

KCTL Inc.

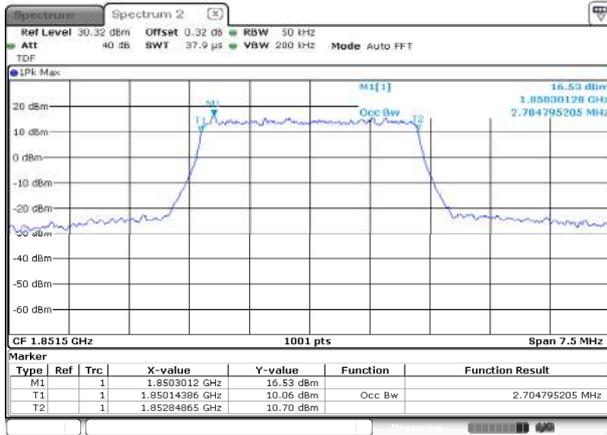
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

Report No.:
KR19-SRF0183-B

Page (58) of (216)

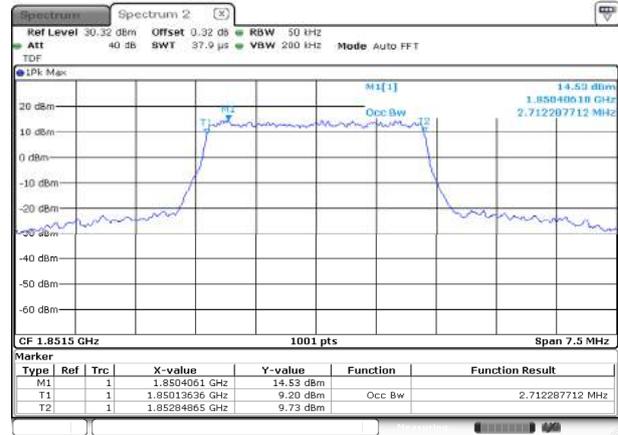


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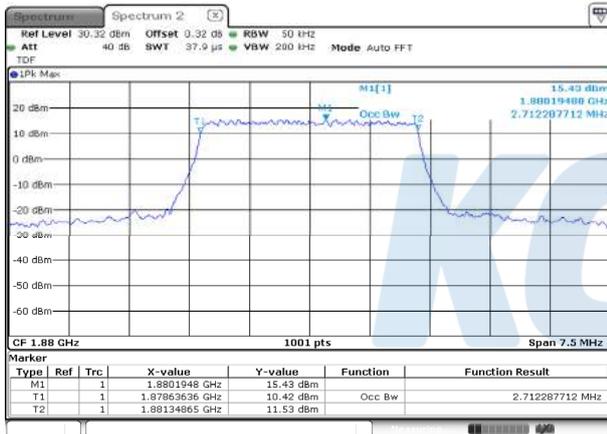
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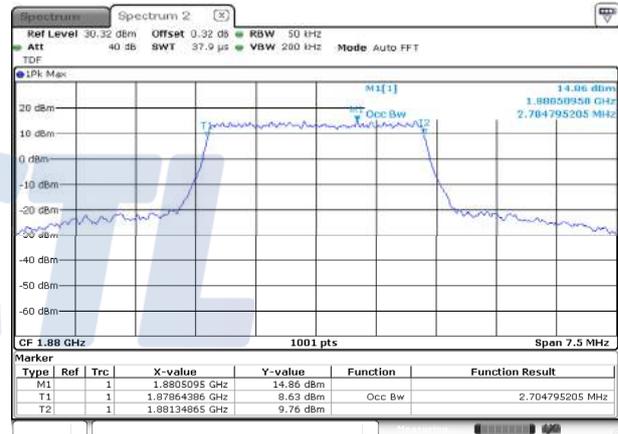
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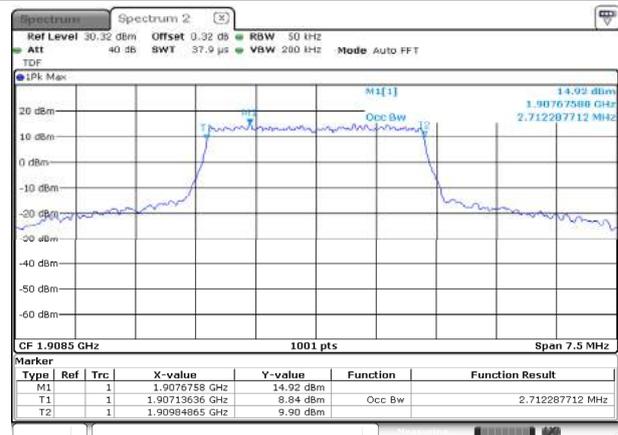
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3M BW / QPSK / High ch.



Date: 30.OCT.2019 19:52:03

3M BW / 16QAM / High ch.



Date: 30.OCT.2019 19:53:41

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Report No.:
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Page (59) of (216)

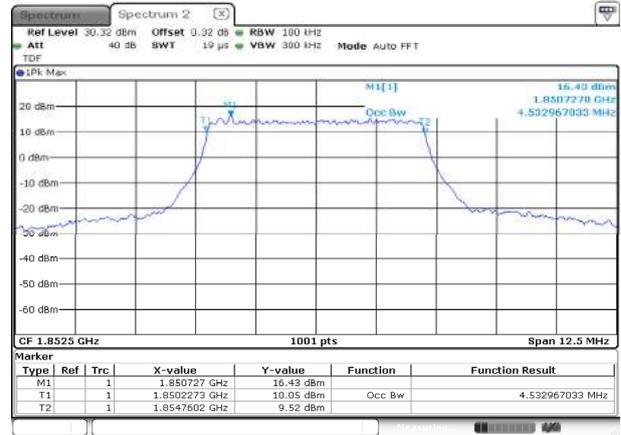


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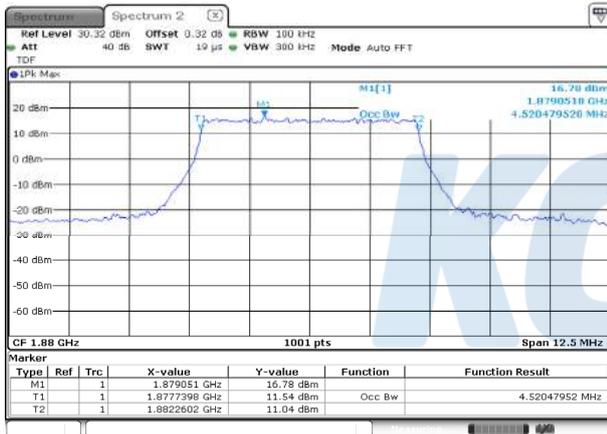
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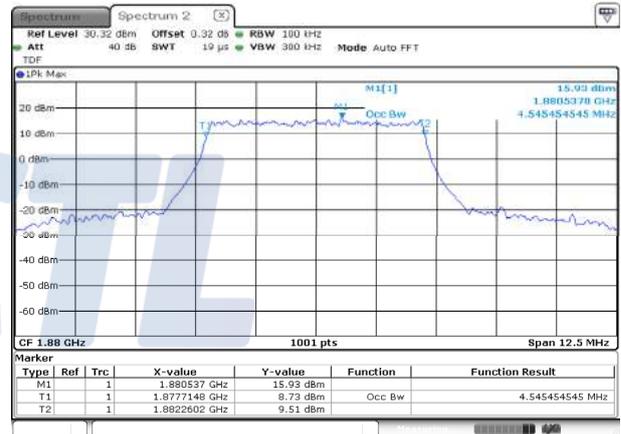
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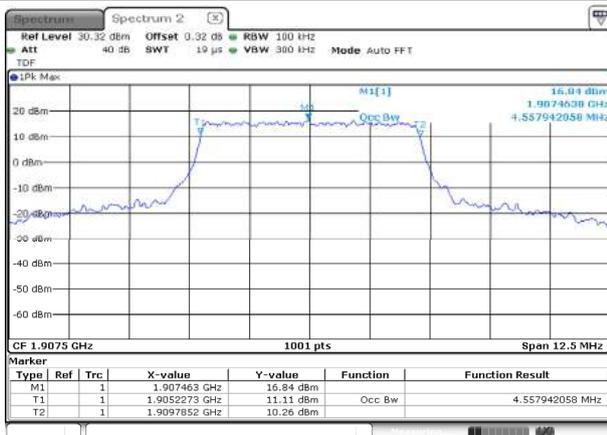
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Date: 30.OCT.2019 20:06:00

5M BW / QPSK / High ch.



Date: 30.OCT.2019 20:09:33

5M BW / 16QAM / High ch.



Date: 30.OCT.2019 20:10:51

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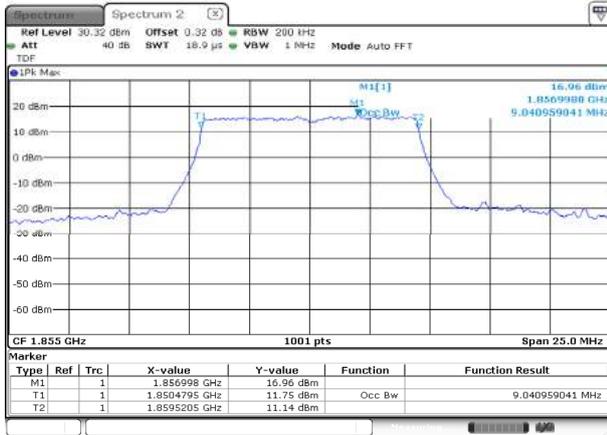
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Page (60) of (216)

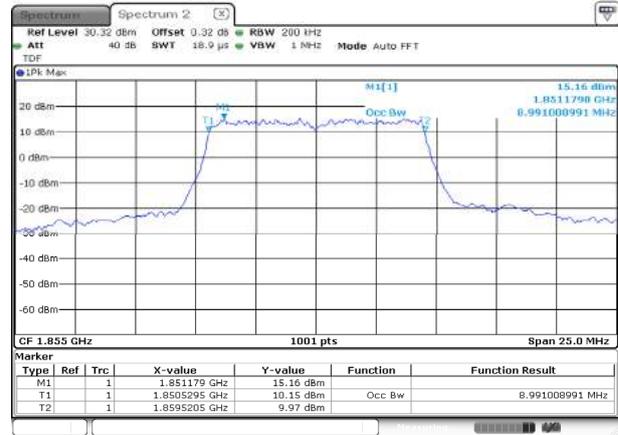


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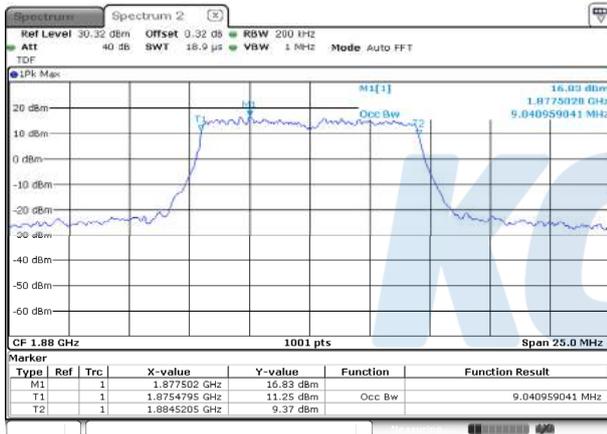
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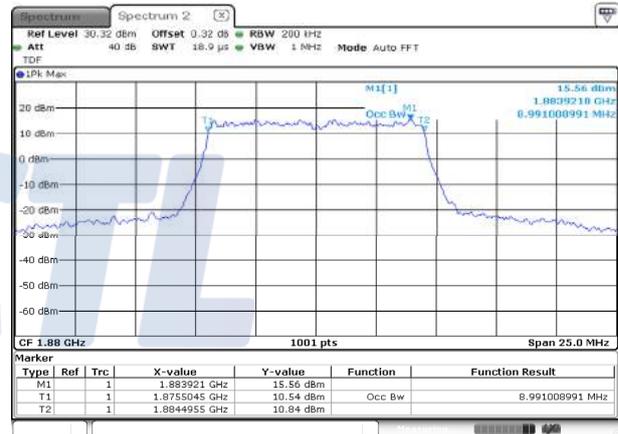
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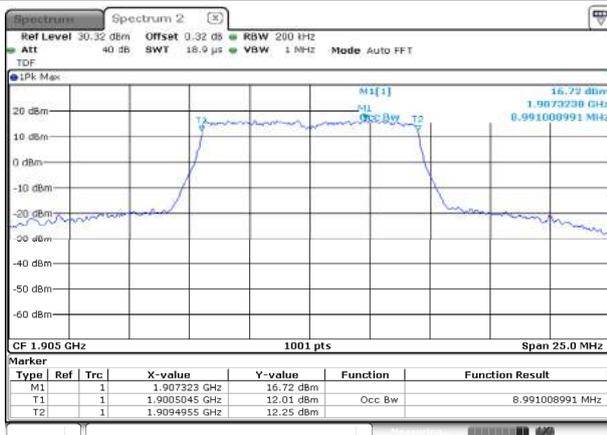
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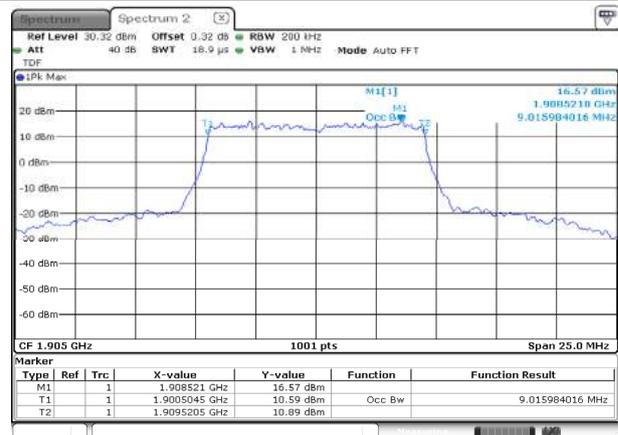
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Date: 30.OCT.2019 21:41:41

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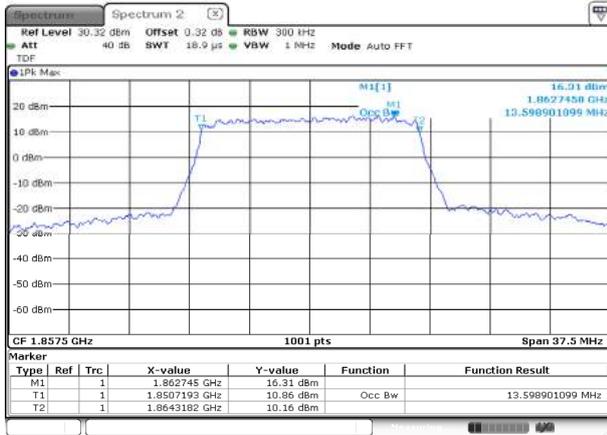
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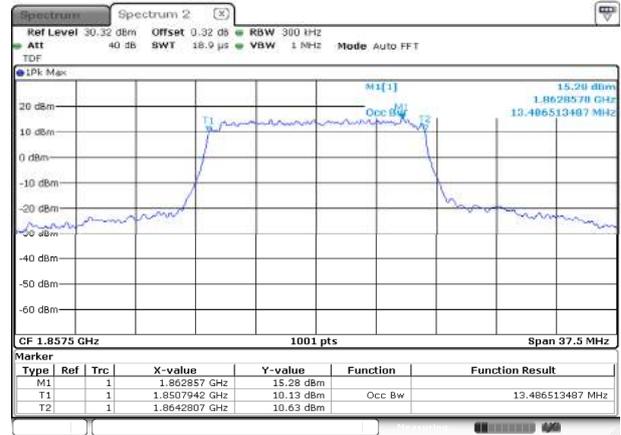
Page (61) of (216)



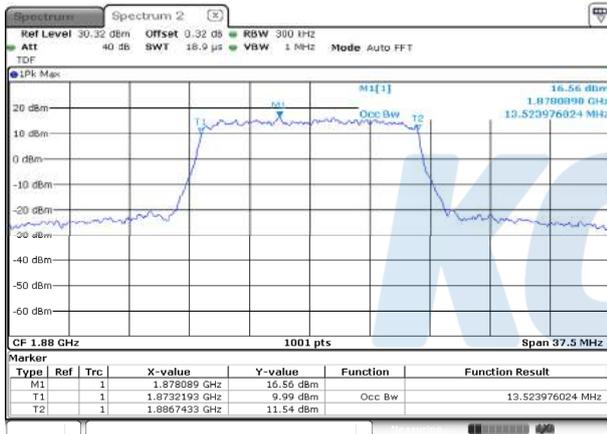
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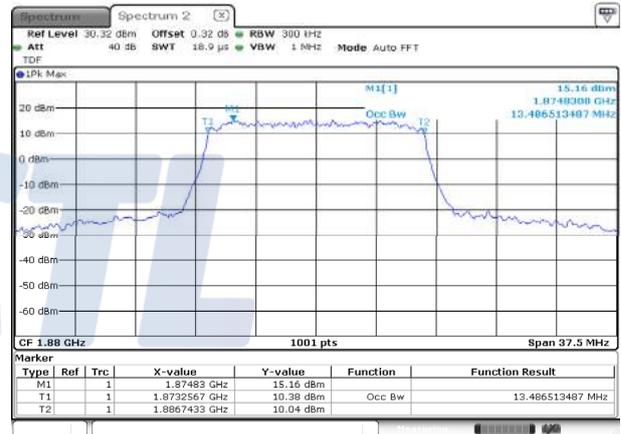
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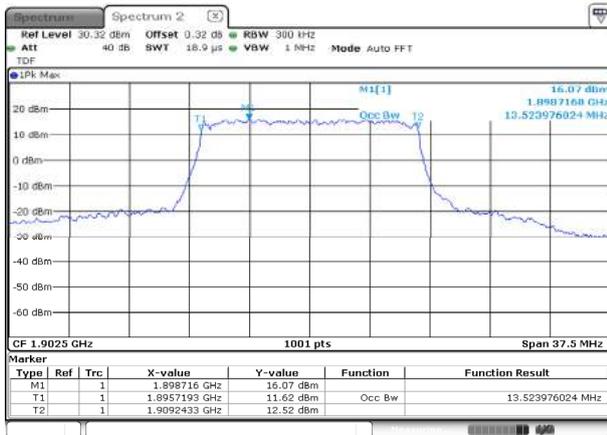
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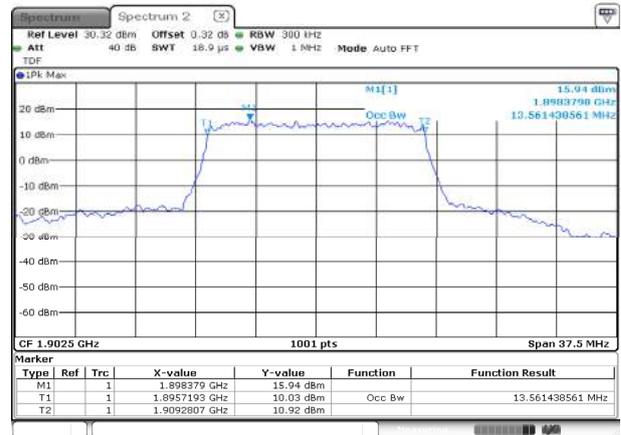
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15M BW / QPSK / High ch.



15M BW / 16QAM / High ch.



KCTL Inc.

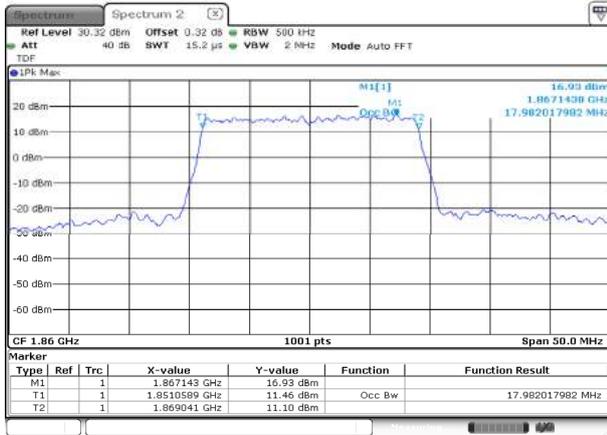
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Page (62) of (216)

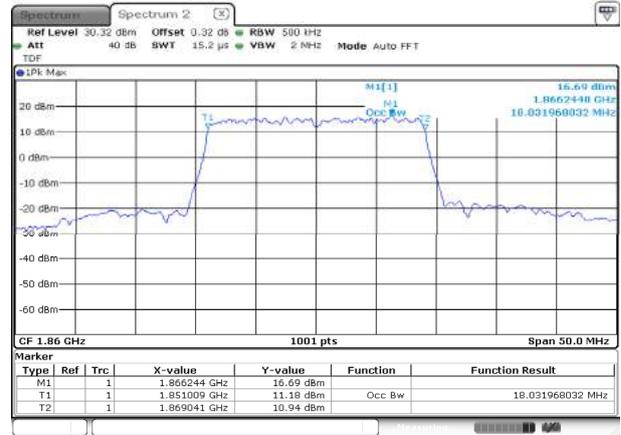


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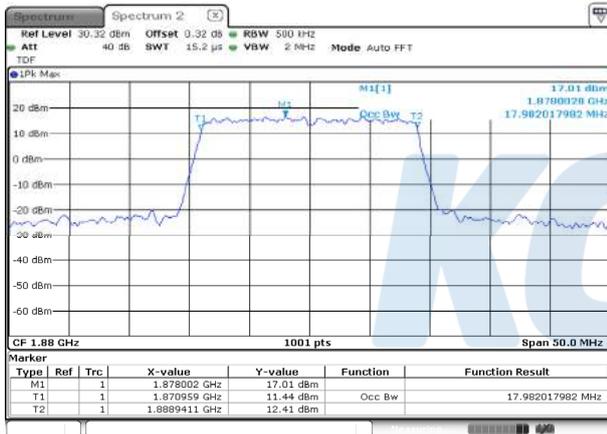
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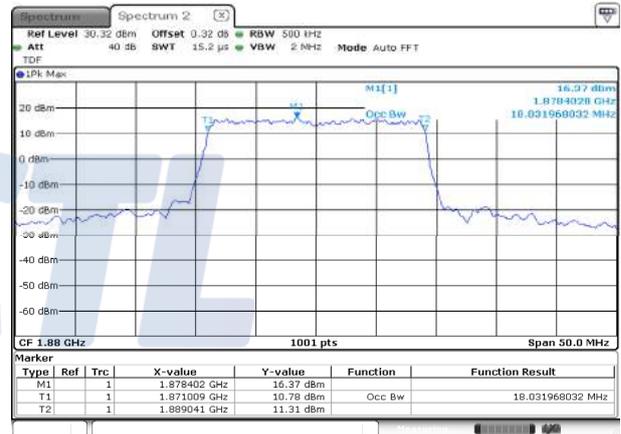
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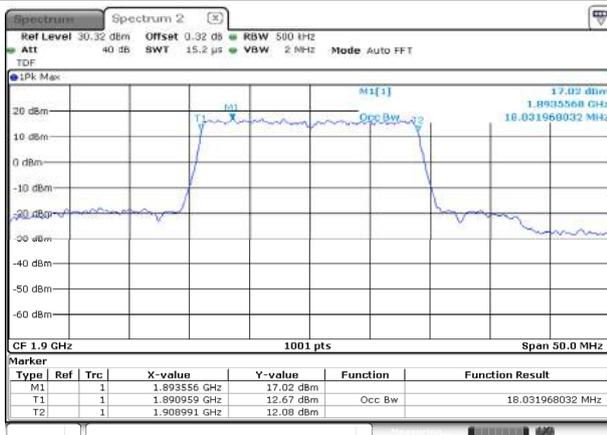
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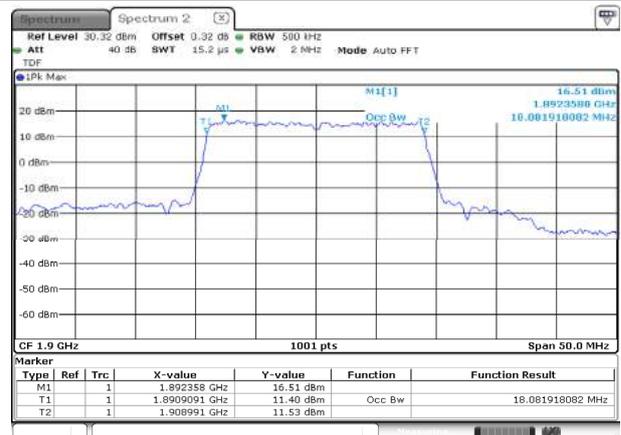
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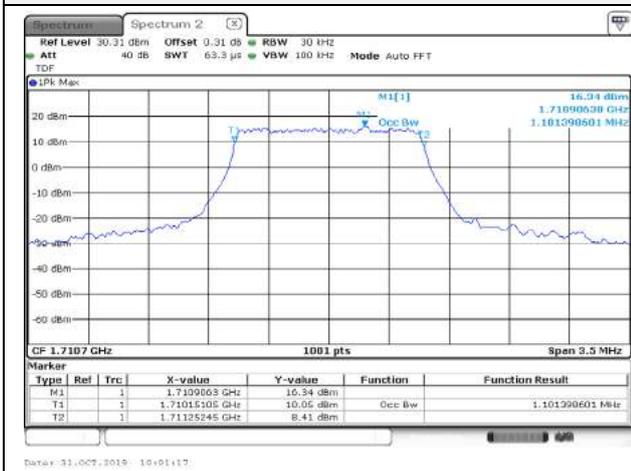
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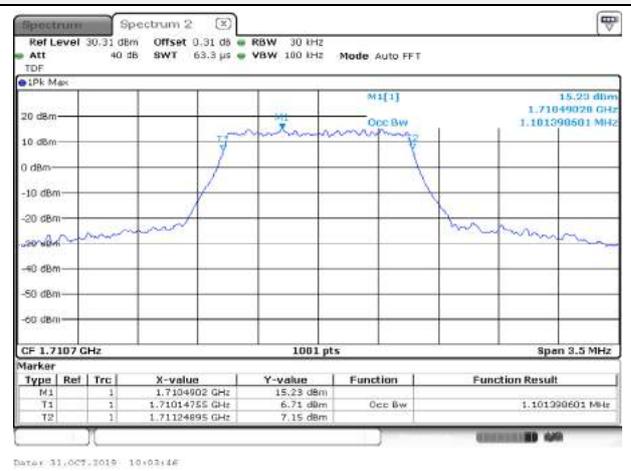
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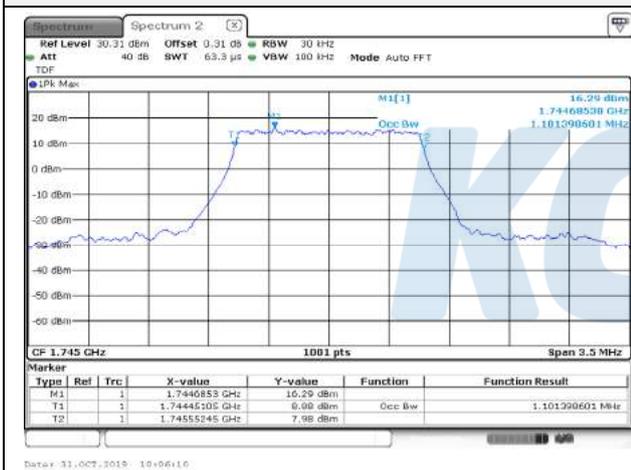
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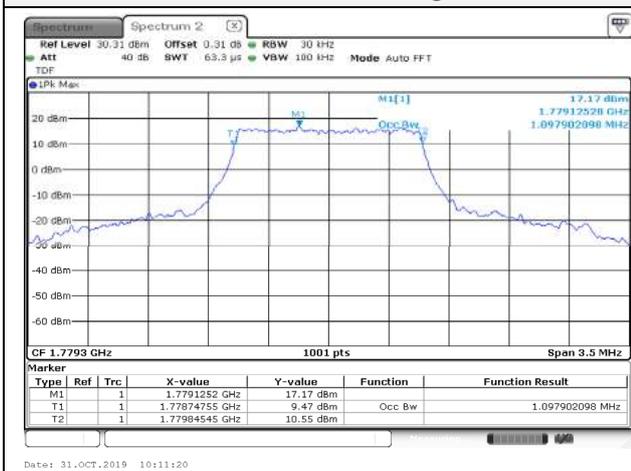
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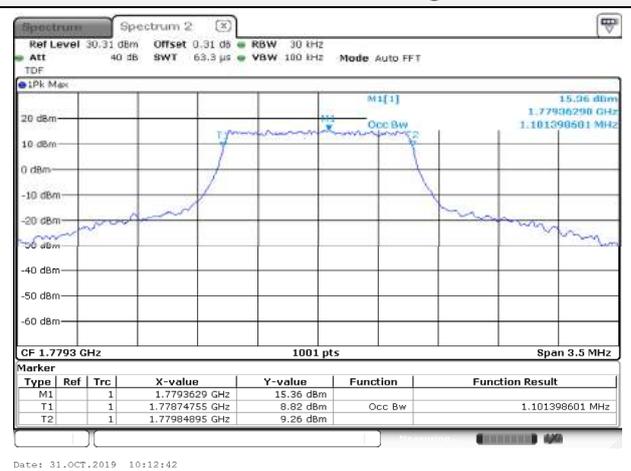
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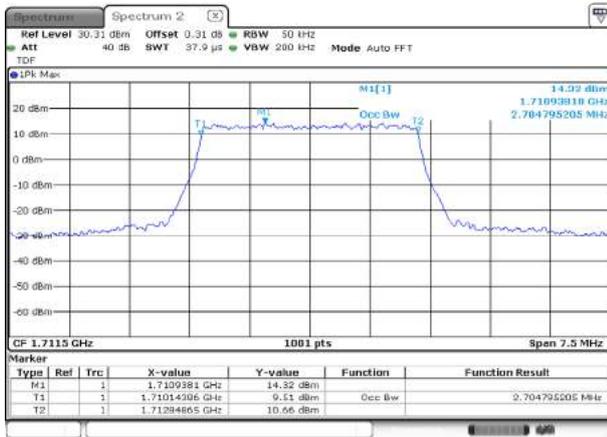
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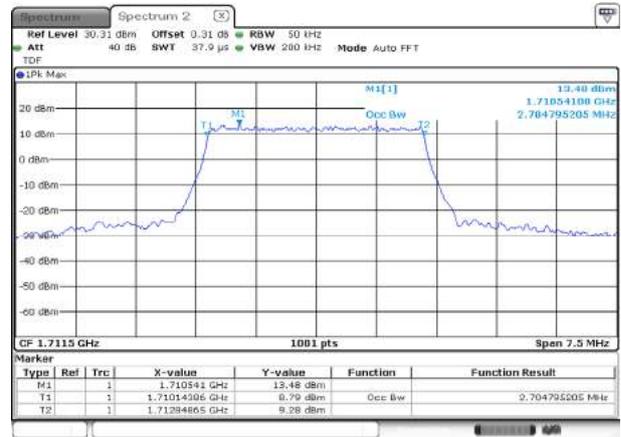
Page (64) of (216)



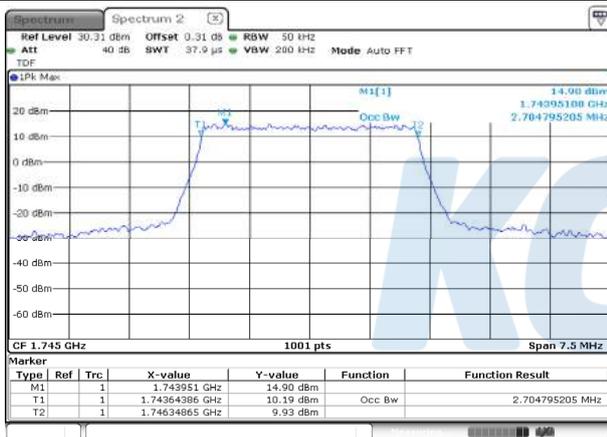
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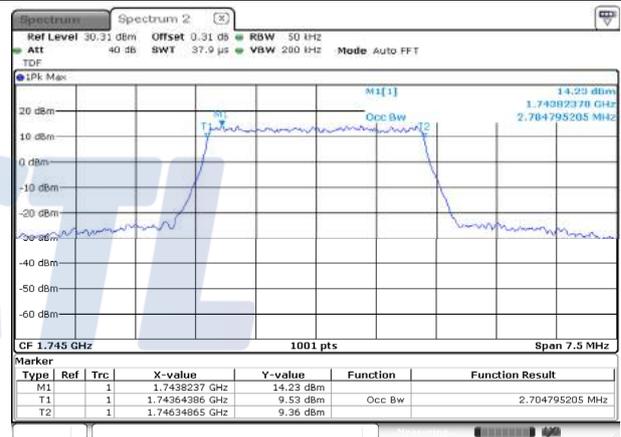
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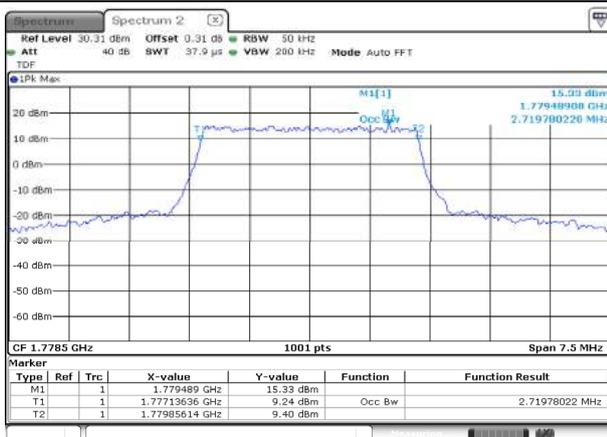
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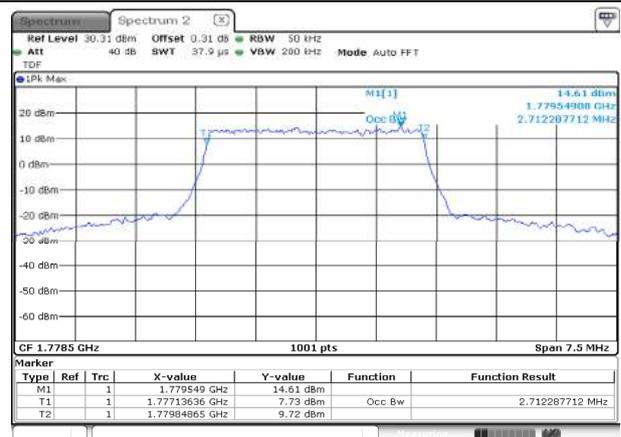
3M BW / 16QAM / Mid ch.



3M BW / QPSK / High ch.



3M BW / 16QAM / High ch.



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Report No.:
KR19-SRF0183-B

Page (65) of (216)

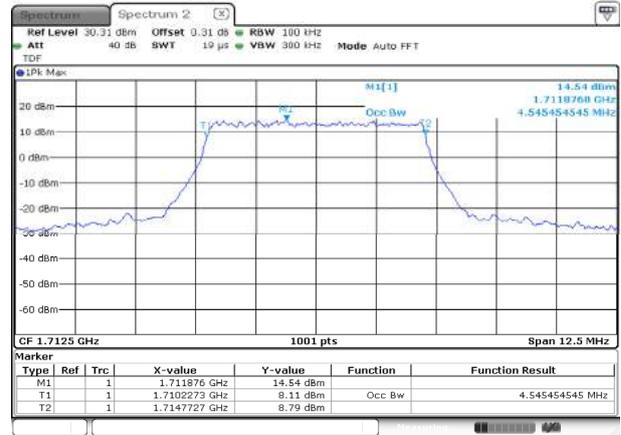


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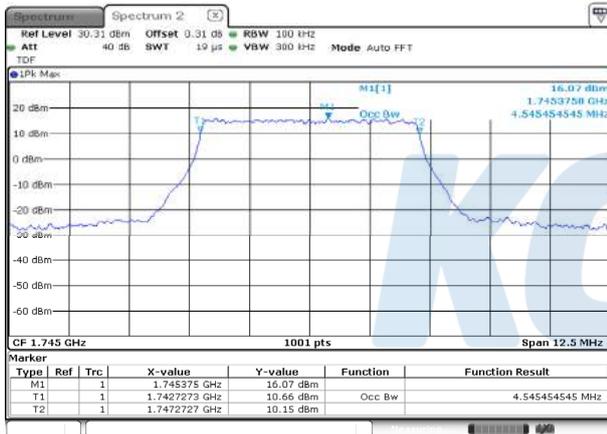
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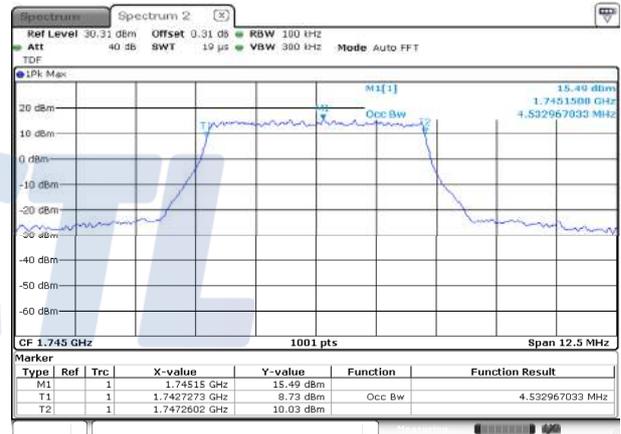
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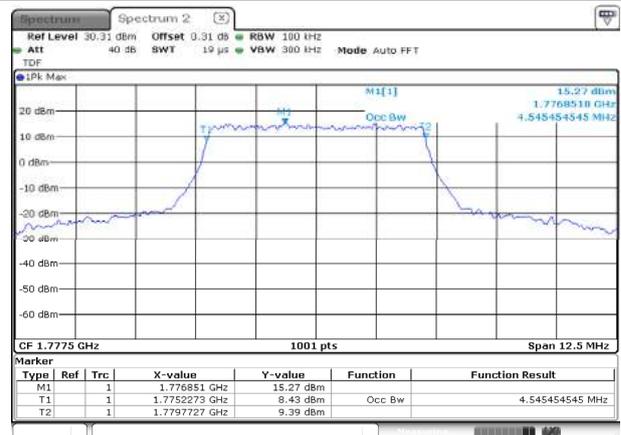
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Date: 31.OCT.2019 12:41:33

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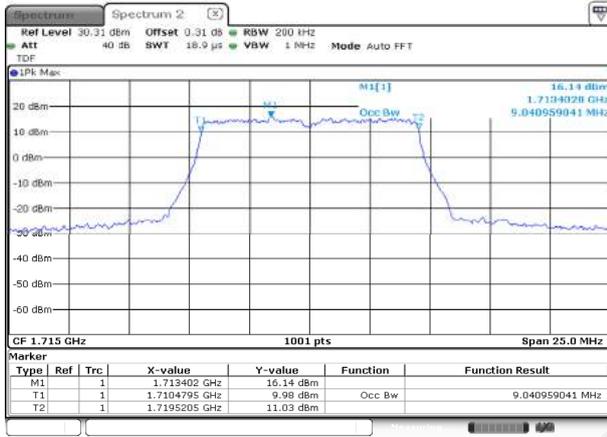
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KR19-SRF0183-B

Page (66) of (216)

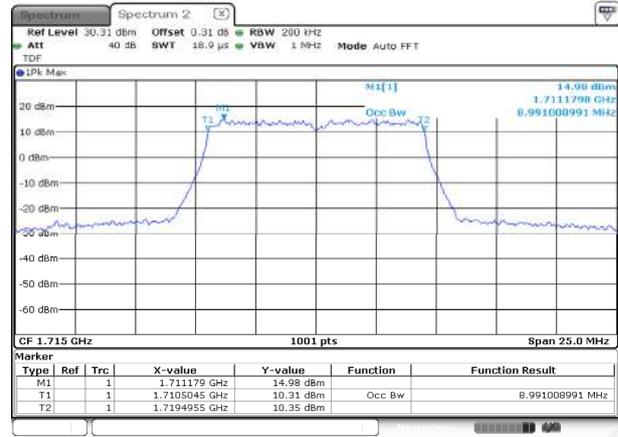


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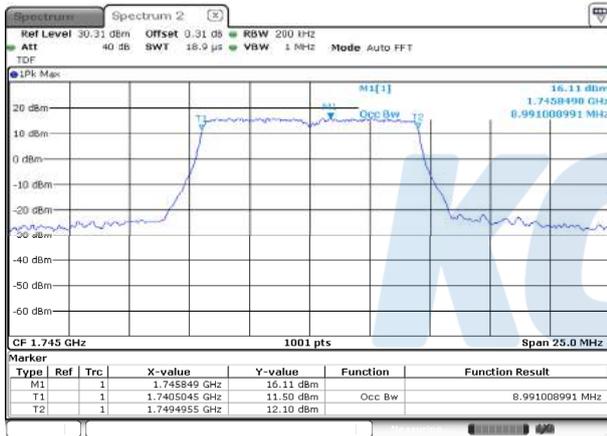
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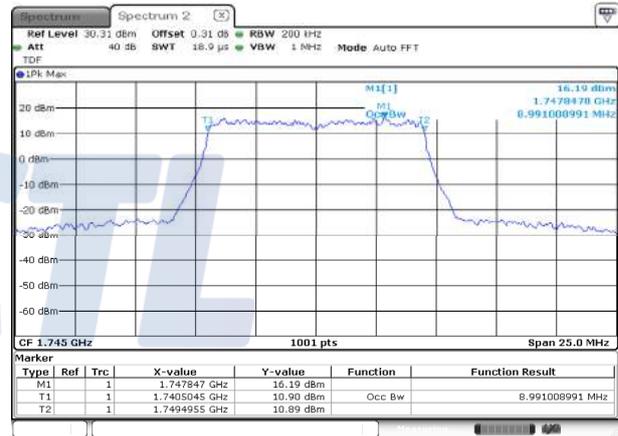
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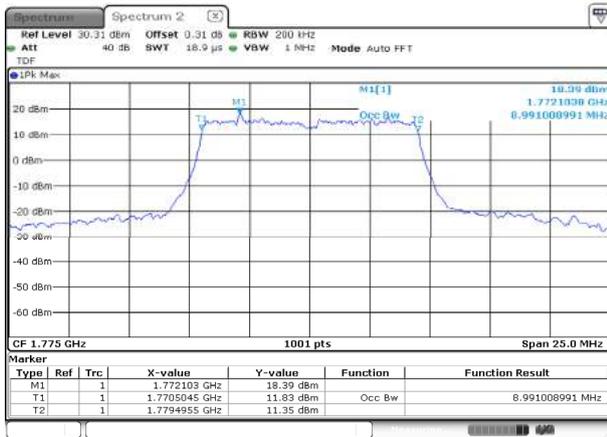
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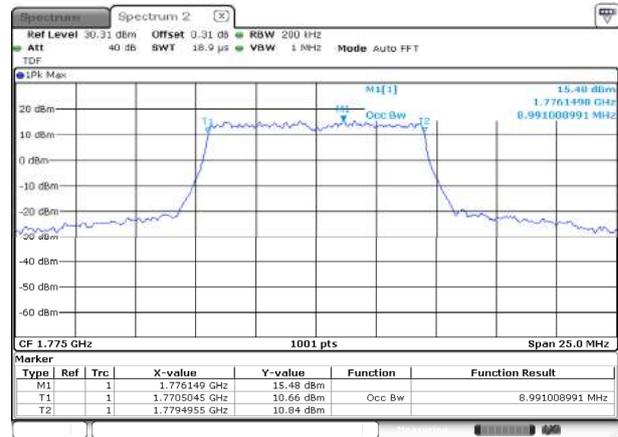
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Date: 31.OCT.2019 16:31:40

10M BW / 16QAM / High ch.



Date: 31.OCT.2019 16:33:54

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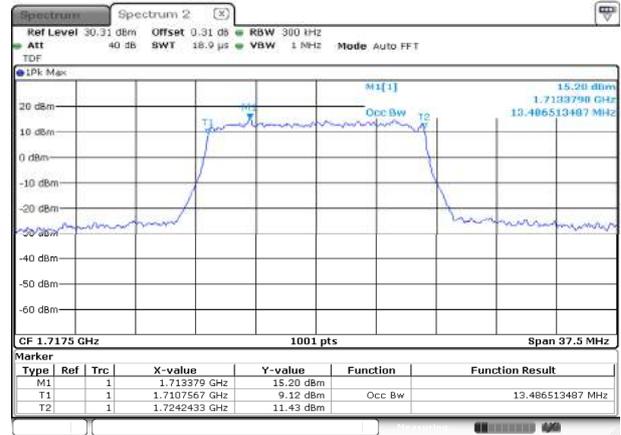
Page (67) of (216)



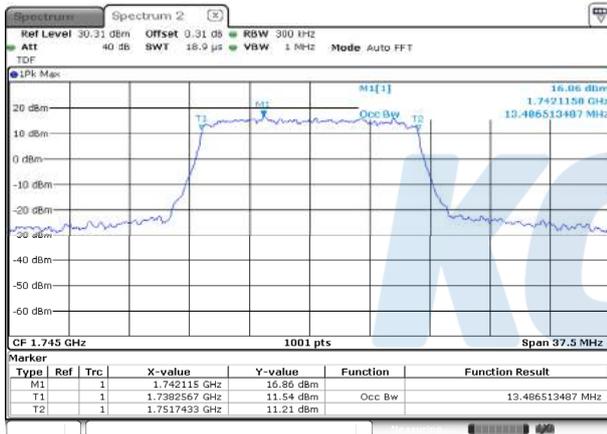
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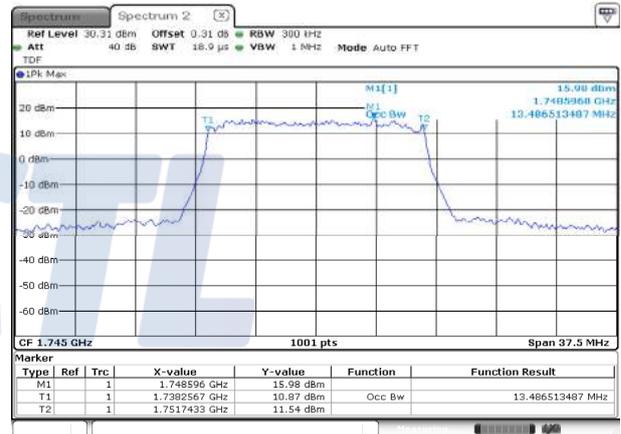
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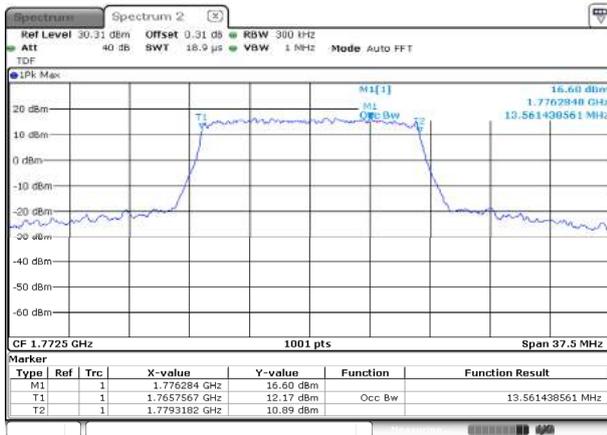
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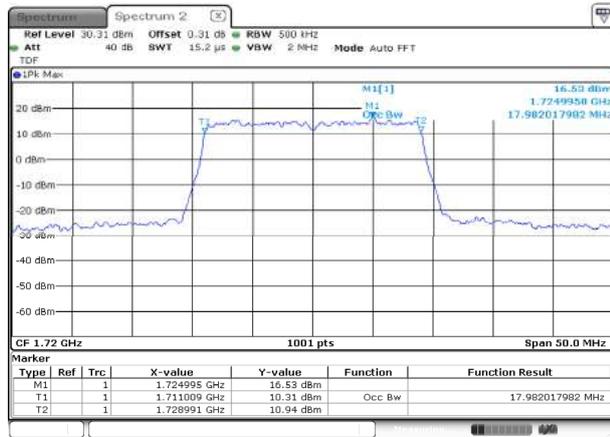
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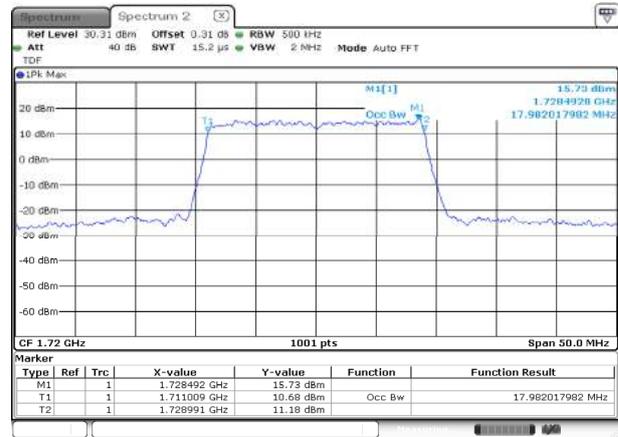
Page (68) of (216)



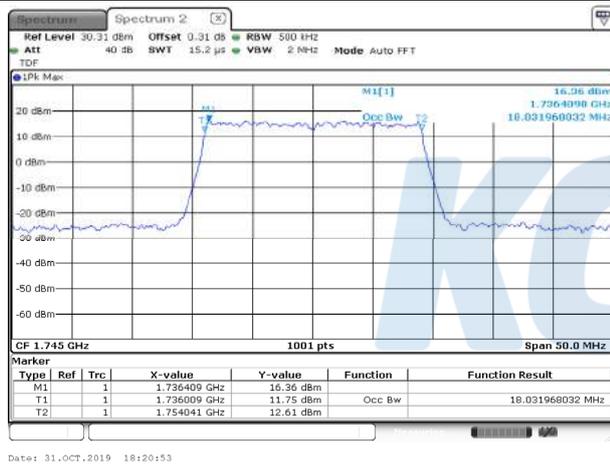
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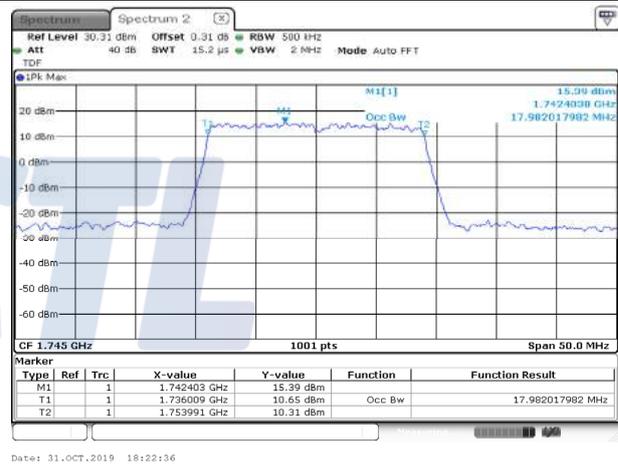
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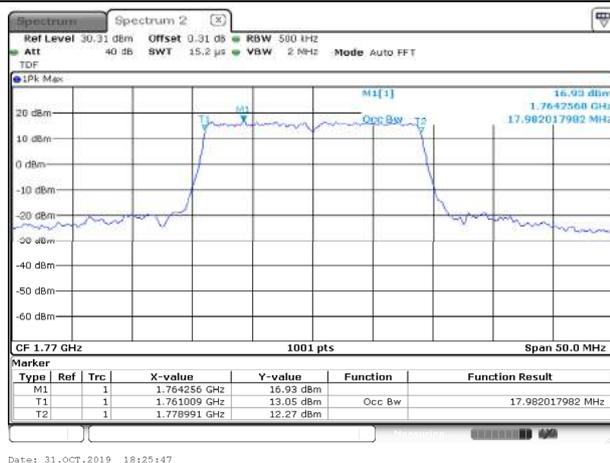
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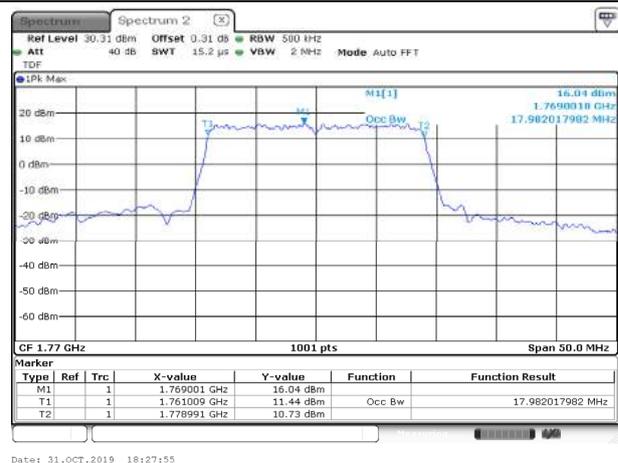
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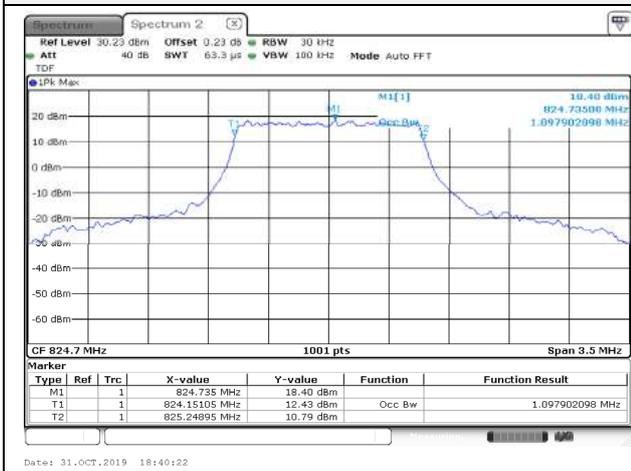


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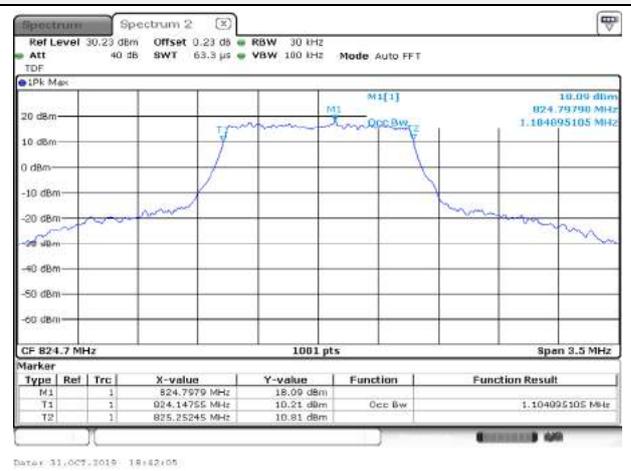
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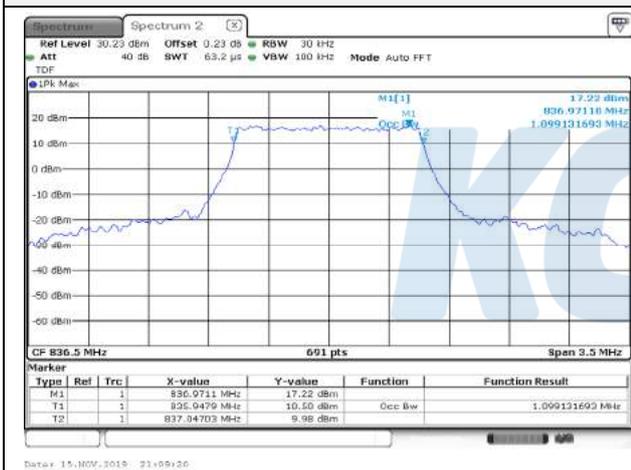
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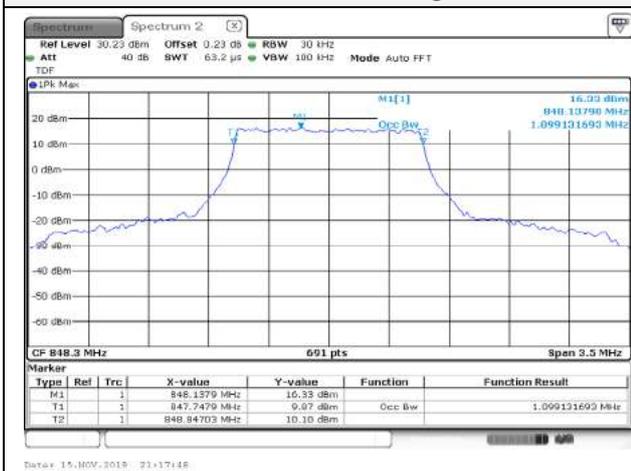
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KCTL Inc.

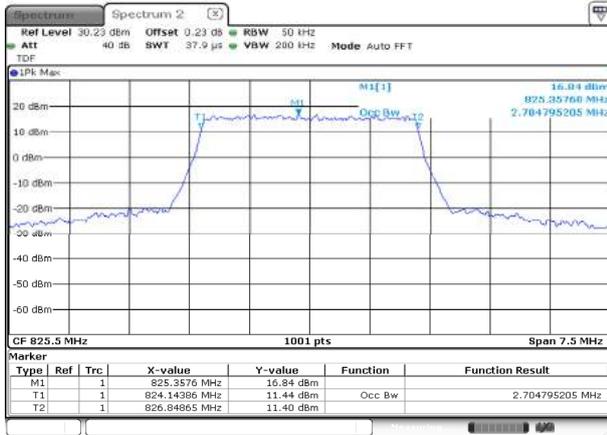
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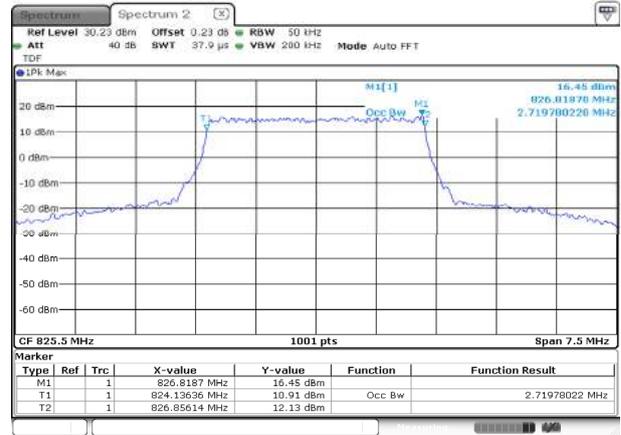
Page (70) of (216)



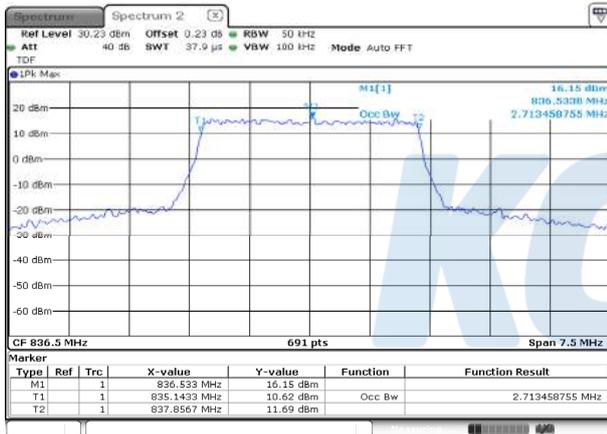
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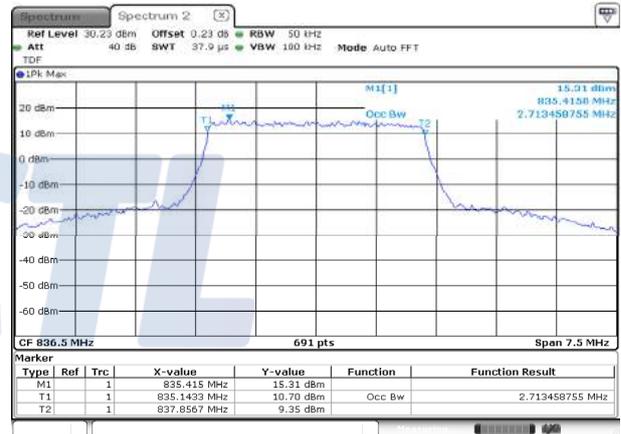
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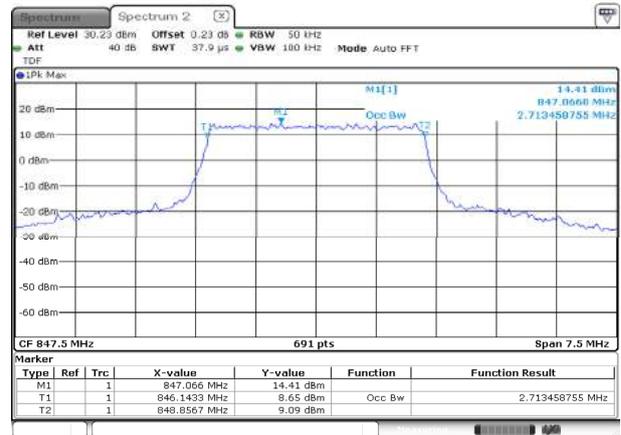
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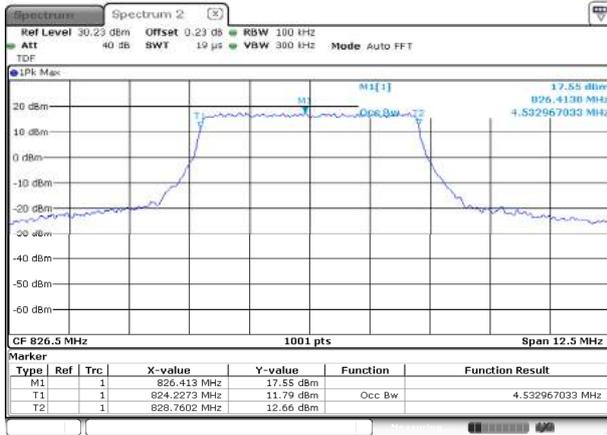
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Report No.:
KR19-SRF0183-B

Page (71) of (216)

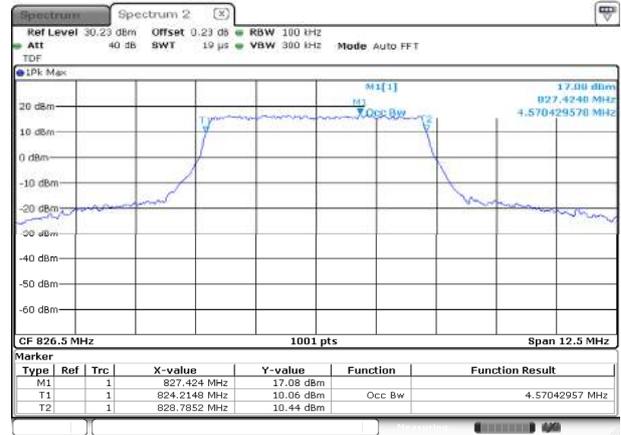


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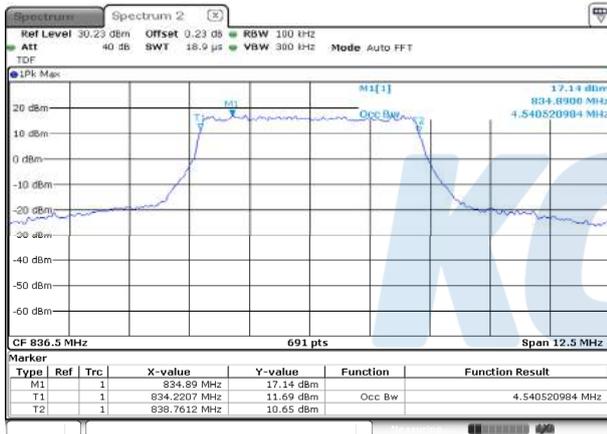
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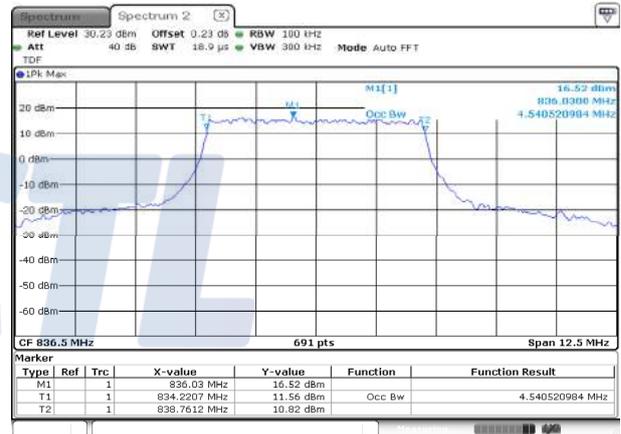
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Date: 15.NOV.2019 21:50:34

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Date: 15.NOV.2019 21:52:29

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Date: 15.NOV.2019 21:54:04

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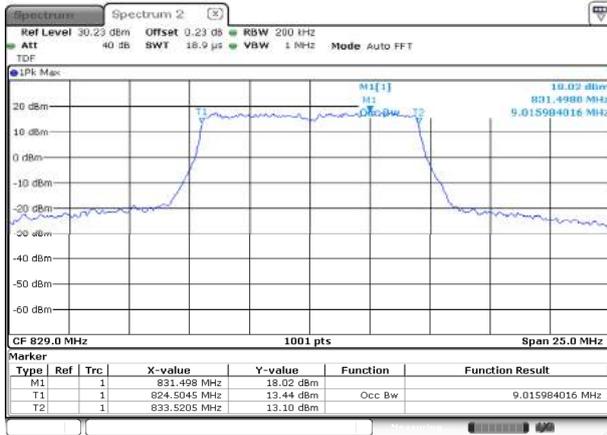
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Report No.:
KR19-SRF0183-B

Page (72) of (216)

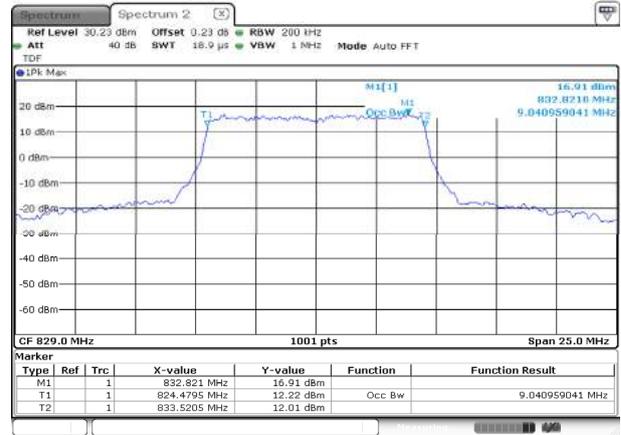


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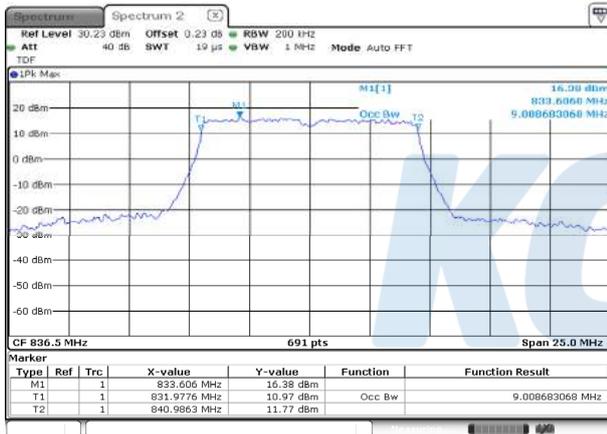
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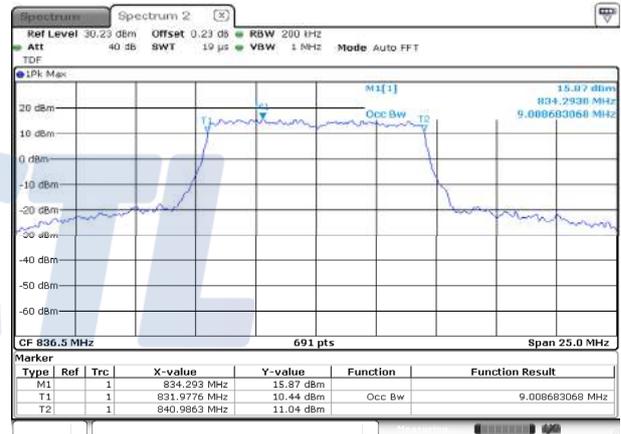
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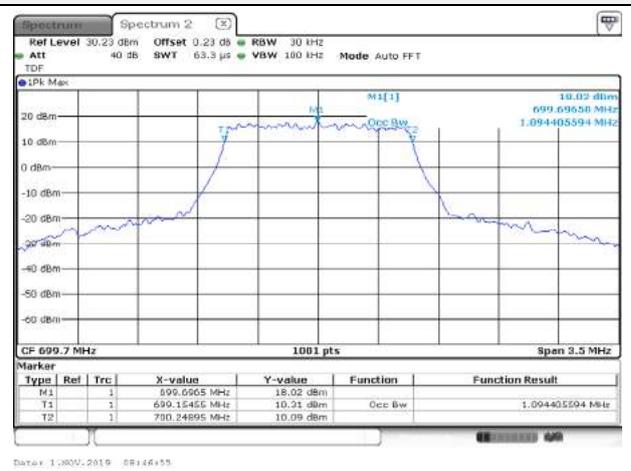
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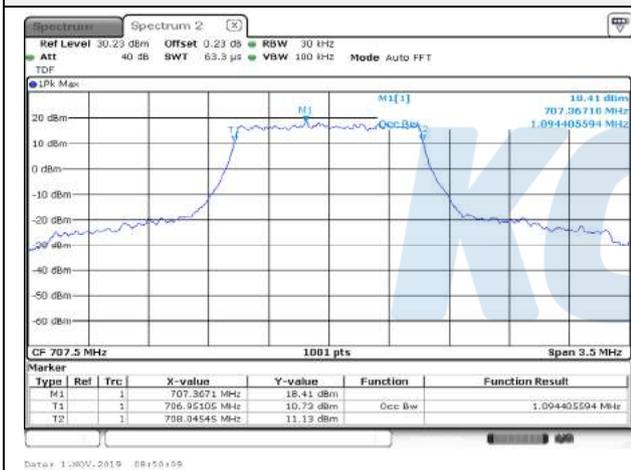
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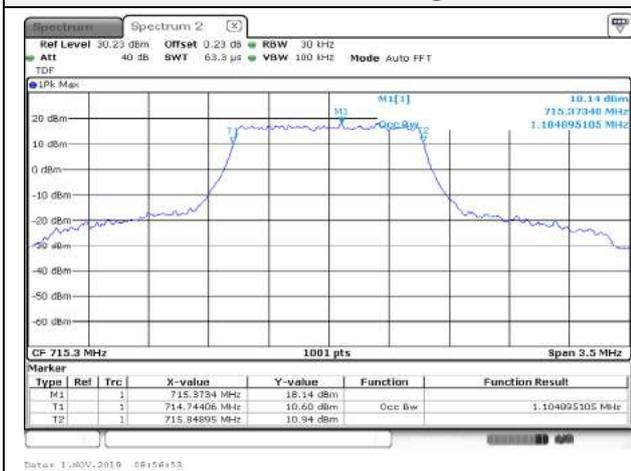
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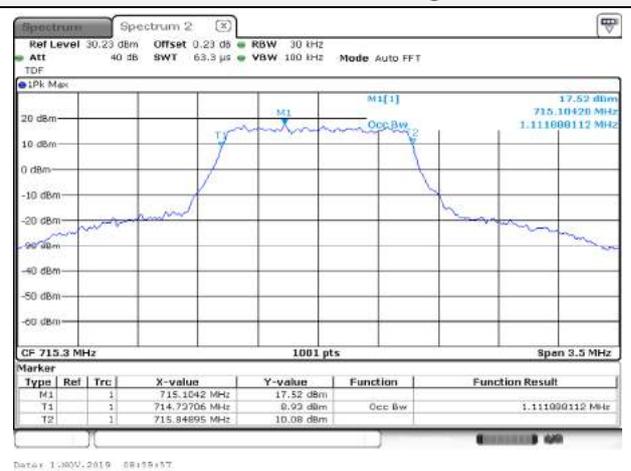
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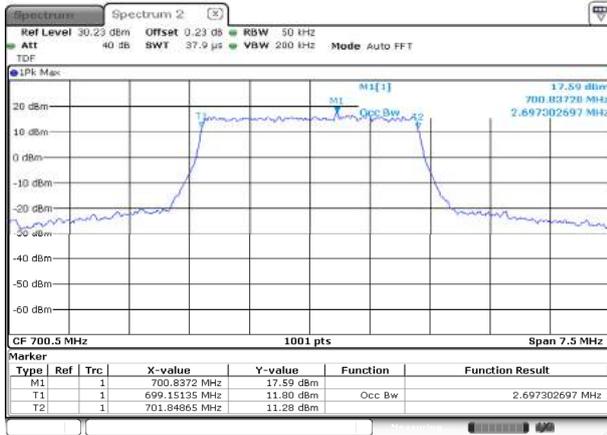
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KR19-SRF0183-B

Page (74) of (216)

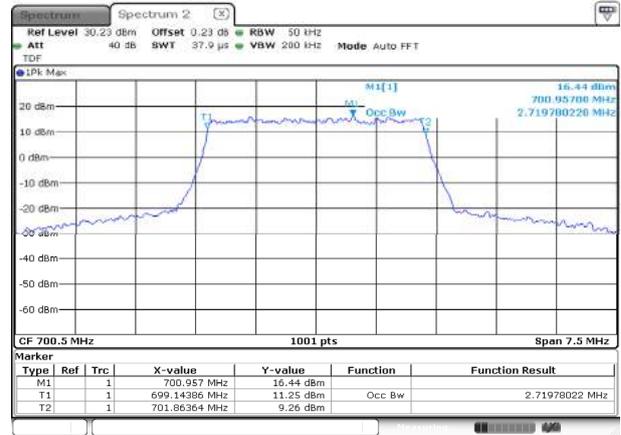


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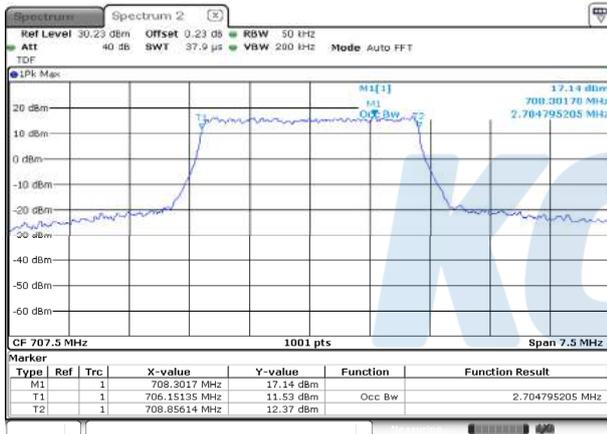
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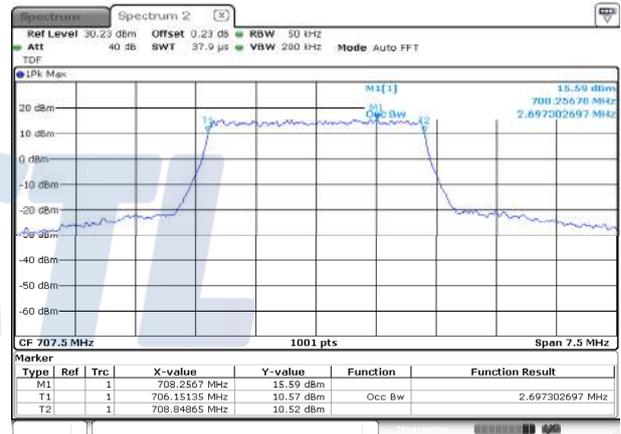
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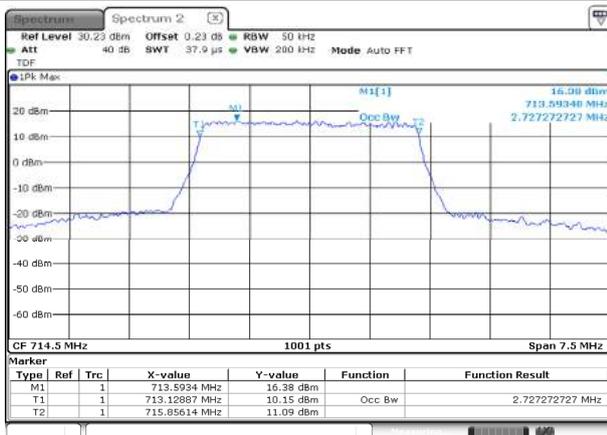
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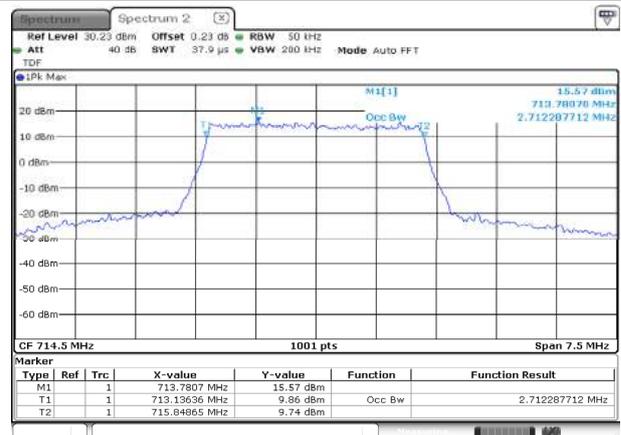
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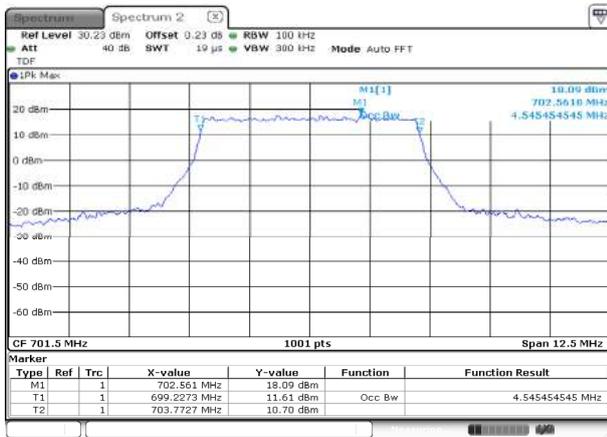
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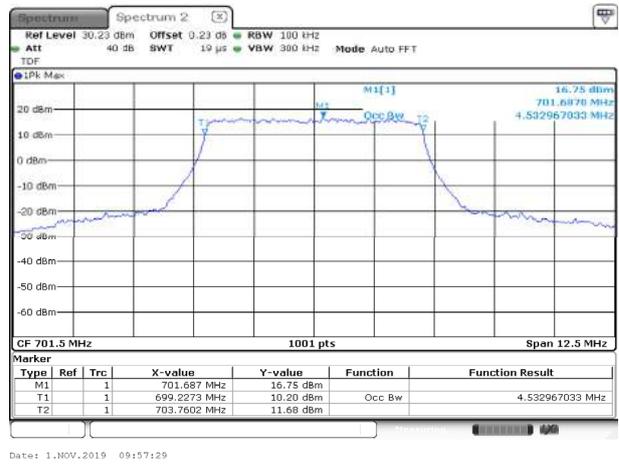
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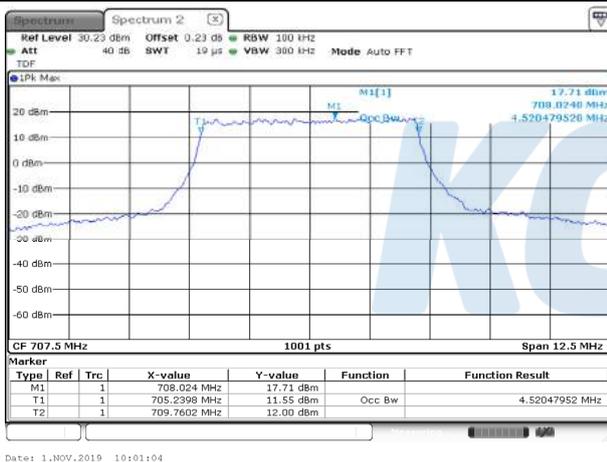
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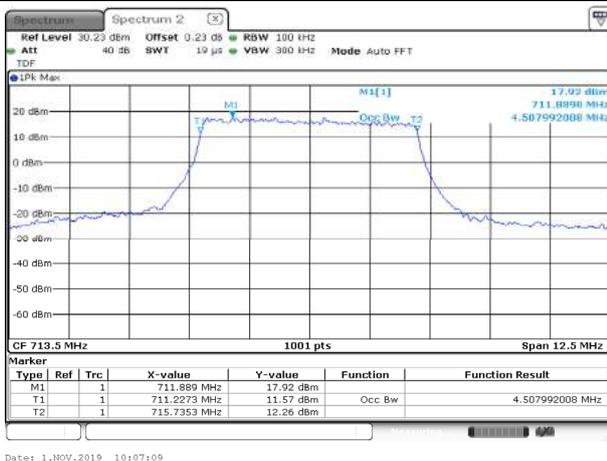
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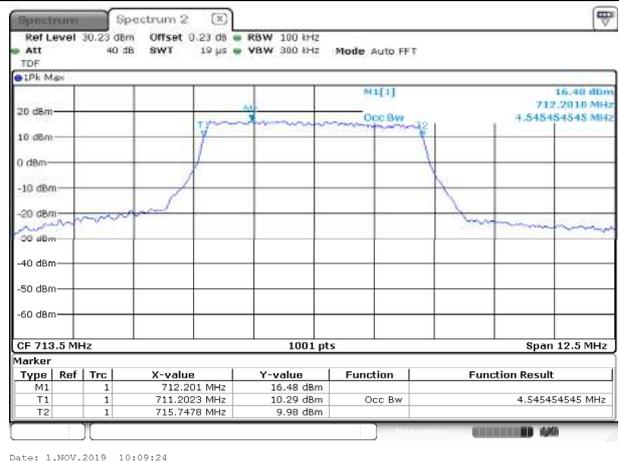
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Report No.:
KR19-SRF0183-B

Page (76) of (216)

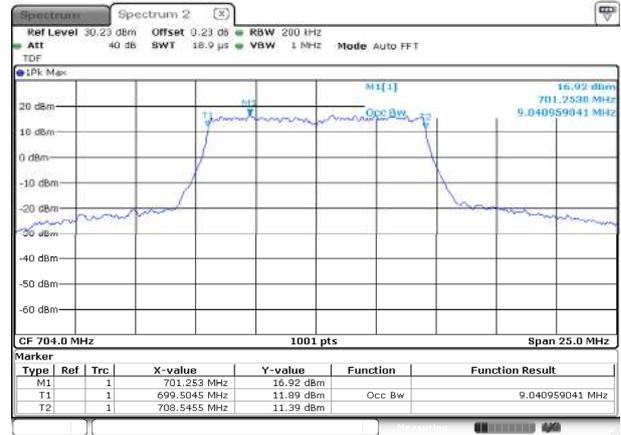


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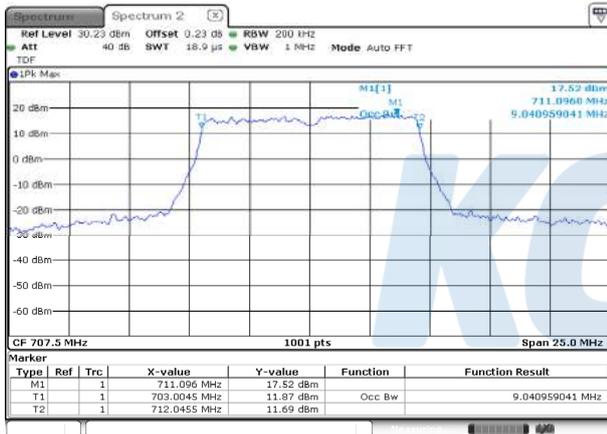
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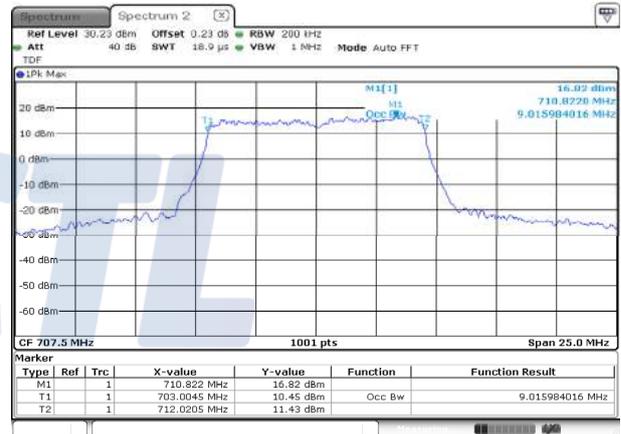
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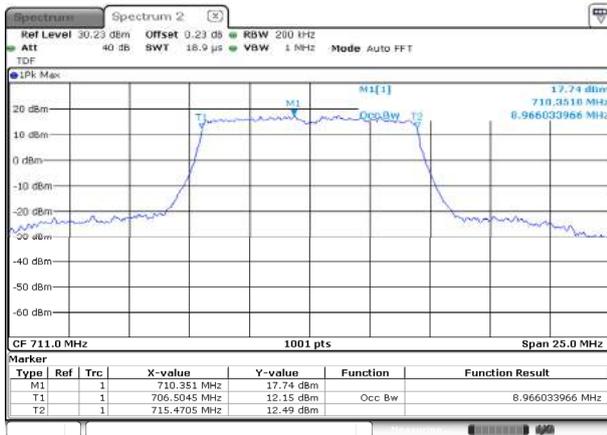
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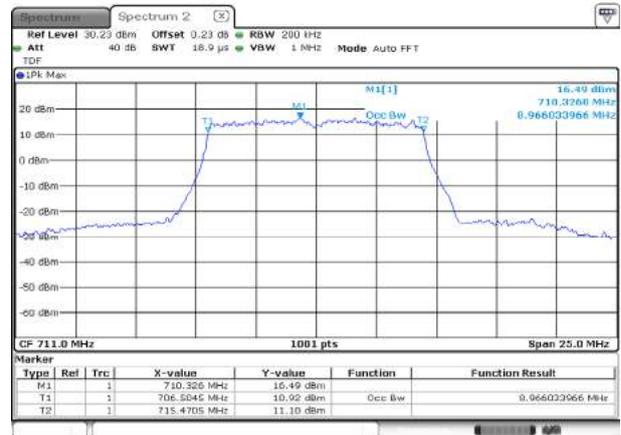
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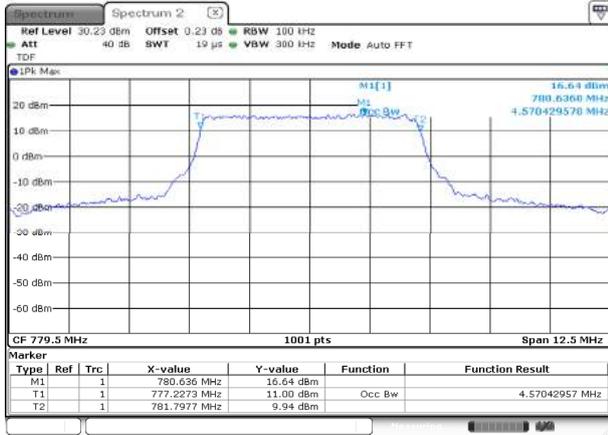
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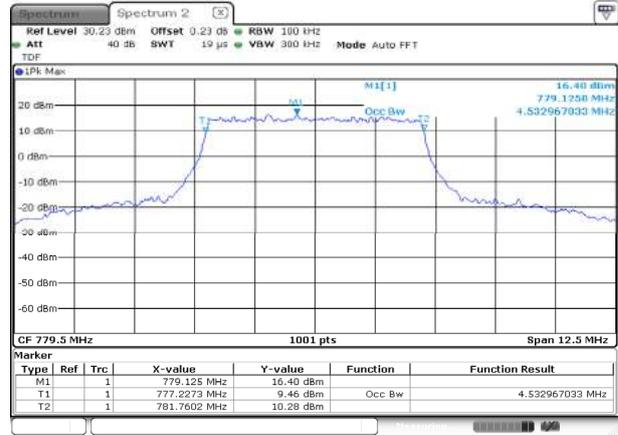
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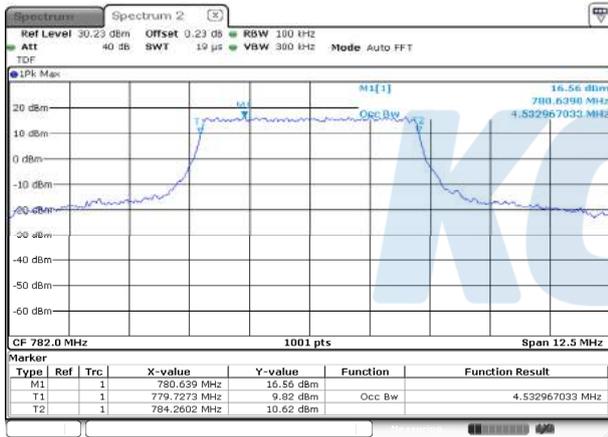
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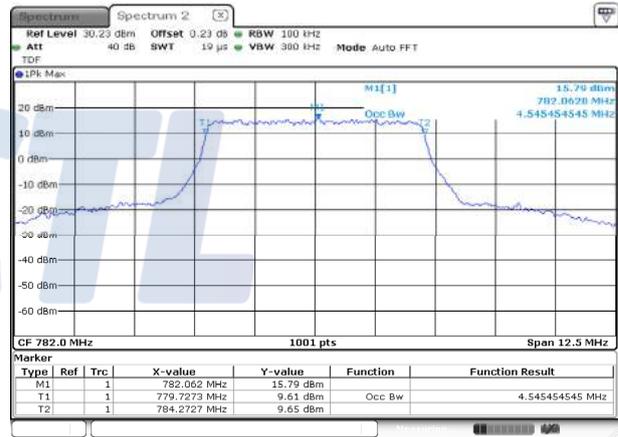
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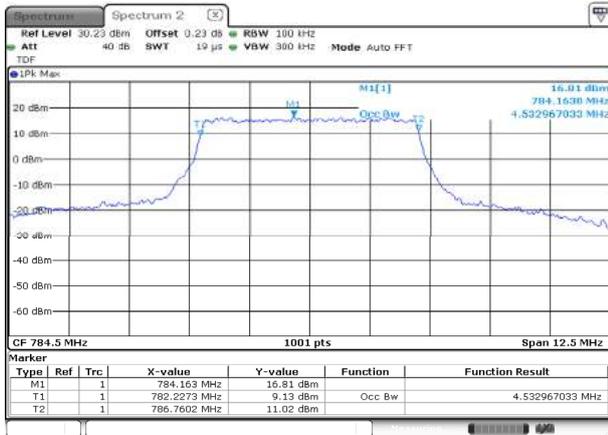
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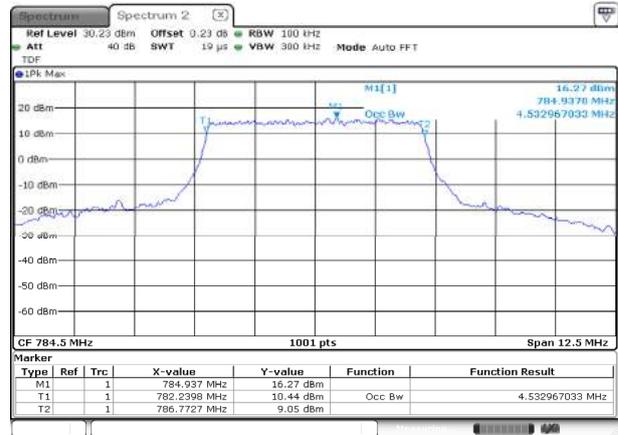
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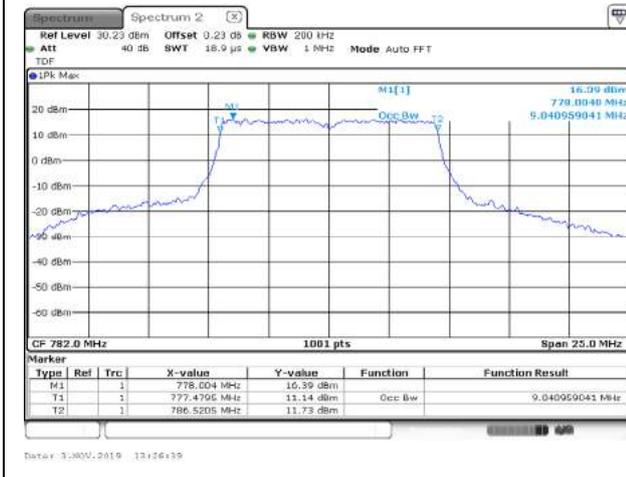
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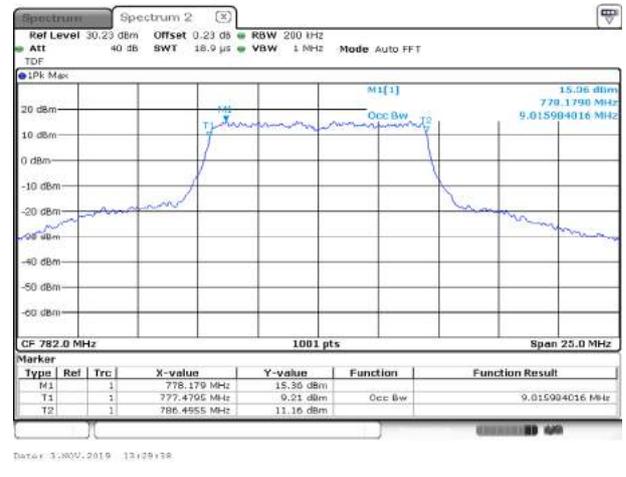
Page (78) of (216)



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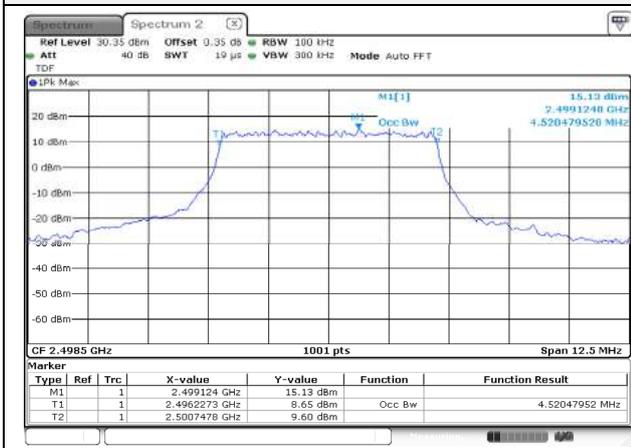


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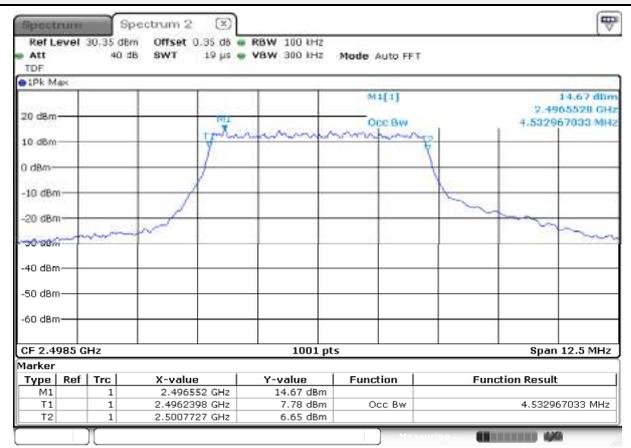


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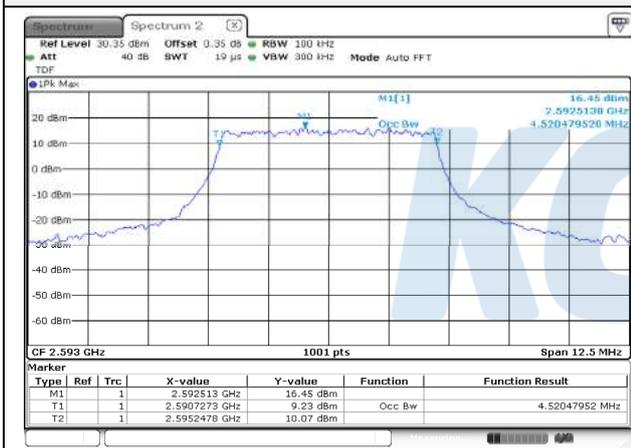
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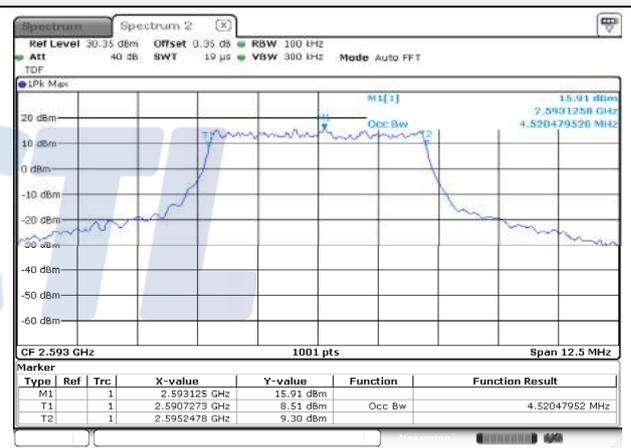
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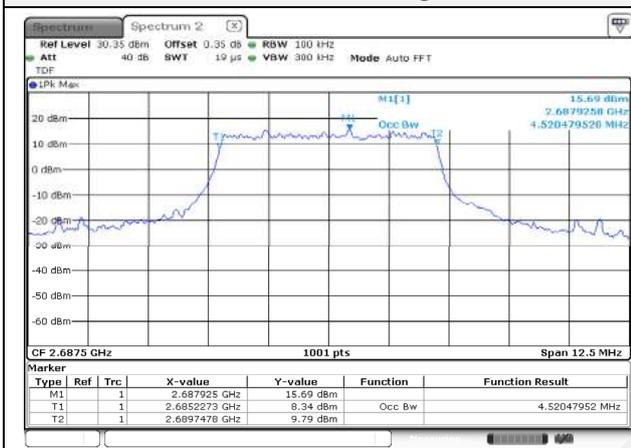
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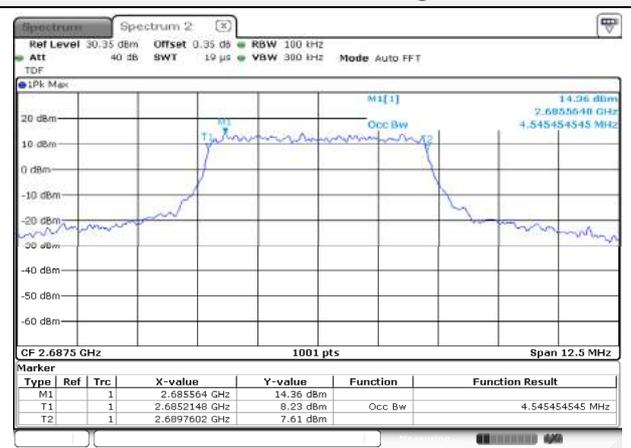
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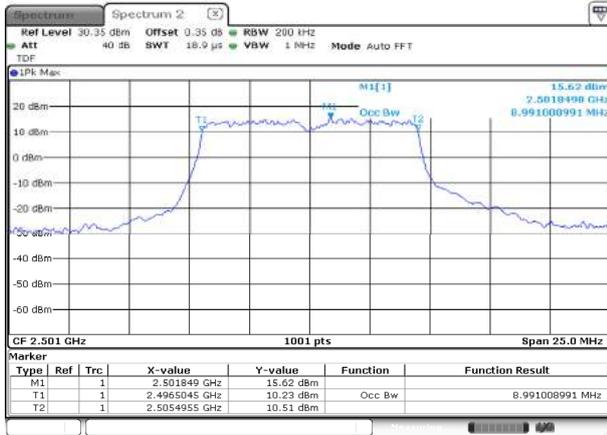
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KR19-SRF0183-B

Page (80) of (216)

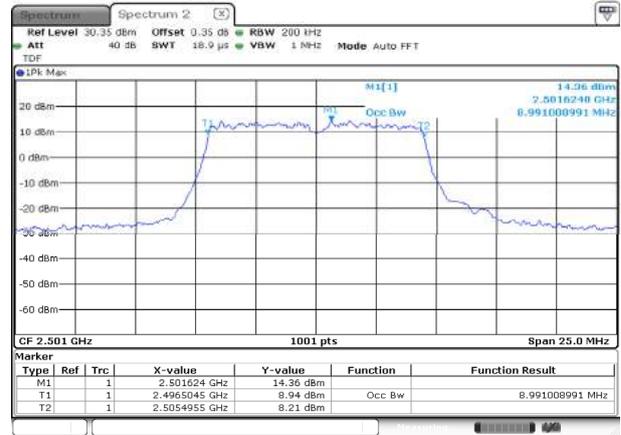


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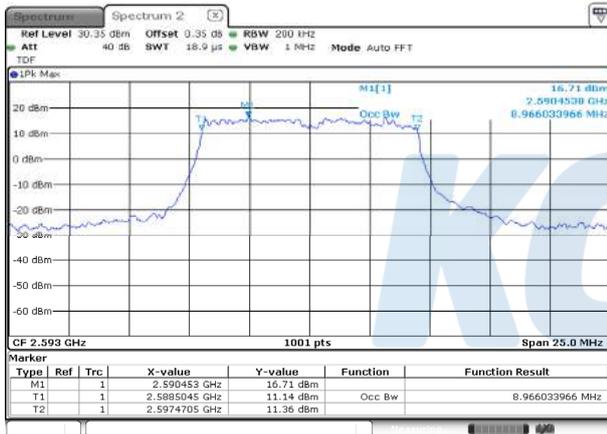
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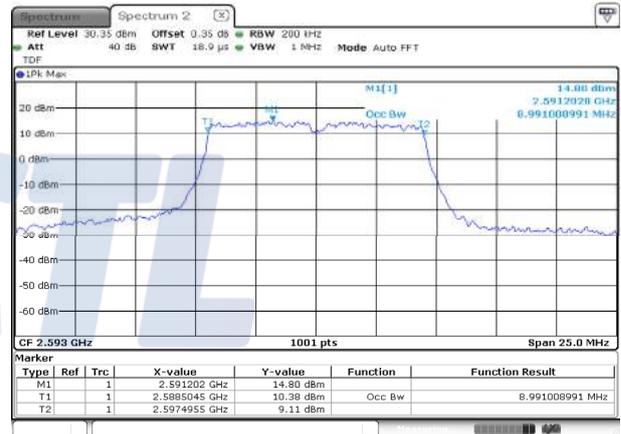
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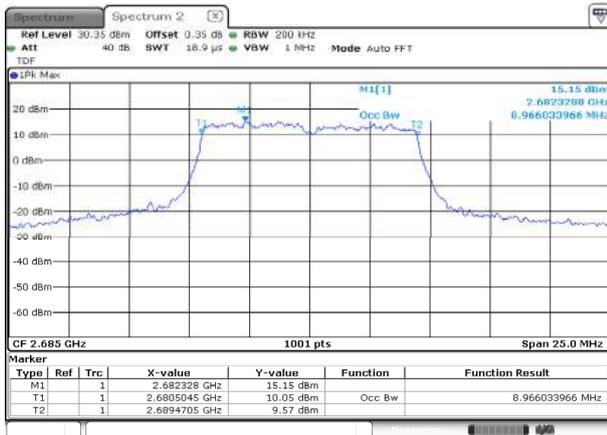
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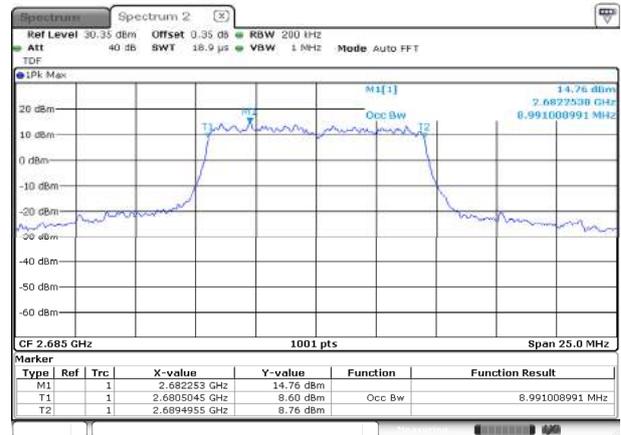
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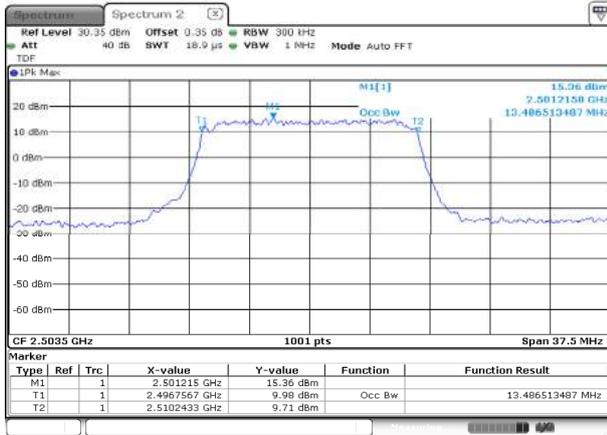
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Report No.:
KR19-SRF0183-B

Page (81) of (216)

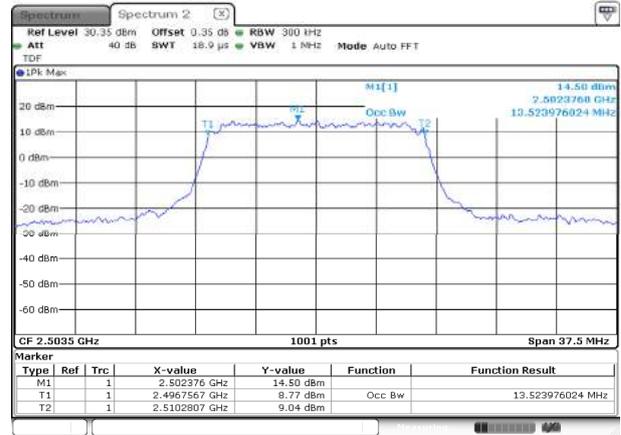


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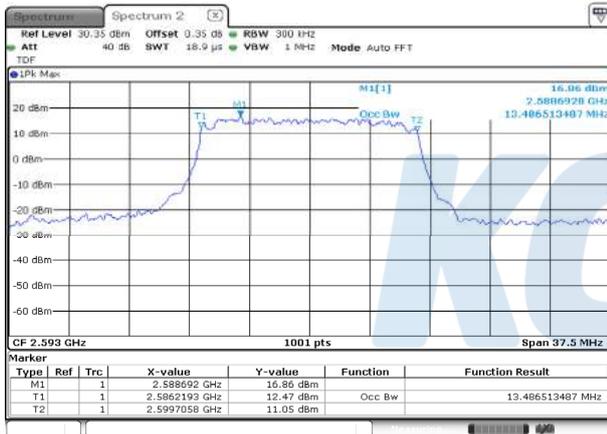
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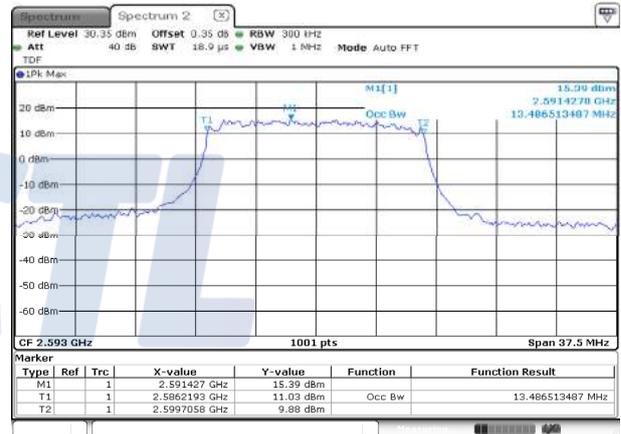
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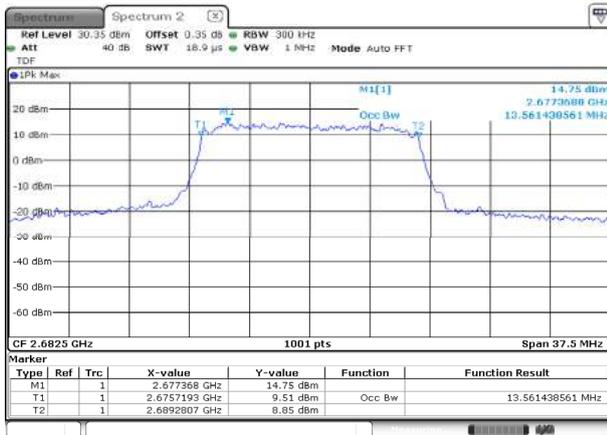
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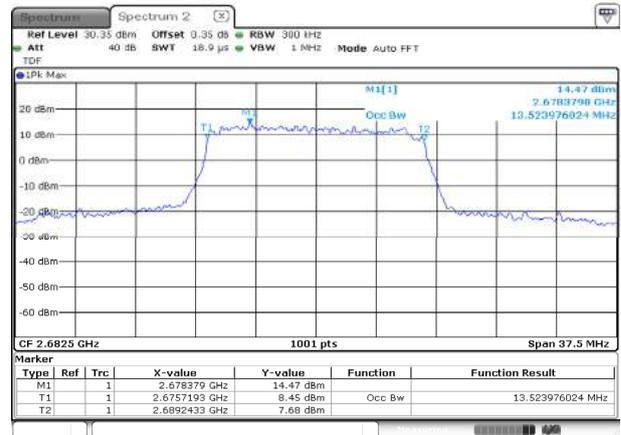
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15M BW / 16QAM / High ch.



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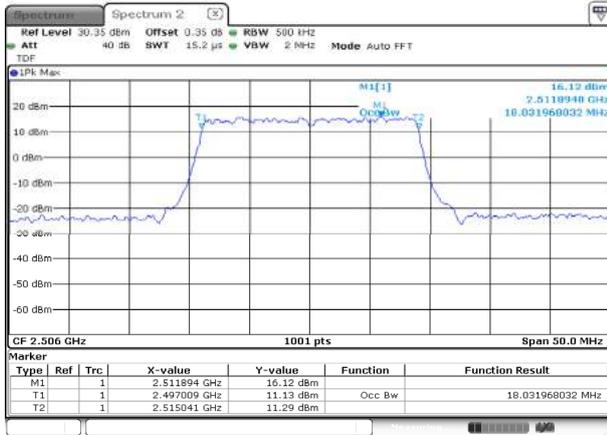
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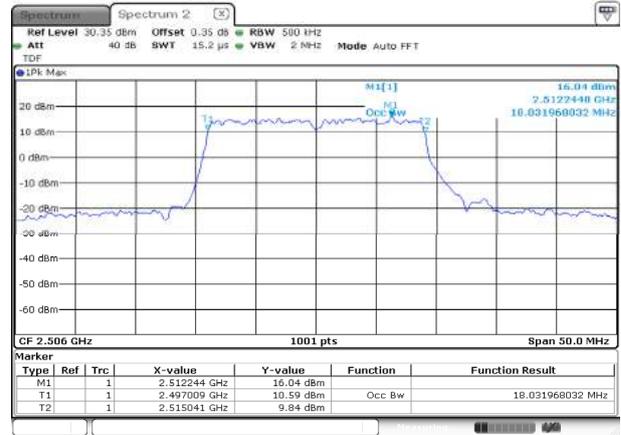
Page (82) of (216)



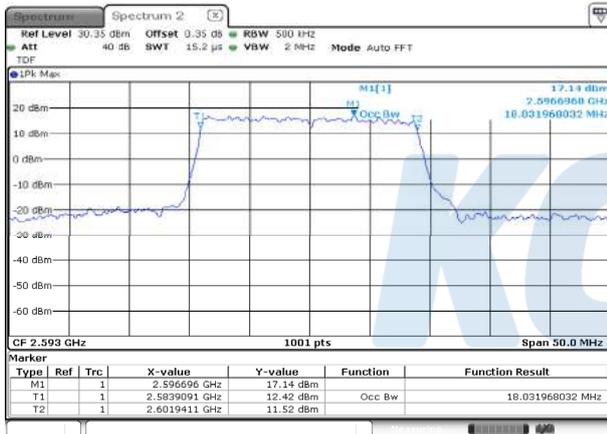
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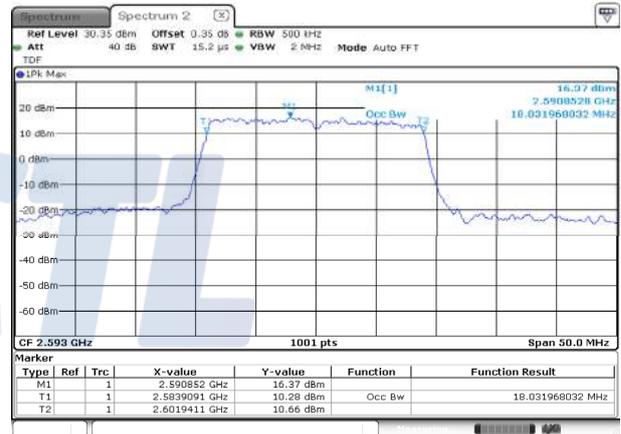
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20M BW / QPSK / Mid ch.



20M BW / 16QAM / Mid ch.



20M BW / QPSK / High ch.

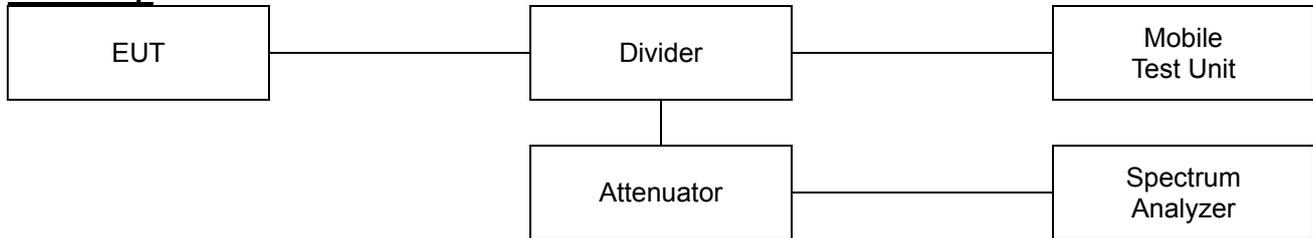


20M BW / 16QAM / High ch.



7.3. Spurious Emissions at Antenna Terminal

Test setup



Limit

According to §22.917(a), §24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P_{\text{Watts}})$ dB.

According to §27.53(c)(2), on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10\log(P_{\text{Watts}})$ dB.

According to §27.53(g), for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10\log(P_{\text{Watts}})$ dB.

According to §27.53(h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\log(P_{\text{Watts}})$ dB.

According to §27.53(m)(4), the minimum permissible attenuation level of any spurious emission is $55 + 10\log(P_{\text{Watts}})$ dB.

Test procedure

971168 D01 v03r01 - Section 6
ANSI 63.26-2015 – Section 5.7

Test settings

- 1) Start frequency was set to 30 MHz and stop frequency was set to at least 10th the fundamental frequency.
- 2) Detector = RMS
- 3) Sweep time = auto couple.
- 4) Trace mode = trace average
- 5) Allow trace to fully stabilize.
- 6) Please see test notes below RBW and VBW settings.

Notes:

1. Per 22.917(b), 24.238(b), 27.53(c), 27.53(h)(3), 27.53(g) and 27.53(m)(6), compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu,
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TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

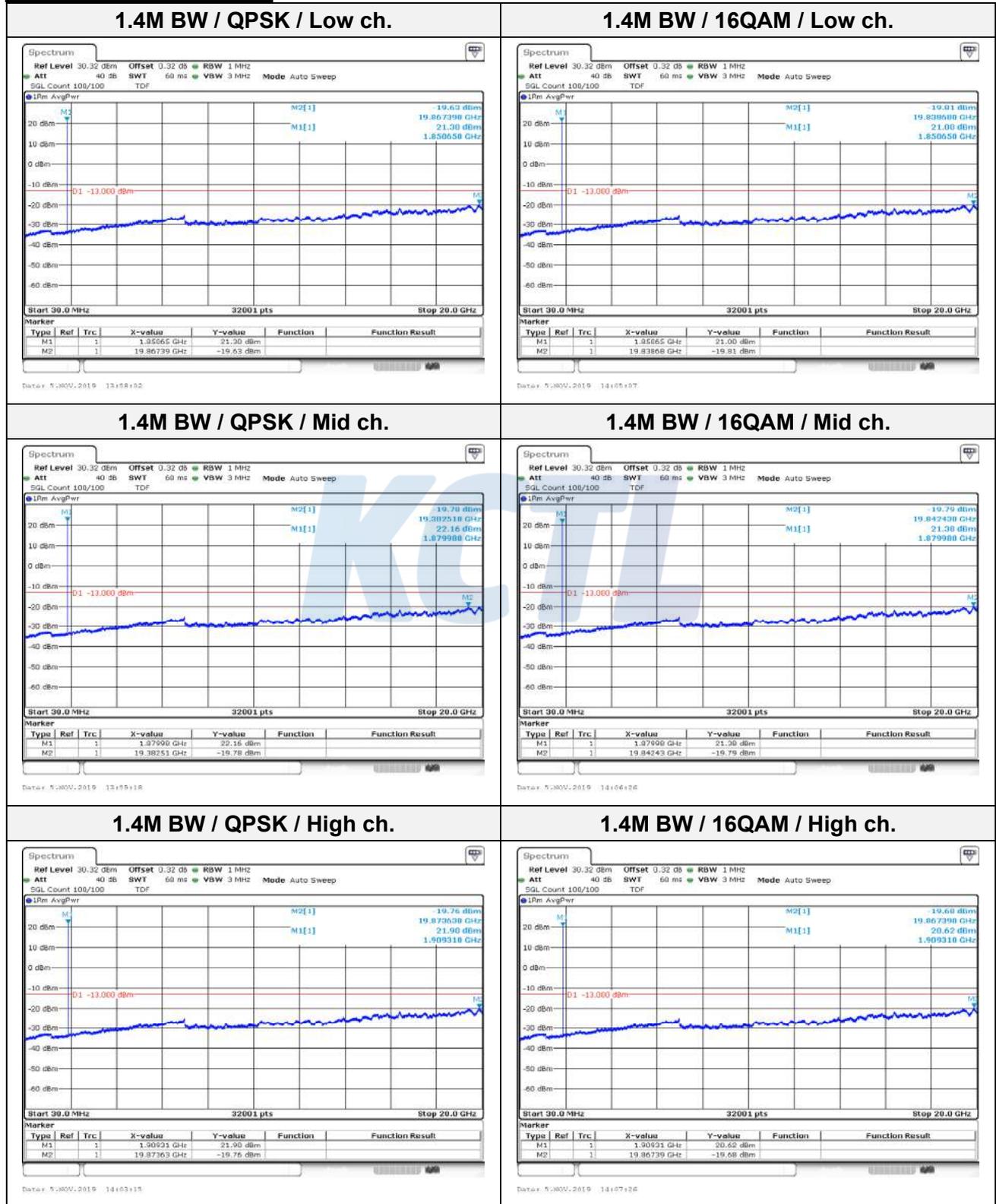
Report No.:
KR19-SRF0183-B

Page (84) of (216)



Test results

Test mode: LTE Band 2



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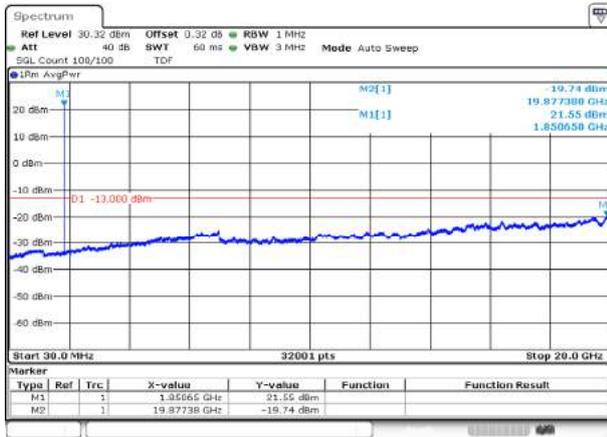
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Page (85) of (216)

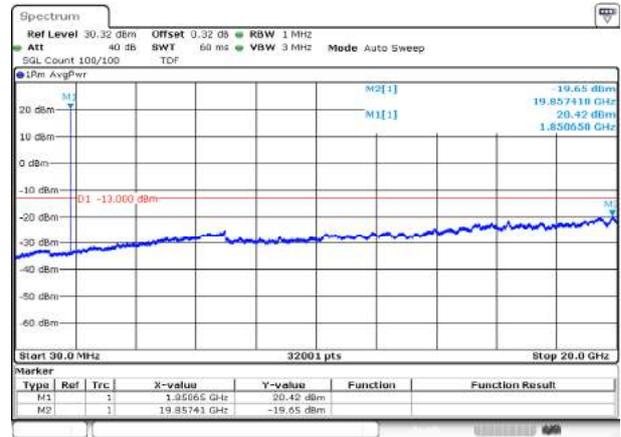


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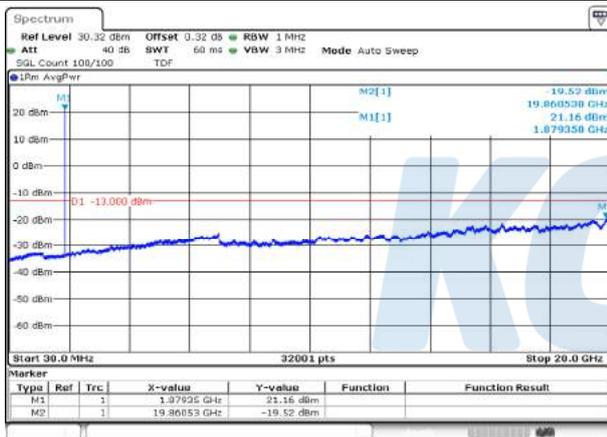
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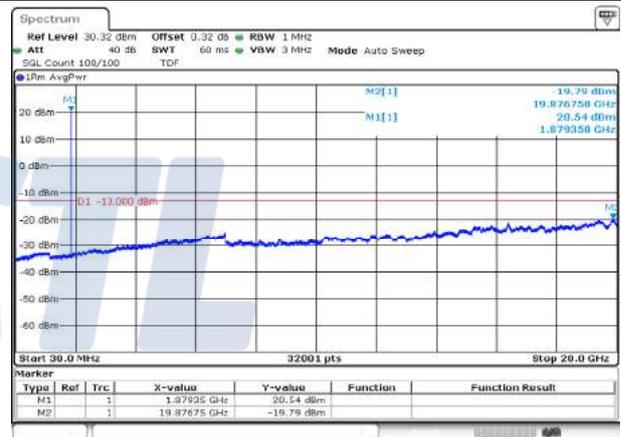
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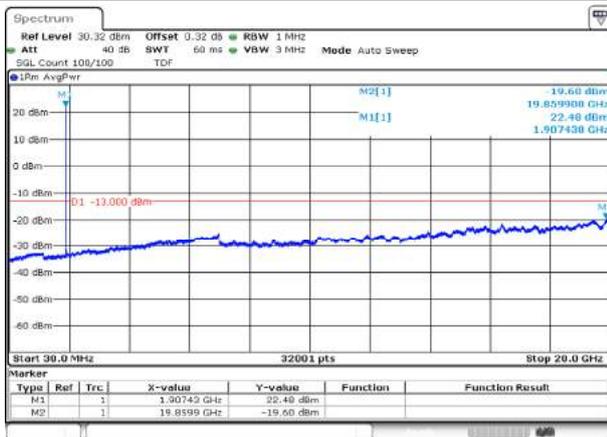
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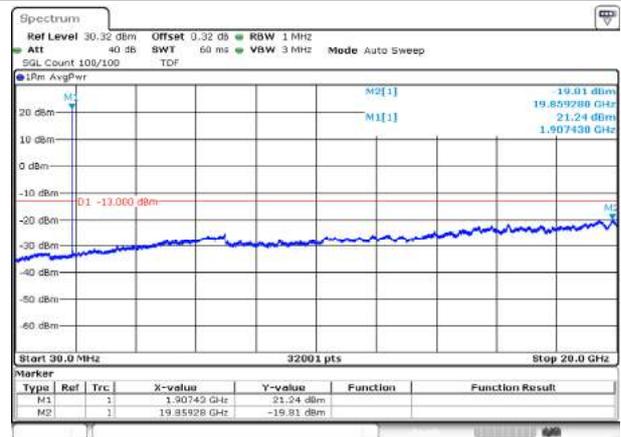
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3M BW / QPSK / High ch.



Date: 5/30/2019 14:13:40

3M BW / 16QAM / High ch.



Date: 5/30/2019 14:14:42

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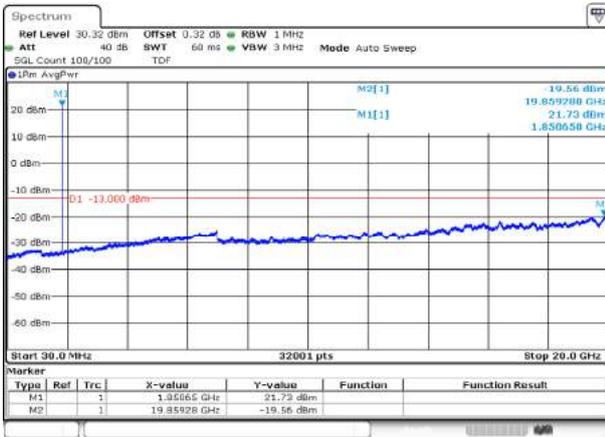
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KR19-SRF0183-B

Page (86) of (216)

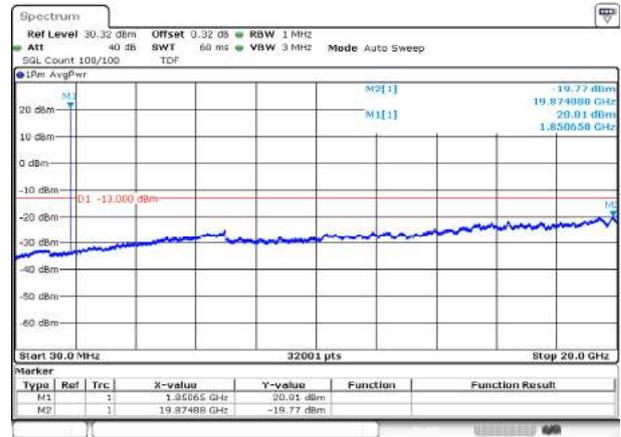


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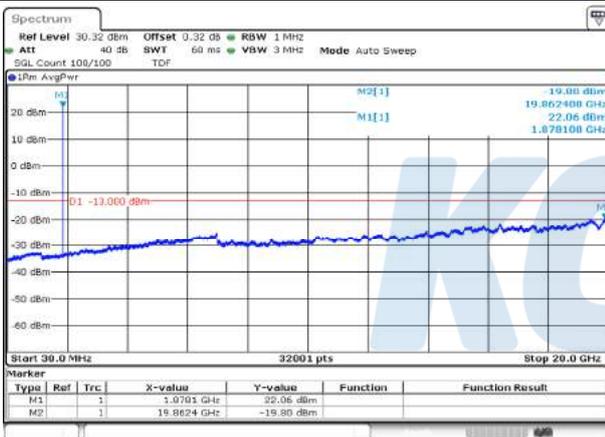
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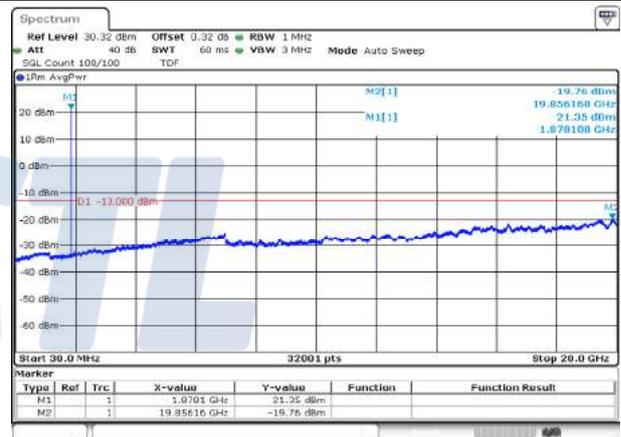
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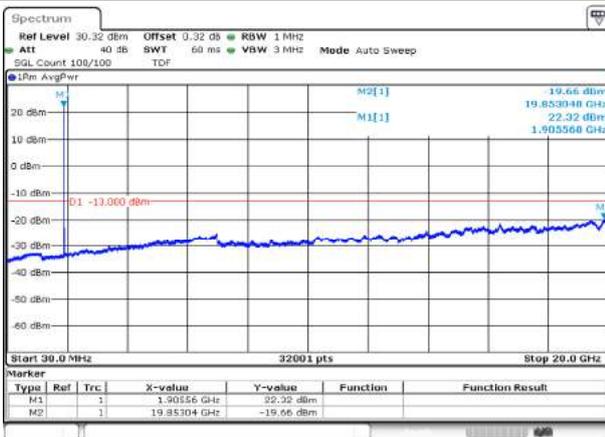
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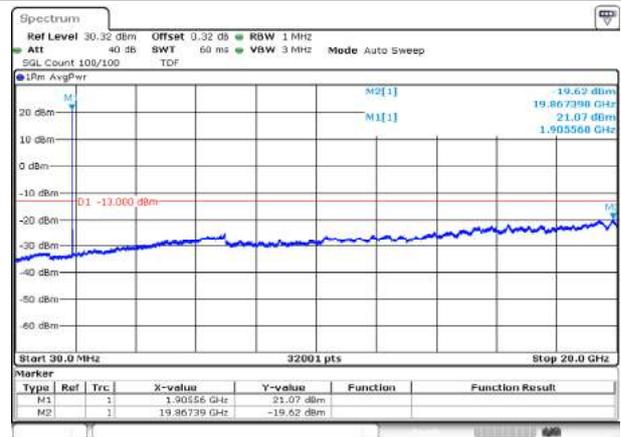
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Date: 5/30/2019 14:15:14

5M BW / 16QAM / High ch.



Date: 5/30/2019 14:22:27

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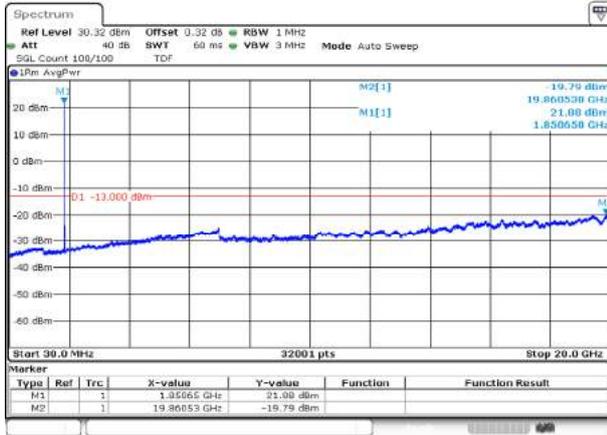
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Page (87) of (216)

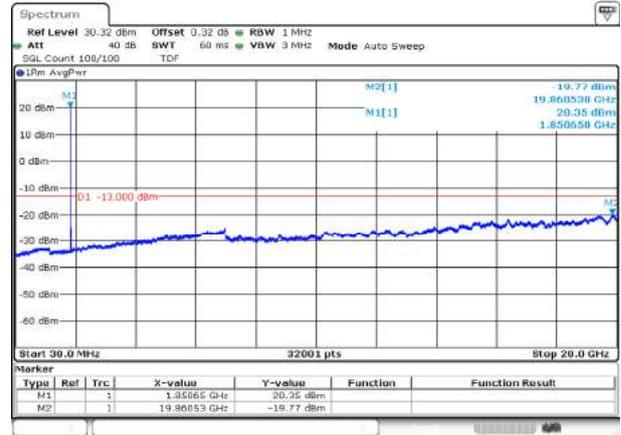


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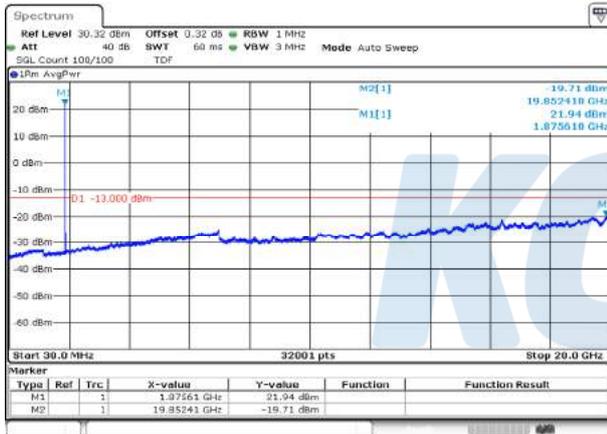
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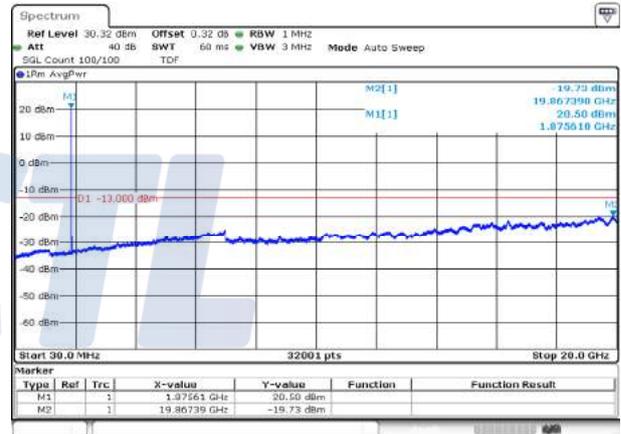
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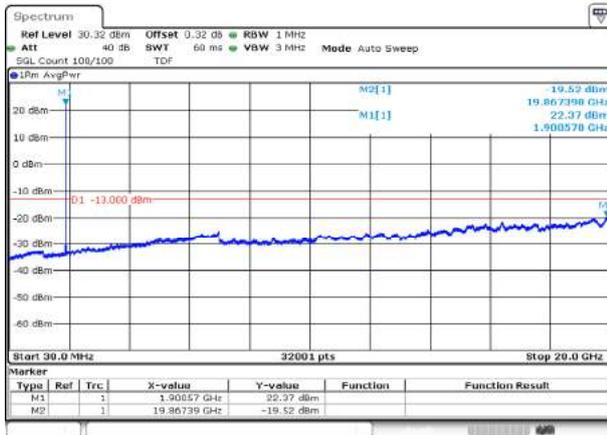
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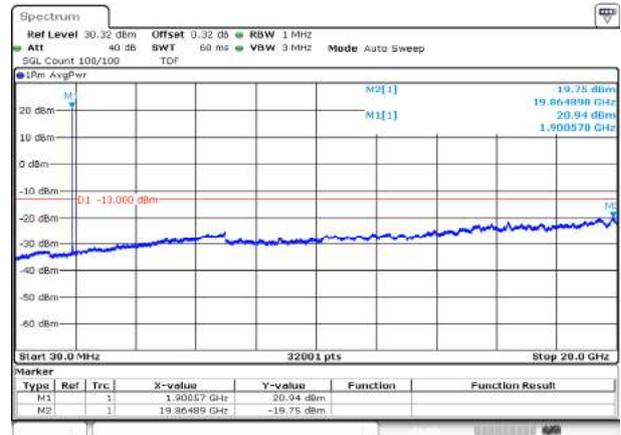
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Date: 5/30/2019 14:29:33

10M BW / 16QAM / High ch.



Date: 5/30/2019 14:22:37

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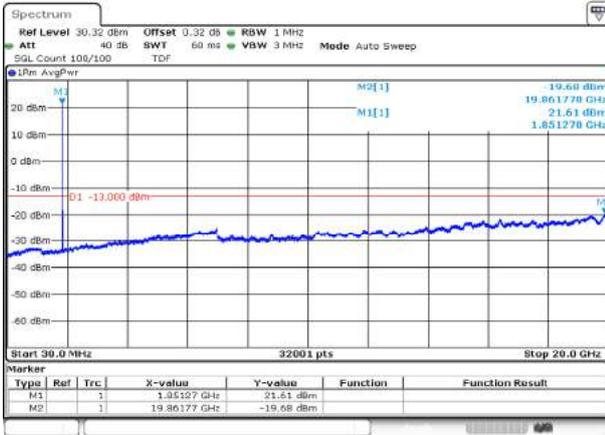
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Report No.:
KR19-SRF0183-B

Page (88) of (216)

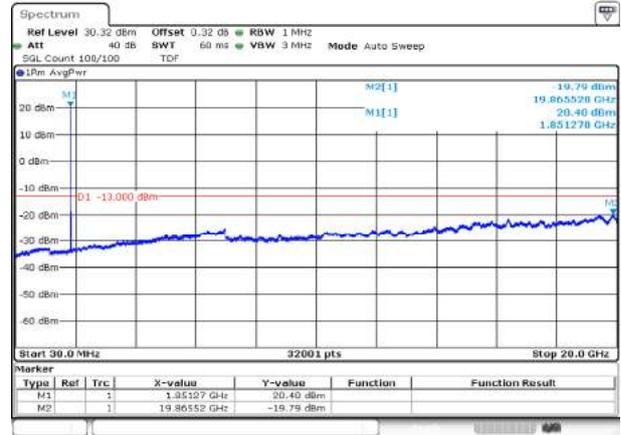


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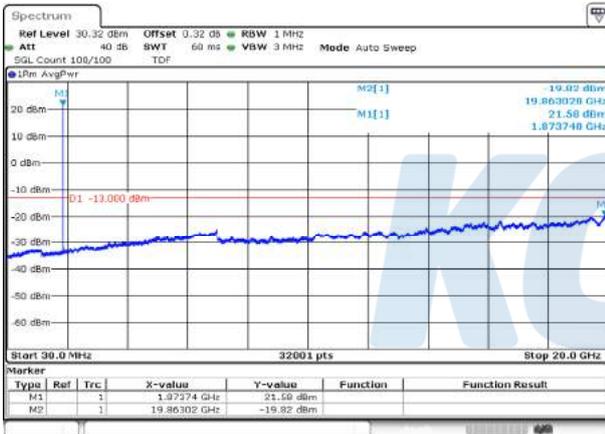
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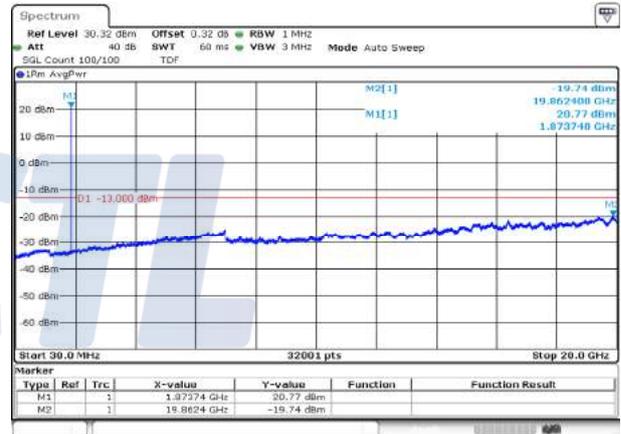
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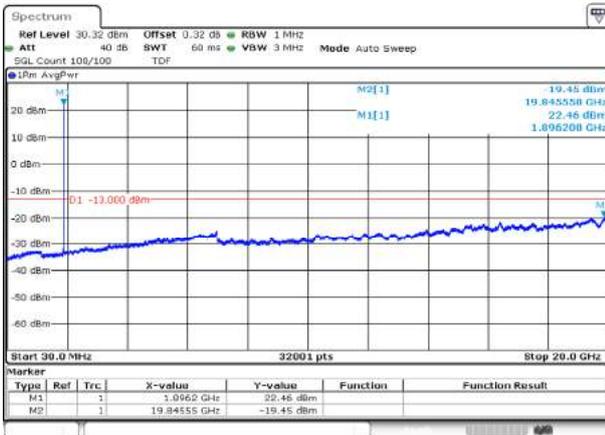
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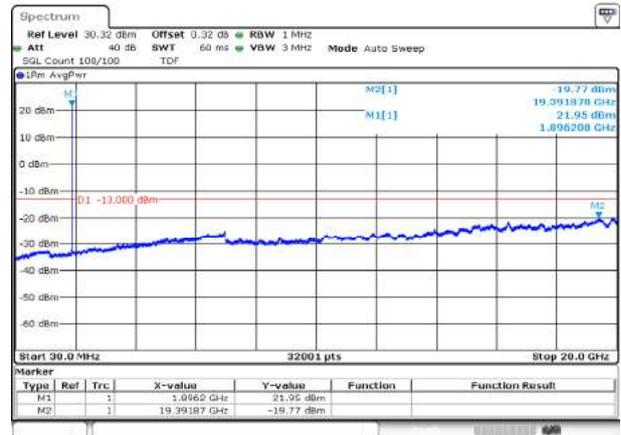
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Date: 5/30/2019 14:18:00

15M BW / 16QAM / High ch.



Date: 5/30/2019 14:17:37

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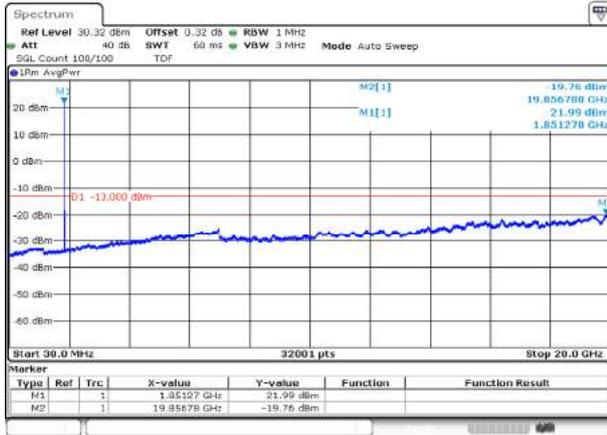
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KR19-SRF0183-B

Page (89) of (216)

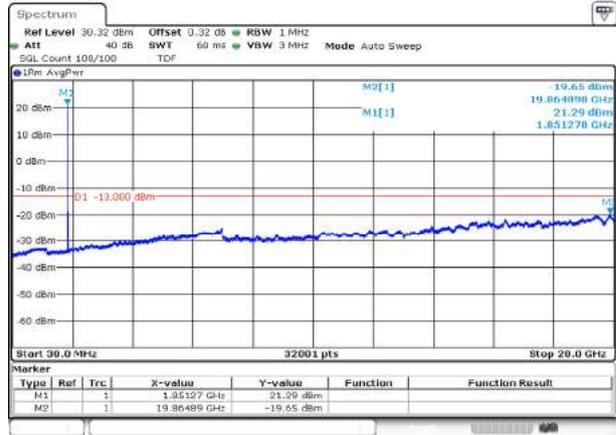


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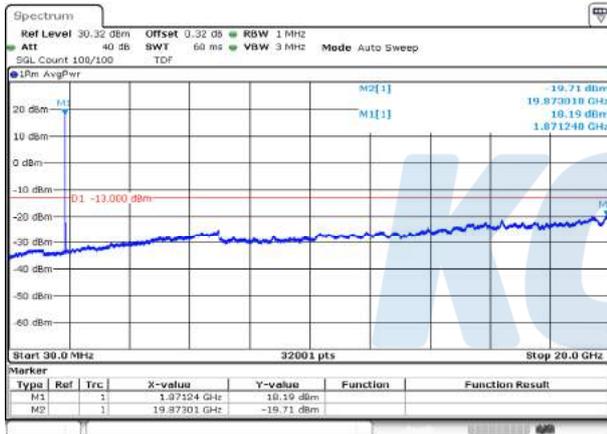
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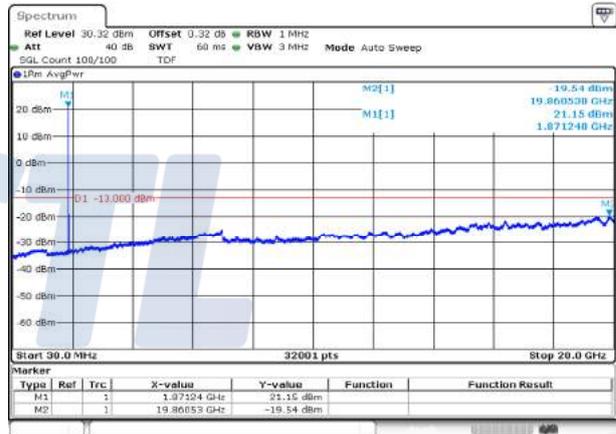
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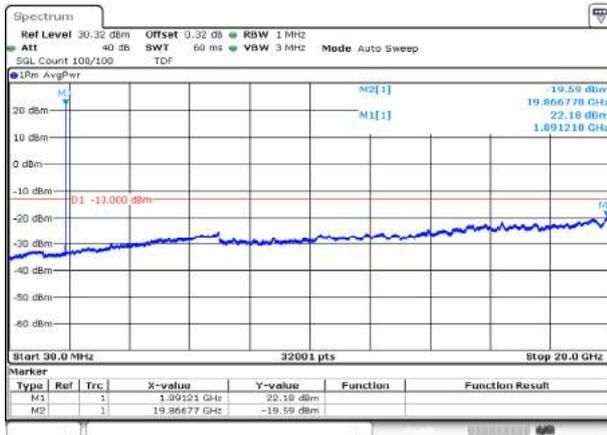
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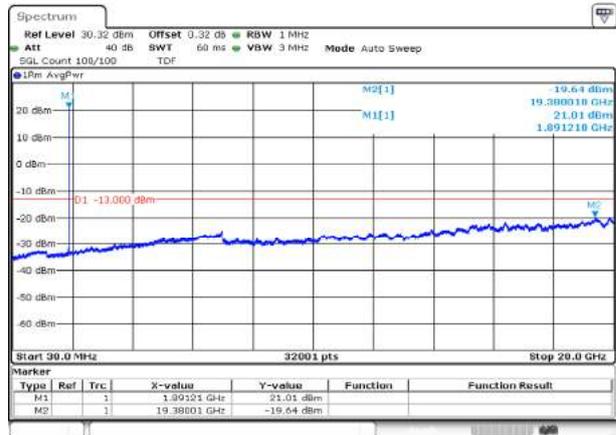
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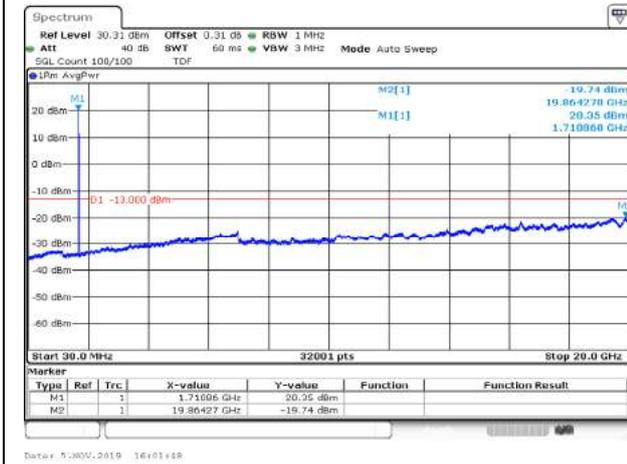
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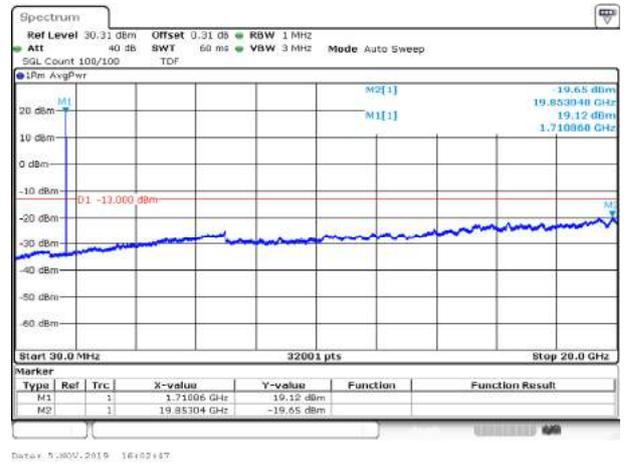
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Test mode: LTE Band 4/66

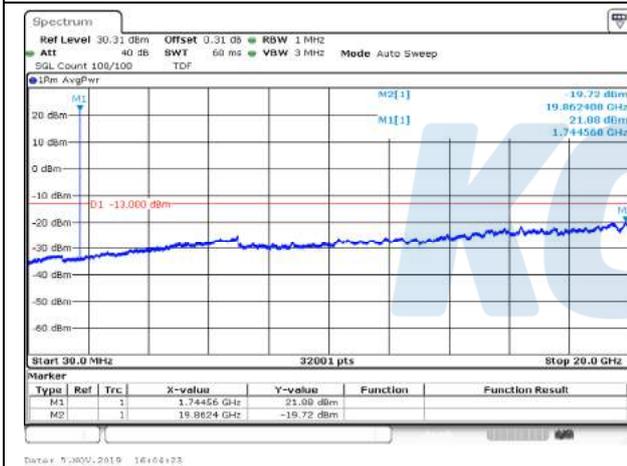
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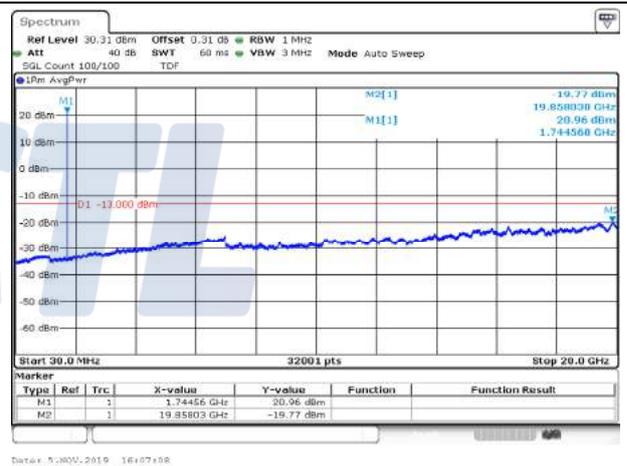
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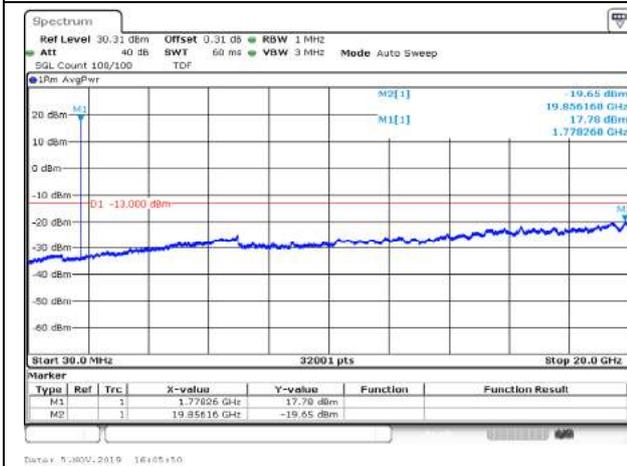
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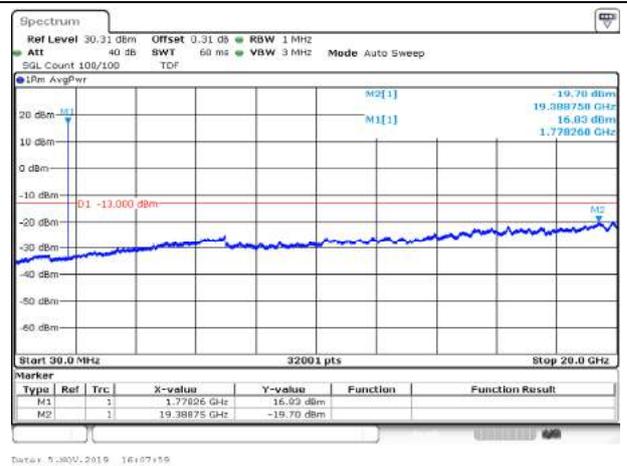
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1.4M BW / QPSK / High ch.



1.4M BW / 16QAM / High ch.



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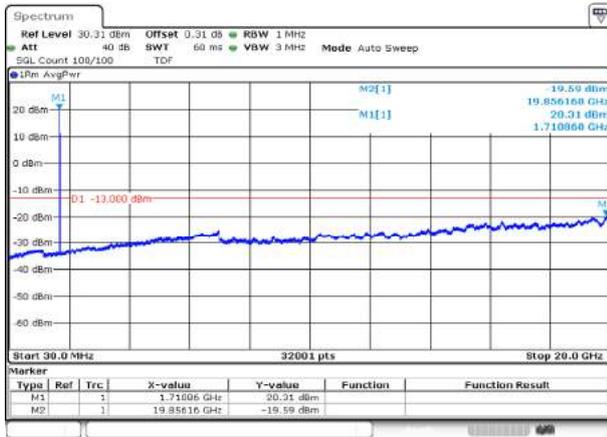
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Report No.:
KR19-SRF0183-B

Page (91) of (216)

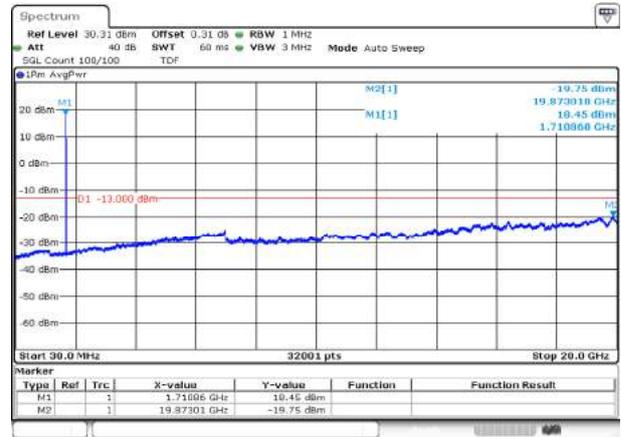


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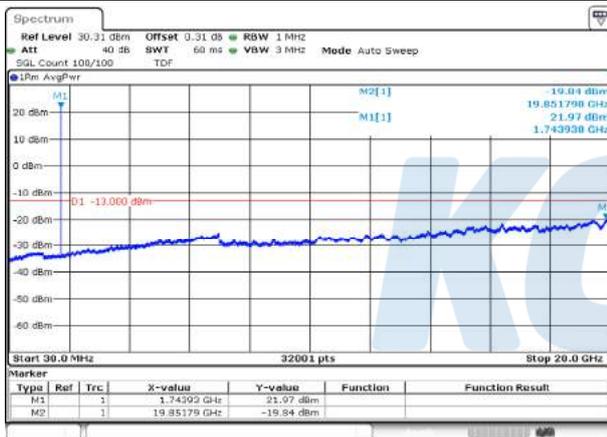
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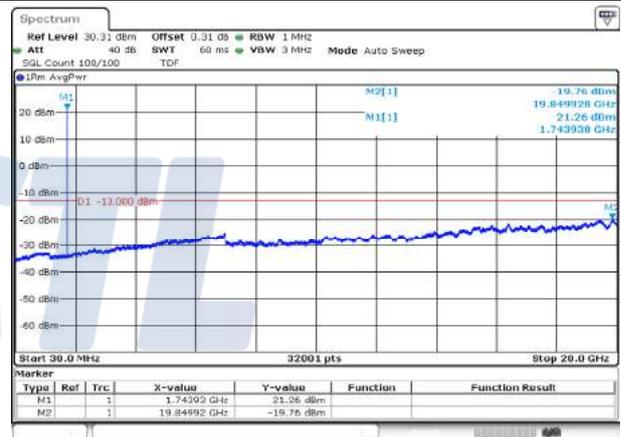
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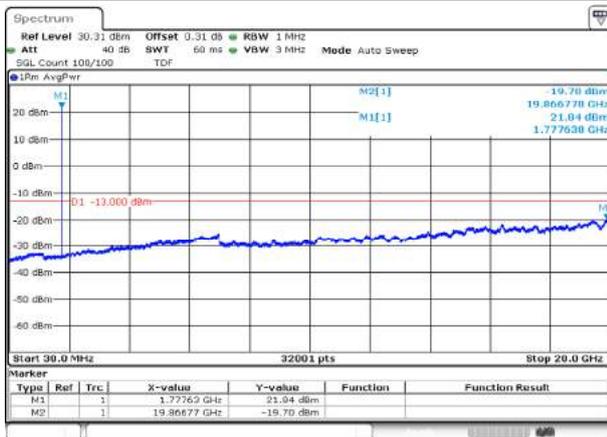
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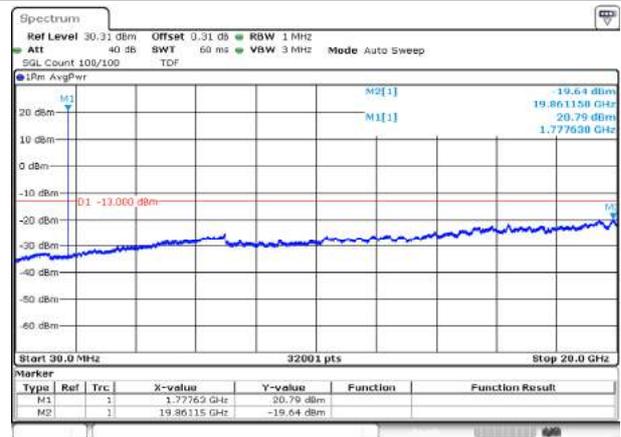
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Date: 5/30/2019 16:15:39

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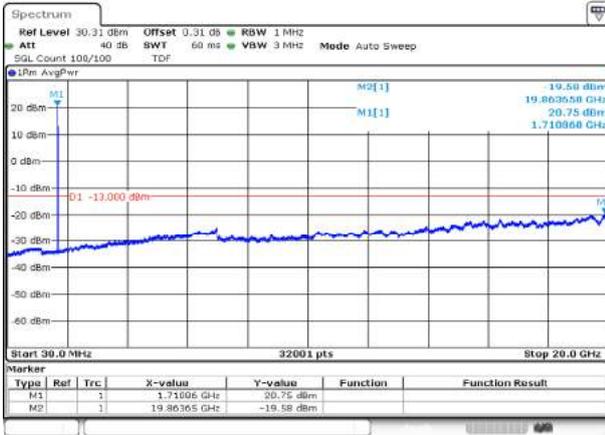
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Report No.:
KR19-SRF0183-B

Page (92) of (216)

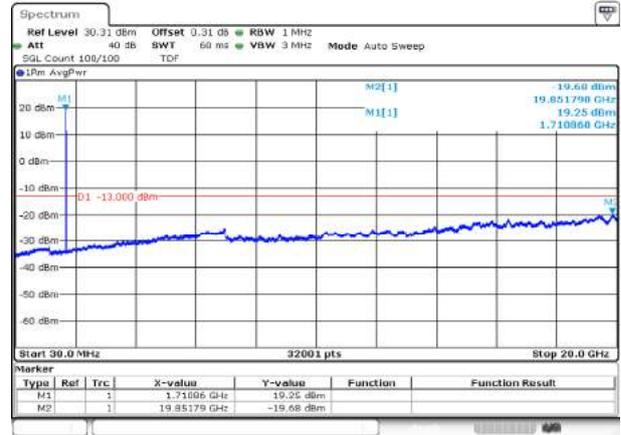


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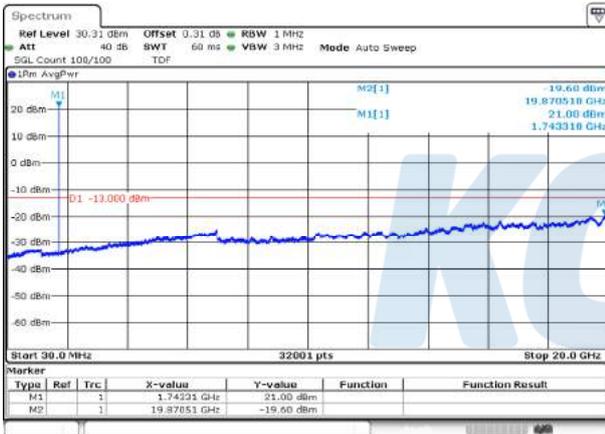
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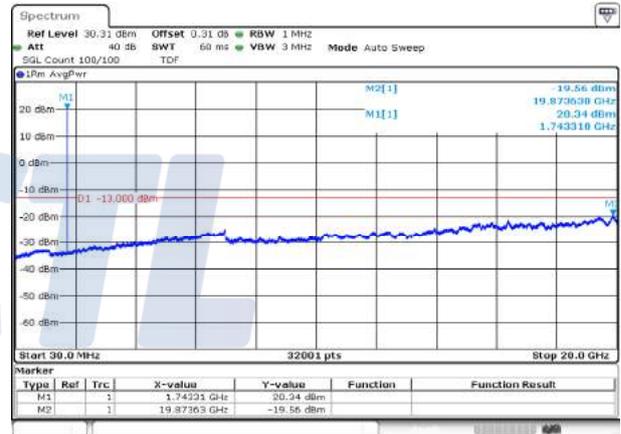
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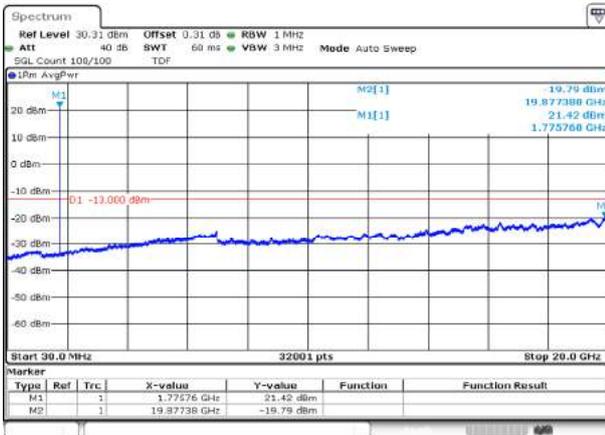
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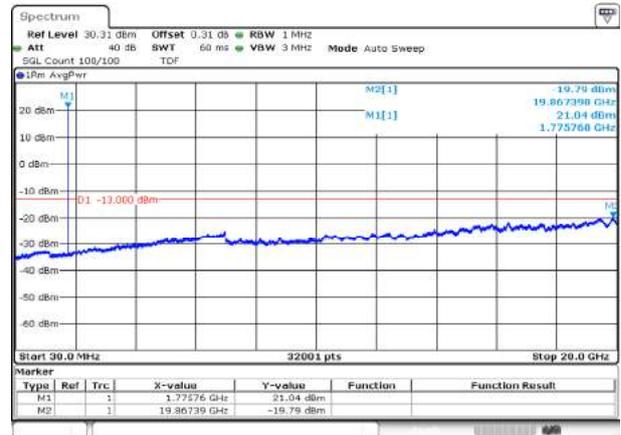
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5M BW / 16QAM / High ch.



Date: 5/30/2019 16:27:10