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FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT 9.

9.1. Standard Applicable

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53 (h)

Out of band emissions. 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) dB.

FCC §27.53(c) for LTE B13

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the 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, in accordance with the following:
- (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) dB (-13dBm)
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

FCC §27.53 (f) for LTE B13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC §27.53(c) (5) & FCC §27.53(g) for LTE B12, 13

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC §27.53(h)(3) for LTE B4

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. 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.

FCC §27.53(m) (4) (6) for LTE B7, 38, 41

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all fre-

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quencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber **Equipment**

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 1.2 for the permitted frequency ranges for various equipment types.

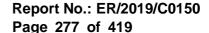
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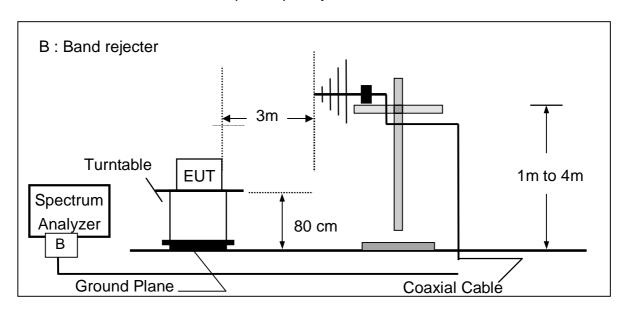
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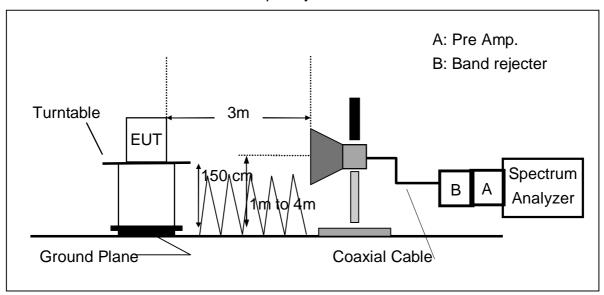


9.2. EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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9.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

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9.4. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Horn Antenna	Schwarzbeck	BBHA9170	184	12/25/2019	12/24/2020
Horn Antenna	Schwarzbeck	BBHA9120D	D803	12/20/2019	12/19/2020
Bi-log Antenna	TESEO	CBL 6112D	35242 & AT-N0555	01/13/2020	01/12/2021
Spectrum Analyzer	Agilent	E4446A	MY51100003	10/23/2019	10/22/2020
Radio Communication Analyer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
Radio Communication Analyer	Anritsu	MT8815B	6200711454	04/01/2019	03/31/2020
Pre-Amplifier	EMC Instruments	EMC184045B	980135	01/02/2020	01/01/2021
Pre-Amplifier	EMC Instruments	EMC051825	980152	01/02/2020	01/01/2021
Pre-Amplifier	HP	8447D	2944A09469	01/02/2020	01/01/2021
Filter 635-920	Micro-Tronics	WI	4	01/02/2020	01/01/2021
Filter 800-1000	Micro-Tronics	EWT	M1	01/02/2020	01/01/2021
Filter 1700-2000	Micro-Tronics	EWT	M3	01/02/2020	01/01/2021
Filter 2240-2700	Micro-Tronics	WI	2	01/02/2020	01/01/2021
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	01/02/2020	01/01/2021
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	01/02/2020	01/01/2021
High Pass Filter	WI	WHKX4.0/18G-10S S	22	01/02/2020	01/01/2021
Coaxial Cable	Huber Suhner	succoflex 102	MY2622/2	01/02/2020	01/01/2021
Coaxial Cable	Huber Suhner	succoflex 104A	800086/4a	01/02/2020	01/01/2021
Coaxial Cable	Huber Suhner	EMC 104-SM-SM-2000	160123	01/02/2020	01/01/2021

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9.5. Measurement Result:

Radiated Spurious Emission Measurement Result: GSM 850 Mode

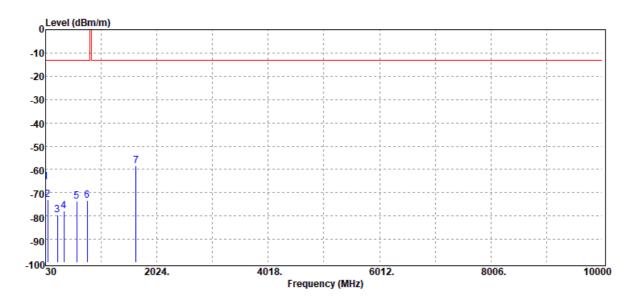
Test Date Report Number :ER/2019/C0150 :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :824.2 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-65.52	-45.03	-19.90	-0.59	-13.00	-52.52
68.80	-72.93	-59.68	-12.45	-0.80	-13.00	-59.93
240.49	-79.51	-76.35	-1.73	-1.43	-13.00	-66.51
354.95	-77.93	-74.48	-1.54	-1.91	-13.00	-64.93
592.60	-73.68	-69.91	-1.74	-2.03	-13.00	-60.68
778.84	-73.39	-69.02	-1.71	-2.66	-13.00	-60.39
1648.40	-58.32	-63.61	9.30	-4.01	-13.00	-45.32

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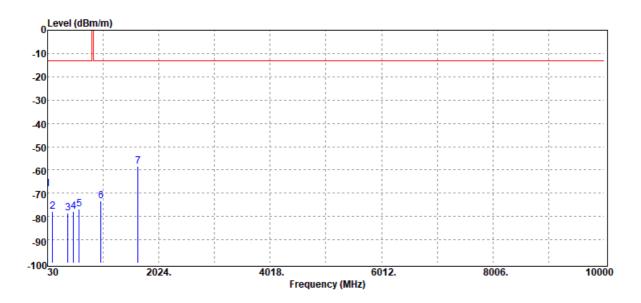
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :824.2 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
32.91	-68.09	-47.03	-20.49	-0.57	-13.00	-55.09
122.15	-77.90	-69.76	-7.10	-1.04	-13.00	-64.90
396.66	-78.42	-74.87	-1.61	-1.94	-13.00	-65.42
498.51	-77.82	-74.01	-1.49	-2.32	-13.00	-64.82
599.39	-76.86	-72.73	-1.86	-2.27	-13.00	-63.86
982.54	-73.51	-68.47	-1.74	-3.30	-13.00	-60.51
1648.40	-58.59	-63.88	9.30	-4.01	-13.00	-45.59

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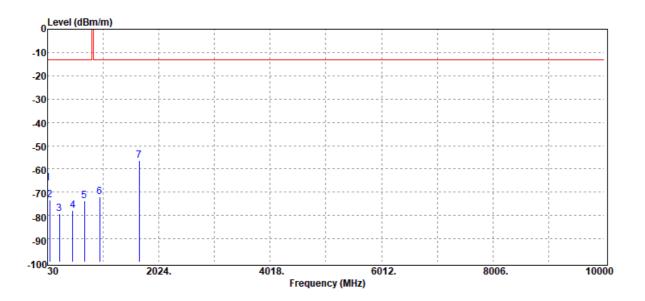
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.02	-44.96	-20.49	-0.57	-13.00	-53.02
66.86	-73.53	-59.59	-13.15	-0.79	-13.00	-60.53
245.34	-79.27	-76.14	-1.66	-1.47	-13.00	-66.27
483.96	-77.90	-74.16	-1.51	-2.23	-13.00	-64.90
687.66	-73.63	-69.85	-1.29	-2.49	-13.00	-60.63
966.05	-71.98	-66.85	-1.86	-3.27	-13.00	-58.98
1673.20	-56.52	-61.98	9.49	-4.03	-13.00	-43.52

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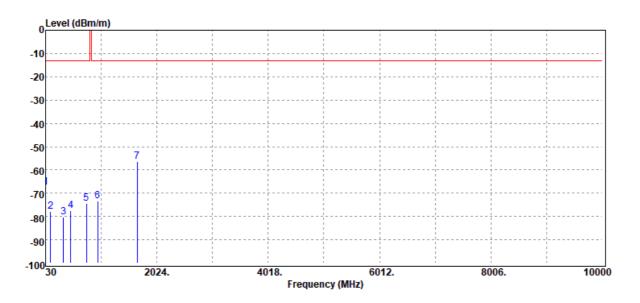
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
34.85	-67.50	-47.01	-19.90	-0.59	-13.00	-54.50
117.30	-77.79	-69.68	-7.09	-1.02	-13.00	-64.79
348.16	-80.40	-77.01	-1.50	-1.89	-13.00	-67.40
481.05	-77.48	-73.80	-1.44	-2.24	-13.00	-64.48
762.35	-74.55	-70.13	-1.80	-2.62	-13.00	-61.55
966.05	-73.36	-68.23	-1.86	-3.27	-13.00	-60.36
1673.20	-56.42	-61.88	9.49	-4.03	-13.00	-43.42

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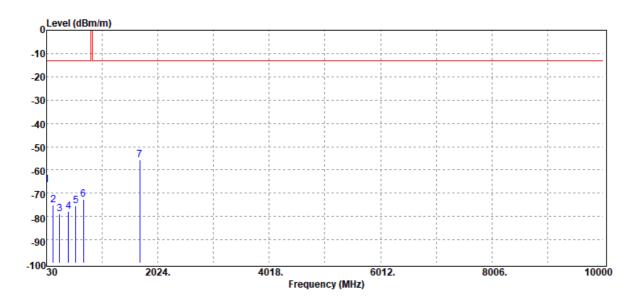
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :848.8 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
33.88	-66.30	-45.57	-20.15	-0.58	-13.00	-53.30
150.28	-75.09	-66.18	-7.70	-1.21	-13.00	-62.09
260.86	-78.96	-75.68	-1.66	-1.62	-13.00	-65.96
420.91	-77.82	-74.20	-1.66	-1.96	-13.00	-64.82
553.80	-75.48	-71.78	-1.45	-2.25	-13.00	-62.48
689.60	-72.75	-68.99	-1.27	-2.49	-13.00	-59.75
1697.60	-55.56	-61.19	9.68	-4.05	-13.00	-42.56

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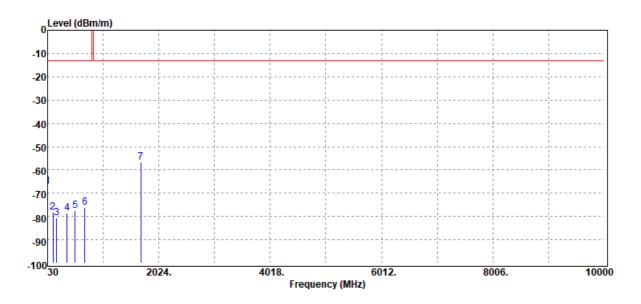
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 850 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :848.8 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-67.30	-46.24	-20.49	-0.57	-13.00	-54.30
127.00	-78.22	-69.98	-7.16	-1.08	-13.00	-65.22
191.99	-80.71	-76.59	-2.77	-1.35	-13.00	-67.71
379.20	-78.52	-74.96	-1.64	-1.92	-13.00	-65.52
526.64	-77.46	-73.61	-1.44	-2.41	-13.00	-64.46
697.36	-75.97	-72.07	-1.32	-2.58	-13.00	-62.97
1697.60	-56.81	-62.44	9.68	-4.05	-13.00	-43.81

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Radiated Spurious Emission Measurement Result: GSM 1900 Mode

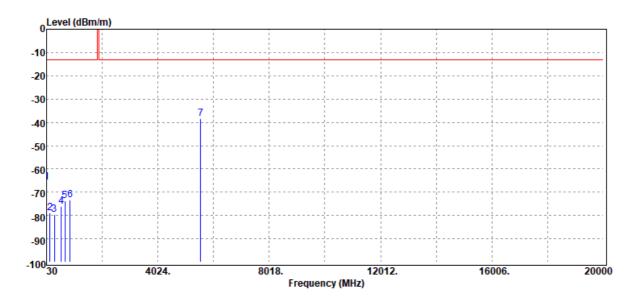
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :1850.2 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-65.71	-44.65	-20.49	-0.57	-13.00	-52.71
149.31	-78.89	-69.92	-7.76	-1.21	-13.00	-65.89
315.18	-79.62	-76.36	-1.58	-1.68	-13.00	-66.62
561.56	-76.24	-72.56	-1.39	-2.29	-13.00	-63.24
681.84	-73.64	-69.83	-1.30	-2.51	-13.00	-60.64
881.66	-73.33	-69.07	-1.73	-2.53	-13.00	-60.33
5550.60	-38.48	-44.16	13.00	-7.32	-13.00	-25.48

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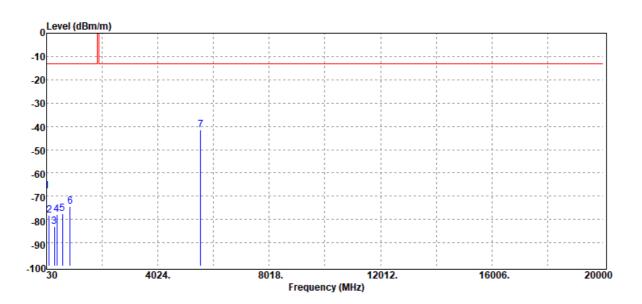
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1850.2 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-67.93	-46.87	-20.49	-0.57	-13.00	-54.93
125.06	-78.03	-69.87	-7.10	-1.06	-13.00	-65.03
316.15	-82.90	-79.60	-1.61	-1.69	-13.00	-69.90
400.54	-77.70	-74.18	-1.60	-1.92	-13.00	-64.70
602.30	-77.35	-73.06	-1.94	-2.35	-13.00	-64.35
881.66	-74.23	-69.97	-1.73	-2.53	-13.00	-61.23
5550.60	-41.35	-47.03	13.00	-7.32	-13.00	-28.35

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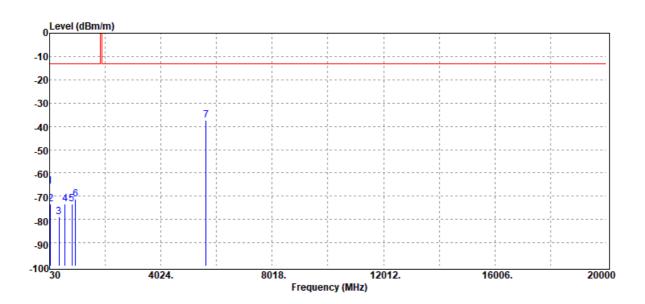
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-65.80	-44.74	-20.49	-0.57	-13.00	-52.80
65.89	-73.27	-59.09	-13.40	-0.78	-13.00	-60.27
372.41	-78.74	-75.21	-1.62	-1.91	-13.00	-65.74
589.69	-73.29	-69.64	-1.71	-1.94	-13.00	-60.29
835.10	-73.26	-68.46	-1.81	-2.99	-13.00	-60.26
968.96	-71.28	-66.14	-1.89	-3.25	-13.00	-58.28
5640.00	-37.35	-43.13	13.26	-7.48	-13.00	-24.35

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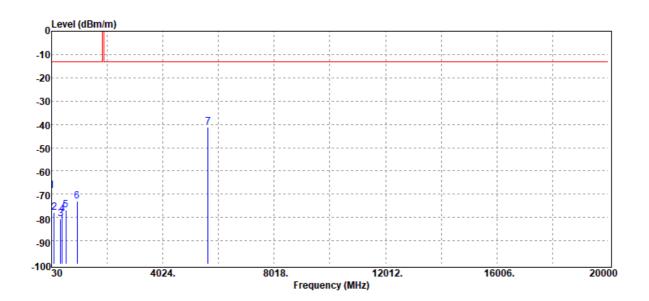
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	35	32	42,,424		<u> </u>	
34.85	-68.37	-47.88	-19.90	-0.59	-13.00	-55.37
125.06	-77.70	-69.54	-7.10	-1.06	-13.00	-64.70
353.98	-80.67	-77.24	-1.52	-1.91	-13.00	-67.67
413.15	-78.47	-74.94	-1.58	-1.95	-13.00	-65.47
537.31	-76.86	-73.28	-1.38	-2.20	-13.00	-63.86
944.71	-72.96	-68.01	-1.84	-3.11	-13.00	-59.96
5640.00	-41.25	-47.03	13.26	-7.48	-13.00	-28.25

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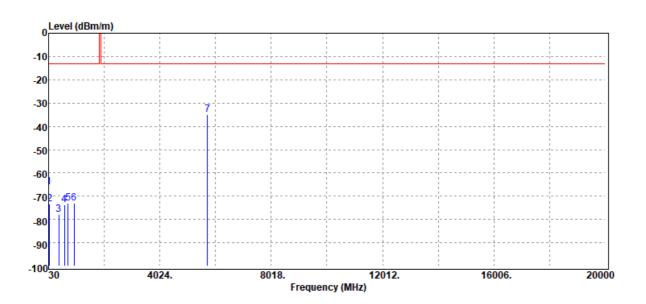
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1909.8 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-66.23	-45.74	-19.90	-0.59	-13.00	-53.23
66.86	-73.28	-59.34	-13.15	-0.79	-13.00	-60.28
405.39	-77.79	-74.27	-1.59	-1.93	-13.00	-64.79
604.24	-73.83	-69.45	-1.98	-2.40	-13.00	-60.83
725.49	-72.94	-69.30	-1.34	-2.30	-13.00	-59.94
944.71	-72.89	-67.94	-1.84	-3.11	-13.00	-59.89
5729.40	-34.96	-40.32	12.94	-7.58	-13.00	-21.96

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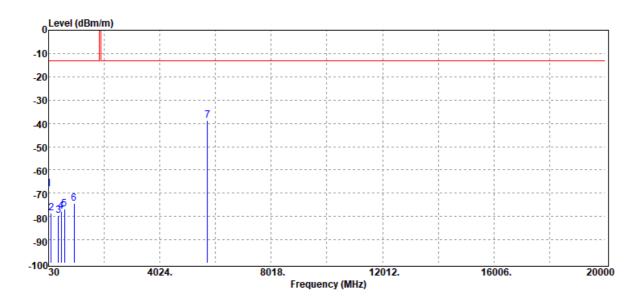
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :GSM 1900 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1909.8 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.08	-47.02	-20.49	-0.57	-13.00	-55.08
122.15	-78.62	-70.48	-7.10	-1.04	-13.00	-65.62
381.14	-79.52	-75.95	-1.64	-1.93	-13.00	-66.52
481.05	-78.00	-74.32	-1.44	-2.24	-13.00	-65.00
599.39	-76.79	-72.66	-1.86	-2.27	-13.00	-63.79
951.50	-74.31	-69.17	-1.91	-3.23	-13.00	-61.31
5729.40	-38.71	-44.07	12.94	-7.58	-13.00	-25.71

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Radiated Spurious Emission Measurement Result: WCDMA Band 2 Mode

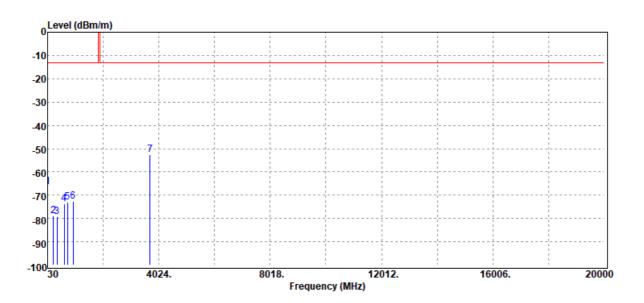
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :WCDMA B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :1852.4 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.32	-45.26	-20.49	-0.57	-13.00	-53.32
240.49	-78.98	-75.82	-1.73	-1.43	-13.00	-65.98
367.56	-79.38	-75.89	-1.58	-1.91	-13.00	-66.38
636.25	-73.53	-69.49	-1.56	-2.48	-13.00	-60.53
745.86	-72.92	-68.71	-1.81	-2.40	-13.00	-59.92
949.56	-72.74	-67.65	-1.88	-3.21	-13.00	-59.74
3704.80	-52.62	-59.07	12.39	-5.94	-13.00	-39.62

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Test Channel

Report No.: ER/2019/C0150

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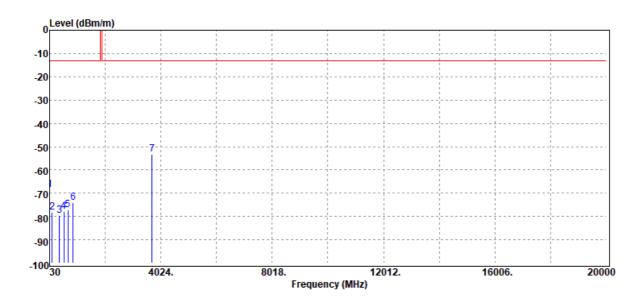
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

:1852.4 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-68.49	-47.76	-20.15	-0.58	-13.00	-55.49
122.15	-78.05	-69.91	-7.10	-1.04	-13.00	-65.05
379.20	-79.50	-75.94	-1.64	-1.92	-13.00	-66.50
546.04	-77.93	-74.33	-1.41	-2.19	-13.00	-64.93
681.84	-77.06	-73.25	-1.30	-2.51	-13.00	-64.06
881.66	-73.96	-69.70	-1.73	-2.53	-13.00	-60.96
3704.80	-53.31	-59.76	12.39	-5.94	-13.00	-40.31

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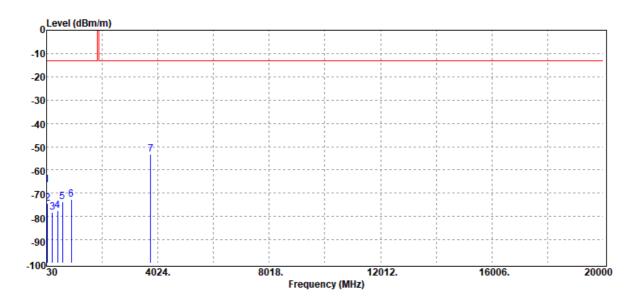
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B2 Temp./Humi. :21.6/65

Test Mode :VERTICAL :Tx CH Mid Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
32.91	-66.30	-45.24	-20.49	-0.57	-13.00	-53.30
66.86	-74.55	-60.61	-13.15	-0.79	-13.00	-61.55
245.34	-78.33	-75.20	-1.66	-1.47	-13.00	-65.33
420.91	-77.67	-74.05	-1.66	-1.96	-13.00	-64.67
597.45	-73.83	-69.82	-1.81	-2.20	-13.00	-60.83
919.49	-72.74	-67.96	-1.94	-2.84	-13.00	-59.74
3760.00	-53.13	-59.41	12.30	-6.02	-13.00	-40.13

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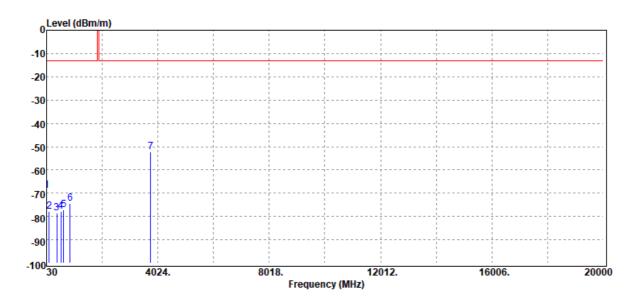
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-68.69	-48.20	-19.90	-0.59	-13.00	-55.69
120.21	-77.97	-69.89	-7.06	-1.02	-13.00	-64.97
391.81	-78.43	-74.84	-1.62	-1.97	-13.00	-65.43
546.04	-77.74	-74.14	-1.41	-2.19	-13.00	-64.74
643.04	-77.27	-73.11	-1.54	-2.62	-13.00	-64.27
875.84	-74.45	-70.24	-1.71	-2.50	-13.00	-61.45
3760.00	-52.19	-58.47	12.30	-6.02	-13.00	-39.19

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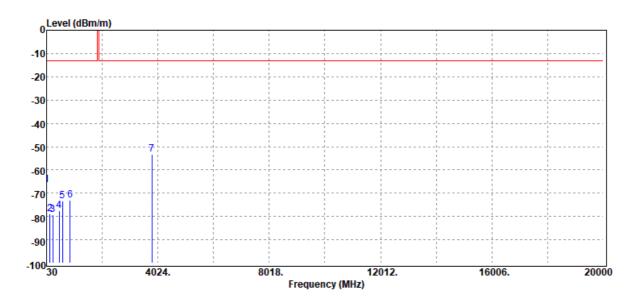
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

:WCDMA B2 Operation Mode Temp./Humi. :21.6/65

Test Mode :VERTICAL :Tx CH High Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1907.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.54	-45.48	-20.49	-0.57	-13.00	-53.54
153.19	-78.85	-70.13	-7.46	-1.26	-13.00	-65.85
257.95	-79.16	-75.93	-1.63	-1.60	-13.00	-66.16
488.81	-77.67	-73.92	-1.54	-2.21	-13.00	-64.67
599.39	-73.31	-69.18	-1.86	-2.27	-13.00	-60.31
871.96	-72.86	-68.68	-1.67	-2.51	-13.00	-59.86
3815.20	-53.15	-59.32	12.27	-6.10	-13.00	-40.15

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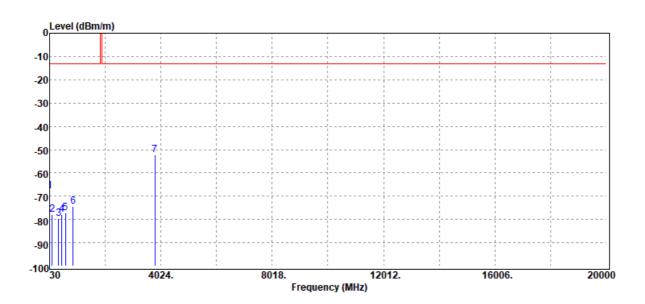
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B2 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1907.6 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
				-		
32.91	-67.91	-46.85	-20.49	-0.57	-13.00	-54.91
123.12	-77.99	-69.91	-7.04	-1.04	-13.00	-64.99
354.95	-79.72	-76.27	-1.54	-1.91	-13.00	-66.72
476.20	-77.78	-74.04	-1.49	-2.25	-13.00	-64.78
602.30	-77.10	-72.81	-1.94	-2.35	-13.00	-64.10
873.90	-74.24	-70.05	-1.69	-2.50	-13.00	-61.24
3815.20	-52.08	-58.25	12.27	-6.10	-13.00	-39.08

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Radiated Spurious Emission Measurement Result: WCDMA Band 4 Mode

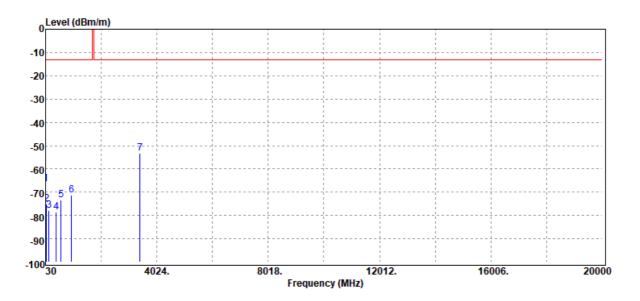
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :1712.4 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.56	-45.50	-20.49	-0.57	-13.00	-53.56
66.86	-75.00	-61.06	-13.15	-0.79	-13.00	-62.00
154.16	-77.86	-69.12	-7.46	-1.28	-13.00	-64.86
410.24	-78.54	-75.03	-1.58	-1.93	-13.00	-65.54
590.66	-73.19	-69.51	-1.72	-1.96	-13.00	-60.19
967.99	-71.17	-66.03	-1.88	-3.26	-13.00	-58.17
3424.80	-53.28	-59.88	12.40	-5.80	-13.00	-40.28

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Test Channel

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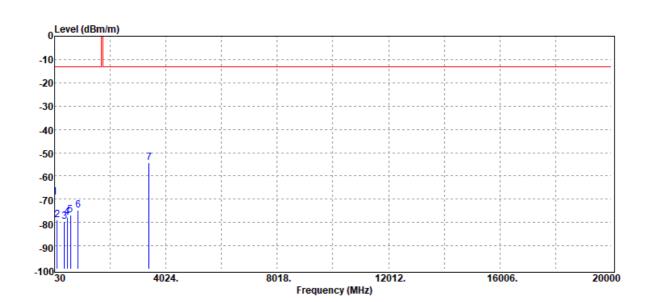
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

:1712.4 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
34.85	-69.28	-48.79	-19.90	-0.59	-13.00	-56.28
128.94	-78.84	-70.52	-7.23	-1.09	-13.00	-65.84
379.20	-79.62	-76.06	-1.64	-1.92	-13.00	-66.62
479.11	-77.75	-74.06	-1.44	-2.25	-13.00	-64.75
595.51	-76.95	-73.06	-1.76	-2.13	-13.00	-63.95
870.02	-74.78	-70.62	-1.65	-2.51	-13.00	-61.78
3424.80	-54.17	-60.77	12.40	-5.80	-13.00	-41.17

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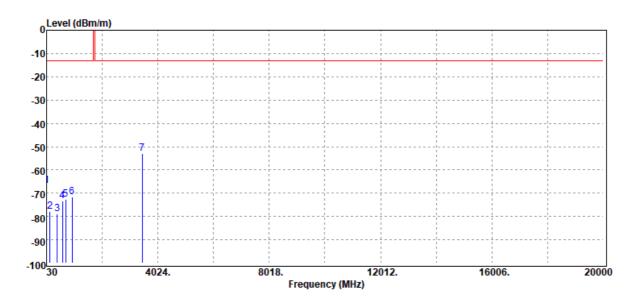
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :VERTICAL :Tx CH Mid Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1732.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-66.89	-46.16	-20.15	-0.58	-13.00	-53.89
156.10	-77.97	-69.40	-7.26	-1.31	-13.00	-64.97
410.24	-78.79	-75.28	-1.58	-1.93	-13.00	-65.79
599.39	-73.36	-69.23	-1.86	-2.27	-13.00	-60.36
720.64	-72.83	-69.03	-1.38	-2.42	-13.00	-59.83
954.41	-71.64	-66.45	-1.93	-3.26	-13.00	-58.64
3465.20	-53.02	-59.64	12.37	-5.75	-13.00	-40.02

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Test Channel

Report No.: ER/2019/C0150

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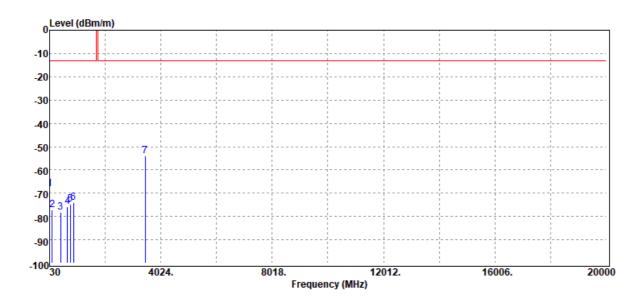
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

:1732.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.13	-46.41	-21.20	-0.52	-13.00	-55.13
122.15	-77.13	-68.99	-7.10	-1.04	-13.00	-64.13
432.55	-78.26	-74.76	-1.67	-1.83	-13.00	-65.26
668.26	-75.83	-71.51	-1.31	-3.01	-13.00	-62.83
779.81	-74.83	-70.46	-1.70	-2.67	-13.00	-61.83
883.60	-73.88	-69.61	-1.71	-2.56	-13.00	-60.88
3465.20	-53.85	-60.47	12.37	-5.75	-13.00	-40.85

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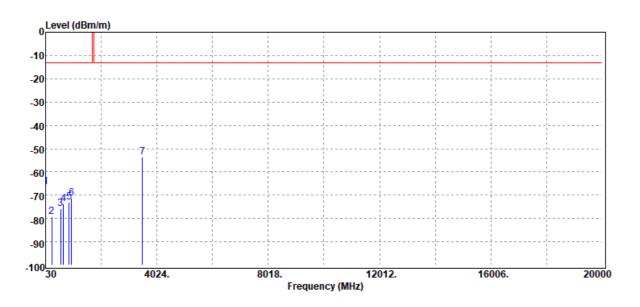
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1752.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.59	-45.53	-20.49	-0.57	-13.00	-53.59
256.01	-79.13	-75.94	-1.62	-1.57	-13.00	-66.13
571.26	-75.87	-72.24	-1.45	-2.18	-13.00	-62.87
679.90	-73.75	-69.94	-1.29	-2.52	-13.00	-60.75
869.05	-73.13	-68.94	-1.64	-2.55	-13.00	-60.13
968.96	-71.39	-66.25	-1.89	-3.25	-13.00	-58.39
3505.20	-53.50	-60.06	12.28	-5.72	-13.00	-40.50

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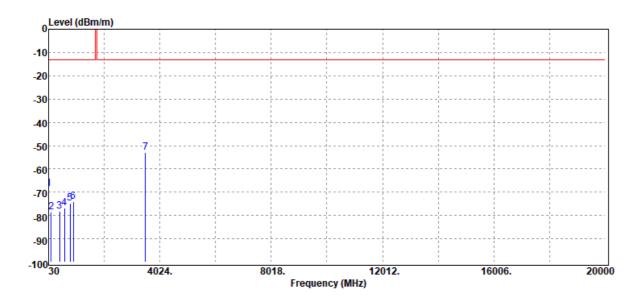
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B4 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1752.6 MHz



Freq.	EIRP/ERP	SG Output Lovel	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
1711 12	dDill	<u>upin</u>	abi/aba	ав	dDill	<u>ub</u>
32.91	-68.42	-47.36	-20.49	-0.57	-13.00	-55.42
124.09	-78.61	-70.49	-7.07	-1.05	-13.00	-65.61
427.70	-78.26	-74.77	-1.62	-1.87	-13.00	-65.26
602.30	-76.87	-72.58	-1.94	-2.35	-13.00	-63.87
804.06	-74.81	-70.04	-1.61	-3.16	-13.00	-61.81
914.64	-74.22	-69.58	-1.81	-2.83	-13.00	-61.22
3505.20	-53.04	-59.60	12.28	-5.72	-13.00	-40.04

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Radiated Spurious Emission Measurement Result: WCDMA Band 5 Mode

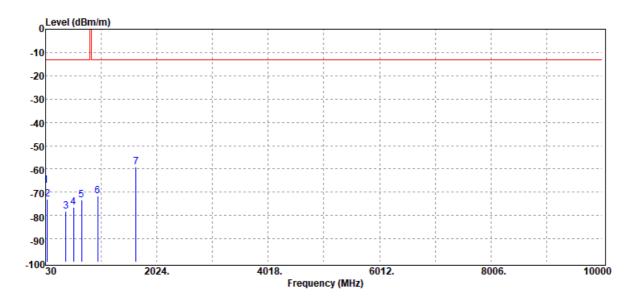
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :826.4 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.98	-45.92	-20.49	-0.57	-13.00	-53.98
65.89	-73.09	-58.91	-13.40	-0.78	-13.00	-60.09
396.66	-78.05	-74.50	-1.61	-1.94	-13.00	-65.05
534.40	-76.41	-72.78	-1.38	-2.25	-13.00	-63.41
675.05	-73.46	-69.47	-1.25	-2.74	-13.00	-60.46
963.14	-71.55	-66.40	-1.86	-3.29	-13.00	-58.55
1652.80	-59.29	-64.60	9.32	-4.01	-13.00	-46.29

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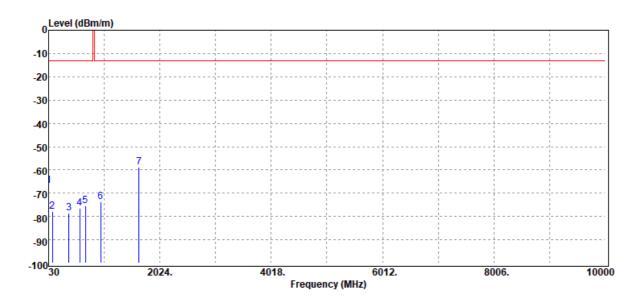
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Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas Test Channel :826.4 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.95	-45.89	-20.49	-0.57	-13.00	-53.95
99.84	-77.90	-70.81	-6.12	-0.97	-13.00	-64.90
393.75	-78.41	-74.84	-1.61	-1.96	-13.00	-65.41
589.69	-76.50	-72.85	-1.71	-1.94	-13.00	-63.50
686.69	-75.39	-71.58	-1.31	-2.50	-13.00	-62.39
961.20	-73.80	-68.61	-1.88	-3.31	-13.00	-60.80
1652.80	-58.98	-64.29	9.32	-4.01	-13.00	-45.98

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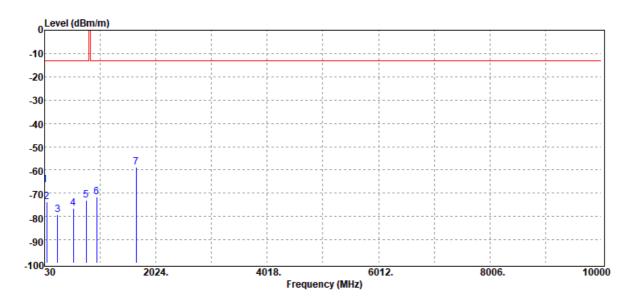
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :VERTICAL :Tx CH Mid Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.58	-45.52	-20.49	-0.57	-13.00	-53.58
68.80	-73.55	-60.30	-12.45	-0.80	-13.00	-60.55
260.86	-79.36	-76.08	-1.66	-1.62	-13.00	-66.36
544.10	-76.31	-72.72	-1.41	-2.18	-13.00	-63.31
778.84	-72.99	-68.62	-1.71	-2.66	-13.00	-59.99
964.11	-71.74	-66.59	-1.86	-3.29	-13.00	-58.74
1673.20	-58.84	-64.30	9.49	-4.03	-13.00	-45.84

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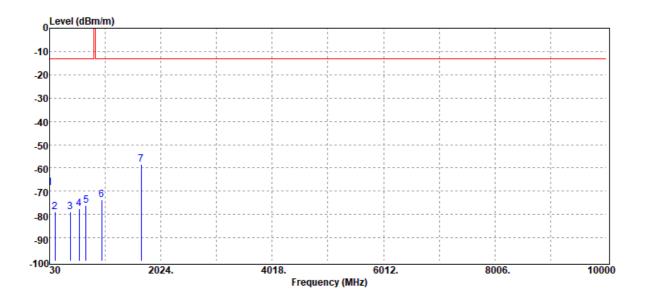
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.6 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
32.91	-68.67	-47.61	-20.49	-0.57	-13.00	-55.67
124.09	-78.79	-70.67	-7.07	-1.05	-13.00	-65.79
398.60	-79.01	-75.48	-1.60	-1.93	-13.00	-66.01
560.59	-77.63	-73.95	-1.38	-2.30	-13.00	-64.63
684.75	-76.12	-72.29	-1.33	-2.50	-13.00	-63.12
966.05	-73.72	-68.59	-1.86	-3.27	-13.00	-60.72
1673.20	-58.38	-63.84	9.49	-4.03	-13.00	-45.38

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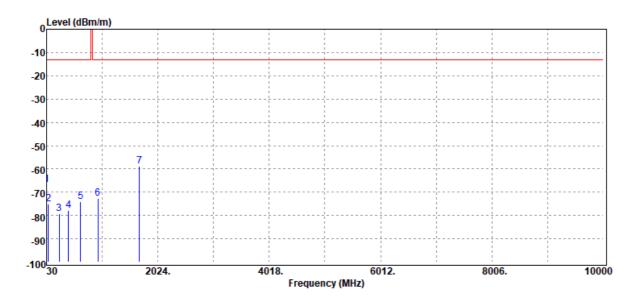
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :846.6 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.71	-45.65	-20.49	-0.57	-13.00	-53.71
65.89	-75.12	-60.94	-13.40	-0.78	-13.00	-62.12
256.01	-79.29	-76.10	-1.62	-1.57	-13.00	-66.29
419.94	-77.89	-74.24	-1.68	-1.97	-13.00	-64.89
638.19	-74.02	-69.99	-1.54	-2.49	-13.00	-61.02
949.56	-72.83	-67.74	-1.88	-3.21	-13.00	-59.83
1693.20	-58.84	-64.44	9.65	-4.05	-13.00	-45.84

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:846.6 MHz

Test Channel

Report No.: ER/2019/C0150

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Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :WCDMA B5 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas



Frequency (MHz)

Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.91	-47.19	-21.20	-0.52	-13.00	-55.91
122.15	-78.55	-70.41	-7.10	-1.04	-13.00	-65.55
393.75	-78.09	-74.52	-1.61	-1.96	-13.00	-65.09
536.34	-76.97	-73.37	-1.38	-2.22	-13.00	-63.97
670.20	-76.74	-72.46	-1.32	-2.96	-13.00	-63.74
982.54	-73.68	-68.64	-1.74	-3.30	-13.00	-60.68
1693.20	-58.72	-64.32	9.65	-4.05	-13.00	-45.72

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Radiated Spurious Emission Measurement Result: LTE-Band 2 (The Worst Case)

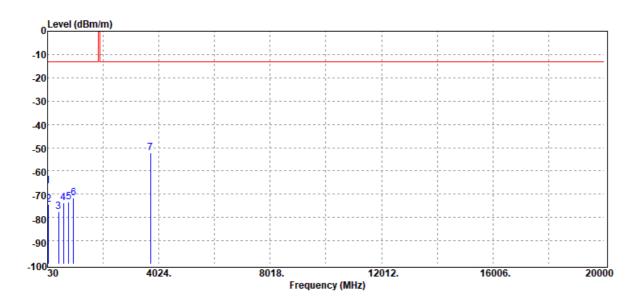
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :1860 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.42	-45.36	-20.49	-0.57	-13.00	-53.42
65.89	-74.27	-60.09	-13.40	-0.78	-13.00	-61.27
422.85	-77.65	-74.10	-1.62	-1.93	-13.00	-64.65
594.54	-73.57	-69.72	-1.75	-2.10	-13.00	-60.57
784.66	-73.31	-68.85	-1.64	-2.82	-13.00	-60.31
959.26	-71.60	-66.39	-1.90	-3.31	-13.00	-58.60
3720.00	-52.14	-58.54	12.36	-5.96	-13.00	-39.14

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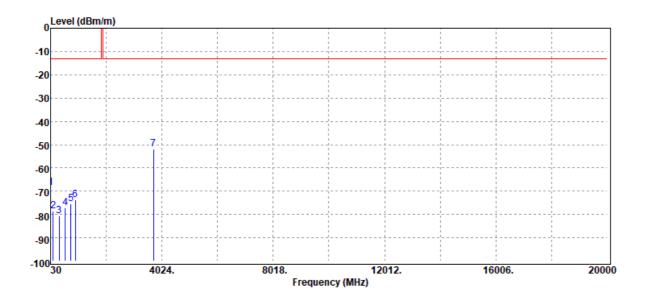
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1860 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.34	-47.28	-20.49	-0.57	-13.00	-55.34
119.24	-78.44	-70.31	-7.11	-1.02	-13.00	-65.44
345.25	-80.72	-77.26	-1.57	-1.89	-13.00	-67.72
558.65	-77.19	-73.50	-1.40	-2.29	-13.00	-64.19
754.59	-75.26	-70.92	-1.78	-2.56	-13.00	-62.26
919.49	-73.62	-68.84	-1.94	-2.84	-13.00	-60.62
3720.00	-51.75	-58.15	12.36	-5.96	-13.00	-38.75

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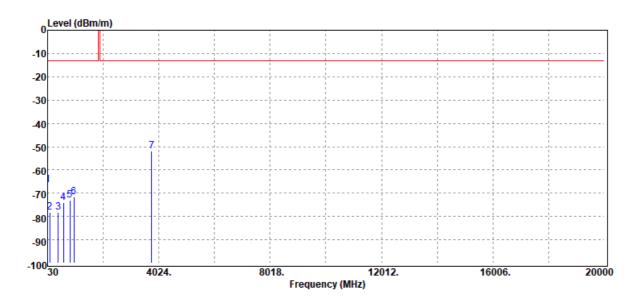
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.57	-45.51	-20.49	-0.57	-13.00	-53.57
115.36	-78.23	-70.07	-7.14	-1.02	-13.00	-65.23
416.06	-78.08	-74.52	-1.60	-1.96	-13.00	-65.08
600.36	-74.02	-69.83	-1.89	-2.30	-13.00	-61.02
827.34	-72.86	-68.15	-1.73	-2.98	-13.00	-59.86
978.66	-71.50	-66.41	-1.80	-3.29	-13.00	-58.50
3760.00	-51.78	-58.06	12.30	-6.02	-13.00	-38.78

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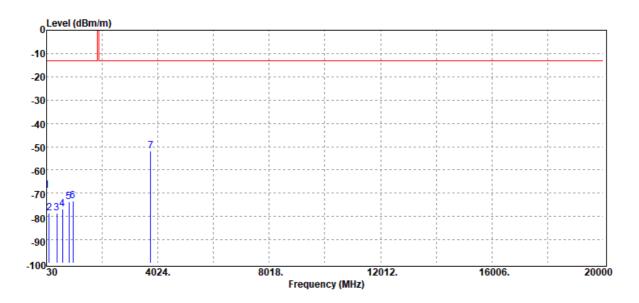
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1880 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.69	-47.63	-20.49	-0.57	-13.00	-55.69
125.06	-78.70	-70.54	-7.10	-1.06	-13.00	-65.70
391.81	-78.68	-75.09	-1.62	-1.97	-13.00	-65.68
594.54	-76.73	-72.88	-1.75	-2.10	-13.00	-63.73
835.10	-73.64	-68.84	-1.81	-2.99	-13.00	-60.64
972.84	-73.46	-68.38	-1.82	-3.26	-13.00	-60.46
3760.00	-51.92	-58.20	12.30	-6.02	-13.00	-38.92

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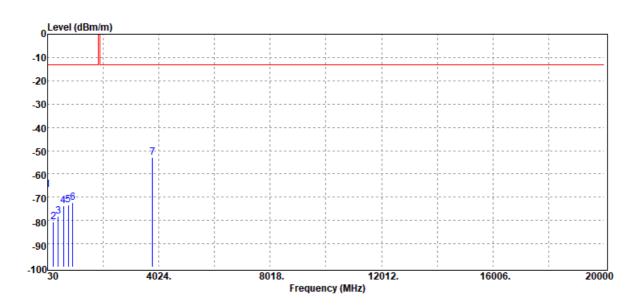
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1900 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
32.91	-66.72	-45.66	-20.49	-0.57	-13.00	-53.72
233.70	-80.73	-77.63	-1.62	-1.48	-13.00	-67.73
419.94	-78.33	-74.68	-1.68	-1.97	-13.00	-65.33
595.51	-73.77	-69.88	-1.76	-2.13	-13.00	-60.77
774.96	-73.38	-69.00	-1.75	-2.63	-13.00	-60.38
934.04	-72.37	-67.51	-1.91	-2.95	-13.00	-59.37
3800.00	-52.79	-59.02	12.30	-6.07	-13.00	-39.79

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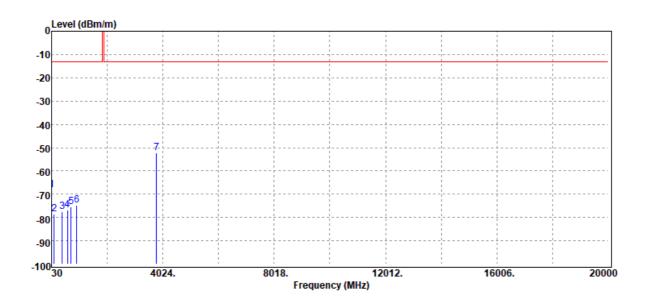
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B2 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1900 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	<u> </u>	<u> </u>			<u> </u>	
32.91	-68.22	-47.16	-20.49	-0.57	-13.00	-55.22
124.09	-78.42	-70.30	-7.07	-1.05	-13.00	-65.42
410.24	-77.44	-73.93	-1.58	-1.93	-13.00	-64.44
595.51	-76.99	-73.10	-1.76	-2.13	-13.00	-63.99
735.19	-75.49	-71.74	-1.52	-2.23	-13.00	-62.49
927.25	-74.57	-69.78	-1.90	-2.89	-13.00	-61.57
3800.00	-52.36	-58.59	12.30	-6.07	-13.00	-39.36

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Radiated Spurious Emission Measurement Result: LTE-Band 4 (The Worst Case)

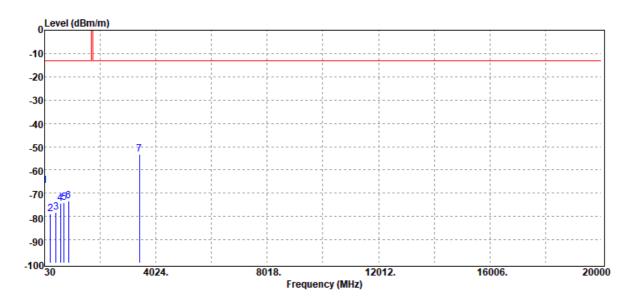
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :1720 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.73	-45.67	-20.49	-0.57	-13.00	-53.73
236.61	-78.89	-75.77	-1.66	-1.46	-13.00	-65.89
437.40	-78.33	-74.78	-1.72	-1.83	-13.00	-65.33
594.54	-74.41	-70.56	-1.75	-2.10	-13.00	-61.41
728.40	-73.92	-70.26	-1.43	-2.23	-13.00	-60.92
883.60	-73.24	-68.97	-1.71	-2.56	-13.00	-60.24
3440.00	-53.24	-59.86	12.40	-5.78	-13.00	-40.24

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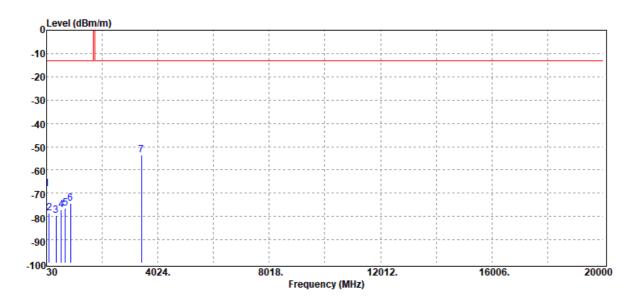
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1720 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.33	-46.61	-21.20	-0.52	-13.00	-55.33
125.06	-78.58	-70.42	-7.10	-1.06	-13.00	-65.58
369.50	-79.42	-75.93	-1.58	-1.91	-13.00	-66.42
553.80	-77.06	-73.36	-1.45	-2.25	-13.00	-64.06
704.15	-76.60	-72.69	-1.29	-2.62	-13.00	-63.60
883.60	-74.38	-70.11	-1.71	-2.56	-13.00	-61.38
3440.00	-53.64	-60.26	12.40	-5.78	-13.00	-40.64

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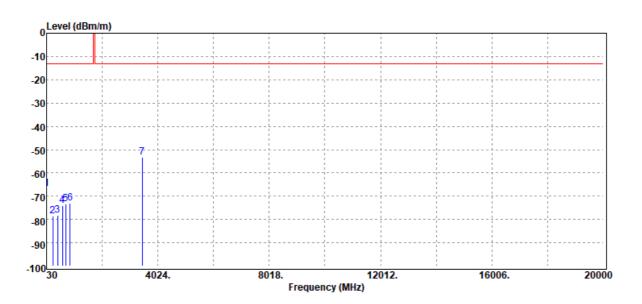
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1732.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.66	-45.60	-20.49	-0.57	-13.00	-53.66
257.95	-78.60	-75.37	-1.63	-1.60	-13.00	-65.60
429.64	-78.37	-74.87	-1.66	-1.84	-13.00	-65.37
597.45	-73.92	-69.91	-1.81	-2.20	-13.00	-60.92
716.76	-73.26	-69.40	-1.36	-2.50	-13.00	-60.26
870.99	-73.13	-68.96	-1.66	-2.51	-13.00	-60.13
3465.00	-53.16	-59.78	12.37	-5.75	-13.00	-40.16

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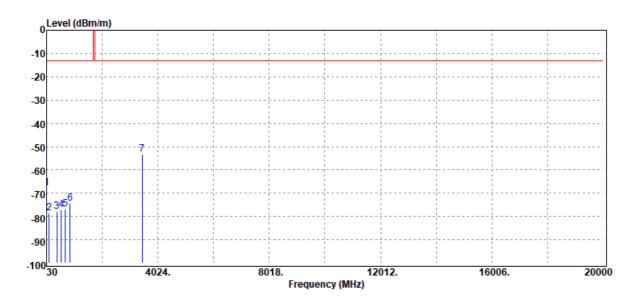
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1732.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-67.96	-46.90	-20.49	-0.57	-13.00	-54.96
120.21	-78.48	-70.40	-7.06	-1.02	-13.00	-65.48
403.45	-77.85	-74.33	-1.59	-1.93	-13.00	-64.85
550.89	-77.33	-73.68	-1.43	-2.22	-13.00	-64.33
702.21	-76.84	-72.91	-1.31	-2.62	-13.00	-63.84
880.69	-74.53	-70.28	-1.74	-2.51	-13.00	-61.53
3465.00	-53.34	-59.96	12.37	-5.75	-13.00	-40.34

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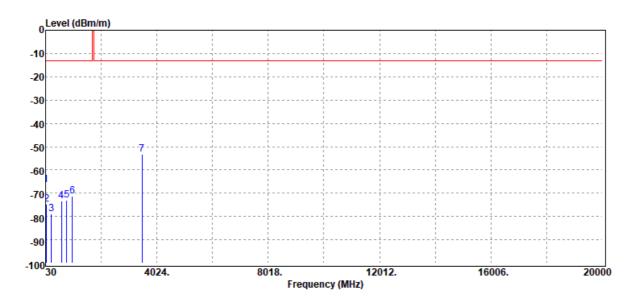
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1745 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.45	-45.39	-20.49	-0.57	-13.00	-53.45
66.86	-74.63	-60.69	-13.15	-0.79	-13.00	-61.63
243.40	-78.89	-75.74	-1.69	-1.46	-13.00	-65.89
605.21	-73.21	-68.79	-2.00	-2.42	-13.00	-60.21
784.66	-73.11	-68.65	-1.64	-2.82	-13.00	-60.11
988.36	-71.37	-66.45	-1.64	-3.28	-13.00	-58.37
3490.00	-53.17	-59.78	12.32	-5.71	-13.00	-40.17

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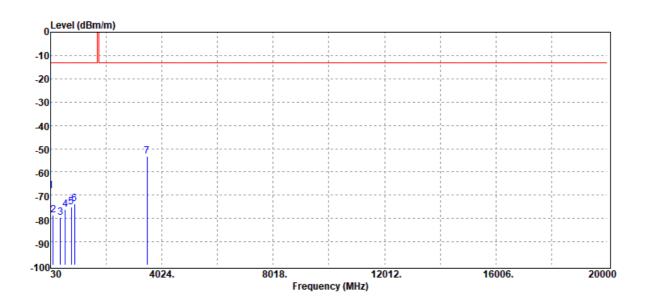
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B4 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :1745 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	<u> </u>	32	45,,454		<u> </u>	
32.91	-68.23	-47.17	-20.49	-0.57	-13.00	-55.23
127.00	-78.51	-70.27	-7.16	-1.08	-13.00	-65.51
386.96	-79.75	-76.15	-1.63	-1.97	-13.00	-66.75
555.74	-76.13	-72.42	-1.44	-2.27	-13.00	-63.13
774.96	-75.16	-70.78	-1.75	-2.63	-13.00	-62.16
885.54	-73.73	-69.42	-1.71	-2.60	-13.00	-60.73
3490.00	-53.16	-59.77	12.32	-5.71	-13.00	-40.16

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Radiated Spurious Emission Measurement Result: LTE-Band 5 (The Worst Case)

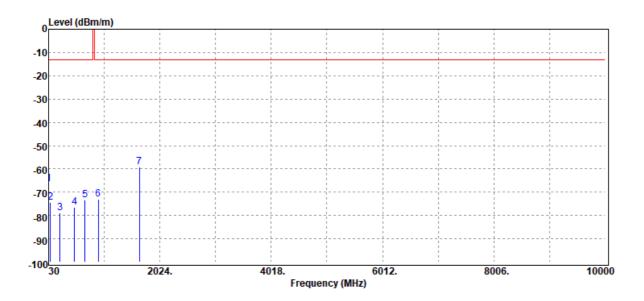
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :829 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
IVII IZ	ubili	ubiii	dDi/dDd	иБ	иып	ub
32.91	-66.53	-45.47	-20.49	-0.57	-13.00	-53.53
65.89	-74.37	-60.19	-13.40	-0.78	-13.00	-61.37
238.55	-78.84	-75.69	-1.71	-1.44	-13.00	-65.84
492.69	-76.56	-72.77	-1.55	-2.24	-13.00	-63.56
682.81	-73.32	-69.50	-1.31	-2.51	-13.00	-60.32
917.55	-72.90	-68.17	-1.89	-2.84	-13.00	-59.90
1658.00	-59.18	-64.52	9.36	-4.02	-13.00	-46.18

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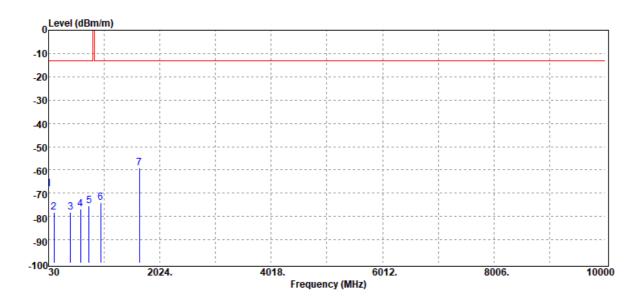
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :829 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.22	-47.16	-20.49	-0.57	-13.00	-55.22
128.94	-78.28	-69.96	-7.23	-1.09	-13.00	-65.28
420.91	-78.14	-74.52	-1.66	-1.96	-13.00	-65.14
602.30	-76.83	-72.54	-1.94	-2.35	-13.00	-63.83
755.56	-75.47	-71.12	-1.78	-2.57	-13.00	-62.47
966.05	-73.90	-68.77	-1.86	-3.27	-13.00	-60.90
1658.00	-59.09	-64.43	9.36	-4.02	-13.00	-46.09

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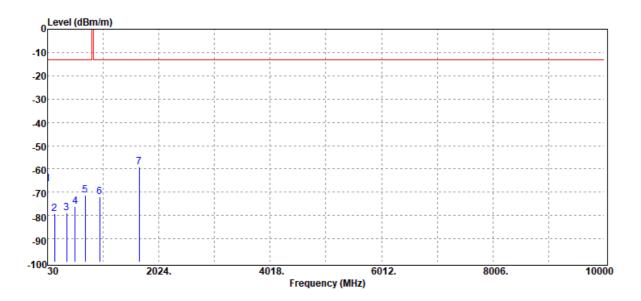
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.55	-45.49	-20.49	-0.57	-13.00	-53.55
155.13	-79.15	-70.54	-7.32	-1.29	-13.00	-66.15
369.50	-78.94	-75.45	-1.58	-1.91	-13.00	-65.94
526.64	-76.09	-72.24	-1.44	-2.41	-13.00	-63.09
707.06	-71.38	-67.46	-1.29	-2.63	-13.00	-58.38
966.05	-72.12	-66.99	-1.86	-3.27	-13.00	-59.12
1673.00	-59.02	-64.48	9.49	-4.03	-13.00	-46.02

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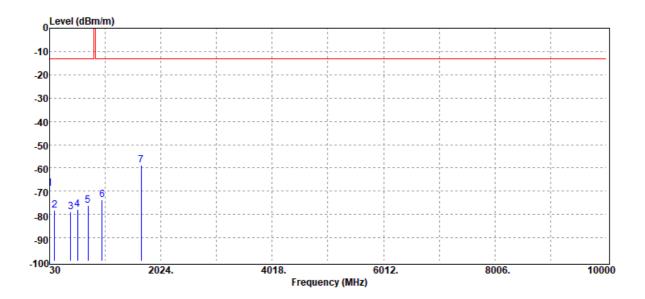
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :836.5 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	abiii	abiii	abii aba	u.b	GDIII	<u> </u>
32.91	-68.90	-47.84	-20.49	-0.57	-13.00	-55.90
120.21	-78.08	-70.00	-7.06	-1.02	-13.00	-65.08
405.39	-78.74	-75.22	-1.59	-1.93	-13.00	-65.74
532.46	-77.69	-74.00	-1.41	-2.28	-13.00	-64.69
716.76	-76.29	-72.43	-1.36	-2.50	-13.00	-63.29
970.90	-73.82	-68.70	-1.87	-3.25	-13.00	-60.82
1673.00	-58.97	-64.43	9.49	-4.03	-13.00	-45.97

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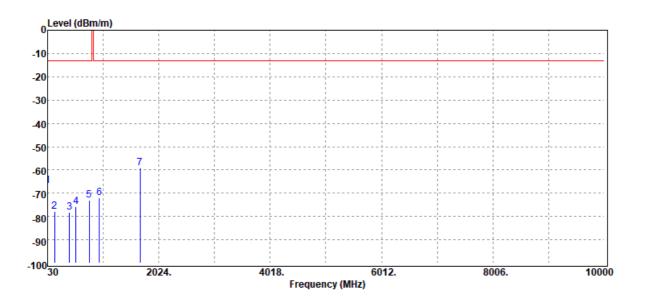
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :844 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
33.88	-66.92	-46.19	-20.15	-0.58	-13.00	-53.92
154.16	-77.99	-69.25	-7.46	-1.28	-13.00	-64.99
422.85	-78.11	-74.56	-1.62	-1.93	-13.00	-65.11
537.31	-75.69	-72.11	-1.38	-2.20	-13.00	-62.69
774.96	-72.89	-68.51	-1.75	-2.63	-13.00	-59.89
954.41	-72.02	-66.83	-1.93	-3.26	-13.00	-59.02
1688.00	-59.27	-64.83	9.61	-4.05	-13.00	-46.27

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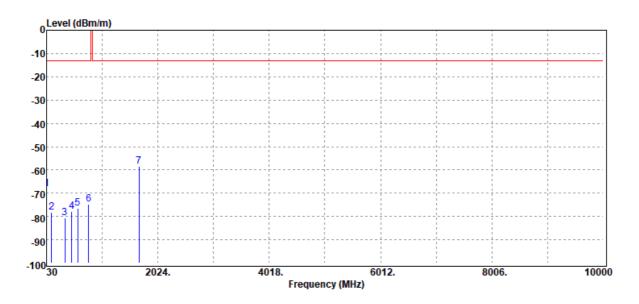
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B5 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :844 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-68.09	-47.36	-20.15	-0.58	-13.00	-55.09
122.15	-78.20	-70.06	-7.10	-1.04	-13.00	-65.20
354.95	-80.78	-77.33	-1.54	-1.91	-13.00	-67.78
481.05	-77.81	-74.13	-1.44	-2.24	-13.00	-64.81
592.60	-76.49	-72.72	-1.74	-2.03	-13.00	-63.49
784.66	-74.84	-70.38	-1.64	-2.82	-13.00	-61.84
1688.00	-58.33	-63.89	9.61	-4.05	-13.00	-45.33

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Radiated Spurious Emission Measurement Result: LTE-Band 7 (The Worst Case)

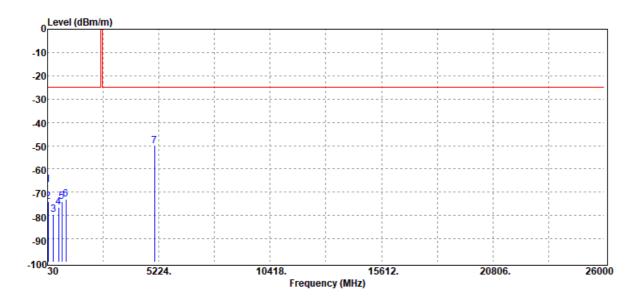
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B7 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :2510 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.62	-45.56	-20.49	-0.57	-25.00	-41.62
66.86	-74.11	-60.17	-13.15	-0.79	-25.00	-49.11
309.36	-79.55	-76.24	-1.70	-1.61	-25.00	-54.55
547.01	-76.38	-72.76	-1.42	-2.20	-25.00	-51.38
689.60	-73.95	-70.19	-1.27	-2.49	-25.00	-48.95
885.54	-72.91	-68.60	-1.71	-2.60	-25.00	-47.91
5020.00	-50.19	-55.49	12.32	-7.02	-25.00	-25.19

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Offices otherwise stated title testus shown in this test report fell only for the sample(s) testual and store an interest and store and the state of the sample(s) testual and store and the state of the sample(s) testual and store and the state of the store and the st Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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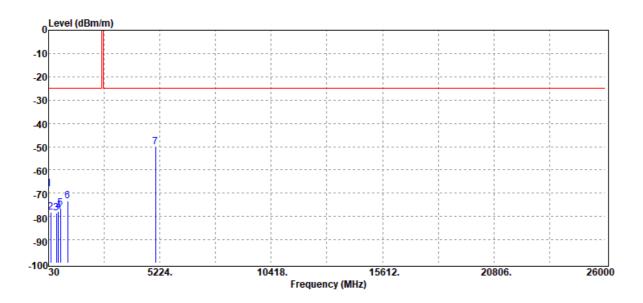
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B7 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2510 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-68.19	-47.46	-20.15	-0.58	-25.00	-43.19
124.09	-78.29	-70.17	-7.07	-1.05	-25.00	-53.29
391.81	-78.43	-74.84	-1.62	-1.97	-25.00	-53.43
485.90	-77.97	-74.22	-1.53	-2.22	-25.00	-52.97
592.60	-76.56	-72.79	-1.74	-2.03	-25.00	-51.56
924.34	-73.22	-68.42	-1.93	-2.87	-25.00	-48.22
5020.00	-50.22	-55.52	12.32	-7.02	-25.00	-25.22

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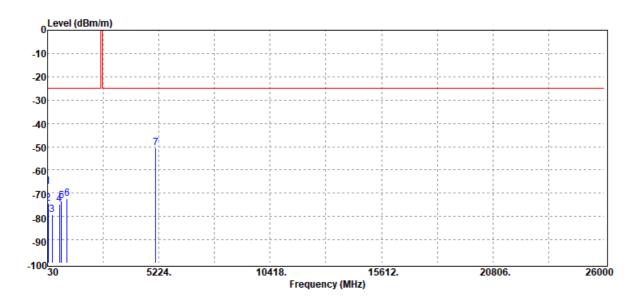
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B7 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2535 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.97	-45.91	-20.49	-0.57	-25.00	-41.97
65.89	-74.44	-60.26	-13.40	-0.78	-25.00	-49.44
253.10	-79.36	-76.18	-1.64	-1.54	-25.00	-54.36
583.87	-74.78	-71.23	-1.59	-1.96	-25.00	-49.78
675.05	-73.20	-69.21	-1.25	-2.74	-25.00	-48.20
943.74	-72.31	-67.35	-1.87	-3.09	-25.00	-47.31
5070.00	-50.40	-55.56	12.16	-7.00	-25.00	-25.40

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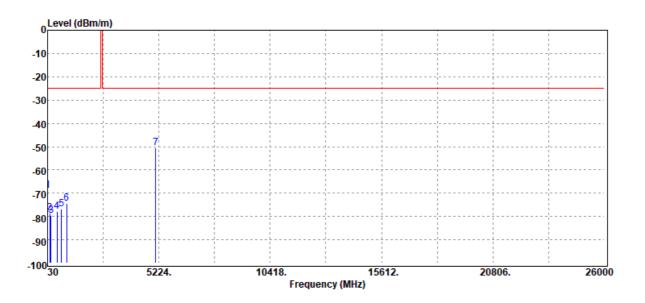
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B7 Temp./Humi. :21.6/65

Test Mode :HORIZONTAL :Tx CH Mid Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2535 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
30.00	-68.77	-47.05	-21.20	-0.52	-25.00	-43.77
124.09	-78.72	-70.60	-7.07	-1.05	-25.00	-53.72
191.99	-79.45	-75.33	-2.77	-1.35	-25.00	-54.45
469.41	-77.76	-74.00	-1.50	-2.26	-25.00	-52.76
675.05	-76.67	-72.68	-1.25	-2.74	-25.00	-51.67
924.34	-74.34	-69.54	-1.93	-2.87	-25.00	-49.34
5070.00	-50.45	-55.61	12.16	-7.00	-25.00	-25.45

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Report Number :ER/2019/C0150 **Test Date**

Operation Mode :LTE B7

Test Mode :Tx CH High

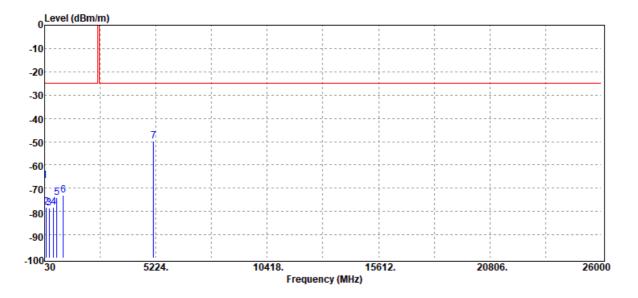
EUT Pol :H Plane

Test Channel :2560 MHz :2020-01-17

Temp./Humi. :21.6/65

:VERTICAL Antenna Pol.

Engineer :Thomas



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.75	-45.69	-20.49	-0.57	-25.00	-41.75
115.36	-78.08	-69.92	-7.14	-1.02	-25.00	-53.08
238.55	-78.39	-75.24	-1.71	-1.44	-25.00	-53.39
444.19	-78.18	-74.59	-1.69	-1.90	-25.00	-53.18
599.39	-74.12	-69.99	-1.86	-2.27	-25.00	-49.12
898.15	-72.88	-68.35	-1.74	-2.79	-25.00	-47.88
5120.00	-49.87	-54.94	12.10	-7.03	-25.00	-24.87

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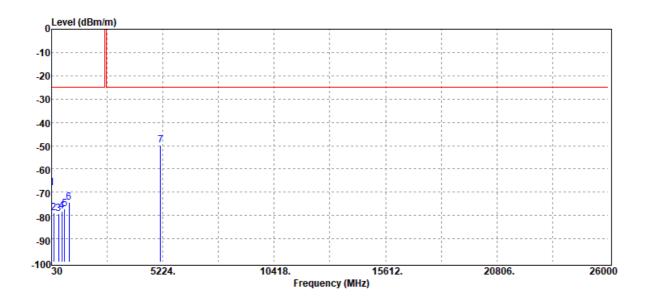
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B7 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2560 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.27	-46.55	-21.20	-0.52	-25.00	-43.27
124.09	-78.83	-70.71	-7.07	-1.05	-25.00	-53.83
359.80	-79.41	-75.97	-1.51	-1.93	-25.00	-54.41
507.24	-78.35	-74.36	-1.48	-2.51	-25.00	-53.35
643.04	-77.22	-73.06	-1.54	-2.62	-25.00	-52.22
842.86	-74.24	-69.45	-1.72	-3.07	-25.00	-49.24
5120.00	-50.00	-55.07	12.10	-7.03	-25.00	-25.00

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Radiated Spurious Emission Measurement Result: LTE-Band 12 (The Worst Case)

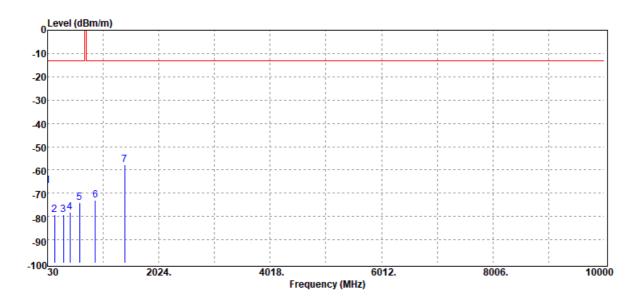
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :704 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
32.91	-66.74	-45.68	-20.49	-0.57	-13.00	-53.74
156.10	-79.07	-70.50	-7.26	-1.31	-13.00	-66.07
314.21	-79.21	-75.95	-1.59	-1.67	-13.00	-66.21
430.61	-78.25	-74.74	-1.67	-1.84	-13.00	-65.25
604.24	-74.15	-69.77	-1.98	-2.40	-13.00	-61.15
883.60	-72.84	-68.57	-1.71	-2.56	-13.00	-59.84
1408.00	-57.77	-61.99	7.92	-3.70	-13.00	-44.77

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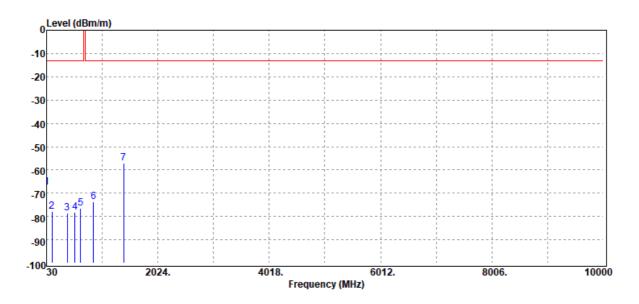
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :704 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-67.57	-46.51	-20.49	-0.57	-13.00	-54.57
127.00	-77.81	-69.57	-7.16	-1.08	-13.00	-64.81
403.45	-78.47	-74.95	-1.59	-1.93	-13.00	-65.47
542.16	-78.05	-74.48	-1.40	-2.17	-13.00	-65.05
643.04	-76.64	-72.48	-1.54	-2.62	-13.00	-63.64
871.96	-73.80	-69.62	-1.67	-2.51	-13.00	-60.80
1408.00	-56.97	-61.19	7.92	-3.70	-13.00	-43.97

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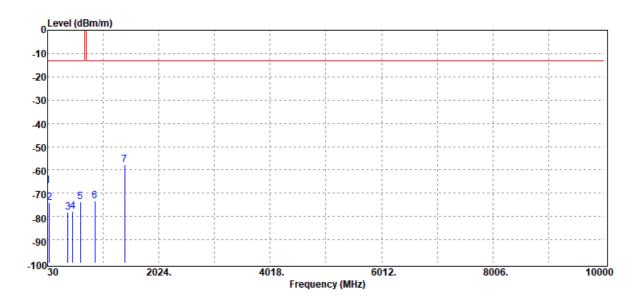
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :707.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.80	-45.74	-20.49	-0.57	-13.00	-53.80
65.89	-74.04	-59.86	-13.40	-0.78	-13.00	-61.04
391.81	-78.13	-74.54	-1.62	-1.97	-13.00	-65.13
479.11	-77.70	-74.01	-1.44	-2.25	-13.00	-64.70
618.79	-73.73	-69.47	-1.73	-2.53	-13.00	-60.73
875.84	-73.24	-69.03	-1.71	-2.50	-13.00	-60.24
1415.00	-57.68	-61.91	7.93	-3.70	-13.00	-44.68

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:707.5 MHz

Test Channel

Report No.: ER/2019/C0150

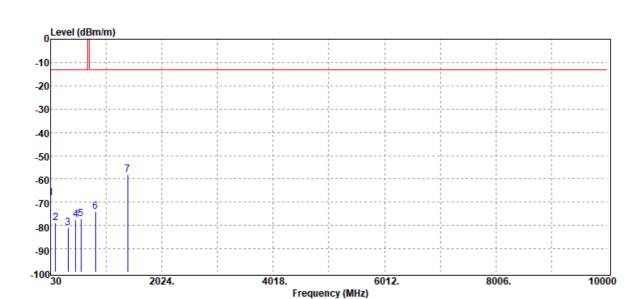
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Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.97	-68.18	-46.62	-21.02	-0.54	-13.00	-55.18
122.15	-78.83	-70.69	-7.10	-1.04	-13.00	-65.83
343.31	-81.10	-77.62	-1.59	-1.89	-13.00	-68.10
479.11	-77.44	-73.75	-1.44	-2.25	-13.00	-64.44
576.11	-77.26	-73.65	-1.55	-2.06	-13.00	-64.26
835.10	-73.97	-69.17	-1.81	-2.99	-13.00	-60.97
1415.00	-58.02	-62.25	7.93	-3.70	-13.00	-45.02

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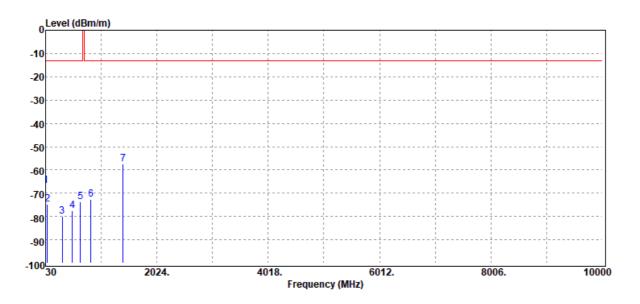
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :711 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-66.84	-46.11	-20.15	-0.58	-13.00	-53.84
65.89	-74.87	-60.69	-13.40	-0.78	-13.00	-61.87
328.76	-79.91	-76.27	-1.73	-1.91	-13.00	-66.91
507.24	-77.41	-73.42	-1.48	-2.51	-13.00	-64.41
655.65	-73.82	-69.33	-1.42	-3.07	-13.00	-60.82
839.95	-72.71	-67.93	-1.75	-3.03	-13.00	-59.71
1422.00	-57.35	-61.58	7.94	-3.71	-13.00	-44.35

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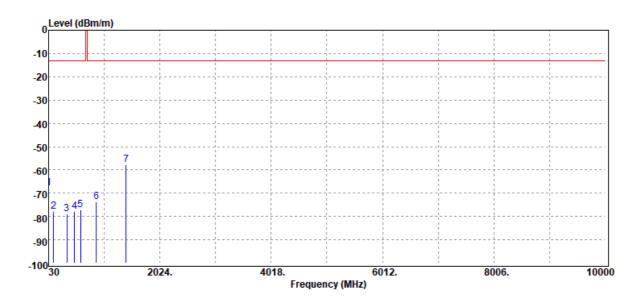
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B12 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :711 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-67.87	-46.15	-21.20	-0.52	-13.00	-54.87
119.24	-77.80	-69.67	-7.11	-1.02	-13.00	-64.80
357.86	-78.88	-75.44	-1.52	-1.92	-13.00	-65.88
493.66	-77.90	-74.09	-1.55	-2.26	-13.00	-64.90
605.21	-77.19	-72.77	-2.00	-2.42	-13.00	-64.19
888.45	-73.81	-69.43	-1.73	-2.65	-13.00	-60.81
1422.00	-57.82	-62.05	7.94	-3.71	-13.00	-44.82

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Radiated Spurious Emission Measurement Result: LTE-Band 13 (The Worst Case)

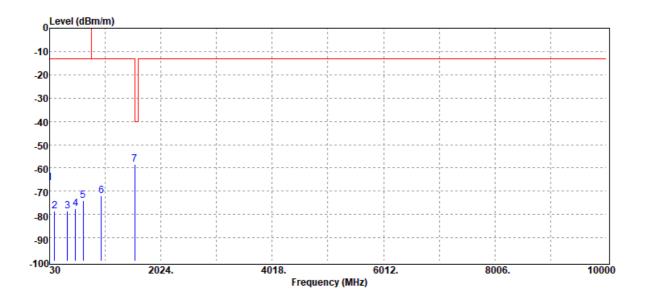
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.56	-45.50	-20.49	-0.57	-13.00	-53.56
117.30	-78.44	-70.33	-7.09	-1.02	-13.00	-65.44
348.16	-78.71	-75.32	-1.50	-1.89	-13.00	-65.71
493.66	-77.65	-73.84	-1.55	-2.26	-13.00	-64.65
634.31	-74.01	-69.95	-1.59	-2.47	-13.00	-61.01
954.41	-71.95	-66.76	-1.93	-3.26	-13.00	-58.95
1559.00	-58.51	-63.74	9.12	-3.89	-40.00	-18.51

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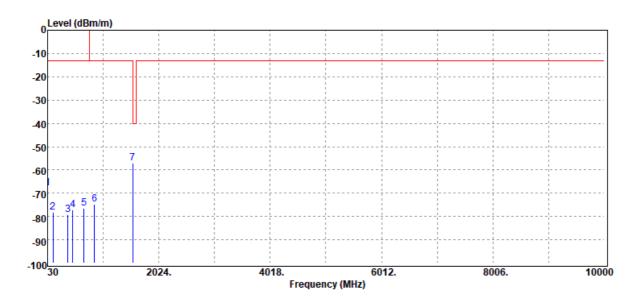
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-67.93	-46.87	-20.49	-0.57	-13.00	-54.93
125.06	-78.31	-70.15	-7.10	-1.06	-13.00	-65.31
393.75	-79.38	-75.81	-1.61	-1.96	-13.00	-66.38
479.11	-77.05	-73.36	-1.44	-2.25	-13.00	-64.05
679.90	-76.53	-72.72	-1.29	-2.52	-13.00	-63.53
870.99	-74.58	-70.41	-1.66	-2.51	-13.00	-61.58
1559.00	-56.96	-62.19	9.12	-3.89	-40.00	-16.96

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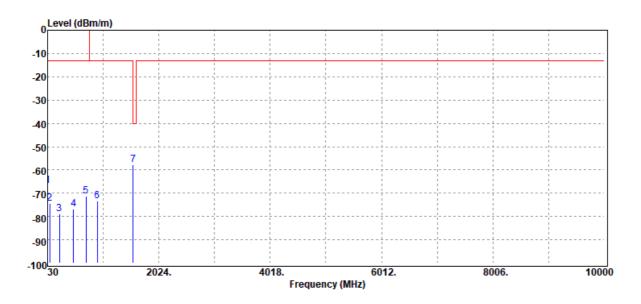
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :782 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.88	-66.94	-46.21	-20.15	-0.58	-13.00	-53.94
66.86	-74.33	-60.39	-13.15	-0.79	-13.00	-61.33
241.46	-78.85	-75.69	-1.72	-1.44	-13.00	-65.85
492.69	-76.83	-73.04	-1.55	-2.24	-13.00	-63.83
716.76	-71.29	-67.43	-1.36	-2.50	-13.00	-58.29
917.55	-73.22	-68.49	-1.89	-2.84	-13.00	-60.22
1564.00	-57.83	-63.06	9.13	-3.90	-40.00	-17.83

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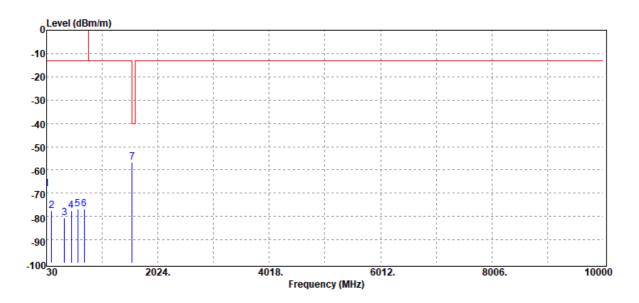
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :782 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.24	-47.18	-20.49	-0.57	-13.00	-55.24
123.12	-77.55	-69.47	-7.04	-1.04	-13.00	-64.55
348.16	-80.52	-77.13	-1.50	-1.89	-13.00	-67.52
476.20	-77.36	-73.62	-1.49	-2.25	-13.00	-64.36
590.66	-76.86	-73.18	-1.72	-1.96	-13.00	-63.86
706.09	-76.69	-72.77	-1.29	-2.63	-13.00	-63.69
1564.00	-56.79	-62.02	9.13	-3.90	-40.00	-16.79

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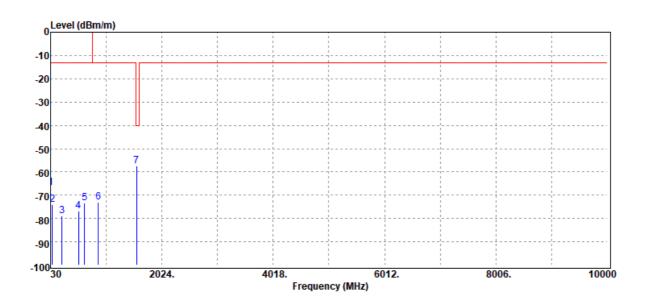
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.67	-45.61	-20.49	-0.57	-13.00	-53.67
65.89	-74.13	-59.95	-13.40	-0.78	-13.00	-61.13
238.55	-78.75	-75.60	-1.71	-1.44	-13.00	-65.75
530.52	-76.85	-73.09	-1.44	-2.32	-13.00	-63.85
638.19	-73.49	-69.46	-1.54	-2.49	-13.00	-60.49
886.51	-73.04	-68.71	-1.72	-2.61	-13.00	-60.04
1569.00	-57.57	-62.81	9.14	-3.90	-40.00	-17.57

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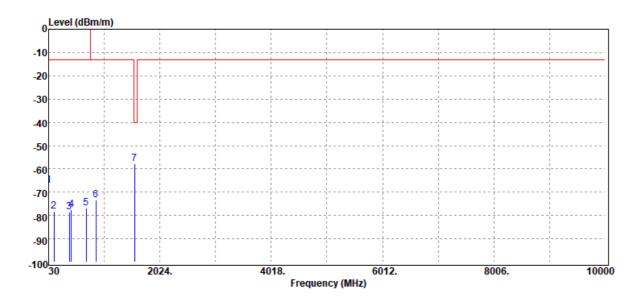
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
32.91	-67.09	-46.03	-20.49	-0.57	-13.00	-54.09
125.06	-78.03	-69.87	-7.10	-1.06	-13.00	-65.03
398.60	-78.62	-75.09	-1.60	-1.93	-13.00	-65.62
440.31	-77.38	-73.79	-1.76	-1.83	-13.00	-64.38
704.15	-76.73	-72.82	-1.29	-2.62	-13.00	-63.73
880.69	-73.32	-69.07	-1.74	-2.51	-13.00	-60.32
1569.00	-57.66	-62.90	9.14	-3.90	-40.00	-17.66

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Radiated Spurious Emission Measurement Result: LTE-Band 13 (763~775MHz)

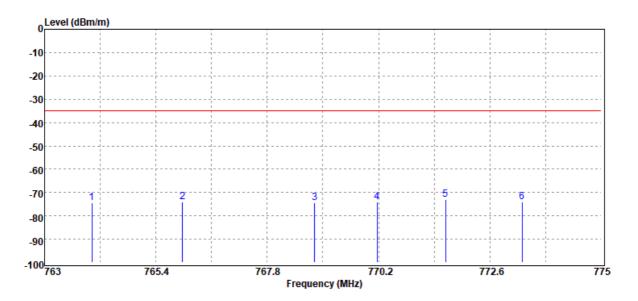
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.02	-74.54	-70.15	-1.78	-2.61	-35.00	-39.54
765.98	-74.11	-69.75	-1.76	-2.60	-35.00	-39.11
768.82	-74.41	-70.10	-1.72	-2.59	-35.00	-39.41
770.16	-74.22	-69.93	-1.71	-2.58	-35.00	-39.22
771.64	-72.98	-68.66	-1.72	-2.60	-35.00	-37.98
773.30	-74.18	-69.83	-1.74	-2.61	-35.00	-39.18

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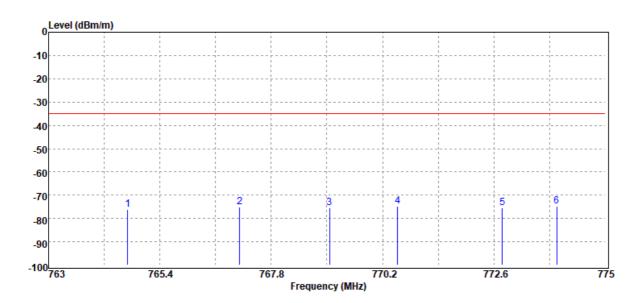
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.70	-76.08	-71.70	-1.77	-2.61	-35.00	-41.08
767.12	-75.22	-70.88	-1.74	-2.60	-35.00	-40.22
769.06	-75.56	-71.26	-1.72	-2.58	-35.00	-40.56
770.52	-74.58	-70.29	-1.71	-2.58	-35.00	-39.58
772.78	-75.50	-71.16	-1.73	-2.61	-35.00	-40.50
773.96	-74.81	-70.45	-1.74	-2.62	-35.00	-39.81

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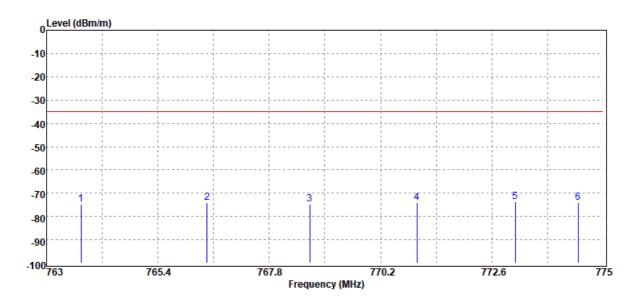
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :782 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.74	-74.85	-70.46	-1.78	-2.61	-35.00	-39.85
766.46	-73.98	-69.63	-1.75	-2.60	-35.00	-38.98
768.68	-74.87	-70.55	-1.73	-2.59	-35.00	-39.87
770.98	-73.88	-69.57	-1.72	-2.59	-35.00	-38.88
773.10	-73.75	-69.41	-1.73	-2.61	-35.00	-38.75
774.46	-73.98	-69.61	-1.75	-2.62	-35.00	-38.98

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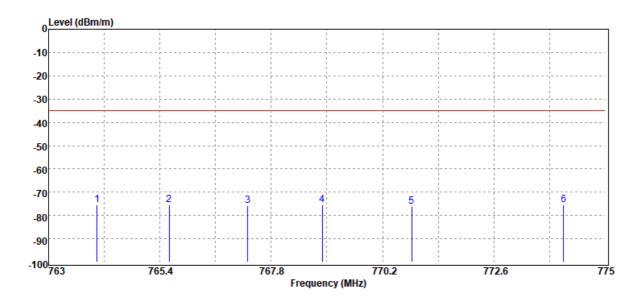
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas





Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.04	-75.46	-71.07	-1.78	-2.61	-35.00	-40.46
765.60	-75.45	-71.09	-1.76	-2.60	-35.00	-40.45
767.30	-75.94	-71.61	-1.74	-2.59	-35.00	-40.94
768.90	-75.36	-71.05	-1.72	-2.59	-35.00	-40.36
770.82	-76.07	-71.76	-1.72	-2.59	-35.00	-41.07
774.10	-75.52	-71.16	-1.74	-2.62	-35.00	-40.52

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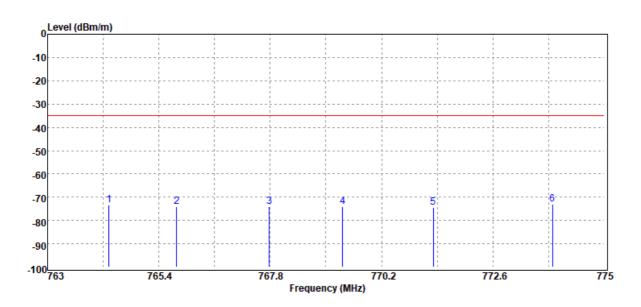
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.32	-73.22	-68.83	-1.78	-2.61	-35.00	-38.22
765.78	-74.02	-69.66	-1.76	-2.60	-35.00	-39.02
767.78	-73.89	-69.56	-1.74	-2.59	-35.00	-38.89
769.36	-74.04	-69.74	-1.72	-2.58	-35.00	-39.04
771.32	-74.27	-69.96	-1.72	-2.59	-35.00	-39.27
773.88	-72.90	-68.54	-1.74	-2.62	-35.00	-37.90

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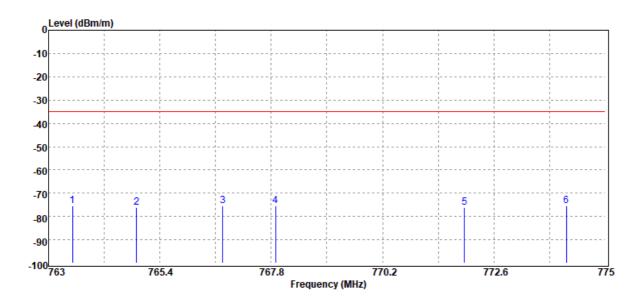
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.52	-75.31	-70.92	-1.78	-2.61	-35.00	-40.31
764.90	-76.08	-71.70	-1.77	-2.61	-35.00	-41.08
766.76	-75.36	-71.01	-1.75	-2.60	-35.00	-40.36
767.90	-75.52	-71.19	-1.74	-2.59	-35.00	-40.52
771.96	-76.01	-71.68	-1.73	-2.60	-35.00	-41.01
774.16	-75.56	-71.20	-1.74	-2.62	-35.00	-40.56

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Radiated Spurious Emission Measurement Result: LTE-Band 13 (793~805MHz)

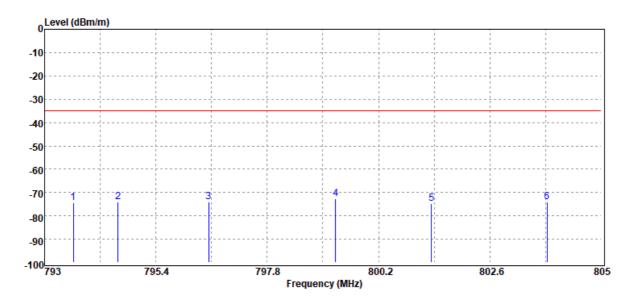
:ER/2019/C0150 Report Number **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.62	-74.25	-69.55	-1.65	-3.05	-35.00	-39.25
794.58	-74.20	-69.51	-1.63	-3.06	-35.00	-39.20
796.54	-73.92	-69.21	-1.61	-3.10	-35.00	-38.92
799.28	-72.80	-68.07	-1.59	-3.14	-35.00	-37.80
801.34	-74.73	-69.98	-1.59	-3.16	-35.00	-39.73
803.84	-74.21	-69.44	-1.61	-3.16	-35.00	-39.21

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Chiess curie with a stated with a state of the samples of the sam Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law

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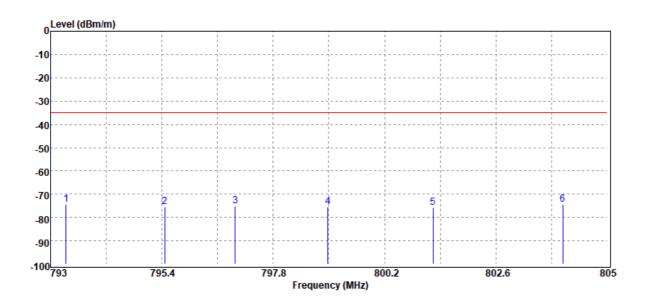
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :779.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.34	-74.34	-69.65	-1.65	-3.04	-35.00	-39.34
795.46	-75.42	-70.71	-1.63	-3.08	-35.00	-40.42
796.98	-75.16	-70.45	-1.61	-3.10	-35.00	-40.16
798.98	-75.49	-70.76	-1.59	-3.14	-35.00	-40.49
801.24	-75.73	-70.98	-1.59	-3.16	-35.00	-40.73
804.04	-74.41	-69.64	-1.61	-3.16	-35.00	-39.41

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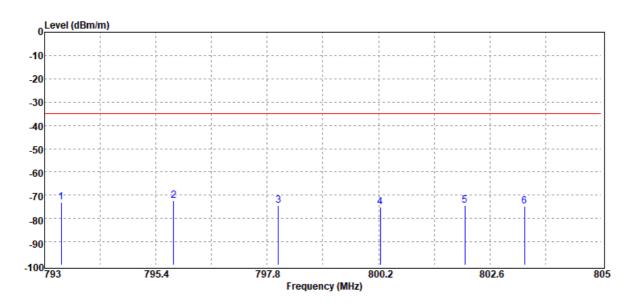
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :782 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.36	-72.99	-68.30	-1.65	-3.04	-35.00	-37.99
795.78	-72.46	-67.76	-1.62	-3.08	-35.00	-37.46
798.04	-74.49	-69.77	-1.60	-3.12	-35.00	-39.49
800.24	-74.94	-70.20	-1.58	-3.16	-35.00	-39.94
802.06	-74.36	-69.60	-1.60	-3.16	-35.00	-39.36
803.34	-74.67	-69.90	-1.61	-3.16	-35.00	-39.67

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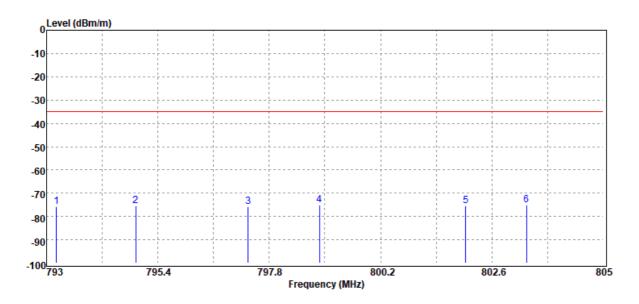
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :782 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.22	-75.70	-71.01	-1.65	-3.04	-35.00	-40.70
794.92	-75.53	-70.83	-1.63	-3.07	-35.00	-40.53
797.34	-75.81	-71.09	-1.61	-3.11	-35.00	-40.81
798.88	-75.16	-70.43	-1.59	-3.14	-35.00	-40.16
802.04	-75.54	-70.78	-1.60	-3.16	-35.00	-40.54
803.34	-75.20	-70.43	-1.61	-3.16	-35.00	-40.20

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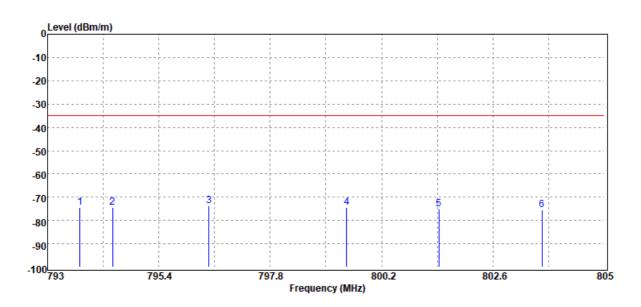
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.70	-74.40	-69.70	-1.65	-3.05	-35.00	-39.40
794.40	-74.48	-69.78	-1.64	-3.06	-35.00	-39.48
796.48	-73.68	-68.97	-1.62	-3.09	-35.00	-38.68
799.44	-74.47	-69.73	-1.59	-3.15	-35.00	-39.47
801.44	-74.93	-70.18	-1.59	-3.16	-35.00	-39.93
803.66	-75.28	-70.51	-1.61	-3.16	-35.00	-40.28

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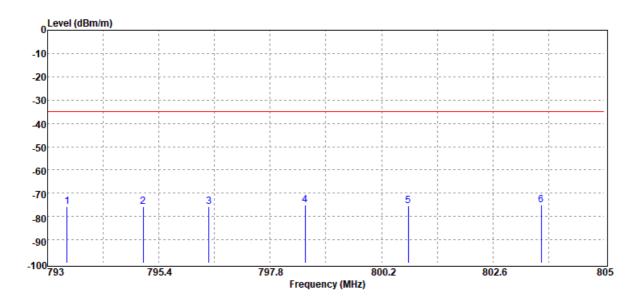
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B13 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :784.5 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.42	-75.90	-71.21	-1.65	-3.04	-35.00	-40.90
795.06	-75.77	-71.07	-1.63	-3.07	-35.00	-40.77
796.48	-75.62	-70.91	-1.62	-3.09	-35.00	-40.62
798.56	-75.24	-70.52	-1.59	-3.13	-35.00	-40.24
800.78	-75.34	-70.59	-1.59	-3.16	-35.00	-40.34
803.64	-75.11	-70.34	-1.61	-3.16	-35.00	-40.11

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Radiated Spurious Emission Measurement Result: LTE-Band 17 (The Worst Case)

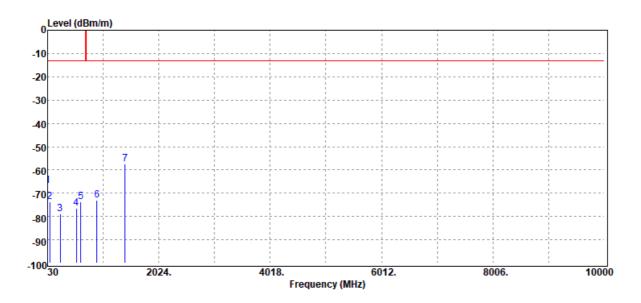
:2020-01-17 Report Number :ER/2019/C0150 **Test Date**

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :709 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
32.91	-66.73	-45.67	-20.49	-0.57	-13.00	-53.73
66.86	-73.84	-59.90	-13.15	-0.79	-13.00	-60.84
255.04	-78.92	-75.75	-1.61	-1.56	-13.00	-65.92
548.95	-76.58	-72.94	-1.43	-2.21	-13.00	-63.58
628.49	-73.78	-69.68	-1.64	-2.46	-13.00	-60.78
915.61	-73.05	-68.39	-1.83	-2.83	-13.00	-60.05
1418.00	-57.46	-61.69	7.94	-3.71	-13.00	-44.46

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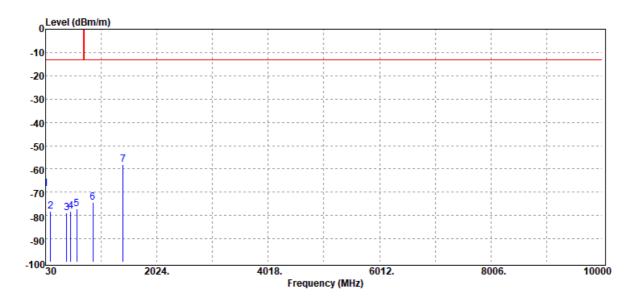
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :709 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.58	-46.86	-21.20	-0.52	-13.00	-55.58
122.15	-78.36	-70.22	-7.10	-1.04	-13.00	-65.36
406.36	-78.73	-75.21	-1.59	-1.93	-13.00	-65.73
479.11	-78.21	-74.52	-1.44	-2.25	-13.00	-65.21
589.69	-77.00	-73.35	-1.71	-1.94	-13.00	-64.00
875.84	-74.42	-70.21	-1.71	-2.50	-13.00	-61.42
1418.00	-58.25	-62.48	7.94	-3.71	-13.00	-45.25

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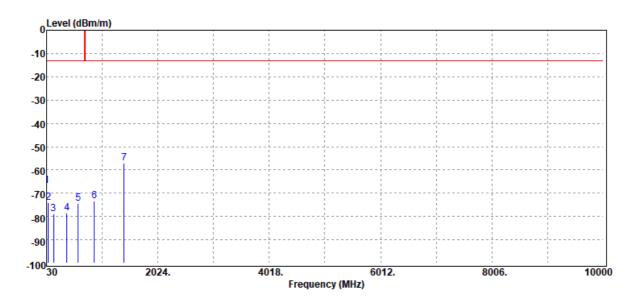
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :710 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.95	-45.89	-20.49	-0.57	-13.00	-53.95
65.89	-74.14	-59.96	-13.40	-0.78	-13.00	-61.14
156.10	-78.74	-70.17	-7.26	-1.31	-13.00	-65.74
396.66	-78.60	-75.05	-1.61	-1.94	-13.00	-65.60
597.45	-74.28	-70.27	-1.81	-2.20	-13.00	-61.28
881.66	-73.31	-69.05	-1.73	-2.53	-13.00	-60.31
1420.00	-57.11	-61.34	7.94	-3.71	-13.00	-44.11

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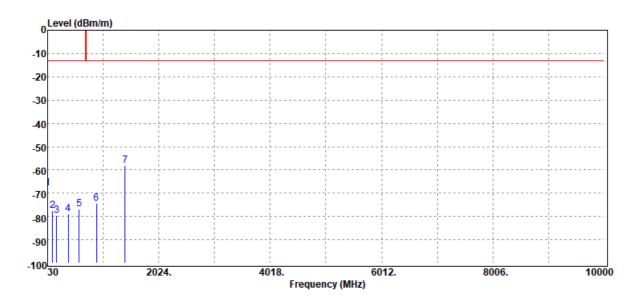
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :710 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
30.00	-67.70	-45.98	-21.20	-0.52	-13.00	-54.70
122.15	-77.65	-69.51	-7.10	-1.04	-13.00	-64.65
191.99	-79.61	-75.49	-2.77	-1.35	-13.00	-66.61
401.51	-78.73	-75.21	-1.60	-1.92	-13.00	-65.73
597.45	-76.67	-72.66	-1.81	-2.20	-13.00	-63.67
905.91	-74.48	-69.84	-1.82	-2.82	-13.00	-61.48
1420.00	-58.04	-62.27	7.94	-3.71	-13.00	-45.04

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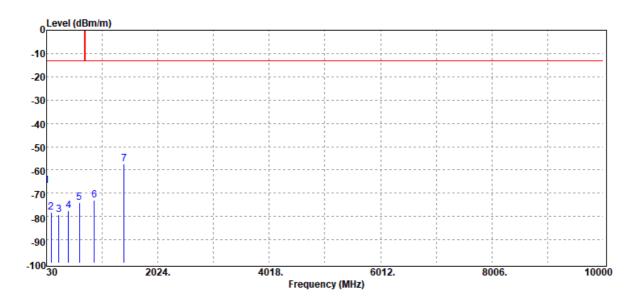
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :711 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.62	-45.56	-20.49	-0.57	-13.00	-53.62
115.36	-78.30	-70.14	-7.14	-1.02	-13.00	-65.30
248.25	-79.36	-76.20	-1.67	-1.49	-13.00	-66.36
422.85	-77.35	-73.80	-1.62	-1.93	-13.00	-64.35
616.85	-74.15	-69.81	-1.80	-2.54	-13.00	-61.15
886.51	-73.08	-68.75	-1.72	-2.61	-13.00	-60.08
1422.00	-57.45	-61.68	7.94	-3.71	-13.00	-44.45

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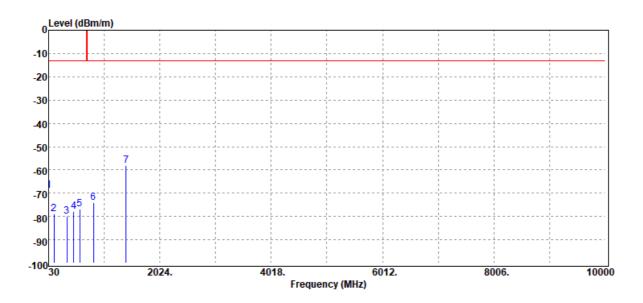
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B17 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :711 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-68.98	-47.92	-20.49	-0.57	-13.00	-55.98
128.94	-78.95	-70.63	-7.23	-1.09	-13.00	-65.95
361.74	-80.10	-76.64	-1.54	-1.92	-13.00	-67.10
483.96	-78.01	-74.27	-1.51	-2.23	-13.00	-65.01
590.66	-76.88	-73.20	-1.72	-1.96	-13.00	-63.88
835.10	-74.06	-69.26	-1.81	-2.99	-13.00	-61.06
1422.00	-58.21	-62.44	7.94	-3.71	-13.00	-45.21

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Radiated Spurious Emission Measurement Result: LTE-Band 38 (The Worst Case)

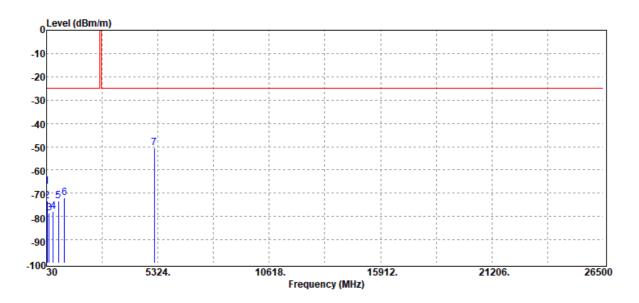
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :2580 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-66.99	-46.50	-19.90	-0.59	-25.00	-41.99
66.86	-73.36	-59.42	-13.15	-0.79	-25.00	-48.36
153.19	-78.63	-69.91	-7.46	-1.26	-25.00	-53.63
348.16	-77.75	-74.36	-1.50	-1.89	-25.00	-52.75
597.45	-73.49	-69.48	-1.81	-2.20	-25.00	-48.49
885.54	-71.98	-67.67	-1.71	-2.60	-25.00	-46.98
5160.00	-50.47	-55.50	12.14	-7.11	-25.00	-25.47

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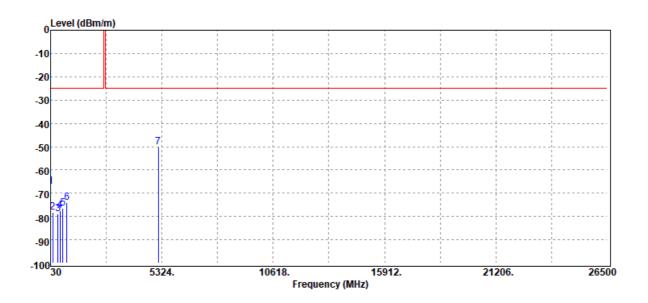
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2580 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	<u> </u>	<u> </u>		<u> </u>		
32.91	-66.99	-45.93	-20.49	-0.57	-25.00	-41.99
129.91	-78.21	-69.85	-7.26	-1.10	-25.00	-53.21
382.11	-78.95	-75.38	-1.64	-1.93	-25.00	-53.95
481.05	-77.35	-73.67	-1.44	-2.24	-25.00	-52.35
616.85	-76.36	-72.02	-1.80	-2.54	-25.00	-51.36
796.30	-73.95	-69.24	-1.62	-3.09	-25.00	-48.95
5160.00	-50.07	-55.10	12.14	-7.11	-25.00	-25.07

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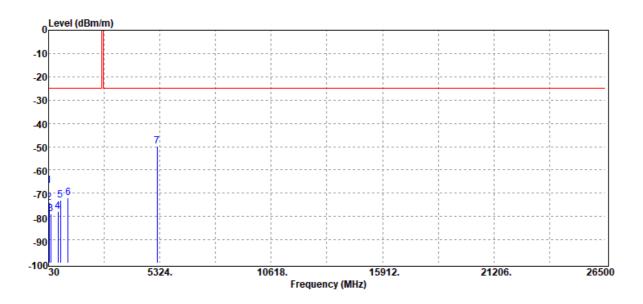
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2595 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.71	-45.65	-20.49	-0.57	-25.00	-41.71
66.86	-74.07	-60.13	-13.15	-0.79	-25.00	-49.07
143.49	-78.96	-69.85	-7.95	-1.16	-25.00	-53.96
473.29	-77.99	-74.22	-1.51	-2.26	-25.00	-52.99
595.51	-73.15	-69.26	-1.76	-2.13	-25.00	-48.15
964.11	-71.86	-66.71	-1.86	-3.29	-25.00	-46.86
5190.00	-49.91	-55.00	12.26	-7.17	-25.00	-24.91

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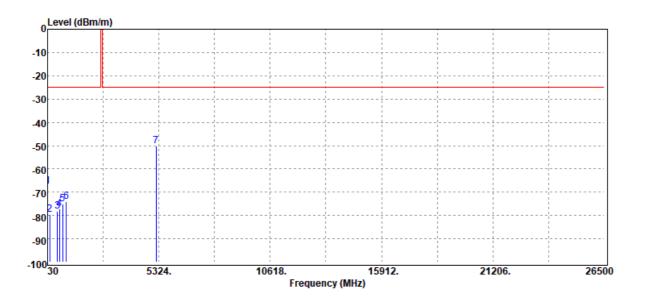
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2595 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
32.91	-67.46	-46.40	-20.49	-0.57	-25.00	-42.46
129.91	-79.54	-71.18	-7.26	-1.10	-25.00	-54.54
490.75	-78.07	-74.31	-1.54	-2.22	-25.00	-53.07
602.30	-77.32	-73.03	-1.94	-2.35	-25.00	-52.32
747.80	-75.19	-70.92	-1.82	-2.45	-25.00	-50.19
929.19	-74.22	-69.44	-1.88	-2.90	-25.00	-49.22
5190.00	-50.26	-55.35	12.26	-7.17	-25.00	-25.26

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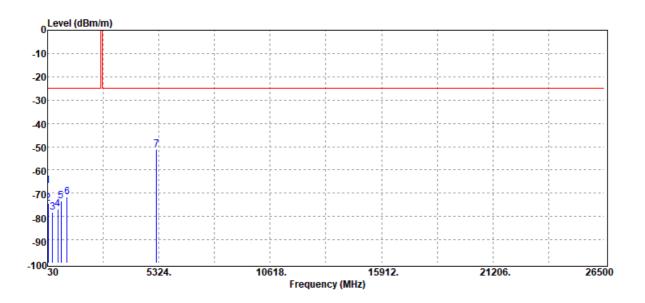
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2610 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.88	-45.82	-20.49	-0.57	-25.00	-41.88
66.86	-74.25	-60.31	-13.15	-0.79	-25.00	-49.25
260.86	-78.29	-75.01	-1.66	-1.62	-25.00	-53.29
510.15	-76.98	-72.91	-1.49	-2.58	-25.00	-51.98
667.29	-73.44	-69.10	-1.30	-3.04	-25.00	-48.44
966.05	-71.69	-66.56	-1.86	-3.27	-25.00	-46.69
5220.00	-51.05	-56.32	12.46	-7.19	-25.00	-26.05

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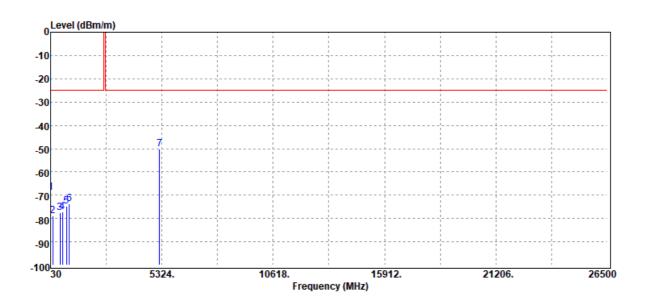
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B38 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2610 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
	u Diii	uDiii	abii aba	45	GDIII	45
32.91	-68.75	-47.69	-20.49	-0.57	-25.00	-43.75
127.00	-79.04	-70.80	-7.16	-1.08	-25.00	-54.04
482.99	-77.60	-73.88	-1.49	-2.23	-25.00	-52.60
604.24	-77.11	-72.73	-1.98	-2.40	-25.00	-52.11
781.75	-74.79	-70.38	-1.68	-2.73	-25.00	-49.79
920.46	-73.75	-68.94	-1.96	-2.85	-25.00	-48.75
5220.00	-50.02	-55.29	12.46	-7.19	-25.00	-25.02

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Radiated Spurious Emission Measurement Result: LTE-Band 41 (The Worst Case)

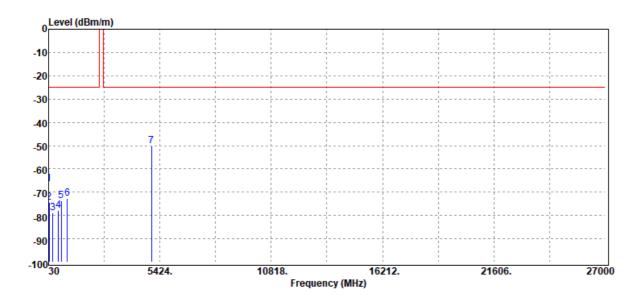
:ER/2019/C0150 :2020-01-17 Report Number **Test Date**

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH Low Antenna Pol. :VERTICAL

EUT Pol :H Plane Engineer :Thomas

Test Channel :2506 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable	Limit	Margin
MHz	dBm	dBm	dBi/dBd	Loss dB	dBm	dB
00.04	00.40	45.40	00.40	0.57	05.00	44.40
32.91	-66.48	-45.42	-20.49	-0.57	-25.00	-41.48
68.80	-74.33	-61.08	-12.45	-0.80	-25.00	-49.33
238.55	-78.85	-75.70	-1.71	-1.44	-25.00	-53.85
503.36	-77.95	-74.06	-1.47	-2.42	-25.00	-52.95
636.25	-73.71	-69.67	-1.56	-2.48	-25.00	-48.71
939.86	-72.83	-67.83	-1.98	-3.02	-25.00	-47.83
5012.00	-50.24	-55.57	12.35	-7.02	-25.00	-25.24

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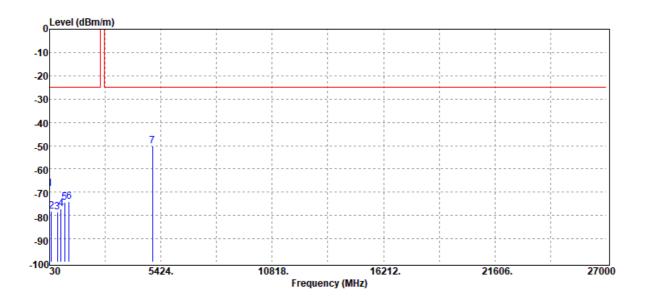
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH Low :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2506 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
32.91	-68.35	-47.29	-20.49	-0.57	-25.00	-43.35
124.09	-78.17	-70.05	-7.07	-1.05	-25.00	-53.17
401.51	-78.55	-75.03	-1.60	-1.92	-25.00	-53.55
594.54	-77.05	-73.20	-1.75	-2.10	-25.00	-52.05
769.14	-74.26	-69.96	-1.72	-2.58	-25.00	-49.26
973.81	-73.90	-68.84	-1.79	-3.27	-25.00	-48.90
5012.00	-50.34	-55.67	12.35	-7.02	-25.00	-25.34

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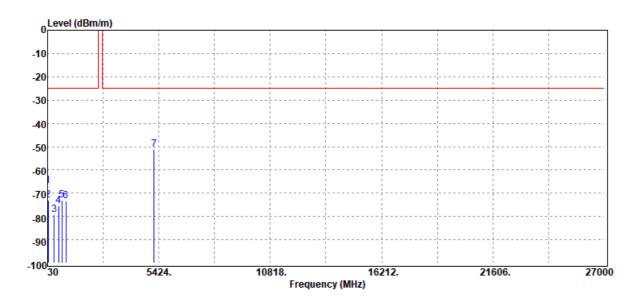
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2593 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.89	-45.83	-20.49	-0.57	-25.00	-41.89
66.86	-73.16	-59.22	-13.15	-0.79	-25.00	-48.16
347.19	-79.08	-75.66	-1.53	-1.89	-25.00	-54.08
561.56	-75.42	-71.74	-1.39	-2.29	-25.00	-50.42
723.55	-73.15	-69.45	-1.35	-2.35	-25.00	-48.15
920.46	-73.23	-68.42	-1.96	-2.85	-25.00	-48.23
5186.00	-51.04	-56.12	12.24	-7.16	-25.00	-26.04

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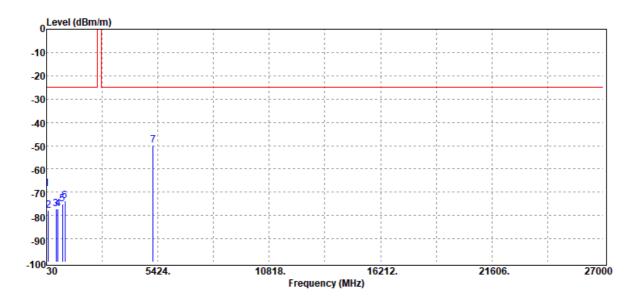
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH Mid :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2593 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.37	-46.65	-21.20	-0.52	-25.00	-43.37
120.21	-77.91	-69.83	-7.06	-1.02	-25.00	-52.91
479.11	-77.30	-73.61	-1.44	-2.25	-25.00	-52.30
589.69	-77.14	-73.49	-1.71	-1.94	-25.00	-52.14
791.45	-75.01	-70.33	-1.67	-3.01	-25.00	-50.01
915.61	-73.76	-69.10	-1.83	-2.83	-25.00	-48.76
5186.00	-49.86	-54.94	12.24	-7.16	-25.00	-24.86

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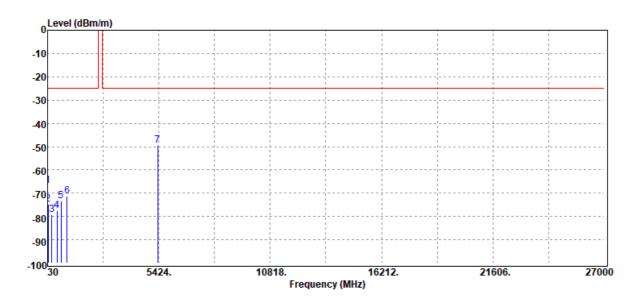
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH High :VERTICAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2680 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
32.91	-66.77	-45.71	-20.49	-0.57	-25.00	-41.77
65.89	-74.57	-60.39	-13.40	-0.78	-25.00	-49.57
236.61	-79.16	-76.04	-1.66	-1.46	-25.00	-54.16
482.99	-77.40	-73.68	-1.49	-2.23	-25.00	-52.40
681.84	-73.46	-69.65	-1.30	-2.51	-25.00	-48.46
967.99	-71.20	-66.06	-1.88	-3.26	-25.00	-46.20
5360.00	-49.65	-55.25	12.90	-7.30	-25.00	-24.65

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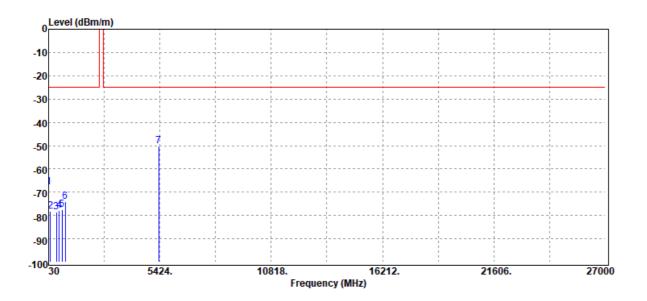
Report Number :ER/2019/C0150 **Test Date** :2020-01-17

Operation Mode :LTE B41 Temp./Humi. :21.6/65

Test Mode :Tx CH High :HORIZONTAL Antenna Pol.

EUT Pol :H Plane Engineer :Thomas

Test Channel :2680 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
IVII IZ	UDIII	UDIII	ubi/ubu	uБ	ubili	<u>ub</u>
32.91	-67.84	-46.78	-20.49	-0.57	-25.00	-42.84
124.09	-78.09	-69.97	-7.07	-1.05	-25.00	-53.09
413.15	-78.49	-74.96	-1.58	-1.95	-25.00	-53.49
553.80	-77.78	-74.08	-1.45	-2.25	-25.00	-52.78
682.81	-77.38	-73.56	-1.31	-2.51	-25.00	-52.38
842.86	-74.06	-69.27	-1.72	-3.07	-25.00	-49.06
5360.00	-50.32	-55.92	12.90	-7.30	-25.00	-25.32

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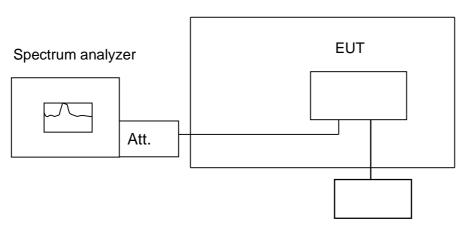
FREQUENCY STABILITY MEASUREMENT

10.1. Standard Applicabl

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

10.2. Test Set-up

Temperature Chamber



Variable DC Power Supply

Note: Measurement setup for testing on Antenna connector

10.3. Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 25°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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10.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUM- BER	SERIAL NUM- BER	LAST CAL.	CAL DUE.
Radio Communication Analyer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2019	05/16/2020
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	02/13/2019	02/12/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

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10.5. Measurement Result

	GPRS	8 850 Mid Channel	836.6	MHz			
Limit: +/- 2.5 ppm							
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)			
	FREQUE	NCY ERROR vs. V	OLTAGE				
4	20	836.599999	-1	2091			
3.85	20	836.599999	-1	2091			
3.7	20	836.599992	-8	2091			
3.09 (End point)	20	836.59999	-10	2091			
FREQUENCY ERROR vs. Temp.							
3.85	50	836.599992	-8	2091			
3.85	40	836.600009	9	2091			
3.85	30	836.599996	-4	2091			
3.85	20	836.600005	5	2091			
3.85	10	836.599991	-9	2091			
3.85	0	836.599991	-9	2091			
3.85	-10	836.599997	-3	2091			
3.85	-20	836.600005	5	2091			
3.85	-30	836.600002	2	2091			

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GPRS 1900 Mid Channel 1880 MHz								
	Limit: +/- 2.5 ppm							
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)				
	FREQUE	NCY ERROR vs. V	OLTAGE	, ,				
4	20	1880.000007	7	4700				
3.85	20	1879.999991	-9	4700				
3.7	20	1880.000001	1	4700				
3.09 (End point)	20	1879.999994	-6	4700				
FREQUENCY ERROR vs. Temp.								
3.85	50	1880.000009	9	4700				
3.85	40	1880	0	4700				
3.85	30	1880.000003	3	4700				
3.85	20	1880.000007	7	4700				
3.85	10	1880.000005	5	4700				
3.85	0	1879.999991	-9	4700				
3.85	-10	1880.000004	4	4700				
3.85	-20	1879.999996	-4	4700				
3.85	-30	1880.000008	8	4700				

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	WCDI	MA II Mid Channel	1880	MHz			
Limit: +/- 2.5 ppm							
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)			
	FREQUE	NCY ERROR vs. V	OLTAGE				
4	20	1880.000002	2	4700			
3.85	20	1879.999998	-2	4700			
3.7	20	1880.000002	2	4700			
3.09 (End point)	20	1879.99999	-10	4700			
FREQUENCY ERROR vs. Temp.							
3.85	50	1880.00001	10	4700			
3.85	40	1880.000008	8	4700			
3.85	30	1879.999996	-4	4700			
3.85	20	1880.000007	7	4700			
3.85	10	1879.999991	-9	4700			
3.85	0	1880.000005	5	4700			
3.85	-10	1879.999997	-3	4700			
3.85	-20	1880.000007	7	4700			
3.85	-30	1879.999997	-3	4700			

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	WCDN	MA IV Mid Channel	1732.6	MHz				
	Limit: +/- 2.5 ppm							
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)				
	FREQUE	NCY ERROR vs. V	OLTAGE					
4	20	1732.599997	-3	4331				
3.85	20	1732.599995	-5	4331				
3.7	20	1732.599995	-5	4331				
3.09 (End point)	20	1732.600007	7	4331				
FREQUENCY ERROR vs. Temp.								
3.85	50	1732.6	0	4331				
3.85	40	1732.600002	2	4331				
3.85	30	1732.599992	-8	4331				
3.85	20	1732.599999	-1	4331				
3.85	10	1732.599998	-2	4331				
3.85	0	1732.600001	1	4331				
3.85	-10	1732.599999	-1	4331				
3.85	-20	1732.600002	2	4331				
3.85	-30	1732.599991	-9	4331				

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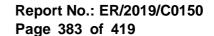
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WCDMA V Mid Channel 836.6 MHz					
Limit: +/- 2.5 ppm					
Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit (Hz)	
	FREQUE	NCY ERROR vs. V	OLTAGE		
4	20	836.59999	-10	2091	
3.85	20	836.599994	-6	2091	
3.7	20	836.600009	9	2091	
3.09 (End point)	20	836.599995	-5	2091	
	FREQU	ENCY ERROR vs.	. Temp.		
3.85	50	836.599999	-1	2091	
3.85	40	836.599998	-2	2091	
3.85	30	836.600002	2	2091	
3.85	20	836.599995	-5	2091	
3.85	10	836.599992	-8	2091	
3.85	0	836.599991	-9	2091	
3.85	-10	836.600004	4	2091	
3.85	-20	836.600005	5	2091	
3.85	-30	836.600002	2	2091	

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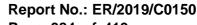




Reference Freq.:		B2 Mid annel	1880	MHz 20M QPSK CH 18900
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. V	OLTAGE	
4	25	1879.999990	-10	4700
3.85	25	1880.000005	5	4700
3.7	25	1880.000005	5	4700
3.1 (End Point)	25	1880.000005	5	4700
	Fre	q. ERROR vs.	Temp.	
3.85	-30	1880.000005	5	4700
3.85	-20	1880.000007	7	4700
3.85	-10	1879.999996	-4	4700
3.85	0	1880.000001	1	4700
3.85	10	1880.000000	0	4700
3.85	20	1880.000009	9	4700
3.85	30	1880.000003	3	4700
3.85	40	1880.000000	0	4700
3.85	50	1879.999996	-4	4700

Reference Freq.:		B4 Mid nannel	1732.5	MHz 20M QPSK CH 20175
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = \pm /- 2.5 ppm (Hz)
	Freq.	ERROR vs. VC	DLTAGE	
4	25	1732.500008	8	4331
3.85	25	1732.500009	9	4331
3.7	25	1732.499999	-1	4331
3.1 (End Point)	25	1732.499994	-6	4331
	Fre	q. ERROR vs.	Temp.	
3.85	-30	1732.499992	-8	4331
3.85	-20	1732.500004	4	4331
3.85	-10	1732.500008	8	4331
3.85	0	1732.500009	9	4331
3.85	10	1732.499999	-1	4331
3.85	20	1732.499996	-4	4331
3.85	30	1732.500006	6	4331
3.85	40	1732.500004	4	4331
3.85	50	1732.499993	-7	4331

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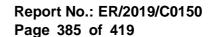
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Reference Freq.:		B5 Mid annel	836.5	MHz 10M QPSK CH 20525
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = \pm - 2.5 ppm (Hz)
	Freq.	ERROR vs. V	OLTAGE	
4	25	836.500003	3	2091
3.85	25	836.500003	3	2091
3.7	25	836.500006	6	2091
3.1 (End Point)	25	836.500003	3	2091
	Fre	q. ERROR vs.	Temp.	
3.85	-30	836.499999	-1	2091
3.85	-20	836.500009	9	2091
3.85	-10	836.500002	2	2091
3.85	0	836.499994	-6	2091
3.85	10	836.500006	6	2091
3.85	20	836.500003	3	2091
3.85	30	836.499992	-8	2091
3.85	40	836.500007	7	2091
3.85	50	836.499995	-5	2091

Reference Freq.:	LTE B7 Mid Channel		2535	MHz 10M QPSK CH 21100			
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)			
	Freq. ERROR vs. VOLTAGE						
4	25	2535.000006	6	6338			
3.85	25	2534.999997	-3	6338			
3.7	25	2534.999993	-7	6338			
3.1 (End Point)	25	2535.000007	7	6338			
	Fre	q. ERROR vs. 7	Гетр.				
3.85	-30	2535.000009	9	6338			
3.85	-20	2534.999996	-4	6338			
3.85	-10	2535.000000	0	6338			
3.85	0	2534.999995	-5	6338			
3.85	10	2535.000005	5	6338			
3.85	20	2535.000008	8	6338			
3.85	30	2535.000008	8	6338			
3.85	40	2535.000007	7	6338			
3.85	50	2534.999998	-2	6338			

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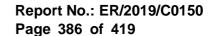




Reference Freq.:		B12 Mid annel	707.5	MHz 10M QPSK CH 23095
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. V	OLTAGE	
4	25	707.499996	-4	1769
3.85	25	707.499996	-4	1769
3.7	25	707.500007	7	1769
3.1 (End Point)	25	707.499998	-2	1769
	Fre	q. ERROR vs.	Temp.	
3.85	-30	707.500007	7	1769
3.85	-20	707.500006	6	1769
3.85	-10	707.499992	-8	1769
3.85	0	707.500008	8	1769
3.85	10	707.500006	6	1769
3.85	20	707.499997	-3	1769
3.85	30	707.499996	-4	1769
3.85	40	707.500007	7	1769
3.85	50	707.500009	9	1769

Reference Freq.:		B13 Mid annel	782	MHz 10M QPSK CH 23230
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. VO	OLTAGE	
4	25	781.999997	-3	1955
3.85	25	782.000005	5	1955
3.7	25	781.999992	-8	1955
3.1 (End Point)	25	781.999994	-6	1955
	Fred	ą. ERROR vs.	Temp.	
3.85	-30	782.000006	6	1955
3.85	-20	782.000004	4	1955
3.85	-10	782.000000	0	1955
3.85	0	782.000001	1	1955
3.85	10	781.999996	-4	1955
3.85	20	781.999998	-2	1955
3.85	30	782.000002	2	1955
3.85	40	781.999994	-6	1955
3.85	50	781.999999	-1	1955

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Reference Freq.:		317 Mid annel	710	MHz 10M QPSK CH 23790
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. VO	OLTAGE	
4	25	710.000005	5	1775
3.85	25	709.999993	-7	1775
3.7	25	709.999994	-6	1775
3.1 (End Point)	25	710.000005	5	1775
	Fred	ą. ERROR vs.	Temp.	
3.85	-30	709.999996	-4	1775
3.85	-20	709.999997	-3	1775
3.85	-10	709.999997	-3	1775
3.85	0	709.999992	-8	1775
3.85	10	710.000009	9	1775
3.85	20	709.999994	-6	1775
3.85	30	710.000001	1	1775
3.85	40	709.999996	-4	1775
3.85	50	709.999999	-1	1775

Reference Freq.:		B38 Mid annel	2595	MHz 10M QPSK CH 38000
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. VO	DLTAGE	
4	25	2595.000009	9	6488
3.85	25	2595.000008	8	6488
3.7	25	2594.999990	-10	6488
3.1 (End Point)	25	2594.999999	-1	6488
	Fred	q. ERROR vs.	Temp.	
3.85	-30	2594.999994	-6	6488
3.85	-20	2595.000009	9	6488
3.85	-10	2594.999992	-8	6488
3.85	0	2595.000009	9	6488
3.85	10	2595.000003	3	6488
3.85	20	2594.999994	-6	6488
3.85	30	2595.000002	2	6488
3.85	40	2594.999996	-4	6488
3.85	50	2594.999994	-6	6488

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Reference Freq.:		B41 Mid annel	2593	MHz 10M QPSK CH 40620
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = \pm /- 2.5 ppm (Hz)
	Freq.	ERROR vs. V	OLTAGE	
4	25	2593.000006	6	6488
3.85	25	2592.999998	-2	6488
3.7	25	2592.999992	-8	6488
3.1 (End Point)	25	2592.999998	-2	6488
	Fre	q. ERROR vs.	Temp.	
3.85	-30	2592.999994	-6	6488
3.85	-20	2592.999995	-5	6488
3.85	-10	2593.000007	7	6488
3.85	0	2593.000004	4	6488
3.85	10	2593.000005	5	6488
3.85	20	2592.999995	-5	6488
3.85	30	2592.999990	-10	6488
3.85	40	2592.999995	-5	6488
3.85	50	2593.000009	9	6488

Note: The battery is rated 3.85Vdc.



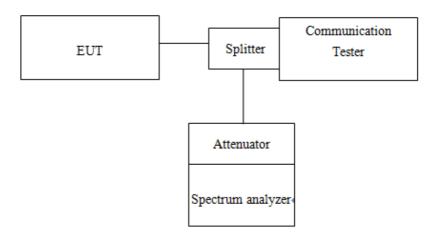
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11. **PEAK TO AVERAGE RATIO**

11.1. Standard Applicable

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

11.2. Test SET-UP



11.3. Measurement Procedure

- 1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
- 2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth; & internal =1ms
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve.

11.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUM- BER	SERIAL NUM- BER	LAST CAL.	CAL DUE.
Radio Communication Analyer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2019	05/16/2020
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	02/13/2019	02/12/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

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11.5. Measurement Result **Tabular Results:**

Freq.	011		erage Ratio B)
(MHz)	СН	GSM 850	GPRS 850
824.2	128	8.25	10.1
836.6	190	9.87	10.45
848.8	251	9.81	9.51

Freq.	011	Peak-to-Av	erage Ratio B)
(MHz)	СН	GSM 1900	GPRS 1900
1850.2	512	9.71	8.98
1880	661	9.17	9.71
1909.8	810	8.01	9.51

- Francis		Peak-to	Peak-to-Average Ratio (dB)					
Freq. (MHz)	СН	WCDMA II	HSDPA II	HSUPA II				
1852.4	9262	2.80	3.57	3.98				
1880	9400	2.80	4.21	3.88				
1907.6	9538	2.88	3.48	3.74				

F		Peak-to	Peak-to-Average Ratio (dB)					
Freq. (MHz)	СН	WCDMA IV	HSDPA IV	HSUPA IV				
1712.4	1312	2.91	3.59	3.86				
1732.6	1413	2.84	3.79	3.80				
1752.6	1513	2.83	3.60	3.99				

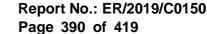
F., a.		Peak-to	Peak-to-Average Ratio (dB)					
Freq. (MHz)	СН	WCDMA V	HSDPA V	HSUPA V				
826.4	4132	2.95	3.69	4.11				
836.6	4183	2.90	3.49	3.58				
846.6	4233	2.87	3.98	3.90				

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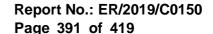


LTE BAND 2										
Chan	nel band	width: 1.4l	MHz	Channel bandwidth: 3MHz						
Freq.	СН	PAPR	(dB)	Freq.	СН	PAPR	(dB)			
(MHz)	Сп	64QAM	Limit	(MHz)	СП	64QAM	Limit			
1850.7	18607	6.38	13	1851.5	18615	6.36	13			
1880.0	18900	6.44	13	1880.0	18900	6.24	13			
1909.3	19193	6.34	13	1908.5	19185	6.47	13			

LTE BAND 2										
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz						
Freq.	СН	PAPR	(dB)	Freq.		PAPR (dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit			
1852.5	18625	6.25	13	1855.0	18650	6.32	13			
1880.0	18900	6.31	13	1880.0	18900	6.32	13			
1907.5	19175	6.29	13	1905.0	19150	6.46	13			

LTE BAND 2										
Chan	nel band	width: 15N	ИHz	Channel bandwidth: 20MHz						
Freq.	СН	PAPR (dB)		Freq.	СН	PAPR (dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СП	64QAM	Limit			
1857.5	18675	6.28	13	1860.0	18700	6.34	13			
1880.0	18900	6.49	13	1880.0	18900	6.40	13			
1902.5	19125	6.38	13	1900.0	19100	6.49	13			

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LTE BAND 4 Channel bandwidth: 1.4MHz Channel bandwidth: 3MHz PAPR (dB) PAPR (dB) Freq. Freq. CH CH (MHz) 64QAM Limit (MHz) 64QAM Limit 13 13 1710.7 19957 6.64 1711.5 19965 6.53 1732.5 20175 13 20175 13 6.56 1732.5 6.51 1754.3 20393 6.36 13 1753.5 20385 6.50 13

	LTE BAND 4										
Chan	Channel bandwidth: 5MHz				Channel bandwidth: 10MHz						
Freq.	СН	PAPR	(dB)	Freq.	СН	PAPR	(dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СП	64QAM	Limit				
1712.5	19957	6.48	13	1715.0	20000	6.45	13				
1732.5	20175	6.37	13	1732.5	20175	6.35	13				
1752.5	20375	6.38	13	1750.0	20350	6.36	13				

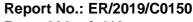
	LTE BAND 4										
Chan	nel band	lwidth: 15	MHz	Channel bandwidth: 20MHz							
Freq.	СН	PAPR	PAPR (dB) Freq.		СН	PAPR	(dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СП	64QAM	Limit				
1717.5	20025	6.45	13	1720.0	20050	6.47	13				
1732.5	20175	6.47	13	1732.5	20175	6.40	13				
1747.5	20325	6.36	13	1745.0	20300	6.37	13				

LTE BAND 5										
Chan	nel bandv	width: 1.4l	MHz	Channel bandwidth: 3MHz						
Freq.	CH PAPR (dE		(dB)	Freq.	СН	PAPR (dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СП	64QAM	Limit			
824.7	20407	6.76	13	825.5	20415	6.51	13			
836.5	20525	6.80	13	836.5	20525	6.53	13			
848.3	20643	6.68	13	847.5	20635	6.52	13			

	LTE BAND 5										
Char	Channel bandwidth: 5MHz				nel band	width: 10N	ИHz				
Freq.	СН	PAPR	PAPR (dB) Freq.		PAPR	(dB)					
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit				
826.5	20425	6.54	13	829.0	20450	6.55	13				
836.5	20525	6.40	13	836.5	20525	6.44	13				
846.5	20625	6.45	13	844.0	20600	6.40	13				

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	LTE BAND 7										
Cha	nnel ban	dwidth: 5M	Hz	Char	nnel band	lwidth: 10N	1Hz				
Freq.	СН	PAPR	(dB)	Freq.	СП	PAPR	(dB)				
(MHz)	СП	64QAM	Limit	(MHz)	CH	64QAM	Limit				
2502.5	20775	6.60	13	2505.0	20800	6.48	13				
2535.0	21100	6.56	13	2535.0	21100	6.45	13				
2567.5	21375	6.52	13	2565.0	21350	6.46	13				

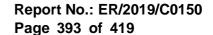
	LTE BAND 7											
Chan	Channel bandwidth: 15MHz			Channel bandwidth: 20MHz								
Freq.	СН	PAPR	(dB)	Freq.	СН	PAPR	(dB)					
(MHz)	СП	64QAM	Limit	(MHz)	СП	64QAM	Limit					
2507.5	20825	6.45	13	2510	20850	6.51	13					
2535.0	21100	6.49	13	2535	21100	6.46	13					
2562.5	21375	6.53	13	2560	21350	6.54	13					

LTE BAND 12											
Chan	hannel bandwidth: 1.4MHz			Channel bandwidth: 1.4MHz Channel bandwidth: 3MHz					lHz		
Freq.	СН	PAPR (dB) Freq.		СН	PAPR (dB)						
(MHz)	СП	64QAM	Limit	(MHz)	CH	64QAM	Limit				
699.7	23017	6.68	13	700.5	23025	6.45	13				
707.5	23095	6.54	13	707.5	23095	6.53	13				
715.3	23173	6.50	13	714.5	23165	6.46	13				

LTE BAND 12											
Char	Channel bandwidth: 5MHz			Chan	nel band	width: 10N	ИHz				
Freq.	СН	PAPR	(dB)	Freq.	СП	PAPR	(dB)				
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit				
701.5	23035	6.50	13	704.0	23060	6.52	13				
707.5	23095	6.43	13	707.5	23095	6.29	13				
713.5	23155	6.39	13	711.0	23130	6.31	13				

	LTE BAND 13											
Channel bandwidth: 5MHz Channel bandwi				lwidth: 10	MHz							
Freq.	СН	PAPR	(dB)	Freq.	СП	PAPR (dB)						
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit					
779.5	23205	6.35	13									
782.0	23230	6.47	13	782.0	23230	6.47	13					
784.5	23255	6.74	13									

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LTE BAND 17											
Channel bandwidth: 1.4MHz				Channel bandwidth: 3MHz							
Freq.	СН	PAPR	PAPR (dB)		СП	PAPR (dB)					
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit				
706.5	23755	6.56	13	709.0	23780	6.36	13				
710.0	23790	6.54	13	710.0	23790	6.47	13				
713.5	23825	6.41	13	711.0	23800	6.47	13				

LTE BAND 38											
Char	Channel bandwidth: 5MHz			Channel bandwidth: 10MHz							
Freq.	СН	, PAPR (dB) Freq.		СП	PAPR (dB)						
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit				
2572.5	37775	10.12	13	2575	37800	11.00	13				
2595.0	38000	10.09	13	2595	38000	9.31	13				
2617.5	38225	10.32	13	2615	38200	10.38	13				

	LTE BAND 38											
Chan	Channel bandwidth: 15MHz			z Channel bandwidth: 20MHz								
Freq.	СН	PAPR	R (dB) Freq.		СН	PAPR (dB)						
(MHz)	СП	64QAM	Limit	(MHz)	CH	64QAM	Limit					
2577.5	37825	10.88	13	2580.0	37850	9.58	13					
2595.0	38000	7.18	13	2595.0	38000	8.67	13					
2612.5	38175	9.64	13	2610.0	38150	8.05	13					

LTE BAND 41											
Channel bandwidth: 5MHz Channel bandwidth: 10					lwidth: 10	MHz					
Freq.	СН	PAPR	(dB)	Freq.		PAPR (dB)					
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit				
2498.5	39675	11.63	13	2501.0	39700	10.55	13				
2593.0	40620	10.66	13	2593.0	40620	11.18	13				
2687.5	41565	9.90	13	2685.0	41540	7.88	13				

	LTE BAND 41											
Channel bandwidth: 15MHz			Channel bandwidth: 20MHz									
Freq.	СН	PAPR	PAPR (dB) Freq.		СП	PAPR (dB)						
(MHz)	СП	64QAM	Limit	(MHz)	СН	64QAM	Limit					
2503.5	39725	7.46	13	2506.0	39750	9.03	13					
2593.0	40620	11.76	13	2593.0	40620	7.62	13					
2682.5	41515	10.01	13	2680.0	41490	7.39	13					

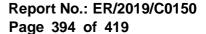
Please refer to next page for test plots.

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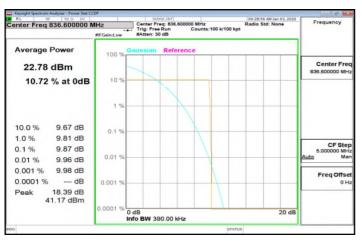
GSM 850MHz LowCH128-824.2

RL Nr 50 D DC Center Freq 824,200000 MHz Average Power Center Fre 24.19 dBm 15.54 % at 0dB 10.0 % 8.11 dB 1.0 % 8.20 dB CF Step 5.000000 MH 0.1% 8.25 dB 0.01% 8.33 dB 0.001 % 8.35 dB Freq Offse 0.0001 % --- dB 10.76 dB 34.95 dBm 0 dB Info BW 390.00 kHz

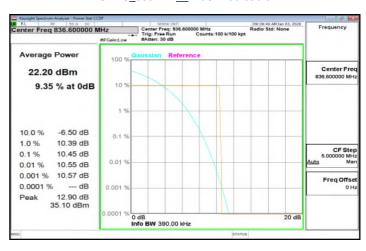
GPRS 850MHz LowCH128-824.2



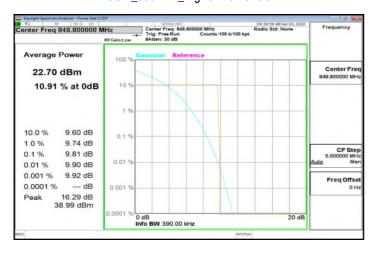
GSM 850MHz MidCH190-836.6



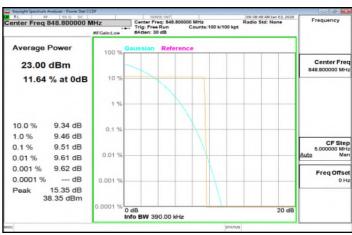
GPRS 850MHz MidCH190-836.6



GSM 850MHz HighCH251-848.8



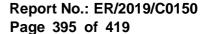
GPRS_850MHz__HighCH251-848.8



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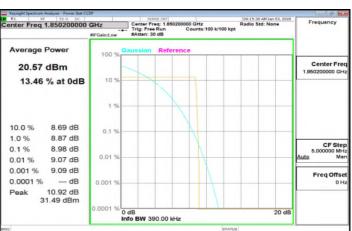




GSM 1900MHz LowCH512-1850.2

enter Freq 1.850200000 GHz Average Power Center Fr 19.81 dBm 11.35 % at 0dB 10.0 % 9.42 dB 1.0 % 9.62 dB CF Step 5.000000 MH 0.1% 9.71 dB 0.01% 9.82 dB 0.001 % 9.85 dB Freq Offse 0.0001 % --- dB 32.94 dBm Info BW 390.00 kHz

GPRS_1900MHz_LowCH512-1850.2



GPRS 1900MHz MidCH661-1880

Center Freq: 1,880000000 GHz
Trig: Free Run Counts:100 k/100 kpt

Center Fre

CF Step 5.000000 MH

enter Freq 1.880000000 GHz

15.64 dBm

10.0 %

1.0 %

0.1 %

0.01 %

Peak

0.001 %

0.0001 %

11.38 % at 0dB

9,36 dB

9.61 dB

9.71 dB

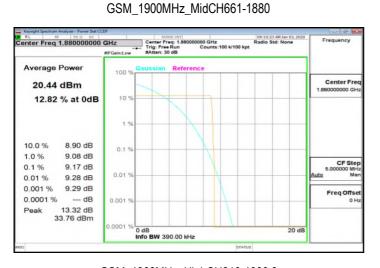
9.83 dB

9.85 dB

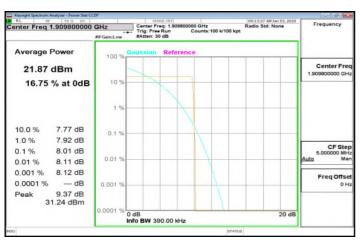
10.28 dB 25.92 dBm

--- dB

0.01

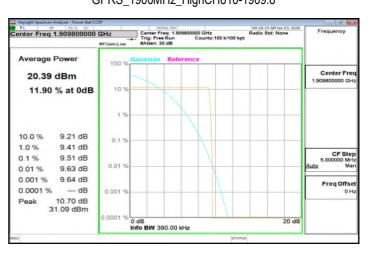


GSM_1900MHz_HighCH810-1909.8



GPRS 1900MHz HighCH810-1909.8

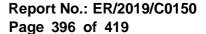
0 dB Info BW 390.00 kHz



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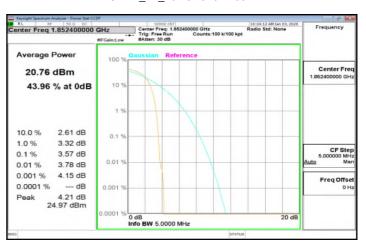




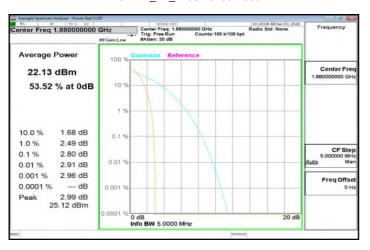
WCDMA B2 LowCH9262-1852.4

enter Freq 1.852400000 GHz Average Power Center Fre 22.04 dBm 53.81 % at 0dB 10.0 % 1.65 dB 1.0 % 2.46 dB CF Step 5.000000 MH 0.1% 2.80 dB 0.01% 2.92 dB 0.001 % 2.95 dB Freq Offse 0.0001 % --- dB 2.99 dB Peak 25.03 dBm Info BW 5.0000 MHz

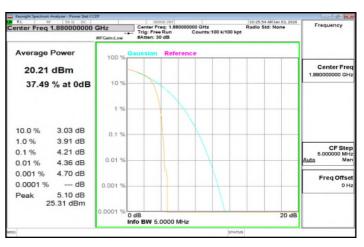
HSDPA B2 LowCH9262-1852.4



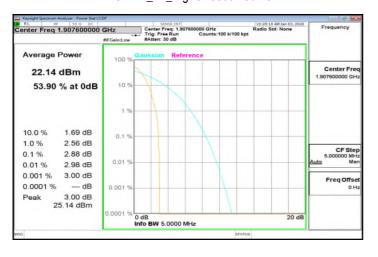
WCDMA B2 MidCH9400-1880



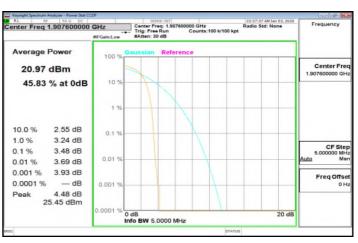
HSDPA_B2_MidCH9400-1880



WCDMA B2 HighCH9538-1907.6



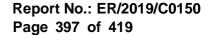
HSDPA_B2_HighCH9538-1907.6



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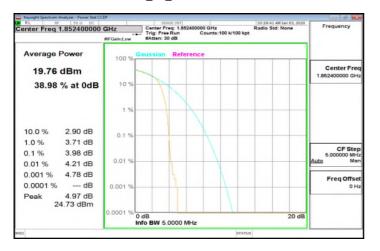
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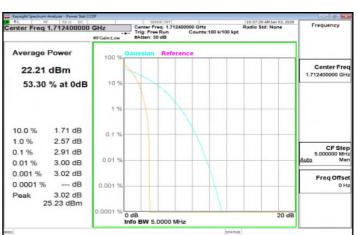




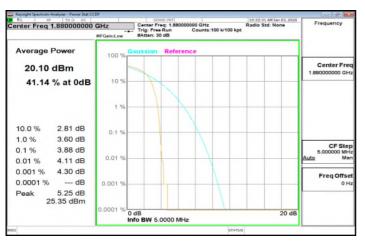
HSUPA B2 LowCH9262-1852.4



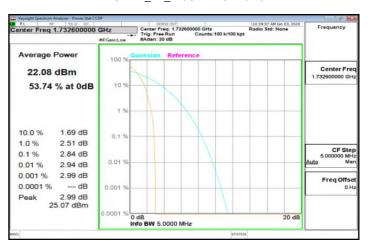
WCDMA B4 LowCH1312-1712.4



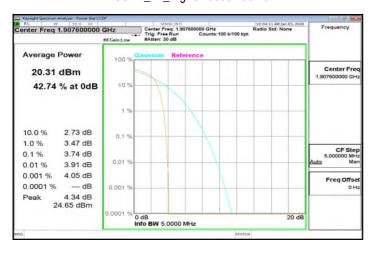
HSUPA B2 MidCH9400-1880



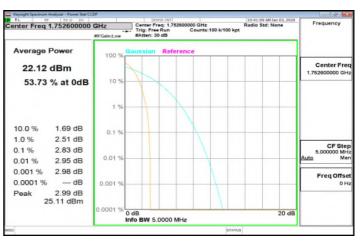
WCDMA B4 MidCH1413-1732.6



HSUPA B2 HighCH9538-1907.6



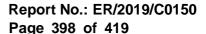
WCDMA B4 HighCH1513-1752.6



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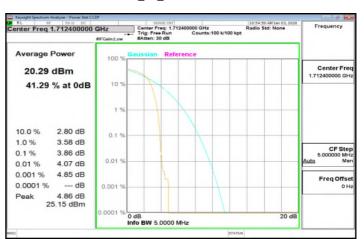




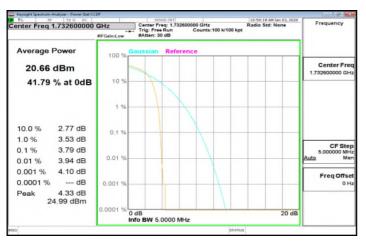
HSDPA B4 LowCH1312-1712.4

RL or 10.00 CC | STAGE SHT | 10.48.37 MH Jan 03. Center Freq 1,712400000 GHz | Center Freq 1,712400000 GHz | Radio Std: None Trig: Free Run | Counts:100 ki100 kpt Average Power Center Fre 21.06 dBm 44.68 % at 0dB 10.0 % 2.59 dB 1.0 % 3.32 dB CF Step 5.000000 MH 0.1% 3.59 dB 0.01% 3.80 dB 0.001 % 4.26 dB Freq Offse 0.0001 % --- dB 4.29 dB Peak 25.35 dBm Info BW 5.0000 MHz

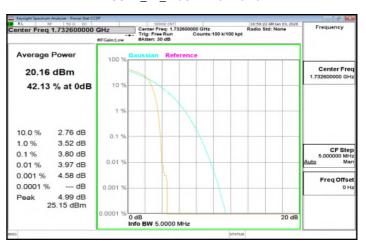
HSUPA B4 LowCH1312-1712.4



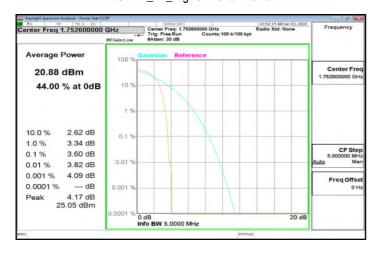
HSDPA B4 MidCH1413-1732.6



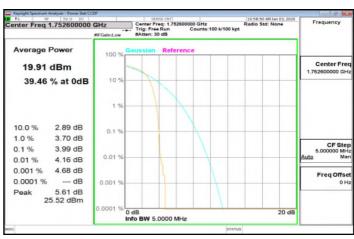
HSUPA B4 MidCH1413-1732.6



HSDPA B4 HighCH1513-1752.6



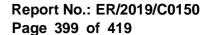
HSUPA B4 HighCH1513-1752.6



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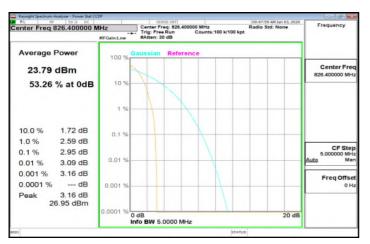
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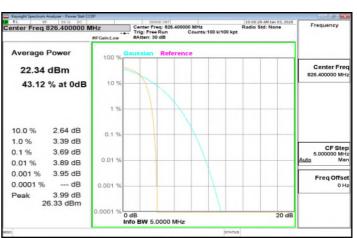




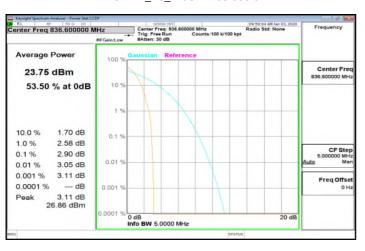
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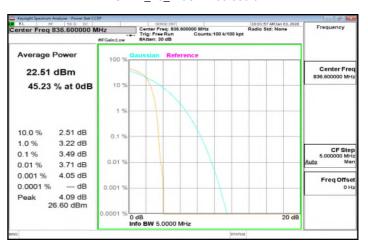
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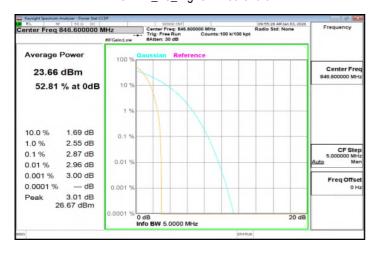
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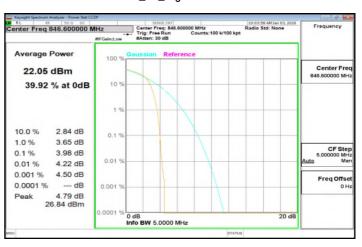
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WCDMA B5 HighCH4233-846.6



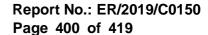
HSDPA B5 HighCH4233-846.6



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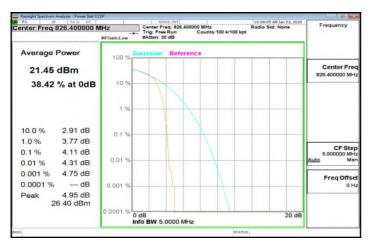
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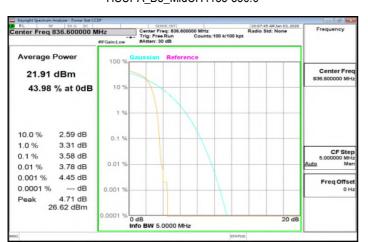




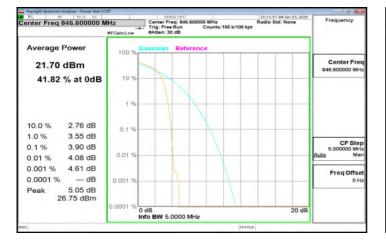
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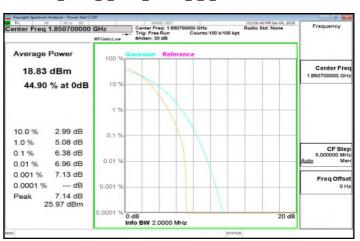
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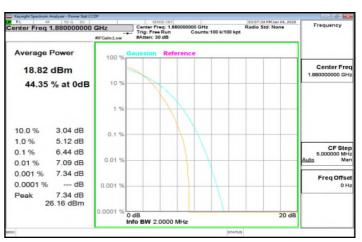
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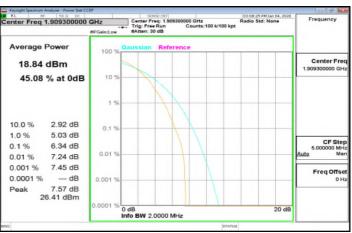
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LTE Band2 1 4MHz 64QAM 6 0 MidCH18900-1880

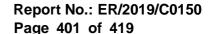


LTE Band2 1 4MHz 64QAM 6 0 HighCH19193-1909.3



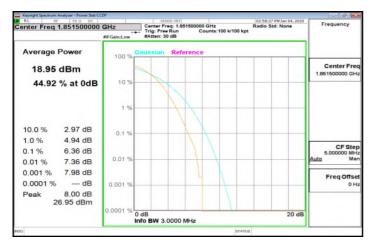
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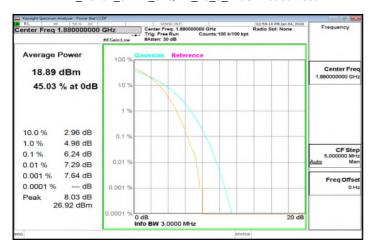




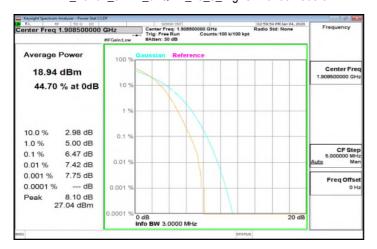
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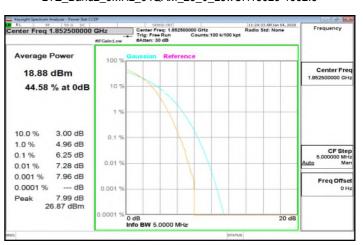
LTE Band2 3MHz 64QAM 15 0 MidCH18900-1880



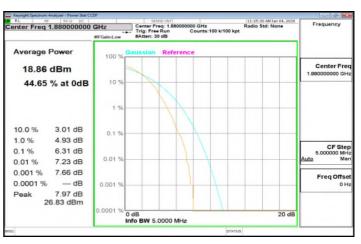
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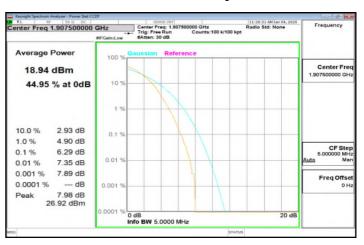
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LTE Band2 5MHz 64QAM 25 0 MidCH18900-1880

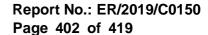


LTE Band2 5MHz 64QAM 25 0 HighCH19175-1907.5



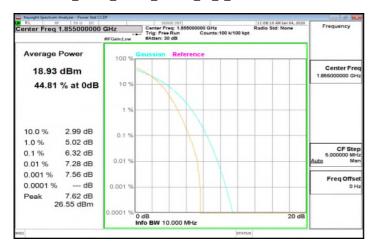
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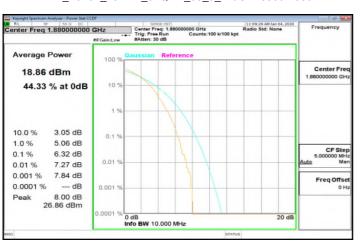




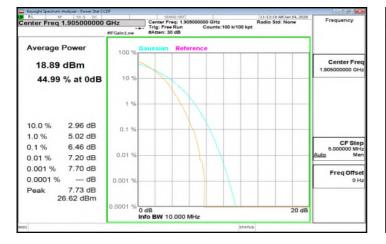
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LTE Band2 10MHz 64QAM 50 0 MidCH18900-1880



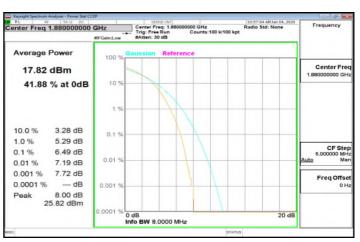
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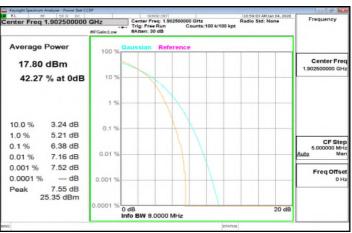
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LTE Band2 15MHz 64QAM 75 0 MidCH18900-1880

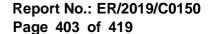


LTE Band2 15MHz 64QAM 75 0 HighCH19125-1902.5



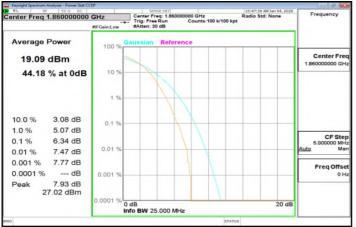
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LTE Band2 20MHz 64QAM 100 0 LowCH18700-1860



LTE Band2 20MHz 64QAM 100 0 MidCH18900-1880



enter Freq 1.732500000 GHz

18.76 dBm

10.0 %

1.0 %

0.1 %

0.01 %

Peak

0.001 %

0.0001 %

43.88 % at 0dB

3.04 dB 5.12 dB

6.56 dB

7.16 dB

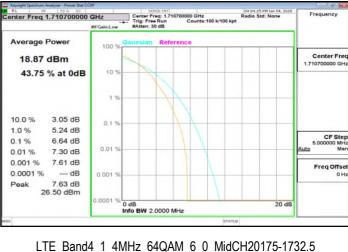
7.43 dB

--- dB

7.51 dB

26,27 dBm

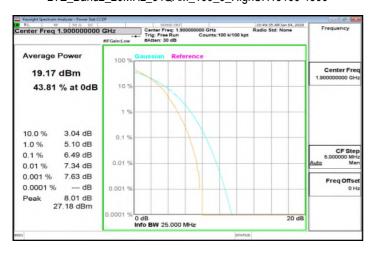
0.01



LTE Band4 1 4MHz 64QAM 6 0 LowCH19957-1710.7

19.05 dBm Center Fre 43.97 % at 0dB 10.0 % 3.08 dB 1.0 % 5.10 dB CF Step 5.000000 MD 0.1 % 0.01 % 7.23 dB 0.001 % 8.00 dB 0.0001 % 8.21 dB 27.26 dBm 0 dB Info BW 25.000 MHz

LTE Band2 20MHz 64QAM 100 0 HighCH19100-1900

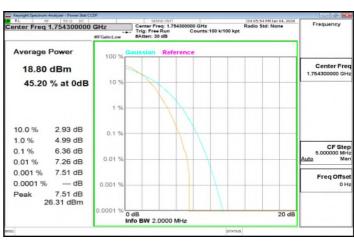


LTE Band4 1 4MHz 64QAM 6 0 HighCH20393-1754.3

0 dB Info BW 2.0000 MHz

Center Fre

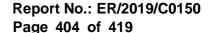
CF Step 5.000000 MD



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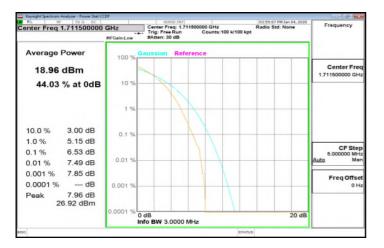
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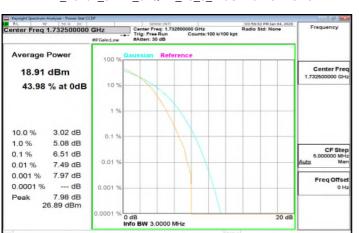




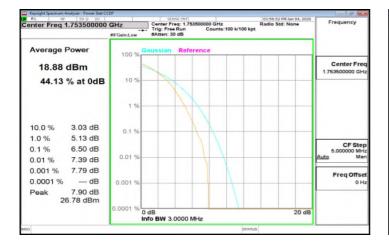
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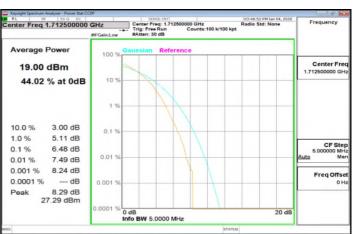
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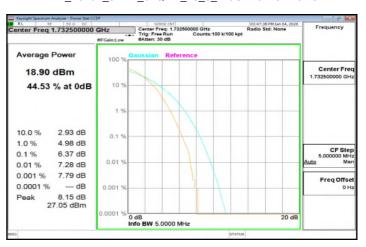
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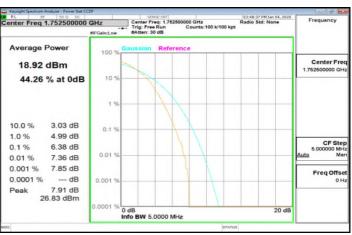
LTE Band4 5MHz 64QAM 25 0 LowCH19975-1712.5



LTE Band4 5MHz 64QAM 25 0 MidCH20175-1732.5



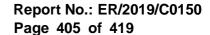
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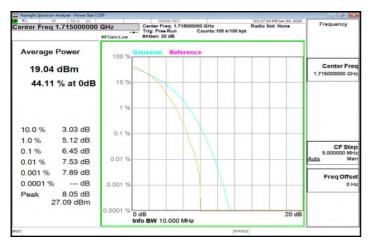
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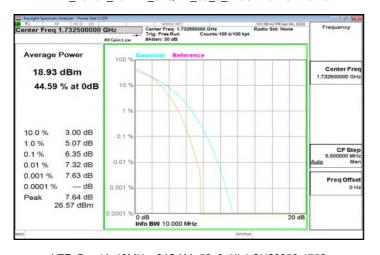




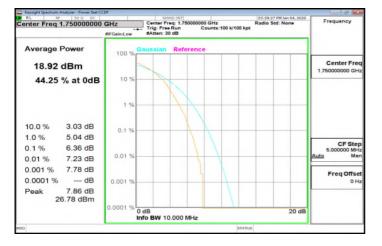
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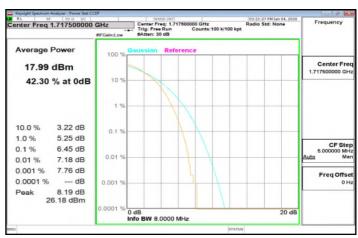
LTE Band4 10MHz 64QAM 50 0 MidCH20175-1732.5



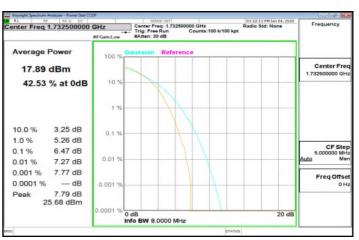
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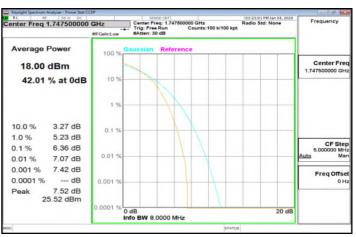
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LTE Band4 15MHz 64QAM 75 0 MidCH20175-1732.5



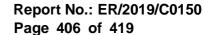
LTE Band4 15MHz 64QAM 75 0 HighCH20325-1747.5



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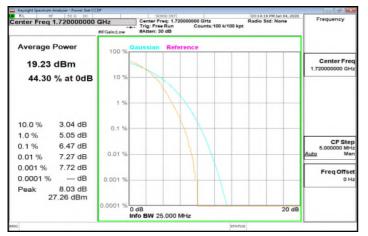
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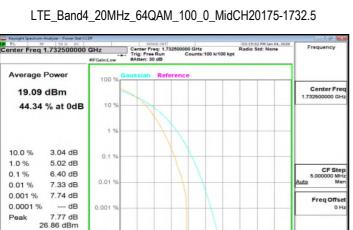
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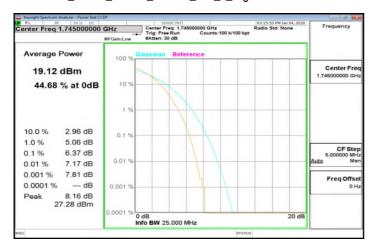
LTE Band4 20MHz 64QAM 100 0 LowCH20050-1720



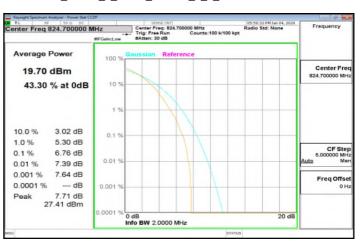


LTE Band4 20MHz 64QAM 100 0 HighCH20300-1745

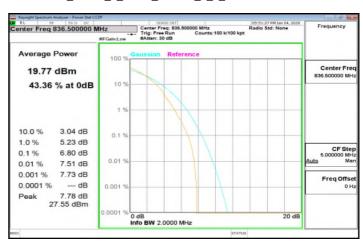
0 dB Info BW 25.000 MHz



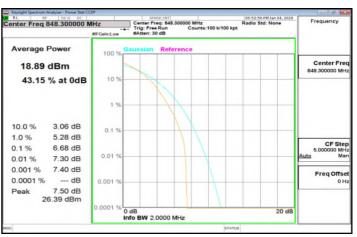
LTE Band5 1 4MHz 64QAM 6 0 LowCH20407-824.7



LTE Band5 1 4MHz 64QAM 6 0 MidCH20525-836.5

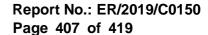


LTE Band5 1 4MHz 64QAM 6 0 HighCH20643-848.3



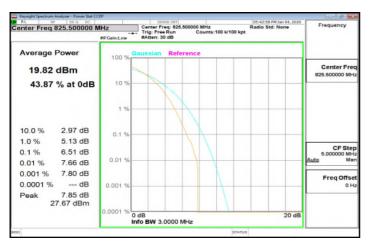
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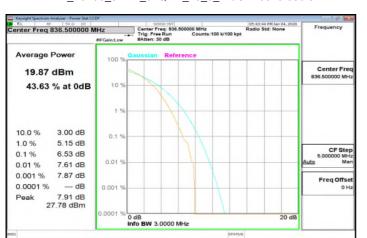




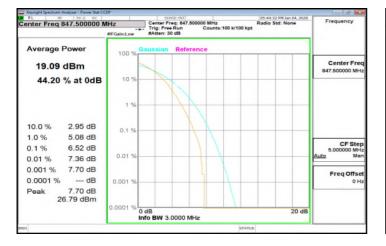
LTE_Band5_3MHz_64QAM_15_0_LowCH20415-825.5



LTE Band5 3MHz 64QAM 15 0 MidCH20525-836.5



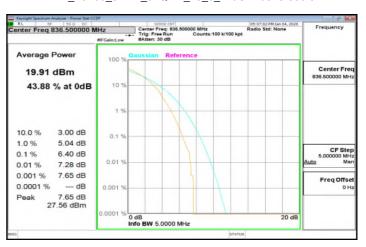
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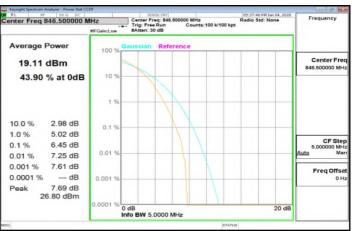
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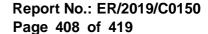


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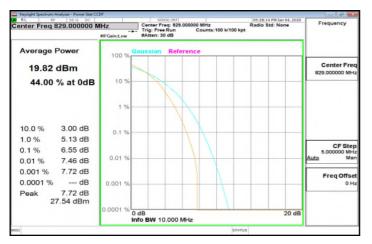
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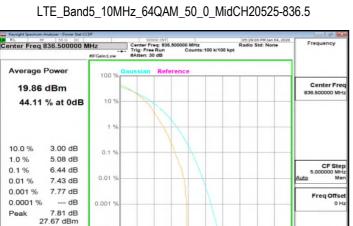
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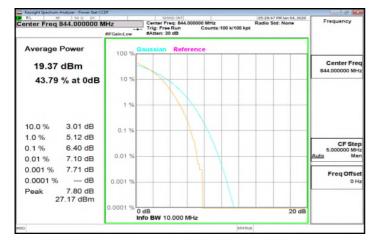
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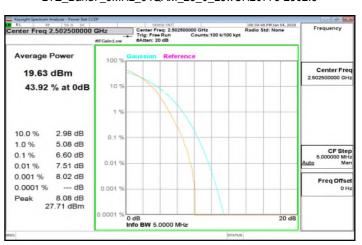


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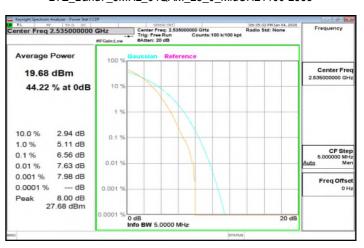
0 dB Info BW 10.000 MHz



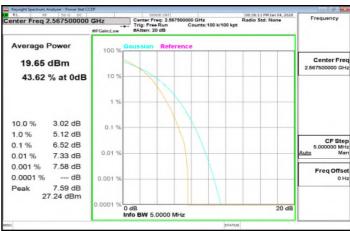
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LTE Band7 5MHz 64QAM 25 0 MidCH21100-2535

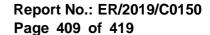


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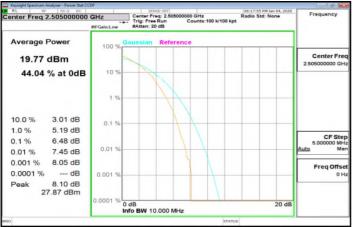
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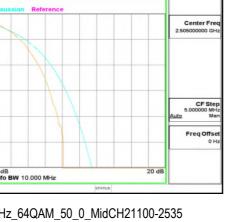




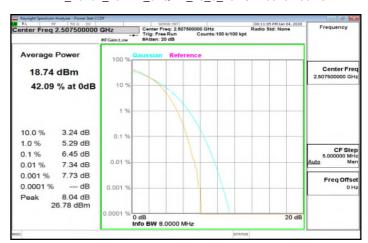
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LTE Band7 15MHz 64QAM 75 0 LowCH20825-2507.5



LTE Band7 15MHz 64QAM 75 0 MidCH21100-2535

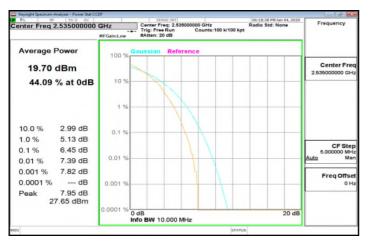
Center Freq: 2.535000000 GHz
Trig: Free Run Counts:100 k/100 kpt

Center Fre

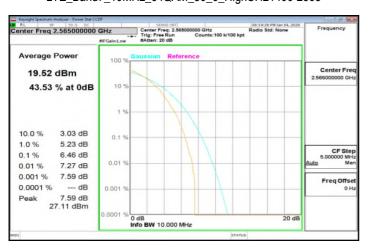
enter Freg 2.535000000 GHz

18.64 dBm

42.63 % at 0dB

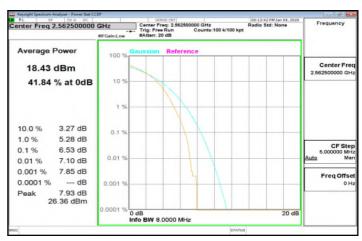


LTE Band7 10MHz 64QAM 50 0 HighCH21400-2565



10.0 % 3.21 dB 5.27 dB 1.0 % CF Step 5.000000 MD 6.49 dB 0.1 % 0.01 0.01 % 7.18 dB 0.001 % 7.87 dB 0.0001 % --- dB Peak 8.20 dB 26.84 dBm 0 dB Info BW 8.0000 MHz

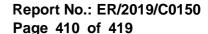
LTE Band7 15MHz 64QAM 75 0 HighCH21375-2562.5



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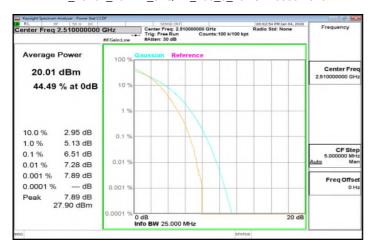
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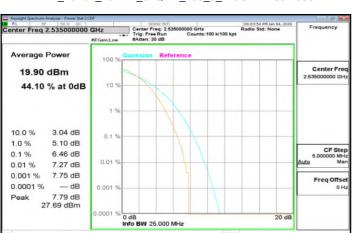




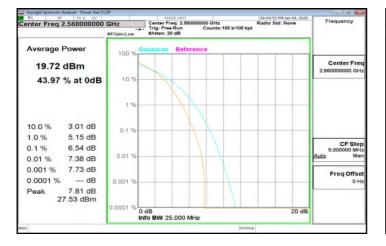
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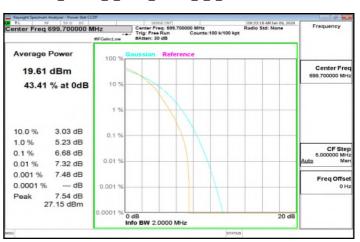
LTE Band7 20MHz 64QAM 100 0 MidCH21100-2535



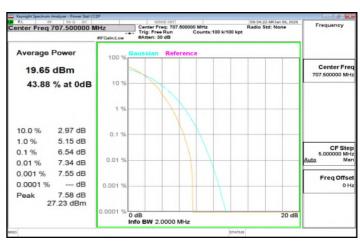
LTE Band7 20MHz 64QAM 100 0 HighCH21350-2560



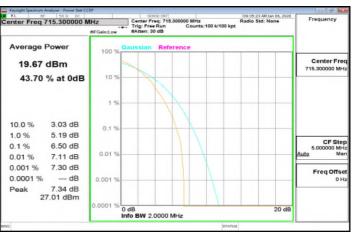
LTE Band12 1 4MHz 64QAM 6 0 LowCH23017-699.7



LTE Band12 1 4MHz 64QAM 6 0 MidCH23095-707.5

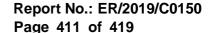


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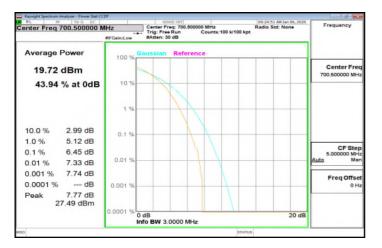
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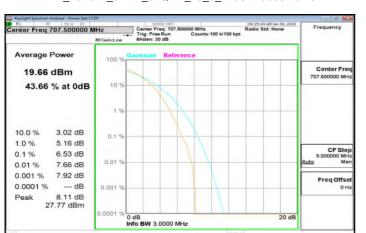




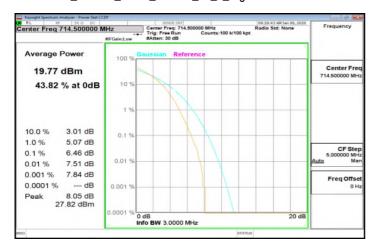
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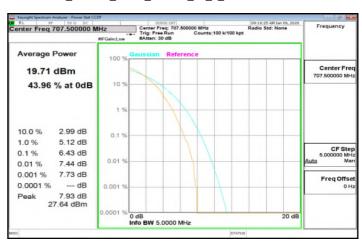
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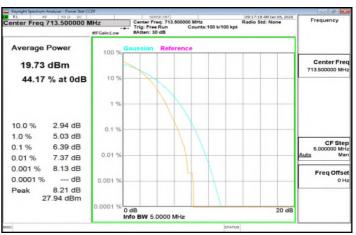
LTE Band12 5MHz 64QAM 25 0 LowCH23035-701.5



LTE Band12 5MHz 64QAM 25 0 MidCH23095-707.5



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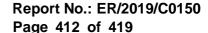


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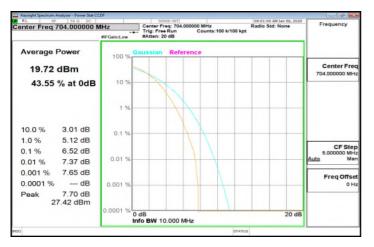
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

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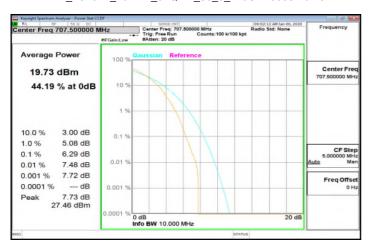




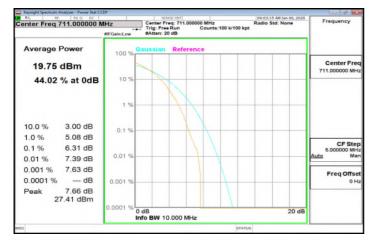
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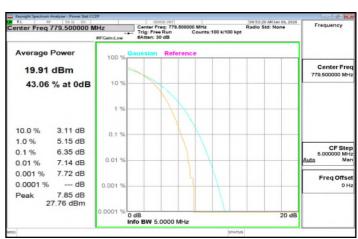
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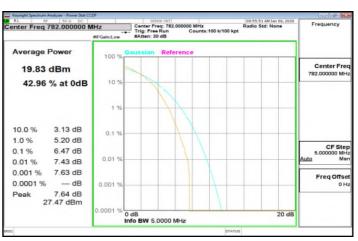
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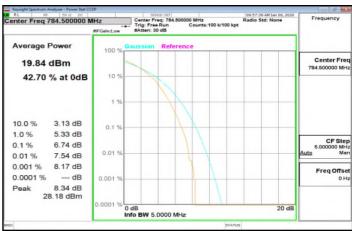
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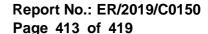


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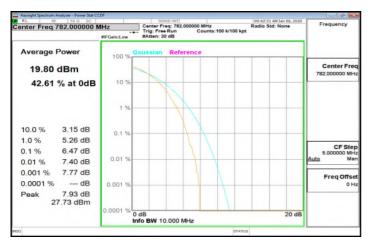
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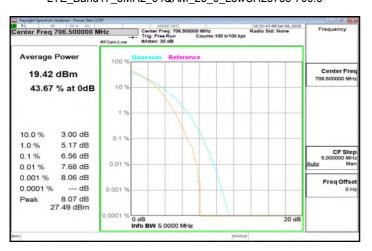




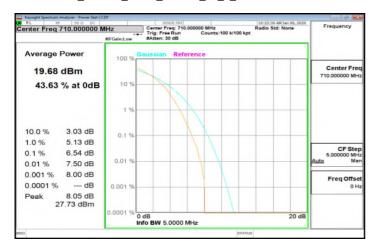
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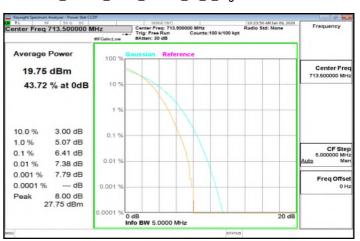
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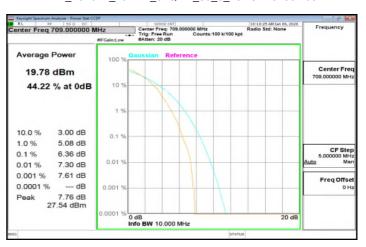
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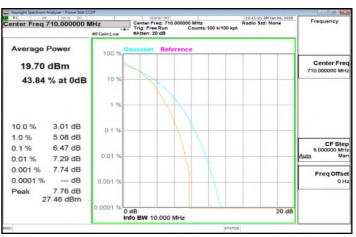
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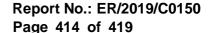


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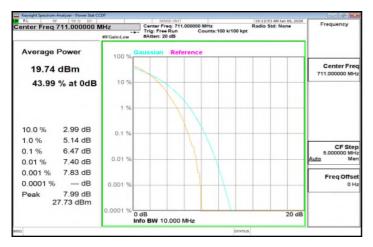
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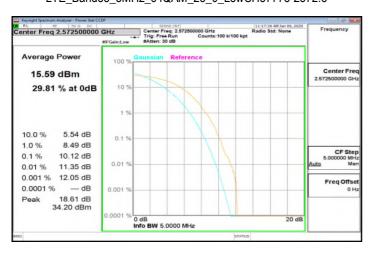




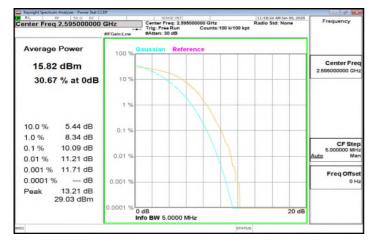
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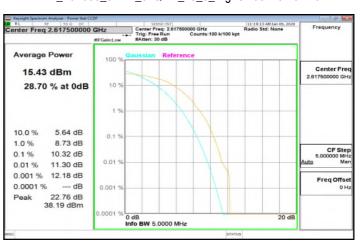
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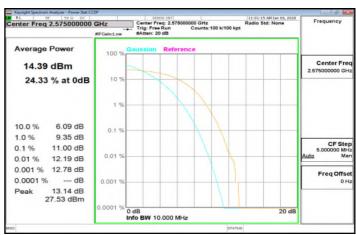
LTE_Band38_5MHz_64QAM_25_0_MidCH38000-2595



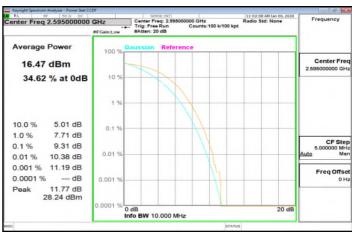
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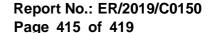


LTE Band38 10MHz 64QAM 50 0 MidCH38000-2595



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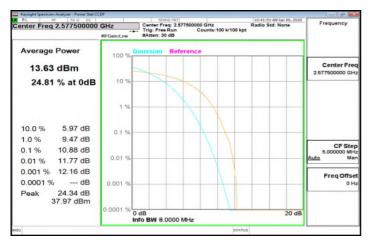




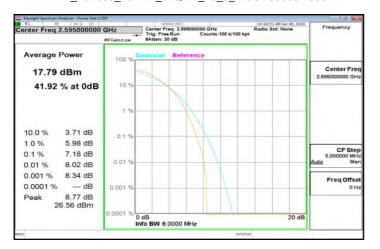
LTE Band38 10MHz 64QAM 50 0 HighCH38200-2615

enter Freq 2.615000000 GHz 000 GHz Counts:100 k/100 kpt Average Power 15.47 dBm 28.81 % at 0dB 10.0 % 5.64 dB 1.0 % 8.65 dB CF Step 5.000000 MHz 0.1% 10.38 dB 0.01% 11.26 dB 0.001 % 12.27 dB Freq Offse 0.0001 % --- dB 33.08 dBm Info BW 10.000 MHz

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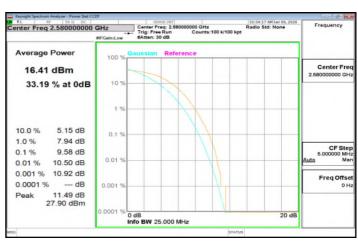
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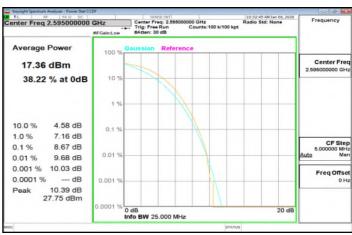
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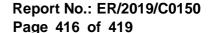


LTE Band38 20MHz 64QAM 100 0 MidCH38000-2595



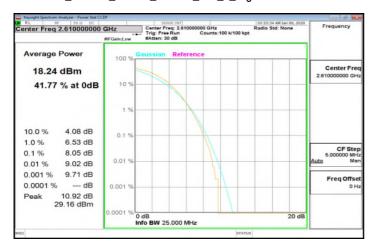
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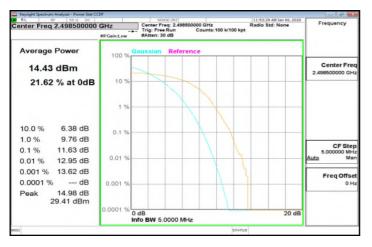




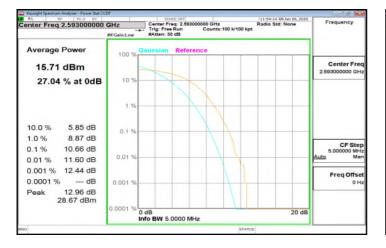
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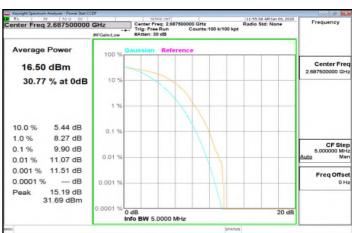
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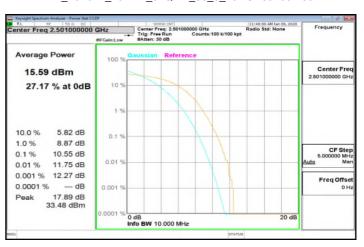
LTE Band41 5MHz 64QAM 25 0 MidCH40620-2593



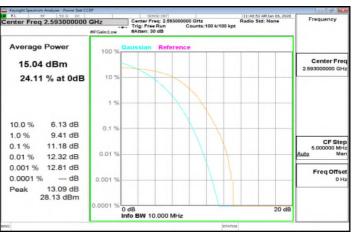
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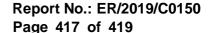


LTE Band41 10MHz 64QAM 50 0 MidCH40620-2593



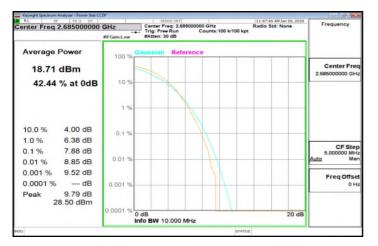
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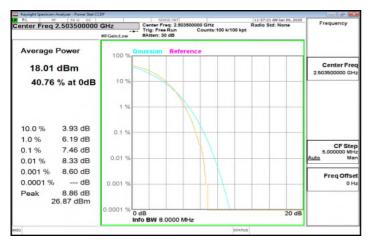




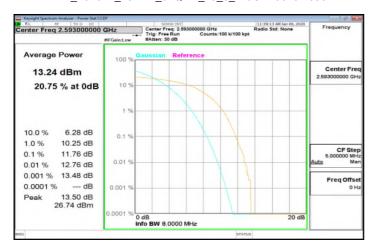
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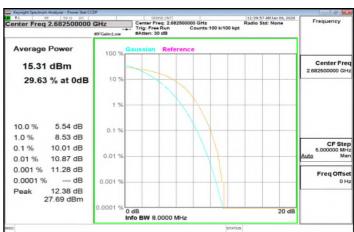
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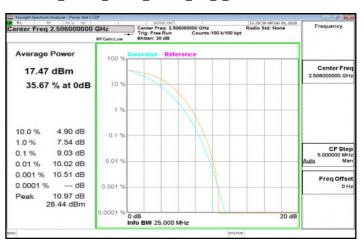
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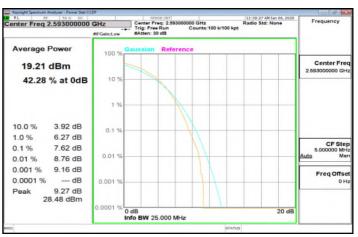
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LTE Band41 20MHz 64QAM 100 0 LowCH39750-2506



LTE Band41 20MHz 64QAM 100 0 MidCH40620-2593



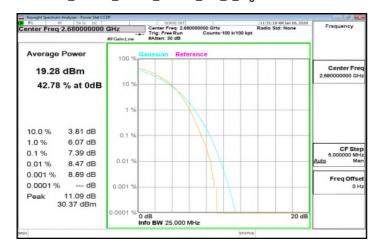
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LTE_Band41_20MHz_64QAM_100_0_HighCH41490-2680



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~ End of Report ~

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