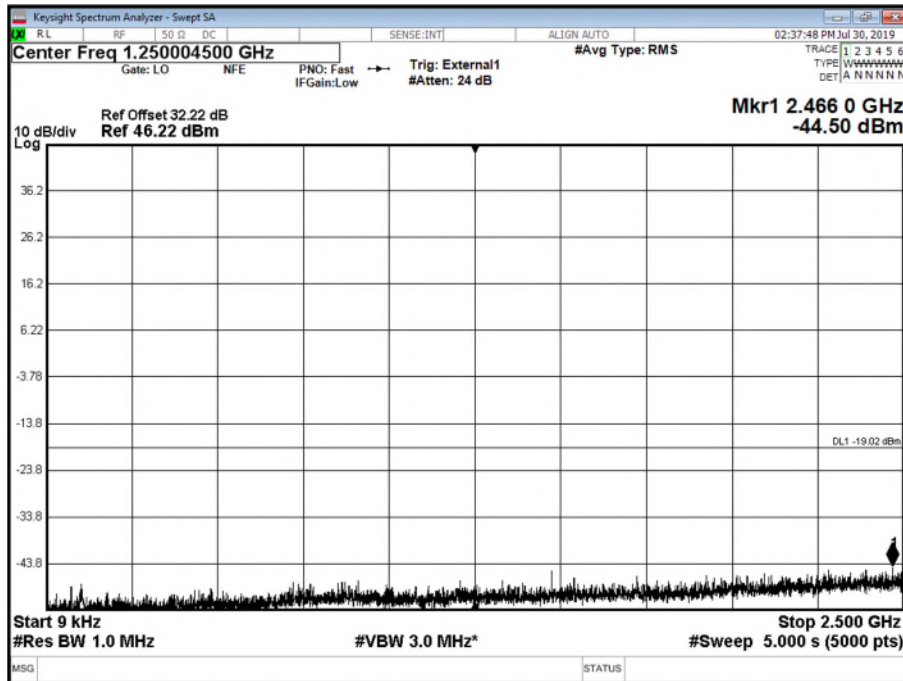




Product Service

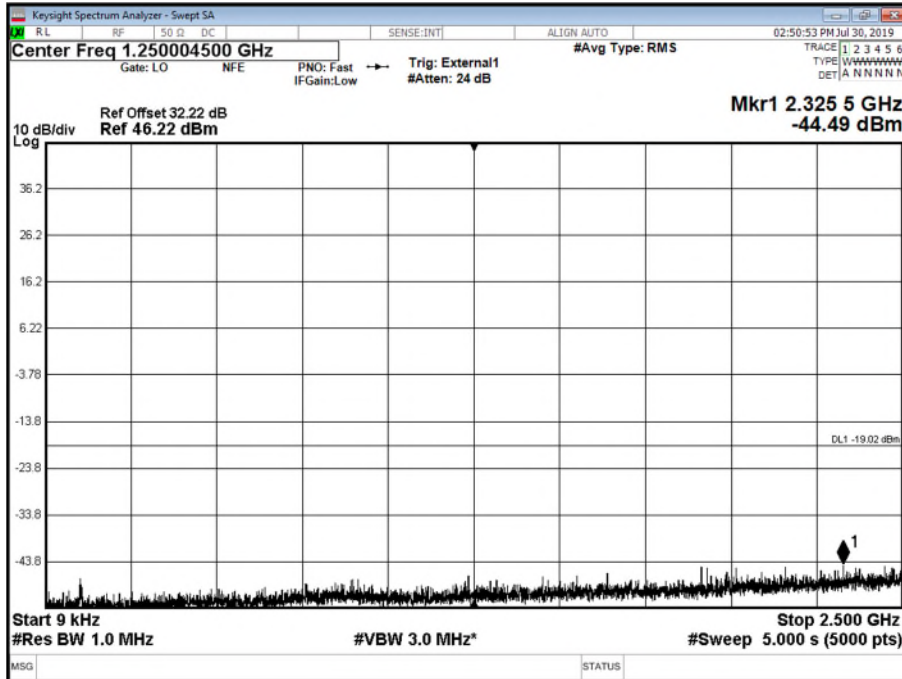
Antenna A - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



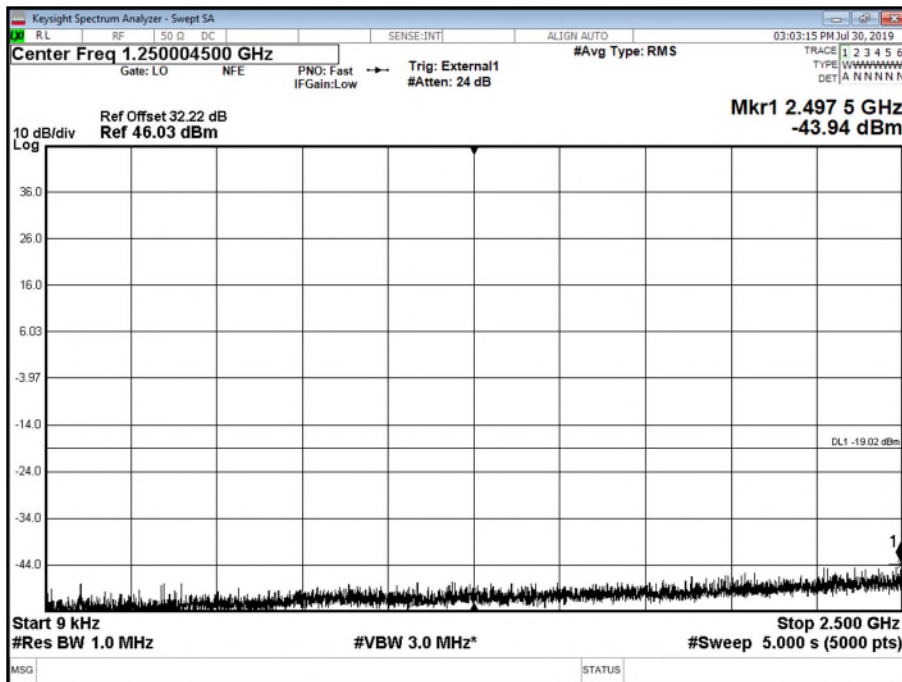


Product Service

Antenna B - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



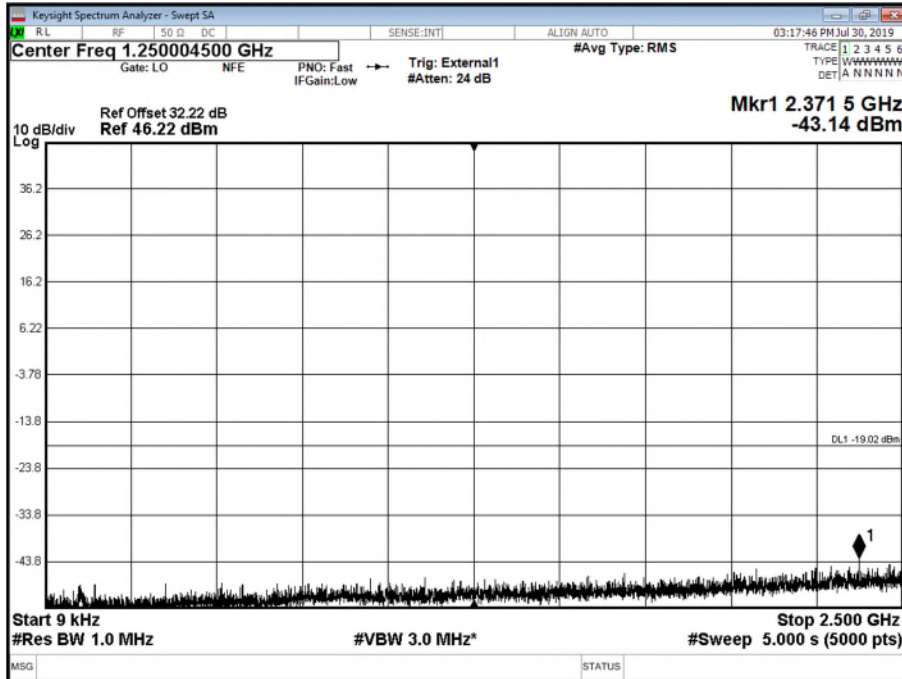
Antenna C - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



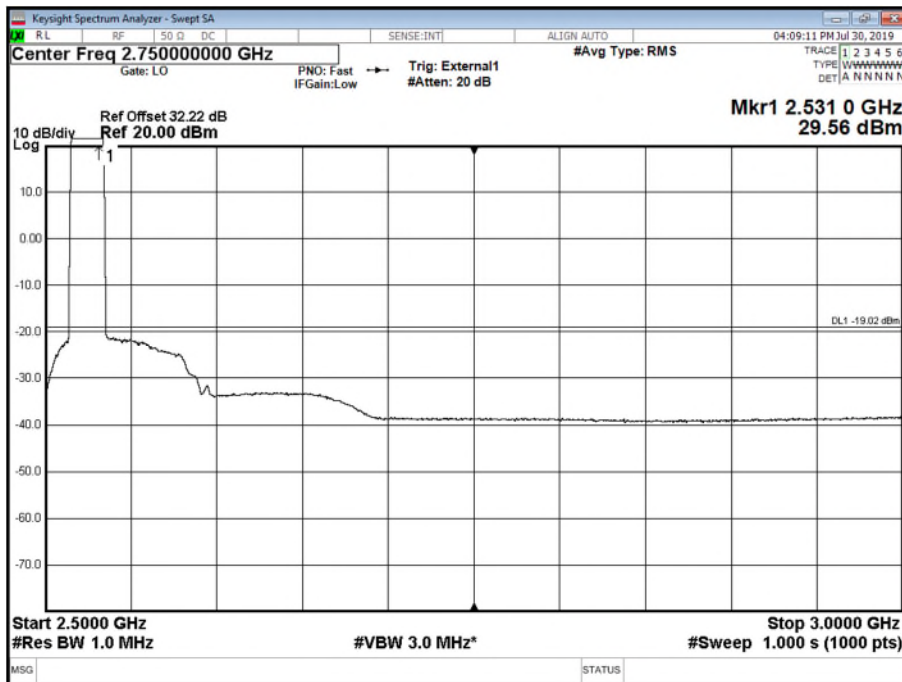


Product Service

Antenna D - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



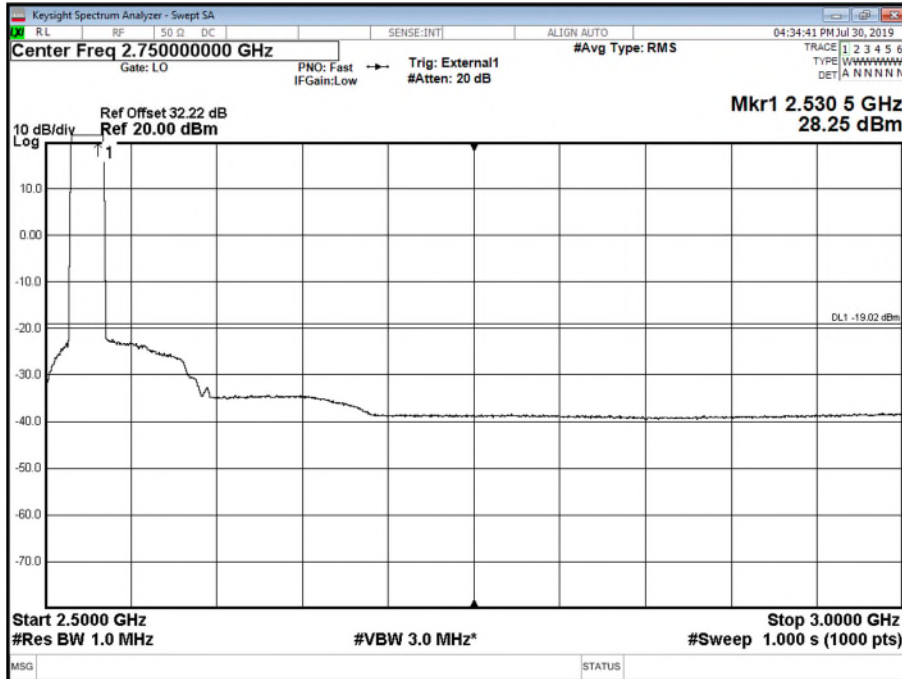
Antenna A - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 2500 to 3000 MHz



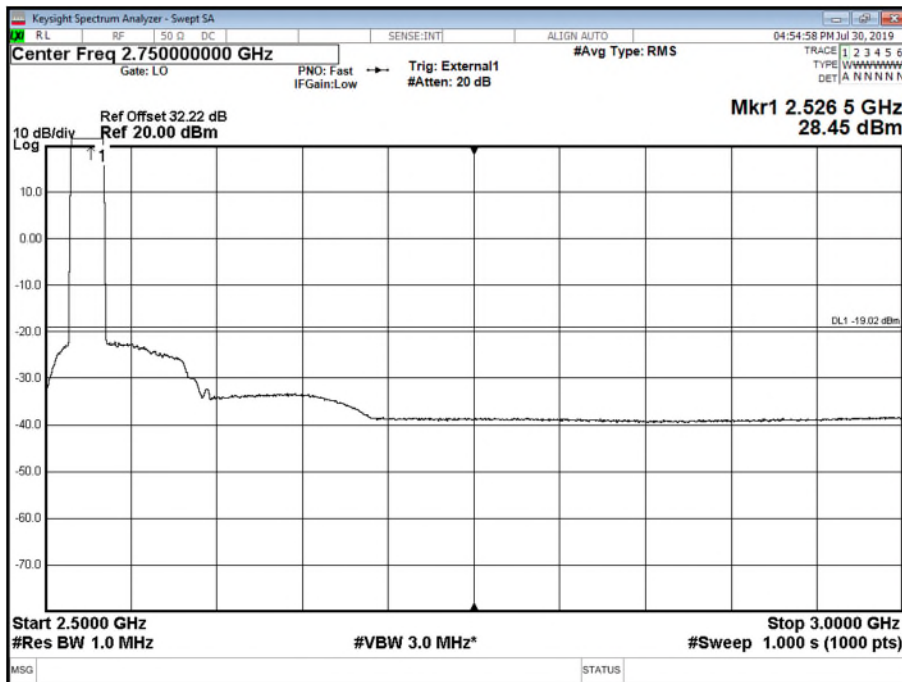


Product Service

Antenna B - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 2500 to 3000 MHz



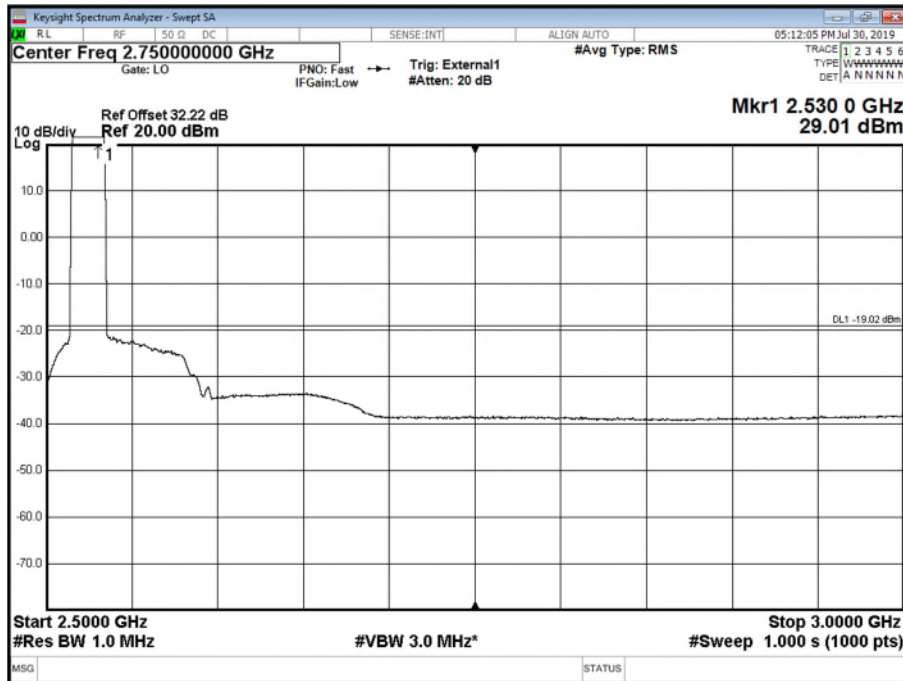
Antenna C - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 2500 to 3000 MHz





Product Service

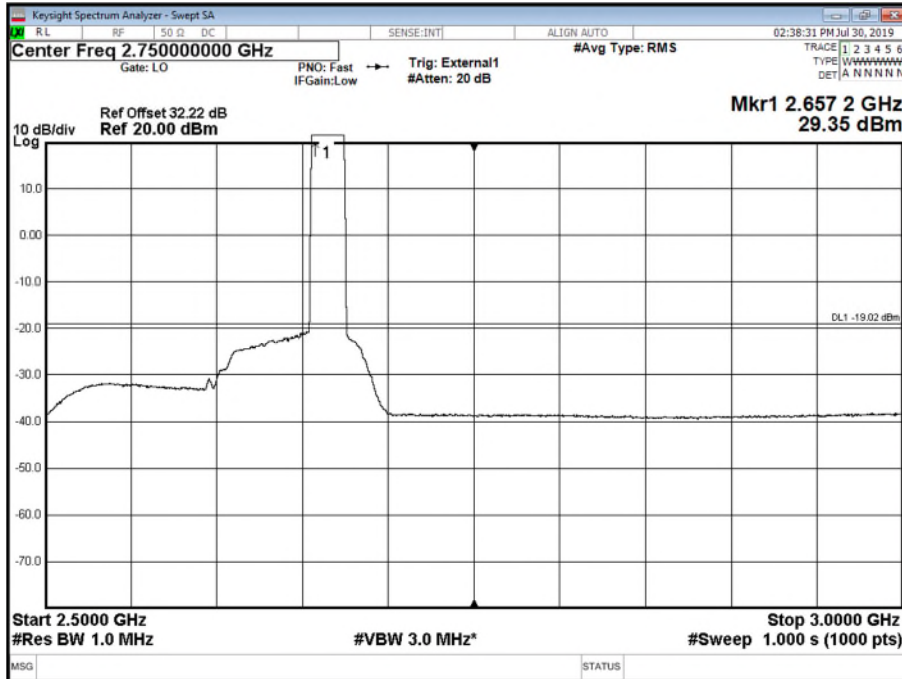
Antenna D - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position B - Band 2 - Range 2500 to 3000 MHz



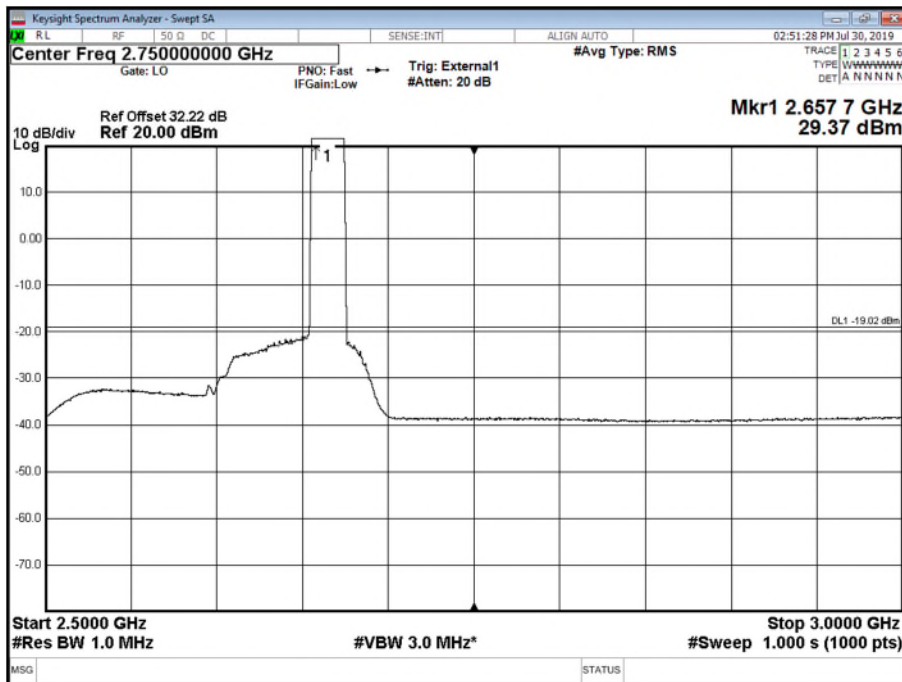


Product Service

Antenna A - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 2500 to 3000 MHz



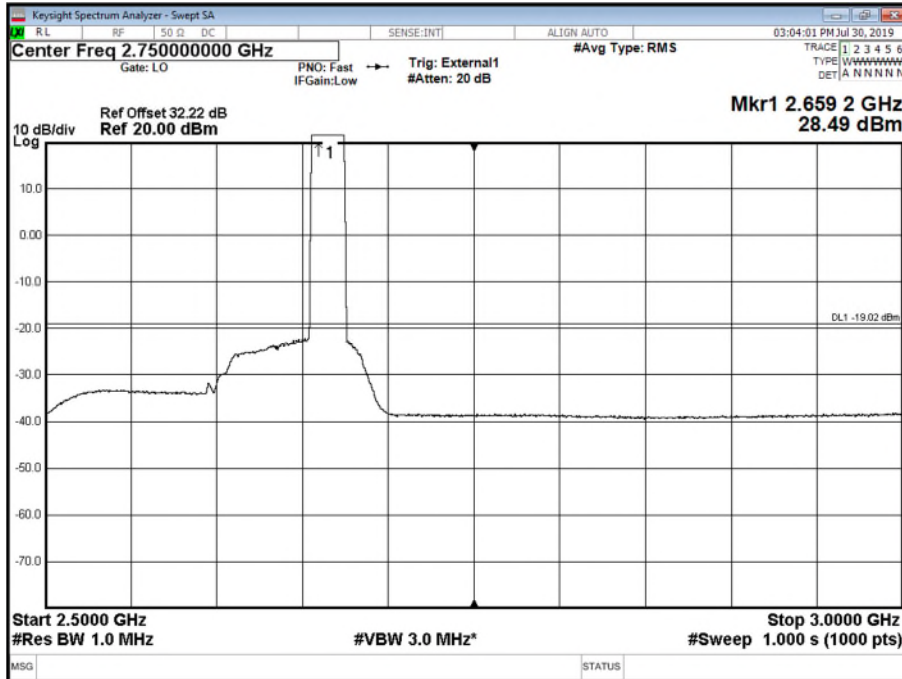
Antenna B - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 2500 to 3000 MHz



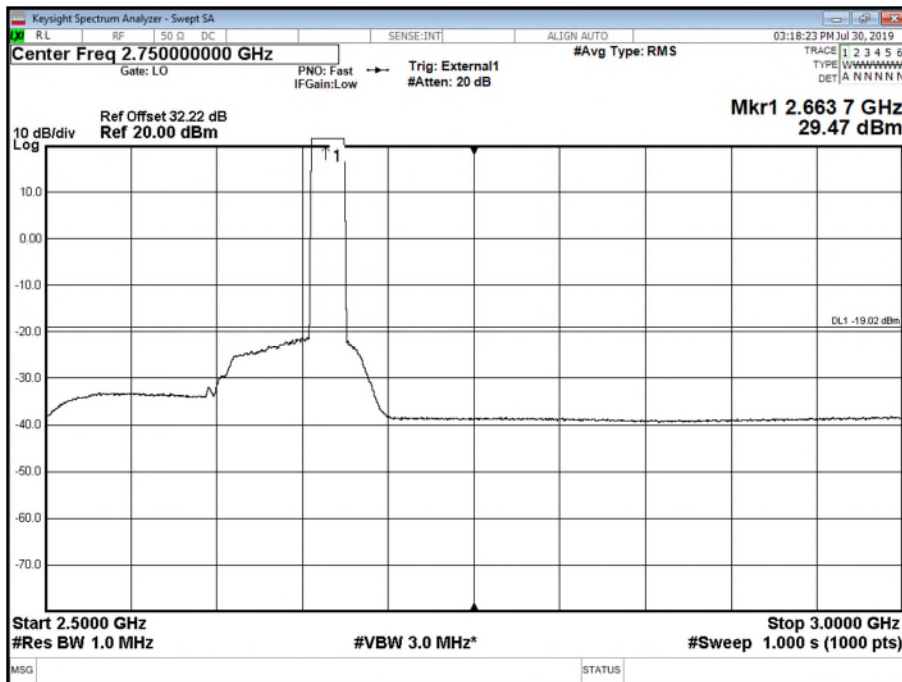


Product Service

Antenna C - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 2500 to 3000 MHz



Antenna D - LTE Modulation QPSK - LTE Carrier Bandwidth 20.0 MHz - Channel Position T - Band 2 - Range 2500 to 3000 MHz



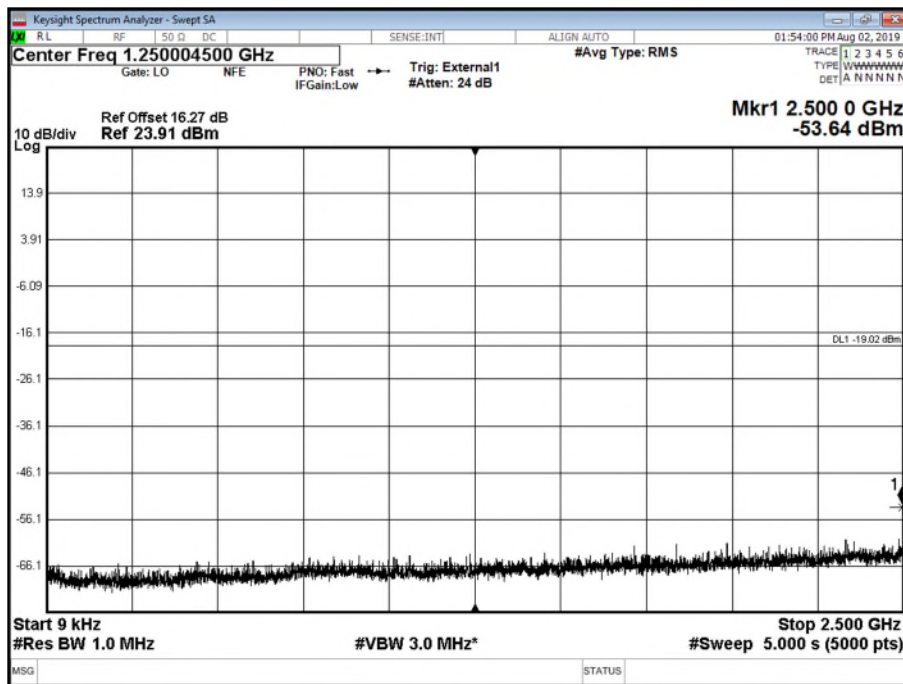


Product Service

Configuration B

Maximum Output Power 26 dBm

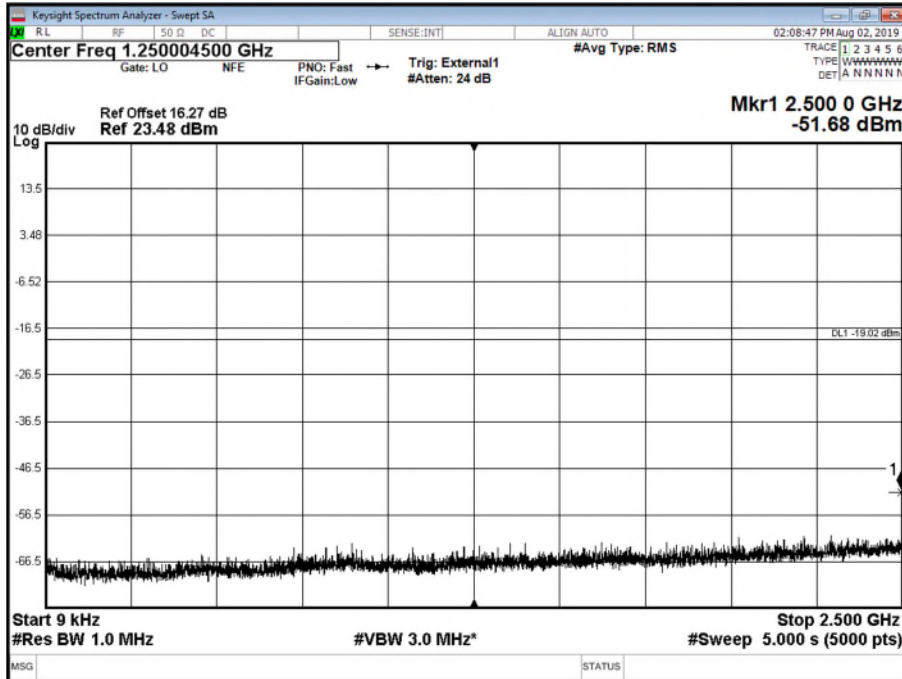
Antenna A - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



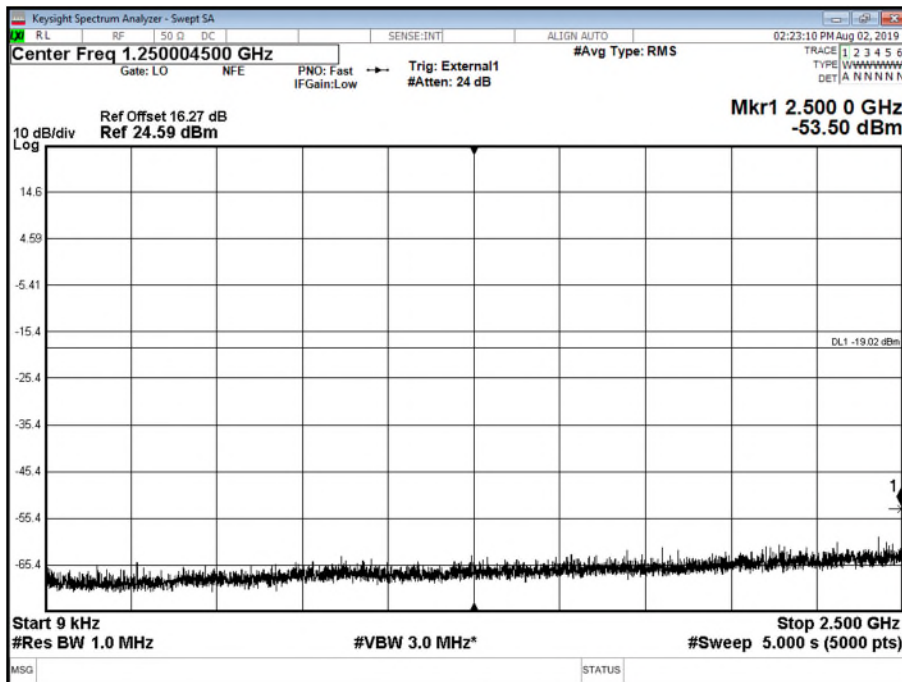


Product Service

Antenna B - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



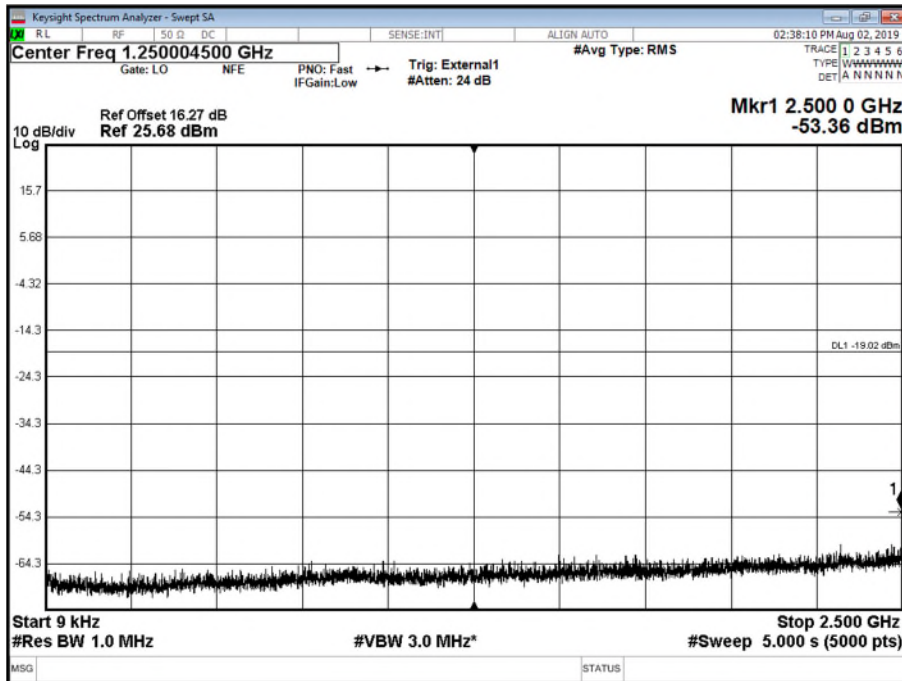
Antenna C - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz





Product Service

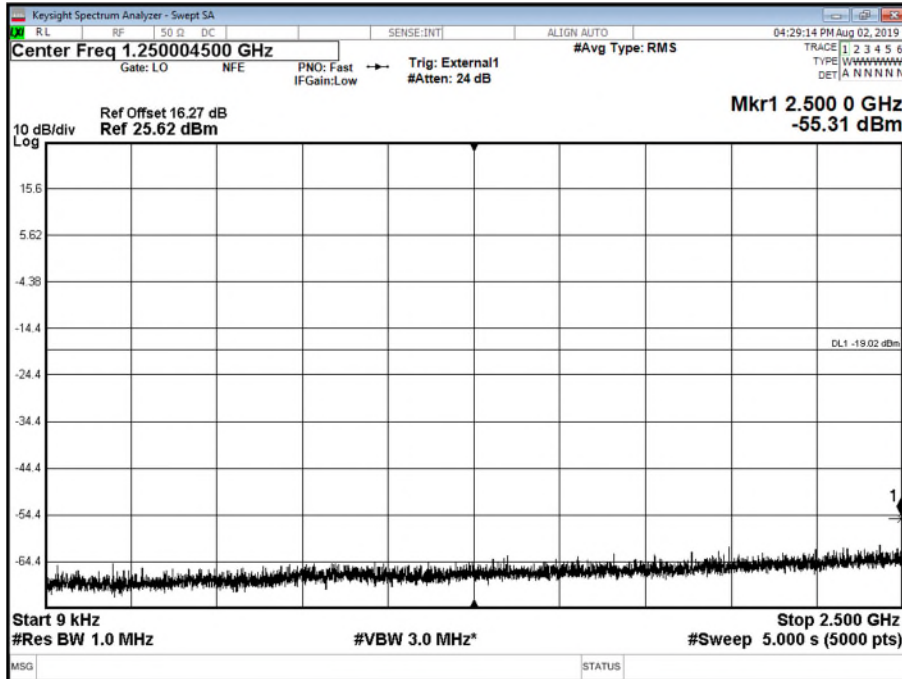
Antenna D - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



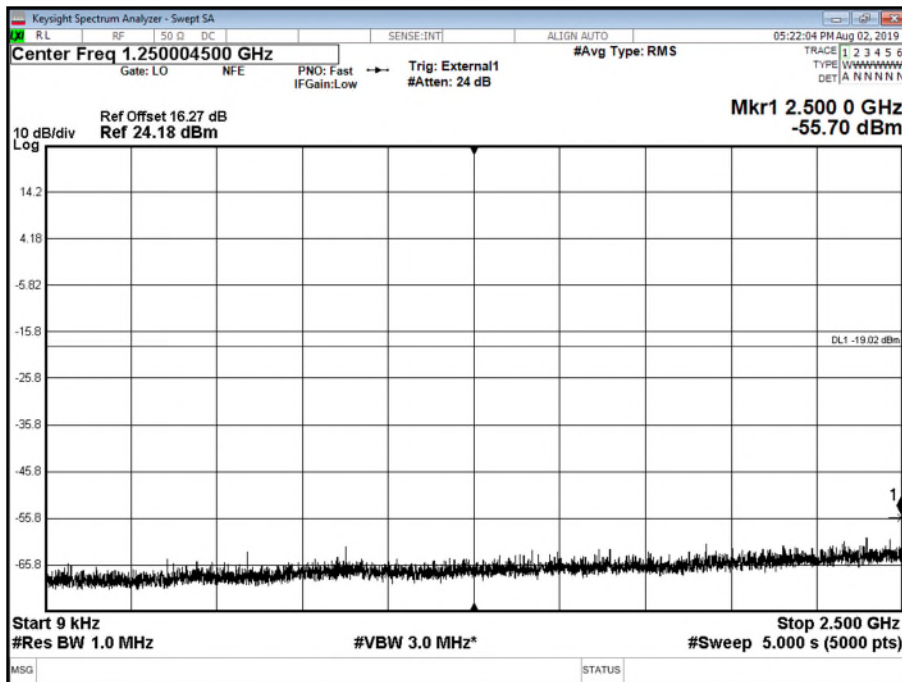


Product Service

Antenna A - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



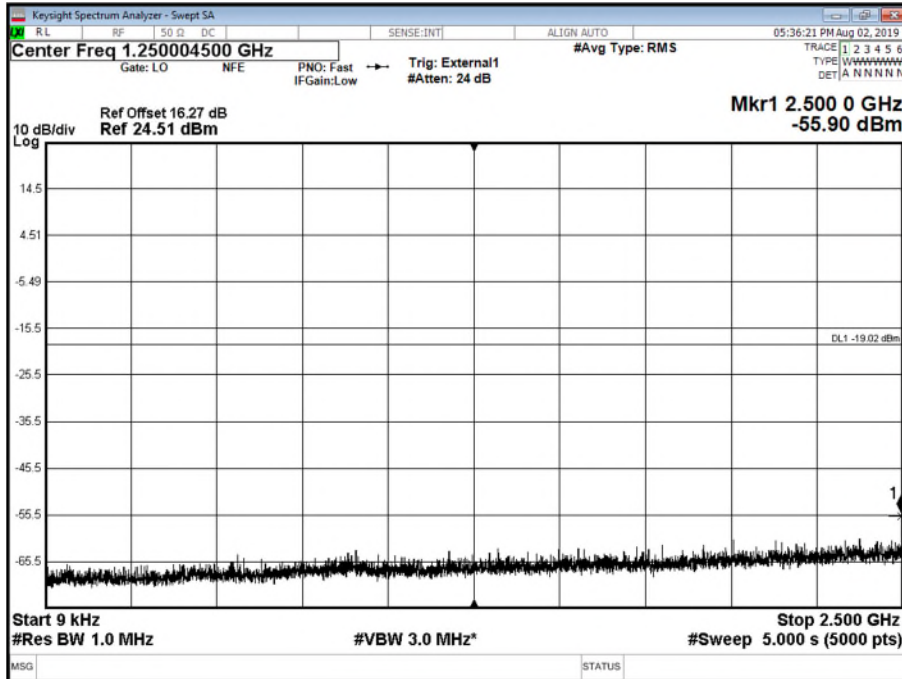
Antenna B - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



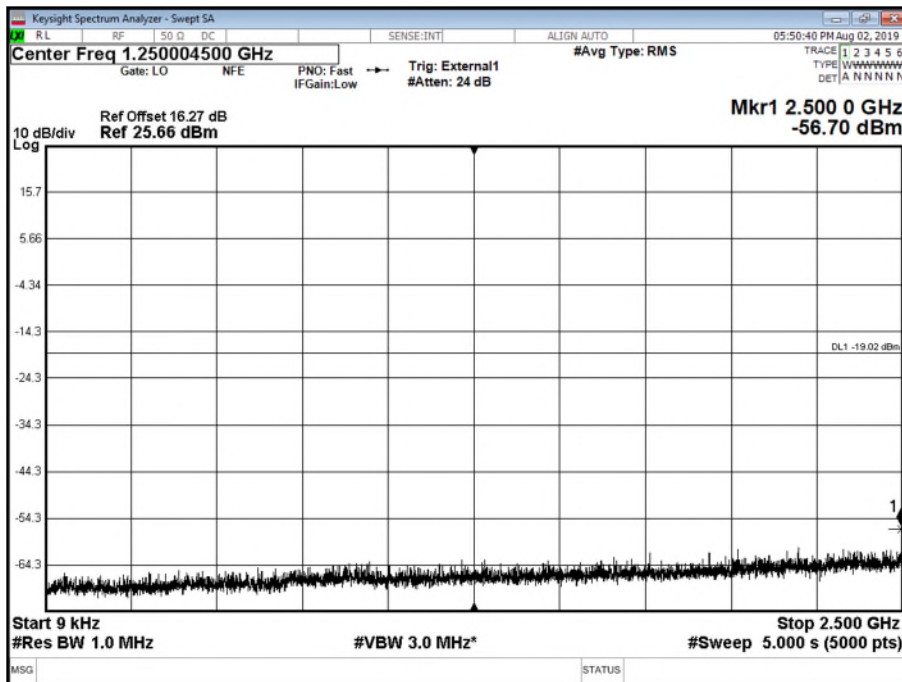


Product Service

Antenna C - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



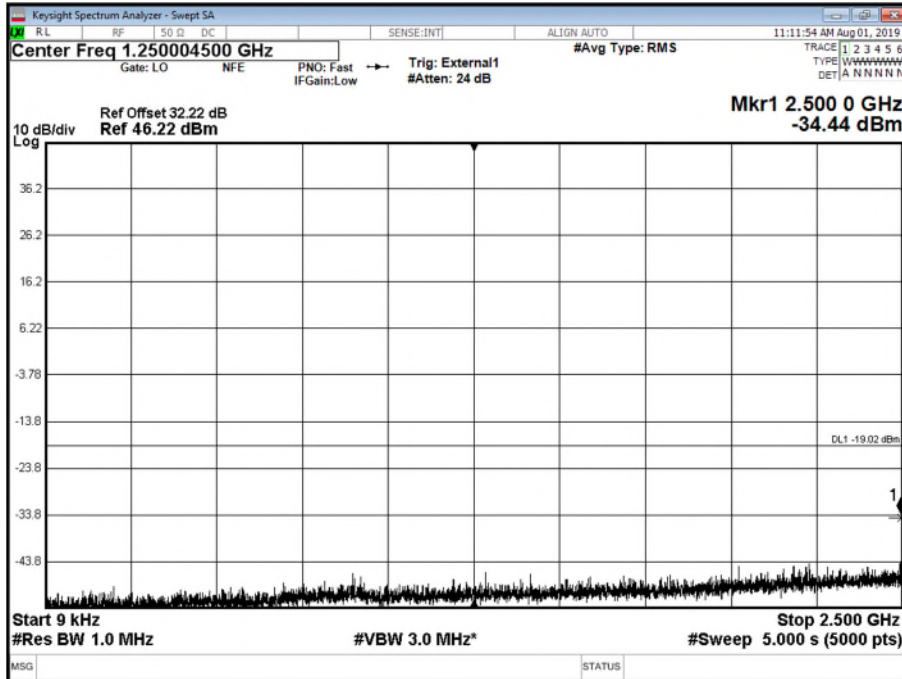
Antenna D - NR Modulation QPSK - NR Carrier Bandwidth 100.0 MHz 60 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



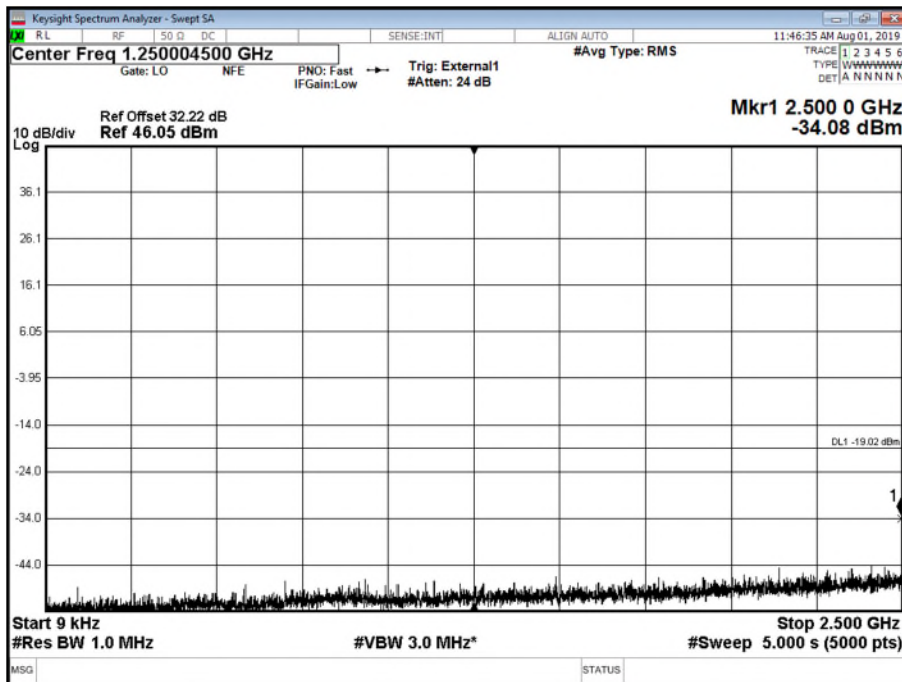


Product Service

Antenna A - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



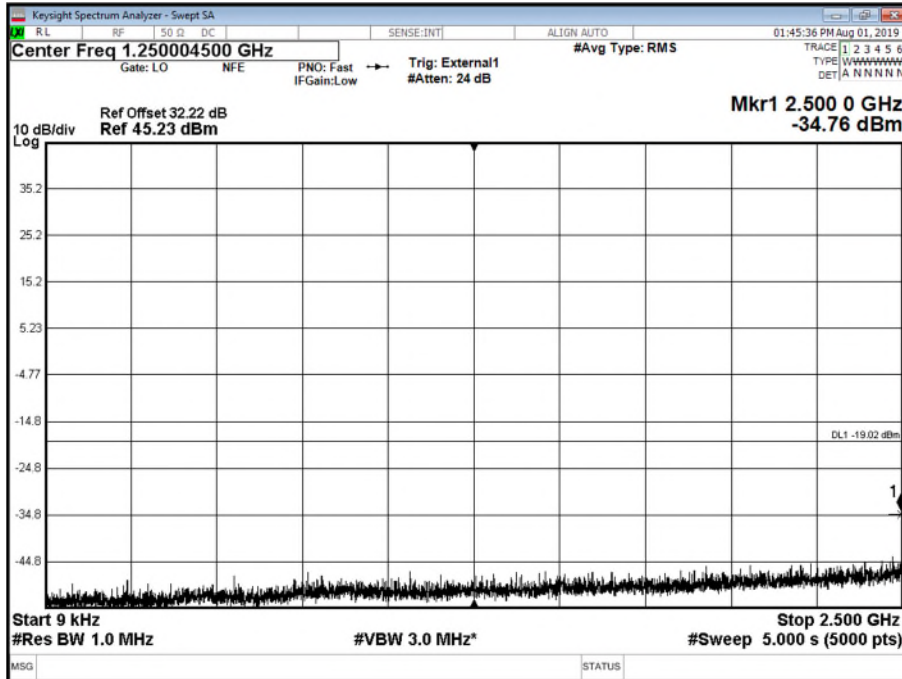
Antenna B - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



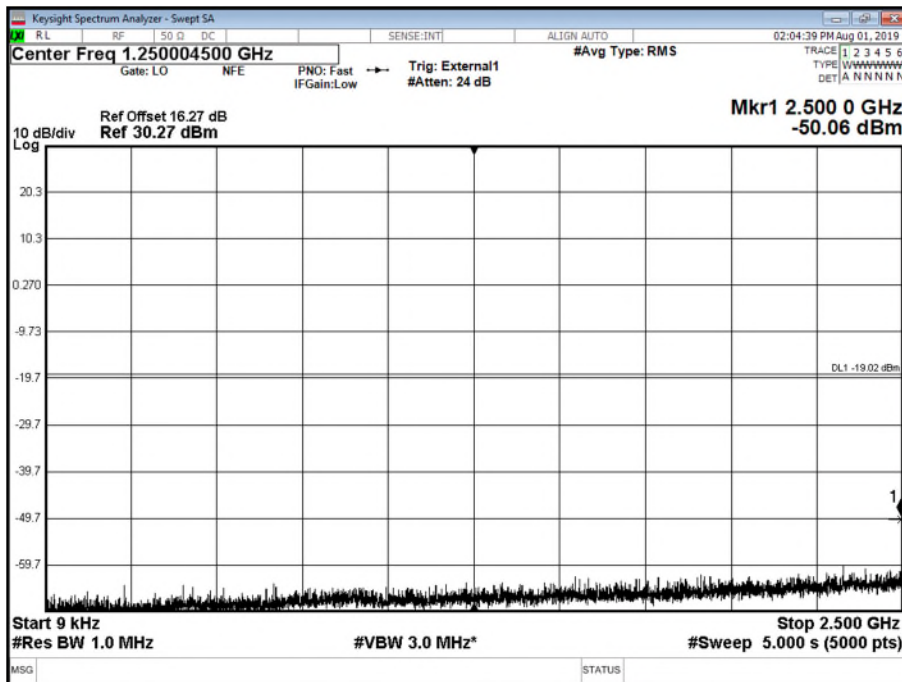


Product Service

Antenna C - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz



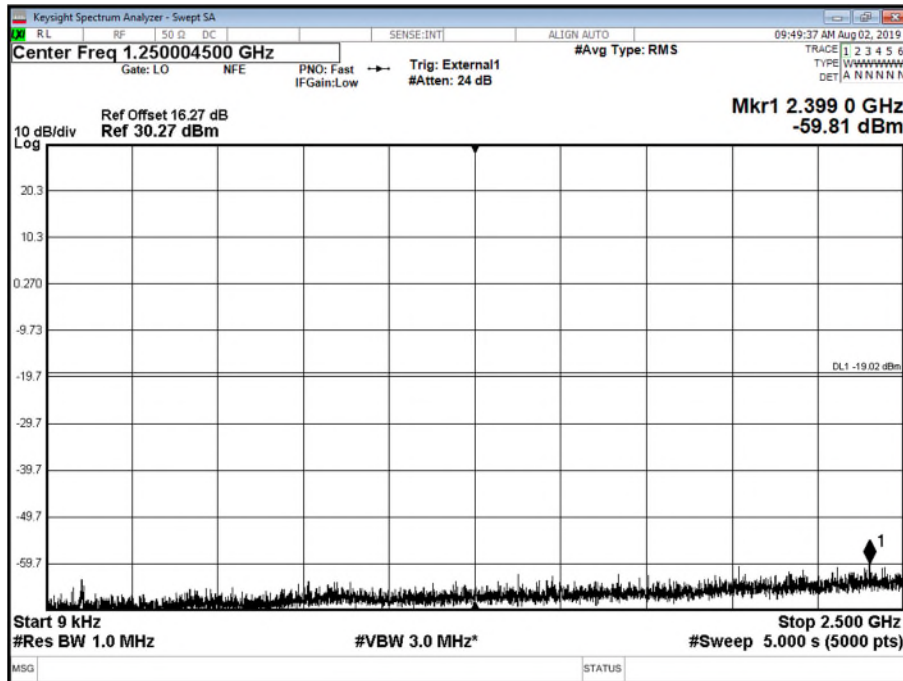
Antenna D - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 2500 MHz





Product Service

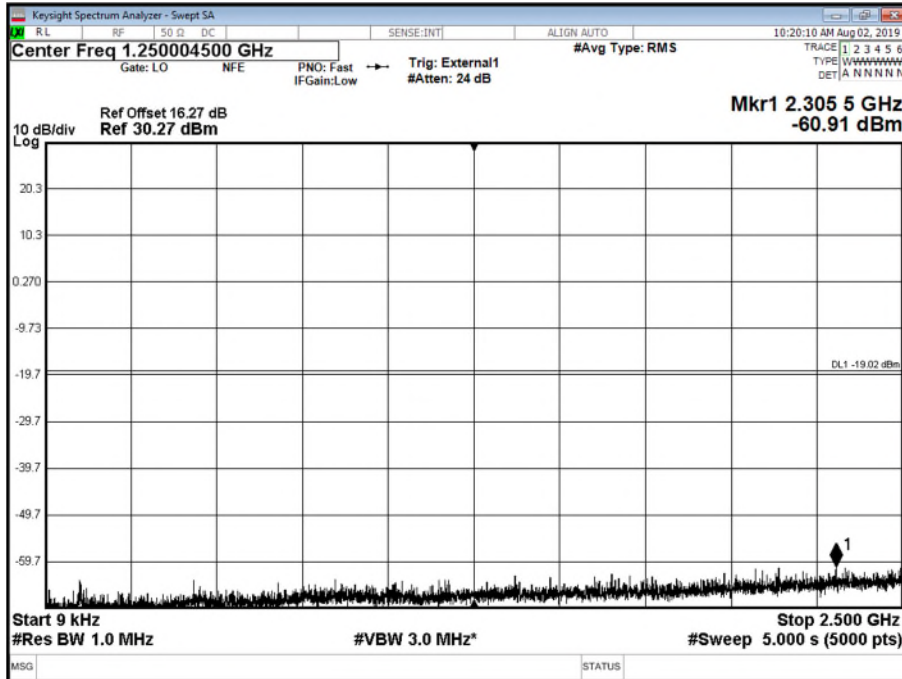
Antenna A - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



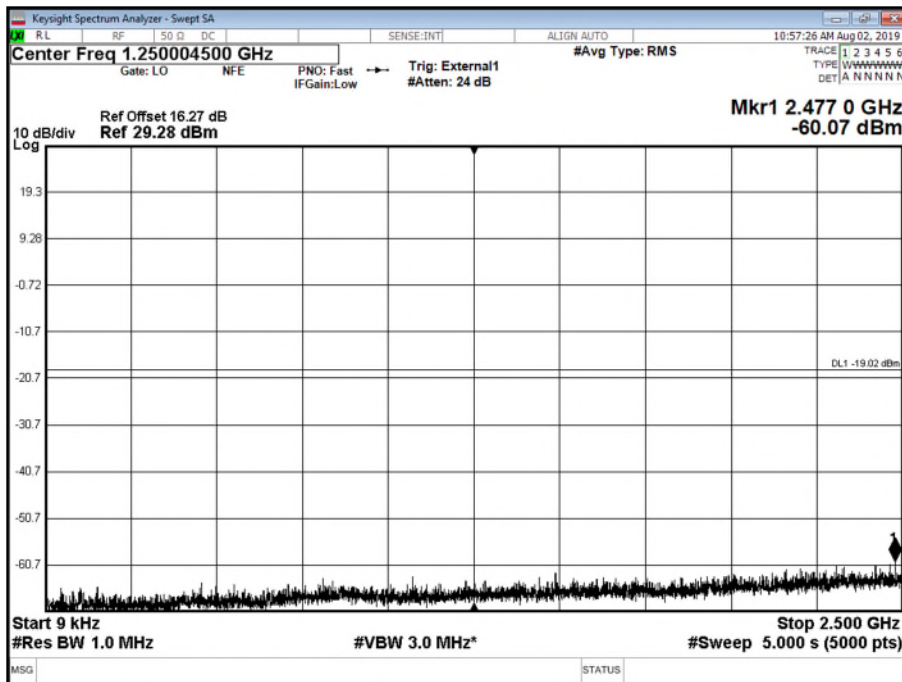


Product Service

Antenna B - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



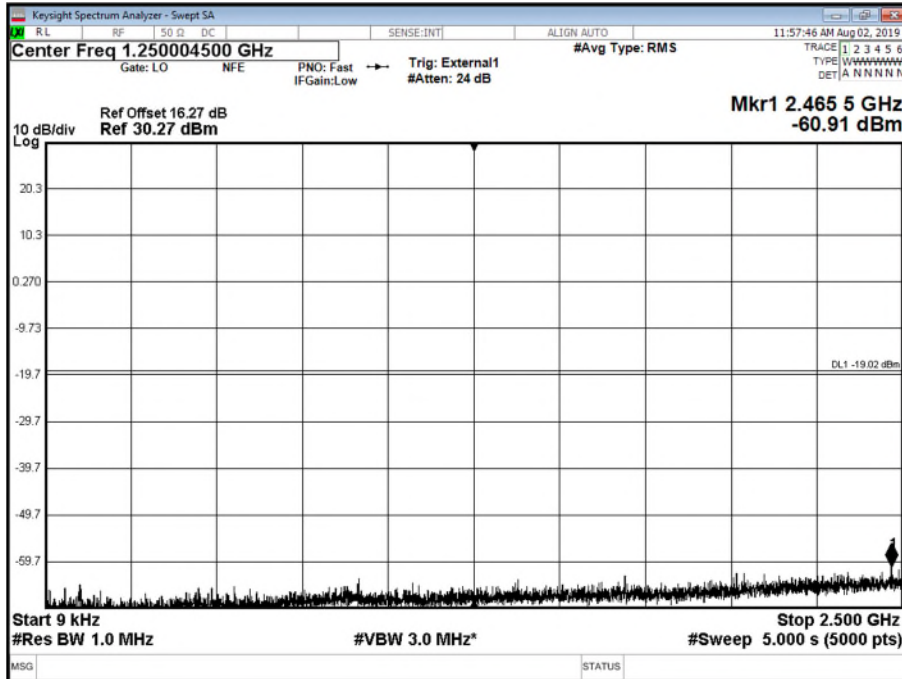
Antenna C - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz





Product Service

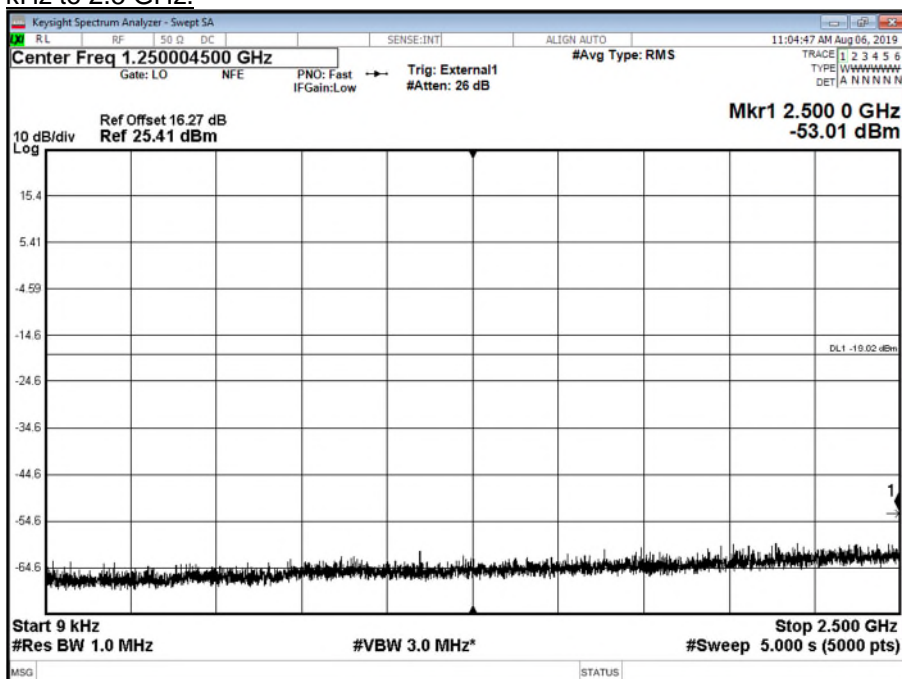
Antenna D - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 30 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 2500 MHz



Configuration C

Maximum Output Power 26 dBm

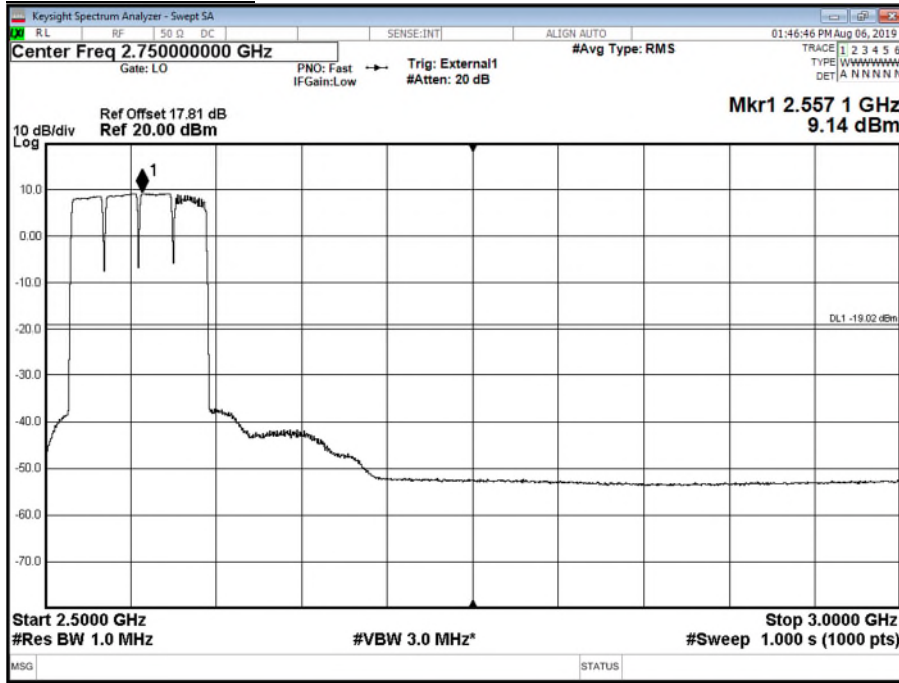
Antenna A (representative) - NR / LTE Modulation QPSK / QPSK - NR / 3 x LTE Carrier Bandwidth 20.0 MHz / 1 x NR 20.0 MHz 15 kHz SCS - Channel Position B Band 1 - Range 9 kHz to 2.5 GHz.



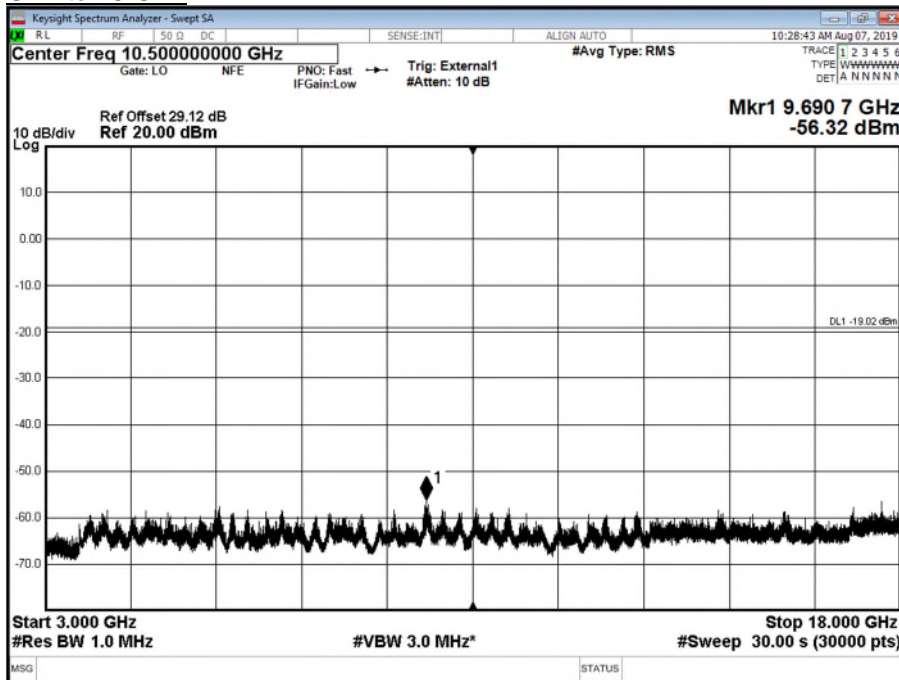


Product Service

Antenna D (representative) - NR / LTE Modulation QPSK / QPSK - NR / 3 x LTE Carrier
Bandwidth 20.0 MHz / 1 x NR 20.0 MHz 15 kHz SCS - Channel Position B Band 2 – Range 2.5
GHz kHz to 3.0 GHz.



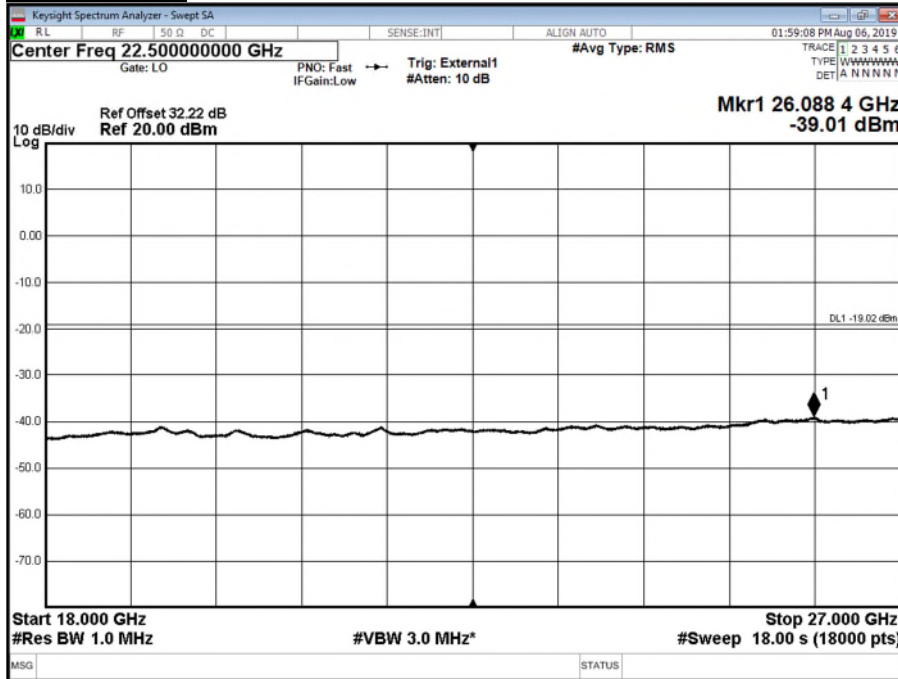
Antenna D (representative) - NR / LTE Modulation QPSK / QPSK - NR / 3 x LTE Carrier
Bandwidth 20.0 MHz / 1 x NR 20.0 MHz 15 kHz SCS - Channel Position B Band 3 – Range 3.0
GHz to 18 GHz





Product Service

Antenna D (representative) - NR / LTE Modulation QPSK / QPSK - NR / 3 x LTE Carrier
Bandwidth 20.0 MHz / 1 x NR 20.0 MHz 15 kHz SCS - Channel Position B Band 4 – Range 18
GHz to 27 GHz



Limit	-19 dBm
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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 27, Clause 27.54

2.5.2 Date of Test and Modification State

30 July and 02 August 2019 - 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 20-22°C
 Relative Humidity 40-45 %

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 26 dBm

Temperature	Voltage	Frequency Error (Hz)
		Channel Position M
-30°C	-48.0 V DC	N/A (Off)
-20°C	-48.0 V DC	N/A (Off)
-10°C	-48.0 V DC	2.260757923 to -2.897558928
0°C	-48.0 V DC	3.710628748 to -4.84386158
+10°C	-48.0 V DC	2.890036583 to -5.693588257
+20°C	-40.5 V DC	3.438455582 to -3.983783722
+20°C	-48.0 V DC	3.438455582 to -3.983783722
+20°C	-57.5 V DC	3.438455582 to -3.983783722
+30°C	-48.0 V DC	4.027443886 to -4.684378147
+40°C	-48.0 V DC	3.562240601 to -3.640276909
+50°C	-48.0 V DC	2.744354963 to -2.148677826

Limit	±1.5 ppm or ±3772.5kHz
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Product Service

SECTION 3

TEST EQUIPMENT USED



Product Service

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
Spectrum Analyser	Keysight	PXA N9030A	MY55410202	12	13-Sep-19
Signal Generator	R & S	SMB 100A	SSG013949	12	01-Apr-20
Digital MultiMeter	Fluke	115	SSG013271	12	10-Sep-19
Temperature / Humidity Meter	Omega	OM-CP-PRHTEMP2000	P44878	12	22-Oct-19
PSU	Xantrex	XKW60-50	E00109862		O/P Mon
Attenuator (10dB)	Mini-Circuits	BW-K10-2W44+	-		O/P Mon
RF Switch Unit	Ericsson	RARFSW 4x1	1		O/P Mon
Switching Control Unit	Hewlett Packard	11713A	3748A060876		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	± 0.7 dB	
Conducted Emissions	30 MHz to 20 GHz Amplitude	± 2.1 dB	
Frequency Stability	30 MHz to 2 GHz	± 5.0 Hz	
Occupied Bandwidth	Up to 20 MHz Bandwidth	5 MHz Bandwidth	± 11547 Hz
		10 MHz Bandwidth	± 23094 Hz
		15 MHz Bandwidth	± 34641 Hz
		20 MHz Bandwidth	± 46188 Hz
Band Edge	30 MHz to 20 GHz Amplitude	± 0.8 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



Configuration			
Product	Product No	R-State	Serial No
CT11	LPC102494/1	R2A	T01G495060
IRU 8884	KRC 161 754/1	R1C	C828486284
Dot 4489 B41K	KRY 901 432/2	R1B	TD3T789162
Software Version:	CXP9013268/14	Revision:	R71HG