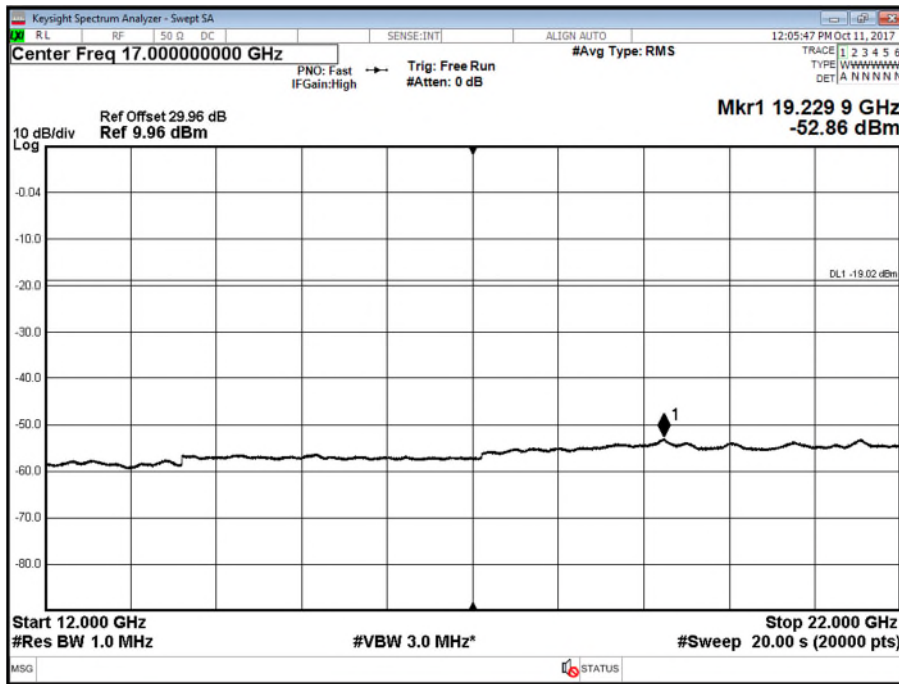
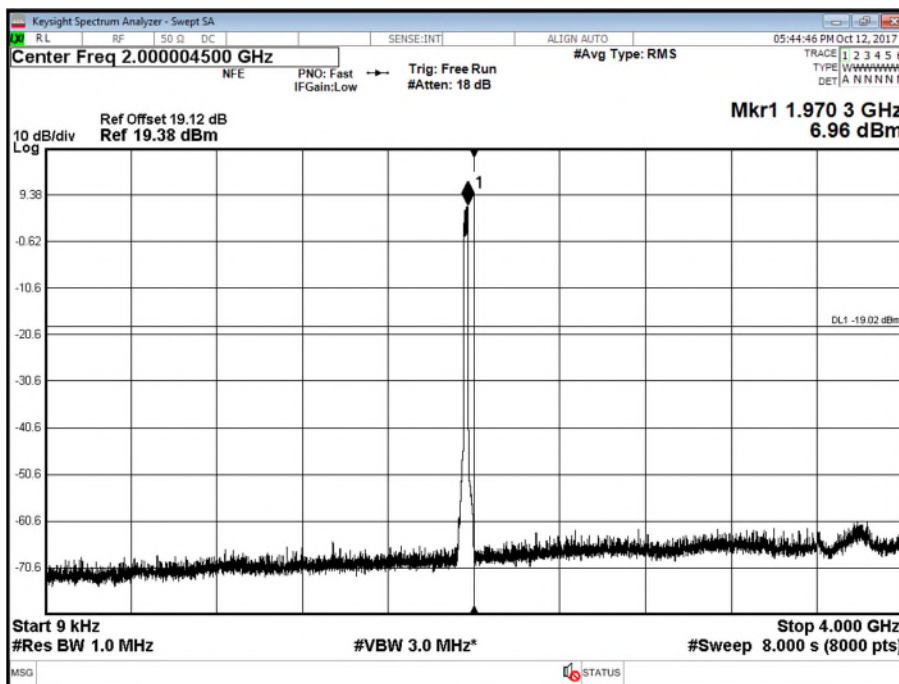




Product Service

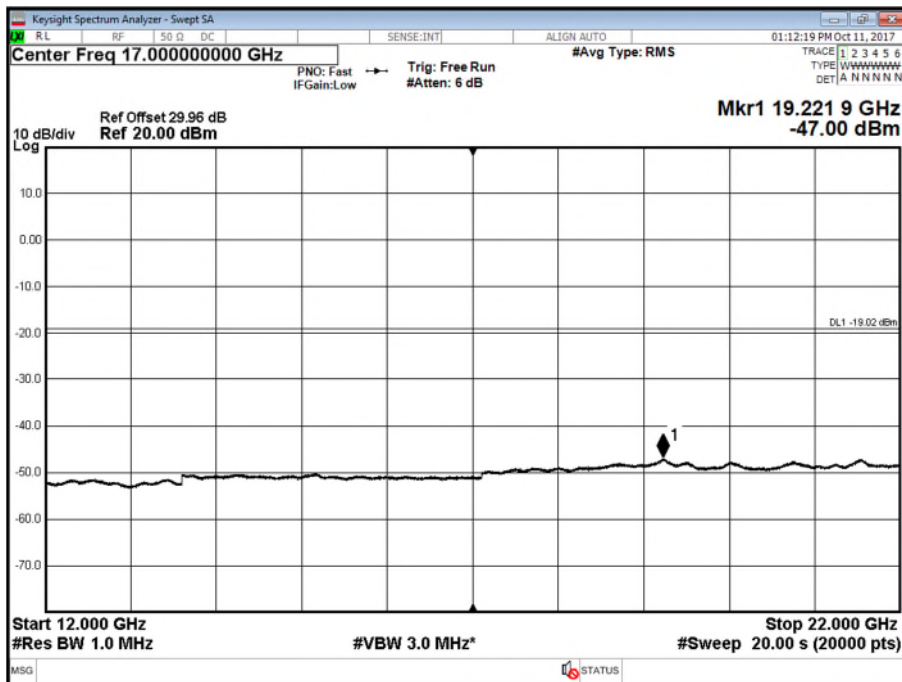
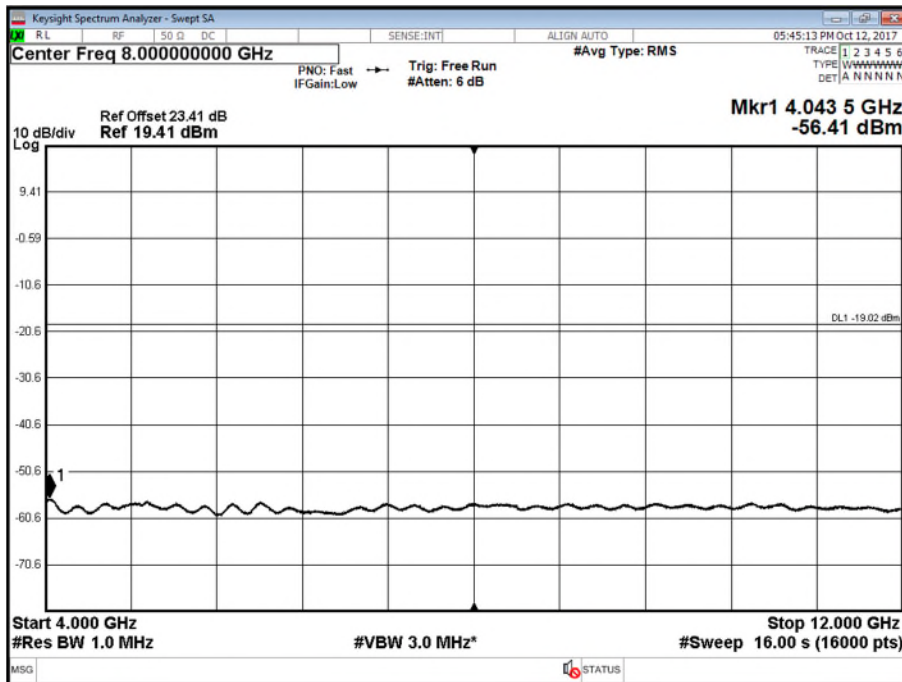


Antenna B - WCDMA Modulation 16QAM - Channel M





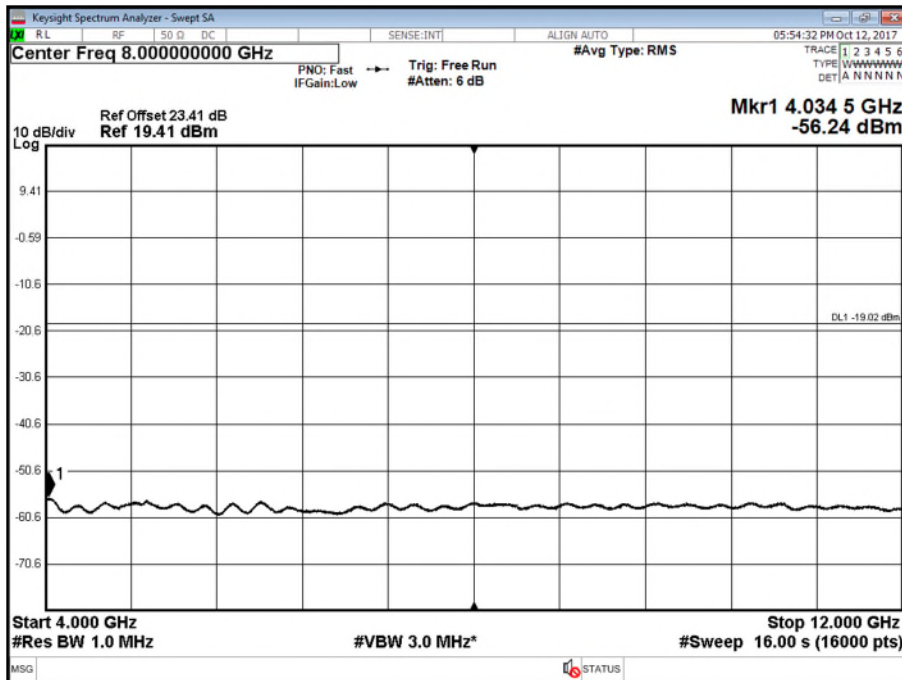
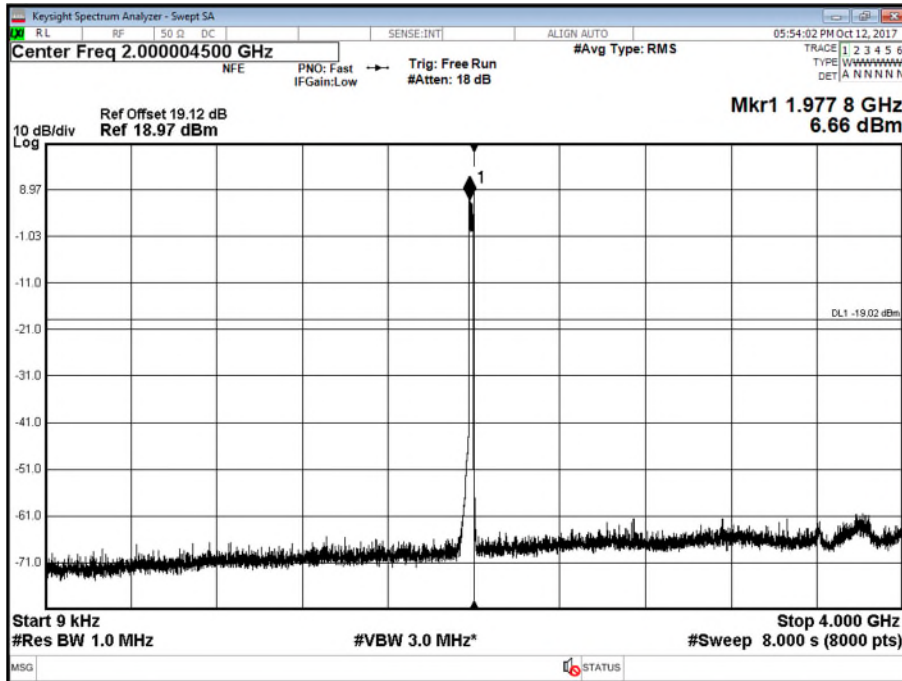
Product Service





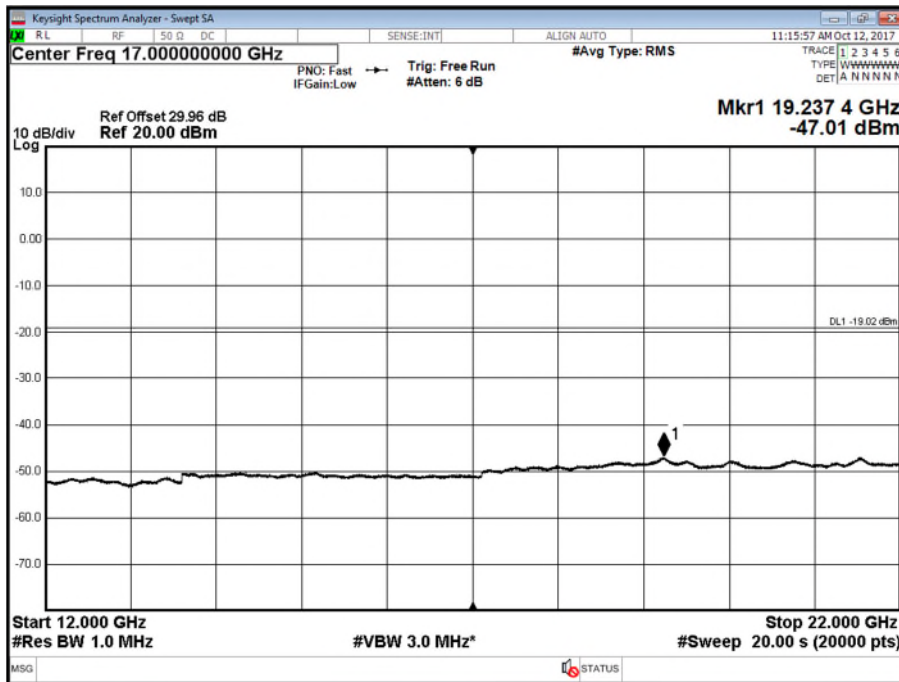
Product Service

### Antenna A - WCDMA Modulation 16QAM - Channel T

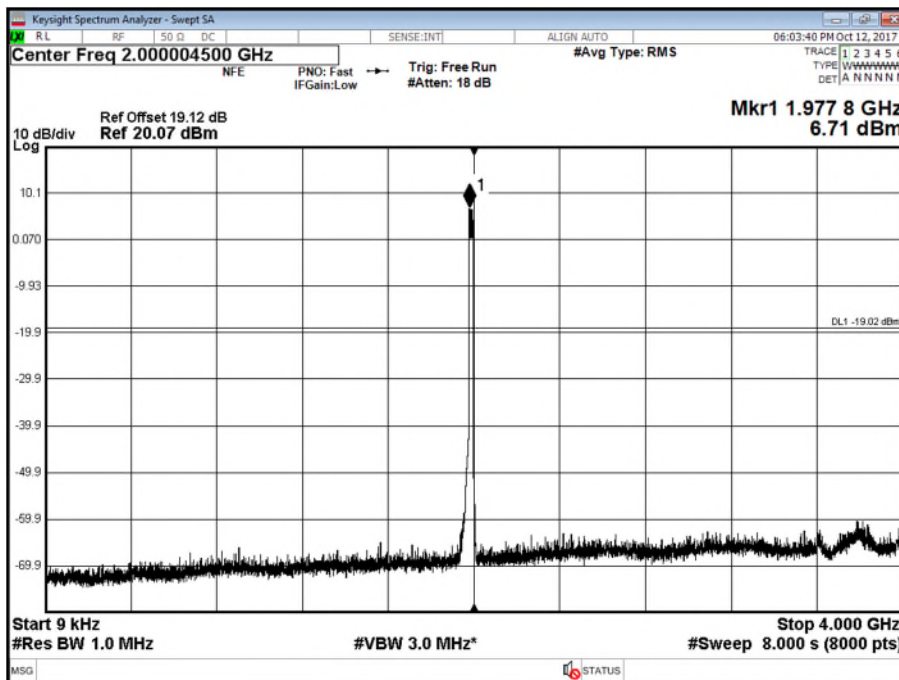




Product Service

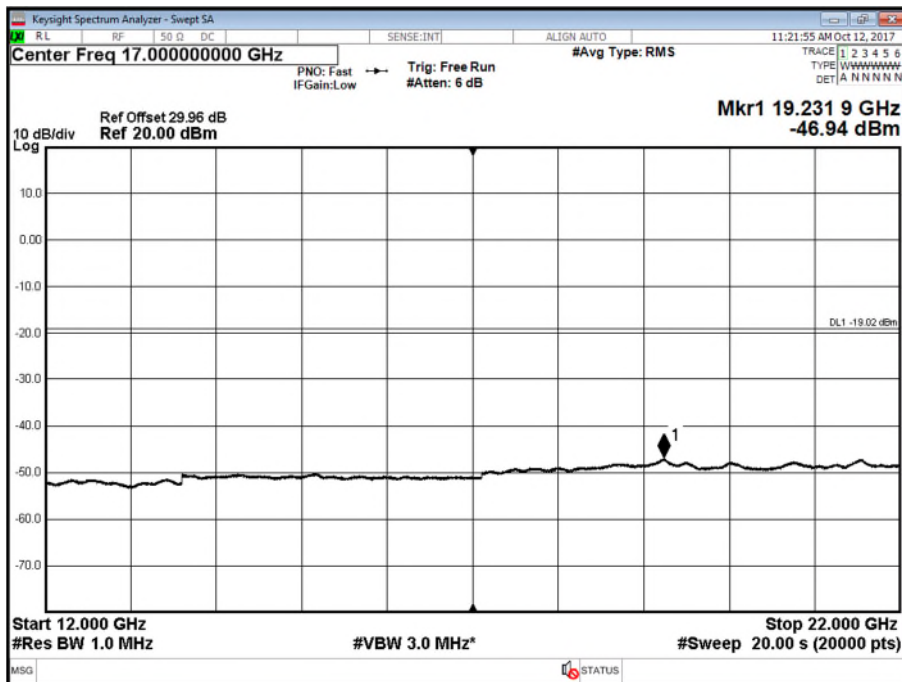
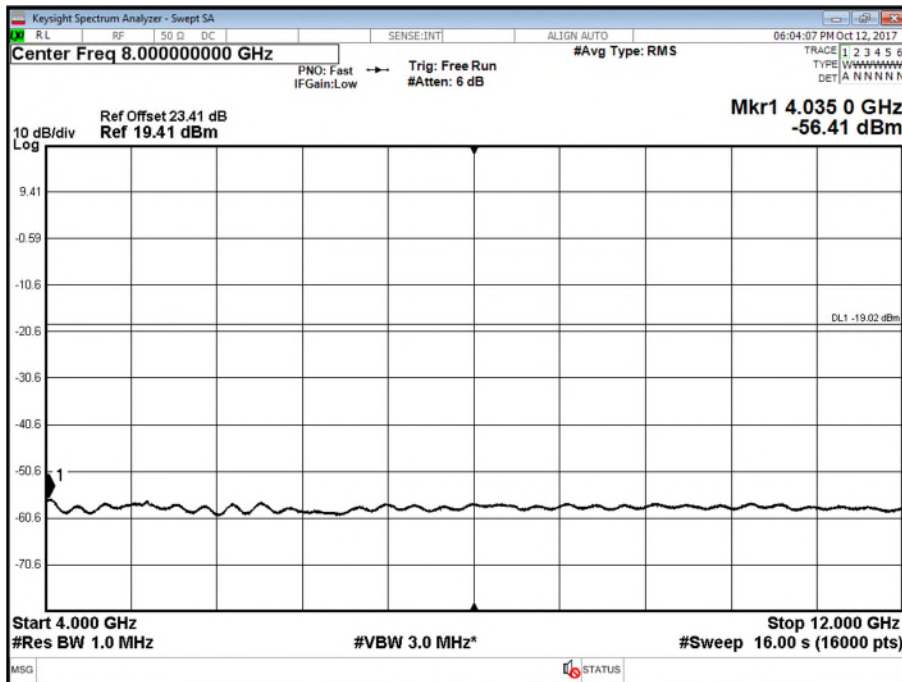


Antenna B - WCDMA Modulation 16QAM - Channel T





Product Service



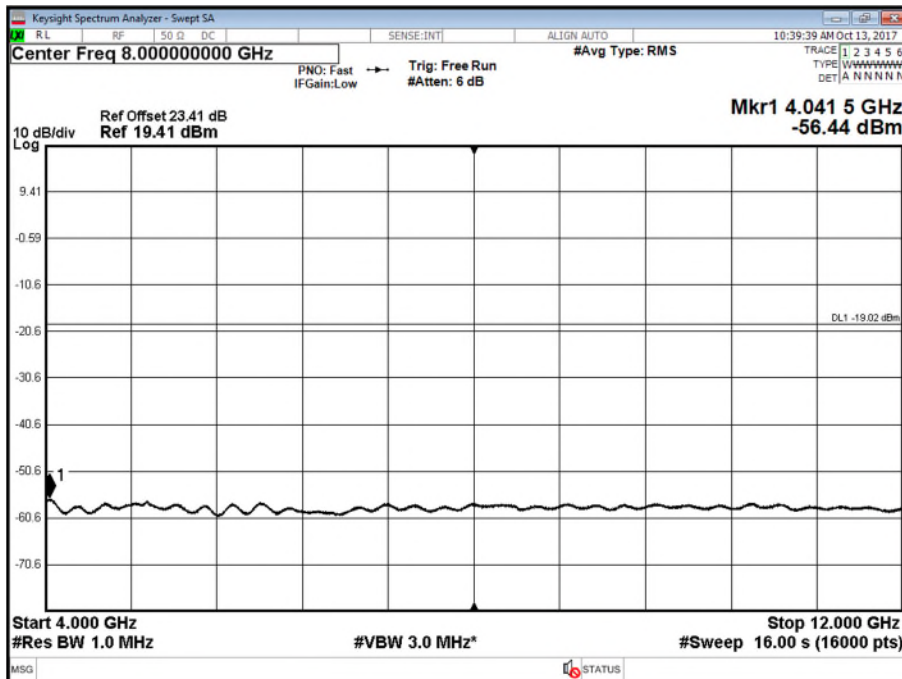
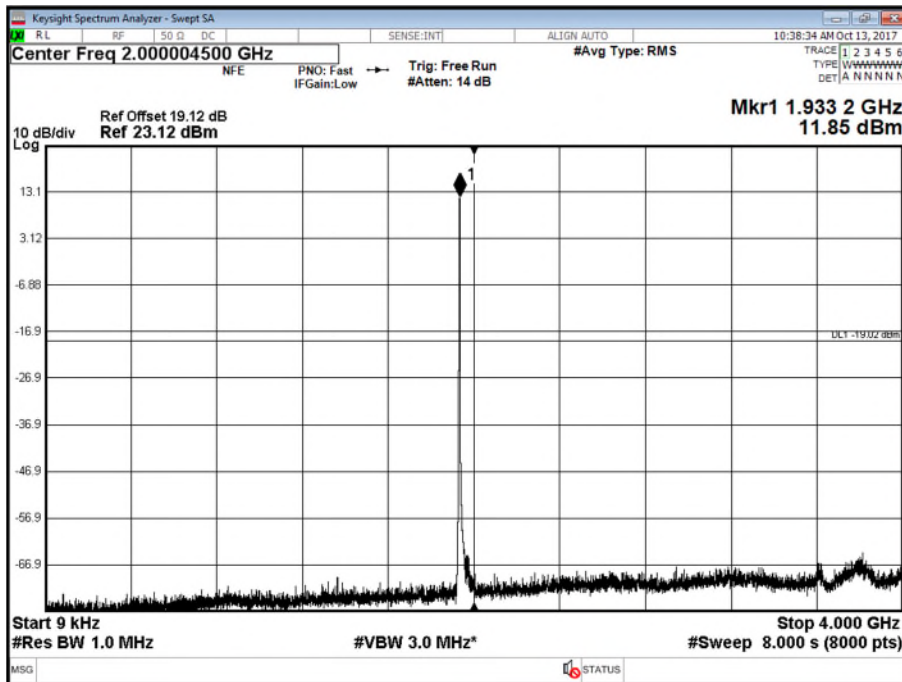
Configuration 4

Maximum Output Power 17 dBm  
LTE 5 MHz Bandwidth setting

Antenna A - LTE Modulation QPSK - Channel B

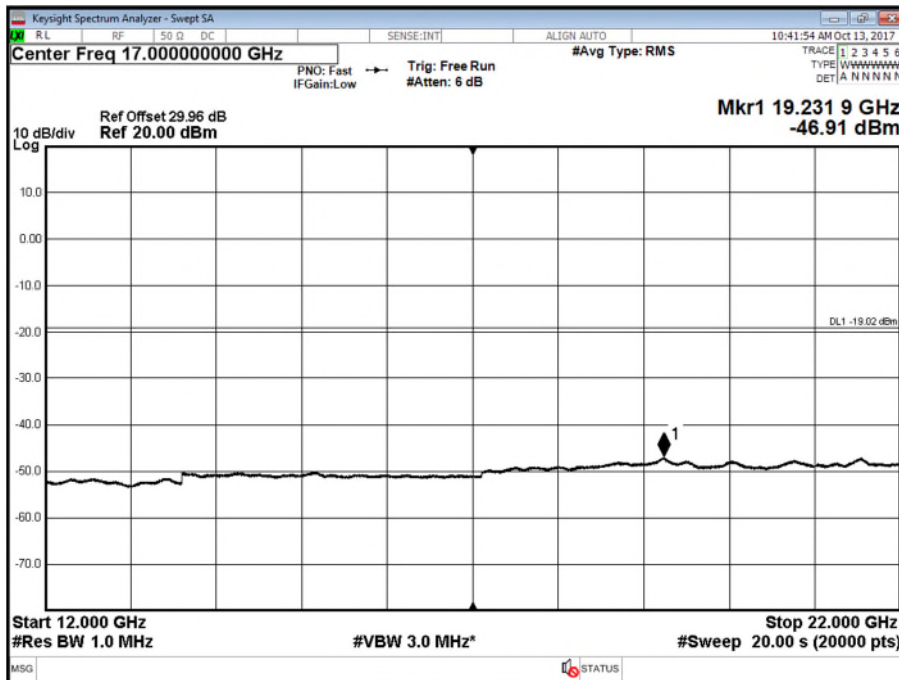


Product Service





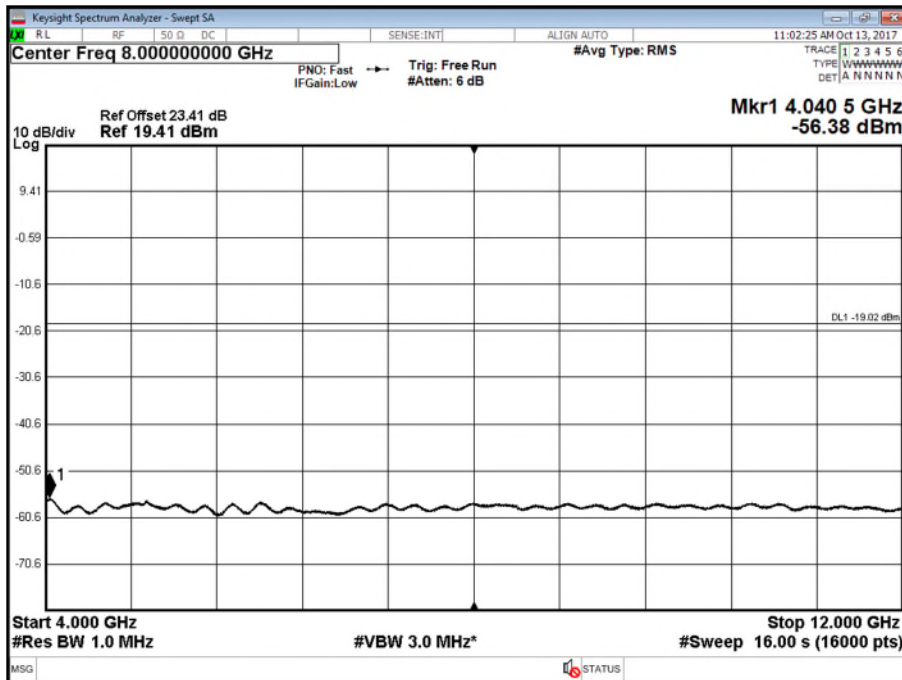
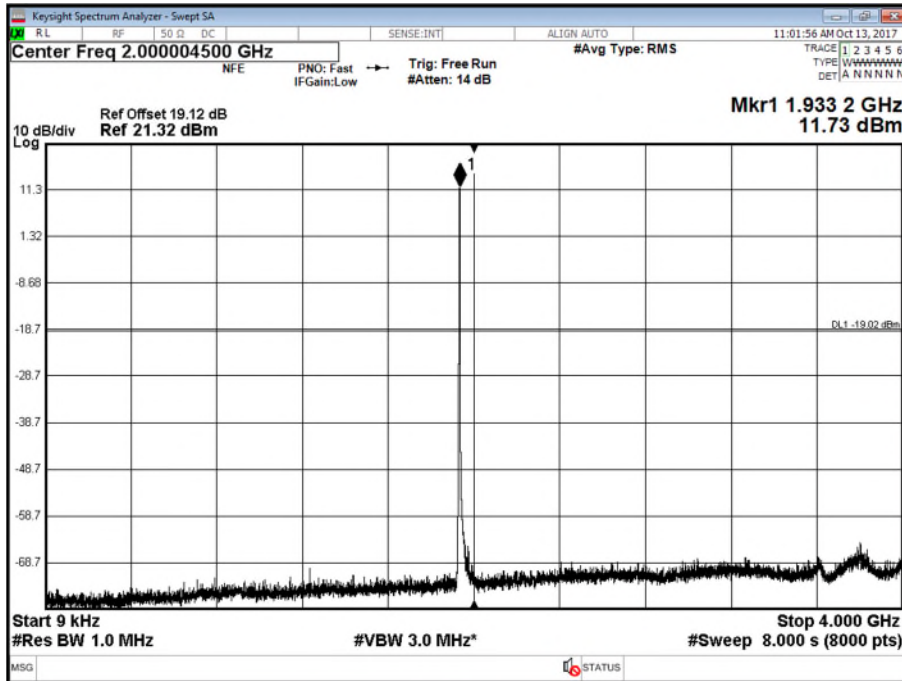
Product Service





Product Service

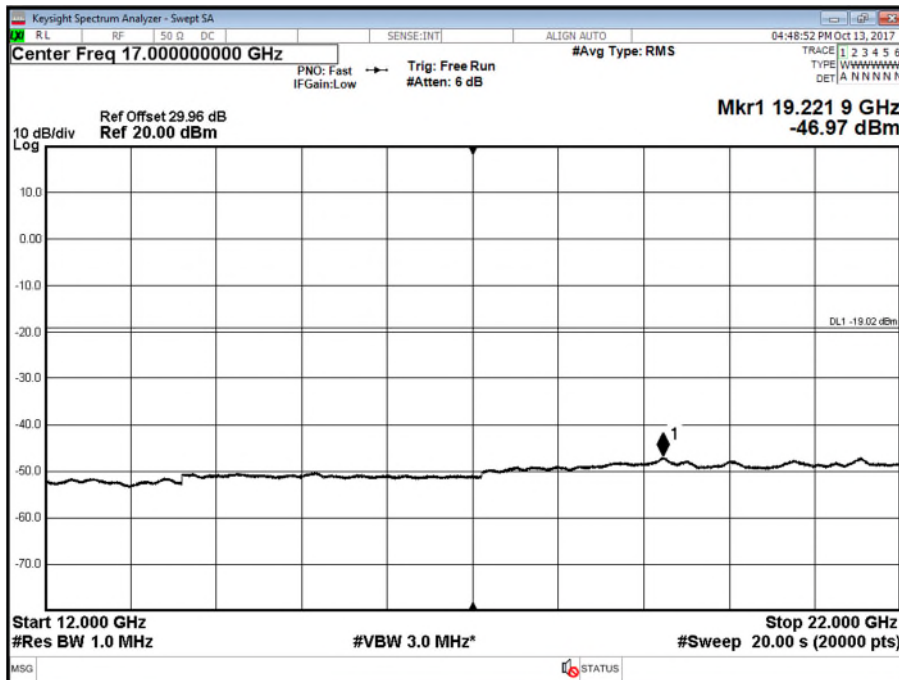
### Antenna B - LTE Modulation QPSK - Channel B







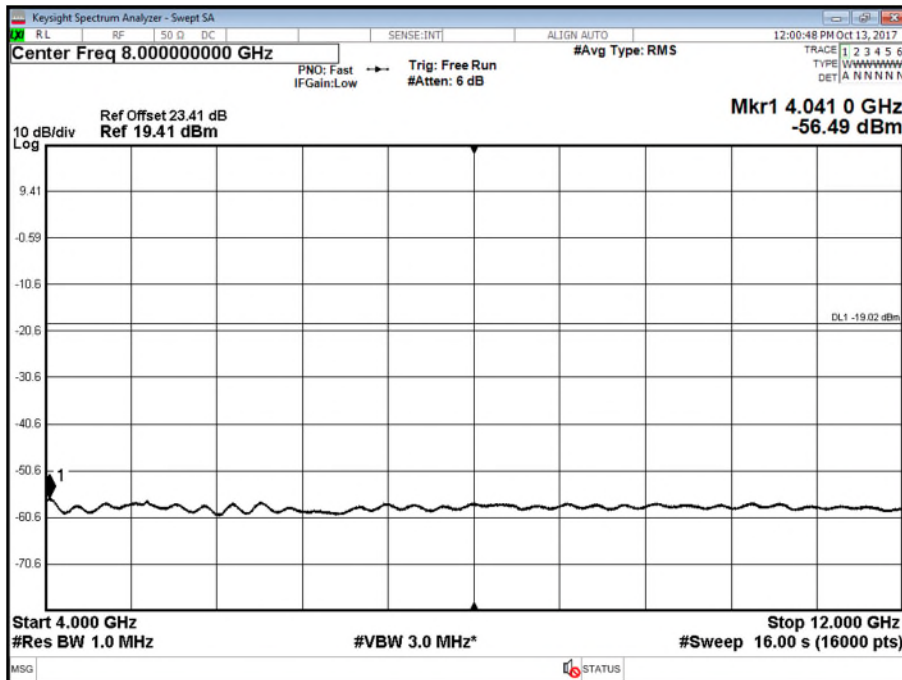
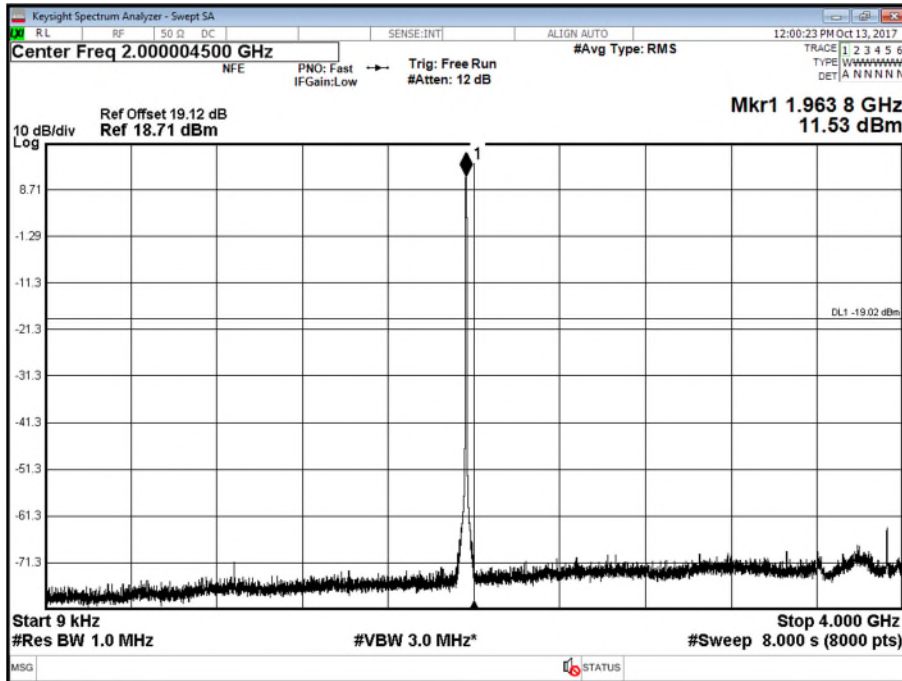
Product Service





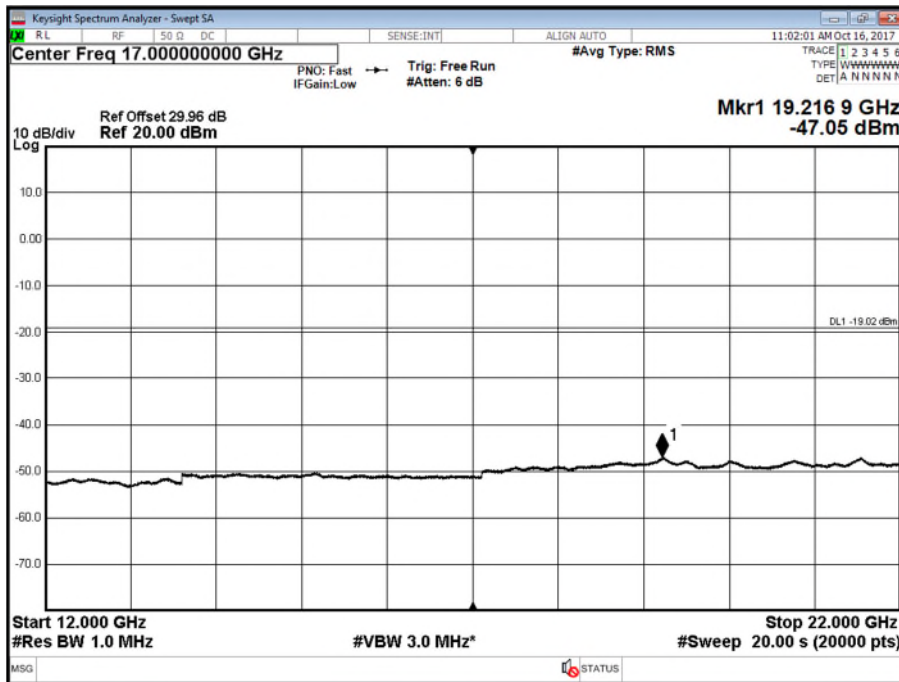
Product Service

### Antenna A - LTE Modulation QPSK - Channel M





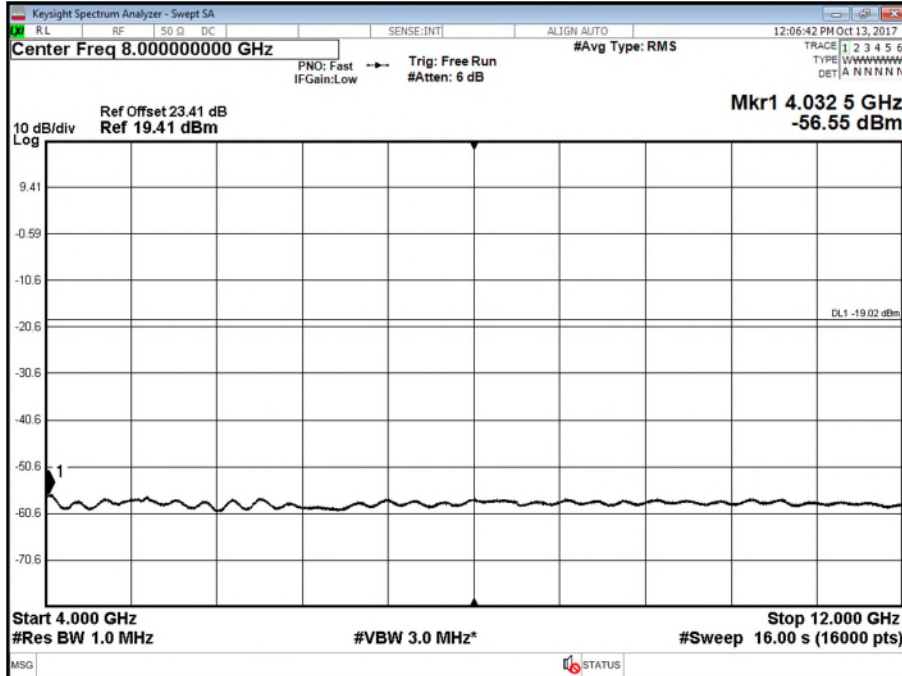
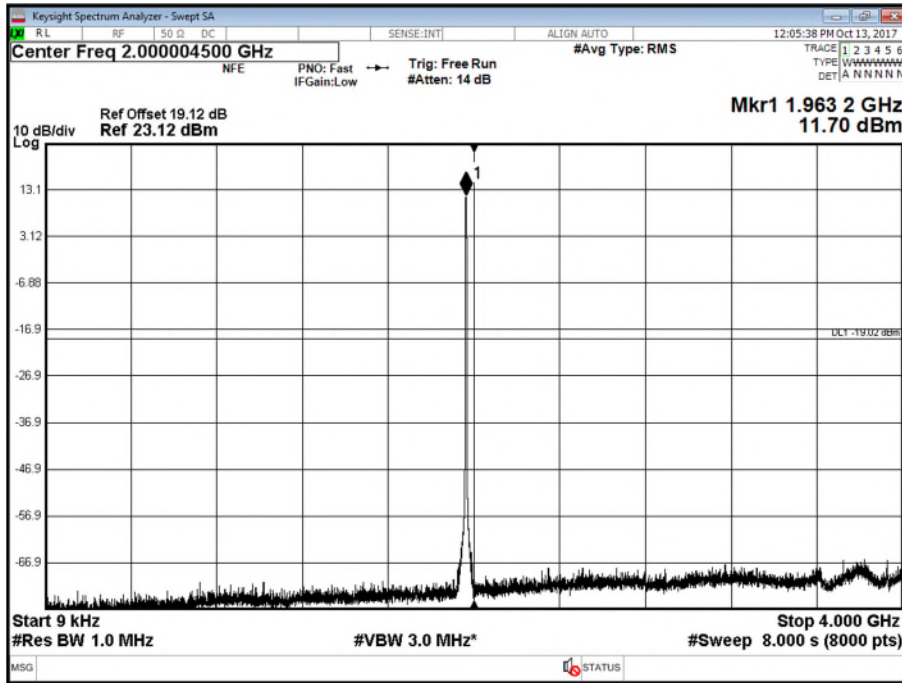
Product Service





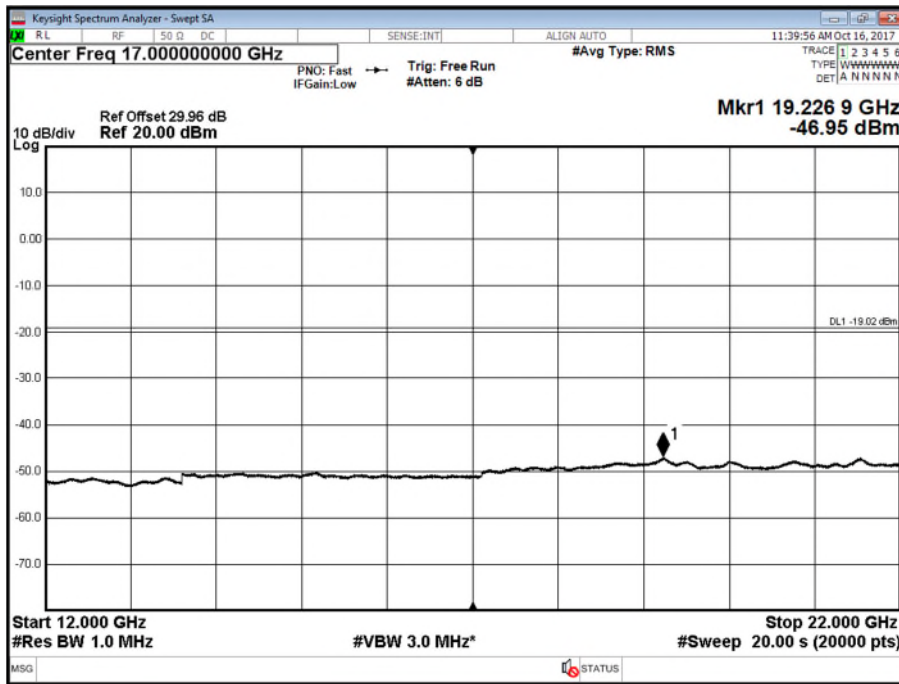
Product Service

### Antenna B - LTE Modulation QPSK - Channel M

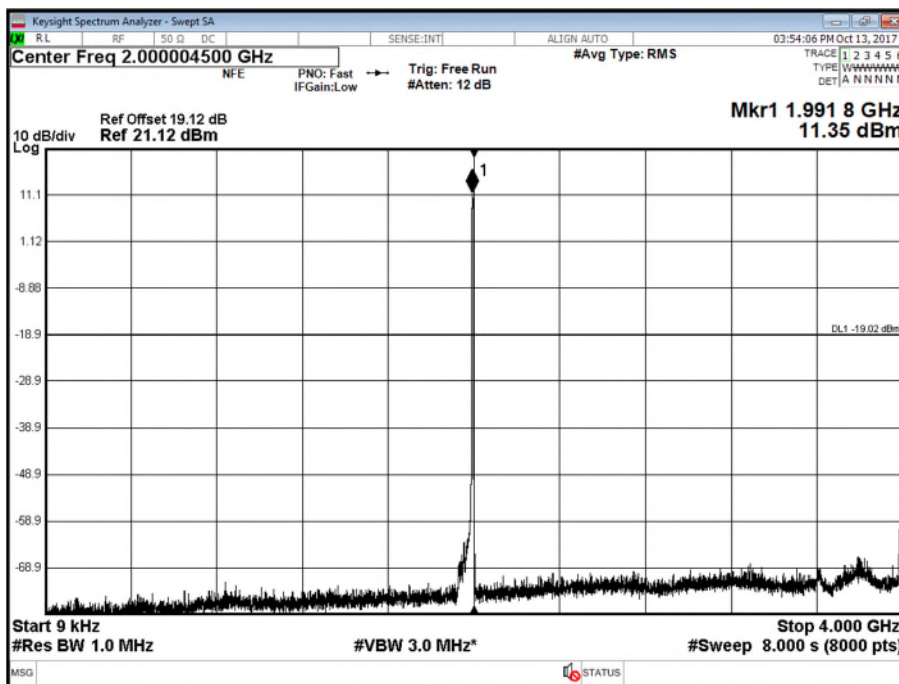




Product Service

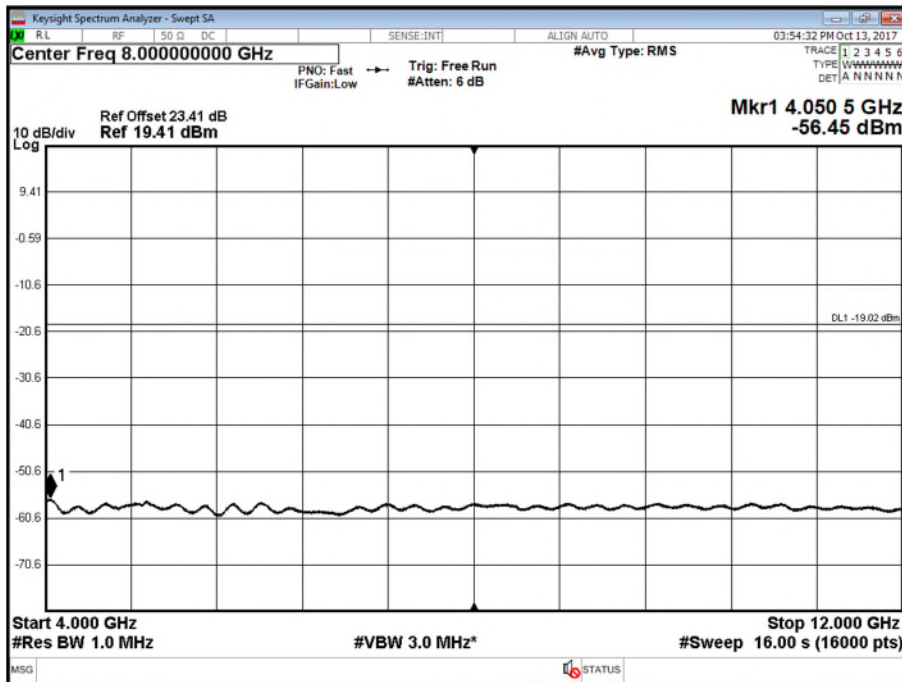


Antenna A - LTE Modulation QPSK - Channel T



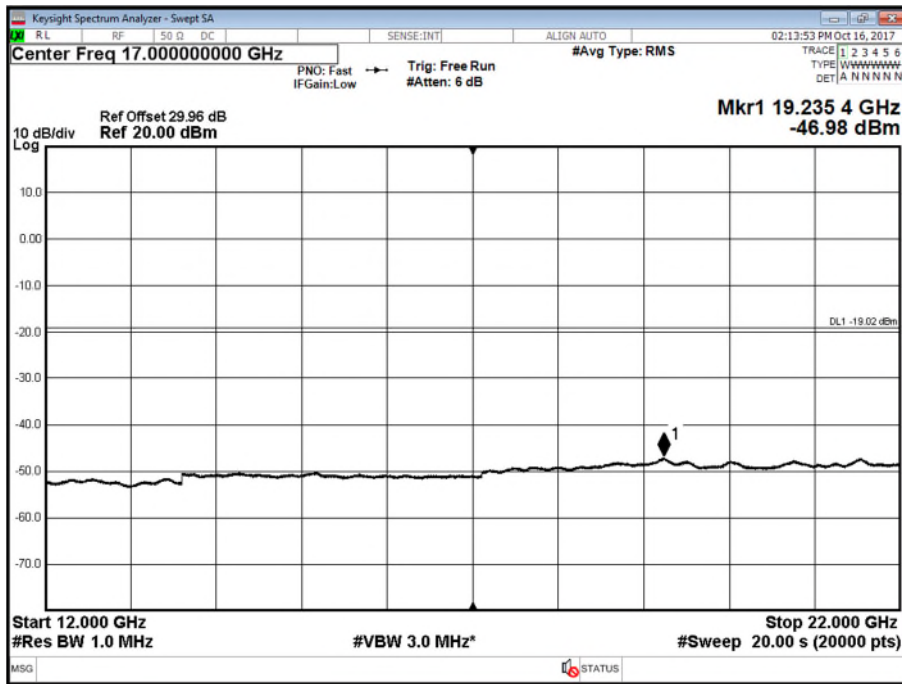


Product Service

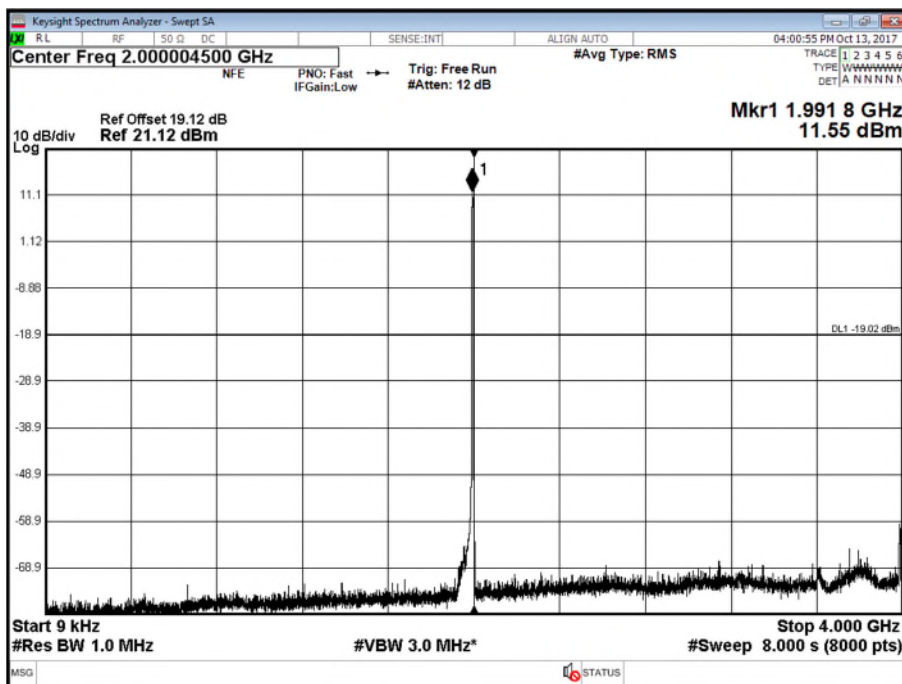




Product Service

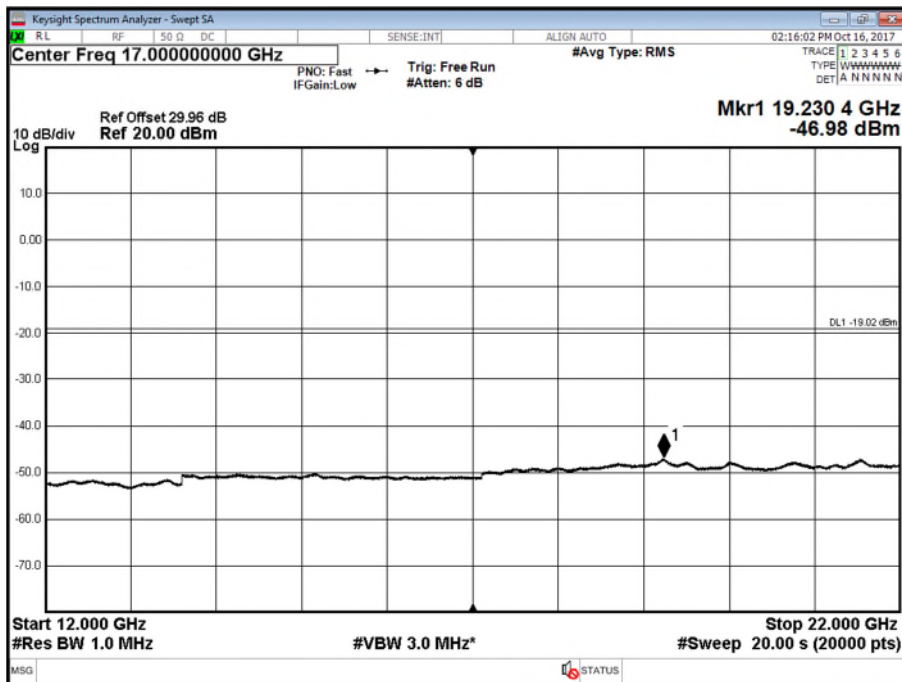
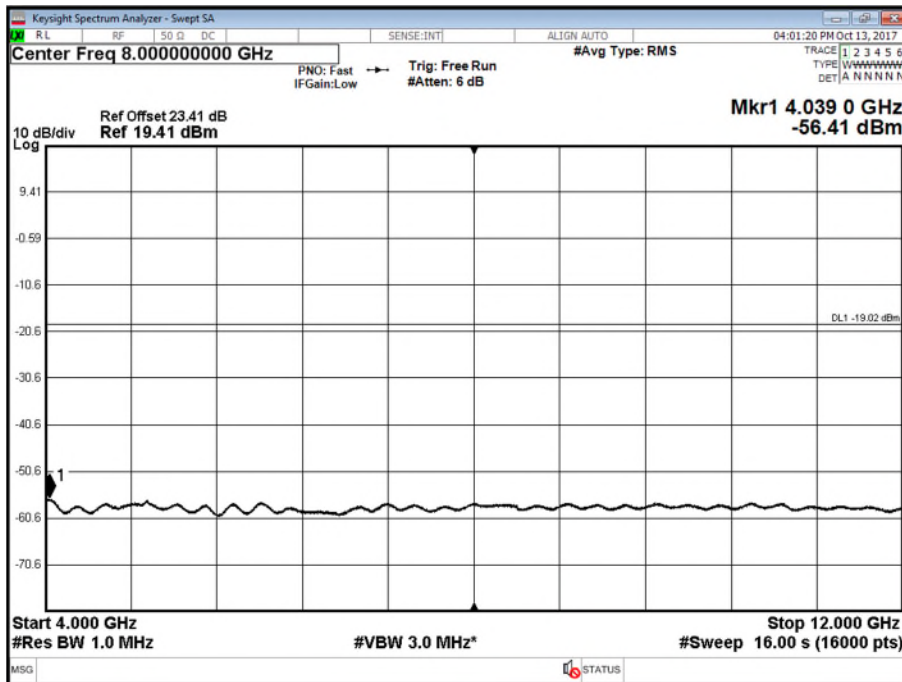


Antenna B - LTE Modulation QPSK - Channel T





Product Service



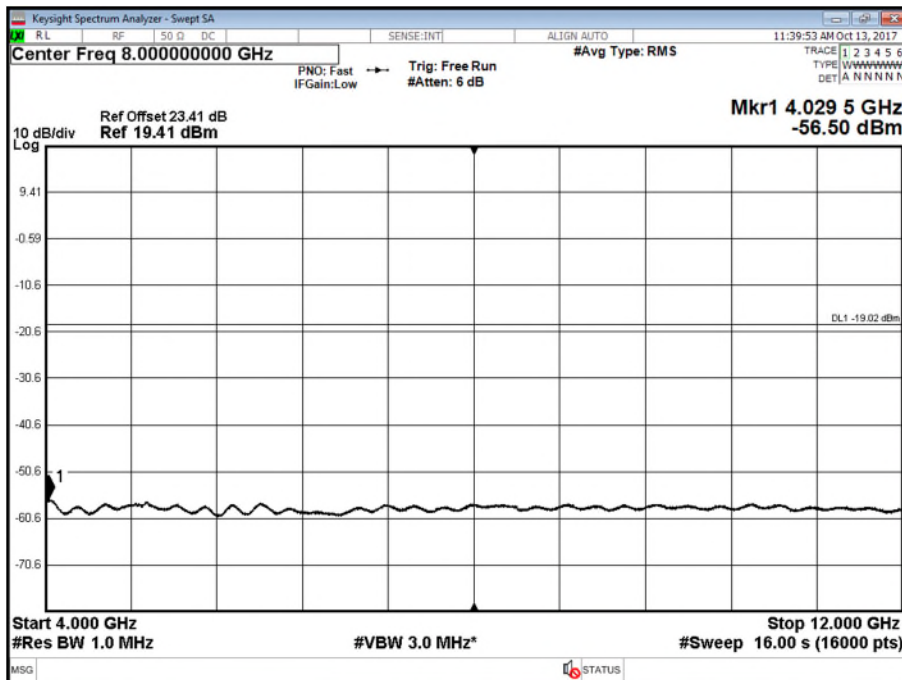
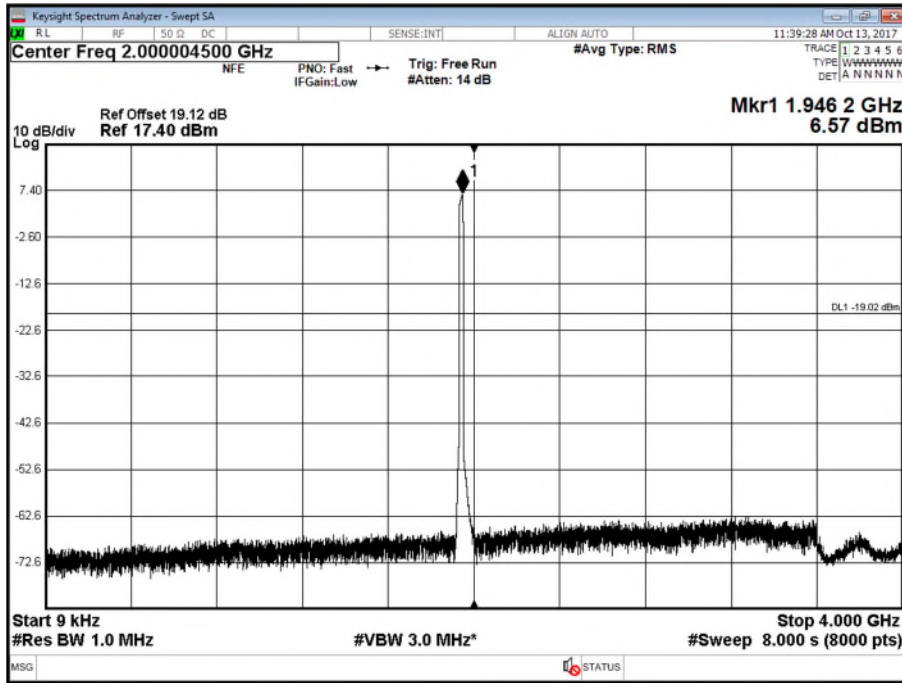




Product Service

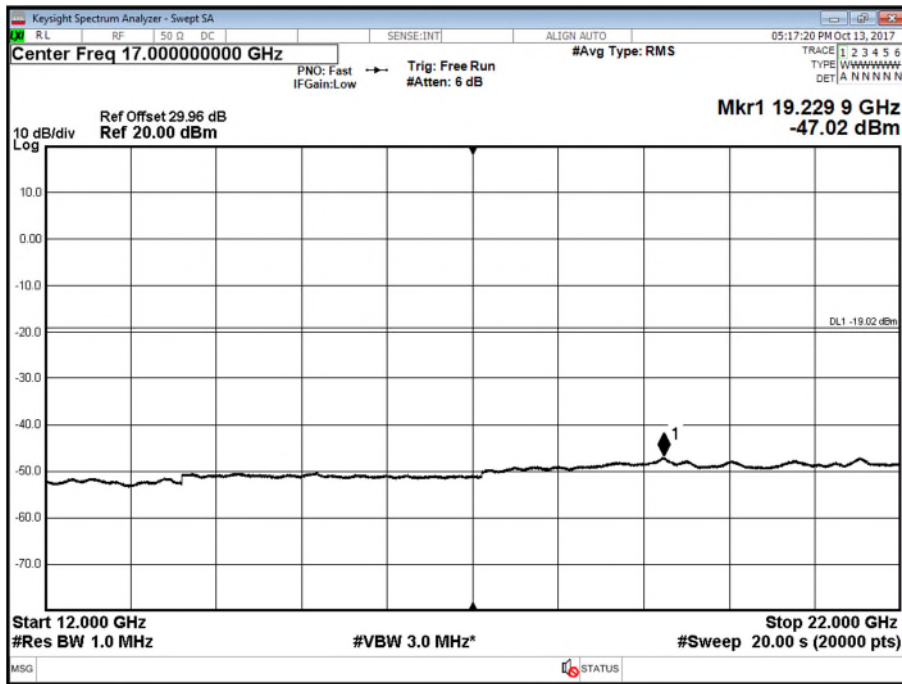
LTE 20 MHz Bandwidth setting

Antenna A - LTE Modulation QPSK - Channel B

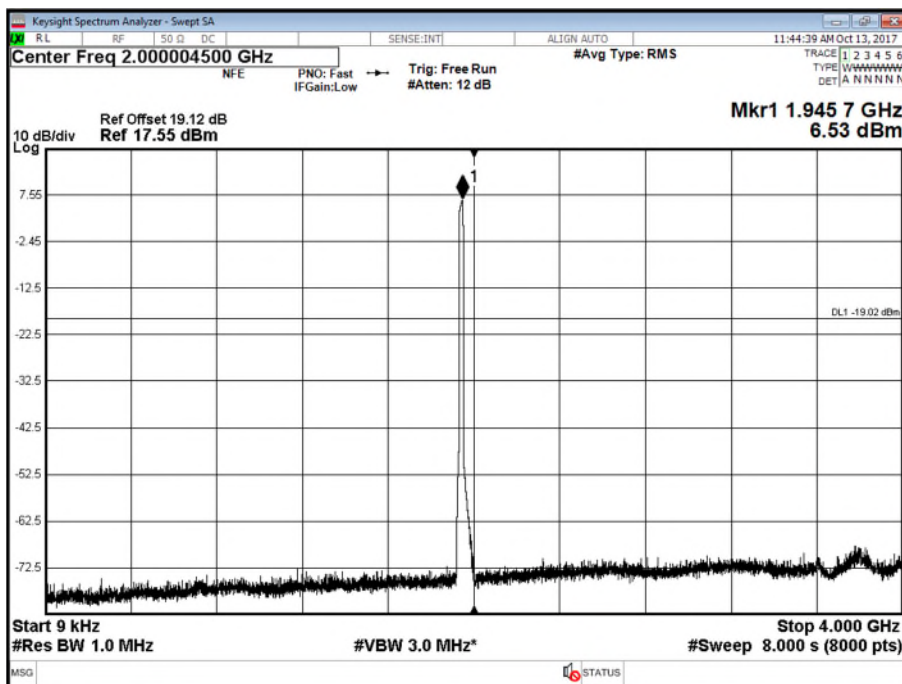




Product Service

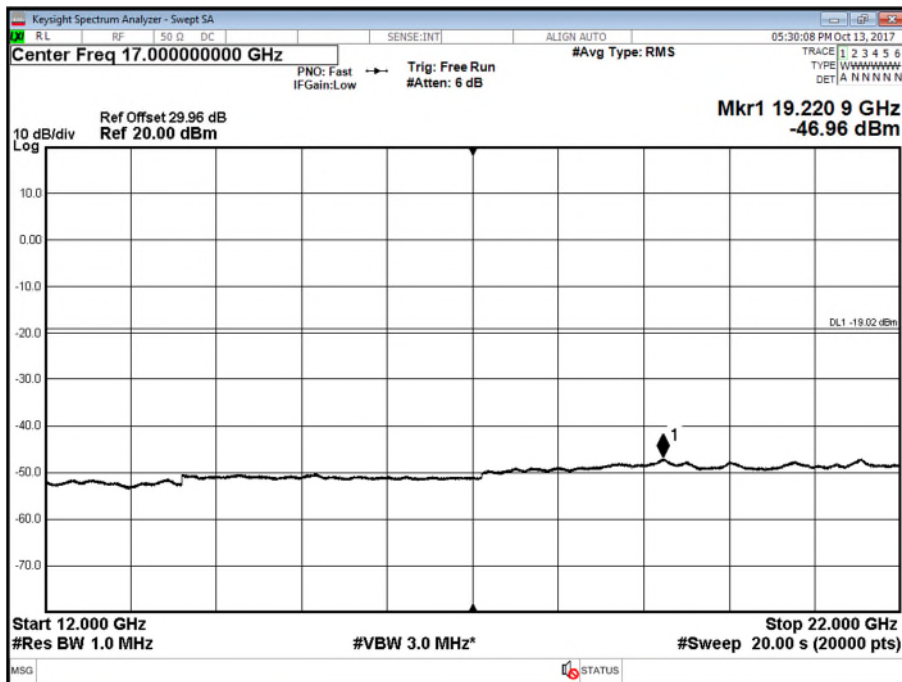
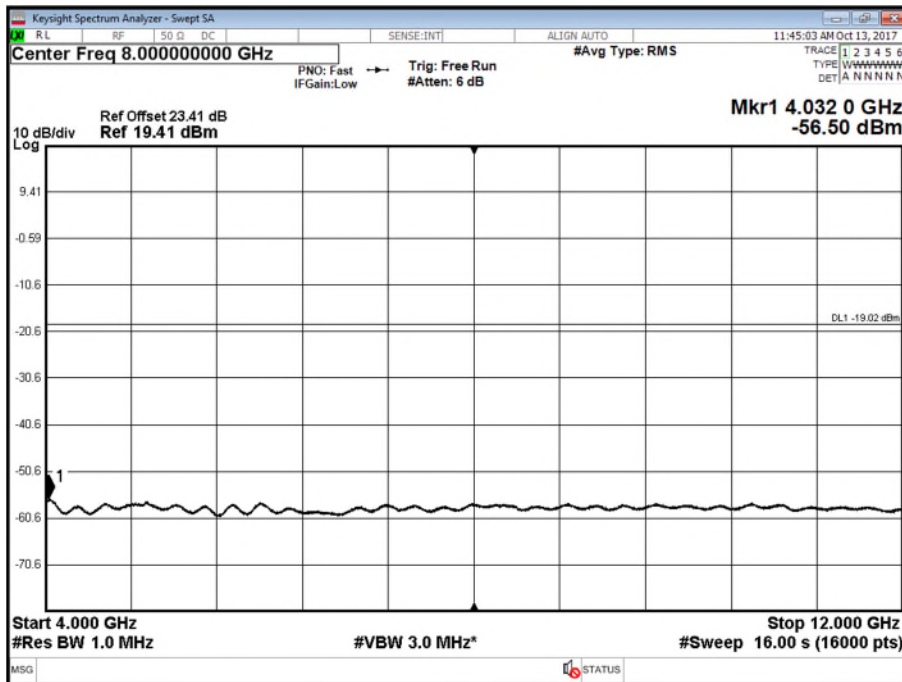


Antenna B - LTE Modulation QPSK - Channel B





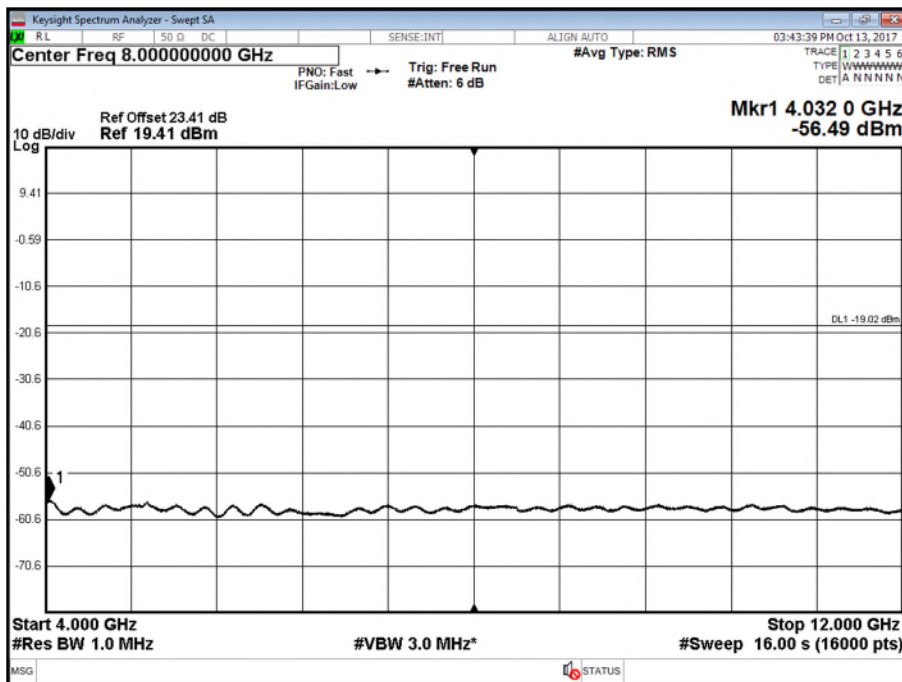
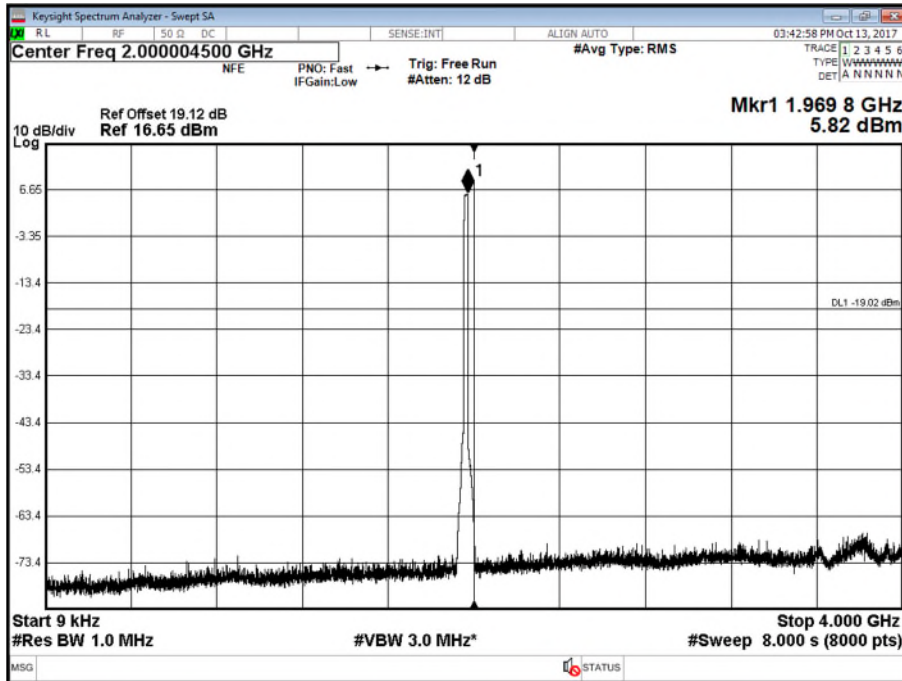
Product Service





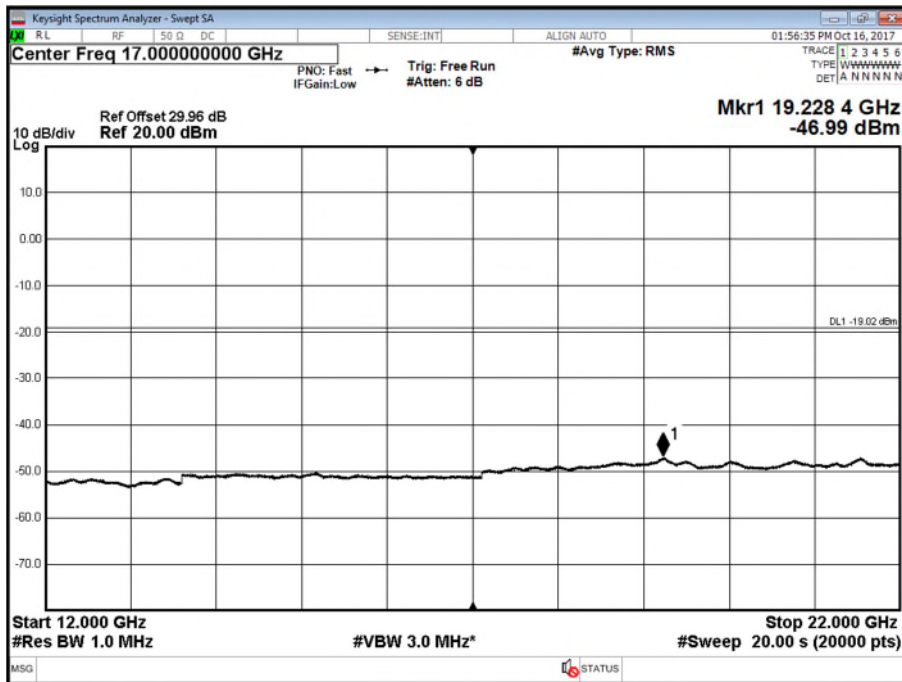
Product Service

### Antenna A - LTE Modulation QPSK - Channel M





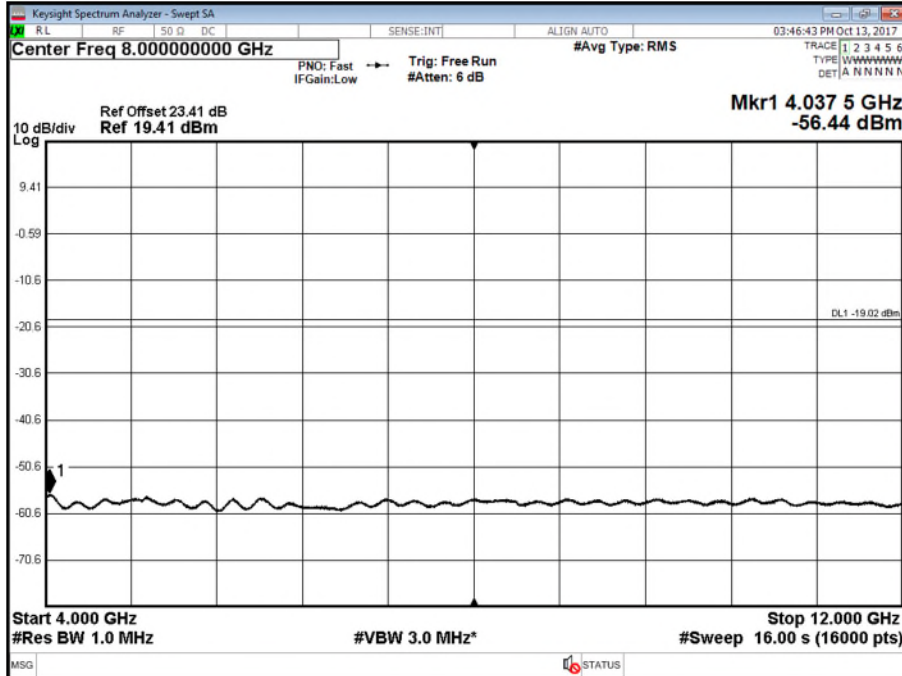
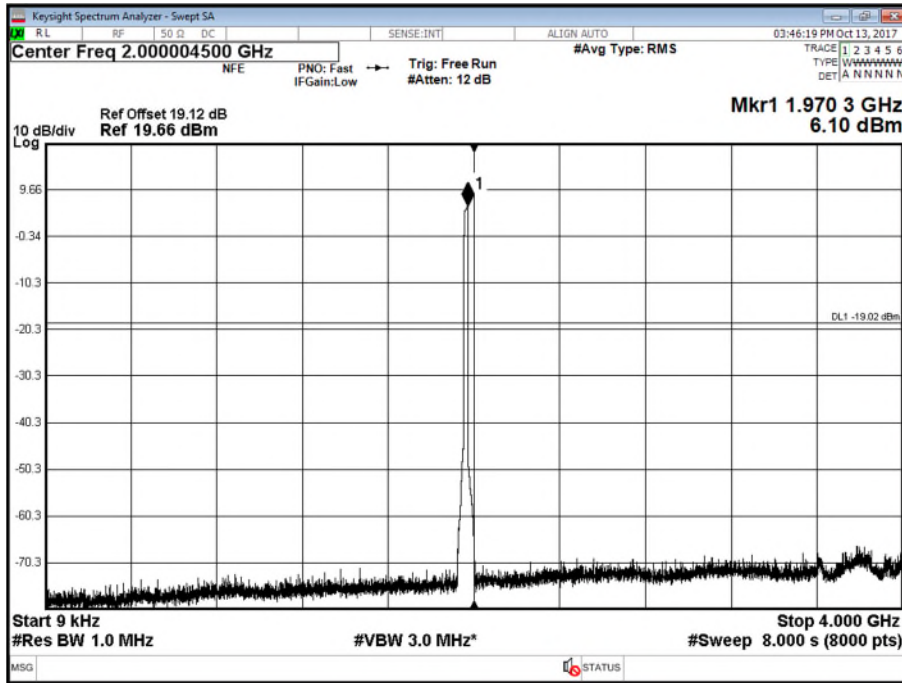
Product Service





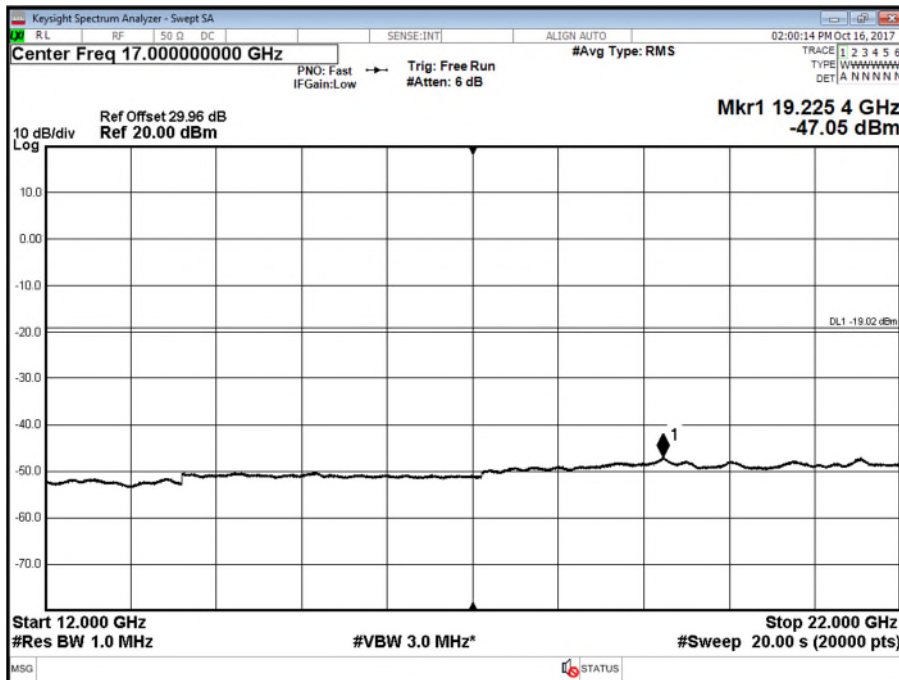
Product Service

### Antenna B - LTE Modulation QPSK - Channel M





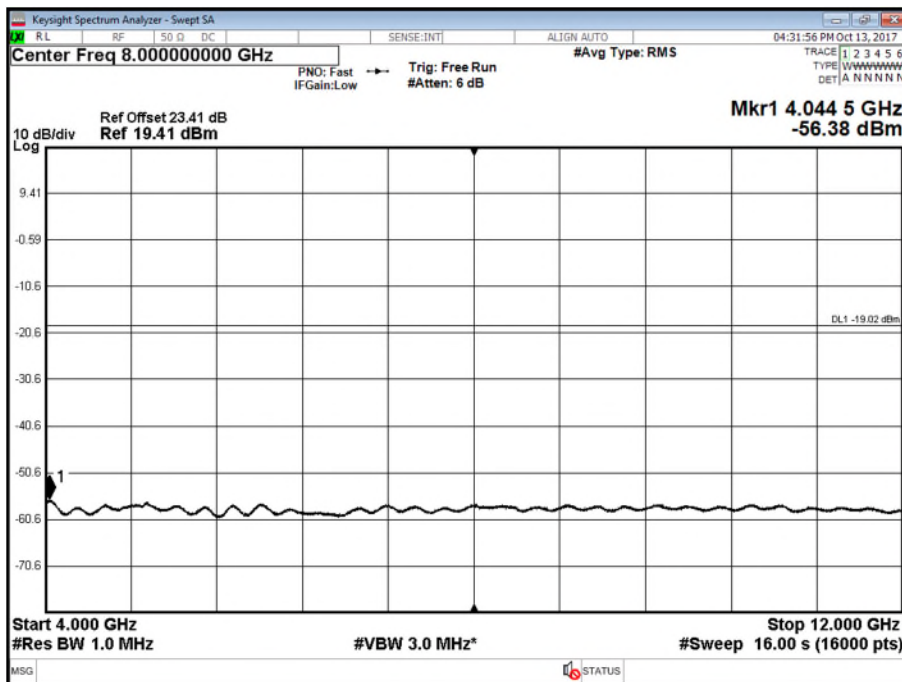
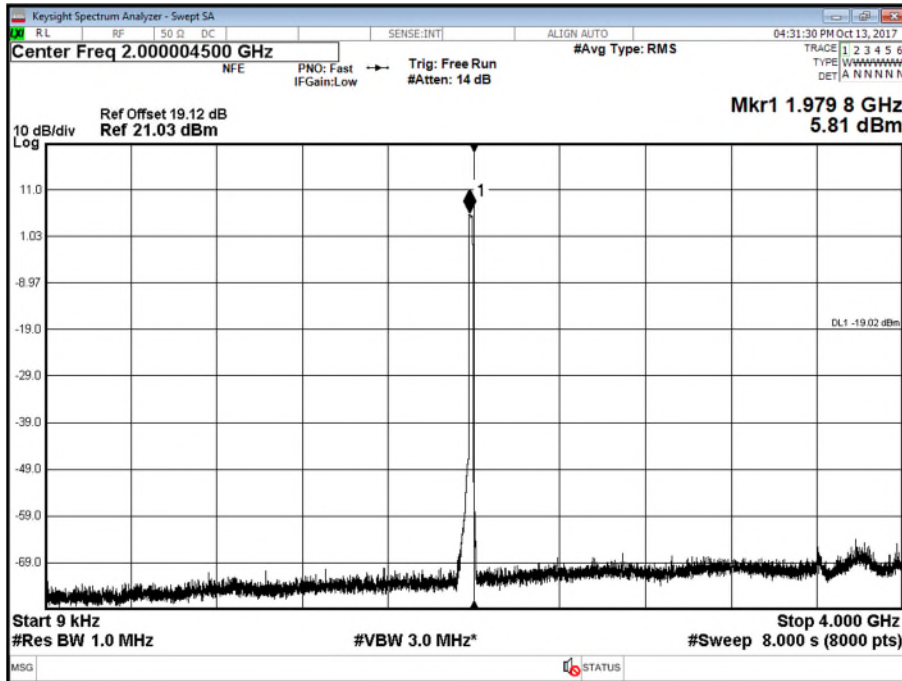
Product Service





Product Service

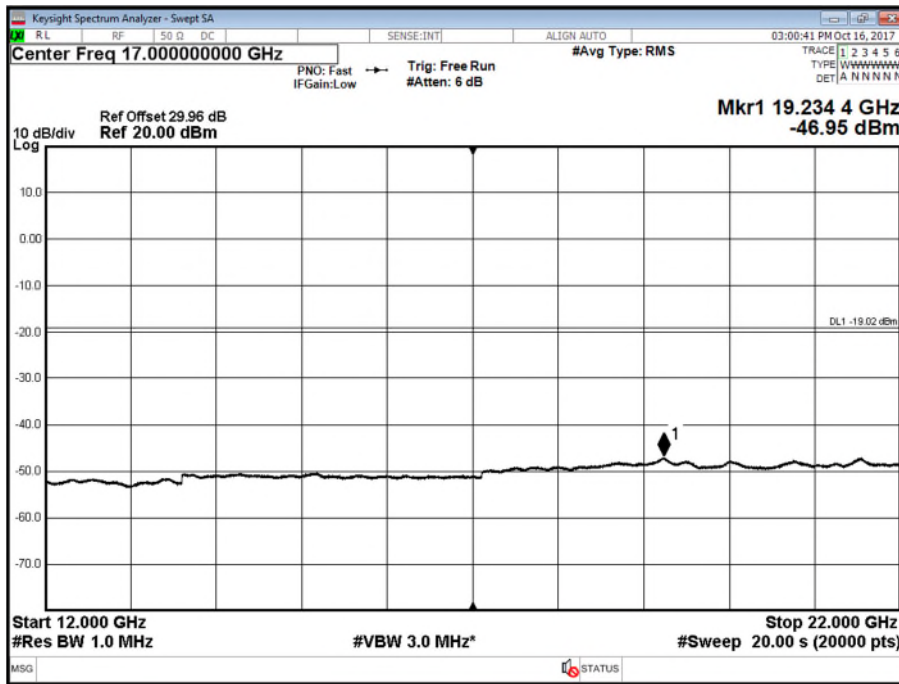
### Antenna A - LTE Modulation QPSK - Channel T



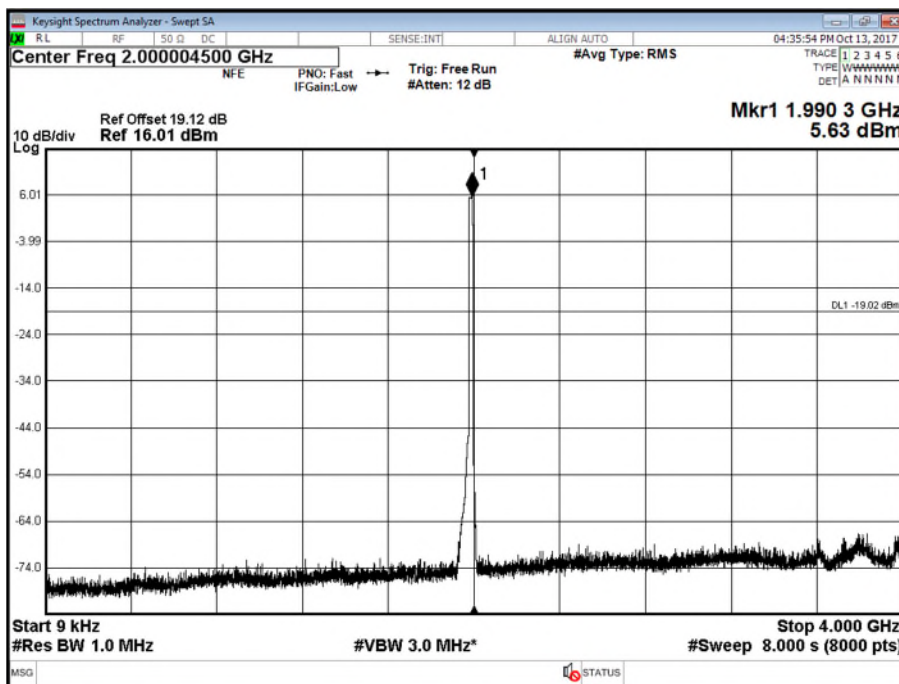




Product Service

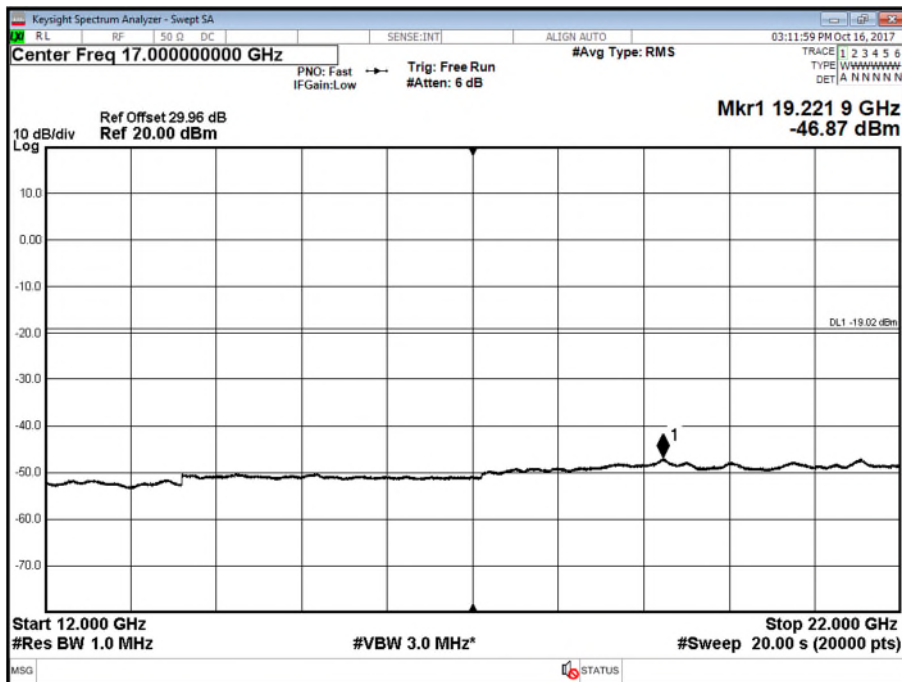
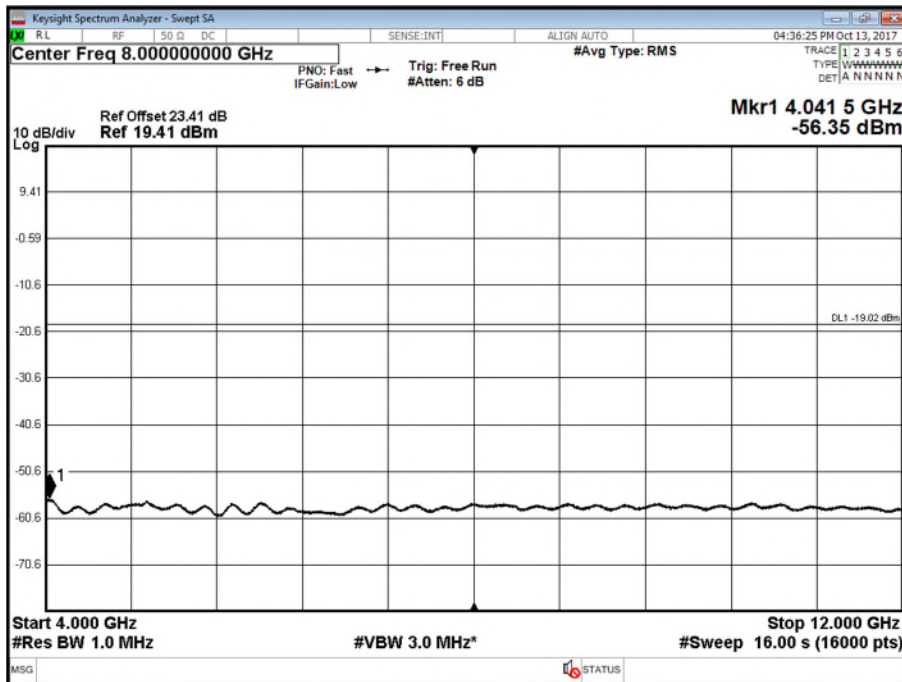


Antenna B - LTE Modulation QPSK - Channel T





Product Service



Configuration 5

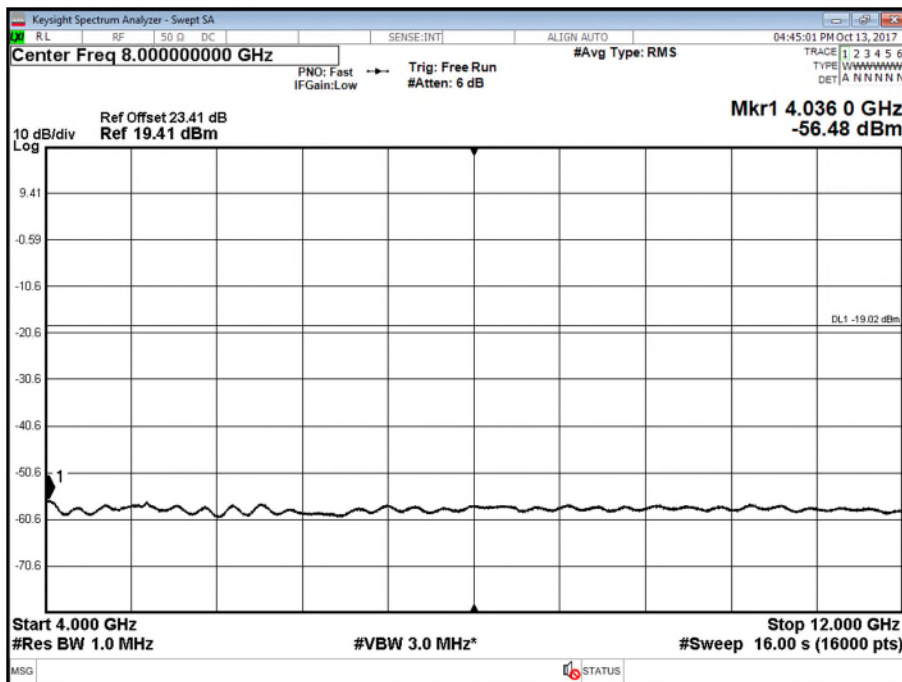
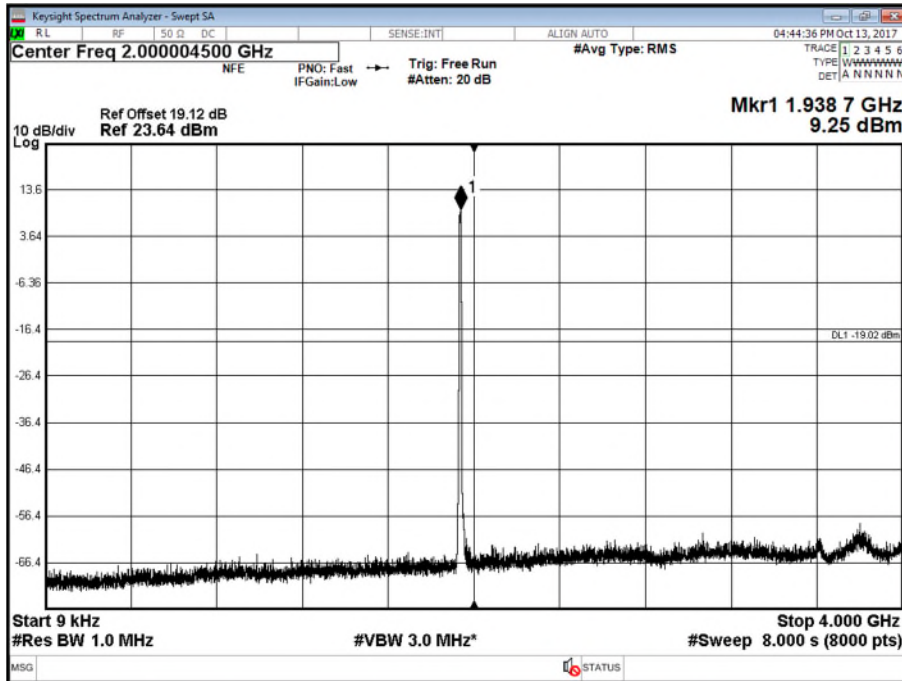
Maximum Output Power 17 dBm

LTE Bandwidth 5 MHz



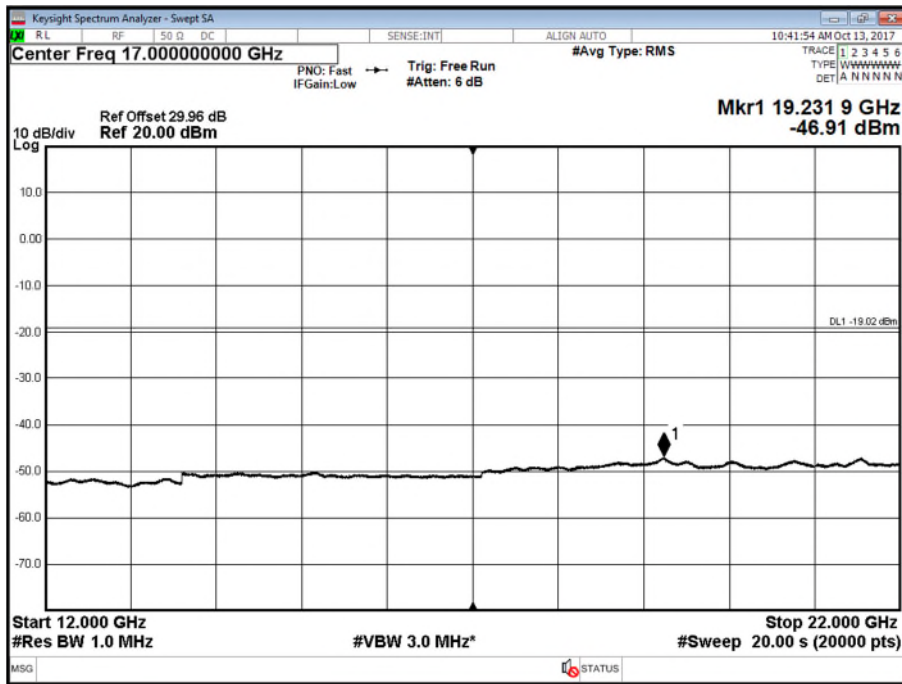
Product Service

### Antenna A - LTE Modulation QPSK - Channel B

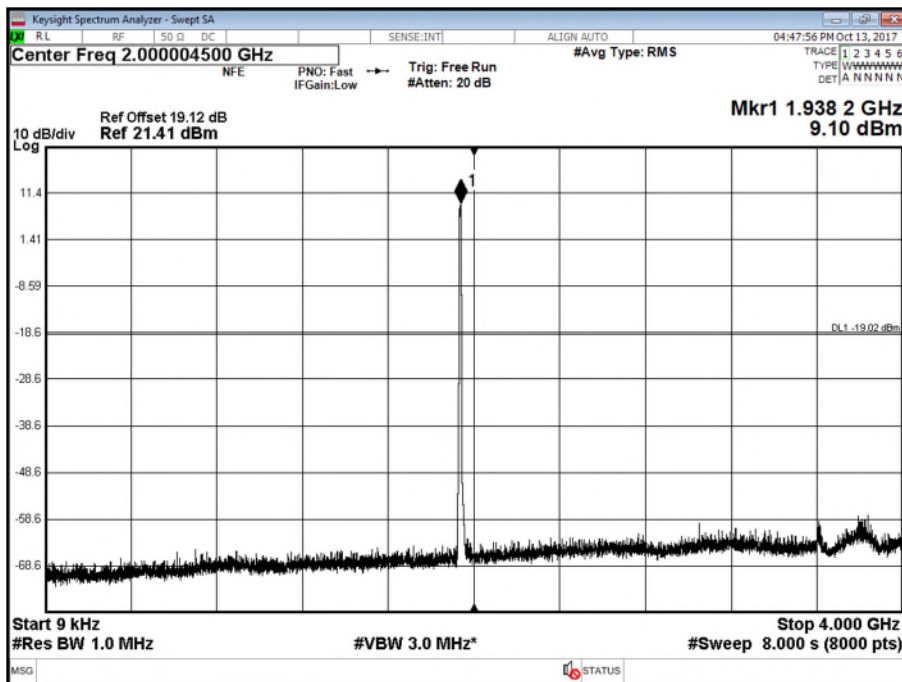




Product Service

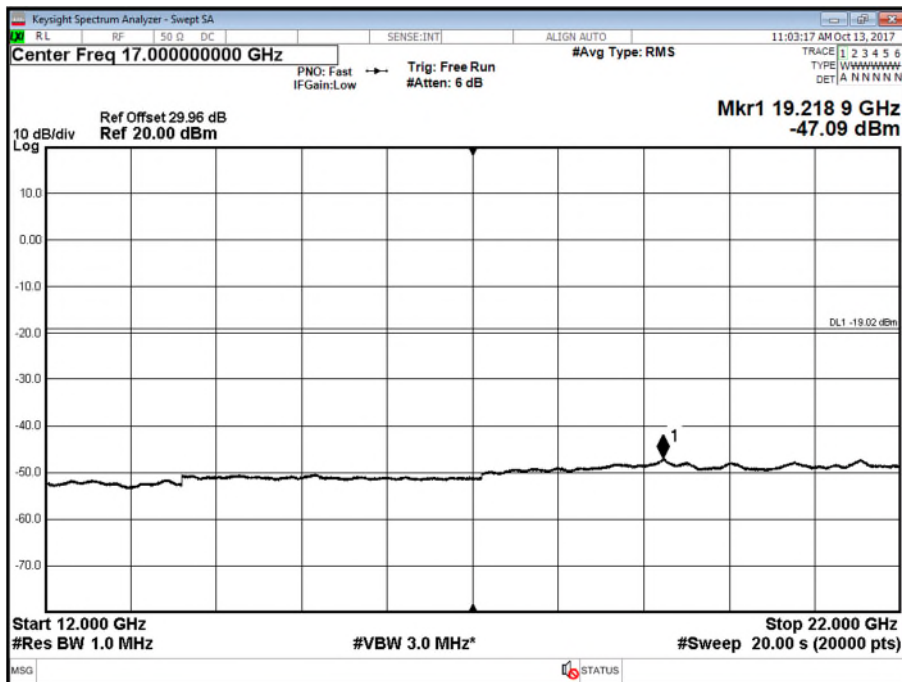
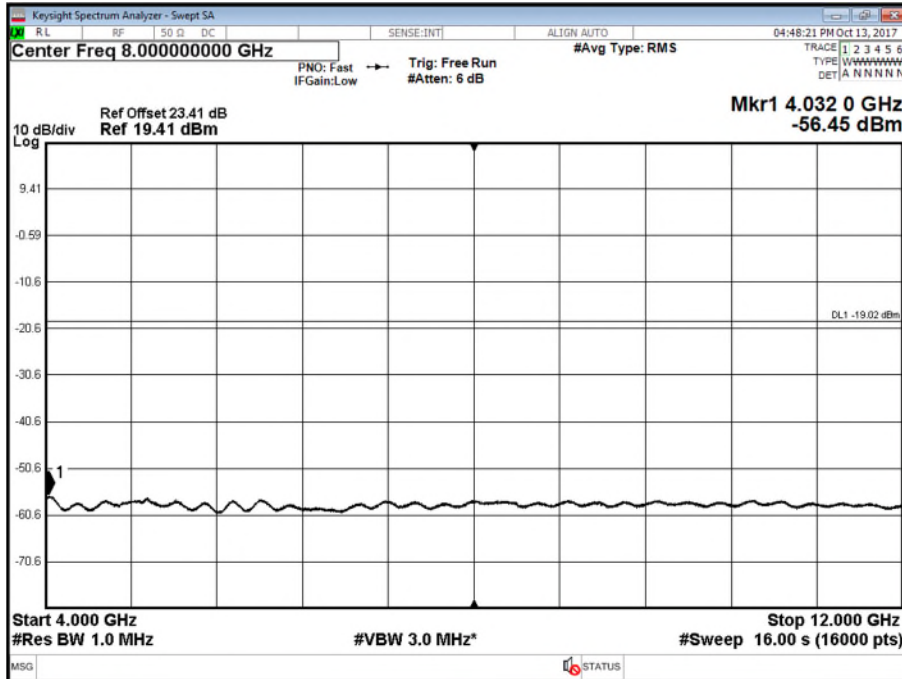


Antenna B - LTE Modulation QPSK - Channel B





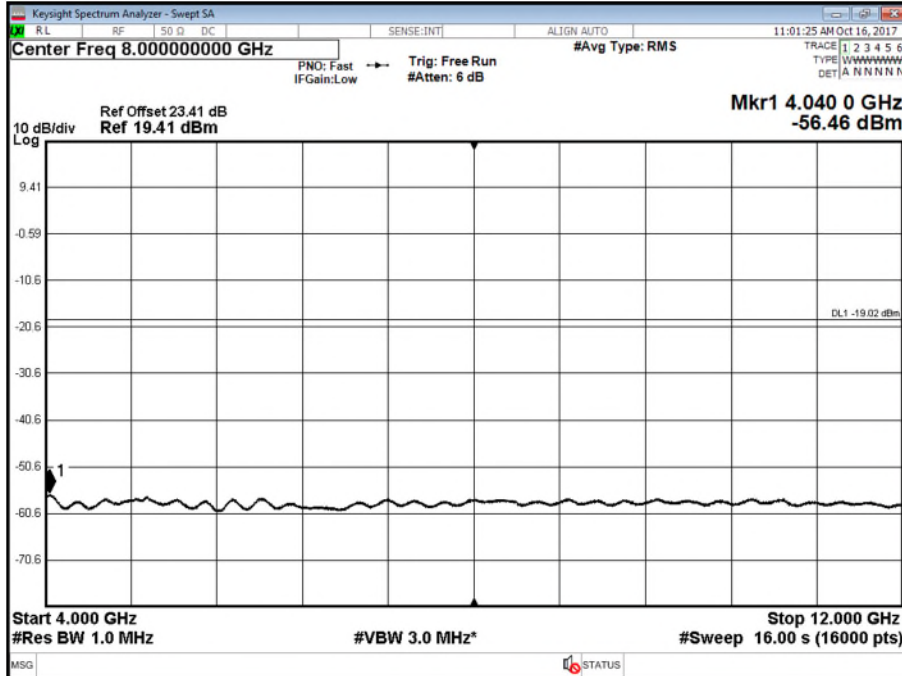
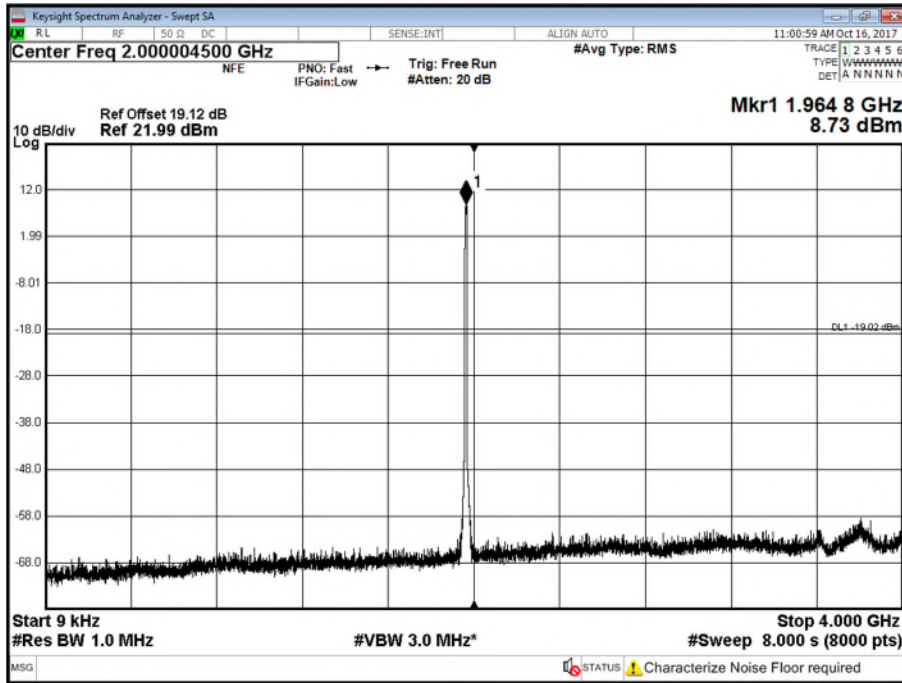
Product Service





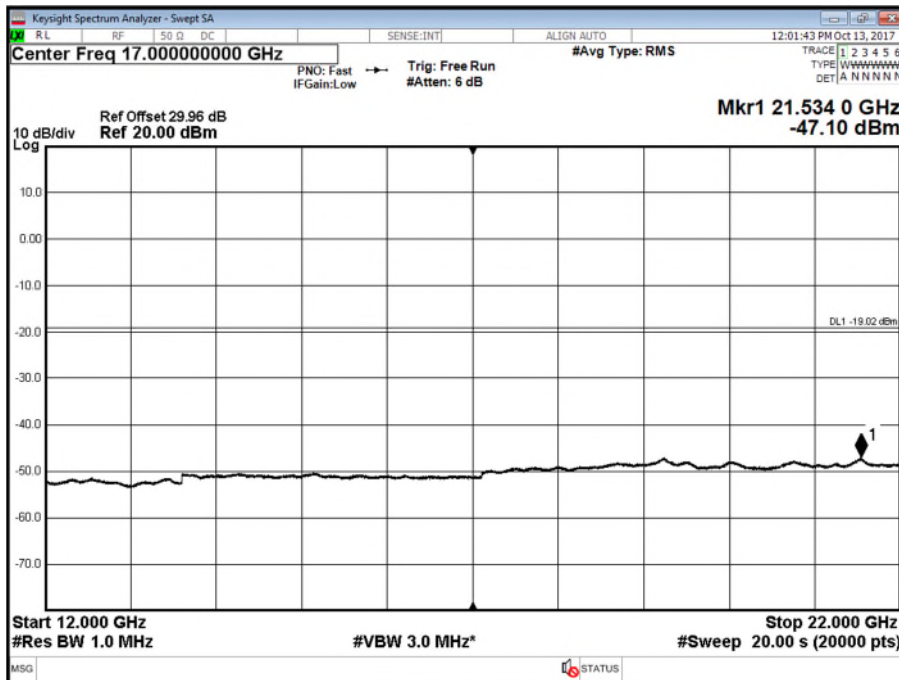
Product Service

### Antenna A - LTE Modulation QPSK - Channel M





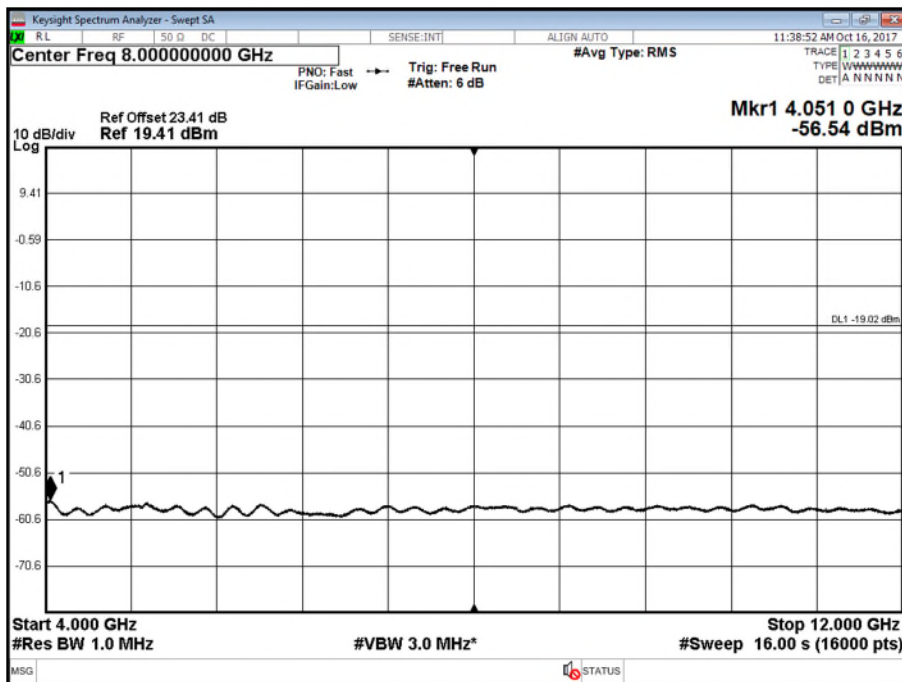
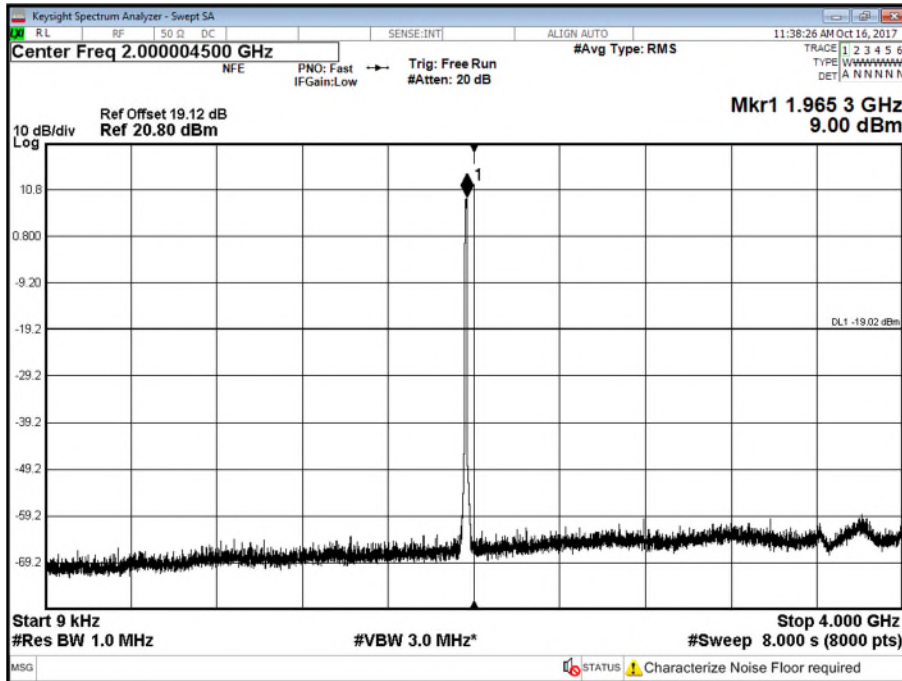
Product Service





Product Service

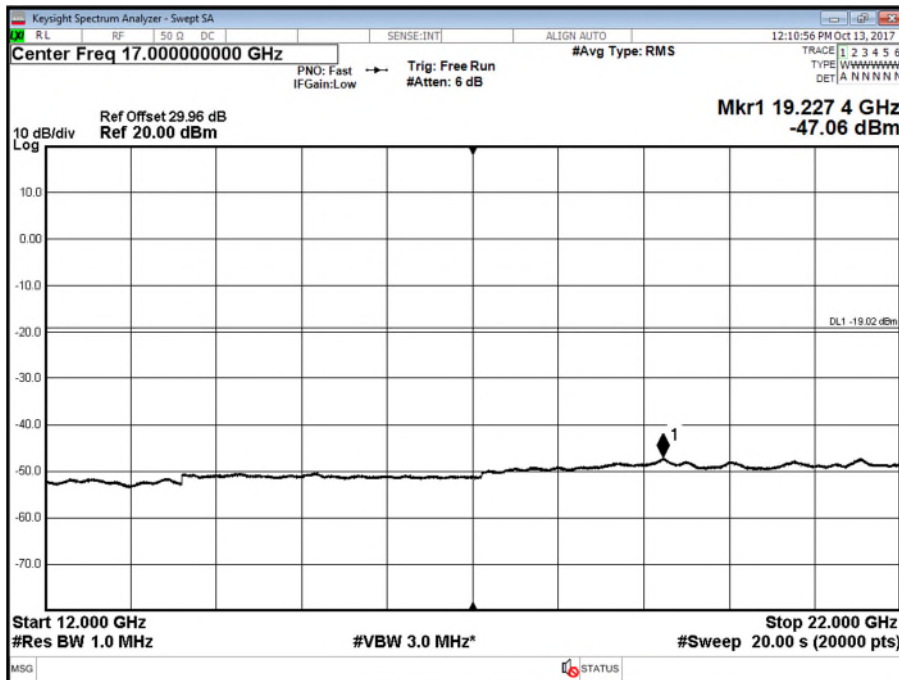
### Antenna B - LTE Modulation QPSK - Channel M







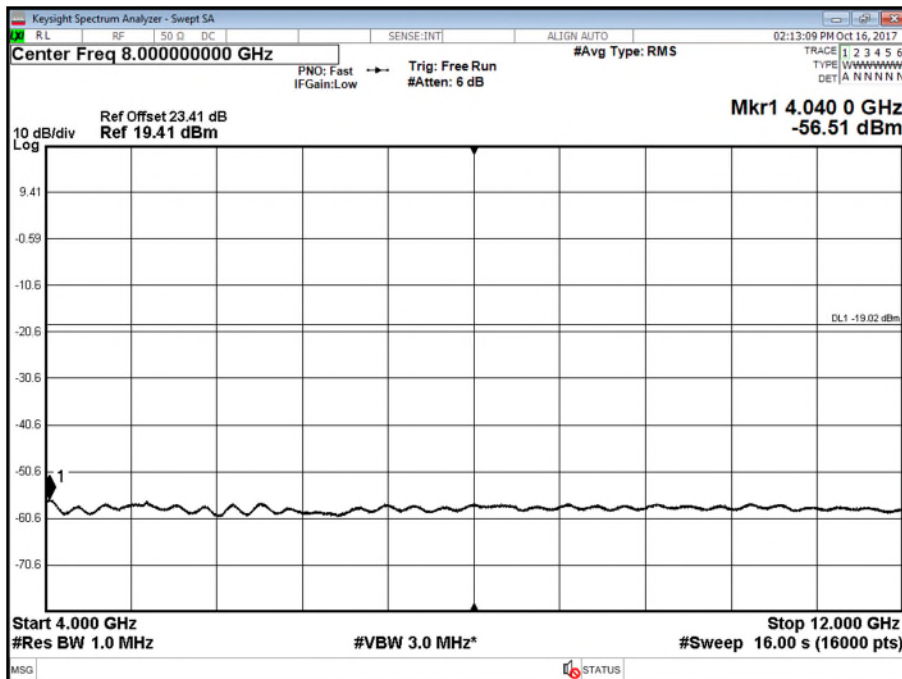
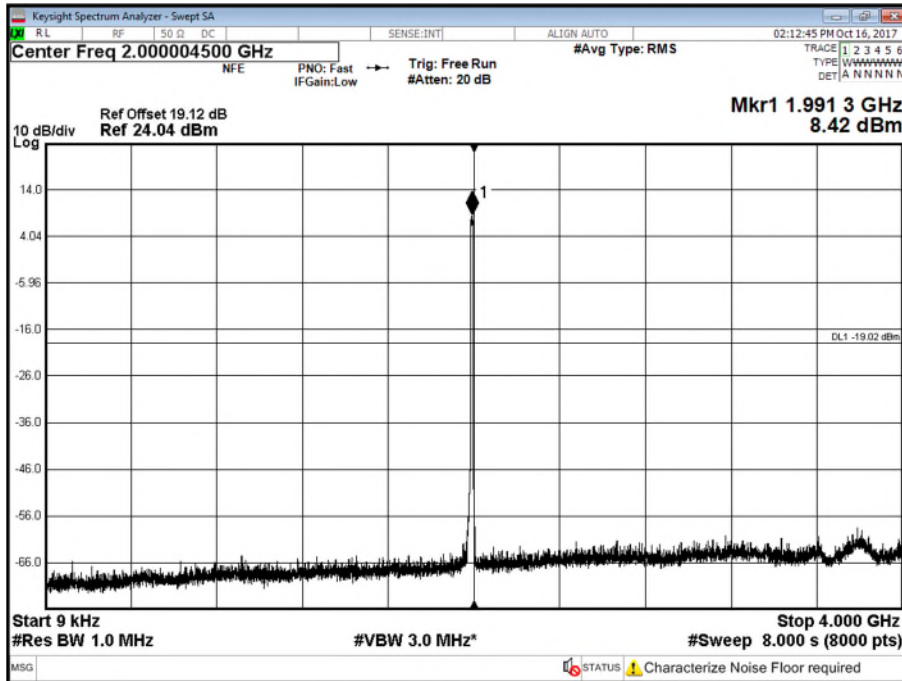
Product Service





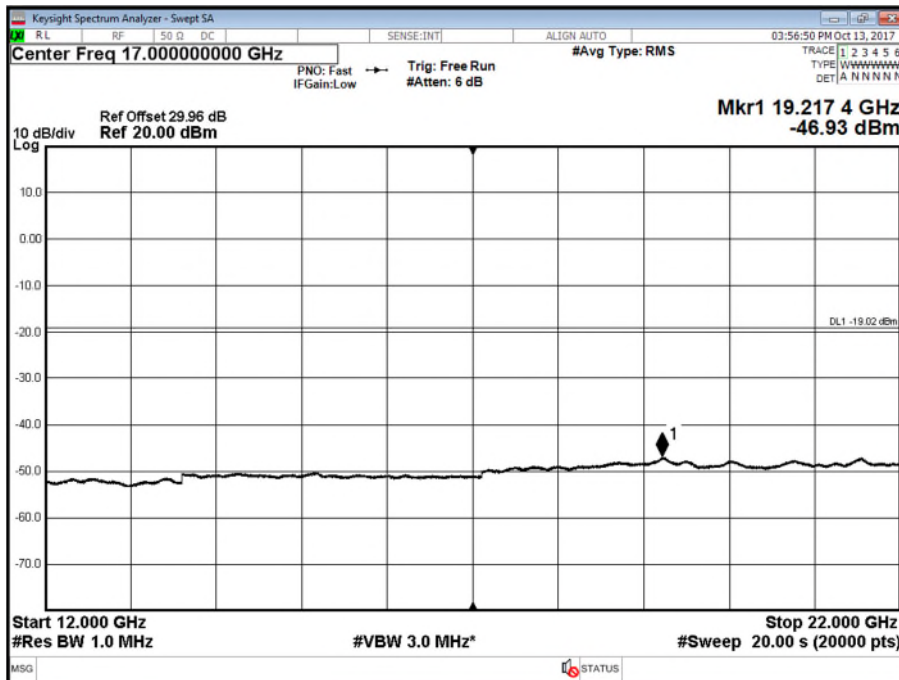
Product Service

### Antenna A - LTE Modulation QPSK - Channel T





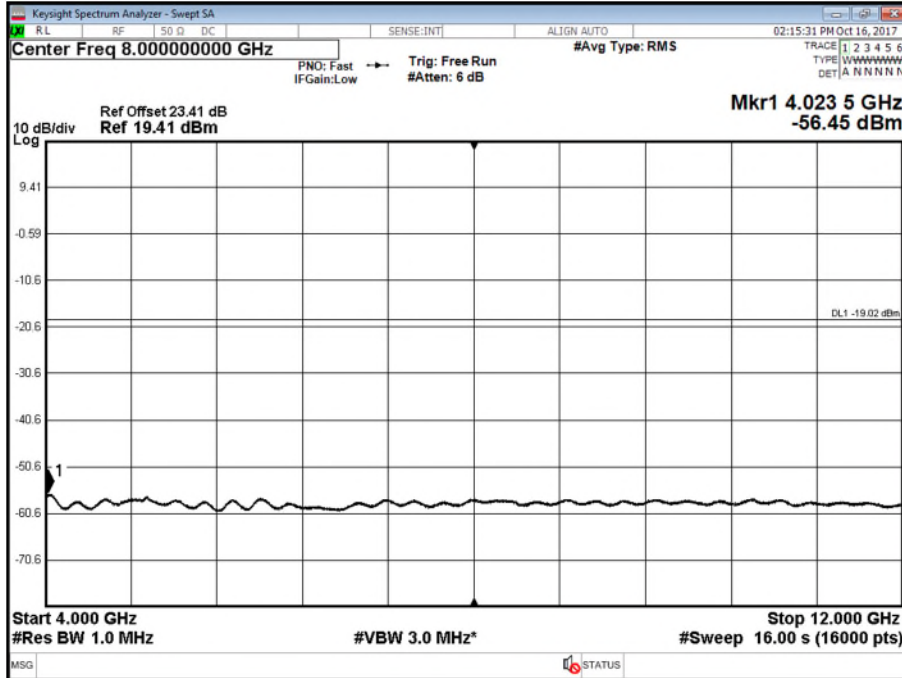
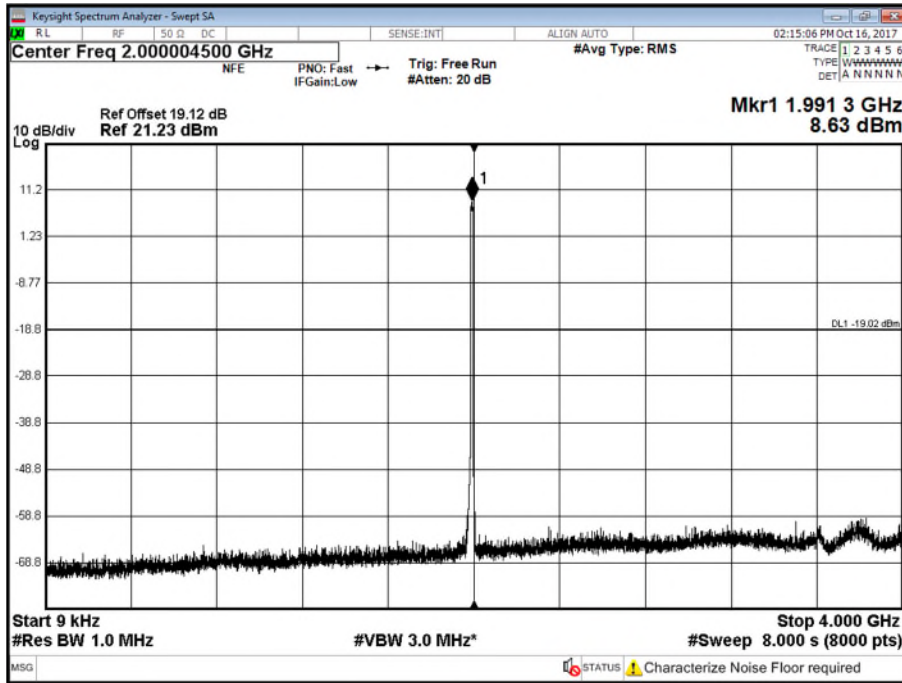
Product Service





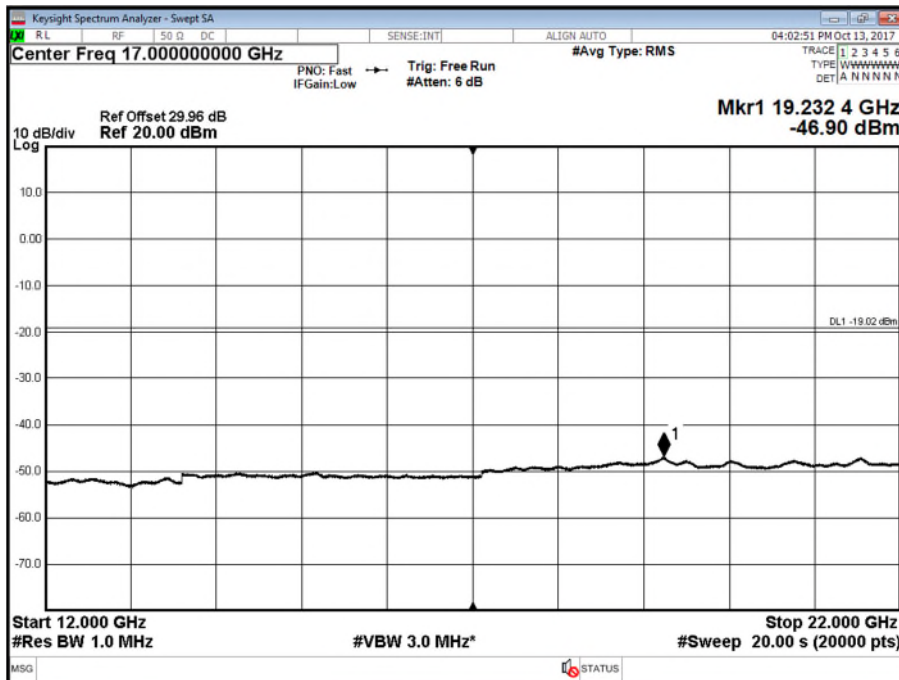
Product Service

### Antenna B - LTE Modulation QPSK - Channel T





Product Service

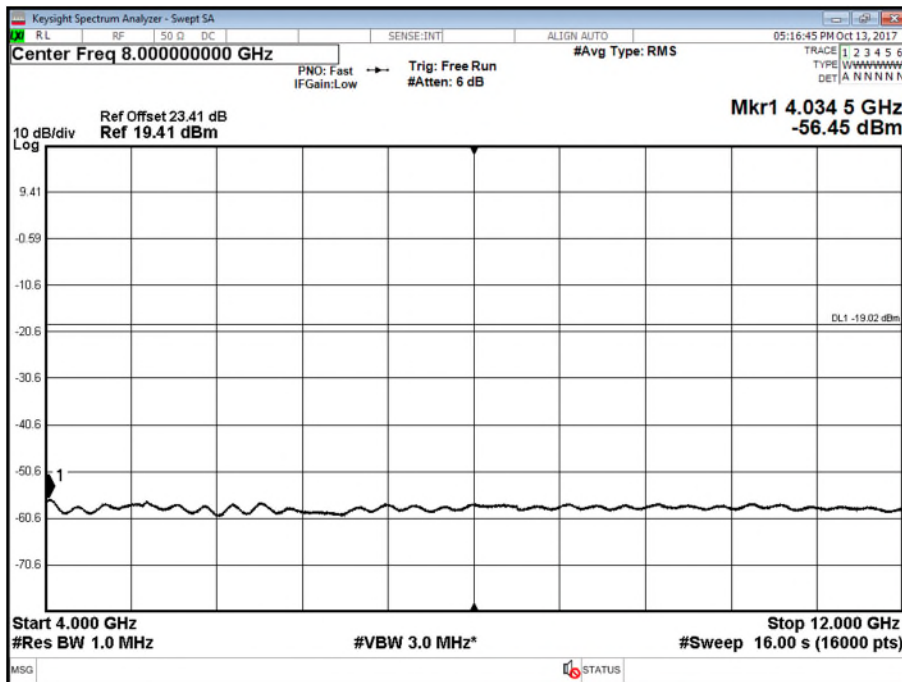
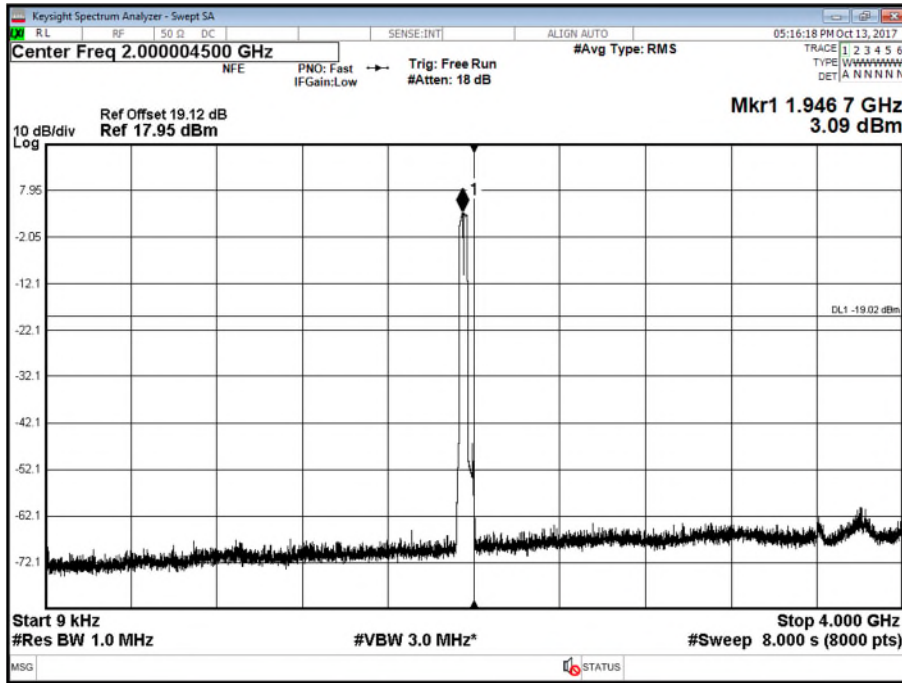




Product Service

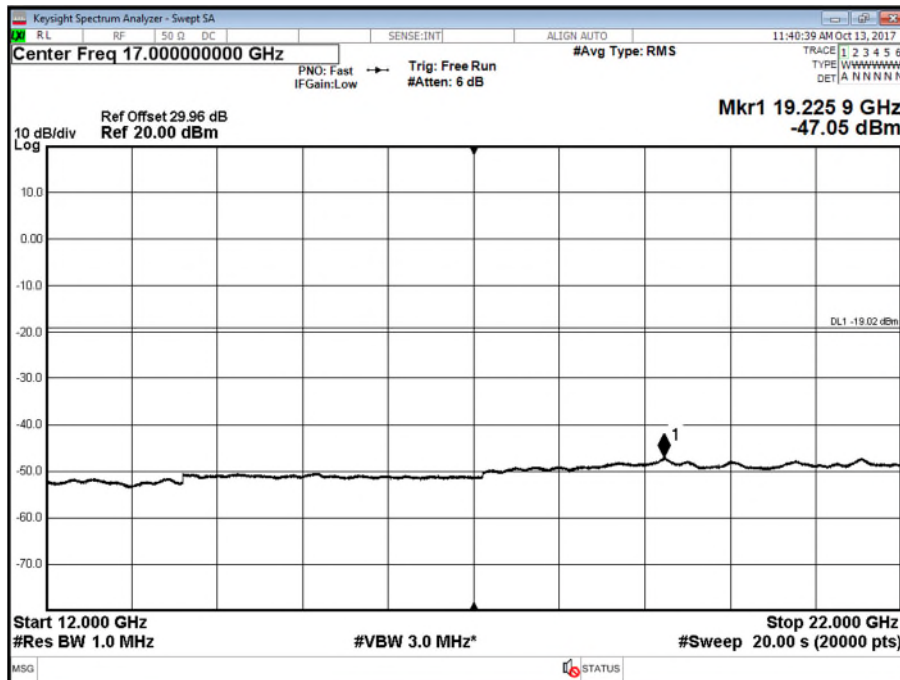
### LTE Bandwidth 20 MHz

### Antenna A - LTE Modulation QPSK - Channel B





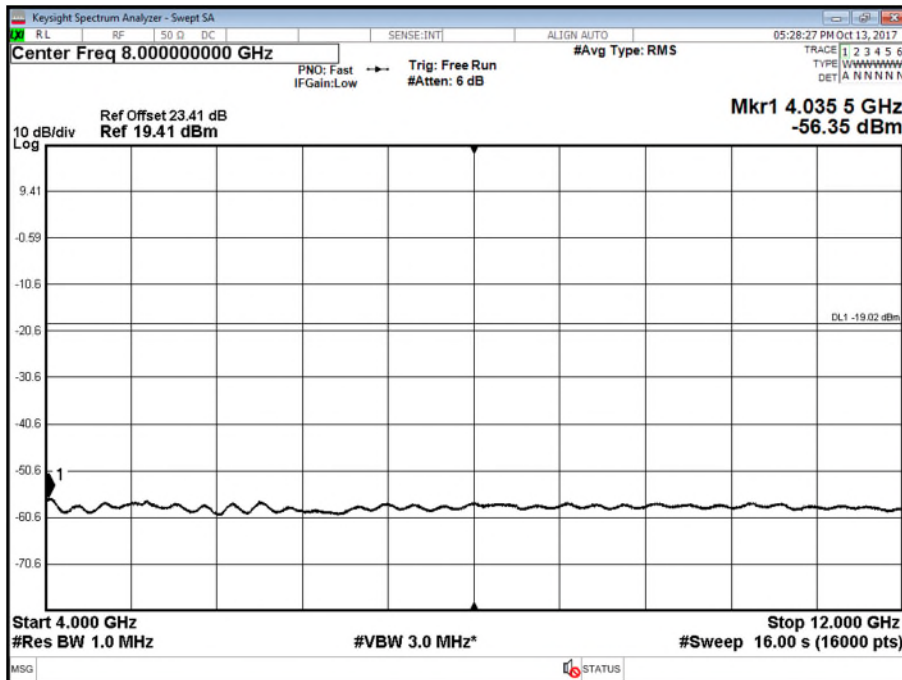
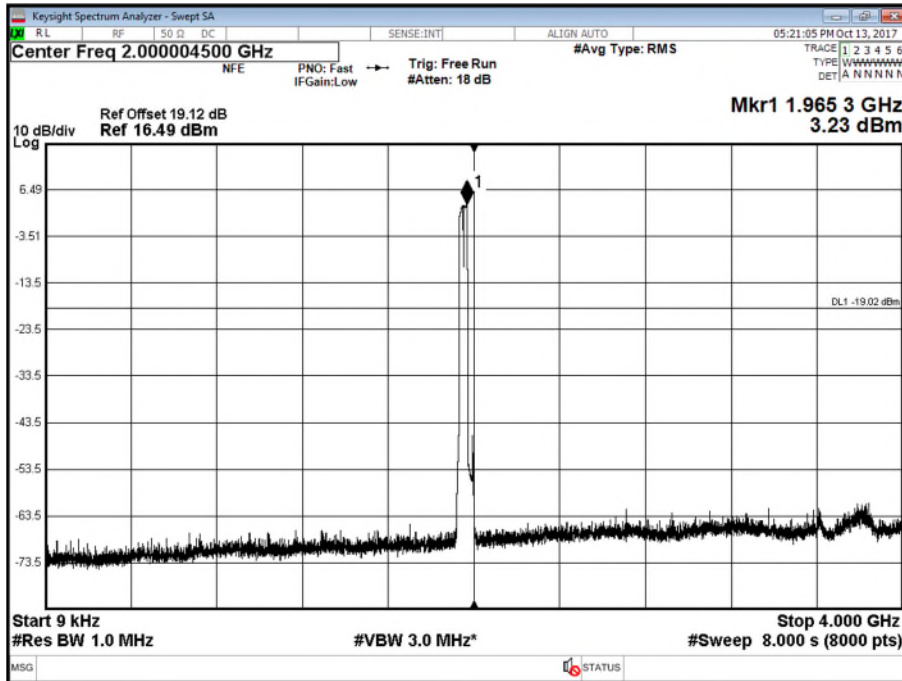
Product Service





Product Service

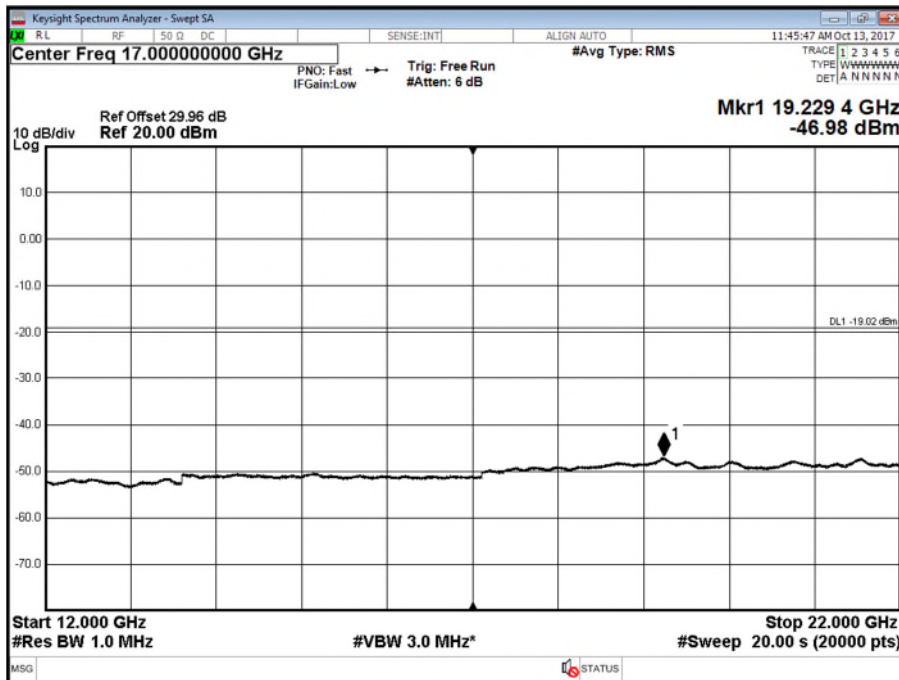
### Antenna B - LTE Modulation QPSK - Channel B







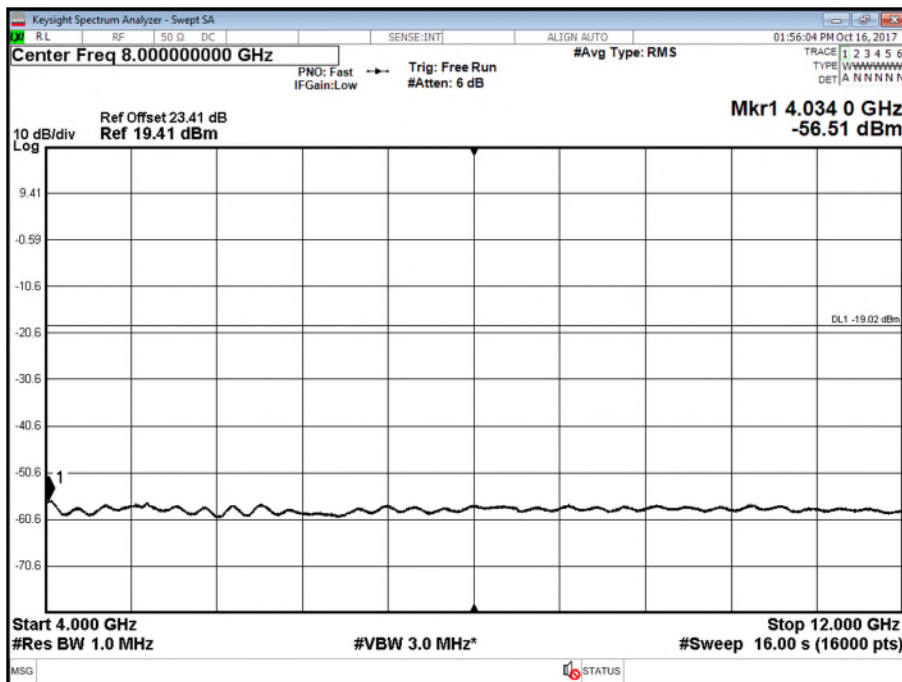
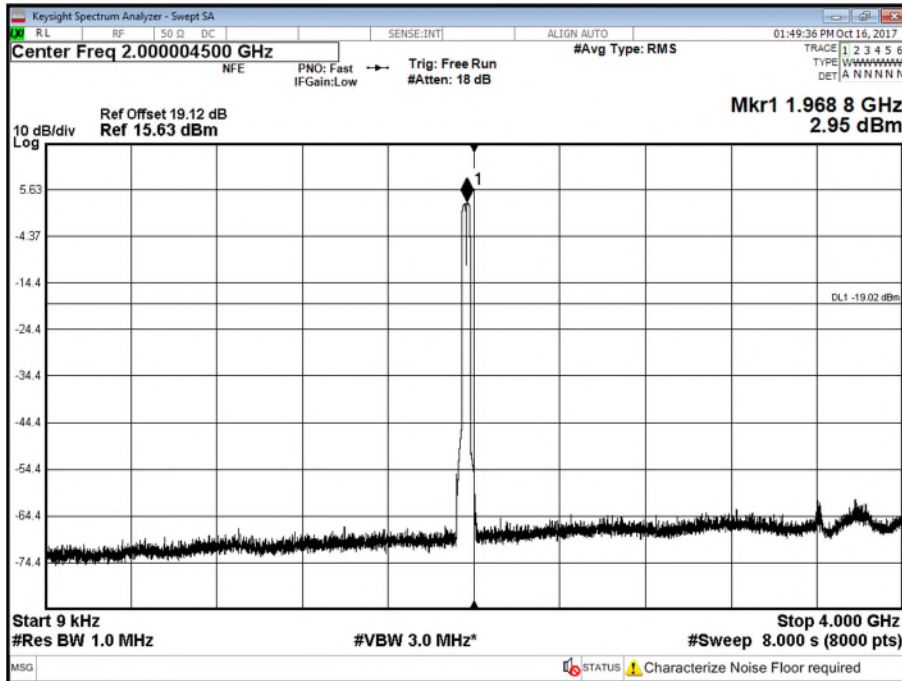
Product Service





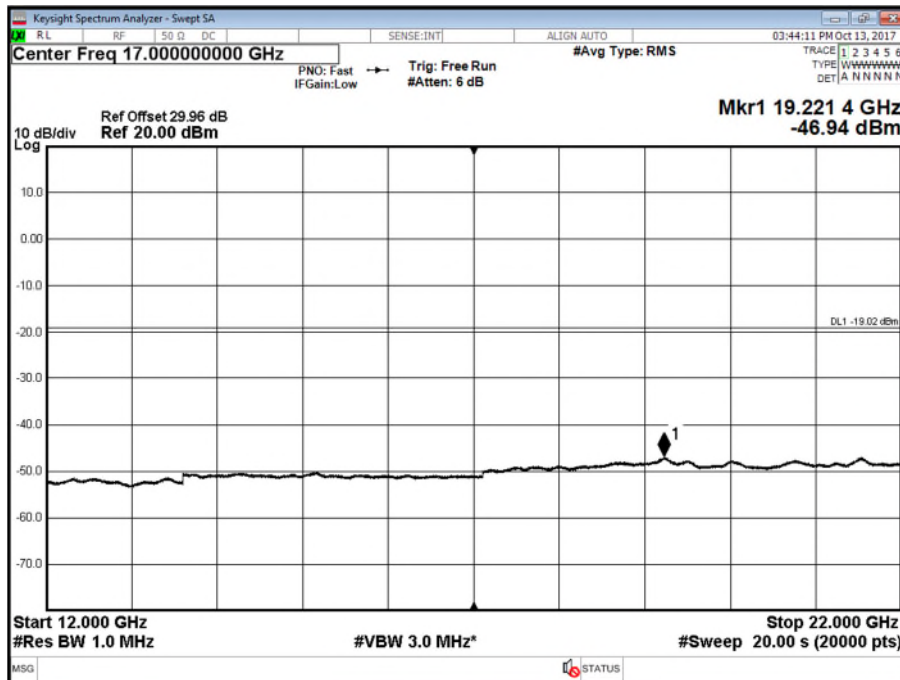
Product Service

### Antenna A - LTE Modulation QPSK - Channel M





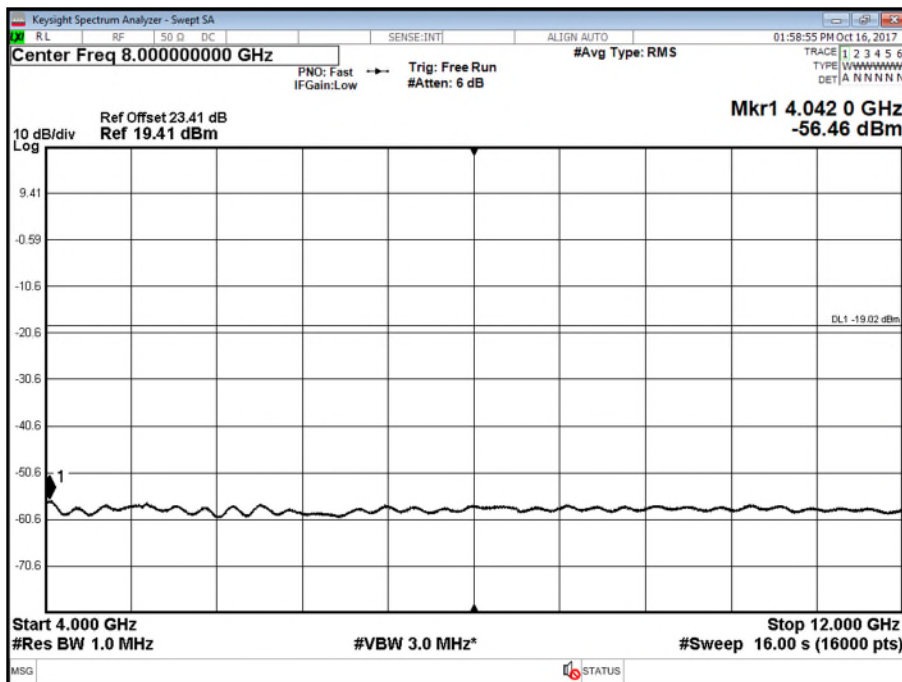
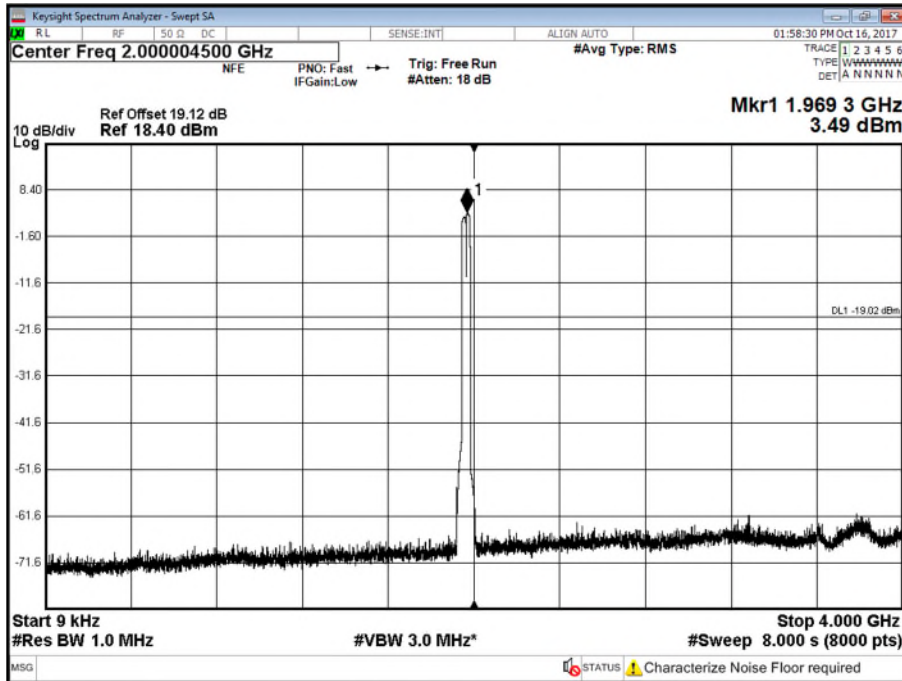
Product Service





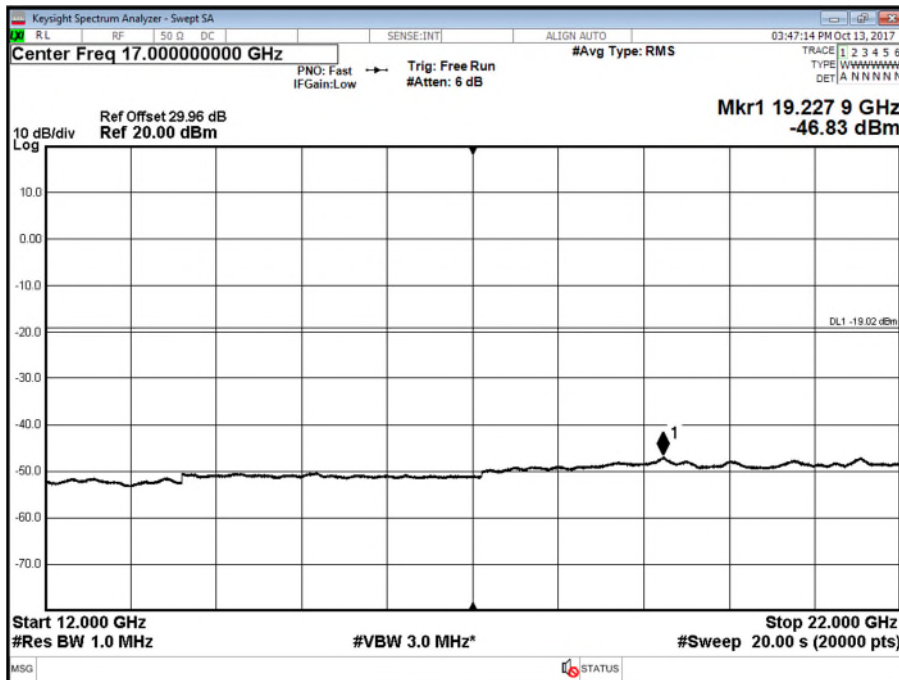
Product Service

### Antenna B - LTE Modulation QPSK - Channel M





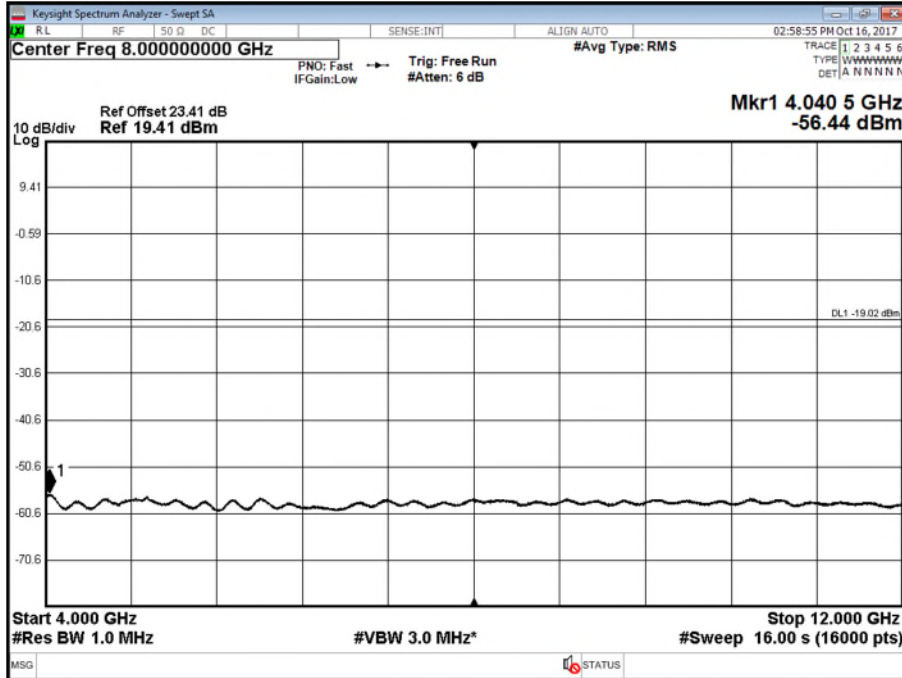
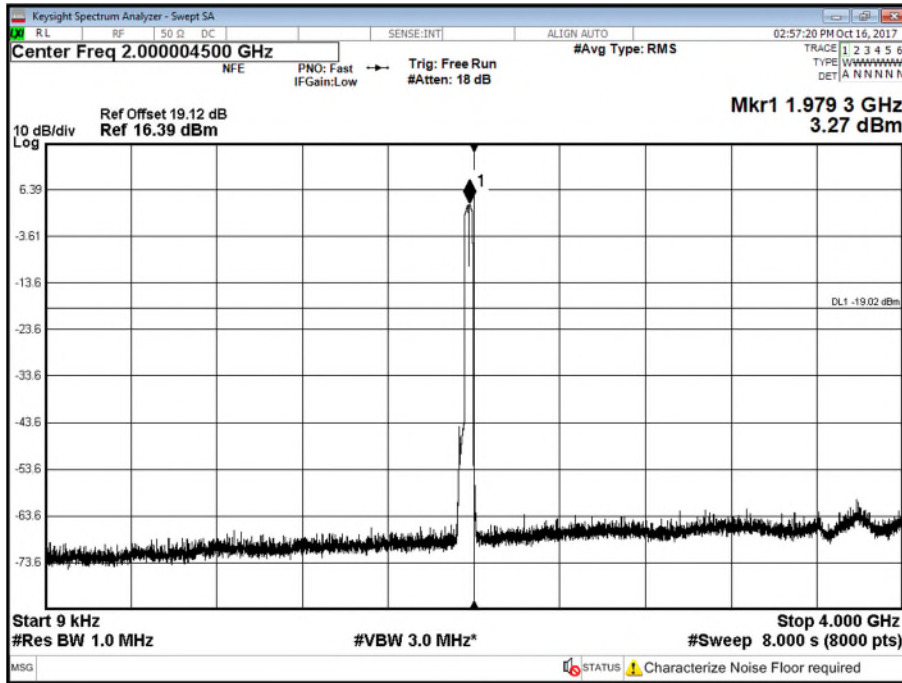
Product Service





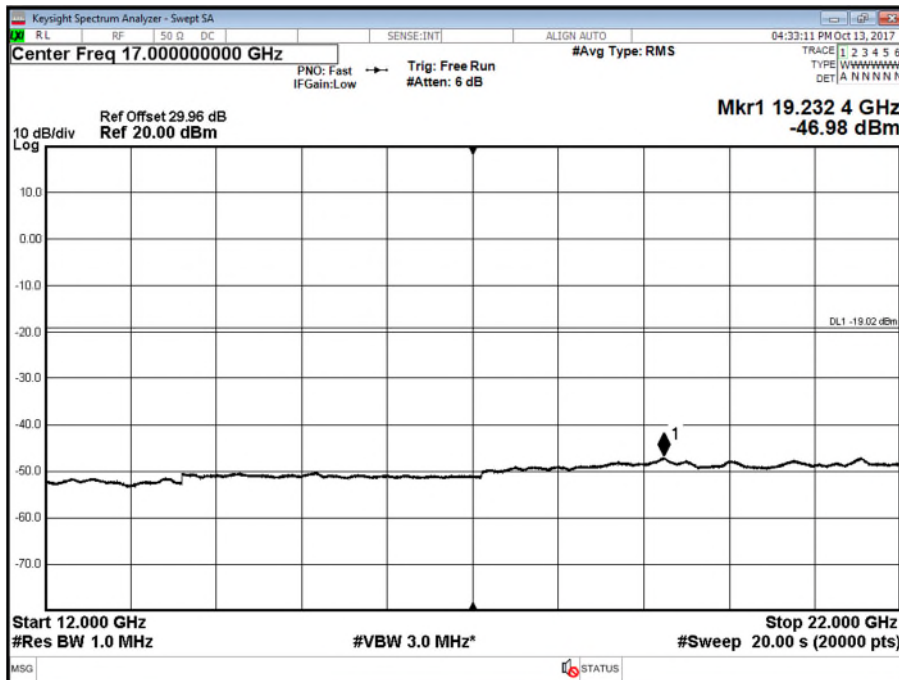
Product Service

### Antenna A - LTE Modulation QPSK - Channel T





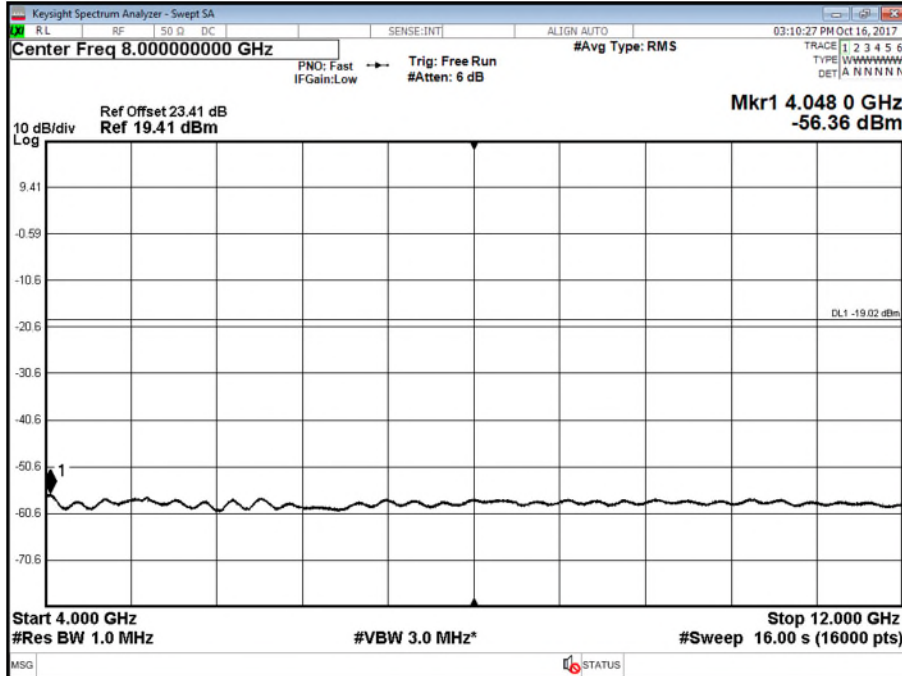
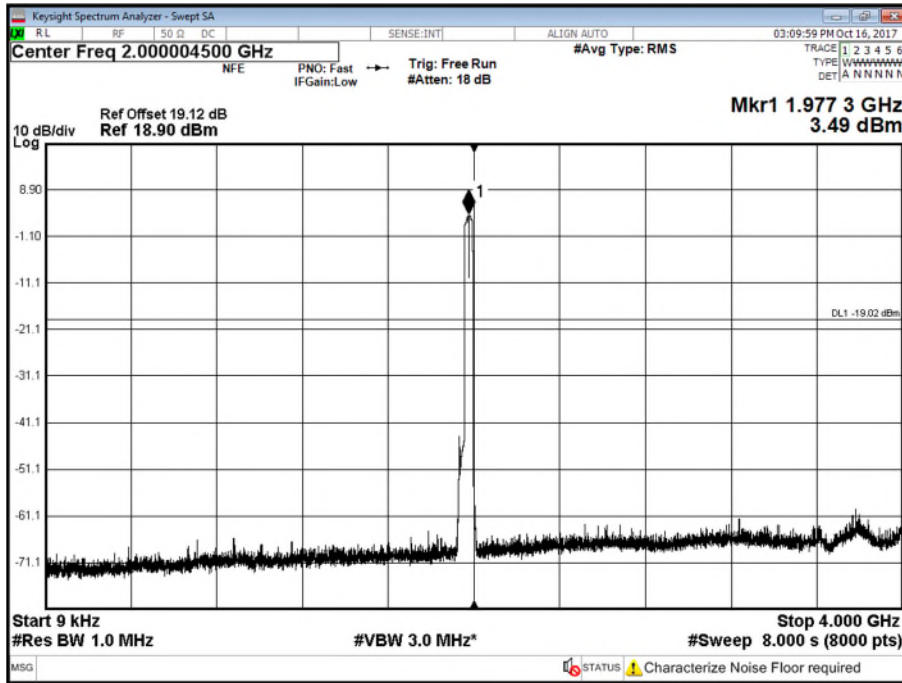
Product Service





Product Service

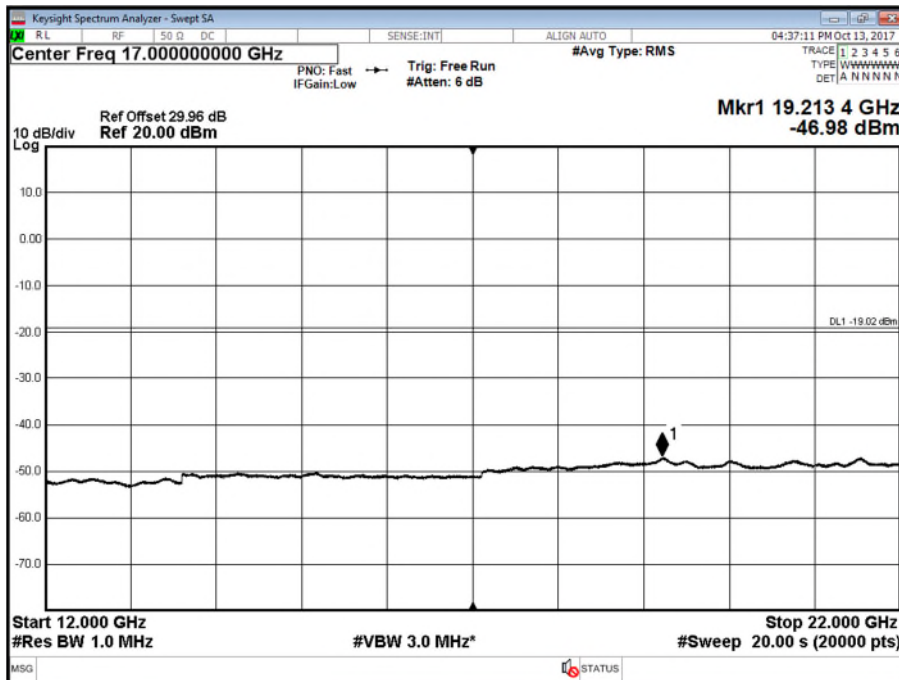
### Antenna B - LTE Modulation QPSK - Channel T







Product Service



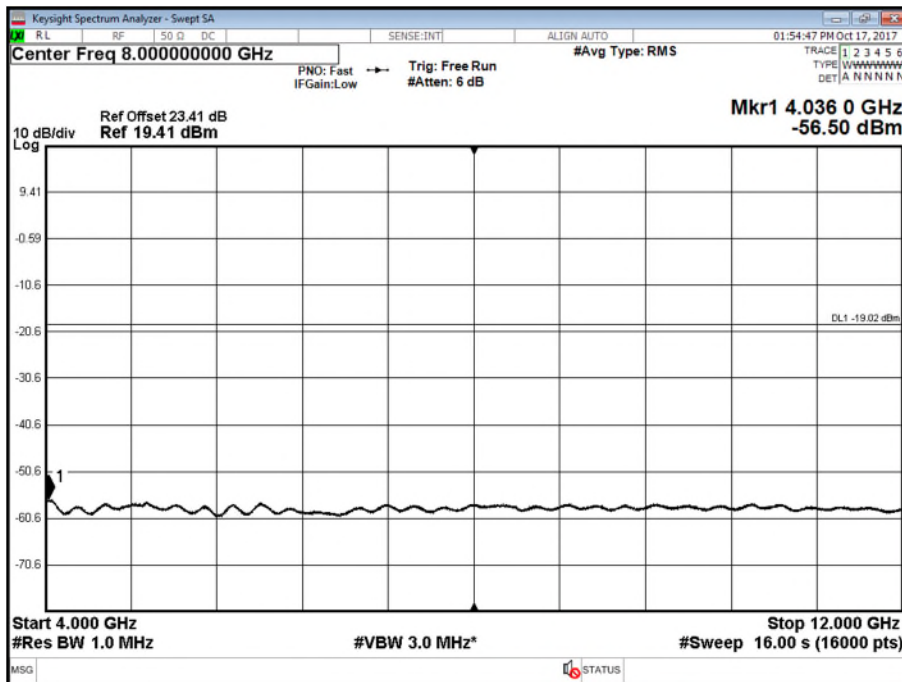
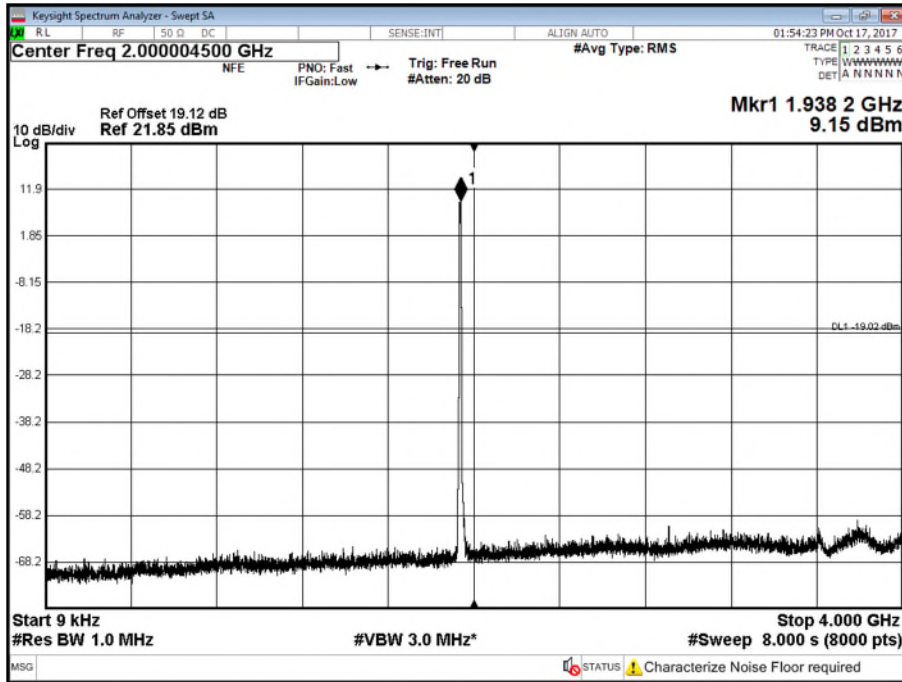


Product Service

Configuration 6 (Worst case is 2 WCDMA and 1 LTE)

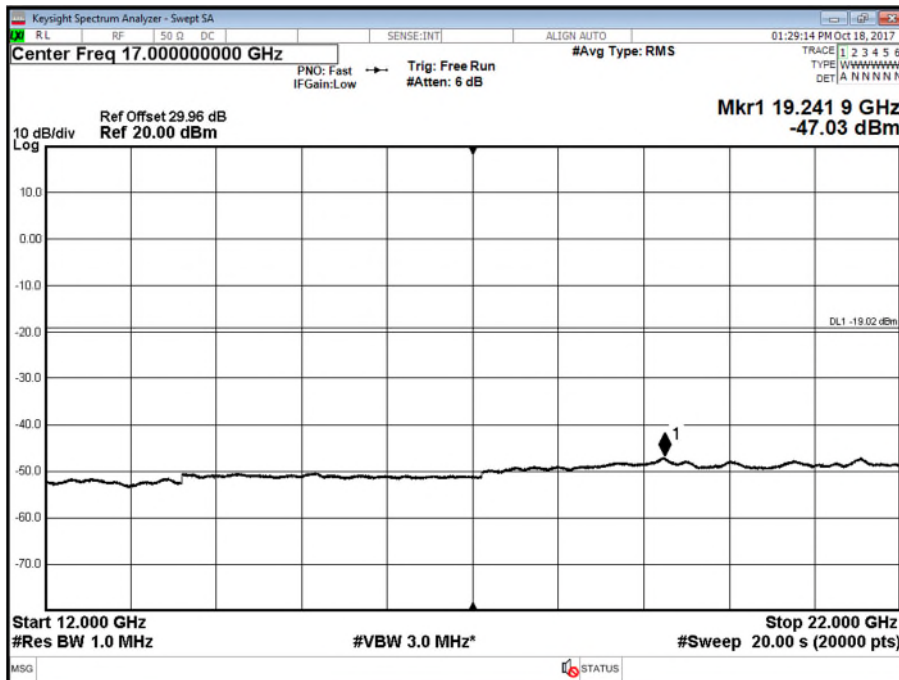
Maximum Output Power 17 dBm

Antenna A - WCDMA / LTE Modulation 16QAM / QPSK - Channel B





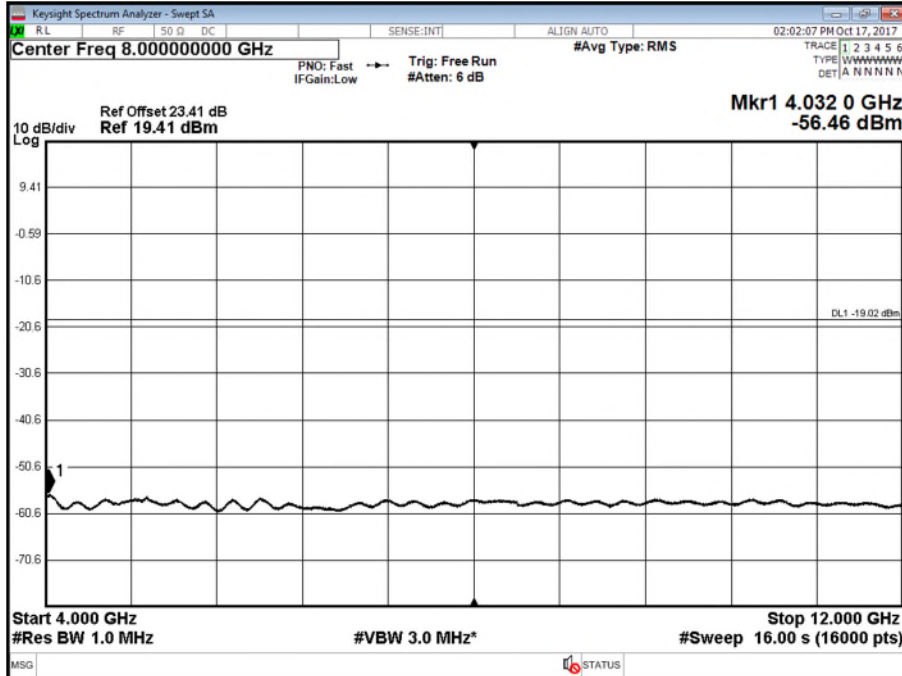
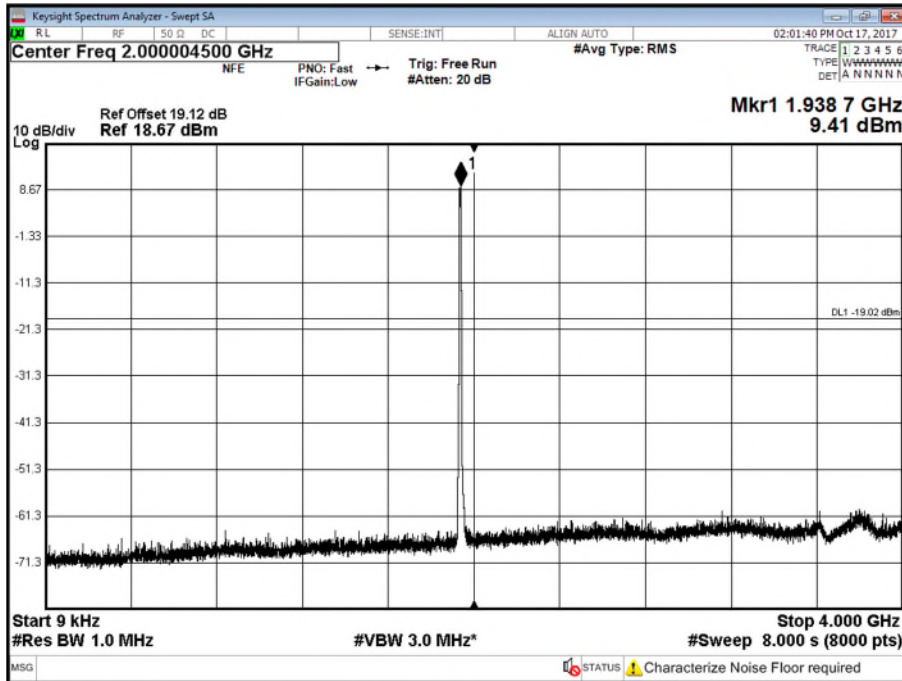
Product Service





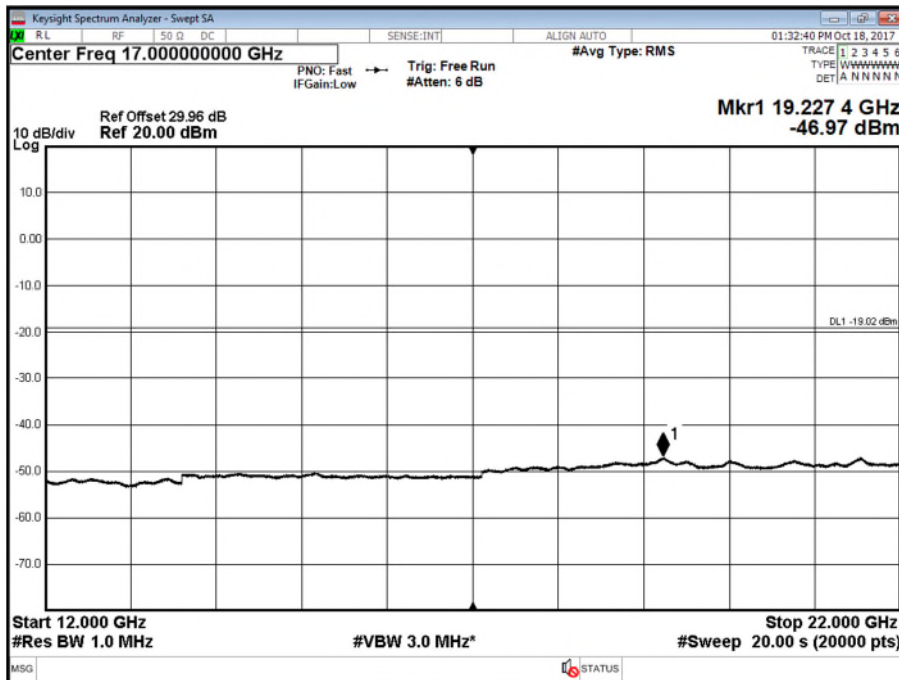
Product Service

### Antenna B - WCDMA / LTE Modulation 16QAM / QPSK - Channel B

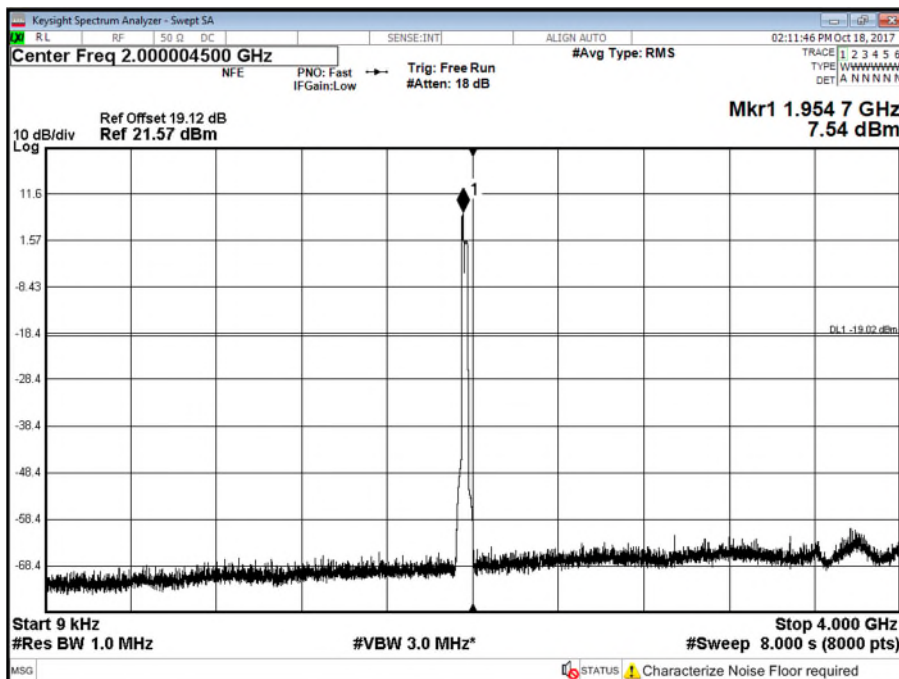




Product Service

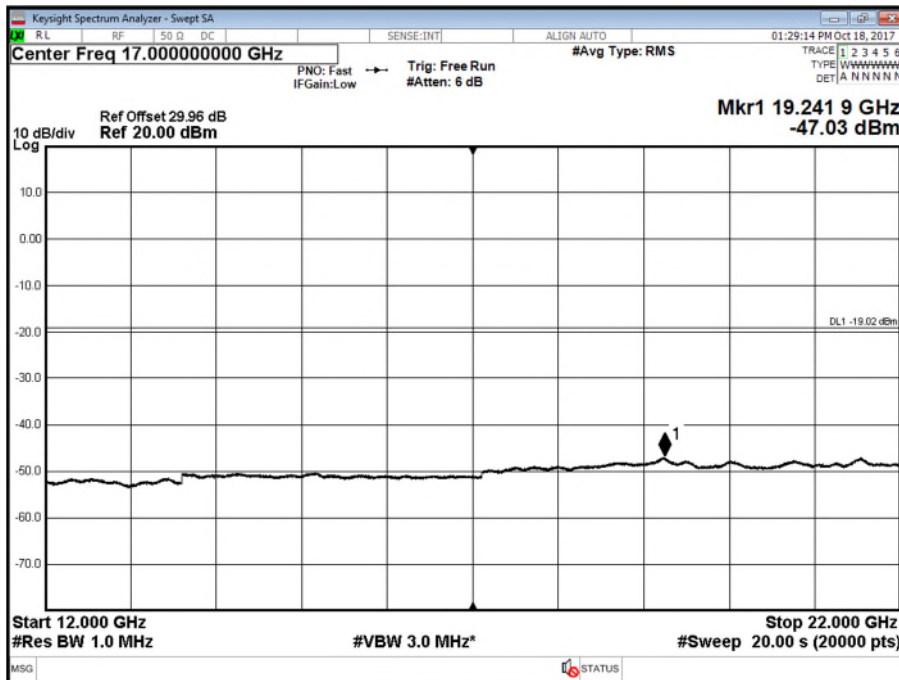


Antenna A - WCDMA / LTE Modulation 16QAM / QPSK - Channel M





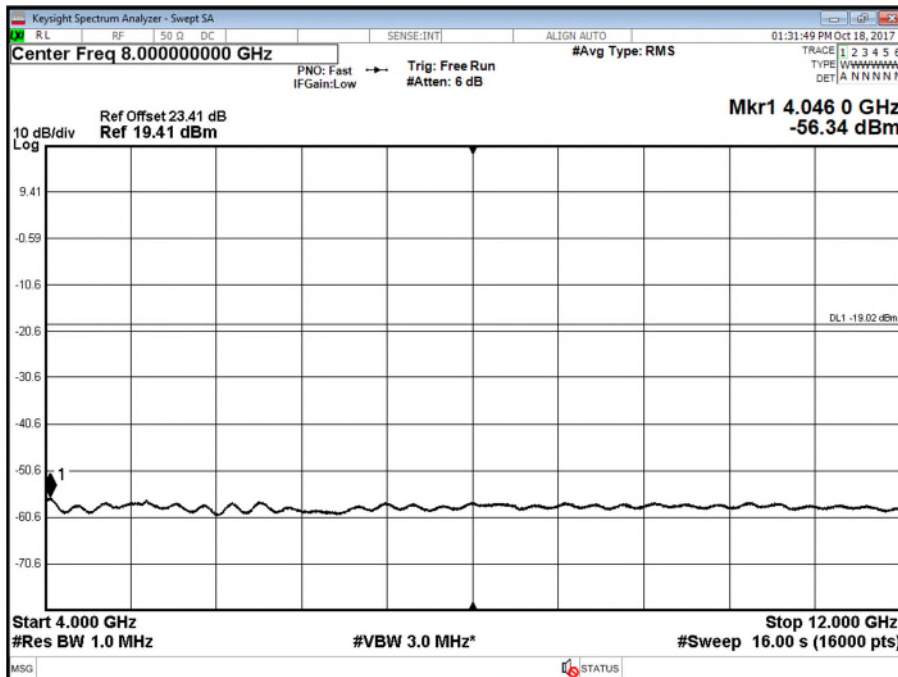
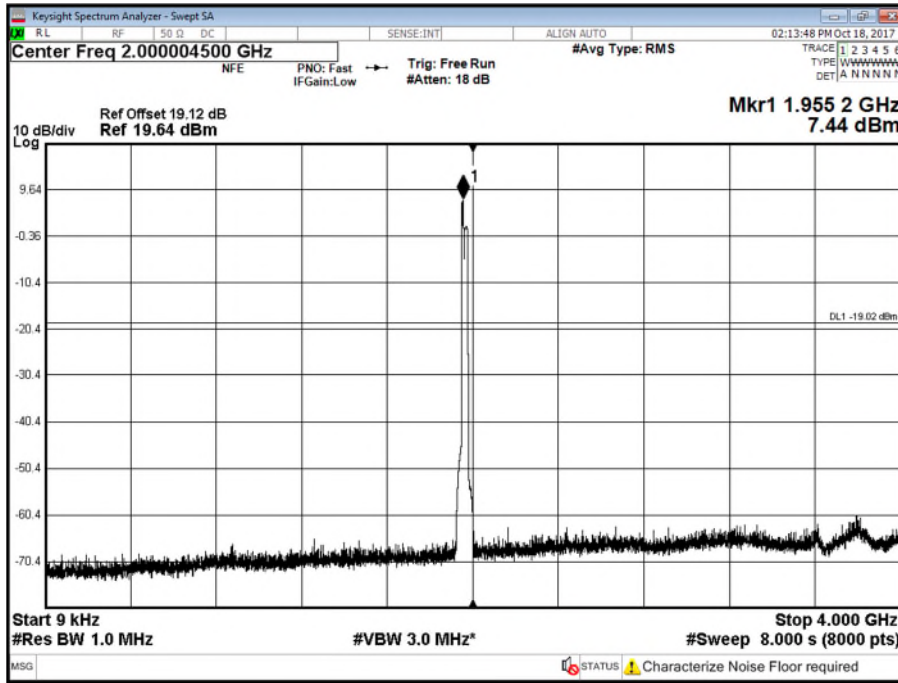
Product Service





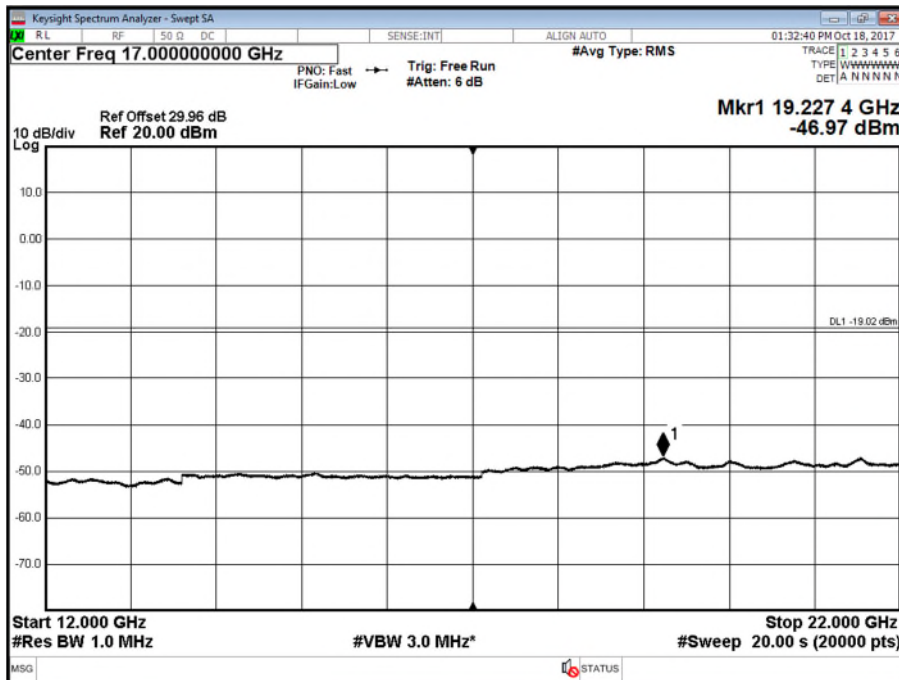
Product Service

Antenna B - WCDMA / LTE Modulation 16QAM / QPSK - Channel M

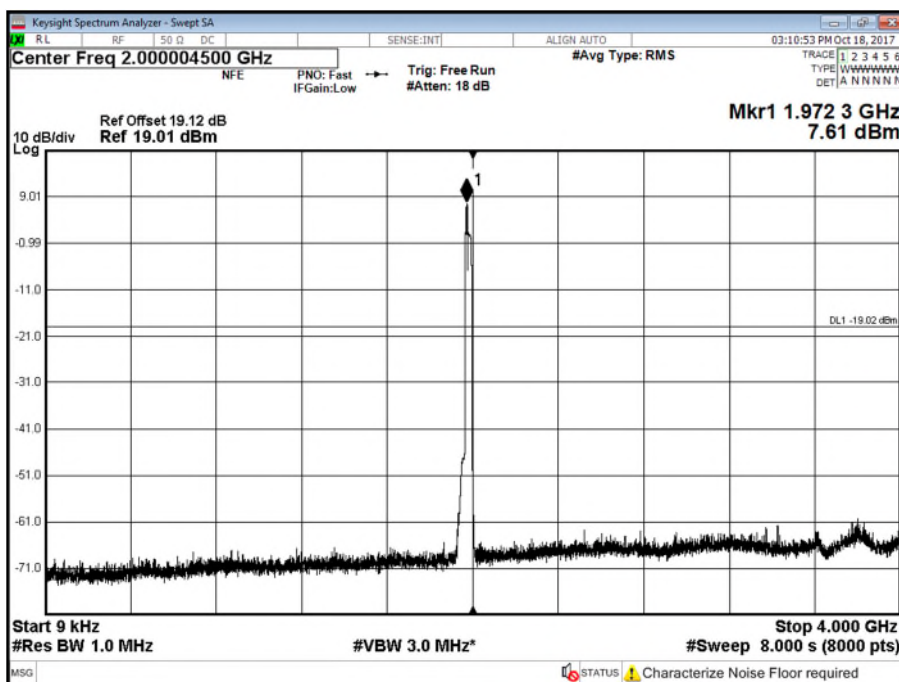




Product Service



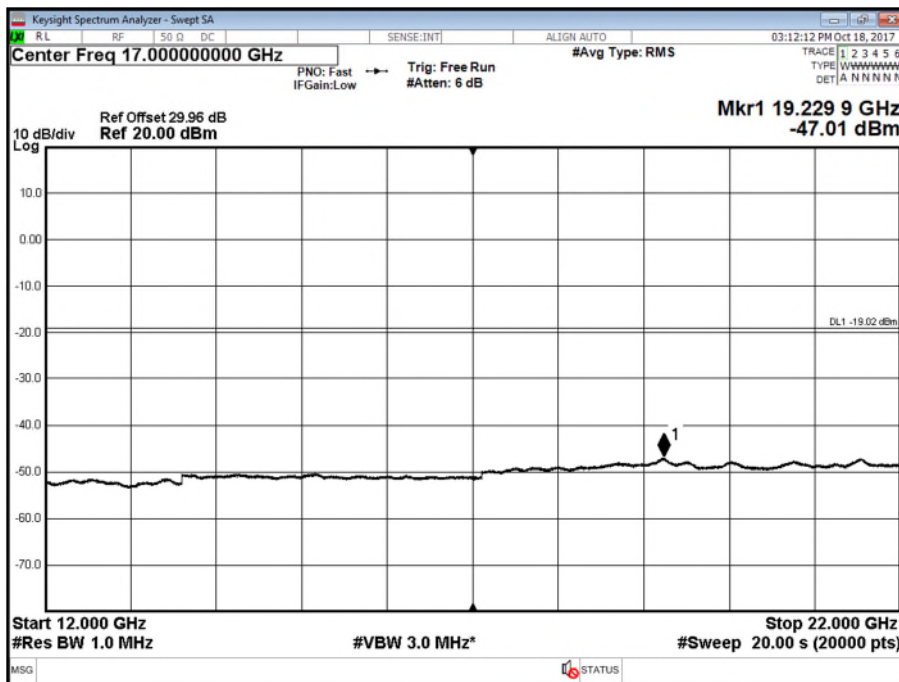
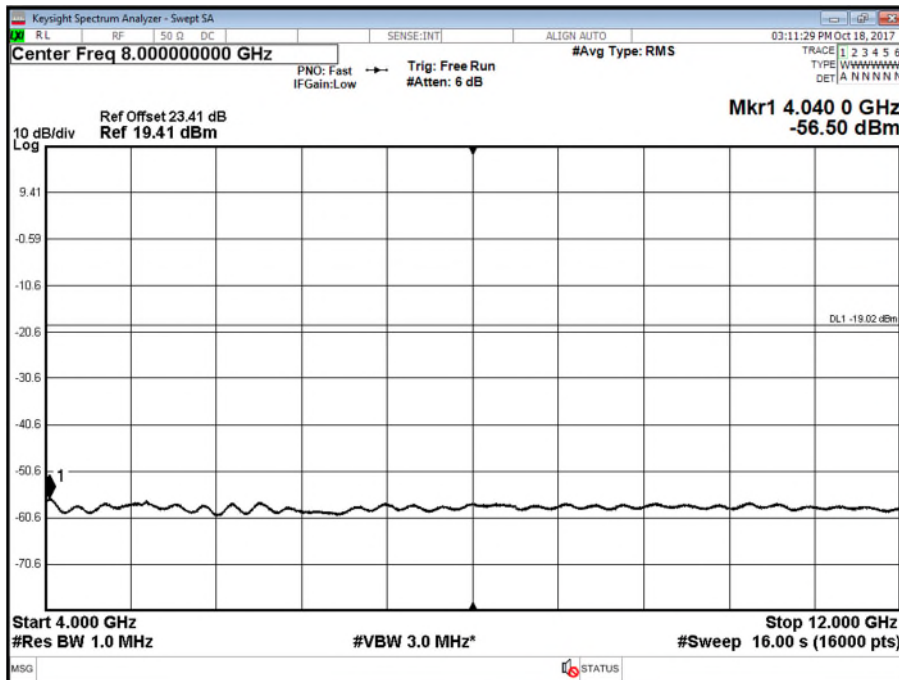
Antenna A - WCDMA / LTE Modulation 16QAM / QPSK - Channel T







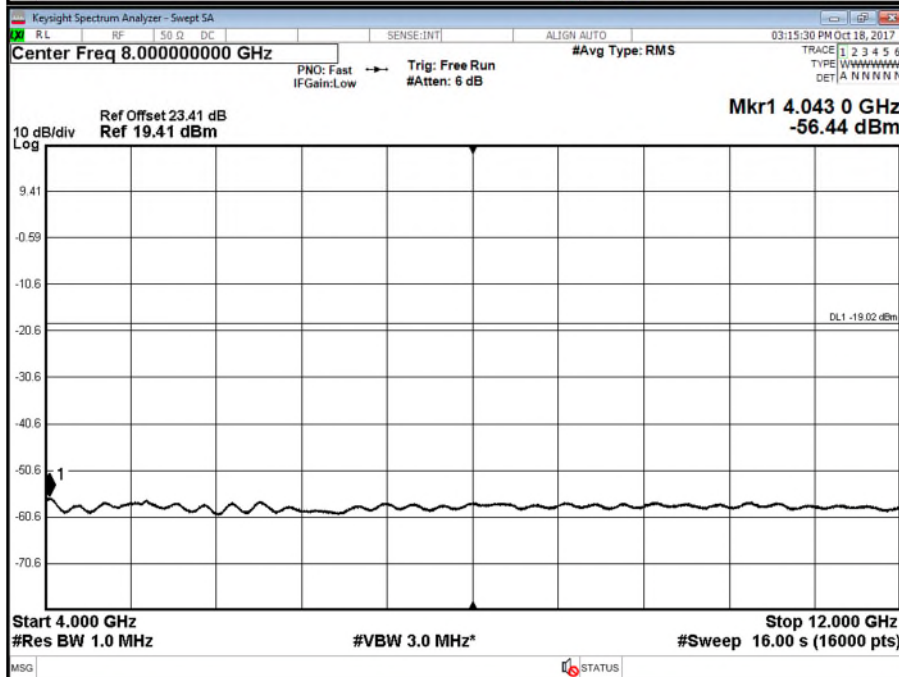
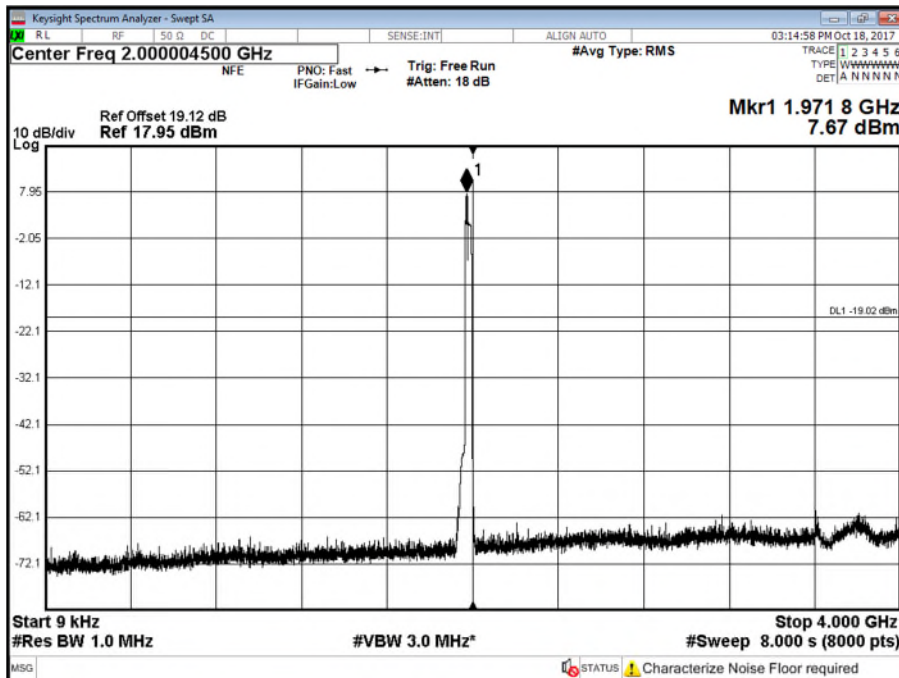
Product Service



Antenna B - WCDMA / LTE Modulation 16QAM / QPSK - Channel T

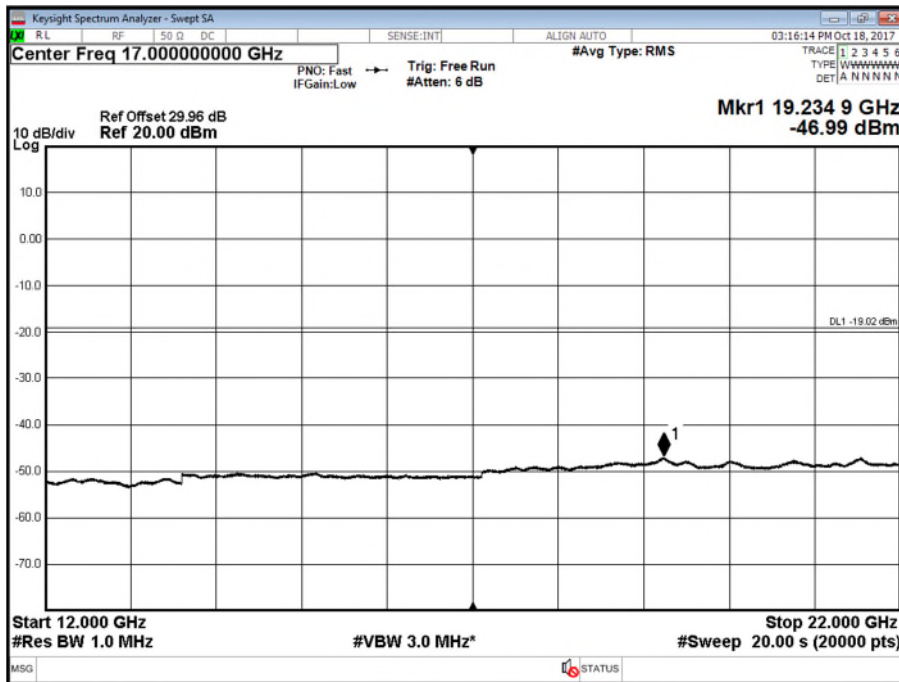


Product Service





Product Service



Limit	-19dBm
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Product Service

## 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

01 January 1 - 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 20-23°C  
Relative Humidity 35-55%

### 2.5.5 Test Method

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

### 2.5.6 Test Results

Configuration 1

Maximum Output Power 17 dBm

Temperature	Voltage	Frequency Error (Hz)
		Channel Position M
-30°C	-48.0 V DC	N/A (EUT not functional)
-20°C	-48.0 V DC	-1.6
-10°C	-48.0 V DC	-2.5
0°C	-48.0 V DC	-0.9
+10°C	-48.0 V DC	-1.5
+20°C	-40.5 V DC	3.5
+20°C	-48.0 V DC	3.5
+20°C	-57.5 V DC	3.6
+30°C	-48.0 V DC	0.75
+40°C	-48.0 V DC	-1.4
+50°C	-48.0 V DC	-2.5



Product Service

Configuration 4

Maximum Output Power 17 dBm

Temperature	Voltage	Frequency Error (Hz)
		Channel Position M
-30°C	-48.0 V DC	N/A (EUT not functional)
-20°C	-48.0 V DC	-0.4
-10°C	-48.0 V DC	-0.37
0°C	-48.0 V DC	-0.5
+10°C	-48.0 V DC	-0.33
+20°C	-40.5 V DC	-2.4
+20°C	-48.0 V DC	-2.6
+20°C	-57.5 V DC	+2.3
+30°C	-48.0 V DC	-0.4
+40°C	-48.0 V DC	-0.38
+50°C	-48.0 V DC	-0.52

Limit	+/- 1.5 ppm or +/-2895 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.	Serial No	Calibration Period (months)	Calibration Due
<b>Maximum Peak Output Power and Peak to Average Ratio - Conducted</b>					
THG	Fluke	77 IV	34770264	12	18-Apr-2018
DVM	VWR	61161-378	170120564	24	17-Feb-2019
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-
Spectrum Analyser	Keysight	N9030A	MY55410202	12	26-Sep-2019
Network Analyser	Agilent	N5234A	MY52241174	12	27-May-2018
Attenuator	Pasternak	PE7004-10	N/S	O/P Mon	-
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-
RF Switch Unit	Ericsson	RARFSW 4x1	001	O/P Mon	-
Power Supply	Leader	730-3D	9801135	O/P Mon	-
Receiver	Rohde & Schwarz	ESU40	1001162	24	20-Apr-2019
<b>Occupied Bandwidth</b>					
THG	Fluke	77 IV	34770264	12	18-Apr-2018
DVM	VWR	61161-378	170120564	24	17-Feb-2019
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-
Spectrum Analyser	Keysight	N9030A	MY55410202	12	26-Sep-2019
Network Analyser	Agilent	N5234A	MY52241174	12	27-May-2018
Attenuator	Pasternak	PE7004-10	N/S	O/P Mon	-
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-
RF Switch Unit	Ericsson	RARFSW 4x1	001	O/P Mon	-
Power Supply	Leader	730-3D	9801135	O/P Mon	-
Receiver	Rohde & Schwarz	ESU40	1001162	24	20-Apr-2019
<b>Band Edge</b>					
THG	Fluke	77 IV	34770264	12	18-Apr-2018
DVM	VWR	61161-378	170120564	24	17-Feb-2019
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-
Spectrum Analyser	Keysight	N9030A	MY55410202	12	26-Sep-2019
Network Analyser	Agilent	N5234A	MY52241174	12	27-May-2018
Attenuator	Pasternak	PE7004-10	N/S	O/P Mon	-
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-
RF Switch Unit	Ericsson	RARFSW 4x1	001	O/P Mon	-
Power Supply	Leader	730-3D	9801135	O/P Mon	-
Receiver	Rohde & Schwarz	ESU40	1001162	24	20-Apr-2019
<b>Transmitter Spurious Emissions</b>					
THG	Fluke	77 IV	34770264	12	18-Apr-2018
DVM	VWR	61161-378	170120564	24	17-Feb-2019
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-
Spectrum Analyser	Keysight	N9030A	MY55410202	12	26-Sep-2019
Network Analyser	Agilent	N5234A	MY52241174	12	27-May-2018
Attenuator	Pasternak	PE7004-10	N/S	O/P Mon	-



Product Service

Instrument	Manufacturer	Type No.	Serial No	Calibration Period (months)	Calibration Due
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-
RF Switch Unit	Ericsson	RARFSW 4x1	001	O/P Mon	-
Power Supply	Leader	730-3D	9801135	O/P Mon	-
Receiver	Rohde & Schwarz	ESU40	1001162	24	20-Apr-2019
Frequency Stability					
THG	Fluke	77 IV	34770264	12	18-Apr-2018
DVM	VWR	61161-378	170120564	24	17-Feb-2019
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-
Spectrum Analyser	Keysight	N9030A	MY55410202	12	26-Sep-2019
Network Analyser	Agilent	N5234A	MY52241174	12	27-May-2018
Attenuator	Pasternack	PE7004-10	N/S	O/P Mon	-
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-
RF Switch Unit	Ericsson	RARFSW 4x1	001	O/P Mon	-
Power Supply	Leader	730-3D	9801135	O/P Mon	-
Receiver	Rohde & Schwarz	ESU40	1001162	24	20-Apr-2019
Climatic Chamber	Burnsco	RTC-37P-3-3	07-07	O/P Mon	-

N/A – Not Applicable

O/P Mon – Output Monitored with Calibrated Equipment





Product Service

### 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	$\pm 0.1$ dB
Conducted Emissions	30 MHz to 20 GHz Amplitude	$\pm 2.3$ dB
Frequency Stability	30 MHz to 2 GHz	$\pm 5.0$ Hz
Occupied Bandwidth	Up to 20 MHz Bandwidth	$\pm 1.1$ Hz
Band Edge	30 MHz to 20 GHz Amplitude	$\pm 2.3$ dB



Product Service

## **SECTION 5**

### **ACCREDITATION, DISCLAIMERS AND COPYRIGHT**



Product Service

#### 4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



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

This report does not imply product endorsement by any government, accreditation agency, or TÜV SÜD Canada Inc.

Opinions or interpretations expressed in this report, if any, are outside the scope of TÜV SÜD Canada Inc. accreditations. Any opinions expressed do not necessarily reflect the opinions of TÜV SÜD Canada Inc., unless otherwise stated.

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Product Service

## **ANNEX A**

### **MODULE LIST**



Product Service

Configurations 1-7			
Product	Product No	R-State	Serial No
CT10	LPC102487/1	R1C	T01F311639
SUP 6601	1/BFL 901 009/1	R3B	BR81278870
IRU 2242	KRC 161 444/2	R2A	C829960698
RD 4442 B25B66A	KRY 901 386/1	R1B	TD3T308275
Software Version:	CXP 901 3268/14	Revision:	R65FH08