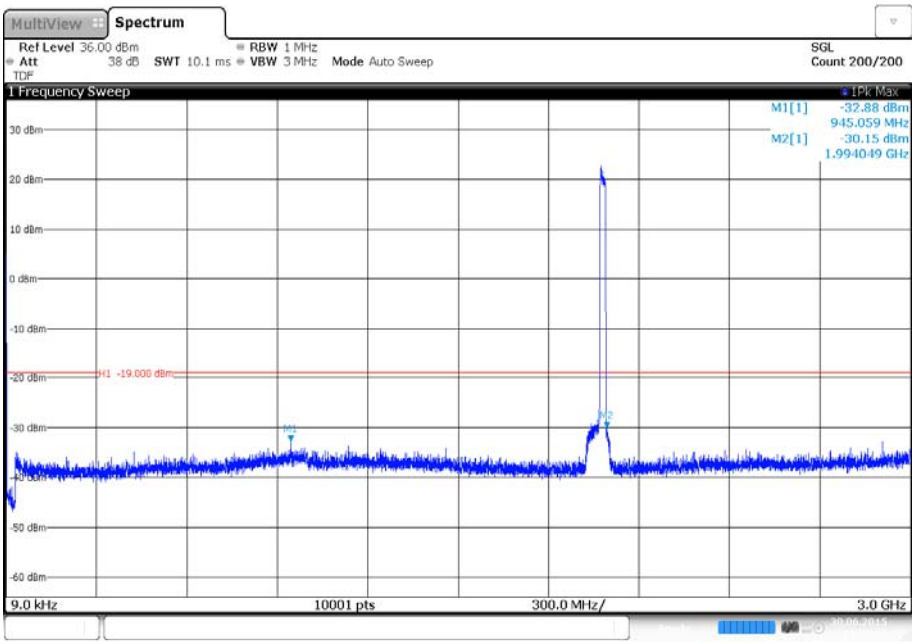
Date: 30.JUN.2015 15:34:30

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 22000 MHz



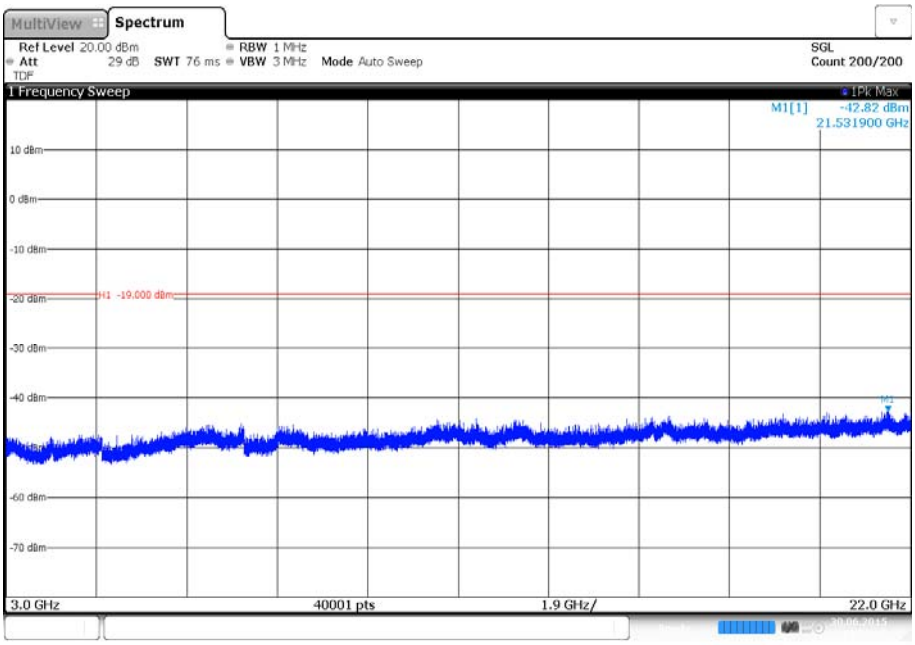
Date: 30.JUN.2015 15:35:55

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



Date: 30.JUN.2015 15:37:48

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 22000 MHz

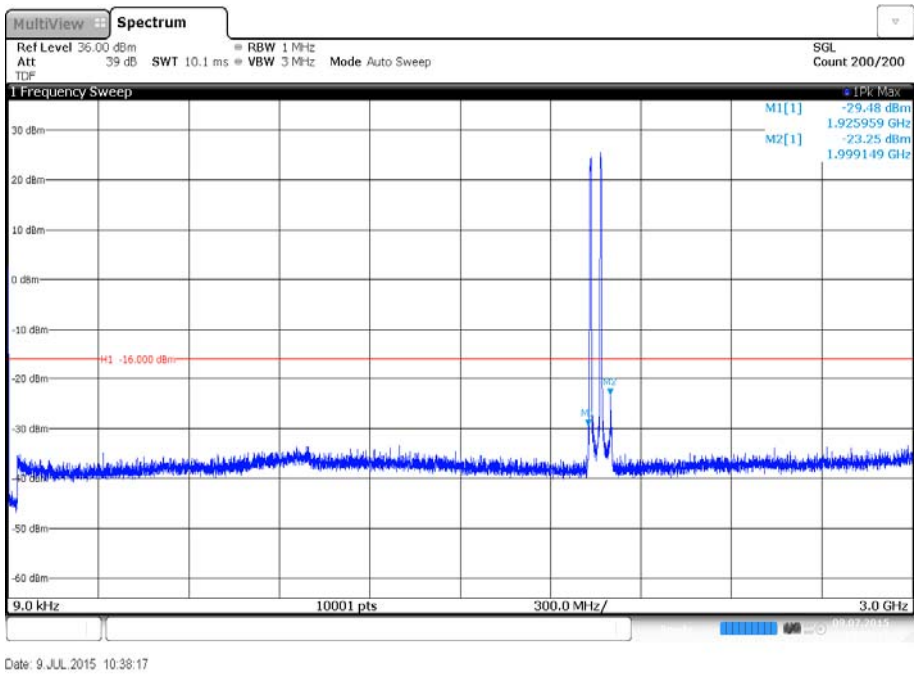


Date: 30.JUN.2015 15:39:13

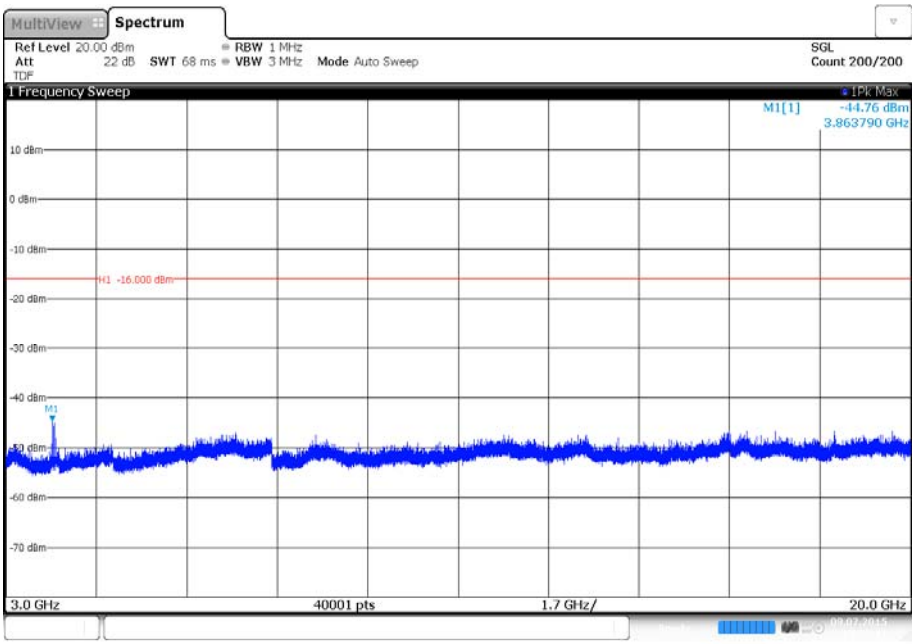
Configuration B

Maximum Output Power 21 dBm

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

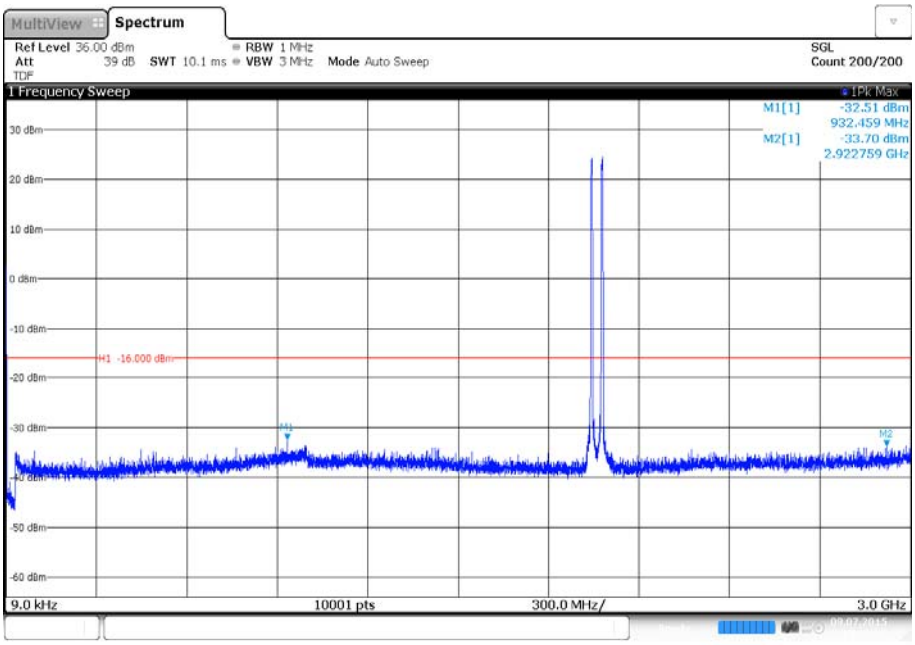


Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



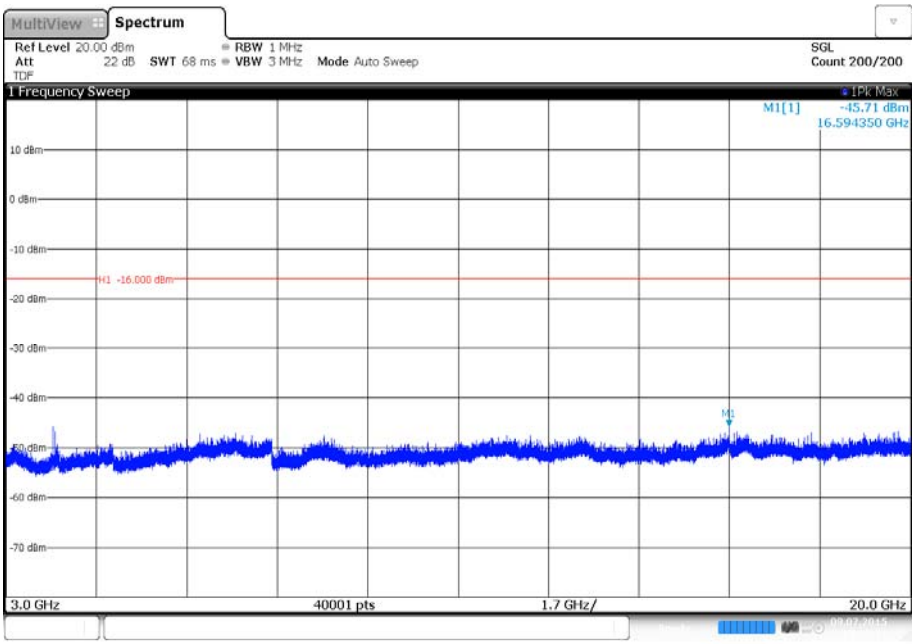
Date: 9.JUL.2015 10:39:41

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



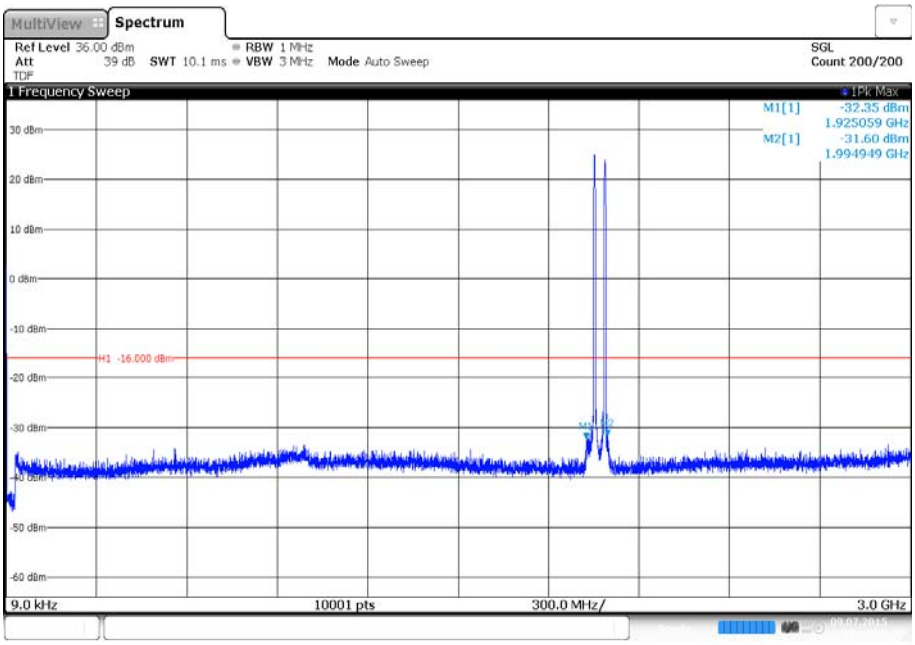
Date: 9.JUL.2015 10:41:27

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



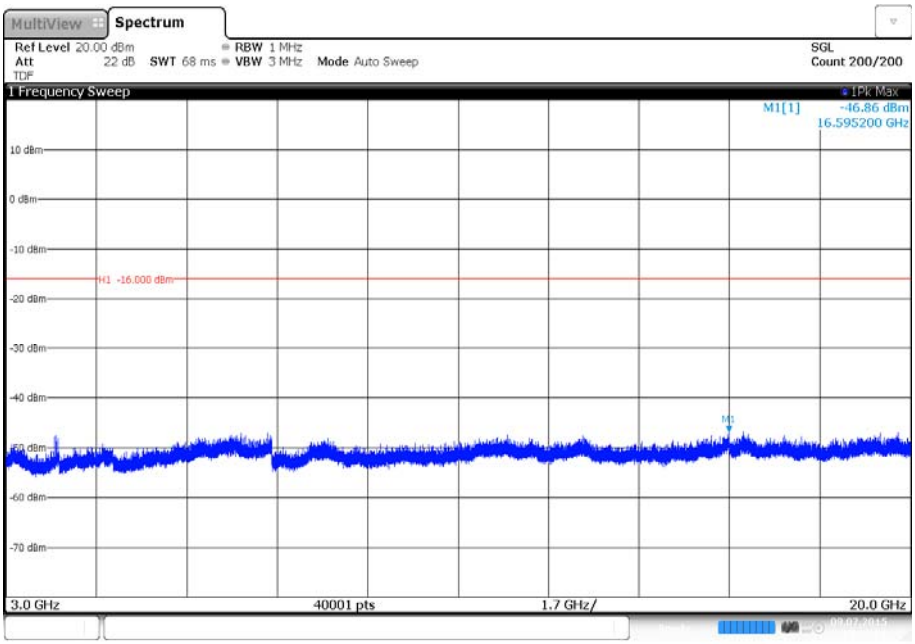
Date: 9.JUL.2015 10:42:51

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



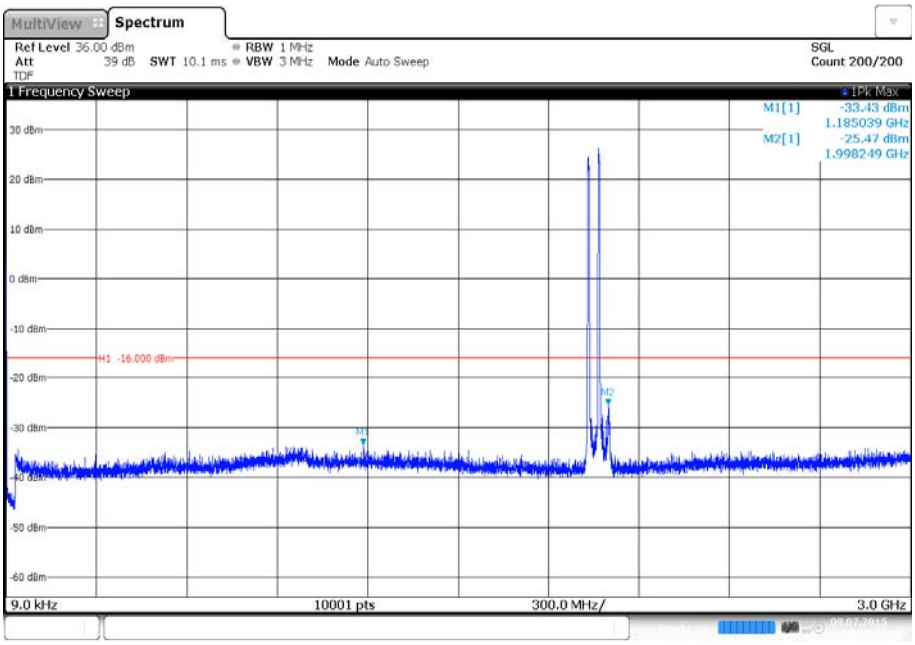
Date: 9.JUL.2015 10:44:37

Antenna A - Modulation QPSK - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



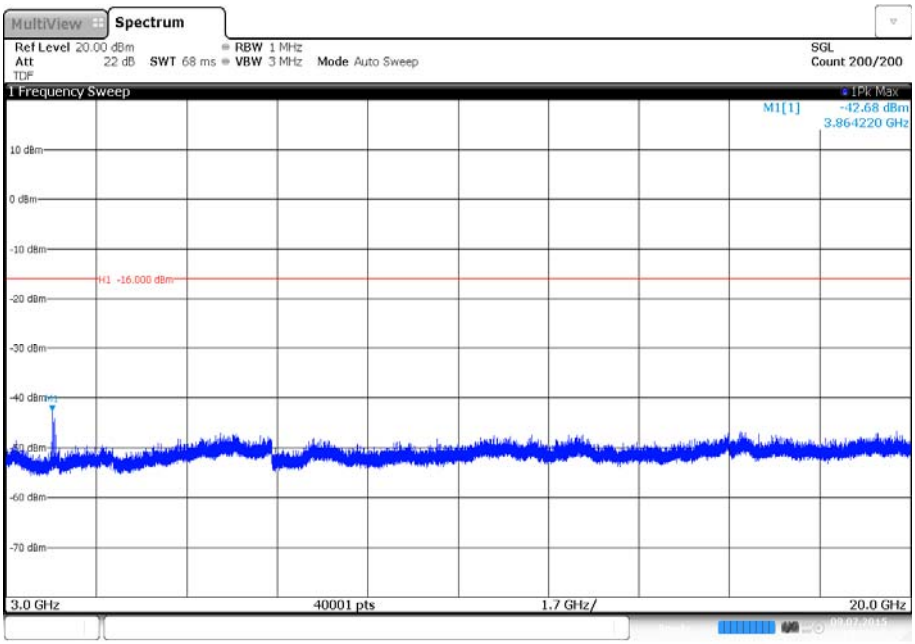
Date: 9.JUL.2015 10:46:01

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



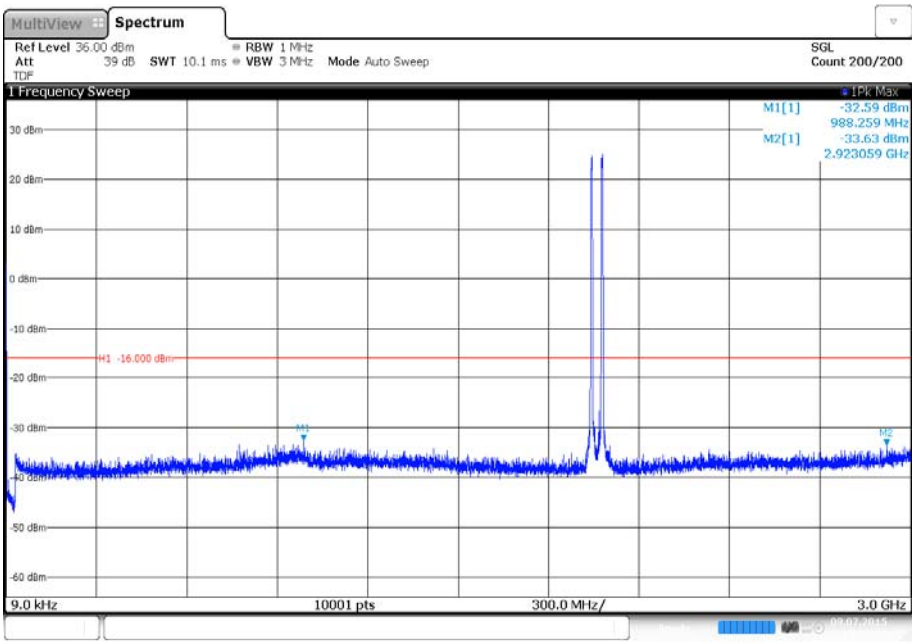
Date: 9.JUL.2015 12:00:49

Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



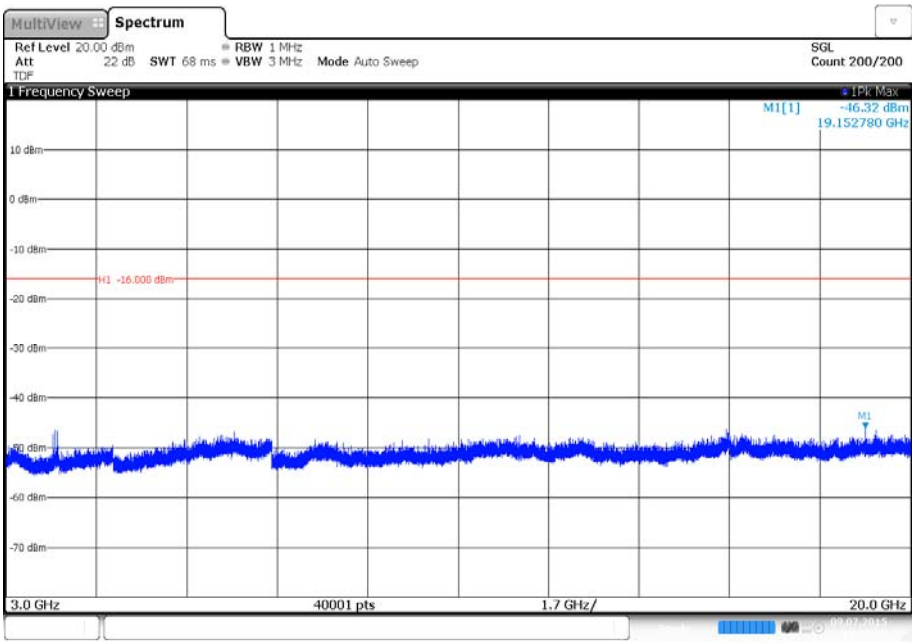
Date: 9.JUL.2015 12:02:13

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



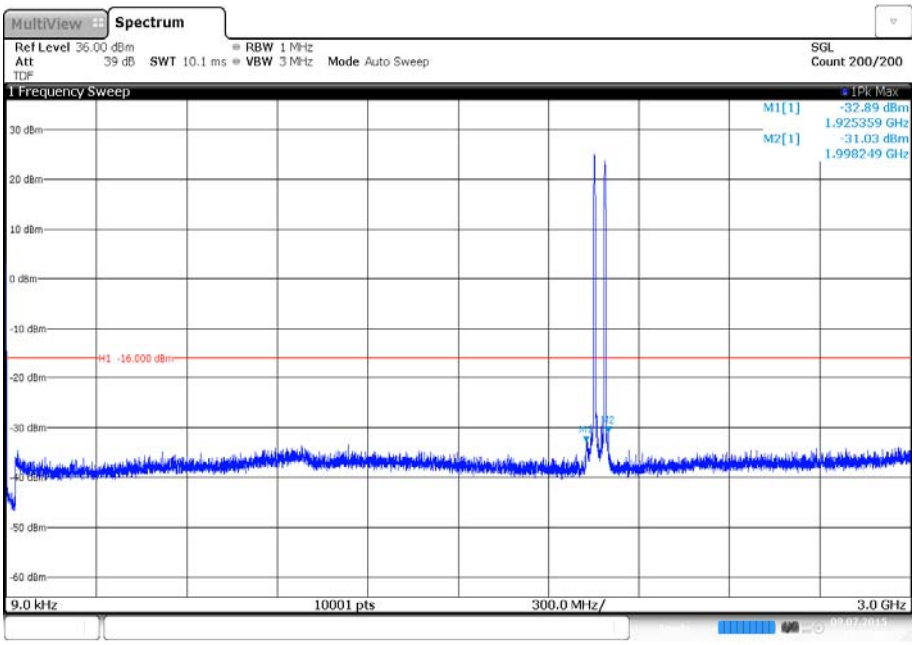
Date: 9.JUL.2015 12:03:59

Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



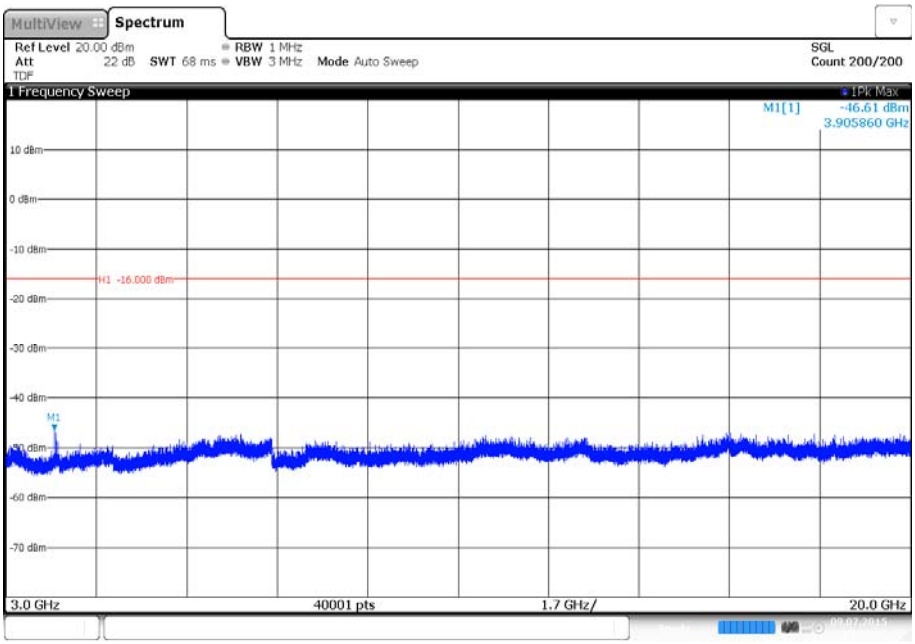
Date: 9.JUL.2015 12:05:23

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

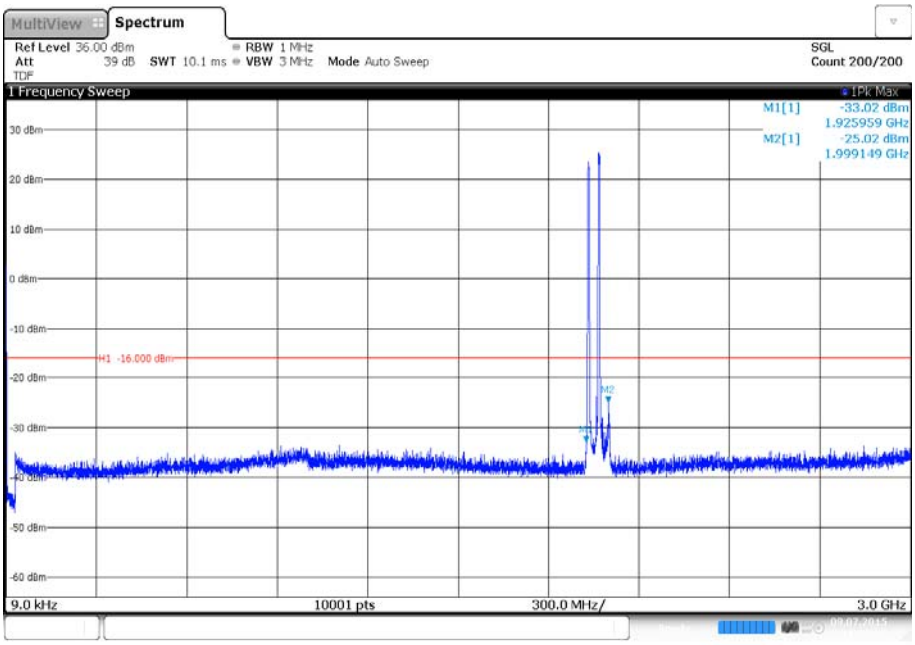


Date: 9.JUL.2015 12:07:09

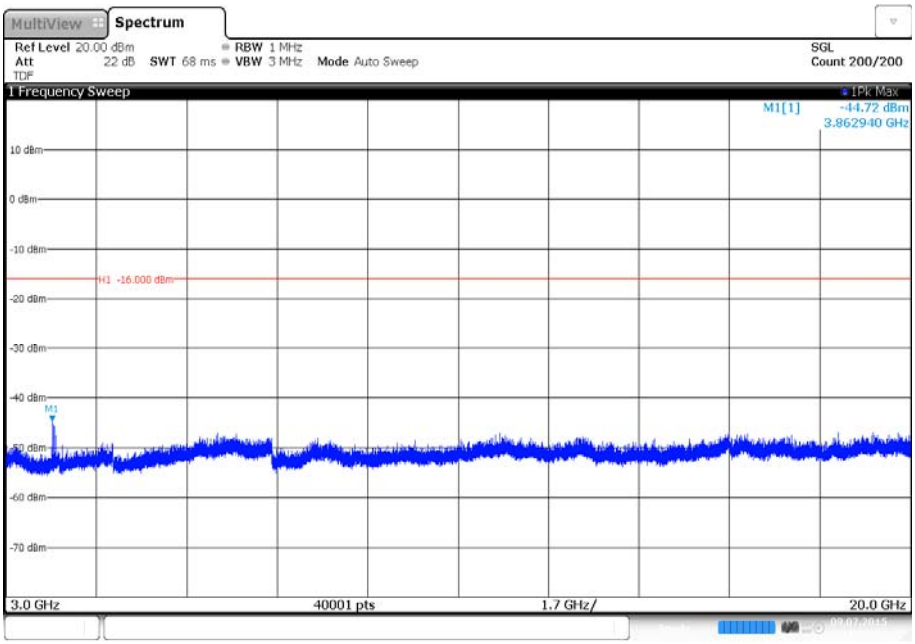
Antenna A - Modulation 16QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



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

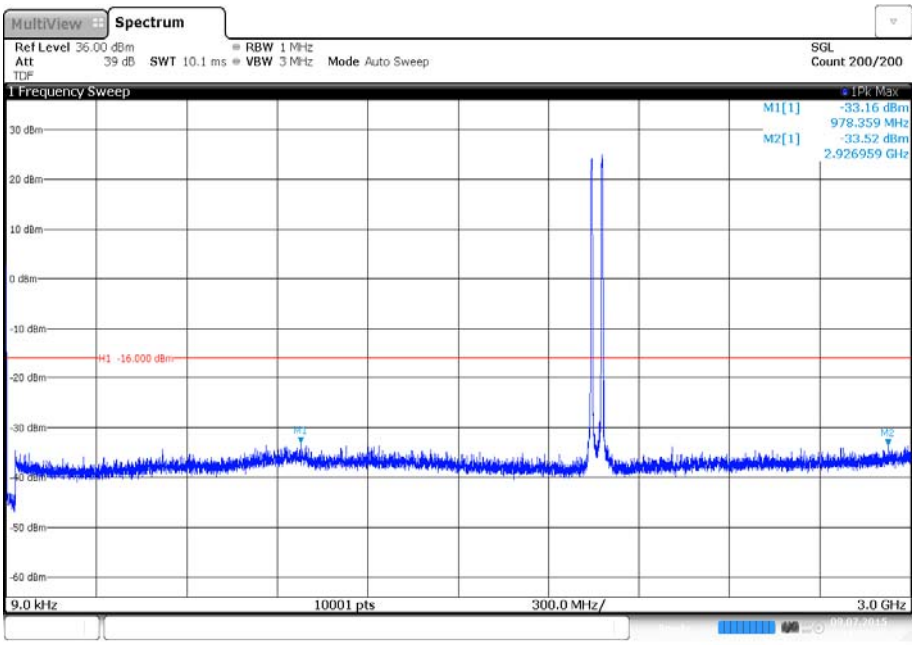


Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



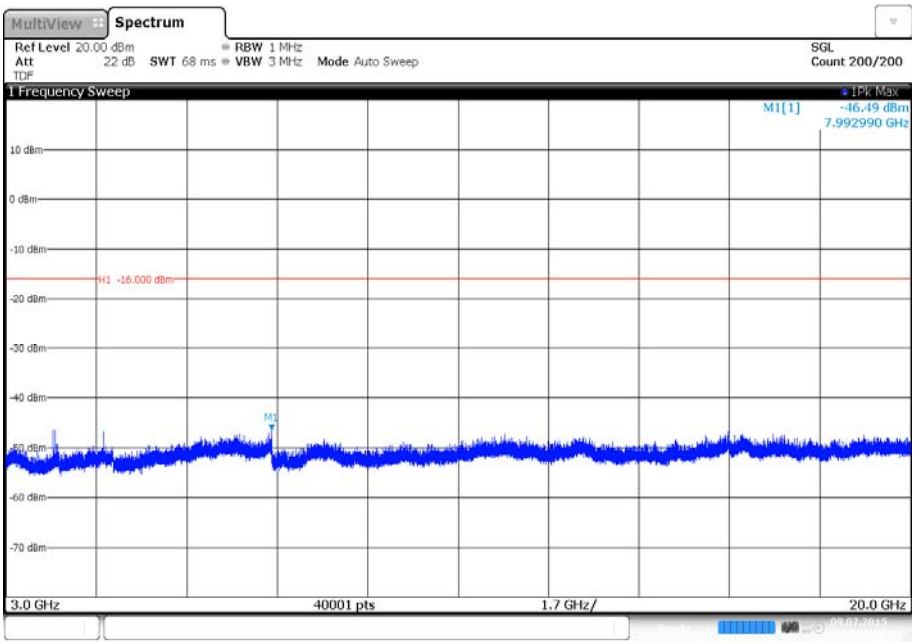
Date: 9.JUL.2015 11:20:57

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



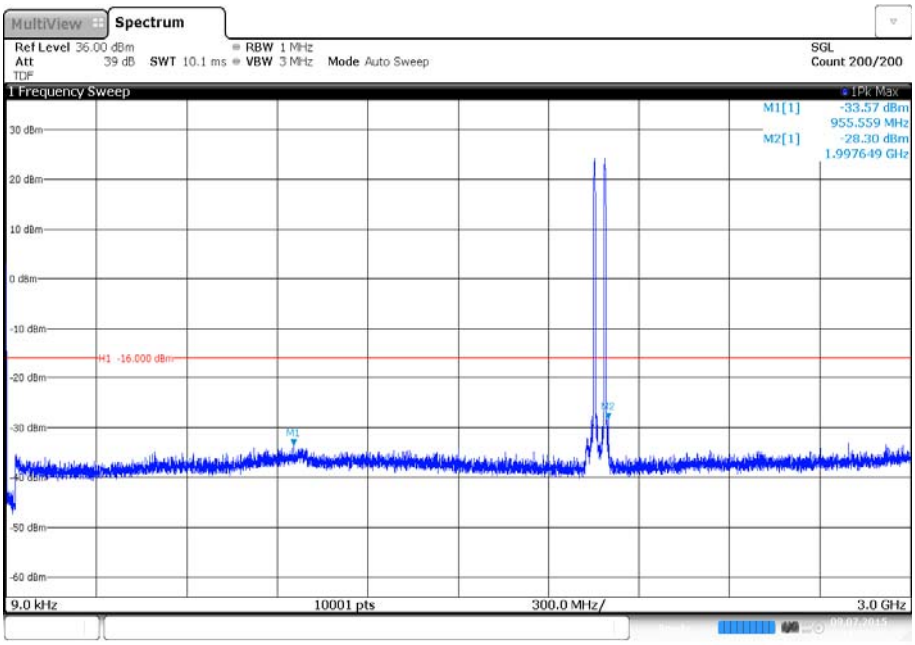
Date: 9.JUL.2015 11:22:43

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



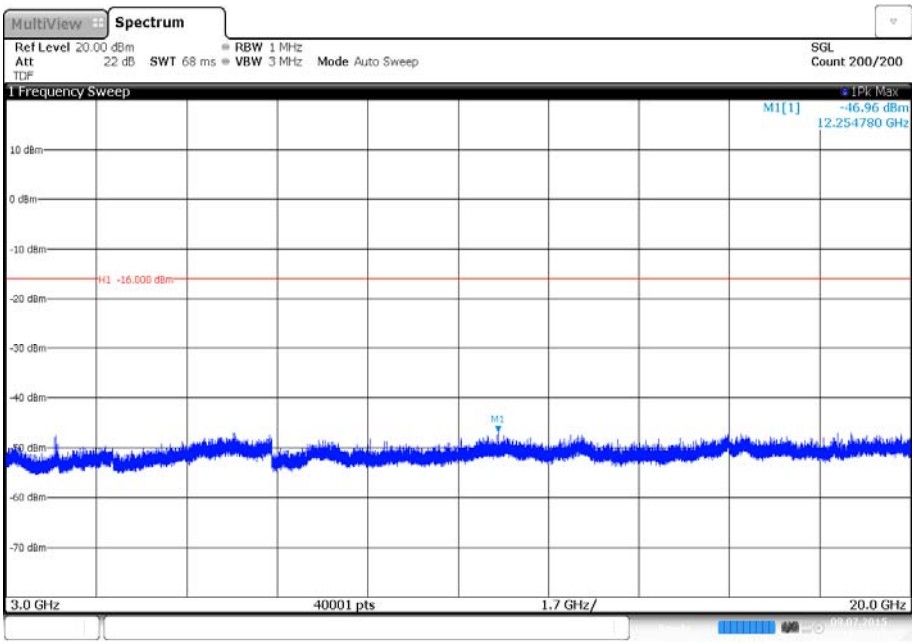
Date: 9.JUL.2015 11:24:07

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



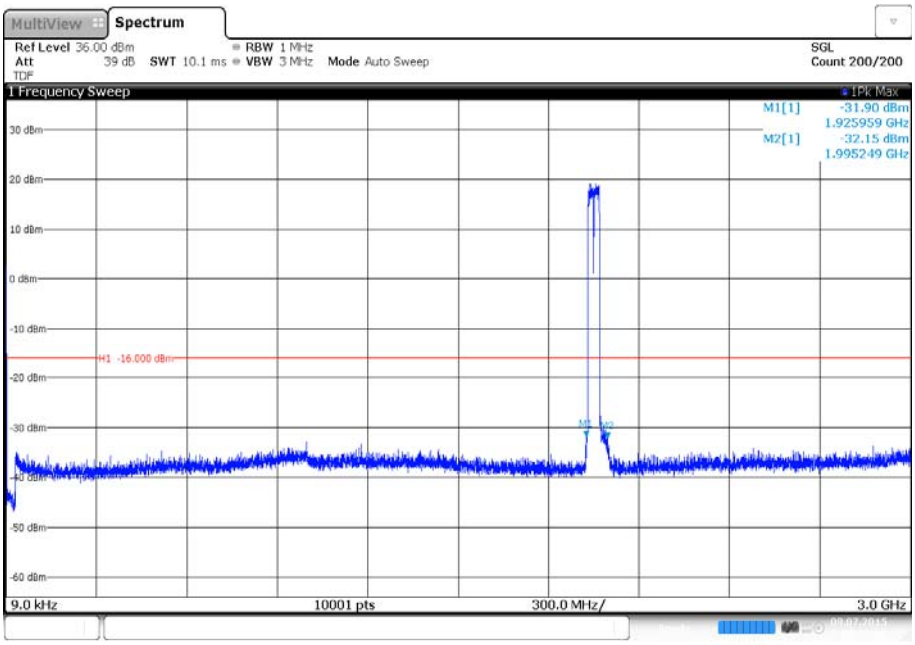
Date: 9.JUL.2015 11:25:53

Antenna A - Modulation 64QAM - Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



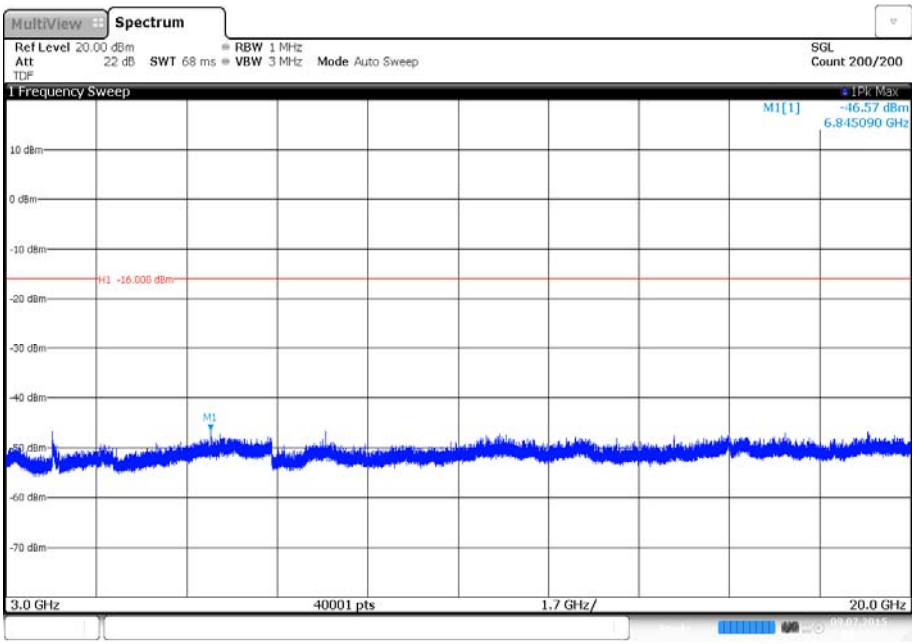
Date: 9.JUL.2015 11:27:17

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



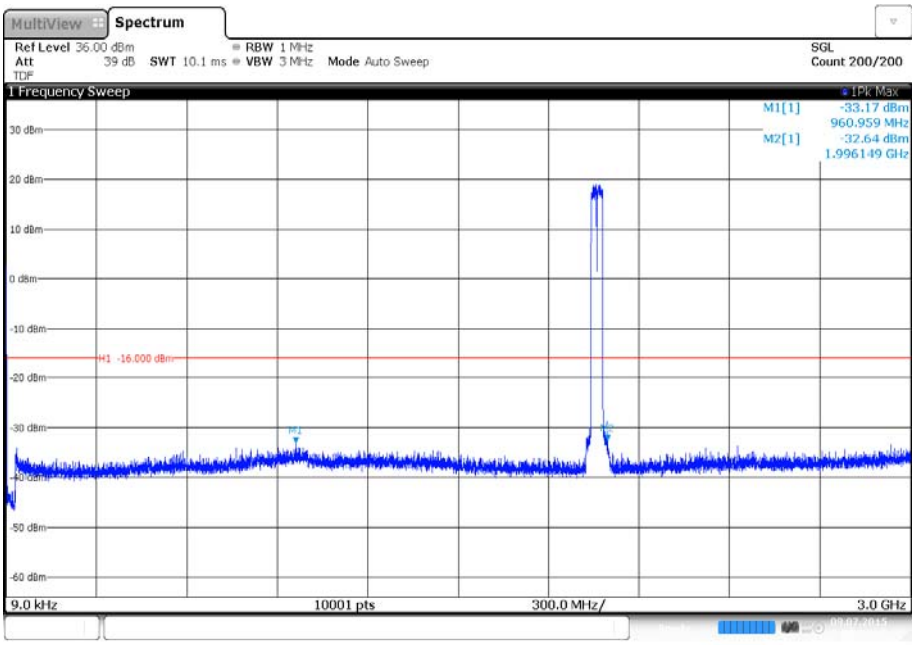
Date: 9.JUL.2015 08:31:09

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



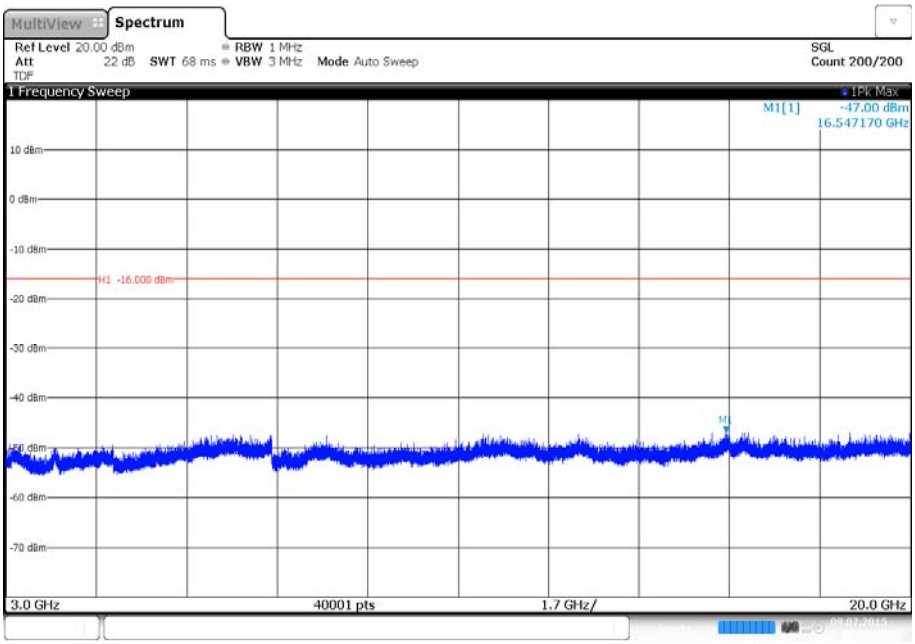
Date: 9.JUL.2015 08:32:33

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



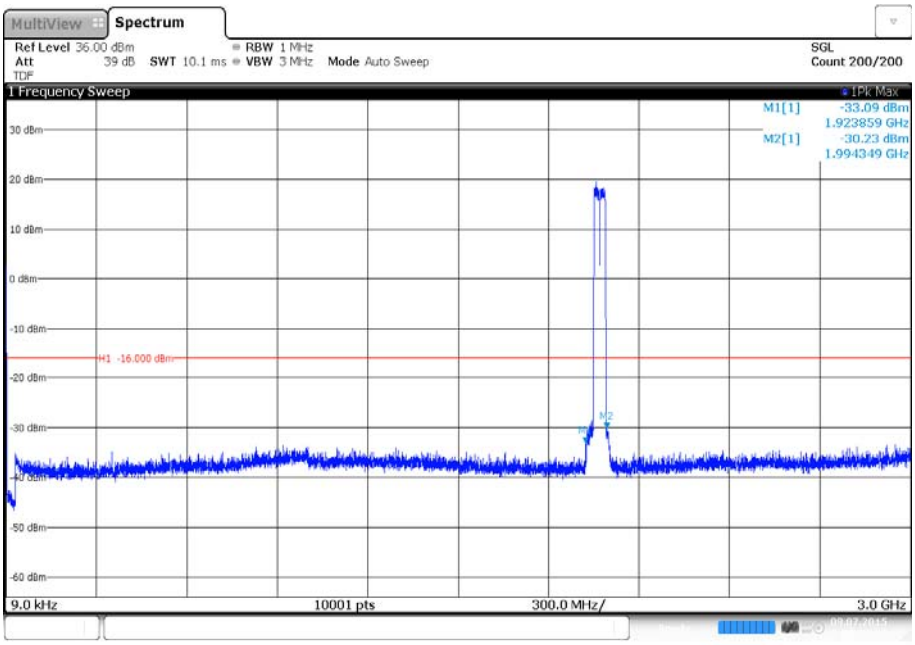
Date: 9.JUL.2015 08:34:18

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



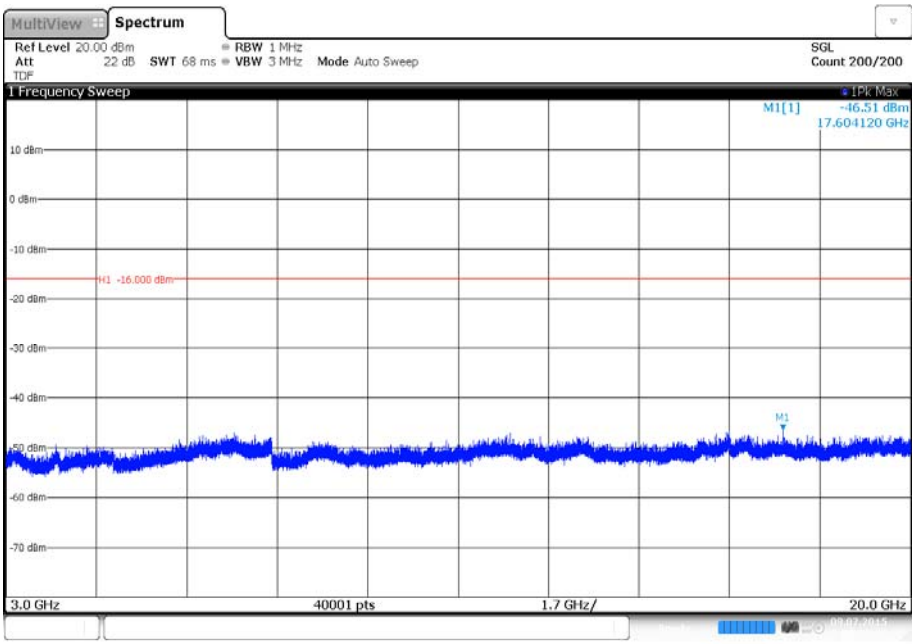
Date: 9.JUL.2015 08:35:43

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



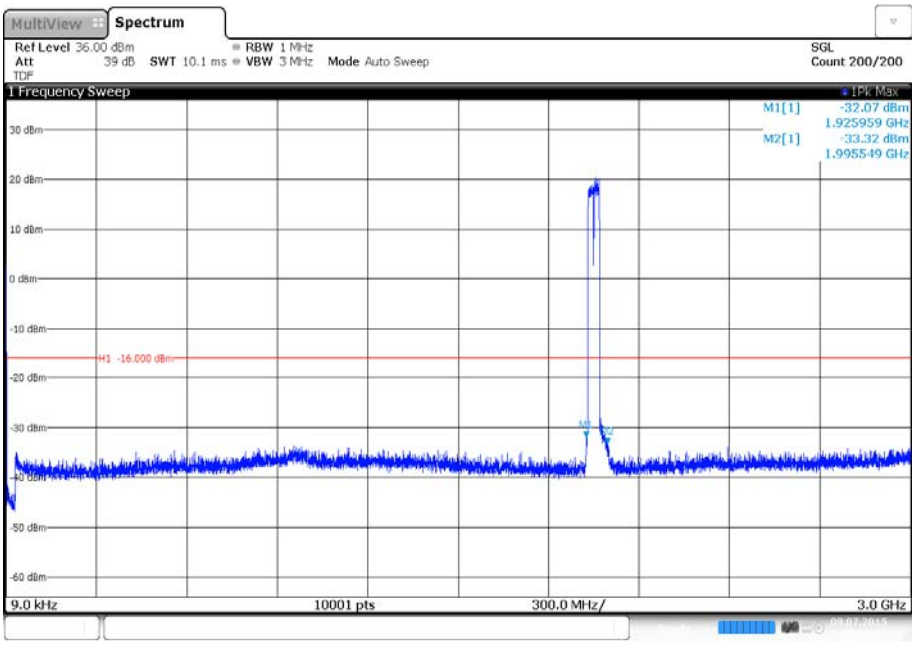
Date: 9.JUL.2015 08:37:28

Antenna A - Modulation QPSK - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



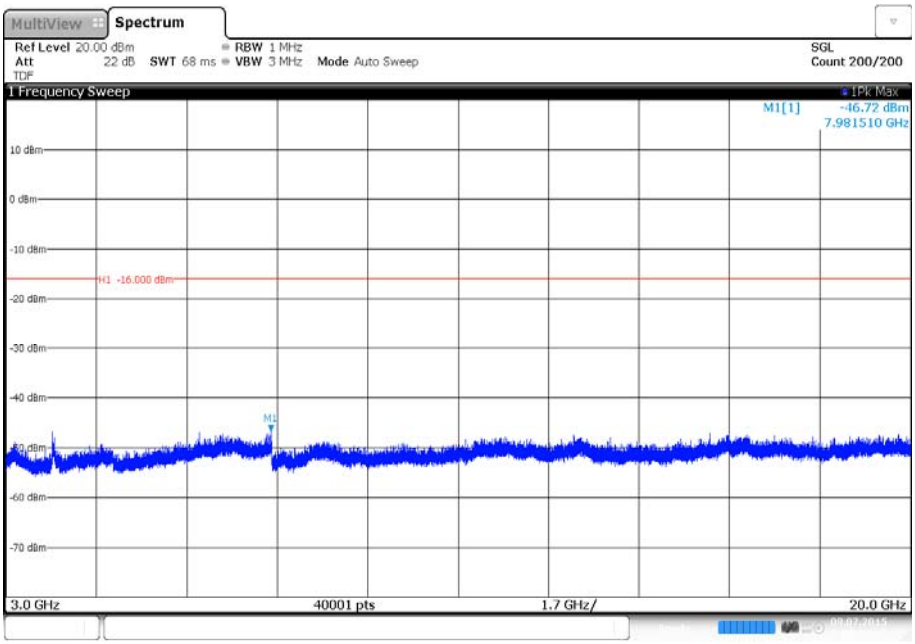
Date: 9.JUL.2015 08:38:52

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



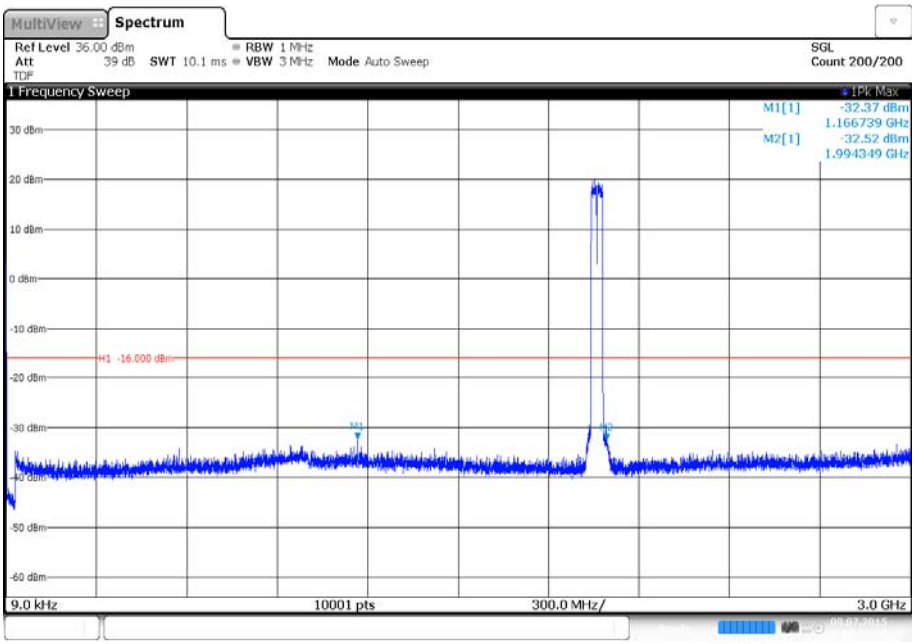
Date: 9.JUL.2015 09:55:47

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



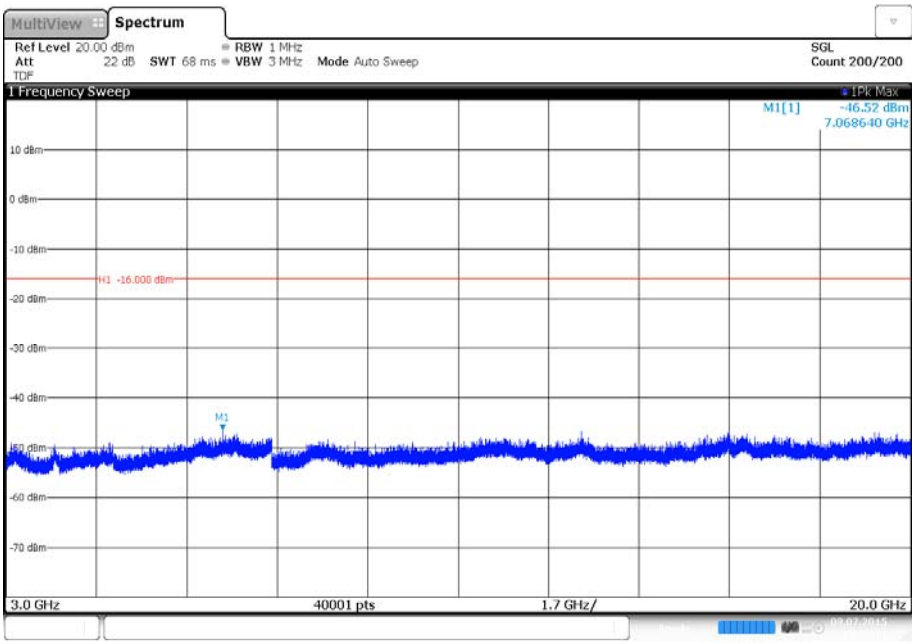
Date: 9.JUL.2015 09:57:12

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



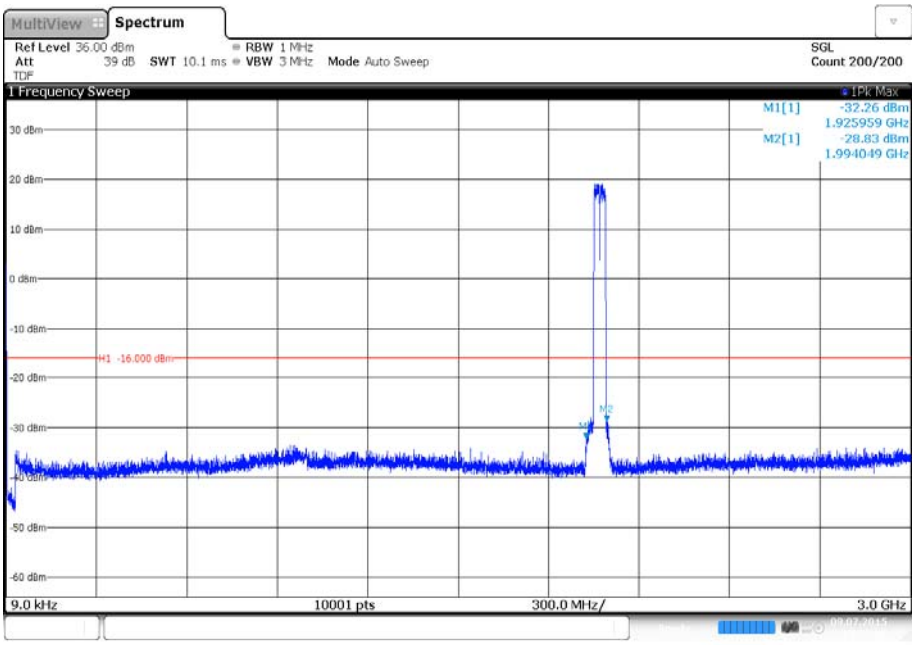
Date: 9.JUL.2015 09:58:57

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



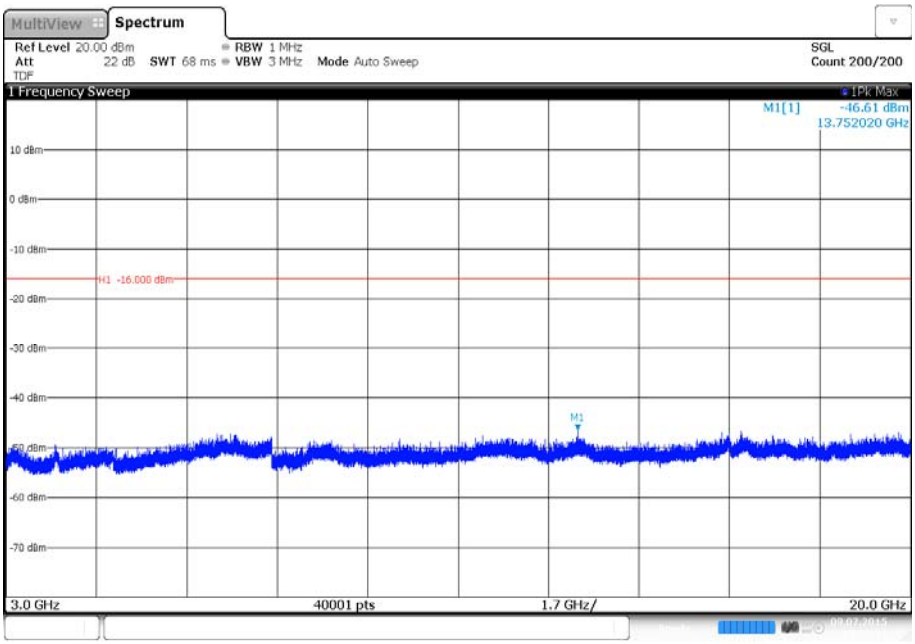
Date: 9.JUL.2015 10:00:22

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



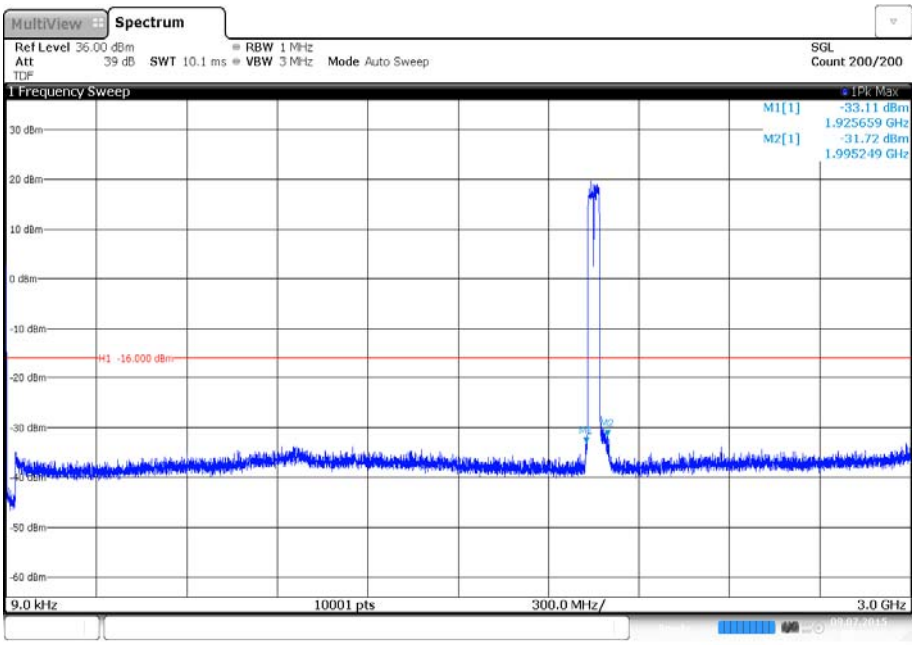
Date: 9.JUL.2015 10:02:07

Antenna A - Modulation 16QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



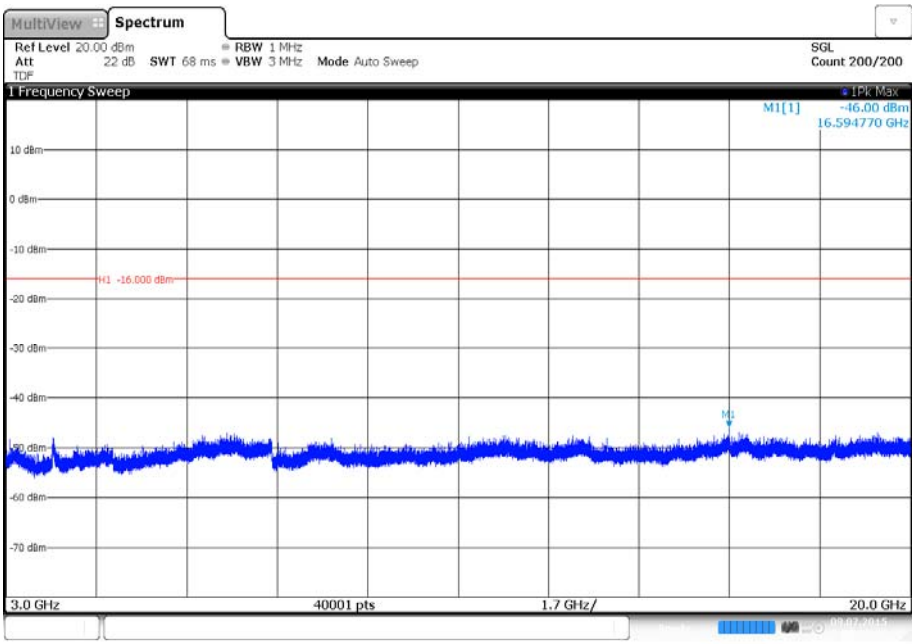
Date: 9.JUL.2015 10:03:31

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 1 - Range 0.009 to 3000 MHz



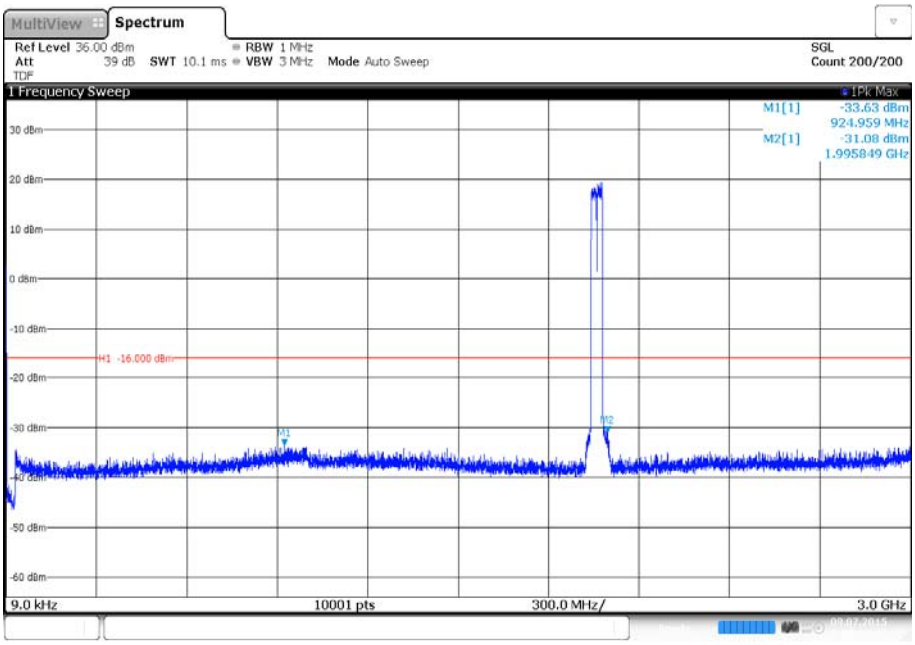
Date: 9.JUL.2015 09:14:33

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 3000 to 20000 MHz



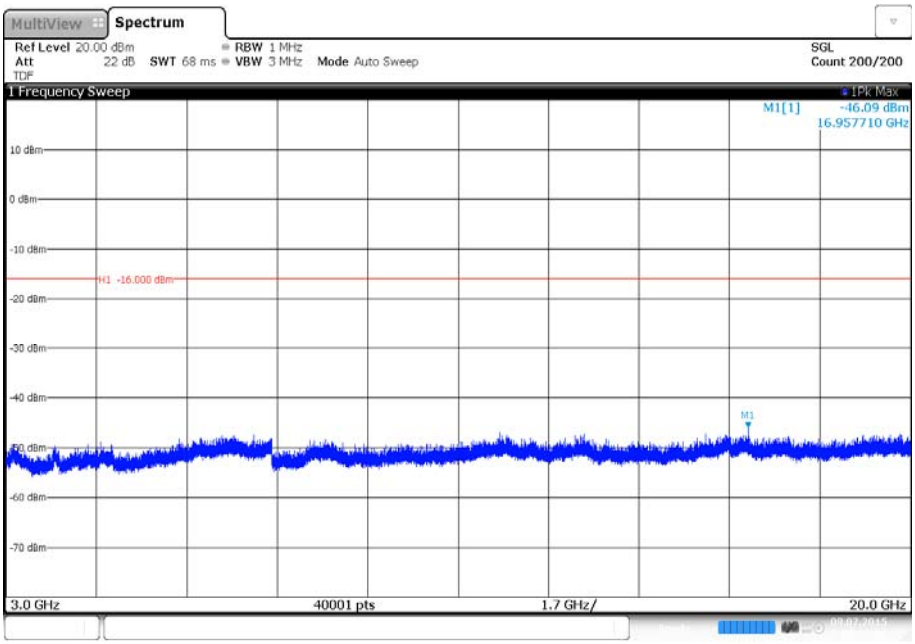
Date: 9.JUL.2015 09:15:56

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 1 - Range 0.009 to 3000 MHz



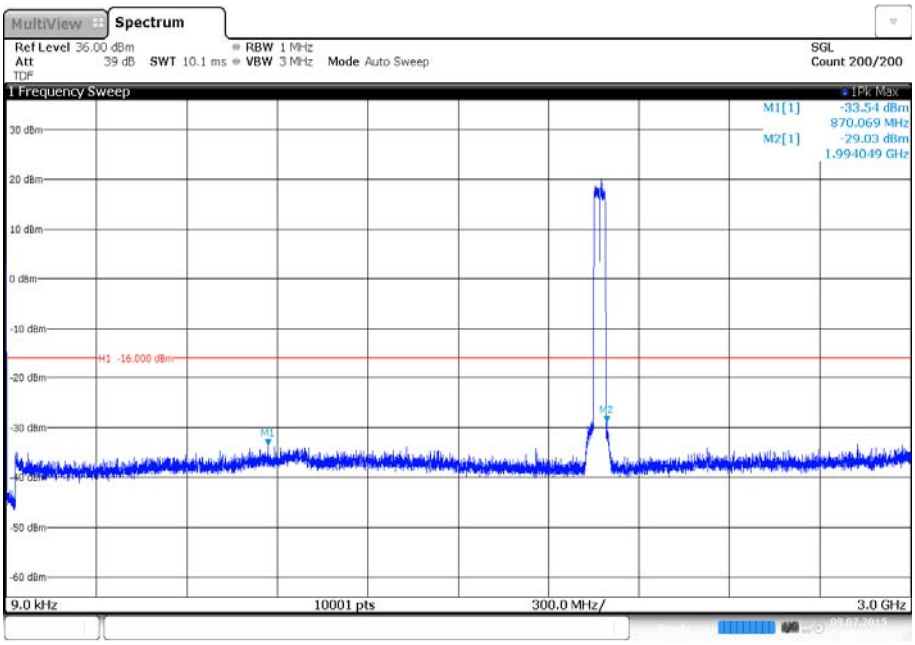
Date: 9.JUL.2015 09:17:42

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position M - Band 2 - Range 3000 to 20000 MHz



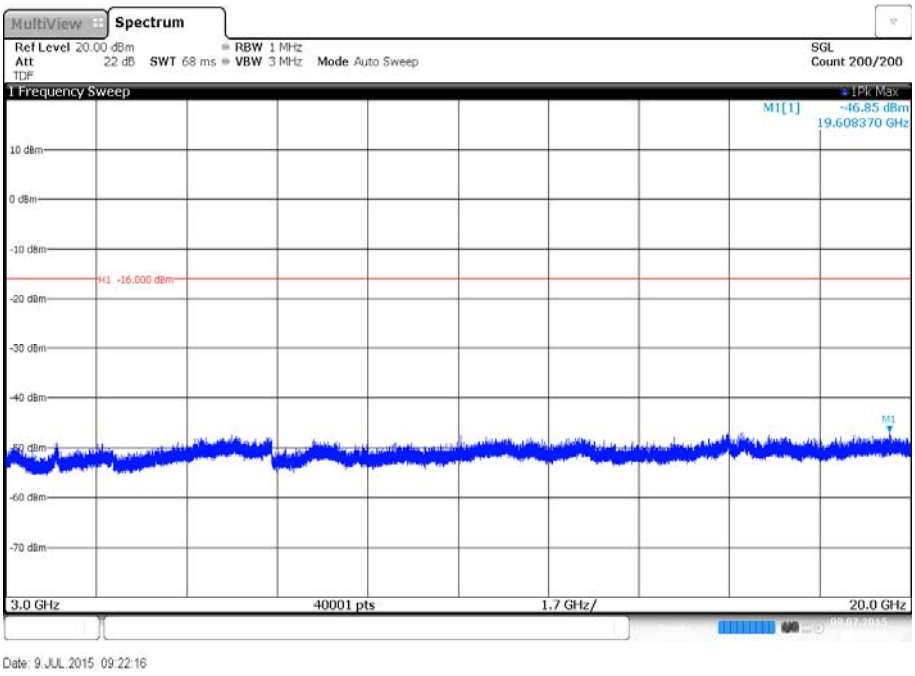
Date: 9.JUL.2015 09:19:06

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 3000 MHz



Date: 9.JUL.2015 09:20:52

Antenna A - Modulation 64QAM - Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 3000 to 20000 MHz



2.5 FREQUENCY STABILITY

2.5.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1055
FCC CFR 47 Part 24, Clause 24.235
Industry Canada RSS-133, Clause 6.3

2.5.2 Date of Test and Modification State

25 June 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°C
Relative Humidity	43.5%

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	7.77
-20°C	QPSK	10.25
-10°C	QPSK	10.58
0°C	QPSK	13.73
+10°C	QPSK	11.40
+20°C	QPSK	12.85
+30°C	QPSK	11.72
+40°C	QPSK	11.14
+50°C	QPSK	8.70

Configuration A

Maximum Output Power 24 dBm

Voltage	Modulation	Frequency Stability (Hz)
		Channel Position M
-40.8 V	QPSK	10.12
-48.0 V	QPSK	8.55
-55.2 V	QPSK	7.48

Limit	±1.5 ppm or ±1.322 kHz

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	2677	12	11-Jun-2016
Digital Multimeter	Fluke	79 Series II	3057	12	06-Oct-2015
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSW	103799	12	29-Dec-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-2015
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	N/A
Signal generator SMF100A	R&S	SMF 100A	104229		29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	18-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571	-	N/A
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539	-	N/A
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	N/A
3 dB attenuator	Wiltron	43KC-3	N/S	-	N/A
RF cable	R&S	ZV-Z193	100062	-	N/A
RF cable	R&S	ZV-Z194	100073	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	N/A
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	N/A
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-		N/A
N female to SMA male adapter	-	-	-	-	N/A
Occupied Bandwidth					
Hygromer	Rotronic	A1	2677	12	11-Jun-2016
Digital Multimeter	Fluke	79 Series II	3057	12	06-Oct-2015
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSW	103799	12	29-Dec-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-2015
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	N/A
Signal generator SMF100A	R&S	SMF 100A	104229	-	29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	18-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571	-	N/A
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539	-	N/A
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	N/A
3 dB attenuator	Wiltron	43KC-3	N/S	-	N/A
RF cable	R&S	ZV-Z193	100062	-	N/A
RF cable	R&S	ZV-Z194	100073	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	N/A

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	N/A
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	N/A
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-	-	N/A
N female to SMA male adapter	-	-	-	-	N/A
Band Edge					
Hygromer	Rotronic	A1	2677	12	11-Jun-2016
Digital Multimeter	Fluke	79 Series II	3057	12	06-Oct-2015
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSW	103799	12	29-Dec-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-2015
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	N/A
Signal generator SMF100A	R&S	SMF 100A	104229	-	29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	18-Dec-2015
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539	-	N/A
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	N/A
3 dB attenuator	Wiltron	43KC-3	N/S	-	N/A
RF cable	R&S	ZV-Z193	100062	-	N/A
RF cable	R&S	ZV-Z194	100073	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	N/A
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	N/A
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-	-	N/A
N female to SMA male adapter	-	-	-	-	N/A
Transmitter Spurious Emissions					
Hygromer	Rotronic	A1	2677	12	11-Jun-2016
Digital Multimeter	Fluke	79 Series II	3057	12	06-Oct-2015
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSW	103799	12	29-Dec-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-2015
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	N/A
Signal generator SMF100A	R&S	SMF 100A	104229	-	29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	18-Dec-2015
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539	-	N/A
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	N/A
3 dB attenuator	Wiltron	43KC-3	N/S	-	N/A

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
RF cable	R&S	ZV-Z193	100062	-	N/A
RF cable	R&S	ZV-Z194	100073	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	N/A
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	N/A
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-	-	N/A
N female to SMA male adapter	-	-	-	-	N/A
Frequency Stability					
Hygromer	Rotronic	A1	2677	12	11-Jun-2016
Digital Multimeter	Fluke	79 Series II	3057	12	06-Oct-2015
Thermometer	Fluke	51 Series II	3173	12	04-Dec-2015
Signal Analyzer	R&S	FSW	103799	12	29-Dec-2015
Power sensor	R&S	NRP-Z21	101290	12	01-Oct-2015
Power sensor USB adapter (passive)	R&S	NRP-Z4	102947	-	N/A
Signal generator SMF100A	R&S	SMF 100A	104229	-	29-Oct-2015
Signal generator SMF100A	R&S	SMF 100A	104350	12	18-Dec-2015
Signal Switch Unit	Orbis	TX SSU	EB ID 2571	-	N/A
Mains unit 230AC/32A	Orbis	V303	070417A-4006-0539	-	N/A
DC power supply	HP	6032A	US38321561	-	OP MON
Frequency standard	Symmetricom	8040	135130102006	12	17-Nov-2015
3 dB attenuator	Huber&Suhner	6603	N/S	-	N/A
3 dB attenuator	Wiltron	43KC-3	N/S	-	N/A
RF cable	R&S	ZV-Z193	100062	-	N/A
RF cable	R&S	ZV-Z194	100073	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	500056 /4P	-	N/A
RF cable	Huber&Suhner	Sucoflex 104P	142079 /4	-	N/A
RF cable	Huber&Suhner	Sucoflex 104PE	500959 /4PE	-	N/A
Terminator (5 pcs.)	Mini-Circuits	MCL_ANNE-50+	-	-	N/A
N female to SMA male adapter	-	-	-	-	N/A

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

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).

ANNEX A

MODULE LIST

Configuration A			
Product	Product No	R-State	Serial No
RBS 6402	KRD 901 060/*	R3A	C829930748
Software Version:	RASW_20150612_1	Revision:	20150612T0913
	RASW_20150702		20150702T1258