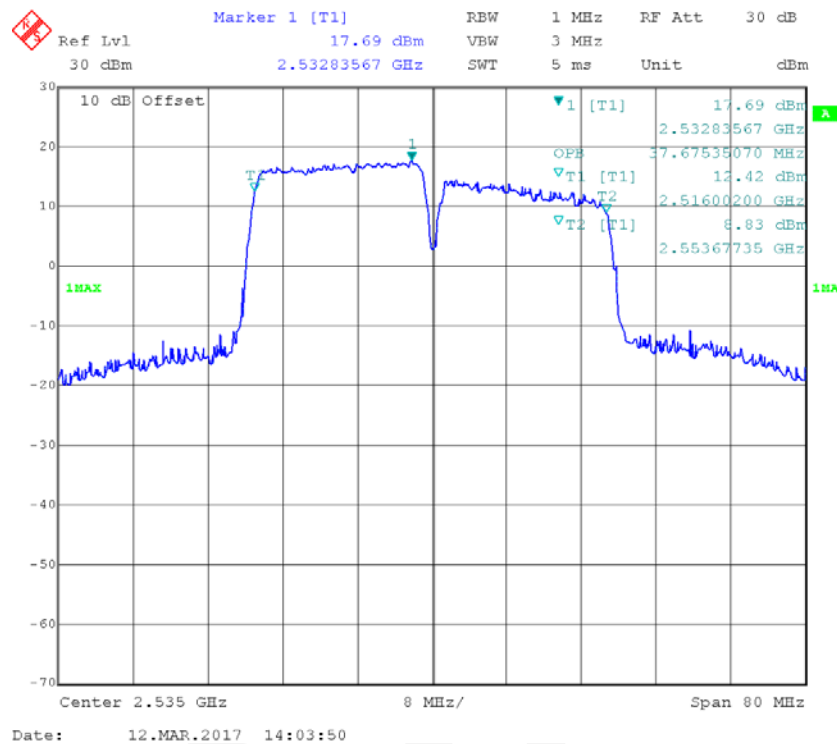
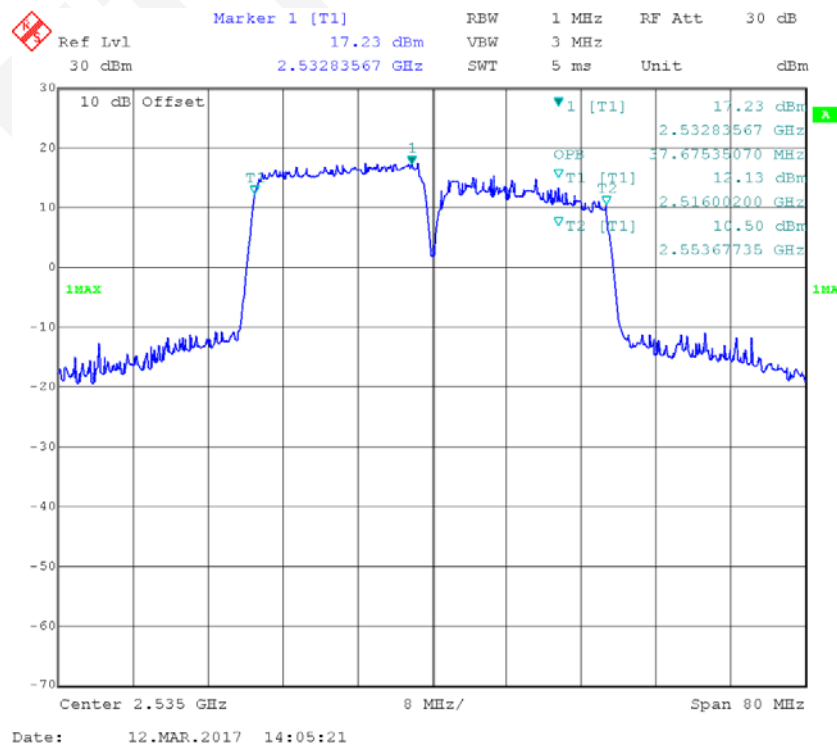


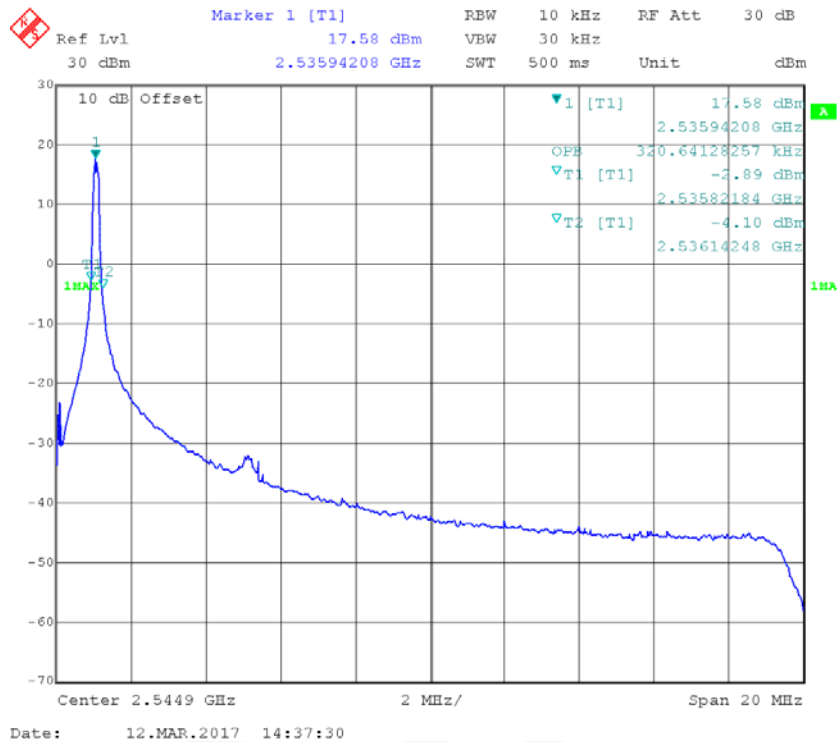
Band 7_20&20MHz_QPSK_P100#0&S100#0



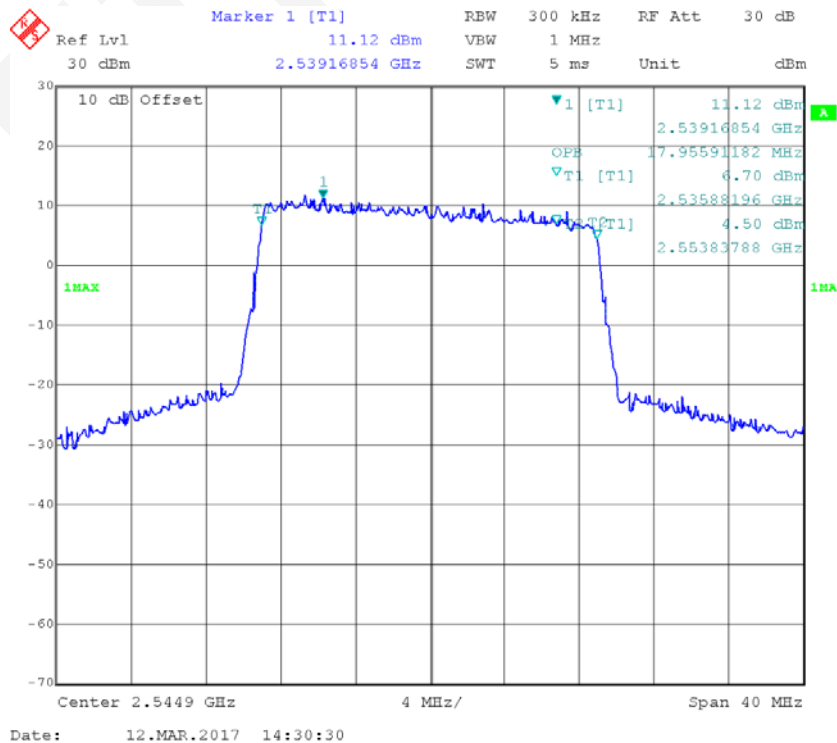
Band 7_20&20MHz_16QAM_P100#0&S100#0



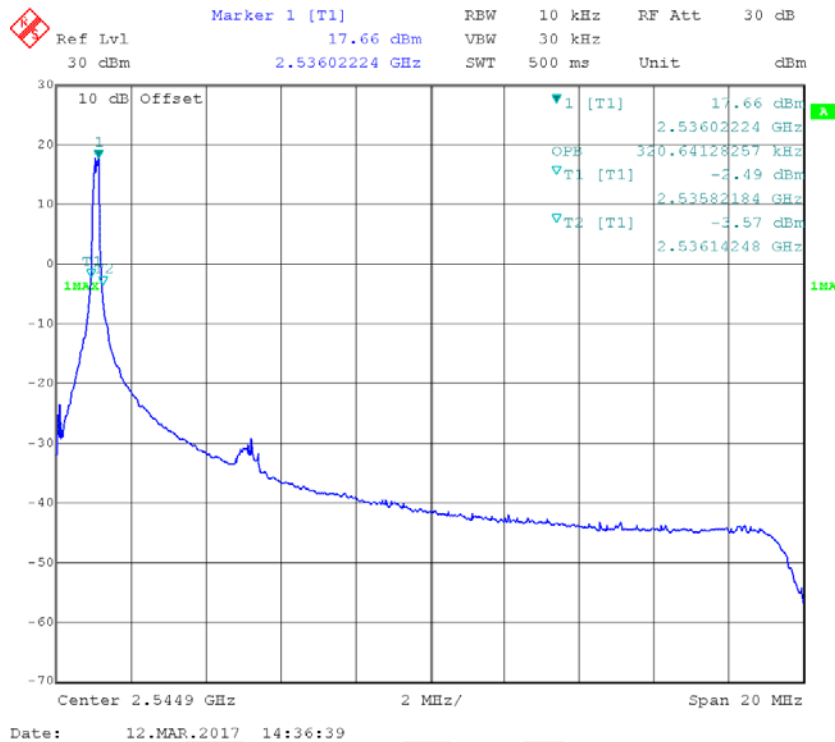
Band 7_20MHz_QPSK_RB1



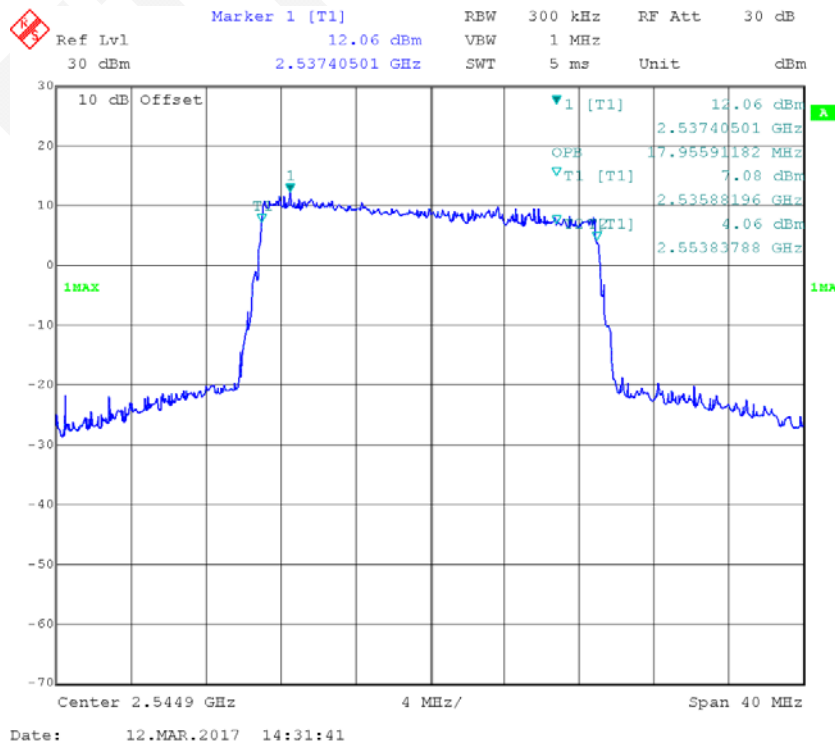
Band 7_20MHz_QPSK_RB100



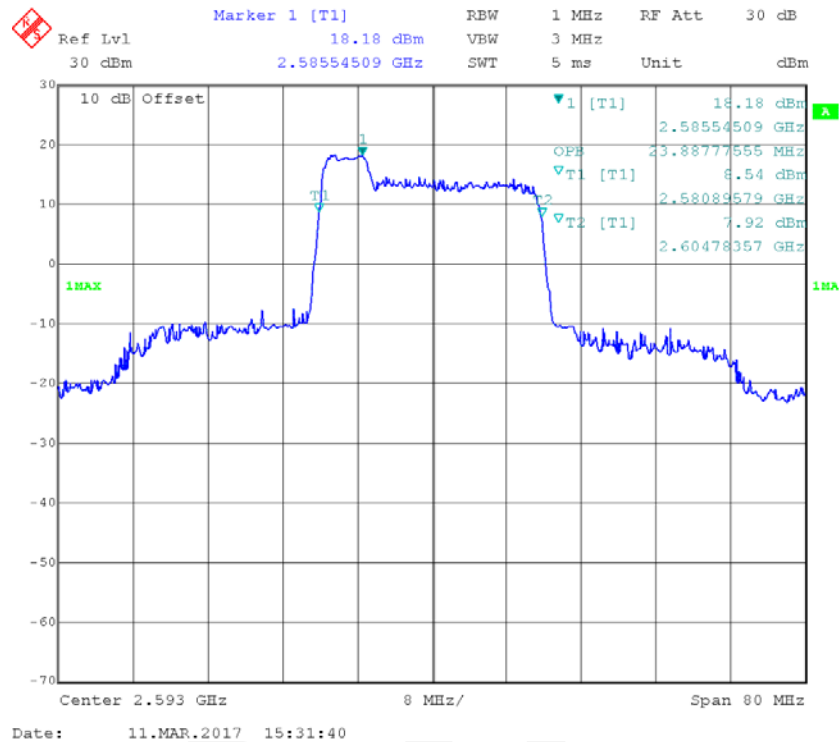
Band 7_20MHz_16QAM_RB1



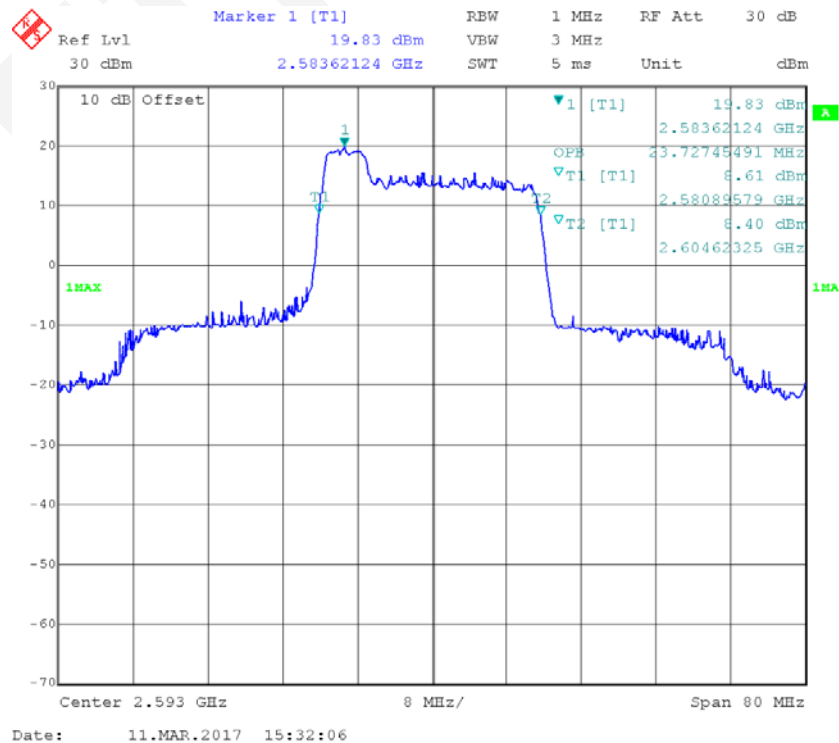
Band 7_20MHz_16QAM_RB100



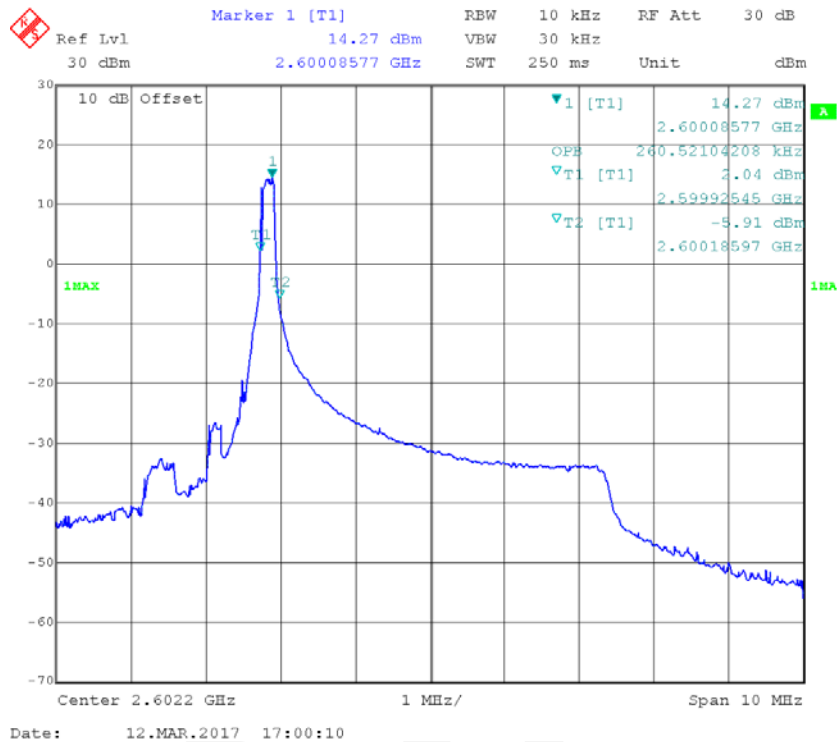
Band 41_5&20MHz_QPSK_P25#0&S100#0



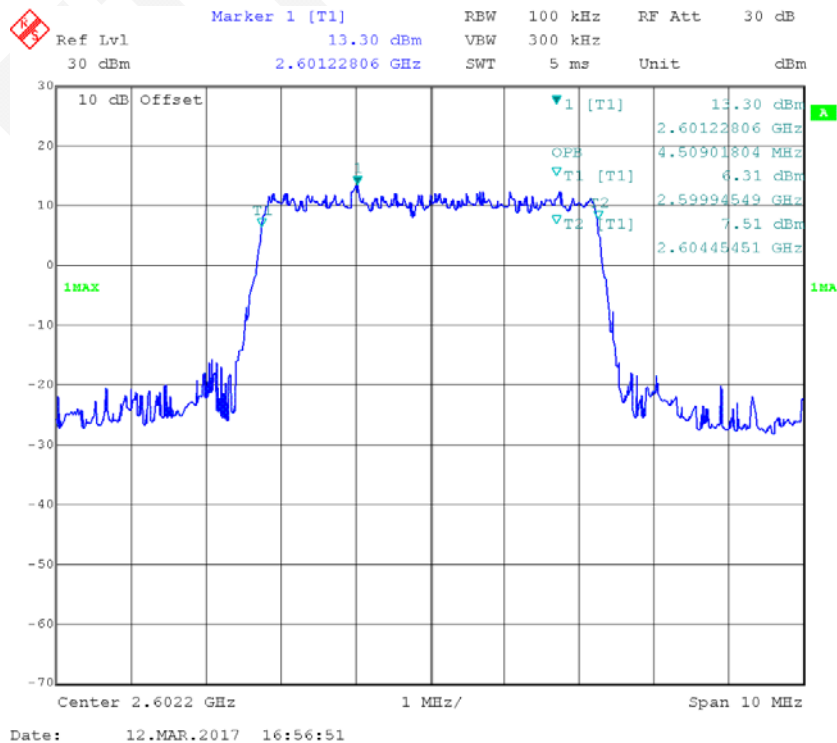
Band 41_5&20MHz_16QAM_P25#0&S100#0



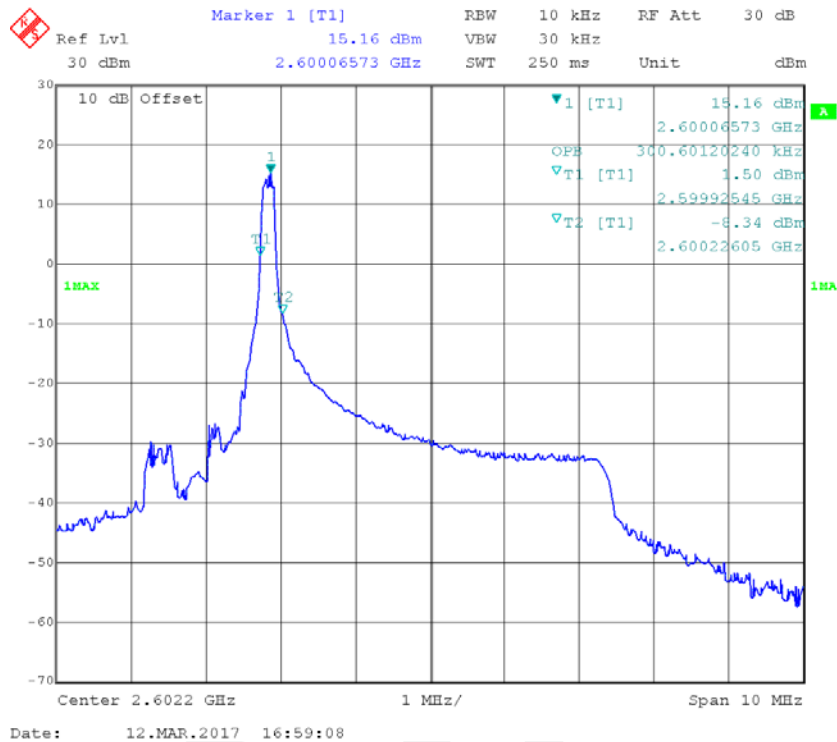
Band 41_5MHz_QPSK_RB1



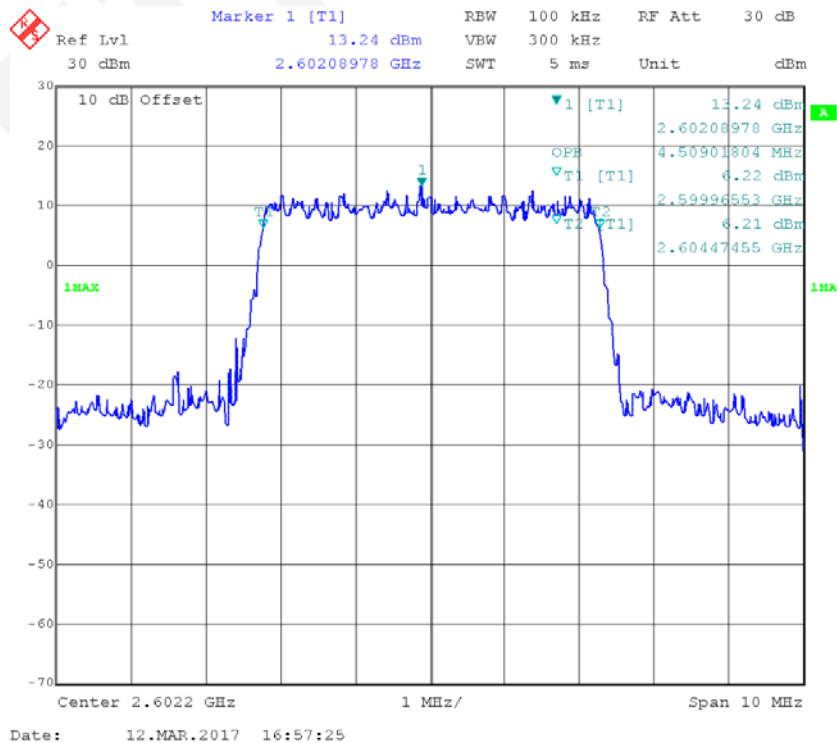
Band 41_5MHz_QPSK_RB25



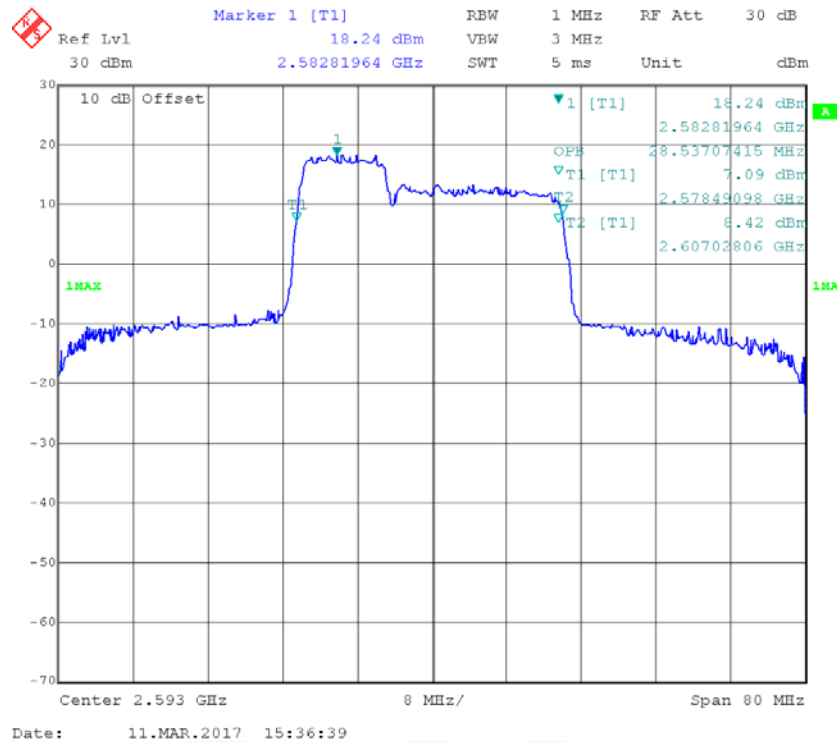
Band 41_5MHz_16QAM_RB1



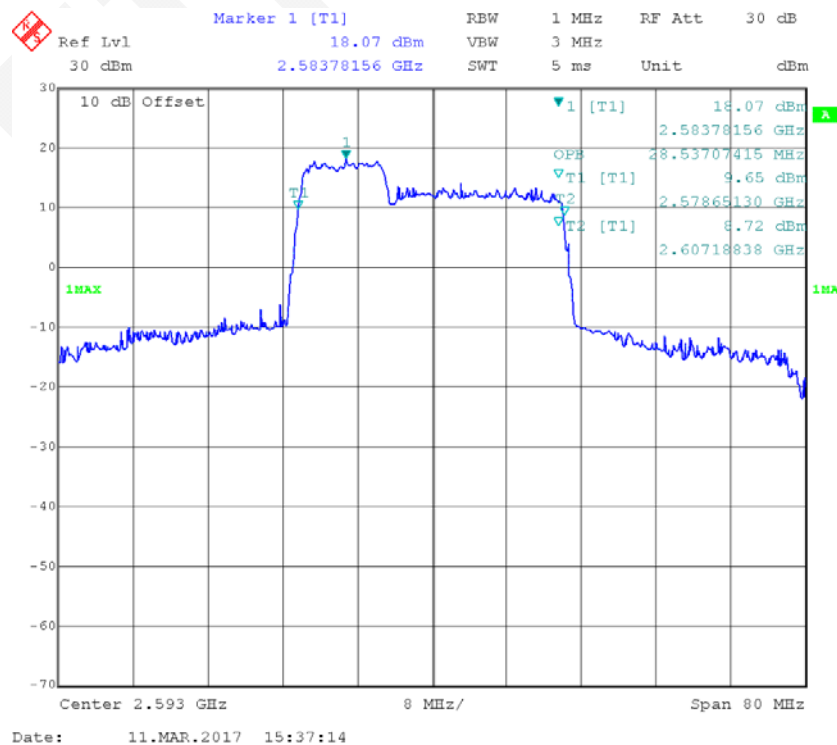
Band 41_5MHz_16QAM_RB25



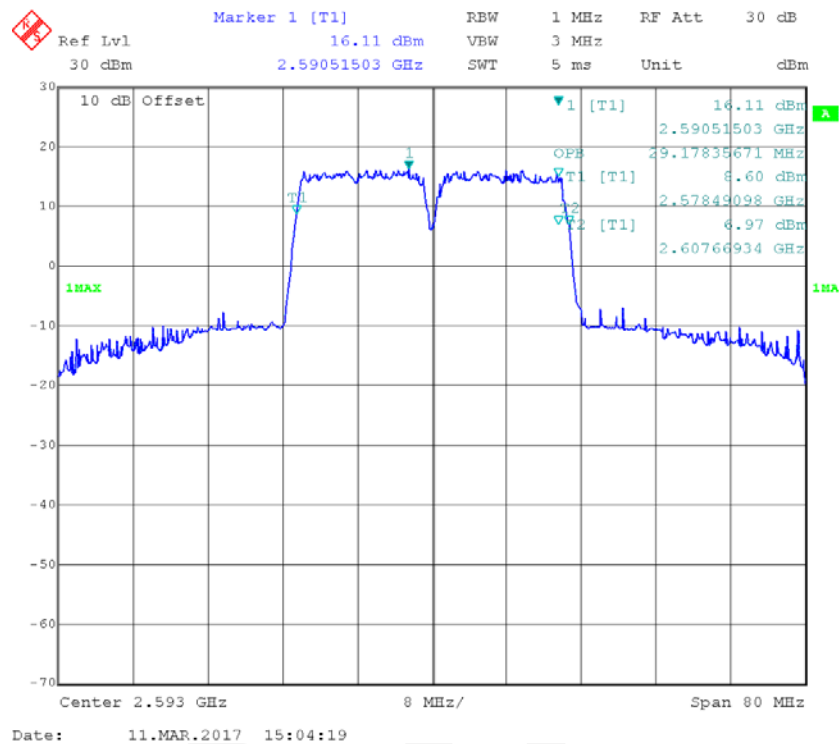
Band 41_10&20MHz_QPSK_P50#0&S100#0



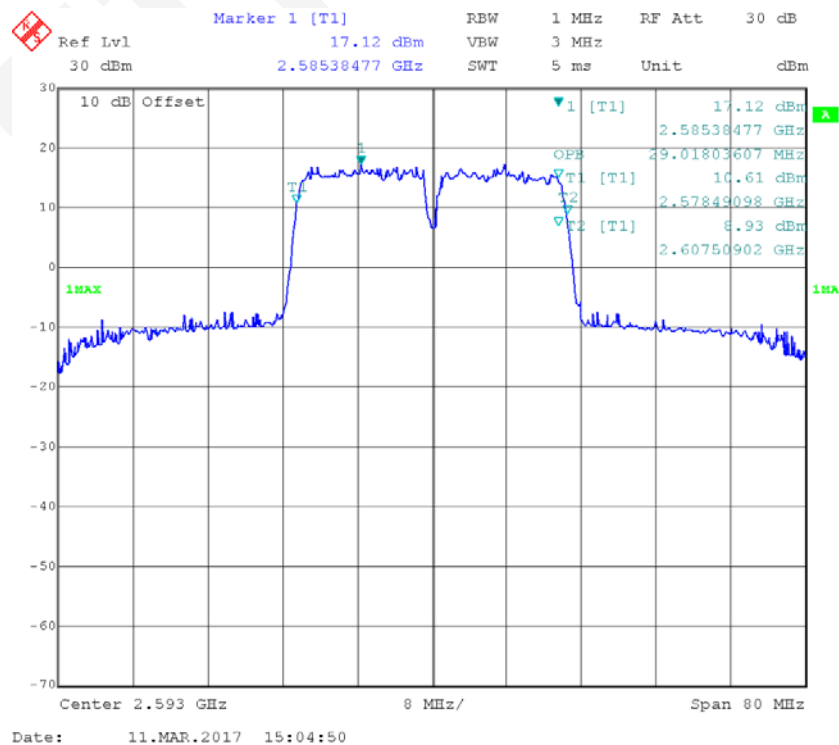
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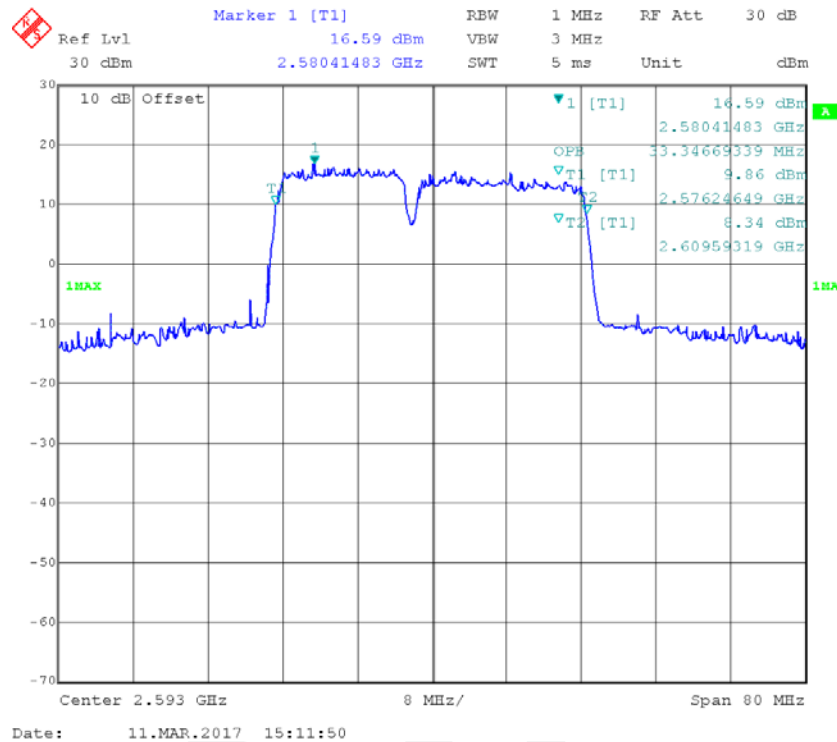
Band 41_15&15MHz_QPSK_P75#0&S75#0



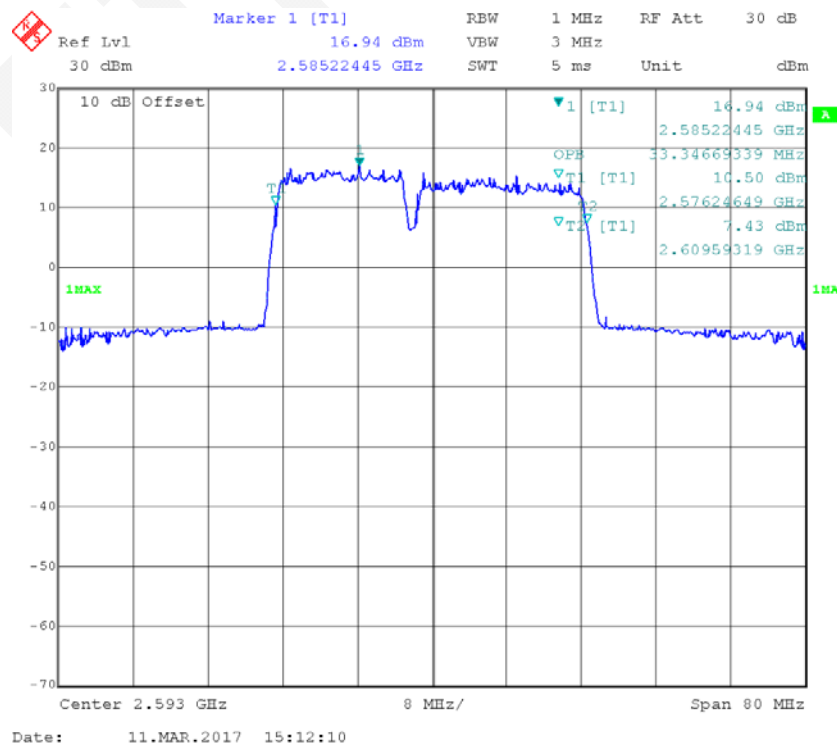
Band 41_15&15MHz_16QAM_P75#0&S75#0



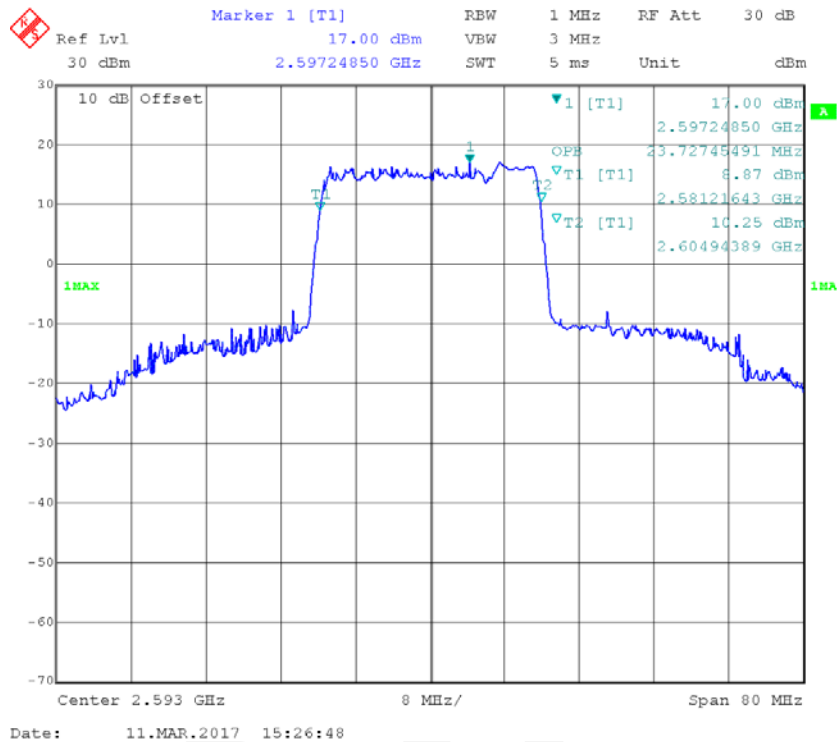
Band 41_15&20MHz_QPSK_P75#0&S100#0



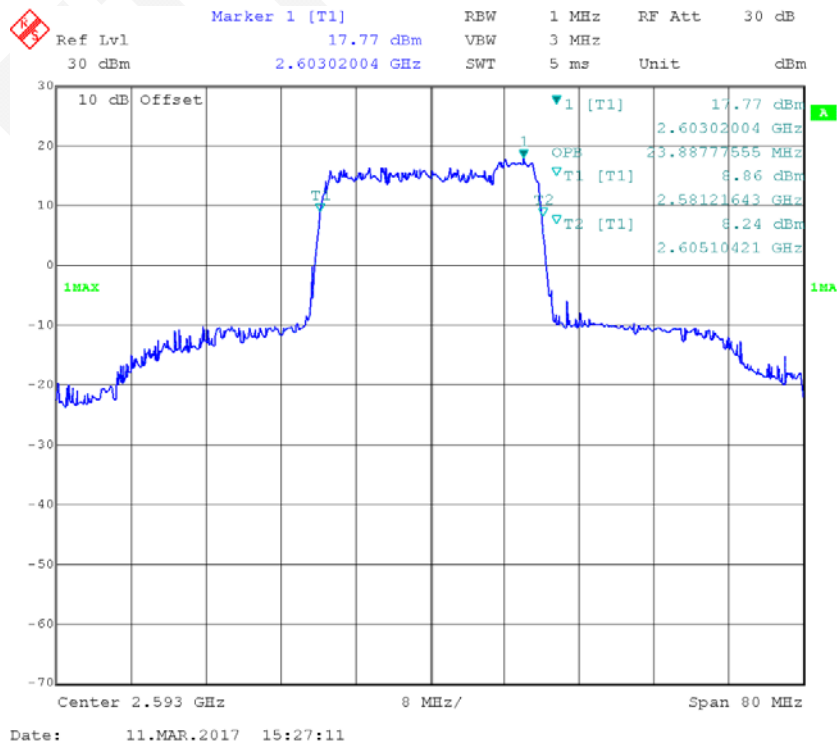
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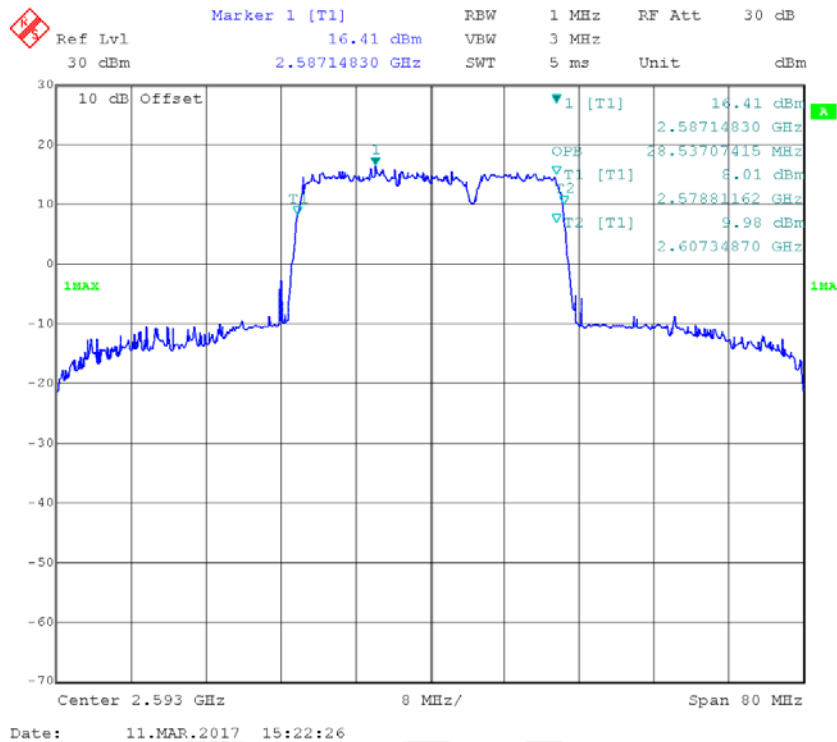
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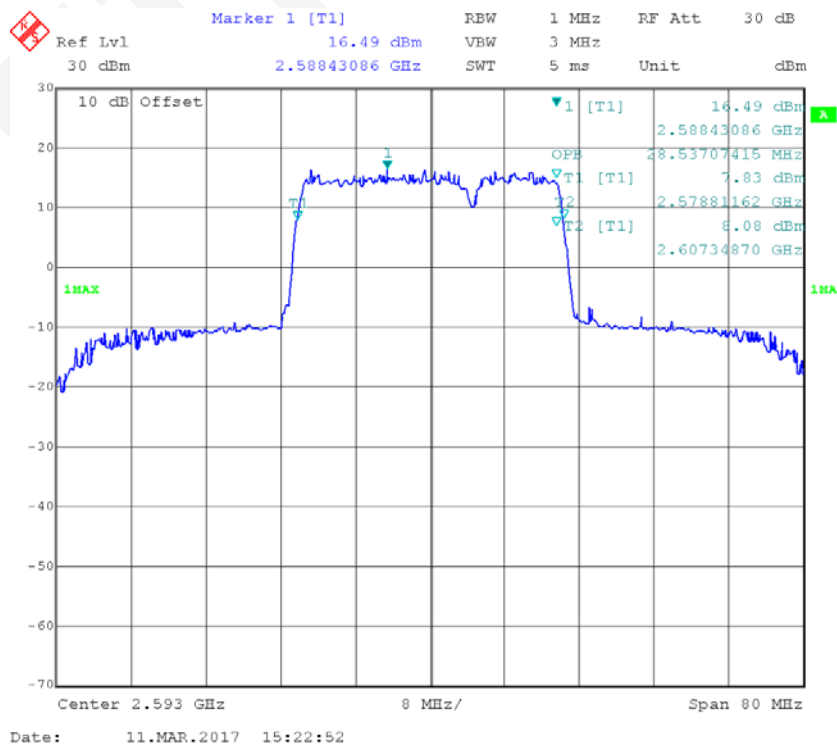
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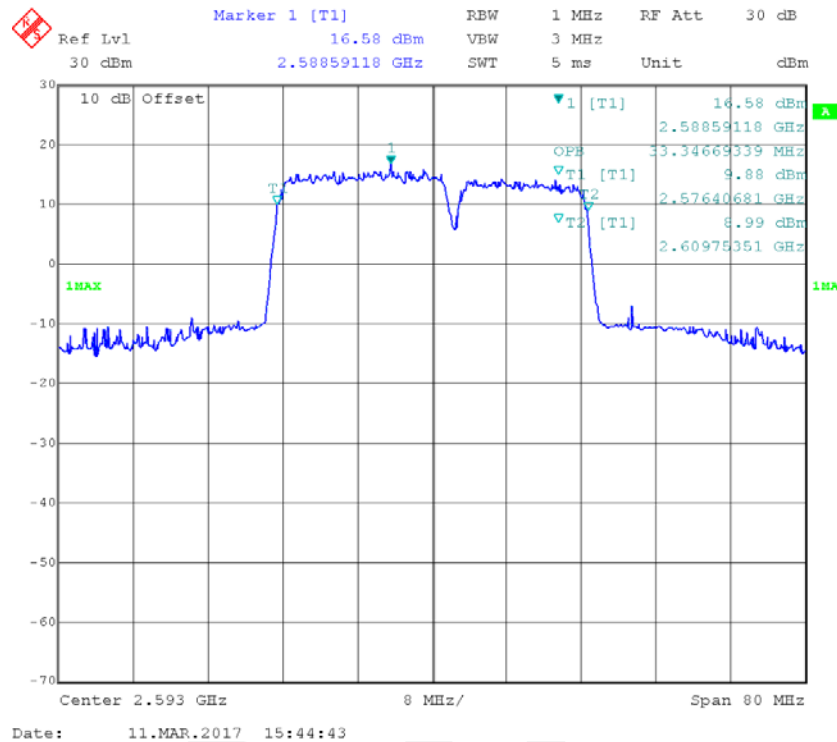
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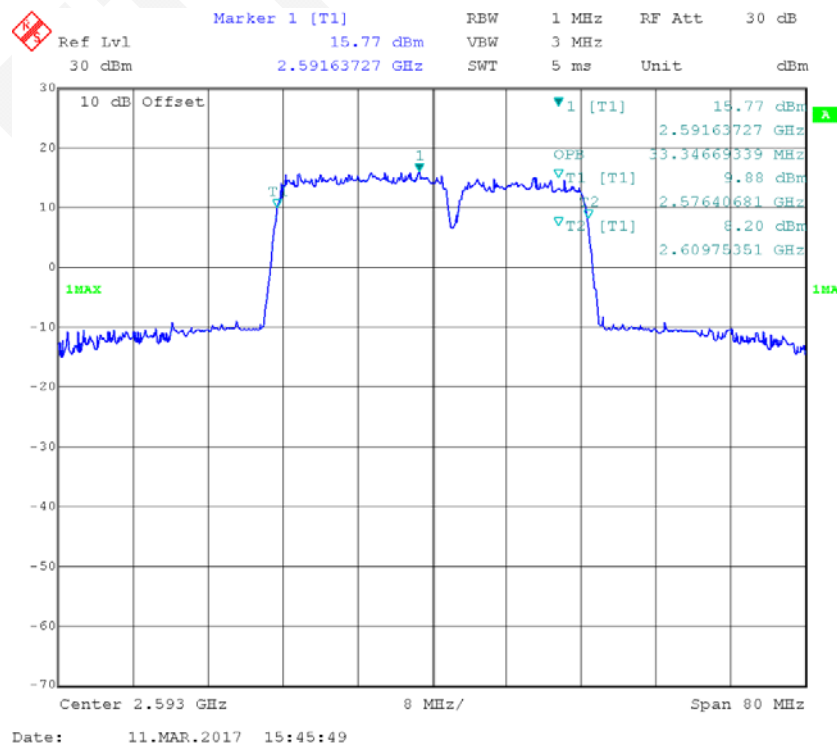
Band 41_20&10MHz_16QAM_P100#0&S50#0



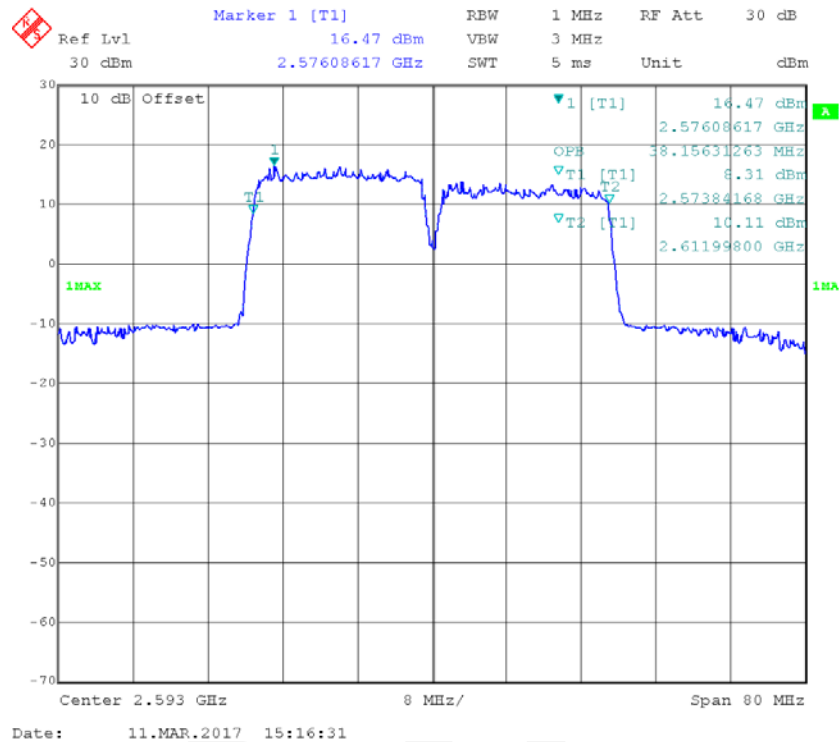
Band 41_20&15MHz_QPSK_P100#0&S75#0



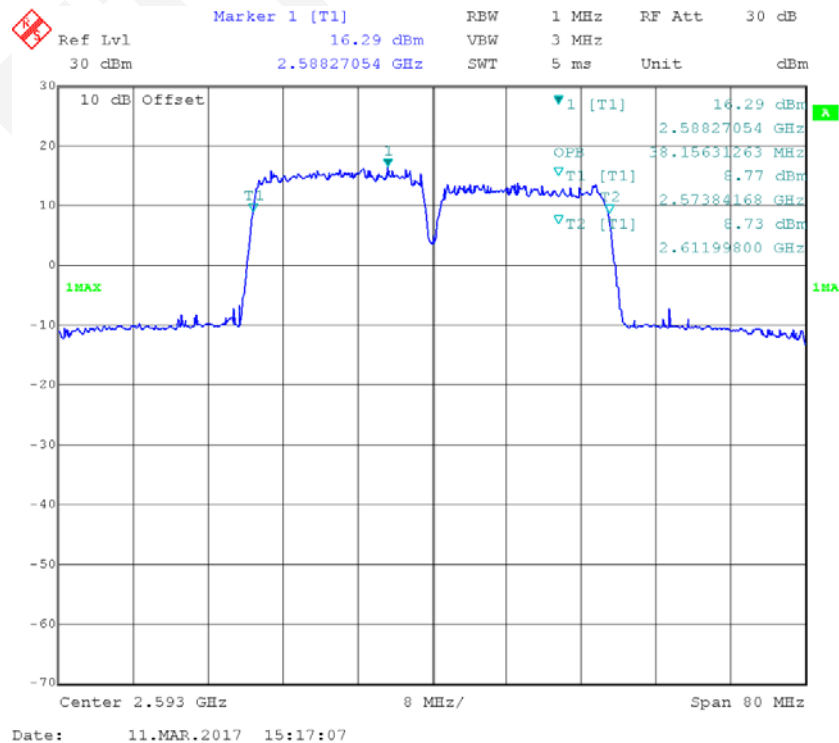
Band 41_20&15MHz_16QAM_P100#0&S75#0



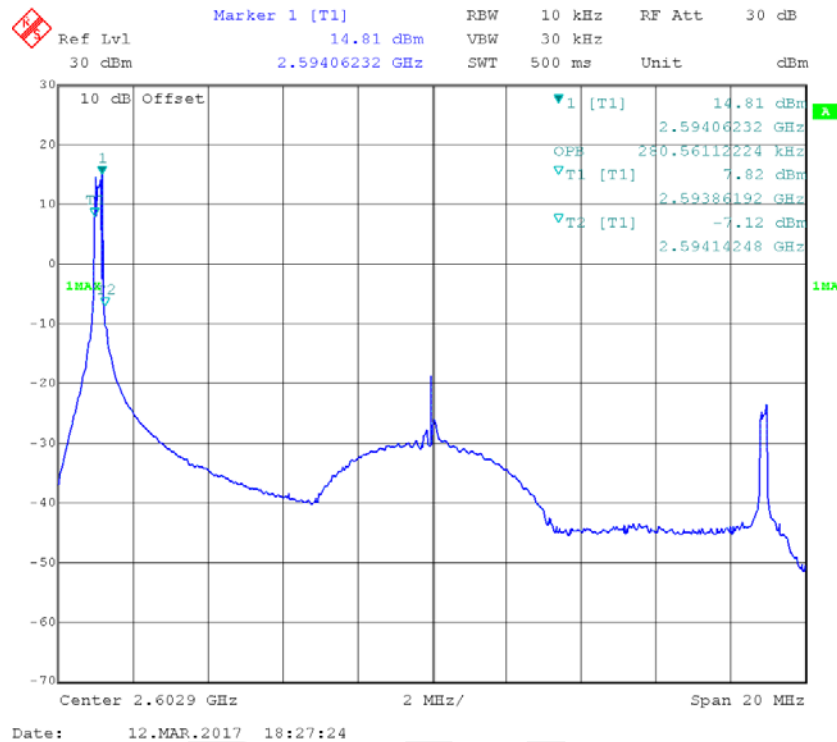
Band 41_20&20MHz_QPSK_P100#0&S100#0



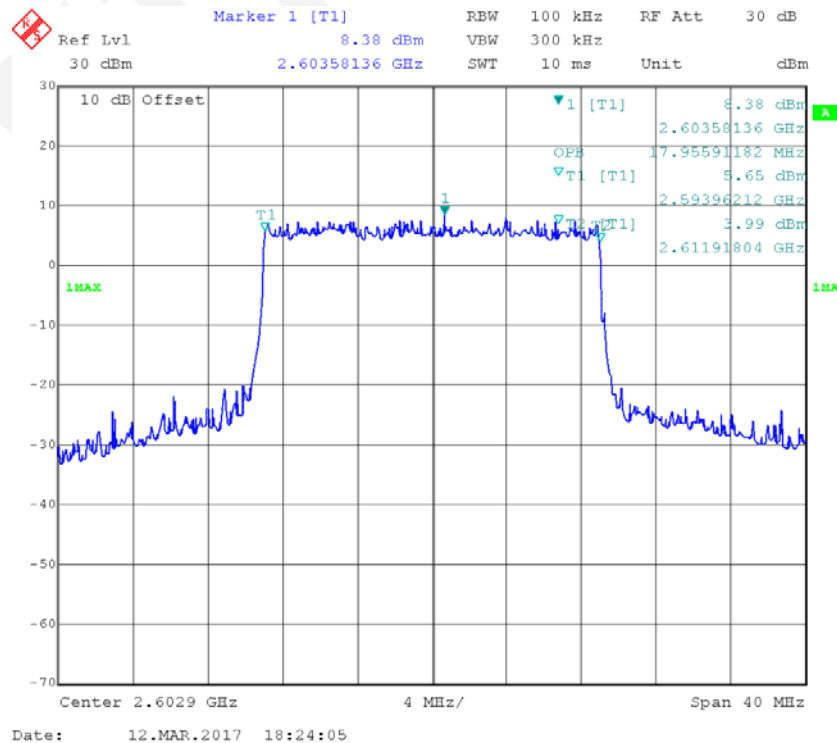
Band 41_20&20MHz_16QAM_P100#0&S100#0



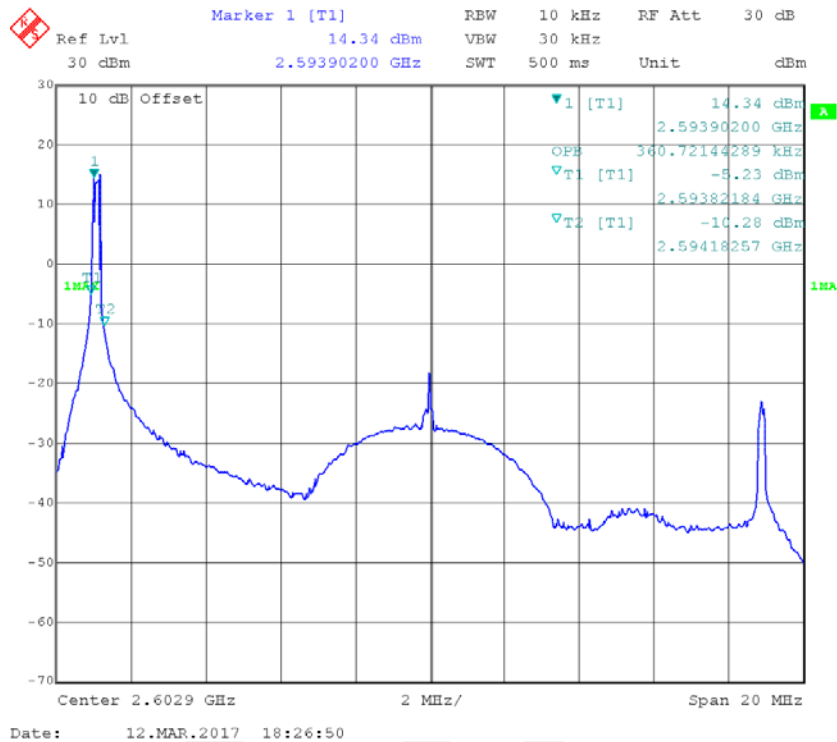
Band 41_20MHz_QPSK_RB1



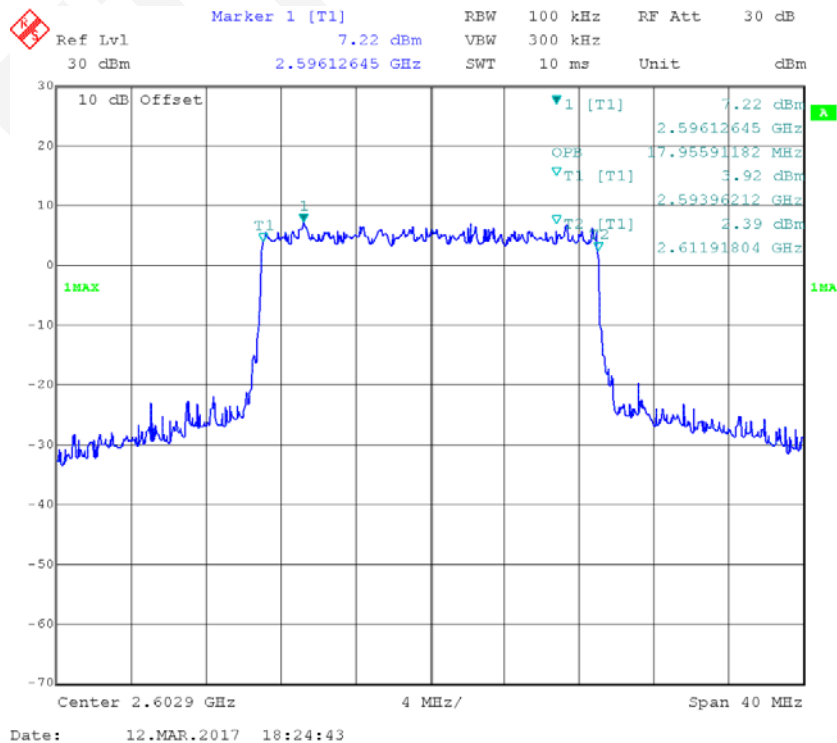
Band 41_20MHz_QPSK_RB100



Band 41_20MHz_16QAM_RB1



Band 41_20MHz_16QAM_RB100



FCC §2.1051, §27.53, RSS-195 § 5.6, RSS-199 § 4.5- SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standards

FCC §2.1051 and §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

FCC§27.53(a)

(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz;

(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

FCC§27.53(m)

(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies 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 than $43 + 10 \log (P)$ 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.

RSS-195 § 5.6

The transmitter unwanted emissions shall be measured with a resolution bandwidth of 1 MHz. A smaller resolution bandwidth is permitted provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz. However, in the 1 MHz bands immediately adjacent to the edges of the frequency range(s) in which the equipment is allowed to operate, a resolution bandwidth of as close as possible to, without being less than 1% of the occupied bandwidth, shall be employed provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz.

5.6.2 Mobile, Portable and Low-Power Fixed Subscriber Equipment

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, $P(\text{dBW})$, by the amount indicated in Table 2 and graphically represented in Figure 2, where p is the transmitter output power measured in watts.

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	$43 + 10 \log_{10}(p)$ ^{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	$43 + 10 \log_{10}(p)$ ^{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 5.2 for the permitted frequency ranges for various equipment types.

RSS-199 § 4.5

In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

(a) for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$.

(b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

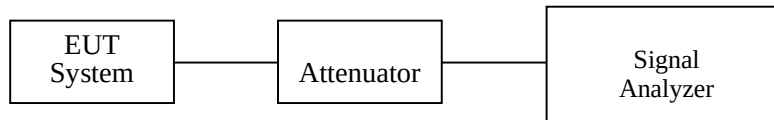
- (i) $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away
- (ii) $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- (iii) $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or below 2490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidths of the spectrum analyzer were set at 100 kHz @ below 1GHz, 1MHz @ above 1GHz. sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2016-09-21	2017-09-20
Unknown	RF Cable	Unknown	C-2	Each Time	/
Unknown	Two-way Splitter	Unknown	OE0120121	Each Time	/
R&S	Wideband Radio Communication Tester	CMW500	106891	2016-11-23	2017-11-23

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B "Implementation of traceability policy in accredited laboratories".

Test Data

Environmental Conditions

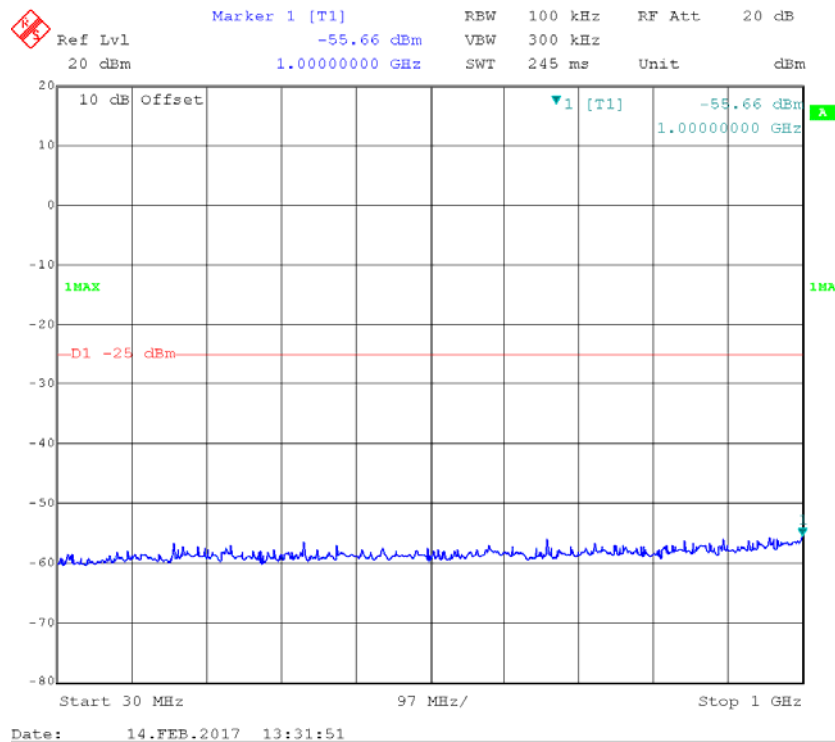
Temperature:	18~20 °C
Relative Humidity:	56~60 %
ATM Pressure:	95~95.2 kPa

The testing was performed by Lorin Bian from 2017-02-14 to 2017-03-18.

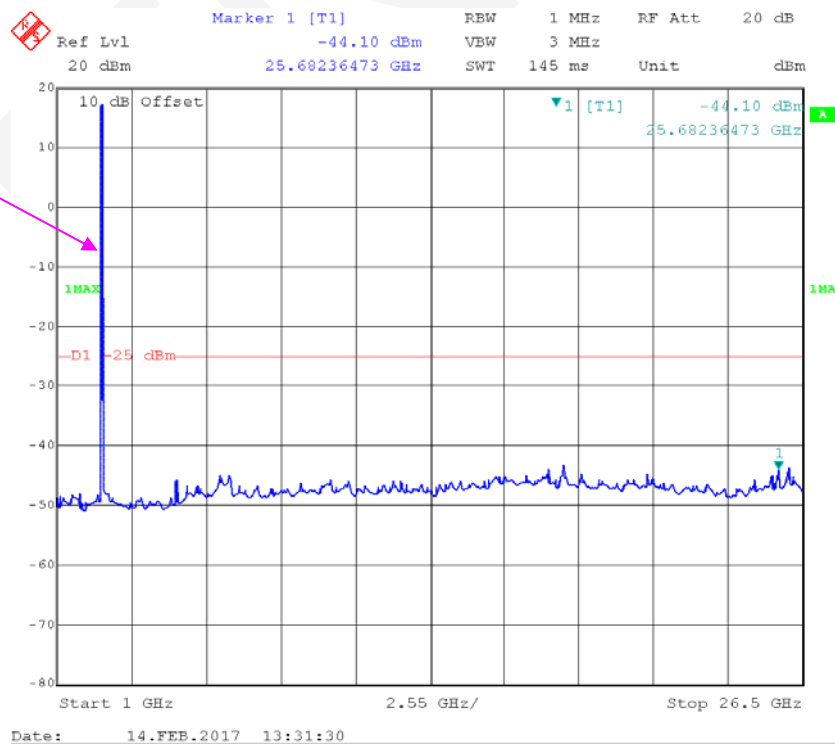
Please refer to the following plots.

Band 7, Singer Carrier:

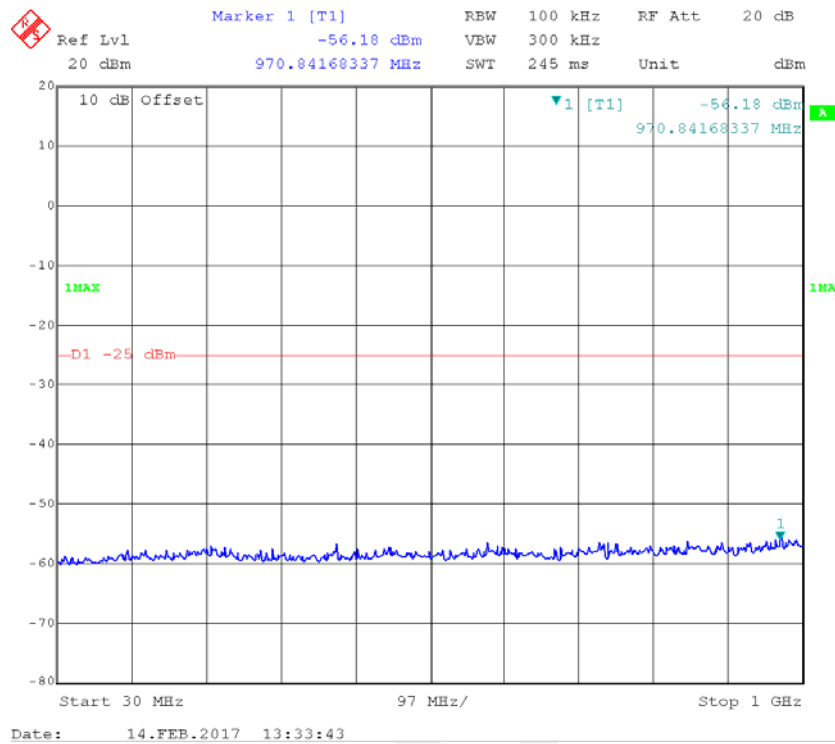
QPSK_5MHz_RB#25



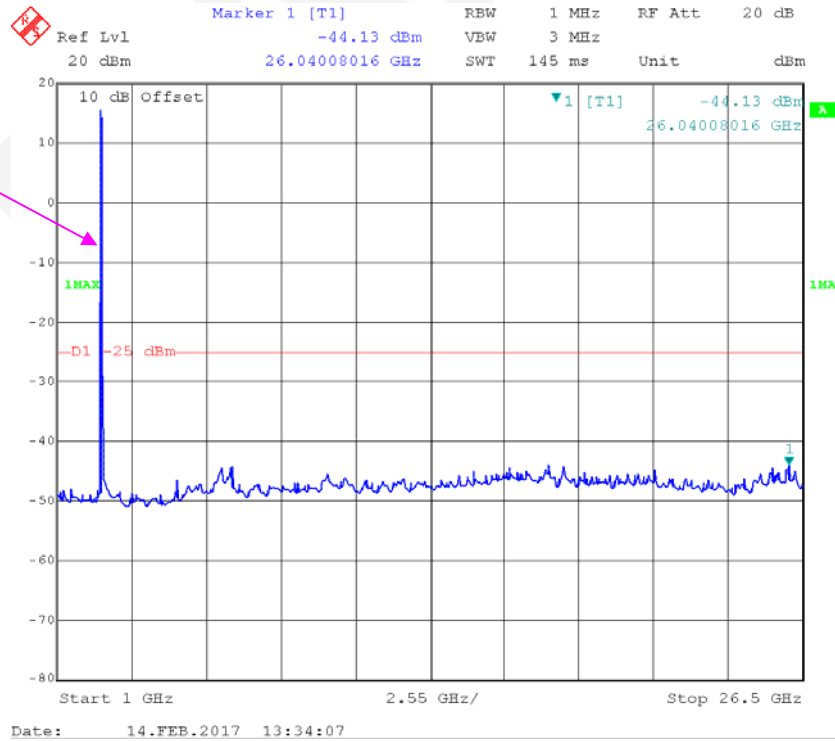
Fundamental



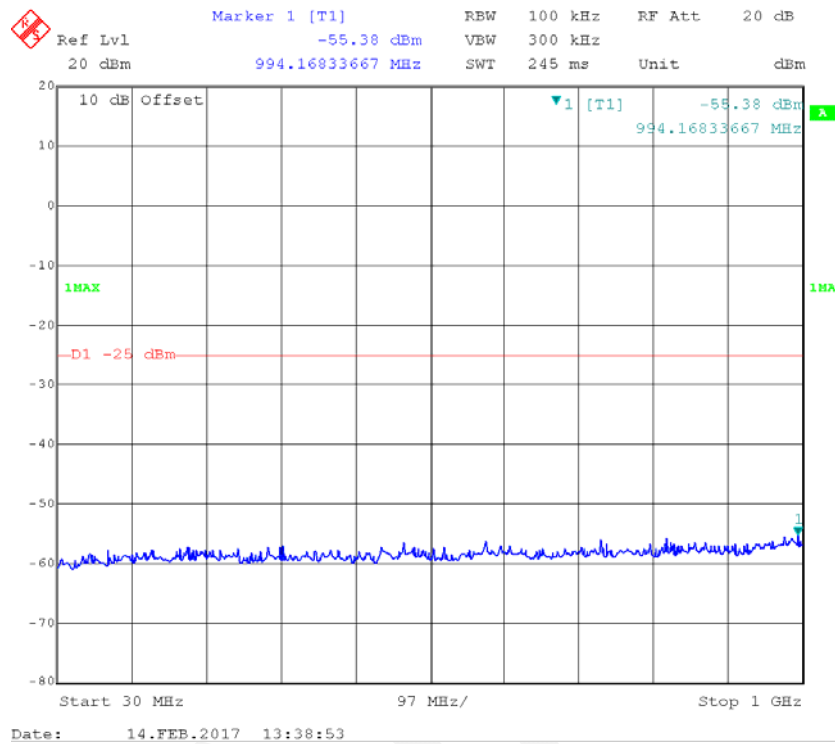
QPSK_10MHz_RB#50



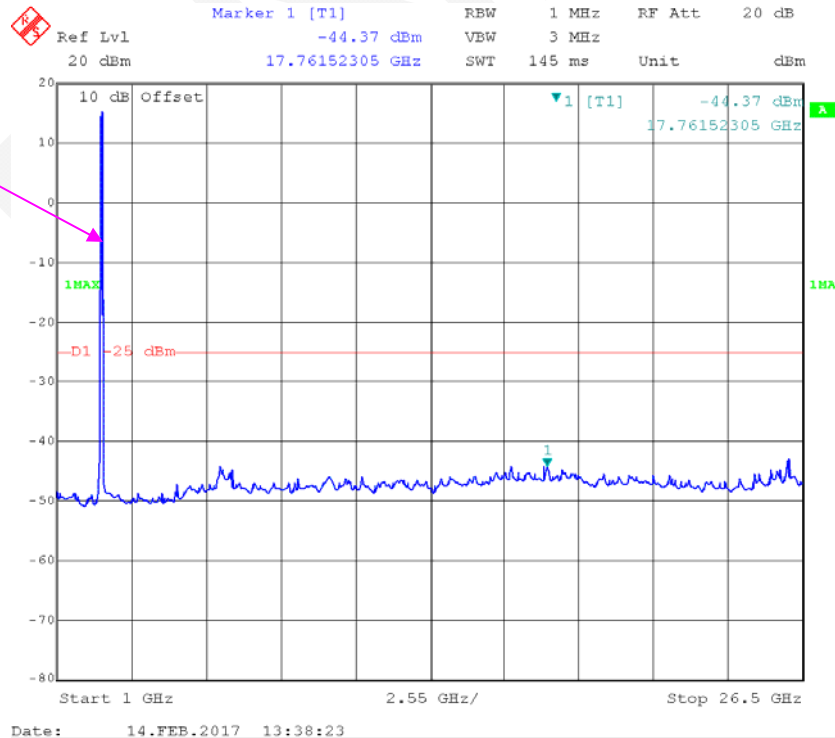
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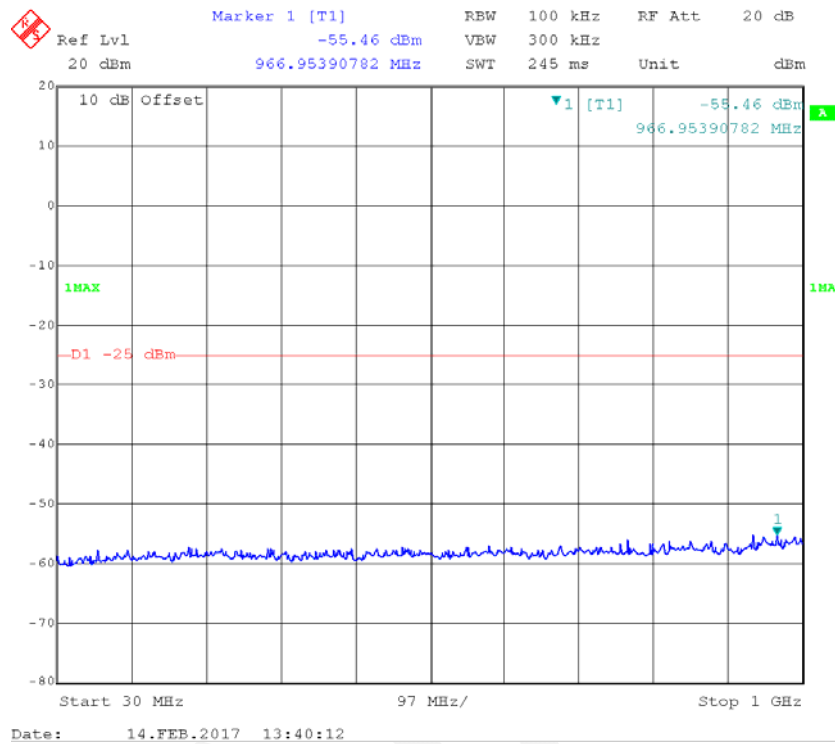
QPSK_15MHz_RB#75



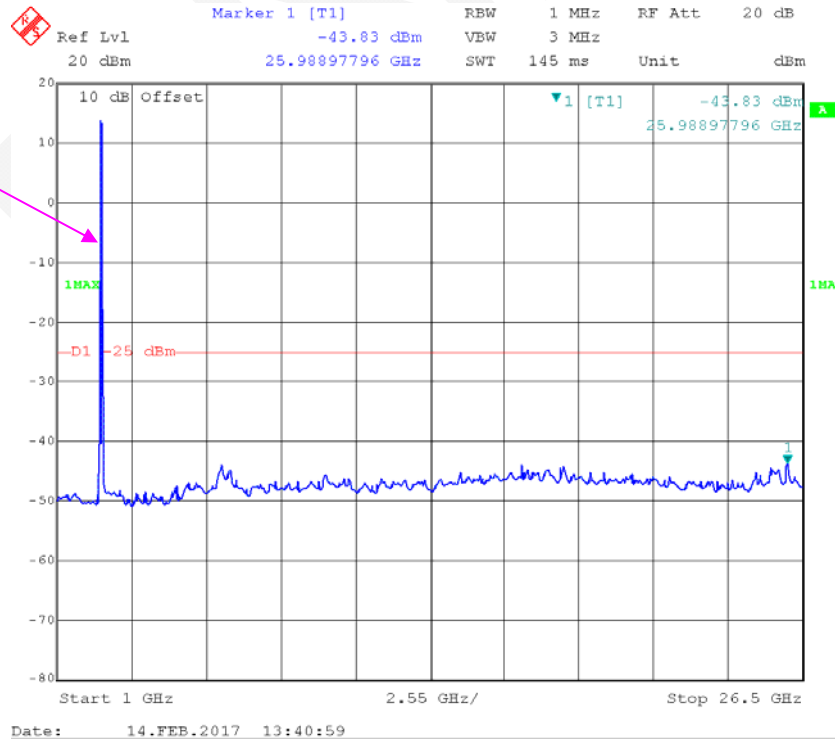
Fundamental



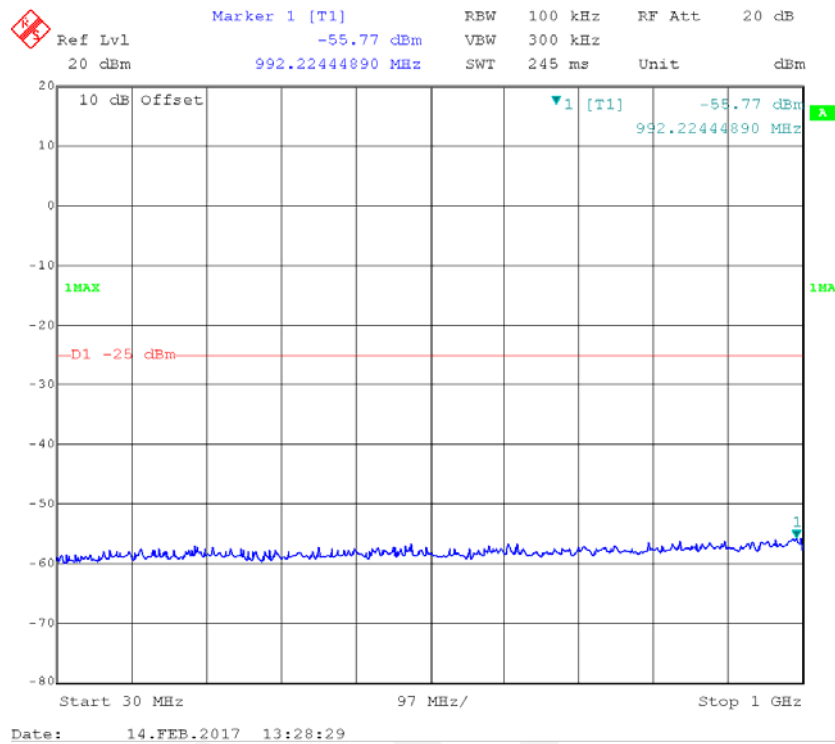
QPSK_20MHz_RB#100



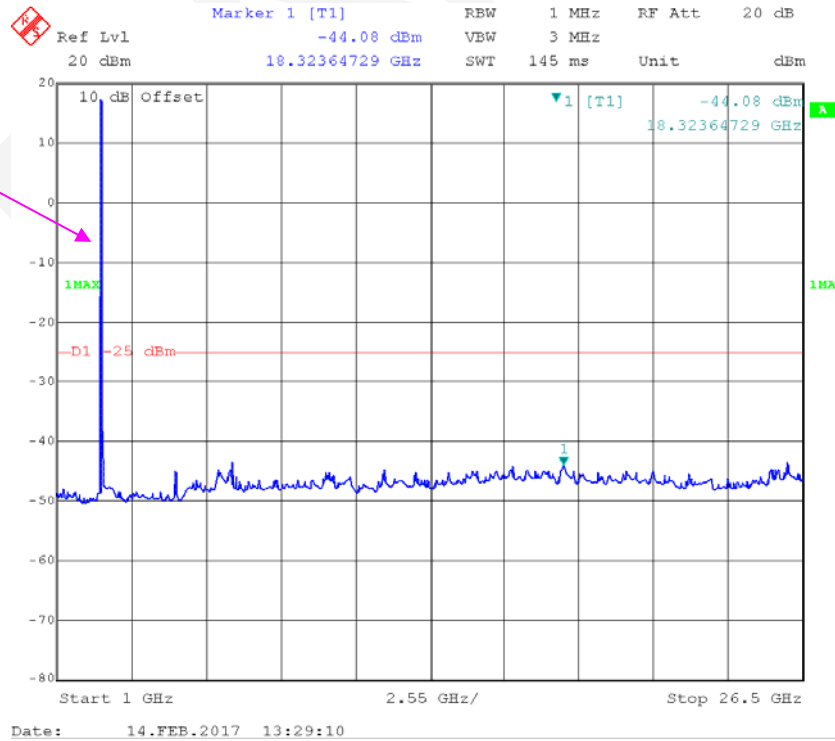
Fundamental



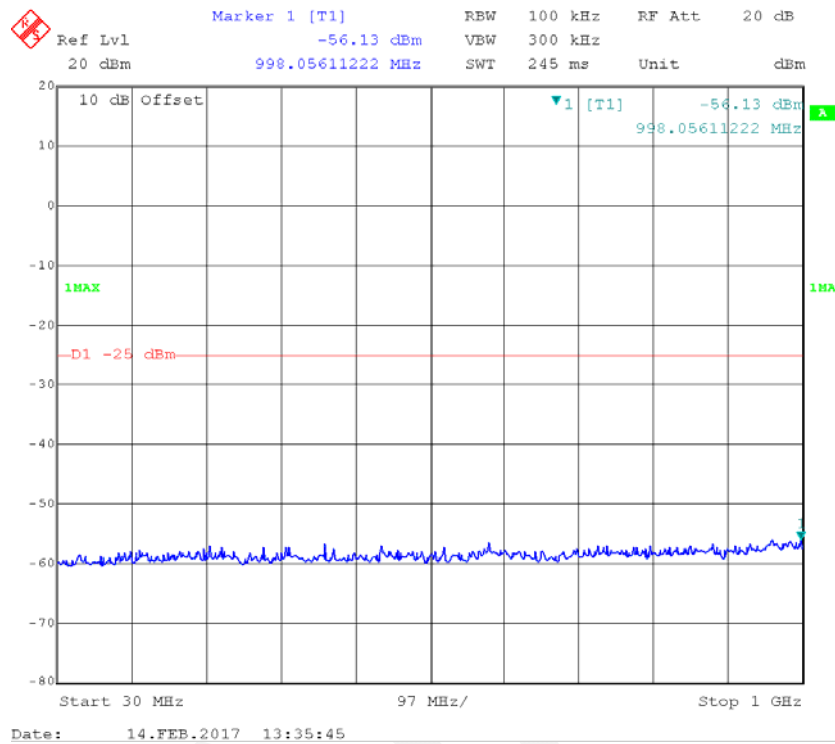
16-QAM_5MHz_RB#25



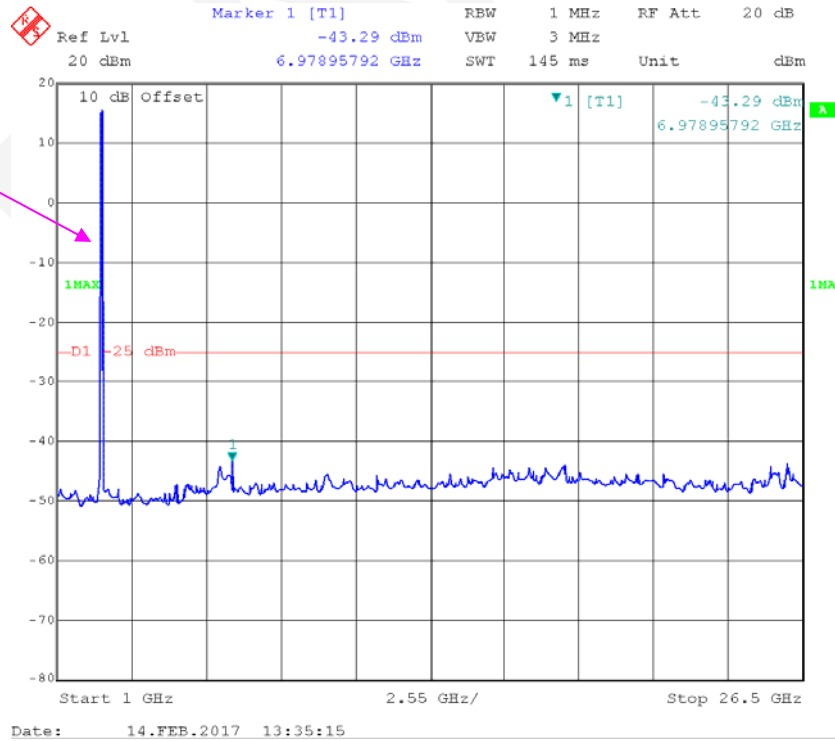
Fundamental



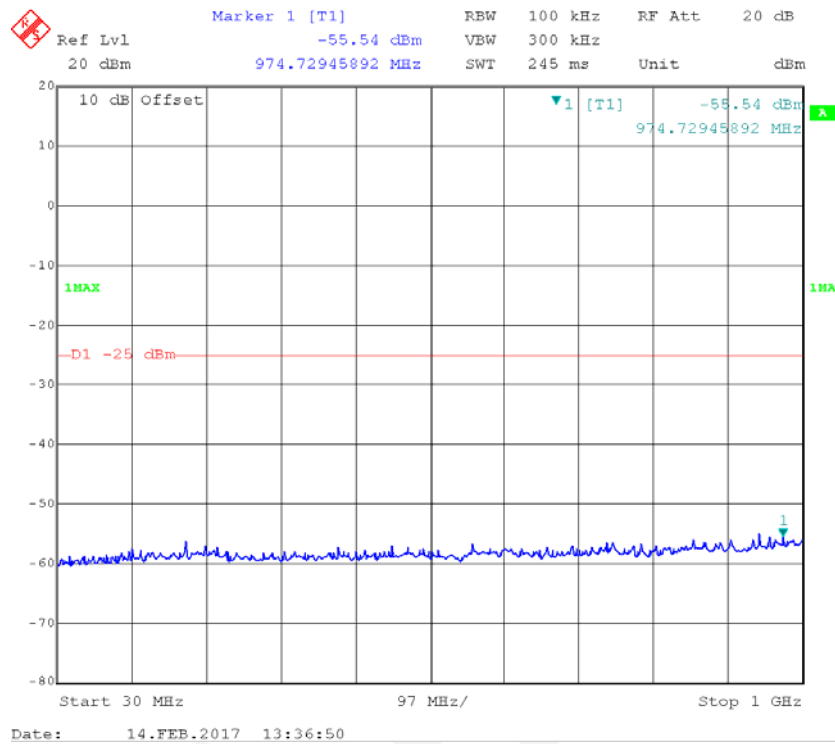
16-QAM 10MHz_RB#50



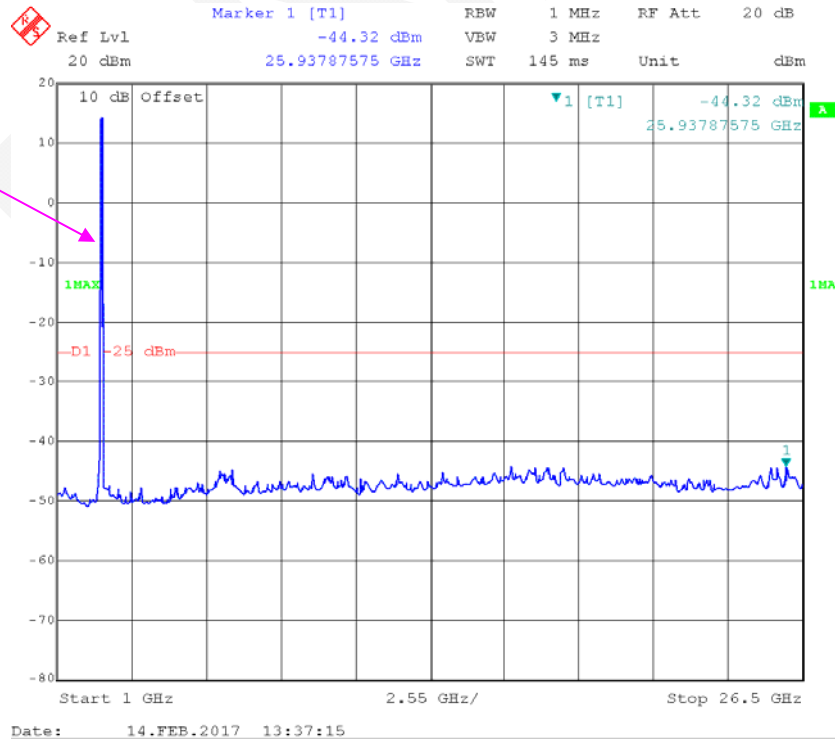
Fundamental



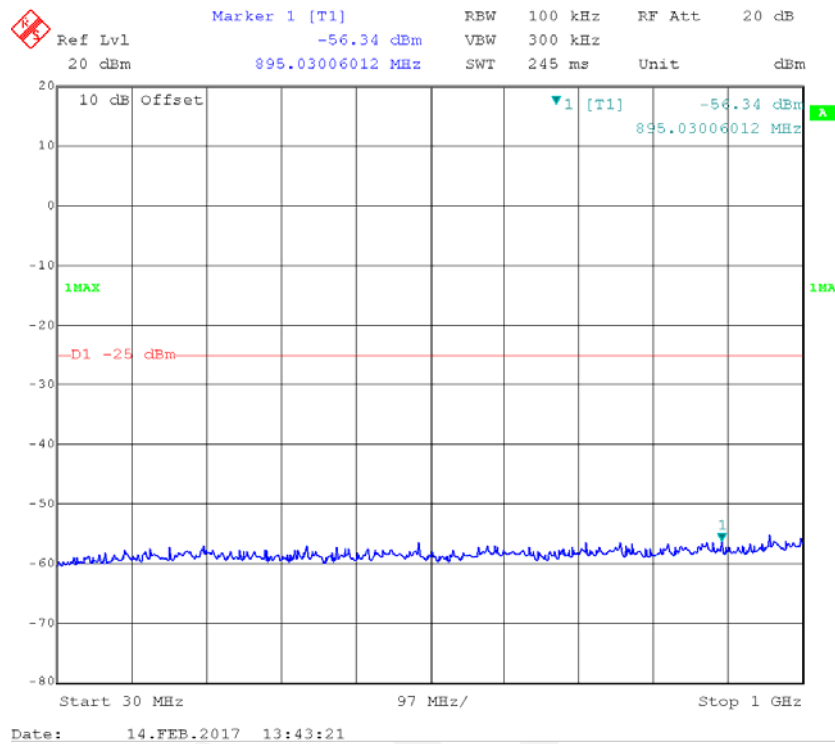
16-QAM 15MHz_RB#75



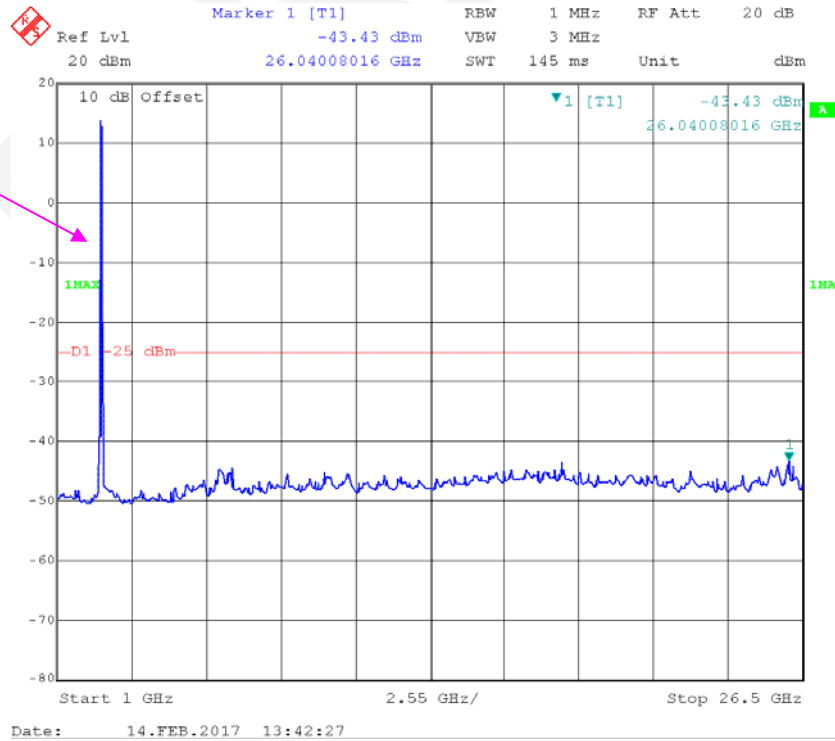
Fundamental



16-QAM_20MHz_RB#100

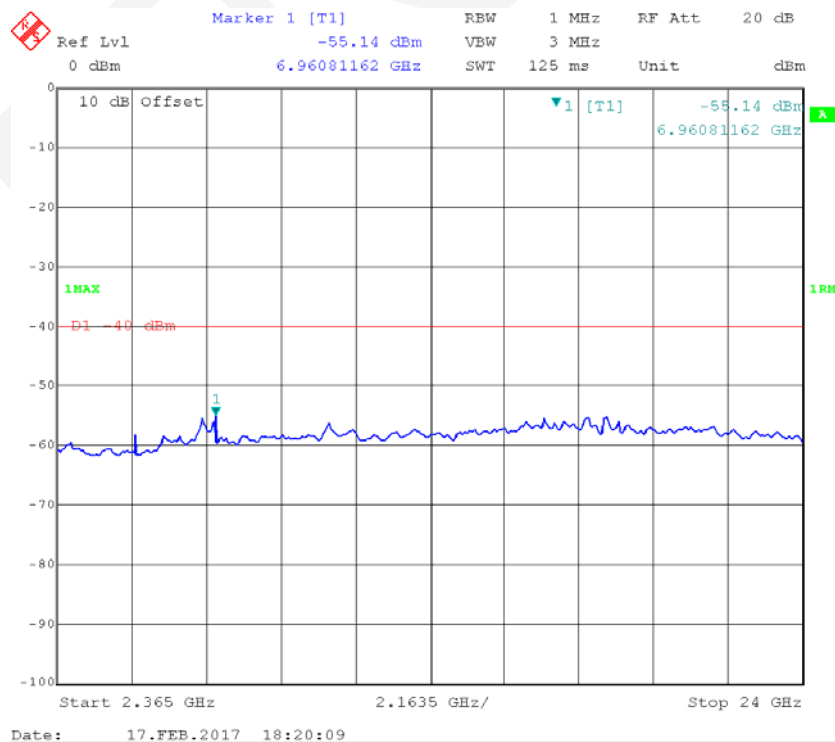
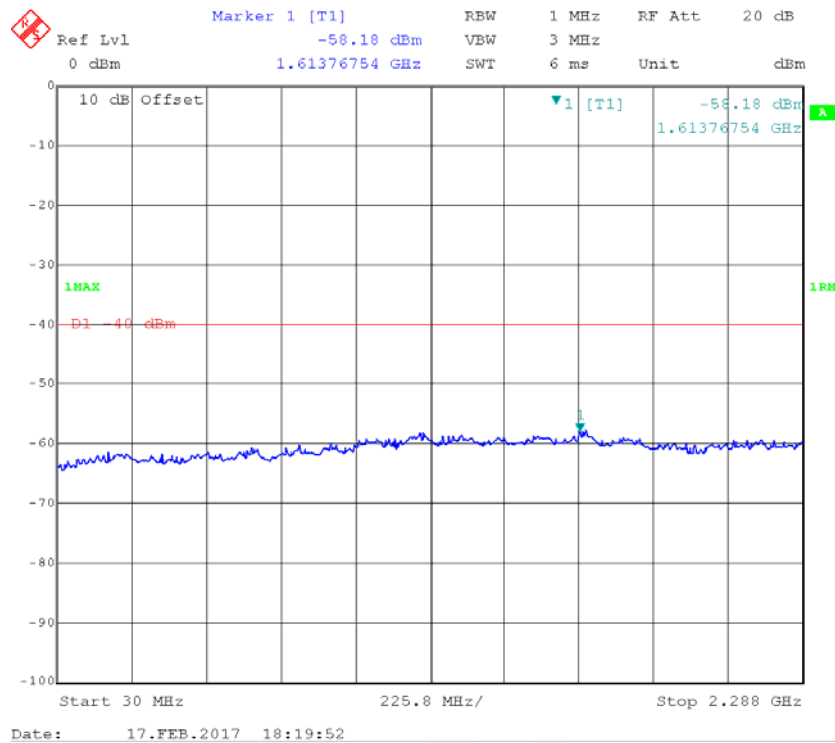


Fundamental

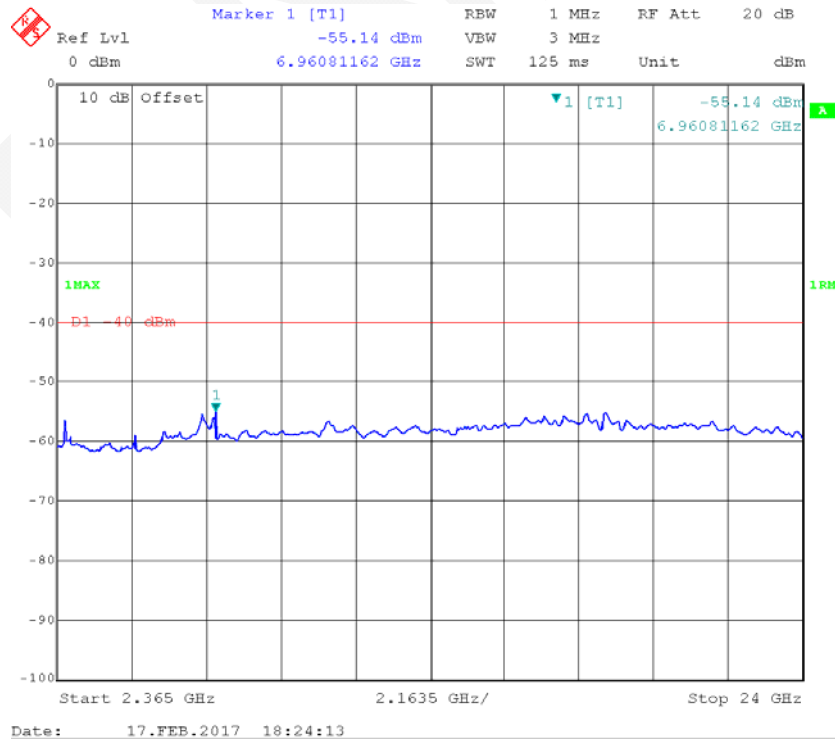
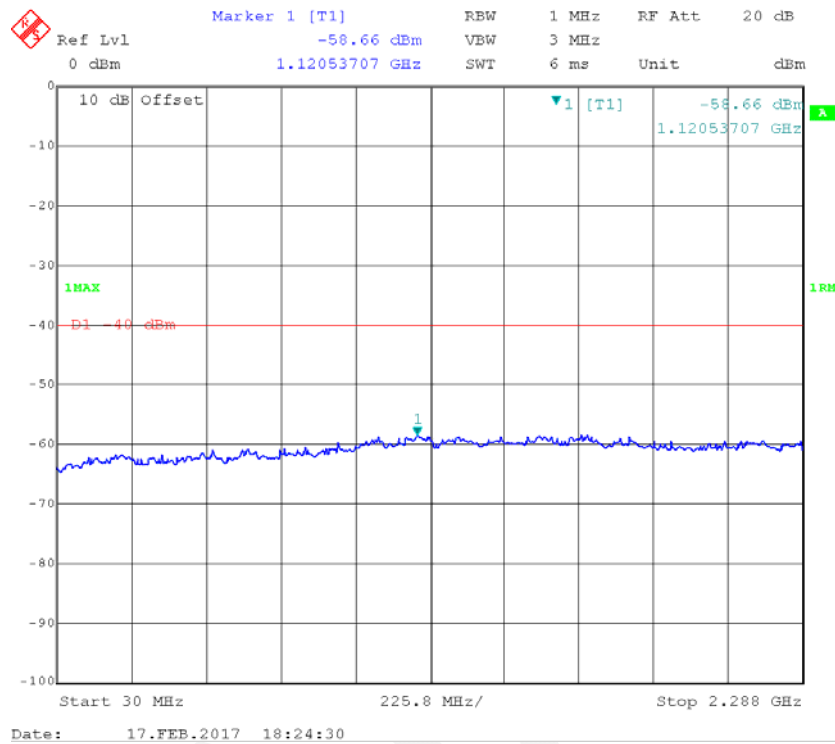


Band 40(2305MHz-2315MHz):

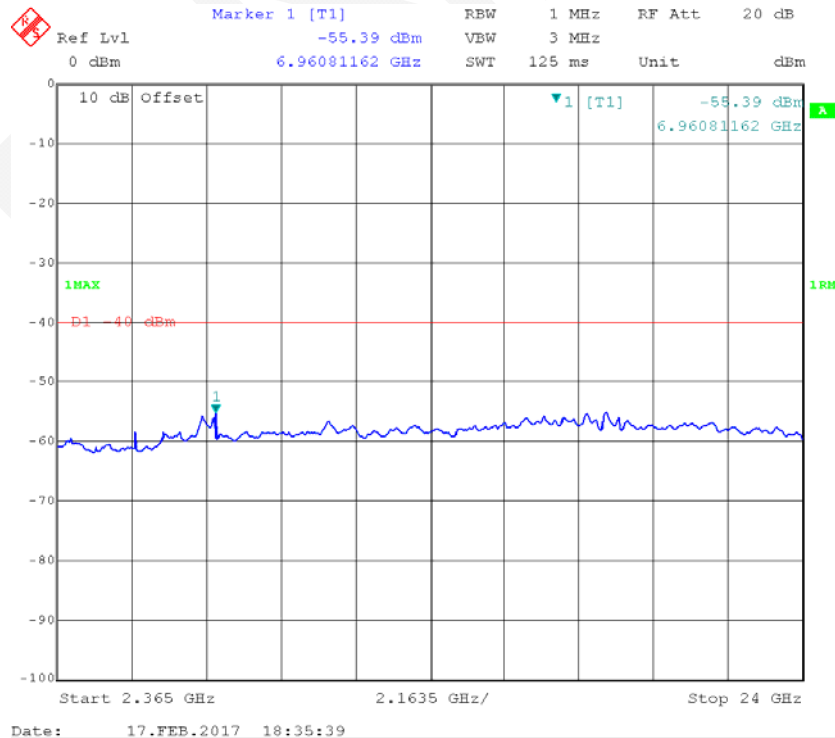
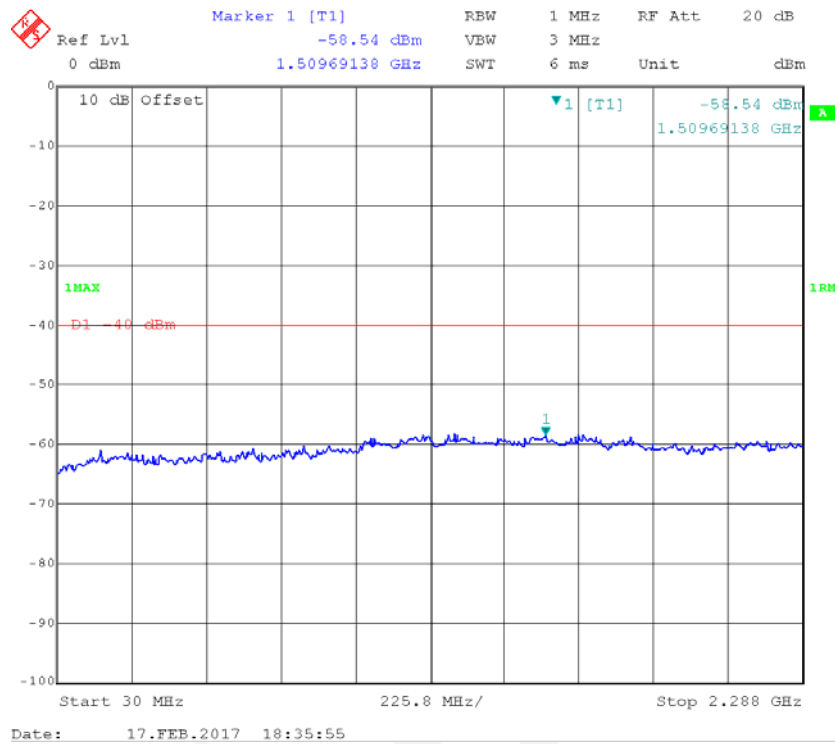
QPSK_ 5MHz_ Middle Channel



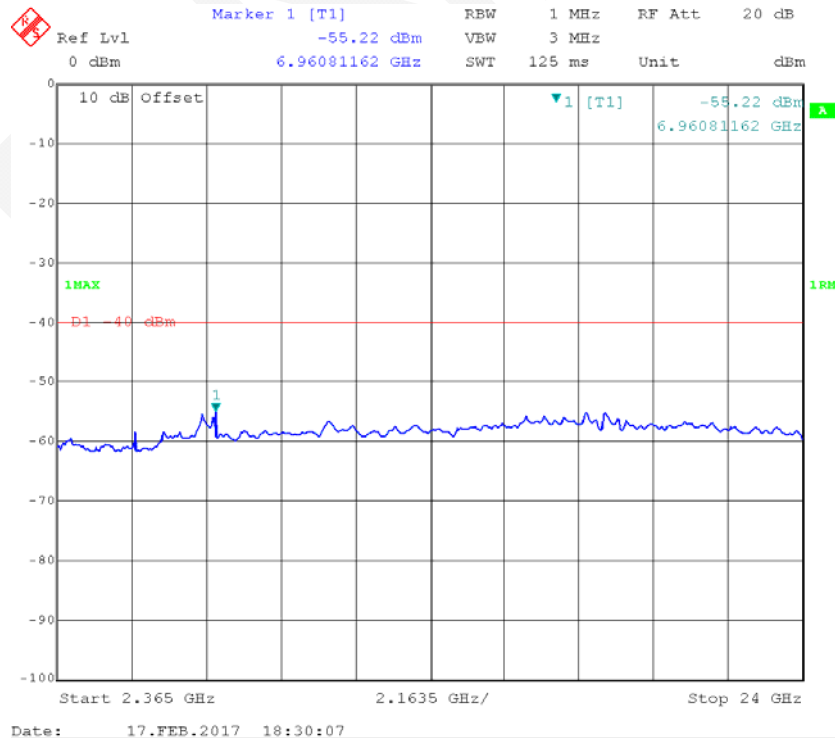
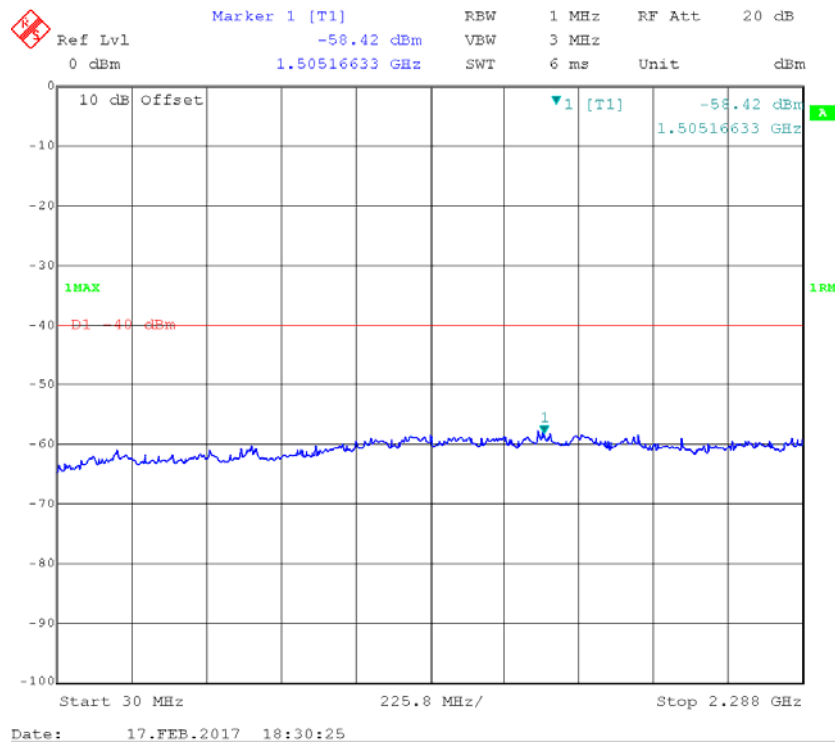
QPSK_10MHz_Middle Channel



16-QAM_5MHz_Middle Channel

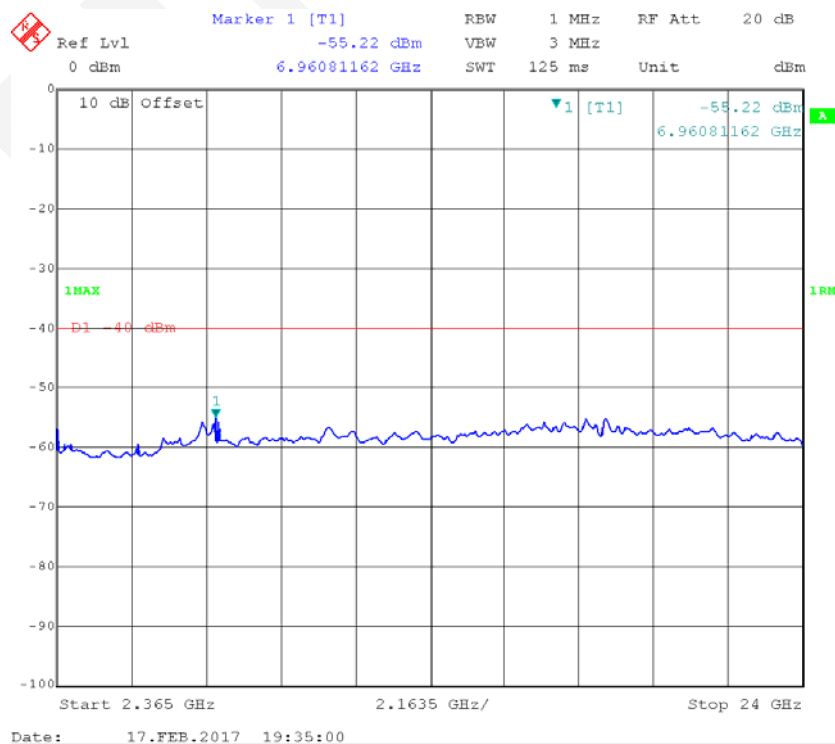
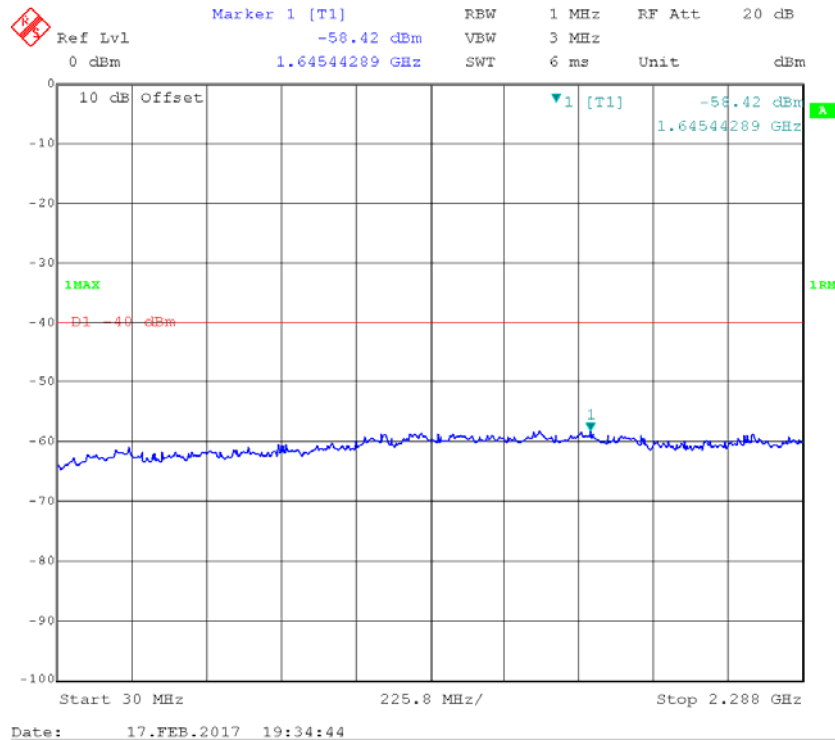


16-QAM_10MHz_Middle Channel

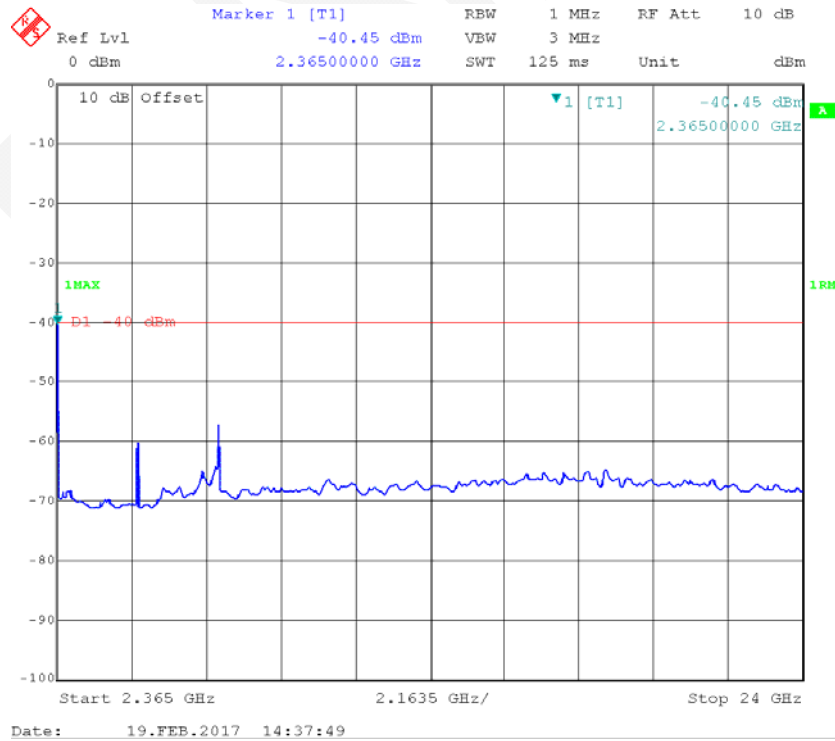
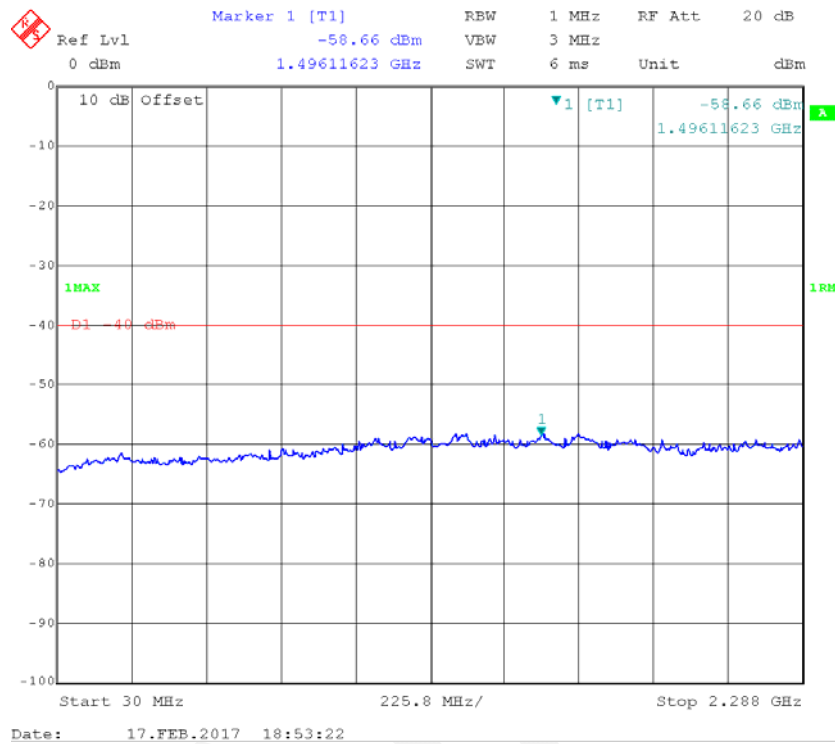


Band 40(2350MHz-2360MHz):

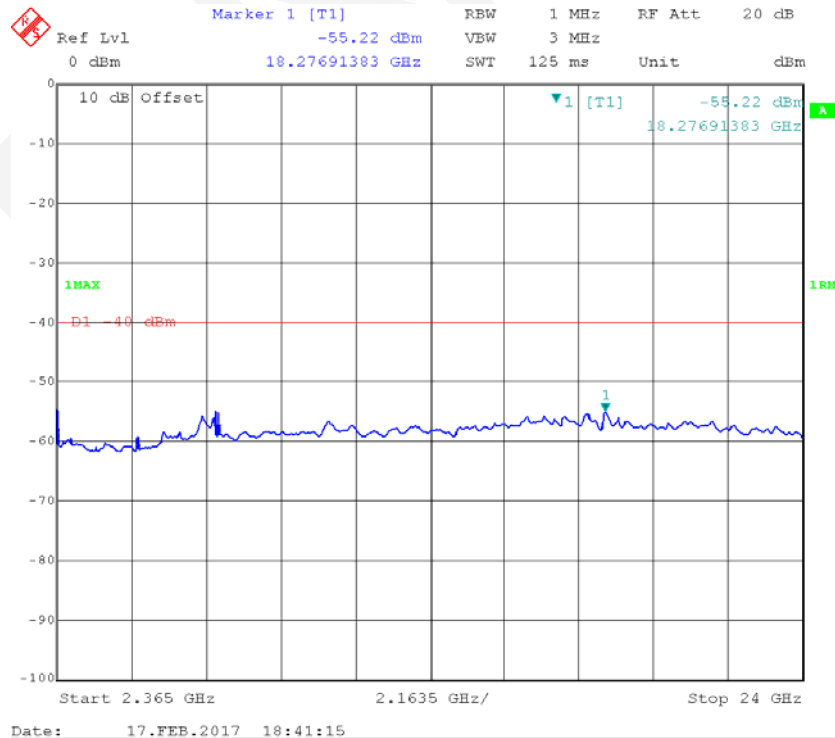
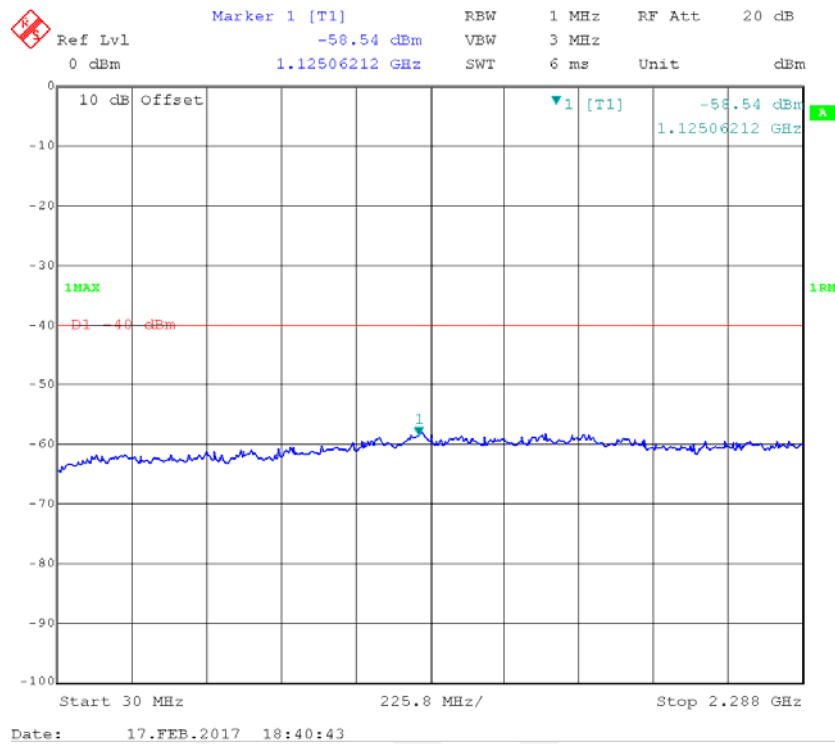
QPSK_5MHz_Middle Channel



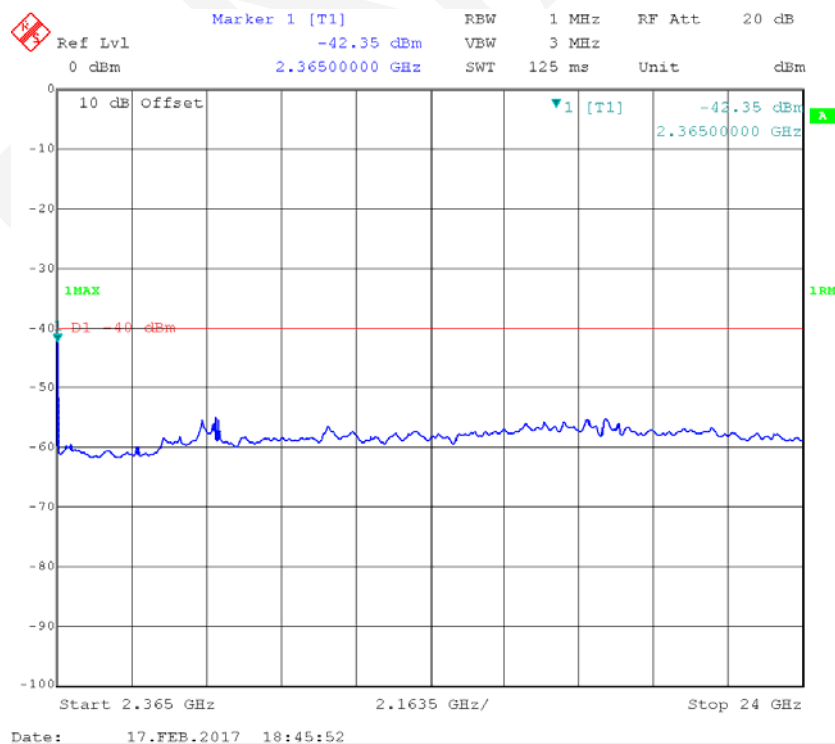
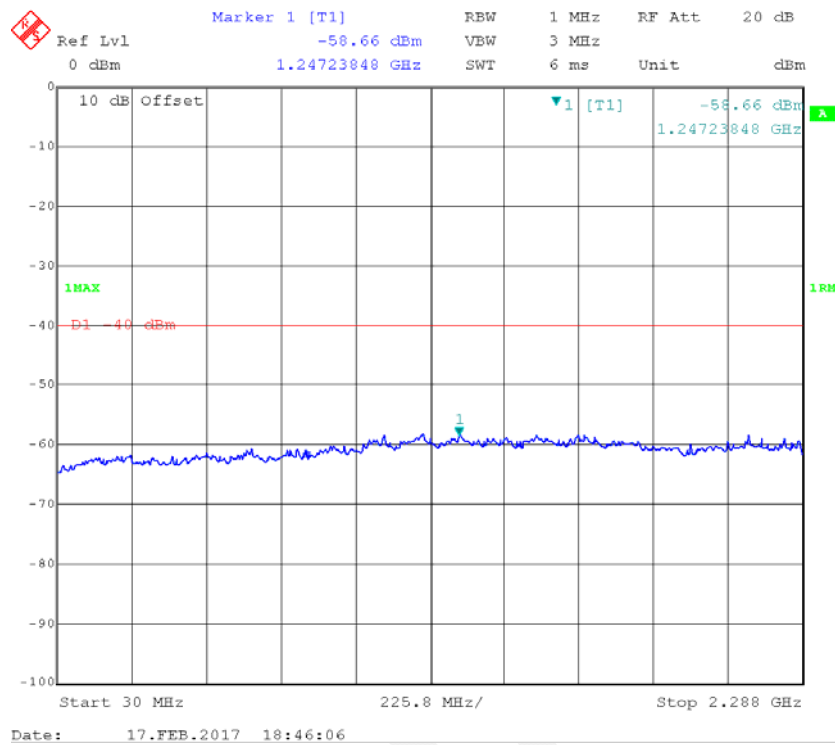
QPSK_10MHz_Middle Channel



16-QAM_5MHz_Middle Channel

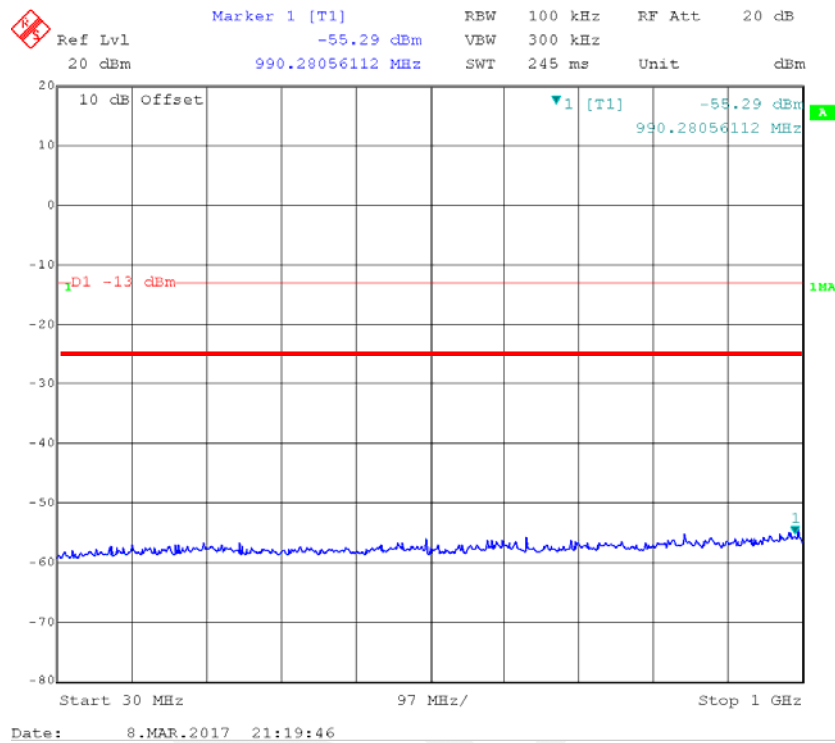


16-QAM_10MHz_Middle Channel

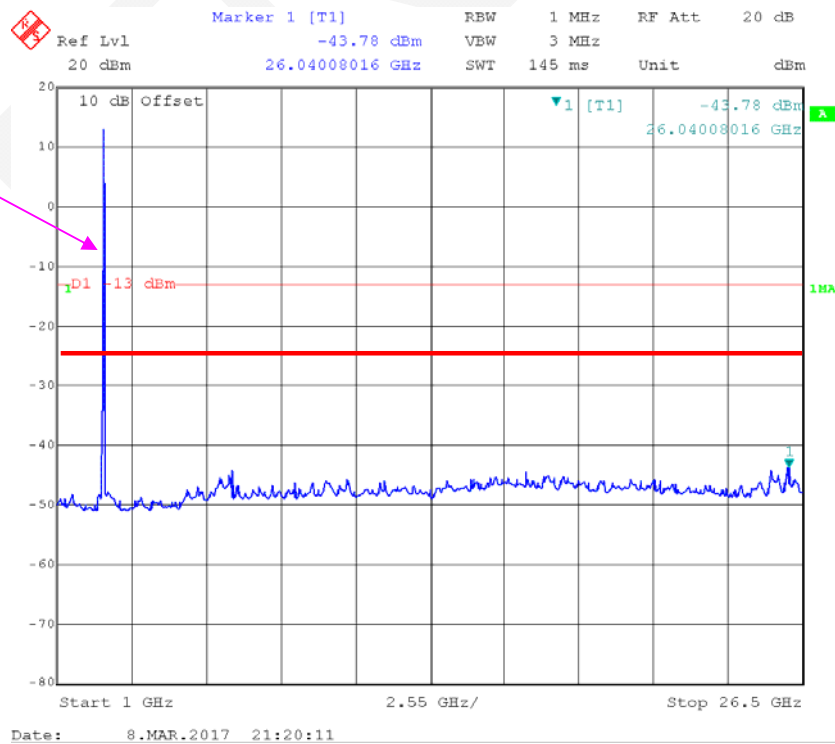


Band 41:

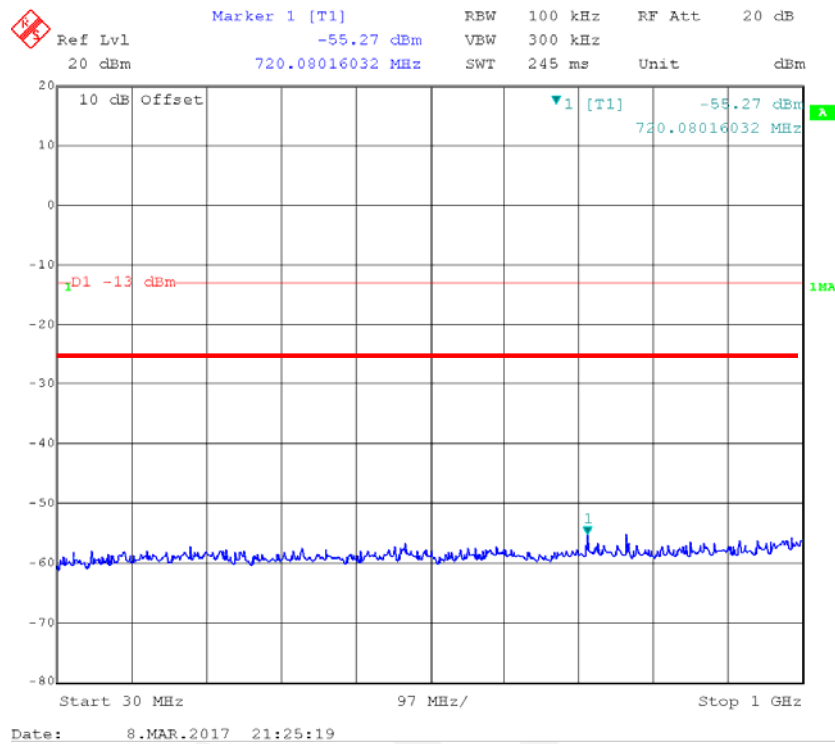
QPSK_5MHz_RB#25



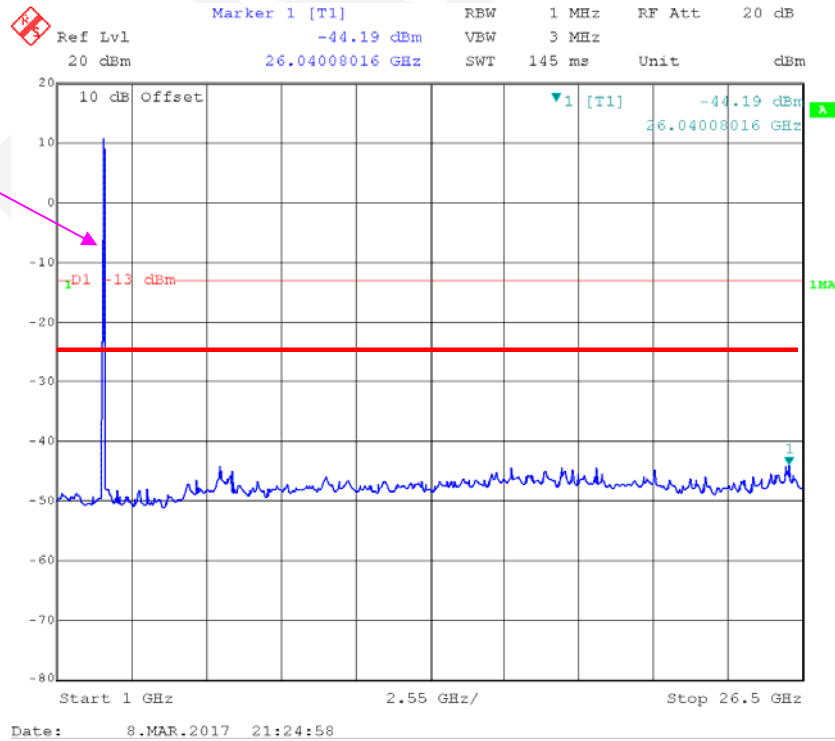
Fundamental



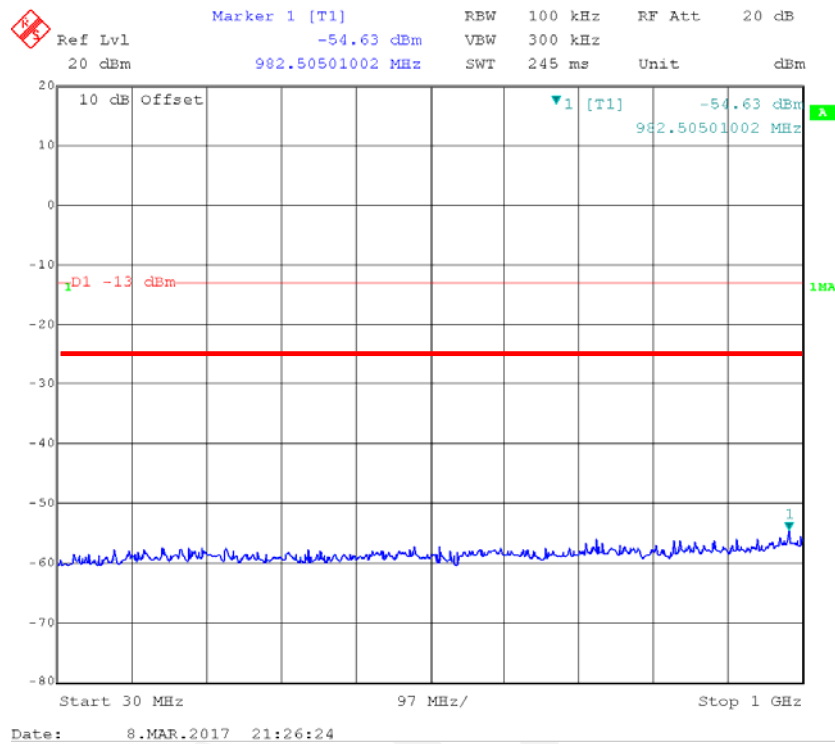
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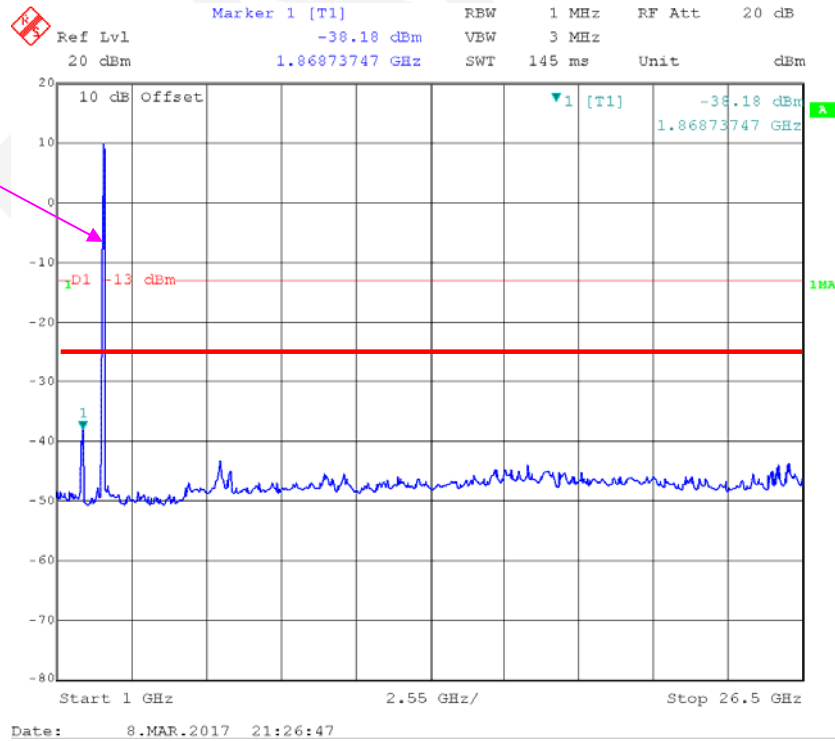
Fundamental



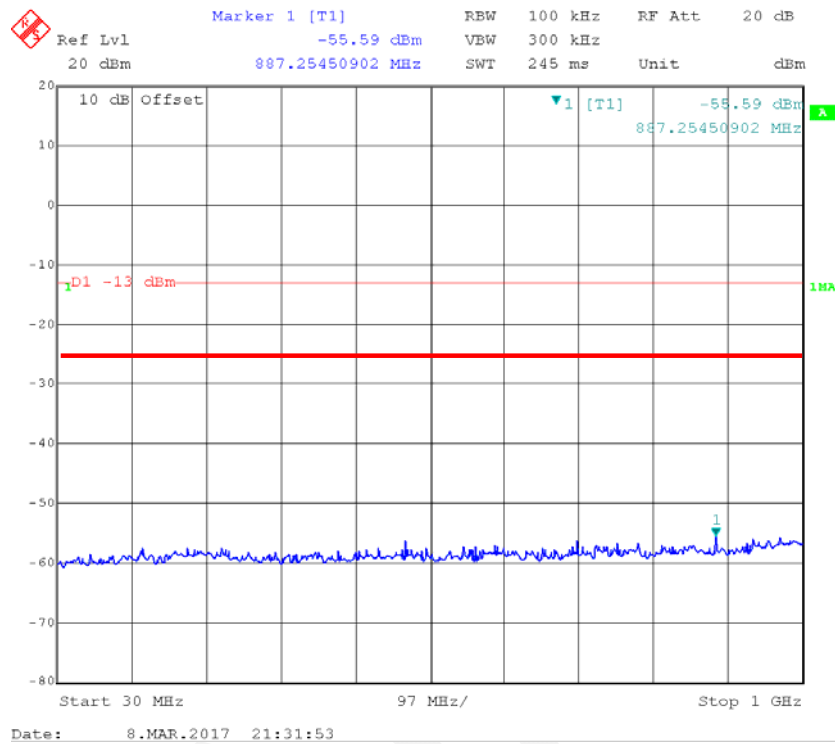
QPSK_15MHz_RB#75



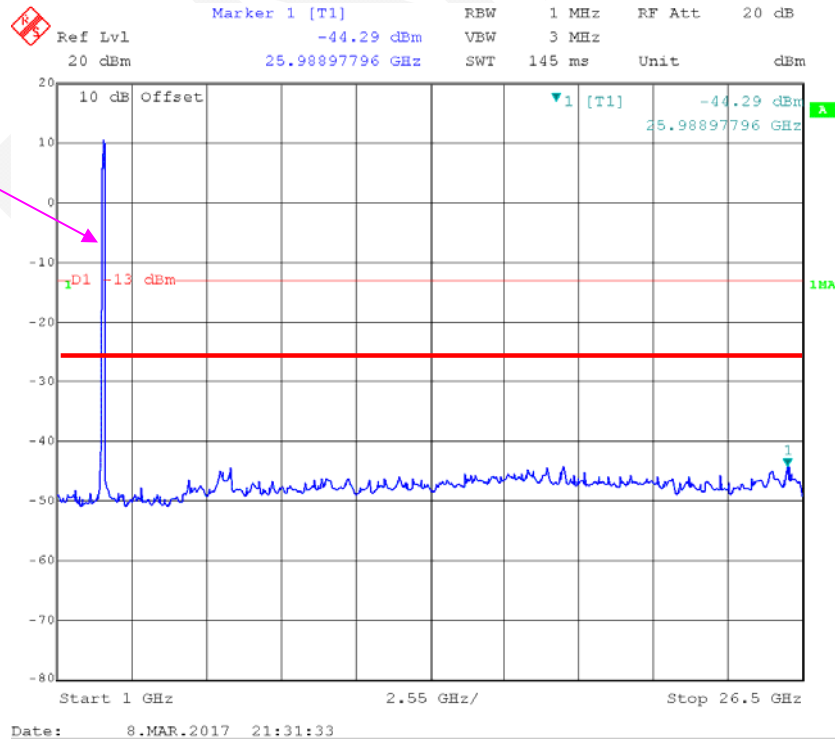
Fundamental



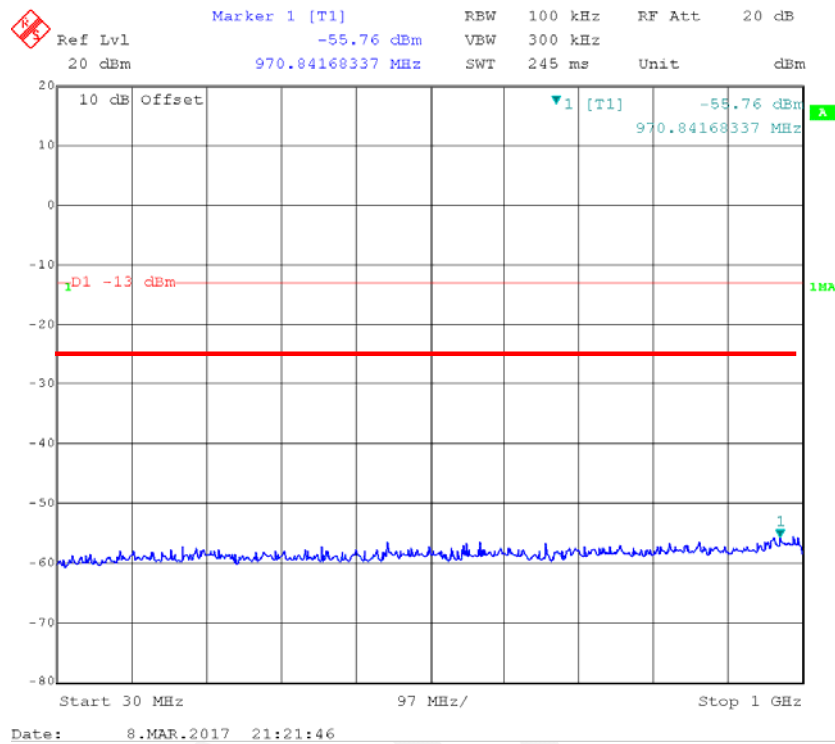
QPSK_20MHz_RB#100



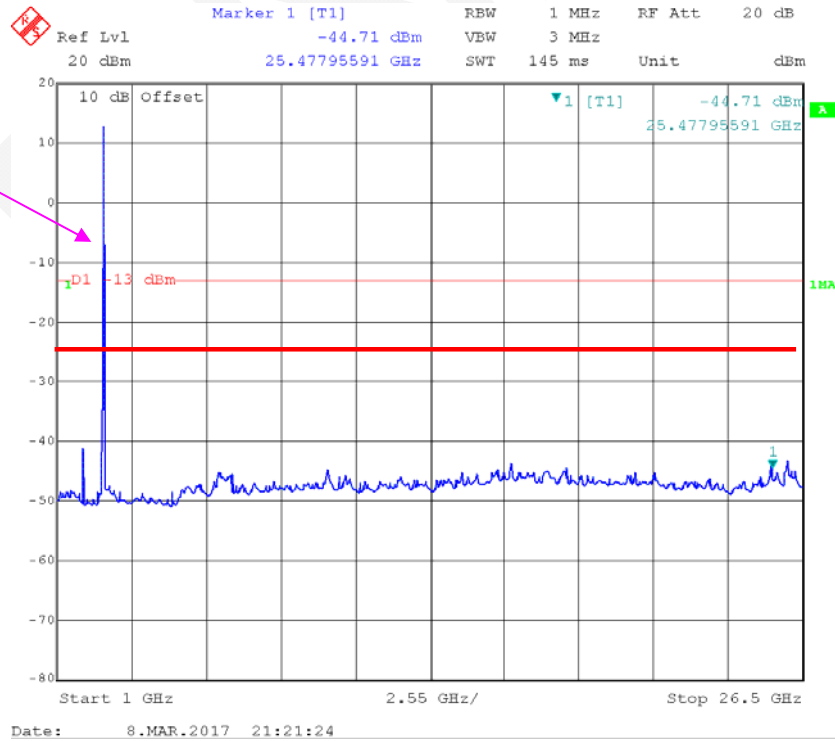
Fundamental



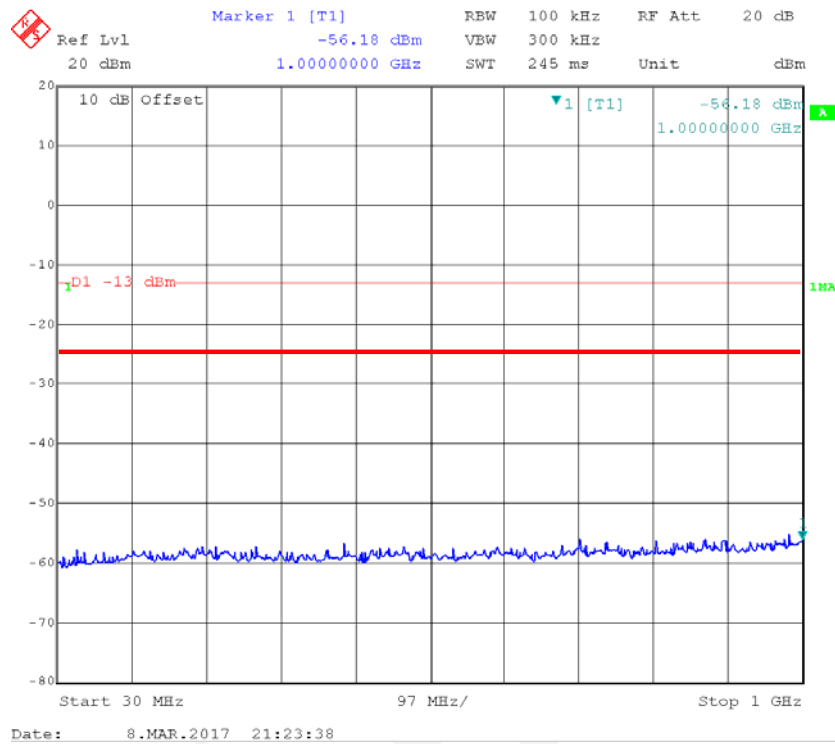
16-QAM_5MHz_RB#25



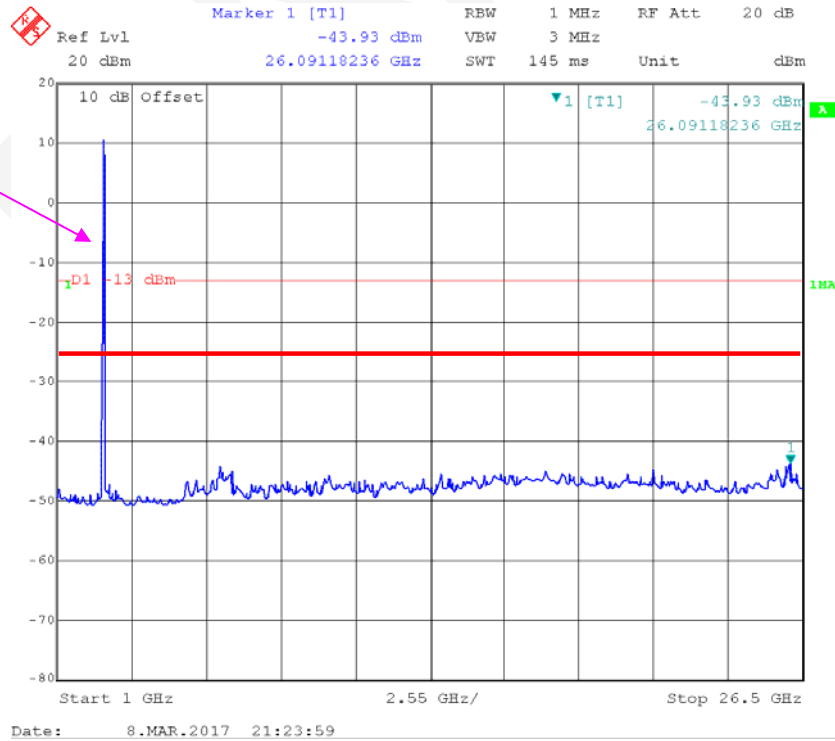
Fundamental



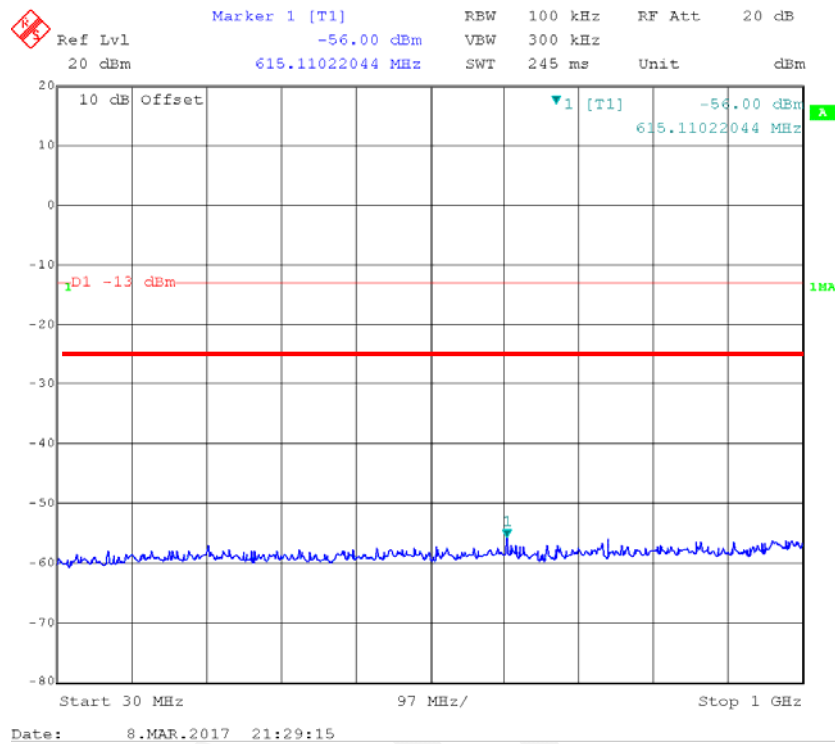
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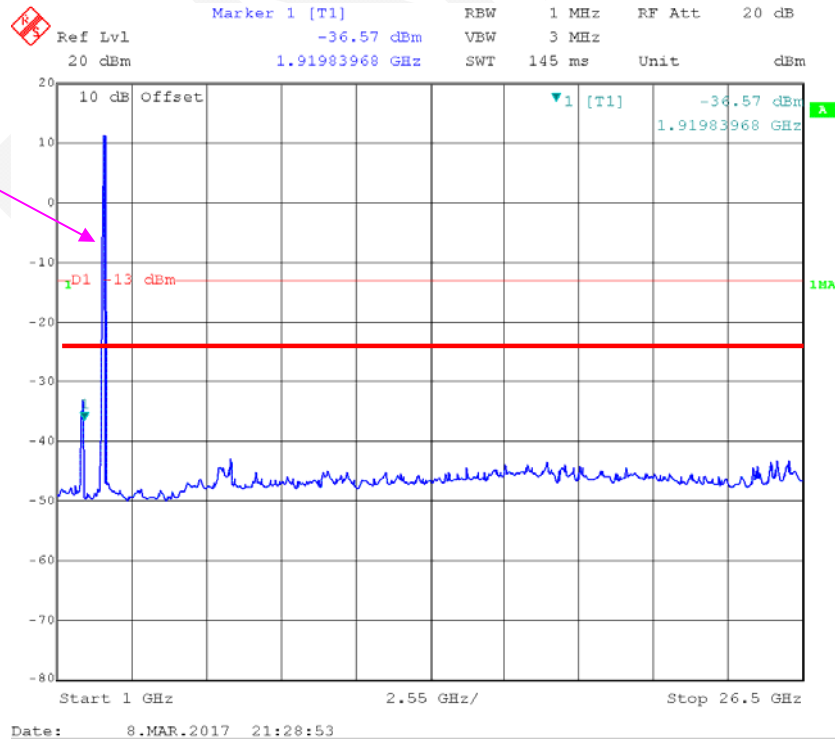
Fundamental



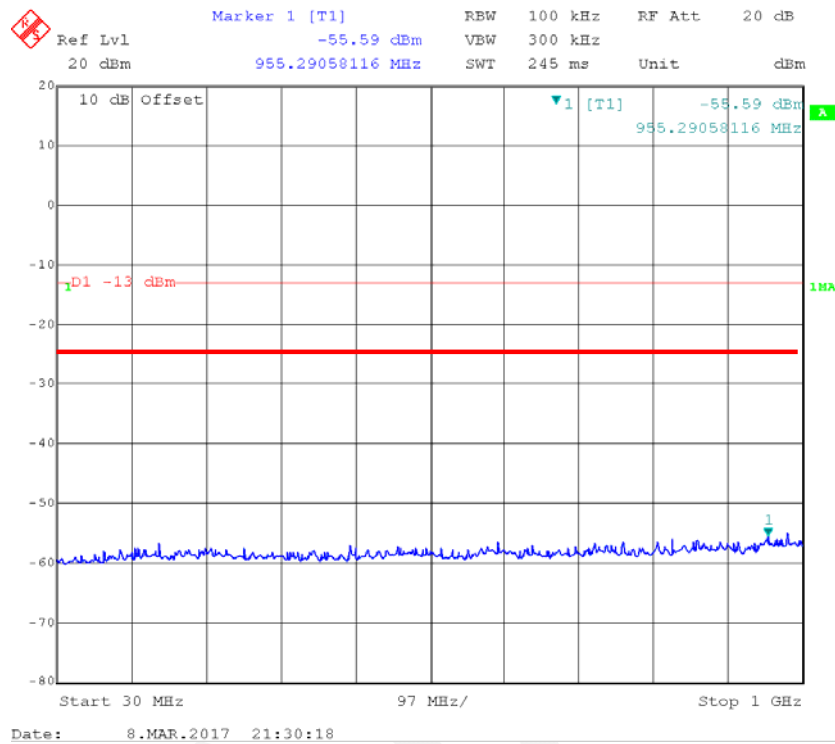
16-QAM 15MHz_RB#75



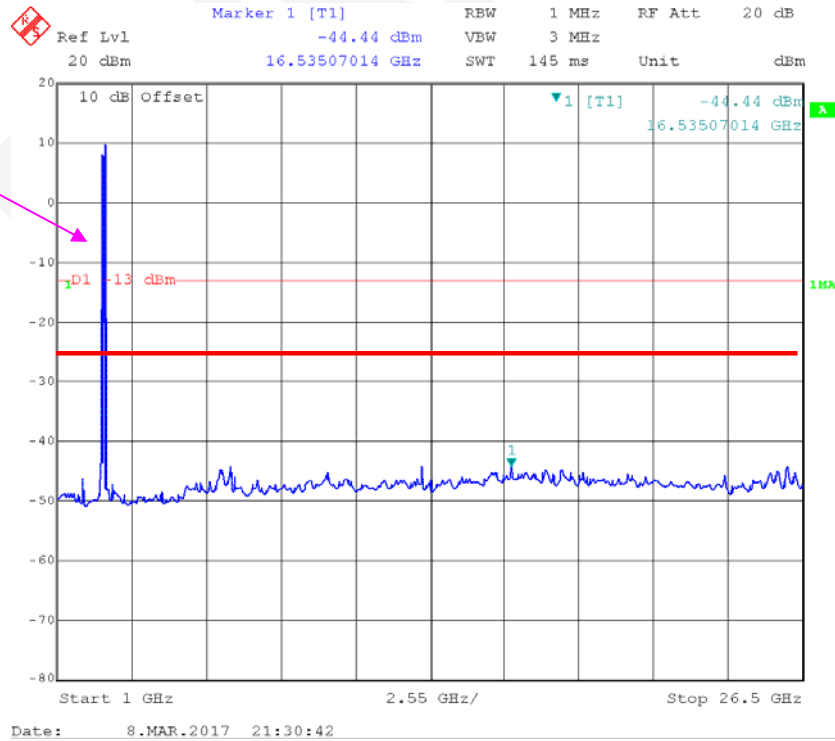
Fundamental



16-QAM_20MHz_RB#100

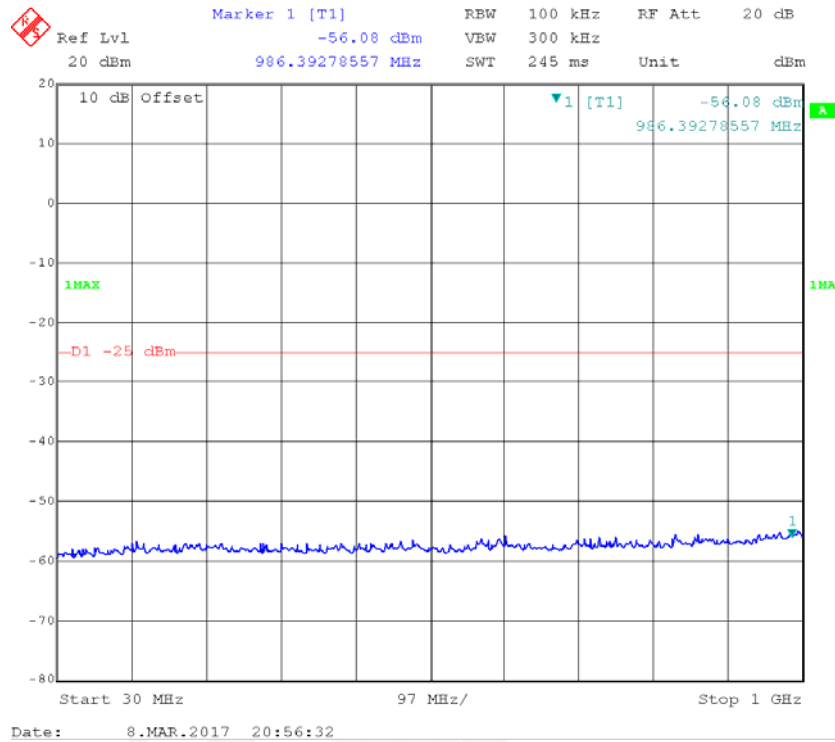


Fundamental

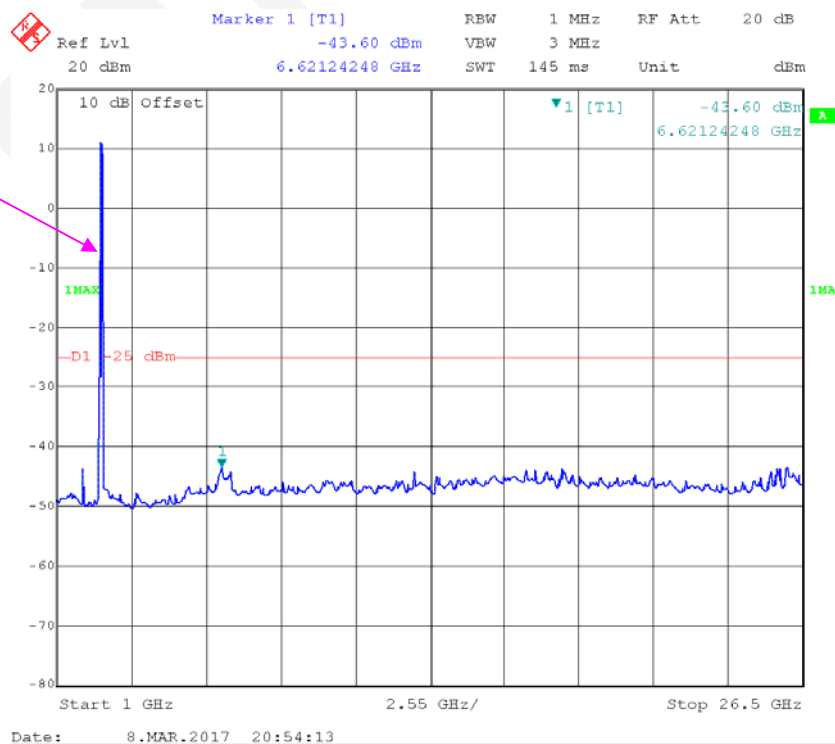


**Carrier Aggregation:
Band 7:**

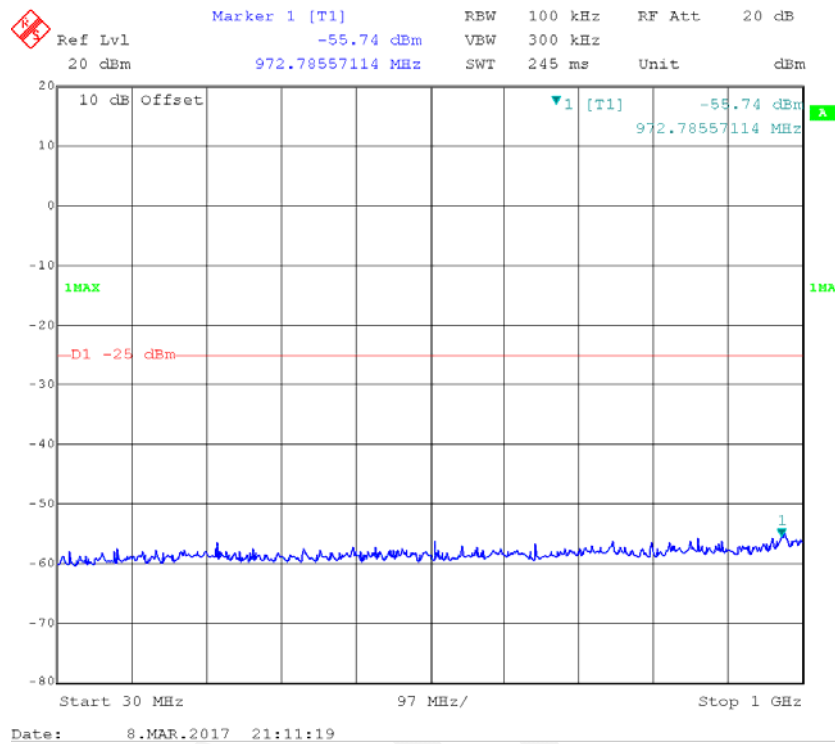
QPSK_RB(50+100)



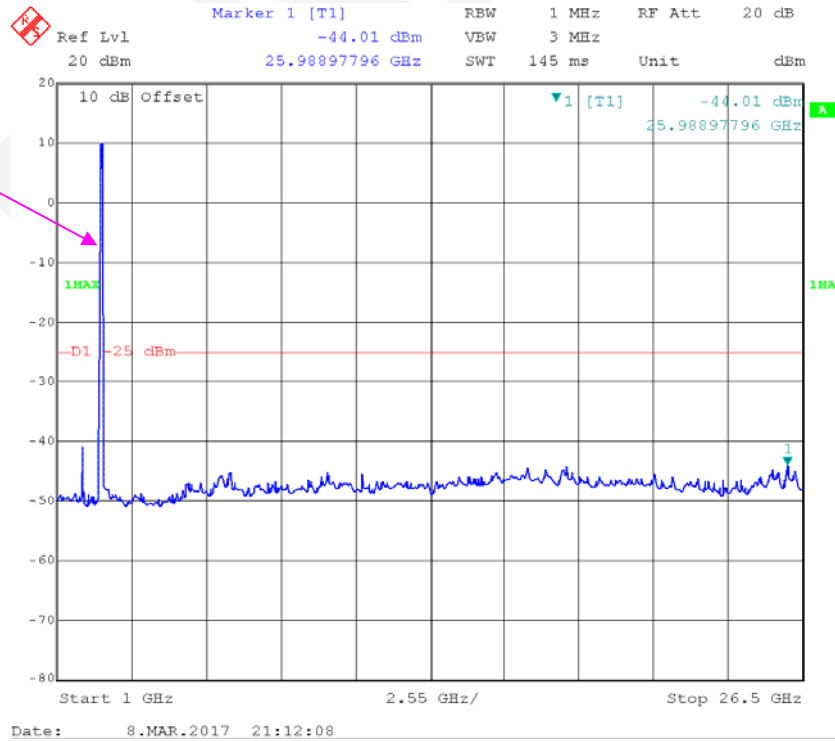
Fundamental



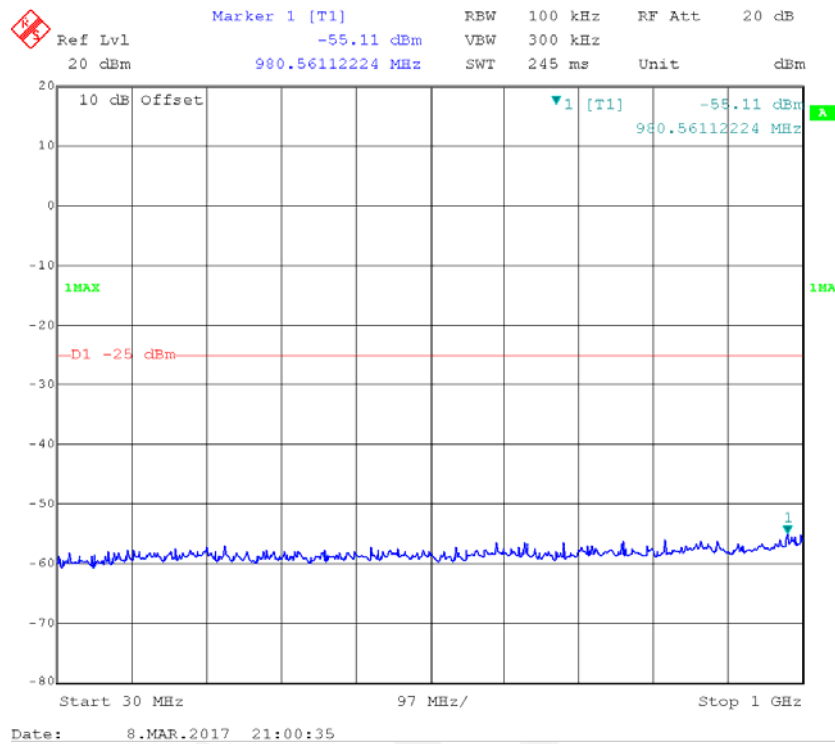
QPSK_RB(75+75)



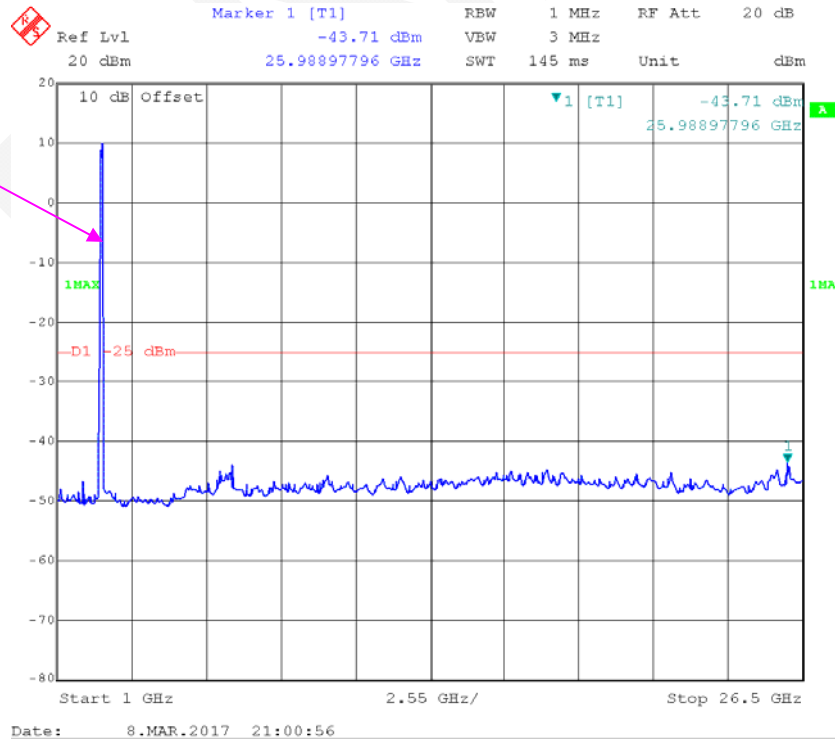
Fundamental



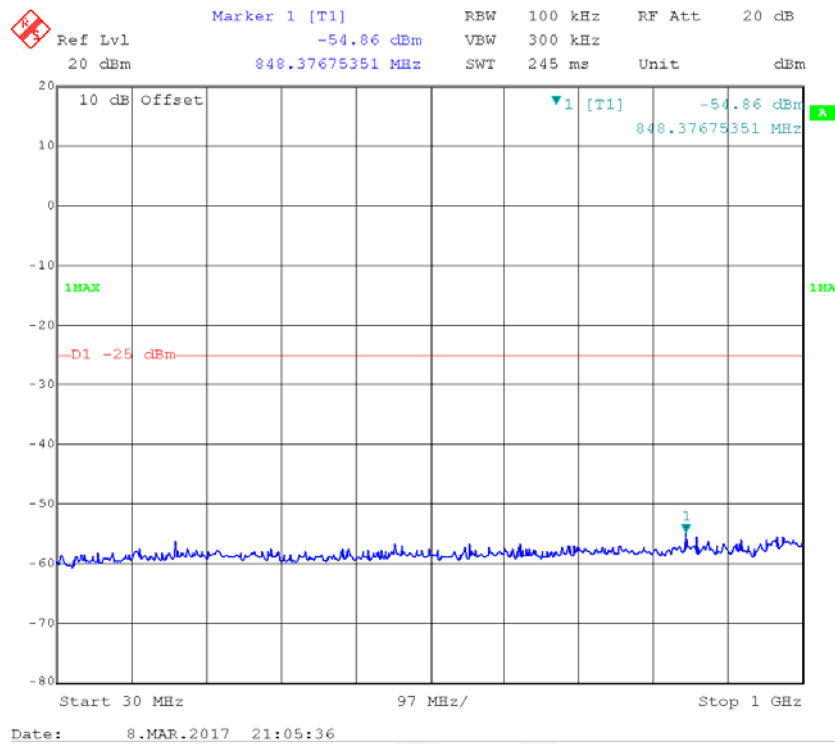
QPSK_RB(75+100)



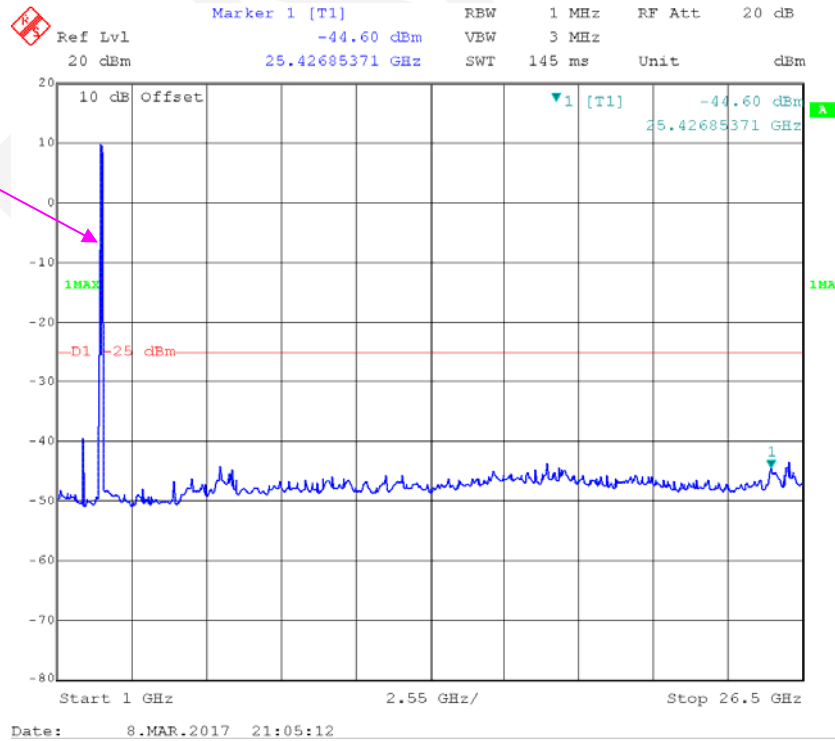
Fundamental



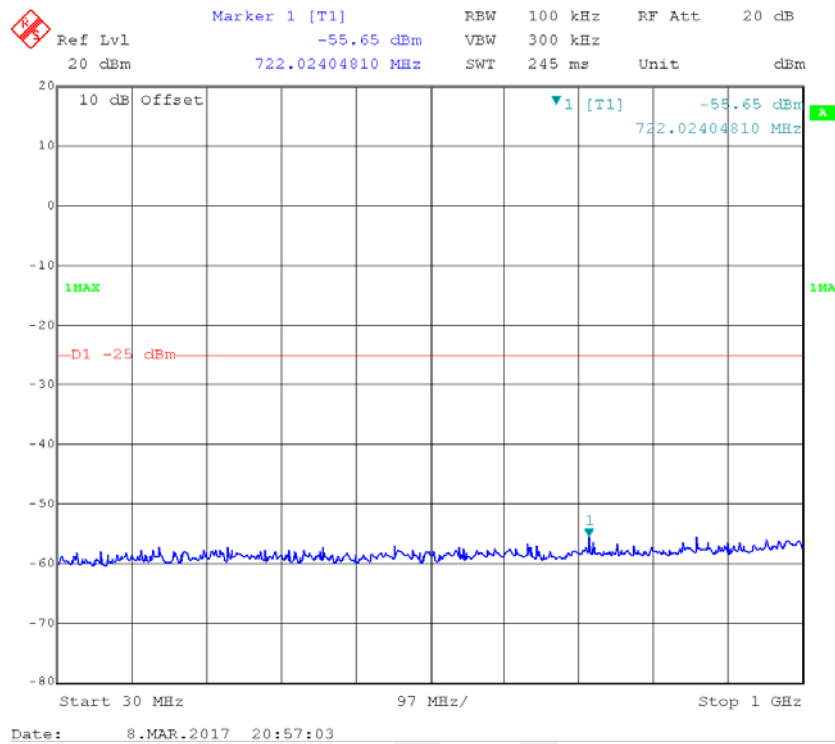
QPSK_RB(100+100)



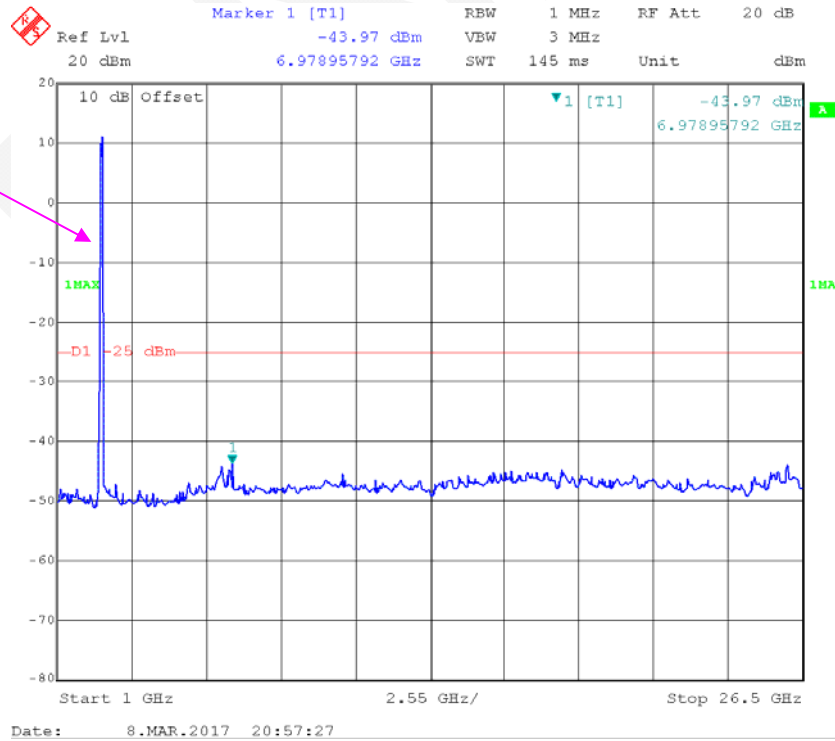
Fundamental



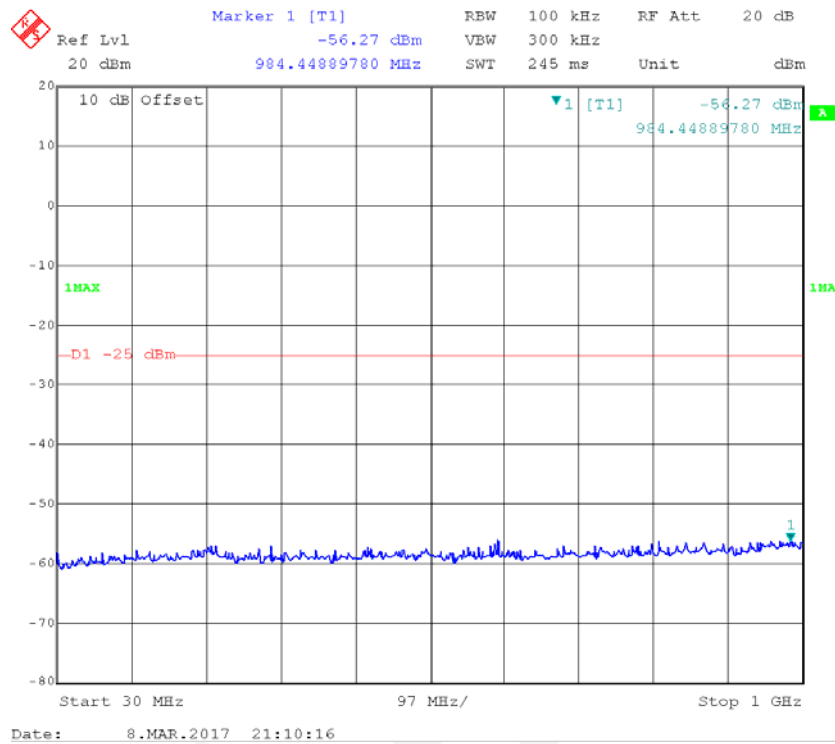
16-QAM_RB(50+100)



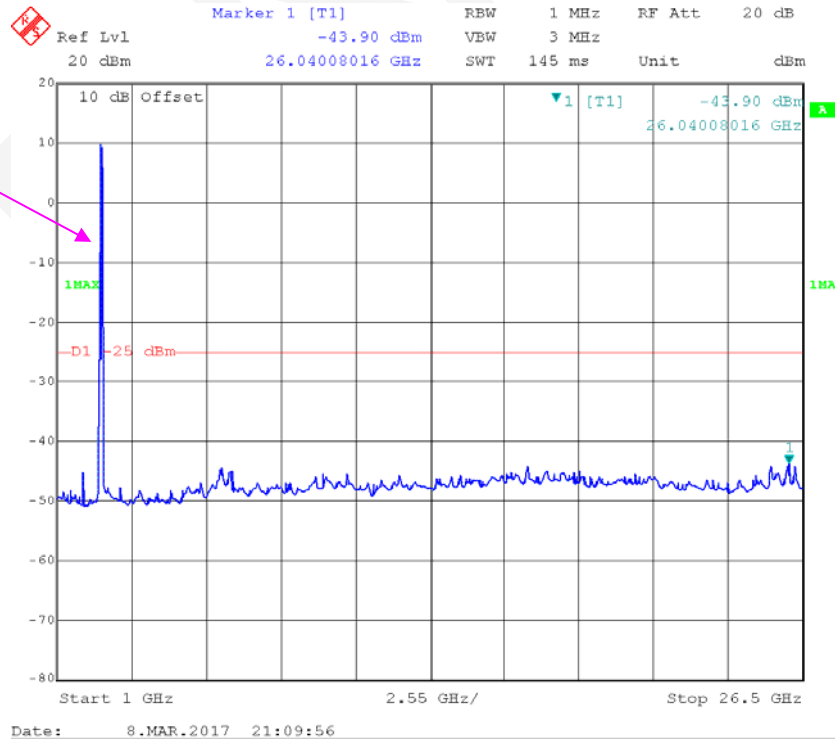
Fundamental



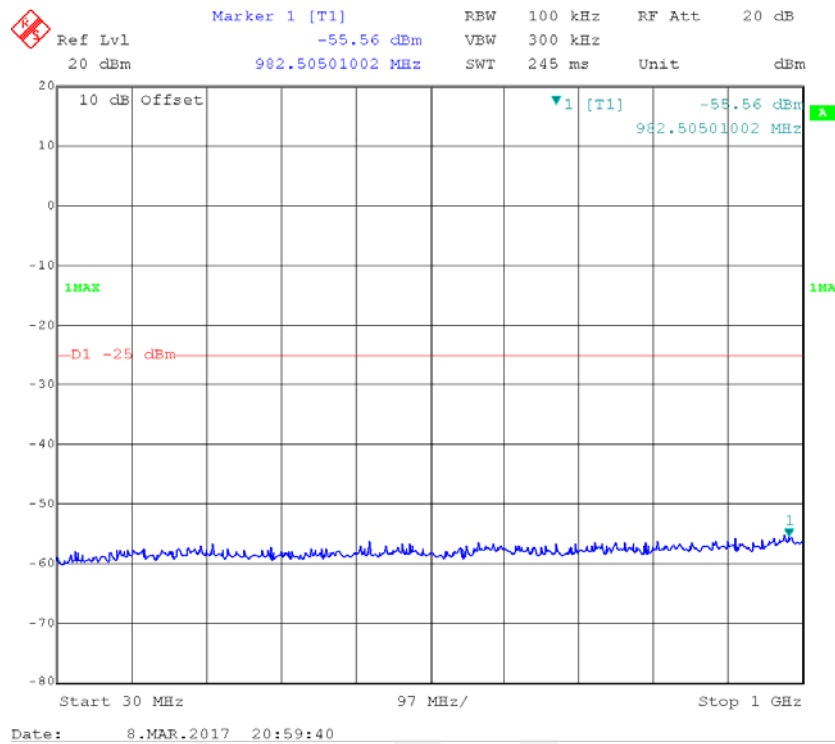
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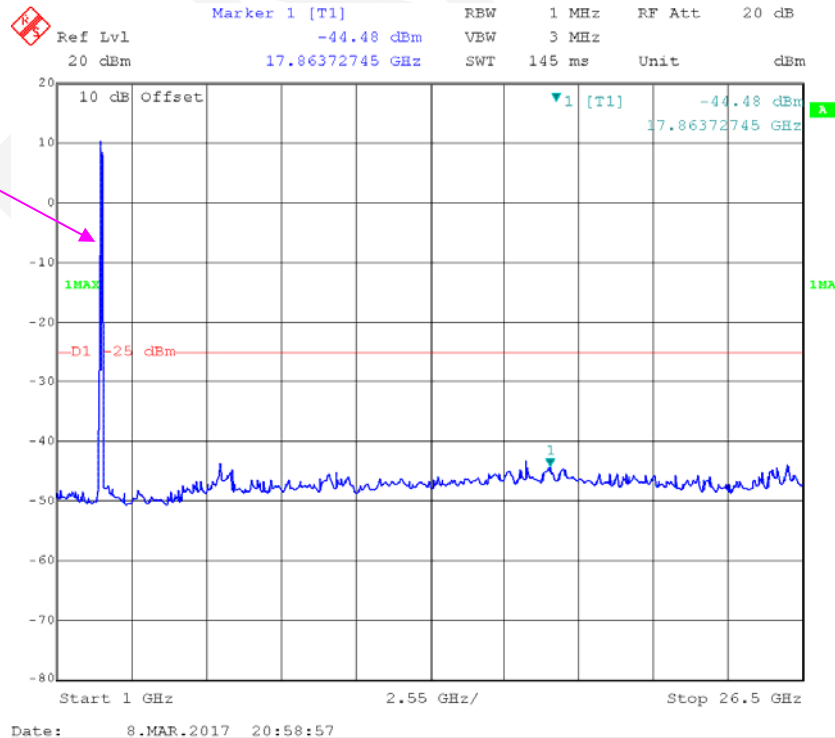
Fundamental



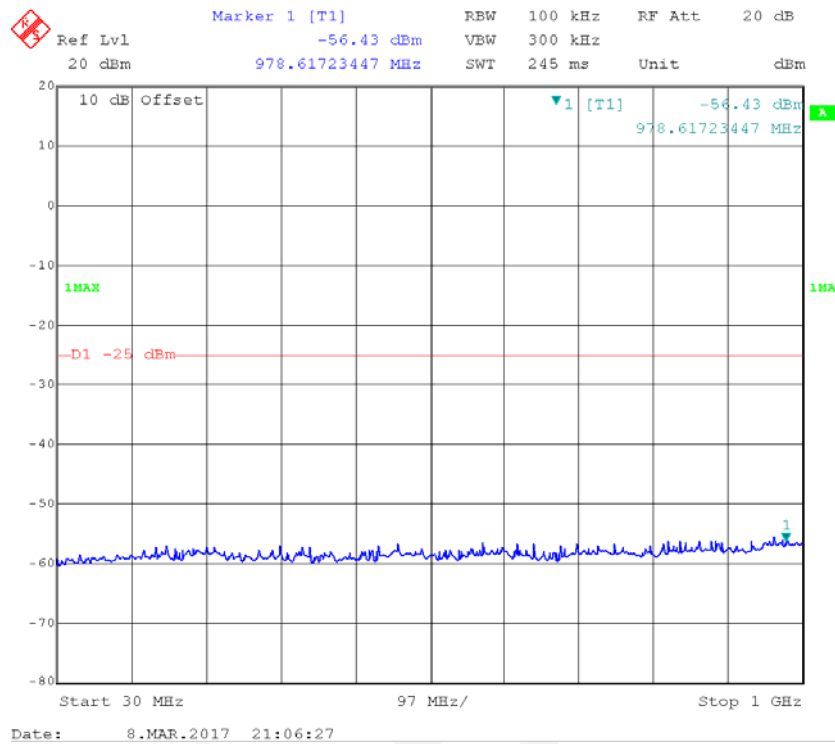
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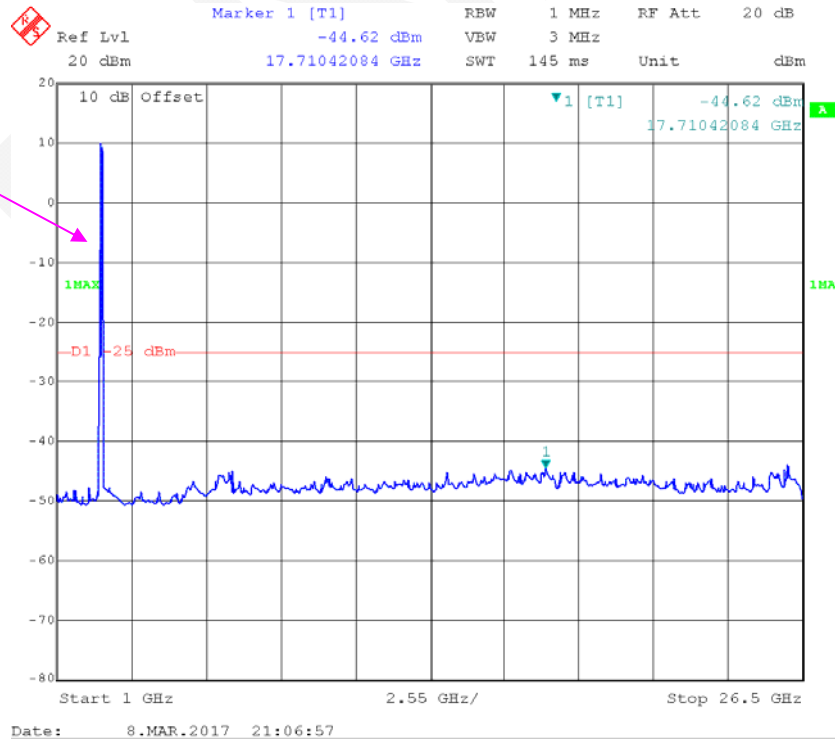
Fundamental



16-QAM_RB(100+100)

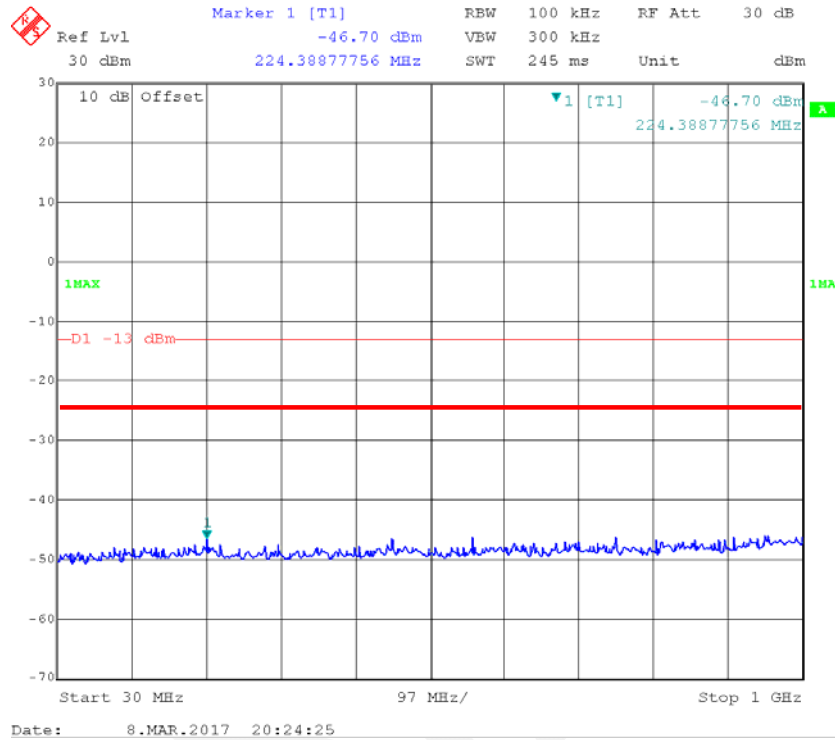


Fundamental

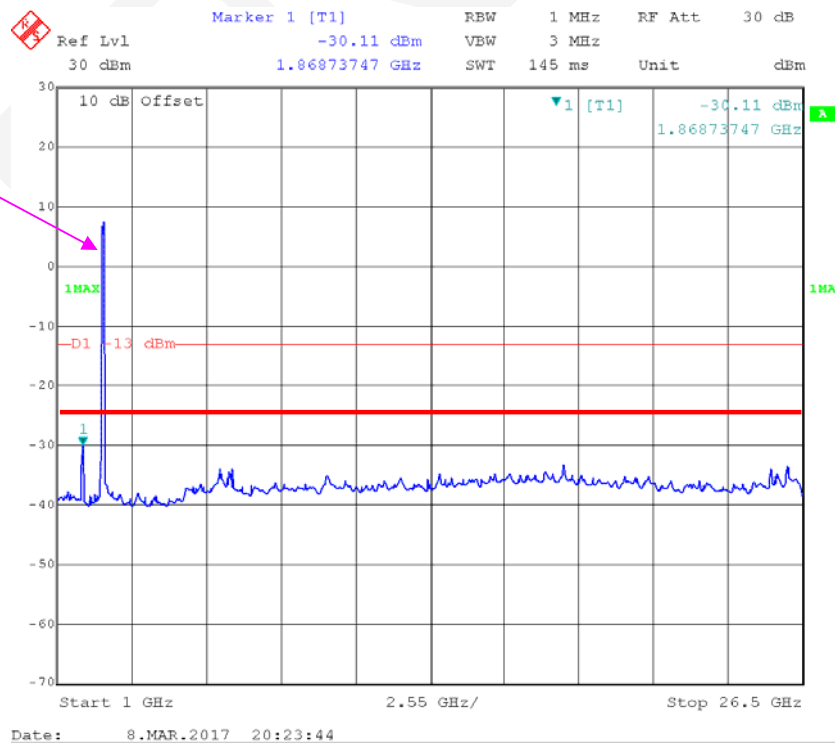


Band 41:

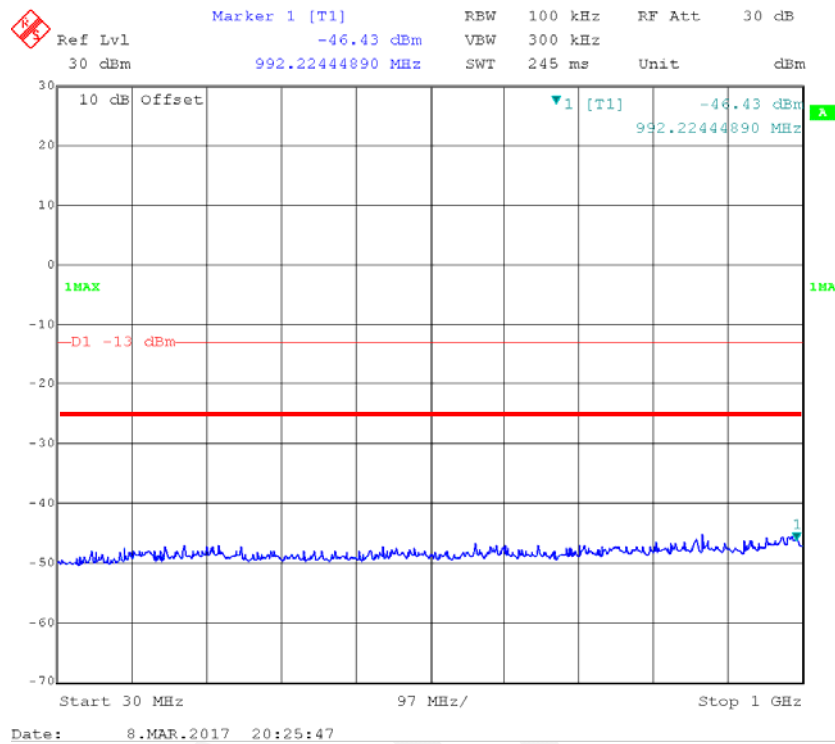
QPSK_RB(25+100)



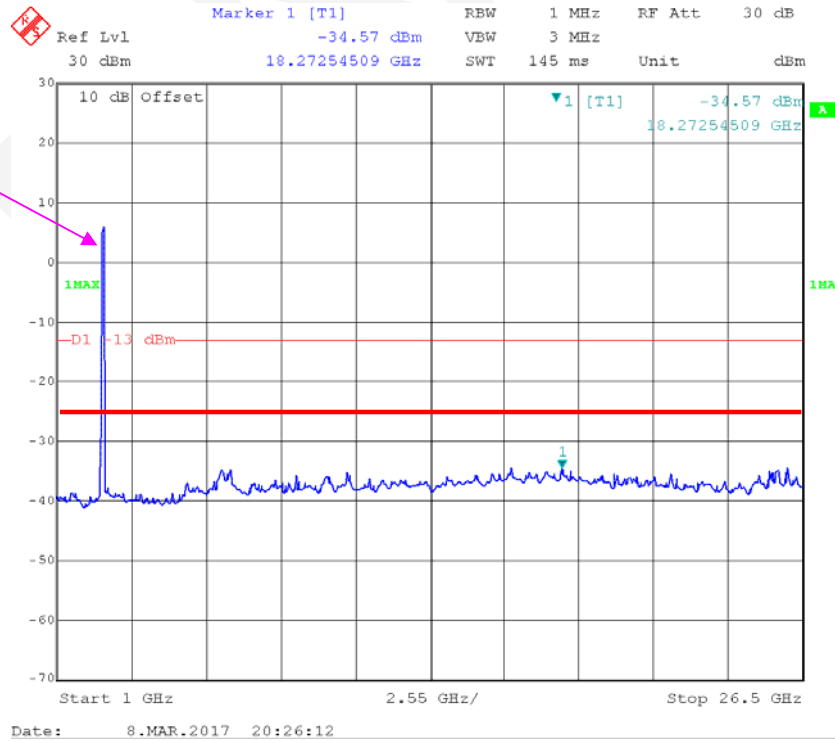
Fundamental



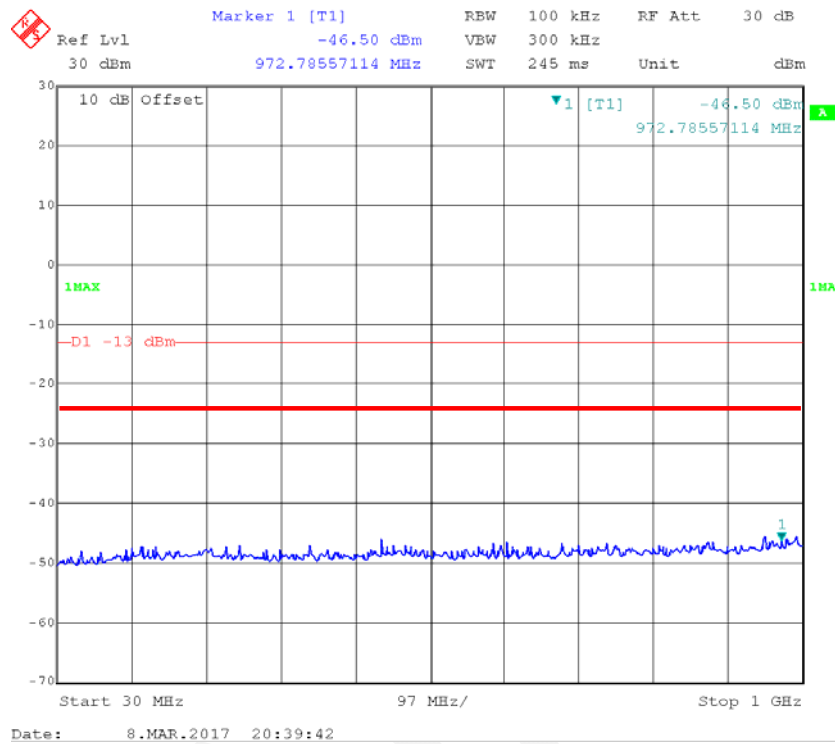
QPSK_RB(50+100)



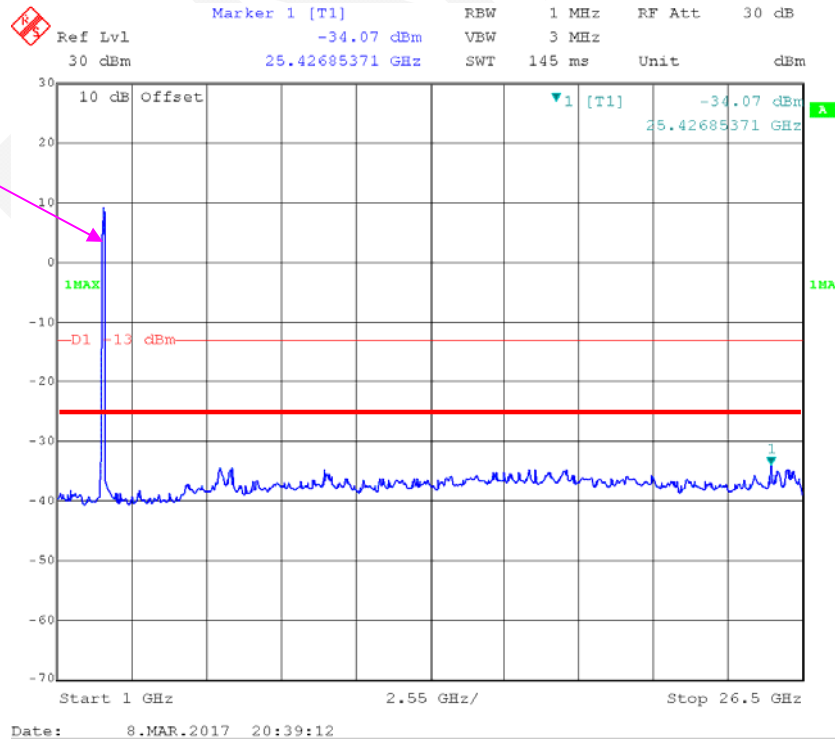
Fundamental



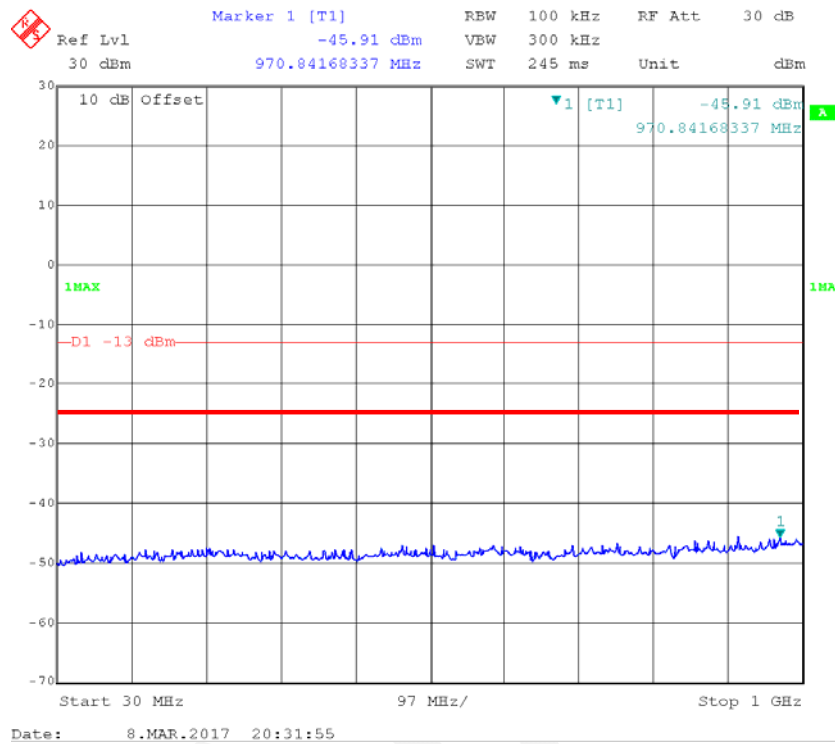
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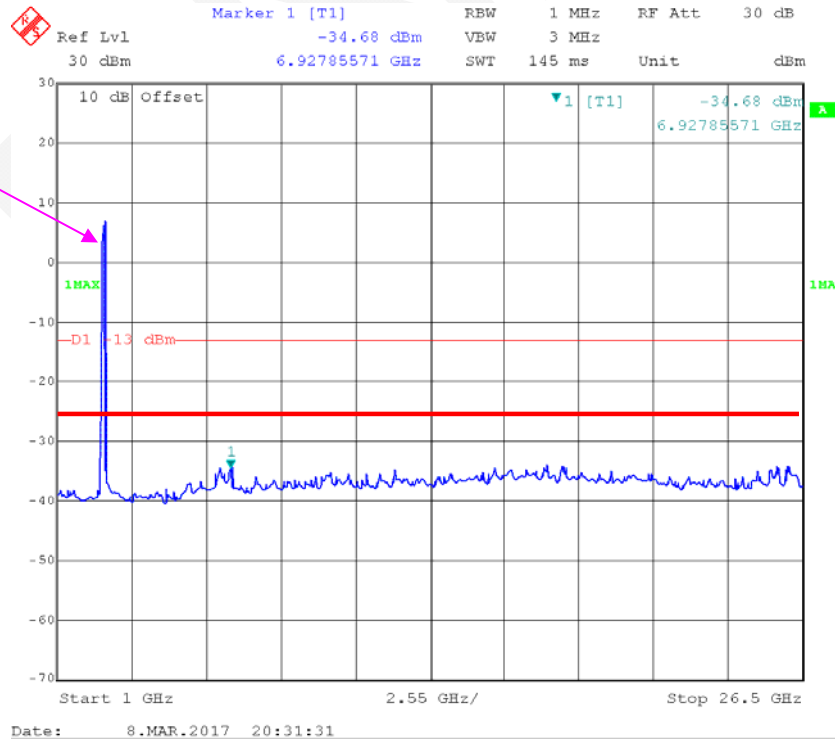
Fundamental



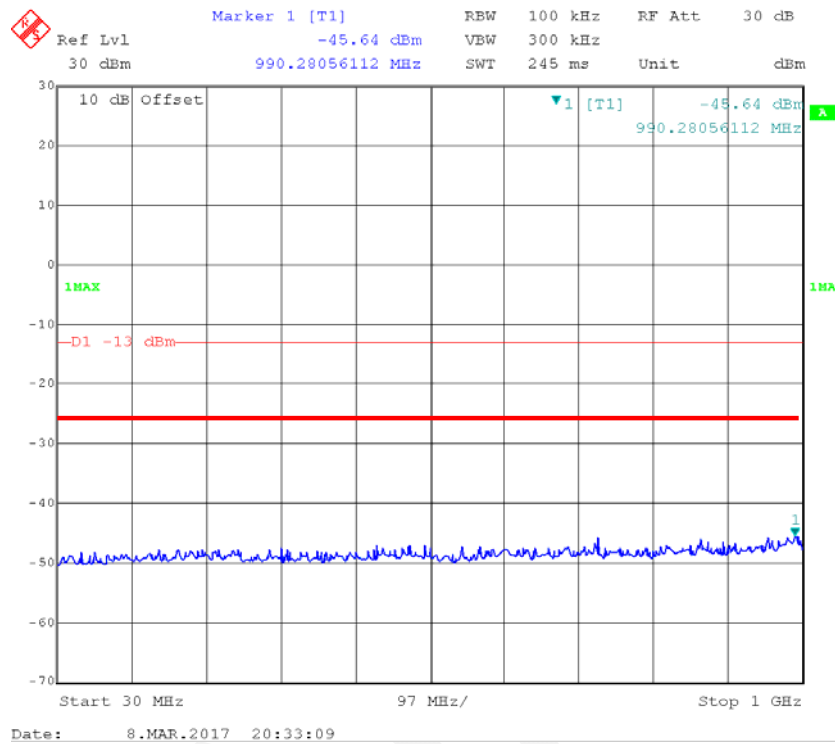
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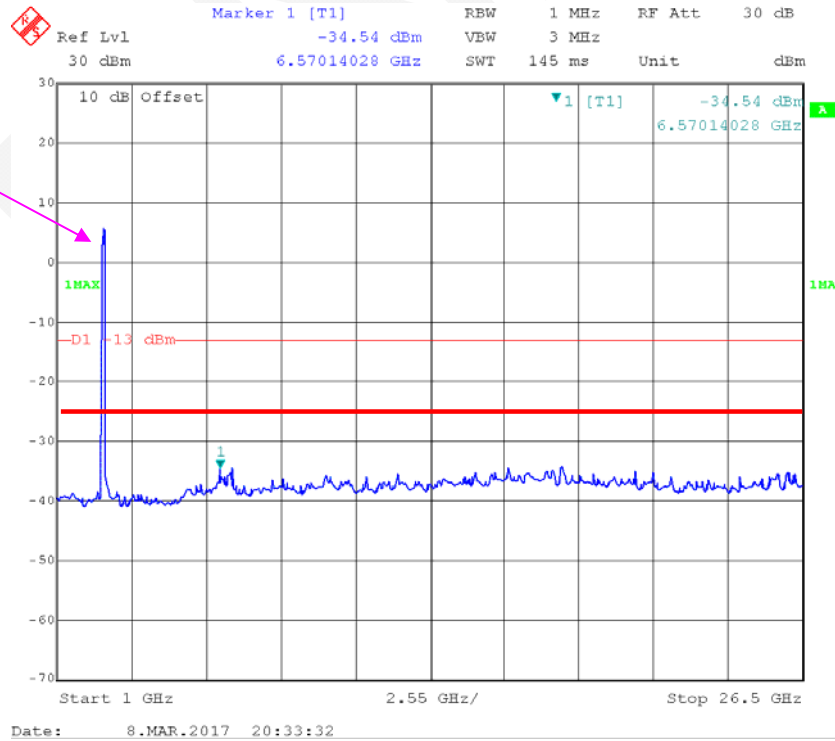
Fundamental



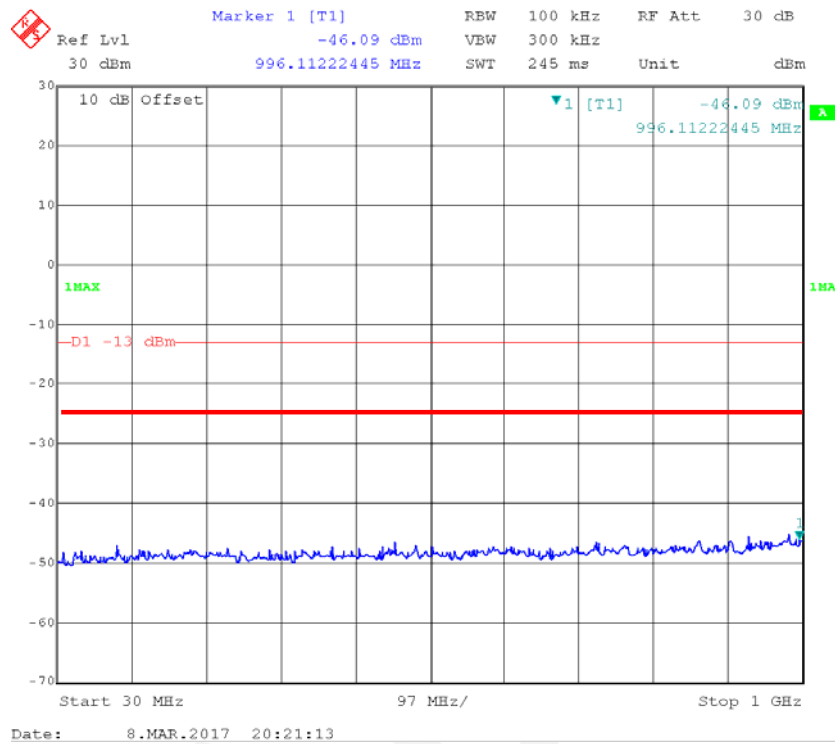
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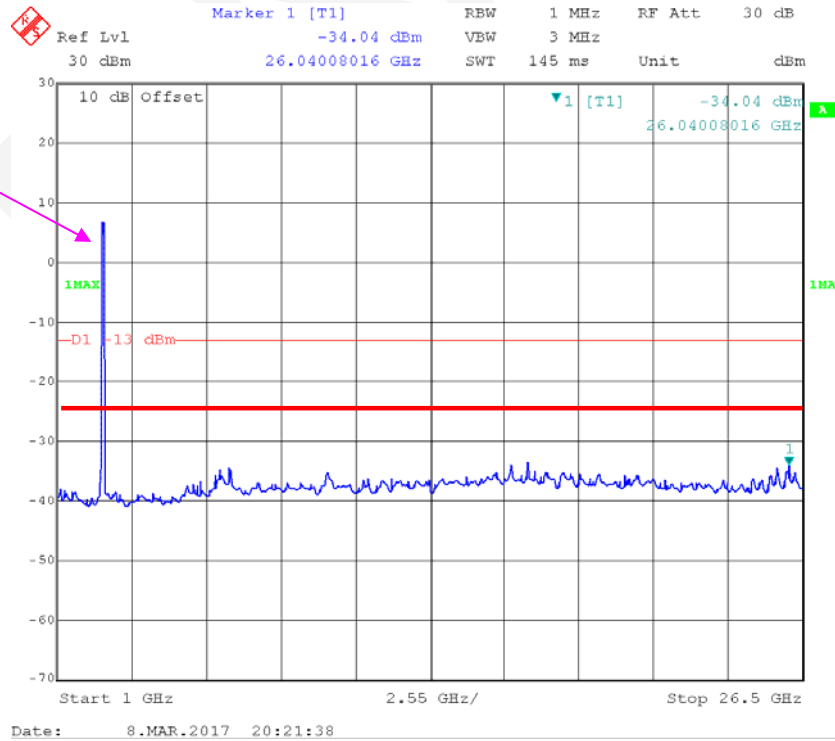
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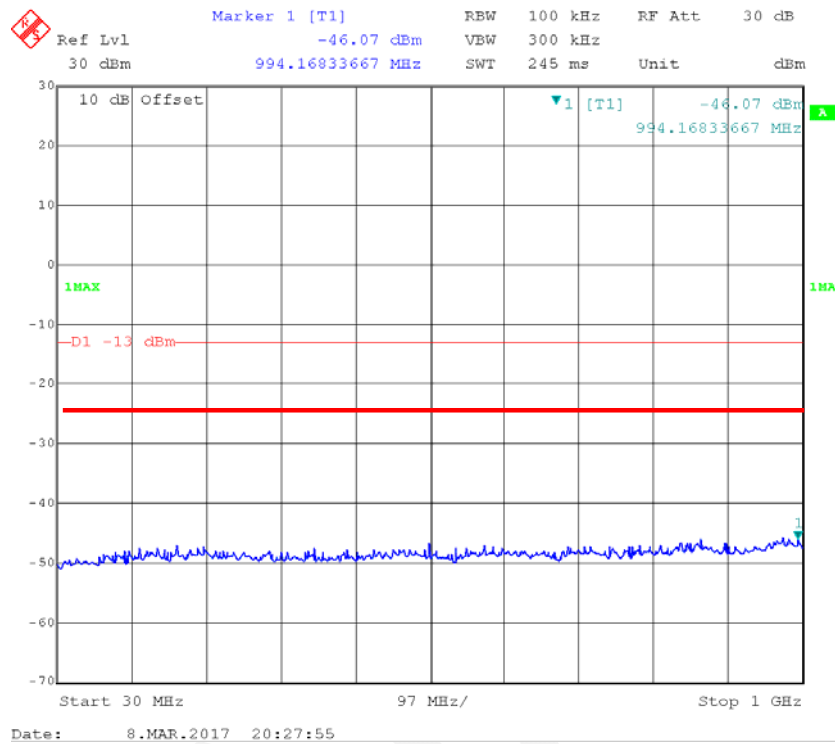
16-QAM_RB(25+100)



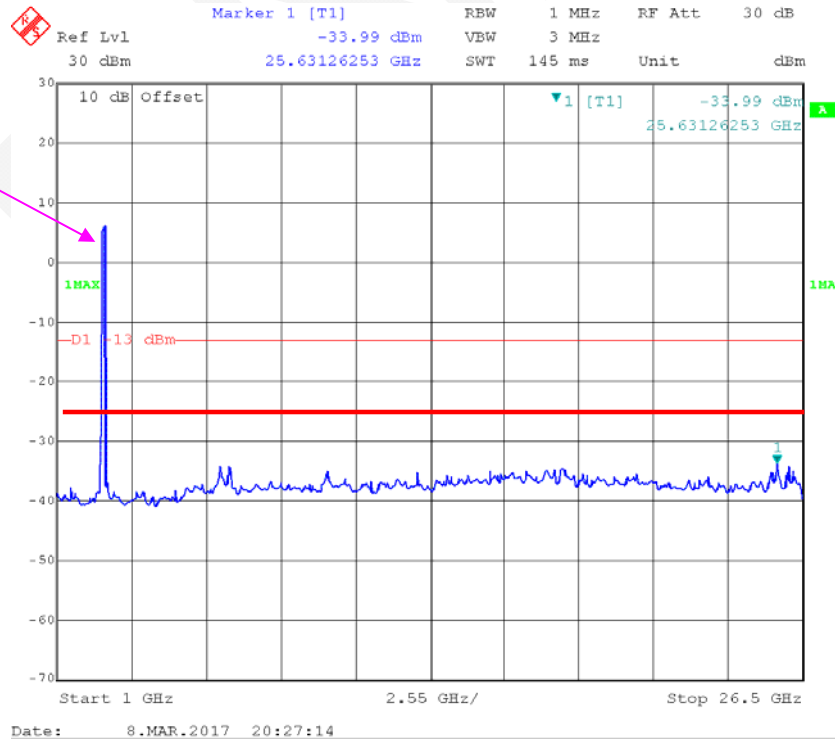
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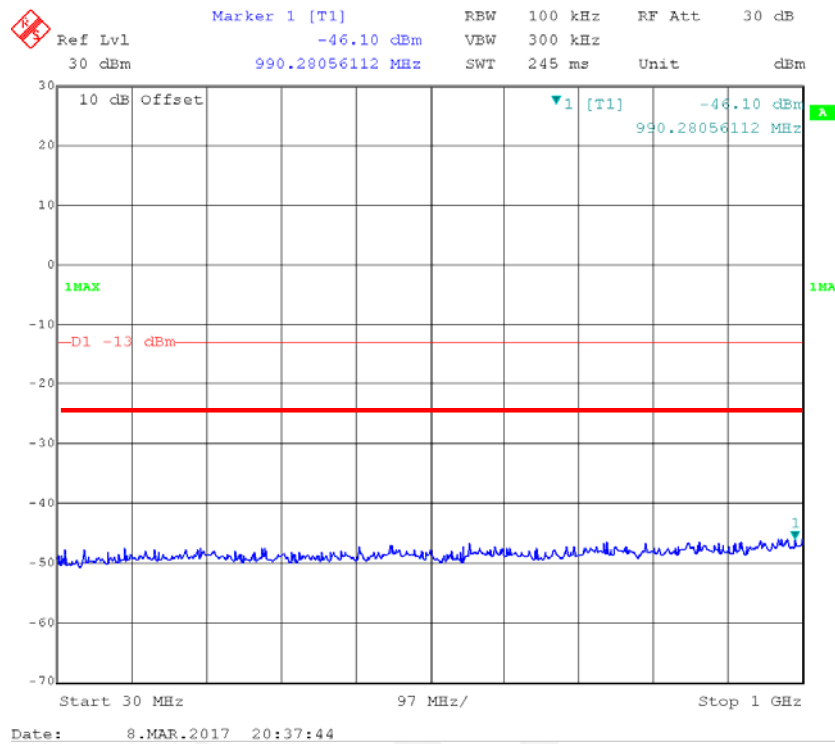
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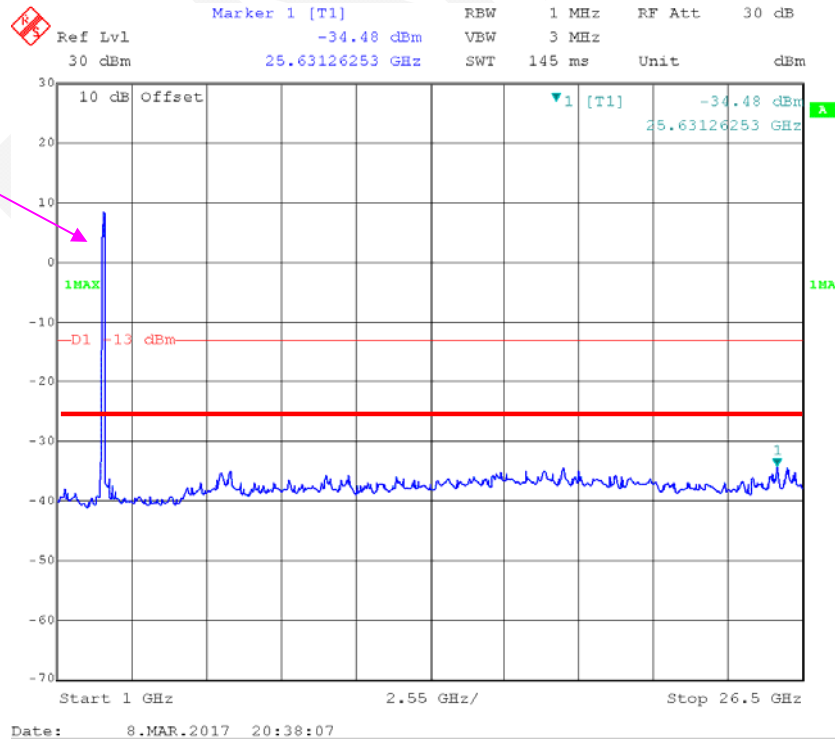
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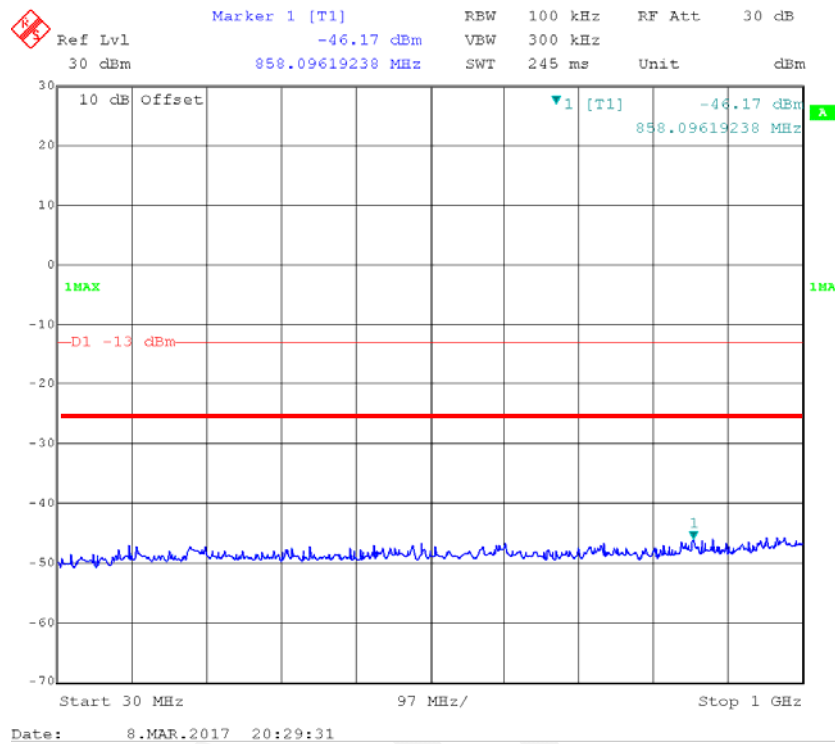
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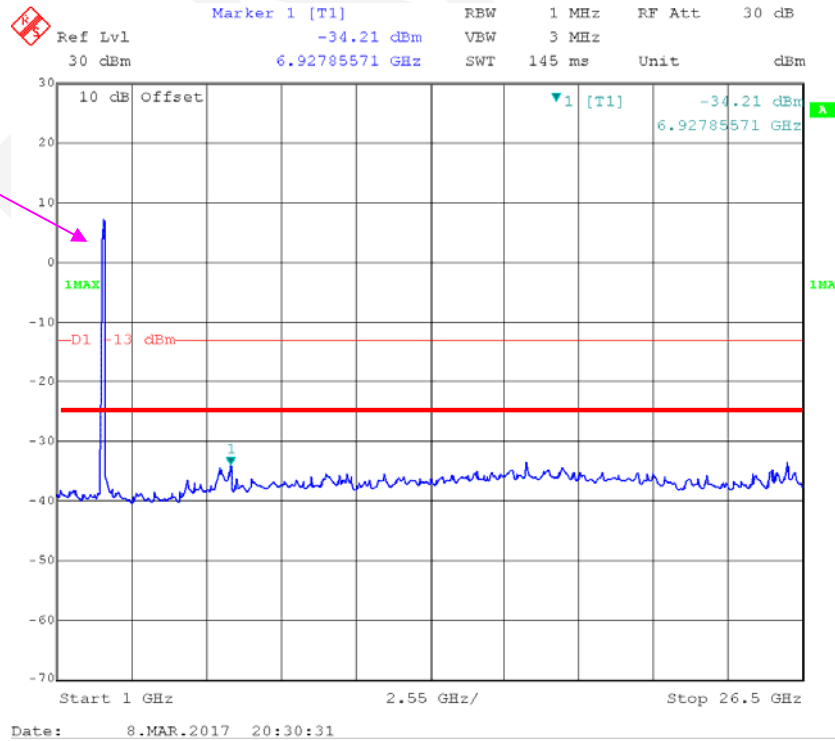
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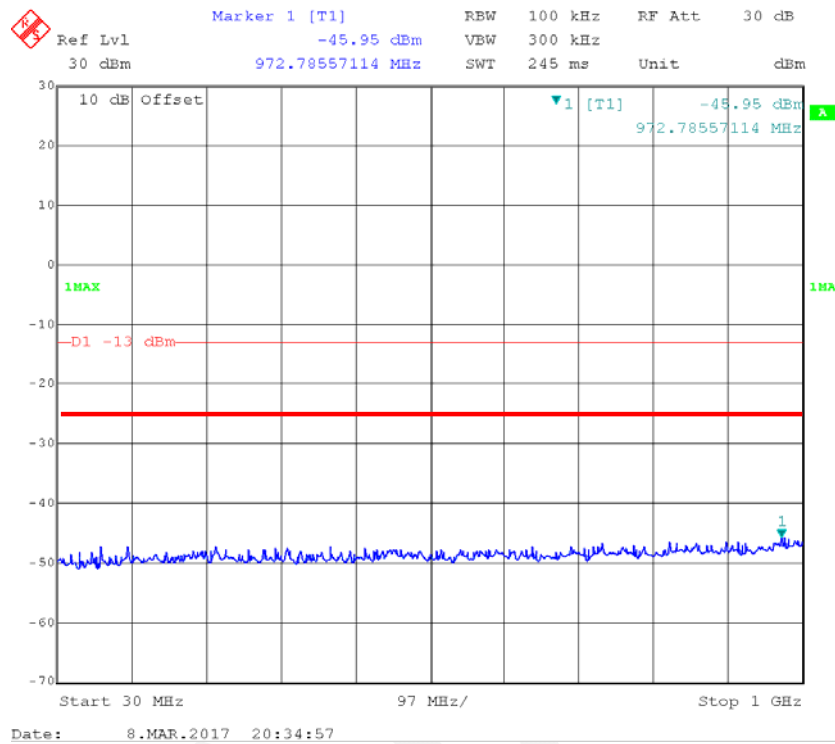
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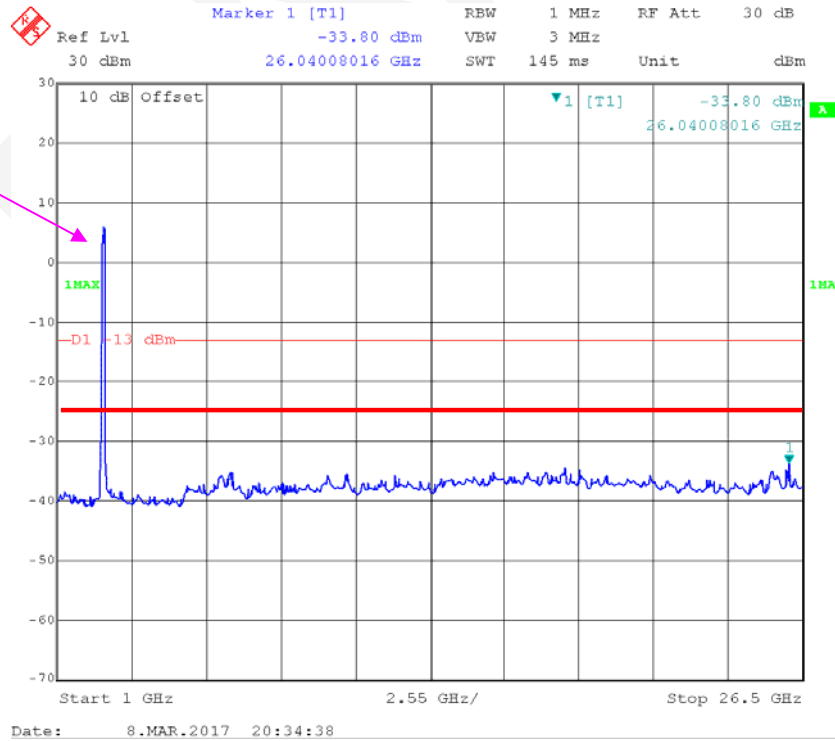
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16-QAM_RB(100+100)

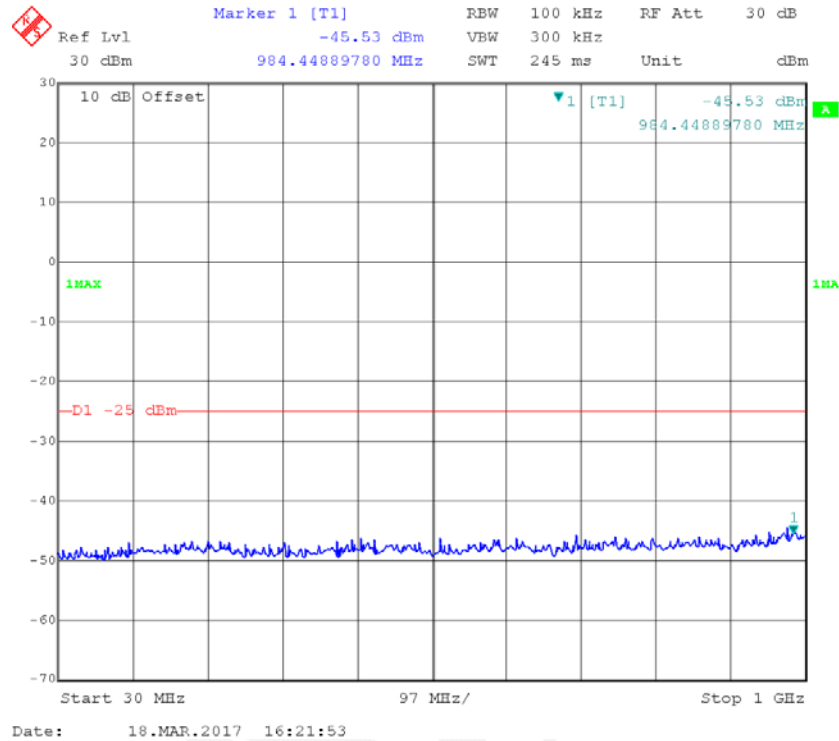


Fundamental

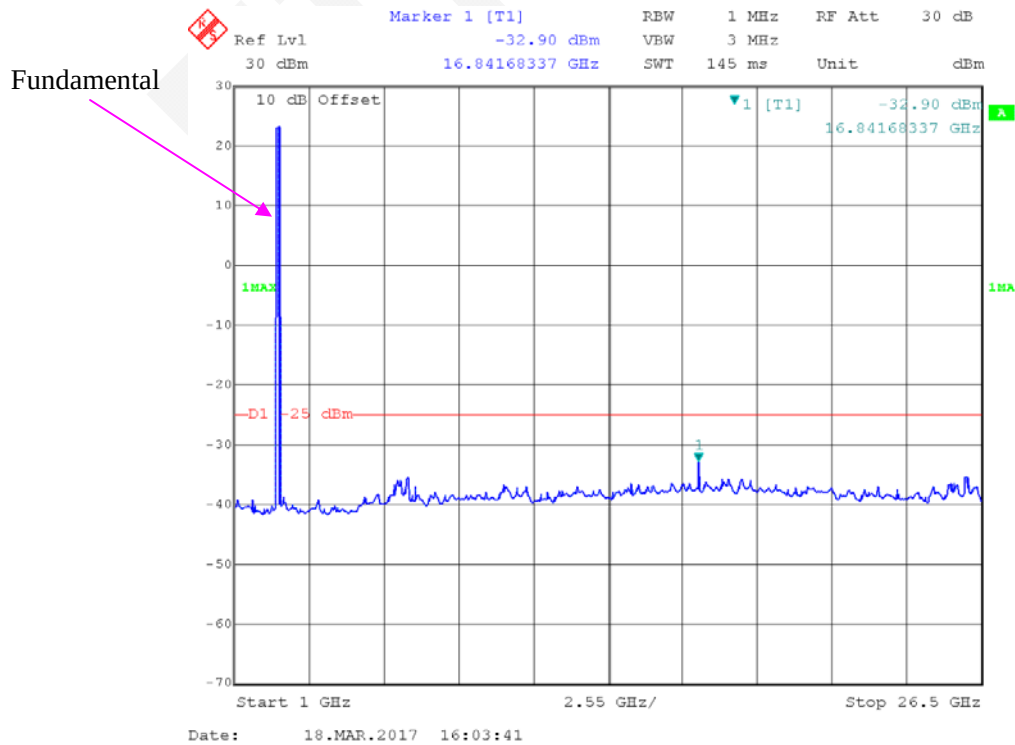


Carrier Aggregation:

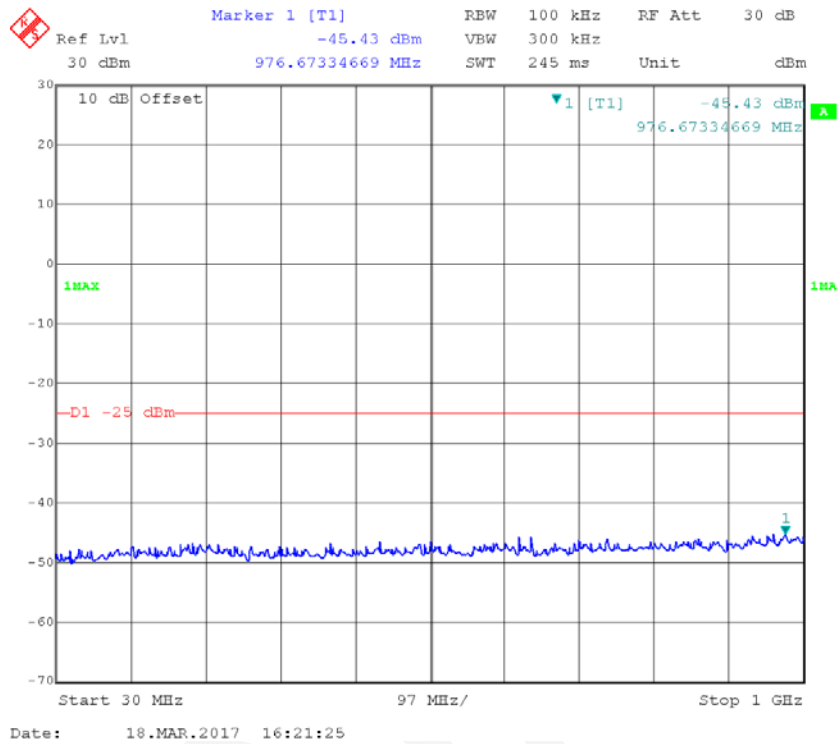
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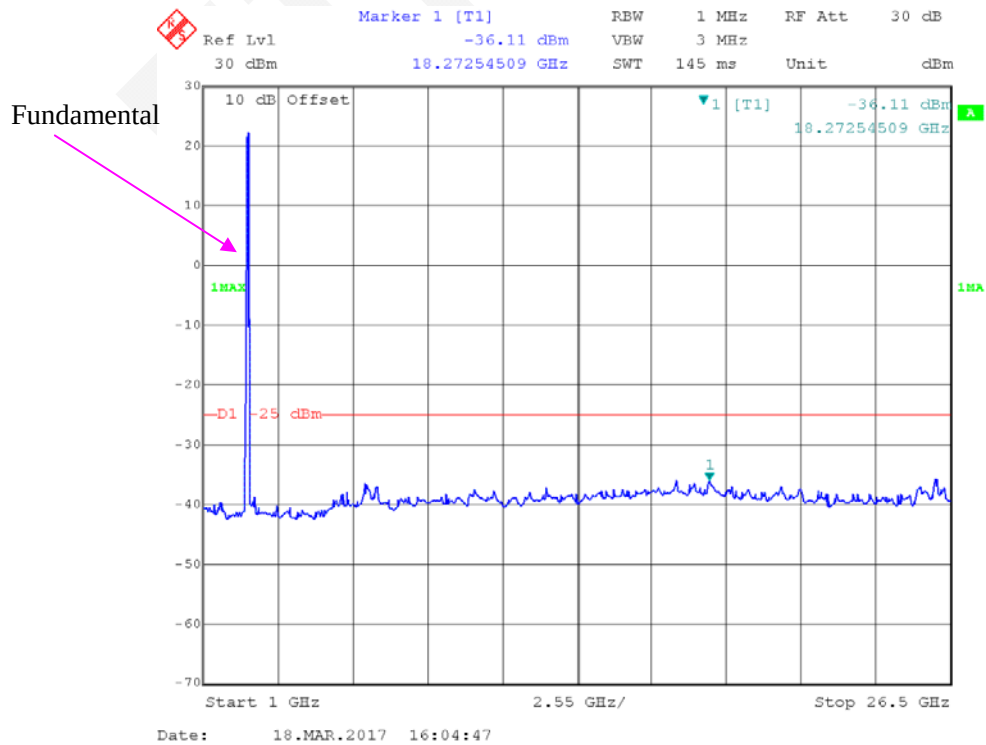
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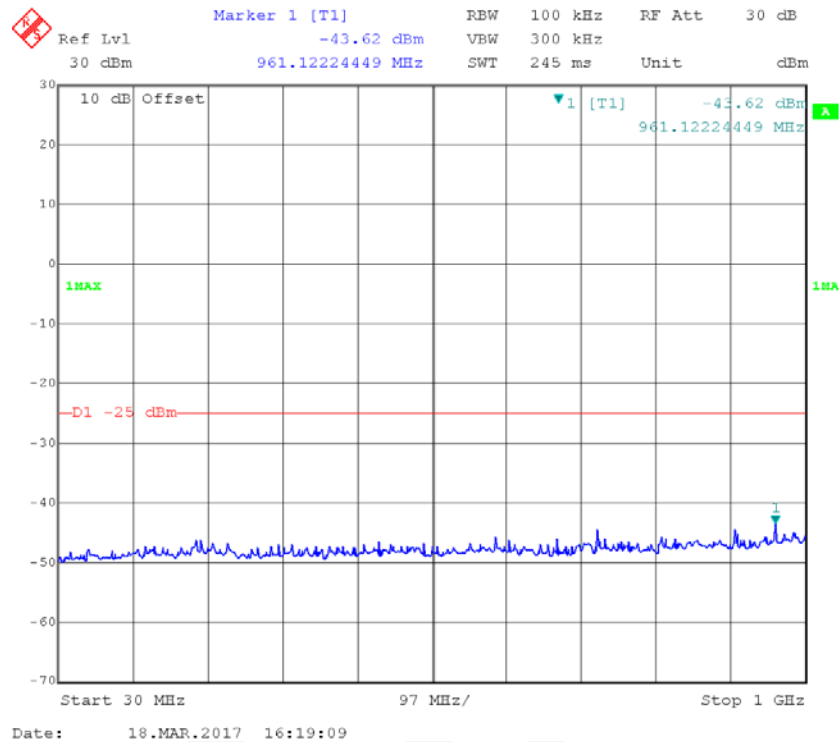
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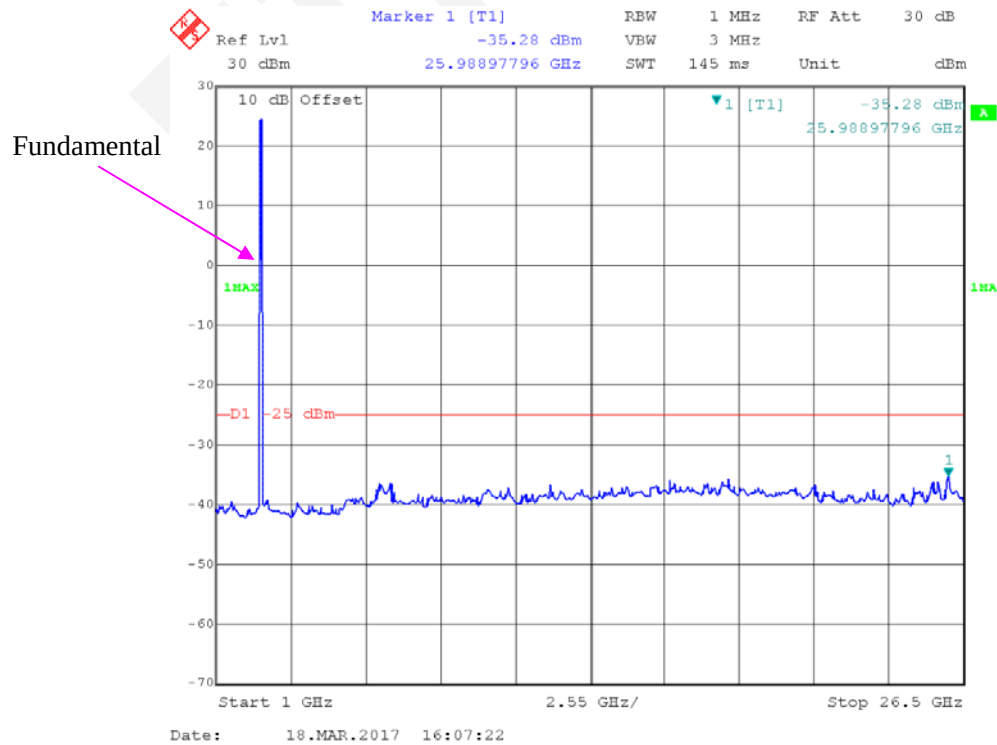
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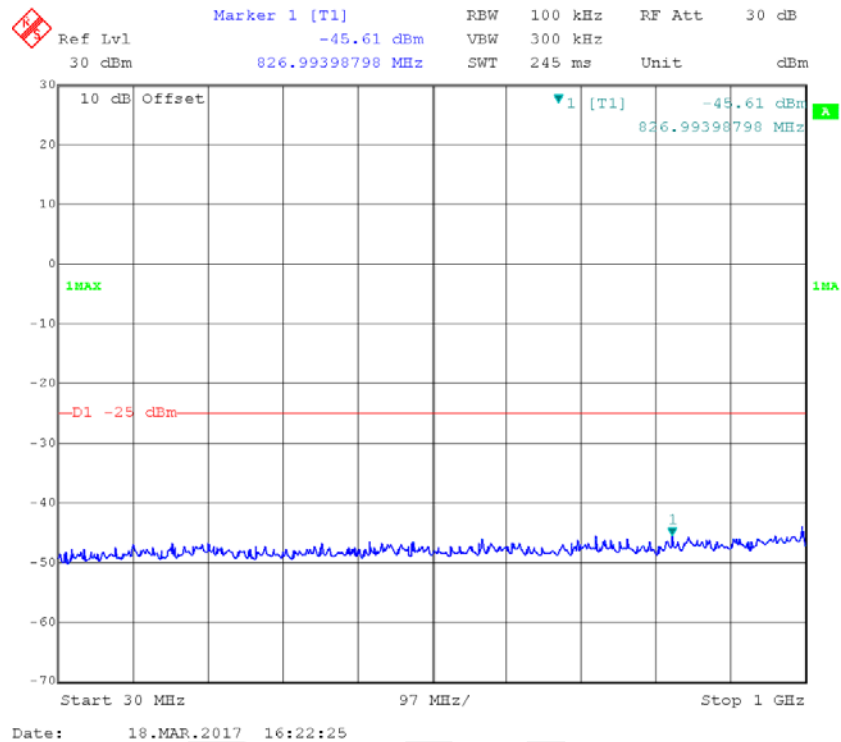
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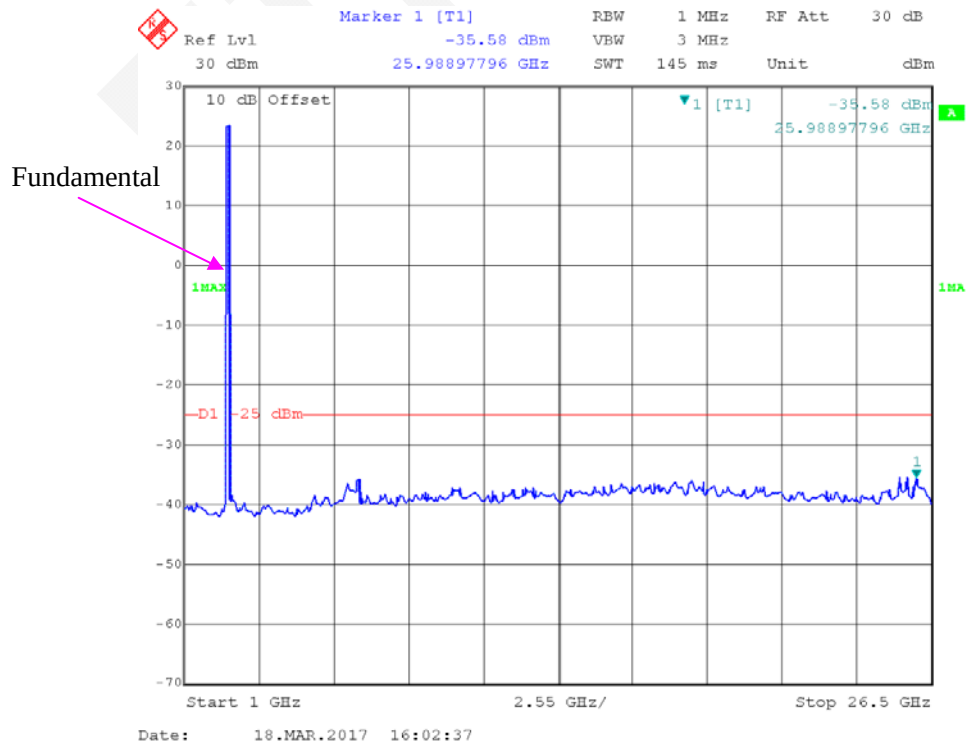
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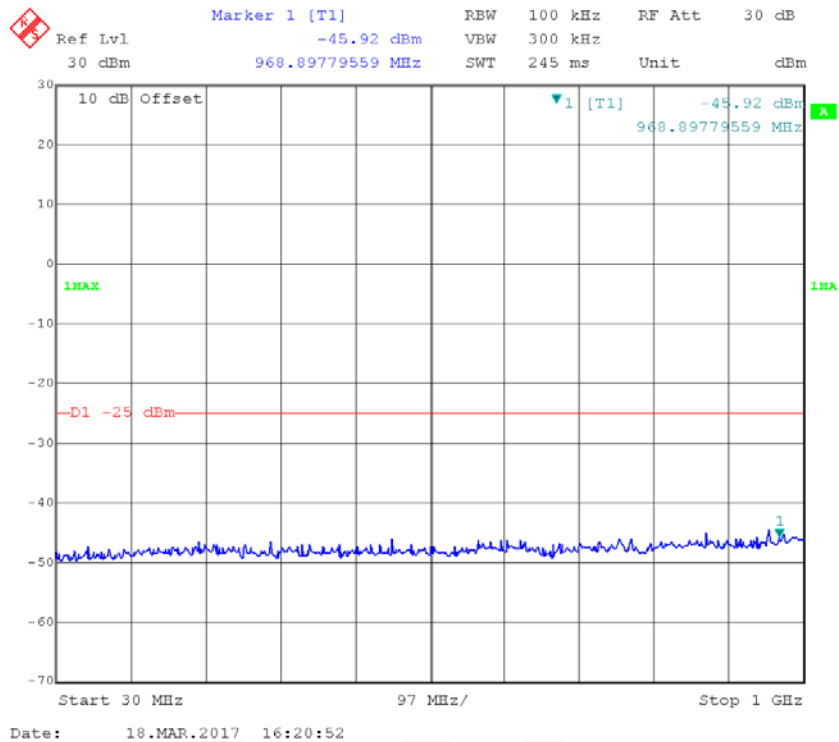
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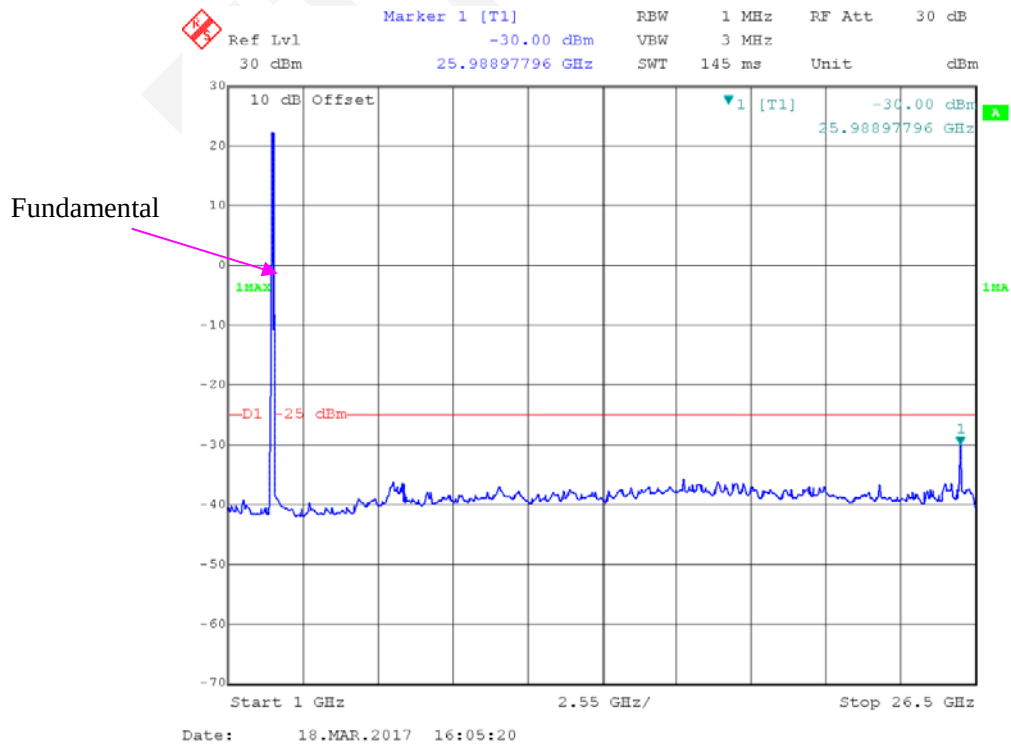
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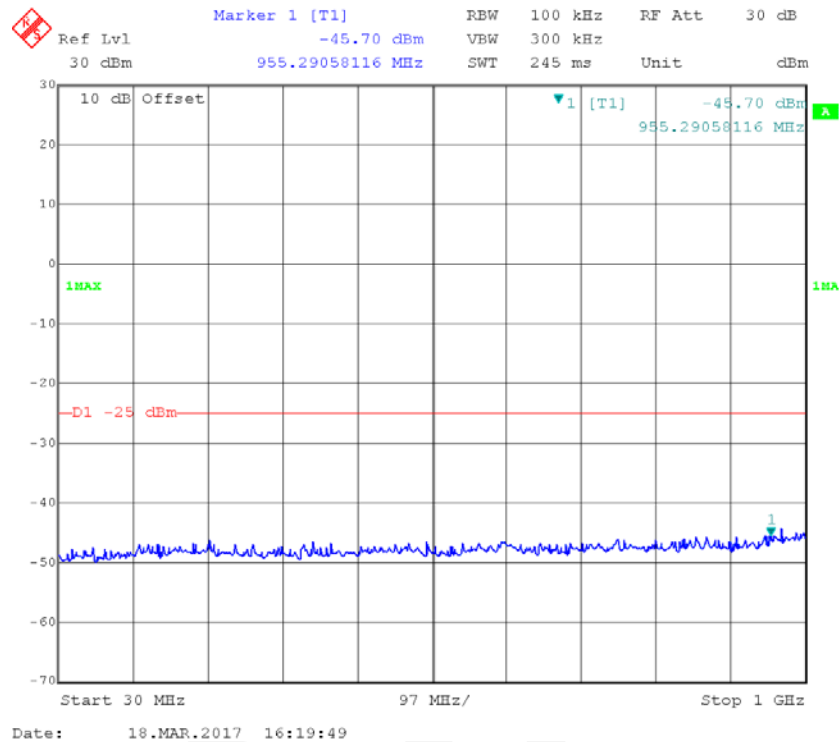
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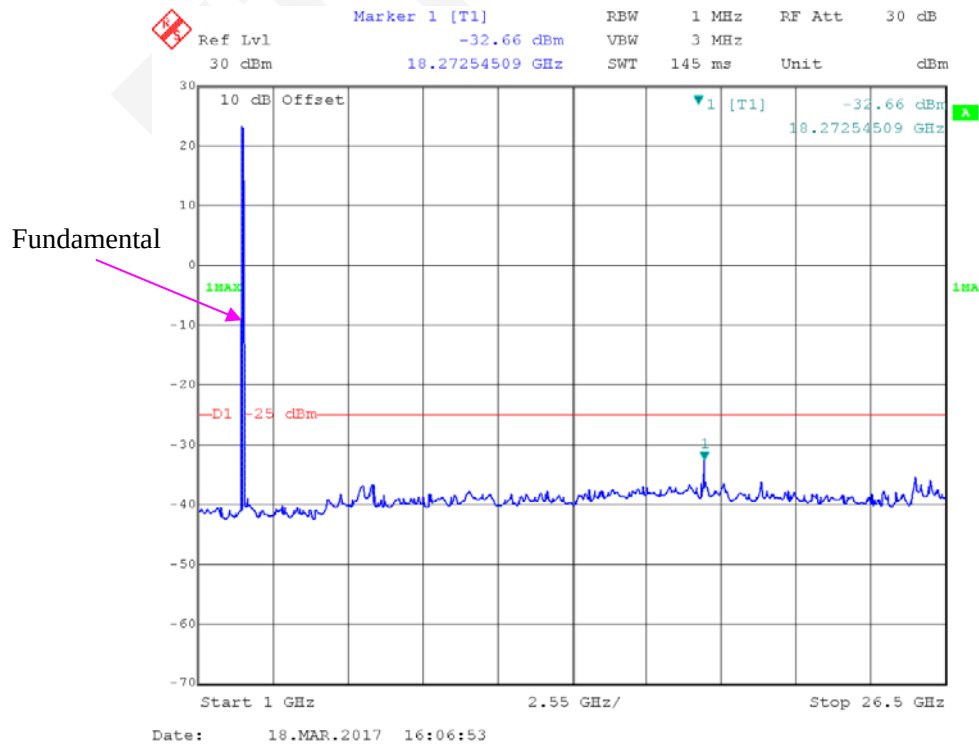
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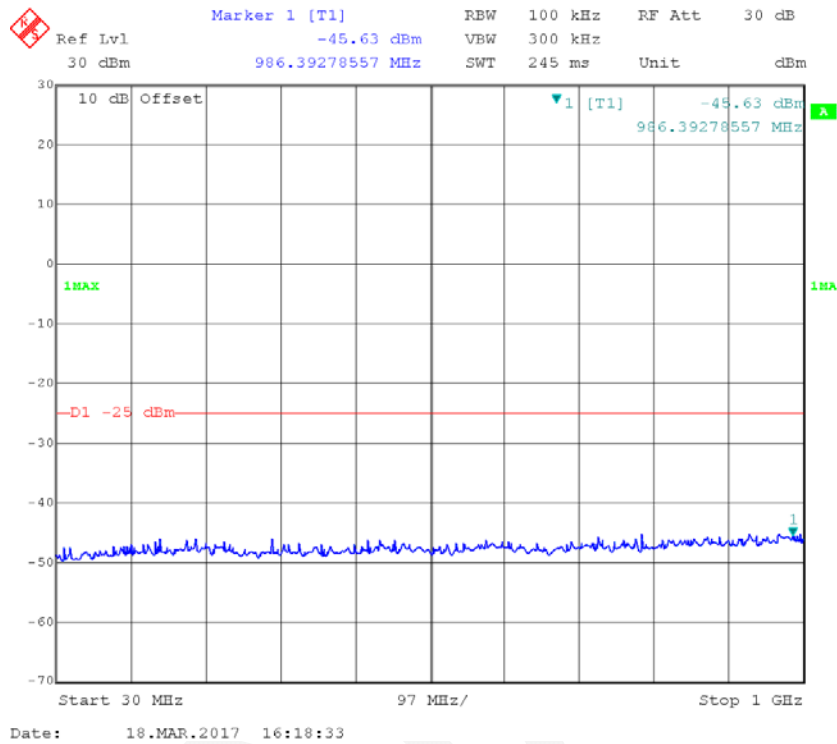
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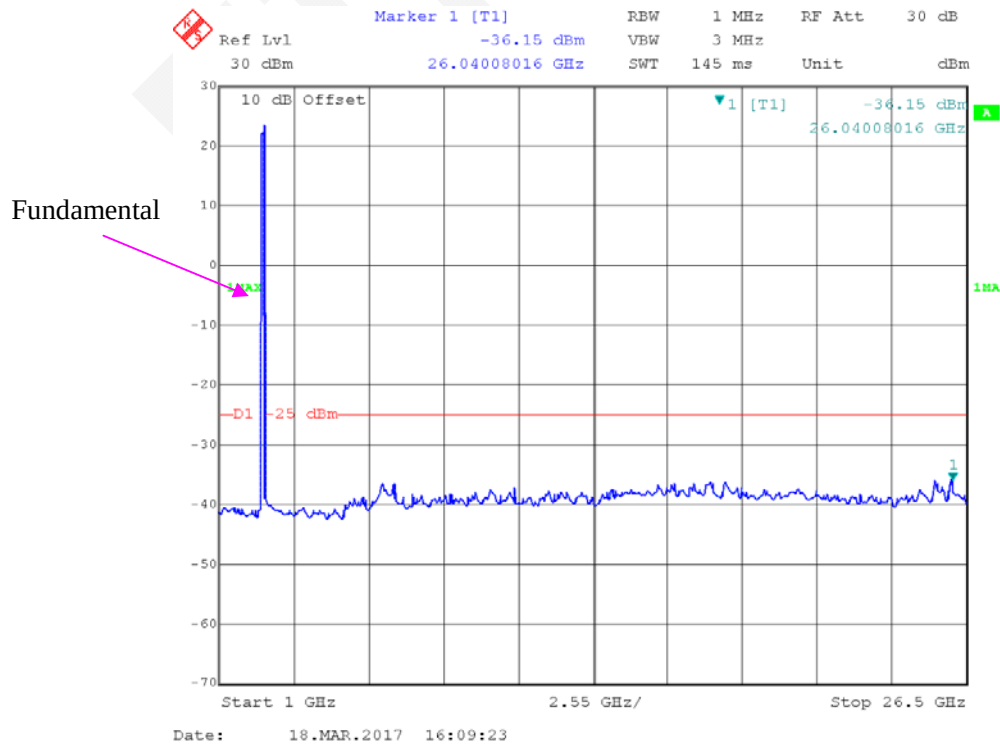
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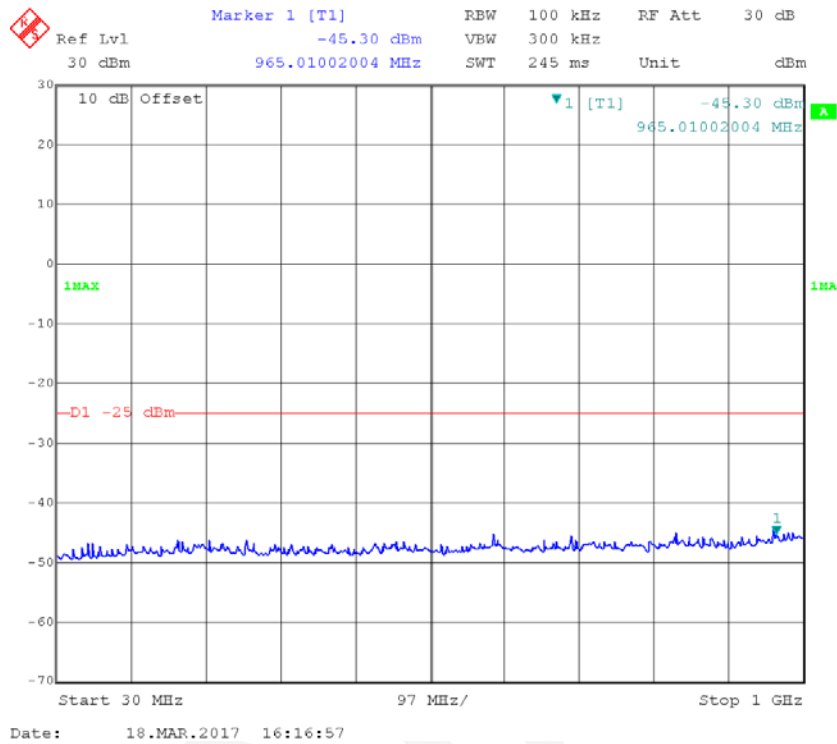
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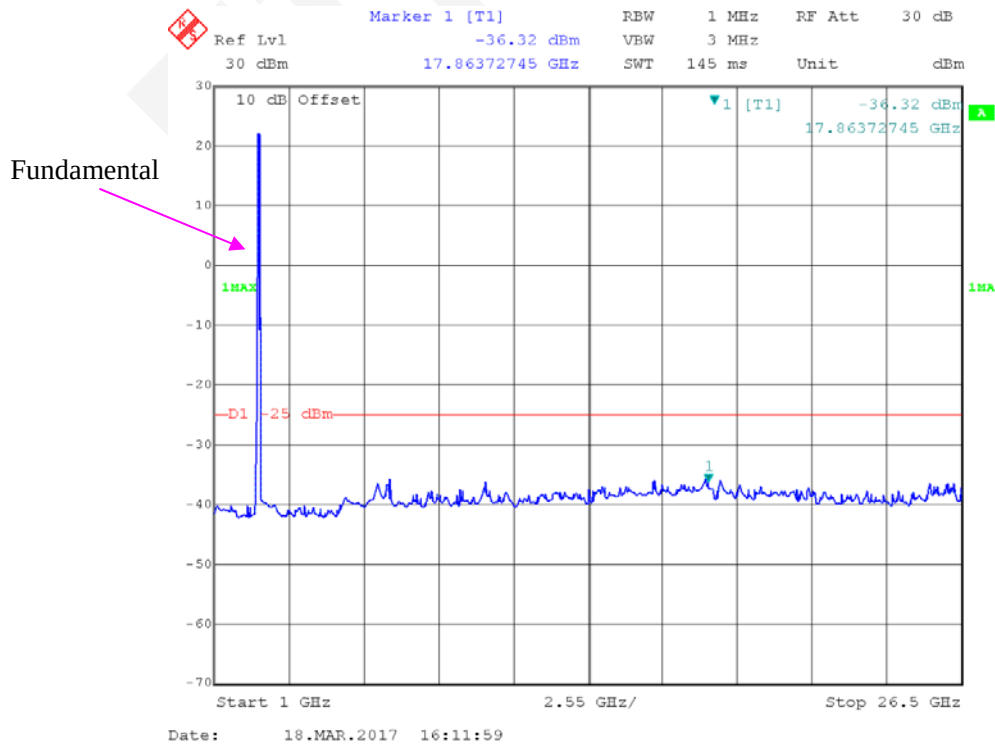
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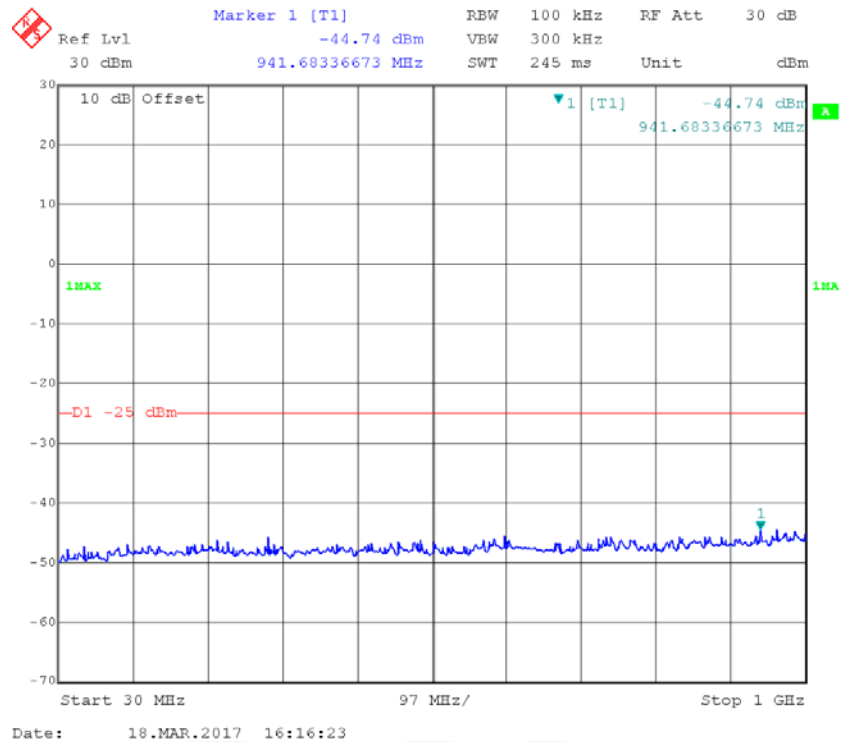
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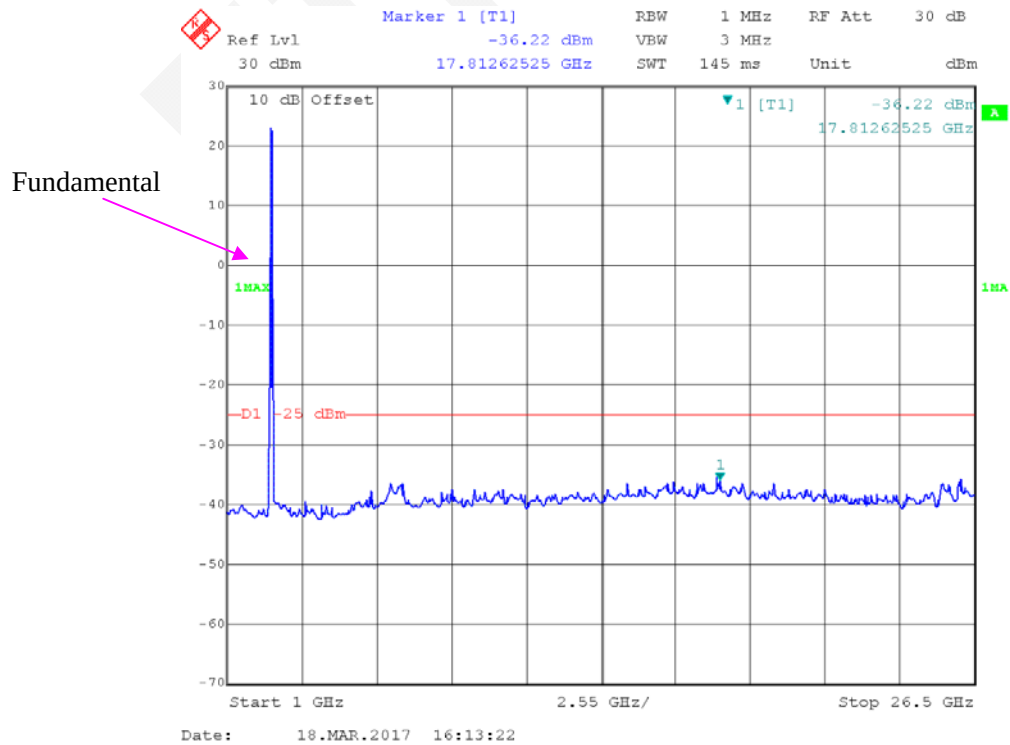
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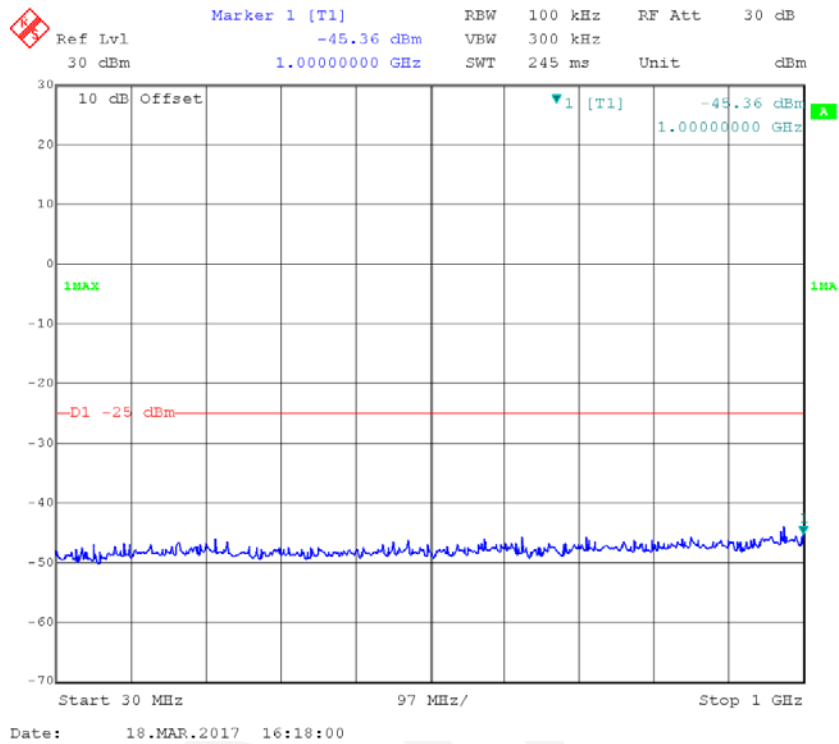
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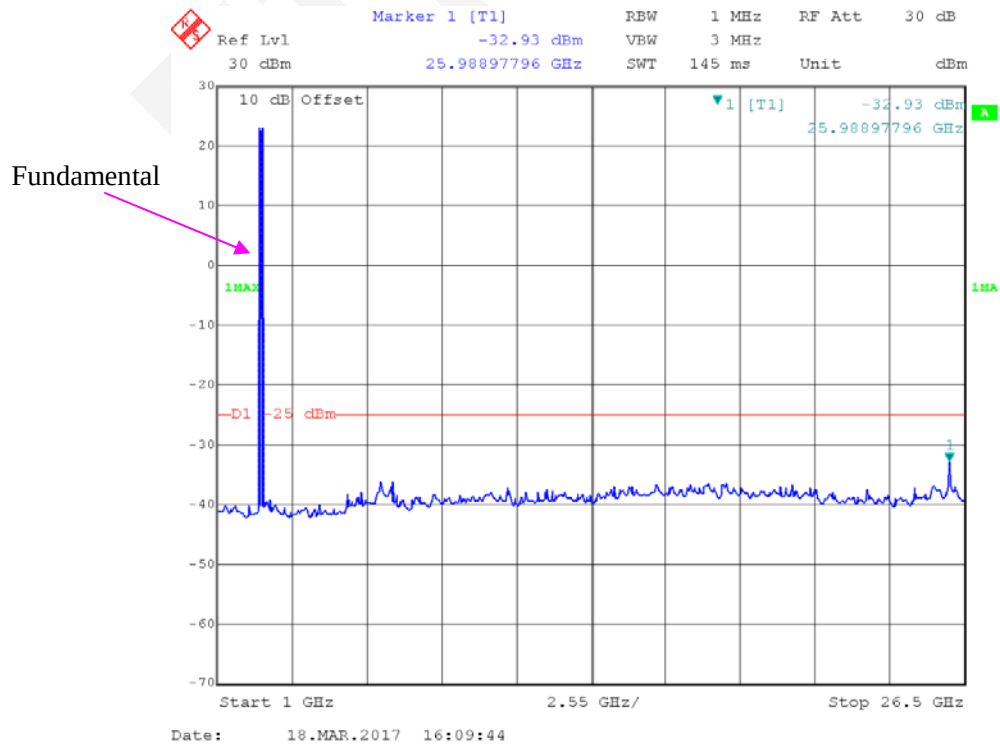
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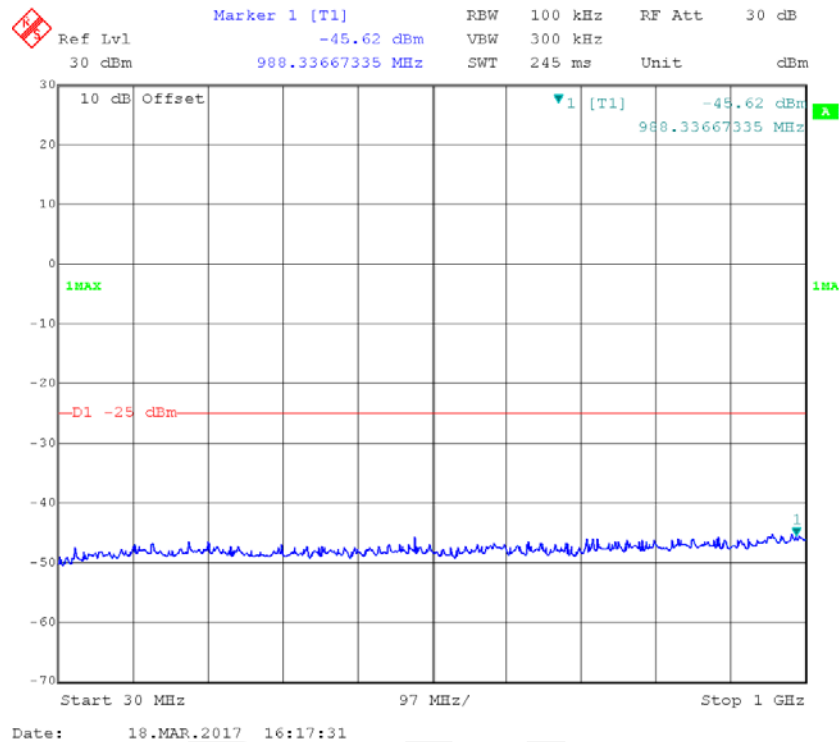
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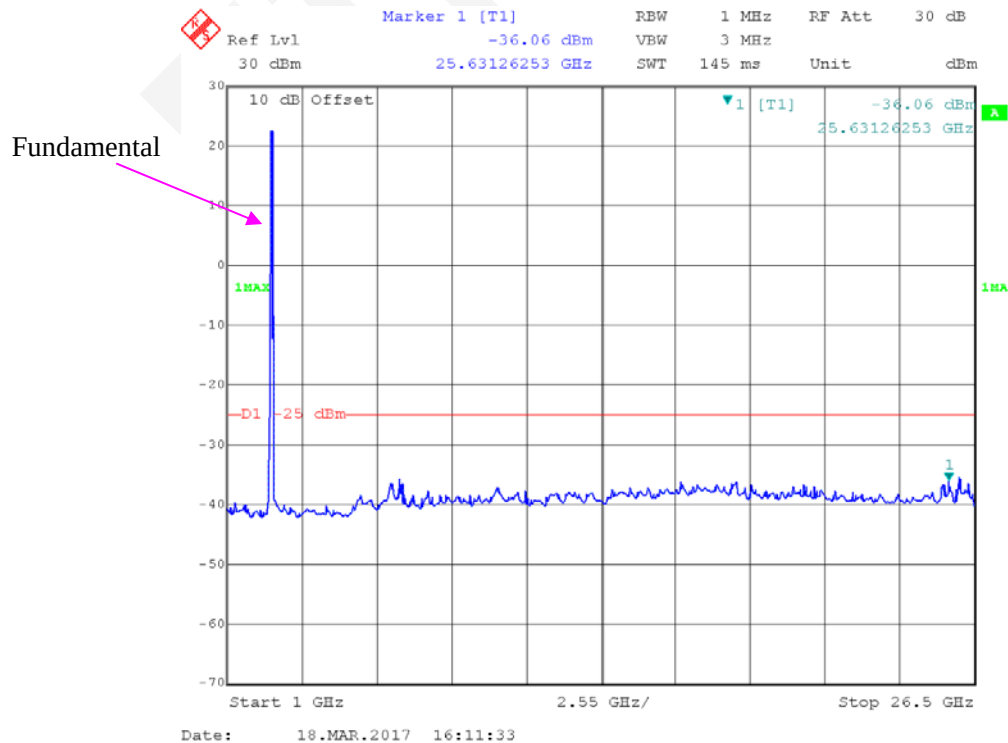
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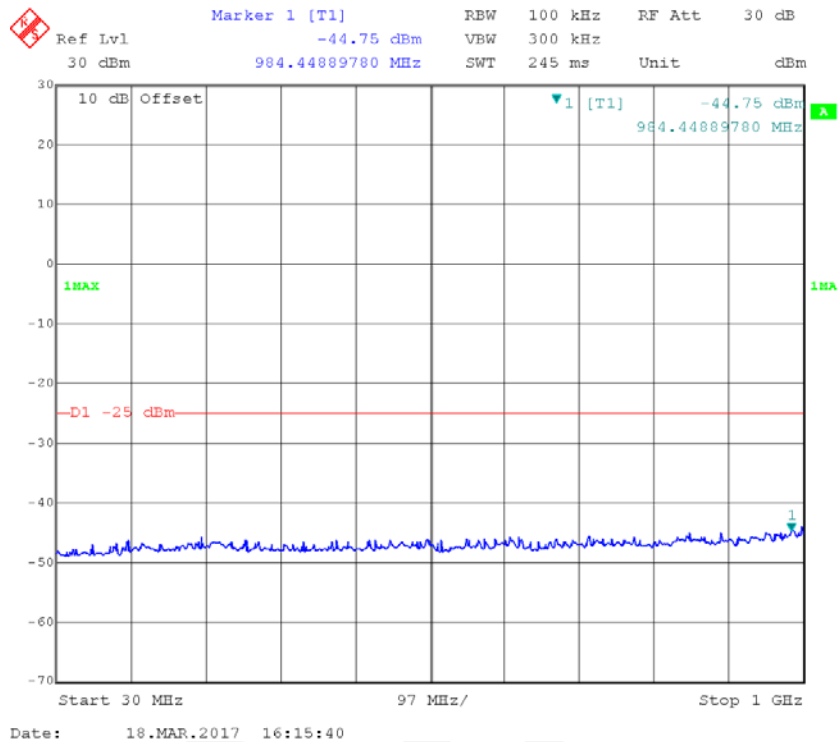
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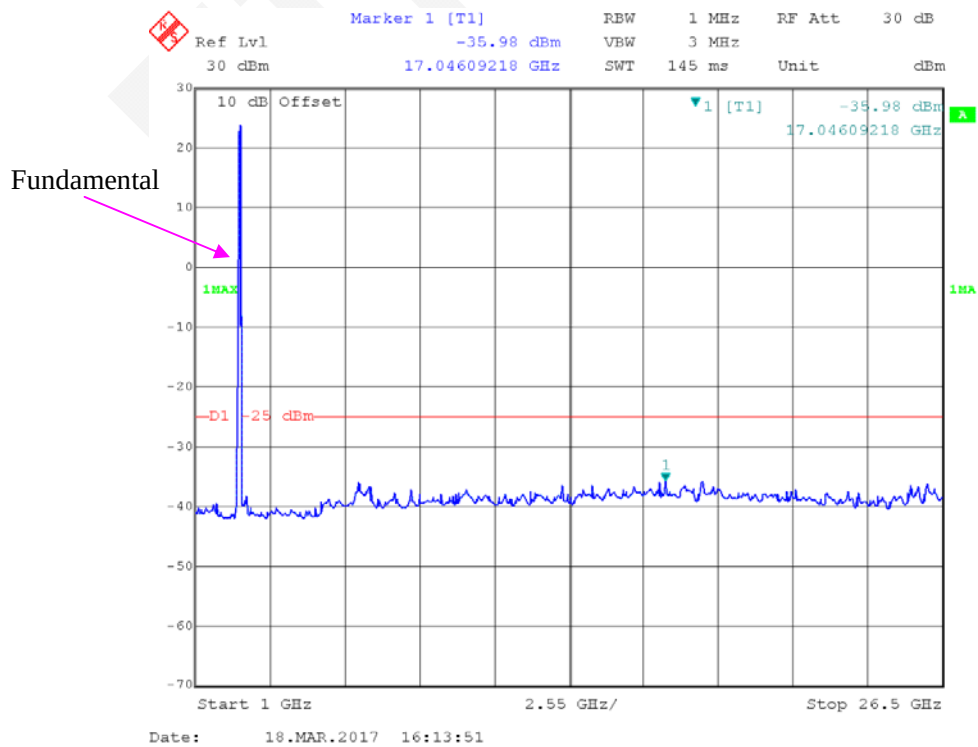
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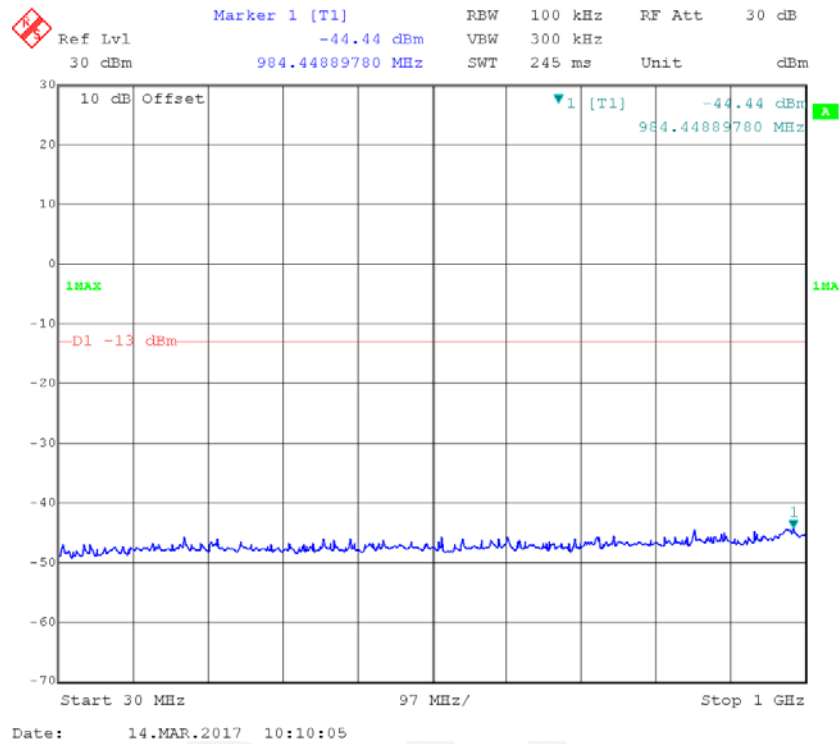
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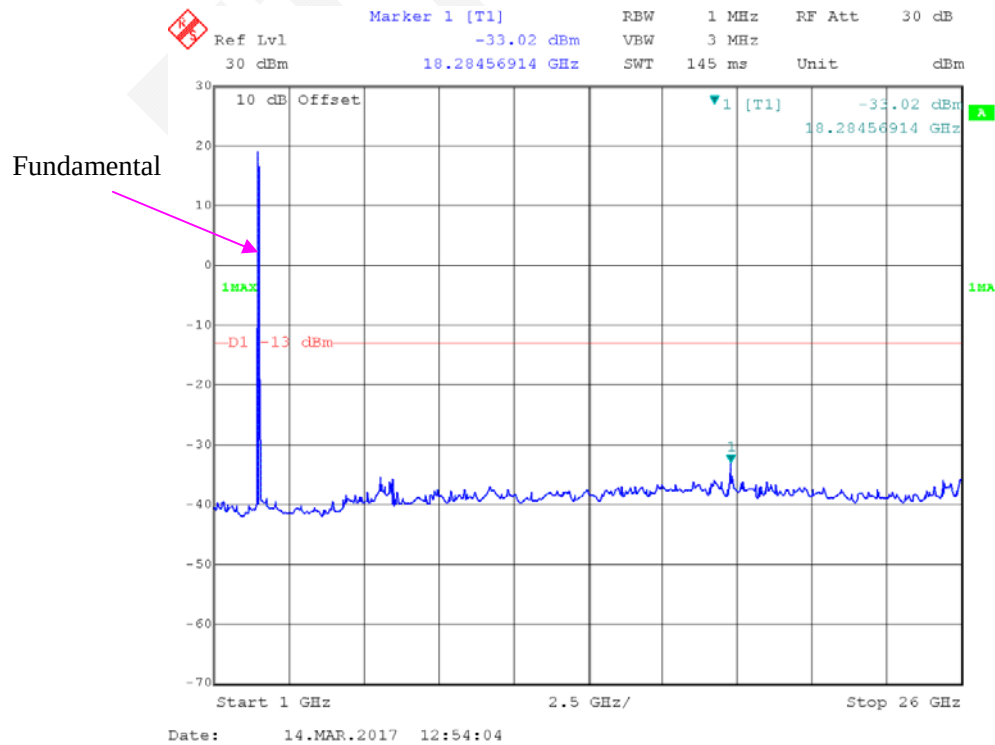
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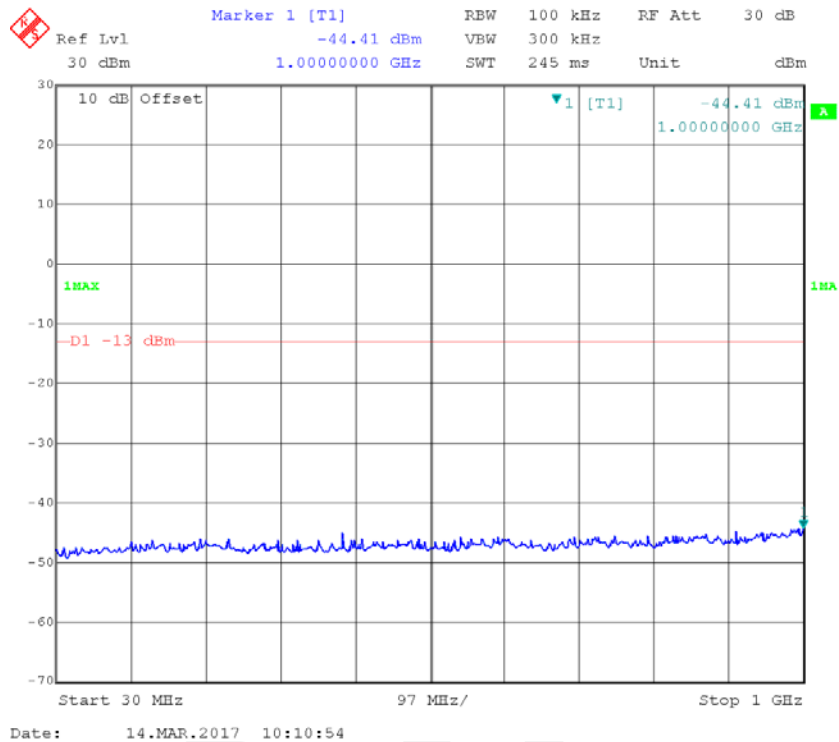
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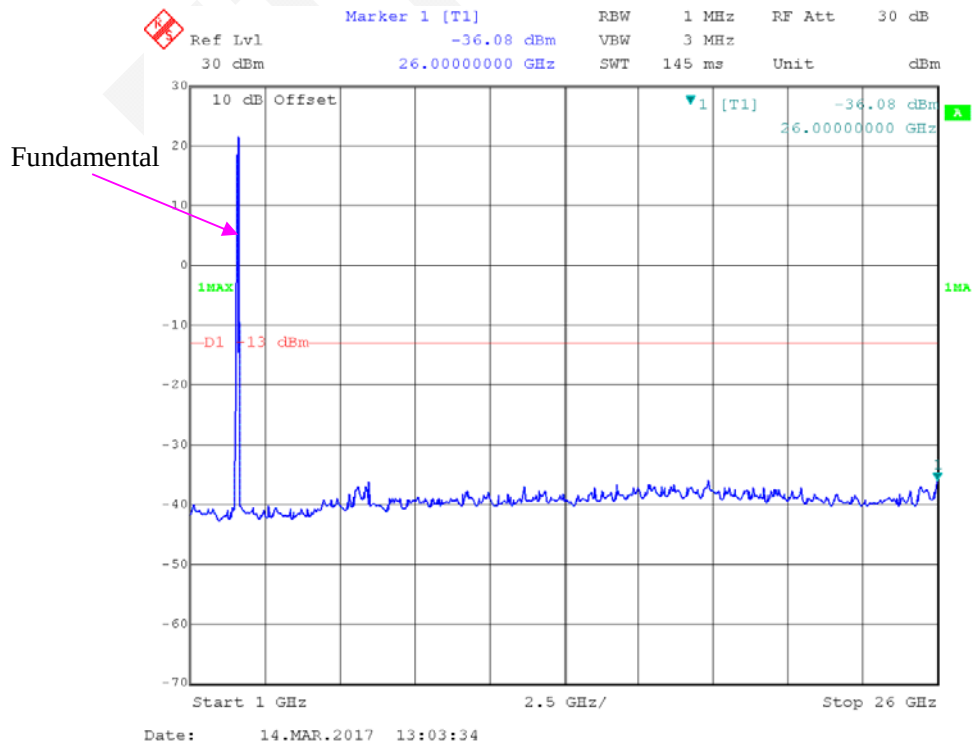
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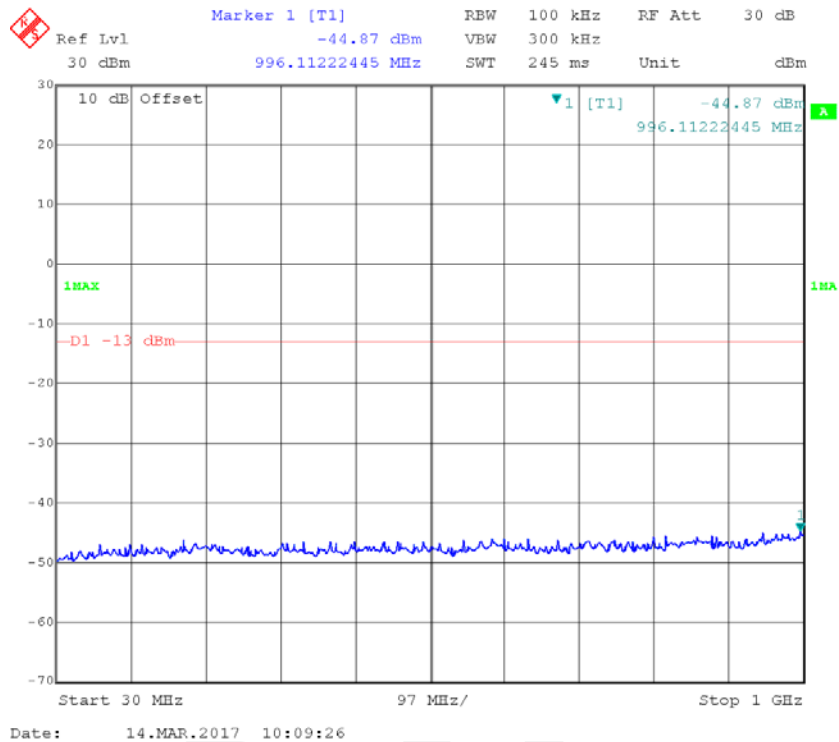
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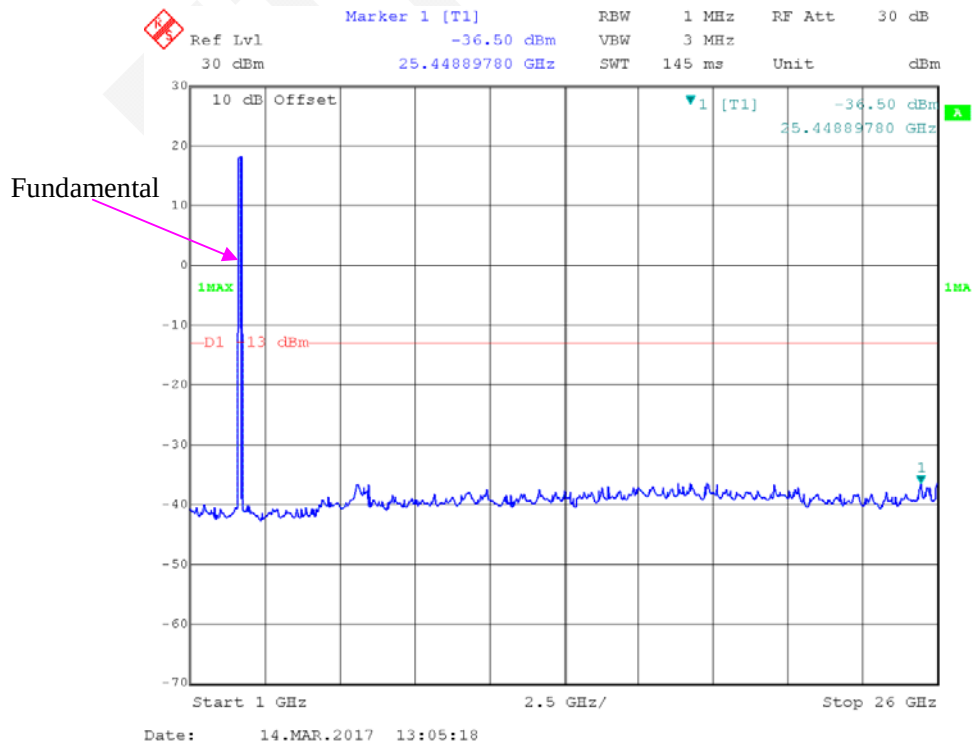
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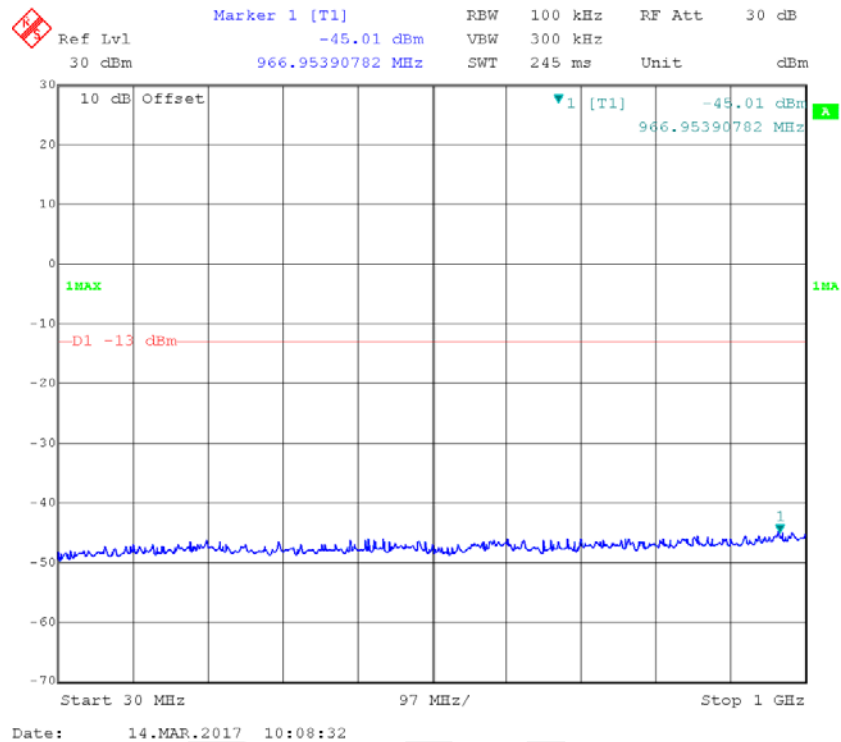
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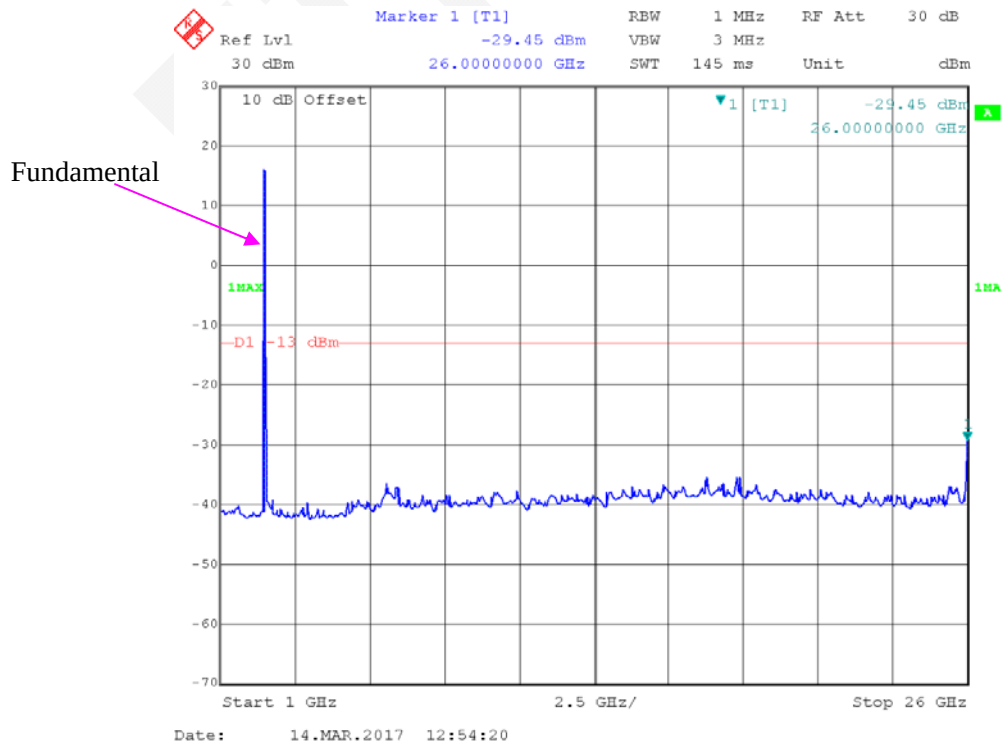
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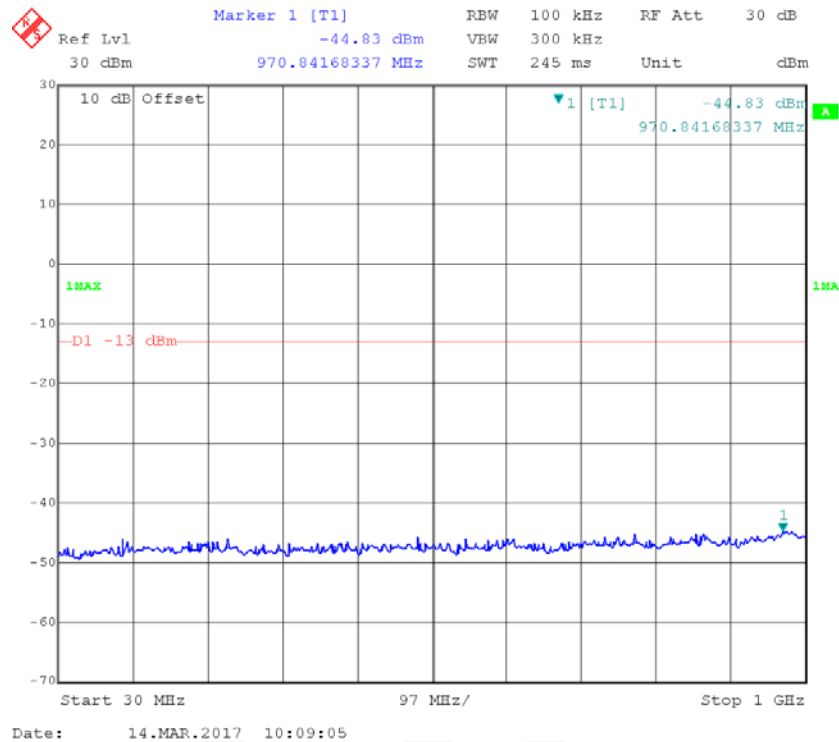
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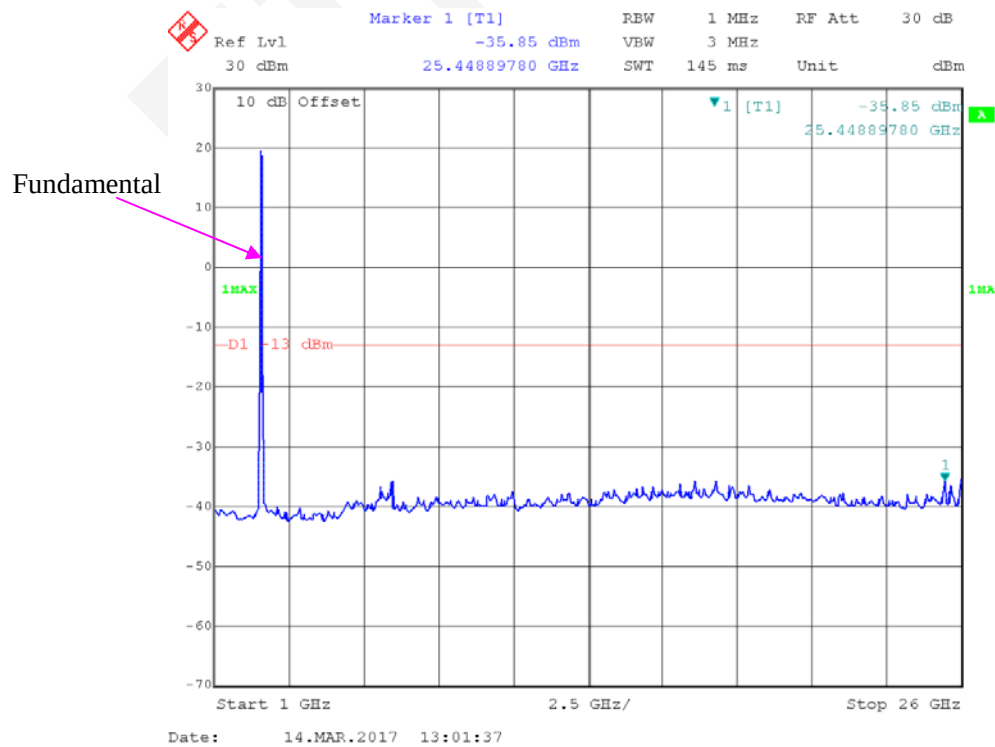
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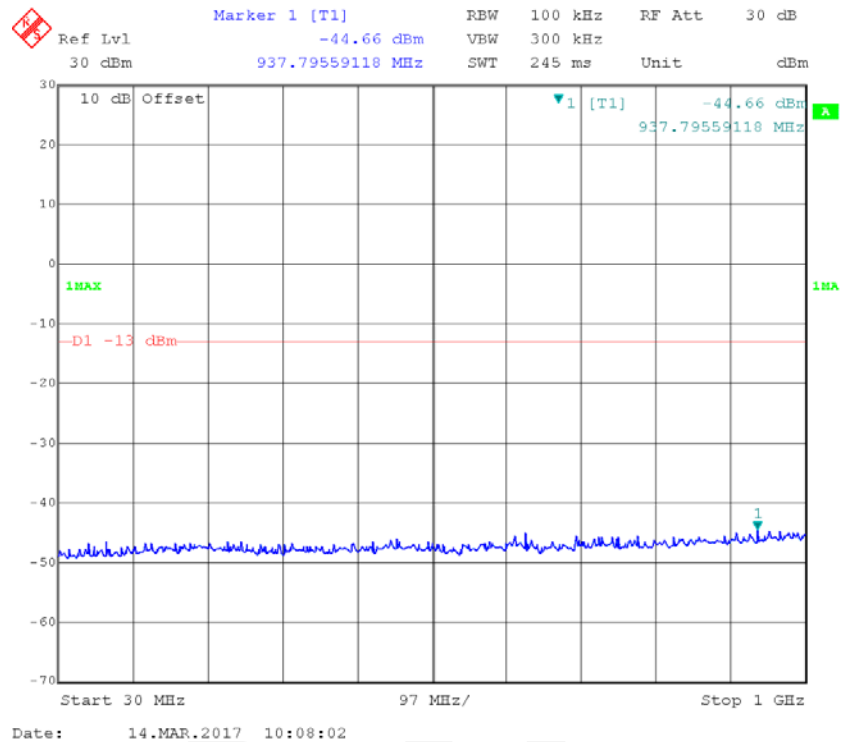
Band 41_20&5MHz_16QAM_P1#0&S0#0_M_1



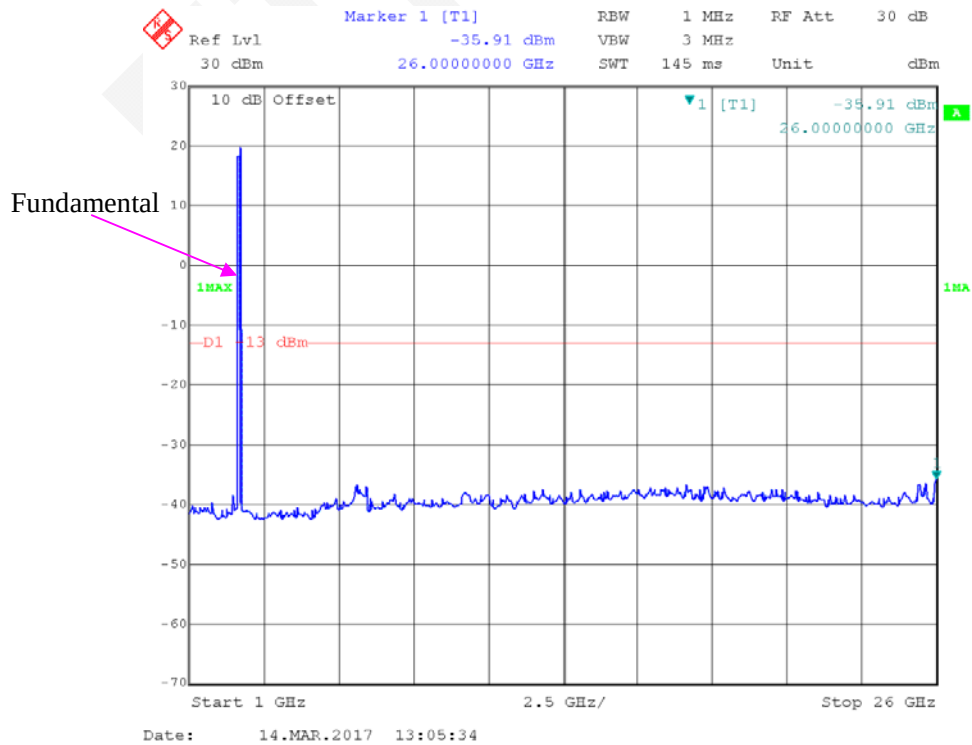
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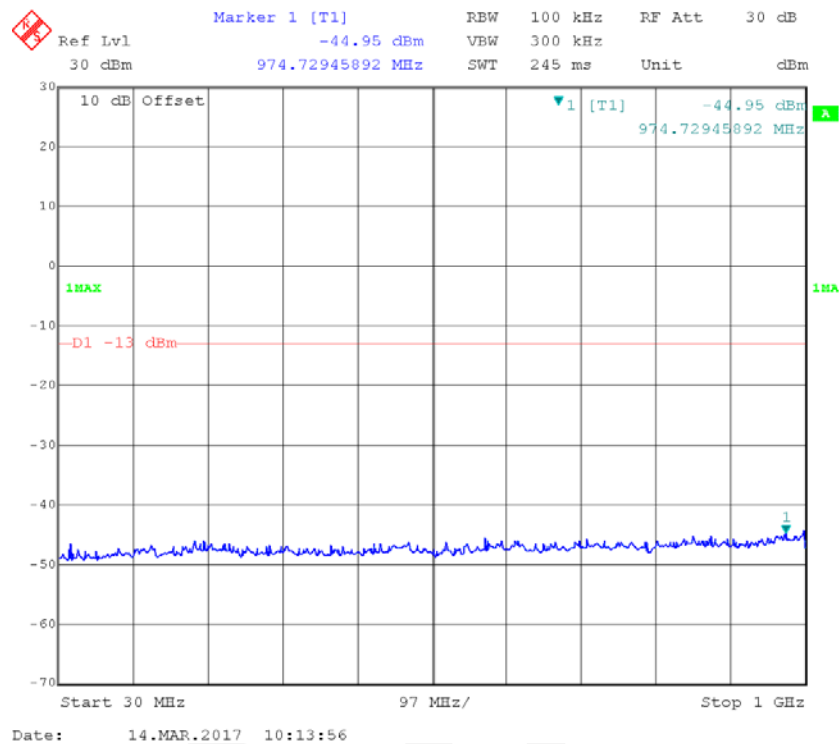
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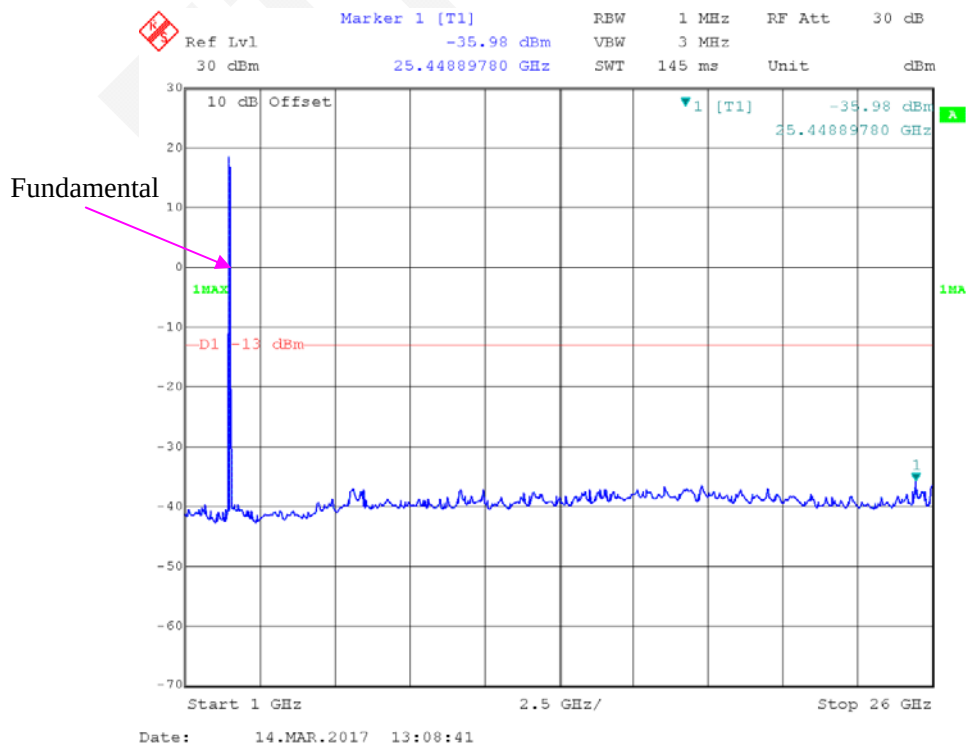
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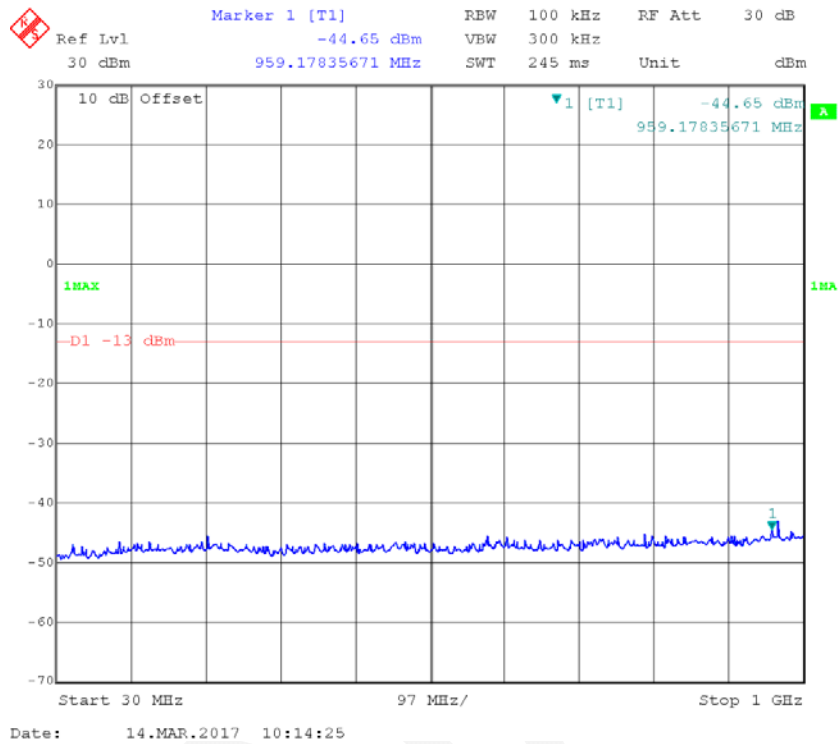
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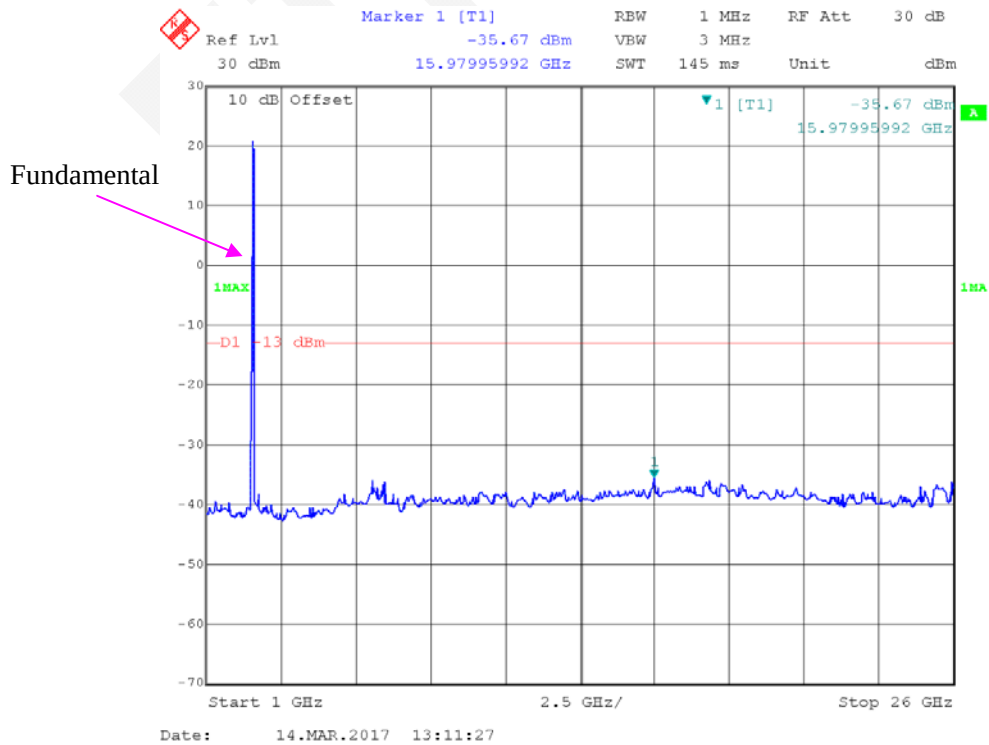
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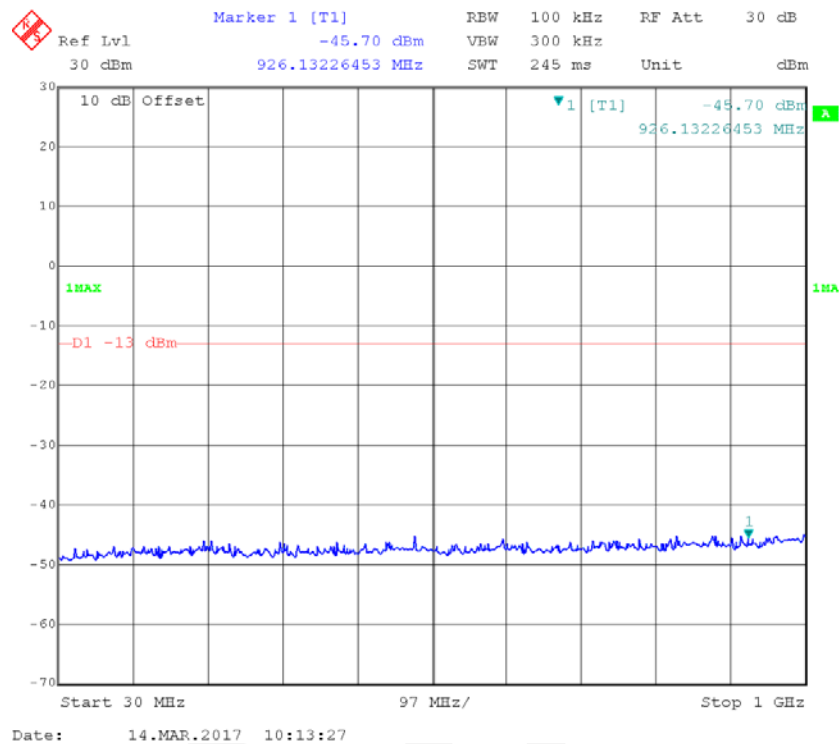
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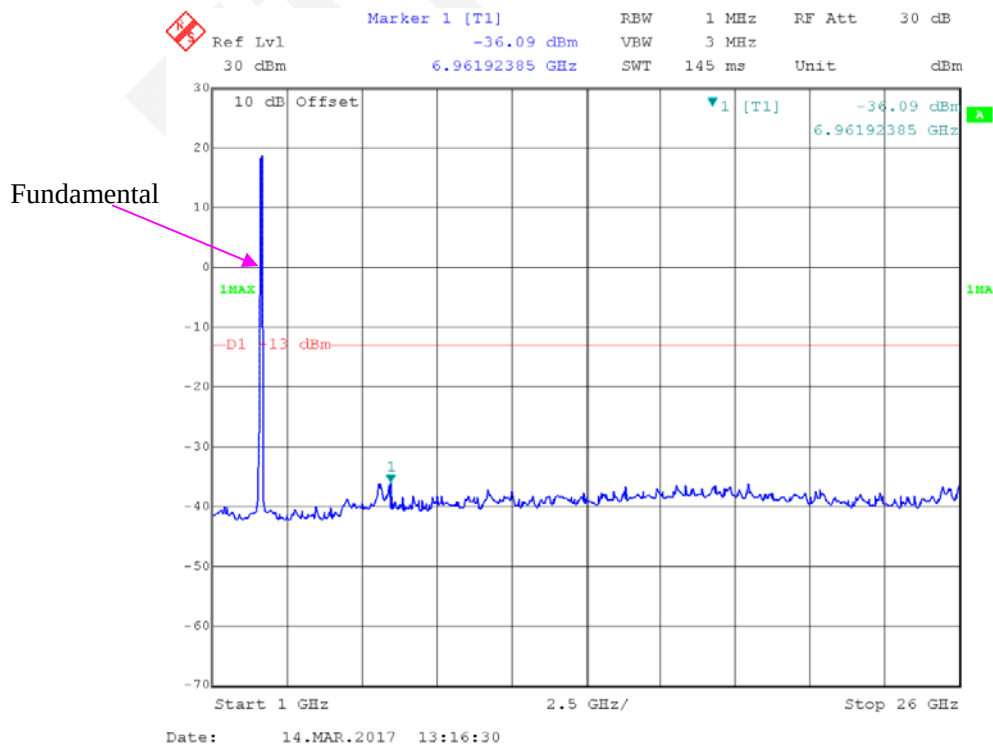
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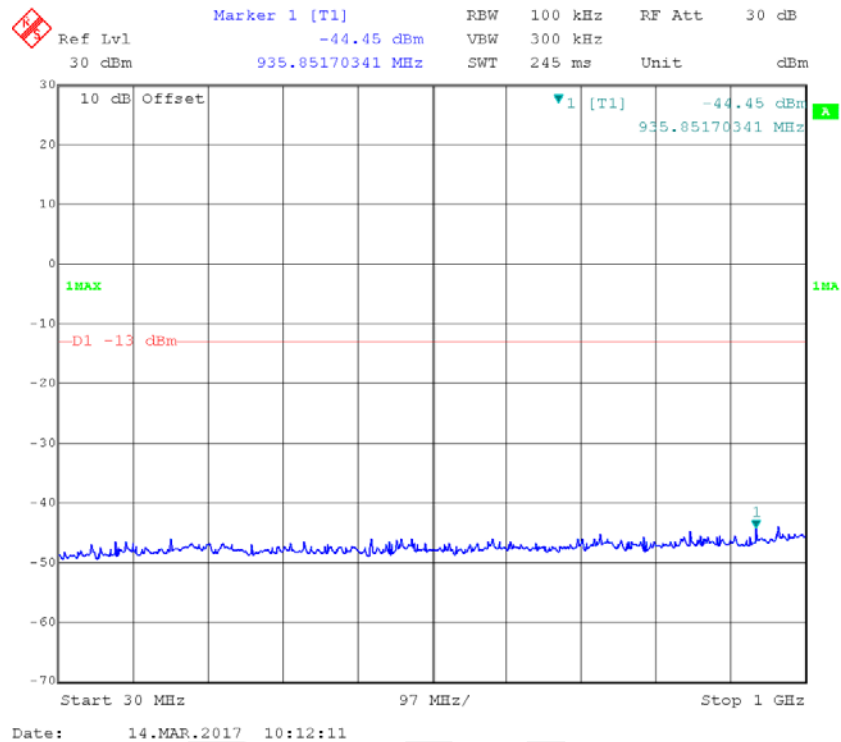
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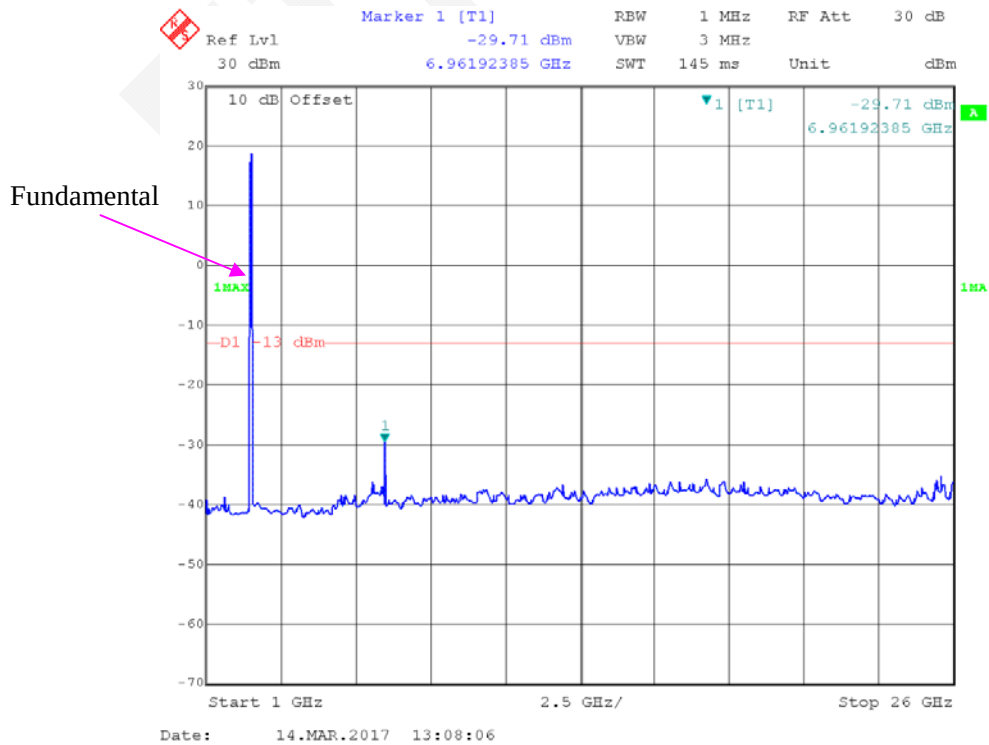
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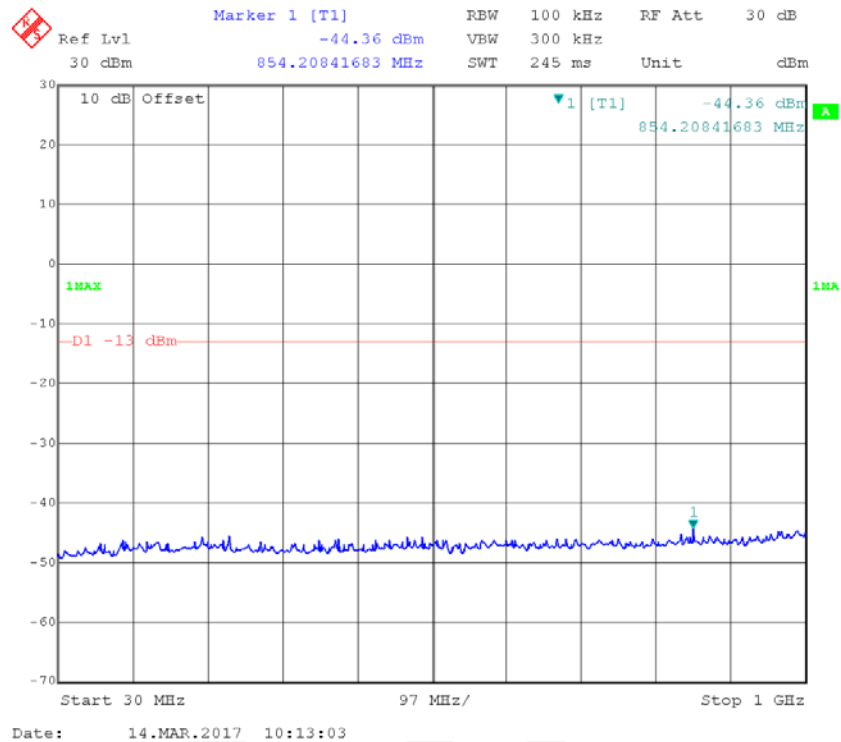
Band 41_20&20MHz_16QAM_P1#0&S0#0_L_1



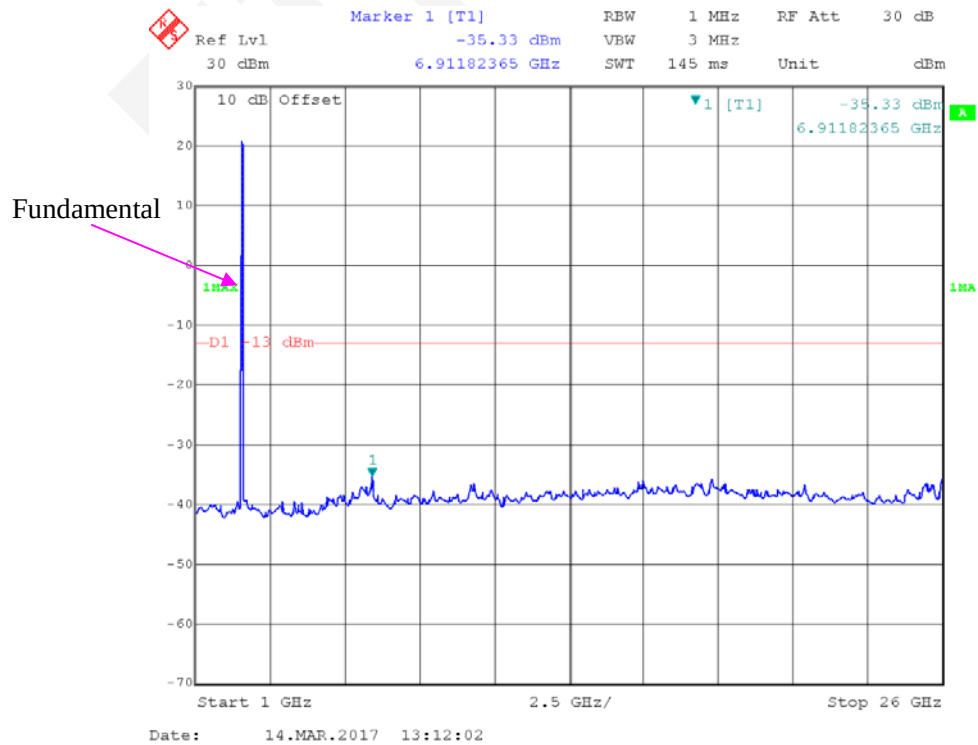
Band 41_20&20MHz_16QAM_P1#0&S0#0_L_2



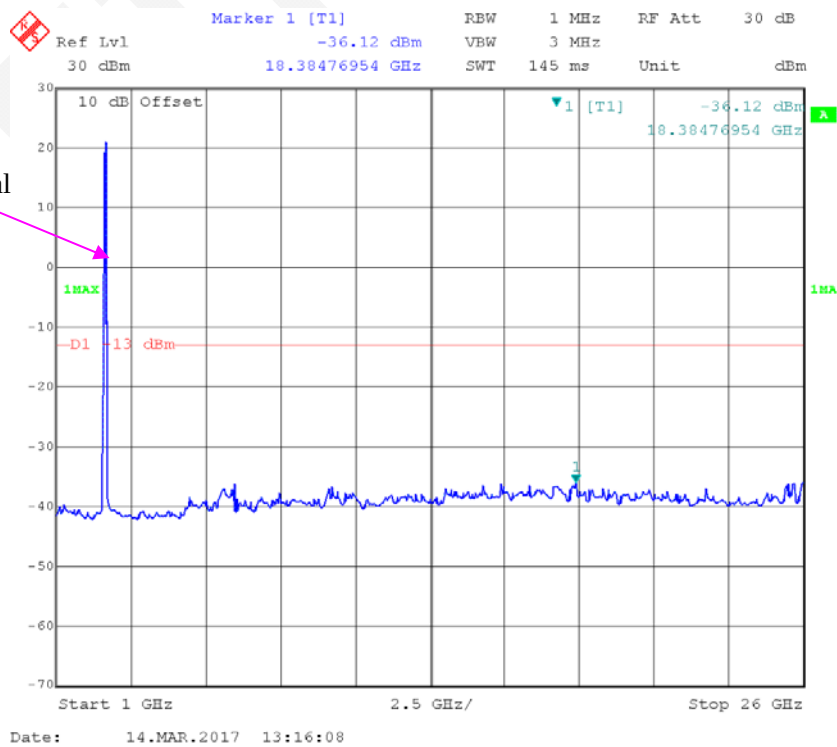
Band 41_20&20MHz_16QAM_P1#0&S0#0_M_1



Band 41_20&20MHz_16QAM_P1#0&S0#0_M_2



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FCC §2.1053, §27.53, RSS-195 §5.6, RSS-199 §4.5- SPURIOUS RADIATED EMISSIONS

Applicable Standards

FCC §2.1051 and §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

FCC§27.53(a)

(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz;

(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

FCC§27.53(m)

(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies 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 than $43 + 10 \log (P)$ 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.

RSS-195 § 5.6

The transmitter unwanted emissions shall be measured with a resolution bandwidth of 1 MHz. A smaller resolution bandwidth is permitted provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz. However, in the 1 MHz bands immediately adjacent to the edges of the frequency range(s) in which the equipment is allowed to operate, a resolution bandwidth of as close as possible to, without being less than 1% of the occupied bandwidth, shall be employed provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz.

5.6.2 Mobile, Portable and Low-Power Fixed Subscriber Equipment

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P(dBW), by the amount indicated in Table 2 and graphically represented in Figure 2, where p is the transmitter output power measured in watts.

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	$43 + 10 \log_{10}(p)$ ^{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	$43 + 10 \log_{10}(p)$ ^{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 5.2 for the permitted frequency ranges for various equipment types.

RSS-199 § 4.5

In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

(a) for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$.

(b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:

- (i) $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away
- (ii) $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- (iii) $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2490.5 MHz and 2496 MHz, and $55 + 10 \log_{10} p$ at or below 2490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg (\text{TXpwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \text{Log}_{10} (\text{power out in Watts})$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Amplifier	8447D	2944A10442	2016-12-02	2017-12-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2016-12-02	2017-12-01
Sunol Sciences	Broadband Antenna	JB3	A121808	2016-04-10	2019-04-09
Rohde & Schwarz	Spectrum Analyzer	FSEM30	100018	2016-12-02	2017-12-01
ETS	Horn Antenna	3115	003-6076	2016-12-02	2017-12-01
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-0113024	2014-06-16	2017-06-15
EMCO	Adjustable Dipole Antenna	3121C	9109-258	N/A	N/A
HP	Signal Generator	8648C	3623A04150	2016-05-23	2017-05-22
WILTRON	SWEPT FREQUENCY SYNTHESIZER	6737	213001	2016-05-23	2017-05-22
Mini-circuits	Amplifier	ZVA-183-S+	771001215	2016-05-20	2017-05-19
HP	Amplifier	8449B	3008A00277	2016-12-02	2017-12-01
EMCT	Semi-Anechoic Chamber	966	966-1	2015-04-24	2018-04-23
Unknown	RF Cable (below 1GHz)	Unknown	NO.1	2016-11-10	2017-11-09
Unknown	RF Cable (below 1GHz)	Unknown	NO.4	2016-11-10	2017-11-09
Unknown	RF Cable (above 1GHz)	Unknown	NO.2	2016-11-10	2017-11-09
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-011315	2016-08-18	2017-08-18
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-011312	2016-08-18	2017-08-18

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B "Implementation of traceability policy in accredited laboratories".

Test Data

Environmental Conditions

Temperature:	18~22 °C
Relative Humidity:	55~60 %
ATM Pressure:	97~97.2 kPa

The testing was performed by Lorin Bian from 2017-02-10 to 2017-02-27.

Test mode: Transmitting (Pre-scan with all the bandwidth, and worse case as below)

Band 7: 30MHz-26GHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:2535.000 MHz								
5070.000	H	32.28	-59	13.9	2.4	-47.5	-25.0	22.5
5070.000	V	31.96	-60.2	13.9	2.4	-48.7	-25.0	23.7
7605.000	H	32.13	-55.4	13.2	3.1	-45.3	-25.0	20.3
7605.000	V	32.35	-55.1	13.2	3.1	-45.0	-25.0	20.0
450.980	H	33.19	-58.6	0.0	0.7	-59.3	-25.0	34.3
450.980	V	36.49	-53.3	0.0	0.7	-54.0	-25.0	29.0
16-QAM,Frequency: 2535.000 MHz								
5070.000	H	33.02	-58.3	13.9	2.4	-46.8	-25.0	21.8
5070.000	V	34.17	-58	13.9	2.4	-46.5	-25.0	21.5
7605.000	H	32.43	-55.1	13.2	3.1	-45.0	-25.0	20.0
7605.000	V	32.68	-54.8	13.2	3.1	-44.7	-25.0	19.7
450.980	H	33.14	-58.6	0.0	0.7	-59.3	-25.0	34.3
450.980	V	36.31	-53.5	0.0	0.7	-54.2	-25.0	29.2

Band 40(2305MHz-2315MHz): 30MHz-24GHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2310.000 MHz								
4620.000	H	36.50	-56.2	14.3	2.3	-44.2	-40.0	4.2
4620.000	V	33.24	-60.2	14.3	2.3	-48.2	-40.0	8.2
6930.000	H	36.11	-53.5	13.6	3.5	-43.4	-40.0	3.4
6930.000	V	35.69	-53.5	13.6	3.5	-43.4	-40.0	3.4
450.980	H	34.22	-57.6	0.0	0.7	-58.3	-40.0	18.3
450.980	V	32.01	-57.8	0.0	0.7	-58.5	-40.0	18.5
16-QAM, Frequency: 2310.000 MHz								
4620.000	H	36.71	-56	14.3	2.3	-44.0	-40.0	4.0
4620.000	V	34.29	-59.2	14.3	2.3	-47.2	-40.0	7.2
6930.000	H	36.43	-53.2	13.6	3.5	-43.1	-40.0	3.1
6930.000	V	34.12	-55.1	13.6	3.5	-45.0	-40.0	5.0
450.980	H	35.58	-56.2	0.0	0.7	-56.9	-40.0	16.9
450.980	V	32.16	-57.6	0.0	0.7	-58.3	-40.0	18.3

Band 40(2350MHz-2360MHz): 30MHz-24GHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:2355.000 MHz								
4710.000	H	36.00	-56.5	14.4	3	-45.1	-40.0	5.1
4710.000	V	33.42	-59.2	14.4	3	-47.8	-40.0	7.8
7065.000	H	36.34	-52.9	13.3	3.4	-43.0	-40.0	3.0
7065.000	V	35.69	-53.2	13.3	3.4	-43.3	-40.0	3.3
450.980	H	33.72	-58.1	0.0	0.7	-58.8	-40.0	18.8
450.980	V	32.06	-57.7	0.0	0.7	-58.4	-40.0	18.4
16-QAM,Frequency: 2355.000 MHz								
4710.000	H	32.18	-60.3	14.4	3	-48.9	-40.0	8.9
4710.000	V	32.64	-60	14.4	3	-48.6	-40.0	8.6
7065.000	H	32.87	-56.4	13.3	3.4	-46.5	-40.0	6.5
7065.000	V	32.05	-56.8	13.3	3.4	-46.9	-40.0	6.9
450.980	H	33.65	-58.1	0.0	0.7	-58.8	-40.0	18.8
450.980	V	32.15	-57.6	0.0	0.7	-58.3	-40.0	18.3

Band 41: 30MHz-26GHz

Band 11: 50MHz - 500MHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:2593.000 MHz								
5186.000	H	32.59	-58.4	14.0	2.3	-46.7	-13.0	33.7
5186.000	V	31.73	-60.8	14.0	2.3	-49.1	-13.0	36.1
7779.000	H	32.24	-55	13.3	3.5	-45.2	-13.0	32.2
7779.000	V	31.66	-55.9	13.3	3.5	-46.1	-13.0	33.1
450.980	H	32.64	-59.1	0.0	0.7	-59.8	-13.0	46.8
450.980	V	31.08	-58.7	0.0	0.7	-59.4	-13.0	46.4
16-QAM,Frequency: 2593.000 MHz								
5186.000	H	32.64	-58.4	14.0	2.3	-46.7	-13.0	33.7
5186.000	V	31.97	-60.5	14.0	2.3	-48.8	-13.0	35.8
7779.000	H	31.73	-55.5	13.3	3.5	-45.7	-13.0	32.7
7779.000	V	32.41	-55.2	13.3	3.5	-45.4	-13.0	32.4
450.980	H	32.59	-59.2	0.0	0.7	-59.9	-13.0	46.9
450.980	V	31.02	-58.8	0.0	0.7	-59.5	-13.0	46.5

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level