EMC Test Report

1 Device information

1.1 General

DUT: 40-V, 160-mΩ, 4-ch smart high-side switch

TPS4H160B-Q1

Package: HTSSOP28

IEC Standards: IEC61967-4; IEC62132-4

Tester: Kalin Burnside

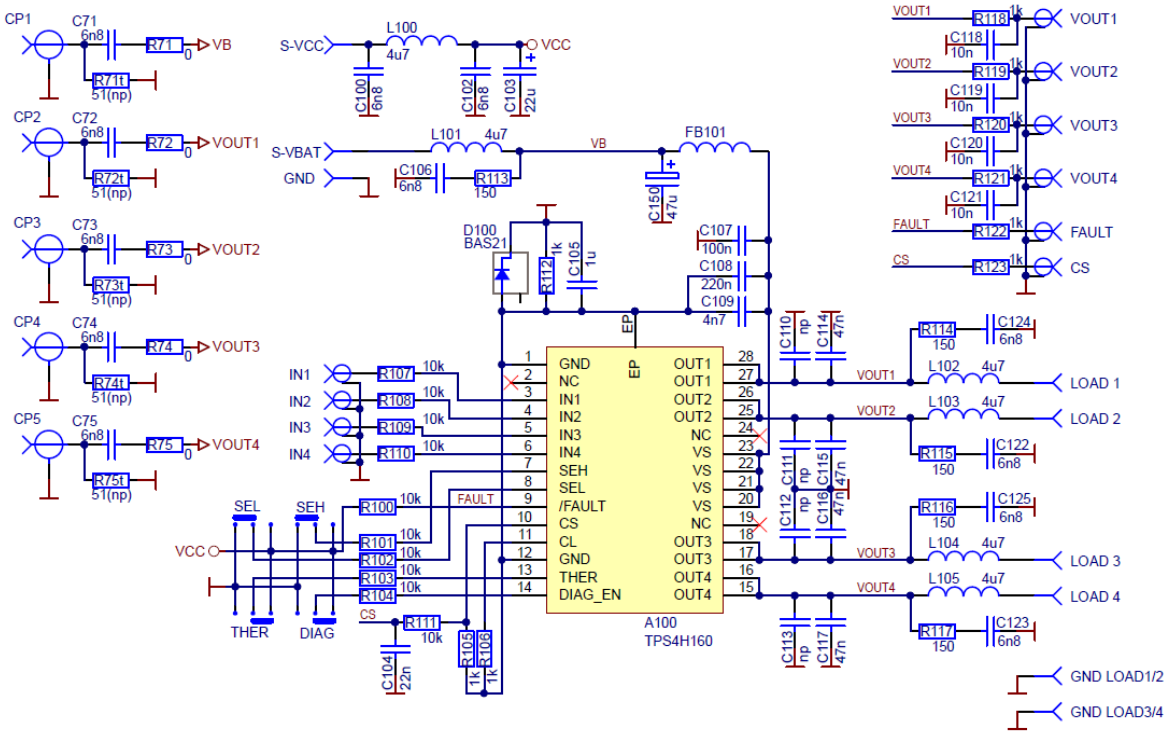
Date: 12/07/2020

Contents

2 Test Conditions Emissions and Active Immunity

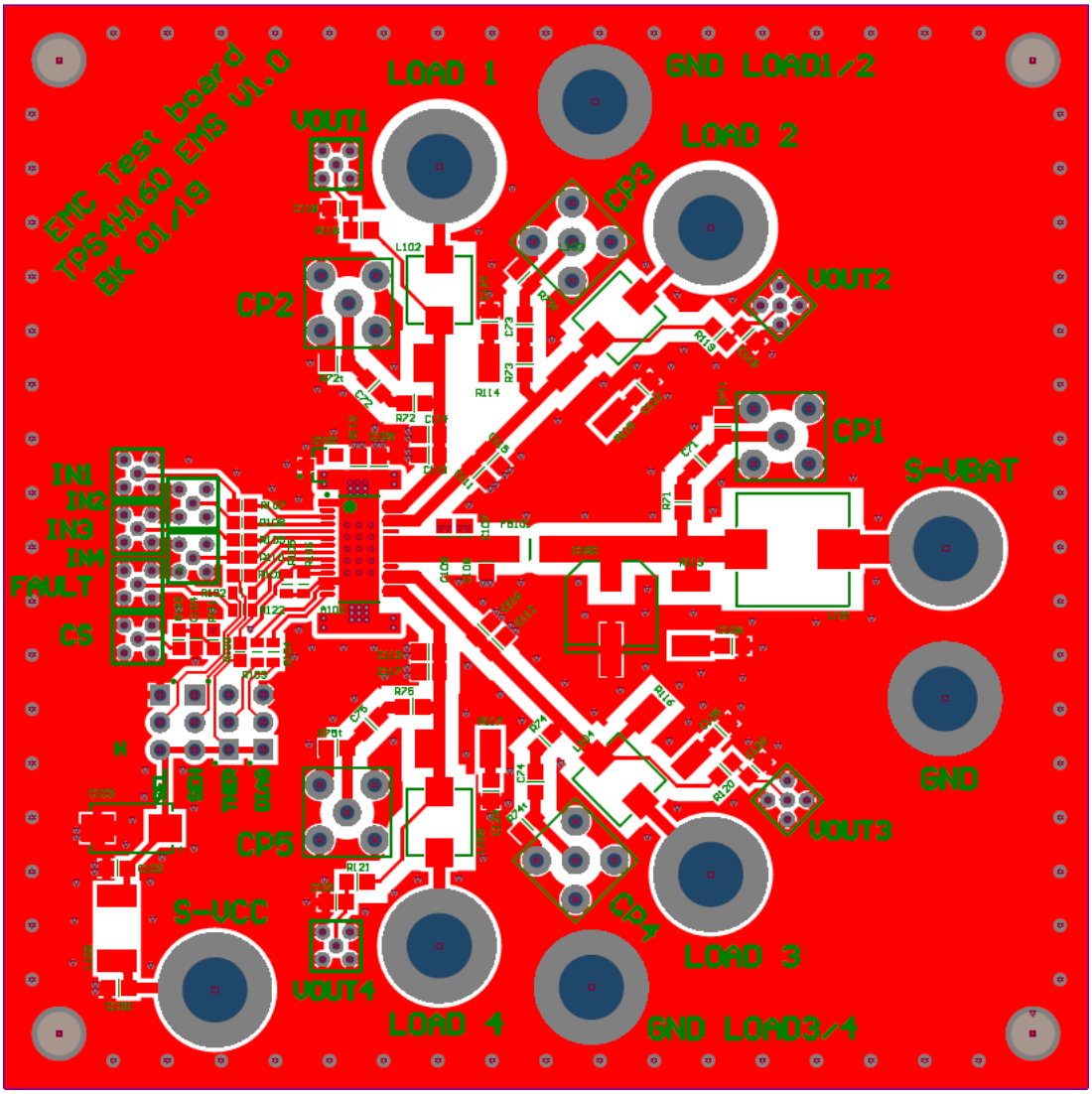
2.1 General Definition

Schematic:

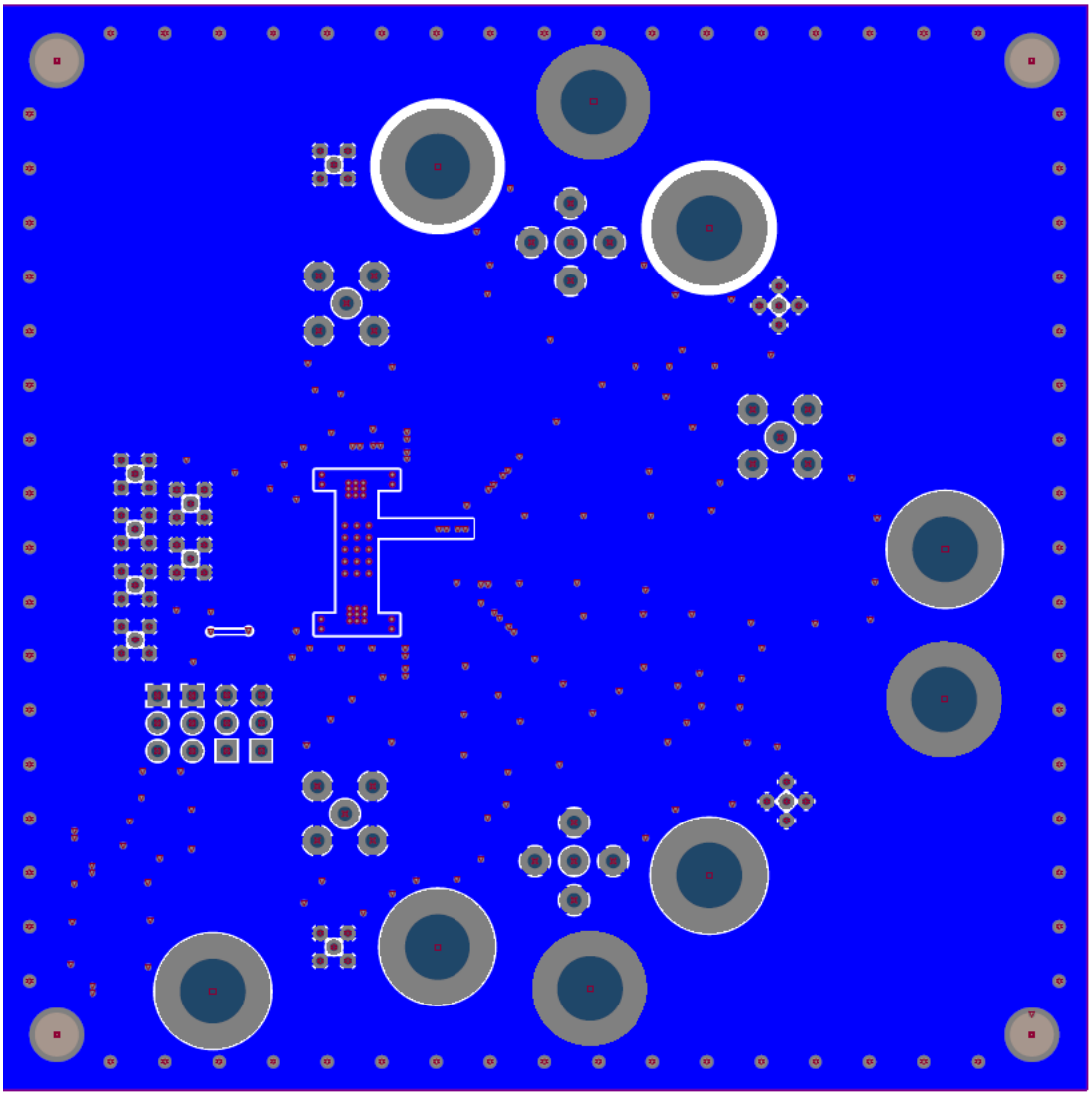


Note for all tests in this document the ground/diode network (R105 and D100) are populated and C105/C150/FB101 are NP

Layout (Top Layer):



Layout (Bottom Layer):



2.2 Test Parameters

Test Measurement Equipment: Rhode & Schwarz ESPI Test Receiver

Test Configuration: 100ms, 2 MHz - 100 MHz

Refer to the ZVEI Generic IC EMC Test Specification and IEC 61967-4 specification for test method and limits:

https://www.zvei.org/fileadmin/user_upload/Presse_und_Medien/Publikationen/2017/Juli/Generic_IC_EMC_Test_Specification/Generic_IC_EMC_Test_Specification_2.1_180713_ZVEI.pdf

https://webstore.iec.ch/publication/6189

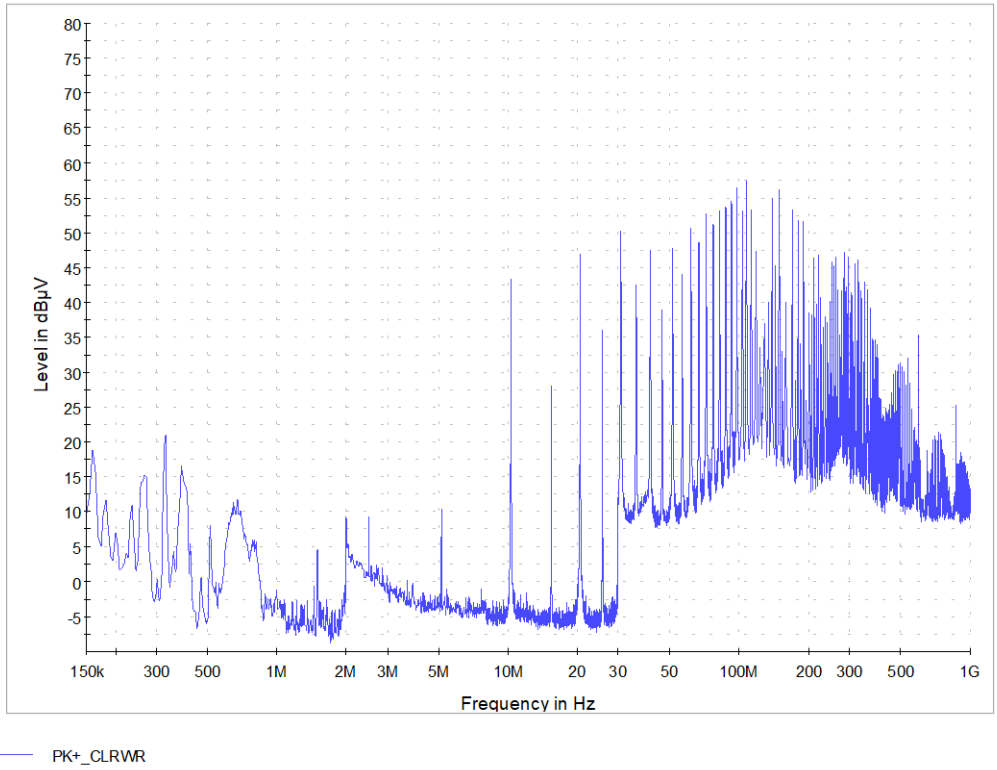
3 Results

These results were performed with optimized EMC components populated onto the optimized EMC test board/layout. The key component designators and their corresponding values are listed below:

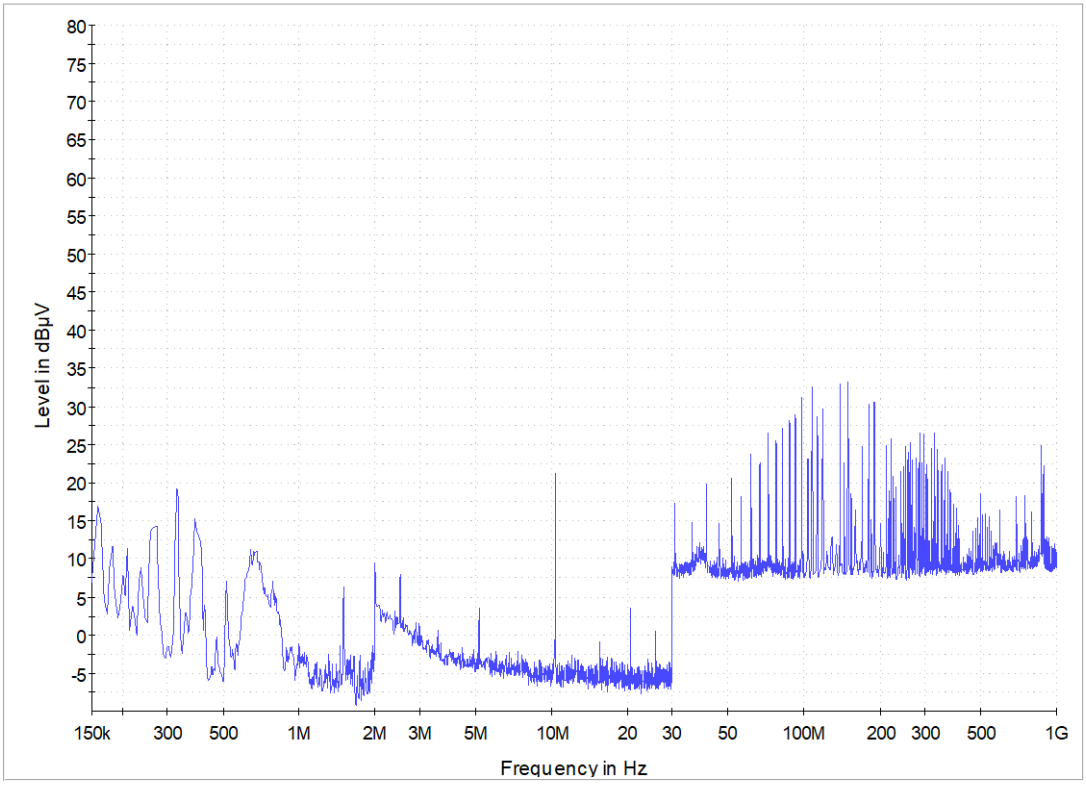
Component	Value
C108	100nF
C109	10nF
C110 & C111 & C112 & C113	100nF

EN HIGH 5 V:

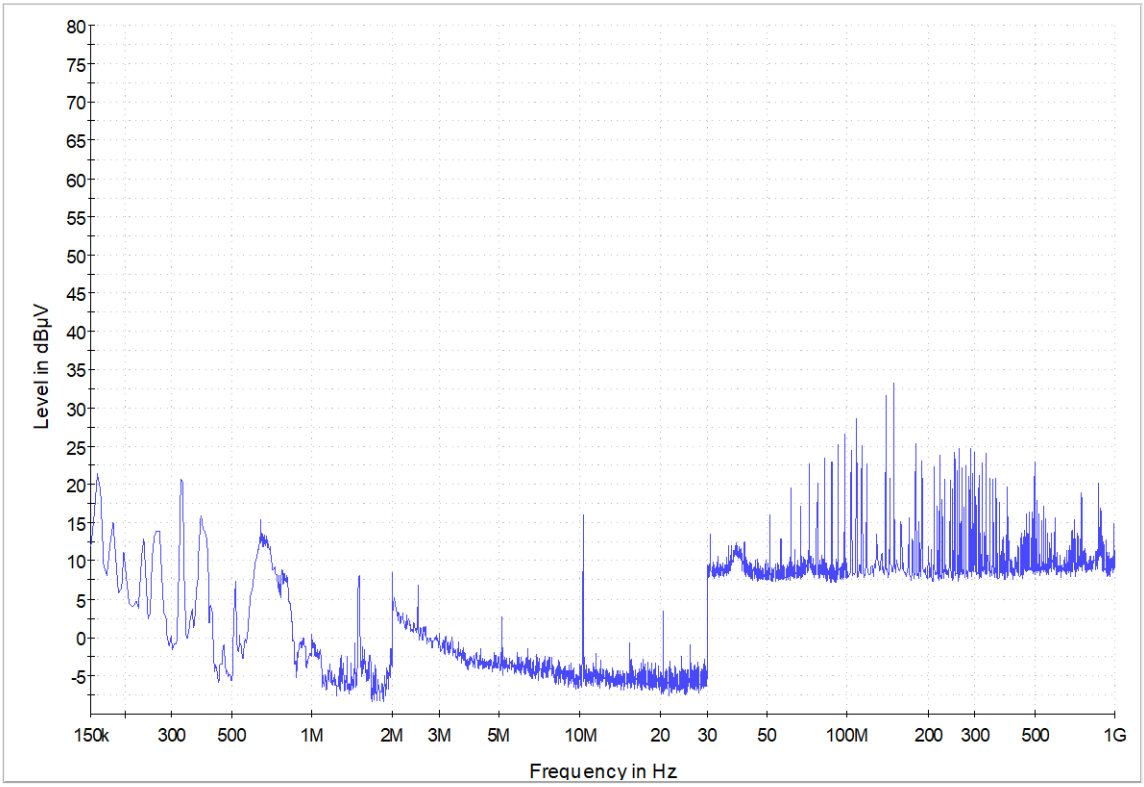
Supply in (CP1)



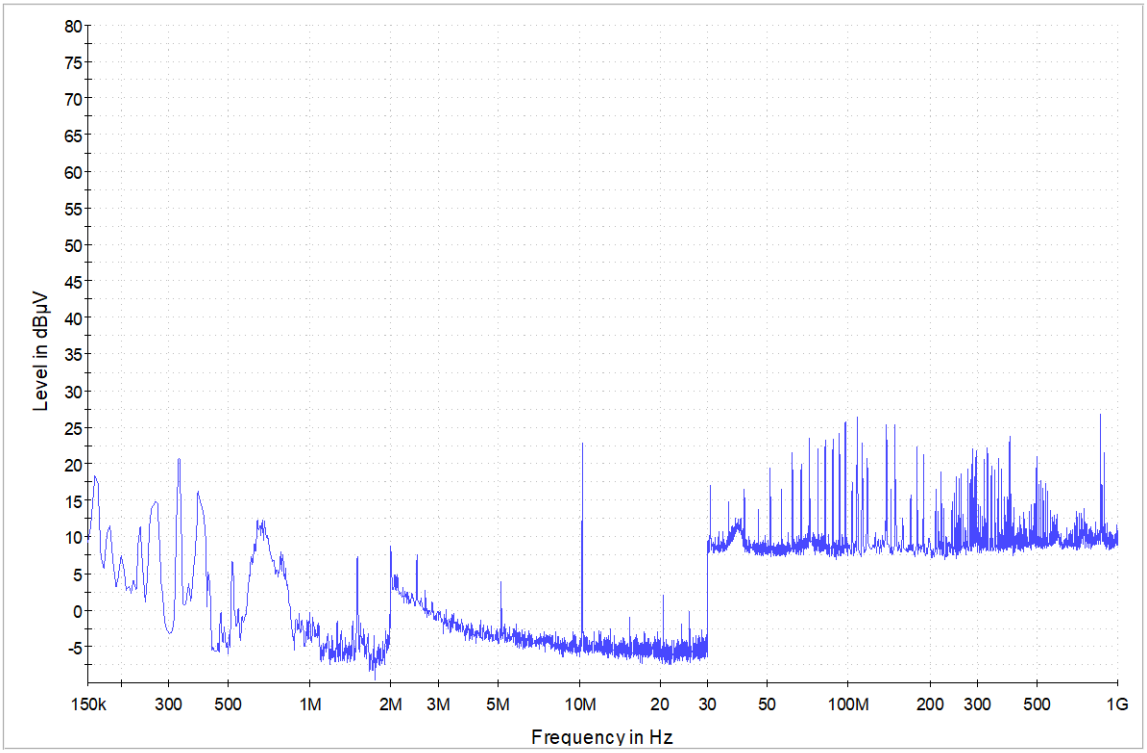
Output (CP2)


80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
Level in dBµV
150k
300
500
1M
2M
3M
5M
10M
20
30
50
100M
200
300
500
1G
Frequency in Hz
PK+_CLRWR

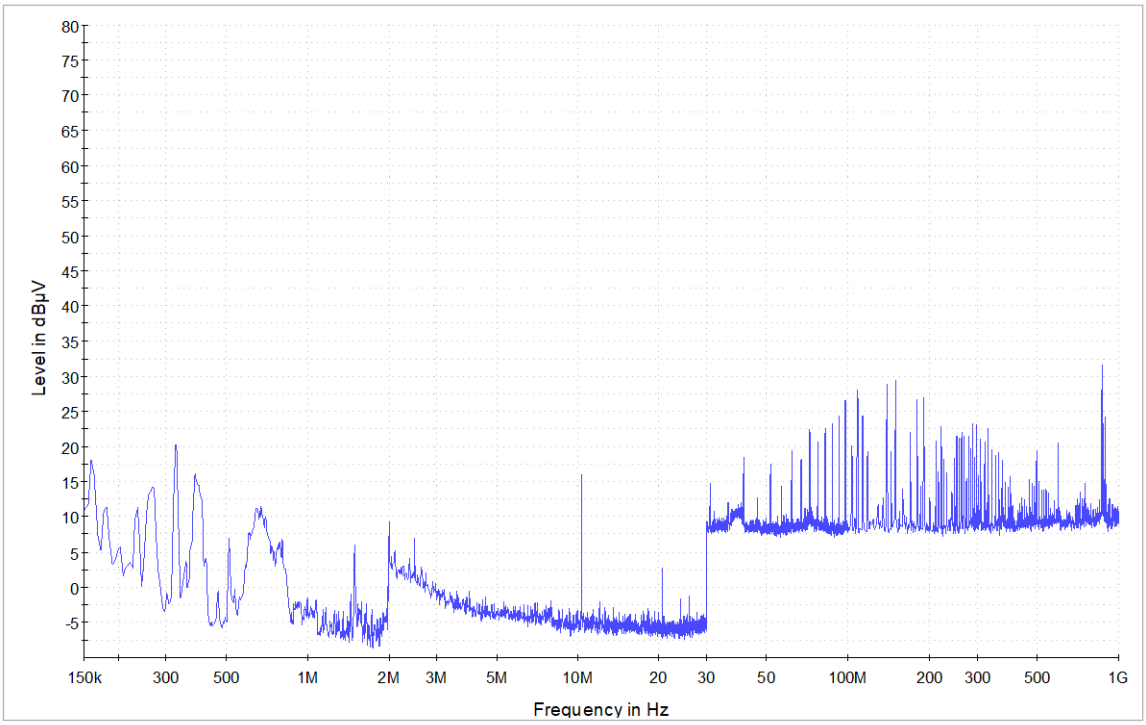
Output (CP3)


Level in dBµV
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
150k
300
500
1M
2M
3M
5M
10M
20
30
50
100M
200
300
500
1G
Frequency in Hz
PK+_CLRWR

Output (CP4)


Level in dBµV
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
150k
300
500
1M
2M
3M
5M
10M
20
30
50
100M
200
300
500
1G
Frequency in Hz
PK+_CLRWR

Output (CP5)


Level in dBµV
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
150k
300
500
1M
2M
3M
5M
10M
20
30
50
100M
200
300
500
1G
Frequency in Hz
PK+_CLRWR